ISSN 0020-8671

ACKNOWLEDGEMENTS

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

MEMBERS

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

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

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

Printed in Wales by Cambrian Printers, Aberystwyth

Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

*ISCJB **01** 00:21:42.9±0.8, 271N±008×9867E±008, h10km, mb3.8/7, Error ellipse: s-maj=14.2km s-min=9.4km az=90.7*
*IDC **01** 00:21:44.2±1.2, 292N×99.14E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=27.8km s-min=7.9km az=132.0*
*NEIC **01** 00:21:47.4±0.8, 278N×9902E, h30km, mb4.0/4, Error ellipse: s-maj=24.5km s-min=15.9km az=222.0*
NEIC Felt [II] at Pangururan and Parapat.

ISC 01 00:21:44.8±0.8, 265N±009×9868E±008, h10km, n13, σ1♀00/14, mb3.8/7, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.29**	**58**	Pg	**Pg**		**00 21 50.6**	**0.0**
	872nm,0.3s,baz=214,slow=11,SNR=18.2							
PSI				Lg			00 21 54.1	
	979nm,0.3s,baz=159,slow=14,SNR=10.4							
TSI	**Tuntungan**	**0.86**	**352**	⇓*i*P		**Pn**	**00 22 08.5**	**+5.6**
KULM	**Kulim**	**3.28**	**37**	*e*Pn		**Pn**	**00 22 39.5**	**+3.2**
KULM				*e*Sn		**Sg**	**00 23 30.1**	**-0.1**
KKM	**Kota Kinabalu**	**17.81**	**78**	*e*Pn		**Pn**	**00 25 46.8**	**-5.9**
LSA	**Lhasa**	**27.84**	**346**	*e*P		**P**	**00 27 33.2**	**-1.2**
	3.6nm,0.3s,mb4.5							
WRA	**Warramunga Arr**	**41.58**	**124**	P		**P**	**00 29 31.9**	**-0.9**
	0.8nm,0.5s,mb3.6,baz=302,slow=9.1,SNR=13							
WRAB	**Tennant Creek**	**41.59**	**124**	*e*P		**P**	**00 29 33.2**	**+0.4**
	1.2nm,0.4s,mb3.9							
MKAR	**Makanchi Array**	**46.23**	**344**	P		**P**	**00 30 09.7**	**-0.4**
	0.6nm,0.8s,mb3.6,baz=147,slow=6.7,SNR=6.3							
KURK	**Kurchatov**	**50.81**	**344**	*e*P		**P**	**00 30 44.4**	**-0.9**
BRVK	**Borovoye**	**55.46**	**340**	*e*P		**P**	**00 31 19.3**	**-0.4**
	0.4nm,0.5s,mb3.7							
ZRNK	**Zerenda**	**55.83**	**339**	*e*P		**P**	**00 31 23.0**	**+0.7**
	0.3nm,0.2s,mb4.0							
CHKZ	**Chkalovo**	**55.85**	**340**	*e*P		**P**	**00 31 22.3**	**-0.1**
BRTR	**Keskin Array B**	**69.25**	**312**	P		**P**	**00 32 54.2**	**+2.3**
	0.3nm,0.7s,mb3.3,baz=121,slow=5.6,SNR=2.4							

IDC 01 00:37:10.7±4.4, 2818S×17808W, h209km±59km, mb3.0/2, mb1 3.3/2, mb1mx3.1/12, mbtmp3.5/2, Error ellipse: s-maj=186.6km s-min=52.1km az=169.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.08**	**172**	P		Pn	00 37 43.2	+1.4
	114nm,0.3s,baz=70,slow=22,SNR=12							
RAO				S		Sn	00 38 06.3	+0.2
	223nm,0.3s,baz=64,slow=20,SNR=7.3							
PUZ	**Puketiti**	**10.33**	**196**	PN		Pn	00 39 20.8	-13
PUZ				SN		Sn	00 41 09.5	-20
BFZ	**Birch Farm**	**13.32**	**199**	*e*SN		S	00 42 14.7	-25
MRZ	**Mangatainoka R**	**13.50**	**201**	PN		Pn	00 39 56.2	-18
MRZ				SN		S	00 42 13.3	-31
KIW	**Kapiti Island**	**13.90**	**203**	SN		S	00 42 27.1	-27
THZ	**Tophouse**	**15.42**	**206**	PN		Pn	00 40 26.4	-11
THZ				*e*SN		S	00 43 02.1	-26
MQZ	**McQueen's Vall**	**17.20**	**203**	*e*SN		S	00 43 38.8	-26
ASAR	**Alice Springs**	**43.20**	**265**	P		P	00 44 50.8	-0.2
	0.3nm,0.3s,baz=99,slow=7.6,SNR=5.7							
WRA	**Warramunga Arr**	**43.99**	**270**	P		P	00 44 57.8	+0.6
	0.3nm,0.4s,baz=109,slow=7.6,SNR=7.2							
VNA3	**Neumayer Olymp**	**80.52**	**176**	*e*		P	00 48 58.1	-1.4
VNA2	**Neumayer--Watz**	**80.95**	**177**	*e*		P	00 49 00.1	-1.7
	baz=166,slow=4.6							
VNA1	**Neumayer--Stat**	**81.19**	**177**	*e*		P	00 49 00.3	-2.7
FINES	**FINESS Array B**	**143.03**	**341**	PKP		PKPdf	00 56 17.6	-1.9
	1.3nm,1.0s,baz=72,slow=4.5,SNR=4.1							

MAN 01 00:53:35.2, 991N×12592E, h21km, mb3.2, ML4.5, MS2.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.45**	**253**	⇓*e*P		Pb	00 53 45.2	+0.8
SCPH				*e*S		Sb	00 53 52.5	+1.9
BUTP	**Butuan**	**0.98**	**198**	*e*P		Pb	00 54 04.1	+10
MSLP	**Maasin**	**1.07**	**282**	*e*P		Pn	00 53 54.9	-0.1
MSLP				*e*S		Sb	00 54 12.0	+3.5
PLP	**Palo**	**1.55**	**323**	*e*P		Pn	00 54 00.9	-0.6
PLP				*e*S		Sn	00 54 22.2	+1.1
TBP	**Tagbilaran**	**2.04**	**264**	*e*P		Pn	00 54 08.3	0.0
TBP				*e*S		Sn	00 54 34.2	+1.1
BUKP	**Musuan**	**2.19**	**203**	*e*P		Pn	00 54 11.2	+0.8

*PDA **01** 01:24:54.9±0.8, 3704N×2446W, h0km, MD2.7, ML2.1, Error ellipse: s-maj=5.0km s-min=3.5km az=81.0*
*CSEM **01** 01:24:54.9±0.8, 3704N×2446W, h0km, ML2.1, Error ellipse: s-maj=5.0km s-min=3.5km az=81.0, After PDA*

SVSA 01 01:24:54.9±0.8, 3704N×2446W, h0km, MD2.7, ML2.1, Error ellipse: s-maj=5.0km s-min=3.5km az=81.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.48**	**265**	*e*P		Pg	01 25 04.0	-0.2
PSMN				*e*S		Sg	01 25 10.4	0.0
MIRA	**Miradouro**	**0.98**	**319**	*e*P		Pg	01 25 10.7	-3.1
MIRA				*e*S		Sg	01 25 23.1	-3.5
FRA1	**Furnas**	**1.00**	**315**	*e*P		Pg	01 25 11.1	-2.9
PCNG	**Congro**	**1.04**	**314**	*e*S		Sg	01 25 24.8	-3.4
PCNG								
	15nm,0.2s							
VIF	**Vila Franca**	**1.05**	**312**	*e*S		Sg	01 25 24.8	-3.7
VIF								
	21nm,0.2s							
PFAD	**Fenais da Ajud**	**1.05**	**320**	*e*P		Pg	01 25 11.8	-3.2
PFAD				*e*S		Sg	01 25 25.5	-3.1
PRCH	**Ribeira Ch**	**1.06**	**310**	*e*S		Sg	01 25 24.6	-4.4
PRCH								
	42nm,0.3s							
MESC	**Monte Escuro**	**1.08**	**314**	*e*P		Pg	01 25 12.5	-3.2
MESC				*e*S		Sg	01 25 25.6	-4.1
LFA	**Lagoa do Fogo**	**1.09**	**312**	*e*P		Pg	01 25 12.6	-3.2
CML	**Cha da Macela**	**1.13**	**310**	*e*P		Pg	01 25 12.9	-3.6
CML				*e*S		Sg	01 25 26.4	-4.7
FAC	**Faja de Cima**	**1.19**	**308**	*e*S		Sg	01 25 28.0	-5.3
PSAN	**Santo Antonio**	**1.29**	**309**	*e*S		Sg	01 25 30.1	-6.2
PFET	**Feteiras**	**1.31**	**307**	*e*P		Pg	01 25 15.6	-4.4
PFET				*e*S		Sg	01 25 30.7	-6.2
SET2	**Ginetes**	**1.33**	**307**	*e*P		Pg	01 25 16.0	-4.5
SET2				*e*S		Sg	01 25 31.9	-5.9
ROSA	**Rosais**	**3.43**	**300**	*e*P		Pn	01 25 45.1	-4.4
PICO	**Pico**	**3.46**	**296**	*e*P		Pn	01 25 45.4	-4.6
PICO				*e*S		Sn	01 26 23.4	-8.3

*CSEM **01** 01:26:38.9±1.1, 3895N×2792W, h0km±8km, ML1.4, Error ellipse: s-maj=4.0km s-min=2.6km az=156.0, After PDA*
*PDA **01** 01:26:38.9±1.1, 3895N×2792W, h0km±8km, MD2.7, ML1.4, Error ellipse: s-maj=4.0km s-min=2.6km az=156.0*

SVSA 01 01:26:38.9±1.1, 3895N×2792W, h0km±8km, MD2.7, ML1.4, Error ellipse: s-maj=4.0km s-min=2.6km az=156.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.12**	**313**	*e*P		Pg	01 26 40.9	-0.4
SRBC				*e*S		Sg	01 26 43.4	+0.5
STGR	**Santa Cruz**	**0.14**	**334**	*e*P		Pg	01 26 41.8	+0.2
STGR				*e*S		Sg	01 26 43.9	+0.4
STGR								
	56nm,0.2s							
STGR	**Santa Cruz**	**0.14**	**334**	*e*P		Pg	01 26 41.8	+0.2
STGR				*e*S		Sg	01 26 43.9	+0.4
PVIA	**Vitoria**	**0.15**	**320**	*e*S		Sg	01 26 44.2	+0.4
PVIA								
	20nm,0.2s							
PAMA	**Santo Amaro**	**0.34**	**217**	*e*S		Sg	01 26 50.4	+0.7
PAMA								
	32nm,0.1s							
ROSA	**Rosais**	**0.34**	**227**	*e*P		Pg	01 26 45.1	-0.3
ROSA				*e*S		Sg	01 26 50.0	+0.2
ASBA	**Santa Barbara**	**0.52**	**116**	*e*S		Sg	01 26 55.4	-0.2
ASBA								
	8.5nm,0.1s							
PID	**Ribeirinha**	**0.53**	**197**	*e*P		Pg	01 26 48.5	-0.6
PID				*e*S		Sg	01 26 55.5	-0.5
PTEI	**Pico do Teixo**	**0.57**	**217**	*e*S		Sg	01 26 56.9	-0.2
PTEI								
	20nm,0.2s							
PICO	**Pico**	**0.60**	**221**	*e*P		Pg	01 26 49.5	-0.8
PICO				*e*S		Sg	01 26 57.8	-0.3
PBOI	**Pico dos Bois**	**0.62**	**215**	*e*S		Sg	01 26 58.5	-0.5
PBOI								
	11nm,0.1s							
PVNV	**Vila Nova**	**0.63**	**107**	*e*S		Sg	01 26 58.6	-0.5
PVNV								
	10.0nm,0.3s							
PCND	**Candelaria**	**0.64**	**221**	*e*S		Sg	01 26 58.7	-0.8
PCND								
	13nm,0.2s							
PLUZ	**Luz**	**0.82**	**275**	*e*P		Pg	01 26 40.8	-14
PLUZ				*e*S		Sg	01 26 42.0	-23
PLUZ								
	78nm,0.3s							

*ISCJB **01** 01:42:00.1±0.5, 1946S±008×1735W±0.1, h10km, mb4.4/16, MS3.8/1, Error ellipse: s-maj=15.6km s-min=10.4km az=67.1*
*IDC **01** 01:42:00.3±0.9, 1948S×17354W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.2/18, mbtmp4.2/9, ML2.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/28, Error ellipse: s-maj=39.7km s-min=19.3km az=127.0*
*NEIC **01** 01:42:01.8±4.2, 1944S×17344W, h9km±26km, mb4.7/10, Error ellipse: s-maj=11.9km s-min=7.5km az=123.0*

ISC 01 01:42:01.8±6.2, 1947S±009×1734W±0.1, h10km±38km, n38, σ0♀78/32, mb4.4/16, MS3.8/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.73**	**16**	Pn		**Pn**	**01 43 26.6**	**-0.3**
	6.2nm,0.3s,baz=194,slow=16,SNR=4.5							
AFI				Sn		**Sn**	**01 44 25.0**	**-7.7**
	4.5nm,0.3s,baz=21,slow=14,SNR=2.9							
RAR	**Rarotonga**	**12.87**	**100**	Pn		**Pn**	**01 44 54.4**	**-10**
	4.9nm,0.3s,baz=253,slow=5.5,SNR=11							
DZM	**Mont Dzumac**	**19.06**	**259**	P		**Pn**	**01 46 25.6**	**+0.7**
	0.4nm,0.3s,baz=71,slow=18,SNR=15							
DZM				LR		LR	01 52 06.0	
	comp=Z,102nm,20.1s,baz=80,slow=32							
URZ	**Urewera**	**20.47**	**202**	P		**P**	**01 46 39.0**	**-0.6**
	12nm,0.6s,baz=34,slow=3.7,SNR=7.7							
TBI	**Tubuai**	**22.58**	**104**	*e*LR		LR	01 51 57.4	
	168nm,29.0s							
PPT	**Papeete**	**22.63**	**89**	*e*LR		LR	01 51 53.2	
	169nm,25.5s							
RPZ	**Rata Peaks**	**27.48**	**205**	P		**P**	**01 47 50.7**	**+2.7**
	6.2nm,0.5s,mb4.4,baz=75,slow=19,SNR=4.7							
ARMA	**Armidale**	**33.44**	**244**	*e*P		**P**	**01 48 41.3**	**+0.6**
CTA	**Charters Tower**	**37.94**	**262**	*e*P		**P**	**01 49 19.2**	**-0.2**
	14nm,0.9s,mb4.7							
CTAO	**Charters Tower**	**37.94**	**262**	*e*P		**P**	**01 49 18.9**	**-0.5**
	16nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**42.16**	**244**	*e*P		**P**	**01 49 51.1**	**-3.2**
	4.2nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**42.16**	**244**	P		**P**	**01 49 51.8**	**-2.5**
	5.8nm,0.8s,mb4.2,baz=67,slow=9.9,SNR=6.1							
AS31	**Alice Springs**	**49.00**	**255**	*e*P		**P**	**01 50 48.8**	**+0.3**
ASAR	**Alice Springs**	**49.00**	**255**	P		**P**	**01 50 48.4**	**-0.1**
	14nm,0.9s,mb5.0,baz=86,slow=8.5,SNR=65							
ASPA	**Alice Springs**	**49.00**	**255**	*e*P		**P**	**01 50 48.8**	**+0.3**
WB2	**Warramunga Arr**	**49.06**	**260**	*e*P		**P**	**01 50 48.2**	**-0.7**
WRAB	**Tennant Creek**	**49.06**	**260**	*e*P		**P**	**01 50 48.5**	**-0.5**
	4.5nm,0.5s,mb4.8							
WRA	**Warramunga Arr**	**49.07**	**260**	P		**P**	**01 50 48.4**	**-0.6**
	2.3nm,0.6s,mb4.4,baz=96,slow=7.8,SNR=26							
FITZ	**Fitzroy Crossi**	**57.49**	**261**	*e*P		**P**	**01 51 51.8**	**+0.8**
	4.1nm,0.8s,mb4.5							
SBA	**Scott Base**	**59.22**	**185**	*e*P		**P**	**01 52 02.4**	**-0.7**
VNDA	**Vanda**	**59.35**	**186**	P		**P**	**01 52 03.6**	**-0.4**
	0.8nm,0.8s,mb3.8,baz=7.5,slow=8.0,SNR=4.4							
MBWA	**Marble Bar**	**62.33**	**256**	*e*P		**P**	**01 52 24.6**	**+0.3**
	6.3nm,0.7s,mb4.8							
KLBR	**Kellerberrin**	**62.43**	**244**	*e*P		**P**	**01 52 25.5**	**+0.6**
	19nm,1.0s,mb5.2							
NWAO	**Narrogin (SRO)**	**62.72**	**242**	*e*P		**P**	**01 52 25.8**	**-1.1**
MUN	**Mundaring**	**63.69**	**243**	*e*P		**P**	**01 52 33.9**	**+0.6**
QSPA	**South Pole Qui**	**70.60**	**180**	*e*P		**P**	**01 53 16.9**	**-0.3**
	2.4nm,0.6s,mb4.3							
MAJO	**Matsushiro**	**72.07**	**321**	*e*P		**P**	**01 53 26.2**	**+0.2**
NVAR	**Mina Array Bea**	**77.33**	**41**	P		**P**	**01 53 57.7**	**+1.2**
	0.6nm,0.8s,mb3.6,baz=215,slow=9.3,SNR=2.6							
NVAR	**Mina Array Bea**	**77.33**	**41**	P		**P**	**01 53 57.7**	**+1.2**
MAW	**Mawson**	**83.97**	**199**	*e*P		**P**	**01 54 32.1**	**0.0**
	1.5nm,0.3s,mb4.6							
NEW	**Newport**	**84.04**	**34**	LR		LR	02 26 29.0	
	comp=Z,37nm,18.4s,MS3.8,baz=142,slow=32							
ILAR	**Eielson Array**	**86.41**	**11**	P		**P**	**01 54 43.9**	**-0.4**
	0.6nm,0.6s,mb4.0,baz=222,slow=5.5,SNR=9.7							
SNAA	**Sanae**	**88.86**	**177**	*e*P		**P**	**01 54 56.6**	**+0.5**
	0.3nm,0.6s,mb3.8							
INK	**Inuvik**	**92.19**	**14**	P		**P**	**01 55 11.4**	**-0.2**
	0.5nm,0.7s,mb4.0,baz=201,slow=5.4,SNR=2.9							
CHKZ	**Chkalovo**	**120.83**	**321**	*e*PKPdf		PKPdf	02 00 53.9	-0.3
ZRNK	**Zerenda**	**121.91**	**321**	*e*PKPdf		PKPdf	02 00 56.3	+0.1
BRTR	**Keskin Array B**	**149.23**	**317**	PKPbc		PKPbc	02 01 51.5	+0.9
	1.1nm,0.8s,baz=160,slow=3.9,SNR=8.4							
GERES	**GERESS Array B**	**150.15**	**351**	PKPbc		PKPbc	02 01 53.5	+0.7
	0.3nm,0.6s,baz=14,slow=2.8,SNR=4.5							

*CSEM **01** 01:42:02.5±0.8, 3899N×2790W, h9km±5km, ML1.1, Error ellipse: s-maj=6.9km s-min=3.3km az=95.0, After PDA*
*PDA **01** 01:42:02.5±0.8, 3899N×2790W, h9km±5km, MD3.1, ML1.1, Error ellipse: s-maj=6.9km s-min=3.3km az=95.0*

SVSA 01 01:42:02.5±0.8, 3899N×2790W, h9km±5km, MD3.1, ML1.1, Error ellipse: s-maj=6.9km s-min=3.3km az=95.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.12**	**295**	*e*P		Pg	01 42 05.2	-0.1
SRBC				*e*S		Sg	01 42 06.7	-0.5
STGR	**Santa Cruz**	**0.12**	**320**	*e*S		Sg	01 42 07.2	-0.1
STGR								
	30nm,0.2s							
PVIA	**Vitoria**	**0.14**	**305**	*e*S		Sg	01 42 07.6	-0.2
PVIA								
	13nm,0.1s							
PAMA	**Santo Amaro**	**0.38**	**215**	*e*S		Sg	01 42 14.0	-0.9
PAMA								
	18nm,0.2s							
ROSA	**Rosais**	**0.38**	**225**	*e*P		Pg	01 42 08.7	-1.2
ROSA				*e*S		Sg	01 42 14.0	-0.9
PID	**Ribeirinha**	**0.57**	**197**	*i* P		Pg	01 42 11.9	-1.6
PID				*e*S		Sg	01 42 19.2	-1.8
PID	**Ribeirinha**	**0.57**	**197**	*e*S		Sg	01 42 19.2	-1.8
PICO	**Pico**	**0.64**	**220**	*e*P		Pg	01 42 13.0	-1.8
PICO				*e*S		Sg	01 42 21.0	-2.1

*NEIC **01** 01:47:31.2, 3469S×7047W, h20km, ML3.3(GUC), After GUC.*

GUC 01 01:47:31.1±1.8, 3466S×7050W, h0km±4km, MD3.9, ML3.2, 16C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.35**	**11**	⇓*i*P		Pg	01 47 38.6	+0.8
SFDO	**San Fernando**	**0.42**	**276**	⇑*i*P		Pg	01 47 40.2	+1.0
CACH	**El Canelo**	**0.55**	**351**	⇑*i*P		Pg	01 47 42.2	+0.6
CACH				*i* S		Sg	01 47 50.2	+1.5
NICH	**Los Niches**	**0.69**	**240**	⇓*i*P		Pg	01 47 44.3	0.0
NICH				*i* S		Sg	01 47 53.7	+0.5
CHCH	**Chadas Angostu**	**0.74**	**350**	⇓*i*P		Pg	01 47 45.8	+0.6
CHCH				*i* S		Sg	01 47 57.0	+2.3
SJCH	**San Jose de Ma**	**1.02**	**7**	*e*P		Pg	01 47 49.9	-0.8
SJCH				*i* S		Sg	01 48 05.0	+1.0
SJCH				AML		AML	01 48 06.9	
	comp=N,581nm,0.4s							
SJCH	**San Jose de Ma**	**1.02**	**7**	*e*P		Pg	01 47 49.9	-0.8
SJCH				*i* S		Sg	01 48 05.0	+1.0
LNV	**Longovilo**	**1.03**	**313**	⇑*i*P		Pg	01 47 50.8	0.0
LNV				*i* S		Sg	01 48 05.0	+0.8
PCH	**Pirque**	**1.04**	**359**	⇓*i*P		Pg	01 47 50.8	-0.2
PCH				*i* S		Sg	01 48 05.7	+1.3
TACH	**Talagante**	**1.07**	**340**	⇓*i*P		Pg	01 47 51.6	+0.1
TACH				*i* S		Sg	01 48 06.7	+1.3
ANTU	**Antumapu**	**1.09**	**354**	⇓*i*P		Pg	01 47 52.0	-0.1
ANTU				*i* S		Sg	01 48 07.9	+1.6
ANTU				AML		AML	01 48 08.4	
	comp=E,2μm,0.2s							
ANTU	**Antumapu**	**1.09**	**354**	⇓*i*P		Pg	01 47 52.0	-0.1
ANTU				*i* S		Sg	01 48 07.9	+1.6
TALC	**Talca**	**1.19**	**231**	⇑*i*P		Pg	01 47 49.7	-4.1
TALC				*i* S		Sg	01 48 05.4	-3.8
RCDM	**Rinconada Maip**	**1.20**	**348**	⇑*i*P		Pg	01 47 53.5	-0.5
RCDM				*i* S		Sg	01 48 10.5	+0.9
RCDM				AML		AML	01 48 11.2	
	comp=E,2μm,0.1s							
RCDM	**Rinconada Maip**	**1.20**	**348**	⇑*i*P		Pg	01 47 53.5	-0.5
RCDM				*i* S		Sg	01 48 10.5	+0.9
SAN	**Santiago**	**1.21**	**354**	⇑*i*P		Pg	01 47 54.1	-0.2
SAN				*i* S		Sg	01 48 11.1	+1.1
SAN				AML		AML	01 48 11.9	
	comp=E,2μm,0.3s							
STL	**Santa Lucia**	**1.23**	**355**	*e*P		Pg	01 47 53.6	-1.0
STL				*i* S		Sg	01 48 10.9	+0.4
STL				AML		AML	01 48 11.7	
	comp=E,526nm,0.2s							
DSCH	**Colegio Aleman**	**1.26**	**357**	*i* S		Sg	01 48 12.4	+0.8
DSCH				AML		AML	01 48 16.4	
	comp=N,55nm,0.7s							
CLCH	**Cerro Calan**	**1.26**	**359**	⇑*i*P		Pg	01 47 54.6	-0.7
CLCH				*i* S		Sg	01 48 12.7	+1.1
CLCH				AML		AML	01 48 14.3	
	comp=E,639nm,0.5s							
CLCH				AML		AML	01 48 14.9	
	comp=E,738nm,0.5s							
FCH	**Farellones**	**1.34**	**8**	⇑*i*P		Pg	01 47 56.2	-0.6
FCH				*i* S		Sg	01 48 15.3	+1.1
FCH				AML		AML	01 48 17.2	
	comp=E,531nm,0.2s							
LCCH	**Las Cruces**	**1.48**	**323**	⇑*i*P		Pn	01 47 58.4	-0.5
LCCH				*i* S		Sg	01 48 18.9	+0.3
ROCH	**El Roble**	**1.74**	**346**	⇑*i*P		Pn	01 48 03.1	+0.6
ROCH				*i* S		Sn	01 48 27.4	+2.0
IHA	**Instituto Hidr**	**1.89**	**329**	⇑*i*P		Pn	01 48 05.1	+0.6
IHA				*i* S		Sn	01 48 31.0	+2.0
JACH	**Jahuel**	**1.98**	**358**	⇑*i*P		Pn	01 48 06.5	+0.8
JACH				*i* S		Sn	01 48 33.5	+2.3
PACH	**Papudo**	**2.26**	**339**	⇑*i*P		Pn	01 48 11.3	+1.7
PACH				*i* S		Sn	01 48 42.0	+3.9
CCHI	**Chillan**	**2.32**	**213**	⇑*i*P		Pn	01 48 12.0	+1.4
CCHI				*i* S		Sn	01 48 42.5	+2.7
CCHI				AML		AML	01 48 45.0	
	comp=E,1μm,0.3s							
CCHI				AML		AML	01 48 45.1	
	comp=E,622nm,0.5s							
CCHI	**Chillan**	**2.32**	**213**	⇑*i*P		Pn	01 48 12.0	+1.4
CCHI				*i* S		Sn	01 48 42.5	+2.7

NEIC 01 01:54:36.3, 5188N×17536W, h65km, ML3.6(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.79**	**65**	P		Pn	01 54 50.5	-1.3
AMKA	**Amchitka**	**3.37**	**263**	P		Pn	01 55 25.7	-0.8
AMKA				S		Sn	01 56 02.4	-2.8
OKCD	**Okmok Cone D**	**4.67**	**68**	P		Pn	01 55 43.8	-0.6
AKUT	**Akutan**	**6.21**	**65**	*e*Pn		Pn	01 56 05.6	+0.3
AKUT				*e*Sn		Sn	01 57 15.4	+0.6

*CSEM **01** 01:57:56.6±1.0, 3896N×2783W, h1km±5km, ML1.0, Error ellipse: s-maj=10.0km s-min=3.0km az=82.0, After PDA*
*PDA **01** 01:57:56.6±1.0, 3896N×2783W, h1km±5km, MD2.7, ML1.0, Error ellipse: s-maj=10.0km s-min=3.0km az=82.0*

SVSA 01 01:57:56.6±1.0, 3896N×2783W, h1km±5km, MD2.7, ML1.0, Error ellipse: s-maj=10.0km s-min=3.0km az=82.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.18**	**297**	*e*P		Pg	01 57 59.7	-0.4
SRBC				*e*S		Sg	01 58 02.5	+0.1
SRBC	**Serra Branca**	**0.18**	**297**	*e*P		Pg	01 57 59.9	-0.2
SRBC				*e*S		Sg	01 58 02.5	+0.1
SRBC	**Serra Branca**	**0.18**	**297**	*e*P		Pg	01 57 59.9	-0.2
SRBC				*e*S		Sg	01 58 02.5	+0.1
STGR	**Santa Cruz**	**0.18**	**314**	*e*S		Sg	01 58 03.2	+0.8
STGR								
	13nm,0.2s							
ROSA	**Rosais**	**0.40**	**234**	*e*P		Pg	01 58 04.2	0.0
ROSA				*e*S		Sg	01 58 09.3	0.0
ROSA	**Rosais**	**0.40**	**234**	*e*P		Pg	01 58 04.2	0.0
ROSA				*e*S		Sg	01 58 09.4	+0.1
PID	**Ribeirinha**	**0.56**	**204**	*e*rx		rx	01 58 08.9	
PID	**Ribeirinha**	**0.56**	**204**	*e*rx			01 58 08.6	
PICO	**Pico**	**0.65**	**226**	*e*S		Sg	01 58 15.7	-1.7
PLUZ	**Luz**	**0.89**	**274**	*e*P		Pg	01 57 59.2	-15
PLUZ				*e*S		Sg	01 58 01.3	-24
PLUZ								
	14nm,0.1s							

*ISCJB **01** 02:05:01.2±1.2, 3650N±007×71.1E±02, h100km, Error ellipse: s-maj=19.2km s-min=7.0km az=140.5*
*NNC **01** 02:05:07.6±8.0, 3681N×7088E, h127km±166km, mb2.9, mpv3.3, Error ellipse: s-maj=69.9km s-min=54.8km az=14.0*

ISC 01 02:05:02.0±1.2, 3646N±006×710E±02, h100km, n10, σ1♀04/12, 2C-2D, Hindu Kush region

| Code | Station Name | Δ° | AZ° |

az=164.7
*IDC **01** 02:13:52.9±1.6, 1906S×6929W, h126km±11km, mb3.6/3, mb1 3.6/5, mb1mx3.4/16, mbtmp3.9/5, Error ellipse: s-maj=36.7km s-min=9.0km az=98.0*
*NEIC **01** 02:13:53.1±0.8, 1901S×6945W, h122km±11km, mb3.7/1, Error ellipse: s-maj=18.8km s-min=10.9km az=80.0*

ISC 01 02:13:52.9±0.7, 1903S±005×6950W±010, h126km±9km, n8, σ0§65/12, mb3.6/2, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.02**	**26**	P	**Pn**	**02 14 40.1**	**+0.4**
	1.6nm,0.3s,baz=195,slow=9.6,SNR=48						
LPAZ				S	**Sn**	**02 15 15.7**	**-0.1**
	1.2nm,0.3s,baz=265,slow=22,SNR=5.1						
ARE	**Arequipa**	**3.19**	**323**	*e*P	**Pn**	**02 14 42.0**	**+0.2**
ARE				*i* S	**Sn**	**02 15 19.0**	**-0.5**
LVC	**Limon Verde**	**3.60**	**171**	P	**Pn**	**02 14 48.2**	**+1.0**
	2.3nm,0.3s,baz=6.1,slow=10,SNR=32						
LVC				S	**Sn**	**02 15 28.5**	**-0.8**
	10nm,0.3s,baz=351,slow=15,SNR=16						
SIV	**San Ignacio**	**8.59**	**71**	P	**Pn**	**02 15 49.1**	**-5.2**
	0.7nm,0.3s,baz=263,slow=11,SNR=21						
SIV				S	**Sn**	**02 17 18.0**	**-11**
	0.1nm,0.3s,baz=314,slow=22,SNR=3.5						
TRQA	**Tornquist**	**20.06**	**162**	*e*P	**P**	**02 18 16.5**	**+0.3**
	1.8nm,0.5s						
BDFB	**Brasilia**	**20.78**	**84**	P	**P**	**02 18 24.0**	**+0.1**
	5.1nm,0.5s,baz=268,slow=9.6,SNR=14						
TORD	**Torodi Ar. Bea**	**77.07**	**71**	P	**P**	**02 25 30.9**	**-1.3**
	0.5nm,0.6s,mb3.4,baz=252,slow=5.6,SNR=21						
YKA	**Yellowknife Ar**	**88.69**	**341**	P	**P**	**02 26 32.6**	**+0.7**
	0.6nm,0.5s,mb3.9,baz=129,slow=5.0,SNR=5.0						

*MOS **01** 02:16:51.1±1.1, 2665N×5569E, h33km, mb4.2/2, Error ellipse: s-maj=29.0km s-min=14.1km az=111.1*
*CSEM **01** 02:16:53.8±0.2, 2732N×5557E, h10km, ML3.5*
*IDC **01** 02:16:54.2±1.3, 2753N×5558E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.7/23, mbtmp3.9/9, ML2.5/2, Error ellipse: s-maj=28.4km s-min=22.2km az=57.0*
*ISCJB **01** 02:16:56.9±0.8, 2748N±004×5566E±005, h29km±6km, mb3.6/8, Error ellipse: s-maj=8.5km s-min=5.9km az=108.1*
*TEH **01** 02:16:57.8, 2734N×5561E, h18km, Mn3.7*
*THR **01** 02:16:58.7±0.9, 2760N×5589E, h14km±7km, ML3.5*
*NEIC **01** 02:16:58.5, 2763N×5584E, h18km, mb3.7/2, ML3.4(THR), After THR.*

ISC 01 02:16:57.6±0.8, 2749N±004×5567E±004, h19km±6km, n41, σ1§28/52, mb3.6/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.45**	**102**	*e*PG	**Pg**	**02 17 05.4**	**-1.6**
BNDS	**Bandar-Abbas**	**0.45**	**102**	Pg	**Pg**	**02 17 06.0**	**-0.9**
BNDS				Sg	**Sg**	**02 17 12.0**	**-1.1**
GHIR	**Ghir-Karzin**	**2.51**	**289**	*e*Pn	**Pb**	**02 17 43.2**	**+1.2**
GHIR				*e*Sg	**Sg**	**02 18 21.6**	**+3.3**
GHIR				AML	AML	02 18 29.2	
	comp=E,304nm,0.6s						
GHIR				AML	AML	02 18 29.2	
	comp=N,228nm,0.6s						
GHIR	**Ghir-Karzin**	**2.51**	**289**	Pn	**Pb**	**02 17 41.0**	**-1.0**
GHIR				Sg	**Sg**	**02 18 19.0**	**+0.7**
KRBR	**Kerman**	**2.66**	**21**	*e*Pn	**Pn**	**02 17 41.6**	**+2.2**
KRBR				*e*Sg	**Sb**	**02 18 16.9**	**0.0**
KRBR				AML	AML	02 18 19.7	
	comp=N,153nm,0.5s						
KRBR				AML	AML	02 18 33.2	
	comp=E,142nm,0.7s						
KRBR	**Kerman**	**2.66**	**21**	Pn	**Pn**	**02 17 40.0**	**+0.6**
KRBR				Sg	**Sb**	**02 18 16.0**	**-0.8**
KRBR	**Kerman**	**2.66**	**21**	*e*Pn	**Pn**	**02 17 41.6**	**+2.2**
	SNR=52						
KRBR				Sg	**Sb**	**02 18 16.0**	**-0.8**
ISRV	**Sarvestan**	**2.94**	**310**	*e*Pn	**Pn**	**02 17 44.1**	**+0.9**
IMOK	**Mook**	**3.04**	**301**	*e*Pn	**Pn**	**02 17 45.4**	**+0.8**
IMEH	**Mehriz**	**3.99**	**347**	*e*Pn	**Pn**	**02 18 00.0**	**+2.2**
IBAF	**Bafgh**	**4.09**	**359**	*e*Pn	**Pn**	**02 18 00.6**	**+1.6**
IBAF				*e*Sn	**Sn**	**02 18 47.6**	**+1.3**
ICHK	**Chekchek**	**4.86**	**347**	*e*Pn	**Pn**	**02 18 11.4**	**+1.7**
ZHSF	**Zahedan**	**4.96**	**64**	*e*Pn	**Pn**	**02 18 12.1**	**+1.1**
ZHSF	**Zahedan**	**4.96**	**64**	Pn	**Pn**	**02 18 11.0**	**0.0**
WSAR	**Wadi Sarin**	**5.01**	**147**	Pn	**Pn**	**02 18 12.6**	**+0.9**
	comp=E,1.2nm,0.3s,baz=323,slow=11,SNR=17						
WSAR				Sn	**Sn**	**02 19 12.0**	**+3.0**
	comp=E,0.7nm,0.3s,baz=78,slow=20,SNR=3.2						
IZEF	**Zefreh**	**6.11**	**333**	*e*Pn	**Pn**	**02 18 27.1**	**+0.2**
IZEF				*e*Sn	**Sn**	**02 19 35.6**	**-0.7**
IPIR	**Pirpir**	**6.63**	**322**	*e*Pn	**Pn**	**02 18 34.6**	**+0.6**
IPIR				*e*Sn	**Sn**	**02 19 46.7**	**-2.2**
IKLH	**Kalahroud**	**6.80**	**330**	*e*Pn	**Pn**	**02 18 36.8**	**+0.5**
IKLH				*e*Sn	**Sn**	**02 19 51.4**	**-1.8**
GNI	**Garni**	**15.54**	**327**	Pn	**Pn**	**02 20 37.9**	**+2.4**
	comp=E,0.8nm,0.3s,baz=180,slow=18,SNR=2.2						
GNI	**Garni**	**15.54**	**327**	P	**Pn**	**02 20 37.9**	**+2.4**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
EIL	**Elat**	**18.33**	**282**	*e*P	**Pn**	**02 21 09.0**	**-1.7**
	comp=Z,29nm,0.8s						
EIL	**Elat**	**18.33**	**282**	*e*P	**Pn**	**02 21 09.0**	**-1.7**
	comp=Z,29nm,0.8s						
KIV	**Kislovodsk**	**19.48**	**331**	*e*P	**Pn**	**02 21 27.6**	**+3.0**
KIV				pmax	pmax		
	comp=Z,21nm,0.9s						
KIV	**Kislovodsk**	**19.48**	**331**	*e*P	**Pn**	**02 21 25.1**	**+0.5**
	comp=Z,16nm,0.8s						
KIV	**Kislovodsk**	**19.48**	**331**	*e*P	**Pn**	**02 21 25.1**	**+0.5**
	comp=Z,16nm,0.8s						
AAK	**Ala-Archa**	**21.50**	**40**	*e*P	**P**	**02 21 45.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
AAK	**Ala-Archa**	**21.50**	**40**	*e*P	**P**	**02 21 45.0**	**-0.3**
	comp=Z,1.8nm,0.7s,mb3.6						
BR131	**Keskin Array S**	**21.97**	**309**	*e*P	**P**	**02 21 50.4**	**+0.1**
	comp=Z,4.0nm,0.9s,mb3.9						
BR131	**Keskin Array S**	**21.97**	**309**	*e*P	**P**	**02 21 50.4**	**+0.1**
BRTR	**Keskin Array B**	**21.97**	**309**	P	**P**	**02 21 49.4**	**-0.9**
	comp=Z,1.9nm,0.9s,mb3.5,baz=128,slow=14,SNR=10						
BRTR	**Keskin Array B**	**21.97**	**309**	P	**P**	**02 21 49.3**	**-1.0**
AKTK	**Aktyubinsk**	**22.98**	**4**	P	**P**	**02 22 00.8**	**-0.2**
AKTO	**Aktyubinsk**	**22.98**	**4**	P	**P**	**02 22 00.8**	**-0.2**
	comp=Z,4.9nm,0.9s,mb3.9,baz=189,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**28.44**	**40**	P	**P**	**02 22 50.4**	**-0.7**
	comp=Z,0.4nm,0.7s,mb3.1,baz=253,slow=9.9,SNR=3.4						
AKASG	**Malin Array Be**	**30.67**	**326**	P	**P**	**02 23 09.6**	**-1.3**
	comp=Z,1.1nm,0.7s,mb3.8,baz=133,slow=8.4,SNR=6.9						
AKASG	**Malin Array Be**	**30.67**	**326**	P	**P**	**02 23 09.6**	**-1.3**
GERES	**GERESS Array B**	**38.65**	**315**	P	**P**	**02 24 17.9**	**-1.8**
	comp=Z,0.2nm,0.5s,mb3.1,baz=110,slow=8.5,SNR=3.3						
KHC	**Kasperske Hory**	**38.81**	**315**	*e*P	**P**	**02 24 20.0**	**-1.1**
FINES	**FINESS Array B**	**39.30**	**338**	P	**P**	**02 24 23.3**	**-1.9**
	comp=Z,1.0nm,0.7s,mb3.7,baz=153,slow=12,SNR=3.5						
CLL	**Collm**	**39.88**	**318**	*e*P	**P**	**02 24 30.0**	**0.0**
TORD	**Torodi Ar. Bea**	**52.22**	**265**	P	**P**	**02 26 06.7**	**-0.6**
	comp=Z,1.4nm,0.6s,mb4.1,baz=65,slow=7.6,SNR=29						

*INMG **01** 02:21:22.3±1.2, 4211N×684W, h17km±3km, ML2.0, Error ellipse: s-maj=2.9km s-min=2.0km az=75.0*

MDD 01 02:21:22.6±0.2, 4208N×682W, h20km±1km, mbLg2.3/14, 2D, Error ellipse: s-maj=3.7km s-min=1.5km az=60.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAL	**Calabor**	**0.15**	**156**	⇓Pg	Pb	02 21 27.0	-0.2
	110nm,0.1s,SNR=18						
ECAL				Lg		02 21 30.0	
	496nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**0.28**	**168**	*e*Pg	Pb	02 21 28.6	-0.4
PBRG				*e*Sg	Sb	02 21 32.8	-0.6
PBRG							
	66nm,0.2s						
ERUA	**La Rua**	**0.39**	**323**	⇓Pg	Pb	02 21 30.5	-0.4
	45nm,0.1s,SNR=18						
ERUA				Lg		02 21 36.0	
	29nm,0.1s,SNR=14						
ELOB	**Lobios**	**0.95**	**257**	Pg	Pb	02 21 39.7	-0.7
	5.7nm,0.2s,SNR=9.9						
ELOB				Lg		02 21 52.1	
	50nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**0.97**	**248**	*e*P	Pb	02 21 39.9	-0.9
PCAB				*e*S	Sb	02 21 52.8	-0.4
PCAB							
	39nm,0.1s						
PVRL	**Vila Real**	**1.05**	**220**	*e*P	Pb	02 21 41.5	-0.6
PVRL				*e*S	Sb	02 21 55.1	-0.2
PVRL							
	33nm,0.1s						
EPON	**Pontenova**	**1.27**	**349**	Pg	Pn	02 21 45.2	0.0
	2.6nm,0.2s,SNR=15						
EPON				Lg		02 22 01.6	
	20nm,0.2s,SNR=22						
EZAM	**Zamans**	**1.40**	**273**	Pg	Pn	02 21 48.0	+1.1
	7.8nm,0.6s,SNR=7.9						
EZAM				Lg		02 22 07.0	
	12nm,0.4s,SNR=7.9						
STS	**Santiago**	**1.51**	**303**	Pg	Pn	02 21 49.8	+1.2
	2.7nm,0.2s,SNR=7.9						
STS				Lg		02 22 09.5	
	6.2nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**1.58**	**211**	*e*Sg	Sn	02 22 12.2	+2.8
PVIS							
	11nm,0.2s						
PVIS	**Viseu**	**1.58**	**211**	Lg		02 22 12.2	
	5.7nm,0.2s						
EARI	**Arriondas**	**1.70**	**44**	Pn	Pn	02 21 50.1	-1.0
	1.2nm,0.3s,SNR=10						
EARI				Pg	Pn	02 21 53.3	+2.1
	0.6nm,0.2s,SNR=7.9						
EARI				Sn	Sn	02 22 10.1	-2.2
	1.8nm,0.2s,SNR=7.9						
EARI				Lg		02 22 14.3	
	4.6nm,0.2s,SNR=5.0						
MTE	**Manteigas**	**1.77**	**198**	*e*Pn	Pn	02 21 51.2	-0.8
MTE	**Manteigas**	**1.77**	**198**	*e*Pg	Pn	02 21 55.5	+3.5
MTE				*e*Sg	Sn	02 22 17.2	+3.3
MTE							
	13nm,0.5s						
MTE	**Manteigas**	**1.77**	**198**	Pn	Pn	02 21 51.2	-0.8
MTE				Pg	Pn	02 21 55.5	+3.5
MTE				Lg		02 22 17.2	
	6.5nm,0.5s						
EMAZ	**Mazaricos**	**1.81**	**299**	Pg	Pn	02 21 54.9	+2.2
	1.9nm,0.3s,SNR=4.0						
EMAZ				Lg		02 22 18.9	
	8.0nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**2.29**	**193**	*e*Pn	Pn	02 21 58.3	-1.0
PCBR				*e*Sg	Sn	02 22 33.4	+6.5
PCBR							
	6.9nm,0.4s						
GUD	**Guadarrama**	**2.47**	**125**	Pg	Pn	02 22 07.1	+5.5
	4.5nm,0.2s,SNR=20						
GUD				Sn	Sn	02 22 29.0	-2.2
	1.8nm,0.3s,SNR=7.9						
GUD				Lg		02 22 38.2	
	4.3nm,0.3s,SNR=5.0						
PTOM	**Tomar**	**2.74**	**207**	*e*Pn	Pn	02 22 05.3	-0.1
PTOM				*e*Sg	Sn	02 22 47.6	+10
PTOM							
	8.9nm,0.3s						
ESDC	**Sonseca Array**	**3.24**	**137**	Pn	Pn	02 22 11.0	-1.2
	0.2nm,0.1s,baz=34,slow=43,SNR=7.9						
ESDC				Pg	Pn	02 22 21.3	+9.0
	0.5nm,0.3s,baz=318,slow=18,SNR=7.9						
ESDC				Sn	Sn	02 22 47.1	-3.1
	0.5nm,0.1s,baz=350,slow=10,SNR=7.9						
ESDC				Lg		02 23 01.5	
	2.1nm,0.3s,baz=314,slow=29,SNR=7.9						
EBAD	**Badajoz**	**3.33**	**183**	Pn	Pn	02 22 12.4	-1.0
	0.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	02 22 49.8	-2.5
	1.4nm,0.2s,SNR=7.9						
EBAD				Lg		02 23 04.8	
	7.6nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**4.13**	**192**	*e*Sg	Sn	02 23 29.8	+18
EADA	**Adamuz**	**4.27**	**156**	Sn	Sn	02 23 11.4	-4.3
	0.5nm,0.2s,SNR=7.9						
EADA				Lg		02 23 33.3	
	1.7nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.31**	**178**	Sn	Sn	02 23 12.8	-3.8
	0.9nm,0.6s,SNR=4.0						
EMIN				Lg		02 23 35.4	
	2.8nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**4.57**	**187**	Pn	Pn	02 22 29.1	-1.4
	0.5nm,0.3s,SNR=7.9						
EGRO				Sn	Sn	02 23 16.3	-6.7
	0.4nm,0.4s,SNR=4.0						
EGRO				Lg		02 23 43.2	
	3.2nm,0.3s,SNR=7.9						

IDC 01 02:23:30.8±6.8, 2216S×17954W, h571km±71km, mb3.1/5, mb1 3.3/6, mb1mx3.1/15, mbtmp4.1/6, Error ellipse: s-maj=111.7km s-min=38.4km az=152.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.99**	**268**	P	P	02 26 20.8	+1.4
	0.6nm,0.3s,baz=76,slow=22,SNR=7.3						
CTA	**Charters Tower**	**31.93**	**267**	*e*P	P	02 29 11.8	+1.3
	1.2nm,0.3s						
STKA	**Stephens Creek**	**35.79**	**246**	P	P	02 29 41.9	-0.8
	2.3nm,0.5s,baz=92,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**42.76**	**259**	P	P	02 30 38.7	0.0
	2.7nm,0.8s,baz=98,slow=7.9,SNR=18						
WB2	**Warramunga Arr**	**42.96**	**264**	*e*P	P	02 30 40.1	-0.1
WRA	**Warramunga Arr**	**42.97**	**264**	P	P	02 30 40.5	+0.2
	0.9nm,0.3s,baz=96,slow=7.8,SNR=28						
KAKA	**Kakadu**	**46.60**	**273**	*e*P	P	02 31 08.2	+0.1
	4.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.40**	**264**	*e*P	P	02 31 43.9	+0.4
	5.4nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.40**	**264**	P	P	02 31 44.4	+0.9
	2.2nm,1.1s,baz=103,slow=14,SNR=8.6						
PDAR	**Pinedale Array**	**91.15**	**44**	P	P	02 35 35.4	+0.1
	0.4nm,0.9s,baz=172,slow=4.2,SNR=3.7						
ARCES	**ARCESS Array B**	**130.28**	**349**	PKP	PKPdf	02 41 35.8	-0.9
	0.9nm,0.8s,baz=45,slow=1.7,SNR=3.6						

*ISCJB **01** 02:26:04.4±0.6, 2258N±006×12094E±007, h10km, mb4.0/15, MS3.5/5, Error ellipse: s-maj=10.5km s-min=7.6km az=94.6*
*IDC **01** 02:26:04.5±0.9, 2256N×12094E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, MS3.5/5, Ms1 3.5/5, ms1mx3.1/22, Error ellipse: s-maj=45.1km s-min=17.9km az=72.0*
*NEIC **01** 02:26:07.6±5.5, 2262N×121.10E, h22km±40km, mb4.2/6, ML4.6(TAP), Error ellipse: s-maj=28.8km s-min=10.1km az=69.0*
NEIC Recorded [4 TAP] in T'ai-tung and [2 TAP] in P'ing-tung Counties.
*MOS **01** 02:26:07.4±0.9, 2256N×12092E, h33km, mb4.1/10, Error ellipse: s-maj=25.3km s-min=12.4km az=111.3*
*BJI **01** 02:26:16.5, 2331N×120.44E, h22km, mb4.4, ML3.8, Ms3.9, Msz3.5*

ISC 01 02:26:06.5±0.6, 2266N±006×12093E±007, h10km, n36, σ1§05/38, mb3.9/15, MS3.5/5, 4C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**1.63**	**22**	*e*Pn	**Pn**	**02 26 33.4**	**-1.8**
YHNB	**Yeheng**	**2.04**	**11**	*e*Pn	**Pn**	**02 26 41.8**	**+0.9**
TATO	**Taipei**	**2.36**	**12**	*e*Pn	**Pn**	**02 26 45.8**	**+0.5**
TATO				*e*Sn	**Sn**	**02 27 20.5**	**+6.2**
QZH	**Quanzhou**	**3.12**	**317**	P	**Pn**	**02 26 56.3**	**+0.5**
QZH				SG	**Sb**	**02 27 37.1**	**-3.1**
QZH				Smax			
	comp=N,420nm,0.7s						
QZH				Smax			
	comp=E,490nm,1.0s						
NJ2	**Nanjing**	**9.54**	**349**	*e*P	**Pn**	**02 28 23.3**	**-0.5**
NJ2				S	**Sn**	**02 30 09.2**	**-1.8**
NJ2				XS		02 30 13.8	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				Smax			
	comp=N,230nm,1.1s						
NJ2				Smax			
	comp=E,130nm,1.1s						
NJ2				LR	LR		
	comp=N,1μm,10.3s						
NJ2				LR	LR		
	comp=E,1μm,10.8s						
CD2	**Chengdu**	**17.38**	**302**	*e*P	**Pn**	**02 30 10.1**	**+1.0**
CD2				AP	pP	02 30 14.8	+1.6
CD2				XP	sP	02 30 18.6	+4.1
CD2				PP		02 30 24.8	
CD2				S	**Sn**	**02 33 22.6**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=N,260nm,8.4s						
CD2				LR	LR		
	comp=Z,180nm,8.4s						
MJAR	**Matsushiro Arr**	**20.38**	**43**	P	**P**	**02 30 44.4**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=237,slow=8.7,SNR=4.1						
MJAR				LR	LR	02 39 07.6	
	comp=Z,108nm,21.4s,MS3.2,baz=210,slow=38						
MJAR	**Matsushiro Arr**	**20.38**	**43**	P	**P**	**02 30 44.4**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,108nm,21.4s						
ULN	**Ulaanbaatar**	**27.50**	**340**	*e*P	**P**	**02 31 52.7**	**-0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
ULN	**Ulaanbaatar**	**27.50**	**340**	*e*P	**P**	**02 31 52.7**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.6						
SONM	**Songino Array**	**27.69**	**339**	P	**P**	**02 31 54.6**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.6,baz=167,slow=11,SNR=5.6						
SONM				LR	LR	02 43 51.7	
	comp=Z,157nm,18.2s,MS3.6,baz=336,slow=38						
SONM	**Songino Array**	**27.69**	**339**	P	**P**	**02 31 54.6**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,157nm,18.2s						
YSS	**Yuzh-Sakhalins**	**29.95**	**31⇑**	*e*P	**P**	**02 32 16.7**	**+1.9**
YSS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.6						
MKAR	**Makanchi Array**	**39.28**	**317**	P	**P**	**02 33 36.5**	**+1.1**
	comp=Z,1.3nm,0.6s,mb3.8,baz=109,slow=9.1,SNR=12						
MKAR	**Makanchi Array**	**39.28**	**317⇑**	*e*P	**P**	**02 33 37.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**40.77**	**173**	P	**P**	**02 33 46.4**	**-1.3**
	comp=Z,1.2nm,0.8s,mb3.6,baz=0.0,slow=20,SNR=2.4						
KURK	**Kurchatov**	**43.12**	**321⇑**	*e*P	**P**	**02 34 08.0**	**+1.1**
KURK	**Kurchatov**	**43.12**	**321**	*e*P	**P**	**02 34 07.5**	**+0.6**
	comp=Z,1.1nm,0.6s,mb3.8						
AAK	**Ala-Archa**	**43.26**	**309**	*e*P	**P**	**02 34 08.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.4						
WRA	**Warramunga Arr**	**44.32**	**162**	P	**P**	**02 34 14.6**	**-2.0**
	comp=Z,1.0nm,0.9s,mb3.5,baz=343,slow=8.4,SNR=2.6						
WRA	**Warramunga Arr**	**44.32**	**162**	P	**P**	**02 34 14.6**	**-2.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**47.74**	**164**	P	**P**	**02 34 43.8**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.7,baz=355,slow=14,SNR=4.5						
BRVK	**Borovoye**	**48.78**	**322**	*e*P	**P**	**02 34 51.5**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**48.78**	**322**	*e*P	**P**	**02 34 51.5**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**48.79**	**323**	*e*P	**P**	**02 34 52.0**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**48.79**	**323**	*e*P	**P**	**02 34 52.0**	**+0.3**
	comp=Z,4.8nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**49.48**	**321**	*e*P	**P**	**02 34 57.3**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**49.48**	**321**	*e*P	**P**	**02 34 57.3**	**+0.3**
	comp=Z,4.2nm,1.1s,mb4.4						
ARU	**Arti**	**56.19**	**324⇑**	*e*P	**P**	**02 35 46.9**	**+0.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
COLA	**College**	**70.25**	**27**	*e*P	**P**	**02 37 19.3**	**-0.5**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
COLA	**College**	**70.25**	**27**	*e*P	**P**	**02 37 19.2**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**70.86**	**338**	LR	LR	03 13 25.8	
	comp=Z,20nm,18.8s,MS3.4,baz=192,slow=40						
FINES	**FINESS Array B**	**72.64**	**330**	LR	LR	03 11 21.8	
	comp=Z,31nm,21.1s,MS3.5,baz=51,slow=37						
AKASG	**Malin Array Be**	**73.85**	**319**	*i* P	**P**	**02 37 45.7**	**+4.3**
NOA	**NORSAR Array B**	**79.46**	**332**	P	**P**	**02 38 11.9**	**-1.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=60,slow=5.6,SNR=3.3						
NOA				LR	LR	03 16 38.5	
	comp=Z,24nm,21.7s,MS3.5,baz=255,slow=38						
NOA	**NORSAR Array B**	**79.46**	**332**	P	**P**	**02 38 12.0**	**-1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,24nm,21.7s						

*CSEM **01** 02:27:09.2±1.1, 3678N×2427W, h10km, ML3.1, Error ellipse: s-maj=6.7km s-min=3.3km az=54.0, After PDA*
*PDA **01** 02:27:09.2±1.1, 3678N×2427W, h10km, MD3.4, ML3.1, Error ellipse: s-maj=6.7km s-min=3.3km az=54.0*

SVSA 01 02:27:09.2±1.1, 3678N×2427W, h10km, MD3.4, ML3.1, Error ellipse: s-maj=6.7km s-min=3.3km az=54.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.68**	**290**	*e*P	Pg	02 27 20.1	-2.2
PSMN				*e*S	Sg	02 27 27.8	-3.3
MIRA	**Miradouro**	**1.29**	**322**	*i* P	Pn	02 27 28.2	-5.0
MIRA				*e*S	Sb	02 27 42.9	-7.2
FRA1	**Furnas**	**1.30**	**318**	*e*P	Pn	02 27 28.1	-5.3
FRA1				*e*S	Sb	02 27 43.3	-7.1
PCNG	**Congro**	**1.33**	**318**	*e*P	Pn	02 27 29.1	-4.8
PCNG				*e*S	Sb	02 27 44.3	-7.2
PCNG							
	62nm,0.2s						
PCNG	**Congro**	**1.33**	**318**	*e*P	Pn	02 27 29.1	-4.8
PCNG				*e*S	Sb	02 27 44.3	-7.2
VIF	**Vila Franca**	**1.34**	**316**	*e*P	Pn	02 27 29.1	-4.9
VIF				*e*S	Sb	02 27 44.3	-7.4
VIF	

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RIB2                                   eS          Sn     02 28 24.5 -7.8
RIB2
        19nm,0.3s
RIB2    Ribeirinha      2.98 310 eP                Pn     02 27 52.5 -4.0
RIB2                                   eS          Sn     02 28 24.5 -7.8
PVNV    Vila Nova       3.03 312 eP                Pn     02 27 52.9 -4.2
PVNV                                   eS          Sn     02 28 25.8 -7.6
PVNV
        14nm,0.2s
PVNV    Vila Nova       3.03 312 eP                Pn     02 27 52.9 -4.2
PVNV                                   eS          Sn     02 28 25.8 -7.6
PPAD    Pico dos Padre  3.07 310 eP                Pn     02 27 53.0 -4.7
PPAD                                   eS          Sn     02 28 26.6 -7.8
PPAD
        5.9nm,0.1s
PPAD    Pico dos Padre  3.07 310 eP                Pn     02 27 53.0 -4.7
PPAD                                   eS          Sn     02 28 26.6 -7.8
PBIS    Biscoitos       3.08 311 erx                      02 28 29.1
ASBA    Santa Barbara   3.10 310 eP                Pn     02 27 54.0 -4.2
ASBA                                   eS          Sn     02 28 27.8 -7.5
ASBA
        18nm,0.2s
ASBA    Santa Barbara   3.10 310 eP                Pn     02 27 54.0 -4.2
ASBA                                   eS          Sn     02 28 27.8 -7.5
PSBA    Serra de Santa  3.13 310 eP                Pn     02 27 54.6 -4.0
PSBA                                   eS          Sn     02 28 27.8 -8.2
PSBA
        22nm,0.3s
PSBA    Serra de Santa  3.13 310 eP                Pn     02 27 54.6 -4.0
PSBA                                   eS          Sn     02 28 27.8 -8.2
PID     Ribeirinha      3.48 300 i P               Pn     02 27 59.1 -4.3
PID                                    eS          Sn     02 28 36.2 -8.4
PMAN    Manadas         3.55 303 eP                Pn     02 27 59.8 -4.5
PBOI    Pico dos Bois   3.66 298 eP                Pn     02 28 02.2 -3.6
PTEI    Pico do Teixo   3.67 299 erx                      02 28 03.5
PGRA    Graciosa        3.70 309 erx                      02 28 02.8
ROSA    Rosais          3.70 303 eP                Pn     02 28 02.1 -4.3
ROSA                                   eS          Sn     02 28 42.1 -7.9
PICO    Pico            3.72 299 i P               Pn     02 28 02.7 -4.0
PICO                                   eS          Sn     02 28 41.9 -8.7
PCND    Candelaria      3.73 298 eP                Pn     02 28 03.2 -3.7
HOR     Horta           3.88 298 eP                Pn     02 28 03.9 -4.9
CALA    Caldeira        3.95 298 eP                Pn     02 28 05.6 -4.2
CALA                                   eS          Sn     02 28 48.0 -8.2
PCED    Cedros          3.97 299 eP                Pn     02 28 05.5 -4.6
PCED                                   eS          Sn     02 28 48.4 -8.3
PCED
        18nm,0.2s
```

CSEM ***01*** *02:38:50.4±1.1,3897N×2788W, h0km±8km, ML1.4, Error ellipse: s-maj=4.3km s-min=3.1km az=160.0, After PDA*
PDA ***01*** *02:38:50.4±1.1,3897N×2788W, h0km±8km, MD3.1, ML1.4, Error ellipse: s-maj=4.3km s-min=3.1km az=160.0*

SVSA 01 02:38:50.4±1.1, 3897N×2788W, h0km±8km, MD3.1, ML1.4, Error ellipse: s-maj=4.3km s-min=3.1km az=160.0, Azores Islands

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Code    Station Name    Δ°   AZ°   Phase ID                Time     Res
                                  Op        ISC           h m s    ISC
PGRA    Graciosa        0.10 310  eP        Pg            02 38 52.1 -0.2
PGRA                              eS        Sg            02 38 53.7 +0.1
PGRA
        84nm,0.2s
PGRA    Graciosa        0.10 310  eP        Pg            02 38 52.1 -0.2
PGRA                              eS        Sg            02 38 53.7 +0.1
SRBC    Serra Branca    0.14 300  eP        Pg            02 38 53.4 +0.3
SRBC                              eS        Sg            02 38 55.6 +0.6
STGR    Santa Cruz      0.15 321  eS        Sg            02 38 55.7 +0.5
STGR
        30nm,0.1s
PAMA    Santo Amaro     0.37 219  eS        Sg            02 39 02.0 -0.2
PAMA
        16nm,0.2s
PMAN    Manadas         0.37 206  i P       Pg            02 38 57.1 -0.4
PMAN                              eS        Sg            02 39 02.8 +0.6
PMAN
        39nm,0.2s
PMAN    Manadas         0.37 206  eS        Sg            02 39 02.8 +0.6
ROSA    Rosais          0.37 229  i P       Pg            02 38 57.2 -0.3
ROSA                              eS        Sg            02 39 02.9 +0.5
ROSA    Rosais          0.37 229  eS        Sg            02 39 02.9 +0.5
PSBA    Serra de Santa  0.48 114  eP        Pg            02 38 59.1 -0.5
PSBA                              eS        Sg            02 39 05.9 +0.1
PSBA
        8.2nm,0.1s
PSBA    Serra de Santa  0.48 114  eP        Pg            02 38 59.1 -0.5
PSBA                              eS        Sg            02 39 05.9 +0.1
PID     Ribeirinha      0.55 200  i P       Pg            02 39 00.5 -0.5
PID                               eS        Sg            02 39 07.5 -0.7
PID     Ribeirinha      0.55 200  eS        Sg            02 39 07.5 -0.7
PICO    Pico            0.63 223  i P       Pg            02 39 01.6 -0.8
PICO                              eS        Sg            02 39 09.9 -0.7
PICO    Pico            0.63 223  eS        Sg            02 39 09.9 -0.7
PLUZ    Luz             0.85 274  eP        Pg            02 38 52.7 -14
PLUZ                              eS        Sg            02 38 53.8 -24
PLUZ
        52nm,0.2s
```

ISCJB ***01*** *02:58:59.1±0.5, 5536S±008×255W±0.1, h10km, mb4.5/13, MS3.7/8, Error ellipse: s-maj=13.6km s-min=8.7km az=103.9*
IDC ***01*** *02:58:59.2±0.8, 5543S×2540W, h0km, mb4.5/8, mb1 4.6/8, mb1mx4.3/17, mbtmp4.5/8, MS3.7/8, Ms1 3.7/8, ms1mx3.6/19, Error ellipse: s-maj=24.4km s-min=20.3km az=177.0*
NEIC ***01*** *02:59:05.9±0.5, 5543S×2556W, h50km, mb4.6/9, Error ellipse: s-maj=15.6km s-min=11.6km az=197.0*

ISC 01 02:59:02.8±5.3, 554S±01×256W±01, h24km±40km, n32, σ0°93/24, mb4.5/13, MS3.7/8, 3D, South Sandwich Islands region

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Code    Station Name    Δ°   AZ°   Phase ID                Time     Res
                                  Op        ISC           h m s    ISC
HOPE    Hope Point      6.41 276  eP        Pn            03 00 35.5 -0.1
HOPE
        58nm,0.6s
                                  eSn       Sn            03 01 44.9 -3.1
VNA1    Neumayer--Stat  17.04 160 ⇓i P      Pn            03 02 59.8 +0.4
VNA1                              e                       03 03 04.0
VNA1                              e                       03 03 13.1
VNA1                              e                       03 05 58.6
VNA3    Neumayer Olymp  17.28 163 ⇓i P      Pn            03 03 02.4 -0.1
VNA3                              e                       03 03 07.2
VNA3                              e                       03 03 14.2
VNA3                              e                       03 06 05.8
VNA2    Neumayer--Watz  17.43 160 eP        Pn            03 03 04.4 +0.1
        baz=324,slow=15
VNA2                              e                       03 03 08.5
VNA2                              e                       03 03 17.2
VNA2                              e                       03 06 09.5
SNAA    Sanae           18.95 158 ⇓i P      Pn            03 03 13.0 -10
SNAA                              e                       03 03 17.6
SNAA                              e                       03 03 26.1
SNAA                              e                       03 06 36.1
USHA    Ushuaia         24.23 254 P         P             03 04 16.6 -1.1
        14nm,0.9s,mb4.4,baz=81,slow=13,SNR=3.1
USHA                              LR        LR            03 11 42.4
        comp=Z,226nm,19.0s,MS3.7,baz=76,slow=31
TRQA    Tornquist       29.95 290 eP        P             03 05 09.0 0.0
        2.7nm,0.8s,mb4.0
PLCA    Paso Flores     32.81 278 LR        LR            03 18 38.1
        comp=Z,130nm,20.3s,MS3.6,baz=40,slow=36
QSPA    South Pole Qui  34.81 180 eP        P             03 05 52.0 +0.4
        15nm,0.5s,mb5.2
CPUP    Villa Florida   37.12 308 P         P             03 06 11.3 -0.1
        10nm,0.8s,mb4.7,baz=136,slow=7.8,SNR=18
CPUP                              LR        LR            03 20 21.5
        comp=Z,103nm,21.3s,MS3.6,baz=158,slow=34
CPUP    Villa Florida   37.12 308 P         P             03 06 11.3 -0.1
CPUP                              LR        LR            03 20 21.5
MAW     Mawson          40.10 144 LR        LR            03 19 58.3
        comp=Z,183nm,19.3s,MS3.9,baz=44,slow=31
BDFB    Brasilia        43.31 328 P         P             03 07 03.6 +0.9
        1.3nm,0.5s,mb3.9,baz=128,slow=8.5,SNR=4.0
BDFB                              LR        LR            03 22 01.3
        comp=Z,94nm,21.3s,MS3.7,baz=130,slow=32
LVC     Limon Verde     45.80 298 eP        P             03 07 24.4 +1.8
        8.9nm,0.6s,mb4.9
VNDA    Vanda           47.22 182 P         P             03 07 34.0 +0.2
        3.5nm,0.8s,mb4.4,baz=194,slow=6.0,SNR=18
VNDA    Vanda           47.22 182 eP        P             03 07 34.0 +0.3
        9.9nm,1.3s,mb4.6
LBTB    Lobatse         47.95 72  P         P             03 07 37.8 -1.7
        2.5nm,1.0s,mb4.2,baz=228,slow=4.2,SNR=3.9
LBTB    Lobatse         47.95 72  eP        P             03 07 37.9 -1.5
        6.0nm,1.0s,mb4.6
TSUM    Tsumeb          48.59 60  P         P             03 07 43.6 -0.7
        1.0nm,0.5s,mb4.1,baz=187,slow=9.3,SNR=5.4
TSUM    Tsumeb          48.59 60  eP        P             03 07 43.3 -1.0
        2.5nm,0.8s,mb4.3
LPAZ    La Paz          50.79 303 P         P             03 08 03.1 +2.1
        10.0nm,0.7s,mb4.9,baz=153,slow=6.4,SNR=55
LPAZ                              LR        LR            03 27 41.2
        comp=Z,48nm,18.4s,MS3.5,baz=47,slow=34
LPAZ    La Paz          50.79 303 eP        P             03 08 02.6 +1.5
        12nm,0.8s,mb4.9
SAML    Samuel          55.04 313 eP        P             03 08 32.4 -0.1
        3.0nm,0.5s,mb4.6
DBIC    Dimbokro        64.24 23  LR        LR            03 31 23.1
        comp=Z,48nm,19.2s,MS3.7,baz=124,slow=30
TORD    Torodi Ar. Bea  72.08 28  P         P             03 10 24.8 -0.2
        8.7nm,0.6s,mb4.8,baz=200,slow=6.5,SNR=116
KMBO    Kilima Mbogo    73.96 68  LR        LR            03 39 25.1
        comp=Z,78nm,19.5s,MS4.0,baz=92,slow=33
SDV     Santo Domingo   74.24 313 eP        P             03 10 37.7 0.0
        4.4nm,0.9s,mb4.4
INK     Inuvik          145.91 321 PKPbc    PKPbc         03 18 38.4 -1.8
        8.1nm,0.9s,baz=105,slow=5.9,SNR=3.7
INK     Inuvik          145.91 321 ePKPbc   PKPbc         03 18 38.4 -1.8
SONM    Songino Array   149.77 84 PKPbc     PKPbc         03 18 49.1 -1.5
        0.7nm,0.5s,baz=218,slow=2.8,SNR=5.3
ILAR    Eielson Array   150.39 312 PKPbc    PKPbc         03 18 50.6 -1.5
        4.4nm,0.9s,baz=111,slow=1.4,SNR=6.9
KDAK    Kodiak Island   151.36 297 PKPbc    PKPbc         03 18 53.5 -0.9
        2.3nm,0.6s,baz=110,slow=18,SNR=4.2
```

CSEM ***01*** *03:00:10.5±1.0, 3894N×2794W, h0km±8km, ML1.2, Error ellipse: s-maj=6.4km s-min=4.8km az=57.0, After PDA*
PDA ***01*** *03:00:10.5±1.0, 3894N×2794W, h0km±8km, MD2.7, ML1.2, Error ellipse: s-maj=6.4km s-min=4.8km az=57.0*

SVSA 01 03:00:10.5±1.0, 3894N×2794W, h0km±8km, MD2.7, ML1.2, Error ellipse: s-maj=6.4km s-min=4.8km az=57.0, Azores Islands

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Code    Station Name    Δ°   AZ°   Phase ID                Time     Res
                                  Op        ISC           h m s    ISC
SRBC    Serra Branca    0.12 320  eP        Pg            03 00 12.8 0.0
SRBC                              eS        Sg            03 00 14.4 0.0
STGR    Santa Cruz      0.15 340  eP        Pg            03 00 13.5 +0.2
STGR                              eS        Sg            03 00 15.6 +0.4
STGR
        44nm,0.2s
STGR    Santa Cruz      0.15 340  eP        Pg            03 00 13.5 +0.2
STGR                              eS        Sg            03 00 15.6 +0.4
PVIA    Vitoria         0.15 326  eS        Sg            03 00 15.6 +0.2
PVIA
        11nm,0.2s
PAMA    Santo Amaro     0.32 216  eS        Sg            03 00 22.5 +1.6
PAMA
        20nm,0.1s
ROSA    Rosais          0.32 227  eP        Pg            03 00 16.5 -0.2
ROSA                              eS        Sg            03 00 21.7 +0.8
PID     Ribeirinha      0.52 196  i P       Pg            03 00 19.8 -0.7
PID                               eS        Sg            03 00 27.0 -0.2
PID     Ribeirinha      0.52 196  eS        Sg            03 00 27.0 -0.2
PTEI    Pico do Teixo   0.55 216  erx                     03 00 29.9
PICO    Pico            0.58 221  eP        Pg            03 00 20.9 -0.8
PICO                              eS        Sg            03 00 28.8 -0.4
PBOI    Pico dos Bois   0.61 214  eS        Sg            03 00 29.4 -0.7
PBOI
        14nm,0.2s
PCND    Candelaria      0.62 221  eS        Sg            03 00 29.6 -1.0
PCND
        13nm,0.3s
CALA    Caldeira        0.70 239  eS        Sg            03 00 32.1 -0.8
PLUZ    Luz             0.81 276  eP        Pg            03 00 12.3 -14
PLUZ                              eS        Sg            03 00 13.7 -23
PLUZ
        47nm,0.1s
```

ISCJB ***01*** *03:14:25.6±0.5, 6631N±003×142.11W±008, h10km, Error ellipse: s-maj=5.2km s-min=4.5km az=65.1*
NEIC ***01*** *03:14:26.6, 6630N×142.41W, h2km, ML3.0(AEIC), After AEIC.*
PGC ***01*** *03:14:27.4, 6633N×142.31W, h1km, ML3.1/2, 286km northwest of Dawson, Yt Eastern Alaska.*

ISC 01 03:14:27.2±0.5, 6633N±003×14219W±008, h10km, n15, σ0°94/26, Northern Alaska

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Code    Station Name    Δ°   AZ°   Phase ID                Time     Res
                                  Op        ISC           h m s    ISC
BM3     Burnt Mountain  1.45 320  P         Pn            03 14 52.7 -0.7
BM3                               S         Sn            03 15 11.5 -1.0
DAWY    Dawson          2.57 151  Pn        Pn            03 15 09.7 +0.9
DAWY                              Pg        Pb            03 15 13.2 0.0
DAWY                              Sn        Sn            03 15 41.8 +1.7
DAWY                              Sg        Sg            03 15 48.3 -1.3
DAWY
        comp=Z,22nm,0.2s
DAWY    Dawson          2.57 151  P         Pn            03 15 09.6 +0.9
DAWY                              S         Sn            03 15 41.5 +1.4
COLA    College         2.77 241  P         Pn            03 15 11.0 -0.6
COLA                              S         Sn            03 15 45.5 +0.5
DOT     Dot Lake        2.81 197  P         Pn            03 15 12.2 0.0
COLD    Coldfoot        3.30 289  P         Pn            03 15 18.6 -0.2
COLD                              S         Sn            03 15 59.3 +1.2
MENT    Mentasta        3.47 192  ePg       Pg            03 15 33.1 -0.6
INK     Inuvik          3.90 56   Pn        Pn            03 15 28.5 +1.4
INK                               Sn        Sn            03 16 13.8 +0.8
INK                               Sg        Sg            03 16 29.4 -3.0
INK                               Trac                    03 16 35.0
        comp=Z,39nm,0.9s
INK     Inuvik          3.90 56   ePn       Pn            03 15 28.5 +1.4
INK                               eSg       Sg            03 16 33.2 +0.8
TRF     Thorofare Moun  4.50 234  P         Pn            03 15 35.7 +0.4
IM3     Indian Mountai  4.70 271  P         Pn            03 15 37.9 -0.3
HYT     Haines Junctio  5.91 157  Pn        Pn            03 15 54.8 0.0
HYT                               Sg        Sg            03 17 31.1 -5.8
HYT                               Trac                    03 17 47.0
        comp=Z,13nm,0.7s
WHY     Whitehorse      6.56 147  Trac                    03 18 23.1
        comp=Z,1.0nm,0.2s
WHY     Whitehorse      6.56 147  Sg        Sg            03 17 52.6 -5.2
YKW3    Yellowknife Ar  12.43 95  P         Pn            03 17 22.5 -1.6
YKW3                              Sn        Sn            03 19 32.8 -10
YKW3                              Trac                    03 19 36.8
        comp=Z,2.0nm,0.6s
```

WEL 01 03:29:23.4±0.3, 3703S×17722E, h172km±2km, ML3.7/14, Error ellipse: s-maj=3.5km s-min=2.6km az=90.0, Off east coast of North Island

```
Code    Station Name    Δ°   AZ°   Phase ID                Time     Res
                                  Op        ISC           h m s    ISC
MXZ     Matakaoa Point  1.02 122  PN        Pn            03 29 50.2 -0.2
MXZ                               SN        Sn            03 30 11.2 0.0
URZ     Urewera         1.23 184  PN        Pn            03 29 52.4 +0.3
URZ                               SN        Sn            03 30 14.3 +0.1
MWZ     Matawai         1.32 169  PN        Pn            03 29 53.4 +0.4
MWZ                               SN        Sn            03 30 16.0 +0.2
PUZ     Puketiti        1.33 142  PN        Pn            03 29 53.2 +0.2
PUZ                               SN        Sn            03 30 15.1 -0.8
KNZ     Kokohu          2.02 170  PN        Pn            03 30 00.0 0.0
KNZ                               SN        Sn            03 30 27.5 -0.9
BKZ     Black Stump Fm  2.21 195  PN        Pn            03 30 01.8 -0.4
FWVZ    Far West T-bar  2.58 210  PN        Pn            03 30 06.8 +0.3
WNVZ    Wahianoa        2.62 209  PN        Pn            03 30 07.3 +0.2
MOVZ    Moawhango       2.64 206  PN        Pn            03 30 07.2 0.0
PXZ     Pawanui         3.01 185  PN        Pn            03 30 10.7 -1.0
TSZ     Takapari Road   3.18 198  PN        Pn            03 30 12.6 -1.3
BFZ     Birch Farm      3.72 191  PN        Pn            03 30 18.6 -2.0
MRZ     Mangatainoka R  3.84 199  PN        Pn            03 30 20.0 -2.2
MRZ                               SN        Sn            03 31 04.0 -4.0
TIWZ    Tintock         3.88 195  PN        Pn            03 30 20.6 -2.1
KIW     Kapiti Island   4.23 204  PN        Pn            03 30 24.5 -2.5
CAW     Cannon Point    4.40 202  PN        Pn            03 30 26.4 -3.0
TCW     Tory Channel    4.76 208  PN        Pn            03 30 30.9 -3.1
TUWZ    Tuamarina       5.07 209  PN        Pn            03 30 34.6 -3.4
NNZ     Nelson          5.13 214  PN        Pn            03 30 35.8 -3.0
THZ     Tophouse        5.79 214  PN        Pn            03 30 44.3 -3.1
KHZ     Kahutara        6.08 207  PN        Pn            03 30 47.9 -3.4
LTZ     Lake Taylor     6.89 212  PN        Pn            03 30 58.2 -3.7
```

IDC ***01*** *03:38:46.3±8.3, 1799S×17846W, h583km±102km, mb3.2/5, mb1 3.5/6, mb1mx3.2/15, mbtmp4.2/6, Error ellipse: s-maj=104.5km s-min=39.5km az=148.0*
NEIC ***01*** *03:38:47.6±1.3, 1804S×17846W, h600km, mb3.9/3, Error ellipse: s-maj=65.9km s-min=13.9km az=149.0*
ISCJB ***01*** *03:38:49.4±4.2, 18.1S±06×1786W±0.4, h637km±52km, mb3.7/9, Error ellipse: s-maj=101.2km s-min=32.0km az=121.4*

ISC 01 03:38:46.1±3.9, 180S±06×1784W±04, h579km±43km, n14, σ0°61/14, mb3.9/9, Fiji Islands region

```
Code    Station Name    Δ°   AZ°   Phase ID                Time     Res
                                  Op        ISC           h m s    ISC
DZM     Mont Dzumac     14.82 252 P         P             03 41 53.4 +0.1
        0.3nm,0.3s,baz=82,slow=18,SNR=2.6
CTAO    Charters Tower  33.45 261 eP        P             03 44 38.2 0.0
        2.5nm,0.7s,mb4.0
STKA    Stephens Creek  38.61 241 P         P             03 45 19.2 -1.4
        3.8nm,0.6s,mb4.1,baz=71,slow=6.3,SNR=7.1
STKA    Stephens Creek  38.61 241 eP        P             03 45 19.5 -1.0
WB2     Warramunga Arr  44.63 260 eP        P             03 46 07.6 -0.3
WRAB    Tennant Creek   44.63 260 eP        P             03 46 07.3 -0.6
        1.6nm,0.3s,mb4.0
WRA     Warramunga Arr  44.64 260 P         P             03 46 07.6 -0.4
        1.7nm,0.3s,mb4.0,baz=92,slow=7.4,SNR=77
AS31    Alice Springs   44.79 254 eP        P             03 46 09.7 +0.6
ASAR    Alice Springs   44.79 254 P         P             03 46 09.6 +0.5
        12nm,0.5s,mb4.7,baz=88,slow=8.5,SNR=151
ASPA    Alice Springs   44.79 254 eP        P             03 46 09.7 +0.5
KAKA    Kakadu          47.60 269 eP        P             03 46 30.5 +0.1
        4.7nm,0.5s,mb4.3
FITZ    Fitzroy Crossi  53.04 261 eP        P             03 47 10.7 +0.8
        5.3nm,1.3s,mb3.7
ILAR    Eielson Array   85.96 13  P         P             03 50 24.8 -0.9
        0.1nm,0.4s,mb2.8,baz=230,slow=4.2,SNR=4.1
PDAR    Pinedale Array  87.40 43  P         P             03 50 33.2 +0.7
        0.3nm,0.5s,mb3.3,baz=270,slow=0.9,SNR=3.6
```

ISCJB ***01*** *03:47:00.1±1.0, 35N±0.1×8448W±009, h10km, mb3.8/12, MS3.1/3, Error ellipse: s-maj=16.8km s-min=12.2km az=58.1*
IDC ***01*** *03:47:00.3±2.6, 354N×8452W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, ML2.6/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/26, Error ellipse: s-maj=53.5km s-min=34.1km az=18.0*
NEIC ***01*** *03:47:03.3±2.2, 343N×8391W, h40km±19km, mb3.9/7, Error ellipse: s-maj=52.0km s-min=12.7km az=49.0*

ISC 01 03:47:01.9±1.0, 35N±01×8454W±009, h10km, n25, σ0°85/26, mb3.8/12, MS3.1/3, Off coast of central America

```
Code    Station Name    Δ°   AZ°   Phase ID                Time     Res
                                  Op        ISC           h m s    ISC
JTS     JuntasAbangare  6.80 357  Pn        Pn            03 48 42.0 +0.2
        60nm,0.3s,baz=138,slow=20,SNR=189
JTS                               Sn        Sn            03 49 58.7 -0.6
        baz=317,slow=19,SNR=3.2
JTS     JuntasAbangare  6.80 357  Pn        Pn            03 48 42.0 +0.2
JTS                               eSn       Sn            03 49 55.2 -4.1
JTS                               Sn        Sn            03 49 58.7 -0.6
OTAV    Otavalo         6.87 118  ePn       Pn            03 48 34.1 -8.6
        7.4nm,0.6s
LIM1    Limonal         7.23 354  i P       Pn            03 48 48.7 +1.0
ROSC    El Rosal        10.28 82  Pn        Pn            03 49 28.9 -0.5
        0.6nm,0.3s,baz=270,slow=19,SNR=2.7
ROSC                              Sn        Sn            03 51 31.3 +6.7
        1.6nm,0.3s,baz=108,slow=22,SNR=4.9
SDV     Santo Domingo   14.84 68  Pn        Pn            03 50 32.3 +0.6
        0.1nm,0.3s,baz=264,slow=5.1,SNR=4.8
SDV     Santo Domingo   14.84 68  eP        Pn            03 50 32.7 +1.0
        7.8nm,0.9s
CMIG    Matias Romero   16.93 324 Pn        Pn            03 51 03.1 +4.2
        0.2nm,0.3s,baz=43,slow=19,SNR=2.4
PCRV    Puerto La Cruz  20.85 70  LR        LR            03 59 34.9
        comp=Z,56nm,19.8s,MS2.9,baz=120,slow=36
LPAZ    La Paz          25.45 141 LR        LR            04 01 19.5
        comp=Z,36nm,21.3s,MS2.9,baz=72,slow=34
MNTX    Cornudas Mount  34.26 327 eP        P             03 53 47.5 -0.5
        1.1nm,0.9s,mb3.8
ANMO    Albuquerque     37.36 330 eP        P             03 54 15.0 +0.4
        2.2nm,1.1s,mb3.9
SMCO    Snowmass        40.99 333 eP        P             03 54 45.7 +0.7
        2.5nm,1.0s,mb3.8
DUG     Dugway          44.61 329 eP        P             03 55 15.6 +1.2
        1.1nm,0.7s,mb3.8
PDAR    Pinedale Array  45.04 334 P         P             03 55 16.8 -1.0
        0.5nm,0.8s,mb3.4,baz=134,slow=10,SNR=4.3
HWUT    Hardware Ranch  45.05 331 eP        P             03 55 17.4 -0.5
        2.3nm,0.8s,mb4.1
ELK     Elko            46.29 328 eP        P             03 55 27.9 +0.2
        0.7nm,0.5s,mb3.9
NVAR    Mina Array Bea  46.46 323 P         P             03 55 29.9 +0.9
        0.5nm,0.8s,mb3.5,baz=128,slow=7.3,SNR=3.3
ULM     Lac du Bonnet   47.60 350 P         P             03 55 35.5 -2.5
        2.4nm,0.9s,mb4.2,baz=161,slow=9.6,SNR=6.5
ULM     Lac du Bonnet   47.60 350 P         P             03 55 35.5 -2.5
BOZ     Bozeman (W)     48.24 335 eP        P             03 55 42.4 -0.5
        0.7nm,0.5s,mb4.0
YKA     Yellowknife Ar  62.99 345 P         P             03 57 28.7 -0.2
        0.6nm,0.8s,mb3.8,baz=141,slow=6.8,SNR=4.1
YKA     Yellowknife Ar  62.99 345 P         P             03 57 28.7 -0.2
ILAR    Eielson Array   75.37 337 P         P             03 58 45.4 -0.2
        0.9nm,1.0s,mb3.6,baz=116,slow=3.3,SNR=6.2
GERES   GERESS Array B  92.84 41  LR        LR            04 40 48.5
        comp=Z,21nm,19.2s,MS3.6,baz=104,slow=35
```

IDC ***01*** *04:11:13.1±0.5, 845S×8010W, h0km, mb4.6/22, mb1 4.7/23, mb1mx4.7/28, mbtmp4.6/23, ML4.4/1, MS4.0/12, Ms1 4.0/12, ms1mx3.7/25, Error ellipse: s-maj=20.2km s-min=12.3km az=61.0*
ISCJB ***01*** *04:11:17.0±0.2, 843S±004×7992W±005, h34km, mb4.7/81, MS4.5/15, Error ellipse: s-maj=7.6km s-min=4.4km az=105.7*
BJI ***01*** *04:11:17.5, 783S×7971W, h33km, mB5.2, Ms5.5, Msz5.1*
MOS ***01*** *04:11:17.3±0.8, 833S×7984W, h33km, mb5.0/28, Error ellipse: s-maj=14.7km s-min=6.2km az=112.3*
NEIC ***01*** *04:11:18.5±0.2, 844S×7985W, mb4.8/65, ML4.3(LIM), Error ellipse: s-maj=7.0km s-min=3.4km az=53.0*
NEIC Felt [II] at Salaverry.

ISC 01 04:11:19.3±0.2, 838S±004×7974W±004, h36km, h36km±.9km: pP-P, n323, σ0°66/289, mb4.7/81, MS4.5/15, 61C-41D, Near coast of northern Peru

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Code    Station Name    Δ°   AZ°   Phase ID                Time     Res
                                  Op        ISC           h m s    ISC
ATAH    Atahualpa       1.92 44   Pn        Pn            04 11 54.4 +5.0
        156nm,0.3s,baz=232,slow=5.6,SNR=484
ATAH                              Sn        Sn            04 12 23.7 +11
        605nm,0.3s,baz=310,slow=18,SNR=8.4
NNA     Nana            4.58 142  ePn       Pn            04 12 25.7 -0.3
NNA                               eSn       Sn            04 13 15.4 -2.5
OTAV    Otavalo         8.66 9    ePn       Pn            04 13 25.3 +3.2
        50nm,0.8s
OTAV                              eSn       Sn            04 15 07.9 +9.4
LPAZ    La Paz          13.79 126 Pn        Pn            04 14 37.9 +5.6
        0.3nm,0.3s,baz=293,slow=11,SNR=13
LPAZ                              LR        LR            04 20 17.9
        comp=Z,478nm,20.9s,baz=288,slow=39
LPAZ    La Paz          13.79 126 eP        Pn            04 14 33.6 +1.4
LPAZ                              pmax      pmax
        comp=Z,9.0nm,0.7s
LPAZ    La Paz          13.79 126 ePn       Pn            04 14 33.6 +1.3
        comp=Z,8.5nm,0.7s
LPAZ                              eP        Pn            04 14 43.4
ROSC    El Rosal        14.22 22  Pn        Pn            04 14 44.3 +6.2
        comp=Z,0.4nm,0.3s,baz=108,slow=19,SNR=2.6
SAML    Samuel          16.38 93  ePn       Pn            04 15 05.0 -1.4
        comp=Z,1.7nm,0.9s
SAML                              eSn       Sn            04 18 04.8 -2.2
LVC     Limon Verde     17.56 145 P         Pn            04 15 24.9 +3.7
        comp=Z,0.5nm,0.3s,baz=300,slow=8.3,SNR=18
LVC                               LR        LR            04 23 05.1
        comp=Z,595nm,18.4s,baz=312,slow=40
LVC     Limon Verde     17.56 145 eP        Pn            04 15 20.7 -0.5
        comp=Z,31nm,1.0s
LVC                               epPn                    04 15 25.9
```

JTS JuntasAbangare 19.26 344 P Pn 04 15 42.7 +0.8
comp=Z,0.3nm,0.3s,baz=140,slow=9.1,SNR=6.3
JTS LR LR 04 21 44.3
comp=Z,578nm,19.3s,baz=221,slow=33
SDV Santo Domingo 19.41 28 P Pn 04 15 44.7 +1.1
comp=Z,1.1nm,0.3s,baz=214,slow=8.7,SNR=17
SDV Santo Domingo 19.41 28 *eP* **Pn 04 15 44.5 +0.8**
comp=Z,15nm,0.8s
SDV *eS* **S 04 19 19.6 -0.2**
SIV San Ignacio 19.74 114 P Pn 04 15 48.0 +0.4
comp=Z,1.9nm,0.5s,baz=298,slow=12,SNR=12
PCRV Puerto La Cruz 23.79 39 P 04 16 31.3 +2.7
comp=Z,7.5nm,0.4s,mb4.4,baz=201,slow=6.0,SNR=12
PCRV LR LR 04 27 27.8
comp=Z,615nm,19.6s,MS4.1,baz=228,slow=40
CFAA Coronel Fontan 25.47 157 P P 04 16 44.6 +0.7
comp=Z,0.9nm,0.8s,baz=335,slow=8.9,SNR=14
CFAA LR LR 04 25 02.0
comp=Z,32nm,21.2s,baz=27,slow=32
CPUP Villa Florida 27.77 133 P P 04 17 05.6 +0.9
comp=Z,5.3nm,1.1s,mb4.1,baz=338,slow=8.8,SNR=4.2
CPUP LR LR 04 30 22.6
comp=Z,451nm,21.2s,MS4.0,baz=318,slow=41
SJG San Juan 29.55 27 P P 04 17 21.3 +0.9
comp=Z,23nm,0.8s,mb4.9,baz=224,slow=6.5,SNR=9.5
SJG San Juan 29.55 27 *eP* **P 04 17 20.2 -0.3**
SJG pmax pmax
comp=Z,22nm,0.9s
SJG San Juan 29.55 27 *eP* **P 04 17 20.2 -0.3**
comp=Z,22nm,0.9s,mb4.9
BDFB Brasilia 31.83 106 P P 04 17 42.2 +1.6
comp=Z,2.4nm,0.6s,mb4.2,baz=303,slow=12,SNR=5.8
BDFB PcP PcP 04 20 30.8 -0.1
comp=Z,2.5nm,0.6s,baz=270,slow=4.0,SNR=3.7
BDFB LR LR 04 31 24.9
comp=Z,811nm,18.7s,MS4.4,baz=285,slow=38
BDFB Brasilia 31.83 106 P P 04 17 42.2 +1.6
BDFB 04 20 30.8
PLCA Paso Flores 33.24 167 P P 04 17 52.1 -0.8
comp=Z,1.2nm,0.8s,mb3.9,baz=164,slow=4.7,SNR=3.2
PLCA PcP PcP 04 20 35.2 +0.4
comp=Z,1.6nm,0.8s,baz=315,slow=2.9,SNR=3.1
TRQA Tornquist 33.62 154 *eP* **P 04 17 56.3 0.0**
comp=Z,0.7nm,0.6s,mb3.8
HKT Hockley 41.13 339 *eP* **P 04 18 58.7 -1.2**
HKT pmax pmax
comp=Z,27nm,1.5s,mb4.7
HKT Hockley 41.13 339 *eP* **P 04 18 58.7 -1.2**
comp=Z,27nm,1.5s,mb4.7
LRAL Lakeview Retre 41.76 351 *eP* **P 04 19 05.0 0.0**
comp=Z,14nm,0.9s,mb4.6
LRAL *ep*P pP 04 19 14.9 -0.6
NATX Nacogdoches 42.39 341 *eP* **P 04 19 11.3 +1.1**
comp=Z,56nm,1.1s,mb5.1
JCT Junction City 43.18 334 *eP* **P 04 19 17.3 +0.8**
JCT pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
JCT Junction City 43.18 334 *eP* **P 04 19 17.3 +0.8**
comp=Z,3.5nm,0.7s,mb4.2
SWET Sewanee 43.76 353 *eP* **P 04 19 20.8 -0.5**
PLAL Pickwick Lake 43.84 350 *eP* **P 04 19 20.9 -1.0**
comp=Z,7.8nm,1.0s,mb4.4
PLAL *ep*PcP PcP 04 21 06.7 -1.2
LTX Lajitas 44.02 329 *eP* **P 04 19 23.1 -0.2**
LTX pmax pmax
comp=Z,18nm,1.6s,mb4.5
LTX Lajitas 44.02 329 *eP* **P 04 19 23.1 -0.2**
comp=Z,18nm,1.6s,mb4.5
UALR University of 44.55 345 *eP* **P 04 19 27.5 0.0**
comp=Z,26nm,1.1s,mb5.0
UALR *ep*P pP 04 19 37.8 -0.3
MIAR Mount Ida 44.66 344 *eP* **P 04 19 29.1 +0.7**
MIAR pmax pmax
comp=Z,17nm,0.9s,mb4.9
MIAR Mount Ida 44.66 344 *eP* **P 04 19 29.1 +0.6**
comp=Z,17nm,0.9s,mb4.9
WVT Waverly 44.92 351 *eP* **P 04 19 29.2 -1.4**
WVT *e**PP pP 04 19 39.2 -1.9
WVT pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
WVT Waverly 44.92 351 *eP* **P 04 19 29.2 -1.4**
comp=Z,5.7nm,0.6s,mb4.6
WVT *ep*P pP 04 19 39.2 -1.9
PARMO Parma 45.78 349 *eP* **P 04 19 37.3 0.0**
WMOK Wichita Mounta 46.52 338 *eP* **P 04 19 42.8 -0.3**
WMOK *e**PP pP 04 19 52.5 -1.2
WMOK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
WMOK Wichita Mounta 46.52 338 *eP* **P 04 19 42.8 -0.4**
comp=Z,8.3nm,1.1s,mb4.6
WMOK *ep*P pP 04 19 52.5 -1.3
EFI East Falkland 46.69 162 *eP* **P 04 19 44.8 +0.3**
SIUC Southern Illin 46.71 350 *eP* **P 04 19 44.5 -0.1**
comp=Z,21nm,0.7s,mb5.2
WCI Wyandotte Cave 46.77 353 *eP* **P 04 19 42.9 -2.2**
WCI pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
WCI Wyandotte Cave 46.77 353 *eP* **P 04 19 42.9 -2.2**
comp=Z,6.3nm,1.0s,mb4.5
MNTX Cornudas Mount 46.80 330 *eP* **P 04 19 45.0 -0.3**
comp=Z,5.8nm,0.9s,mb4.5
MNTX *ep*P pP 04 19 55.1 -0.8
FVM French Village 47.19 348 *eP* **P 04 19 48.2 -0.2**
FVM *e**PP pP 04 19 57.7 -1.3
FVM pmax pmax
comp=Z,28nm,1.4s,mb5.0
FVM French Village 47.19 348 *eP* **P 04 19 48.2 -0.3**
comp=Z,28nm,1.4s,mb5.0
FVM *ep*P pP 04 19 57.7 -1.3
CCM Cathedral Cave 47.43 348 *eP* **P 04 19 49.7 -0.6**
CCM *e**PP pP 04 20 00.2 -0.7
CCM pmax pmax
comp=Z,43nm,1.0s,mb5.3
CCM Cathedral Cave 47.43 348 *eP* **P 04 19 49.7 -0.5**
comp=Z,43nm,1.0s,mb5.3
CCM *ep*P pP 04 20 00.2 -0.7
AMTX Amarillo 47.77 335 *eP* **P 04 19 53.0 0.0**
comp=Z,6.7nm,0.8s,mb4.7
ACSO Alum Creek Sta 48.46 357 *eP* **P 04 19 57.4 -0.9**
comp=Z,6.4nm,0.8s,mb4.7
BNM Barren Site 49.39 330 *eP* **P 04 20 05.3 -0.1**
LPM Los Pinos Moun 49.52 331 *eP* **P 04 20 06.4 0.0**
ANMO Albuquerque 49.95 331 *eP* **P 04 20 09.7 0.0**
ANMO *e**PP pP 04 20 20.3 0.0
ANMO pmax pmax
comp=Z,10.0nm,0.9s
ANMO Albuquerque 49.95 331 *eP* **P 04 20 09.7 0.0**
comp=Z,10nm,0.9s,mb4.9
ANMO *ep*P pP 04 20 20.3 0.0
TUC Tucson 50.15 325 *eP* **P 04 20 11.1 0.0**
TUC pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
TUC Tucson 50.15 325 *eP* **P 04 20 11.1 0.0**
comp=Z,2.1nm,0.8s,mb4.2
BINY Binghamton 50.45 4 *eP* **P 04 20 13.3 -0.1**
comp=Z,7.5nm,0.7s,mb4.8
CBKS Cedar Bluff 50.51 340 *eP* **P 04 20 14.4 +0.6**
116A Eloy 50.85 325 ⇓P **P 04 20 16.5 0.0**
baz=51,SNR=5.2
115A Sonoran Desert 51.26 325 ⇑P **P 04 20 19.7 +0.2**
baz=51,SNR=6.5
ACCN Adirondack Com 51.82 6 *eP* **P 04 20 23.9 +0.3**
Z14A Wintersburg 52.15 325 ⇑P **P 04 20 26.1 0.0**
baz=52
X15A Humboldt 52.58 326 ⇑P **P 04 20 29.7 +0.4**
baz=53,SNR=7.5
Y14A Wickenburg 52.60 325 ⇓P **P 04 20 29.6 +0.1**
baz=53,SNR=7.0
MVCO Mesa Verde 52.75 331 *eP* **P 04 20 30.2 -0.4**
SADO Sadowa 52.91 1 P P 04 20 30.1 -1.6
comp=Z,3.2nm,0.9s,mb4.2,baz=204,slow=0.2,SNR=4.6
X14A Yava 52.93 326 ⇑P **P 04 20 32.1 +0.2**
baz=53,SNR=8.2
LONY Lake Ozonia 52.96 5 *eP* **P 04 20 31.8 -0.3**
Y13A Salome 52.98 324 ⇓P **P 04 20 32.3 0.0**
baz=53
GLA Glamis 53.03 323 ⇑P **P 04 20 32.5 -0.2**
baz=53
W15A Williams 53.11 327 ⇑P **P 04 20 33.7 +0.5**
baz=53
FRNY Flat Rock 53.26 5 *eP* **P 04 20 34.6 +0.3**
Y12C Blythe 53.34 324 ⇓P **P 04 20 34.9 0.0**
baz=54
PV01 Paradox Valley 53.52 332 *eP* **P 04 20 36.7 +0.4**
X13A Yucca 53.55 325 ⇑P **P 04 20 36.4 0.0**
baz=54

W14A Seligman 53.58 326 ⇑P **P 04 20 36.9 +0.2**
baz=54
SMCO Snowmass 53.65 334 *eP* **P 04 20 36.9 -0.3**
comp=Z,12nm,1.3s,mb4.7
BC3 Big Chuckw Mtn 53.83 323 P **P 04 20 38.4 -0.1**
baz=54,SNR=6.5
PV10 Paradox Valley 53.94 332 *eP* **P 04 20 39.3 0.0**
ECSD EROS,Sioux Fal 54.09 345 *eP* **P 04 20 39.1 -1.3**
109C Camp Elliot, M 54.31 321 ⇑P **P 04 20 41.6 -0.5**
baz=54
PFO Pinyon Flat Ob 54.40 322 ⇓P **P 04 20 42.6 -0.1**
baz=55
W12A Cal Nev Ari 54.65 325 ⇓P **P 04 20 44.3 -0.2**
baz=55
RKT Rikitea 54.83 248 *e*LR LR 04 36 35.3
comp=Z,123nm,22.8s
SRU San Rafael 55.23 331 *eP* **P 04 20 48.9 +0.2**
SRU pmax pmax
comp=Z,34nm,1.6s,mb5.1
SRU San Rafael 55.23 331 *eP* **P 04 20 48.9 +0.2**
comp=Z,34nm,1.6s,mb5.1
TUQ Turquoise Mtn. 55.35 324 ⇑P **P 04 20 49.7 +0.1**
baz=56,SNR=5.6
MSU Marysvale 55.58 329 *eP* **P 04 20 51.2 0.0**
ARUT Antelope Range 55.68 328 *eP* **P 04 20 52.7 +0.8**
GSC Goldstone 55.77 323 ⇓P **P 04 20 52.8 +0.2**
baz=56,SNR=5.5
RWWY Rawlins 55.84 335 *eP* **P 04 20 53.6 +0.6**
comp=Z,30nm,1.1s,mb5.2
DAU Daniels Canyon 56.60 331 *eP* **P 04 20 58.9 +0.4**
TPNV Topopah Spring 56.60 325 *eP* **P 04 20 59.0 +0.5**
TPNV pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
TPNV Topopah Spring 56.60 325 *eP* **P 04 20 59.0 +0.5**
comp=Z,6.8nm,1.1s,mb4.6
RSSD Black Hills 56.70 339 *eP* **P 04 20 59.6 +0.4**
RSSD pmax pmax
comp=Z,18nm,1.3s,mb4.9
RSSD Black Hills 56.70 339 *eP* **P 04 20 59.6 +0.4**
comp=Z,18nm,1.3s,mb4.9
DAC Darwin (Calif) 56.91 324 *eP* **P 04 21 00.8 +0.1**
DAC *e**PP pP 04 21 10.6 -0.9
DAC *e* 04 21 55.5
DAC pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
DAC Darwin (Calif) 56.91 324 *eP* **P 04 21 00.8 +0.1**
comp=Z,3.5nm,0.9s,mb4.4
DAC *ep*P pP 04 21 10.6 -0.9
DAC *ep*PcP PcP 04 21 55.5 -0.4
ISA Isabella 57.01 323 ⇑P **P 04 21 01.6 +0.2**
baz=57
EYMN Ely 57.04 351 *eP* **P 04 21 00.9 -0.7**
comp=Z,6.9nm,0.8s,mb4.7
EYMN *ep*P pP 04 21 10.8 -1.6
DUG Dugway 57.18 330 *eP* **P 04 21 03.4 +0.8**
DUG pmax pmax
comp=Z,39nm,1.7s,mb5.2
DUG Dugway 57.18 330 *eP* **P 04 21 03.4 +0.8**
comp=Z,39nm,1.7s,mb5.2
CWC Cottonwood Cre 57.31 324 ⇑P **P 04 21 03.6 +0.1**
baz=58
HWUT Hardware Ranch 57.68 332 *eP* **P 04 21 06.0 -0.1**
comp=Z,21nm,0.8s,mb5.2
HWUT *ep*PcP PcP 04 21 58.1 -0.7
S09A Goldfield 57.70 325 P **P 04 21 06.5 +0.3**
baz=58,SNR=5.3
BW06 Boulder Array 57.71 334 *eP* **P 04 21 05.8 -0.5**
comp=Z,1.5nm,0.5s,mb4.3
PDAR Pinedale Array 57.71 334 P **P 04 21 05.3 -1.1**
comp=Z,3.0nm,0.7s,mb4.5,baz=130,slow=8.0,SNR=33
PDAR PcP PcP 04 21 59.0 +0.1
comp=Z,0.9nm,0.7s,baz=124,slow=4.8,SNR=4.2
PDAR LR LR 04 45 31.3
comp=Z,54nm,20.6s,MS3.6,baz=341,slow=36
TIN Tinemaha 57.81 324 ⇓P **P 04 21 07.3 +0.3**
baz=58
SPUT South Promonto 57.86 331 *eP* **P 04 21 07.5 +0.1**
V05C Boulder Hill, 58.02 322 ⇑P **P 04 21 08.4 0.0**
baz=58
HELL Mitchell Peak 58.02 323 P **P 04 21 08.9 +0.4**
baz=58,SNR=5.3
S08C White Mtn Res 58.09 324 P **P 04 21 09.7 +0.7**
baz=58,SNR=8.2
O12A Currie 58.21 329 ⇓P **P 04 21 10.2 +0.4**
baz=58
MTUM Tungsten Hills 58.21 324 *eP* **P 04 21 10.3 +0.5**
MTUM *ep*P pP 04 21 20.3 -0.4
N13A West Wendover 58.37 330 ⇓P **P 04 21 11.0 0.0**
baz=59
HVU Hansel Valley 58.38 331 *eP* **P 04 21 11.1 +0.1**
HVU pmax pmax
comp=Z,12nm,0.9s,mb4.9
HVU Hansel Valley 58.38 331 *eP* **P 04 21 11.1 +0.1**
comp=Z,12nm,0.9s,mb4.9
MLAC Mammoth Lakes 58.56 324 ⇑P **P 04 21 12.8 +0.5**
baz=59
R08A Mina 58.64 325 ⇓P **P 04 21 13.4 +0.6**
baz=59
M13A Montello 58.73 330 P **P 04 21 13.2 -0.2**
baz=59,SNR=7.5
REDW Red Top Meadow 58.75 334 *eP* **P 04 21 13.8 +0.2**
comp=Z,6.5nm,0.9s,mb4.7
N12A Wells--Clov Va 58.79 329 ⇓P **P 04 21 14.0 +0.1**
baz=59,SNR=5.2
NVAR Mina Array Bea 58.80 325 P **P 04 21 13.7 -0.3**
comp=Z,3.8nm,0.7s,mb4.5,baz=127,slow=7.9,SNR=17
ELK Elko 58.81 329 *eP* **P 04 21 14.4 +0.4**
ELK pmax pmax
comp=Z,13nm,0.9s
ELK Elko 58.81 329 *eP* **P 04 21 14.3 +0.3**
comp=Z,13nm,0.9s,mb5.0
LOHW Long Hollow 58.84 334 *eP* **P 04 21 14.2 -0.1**
comp=Z,4.7nm,0.8s,mb4.6
U04C Hernandez Rese 58.87 322 ⇑P **P 04 21 14.5 0.0**
baz=59
Q08A Gabbs 58.89 326 ⇑P **P 04 21 14.5 -0.1**
baz=59,SNR=10
TPAW Teton Pass 58.90 334 *eP* **P 04 21 14.8 +0.1**
comp=Z,3.9nm,0.7s,mb4.5
P09A Austin 58.94 327 ⇑P **P 04 21 15.1 +0.1**
baz=59
R07C Lee Vining 59.00 324 ⇑P **P 04 21 15.9 +0.6**
baz=59
MOOW Moose Ponds 59.02 334 *eP* **P 04 21 15.1 -0.3**
comp=Z,4.8nm,1.2s,mb4.4
DCID1 Drake Creek 59.08 334 *eP* **P 04 21 16.2 +0.3**
IMW Indian Meadow 59.22 334 *eP* **P 04 21 16.8 0.0**
comp=Z,8.1nm,1.0s,mb4.7
IMW *ep*PcP PcP 04 22 04.6 -0.3
S05C Merced 59.25 323 ⇑P **P 04 21 17.1 0.0**
baz=59
FLWY Flagg Ranch 59.27 334 *eP* **P 04 21 17.2 0.0**
comp=Z,20nm,1.1s,mb5.0
FLWY *ep*P pP 04 21 28.0 -0.1
HAST Hastings Reser 59.37 321 ⇑P **P 04 21 17.8 -0.1**
baz=60
O09A Fish Creek Ran 59.41 327 P **P 04 21 18.5 +0.3**
baz=60,SNR=8.9
N10A Dunphy 59.45 328 ⇑P **P 04 21 18.4 0.0**
baz=60
R06C Coleville 59.52 324 ⇑P **P 04 21 19.5 +0.6**
baz=60
P08A Dixie Valley 59.56 326 ⇑P **P 04 21 19.4 +0.2**
baz=60
M11A Holland Ranch, 59.60 329 ⇑P **P 04 21 19.5 0.0**
baz=60,SNR=6.0
BMN Battle Mountai 59.62 327 *eP* **P 04 21 19.7 +0.1**
BMN pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BMN Battle Mountai 59.62 327 *eP* **P 04 21 19.7 +0.1**
comp=Z,3.4nm,0.8s,mb4.4
TAOE Nuku Hiva Isla 59.67 265 *e*LR LR 04 38 51.5
comp=Z,412nm,22.7s
LAO LASA Array 59.69 339 *eP* **P 04 21 19.3 -0.8**
comp=Z,4.8nm,1.0s,mb4.5
CMB Columbia Colle 59.74 323 ⇑P **P 04 21 20.3 -0.1**
baz=60
ULM Lac du Bonnet 60.06 348 P **P 04 21 20.9 -1.7**
comp=Z,16nm,0.8s,mb5.1,baz=162,slow=7.1,SNR=35
N09A Rock Creek Ran 60.07 328 ⇓P **P 04 21 22.7 0.0**
baz=60
QLMT Earthquake Lak 60.18 334 *eP* **P 04 21 24.5 +1.1**
QLMT *ep*P pP 04 21 34.4 +0.1
WCN Washoe City 60.23 325 ⇑P **P 04 21 24.4 +0.7**
baz=60
GCMT Greycliff 60.23 336 *eP* **P 04 21 23.3 -0.5**
PAHR Pah Rah Range 60.29 325 *eP* **P 04 21 24.5 +0.2**

comp=Z,35nm,1.5s,mb5.2
O07A Toulon 60.32 326 ⇑P **P 04 21 24.2 -0.3**
baz=60,SNR=15
N08A GE Springer Mi 60.35 327 ⇑P **P 04 21 23.9 -0.8**
baz=60
LAVA Lava Cap Winer 60.43 324 ⇓P **P 04 21 25.1 0.0**
baz=61
HLID Hailey 60.52 332 *eP* **P 04 21 26.0 +0.2**
comp=Z,5.4nm,0.8s,mb4.7
P06A Stead Airport, 60.56 325 ⇑P **P 04 21 26.7 +0.6**
baz=61
P05C Yuba Gap, Truc 60.71 324 ⇑P **P 04 21 27.8 +0.7**
baz=61
N07B Gerlach 60.80 327 ⇓P **P 04 21 27.7 -0.1**
baz=61,SNR=6.9
O06A Flanigan 60.85 326 ⇓P **P 04 21 28.2 +0.2**
baz=61
Q04C Lincoln 60.85 324 ⇓P **P 04 21 28.4 +0.4**
baz=61
BOZ Bozeman (W) 60.92 335 *eP* **P 04 21 28.0 -0.5**
BOZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
BOZ Bozeman (W) 60.92 335 *eP* **P 04 21 28.0 -0.5**
comp=Z,10nm,1.1s,mb4.9
M08A Happy Creek Ra 60.96 328 ⇑P **P 04 21 28.5 -0.3**
baz=61
L09A Wilkinson Ranc 60.99 328 ⇑P **P 04 21 29.0 0.0**
baz=61,SNR=14
Q03C Winters 61.09 323 ⇑P **P 04 21 30.4 +0.7**
baz=61
DLMT Dillon 61.10 334 *eP* **P 04 21 29.8 +0.1**
comp=Z,18nm,1.3s,mb5.0
OHCM Honcut 61.24 324 *eP* **P 04 21 30.4 -0.3**
O05C Quincy 61.33 325 ⇓P **P 04 21 31.7 +0.4**
baz=62
M07A Soldier Meadow 61.34 327 ⇓P **P 04 21 31.1 -0.2**
baz=62,SNR=5.5
SUTB Sutter Buttes 61.35 324 ⇓P **P 04 21 31.1 -0.4**
baz=62
ORV Oroville 61.40 324 ⇑P **P 04 21 31.9 +0.1**
baz=62,SNR=12
ELFS Eagle Lake Fie 61.67 325 ⇑P **P 04 21 34.1 +0.6**
baz=62
O04C Chester 61.67 325 ⇑P **P 04 21 33.8 +0.2**
baz=62,SNR=14
HRY Holter Researc 61.85 336 *eP* **P 04 21 34.9 +0.1**
M06C Likely Place G 61.92 326 ⇑P **P 04 21 35.5 +0.2**
baz=62
EGMT Eagleton 62.11 338 *eP* **P 04 21 36.1 -0.4**
comp=Z,5.2nm,0.7s,mb4.8
GASB Alder Springs 62.17 323 ⇓P **P 04 21 37.3 +0.3**
baz=62,SNR=10
HATC Hat Creek Radi 62.21 325 ⇓P **P 04 21 37.2 0.0**
baz=62
MOD Modoc 62.30 327 *eP* **P 04 21 38.2 +0.3**
comp=Z,30nm,1.1s,mb5.3
M05C Lookout 62.40 326 ⇓P **P 04 21 38.6 +0.1**
baz=63,SNR=33
P01C Double 8 Ranch 62.42 323 ⇓P **P 04 21 39.0 +0.3**
baz=63,SNR=5.2
O02C Red Bluff 62.56 324 ⇑P **P 04 21 38.7 -0.8**
baz=63
WDC Whiskeytown Da 62.67 324 ⇑P **P 04 21 38.3 -2.0**
baz=63
KIPM Iron Peak 62.72 323 *eP* **P 04 21 41.4 +0.8**
MSO Missoula 62.83 334 *eP* **P 04 21 41.7 +0.4**
comp=Z,13nm,1.1s,mb5.0
BMO Blue Mountains 62.87 331 *eP* **P 04 21 41.1 -0.5**
comp=Z,14nm,1.8s,mb4.8
M03C McCloud 62.88 325 ⇓P **P 04 21 40.9 -0.8**
baz=63
K06A Valley Falls 62.90 328 ⇑P **P 04 21 42.1 +0.3**
baz=63,SNR=8.9
M04C Macdoel 63.07 326 ⇑P **P 04 21 42.7 -0.2**
baz=63,SNR=6.4
O01C Eel River Cons 63.13 323 ⇓P **P 04 21 43.7 +0.3**
baz=63
J06A Christmas Vall 63.15 328 ⇑P **P 04 21 43.6 +0.1**
baz=63,SNR=17
N02C Big Bar 63.27 324 ⇓P **P 04 21 44.1 -0.2**
baz=63,SNR=10
HOG Hogback Mounta 63.30 326 P **P 04 21 45.1 +0.6**
L04A Klamath Falls 63.35 326 ⇑P **P 04 21 44.7 -0.1**
baz=64,SNR=5.2
M02C Callahan 63.38 325 ⇑P **P 04 21 44.2 -0.8**
baz=64,SNR=5.0
YBH Yreka Blue Hor 63.52 325 P **P 04 21 44.3 -1.7**
comp=Z,9.5nm,0.8s,mb4.9,baz=108,slow=3.3,SNR=27
YBH Yreka Blue Hor 63.52 325 *eP* **P 04 21 44.8 -1.1**
YBH pmax pmax
comp=Z,10.0nm,0.8s
YBH Yreka Blue Hor 63.52 325 *eP* **P 04 21 44.8 -1.1**
comp=Z,9.6nm,0.8s,mb4.9
YBH Yreka Blue Hor 63.52 325 ⇑P **P 04 21 44.7 -1.3**
baz=64,SNR=13
KHMM Horse Mountain 63.55 324 *eP* **P 04 21 46.6 +0.5**
K04A Chilquin 63.56 327 ⇓P **P 04 21 45.9 -0.3**
baz=64
I06A Prineville 63.67 328 P **P 04 21 47.7 +0.8**
baz=64,SNR=16
JCC Jacoby Creek 63.69 324 ⇓P **P 04 21 47.0 -0.1**
baz=64
SCHQ Schefferville 63.91 8 P **P 04 21 47.9 -0.6**
comp=Z,5.5nm,0.8s,mb4.6,baz=212,slow=5.5,SNR=6.6
SCHQ LR LR 04 46 10.5
comp=Z,29nm,21.0s,baz=8.2,slow=33
SCHQ Schefferville 63.91 8 *eP* **P 04 21 47.9 -0.6**
comp=Z,19nm,1.2s,mb5.0
KTRM Thompson Ridge 64.01 325 P **P 04 21 49.5 +0.3**
HUMO Hull Mountain 64.24 326 ⇑P **P 04 21 49.2 -1.4**
baz=64
L02A Cave Junction 64.30 325 ⇑P **P 04 21 51.2 +0.1**
baz=64
I05A Bend 64.37 328 ⇑P **P 04 21 52.0 +0.5**
baz=64
K02A Glendale 64.64 326 ⇑P **P 04 21 53.0 -0.3**
baz=65,SNR=16
FRIS Frissel Point 64.84 328 P **P 04 21 55.0 +0.4**
BROR Big Rock Looko 65.07 327 P **P 04 21 55.5 -0.5**
J02A Umpqua 65.08 326 ⇑P **P 04 21 56.2 +0.1**
baz=65,SNR=8.9
G05A Wamic 65.14 329 ⇑P **P 04 21 56.9 +0.4**
baz=65
H04A Detroit Lake 65.21 328 ⇑P **P 04 21 56.4 -0.6**
baz=65,SNR=8.9
GBB Gable Butte 65.26 331 P **P 04 21 57.7 +0.4**
I03A Eugene 65.31 327 ⇑P **P 04 21 57.7 +0.1**
baz=66,SNR=5.8
NEW Newport 65.32 333 P **P 04 21 56.6 -1.1**
comp=Z,9.1nm,0.9s,mb4.8,baz=135,slow=7.5,SNR=12
NEW Newport 65.32 333 *eP* **P 04 21 57.5 -0.2**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 65.32 333 *eP* **P 04 21 57.5 -0.2**
comp=Z,8.9nm,1.0s,mb4.8
SSOR Sweet Springs 65.47 328 P **P 04 21 58.5 -0.2**
FFC Flin Flon 65.59 346 *eP* **P 04 21 58.9 -0.5**
FFC pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
FFC Flin Flon 65.59 346 *eP* **P 04 21 58.9 -0.5**
comp=Z,4.4nm,0.6s,mb4.7
F05A White Salmon 65.65 329 ⇑P **P 04 22 00.2 +0.3**
baz=66
G04A Mulino 65.72 328 ⇑P **P 04 21 59.8 -0.5**
baz=66
H03A Soap Creek Ran 65.79 327 ⇓P **P 04 22 00.8 0.0**
baz=66,SNR=8.2
F04A Amboy 66.17 329 ⇓P **P 04 22 02.6 -0.6**
baz=66
E05A Randle 66.27 330 ⇑P **P 04 22 03.6 -0.3**
baz=66
F03A Seaside 66.76 328 ⇑P **P 04 22 07.9 +0.9**
baz=67
D05A Enumclaw 66.82 330 ⇑P **P 04 22 07.1 -0.3**
baz=67
C05A Tolt Reservoir 67.02 331 ⇓P **P 04 22 07.9 -0.7**
baz=67
E03A Lebam 67.18 329 ⇓P **P 04 22 09.6 0.0**
baz=67
B05A Bryant 67.61 331 ⇓P **P 04 22 11.5 -0.8**
baz=68,SNR=6.3
D03A Wishkah Elem. 67.67 329 ⇑P **P 04 22 13.0 +0.3**
baz=68
C04A Brinnon 67.67 330 ⇓P **P 04 22 12.6 -0.1**
baz=68
CMW Cultus Mountai 67.74 331 P **P 04 22 12.9 -0.3**
TBI Tubuai 68.14 248 *e*LR LR 04 42 45.4
comp=Z,91nm,24.2s

B04A	**Port Angeles**	**68.16**	**330**	⇓P	**P**	**04 22 16.4**	**+0.6**
	baz=68						
A04A	**Legoe Bay, Lum**	**68.23**	**331**	⇑P	**P**	**04 22 16.5**	**+0.3**
	baz=68,SNR=5.7						
PPT	**Papeete**	**68.36**	**254**	*e*LR	LR	04 42 51.8	
	comp=Z,139nm,25.0s						
FRB	**Frobisher Bay**	**72.42**	**5**	P	**P**	**04 22 41.3**	**-0.6**
	comp=Z,16nm,0.8s,mb5.0,baz=204,slow=5.3,SNR=12						
YKA	**Yellowknife Ar**	**75.60**	**344**	P	**P**	**04 22 59.3**	**-1.1**
	comp=Z,4.6nm,0.6s,mb4.6,baz=140,slow=5.6,SNR=38						
YKA				LR	LR	04 59 48.0	
	comp=Z,62nm,18.8s,MS3.9,baz=160,slow=39						
YKA	**Yellowknife Ar**	**75.60**	**344**	P	**P**	**04 22 59.3**	**-1.2**
YKA				LR	LR	04 59 48.0	
VNA3	**Neumayer Olymp**	**75.75**	**162**	⇓*i*P	**P**	**04 23 01.7**	**+0.4**
VNA3				*e*	pP	04 23 12.5	+0.1
VNA3				*e*	pP	04 23 14.0	+1.6
VNA3				*e*		04 23 16.1	
VNA3				*e*		04 23 25.9	
VNA1	**Neumayer--Stat**	**76.03**	**161**	⇓*i*P	**P**	**04 23 02.9**	**0.0**
VNA1				*e*	pP	04 23 13.4	-0.7
VNA1				*e*	pP	04 23 15.0	+0.9
VNA1				*e*		04 23 17.2	
VNA1				*e*		04 23 29.3	
DBIC	**Dimbokro**	**76.14**	**81**	P	**P**	**04 23 05.9**	**+2.4**
	comp=Z,7.3nm,0.6s,mb4.8,baz=220,slow=4.9,SNR=17						
DBIC				LR	LR	04 57 12.7	
	comp=Z,114nm,18.9s,MS4.2,baz=239,slow=36						
DBIC	**Dimbokro**	**76.14**	**81**	*e*P	**P**	**04 23 04.4**	**+0.9**
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
DBIC	**Dimbokro**	**76.14**	**81**	*e*P	**P**	**04 23 04.4**	**+0.9**
	comp=Z,5.6nm,0.6s,mb4.7						
VNA2	**Neumayer--Watz**	**76.38**	**161**	⇓*i*P	**P**	**04 23 05.0**	**+0.1**
VNA2				*e*	pP	04 23 15.2	-0.8
VNA2				*e*	pP	04 23 16.4	+0.4
VNA2				*e*		04 23 19.3	
VNA2				*e*		04 23 29.3	
SNAA	**Sanae**	**77.97**	**162**	⇓*i*P	**P**	**04 23 04.9**	**-8.9**
SNAA				*e*	pP	04 23 14.5	-10
SNAA				*e*	pP	04 23 15.6	-9.4
SNAA				*e*		04 23 19.3	
SNAA				*e*		04 23 28.6	
SNAA	**Sanae**	**77.97**	**162**	*e*P	**P**	**04 23 15.5**	**+1.7**
SKAG	**Skagway**	**80.73**	**335**	*e*P	**P**	**04 23 28.7**	**-0.2**
	comp=Z,3.8nm,0.4s,mb4.7						
SKAG				LR	LR		
	comp=Z,100nm,19.0s,MS4.2						
QSPA	**South Pole Qui**	**81.72**	**180**	*e*P	**P**	**04 23 34.4**	**+0.3**
	comp=Z,15nm,1.1s,mb4.8						
RES	**Resolute Bay**	**83.44**	**356**	*e*P	**P**	**04 23 42.3**	**-0.8**
RES				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
RES	**Resolute Bay**	**83.44**	**356**	*e*P	**P**	**04 23 42.3**	**-0.8**
	comp=Z,0.8nm,0.5s,mb4.0						
TORD	**Torodi Ar. Bea**	**83.64**	**76**	P	**P**	**04 23 45.9**	**+1.8**
	comp=Z,9.1nm,0.8s,mb5.0,baz=292,slow=4.3,SNR=43						
ESDC	**Sonseca Array**	**84.52**	**49**	P	**P**	**04 23 50.0**	**+1.5**
	comp=Z,1.3nm,0.6s,mb4.3,baz=265,slow=4.7,SNR=8.9						
BORG	**Borgarnes**	**84.75**	**22**	P	**P**	**04 23 51.2**	**+1.5**
	comp=Z,7.3nm,0.9s,mb4.8,baz=189,slow=5.3,SNR=3.7						
SUMG	**Summit**	**85.07**	**12**	*e*P	**P**	**04 23 51.8**	**+0.4**
	comp=Z,9.1nm,0.9s,mb4.9						
INK	**Inuvik**	**85.24**	**342**	P	**P**	**04 23 50.5**	**-1.6**
	comp=Z,18nm,1.1s,mb5.1,baz=127,slow=5.6,SNR=3.8						
ROSF	**Rostrenen**	**87.33**	**40**	*e*P	**P**	**04 24 02.8**	**+0.4**
	comp=Z,78nm,1.4s,mb5.4						
ROSF	**Rostrenen**	**87.33**	**40**	*e*P	**P**	**04 24 02.8**	**+0.4**
ROSF				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.4						
ROSF	**Rostrenen**	**87.33**	**40**	*e*P	**P**	**04 24 02.8**	**+0.4**
	comp=Z,39nm,1.4s,mb5.4						
VNDA	**Vanda**	**87.77**	**191**	P	**P**	**04 24 03.8**	**-0.7**
	comp=Z,0.7nm,0.8s,mb4.0,baz=113,slow=7.6,SNR=4.2						
VNDA				LR	LR	04 56 14.1	
	comp=Z,97nm,20.6s,MS4.2,baz=326,slow=31						
ILAR	**Eielson Array**	**88.06**	**337**	P	**P**	**04 24 04.8**	**-1.2**
	comp=Z,6.0nm,0.9s,mb4.8,baz=148,slow=3.4,SNR=44						
COLA	**College**	**88.48**	**337**	*e*P	**P**	**04 24 06.7**	**-1.2**
COLA				*e**PP	pP	04 24 17.2	-2.1
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
COLA	**College**	**88.48**	**337**	*e*P	**P**	**04 24 06.7**	**-1.2**
	comp=Z,8.6nm,0.9s,mb5.0						
COLA				*e*pP	pP	04 24 17.2	-2.0
GRR	**Gorron**	**88.90**	**41**	*e*P	**P**	**04 24 10.1**	**+0.2**
MFF	**Saint Martin d**	**88.95**	**43**	*e*P	**P**	**04 24 10.5**	**+0.4**
	comp=Z,11nm,0.7s,mb5.0						
MFF	**Saint Martin d**	**88.95**	**43**	*e*P	**P**	**04 24 10.5**	**+0.4**
MFF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb5.0						
MFF	**Saint Martin d**	**88.95**	**43**	*e*P	**P**	**04 24 10.5**	**+0.4**
	comp=Z,5.6nm,0.7s,mb5.0						
FLN	**La Foliniere**	**89.23**	**41**	*e*P	**P**	**04 24 11.8**	**+0.3**
LDF	**La Druitiere**	**89.42**	**41**	*e*P	**P**	**04 24 12.7**	**+0.3**
RJF	**Les Rejaudoux**	**89.80**	**44**	*e*P	**P**	**04 24 14.3**	**+0.2**
	comp=Z,21nm,1.1s,mb5.1						
RJF	**Les Rejaudoux**	**89.80**	**44**	*e*P	**P**	**04 24 14.3**	**+0.2**
RJF				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.1						
RJF	**Les Rejaudoux**	**89.80**	**44**	*e*P	**P**	**04 24 14.3**	**+0.2**
	comp=Z,11nm,1.1s,mb5.1						
CAF	**Calviac**	**90.10**	**45**	*e*P	**P**	**04 24 15.8**	**+0.3**
	comp=Z,24nm,1.2s,mb5.1						
CAF	**Calviac**	**90.10**	**45**	*e*P	**P**	**04 24 15.8**	**+0.3**
CAF				pmax	pmax		
	comp=Z,12nm,1.2s,mb5.1						
CAF	**Calviac**	**90.10**	**45**	*e*P	**P**	**04 24 15.8**	**+0.3**
	comp=Z,12nm,1.2s,mb5.1						
SDPT	**Sand Point**	**91.60**	**326**	*e*P	**P**	**04 24 21.8**	**-0.7**
	comp=Z,50nm,1.0s,mb5.8						
SMF	**Signal de Mont**	**91.65**	**43**	*e*P	**P**	**04 24 22.9**	**+0.2**
SYO	**Syowa Base**	**92.27**	**162**	⇓*e*P	**P**	**04 24 21.0**	**-4.6**
RAO	**Raoul Island**	**93.01**	**240**	LR	LR	04 55 02.1	
	comp=Z,196nm,20.2s,MS4.5,baz=161,slow=28						
KBS	**Kingsbay**	**98.50**	**11**	*e*P	**P**	**04 24 53.2**	**-0.8**
OBN	**Obninsk**	**111.75**	**34**	PKIKP	PKiKP	04 29 49.9	-0.3
STKA	**Stephens Creek**	**123.78**	**223**	PKP	PKPdf	04 30 11.2	-2.0
	comp=Z,1.0nm,0.4s,baz=356,slow=21,SNR=3.9						
ZRNK	**Zerenda**	**128.84**	**24**	*e*PKIKP	PKPdf	04 30 23.5	+0.6
ZRNK				*e*		04 30 35.3	
CHKZ	**Chkalovo**	**128.91**	**22**	*e*PKIKP	PKPdf	04 30 23.1	0.0
ZAL	**Zalesovo**	**132.90**	**12**	PKP	PKPdf	04 30 30.0	-0.6
	comp=Z,2.2nm,0.7s,baz=255,slow=0.3,SNR=14						
ZAL	**Zalesovo**	**132.90**	**12**	PKP	PKPdf	04 30 30.0	-0.6
KURK	**Kurchatov**	**134.15**	**19**	*i* PKIKP	PKPdf	04 30 32.6	-0.4
KURK	**Kurchatov**	**134.15**	**19**	*e*PKPdf	PKPdf	04 30 32.2	-0.7
ASAR	**Alice Springs**	**134.22**	**225**	PKP	PKPdf	04 30 32.5	-0.6
	comp=Z,1.7nm,0.6s,baz=115,slow=2.3,SNR=18						
MJAR	**Matsushiro Arr**	**135.58**	**315**	PKP	PKPdf	04 30 34.1	-1.5
	comp=Z,3.5nm,0.9s,baz=75,slow=2.1,SNR=6.5						
MAJO	**Matsushiro**	**135.58**	**315**	*e*PKIKP	PKPdf	04 30 35.8	+0.1
MAT	**Matsushiro**	**135.58**	**315**	PKP	PKPdf	04 30 35.1	-0.6
MAT	**Matsushiro**	**135.58**	**315**	*e*PKP	PKPdf	04 30 35.0	-0.7
MDJ	**Mudanjiang**	**135.84**	**330**	PKP	PKPdf	04 30 36.1	-0.1
MDJ				PP	PP		
	comp=Z,60nm,6.4s						
WB2	**Warramunga Arr**	**136.20**	**230**	*e*P	PKPdf	04 30 36.7	-0.1
WRAB	**Tennant Creek**	**136.21**	**230**	*e*PKIKP	PKPdf	04 30 37.3	+0.5
WRA	**Warramunga Arr**	**136.21**	**230**	PKP	PKPdf	04 30 35.9	-0.9
	comp=Z,2.7nm,0.4s,baz=120,slow=2.1,SNR=43						
CN2	**Changchun**	**138.44**	**332**	*e*PKP	PKPdf	04 30 42.2	+1.3
MKAR	**Makanchi Array**	**138.76**	**19**	PKP	PKPdf	04 30 40.7	-0.8
	comp=Z,1.6nm,0.8s,baz=336,slow=2.7,SNR=11						
MKAR	**Makanchi Array**	**138.76**	**19**	*i* PKIKP	PKPdf	04 30 41.4	-0.1
MKAR	**Makanchi Array**	**138.76**	**19**	PKP	PKPdf	04 30 40.7	-0.8
AAK	**Ala-Archa**	**139.06**	**29**	*e*PKIKP	PKPdf	04 30 42.8	+0.7
ULN	**Ulaanbaatar**	**140.24**	**353**	*e*PKIKP	PKPdf	04 30 44.4	+0.2
SONM	**Songino Array**	**140.34**	**354**	PKP	PKPdf	04 30 43.5	-1.0
	comp=Z,2.3nm,0.8s,baz=337,slow=1.8,SNR=9.8						
WMQ	**Urumqi**	**143.03**	**15**	*e*PKP	PKPdf	04 30 49.6	+0.4
WMQ				LR	LR		
	comp=N,380nm,20.0s,MS5.3						
WMQ				LR	LR		
	comp=E,390nm,20.0s,MS5.3						
WMQ				LR	LR		
	comp=Z,390nm,20.0s,MS5.2						
HHC	**Hu-ho-hao-te**	**146.14**	**345**	*e*PKP	PKPdf	04 30 54.6	0.0
HHC				PKP2	PKPab	04 30 57.9	+1.6
HHC				APKP		04 31 05.4	
HHC				XPKP		04 31 08.9	
HHC				PP	PP	04 34 20.7	+3.0
HHC				PKS		04 34 28.8	
HHC				SKS	SKSdf	04 37 58.2	-2.6
HHC				SKKS	SKKSac	04 41 06.0	-1.0
HHC				PP	PP		
	comp=Z,100nm,5.0s						
HHC				LR	LR		
	comp=N,270nm,16.7s,MS5.2						
HHC				LR	LR		
	comp=E,170nm,14.5s,MS5.2						
HHC				LR	LR		
	comp=Z,250nm,15.5s,MS5.1						
GTA	**Gaotai**	**149.10**	**1**	*e*PKP	PKPdf	04 30 59.9	+0.4
GTA				APKP		04 31 10.7	
GTA				XPKP		04 31 14.2	
GTA				PKS		04 34 33.4	
GTA				PP	PP	04 34 37.9	+2.9
GTA				SKS	SKSdf	04 38 02.9	-2.0
GTA				SKKS	SKKSac	04 41 23.3	-0.3
GTA				PP	PP		
	comp=Z,90nm,8.4s						
GTA				LR	LR		
	comp=N,400nm,15.6s,MS5.4						
GTA				LR	LR		
	comp=E,360nm,16.7s,MS5.4						
GTA				LR	LR		
	comp=Z,620nm,16.3s,MS5.5						
SSE	**Sheshan**	**150.14**	**322**	PKP	PKPdf	04 31 00.2	-1.0
SSE				PP	PP		
	comp=Z,80nm,4.6s						
NJ2	**Nanjing**	**150.79**	**326**	*e*PKP	PKPdf	04 31 02.1	-0.1
NJ2				APKP		04 31 13.1	
NJ2				XPKP		04 31 16.3	
NJ2				PKP2	PKPab	04 31 17.6	+2.6
NJ2				PP	PP		
	comp=Z,1μm,10.8s						
NJ2				LR	LR		
	comp=N,480nm,23.5s,MS5.3						
NJ2				LR	LR		
	comp=E,290nm,24.8s,MS5.3						
LZH	**Lanzhou**	**152.23**	**354**	*e*PKP	PKPdf	04 31 01.5	-2.9
LZH				APKP		04 31 11.5	
LZH				XPKP		04 31 15.6	
LZH				PP	PP	04 34 52.4	-0.6
LZH				SKKS	SKKSac	04 41 34.0	-6.8
LZH				SS	SS	04 54 12.0	-7.0
LZH				PP	PP		
	comp=Z,120nm,6.3s						
LZH				LR	LR		
	comp=E,120nm,17.9s						
LZH				LR	LR		
	comp=Z,190nm,19.0s,MS4.9						
CD2	**Chengdu**	**157.35**	**352**	*e*PKP	PKPdf	04 31 08.6	-2.8
CD2				APKP		04 31 19.4	
CD2				XPKP		04 31 23.0	
CD2				PKP2	PKPab	04 31 41.9	-0.9
CD2				PP	PP	04 35 21.7	0.0
CD2				SKS	SKSdf	04 38 09.2	-5.4
CD2				SKKS	SKKSac	04 42 05.4	-2.9
CD2				PP	PP		
	comp=Z,80nm,10.2s						
CD2				LR	LR		
	comp=N,80nm,24.2s						
CD2				LR	LR		
	comp=Z,90nm,23.2s,MS4.5						
PALK	**Pallekele**	**160.59**	**92**	*e*PKPdf	PKPdf	04 31 15.0	-0.2
GYA	**Guiyang**	**161.02**	**342**	*e*PKP	PKPdf	04 31 16.3	+0.6
GYA				APKP		04 31 27.2	
GYA				XPKP		04 31 30.7	
GYA				PKS		04 34 48.3	
GYA				LR	LR		
	comp=N,100nm,20.8s						
GYA				LR	LR		
	comp=E,120nm,21.9s						
GYA				LR	LR		
	comp=Z,110nm,21.7s						
KMI	**Kunming**	**163.19**	**352**	PKP	PKPdf	04 31 19.2	+1.3

*IDC **01** 04:35:09.2±1.8, 432S×135.13E, h0km, mb4.1/1, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, ML3.8/3, Error ellipse: s-maj=64.0km s-min=23.8km az=76.0*
*ISCJB **01** 04:35:12.4±0.9, 441S±007×1352E±0.1, h33km, mb4.0/3, Error ellipse: s-maj=18.7km s-min=9.4km az=5.0*
*NEIC **01** 04:35:15.0±0.9, 449S×13507E, h35km, mb4.0/3, Error ellipse: s-maj=28.2km s-min=10.9km az=80.0*

ISC 01 04:35:14.7±0.8, 444S±007×1352E±01, h35km, n13, σ0.92/15, mb4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.65**	**198**	*e*P		**Pn**	**04 37 21.1**	**+3.9**
	12nm,0.3s							
WRAB	**Tennant Creek**	**15.42**	**183**	*e*P		**Pn**	**04 38 48.5**	**-1.0**
	7.1nm,0.9s							
WB2	**Warramunga Arr**	**15.43**	**183**	*e*P		**Pn**	**04 38 48.5**	**-1.1**
WRA	**Warramunga Arr**	**15.43**	**183**	Pn		**Pn**	**04 38 48.6**	**-1.0**
	0.3nm,0.3s,baz=10,slow=13,SNR=26							
WRA				Sn		**Sn**	**04 41 42.0**	**+2.6**
	0.2nm,0.3s,baz=2.5,slow=23,SNR=5.2							
FITZ	**Fitzroy Crossi**	**16.46**	**214**	Pn		**Pn**	**04 39 03.4**	**+0.5**
	0.4nm,0.3s,baz=347,slow=11,SNR=8.5							
FITZ				Sn		**Sn**	**04 42 04.1**	**-0.3**
	0.2nm,0.3s,baz=118,slow=10,SNR=3.6							
CTA	**Charters Tower**	**18.95**	**146**	P		**Pn**	**04 39 34.0**	**+0.5**
	baz=350,slow=12,SNR=1.9							
CTA	**Charters Tower**	**18.95**	**146**	P		**Pn**	**04 39 34.0**	**+0.4**
AS31	**Alice Springs**	**19.15**	**183**	*e*P		**Pn**	**04 39 35.9**	**-0.1**
ASAR	**Alice Springs**	**19.16**	**183**	P		**Pn**	**04 39 35.9**	**-0.1**
	0.4nm,0.3s,baz=11,slow=11,SNR=30							
ASPA	**Alice Springs**	**19.16**	**183**	*e*P		**Pn**	**04 39 35.9**	**-0.1**
MKAR	**Makanchi Array**	**69.03**	**324**	P		**P**	**04 46 16.1**	**-0.6**
	1.1nm,0.5s,mb4.1,baz=112,slow=7.5,SNR=13							
KURK	**Kurchatov**	**73.12**	**326**	*e*P		**P**	**04 46 41.8**	**+0.3**
	0.7nm,0.4s,mb3.9							
CHKZ	**Chkalovo**	**78.85**	**327**	*e*P		**P**	**04 47 15.2**	**+1.1**
	0.8nm,0.5s,mb3.9							

CASC 01 04:45:43.5±1.9, 841N×8288W, h11km±9km, MD3.6, 4C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.42**	**26**	⇑*i*P		Pg	04 45 52.7	+1.0
DVD	**David**	**0.42**	**87**	⇓*i*P		Pg	04 45 52.2	+0.4
DVD				*e*S		Sg	04 45 58.3	+0.9
CTCR	**Cotoan**	**0.49**	**14**	⇑*i*P		Pg	04 45 53.5	+0.3
CTCR				*e*S		Sg	04 46 00.9	+1.2
BRU	**Baru**	**0.50**	**39**	⇓*i*P		Pg	04 45 54.1	+0.8
BRU				*e*S		Sg	04 46 02.2	+2.3
CNI	**Changuinola**	**1.06**	**20**	⇓*i*P		Pb	04 46 02.7	-1.2
BUS	**Buena Vista**	**1.43**	**323**	*e*P		Pn	04 46 07.9	-1.5
BUS				*e*S		Sn	04 46 29.9	+1.7
URSC	**Urasca**	**1.67**	**328**	⇑*e*P		Pn	04 46 11.6	-1.1
URSC				*e*S		Sn	04 46 36.5	+2.4
LCR2	**La Lucha 2**	**1.73**	**320**	*e*P		Pn	04 46 12.4	-1.0
LCR2				*e*S		Sn	04 46 37.1	+1.6
PRS1	**Puriscal**	**2.11**	**318**	*e*P		Pn	04 46 16.9	-1.8
PRS1				*e*S		Sn	04 46 44.6	-0.3
PTP	**Ponta Puerca**	**19.41**	**58**	⇑*i*P			04 45 49.0	

*CSEM **01** 04:49:29.7±1.2, 3897N×2790W, h1km±3km, ML2.6, Error ellipse: s-maj=1.9km s-min=1.7km az=52.0, After PDA*
*PDA **01** 04:49:29.7±1.2, 3897N×2790W, h1km±3km, MD3.2, ML2.6, Error ellipse: s-maj=1.9km s-min=1.7km az=52.0*

SVSA 01 04:49:29.7±1.2, 3897N×2790W, h1km±3km, MD3.2, ML2.6, Error ellipse: s-maj=1.9km s-min=1.7km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.09**	**314**	*i* P		Pg	04 49 30.6	-0.9
PGRA				*i* S		Sg	04 49 32.3	-0.4
PGRA								
	2μm,0.1s							
PGRA	**Graciosa**	**0.09**	**314**	*i* S		Sg	04 49 32.3	-0.4
SRBC	**Serra Branca**	**0.13**	**302**	*i* P		Pg	04 49 31.4	-0.9
SRBC				*e*S		Sg	04 49 33.7	-0.3
SRBC	**Serra Branca**	**0.13**	**302**	*e*S		Sg	04 49 33.7	-0.3
STGR	**Santa Cruz**	**0.14**	**324**	*e*P		Pg	04 49 32.3	-0.1
STGR				*e*S		Sg	04 49 34.5	+0.3
STGR								
	653nm,0.3s							
STGR	**Santa Cruz**	**0.14**	**324**	*e*P		Pg	04 49 32.3	-0.1
STGR				*e*S		Sg	04 49 34.5	+0.3
PVIA	**Vitoria**	**0.16**	**311**	*e*P		Pg	04 49 32.5	-0.2
PVIA				*e*S		Sg	04 49 34.8	0.0
PVIA								
	176nm,0.3s							
PAMA	**Santo Amaro**	**0.36**	**218**	*e*P		Pg	04 49 36.4	-0.2
PAMA				*e*S		Sg	04 49 41.4	+0.1
PAMA								
	523nm,0.3s							
PMAN	**Manadas**	**0.36**	**204**	*i* P		Pg	04 49 35.6	-1.1
PMAN				*e*S		Sg	04 49 41.3	-0.1
PMAN								
	2μm,0.3s							
PMAN	**Manadas**	**0.36**	**204**	*e*S		Sg	04 49 41.3	-0.1
ROSA	**Rosais**	**0.36**	**228**	*i* P		Pg	04 49 35.7	-1.0
ROSA				*e*S		Sg	04 49 40.8	-0.6
ROSA	**Rosais**	**0.36**	**228**	*e*S		Sg	04 49 40.8	-0.6
PSBA	**Serra de Santa**	**0.49**	**114**	*e*P		Pg	04 49 37.5	-1.6
PSBA				*e*S		Sg	04 49 44.4	-1.0
PSBA								
	356nm,0.2s							
PSBA	**Serra de Santa**	**0.49**	**114**	*e*P		Pg	04 49 37.5	-1.6
PSBA				*e*S		Sg	04 49 44.4	-1.0
ASBA	**Santa Barbara**	**0.51**	**119**	*e*P		Pg	04 49 38.7	-0.8
ASBA				*e*S		Sg	04 49 45.4	-0.7
ASBA								
	173nm,0.1s							
ASBA	**Santa Barbara**	**0.51**	**119**	*e*P		Pg	04 49 38.7	-0.8
ASBA				*e*S		Sg	04 49 45.4	-0.7
PBIS	**Biscoitos**	**0.54**	**112**	*e*P		Pg	04 49 39.3	-0.8
PBIS				*e*S		Sg	04 49 46.6	-0.6
PBIS								
	184nm,0.1s							
PBIS	**Biscoitos**	**0.54**	**112**	*e*P		Pg	04 49 39.3	-0.8
PBIS				*e*S		Sg	04 49 46.6	-0.6
PPAD	**Pico dos Padre**	**0.55**	**119**	*e*P		Pg	04 49 39.3	-0.8
PPAD				*e*S		Sg	04 49 46.7	-0.5
PPAD								
	90nm,0.1s							
PPAD	**Pico dos Padre**	**0.55**	**119**	*e*P		Pg	04 49 39.3	-0.8
PPAD				*e*S		Sg	04 49 46.7	-0.5
PID	**Ribeirinha**	**0.55**	**198**	*e*P		Pg	04 49 38.9	-1.4
PID				*e*S		Sg	04 49 46.1	-1.3
PTEI	**Pico do Teixo**	**0.59**	**218**	*e*P		Pg	04 49 40.3	-0.7
PTEI				*e*S		Sg	04 49 47.9	-0.8
PTEI								
	507nm,0.3s							
ADH	**Angra Heroismo**	**0.60**	**121**	*erx*			04 49 46.7	
PVNV	**Vila Nova**	**0.61**	**109**	*e*P		Pg	04 49 40.4	-1.1
PVNV				*e*S		Sg	04 49 48.9	-0.5
PVNV								
	172nm,0.2s							
PVNV	**Vila Nova**	**0.61**	**109**	*e*P		Pg	04 49 40.4	-1.1
PVNV				*e*S		Sg	04 49 48.9	-0.5
PICO	**Pico**	**0.62**	**222**	*i* P		Pg	04 49 40.0	-1.6
PICO				*e*S		Sg	04 49 48.3	-1.4
PICO	**Pico**	**0.62**	**222**	*e*S		Sg	04 49 48.3	-1.4
RIB2	**Ribeirinha**	**0.64**	**117**	*e*P		Pg	04 49 40.6	-1.3
RIB2				*e*S		Sg	04 49 49.0	-1.2
RIB2								
	97nm,0.4s							
RIB2	**Ribeirinha**	**0.64**	**117**	*e*P		Pg	04 49 40.6	-1.3
RIB2				*e*S		Sg	04 49 49.0	-1.2
PBOI	**Pico dos Bois**	**0.65**	**215**	*e*P		Pg	04 49 41.1	-1.0
PBOI				*e*S		Sg	04 49 49.2	-1.3
PBOI								
	92nm,0.3s							
PCND	**Candelaria**	**0.67**	**222**	*e*P		Pg	04 49 41.3	-1.1
PCND				*e*S		Sg	04 49 49.8	-1.3
PCND								
	92nm,0.2s							
PFAV	**Pico das Favas**	**0.68**	**112**	*e*P		Pg	04 49 41.4	-1.4
PFAV				*e*S		Sg	04 49 50.4	-1.3
PFAV								
	70nm,0.2s							
PFAV	**Pico das Favas**	**0.68**	**112**	*e*P		Pg	04 49 41.4	-1.4
PFAV				*e*S		Sg	04 49 50.4	-1.3
PCED	**Cedros**	**0.71**	**242**	*e*P		Pg	04 49 40.5	-2.9
PCED				*e*S		Sg	04 49 49.5	-3.1
PCED								
	81nm,0.2s							
PCED	**Cedros**	**0.71**	**242**	*e*P		Pg	04 49 40.5	-2.9
PCED				*e*S		Sg	04 49 49.5	-3.1
HOR	**Horta**	**0.72**	**233**	*e*P		Pg	04 49 40.9	-2.6
HOR				*e*S		Sg	04 49 49.5	-3.4
CALA	**Caldeira**	**0.74**	**239**	*e*P		Pg	04 49 41.4	-2.4
CALA				*e*S		Sg	04 49 50.8	-2.6
PTCA	**Ponta do Capel**	**0.80**	**242**	*e*S		Sg	04 49 53.3	-2.1
PTCA								
	48nm,0.2s							
PLUZ	**Luz**	**0.84**	**274**	*e*P		Pg	04 49 31.3	-15
PLUZ				*e*S		Sg	04 49 32.9	-24
PLUZ								
	921nm,0.2s							
SET4	**Mosteiros**	**1.98**	**123**	*e*S		Sn	04 50 22.5	-7.1
SET2	**Ginetes**	**1.99**	**124**	*e*S		Sn	04 50 22.2	-7.7
PFET	**Feteiras**	**2.02**	**124**	*e*S		Sn	04 50 25.1	-5.5
FAC	**Faja de Cima**	**2.13**	**123**	*e*S		Sn	04 50 28.4	-5.0
CML	**Cha da Macela**	**2.20**	**122**	*e*S		Sn	04 50 29.0	-6.1
PMAT	**Coroa da Mata**

*BJI **01** 05:15:20.0,2120S×17450W,h50km,mB5.2,mb5.1*
*NEIC **01** 05:15:20.0±0.3,2123S×17452W,h50km,mb4.6/17,Error ellipse: s-maj=12.1km s-min=7.2km az=132.0*
ISC 01 05:15:18.6±0.3,2127S±007×17442W±008,h35km, (h30km±2.4km:pP-P),n84,σ1§02/60,mb4.6/31,MS3.9/5,6C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.74**	**19**	Pn	**Pn**	**05 17 03.5**	**-5.2**
	8.0nm,0.3s,baz=147,slow=21,SNR=11						
AFI				Sn	**Sn**	**05 18 18.6**	**-16**
	baz=15,slow=23,SNR=3.0						
AFI				LR	LR	05 18 54.0	
	comp=Z,83nm,19.0s,baz=189,slow=28						
AFI				T		05 25 03.3	
	7.2nm,0.3s,baz=96,slow=19,SNR=4.6						
AFI	**Afiamalu**	**7.74**	**19**	Pn	**Pn**	**05 17 03.5**	**-5.2**
AFI				Sn	**Sn**	**05 18 18.6**	**-16**
AFI				LR	LR	05 18 54.0	
RAO	**Raoul Island**	**8.55**	**201**	Sn	**Sn**	**05 18 48.9**	**-6.3**
	20nm,0.3s,baz=238,slow=24,SNR=3.1						
RAO				LR	LR	05 20 12.4	
	comp=Z,301nm,21.4s,baz=95,slow=35						
RAR	**Rarotonga**	**13.66**	**92**	Pn	**Pn**	**05 18 15.1**	**-15**
	16nm,0.3s,baz=243,slow=7.4,SNR=37						
RAR				Sn	Sn	05 20 30.5	-30
	2.1nm,0.3s,baz=107,slow=22,SNR=4.6						
RAR				LR	LR	05 22 46.3	
	comp=Z,548nm,18.5s,baz=280,slow=33						
DZM	**Mont Dzumac**	**17.80**	**264**	*e*P	**Pn**	**05 19 26.1**	**+2.6**
DZM	**Mont Dzumac**	**17.80**	**264**	P	**Pn**	**05 19 26.5**	**+3.0**
	0.7nm,0.3s,baz=80,slow=18,SNR=17						
URZ	**Urewera**	**18.44**	**201**	P	**Pn**	**05 19 29.9**	**-1.4**
	0.8nm,0.3s,baz=346,slow=2.1,SNR=4.3						
URZ				S	**S**	**05 22 54.2**	**-5.6**
	0.1nm,0.3s,baz=18,slow=20,SNR=2.0						
TBI	**Tubuai**	**23.18**	**100**	*e*LQ		05 24 23.0	
	290nm,26.2s						
TBI				*e*LR	LR	05 25 21.7	
	261nm,20.5s						
PPT	**Papeete**	**23.71**	**85**	*e*LQ		05 24 31.4	
	415nm,24.5s						
PPT				*e*LR	LR	05 25 36.2	
	256nm,19.8s,baz=255						
PPT	**Papeete**	**23.71**	**85**	LR	LR	05 27 52.2	
	comp=Z,474nm,18.6s,MS4.0,baz=247,slow=32						
RPZ	**Rata Peaks**	**25.44**	**205**	P	**P**	**05 20 43.6**	**+0.6**
	5.5nm,0.6s,mb4.2,baz=296,slow=5.7,SNR=4.9						
HNR	**Honiara**	**27.32**	**292**	LR	LR	05 29 57.5	
	comp=Z,128nm,19.2s,MS3.5,baz=179,slow=32						
CTAO	**Charters Tower**	**36.74**	**265**	*e*P	**P**	**05 22 22.0**	**-0.5**
	4.7nm,0.8s,mb4.4						
PMG	**Port Moresby**	**38.77**	**282**	*e*P	**P**	**05 22 39.5**	**-0.1**
	25nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**40.49**	**245**	P	**P**	**05 22 51.8**	**-2.1**
	10nm,0.9s,mb4.6,baz=91,slow=11,SNR=9.7						
STKA	**Stephens Creek**	**40.49**	**245**	*e*P	**P**	**05 22 51.6**	**-2.3**
ASAR	**Alice Springs**	**47.60**	**257**	P	**P**	**05 23 50.5**	**-0.5**
	16nm,0.9s,mb5.0,baz=90,slow=8.3,SNR=100						
ASAR				S	**S**	**05 30 44.5**	**+0.6**
	1.0nm,0.9s,baz=91,slow=16,SNR=6.7						
WRAB	**Tennant Creek**	**47.80**	**262**	*e*P	**P**	**05 23 51.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
WRAB	**Tennant Creek**	**47.80**	**262**	*e*P	**P**	**05 23 51.8**	**-0.6**
	comp=Z,17nm,0.9s,mb5.1						
WRA	**Warramunga Arr**	**47.80**	**262**	P	**P**	**05 23 51.9**	**-0.6**
	comp=Z,13nm,0.9s,mb5.0,baz=98,slow=7.5,SNR=58						
SBA	**Scott Base**	**57.36**	**185**	*e*P	**P**	**05 25 05.0**	**+1.8**
SBA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
SBA	**Scott Base**	**57.36**	**185**	*e*P	**P**	**05 25 05.0**	**+1.8**
	comp=Z,13nm,1.1s,mb4.9						
VNDA	**Vanda**	**57.47**	**186**	P	**P**	**05 25 04.6**	**+0.6**
	comp=Z,2.0nm,1.0s,mb4.1,baz=349,slow=7.9,SNR=8.0						
CASY	**Casey**	**64.71**	**206**	*e*P	**P**	**05 25 52.3**	**-0.8**
	comp=Z,6.4nm,0.9s,mb4.7						
QSPA	**South Pole Qui**	**68.81**	**180**	*e*P	**P**	**05 26 19.0**	**-0.2**
	comp=Z,10nm,1.1s,mb4.7						
MJAR	**Matsushiro Arr**	**72.84**	**322**	P	**P**	**05 26 43.6**	**-0.1**
	comp=Z,8.7nm,0.9s,mb4.7,baz=162,slow=5.9,SNR=14						
MAJO	**Matsushiro**	**72.84**	**322**	*e*P	**P**	**05 26 43.2**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**72.84**	**322**	*e*P	**P**	**05 26 43.2**	**-0.5**
	comp=Z,9.8nm,0.9s,mb4.7						
ASAJ	**Asahikawa**	**76.03**	**330**	LR	LR	05 59 32.2	
	comp=Z,40nm,18.4s,MS3.8,baz=74,slow=35						
WDC	**Whiskeytown Da**	**78.18**	**38**	*e*P	**P**	**05 27 13.8**	**-0.5**
WDC				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
WDC	**Whiskeytown Da**	**78.18**	**38**	*e*P	**P**	**05 27 13.8**	**-0.5**
	comp=Z,6.6nm,1.3s,mb4.4						
YBH	**Yreka Blue Hor**	**78.85**	**37**	P	**P**	**05 27 17.9**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=173,slow=2.6,SNR=5.3						
NVAR	**Mina Array Bea**	**79.33**	**42**	P	**P**	**05 27 20.8**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.0,baz=226,slow=9.1,SNR=12						
MNV	**Mina**	**79.42**	**42**	*e*P	**P**	**05 27 20.9**	**-0.2**
MNV				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
MNV	**Mina**	**79.42**	**42**	*e*P	**P**	**05 27 20.9**	**-0.2**
	comp=Z,6.4nm,1.3s,mb4.4						
TPNV	**Topopah Spring**	**79.73**	**44**	*e*P	**P**	**05 27 23.7**	**+0.9**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
TPNV	**Topopah Spring**	**79.73**	**44**	*e*P	**P**	**05 27 23.6**	**+0.8**
	comp=Z,2.7nm,0.9s,mb4.2						
MOD	**Modoc**	**80.32**	**38**	*e*P	**P**	**05 27 24.9**	**-1.1**
	comp=Z,2.2nm,0.6s,mb4.3						
TUC	**Tucson**	**80.86**	**50**	*e*P	**P**	**05 27 29.1**	**+0.2**
TUC				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
TUC	**Tucson**	**80.86**	**50**	*e*P	**P**	**05 27 29.1**	**+0.2**
	comp=Z,3.4nm,1.4s,mb4.1						
MDJ	**Mudanjiang**	**83.09**	**323**	P	**P**	**05 27 42.5**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
MDJ	**Mudanjiang**	**83.09**	**323**	*e*P	**P**	**05 27 41.3**	**+0.7**
	comp=Z,13nm,0.8s,mb5.0						
MSU	**Marysvale**	**83.27**	**44**	*e*P	**P**	**05 27 42.2**	**+0.7**
BMO	**Blue Mountains**	**83.87**	**37**	*e*P	**P**	**05 27 43.3**	**-1.3**
	comp=Z,2.0nm,0.8s,mb4.3						
HLID	**Hailey**	**84.76**	**39**	*e*P	**P**	**05 27 49.4**	**+0.3**
	comp=Z,2.8nm,0.9s,mb4.4						
CN2	**Changchun**	**84.97**	**321**	⇑P	**P**	**05 27 52.1**	**+1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
ANMO	**Albuquerque**	**85.31**	**50**	*e*P	**P**	**05 27 52.8**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ANMO	**Albuquerque**	**85.31**	**50**	*e*P	**P**	**05 27 52.8**	**+0.9**
	comp=Z,6.4nm,1.3s,mb4.6						
SNAA	**Sanae**	**87.13**	**177**	⇑*i*	**P**	**05 27 49.8**	**-11**
SNAA				*e*		05 27 52.3	
SNAA				*e*		05 27 56.4	
SNAA				*e*	pP	05 27 59.1	-13
SNAA				*e*		05 28 10.6	
SNAA				*e*		05 28 24.3	
VNA3	**Neumayer Olymp**	**87.13**	**175**	⇑*i*	**P**	**05 28 00.7**	**-0.1**
VNA3				*e*		05 28 03.0	
VNA3				*e*	pP	05 28 08.7	-3.2
VNA3				*e*	pP	05 28 10.9	-1.0
PDAR	**Pinedale Array**	**87.26**	**42**	P	**P**	**05 28 00.3**	**-1.2**
	comp=Z,0.7nm,0.8s,mb3.9,baz=135,slow=1.0,SNR=3.6						
VNA2	**Neumayer--Watz**	**87.61**	**176**	⇑*i*	**P**	**05 28 05.1**	**+1.9**
	baz=238,slow=4.5						
VNA2				*e*		05 28 07.6	
VNA2				*e*		05 28 12.1	
VNA2				*e*	pP	05 28 15.0	+0.7
VNA2				*e*		05 28 27.8	
VNA2				*e*		05 28 38.6	
VNA2				*e*		05 28 48.3	
VNA2				*e*		05 28 54.5	
PSI	**Prapat**	**87.89**	**274**	P	**P**	**05 28 05.0**	**+0.5**
	comp=Z,10nm,0.8s,mb5.1,baz=186,slow=4.1,SNR=12						
PSI	**Prapat**	**87.89**	**274**	P	**P**	**05 28 05.0**	**+0.5**
COLA	**College**	**88.28**	**11**	*e*P	**P**	**05 28 06.1**	**-0.2**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
COLA	**College**	**88.28**	**11**	*e*P	**P**	**05 28 06.1**	**-0.2**
	comp=Z,3.6nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**88.36**	**11**	P	**P**	**05 28 06.2**	**-0.5**
	comp=Z,2.1nm,1.1s,mb4.3,baz=220,slow=4.1,SNR=7.2						
TSI	**Tuntungan**	**88.47**	**274**	*e*P	**P**	**05 28 05.8**	**-1.4**
DAWY	**Dawson**	**89.31**	**15**	*e*P	**P**	**05 28 10.6**	**-0.6**
XAN	**Xi'an**	**91.27**	**306**	P	**P**	**05 28 22.7**	**+2.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.1						
CD2	**Chengdu**	**94.03**	**301**	*e*P	**P**	**05 28 32.8**	**-0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
YKA	**Yellowknife Ar**	**95.83**	**24**	LR	LR	06 08 58.7	
	comp=Z,50nm,18.1s,MS4.0,baz=90,slow=34						
ULM	**Lac du Bonnet**	**99.07**	**40**	LR	LR	06 08 21.0	
	comp=Z,61nm,18.6s,MS4.1,baz=338,slow=32						
GTA	**Gaotai**	**100.06**	**308**	*e*P	Pdif	05 29 05.5	+5.2
ZRNK	**Zerenda**	**122.65**	**320**	*e*PKIKP	PKPdf	05 34 09.8	-0.7
AKASG	**Malin Array Be**	**145.25**	**333**	PKPbc	PKPbc	05 34 51.6	-0.6
	comp=Z,4.3nm,0.7s,baz=40,slow=4.0,SNR=22						
MARD	**Mardin**	**145.62**	**306**	*i* P	PKPdf	05 34 54.9	+1.8
ELZG	**Elazig**	**146.56**	**308**	*i* P	PKPdf	05 34 57.5	+2.8
BOYT	**Boyabat**	**148.13**	**316**	*i* P	PKPdf	05 34 59.4	+2.1
CTKT	**Corum**	**148.60**	**315**	*i* P	PKPdf	05 34 57.4	-0.7
CLL	**Collm**	**149.46**	**351**	⇑*i*PKPbc	PKPbc	05 35 04.2	+0.2
	comp=Z,10.0nm,1.2s						
CLL	**Collm**	**149.46**	**351**	⇑*i*PKP2	PKPbc	05 35 04.2	+0.2
CLL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
UPC	**Upice**	**149.68**	**347**	*e*PKPbc	PKPbc	05 35 05.1	+0.6
BRG	**Berggiesshubel**	**149.73**	**349**	*e*P	PKPdf	05 35 03.5	+3.7
	comp=Z,2.7nm,1.2s						
BRG				*e*		05 35 16.5	
	comp=Z,6.2nm,1.3s						
BRG							
	comp=N,53nm,12.3s						
BRG							
	comp=E,62nm,18.4s						
BRG							
	comp=Z,126nm,21.4s						
BRG	**Berggiesshubel**	**149.73**	**349**	*e*PKP2	PKPdf	05 35 03.5	+3.6
BRG				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BRG				MLR	MLR		
	comp=N,53nm,12.3s						
BRG				MLR	MLR		
	comp=E,62nm,18.4s						
BRG				MLR	MLR		
	comp=Z,126nm,21.4s						
DPC	**Dobruska-Polom**	**149.76**	**346**	*e*PKPbc	PKPbc	05 35 04.2	-0.5
DPC				*e*PKPab	PKPab	05 35 10.1	0.0
BR131	**Keskin Array S**	**149.80**	**314**	*e*PKPbc	PKPbc	05 35 05.3	+0.5
BRTR	**Keskin Array B**	**149.80**	**314**	PKPbc	PKPbc	05 35 05.8	+1.1
	comp=Z,2.7nm,0.8s,baz=145,slow=3.0,SNR=14						
PVCC	**Panska Ves**	**149.95**	**349**	*e*PKPbc	PKPbc	05 35 06.1	+0.9
MORC	**Moravsky Berou**	**150.01**	**344**	*e*PKHKP	PKPbc	05 35 03.7	-1.6
PRU	**Pruhonice**	**150.47**	**348**	*e*PKPbc	PKPbc	05 35 06.3	-0.1
PRU				*e*PKPab	PKPab	05 35 11.4	-1.6
GRA1	**Grafenberg Arr**	**151.28**	**352**	*e*PKPab	PKPab	05 35 18.1	+1.7
KHC	**Kasperske Hory**	**151.47**	**349**	*e*PKPbc	PKPbc	05 35 09.3	+0.6
KHC				*e*PKPab	PKPab	05 35 16.1	-1.1
GERES	**GERESS Array B**	**151.73**	**349**	PKPbc	PKPbc	05 35 09.2	-0.1
	comp=Z,2.1nm,0.8s,baz=0.0,slow=2.7,SNR=5.1						

*IDC **01** 05:17:24.6±0.5,1493N×11990E,h0km,mb4.4/20, mb1 4.6/20,mb1mx4.6/22,mbtmp4.4/20,MS4.0/11, Ms1 4.0/11,ms1mx3.7/29,Error ellipse: s-maj=24.6km s-min=12.5km az=65.0*
*SZGRF **01** 05:17:30.2,1500N×120.14E,h33km,mb4.8,Luzon, Philippine Islands*
*BJI **01** 05:17:30.8,1506N×11986E,h40km,mB4.7,mb4.4,Ms4.2, Msz4.0*
*ISCJB **01** 05:17:32.1±0.6,1493N±003×11991E±005,h65km±6km, mb4.5/64,Error ellipse: s-maj=8.1km s-min=4.8km az=157.8*
*NEIC **01** 05:17:33.8±0.9,1490N×11990E,h68km±8km,mb4.7/28, Error ellipse: s-maj=7.6km s-min=4.8km az=68.0*
NEIC Felt [II PIVS] at Iba and [I PIVS] at Quezon City.
*MOS **01** 05:17:34.4±1.1,1493N×11992E,h86km,mb4.6/29,Error ellipse: s-maj=12.6km s-min=5.9km az=115.1*
ISC 01 05:17:33.4±0.6,1496N±003×11994E±005,h62km±5km, n161,σ0§87/144,mb4.6/64,6C-8D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**1.27**	**62**	⇓*i*P	**Pn**	**05 17 53.8**	**-1.3**
PCPH				*e*S	**Sn**	**05 18 11.9**	**+0.7**
TGY	**Tagaytay City**	**1.29**	**131**	Pn	**Pn**	**05 17 56.3**	**+1.0**
	2μm,0.3s,baz=273,slow=2.1,SNR=76						
TGY				Lg		05 18 20.1	
	4μm,0.3s,baz=55,slow=20,SNR=15						
BCPH	**Baguio City Da**	**1.55**	**24**	⇑*i*P	**Pn**	**05 17 56.9**	**-1.8**
BCPH				*i* S	**Sn**	**05 18 17.3**	**-0.5**
PGP	**Puerto Galera**	**1.75**	**146**	*e*P	**Pn**	**05 18 01.6**	**+0.2**
LQP	**Lukban**	**1.77**	**118**	⇓*e*P	**Pn**	**05 18 03.0**	**+1.3**
GQP	**Guinayangan**	**2.65**	**113**	⇓*e*P	**Pn**	**05 18 15.3**	**+1.6**
GQP				*e*S	Sn	05 19 08.4	+24
CVP	**Callao Caves**	**3.28**	**33**	*e*P	**Pn**	**05 18 22.0**	**-0.3**
QIZ	**Qiongzhong**	**10.47**	**294**	P	**Pn**	**05 19 55.3**	**-5.4**
QIZ				S	**Sn**	**05 21 50.8**	**-5.5**
QIZ				AMB	AMB		
	comp=Z,20nm,1.6s						
QIZ				LR	LR		
	comp=N,390nm,15.0s						
QIZ				LR	LR		
	comp=E,760nm,16.5s						
QIZ				LR	LR		
	comp=Z,1μm,15.8s						
SSE	**Sheshan**	**16.11**	**4**	P	**Pn**	**05 21 18.0**	**+2.2**
SSE				S	**S**	**05 24 15.4**	**-8.2**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE				AMB	AMB		
	comp=Z,50nm,6.0s						
SSE				LR	LR		
	comp=N,80nm,18.3s						
SSE				LR	LR		
	comp=E,120nm,18.3s						
SSE				LR	LR		
	comp=Z,300nm,19.9s						
KSM	**Kuching**	**16.43**	**216**	*e*P	**Pn**	**05 21 20.1**	**+0.3**
GYA	**Guiyang**	**16.87**	**315**	⇑*i*P	**Pn**	**05 21 24.3**	**-1.0**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2	**Nanjing**	**17.05**	**357**	*e*P	**Pn**	**05 21 26.9**	**-0.6**
NJ2				AP	pP	05 21 35.4	-6.2
NJ2				XP	sP	05 21 39.1	-10
NJ2				PP		05 21 41.5	
NJ2				S	**S**	**05 24 36.0**	**-6.8**
NJ2				XS	sS	05 24 49.0	-15
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,400nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,14.9s						
NJ2				LR	LR		
	comp=E,450nm,10.0s						
NJ2				LR	LR		
	comp=Z,3μm,13.9s						
KMI	**Kunming**	**19.04**	**305**	P	**Pn**	**05 21 52.5**	**+0.8**
KMI				AP	pP	05 22 02.1	-1.5
KMI				XP	sP	05 22 07.6	-3.8
KMI				AMB	AMB		
	comp=Z,150nm,5.3s						
KMI				LR	LR		
	comp=N,230nm,15.2s						
KMI				LR	LR		
	comp=E,470nm,14.9s						
KMI				LR	LR		
	comp=Z,530nm,15.2s						
KULM	**Kulim**	**21.26**	**245**	*e*P	**P**	**05 22 13.8**	**-0.5**
KULM				*e*pP		05 22 25.2	
XAN	**Xi'an**	**21.45**	**334**	P	**P**	**05 22 15.5**	**-1.0**
XAN				S	**S**	**05 26 10.3**	**-0.5**
XAN				LR	LR		
	comp=N,190nm,13.1s						
XAN				LR	LR		
	comp=E,260nm,12.8s						
XAN				LR	LR		
	comp=Z,590nm,16.0s						
CD2	**Chengdu**	**21.73**	**320**	*e*P	**P**	**05 22 19.0**	**-0.4**
CD2				AP		05 22 34.2	
CD2				XP	sP	05 22 42.5	+1.8
CD2				PP		05 22 46.5	
CD2				S	**S**	**05 26 11.0**	**-5.3**
CD2				SS		05 26 52.1	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				AMB	AMB		
	comp=Z,70nm,4.9s						
CD2				LR	LR		
	comp=N,780nm,14.4s						
CD2				LR	LR		
	comp=Z,1μm,15.0s						
TSI	**Tuntungan**	**23.94**	**244**	*e*P	**P**	**05 22 41.8**	**+0.2**
CBIJ	**Chichi jima**	**23.98**	**56**	LR	LR	05 30 33.7	
	comp=Z,197nm,18.6s,baz=115,slow=33						
PSI	**Prapat**	**23.98**	**242**	P	**P**	**05 22 42.4**	**+0.3**
	comp=Z,3.6nm,0.4s,mb4.2,baz=180,slow=13,SNR=4.7						
PSI				LR	LR	05 31 35.6	
	comp=Z,226nm,18.6s,baz=169,slow=36						
LZH	**Lanzhou**	**25.49**	**329**	*e*P	**P**	**05 22 58.0**	**+2.2**
LZH				PP		05 23 40.0	
LZH				XS	sS	05 27 35.0	-9.4
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,140nm,4.5s						
LZH				LR	LR		
	comp=N,600nm,13.6s						
LZH				LR	LR		
	comp=Z,840nm,14.3s						
MJAR	**Matsushiro Arr**	**26.98**	**34**	PcP	PcP	05 26 30.2	+0.8
	comp=Z,1.1nm,0.6s,baz=172,slow=1.7,SNR=3.6						
GTA	**Gaotai**	**30.09**	**328**	*e*P	**P**	**05 23 36.9**	**+0.1**
KAKA	**Kakadu**	**30.15**	**155**	*e*P	**P**	**05 23 36.6**	**-0.8**
	comp=Z,5.5nm,0.5s,mb4.5						
ULN	**Ulaanbaatar**	**34.51**	**345**	*e*P	**P**	**05 24 15.6**	**+0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ULN	**Ulaanbaatar**	**34.51**	**345**	*e*P	**P**	**05 24 15.6**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0						
SONM	**Songino Array**	**34.65**	**344**	P	**P**	**05 24 15.9**	**-0.8**
	comp=Z,2.5nm,0.8s,mb4.2,baz=166,slow=9.7,SNR=10.0						
ASAJ	**Asahikawa**	**34.88**	**29**	P	**P**	**05 24 19.6**	**+0.9**
	comp=Z,7.7nm,0.6s,mb4.8,baz=166,slow=12,SNR=4.1						
ASAJ				LR	LR	05 38 23.5	
	comp=Z,120nm,18.4s,baz=179,slow=36						
KLR	**Kul'dur**	**35.52**	**13**	*e*P	**P**	**05 24 19.8**	**-4.5**
HABR	**Khabarovsk**	**35.67**	**17**	*e*P	**P**	**05 24 22.9**	**-2.6**
MBWA	**Marble Bar**	**35.89**	**180**	*e*P	**P**	**05 24 27.1**	**-0.3**
	comp=Z,76nm,1.5s,mb5.4						
PMG	**Port Moresby**	**36.25**	**130**	*e*P	**P**	**05 24 30.9**	**+0.4**
PMG				pmax	pmax		
	comp=Z,9.0nm,0.4s						
PMG	**Port Moresby**	**36.25**	**130**	*e*P	**P**	**05 24 30.9**	**+0.4**
	comp=Z,9.0nm,0.4s,mb5.0						
YSS	**Yuzh-Sakhalins**	**37.14**	**26**	⇑*e*P	**P**	**05 24 38.6**	**+0.5**
YSS				pmax	pmax		
	comp=Z,46nm,1.7s,mb5.0						
WRAB	**Tennant Creek**	**37.46**	**157**	*e*P	**P**	**05 24 39.2**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**37.46**	**157**	*e*P	**P**	**05 24 39.2**	**-1.5**
	comp=Z,27nm,0.6s,mb5.2						
WRA	**Warramunga Arr**	**37.46**	**157**	P	**P**	**05 24 39.3**	**-1.5**
	comp=Z,17nm,0.6s,mb5.1,baz=336,slow=9.5,SNR=55						
ZAK	**Zakamensk**	**37.83**	**343**	*e*P	**P**	**05 24 38.8**	**-5.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.9						
MOY	**Mondy**	**39.64**	**342**	*e*P	**P**	**05 24 59.4**	**+0.3**
AS31	**Alice Springs**	**40.74**	**160**	*e*P	**P**	**05 25 07.8**	**-0.3**
ASPA	**Alice Springs**	**40.74**	**160**	*e*P	**P**	**05 25 07.8**	**-0.3**
ASAR	**Alice Springs**	**40.74**	**160**	P	**P**	**05 25 07.5**	**-0.6**
	comp=Z,9.3nm,0.5s,mb4.7,baz=335,slow=6.7,SNR=47						
CTA	**Charters Tower**	**43.39**	**143**	*e*P	**P**	**05 25 30.0**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.2						
CTA	**Charters Tower**	**43.39**	**143**	*e*P	**P**	**05 25 30.0**	**+0.3**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTAO	**Charters Tower**	**43.39**	**143**	*e*P	**P**	**05 25 29.7**	**0.0**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**43.39**	**143**	*e*P	**P**	**05 25 29.7**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.3						
MK31	**Makanchi Array**	**44.59**	**323**	P	**P**	**05 25 38.4**	**-0.9**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**44.59**	**323**	P	**P**	**05 25 39.6**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.0,baz=122,slow=9.2,SNR=12						
MKAR				PcP	PcP	05 27 20.9	-0.4
	comp=Z,2.4nm,0.7s,baz=104,slow=5.4,SNR=7.2						
FORT	**Forrest**	**46.14**	**170**	*e*P	**P**	**05 25 51.7**	**+0.1**
	comp=Z,12nm,0.7s,mb4.9						
KLBR	**Kellerberrin**	**46.33**	**183**	*e*P	**P**	**05 25 53.3**	**+0.3**
	comp=Z,9.9nm,0.5s,mb5.0						
HNR	**Honiara**	**46.48**	**119**	LR	LR	05 43 21.9	
	comp=Z,257nm,18.8s,baz=360,slow=34						
ZAL	**Zalesovo**	**47.61**	**333**	P	**P**	**05 26 00.8**	**-2.2**
	comp=Z,1.6nm,0.3s,mb4.5,baz=356,slow=5.7,SNR=4.0						
ZAL				LR	LR	05 47 21.4	
	comp=Z,160nm,19.3s,baz=93,slow=38						
ZAL	**Zalesovo**	**47.61**	**333**	*i* P	**P**	**05 26 03.2**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AAK	**Ala-Archa**	**47.66**	**315**	*e*P	**P**	**05 26 04.8**	**+1.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**47.66**	**315**	*e*P	**P**	**05 26 04.8**	**+1.4**
	comp=Z,3.1nm,0.9s,mb4.3						
PET	**Petropavlovsk**	**48.70**	**30**	*e*P	**P**	**05 26 11.5**	**0.0**
PET				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.1						
KURK	**

ARU	**Arti**	**61.93 326**	⇓*i*P	**P**	**05 27 47.5 +0.9**
ARU			*e*		05 30 02.7
ARU			*e*S	**S**	**05 36 08.8 +2.9**
ARU			*e*SS	SS	05 40 09.5 +0.5
ARU			pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.9				
KIV	**Kislovodsk**	**70.64 312**	*e*P	**P**	**05 28 42.8 +0.5**
KIV			*e*S	S	05 37 50.6 -0.9
KIV			pmax	pmax	
	comp=Z,11nm,1.0s,mb4.7				
KIV			MLR	MLR	
	comp=Z,90nm,17.0s				
SOC	**Sochi**	**72.81 311**	*e*P	**P**	**05 28 48.0 -7.3**
SOC			*e**PP	pP	05 29 12.2 -0.1
SOC			*e*		05 31 37.6
SOC			*e*S	S	05 38 07.1 -9.4
SOC			*e*		05 39 06.2
SOC			pmax	pmax	
	comp=Z,4.0nm,0.5s,mb4.6				
SOC			MLR	MLR	
	comp=Z,133nm,17.0s				
AFI	**Afiamalu**	**73.38 110**	LR	LR	05 59 47.0
	comp=Z,76nm,19.2s,baz=314,slow=35				
OBN	**Obninsk**	**74.09 324**	*e*P	**P**	**05 29 03.3 +0.5**
OBN			pmax	pmax	
	comp=Z,5.0nm,1.2s,mb4.3				
RPZ	**Rata Peaks**	**74.73 144**	P	**P**	**05 29 06.4 -0.2**
	comp=Z,4.1nm,0.6s,mb4.5,baz=36,slow=19,SNR=3.5				
KDAK	**Kodiak Island**	**76.15 33**	*e*P	**P**	**05 29 14.6 -0.1**
	comp=Z,14nm,0.9s,mb4.9				
JOF	**Joensuu**	**76.19 332**	*e*p	**P**	**05 29 14.4 -0.5**
	comp=Z,2.8nm,0.5s,mb4.5				
KEV	**Kevo**	**77.10 339**	*e*p	**P**	**05 29 19.5 -0.5**
	comp=Z,3.0nm,0.6s,mb4.4				
KEV	**Kevo**	**77.10 339**	*e*P	**P**	**05 29 19.5 -0.5**
KEV			pmax	pmax	
	comp=Z,3.0nm,0.6s,mb4.4				
PMR	**Palmer**	**77.42 29**	*e*P	**P**	**05 29 21.3 -0.6**
PMR			pmax	pmax	
	comp=Z,14nm,1.1s,mb4.8				
PMR	**Palmer**	**77.42 29**	*e*P	**P**	**05 29 21.3 -0.6**
	comp=Z,14nm,1.1s,mb4.8				
COLA	**College**	**77.53 26**	*e*P	**P**	**05 29 22.1 -0.3**
ARCES	**ARCESS Array B**	**77.65 339**	P	**P**	**05 29 23.1 -0.1**
	comp=Z,2.2nm,0.5s,mb4.4,baz=76,slow=7.3,SNR=41				
ARCES			LR	LR	06 07 25.7
	comp=Z,121nm,18.1s,baz=67,slow=39				
BRTR	**Keskin Array B**	**77.80 308**	P	**P**	**05 29 24.9 +1.0**
	comp=Z,0.6nm,0.7s,mb3.6,baz=101,slow=5.2,SNR=3.4				
ILAR	**Eielson Array**	**77.95 26**	P	**P**	**05 29 23.6 -1.1**
	comp=Z,2.3nm,1.0s,mb4.1,baz=254,slow=5.7,SNR=6.6				
KAF	**Kangasniemi**	**78.61 331**	*e*p	**P**	**05 29 28.1 -0.3**
	comp=Z,5.0nm,0.5s,mb4.7,baz=76,slow=5.0				
KAF	**Kangasniemi**	**78.61 331**	*e*P	**P**	**05 29 28.1 -0.3**
KAF			pmax	pmax	
	comp=Z,5.0nm,0.5s,mb4.7				
KBS	**Kingsbay**	**78.82 349**	*e*P	**P**	**05 29 29.2 -0.4**
FINES	**FINESS Array B**	**78.83 331**	P	**P**	**05 29 29.3 -0.4**
	comp=Z,3.3nm,0.5s,mb4.5,baz=66,slow=5.9,SNR=44				
FINES			LR	LR	06 07 21.2
	comp=Z,90nm,18.6s,baz=2.1,slow=38				
FINES	**FINESS Array B**	**78.83 331**	P	**P**	**05 29 29.3 -0.4**
FINES			LR	LR	06 07 21.2
AKASG	**Malin Array Be**	**79.03 320**	P	**P**	**05 29 30.7 0.0**
	comp=Z,2.5nm,0.9s,mb4.1,baz=67,slow=5.7,SNR=6.4				
EYAK	**Cordova Ski Ar**	**79.22 30**	*e*P	**P**	**05 29 32.1 +0.4**
DAWY	**Dawson**	**81.28 26**	*e*P	**P**	**05 29 43.2 +0.4**
CASY	**Casey**	**81.30 184**	*e*P	**P**	**05 29 42.1 -0.9**
	comp=Z,12nm,0.9s,mb4.8				
VRI	**Vrincioaia**	**81.62 315**	⇓*i*P	**P**	**05 29 46.4 +1.7**
PLOR	**Plostina**	**81.68 315**	⇓*i*P	**P**	**05 29 49.0 +4.1**
SUW	**Suwalki**	**81.96 324**	*e*P	**P**	**05 29 46.7 +0.3**
INK	**Inuvik**	**82.20 21**	*e*P	**P**	**05 29 47.3 -0.4**
INK			pmax	pmax	
	comp=Z,8.0nm,1.1s				
INK	**Inuvik**	**82.20 21**	*e*P	**P**	**05 29 47.3 -0.4**
	comp=Z,8.1nm,1.1s,mb4.6				
BURAR	**Bucovina Array**	**82.24 317**	⇓*i*P	**P**	**05 29 48.7 +0.8**
MLR	**Muntele Rosu**	**82.24 315**	⇓*i*P	**P**	**05 29 48.8 +0.9**
KMBO	**Kilima Mbogo**	**83.22 267**	P	**P**	**05 29 53.9 +1.0**
	comp=Z,1.9nm,0.9s,mb4.1,baz=55,slow=16,SNR=3.6				
KMBO			LR	LR	06 04 22.0
	comp=Z,65nm,19.5s,baz=97,slow=34				
KMBO	**Kilima Mbogo**	**83.22 267**	P	**P**	**05 29 53.9 +1.0**
KMBO			LR	LR	06 04 22.0
KWP	**Kalwaria**	**83.35 320**	*e*P	**P**	**05 29 54.4 +0.8**
STHS	**Stebnicka Huta**	**84.33 320**	*e*P	**P**	**05 29 59.6 +1.0**
STHS			*e*		05 30 09.1
SKAG	**Skagway**	**84.55 30**	*e*P	**P**	**05 30 01.2 +1.5**
OJC	**Ojcow**	**84.99 321**	*e*P	**P**	**05 30 02.2 +0.2**
KECS	**Kecovo**	**85.07 319**	*e*P	**P**	**05 30 02.3 -0.1**
KECS			*e*		05 30 08.9
DAG	**Danmarks Havn**	**85.26 351**	⇑*i*P	**P**	**05 30 02.4 -0.9**
	comp=Z,2.7nm,0.7s,mb4.5				
DAG	**Danmarks Havn**	**85.26 351**	⇑*i*P	**P**	**05 30 02.4 -0.9**
DAG			pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.5				
NB2	**NORSAR Subarra**	**85.81 332**	P	**P**	**05 30 05.0 -1.0**
	comp=Z,10.0nm,0.8s,mb5.1,baz=69,slow=4.8				
NOA	**NORSAR Array B**	**85.81 332**	P	**P**	**05 30 04.2 -1.8**
	comp=Z,7.1nm,0.8s,mb5.0,baz=68,slow=4.7,SNR=18				
NOA			LR	LR	06 13 58.9
	comp=Z,85nm,18.1s,baz=45,slow=40				
OKC	**Ostrava-Krasne**	**86.12 321**	*e*P	**P**	**05 30 08.6 +1.0**
OKC			*e*x	x	05 30 14.5
MORC	**Moravsky Berou**	**86.52 321**	*e*P	**P**	**05 30 09.4 -0.1**
MORC			pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.6				
MORC	**Moravsky Berou**	**86.52 321**	*e*P	**P**	**05 30 09.4 -0.2**
	comp=Z,2.9nm,0.7s,mb4.6				
KSP	**Ksiaz**	**86.92 322**	*e*P	**P**	**05 30 12.2 +0.7**
DPC	**Dobruska-Polom**	**87.07 321**	*e*P	**P**	**05 30 13.1 +0.9**
CRAG	**Craig**	**87.11 33**	*e*P	**P**	**05 30 14.0 +1.6**
RES	**Resolute Bay**	**87.91 9**	*e*P	**P**	**05 30 15.9 -0.4**
RES			pmax	pmax	
	comp=Z,8.0nm,1.0s,mb4.9				
RES	**Resolute Bay**	**87.91 9**	*e*P	**P**	**05 30 15.9 -0.3**
	comp=Z,7.9nm,1.0s,mb4.9				
GERES	**GERESS Array B**	**89.20 321**	P	**P**	**05 30 21.8 -0.5**
	comp=Z,0.9nm,0.6s,mb4.3,baz=64,slow=4.6,SNR=6.8				
GRA1	**Grafenberg Arr**	**90.36 322**	*e*P	**P**	**05 30 28.1 +0.3**
	comp=Z,6.0nm,0.9s,mb4.9				
GRF	**Grafenberg Arr**	**90.36 322**	*e*P	**P**	**05 30 28.1 +0.3**
	comp=Z,6.0nm,0.9s,mb4.9				
GRF	**Grafenberg Arr**	**90.36 322**	*e*P	**P**	**05 30 28.1 +0.3**
GRF			pmax	pmax	
	comp=Z,6.0nm,0.9s,mb4.9				
YKW3	**Yellowknife Ar**	**91.86 22**	*e*P	**P**	**05 30 34.8 +0.1**
YKA	**Yellowknife Ar**	**91.90 22**	P	**P**	**05 30 34.7 -0.1**
	comp=Z,2.9nm,0.6s,mb4.8,baz=307,slow=4.4,SNR=18				
YKA	**Yellowknife Ar**	**91.90 22**	*i*P	**P**	**05 30 35.7 +0.8**
YKA			pmax	pmax	
	comp=Z,3.0nm,0.6s				
YKA	**Yellowknife Ar**	**91.90 22**	P	**P**	**05 30 34.7 -0.2**
MAW	**Mawson**	**92.04 199**	*e*P	**P**	**05 30 33.8 -1.7**
MAW			pmax	pmax	
	comp=Z,52nm,2.0s				
MAW	**Mawson**	**92.04 199**	*e*P	**P**	**05 30 33.8 -1.7**
	comp=Z,52nm,2.0s,mb5.5				
VNDA	**Vanda**	**95.39 172**	P	**P**	**05 30 51.2 +0.3**
	comp=Z,0.4nm,0.5s,mb4.1,baz=313,slow=6.8,SNR=3.6				
VNDA	**Vanda**	**95.39 172**	P	**P**	**05 30 51.2 +0.3**
TORD	**Torodi Ar. Bea**	**112.80 291**	PKiKP	PKiKP	05 36 03.7 +0.7
	comp=Z,0.8nm,0.8s,baz=85,slow=1.7,SNR=4.8				
SNAA	**Sanae**	**114.13 197**	*e*PKPdf	PKiKP	05 36 06.9 +1.3
SNAA			*e*		05 36 13.7
SNAA			*e*		05 36 22.7
SNAA			*e*		05 36 32.2
VNA2	**Neumayer--Watz**	**115.78 197**	*e*PKPdf	PKPdf	05 36 09.2 +0.4
	baz=73,slow=1.0				
VNA2			*e*		05 36 16.7
VNA2			*e*		05 36 25.6
VNA2			*e*		05 36 36.1
VNA3	**Neumayer Olymp**	**116.23 196**	*e*PKPdf	PKPdf	05 36 10.1 +0.5
VNA3			*e*		05 36 17.1
VNA3			*e*		05 36 36.0
WMOK	**Wichita Mounta**	**118.40 36**	*e*PKIKP	PKPdf	05 36 14.8 +1.0
LTX	**Lajitas**	**119.09 44**	*e*PKIKP	PKPdf	05 36 16.8 +1.7
JCT	**Junction City**	**120.81 40**	*e*PKIKP	PKPdf	05 36 19.0 +0.6
DBIC	**Dimbokro**	**121.22 287**	PKP	PKPdf	05 36 19.4 +0.2
	comp=Z,2.2nm,0.6s,baz=67,slow=6.3,SNR=3.9				
DBIC	**Dimbokro**	**121.22 287**	PKP	PKPdf	05 36 19.4 +0.2
DBIC			*e*PKPdf	PKPdf	05 36 19.8 +0.6
WVT	**Waverly**	**122.81 27**	*e*PKIKP	PKPdf	05 36 22.8 +0.5
JTS	**JuntasÁbangare**	**144.82 46**	*e*PKIKP	PKPdf	05 37 03.4 +0.2
SJG	**San Juan**	**146.60 11**	PKPbc	PKPbc	05 37 10.4 +2.6
	comp=Z,3.1nm,0.3s,baz=285,slow=18,SNR=2.6				
CPD	**Cerro la Pandu**	**146.71 10**	*e*PKPdf	PKPdf	05 37 07.7 +1.3
CPD			*e*PKPbc	PKPbc	05 37 09.5 +1.3
PLCA	**Paso Flores**	**152.74 162**	PKPbc	PKPbc	05 37 24.8 +1.7
	comp=Z,5.5nm,0.8s,baz=204,slow=5.6,SNR=10				
PLCA	**Paso Flores**	**152.74 162**	*e*PKPbc	PKPbc	05 37 25.0 +1.9
SDV	**Santo Domingo**	**154.10 25**	*e*PKPdf	PKPdf	05 37 18.0 +0.1
SDV			*e*PKPbc	PKPbc	05 37 27.5 +1.5
OTAV	**Otavalo**	**156.37 52**	*e*PKPdf	PKPdf	05 37 22.4 +1.4
TRQA	**Tornquist**	**156.93 176**	*e*PKPdf	PKPdf	05 37 22.0 +0.3
TRQA			*e*PKPab	PKPab	05 37 52.6 +0.7
NNA	**Nana**	**163.42 82**	*e*PKPdf	PKPdf	05 37 29.1 +0.2
LPAZ	**La Paz**	**172.12 101**	*e*PKIKP	PKPdf	05 37 36.6 +1.6

*ISCJB **01** 05:29:08.7±1.2, 1897N×006×81.13W×007, h10km, Error ellipse: s-maj=11.5km s-min=6.4km az=89.4*
*JSN **01** 05:29:08.3±1.1, 1935N×81.13W, h0km±999km, MD4.5*
*SSNC **01** 05:29:13.9, 1920N×8133W, h15km, MD4.1, ML3.9*

ISC 01 05:29:09.5±1.2, 1894N±007×8119W±007, h10km, n13, σ0.91/23, 1C-6D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**3.19**	**99**	⇓*i*P	**Pn**	**05 29 58.9**	**-0.9**
MBJ				*i*S	**Sn**	**05 30 37.4**	**-0.5**
MGV	**Manicaragua**	**3.35**	**19**	*i*P	**Pn**	**05 30 03.1**	**+1.2**
MGV				*i*S	**Sn**	**05 30 41.0**	**-0.8**
	comp=N,22μm,0.1s						
MGV				*i*			
	comp=E,28μm,0.1s						
MCJ	**Malvern**	**3.47**	**106**	⇓*e*P	**Pn**	**05 30 03.4**	**-0.2**
MCJ				*e*S	**Sn**	**05 30 46.1**	**+1.4**
CVJ	**Coleyville**	**3.53**	**101**	⇑*e*P	**Pn**	**05 30 04.1**	**-0.3**
CVJ				*e*S	**Sn**	**05 30 45.9**	**-0.4**
BBJ	**Bamboo Saint A**	**3.76**	**98**	⇓*e*P	**Pn**	**05 30 07.2**	**-0.2**
LMGC	**Las Mercedes**	**4.10**	**73**	*e*P	**Pn**	**05 30 15.9**	**+3.7**
LMGC				*e*S	**Sn**	**05 31 00.5**	**+0.3**
	comp=N,63nm,0.6s						
LMGC				*e*			
	comp=E,101nm,0.4s						
SOR	**Soroa**	**4.20**	**336**	*e*P	**Pn**	**05 30 12.6**	**-0.9**
SOR				*e*S	**Sn**	**05 30 53.4**	**-9.2**
	comp=N,2μm,0.5s						
SOR				*e*			
	comp=E,3μm,0.2s						
STH	**Stony Hill**	**4.24**	**101**	⇓*e*P	**Pn**	**05 30 14.0**	**-0.1**
STH				*e*S	**Sn**	**05 31 02.0**	**-1.6**
HOJ	**Hope**	**4.31**	**102**	⇓*e*P	**Pn**	**05 30 15.3**	**+0.2**
HOJ				*e*S	**Sn**	**05 31 05.7**	**+0.2**
CMJ	**Castle Mountai**	**4.63**	**99**	⇓*i*P	**Pn**	**05 30 19.7**	**+0.1**
HLGC	**Holguin**	**5.20**	**67**	*e*P	**Pn**	**05 30 27.5**	**+0.2**
RCC	**Rio Carpintero**	**5.29**	**78**	*e*P	**Pn**	**05 30 30.5**	**+2.0**
RCC				*e*S	**Sn**	**05 31 28.5**	**-0.9**
	comp=N,18nm,0.5s						
RCC				*e*			
	comp=E,15nm,0.5s						
MOAC	**Moa**	**6.11**	**73**	*e*P	**Pn**	**05 30 43.3**	**+3.5**
MOAC				*e*S	**Sn**	**05 31 50.3**	**+0.6**
	comp=N,0.5nm,0.6s						
MOAC				*e*			
	comp=E,1.3nm,0.4s						

*MOS **01** 05:46:36.7±1.1, 137N×12800E, h79km, mb5.1/20, Error ellipse: s-maj=13.7km s-min=6.4km az=106.9*
*ISCJB **01** 05:46:41.6±0.9, 130N±004×128.18E±005, h126km±8km, mb4.7/68, Error ellipse: s-maj=8.9km s-min=6.0km az=126.6*
*BJI **01** 05:46:41.2, 130N×12820E, h119km, mB4.9, mb4.9*
*NEIC **01** 05:46:42.6±1.3, 131N×128.17E, h120km±12km, mb4.9/24, Error ellipse: s-maj=8.3km s-min=4.7km az=60.0*
*IDC **01** 05:46:43.5±2.8, 130N×12806E, h128km±25km, mb4.1/18, mb1 4.1/19, mb1mx4.1/22, mbtmp4.5/19, MS3.4/2, Ms1 3.4/2, ms1mx2.3/31, Error ellipse: s-maj=17.4km s-min=8.7km az=72.0*

ISC 01 05:46:42.8±0.8, 131N±004×12827E±005, h121km±7km, h121km±2.0km: pP-P, n148, σ1.905/139, mb4.7/68, 10C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**3.69**	**126**	P	**Pn**	**05 47 38.4**	**+0.3**
	360nm,1.2s						
AAI	**Ambon**	**4.96**	**181**	P	**Pn**	**05 47 56.6**	**+1.4**
	294nm,0.8s						
BAKI	**Biak**	**8.22**	**108**	P	**Pn**	**05 48 43.6**	**+4.4**
	847nm,1.2s						
IPIL	**Ipil**	**8.58**	**319**	*e*P	**Pn**	**05 48 42.5**	**-1.7**
KKM	**Kota Kinabalu**	**12.91**	**292**	*e*Pn	**Pn**	**05 49 39.9**	**-1.9**
KAKA	**Kakadu**	**14.53**	**164**	⇑*i*P	**Pn**	**05 50 00.5**	**-2.1**
	31nm,0.6s						
KSM	**Kuching**	**17.96**	**271**	*e*P	**Pn**	**05 50 44.0**	**-0.7**
KRKI	**Karangkates**	**18.36**	**239**	P	**P**	**05 50 48.9**	**+0.9**
	351nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.46**	**188**	*e*P	**P**	**05 51 00.3**	**+0.3**
	10nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.46**	**188**	P	**P**	**05 51 00.2**	**+0.2**
	0.3nm,0.3s,baz=28,slow=7.8,SNR=7.2						
FITZ				LR	LR	05 58 15.2	
	comp=Z,92nm,18.6s,baz=176,slow=36						
BJII	**Banjamegara**	**20.41**	**245**	P	**P**	**05 51 10.8**	**+0.6**
	112nm,1.4s						
PMG	**Port Moresby**	**21.62**	**120**	P	**P**	**05 51 26.7**	**+3.6**
	3.9nm,0.4s,mb4.0,baz=225,slow=8.6,SNR=2.4						
WRAB	**Tennant Creek**	**21.94**	**165**	⇑*e*P	**P**	**05 51 27.3**	**+0.8**
WRAB	**Tennant Creek**	**21.94**	**165**	*e*P	**P**	**05 51 26.3**	**-0.2**
	53nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**21.94**	**165**	P	**P**	**05 51 27.0**	**+0.5**
	6.8nm,0.6s,mb4.2,baz=339,slow=10,SNR=63						
WRA				S	**S**	**05 55 21.3**	**+0.3**
	1.5nm,0.9s,baz=334,slow=19,SNR=3.9						
WB2	**Warramunga Arr**	**21.95**	**165**	*e*P	**P**	**05 51 26.0**	**-0.6**
WB2				*e*S	**S**	**05 55 21.2**	**+0.1**
CBJI	**Citeko**	**22.72**	**250**	P	**P**	**05 51 37.5**	**+3.0**
	152nm,0.7s,mb5.4						
MBWA	**Marble Bar**	**23.84**	**200**	*e*P	**P**	**05 51 44.5**	**-0.3**
MBWA				*e*pP		05 52 03.4	
QIZ	**Qiongzhong**	**25.23**	**315**	P	**P**	**05 51 59.6**	**+2.3**
QIZ				*e*S	**S**	**05 56 15.7**	**+1.8**
QIZ				XS	sS	05 57 01.3	+2.0
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.9s,mb3.9						
ASAR	**Alice Springs**	**25.42**	**168**	P	**P**	**05 52 00.3**	**+1.2**
	comp=Z,3.5nm,0.6s,mb4.0,baz=351,slow=7.3,SNR=42						
ASAR				PcP	PcP	05 55 28.7	+0.6
	comp=Z,1.8nm,0.9s,baz=19,slow=3.5,SNR=4.5						
CTA	**Charters Tower**	**27.62**	**141**	P	**P**	**05 52 20.5**	**+1.6**
	comp=Z,1.8nm,0.6s,mb3.8,baz=248,slow=11,SNR=2.0						
KULM	**Kulim**	**27.85**	**279**	*e*P	**P**	**05 52 20.5**	**-0.4**
PSI	**Prapat**	**29.36**	**273**	P	**P**	**05 52 34.2**	**-0.1**
	comp=Z,54nm,0.7s,mb5.3,baz=101,slow=5.8,SNR=62						
PSI	**Prapat**	**29.36**	**273**	P	**P**	**05 52 34.2**	**-0.1**
TSI	**Tuntungan**	**29.76**	**275**	*e*P	**P**	**05 52 33.8**	**-4.0**
SSE	**Sheshan**	**30.38**	**348**	P	**P**	**05 52 44.3**	**+1.1**
SSE				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,130nm,6.6s						
FORT	**Forrest**	**31.91**	**180**	*e*P	**P**	**05 52 57.3**	**+0.6**
	comp=Z,32nm,0.7s,mb5.2						
WHN	**Wuhan**	**31.93**	**337**	⇓P	**P**	**05 52 59.0**	**+2.1**
GYA	**Guiyang**	**32.51**	**322**	⇑*i*P	**P**	**05 53 02.4**	**+0.4**
GYA				AP	pP	05 53 29.2	+0.8
GYA				XP	sP	05 53 40.6	-1.6
GYA				PP	PP	05 54 16.0	-1.7
GYA				PCP	PcP	05 55 45.1	-0.9
GYA				S	**S**	**05 58 10.2**	**+2.1**
GYA				XS	sS	05 58 53.4	-0.8
GYA				SCP	ScP	05 59 17.7	-0.9
GYA				SCS	ScS	06 03 16.3	-2.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,3.8s						
GYA				LR	LR		
	comp=N,380nm,17.8s						
GYA				LR	LR		
	comp=E,410nm,18.0s						
GYA				LR	LR		
	comp=Z,430nm,18.0s						
BSI	**Banda Aceh**	**33.17**	**278**	P	**P**	**05 53 05.8**	**-1.9**
	comp=Z,21nm,1.4s,mb4.8						
KMI	**Kunming**	**34.17**	**316**	P	**P**	**05 53 18.3**	**+1.9**
KMI				PP	PP	05 54 37.3	+1.2
KMI				S	**S**	**05 58 37.4**	**+3.5**
KMI				SS	SS	06 00 53.5	-13
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
KMI				AMB	AMB		
	comp=Z,90nm,6.2s						
KMI				LR	LR		
	comp=N,70nm,24.1s						
KMI				LR	LR		
	comp=E,120nm,18.8s						
KMI				LR	LR		
	comp=Z,110nm,17.3s						
STKA	**Stephens Creek**	**35.34**	**160**	P	**P**	**05 53 25.7**	**-0.7**
	comp=Z,12nm,0.8s,mb4.8,baz=335,slow=8.2,SNR=15						
STKA	**Stephens Creek**	**35.34**	**160**	*e*P	**P**	**05 53 26.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**35.61**	**196**	P	**P**	**05 53 27.8**	**-0.9**
	comp=Z,8.1nm,0.7s,mb4.8,baz=343,slow=9.3,SNR=6.1						
NWAO	**Narrogin (SRO)**	**35.61**	**196**	*e*P	**P**	**05 53 28.4**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,20nm,1.2s						
NWAO	**Narrogin (SRO)**	**35.61**	**196**	*e*P	**P**	**05 53 28.4**	**-0.4**
	comp=Z,20nm,1.2s,mb4.9						
KS15	**Wonju Array Si**	**35.96**	**359**	*e*P	**P**	**05 53 32.3**	**+0.6**
MJAR	**Matsushiro Arr**	**36.25**	**14**	P	**P**	**05 53 32.8**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=183,slow=9.3,SNR=6.9						
MJAR				LR	LR	06 07 40.2	
	comp=Z,76nm,21.4s,baz=230,slow=35						
XAN	**Xi'an**	**37.26**	**333**	P	**P**	**05 53 42.5**	**-0.2**
XAN				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
CD2	**Chengdu**	**37.49**	**324**	⇓*i*P	**P**	**05 53 44.4**	**-0.3**
CD2				AP	pP	05 54 12.5	+0.9
CD2				XP	sP	05 54 27.1	+1.8
CD2				PP	PP	05 55 16.4	+3.8
CD2				PCP	PcP	05 56 00.3	-0.2
CD2				S	**S**	**05 59 23.4**	**-1.1**
CD2				SCP	ScP	05 59 34.6	-2.0
CD2				PCS	PcS	05 59 47.8	-1.4
CD2				XS	sS	06 00 12.4	+1.2
CD2				SS	SS	06 02 05.4	-8.5
CD2				SCS	ScS	06 03 42.0	-3.2
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,90nm,5.9s						
CD2				LR	LR		
	comp=E,180nm,14.4s						
CD2				LR	LR		
	comp=Z,140nm,9.6s						
BJT	**Baijiatuau**	**40.07**	**346**	*e*P	**P**	**05 54 06.3**	**+0.1**
BJT				pmax	pmax		
	comp=Z,66nm,1.1s						
BJT	**Baijiatuau**	**40.07**	**346**	*e*P	**P**	**05 54 06.3**	**0.0**
	comp=Z,66nm,1.1s,mb5.4						
SNY	**Shenyang**	**40.56**	**355**	⇑P	**P**	**05 54 10.0**	**-0.2**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
SNY				AMB	AMB		
	comp=Z,50nm,4.7s						
LZH	**Lanzhou**	**41.36**	**330**	*e*P	**P**	**05 54 18.0**	**+1.2**
LZH				PP	PP	05 55 57.0	+2.4
LZH				PCP	PcP	05 56 14.5	+1.7
LZH				PCS	PcS	06 00 05.5	+1.3
LZH				*e*S	**S**	**06 00 29.0**	**+6.7**
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,130nm,4.2s						
HHC	**Hu-ho-hao-te**	**42.17**	**341**	*e*P	**P**	**05 54 25.3**	**+1.9**
HHC				PP	PP	05 56 07.2	+3.9
HHC				PCP	PcP	05 56 18.5	+3.0
HHC				PCS	PcS	06 00 09.3	+1.9
HHC				S	**S**	**06 00 39.1**	**+4.8**
HHC				SS	SS	06 03 43.1	-3.6
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
HHC				AMB	AMB		
	comp=Z,90nm,5.7s						
HHC				LR	LR		
	comp=N,120nm,10.7s						
HHC				LR	LR		
	comp=E,120nm,10.5s						
HHC				LR	LR		
	comp=Z,70nm,14.3s						
CN2	**Changchun**	**42.38**	**357**	*e*P	**P**	**05 54 28.7**	**+3.6**
CN2				*e*S	**S**	**06 00 45.0**	**+7.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
SHL	**Shillong**	**42.55**	**308**	*e*P	**P**	**05 54 28.0**	**+1.5**
MDJ	**Mudanjiang**	**43.14**	**1**	P	**P**	**05 54 31.4**	**+0.2**
MDJ				AP	pP	05 54 56.8	-1.9
MDJ				XP	sP	05 55 09.3	-3.0
MDJ				PP	PP	05 56 13.7	0.0
MDJ				PCP	PcP	05 56 18.8	+0.1
MDJ				SCP	ScP	05 59 59.8	+1.1
MDJ				PCS	PcS	06 00 11.7	+0.4
MDJ				S	**S**	**06 00 49.8**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,30nm,4.0s						
MDJ				LR	LR		
	comp=N,90nm,18.7s						
MDJ				LR	LR		
	comp=E,70nm,16.6s						
MDJ				LR	LR		
	comp=Z,120nm,19.8s						
LSA	**Lhasa**	**45.19**	**312**	*e*P	**P**	**05

CIT *e*S **S** **06 02 53.8 -0.3**
CIT *e* 06 03 21.9
CIT pmax pmax
comp=Z,21nm,1.0s,mb5.1
ZAK Zakamensk 53.30 340 *e*P **P** **05 55 48.8 -0.5**
ZAK pmax pmax
comp=Z,5.0nm,2.0s,mb4.2
TLY Talaya 54.30 341⇑ *e*P **P** **05 55 56.9 +0.4**
TLY pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
MOY Mondy 55.17 340 *e*P **P** **05 56 03.0 +0.2**
MOY pmax pmax
comp=Z,12nm,1.8s,mb4.6
PET Petropavlovsk 57.38 211⇑ *e*P **P** **05 56 19.2 +0.7**
PET pmax pmax
comp=Z,29nm,1.3s,mb5.2
MK31 Makanchi Array 60.41 325 P **P** **05 56 39.2 -0.2**
MK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
MKAR Makanchi Array 60.41 325 P **P** **05 56 39.2 -0.1**
comp=Z,18nm,0.6s,mb5.3,baz=119,slow=8.5,SNR=157
YAK Yakutsk 60.58 1 *c i*P **P** **05 56 40.3 -0.3**
YAK pmax pmax
comp=Z,49nm,0.7s,mb5.7
YAK Yakutsk 60.58 1 *e*P **P** **05 56 40.6 +0.1**
comp=Z,39nm,0.7s,mb5.5
MA2 Magadan 60.69 13 *e*P **P** **05 56 41.6 +0.3**
MA2 *e**PP pP 05 57 01.1 -9.3
MA2 *e**SP sP 05 57 11.7 -12
MA2 pmax pmax
comp=Z,26nm,1.6s,mb5.0
MA2 Magadan 60.69 13 *e*P **P** **05 56 41.6 +0.4**
comp=Z,26nm,1.6s,mb5.0
MA2 *e*pP pP 05 57 01.1 -9.3
MA2 *e*sP sP 05 57 11.7 -12
KSH Kashi 60.84 316 *e*P **P** **05 56 42.7 +0.4**
KSH *e*PCP PcP 05 57 26.3 +1.5
KSH *e*PCS PcS 06 01 30.3 +2.7
KSH S **S** **06 04 55.0 +4.7**
KSH *e*SS SS 06 08 51.0 -0.2
KSH AMB AMB
comp=Z,60nm,2.5s,mb5.2
KSH LR LR
comp=N,190nm,6.2s
KSH LR LR
comp=E,180nm,5.3s
KSH LR LR
comp=Z,230nm,7.9s
KZA Kyzart 62.43 318 P **P** **05 56 53.8 +0.8**
SNR=16
TKM2 Tokmak 2 62.57 319 P **P** **05 56 54.3 +0.4**
SNR=16
UCH Uchtor 62.99 318 P **P** **05 56 57.8 +1.2**
SNR=18
AAK Ala-Archa 63.17 318 *e*P **P** **05 56 57.0 -0.9**
ZAL Zalesovo 63.43 333 P **P** **05 56 58.4 -1.2**
comp=Z,1.9nm,0.5s,mb4.3,baz=20,slow=5.9,SNR=13
USP Ospenovka 63.44 319 P **P** **05 56 59.7 +0.1**
SNR=21
AML Almayashu 63.50 317 P **P** **05 57 00.9 +0.9**
SNR=14
EKS2 Erkin-Say 63.66 318 P **P** **05 57 01.8 +0.6**
SNR=14
KURK Kurchatov 64.59 328 *e*P **P** **05 57 06.7 -0.5**
KURK *e* pP 05 57 35.8 -0.8
NVS Novosibirsk 64.71 333 *e*P **P** **05 57 06.4 -1.6**
KK31 Karatay Array 66.04 317 *i* P **P** **05 57 15.9 -0.6**
KK31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
KKAR Karatay Array 66.04 317 *i* P **P** **05 57 15.9 -0.6**
KKAR pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
VOSK Vostochnaya 69.72 327 P **P** **05 57 38.2 -1.4**
VOSK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BVA0 Borovoye Array 70.17 327 *i* P **P** **05 57 41.6 -0.7**
BVA0 pmax pmax
comp=Z,4.0nm,1.3s,mb4.1
TIXI Tiksi 70.23 0⇑ *e*P **P** **05 57 41.6 -1.1**
TIXI pmax pmax
comp=Z,15nm,1.2s,mb4.7
BRVK Borovoye 70.25 327 *e*P **P** **05 57 41.9 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
BRVK Borovoye 70.25 327 *e*P **P** **05 57 41.9 -0.9**
comp=Z,4.3nm,0.7s,mb4.4
CHKZ Chkalovo 70.34 328 *e*P **P** **05 57 42.3 -1.0**
CHKZ *e* 05 58 04.0
CHKZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
CHKZ Chkalovo 70.34 328 *e*P **P** **05 57 42.3 -1.1**
comp=Z,6.0nm,0.8s,mb4.5
CHKZ *e* 05 58 04.0
WSAR Wadi Sarin 70.80 294 P **P** **05 57 45.5 -0.6**
comp=Z,4.3nm,0.7s,mb4.4,baz=171,slow=3.4,SNR=4.5
ZRNK Zerenda 70.90 327 *e*P **P** **05 57 45.9 -0.8**
ZRNK *e* pP 05 58 16.1 -0.5
ZRNK pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
ZRNK Zerenda 70.90 327 *e*P **P** **05 57 45.9 -0.8**
comp=Z,9.3nm,0.5s,mb4.9
ZRNK *e* pP 05 58 16.1 -0.5
BILL Bilibino 71.50 14 *e*P **P** **05 57 49.2 -1.1**
BILL pmax pmax
comp=Z,10.0nm,2.0s,mb4.3
BILL Bilibino 71.50 14 *e*P **P** **05 57 49.2 -1.2**
comp=Z,10nm,2.0s,mb4.3
AB31 Akbulak array 74.99 321 *i* P **P** **05 58 09.8 -1.0**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
GAMB Gambell 75.98 23 *e*P **P** **05 58 17.0 +0.4**
AKTO Aktyubinsk 76.50 322 P **P** **05 58 18.4 -1.0**
AKTO pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
ARU Arti 77.79 328 *e*P **P** **05 58 25.4 -1.3**
ARU pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
ARU Arti 77.79 328 *e*P **P** **05 58 25.4 -1.3**
comp=Z,9.7nm,0.6s,mb4.7
VNDA Vanda 80.85 173 P **P** **05 58 42.5 -0.8**
comp=Z,4.5nm,0.9s,mb4.3,baz=307,slow=6.1,SNR=17
MAW Mawson 82.04 201 P **P** **05 58 48.9 -0.6**
comp=Z,2.4nm,0.7s,mb4.1,baz=27,slow=7.6,SNR=4.0
SVW2 Sparrevohn 82.18 28 *e*P **P** **05 58 50.7 +0.5**
TTA Tatalina 82.36 27 *e*P **P** **05 58 51.8 +0.6**
KDAK Kodiak Island 83.11 32 P **P** **05 58 56.5 +1.4**
comp=Z,12nm,0.6s,mb4.9,baz=250,slow=4.2,SNR=16
KDAK Kodiak Island 83.11 32 *e*P **P** **05 58 56.4 +1.3**
comp=Z,9.8nm,0.6s,mb4.8
SLKM Skilak Lake 84.68 29 *e*P **P** **05 59 03.3 +0.3**
PMR Palmer 85.33 28 *e*P **P** **05 59 06.4 +0.1**
PMR *PP pP 05 59 27.0 -10
PMR pmax pmax
comp=Z,15nm,0.9s,mb4.9
PMR Palmer 85.33 28 *e*P **P** **05 59 06.4 +0.1**
comp=Z,15nm,0.9s,mb4.9
PMR pP pP 05 59 27.0 -10
KIV Kislovodsk 85.91 314 *e*P **P** **05 59 09.3 +0.1**
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
COLA College 86.22 25 *e*P **P** **05 59 09.4 -1.3**
ILAR Eielson Array 86.62 25 P **P** **05 59 11.4 -1.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=257,slow=4.5,SNR=10
DAWY Dawson 89.86 26 *e*P **P** **05 59 28.3 +0.3**
OBN Obninsk 89.91 325 *e*P **P** **05 59 27.1 -1.1**
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
SYO Syowa Base 90.74 201⇑ *e*X **P** **05 59 38.4 +6.3**
SYO Syowa Base 90.74 201⇑ *e*PP PP 06 03 09.4 +0.4
INK Inuvik 91.84 22 *e*P **P** **05 59 36.6 -0.6**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 91.84 22 *e*P **P** **05 59 36.6 -0.6**
comp=Z,2.3nm,0.9s,mb4.4
BRTR Keskin Array B 92.74 310 P **P** **05 59 40.0 -1.4**
comp=Z,1.1nm,0.8s,mb4.2,baz=104,slow=5.2,SNR=5.9
ARCES ARCESS Array B 93.24 340 P **P** **05 59 41.4 -2.2**
comp=Z,5.4nm,0.8s,mb4.9,baz=75,slow=6.4,SNR=12
ARCES ARCESS Array B 93.24 340 P **P** **05 59 41.4 -2.2**
ARE0 ARCESS Array S 93.24 340 *e*P **P** **05 59 41.9 -1.7**
AKASG Malin Array Be 94.73 321 P **P** **05 59 48.0 -2.4**
comp=Z,0.1nm,0.2s,mb3.8,baz=74,slow=2.8,SNR=4.8
NB2 NORSAR Subarra101.62 334 P Pdif 06 00 19.3 -2.1
comp=Z,1.3nm,0.7s,baz=68,slow=4.8
NB2 NORSAR Subarra101.62 334 P Pdif 06 00 19.3 -2.1
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 101.62 334 P Pdif 06 00 19.5 -2.0
comp=Z,1.3nm,0.8s,baz=67,slow=4.7,SNR=4.0
ANMO Albuquerque 117.47 49 PKP PKPdf 06 05 16.2 +2.0
comp=Z,0.3nm,0.3s,baz=304,slow=3.6,SNR=4.1
ANMO Albuquerque 117.47 49 *e*PKPdf PKPdf 06 05 15.8 +1.6
MNTX Cornudas Mount 119.55 52 *e*PKPdf PKPdf 06 05 19.8 +1.6
GDL2 Guadalupe Moun 120.16 51 *e*PKPdf PKPdf 06 05 20.2 +0.8
CBKS Cedar Bluff 120.56 42 *e*PKIKP PKPdf 06 05 20.4 +0.3
WMOK Wichita Mounta 123.24 46 *e*PKIKP PKPdf 06 05 25.4 +0.1
JCT Junction City 124.42 51 *e*PKIKP PKPdf 06 05 27.9 +0.3
TORD Torodi Ar. Bea 125.11 287 PKP PKPdf 06 05 28.9 0.0
comp=Z,3.8nm,0.8s,baz=64,slow=2.0,SNR=22
DBIC Dimbokro 132.55 280 PKP PKPdf 06 05 44.5 +1.5
comp=Z,2.7nm,0.7s,baz=170,slow=5.4,SNR=4.6
DBIC Dimbokro 132.55 280 *e*PKPdf PKPdf 06 05 44.6 +1.6
JTS JuntasAbangare 144.99 70 PKPbc PKPdf 06 06 07.6 +1.9
comp=Z,14nm,0.8s,baz=316,slow=5.9,SNR=10
JTS JuntasAbangare 144.99 70 *e*PKPdf PKPdf 06 06 07.0 +1.4
CPUP Villa Florida 154.55 168 PKPbc PKPbc 06 06 30.3 +1.1
comp=Z,2.5nm,0.9s,baz=96,slow=10,SNR=4.9
CPUP PKPab PKPab 06 06 46.2 +1.9
comp=Z,2.9nm,0.8s,baz=161,slow=6.8,SNR=5.7
CPUP Villa Florida 154.55 168 PKPbc PKPbc 06 06 30.3 +1.1
CPUP PKPab PKPab 06 06 46.2 +1.9
LPAZ La Paz 158.03 134 PKPab PKPab 06 07 02.2 +3.0
comp=Z,2.8nm,0.8s,baz=207,slow=5.6,SNR=12
SDV Santo Domingo 158.61 61 PKPab PKPab 06 07 04.3 +2.6
baz=309,slow=6.5
SDV Santo Domingo 158.61 61 *e*PKPab PKPab 06 07 04.4 +2.6
BDFB Brasília 165.29 194 PKPab PKPab 06 07 31.9 +0.9
comp=Z,2.2nm,0.8s,baz=164,slow=6.3,SNR=3.1

IDC ***01*** *06:08:42.7±1.8, 1550N×9093W, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.7/22, mbtmp3.8/6, ML3.9/2, Error ellipse: s-maj=66.7km s-min=22.6km az=38.0*
ISCJB ***01*** *06:08:45.2±0.8, 14.12N±008×9192W±006, h64km±7km, mb3.7/6, Error ellipse: s-maj=15.1km s-min=6.4km az=66.3*
NEIC ***01*** *06:08:47.5, 1406N×9203W, h55km, mb3.8/2, MD4.3(MEX), After MEX.*
MEX ***01*** *06:08:47.5±0.7, 1406N×9203W, h55km±15km, MD4.3*
CASC ***01*** *06:08:48.9±2.2, 1429N×9179W, h48km±10km, MD4.1, ML4.1, mb3.8(NEIC)*

ISC 01 06:08:46.5±0.9, 1413N±009×9185W±006, h62km±7km, n30, σ1§19/27, mb3.7/6, 8C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.28**	**48⇑**	*e*P	**Pn**	**06 08 56.9**	**+0.2**
JAT				*e*S	**Sn**	**06 09 02.9**	**-1.1**
FUG	**Fuego 3**	**1.02**	**72⇓**	*e*P	**Pn**	**06 09 04.4**	**-0.6**
TP2	**Tecpan 2**	**1.03**	**51⇑**	*e*P	**Pn**	**06 09 04.4**	**-0.6**
TP2				*e*S	**Sn**	**06 09 19.0**	**+0.2**
TP2				AML	AML	06 09 22.1	
	comp=E,8μm,0.5s						
RBDL	**Robledal**	**2.10**	**90⇓**	*e*P	x	06 09 21.5	
RBDL				*e*S	x	06 09 46.1	
RTR	**El Retiro**	**2.15**	**96⇑**	*e*P	x	06 09 22.4	
RTR				*e*S	x	06 09 49.4	
CCIG	**Comitan**	**2.16**	**353**	*i* P	**Pn**	**06 09 20.8**	**+0.7**
CCIG				*i* S	**Sn**	**06 09 46.3**	**+0.6**
SBLS	**San Blas**	**2.18**	**97**	*e*P	x	06 09 22.6	
SBLS				*e*S	x	06 09 50.3	
SNJE	**San Jose**	**2.19**	**97⇑**	*e*P	x	06 09 22.9	
SNJE				*e*S	x	06 09 49.7	
MTO2	**Montecristo 2**	**2.43**	**83**	*e*P	x	06 09 27.5	
BOQS	**Boqueron**	**2.52**	**99**	*e*P	x	06 09 27.7	
BOQS				*e*S	x	06 09 57.7	
LFU	**La Fuente**	**2.68**	**98⇑**	*e*P	x	06 09 30.5	
LFU				*e*S	x	06 10 01.7	
SCX	**San Cristobal**	**2.70**	**344**	*i* P	**Pn**	**06 09 29.2**	**+1.7**
LBRS	**Las Brisas**	**2.75**	**98⇑**	*e*P	x	06 09 30.1	
LBRS				*e*S	x	06 10 03.8	
LFRS	**El Faro**	**2.75**	**100⇑**	*e*P	x	06 09 30.9	
LFRS				*e*S	x	06 10 02.9	
LCBS	**La Ceiba**	**2.83**	**99**	*e*P	x	06 09 32.1	
LCBS				*e*S	x	06 10 05.3	
SNVI	**San Vicente**	**2.97**	**100**	*e*P	x	06 09 34.7	
SNVI				*e*S	x	06 10 08.9	
VSM	**San Miguel**	**3.54**	**101⇑**	*e*P	x	06 09 42.2	
VSM				*e*S	x	06 10 21.5	
CMIG	**Matias Romero**	**4.15**	**316**	Pn	**Pn**	**06 09 46.4**	**-0.9**
	comp=E,12nm,0.3s,baz=111,slow=10,SNR=41						
CMIG				Sn	**Sn**	**06 10 35.2**	**+0.7**
	comp=E,13nm,0.3s,baz=53,slow=21,SNR=8.2						
CMIG	**Matias Romero**	**4.15**	**316**	*i* P	**Pn**	**06 09 46.9**	**-0.4**
CMIG				*i* S	**Sn**	**06 10 32.1**	**-2.5**
CMIG	**Matias Romero**	**4.15**	**316**	Pn	**Pn**	**06 09 46.4**	**-0.9**
CMIG				Sn	**Sn**	**06 10 35.2**	**+0.7**
OXX	**Oaxaca**	**5.54**	**303**	*e*P	**Pn**	**06 10 07.8**	**+1.4**
OXX				*e*S	**Sn**	**06 11 07.8**	**-0.8**
JTS	**JuntasAbangare**	**7.75**	**119**	Pn	**Pn**	**06 10 37.7**	**+1.1**
	comp=E,1.2nm,0.3s,baz=308,slow=21,SNR=16						
JTS				Sn	**Sn**	**06 12 07.7**	**+4.9**
	comp=E,0.2nm,0.3s,baz=252,slow=20,SNR=2.2						
JTS	**JuntasAbangare**	**7.75**	**119**	Pn	**Pn**	**06 10 37.6**	**+1.1**
JTS				Sn	**Sn**	**06 12 07.7**	**+4.9**
MNTX	**Cornudas Mount**	**21.44**	**327**	*e*P	**P**	**06 13 28.7**	**-0.8**
	comp=E,4.9nm,0.7s,mb4.0						
ANMO	**Albuquerque**	**24.57**	**330**	P	**P**	**06 13 58.4**	**-2.2**
	comp=E,0.7nm,0.7s,mb3.3,baz=138,slow=10,SNR=7.3						
TUC	**Tucson**	**25.03**	**319**	*e*P	**P**	**06 14 07.0**	**+2.2**
	comp=E,1.7nm,0.8s,mb3.6						
NVAR	**Mina Array Bea**	**33.66**	**321**	P	**P**	**06 15 22.2**	**+0.9**
	comp=E,2.4nm,0.9s,mb4.1,baz=139,slow=8.4,SNR=13						
YKA	**Yellowknife Ar**	**50.93**	**347**	P	**P**	**06 17 36.3**	**-5.3**
	comp=E,0.4nm,0.6s,mb3.5,baz=150,slow=6.9,SNR=4.6						
YKA	**Yellowknife Ar**	**50.93**	**347**	P	**P**	**06 17 36.3**	**-5.3**
ILAR	**Eielson Array**	**62.78**	**337**	P	**P**	**06 19 03.4**	**-2.0**
	comp=E,0.7nm,0.9s,mb3.8,baz=129,slow=3.7,SNR=6.0						

ISCJB ***01*** *06:12:23.5±0.9, 2401S×007×17993E±010, h491km±11km, mb4.1/13, Error ellipse: s-maj=15.1km s-min=8.6km az=54.8*
NEIC ***01*** *06:12:25.7±0.8, 2407S×17999W, h506km±10km, mb4.4/7, Error ellipse: s-maj=14.2km s-min=11.3km az=142.0*
IDC ***01*** *06:12:27.4±1.9, 2419S×17989E, h518km±20km, mb3.4/8, mb1 3.6/11, mb1mx3.5/17, mbtmp4.3/11, Error ellipse: s-maj=21.8km s-min=15.8km az=174.0*

ISC 01 06:12:25.4±0.9, 2419S±007×17996W±010, h499km±10km, n36, σ0§95/33, mb4.1/13, 1C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.36**	**161**	P	**P**	**06 13 58.3**	**+2.7**
	47nm,0.3s,baz=41,slow=18,SNR=3.3						
RAO				S	**S**	**06 15 08.1**	**-1.1**
	26nm,0.3s,baz=106,slow=21,SNR=2.7						
DZM	**Mont Dzumac**	**12.69**	**277**	P	**P**	**06 15 13.1**	**+1.9**
	0.3nm,0.3s,baz=134,slow=12,SNR=4.1						
AFI	**Afiamalu**	**12.82**	**39**	P	**P**	**06 15 10.6**	**-2.0**
	3.1nm,0.3s,baz=175,slow=16,SNR=6.0						
AFI				S	**S**	**06 17 24.2**	**-6.1**
	1.7nm,0.3s,baz=79,slow=24,SNR=3.4						
URZ	**Urewera**	**14.25**	**189**	P	**P**	**06 15 27.1**	**-0.5**
	3.7nm,0.3s,baz=312,slow=6.0,SNR=20						
URZ				S	**S**	**06 17 56.9**	**-1.1**
	1.9nm,0.3s,baz=292,slow=24,SNR=19						
BKZ	**Black Stump Fm**	**15.23**	**191**	PN	**P**	**06 15 38.4**	**+0.4**
QRZ	**Quartz Range**	**17.75**	**199**	PN	**P**	**06 16 04.0**	**+0.5**
DSZ	**Denniston Nort**	**18.81**	**199**	PN	**P**	**06 16 14.1**	**+1.0**
KHZ	**Kahutara**	**18.96**	**195**	PN	**P**	**06 16 14.5**	**-0.1**
LTZ	**Lake Taylor**	**19.63**	**197**	PN	**P**	**06 16 20.8**	**+0.1**
RPZ	**Rata Peaks**	**20.83**	**199**	P	**P**	**06 16 32.8**	**+1.3**
	4.9nm,0.5s,baz=31,slow=8.0,SNR=5.3						
RPZ	**Rata Peaks**	**20.83**	**199**	P	**P**	**06 16 32.8**	**+1.3**
STKA	**Stephens Creek**	**34.65**	**248**	p	**P**	**06 18 31.2**	**-1.2**
	2.0nm,0.9s,baz=93,slow=9.7,SNR=6.4						
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	**06 19 32.5**	**+0.1**
	1.7nm,0.3s,mb3.9,baz=94,slow=7.1,SNR=31						
ASAR				S	**S**	**06 25 12.3**	**-2.5**
	0.4nm,0.6s,baz=102,slow=13,SNR=4.1						
WB2	**Warramunga Arr**	**42.41**	**266⇑**	*i*P	**P**	**06 19 35.3**	**-0.2**
WRAB	**Tennant Creek**	**42.42**	**266**	*e*P	**P**	**06 19 35.1**	**-0.4**
	5.7nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**42.43**	**266**	P	**P**	**06 19 35.4**	**-0.2**
	2.9nm,0.3s,mb4.2,baz=97,slow=8.3,SNR=169						
FORT	**Forrest**	**46.25**	**250**	*e*P	**P**	**06 20 04.7**	**-0.5**
	19nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.84**	**266**	*e*P	**P**	**06 20 40.1**	**+0.7**
	5.5nm,0.7s,mb4.0						
FITZ	**Fitzroy Crossi**	**50.84**	**266**	P	**P**	**06 20 39.1**	**-0.3**
	2.2nm,0.4s,mb3.9,baz=196,slow=12,SNR=21						
KLBR	**Kellerberrin**	**54.91**	**247**	*e*P	**P**	**06 21 08.2**	**-0.3**
	16nm,1.0s,mb4.3						
CASY	**Casey**	**59.87**	**206**	*e*P	**P**	**06 21 41.7**	**-0.7**
	3.6nm,0.8s,mb3.9						
QSPA	**South Pole Qui**	**65.89**	**180**	*e*P	**P**	**06 22 22.7**	**+1.4**
	5.2nm,0.7s,mb4.3						
MAW	**Mawson**	**77.49**	**200**	P	**P**	**06 23 29.2**	**+0.2**
	2.4nm,0.5s,mb4.0,baz=126,slow=6.9,SNR=6.8						
SNAA	**Sanae**	**84.38**	**179⇓**	*i*	**P**	**06 23 54.9**	**-10**
SNAA				*e*		06 23 55.9	
SNAA				*e*		06 24 00.3	
SNAA				*e*		06 24 04.8	
VNA3	**Neumayer Olymp**	**84.59**	**177**	*e*	**P**	**06 24 05.2**	**-0.5**
VNA3				*e*		06 24 06.2	
VNA3				*e*		06 24 10.6	
VNA3				*e*		06 24 15.9	
NVAR	**Mina Array Bea**	**84.93**	**44**	P	**P**	**06 24 08.2**	**+0.9**
	0.4nm,0.6s,mb3.2,baz=230,slow=7.0,SNR=4.4						
VNA2	**Neumayer--Watz**	**85.00**	**178⇓**	*i*	**P**	**06 24 07.5**	**-0.2**
VNA2				*e*		06 24 08.6	
VNA2				*e*		06 24 12.5	
VNA2				*e*		06 24 18.2	
PDAR	**Pinedale Array**	**92.87**	**44**	P	**P**	**06 24 44.9**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=194,slow=3.1,SNR=3.6						
AMTX	**Amarillo**	**94.56**	**54**	*e*P	**P**	**06 24 57.4**	**+5.3**
	8.9nm,0.8s,mb4.8						
ARCES	**ARCESS Array B**	**132.18**	**348**	PKP	PKPdf	06 30 40.2	-2.0
	0.9nm,0.5s,baz=28,slow=2.9,SNR=9.8						
ARCES	**ARCESS Array B**	**132.18**	**348**	PKP	PKPdf	06 30 40.2	-2.0
AKASG	**Malin Array Be**	**145.23**	**327**	PKPbc	PKPbc	06 31 05.2	-1.5
	0.9nm,0.3s,baz=44,slow=4.0,SNR=7.3						
AKASG	**Malin Array Be**	**145.23**	**327**	PKPbc	PKPbc	06 31 05.2	-1.5
BRTR	**Keskin Array B**	**147.78**	**307**	PKPbc	PKPbc	06 31 13.4	-0.3
	1.0nm,0.6s,baz=142,slow=4.3,SNR=5.4						
CLL	**Collm**	**151.14**	**343⇓**	*i*PKPbc	PKPbc	06 31 21.4	-0.4
	comp=Z,8.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**168.91**	**188**	PKPab	PKPab	06 32 49.0	-0.2
	comp=Z,0.5nm,0.6s,baz=186,slow=4.0,SNR=6.7						

ISCJB ***01*** *06:29:32.6±0.3, 4378N±002×1186E±003, h10km, Error ellipse: s-maj=3.8km s-min=2.7km az=68.3*
NEIC ***01*** *06:29:32.9, 4380N×1196E, h6km, ML2.9(LDG), ML2.9(ROM), After ROM.*
ROM ***01*** *06:29:32.9±0.1, 4380N×1196E, h6km±1km, Ml2.9/8, Error ellipse: s-maj=1.9km s-min=1.2km az=42.0*
CSEM ***01*** *06:29:32.7±0.1, 4379N×1193E, h12km, ML3.0/4, Error ellipse: s-maj=1.8km s-min=1.2km az=31.0*
LDG ***01*** *06:29:33.5±0.2, 4377N×1195E, h10km, Ml2.9/3, Error ellipse: s-maj=7.5km s-min=5.0km az=23.0*

ISC 01 06:29:33.3±0.3, 4378N±002×1187E±003, h10km, n42, σ1§19/60, 3C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.13**	**354⇓**	*i*Pg	**Pg**	**06 29 36.4**	**+0.1**
SFI				Sg	**Sg**	**06 29 38.7**	**+0.3**
CRE	**Caprese Michel**	**0.17**	**159⇑**	*i*Pg	**Pg**	**06 29 37.5**	**+0.5**
CRE				Sg	**Sg**	**06 29 40.5**	**+1.0**
VMG	**Vicchio**	**0.30**	**308**	Pg	**Pg**	**06 29 40.3**	**+1.1**
VMG				Sg	**Sg**	**06 29 46.1**	**+2.9**
	2μm,0.6s						
BADI	**Badiali**	**0.39**	**134**	Pg	**Pg**	**06 29 40.4**	**-0.5**
BADI				Sg	**Sg**	**06 29 46.3**	**+0.3**
	1μm,0.2s						
RSM	**Repubblica di**	**0.45**	**70**	Pg	**Pg**	**06 29 41.7**	**-0.4**
	371nm,0.3s						
SEI	**Scarperia**	**0.46**	**307**	Pg	**Pg**	**06 29 43.1**	**+0.8**
	881nm,0.2s						
FNVD	**Fontana Vidola**	**0.66**	**306**	Pg	**Pg**	**06 29 47.0**	**+0.9**
	465nm,0.6s						
MURB	**Monte Urbino**	**0.70**	**137**	Pg	**Pg**	**06 29 46.6**	**-0.3**
MURB				Sg	**Sg**	**06 29 57.5**	**+1.4**
	1μm,0.3s						
PESA	**Pesaro**	**0.72**	**77**	Pg	**Pg**	**06 29 45.9**	**-1.4**
PESA				Sg	**Sg**	**06 29 57.2**	**+0.5**
	568nm,0.5s						
PZZT	**Monte Pizzetto**	**0.81**	**296**	Pg	**Pg**	**06 29 49.6**	**+0.7**
	216nm,0.4s						
ARV	**Arcevia**	**0.83**	**109**	Pg	**Pg**	**06 29 47.6**	**-1.7**
ARV				Sg	**Sg**	**06 30 00.3**	**+0.2**
	81nm,0.2s						
GRFL	**Gerfalco**	**0.91**	**226**	Pg	**Pg**	**06 29 52.3**	**+1.6**
	64nm,0.7s						
SACS	**San Casciano d**	**0.93**	**178**	Pg	**Pg**	**06 29 51.8**	**+0.6**
	304nm,0.8s						
BDI	**Bagni Di Lucca**	**0.96**	**288**	Pg	**Pg**	**06 29 52.7**	**+0.9**
	249nm,1.0s						
ARCI	**Arcidosso**	**0.97**	**197**	Pg	**Pg**	**06 29 52.3**	**+0.3**
	337nm,0.7s						
PII	**Pisa**	**0.97**	**267**	Pg	**Pg**	**06 29 53.0**	**+0.9**
	226nm,0.5s						
NRCA	**Norcia**	**1.31**	**136**	Pg	**Pg**	**06 29 57.1**	**-1.4**
	103nm,1.0s						
VOY	**Vojsko**	**2.67**	**32**	*e*Pn	**Pg**	**06 30 22.3**	**-2.3**
VOY				*e*(Sn)	**Sn**	**06 30 49.9**	**+1.1**
VOY				*e*		06 30 59.2	
SBF	**Sospel**	**3.21**	**273**	*e*P	**Pn**	**06 30 26.3**	**+2.5**
SBF				*e*Sn	**Sn**	**06 30 59.9**	**-2.1**
	29nm,0.5s						
SBF	**Sospel**	**3.21**	**273**	*e*Pn	**Pn**	**06 30 23.5**	**-0.3**
SBF				*e*Sn	**Sn**	**06 30 59.9**	**-2.1**
SBF	**Sospel**	**3.21**	**273**	*e*P	**Pn**	**06 30 26.3**	**+2.5**
SBF				*e*Sn	**Sn**	**06 30 59.9**	**-2.1**
	14nm,0.5s						
OBKA	**Obir**	**3.33**	**34⇑**	*i*Pn	**Pn**	**06 30 25.7**	**+0.3**
KBA	**Koelnbreinsper**	**3.46**	**17⇓**	*i*Pn	**Pn**	**06 30 27.9**	**+0.7**
KBA				⇓*i*Sn	**Sn**	**06 31 10.1**	**+1.9**
KBA	**Koelnbreinsper**	**3.46**	**17**	Pn	**Pn**	**06 30 27.9**	**+0.7**
KBA				Sn	**Sn**	**06 31 10.1**	**+1.9**
DAVA	**Damuels**	**3.77**	**339⇑**	*i*Pn	**Pn**	**06 30 32.1**	**+0.5**
DAVA				⇓*i*Sn	**Sn**	**06 31 20.9**	**+4.8**
MBDF	**Montbardon**	**3.78**	**286**	*e*Pn	**Pn**	**06 30 31.3**	**-0.3**
MBDF				*e*Sn	**Sn**	**06 31 14.1**	**-2.1**
	10nm,0.7s						
MBDF	**Montbardon**	**3.78**	**286**	*e*Pn	**Pn**	**06 30 31.3**	**-0.3**
MBDF				*e*Sn	**Sn**	**06 31 14.1**	**-2.1**
	5.2nm,0.7s						
LMR	**La Mourre**	**3.92**	**265**	*e*Pn	**Pn**	**06 30 33.2**	**-0.3**
LMR				*e*Sn	**Sn**	**06 31 16.8**	**-2.8**
	1.6nm,0.2s						
LMR	**La Mourre**	**3.92**	**265**	*e*Pn	**Pn**	**06 30 33.2**	**-0.3**
LMR				*e*Sn	**Sn**	**06 31 16.8**	**-2.8**
	0.8nm,0.2s						
LPG	**La Plagne**	**4.03**	**297**	*e*Pn	**Pn**	**06 30 34.2**	**-0.9**
LPL	**La Pl

AP3N	**Apex site 3 Nu**	**6.75 142**	PN	Pn	06 31 37.1	-0.6
AP3N			SN	Sn	06 32 48.0	-6.1
AP3N			LG		06 33 25.3	
AP3N			Trac		06 33 35.9	
	comp=Z,9.8nm,0.8s					
AP3N	**Apex site 3 Nu**	**6.75 142**	Pn	Pn	06 31 37.1	-0.6
AP3N			Sn	Sn	06 32 49.7	-4.4
GIFN	**Gifford Fjord,**	**6.78 132**	PN	Pn	06 31 37.2	-0.9
GIFN			SN	Sn	06 32 50.2	-4.6
GIFN			LG		06 33 27.6	
GIFN			Trac		06 33 33.2	
	comp=Z,24nm,0.6s					
GIFN	**Gifford Fjord,**	**6.78 132**	Pn	Pn	06 31 37.2	-1.0
GIFN			Sn	Sn	06 32 51.1	-3.7
ILON	**Igloolik, Nuna**	**7.28 136**	PN	Pn	06 31 43.7	-1.3
ILON			SN	Sn	06 33 01.6	-5.4
ILON			LG		06 33 43.5	
ILON			Trac		06 33 54.7	
	comp=Z,20nm,0.6s					
ILON	**Igloolik, Nuna**	**7.28 136**	Pn	Pn	06 31 44.3	-0.6
ILON			Sn	Sn	06 33 02.7	-4.3
SRLN	**Sarcpa Lake, N**	**7.75 142**	PN	Pn	06 31 51.2	-0.2
SRLN			SN	Sn	06 33 13.9	-4.7
SRLN			LG		06 33 55.8	
SRLN			Trac		06 34 01.6	
	comp=Z,14nm,0.5s					
SRLN	**Sarcpa Lake, N**	**7.75 142**	Pn	Pn	06 31 51.4	-0.1
SRLN			Sn	Sn	06 33 13.9	-4.7
QILN	**Qililugaq Expl**	**9.12 154**	PN	Pn	06 32 10.3	+0.1
QILN			SN	Sn	06 33 46.4	-6.0
QILN			LG		06 34 35.3	
QILN			Trac		06 34 49.3	
	comp=Z,8.8nm,1.2s					
QILN	**Qililugaq Expl**	**9.12 154**	Pn	Pn	06 32 09.3	-0.9
QILN			Sn	Sn	06 33 46.4	-6.0
LUPN	**Lupin Mine**	**10.64 215**	PN	Pn	06 32 31.8	+0.7
LUPN			SN	Sn	06 34 15.8	-14
LUPN			LG		06 35 21.7	
LUPN	**Lupin Mine**	**10.64 215**	Sn	Sn	06 34 21.2	-8.6
COWN	**Contwyoto Lake**	**11.08 214**	PN	Pn	06 32 34.5	-2.6
COWN			SN	Sn	06 34 31.6	-8.9
COWN			LG		06 35 31.2	
COWN			Trac		06 35 42.9	
	comp=Z,5.8nm,1.2s					
COWN	**Contwyoto Lake**	**11.08 214**	Pn	Pn	06 32 35.7	-1.4
COWN			Sn	Sn	06 34 31.6	-8.9
YNEN	**Yamba Lake Nor**	**11.23 214**	SN	Sn	06 34 30.9	-13
YNEN			LG		06 35 41.5	
YMBN	**Yamba Lake**	**11.50 214**	PN	Pn	06 32 40.1	-2.7
YMBN			SN	Sn	06 34 37.5	-13
YMBN			LG		06 35 50.7	
YMBN	**Yamba Lake**	**11.50 214**	Pn	Pn	06 32 42.0	-0.8
YMBN			Sn	Sn	06 34 41.3	-9.5
BOXN	**Box Lake**	**12.23 209**	PN	Pn	06 32 51.4	-1.4
BOXN			SN	Sn	06 34 59.5	-9.1
BOXN			LG		06 36 06.3	
BOXN			Trac		06 36 19.0	
	comp=Z,2.1nm,0.3s					
BOXN	**Box Lake**	**12.23 209**	Pn	Pn	06 32 51.4	-1.4
BOXN			Sn	Sn	06 34 59.5	-9.1
YRTN	**Rankin Inlet**	**12.49 171**	PN	Pn	06 32 53.7	-2.6
YRTN			SN	Sn	06 35 05.7	-9.3
YRTN			LG		06 36 15.4	
YRTN	**Rankin Inlet**	**12.49 171**	Pn	Pn	06 32 57.6	+1.3
YKW3	**Yellowknife Ar**	**14.15 217**	PN	Pn	06 33 15.6	-3.4
YKW3			SN	Sn	06 35 40.9	-15
YKW3			LG		06 37 08.1	
YKW3	**Yellowknife Ar**	**14.15 217**	Pn	Pn	06 33 17.0	-2.0
YKW3			Sn	Sn	06 35 44.4	-11
FRB	**Frobisher Bay**	**14.79 126**	PN	Pn	06 33 29.3	+1.5

*NEIC **01** 07:09:37.8±0.8, 0.13S×9896E, h30km, mb4.5/5, Error ellipse: s-maj=31.1km s-min=17.4km az=60.0*
*ISCJB **01** 07:09:51.7±1.5, 08N±01×1000E±02, h148km±10km, mb4.2/15, Error ellipse: s-maj=31.2km s-min=16.4km az=102.4*
*IDC **01** 07:09:52.4±1.7, 072N×10004E, h142km±13km, mb4.1/9, mb1 4.1/10, mb1mx3.8/21, mbtmp4.5/10, Error ellipse: s-maj=29.3km s-min=16.2km az=60.0*

ISC 01 07:09:52.9±1.5, 08N±01×1000E±02, h144km±10km, n25, σ0§64/22, mb4.2/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**333**	P	**Pn**	**07 10 31.5**	**+0.3**
	26nm,0.3s,baz=158,slow=9.5,SNR=142						
PSI				S	**Sn**	**07 10 59.5**	**-1.2**
	2.8nm,0.3s,baz=227,slow=20,SNR=3.9						
KULM	**Kulim**	**4.56**	**8**	*e*Pn	**Pn**	**07 11 02.0**	**+1.7**
WRA	**Warramunga Arr**	**39.46**	**123**	P	**P**	**07 17 08.4**	**-0.5**
	0.9nm,0.5s,mb3.7,baz=309,slow=8.9,SNR=15						
WRA				PcP	PcP	07 19 13.7	-0.2
	0.5nm,0.4s,baz=317,slow=2.5,SNR=12						
WB2	**Warramunga Arr**	**39.47**	**123**	*e*P	**P**	**07 17 08.4**	**-0.6**
ASAR	**Alice Springs**	**40.93**	**129**	PcP	PcP	07 19 19.1	+0.4
	0.9nm,0.5s,baz=313,slow=2.7,SNR=7.5						
SONM	**Songino Array**	**47.23**	**6**	P	**P**	**07 18 11.3**	**0.0**
	1.1nm,0.4s,mb3.9,baz=187,slow=8.7,SNR=12						
SONM				PcP	PcP	07 19 40.1	-0.1
	0.9nm,0.4s,baz=189,slow=3.7,SNR=6.9						
MKAR	**Makanchi Array**	**48.40**	**344**	P	**P**	**07 18 20.7**	**+0.5**
	4.0nm,0.3s,mb4.5,baz=156,slow=8.5,SNR=92						
MKAR	**Makanchi Array**	**48.40**	**344**	P	**P**	**07 18 20.7**	**+0.5**
KURK	**Kurchatov**	**52.98**	**343**	*e*P	**P**	**07 18 54.6**	**+0.1**
	3.4nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**54.48**	**349**	P	**P**	**07 19 05.2**	**-0.2**
	13nm,0.4s,mb5.0,baz=311,slow=4.2,SNR=24						
BRVK	**Borovoye**	**57.68**	**339**	*e*P	**P**	**07 19 27.6**	**-0.6**
	1.5nm,0.4s,mb4.2						
CHKZ	**Chkalovo**	**58.07**	**340**	*e*P	**P**	**07 19 30.5**	**-0.4**
	3.8nm,0.6s,mb4.4						
BOSA	**Boshof**	**76.97**	**241**	P	**P**	**07 21 30.4**	**+0.9**
	0.9nm,0.4s,mb3.7,baz=56,slow=4.7,SNR=2.8						
JOF	**Joensuu**	**79.74**	**334**	*e*p	**P**	**07 21 45.0**	**+0.2**
	1.7nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**81.68**	**332**	P	**P**	**07 21 54.9**	**-0.2**
	1.4nm,0.4s,mb3.9,baz=108,slow=6.2,SNR=14						
KAF	**Kangasniemi**	**81.74**	**333**	*e*p	**P**	**07 21 55.4**	**0.0**
	3.8nm,0.5s,mb4.3,baz=99,slow=4.8						
KEV	**Kevo**	**83.45**	**340**	*e*p	**P**	**07 22 03.6**	**-0.6**
	0.8nm,0.4s,mb3.8						
ARCES	**ARCESS Array B**	**83.90**	**340**	P	**P**	**07 22 06.1**	**-0.4**
	2.8nm,0.4s,mb4.3,baz=109,slow=4.3,SNR=64						
HFS	**Hagfors**	**87.50**	**330**	P	**P**	**07 22 24.4**	**+0.2**
	4.7nm,1.0s,mb4.3,baz=111,slow=7.9,SNR=5.7						
HFS	**Hagfors**	**87.50**	**330**	P	**P**	**07 22 24.4**	**+0.2**
DAVOX	**Davos**	**89.53**	**317**	P	**P**	**07 22 34.7**	**+0.9**
	2.9nm,0.5s,mb4.5,baz=148,slow=15,SNR=3.9						
DAVOX	**Davos**	**89.53**	**317**	P	**P**	**07 22 34.7**	**+0.9**
BDFB	**Brasilia**	**145.12**	**243**	PKPbc	PKPbc	07 29 13.7	+0.7
	1.0nm,0.4s,baz=86,slow=3.9,SNR=4.3						
CPUP	**Villa Florida**	**146.47**	**219**	PKPbc	PKPbc	07 29 16.4	-0.6
	1.4nm,0.6s,baz=133,slow=1.6,SNR=7.3						
CPUP	**Villa Florida**	**146.47**	**219**	PKPbc	PKPbc	07 29 16.4	-0.6

MAN 01 07:34:48.6, 943N×12671E, h23km, mb3.4, ML4.6, MS3.6, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.16**	**247**	*e*P	Pn	07 35 09.1	-0.4
SCPH	**Surigao**	**1.25**	**287**	‖*e*P	Pn	07 35 07.8	-2.9
SCPH				*e*S	Sn	07 35 21.8	-5.1
BIPH	**Bislig**	**1.28**	**196**	‖*i*P	Pn	07 35 10.5	-0.6
BIPH				*i* S	Sn	07 35 27.8	+0.3
MSLP	**Maasin**	**1.95**	**291**	*e*P	Pn	07 35 20.3	0.0
MSLP				*e*S	Sn	07 35 47.4	+3.3
BUKP	**Musuan**	**2.24**	**227**	*e*P	Pn	07 35 26.2	+2.0

IDC 01 07:39:30.9±5.8, 4821S×12071E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/11, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/11, Error ellipse: s-maj=295.1km s-min=30.4km az=96.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.65**	**28**	P	P	07 45 10.8	-0.4
	0.3nm,0.5s,baz=188,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**30.28**	**26**	P	P	07 45 44.1	+0.5
	0.4nm,0.8s,baz=196,slow=8.7,SNR=2.5						
VNDA	**Vanda**	**33.37**	**165**	P	P	07 46 10.2	-0.6
	0.5nm,0.9s,baz=295,slow=7.9,SNR=3.7						
CTA	**Charters Tower**	**34.81**	**45**	LR	LR	07 59 04.5	
	comp=Z,104nm,21.9s,baz=103,slow=34						
YKA	**Yellowknife Ar**	**146.63**	**44**	PKPbc	PKPbc	07 59 12.3	-2.1
	0.5nm,0.7s,baz=290,slow=2.8,SNR=5.5						

IDC 01 07:45:29.9±3.2, 224S×10204E, h181km±40km, mb3.0/4, mb1 3.1/5, mb1mx3.0/18, mbtmp3.5/5, Error ellipse: s-maj=127.7km s-min=17.4km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.90**	**328**	P	Pn	07 46 54.6	-0.9
	0.8nm,0.3s,baz=148,slow=13,SNR=6.8						
WRA	**Warramunga Arr**	**36.12**	**121**	P	P	07 52 14.2	-0.2
	0.3nm,0.9s,baz=300,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**37.48**	**127**	P	P	07 52 26.5	+0.6
	0.4nm,0.5s,baz=301,slow=8.3,SNR=7.5						
SONM	**Songino Array**	**50.01**	**4**	P	P	07 54 06.8	+1.1
	0.6nm,0.6s,baz=180,slow=8.6,SNR=5.9						
MKAR	**Makanchi Array**	**51.83**	**343**	P	P	07 54 18.6	-0.8
	0.3nm,0.5s,baz=157,slow=7.8,SNR=3.7						

*PDA **01** 07:48:03.0±0.6, 3901N×2786W, h6km±7km, MD3.1, Error ellipse: s-maj=6.5km s-min=6.2km az=70.0*
*CSEM **01** 07:48:03.0±0.6, 3901N×2786W, h6km±7km, MD3.1, Error ellipse: s-maj=6.5km s-min=6.2km az=70.0, After PDA*

SVSA 01 07:48:03.0±0.6, 3901N×2786W, h6km±7km, MD3.1, Error ellipse: s-maj=6.5km s-min=6.2km az=70.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.15**	**281**	*e*P	Pg	07 48 06.0	0.0
SRBC				*e*S	Sg	07 48 08.0	0.0
ROSA	**Rosais**	**0.42**	**226**	*e*P	Pg	07 48 09.9	-1.2
ROSA				*e*S	Sg	07 48 15.6	-0.9
PID	**Ribeirinha**	**0.60**	**200**	*e*S	Sg	07 48 20.9	-1.6
PICO	**Pico**	**0.68**	**221**	*e*P	Pg	07 48 14.3	-1.7
PICO				*e*S	Sg	07 48 22.9	-1.9
CALA	**Caldeira**	**0.79**	**237**	*e*P	Pg	07 48 15.7	-2.4

*ISCJB **01** 07:52:21.7±0.8, 3809N±003×2155E±004, h7km±7km, Error ellipse: s-maj=6.1km s-min=4.9km az=113.9*
*THE **01** 07:52:21.7, 3806N×2155E, h12km, ML3.3*
*CSEM **01** 07:52:22.1, 3805N×2154E, h15km, MD3.4/10, After ATH*
*NEIC **01** 07:52:22.1, 3805N×2154E, h15km, MD3.4(ATH), After ATH.*
*ATH **01** 07:52:22.1, 3805N×2153E, h15km±1km, MD3.4/10*

ISC 01 07:52:22.4±0.5, 3808N±003×2155E±005, h12km±5km, n19, σ1§13/26, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.07**	**252**	*e*PB	**Pg**	**07 52 24.7**	**-0.2**
RLS				*e*SB	**Sg**	**07 52 27.5**	**+0.7**
VLS	**Valsamata**	**0.77**	**278**	*e*PN	**Pg**	**07 52 36.7**	**-0.5**
EVR	**Evrytania**	**0.86**	**13**	*e*PB	**Pb**	**07 52 38.5**	**-0.7**
EVR				*e*SN	**Sn**	**07 52 52.0**	**-0.8**
ITM	**Ithomi**	**0.95**	**162**	*e*PB	**Pb**	**07 52 39.1**	**-1.6**
ITM				*e*SN	**Sn**	**07 52 53.3**	**-1.6**
LKD	**Levkas**	**0.95**	**312**	*e*Pg	**Pg**	**07 52 40.0**	**-0.7**
LKD				*e*Sg	**Sg**	**07 52 53.5**	**+0.5**
AGG	**Agios Georgios**	**1.12**	**33**	*e*Pg	**Pg**	**07 52 42.7**	**-1.4**
AGG				*e*Sg	**Sg**	**07 52 59.5**	**+0.8**
LKR	**Lokris**	**1.27**	**63**	*e*PN	**Pn**	**07 52 46.1**	**+0.1**
LKR	**Lokris**	**1.27**	**63**	*e*Pb	**Pb**	**07 52 45.1**	**-1.2**
MGER	**Gerania Oros**	**1.35**	**93**	*e*PN	**Pn**	**07 52 47.0**	**-0.1**
MGER				*e*SN	**Sn**	**07 53 07.0**	**+2.1**
NAIG	**Nisos Aigina**	**1.56**	**101**	*e*PN	**Pn**	**07 52 50.8**	**+0.8**
JAN	**Janina**	**1.67**	**341**	*e*PN	**Pn**	**07 52 53.0**	**+1.6**
VLI	**Veliai**	**1.75**	**140**	*e*PN	**Pn**	**07 52 53.8**	**+1.3**
KVR	**Kavouri**	**1.77**	**97**	*e*PN	**Pb**	**07 52 55.0**	**+0.2**
KVR	**Kavouri**	**1.77**	**97**	*e*Pn	**Pb**	**07 52 56.0**	**+1.2**
XOR	**Xorichti**	**1.82**	**44**	*e*Pb	**Pn**	**07 52 52.0**	**-1.5**
XOR				*e*Sb	**Sn**	**07 53 15.8**	**-0.5**
PTL	**Penteli**	**1.83**	**90**	*e*PN	**Pn**	**07 52 55.5**	**+1.9**
KEK	**Kerkira**	**2.13**	**321**	*e*PN	**Pn**	**07 53 00.0**	**+2.3**
PAIG	**Paliouri**	**2.48**	**41**	*e*Pn	**Pn**	**07 53 01.8**	**-0.8**
OUR	**Ouranopolis**	**2.94**	**39**	*e*Pn	**Pn**	**07 53 08.4**	**-0.5**

*CSEM **01** 07:53:12.8±0.6, 3877N×29.12W, h0km±8km, ML2.1, Error ellipse: s-maj=14.1km s-min=3.7km az=60.0, After PDA*
*PDA **01** 07:53:12.8±0.6, 3877N×29.12W, h0km±8km, MD3.3, ML2.1, Error ellipse: s-maj=14.1km s-min=3.7km az=60.0*

SVSA 01 07:53:12.8±0.6, 3877N×2912W, h0km±8km, MD3.3, ML2.1, Error ellipse: s-maj=14.1km s-min=3.7km az=60.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.36**	**113**	*e*P	Pg	07 53 19.3	-0.3
PCED				*e*S	Sg	07 53 24.6	+0.3
PCED							
	53nm,0.1s						
PCED	**Cedros**	**0.36**	**113**	*e*P	Pg	07 53 19.3	-0.3
PCED				*e*S	Sg	07 53 24.6	+0.3
CALA	**Caldeira**	**0.38**	**119**	*e*P	Pg	07 53 20.0	0.0
CALA				*e*S	Sg	07 53 25.0	+0.1
HOR	**Horta**	**0.46**	**122**	*e*rx		07 53 26.6	
PICO	**Pico**	**0.61**	**116**	*e*P	Pg	07 53 23.5	-0.9
PICO				*e*S	Sg	07 53 31.8	-0.5
ROSA	**Rosais**	**0.69**	**94**	*e*P	Pg	07 53 24.8	-1.2
ROSA				*e*S	Sg	07 53 33.7	-1.3
PMAN	**Manadas**	**0.82**	**99**	*e*rx		07 53 37.3	

*CSEM **01** 08:02:58.8±0.2, 3670N×764W, h50km±3km, ML2.5, Error ellipse: s-maj=5.6km s-min=3.3km az=17.0*
*INMG **01** 08:02:59.5±0.9, 3660N×771W, h26km±11km, MD2.7, ML2.5, Error ellipse: s-maj=6.3km s-min=3.7km az=26.0*
*IGIL **01** 08:02:59.5, 3669N×781W, h10km, ML2.3*
*NEIC **01** 08:02:59.4, 3661N×766W, h25km, ML2.5(LIS), MN2.8(MDD), After MDD.*

MDD 01 08:02:58.9±1.2, 3658N×774W, h37km±19km, mbLg2.7/18, 4C, Error ellipse: s-maj=12.7km s-min=6.3km az=20.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.89**	**26**	⇑P	Pn	08 03 14.4	-0.4
	4.9nm,0.0s,SNR=18						
ERIP				S	Sn	08 03 25.1	-1.4
	156nm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**0.89**	**26**	⇑P	Pn	08 03 14.4	-0.4
ERIP				S	Sn	08 03 25.5	-1.0
ERIP	**Rio Piedras**	**0.89**	**26**	P	Pn	08 03 14.4	-0.5
	4.9nm,0.0s,SNR=18						
ERIP				S	Sn	08 03 25.5	-1.0
	156nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.98**	**12**	⇑P	Pn	08 03 15.9	-0.3
	3.0nm,0.1s,SNR=18						
EGRO				S	Sn	08 03 27.6	-1.1
	135nm,0.2s						
EGRO	**El Granado**	**0.98**	**12**	⇑P	Pn	08 03 15.9	-0.3
EGRO				S	Sn	08 03 27.8	-1.0
EGRO	**El Granado**	**0.98**	**12**	P	Pn	08 03 15.9	-0.2
	3.0nm,0.1s,SNR=18						
EGRO				S	Sn	08 03 27.8	-1.0
	135nm,0.2s						
MORF	**Marmelete**	**1.03**	**315**	*e*P	Pn	08 03 15.7	-1.2
MORF				*e*S	Sn	08 03 27.5	-2.6
MORF				*e*S	Sn	08 03 27.6	-2.6
MORF				AML	AML	08 03 30.0	
	comp=E,66nm,0.1s						
MORF	**Marmelete**	**1.03**	**315**	*e*P	Pn	08 03 15.7	-1.2
MORF				*e*S	Sn	08 03 27.5	-2.6
PTEO	**Sao Teotonio**	**1.25**	**321**	*e*P	Pn	08 03 19.8	-0.1
PTEO				*e*S	Sn	08 03 34.9	-0.5
PTEO							
	comp=E,17nm,0.1s						
PTEO	**Sao Teotonio**	**1.25**	**321**	*e*P	Pn	08 03 19.8	-0.1
PTEO				*e*S	Sn	08 03 34.9	-0.5
	comp=E,17nm,0.1s						
PBEJ	**Beja**	**1.45**	**356**	*e*S	Sn	08 03 39.1	-1.4
PBEJ							
	comp=E,26nm,0.3s						
PBEJ	**Beja**	**1.45**	**356**	*e*S	Sn	08 03 39.1	-1.4
	comp=E,26nm,0.3s						
EMIN	**Mina Concepcio**	**1.46**	**35**	P	Pn	08 03 22.0	-0.8
	comp=E,0.8nm,0.0s,SNR=13						
EMIN				S	Sn	08 03 38.9	-1.8
	comp=E,8.2nm,0.1s,SNR=14						
EMIN	**Mina Concepcio**	**1.46**	**35**	P	Pn	08 03 22.0	-0.8
	comp=E,0.8nm,0.0s,SNR=13						
EMIN				S	Sn	08 03 38.9	-1.8
	comp=E,8.2nm,0.1s,SNR=14						
ESPR	**Espera**	**1.54**	**78**	P	Pn	08 03 23.5	-0.4
	comp=E,4.7nm,0.1s,SNR=7.9						
ESPR				S	Sn	08 03 41.2	-1.5
	comp=E,105nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.54**	**78**	P	Pn	08 03 23.5	-0.4
	comp=E,4.7nm,0.1s,SNR=7.9						
ESPR				S	Sn	08 03 41.2	-1.5
	comp=E,105nm,0.2s,SNR=7.9						
MOE	**Montemor**	**2.00**	**346**	*e*Pn	Pn	08 03 30.3	+0.1
MOE				*e*Sn	Sn	08 03 53.0	-1.1
EBAD	**Badajoz**	**2.25**	**15**	P	Pn	08 03 33.1	-0.6
	comp=E,2.7nm,0.1s,SNR=7.9						
EBAD				S	Sn	08 03 58.2	-2.0
	comp=E,5.6nm,0.0s,SNR=7.9						
EBAD	**Badajoz**	**2.25**	**15**	P	Pn	08 03 33.0	-0.7
EBAD				S	Sn	08 03 58.2	-2.0
	comp=E,5.6nm,0.0s,SNR=7.9						
PLOU	**Loures**	**2.56**	**335**	*e*Sn	Sn	08 04 06.1	-1.8
PLOU							
	comp=E,19nm,0.1s						
PLOU	**Loures**	**2.56**	**335**	*e*Sn	Sn	08 04 06.1	-1.8
	comp=E,19nm,0.1s						
EADA	**Adamuz**	**2.98**	**57**	P	Pn	08 03 43.2	-0.5
	comp=E,6.0nm,0.2s,SNR=16						
EADA				S	Sn	08 04 16.1	-2.0
	comp=E,5.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.98**	**57**	P	Pn	08 03 43.2	-0.4
	comp=E,6.0nm,0.2s,SNR=16						
EADA				S	Sn	08 04 16.1	-2.0
	comp=E,5.5nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.27**	**4**	*e*Pn	Pn	08 03 47.2	-0.4
PCBR				*e*Sn	Sn	08 04 23.3	-1.9
PCBR							
	comp=E,10nm,0.1s						
PCBR	**Castelo Branco**	**3.27**	**4**	*e*Pn	Pn	08 03 47.2	-0.4
PCBR				*e*Sn	Sn	08 04 23.3	-1.9
	comp=E,10nm,0.1s						
EBAN	**Banos Encina**	**3.53**	**62**	P	Pn	08 03 50.3	-0.8
	comp=E,2.5nm,0.1s,SNR=7.9						
EBAN				S	Sn	08 04 28.5	-3.1
	comp=E,3.2nm,0.1s,SNR=4.0						
MTE	**Manteigas**	**3.82**	**2**	*e*Sn	Sn	08 04 36.1	-2.8
MTE							
	comp=E,9.1nm,0.3s						
MTE	**Manteigas**	**3.82**	**2**	*e*Sn	Sn	08 04 36.1	-2.8
	comp=E,9.1nm,0.3s						
PVIS	**Viseu**	**4.14**	**358**	*e*Sn	Sn	08 04 43.3	-3.4
PVIS							
	comp=E,8.9nm,0.3s						
PVIS	**Viseu**	**4.14**	**358**	S	Sn	08 04 43.3	-3.4
	comp=E,4.4nm,0.3s						
ESDC	**Sonseca Array**	**4.29**	**43**	P	Pn	08 04 01.1	-0.6
	comp=E,3.2nm,0.1s,baz=226,slow=13,SNR=4.0						
ESDC				S	Sn	08 04 47.2	-3.3
	comp=E,4.4nm,0.2s,baz=226,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**4.29**	**43**	P	Pn	08 04 01.1	-0.6
	comp=E,3.2nm,0.1s,SNR=4.0						
ESDC				S	Sn	08 04 47.2	-3.3
	comp=E,4.4nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**4.69**	**0**	*e*Sn	Sn	08 04 56.6	-3.8
PVRL							
	comp=E,14nm,0.2s						
PVRL	**Vila Real**	**4.69**	**0**	S	Sn	08 04 56.6	-3.8
	comp=E,7.1nm,0.2s						
GUD	**Guadarrama**	**4.94**	**34**	P	Pn	08 04 10.6	+0.1
	comp=E,1.2nm,0.2s,SNR=4.0						
PCAB	**Cabril**	**5.13**	**358**	*e*Sn	Sn	08 05 06.8	-4.4
PCAB							
	comp=E,8.7nm,0.3s						
PCAB	**Cabril**	**5.13**	**358**	S	Sn	08 05 06.8	-4.4
	comp=E,4.3nm,0.3s						
PBRG	**Braganca**	**5.28**	**8**	*e*Sn	Sn	08 05 10.5	-4.4
PBRG							
	comp=E,5.8nm,0.2s						
PBRG	**Braganca**	**5.28**	**8**	S	Sn	08 05 10.5	-4.4
	comp=E,2.9nm,0.2s						
ETOB	**Tobarra**	**5.33**	**65**	P	Pn	08 04 14.4	-1.6
	comp=E,0.8nm,0.2s,SNR=7.9						
ETOB				S	Sn	08 05 11.6	-4.5
	comp=E,1.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.33**	**65**	P	Pn	08 04 14.4	-1.6
	comp=E,0.8nm,0.2s,SNR=7.9						

*ISCJB **01** 08:03:12.8±3.0, 2070N±005×120.1E±0.1, h15km±24km, mb3.9/9, MS3.5/4, Error ellipse: s-maj=19.1km s-min=8.6km az=169.2*
*IDC **01** 08:03:12.3±1.0, 2063N×11999E, h0km, mb3.9/8, mb1 4.1/8, mb1mx4.0/20, mbtmp3.9/8, MS3.6/4, Ms1 3.6/4, ms1mx2.6/34, Error ellipse: s-maj=40.7km s-min=17.7km az=77.0*
*NEIC **01** 08:03:16.7±0.7, 2067N×12006E, h30km, mb4.5/2, Error ellipse: s-maj=24.9km s-min=9.6km az=87.0*
*BJI **01** 08:03:25.0, 2157N×11957E, h30km, mB4.1, mb4.3, ML3.3, Ms3.6, Msz3.5*

ISC 01 08:03:14.9±4.0, 2070N±005×1201E±01, h17km±26km, n20, σ1§04/20, mb3.9/9, MS3.5/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.39**	**151**	*e*P	**Pn**	**08 04 06.5**	**-0.5**
NACB	**Ninganchiao**	**3.72**	**21**	*e*Pn	**Pn**	**08 04 12.1**	**+0.5**
NACB				*e*Sn	**Sn**	**08 04 50.0**	**-5.0**
YHNB	**Yeheng**	**4.12**	**16**	*e*Pn	**Pn**	**08 04 17.0**	**-0.1**
YHNB				*e*Sn	**Sn**	**08 05 04.0**	**-0.8**
QZH	**Quanzhou**	**4.45**	**342**	*

IDC 01 08:04:47.1±1.2, 2053N×12004E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.6/5, Error ellipse: s-maj=83.4km s-min=23.3km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.40**	**341**	P	P	08 10 52.3	+0.3
	0.3nm,0.7s,baz=161,slow=14,SNR=2.4						
MKAR	**Makanchi Array**	**40.32**	**319**	P	P	08 12 26.0	-0.2
	0.3nm,0.6s,baz=116,slow=9.9,SNR=2.4						
WRA	**Warramunga Arr**	**42.58**	**160**	P	P	08 12 44.7	-0.1
	2.9nm,0.9s,baz=342,slow=8.9,SNR=5.6						
ASAR	**Alice Springs**	**45.95**	**162**	P	P	08 13 12.2	+0.5
	0.8nm,1.0s,baz=338,slow=7.1,SNR=3.3						
YKA	**Yellowknife Ar**	**86.74**	**22**	P	P	08 17 32.9	0.0
	0.5nm,0.8s,baz=317,slow=5.2,SNR=4.8						

*CSEM **01** 08:16:33.8±0.8, 3896N×2786W, h2km±4km, ML1.0, Error ellipse: s-maj=5.5km s-min=2.8km az=64.0, After PDA*
*PDA **01** 08:16:33.8±0.8, 3896N×2786W, h2km±4km, MD2.6, ML1.0, Error ellipse: s-maj=5.5km s-min=2.8km az=64.0*

SVSA 01 08:16:33.8±0.8, 3896N×2786W, h2km±4km, MD2.6, ML1.0, Error ellipse: s-maj=5.5km s-min=2.8km az=64.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.16**	**299**	*i* P	Pg	08 16 36.6	-0.3
SRBC				*e*S	Sg	08 16 39.1	0.0
SRBC	**Serra Branca**	**0.16**	**299**	*e*S	Sg	08 16 39.1	0.0
STGR	**Santa Cruz**	**0.17**	**317**	*e*P	Pg	08 16 36.8	-0.2
STGR				*e*S	Sg	08 16 39.7	+0.5
STGR							
	36nm,0.2s						
STGR	**Santa Cruz**	**0.17**	**317**	*e*P	Pg	08 16 36.8	-0.2
STGR				*e*S	Sg	08 16 39.7	+0.5
PVIA	**Vitoria**	**0.19**	**306**	*e*S	Sg	08 16 39.9	+0.1
PVIA							
	9.1nm,0.1s						
PAMA	**Santo Amaro**	**0.38**	**222**	*e*rx		08 16 37.2	
ROSA	**Rosais**	**0.38**	**232**	*e*P	Pg	08 16 40.8	-0.3
ROSA				*e*S	Sg	08 16 46.1	0.0
PID	**Ribeirinha**	**0.55**	**202**	*e*P	Pg	08 16 43.7	-0.7
PID				*e*S	Sg	08 16 51.0	-0.6
PICO	**Pico**	**0.64**	**224**	*e*P	Pg	08 16 45.0	-1.0
PICO				*e*S	Sg	08 16 52.9	-1.4
PLUZ	**Luz**	**0.87**	**274**	*e*P	Pg	08 16 36.0	-15
PLUZ				*e*S	Sg	08 16 37.6	-24
PLUZ							
	23nm,0.2s						

*IDC **01** 08:25:38.9±0.7, 1708S×17404W, h0km, mb4.1/9, mb1 4.4/11, mb1mx4.3/18, mbtmp4.2/11, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/20, Error ellipse: s-maj=32.6km s-min=16.5km az=136.0*
*ISCJB **01** 08:25:40.0±4.2, 1715S±0.1×1740W±0.1, h17km±30km, mb4.1/14, Error ellipse: s-maj=20.6km s-min=12.1km az=99.1*
*NEIC **01** 08:25:42.9±3.4, 1709S×17403W, h27km±24km, mb4.3/6, Error ellipse: s-maj=14.7km s-min=8.6km az=138.0*

ISC 01 08:25:42.9±4.2, 1715S±01×1740W±01, h24km±31km, n27, σ0°76/23, mb4.1/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.83**	**34**	Pn	**Pn**	**08 26 40.9**	**+0.5**
	5.7nm,0.3s,baz=164,slow=5.6,SNR=13						
AFI				Sn	**Sn**	**08 27 18.4**	**-6.2**
	36nm,0.3s,baz=52,slow=22,SNR=5.5						
RAR	**Rarotonga**	**14.05**	**109**	Pn	**Pn**	**08 29 00.0**	**-0.4**
	1.3nm,0.3s,baz=267,slow=7.0,SNR=5.6						
RAR				LR	LR	08 32 53.5	
	comp=Z,153nm,18.6s,baz=95,slow=31						
URZ	**Urewera**	**22.47**	**199**	P	**P**	**08 30 39.6**	**-0.7**
	3.0nm,0.7s,mb3.9,baz=351,slow=19,SNR=2.1						
PPT	**Papeete**	**23.32**	**95**	*e*LR	LR	08 36 15.8	
	155nm,30.5s						
TBI	**Tubuai**	**23.83**	**109**	*e*LR	LR	08 36 30.0	
	143nm,31.0s						
RKT	**Rikitea**	**37.05**	**106**	*e*LR	LR	08 42 36.5	
	117nm,32.0s						
CTAO	**Charters Tower**	**37.73**	**259**	*e*P	**P**	**08 32 57.3**	**+0.7**
	4.0nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**42.70**	**241**	*e*P	**P**	**08 33 37.1**	**-0.8**
	4.6nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**42.70**	**241**	P	**P**	**08 33 37.2**	**-0.7**
	5.3nm,0.7s,mb4.4,baz=81,slow=9.8,SNR=8.0						
STKA	**Stephens Creek**	**42.70**	**241**	*e*P	**P**	**08 33 36.4**	**-1.5**
WB2	**Warramunga Arr**	**48.90**	**258**	*e*P	**P**	**08 34 27.3**	**+0.5**
WRAB	**Tennant Creek**	**48.90**	**258**	*e*P	**P**	**08 34 26.4**	**-0.5**
	3.3nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**48.91**	**258**	P	**P**	**08 34 27.0**	**+0.1**
	2.4nm,0.6s,mb4.4,baz=95,slow=7.5,SNR=43						
ASAR	**Alice Springs**	**49.05**	**253**	P	**P**	**08 34 28.4**	**+0.4**
	21nm,0.7s,baz=87,slow=8.7,SNR=208						
VNDA	**Vanda**	**61.63**	**186**	P	**P**	**08 35 58.6**	**0.0**
	0.7nm,0.7s,mb3.9,baz=45,slow=2.8,SNR=3.9						
QSPA	**South Pole Qui**	**72.95**	**180**	*e*P	**P**	**08 37 12.1**	**+1.9**
	2.5nm,0.7s,mb4.2						
NACB	**Ninganchiao**	**75.03**	**302**	*e*P	**P**	**08 37 16.8**	**-5.6**
NVAR	**Mina Array Bea**	**75.98**	**42**	P	**P**	**08 37 28.7**	**+0.8**
	2.0nm,0.8s,mb4.1,baz=220,slow=8.9,SNR=12						
NVAR	**Mina Array Bea**	**75.98**	**42**	P	**P**	**08 37 28.7**	**+0.8**
MOD	**Modoc**	**76.81**	**38**	*e*P	**P**	**08 37 32.6**	**0.0**
	4.1nm,1.2s,mb4.2						
WVOR	**Wild Horse Val**	**78.12**	**38**	*e*P	**P**	**08 37 40.0**	**+0.1**
	1.0nm,0.9s,mb3.8						
IMW	**Indian Meadow**	**83.61**	**40**	*e*P	**P**	**08 38 09.6**	**+0.3**
	1.1nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**83.91**	**42**	P	**P**	**08 38 10.8**	**0.0**
	1.4nm,0.7s,mb4.2,baz=216,slow=2.7,SNR=15						
ILAR	**Eielson Array**	**84.22**	**11**	P	**P**	**08 38 11.2**	**-1.1**
	0.3nm,0.6s,mb3.6,baz=220,slow=5.2,SNR=5.6						
YKA	**Yellowknife Ar**	**91.88**	**24**	P	**P**	**08 38 47.6**	**-1.5**
	0.1nm,0.6s,mb3.4,baz=227,slow=4.2,SNR=3.8						
KMBO	**Kilima Mbogo**	**144.26**	**243**	PKP	PKPdf	08 45 15.9	-0.8
	2.0nm,0.5s,baz=68,slow=11,SNR=5.8						
BRTR	**Keskin Array B**	**147.08**	**319**	PKPbc	PKPbc	08 45 23.7	0.0
	1.6nm,0.8s,baz=131,slow=3.4,SNR=8.1						

*ATH **01** 08:34:05.2, 3834N×2635E, h36km, MD3.0/3*
*ISCJB **01** 08:34:06.2±0.8, 3839N±003×2665E±005, h14km±7km, Error ellipse: s-maj=6.2km s-min=5.2km az=158.7*
*ISK **01** 08:34:06.2, 3832N×2668E, h24km, MD2.9*
*CSEM **01** 08:34:06.3±0.2, 3838N×2673E, h30km, MD2.9, Error ellipse: s-maj=4.6km s-min=3.6km az=101.0*

ISC 01 08:34:06.2±0.6, 3838N±003×2661E±005, h18km±4km, n14, σ0°77/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.03**	**200**	*i* P	**Pg**	**08 34 08.5**	**-0.9**
URLA				*i* S	**Sg**	**08 34 11.1**	**-0.5**
BLCB	**Balcova**	**0.34**	**90**	PG	**Pg**	**08 34 13.5**	**0.0**
BLCB				SG	**Sg**	**08 34 18.5**	**+0.1**
KDAG	**Bornova**	**0.52**	**88**	*i* P	**Pg**	**08 34 16.7**	**+0.1**
KDAG				*i* S	**Sg**	**08 34 23.9**	**+0.2**
SMG	**Samos**	**0.70**	**165**	*e*PN	**Pb**	**08 34 19.6**	**-0.2**
SMG				*e*SN	**Sg**	**08 34 31.0**	**+1.8**
PRK	**Paraskevi**	**0.90**	**343**	*e*PN	**Pb**	**08 34 22.9**	**-0.3**
PRK				*e*SN	**Sb**	**08 34 35.6**	**+0.8**
AYVA	**Ayvalik**	**0.93**	**4**	*i* P	**Pb**	**08 34 23.8**	**+0.2**
AKS	**Akhisar**	**1.07**	**62**	PG	**Pg**	**08 34 26.4**	**-0.5**
AKS				SG	**Sg**	**08 34 40.3**	**-0.6**
BODT	**Bodrum**	**1.43**	**157**	*e*PN	**Pn**	**08 34 30.3**	**-0.9**
EZN	**Ezine**	**1.46**	**351**	*e*PN	**Pn**	**08 34 32.4**	**+0.9**
BDRM	**Kayabasi**	**1.47**	**153**	*i* P	**Pg**	**08 34 36.0**	**+1.4**
BDRM				*i* S	**Sn**	**08 34 49.8**	**-0.8**
BOZC	**Bozcaada**	**1.52**	**344**	*i* P	**Pn**	**08 34 32.6**	**+0.2**
MANT	**Manisa**	**1.54**	**85**	*i* P	**Pg**	**08 34 36.5**	**+0.7**
MANT				*i* S	**Sg**	**08 34 55.3**	**-0.5**
APE	**Apeiranthos**	**1.57**	**213**	*e*PN	**Pn**	**08 34 32.7**	**-0.3**
APE	**Apeiranthos**	**1.57**	**213**	*e*PN	**Pn**	**08 34 30.6**	**-2.4**

*NIED **01** 08:48:00, 4420N×14820E, h65km, Mw4.3 Best double couple: M03.05000×10^15 NP1:φ8192.00000°, δ65.00000°, λ-54.00000°. NP2:φ8312.00000°, δ43.00000°, λ-141.00000°.*
*SKHL **01** 08:48:10.8±1.0, 4463N×14864E, h45km±14km, mb5.2/7*
SKHL Felt (II-III) at Kurilsk.
*MOS **01** 08:48:11.0±1.1, 4456N×14830E, h55km, mb4.6/13, Error ellipse: s-maj=10.0km s-min=7.0km az=83.5*
MOS Felt (II-III) at Kuril'sk.
*JMA **01** 08:48:12.1±0.3, 4416N×14825E, h0km, M5.4*
*BJI **01** 08:48:12.9, 4453N×14829E, h67km, mB4.7, mb4.7, Ms4.1, Msz3.7*
*ISCJB **01** 08:48:12.2±0.5, 4457N±004×14834E±005, h65km±4km, mb4.3/45, Error ellipse: s-maj=7.4km s-min=4.3km az=95.4*
*IDC **01** 08:48:13.1±4.3, 4465N×14827E, h55km±39km, mb3.8/15, mb1 4.0/16, mb1mx3.9/23, mbtmp4.0/16, ML4.2/1, MS3.2/4, Ms1 3.3/4, ms1mx2.9/26, Error ellipse: s-maj=19.3km s-min=14.5km az=127.0*
*NEIC **01** 08:48:13.5±0.8, 4462N×14824E, h59km±8km, mb4.5/24, Error ellipse: s-maj=7.5km s-min=5.7km az=151.0*
NEIC Felt [III] at Kuril'sk.

ISC 01 08:48:14.1±0.5, 4462N±004×14827E±005, h65km±4km, h62km±6km: pP-P, n148, σ1°14/169, mb4.3/45, 7C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.68**	**335**	↓*i*P	**Pn**	**08 48 24.6**	**-3.8**
KUR				*i* P		08 48 24.6	
KUR				AMB	AMB	08 48 25.0	
	3μm,0.3s						
KUR				AMB	AMB	08 48 25.0	
	2μm,0.3s						
KUR				AMB	AMB	08 48 25.0	
	8μm,0.3s						
KUR				AMB	AMB	08 48 25.4	
	8μm,2.0s						
KUR				AMB	AMB	08 48 25.4	
	2μm,2.0s						
KUR				AMB	AMB	08 48 25.4	
	18μm,2.0s						
KUR				*e*S	**Sn**	**08 48 35.7**	**-3.2**
KUR				A		08 48 40.0	
	12μm,1.6s						
KUR				A		08 48 40.0	
	24μm,1.6s						
KUR	**Kuril'sk**	**0.68**	**335**	*i*PN	**Pn**	**08 48 24.6**	**-3.8**
KUR				*e*S	**Sn**	**08 48 35.7**	**-3.2**
KUR				pmax	pmax		
	comp=N,3μm,0.3s						
KUR				pmax	pmax		
	comp=E,2μm,0.3s						
KUR				pmax	pmax		
	comp=Z,8μm,0.3s						
KUR				pmax	pmax		
	comp=N,8μm,1.5s						
KUR				pmax	pmax		
	comp=E,2μm,1.5s						
KUR				pmax	pmax		
	comp=Z,18μm,1.5s						
KUR				smax			
	comp=E,21μm,1.6s						
KUR				smax			
	comp=N,13μm,0.3s						
KUR				smax			
	comp=E,9μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.83**	**252**	*e*P	**Pn**	**08 48 43.2**	**-0.1**
YUK				AMB	AMB	08 48 44.2	
	comp=E,5μm,0.3s						
YUK				AMB	AMB	08 48 44.5	
	comp=E,1μm,0.2s						
YUK				AMB	AMB	08 48 44.5	
	comp=E,800nm,0.2s						
YUK				AMB	AMB	08 48 44.5	
	comp=E,4μm,0.2s						
YUK				*i* S	**Sn**	**08 49 06.7**	**+1.3**
YUK				A		08 49 15.0	
	comp=E,16μm,1.0s						
YUK				A		08 49 15.0	
	comp=E,14μm,1.0s						
YUK				A		08 49 16.5	
	comp=E,9μm,0.4s						
YUK				A		08 49 16.5	
	comp=E,6μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.83**	**252**	*e*PN	**Pn**	**08 48 43.2**	**-0.1**
YUK				*i* S	**Sn**	**08 49 06.7**	**+1.3**
YUK				pmax	pmax		
	comp=Z,5μm,0.3s						
YUK				pmax	pmax		
	comp=Z,4μm,0.3s						
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,800nm,0.3s						
YUK				smax			
	comp=N,16μm,1.0s						
YUK				smax			
	comp=E,14μm,0.6s						
YUK				smax			
	comp=N,9μm,0.3s						
YUK				smax			
	comp=E,6μm,0.5s						
NEM2	**Nemuro 2**	**2.21**	**236**	P	**Pn**	**08 48 47.3**	**-1.2**
NEM2				*e*S	**Sn**	**08 49 12.9**	**-1.9**
JRA	**Rausu**	**2.36**	**254**	P	**Pn**	**08 48 51.4**	**+0.9**
JRA				*e*S	**Sn**	**08 49 20.2**	**+1.8**
JNK	**Nakash**	**2.76**	**249**	P	**Pn**	**08 48 56.7**	**+0.8**
JNK				*e*S	**Sn**	**08 49 29.1**	**+1.0**
JAK	**Akkeshi**	**3.05**	**239**	P	**Pn**	**08 48 59.3**	**-0.6**
JAK				*e*S	**Sn**	**08 49 34.0**	**-1.3**
JTKR	**Abashiri--Toko**	**3.20**	**260**	P	**Pn**	**08 49 03.0**	**+1.1**
JAR	**Ashorobuto**	**3.51**	**249**	P	**Pn**	**08 49 07.5**	**+1.3**
JAR				*e*S	**Sn**	**08 49 48.6**	**+2.2**
JKK2	**Kamakawa 2**	**4.04**	**261**	P	**Pn**	**08 49 15.5**	**+2.1**
JSE	**Soyaes**	**4.07**	**277**	P	**Pn**	**08 49 16.1**	**+2.4**
JCH	**Churui**	**4.09**	**242**	P	**Pn**	**08 49 14.2**	**+0.1**
JCH				*e*S	**Sn**	**08 50 01.2**	**+0.6**
ASAJ	**Asahikawa**	**4.10**	**265**	P	**Pn**	**08 49 16.6**	**+2.4**
	comp=E,14nm,0.3s,baz=57,slow=21,SNR=41						
ASAJ				S	**Sn**	**08 50 17.0**	**+16**
	comp=E,12nm,0.3s,baz=60,slow=20,SNR=2.4						
ASAJ				LR	LR	08 51 01.1	
	comp=E,371nm,21.4s,baz=179,slow=41						
YSS	**Yuzh-Sakhalins**	**4.51**	**303**	↓*e*P	**Pn**	**08 49 21.0**	**+1.1**
YSS				AMB	AMB	08 49 22.0	
	comp=E,50nm,0.5s						
YSS				AMB	AMB	08 49 22.0	
	comp=E,40nm,0.5s						
YSS				AMB	AMB	08 49 22.0	
	comp=E,110nm,0.5s						
YSS				*e*S	**Sn**	**08 50 09.6**	**-1.4**
YSS				A		08 50 15.2	
	comp=E,370nm,0.9s						
YSS				A		08 50 15.2	
	comp=E,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.51**	**303**	↓*e*PN	**Pn**	**08 49 21.0**	**+1.1**
YSS				*e*S	**Sn**	**08 50 09.6**	**-1.4**
YSS				pmax	pmax		
	comp=N,40nm,0.5s						
YSS				pmax	pmax		
	comp=E,110nm,0.5s						
YSS				pmax	pmax		
	comp=Z,50nm,0.5s						
YSS				smax			
	comp=N,370nm,0.9s						
YSS				smax			
	comp=E,300nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.51**	**303**	*e*Pn	**Pn**	**08 49 20.9**	**+1.0**
YSS				Sn	**Sn**	**08 50 09.8**	**-1.3**
JWK2	**Keihoku**	**4.58**	**281**	P	**Pn**	**08 49 25.3**	**+4.5**
JNBK	**Urakawa-nobuka**	**4.65**	**242**	P	**Pn**	**08 49 21.7**	**0.0**
JYG	**Yagishiri**	**4.90**	**270**	P	**Pn**	**08 49 27.7**	**+2.5**
JEW	**Eniwo**	**5.25**	**253**	P	**Pn**	**08 49 32.8**	**+2.8**
JKB	**Kayabe**	**5.95**	**245**	P	**Pn**	**08 49 40.1**	**+0.6**
JKB				*e*S	**Sn**	**08 50 45.0**	**-1.3**
JOT	**Ohata**	**6.21**	**241**	P	**Pn**	**08 49 42.6**	**-0.4**
JOT				*e*S	**Sn**	**08 50 49.6**	**-3.0**
JANG	**Nango**	**6.55**	**232**	P	**Pn**	**08 49 45.7**	**-2.1**
JANG				*e*S	**Sn**	**08 50 54.9**	**-6.1**
JTH	**Tanohata**	**6.67**	**228**	S	**Sn**	**08 50 56.8**	**-7.0**
TYV	**Tymovskoe**	**7.31**	**331**	*e*P	**Pn**	**08 49 59.0**	**+0.9**
TYV				AMB	AMB	08 50 02.0	
	comp=E,35nm,1.0s						
TYV				AMB	AMB	08 50 02.0	
	comp=E,64nm,1.0s						
SKR	**Severo-Kuril's**	**8.05**	**38**	*e*P	**Pn**	**08 50 04.0**	**-4.3**
HABR	**Khabarovsk**	**9.89**	**298**	*e*PN	**Pn**	**08 50 38.4**	**+5.0**
HABR				*e*S	**Sn**	**08 52 28.6**	**+5.8**
HABR				pmax	pmax		
	comp=Z,60nm,1.6s						
JSD	**Sado**	**9.99**	**232**	P	**Pn**	**08 50 33.8**	**-1.0**
JAG	**Ashikaga**	**10.58**	**222**	P	**Pn**	**08 50 40.9**	**-1.9**
JJN	**Nakama**	**10.71**	**229**	P	**Pn**	**08 50 44.0**	**-0.7**
PET	**Petropavlovsk**	**10.83**	**35**	↑*e*PN	**Pn**	**08 50 47.6**	**+1.3**
MJAR	**Matsushiro Arr**	**11.11**	**227**	P	**Pn**	**08 50 48.5**	**-1.6**
	comp=Z,1.5nm,0.3s,baz=28,slow=14,SNR=22						
MJAR				LR	LR	08 55 35.0	
	comp=Z,73nm,21.0s,baz=50,slow=40						
MJAR	**Matsushiro Arr**	**11.11**	**227**	P	**Pn**	**08 50 48.5**	**-1.6**
MJAR				LR	LR	08 55 35.0	
MAJO	**Matsushiro**	**11.11**	**227**	*e*PN	**Pn**	**08 50 48.7**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,12nm,0.5s						
MAJO	**Matsushiro**	**11.11**	**227**	*e*Pn	**Pn**	**08 50 48.7**	**-1.4**
	comp=Z,12nm,0.5s						
MAT	**Matsushiro**	**11.11**	**227**	P	**Pn**	**08 50 48.6**	**-1.5**
MAT				*e*S	**Sn**	**08 52 52.0**	**-0.6**
MAT	**Matsushiro**	**11.11**	**227**	*e*PN	**Pn**	**08 50 49.0**	**-1.1**
MAT				*e*S	**Sn**	**08 53 02.0**	**+9.4**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAT	**Matsushiro**	**11.11**	**227**	*e*P	**Pn**	**08 50 49.0**	**-1.1**
	comp=Z,6.8nm,0.7s						
MAT				*e*S	**Sn**	**08 53 02.0**	**+9.4**
JNG	**Nsakai**	**11.27**	**227**	P	**Pn**	**08 50 51.2**	**-1.0**
VLA	**Vladivostok**	**11.92**	**269**	↓*e*PN	**Pn**	**08 51 02.8**	**+1.7**
KLR	**Kul'dur**	**12.20**	**298**	*e*P	**Pn**	**08 51 05.2**	**+0.3**
JNY	**Yasuok**	**12.21**	**224**	P	**Pn**	**08 51 04.3**	**-0.7**
EKMR	**Ekimchan**	**13.15**	**315**	*e*P	**Pn**	**08 51 15.9**	**-1.9**
EKMR				AMB	AMB	08 51 17.1	
	comp=Z,21nm,0.9s						
EKMR				AMB	AMB	08 51 17.1	
	comp=Z,16nm,0.9s						
EKMR				AMB	AMB	08 51 17.1	
	comp=Z,28nm,0.9s						
MDJ	**Mudanjiang**	**13.31**	**277**	P	**Pn**	**08 51 18.2**	**-1.9**
MDJ				AP		08 51 28.0	
MDJ				XP		08 51 36.5	
MDJ				S	**Sn**	**08 53 44.4**	**-1.9**
MDJ				PCP	PcP	08 56 44.4	-0.3
MDJ				SCP	ScP	09 00 12.6	+0.3
MDJ				AMB	AMB		
	comp=Z,20nm,3.8s						
MDJ				LR	LR		
	comp=N,100nm,18.1s						
MDJ				LR	LR		
	comp=E,80nm,22.2s						
MDJ				LR	LR		
	comp=Z,140nm,18.3s						
MA2	**Magadan**	**15.06**	**5**	↓*e*P	**Pn**	**08 51 43.3**	**+0.3**
MA2				pmax	pmax		
	comp=Z,12nm,1.7s						
YASR	**Yasnyy**	**15.86**	**310**	*e*P	**Pn**	**08 51 51.4**	**-1.8**
YASR				AMB	AMB	08 51 52.7	
	comp=Z,11nm,0.9s						
CN2	**Changchun**	**16.38**	**275**	*e*P	**Pn**	**08 52 00.3**	**+0.5**
ZEA	**Zeya**	**16.45**	**311**	*e*P	**Pn**	**08 51 58.2**	**-2.4**
ZEA				AMB	AMB	08 51 59.8	
	comp=Z,26nm,1.0s						
ZEA				sP	sP	08 52 16.1	-8.0
KROS	**Kirovskiy**	**16.90**	**313**	*e*P	**Pn**	**08 52 02.6**	**-3.6**
KROS				AMB	AMB	08 52 04.0	
	comp=Z,3.0nm,0.7s						
SNY	**Shenyang**	**18.20**	**270**	*e*P	**Pn**	**08 52 22.7**	**+0.6**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s						
YAK	**Yakutsk**	**20.54**	**335**	*e*P	**P**	**08 52 51.5**	**+4.4**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,13nm,1.4s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.5s						
YAK	**Yakutsk**	**20.54**	**335**	*e*P	**P**	**08 52 46.9**	**-0.2**
	comp=E,21nm,0.4s						
SSE	**Sheshan**	**25.15**	**247**	P	**P**	**08 53 33.3**	**+0.2**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,110nm,3.7s						
BILL	**Bilibino**	**25.30**	**16**	↓*e*P	**P**	**08 53 34.8**	**+0.3**
NJ2	**Nanjing**	**26.11**	**251**	*e*P	**P**	**08 53 42.2**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
HHC	**Hu-ho-hao-te**	**27.08**	**275**	*e*P	**P**	**08 53 52.3**	**+1.8**
HHC				AP	pP	08 54 06.9	+0.8
HHC				XP	sP	08 54 14.2	+0.4
HHC				PP		08 54 40.1	
HHC				PCP	PcP	08 57 12.6	+2.6
HHC				S	**S**	**08 58 23.4**	**-0.4**
HHC				XS	sS	08 58 48.5	-2.2
HHC				SS		08 59 41.2	
HHC				SCP	ScP	09 00 46.3	+1.7
HHC				SCS	ScS	09 04 35.0	-0.8
HHC				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,90nm,6.9s						
HHC				LR	LR		
	comp=N,70nm,10.6s						
HHC				LR	LR		
	comp=E,60nm,7.6s						
HHC				LR	LR		
	comp=Z,80nm,15.5s						
BTO	**Baotou**	**28.26**	**275**	*e*P	**P**	**08 54 05.8**	**+4.8**
ULN	**Ulaanbaatar**	**28.45**	**291**	*e*P	**P**	**08 54 03.2**	**+0.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**28.45**	**291**	*e*P	**P**	**08 54 03.2**	**+0.4**
	comp=Z,1.7nm,0.6s,mb3.8						
TIXI	**Tiksi**	**28.68**	**347**	↓*e*P	**P**	**08 54 00.8**	**-4.0**
SONM	**Songino Array**	**28.89**	**291**	P	**P**	**08 54 07.2**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.6,baz=84,slow=8.6,SNR=7.1						
SONM				LR	LR	09 06 16.4	
	comp=Z,73nm,19.3s,baz=323,slow=38						
TLY	**Talaya**	**30.21**	**300**	*e*P	pP	08 54 30.6	-3.5
TLY				*e*S	**S**	**08 59 22.7**	**+10**
TLY				*e*SS	SS	09 00 50.5	-33
TLY				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
TLY				MLR	MLR		
	comp=Z,57nm,19.0s						
LZH	**Lanzhou**	**34.56**	**271**	*e*P	**P**	**08 54 57.9**	**+1.6**
LZH				AP	pP	08 55 13.5	+1.2
LZH				XP	sP	08 55 20.2	+0.3
LZH				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
LZH				AMB	AMB		
	comp=Z,70nm,4.0s						
GTA	**Gaotai**	**35.95**	**279**	*e*P	**P**	**08 55 09.2**	**+0.9**
GTA				AP	pP	08 55 24.5	+0.2
GTA				XP	sP	08 55 31.6	-0.3
GTA				PP	PP	08 56 30.9	-0.2
GTA				PPP		08 56 51.0	
GTA				PCP	PcP

CD2				AP	pP	08 55 35.1	-0.7
CD2				PP	PP	08 56 48.5	+2.6
CD2				S	**S**	**09 01 01.9**	**-0.7**
CD2				XS	sS	09 01 27.7	-2.2
CD2				SS	SS	09 03 35.4	-11
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.6s						
CD2				LR	LR		
	comp=N,160nm,6.0s						
CD2				LR	LR		
	comp=Z,170nm,7.2s						
GYA	**Guiyang**	**37.92**	**256**	P	**P**	**08 55 24.8**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
KDAK	**Kodiak Island**	**38.07**	**48**	*e*P	**P**	**08 55 31.8**	**+5.6**
COLA	**College**	**39.90**	**37⇑**	*e*P	**P**	**08 55 41.9**	**+0.4**
ILAR	**Eielson Array**	**40.31**	**37**	P	**P**	**08 55 44.1**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=270,slow=8.4,SNR=15						
KMI	**Kunming**	**41.49**	**258**	P	**P**	**08 55 55.9**	**+1.2**
KMI				AP	pP	08 56 10.9	-0.1
KMI				XP	sP	08 56 18.1	-0.4
KMI				S	**S**	**09 02 05.9**	**+0.5**
KMI				XS	sS	09 02 34.5	+1.4
KMI				SS	SS	09 05 06.2	-5.8
KMI				AMB	AMB		
	comp=Z,40nm,4.5s						
KMI				LR	LR		
	comp=N,100nm,13.4s						
KMI				LR	LR		
	comp=E,100nm,15.1s						
KMI				LR	LR		
	comp=Z,80nm,16.7s						
WMQ	**Urumqi**	**42.53**	**291**	*e*P	**P**	**08 56 05.2**	**+2.0**
WMQ				LR	LR		
	comp=Z,60nm,20.0s						
MKAR	**Makanchi Array**	**44.90**	**297**	P	**P**	**08 56 22.4**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.5,baz=79,slow=10,SNR=6.5						
MKAR				PcP	PcP	08 58 02.8	+0.1
	comp=Z,0.7nm,0.6s,baz=64,slow=4.2,SNR=4.5						
INK	**Inuvik**	**45.25**	**31**	P	**P**	**08 56 24.4**	**-0.5**
	comp=Z,1.0nm,0.4s,mb3.9,baz=308,slow=4.4,SNR=14						
INK	**Inuvik**	**45.25**	**31**	P	**P**	**08 56 24.4**	**-0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**45.25**	**31**	*e*P	**P**	**08 56 24.3**	**-0.6**
	comp=Z,1.2nm,0.6s,mb3.8						
KURK	**Kurchatov**	**45.72**	**304⇑**	*e*P	**P**	**08 56 28.2**	**-0.4**
KURK	**Kurchatov**	**45.72**	**304**	*e*P	**P**	**08 56 27.7**	**-0.9**
	comp=Z,1.0nm,0.5s,mb3.8						
CHKZ	**Chkalovo**	**49.20**	**310**	*e*P	**P**	**08 56 53.5**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**49.20**	**310**	*e*P	**P**	**08 56 53.5**	**-2.1**
	comp=Z,0.6nm,0.5s,mb3.8						
ZRNK	**Zerenda**	**50.38**	**309**	*e*P	**P**	**08 57 03.8**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**50.38**	**309**	*e*P	**P**	**08 57 03.8**	**-0.8**
	comp=Z,1.0nm,0.4s,mb4.1						
JIRN	**Jiri**	**51.70**	**273**	*e*P	**P**	**08 57 15.4**	**+0.9**
	comp=Z,11nm,0.4s,mb5.2						
GUN	**Gumba**	**51.77**	**273**	*e*P	**P**	**08 57 15.7**	**+0.7**
	comp=Z,18nm,0.4s						
KKN	**Kakani**	**52.27**	**274**	*e*P	**P**	**08 57 19.8**	**+1.1**
	comp=Z,21nm,0.8s,mb5.2						
KKN	**Kakani**	**52.27**	**274**	*e*P	**P**	**08 57 19.8**	**+1.1**
KKN				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
PKI	**Pulchoki**	**52.31**	**273**	*e*P	**P**	**08 57 19.5**	**+0.5**
DMN	**Daman**	**52.50**	**274**	*e*P	**P**	**08 57 21.2**	**+0.8**
	comp=Z,13nm,0.5s,mb5.2						
GKN	**Gorkha**	**52.60**	**274**	*e*P	**P**	**08 57 21.7**	**+0.5**
KOLN	**Koldanda**	**53.48**	**275**	*e*P	**P**	**08 57 28.3**	**+0.7**
	comp=Z,29nm,1.1s,mb5.2						
RES	**Resolute Bay**	**53.91**	**17**	*e*P	**P**	**08 57 28.7**	**-2.0**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
RES	**Resolute Bay**	**53.91**	**17**	*e*P	**P**	**08 57 28.7**	**-2.1**
	comp=Z,2.4nm,0.8s,mb4.3						
ARU	**Arti**	**54.27**	**317⇑**	*e*P	**P**	**08 57 32.5**	**-0.9**
ARU				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
YKA	**Yellowknife Ar**	**54.63**	**34**	P	**P**	**08 57 35.0**	**-1.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=300,slow=7.1,SNR=8.4						
YKA	**Yellowknife Ar**	**54.63**	**34⇑**	*e*P	**P**	**08 57 35.7**	**-0.3**
YKA	**Yellowknife Ar**	**54.63**	**34**	P	**P**	**08 57 35.0**	**-1.0**
ARCES	**ARCESS Array B**	**58.72**	**340**	LR	LR	09 26 41.0	
	comp=Z,31nm,21.5s,baz=236,slow=39						
NEW	**Newport**	**61.15**	**49**	*e*P	**P**	**08 58 22.2**	**+0.5**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NEW	**Newport**	**61.15**	**49**	*e*P	**P**	**08 58 22.1**	**+0.5**
	comp=Z,1.6nm,0.5s,mb4.3						
JOF	**Joensuu**	**61.70**	**332**	*e*p	**P**	**08 58 24.5**	**-0.9**
	comp=Z,1.7nm,0.5s,mb4.3						
WALA	**Waterton Lakes**	**62.40**	**47**	*e*P	**P**	**08 58 30.6**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**64.47**	**333**	P	**P**	**08 58 43.1**	**-0.6**
	comp=Z,1.5nm,0.5s,mb4.1,baz=51,slow=7.2,SNR=16						
FFC	**Flin Flon**	**64.52**	**37**	*e*P	**P**	**08 58 43.9**	**-0.2**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
FFC	**Flin Flon**	**64.52**	**37**	*e*P	**P**	**08 58 43.9**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.1						
FCC	**Fort Churchill**	**64.87**	**31**	*e*P	**P**	**08 58 45.4**	**-0.9**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
FCC	**Fort Churchill**	**64.87**	**31**	*e*P	**P**	**08 58 45.4**	**-1.0**
	comp=Z,2.6nm,0.5s,mb4.3						
HRY	**Holter Researc**	**64.95**	**48**	*e*P	**P**	**08 58 47.5**	**+0.7**
OBN	**Obninsk**	**65.09**	**324**	*e*P	**P**	**08 58 47.2**	**-0.6**
LRM	**Limekiln Ridge**	**65.17**	**50**	*e*P	**P**	**08 58 49.0**	**+0.7**
EGMT	**Eagleton**	**65.21**	**46**	*e*P	**P**	**08 58 48.9**	**+0.4**
	comp=Z,4.1nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**65.48**	**194⇓**	*e*P	**P**	**08 58 49.2**	**-1.1**
WRAB	**Tennant Creek**	**65.48**	**194**	*e*P	**P**	**08 58 50.3**	**0.0**
	comp=Z,6.5nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**65.49**	**194**	P	**P**	**08 58 50.4**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=9.8,slow=6.8,SNR=17						
BOZ	**Bozeman (W)**	**65.73**	**49**	*e*P	**P**	**08 58 52.8**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
BOZ	**Bozeman (W)**	**65.73**	**49**	*e*P	**P**	**08 58 52.8**	**+0.9**
	comp=Z,3.9nm,0.6s,mb4.4						
NVAR	**Mina Array Bea**	**66.44**	**59**	P	**P**	**08 58 57.4**	**+0.9**
	comp=Z,1.0nm,0.8s,mb3.7,baz=297,slow=5.5,SNR=7.9						
BW06	**Boulder Array**	**68.73**	**51**	*e*P	**P**	**08 59 11.3**	**+0.4**
	comp=Z,1.1nm,0.5s,mb3.9						
PDAR	**Pinedale Array**	**68.73**	**51**	P	**P**	**08 59 11.2**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.8,baz=280,slow=1.8,SNR=11						
NB2	**NORSAR Subarra**	**69.08**	**339**	P	**P**	**08 59 11.9**	**-1.2**
	comp=Z,1.5nm,0.5s,mb4.1,baz=29,slow=6.2						
NOA	**NORSAR Array B**	**69.08**	**339**	P	**P**	**08 59 12.1**	**-1.0**
	comp=Z,2.7nm,0.4s,mb4.4,baz=30,slow=6.3,SNR=11						
ASAR	**Alice Springs**	**69.21**	**194**	P	**P**	**08 59 14.6**	**+0.7**
	comp=Z,1.0nm,0.5s,mb3.9,baz=10,slow=6.1,SNR=21						
KIV	**Kislovodsk**	**69.79**	**312**	*i* P	**P**	**08 59 16.7**	**-0.7**
ULM	**Lac du Bonnet**	**70.32**	**38**	P	**P**	**08 59 19.9**	**-0.7**
	comp=Z,1.3nm,0.4s,mb4.1,baz=316,slow=5.0,SNR=6.8						
AKASG	**Malin Array Be**	**71.36**	**324**	*i* P	**P**	**08 59 18.3**	**-8.7**
EKA	**Eskdalemuir Ar**	**77.52**	**344**	P	**P**	**09 00 02.0**	**-0.7**
	comp=Z,1.8nm,0.5s,mb4.1,baz=24,slow=4.6,SNR=7.3						
BRTR	**Keskin Array B**	**77.53**	**314**	P	**P**	**09 00 03.1**	**+0.3**
	comp=Z,1.1nm,0.8s,mb3.6,baz=87,slow=4.2,SNR=5.5						
KHC	**Kasperske Hory**	**78.59**	**332**	*e*P	**P**	**09 00 07.0**	**-1.6**
GERES	**GERESS Array B**	**78.79**	**331**	P	**P**	**09 00 09.3**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.4,baz=18,slow=6.6,SNR=5.0						
GDL2	**Guadalupe Moun**	**79.02**	**56**	*e*P	**P**	**09 00 14.1**	**+3.1**
GDL2				*e*pP	pP	09 00 43.4	+15
BFO	**Black Forest**	**81.00**	**334**	*e*P	**P**	**09 00 22.5**	**+0.8**
LTX	**Lajitas**	**81.50**	**57**	*e*P	**P**	**09 00 24.9**	**+0.6**
LTX				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
LTX	**Lajitas**	**81.50**	**57**	*e*P	**P**	**09 00 24.9**	**+0.6**
	comp=Z,1.9nm,0.4s,mb4.3						
GRR	**Gorron**	**83.50**	**340**	*e*P	**P**	**09 00 34.2**	**-0.6**
	comp=Z,8.8nm,0.5s,mb4.5						
GRR	**Gorron**	**83.50**	**340**	*e*P	**P**	**09 00 34.2**	**-0.6**
GRR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
GRR	**Gorron**	**83.50**	**340**	*e*P	**P**	**09 00 34.2**	**-0.6**
	comp=Z,4.4nm,0.5s,mb4.5						
SMF	**Signal de Mont**	**83.85**	**336**	*e*P	**P**	**09 00 36.0**	**-0.5**
AVF	**Avril sur Loir**	**83.86**	**337**	*e*P	**P**	**09 00 36.0**	**-0.6**
SGMF	**Saint Gilles**	**84.04**	**341**	*e*P	**P**	**09 00 37.1**	**-0.4**
	comp=Z,22nm,0.8s,mb4.7						
SGMF	**Saint Gilles**	**84.04**	**341**	*e*P	**P**	**09 00 37.1**	**-0.4**
SGMF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
SGMF	**Saint Gilles**	**84.04**	**341**	*e*P	**P**	**09 00 37.1**	**-0.4**
	comp=Z,11nm,0.8s,mb4.7						
ROSF	**Rostrenen**	**84.12**	**341**	*e*P	**P**	**09 00 37.7**	**-0.2**
EIL	**Elat**	**84.34**	**307**	*e*P	**P**	**09 00 39.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**114.99**	**324**	PKP	PKiKP	09 06 46.8	-0.8
	comp=Z,0.2nm,0.5s,baz=16,slow=1.0,SNR=8.8						
QSPA	**South Pole Qui**	**134.35**	**180**	*e*P	PKPdf	09 07 24.3	-0.2
VNA2	**Neumayer--Watz**	**151.04**	**196⇑**	*i*PKPdf	PKPdf	09 07 58.8	+5.1
	baz=113,slow=1.1						
VNA2				*e*		09 08 04.8	
VNA2				*e*		09 08 08.7	
VNA2				*e*		09 08 13.0	
VNA2				*e*		09 08 16.7	
VNA2				*e*		09 08 27.1	
VNA2				*e*		09 08 33.0	
VNA3	**Neumayer Olymp**	**151.22**	**195⇑**	*i*PKPdf	PKPdf	09 07 59.1	+5.1
VNA3				*e*		09 08 05.2	
VNA3				*e*		09 08 16.4	
VNA3				*e*		09 08 26.7	
VNA3				*e*		09 08 33.0	

*IDC **01** 09:17:28.4±1.1, 1642S×17221W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, ML4.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/31, Error ellipse: s-maj=41.3km s-min=19.4km az=143.0*
*ISCJB **01** 09:17:33.4±0.7, 159S±0.1×172.7W±02, h33km, mb4.0/8, MS3.0/1, Error ellipse: s-maj=29.4km s-min=8.2km az=64.5*
*NEIC **01** 09:17:36.4±0.6, 1603S×17261W, h45km, mb4.3/2, Error ellipse: s-maj=27.0km s-min=13.7km az=132.0*
ISC 01 09:17:35.1±0.8, 159S±01×1726W±02, h35km, n17, σ1°00/13, mb4.0/8, MS3.0/1, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**21**	Pn	**Pn**	**09 18 09.1**	**+0.5**
	16nm,0.3s,baz=223,slow=7.0,SNR=14						
AFI				Sn	**Sn**	**09 18 33.4**	**-0.7**
	48nm,0.3s,baz=92,slow=11,SNR=9.1						
RAR	**Rarotonga**	**13.22**	**115**	Pn	**Pn**	**09 20 28.7**	**-12**
	2.5nm,0.3s,baz=273,slow=4.8,SNR=6.2						
DZM	**Mont Dzumac**	**20.74**	**250**	P	**P**	**09 22 11.6**	**-1.0**
	4.2nm,1.0s,baz=102,slow=20,SNR=2.5						
PPT	**Papeete**	**22.08**	**97**	*e*LR	LR	09 27 24.6	
	83nm,25.2s						
TBI	**Tubuai**	**22.96**	**112**	*e*LR	LR	09 27 49.6	
	74nm,29.5s						
URZ	**Urewera**	**24.02**	**200**	P	**P**	**09 22 47.2**	**+0.6**
	3.7nm,0.4s,mb4.2,baz=356,slow=18,SNR=6.3						
PMG	**Port Moresby**	**39.77**	**274**	LR	LR	09 38 18.1	
	comp=Z,23nm,20.2s,MS3.0,baz=196,slow=31						
STKA	**Stephens Creek**	**44.46**	**241**	P	**P**	**09 25 40.3**	**-2.4**
	3.6nm,0.9s,mb4.1,baz=86,slow=14,SNR=2.8						
STKA	**Stephens Creek**	**44.46**	**241**	*e*P	**P**	**09 25 41.5**	**-1.2**
WRA	**Warramunga Arr**	**50.50**	**257**	P	**P**	**09 26 30.9**	**+1.3**
	0.2nm,0.4s,mb3.5,baz=93,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**50.70**	**252**	P	**P**	**09 26 32.4**	**+1.2**
	2.4nm,0.6s,mb4.3,baz=91,slow=8.0,SNR=51						
QSPA	**South Pole Qui**	**74.11**	**180**	*e*P	**P**	**09 29 06.4**	**-1.3**
	6.6nm,1.3s,mb4.4						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	**P**	**09 29 09.2**	**+0.9**
	0.6nm,0.7s,mb3.6,baz=231,slow=12,SNR=6.0						
COLA	**College**	**82.75**	**10**	*e*P	**P**	**09 29 55.5**	**+0.2**
	1.2nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**82.82**	**11**	P	**P**	**09 29 55.5**	**-0.2**
	0.6nm,0.6s,mb3.8,baz=230,slow=6.5,SNR=10.0						
GERES	**GERESS Array B**	**146.79**	**352**	PKPbc	PKPbc	09 37 13.9	+0.5
	0.2nm,0.2s,baz=1.9,slow=2.9,SNR=4.3						
BRTR	**Keskin Array B**	**147.08**	**321**	PKPbc	PKPbc	09 37 15.8	+1.6
	0.9nm,0.6s,baz=136,slow=4.5,SNR=4.3						

*ISK **01** 09:32:23.6, 3697N×2803E, h16km, MD3.1*
*ISCJB **01** 09:32:24.0±0.5, 3695N±002×2806E±003, h8km±4km, Error ellipse: s-maj=4.2km s-min=3.8km az=130.4*
*CSEM **01** 09:32:24.0±0.1, 3699N×2807E, h8km, MD3.1, Error ellipse: s-maj=2.6km s-min=1.9km az=46.0*
*NEIC **01** 09:32:25.7, 3693N×2794E, h22km, MD3.2(ISK), MD3.4(ATH), After ATH.*
*ATH **01** 09:32:25.8, 3692N×2792E, h21km±4km, MD3.4/5*
ISC 01 09:32:24.4±0.5, 3693N±003×2805E±003, h8km±4km, n27, σ0°92/39, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.27**	**43**	*i* PG	**Pg**	**09 32 29.6**	**-0.2**
YER				*i* SG	**Sg**	**09 32 34.2**	**+0.7**
MLSB	**Milas**	**0.42**	**329**	PG	**Pg**	**09 32 32.0**	**-0.7**
MLSB				SG	**Sg**	**09 32 37.9**	**-0.3**
DAT	**Datca**	**0.43**	**242**	PG	**Pg**	**09 32 32.5**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.50**	**109**	PG	**Pg**	**09 32 34.7**	**+0.6**
BDRM	**Kayabasi**	**0.50**	**285**	*i* P	**Pg**	**09 32 33.7**	**-0.5**
BDRM				*i* S	**Sg**	**09 32 41.3**	**+0.5**
BODT	**Bodrum**	**0.61**	**282**	PG	**Pg**	**09 32 35.8**	**-0.4**
ARG	**Arkhangelos**	**0.72**	**175**	*e*PB	**Pb**	**09 32 39.0**	**-0.2**
ARG	**Arkhangelos**	**0.72**	**175**	*e*Pb	**Pb**	**09 32 38.5**	**-0.7**
NISR	**Nisiros**	**0.81**	**247**	*e*PN	**Pg**	**09 32 40.0**	**0.0**
NISR	**Nisiros**	**0.81**	**247**	*e*Pn	**Pg**	**09 32 40.6**	**+0.6**
FETY	**Fethiye**	**0.88**	**110**	PG	**Pg**	**09 32 41.4**	**+0.1**
DNZL	**Cakiroluk**	**1.09**	**46**	*i* P	**Pg**	**09 32 44.6**	**-0.9**
DNZL				*i* S	**Sg**	**09 32 58.3**	**-1.3**
DENT	**Denizli**	**1.13**	**43**	PN	**Pn**	**09 32 45.3**	**-1.2**
SMG	**Samos**	**1.24**	**309**	*e*PN	**Pn**	**09 32 47.5**	**-0.5**
SMG				*e*SN	**Sn**	**09 33 04.3**	**-0.6**
SMG	**Samos**	**1.24**	**309**	*e*Pb	**Pb**	**09 32 47.0**	**-1.0**
SMG				*e*Sn	**Sn**	**09 33 04.3**	**-0.6**
KSL	**Kastellorizon**	**1.46**	**122**	*e*PN	**Pg**	**09 32 54.5**	**+2.1**
ELL	**Elmali**	**1.50**	**97**	*e*PN	**Pn**	**09 32 51.5**	**-0.1**
KARP	**Karpathos**	**1.56**	**208**	*e*PN	**Pn**	**09 32 53.0**	**+0.6**
KARP				*e*SN	**Sn**	**09 33 13.7**	**+0.9**
KARP	**Karpathos**	**1.56**	**208**	*e*Pb	**Pb**	**09 32 52.4**	**-1.1**
KARP				*e*Sn	**Sn**	**09 33 13.7**	**+0.9**
KDAG	**Bornova**	**1.59**	**337**	*i* P	**Pn**	**09 32 52.5**	**-0.3**
KDAG				*i* S	**Sn**	**09 33 15.4**	**+1.8**
MANT	**Manisa**	**1.60**	**14**	*i* P	**Pn**	**09 32 53.4**	**+0.4**
MANT				*i* S	**Sg**	**09 33 16.8**	**+0.8**
URLA	**Izmir**	**1.83**	**321**	*i* P	**Pn**	**09 32 56.2**	**0.0**
URLA				*i* S	**Sg**	**09 33 25.3**	**+2.0**
AKS	**Akhisar**	**1.95**	**355**	*e*PN	**Pn**	**09 32 56.3**	**-1.5**
TKTP	**Tekketepe**	**2.12**	**58**	*i* S	**Sn**	**09 33 25.2**	**-1.3**
GDZ	**Gediz**	**2.43**	**27**	*i* P	**Pg**	**09 33 10.9**	**0.0**
GDZ				*i* S	**Sn**	**09 33 35.4**	**+1.2**
BR131	**Keskin Array S**	**5.20**	**56**	*e*Pn	**Pn**	**09 33 43.8**	**+1.4**
	1.4nm,0.5s						
BR131	**Keskin Array S**	**5.20**	**56**	*e*Pn	**Pn**	**09 33 43.8**	**+1.3**
	1.4nm,0.5s						

*NEIC **01** 09:34:25.7, 4658N×6745W, h5km, mb3.5/3, MN3.6(OTT), After OTT.*
NEIC Felt at Bristol, Florenceville, Perth-Andover, Williamstown and Woodstock. Also felt at Mars Hill, Maine.
OTT 01 09:34:25.7±0.1, 4658N×6745W, h5km, MN3.6/36, 2D, New Brunswick

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATG	**Bathurst New B**	**1.18**	**53**	⇓PG	Pg	09 34 47.1	-1.2
BATG				SG	Sg	09 35 02.4	-1.3
BATG				Trac		09 35 04.6	
	comp=Z,807nm,0.1s						
BATG	**Bathurst New B**	**1.18**	**53**	⇓Pg	Pg	09 34 47.1	-1.2
BATG				Sg	Sg	09 35 02.4	-1.3
GGN	**Saint George**	**1.52**	**164**	PN	Pn	09 34 53.6	0.0
GGN				SN	Sn	09 35 14.7	+0.9
GGN				Trac		09 35 21.1	
	comp=Z,386nm,0.2s						
GGN	**Saint George**	**1.52**	**164**	Pn	Pn	09 34 53.6	0.0
GGN				Sn	Sn	09 35 14.7	+0.9
A21	**Saint Andre**	**1.90**	**307**	PN	Pn	09 34 58.5	-0.2
A21				SN	Sn	09 35 22.9	-0.1
A21				Trac		09 35 28.0	
	comp=Z,96nm,0.1s						
A21	**Saint Andre**	**1.90**	**307**	Pn	Pn	09 34 58.5	-0.2
A21				Sn	Sn	09 35 22.9	-0.1
A16	**Riviere Ouelle**	**1.96**	**298**	PN	Pn	09 34 59.7	+0.1
A16				SN	Sn	09 35 24.3	-0.2
A16				Trac		09 35 30.9	
	comp=Z,179nm,0.2s						
A16	**Riviere Ouelle**	**1.96**	**298**	Pn	Pn	09 34 59.7	+0.1
A16				Sn	Sn	09 35 24.3	-0.2
LMN	**Caledonia Moun**	**1.98**	**111**	PN	Pn	09 34 59.3	-0.5
LMN				SN	Sn	09 35 23.9	-1.1
LMN				LG		09 35 28.1	
LMN				Trac		09 35 30.2	
	comp=Z,266nm,0.3s						
LMN	**Caledonia Moun**	**1.98**	**111**	Pn	Pn	09 34 59.3	-0.5
LMN				Sn	Sn	09 35 23.9	-1.1
LMN				Lg		09 35 28.1	
A11	**Saint Roch-des**	**2.00**	**290**	PN	Pn	09 35 00.1	+0.1
A11				SN	Sn	09 35 24.8	-0.7
A11				Trac		09 35 27.6	
	comp=Z,225nm,0.3s						
A11	**Saint Roch-des**	**2.00**	**290**	Pn	Pn	09 35 00.1	+0.1
A11				Sn	Sn	09 35 24.8	-0.7
A64	**Saint Simeon**	**2.08**	**308**	PN	Pn	09 35 00.8	-0.4
A64				SN	Sn	09 35 26.4	-1.0
A64				Trac		09 35 34.5	
	comp=Z,84nm,0.2s						
A64	**Saint Simeon**	**2.08**	**308**	Pn	Pn	09 35 00.8	-0.4
A64				Sn	Sn	09 35 26.4	-1.0
A61	**Sainte Mathild**	**2.12**	**303**	PN	Pn	09 35 01.3	-0.5
A61				SN	Sn	09 35 27.8	-0.7
A61				Trac		09 35 37.6	
	comp=Z,129nm,0.2s						
A61	**Sainte Mathild**	**2.12**	**303**	Pn	Pn	09 35 01.3	-0.5
A61				Sn	Sn	09 35 27.8	-0.7
LMQ	**La Malbaie**	**2.19**	**297**	PN	Pn	09 35 02.4	-0.3
LMQ				SN	Sn	09 35 29.1	-1.2
LMQ				Trac		09 35 35.4	
	comp=Z,177nm,0.1s						
LMQ	**La Malbaie**	**2.19**	**297**	Pn	Pn	09 35 02.4	-0.3
LMQ				Sn	Sn	09 35 29.1	-1.2
A54	**Misere**	**2.21**	**294**	PN	Pn	09 35 02.7	-0.2
A54				SN	Sn	09 35 29.2	-1.4
A54				Trac		09 35 36.0	
	comp=Z,130nm,0.2s						
A54	**Misere**	**2.21**	**294**	Pn	Pn	09 35 02.7	-0.2
A54				Sn	Sn	09 35 29.2	-1.4
GSQ	**Grosses Roches**	**2.34**	**6**	PN	Pn	09 35 04.5	-0.3
GSQ				SN	Sn	09 35 32.3	-1.6
GSQ				Trac		09 35 42.6	
	comp=Z,84nm,0.3s						
GSQ	**Grosses Roches**	**2.34**	**6**	Pn	Pn	09 35 04.5	-0.3
GSQ				Sn	Sn	09 35 32.3	-1.6
GASG	**Gaspe, Quebec**	**2.53**	**20**	PN	Pn	09 35 07.0	-0.4
GASG				SN	Sn	09 35 34.6	-4.1
GASG				Trac		09 35 49.2	
	comp=Z,259nm,0.1s						
GASG	**Gaspe, Quebec**	**2.53**	**20**	Pn	Pn	09 35 07.0	-0.4
GASG				Sn	Sn	09 35 34.6	-4.1
QCQ	**Quebec**	**2.64**	**276**	PN	Pn	09 35 08.8	-0.1
QCQ				SN	Sn	09 35 40.5	-0.9
QCQ				Trac		09 35 57.8	
	comp=Z,223nm,0.4s						
QCQ	**Quebec**	**2.64**	**276**	Pn	Pn	09 35 08.8	-0.1
QCQ				Sn	Sn	09 35 40.5	-0.9
CNQ	**Baie Comeau**	**2.75**	**351**	PN	Pn	09 35 09.7	-0.8
CNQ				SN	Sn	09 35 43.0	-1.1
CNQ				Trac		09 35 53.4	
	comp=Z,34nm,0.1s						
CNQ	**Baie Comeau**	**2.75**	**351**	Pn	Pn	09 35 09.7	-0.8
CNQ				Sn	Sn	09 35 43.0	-1.1
DAQ	**Lac Daran**	**2.93**	**300**	PN	Pn	09 35 12.3	-0.6
DAQ				SN	Sn	09 35 47.7	-0.7
DAQ				Trac		09 36 06.2	
	comp=Z,83nm,0.2s						
DAQ	**Lac Daran**	**2.93**	**300**	Pn	Pn	09 35 12.3	-0.6
DAQ				Sn	Sn	09 35 47.7	-0.7
ICQ	**Pointe Anglais**	**2.94**	**2**	PN	Pn	09 35 12.7	-0.4
ICQ				SN	Sn	09 35 41.3	-7.5
ICQ				Trac		09 35 57.2	
	comp=Z,29nm,0.1s						
ICQ	**Pointe Anglais**	**2.94**	**2**	Pn	Pn	09 35 12.7	-0.4
ICQ				Sn	Sn	09 35 41.3	-7.5
MALG	**Malagash, Nova**	**2.97**	**104**	PN	Pn	09 35 13.0	-0.5
MALG				SN	Sn	09 35 48.1	-1.5

comp=Z,43nm,0.3s
MRHQ Morin Heights 4.74 264 Pn Pn 09 35 37.1 -0.7
MRHQ Sn Sn 09 36 30.4 -2.8
NATG Natashquan Que 4.83 38 PN Pn 09 35 38.0 -1.0
NATG SN Sn 09 36 29.0 -6.3
NATG Trac 09 36 36.9
comp=Z,14nm,0.1s
NATG Natashquan Que 4.83 38 Pn Pn 09 35 38.0 -1.0
NATG Sn Sn 09 36 29.0 -6.3
TRQ Mont Tremblant 4.93 268 PN Pn 09 35 39.4 -1.0
TRQ SN Sn 09 36 36.1 -1.7
TRQ Trac 09 36 58.8
comp=Z,38nm,0.3s
TRQ Mont Tremblant 4.93 268 Pn Pn 09 35 39.4 -1.0
TRQ Sn Sn 09 36 36.1 -1.7
MIV Mineville/With 4.97 242 *e*Pn Pn 09 35 40.5 -0.5
MIV *e*Sn Sn 09 36 36.8 -2.0
HRV Harvard--Oak R 5.02 217 *e*Pg Pg 09 35 57.7 -4.3
HRV *e*Sg Sg 09 37 03.7 -3.3
NCB Newcomb 5.45 244 *e*Pn Pn 09 35 47.3 -0.2
NCB *e*Sn Sn 09 36 49.7 -0.8
GAC Glen Almond 5.65 264 PN Pn 09 35 50.0 -0.3
GAC SN Sn 09 36 51.9 -3.6
GAC Trac 09 37 30.0
comp=Z,34nm,0.4s
GAC Glen Almond 5.65 264 Pn Pn 09 35 50.0 -0.3
GAC Sn Sn 09 36 51.9 -3.6
WBO Williamsburg 5.70 257 PN Pn 09 35 51.8 +0.9
WBO SN Sn 09 36 54.2 -2.5
WBO Trac 09 37 30.4
comp=Z,21nm,0.2s
WBO Williamsburg 5.70 257 Pn Pn 09 35 51.8 +0.9
WBO Sn Sn 09 36 54.2 -2.5
KGNO Kingston 6.79 253 PN Pn 09 36 08.7 +2.8
KGNO Trac 09 38 02.1
comp=Z,2.5nm,0.1s
KGNO Kingston 6.79 253 Pn Pn 09 36 08.7 +2.8
CRLO Chalk River 6.90 269 PN Pn 09 36 07.0 -0.5
CRLO SN Sn 09 37 20.3 -6.1
CRLO Trac 09 38 09.4
comp=Z,43nm,0.4s
CRLO Chalk River 6.90 269 Pn Pn 09 36 07.0 -0.5
CRLO Sn Sn 09 37 20.3 -6.1
VLDQ Val d'Or 6.97 286 PN Pn 09 36 09.4 +1.1
VLDQ SN Sn 09 37 26.0 -2.0
VLDQ Trac 09 38 15.7
comp=Z,70nm,0.8s
VLDQ Val d'Or 6.97 286 Pn Pn 09 36 09.4 +1.1
VLDQ Sn Sn 09 37 28.0 0.0
DRLN Deer Lake 7.20 65 PN Pn 09 36 09.9 -1.7
DRLN SN Sn 09 37 26.6 -7.1
DRLN Trac 09 38 15.3
comp=Z,16nm,0.3s
DRLN Deer Lake 7.20 65 Pn Pn 09 36 09.9 -1.7
DRLN Sn Sn 09 37 26.6 -7.1
EEO Eldee 8.01 275 PN Pn 09 36 20.8 -1.9
EEO SN Sn 09 37 47.3 -6.2
EEO Trac 09 38 58.3
comp=Z,23nm,0.4s
EEO Eldee 8.01 275 Pn Pn 09 36 20.8 -1.9
EEO Sn Sn 09 37 47.3 -6.2
LG4Q La Grande 4 8.24 331 PN Pn 09 36 22.7 -3.2
LG4Q SN Sn 09 37 51.5 -7.9
LG4Q Trac 09 38 51.7
comp=Z,11nm,0.4s
LG4Q La Grande 4 8.24 331 Pn Pn 09 36 22.7 -3.2
LG4Q Sn Sn 09 37 51.5 -7.9
SCHQ Schefferville 8.27 2 PN Pn 09 36 22.9 -3.4
SCHQ Trac 09 38 54.8
comp=Z,5.7nm,0.3s
SADO Sadowa 8.39 262 PN Pn 09 36 29.0 +1.2
SADO SN Sn 09 37 55.6 -7.3
SADO Trac 09 38 56.1
comp=Z,20nm,0.4s
SADO Sadowa 8.39 262 Pn Pn 09 36 29.0 +1.1
SADO Sn Sn 09 37 55.6 -7.3
EYMN Ely 16.37 284 *e*Pn Pn 09 38 10.0 -6.1
1.6nm,0.5s
FFC Flin Flon 23.16 303 *e*P P 09 39 32.3 -0.7
1.5nm,0.8s
ISCO Idaho Springs 28.43 270 *e*P P 09 40 21.1 -0.1
0.6nm,0.7s

JMA 01 09:44:51.6±0.3, 4391N×14842E, h7km, M3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.02**	**255**	P	Pn	09 45 26.8	+0.8
NEM2				*e*S	Sn	09 45 52.1	+0.6
JAK	**Akkeshi**	**2.86**	**253**	P	Pn	09 45 38.8	+1.2
JAK				*e*S	Sn	09 46 13.3	+1.0
JAR	**Ashorobuto**	**3.43**	**261**	P	Pn	09 45 47.2	+1.7
JAR				*e*S	Sn	09 46 28.3	+1.9
JCH	**Churui**	**3.91**	**252**	*e*S	Sn	09 46 40.8	+2.5
JNBK	**Urakawa-nobuka**	**4.46**	**251**	P	Pn	09 46 01.6	+2.0

*IDC **01** 10:01:29.2±1.7, 783N×12728E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=89.1km s-min=23.6km az=66.0*
*ISCJB **01** 10:01:33.6±2.9, 78N±02×1272E±03, h48km±30km, mb3.7/5, Error ellipse: s-maj=44.9km s-min=21.8km az=140.3*
*MAN **01** 10:01:46.7, 841N×12620E, h1km, mb2.9, ML4.3, MS2.4*
ISC 01 10:01:34.9±2.4, 78N±02×1272E±02, h36km±28km, n9, σ0°73/10, mb3.7/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.88**	**297**	↑*e*P	Pn	10 01 50.1	-0.6
BIPH				*e*S	Sn	10 02 02.2	-0.1
BUTP	**Butuan**	**1.92**	**308**	*e*P	Pn	10 02 04.2	-0.8
BUKP	**Musuan**	**2.07**	**273**	*e*P	Pn	10 02 10.4	+3.2
SCPH	**Surigao**	**2.58**	**321**	↓*e*P	Pn	10 02 15.0	+0.9
FITZ	**Fitzroy Crossi**	**25.76**	**183**	P	P	10 07 02.2	+0.2
2.1nm,0.8s,mb3.7,baz=36,slow=17,SNR=4.1							
WRA	**Warramunga Arr**	**28.44**	**166**	P	P	10 07 26.2	+0.1
0.5nm,0.6s,mb3.3,baz=352,slow=9.2,SNR=9.0							
ASAR	**Alice Springs**	**31.94**	**168**	P	P	10 07 56.5	-0.6
0.2nm,0.4s,mb3.3,baz=341,slow=7.6,SNR=9.6							
CTA	**Charters Tower**	**33.47**	**146**	P	P	10 08 10.6	+0.1
4.5nm,1.1s,mb4.3,baz=348,slow=11,SNR=5.2							
MKAR	**Makanchi Array**	**54.53**	**323**	P	P	10 10 59.2	+0.1
0.6nm,0.6s,mb3.8,baz=112,slow=7.9,SNR=8.1							

*ISCJB **01** 10:08:00.7±2.7, 2.1N±02×1252E±05, h44km±25km, mb4.1/10, Error ellipse: s-maj=84.5km s-min=11.0km az=135.1*
*NEIC **01** 10:08:00.7±0.7, 222N×12573E, h30km, mb4.3/5, Error ellipse: s-maj=71.6km s-min=10.7km az=70.0*
*IDC **01** 10:08:01.9±3.2, 223N×12591E, h43km±28km, mb3.6/6, mb1 3.8/6, mb1mx3.6/17, mbtmp3.8/6, Error ellipse: s-maj=87.9km s-min=13.6km az=70.0*
ISC 01 10:08:03.9±2.6, 22N±02×1257E±05, h59km±23km, n16, σ1°05/18, mb4.1/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.28**	**156**	*e*P	Pn	10 11 51.2	+2.6
6.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**20.18**	**180**	P	P	10 12 33.6	0.0
1.1nm,0.9s,baz=322,slow=19,SNR=3.5							
WRAB	**Tennant Creek**	**23.60**	**159**	*e*P	P	10 13 08.7	-0.6
4.8nm,0.4s,mb4.3							
WRA	**Warramunga Arr**	**23.60**	**159**	P	P	10 13 08.9	-0.5
2.3nm,0.4s,mb4.0,baz=337,slow=10,SNR=80							
WRA				S	S	10 17 20.4	+1.0
0.4nm,0.7s,baz=342,slow=20,SNR=5.1							
WB2	**Warramunga Arr**	**23.61**	**159**	*e*P	P	10 13 08.9	-0.5
ASAR	**Alice Springs**	**26.94**	**163**	P	P	10 13 40.0	+0.4
0.7nm,0.4s,mb3.5,baz=342,slow=8.0,SNR=28							
ASAR				PcP	PcP	10 17 01.6	+1.4
0.2nm,0.4s,baz=353,slow=2.2,SNR=4.7							
ASAR				S	S	10 18 12.6	+0.1
0.3nm,0.8s,baz=350,slow=21,SNR=4.6							
STKA	**Stephens Creek**	**37.12**	**157**	*e*P	P	10 15 06.7	-2.0
3.2nm,1.3s,mb4.0							
STKA	**Stephens Creek**	**37.12**	**157**	P	P	10 15 06.9	-1.8
2.1nm,0.7s,mb4.1,baz=340,slow=8.5,SNR=4.6							
STKA	**Stephens Creek**	**37.12**	**157**	*e*P	P	10 15 05.6	-3.1

SONM	**Songino Array**	**48.41**	**343**	P	P	10 16 39.6	-0.5
0.2nm,0.3s,mb3.6,baz=158,slow=7.1,SNR=4.8							
MKAR	**Makanchi Array**	**58.20**	**326**	P	P	10 17 52.1	+0.1
1.5nm,0.4s,mb4.4,baz=119,slow=7.6,SNR=19							
MKAR				PcP	PcP	10 18 43.3	+0.5
0.6nm,0.8s,baz=130,slow=5.1,SNR=3.7							
KURK	**Kurchatov**	**62.45**	**328**	*e*P	P	10 18 20.4	-0.5
1.4nm,0.4s,mb4.4							
BRVK	**Borovoye**	**68.09**	**328**	*e*P	P	10 18 58.2	+0.8
1.8nm,0.7s,mb4.2							
ZRNK	**Zerenda**	**68.73**	**327**	*e*P	P	10 19 00.9	-0.5
1.0nm,0.4s,mb4.1							
ARCES	**ARCESS Array B**	**91.50**	**340**	P	P	10 21 06.8	+2.9
0.5nm,0.5s,mb4.1,baz=69,slow=6.6,SNR=4.9							
ARCES	**ARCESS Array B**	**91.50**	**340**	P	P	10 21 06.8	+2.9

*ISCJB **01** 10:11:28.1±1.5, 214S±01×1780W±01, h375km±20km, mb3.6/10, Error ellipse: s-maj=25.7km s-min=13.8km az=93.4*
*IDC **01** 10:11:28.5±2.2, 2133S×17804W, h360km±26km, mb3.2/6, mb1 3.4/8, mb1mx3.2/17, mbtmp4.1/8, Error ellipse: s-maj=33.3km s-min=15.6km az=138.0*
*NEIC **01** 10:11:30.3±1.5, 2144S×17796W, h386km±17km, mb3.8/5, Error ellipse: s-maj=23.4km s-min=13.3km az=143.0*
ISC 01 10:11:30.0±1.5, 214S±01×1779W±01, h386km±20km, n20, σ1°15/17, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.45**	**39**	P	Pn	10 13 42.1	+0.6
2.8nm,0.3s,baz=253,slow=19,SNR=4.9							
AFI				S	S	10 15 25.5	-3.9
3.5nm,0.3s,baz=45,slow=20,SNR=4.4							
DZM	**Mont Dzumac**	**14.56**	**264**	P	P	10 14 40.6	+2.4
0.4nm,0.3s,baz=79,slow=22,SNR=7.3							
URZ	**Urewera**	**17.36**	**193**	P	P	10 15 08.4	+0.1
0.9nm,0.3s,baz=295,slow=4.0,SNR=8.1							
CTA	**Charters Tower**	**33.50**	**266**	P	P	10 17 35.5	+0.7
1.7nm,0.5s,mb3.7,baz=85,slow=12,SNR=6.1							
CTAO	**Charters Tower**	**33.50**	**266**	*e*P	P	10 17 35.2	+0.3
2.1nm,0.6s,mb3.6							
STKA	**Stephens Creek**	**37.49**	**245**	P	P	10 18 07.4	-1.0
1.1nm,0.3s,mb3.6,baz=96,slow=10,SNR=3.8							
STKA	**Stephens Creek**	**37.49**	**245**	*e*P	P	10 18 07.0	-1.5
ASAR	**Alice Springs**	**44.41**	**258**	P	P	10 19 04.0	0.0
1.3nm,0.8s,mb3.3,baz=94,slow=8.8,SNR=15							
ASAR				PcP	PcP	10 20 41.6	+1.6
0.4nm,0.6s,baz=102,slow=4.6,SNR=4.7							
WRAB	**Tennant Creek**	**44.56**	**263**	*e*P	P	10 19 04.8	-0.5
4.3nm,0.8s,mb3.8							
WRA	**Warramunga Arr**	**44.57**	**263**	P	P	10 19 04.7	-0.7
0.6nm,0.3s,mb3.4,baz=96,slow=7.8,SNR=28							
FITZ	**Fitzroy Crossi**	**53.00**	**263**	P	P	10 20 09.1	+0.4
0.5nm,0.3s,mb3.2,baz=341,slow=19,SNR=8.0							
MBWA	**Marble Bar**	**57.75**	**258**	*e*P	P	10 20 41.4	-0.7
15nm,1.1s,mb4.2							
QSPA	**South Pole Qui**	**68.69**	**180**	*e*P	P	10 21 53.3	+0.3
1.7nm,0.9s,mb3.7							
TSI	**Tuntungan**	**85.25**	**276**	*e*P	P	10 23 21.3	-2.9
COLA	**College**	**89.04**	**12**	*e*P	P	10 23 43.0	+0.8
1.2nm,0.6s,mb3.8							
ILAR	**Eielson Array**	**89.15**	**13**	P	P	10 23 44.0	+1.3
0.4nm,0.4s,mb3.5,baz=222,slow=5.3,SNR=12							
ARCES	**ARCESS Array B**	**129.80**	**350**	PKP	PKPdf	10 29 54.8	+0.8
0.8nm,0.5s,baz=48,slow=1.8,SNR=8.2							
FINES	**FINESS Array B**	**136.64**	**343**	PKP	PKPdf	10 30 08.3	+1.4
1.4nm,0.8s,baz=116,slow=4.4,SNR=3.8							
FINES	**FINESS Array B**	**136.64**	**343**	PKP	PKPdf	10 30 08.3	+1.4
AKASG	**Malin Array Be**	**143.82**	**331**	PKP	PKPdf	10 30 17.8	-2.0
1.8nm,0.3s,baz=46,slow=4.1,SNR=14							

*ISCJB **01** 10:40:18.0±0.4, 2981N±005×1394E±01, h425km±5km, mb3.4/8, Error ellipse: s-maj=16.9km s-min=6.3km az=141.5*
*JMA **01** 10:40:17.9±0.1, 2985N×13948E, h431km, M3.6*
*IDC **01** 10:40:18.2±0.8, 2982N×13933E, h409km±15km, mb3.1/8, mb1 3.2/11, mb1mx3.0/22, mbtmp3.9/11, Error ellipse: s-maj=45.8km s-min=9.4km az=74.0*
ISC 01 10:40:18.9±0.4, 2985N±005×1395E±01, h419km±6km, n26, σ0°78/33, mb3.4/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.26**	**5**	P	P	10 41 26.5	+0.9
JHJ	**Hachijo jima 2**	**3.27**	**5**	P	P	10 41 26.4	+0.7
20nm,0.3s,baz=79,slow=21,SNR=20							
JHJ				S	S	10 42 18.6	-1.2
12nm,0.3s,baz=90,slow=20,SNR=3.3							
CBIJ	**Chichi jima**	**3.64**	**138**	P	P	10 41 28.9	0.0
16nm,0.3s,baz=209,slow=22,SNR=31							
CBIJ				S	S	10 42 23.9	-1.7
23nm,0.3s,baz=276,slow=22,SNR=12							
CBIJ	**Chichi jima**	**3.64**	**138**	P	P	10 41 29.0	+0.2
CBIJ				S	S	10 42 25.2	-0.4
JHHJ	**Haha-jima-NKT**	**4.00**	**143**	P	P	10 41 31.9	-0.2
JHHJ				S	S	10 42 31.3	-0.3
JIM2	**Oshima 3**	**4.85**	**360**	P	P	10 41 41.4	+1.2
JWZ	**Kozaga**	**4.87**	**320**	P	P	10 41 40.4	0.0
BSO1	**Boso 1**	**4.95**	**15**	P	P	10 41 41.9	+0.7
JIE	**Ise**	**5.10**	**333**	P	P	10 41 43.9	+1.2
JIE				*e*S	S	10 42 50.0	-1.0
JOD2	**Odawara 2**	**5.40**	**357**	P	P	10 41 46.0	+0.2
JRY	**Ryogami san**	**6.16**	**356**	P	P	10 41 53.7	-0.1
JTO	**Tosashimizu**	**6.45**	**299**	P	P	10 41 56.1	-0.7
MJAR	**Matsushiro Arr**	**6.75**	**351**	P	P	10 42 00.1	0.0
1.0nm,0.3s,baz=286,slow=31,SNR=8.7							
MAT	**Matsushiro**	**6.75**	**351**	P	P	10 41 59.7	-0.5
MAT				S	S	10 43 23.6	+0.6
JHS	**Saijyo**	**7.43**	**315**	P	P	10 42 08.6	+1.0
JMK	**Ichinoseki**	**9.19**	**9**	P	P	10 42 28.6	+1.6
JMK				S	S	10 44 11.0	-1.4
SONM	**Songino Array**	**31.08**	**315**	P	P	10 45 59.8	-0.8
0.5nm,0.4s,mb3.2,baz=122,slow=8.4,SNR=7.3							
MKAR	**Makanchi Array**	**46.90**	**308**	P	P	10 48 08.3	-1.2
0.2nm,0.3s,mb2.9,baz=84,slow=9.9,SNR=6.6							
WB2	**Warramunga Arr**	**49.75**	**186**	*e*P	P	10 48 31.3	+0.3
WRA	**Warramunga Arr**	**49.75**	**186**	P	P	10 48 31.2	+0.2
0.7nm,0.5s,mb3.2,baz=0.4,slow=7.8,SNR=27							
ASAR	**Alice Springs**	**53.48**	**186**	P	P	10 48 58.7	+0.6
0.3nm,0.3s,mb2.9,baz=20,slow=11,SNR=5.2							
ARCES	**ARCESS Array B**	**70.15**	**340**	P	P	10 50 48.0	+0.3
0.9nm,0.4s,mb3.6,baz=73,slow=8.9,SNR=14							
FINES	**FINESS Array B**	**74.42**	**333**	P	P	10 51 11.9	-0.7
0.6nm,0.3s,mb3.7,baz=83,slow=5.8,SNR=8.3							
NB2	**NORSAR Subarra**	**80.16**	**337**	P	P	10 51 43.5	-0.5
comp=Z,0.7nm,0.4s,mb3.6,baz=48,slow=4.8							
NOA	**NORSAR Array B**	**80.16**	**337**	P	P	10 51 43.8	-0.3
comp=Z,1.5nm,0.8s,mb3.7,baz=47,slow=4.9,SNR=4.4							
BRTR	**Keskin Array B**	**82.39**	**312**	P	P	10 51 55.5	-0.1
comp=Z,0.6nm,0.5s,mb3.6,baz=132,slow=3.7,SNR=3.6							

*IDC **01** 10:55:03.1±8.3, 3635N×7099E, h172km±69km, mb3.3/5, mb1 3.4/7, mb1mx3.1/23, mbtmp3.8/7, MS2.9/1, Ms1 2.9/1, ms1mx2.2/15, Error ellipse: s-maj=66.8km s-min=25.5km az=35.0*
*ISCJB **01** 10:55:09.1±3.0, 369N±02×710E±02, h213km±23km, mb3.4/5, Error ellipse: s-maj=39.6km s-min=15.1km az=71.2*
*NNC **01** 10:55:23.4±12.0, 3815N×7234E, h319km±112km, mb1.9, mpv3.3, Error ellipse: s-maj=145.7km s-min=79.6km az=13.0*
ISC 01 10:55:14.2±3.0, 372N±02×711E±02, h233km±22km, n23, σ0°50/25, mb3.4/5, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.29**	**21**	P	Pn	10 56 32.9	-0.1
SNR=109							
UCH	**Uchtor**	**5.65**	**27**	P	Pn	10 56 37.5	0.0
SNR=21							
EKS2	**Erkin-Say**	**5.81**	**20**	P	Pn	10 56 39.5	0.0
SNR=17							
KZA	**Kyzart**	**5.81**	**32**	P	Pn	10 56 38.7	-0.8
SNR=14							
KK31	**Karatay Array**	**5.89**	**356**	P	Pn	10 56 39.9	-0.6
1.7nm,0.3s,baz=187,slow=12,SNR=72							
KK31				S	S	10 57 49.5	+0.1
2.7nm,0.3s,baz=183,slow=21,SNR=14							
AAK	**Ala-Archa**	**6.00**	**25**	P	Pn	10 56 42.2	+0.3
SNR=14							
KBK	**Karagaybulak**	**6.18**	**27**	P	Pn	10 56 44.7	+0.5
SNR=11							
ULHL	**Ulahol**	**6.39**	**37**	P	Pn	10 56 46.2	-0.6
SNR=8.4							
CHMS	**Chumysh**	**6.41**	**25**	P	Pn	10 56 47.3	+0.2
SNR=5.3							
USP	**Ospenovka**	**6.57**	**22**	P	Pn	10 56 49.3	+0.1
SNR=17							
TKM2	**Tokmak 2**	**6.65**	**30**	P	Pn	10 56 50.3	+0.1
SNR=34							
TKM2	**Tokmak 2**	**6.65**	**30**	↓P	Pn	10 56 50.3	+0.1
1.8nm,0.6s							
TKM2				↓S	S	10 57 51.0	-16
0.3nm,0.6s							
MKAR	**Makanchi Array**	**12.66**	**37**	P	Pn	10 58 06.8	+0.5
0.2nm,0.3s,baz=221,slow=8.9,SNR=8.7							
AB31	**Akbulak array**	**14.49**	**330**	P	Pn	10 58 30.1	+1.3
0.6nm,0.5s,baz=148,slow=12,SNR=11							
AB31				↑S	S	11 01 08.9	-0.5
0.6nm,0.7s,baz=291,slow=20,SNR=9.1							
AKTO	**Aktyubinsk**	**16.20**	**329**	↑P	P	10 58 48.0	-0.1
0.1nm,0.8s							
AKTO	**Aktyubinsk**	**16.20**	**329**	P	P	10 58 48.1	+0.1
0.6nm,0.3s,baz=142,slow=8.5,SNR=10							
ZAL	**Zalesovo**	**19.21**	**25**	LR	LR	11 07 18.4	
comp=Z,36nm,20.9s,baz=268,slow=37							
FINES	**FINESS Array B**	**36.93**	**326**	P	P	11 02 00.6	-0.1
1.7nm,0.9s,mb3.6,baz=137,slow=23,SNR=4.5							
ARCES	**ARCESS Array B**	**40.51**	**337**	P	P	11 02 31.1	+0.7
0.7nm,0.6s,mb3.3,baz=117,slow=9.0,SNR=6.5							
NB2	**NORSAR Subarra**	**43.85**	**323**	P	P	11 02 56.3	-1.1
comp=Z,0.7nm,0.6s,mb3.2,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**43.85**	**323**	P	P	11 02 56.8	-0.6
comp=Z,1.2nm,0.7s,mb3.3,baz=96,slow=7.9,SNR=5.2							
YKA	**Yellowknife Ar**	**80.52**	**3**	P	P	11 07 00.1	-0.2
comp=Z,0.4nm,0.4s,mb3.5,baz=350,slow=5.4,SNR=14							
WRA	**Warramunga Arr**	**82.31**	**122**	P	P	11 07 03.6	-6.0
comp=Z,0.4nm,0.6s,mb3.2,baz=322,slow=5.0,SNR=4.8							

*BJI **01** 11:12:49.2, 397N×12788E, h40km, mB4.5, mb4.6, Ms3.9, Msz4.0*
*NEIC **01** 11:12:50.9±0.3, 439N×12821E, h30km, mb5.0/11, Error ellipse: s-maj=11.6km s-min=5.2km az=68.0*
*IDC **01** 11:12:50.7±4.2, 437N×12820E, h28km±28km, mb3.8/10, mb1 3.9/10, mb1mx3.8/19, mbtmp4.0/10, MS3.6/2, Ms1 3.6/2, ms1mx2.6/26, Error ellipse: s-maj=48.4km s-min=14.1km az=78.0*
*MOS **01** 11:12:51.6±1.0, 427N×12795E, h50km, mb4.9/5, Error ellipse: s-maj=26.3km s-min=10.1km az=113.6*
*ISCJB **01** 11:12:52.3±1.5, 432N±007×128.14E±010, h56km±14km, mb4.5/23, MS3.6/2, Error ellipse: s-maj=18.0km s-min=7.7km az=123.1*
*MAN **01** 11:13:53.2, 796N×12463E, h9km, MS0.0*
ISC 01 11:12:54.0±1.4, 432N±007×1282E±01, h54km±13km, n47, σ0°85/44, mb4.5/23, MS3.6/2, 8C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**4.71**	**319**	*e*P	Pn	11 14 02.5	-0.1
BUTP	**Butuan**	**5.28**	**331**	*e*P	Pn	11 14 18.2	+7.9
IPIL	**Ipil**	**6.57**	**302**	*e*P	Pn	11 14 28.3	+0.4
KAKA	**Kakadu**	**17.43**	**166**	*e*P	Pn	11 16 52.6	-0.7
4.3nm,0.6s							
KSM	**Kuching**	**18.08**	**262**	*e*P	Pn	11 17 00.6	-0.6
FITZ	**Fitzroy Crossi**	**22.42**	**186**	*e*P	P	11 17 48.1	+0.1
3.7nm,0.8s,mb3.9							
FITZ	**Fitzroy Crossi**	**22.42**	**186**	P	P	11 17 48.2	+0.2
0.8nm,0.5s,mb3.4,baz=346,slow=18,SNR=7.3							
PMG	**Port Moresby**	**23.31**	**126**	↑*e*P	P	11 17 57.9	+0.7
WRAB	**Tennant Creek**	**24.85**	**166**	↑*e*P	P	11 18 09.7	-1.5
WRAB				*i* *PP		11 18 32.3	
WRAB	**Tennant Creek**	**24.85**	**166**	*e*P	P	11 18 11.7	+0.4
7.8nm,0.7s,mb4.3							
WRA	**Warramunga Arr**	**24.85**	**166**	P	P	11 18 12.4	+1.1
1.4nm,0.6s,mb3.7,baz=345,slow=11,SNR=21							
WB2	**Warramunga Arr**	**24.86**	**166**	*e*P	P	11 18 12.4	+1.1
CBIJ	**Chichi jima**	**26.30**	**29**	LR	LR	11 27 57.5	
comp=Z,105nm,21.2s,MS3.4,baz=130,slow=34							
ASAR	**Alice Springs**	**28.36**	**169**	P	P	11 18 43.2	+0.3
0.3nm,0.5s,baz=356,slow=8.0,SNR=5.1							
ASAR				PcP	PcP	11 21 54.9	+0.5
0.5nm,0.6s,baz=352,slow=2.3,SNR=6.4							
ASAR				ScP	ScP	11 25 34.4	+3.5
0.3nm,0.6s,baz=347,slow=3.0,SNR=5.1							
ASAR	**Alice Springs**	**28.36**	**169**	P	P	11 18 43.3	+0.4
ASAR						11 21 54.9	
MJAR	**Matsushiro Arr**	**33.37**	**15**	P	P	11 19 26.3	-0.7
1.5nm,0.8s,mb4.0,baz=184,slow=9.4,SNR=5.5							
CD2	**Chengdu**	**35.06**	**322**	*e*P	P	11 19 41.1	-0.5
CD2				AP	pP	11 19 50.8	-4.7
CD2				XP	sP	11 19 54.7	-7.2
CD2				PCP	PcP	11 22 12.0	-0.5
CD2				S	S	11 25 11.1	+0.9
CD2				XS	sS	11 25 27.1	-6.5
CD2				SCP	ScP	11 25 53.8	+0.4
CD2				PCS	PcS	11 25 57.8	-1.5
CD2				SCS	ScS	11 29 56.5	-0.8
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
CD2				AMB	AMB		
comp=Z,40nm,5.2s							
CD2				LR	LR		
comp=N,130nm,15.6s							
CD2				LR	LR		
comp=Z,130nm,9.6s							
STKA	**Stephens Creek**	**38.19**	**161**	P	P	11 20 06.9	-1.4
comp=Z,3.5nm,0.6s,mb4.2,baz=346,slow=5.6,SNR=5.5							
STKA	**Stephens Creek**	**38.19**	**161**	*e*P	P	11 20 06.8	-1.4
SHL	**Shillong**	**40.72**	**305**	*e*P	P	11 20 31.0	+1.7
GTA	**Gaotai**	**43.37**	**328**	*e*P	P	11 20 51.4	+0.5
JIRN	**Jiri**	**46.22**	**305**	*e*P	P	11 21 14.2	+0.6
comp=Z,22nm,0.9s,mb5.1							
GUN	**Gumba**	**46.57**	**305**	*e*P	P	11 21 17.1	+0.7
comp=Z,23nm,0.7s,mb5.2							
PKI	**Pulchoki**	**46.83**	**304**	*e*P	P	11 21 18.0	-0.4
KKN	**Kakani**	**47.02**	**304**	*e*P	P	11 21 19.7	-0.2
comp=Z,22nm,1.0s,mb5.0							
KKN	**Kakani**	**47.02**	**304**	*e*P	P	11 21 19.7	-0.2
KKN				pmax	pmax		
comp=Z,22nm,1.0s,mb5.0							
ULN	**Ulaanbaatar**	**47.03**	**341**	*c*eP	P	11 21 19.8	-0.2
ULN	**Ulaanbaatar**	**47.03**	**341**	*e*P	P	11 21 19.6	-0.4
comp=Z,5.8nm,0.8s,mb4

LBTB pmax pmax
comp=Z,10.0nm,0.6s
LBTB Lobatse 103.22 245 *e*Pdif Pdif 11 26 52.9 +5.4
comp=Z,9.7nm,0.6s

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*ISCJB **01** 11:34:55.0±0.7, 471S±005×14946E±009, h584km±9km, mb4.3/47, Error ellipse: s-maj=14.3km s-min=7.9km az=23.9*
*BJI **01** 11:34:54.9, 460S×14979E, h599km, mB4.7, mb4.6*
*MOS **01** 11:34:55.5±0.7, 462S×14940E, h587km, mb4.4/18, Error ellipse: s-maj=15.6km s-min=7.8km az=99.2*
*IDC **01** 11:34:56.1±1.0, 473S×14937E, h581km±12km, mb3.5/11, mb1 3.8/14, mb1mx3.7/17, mbtmp4.5/14, Error ellipse: s-maj=15.8km s-min=9.3km az=104.0*
*NEIC **01** 11:34:56.3±0.6, 468S×14945E, h586km±8km, mb4.5/25, Error ellipse: s-maj=9.5km s-min=5.6km az=90.0*
ISC 01 11:34:55.7±0.7, 474S±005×14954E±009, h579km±8km, n99, σ0§92/99, mb4.3/47, 6C-4D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.20**	**207**	P	**P**	**11 36 30.4**	**+1.6**
	26nm,0.3s,baz=49,slow=5.1,SNR=96						
PMG				S	**S**	**11 37 43.8**	**-1.2**
	10.0nm,0.3s,baz=146,slow=21,SNR=22						
CTA	**Charters Tower**	**15.59**	**192**	*e*P	**P**	**11 38 11.5**	**+1.5**
	9.4nm,0.6s						
CTA	**Charters Tower**	**15.59**	**192**	P	**P**	**11 38 11.6**	**+1.6**
	1.9nm,0.3s,baz=7.6,slow=10,SNR=30						
CTA	**Charters Tower**	**15.59**	**192**	*e*P	**P**	**11 38 11.5**	**+1.5**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CTAO	**Charters Tower**	**15.59**	**192**	*e*P	**P**	**11 38 11.2**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,28nm,1.0s						
CTAO	**Charters Tower**	**15.59**	**192**	*e*P	**P**	**11 38 11.2**	**+1.1**
	comp=Z,28nm,1.0s						
KAKA	**Kakadu**	**18.65**	**244**	*e*P	**P**	**11 38 37.4**	**-0.6**
	comp=Z,31nm,0.5s						
GUMO	**Guam**	**18.79**	**346**	P	**P**	**11 38 38.6**	**-0.7**
	comp=Z,11nm,0.3s,baz=354,slow=23,SNR=7.3						
WRAB	**Tennant Creek**	**21.14**	**223**	*e*P	**P**	**11 39 00.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**21.14**	**223**	*e*P	**P**	**11 39 00.5**	**0.0**
	comp=Z,12nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**21.14**	**223⇑**	*i*P	**P**	**11 39 00.8**	**+0.2**
WB2				*e*S	**S**	**11 42 16.0**	**-2.2**
WRA	**Warramunga Arr**	**21.15**	**223**	P	**P**	**11 39 00.9**	**+0.3**
	comp=Z,5.5nm,0.5s,mb4.4,baz=47,slow=9.1,SNR=154						
WRA				S	**S**	**11 42 16.5**	**-1.8**
	comp=Z,3.8nm,0.7s,baz=42,slow=17,SNR=7.6						
DZM	**Mont Dzumac**	**23.77**	**138**	P	**P**	**11 39 25.1**	**+1.1**
	comp=Z,2.9nm,0.5s,mb4.2,baz=118,slow=22,SNR=16						
AS31	**Alice Springs**	**24.11**	**217**	*e*P	**P**	**11 39 27.2**	**+0.2**
ASAR	**Alice Springs**	**24.11**	**217**	P	**P**	**11 39 27.2**	**+0.3**
	comp=Z,4.3nm,0.4s,mb4.4,baz=48,slow=8.0,SNR=82						
ASAR				S	**S**	**11 43 03.1**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=37,slow=17,SNR=2.8						
ASPA	**Alice Springs**	**24.12**	**217**	*e*P	**P**	**11 39 27.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**26.88**	**238**	*e*P	**P**	**11 39 50.7**	**-0.6**
	comp=Z,6.5nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**26.88**	**238**	P	**P**	**11 39 50.5**	**-0.8**
	comp=Z,3.7nm,0.5s,mb4.2,baz=64,slow=12,SNR=31						
STKA	**Stephens Creek**	**28.01**	**194**	*e*P	**P**	**11 39 59.7**	**-1.5**
	comp=Z,4.1nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**28.01**	**194**	P	**P**	**11 39 58.2**	**-2.9**
	comp=Z,2.4nm,0.8s,mb3.9,baz=29,slow=13,SNR=3.3						
STKA	**Stephens Creek**	**28.01**	**194**	*e*P	**P**	**11 39 58.4**	**-2.8**
NACB	**Ninganchiao**	**39.58**	**318**	*e*P	**P**	**11 41 37.9**	**0.0**
YHNB	**Yeheng**	**40.06**	**318**	*e*P	**P**	**11 41 41.7**	**-0.1**
MJAR	**Matsushiro Arr**	**42.41**	**346**	P	**P**	**11 41 59.9**	**-0.4**
	comp=Z,9.1nm,0.8s,mb4.4,baz=168,slow=8.6,SNR=20						
MJAR				ScP	ScP	11 46 36.2	+0.5
	comp=Z,0.5nm,0.5s,baz=174,slow=2.5,SNR=4.4						
MAJO	**Matsushiro**	**42.41**	**346**	*e*P	**P**	**11 41 59.7**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**42.41**	**346**	*e*P	**P**	**11 41 59.7**	**-0.6**
	comp=Z,13nm,0.8s,mb4.5						
MAT	**Matsushiro**	**42.41**	**346**	P	**P**	**11 42 00.0**	**-0.3**
MAT	**Matsushiro**	**42.41**	**346**	*e*P	**P**	**11 42 00.0**	**-0.3**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
MAT	**Matsushiro**	**42.41**	**346**	*e*P	**P**	**11 42 00.0**	**-0.3**
	comp=Z,7.0nm,0.5s,mb4.5						
KS15	**Wonju Array Si**	**46.56**	**336**	*e*P	**P**	**11 42 32.0**	**-0.1**
NJ2	**Nanjing**	**46.80**	**324**	*e*P	**P**	**11 42 34.5**	**+0.5**
NJ2				AP	pP	11 44 23.2	+4.8
NJ2				PP	PP	11 44 33.5	+1.5
NJ2				XP	sP	11 45 28.2	+5.8
NJ2				S	**S**	**11 48 43.0**	**+0.6**
NJ2				XS	sS	11 51 56.0	+4.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,1μm,5.6s						
WHN	**Wuhan**	**48.60**	**318**	P	**P**	**11 42 48.2**	**+0.8**
VLA	**Vladivostok**	**50.24**	**343⇑**	*e*P	**P**	**11 42 58.6**	**-0.8**
VLA				pmax	pmax		
	comp=Z,62nm,2.5s,mb4.6						
YSS	**Yuzh-Sakhalins**	**51.81**	**354⇑**	*e*P	**P**	**11 43 10.5**	**-0.3**
YSS				pmax	pmax		
	comp=Z,60nm,1.9s,mb4.6						
MDJ	**Mudanjiang**	**52.29**	**342**	*e*P	**P**	**11 43 13.2**	**-1.0**
	comp=Z,7.9nm,0.5s,mb4.3						
HABR	**Khabarovsk**	**54.48**	**348**	*e*P	**P**	**11 43 29.3**	**-0.4**
KLR	**Kul'dur**	**55.93**	**346**	*e*P	**P**	**11 43 36.2**	**-3.5**
CD2	**Chengdu**	**56.26**	**312**	*e*P	**P**	**11 43 40.3**	**-1.7**
HHC	**Hu-ho-hao-te**	**57.14**	**326**	*e*P	**P**	**11 43 48.2**	**+0.2**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.2						
HHC				AMB	AMB		
	comp=Z,120nm,4.2s						
PET	**Petropavlovsk**	**58.06**	**6**	*i*P	**P**	**11 43 54.2**	**0.0**
HIA	**Hailar**	**59.70**	**338**	*e*P	**P**	**11 44 05.1**	**-0.1**
HIA				pmax	pmax		
	comp=Z,22nm,0.7s						
HIA	**Hailar**	**59.70**	**338**	*e*P	**P**	**11 44 05.0**	**-0.1**
	comp=Z,22nm,0.7s,mb4.5						
GTA	**Gaotai**	**63.43**	**319**	*e*P	**P**	**11 44 30.7**	**+1.2**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
MA2	**Magadan**	**64.12**	**1⇑**	*e*P	**P**	**11 44 33.6**	**-0.2**
MA2				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.2						
MA2	**Magadan**	**64.12**	**1**	*e*P	**P**	**11 44 33.0**	**-0.8**
	comp=Z,7.6nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**64.26**	**330**	*de*P	**P**	**11 44 35.4**	**+0.7**
ULN	**Ulaanbaatar**	**64.26**	**330**	*e*P	**P**	**11 44 35.2**	**+0.5**
	comp=Z,9.6nm,0.7s,mb4.2						
CIT	**Chita**	**64.29**	**336**	*e*P	**P**	**11 44 35.3**	**+0.4**
SONM	**Songino Array**	**64.57**	**329**	P	**P**	**11 44 37.3**	**+0.6**
	comp=Z,9.4nm,0.6s,mb4.4,baz=149,slow=4.2,SNR=62						
LSA	**Lhasa**	**65.54**	**306**	*e*P	**P**	**11 44 44.0**	**+1.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**65.54**	**306**	*e*P	**P**	**11 44 44.0**	**+1.3**
	comp=Z,7.9nm,0.7s,mb4.2						
ZAK	**Zakamensk**	**67.78**	**330⇑**	*e*P	**P**	**11 44 56.3**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
YAK	**Yakutsk**	**68.31**	**350**	*de*P	**P**	**11 44 59.2**	**-0.5**
YAK				pmax	pmax		
	comp=Z,31nm,1.3s,mb4.6						
TLY	**Talaya**	**68.43**	**331**	*e*P	**P**	**11 45 00.9**	**+0.4**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
JIRN	**Jiri**	**68.98**	**302**	*e*P	**P**	**11 45 04.5**	**+0.7**
	comp=Z,14nm,0.6s,mb4.6						
GUN	**Gumba**	**69.32**	**302**	*e*P	**P**	**11 45 06.6**	**+0.8**
	comp=Z,41nm,0.7s,mb5.0						
PKI	**Pulchoki**	**69.62**	**302**	*e*P	**P**	**11 45 08.0**	**+0.4**
MOY	**Mondy**	**69.71**	**330**	*e*P	**P**	**11 45 08.2**	**+0.1**
KKN	**Kakani**	**69.79**	**302**	*e*P	**P**	**11 45 09.0**	**+0.4**
	comp=Z,20nm,0.6s,mb4.7						
KKN	**Kakani**	**69.79**	**302**	*e*P	**P**	**11 45 09.0**	**+0.4**
KKN				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.7						
DMN	**Daman**	**69.88**	**302**	*e*P	**P**	**11 45 09.9**	**+0.7**
	comp=Z,36nm,0.7s,mb4.9						
GKN	**Gorkha**	**70.39**	**302**	*e*P	**P**	**11 45 12.5**	**+0.3**
	comp=Z,32nm,0.7s,mb4.9						
KOLN	**Koldanda**	**71.21**	**301**	*e*P	**P**	**11 45 17.3**	**+0.3**
	comp=Z,33nm,0.8s,mb4.9						
VNDA	**Vanda**	**73.03**	**177**	P	**P**	**11 45 28.2**	**+0.7**
	comp=Z,1.1nm,0.6s,mb3.6,baz=323,slow=7.0,SNR=15						
VNDA	**Vanda**	**73.03**	**177**	P	**P**	**11 45 28.2**	**+0.7**
BILL	**Bilibino**	**73.56**	**6**	*e*P	**P**	**11 45 30.6**	**+0.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
BILL	**Bilibino**	**73.56**	**6**	*e*P	**P**	**11 45 30.4**	**-0.1**
	comp=Z,10nm,0.9s,mb4.4						
KRAR	**Krasnoyarsk**	**76.13**	**331⇓**	*e*P	**P**	**11 45 45.9**	**+1.1**
KRAR				pmax	pmax		
	comp=Z,32nm,0.5s,mb5.0						
TIXI	**Tiksi**	**77.43**	**353**	*e*P	**P**	**11 45 51.5**	**-0.4**
TIXI				*e*PPP		11 50 46.4	
TIXI				*e*S	S	11 55 01.1	+5.0
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
MK31	**Makanchi Array**	**78.16**	**320**	P	**P**	**11 45 55.8**	**0.0**
MK31				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**78.16**	**320**	P	**P**	**11 45 56.0**	**+0.1**
	comp=Z,5.9nm,0.8s,mb4.0,baz=114,slow=5.7,SNR=25						
ZAL	**Zalesovo**	**79.32**	**327**	P	**P**	**11 46 00.7**	**-1.3**
	comp=Z,2.6nm,0.6s,mb3.7,baz=1.5,slow=2.2,SNR=9.3						
TKM2	**Tokmak 2**	**81.55**	**314**	P	**P**	**11 46 14.2**	**+0.7**
	SNR=5.9						
KZA	**Kyzart**	**81.59**	**314**	P	**P**	**11 46 15.7**	**+1.9**
	SNR=9.1						
KURK	**Kurchatov**	**81.73**	**323**	*d*P	**P**	**11 46 14.0**	**-0.5**
KURK	**Kurchatov**	**81.73**	**323**	*e*P	**P**	**11 46 13.6**	**-0.8**
	comp=Z,20nm,1.1s,mb4.5						
UCH	**Uchtor**	**82.16**	**314**	P	**P**	**11 46 18.3**	**+1.7**
	SNR=9.2						
AAK	**Ala-Archa**	**82.27**	**314⇑**	*i*P	**P**	**11 46 17.4**	**+0.2**
AAK				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.1						
AAK	**Ala-Archa**	**82.27**	**314**	*e*P	**P**	**11 46 17.2**	**0.0**
	comp=Z,2.9nm,0.7s,mb3.9						
USP	**Ospenovka**	**82.42**	**315**	P	**P**	**11 46 18.6**	**+0.7**
	SNR=8.7						
AML	**Almayashu**	**82.73**	**313**	P	**P**	**11 46 21.1**	**+1.6**
	SNR=20						
EKS2	**Erkin-Say**	**82.79**	**314**	P	**P**	**11 46 21.0**	**+1.1**
	SNR=11						
COLA	**College**	**83.02**	**22**	*e*P	**P**	**11 46 19.7**	**-1.3**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.8						
COLA	**College**	**83.02**	**22**	*e*P	**P**	**11 46 19.7**	**-1.3**
	comp=Z,4.0nm,1.3s,mb3.8						
ILAR	**Eielson Array**	**83.34**	**23**	P	**P**	**11 46 21.0**	**-1.6**
	comp=Z,2.7nm,0.6s,mb4.0,baz=255,slow=5.0,SNR=31						
QSPA	**South Pole Qui**	**85.22**	**180**	*e*P	**P**	**11 46 32.0**	**+0.2**
	comp=Z,1.3nm,0.6s,mb3.7						
KK31	**Karatay Array**	**85.23**	**314**	*i*P	**P**	**11 46 31.7**	**-0.1**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
KKAR	**Karatay Array**	**85.23**	**314**	*i*P	**P**	**11 46 31.7**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**87.25**	**324**	P	**P**	**11 46 39.3**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
CHKZ	**Chkalovo**	**87.25**	**324**	*e*P	**P**	**11 46 39.0**	**-2.3**
	comp=Z,3.3nm,0.9s,mb4.1						
BVA0	**Borovoye Array**	**87.25**	**324**	*i*P	**P**	**11 46 39.5**	**-1.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.4						
ZRNK	**Zerenda**	**88.06**	**323**	P	**P**	**11 46 43.2**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
ZRNK	**Zerenda**	**88.06**	**323**	*e*P	**P**	**11 46 42.9**	**-2.2**
	comp=Z,1.7nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**96.89**	**28**	P	**P**	**11 47 26.0**	**+0.5**
	comp=Z,0.4nm,0.9s,mb3.6,baz=286,slow=5.0,SNR=4.0						
GERES	**GERESS Array B**	**122.27**	**327**	PKP	PKPdf	11 52 45.1	-0.4
	comp=Z,0.7nm,0.5s,baz=63,slow=6.1,SNR=4.6						
SAML	**Samuel**	**144.66**	**113**	*e*PKPdf	PKPdf	11 53 28.7	+1.7
TORD	**Torodi Ar. Bea**	**147.19**	**287**	PKPbc	PKPbc	11 53 35.1	+0.6
	comp=Z,5.8nm,0.6s,baz=91,slow=2.7,SNR=48						
TORD				PKPab	PKPab	11 53 38.6	+0.4
	comp=Z,4.2nm,0.7s,baz=75,slow=4.1,SNR=15						
DBIC	**Dimbokro**	**154.45**	**276**	PKPab	PKPab	11 54 09.3	+0.6
	comp=Z,5.5nm,1.0s,baz=98,slow=6.9,SNR=4.2						
DBIC	**Dimbokro**	**154.45**	**276**	PKPab	PKPab	11 54 09.3	+0.6

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*BJI **01** 11:47:40.0, 160N×9952E, h30km, mB4.8, mb4.3, Ms4.4, Msz3.7*
*IDC **01** 11:47:42.2±0.6, 251N×9871E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.1/20, mbtmp4.0/13, MS4.0/9, Ms1 4.0/9, ms1mx3.4/37, Error ellipse: s-maj=15.3km s-min=5.4km az=142.0*
*ISCJB **01** 11:47:45.4±0.5, 246N±007×9866E±006, h33km, mb4.2/21, MS4.0/10, Error ellipse: s-maj=11.0km s-min=8.2km az=74.4*
*NEIC **01** 11:47:46.4±0.5, 255N×9883E, h30km, mb4.2/5, Error ellipse: s-maj=15.9km s-min=9.7km az=54.0*
NEIC Felt [II] at Pangururan and Parapat.
ISC 01 11:47:47.8±0.5, 250N±007×9871E±007, h35km, n40, σ1§39/36, mb4.2/21, MS4.0/10, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.37**	**36**	Pg	**Pn**	**11 47 47.5**	**-9.1**
	2μm,0.3s,baz=247,slow=8.2,SNR=1748						
PSI				Lg		11 47 51.6	
	4μm,0.3s,baz=199,slow=11,SNR=103						
TSI	**Tuntungan**	**1.00**	**352⇓**	*i*P	**Pn**	**11 48 03.1**	**-2.3**
TSI				*i*S	**Sn**	**11 48 24.5**	**+6.2**
IPM	**Ipoh**	**3.04**	**50**	P	**Pn**	**11 48 33.9**	**+0.6**
KULM	**Kulim**	**3.38**	**35**	*e*Pn	**Pn**	**11 48 36.7**	**-1.4**
KULM				*e*S	**Sn**	**11 49 28.2**	**+11**
KGM	**Kluang**	**4.63**	**96**	P	**Pn**	**11 48 56.4**	**+1.1**
CHTO	**Chiang Mai**	**16.21**	**1**	*e*P	**Pn**	**11 51 35.6**	**+2.8**
	7.2nm,0.8s						
KKM	**Kota Kinabalu**	**17.81**	**78**	P	**Pn**	**11 51 59.5**	**+6.7**
TSM	**Tawau**	**19.21**	**84**	P	**Pn**	**11 52 12.5**	**+2.6**
KMI	**Kunming**	**22.83**	**9**	P	**P**	**11 52 50.4**	**+2.8**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.1						
KMI				LR	LR		
	comp=N,270nm,13.6s,MS3.9						
KMI				LR	LR		
	comp=E,120nm,13.0s,MS3.9						
KMI				LR	LR		
	comp=Z,80nm,16.3s,MS3.2						
FITZ	**Fitzroy Crossi**	**33.51**	**129**	P	**P**	**11 54 22.8**	**-1.1**
	comp=Z,1.9nm,0.9s,mb4.0,baz=196,slow=18,SNR=4.1						
FITZ				LR	LR	12 09 02.0	
	comp=Z,170nm,19.7s,MS3.8,baz=295,slow=38						
NWAO	**Narrogin (SRO)**	**39.35**	**155**	LR	LR	12 09 48.2	
	comp=Z,156nm,20.7s,MS3.8,baz=324,slow=34						
WRA	**Warramunga Arr**	**41.48**	**124**	P	**P**	**11 55 30.5**	**-0.8**
	comp=Z,3.4nm,0.5s,mb4.2,baz=302,slow=9.1,SNR=57						
WRA				PcP	PcP	11 57 29.5	+0.9
	comp=Z,0.4nm,0.6s,baz=315,slow=2.6,SNR=7.6						
WRAB	**Tennant Creek**	**41.48**	**124**	*e*P	**P**	**11 55 31.6**	**+0.3**
	comp=Z,6.3nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**41.49**	**124**	*e*P	**P**	**11 55 30.7**	**-0.7**
ASAR	**Alice Springs**	**43.01**	**129**	P	**P**	**11 55 43.7**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=301,slow=7.4,SNR=14						
ASAR				PcP	PcP	11 57 34.8	+1.1
	comp=Z,0.4nm,0.7s,baz=315,slow=2.6,SNR=6.7						
SONM	**Songino Array**	**45.65**	**7**	P	**P**	**11 56 04.9**	**0.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=183,slow=9.0,SNR=6.6						
SONM				PcP	PcP	11 57 43.4	+0.7
	comp=Z,1.2nm,0.9s,baz=198,slow=3.3,SNR=5.4						
SONM				LR	LR	12 17 16.5	
	comp=Z,250nm,18.1s,MS4.2,baz=140,slow=39						
SONM	**Songino Array**	**45.65**	**7**	P	**P**	**11 56 04.9**	**0.0**
SONM				PcP	PcP	11 57 43.4	+0.7
ULN	**Ulaanbaatar**	**45.76**	**8**	*e*P	**P**	**11 56 03.0**	**-2.8**
	comp=Z,5.5nm,1.8s,mb4.2						
MKAR	**Makanchi Array**	**46.38**	**344**	P	**P**	**11 56 10.0**	**-0.6**
	comp=Z,2.5nm,1.0s,mb4.1,baz=151,slow=7.8,SNR=14						
MJAR	**Matsushiro Arr**	**49.72**	**42**	LR	LR	12 19 29.5	
	comp=Z,113nm,19.0s,MS3.9,baz=230,slow=38						
CTA	**Charters Tower**	**51.75**	**118**	LR	LR	12 19 41.4	
	comp=Z,142nm,18.2s,MS4.0,baz=233,slow=37						
ZAL	**Zalesovo**	**52.53**	**350**	P	**P**	**11 56 56.3**	**-1.2**
	comp=Z,1.0nm,0.3s,mb4.2,baz=232,slow=4.2,SNR=5.4						
STKA	**Stephens Creek**	**53.13**	**134**	P	**P**	**11 56 58.7**	**-3.3**
	comp=Z,3.6nm,1.0s,mb4.3,baz=337,slow=13,SNR=2.8						
STKA	**Stephens Creek**	**53.13**	**134**	P	**P**	**11 56 58.7**	**-3.3**
RDF	**Al-Radifah**	**55.24**	**304**	*e*P	**P**	**11 57 18.2**	**+0.8**
RDF				AMb	AMB	11 57 25.5	
	comp=Z,23nm,0.8s,mb5.2						
NAY	**Al-Naaiem**	**55.60**	**304**	*e*P	**P**	**11 57 20.6**	**+0.6**
NAY				AMb	AMB	11 57 22.6	
	comp=Z,15nm,0.8s,mb5.1						
MIB	**Mutribah**	**55.70**	**305**	*e*P	**P**	**11 57 21.3**	**+0.6**
MIB				AMb	AMB	11 57 23.4	
	comp=Z,49nm,0.7s						
ZRNK	**Zerenda**	**55.97**	**339**	P	**P**	**11 57 21.0**	**-1.6**
	comp=Z,1.3nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**56.00**	**340**	*e*P	**P**	**11 57 21.3**	**-1.5**
	comp=Z,2.3nm,0.8s,mb4.3						
KMBO	**Kilima Mbogo**	**61.55**	**267**	P	**P**	**11 58 03.3**	**+2.0**
	comp=Z,1.6nm,0.8s,mb4.2,baz=45,slow=17,SNR=3.8						
KMBO				LR	LR	12 21 11.2	
	comp=Z,108nm,18.5s,MS4.0,baz=92,slow=33						
BRTR	**Keskin Array B**	**69.37**	**312**	P	**P**	**11 58 51.4**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=111,slow=6.8,SNR=7.8						
AKASG	**Malin Array Be**	**75.16**	**322**	P	**P**	**11 59 24.8**	**-1.7**
	comp=Z,0.3nm,0.3s,mb3.7,baz=92,slow=4.4,SNR=7.3						
BOSA	**Boshof**	**76.73**	**240**	P	**P**	**11 59 37.0**	**+1.5**
	comp=Z,1.1nm,0.5s,mb4.0,baz=81,slow=5.0,SNR=5.6						
BOSA				LR	LR	12 32 09.5	
	comp=Z,82nm,18.3s,MS4.1,baz=12,slow=35						
FINES	**FINESS Array B**	**79.55**	**332**	P	**P**	**11 59 52.0**	**+0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=111,slow=10,SNR=3.5						
ARCES	**ARCESS Array B**	**81.83**	**340**	LR	LR	12 39 49.0	
	comp=Z,98nm,18.9s,MS4.2,baz=110,slow=38						
GERES	**GERESS Array B**	**84.84**	**319**	P	**P**	**12 00 19.2**	**+0.5**
	comp=Z,0.3nm,0.2s,mb4.0,baz=20,slow=4.3,SNR=5.5						
HFS	**Hagfors**	**85.36**	**330**	LR	LR	12 43 41.0	
	comp=Z,62nm,19.1s,MS4.0,baz=218,slow=39						
NOA	**NORSAR Array B**	**86.61**	**331**	P	**P**	**12 00 27.5**	**0.0**
	comp=Z,1.3nm,0.8s,mb4.2,baz=92,slow=4.9,SNR=3.8						
NOA	**NORSAR Array B**	**86.61**	**331**	P	**P**	**12 00 27.5**	**0.0**
NVAR	**Mina Array Bea**	**126.85**	**36**	PKP	PKPdf	12 06 48.1	+0.4
	comp=Z,0.1nm,0.5s,baz=284,slow=3.6,SNR=3.6						

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*IDC **01** 12:01:09.0±8.9, 225N×12866E, h159km±91km, mb3.6/9, mb1 3.7/9, mb1mx3.6/17, mbtmp4.0/9, Error ellipse: s-maj=39.7km s-min=16.2km az=76.0*
*ISCJB **01** 12:01:10.6±4.2, 23N±01×1285E±02, h191km±43km, mb4.0/13, Error ellipse: s-maj=29.3km s-min=15.7km az=124.2*
*NEIC **01** 12:01:12.0±2.9, 225N×12856E, h190km±29km, mb4.1/7, Error ellipse: s-maj=18.7km s-min=8.6km az=61.0*
ISC 01 12:01:12.1±4.1, 23N±01×1286E±02, h189km±43km, n21, σ0§63/21, mb4.0/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.36**	**166**	*e*P	**Pn**	**12 04 39.0**	**-0.1**
	5.4nm,0.5s						
KSM	**Kuching**	**18.27**	**268**	*e*P	**P**	**12 05 11.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.44**	**188**	*e*P	**P**	**12 05 34.0**	**-0.8**
	3.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.44**	**188**	P	**P**	**12 05 34.0**	**-0.8**
	1.4nm,0.6s,baz=360,slow=12,SNR=8.4						
WRAB	**Tennant Creek**	**22.77**	**166**	*e*P	**P**	**12 05 58.4**	**+0.2**
	7.0nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**22.78**	**166**	P	**P**	**12 05 58.5**	**+0.3**
	3.2nm,0.5s,mb4.0,baz=344,slow=10,SNR=70						
WB2	**Warramunga Arr**	**22.78**	**166**	*e*P	**P**	**12 05 59.1**	**+0.8**
ASAR	**Alice Springs**	**26.29**	**169**	P	**P**	**12 06 30.7**	**+0.7**
	0.6nm,0.4s,mb3.5,baz=348,slow=7.6,SNR=17						
MJAR	**Matsushiro Arr**	**35.26**	**14**	P	**P**	**12 07 48.2**	**-0.3**
	2.5nm,0.7s,mb3.9,baz=187,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**36.13**	**161**	*e*P	**P**	**12 07 55.0**	**-1.0**
	2.3nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**36.13**	**161**	P	**P**	**12 07 54.4**	**-1.7**
	2.5nm,0.3s,mb4.2,baz=348,slow=8.4,SNR=22						
STKA	**Stephens Creek**	**36.13**	**161**	*e*P	**P**	**12 07 54.9**	**-1.1**
SONM	**Songino Array**	**49.28**	**340**	P	**P**	**12 09

comp=Z,1μm,14.0s
PET Petropavlovsk 5.32 23 *e*PN **Pn 12 12 53.0 +0.8**
PET pmax pmax
comp=Z,25nm,0.6s
PET MLR MLR
comp=Z,200nm,12.0s
KUR Kuril'sk 5.84 242⇓*i*PN **Pn 12 12 56.7 -2.6**
KUR *e*S **Sn 12 14 07.0 +2.0**
KUR pmax pmax
comp=Z,110nm,0.6s
KUR smax
comp=N,190nm,1.0s
KUR smax
comp=E,130nm,1.0s
YSS Yuzh-Sakhalins 8.50 266 *e*PN **Pn 12 13 38.0 +2.1**
ASAJ Asahikawa 9.64 250 P **Pn 12 13 51.3 -0.2**
comp=E,1.0nm,0.3s,baz=82,slow=16,SNR=9.5
ASAJ LR LR 12 17 06.9
comp=E,120nm,19.3s,baz=96,slow=35
ASAJ Asahikawa 9.64 250 PN **Pn 12 13 51.3 -0.2**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,120nm,19.3s
KLR Kul'dur 15.50 283 *e*P **Pn 12 15 11.0 -0.1**
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,900nm,14.0s
MJAR Matsushiro Arr 17.07 233 P **Pn 12 15 25.1 -5.9**
comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=3.9
SONM Songino Array 32.21 288 P **P 12 17 58.2 -1.5**
comp=Z,0.4nm,0.8s,mb3.3,baz=62,slow=9.9,SNR=3.3
SONM LR LR 12 32 07.5
comp=Z,86nm,18.6s,MS3.5,baz=266,slow=38
ILAR Eielson Array 34.55 40 P **P 12 18 20.9 +0.9**
comp=Z,0.3nm,0.8s,mb3.2,baz=271,slow=8.9,SNR=3.1
MKAR Makanchi Array 47.54 297 P **P 12 20 05.7 -1.1**
comp=Z,1.7nm,0.8s,mb4.2,baz=65,slow=6.8,SNR=15
MKAR Makanchi Array 47.54 297 P **P 12 20 05.7 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 48.93 38 P **P 12 20 18.8 +1.2**
comp=Z,0.6nm,0.8s,mb3.7,baz=298,slow=7.8,SNR=6.6
YKA Yellowknife Ar 48.93 38 P **P 12 20 18.8 +1.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 63.34 335 P **P 12 22 00.9 +0.5**
comp=Z,2.1nm,0.9s,mb4.3,baz=23,slow=7.5,SNR=4.5
FINES FINESS Array B 63.34 335 P **P 12 22 00.9 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.9s
KAKA Kakadu 63.91 205 *e*P **P 12 21 56.2 -8.0**
comp=Z,4.9nm,0.8s,mb4.6
WRA Warramunga Arr 70.34 201 P **P 12 22 44.0 -1.0**
comp=Z,0.2nm,0.7s,mb3.1,baz=74,slow=12,SNR=2.2
WRA pP pP 12 22 56.4 -0.2
comp=Z,1.3nm,0.8s,baz=19,slow=6.7,SNR=6.1
WRA Warramunga Arr 70.34 201 P **P 12 22 44.0 -1.0**
WRA *PP pP 12 22 56.4 -0.2
WRA pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 71.13 327 P **P 12 22 48.7 -1.0**
comp=Z,0.6nm,0.4s,mb3.9,baz=41,slow=6.2,SNR=8.0
AKASG Malin Array Be 71.13 327 P **P 12 22 48.7 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 74.03 200 pP pP 12 23 19.4 +0.7
comp=Z,0.5nm,0.7s,baz=15,slow=5.0,SNR=5.1
GERES GERESS Array B 77.77 335 P **P 12 23 29.0 +0.6**
comp=Z,0.3nm,0.3s,mb3.6,baz=32,slow=7.8,SNR=3.9
BRTR Keskin Array B 78.30 318 P **P 12 23 32.4 +1.1**
comp=Z,1.0nm,0.8s,mb3.8,baz=41,slow=3.9,SNR=5.3
BRTR Keskin Array B 78.30 318 P **P 12 23 32.4 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s

IDC 01 12:14:26.5±65.0, 1833S×17975W, h640km±371km, mb3.1/5, mb1 3.2/6, mb1mx3.0/16, mbtmp4.2/6, 1D, Error ellipse: s-maj=764.8km s-min=86.6km az=73.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.48**	**252**	P	P	12 17 20.8	+1.7
	0.4nm,0.3s,baz=84,slow=18,SNR=6.8						
CTA	**Charters Tower**	**32.12**	**261**	P	P	12 20 04.1	+0.1
	0.9nm,0.4s,baz=103,slow=6.1,SNR=3.6						
STKA	**Stephens Creek**	**37.30**	**241**	*e*P	P	12 20 46.7	-0.2
	2.3nm,0.6s						
STKA	**Stephens Creek**	**37.30**	**241**	P	P	12 20 46.8	-0.1
	2.2nm,0.5s,baz=100,slow=13,SNR=15						
WB2	**Warramunga Arr**	**43.29**	**260**	*e*P	P	12 21 33.6	-0.5
WRA	**Warramunga Arr**	**43.30**	**260**	P	P	12 21 34.2	0.0
	1.0nm,0.4s,baz=94,slow=6.9,SNR=50						
ASAR	**Alice Springs**	**43.45**	**255**	P	P	12 21 36.0	+0.7
	8.9nm,0.5s,baz=88,slow=8.1,SNR=170						
ASPA	**Alice Springs**	**43.45**	**255**	⇓*i*P	P	12 21 36.0	+0.7
FORT	**Forrest**	**48.67**	**245**	*e*P	P	12 22 14.8	+0.2
	17nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.70**	**261**	*e*P	P	12 22 37.2	+0.7
	4.6nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.70**	**261**	P	P	12 22 37.5	+0.9
	0.8nm,0.5s,baz=90,slow=10,SNR=10.0						

*CSEM **01** 12:15:29.4±0.9, 3902N×2788W, h13km±6km, ML1.2, Error ellipse: s-maj=8.3km s-min=7.1km az=87.0, After PDA*
*PDA **01** 12:15:29.4±0.9, 3902N×2788W, h13km±6km, MD3.1, ML1.2, Error ellipse: s-maj=8.3km s-min=7.1km az=87.0*
SVSA 01 12:15:29.4±0.9, 3902N×2788W, h13km±6km, MD3.1, ML1.2, Error ellipse: s-maj=8.3km s-min=7.1km az=87.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.11**	**305**	*e*S	Sg	12 15 34.1	-0.6
STGR							
	31nm,0.3s						
SRBC	**Serra Branca**	**0.12**	**280**	*e*P	Pg	12 15 32.2	-0.4
SRBC				*e*S	Sg	12 15 34.6	-0.4
PVIA	**Vitoria**	**0.14**	**292**	*e*S	Sg	12 15 35.0	-0.3
PVIA							
	12nm,0.1s						
PAMA	**Santo Amaro**	**0.41**	**215**	*e*S	Sg	12 15 41.8	-1.2
PAMA							
	19nm,0.1s						
ROSA	**Rosais**	**0.41**	**224**	*e*P	Pg	12 15 36.0	-1.5
ROSA				*e*S	Sg	12 15 41.3	-1.7
PID	**Ribeirinha**	**0.60**	**198**	*e*P	Pg	12 15 39.3	-1.8
PID				*e*S	Sg	12 15 46.2	-2.9
PICO	**Pico**	**0.67**	**220**	*e*P	Pg	12 15 40.2	-2.2
PICO				*e*S	Sg	12 15 48.3	-2.8

IDC 01 12:19:49.7±4.1, 554S×15423E, h189km±39km, mb3.2/8, mb1 3.4/10, mb1mx3.3/17, mbtmp3.8/10, Error ellipse: s-maj=24.4km s-min=20.2km az=70.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.99**	**241**	P	Pn	12 21 43.7	+0.9
	0.8nm,0.3s,baz=53,slow=13,SNR=3.3						
CTA	**Charters Tower**	**16.41**	**207**	P	Pn	12 23 28.7	-0.7
	0.2nm,0.3s,baz=30,slow=10,SNR=8.3						
DZM	**Mont Dzumac**	**20.24**	**145**	*e*P	P	12 24 09.3	-1.0
DZM	**Mont Dzumac**	**20.24**	**145**	P	P	12 24 10.5	+0.2
	7.5nm,0.5s,baz=290,slow=12,SNR=40						
WRA	**Warramunga Arr**	**24.07**	**232**	P	P	12 24 47.5	-0.1
	0.6nm,0.5s,baz=56,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**26.61**	**225**	P	P	12 25 10.2	-0.3
	0.2nm,0.4s,baz=56,slow=9.2,SNR=5.2						
STKA	**Stephens Creek**	**28.75**	**203**	P	P	12 25 29.6	+0.1
	1.1nm,0.8s,baz=352,slow=14,SNR=2.7						
SONM	**Songino Array**	**67.71**	**327**	P	P	12 30 27.5	+0.9
	0.6nm,0.4s,baz=141,slow=6.5,SNR=4.7						
VNDA	**Vanda**	**72.05**	**178**	P	P	12 30 53.4	+0.4
	0.7nm,0.6s,baz=325,slow=7.9,SNR=5.9						
MKAR	**Makanchi Array**	**81.82**	**319**	P	P	12 31 47.8	+0.2
	0.4nm,0.6s,baz=97,slow=5.3,SNR=4.0						
ILAR	**Eielson Array**	**82.31**	**22**	P	P	12 31 49.2	-0.8
	0.2nm,0.5s,baz=246,slow=4.7,SNR=8.2						

*ISCJB **01** 12:21:23.0±0.8, 2377S±007×666W±0.1, h208km±11km, mb3.4/2, Error ellipse: s-maj=15.4km s-min=12.1km az=170.4*
*IDC **01** 12:21:24.0±1.2, 2366S×6656W, h200km±13km, mb3.4/2, mb1 3.3/8, mb1mx3.2/19, mbtmp3.7/8, Error ellipse: s-maj=19.7km s-min=17.4km az=9.0*
ISC 01 12:21:24.2±0.8, 2372S±008×666W±01, h205km±11km, n12, σ0=82/12, mb3.4/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**297**	P	**Pn**	**12 22 08.1**	**+0.5**
	9.4nm,0.3s,baz=140,slow=7.5,SNR=116						
LVC				S	**Sn**	**12 22 40.6**	**-0.8**
	15nm,0.3s,baz=270,slow=20,SNR=21						
LPAZ	**La Paz**	**7.54**	**348**	P	**Pn**	**12 23 11.9**	**+0.5**
	0.2nm,0.3s,baz=206,slow=13,SNR=6.1						
LPAZ				S	**Sn**	**12 24 36.9**	**+0.1**
	0.0nm,0.3s,baz=9.5,slow=22,SNR=2.8						
CPUP	**Villa Florida**	**8.77**	**109**	P	**Pn**	**12 23 26.7**	**-0.6**
	0.2nm,0.3s,baz=263,slow=13,SNR=8.9						
SIV	**San Ignacio**	**9.26**	**35**	P	**Pn**	**12 23 33.5**	**-0.2**
	0.1nm,0.3s,baz=247,slow=18,SNR=3.6						
PLCA	**Paso Flores**	**17.29**	**190**	P	**P**	**12 25 14.0**	**+2.1**
	0.3nm,0.3s,baz=337,slow=9.9,SNR=6.2						
BDFB	**Brasilia**	**19.21**	**69**	P	**P**	**12 25 33.6**	**+1.0**
	0.5nm,0.3s,baz=268,slow=5.4,SNR=3.6						
VNA3	**Neumayer Olymp**	**57.29**	**161**	*e*	**P**	**12 30 49.7**	**-0.8**
VNA3				*e*		12 30 51.1	
VNA2	**Neumayer--Watz**	**57.84**	**161**	*e*	**P**	**12 30 53.3**	**-1.1**
	baz=289,slow=7.3						
VNA2				*e*		12 30 54.9	
TORD	**Torodi Ar. Bea**	**76.09**	**69**	P	**P**	**12 32 49.1**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=262,slow=5.6,SNR=6.1						
YKA	**Yellowknife Ar**	**94.00**	**340**	P	**P**	**12 34 18.5**	**-0.3**
	0.2nm,0.6s,mb3.4,baz=139,slow=4.6,SNR=5.1						
WRA	**Warramunga Arr**	**132.06**	**207**	PKP	PKPdf	12 40 13.7	+0.4
	0.2nm,0.4s,baz=147,slow=1.7,SNR=8.2						
MKAR	**Makanchi Array**	**146.05**	**40**	PKPbc	PKPbc	12 40 40.0	+0.1
	0.9nm,0.6s,baz=298,slow=3.1,SNR=9.6						

CASC 01 12:21:43.5±2.5, 1321N×8863W, h73km±29km, MD3.8, 5C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.41**	**57**⇓	*e*P	x	12 22 03.2	
VSM				*e*S	x	12 22 14.6	
LCBS	**La Ceiba**	**0.56**	**322**⇓	*e*P	x	12 22 04.0	
LCBS				*e*S	x	12 22 15.6	
LFRS	**El Faro**	**0.59**	**314**⇓	*e*P	x	12 22 04.1	
LFRS				*e*S	x	12 22 14.8	
LBRS	**Las Brisas**	**0.67**	**322**	*e*P	x	12 22 05.8	
LBRS				*e*S	x	12 22 16.8	
BOQS	**Boqueron**	**0.82**	**309**	*e*P	x	12 22 07.0	
BOQS				*e*S	x	12 22 20.5	
SNJE	**San Jose**	**1.16**	**305**	*e*P	x	12 22 11.2	
SNJE				*e*S	x	12 22 27.4	
RTR	**El Retiro**	**1.21**	**305**	*e*P	x	12 22 12.6	
RTR				*e*S	x	12 22 29.8	
RBDL	**Robledal**	**1.37**	**311**	*e*P	x	12 22 14.4	
RBDL				*e*S	x	12 22 33.0	
CRIN	**San Cristobal**	**1.62**	**108**⇓	*e*P	Pn	12 22 11.2	+1.2
CRIN				*e*S	Sn	12 22 32.3	+2.2
TEL3	**Telica 3**	**1.85**	**110**⇑	*e*P	Pn	12 22 13.8	+0.6
TEL3				*e*S	Sn	12 22 35.5	-0.2
TELN	**Telica**	**1.85**	**109**⇑	*e*P	Pn	12 22 13.8	+0.6
TELN				*e*S	Sn	12 22 36.7	+1.0
LEON	**Leon**	**1.86**	**115**⇑	*e*P	Pn	12 22 12.8	-0.6
LEON				*e*S	Sn	12 22 35.4	-0.7
CNGN	**Cerro Negro**	**2.01**	**110**	*e*P	Pn	12 22 15.3	0.0
CNGN				*e*S	Sn	12 22 39.2	-0.3
MIRN	**Miramar**	**2.02**	**112**	*e*P	Pn	12 22 15.6	+0.2
MOMJ	**Momotombo**	**2.18**	**111**	*e*P	Pn	12 22 17.7	+0.1
COPN	**Copaltepe**	**2.23**	**117**⇓	*e*P	Pn	12 22 17.9	-0.4
COPN				*e*S	Sn	12 22 47.2	+2.3
APYN	**Apoyeque**	**2.42**	**113**⇑	*e*P	Pn	12 22 20.3	-0.6
XAVN	**Gruta Xavier**	**2.48**	**115**⇑	*e*P	Pn	12 22 21.8	+0.2
MGAN	**Managua**	**2.55**	**114**	*e*S	Sn	12 22 52.9	+0.3
TICN	**Ticuantepe**	**2.61**	**116**	*e*P	Pn	12 22 24.9	+1.5
SSNN	**San Juan del S**	**3.32**	**125**	*e*P	Pn	12 22 35.0	+2.0

CASC 01 12:31:32.1±1.5, 1082N×8569W, h62km±3km, MD3.5, ML3.4, 6C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIN3	**Volcan Rincon**	**0.30**	**96**⇓	*i*P	Pn	12 31 42.5	+0.1
RIN3				*e*S	Sn	12 31 52.6	+2.6
LIM1	**Limonal**	**0.44**	**106**	*i* P	Pn	12 31 43.5	-0.2
LIM1				*i* S	Sn	12 31 52.2	+0.2
SSNN	**San Juan del S**	**0.49**	**341**	*e*P	Pn	12 31 44.2	0.0
SSNN				*e*S	Sn	12 31 53.3	+0.4
MADN	**Villa Maderas**	**0.60**	**14**	*e*P	Pn	12 31 45.5	+0.2
MADN				*e*S	Sn	12 31 54.7	-0.3
VCR	**Vista de Mar**	**0.69**	**176**⇑	*i*P	Pn	12 31 45.7	-0.7
VCR				*e*S	Sn	12 31 58.9	+1.9
CONN	**Concepcion**	**0.74**	**5**	*e*P	Pn	12 31 46.8	-0.1
JTS	**JuntasAbangare**	**0.89**	**126**⇓	*i*P	Pn	12 31 48.5	-0.3
JTS				*e*S	Sn	12 32 01.2	0.0
JTS				AML	AML	12 32 06.2	
	comp=Z,474nm,0.9s						
VACR	**Volcan Arenal**	**1.05**	**109**⇓	*i*P	Pn	12 31 51.4	+0.6
FORC	**Fortuna**	**1.06**	**109**⇓	*i*P	Pn	12 31 51.4	+0.4
FORC				*i* S	Sn	12 32 06.5	+1.5
APON	**Apoyo**	**1.15**	**341**	*e*P	Pn	12 31 52.2	0.0
CAO	**Cobano**	**1.25**	**153**⇑	*i*P	Pn	12 31 53.2	-0.3
TICN	**Ticuantepe**	**1.32**	**336**	*e*P	Pn	12 31 54.9	+0.5
EPA	**Esparza**	**1.35**	**128**⇑	*i*P	Pn	12 31 54.9	0.0
EPA				*e*S	Sn	12 32 13.1	+1.1
MGAN	**Managua**	**1.43**	**337**	*e*S	Sn	12 32 14.2	+0.5
CGA2	**Cerro Gallo 2**	**1.44**	**124**	*e*P	Pn	12 31 56.3	+0.3
CGA2				*e*S	Sn	12 32 15.2	+1.1
XAVN	**Gruta Xavier**	**1.46**	**335**	*e*P	Pn	12 31 56.6	+0.4
APYN	**Apoyeque**	**1.54**	**335**	*e*P	Pn	12 31 56.8	-0.6
POA2	**Poas 2**	**1.55**	**114**⇑	*e*P	Pn	12 31 58.4	+0.9
PRS1	**Puriscal**	**1.59**	**122**	*e*P	Pn	12 31 58.7	+0.7
COPN	**Copaltepe**	**1.61**	**327**	*e*P	Pn	12 31 58.5	+0.1
LAJ	**Bijagual**	**1.81**	**122**⇓	*e*P	Pn	12 31 58.5	-2.5
MIRN	**Miramar**	**1.90**	**328**	*e*P	Pn	12 32 03.2	+1.0
OCM	**Ochomogo**	**1.93**	**118**	*i* P	Pn	12 32 03.2	+0.6
OCM				AML	AML	12 32 33.3	
	comp=N,412nm,0.7s						
CNGN	**Cerro Negro**	**1.94**	**329**	*e*P	Pn	12 32 03.3	+0.5
IRZ2	**Volcan Irazu 2**	**1.95**	**116**⇑	*i*P	Pn	12 32 04.1	+1.2
LCR2	**La Lucha 2**	**1.97**	**123**⇑	*e*P	Pn	12 32 03.7	+0.5
LCR2				*e*S	Sn	12 32 30.8	+3.9
LEON	**Leon**	**1.98**	**323**	*e*P	Pn	12 32 03.5	+0.3
URSC	**Urasca**	**2.12**	**117**	*e*P	Pn	12 32 06.2	+1.0
BUS	**Buena Vista**	**2.28**	**123**	*e*P	Pn	12 32 08.6	+1.3
BUS				*e*S	Sn	12 32 36.0	+1.7
CRIN	**San Cristobal**	**2.29**	**324**	*e*P	Pn	12 32 08.2	+0.6

*ISCJB **01** 12:37:03.4±1.2, 1735S±008×17527W±008, h235km±13km, mb4.4/26, Error ellipse: s-maj=14.1km s-min=11.0km az=102.1*
*BJI **01** 12:37:06.6, 1748S×17565W, h256km, mB4.5, mb4.3*
*IDC **01** 12:37:07.9±2.4, 1747S×17533W, h260km±21km, mb3.8/11, mb1 4.0/12, mb1mx3.8/17, mbtmp4.5/12, Error ellipse: s-maj=16.6km s-min=11.1km az=118.0*
*NEIC **01** 12:37:08.5±0.3, 1747S×17523W, mb4.5/16, Error ellipse: s-maj=10.5km s-min=7.4km az=153.0*
ISC 01 12:37:05.4±1.2, 1742S±008×17517W±008, h241km±13km, n50, σ0=94/45, mb4.4/26, 5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.78**	**44**	P	**Pn**	**12 38 17.6**	**-0.5**
	56nm,0.3s,baz=2.8,slow=1.1,SNR=189						
AFI				S	**S**	**12 39 09.8**	**-6.2**
	178nm,0.3s,baz=28,slow=21,SNR=15						
RAR	**Rarotonga**	**15.01**	**107**	P	**Pn**	**12 40 26.3**	**+0.3**
	1.2nm,0.3s,baz=250,slow=7.6,SNR=15						
DZM	**Mont Dzumac**	**17.92**	**252**	*e*P	**P**	**12 40 58.9**	**+1.3**
DZM	**Mont Dzumac**	**17.92**	**252**	P	**P**	**12 40 59.3**	**+1.7**
	1.0nm,0.3s,baz=80,slow=18,SNR=22						
URZ	**Urewera**	**21.84**	**197**	P	**P**	**12 41 37.5**	**-1.1**
	53nm,0.9s,mb5.1,baz=6.4,slow=4.3,SNR=19						
URZ				S	**S**	**12 45 21.6**	**-0.9**
	3.2nm,0.4s,baz=45,slow=19,SNR=2.4						
HNR	**Honiara**	**25.45**	**285**	P	**P**	**12 42 09.3**	**-2.1**
	7.6nm,0.3s,mb4.8,baz=90,slow=3.0,SNR=1.9						
RPZ	**Rata Peaks**	**28.69**	**201**	P	**P**	**12 42 39.3**	**-0.9**
	4.9nm,0.6s,mb4.3,baz=36,slow=7.3,SNR=7.8						
ARMA	**Armidale**	**32.87**	**241**	*e*P	**P**	**12 43 17.9**	**+1.2**
CNB	**Canberra Magne**	**36.19**	**233**	*e*P	**P**	**12 43 45.7**	**+0.6**
	22nm,0.8s,mb4.7						
CTA	**Charters Tower**	**36.58**	**260**⇓	*i*P	**P**	**12 43 48.4**	**+0.1**
	12nm,0.6s,mb4.6						
CTAO	**Charters Tower**	**36.58**	**260**	*e*P	**P**	**12 43 48.4**	**0.0**
	14nm,0.7s,mb4.6						
PMG	**Port Moresby**	**37.45**	**277**	*e*P	**P**	**12 43 56.2**	**+0.5**
	16nm,1.0s,mb4.5						
TOO	**Toolangi**	**39.89**	**232**⇓	*i*P	**P**	**12 44 15.9**	**0.0**
	19nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**41.58**	**241**⇓	*i*P	**P**	**12 44 28.3**	**-1.3**
	32nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**41.58**	**241**	P	**P**	**12 44 28.4**	**-1.2**
	44nm,0.9s,mb4.9,baz=93,slow=9.5,SNR=45						
STKA	**Stephens Creek**	**41.58**	**241**	*e*P	**P**	**12 44 28.4**	**-1.2**
WB2	**Warramunga Arr**	**47.75**	**259**	*e*P	**P**	**12 45 17.7**	**-0.5**
WRAB	**Tennant Creek**	**47.75**	**259**	*e*P	**P**	**12 45 17.4**	**-0.8**
	46nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**47.76**	**259**	P	**P**	**12 45 17.9**	**-0.4**
	13nm,0.8s,mb4.3,baz=96,slow=7.0,SNR=174						
AS31	**Alice Springs**	**47.90**	**254**⇓	*i*P	**P**	**12 45 19.6**	**+0.2**
ASAR	**Alice Springs**	**47.90**	**254**	P	**P**	**12 45 19.6**	**+0.3**
	69nm,0.6s,mb5.1,baz=88,slow=8.5,SNR=882						
ASAR				S	**S**	**12 51 54.4**	**-3.4**
	0.6nm,0.8s,baz=97,slow=19,SNR=4.1						
ASPA	**Alice Springs**	**47.90**	**254**⇓	*i*P	**P**	**12 45 19.6**	**+0.2**
KAKA	**Kakadu**	**50.69**	**268**	*e*P	**P**	**12 45 40.7**	**+0.3**
	6.5nm,0.6s,mb4.2						
FORT	**Forrest**	**53.01**	**244**	*e*P	**P**	**12 45 57.1**	**-0.4**
	17nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**56.16**	**260**	*e*P	**P**	**12 46 20.7**	**+0.6**
	4.2nm,0.8s,mb4.0						
MBWA	**Marble Bar**	**61.19**	**255**	*e*P	**P**	**12 46 54.5**	**-0.2**
	13nm,1.0s,mb4.5						
VNDA	**Vanda**	**61.21**	**186**	P	**P**	**12 46 55.8**	**+1.0**
	1.8nm,0.9s,mb3.7,baz=19,slow=5.8,SNR=7.3						
VNDA	**Vanda**	**61.21**	**186**	*e*P	**P**	**12 46 55.4**	**+0.5**
	1.2nm,0.7s,mb3.6						
KLBR	**Kellerberrin**	**61.81**	**243**	*e*P	**P**	**12 46 58.6**	**-0.2**
	102nm,1.8s,mb5.2						
MUN	**Mundaring**	**63.10**	**243**	*e*P	**P**	**12 47 07.7**	**+0.4**
MJAR	**Matsushiro Arr**	**69.41**	**321**	P	**P**	**12 47 47.8**	**+0.5**
	2.5nm,0.8s,mb3.9,baz=158,slow=6.6,SNR=11						
QSPA	**South Pole Qui**	**72.64**	**180**	*e*P	**P**	**12 48 07.3**	**+0.7**
	88nm,2.5s,mb5.0						
KSM	**Kuching**	**75.70**	**276**	*e*P	**P**	**12 48 25.9**	**+1.7**
NVAR	**Mina Array Bea**	**76.95**	**42**	P	**P**	**12 48 31.9**	**+0.6**
	0.6nm,0.7s,mb3.3,baz=223,slow=7.4,SNR=5.0						
NVAR				pP	pP	12 49 36.5	+8.4
	1.1nm,1.0s,baz=239,slow=14,SNR=3.8						
COLA	**College**	**84.65**	**11**	*e*P	**P**	**12 49 11.1**	**-0.8**
	4.0nm,0.7s,mb4.3						
ILAR	**Eielson Array**	**84.75**	**12**	P	**P**	**12 49 11.9**	**-0.5**
	0.6nm,0.7s,mb3.5,baz=223,slow=4.9,SNR=8.3						
PDAR	**Pinedale Array**	**84.89**	**42**	P	**P**	**12 49 13.6**	**+0.5**
	0.5nm,0.5s,mb3.5,baz=197,slow=2.2,SNR=6.1						
PDAR				pP	pP	12 50 17.6	+6.5
	0.6nm,0.9s,baz=211,slow=3.2,SNR=3.8						
MAW	**Mawson**	**85.35**	**199**	P	**P**	**12 49 15.3**	**-0.1**
	3.8nm,0.7s,mb4.2,baz=130,slow=7.6,SNR=5.7						
MAW	**Mawson**	**85.35**	**199**	*e*P	**P**	**12 49 15.0**	**-0.4**
	4.8nm,0.7s,mb4.3						
ENH	**Enshi**	**86.58**	**303**	*e*P	**P**	**12 49 17.5**	**-3.9**
	0.7nm,0.4s,mb3.7						
KMI	**Kunming**	**90.38**	**296**	P	**P**	**12 49 42.0**	**+2.7**
CD2	**Chengdu**	**91.42**	**302**	*e*P	**P**	**12 49 41.5**	**-2.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
MKAR	**Makanchi Array**	**111.02**	**314**	PKiKP	PKiKP	12 55 09.2	-0.7
	comp=Z,0.5nm,0.7s,baz=45,slow=0.2,SNR=4.5						
ARCES	**ARCESS Array B**	**126.34**	**351**	PKP	PKPdf	12 55 38.5	-0.9
	comp=Z,0.9nm,0.6s,baz=90,slow=1.2,SNR=4.3						
KWP	**Kalwaria**	**144.77**	**340**	*e*PKPdf	PKPdf	12 56 13.3	-0.1
CLL	**Collm**	**145.57**	**351**	*e*PKPbc	PKPbc	12 56 15.0	-0.4
	comp=Z,8.0nm,0.9s						
BRTR	**Keskin Array B**	**146.57**	**318**	PKPbc	PKPbc	12 56 19.1	+0.8
	comp=Z,3.1nm,0.8s,baz=126,slow=3.2,SNR=13						
MLR	**Muntele Rosu**	**146.92**	**332**	PKPbc	PKPbc	12 56 20.3	+1.0
	comp=Z,1.6nm,0.6s,baz=112,slow=4.6,SNR=4.3						
GERES	**GERESS Array B**	**147.83**	**349**	PKPbc	PKPbc	12 56 22.3	+0.5
	comp=Z,1.3nm,0.5s,baz=2.7,slow=2.8,SNR=10						
DAVOX	**Davos**	**150.42**	**353**	PKPbc	PKPbc	12 56 28.9	+0.8
	comp=Z,4.8nm,0.6s,baz=135,slow=1.4,SNR=6.2						

JMA 01 12:49:36.8±0.4, 4396N×14832E, h0km, M3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.96**	**253**	P	Pn	12 50 11.9	+0.6
NEM2				*e*S	Sn	12 50 37.5	+0.9
JNK	**Nakash**	**2.63**	**263**	P	Pn	12 50 21.2	+0.6
JNK				*e*S	Sn	12 50 54.1	+0.9
JAK	**Akkeshi**	**2.81**	**251**	P	Pn	12 50 24.2	+1.3
JAK				*e*S	Sn	12 50 58.9	+1.4
JAR	**Ashorobuto**	**3.37**	**260**	P	Pn	12 50 32.7	+2.0
JAR				*e*S	Sn	12 51 13.2	+1.8
JCH	**Churui**	**3.86**	**251**	P

ϕ_0=85.00000°, δ53.00000°, λ109.00000°. Principal axes: T 1.0220, Plg74.0000°, Azm49.0000°; N 0.1960, Plg15.0000°, Azm253.0000°; P -1.2180, Plg6.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 01 13:16:26.5±0.1,513S±003×15179E±003,h43km, h43km±1.1km:pP-P,n517,σ0984/368,mb5.1/112,MS4.7/155, 58C-50D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.25**	**227**	**P**		**Pn**		**13 17 57.5**	**+1.2**
	27nm,0.3s,baz=33,slow=8.0,SNR=84								
PMG				S		**Sn**		**13 19 08.9**	**+2.5**
	24nm,0.3s,baz=146,slow=13,SNR=5.2								
PMG	**Port Moresby**	**6.25**	**227**	*d i*P		**Pn**		**13 17 58.0**	**+1.8**
PMG	**Port Moresby**	**6.25**	**227**	*e*Pn		**Pn**		**13 17 58.8**	**+2.6**
	266nm,0.8s								
HNR	**Honiara**	**9.15**	**118**	P		**Pn**		**13 18 34.8**	**-1.1**
	5.5nm,0.3s,baz=260,slow=3.6,SNR=13								
HNR				LR		LR		13 21 16.2	
	comp=Z,1μm,20.7s,baz=355,slow=32								
HNR	**Honiara**	**9.15**	**118**	*e*P		**Pn**		**13 18 35.8**	**-0.1**
HNR				pmax		pmax			
	comp=Z,213nm,0.8s								
HNR	**Honiara**	**9.15**	**118**	*e*Pn		**Pn**		**13 18 35.8**	**-0.1**
	comp=Z,213nm,0.8s								
CTA	**Charters Tower**	**15.81**	**199**	⇓*i*P		**Pn**		**13 20 05.8**	**-0.3**
	comp=Z,11nm,0.8s								
CTA				*e*S		**S**		**13 23 32.6**	**+19**
CTA	**Charters Tower**	**15.81**	**199**	P		**Pn**		**13 20 06.2**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=27,slow=13,SNR=17								
CTA				LR		LR		13 25 32.6	
	comp=Z,3μm,21.2s,baz=24,slow=34								
CTA	**Charters Tower**	**15.81**	**199**	⇓*i*P		**Pn**		**13 20 05.8**	**-0.3**
CTA				pmax		pmax			
	comp=Z,11nm,0.8s								
CTAO	**Charters Tower**	**15.81**	**199**	*e*P		**Pn**		**13 20 05.7**	**-0.4**
CTAO				pmax		pmax			
	comp=Z,61nm,1.4s								
CTAO	**Charters Tower**	**15.81**	**199**	*e*Pn		**Pn**		**13 20 05.7**	**-0.3**
	comp=Z,61nm,1.4s								
GUMO	**Guam**	**19.83**	**340**	P		**Pn**		**13 20 55.3**	**-0.1**
	comp=Z,4.9nm,0.3s,baz=162,slow=11,SNR=13								
GUMO				LR		LR		13 27 32.5	
	comp=Z,345nm,21.6s,baz=342,slow=34								
GUMO	**Guam**	**19.83**	**340**	P		**Pn**		**13 20 55.3**	**-0.1**
GUMO				LR		LR		13 27 32.5	
KAKA	**Kakadu**	**20.53**	**247**	⇑*i*P		**P**		**13 21 01.8**	**+0.6**
	comp=Z,148nm,0.5s								
KAKA				*e*S		**S**		**13 24 49.1**	**+0.6**
NOUC	**Port Laguerre**	**21.95**	**142**	*e*P		**P**		**13 21 15.7**	**-0.7**
DZM	**Mont Dzumac**	**22.02**	**141**	*e*P		**P**		**13 21 15.1**	**-2.0**
DZM	**Mont Dzumac**	**22.02**	**141**	P		**P**		**13 21 16.1**	**-1.0**
	comp=Z,13nm,0.6s,mb4.6,baz=93,slow=20,SNR=26								
DZM				LR		LR		13 28 36.6	
	comp=Z,3μm,20.9s,MS4.7,baz=323,slow=33								
WRAB	**Tennant Creek**	**22.46**	**228**	P		**P**		**13 21 21.9**	**0.0**
	comp=Z,437nm,0.7s,mb6.0,SNR=25								
WRAB	**Tennant Creek**	**22.46**	**228**	*e*P		**P**		**13 21 21.8**	**-0.1**
WRAB				*e*S		**S**		**13 25 22.7**	**-3.4**
WRAB				pmax		pmax			
	comp=Z,105nm,0.6s,mb5.4								
WRAB				MLR		MLR			
	comp=Z,2μm,19.0s,MS4.5								
WRAB	**Tennant Creek**	**22.46**	**228**	*e*P		**P**		**13 21 21.8**	**0.0**
	comp=Z,105nm,0.6s,mb5.4								
WRAB				*e*S		**S**		**13 25 22.7**	**-3.4**
WRAB				*e*ScP		ScP		13 28 48.6	-0.4
WRAB				LR		LR			
	comp=Z,2μm,19.0s,MS4.5								
WB2	**Warramunga Arr**	**22.47**	**228**	*e*P		**P**		**13 21 21.9**	**0.0**
WB2				*e*pP				13 21 35.2	
WB2				*e*S		**S**		**13 25 23.7**	**-2.5**
WB2				*e*SCP		ScP		13 28 49.3	+0.3
WRA	**Warramunga Arr**	**22.48**	**228**	P		**P**		**13 21 22.0**	**0.0**
	comp=Z,48nm,0.8s,mb5.0,baz=53,slow=10.0,SNR=139								
WRA				PcP		PcP		13 25 15.2	+0.2
	comp=Z,9.2nm,1.0s,baz=40,slow=1.8,SNR=6.2								
WRA				S		**S**		**13 25 24.9**	**-1.4**
	comp=Z,8.9nm,1.0s,baz=57,slow=18,SNR=15								
WRA				ScP		ScP		13 28 49.3	+0.3
	comp=Z,11nm,1.1s,baz=43,slow=2.7,SNR=12								
WRA	**Warramunga Arr**	**22.48**	**228**	P		**P**		**13 21 22.0**	**0.0**
WRA								13 25 15.2	
WRA				S		**S**		**13 25 24.9**	**-1.4**
ARMA	**Armidale**	**25.15**	**180**	*e*P		**P**		**13 21 48.9**	**+1.3**
AS31	**Alice Springs**	**25.23**	**221**	*e*P		**P**		**13 21 48.6**	**+0.3**
AS31				*e*ScP		ScP		13 29 04.3	+7.8
ASAR	**Alice Springs**	**25.23**	**221**	P		**P**		**13 21 48.2**	**-0.1**
	comp=Z,20nm,0.4s,mb5.0,baz=57,slow=9.0,SNR=166								
ASAR				ScP		ScP		13 28 56.8	+0.3
	comp=Z,5.3nm,0.9s,baz=54,slow=3.4,SNR=17								
ASPA	**Alice Springs**	**25.23**	**221**	*e*P		**P**		**13 21 48.6**	**+0.2**
ASPA				*e*SCP		ScP		13 29 04.3	+7.8
STKA	**Stephens Creek**	**28.27**	**199**	*e*P		**P**		**13 22 12.0**	**-3.7**
	comp=Z,8.0nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**28.27**	**199**	P		**P**		**13 22 13.1**	**-2.5**
	comp=Z,4.7nm,0.6s,mb4.3,baz=15,slow=10,SNR=5.3								
STKA				ScP		ScP		13 29 06.2	+0.7
	comp=Z,1.0nm,0.3s,baz=0.0,slow=9.1,SNR=2.1								
STKA				LR		LR		13 33 43.0	
	comp=Z,1μm,19.8s,MS4.5,baz=282,slow=37								
WAKE	**Wake Island**	**28.33**	**31**	PFAKE				13 22 30.0	+14
WAKE				LR		LR			
	comp=Z,1μm,19.0s,MS4.5								
FITZ	**Fitzroy Crossi**	**28.62**	**241**	⇑*i*P		**P**		**13 22 18.6**	**-0.2**
	comp=Z,55nm,0.9s,mb5.3								
FITZ				*e*S		**S**		**13 27 04.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**28.62**	**241**	P		**P**		**13 22 18.6**	**-0.2**
	comp=Z,30nm,0.8s,mb5.1,baz=70,slow=8.0,SNR=82								
FITZ				LR		LR		13 35 22.3	
	comp=Z,1μm,18.6s,MS4.5,baz=67,slow=40								
DAV	**Davao City (W)**	**28.83**	**295**	PFAKE				13 22 30.0	+9.3
DAV				LR		LR			
	comp=Z,795nm,20.0s,MS4.3								
FORT	**Forrest**	**33.90**	**218**	*e*P		**P**		**13 23 04.6**	**-0.6**
	comp=Z,20nm,0.8s,mb5.1								
FORT				*e*pP		pP		13 23 16.8	-0.1
MBWA	**Marble Bar**	**34.93**	**240**	*e*P		**P**		**13 23 13.7**	**-0.4**
	comp=Z,19nm,0.8s,mb5.1								
MBWA				LR		LR			
	comp=Z,1μm,19.0s,MS4.7								
AFI	**Afiamalu**	**36.93**	**106**	LR		LR		13 36 13.4	
	comp=Z,299nm,21.6s,MS4.0,baz=286,slow=32								
KKM	**Kota Kinabalu**	**37.21**	**287**	*e*P		**P**		**13 23 34.6**	**+0.9**
RAO	**Raoul Island**	**37.36**	**133**	LR		LR		13 37 30.0	
	comp=Z,559nm,18.1s,MS4.4,baz=267,slow=34								
TAU	**Tasmania Unive**	**37.83**	**185**	PFAKE				13 23 50.0	+11
TAU				LR		LR			
	comp=Z,1μm,20.0s,MS4.8								
URZ	**Urewera**	**40.22**	**149**	P		**P**		**13 23 58.5**	**-0.4**
	comp=Z,5.2nm,0.6s,mb4.4,baz=342,slow=3.2,SNR=4.1								
URZ				LR		LR		13 38 32.6	
	comp=Z,908nm,19.1s,MS4.6,baz=254,slow=33								
KLBR	**Kellerberrin**	**41.35**	**226**	*e*P		**P**		**13 24 06.7**	**-1.5**
	comp=Z,8.5nm,0.5s,mb4.6								
NACB	**Ninganchiao**	**41.40**	**316**	*e*P		**P**		**13 24 07.8**	**-0.8**
SNZO	**South Karori**	**41.44**	**154**	PFAKE				13 24 20.0	+11
SNZO				LR		LR			
	comp=Z,2μm,20.0s,MS4.9								
YHNB	**Yeheng**	**41.88**	**316**	*e*P		**P**		**13 24 15.7**	**+3.2**
YHNB				*e*pP		pP		13 24 25.5	+1.1
YHNB				*e*sP		sP		13 24 27.2	-2.3
KSM	**Kuching**	**41.95**	**278**	*e*P		**P**		**13 24 13.6**	**+0.5**
TATO	**Taipei**	**42.00**	**317**	PFAKE				13 24 20.0	+6.5
TATO				LR		LR			
	comp=Z,2μm,20.0s,MS5.0								
RPZ	**Rata Peaks**	**42.01**	**159**	P		**P**		**13 24 12.8**	**-0.8**
	comp=Z,4.3nm,0.6s,mb4.3,baz=201,slow=16,SNR=3.9								
RPZ				LR		LR		13 39 33.6	
	comp=Z,2μm,20.0s,MS5.0,baz=4.8,slow=33								
RPZ	**Rata Peaks**	**42.01**	**159**	P		**P**		**13 24 12.8**	**-0.8**
RPZ				LR		LR		13 39 33.6	
NWAO	**Narrogin (SRO)**	**42.44**	**225**	PFAKE				13 24 30.0	+13
NWAO				LR		LR			
	comp=Z,1μm,21.0s,MS4.7								
MUN	**Mundaring**	**42.67**	**227**	*e*P		**P**		**13 24 18.1**	**-0.8**
MJAR	**Matsushiro Arr**	**43.36**	**344**	P		**P**		**13 24 22.8**	**-1.7**
	comp=Z,9.6nm,0.9s,mb4.5,baz=168,slow=9.0,SNR=19								
MJAR				ScP		ScP		13 29 58.4	-2.0
	comp=Z,3.6nm,1.1s,baz=172,slow=4.8,SNR=4.2								
MJAR				LR		LR		13 41 39.0	
	comp=Z,476nm,19.8s,MS4.4,baz=190,slow=35								
MAJO	**Matsushiro**	**43.36**	**344**	*e*P		**P**		**13 24 24.4**	**-0.1**
MAJO				pmax		pmax			
	comp=Z,15nm,0.8s,mb4.8								
MAJO				MLR		MLR			
	comp=Z,524nm,20.0s,MS4.4								
MAJO	**Matsushiro**	**43.36**	**344**	*e*P		**P**		**13 24 24.4**	**-0.1**
	comp=Z,14nm,0.8s,mb4.8								
MAJO				LR		LR			
	comp=Z,524nm,20.0s,MS4.4								
MAT	**Matsushiro**	**43.36**	**344**	P		**P**		**13 24 22.5**	**-2.0**
MAT				S		**S**		**13 30 37.4**	**-12**
MAT	**Matsushiro**	**43.36**	**344**	*e*P		**P**		**13 24 23.0**	**-1.5**
MAT				pmax		pmax			
	comp=Z,11nm,0.9s,mb4.6								
MAT				MLR		MLR			
	comp=Z,350nm,20.0s,MS4.3								
MAT	**Matsushiro**	**43.36**	**344**	*e*P		**P**		**13 24 23.0**	**-1.5**
	comp=Z,11nm,0.9s,mb4.6								
MAT				*e*S		**S**		**13 30 33.0**	**-16**
MAT				LR		LR			
	comp=Z,350nm,20.0s,MS4.3								
QZH	**Quanzhou**	**44.00**	**314**	⇑*i*P		**P**		**13 24 33.7**	**+4.0**
QZH				AMB		AMB			
	comp=Z,90nm,0.7s,mb5.6								
QZH				LR		LR			
	comp=Z,1μm,27.2s,MS4.8								
SSE	**Sheshan**	**46.39**	**323**	P		**P**		**13 24 50.5**	**+1.9**
SSE				AP		pP		13 25 03.8	+3.1
SSE				XP		sP		13 25 09.9	+4.2
SSE				PP		PP		13 26 40.1	+2.1
SSE				S		**S**		**13 31 35.0**	**+1.8**
SSE				AMB		AMB			
	comp=Z,20nm,1.0s,mb5.0								
SSE				AMB		AMB			
	comp=Z,190nm,3.6s								
SSE				LR		LR			
	comp=N,310nm,19.8s,MS4.5								
SSE				LR		LR			
	comp=E,520nm,19.7s,MS4.5								
SSE				LR		LR			
	comp=Z,680nm,17.6s,MS4.7								
QIZ	**Qiongzhong**	**47.78**	**301**	P		**P**		**13 24 58.7**	**-0.7**
QIZ				XP		sP		13 25 15.1	-1.5
QIZ				PP		PP		13 26 48.3	-3.1
QIZ				S		**S**		**13 31 53.5**	**+0.6**
QIZ				XS		sS		13 32 13.1	0.0
QIZ				SS		SS		13 35 18.0	-3.6
QIZ				AMB		AMB			
	comp=Z,20nm,1.7s,mb4.9								
QIZ				AMB		AMB			
	comp=Z,250nm,3.5s								
QIZ				LR		LR			
	comp=N,310nm,24.2s,MS4.4								
QIZ				LR		LR			
	comp=E,410nm,28.5s,MS4.4								
QIZ				LR		LR			
	comp=Z,810nm,29.8s,MS4.5								
QIZ	**Qiongzhong**	**47.78**	**301**	*e*P		**P**		**13 24 58.7**	**-0.7**
	comp=Z,23nm,1.2s,mb5.1								
QIZ				LR		LR			
	comp=Z,608nm,22.0s,MS4.5								
KS15	**Wonju Array Si**	**47.86**	**334**	*e*P		**P**		**13 25 00.0**	**-0.1**
INCN	**Inchon**	**48.45**	**333**	*e*P		**P**		**13 25 04.8**	**+0.2**
	comp=Z,76nm,1.2s,mb5.6								
INCN				LR		LR			
	comp=Z,626nm,22.0s,MS4.5								
NJ2	**Nanjing**	**48.48**	**322**	*e*P		**P**		**13 25 04.1**	**-0.7**
NJ2				AP		pP		13 25 15.8	-1.1
NJ2				XP		sP		13 25 20.8	-1.2
NJ2				PP		PP		13 26 57.0	-0.8
NJ2				S		**S**		**13 32 00.0**	**-2.8**
NJ2				XS		sS		13 32 20.0	-3.0
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
NJ2				AMB		AMB			
	comp=Z,1μm,4.6s								
NJ2				LR		LR			
	comp=N,2μm,26.4s,MS5.0								
NJ2				LR		LR			
	comp=E,1μm,25.5s,MS5.0								
NJ2				LR		LR			
	comp=Z,4μm,26.1s,MS5.3								
ASAJ	**Asahikawa**	**49.72**	**351**	LR		LR		13 44 16.2	
	comp=Z,286nm,21.2s,MS4.2,baz=6.4,slow=34								
WHN	**Wuhan**	**50.41**	**317**	⇓P		**P**		**13 25 21.9**	**+2.4**
VLA	**Vladivostok**	**51.30**	**341**	*e*P		**P**		**13 25 24.8**	**-1.5**
VLA				*e*				13 25 40.6	
VLA				pmax		pmax			
	comp=Z,20nm,1.1s,mb5.0								
VLA				MLR		MLR			
	comp=Z,300nm,16.7s,MS4.4								
KULM	**Kulim**	**52.11**	**281**	*e*P		**P**		**13 25 32.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**52.48**	**352**	⇓*e*P		**P**		**13 25 35.1**	**+0.1**
YSS				pmax		pmax			
	comp=Z,26nm,1.4s,mb5.0								
YSS	**Yuzh-Sakhalins**	**52.48**	**352**	PFAKE				13 25 50.0	+15
YSS				LR		LR			
	comp=Z,419nm,22.0s,MS4.4								
SNY	**Shenyang**	**53.35**	**334**	P		**P**		**13 25 39.6**	**-1.9**
SNY				AP		pP		13 25 52.1	-1.6
SNY				XP		sP		13 25 57.5	-1.2
SNY				S		**S**		**13 33 10.5**	**+0.3**
SNY				XS		sS		13 33 32.0	+1.4
SNY				LR		LR			
	comp=N,180nm,26.3s,MS4.2								
SNY				LR		LR			
	comp=E,220nm,22.9s,MS4.2								
SNY				LR		LR			
	comp=Z,410nm,27.4s,MS4.3								
MDJ	**Mudanjiang**	**53.39**	**340**	P		**P**		**13 25 41.8**	**+0.1**
MDJ				AP		pP		13 25 53.3	-0.7
MDJ				XP		sP		13 25 58.3	-0.7
MDJ				PCP		PcP		13 26 47.8	-0.8
MDJ				PP		PP		13 27 43.0	+0.7
MDJ				SCP		ScP		13 30 42.3	-0.5
MDJ				PCS		PcS		13 30 46.8	-0.8
MDJ				S		**S**		**13 33 12.3**	**+1.6**
MDJ				XS		sS		13 33 32.7	+1.6
MDJ				SCS		ScS		13 35 27.4	-0.2
MDJ				AMB		AMB			
	comp=Z,60nm,7.8s								
MDJ				LR		LR			
	comp=N,370nm,25.6s,MS4.4								
MDJ				LR		LR			
	comp=E,200nm,22.0s,MS4.4								
MDJ				LR		LR			
	comp=Z,500nm,26.7s,MS4.4								
MDJ	**Mudanjiang**	**53.39**	**340**	*e*P		**P**		**13 25 41.5**	**-0.2**
	comp=Z,22nm,1.1s,mb5.0								
MDJ				*e*pP		pP		13 25 53.5	-0.5
MDJ				LR		LR			
	comp=Z,274nm,20.0s,MS4.3								
PSI	**Prapat**	**53.40**	**277**	LR		LR		13 49 40.9	
	comp=Z,278nm,18.3s,MS4.3,baz=255,slow=37								
GYA	**Guiyang**	**53.80**	**308**	⇑*i*P		**P**		**13 25 46.3**	**+1.5**
GYA				AP		pP		13 25 58.9	+1.9
GYA				XP		sP		13 26 04.2	+2.2
GYA				PCP		PcP		13 26 51.6	+1.4
GYA				PP		PP		13 27 49.1	+3.0
GYA				S		**S**		**13 33 16.0**	**-0.4**
GYA				AMB		AMB			
	comp=Z,20nm,1.0s,mb5.0								
GYA				AMB		AMB			
	comp=Z,140nm,4.8s								
GYA				LR		LR			
	comp=N,490nm,18.2s,MS4.7								
GYA				LR		LR			
	comp=E,460nm,18.6s,MS4.7								
GYA				LR		LR			
	comp=Z,480nm,18.4s,MS4.6								
CN2	**Changchun**	**54.20**	**337**	*e*P		**P**		**13 25 47.6**	**-0.1**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.8								
COCO	**West Island**	**54.70**	**259**	PFAKE				13 26 00.0	+8.7
COCO				LR		LR			
	comp=Z,890nm,20.0s,MS4.8								
HABR	**Khabarovsk**	**55.36**	**347**	*e*P		**P**		**13 25 52.1**	**-4.0**
HABR				*e*S		**S**		**13 33 32.8**	**-4.5**
BJT	**Baijiatuau**	**55.61**	**327**	PFAKE				13 26 10.0	+12
BJT				LR		LR			
	comp=Z,822nm,22.0s,MS4.8								
XAN	**Xi'an**	**56.17**	**317**	P		**P**		**13 26 02.4**	**+0.5**
XAN				S		**S**		**13 33 46.4**	**-1.7**
XAN				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
XAN				LR		LR			
	comp=N,290nm,21.1s,MS4.5								
XAN				LR		LR			
	comp=E,280nm,20.5s,MS4.5								
XAN				LR		LR			
	comp=Z,580nm,22.8s,MS4.6								
KMI	**Kunming**	**56.34**	**305**	P		**P**		**13 26 05.2**	**+2.1**
KMI				AP		pP		13 26 16.9	+1.5
KMI				XP		sP		13 26 22.4	+2.0
KMI				PP		PP		13 28 13.7	+4.9
KMI				PPP				13 29 30.2	
KMI				S		**S**		**13 33 55.3**	**+4.9**
KMI				XS		sS		13 34 12.3	+1.4
KMI				SS		SS		13 37 40.5	+2.9
KMI				SSS				13 39 47.2	
KMI				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.2								
KMI				AMB		AMB			
	comp=Z,100nm,4.8s								
KMI				LR		LR			
	comp=N,190nm,28.4s,MS4.2								
KMI				LR		LR			
	comp=E,220nm,27.2s,MS4.2								
KMI				LR		LR			
	comp=Z,480nm,28.4s,MS4.4								
KLR	**Kul'dur**	**56.89**	**344**	*e*P		**P**		**13 26 02.7**	**-4.3**
KLR				*e*		pP		13 26 14.8	-4.5
CHTO	**Chiang Mai**	**57.23**	**296**	*e*P		**P**		**13 26 10.2**	**+0.8**
CHTO				*e**PP		pP		13 26 22.8	+1.1
CHTO				pmax		pmax			
	comp=Z,32nm,1.3s,mb5.2								
CHTO				MLR		MLR			
	comp=Z,180nm,20.0s,MS4.2								
CHTO	**Chiang Mai**	**57.23**	**296**	*e*P		**P**		**13 26 10.2**	**+0.8**
	comp=Z,32nm,1.3s,mb5.2								
CHTO				*e*pP		pP		13 26 22.8	+1.1
CHTO				LR		LR			
	comp=Z,180nm,20.0s,MS4.2								
CD2	**Chengdu**	**58.19**	**311**	*e*P		**P**		**13 26 15.6**	**-0.6**
CD2				AP		pP		13 26 28.3	-0.3
CD2				XP		sP		13 26 33.6	+0.1
CD2				PP		PP		13 28 26.8	+1.5
CD2				SCP		ScP		13 31 00.9	-3.0
CD2				S		**S**		**13 34 12.8**	**-1.9**
CD2				XS		sS		13 34 34.1	-1.2
CD2				SCS		ScS		13 35 57.7	-4.5
CD2				SS		SS		13 38 06.6	-0.2
CD2				AMB		AMB			
	comp=Z,40nm,1.0s,mb5.4								
CD2				AMB		AMB			
	comp=Z,120nm,5.9s								
CD2				LR		LR			
	comp=E,590nm,21.6s								
CD2				LR		LR			
	comp=Z,660nm,22.8s,MS4.7								
PET	**Petropavlovsk**	**58.23**	**5**	*e*P		**P**		**13 26 16.4**	**0.0**
PET				*e*S		**S**		**13 34 14.7**	**-0.5**
PET				pmax		pmax			
	comp=Z,200nm,5.5s								
PET	**Petropavlovsk**	**58.23**	**5**	PFAKE				13 26 30.0	+14
PET				LR		LR			
	comp=Z,427nm,21.0s,MS4.5								
PPT	**Papeete**	**58.58**	**107**	*e*P		**P**		**13 26 20.3**	**+1.4**
	comp=Z,37nm,1.3s,mb5.3								
PPT	**Papeete**	**58.58**	**107**	*e*S		**S**		**13 34 22.6**	**+2.8**
	comp=Z,335nm,24.5s								
PPT				*e*LQ				13 40 49.9	
	comp=Z,495nm,28.8s								
PPT				*e*LR		LR		13 43 33.0	
	comp=Z,329nm,24.0s,baz=278								
PPT	**Papeete**	**58.58**	**107**	LR		LR		13 46 18.5	
	comp=Z,187nm,19.7s,MS4.2,baz=105,slow=31								
PAE	**Paea**	**58.59**	**107**	*e*P		**P**		**13 26 19.8**	**+0.9**
	comp=Z,94nm,1.4s,mb5.6								
HHC	**Hu-ho-hao-te**	**58.74**	**325**	*e*P		**P**		**13 26 21.2**	**+1.3**
HHC				AP		pP		13 26 33.9	+1.6
HHC				XP		sP		13 26 39.5	+2.2
HHC				PCP		PcP		13 27 09.6	+0.2
HHC				PP		PP		13 28 32.9	+2.8
HHC				SCP		ScP		13 31 04.4	-1.9
HHC				PCS		PcS		13 31 09.6	-1.5
HHC				S		**S**		**13 34 22.6**	**+0.8**
HHC				XS		sS		13 34 44.2	+1.8
HHC				SCS		ScS		13 36 02.4	-3.8
HHC				SS		SS		13 38 18.6	+3.3
HHC				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb5.0								
HHC				AMB		AMB			
	comp=Z,150nm,3.7s								
HHC				LR		LR			
	comp=N,390nm,17.8s,MS4.7								
HHC				LR		LR			
	comp=E,200nm,14.3s,MS4.7								
HHC				LR		LR			
	comp=Z,580nm,20.2s								
TVO	**Taravao**	**58.91**	**108**	*e*P		**P**		**13 26 22.7**	**+1.5**
	comp=Z,157nm,1.4s,mb5.8								
TBI	**Tubuai**	**59.34**	**114**	*e*LQ				13 41 28.0	
	comp=Z,1μm,36.8s								
TBI	**Tubuai**	**59.34**	**114**	*e*PP		PP		13 28 35.1	-0.3
	comp=Z,47nm,27.5s								
TBI	**Tubuai**	**59.34**	**114**	*e*S		**S**		**13 34 29.4**	**-0.2**
	comp=Z,348nm,30.8s								
TBI				*e*SS		SS		13 38 27.4	+2.7
	comp=Z,132nm,34.0s								
TBI				*e*LR		LR		13 43 52.1	
	comp=Z,974nm,30.5s,baz=283								
BTO	**Baotou**	**59.47**	**324**	*e*P		**P**		**13 26 24.5**	**-0.5**
PMOR	**Pomariorio Ree**	**60.03**	**104**	*e*P		**P**		**13 26 29.8**	**+0.9**
	comp=Z,136nm,1.2s,mb5.8								
SMY	**Shemya**	**60.67**	**15**	PFAKE				13 26 40.0	+6.8
SMY				LR		LR			
	comp=Z,1μm,22.0s,MS5.0								
LZH	**Lanzhou**	**60.77**	**316**	*e*P		**P**		**13 26 35.3**	**+1.4**

comp=Z,130nm,6.1s
GTA LR LR
comp=N,210nm,22.0s,MS4.5
GTA LR LR
comp=E,240nm,19.8s,MS4.5
GTA LR LR
comp=Z,360nm,20.5s,MS4.6
CIT Chita 65.57 335 *e*P **P 13 27 06.4 +0.6**
CIT *e* 13 27 25.3
CIT pmax pmax
comp=Z,46nm,1.8s,mb5.2
SHL Shillong 65.61 301 *e*P **P 13 27 08.0 +2.0**
ULN Ulaanbaatar 65.75 329*c i*P **P 13 27 07.4 +0.5**
ULN Ulaanbaatar 65.75 329 *e*P **P 13 27 07.3 +0.4**
comp=Z,9.2nm,0.7s,mb4.9
ULN LR LR
comp=Z,380nm,20.0s,MS4.6
SONM Songino Array 66.07 328 P **P 13 27 09.7 +0.7**
comp=Z,14nm,0.5s,mb5.2,baz=137,slow=5.2,SNR=51
SONM LR LR 13 54 45.7
comp=Z,402nm,20.9s,MS4.6,baz=128,slow=35
SONM PKP2ab 13 55 51.1
comp=Z,0.1nm,0.3s,baz=27,slow=1.6,SNR=3.7
CASY Casey 67.41 197 *e*P **P 13 27 16.4 -1.0**
CASY LR LR
comp=Z,21nm,1.3s,mb5.0
CASY LR LR
comp=Z,725nm,22.0s,MS4.8
TAOE Nuku Hiva Isla 67.58 97 *e*LR LR 13 47 45.1
comp=Z,857nm,33.7s
LSA Lhasa 67.60 305 P **P 13 27 17.7 -1.0**
LSA Lhasa 67.60 305 *e*P **P 13 27 20.4 +1.7**
LSA pmax pmax
comp=Z,25nm,0.8s,mb5.3
LSA MLR MLR
comp=Z,237nm,22.0s,MS4.4
LSA Lhasa 67.60 305 *e*P **P 13 27 20.4 +1.7**
comp=Z,24nm,0.8s,mb5.3
LSA LR LR
comp=Z,237nm,22.0s,MS4.4
YAK Yakutsk 69.10 349 *e*P **P 13 27 26.3 -1.8**
YAK pmax pmax
comp=Z,12nm,1.3s,mb4.7
YAK MLR MLR
comp=Z,255nm,22.0s,MS4.4
YAK Yakutsk 69.10 349 *e*P **P 13 27 26.3 -1.8**
comp=Z,12nm,1.3s,mb4.7
YAK LR LR
comp=Z,255nm,22.0s,MS4.4
ZAK Zakamensk 69.26 329 *e*P **P 13 27 28.9 -0.1**
ZAK *e* 13 30 08.1
ZAK pmax pmax
comp=Z,27nm,1.1s,mb5.1
ZAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
TLY Talaya 69.87 330 *e*P **P 13 27 32.9 +0.1**
TLY *e*S S 13 36 39.0 -0.3
TLY pmax pmax
comp=Z,11nm,1.0s,mb4.7
TLY Talaya 69.87 330 *e*P **P 13 27 32.4 -0.4**
comp=Z,12nm,1.0s,mb4.8
TLY LR LR
comp=Z,250nm,20.0s,MS4.5
JIRN Jiri 71.10 301 *e*P **P 13 27 41.1 +0.8**
comp=Z,33nm,0.8s,mb5.3
MOY Mondy 71.18 329 *e*P **P 13 27 41.0 +0.2**
MOY pmax pmax
comp=Z,23nm,1.2s,mb5.0
GUN Gumba 71.44 302 *e*P **P 13 27 43.3 +0.9**
comp=Z,77nm,0.7s,mb5.7
PKI Pulchoki 71.74 301 *e*P **P 13 27 44.7 +0.5**
comp=Z,45nm,1.0s,mb5.3
PKI Pulchoki 71.74 301 *e*P **P 13 27 44.7 +0.5**
PKI pmax pmax
comp=Z,45nm,1.0s,mb5.3
KKN Kakani 71.91 301 *e*P **P 13 27 45.6 +0.4**
comp=Z,52nm,0.8s,mb5.5
KKN Kakani 71.91 301 *e*P **P 13 27 45.6 +0.4**
KKN pmax pmax
comp=Z,53nm,0.8s,mb5.5
PALK Pallekele 72.00 279 *e*P **P 13 27 46.4 +0.7**
comp=Z,13nm,0.8s,mb4.9
PALK LR LR
comp=Z,474nm,19.0s,MS4.8
DMN Daman 72.01 301 *e*P **P 13 27 46.3 +0.5**
comp=Z,101nm,1.0s,mb5.7
GKN Gorkha 72.52 301 *e*P **P 13 27 49.1 +0.3**
comp=Z,99nm,1.0s,mb5.7
VNDA Vanda 72.54 178 P **P 13 27 47.9 -1.0**
comp=Z,6.5nm,0.9s,mb4.5,baz=328,slow=6.1,SNR=25
VNDA LR LR 13 55 24.5
comp=Z,208nm,18.4s,MS4.4,baz=358,slow=32
VNDA Vanda 72.54 178 *e*P **P 13 27 47.6 -1.3**
VNDA *e**PP pP 13 27 59.6 -2.1
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA MLR MLR
comp=Z,224nm,19.0s
VNDA Vanda 72.54 178 *e*P **P 13 27 47.6 -1.3**
comp=Z,5.8nm,0.8s,mb4.6
VNDA *e*pP pP 13 27 59.6 -2.1
VNDA LR LR
comp=Z,224nm,19.0s,MS4.5
RKT Rikitea 72.59 113 *e*LR LR 13 50 03.1
comp=Z,668nm,29.5s
SBA Scott Base 73.10 177 *e*P **P 13 27 51.6 -0.7**
SBA pmax pmax
comp=Z,59nm,1.9s,mb5.2
SBA Scott Base 73.10 177 *e*P **P 13 27 51.6 -0.7**
comp=Z,59nm,1.9s,mb5.2
KOLN Koldanda 73.34 301 *e*P **P 13 27 53.8 +0.1**
comp=Z,62nm,0.9s,mb5.6
BILL Bilibino 73.72 6*d i*P **P 13 27 55.7 -0.2**
BILL *i* 13 28 18.7
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.4
BILL Bilibino 73.72 6 *e*P **P 13 27 56.0 0.0**
comp=Z,4.4nm,0.6s,mb4.6
BILL LR LR
comp=Z,162nm,22.0s,MS4.3
WMQ Urumqi 75.31 318 P **P 13 28 05.1 0.0**
WMQ XP sP 13 28 21.7 -1.1
WMQ PP PP 13 30 56.8 +2.7
WMQ S S 13 37 40.0 -1.4
WMQ XS sS 13 38 02.7 0.0
WMQ SKS 13 38 06.6
WMQ SCS ScS 13 38 10.0 -4.7
WMQ PS 13 38 20.5
WMQ SS SS 13 42 31.6 -0.2
WMQ AMB AMB
comp=Z,150nm,4.6s
WMQ LR LR
comp=N,220nm,24.0s,MS4.5
WMQ LR LR
comp=E,220nm,24.0s,MS4.5
WMQ LR LR
comp=Z,280nm,24.0s,MS4.5
KDAK Kodiak Island 76.93 27 P **P 13 28 11.8 -2.6**
comp=Z,19nm,1.0s,mb5.0,baz=132,slow=2.0,SNR=11
KDAK LR LR 14 01 34.8
comp=Z,71nm,19.0s,MS4.0,baz=236,slow=35
KDAK Kodiak Island 76.93 27 *e*P **P 13 28 13.6 -0.8**
comp=Z,22nm,1.1s,mb5.0
KDAK LR LR
comp=Z,86nm,22.0s,MS4.0
SVW2 Sparrevohn 77.52 23 *e*P **P 13 28 18.1 +0.4**
KRAR Krasnoyarsk 77.57 330 *i* P **P 13 28 16.6 -1.4**
TIXI Tiksi 78.10 353⇓ *e*P **P 13 28 20.6 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TIXI Tiksi 78.10 353 PFAKE 13 28 30.0 +9.1
TIXI LR LR
comp=Z,239nm,22.0s,MS4.5
TTA Tatalina 78.45 22 *e*P **P 13 28 23.3 +0.5**
SLKM Skilak Lake 79.40 25 *e*P **P 13 28 26.6 -1.4**
SLKM *e*PP PP 13 31 16.0 -12
MK31 Makanchi Array 79.92 319 P **P 13 28 30.4 -0.5**
MK31 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MKAR Makanchi Array 79.92 319 P **P 13 28 30.6 -0.3**
comp=Z,6.2nm,0.9s,mb4.5,baz=101,slow=6.3,SNR=50
MKAR PKPPKP 13 55 20.7
comp=Z,0.1nm,0.4s,baz=228,slow=1.5,SNR=3.9
PMR Palmer 80.40 25 *e*P **P 13 28 32.3 -1.2**
PMR pmax pmax
comp=Z,35nm,1.2s,mb5.2
PMR MLR MLR
comp=Z,200nm,20.0s,MS4.5
PMR Palmer 80.40 25 *e*P **P 13 28 32.3 -1.2**
comp=Z,35nm,1.2s,mb5.2
PMR LR LR
comp=Z,200nm,20.0s,MS4.5
ZAL Zalesovo 80.88 327 P **P 13 28 33.9 -2.1**
comp=Z,7.8nm,0.6s,mb4.8,baz=1.2,slow=5.7,SNR=33
ZAL LR LR 14 04 11.0
comp=Z,404nm,20.1s,MS4.8,baz=341,slow=35
EYAK Cordova Ski Ar 81.36 26 *e*P **P 13 28 37.5 -1.0**
EYAK *e*pP pP 13 28 49.3 -2.1
NVS Novosibirsk 82.06 327 *e*P **P 13 28 39.2 -3.1**
NVS pmax pmax
comp=N,7.0nm,1.8s
NVS pmax pmax
comp=E,14nm,1.8s
NVS pmax pmax
comp=Z,16nm,1.8s,mb4.7
KSH Kashi 82.39 311 *e*P **P 13 28 45.0 +1.0**
KSH *e*AP pP 13 28 55.8 -1.1
KSH *e*XP sP 13 28 59.0 -2.8
KSH *e*PP PP 13 31 55.0 +1.8
KSH *e*PPP 13 33 48.1
KSH S S 13 38 56.4 -0.5
KSH XS sS 13 39 13.7 -4.8
KSH *e*PS 13 39 50.7
KSH *e*SS SS 13 44 20.1 +2.0
KSH AMB AMB
comp=Z,80nm,2.2s,mb5.3
KSH LR LR
comp=N,190nm,7.3s
KSH LR LR
comp=E,230nm,5.4s
KSH LR LR
comp=Z,230nm,7.9s
COLA College 82.53 22 *e*P **P 13 28 43.0 -1.7**
COLA pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
COLA MLR MLR
comp=Z,215nm,20.0s,MS4.5
COLA College 82.53 22 *e*P **P 13 28 43.0 -1.8**
comp=Z,9.3nm,0.6s,mb5.0
COLA LR LR
comp=Z,215nm,20.0s,MS4.5
ILAR Eielson Array 82.84 22 P **P 13 28 44.1 -2.3**
comp=Z,10nm,0.6s,mb5.0,baz=250,slow=5.3,SNR=50
ILAR PKKP PKKPbc 13 47 08.1 -1.2
comp=Z,0.2nm,0.7s,baz=339,slow=1.2,SNR=4.9
KURK Kurchatov 83.41 322 P **P 13 28 48.9 -0.4**
comp=Z,91nm,0.8s,mb5.8,SNR=19
KURK Kurchatov 83.41 322*c i*P **P 13 28 48.3 -1.0**
KURK Kurchatov 83.41 322 *e*P **P 13 28 48.0 -1.2**
comp=Z,13nm,0.8s,mb5.0
KURK LR LR
comp=Z,315nm,21.0s,MS4.7
TKM2 Tokmak 2 83.44 314 P **P 13 28 49.8 +0.3**
SNR=12
KZA Kyzart 83.50 313 P **P 13 28 51.4 +1.6**
SNR=38
KBK Karagaybulak 83.84 314 P **P 13 28 52.0 +0.5**
SNR=7.6
CHMS Chumysh 84.06 314 P **P 13 28 52.8 +0.2**
SNR=11
UCH Uchtor 84.06 313 P **P 13 28 53.8 +1.2**
SNR=22
FRU Bishkek 84.12 314 *e*P **P 13 28 52.7 -0.2**
FRU *e* pP 13 29 04.0 -1.9
FRU pmax pmax
comp=Z,40nm,1.9s,mb5.2
AAK Ala-Archa 84.17 314 P **P 13 28 53.7 +0.6**
SNR=6.7
AAK Ala-Archa 84.17 314 P **P 13 28 52.8 -0.3**
comp=Z,78nm,0.8s,mb5.9,SNR=6.6
AAK Ala-Archa 84.17 314*c i*P **P 13 28 52.5 -0.6**
AAK pmax pmax
comp=Z,13nm,0.8s,mb5.1
AAK MLR MLR
comp=Z,400nm,22.0s,MS4.8
AAK Ala-Archa 84.17 314 *e*P **P 13 28 52.2 -0.9**
comp=Z,8.6nm,0.8s,mb4.9
AAK LR LR
comp=Z,384nm,21.0s,MS4.8
USP Ospenovka 84.30 314 P **P 13 28 54.1 +0.3**
SNR=23
AML Almayashu 84.64 313 P **P 13 28 56.9 +1.3**
SNR=43
EKS2 Erkin-Say 84.69 314 P **P 13 28 56.6 +0.8**
SNR=17
QSPA South Pole Qui 84.83 180 *e*P **P 13 28 55.3 -1.2**
comp=Z,28nm,1.1s,mb5.3
MAW Mawson 84.88 203 P **P 13 28 55.9 -0.9**
comp=Z,12nm,0.7s,mb5.2,baz=92,slow=6.7,SNR=18
MAW LR LR 14 04 00.2
comp=Z,338nm,18.9s,MS4.8,baz=72,slow=34
MAW Mawson 84.88 203 *e*P **P 13 28 55.2 -1.5**
MAW pmax pmax
comp=Z,37nm,1.4s
MAW Mawson 84.88 203 *e*P **P 13 28 55.2 -1.5**
comp=Z,37nm,1.4s,mb5.3
SIT Sitka 85.08 32 PFAKE 13 29 10.0 +12
SIT LR LR
comp=Z,687nm,20.0s,MS5.0
SKAG Skagway 85.80 29 *e*P **P 13 29 01.6 +0.3**
comp=Z,30nm,1.4s,mb5.3
SKAG LR LR
comp=Z,400nm,23.0s,MS4.8
KK31 Karatay Array 87.13 314 *i* P **P 13 29 07.3 -0.6**
KK31 pmax pmax
comp=Z,16nm,1.1s,mb5.2
KKAR Karatay Array 87.13 314 *i* P **P 13 29 07.3 -0.6**
KKAR pmax pmax
comp=Z,18nm,1.1s,mb5.2
BBB Bella Bella 87.97 37 P **P 13 29 11.7 -0.2**
comp=Z,12nm,1.1s,mb5.1,baz=259,slow=6.1,SNR=3.4
BBB LR LR 14 04 30.1
comp=Z,160nm,20.0s,MS4.4,baz=92,slow=33
BBB Bella Bella 87.97 37 P **P 13 29 11.7 -0.2**
BBB LR LR 14 04 30.1
CHKZ Chkalovo 88.89 324 *e*P **P 13 29 13.6 -2.6**
CHKZ pmax pmax
comp=Z,14nm,1.0s,mb5.2
CHKZ Chkalovo 88.89 324 *e*P **P 13 29 13.6 -2.7**
comp=Z,14nm,1.0s,mb5.2
BRVK Borovoye 88.97 323 P **P 13 29 14.3 -2.3**
comp=Z,76nm,0.9s,mb6.0,SNR=5.3
BRVK Borovoye 88.97 323 *e*P **P 13 29 14.6 -2.0**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
BRVK MLR MLR
comp=Z,167nm,21.0s,MS4.4
BRVK Borovoye 88.97 323 *e*P **P 13 29 14.6 -2.0**
comp=Z,5.8nm,0.8s,mb5.0
BRVK LR LR
comp=Z,167nm,21.0s,MS4.4
O01C Eel River Cons 88.99 50⇑P **P 13 29 16.9 +0.2**
baz=89,SNR=6.7
M01C Crescent City 88.99 48⇓P **P 13 29 16.5 -0.2**
baz=89
INK Inuvik 89.12 21 P **P 13 29 16.1 -1.3**
comp=Z,5.7nm,0.9s,mb4.9,baz=269,slow=11,SNR=8.0
INK LR LR 14 08 14.7
comp=Z,223nm,21.4s,MS4.6,baz=184,slow=35
INK Inuvik 89.12 21 *e*P **P 13 29 15.7 -1.6**
INK *e**PP pP 13 29 29.2 -1.2
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 89.12 21 *e*P **P 13 29 15.7 -1.7**
comp=Z,8.7nm,1.0s,mb5.0
INK *e*pP pP 13 29 29.2 -1.2
KHMM Horse Mountain 89.16 49 *e*P **P 13 29 18.2 +0.7**
KIPM Iron Peak 89.21 50 *e*P **P 13 29 17.1 -0.6**
P01C Double 8 Ranch 89.27 50⇓P **P 13 29 18.0 -0.1**
baz=89
L02A Cave Junction 89.42 48⇑P **P 13 29 18.9 +0.2**
baz=90
HOPS Hopland 89.42 51 *e*P **P 13 29 19.7 +1.0**
comp=Z,57nm,1.6s,mb5.7
HOPS *e*pP pP 13 29 31.8 0.0
HOPS LR LR
comp=Z,507nm,20.0s,MS4.9
HOPS Hopland 89.42 51⇑P **P 13 29 19.1 +0.4**
baz=90
N02C Big Bar 89.47 49⇑P **P 13 29 19.1 +0.2**
baz=90
I02A Mapleton 89.49 46⇑P **P 13 29 19.2 +0.2**
baz=90
C03A Quillayute Air 89.52 42⇓P **P 13 29 19.5 +0.3**
baz=90
K02A Glendale 89.58 47⇑P **P 13 29 19.0 -0.5**
baz=90,SNR=7.9
J02A Umpqua 89.60 47 P **P 13 29 19.8 +0.3**
baz=90,SNR=6.5
OTR Olympics--Tyee 89.69 42 P **P 13 29 20.6 +0.6**
ZRNK Zerenda 89.72 323 *e*P **P 13 29 18.0 -2.1**
ZRNK pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
ZRNK Zerenda 89.72 323 *e*P **P 13 29 18.0 -2.1**
comp=Z,6.5nm,0.8s,mb5.0
OCWA Octopus Mounta 89.75 42 *e*P **P 13 29 20.9 +0.6**
comp=Z,60nm,1.3s,mb5.8
OCWA *e*pP pP 13 29 32.6 -0.7
OCWA LR LR
comp=Z,456nm,21.0s,MS4.9
GASB Alder Springs 89.77 50⇓P **P 13 29 21.0 +0.7**
baz=90
O02C Red Bluff 89.78 50⇓P **P 13 29 21.1 +0.7**
baz=90,SNR=15
M02C Callahan 89.88 49⇓P **P 13 29 21.5 +0.6**
baz=90,SNR=17
I03A Eugene 89.88 46⇓P **P 13 29 20.9 +0.1**
baz=90,SNR=6.2
MNRC McLaughlin Nat 89.89 51⇓P **P 13 29 21.1 +0.2**
baz=90
F03A Seaside 89.93 44⇓P **P 13 29 21.1 0.0**
baz=90
COR Corvallis 89.94 45 PFAKE 13 29 30.0 +8.8
COR LR LR
comp=Z,542nm,20.0s,MS5.0
D03A Wishkah Elem. 89.94 43⇑P **P 13 29 21.2 0.0**
baz=90
HUMO Hull Mountain 89.95 47 *e*P **P 13 29 21.3 +0.1**
comp=Z,36nm,1.1s,mb5.6
HUMO LR LR
comp=Z,288nm,20.0s,MS4.7
HUMO Hull Mountain 89.95 47⇑P **P 13 29 21.5 +0.3**
baz=90,SNR=18
H03A Soap Creek Ran 89.96 45⇑P **P 13 29 21.4 +0.2**
baz=90,SNR=6.8
E03A Lebam 90.01 43⇓P **P 13 29 21.2 -0.3**
baz=90,SNR=8.0
WDC Whiskeytown Da 90.02 49 *e*P **P 13 29 21.2 -0.3**
WDC pmax pmax
comp=Z,18nm,1.4s,mb5.2
WDC MLR MLR
comp=Z,471nm,20.0s,MS4.9
WDC Whiskeytown Da 90.02 49 *e*P **P 13 29 21.2 -0.3**
comp=Z,18nm,1.4s,mb5.2
WDC LR LR
comp=Z,471nm,20.0s,MS4.9
WDC Whiskeytown Da 90.02 49⇓P **P 13 29 21.5 0.0**
baz=90,SNR=5.6
YBH Yreka Blue Hor 90.03 48 P **P 13 29 21.9 +0.3**
comp=Z,14nm,1.0s,mb5.2,baz=185,slow=2.3,SNR=18
YBH LR LR 14 02 14.4
comp=Z,353nm,19.4s,MS4.8,baz=358,slow=30
YBH Yreka Blue Hor 90.03 48 *e*P **P 13 29 21.6 +0.1**
YBH pmax pmax
comp=Z,37nm,1.3s
YBH MLR MLR
comp=Z,372nm,19.0s
YBH Yreka Blue Hor 90.03 48 *e*P **P 13 29 21.6 +0.1**
comp=Z,37nm,1.3s,mb5.5
YBH LR LR
comp=Z,372nm,19.0s,MS4.8
YBH Yreka Blue Hor 90.03 48⇓P **P 13 29 21.8 +0.3**
baz=90,SNR=22
B04A Port Angeles 90.25 42⇑P **P 13 29 22.5 -0.1**
baz=90,SNR=8.3
O03C Acorn Hollow, 90.34 50⇑P **P 13 29 22.8 -0.2**
baz=90
PGC Sidney 90.35 41 *e*P **P 13 29 22.1 -1.0**
comp=Z,62nm,1.3s,mb5.8
M03C McCloud 90.41 49⇓P **P 13 29 23.1 -0.3**
baz=90,SNR=8.5
SUTB Sutter Buttes 90.44 51⇓P **P 13 29 22.8 -0.6**
baz=90
SAO San Andreas Ge 90.45 53 PFAKE 13 29 30.0 +6.5
SAO LR LR
comp=Z,502nm,21.0s,MS4.9
V03C Hunter Liggett 90.53 54⇑P **P 13 29 23.5 -0.5**
baz=91
PACP Pacheco Peak 90.60 53⇑P **P 13 29 22.9 -1.3**
baz=91
S04C Ingram Canyon, 90.62 53⇓P **P 13 29 23.4 -0.9**
baz=91
IRO Indian Ridge 90.62 46 P **P 13 29 24.0 -0.3**
M04C Macdoel 90.68 48⇑P **P 13 29 24.8 +0.2**
baz=91,SNR=5.8
L04A Klamath Falls 90.68 48⇓P **P 13 29 24.7 +0.1**
baz=91,SNR=6.4
OHCM Honcut 90.69 51 *e*P **P 13 29 24.7 0.0**
ORV Oroville 90.70 51⇑P **P 13 29 24.3 -0.3**
baz=91,SNR=6.1
F04A Amboy 90.72 44⇑P **P 13 29 24.4 -0.3**
baz=91
H04A Detroit Lake 90.74 45⇓P **P 13 29 24.3 -0.6**
baz=91,SNR=9.9
K04A Chilguin 90.85 47⇓P **P 13 29 25.3 -0.1**
baz=91
A04A Legoe Bay, Lum 90.85 41⇑P **P 13 29 25.2 -0.2**
baz=91,SNR=19
HATC Hat Creek Radi 90.86 49⇓P **P 13 29 25.6 +0.1**
baz=91
U04C Hernandez Rese 90.94 54⇑P **P 13 29 25.7 -0.1**
baz=91
O04C Chester 91.09 50⇓P **P 13 29 26.7 +0.2**
baz=91,SNR=6.7
PKD Parkfield 91.09 54⇑P **P 13 29 26.9 +0.4**
baz=91
M05C Lookout 91.15 49 P **P 13 29 27.1 +0.3**
baz=91,SNR=12
D05A Enumclaw 91.16 43⇓P **P 13 29 26.6 -0.2**
baz=91
O05C Quincy 91.18 50⇑P **P 13 29 26.9 -0.1**
baz=91
B05A Bryant 91.20 42⇑P **P 13 29 26.5 -0.5**
baz=91
LAVA Lava Cap Winer 91.20 51⇓P **P 13 29 27.0 0.0**
baz=91
E05A Randle 91.25 44 P **P 13 29 26.5 -0.7**
baz=91,SNR=5.5
A05A Maple Falls 91.29 41⇓P **P 13 29 27.5 +0.1**
baz=91
I05A Bend 91.34 46⇓P **P 13 29 27.8 +0.1**
baz=91,SNR=5.7
P05C Yuba Gap, Truc 91.36 51⇑P **P 13 29 28.0 +0.3**
baz=91
F05A White Salmon 91.38 44⇓P **P 13 29 27.7 -0.1**
baz=91
ELFS Eagle Lake Fie 91.39 50⇑P **P 13 29 28.0 +0.1**
baz=91
S05C Merced 91.39 53⇑P **P 13 29 27.8 -0.1**
baz=91
CMB Columbia Colle 91.41 52 *e*P **P 13 29 27.8 -0.2**
CMB pmax pmax
comp=Z,17nm,1.3s,mb5.2
CMB MLR MLR
comp=Z,650nm,21.0s,MS5.0
CMB Columbia Colle 91.41 52 *e*P **P 13 29 27.8 -0.2**
comp=Z,17nm,1.3s,mb5.2
CMB LR LR
comp=Z,650nm,21.0s,MS5.0
CMB Columbia Colle 91.41 52⇑P **P 13 29 27.6 -0.4**
baz=92
C05A Tolt Reservoir 91.41 42⇓P **P 13 29 27.2 -0.8**
baz=92
G05A Wamic 91.42 45⇑P **P 13 29 28.1 +0.1**
baz=92
U05C Westside ANR, 91.47 54⇑P **P 13 29 27.6 -0.6**
baz=92
M06C Likely Place G 91.64 49⇓P **P 13 29 29.2 +0.1**
baz=92
SNCC San Nicolas Is 91.68 57 PFAKE 13 29 40.0 +11
SNCC LR LR
comp=Z,542nm,21.0s,MS5.0
MOD Modoc 91.83 48 *e*P **P 13 29 29.8 -0.1**
comp=Z,50nm,1.4s,mb5.7
MOD LR LR
comp=Z,422nm,21.0s,MS4.9
K06A Valley Falls 91.95 47 P **P 13 29 30.7 +0.2**
baz=92,SNR=21
WCN Washoe City 92.02 51⇓P **P 13 29 31.2 +0.4**
baz=92,SNR=8.0

O06A	Flanigan	92.03	50	⇑P		P		13 29 31.0 +0.1
	baz=92,SNR=6.3							
J06A	Christmas Vall	92.06	47	P		P		13 29 31.0 0.0
	baz=92,SNR=13							
I06A	Prineville	92.08	46	⇑P		P		13 29 31.3 +0.2
	baz=92,SNR=21							
EBG	Ellensburg	92.10	43	P		P		13 29 31.4 +0.3
R06C	Coleville	92.19	52	⇑P		P		13 29 32.1 +0.5
	baz=92,SNR=5.4							
ETW	Entiat	92.32	43	P		P		13 29 32.1 -0.1
PAHR	Pah Rah Range	92.34	51	eP		P		13 29 32.6 +0.3
	comp=Z,36nm,1.7s,mb5.4							
HELL	Mitchell Peak	92.38	54	⇑P		P		13 29 32.4 0.0
	baz=92,SNR=7.3							
R07C	Lee Vining	92.47	52	⇓P		P		13 29 33.3 +0.4
	baz=92,SNR=10							
M07A	Soldier Meadow	92.64	49	⇑P		P		13 29 34.0 +0.3
	baz=93,SNR=15							
N07B	Gerlach	92.74	49	⇓P		P		13 29 34.4 +0.3
	baz=93,SNR=23							
ISA	Isabella	92.74	55		PFAKE			13 29 50.0 +16
ISA					LR	LR		
	comp=Z,110nm,22.0s,MS4.3							
ISA	Isabella	92.74	55	⇑P		P		13 29 34.2 +0.1
	baz=93							
O07A	Toulon	92.76	50	P		P		13 29 34.6 +0.4
	baz=93,SNR=11							
HAWA	Hanford	92.76	44	eP		P		13 29 33.5 -0.7
	comp=Z,1.1nm,1.0s,mb4.2							
HAWA					epP	pP		13 29 44.5 -2.8
MTUM	Tungsten Hills	92.80	53	eP		P		13 29 34.5 +0.2
MTUM					epP	pP		13 29 47.5 0.0
SYO	Syowa Base	93.02	200⇓	eP		P		13 29 33.4 -2.0
SYO	Syowa Base	93.02	200⇑	ePcP		PcP		13 29 38.4 +2.4
TIN	Tinemaha	93.04	53	⇓P		P		13 29 36.0 +0.4
	baz=93							
NVAR	Mina Array Bea	93.08	52	P		P		13 29 36.2 +0.5
	comp=Z,11nm,0.8s,mb5.3,baz=255,slow=4.6,SNR=86							
NVAR					PP	PP		13 33 15.6 -3.5
	comp=Z,0.5nm,0.8s,baz=260,slow=8.8,SNR=3.0							
NVAR	Mina Array Bea	93.08	52	P		P		13 29 36.2 +0.5
NVAR					PP	PP		13 33 15.6 -3.5
WVOR	Wild Horse Val	93.11	48	eP		P		13 29 35.3 -0.5
WVOR					e*PP	pP		13 29 47.0 -1.9
WVOR					pmax	pmax		
	comp=Z,46nm,1.4s,mb5.7							
WVOR					MLR	MLR		
	comp=Z,408nm,21.0s,MS4.9							
WVOR	Wild Horse Val	93.11	48	eP		P		13 29 35.3 -0.6
	comp=Z,46nm,1.4s,mb5.7							
WVOR					epP	pP		13 29 47.0 -1.9
WVOR					LR	LR		
	comp=Z,408nm,21.0s,MS4.9							
CWC	Cottonwood Cre	93.12	54	⇓P		P		13 29 36.1 +0.2
	baz=93							
S08C	White Mtn Res	93.12	53	⇓P		P		13 29 36.5 +0.6
	baz=93,SNR=10							
MNV	Mina	93.20	52	eP		P		13 29 36.3 +0.1
MNV					e			13 33 23.3
MNV					pmax	pmax		
	comp=Z,51nm,1.5s,mb5.7							
MNV					MLR	MLR		
	comp=Z,470nm,21.0s,MS4.9							
MNV	Mina	93.20	52	eP		P		13 29 36.3 +0.1
	comp=Z,51nm,1.5s,mb5.7							
MNV					ePP	PP		13 33 23.3 +3.3
MNV					LR	LR		
	comp=Z,470nm,21.0s,MS4.9							
R08A	Mina	93.23	52	⇓P		P		13 29 36.9 +0.5
	baz=93,SNR=11							
M08A	Happy Creek Ra	93.23	49	P		P		13 29 37.0 +0.6
	baz=93,SNR=12							
P08A	Dixie Valley	93.34	51	⇑P		P		13 29 37.5 +0.6
	baz=93							
N08A	GE Springer Mi	93.38	50	P		P		13 29 37.4 +0.3
	baz=93,SNR=17							
Q08A	Gabbs	93.40	51	⇑P		P		13 29 37.5 +0.3
	baz=93,SNR=8.3							
DAC	Darwin (Calif)	93.50	54	eP		P		13 29 38.1 +0.5
DAC					pmax	pmax		
	comp=Z,23nm,1.1s,mb5.5							
DAC					MLR	MLR		
	comp=Z,514nm,20.0s,MS5.0							
DAC	Darwin (Calif)	93.50	54	eP		P		13 29 38.1 +0.5
	comp=Z,23nm,1.1s,mb5.5							
DAC					LR	LR		
	comp=Z,514nm,20.0s,MS5.0							
L09A	Wilkinson Ranc	93.80	48	⇑P		P		13 29 39.1 +0.1
	baz=94,SNR=10							
N09A	Rock Creek Ran	93.84	49	⇓P		P		13 29 39.4 +0.2
	baz=94							
S09A	Goldfield	93.89	53	P		P		13 29 40.0 +0.6
	baz=94,SNR=17							
TPH	Tonopah	93.91	52	eP		P		13 29 39.5 0.0
TPH					e*PP	pP		13 29 49.7 -2.9
TPH					pmax	pmax		
	comp=Z,34nm,1.4s,mb5.6							
TPH					MLR	MLR		
	comp=Z,526nm,20.0s,MS5.0							
TPH	Tonopah	93.91	52	eP		P		13 29 39.5 0.0
	comp=Z,34nm,1.4s,mb5.6							
TPH					epP	pP		13 29 49.6 -2.9
TPH					LR	LR		
	comp=Z,526nm,20.0s,MS5.0							
M09A	Marrel Ranch,	93.93	49	⇓P		P		13 29 39.8 +0.2
	baz=94,SNR=6.7							
Q09A	Carvers	93.98	52	⇓P		P		13 29 40.5 +0.7
	baz=94							
BMN	Battle Mountai	94.04	50	eP		P		13 29 40.3 +0.2
BMN					e*PP	pP		13 29 53.6 +0.4
BMN					pmax	pmax		
	comp=Z,14nm,1.3s,mb5.2							
BMN					MLR	MLR		
	comp=Z,411nm,20.0s,MS4.9							
BMN	Battle Mountai	94.04	50	eP		P		13 29 40.3 +0.2
	comp=Z,14nm,1.3s,mb5.2							
BMN					epP	pP		13 29 53.6 +0.4
BMN					LR	LR		
	comp=Z,411nm,20.0s,MS4.9							
O09A	Fish Creek Ran	94.05	50	⇓P		P		13 29 40.6 +0.4
	baz=94,SNR=10							
P09A	Austin	94.06	51	⇓P		P		13 29 40.3 +0.1
	baz=94							
GSC	Goldstone	94.08	55	⇑P		P		13 29 40.7 +0.4
	baz=94							
BMO	Blue Mountains	94.22	45	eP		P		13 29 40.3 -0.7
BMO					pmax	pmax		
	comp=Z,21nm,1.1s,mb5.5							
BMO					MLR	MLR		
	comp=Z,452nm,22.0s,MS4.9							
BMO	Blue Mountains	94.22	45	eP		P		13 29 40.3 -0.6
	comp=Z,22nm,1.1s,mb5.5							
BMO					LR	LR		
	comp=Z,452nm,22.0s,MS4.9							
PFO	Pinyon Flat Ob	94.27	57		PFAKE			13 29 50.0 +8.8
PFO					LR	LR		
	comp=Z,495nm,22.0s,MS4.9							
PFO	Pinyon Flat Ob	94.27	57	⇓P		P		13 29 41.7 +0.6
	baz=94							
NEW	Newport	94.52	42	P		P		13 29 41.9 -0.4
	comp=Z,11nm,0.9s,mb5.3,baz=281,slow=2.3,SNR=15							
NEW					LR	LR		14 05 26.3
	comp=Z,407nm,21.0s,MS4.9,baz=278,slow=31							
NEW	Newport	94.52	42	eP		P		13 29 41.7 -0.6
NEW					pmax	pmax		
	comp=Z,19nm,1.1s							
NEW					MLR	MLR		
	comp=Z,469nm,20.0s							
NEW	Newport	94.52	42	eP		P		13 29 41.7 -0.6
	comp=Z,19nm,1.1s,mb5.4							
NEW					LR	LR		
	comp=Z,469nm,20.0s,MS5.0							
M10A	I.L. Ranch, Tu	94.62	49	⇓P		P		13 29 42.9 +0.2
	baz=95							
TPNV	Topopah Spring	94.62	53	eP		P		13 29 42.6 -0.2
TPNV					pmax	pmax		
	comp=Z,21nm,1.0s,mb5.5							
TPNV					MLR	MLR		
	comp=Z,590nm,21.0s,MS5.0							
TPNV	Topopah Spring	94.62	53	eP		P		13 29 42.6 -0.2
	comp=Z,21nm,1.0s,mb5.5							
TPNV					LR	LR		
	comp=Z,590nm,21.0s,MS5.0							
TUQ	Turquoise Mtn.	94.80	55	P		P		13 29 44.3 +0.7
	baz=95,SNR=14							
AB31	Akbulak array	95.06	319	iP		P		13 29 42.2 -2.6
AB31					pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.7							
BC3	Big Chuckw Mtn	95.10	57	⇑P		P		13 29 45.9 +0.9
	baz=95,SNR=9.7							
M11A	Holland Ranch,	95.17	49	⇑P		P		13 29 45.5 +0.2
	baz=95							
ELK	Elko	95.57	50	eP		P		13 29 46.8 -0.3
ELK					pmax	pmax		
	comp=Z,26nm,1.8s							
ELK					MLR	MLR		
	comp=Z,519nm,20.0s							
ELK	Elko	95.57	50	eP		P		13 29 46.8 -0.3
	comp=Z,26nm,1.8s,mb5.4							
ELK					LR	LR		
	comp=Z,519nm,20.0s,MS5.0							
GLA	Glamis	95.60	57	⇑P		P		13 29 48.4 +1.1
	baz=96,SNR=7.4							
W12A	Cal Nev Ari	95.66	55	⇑P		P		13 29 48.0 +0.4
	baz=96							
N12A	Wells--Clov Va	95.72	50	⇓P		P		13 29 48.0 +0.2
	baz=96,SNR=10							
Y12C	Blythe	95.89	57	⇓P		P		13 29 49.2 +0.7
	baz=96							
O12A	Currie	95.92	50	⇓P		P		13 29 48.8 +0.1
	baz=96,SNR=12							
ARU	Arti	96.03	326⇑	eP		P		13 29 47.8 -1.4
ARU					pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.9							
ARU					MLR	MLR		
	comp=Z,500nm,19.0s,MS5.0							
ARU	Arti	96.03	326		PFAKE			13 30 00.0 +11
ARU					LR	LR		
	comp=Z,646nm,22.0s,MS5.1							
YKA	Yellowknife Ar	96.19	28	P		P		13 29 48.2 -1.7
	comp=Z,1.4nm,0.6s,mb4.5,baz=273,slow=4.6,SNR=22							
YKA					PKiKP	PKiKP		13 34 26.7 -1.4
	comp=Z,0.9nm,0.7s,baz=268,slow=1.5,SNR=7.3							
YKA					LR	LR		14 06 51.8
	comp=Z,221nm,21.0s,MS4.6,baz=270,slow=32							
YKA	Yellowknife Ar	96.19	28	iP		P		13 29 49.0 -0.9
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
YKA	Yellowknife Ar	96.19	28	P		P		13 29 48.2 -1.7
HLID	Hailey	96.25	47	eP		P		13 29 49.9 -0.3
	comp=Z,8.0nm,1.0s,mb5.1							
HLID					epP	pP		13 30 02.3 -1.0
HLID					LR	LR		
	comp=Z,278nm,19.0s,MS4.8							
N13A	West Wendover	96.35	50	⇑P		P		13 29 50.5 -0.2
	baz=96							
M13A	Montello	96.39	49	P		P		13 29 51.1 +0.3
	baz=96,SNR=10							
Y13A	Salome	96.46	57	⇑P		P		13 29 51.9 +0.7
	baz=96							
X13A	Yucca	96.49	56	⇑P		P		13 29 51.7 +0.5
	baz=96,SNR=8.7							
MSO	Missoula	96.63	44		PFAKE			13 30 00.0 +8.1
MSO					LR	LR		
	comp=Z,263nm,22.0s,MS4.7							
WALA	Waterton Lakes	96.66	41	eP		P		13 29 51.8 -0.3
	comp=Z,34nm,1.4s,mb5.6							
ARUT	Antelope Range	96.88	53	eP		P		13 29 53.8 +0.7
ARUT					e*PP	pP		13 30 07.1 +0.9
EDM	Edmonton	96.99	37	eP		P		13 29 53.2 -0.4
CHMT	Chamberlain Mo	97.11	43	eP		P		13 29 53.3 -0.8
W14A	Seligman	97.12	55	P		P		13 29 55.1 +0.9
	baz=97							
Y14A	Wickenburg	97.16	57	⇓P		P		13 29 55.1 +0.8
	baz=97							
Z14A	Wintersburg	97.18	57	⇑P		P		13 29 55.6 +1.1
	baz=97							
X14A	Yava	97.26	56	⇑P		P		13 29 55.9 +1.2
	baz=97							
MCMT	McKenzie Canyo	97.39	46	eP		P		13 29 54.9 -0.5
DUG	Dugway	97.41	50		PFAKE			13 30 10.0 +15
DUG					LR	LR		
	comp=Z,452nm,21.0s,MS4.9							
HVU	Hansel Valley	97.44	49	eP		P		13 29 55.6 0.0
HVU					pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.2							
HVU	Hansel Valley	97.44	49	eP		P		13 29 55.6 0.0
	comp=Z,10nm,1.1s,mb5.2							
DLMT	Dillon	97.57	45	eP		P		13 29 55.4 -0.8
	comp=Z,9.6nm,1.1s,mb5.2							
115A	Sonoran Desert	97.77	58	⇑P		P		13 29 57.9 +0.8
	baz=98							
W15A	Williams	97.78	55	⇓P		P		13 29 58.7 +1.5
	baz=98							
X15A	Humboldt	97.80	56	⇑P		P		13 29 58.1 +0.9
	baz=98							
MVU	Marysvale	97.86	52		PFAKE			13 30 10.0 +13
MVU					LR	LR		
	comp=Z,570nm,20.0s,MS5.1							
MSU	Marysvale	97.89	52	eP		P		13 29 58.4 +0.8
BOZ	Bozeman (W)	98.25	45	eP		P		13 29 59.0 -0.2
BOZ					e*PP	pP		13 30 10.5 -1.8
BOZ					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb5.0							
BOZ					MLR	MLR		
	comp=Z,428nm,21.0s,MS4.9							
BOZ	Bozeman (W)	98.25	45	eP		P		13 29 59.0 -0.2
	comp=Z,5.3nm,0.9s,mb5.1							
BOZ					epP	pP		13 30 10.5 -1.8
BOZ					LR	LR		
	comp=Z,428nm,21.0s,MS4.9							
MPU	Maple Canyon	98.31	50		PFAKE			13 30 10.0 +10
MPU					LR	LR		
	comp=Z,786nm,22.0s,MS5.2							
HWUT	Hardware Ranch	98.35	49		PFAKE			13 30 10.0 +10
HWUT					LR	LR		
	comp=Z,368nm,21.0s,MS4.8							
AHID	Auburn Hatcher	98.68	48		PFAKE			13 30 10.0 +8.8
AHID					LR	LR		
	comp=Z,451nm,20.0s,MS5.0							
YMR	Madison River	98.74	46		PFAKE			13 30 10.0 +8.6
YMR					LR	LR		
	comp=Z,1μm,22.0s,MS5.3							
IMW	Indian Meadow	98.77	47	eP		P		13 30 01.6 0.0
	comp=Z,4.4nm,1.1s,mb4.9							
IMW					ePP	PP		13 34 08.9 +5.8
TPAW	Teton Pass	98.77	47	eP		P		13 30 01.3 -0.2
	comp=Z,5.1nm,1.0s,mb5.0							
MOOW	Moose Ponds	98.92	47	eP		P		13 30 02.1 -0.1
	comp=Z,4.4nm,1.1s,mb4.9							
MOOW					ePP	PP		13 34 08.7 +4.5
TUC	Tucson	98.99	58		PFAKE			13 30 10.0 +7.4
TUC					LR	LR		
	comp=Z,322nm,21.0s,MS4.8							
LKWY	Lake	99.14	46		PFAKE			13 30 10.0 +6.8
LKWY					LR	LR		
	comp=Z,577nm,20.0s,MS5.1							
LPIG	La Paz	99.28	67		LR	LR		14 05 00.6
	comp=Z,220nm,21.0s,MS4.6,baz=202,slow=29							
EGMT	Eagleton	99.45	42	ePdif		P		13 30 04.3 -0.3
	comp=Z,8.8nm,1.3s,mb5.1							
EGMT					LR	LR		
	comp=Z,168nm,22.0s,MS4.5							
BW06	Boulder Array	99.81	48		PFAKE			13 30 20.0 +14
BW06					LR	LR		
	comp=Z,512nm,20.0s,MS5.0							
PDAR	Pinedale Array	99.81	48	P		Pdif		13 30 05.5 -0.8
	comp=Z,5.0nm,0.9s,baz=260,slow=2.4,SNR=42							
PDAR					PP	PP		13 34 03.4 -7.6
	comp=Z,0.2nm,0.3s,baz=89,slow=28,SNR=3.7							
PDAR					LR	LR		14 09 06.4
	comp=Z,336nm,18.9s,MS4.9,baz=264,slow=32							
PV10	Paradox Valley	100.35	52	ePdif		Pdif		13 30 08.6 0.0
PV01	Paradox Valley	100.73	52	ePdif		Pdif		13 30 10.2 0.0
MVCO	Mesa Verde	100.82	53	ePdif		Pdif		13 30 11.5 +0.8
SMCO	Snowmass	101.93	51	ePdif		Pdif		13 30 16.1 +0.5
	comp=Z,7.8nm,1.0s							
LAO	LASA Array	101.94	43		PFAKE			13 30 30.0 +14
LAO					LR	LR		
	comp=Z,294nm,20.0s,MS4.8							
ANMO	Albuquerque	102.55	55⇓	eP		Pdif		13 30 17.3 -1.1
ANMO	Albuquerque	102.55	55		PFAKE			13 30 30.0 +12
ANMO					LR	LR		
	comp=Z,299nm,21.0s,MS4.8							
ISCO	Idaho Springs	102.94	50		PFAKE			13 30 30.0 +10
ISCO					LR	LR		
	comp=Z,498nm,22.0s,MS5.0							
FFC	Flin Flon	103.53	35		PFAKE			13 30 30.0 +7.3
FFC					LR	LR		
	comp=Z,243nm,21.0s,MS4.7							
KBS	Kingsbay	103.56	353		PFAKE			13 30 30.0 +7.1
KBS					LR	LR		
	comp=Z,173nm,21.0s,MS4.6							
MNTX	Cornudas Mount	103.59	59		PFAKE			13 30 30.0 +7.0
MNTX					LR	LR		
	comp=Z,499nm,21.0s,MS5.0							
RSSD	Black Hills	103.73	46	eP		Pdif		13 30 22.8 -0.8
RSSD					pmax	pmax		
	comp=Z,6.0nm,1.0s							
RSSD	Black Hills	103.73	46	ePdif		Pdif		13 30 22.8 -0.8
	comp=Z,6.3nm,1.0s							
LVZ	Lovozero	104.73	340		PFAKE			13 30 40.0 +12
LVZ					LR	LR		
	comp=Z,252nm,22.0s,MS4.7							
LTX	Lajitas	105.17	61		PFAKE			13 35 00.0 +16
LTX					LR	LR		
	comp=Z,672nm,19.0s,MS5.2							
GNI	Garni	106.32	310		PFAKE			13 35 00.0 +14
GNI					LR	LR		
	comp=Z,109nm,20.0s,MS4.4							
KEV	Kevo	106.33	343		PFAKE			13 35 00.0 +14
KEV					LR	LR		
	comp=Z,259nm,22.0s,MS4.7							
AMTX	Amarillo	106.47	55		PFAKE			13 35 00.0 +13
AMTX					LR	LR		
	comp=Z,259nm,20.0s,MS4.8							
ARCES	ARCESS Array B	106.89	343	PKiKP		PKiKP		13 34 45.9 -1.5
	comp=Z,2.1nm,1.0s,baz=214,slow=0.9,SNR=4.6							
KIV	Kislovodsk	107.27	314		PFAKE			13 35 00.0 +12
KIV					LR	LR		
	comp=Z,231nm,22.0s,MS4.7							
CBKS	Cedar Bluff	107.58	51		PFAKE			13 35 00.0 +11
CBKS					LR	LR		
	comp=Z,541nm,20.0s,MS5.1							
ULM	Lac du Bonnet	108.13	39	PKiKP		PKiKP		13 34 48.0 -1.7
	comp=Z,1.4nm,0.4s,baz=300,slow=2.8,SNR=4.8							
JCT	Junction City	108.44	60		PFAKE			13 35 00.0 +10
JCT					LR	LR		
	comp=Z,440nm,20.0s,MS5.0							
OBN	Obninsk	108.46	327		PFAKE			13 35 00.0 +10
OBN					LR	LR		
	comp=Z,351nm,22.0s,MS4.9							
WMOK	Wichita Mounta	108.86	55		PFAKE			13 35 00.0 +8.9
WMOK					LR	LR		
	comp=Z,263nm,20.0s,MS4.8							
ANN	Anapa	110.79	316	iP	KiKP	PKiKP		13 34 52.8 -1.9
ANN					pmax	pmax		
	comp=Z,28nm,1.0s							
FINES	FINESS Array B	110.94	335	PKiKP		PKiKP		13 34 54.0 -1.0
	comp=Z,2.1nm,0.9s,baz=60,slow=6.6,SNR=4.4							
EYMN	Ely	111.52	40		PFAKE			13 35 10.0 +14
EYMN					LR	LR		
	comp=Z,222nm,19.0s,MS4.8							
HKT	Hockley	111.92	60		PFAKE			13 35 10.0 +13
HKT					LR	LR		
	comp=Z,413nm,19.0s,MS5.0							
NATX	Nacogdoches	112.68	58		PFAKE			13 35 10.0 +12
NATX					LR	LR		
	comp=Z,251nm,20.0s,MS4.8							
MIAR	Mount Ida	113.14	55		PFAKE			13 35 10.0 +11
MIAR					LR	LR		
	comp=Z,324nm,21.0s,MS4.9							
AKASG	Malin Array Be	114.18	324	PKP		PKiKP		13 34 59.0 -2.1
	comp=Z,0.8nm,0.4s,baz=62,slow=2.1,SNR=6.6							
CCM	Cathedral Cave	114.27	51		PFAKE			13 35 10.0 +8.7
CCM					LR	LR		
	comp=Z,446nm,19.0s,MS5.1							
KMBO	Kilima Mbogo	114.32	266	PKP		PKiKP		13 35 00.3 -1.1
	comp=Z,0.5nm,0.3s,baz=324,slow=8.9,SNR=3.6							
KMBO	Kilima Mbogo	114.32	266	iPKIKP		PKiKP		13 35 02.2 +0.8
KMBO					pmax	pmax		
	comp=Z,1.0nm,0.3s							
KMBO	Kilima Mbogo	114.32	266	PKP		PKiKP		13 35 00.3 -1.1
KMBO					LR	LR		
	comp=Z,175nm,21.0s,MS4.6							
BRTR	Keskin Array B	114.77	312	PKP		PKiKP		13 35 00.6 -1.7
	comp=Z,1.1nm,0.5s,baz=124,slow=3.9,SNR=8.3							
ANTO	Ankara	115.36	312		PFAKE			13 35 10.0 +6.6
ANTO					LR	LR		
	comp=Z,128nm,21.0s,MS4.5							
OXF	Oxford	116.51	54		PFAKE			13 35 20.0 +14
OXF					LR	LR		
	comp=Z,278nm,20.0s,MS4.9							
NB2	NORSAR Subarra	116.88	340	PKPd		PKPdf		13 35 04.5 -1.8
	comp=Z,1.3nm,0.7s,baz=43,slow=1.9							
NOA	NORSAR Array B	116.88	340	PKP		PKPdf		13 35 04.1 -2.2
	comp=Z,2.3nm,0.8s,baz=50,slow=1.9,SNR=8.7							
WVT	Waverly	117.39	52		PFAKE			13 35 20.0 +13
WVT					LR	LR		
	comp=Z,272nm,20.0s,MS4.9							
PLAL	Pickwick Lake	117.47	53		PFAKE			13 35 20.0 +13
PLAL					LR	LR		
	comp=Z,319nm,22.0s,MS4.9							
WCI	Wyandotte Cave	118.00	49		PFAKE			13 35 20.0 +11
WCI					LR	LR		
	comp=Z,311nm,21.0s,MS4.9							
KWP	Kalwaria	118.42	325	ePKIKP		PKPdf		13 35 08.9 -0.4
KONO	Kongsberg	118.44	339⇑	eP		Pdif		13 31 25.8 -3.2
BOSA	Boshof	118.62	234	PKP		PKPdf		13 35 09.6 -0.1
	comp=Z,5.3nm,1.1s,baz=181,slow=9.5,SNR=3.8							
LRAL	Lakeview Retre	118.80	55	ePKPdf		PKPdf		13 35 09.3 -0.7
LRAL					LR	LR		
	comp=Z,219nm,21.0s,MS4.8							
LBTB	Lobatse	119.75	238	ePKIKP		PKPdf		13 35 11.7 -0.2
ACSO	Alum Creek Sta	119.80	46		PFAKE			13 35 20.0 +8.0
ACSO					LR	LR		
	comp=Z,116nm,20.0s,MS4.5							
PLCA	Paso Flores	120.11	144	PKP		PKPdf		13 35 11.6 -1.0
	comp=Z,0.8nm,0.8s,baz=191,slow=8.2,SNR=2.9							
LSZ	Lusaka	120.58	249	ePKIKP		PKPdf		13 35 13.8 +0.3
LSZ					MLR	MLR		
	comp=Z,188nm,22.0s,MS4.7							
ERPA	Erie	121.19	43		PFAKE			13 35 30.0 +15
ERPA					LR	LR		
	comp=Z,355nm,21.0s,MS5.0							
SCHQ	Schefferville	121.52	25	PKP		PKPdf		13 35 14.4 -0.8
	comp=Z,2.7nm,0.7s,baz=252,slow=19,SNR=2.6							
SCHQ	Schefferville	121.52	25	PKP		PKPdf		13 35 14.4 -0.8
SCHQ					LR	LR		
	comp=Z,490nm,21.0s,MS5.1							
MCWV	Mont Chateau	122.26	46		PFAKE			13 35 30.0 +13
MCWV					LR	LR		
	comp=Z,326nm,21.0s,MS5.0							
BRG	Berggiesshubel	122.45	330	ePKPdf		PKPdf		13 35 16.4 -0.7
BRG	Berggiesshubel	122.45	330	ePKP		PKPdf		13 35 16.6 -0.4
	comp=Z,4.7nm,0.8s							
BRG								
	comp=N,129nm,18.7s							
BRG								
	comp=E,93nm,25.0s							
BRG								
	comp=Z,174nm,25.8s							
BRG	Berggiesshubel	122.45

NCB	**Newcomb**	**124.12**	**39**	PFAKE		13 35 30.0	+10
NCB				LR	LR		
comp=Z,175nm,20.0s,MS4.7							
NHSC	**New Hope**	**124.29**	**53**	PFAKE		13 35 30.0	+9.4
NHSC				LR	LR		
comp=Z,403nm,20.0s,MS5.1							
UBBA	**Unterbreizbach**	**124.41**	**332**	*e*PKPdf	PKPdf	13 35 20.9	+0.1
MIV	**Mineville/With**	**124.50**	**38**	*e*PKPdf	PKPdf	13 35 20.0	-1.0
GRA1	**Grafenberg Arr**	**124.56**	**330**	*e*PKPdf	PKPdf	13 35 20.5	-0.6
GRF	**Grafenberg Arr**	**124.56**	**330**	*e*PKPdf	PKPdf	13 35 20.5	-0.6
CBN	**Corbin**	**124.60**	**46**	PFAKE		13 35 30.0	+8.8
CBN				LR	LR		
comp=Z,312nm,21.0s,MS5.0							
DWPF	**Disney**	**124.64**	**59**	PFAKE		13 35 30.0	+8.7
DWPF				LR	LR		
comp=Z,291nm,20.0s,MS4.9							
LBNH	**Lisbon**	**125.40**	**38**	PFAKE		13 35 30.0	+7.3
LBNH				LR	LR		
comp=Z,331nm,21.0s,MS5.0							
HNH	**Hanover**	**125.46**	**38**	*e*PKPdf	PKPdf	13 35 22.9	+0.1
STU	**Stuttgart**	**126.17**	**330**	*e*PKPdf	PKPdf	13 35 23.4	-0.8
MEM	**Membach**	**126.39**	**334**	PKP	PKPdf	13 35 23.3	-1.3
HRV	**Harvard--Oak R**	**126.54**	**39**	PFAKE		13 35 40.0	+15
HRV				LR	LR		
comp=Z,214nm,21.0s,MS4.8							
WES	**Weston**	**126.76**	**39**	PFAKE		13 35 40.0	+15
WES				LR	LR		
comp=Z,217nm,20.0s,MS4.8							
BFO	**Black Forest**	**126.89**	**330**	*e*PKPdf	PKPdf	13 35 24.5	-1.1
WLF	**Walferdange**	**127.00**	**333**	*e*PKPdf	PKPdf	13 35 26.2	+0.4
TIP	**Timpagrande**	**127.13**	**316**	*e*PKPdf	PKPdf	13 35 25.1	-0.9
GIVF	**Givet**	**127.28**	**334**	*e*PKIKP	PKPdf	13 35 24.9	-1.4
CDF	**Champ du Feu**	**127.35**	**331**	*e*PKIKP	PKPdf	13 35 24.3	-2.1
BAIF	**Baives**	**127.58**	**334**	*e*PKIKP	PKPdf	13 35 25.4	-1.5
HINF	**Hinteralfeld**	**127.96**	**331**	*e*PKIKP	PKPdf	13 35 25.6	-2.0
HAU	**Haudompre**	**128.08**	**331**	*e*PKIKP	PKPdf	13 35 27.0	-0.8
comp=Z,17nm,0.8s							
HAU				*e*R			
comp=Z,137nm,21.5s							
HAU	**Haudompre**	**128.08**	**331**	*e*PKPdf	PKPdf	13 35 27.0	-0.8
HAU				LR	LR		
comp=Z,140nm,21.5s,MS4.6							
TSUM	**Tsumeb**	**128.85**	**240**	*e*PKPdf	PKPdf	13 35 30.4	+1.1
TSUM				LR	LR		
comp=Z,267nm,20.0s,MS4.9							
CABF	**La Chapelle**	**129.17**	**330**	*e*PKIKP	PKPdf	13 35 28.8	-1.1
LPL	**La Plagne**	**129.59**	**328**	*e*PKIKP	PKPdf	13 35 30.5	-0.2
LPG	**La Plagne**	**129.59**	**328**	*e*PKIKP	PKPdf	13 35 29.8	-0.9
LOR	**Lormes**	**129.79**	**332**	*e*PKIKP	PKPdf	13 35 30.7	-0.4
comp=Z,32nm,1.2s							
LOR				*e*R			
comp=Z,258nm,21.0s							
LOR	**Lormes**	**129.79**	**332**	*e*PKPdf	PKPdf	13 35 30.7	-0.4
LOR				LR	LR		
comp=Z,260nm,21.0s,MS4.9							
SSF	**Saint Saulge**	**130.10**	**332**	*e*PKIKP	PKPdf	13 35 31.3	-0.4
comp=Z,19nm,1.0s							
SMF	**Signal de Mont**	**130.25**	**331**	*e*PKIKP	PKPdf	13 35 31.4	-0.5
ORIF	**Oris-en-Rattie**	**130.44**	**328**	*e*PKIKP	PKPdf	13 35 31.0	-1.3
comp=Z,23nm,1.1s							
ORIF				*e*R			
comp=Z,424nm,21.5s							
LDF	**La Druitiere**	**130.53**	**336**	*e*PKIKP	PKPdf	13 35 31.8	-0.7
FLN	**La Foliniere**	**130.54**	**336**	*e*PKIKP	PKPdf	13 35 32.0	-0.5
FLN				*e*R			
comp=Z,253nm,21.0s							
FLN	**La Foliniere**	**130.54**	**336**	*e*PKPdf	PKPdf	13 35 32.0	-0.5
FLN				LR	LR		
comp=Z,250nm,21.0s,MS4.9							
VIVF	**Saint-Julien-l**	**131.10**	**329**	*e*PKIKP	PKPdf	13 35 32.2	-1.4
LASF	**Ste Croix**	**132.07**	**329**	*e*PKIKP	PKPdf	13 35 34.3	-1.1
comp=Z,64nm,1.3s							
MFF	**Saint Martin d**	**132.10**	**334**	*e*PKIKP	PKPdf	13 35 34.2	-1.3
ROSC	**El Rosal**	**134.06**	**88**	PKP	PKPdf	13 35 40.6	+1.5
comp=Z,3.9nm,0.3s,baz=88,slow=17,SNR=3.9							
LPAZ	**La Paz**	**135.14**	**119**	PKP	PKPdf	13 35 43.0	+1.8
comp=Z,5.2nm,0.8s,baz=27,slow=0.7,SNR=20							
LPAZ	**La Paz**	**135.14**	**119**	*e*PKPdf	PKPdf	13 35 42.4	+1.3
LPAZ				*ep*PKPdf	pPKPdf	13 35 55.7	+1.1
SJPF	**Ste Jean**	**135.28**	**332**	*e*PKIKP	PKPdf	13 35 40.1	-1.3
BBSR	**BB Station**	**136.47**	**47**	PFAKE		13 36 00.0	+16
BBSR				LR	LR		
comp=Z,484nm,22.0s,MS5.2							
SDV	**Santo Domingo**	**137.75**	**82**	*e*PKPdf	PKPdf	13 35 46.5	+0.5
CPUP	**Villa Florida**	**137.88**	**139**	PKP	PKPdf	13 35 46.8	+0.5
comp=Z,3.2nm,0.8s,baz=315,slow=2.7,SNR=7.0							
CPUP	**Villa Florida**	**137.88**	**139**	*e*PKPdf	PKPdf	13 35 44.9	-1.3
SJG	**San Juan**	**140.76**	**68**	*e*PKIKP	PKPdf	13 35 51.8	+0.3
SJG				MLR	MLR		
comp=Z,186nm,19.0s							
LZG	**Guadaloupe-1**	**145.31**	**69**	*e*P	PKPbc	13 35 59.6	+0.2
SEG	**Port Louis**	**145.49**	**68**	*e*P	PKPdf	13 35 59.9	+0.1
TBG	**Guadaloupe-3**	**145.50**	**69**	*e*P	PKPdf	13 36 00.4	+0.6
BBL	**Barber's Block**	**145.74**	**70**	*e*P	PKPdf	13 36 01.0	+0.7
MGG	**Marie-Galante**	**145.79**	**69**	*e*P	PKPdf	13 36 01.0	+0.7
DEG	**La Desirade**	**145.93**	**68**	*e*P	PKPbc	13 36 11.0	+10
TORD	**Torodi Ar. Bea**	**149.45**	**287**	PKPbc	PKPbc	13 36 10.4	-0.5
comp=Z,67nm,0.9s,baz=35,slow=1.4,SNR=60							
BDFB	**Brasilia**	**151.53**	**137**	PKPbc	PKPbc	13 36 15.2	-0.6
comp=Z,17nm,0.8s,baz=202,slow=4.7,SNR=3.5							
DBIC	**Dimbokro**	**156.72**	**275**	PFAKE		13 36 30.0	+13
DBIC				LR	LR		
comp=Z,257nm,20.0s,MS5.0							
RCBR	**Riachuelo**	**166.68**	**145**	PFAKE		13 36 40.0	+13
RCBR				LR	LR		
comp=Z,219nm,20.0s							

*PGC **01** 13:30:32.3,5835N×13350W,h1km,ML3.3/6,54km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border.*
*NEIC **01** 13:30:34.1,5836N×13369W,h10km,ML3.0(AEIC),After AEIC.*

ISC 01 13:30:29.7±0.4,5834N±002×13331W±005,h10km,n20, σ1§51/34,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BESE	**Bessie Mountai**	**0.85**	**287**	P		**Pg**	**13 30 45.6**	**-0.5**
SKAG	**Skagway**	**1.54**	**318**	P		**Pn**	**13 30 57.9**	**+0.7**
SKAG				S		**Sn**	**13 31 17.1**	**-0.1**
SIT	**Sitka**	**1.69**	**221**	P		**Pn**	**13 31 00.1**	**+0.9**
SIT				S		**Sn**	**13 31 19.9**	**-0.9**
PLBC	**Pleasant Camp**	**1.94**	**306**	Pn		**Pn**	**13 31 04.8**	**+2.1**
PLBC				Pg		**Pg**	**13 31 05.4**	**-1.6**
PLBC				Sn		**Sn**	**13 31 28.5**	**+1.3**
PLBC				Sg		**Sg**	**13 31 30.4**	**-1.8**
WHY	**Whitehorse**	**2.46**	**342**	Pn		**Pn**	**13 31 11.8**	**+1.9**
WHY				Pg		**Pg**	**13 31 16.4**	**-0.4**
WHY				Sg		**Sg**	**13 31 47.5**	**-1.3**
WHY				Trac			13 31 56.6	
comp=Z,106nm,0.8s								
WHY	**Whitehorse**	**2.46**	**342**	P		**Pn**	**13 31 11.3**	**+1.4**
WHY				S		**Sn**	**13 31 40.8**	**+0.8**
CRAG	**Craig**	**2.88**	**178**	P		**Pn**	**13 31 18.5**	**+2.8**
HYT	**Haines Junctio**	**3.28**	**321**	Pn		**Pn**	**13 31 23.7**	**+2.6**
HYT				Pg		**Pg**	**13 31 30.2**	**-2.4**
HYT				Sg		**Sg**	**13 32 12.3**	**-2.8**
HYT				Trac			13 32 17.8	
comp=Z,41nm,0.6s								
RUBB	**Prince Rupert**	**4.37**	**156**	Pn		**Pn**	**13 31 39.2**	**+3.1**
RUBB				Pg		**Pg**	**13 31 51.8**	**-1.7**
RUBB				Sg		**Sg**	**13 32 50.4**	**+0.4**
RUBB				Trac			13 32 57.2	
comp=Z,67nm,0.7s								
NDB	**Naden**	**4.40**	**177**	Pn		**Pn**	**13 31 40.2**	**+3.6**
NDB				Sg		**Sg**	**13 32 51.4**	**+0.3**
NDB				Trac			13 32 59.1	
comp=Z,23nm,0.8s								
VIB	**Van Inlet**	**5.12**	**175**	Sg		**Sg**	**13 33 13.4**	**-0.7**
VIB				Trac			13 33 29.8	
comp=Z,7.0nm,0.7s								
MOBC	**Moresby Island**	**5.22**	**171**	Pn		**Pn**	**13 31 51.9**	**+4.1**
MOBC				Sg		**Sg**	**13 33 16.7**	**-0.6**
MOBC				Trac			13 33 29.7	
comp=Z,12nm,0.8s								
FNBB	**Fort Nelson**	**5.41**	**80**	Trac			13 33 37.8	
comp=Z,25nm,1.0s								
FNBB	**Fort Nelson**	**5.41**	**80**	Sg		**Sg**	**13 33 23.6**	**+0.2**
FSB	**Fort Saint Jam**	**6.31**	**124**	Sg		**Sg**	**13 33 51.8**	**-0.5**
FSB				Trac			13 34 27.7	
comp=Z,10nm,0.8s								
DAWY	**Dawson**	**6.45**	**335**	Pn		**Pn**	**13 32 07.1**	**+2.4**
DAWY				Pg		**Pg**	**13 32 29.5**	**-3.7**
DAWY				Sg		**Sg**	**13 33 50.8**	**-6.0**
DAWY				Trac			13 33 56.0	
comp=Z,30nm,0.8s								
BMBC	**Bull Mountain**	**6.50**	**106**	Pg		**Pg**	**13 32 31.8**	**-2.3**
BMBC				Sg		**Sg**	**13 33 57.5**	**-0.7**
BMBC				Trac			13 34 22.1	
comp=Z,25nm,0.9s								
INK	**Inuvik**	**10.01**	**360**	P		**Pn**	**13 32 56.7**	**+3.2**
INK				Sg		Sn	13 35 44.5	+59
INK				Trac			13 36 05.7	
comp=Z,4.0nm,1.1s								
YKW3	**Yellowknife Ar**	**10.14**	**58**	Trac			13 35 59.1	
comp=Z,4.0nm,0.8s								
YKW3				Trac			13 35 59.4	
comp=Z,2.0nm,0.7s								
YKW3	**Yellowknife Ar**	**10.14**	**58**	Sg		Sx	13 35 50.0	
YKW3				Sg		Sx	13 35 50.4	

IDC 01 13:41:42.3±8.1,2283N×14419E,h212km±158km,mb3.4/5, mb1 3.5/6,mb1mx3.1/22,mbtmp4.0/6,MS2.9/1,Ms1 2.9/1, ms1mx2.2/27,Error ellipse: s-maj=143.4km s-min=79.1km az=19.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.62**	**337**	P		Pn	13 42 52.6	+0.4
5.4nm,0.3s,baz=114,slow=23,SNR=15								
CBIJ				S		S	13 43 48.0	+0.5
17nm,0.3s,baz=285,slow=22,SNR=12								
CBIJ				LR		LR	13 44 05.1	
comp=Z,128nm,19.3s,baz=345,slow=31								
CTA	**Charters Tower**	**42.70**	**177**	P		P	13 49 19.4	+1.0
1.0nm,0.5s,baz=329,slow=5.9,SNR=2.4								
WRA	**Warramunga Arr**	**43.58**	**194**	P		P	13 49 25.4	+0.1
1.4nm,0.4s,baz=16,slow=9.4,SNR=23								
FITZ	**Fitzroy Crossi**	**44.54**	**206**	*e*P		P	13 49 33.2	+0.3
6.9nm,1.6s								
FITZ	**Fitzroy Crossi**	**44.54**	**206**	P		P	13 49 33.2	+0.2
0.9nm,0.4s,baz=28,slow=12,SNR=9.1								
ASAR	**Alice Springs**	**47.28**	**193**	P		P	13 49 54.5	+0.2
0.3nm,0.3s,baz=11,slow=6.9,SNR=11								
STKA	**Stephens Creek**	**54.45**	**183**	P		P	13 50 47.0	-0.7
0.7nm,0.3s,baz=349,slow=10,SNR=4.7								

*NDI **01** 13:41:43.6±2.4,3404N×7258E,h10km,ML3.5*
*IDC **01** 13:41:47.4±1.4,3375N×7314E,h0km,mb3.7/5,mb1 3.9/6, mb1mx3.6/22,mbtmp3.7/6,ML3.5/1,Error ellipse: s-maj=34.1km s-min=30.0km az=72.0*
*ISCJB **01** 13:41:49.4±0.4,3390N±003×7321E±004,h10km,mb3.7/5, Error ellipse: s-maj=5.6km s-min=3.7km az=111.8*
*NNC **01** 13:41:58.8±2.3,3434N×7277E,h34km±36km,mb3.2, mpv3.5,Error ellipse: s-maj=33.0km s-min=25.0km az=159.0*

ISC 01 13:41:50.7±0.4,3382N±003×7316E±004,h10km,n30, σ1§40/42,mb3.7/5,5C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**1.04**	**271**	P		**Pg**	**13 42 10.8**	**+0.1**
THW	**Thamme Wali**	**1.57**	**230**	P		**Pb**	**13 42 20.9**	**+1.2**
SARP	**Sargodha**	**1.93**	**192**	P		**Pn**	**13 42 25.0**	**+1.4**
SARP				S		**Sb**	**13 42 52.0**	**+1.9**
SBDP	**Sheikh Budin**	**2.49**	**233**	P		**Pb**	**13 42 36.2**	**+0.8**
DLH	**Dalhousie**	**2.67**	**118**	*e*P		**Pn**	**13 42 34.0**	**+0.3**
DLH				*e*S		**Sb**	**13 43 12.0**	**+0.6**
PONG	**Pong**	**2.99**	**128**	*e*P		**Pn**	**13 42 39.0**	**+0.9**
PONG				*e*S		**Sb**	**13 43 19.0**	**-1.6**
BHK	**Bhakra**	**3.64**	**130**	*e*S		**Sn**	**13 43 34.2**	**+4.1**
SDNR	**Sundarnagar**	**3.96**	**125**	*e*P		**Pn**	**13 42 51.2**	**-0.2**
SDNR				*ex*		x	13 43 51.4	
SMLA	**Simla**	**4.32**	**127**	*e*P		**Pn**	**13 42 55.6**	**-0.7**
SMLA				*e*S		**Sn**	**13 43 49.1**	**+2.4**
SMLA				*e*S		**Sn**	**13 43 49.3**	**+2.6**
SMLA				AML		AML	13 44 15.1	
comp=N,170nm,0.5s								
SMLA				AML		AML	13 44 15.2	
comp=E,246nm,0.5s								
KLP	**Kalpa**	**4.86**	**117**	*e*P		**Pn**	**13 43 04.6**	**+0.9**
KLP				*e*S		**Sn**	**13 44 01.6**	**+1.6**
KLP				AML		AML	13 44 25.5	
comp=N,288nm,0.5s								
KLP				AML		AML	13 44 26.7	
comp=E,301nm,0.7s								
KHET	**Khetri**	**6.16**	**158**	*e*S		**Sn**	**13 44 30.0**	**-2.1**
KHET				AML		AML	13 45 12.1	
comp=N,19nm,0.3s								
KHET				AML		AML	13 45 12.2	
comp=E,16nm,0.4s								
NDI	**New Delhi**	**6.18**	**145**	*ex*		**Pb**	**13 43 40.0**	**+1.6**
NDI				*e*S		**Sn**	**13 44 33.0**	**+0.3**
AYAN	**Aya Nagar**	**6.31**	**146**	*e*P		**Pn**	**13 43 22.2**	**-1.5**
AYAN				*e*S		**Sn**	**13 44 34.2**	**-1.6**
KUDL	**Kundal**	**6.33**	**152**	*e*S		**Sn**	**13 44 33.7**	**-2.7**
KUDL				AML		AML	13 45 16.8	
comp=E,16nm,0.5s								
KUDL				AML		AML	13 45 18.1	
comp=N,13nm,0.4s								
SONA	**Sohna**	**6.49**	**148**	*e*P		**Pn**	**13 43 25.8**	**-0.3**
SONA				*e*S		**Sn**	**13 44 39.4**	**-0.8**
SONA				AML		AML	13 45 24.9	
comp=N,31nm,0.2s								
SONA				AML		AML	13 45 25.9	
comp=E,54nm,0.5s								
AML	**Almayashu**	**8.31**	**3**	P		**Pn**	**13 43 53.7**	**+2.5**
SNR=19								
KZA	**Kyzart**	**8.41**	**11**	P		**Pn**	**13 43 53.7**	**+1.2**
SNR=8.2								
UCH	**Uchtor**	**8.46**	**7**	P		**Pn**	**13 43 54.9**	**+1.6**
SNR=17								
EKS2	**Erkin-Say**	**8.85**	**3**	P		**Pn**	**13 44 00.9**	**+2.4**
SNR=5.2								
TKM2	**Tokmak 2**	**9.29**	**11**	P		**Pn**	**13 44 05.6**	**+1.0**
SNR=11								
TKM2	**Tokmak 2**	**9.29**	**11**	⇑Pn		**Pn**	**13 44 05.2**	**+0.6**
comp=E,0.2nm,0.5s								
TKM2				⇑Sn		**Sn**	**13 45 42.7**	**-6.4**
comp=E,0.2nm,0.7s								
KK31	**Karatay Array**	**9.50**	**348**	Pn		**Pn**	**13 44 07.8**	**+0.3**
comp=E,3.8nm,0.5s,baz=163,slow=12,SNR=45								
KK31				⇓Sn		**Sn**	**13 45 50.3**	**-4.1**
comp=E,1.4nm,0.3s,baz=171,slow=23,SNR=3.6								
MKAR	**Makanchi Array**	**14.70**	**25**	Pn		**Pn**	**13 45 18.3**	**-0.3**
comp=E,0.2nm,0.3s,baz=211,slow=14,SNR=4.6								
AB31	**Akbulak array**	**18.28**	**331**	⇑Pn		**Pn**	**13 46 03.7**	**-0.7**
comp=E,0.5nm,0.5s,baz=143,slow=11,SNR=10								
AB31				⇑Sn		**Sn**	**13 49 18.2**	**-10**
comp=E,0.3nm,0.6s								
AKTO	**Aktyubinsk**	**19.98**	**331**	⇑Pn		**Pn**	**13 46 21.8**	**-3.1**
comp=E,0.1nm,0.7s								
ZAL	**Zalesovo**	**21.74**	**19**	P		**P**	**13 46 40.3**	**-1.9**
comp=E,4.9nm,0.4s,mb4.3,baz=261,slow=7.2,SNR=11								
ARCES	**ARCESS Array B**	**44.29**	**338**	P		**P**	**13 49 59.5**	**-1.0**
comp=E,2.7nm,1.1s,mb3.9,baz=115,slow=7.5,SNR=7.1								
NOA	**NORSAR Array B**	**47.59**	**324**	P		**P**	**13 50 24.7**	**-1.8**
comp=E,0.4nm,0.6s,mb3.6,baz=103,slow=7.4,SNR=2.9								
TORD	**Torodi Ar. Bea**	**67.48**	**271**	P		**P**	**13 52 45.2**	**-1.5**
comp=E,0.4nm,0.9s,mb3.5,baz=39,slow=5.3,SNR=3.8								
WRA	**Warramunga Arr**	**79.06**	**123**	P		**P**	**13 53 53.8**	**-1.2**
comp=E,0.3nm,0.7s,mb3.4,baz=322,slow=5.2,SNR=5.2								

*ISCJB **01** 13:43:26.3±2.8,74S×02×114.1E±02,h87km±35km, mb3.6/4,Error ellipse: s-maj=50.6km s-min=15.7km az=74.1*
*IDC **01** 13:43:29.7±12.0,842S×11293E,h144km±123km,mb3.3/4, mb1 3.4/5,mb1mx3.3/17,mbtmp3.7/5,ML3.3/1,Error ellipse: s-maj=122.9km s-min=28.6km az=53.0*

ISC 01 13:43:27.8±2.9,75S×03×1141E±02,h86km±35km,n8, σ1§40/10,mb3.6/4,1D,Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRT	**Tretes**	**1.42**	**260**	*i* P		**Pn**	**13 43 51.5**	**-0.8**
TRT				*i* S		**Sn**	**13 44 09.5**	**-1.4**
SJI	**Sawahan**	**2.28**	**263**	⇓*i*P		**Pn**	**13 44 12.0**	**+8.5**
SJI				*i* S		**Sn**	**13 44 33.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**15.47**	**134**	P		**Pn**	**13 47 02.5**	**+1.4**
0.1nm,0.3s,baz=330,slow=14,SNR=7.8								
WRA	**Warramunga Arr**	**23.26**	**124**	P		**P**	**13 48 28.3**	**+0.6**
1.6nm,0.7s,mb3.5,baz=296,slow=11,SNR=20								
ASPA	**Alice Springs**	**24.95**	**132**	*e*P		**P**	**13 48 42.2**	**-0.9**
ASAR	**Alice Springs**	**24.95**	**132**	P		**P**	**13 48 42.0**	**-1.1**
1.0nm,0.4s,mb3.6,baz=304,slow=9.2,SNR=24								
SONM	**Songino Array**	**55.47**	**354**	P		**P**	**13 52 55.6**	**+1.9**
0.2nm,0.3s,mb3.6,baz=172,slow=8.7,SNR=3.6								
MKAR	**Makanchi Array**	**60.95**	**336**	P		**P**	**13 53 30.2**	**-1.6**
0.4nm,0.4s,mb3.8,baz=152,slow=5.5,SNR=6.2								

PRE 01 13:59:08.5±1.2,2166S×3243E,h5km,ML4.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**4.57**	**208**	*e*P		Pn	14 00 19.4	+1.1
BFT				*e*S		Sn	14 01 11.3	-0.4
BFT				AML		AML	14 02 00.0	
comp=Z,51nm,0.6s								
POGA	**Pongola**	**5.74**	**187**	*e*P		Pn	14 00 33.8	-0.5
POGA				*e*S		Sn	14 01 37.6	-2.9
POGA				AML		AML	14 02 19.8	
comp=Z,42nm,0.6s								
KSR	**Koster**	**6.57**	**229**	*e*P		Pn	14 00 47.5	+1.8
KSR				*e*S		Sn	14 01 58.8	-2.1
KSR				AML		AML	14 02 59.5	
comp=Z,29nm,0.6s								
LBTB	**Lobatse**	**7.11**	**241**	*e*P		Pn	14 00 53.8	+0.6
LBTB				*e*S		Sn	14 02 11.3	-3.2
LBTB				AML		AML	14 03 16.8	
comp=Z,46nm,0.7s								
SWZ	**Schweizer**	**8.49**	**228**	*e*P		Pn	14 01 13.3	+1.2
SWZ				*e*S		Sn	14 02 44.4	-3.9
SWZ				AML		AML	14 02 55.4	
comp=Z,9.7nm,0.6s								
BOSA	**Boshof**	**9.50**	**222**	*e*P		Pn	14 01 27.4	+1.5
BOSA				*e*S		Sn	14 03 08.0	-5.1
BOSA				AML		AML	14 04 27.8	
comp=Z,30nm,0.7s								
SUR	**Sutherland**	**14.86**	**222**	*e*P		Pn	14 02 41.9	+2.7
SUR				*e*S		Sn	14 05 16.8	-7.5

*BJI **01** 14:03:05.1,1690S×17222W,h29km,mB5.3,mb5.0,Ms4.8, Msz4.7*
*IDC **01** 14:03:07.2±0.5,1604S×17300W,h0km,mb4.4/17, mb1 4.6/17,mb1mx4.5/23,mbtmp4.4/17,MS4.1/9, Ms1 4.1/9,ms1mx3.8/24,Error ellipse: s-maj=26.3km s-min=13.7km az=129.0*
*ISCJB **01** 14:03:10.1±0.2,1602S±006×173.10W±006,h29km, mb4.7/59,MS4.2/13,Error ellipse: s-maj=11.3km s-min=4.8km az=96.3*
*HRVD **01** 14:03:11.8±0.6,1579S×17250W,h27km±1km,MW4.9/42, Centroid moment Tensor Solution. LP body waves: s14,c17;Mantle waves: s42,c52; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~2.25±.26; $M_{\theta\theta}$-0.54±.17; $M_{\phi\phi}$2.80±.18; $M_{r\theta}$0.81±.26; $M_{\theta\phi}$0.78±.12; $M_{\phi r}$1.06±.29; Best double couple: $M_0$2.95800×10^{16} NP1:ϕ_s355.00000°,δ35.00000°,λ-117.00000°. NP2: ϕ_s207.00000°,δ59.00000°,λ-73.00000°. Principal axes: T 3.2440, Plg13.0000°, Azm284.0000°; N -0.5640, Plg15.0000°, Azm18.0000°; P -2.6720, Plg70.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 14:03:11.8±0.1,1603S×173.11W,mb4.9/39 Error ellipse: s-maj=9.5km s-min=3.8km az=139.0*
*MOS **01** 14:03:12.5±2.0,1606S×17237W,h27km,mb5.0/24,Error ellipse: s-maj=14.8km s-min=10.4km az=71.7*
*SZGRF **01** 14:03:13.4,1645S×17337W,h33km,Tonga Islands*

ISC 01 14:03:12.3±0.2,1602S±006×17309W±006,h31km, h31km±.9km:pP-P,n317,σ0§59/205,mb4.7/59,MS4.2/13, 51C-48D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.45**	**31**	Pn		**Pn**	**14 03 43.5**	**-6.6**
19nm,0.3s,baz=180,slow=1.0,SNR=67								
AFI				Sn		**Sn**	**14 04 12.9**	**-6.0**
87nm,0.3s,baz=114,slow=18,SNR=9.8								
AFI				LR		LR	14 04 31.5	
comp=Z,2μm,19.6s,baz=133,slow=35								
AFI				T			14 06 22.9	
41nm,0.3s,baz=165,slow=23,SNR=4.3								
AFI	**Afiamalu**	**2.45**	**31**	*e*Pn		**Pn**	**14 03 43.8**	**-6.3**
RAR	**Rarotonga**	**13.63**	**114**	Pn		**Pn**	**14 06 15.0**	**-8.4**
1.4nm,0.3s,baz=243,slow=6.4,SNR=5.1								
RAR				LR		LR	14 09 57.5	
comp=Z,684nm,20.0s,baz=293,slow=30								
RAR				T			14 20 16.6	
7.9nm,0.3s,baz=113,slow=14,SNR=3.5								
DZM	**Mont Dzumac**	**20.26**	**250**	*e*P		**P**	**14 07 44.5**	**-0.6**
DZM	**Mont Dzumac**	**20.26**	**250**	P		**P**	**14 07 44.2**	**-0.8**
6.4nm,1.0s,baz=90,slow=20,SNR=4.8								
NOUC	**Port Laguerre**	**20.39**	**250**	*e*P		**P**	**14 07 52.6**	**+6.1**
PPT	**Papeete**	**22.56**	**97**	*e*LQ			14 12 16.5	
496nm,25.0s								
PPT				*e*LR		LR	14 13 25.5	
338nm,21.0s								
PPT	**Papeete**	**22.56**	**97**	LR		LR	14 14 03.5	
comp=Z,223nm,20.8s,MS3.6,baz=275,slow=29							

NWAO Narrogin (SRO) 64.58 241 eP P 14 13 46.5 0.0
MUN Mundaring 65.51 242 eP P 14 13 53.4 +0.8
MJAR Matsushiro Arr 69.60 320 LR LR 14 38 52.0
comp=Z,161nm,20.9s,MS4.2,baz=165,slow=31
CASY Casey 69.98 205 eP P 14 14 20.4 -0.3
comp=Z,13nm,1.1s,mb4.8
PACP Pacheco Peak 71.84 41 ⇓P P 14 14 32.2 +0.2
baz=72
P01C Double 8 Ranch 72.10 38 ⇓P P 14 14 33.5 -0.1
baz=72
S04C Ingram Canyon, 72.11 41 ⇑P P 14 14 33.5 -0.2
baz=72
MNRC McLaughlin Nat 72.27 39 ⇓P P 14 14 35.0 +0.4
baz=72
GASB Alder Springs 72.58 39 ⇑P P 14 14 37.0 +0.6
baz=73
O02C Red Bluff 72.87 38 ⇑P P 14 14 38.6 +0.4
baz=73
ISA Isabella 72.88 44 ⇓P P 14 14 38.6 +0.4
baz=73
CMB Columbia Colle 73.03 41 eP P 14 14 39.1 0.0
CMB pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
CMB Columbia Colle 73.03 41 eP P 14 14 39.1 0.0
comp=Z,7.6nm,1.2s,mb4.5
CMB Columbia Colle 73.03 41 ⇑P P 14 14 39.0 0.0
baz=73
HELL Mitchell Peak 73.11 43 ⇓P P 14 14 39.2 -0.4
baz=73
LAVA Lava Cap Winer 73.24 40 ⇑P P 14 14 40.0 -0.3
baz=74
ORV Oroville 73.26 39 ⇑P P 14 14 39.9 -0.6
baz=74
WDC Whiskeytown Da 73.27 38 ⇓P P 14 14 40.3 -0.3
baz=74
CWC Cottonwood Cre 73.59 44 ⇓P P 14 14 42.3 -0.1
baz=74
GSC Goldstone 73.80 45 ⇑P P 14 14 43.8 +0.1
baz=74
BC3 Big Chuckw Mtn 73.85 47 ⇓P P 14 14 44.1 +0.2
baz=74
WAKR Walker 73.91 41 eP P 14 14 44.8 +0.5
WAKR epP pP 14 14 54.0 -0.1
YBH Yreka Blue Hor 73.91 37 P P 14 14 43.9 -0.4
comp=Z,3.4nm,0.7s,mb4.4,baz=199,slow=2.7,SNR=8.6
YBH Yreka Blue Hor 73.91 37 eP P 14 14 45.1 +0.8
YBH e*PP pP 14 14 55.2 +1.2
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH Yreka Blue Hor 73.91 37 eP P 14 14 45.1 +0.8
comp=Z,6.6nm,0.9s,mb4.6
YBH epP pP 14 14 55.2 +1.2
YBH Yreka Blue Hor 73.91 37 ⇓P P 14 14 44.3 +0.1
baz=74
R06C Coleville 73.91 41 ⇓P P 14 14 44.2 0.0
baz=74
R07C Lee Vining 73.91 42 ⇑P P 14 14 43.8 -0.5
baz=74
M03C McCloud 73.96 38 ⇓P P 14 14 44.4 -0.1
baz=74
GLA Glamis 73.97 48 eP P 14 14 44.9 +0.2
GLA Glamis 73.97 48 ⇓P P 14 14 44.2 -0.5
baz=74
O04C Chester 73.98 39 ⇓P P 14 14 44.5 -0.1
baz=74
QSPA South Pole Qui 74.03 180 eP P 14 14 44.5 -0.5
comp=Z,28nm,1.1s,mb5.1
S08C White Mtn Res 74.13 43 ⇑P P 14 14 46.0 +0.4
baz=74
WCN Washoe City 74.18 40 ⇓P P 14 14 45.8 0.0
baz=74
HUMO Hull Mountain 74.32 36 eP P 14 14 47.3 +0.6
comp=Z,26nm,1.7s,mb4.9
HUMO Hull Mountain 74.32 36 ⇓P P 14 14 47.0 +0.3
baz=75
M04C Macdoel 74.44 37 ⇓P P 14 14 47.7 +0.3
baz=75
J02A Umpqua 74.47 35 ⇑P P 14 14 48.2 +0.6
baz=75
TUQ Turquoise Mtn. 74.48 45 ⇓P P 14 14 47.5 -0.1
baz=75
NVAR Mina Array Bea 74.58 42 P P 14 14 48.6 +0.3
comp=Z,1.7nm,0.7s,mb4.1,baz=231,slow=11,SNR=17
M05C Lookout 74.58 38 ⇑P P 14 14 48.3 +0.1
baz=75
O06A Flanigan 74.65 40 ⇓P P 14 14 48.6 0.0
baz=75
L04A Klamath Falls 74.66 37 ⇓P P 14 14 48.4 -0.2
baz=75
MNV Mina 74.68 42 eP P 14 14 49.5 +0.7
MNV pmax pmax
comp=Z,18nm,1.5s,mb4.8
MNV Mina 74.68 42 eP P 14 14 49.5 +0.7
comp=Z,18nm,1.5s,mb4.8
I02A Mapleton 74.74 35 ⇓P P 14 14 49.3 +0.2
baz=75
S09A Goldfield 74.88 43 ⇓P P 14 14 49.8 -0.1
baz=75
M06C Likely Place G 74.88 38 ⇓P P 14 14 50.3 +0.3
baz=75
Q08A Gabbs 75.07 42 ⇓P P 14 14 50.9 -0.1
baz=75
TPNV Topopah Spring 75.09 44 eP P 14 14 51.6 +0.5
TPNV pmax pmax
comp=Z,16nm,1.6s,mb4.7
TPNV Topopah Spring 75.09 44 eP P 14 14 51.6 +0.5
comp=Z,16nm,1.6s,mb4.7
O07A Toulon 75.23 40 ⇑P P 14 14 52.1 +0.1
baz=76,SNR=5.0
H03A Soap Creek Ran 75.48 34 ⇓P P 14 14 53.5 +0.2
baz=76
X13A Yucca 75.48 47 ⇑P P 14 14 53.4 -0.1
baz=76
Q09A Carvers 75.53 42 ⇓P P 14 14 53.5 -0.2
baz=76
N07B Gerlach 75.54 39 ⇑P P 14 14 53.2 -0.5
baz=76
SHPR Sheep Range 75.58 45 eP P 14 14 54.8 +0.8
115A Sonoran Desert 75.67 49 ⇑P P 14 14 54.2 -0.3
baz=76
Y14A Wickenburg 75.74 48 ⇓P P 14 14 55.2 +0.4
baz=76
M07A Soldier Meadow 75.78 39 ⇑P P 14 14 54.9 -0.3
baz=76
P09A Austin 75.97 41 ⇑P P 14 14 56.1 -0.1
baz=76
116A Eloy 75.99 50 ⇑P P 14 14 55.7 -0.6
baz=76
K06A Valley Falls 76.00 37 ⇓P P 14 14 56.6 +0.2
baz=76,SNR=5.2
N08A GE Springer Mi 76.06 40 ⇓P P 14 14 56.4 -0.3
baz=76
H04A Detroit Lake 76.08 35 ⇑P P 14 14 56.3 -0.5
baz=76
X14A Yava 76.09 48 ⇑P P 14 14 56.7 -0.1
baz=76
F03A Seaside 76.15 33 ⇑P P 14 14 56.9 -0.3
baz=76
O09A Fish Creek Ran 76.29 41 ⇓P P 14 14 57.5 -0.5
baz=76
M08A Happy Creek Ra 76.30 39 ⇓P P 14 14 58.4 +0.4
baz=76
J06A Christmas Vall 76.33 37 ⇑P P 14 14 57.9 -0.3
baz=77,SNR=6.5
W14A Seligman 76.33 47 ⇓P P 14 14 58.3 +0.1
baz=76,SNR=5.7
N09A Rock Creek Ran 76.47 40 ⇑P P 14 14 58.6 -0.4
baz=77
TUC Tucson 76.55 50 eP P 14 14 59.6 +0.1
TUC e*PP pP 14 15 09.8 +0.5
TUC pmax pmax
comp=Z,14nm,1.5s,mb4.7
TUC Tucson 76.55 50 eP P 14 14 59.6 +0.1
comp=Z,14nm,1.5s,mb4.7
TUC epP pP 14 15 09.8 +0.6
X15A Humboldt 76.56 48 ⇑P P 14 14 59.7 +0.1
baz=77
E03A Lebam 76.56 33 ⇑P P 14 15 00.1 +0.5
baz=77
I06A Prineville 76.72 36 ⇑P P 14 15 00.9 +0.5
baz=77
WVOR Wild Horse Val 76.73 38 eP P 14 15 00.1 -0.4
WVOR pmax pmax
comp=Z,23nm,1.7s,mb4.8
WVOR Wild Horse Val 76.73 38 eP P 14 15 00.1 -0.3
comp=Z,23nm,1.7s,mb4.8
F04A Amboy 76.76 34 ⇑P P 14 15 00.1 -0.5
baz=77

D03A Wishkah Elem. 76.83 32 ⇑P P 14 15 01.2 +0.1
baz=77
M09A Marrel Ranch, 76.85 40 ⇓P P 14 15 01.0 -0.1
baz=77
G05A Wamic 76.91 35 ⇑P P 14 15 01.4 -0.1
baz=77
L09A Wilkinson Ranc 77.06 39 ⇑P P 14 15 02.4 0.0
baz=77
P12A McGill 77.35 42 ⇑P P 14 15 04.0 0.0
baz=78
M10A I.L. Ranch, Tu 77.47 40 ⇓P P 14 15 04.5 -0.1
baz=78
E05A Randle 77.51 33 ⇓P P 14 15 04.9 0.0
baz=78
KSM Kuching 77.55 275 eP P 14 15 06.8 +1.8
D05A Enumclaw 77.80 33 ⇑P P 14 15 06.7 +0.2
baz=78
ELK Elko 77.84 41 eP P 14 15 06.6 -0.1
ELK e*PP pP 14 15 15.2 -1.4
ELK pmax pmax
comp=Z,15nm,1.6s
ELK Elko 77.84 41 eP P 14 15 06.6 -0.1
comp=Z,15nm,1.6s,mb4.7
ELK epP pP 14 15 15.2 -1.4
M11A Holland Ranch, 77.88 40 ⇓P P 14 15 07.1 +0.1
baz=78
O12A Currie 77.89 42 ⇑P P 14 15 07.2 +0.2
baz=78
N12A Wells--Clov Va 78.03 41 ⇓P P 14 15 07.9 +0.1
baz=78
SVW2 Sparrevohn 78.12 9 eP P 14 15 07.5 -0.8
C05A Tolt Reservoir 78.27 33 ⇓P P 14 15 08.3 -0.8
baz=78
A04A Legoe Bay, Lum 78.42 31 ⇓P P 14 15 09.7 -0.2
baz=79
B05A Bryant 78.43 32 ⇓P P 14 15 10.2 +0.2
baz=79
N13A West Wendover 78.56 41 ⇑P P 14 15 10.7 0.0
baz=79
SSE Sheshan 78.57 307 P P 14 15 12.1 +1.3
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,180nm,4.5s
SSE LR LR
comp=N,60nm,22.5s,MS3.9
SSE LR LR
comp=E,30nm,22.6s,MS3.9
SSE LR LR
comp=Z,60nm,19.0s,MS4.0
HAWA Hanford 78.61 35 P P 14 15 09.7 -1.3
comp=Z,0.5nm,0.7s
MSU Marysvale 78.65 44 eP P 14 15 12.3 +1.1
BMO Blue Mountains 78.93 37 eP P 14 15 11.9 -0.9
BMO e*PP pP 14 15 21.8 -0.8
PMR Palmer 79.66 11 eP P 14 15 16.5 -0.2
PMR pmax pmax
comp=Z,22nm,1.5s,mb4.9
PMR Palmer 79.66 11 eP P 14 15 16.5 -0.2
comp=Z,22nm,1.5s,mb4.9
MDJ Mudanjiang 79.70 322 P P 14 15 18.0 +1.1
MDJ AP pP 14 15 24.7 -2.1
MDJ XP sP 14 15 27.2 -3.2
MDJ S S 14 25 18.8 +1.6
MDJ SCS ScS 14 25 40.3 +1.6
MDJ AMB AMB
comp=Z,30nm,3.6s
MDJ LR LR
comp=N,60nm,22.4s,MS4.0
MDJ LR LR
comp=E,60nm,24.1s,MS4.0
MDJ LR LR
comp=Z,110nm,19.4s,MS4.2
TMUT Trail Mountain 79.70 44 eP P 14 15 18.0 +1.1
TTA Tatalina 79.82 8 eP P 14 15 18.1 +0.5
HLID Hailey 79.91 39 eP P 14 15 18.1 0.0
comp=Z,17nm,1.5s,mb4.8
SPUT South Promonto 79.92 42 P P 14 15 18.5 +0.3
SPUT epP pP 14 15 25.9 -2.1
SRU San Rafael 80.07 45 eP P 14 15 18.9 0.0
MNTX Cornudas Mount 80.35 53 eP P 14 15 20.4 -0.1
comp=Z,10nm,1.4s,mb4.6
TCUT Toone Canyon 80.50 42 eP P 14 15 21.7 +0.4
LTX Lajitas 80.70 56 eP P 14 15 22.9 +0.6
LTX pmax pmax
comp=Z,26nm,1.6s,mb4.9
LTX Lajitas 80.70 56 eP P 14 15 22.9 +0.6
comp=Z,26nm,1.6s,mb4.9
MA2 Magadan 80.84 342 eP P 14 15 23.3 +0.2
MA2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
MA2 Magadan 80.84 342 P P 14 15 22.3 -0.8
comp=Z,13nm,1.0s,mb4.8
PV01 Paradox Valley 80.93 46 eP P 14 15 23.3 -0.2
ANMO Albuquerque 80.96 50 P P 14 15 23.8 +0.1
comp=Z,1.8nm,0.9s,mb4.0,baz=217,slow=10,SNR=5.9
ANMO Albuquerque 80.96 50 eP P 14 15 24.1 +0.4
NEW Newport 81.04 34 P P 14 15 23.6 -0.5
comp=Z,0.7nm,0.3s,mb4.1,baz=288,slow=3.2,SNR=3.7
NEW Newport 81.04 34 P P 14 15 23.6 -0.6
NEW pmax pmax
comp=Z,1.0nm,0.3s
MCMT McKenzie Canyo 81.54 39 eP P 14 15 27.0 +0.2
MCMT epP pP 14 15 37.2 +0.6
DLMT Dillon 81.98 38 eP P 14 15 29.7 +0.6
comp=Z,22nm,1.5s,mb4.9
DLMT epP pP 14 15 39.5 +0.5
MSO Missoula 81.99 37 eP P 14 15 28.7 -0.5
MSO epP pP 14 15 38.5 -0.6
REDW Red Top Meadow 82.00 41 eP P 14 15 29.8 +0.6
comp=Z,21nm,1.5s,mb4.8
REDW epP pP 14 15 39.2 +0.1
TPAW Teton Pass 82.00 41 eP P 14 15 29.5 +0.2
BSMT Bassoo Peak 82.08 35 eP P 14 15 29.4 -0.2
BSMT epP pP 14 15 39.2 -0.4
IMW Indian Meadow 82.22 40 eP P 14 15 30.6 +0.2
comp=Z,16nm,1.4s,mb4.6
MOOW Moose Ponds 82.27 40 eP P 14 15 30.7 +0.1
comp=Z,15nm,1.6s,mb4.7
LRM Limekiln Ridge 82.31 38 eP P 14 15 30.6 -0.2
CHMT Chamberlain Mo 82.43 37 eP P 14 15 31.0 -0.5
CHMT epP pP 14 15 38.4 -2.9
FLWY Flagg Ranch 82.46 40 eP P 14 15 32.5 +0.9
BW06 Boulder Array 82.52 42 eP P 14 15 31.8 -0.1
comp=Z,24nm,1.8s,mb4.9
BW06 epP pP 14 15 41.7 -0.1
PDAR Pinedale Array 82.52 42 P P 14 15 31.6 -0.3
comp=Z,2.5nm,0.9s,mb4.2,baz=209,slow=2.7,SNR=16
PDAR LR LR 14 46 46.7
comp=Z,114nm,18.9s,MS4.3,baz=75,slow=32
SMCO Snowmass 82.52 46 eP P 14 15 33.0 +1.1
comp=Z,15nm,1.3s,mb4.9
BOZ Bozeman (W) 82.71 38 eP P 14 15 32.7 -0.2
BOZ pmax pmax
comp=Z,17nm,1.4s,mb4.9
BOZ Bozeman (W) 82.71 38 eP P 14 15 32.7 -0.2
comp=Z,17nm,1.4s,mb4.9
COLA College 82.91 11 ceP P 14 15 33.6 -0.4
COLA College 82.91 11 eP P 14 15 33.2 -0.7
comp=Z,14nm,0.9s,mb5.0
ILAR Eielson Array 82.99 11 P P 14 15 33.9 -0.5
comp=Z,2.0nm,0.8s,mb4.2,baz=237,slow=5.2,SNR=21
ILAR Eielson Array 82.99 11 P P 14 15 33.9 -0.5
ILAR pmax pmax
comp=Z,2.0nm,0.8s
WALA Waterton Lakes 83.24 35 eP P 14 15 35.6 -0.1
RWWY Rawlins 83.53 43 eP P 14 15 36.8 -0.4
comp=Z,28nm,1.2s,mb5.3
CMIG Matias Romero 83.80 70 P P 14 15 37.1 -1.4
comp=Z,2.1nm,0.5s,mb4.5,baz=331,slow=10,SNR=2.3
DAWY Dawson 83.94 14 eP P 14 15 39.2 0.0
GCMT Greycliff 83.96 39 eP P 14 15 39.4 +0.1
AMTX Amarillo 84.49 52 epP pP 14 15 52.0 0.0
EGMT Eagleton 85.04 37 eP P 14 15 44.4 -0.4
comp=Z,4.2nm,1.1s,mb4.5
BILL Bilibino 85.16 352 eP P 14 15 45.0 -0.4
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BILL Bilibino 85.16 352 eP P 14 15 45.0 -0.4
comp=Z,9.3nm,1.0s,mb4.9
EDM Edmonton 85.85 31 eP P 14 15 48.1 -0.8
MAW Mawson 87.31 199 P P 14 15 55.8 -0.2
comp=Z,7.0nm,1.0s,mb4.8,baz=108,slow=3.7,SNR=6.9
MAW Mawson 87.31 199 eP P 14 15 55.9 -0.1
MAW pmax pmax
comp=Z,23nm,1.5s

MAW Mawson 87.31 199 eP P 14 15 55.9 -0.1
comp=Z,23nm,1.5s,mb5.2
INK Inuvik 88.79 14 P P 14 16 02.5 -0.6
comp=Z,2.0nm,0.8s,mb4.5,baz=201,slow=7.2,SNR=4.4
INK Inuvik 88.79 14 eP P 14 16 02.2 -0.9
INK e*PP pP 14 16 12.2 -0.8
INK pmax pmax
comp=Z,9.0nm,1.3s
INK Inuvik 88.79 14 eP P 14 16 02.2 -0.8
comp=Z,9.2nm,1.3s,mb5.0
INK epP pP 14 16 12.2 -0.8
HHC Hu-ho-hao-te 89.67 313 eP P 14 16 06.9 -0.3
HHC AP pP 14 16 17.8 +0.7
HHC XP sP 14 16 21.3 +0.6
HHC PP PP 14 19 41.2 +2.0
HHC SKS 14 26 32.1
HHC S 14 26 53.1
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.3
HHC AMB AMB
comp=Z,80nm,4.4s
HHC LR LR
comp=N,110nm,16.6s,MS4.4
HHC LR LR
comp=E,90nm,19.0s,MS4.4
HHC LR LR
comp=Z,100nm,14.3s,MS4.4
YAK Yakutsk 89.80 337 c iP P 14 16 07.3 -0.5
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
YKA Yellowknife Ar 90.54 23 P P 14 16 10.6 -0.6
comp=Z,1.1nm,0.9s,mb4.2,baz=233,slow=4.3,SNR=9.8
YKA LR LR 14 49 54.5
comp=Z,80nm,18.7s,MS4.2,baz=95,slow=31
KMI Kunming 91.56 296 P P 14 16 17.3 +1.3
KMI AP pP 14 16 26.0 0.0
KMI XP sP 14 16 30.4 +0.9
KMI S 14 27 10.8
KMI AMB AMB
comp=Z,70nm,4.7s
KMI LR LR
comp=N,80nm,20.3s,MS4.2
KMI LR LR
comp=E,80nm,25.1s,MS4.2
KMI LR LR
comp=Z,100nm,23.9s,MS4.2
SYO Syowa Base 92.06 191 ⇑ ePcP PcP 14 16 18.6 -0.5
SYO Syowa Base 92.06 191 ⇑ epP pP 14 16 29.5 +1.3
VNA3 Neumayer Olymp 92.22 175 ⇑ iP P 14 16 18.7 -0.3
VNA3 e 14 16 21.6
VNA3 e pP 14 16 28.9 -0.1
VNA3 e 14 16 43.8
VNA3 e 14 16 55.9
SNAA Sanae 92.28 177 ⇑ iP P 14 16 09.0 -10
SNAA e 14 16 38.1
SNAA e 14 16 48.8
SNAA Sanae 92.28 177 eP P 14 16 09.0 -10
SNAA pmax pmax
comp=Z,2.0nm,1.3s
SNAA Sanae 92.28 177 eP P 14 16 09.0 -10
comp=Z,2.3nm,1.3s,mb4.3
CD2 Chengdu 92.39 301 eP P 14 16 20.1 +0.3
CD2 AP pP 14 16 28.1 -1.7
CD2 XP sP 14 16 31.3 -2.1
CD2 PP PP 14 20 04.1 +3.3
CD2 SKS 14 26 50.2
CD2 S 14 27 19.9
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,40nm,8.8s
CD2 LR LR
comp=E,180nm,16.8s
CD2 LR LR
comp=Z,130nm,16.8s,MS4.5
CIT Chita 92.61 324 eP P 14 16 26.7 +5.9
CIT e 14 16 38.6
CIT pmax pmax
comp=Z,26nm,1.8s,mb5.4
VNA2 Neumayer--Watz 92.72 175 ⇑ iP P 14 16 21.3 0.0
VNA2 e 14 16 25.2
VNA2 e pP 14 16 31.6 +0.3
VNA2 e 14 16 37.9
VNA2 e 14 16 46.7
VNA2 e 14 16 58.8
VNA1 Neumayer--Stat 92.91 175 ⇑ iP P 14 16 22.4 +0.2
VNA1 e 14 16 26.5
VNA1 e 14 16 48.2
VNA1 e 14 16 59.8
LZH Lanzhou 93.83 306 eP P 14 16 25.0 -1.5
LZH AP pP 14 16 34.5 -1.9
LZH XP sP 14 16 38.4 -1.6
LZH PP PP 14 20 14.0 +1.9
LZH SKS 14 26 55.9
LZH eS 14 27 29.2
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,70nm,5.8s
LZH LR LR
comp=E,160nm,18.7s
LZH LR LR
comp=Z,280nm,19.5s,MS4.7
ULN Ulaanbaatar 95.09 318 c iP P 14 16 33.7 +1.5
SONM Songino Array 95.50 318 P P 14 16 34.2 +0.1
comp=Z,0.2nm,0.5s,mb3.8,baz=117,slow=5.4,SNR=2.5
TIXI Tiksi 95.67 344 ⇓ eP P 14 16 35.0 +0.1
TIXI pmax pmax
comp=Z,2.0nm,1.3s,mb4.4
MKAR Makanchi Array 111.47 314 PKiKP PKiKP 14 21 43.0 -0.4
comp=Z,0.4nm,0.7s,baz=298,slow=3.1,SNR=4.1
MKAR Makanchi Array 111.47 314 i PKIKP PKiKP 14 21 43.0 -0.4
ARU Arti 124.02 328 ⇓ i PKIKP PKPdf 14 22 08.1 +0.7
ARCES ARCESS Array B 125.26 352 PKP PKPdf 14 22 08.9 -0.9
comp=Z,2.2nm,0.8s,baz=316,slow=3.8,SNR=5.5
ARCES ARCESS Array B 125.26 352 PKIKP PKPdf 14 22 08.9 -0.9
ARCES pmax pmax
comp=Z,2.0nm,0.8s
LBTB Lobatse 135.34 204 ePKIKP PKPdf 14 22 27.2 -1.7
KIV Kislovodsk 138.87 320 i PKIKP PKPdf 14 22 39.2 +3.8
GNI Garni 139.32 314 ⇓ i PKIKP PKPdf 14 22 37.8 +1.6
AKASG Malin Array Be 141.02 337 i PKIKP PKPdf 14 22 43.0 +3.7
ANN Anapa 141.48 325 i PKIKP PKiKP 14 22 46.6 +3.6
ANN pmax pmax
comp=Z,66nm,1.5s
KWP Kalwaria 144.10 342 ePKP PKPdf 14 22 44.0 -0.8
OJC Ojcow 144.33 346 ePKP PKPdf 14 22 44.1 -1.1
MALT Malatya 144.51 315 ⇓ i P PKPdf 14 22 47.4 +1.9
STHS Stebnicka Huta 144.70 344 ePKP PKPdf 14 22 45.7 -0.1
UPC Upice 144.82 350 ePKP PKPdf 14 22 46.5 +0.5
UPC epPKP pPKPdf 14 22 50.4 -5.9
NIE Niedzica 144.94 345 ePKP PKPdf 14 22 46.6 +0.3
BOYT Boyabat 145.02 322 i P PKPbc 14 22 47.5 +1.8
PVCC Panska Ves 145.03 351 ePKP PKiKP 14 22 51.1 +0.9
BURAR Bucovina Array 145.05 338 ⇑ i P PKPbc 14 22 48.0 +2.1
OKC Ostrava-Krasne 145.06 347 ePKP PKPdf 14 22 46.3 -0.2
OKC epPKP pPKPdf 14 22 50.7 -6.0
MORC Moravsky Berou 145.24 348 ⇓ i P PKPbc 14 22 47.9 +1.4
MORC Moravsky Berou 145.24 348 ePKPdf PKPdf 14 22 47.4 +0.6
MOX Moxa 145.25 355 ePKPbc PKPbc 14 22 46.8 +0.3
WERD Werda 145.38 354 ePKPbc PKPbc 14 22 47.4 +0.4
MEM Membach 145.49 1 PKP PKPdf 14 22 47.7 +0.5
SNF Seneffe 145.53 3 PKP PKPdf 14 22 48.1 +0.8
KMBO Kilima Mbogo 145.53 243 PKPbc PKPbc 14 22 49.1 +1.7
comp=Z,6.0nm,1.0s,baz=219,slow=1.2,SNR=7.9
KMBO Kilima Mbogo 145.53 243 i PKHKP PKPbc 14 22 48.0 +0.6
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 145.53 243 ePKPdf PKPdf 14 22 49.5 +2.2
PRU Pruhonice 145.56 351 ePKP PKPdf 14 22 48.1 +0.8
CTKT Corum 145.58 321 i P PKPdf 14 22 49.1 +1.7
NKC Novy Kostel 145.58 354 ePKP PKPdf 14 22 47.1 -0.3
GZT Gaziantep 145.58 314 i P PKPdf 14 22 47.4 0.0
BCLA Clavier 145.66 2 PKP PKPdf 14 22 48.7 +1.2
KECS Kecovo 145.76 344 ePKP PKPdf 14 22 49.3 +1.6
MANZ Manzenberg 145.86 354 ePKPbc PKPbc 14 22 48.6 +0.2
TNS Taunus Mts 145.86 358 ePKPbc PKPbc 14 22 49.2 +0.8
DOU Dourbes 145.96 3 PKP PKPdf 14 22 48.5 +0.5
BAIF Baives 145.97 3 ePKP1 PKPbc 14 22 48.3 -0.5
comp=Z,52nm,1.3s
ROTZ Rotzenmuhle 146.06 354 ePKPbc PKPbc 14 22 49.7 +0.6
TREC Trest 146.08 350 ePKP PKPdf 14 22 49.7 +1.5
TREC epPKP pPKPdf 14 22 54.1 -4.4

GRA1	Grafenberg Arr	146.23	355	*e*PKPbc	PKPbc	14 22 50.9	+1.3
GRF	Grafenberg Arr	146.23	355	*e*PKPbc	PKPbc	14 22 50.9	+1.3
PSZ	Piszkesteto	146.44	344	*e*PKP/p	PKPbc	14 22 50.9	+0.7
CDAG	Cicekdag	146.44	320	*i* P	PKPdf	14 22 50.8	+2.0
ELDT	Eldivan	146.48	322	*i* P	PKPbc	14 22 52.9	+2.6
KHC	Kasperske Hory	146.53	352	*e*PKP	PKPdf	14 22 51.6	+2.6
KHC				*ep*PKP	pPKPdf	14 22 55.4	-3.8
KHC	Kasperske Hory	146.53	352	*e*PKP	PKPdf	14 22 51.6	+2.6
KHC				*e*		14 22 55.4	
MLR	Muntele Rosu	146.55	335	⇑*i*P	PKPbc	14 22 52.6	+2.1
WET	Wettzell	146.60	353	*e*PKPbc	PKPbc	14 22 51.5	+0.8
AVNT	Avonos	146.62	318	*i* P	PKPab	14 22 56.3	+4.5
FLN	La Foliniere	146.79	9	*e*PKP1	PKPbc	14 22 50.9	-0.3
	comp=Z,20nm,0.9s						
GEC2	GERESS Array S	146.79	352	*e*PKPbc	PKPbc	14 22 51.5	+0.3
GERES	GERESS Array B	146.79	352	PKPbc	PKPbc	14 22 52.1	+0.9
	comp=Z,2.4nm,0.7s,baz=29,slow=3.0,SNR=15						
GERES	GERESS Array B	146.79	352	PKIKP	PKPdf	14 22 52.1	+2.7
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BR131	Keskin Array S	146.82	321	*e*PKPbc	PKPbc	14 22 52.8	+1.5
BRTR	Keskin Array B	146.82	321	PKPbc	PKPbc	14 22 52.9	+1.6
	comp=Z,12nm,0.9s,baz=126,slow=2.1,SNR=53						
BRTR	Keskin Array B	146.82	321	PKIKP	PKPbc	14 22 52.9	+1.6
BRTR				pmax	pmax		
	comp=Z,12nm,0.9s						
ZST	Bratislava	146.83	348	*e*PKP	PKPdf	14 22 52.6	+3.1
SGMF	Saint Gilles	146.92	12	*e*PKP1	PKPbc	14 22 50.6	-1.0
VOIR		146.95	336	⇓*i*P	PKPbc	14 22 53.9	+2.2
LDF	La Druitiere	147.00	9	*e*PKP1	PKPbc	14 22 51.6	-0.2
GRR	Gorron	147.09	10	*e*PKP1	PKPbc	14 22 52.3	+0.2
	comp=Z,15nm,0.8s						
QUIF	Quistinic	147.12	13	*e*PKP1	PKPbc	14 22 51.0	-1.1
SGKT	Sivrigoynuk	147.22	323	*i* P	PKPdf	14 22 52.1	+2.0
ANTO	Ankara	147.25	322	⇓*i*P	PKPbc	14 22 55.1	+2.6
ANTO	Ankara	147.25	322	*e*PKPbc	PKPbc	14 22 54.5	+2.0
CONA	Conrad Observa	147.33	349	⇑*i*PKIKP	PKiKP	14 22 54.2	-0.8
	comp=Z,28nm,1.6s						
SOP	Sopron	147.43	348	⇑*e*PKP/p	PKPbc	14 22 54.4	+1.4
MOA	Molln	147.68	351	⇑*i*P	PKPbc	14 22 54.6	+0.9
	comp=Z,11nm,1.1s						
CDF	Champ du Feu	147.69	360	*e*PKP1	PKPbc	14 22 53.5	-0.2
BFO	Black Forest	147.76	358	*e*PKPbc	PKPbc	14 22 54.5	+0.6
BZS	Buzias	148.01	340	⇓*i*P	PKPbc	14 22 56.1	+1.5
HAU	Haudompre	148.10	1	*e*PKP1	PKPbc	14 22 54.7	-0.1
	comp=Z,12nm,0.6s						
PKSM	Moragy	148.34	344	⇓*i*P	PKPbc	14 22 56.5	+1.1
ASF	Jabal al Asfar	148.40	306	PKPbc	PKPbc	14 22 56.1	+0.5
	comp=Z,1.9nm,0.7s,baz=315,slow=2.9,SNR=2.9						
ASF	Jabal al Asfar	148.40	306	PKIKP	PKPbc	14 22 56.1	+0.5
ASF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBA	Koelnbreinsper	148.57	352	⇑*i*P	PKPab	14 23 03.2	+3.6
	comp=Z,9.1nm,1.0s						
WTTA	Wattenberg	148.60	354	⇑*i*P	PKPbc	14 22 57.5	+1.4
	comp=Z,20nm,1.2s						
LOR	Lormes	148.74	4	*e*PKP1	PKPbc	14 22 56.2	-0.3
	comp=Z,27nm,1.1s						
SSF	Saint Saulge	148.92	5	*e*PKP1	PKPbc	14 22 56.7	-0.2
	comp=Z,33nm,1.1s						
MFF	Saint Martin d	148.94	9	*e*PKP1	PKPbc	14 22 56.3	-0.7
ERMK	Ermenek	149.11	317	*i* P	PKPdf	14 22 54.9	+1.7
ULDT	Uludag	149.15	326	*i* P	PKPbc	14 22 58.9	+1.4
AVF	Avril sur Loir	149.17	5	*e*PKP1	PKPbc	14 22 57.1	-0.5
MMAI	Mount Meron Ar	149.19	309	PKPbc	PKPbc	14 22 59.4	+1.8
	comp=Z,6.9nm,0.8s,baz=228,slow=1.7,SNR=3.7						
BGF	Bois d'Agland	149.36	6	*e*PKP1	PKPbc	14 22 57.8	-0.2
CABF	La Chapelle	149.49	1	*e*PKP1	PKPbc	14 22 58.7	+0.4
	comp=Z,51nm,1.3s						
VOJS	Vojsko	149.51	350	*e*PKPbc	PKPbc	14 23 00.6	+2.2
PGB	Panagyurishte	149.70	334	*e*P	PKPbc	14 23 01.0	+2.1
BOJS	Bojanci	149.78	348	*e*PKPbc	PKPbc	14 23 00.1	+1.0
KDZ	Kurdzhali	149.88	332	*e*P	PKPbc	14 23 01.0	+1.7
VTS	Vitosha	150.06	335	*e*P	PKPbc	14 23 01.0	+1.3
RJF	Les Rejaudoux	150.45	8	*e*PKP1	PKPbc	14 23 00.2	-0.5
LPL	La Plagne	150.59	0	*e*PKP1	PKPbc	14 23 01.7	+0.7
	comp=Z,11nm,0.7s						
LPG	La Plagne	150.61	0	*e*PKP1	PKPbc	14 23 01.9	+0.8
	comp=Z,16nm,0.8s						
MMB	Musomiste	150.68	334	*e*P	PKPbc	14 23 02.0	+0.8
VIVF	Saint-Julien-l	151.19	3	*e*PKP1	PKPbc	14 23 02.5	+0.1
	comp=Z,30nm,1.1s						
MBDF	Montbardon	151.38	0	*e*PKP1	PKPbc	14 23 03.1	+0.2
	comp=Z,8.4nm,0.8s						
SMRF	Simiane la Rot	152.11	2	*e*PKP1	PKPbc	14 23 05.0	+0.5
	comp=Z,47nm,1.1s						
TORD	Torodi Ar. Bea	174.20	119	PKP	PKPdf	14 23 18.8	+0.1
	comp=Z,1.5nm,0.8s,baz=310,slow=0.9,SNR=8.1						
TORD				PKPab	PKPab	14 24 49.6	-1.0
	comp=Z,2.1nm,1.0s,baz=265,slow=5.2,SNR=5.9						

JMA 01 14:21:21.6±0.4, 4387N×14831E, $h0^{km}$, M3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.93	256	P	Pn	14 21 56.3	+0.6
NEM2				*e*S	Sn	14 22 21.8	+1.1
JRA	Rausu	2.31	273	P	Pn	14 22 01.8	+1.0
JAK	Akkeshi	2.77	253	P	Pn	14 22 08.6	+1.3
JAR	Ashorobuto	3.35	262	P	Pn	14 22 16.7	+1.5
JAR				*e*S	Sn	14 22 57.4	+1.8
JCH	Churui	3.83	253	P	Pn	14 22 24.5	+2.8
JCH				*e*S	Sn	14 23 09.7	+2.3
JNBK	Urakawa-nobuka	4.37	251	P	Pn	14 22 31.0	+1.8
JKB	Kayabe	5.70	252	P	Pn	14 22 48.8	+1.3
JKB				*e*S	Sn	14 23 54.4	+0.7

IDC ***01*** *14:32:01.2±1.2, 237N×12609E, $h0^{km}$, mb3.9/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=98.0km s-min=18.1km az=69.0*
ISCJB ***01*** *14:32:05.6±6.1, 25N±01×1264E±02, $h49^{km}$±59^{km}, mb4.2/9, Error ellipse: s-maj=40.0km s-min=16.8km az=143.5*
NEIC ***01*** *14:32:08.0±3.8, 248N×12645E, $h54^{km}$±39^{km}, mb4.1/5, Error ellipse: s-maj=27.0km s-min=11.4km az=71.0*
ISC 01 14:32:07.4±4.8, 25N±01×1264E±02, $h45^{km}$±49^{km}, n16, σ0.967/16, mb4.2/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	16.23	159	*e*P	Pn	14 35 52.3	+0.1
	10nm,0.6s						
FITZ	Fitzroy Crossi	20.47	182	*e*P	P	14 36 40.5	-0.7
	4.8nm,1.1s						
FITZ	Fitzroy Crossi	20.47	182	P	P	14 36 40.6	-0.6
	1.1nm,0.4s,baz=20,slow=8.7,SNR=7.3						
WRAB	Tennant Creek	23.60	161	*e*P	P	14 37 14.2	+0.1
	9.1nm,0.6s,mb4.4						
WRA	Warramunga Arr	23.60	161	P	P	14 37 14.3	+0.2
	6.2nm,0.7s,mb4.1,baz=337,slow=11,SNR=79						
WB2	Warramunga Arr	23.61	161	*e*P	P	14 37 14.4	+0.3
ASAR	Alice Springs	26.99	165	P	P	14 37 45.5	+0.6
	1.3nm,0.5s,mb3.7,baz=344,slow=7.7,SNR=42						
CTAO	Charters Tower	29.69	140	P	P	14 38 10.2	+1.3
	3.5nm,1.0s,mb4.0						
KS15	Wonju Array Si	34.81	2	P	P	14 38 53.6	-0.2
HNR	Honiara	35.43	110	*e*P	P	14 38 58.1	-0.9
	25nm,0.7s,mb5.2						
STKA	Stephens Creek	37.08	158	*e*P	P	14 39 12.1	-1.1
	2.5nm,0.8s,mb4.1						
STKA	Stephens Creek	37.08	158	P	P	14 39 12.0	-1.2
	3.6nm,0.8s,mb4.3,baz=349,slow=9.2,SNR=9.6						
STKA	Stephens Creek	37.08	158	*e*P	P	14 39 12.0	-1.1
SONM	Songino Array	48.38	342	P	P	14 40 45.4	+0.7
	0.3nm,0.6s,mb3.5,baz=155,slow=8.9,SNR=2.0						
MKAR	Makanchi Array	58.41	326	P	P	14 41 57.8	-0.4
	0.7nm,0.4s,mb4.0,baz=122,slow=8.0,SNR=13						
CASY	Casey	69.56	187	P	P	14 43 04.9	-6.6
	1.6nm,0.6s,mb4.1						

NIED ***01*** *14:34:00, 30.00N×13090E, $h26^{km}$, Mw3.9 Best double couple: $M_0$8.69000×10^{14} NP1:ϕ_s34.00000°, δ85.00000°, λ92.00000°. NP2:ϕ_s188.00000°, δ6.00000°, λ64.00000°.*
ISCJB ***01*** *14:34:42.6±1.3, 2997N±005×13095E±008, $h27^{km}$±7^{km}, mb3.6/3, Error ellipse: s-maj=12.3km s-min=6.1km az=62.4*
IDC ***01*** *14:34:42.6±2.5, 3022N×13043E, $h0^{km}$, mb3.7/3, mb1 3.6/5, mb1mx3.4/23, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=54.2km s-min=33.4km az=118.0*
JMA ***01*** *14:34:43.5±0.2, 3003N×13093E, $h26^{km}$±2^{km}, M3.6*
ISC 01 14:34:44.0±1.4, 3002N±005×13090E±008, $h27^{km}$±8^{km}, n11, σ0.996/18, mb3.6/3, 1C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	0.63	6	⇓P	Pb	14 34 55.6	-0.8
JTN				S	Sb	14 35 04.6	-0.3
JKC	Kuchinoerabu	0.75	306	⇓P	Pb	14 34 58.0	-0.5
JKC				S	Sb	14 35 08.6	+0.3
JNN	Nakanoshima	0.91	259	P	Pn	14 35 00.7	-0.3
JNN				*e*S	Sb	14 35 14.1	+1.2
JTSR	Tashiro 2	1.14	1	⇓P	Pn	14 35 04.0	-0.2
JTSR				*e*S	Sn	14 35 19.0	+0.1
JSU	Suzuyama	1.53	345	⇑P	Pn	14 35 08.9	-0.6
JSU				*e*S	Sn	14 35 29.1	+0.6
JNAR	Kushima--Naru	1.53	12	P	Pn	14 35 09.6	0.0
JNAR				*e*S	Sn	14 35 29.1	+0.5
JOW	Kunigami	3.93	217	Pn	Pn	14 35 43.0	+0.4
	2.4nm,0.3s,baz=138,slow=25,SNR=6.6						
JOW				Sn	Sn	14 36 27.4	-0.4
	3.8nm,0.3s,baz=213,slow=29,SNR=4.1						
MJAR	Matsushiro Arr	8.92	41	Pn	Pn	14 36 53.7	+2.6
	0.3nm,0.3s,baz=242,slow=15,SNR=2.7						
SONM	Songino Array	25.90	320	P	P	14 40 11.8	-1.9
	0.3nm,0.6s,mb3.0,baz=138,slow=9.2,SNR=2.7						
MKAR	Makanchi Array	40.91	308	P	P	14 42 22.4	-1.5
	0.5nm,0.5s,mb3.4,baz=90,slow=12,SNR=5.0						
FINES	FINESS Array B	70.73	331	P	P	14 45 59.3	+1.6
	3.9nm,1.0s,mb4.3,baz=81,slow=8.6,SNR=3.3						

ISCJB ***01*** *15:27:48.1±0.7, 1591S×009×1729W±0.1, $h10^{km}$, mb3.7/9, Error ellipse: s-maj=21.2km s-min=8.6km az=61.5*
NEIC ***01*** *15:27:49.8±0.7, 1585S×17304W, $h10^{km}$, mb4.1/1, Error ellipse: s-maj=31.8km s-min=12.7km az=129.0*
IDC ***01*** *15:27:50.0±0.9, 1599S×173.18W, $h0^{km}$, mb3.7/8, mb1 4.0/8, mb1mx3.9/17, mbtmp3.7/8, Error ellipse: s-maj=38.6km s-min=21.4km az=131.0*
ISC 01 15:27:49.7±0.6, 1591S±008×1728W±01, $h10^{km}$, n14, σ1.931/14, mb3.7/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.22	27	Pn	Pn	15 28 26.7	+0.1
	7.8nm,0.3s,baz=15,slow=4.1,SNR=15						
AFI				Sn	Sn	15 28 53.0	-1.1
	37nm,0.3s,baz=39,slow=16,SNR=11						
RAR	Rarotonga	13.43	115	Pn	Pn	15 30 59.0	-1.3
	0.6nm,0.3s,baz=86,slow=5.2,SNR=3.5						
URZ	Urewera	23.97	200	P	P	15 33 04.0	-0.2
	4.5nm,0.7s,mb4.0,baz=335,slow=0.7,SNR=3.5						
STKA	Stephens Creek	44.28	241	P	P	15 35 58.0	-1.5
	2.2nm,0.7s,mb4.0,baz=120,slow=22,SNR=3.7						
STKA	Stephens Creek	44.28	241	P	P	15 35 58.0	-1.5
WRA	Warramunga Arr	50.29	257	P	P	15 36 45.2	-1.1
	0.2nm,0.4s,mb3.5,baz=92,slow=6.8,SNR=14						
ASAR	Alice Springs	50.50	252	P	P	15 36 47.8	-0.1
	1.4nm,0.5s,mb4.1,baz=88,slow=8.6,SNR=57						
VNDA	Vanda	62.93	186	P	P	15 38 17.4	+1.2
	0.5nm,0.6s,mb3.8,baz=14,slow=6.5,SNR=2.7						
QSPA	South Pole Qui	74.14	180	P	P	15 39 26.6	+0.4
	2.4nm,1.1s,mb4.0						
NVAR	Mina Array Bea	74.32	42	P	P	15 39 29.9	+2.6
	0.1nm,0.3s,mb3.2,baz=228,slow=12,SNR=2.5						
KS15	Wonju Array Si	76.94	315	*e*P	P	15 39 47.1	+4.8
PDAR	Pinedale Array	82.26	42	P	P	15 40 15.7	+4.4
	0.3nm,0.6s,mb3.4,baz=281,slow=9.1,SNR=3.2						
ILAR	Eielson Array	82.83	11	P	P	15 40 17.1	+2.9
	0.2nm,0.5s,mb3.4,baz=197,slow=4.5,SNR=4.1						
BRTR	Keskin Array B	146.91	321	PKPbc	PKPbc	15 47 35.0	+2.7
	1.0nm,0.7s,baz=54,slow=2.1,SNR=5.7						

IDC ***01*** *15:28:41.9±0.9, 1606S×17307W, $h0^{km}$, mb4.0/9, mb1 4.3/9, mb1mx4.1/18, mbtmp4.0/9, MS3.4/5, Ms1 3.4/5, ms1mx3.0/26, Error ellipse: s-maj=37.0km s-min=19.4km az=136.0*
ISCJB ***01*** *15:28:45.3±0.6, 1605S±01×1732W±0.1, $h33^{km}$, mb4.3/17, MS3.3/4, Error ellipse: s-maj=19.2km s-min=12.2km az=111.2*
NEIC ***01*** *15:28:47.5±0.4, 1605S×17320W, $h35^{km}$, mb4.6/9, Error ellipse: s-maj=16.2km s-min=9.5km az=143.0*
ISC 01 15:28:47.4±0.6, 1615S±01×1731W±01, $h35^{km}$, n40, σ0.971/30, mb4.3/17, MS3.3/4, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.50	31	Sn	Sn	15 29 46.2	-8.7
	63nm,0.3s,baz=86,slow=22,SNR=4.4						
RAR	Rarotonga	13.65	114	Pn	Pn	15 31 49.2	-9.2
	1.2nm,0.3s,baz=279,slow=11,SNR=4.3						
RAR				LR	LR	15 35 44.2	
	comp=Z,312nm,18.9s,baz=106,slow=31						
DZM	Mont Dzumac	20.21	250	P	P	15 33 20.4	+1.2
	3.1nm,0.7s,baz=98,slow=18,SNR=3.1						
DZM				LR	LR	15 38 28.2	
	comp=Z,60nm,19.6s,MS3.0,baz=53,slow=29						
PPT	Papeete	22.59	97	*e*LR	LR	15 38 55.6	
	203nm,25.5s						
PPT	Papeete	22.59	97	LR	LR	15 39 50.9	
	comp=Z,42nm,18.4s,MS2.9,baz=292,slow=30						
TBI	Tubuai	23.41	112	*e*LR	LR	15 39 15.0	
	262nm,26.8s						
URZ	Urewera	23.73	199	P	P	15 33 56.1	-0.2
	5.4nm,0.6s,mb4.2,baz=235,slow=4.3,SNR=3.8						
ARMA	Armidale	35.24	240	*e*P	P	15 35 38.6	+0.2
RKT	Rikitea	36.54	107	*e*LR	LR	15 45 14.2	
	161nm,29.0s						
CTA	Charters Tower	38.76	258	*e*P	P	15 36 09.4	+1.0
	1.9nm,0.8s,mb3.9						
CTA	Charters Tower	38.76	258	LR	LR	15 50 13.4	
	comp=Z,120nm,19.8s,MS3.7,baz=227,slow=33						
CTAO	Charters Tower	38.76	258	P	P	15 36 08.4	0.0
STKA	Stephens Creek	43.94	241	*e*P	P	15 36 48.6	-2.3
	4.0nm,1.0s,mb4.1						
STKA	Stephens Creek	43.94	241	P	P	15 36 48.1	-2.7
	3.8nm,0.6s,mb4.3,baz=81,slow=12,SNR=7.0						
STKA	Stephens Creek	43.94	241	*e*P	P	15 36 48.4	-2.5
WB2	Warramunga Arr	49.95	257	*e*P	P	15 37 37.5	-0.3
WRAB	Tennant Creek	49.95	257	*e*P	P	15 37 37.2	-0.6
	6.9nm,0.9s,mb4.7						
WRA	Warramunga Arr	49.96	257	P	P	15 37 37.4	-0.5
	1.5nm,0.6s,mb4.2,baz=91,slow=7.0,SNR=18						
AS31	Alice Springs	50.16	252	⇓*i*P	P	15 37 39.0	-0.4
ASAR	Alice Springs	50.16	252	P	P	15 37 39.1	-0.3
	6.5nm,0.5s,mb4.9,baz=88,slow=8.0,SNR=31						
ASPA	Alice Springs	50.17	252	⇓*i*P	P	15 37 39.0	-0.4
KAKA	Kakadu	52.72	266	*e*P	P	15 37 58.3	-0.2
	5.3nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	58.34	258	*e*P	P	15 38 39.6	+0.7
	10nm,2.0s,mb4.5						
FITZ	Fitzroy Crossi	58.34	258	P	P	15 38 40.0	+1.1
	1.2nm,0.7s,mb4.0,baz=63,slow=11						
SBA	Scott Base	62.62	185	P	P	15 39 09.0	+0.9
	4.1nm,0.8s,mb4.6						
VNDA	Vanda	62.75	186	P	P	15 39 08.7	-0.3
	0.6nm,0.8s,mb3.8,baz=32,slow=6.4,SNR=4.7						
MBWA	Marble Bar	63.44	254	*e*P	P	15 39 13.6	0.0
	4.8nm,0.7s,mb4.7						
KLBR	Kellerberrin	64.17	242	*e*P	P	15 39 18.2	-0.2
	12nm,0.9s,mb4.9						
MUN	Mundaring	65.46	242	*e*P	P	15 39 27.2	+0.4
MJAR	Matsushiro Arr	69.61	320	LR	LR	16 08 18.8	
	comp=Z,32nm,18.7s,MS3.6,baz=155,slow=34						
QSPA	South Pole Qui	73.99	180	*e*P	P	15 40 19.3	0.0
	5.2nm,1.0s,mb4.4						
NVAR	Mina Array Bea	74.64	42	P	P	15 40 22.9	-0.1
	0.4nm,0.5s,mb3.6,baz=225,slow=8.8,SNR=4.4						
MOD	Modoc	75.47	38	P	P	15 40 28.8	+0.9
	3.9nm,1.0s,mb4.3						
KSM	Kuching	77.51	275	*e*P	P	15 40 40.7	+1.3
PDAR	Pinedale Array	82.58	42	P	P	15 41 06.2	-0.6
	0.7nm,0.9s,mb3.7,baz=249,slow=4.1,SNR=3.3						
ILAR	Eielson Array	83.04	11	P	P	15 41 08.7	-0.5
	1.2nm,0.6s,mb4.1,baz=232,slow=6.4,SNR=11						
KHC	Kasperske Hory	146.57	352	*e*PKP	PKPdf	15 48 25.5	+2.0
GERES	GERESS Array B	146.83	352	PKPbc	PKPbc	15 48 26.1	+0.3
	0.2nm,0.3s,baz=28,slow=6.0,SNR=4.3						
BR131	Keskin Array S	146.84	321	*e*PKPbc	PKPbc	15 48 27.0	+1.2
BRTR	Keskin Array B	146.84	321	PKPbc	PKPbc	15 48 27.6	+1.8
	3.5nm,0.8s,baz=112,slow=2.3,SNR=17						

ISCJB ***01*** *15:38:16.2±1.4, 176S±02×1789W±0.1, $h517^{km}$±29^{km}, mb4.1/12, Error ellipse: s-maj=35.3km s-min=16.6km az=10.5*
NEIC ***01*** *15:38:16.5±1.0, 1752S×17885W, $h504^{km}$±17^{km}, mb4.0/11, Error ellipse: s-maj=20.3km s-min=14.0km az=170.0*
IDC ***01*** *15:38:16.2±1.7, 1751S×17890W, $h496^{km}$±25^{km}, mb3.4/6, mb1 3.6/7, mb1mx3.3/17, mbtmp4.4/7, Error ellipse: s-maj=30.4km s-min=17.6km az=163.0*
ISC 01 15:38:17.2±1.3, 176S±02×1787W±01, $h517^{km}$±28^{km}, n25, σ0.972/25, mb4.1/12, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.65	62	P	P	15 40 10.0	-0.4
	9.4nm,0.3s,baz=120,slow=3.4,SNR=16						
AFI				S	S	15 41 43.4	+0.2
	1.1nm,0.3s,baz=27,slow=23,SNR=2.6						
ARMA	Armidale	29.82	239	*e*P	P	15 43 43.4	+1.6
CTA	Charters Tower	33.19	260	*e*P	P	15 44 11.3	+0.7
	2.7nm,0.8s,mb3.8						
CTA	Charters Tower	33.19	260	P	P	15 44 10.3	-0.3
	3.0nm,0.7s,mb3.9,baz=104,slow=10,SNR=6.4						
CTAO	Charters Tower	33.19	260	*e*P	P	15 44 10.4	-0.2
	3.5nm,0.8s,mb3.9						
TAU	Tasmania Unive	38.24	222	P	P	15 44 51.4	-1.1
	43nm,1.5s,mb4.8						
STKA	Stephens Creek	38.50	241	*e*P	P	15 44 53.8	-0.8
	4.9nm,0.5s,mb4.3						
STKA	Stephens Creek	38.50	241	P	P	15 44 54.0	-0.6
	5.8nm,0.4s,mb4.4,baz=92,slow=9.0,SNR=37						
WRAB	Tennant Creek	44.37	259	*e*P	P	15 45 40.6	-0.6
	6.6nm,0.9s,mb4.2						
WRA	Warramunga Arr	44.38	259	P	P	15 45 40.7	-0.5
	1.6nm,0.6s,mb3.7,baz=95,slow=7.7,SNR=32						
WRA				PcP	PcP	15 47 14.5	+0.6
	1.2nm,0.8s,baz=87,slow=3.3,SNR=6.8						
AS31	Alice Springs	44.57	254	⇓*i*P	P	15 45 42.8	+0.1
ASAR	Alice Springs	44.57	254	P	P	15 45 42.5	-0.2
	14nm,0.6s,mb4.7,baz=89,slow=7.9,SNR=322						
ASAR				PcP	PcP	15 47 15.1	+0.4
	0.9nm,0.4s,baz=104,slow=4.0,SNR=8.7						
ASPA	Alice Springs	44.58	254	⇓*i*P	P	15 45 42.8	+0.1
KAKA	Kakadu	47.28	269	*e*P	P	15 46 03.4	0.0
	10nm,0.4s,mb4.7						
FITZ	Fitzroy Crossi	52.77	260	*e*P	P	15 46 44.1	+0.5
	2.1nm,0.6s,mb3.6						
FITZ	Fitzroy Crossi	52.77	260	P	P	15 46 44.3	+0.7
	1.4nm,0.4s,mb3.6,baz=111,slow=8.6,SNR=14						
MBWA	Marble Bar	57.84	256	*e*P	P	15 47 19.0	0.0
	3.9nm,0.6s,mb3.8						
VNDA	Vanda	60.70	185	P	P	15 47 39.3	+1.2
	0.6nm,0.8s,mb3.0,baz=3.6,slow=7.1,SNR=4.4						
CASY	Casey	66.26	205	P	P	15 48 06.8	-6.9
	7.3nm,1.0s,mb4.2						
KSM	Kuching	72.34	277	*e*P	P	15 48 50.9	+0.7
QSPA	South Pole Qui	72.42	180	*e*P	P	15 48 51.6	+0.9
	2.6nm,0.6s,mb3.8						
SNAA	Sanae	90.88	179	*e*	P	15 50 15.7	-10
SNAA				*e*		15 50 19.4	
VNA3	Neumayer Olymp	91.04	176	*e*	P	15 50 25.1	-0.9
VNA3				*e*		15 50 28.4	
VNA2	Neumayer--Watz	91.47	177	*e*	P	15 50 27.2	-0.8
VNA2				*e*		15 50 30.5	
GERES	GERESS Array B	147.26	345	PKPbc	PKPbc	15 57 02.6	+0.3
	0.1nm,0.2s,baz=32,slow=2.4,SNR=4.4						

IDC 01 15:58:07.2±4.9, 713N×7340W, h151^{km}±50^{km}, mb1 3.4/2, mb1mx2.9/22, mbtmp3.9/2, Error ellipse: s-maj=194.6km s-min=8.7km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.44	202	P	Pn	15 58 48.4	+0.9
	10nm,0.3s,baz=273,slow=23,SNR=15						
ROSC				S	Sn	15 59 20.1	+1.4
	20nm,0.3s,baz=96,slow=23,SNR=9.0						
SDV	Santo Domingo	3.25	57	P	Pn	15 58 57.9	+

TAU					pmax	pmax			
	comp=Z,73nm,0.5s								
TAU	**Tasmania Unive**	**11.99**	**317**	*e*Pn	**Pn**		**16 18 19.0**	**-2.6**	
	comp=Z,73nm,0.5s								
TAU				*e*Sn	**Sn**		**16 20 20.7**	**-15**	
WVZ	**Waitaha Valley**	**12.29**	**47**	*e*PN	**Pn**		**16 18 24.4**	**-1.2**	
WVZ	**Waitaha Valley**	**12.29**	**47**	*e*P	**Pn**		**16 18 25.7**	**+0.1**	
LTZ	**Lake Taylor**	**13.22**	**50**	PN	**Pn**		**16 18 36.5**	**-1.9**	
LTZ	**Lake Taylor**	**13.22**	**50**	*e*P	**Pn**		**16 18 36.5**	**-1.9**	
DSZ	**Denniston Nort**	**13.82**	**46**	*e*PN	**Pn**		**16 18 45.0**	**-1.6**	
DSZ	**Denniston Nort**	**13.82**	**46**	*e*P	**Pn**		**16 18 46.3**	**-0.3**	
THZ	**Tophouse**	**14.31**	**49**	PN	**Pn**		**16 18 51.3**	**-2.0**	
THZ	**Tophouse**	**14.31**	**49**	*e*P	**Pn**		**16 18 52.6**	**-0.6**	
QRZ	**Quartz Range**	**14.89**	**46**	*e*PN	**Pn**		**16 19 00.3**	**-0.8**	
QRZ	**Quartz Range**	**14.89**	**46**	*e*P	**Pn**		**16 19 00.3**	**-0.9**	
SNZO	**South Karori**	**15.51**	**52**	*e*PN	**Pn**		**16 19 09.9**	**+0.5**	
	comp=Z,80nm,1.1s								
MRZ	**Mangatainoka R**	**16.43**	**52**	*e*PN	**Pn**		**16 19 20.0**	**-1.3**	
MRZ	**Mangatainoka R**	**16.43**	**52**	*e*P	**Pn**		**16 19 20.1**	**-1.2**	
BFZ	**Birch Farm**	**16.74**	**53**	*e*PN	**Pn**		**16 19 27.7**	**+2.4**	
BFZ	**Birch Farm**	**16.74**	**53**	*e*P	**Pn**		**16 19 26.3**	**+1.0**	
DRV	**Dumont d'Urvil**	**17.16**	**205**	P	**Pn**		**16 19 29.0**	**-1.5**	
DRV				R			16 23 00.0		
TOO	**Toolangi**	**17.28**	**323**	*e*P	**Pn**		**16 19 33.3**	**+1.4**	
	comp=Z,82nm,1.1s								
TOO				*e*S	**Sn**		**16 22 44.9**	**+0.7**	
TOO	**Toolangi**	**17.28**	**323**	*e*P	**Pn**		**16 19 33.3**	**+1.4**	
TOO				*e*S	**Sn**		**16 22 44.9**	**+0.7**	
TOO				pmax	pmax				
	comp=Z,82nm,1.1s								
HIZ	**Hauiti**	**17.81**	**46**	*e*PN	**Pn**		**16 19 39.1**	**+0.5**	
HIZ	**Hauiti**	**17.81**	**46**	*e*P	**Pn**		**16 19 39.3**	**+0.7**	
CNB	**Canberra Magne**	**18.12**	**335**	*e*P	**Pn**		**16 19 44.4**	**+2.0**	
	comp=Z,118nm,1.0s								
CNB				*e*S	**Sn**		**16 22 59.3**	**-5.4**	
URZ	**Urewera**	**19.05**	**50**	P	**Pn**		**16 19 54.8**	**+1.1**	
	comp=Z,0.9nm,0.3s,baz=224,slow=8.2,SNR=8.2								
URZ				LR	LR		16 26 29.4		
	comp=Z,2μm,21.9s,baz=233,slow=34								
RIV	**Riverview**	**19.14**	**341**	*e*P	**Pn**		**16 19 58.4**	**+3.6**	
WCZ	**Waipu Caves**	**19.77**	**41**	P*	**Pn**		**16 20 05.2**	**+2.8**	
WCZ	**Waipu Caves**	**19.77**	**41**	P	**Pn**		**16 20 05.2**	**+2.8**	
ARMA	**Armidale**	**22.37**	**344**	*e*P	**P**		**16 20 27.9**	**-1.0**	
ARMA				*e*S	S		16 24 55.9	+21	
STKA	**Stephens Creek**	**23.79**	**322**	⇓*i*P	**P**		**16 20 42.9**	**-0.7**	
	comp=Z,42nm,1.3s,mb4.7								
STKA				*e*S	**S**		**16 25 07.1**	**+8.1**	
STKA	**Stephens Creek**	**23.79**	**322**	P	**P**		**16 20 43.3**	**-0.3**	
	comp=Z,94nm,1.3s,mb5.0,baz=150,slow=9.6,SNR=19								
STKA				LR	LR		16 28 28.5		
	comp=Z,2μm,18.6s,MS4.7,baz=302,slow=33								
STKA	**Stephens Creek**	**23.79**	**322**	*e*P	**P**		**16 20 42.8**	**-0.8**	
STKA				*e*S	**S**		**16 25 07.1**	**+8.1**	
VNDA	**Vanda**	**25.43**	**178**	P	**P**		**16 20 59.1**	**+0.7**	
	comp=Z,11nm,1.0s,mb4.4,baz=349,slow=9.5,SNR=38								
VNDA				PcP	PcP		16 24 30.0	-0.5	
	comp=Z,2.1nm,0.8s,baz=323,slow=2.8,SNR=5.5								
VNDA				LR	LR		16 29 04.1		
	comp=Z,1μm,21.3s,MS4.4,baz=0.5,slow=32								
VNDA	**Vanda**	**25.43**	**178**	*e*P	**P**		**16 20 59.2**	**+0.7**	
VNDA				pmax	pmax				
	comp=Z,33nm,1.3s								
VNDA	**Vanda**	**25.43**	**178**	*e*P	**P**		**16 20 59.2**	**+0.7**	
	comp=Z,33nm,1.3s,mb4.7								
SBA	**Scott Base**	**25.91**	**176**	*e*P	**P**		**16 21 04.7**	**+1.8**	
SBA				pmax	pmax				
	comp=Z,119nm,1.8s,mb5.1								
SBA	**Scott Base**	**25.91**	**176**	*e*P	**P**		**16 21 04.7**	**+1.9**	
	comp=Z,119nm,1.8s,mb5.1								
CASY	**Casey**	**27.44**	**221**	*e*P	**P**		**16 21 16.4**	**-0.2**	
CASY	**Casey**	**27.44**	**221**	*e*P	**P**		**16 21 16.2**	**-0.4**	
	comp=Z,18nm,1.1s,mb4.5								
CASY				*e*P			16 21 16.4		
RAO	**Raoul Island**	**28.82**	**46**	LR	LR		16 32 08.9		
	comp=Z,516nm,20.2s,MS4.1,baz=152,slow=34								
DZM	**Mont Dzumac**	**30.71**	**14**	P	**P**		**16 21 48.8**	**+3.1**	
	comp=Z,15nm,0.9s,mb4.8,baz=136,slow=2.1,SNR=5.5								
DZM				LR	LR		16 31 19.0		
	comp=Z,614nm,19.9s,MS4.3,baz=203,slow=31								
FORT	**Forrest**	**30.93**	**302**	*e*P	**P**		**16 21 47.6**	**-0.1**	
	comp=Z,16nm,0.5s,mb5.1								
CTA	**Charters Tower**	**33.47**	**339**	*e*P	**P**		**16 22 10.7**	**+0.8**	
	comp=Z,21nm,1.1s,mb5.0								
CTA	**Charters Tower**	**33.47**	**339**	P	**P**		**16 22 11.2**	**+1.2**	
	comp=Z,31nm,1.1s,mb5.2,baz=171,slow=8.5,SNR=17								
CTA				LR	LR		16 32 49.8		
	comp=Z,1μm,21.5s,MS4.6,baz=160,slow=31								
CTA	**Charters Tower**	**33.47**	**339**	*e*P	**P**		**16 22 10.7**	**+0.8**	
CTA				pmax	pmax				
	comp=Z,21nm,1.1s								
CTAO	**Charters Tower**	**33.47**	**339**	*e*P	**P**		**16 22 10.7**	**+0.8**	
CTAO				pmax	pmax				
	comp=Z,49nm,1.2s,mb5.3								
CTAO	**Charters Tower**	**33.47**	**339**	*e*P	**P**		**16 22 10.7**	**+0.8**	
	comp=Z,48nm,1.2s,mb5.3								
ASAR	**Alice Springs**	**34.16**	**317**	P	**P**		**16 22 16.2**	**+0.3**	
	comp=Z,33nm,0.9s,mb5.3,baz=152,slow=8.3,SNR=183								
AS31	**Alice Springs**	**34.17**	**317**	*e*P	**P**		**16 22 15.5**	**-0.5**	
ASPA	**Alice Springs**	**34.17**	**317**	*e*P	**P**		**16 22 15.5**	**-0.5**	
NWAO	**Narrogin (SRO)**	**35.39**	**287**	LR	LR		16 33 50.0		
	comp=Z,492nm,18.4s,MS4.3,baz=311,slow=31								
KLBR	**Kellerberrin**	**36.05**	**289**	*e*P	**P**		**16 22 29.8**	**-2.4**	
	comp=Z,56nm,1.4s,mb5.3								
WB2	**Warramunga Arr**	**37.32**	**321**	*e*P	**P**		**16 22 41.1**	**-1.9**	
WRA	**Warramunga Arr**	**37.33**	**321**	P	**P**		**16 22 42.8**	**-0.3**	
	comp=Z,35nm,1.0s,mb5.1,baz=152,slow=7.7,SNR=77								
WRA				PP	PP		16 24 11.3	+3.1	
	comp=Z,8.7nm,1.1s,baz=154,slow=11,SNR=5.8								
WRAB	**Tennant Creek**	**37.33**	**321**	P	**P**		**16 22 42.9**	**-0.2**	
	comp=Z,253nm,1.1s,mb6.0,SNR=7.1								
WRAB	**Tennant Creek**	**37.33**	**321**	*e*P	**P**		**16 22 42.7**	**-0.4**	
WRAB				pmax	pmax				
	comp=Z,74nm,1.1s,mb5.4								
WRAB	**Tennant Creek**	**37.33**	**321**	*e*P	**P**		**16 22 42.7**	**-0.4**	
	comp=Z,74nm,1.1s,mb5.4								
QSPA	**South Pole Qui**	**37.90**	**180**	⇑*i*P	**P**		**16 22 49.5**	**+1.6**	
	comp=Z,76nm,1.1s,mb5.3								
HNR	**Honiara**	**42.68**	**2**	P	**P**		**16 23 29.1**	**+1.6**	
	comp=Z,50nm,1.0s,mb5.2,baz=100,slow=3.6,SNR=5.8								
HNR				LR	LR		16 38 05.7		
	comp=Z,984nm,19.1s,MS4.7,baz=178,slow=32								
HNR	**Honiara**	**42.68**	**2**	*e*P	**P**		**16 23 27.0**	**-0.5**	
HNR				pmax	pmax				
	comp=Z,71nm,0.9s,mb5.4								
HNR	**Honiara**	**42.68**	**2**	*e*P	**P**		**16 23 27.0**	**-0.5**	
	comp=Z,71nm,0.9s,mb5.4								
FITZ	**Fitzroy Crossi**	**42.71**	**310**	*e*P	**P**		**16 23 28.2**	**+0.4**	
	comp=Z,26nm,1.0s,mb4.9								
FITZ	**Fitzroy Crossi**	**42.71**	**310**	LR	LR		16 41 05.1		
	comp=Z,790nm,18.4s,MS4.6,baz=147,slow=36								
MBWA	**Marble Bar**	**43.08**	**301**	*e*P	**P**		**16 23 30.4**	**-0.4**	
	comp=Z,46nm,1.3s,mb5.0								
PMG	**Port Moresby**	**43.69**	**344**	P	**P**		**16 23 37.5**	**+1.8**	
	comp=Z,20nm,1.0s,mb4.8,baz=175,slow=9.8,SNR=4.0								
PMG	**Port Moresby**	**43.69**	**344**	*de*P	**P**		**16 23 36.9**	**+1.2**	
PMG	**Port Moresby**	**43.69**	**344**	*e*P	**P**		**16 23 36.6**	**+1.0**	
	comp=Z,29nm,1.1s,mb4.9								
KAKA	**Kakadu**	**44.64**	**322**	⇓*i*P	**P**		**16 23 43.3**	**-0.1**	
	comp=Z,29nm,1.0s,mb5.1								
AFI	**Afiamalu**	**44.98**	**43**	LR	LR		16 39 43.0		
	comp=Z,277nm,18.7s,MS4.2,baz=205,slow=32								
MAW	**Mawson**	**45.18**	**213**	P	**P**		**16 23 48.4**	**+0.8**	
	comp=Z,10nm,0.8s,mb4.7,baz=117,slow=10,SNR=4.9								
MAW				LR	LR		16 41 57.2		
	comp=Z,1μm,18.0s,MS4.8,baz=101,slow=35								
MAW	**Mawson**	**45.18**	**213**	*e*P	**P**		**16 23 48.0**	**+0.4**	
MAW				pmax	pmax				
	comp=Z,31nm,1.1s								
MAW	**Mawson**	**45.18**	**213**	*e*P	**P**		**16 23 48.0**	**+0.4**	
	comp=Z,31nm,1.1s,mb5.0								
TBI	**Tubuai**	**48.80**	**74**	*e*S	**S**		**16 31 14.3**	**-4.6**	
	comp=Z,203nm,31.5s								
TBI				*e*LQ			16 35 58.8		
	comp=Z,684nm,26.2s								
TBI				*e*LR	LR		16 38 04.5		
	comp=Z,509nm,29.5s,baz=216								
TBI	**Tubuai**	**48.80**	**74**	*e*LR	LR		16 25 08.2		
	comp=Z,320nm,29.8s								
SYO	**Syowa Base**	**51.09**	**204**	⇓*e*P	**P**		**16 24 32.8**	**-0.5**	
SYO	**Syowa Base**	**51.09**	**204**	⇑*e*P	**P**		**16 24 38.0**	**+4.7**	
PPT	**Papeete**	**53.22**	**70**	*e*S	**S**		**16 32 15.5**	**-4.7**	
	comp=Z,208nm,23.8s								
PPT				*e*LR	LR		16 40 08.7		
	comp=Z,634nm,25.2s,baz=223								
PPT	**Papeete**	**53.22**	**70**	*e*LR	LR		16 25 14.8		
	comp=Z,435nm,28.5s,baz=260								
PPT	**Papeete**	**53.22**	**70**	LR	LR		16 43 46.0		
	comp=Z,331nm,18.7s,MS4.4,baz=225,slow=32								
NVL	**N'lazarevskaya**	**55.01**	**193**	⇓*i*P	**P**		**16 25 02.4**	**+0.2**	
NVL				pmax	pmax				
	comp=N,34nm,1.7s								
NVL				pmax	pmax				
	comp=E,17nm,1.7s								
NVL				pmax	pmax				
	comp=Z,58nm,1.7s,mb5.3								
NVL				MLR	MLR				
	comp=Z,1μm,19.3s,MS5.0								
NVL				MLR	MLR				
	comp=N,364nm,17.1s,MS4.6								
NVL				MLR	MLR				
	comp=E,198nm,14.3s,MS4.6								
SNAA	**Sanae**	**55.71**	**187**	⇑*i*P	**P**		**16 24 57.7**	**-10**	
SNAA				*e*			16 25 03.6		
SNAA				*e*			16 25 07.7		
SNAA				*e*			16 25 11.0		
SNAA				*e*			16 25 46.9		
SNAA				*e*			16 25 57.7		
SNAA				*e*			16 26 19.0		
SNAA	**Sanae**	**55.71**	**187**	*e*P	**P**		**16 24 57.7**	**-10**	
	comp=E,28nm,1.2s,mb5.2								
VNA3	**Neumayer Olymp**	**56.55**	**185**	⇑*i*P	**P**		**16 25 13.0**	**-0.3**	
VNA3				*e*	pP		16 25 17.3	+0.8	
VNA3				*e*			16 25 23.4		
VNA3				*e*			16 25 27.1		
VNA3				*e*			16 26 09.1		
VNA3				*e*			16 26 20.1		
VNA2	**Neumayer--Watz**	**56.75**	**185**	⇑*i*P	**P**		**16 25 14.5**	**-0.2**	
	baz=159,slow=6.5								
VNA2				*e*			16 25 19.5		
VNA2				*e*			16 25 25.2		
VNA2				*e*			16 25 28.0		
VNA2				*e*			16 26 02.6		
VNA2				*e*			16 26 08.9		
VNA2				*e*			16 26 18.4		
VNA2				*e*			16 26 27.7		
VNA1	**Neumayer--Stat**	**57.07**	**185**	⇑*i*P	**P**		**16 25 17.4**	**+0.5**	
VNA1				*e*			16 25 26.8		
VNA1				*e*			16 25 30.8		
VNA1				*e*			16 26 11.2		
RKT	**Rikitea**	**57.74**	**87**	*e*LR	LR		16 42 15.7		
	comp=E,278nm,21.8s								
TAOE	**Nuku Hiva Isla**	**65.65**	**72**	*e*LR	LR		16 45 58.0		
	comp=E,910nm,26.8s								
KSM	**Kuching**	**67.07**	**306**	*e*P	**P**		**16 26 23.8**	**-0.4**	
KKM	**Kota Kinabalu**	**68.29**	**314**	P	**P**		**16 26 30.6**	**-1.2**	
PSI	**Prapat**	**74.18**	**296**	P	**P**		**16 27 06.5**	**-1.0**	
	comp=E,4.1nm,0.4s,mb4.7,baz=169,slow=7.4,SNR=4.5								
PSI	**Prapat**	**74.18**	**296**	P	**P**		**16 27 06.5**	**-1.0**	
KULM	**Kulim**	**75.32**	**299**	*e*P	**P**		**16 27 14.0**	**-0.1**	
PLCA	**Paso Flores**	**78.10**	**144**	LR	LR		16 55 49.6		
	comp=E,325nm,19.6s,MS4.7,baz=206,slow=31								
TRQA	**Tornquist**	**83.41**	**149**	*e*P	**P**		**16 27 57.0**	**-1.2**	
	comp=E,6.7nm,1.0s,mb4.6								
CHTO	**Chiang Mai**	**87.58**	**305**	*e*P	**P**		**16 28 18.8**	**-0.2**	
CHTO				pmax	pmax				
	comp=Z,24nm,1.5s,mb5.2								
CHTO	**Chiang Mai**	**87.58**	**305**	*e*P	**P**		**16 28 18.8**	**-0.2**	
	comp=Z,24nm,1.5s,mb5.2								
SSE	**Sheshan**	**89.18**	**329**	P	**P**		**16 28 28.8**	**+2.3**	
SSE				AP	pP		16 28 38.5	+8.6	
SSE				XP	sP		16 28 42.1	+11	
SSE				S			16 39 13.2		
SSE				XS	sS		16 39 29.8	+8.6	
SSE				AMB	AMB				
	comp=Z,30nm,0.8s,mb5.7								
SSE				AMB	AMB				
	comp=Z,80nm,4.6s								
SSE				LR	LR				
	comp=N,100nm,17.4s,MS4.7								
SSE				LR	LR				
	comp=E,200nm,17.4s,MS4.7								
SSE				LR	LR				
	comp=Z,170nm,17.2s,MS4.5								
BOSA	**Boshof**	**89.73**	**220**	LR	LR		17 00 35.8		
	comp=Z,166nm,19.8s,MS4.5,baz=159,slow=30								
MJAR	**Matsushiro Arr**	**90.16**	**344**	P	**P**		**16 28 31.8**	**+0.7**	
	comp=Z,5.3nm,1.1s,mb4.8,baz=174,slow=5.5,SNR=11								
MAJO	**Matsushiro**	**90.16**	**344**	*e*P	**P**		**16 28 32.0**	**+0.9**	
MAJO				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.9								
MAJO	**Matsushiro**	**90.16**	**344**	*e*P	**P**		**16 28 31.9**	**+0.8**	
	comp=Z,7.1nm,1.1s,mb4.9								
MAT	**Matsushiro**	**90.16**	**344**	P	**P**		**16 28 31.8**	**+0.7**	
MAT	**Matsushiro**	**90.16**	**344**	*e*P	**P**		**16 28 32.0**	**+0.9**	
MAT				pmax	pmax				
	comp=Z,11nm,1.2s,mb5.1								
MAT	**Matsushiro**	**90.16**	**344**	*e*P	**P**		**16 28 32.0**	**+0.9**	
	comp=Z,11nm,1.2s,mb5.1								
NJ2	**Nanjing**	**90.82**	**327**	*e*P	**P**		**16 28 35.4**	**+1.2**	
NJ2				AP	pP		16 28 46.0	+8.5	
NJ2				XP	sP		16 28 50.0	+11	
NJ2				S			16 39 25.0		
NJ2				XS	sS		16 39 43.0	+6.6	
NJ2				AMB	AMB				
	comp=Z,50nm,1.5s,mb5.6								
NJ2				LR	LR				
	comp=N,2μm,22.4s,MS5.8								
NJ2				LR	LR				
	comp=E,3μm,21.5s,MS5.8								
NJ2				LR	LR				
	comp=Z,4μm,22.1s,MS5.8								
CD2	**Chengdu**	**95.62**	**315**	*e*P	**P**		**16 28 54.8**	**-1.5**	
CD2				PP	PP		16 32 52.4	+4.9	
CD2				SKS			16 39 29.9		
CD2				S			16 40 12.8		
CD2				AMB	AMB				
	comp=Z,10.0nm,0.9s,mb5.2								
CD2				AMB	AMB				
	comp=Z,40nm,9.2s								
CD2				LR	LR				
	comp=E,180nm,10.8s								
CD2				LR	LR				
	comp=Z,220nm,8.4s								
CPUP	**Villa Florida**	**95.72**	**148**	LR	LR		17 06 57.4		
	comp=Z,268nm,21.2s,MS4.7,baz=164,slow=32								
MKAR	**Makanchi Array**	**118.18**	**311**	*i* PKIKP	PKiKP		16 34 25.6	+7.6	
MKAR				pmax	pmax				
	comp=Z,1.0nm,1.0s								
BILL	**Biilibino**	**120.08**	**3**	⇑*i*PKIKP	PKPdf		16 34 20.8	-0.8	
KURK	**Kurchatov**	**122.69**	**312**	⇑*i*PKIKP	PKPdf		16 34 26.0	-0.6	
ILAR	**Eielson Array**	**124.02**	**25**	PKP	PKPdf		16 34 31.2	+2.0	
	comp=Z,0.3nm,0.9s,baz=241,slow=3.0,SNR=3.5								
BOZ	**Bozeman (W)**	**124.10**	**58**	*e*PKIKP	PKPdf		16 34 30.4	+1.1	
TIXI	**Tiksi**	**125.34**	**349**	⇑*i*PKIKP	PKPdf		16 34 29.8	-1.9	
RSSD	**Black Hills**	**127.17**	**64**	*e*PKIKP	PKPdf		16 34 35.0	-0.2	
CHKZ	**Chkalovo**	**128.34**	**311**	*e*PKIKP	PKPdf		16 34 37.1	-0.4	
YKA	**Yellowknife Ar**	**133.05**	**39**	PKP	PKPdf		16 34 48.2	+1.9	
	comp=Z,0.2nm,0.6s,baz=242,slow=1.5,SNR=3.8								
YKA	**Yellowknife Ar**	**133.05**	**39**	PKP	PKPdf		16 34 48.2	+1.9	
TZTN	**Tazewell**	**134.37**	**85**	*e*PKPdf	PKPdf		16 34 51.4	+2.6	
TZTN				*e*			16 35 03.4		
ULM	**Lac du Bonnet**	**135.28**	**62**	PKP	PKPdf		16 34 50.5	0.0	
	comp=Z,0.7nm,0.3s,baz=153,slow=2.3,SNR=2.9								
TORD	**Torodi Ar. Bea**	**136.82**	**214**	PKhKP			16 34 41.3		
	comp=Z,1.2nm,0.8s,baz=166,slow=1.5,SNR=3.5								
TORD				PKP	PKPdf		16 34 53.5	+0.1	
	comp=Z,4.1nm,0.9s,baz=176,slow=2.0,SNR=5.7								
TORD				SKPbc	SKPbc		16 38 26.0	-0.2	
	comp=Z,2.3nm,1.1s,baz=145,slow=0.6,SNR=4.8								
KIV	**Kislovodsk**	**137.65**	**285**	*i* PKIKP	PKiKP		16 35 00.8	+3.9	
KIV				pmax	pmax				
	comp=Z,3.0nm,0.4s								
LONY	**Lake Ozonia**	**144.64**	**81**	*e*PKP	PKPdf		16 35 05.8	-1.8	
LONY				*e*			16 35 13.0		
MIV	**Mineville/With**	**144.99**	**82**	*e*PKPdf	PKPdf		16 35 07.1	-1.0	
FRNY	**Flat Rock**	**145.36**	**81**	*e*PKPdf	PKPdf		16 35 08.1	-0.6	
OBN	**Obninsk**	**146.34**	**298**	*i* PKP2	PKPab		16 35 11.1	-1.4	
OBN				pmax	pmax				
	comp=Z,45nm,1.8s								
AKASG	**Malin Array Be**	**148.90**	**288**	PKPbc	PKPbc		16 35 16.8	-1.8	
	comp=Z,5.2nm,0.9s,baz=88,slow=2.3,SNR=17								
JOF	**Joensuu**	**150.61**	**312**	*e*pkp	PKPab		16 35 27.4	-2.2	
KBS	**Kingsbay**	**150.78**	**347**	*e*PKPab	PKPab		16 35 29.6	-0.7	
LVV	**L'vov**	**151.64**	**283**	*e*PKIKP	PKPbc		16 35 24.8	-0.4	
ARCES	**ARCESS Array B**	**152.33**	**326**	PKPbc	PKPbc		16 35 24.8	-2.0	
	comp=Z,1.6nm,0.8s,baz=108,slow=2.7,SNR=11								
FINES	**FINESS Array B**	**152.99**	**309**	PKPbc	PKPbc		16 35 26.0	-2.3	
	comp=Z,1.3nm,0.7s,baz=91,slow=2.6,SNR=8.0								
STHS	**Stebnicka Huta**	**153.16**	**281**	*e*PKP	PKPbc		16 35 29.4	+0.8	
STHS				*e*			16 35 48.3		
KECS	**Kecovo**	**153.25**	**279**	*e*	pPKPdf		16 35 35.5	+11	
KECS				*e*			16 36 03.7		
SCHQ	**Schefferville**	**153.26**	**66**	PKPbc	PKPbc		16 35 29.8	+0.9	
	comp=Z,3.4nm,1.0s,baz=263,slow=19,SNR=2.3								
SCHQ	**Schefferville**	**153.26**	**66**	*e*PKPbc	PKPbc		16 35 27.3	-1.5	
GERES	**GERESS Array B**	**157.53**	**275**	PKPab	PKPab		16 35 57.7	-1.2	
	comp=Z,0.3nm,0.2s,baz=72,slow=6.3,SNR=3.6								

ISCJB ***01*** *16:18:10.0±0.4, 5157N±003×7.13E±003, h0km, Error ellipse: s-maj=3.7km s-min=2.7km az=166.6*
BNS ***01*** *16:18:11.8±0.6, 5166N×689E, h1km, ML2.1*
CSEM ***01*** *16:18:12.1±0.1, 5167N×692E, h1km, ML2.1/5, Error ellipse: s-maj=4.8km s-min=1.8km az=91.0*
BUG ***01*** *16:18:12.0, 5162N×700E, h1km, ML1.4*
NEIC ***01*** *16:18:12.7, 5161N×695E, h1km, ML3.0(LDG), After LDG.*
LDG ***01*** *16:18:12.7±0.4, 5161N×695E, h1km, Ml3.0/2, Error ellipse: s-maj=8.3km s-min=4.3km az=30.0, Suspected Mining induced.*
BGR ***01*** *16:18:13.0±0.6, 5154N×7.11E, h1km, ML2.1/5, Error ellipse: s-maj=6.7km s-min=4.4km az=123.0*

ISC 01 16:18:11.4±0.4, 5160N±002×706E±003, h0km, n35, σ1§19/46, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.12**	**282**	Pg	**Pg**	**16 18 14.1**	**+0.4**
BZER				Sg	**Sg**	**16 18 16.3**	**+1.0**
BUG	**Bochum--Univer**	**0.20**	**140**	⇓*i*Pg	**Pg**	**16 18 17.6**	**+2.3**
LAUG	**Laupendahl**	**0.26**	**196**	*e*Pg	**Pg**	**16 18 17.6**	**+1.3**
WTSB	**Winterswijk**	**0.40**	**337**	*e*Pg	**Pg**	**16 18 18.9**	**-0.3**
	51nm,0.4s						
WTSB				*e*Sg	**Sg**	**16 18 24.2**	**-0.2**
BNS	**Bensberg**	**0.64**	**173**	*e*Pg	**Pg**	**16 18 25.2**	**+1.6**
HOBG	**Hohbusch**	**0.64**	**164**	*e*Pg	**Pg**	**16 18 26.0**	**+2.3**
IBBN	**Ibbenburen**	**0.83**	**31**	*e*Sg	**Sg**	**16 18 40.6**	**+2.4**
	SNR=2.8						
STB	**Steinbach**	**1.01**	**188**	*e*Pg	**Pg**	**16 18 32.0**	**+1.1**
STB				*e*Sg	**Sg**	**16 18 46.8**	**+2.9**
	39nm,0.6s						
KLL	**Kalltalsperre**	**1.06**	**207**	*e*Pg	**Pg**	**16 18 32.0**	**+0.2**
HGN	**Heimansgroeve**	**1.09**	**221**	*e*Pg	**Pg**	**16 18 33.0**	**+0.6**
	18nm,0.1s,baz=35						
HGN				*e*Sg	**Sg**	**16 18 48.4**	**+1.8**
BEBN	**Eben Emael**	**1.18**	**228**	P	**Pg**	**16 18 34.4**	**+0.3**
BEBN				S	**Sg**	**16 18 51.4**	**+2.0**
	comp=E,26nm,0.0s						
MEM	**Membach**	**1.19**	**214**	P	**Pg**	**16 18 34.4**	**+0.2**
BGG	**Burgeitz**	**1.40**	**173**	*e*Pg	**Pg**	**16 18 38.5**	**+0.2**
TNS	**Taunus Mts**	**1.63**	**147**	*e*Pg	**Pg**	**16 18 43.1**	**+0.4**
	SNR=3.4						
TNS				*e*Sg	**Sg**	**16 19 02.1**	**-1.9**
	SNR=3.0						
GTTG	**Gvttingen**	**1.81**	**90**	*e*Sg	**Sg**	**16 19 09.8**	**0.0**
	SNR=1.4						
UBBA	**Unterbreizbach**	**2.01**	**112**	*e*Sg	**Sg**	**16 19 15.8**	**-0.2**
	SNR=2.6						
WLF

PDAR Pinedale Array 27.22 345 P **P** **16 39 14.3 +1.2**
1.5nm,0.8s,mb3.5,baz=141,slow=9.6,SNR=11
ATAH Atahualpa 32.00 135 LR LR 16 49 26.3
comp=Z,16nm,18.2s,MS2.7,baz=41,slow=29
ULM Lac du Bonnet 33.76 5 P **P** **16 40 09.6 -1.3**
0.8nm,0.4s,mb4.0,baz=187,slow=8.1,SNR=4.4
YKA Yellowknife Ar 46.91 351 P **P** **16 41 59.4 -0.3**
1.3nm,0.9s,mb3.9,baz=160,slow=7.5,SNR=12
YKA PcP PcP 16 43 37.2 +5.0
0.3nm,0.6s,baz=156,slow=3.5,SNR=4.1
YKA LR LR 17 03 56.4
comp=Z,41nm,22.0s,MS3.4,baz=180,slow=39
YKA Yellowknife Ar 46.91 351 P **P** **16 41 59.4 -0.3**
YKA PcP PcP 16 43 37.2 +5.0
YKA LR LR 17 03 56.4
SIV San Ignacio 50.54 128 P **P** **16 42 34.6 +7.1**
0.7nm,0.4s,mb4.0,baz=305,slow=12,SNR=6.5
ILAR Eielson Array 57.34 338 P **P** **16 43 17.9 +0.6**
0.8nm,0.9s,mb3.7,baz=143,slow=4.3,SNR=5.2
DBIC Dimbokro 93.40 82 LR LR 17 29 19.6
comp=Z,62nm,18.1s,MS4.1,baz=158,slow=36

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*IDC **01** 16:54:04.2±0.7, 2054N×12005E, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.3/20, mbtmp4.2/15, MS3.7/6, Ms1 3.7/6, ms1mx3.1/30, Error ellipse: s-maj=29.6km s-min=14.8km az=66.0*
*ISCJB **01** 17:16.2068N±003×120.14E±004, h21km±11km, mb4.4/40, MS3.5/6, Error ellipse: s-maj=6.3km s-min=4.7km az=70.0*
*NEIC **01** 16:54:08.8±0.3, 2060N×12003E, h30km, mb4.6/24, Error ellipse: s-maj=7.4km s-min=5.5km az=95.0*
*BJI **01** 16:54:10.0, 2084N×11970E, h30km, mB4.5, mb4.2, ML4.0, Ms4.1, Msz3.8*
*MOS **01** 16:54:10.9±1.2, 2069N×12005E, h60km, mb4.7/22, Error ellipse: s-maj=13.7km s-min=6.8km az=105.2*
*JMA **01** 16:54:10.2±0.3, 2078N×12029E, h182km*
ISC 01 16:54:08.1±1.6, 2071N±003×12008E±004, h22km±11km, n106, σ1§14/115, mb4.4/40, MS3.5/6, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.72**	**22**	*e*Pn	**Pn**	**16 55 04.2**	**0.0**
NACB				*e*Sn	**Sn**	**16 55 44.7**	**-2.6**
YHNB	**Yeheng**	**4.12**	**17**	*e*Pn	**Pn**	**16 55 10.2**	**+0.5**
YHNB				*e*Sn	**Sn**	**16 55 52.9**	**-4.2**
QZH	**Quanzhou**	**4.43**	**342**	P	**Pn**	**16 55 11.8**	**-2.2**
QZH				S	**Sn**	**16 56 01.0**	**-3.9**
QZH				Smax			
	comp=N,220nm,0.5s						
QZH				Smax			
	comp=E,230nm,0.8s						
QZH				LR	LR		
	comp=N,2μm,11.3s						
QZH				LR	LR		
	comp=E,2μm,10.4s						
QZH				LR	LR		
	comp=Z,2μm,10.0s						
TATO	**Taipei**	**4.44**	**17**	*e*Pn	**Pn**	**16 55 11.6**	**-2.5**
YOJ	**Yonaguni jima**	**4.61**	**35**	P	**Pn**	**16 55 17.7**	**+1.3**
YOJ				*e*S	**Sn**	**16 56 10.1**	**+0.8**
HATJ	**Hateruma jima**	**4.79**	**45**	*e*S	**Sn**	**16 56 13.5**	**-0.3**
IRIF	**Iriomote-Funau**	**4.94**	**42**	P	**Pn**	**16 55 21.4**	**+0.5**
IRIF				*e*S	**Sn**	**16 56 17.0**	**-0.4**
JKRS	**Kuro-shima**	**5.05**	**45**	P	**Pn**	**16 55 23.5**	**+1.0**
JKRS				*e*S	**Sn**	**16 56 19.9**	**-0.3**
JIJ	**Ishigaki jima**	**5.23**	**45**	P	**Pn**	**16 55 25.3**	**+0.4**
JIJ				*e*S	**Sn**	**16 56 23.4**	**-1.1**
JTJ	**Tarama**	**5.79**	**47**	P	**Pn**	**16 55 32.8**	**+0.2**
JTJ				*e*S	**Sn**	**16 56 36.8**	**-1.5**
TGY	**Tagaytay City**	**6.62**	**173**	Pn	**Pn**	**16 55 49.8**	**+5.7**
	comp=Z,12nm,0.3s,baz=135,slow=6.8,SNR=3.5						
TGY				Sn	**Sn**	**16 56 60.0**	**+1.1**
	comp=Z,22nm,0.3s,baz=39,slow=20,SNR=4.5						
GZH	**Guangzhou**	**6.69**	**292**	P	**Pn**	**16 55 38.1**	**-6.9**
GZH				S	**Sn**	**16 56 50.1**	**-10**
GZH				Smax			
	comp=N,130nm,0.7s						
GZH				Smax			
	comp=E,90nm,0.7s						
QIZ	**Qiongzhong**	**9.78**	**262**	*e*Pn	**Pn**	**16 56 24.4**	**-3.0**
QIZ				*e*Sn	**Sn**	**16 58 07.0**	**-9.5**
GYA	**Guiyang**	**13.56**	**298**	P	**Pn**	**16 57 19.7**	**+0.6**
GYA				S	**Sn**	**16 59 43.2**	**-5.9**
GYA				LR	LR		
	comp=N,680nm,12.0s						
GYA				LR	LR		
	comp=E,310nm,11.7s						
GYA				LR	LR		
	comp=Z,420nm,10.8s						
KKM	**Kota Kinabalu**	**15.05**	**195**	*e*P	**Pn**	**16 57 33.7**	**-5.7**
CD2	**Chengdu**	**17.84**	**308**	*e*P	**Pn**	**16 58 14.8**	**-0.1**
CD2				PP		16 58 29.7	
CD2				S	**Sn**	**17 01 30.6**	**-2.6**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s						
CD2				AMB	AMB		
	comp=Z,50nm,4.2s						
CD2				LR	LR		
	comp=N,510nm,15.5s						
CD2				LR	LR		
	comp=Z,310nm,14.4s						
KS15	**Wonju Array Si**	**18.00**	**20**	*e*P	**Pn**	**16 58 18.5**	**+1.7**
BJT	**Baijiatuau**	**19.54**	**351**	*e*P	**Pn**	**16 58 35.2**	**-0.2**
BJT				pmax	pmax		
	comp=Z,21nm,0.9s						
BJT	**Baijiatuau**	**19.54**	**351**	*e*P	**Pn**	**16 58 35.2**	**-0.2**
	comp=Z,21nm,0.9s						
LZH	**Lanzhou**	**20.90**	**321**	*e*P	**P**	**16 58 51.0**	**+2.1**
LZH				AP		16 58 56.1	
LZH				XP	sP	16 58 59.5	+1.7
LZH				AMB	AMB		
	comp=Z,20nm,1.3s						
LZH				AMB	AMB		
	comp=Z,80nm,4.0s						
CBIJ	**Chichi jima**	**21.17**	**68**	LR	LR	17 05 09.2	
	comp=Z,139nm,20.1s,MS3.3,baz=168,slow=31						
KSM	**Kuching**	**21.37**	**208**	*e*P	**P**	**16 58 52.4**	**-1.6**
MAJO	**Matsushiro**	**22.34**	**41**	*e*P	**P**	**16 59 04.9**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
MAJO	**Matsushiro**	**22.34**	**41**	*e*P	**P**	**16 59 04.9**	**+0.5**
	comp=Z,8.7nm,1.0s,mb4.1						
MAT	**Matsushiro**	**22.34**	**41**	P	**P**	**16 59 04.1**	**-0.3**
MAT	**Matsushiro**	**22.34**	**41**	*e*P	**P**	**16 59 07.0**	**+2.6**
MAT				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.3						
MAT	**Matsushiro**	**22.34**	**41**	*e*P	**P**	**16 59 07.0**	**+2.6**
	comp=Z,19nm,1.5s,mb4.3						
MJAR	**Matsushiro Arr**	**22.34**	**41**	P	**P**	**16 59 04.6**	**+0.2**
	comp=Z,8.5nm,1.1s,mb4.1,baz=238,slow=9.9,SNR=20						
MJAR				LR	LR	17 07 34.2	
	comp=Z,174nm,22.0s,MS3.4,baz=200,slow=36						
KULM	**Kulim**	**24.31**	**234**	*e*P	**P**	**16 59 22.6**	**-1.4**
GUMO	**Guam**	**24.70**	**103**	LR	LR	17 07 21.9	
	comp=Z,124nm,19.2s,MS3.4,baz=269,slow=32						
MDJ	**Mudanjiang**	**25.11**	**16**	*e*P	**P**	**16 59 31.6**	**+0.3**
	comp=Z,20nm,1.0s,mb4.6						
GTA	**Gaotai**	**25.49**	**321**	*e*P	**P**	**16 59 35.6**	**+0.9**
GTA				AP	pP	16 59 40.0	-1.2
GTA				XP	sP	16 59 43.1	-0.9
PSI	**Prapat**	**27.24**	**232**	LR	LR	17 09 21.5	
	comp=Z,182nm,20.3s,MS3.6,baz=65,slow=34						
LSA	**Lhasa**	**27.61**	**295**	*e*P	**P**	**16 59 53.5**	**-0.3**
LSA				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
LSA	**Lhasa**	**27.61**	**295**	*e*P	**P**	**16 59 53.5**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.1						
HIA	**Hailar**	**28.49**	**360**	*e*P	**P**	**17 00 00.0**	**-1.7**
HIA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HIA	**Hailar**	**28.49**	**360**	*e*P	**P**	**16 59 60.0**	**-1.7**
	comp=Z,10.0nm,1.2s,mb4.3						
SONM	**Songino Array**	**29.24**	**341**	P	**P**	**17 00 08.7**	**+0.5**
	comp=Z,1.2nm,0.9s,mb3.6,baz=159,slow=8.6,SNR=9.3						
ASAJ	**Asahikawa**	**29.91**	**34**	LR	LR	17 11 51.1	
	comp=Z,178nm,20.2s,MS3.7,baz=331,slow=36						
YSS	**Yuzh-Sakhalins**	**32.02**	**30**	*e*P	**P**	**17 00 32.9**	**0.0**
YSS				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.9						
YSS	**Yuzh-Sakhalins**	**32.02**	**30**	*e*P	**P**	**17 00 32.9**	**+0.1**
	comp=Z,26nm,1.3s,mb4.9						
MKAR	**Makanchi Array**	**40.21**	**319**	P	**P**	**17 01 43.8**	**+0.9**
	comp=Z,1.0nm,0.6s,mb3.7,baz=114,slow=9.4,SNR=11						
ZAL	**Zalesovo**	**42.66**	**330**	P	**P**	**17 02 03.2**	**+0.2**
	comp=Z,1.7nm,0.7s,mb3.9,baz=4.3,slow=9.4,SNR=11						
WRAB	**Tennant Creek**	**42.74**	**160**	*e*P	**P**	**17 02 02.3**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**42.74**	**160**	*e*P	**P**	**17 02 02.3**	**-1.3**
	comp=Z,16nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**42.74**	**160**	P	**P**	**17 02 01.9**	**-1.8**
	comp=Z,13nm,1.1s,mb4.6,baz=342,slow=8.9,SNR=38						
WB2	**Warramunga Arr**	**42.75**	**160**	*e*P	**P**	**17 02 02.4**	**-1.3**
NVS	**Novosibirsk**	**43.94**	**330**	*e*P	**P**	**17 02 12.3**	**-1.0**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.3						
NVS				pmax	pmax		
	comp=N,4.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.3s						
KURK	**Kurchatov**	**44.16**	**323**	*e*P	**P**	**17 02 14.8**	**-0.3**
KURK				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.5						
KURK	**Kurchatov**	**44.16**	**323**	*e*P	**P**	**17 02 14.8**	**-0.3**
	comp=Z,14nm,1.4s,mb4.5						
MA2	**Magadan**	**44.57**	**22**	P	**P**	**17 02 18.4**	**0.0**
AS31	**Alice Springs**	**46.12**	**162**	*e*P	**P**	**17 02 29.7**	**-0.9**
ASAR	**Alice Springs**	**46.12**	**162**	P	**P**	**17 02 29.8**	**-0.8**
	comp=Z,1.2nm,0.4s,mb4.2,baz=343,slow=6.9,SNR=51						
ASPA	**Alice Springs**	**46.12**	**162**	*e*P	**P**	**17 02 29.7**	**-0.9**
CTA	**Charters Tower**	**47.96**	**146**	j *e*P	**P**	**17 02 45.5**	**+0.5**
	comp=Z,10nm,0.9s,mb4.8						
CTA	**Charters Tower**	**47.96**	**146**	j *e*P	**P**	**17 02 45.5**	**+0.5**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CTAO	**Charters Tower**	**47.96**	**146**	*e*P	**P**	**17 02 45.9**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
CTAO	**Charters Tower**	**47.96**	**146**	*e*P	**P**	**17 02 45.9**	**+0.9**
	comp=Z,23nm,1.1s,mb5.1						
CTAO				*e*	pP	17 02 53.9	+2.1
HNR	**Honiara**	**49.33**	**124**	LR	LR	17 19 17.5	
	comp=Z,94nm,21.5s,MS3.8,baz=178,slow=31						
BRVK	**Borovoye**	**49.83**	**323**	*e*P	**P**	**17 02 59.8**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**49.83**	**323**	*e*P	**P**	**17 02 59.8**	**+0.4**
	comp=Z,2.6nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**49.87**	**324**	*e*P	**P**	**17 03 00.2**	**+0.5**
CHKZ				*e*		17 03 12.3	
CHKZ				*e*		17 04 19.3	
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
CHKZ	**Chkalovo**	**49.87**	**324**	*e*P	**P**	**17 03 00.2**	**+0.5**
	comp=Z,5.0nm,1.2s,mb4.4						
CHKZ				*e*		17 03 12.3	
CHKZ				*e*PcP	PcP	17 04 19.3	-0.6
ZRNK	**Zerenda**	**50.52**	**322**	*e*P	**P**	**17 03 05.1**	**+0.5**
ZRNK				*e*		17 04 22.1	
ZRNK				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
ZRNK	**Zerenda**	**50.52**	**322**	*e*P	**P**	**17 03 05.1**	**+0.5**
	comp=Z,18nm,1.6s,mb4.8						
ZRNK				*e*PcP	PcP	17 04 22.1	-0.3
TIXI	**Tiksi**	**51.21**	**4**	*e*P	**P**	**17 03 08.3**	**-1.5**
TIXI				*e*		17 04 22.5	
TIXI				*e*S	**S**	**17 10 24.8**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TIXI				smax			
	comp=N,23nm,8.6s						
TIXI				smax			
	comp=E,43nm,12.4s						
BILL	**Bilibino**	**55.28**	**19**	*e*P	**P**	**17 03 39.9**	**+0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BILL	**Bilibino**	**55.28**	**19**	*e*P	**P**	**17 03 39.9**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**56.20**	**158**	P	**P**	**17 03 44.1**	**-2.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=340,slow=15,SNR=4.2						
STKA	**Stephens Creek**	**56.20**	**158**	P	**P**	**17 03 44.1**	**-2.3**
AKTK	**Aktyubinsk**	**56.58**	**317**	P	**P**	**17 03 50.1**	**+1.1**
AKTO	**Aktyubinsk**	**56.58**	**317**	P	**P**	**17 03 50.1**	**+1.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=93,slow=16,SNR=4.3						
ARU	**Arti**	**57.30**	**325**	*e*P	**P**	**17 03 54.5**	**+0.4**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
ARU	**Arti**	**57.30**	**325**	*e*P	**P**	**17 03 54.5**	**+0.4**
	comp=Z,2.7nm,0.3s,mb4.8						
KIV	**Kislovodsk**	**67.00**	**310**	*e*P	**P**	**17 05 00.8**	**+1.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**67.00**	**310**	*e*P	**P**	**17 05 00.8**	**+1.6**
	comp=Z,9.0nm,0.8s,mb4.8						
TTA	**Tatalina**	**69.02**	**29**	*e*P	**P**	**17 05 13.3**	**+1.4**
TTA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TTA	**Tatalina**	**69.02**	**29**	*e*P	**P**	**17 05 13.3**	**+1.4**
	comp=Z,7.0nm,0.9s,mb4.6						
MALT	**Malatya**	**71.10**	**305**	P	**P**	**17 05 25.0**	**+0.3**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MALT	**Malatya**	**71.10**	**305**	P	**P**	**17 05 25.0**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.2						
JOF	**Joensuu**	**71.23**	**331**	*e*p	**P**	**17 05 26.0**	**+0.5**
ARCES	**ARCESS Array B**	**72.37**	**338**	P	**P**	**17 05 32.9**	**+0.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=80,slow=6.8,SNR=6.7						
ARCES	**ARCESS Array B**	**72.37**	**338**	P	**P**	**17 05 32.9**	**+0.6**
ILAR	**Eielson Array**	**72.76**	**27**	P	**P**	**17 05 36.3**	**+1.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=283,slow=6.2,SNR=9.9						
KAF	**Kangasniemi**	**73.66**	**331**	*e*p	**P**	**17 05 40.1**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.3,baz=74,slow=5.5						
KAF	**Kangasniemi**	**73.66**	**331**	*e*P	**P**	**17 05 40.1**	**+0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**73.92**	**330**	P	**P**	**17 05 41.9**	**+0.4**
	comp=Z,4.2nm,0.8s,mb4.4,baz=95,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**74.79**	**319**	P	**P**	**17 05 46.1**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=64,slow=6.1,SNR=10						
DAWY	**Dawson**	**76.08**	**26**	*e*P	**P**	**17 05 54.5**	**+0.6**
SUW	**Suwalki**	**77.44**	**323**	*e*P	**P**	**17 06 00.5**	**-1.1**
SUW				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2						
SUW	**Suwalki**	**77.44**	**323**	*e*P	**P**	**17 06 00.5**	**-1.1**
	comp=Z,32nm,1.1s,mb5.2						
SIT	**Sitka**	**80.47**	**32**	*e*P	**P**	**17 06 18.3**	**+0.1**
SIT				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
SIT	**Sitka**	**80.47**	**32**	*e*P	**P**	**17 06 18.3**	**0.0**
	comp=Z,12nm,1.0s,mb4.8						
NB2	**NORSAR Subarra**	**80.81**	**332**	P	**P**	**17 06 20.0**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=58,slow=5.6						
NOA	**NORSAR Array B**	**80.81**	**332**	P	**P**	**17 06 19.2**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.2,baz=64,slow=5.3,SNR=8.2						
MORC	**Moravsky Berou**	**82.19**	**320**	*e*P	**P**	**17 06 26.9**	**-0.4**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MORC	**Moravsky Berou**	**82.19**	**320**	*e*P	**P**	**17 06 26.9**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.0						
BRG	**Berggiesshubel**	**83.85**	**322**	*e*P	**P**	**17 06 37.2**	**+1.2**
	comp=Z,4.7nm,1.3s,mb4.5						
BRG	**Berggiesshubel**	**83.85**	**322**	*e*P	**P**	**17 06 37.2**	**+1.3**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.5						
CLL	**Collm**	**84.20**	**323**	*e*P	**P**	**17 06 38.0**	**+0.3**
GERES	**GERESS Array B**	**84.86**	**320**	P	**P**	**17 06 42.1**	**+1.0**
	comp=Z,1.4nm,0.8s,mb4.2,baz=81,slow=4.2,SNR=12						
YKA	**Yellowknife Ar**	**86.55**	**22**	P	**P**	**17 06 49.9**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.5,baz=313,slow=4.8,SNR=22						
CASY	**Casey**	**87.02**	**184**	*e*P	**P**	**17 06 54.0**	**+2.3**
	comp=Z,14nm,0.5s,mb5.4						
STU	**Stuttgart**	**87.55**	**322**	P	**P**	**17 06 56.9**	**+2.6**
STU				pmax	pmax		
	comp=Z,94nm,1.0s						
STU	**Stuttgart**	**87.55**	**322**	P	**P**	**17 06 56.9**	**+2.6**
	comp=Z,94nm,1.0s						
BFO	**Black Forest**	**88.26**	**322**	*e*P	**P**	**17 07 01.9**	**+4.2**

IDC 01 17:05:34.8±66.0, 1629S×17295W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/16, mbtmp4.0/3, MS3.7/1, Ms1 3.7/1, ms1mx2.5/29, Error ellipse: s-maj=1265.0km s-min=192.6km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.69**	**199**	LR	LR	17 12 59.2	
	comp=Z,301nm,20.4s,baz=130,slow=32						
STKA	**Stephens Creek**	**43.98**	**241**	P	P	17 13 43.8	0.0
	1.1nm,0.6s,baz=73,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**50.07**	**257**	P	P	17 14 31.6	+0.2
	0.2nm,0.3s,baz=94,slow=7.0,SNR=19						
ASAR	**Alice Springs**	**50.25**	**253**	P	P	17 14 33.5	+0.7
	3.0nm,0.6s,baz=87,slow=8.5,SNR=98						

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*MOS **01** 17:07:00.4±2.1, 6114N×16588E, h10km, mb4.4/5, Error ellipse: s-maj=26.4km s-min=17.0km az=108.1*
*NEIC **01** 17:07:01.0±1.1, 6108N×16625E, h10km, mb4.3/6, Error ellipse: s-maj=22.9km s-min=19.3km az=160.0*
*IDC **01** 17:07:00.7±1.3, 6061N×16572E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=43.0km s-min=28.5km az=167.0*
*KRSC **01** 17:07:00.9±0.4, 6075N×16605E, h9km±4km, ML3.8*
*ISCJB **01** 17:07:01.9±0.9, 6076N±004×1660E±01, h21km±8km, mb4.0/10, Error ellipse: s-maj=12.0km s-min=6.3km az=30.7*
ISC 01 17:07:01.9±1.2, 6080N±004×1660E±01, h10km±8km, n32, σ0§94/36, mb4.0/10, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.37**	**172**	*i* P	**Pg**	**17 07 08.2**	**-1.0**
TILR				*i* S	**Sg**	**17 07 13.8**	**-0.3**
TILR				Smax			
	17μm,0.3s						
KAMR	**Kamenskoye**	**1.67**	**4**	*i* P	**Pn**	**17 07 31.5**	**+0.3**
KAMR				*e*S	**Sn**	**17 07 53.6**	**+0.9**
KAMR				Smax			
	1μm,0.7s						
OSSR	**Ossora**	**2.12**	**224**	*i* P	**Pn**	**17 07 37.8**	**+0.4**
OSSR				*i* S	**Sn**	**17 08 04.5**	**+0.7**
OSSR				Smax			
	2μm,0.7s						
EVNR	**Evensk**	**3.41**	**292**	*i* P	**Pn**	**17 07 56.2**	**+1.1**
SMKR	**Semkarok**	**4.83**	**211**	*e*P	**Pn**	**17 08 16.0**	**+1.4**
SRKR	**Sorokina**	**4.84**	**213**	*e*P	**Pn**	**17 08 15.1**	**+0.3**
KBTR	**Krutoberegovo**	**4.88**	**201**	*i* P	**Pn**	**17 08 16.1**	**+0.7**
KBTR				*e*S	**Sn**	**17 09 11.2**	**-0.7**
BDR	**Baidarnaya**	**4.91**	**212**	*e*P	**Pn**	**17 08 16.5**	**+0.8**
ZLN	**Zelenaya**	**5.50**	**212**	*e*P	**Pn**	**17 08 24.4**	**+0.6**
BKI	**Bering**	**5.61**	**180**	*e*P	**Pn**	**17 08 26.5**	**+1.2**
BILL	**Bilibino**	**7.28**	**1**	*e*PN	**Pn**	**17 08 40.2**	**-8.0**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BILL	**Bilibino**	**7.28**	**1**	*e*Pn	**Pn**	**17 08 40.2**	**-8.0**
	comp=Z,4.5nm,0.6s						
MA2	**Magadan**	**7.67**	**267**	*e*PN	**Pn**	**17 08 53.1**	**-0.5**
MA2				pmax	pmax		
	comp=E,20nm,0.4s						
MA2				pmax	pmax		
	comp=Z,20nm,0.4s						
MA2	**Magadan**	**7.67**	**267**	*e*Pn	**Pn**	**17 08 52.7**	**-0.9**
	comp=Z,21nm,0.6s						
YAK	**Yakutsk**	**17.26**	**290**	*e*P	**Pn**	**17 11 04.1**	**+1.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s						
YAK	**Yakutsk**	**17.26**	**290**	*e*P	**Pn**	**17 11 04.1**	**+1.1**
	comp=Z,16nm,0.8s						
ILAR	**Eielson Array**	**21.52**	**59**	P	**P**	**17 11 53.1**	**+2.1**
	comp=Z,1.3nm,0.5s,mb3.6,baz=272,slow=9.8,SNR=12						
SONM	**Songino Array**	**35.77**	**276**	P	**P**	**17 14 01.3**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=49,slow=6.8,SNR=5.8						
KURK	**Kurchatov**	**46.59**	**299**	*e*P	**P**	**17 15 28.7**	**-1.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
KURK	**Kurchatov**	**46.59**	**299**	*e*P	**P**	**17 15 28.7**	**-1.3**
	comp=Z,7.7nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**47.68**	**307**	*e*P	**P**	**17 15 37.6**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**47.68**	**307**	*e*P	**P**	**17 15 37.6**	**-0.8**
	comp=Z,1.0nm,0.7s,mb4.0						
MKAR	**Makanchi Array**	**47.90**	**293**	P	**P**	**17 15 39.0**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=36,slow=6.2,SNR=12						
BRVK	**Borovoye**	**48.27**	**306**	*e*P	**P**	**17 15 42.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**48.27**	**306**	*e*P	**P**	**17 15 42.1**	**-0.9**
	comp=Z,2.9nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**48.86**	**307**	*e*P	**P**	**17 15 46.8**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**48.86**	**307**	*e*P	**P**	**17 15 46.8**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.63**	**295**	P	**P**	**17 16 29.4**	**-1.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**54.63**	**295**	P	**P**	**17 16 29.4**	**-1.3**
	comp=Z,1.9nm,0.7s,mb4.2						
PV10	**Paradox Valley**	**55.09**	**73**	P	**P**	**17 16 33.3**	**-0.6**
WRA	**Warramunga Arr**	**84.41**	**210**	P	**P**	**17 19 33.6**	**-0.9**
	comp=Z,0.4nm,0.6s,mb3.7,baz=10,slow=5.5,SNR=5.8						
ASAR	**Alice Springs**	**88.09**	**209**	P	**P**	**17 19 51.5**	**-1.1**
	comp=Z,0.1nm,0.5s,mb3.3,baz=13,slow=4.7,SNR=4.8						

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*IDC **01** 17:11:57.8±0.6, 2057N×12004E, h0km, mb4.0/16, mb1 4.2/16, mb1mx4.1/22, mbtmp4.0/16, MS3.3/3, Ms1 3.3

comp=Z,13nm,0.9s,mb4.5
GTA Gaotai 25.61 321 *e*P **P 17 17 29.3 -0.1**
LSA Lhasa 27.73 295 P **P 17 17 50.2 +1.7**
comp=Z,3.1nm,0.9s,mb3.9
ULN Ulaanbaatar 29.16 342 P **P 17 18 06.0 +4.8**
SONM Songino Array 29.34 341 P **P 17 18 02.5 -0.2**
comp=Z,0.7nm,0.8s,mb3.4,baz=157,slow=5.5,SNR=6.7
ASAJ Asahikawa 29.91 33 LR LR 17 29 58.7
comp=Z,81nm,18.3s,MS3.4,baz=170,slow=36
FITZ Fitzroy Crossi 38.87 172 P **P 17 19 23.2 -2.1**
comp=Z,1.1nm,0.7s,mb3.7,baz=322,slow=18,SNR=2.8
PMG Port Moresby 39.93 136 P **P 17 19 33.4 -0.7**
comp=Z,11nm,1.0s,mb4.5
MKAR Makanchi Array 40.33 319 P **P 17 19 37.9 +0.5**
comp=Z,0.7nm,0.5s,mb3.6,baz=114,slow=10,SNR=8.9
WRAB Tennant Creek 42.64 160 *e*P **P 17 19 56.0 -0.3**
comp=Z,28nm,1.0s,mb5.0
WRA Warramunga Arr 42.64 160 P **P 17 19 56.1 -0.3**
comp=Z,4.6nm,0.7s,mb4.3,baz=342,slow=9.0,SNR=30
WB2 Warramunga Arr 42.65 160 *e*P **P 17 19 56.1 -0.3**
ZAL Zalesovo 42.77 330 P **P 17 19 56.9 -0.6**
comp=Z,1.0nm,0.7s,mb3.6,baz=322,slow=9.8,SNR=6.4
KURK Kurchatov 44.28 323 P **P 17 20 09.5 -0.1**
comp=Z,7.7nm,1.1s,mb4.3
AS31 Alice Springs 46.02 162 *e*P **P 17 20 23.6 +0.2**
ASAR Alice Springs 46.02 162 P **P 17 20 23.6 +0.3**
comp=Z,1.0nm,0.5s,mb4.0,baz=344,slow=6.7,SNR=46
ASPA Alice Springs 46.02 162 *e*P **P 17 20 23.6 +0.2**
CTA Charters Tower 47.84 146 *e*P **P 17 20 38.2 +0.6**
comp=Z,4.9nm,0.9s,mb4.5
CTA Charters Tower 47.84 146 P **P 17 20 38.5 +0.9**
comp=Z,6.9nm,0.9s,mb4.7,baz=313,slow=11,SNR=9.7
CTAO Charters Tower 47.84 146 *e*P **P 17 20 39.1 +1.5**
comp=Z,11nm,1.0s,mb4.8
CTAO *e* pP 17 20 46.2 -1.9
BRVK Borovoye 49.95 323 P **P 17 20 52.6 -1.2**
comp=Z,1.4nm,0.7s,mb4.1
ZRNK Zerenda 50.64 322 *e*P **P 17 20 59.0 0.0**
comp=Z,3.0nm,0.9s,mb4.2
ZRNK *e* pP 17 21 06.0 -3.5
BILL Bilibino 55.31 19 P **P 17 21 33.6 +0.2**
STKA Stephens Creek 56.10 158 P **P 17 21 38.4 -0.7**
comp=Z,1.7nm,0.8s,mb4.1,baz=157,slow=16,SNR=3.0
AKTK Aktyubinsk 56.71 317 P **P 17 21 43.9 +0.5**
AKTO Aktyubinsk 56.71 317 P **P 17 21 43.9 +0.5**
comp=Z,0.8nm,0.5s,mb4.0,baz=90,slow=10,SNR=3.5
ARU Arti 57.41 325 *e*P **P 17 21 48.2 -0.2**
comp=Z,3.7nm,0.6s,mb4.6
ARCES ARCESS Array B 72.47 338 P **P 17 23 26.1 -0.2**
comp=Z,1.3nm,0.7s,mb4.0,baz=81,slow=7.6,SNR=5.1
FINES FINESS Array B 74.04 330 P **P 17 23 34.1 -1.4**
comp=Z,5.0nm,1.1s,mb4.4,baz=70,slow=11,SNR=5.7
AKASG Malin Array Be 74.91 319 P **P 17 23 38.4 -2.2**
comp=Z,0.4nm,0.3s,mb3.8,baz=66,slow=5.7,SNR=4.6
DAWY Dawson 76.09 26 *e*P **P 17 23 48.3 +0.9**
NOA NORSAR Array B 80.92 332 P **P 17 24 13.7 -0.3**
comp=Z,1.5nm,0.7s,mb4.0,baz=64,slow=5.3,SNR=5.1
GERES GERESS Array B 84.99 321 P **P 17 24 35.3 +0.2**
comp=Z,0.8nm,0.8s,mb3.9,baz=57,slow=4.9,SNR=6.9
YKA Yellowknife Ar 86.58 22 P **P 17 24 43.6 +0.7**
comp=Z,0.9nm,0.7s,mb4.1,baz=312,slow=4.7,SNR=14

*IDC **01** 17:43:59.5±0.7, 16.18S×173.13W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.1/18, mbtmp4.0/10, MS3.8/11, Ms1 3.8/11, ms1mx3.5/34, Error ellipse: s-maj=28.0km s-min=17.7km az=139.0*
*ISCJB **01** 17:44:02.9±0.4, 16.16S±0.09×173.25W±0.10, h33km, mb4.4/21, MS3.8/10, Error ellipse: s-maj=15.1km s-min=10.7km az=87.6*
*MOS **01** 17:44:02.0±1.9, 16.41S×172.97W, h33km, mb4.8/8, Error ellipse: s-maj=18.9km s-min=15.0km az=177.8*
*NEIC **01** 17:44:04.4±0.4, 16.16S×173.19W, h35km, mb4.7/12, Error ellipse: s-maj=16.0km s-min=11.0km az=139.0*
ISC 01 17:44:04.7±0.4, 1616S±009×17315W±010, h35km, n61, σ1§12/48, mb4.4/21, MS3.8/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.60**	**31**	Pn	**Pn**	**17 44 35.5**	**-8.7**
	24nm,0.3s,baz=140,slow=3.8,SNR=29						
AFI				Sn	**Sn**	**17 45 01.1**	**-13**
	136nm,0.3s,baz=70,slow=18,SNR=5.7						
AFI				T		17 47 14.8	
	27nm,0.3s,baz=221,slow=20,SNR=3.6						
AFI	**Afiamalu**	**2.60**	**31**	*e*Pn	**Pn**	**17 44 34.9**	**-9.3**
RAR	**Rarotonga**	**13.63**	**114**	Pn	**Pn**	**17 47 08.3**	**-7.1**
	4.0nm,0.3s,baz=293,slow=5.4,SNR=7.7						
RAR				LR	LR	17 50 51.9	
	comp=Z,361nm,18.9s,baz=287,slow=30						
RAR				T		18 00 59.7	
	9.9nm,0.3s,baz=259,slow=15,SNR=6.1						
RAR	**Rarotonga**	**13.63**	**114**	Pn	**Pn**	**17 47 08.3**	**-7.1**
RAR				LR	LR	17 50 51.9	
DZM	**Mont Dzumac**	**20.16**	**250**	P	**P**	**17 48 40.9**	**+5.0**
	9.8nm,0.9s,baz=96,slow=17,SNR=7.4						
PPT	**Papeete**	**22.60**	**97**	LR	LR	17 55 43.7	
	comp=Z,240nm,19.5s,MS3.6,baz=285,slow=31						
URZ	**Urewera**	**23.63**	**199**	P	**P**	**17 49 12.3**	**-0.4**
	7.5nm,0.5s,mb4.4,baz=275,slow=4.0,SNR=10						
HNR	**Honiara**	**27.06**	**281**	P	**P**	**17 49 42.3**	**-1.4**
	11nm,0.3s,mb4.9,baz=263,slow=14,SNR=8.0						
HNR				LR	LR	17 59 18.7	
	comp=Z,367nm,18.4s,MS4.0,baz=178,slow=34						
HNR	**Honiara**	**27.06**	**281**	P	**P**	**17 49 42.3**	**-1.4**
HNR				LR	LR	17 59 18.7	
RKT	**Rikitea**	**36.53**	**107**	*e*LR	LR	18 00 18.8	
	218nm,24.5s						
CTA	**Charters Tower**	**38.72**	**258**	P	**P**	**17 51 26.3**	**+1.0**
	1.1nm,0.7s,mb3.7,baz=82,slow=15,SNR=3.5						
CTA				LR	LR	18 05 49.2	
	comp=Z,183nm,18.6s,MS3.9,baz=307,slow=34						
CTA	**Charters Tower**	**38.72**	**258**	P	**P**	**17 51 26.3**	**+1.0**
CTA				LR	LR	18 05 49.2	
CTAO	**Charters Tower**	**38.72**	**258**	*e*P	**P**	**17 51 26.2**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
CTAO	**Charters Tower**	**38.72**	**258**	*e*Pn	**P**	**17 51 26.2**	**+0.9**
	comp=Z,3.5nm,0.9s,mb4.1						
PMG	**Port Moresby**	**39.24**	**275**	LR	LR	18 03 05.0	
	comp=Z,104nm,20.7s,MS3.6,baz=80,slow=29						
STKA	**Stephens Creek**	**43.88**	**241**	*e*P	**P**	**17 52 06.4**	**-1.3**
	comp=Z,4.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**43.88**	**241**	P	**P**	**17 52 06.7**	**-0.9**
	comp=Z,3.8nm,0.8s,mb4.2,baz=62,slow=9.1,SNR=8.5						
STKA	**Stephens Creek**	**43.88**	**241**	*e*P	**P**	**17 52 06.0**	**-1.6**
WB2	**Warramunga Arr**	**49.90**	**257**	*e*P	**P**	**17 52 55.3**	**+0.5**
WRAB	**Tennant Creek**	**49.91**	**257**	P	**P**	**17 52 52.5**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
WRAB	**Tennant Creek**	**49.91**	**257**	P	**P**	**17 52 52.5**	**-2.3**
	comp=Z,17nm,1.4s,mb4.9						
WRA	**Warramunga Arr**	**49.91**	**257**	P	**P**	**17 52 55.2**	**+0.3**
	comp=Z,0.7nm,0.4s,mb4.1,baz=92,slow=6.9,SNR=46						
AS31	**Alice Springs**	**50.11**	**252**	*e*P	**P**	**17 52 56.8**	**+0.5**
ASAR	**Alice Springs**	**50.11**	**252**	P	**P**	**17 52 56.8**	**+0.4**
	comp=Z,3.9nm,0.5s,mb4.7,baz=88,slow=8.5,SNR=200						
ASPA	**Alice Springs**	**50.12**	**252**	*e*P	**P**	**17 52 56.8**	**+0.4**
GUMO	**Guam**	**50.95**	**303**	LR	LR	18 09 02.4	
	comp=Z,66nm,20.7s,MS3.6,baz=118,slow=30						
KAKA	**Kakadu**	**52.69**	**266**	*e*P	**P**	**17 53 15.9**	**+0.3**
	comp=Z,4.0nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**58.30**	**258**	LR	LR	18 16 05.2	
	comp=Z,58nm,19.1s,MS3.7,baz=207,slow=33						
SBA	**Scott Base**	**62.52**	**185**	*e*P	**P**	**17 54 25.7**	**+0.9**
SBA				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
SBA	**Scott Base**	**62.52**	**185**	*e*P	**P**	**17 54 25.7**	**+0.9**
	comp=Z,11nm,1.3s,mb4.8						
VNDA	**Vanda**	**62.65**	**186**	P	**P**	**17 54 25.9**	**+0.3**
	comp=Z,2.9nm,1.1s,mb4.3,baz=20,slow=6.9,SNR=6.8						
VNDA				LR	LR	18 15 00.0	
	comp=Z,125nm,21.1s,MS4.0,baz=324,slow=30						
VNDA	**Vanda**	**62.65**	**186**	*e*P	**P**	**17 54 25.8**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
VNDA	**Vanda**	**62.65**	**186**	*e*P	**P**	**17 54 25.8**	**+0.1**
	comp=Z,5.6nm,1.2s,mb4.6						
MBWA	**Marble Bar**	**63.39**	**254**	P	**P**	**17 54 28.9**	**-1.7**
CASY	**Casey**	**69.83**	**205**	P	**P**	**17 55 14.2**	**+2.6**
	comp=Z,5.2nm,1.0s,mb4.4						
QSPA	**South Pole Qui**	**73.89**	**180**	*e*P	**P**	**17 55 35.9**	**-0.1**
	comp=Z,12nm,1.1s,mb4.7						
YBH	**Yreka Blue Hor**	**74.05**	**37**	LR	LR	18 21 08.7	
	comp=Z,40nm,20.7s,MS3.7,baz=192,slow=30						
NVAR	**Mina Array Bea**	**74.72**	**42**	P	**P**	**17 55 40.5**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=225,slow=10.0,SNR=3.3						
KSM	**Kuching**	**77.50**	**275**	*e*P	**P**	**17 55 58.1**	**+1.5**
TTA	**Tatalina**	**79.97**	**8**	*e*P	**P**	**17 56 11.6**	**+1.4**
TTA				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
TTA	**Tatalina**	**79.97**	**8**	*e*P	**P**	**17 56 11.6**	**+1.4**
	comp=Z,9.1nm,1.3s,mb4.5						
MA2	**Magadan**	**80.96**	**342**	P	**P**	**17 56 17.7**	**+2.2**
MA2				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
MA2	**Magadan**	**80.96**	**342**	P	**P**	**17 56 17.7**	**+2.2**
	comp=Z,12nm,1.1s,mb4.7						
PDAR	**Pinedale Array**	**82.66**	**42**	P	**P**	**17 56 24.4**	**-0.2**
	comp=Z,0.6nm,0.8s,mb3.7,baz=208,slow=2.9,SNR=4.3						
COLA	**College**	**83.06**	**11**	P	**P**	**17 56 25.0**	**-1.6**
ILAR	**Eielson Array**	**83.14**	**11**	P	**P**	**17 56 26.5**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=222,slow=4.9,SNR=5.8						
DAWY	**Dawson**	**84.09**	**14**	*e*P	**P**	**17 56 31.1**	**-0.8**
BILL	**Bilibino**	**85.29**	**352**	P	**P**	**17 56 37.9**	**0.0**
BILL				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.9						
BILL	**Bilibino**	**85.29**	**352**	P	**P**	**17 56 37.9**	**0.0**
	comp=Z,14nm,1.4s,mb4.9						
YKA	**Yellowknife Ar**	**90.69**	**23**	P	**P**	**17 57 04.5**	**+0.8**
	comp=Z,0.5nm,0.8s,mb3.9,baz=231,slow=4.5,SNR=5.9						
YKA				LR	LR	18 31 04.8	
	comp=Z,53nm,18.3s,MS4.0,baz=0.0,slow=31						
SNAA	**Sanae**	**92.14**	**177**	P	**P**	**17 57 08.1**	**-2.4**
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SNAA	**Sanae**	**92.14**	**177**	P	**P**	**17 57 08.1**	**-2.4**
	comp=Z,1.3nm,0.9s,mb4.3						
ULM	**Lac du Bonnet**	**94.36**	**39**	LR	LR	18 32 19.0	
	comp=Z,64nm,21.3s,MS4.1,baz=16,slow=31						
TRQA	**Tornquist**	**95.98**	**132**	P	**P**	**17 57 28.2**	**+0.1**
	comp=Z,9.2nm,1.3s,mb5.0						
MORC	**Moravsky Berou**	**145.36**	**348**	*e*PKP2	PKPab	18 03 39.0	+0.1
KHC	**Kasperske Hory**	**146.66**	**352**	*e*PKP	PKPdf	18 03 39.0	-2.0
KHC				pPKP	pPKPdf	18 03 53.5	+1.0
KHC	**Kasperske Hory**	**146.66**	**352**	*e*P	PKPdf	18 03 39.0	-2.0
KHC				*e*		18 03 53.5	
BR131	**Keskin Array S**	**146.90**	**320**	*e*PKPbc	PKPbc	18 03 46.0	+2.7
BRTR	**Keskin Array B**	**146.90**	**320**	PKPbc	PKPbc	18 03 46.0	+2.7
	comp=Z,2.1nm,0.9s,baz=77,slow=2.7,SNR=12						
GERES	**GERESS Array B**	**146.92**	**352**	PKPbc	PKPbc	18 03 45.5	+2.1
	comp=Z,1.0nm,0.7s,baz=57,slow=4.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**174.18**	**120**	PKPab	PKPab	18 05 41.2	-1.1
	comp=Z,0.1nm,0.6s,baz=286,slow=5.5,SNR=3.7						

IDC 01 17:47:51.9±1.1, 2642N×14178E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/19, mbtmp3.8/3, MS3.8/1, Ms1 3.8/1, ms1mx2.3/39, Error ellipse: s-maj=56.1km s-min=14.9km az=111.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.76**	**28**	Pn	Pn	17 48 10.4	+0.5
	19nm,0.3s,baz=312,slow=23,SNR=35						
CBIJ				Sn	Sg	17 48 21.9	+5.5
	66nm,0.3s,baz=111,slow=23,SNR=21						
WRA	**Warramunga Arr**	**46.65**	**190**	P	P	17 56 20.6	-1.4
	2.1nm,0.9s,baz=11,slow=8.6,SNR=9.9						
ASAR	**Alice Springs**	**50.37**	**189**	P	P	17 56 52.3	+1.6
	0.1nm,0.4s,baz=8.9,slow=6.6,SNR=3.5						
DZM	**Mont Dzumac**	**53.80**	**151**	LR	LR	18 14 58.6	
	comp=Z,82nm,20.2s,baz=108,slow=30						
FINES	**FINESS Array B**	**78.39**	**334**	P	P	17 59 54.0	-0.3
	1.0nm,0.5s,baz=69,slow=6.3,SNR=11						

*ISCJB **01** 18:03:43.9±1.3, 2673N±005×5560E±004, h5km±8km, mb3.5/8, Error ellipse: s-maj=9.1km s-min=5.5km az=41.9*
*IDC **01** 18:03:44.7±1.3, 2682N×5573E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/24, mbtmp3.7/9, ML3.4/1, Error ellipse: s-maj=26.9km s-min=22.0km az=37.0*
*KISR **01** 18:03:46.7±1.4, 2686N×5560E, h33km, ML3.7*
*CSEM **01** 18:03:47.4±0.2, 2703N×5568E, h20km, ML3.3, Error ellipse: s-maj=7.7km s-min=5.0km az=3.0*
*THR **01** 18:03:51.9±0.6, 2725N×5580E, h14km±10km, ML3.3*
*NEIC **01** 18:03:51.6, 2724N×5578E, h14km, ML3.3(THR), After THR.*
ISC 01 18:03:45.8±1.5, 2679N±006×5570E±004, h5km±9km, n30, σ1§19/44, mb3.5/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.74**	**35**	*e*PG	**Pg**	**18 03 59.5**	**-0.5**
BNDS				AML	AML	18 04 16.1	
	comp=N,3μm,0.6s						
BNDS				AML	AML	18 04 21.2	
	comp=E,2μm,0.5s						
BNDS	**Bandar-Abbas**	**0.74**	**35**	*e*Pg	**Pg**	**18 03 59.0**	**-0.9**
BNDS				*e*Sg	**Sg**	**18 04 05.0**	**-4.5**
BNDS	**Bandar-Abbas**	**0.74**	**35**	*e*Pg	**Pg**	**18 03 59.5**	**-0.4**
	SNR=91						
BNDS				*e*Sg	**Sg**	**18 04 05.0**	**-4.5**
GHIR	**Ghir-Karzin**	**2.83**	**302**	*e*Pn	**Pn**	**18 04 36.9**	**+5.2**
GHIR				AML	AML	18 05 35.4	
	comp=N,124nm,0.5s						
GHIR				AML	AML	18 05 45.0	
	comp=E,174nm,0.6s						
GHIR	**Ghir-Karzin**	**2.83**	**302**	*e*Pn	**Pn**	**18 04 36.0**	**+4.3**
GHIR				*e*Sg	**Sg**	**18 05 15.0**	**-1.7**
KRBR	**Kerman**	**3.31**	**16**	*e*PN	**Pn**	**18 04 39.4**	**+1.1**
KRBR				*e*SG	**Sn**	**18 05 21.1**	**+3.0**
KRBR				AML	AML	18 05 35.7	
	comp=E,104nm,0.5s						
KRBR				AML	AML	18 05 49.0	
	comp=N,98nm,0.6s						
KRBR	**Kerman**	**3.31**	**16**	*e*Pn	**Pn**	**18 04 39.0**	**+0.7**
KRBR				*e*Sg	**Sn**	**18 05 21.0**	**+2.9**
WSAR	**Wadi Sarin**	**4.43**	**142**	Pn	**Pn**	**18 04 53.4**	**-0.2**
	comp=N,1.9nm,0.3s,baz=287,slow=13,SNR=28						
WSAR				Sn	**Sn**	**18 05 45.0**	**-0.6**
	comp=N,4.4nm,0.3s,baz=47,slow=22,SNR=6.8						
WSAR	**Wadi Sarin**	**4.43**	**142**	Pn	**Pn**	**18 04 53.4**	**-0.2**
WSAR				Sn	**Sn**	**18 05 45.0**	**-0.6**
WSAR	**Wadi Sarin**	**4.43**	**142**	Pn	**Pn**	**18 04 53.4**	**-0.3**
WSAR				Sn	**Sn**	**18 05 45.0**	**-0.6**
NASN	**Na'in**	**6.49**	**338**	*e*Pn	**Pn**	**18 05 23.9**	**+1.9**
NASN	**Na'in**	**6.49**	**338**	*e*Pn	**Pn**	**18 05 24.0**	**+2.0**
QRN	**Al-Qurain**	**7.16**	**288**	*e*P	**Pn**	**18 05 33.4**	**+2.2**
QRN				*e*S	**Sn**	**18 06 52.9**	**-0.1**
QRN				AML	AML	18 06 54.0	
	comp=Z,16nm,0.3s						
RDF	**Al-Radifah**	**7.52**	**288**	*e*P	**Pn**	**18 05 37.0**	**+0.8**
RDF				*e*S	**Sn**	**18 07 00.5**	**-1.2**
RDF				AML	AML	18 07 02.7	
	comp=Z,10nm,0.4s						
RDF	**Al-Radifah**	**7.52**	**288**	*e*P	**Pn**	**18 05 37.0**	**+0.9**
RDF				*e*S	**Sn**	**18 07 00.5**	**-1.3**
UMR	**Umm Al-Rimmam**	**7.56**	**293**	*e*P	**Pn**	**18 05 38.3**	**+1.6**
UMR				*e*S	**Sn**	**18 07 02.1**	**-0.7**
UMR				AML	AML	18 07 03.5	
	comp=Z,9.1nm,0.4s						
UMR	**Umm Al-Rimmam**	**7.56**	**293**	*e*P	**Pn**	**18 05 38.3**	**+1.6**
UMR				*e*S	**Sn**	**18 07 02.1**	**-0.7**
MIB	**Mutribah**	**7.96**	**294**	*e*P	**Pn**	**18 05 44.2**	**+2.1**
MIB				AML	AML	18 07 10.9	
	comp=Z,8.2nm,0.5s						
MIB				*e*S	**Sn**	**18 07 11.9**	**-0.6**
BRTR	**Keskin Array B**	**22.43**	**311**	P	**P**	**18 08 46.5**	**+1.1**
	comp=Z,0.7nm,0.6s,mb3.2,baz=128,slow=14,SNR=5.2						
BRTR	**Keskin Array B**	**22.43**	**311**	P	**P**	**18 08 46.5**	**+1.0**
AKTK	**Aktyubinsk**	**23.67**	**4**	P	**P**	**18 08 58.0**	**-0.4**
AKTK	**Aktyubinsk**	**23.67**	**4**	P	**P**	**18 08 58.0**	**-0.4**
AKTO	**Aktyubinsk**	**23.67**	**4**	P	**P**	**18 08 58.0**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.4,baz=196,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**28.96**	**39**	P	**P**	**18 09 46.5**	**+0.3**
	comp=Z,0.1nm,0.4s,mb2.9,baz=214,slow=8.3,SNR=3.7						
AKASG	**Malin Array Be**	**31.26**	**327**	P	**P**	**18 10 05.1**	**-1.4**
	comp=Z,0.8nm,0.5s,mb3.8,baz=134,slow=8.6,SNR=8.6						
AKASG	**Malin Array Be**	**31.26**	**327**	P	**P**	**18 10 05.1**	**-1.4**
ZAL	**Zalesovo**	**34.58**	**30**	P	**P**	**18 10 33.8**	**-1.7**
	comp=Z,0.7nm,0.3s,mb4.1,baz=221,slow=8.0,SNR=3.4						
GERES	**GERESS Array B**	**39.16**	**316**	P	**P**	**18 11 13.9**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.2,baz=99,slow=8.2,SNR=5.1						
FINES	**FINESS Array B**	**39.95**	**338**	P	**P**	**18 11 20.0**	**-1.1**
	comp=Z,0.8nm,0.5s,mb3.7,baz=145,slow=11,SNR=9.5						
TORD	**Torodi Ar. Bea**	**52.19**	**266**	P	**P**	**18 12 58.0**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=57,slow=6.2,SNR=6.2						

*NEIC **01** 18:17:19.9, 17.15N×100.62W, h13km, MD4.1(MEX), After MEX.*
MEX 01 18:17:20.5±0.8, 1719N×10059W, h20km±18km, MD4.1, 1C-1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.34**	**114**	⇑*i*P	Pb	18 17 26.6	-1.3
CAIG				*i* S	Sb	18 17 31.9	-0.9
ACX	**Acapulco**	**0.72**	**116**	*i* P	Pb	18 17 32.3	-2.0
ACX				*i* S	Sb	18 17 40.5	-3.3
MEIG	**Mezcala**	**1.18**	**52**	⇓*i*P	Pn	18 17 38.2	-3.6
MEIG				*i* S	Sb	18 17 53.3	-3.7
PLIG	**Platanillo**	**1.58**	**41**	*e*P	Pn	18 17 44.8	-2.6
PLIG				*i* S	Sn	18 18 04.2	-3.1
PLIG	**Platanillo**	**1.58**	**41**	*e*P	Pn	18 17 44.8	-2.6
PLIG				*i* S	Sn	18 18 05.7	-1.6
YAIG	**Yautepec**	**2.21**	**41**	*e*P	Pn	18 17 54.0	-2.0
YAIG				*i* S	Sn	18 18 20.1	-2.6
YAIG	**Yautepec**	**2.21**	**41**	*e*P	Pn	18 17 54.0	-2.0
YAIG				*i* S	Sn	18 18 22.1	-0.6
PNIG	**Pinotepa**	**2.49**	**108**	*i* P	Pn	18 17 58.3	-1.5
PNIG				*i* S	Sn	18 18 26.9	-2.7
PNIG	**Pinotepa**	**2.49**	**108**	*i* P	Pn	18 17 58.3	-1.5
PNIG				*i* S	Sn	18 18 27.9	-1.7
UNM	**Universidad Na**	**2.52**	**32**	*e*P	Pn	18 17 56.1	-4.1
UNM				*e*P		18 17 59.8	
UNM				*i* S	Sn	18 18 25.8	-4.5
UNM				*i* S	Sn	18 18 26.3	-4.0
UNM	**Universidad Na**	**2.52**	**32**	*i* P	Pn	18 18 00.2	0.0
UNM				*i* P		18 18 03.7	
MOIG	**Morelia**	**2.54**	**347**	*i* P	Pn	18 17 58.5	-2.0
MOIG				*i* S	Sn	18 18 28.9	-2.0
MOIG	**Morelia**	**2.54**	**347**	*i* P	Pn	18 17 59.5	-1.0
MOIG				*i* S	Sn	18 18 29.3	-1.5
PPM	**Popocatepetl**	**2.64**	**45**	*e*P	Pn	18 18 00.5	-1.5
PPM				*i* S	Sn	18 18 30.7	-2.7
PPM	**Popocatepetl**	**2.64**	**45**	*e*P	Pn	18 18 00.5	-1.5
PPM				*i* S	Sn	18 18 35.5	+2.1
UTMO	**Huajuapan**	**2.73**	**76**	*i* P	Pn	18 18 00.9	-2.3
UTMO				*i* S	Sn	18 18 33.1	-2.6
VHO	**Vista Hermosa**	**3.69**	**91**	*e*P	Pn	18 18 29.6	+13
VHO				*i* S	Sn	18 19 00.3	+1.1
CMIG	**Matias Romero**	**5.46**	**90**	*e*P	Pn	18 18 42.1	+1.4

*ISCJB **01** 18:35:10.4±0.4, 4986N±003×18.39E±002, h0km, Error ellipse: s-maj=3.7km s-min=2.1km az=28.2*
*IPEC **01** 18:35:12.0±0.2, 4983N×1857E, h7km±1km, ML2.7/4, Error ellipse: s-maj=2.2km s-min=1.1km az=165.0*
*NEIC **01** 18:35:12.0±0.5, 4984N×1851E, h5km, ML2.6(BRA), Error ellipse: s-maj=7.6km s-min=4.7km az=194.0*
*IDC **01** 18:35:12.4±1.1, 4972N×1849E, h0km, mb1 3.2/3, mb1mx3.0/20, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=25.0km s-min=9.2km az=158.0*
*CSEM **01** 18:35:12.4±0.1, 4989N×1851E, h1km, ML3.4/3, Error ellipse: s-maj=2.5km s-min=1.6km az=12.0*
*PRU **01** 18:35:13.2, 4984N×1846E, h0km*
*BGR **01** 18:35:15.0±1.2, 4980N×1842E, h1km, ML3.2, Error ellipse: s-maj=15.6km s-min=13.3km az=58.0*
ISC 01 18:35:11.6±0.3, 4983N±002×1849E±002, h0km, n55, σ1§24/88, 8C-3D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**273**	*e*PG	**Pg**	**18 35 17.3**	**+1.5**
OKC				*e*SG	**Sg**	**18 35 21.4**	**+2.7**
	880nm,0.6s						
RAC	**Raciborz**	**0.32**	**324**	*e*Pg	**Pg**	**18 35 19.3**	**+1.6**
RAC				*e*Sg	**Sg**	**18 35 25.6**	**+3.7**
MORC	**Moravsky Berou**	**0.61**	**266**	⇑*i*P	**Pg**	**18 35 24.2**	**+0.8**
MORC	**Moravsky Berou**	**0.61**	**266**	*e*P	**Pg**	**18 35 23.5**	**+0.1**
MORC	**Moravsky Berou**	**0.61**	**266**	*e*P	**Pg**	**18 35 23.5**	**+0.1**
MORC	**Moravsky Berou**	**0.61**	**266**	*e*Pg	**Pg**	**18 35 24.3**	**+0.9**
MORC				*e*Sg	**Sg**	**18 35 33.1**	**+1.8**
	148nm,0.6s						
LIKS	**Likavka**	**0.88**	**152**	*e*PN	**Pn**	**18 35 31.1**	**-0.1**
LIKS				*e*SN	**Sg**	**18 35 44.6**	**+4.8**
LIKS	**Likavka**	**0.88**	**152**	*e*Pn	**Pn**	**18 35 31.1**	**-0.1**
LIKS				*e*Sn	**Sg**	**18 35 44.6**	**+4.8**
LIKS				*e*Lg		18 35 50.0	
OJC	**Ojcow**	**0.93**	**65**	*e*

comp=Z,23nm,0.8s
NKC Novy Kostel 3.91 278 *e*SG **Sg 18 37 16.7 -0.7**
TANN Tannenbergstha 3.92 281 *e*Pg **Pg 18 36 24.9 -1.9**
TANN *e*Sg **Sg 18 37 16.3 -1.3**
TANN Tannenbergstha 3.92 281 Pg **Pg 18 36 24.9 -1.9**
TANN Sg **Sg 18 37 16.3 -1.3**
ROTZ Rotzenmuhle 4.07 272 *e*Sg **Sg 18 37 24.6 +2.3**
MANZ Manzenberg 4.12 275 *e*Sg **Sg 18 37 25.5 +1.3**
MOX Moxa 4.49 283 *e*PG **Pg 18 36 36.7 -0.9**
MOX *e*SG **Sg 18 37 38.6 +2.8**
GRF Grafenberg Arr 4.71 271 *e*Sg **Sg 18 37 43.3 +0.3**
BZS Buzias 4.71 152⇓*i*P **Pn 18 36 25.0 +1.0**
BZS Buzias 4.71 152⇓P **Pn 18 36 25.0 +1.1**
BURAR Bucovina Array 4.97 114⇑*i*P **Pn 18 36 28.0 +0.4**
BURAR Bucovina Array 4.97 114⇑P **Pn 18 36 28.1 +0.5**
DAVOX Davos 6.50 245 Lg 18 38 41.4
comp=Z,0.2nm,0.3s,baz=145,slow=22,SNR=3.8
AKASG Malin Array Be 6.94 79 Pn **Pn 18 36 52.5 -2.1**
comp=Z,0.4nm,0.3s,baz=258,slow=14,SNR=3.2
AKASG Lg 18 38 54.7
comp=Z,0.2nm,0.3s,baz=274,slow=30,SNR=3.8
FINES FINESS Array B 12.40 17 Pn **Pn 18 38 06.3 -3.0**
comp=Z,0.1nm,0.3s,baz=210,slow=11,SNR=3.4

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*SZGRF **01** 18:54:25.3, 1025N×9388E, h33km, mb4.7, Andaman Islands, India, region*
*IDC **01** 18:54:26.3±0.5, 1089N×9282E, h0km, mb4.5/23, mb1 4.6/23, mb1mx4.5/26, mbtmp4.5/23, MS3.8/9, Ms1 3.8/9, ms1mx3.4/23, Error ellipse: s-maj=22.6km s-min=11.4km az=54.0*
*ISCJB **01** 18:54:29.4±0.3, 1086N±003×9281E±003, h32km, mb4.6/62, MS3.9/21, Error ellipse: s-maj=5.2km s-min=4.0km az=59.2*
*BJI **01** 18:54:31.5, 1089N×9277E, h40km, mB4.9, mb4.6, Ms4.3, Msz3.9*
*MOS **01** 18:54:31.8±1.1, 1097N×9282E, h48km, mb5.0/18, Error ellipse: s-maj=10.8km s-min=5.3km az=110.1*
*NEIC **01** 18:54:31.9±1.0, 1089N×9282E, h37km±8km, mb4.8/22, Error ellipse: s-maj=9.5km s-min=4.6km az=49.0*
ISC 01 18:54:31.9±0.3, 1089N±004×9279E±003, h34km, h34km±2.2km:pP-P, n176, σ1§11/181, mb4.6/62, MS3.9/21, 7C-13D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNG	**Songkhla**	**8.57**	**115**	P	**Pn**	**18 56 36.0**	**+2.6**
NST	**Nakhon Sawan**	**8.59**	**56**	P	**Pn**	**18 56 35.0**	**+1.3**
49nm,0.5s							
KULM	**Kulim**	**9.56**	**125**	*e*P	**Pn**	**18 56 48.3**	**+1.2**
CHG	**Chiang Mai**	**9.88**	**36**	P	**Pn**	**18 56 54.1**	**+2.8**
CHTO	**Chiang Mai**	**9.88**	**36**	*e*P	**Pn**	**18 56 51.8**	**+0.5**
CHTO				pmax	pmax		
comp=Z,21nm,0.8s							
CHTO	**Chiang Mai**	**9.88**	**36**	*e*P	**Pn**	**18 56 51.8**	**+0.4**
comp=Z,22nm,0.8s							
PSI	**Prapat**	**10.08**	**142**	Pn	**Pn**	**18 57 00.3**	**+6.1**
comp=Z,1.2nm,0.3s,baz=325,slow=13,SNR=3.4							
KKTK	**Khon Kaen**	**11.16**	**60**	P	**Pn**	**18 57 12.0**	**+3.1**
comp=Z,247nm,0.5s							
CHRT	**Chiangrai**	**11.19**	**36**	⇑P	**Pn**	**18 57 12.0**	**+2.6**
comp=Z,105nm,0.8s							
VIS	**Vishakhapatnam**	**11.41**	**308**	*e*P	**Pn**	**18 57 09.7**	**-2.6**
VIS				*i* P		18 57 10.1	
VIS				*e*S	**Sn**	**18 59 01.4**	**-17**
MDRS	**Chennai**	**12.46**	**281**	*e*P	**Pn**	**18 57 27.3**	**+0.6**
MDRS				AMb	AMB	18 57 32.1	
comp=Z,298nm,0.2s							
BOK	**Bokaro**	**14.42**	**334**	*e*P	**Pn**	**18 57 52.3**	**-1.2**
BOK				AMb	AMB	18 58 00.1	
comp=Z,27nm,0.4s							
BOK				*e*S	**Sn**	**19 00 22.0**	**-10**
SHL	**Shillong**	**14.63**	**357**	*e*P	**Pn**	**18 57 54.8**	**-1.5**
SHL				*e*S	**Sn**	**19 00 27.3**	**-10**
BLSP	**Bilaspur**	**15.13**	**319**	*e*P	**Pn**	**18 58 01.6**	**-1.4**
BLSP				AMb	AMB	18 58 24.2	
comp=Z,46nm,1.2s							
BLSP				*ex*	x	19 00 36.0	
HYB	**Hyderabad**	**15.25**	**297**	*i* P	**Pn**	**18 58 07.0**	**+2.5**
HYB				*e*S	**Sn**	**19 00 56.0**	**+3.8**
HYB	**Hyderabad**	**15.25**	**297**	*e*P	**Pn**	**18 58 04.0**	**-0.5**
HYB				*e*		19 00 40.0	
HYB				*e*S	**Sn**	**19 00 52.0**	**-0.2**
NGP	**Nagpur**	**16.67**	**309**	*e*P	**Pn**	**18 58 22.5**	**-0.3**
NGP				*ex*	x	18 58 26.6	
comp=Z,21nm,0.6s							
KMI	**Kunming**	**17.02**	**32**	P	**Pn**	**18 58 27.5**	**+0.4**
KMI				AP	pP	18 58 34.8	-2.8
KMI				PP		18 58 41.4	
KMI				S	**Sn**	**19 01 32.7**	**-2.5**
KMI				XS	sS	19 01 49.2	-9.2
KMI				SS		19 01 59.3	
KMI				AMB	AMB		
comp=Z,100nm,6.5s							
KMI				LR	LR		
comp=N,420nm,17.4s							
KMI				LR	LR		
comp=E,400nm,18.8s							
KMI				LR	LR		
comp=Z,290nm,17.4s							
JBP	**Jabalpur**	**17.27**	**317**	⇓*i*P	**Pn**	**18 58 30.8**	**+0.5**
JBP				*ex*	x	18 58 59.7	
comp=Z,44nm,1.7s							
JBP				*i* S	**Sn**	**19 01 31.3**	**-10**
LATR	**Latur**	**17.38**	**297**	*e*P	**Pn**	**18 58 31.5**	**-0.2**
JIRN	**Jiri**	**17.80**	**341**	*e*P	**Pn**	**18 58 37.1**	**+0.3**
comp=Z,37nm,0.5s							
PKI	**Pulchoki**	**17.99**	**338**	*e*P	**Pn**	**18 58 38.8**	**-0.3**
comp=Z,37nm,0.5s							
PKI	**Pulchoki**	**17.99**	**338**	*e*P	**Pn**	**18 58 38.8**	**-0.3**
PKI				pmax	pmax		
comp=Z,37nm,0.5s							
DMN	**Daman**	**18.14**	**338**	*e*P	**Pn**	**18 58 40.9**	**0.0**
comp=Z,84nm,0.7s							
GUN	**Gumba**	**18.14**	**340**	*e*P	**Pn**	**18 58 42.0**	**+1.1**
comp=Z,100nm,0.9s							
KKN	**Kakani**	**18.23**	**338**	*e*P	**Pn**	**18 58 42.1**	**-0.1**
comp=Z,55nm,0.8s							
KKN	**Kakani**	**18.23**	**338**	*e*P	**Pn**	**18 58 42.1**	**-0.1**
KKN				pmax	pmax		
comp=Z,55nm,0.8s							
QIZ	**Qiongzhong**	**18.35**	**62**	P	**Pn**	**18 58 44.3**	**+0.8**
QIZ				AP	pP	18 58 52.4	+0.1
QIZ				XP	sP	18 58 57.3	+0.6
QIZ				S	**Sn**	**19 02 08.4**	**+1.0**
QIZ				XS	sS	19 02 18.5	-7.0
QIZ				AMB	AMB		
comp=Z,40nm,1.2s							
QIZ				LR	LR		
comp=N,330nm,18.5s							
QIZ				LR	LR		
comp=Z,270nm,14.3s							
QIZ	**Qiongzhong**	**18.35**	**62**	*e*P	**Pn**	**18 58 43.2**	**-0.3**
comp=Z,108nm,1.5s							
GKN	**Gorkha**	**18.67**	**337**	*e*P	**Pn**	**18 58 47.6**	**+0.2**
comp=Z,45nm,0.3s							
LSA	**Lhasa**	**18.78**	**356**	P	**Pn**	**18 58 49.4**	**+0.6**
LSA	**Lhasa**	**18.78**	**356**	*e*Pn	**Pn**	**18 58 49.1**	**+0.4**
KOLN	**Koldanda**	**18.88**	**334**	*e*P	**Pn**	**18 58 49.6**	**-0.4**
comp=Z,39nm,0.5s							
BHPL	**Bhopal**	**19.12**	**312**	*e*P	**Pn**	**18 58 52.6**	**-0.3**
BHPL				AMb	AMB	18 59 03.7	
comp=Z,50nm,0.8s							
KSM	**Kuching**	**19.75**	**117**	*e*P	**Pn**	**18 58 59.3**	**-1.1**
POO	**Poona**	**19.82**	**295**	*ex*	**Pn**	**18 58 56.0**	**-5.2**
POO				*i* x	**Sn**	**19 02 32.5**	**-10**
GYA	**Guiyang**	**20.29**	**38**	⇑*i*P	**P**	**18 59 04.9**	**+0.3**
GYA				AP		18 59 13.8	
GYA				XP	sP	18 59 18.0	+0.1
GYA				PP		18 59 25.2	
GYA				S	**S**	**19 02 44.8**	**-5.4**
GYA				SS		19 03 14.2	
GYA				AMB	AMB		
comp=Z,20nm,0.8s							
GYA				AMB	AMB		
comp=Z,120nm,4.2s							
GYA				LR	LR		
comp=N,460nm,15.4s,MS4.1							
GYA				LR	LR		
comp=E,540nm,15.6s,MS4.1							
GYA				LR	LR		
comp=Z,570nm,16.0s,MS4.0							
BOM Bombay 20.86 295 *ex* **P 18 59 07.3 -3.5**							
BOM				AMb	AMB	18 59 11.4	
comp=Z,189nm,1.0s							
CD2 Chengdu 22.38 25 *e*P **P 18 59 26.4 -0.6**							
CD2				AP		18 59 35.6	
CD2				XP	sP	18 59 39.7	-0.7
CD2				PP		18 59 54.4	
CD2				PCP	PcP	19 03 19.4	-1.8
CD2				S	**S**	**19 03 25.9**	**-5.2**
CD2				XS	sS	19 03 40.9	-4.9
CD2				SS		19 04 07.1	
CD2				AMB	AMB		
comp=Z,20nm,0.6s,mb4.7							
CD2				AMB	AMB		
comp=Z,80nm,5.2s							
CD2				LR	LR		
comp=E,340nm,15.6s							
CD2				LR	LR		
comp=Z,290nm,16.8s,MS3.8							
NDI New Delhi 22.93 323 *e*P **P 18 59 32.5 -0.4**							
NDI				*e*S	**S**	**19 03 36.5**	**-4.1**
AJM Ajmer 23.10 315 *e*P **P 18 59 35.8 +1.1**							
AJM				AMb	AMB	18 59 44.9	
comp=Z,24nm,1.0s,mb4.6							
SMLA Simla 24.81 327 *e*P **P 18 59 51.7 +1.0**							
SMLA				AMb	AMB	18 59 56.3	
comp=Z,57nm,0.9s,mb5.1							
LZH Lanzhou 27.02 20 *e*P **P 19 00 12.0 +1.4**							
LZH				AP	pP	19 00 20.0	-0.4
LZH				XP	sP	19 00 24.3	-0.3
LZH				PP		19 00 59.1	
LZH				*e*S	**S**	**19 04 45.5**	**-0.4**
LZH				SS		19 06 02.8	
LZH				AMB	AMB		
comp=Z,30nm,1.5s,mb4.6							
LZH				AMB	AMB		
comp=Z,80nm,4.0s							
LZH				LR	LR		
comp=E,650nm,12.5s							
LZH				LR	LR		
comp=Z,990nm,13.8s,MS4.5							
XAN Xi'an 27.37 30 P **P 19 00 12.4 -1.4**							
XAN				LR	LR		
comp=N,350nm,14.0s,MS4.2							
XAN				LR	LR		
comp=E,280nm,12.8s,MS4.2							
XAN				LR	LR		
comp=Z,300nm,10.2s,MS4.2							
NJ2 Nanjing 31.97 45 *e*P **P 19 00 53.4 -1.2**							
NJ2				AP	pP	19 01 02.4	-2.0
NJ2				S	**S**	**19 06 01.0**	**-2.7**
NJ2				AMB	AMB		
comp=Z,20nm,1.2s,mb4.8							
NJ2				AMB	AMB		
comp=Z,220nm,5.2s							
NJ2				LR	LR		
comp=N,510nm,10.3s							
NJ2				LR	LR		
comp=E,350nm,19.9s							
NJ2				LR	LR		
comp=Z,40nm,14.3s,MS3.2							
WMQ Urumqi 33.11 353 *e*P **P 19 01 06.8 +2.3**							
WMQ				XP	sP	19 01 19.4	+0.8
WMQ				PP	PP	19 02 19.0	-0.7
WMQ				S	**S**	**19 06 23.5**	**+2.1**
WMQ				SS	SS	19 08 24.3	-20
WMQ				SCS	ScS	19 11 28.5	-0.8
WMQ				AMB	AMB		
comp=Z,170nm,5.0s							
WMQ				LR	LR		
comp=N,170nm,25.0s,MS4.1							
WMQ				LR	LR		
comp=E,420nm,26.0s,MS4.1							
WMQ				LR	LR		
comp=Z,210nm,26.0s,MS3.7							
SSE Sheshan 33.11 48 P **P 19 01 03.5 -1.1**							
SSE				PP	PP	19 02 17.5	-2.2
SSE				S	**S**	**19 06 18.2**	**-3.2**
SSE				AMB	AMB		
comp=Z,40nm,0.8s,mb5.4							
SSE				AMB	AMB		
comp=Z,220nm,4.1s							
SSE				LR	LR		
comp=N,130nm,21.5s,MS3.6							
SSE				LR	LR		
comp=E,60nm,21.6s,MS3.6							
SSE				LR	LR		
comp=Z,80nm,18.5s,MS3.5							
HHC Hu-ho-hao-te 34.13 26 *e*P **P 19 01 14.4 +0.9**							
HHC				AP	pP	19 01 24.2	+0.8
HHC				XP	sP	19 01 28.0	+0.5
HHC				PP	PP	19 02 29.6	-1.5
HHC				PCP	PcP	19 03 50.9	+0.8
HHC				S	**S**	**19 06 37.4**	**+0.1**
HHC				XS	sS	19 06 53.6	0.0
HHC				SCP	ScP	19 07 32.6	+0.2
HHC				PCS	PcS	19 07 35.3	-1.0
HHC				SS	SS	19 08 47.2	-19
HHC				SCS	ScS	19 11 32.8	-1.8
HHC				AMB	AMB		
comp=Z,20nm,0.7s,mb5.2							
HHC				LR	LR		
comp=N,120nm,12.9s							
HHC				LR	LR		
comp=E,120nm,9.9s							
HHC				LR	LR		
comp=Z,130nm,12.9s,MS3.9							
WSAR Wadi Sarin 34.79 295 LR LR 19 13 56.4							
comp=Z,103nm,20.6s,MS3.6,baz=298,slow=34							
AAK Ala-Archa 35.43 336⇓*e*P **P 19 01 25.7 +1.1**							
AAK				pmax	pmax		
comp=Z,6.0nm,1.3s,mb4.4							
AAK Ala-Archa 35.43 336 *e*P **P 19 01 25.2 +0.6**							
MK31 Makanchi Array 36.88 348 P **P 19 01 36.2 -0.8**							
MK31				pmax	pmax		
comp=Z,17nm,1.1s,mb4.8							
MKAR Makanchi Array 36.88 348 P **P 19 01 36.4 -0.6**							
comp=Z,4.8nm,0.4s,mb4.7,baz=166,slow=8.3,SNR=14							
MKAR Makanchi Array 36.88 348 *i* P **P 19 01 38.5 +1.5**							
MKAR				pmax	pmax		
comp=Z,5.0nm,0.4s							
MKAR Makanchi Array 36.88 348 P **P 19 01 36.4 -0.6**							
JOW Kunigami 36.98 60 LR LR 19 18 02.7							
comp=Z,159nm,20.3s,MS3.8,baz=131,slow=38							
KKAR Karatay Array 37.49 333 *i* P **P 19 01 42.3 +0.1**							
KKAR				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.4							
SONM Songino Array 38.57 15 P **P 19 01 51.4 +0.1**							
comp=Z,2.0nm,0.4s,mb4.2,baz=198,slow=8.8,SNR=32							
SONM				PcP	PcP	19 04 04.6	+1.2
comp=Z,2.3nm,0.7s,baz=210,slow=3.0,SNR=6.2							
SONM				LR	LR	19 20 07.7	
comp=Z,137nm,18.6s,MS3.8,baz=182,slow=40							
SONM Songino Array 38.57 15 P **P 19 01 51.4 +0.1**							
SONM						19 04 04.6	
ULN Ulaanbaatar 38.77 15⇑*e*P **P 19 01 52.6 -0.4**							
ULN Ulaanbaatar 38.77 15 *e*P **P 19 01 52.5 -0.5**							
ZAK Zakamensk 40.32 10 *e*P **P 19 02 07.9 +2.0**							
ZAK				*e*		19 04 10.5	
ZAK				pmax	pmax		
comp=Z,13nm,1.8s,mb4.4							
ZAK				pmax	pmax		
comp=Z,7.0nm,1.9s,mb4.1							
MOY Mondy 41.21 8 *e*P **P 19 02 14.4 +1.1**							
KURK Kurchatov 41.38 346⇓*e*P **P 19 02 15.0 +0.3**							
KURK Kurchatov 41.38 346 *e*P **P 19 02 14.7 0.0**							
comp=Z,22nm,1.1s,mb4.7							
TLY Talaya 41.63 10 *e*P **P 19 02 17.9 +1.2**							
TLY				*e*PPP		19 04 31.2	
TLY				*e*S	**S**	**19 08 32.7**	**+1.9**
TLY				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.3							
TLY				MLR	MLR		
comp=Z,74nm,15.0s,MS3.7							
TLY Talaya 41.63 10 *e*P **P 19 02 17.1 +0.4**							
FITZ Fitzroy Crossi 43.38 131 *e*P **P 19 02 30.4 -0.5**							
comp=Z,15nm,0.9s,mb4.7							
FITZ Fitzroy Crossi 43.38 131 P **P 19 02 30.4 -0.5**							
comp=Z,5.6nm,0.7s,mb4.4,baz=316,slow=4.4,SNR=21							
FITZ				PcP	PcP	19 04 20.0	+1.0
comp=Z,2.8nm,0.6s,baz=9.6,slow=3.3,SNR=6.6							
ZAL Zalesovo 43.41 353 P **P 19 02 30.9 -0.2**							
comp=Z,2.7nm,0.3s,mb4.5,baz=309,slow=7.5,SNR=8.8							
ZAL Zalesovo 43.41 353 P **P 19 02 30.9 -0.2**							
NVS Novosibirsk 44.49 352 *e*P **P 19 02 39.1 -0.7**							
NVS				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.1							
NVS				pmax	pmax		
comp=N,3.0nm,0.8s							
NVS				pmax	pmax		
comp=E,1.0nm,1.1s							
KRAR Krasnoyarsk 45.02 0⇓*e*P **P 19 02 42.5 -1.5**							
KRAR				pmax	pmax		
comp=Z,5.0nm,0.5s,mb4.6							
VOSK Vostochnaya 45.28 341 P **P 19 02 45.3 -0.8**							
VOSK				pmax	pmax		
comp=Z,12nm,0.9s,mb4.7							
BVA0 Borovoye Array 45.73 341 P **P 19 02 48.4 -1.2**							
BVA0				pmax	pmax		
comp=Z,3.0nm,1.2s,mb4.1							
BRVK Borovoye 45.79 341 *e*P **P 19 02 49.8 -0.3**							
ZRNK Zerenda 46.11 340 *e*P **P 19 02 52.4 -0.3**							
ZRNK				pmax	pmax		
comp=Z,15nm,1.1s,mb4.8							
ZRNK Zerenda 46.11 340 *e*P **P 19 02 52.4 -0.3**							
comp=Z,15nm,1.1s,mb4.8							
MDJ Mudanjiang 46.13 36 P **P 19 02 52.8 0.0**							
MDJ				AP	pP	19 03 01.8	-1.2
MDJ				PP	PP	19 04 41.4	+0.1
MDJ				SCP	ScP	19 08 18.4	-0.7
MDJ				PCS	PcS	19 08 22.3	-0.7
MDJ				S	**S**	**19 09 36.6**	**+0.2**
MDJ				XS	sS	19 09 52.9	-0.2
MDJ				AMB	AMB		
comp=Z,30nm,4.2s							
MDJ				LR	LR		
comp=N,80nm,20.2s,MS3.8							
MDJ				LR	LR		
comp=E,70nm,19.2s,MS3.8							
MDJ				LR	LR		
comp=Z,90nm,19.2s,MS3.7							
CHKZ Chkalovo 46.21 342 *e*P **P 19 02 52.9 -0.6**							
AB31 Akbulak array 46.97 331 *i* P **P 19 02 59.4 0.0**							
MJAR Matsushiro Arr 48.21 50 PcP PcP 19 04 36.7 +0.9							
comp=Z,2.9nm,0.7s,baz=241,slow=2.6,SNR=9.0							
AKTK Aktyubinsk 48.68 331 P **P 19 03 12.8 +0.1**							
AKTO Aktyubinsk 48.68 331 P **P 19 03 12.8 +0.1**							
comp=Z,2.5nm,0.5s,mb4.5,baz=118,slow=9.9,SNR=15							
ORR Orenburg 51.02 330 *e*P **P 19 03 30.8 +0.4**							
ORR				pmax	pmax		
comp=Z,20nm,1.4s,mb4.8							
WRA Warramunga Arr 51.10 127 P **P 19 03 30.4 -0.7**							
comp=Z,2.5nm,0.4s,mb4.5,baz=307,slow=8.1,SNR=87							
WRA				PcP	PcP	19 04 47.1	+0.6
comp=Z,1.9nm,0.7s,baz=317,slow=2.9,SNR=7.9							
WRAB Tennant Creek 51.11 127⇓*e*P **P 19 03 31.4 +0.3**							
WRAB Tennant Creek 51.11 127 *e*P **P 19 03 29.5 -1.6**							
comp=Z,6.4nm,0.5s,mb4.8							
WB2 Warramunga Arr 51.12 127 *e*P **P 19 03 30.4 -0.7**							
GNI Garni 51.40 313 *e*P **P 19 03 35.7 +2.4**							
GNI				pmax	pmax		
comp=Z,20nm,1.2s							
GNI Garni 51.40 313 *e*P **P 19 03 35.7 +2.4**							
comp=Z,20nm,1.2s,mb4.9							
ARU Arti 52.61 337⇓*i*P **P 19 03 41.6 -0.7**							
ARU				*e*		19 05 37.0	
ARU				*e*S	**S**	**19 11 07.8**	**+0.6**
ARU				*e*SS	SS	19 14 46.0	+0.3
ARU				pmax	pmax		
comp=Z,14nm,1.1s,mb4.8							
ARU Arti 52.61 337 *e*P **P 19 03 41.2 -1.1**							
comp=Z,12nm,0.9s,mb4.8							
ASPA Alice Springs 52.87 131 *e*P **P 19 03 43.3 -0.9**							
AS31 Alice Springs 52.87 131 *e*P **P 19 03 43.3 -0.9**							
ASAR Alice Springs 52.87 131 P **P 19 03 43.5 -0.7**							
comp=Z,5.7nm,0.6s,mb4.7,baz=306,slow=6.9,SNR=64							
ASAR				PcP	PcP	19 04 53.8	+0.7
comp=Z,1.7nm,0.6s,baz=316,slow=3.4,SNR=6.2							
ASAJ Asahikawa 54.08 43 P **P 19 03 53.4 +0.3**							
comp=Z,6.8nm,0.7s,mb4.7,baz=58,slow=29,SNR=5.7							
ASAJ Asahikawa 54.08 43 P **P 19 03 53.4 +0.3**							
ASAJ				pmax	pmax		
comp=Z,7.0nm,0.7s							
KIV Kislovodsk 54.21 317 *e*P **P 19 03 55.3 +1.3**							
KIV				pmax	pmax		
comp=Z,25nm,1.2s,mb5.0							
KIV Kislovodsk 54.21 317 *e*P **P 19 03 54.9 +0.8**							
YSS Yuzh-Sakhalins 55.29 40 *e*P **P 19 04 02.0 +0.2**							
SOC Sochi 56.10 316 *e*P **P 19 04 04.7 -3.0**							
SOC				*e*PP	pP	19 04 17.1	-0.9
SOC				*e*		19 05 11.3	
SOC				*e*		19 06 22.0	
SOC				*e*S	**S**	**19 11 48.7**	**-5.5**
SOC				*e*		19 13 50.7	
SOC				*e*SS	SS	19 15 44.3	+3.6
SOC				pmax	pmax		
comp=Z,11nm,0.7s,mb5.0							
KMBO Kilima Mbogo 56.49 261 LR LR 19 26 07.6							
comp=Z,86nm,18.6s,MS3.9,baz=98,slow=34							
YAK Yakutsk 57.60 20 *e*P **P 19 04 17.3 -1.0**							
YAK				pmax	pmax		
comp=Z,16nm,0.7s,mb5.2							
YAK Yakutsk 57.60 20 *e*P **P 19 04 17.3 -1.1**							
comp=Z,16nm,0.7s,mb5.2							
PMG Port Moresby 57.72 108 *i* P **P 19 04 18.7 -0.4**							
VRSR Storozhevoye 59.17 324 *e*P **P 19 04 29.0 -0.2**							
VRSR				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.8							
VRSR				pmax	pmax		
comp=N,2.0nm,0.9s							
VRSR				pmax	pmax		
comp=E,5.0nm,1.0s							
BR131 Keskin Array S 59.47 310 *e*P **P 19 04 30.4 -0.9**							
BRTR Keskin Array B 59.47 310 P **P 19 04 30.5 -0.9**							
comp=E,1.4nm,0.7s,mb4.1,baz=130,slow=7.4,SNR=9.4							
CTA Charters Tower 60.95 120 *e*P **P 19 04 44.7 +3.2**							
comp=E,1.7nm,0.6s,mb4.3							
CTA Charters Tower 60.95 120 P **P 19 04 42.2 +0.7**							
comp=E,2.2nm,0.7s,mb4.4,baz=314,slow=12,SNR=3.9							
CTA Charters Tower 60.95 120 *e*P **P 19 04 44.7 +3.2**							
CTA				pmax	pmax		
comp=Z,2.0nm,0.6s							
MOS Moscow 61.83 328 *e*P **P 19 04 50.9 +3.5**							
MOS				pmax	pmax		
comp=Z,66nm,1.4s,mb5.6							
OBN Obninsk 62.14 327 *e*P **P 19 04 49.8 +0.3**							
OBN				*e*S	**S**	**19 13 24.0**	**+12**
OBN				pmax	pmax		
comp=Z,38nm,2.5s,mb5.1							
OBN				MLR	MLR		
comp=Z,100nm,18.0s,MS4.0							
OBN Obninsk 62.14 327 *e*P **P 19 04 50.2 +0.8**							
STKA Stephens Creek 63.15 134 *e*P **P 19 04 54.3 -1.9**							
comp=Z,3.3nm,0.4s,mb4.8							
STKA Stephens Creek 63.15 134 P **P 19 04 54.4 -1.8**							
comp=Z,4.0nm,0.4s,mb4.9,baz=317,slow=5.2,SNR=20							
TIXI Tiksi 64.57 12 *e*P **P 19 05 04.6 -1.0**							
MA2 Magadan 64.75 28 *e*P **P 19 05 06.8 0.0**							
MA2				pmax	pmax		
comp=Z,20nm,0.9s,mb5.2							
MA2 Magadan 64.75 28 *e*P **P 19 05 05.8 -0.9**							
comp=Z,12nm,0.8s,mb5.0							
AKASG Malin Array Be 64.98 321 P **P 19 05 06.9 -1.4**							
comp=Z,0.8nm,0.4s,mb4.1,baz=92,slow=5.4,SNR=5.7							
VRI Vrincioaia 65.62 315⇓*i*P **P 19 05 13.3 +0.9**							
VRI Vrincioaia 65.62 315⇓P **P 19 05 13.2 +0.8**							
PLOR Plostina 65.67 315⇑*i*P **P 19 05 13.6 +0.9**							
MLR Muntele Rosu 66.10 315⇑*i*P **P 19 05 16.3 +0.8**							
MLR Muntele Rosu 66.10 315⇑P **

comp=Z,2.4nm,0.6s,mb4.3,baz=89,slow=7.0,SNR=21
ARCES LR LR 19 39 06.8
comp=Z,77nm,21.3s,MS3.9,baz=282,slow=37
BILL Biiibino 73.81 22⇓*eP* **P 19 06 01.8 -1.0**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
BRG Berggiesshubel 74.60 320 *eP* **P 19 06 09.2 +1.7**
comp=Z,2.3nm,0.8s,mb4.2
BRG *e* 19 06 13.5
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 74.60 320 *eP* **P 19 06 09.1 +1.7**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
GERES GERESS Array B 74.71 318 P **P 19 06 08.0 -0.1**
comp=Z,2.7nm,0.7s,mb4.3,baz=92,slow=6.7,SNR=20
KHC Kasperske Hory 74.79 318 *eP* **P 19 06 10.0 +1.5**
BOSA Boshof 76.07 237 P **P 19 06 17.5 +1.6**
comp=Z,2.8nm,0.7s,mb4.3,baz=92,slow=5.8,SNR=4.9
BOSA LR LR 19 35 59.6
comp=Z,92nm,20.0s,MS4.1,baz=71,slow=33
SMY Shemya 76.16 38 *eP* **P 19 06 16.9 +0.5**
GRA1 Grafenberg Arr 76.33 319 *eP* **P 19 06 17.8 +0.4**
comp=Z,7.0nm,1.1s,mb4.5
GRF Grafenberg Arr 76.33 319 *eP* **P 19 06 17.8 +0.4**
comp=Z,7.0nm,1.1s,mb4.5
GRF Grafenberg Arr 76.33 319 *eP* **P 19 06 17.8 +0.4**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
NB2 NORSAR Subarra 76.47 330 P **P 19 06 16.9 -1.2**
comp=Z,2.7nm,0.7s,mb4.3,baz=92,slow=5.9
NOA NORSAR Array B 76.47 330 P **P 19 06 16.9 -1.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=92,slow=5.7,SNR=14
NOA LR LR 19 43 29.5
comp=Z,69nm,21.5s,MS3.9,baz=100,slow=38
NOA NORSAR Array B 76.47 330 P **P 19 06 16.9 -1.2**
NOA LR LR 19 43 29.5
CASY Casey 78.06 173 *eP* **P 19 06 25.8 -1.2**
comp=Z,6.2nm,0.6s,mb4.7
LPG La Plagne 79.56 314 *eP* **P 19 06 34.6 -0.7**
comp=Z,21nm,0.8s,mb4.8
LPG La Plagne 79.56 314 *eP* **P 19 06 34.6 -0.7**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LPG La Plagne 79.56 314 *eP* **P 19 06 34.6 -0.7**
BNI Bardonecchia 79.65 314 *eP* **P 19 06 35.6 -0.2**
BNI pmax pmax
comp=Z,20nm,1.2s,mb4.9
BNI Bardonecchia 79.65 314 *eP* **P 19 06 35.6 -0.2**
comp=Z,20nm,1.2s,mb4.9
SYO Syowa Base 87.88 197⇓*eX* 19 07 24.0
ESDC Sonseca Array 88.27 310 P **P 19 07 22.0 +2.3**
comp=Z,1.0nm,0.6s,mb4.2,baz=59,slow=4.8,SNR=5.4
TORD Torodi Ar. Bea 88.61 283 P **P 19 07 22.4 +1.1**
comp=Z,2.4nm,1.0s,mb4.5,baz=83,slow=3.5,SNR=8.2
TORD PKKPbc PKKPbc 19 25 03.6 +1.6
comp=Z,0.3nm,0.5s,baz=301,slow=3.7,SNR=7.2
ILAR Eielson Array 92.47 22 P **P 19 07 38.2 -1.0**
comp=Z,1.7nm,0.8s,mb4.4,baz=298,slow=4.6,SNR=15
KDAK Kodiak Island 93.49 29 P **P 19 07 43.6 -0.4**
comp=Z,2.8nm,0.6s,mb4.8,baz=44,slow=0.4,SNR=4.1
INK Inuvik 94.48 16 P **P 19 07 48.4 -0.1**
comp=Z,1.7nm,0.5s,mb4.7,baz=326,slow=4.4,SNR=5.4
DAWY Dawson 95.53 20 *eP* **P 19 07 53.1 -0.2**
VNDA Vanda 96.13 168 P **P 19 07 56.1 +0.1**
comp=Z,0.6nm,0.5s,mb4.3,baz=313,slow=6.9,SNR=7.5
VNDA LR LR 19 44 45.1
comp=Z,23nm,19.8s,MS3.7,baz=298,slow=31
AFI Afiamalu 97.77 103 LR LR 19 56 00.6
comp=Z,56nm,18.2s,MS4.1,baz=293,slow=38
YKA Yellowknife Ar 103.81 13 PP PP 19 12 46.6 -0.8
comp=Z,0.9nm,0.9s,baz=336,slow=8.2,SNR=3.9
ULM Lac du Bonnet 118.66 6 PKP PKPdf 19 13 16.2 0.0
comp=Z,1.0nm,0.3s,baz=141,slow=7.1,SNR=3.9
PDAR Pinedale Array 122.83 19 PKP PKPdf 19 13 25.1 +0.8
comp=Z,0.6nm,0.4s,baz=126,slow=2.3,SNR=4.0
NVAR Mina Array Bea 122.99 29 PKP PKPdf 19 13 26.0 +1.5
comp=Z,2.5nm,0.6s,baz=346,slow=1.5,SNR=14
NVAR Mina Array Bea 122.99 29 PKP PKPdf 19 13 26.0 +1.5
ANMO Albuquerque 130.90 21⇓*i*PKIKP PKPdf 19 13 41.2 +1.6
PLCA Paso Flores 146.83 203 PKPbc PKPbc 19 14 14.6 +4.2
comp=Z,2.1nm,0.7s,baz=234,slow=11,SNR=4.1
PLCA Paso Flores 146.83 203 PKP2 PKPab 19 14 14.6 +2.9
PLCA pmax pmax
comp=Z,2.0nm,0.7s
CPUP Villa Florida 147.89 237 PKPbc PKPbc 19 14 15.2 +1.8
comp=Z,1.4nm,0.5s,baz=29,slow=8.2,SNR=4.0
CPUP Villa Florida 147.89 237 PKP2 PKPab 19 14 15.2 -0.7
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CMIG Matias Romero 151.19 15 PKPbc PKPbc 19 14 21.9 +0.4
comp=Z,2.2nm,0.6s,baz=223,slow=24,SNR=2.6

MAN 01 18:57:02.9, 1905N×12088E, h13km, MS8.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.37**	**126**	*eP*		Pn	18 57 26.7	-1.0
ABRA	**Dolores**	**1.41**	**187**	*eP*		Pn	18 57 26.6	-1.6
BALP	**Baler**	**3.36**	**169**	*eP*		Pn	18 57 57.5	+2.4

IDC 01 19:40:44.7±1.3, 2051N×12099E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=80.6km s-min=25.5km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.91**	**319**	P		P	19 48 28.5	-0.1
0.3nm,0.6s,baz=111,slow=9.8,SNR=4.5								
WRA	**Warrarmunga Arr**	**42.28**	**161**	P		P	19 48 39.5	-0.4
1.2nm,0.7s,baz=343,slow=9.0,SNR=9.2								
ASAR	**Alice Springs**	**45.68**	**163**	P		P	19 49 08.0	+0.8
1.1nm,1.2s,baz=344,slow=6.8,SNR=6.1								
YKA	**Yellowknife Ar**	**86.41**	**23**	P		P	19 53 28.9	-0.1
0.3nm,0.5s,baz=316,slow=4.0,SNR=3.8								

IDC 01 19:42:17.8±2.1, 3055S×17859W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.7/12, mbtmp3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/13, Error ellipse: s-maj=76.2km s-min=48.4km az=15.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.85**	**299**	LR		LR	19 50 27.3	
comp=Z,125nm,18.5s,baz=263,slow=31								
ASAR	**Alice Springs**	**42.59**	**267**	P		P	19 50 15.2	-0.4
0.7nm,0.8s,baz=110,slow=7.7,SNR=4.7								
WRA	**Warrarmunga Arr**	**43.60**	**273**	P		P	19 50 24.4	+0.7
0.4nm,0.5s,baz=112,slow=8.1,SNR=9.5								
FINES	**FINESS Array B**	**145.11**	**339**	PKPbc		PKPbc	20 01 55.0	-1.7
2.3nm,0.9s,baz=9.5,slow=1.7,SNR=4.1								
TORD	**Torodi Ar. Bea**	**162.68**	**181**	PKPab		PKPab	20 03 10.4	+0.2
0.2nm,0.6s,baz=165,slow=4.7,SNR=4.1								

IDC 01 19:48:30.7±33.0, 1721S×17422W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=642.5km s-min=165.2km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.22**	**109**	LR		LR	19 55 52.2	
comp=Z,246nm,19.6s,baz=44,slow=31								
STKA	**Stephens Creek**	**42.47**	**241**	P		P	19 56 27.6	+0.2
3.7nm,1.1s,baz=90,slow=8.1,SNR=3.8								
WRA	**Warrarmunga Arr**	**48.68**	**258**	P		P	19 57 16.7	+0.1
0.7nm,0.4s,baz=96,slow=7.0,SNR=26								
ASAR	**Alice Springs**	**48.82**	**253**	P		P	19 57 18.2	+0.5
2.3nm,0.6s,baz=88,slow=8.9,SNR=50								
FITZ	**Fitzroy Crossi**	**57.08**	**259**	P		P	19 58 19.5	+0.8
0.9nm,0.8s,baz=127,slow=10,SNR=2.8								

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*IDC **01** 20:04:19.6±1.8, 848S×118.41E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.8/18, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=136.5km s-min=20.4km az=56.0*

*ISCJB **01** 20:04:26.3±2.5, 83S±01×1189E±01, h63km±26km, mb3.8/3, Error ellipse: s-maj=30.2km s-min=11.9km az=93.9*

*NEIC **01** 20:04:28.3±2.0, 826S×118.90E, h62km±20km, mb4.0/1, Error ellipse: s-maj=22.1km s-min=13.7km az=45.0*

ISC 01 20:04:30.5±1.9, 84S±01×1190E±01, h80km±19km, n15, σ1§18/20, mb3.7/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.62**	**147**	*eP*		**Pn**	**20 07 13.6**	**+0.3**
6.1nm,0.9s								
FITZ				*eS*		**Sn**	**20 09 19.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.62**	**147**	Pn		**Pn**	**20 07 12.2**	**-1.1**
0.2nm,0.3s,baz=169,slow=22,SNR=14								
FITZ				Sn		**Sn**	**20 09 20.3**	**-0.8**
0.2nm,0.3s,baz=172,slow=23,SNR=5.7								
MBWA	**Marble Bar**	**12.75**	**177**	P		**Pn**	**20 07 28.2**	**-0.4**
KAKA	**Kakadu**	**13.86**	**109**	*eP*		**Pn**	**20 07 43.3**	**0.0**
5.2nm,0.6s								
WRA	**Warrarmunga Arr**	**18.76**	**129**	P		**Pn**	**20 08 44.0**	**-0.4**
0.4nm,0.3s,baz=305,slow=12,SNR=28								
WRA				S		**S**	**20 12 08.0**	**-4.3**
0.1nm,0.3s,baz=310,slow=25,SNR=4.2								
WRA	**Warrarmunga Arr**	**18.76**	**129**	P		**Pn**	**20 08 44.0**	**-0.4**
WRA				S		**S**	**20 12 08.0**	**-4.3**
WRAB	**Tennant Creek**	**18.76**	**129**	*eP*		**Pn**	**20 08 44.3**	**-0.1**
9.1nm,1.0s								
WB2	**Warrarmunga Arr**	**18.77**	**129**	*eP*		**Pn**	**20 08 44.2**	**-0.3**
WB2				*eS*		**S**	**20 12 11.1**	**-1.4**
ASPA	**Alice Springs**	**20.84**	**139**	*eP*		**P**	**20 09 07.7**	**+2.1**
AS31	**Alice Springs**	**20.84**	**139**	*eP*		**P**	**20 09 07.7**	**+2.0**
ASAR	**Alice Springs**	**20.84**	**139**	P		**P**	**20 09 07.7**	**+2.0**
3.2nm,0.5s,baz=314,slow=9.1,SNR=38								
ASAR				PcP		PcP	20 13 12.5	+1.3
0.1nm,0.4s,baz=317,slow=1.1,SNR=4.1								
STKA	**Stephens Creek**	**31.42**	**141**	P		**P**	**20 10 44.0**	**0.0**
1.3nm,0.5s,mb3.9,baz=322,slow=12,SNR=3.8								
STKA	**Stephens Creek**	**31.42**	**141**	*eP*		**P**	**20 10 44.6**	**+0.6**
SONM	**Songino Array**	**57.05**	**350**	P		**P**	**20 14 08.3**	**+0.1**
0.3nm,0.6s,mb3.5,baz=170,slow=8.8,SNR=3.4								
MKAR	**Makanchi Array**	**63.90**	**333**	P		**P**	**20 14 52.8**	**-2.0**
0.8nm,0.7s,mb3.6,baz=151,slow=8.3,SNR=4.6								

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*NEIC **01** 20:13:09.5, 44.84S×167.70E, h72km, MG3.8(WEL), After WEL.*

WEL 01 20:13:09.5±0.2, 4484S×16770E, h73km±2km, ML3.5/9, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.23**	**44**	PN		Pn	20 13 20.4	-0.2
MSZ				SN		Sn	20 13 28.1	-0.6
MSZ	**Milford Sound**	**0.23**	**44**	P		Pn	20 13 20.4	-0.2
MSZ				S		Sn	20 13 28.1	-0.6
MLZ	**Mavora Lakes**	**0.60**	**147**	PN		Pn	20 13 23.4	-0.2
MLZ				SN		Sn	20 13 33.7	-0.3
MLZ	**Mavora Lakes**	**0.60**	**147**	P		Pn	20 13 23.4	-0.2
MLZ				S		Sn	20 13 33.7	-0.2
DCZ	**Deep Cove**	**0.74**	**211**	PN		Pn	20 13 24.7	-0.4
DCZ				SN		Sn	20 13 36.6	0.0
DCZ	**Deep Cove**	**0.74**	**211**	P		Pn	20 13 24.7	-0.4
DCZ				S		Sn	20 13 36.6	0.0
WKZ	**Wanaka**	**0.94**	**90**	PN		Pn	20 13 27.3	0.0
WKZ				SN		Sn	20 13 40.1	-0.5
WKZ	**Wanaka**	**0.94**	**90**	P		Pn	20 13 27.3	0.0
WHZ	**Wether Hill Ro**	**1.07**	**171**	PN		Pn	20 13 28.9	0.0
WHZ				SN		Sn	20 13 42.9	-0.5
WHZ	**Wether Hill Ro**	**1.07**	**171**	P		Pn	20 13 28.9	0.0
JCZ	**Jackson Bay**	**1.08**	**45**	PN		Pn	20 13 29.0	-0.1
JCZ				SN		Sn	20 13 44.5	+0.8
JCZ	**Jackson Bay**	**1.08**	**45**	P		Pn	20 13 29.0	-0.1
EAZ	**Earnscleugh**	**1.20**	**109**	PN		Pn	20 13 30.5	-0.1
EAZ	**Earnscleugh**	**1.20**	**109**	P		Pn	20 13 30.5	-0.2
TUZ	**Tuapeka**	**1.76**	**130**	PN		Pn	20 13 37.9	0.0
TUZ	**Tuapeka**	**1.76**	**130**	P		Pn	20 13 37.9	0.0
LBZ	**Lake Benmore**	**1.83**	**76**	PN		Pn	20 13 37.8	-1.1
FOZ	**Fox Glacier**	**1.92**	**49**	PN		Pn	20 13 39.8	-0.2
FOZ	**Fox Glacier**	**1.92**	**49**	*eP*		Pn	20 13 39.8	-0.2
SYZ	**Scrubby Hill**	**1.97**	**150**	PN		Pn	20 13 40.5	-0.3
APZ	**The Paps**	**2.00**	**174**	PN		Pn	20 13 41.3	+0.1
ODZ	**Otahua Downs**	**2.10**	**97**	PN		Pn	20 13 41.5	-1.0
ODZ	**Otahua Downs**	**2.10**	**97**	P		Pn	20 13 41.5	-1.0
HHSZ	**Highcliff Hill**	**2.29**	**118**	PN		Pn	20 13 44.9	-0.1
RPZ	**Rata Peaks**	**2.66**	**66**	PN		Pn	20 13 48.2	-1.9
RPZ	**Rata Peaks**	**2.66**	**66**	*eP*		Pn	20 13 48.2	-1.8
WVZ	**Waitaha Valley**	**2.81**	**52**	PN		Pn	20 13 50.8	-1.4
WVZ	**Waitaha Valley**	**2.81**	**52**	*eP*		Pn	20 13 50.8	-1.4
MQZ	**McQueen's Vall**	**3.73**	**74**	PN		Pn	20 14 02.2	-2.4
MQZ	**McQueen's Vall**	**3.73**	**74**	*eP*		Pn	20 14 02.2	-2.4
LTZ	**Lake Taylor**	**3.89**	**60**	PN		Pn	20 14 04.0	-2.8
LTZ	**Lake Taylor**	**3.89**	**60**	*eP*		Pn	20 14 04.0	-2.9
DSZ	**Denniston Nort**	**4.30**	**45**	PN		Pn	20 14 11.4	-1.0
DSZ	**Denniston Nort**	**4.30**	**45**	*eP*		Pn	20 14 11.4	-1.1
THZ	**Tophouse**	**4.89**	**53**	*eP*		Pn	20 14 17.8	-2.6

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*OMAN **01** 20:26:21.6, 2839N×58.10E, h26km, Error ellipse: s-maj=411.8km s-min=31.8km az=0.0*

*ISCJB **01** 20:26:23.9±0.6, 2795N±004×5759E±007, h10km, Error ellipse: s-maj=9.8km s-min=5.5km az=135.2*

*CSEM **01** 20:26:25.9±0.2, 2792N×5753E, h31km±2km, ML3.7, Error ellipse: s-maj=3.2km s-min=2.1km az=37.0*

*TEH **01** 20:26:26.0, 28.19N×58.29E, h30km, Mn3.6*

*THR **01** 20:26:26.5±0.4, 2804N×5766E, h17km±3km, ML3.7*

*KISR **01** 20:26:28.9±0.9, 2771N×5703E, h33km, ML4.1*

ISC 01 20:26:25.3±0.5, 2798N±004×5772E±005, h10km, n25, σ1§23/31, 6C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.50**	**247**	*e*PG		**Pg**	**20 26 53.7**	**-0.3**
BNDS				AML		AML	20 27 16.7	
comp=E,2μm,0.6s								
BNDS				AML		AML	20 27 24.6	
comp=N,2μm,0.6s								
KRBR	**Kerman**	**2.16**	**337**	*e*PG		**Pg**	**20 27 04.7**	**-2.1**
KRBR				AML		AML	20 27 38.8	
comp=E,426nm,0.5s								
KRBR				AML		AML	20 27 42.7	
comp=N,377nm,0.6s								
BANOM	**Banah**	**2.41**	**212**	⇑P		**Pn**	**20 27 06.4**	**+1.5**
SNR=24								
ZHSF	**Zahedan**	**3.13**	**58**	*e*PN		**Pn**	**20 27 17.6**	**+2.9**
ZHSF				*e*SG		**Sg**	**20 28 04.6**	**-1.3**
ASHO	**Ashiyiah**	**3.61**	**205**	⇑P		**Pn**	**20 27 21.7**	**+0.4**
SNR=14								
IBAF	**Bafgh**	**4.05**	**333**	*e*Pn		**Pn**	**20 27 26.4**	**-1.0**
GHIR	**Ghir-Karzin**	**4.20**	**275**	*e*PN		**Pn**	**20 27 31.0**	**+1.7**
GHIR				AML		AML	20 28 28.0	
comp=E,49nm,0.7s								
ISRV	**Sarvestan**	**4.28**	**290**	*e*Pn		**Pn**	**20 27 34.2**	**+3.6**
IMEH	**Mehriz**	**4.34**	**322**	*e*Pn		**Pn**	**20 27 33.1**	**+1.7**
HOQ	**Hoqain**	**4.40**	**185**	⇑P		**Pn**	**20 27 30.6**	**-1.6**
SNR=15								
BIDO	**Bidbid**	**4.46**	**175**	⇑P		**Pn**	**20 27 31.6**	**-1.4**
SNR=7.3								
IMOK	**Mook**	**4.53**	**285**	*e*Pn		**Pn**	**20 27 35.0**	**+1.0**
ARQ	**Araqi**	**4.75**	**193**	P		**Pn**	**20 27 38.4**	**+1.3**
SNR=5.3								
ARQ	**Araqi**	**4.75**	**193**	P		**Pn**	**20 27 38.3**	**+1.3**
SNR=5.3								
SMDO	**Samad**	**4.91**	**177**	⇑P		**Pn**	**20 27 38.8**	**-0.4**
SNR=6.8								
ICHK	**Chekchek**	**5.13**	**327**	*e*Pn		**Pn**	**20 27 42.2**	**0.0**
WBK	**Wadi Bani Khal**	**5.47**	**168**	P		**Pn**	**20 27 46.4**	**-0.4**
SNR=8.6								
JMDO	**Jabal Madar**	**5.60**	**176**	⇑P		**Pn**	**20 27 48.9**	**+0.2**
IZEF	**Zefreh**	**6.76**	**318**	*e*Pn		**Pn**	**20 28 05.0**	**+0.4**
IPIR	**Pirpir**	**7.54**	**310**	*e*Pn		**Pn**	**20 28 16.1**	**+0.8**
QRN	**Al-Qurain**	**8.67**	**277**	*e*P		**Pn**	**20 28 30.0**	**-0.8**
QRN				*e*S		**Sn**	**20 30 00.6**	**-8.1**
KBD	**Kabd**	**8.90**	**280**	*e*P		**Pn**	**20 28 33.3**	**-0.7**
KBD				*e*S		**Sn**	**20 30 06.0**	**-8.2**
KBD				AML		AML	20 30 09.6	
comp=Z,32nm,0.4s								
UMR	**Umm Al-Rimmam**	**8.92**	**282**	*e*P		**Pn**	**20 28 33.4**	**-0.8**
UMR				AML		AML	20 30 06.7	
comp=Z,9.5nm,0.3s								
UMR				*e*S		**Sn**	**20 30 08.0**	**-6.8**
RDF	**Al-Radifah**	**9.01**	**278**	*e*P		**Pn**	**20 28 34.8**	**-0.6**
RDF				*e*S		**Sn**	**20 30 08.6**	**-8.3**
RDF				AML		AML	20 30 11.5	
comp=Z,11nm,0.3s								
NAY	**Al-Naaiem**	**9.30**	**280**	*e*P		**Pn**	**20 28 38.5**	**-0.9**
NAY				*e*S		**Sn**	**20 30 16.1**	**-8.0**
NAY				AML		AML	20 30 20.4	
comp=Z,5.8nm,0.4s								

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*ISCJB **01** 20:55:09.6±0.6, 2431S±005×6723W±008, h177km±10km, mb3.5/2, Error ellipse: s-maj=12.5km s-min=7.4km az=21.8*

*NEIC **01** 20:55:10.7±0.7, 2422S×6709W, h172km±8km, mb4.2/2, Error ellipse: s-maj=13.9km s-min=9.1km az=78.0*

*IDC **01** 20:55:10.3±1.3, 2422S×6707W, h166km±12km, mb3.5/2, mb1 3.7/6, mb1mx3.5/17, mbtmp4.0/6, Error ellipse: s-maj=20.4km s-min=16.6km az=53.0*

*GUC **01** 20:55:12.9±0.9, 2431S×68.12W, h262km±132km*

ISC 01 20:55:10.6±0.6, 2429S±005×6722W±008, h171km±10km, n20, σ1§17/23, mb3.5/2, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.28**	**317**	P		**Pn**	**20 55 51.7**	**+1.5**
44nm,0.3s,baz=143,slow=6.1,SNR=369								
LVC				S		**Sn**	**20 56 21.8**	**+0.8**
29nm,0.3s,baz=351,slow=20,SNR=88								
CEN1	**Los Morros**	**2.88**	**288**	⇓*i*P		**Pn**	**20 55 59.0**	**+1.8**
CEN1				*i* S		**Sn**	**20 56 33.8**	**+0.2**
CPN1	**Cerro Paranal**	**2.92**	**263**	⇓*i*P		**Pn**	**20 55 58.7**	**+0.8**
CPN1				*i* S		**Sn**	**20 56 33.8**	**-0.8**
CRCH	**Chaqaral**	**3.70**	**236**	*i* S		**Sn**	**20 56 50.1**	**-1.8**
CDCH	**Caldera**	**4.28**	**229**	*i* S		**Sn**	**20 57 02.3**	**-2.9**
CFAA	**Coronel Fontan**	**7.34**	**187**	P		**Pn**	**20 56 55.0**	**-0.1**
0.1nm,0.3s,baz=4.9,slow=12,SNR=7.1								
CFAA				S		**Sn**	**20 58 13.2**	**-4.4**
0.2nm,0.3s,baz=240,slow=18,SNR=5.7								
LPAZ	**La Paz**	**8.01**	**354**	P		**Pn**	**20 57 04.3**	**+0.4**
5.9nm,0.3s,baz=152,slow=7.7,SNR=107								
LPAZ				S		**Sn**	**20 58 32.4**	**-1.1**
0.2nm,0.3s,baz=357,slow=17,SNR=4.6								
LPAZ	**La Paz**	**8.01**	**354**	*e*P		**Pn**	**20 57 04.1**	**+0.2**
13nm,0.4s								
LPAZ				S		**Sn**	**20 58 32.4**	**-1.1**
CPUP	**Villa Florida**	**9.17**	**105**	P		**Pn**	**20 57 18.9**	**-0.4**
0.2nm,0.3s,baz=306,slow=12,SNR=3.1								
SIV	**San Ignacio**	**10.07**	**36**	P		**Pn**	**20 57 28.9**	**-2.2**
2.2nm,0.3s,baz=248,slow=9.6,SNR=38								
SIV				S		**Sn**	**20 59 07.8**	**-15**
0.1nm,0.3s,baz=217,slow=18,SNR=3.3								
TRQA	**Tornquist**	**14.43**	**163**	*e*P		**Pn**	**20 58 28.4**	**+1.5**
2.0nm,0.6s								
PLCA	**Paso Flores**	**16.63**	**189**	P		**Pn**	**20 59 01.7**	**+7.9**
0.2nm,0.3s,baz=343,slow=8.9,SNR=5.9								
VNA3	**Neumayer Olymp**	**56.94**	**161**	*e*		**P**	**21 04 38.9**	**+1.0**
VNA3				*e*			21 04 40.1	
VNA2	**Neumayer--Watz**	**57.51**	**160**	*e*		**P**	**21 04 42.3**	**+0.5**
baz=288,slow=7.4								
VNA2				*e*			21 04 43.7	
TORD	**Torodi Ar. Bea**	**76.86**	**69**	P		**P**	**21 06 43.3**	**-0.2**
0.4nm,0.5s,mb3.3,baz=261,slow=6.1,SNR=14								
YKA	**Yellowknife Ar**	**94.33**	**340**	P		**P**	**21 08 09.6**	**-0.9**
0.2nm,0.4s,mb3.6,baz=127,slow=4.4,SNR=3.9								
ASAR	**Alice Springs**	**128.11**	**205**	PKP		PKPdf	21 13 57.2	+1.0
0.5nm,0.5s,baz=152,slow=1.6,SNR=5.8								
WRA	**Warrarmunga Arr**	**131.28**	**207**	PKP		PKPdf	21 14 02.9	+0.7
0.3nm,0.5s,baz=162,slow=1.6,SNR=3.2								
MKAR	**Makanchi Array**	**146.87**	**40**	PKPbc		PKPbc	21 14 32.3	-0.3
1.2nm,0.6s,baz=354,slow=2.4,SNR=14								
MJAR	**Matsushiro Arr**	**154.99**	**305**	PKPab		PKPab	21 15 09.3	+1.4
0.4nm,0.4s,baz=69,slow=6.7,SNR=4.2								

IDC 01 21:33:41.1±1.8, 231N×12804E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, Error ellipse: s-maj=101.8km s-min=22.8km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.41**	**187**	P		P	21 38 18.5	-1.3
1.3nm,0.7s,baz=2.0,slow=18,SNR=3.8								
WRA	**Warramunga Arr**	**22.96**	**165**	P		P	21 38 47.9	+0.9
2.1nm,0.3s,baz=343,slow=9.6,SNR=40								
WB2	**Warramunga Arr**	**22.96**	**165**	*e*P		P	21 38 47.6	+0.5
ASAR	**Alice Springs**	**26.44**	**168**	P		P	21 39 19.6	0.0
1.1nm,0.5s,baz=347,slow=7.4,SNR=17								
STKA	**Stephens Creek**	**36.35**	**160**	P		P	21 40 45.6	-1.2
1.7nm,0.4s,baz=326,slow=10.0,SNR=6.0								
MKAR	**Makanchi Array**	**59.46**	**325**	P		P	21 43 47.7	+1.9
0.3nm,0.6s,baz=118,slow=7.5,SNR=5.9								

IDC 01 21:56:20.1±2.9, 465S×15240E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=92.9km s-min=30.2km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**228**	P		P	22 01 29.3	+0.2
0.8nm,0.4s,baz=53,slow=10,SNR=21								
ASAR	**Alice Springs**	**25.99**	**222**	P		P	22 01 56.1	+1.6
0.4nm,0.7s,baz=54,slow=8.6,SNR=4.5								
FITZ	**Fitzroy Crossi**	**29.38**	**241**	P		P	22 02 25.4	+0.5
1.0nm,0.5s,baz=61,slow=9.9,SNR=5.8								
SONM	**Songino Array**	**65.98**	**328**	P		P	22 07 09.8	+1.6
0.2n

CAPV *e*S **Sn** **22 20 38.2 +2.5**
ROSC El Rosal 2.39 213 P **Pn** **22 20 28.9 +0.3**
9.2nm,0.3s,baz=274,slow=17,SNR=30
ROSC S **Sn** **22 20 58.4 -0.8**
20nm,0.3s,baz=279,slow=22,SNR=16
VIGV El Vigia 2.55 40 *e*P **Pn** **22 20 30.9 +0.4**
SOCV Socops 2.56 57 *e*P **Pn** **22 20 31.6 +1.0**
SOCV *e*S **Sn** **22 21 03.2 +0.4**
SDV Santo Domingo 3.09 50 P **Pn** **22 20 38.3 +1.0**
15nm,0.3s,baz=222,slow=2.2,SNR=40
SDV S **Sn** **22 21 15.7 +0.9**
12nm,0.3s,baz=89,slow=24,SNR=21
ELOV Elorza 3.51 88 *e*P **Pn** **22 20 43.0 +0.3**
ELOV *e*S **Sn** **22 21 24.2 -0.1**
VIRV Villa del Rosa 3.66 9 *e*P **Pn** **22 20 43.8 -0.7**
QARV Quebrada Arrib 4.13 36 *e*P **Pn** **22 20 51.2 +0.5**
QARV *e*S **Sn** **22 21 37.6 -1.2**
CURV Curarigua 4.34 44 *e*P **Pn** **22 20 53.4 0.0**
CURV *e*S **Sn** **22 21 41.5 -2.3**
BAUV El Baul 5.34 67 *e*S **Sn** **22 22 05.3 -2.2**
SJG San Juan 13.02 30 P **Pn** **22 22 48.2 +0.1**
4.7nm,0.3s,baz=278,slow=23,SNR=6.2
YKA Yellowknife Ar 63.25 340 P **P** **22 29 59.7 -1.5**
0.6nm,0.7s,mb3.5,baz=133,slow=6.6,SNR=5.2
ASAR Alice Springs 149.23 234 PKPbc PKPbc 22 39 17.9 -1.6
0.6nm,1.1s,baz=128,slow=3.6,SNR=5.5
WRA Warramunga Arr 150.45 241 PKPbc PKPbc 22 39 21.0 -1.5
0.3nm,0.4s,baz=109,slow=2.7,SNR=14

IDC ***01*** *22:31:22.7±0.4,2002S×17379W,h0km,mb4.8/22, mb1 4.9/23,mb1mx4.9/23,mbtmp4.8/23,ML4.6/1,MS4.2/12, Ms1 4.2/12,ms1mx3.9/26,Error ellipse: s-maj=18.1km s-min=13.7km az=135.0*
SZGRF ***01*** *22:31:26.7,2056S×17332W,h33km, Tonga Islands*
ISCJB ***01*** *22:31:27.4±0.2,2016S±005×17378W±004,h43km, mb5.0/70,MS4.4/19,Error ellipse: s-maj=8.3km s-min=4.2km az=121.9*
BJI ***01*** *22:31:28.9,1965S×17340W,h45km,mB5.3,mb5.2,Ms5.2, Msz4.8*
HRVD ***01*** *22:31:29.5±0.4,2020S×173.13W,h17km±1km,MW4.9/63, Centroid moment Tensor Solution. LP body waves: s23,c29;Mantle waves: s63,c85; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.91±.21; $M_{\theta\theta}$0.97±.13; $M_{\phi\phi}$1.93±.14; $M_{r\theta}$-1.21±.40; $M_{\theta\phi}$1.24±.08; $M_{\phi r}$-0.60±.38; Best double couple: $M_0$3.14400×10^{16} NP1:ϕ_s204.00000°,δ35.00000°,λ-108.00000°. NP2: ϕ_s46.00000°,δ57.00000°,λ-78.00000°. Principal axes: T 3.0210, Plg11.0000°, Azm127.0000°; N 0.2410, Plg10.0000°, Azm219.0000°; P -3.2670, Plg75.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***01*** *22:31:29.4±0.2,2007S×17384W,mb5.0/38 Error ellipse: s-maj=9.4km s-min=5.4km az=142.0*
MOS ***01*** *22:31:35.3±1.4,1929S×17548W,h33km,mb5.2/21,Error ellipse: s-maj=14.4km s-min=12.3km az=30.7*
ISC 01 22:31:29.3±0.2,2018S±005×17375W±004,h45km, h45km±1.7km:pP-P,n403,σ0.89/223,mb5.0/70,MS4.4/19, 74C-54D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.52**	**17**	Pn	**Pn**	**22 32 54.3**	**-8.3**
	21nm,0.3s,baz=19,slow=3.6,SNR=31						
AFI				Sn	**Sn**	**22 34 03.1**	**-13**
	65nm,0.3s,baz=125,slow=22,SNR=5.7						
AFI	**Afiamalu**	**6.52**	**17**	*e*Pn	**Pn**	**22 32 54.3**	**-8.3**
	232nm,0.6s						
RAO	**Raoul Island**	**9.79**	**202**	Pn	**Pn**	**22 33 42.0**	**-5.4**
	30nm,0.3s,baz=108,slow=20,SNR=2.1						
RAO				Sn	**Sn**	**22 35 29.4**	**-6.6**
	60nm,0.3s,baz=96,slow=23,SNR=4.8						
RAR	**Rarotonga**	**13.12**	**97**	Pn	**Pn**	**22 34 21.6**	**-11**
	11nm,0.3s,baz=258,slow=8.9,SNR=58						
RAR				Sn	Sn	22 36 32.7	-25
	1.8nm,0.3s,baz=90,slow=20,SNR=2.8						
RAR				LR	LR	22 38 37.3	
	comp=Z,752nm,20.0s,baz=228,slow=33						
DZM	**Mont Dzumac**	**18.57**	**261**	*e*P	**Pn**	**22 35 43.5**	**+0.4**
DZM	**Mont Dzumac**	**18.57**	**261**	P	**Pn**	**22 35 44.5**	**+1.4**
	2.0nm,0.3s,baz=87,slow=15,SNR=35						
NOUC	**Port Laguerre**	**18.71**	**261**	*e*P	**Pn**	**22 35 45.4**	**+0.8**
URZ	**Urewera**	**19.68**	**202**	P	**Pn**	**22 35 56.0**	**-0.3**
	1.6nm,0.3s,baz=15,slow=4.7,SNR=9.7						
URZ				S	**S**	**22 39 20.4**	**-14**
	0.6nm,0.3s,baz=336,slow=20,SNR=3.5						
TBI	**Tubuai**	**22.77**	**102**	*e*LQ		22 40 42.7	
	1μm,26.0s						
TBI	**Tubuai**	**22.77**	**102**	*e*P	**P**	**22 36 24.6**	**-3.1**
TBI				*e*LR	LR	22 41 27.7	
	690nm,32.2s						
PAE	**Paea**	**23.00**	**88**	*e*P	**P**	**22 36 29.1**	**-1.0**
	53nm,0.9s,mb5.0						
PPT	**Papeete**	**23.02**	**88**	*e*P	**P**	**22 36 29.6**	**-0.7**
	64nm,1.4s,mb4.9						
PPT	**Papeete**	**23.02**	**88**	*e*LQ		22 40 43.7	
	2μm,25.0s						
PPT				*e*LR	LR	22 41 46.8	
	383nm,20.8s						
PPT	**Papeete**	**23.02**	**88**	P	**P**	**22 36 27.1**	**-3.3**
	17nm,0.3s,mb4.9,baz=108,slow=6.4,SNR=2.6						
PPT				LR	LR	22 44 38.4	
	comp=Z,658nm,18.3s,MS4.1,baz=226,slow=34						
TVO	**Taravao**	**23.28**	**88**	*e*P	**P**	**22 36 31.8**	**-1.4**
	84nm,0.9s,mb5.2						
RPZ	**Rata Peaks**	**26.68**	**205**	P	**P**	**22 37 04.2**	**+0.1**
	13nm,0.6s,mb4.6,baz=278,slow=3.9,SNR=7.4						
HNR	**Honiara**	**27.54**	**289**	LR	LR	22 45 40.4	
	comp=Z,225nm,21.3s,MS3.7,baz=177,slow=31						
TAOE	**Nuku Hiva Isla**	**34.35**	**76**	*e*LR	LR	22 47 22.0	
	1μm,21.7s						
CNB	**Canberra Magne**	**35.73**	**237**	*e*P	**P**	**22 38 20.8**	**-2.8**
	104nm,1.6s,mb5.5						
CNB				*e*PCP	PcP	22 40 43.2	-7.7
RKT	**Rikitea**	**36.09**	**102**	*e*LR	LR	22 47 37.7	
	545nm,30.8s						
CTA	**Charters Tower**	**37.49**	**263**	*e*P	**P**	**22 38 37.2**	**-1.4**
	8.3nm,0.4s,mb4.9						
CTA	**Charters Tower**	**37.49**	**263**	P	**P**	**22 38 38.0**	**-0.6**
	11nm,0.4s,mb5.0,baz=88,slow=10,SNR=36						
CTA				PcP	PcP	22 40 58.3	+2.1
	6.0nm,0.9s,baz=38,slow=5.9,SNR=3.4						
CTA	**Charters Tower**	**37.49**	**263**	P	**P**	**22 38 38.0**	**-0.6**
CTA						22 40 58.3	
CTA				pmax	pmax		
	comp=Z,11nm,0.4s						
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CTAO	**Charters Tower**	**37.49**	**263**	*e*P	**P**	**22 38 37.5**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**37.49**	**263**	*e*P	**P**	**22 38 37.5**	**-1.1**
	comp=Z,16nm,0.8s,mb4.9						
PMG	**Port Moresby**	**39.19**	**280**	P	**P**	**22 38 52.5**	**-0.4**
	comp=Z,42nm,1.0s,mb5.1,baz=120,slow=3.3,SNR=12						
PMG	**Port Moresby**	**39.19**	**280**	P	**P**	**22 38 52.5**	**-0.4**
PMG				pmax	pmax		
	comp=Z,42nm,1.0s						
PMG	**Port Moresby**	**39.19**	**280**	*e*P	**P**	**22 38 52.4**	**-0.5**
	comp=Z,44nm,0.9s,mb5.2						
TOO	**Toolangi**	**39.32**	**235**	*e*P	**P**	**22 38 54.1**	**+0.1**
	comp=Z,23nm,0.7s,mb5.0						
TOO	**Toolangi**	**39.32**	**235**	*e*P	**P**	**22 38 54.1**	**+0.1**
TOO				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**41.52**	**244**	*e*P	**P**	**22 39 09.5**	**-2.7**
	comp=Z,12nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**41.52**	**244**	P	**P**	**22 39 09.9**	**-2.3**
	comp=Z,14nm,0.7s,mb4.7,baz=90,slow=10,SNR=36						
STKA				LR	LR	22 54 15.2	
	comp=Z,293nm,18.9s,MS4.2,baz=31,slow=33						
AS31	**Alice Springs**	**48.47**	**256**	*e*P	**P**	**22 40 05.8**	**-1.6**
AS31				*e*PcP	PcP	22 41 34.6	+1.6
ASAR	**Alice Springs**	**48.47**	**256**	P	**P**	**22 40 06.5**	**-0.9**
	comp=Z,13nm,0.8s,mb5.0,baz=90,slow=8.4,SNR=112						
ASAR				PcP	PcP	22 41 34.6	+1.6
	comp=Z,8.5nm,0.7s,baz=103,slow=3.7,SNR=11						
ASAR				S	**S**	**22 47 05.5**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=93,slow=16,SNR=3.5						
ASPA	**Alice Springs**	**48.47**	**256**	*e*P	**P**	**22 40 05.8**	**-1.6**
ASPA				*e*PCP	PcP	22 41 34.6	+1.6
WB2	**Warramunga Arr**	**48.58**	**261**	*e*P	**P**	**22 40 04.2**	**-4.0**
WB2				*e*PCP	PcP	22 41 34.1	+0.7
WB2				*e*S	**S**	**22 47 06.1**	**-0.6**
WRAB	**Tennant Creek**	**48.58**	**261**	*e*P	**P**	**22 40 06.6**	**-1.6**
WRAB				*e*		22 41 34.7	
WRAB				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.4						
WRAB	**Tennant Creek**	**48.58**	**261**	*e*P	**P**	**22 40 06.6**	**-1.6**
	comp=Z,47nm,1.1s,mb5.4						
WRAB				*e*		22 41 34.7	
WRA	**Warramunga Arr**	**48.59**	**261**	P	**P**	**22 40 07.3**	**-1.0**
	comp=Z,9.2nm,0.6s,mb5.0,baz=98,slow=8.7,SNR=50						
WRA				PcP	PcP	22 41 34.5	+1.1
	comp=Z,8.5nm,0.8s,baz=92,slow=3.8,SNR=7.7						
WRA				S	**S**	**22 47 06.4**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=97,slow=14,SNR=3.5						
KAKA	**Kakadu**	**51.96**	**269**	*e*P	**P**	**22 40 32.4**	**-1.4**
	comp=Z,19nm,0.6s,mb5.2						
FORT	**Forrest**	**53.08**	**246**	*e*P	**P**	**22 40 41.7**	**-0.3**
	comp=Z,32nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**57.02**	**261**	*e*P	**P**	**22 41 09.3**	**-1.2**
	comp=Z,25nm,1.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**57.02**	**261**	P	**P**	**22 41 09.8**	**-0.7**
	comp=Z,5.9nm,0.8s,mb4.7,baz=103,slow=7.1,SNR=16						
FITZ				LR	LR	23 05 56.2	
	comp=Z,198nm,19.2s,MS4.2,baz=96,slow=36						
SBA	**Scott Base**	**58.48**	**185**	*e*P	**P**	**22 41 23.1**	**+2.3**
	comp=Z,23nm,0.9s,mb5.2						
VNDA	**Vanda**	**58.61**	**186**	P	**P**	**22 41 23.3**	**+1.6**
	comp=Z,9.8nm,0.9s,mb4.8,baz=4.0,slow=6.7,SNR=43						
VNDA				LR	LR	23 01 45.0	
	comp=Z,146nm,20.3s,MS4.1,baz=2.4,slow=31						
KLBR	**Kellerberrin**	**61.80**	**244**	*e*P	**P**	**22 41 43.2**	**-0.2**
	comp=Z,26nm,0.7s,mb5.5						
MBWA	**Marble Bar**	**61.81**	**256**	*e*P	**P**	**22 41 42.6**	**-0.9**
	comp=Z,11nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**62.07**	**243**	P	**P**	**22 41 45.4**	**+0.1**
	comp=Z,12nm,1.0s,mb5.0,baz=91,slow=9.3,SNR=6.4						
MUN	**Mundaring**	**63.05**	**244**	*e*P	**P**	**22 41 52.3**	**+0.5**
CBIJ	**Chichi jima**	**63.49**	**316**	P	**P**	**22 41 54.2**	**-0.5**
	comp=Z,49nm,0.7s,mb5.8,baz=287,slow=19,SNR=2.6						
CASY	**Casey**	**65.96**	**205**	*e*P	**P**	**22 42 12.1**	**+1.3**
QSPA	**South Pole Qui**	**69.89**	**180**	*e*P	**P**	**22 42 36.6**	**+1.1**
	comp=Z,14nm,0.9s,mb4.9						
MJAR	**Matsushiro Arr**	**72.39**	**321**	P	**P**	**22 42 50.3**	**-0.4**
	comp=Z,19nm,0.7s,mb5.1,baz=156,slow=6.2,SNR=52						
MJAR				LR	LR	23 09 37.5	
	comp=Z,83nm,21.5s,MS4.0,baz=170,slow=32						
MAJO	**Matsushiro**	**72.40**	**321**	*e*P	**P**	**22 42 50.5**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
MAJO	**Matsushiro**	**72.40**	**321**	*e*P	**P**	**22 42 50.5**	**-0.2**
	comp=Z,30nm,1.0s,mb5.2						
MAT	**Matsushiro**	**72.40**	**321**	P	**P**	**22 42 50.8**	**+0.1**
MAT	**Matsushiro**	**72.40**	**321**	*e*P	**P**	**22 42 51.0**	**+0.3**
MAT				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
MAT	**Matsushiro**	**72.40**	**321**	*e*P	**P**	**22 42 51.0**	**+0.3**
	comp=Z,15nm,0.8s,mb5.0						
HAST	**Hastings Reser**	**74.81**	**41**	⇑P	**P**	**22 43 05.3**	**+0.4**
	baz=75						
U04C	**Hernandez Rese**	**75.27**	**42**	⇑P	**P**	**22 43 07.9**	**+0.4**
	baz=76						
PACP	**Pacheco Peak**	**75.37**	**41**	P	**P**	**22 43 08.5**	**+0.5**
	baz=76,SNR=5.8						
S04C	**Ingram Canyon,**	**75.66**	**41**	⇑P	**P**	**22 43 10.0**	**+0.2**
	baz=76						
MNRC	**McLaughlin Nat**	**75.88**	**39**	P	**P**	**22 43 11.5**	**+0.4**
	baz=76,SNR=5.5						
O01C	**Eel River Cons**	**75.92**	**37**	⇑P	**P**	**22 43 11.7**	**+0.5**
	baz=76						
GASB	**Alder Springs**	**76.22**	**38**	⇓P	**P**	**22 43 13.6**	**+0.7**
	baz=76						
JCC	**Jacoby Creek**	**76.25**	**37**	⇓P	**P**	**22 43 14.0**	**+0.9**
	baz=76						
ISA	**Isabella**	**76.31**	**44**	⇓P	**P**	**22 43 13.9**	**+0.5**
	baz=76						
PFO	**Pinyon Flat Ob**	**76.43**	**46**	⇑P	**P**	**22 43 14.2**	**0.0**
	baz=77						
SUTB	**Sutter Buttes**	**76.49**	**39**	⇑P	**P**	**22 43 15.0**	**+0.5**
	baz=77						
O02C	**Red Bluff**	**76.53**	**38**	⇑P	**P**	**22 43 15.1**	**+0.4**
	baz=77						
CMB	**Columbia Colle**	**76.57**	**41**	*e*P	**P**	**22 43 14.1**	**-0.9**
	comp=Z,4.3nm,0.8s,mb4.4						
CMB	**Columbia Colle**	**76.57**	**41**	⇓P	**P**	**22 43 14.6**	**-0.3**
	baz=77						
HELL	**Mitchell Peak**	**76.58**	**42**	⇓P	**P**	**22 43 14.4**	**-0.5**
	baz=77						
N02C	**Big Bar**	**76.66**	**37**	⇑P	**P**	**22 43 15.4**	**-0.1**
	baz=77						
PET	**Petropavlovsk**	**76.73**	**343**	⇑*e*P	**P**	**22 43 15.6**	**-0.2**
PET				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.0						
S06C	**San Francisco**	**76.81**	**41**	⇑P	**P**	**22 43 15.9**	**-0.4**
	baz=77						
LAVA	**Lava Cap Winer**	**76.82**	**40**	⇑P	**P**	**22 43 16.2**	**-0.1**
	baz=77						
ORV	**Oroville**	**76.88**	**39**	⇓P	**P**	**22 43 16.5**	**-0.2**
	baz=77						
WDC	**Whiskeytown Da**	**76.94**	**38**	*e*P	**P**	**22 43 16.0**	**-1.0**
	comp=Z,3.0nm,0.9s,mb4.2						
WDC	**Whiskeytown Da**	**76.94**	**38**	⇑P	**P**	**22 43 17.1**	**+0.1**
	baz=77						
BC3	**Big Chuckw Mtn**	**77.14**	**47**	P	**P**	**22 43 18.5**	**+0.4**
	baz=77,SNR=5.0						
GSC	**Goldstone**	**77.19**	**45**	⇓P	**P**	**22 43 18.5**	**+0.1**
	baz=77						
GLA	**Glamis**	**77.23**	**48**	⇓P	**P**	**22 43 18.6**	**-0.1**
	baz=77,SNR=6.2						
P05C	**Yuba Gap, Truc**	**77.24**	**40**	⇑P	**P**	**22 43 18.9**	**+0.2**
	baz=77						
M02C	**Callahan**	**77.30**	**37**	⇑P	**P**	**22 43 19.5**	**+0.4**
	baz=78						
TIN	**Tinemaha**	**77.31**	**43**	⇑P	**P**	**22 43 19.4**	**+0.3**
	baz=78						
KSM	**Kuching**	**77.33**	**276**	⇓*i*P	**P**	**22 43 20.5**	**+1.3**
R06C	**Coleville**	**77.45**	**41**	⇑P	**P**	**22 43 20.1**	**+0.3**
	baz=78						
YSS	**Yuzh-Sakhalins**	**77.47**	**331**	⇑*i*P	**P**	**22 43 20.6**	**+0.6**
YSS				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.5						
YSS	**Yuzh-Sakhalins**	**77.47**	**331**	*e*P	**P**	**22 43 20.3**	**+0.4**
	comp=Z,41nm,0.9s,mb5.4						
YBH	**Yreka Blue Hor**	**77.61**	**37**	P	**P**	**22 43 20.7**	**-0.1**
	comp=Z,6.1nm,0.7s,mb4.6,baz=169,slow=1.7,SNR=15						
YBH	**Yreka Blue Hor**	**77.61**	**37**	P	**P**	**22 43 21.0**	**+0.2**
	baz=78,SNR=5.7						
S08C	**White Mtn Res**	**77.62**	**42**	⇓P	**P**	**22 43 21.5**	**+0.7**
	baz=78						
HATC	**Hat Creek Radi**	**77.72**	**38**	⇓P	**P**	**22 43 21.7**	**+0.4**
	baz=78						
Y12C	**Blythe**	**77.83**	**47**	⇓P	**P**	**22 43 21.8**	**-0.2**
	baz=78						
TUQ	**Turquoise Mtn.**	**77.85**	**45**	⇑P	**P**	**22 43 22.4**	**+0.3**
	baz=78						
HUMO	**Hull Mountain**	**78.05**	**36**	⇓P	**P**	**22 43 23.4**	**+0.2**
	baz=78						
M04C	**Macdoel**	**78.13**	**37**	⇑P	**P**	**22 43 23.9**	**+0.3**
	baz=78						
R08A	**Mina**	**78.17**	**42**	⇑P	**P**	**22 43 24.1**	**+0.2**
	baz=78						
M05C	**Lookout**	**78.25**	**38**	⇓P	**P**	**22 43 24.0**	**-0.3**
	baz=78						
O06A	**Flanigan**	**78.25**	**39**	⇑P	**P**	**22 43 24.2**	**-0.1**
	baz=78						
Y13A	**Salome**	**78.34**	**47**	⇑P	**P**	**22 43 25.4**	**+0.6**
	baz=78,SNR=6.8						
L04A	**Klamath Falls**	**78.35**	**37**	⇓P	**P**	**22 43 24.8**	**-0.1**
	baz=78						
S09A	**Goldfield**	**78.35**	**42**	⇓P	**P**	**22 43 24.7**	**-0.2**
	baz=78						
W12A	**Cal Nev Ari**	**78.47**	**46**	⇑P	**P**	**22 43 25.7**	**+0.1**
	baz=79						
M06C	**Likely Place G**	**78.53**	**38**	⇑P	**P**	**22 43 26.0**	**+0.1**
	baz=79						
Q08A	**Gabbs**	**78.60**	**41**	⇓P	**P**	**22 43 26.4**	**+0.2**
	baz=79						
Z14A	**Wintersburg**	**78.71**	**48**	P	**P**	**22 43 27.5**	**+0.7**
	baz=79,SNR=6.3						
X13A	**Yucca**	**78.78**	**47**	P	**P**	**22 43 27.3**	**+0.1**
	baz=79,SNR=12						
O07A	**Toulon**	**78.82**	**40**	P	**P**	**22 43 27.5**	**+0.1**
	baz=79,SNR=7.3						
115A	**Sonoran Desert**	**78.86**	**49**	⇓P	**P**	**22 43 28.0**	**+0.4**
	baz=79						
Y14A	**Wickenburg**	**78.99**	**48**	P	**P**	**22 43 28.7**	**+0.3**
	baz=79,SNR=14						
116A	**Eloy**	**79.16**	**49**	⇓P	**P**	**22 43 29.7**	**+0.4**
	baz=79						
X14A	**Yava**	**79.36**	**47**	P	**P**	**22 43 30.8**	**+0.4**
	baz=80,SNR=12						
M07A	**Soldier Meadow**	**79.41**	**39**	⇑P	**P**	**22 43 30.9**	**+0.2**
	baz=80						
P09A	**Austin**	**79.50**	**41**	⇑P	**P**	**22 43 31.0**	**-0.1**
	baz=80						
QZH	**Quanzhou**	**79.61**	**301**	⇑*i*P	**P**	**22 43 33.7**	**+1.9**
QZH				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.7						
W14A	**Seligman**	**79.63**	**47**	P	**P**	**22 43 32.5**	**+0.6**
	baz=80,SNR=21						
N08A	**GE Springer Mi**	**79.65**	**40**	P	**P**	**22 43 32.0**	**+0.1**
	baz=80,SNR=8.0						
TUC	**Tucson**	**79.68**	**50**	⇓*i*P	**P**	**22 43 32.2**	**0.0**
	comp=Z,12nm,0.8s,mb4.9						
K06A	**Valley Falls**	**79.69**	**37**	⇓P	**P**	**22 43 32.3**	**+0.1**
	baz=80						
X15A	**Humboldt**	**79.82**	**48**	⇓P	**P**	**22 43 33.5**	**+0.6**
	baz=80,SNR=15						
O09A	**Fish Creek Ran**	**79.85**	**41**	⇓P	**P**	**22 43 33.1**	**+0.1**
	baz=80						
BMN	**Battle Mountai**	**79.98**	**40**	*e*P	**P**	**22 43 33.3**	**-0.5**
	comp=Z,8.3nm,0.8s,mb4.7						
J06A	**Christmas Vall**	**80.03**	**37**	⇓P	**P**	**22 43 33.5**	**-0.5**
	baz=80						
N09A	**Rock Creek Ran**	**80.06**	**40**	⇓P	**P**	**22 43 34.3**	**+0.1**
	baz=80						
W15A	**Williams**	**80.17**	**47**	⇑P	**P**	**22 43 34.9**	**+0.1**
	baz=80						
I06A	**Prineville**	**80.44**	**36**	⇓P	**P**	**22 43 36.5**	**+0.2**
	baz=81						
M09A	**Marrel Ranch,**	**80.45**	**39**	⇓P	**P**	**22 43 36.4**	**+0.1**
	baz=81						
F04A	**Amboy**	**80.56**	**34**	⇑P	**P**	**22 43 36.9**	**0.0**
	baz=81						
SSE	**Sheshan**	**80.59**	**308**	P	**P**	**22 43 39.8**	**+2.7**
SSE				AP	pP	22 43 51.9	+1.6
SSE				XP	sP	22 43 57.0	+1.7
SSE				S	S	22 53 45.4	+4.7
SSE				XS	sS	22 54 05.8	+2.9
SSE				SS	SS	22 59 00.5	+6.7
SSE				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,240nm,5.3s						
SSE				LR	LR		
	comp=Z,70nm,23.1s,MS4.0						
G05A	**Wamic**	**80.68**	**35**	⇑P	**P**	**22 43 38.2**	**+0.7**
	baz=81						
L09A	**Wilkinson Ranc**	**80.68**	**39**	⇓P	**P**	**22 43 37.8**	**+0.2**
	baz=81						
ARUT	**Antelope Range**	**80.83**	**44**	*e*P	**P**	**22 43 38.5**	**+0.1**
F05A	**White Salmon**	**81.03**	**34**	⇑P	**P**	**22 43 39.2**	**-0.2**
	baz=81						
M10A	**I.L. Ranch, Tu**	**81.05**	**40**	⇑P	**P**	**22 43 39.8**	**+0.3**
	baz=81						
E05A	**Randle**	**81.32**	**33**	⇑P	**P**	**22 43 40.4**	**-0.6**
	baz=82						
O12A	**Currie**	**81.41**	**42**	⇑P	**P**	**22 43 41.5**	**+0.1**
	baz=82						
M11A	**Holland Ranch,**	**81.45**	**40**	⇓P	**P**	**22 43 42.2**	**+0.5**
	baz=82						
C04A	**Brinnon**	**81.48**	**32**	P	**P**	**22 43 41.6**	**-0.2**
	baz=82						
N12A	**Wells--Clov Va**	**81.57**	**41**	⇓P	**P**	**22 43 42.6**	**+0.3**
	baz=82						
D05A	**Enumclaw**	**81.62**	**33**	⇓P	**P**	**22 43 42.7**	**+0.2**
	baz=82						
MSU	**Marysvale**	**82.06**	**44**	*e*P	**P**	**22 43 45.5**	**+0.6**
N13A	**West Wendover**	**82.09**	**41**	⇑P	**P**	**22 43 44.8**	**-0.2**
	baz=82						
C05A	**Tolt Reservoir**	**82.11**	**33**	⇑P	**P**	**22 43 44.6**	**-0.5**
	baz=82						
HABR	**Khabarovsk**	**82.20**	**328**	*e*P	**P**	**22 43 47.0**	**+1.4**
HABR				*e*S	S	22 53 59.2	+1.8
HABR				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.5						
B05A	**Bryant**	**82.28**	**32**	⇑P	**P**	**22 43 45.6**	**-0.4**
	baz=82						
A04A	**Legoe Bay, Lum**	**82.29**	**31**	⇓P	**P**	**22 43 45.7**	**-0.4**
	baz=82						
M13A	**Montello**	**82.40**	**41**	⇑P	**P**	**22 43 46.0**	**-0.6**
	baz=83						
MDJ	**Mudanjiang**	**82.61**	**323**	P	**P**	**22 43 47.8**	**+0.1**
MDJ				AP	pP	22 44 00.0	-1.0
MDJ				S	S	22 54 02.1	+0.5
MDJ				XS	sS	22 54 23.2	-0.6
MDJ				SS	SS	22 59 24.9	+1.0
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,60nm,3.7s						
MDJ				LR	LR		
	comp=N,40nm,27.2s,MS3.9						
MDJ				LR	LR		
	comp=E,70nm,30.9s,MS3.9						
MDJ				LR	LR		
	comp=Z,110nm,32.0s,MS4.0						
MDJ	**Mudanjiang**	**82.61**	**323**	*e*P	**P**	**22 43 49.1**	**+1.4**
	comp=Z,13nm,0.9s,mb5.0						
SLKM	**Skilak Lake**	**82.64**	**11**	*e*P	**P**	**22 43 47.4**	**-0.5**
TMUT	**Trail Mountain**	**83.12**	**44**	*e*P	**P**	**22 43 51.1**	**+0.7**
MAW	**Mawson**	**83.18**	**199**	*e*P	**P**	**22 43 52.1**	**+1.4**
	comp=Z,7.1nm,0.9s,mb4.7					

DLBC	**Dease Lake**	86.25	21	P	P		22 44 04.6	-1.5
	comp=Z,2.3nm,0.7s,mb4.5,baz=183,slow=7.8,SNR=6.9							
PLCA	**Paso Flores**	86.56	132	P	P		22 44 08.0	+0.3
	comp=Z,5.3nm,0.9s,mb4.8,baz=238,slow=7.0,SNR=7.2							
PLCA				LR	LR		23 17 14.1	
	comp=Z,256nm,19.2s,MS4.6,baz=80,slow=32							
RWWY	**Rawlins**	86.97	43	*e*P	P		22 44 08.2	-1.4
	comp=Z,14nm,0.9s,mb5.2							
RWWY				*e*pP	pP		22 44 23.1	+0.1
WALA	**Waterton Lakes**	87.01	35	*e*P	P		22 44 08.7	-1.2
	comp=Z,4.2nm,0.9s,mb4.7							
COLA	**College**	87.10	11	*d i*P	P		22 44 08.6	-1.7
COLA	**College**	87.10	11	*e*P	P		22 44 08.5	-1.7
	comp=Z,16nm,0.9s,mb5.2							
ILAR	**Eielson Array**	87.18	11	P	P		22 44 09.2	-1.5
	comp=Z,3.0nm,0.7s,mb4.7,baz=227,slow=5.8,SNR=36							
SYO	**Syowa Base**	87.87	191⇑	*e*P	P		22 44 13.0	-1.0
SYO	**Syowa Base**	87.87	191⇑	*e*pP	pP		22 44 25.8	-1.6
PHWY	**Pilot Hill**	87.92	44	*e*P	P		22 44 13.7	-0.6
DAWY	**Dawson**	88.11	14	*e*P	P		22 44 14.2	-0.9
VNA3	**Neumayer Olymp**	88.15	175⇑	*i*P	P		22 44 15.4	+0.1
VNA3				*e*			22 44 17.0	
VNA3				*e*	pP		22 44 26.8	-1.9
VNA3				*e*	pP		22 44 30.1	+1.4
SNAA	**Sanae**	88.17	177	*e*P	P		22 44 04.5	-11
PSI	**Prapat**	88.45	274	P	P		22 44 18.0	+1.3
	comp=Z,17nm,1.1s,mb5.2,baz=136,slow=6.8,SNR=6.8							
PSI	**Prapat**	88.45	274	P	P		22 44 18.0	+1.3
BJT	**Baijiatuau**	88.51	314	*e*P	P		22 44 18.1	+1.1
BJT				*e**PP	pP		22 44 30.4	0.0
BJT				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BJT	**Baijiatuau**	88.51	314	*e*P	P		22 44 18.1	+1.1
	comp=Z,4.5nm,0.6s,mb5.0							
BJT				*e*pP	pP		22 44 30.4	0.0
VNA2	**Neumayer--Watz**	88.64	176⇑	*i*P	P		22 44 18.0	+0.4
	baz=184,slow=3.8							
VNA2				*e*			22 44 19.2	
VNA2				*e*	pP		22 44 28.6	-2.4
VNA2				*e*	pP		22 44 31.9	+0.9
VNA1	**Neumayer--Stat**	88.84	175⇑	*i*P	P		22 44 19.2	+0.6
VNA1				*e*			22 44 20.9	
VNA1				*e*	pP		22 44 29.4	-2.6
VNA1				*e*	pP		22 44 33.5	+1.5
TSI	**Tuntungan**	89.02	274	*e*P	P		22 44 16.9	-2.5
BILL	**Bilibino**	89.18	353	*d i*P	P		22 44 19.7	-0.5
BILL				pmax	pmax			
	comp=Z,13nm,1.2s,mb5.1							
BILL	**Bilibino**	89.18	353	*e*P	P		22 44 19.9	-0.3
	comp=Z,16nm,1.3s,mb5.2							
GYA	**Guiyang**	89.99	298	P	P		22 44 26.0	+2.1
GYA				AP	pP		22 44 39.5	+2.1
GYA				XP	sP		22 44 44.6	+2.2
GYA				PP	PP		22 48 02.4	+5.2
GYA				SKS			22 54 51.3	
GYA				S			22 55 14.0	
GYA				PS	PS		22 56 29.9	+5.0
GYA				AMB	AMB			
	comp=Z,20nm,1.2s,mb5.3							
GYA				AMB	AMB			
	comp=Z,110nm,4.6s							
GYA				LR	LR			
	comp=N,480nm,20.8s,MS5.0							
GYA				LR	LR			
	comp=E,430nm,21.0s,MS5.0							
GYA				LR	LR			
	comp=Z,470nm,21.4s,MS4.9							
HIA	**Hailar**	90.80	323	*d i*P	P		22 44 28.4	+0.7
XAN	**Xi'an**	91.15	306	P	P		22 44 31.1	+1.8
XAN				AMB	AMB			
	comp=Z,10.0nm,1.2s,mb5.0							
HHC	**Hu-ho-hao-te**	92.02	313	*e*P	P		22 44 34.7	+1.3
HHC				AP	pP		22 44 48.1	+1.3
HHC				XP	sP		22 44 53.4	+1.6
HHC				PP	PP		22 48 17.0	+3.7
HHC				SKS			22 55 01.9	
HHC				S			22 55 30.0	
HHC				XS	sS		22 55 53.1	-1.4
HHC				PS	PS		22 56 51.6	+4.2
HHC				SS	SS		23 01 42.7	+1.3
HHC				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb5.2							
HHC				AMB	AMB			
	comp=Z,80nm,3.6s							
HHC				LR	LR			
	comp=N,160nm,17.8s,MS5.0							
HHC				LR	LR			
	comp=E,370nm,14.3s,MS5.0							
HHC				LR	LR			
	comp=Z,100nm,17.8s,MS4.3							
KMI	**Kunming**	92.78	296	P	P		22 44 39.4	+2.5
KMI				AP	pP		22 44 49.2	-1.1
KMI				XP	sP		22 44 53.3	-2.0
KMI				PP	PP		22 48 21.3	+1.9
KMI				S			22 55 39.9	
KMI				XS	sS		22 55 57.1	-4.2
KMI				PS	PS		22 57 06.1	+10
KMI				SS	SS		23 01 59.0	+6.7
KMI				SSS			23 05 37.3	
KMI				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.3							
KMI				LR	LR			
	comp=N,120nm,21.6s,MS4.4							
KMI				LR	LR			
	comp=E,120nm,23.8s,MS4.4							
KMI				LR	LR			
	comp=Z,150nm,20.5s,MS4.4							
INK	**Inuvik**	92.97	14	P	P		22 44 37.0	-0.7
	comp=Z,1.7nm,0.8s,mb4.5,baz=252,slow=8.3,SNR=3.8							
INK	**Inuvik**	92.97	14	*e*P	P		22 44 36.5	-1.2
INK				*e**PP	pP		22 44 49.3	-1.9
INK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
INK	**Inuvik**	92.97	14	*e*P	P		22 44 36.5	-1.3
	comp=Z,1.7nm,0.8s,mb4.5							
INK				*e*pP	pP		22 44 49.3	-1.9
YAK	**Yakutsk**	93.35	337	*c e*P	P		22 44 38.7	-0.8
YAK				pmax	pmax			
	comp=Z,17nm,0.6s,mb5.7							
CHTO	**Chiang Mai**	93.91	288	*e*P	P		22 44 44.2	+2.1
CHTO				pmax	pmax			
	comp=Z,11nm,1.0s,mb5.2							
CHTO	**Chiang Mai**	93.91	288	*e*P	P		22 44 44.2	+2.1
	comp=Z,11nm,1.0s,mb5.2							
CD2	**Chengdu**	94.00	301	*e*P	P		22 44 41.4	-1.1
CD2				AP	pP		22 44 54.9	-1.1
CD2				XP	sP		22 45 00.1	-0.8
CD2				PP	PP		22 48 30.7	+1.8
CD2				SKS			22 55 10.9	
CD2				S			22 55 45.3	
CD2				XS	sS		22 56 08.2	-3.9
CD2				PS	PS		22 57 11.1	+1.7
CD2				SS	SS		23 02 09.8	0.0
CD2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb5.2							
CD2				AMB	AMB			
	comp=Z,40nm,5.9s							
CD2				LR	LR			
	comp=E,150nm,10.8s							
CD2				LR	LR			
	comp=Z,160nm,10.8s,MS4.8							
YKA	**Yellowknife Ar**	94.59	24	P	P		22 44 44.1	-1.1
	comp=Z,1.1nm,0.9s,mb4.3,baz=238,slow=4.5,SNR=7.1							
ECSD	**EROS,Sioux Fal**	94.86	45	*e*P	P		22 44 45.6	-0.8
LZH	**Lanzhou**	95.77	306	*e*P	P		22 44 52.9	+2.3
LZH				AP	pP		22 45 06.5	+2.4
LZH				XP	sP		22 45 12.0	+3.0
LZH				PP	PP		22 48 46.5	+3.8
LZH				SKS			22 55 25.0	
LZH				*e*S			22 56 03.0	
LZH				XS	sS		22 56 26.0	-1.5
LZH				SS	SS		23 02 38.0	+3.1
LZH				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb5.2							
LZH				AMB	AMB			
	comp=Z,80nm,5.8s							
LZH				LR	LR			
	comp=E,440nm,18.9s							
LZH				LR	LR			
	comp=Z,750nm,20.0s,MS5.2							
ULN	**Ulaanbaatar**	97.76	318	*e*P	P		22 44 59.7	+0.1
ULN				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.7							
ULN	**Ulaanbaatar**	97.76	318	*e*P	P		22 44 59.7	+0.1
	comp=Z,3.0nm,1.1s,mb4.7							
ULM	**Lac du Bonnet**	97.83	39	P	P		22 44 57.8	-2.1
	comp=Z,1.0nm,0.3s,mb4.8,baz=202,slow=2.7,SNR=4.4							
ULM				LR	LR		23 24 13.9	
	comp=Z,203nm,19.0s,MS4.6,baz=196,slow=32							
SONM	**Songino Array**	98.16	318	P	P		22 45 01.7	+0.3
	comp=Z,0.8nm,0.7s,mb4.4,baz=129,slow=3.6,SNR=6.0							
SONM				PP	PP		22 49 03.2	+2.1
	comp=Z,0.9nm,0.9s,baz=108,slow=8.0,SNR=3.7							
SONM				LR	LR		23 27 17.0	
	comp=Z,64nm,20.7s,MS4.1,baz=183,slow=34							
SONM	**Songino Array**	98.16	318	P	P		22 45 01.7	+0.3
SONM							22 49 03.2	
LPAZ	**La Paz**	98.47	111	P	P		22 45 05.7	+3.0
	comp=Z,0.7nm,0.6s,mb4.3,baz=123,slow=3.0,SNR=5.8							
LPAZ				LR	LR		23 22 05.3	
	comp=Z,126nm,18.6s,MS4.4,baz=59,slow=31							
TIXI	**Tiksi**	99.49	344	*e*P	P		22 45 05.1	-2.3
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.8							
TLY	**Talaya**	101.14	321⇑	*e*P	Pdif		22 45 15.0	+0.3
TLY				pmax	pmax			
	comp=Z,2.0nm,1.3s							
ZAL	**Zalesovo**	112.76	321	PKiKP	PKiKP		22 49 59.9	-1.1
	comp=Z,1.0nm,0.5s,baz=16,slow=6.6,SNR=4.7							
MK31	**Makanchi Array**	113.89	313	PKIKP	PKiKP		22 50 02.6	-0.6
MK31				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	113.89	313	PKiKP	PKiKP		22 50 02.8	-0.4
	comp=Z,3.0nm,0.6s,baz=73,slow=1.2,SNR=39							
KURK	**Kurchatov**	116.46	317⇑	*i*PKIKP	PKPdf		22 50 07.5	-0.6
KURK	**Kurchatov**	116.46	317	*e*PKPdf	PKPdf		22 50 07.0	-1.1
TKM2	**Tokmak 2**	118.43	309	P	PKPdf		22 50 12.3	+0.4
	SNR=5.2							
CHMS	**Chumysh**	119.05	309	P	PKPdf		22 50 13.3	+0.2
	SNR=5.2							
UCH	**Uchtor**	119.21	308	P	PKPdf		22 50 14.8	+1.4
	SNR=7.9							
AAK	**Ala-Archa**	119.24	308	⇓*i*PKIKP	PKPdf		22 50 13.1	-0.3
AAK	**Ala-Archa**	119.24	308	*e*PKPdf	PKPdf		22 50 12.5	-0.9
USP	**Ospenovka**	119.24	309	P	PKPdf		22 50 13.7	+0.2
	SNR=7.7							
AML	**Almayashu**	119.82	308	P	PKPdf		22 50 15.7	+1.1
	SNR=6.1							
VOSK	**Vostochnaya**	121.08	320	PKIKP	PKPdf		22 50 16.0	-1.0
VOSK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CHKZ	**Chkalovo**	121.16	321	PKIKP	PKPdf		22 50 16.1	-1.0
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
CHKZ	**Chkalovo**	121.16	321	*e*PKPdf	PKPdf		22 50 16.0	-1.1
BVA0	**Borovoye Array**	121.39	320	*i* PKIKP	PKPdf		22 50 16.9	-0.7
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	121.45	320	*e*PKIKP	PKPdf		22 50 17.0	-0.7
KK31	**Karatay Array**	122.16	309	*i* PKIKP	PKPdf		22 50 18.8	-0.3
KK31				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KKAR	**Karatay Array**	122.16	309	*i* PKIKP	PKPdf		22 50 18.8	-0.3
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZRNK	**Zerenda**	122.23	321	PKIKP	PKPdf		22 50 18.1	-1.1
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ZRNK	**Zerenda**	122.23	321	*e*PKPdf	PKPdf		22 50 18.0	-1.2
ARU	**Arti**	127.17	327	*i* PKIKP	PKPdf		22 50 27.6	-1.1
ARU				*e*			22 52 24.6	
ARU				*e*			22 57 29.1	
ARU				*e*SS	SS		23 09 28.8	-4.4
ARU	**Arti**	127.17	327	*e*PKPdf	PKPdf		22 50 28.1	-0.5
BOSA	**Boshof**	128.13	201	PKP	PKPdf		22 50 32.3	+1.8
	comp=Z,2.0nm,0.9s,baz=242,slow=20,SNR=3.8							
AB31	**Akbulak array**	128.57	318	*i* PKIKP	PKPdf		22 50 32.0	+0.7
AB31				pmax	pmax			
	comp=Z,3.0nm,1.1s							
ARCES	**ARCESS Array B**	129.27	351	PKP	PKPdf		22 50 31.1	-1.5
	comp=Z,3.4nm,0.8s,baz=38,slow=2.2,SNR=14							
JOF	**Joensuu**	133.98	344	*e*p	PKPdf		22 50 42.1	+0.5
	comp=Z,2.6nm,0.6s							
FINES	**FINESS Array B**	136.50	346	PKhKP			22 50 41.6	
	comp=Z,1.5nm,0.7s,baz=61,slow=4.8,SNR=4.5							
OBN	**Obninsk**	138.30	334	*i* PKIKP	PKPdf		22 50 50.4	+0.8
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
NOA	**NORSAR Array B**	139.03	356	PKP	PKPdf		22 50 50.0	-0.9
	comp=Z,1.4nm,0.8s,baz=13,slow=4.1,SNR=4.1							
KIV	**Kislovodsk**	141.54	316	*d i*PKIKP	PKPdf		22 50 56.8	+1.3
KMBO	**Kilima Mbogo**	142.97	239	PKhKP			22 50 56.1	
	comp=Z,4.4nm,0.9s,baz=114,slow=1.1,SNR=9.2							
KMBO	**Kilima Mbogo**	142.97	239	*i* PKHKP	PKPdf		22 50 58.7	+0.7
KMBO				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MUD	**Monsted U'grnd**	143.72	357	*i* P	PKPdf		22 50 57.7	-1.6
	comp=Z,14nm,0.9s							
MUD	**Monsted U'grnd**	143.72	357	*i* PKHKP	PKPdf		22 50 57.7	-1.6
MUD				pmax	pmax			
	comp=Z,14nm,0.9s							
SUW	**Suwalki**	143.83	343	*e*PKP	PKPdf		22 50 57.8	-1.7
BSD	**Bornholm Skovb**	144.51	351	⇓*i*P	PKPdf		22 50 58.7	-2.0
	comp=Z,23nm,0.8s							
BSD	**Bornholm Skovb**	144.51	351	⇓*i*PKHKP			22 50 58.7	
BSD				pmax	pmax			
	comp=Z,23nm,0.8s							
AKASG	**Malin Array Be**	144.56	335	PKP	PKPdf		22 50 58.9	-1.9
	comp=Z,22nm,0.7s,baz=41,slow=4.4,SNR=81							
DCN	**Croghan**	145.29	14	⇓*i*P	PKPbc		22 51 01.6	-0.3
DCN	**Croghan**	145.29	14	*e*P	PKPbc		22 50 57.2	-4.7
DCN				⇓*i*P			22 51 01.6	
DLF	**Lyons Farm**	145.51	14	⇓*i*P	PKPdf		22 51 02.2	-0.2
DLF	**Lyons Farm**	145.51	14	*e*P	PKPdf		22 50 59.3	-3.1
DLF				⇓*i*P			22 51 02.2	
DSB	**Dublin**	145.59	13	*e*PKPbc	PKPbc		22 51 02.2	-0.6
GKP	**Gorka Klasztor**	145.90	348	*e*PKP	PKPdf		22 51 04.2	+1.1
WAR	**Warsaw**	146.00	344	*e*PKP	PKPdf		22 51 05.8	+2.5
SIM	**Simferopol'**	146.22	323	*d i*PKIKP	PKPdf		22 51 06.1	+2.5
SIM				*e*			22 51 14.0	
SIM				pmax	pmax			
	comp=Z,18nm,0.8s							
MALT	**Malatya**	146.85	310⇑	*i*P	PKPbc		22 51 08.8	+2.2
MALT	**Malatya**	146.85	310	P	PKPbc		22 51 08.8	+2.2
LVV	**L`vov**	147.21	339	*e*PKHKP	PKPbc		22 51 07.0	-0.6
RUE	**Ruedersdorf**	147.24	351	*e*PKPbc	PKPbc		22 51 07.9	+0.2
RUE	**Ruedersdorf**	147.24	351	*e*PKPdf	PKPdf		22 51 07.8	+2.4
KWP	**Kalwaria**	147.82	340	*e*PKP	PKPbc		22 51 09.7	+0.4
IBBN	**Ibbenburen**	147.92	358	*e*PKPbc	PKPbc		22 51 10.0	+0.5
IAS	**Iasi**	147.96	332	PKIKP	PKPbc		22 51 10.4	+0.8
OJC	**Ojcow**	148.16	343	*e*PKP	PKPbc		22 51 10.6	+0.4
CLZ	**Clausthal**	148.24	355	*e*PKPbc	PKPbc		22 51 10.6	+0.2
CLZ				*e*PKPab	PKPab		22 51 13.8	+0.3
KSP	**Ksiaz**	148.39	348	*e*PKP	PKPbc		22 51 11.4	+0.6
KSP	**Ksiaz**	148.39	348	*e*PKP	PKPbc		22 51 11.3	+0.5
STHS	**Stebnicka Huta**	148.47	341	*i* PKP	PKPbc		22 51 12.1	+1.1
STHS				*i*			22 51 15.7	
CLL	**Collm**	148.49	352	*e*PKPbc	PKPbc		22 51 11.2	+0.2
CLL				*e*PKPab	PKPab		22 51 14.4	-0.1
CLL	**Collm**	148.49	352	*e*PKPdf	PKPdf		22 51 08.0	+0.6
	comp=Z,5.0nm,1.0s							
CLL				⇓*i*PKPbc	PKPbc		22 51 11.0	0.0
	comp=Z,36nm,0.9s							
CLL				*e*pPKPbc	pPKPbc		22 51 20.0	-4.8
CLL				*e*PP	PP		22 54 38.0	-2.4
CLL				*e*SS	SS		23 14 12.0	+26
CLL	**Collm**	148.49	352	⇓*e*PKHKP	PKPdf		22 51 08.0	+0.6
CLL				*i*			22 51 11.0	
CLL				*e*			22 51 20.0	
CLL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
CLL				pmax	pmax			
	comp=Z,36nm,0.9s							
CLL	**Collm**	148.49	352	*e*PKP	PKPdf		22 51 08.0	+0.6
CLL				⇓*i*PKP	PKPdf		22 51 11.0	+3.6
CLL				*e*pPKP	pPKPdf		22 51 20.0	-1.3
GTTG	**Gvttingen**	148.57	356	*e*PKPbc	PKPbc		22 51 11.6	+0.4
GTTG				*e*PKPab	PKPab		22 51 14.8	0.0
BURAR	**Bucovina Array**	148.61	335	⇑*i*P	PKPbc		22 51 12.8	+1.5
BURAR	**Bucovina Array**	148.61	335	⇑P	PKPbc		22 51 12.8	+1.5
RAC	**Raciborz**	148.69	345	*e*PKP	PKPdf		22 51 12.8	+5.1
NIE	**Niedzica**	148.74	342	*e*PKP	PKPbc		22 51 12.3	+0.6
BRG	**Berggiesshubel**	148.78	351	*e*PKPbc	PKPbc		22 51 12.0	+0.2
BRG				*e*PKPab	PKPab		22 51 15.5	-0.1
BRG	**Berggiesshubel**	148.78	351	*i* PKP	PKPbc		22 51 12.4	+0.6
	comp=Z,12nm,1.0s							
BRG	**Berggiesshubel**	148.78	351	*i* PKHKP	PKPbc		22 51 12.4	+0.6
BRG				pmax	pmax			
	comp=Z,12nm,1.0s							
BUG	**Bochum--Univer**	148.80	359	*e*PKPbc	PKPbc		22 51 12.3	+0.5
DPC	**Dobruska-Polom**	148.86	347⇑	*e*PKPB	PKPbc		22 51 12.6	+0.6
DPC				*e*pPKP	pPKPdf		22 51 24.2	+2.3
OKC	**Ostrava-Krasne**	148.93	345⇑	*e*PKPB	PKPbc		22 51 12.2	0.0
PVCC	**Panska Ves**	149.01	350⇑	*e*PKPB	PKPbc		22 51 13.4	+1.0
MORC	**Moravsky Berou**	149.13	346⇑	*i*P	PKPbc		22 51 13.9	+1.2
MORC	**Moravsky Berou**	149.13	346	*e*PKPbc	PKPbc		22 51 13.2	+0.5
CFR	**Carcaliu**	149.20	329⇑	*i*P	PKPbc		22 51 13.8	+1.0
UBBA	**Unterbreizbach**	149.29	355	*e*PKPbc	PKPbc		22 51 13.1	0.0
UBBA				*e*PKPab	PKPab		22 51 16.6	-1.1
MOX	**Moxa**	149.31	353	*e*PKPbc	PKPbc		22 51 13.4	+0.3
MOX				*e*PKPab	PKPab		22 51 17.6	-0.2
MOX	**Moxa**	149.31	353	*e*PKP	PKPbc		22 51 13.7	+0.6
	comp=Z,24nm,1.4s							
MOX	**Moxa**	149.31	353	*e*PKHKP	PKPbc		22 51 13.7	+0.6
MOX				pmax	pmax			
	comp=Z,24nm,1.4s							
VRI	**Vrincioaia**	149.34	331	⇓*i*P	PKPbc		22 51 14.0	+0.8
VRI	**Vrincioaia**	149.34	331	PKIKP	PKPbc		22 51 14.1	+0.9
PLOR	**Plostina**	149.39	331⇑	*i*P	PKPbc		22 51 14.0	+0.7
UCC	**Uccle**	149.41	2	PKPbc	PKPbc		22 51 13.3	-0.1
UCC				PKPab	PKPab		22 51 16.6	-1.7
WERD	**Werda**	149.42	352	*e*PKPbc	PKPbc		22 51 13.9	+0.5
WERD				*e*PKPab	PKPab		22 51 18.0	-0.3
BR131	**Keskin Array S**	149.49	316	*e*PKPbc	PKPbc		22 51 14.0	+0.4
BRTR	**Keskin Array B**	149.49	316	PKP	PKPdf		22 51 09.1	0.0
	comp=Z,10nm,0.9s,baz=155,slow=4.4,SNR=11							
BRTR				PKPbc	PKPbc		22 51 13.9	+0.4
	comp=Z,9.2nm,0.8s,baz=108,slow=4.7,SNR=51							
KECS	**Kecovo**	149.53	341	*i* PKP	PKPbc		22 51 14.6	+1.0
KECS				*e*			22 51 19.7	
PRU	**Pruhonice**	149.54	349⇑	*e*PKPB	PKPbc		22 51 13.9	+0.2
TIRR	**Tirgusor**	149.59	328⇑	*i*P	PKPbc		22 51 14.8	+1.0
NKC	**Novy Kostel**	149.61	352⇑	*e*PKPB	PKPbc		22 51 14.2	+0.3
MEM	**Membach**	149.64	0	PKPbc	PKPbc		22 51 14.1	+0.2
MEM				PKPab	PKPab		22 51 17.2	-1.9
HARR	**Harsova**	149.66	329⇑	*i*P	PKPbc		22 51 15.3	+1.3
SNF	**Seneffe**	149.70	2	PKPbc	PKPbc		22 51 14.6	+0.6
SNF				APKPbc			22 51 26.1	
BCLA	**Clavier**	149.82	1	PKPbc	PKPbc		22 51 16.1	+1.7
BCLA				PKPab	PKPab		22 51 19.7	-0.2
BCLA				APKPbc			22 51 30.8	
MANZ	**Manzenberg**	149.90	352	*e*PKPbc	PKPbc		22 51 15.0	+0.4
MANZ				*e*PKPab	PKPab		22 51 19.6	-0.6
ANTO	**Ankara**	149.97	317⇑	*i*P	PKPbc		22 51 16.3	+1.6
ANTO	**Ankara**	149.97	317	*e*PKPbc	PKPbc		22 51 15.8	+1.1
TNS	**Taunus Mts**	149.98	357	*e*PKPbc	PKPbc		22 51 15.0	+0.3
TNS				*e*PKPab	PKPab		22 51 21.0	+0.5
MLR	**Muntele Rosu**	149.98	332	PKPbc	PKPbc		22 51 15.6	+0.8
	comp=Z,23nm,0.8s,baz=358,slow=3.5,SNR=32							
MLR	**Muntele Rosu**	149.98	332⇑	*i*P	PKPbc		22 51 15.8	+1.0
MLR	**Muntele Rosu**	149.98	332	PKIKP	PKPbc		22 51 15.6	+0.8
MLR				pmax	pmax			
	comp=Z,23nm,0.9s							
TREC	**Trest**	150.03	348⇑	*e*PKPB	PKPbc		22 51 14.8	-0.1
ROTZ	**Rotzenmuhle**	150.10	352	*e*PKPbc	PKPbc		22 51 15.4	+0.3
DOU	**Dourbes**	150.12	2	PKPbc	PKPbc		22 51 15.2	+0.1
DOU				E			22 51 18.5	
DOU				E			22 51 21.6	
DOU				APKPbc			22 51 27.3	
GIVF	**Givet**	150.12	2	*e*PKP1	PKPbc		22 51 15.2	+0.1
	comp=Z,62nm,0.9s							
BAIF	**Baives**	150.15	3	*e*PKP1	PKPbc		22 51 15.5	+0.3
	comp=Z,75nm,1.0s							
PSZ	**Piszkesteto**	150.21	341	*e*PKP/Fc	PKPbc		22 51 16.4	+1.1
PSZ	**Piszkesteto**	150.21	341	*e*PKPbc	PKPbc		22 51 15.8	+0.5
SNX	**Sinaia**	150.28	332	⇓*i*P	PKPbc		22 51 17.2	+1.7
GRA1	**Grafenberg Arr**	150.29	353	*e*PKPbc	PKPbc		22 51 16.2	+0.7
GRA1				*e*PKPab	PKPab		22 51 21.9	+0.1
GRF	**Grafenberg Arr**	150.29	353	*e*PKPbc	PKPbc		22 51 16.2	+0.7
GRF				*e*PKPab	PKPab		22 51 21.9	+0.1
ABH	**Alteburg**	150.35	358	PKP	PKPbc		22 51 15

BNI				e			22 51 43.3	
ORIF	**Oris-en-Rattie**	**155.33**	**1**	*e*PKP1	PKPdf		22 51 26.5	+8.8
EVO	**Evora**	**157.94**	**31**	*e*PKIKP	PKPdf		22 51 20.3	-0.7
	comp=Z,33nm,1.4s							
DBIC	**Dimbokro**	**162.78**	**140**	PKP	PKPdf		22 51 26.4	0.0
	comp=Z,8.6nm,1.1s,baz=107,slow=6.7,SNR=4.1							
TORD	**Torodi Ar. Bea**	**171.75**	**147**	PKP	PKPdf		22 51 32.7	-0.2
	comp=Z,1.7nm,0.8s,baz=36,slow=0.5,SNR=11							
TORD				PKPab	PKPab		22 52 55.2	+0.1
	comp=Z,1.8nm,1.0s,baz=223,slow=2.3,SNR=3.8							

IDC 01 23:05:00.1±1.5, 1573S×17500W, h264km±16km, mb3.3/4, mb1 3.6/5, mb1mx3.4/14, mbtmp3.9/5, Error ellipse: s-maj=49.2km s-min=18.1km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.60**	**60**	P	Pn	23 06 01.1	+1.0
	4.8nm,0.3s,baz=135,slow=9.0,SNR=4.6						
AFI				S	S	23 06 48.1	+0.4
	22nm,0.3s,baz=30,slow=20,SNR=8.2						
WRA	**Warramunga Arr**	**48.27**	**257**	P	P	23 13 14.7	0.0
	0.2nm,0.3s,baz=95,slow=8.2,SNR=17						
ASAR	**Alice Springs**	**48.54**	**252**	P	P	23 13 17.4	+0.6
	3.9nm,0.5s,baz=86,slow=7.8,SNR=43						
ILAR	**Eielson Array**	**83.07**	**12**	P	P	23 16 55.1	-1.1
	0.2nm,0.5s,baz=224,slow=5.7,SNR=4.7						
PDAR	**Pinedale Array**	**83.54**	**42**	P	P	23 16 59.3	+0.7
	0.7nm,0.7s,baz=220,slow=1.2,SNR=5.3						
BRTR	**Keskin Array B**	**145.42**	**319**	PKPbc	PKPbc	23 24 07.4	+0.4
	0.6nm,0.7s,baz=93,slow=2.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**175.90**	**128**	PKPab	PKPab	23 26 19.3	+0.3
	0.5nm,1.1s,baz=213,slow=6.5,SNR=5.1						

*ISCJB **01** 23:10:16.1±1.5, 730S±006×12949E±006, h127km±16km, mb4.6/20, Error ellipse: s-maj=11.7km s-min=8.2km az=83.0*
*NEIC **01** 23:10:16.7±1.4, 726S×12945E, h110km±15km, mb5.2/15, Error ellipse: s-maj=13.2km s-min=8.0km az=50.0*
*IDC **01** 23:10:19.4±1.8, 730S×12941E, h136km±15km, mb3.9/9, mb1 4.1/12, mb1mx4.0/18, mbtmp4.5/12, MS2.9/1, Ms1 2.9/1, ms1mx2.0/24, Error ellipse: s-maj=22.0km s-min=12.4km az=68.0*

ISC 01 23:10:15.5±1.8, 721S±008×12960E±010, h101km±19km, n53, σ0s83/55, mb4.6/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.14**	**153**	*e*P	**Pn**	23 11 47.5	+3.8
	358nm,0.3s						
KAKA				*e*S	**Sn**	23 12 52.7	+0.2
FITZ	**Fitzroy Crossi**	**11.50**	**199**	*e*P	**Pn**	23 12 55.0	-1.4
	28nm,0.3s						
FITZ				*e*S	**Sn**	23 14 51.7	-11
FITZ	**Fitzroy Crossi**	**11.50**	**199**	P	**Pn**	23 12 55.7	-0.7
	4.2nm,0.3s,baz=29,slow=12,SNR=120						
FITZ				S	**Sn**	23 14 55.1	-7.7
	16nm,0.3s,baz=305,slow=23,SNR=10.0						
FITZ				LR	LR	23 18 05.8	
	comp=Z,53nm,19.5s,baz=266,slow=41						
WRAB	**Tennant Creek**	**13.46**	**160**	Pn	**Pn**	23 13 21.0	-1.3
	613nm,0.6s,SNR=50						
WRAB	**Tennant Creek**	**13.46**	**160**	*e*Pn	**Pn**	23 13 21.6	-0.8
	92nm,0.6s						
WRAB				*e*Sn	**Sn**	23 15 42.2	-8.3
WRA	**Warramunga Arr**	**13.47**	**161**	P	**Pn**	23 13 21.6	-0.8
	14nm,0.3s,baz=331,slow=14,SNR=192						
WRA				S	**Sn**	23 15 43.6	-7.0
	15nm,0.3s,baz=328,slow=24,SNR=17						
WRA	**Warramunga Arr**	**13.47**	**161**	P	**Pn**	23 13 21.6	-0.8
WRA				S	**Sn**	23 15 43.6	-7.0
WB2	**Warramunga Arr**	**13.47**	**160**	*e*P	**Pn**	23 13 21.2	-1.3
WB2				*e*S	**Sn**	23 15 44.1	-6.6
TSM	**Tawau**	**16.36**	**314**	P	**Pn**	23 14 04.6	+5.6
MBWA	**Marble Bar**	**16.84**	**214**	*e*Pn	**Pn**	23 14 06.5	+1.6
	8.6nm,0.4s						
AS31	**Alice Springs**	**16.88**	**166**	*e*P	**Pn**	23 14 05.8	+0.3
ASAR	**Alice Springs**	**16.88**	**166**	P	**Pn**	23 14 06.0	+0.6
	4.4nm,0.3s,baz=332,slow=9.3,SNR=150						
ASAR				S	**S**	23 17 05.9	-11
	1.3nm,0.3s,baz=334,slow=19,SNR=4.4						
ASPA	**Alice Springs**	**16.88**	**166**	*e*P	**Pn**	23 14 05.8	+0.3
PMG	**Port Moresby**	**17.51**	**98**	P	**Pn**	23 14 17.0	+3.9
	1.7nm,0.3s,baz=266,slow=6.1,SNR=7.3						
PMG				S	**S**	23 17 24.5	-3.9
	0.9nm,0.3s,baz=192,slow=20,SNR=4.8						
KKM	**Kota Kinabalu**	**18.75**	**314**	P	**P**	23 14 32.8	+6.3
KKM	**Kota Kinabalu**	**18.75**	**314**	*e*P	**P**	23 14 27.6	+1.2
CTA	**Charters Tower**	**20.61**	**130**	*e*P	**P**	23 14 47.1	+0.6
	3.4nm,0.5s						
CTA	**Charters Tower**	**20.61**	**130**	P	**P**	23 14 49.5	+3.0
	3.0nm,0.5s,baz=312,slow=12,SNR=7.9						
CTAO	**Charters Tower**	**20.61**	**130**	*e*P	**P**	23 14 50.6	+4.1
	2.9nm,0.5s						
KSM	**Kuching**	**21.09**	**293**	*e*P	**P**	23 14 51.7	0.0
FORT	**Forrest**	**23.50**	**183**	*e*P	**P**	23 15 17.1	+1.0
	26nm,0.4s,mb4.9						
FORT				*e*S	**S**	23 19 38.0	+16
KLBR	**Kellerberrin**	**26.67**	**203**	*e*P	**P**	23 15 45.8	+1.0
	84nm,1.9s,mb5.0						
KLBR				*e*S	sS	23 20 46.9	-4.9
STKA	**Stephens Creek**	**26.98**	**157**	*e*P	**P**	23 15 46.2	-1.4
	7.3nm,0.7s,mb4.3						
STKA				*e*S	sS	23 21 00.3	+3.7
STKA	**Stephens Creek**	**26.98**	**157**	P	**P**	23 15 47.0	-0.6
	8.1nm,0.6s,mb4.5,baz=327,slow=8.2,SNR=19						
NWAO	**Narrogin (SRO)**	**28.05**	**203**	P	**P**	23 15 56.9	-0.3
	1.8nm,0.4s,mb4.0,baz=41,slow=9.6,SNR=4.1						
KULM	**Kulim**	**31.45**	**292**	*e*P	**P**	23 16 26.1	-1.0
PSI	**Prapat**	**32.19**	**287**	P	**P**	23 16 33.5	-0.3
	11nm,0.7s,mb4.7,baz=46,slow=5.9,SNR=11						
PSI	**Prapat**	**32.19**	**287**	P	**P**	23 16 33.5	-0.3
MJAR	**Matsushiro Arr**	**44.26**	**10**	P	**P**	23 18 14.8	0.0
	1.9nm,0.4s,mb4.2,baz=188,slow=8.8,SNR=9.3						
LSA	**Lhasa**	**52.08**	**317**	*e*P	**P**	23 19 16.3	+1.3
JIRN	**Jiri**	**54.42**	**311**	*e*P	**P**	23 19 32.6	+0.4
	11nm,0.5s,mb5.2						
GUN	**Gumba**	**54.79**	**312**	*e*P	**P**	23 19 34.6	-0.2
	36nm,0.6s,mb5.6						
PKI	**Pulchoki**	**54.96**	**311**	*e*P	**P**	23 19 36.1	+0.1
	13nm,0.6s,mb5.1						
KKN	**Kakani**	**55.17**	**311**	*e*P	**P**	23 19 37.3	-0.3
	14nm,0.6s,mb5.2						
DMN	**Daman**	**55.21**	**311**	*e*P	**P**	23 19 37.6	-0.2
	14nm,0.7s,mb5.1						
GKN	**Gorkha**	**55.77**	**311**	*e*P	**P**	23 19 41.6	-0.2
	24nm,0.5s,mb5.5						
KOLN	**Koldanda**	**56.43**	**310**	*e*P	**P**	23 19 46.6	+0.1
	18nm,0.6s,mb5.3						
SONM	**Songino Array**	**58.51**	**342**	P	**P**	23 20 02.2	+1.1
	0.6nm,0.4s,mb4.0,baz=161,slow=7.2,SNR=7.3						
MKAR	**Makanchi Array**	**68.18**	**327**	P	**P**	23 21 05.0	+0.2
	1.3nm,0.3s,mb4.2,baz=114,slow=8.6,SNR=42						
ZAL	**Zalesovo**	**71.59**	**334**	P	**P**	23 21 24.9	-0.9
	1.4nm,0.3s,mb4.3,baz=20,slow=7.3,SNR=5.4						
VNDA	**Vanda**	**72.29**	**173**	P	**P**	23 21 29.9	0.0
	0.5nm,0.6s,mb3.5,baz=307,slow=11,SNR=3.8						
KURK	**Kurchatov**	**72.49**	**329**	*e*P	**P**	23 21 31.0	-0.1
	1.7nm,0.6s,mb4.0						
BRVK	**Borovoye**	**78.10**	**328**	*e*P	**P**	23 22 02.8	-0.5
	0.8nm,0.5s,mb3.7						
CHKZ	**Chkalovo**	**78.23**	**329**	*e*P	**P**	23 22 03.3	-0.7
	1.3nm,0.9s,mb3.7						
ZRNK	**Zerenda**	**78.72**	**327**	*e*P	**P**	23 22 06.2	-0.5
ZRNK				*e*PcP	PcP	23 22 14.7	-0.5
ARCES	**ARCESS Array B**	**101.63**	**340**	P	Pdif	23 23 57.6	+1.1
	0.6nm,0.8s,baz=94,slow=7.4,SNR=4.5						
KBS	**Kingsbay**	**102.20**	**350**	*e*Pdif	Pdif	23 23 57.3	-1.6
	9.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**128.46**	**281**	PKP	PKPdf	23 29 10.8	+0.5
	1.2nm,0.5s,baz=69,slow=2.2,SNR=24						
TORD				SKPbc		23 32 16.0	
	0.9nm,0.7s,baz=77,slow=3.0,SNR=6.8						
DBIC	**Dimbokro**	**134.80**	**272**	PKP	PKPdf	23 29 24.1	+1.8
	1.3nm,0.4s,baz=76,slow=4.3,SNR=4.8						
DBIC				SKPbc	SKPbc	23 32 38.5	-4.9
	4.2nm,1.1s,baz=116,slow=4.3,SNR=3.7						
DBIC	**Dimbokro**	**134.80**	**272**	PKP	PKPdf	23 29 24.1	+1.8
DBIC				SKPbc	SKPbc	23 32 38.5	-5.0
CPUP	**Villa Florida**	**145.99**	**169**	PKPbc	PKPbc	23 29 44.8	+1.4
	0.3nm,0.4s,baz=202,slow=5.4,SNR=3.0						
CPUP				SKPbc	SKPbc	23 33 08.9	-4.3
	1.4nm,0.7s,baz=195,slow=3.2,SNR=3.8						
LPAZ	**La Paz**	**150.79**	**143**	PKPbc	PKPbc	23 29 58.9	+2.9
	0.6nm,0.3s,baz=214,slow=3.6,SNR=8.1						
LPAZ	**La Paz**	**150.79**	**143**	PKPbc	PKPbc	23 29 58.9	+2.9

*IDC **01** 23:16:27.3±1.8, 5351N×16299W, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.9/22, mbtmp3.8/12, ML3.5/2, Error ellipse: s-maj=43.4km s-min=21.1km az=177.0*
*ISCJB **01** 23:16:31.5±1.9, 5361N±007×16279W±007, h32km±15km, mb3.8/10, Error ellipse: s-maj=11.4km s-min=6.5km az=162.3*
*NEIC **01** 23:16:31.8, 5357N×16277W, h10km, ML3.6(AEIC), After AEIC.*

ISC 01 23:16:33.0±2.0, 5366N±007×16283W±007, h31km±16km, n32, σ0s97/35, mb3.8/10, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.25**	**344**	P	**Pn**	23 16 54.3	0.0
FALS				S	**Sn**	23 17 11.0	+0.9
AKUT	**Akutan**	**1.80**	**287**	P	**Pn**	23 17 02.1	+0.2
AKUT				S	**Sn**	23 17 25.1	+1.3
AKLV	**Akutan Long Va**	**1.92**	**287**	P	**Pn**	23 17 03.0	-0.4
SDPT	**Sand Point**	**2.18**	**38**	P	**Pn**	23 17 07.0	-0.1
UNV	**Unalaska Valle**	**2.19**	**276**	P	**Pn**	23 17 07.1	-0.1
OKCD	**Okmok Cone D**	**3.16**	**268**	P	**Pn**	23 17 20.8	+0.3
OKCE	**Okmok Cone E**	**3.19**	**268**	P	**Pn**	23 17 21.4	+0.4
NIKO	**Nikolski**	**3.67**	**262**	P	**Pn**	23 17 26.8	-0.8
CHGN	**Chignik**	**3.68**	**42**	*e*P	**Pn**	23 17 27.5	-0.1
KDAK	**Kodiak Island**	**7.11**	**50**	Pn	**Pn**	23 18 13.7	-1.2
	0.6nm,0.3s,baz=215,slow=8.4,SNR=4.5						
KDAK				Sn	**Sn**	23 19 25.6	-9.0
	0.2nm,0.3s,baz=229,slow=20,SNR=1.8						
SVW2	**Sparrevohn**	**8.42**	**25**	*e*P	**Pn**	23 18 33.2	+0.4
TTA	**Tatalina**	**9.96**	**18**	*e*Pn	**Pn**	23 18 58.4	+4.5
	7.8nm,1.0s						
ILAR	**Eielson Array**	**13.76**	**30**	Pn	**Pn**	23 19 44.6	-1.3
	0.1nm,0.3s,baz=222,slow=10,SNR=3.3						
DAWY	**Dawson**	**15.88**	**40**	*e*Pn	**Pn**	23 20 16.4	+2.2
DLBC	**Dease Lake**	**18.82**	**62**	P	**Pn**	23 20 52.5	+1.8
	0.1nm,0.3s,baz=290,slow=15,SNR=4.1						
INK	**Inuvik**	**20.13**	**32**	P	**P**	23 21 01.4	-2.9
	2.4nm,0.7s,baz=240,slow=17,SNR=6.7						
INK	**Inuvik**	**20.13**	**32**	P	**P**	23 21 01.4	-2.9
YKA	**Yellowknife Ar**	**26.39**	**51**	P	**P**	23 22 06.7	+0.1
	1.0nm,0.7s,mb3.5,baz=268,slow=9.2,SNR=9.7						
PDAR	**Pinedale Array**	**36.32**	**85**	P	**P**	23 23 33.5	-0.3
	0.4nm,0.5s,mb3.6,baz=298,slow=3.7,SNR=3.8						
ARUT	**Antelope Range**	**37.13**	**95**	*e*P	**P**	23 23 40.7	0.0
SRU	**San Rafael**	**38.00**	**91**	*e*P	**P**	23 23 49.4	+1.3
ULM	**Lac du Bonnet**	**40.03**	**67**	P	**P**	23 24 04.9	-0.2
	1.4nm,0.5s,mb4.0,baz=320,slow=6.2,SNR=5.2						
BNM	**Barren Site**	**43.65**	**93**	*e*P	**P**	23 24 36.2	+1.6
SONM	**Songino Array**	**53.96**	**304**	P	**P**	23 25 52.9	-0.8
	0.3nm,0.4s,mb3.6,baz=41,slow=10.0,SNR=4.2						
FINES	**FINESS Array B**	**65.03**	**355**	P	**P**	23 27 08.6	-1.6
	1.8nm,1.0s,mb4.0,baz=14,slow=12,SNR=3.6						
NOA	**NORSAR Array B**	**65.56**	**3**	P	**P**	23 27 13.5	0.0
	1.2nm,1.1s,mb3.9,baz=358,slow=6.6,SNR=2.9						
NOA	**NORSAR Array B**	**65.56**	**3**	P	**P**	23 27 13.5	0.0
MKAR	**Makanchi Array**	**65.68**	**317**	P	**P**	23 27 13.4	-1.0
	0.7nm,0.7s,mb3.8,baz=60,slow=5.9,SNR=5.8						
AKASG	**Malin Array Be**	**75.52**	**352**	P	**P**	23 28 13.5	-0.8
	0.9nm,0.4s,mb4.1,baz=5.0,slow=4.7,SNR=4.5						
AKASG	**Malin Array Be**	**75.52**	**352**	P	**P**	23 28 13.5	-0.8
GERES	**GERESS Array B**	**77.83**	**2**	P	**P**	23 28 26.8	-0.5
	0.7nm,0.7s,mb3.7,baz=343,slow=4.2,SNR=7.1						
BRTR	**Keskin Array B**	**85.91**	**347**	P	**P**	23 29 10.5	+0.7
	1.0nm,0.7s,mb4.1,baz=44,slow=3.4,SNR=7.3						

*NEIC **01** 23:19:31.3, 3419N×2428E, h18km, MD3.4(ATH), After ATH.*
*ISCJB **01** 23:19:32.1±1.3, 3425N±004×2438E±0.1, h6km±11km, Error ellipse: s-maj=18.1km s-min=6.3km az=165.9*
*CSEM **01** 23:19:33.6±0.1, 3425N×2431E, h15km, MD3.4, Error ellipse: s-maj=3.8km s-min=1.8km az=82.0*
*HLW **01** 23:19:33.7, 3461N×2482E, h33km, Mb3.1*
*ATH **01** 23:19:35.3, 3449N×2440E, h25km±3km, MD3.3/5*

ISC 01 23:19:33.4±1.4, 3430N±004×244E±01, h7km±12km, n12, σ0s91/17, 2C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.59**	**336**	*e*PB	**Pg**	23 19 44.5	-0.2
GVD				*e*SB	**Sg**	23 19 51.5	-0.9
GVD	**Gavdhos**	**0.59**	**336**	*e*Pn	**Pg**	23 19 44.8	+0.1
GVD				*e*Sn	**Sg**	23 19 53.8	+1.4
VAM	**Vamos**	**1.11**	**353**	*e*Pb	**Pb**	23 19 53.0	-2.0
VAM				*e*Sn	**Sn**	23 20 11.5	+0.5
XRY	**Khrisi**	**1.23**	**62**	*e*PN	**Pn**	23 19 57.0	0.0
NPS	**Neapolis**	**1.40**	**46**	*e*PN	**Pn**	23 19 59.0	-0.3
NPS	**Neapolis**	**1.40**	**46**	*e*Pn	**Pn**	23 19 59.8	+0.5
KARP	**Karpathos**	**2.60**	**61**	*e*PN	**Pn**	23 20 16.5	+0.6
SLUM		**2.89**	**166**	⇓*e*P	**Pn**	23 20 20.9	+1.1
SLUM				S	**Sn**	23 20 54.7	-0.1
SWA2		**5.13**	**169**	⇓*e*P	**Pn**	23 20 51.4	+0.8
SWA1		**5.15**	**167**	⇑P	**Pn**	23 20 51.8	+0.9
SWA1				S	**Sn**	23 21 49.4	-1.2
AWBH		**7.11**	**146**	⇑P	**Pn**	23 21 16.4	-1.4
HFRF	**Wahat Farafira**	**7.89**	**154**	⇓P	**Pn**	23 21 28.8	+0.3

IDC 01 23:26:04.6±2.6, 2110N×14378E, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=363.0km s-min=26.1km az=109.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.82**	**193**	P	P	23 33 56.0	-0.1
	2.4nm,0.7s,baz=15,slow=8.8,SNR=9.6						
ASAR	**Alice Springs**	**45.52**	**193**	P	P	23 34 26.2	+0.4
	1.1nm,0.7s,baz=15,slow=8.7,SNR=19						
ILAR	**Eielson Array**	**62.32**	**27**	P	P	23 36 28.4	-0.2
	0.6nm,0.7s,baz=248,slow=4.8,SNR=6.9						

*IDC **01** 23:30:26.3±2.4, 8165×11890E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=209.8km s-min=26.0km az=54.0*
*ISCJB **01** 23:30:28.4±0.7, 825S±01×1190E±02, h33km, mb3.8/5, Error ellipse: s-maj=29.4km s-min=9.5km az=121.6*
*NEIC **01** 23:30:30.8±0.6, 8145×11895E, h35km, mb3.8/4, Error ellipse: s-maj=24.0km s-min=7.6km az=62.0*

ISC 01 23:30:29.9±4.0, 82S±01×1190E±02, h26km±32km, n11, σ0s91/12, mb3.8/5, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.80**	**148**	Pn	**Pn**	23 33 15.6	-0.9
	0.1nm,0.3s,baz=338,slow=19,SNR=3.0						
FITZ				Sn	**Sn**	23 35 24.9	-2.5
	0.0nm,0.3s,baz=229,slow=20,SNR=1.8						
MBWA	**Marble Bar**	**12.95**	**177**	*e*Pn	**Pn**	23 33 32.8	+0.6
KKM	**Kota Kinabalu**	**14.38**	**349**	*e*Pn	**Pn**	23 33 50.9	-0.8
WRA	**Warramunga Arr**	**18.91**	**130**	P	**Pn**	23 34 49.4	+0.1
	0.2nm,0.3s,baz=307,slow=12,SNR=10						
WRAB	**Tennant Creek**	**18.91**	**130**	*e*P	**Pn**	23 34 49.7	+0.4
	1.4nm,0.4s						
ASAR	**Alice Springs**	**21.01**	**139**	P	**P**	23 35 13.1	+1.6
	1.6nm,0.6s,mb3.5,baz=314,slow=9.0,SNR=20						
CTAO	**Charters Tower**	**28.91**	**117**	*e*P	**P**	23 36 27.4	+0.8
	1.6nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**31.60**	**141**	P	**P**	23 36 51.0	+0.5
LSA	**Lhasa**	**46.21**	**326**	*e*P	**P**	23 38 52.4	-0.2
	2.5nm,0.3s,mb4.6						
MKAR	**Makanchi Array**	**63.72**	**333**	P	**P**	23 40 59.4	+0.2
	0.3nm,0.6s,mb3.5,baz=140,slow=7.4,SNR=3.6						
ZRNK	**Zerenda**	**74.17**	**331**	*e*P	**P**	23 42 03.6	-0.5
	0.3nm,0.3s,mb3.7						

*ISCJB **01** 23:44:57.0±0.4, 4702N±002×685E±004, h6km±5km, Error ellipse: s-maj=4.2km s-min=2.7km az=17.7*
*LDG **01** 23:44:57.4±0.1, 4702N×701E, h2km, Md2.1/1, Ml2.1/12, Error ellipse: s-maj=1.3km s-min=0.6km az=95.0*
*ZUR **01** 23:44:57.5, 4703N×700E, h-2km±5km, ML1.5/7*
*STR **01** 23:44:58.4±0.8, 4701N×703E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 01 23:44:57.7±0.4, 4702N±002×693E±004, h16km±4km, n28, σ0s89/40, 2C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORNY	**Torny**	**0.24**	**175**	*e*Sg	**Pg**	23 45 03.3	+0.2
	299nm,0.3s						
TORNY	**Torny**	**0.24**	**175**	⇑*i*Pg	**Sg**	23 45 07.4	+0.6
	299nm,0.3s						
BRANT	**Les Verrieres**	**0.32**	**256**	⇑*i*Pg	**Pg**	23 45 05.6	+1.2
	65nm,0.4s						
BRANT				*i* Sg	**Sg**	23 45 11.4	+2.4
	65nm,0.4s						
LOMF	**Lomont**	**0.34**	**349**	Pg	**Pg**	23 45 05.5	+0.7
BOURR	**Bourrignon**	**0.43**	**29**	*e*P	**Pg**	23 45 06.4	0.0
	49nm,3.0s						
BALST	**Balsthal**	**0.61**	**58**	*e*Pg	**Pg**	23 45 09.6	-0.2
	31nm,1.5s						
GIMEL	**Gimel**	**0.66**	**224**	*e*P	**Pb**	23 45 11.8	+0.9
	31nm,0.2s						
SENIN	**Lac Senin**	**0.70**	**158**	*e*P	**Pb**	23 45 11.8	+0.2
	22nm,1.8s						
CABF	**La Chapelle**	**0.70**	**235**	*e*Pg	**Pg**	23 45 11.9	+0.4
CABF	**La Chapelle**	**0.70**	**235**	*e*Pn	**Pn**	23 45 13.8	+0.8
CABF				*e*Sg	**Sg**	23 45 21.5	+0.7
CABF				*e*Sn		23 45 24.8	
	7.3nm,0.3s						
HINF	**Hinteralfeld**	**0.80**	**356**	*e*Pg	**Pg**	23 45 12.5	-0.9
HINF	**Hinteralfeld**	**0.80**	**356**	*e*Pn	**Pn**	23 45 14.3	-0.1
HINF				*e*Sn	**Sn**	23 45 26.0	0.0
	8.9nm,0.2s						
MOF	**Molkenrain**	**0.85**	**9**	Pg	**Pg**	23 45 15.3	+1.1
MOF				Sg	**Sg**	23 45 27.1	+1.7
SULZ	**Sulz-Cheisache**	**0.96**	**57**	*e*P	**Pb**	23 45 16.6	+0.7
	51nm,1.2s						
HAU	**Haudompre**	**1.07**	**339**	*e*Pg	**Pg**	23 45 17.9	-0.4
HAU	**Haudompre**	**1.07**	**339**	*e*P	**Pg**	23 45 20.0	+1.7
HAU				*e*Sg	**Sg**	23 45 31.6	-0.7
	5.7nm,0.3s						
ECH	**Echery**	**1.21**	**7**	Pg	**Pg**	23 45 21.3	+0.2
ECH				Sg	**Sg**	23 45 37.2	+0.3
THEF	**They Montfort**	**1.37**	**333**	Pg	**Pg**	23 45 24.6	+0.5
CDF	**Champ du Feu**	**1.42**	**9**	*e*Pg	**Pg**	23 45 23.6	-1.4
CDF				*e*Sg	**Sg**	23 45 41.9	-1.6
	9.4nm,0.4s						
LPL	**La Plagne**	**1.50**	**185**	*e*Pg	**Pg**	23 45 25.7	-1.0
LPL				*e*Sg	**Sg**	23 45 45.8	-0.5
	2.1nm,0.4s						
LPG	**La Plagne**	**1.52**	**185**	*e*Pg	**Pg**	23 45 26.5	-0.5
LPG				*e*Sg	**Sg**	23 45 46.6	-0.2
	4.6nm,0.5s						
SFTF	**Sexfontaines**	**1.75**	**314**	*e*Pg	**Pg**	23 45 30.4	-0.9
SFTF				*e*Sg	**Sg**	23 45 53.4	-0.6
	4.0nm,0.3s						
MEZF	**Maizieres J'vi**	**1.95**	**320**	*e*Sg	**Sg**	23 45 59.7	-0.9
	3.1nm,0.3s						
LOR	**Lormes**	**2.11**	**278**	*e*Pg	**Pg**	23 45 37.8	-0.4
LOR				*e*Sg	**Sg**	23 46 05.7	+0.1
	1.6nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.22**	**200**	*e*Sg	**Sg**	23 46 08.1	-1.0
	1.8nm,0.3s						
SSF	**Saint Saulge**	**2.34**	**272**	*e*Sg	**Sg**	23 46 12.5	-0.5
	0.4nm,0.2s						
AVF	**Avril sur Loir**	**2.46**	**266**	*e*Sg	**Sg**	23 46 16.3	-0.5
	0.5nm,0.2s						
VIVF	**Saint-Julien-l**	**2.67**	**217**	*e*Pg	**Pg**	23 45 47.6	-1.3
VIVF				*e*Sg	**Sg**	23 46 22.7	-0.9
	1.8nm,0.4s						

NEIC 01 23:45:43.2±0.8, 800S×11038E, h35km, mb4.0/3, Error ellipse: s-maj=27.1km s-min=12.5km az=71.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**15.12**	**23**	*e*Pn	Pn	23 49 14.2	+0.2
MBWA	**Marble Bar**	**15.90**	**146**	P	Pn	23 49 24.4	+0.2
QIZ	**Qiongzhong**	**26.86**	**359**	P	P	23 51 20.9	+0.5
KURK	**Kurchatov**	**64.61**	**338**	*e*P	P	23 56 17.4	+0.3
	0.6nm,0.4s						
BRVK	**Borovoye**	**69.69**	**336**	*e*P	P	23 56 48.3	-0.9
	1.0nm,0.4s						
CHKZ	**Ch

CICH				*e*S	Sn	00 09 56.8	+1.4
LCCH	**Las Cruces**	**1.03**	**260**	⇑*i*P	Pn	00 09 40.6	+1.3
LCCH				*i* S	Sn	00 09 57.3	+1.5
LNV	**Longovilo**	**1.10**	**233**	⇑*i*P	Pn	00 09 40.2	+0.2
PACH	**Papudo**	**1.19**	**309**	*i* P	Pn	00 09 41.5	+0.5
PACH				*i* S	Sn	00 09 59.1	+0.5
SFDO	**San Fernando**	**1.42**	**203**	⇑*i*P	Pn	00 09 44.1	+0.5
SFDO				*i* S	Sn	00 10 04.4	+1.1
CMCH	**Combarbala**	**2.19**	**345**	*e*P	Pn	00 09 53.6	+0.5
CMCH				*i* S	Sn	00 10 20.1	-0.1
CMCH				AML	AML	00 10 22.9	
	comp=E,603nm,0.5s						
CMCH	**Combarbala**	**2.19**	**345**	*e*P	Pn	00 09 53.6	+0.5
CMCH				S	Sn	00 10 20.1	-0.1
TLL	**Tololo Astrono**	**3.15**	**353**	*e*P	Pn	00 10 06.6	+1.1
TLL				*i* S	Sn	00 10 44.1	+1.5
TLL				AML	AML	00 10 46.2	
	comp=E,264nm,0.4s						
TLL	**Tololo Astrono**	**3.15**	**353**	*e*P	Pn	00 10 06.6	+1.1
TLL				*i* S	Sn	00 10 44.1	+1.5

ISCJB ***02*** *00:12:09.7±1.4,587S±007×14857E±009,h40km±12km, mb3.8/9,MS3.3/1,Error ellipse: s-maj=16.7km s-min=8.8km az=61.4*

NEIC ***02*** *00:12:13.0±0.4,592S×14854E,mb4.0/5,Error ellipse: s-maj=9.0km s-min=7.1km az=105.0*

IDC ***02*** *00:12:12.3±0.9,597S×14866E,h53km±6km,mb3.7/7, mb1 4.0/10,mb1mx4.0/14,mbtmp4.1/10,MS3.3/2, Ms1 3.3/2,ms1mx2.6/18,Error ellipse: s-maj=29.9km s-min=12.0km az=107.0*

ISC 02 00:12:14.5±1.1,601S±007×14855E±009,h69km±10km, h56km±.7km:pP-P,n27,σ0§77/30,mb3.6/9,2C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.64**	**202**	P		**Pn**	**00 13 08.2**	**-0.2**
	68nm,0.3s,baz=12,slow=6.0,SNR=112							
PMG				S		**Sn**	**00 13 50.3**	**+0.2**
	68nm,0.3s,baz=31,slow=15,SNR=12							
HNR	**Honiara**	**11.79**	**107**	*e*Pn		**Pn**	**00 14 60.0**	**+0.3**
CTA	**Charters Tower**	**14.17**	**189**	*e*P		**Pn**	**00 15 31.5**	**-0.1**
	2.7nm,0.6s							
CTA	**Charters Tower**	**14.17**	**189**	P		**Pn**	**00 15 31.3**	**-0.3**
	0.5nm,0.3s,baz=13,slow=15,SNR=5.2							
CTA				LR		LR	00 19 51.4	
	comp=Z,93nm,22.0s,baz=54,slow=32							
CTAO	**Charters Tower**	**14.17**	**189**	*e*Pn		**Pn**	**00 15 33.0**	**+1.3**
	2.6nm,0.6s							
KAKA	**Kakadu**	**17.23**	**246**	*e*P		**Pn**	**00 16 11.3**	**+0.9**
	8.7nm,0.8s							
WRAB	**Tennant Creek**	**19.54**	**224**	*e*P		**Pn**	**00 16 36.9**	**-1.4**
	12nm,0.8s							
WB2	**Warramunga Arr**	**19.55**	**224**	⇑*i*P		**Pn**	**00 16 37.3**	**-1.1**
WB2				*e*S		**S**	**00 20 23.4**	**+10**
WRA	**Warramunga Arr**	**19.56**	**224**	P		**Pn**	**00 16 37.1**	**-1.4**
	1.7nm,0.3s,baz=51,slow=11,SNR=29							
WRA				S		**S**	**00 20 13.1**	**-0.5**
	0.2nm,0.3s,baz=51,slow=20,SNR=5.5							
AS31	**Alice Springs**	**22.51**	**217**	*e*P		**P**	**00 17 08.7**	**+0.5**
AS31				*e*S		**S**	**00 21 10.6**	**+0.2**
ASAR	**Alice Springs**	**22.51**	**217**	P		**P**	**00 17 08.7**	**+0.5**
	2.5nm,0.7s,mb3.7,baz=47,slow=9.8,SNR=29							
ASAR				pP			00 17 21.6	
	4.3nm,0.5s,baz=51,slow=9.9,SNR=9.0							
ASAR				PcP		PcP	00 21 00.5	+0.7
	0.7nm,0.8s,baz=70,slow=3.0,SNR=4.1							
ASAR				S		**S**	**00 21 10.6**	**+0.2**
	3.2nm,0.8s,baz=34,slow=22,SNR=14							
ASPA	**Alice Springs**	**22.51**	**217**	*e*P		**P**	**00 17 08.7**	**+0.5**
ASPA				*e*S		**S**	**00 21 10.6**	**+0.1**
DZM	**Mont Dzumac**	**23.54**	**134**	LR		LR	00 25 21.6	
	comp=Z,98nm,18.4s,baz=148,slow=34							
FITZ	**Fitzroy Crossi**	**25.38**	**240**	⇑*i*P		**P**	**00 17 35.8**	**+0.6**
	9.8nm,0.3s,mb4.7							
FITZ	**Fitzroy Crossi**	**25.38**	**240**	P		**P**	**00 17 35.8**	**+0.6**
	6.7nm,0.5s,mb4.3,baz=59,slow=9.6,SNR=57							
FITZ				pP		pP	00 17 49.4	-2.2
	8.8nm,0.7s,baz=99,slow=8.6,SNR=7.5							
STKA	**Stephens Creek**	**26.54**	**193**	P		**P**	**00 17 45.6**	**0.0**
	1.0nm,0.6s,mb3.5,baz=34,slow=7.3,SNR=2.6							
STKA				pP		pP	00 17 59.1	-3.0
	4.9nm,1.0s,baz=18,slow=6.4,SNR=3.3							
MBWA	**Marble Bar**	**31.71**	**239**	*e*P		**P**	**00 18 32.0**	**+0.5**
MBWA				*e*pP		pP	00 18 45.4	-2.7
KKM	**Kota Kinabalu**	**34.43**	**290**	*e*P		**P**	**00 18 55.6**	**+0.4**
MJAR	**Matsushiro Arr**	**43.43**	**348**	pP		pP	00 20 25.1	-2.5
	0.6nm,0.4s,baz=173,slow=8.3,SNR=3.6							
SONM	**Songino Array**	**65.17**	**330**	P		**P**	**00 22 49.5**	**+1.2**
	0.3nm,0.4s,mb3.5,baz=152,slow=6.5,SNR=4.6							
CASY	**Casey**	**65.66**	**196**	P		**P**	**00 22 52.6**	**+1.3**
VNDA	**Vanda**	**71.81**	**177**	P		**P**	**00 23 29.1**	**-0.5**
	0.4nm,0.6s,mb3.4,baz=309,slow=7.3,SNR=7.8							
VNDA				pP		pP	00 23 44.6	-3.6
	1.1nm,0.8s,baz=335,slow=5.8,SNR=4.9							
MKAR	**Makanchi Array**	**78.49**	**320**	P		**P**	**00 24 07.3**	**-0.7**
	0.3nm,0.5s,mb3.3,baz=94,slow=9.7,SNR=5.8							
KURK	**Kurchatov**	**82.15**	**323**	*e*P		**P**	**00 24 27.7**	**0.0**
	0.4nm,0.4s,mb3.6							
ILAR	**Eielson Array**	**84.89**	**23**	P		**P**	**00 24 40.2**	**-1.5**
	0.7nm,0.5s,mb3.9,baz=257,slow=5.2,SNR=9.6							
CHKZ	**Chkalovo**	**87.71**	**324**	*e*P		**P**	**00 24 55.2**	**-0.3**
	0.3nm,0.6s,mb3.5							
TORD	**Torodi Ar. Bea**	**146.59**	**285**	PKPbc		PKPbc	00 31 48.3	+0.3
	0.5nm,0.4s,baz=72,slow=2.5,SNR=32							
TORD				pPKPbc		pPKPbc	00 32 03.5	-4.2
	0.4nm,0.5s,baz=92,slow=3.4,SNR=3.2							

INMG ***02*** *00:13:09.1±0.9,3582N×991W,h10km,ML1.6,Error ellipse: s-maj=8.4km s-min=5.2km az=71.0*

MDD 02 00:13:08.5±2.7,3588N×983W,h0km,mbLg2.4/5,Error ellipse: s-maj=23.8km s-min=19.0km az=72.0,PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.89**	**28**	*e*Pn		Pn	00 13 40.4	-1.6
PTEO				*e*Sn		Sn	00 14 04.8	-1.7
PTEO								
	2.1nm,0.1s							
EGRO	**El Granado**	**2.51**	**48**	P		Pn	00 13 49.6	-0.9
	2.4nm,0.1s,SNR=24							
EGRO				S		Sn	00 14 20.3	-1.5
	2.4nm,0.1s,SNR=7.9							
PBEJ	**Beja**	**2.66**	**36**	*e*Pn		Pn	00 13 51.5	-1.1
PBEJ				*e*Sn		Sn	00 14 23.0	-2.6
PBEJ								
	1.1nm,0.1s							
PLOU	**Loures**	**3.05**	**10**	*e*Sn		Sn	00 14 31.5	-3.7
PLOU								
	3.3nm,0.2s							
PLOU	**Loures**	**3.05**	**10**	S		Sn	00 14 31.5	-3.7
	1.6nm,0.2s							
EMIN	**Mina Concepcio**	**3.16**	**52**	P		Pn	00 13 57.8	-1.7
	0.2nm,0.1s,SNR=7.9							
EMIN				S		Sn	00 14 34.9	-2.9
	0.7nm,0.1s,SNR=7.9							
ESPR	**Espera**	**3.35**	**72**	P		Pn	00 14 01.0	-1.2
	0.7nm,0.1s,SNR=7.9							
ESPR				S		Sn	00 14 38.7	-4.0
	4.4nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**3.65**	**37**	P		Pn	00 14 05.5	-0.6
	0.5nm,0.1s,SNR=7.9							
EBAD				S		Sn	00 14 47.7	-2.2
	1.2nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**4.37**	**24**	*e*Sn		Sn	00 15 03.8	-4.0
EADA	**Adamuz**	**4.78**	**60**	P		Pn	00 14 20.3	-1.5
	0.2nm,0.1s,SNR=7.9							
EADA				S		Sn	00 15 13.6	-4.3
	1.1nm,0.1s,SNR=7.7							

ISCJB ***02*** *00:24:12.4±0.5,7356N±004×84E±02,h10km,mb3.5/6, MS3.0/7,Error ellipse: s-maj=7.1km s-min=6.4km az=154.8*

IDC ***02*** *00:24:13.6±1.4,7354N×820E,h0km,mb3.6/4,mb1 3.7/9, mb1mx3.5/24,mbtmp3.6/9,ML3.3/5,MS3.0/10,Ms1 3.0/10, ms1mx2.8/28,Error ellipse: s-maj=24.6km s-min=18.9km az=38.0*

CSEM ***02*** *00:24:14.3±0.1,7346N×885E,h10km,ML2.5,Error ellipse: s-maj=3.4km s-min=2.5km az=53.0*

NEIC ***02*** *00:24:14.6±0.5,7359N×832E,h10km,mb3.7/2,Error ellipse: s-maj=8.3km s-min=6.9km az=55.0*

BER ***02*** *00:24:17.8±3.0,7362N×869E,h10km,MD2.8,ML2.5*

HEL ***02*** *00:24:18.3±1.3,7354N×9.19E,h10km,ML3.7, mb3.7(NEIC),ML2.5(BER)*

ISC 02 00:24:14.2±0.5,7360N±004×83E±02,h10km,n55, σ0§85/59,mb3.5/6,MS3.0/7,1C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.08**	**68**	*e*P		**Pn**	**00 25 02.6**	**-0.3**
BJO	**Bjornoya**	**3.13**	**68**	*e*P		**Pn**	**00 25 02.6**	**-1.0**
TRO	**Tromso**	**5.20**	**135**	*e*P		**Pn**	**00 25 31.4**	**-0.7**
TRO				*e*			00 26 11.1	
TRO				⇑*e*			00 29 00.7	
HOPEN	**Hopen**	**5.20**	**48**	*e*P		**Pn**	**00 25 32.1**	**+0.1**
HOPEN				*e*S		**Sn**	**00 26 27.1**	**-5.0**
HOPEN				AML		AML	00 26 28.7	
	comp=N,13nm,0.6s							
KBS	**Kingsbay**	**5.43**	**7**	*e*Pn		**Pn**	**00 25 35.0**	**-0.2**
	comp=N,9.8nm,0.8s							
KBS	**Kingsbay**	**5.43**	**7**	*e*Pn		**Pn**	**00 25 35.0**	**-0.2**
	comp=N,9.8nm,0.8s							
LOF	**Lofoten**	**5.75**	**160**	*e*P		**Pn**	**00 25 40.7**	**+1.1**
LOF				*e*			00 26 35.4	
LOF				AML		AML	00 26 42.0	
	comp=Z,12nm,0.4s							
LOF	**Lofoten**	**5.75**	**160**	*e*P		**Pn**	**00 25 40.7**	**+1.1**
LOF				*e*S		**Sn**	**00 26 35.6**	**-10**
LOF				AML		AML	00 26 42.0	
	comp=Z,12nm,0.4s							
LOF	**Lofoten**	**5.75**	**160**	*e*P		**Pn**	**00 25 40.7**	**+1.1**
LOF				*e*			00 26 35.4	
JMIC	**Jan Mayen**	**5.76**	**251**	Pn		**Pn**	**00 25 39.3**	**-0.5**
	comp=Z,21nm,0.3s,baz=3.6,slow=2.6,SNR=3.4							
KIF	**Kilpisjarvi**	**6.10**	**133**	*e*P		**Pn**	**00 25 44.8**	**+0.4**
KIF				MPN			00 25 46.4	
	comp=Z,8.6nm,0.3s							
KIF				*e*S		**Sn**	**00 26 49.0**	**-5.3**
KIF	**Kilpisjarvi**	**6.10**	**133**	P		**Pn**	**00 25 44.7**	**+0.3**
	comp=Z,8.6nm,0.3s							
KTK1	**Kautokeino**	**6.62**	**127**	*e*P		**Pn**	**00 25 54.1**	**+2.5**
ARA0	**ARCESS Array S**	**6.78**	**118**	*e*P		**Pn**	**00 25 53.8**	**+0.1**
ARA0				*e*S		**Sn**	**00 27 02.6**	**-8.4**
ARCES	**ARCESS Array B**	**6.78**	**118**	Pn		**Pn**	**00 25 53.8**	**0.0**
	comp=Z,21nm,0.3s,baz=323,slow=11,SNR=66							
ARCES				Sn		**Sn**	**00 27 03.0**	**-8.0**
	comp=Z,0.6nm,0.3s,baz=308,slow=19,SNR=3.3							
ARCES				LR		LR	00 28 59.5	
	comp=Z,89nm,18.1s,baz=281,slow=42							
KEV	**Kevo**	**7.01**	**114**	*e*P		**Pn**	**00 25 57.1**	**+0.2**
KEV				*e*S		**Sn**	**00 27 07.1**	**-10**
KEV	**Kevo**	**7.01**	**114**	*e*Pn		**Pn**	**00 25 57.4**	**+0.5**
STOK	**Stokkvaagen**	**7.47**	**165**	*e*P		**Pn**	**00 26 02.9**	**-0.4**
STOK	**Stokkvaagen**	**7.47**	**165**	*e*P		**Pn**	**00 26 02.8**	**-0.4**
	SNR=47							
MOR8	**Moi Rana**	**7.75**	**161**	*e*P		**Pn**	**00 26 06.8**	**-0.3**
MOR8				*e*S		**Sn**	**00 27 21.0**	**-14**
SGF	**Sodankyl**	**8.62**	**127**	*e*P		**Pn**	**00 26 19.6**	**+0.6**
SGF				MPN			00 26 20.9	
	comp=Z,2.1nm,0.4s							
SGF	**Sodankyl**	**8.62**	**127**	P		**Pn**	**00 26 19.6**	**+0.6**
	comp=Z,2.1nm,0.4s							
NSS	**Namsos**	**9.20**	**170**	*e*P		**Pn**	**00 26 26.5**	**-0.5**
NSS				*e*S		**Sn**	**00 28 03.9**	**-6.6**
KU4	**Liikasenvaara**	**10.21**	**124**	*e*P		**Pn**	**00 26 40.5**	**-0.2**
KU4				MPN			00 26 42.2	
	comp=Z,2.7nm,0.4s							
KU4	**Liikasenvaara**	**10.21**	**124**	P		**Pn**	**00 26 40.5**	**-0.2**
	comp=Z,2.7nm,0.4s							
MSF	**Maaselka**	**10.46**	**127**	*e*P		**Pn**	**00 26 43.7**	**-0.4**
MSF				MPN			00 26 45.6	
	comp=Z,2.7nm,0.4s							
MSF				*e*S		**Sn**	**00 28 33.6**	**-7.8**
MSF	**Maaselka**	**10.46**	**127**	P		**Pn**	**00 26 43.7**	**-0.5**
	comp=Z,2.7nm,0.4s							
OUL	**Oulu**	**10.50**	**135**	*e*P		**Pn**	**00 26 46.4**	**+1.7**
OUL				MPN			00 26 47.5	
	comp=Z,1.4nm,0.4s							
KJN	**Kajaani**	**11.75**	**134**	*e*P		**Pn**	**00 27 02.0**	**+0.1**
KJN				MPN			00 27 04.8	
	comp=Z,6.9nm,0.5s							
NOA	**NORSAR Array B**	**12.66**	**174**	Pn		**Pn**	**00 27 13.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=352,slow=13,SNR=3.3							
NOA				LR		LR	00 31 55.8	
	comp=Z,42nm,20.6s,baz=355,slow=37							
NAO01	**NORSAR Array S**	**12.85**	**174**	*e*P		**Pn**	**00 27 17.6**	**+0.8**
NAO01	**NORSAR Array S**	**12.85**	**174**	*e*P		**Pn**	**00 27 17.6**	**+0.7**
KEF	**Keuruu**	**12.97**	**143**	*e*P		**Pn**	**00 27 18.0**	**-0.6**
KEF				MPN			00 27 20.4	
	comp=Z,2.2nm,0.4s							
KAF	**Kangasniemi**	**13.28**	**141**	*e*p		**Pn**	**00 27 22.6**	**-0.1**
	comp=Z,4.9nm,0.5s							
SUMG	**Summit**	**13.38**	**288**	*e*Pn		**Pn**	**00 27 24.5**	**+0.3**
SUMG	**Summit**	**13.38**	**288**	*e*Pn		**Pn**	**00 27 24.5**	**+0.3**
JOF	**Joensuu**	**13.54**	**130**	*e*p		**Pn**	**00 27 24.6**	**-1.8**
	comp=Z,7.2nm,0.8s							
JOF	**Joensuu**	**13.54**	**130**	*e*P		**Pn**	**00 27 24.4**	**-1.9**
JOF				MPN			00 27 25.5	
	comp=Z,3.1nm,0.5s							
JOF	**Joensuu**	**13.54**	**130**	*e*P		**Pn**	**00 27 24.6**	**-1.8**
	comp=Z,7.2nm,0.8s							
HFS	**Hagfors**	**13.68**	**169**	Pn		**Pn**	**00 27 26.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=59,slow=12,SNR=4.0							
HFS				Sn		**Sn**	**00 29 53.2**	**-7.0**
	comp=Z,0.2nm,0.3s,baz=17,slow=26,SNR=3.0							
HFS				LR		LR	00 32 19.4	
	comp=Z,75nm,20.3s,baz=319,slow=36							
FINES	**FINESS Array B**	**13.86**	**142**	Pn		**Pn**	**00 27 29.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=352,slow=12,SNR=9.2							
EKA	**Eskdalemuir Ar**	**18.92**	**201**	P		**Pn**	**00 28 35.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=17,slow=12,SNR=4.9							
MORC	**Moravsky Berou**	**24.24**	**165**	*e*P		**P**	**00 29 30.9**	**-0.3**
	comp=Z,0.9nm,0.5s,mb3.5							
MORC	**Moravsky Berou**	**24.24**	**165**	*e*P		**P**	**00 29 30.9**	**-0.3**
VRAC	**Vranov**	**24.64**	**167**	P		**P**	**00 29 36.2**	**+1.3**
	comp=Z,1.3nm,0.6s,mb3.7,baz=9.5,slow=12,SNR=4.5							
AKASG	**Malin Array Be**	**24.66**	**147**	P		**P**	**00 29 35.8**	**+0.7**
	comp=Z,0.5nm,0.4s,mb3.4,baz=343,slow=9.2,SNR=4.4							
GERES	**GERESS Array B**	**24.95**	**172**	P		**P**	**00 29 38.7**	**+1.1**
	comp=Z,0.6nm,0.6s,mb3.3,baz=344,slow=8.3,SNR=7.7							
GERES				LR		LR	00 39 52.9	
	comp=Z,45nm,18.5s,MS3.0,baz=37,slow=38							
DAVOX	**Davos**	**26.91**	**178**	LR		LR	00 40 18.1	
	comp=Z,38nm,20.0s,MS3.0,baz=88,slow=36							
MLR	**Muntele Rosu**	**29.31**	**154**	LR		LR	00 42 02.1	
	comp=Z,63nm,18.7s,MS3.3,baz=99,slow=36							
AKTO	**Aktyubinsk**	**31.28**	**110**	LR		LR	00 44 03.2	
	comp=Z,37nm,19.8s,MS3.1,baz=0.0,slow=38							
CHKZ	**Chkalovo**	**31.87**	**94**	*e*P		**P**	**00 30 40.5**	**+1.1**
	comp=Z,1.4nm,0.9s,mb3.8							
SCHQ	**Schefferville**	**34.50**	**279**	LR		LR	00 43 55.9	
	comp=Z,28nm,21.4s,MS3.0,baz=121,slow=34							
GNI	**Garni**	**37.71**	**132**	LR		LR	00 48 54.6	
	comp=Z,15nm,21.1s,MS2.8,baz=126,slow=39							
YKA	**Yellowknife Ar**	**38.98**	**322**	LR		LR	00 48 13.7	
	comp=Z,29nm,20.3s,MS3.1,baz=85,slow=37							
ILAR	**Eielson Array**	**40.92**	**344**	P		**P**	**00 31 56.6**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.1,baz=1.6,slow=6.3,SNR=4.1							

BJI ***02*** *00:33:52.6,2062N×11999E,h16km,mB4.7,mb4.5,ML4.1, Ms4.4,Msz4.2*

ISCJB ***02*** *00:33:53.0±0.2,2055N±003×12005E±004,h23km, mb4.7/73,MS3.7/16,Error ellipse: s-maj=4.9km s-min=3.4km az=138.9*

HRVD ***02*** *00:33:54.7±0.8,2051N×11994E,h15km±2km,MW4.7/38, Centroid moment Tensor Solution. LP body waves: s5,c5;Mantle waves: s38,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.14±.17; $M_{\theta\theta}$0.14±.09; $M_{\phi\phi}$0.99±.12; $M_{r\theta}$-0.46±.27; $M_{\theta\phi}$0.02±.05; $M_{\phi r}$0.57±.24; Best double couple: $M_0$1.28300×10^{16} NP1:ϕ_s14.00000°, δ32.00000°,λ-63.00000°. NP2:ϕ_s162.00000°,δ62.00000°, λ-106.00000°. Principal axes: T 1.1510, Plg15.0000°, Azm264.0000°; N 0.2610, Plg14.0000°, Azm170.0000°; P -1.4140, Plg69.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***02*** *00:33:54.9±1.3,2064N×120.11E,h33km,mb4.9/33 Error ellipse: s-maj=11.9km s-min=5.5km az=119.7*

NEIC ***02*** *00:33:54.7±0.2,2053N×12006E,mb5.0/35,Error ellipse: s-maj=7.7km s-min=5.5km az=71.0*

IDC ***02*** *00:33:54.0±0.5,2055N×120.12E,h23km±2km,mb4.2/20, mb1 4.4/20,mb1mx4.3/23,mbtmp4.3/20,MS3.6/9, Ms1 3.6/9,ms1mx3.3/19,Error ellipse: s-maj=23.2km s-min=10.3km az=68.0*

MAN ***02*** *00:33:57.1,20.16N×120.29E,h1km,MS6.3*

SZGRF ***02*** *00:33:57.0,1942N×121.25E,h33km,mb5.0,Philippine Islands region*

ISC 02 00:33:55.0±0.2,2055N±003×12011E±003,h24km, h24km±.9km:pP-P,n195,σ1§16/183,mb4.7/73,MS3.7/16, 6C-11D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.26**	**168**	⇓*i*P		**Pn**	**00 34 29.6**	**-1.3**
PIP				*e*S		**Sn**	**00 34 55.1**	**-2.9**
APYP	**Conner**	**2.88**	**158**	*e*P		**Pn**	**00 34 39.8**	**+0.5**
SGCP	**Mt. Cagua**	**2.93**	**141**	*e*P		**Pn**	**00 34 40.4**	**+0.3**
NACB	**Ninganchiao**	**3.86**	**21**	*e*Pn		**Pn**	**00 34 52.0**	**-0.9**
CAUP	**Cauayan**	**3.94**	**155**	*e*P		**Pn**	**00 34 58.1**	**+4.3**
BOLP	**Bolinao**	**4.15**	**183**	*e*P		**Pn**	**00 34 58.0**	**+1.3**
YHNB	**Yeheng**	**4.27**	**16**	*e*Pn		**Pn**	**00 34 56.8**	**-1.6**
QZH	**Quanzhou**	**4.59**	**343**	P		**Pn**	**00 34 57.5**	**-5.4**
QZH				S		**Sn**	**00 35 46.5**	**-9.0**
QZH				Smax				
	comp=N,280nm,0.7s							
QZH				Smax				
	comp=E,270nm,1.0s							
QZH				LR		LR		
	comp=N,2μm,12.4s							
QZH				LR		LR		
	comp=E,4μm,15.1s							
QZH				LR		LR		
	comp=Z,3μm,10.2s							
BALP	**Baler**	**4.98**	**163**	*e*P		**Pn**	**00 35 09.4**	**+1.2**
GZH	**Guangzhou**	**6.77**	**293**	P		**Pn**	**00 35 25.7**	**-7.1**
GZH				Smax				
	comp=N,100nm,1.0s							
GZH				Smax				
	comp=E,100nm,1.0s							
QIZ	**Qiongzhong**	**9.78**	**263**	P		**Pn**	**00 36 13.4**	**-0.7**
QIZ				S		**Sn**	**00 38 03.2**	**+0.1**
QIZ				LR		LR		
	comp=E,1μm,10.6s							
QIZ				LR		LR		
	comp=Z,1μm,10.0s							
SSE	**Sheshan**	**10.55**	**5**	P		**Pn**	**00 36 24.2**	**-0.4**
SSE				S		**Sn**	**00 38 22.5**	**+0.5**
SSE				AMB		AMB		
	comp=Z,30nm,0.6s							
SSE				AMB		AMB		
	comp=Z,490nm,4.0s							
SSE				LR		LR		
	comp=N,80nm,17.4s							
SSE				LR		LR		
	comp=E,210nm,17.4s							
NJ2	**Nanjing**	**11.51**	**355**	*e*P		**Pn**	**00 36 40.3**	**+2.5**
NJ2				AP			00 36 47.3	
NJ2				PP			00 36 50.4	
NJ2				XP			00 36 51.6	
NJ2				S		**Sn**	**00 38 48.0**	**+2.4**
NJ2				XS			00 38 59.0	
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s							
NJ2				AMB		AMB		
	comp=Z,1μm,5.6s							
NJ2				LR		LR		
	comp=N,950nm,11.7s							
NJ2				LR		LR		
	comp=E,2μm,10.1s							
NJ2				LR		LR		
	comp=Z,330nm,13.7s							
GYA	**Guiyang**	**13.66**	**298**	P		**Pn**	**00 37 02.8**	**-4.3**
GYA				AP			00 37 10.6	
GYA				XP			00 37 15.0	
GYA				S		**Sn**	**00 39 40.4**	**+2.3**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s							
GYA				AMB		AMB		
	comp=Z,380nm,3.6s							
GYA				LR		LR		
	comp=N,480nm,10.5s							
GYA				LR		LR		
	comp=E,830nm,10.8s							
GYA				LR		LR		
	comp=Z,870nm,11.1s							
KKM	**Kota Kinabalu**	**14.90**	**195**	P		pP	00 37 32.4	-3.7
TSM	**Tawau**	**16.30**	**188**	P		**Pn**	**00 37 46.6**	**+4.4**
KMI	**Kunming**	**16.64**	**289**	P		**Pn**	**00 37 49.0**	**+2.4**
KMI				AP		pP	00 37 54.6	-0.8
KMI				XP		sP	00 37 58.5	0.0
KMI				PP			00 38 01.0	
KMI				S		**Sn**	**00 40 49.0**	**-1.6**
KMI				AMB		AMB		
	comp=Z,10.0nm,0.9s							
KMI				AMB		AMB		
	comp=Z,160nm,4.2s							
KMI				LR		LR		
	comp=N,410nm,9.8s							
KMI				LR		LR		
	comp=E,530nm,12.3s							
KMI				LR		LR		
	comp=Z,380nm,14.4s							
CD2	**Chengdu**	**17.96**	**308**	P		**Pn**	**00 38 02.0**	**-1.0**
CD2				AP		pP	00 38 08.0	-2.0
CD2				XP		sP	00 38 11.5	-1.6
CD2				PP			00 38 16.6	
CD2				S		**Sn**	**00 41 16.2**	**-6.4**
CD2				XS		sS	00 41 29.5	-9.3
CD2				SS			00 41 39.1	
CD2				AMB

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CN2                                    eS      S       00 43 13.9 -3.1
CN2                                    AMB     AMB
     comp=Z,10.0nm,0.5s,mb4.5
CN2                                    LR      LR
     comp=N,800nm,14.0s,MS4.4
CN2                                    LR      LR
     comp=E,500nm,14.0s,MS4.4
CN2                                    LR      LR
     comp=Z,600nm,15.0s,MS4.2
GUMO Guam          24.64 102           LR      LR      00 47 07.6
     comp=Z,110nm,19.8s,MS3.4,baz=41,slow=32
KGM  Kluang        24.65 224           P       pP      00 39 22.3 +1.5
MDJ  Mudanjiang    25.26  16           P       P       00 39 19.2  0.0
MDJ                                    AP      pP      00 39 27.8 +1.5
MDJ                                    XP      sP      00 39 31.7 +2.4
MDJ                                    S       S       00 43 43.6 +0.1
MDJ                                    AMB     AMB
     comp=Z,10.0nm,1.0s,mb4.3
MDJ                                    AMB     AMB
     comp=Z,60nm,4.3s
MDJ                                    LR      LR
     comp=N,70nm,18.0s,MS3.4
MDJ                                    LR      LR
     comp=E,70nm,16.7s,MS3.4
MDJ                                    LR      LR
     comp=Z,80nm,16.2s,MS3.3
GTA  Gaotai        25.63 322 eP        P       00 39 21.9 -0.7
GTA                                    AP      pP      00 39 31.1 +1.4
GTA                                    XP      sP      00 39 34.9 +2.2
GTA                                    PP      00 40 02.7
GTA                                    PCP     PcP     00 42 57.0 +4.1
GTA                                    S       S       00 43 46.9 -2.5
GTA                                    SS      00 44 52.7
GTA                                    SCP     ScP     00 46 32.2 +1.5
GTA                                    PCS     PcS     00 46 36.8 +3.3
GTA                                    SCS     ScS     00 50 19.0 -0.9
GTA                                    AMB     AMB
     comp=Z,80nm,7.6s
GTA                                    LR      LR
     comp=N,250nm,10.7s,MS4.2
GTA                                    LR      LR
     comp=E,230nm,10.3s,MS4.2
GTA                                    LR      LR
     comp=Z,340nm,11.0s,MS4.1
PSI  Prapat        27.16 232           LR      LR      00 48 57.3
     comp=Z,147nm,18.7s,MS3.6,baz=346,slow=33
LSA  Lhasa         27.69 295 eP        P       00 39 41.4 +0.2
LSA                                    pmax    pmax
     comp=Z,10.0nm,0.7s,mb4.5
LSA  Lhasa         27.69 295 ePn       P       00 39 41.4 +0.3
     comp=Z,10nm,0.7s,mb4.6
ULN  Ulaanbaatar   29.23 342 eP        P       00 39 55.3 +0.5
SONM Songino Array 29.40 341           P       P       00 39 55.9 -0.4
     comp=Z,2.3nm,0.8s,mb3.9,baz=164,slow=9.3,SNR=11
SONM                                   LR      LR      00 52 04.4
     comp=Z,158nm,19.1s,MS3.6,baz=172,slow=37
ASAJ Asahikawa     30.04  33           LR      LR      00 52 50.2
     comp=Z,126nm,19.4s,MS3.6,baz=216,slow=38
KLR  Kul'dur       30.10  15 eP        P       00 39 58.7 -3.8
KLR                                    MLR     MLR
     comp=E,500nm,17.0s
JIRN Jiri          31.69 290 eP        P       00 40 16.2 -0.3
     comp=E,34nm,0.8s,mb5.2
GUN  Gumba         31.98 290 eP        P       00 40 19.0 -0.1
     comp=E,34nm,0.8s,mb5.2
YSS  Yuzh-Sakhalins 32.15  30 i P      P       00 40 16.1 -4.5
PKI  Pulchoki      32.37 289 eP        P       00 40 21.8 -0.7
KKN  Kakani        32.50 290 eP        P       00 40 22.7 -1.0
     comp=E,24nm,0.8s,mb5.2
KKN  Kakani        32.50 290 eP        P       00 40 22.7 -1.0
KKN                                    pmax    pmax
     comp=Z,25nm,0.8s,mb5.2
ZAK  Zakamensk     32.61 340 eP        P       00 40 20.1 -4.6
ZAK                                    pmax    pmax
     comp=Z,5.0nm,2.0s,mb4.1
DMN  Daman         32.64 289 eP        P       00 40 24.0 -0.9
     comp=Z,28nm,0.9s,mb5.2
GKN  Gorkha        33.09 290 eP        P       00 40 27.6 -1.2
     comp=Z,35nm,0.9s,mb5.3
TLY  Talaya        33.63 341 eP        P       00 40 34.0 +0.4
TLY                                    eS      S       00 46 00.4 +5.5
TLY                                    pmax    pmax
     comp=Z,8.0nm,1.4s,mb4.5
TLY                                    MLR     MLR
     comp=Z,95nm,12.0s,MS3.7
KOLN Koldanda      33.98 289 eP        P       00 40 35.6 -1.0
     comp=Z,33nm,0.9s,mb5.3
KAKA Kakadu        35.20 159 eP        P       00 40 44.9 -2.3
     comp=Z,12nm,0.8s,mb4.9
WMQ  Urumqi        35.57 318 eP        P       00 40 51.5 +1.2
WMQ                                    XP      sP      00 41 04.2 +3.7
WMQ                                    PP      PP      00 42 12.2 +1.0
WMQ                                    S       S       00 46 23.5 -1.2
WMQ                                    XS      sS      00 46 37.4 +0.8
WMQ                                    AMB     AMB
     comp=Z,30nm,3.6s
WMQ                                    LR      LR
     comp=N,80nm,16.0s,MS3.7
WMQ                                    LR      LR
     comp=E,80nm,16.0s,MS3.7
WMQ                                    LR      LR
     comp=Z,80nm,16.0s,MS3.6
FITZ Fitzroy Crossi        38.79 172 eP        P       00 41 17.1 -0.5
     comp=Z,7.0nm,0.8s,mb4.4
FITZ Fitzroy Crossi        38.79 172 P         P       00 41 17.0 -0.7
     comp=Z,2.7nm,0.8s,mb4.0,baz=345,slow=12,SNR=3.9
FITZ                                   pP      pP      00 41 22.4 -2.5
     comp=Z,3.4nm,0.7s,baz=294,slow=13,SNR=4.9
PMG  Port Moresby  39.92 136c i P      P       00 41 28.7 +1.6
MK31 Makanchi Array 40.34 319          P       P       00 41 29.7 -0.9
MK31                                   pmax    pmax
     comp=Z,7.0nm,0.9s,mb4.4
MKAR Makanchi Array 40.34 319          P       P       00 41 29.6 -1.0
     comp=Z,1.6nm,0.7s,mb3.8,baz=113,slow=9.9,SNR=17
MKAR                                   pP      pP      00 41 36.8 -1.1
     comp=Z,4.9nm,0.7s,baz=117,slow=9.2,SNR=23
YAK  Yakutsk       41.98   7⇓eP        P       00 41 42.1 -2.0
YAK                                    pmax    pmax
     comp=Z,12nm,0.5s,mb4.8
WRAB Tennant Creek 42.58 160           P       P       00 41 49.0 +0.1
     comp=Z,213nm,0.9s,mb5.9,SNR=9.2
WRAB Tennant Creek 42.58 160           eP      P       00 41 49.0 +0.1
WRA  Warramunga Arr 42.58 160          P       P       00 41 48.7 -0.2
     comp=Z,28nm,0.9s,mb5.0,baz=342,slow=8.9,SNR=78
WRA                                    pP      pP      00 41 55.9 -0.4
     comp=Z,18nm,0.7s,baz=343,slow=9.1,SNR=15
WB2  Warramunga Arr 42.59 160          eP      P       00 41 48.1 -0.9
WB2                                    eS      S       00 48 16.5 +6.2
ZAL  Zalesovo      42.81 330           P       P       00 41 50.8 -0.1
     comp=Z,2.4nm,0.8s,mb4.0,baz=346,slow=6.4,SNR=13
ZAL                                    pP      pP      00 41 57.0 -1.2
     comp=Z,3.8nm,0.8s,baz=355,slow=7.6,SNR=9.2
ZAL                                    LR      LR      01 02 49.1
     comp=Z,64nm,19.1s,MS3.5,baz=73,slow=40
ZAL  Zalesovo      42.81 330           P       P       00 41 50.8  0.0
ZAL                                    *PP     pP      00 41 57.0 -1.2
AAK  Ala-Archa     44.01 311⇑eP        P       00 42 01.5 +1.0
AAK                                    pmax    pmax
     comp=Z,2.0nm,1.3s,mb3.7
NVS  Novosibirsk   44.09 330 eP        P       00 41 58.1 -3.0
NVS                                    pmax    pmax
     comp=N,11nm,1.3s
NVS                                    pmax    pmax
     comp=E,9.0nm,1.3s
NVS                                    pmax    pmax
     comp=Z,14nm,1.3s,mb4.5
KURK Kurchatov     44.30 323 eP        P       00 42 01.8 -1.0
KURK                                   pmax    pmax
     comp=Z,36nm,1.5s,mb4.9
KURK Kurchatov     44.30 323 eP        P       00 42 01.8 -1.0
     comp=Z,36nm,1.5s,mb4.9
MA2  Magadan       44.72  22           P       P       00 42 04.7 -1.4
AS31 Alice Springs 45.95 162 eP        P       00 42 16.2 +0.2
ASPA Alice Springs 45.95 162 eP        P       00 42 16.2 +0.2
ASAR Alice Springs 45.96 162           P       P       00 42 16.4 +0.4
     comp=Z,3.3nm,0.8s,mb4.3,baz=339,slow=6.9,SNR=21
KKAR Karatay Array 46.96 310 i P       P       00 42 23.4 -0.5
KKAR                                   pmax    pmax
     comp=Z,5.0nm,0.8s,mb4.5
CTA  Charters Tower 47.81 146⇓i P      P       00 42 32.2 +1.7
     comp=Z,23nm,0.9s,mb5.2
CTA  Charters Tower 47.81 146⇓i P      P       00 42 32.2 +1.7
CTA                                    pmax    pmax
     comp=Z,23nm,0.9s
CTAO Charters Tower 47.81 146 eP       P       00 42 32.5 +2.0
VOSK Vostochnaya   49.46 323           P       P       00 42 41.7 -1.5
VOSK                                   pmax    pmax
     comp=Z,7.0nm,1.1s,mb4.6
BVA0 Borovoye Array 49.90 323 i P      P       00 42 45.6 -0.9
BVA0                                   pmax    pmax
     comp=Z,7.0nm,2.1s,mb4.3
BRVK Borovoye      49.98 323 eP        P       00 42 46.5 -0.6
BRVK                                   pmax    pmax
     comp=Z,10.0nm,1.0s,mb4.8
BRVK Borovoye      49.98 323 eP        P       00 42 46.5 -0.6
     comp=Z,9.5nm,1.0s,mb4.8
CHKZ Chkalovo      50.01 324 eP        P       00 42 46.5 -0.9
CHKZ                                   pmax    pmax
     comp=Z,17nm,1.2s,mb5.0
CHKZ Chkalovo      50.01 324 eP        P       00 42 46.5 -0.9
     comp=Z,17nm,1.2s,mb5.0
ZRNK Zerenda       50.66 322 eP        P       00 42 51.6 -0.7
ZRNK                                   pmax    pmax
     comp=Z,19nm,1.1s,mb4.9
ZRNK Zerenda       50.66 322 eP        P       00 42 51.6 -0.7
     comp=Z,18nm,1.1s,mb4.9
TIXI Tiksi         51.37   4⇑eP        P       00 42 55.1 -2.5
TIXI                                   pmax    pmax
     comp=Z,6.0nm,1.7s,mb4.2
TIXI Tiksi         51.37   4 eP        P       00 42 58.3 +0.7
FORT Forrest       51.60 171 eP        P       00 42 57.2 -2.1
     comp=Z,21nm,0.8s,mb5.1
AB31 Akbulak array 55.31 316 i P       P       00 43 26.2 -0.4
AB31                                   pmax    pmax
     comp=Z,3.0nm,0.6s,mb4.5
BILL Bilibino      55.43  19 eP        P       00 43 26.1 -1.3
BILL                                   e       00 44 25.6
BILL                                   eS      S       00 51 15.3 +4.6
BILL                                   pmax    pmax
     comp=Z,3.0nm,1.0s,mb4.3
STKA Stephens Creek 56.05 158 eP       P       00 43 30.3 -1.5
     comp=Z,5.9nm,0.6s,mb4.8
STKA Stephens Creek 56.05 158          P       P       00 43 30.3 -1.5
     comp=Z,5.2nm,0.7s,mb4.7,baz=342,slow=7.0,SNR=10
AKTK Aktyubinsk    56.72 317           P       P       00 43 35.7 -0.9
AKTK                                   pP      pP      00 43 43.6 -0.5
AKTO Aktyubinsk    56.72 317           P       P       00 43 35.7 -0.9
     comp=Z,2.2nm,0.8s,mb4.2,baz=85,slow=6.3,SNR=7.7
AKTO                                   pP      pP      00 43 43.6 -0.5
     comp=Z,8.3nm,1.0s,baz=83,slow=7.2,SNR=13
ARU  Arti          57.44 325⇑i P       P       00 43 41.7  0.0
ARU                                    e       00 45 51.7
ARU                                    ePPP    00 47 11.3
ARU                                    eS      S       00 51 38.4 +1.0
ARU                                    eSS     SS      00 55 29.0 +1.9
ARU                                    pmax    pmax
     comp=Z,13nm,0.8s,mb5.0
ARU  Arti          57.44 325 eP        P       00 43 41.8 +0.1
     comp=Z,17nm,0.8s,mb5.1
ORR  Orenburg      58.91 319⇓i P       P       00 43 53.4 +1.4
ORR                                    pmax    pmax
     comp=Z,20nm,1.0s,mb5.1
TOO  Toolangi      62.55 157⇓i P       P       00 44 18.1 +1.3
     comp=Z,5.4nm,0.7s,mb4.8
TOO  Toolangi      62.55 157⇓i P       P       00 44 18.1 +1.3
TOO                                    pmax    pmax
     comp=Z,5.0nm,0.7s,mb4.8
GNI  Garni         66.07 306⇓eP        P       00 44 42.3 +2.4
GNI                                    pmax    pmax
     comp=Z,8.0nm,1.6s
KIV  Kislovodsk    67.12 310 ⇓P        P       00 44 49.0 +2.4
KIV                                    e       pP      00 44 54.3 +0.1
KIV                                    pmax    pmax
     comp=Z,9.0nm,1.7s,mb4.5
KIV                                    MLR     MLR
     comp=Z,100nm,19.0s,MS4.0
TTA  Tatalina      69.15  29 eP        P       00 44 59.3  0.0
OBN  Obninsk       69.75 323αeP        P       00 45 04.0 +1.0
OBN                                    e       pP      00 45 09.3 -1.4
OBN                                    pmax    pmax
     comp=Z,15nm,1.2s,mb4.8
JOF  Joensuu       71.38 331 ep        P       00 45 13.2 +0.2
     comp=Z,6.3nm,1.0s,mb4.5
COLA College       72.47  27deP        P       00 45 17.8 -1.7
ARCES ARCESS Array B 72.53 338         P       P       00 45 18.8 -1.0
     comp=Z,1.8nm,0.8s,mb4.1,baz=60,slow=7.2,SNR=4.1
ARCES                                  pP      pP      00 45 26.9 -0.7
     comp=Z,6.0nm,0.8s,baz=72,slow=7.9,SNR=6.9
ILAR Eielson Array 72.89  27           P       P       00 45 21.4 -0.5
     comp=Z,0.7nm,0.7s,mb3.7,baz=294,slow=6.3,SNR=9.0
KAF  Kangasniemi   73.82 331 ep        P       00 45 25.9 -1.5
     comp=Z,7.0nm,0.8s,mb4.6,baz=73,slow=5.4
KAF  Kangasniemi   73.82 331 eP        P       00 45 25.9 -1.5
KAF                                    pmax    pmax
     comp=Z,7.0nm,0.8s,mb4.6
FINES FINESS Array B 74.08 330         P       P       00 45 28.6 -0.3
     comp=Z,5.9nm,1.0s,mb4.5,baz=64,slow=6.8,SNR=8.4
FINES                                  pP      pP      00 45 35.1 -1.5
     comp=Z,7.7nm,0.8s,baz=84,slow=7.9,SNR=10
AKASG Malin Array Be 74.92 319         P       P       00 45 32.0 -1.8
     comp=Z,0.5nm,0.4s,mb3.8,baz=63,slow=5.8,SNR=10
AKASG                                  pP      pP      00 45 39.8 -1.9
     comp=Z,3.8nm,0.9s,baz=64,slow=5.7,SNR=4.9
DAWY Dawson        76.22  26 eP        P       00 45 41.3  0.0
INK  Inuvik        76.96  21 eP        P       00 45 46.2 +0.7
SUW  Suwalki       77.59 323 eP        P       00 45 49.7 +0.7
SUW                                    e       pP      00 45 55.7 -1.1
MLR  Muntele Rosu  78.45 314           P       P       00 45 53.5 -0.4
     comp=Z,1.8nm,0.5s,mb4.2,baz=76,slow=12,SNR=2.9
KWP  Kalwaria      79.25 319 eP        P       00 45 58.5 +0.3
KWP                                    e       pP      00 46 05.6 -0.3
STHS Stebnicka Huta 80.22 319 eP       P       00 46 06.0 +2.6
STHS                                   pmax    pmax
     comp=Z,3.0nm,1.1s,mb4.1
STHS Stebnicka Huta 80.22 319 eP       P       00 46 06.0 +2.6
     comp=Z,2.8nm,1.1s,mb4.1
HFS  Hagfors       80.24 331           P       P       00 46 02.2 -1.4
     comp=Z,4.1nm,0.7s,mb4.5,baz=48,slow=6.4,SNR=9.5
HFS                                    pP      pP      00 46 09.8 -1.5
     comp=Z,8.7nm,0.7s,baz=90,slow=7.4,SNR=10
OJC  Ojcow         80.81 320 eP        P       00 46 06.8 +0.2
NB2  NORSAR Subarra 80.96 332          P       P       00 46 05.4 -2.0
     comp=Z,6.3nm,0.8s,mb4.6,baz=64,slow=5.6
NOA  NORSAR Array B 80.96 332          P       P       00 46 05.8 -1.6
     comp=Z,2.2nm,0.7s,mb4.2,baz=62,slow=5.1,SNR=7.2
NOA                                    pP      pP      00 46 13.5 -1.7
     comp=Z,6.5nm,0.9s,baz=63,slow=5.3,SNR=12
NOA                                    LR      LR      01 24 57.4
     comp=Z,59nm,19.2s,MS4.0,baz=50,slow=38
NOA  NORSAR Array B 80.96 332          P       P       00 46 05.8 -1.6
NOA                                    *PP     pP      00 46 13.5 -1.7
KECS Kecovo        81.01 318 eP        P       00 46 07.4 -0.3
KECS                                   pmax    pmax
     comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo        81.01 318 eP        P       00 46 07.4 -0.3
     comp=Z,2.1nm,1.0s,mb4.0
GKP  Gorka Klasztor 81.17 324 eP       pP      00 46 15.8 -0.5
MORC Moravsky Berou 82.33 320 eP       P       00 46 16.1 +1.5
MORC                                   e       pP      00 46 22.0 -0.4
MORC                                   pmax    pmax
     comp=Z,5.0nm,1.1s,mb4.4
MORC Moravsky Berou 82.33 320 eP       P       00 46 16.1 +1.4
     comp=Z,4.7nm,1.1s,mb4.3
MORC                                   ePcP    PcP     00 46 22.0 +2.1
VRAC Vranov        83.08 320           P       P       00 46 19.2 +0.6
     comp=Z,5.1nm,0.8s,mb4.6,baz=33,slow=6.6,SNR=3.7
RUE  Ruedersdorf   83.40 324 eP        pP      00 46 27.5 -0.5
     comp=Z,25nm,0.7s
KMBO Kilima Mbogo  83.70 266           P       P       00 46 22.9 +1.2
     comp=Z,0.8nm,0.5s,mb4.1,baz=56,slow=11,SNR=2.1
KMBO                                   pP      pP      00 46 30.1 +0.5
     comp=Z,1.4nm,0.7s,baz=44,slow=13,SNR=3.4
KMBO                                   LR      LR      01 22 50.4
     comp=Z,52nm,18.2s,MS4.0,baz=99,slow=35
KMBO Kilima Mbogo  83.70 266           P       P       00 46 23.0 +1.3
KMBO                                   *PP     pP      00 46 30.1 +0.6
BRG  Berggiesshubel 83.99 322 eP       pP      00 46 30.5 -0.6
     comp=Z,13nm,1.1s
BRG  Berggiesshubel 83.99 322 ePKP     P       00 46 24.3 +1.1
     comp=Z,4.5nm,1.2s,mb4.5
BRG                                    i       pP      00 46 30.5 -0.5
     comp=Z,7.8nm,1.1s
BRG  Berggiesshubel 83.99 322 eP       P       00 46 24.3 +1.1
BRG                                    i       pP      00 46 30.5 -0.6
BRG                                    pmax    pmax
     comp=Z,5.0nm,1.2s,mb4.5
BRG                                    pmax    pmax
     comp=Z,8.0nm,1.1s,mb4.8
CLL  Collm         84.34 323 eP        pP      00 46 31.4 -1.4
     comp=Z,21nm,1.2s
CLL  Collm         84.34 323 i P       P       00 46 25.9 +0.9
     comp=Z,9.0nm,1.1s,mb4.8
CLL                                    i pP    pP      00 46 32.3 -0.5
     comp=Z,21nm,1.2s
CLL                                    i sP    sP      00 46 37.1 +1.4
CLL  Collm         84.34 323 i P       P       00 46 25.9 +0.9
CLL                                    i *PP   pP      00 46 32.3 -0.5
CLL                                    pmax    pmax
     comp=Z,9.0nm,1.1s,mb4.8
CLL  Collm         84.34 323 i P       P       00 46 25.9 +0.9
     comp=Z,9.0nm,1.1s,mb4.8
CLL                                    i pP    pP      00 46 32.3 -0.5
KHC  Kasperske Hory 84.95 321⇓eP       P       00 46 29.7 +1.6
GEC2 GERESS Array S 85.00 320          eP      pP      00 46 35.6 -0.6
     comp=Z,11nm,1.1s
GEC2 GERESS Array S 85.00 320          eP      pP      00 46 35.6 -0.6
GEC2                                   pmax    pmax
     comp=Z,11nm,1.1s,mb4.9
GERES GERESS Array B 85.00 320         P       P       00 46 27.6 -0.7
     comp=Z,1.6nm,0.8s,mb4.2,baz=70,slow=4.4,SNR=13
GERES                                  pP      pP      00 46 35.8 -0.4
     comp=Z,3.1nm,0.8s,baz=66,slow=4.5,SNR=16
WERD Werda         85.12 322           eP      pP      00 46 35.6 -1.1
     comp=Z,16nm,1.4s
WET  Wettzell      85.36 321           eP      pP      00 46 37.7 -0.3
     comp=Z,10.0nm,1.4s
WET  Wettzell      85.36 321           eP      pP      00 46 37.7 -0.3
WET                                    pmax    pmax
     comp=Z,10.0nm,1.4s,mb4.8
MOX  Moxa          85.42 323           eP      pP      00 46 37.5 -0.8
     comp=Z,10.0nm,1.2s
MOX  Moxa          85.42 323           eP      P       00 46 31.7 +1.3
     comp=Z,140nm,1.6s,mb5.8
MOX  Moxa          85.42 323           eP      P       00 46 31.7 +1.3
MOX                                    pmax    pmax
     comp=Z,140nm,1.6s,mb5.8
MANZ Manzenberg    85.44 322           eP      pP      00 46 38.0 -0.3
     comp=Z,8.0nm,1.2s
ROTZ Rotzenmuhle   85.48 322           eP      pP      00 46 38.3 -0.3
     comp=Z,15nm,1.1s
CLZ  Clausthal     85.57 324           eP      pP      00 46 38.2 -0.8
     comp=Z,21nm,1.2s
CLZ  Clausthal     85.57 324           eP      pP      00 46 38.2 -0.8
CLZ                                    pmax    pmax
     comp=Z,21nm,1.2s,mb5.2
GRA1 Grafenberg Arr 86.08 322          eP      pP      00 46 41.5 -0.1
     comp=Z,17nm,1.5s
GRF  Grafenberg Arr 86.08 322          eP      pP      00 46 41.5 -0.1
     comp=Z,17nm,1.5s
GRF  Grafenberg Arr 86.08 322          eP      pP      00 46 41.5 -0.1
GRF                                    pmax    pmax
     comp=Z,17nm,1.5s,mb5.0
UBBA Unterbreizbach 86.25 323          eP      pP      00 46 41.8 -0.6
     comp=Z,7.0nm,1.1s
YKW3 Yellowknife Ar 86.65  22          eP      P       00 46 35.8 -0.7
YKA  Yellowknife Ar 86.70  22          P       P       00 46 36.0 -0.7
     comp=Z,3.6nm,0.8s,mb4.6,baz=313,slow=4.8,SNR=27
YKA                                    pP      pP      00 46 43.7 -0.9
     comp=Z,3.8nm,1.0s,baz=315,slow=4.8,SNR=8.3
YKA  Yellowknife Ar 86.70  22          P       P       00 46 36.0 -0.8
YKA                                    pP      pP      00 46 43.7 -0.9
BUG  Bochum--Univer 87.45 325          eP      pP      00 46 47.2 -1.1
     comp=Z,18nm,1.4s
BFO  Black Forest  88.41 322           eP      pP      00 46 51.0 -1.8
     comp=Z,4.0nm,1.1s
BFO  Black Forest  88.41 322           eP      pP      00 46 51.0 -1.8
BFO                                    pmax    pmax
     comp=Z,4.0nm,1.1s,mb4.6
WLF  Walferdange   88.97 324           eP      pP      00 46 55.4 -0.1
     comp=Z,10.0nm,0.9s
CDF  Champ du Feu  88.97 322           eP      P       00 46 48.3 +0.7
     comp=Z,15nm,1.2s,mb4.9
CDF  Champ du Feu  88.97 322           eP      P       00 46 48.3 +0.7
CDF                                    pmax    pmax
     comp=Z,7.0nm,1.2s,mb4.9
CDF  Champ du Feu  88.97 322           eP      P       00 46 48.3 +0.7
     comp=Z,7.4nm,1.2s,mb4.9
HINF Hinteralfeld  89.52 322           eP      P       00 46 50.6 +0.4
HAU  Haudompre     89.72 322           eP      P       00 46 52.4 +1.3
BAIF Baives        89.83 325           eP      P       00 46 52.4 +0.8
MEZF Maizieres J'vi 90.19 323          eP      P       00 46 54.5 +1.2
LPG  La Plagne     90.76 320           eP      P       00 46 57.5 +1.5
     comp=Z,28nm,1.1s,mb5.2
LPG  La Plagne     90.76 320           eP      P       00 46 57.5 +1.5
LPG                                    pmax    pmax
     comp=Z,14nm,1.1s,mb5.2
LPG  La Plagne     90.76 320           eP      P       00 46 57.5 +1.5
     comp=Z,14nm,1.1s,mb5.2
LPL  La Plagne     90.76 320           eP      P       00 46 57.2 +1.2
     comp=Z,16nm,0.9s,mb5.0
LPL  La Plagne     90.76 320           eP      P       00 46 57.2 +1.2
LPL                                    pmax    pmax
     comp=Z,8.0nm,0.9s,mb5.0
LPL  La Plagne     90.76 320           eP      P       00 46 57.2 +1.2
     comp=Z,7.8nm,0.9s,mb5.0
PGF  Pioggiola     90.82 316           eP      P       00 46 56.8 +0.5
     comp=Z,52nm,1.1s,mb5.5
PGF  Pioggiola     90.82 316           eP      P       00 46 56.8 +0.5
PGF                                    pmax    pmax
     comp=Z,26nm,1.1s,mb5.5
PGF  Pioggiola     90.82 316           eP      P       00 46 56.8 +0.5
     comp=Z,26nm,1.1s,mb5.5
SBF  Sospel        91.17 318           eP      P       00 46 58.6 +0.7
     comp=Z,53nm,0.9s,mb5.6
SBF  Sospel        91.17 318           eP      P       00 46 58.6 +0.7
SBF                                    pmax    pmax
     comp=Z,27nm,0.9s,mb5.6
SBF  Sospel        91.17 318           eP      P       00 46 58.6 +0.7
     comp=Z,27nm,0.9s,mb5.6
LOR  Lormes        91.53 322           eP      P       00 47 00.4 +0.8
ORIF Oris-en-Rattie 91.59 320          eP      P       00 47 01.6 +1.8
SSF  Saint Saulge  91.85 322           eP      P       00 47 01.9 +0.9
AVF  Avril sur Loir 92.08 322          eP      P       00 47 03.0 +0.9
SMRF Simiane la Rot 92.26 319          eP      P       00 47 04.1 +1.2
SGMF Saint Gilles  94.50 326           eP      P       00 47 13.7 +0.5
     comp=Z,19nm,1.0s,mb5.2
SGMF Saint Gilles  94.50 326           eP      P       00 47 13.7 +0.5
SGMF                                   pmax    pmax
     comp=Z,9.0nm,1.0s,mb5.2
SGMF Saint Gilles  94.50 326           eP      P       00 47 13.7 +0.5
     comp=Z,9.4nm,1.0s,mb5.2
EVO  Evora         103.72 321          eP      Pdif    00 47 55.1 +0.5
     comp=Z,26nm,1.3s
VNA2 Neumayer--Watz 121.14 198         ePKPdf  PKPdf   00 52 45.0 -0.6
     baz=62,slow=1.3
VNA2                                   e       00 52 53.1
VNA3 Neumayer Olymp 121.61 197         ePKPdf  PKPdf   00 52 45.3 -1.2
VNA3                                   e       00 52 53.3
```

MDD ***02*** *00:34:06.7±1.6,3727N×1371W,h0km,mb4.3/26,Error ellipse: s-maj=14.5km s-min=10.0km az=57.0,PRXIMO*
SFS ***02*** *00:34:08.0,3751N×1370W,h0km,ML4.5*
IGIL ***02*** *00:34:08.5,3750N×1370W,h2km,ML3.7*
NEIC ***02*** *00:34:08.1,3751N×1371W,h0km,MG4.4(MDD),After MDD.*
LDG ***02*** *00:34:08.7±0.2,3739N×1381W,h10km,Ml4.2/1,Error ellipse: s-maj=4.0km s-min=3.4km az=84.0*
INMG ***02*** *00:34:09.3±1.9,3725N×1408W,h10km,MD3.3,ML3.1, Error ellipse: s-maj=7.3km s-min=5.8km az=66.0*
ISCJB ***02*** *00:34:10.9±0.7,3761N±003×1321W±005,h10km,Error ellipse: s-maj=5.5km s-min=4.3km az=111.6*
CSEM ***02*** *00:34:13.6±0.3,3772N×1299W,h10km,ML3.1,Error ellipse: s-maj=4.8km s-min=3.2km az=60.0*

ISC 02 00:34:12.5±0.7,3758N±003×1327W±004,h10km,n92,
σ1§04/178,Azores-Cape St. Vincent Ridge

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Code Station Name        Δ°   AZ°   Phase ID      Time      Res
                                    Op    ISC     h m s     ISC
LIS  Lisbon              3.44  70   eP    Pn      00 35 06.0 -0.2
LIS                                 eS    Sn      00 35 48.1 +1.1
LIS                                 eS    Sn      00 35 48.1 +1.1
LIS                                 AML   AML     00 35 51.3
     comp=E,258nm,0.7s
LIS  Lisbon              3.44  70   eP    Pn      00 35 06.0 -0.2
LIS                                 eS    Sn      00 35 48.1 +1.1
PLOU Loures              3.50  67   ePn   Pn      00 35 07.6 +0.7
PLOU                                eSn   Sn      00 35 51.3 +3.0
PLOU
     comp=E,55nm,0.3s
PLOU Loures              3.50  67   ePn   Pn      00 35 07.6 +0.7
PLOU                                eSn   Sn      00 35 51.3 +3.0
     comp=E,55nm,0.3s
PTEO Sao Teotonio        3.61  89   ePn   Pn      00 35 08.1 -0.4
PTEO                                eSn   Sn      00 35 51.9 +0.7
PTEO
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	comp=E,38nm,0.3s							
PTEO	**Sao Teotonio**	**3.61**	**89**	*e*Pn	**Pn**	**00 35 08.1**	**-0.4**
PTEO				*e*Sn	**Sn**	**00 35 51.9**	**+0.7**
	comp=E,38nm,0.3s						
MORF	**Marmelete**	**3.69**	**93**	*e*P	**Pn**	**00 35 09.2**	**-0.3**
MORF				*e*S	**Sn**	**00 35 53.7**	**+0.6**
MORF				*e*S	**Sn**	**00 35 53.7**	**+0.6**
MORF				AML	AML	00 35 55.5	
	comp=N,58nm,0.4s						
MORF	**Marmelete**	**3.69**	**93**	*e*P	**Pn**	**00 35 09.3**	**-0.2**
MORF				*e*S	**Sn**	**00 35 53.7**	**+0.6**
MOE	**Montemor**	**4.00**	**75**	*e*Pn	**Pn**	**00 35 14.5**	**+0.7**
MOE				*e*Sn	**Sn**	**00 36 02.7**	**+2.0**
ALMR	**Almeirim**	**4.01**	**65**	*e*P	**Pn**	**00 35 14.2**	**+0.2**
ALMR				*e*S	**Sn**	**00 36 01.6**	**+0.6**
ALMR				*e*S	**Sn**	**00 36 01.7**	**+0.6**
ALMR				AML	AML	00 36 07.0	
	comp=E,364nm,0.3s						
ALMR	**Almeirim**	**4.01**	**65**	*e*P	**Pn**	**00 35 14.2**	**+0.2**
ALMR				*e*S	**Sn**	**00 36 01.6**	**+0.6**
EVO	**Evora**	**4.26**	**76**	*e*Pn	**Pn**	**00 35 15.8**	**-1.6**
EVO				*e*Sn	**Sn**	**00 36 05.8**	**-1.3**
	comp=E,112nm,0.4s						
PBEJ	**Beja**	**4.30**	**82**	*e*Pn	**Pn**	**00 35 18.0**	**0.0**
PBEJ				*e*Sn	**Sn**	**00 36 09.1**	**+0.8**
PBEJ							
	comp=E,25nm,0.3s						
PBEJ	**Beja**	**4.30**	**82**	*e*Pn	**Pn**	**00 35 18.0**	**0.0**
PBEJ				*e*Sn	**Sn**	**00 36 09.1**	**+0.8**
	comp=E,25nm,0.3s						
PTOM	**Tomar**	**4.32**	**60**	*e*Pn	**Pn**	**00 35 19.0**	**+0.8**
PTOM				*e*Sn	**Sn**	**00 36 11.2**	**+2.6**
PTOM							
	comp=E,29nm,0.3s						
PTOM	**Tomar**	**4.32**	**60**	*e*Pn	**Pn**	**00 35 19.0**	**+0.8**
PTOM				*e*Sn	**Sn**	**00 36 11.2**	**+2.6**
	comp=E,29nm,0.3s						
EGRO	**El Granado**	**4.60**	**89**	Pn	**Pn**	**00 35 22.0**	**-0.1**
	comp=E,1.8nm,0.1s,SNR=25						
EGRO				Sn	**Sn**	**00 36 16.4**	**+0.9**
	comp=E,34nm,0.4s						
EGRO	**El Granado**	**4.60**	**89**	P	**Pn**	**00 35 22.0**	**-0.1**
	comp=E,1.8nm,0.1s,SNR=25						
EGRO				S	**Sn**	**00 36 16.4**	**+0.8**
	comp=E,34nm,0.4s						
PCBR	**Castelo Branco**	**5.06**	**62**	*e*Pn	**Pn**	**00 35 28.7**	**+0.3**
PCBR				*e*Sn	**Sn**	**00 36 28.5**	**+1.6**
PCBR							
	comp=E,11nm,0.3s						
PCBR	**Castelo Branco**	**5.06**	**62**	*e*Pn	**Pn**	**00 35 28.7**	**+0.3**
PCBR				*e*Sn	**Sn**	**00 36 28.5**	**+1.6**
	comp=E,11nm,0.3s						
EBAD	**Badajoz**	**5.07**	**75**	Pn	**Pn**	**00 35 28.6**	**+0.1**
	comp=E,6.4nm,0.1s,SNR=36						
EBAD				Sn	**Sn**	**00 36 27.7**	**+0.6**
	comp=E,42nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.07**	**75**	P	**Pn**	**00 35 28.6**	**+0.1**
	comp=E,6.4nm,0.1s,SNR=36						
EBAD				S	**Sn**	**00 36 27.7**	**+0.6**
	comp=E,42nm,0.2s,SNR=7.9						
PTO	**Porto**	**5.07**	**44**	*e*Pn	**Pn**	**00 35 28.5**	**0.0**
PTO				*e*Sn	**Sn**	**00 36 28.1**	**+1.0**
PTO							
	comp=E,16nm,0.1s						
PTO	**Porto**	**5.07**	**44**	*e*Pn	**Pn**	**00 35 28.5**	**0.0**
PTO				*e*Sn	**Sn**	**00 36 28.1**	**+1.0**
	comp=E,16nm,0.1s						
PMPS	**Porto Santo**	**5.16**	**210**	*e*Pn	**Pn**	**00 35 08.7**	**-21**
PMPS				*e*Sn	Sn	00 35 53.9	-35
PMPS							
	comp=E,71nm,0.3s						
PMPS	**Porto Santo**	**5.16**	**210**	*e*Pn	**Pn**	**00 35 08.7**	**-21**
PMPS				*e*Sn	Sn	00 35 53.9	-35
	comp=E,71nm,0.3s						
PVIS	**Viseu**	**5.22**	**52**	*e*Pn	**Pn**	**00 35 30.3**	**-0.3**
PVIS				*e*Sn	**Sn**	**00 36 32.5**	**+1.6**
PVIS							
	comp=E,5.3nm,0.1s						
PVIS	**Viseu**	**5.22**	**52**	*e*Pn	**Pn**	**00 35 30.3**	**-0.3**
PVIS				*e*Sn	**Sn**	**00 36 32.5**	**+1.6**
	comp=E,5.3nm,0.1s						
EMIN	**Mina Concepcio**	**5.24**	**86**	Pn	**Pn**	**00 35 30.9**	**0.0**
	comp=E,2.0nm,0.2s,SNR=21						
EMIN				Sn	**Sn**	**00 36 31.4**	**+0.1**
	comp=E,9.5nm,0.3s						
EMIN	**Mina Concepcio**	**5.24**	**86**	P	**Pn**	**00 35 30.9**	**0.0**
	comp=E,2.0nm,0.2s,SNR=21						
EMIN				S	**Sn**	**00 36 31.4**	**+0.1**
	comp=E,9.5nm,0.3s						
MTE	**Manteigas**	**5.28**	**56**	*e*Pn	**Pn**	**00 35 31.2**	**-0.2**
MTE				*e*Sn	**Sn**	**00 36 34.3**	**+2.1**
MTE							
	comp=E,23nm,0.3s						
PVRL	**Vila Real**	**5.67**	**48**	*e*Pn	**Pn**	**00 35 36.0**	**-0.7**
PVRL				*e*Sn	**Sn**	**00 36 42.8**	**+1.0**
PVRL							
	comp=E,8.6nm,0.2s						
EZAM	**Zamans**	**5.76**	**36**	Pn	**Pn**	**00 35 38.2**	**+0.1**
	comp=E,3.8nm,0.1s,SNR=5.1						
EZAM				Sn	**Sn**	**00 36 43.5**	**-0.7**
	comp=E,4.7nm,0.2s						
EZAM	**Zamans**	**5.76**	**36**	P	**Pn**	**00 35 38.2**	**+0.1**
EZAM				S	**Sn**	**00 36 42.5**	**-1.7**
EZAM	**Zamans**	**5.76**	**36**	P	**Pn**	**00 35 38.2**	**+0.2**
	comp=E,3.8nm,0.1s,SNR=5.1						
EZAM				S	**Sn**	**00 36 42.5**	**-1.7**
	comp=E,4.7nm,0.2s						
PCAB	**Cabril**	**5.78**	**43**	*e*Pn	**Pn**	**00 35 38.3**	**+0.1**
PCAB				*e*Sn	**Sn**	**00 36 44.8**	**+0.2**
PCAB							
	comp=E,4.3nm,0.1s						
ELOB	**Lobios**	**5.87**	**42**	Pn	**Pn**	**00 35 39.3**	**-0.2**
	comp=E,4.9nm,0.2s,SNR=22						
ELOB				Sn	**Sn**	**00 36 47.3**	**+0.5**
	comp=E,2.7nm,0.1s						
ELOB	**Lobios**	**5.87**	**42**	P	**Pn**	**00 35 39.4**	**-0.2**
ELOB				S	**Sn**	**00 36 45.7**	**-1.1**
ELOB	**Lobios**	**5.87**	**42**	P	**Pn**	**00 35 39.3**	**-0.2**
	comp=E,4.9nm,0.2s,SNR=22						
ELOB				S	**Sn**	**00 36 45.7**	**-1.1**
	comp=E,2.7nm,0.1s						
ESPR	**Espera**	**5.96**	**95**	Pn	**Pn**	**00 35 40.7**	**-0.1**
	comp=E,6.5nm,0.2s,SNR=17						
ESPR				Sn	**Sn**	**00 36 48.7**	**-0.4**
	comp=E,54nm,0.3s						
ESPR	**Espera**	**5.96**	**95**	P	**Pn**	**00 35 40.7**	**-0.1**
	comp=E,6.5nm,0.2s,SNR=17						
ESPR				S	**Sn**	**00 36 48.7**	**-0.4**
	comp=E,54nm,0.3s						
EMAZ	**Mazaricos**	**6.29**	**30**	Pn	**Pn**	**00 35 44.0**	**-1.2**
	comp=E,7.0nm,0.3s,SNR=13						
EMAZ				Sn	**Sn**	**00 36 53.2**	**-3.9**
	comp=E,6.6nm,0.2s						
EMAZ	**Mazaricos**	**6.29**	**30**	P	**Pn**	**00 35 44.0**	**-1.2**
	comp=E,7.0nm,0.3s,SNR=13						
EMAZ				S	**Sn**	**00 36 53.2**	**-3.9**
	comp=E,6.6nm,0.2s						
LIJA	**Lijar**	**6.31**	**94**	*i* P	**Pn**	**00 35 51.1**	**+5.5**
LIJA				*e*S	**Sn**	**00 37 01.0**	**+3.2**
EJIF	**Jimena Fronter**	**6.34**	**98**	Pn	**Pn**	**00 35 45.8**	**-0.3**
	comp=E,0.6nm,0.2s,SNR=7.9						
EJIF				Sn	**Sn**	**00 36 58.5**	**0.0**
	comp=E,1.9nm,0.4s,SNR=7.9						
STS	**Santiago**	**6.41**	**33**	Pn	**Pn**	**00 35 45.7**	**-1.2**
	comp=E,4.8nm,0.3s,SNR=7.9						
STS				Sn	**Sn**	**00 36 58.4**	**-1.8**
	comp=E,3.6nm,0.3s,SNR=7.9						
STS	**Santiago**	**6.41**	**33**	P	**Pn**	**00 35 45.7**	**-1.3**
	comp=E,4.8nm,0.3s,SNR=7.9						
STS				S	**Sn**	**00 36 58.3**	**-1.9**
	comp=E,3.6nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**6.57**	**48**	*e*Pn	**Pn**	**00 35 48.9**	**-0.2**
PBRG				*e*Sn	**Sn**	**00 37 04.5**	**+0.5**
PBRG							
	comp=E,4.2nm,0.1s						
ECAL	**Calabor**	**6.65**	**47**	Pn	**Pn**	**00 35 50.2**	**-0.1**
	comp=E,5.3nm,0.2s,SNR=16						
ECAL				Sn	**Sn**	**00 37 06.9**	**+0.8**
	comp=E,24nm,0.5s						
ECAL	**Calabor**	**6.65**	**47**	P	**Pn**	**00 35 50.2**	**-0.1**
	comp=E,5.3nm,0.2s,SNR=16						
ECAL				S	**Sn**	**00 37 06.9**	**+0.7**
	comp=E,24nm,0.5s						
ERUA	**La Rua**	**6.72**	**42**	Pn	**Pn**	**00 35 51.5**	**+0.2**
	comp=E,9.5nm,0.4s,SNR=9.1						
ERUA				Sn	**Sn**	**00 37 09.1**	**+1.2**
	comp=E,3.1nm,0.2s						
ERUA	**La Rua**	**6.72**	**42**	P	**Pn**	**00 35 51.5**	**+0.2**
ERUA				S	**Sn**	**00 37 07.6**	**-0.3**
	comp=E,9.5nm,0.4s,SNR=9.1						
ERUA				S	**Sn**	**00 37 07.6**	**-0.3**
	comp=E,3.1nm,0.2s						
EMIJ	**Mijas**	**6.87**	**96**	Pn	**Pn**	**00 35 52.9**	**-0.3**
	comp=E,1.9nm,0.5s,SNR=7.9						
EMIJ				Sn	**Sn**	**00 37 10.0**	**-1.5**
	comp=E,10nm,0.7s,SNR=7.9						
EMIJ	**Mijas**	**6.87**	**96**	P	**Pn**	**00 35 53.0**	**-0.3**
EMIJ				S	**Sn**	**00 37 12.4**	**+0.9**
EMIJ	**Mijas**	**6.87**	**96**	P	**Pn**	**00 35 52.9**	**-0.4**
	comp=E,1.9nm,0.5s,SNR=7.9						
EMIJ				S	**Sn**	**00 37 12.4**	**+0.9**
	comp=E,10nm,0.7s,SNR=7.9						
EADA	**Adamuz**	**6.90**	**82**	Pn	**Pn**	**00 35 54.2**	**+0.5**
	comp=E,2.2nm,0.1s,SNR=22						
EADA				Sn	**Sn**	**00 37 11.0**	**-1.3**
	comp=E,14nm,0.3s						
EADA	**Adamuz**	**6.90**	**82**	P	**Pn**	**00 35 54.2**	**+0.5**
	comp=E,2.2nm,0.1s,SNR=22						
EADA				S	**Sn**	**00 37 11.0**	**-1.3**
	comp=E,14nm,0.3s						
ELUQ	**Luque**	**7.15**	**87**	Pn	**Pn**	**00 35 57.2**	**0.0**
	comp=E,1.1nm,0.2s,SNR=7.9						
ELUQ				Sn	**Sn**	**00 37 18.8**	**+0.4**
	comp=E,2.3nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**7.28**	**91**	Pn	**Pn**	**00 35 58.7**	**-0.1**
	comp=E,1.1nm,0.3s,SNR=7.9						
ELOJ				Sn	**Sn**	**00 37 20.1**	**-1.4**
	comp=E,1.4nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.40**	**37**	Pn	**Pn**	**00 35 59.7**	**-0.8**
	comp=E,6.0nm,0.4s,SNR=8.5						
EPON				Sn	**Sn**	**00 37 21.8**	**-2.6**
	comp=E,2.6nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.40**	**37**	P	**Pn**	**00 35 59.7**	**-0.8**
	comp=E,6.0nm,0.4s,SNR=8.5						
EPON				S	**Sn**	**00 37 21.8**	**-2.6**
	comp=E,2.6nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**7.53**	**83**	Pn	**Pn**	**00 36 02.6**	**+0.3**
	comp=E,1.6nm,0.3s,SNR=7.9						
EBAN				Sn	**Sn**	**00 37 26.6**	**-1.1**
	comp=E,2.7nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.58**	**71**	Pn	**Pn**	**00 36 03.4**	**+0.4**
	comp=E,8.9nm,0.2s,baz=253,slow=13,SNR=54						
ESDC				Sn	**Sn**	**00 37 28.0**	**-1.0**
	comp=E,5.7nm,0.2s,baz=258,slow=24,SNR=9.6						
ESDC	**Sonseca Array**	**7.58**	**71**	P	**Pn**	**00 36 03.4**	**+0.4**
	comp=E,8.9nm,0.2s,SNR=54						
ESDC				S	**Sn**	**00 37 28.0**	**-1.0**
	comp=E,5.7nm,0.2s,SNR=9.6						
GUD	**Guadarrama**	**7.72**	**64**	Pn	**Pn**	**00 36 05.9**	**+1.0**
	comp=E,1.2nm,0.2s,SNR=5.4						
GUD				Sn	**Sn**	**00 37 33.4**	**+1.0**
	comp=E,2.3nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**7.78**	**93**	Pn	**Pn**	**00 36 04.6**	**-1.2**
	comp=E,0.2nm,0.1s,SNR=7.9						
EGUA				Sn	**Sn**	**00 37 33.2**	**-0.7**
	comp=E,0.9nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**7.78**	**93**	P	**Pn**	**00 36 07.0**	**+1.2**
EGUA				S	**Sn**	**00 37 33.2**	**-0.7**
EGUA	**Guajares**	**7.78**	**93**	P	**Pn**	**00 36 07.0**	**+1.2**
	comp=E,0.2nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**00 37 33.2**	**-0.7**
	comp=E,0.9nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**7.84**	**90**	Pn	**Pn**	**00 36 07.4**	**+0.8**
	comp=E,3.0nm,0.4s,SNR=9.1						
EQUE				Sn	**Sn**	**00 37 33.8**	**-1.5**
	comp=E,3.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**8.09**	**85**	Pn	**Pn**	**00 36 09.8**	**-0.2**
	comp=E,0.7nm,0.2s,SNR=7.6						
EQES				Sn	**Sn**	**00 37 40.3**	**-1.2**
	comp=E,6.4nm,0.5s,SNR=4.6						
EQES	**Quesada**	**8.09**	**85**	P	**Pn**	**00 36 09.8**	**-0.2**
	comp=E,0.7nm,0.2s,SNR=7.6						
EQES				S	**Sn**	**00 37 40.3**	**-1.2**
	comp=E,6.4nm,0.5s,SNR=4.6						
EBER	**Berja**	**8.31**	**92**	Pn	**Pn**	**00 36 14.7**	**+1.7**
	comp=E,2.1nm,0.4s,SNR=7.9						
EBER				Sn	**Sn**	**00 37 46.8**	**-0.1**
	comp=E,15nm,0.6s,SNR=7.9						
EBER	**Berja**	**8.31**	**92**	P	**Pn**	**00 36 14.7**	**+1.7**
	comp=E,2.1nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**00 37 46.8**	**-0.1**
	comp=E,15nm,0.6s,SNR=7.9						
EARI	**Arriondas**	**8.39**	**45**	Pn	**Pn**	**00 36 14.4**	**+0.3**
	comp=E,1.7nm,0.3s,SNR=12						
EARI				Sn	**Sn**	**00 37 48.6**	**-0.3**
	comp=E,1.3nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**8.39**	**45**	P	**Pn**	**00 36 14.4**	**+0.3**
	comp=E,1.7nm,0.3s,SNR=12						
EARI				S	**Sn**	**00 37 48.6**	**-0.3**
	comp=E,1.3nm,0.4s,SNR=7.9						
EFAM	**Famara**	**8.43**	**182**	P	**Pn**	**00 36 05.8**	**-8.9**
EHUE	**Huescar**	**8.47**	**85**	Sn	**Sn**	**00 37 49.2**	**-1.6**
	comp=E,1.1nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**8.56**	**80**	Pn	**Pn**	**00 36 16.6**	**+0.2**
	comp=E,6.1nm,0.4s,SNR=7.9						
EVIA				Sn	**Sn**	**00 37 50.4**	**-2.6**
	comp=E,15nm,0.6s,SNR=7.9						
CFUE	**Fuerteventura**	**8.93**	**184**	Pn	**Pn**	**00 36 04.8**	**-17**
	comp=E,1.2nm,0.2s,SNR=7.9						
CFUE				Sn	Sn	00 37 29.8	-32
	comp=E,5.1nm,0.2s,SNR=7.9						
ETOR	**Torete**	**9.29**	**66**	Pn	**Pn**	**00 36 26.9**	**+0.5**
	comp=E,0.9nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**00 38 09.5**	**-1.4**
	comp=E,2.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**9.30**	**80**	Pn	**Pn**	**00 36 26.6**	**-0.1**
	comp=E,1.0nm,0.3s,SNR=7.6						
ETOB				Sn	**Sn**	**00 38 09.4**	**-1.9**
	comp=E,5.0nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**9.30**	**80**	P	**Pn**	**00 36 26.6**	**0.0**
	comp=E,1.0nm,0.3s,SNR=7.6						
ETOB				S	**Sn**	**00 38 09.4**	**-1.9**
EMOS	**Mosqueruela**	**10.35**	**70**	Pn	**Pn**	**00 36 41.7**	**+0.8**
	comp=E,1.0nm,0.4s,SNR=7.9						
EMOS				Sn	**Sn**	**00 38 34.6**	**-2.4**
	comp=E,9.4nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**10.35**	**70**	P	**Pn**	**00 36 41.8**	**+0.9**
	comp=E,1.0nm,0.4s						
EMOS				S	**Sn**	**00 38 34.6**	**-2.3**
SJPF	**Ste Jean**	**10.72**	**55**	*e*Pn	**Pn**	**00 36 47.4**	**+1.3**
SJPF				*e*Sn	**Sn**	**00 38 44.6**	**-1.6**
ETSF	**Etsaut**	**11.07**	**57**	*e*Pn	**Pn**	**00 36 52.1**	**+1.3**
ETSF				*e*Sn	**Sn**	**00 38 53.6**	**-1.1**
EPF	**Esparros**	**11.73**	**58**	*e*Pn	**Pn**	**00 37 01.4**	**+1.6**
EPF				*e*Sn	**Sn**	**00 39 11.4**	**+0.6**
LFF	**La Frestale**	**12.84**	**51**	*e*Pn	**Pn**	**00 37 13.2**	**-1.9**
MFF	**Saint Martin d**	**13.26**	**43**	*e*Pn	**Pn**	**00 37 20.5**	**-0.3**
RJF	**Les Rejaudoux**	**13.50**	**51**	*e*Pn	**Pn**	**00 37 23.7**	**-0.3**
CAF	**Calviac**	**13.66**	**53**	*e*Pn	**Pn**	**00 37 25.2**	**-1.0**

*ISCJB **02** 00:53:51.5±0.6, 5163N±004×693E±005, h0km, Error ellipse: s-maj=5.9km s-min=4.0km az=139.1*
*BUG **02** 00:53:53.8, 5157N×694E, h1km, ML1.0*
*BNS **02** 00:53:53.6±0.6, 5167N×698E, h1km, ML1.7*
*BGR **02** 00:53:53.5±1.2, 5164N×694E, h1km, ML1.7/2, Error ellipse: s-maj=15.6km s-min=5.6km az=133.0*
*NEIC **02** 00:53:53.3±2.8, 5161N×695E, h5km, ML2.5(LDG), Error ellipse: s-maj=31.0km s-min=11.0km az=208.0*
*CSEM **02** 00:53:55.0±0.1, 5160N×692E, h1km, ML2.6/4, Error ellipse: s-maj=3.1km s-min=2.6km az=120.0*
*LDG **02** 00:53:55.5±0.2, 5156N×694E, h1km, Ml2.5/5, Error ellipse: s-maj=4.1km s-min=2.2km az=23.0, Suspected Mining induced.*

ISC 02 00:53:53.4±0.5, 5161N±003×697E±004, h0km, n31, σ1§07/47, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.06**	**279**	Pg	**Pg**	**00 53 56.1**	**+1.5**
BZER				Sg	**Sg**	**00 53 58.2**	**+2.8**
BUG	**Bochum--Univer**	**0.25**	**132**	⇓*i*Pg	**Pg**	**00 53 59.6**	**+1.3**
LAUG	**Laupendahl**	**0.26**	**183**	*e*Pg	**Pg**	**00 53 59.6**	**+1.2**
WTSB	**Winterswijk**	**0.37**	**344**	*e*Pg	**Pg**	**00 54 01.2**	**+0.7**
	29nm,0.3s						
BNS	**Bensberg**	**0.66**	**169**	*e*Pg	**Pg**	**00 54 07.3**	**+1.2**
HOBG	**Hohbusch**	**0.67**	**160**	*e*Pg	**Pg**	**00 54 07.3**	**+1.1**
STB	**Steinbach**	**1.02**	**185**	*e*Pg	**Pg**	**00 54 14.0**	**+1.0**
STB				*e*Sg	**Sg**	**00 54 29.0**	**+2.8**
	18nm,0.3s						
KLL	**Kalltalsperre**	**1.05**	**203**	*e*Pg	**Pg**	**00 54 14.3**	**+0.7**
HGN	**Heimansgroeve**	**1.07**	**218**	*e*Pg	**Pg**	**00 54 14.8**	**+0.9**
	3.1nm,0.1s,baz=35						
HGN				*e*Sg	**Sg**	**00 54 29.7**	**+1.9**
BGG	**Burgeitz**	**1.43**	**170**	*e*Pg	**Pg**	**00 54 20.4**	**-0.3**
TNS	**Taunus Mts**	**1.68**	**145**	*e*Pg	**Pg**	**00 54 25.0**	**-0.5**
	SNR=1.8						
TNS				*e*Sg	**Sg**	**00 54 47.6**	**+0.3**
	SNR=1.9						
WLF	**Walferdange**	**2.02**	**195**	*e*Sg	**Sg**	**00 54 58.0**	**-0.3**
	SNR=2.0						
GIVF	**Givet**	**2.03**	**223**	*e*Pg	**Pg**	**00 54 32.3**	**-0.1**
GIVF				*e*Sg	**Sg**	**00 54 58.3**	**-0.4**
	8.9nm,0.3s						
GIVF	**Givet**	**2.03**	**223**	*e*Pn	**Pn**	**00 54 27.8**	**-1.1**
GIVF				*e*Pg	**Pg**	**00 54 32.3**	**-0.1**
GIVF				*e*Sg	**Sg**	**00 54 58.3**	**-0.4**
GIVF	**Givet**	**2.03**	**223**	*e*Pg	**Pg**	**00 54 32.3**	**-0.1**
GIVF				*e*Sg	**Sg**	**00 54 58.3**	**-0.4**
	4.4nm,0.3s						
CLZ	**Clausthal**	**2.13**	**82**	*e*Pg	**Pg**	**00 54 32.9**	**-1.3**
	SNR=2.1						
CLZ				*e*Sg	**Sg**	**00 55 02.0**	**+0.1**
	SNR=1.8						
BAIF	**Baives**	**2.34**	**229**	*e*Pg	**Pg**	**00 54 38.1**	**-0.2**
BAIF				*e*Sg	**Sg**	**00 55 08.0**	**-0.6**
	5.6nm,0.5s						
BAIF	**Baives**	**2.34**	**229**	*e*Pg	**Pg**	**00 54 38.1**	**-0.2**
BAIF				*e*Sg	**Sg**	**00 55 08.0**	**-0.6**
	2.8nm,0.5s						
CDF	**Champ du Feu**	**3.21**	**176**	*e*Pn	**Pn**	**00 54 44.6**	**-0.4**
BFO	**Black Forest**	**3.40**	**165**	*e*Pn	**Pn**	**00 54 47.5**	**-0.1**
	SNR=1.3						
LOR	**Lormes**	**4.80**	**206**	*e*Pn	**Pn**	**00 55 06.1**	**-0.8**
LOR				*e*Sg	**Sg**	**00 56 24.3**	**-3.2**
	0.9nm,0.3s						
LOR	**Lormes**	**4.80**	**206**	*e*Pn	**Pn**	**00 55 06.1**	**-0.8**
LOR				*e*Sg	**Sg**	**00 56 24.3**	**-3.2**
	0.4nm,0.3s						
CABF	**La Chapelle**	**5.04**	**187**	*e*Pn	**Pn**	**00 55 09.7**	**-0.5**
SSF	**Saint Saulge**	**5.08**	**208**	*e*Pn	**Pn**	**00 55 09.8**	**-1.0**
SSF				*e*Sn	**Sn**	**00 56 03.7**	**-6.6**
AVF	**Avril sur Loir**	**5.38**	**208**	*e*Pn	**Pn**	**00 55 13.7**	**-1.1**
SMF	**Signal de Mont**	**5.38**	**204**	*e*Pn	**Pn**	**00 55 14.0**	**-0.8**
FLN	**La Foliniere**	**5.57**	**242**	*e*Pn	**Pn**	**00 55 17.1**	**-0.4**
BGF	**Bois d'Agland**	**5.74**	**210**	*e*Pn	**Pn**	**00 55 18.7**	**-1.1**
GRR	**Gorron**	**5.99**	**240**	*e*Pn	**Pn**	**00 55 22.7**	**-0.6**
GRR				*e*Sn	**Sn**	**00 56 26.7**	**-5.8**
	1.8nm,0.2s						
GRR	**Gorron**	**5.99**	**240**	*e*Pn	**Pn**	**00 55 22.7**	**-0.6**
GRR				*e*Sn	**Sn**	**00 56 26.7**	**-5.8**
	0.9nm,0.2s						
SGMF	**Saint Gilles**	**7.01**	**245**	*e*Pn	**Pn**	**00 55 35.7**	**-1.5**

*ISCJB **02** 00:56:13.7±0.4, 3271N±002×11579W±003, h14km±3km, Error ellipse: s-maj=4.5km s-min=2.8km az=94.7*
*NEIC **02** 00:56:14.0, 3268N×11585W, h6km, ML3.8(PAS), After PAS.*
NEIC Felt [III] at Calexico and El Centro; [II] at Imperial. Felt at Holtville and Ocotillo.
*ECX **02** 00:56:15.4±0.7, 3269N×11585W, h6km, MD3.8, ML4.0*

ISC 02 00:56:13.9±0.3, 3272N±002×11585W±003, h12km±3km, n49, σ0§94/64, 24C-15D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.10**	**221**	⇑*i*P	**Pg**	**00 56 16.9**	**+0.1**
SGL	**Mount Signal**	**0.13**	**124**	⇑*i*P	**Pg**	**00 56 17.2**	**+0.1**
COK	**Cook Ranch**	**0.17**	**38**	⇓*i*P	**Pg**	**00 56 19.1**	**+1.3**
CRR	**Carrizo Plain**	**0.19**	**329**	⇓*i*P	**Pg**	**00 56 19.4**	**+1.2**
RMX	**La Rumorosa**	**0.23**	**239**	⇓*i*P	**Pg**	**00 56 19.4**	**+0.6**
RMX				*e*S	**Sg**	**00 56 22.4**	**+0.4**
RMX				⇓*e*		00 56 22.9	
	comp=E,20μm,0.3s						
RMX				⇓*e*		00 56 23.0	
	comp=N,26μm,0.5s						
SNR	**Schaffner Ranc**	**0.38**	**68**	⇑*i*P	**Pg**	**00 56 22.9**	**+1.5**
YAQ	**Yaqui Meadows**	**0.61**	**317**	⇑*i*P	**Pg**	**00 56 27.0**	**+1.1**
BAR	**Barrett**	**0.69**	**267**	⇑*i*P	**Pg**	**00 56 27.8**	**+0.3**
FRK	**Frink**	**0.70**	**15**	⇑*i*P	**Pg**	**00 56 27.9**	**+0.3**
RDX	**Rancho Dowling**	**0.79**	**186**	⇓*e*P	**Pg**	**00 56 28.6**	**-0.6**
RDX				*e*S	**Sg**	**00 56 38.4**	**-1.2**
RDX				⇓*e*		00 56 39.3	
	comp=E,8μm,0.4s						
**

BNM	Barren Site	7.84	77	*e*Pn		Pn	00 58 08.8	+1.1
LPM	Los Pinos Moun	7.86	76	*e*Pn		Pn	00 58 09.0	+1.0
PV10	Paradox Valley	7.91	43	Pn		Pn	00 58 08.2	-0.6
MNTX	Cornudas Mount	8.93	94	*e*Pn		Pn	00 58 22.9	+0.3
	comp=N,1.6nm,0.3s							

ISCJB ***02*** *01:17:03.7±1.1, 722S±006×12595E±007, h458km±14km, mb4.1/18, Error ellipse: s-maj=13.7km s-min=6.6km az=103.3*
NEIC ***02*** *01:17:04.8±0.8, 722S×12592E, h455km±10km, mb4.3/18, Error ellipse: s-maj=11.4km s-min=5.5km az=224.0*
IDC ***02*** *01:17:05.4±2.0, 727S×12593E, h463km±26km, mb3.4/8, mb1 3.7/11, mb1mx3.6/19, mbtmp4.4/11, Error ellipse: s-maj=25.8km s-min=10.5km az=57.0*

ISC 02 01:17:05.6±0.9, 731S±007×12594E±008, h465km±13km, n49, σ0.95/52, mb4.1/18, 3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.35**	**130**	*e*P	**P**	**01 19 06.0**	**+1.1**
	14nm,0.5s						
KAKA				*e*S	**S**	**01 20 38.8**	**-4.1**
FITZ	**Fitzroy Crossi**	**10.73**	**182**	⇓*i*P	**P**	**01 19 32.0**	**+1.5**
	22nm,0.3s						
FITZ				*e*S	**S**	**01 21 28.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**10.73**	**182**	P	**P**	**01 19 32.1**	**+1.6**
	4.2nm,0.3s,baz=19,slow=10,SNR=156						
FITZ				S	**S**	**01 21 29.0**	**-1.0**
	0.8nm,0.3s,baz=184,slow=19,SNR=12						
WRAB	**Tennant Creek**	**14.97**	**148**	*e*P	**P**	**01 20 16.0**	**0.0**
	40nm,0.8s						
WRAB				*e*S	**S**	**01 22 50.6**	**-2.6**
WRA	**Warramunga Arr**	**14.97**	**148**	P	**P**	**01 20 16.4**	**+0.4**
	4.2nm,0.3s,baz=338,slow=9.4,SNR=60						
WRA				S	**S**	**01 22 51.4**	**-1.8**
	0.9nm,0.3s,baz=316,slow=20,SNR=10						
WB2	**Warramunga Arr**	**14.97**	**148**	*e*P	**P**	**01 20 14.7**	**-1.3**
WB2				*e*S	**S**	**01 22 51.0**	**-2.3**
MBWA	**Marble Bar**	**15.02**	**203**	*e*P	**P**	**01 20 17.4**	**+0.9**
	12nm,1.0s						
KSM	**Kuching**	**17.87**	**299**	*e*P	**P**	**01 20 45.0**	**-1.4**
AS31	**Alice Springs**	**17.97**	**156**	*e*P	**P**	**01 20 48.4**	**+1.0**
ASPA	**Alice Springs**	**17.97**	**156**	*e*P	**P**	**01 20 48.4**	**+1.0**
ASAR	**Alice Springs**	**17.97**	**156**	P	**P**	**01 20 47.9**	**+0.4**
	8.1nm,0.3s,baz=328,slow=7.7,SNR=303						
ASAR				S	**S**	**01 23 50.2**	**+1.5**
	baz=340,slow=20,SNR=5.1						
PMG	**Port Moresby**	**21.10**	**97**	P	**P**	**01 21 16.3**	**+0.3**
	2.2nm,0.4s,mb4.0,baz=302,slow=6.2,SNR=3.6						
FORT	**Forrest**	**23.43**	**175**	⇓*i*P	**P**	**01 21 37.4**	**+0.4**
	25nm,0.7s,mb4.8						
CTA	**Charters Tower**	**23.43**	**125**	*e*P	**P**	**01 21 37.9**	**+0.9**
	4.8nm,0.9s,mb3.9						
CTA	**Charters Tower**	**23.43**	**125**	P	**P**	**01 21 38.0**	**+1.0**
	2.5nm,0.6s,mb3.8,baz=302,slow=12,SNR=6.1						
CTAO	**Charters Tower**	**23.43**	**125**	*e*P	**P**	**01 21 38.5**	**+1.5**
	3.5nm,0.6s,mb4.0						
NWAO	**Narrogin (SRO)**	**26.74**	**196**	*e*P	**P**	**01 22 07.3**	**+1.0**
	4.6nm,0.7s,mb4.0						
KULM	**Kulim**	**28.17**	**296**	P	**P**	**01 22 17.5**	**-1.4**
STKA	**Stephens Creek**	**28.47**	**151**	⇓*i*P	**P**	**01 22 20.5**	**-1.1**
	15nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**28.47**	**151**	P	**P**	**01 22 20.7**	**-0.8**
	20nm,0.7s,mb4.7,baz=321,slow=9.2,SNR=38						
PSI	**Prapat**	**28.77**	**289**	P	**P**	**01 22 24.0**	**-0.2**
	5.6nm,0.7s,mb4.1,baz=138,slow=4.5,SNR=6.2						
PSI	**Prapat**	**28.77**	**289**	P	**P**	**01 22 24.0**	**-0.2**
ARMA	**Armidale**	**33.29**	**137**	*e*P	**P**	**01 23 05.4**	**+2.2**
HNR	**Honiara**	**33.70**	**96**	*e*P	**P**	**01 23 06.2**	**-0.4**
CNB	**Canberra Magne**	**35.20**	**146**	*e*P	**P**	**01 23 19.4**	**+0.1**
	37nm,1.4s,mb4.6						
TAU	**Tasmania Unive**	**40.15**	**155**	P	**P**	**01 24 00.4**	**+0.6**
JIRN	**Jiri**	**51.82**	**314**	*e*P	**P**	**01 25 29.7**	**+0.5**
	11nm,0.8s,mb4.3						
GUN	**Gumba**	**52.19**	**314**	*e*P	**P**	**01 25 32.4**	**+0.5**
	21nm,0.7s,mb4.6						
PKI	**Pulchoki**	**52.33**	**313**	*e*P	**P**	**01 25 32.9**	**0.0**
KKN	**Kakani**	**52.55**	**313**	*e*P	**P**	**01 25 34.4**	**0.0**
DMN	**Daman**	**52.57**	**313**	*e*P	**P**	**01 25 34.9**	**+0.3**
GKN	**Gorkha**	**53.14**	**313**	*e*P	**P**	**01 25 39.0**	**+0.3**
KOLN	**Koldanda**	**53.76**	**312**	*e*P	**P**	**01 25 43.5**	**+0.4**
	19nm,0.8s,mb4.5						
SONM	**Songino Array**	**57.56**	**345**	P	**P**	**01 26 09.6**	**0.0**
	0.3nm,0.6s,baz=145,slow=5.4,SNR=3.7						
SONM				pP	pP	01 27 44.3	+0.7
	0.2nm,0.3s,baz=157,slow=7.9,SNR=2.1						
MKAR	**Makanchi Array**	**66.34**	**329**	P	**P**	**01 27 07.2**	**+0.2**
	2.2nm,0.8s,mb3.8,baz=126,slow=8.2,SNR=13						
AAK	**Ala-Archa**	**68.22**	**322**	*e*P	**P**	**01 27 18.0**	**-0.6**
	1.3nm,0.4s,mb3.9						
ZAL	**Zalesovo**	**70.14**	**336**	P	**P**	**01 27 28.9**	**-1.2**
	1.8nm,0.6s,mb3.8,baz=358,slow=6.3,SNR=7.6						
KURK	**Kurchatov**	**70.73**	**330**	*e*P	**P**	**01 27 33.7**	**-0.1**
	6.0nm,0.9s,mb4.1						
VNDA	**Vanda**	**72.65**	**172**	P	**P**	**01 27 44.5**	**-0.5**
	0.6nm,0.6s,mb3.3,baz=320,slow=8.0,SNR=3.6						
BRVK	**Borovoye**	**76.29**	**329**	*e*P	**P**	**01 28 05.4**	**-0.1**
	1.4nm,0.4s,mb3.8						
CHKZ	**Chkalovo**	**76.46**	**330**	*e*P	**P**	**01 28 05.9**	**-0.6**
	1.1nm,0.9s,mb3.4						
ZRNK	**Zerenda**	**76.89**	**329**	*e*P	**P**	**01 28 08.4**	**-0.4**
	1.4nm,0.8s,mb3.5						
ARU	**Arti**	**83.86**	**329**	P	**P**	**01 28 45.0**	**-0.3**
GNI	**Garni**	**87.98**	**311**	*e*P	**P**	**01 29 05.3**	**+0.2**
MALT	**Malatya**	**92.53**	**308**	P	**P**	**01 29 26.5**	**+0.3**
SANT	**Santorini**	**102.72**	**306**	*e*Pdif	Pdif	01 30 12.5	+0.5
CPUP	**Villa Florida**	**146.41**	**175**	PKPbc	PKPbc	01 35 54.9	+1.3
	0.3nm,0.4s,baz=172,slow=7.1,SNR=3.4						
LPAZ	**La Paz**	**152.73**	**149**	PKPab	PKPab	01 36 24.3	+2.4
	0.8nm,0.6s,baz=256,slow=4.4,SNR=4.2						
LPAZ	**La Paz**	**152.73**	**149**	PKPab	PKPab	01 36 24.3	+2.4

NEIC ***02*** *01:21:09.8, 1898N×10474W, h13km, MD4.3(MEX), After MEX.*

MEX 02 01:21:09.7±0.5, 1894N×10473W, h16km±12km, MD4.3, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.63**	**332**	*i*P	Pg	01 21 19.9	-2.2
CJM				*i*S	Sg	01 21 27.6	-2.9
COLM	**Colima**	**1.01**	**76**	*i*P	Pb	01 21 25.3	-3.5
COLM				*i*S	Sb	01 21 36.8	-5.1
SFJM	**Santa Fe**	**2.22**	**46**	*i*P	Pn	01 21 43.0	-2.8
SFJM				*i*S	Sn	01 22 09.0	-3.8
MOIG	**Morelia**	**3.42**	**77**	*e*P	Pn	01 22 00.3	-2.1
MOIG				*e*S	Sn	01 22 39.6	-3.0
MOIG	**Morelia**	**3.42**	**77**	*e*P	Pn	01 22 02.3	-0.1
MOIG				*e*S	Sn	01 22 39.6	-3.0
ZAIG	**Zacatecas**	**4.32**	**28**	*i*P	Pn	01 22 10.8	-3.8
ZAIG				*i*S	Sn	01 23 02.1	-2.5
PLIG	**Platanillo**	**4.99**	**95**	*e*P	Pn	01 22 32.0	+8.1
PLIG				*i*S	Sn	01 23 18.4	-2.8
PLIG	**Platanillo**	**4.99**	**95**	*i*P	Pn	01 22 32.9	+9.1
PLIG				*i*S	Sn	01 23 29.1	+7.9
LNIG	**Linares**	**7.68**	**39**	*e*P	Pn	01 22 58.9	-2.0
LNIG				*i*S	Sn	01 24 25.9	-1.7

NEIC ***02*** *01:25:33.0, 3264S×7171W, h26km, ML2.8(GUC), After GUC.*

GUC 02 01:25:33.0±0.5, 3264S×7171W, h26km±2km, MD3.5, ML2.8, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.25**	**66**	⇓*i*P	Pb	01 25 39.6	+0.1
PACH				*i*S	Sb	01 25 44.4	+0.6
ROCH	**El Roble**	**0.67**	**120**	⇑*i*P	Pb	01 25 46.1	-0.1
ROCH				*i*S	Sb	01 25 56.3	+1.2
LCCH	**Las Cruces**	**0.84**	**172**	⇑*i*P	Pb	01 25 48.4	-0.6
LCCH				*i*S	Sb	01 25 59.7	-0.2
JACH	**Jahuel**	**0.94**	**93**	*i*P	Pn	01 25 49.9	-0.6
JACH				*i*S	Sb	01 26 03.0	+0.2
PEL	**Peldehue**	**1.00**	**121**	*e*P	Pn	01 25 50.9	-0.3
PEL				*i*S	Sb	01 26 04.4	+0.1
TACH	**Talagante**	**1.20**	**148**	*i*P	Pn	01 25 54.1	+0.1
TACH				*i*S	Sn	01 26 09.7	+0.3
CLCH	**Cerro Calan**	**1.24**	**128**	*e*P	Pn	01 25 54.9	+0.3
CLCH				*i*S	Sn	01 26 11.3	+0.9
CLCH				AML	AML	01 26 18.7	
	comp=N,264nm,0.5s						
ANTU	**Antumapu**	**1.29**	**136**	AML	AML	01 26 14.9	
	comp=E,208nm,0.6s						
LNV	**Longovilo**	**1.34**	**169**	*i*P	Pn	01 25 55.8	-0.1
LNV				*i*S	Sn	01 26 13.5	+0.7
FCH	**Farellones**	**1.37**	**120**	⇓*i*P	Pn	01 25 57.0	+0.5
FCH				*i*S	Sn	01 26 15.7	+2.0
FCH				AML	AML	01 26 17.0	
	comp=E,178nm,0.1s						
PCH	**Pirque**	**1.40**	**135**	⇑*i*P	Pn	01 25 57.2	+0.5
PCH				*i*S	Sn	01 26 15.8	+1.5
CMCH	**Combarbala**	**1.58**	**23**	⇑*i*P	Pn	01 25 59.1	-0.2
CMCH				*i*S	Sn	01 26 19.6	+0.8
CMCH				AML	AML	01 26 26.0	
	comp=N,399nm,0.9s						
CMCH	**Combarbala**	**1.58**	**23**	⇑*i*P	Pn	01 25 59.1	-0.2
CMCH				*i*S	Sn	01 26 19.6	+0.8
CACH	**El Canelo**	**1.74**	**148**	*e*P	Pn	01 26 03.7	+2.2
CACH				*e*S	Sn	01 26 26.4	+3.6
CICH	**Cipreses**	**1.99**	**148**	⇑*i*P	Pn	01 26 06.5	+1.6
CICH				*i*S	Sn	01 26 32.0	+3.0
SFDO	**San Fernando**	**2.05**	**164**	*i*P	Pn	01 26 07.1	+1.3
SFDO				*i*S	Sn	01 26 33.2	+2.7
TLL	**Tololo Astrono**	**2.58**	**18**	AML	AML	01 27 07.2	
	comp=N,72nm,0.5s						

IDC ***02*** *01:28:22.8±0.5, 2009S×17379W, h0km, mb4.9/17, mb1 5.1/19, mb1mx5.0/20, mbtmp4.9/19, ML5.8/1, MS4.4/16, Ms1 4.4/16, ms1mx4.1/34, Error ellipse: s-maj=17.9km s-min=13.8km az=145.0*
BJI ***02*** *01:28:26.3, 1991S×17305W, h35km, mB5.4, mb5.2, Ms5.2, Msz4.7*
ISCJB ***02*** *01:28:27.1±0.2, 2015S±005×17377W±004, h35km, mb5.1/82, MS4.6/32, Error ellipse: s-maj=7.6km s-min=3.9km az=124.8*
SZGRF ***02*** *01:28:27.7, 2078S×17341W, h33km, Tonga Islands*
HRVD ***02*** *01:28:28.5±0.2, 2026S×173.16W, h16km, MW5.1/78, Centroid moment Tensor Solution. LP body waves: s45,c65;Mantle waves: s78,c123; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.74±.19; $M_{\theta\theta}$0.98±.13; $M_{\phi\phi}$3.76±.14; $M_{r\theta}$-1.45±.41; $M_{r\phi}$2.25±.09; $M_{\theta\phi}$-2.52±.39; Best double couple: $M_0$5.67800×10^{16} NP1:ϕ_s209.00000°, δ30.00000°, λ-91.00000°. NP2: ϕ_s30.00000°, δ60.00000°, λ-90.00000°. Principal axes: T 5.8160, Plg15.0000°, Azm119.0000°; N -0.2740, Plg0.0000°, Azm209.0000°; P -5.5410, Plg75.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *01:28:28.5±0.1, 2015S×17380W, h35km, mb5.1/50, MS4.8/4 Error ellipse: s-maj=8.2km s-min=4.0km az=147.0*
MOS ***02*** *01:28:30.5±3.5, 1979S×17396W, h33km, mb5.4/33, MS4.6/9, Error ellipse: s-maj=10.1km s-min=7.6km az=58.1*

ISC 02 01:28:29.0±0.2, 2017S±005×17374W±004, h37km, h37km±1.2km: pP-P, n482, σ0.86/306, mb5.1/82, MS4.6/32, 90C-63D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.50**	**17**	Pn	**Pn**	**01 29 55.1**	**-7.0**
	13nm,0.3s,baz=17,slow=6.4,SNR=16						
AFI				Sn	**Sn**	**01 31 02.8**	**-12**
	21nm,0.3s,baz=198,slow=20,SNR=3.0						
AFI				T		01 36 36.7	
	12nm,0.3s,baz=34,slow=16,SNR=6.5						
AFI	**Afiamalu**	**6.50**	**17**	*e*Pn	**Pn**	**01 29 54.9**	**-7.2**
	187nm,0.6s						
AFI				*e*Sn	**Sn**	**01 31 04.7**	**-10**
RAO	**Raoul Island**	**9.81**	**202**	Pn	**Pn**	**01 30 43.8**	**-3.7**
	79nm,0.3s,baz=56,slow=11,SNR=4.3						
RAO				Sn	**Sn**	**01 32 30.9**	**-5.4**
	54nm,0.3s,baz=273,slow=22,SNR=9.4						
RAO				LR	LR	01 33 16.3	
	comp=Z,126nm,21.4s,baz=30,slow=30						
RAO	**Raoul Island**	**9.81**	**202**	Pn	**Pn**	**01 30 43.8**	**-3.7**
RAO				Sn	**Sn**	**01 32 30.9**	**-5.4**
RAO				LR	LR	01 33 16.3	
RAR	**Rarotonga**	**13.12**	**97**	Pn	**Pn**	**01 31 22.2**	**-11**
	8.5nm,0.3s,baz=256,slow=8.8,SNR=60						
RAR				LR	LR	01 35 47.5	
	comp=Z,2μm,18.5s,baz=233,slow=34						
DZM	**Mont Dzumac**	**18.58**	**261**	P	**Pn**	**01 32 44.2**	**+0.8**
	2.1nm,0.3s,baz=85,slow=12,SNR=24						
NOUC	**Port Laguerre**	**18.71**	**261**	*e*P	**Pn**	**01 32 46.0**	**+1.0**
URZ	**Urewera**	**19.70**	**202**	P	**Pn**	**01 32 55.3**	**-1.5**
	1.9nm,0.3s,baz=20,slow=5.7,SNR=10						
URZ				S	**S**	**01 36 23.3**	**-12**
	1.4nm,0.3s,baz=270,slow=20,SNR=5.6						
TBI	**Tubuai**	**22.77**	**102**	*e*LQ		01 37 31.4	
	2μm,25.5s						
TBI	**Tubuai**	**22.77**	**102**	*e*P	**P**	**01 33 25.3**	**-2.8**
	313nm,1.2s,mb5.6						
TBI				*e*LR	LR	01 38 27.2	
	1μm,32.8s,baz=271						
PAE	**Paea**	**22.99**	**88**	*e*P	**P**	**01 33 31.9**	**+1.5**
	62nm,0.9s,mb5.0						
PPT	**Papeete**	**23.01**	**88**	*e*P	**P**	**01 33 32.5**	**+1.9**
	72nm,1.2s,mb5.0						
PPT	**Papeete**	**23.01**	**88**	*e*LQ		01 37 46.2	
	3μm,24.8s						
PPT				*e*LR	LR	01 38 44.1	
	888nm,21.0s,baz=256						
PPT	**Papeete**	**23.01**	**88**	LR	LR	01 40 39.0	
	comp=Z,1μm,20.4s,MS4.4,baz=262,slow=32						
TVO	**Taravao**	**23.28**	**88**	*e*P	**P**	**01 33 34.9**	**+1.4**
	120nm,1.0s,mb5.3						
RPZ	**Rata Peaks**	**26.70**	**205**	P	**P**	**01 34 02.9**	**-1.9**
	19nm,0.8s,mb4.7,baz=37,slow=6.0,SNR=6.8						
HNR	**Honiara**	**27.54**	**289**	LR	LR	01 41 44.0	
	comp=Z,323nm,20.3s,MS3.9,baz=178,slow=29						
ARMA	**Armidale**	**32.82**	**245**	*e*P	**P**	**01 34 58.8**	**-0.1**
TAOE	**Nuku Hiva Isla**	**34.34**	**76**	*e*LR	LR	01 44 40.8	
	2μm,20.5s						
CNB	**Canberra Magne**	**35.74**	**237**	*e*P	**P**	**01 35 24.2**	**0.0**
	54nm,1.1s,mb5.4						
RKT	**Rikitea**	**36.09**	**102**	*e*S	**S**	**01 41 03.7**	**-0.3**
	201nm,30.2s						
RKT				*e*LR	LR	01 44 35.0	
	1μm,31.0s,baz=275						
CTA	**Charters Tower**	**37.50**	**263**	*e*P	**P**	**01 35 37.9**	**-1.3**
	8.7nm,0.4s,mb4.9						
CTA	**Charters Tower**	**37.50**	**263**	P	**P**	**01 35 38.0**	**-1.2**
	13nm,0.5s,mb5.0,baz=90,slow=10,SNR=34						
CTA	**Charters Tower**	**37.50**	**263**	P	**P**	**01 35 38.0**	**-1.2**
CTA				pmax	pmax		
	comp=Z,13nm,0.5s						
CTAO	**Charters Tower**	**37.50**	**263**	*e*P	**P**	**01 35 38.5**	**-0.7**
PMG	**Port Moresby**	**39.19**	**280**	P	**P**	**01 35 52.7**	**-0.7**
	comp=Z,48nm,1.1s,mb5.2,baz=93,slow=4.1,SNR=16						
PMG	**Port Moresby**	**39.19**	**280**	P	**P**	**01 35 52.7**	**-0.7**
PMG				pmax	pmax		
	comp=Z,48nm,1.1s						
PMG	**Port Moresby**	**39.19**	**280**	*e*P	**P**	**01 35 52.4**	**-1.0**
	comp=Z,57nm,1.0s,mb5.2						
TOO	**Toolangi**	**39.34**	**235**	*e*P	**P**	**01 35 53.3**	**-1.3**
	comp=Z,18nm,0.7s,mb4.9						
TOO	**Toolangi**	**39.34**	**235**	*e*P	**P**	**01 35 53.3**	**-1.3**
TOO				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.9						
TAU	**Tasmania Unive**	**39.70**	**226**	*e*P	**P**	**01 35 58.6**	**+0.9**
TAU				pmax	pmax		
	comp=Z,83nm,1.4s,mb5.3						
TAU	**Tasmania Unive**	**39.70**	**226**	*e*P	**P**	**01 35 58.6**	**+0.9**
	comp=Z,83nm,1.4s,mb5.3						
STKA	**Stephens Creek**	**41.53**	**244**	*e*P	**P**	**01 36 09.8**	**-3.0**
	comp=Z,20nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**41.53**	**244**	P	**P**	**01 36 10.1**	**-2.7**
	comp=Z,23nm,0.9s,mb4.8,baz=92,slow=8.6,SNR=27						
STKA				LR	LR	01 51 32.8	
	comp=Z,312nm,18.4s,MS4.2,baz=310,slow=34						
AS31	**Alice Springs**	**48.48**	**256**	*e*P	**P**	**01 37 06.9**	**-1.1**
AS31				*e*PcP	PcP	01 38 35.2	+1.5
ASAR	**Alice Springs**	**48.48**	**256**	P	**P**	**01 37 06.8**	**-1.1**
	comp=Z,18nm,0.9s,mb5.1,baz=87,slow=8.5,SNR=103						
ASAR				S	**S**	**01 44 05.7**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=92,slow=15,SNR=4.1						
ASPA	**Alice Springs**	**48.48**	**256**	*e*P	**P**	**01 37 06.9**	**-1.1**
ASPA				*e*PCP	PcP	01 38 35.2	+1.5
WB2	**Warramunga Arr**	**48.59**	**261**	*e*P	**P**	**01 37 05.7**	**-3.1**
WB2				*e*PCP	PcP	01 38 34.0	-0.1
WRAB	**Tennant Creek**	**48.59**	**261**	P	**P**	**01 37 07.0**	**-1.8**
	comp=Z,213nm,1.0s,mb6.1,SNR=12						
WRAB	**Tennant Creek**	**48.59**	**261**	*e*P	**P**	**01 37 07.0**	**-1.8**
WRA	**Warramunga Arr**	**48.60**	**261**	P	**P**	**01 37 07.2**	**-1.7**
	comp=Z,27nm,1.1s,mb5.2,baz=97,slow=8.4,SNR=46						
WRA				S	**S**	**01 44 12.9**	**+4.7**
	comp=Z,1.9nm,1.0s,baz=98,slow=14,SNR=5.3						
KAKA	**Kakadu**	**51.97**	**269**	*e*P	**P**	**01 37 33.0**	**-1.4**
	comp=Z,71nm,1.4s,mb5.4						
GUMO	**Guam**	**52.75**	**306**	LR	LR	01 58 14.1	
	comp=Z,208nm,18.6s,MS4.2,baz=182,slow=34						
FORT	**Forrest**	**53.09**	**246**	*e*P	**P**	**01 37 41.7**	**-1.0**
	comp=Z,50nm,0.8s,mb5.5						
FITZ	**Fitzroy Crossi**	**57.03**	**261**	*e*P	**P**	**01 38 10.5**	**-0.6**
	comp=Z,31nm,1.2s,mb5.2						
FITZ	**Fitzroy Crossi**	**57.03**	**261**	LR	LR	02 02 12.2	
	comp=Z,284nm,20.4s,MS4.4,baz=274,slow=36						
SBA	**Scott Base**	**58.50**	**185**	*e*P	**P**	**01 38 23.8**	**+2.3**
VNDA	**Vanda**	**58.63**	**186**	P	**P**	**01 38 23.4**	**+1.0**
	comp=Z,18nm,1.0s,mb5.1,baz=9.3,slow=6.7,SNR=51						
VNDA				LR	LR	01 58 47.1	
	comp=Z,247nm,21.6s,MS4.3,baz=25,slow=31						
VNDA	**Vanda**	**58.63**	**186**	*e*P	**P**	**01 38 23.8**	**+1.4**
	comp=Z,26nm,1.1s,mb5.2						
KLBR	**Kellerberrin**	**61.81**	**244**	⇓*i*P	**P**	**01 38 43.7**	**-0.4**
	comp=Z,36nm,0.8s,mb5.5						
MBWA	**Marble Bar**	**61.82**	**256**	*e*P	**P**	**01 38 44.0**	**-0.2**
	comp=Z,38nm,1.2s,mb5.4						
MBWA				*e*pP	pP	01 38 54.5	-0.8
NWAO	**Narrogin (SRO)**	**62.08**	**243**	P	**P**	**01 38 45.7**	**-0.3**
	comp=Z,16nm,0.9s,mb5.2,baz=106,slow=6.4,SNR=5.9						
NWAO				LR	LR	02 06 49.5	
	comp=Z,614nm,18.7s,MS4.8,baz=237,slow=37						
NWAO	**Narrogin (SRO)**	**62.08**	**243**	P	**P**	**01 38 45.7**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,16nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,614nm,18.7s						
NWAO	**Narrogin (SRO)**	**62.08**	**243**	*e*P	**P**	**01 38 46.2**	**+0.2**
	comp=Z,22nm,1.1s,mb5.2						
MUN	**Mundaring**	**63.06**	**244**	⇓*i*P	**P**	**01 38 52.8**	**+0.3**
CASY	**Casey**	**65.97**	**205**	⇓*i*P	**P**	**01 39 12.1**	**+0.6**
QSPA	**South Pole Qui**	**69.91**	**180**	*e*P	**P**	**01 39 36.9**	**+0.7**
	comp=Z,19nm,0.8s,mb5.1						
TSM	**Tawau**	**71.36**	**282**	P	**P**	**01 39 46.7**	**+1.6**
MJAR	**Matsushiro Arr**	**72.38**	**321**	P	**P**	**01 39 51.3**	**+0.1**
	comp=Z,14nm,0.7s,mb5.0,baz=157,slow=6.1,SNR=37						
MAJO	**Matsushiro**	**72.39**	**321**	*e*P	**P**	**01 39 51.0**	**-0.2**
MAT	**Matsushiro**	**72.39**	**321**	P	**P**	**01 39 51.2**	**0.0**
MAT				S	S	01 49 13.6	+1.4
MAT	**Matsushiro**	**72.39**	**321**	*e*P	**P**	**01 39 51.0**	**-0.2**
MAT				*e*S	S	01 49 14.0	+1.8
MAT				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
MAT	**Matsushiro**	**72.39**	**321**	*e*P	**P**	**01 39 51.0**	**-0.2**
	comp=Z,24nm,1.1s,mb5.0						
MAT				*e*S	S	01 49 14.0	+1.8
JOW	**Kunigami**	**73.07**	**308**	LR	LR	02 09 48.1	
	comp=Z,194nm,18.9s,MS4.4,baz=145,slow=34						
SMY	**Shemya**	**73.35**	**352**	*e*P	**P**	**01 39 56.5**	**-0.5**
SMY				pmax	pmax		
	comp=Z,121nm,1.2s,mb5.7						
SMY	**Shemya**	**73.35**	**352**	*e*P	**P**	**01 39 56.5**	**-0.5**
	comp=Z,121nm,1.2s,mb5.7						
KKM	**Kota Kinabalu**	**73.56**	**283**	P	**P**	**01 39 59.7**	**+1.5**
KKM	**Kota Kinabalu**	**73.56**	**283**	*e*P	**P**	**01 39 58.8**	**+0.7**
KKM				*e*pP	pP	01 40 10.6	+1.1
HAST	**Hastings Reser**	**74.79**	**41**	⇑P	**P**	**01 40 05.2**	**-0.2**
	baz=75						
FMP	**Fort Macarthur**	**75.24**	**45**	⇑P	**P**	**01 40 07.6**	**-0.4**
	baz=76						
U04C	**Hernandez Rese**	**75.26**	**42**	⇓P	**P**	**01 40 08.3**	**+0.3**
	baz=76						
PACP	**Pacheco Peak**	**75.35**	**41**	⇑P	**P**	**01 40 08.5**	**-0.1**
	baz=76						
CVS	**Carmenet Viney**	**75.50**	**39**	⇓P	**P**	**01 40 09.1**	**-0.4**
	baz=76						
109C	**Camp Elliot, M**	**75.55**	**47**	⇓P	**P**	**01 40 09.7**	**0.0**
	baz=76						
HOPS	**Hopland**	**75.57**	**38**	⇑P	**P**	**01 40 09.9**	**0.0**
	baz=76						
S04C	**Ingram Canyon,**	**75.64**	**41**	⇑P	**P**	**01 40 10.1**	**-0.1**
	baz=76						
P01C	**Double 8 Ranch**	**75.73**	**38**	⇑P	**P**	**01 40 10.5**	**-0.3**
	baz=76						
MNRC	**McLaughlin Nat**	**75.86**	**39**	⇑P	**P**	**01

comp=Z,388nm,19.2s,MS4.7,baz=168,slow=31
YBH Yreka Blue Hor 77.59 37 *e*P **P 01 40 21.5 +0.2**
YBH pmax pmax
comp=Z,21nm,1.4s
YBH Yreka Blue Hor 77.59 37 *e*P **P 01 40 21.5 +0.3**
comp=Z,21nm,1.4s,mb4.9
YBH Yreka Blue Hor 77.59 37 ⇑P **P 01 40 21.2 -0.1**
baz=78,SNR=5.4
S08C White Mtn Res 77.60 42 ⇑P **P 01 40 21.6 +0.2**
baz=78,SNR=15
M03C McCloud 77.62 37 ⇓P **P 01 40 20.9 -0.5**
baz=78
HATC Hat Creek Radi 77.70 38 ⇑P **P 01 40 21.6 -0.3**
baz=78
WCN Washoe City 77.74 40 ⇓P **P 01 40 22.0 -0.1**
baz=78
Y12C Blythe 77.82 47 ⇓P **P 01 40 22.3 -0.2**
baz=78,SNR=5.4
TUQ Turquoise Mtn. 77.83 45 ⇑P **P 01 40 22.5 -0.1**
baz=78,SNR=8.7
K02A Glendale 77.85 35 ⇑P **P 01 40 22.3 -0.4**
baz=78
HUMO Hull Mountain 78.03 36 ⇓P **P 01 40 23.9 +0.2**
baz=78
M04C Macdoel 78.11 37 ⇑P **P 01 40 24.0 -0.2**
baz=78
MNV Mina 78.18 41 *e*P **P 01 40 24.4 -0.2**
MNV pmax pmax
comp=Z,21nm,1.1s,mb5.0
MNV Mina 78.18 41 *e*P **P 01 40 24.4 -0.2**
comp=Z,21nm,1.1s,mb5.0
PAHR Pah Rah Range 78.22 40 *e*P **P 01 40 24.9 +0.2**
comp=Z,16nm,1.2s,mb4.8
M05C Lookout 78.23 38 ⇑P **P 01 40 24.4 -0.4**
baz=78
O06A Flanigan 78.23 39 ⇓P **P 01 40 24.7 -0.2**
baz=78
Y13A Salome 78.33 47 ⇑P **P 01 40 25.4 0.0**
baz=78
L04A Klamath Falls 78.34 37 ⇑P **P 01 40 24.8 -0.6**
baz=79
S09A Goldfield 78.34 42 ⇑P **P 01 40 24.9 -0.5**
baz=79,SNR=11
W12A Cal Nev Ari 78.46 46 ⇑P **P 01 40 26.3 +0.2**
baz=79
TPNV Topopah Spring 78.50 44 *e*P **P 01 40 26.1 -0.2**
TPNV pmax pmax
comp=Z,13nm,1.1s,mb4.8
TPNV Topopah Spring 78.50 44 *e*P **P 01 40 26.1 -0.3**
comp=Z,13nm,1.1s,mb4.8
M06C Likely Place G 78.51 38 ⇑P **P 01 40 26.0 -0.4**
baz=79
TPH Tonopah 78.55 42 *e*P **P 01 40 26.9 +0.3**
TPH pmax pmax
comp=Z,22nm,1.0s,mb5.0
TPH Tonopah 78.55 42 *e*P **P 01 40 26.9 +0.3**
comp=Z,22nm,1.0s,mb5.0
Q08A Gabbs 78.58 41 ⇑P **P 01 40 26.6 -0.1**
baz=79
Z14A Wintersburg 78.69 48 ⇑P **P 01 40 27.5 +0.2**
baz=79,SNR=6.4
X13A Yucca 78.76 47 ⇓P **P 01 40 27.7 -0.1**
baz=79,SNR=15
O07A Toulon 78.80 40 ⇑P **P 01 40 27.8 -0.2**
baz=79,SNR=7.0
115A Sonoran Desert 78.84 49 ⇑P **P 01 40 28.0 -0.2**
baz=79
SHPR Sheep Range 78.95 44 *e*P **P 01 40 29.0 +0.2**
Y14A Wickenburg 78.97 48 ⇑P **P 01 40 28.7 -0.2**
baz=79,SNR=9.9
Q09A Carvers 79.03 42 ⇓P **P 01 40 29.1 -0.2**
baz=79
116A Eloy 79.14 49 ⇑P **P 01 40 30.0 +0.2**
baz=79,SNR=6.5
H03A Soap Creek Ran 79.25 34 ⇓P **P 01 40 31.1 +0.7**
baz=80
X14A Yava 79.34 47 P **P 01 40 31.4 +0.4**
baz=80,SNR=12
M07A Soldier Meadow 79.40 39 ⇑P **P 01 40 31.1 -0.2**
baz=80,SNR=7.1
P09A Austin 79.49 41 ⇓P **P 01 40 31.2 -0.5**
baz=80
QZH Quanzhou 79.61 301 ⇑*i*P **P 01 40 34.2 +1.8**
QZH AMB AMB
comp=Z,260nm,1.4s,mb6.0
W14A Seligman 79.62 47 P **P 01 40 33.2 +0.7**
baz=80,SNR=23
N08A GE Springer Mi 79.63 40 ⇑P **P 01 40 32.3 -0.2**
baz=80
TUC Tucson 79.67 50 *e*P **P 01 40 33.1 +0.4**
TUC pmax pmax
comp=Z,18nm,1.0s,mb5.0
TUC Tucson 79.67 50 *e*P **P 01 40 33.1 +0.4**
comp=Z,18nm,1.0s,mb5.0
K06A Valley Falls 79.67 37 ⇑P **P 01 40 32.7 0.0**
baz=80
X15A Humboldt 79.80 48 ⇑P **P 01 40 33.6 +0.2**
baz=80,SNR=22
H04A Detroit Lake 79.83 35 ⇓P **P 01 40 33.9 +0.4**
baz=80
O09A Fish Creek Ran 79.83 41 ⇑P **P 01 40 33.5 0.0**
baz=80
M08A Happy Creek Ra 79.90 39 ⇓P **P 01 40 33.8 -0.2**
baz=80
BMN Battle Mountai 79.97 40 *e*P **P 01 40 34.5 +0.2**
I05A Bend 79.98 35 ⇓P **P 01 40 34.1 -0.3**
baz=80
J06A Christmas Vall 80.01 37 ⇓P **P 01 40 34.0 -0.6**
baz=80,SNR=5.5
N09A Rock Creek Ran 80.04 40 ⇑P **P 01 40 34.2 -0.5**
baz=80
W15A Williams 80.16 47 ⇑P **P 01 40 36.0 +0.7**
baz=80
I06A Prineville 80.42 36 ⇑P **P 01 40 36.8 0.0**
baz=81
M09A Marrel Ranch, 80.43 39 ⇓P **P 01 40 36.9 0.0**
baz=81
N10A Dunphy 80.57 40 ⇓P **P 01 40 37.5 -0.1**
baz=81
SSE Sheshan 80.58 308 P **P 01 40 38.9 +1.2**
SSE AP pP 01 40 48.4 -0.7
SSE XP sP 01 40 52.1 -1.2
SSE S S 01 50 43.1 +1.1
SSE XS sS 01 50 59.3 -1.7
SSE SS SS 01 55 55.9 +1.0
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,460nm,4.1s
SSE LR LR
comp=N,50nm,20.0s,MS4.2
SSE LR LR
comp=E,90nm,20.0s,MS4.2
SSE LR LR
comp=Z,130nm,20.0s,MS4.3
CCUT Cedar City 80.73 44 *e*P **P 01 40 47.6 +9.1**
ARUT Antelope Range 80.81 44 *e*P **P 01 40 39.5 +0.6**
ARUT *e* 01 40 45.2
E05A Randle 81.30 33 ⇑P **P 01 40 40.6 -0.8**
baz=82
ELK Elko 81.37 41 *e*P **P 01 40 41.4 -0.4**
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK Elko 81.37 41 *e*P **P 01 40 41.4 -0.5**
comp=Z,8.9nm,1.1s,mb4.6
O12A Currie 81.39 42 ⇑P **P 01 40 41.5 -0.4**
baz=82
M11A Holland Ranch, 81.43 40 ⇓P **P 01 40 42.1 -0.1**
baz=82
C04A Brinnon 81.47 32 ⇑P **P 01 40 42.6 +0.3**
baz=82
N12A Wells--Clov Va 81.55 41 ⇑P **P 01 40 42.7 -0.1**
baz=82
D05A Enumclaw 81.60 33 ⇓P **P 01 40 42.7 -0.4**
baz=82
MSU Marysvale 82.04 44 *e*P **P 01 40 46.1 +0.7**
N13A West Wendover 82.07 41 ⇑P **P 01 40 45.4 -0.2**
baz=82
C05A Tolt Reservoir 82.09 33 ⇑P **P 01 40 44.9 -0.7**
baz=82
HABR Khabarovsk 82.19 328 *e*P **P 01 40 47.6 +1.4**
HABR *e*S S 01 51 00.1 +1.5
HABR pmax pmax
comp=Z,85nm,1.6s,mb5.4
HABR MLR MLR
comp=Z,207nm,19.2s,MS4.5
B05A Bryant 82.26 32 ⇑P **P 01 40 45.8 -0.8**
baz=82
A04A Legoe Bay, Lum 82.27 31 ⇓P **P 01 40 46.2 -0.4**
baz=82
M13A Montello 82.39 41 ⇓P **P 01 40 46.7 -0.5**
baz=83
DUG Dugway 82.57 42 *e*P **P 01 40 48.2 +0.1**
MDJ Mudanjiang 82.60 323 P **P 01 40 49.6 +1.3**
MDJ XP sP 01 41 02.4 -1.6
MDJ PP PP 01 43 59.0 +1.0
MDJ S S 01 51 08.1 +5.3
MDJ XS sS 01 51 21.8 0.0
MDJ AMB AMB
comp=Z,20nm,1.4s,mb5.0
MDJ AMB AMB
comp=Z,110nm,6.6s
MDJ LR LR
comp=N,80nm,35.0s,MS4.1
MDJ LR LR
comp=E,100nm,32.6s,MS4.1
MDJ LR LR
comp=Z,180nm,31.8s,MS4.2
MDJ Mudanjiang 82.60 323 *e*P **P 01 40 49.8 +1.5**
comp=Z,8.0nm,0.8s,mb4.8
SLKM Skilak Lake 82.62 11 *e*P **P 01 40 47.4 -1.0**
SLKM *e**PP pP 01 40 57.8 -2.1
NJ2 Nanjing 82.79 308 *e*P **P 01 40 51.0 +1.7**
NJ2 AP pP 01 41 01.8 +1.1
NJ2 XP sP 01 41 06.1 +1.1
NJ2 PP PP 01 44 02.6 +3.0
NJ2 S S 01 51 04.0 -0.7
NJ2 XS sS 01 51 24.0 +0.3
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,80nm,6.2s
NJ2 LR LR
comp=N,1μm,24.1s,MS5.3
NJ2 LR LR
comp=E,810nm,21.8s,MS5.3
NJ2 LR LR
comp=Z,150nm,23.1s,MS4.3
TMUT Trail Mountain 83.11 44 *e*P **P 01 40 52.3 +1.4**
MAW Mawson 83.20 199 *e*P **P 01 40 52.2 +0.8**
comp=Z,13nm,1.0s,mb4.9
MAW Mawson 83.20 199 P **P 01 40 52.2 +0.8**
comp=Z,18nm,1.0s,mb5.0,baz=121,slow=6.5,SNR=15
MAW LR LR 02 16 57.6
comp=Z,511nm,18.3s,MS4.9,baz=329,slow=35
MAW Mawson 83.20 199 *e*P **P 01 40 52.2 +0.8**
MAW pmax pmax
comp=Z,13nm,1.0s
MPU Maple Canyon 83.22 43 *e*P **P 01 40 52.7 +1.2**
MNTX Cornudas Mount 83.33 53 *e*P **P 01 40 52.2 +0.1**
comp=Z,14nm,1.1s,mb4.9
Y22C IRIS PASSCAL I 83.35 50 ⇓P **P 01 40 51.3 -0.9**
baz=84
LAZ Ladron 83.36 50 *e*P **P 01 40 53.3 +1.1**
LENM Lemitar 83.36 50 *e*P **P 01 40 53.3 +1.1**
SPUT South Promonto 83.42 42 *e*P **P 01 40 52.8 +0.3**
SRU San Rafael 83.45 44 *e*P **P 01 40 53.1 +0.4**
SRU pmax pmax
comp=Z,69nm,1.3s,mb5.5
SRU San Rafael 83.45 44 *e*P **P 01 40 53.1 +0.4**
comp=Z,69nm,1.3s,mb5.5
HLID Hailey 83.51 39 *e*P **P 01 40 53.0 0.0**
comp=Z,14nm,1.0s,mb5.0
LTX Lajitas 83.54 56 *e*P **P 01 40 53.4 +0.2**
LTX pmax pmax
comp=Z,15nm,1.2s,mb5.0
LTX Lajitas 83.54 56 *e*P **P 01 40 53.4 +0.2**
comp=Z,15nm,1.2s,mb5.0
BNM Barren Site 83.60 50 *e*P **P 01 40 54.0 +0.6**
LPM Los Pinos Moun 83.67 50 *e*P **P 01 40 54.4 +0.5**
DAU Daniels Canyon 83.68 43 *e*P **P 01 40 54.3 +0.4**
TCUT Toone Canyon 83.97 42 *e*P **P 01 40 56.0 +0.6**
TTA Tatalina 83.99 8 *e*P **P 01 40 54.9 -0.6**
PV10 Paradox Valley 84.05 46 *e*P **P 01 40 55.5 -0.2**
KGM Kluang 84.06 274 P **P 01 40 58.3 +2.5**
ANMO Albuquerque 84.11 50 *e*P **P 01 40 56.6 +0.5**
HWUT Hardware Ranch 84.14 42 *e*P **P 01 40 56.1 -0.1**
comp=Z,16nm,1.2s,mb5.0
PV01 Paradox Valley 84.24 46 *e*P **P 01 40 56.8 +0.1**
PV01 *e*pP pP 01 41 09.7 +1.4
KLR Kul'dur 84.33 328 *e*P **P 01 40 53.8 -3.4**
GDL2 Guadalupe Moun 84.33 53 *e*P **P 01 40 58.1 +0.9**
CN2 Changchun 84.53 321 ⇓P **P 01 40 59.2 +1.0**
CN2 *e*XP sP 01 41 16.0 +2.1
CN2 *e*S 01 51 23.0
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,19.0s,MS4.8
CN2 LR LR
comp=E,300nm,19.0s,MS4.8
CN2 LR LR
comp=Z,500nm,21.0s,MS4.9
MA2 Magadan 84.59 343 *de*P **P 01 40 57.5 -1.0**
MA2 *e* 01 44 16.0
MA2 *e*S 01 51 18.0
MA2 pmax pmax
comp=Z,40nm,1.2s,mb5.4
MA2 MLR MLR
comp=Z,100nm,11.4s,MS4.4
MA2 Magadan 84.59 343 *e*P **P 01 40 57.7 -0.8**
MCMT McKenzie Canyo 85.16 39 *e*P **P 01 41 01.3 -0.1**
SKAG Skagway 85.34 19 *e*P **P 01 41 01.6 -0.7**
comp=Z,3.6nm,0.3s,mb5.0
WHN Wuhan 85.50 305 P **P 01 41 05.2 +2.1**
REDW Red Top Meadow 85.54 41 *e*P **P 01 41 03.4 +0.1**
TPAW Teton Pass 85.55 40 *e*P **P 01 41 03.5 +0.2**
comp=Z,15nm,1.1s,mb5.1
DLMT Dillon 85.61 38 *e*P **P 01 41 03.7 +0.1**
comp=Z,20nm,1.3s,mb5.2
IMW Indian Meadow 85.78 40 *e*P **P 01 41 04.7 +0.3**
comp=Z,24nm,1.3s,mb5.3
BSMT Bassoo Peak 85.81 35 *e*P **P 01 41 03.8 -0.8**
MOOW Moose Ponds 85.81 40 *e*P **P 01 41 04.3 -0.3**
LOHW Long Hollow 85.83 41 *e*P **P 01 41 04.2 -0.5**
comp=Z,16nm,1.3s,mb5.1
SMCO Snowmass 85.85 46 *e*P **P 01 41 04.9 +0.2**
comp=Z,22nm,1.3s,mb5.2
LRM Limekiln Ridge 85.95 38 *e*P **P 01 41 05.1 -0.2**
QLMT Earthquake Lak 86.00 39 *e*P **P 01 41 06.2 +0.7**
BW06 Boulder Array 86.02 42 *e*P **P 01 41 05.1 -0.5**
comp=Z,10nm,1.0s,mb5.0
PDAR Pinedale Array 86.02 42 P **P 01 41 04.4 -1.2**
comp=Z,7.2nm,0.9s,mb4.9,baz=204,slow=3.3,SNR=48
FLWY Flagg Ranch 86.03 40 *e*P **P 01 41 05.6 -0.1**
TIA Tai'an 86.04 311 P **P 01 41 06.8 +1.1**
MENT Mentasta 86.14 13 *e*P **P 01 41 05.4 -0.8**
YMR Madison River 86.18 39 *e*P **P 01 41 07.2 +0.7**
comp=Z,6.8nm,0.5s,mb5.1
DLBC Dease Lake 86.23 21 *e*P **P 01 41 06.6 -0.1**
BOZ Bozeman (W) 86.33 38 *e*P **P 01 41 07.0 -0.2**
BOZ pmax pmax
comp=Z,16nm,1.2s,mb5.1
BOZ Bozeman (W) 86.33 38 *e*P **P 01 41 07.0 -0.1**
comp=Z,16nm,1.2s,mb5.1
PLCA Paso Flores 86.57 132 P **P 01 41 07.8 -0.6**
comp=Z,6.2nm,1.0s,mb4.8,baz=226,slow=6.5,SNR=7.3
PLCA LR LR 02 13 55.1
comp=Z,445nm,18.8s,MS4.9,baz=69,slow=32
RWWY Rawlins 86.95 43 *e*P **P 01 41 10.0 -0.2**
comp=Z,19nm,1.0s,mb5.3
WALA Waterton Lakes 86.99 35 *e*P **P 01 41 09.9 -0.6**
IPM Ipoh 87.06 276 P **P 01 41 13.3 +2.6**
ISCO Idaho Springs 87.07 46 *e*P **P 01 41 10.9 +0.1**
COLA College 87.08 11 *i* P **P 01 41 09.5 -1.3**
COLA College 87.08 11 *i* Pr 01 41 09.5
ILAR Eielson Array 87.16 11 P **P 01 41 09.7 -1.5**
comp=Z,3.3nm,0.8s,mb4.6,baz=222,slow=5.7,SNR=29
AMTX Amarillo 87.55 52 *e*P **P 01 41 12.9 -0.2**
GCMT Greycliff 87.56 39 *e*P **P 01 41 12.8 -0.3**
GCMT *e*pP pP 01 41 24.4 -0.3
SYO Syowa Base 87.89 191 ⇓*e*P **P 01 41 14.0 -0.7**
PHWY Pilot Hill 87.91 44 *e*P **P 01 41 14.6 -0.2**
DAWY Dawson 88.09 14 *e*P **P 01 41 15.3 -0.4**
VNA3 Neumayer Olymp 88.17 175 ⇓*i*P **P 01 41 15.5 -0.5**
VNA3 *e* 01 41 17.3
VNA3 *e* pP 01 41 26.9 -0.7
VNA3 *e* 01 41 29.7
VNA3 *e* 01 41 40.4
VNA3 *e* 01 41 44.2
SNAA Sanae 88.19 177 ⇓*i*P **P 01 41 06.0 -10**
SNAA *e* 01 41 07.5
SNAA *e* pP 01 41 17.5 -10
SNAA *e* 01 41 21.6
SNAA *e* 01 41 31.5
SNAA *e* 01 41 37.8
SNAA *e* 01 41 44.5
SNAA Sanae 88.19 177 *e*P **P 01 41 06.4 -10**
comp=Z,12nm,1.1s,mb5.0
SNG Songkhla 88.38 278 P **P 01 41 20.0 +3.0**
BJT Baijiatuau 88.50 314 *e*P **P 01 41 18.0 +0.4**
BJT pmax pmax
comp=Z,30nm,1.3s
BJT Baijiatuau 88.50 314 *e*P **P 01 41 18.0 +0.4**
comp=Z,30nm,1.3s,mb5.4
VNA2 Neumayer--Watz 88.65 176 ⇓*i*P **P 01 41 18.2 -0.1**
baz=174,slow=3.2
VNA2 *e* 01 41 19.8
VNA2 *e* pP 01 41 29.5 -0.4
VNA2 *e* pP 01 41 32.1 +2.2
VNA2 *e* 01 41 43.4
VNA2 *e* 01 41 48.2
VNA2 *e* 01 41 56.0
EGMT Eagleton 88.71 37 *e*P **P 01 41 19.4 +0.8**
VNA1 Neumayer--Stat 88.86 175 ⇓*i*P **P 01 41 19.3 0.0**
VNA1 *e* 01 41 21.0
VNA1 *e* pP 01 41 30.6 -0.3
VNA1 *e* 01 41 33.8
VNA1 *e* 01 41 41.3
VNA1 *e* 01 41 46.2
BILL Bilibino 89.17 353 *d i*P **P 01 41 20.1 -0.6**
BILL pmax pmax
comp=Z,19nm,1.2s,mb5.3
BILL MLR MLR
comp=Z,200nm,21.0s,MS4.5
BILL Bilibino 89.17 353 *i* Pr 01 41 20.1
EDM Edmonton 89.70 32 *e*P **P 01 41 23.8 +0.6**
HKT Hockley 89.97 58 *e*P **P 01 41 25.4 +0.9**
HKT pmax pmax
comp=Z,17nm,1.5s,mb5.2
HKT Hockley 89.97 58 *e*P **P 01 41 25.4 +0.9**
comp=Z,17nm,1.5s,mb5.2
GYA Guiyang 89.98 298 ⇑*i*P **P 01 41 27.0 +2.4**
GYA AP pP 01 41 37.6 +1.4
GYA XP sP 01 41 41.5 +1.1
GYA PP PP 01 45 03.3 +5.6
GYA SKS 01 51 53.8
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=N,430nm,20.7s,MS5.0
GYA LR LR
comp=E,480nm,21.4s,MS5.0
GYA LR LR
comp=Z,460nm,20.8s,MS4.9
LAO LASA Array 90.07 40 *e*P **P 01 41 25.6 +0.6**
comp=Z,17nm,1.3s,mb5.2
RSSD Black Hills 90.18 42 *e*P **P 01 41 24.7 -0.8**
RSSD pmax pmax
comp=Z,16nm,1.1s,mb5.3
RSSD Black Hills 90.18 42 *e*P **P 01 41 24.7 -0.8**
comp=Z,16nm,1.1s,mb5.3
HIA Hailar 90.78 323 ⇑*e*P **P 01 41 28.3 0.0**
XAN Xi'an 91.14 306 P **P 01 41 31.5 +1.5**
XAN AMB AMB
comp=Z,20nm,1.3s,mb5.3
NST Nakhon Sawan 91.77 286 P **P 01 41 36.0 +3.1**
HHC Hu-ho-hao-te 92.01 313 *e*P **P 01 41 35.7 +1.7**
HHC AP pP 01 41 46.3 +0.7
HHC XP sP 01 41 50.1 +0.3
HHC PP PP 01 45 18.1 +4.3
HHC SKS 01 52 03.6
HHC S 01 52 32.2
HHC XS sS 01 52 50.1 -2.4
HHC PS PS 01 53 51.8 +4.1
HHC SS SS 01 58 44.4 +2.0
HHC AMB AMB
comp=Z,30nm,1.0s,mb5.6
HHC AMB AMB
comp=Z,80nm,3.8s
HHC LR LR
comp=N,170nm,17.8s,MS5.0
HHC LR LR
comp=E,470nm,22.6s,MS5.0
HHC LR LR
comp=Z,200nm,20.2s,MS4.6
CLNS Chul'man 92.23 331 *e*P **P 01 41 32.1 -2.9**
CLNS pmax pmax
comp=Z,22nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,11nm,1.1s
JTS JuntasAbangare 92.37 80 *e*P **P 01 41 37.0 +1.4**
KMI Kunming 92.78 296 P **P 01 41 38.5 +1.0**
KMI AP pP 01 41 49.7 +0.6
KMI XP sP 01 41 54.0 +0.7
KMI PP PP 01 45 22.9 +3.0
KMI PPP 01 47 24.7
KMI SKS 01 52 09.8
KMI S 01 52 38.0
KMI XS sS 01 52 58.1 -1.3
KMI AMB AMB
comp=Z,10.0nm,1.2s,mb5.1
KMI AMB AMB
comp=Z,50nm,4.6s
KMI LR LR
comp=N,210nm,17.3s,MS4.8
KMI LR LR
comp=E,250nm,22.0s,MS4.8
KMI LR LR
comp=Z,310nm,18.5s,MS4.8
INK Inuvik 92.95 14 *e*P **P 01 41 37.5 -0.8**
INK pmax pmax
comp=Z,10.0nm,1.3s
INK Inuvik 92.95 14 *e*P **P 01 41 37.5 -0.8**
comp=Z,9.7nm,1.3s,mb5.1
BTO Baotou 92.98 312 *e*P **P 01 41 38.5 0.0**
YAK Yakutsk 93.34 337 *e*P **P 01 41 39.3 -0.8**
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
YAK Yakutsk 93.34 337 ⇑*e*P **P 01 41 39.2 -0.9**
CHG Chiang Mai 93.91 288 P **P 01 41 44.9 +2.2**
CHTO Chiang Mai 93.91 288 *e*P **P 01 41 44.3 +1.6**
CHTO *e**PP pP 01 41 53.0 -1.3
CHTO pmax pmax
comp=Z,15nm,1.1s,mb5.3
CHTO Chiang Mai 93.91 288 *e*P **P 01 41 44.3 +1.6**
comp=Z,15nm,1.1s,mb5.3
CHTO *e*pP pP 01 41 53.0 -1.3
CD2 Chengdu 94.00 301 *e*P **P 01 41 42.8 -0.4**
CD2 AP pP 01 41 53.4 -1.3
CD2 XP sP 01 41 57.3 -1.6
CD2 PP PP 01 45 32.0 +2.6
CD2 SKS 01 52 13.5
CD2 S 01 52 47.8
CD2 XS sS 01 53 05.1 -5.0
CD2 SS SS 01 59 12.0 +1.1
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,50nm,5.8s
CD2 LR LR
comp=E,160nm,10.8s
CD2 LR LR
comp=Z,150nm,12.6s,MS4.7
YKA Yellowknife Ar 94.58 24 P **P 01 41 43.8 -1.9**
comp=Z,1.0nm,0.8s,mb4.3,baz=234,slow=4.4,SNR=9.0
YKA LR LR 02 16 32.2
comp=Z,79nm,20.0s,MS4.2,baz=260,slow=31
ECSD EROS,Sioux Fal 94.84 45 *e*P **P 01 41 46.1 -0.9**
ECSD *e*pP pP 01 41 57.7 -0.9
LVC Limon Verde 95.23 116 *e*P **P 01 41 49.7 +0.9**
comp=Z,14nm,1.3s,mb5.2
LZH Lanzhou 95.77 306 *e*P **P 01 41 53.4 +2.2**
LZH AP pP 01 42 03.9 +1.1
LZH XP sP 01 42 07.7 +0.7
LZH PP PP 01 45 48.0 +4.9
LZH SKS 01 52 27.0
LZH *e*S 01 53 05.5
LZH XS sS 01 53 23.0 -2.5

LZH SS SS 01 59 39.1 +3.1
LZH AMB AMB
comp=Z,30nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,90nm,4.5s
LZH LR LR
comp=E,470nm,18.0s
LZH LR LR
comp=Z,760nm,20.0s,MS5.2
CCM Cathedral Cave 96.52 52 *eP* **P 01 41 52.9 -1.8**
CCM pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
CCM Cathedral Cave 96.52 52 *eP* **P 01 41 52.9 -1.7**
comp=Z,4.9nm,1.0s,mb4.9
ULN Ulaanbaatar 97.75 318⇑*eP* **P 01 42 00.8 +0.6**
ULM Lac du Bonnet 97.82 39 P **P 01 41 58.6 -1.9**
comp=Z,3.0nm,0.9s,mb4.8,baz=238,slow=5.8,SNR=6.5
ULM LR LR 02 24 20.6
comp=Z,305nm,18.1s,MS4.8,baz=236,slow=34
SONM Songino Array 98.15 318 P **P 01 42 01.2 -0.8**
comp=Z,1.2nm,1.0s,mb4.4,baz=144,slow=5.3,SNR=5.8
SONM PP PP 01 46 02.1 +0.6
comp=Z,1.7nm,1.1s,baz=126,slow=7.5,SNR=5.2
SONM LR LR 02 26 15.1
comp=Z,89nm,18.3s,MS4.3,baz=133,slow=35
SONM Songino Array 98.15 318 P **P 01 42 01.2 -0.8**
SONM 01 46 02.1
LPAZ La Paz 98.47 111 P **P 01 42 05.7 +2.2**
comp=Z,1.3nm,0.8s,mb4.5,baz=341,slow=7.1,SNR=4.9
LPAZ LR LR 02 19 53.0
comp=Z,210nm,19.1s,MS4.7,baz=60,slow=31
TIXI Tiksi 99.48 344⇑*eP* **P 01 42 07.3 -0.7**
GTA Gaotai 99.88 308 *eP* Pdif 01 42 14.4 +4.7
GTA AP 01 42 24.6
GTA XP 01 42 29.0
TLY Talaya 101.12 321⇑*eP* Pdif 01 42 13.8 -1.5
MKAR Makanchi Array 113.88 313 PKiKP PKiKP 01 47 03.3 -0.5
comp=Z,2.3nm,0.7s,baz=65,slow=0.9,SNR=21
KURK Kurchatov 116.45 317 *i* PKIKP PKPdf 01 47 07.7 -1.1
KURK Kurchatov 116.45 317 *i* PKPr 01 47 07.7
AAK Ala-Archa 119.23 308⇑*e*PKIKP PKPdf 01 47 13.3 -0.8
CHKZ Chkalovo 121.15 321 *e*PKIKP PKPdf 01 47 16.8 -1.0
BRVK Borovoye 121.44 321 *e*PKIKP PKPdf 01 47 18.2 -0.2
ZRNK Zerenda 122.22 321 *e*PKIKP PKPdf 01 47 19.6 -0.3
ARU Arti 127.16 327*c i*PKIKP PKPdf 01 47 29.1 -0.2
ARU MLR MLR
comp=Z,100nm,19.0s,MS4.5
ARU Arti 127.16 327 *e*PKPdf PKPdf 01 47 29.0 -0.4
BOSA Boshof 128.15 201 PKP PKPdf 01 47 32.4 +1.2
comp=Z,1.9nm,0.8s,baz=156,slow=4.7,SNR=3.8
BOSA Boshof 128.15 201 PKP PKPdf 01 47 32.4 +1.2
ARCES ARCESS Array B 129.25 351 PKP PKPdf 01 47 32.5 -0.8
comp=Z,4.2nm,1.0s,baz=338,slow=1.3,SNR=7.2
OBN Obninsk 138.28 334⇑*i*PKIKP PKPdf 01 47 51.9 +1.6
OBN *e* 01 48 04.6
OBN pmax pmax
comp=Z,7.0nm,1.0s
NOA NORSAR Array Be 139.01 356 PKhKP 01 47 36.9
comp=Z,0.6nm,0.8s,baz=8.1,slow=2.8,SNR=3.7
KIV Kislovodsk 141.53 316⇓*i*PKIKP PKPdf 01 47 57.0 +0.9
KIV *e* 01 48 10.8
KIV pmax pmax
comp=Z,10.0nm,1.3s
KIV Kislovodsk 141.53 316⇓*e*PKP PKPdf 01 47 57.5 +1.4
GNI Garni 141.61 310⇓*i*PKIKP PKPdf 01 47 59.8 +3.5
KMBO Kilima Mbogo 142.98 239 PKP PKPdf 01 47 58.5 -0.2
comp=Z,6.5nm,1.1s,baz=91,slow=2.9,SNR=7.7
KMBO Kilima Mbogo 142.98 239⇑*i*PKIKP PKPdf 01 48 00.3 +1.6
MUD Monsted U'grnd 143.70 357⇓*i*P PKPdf 01 47 58.3 -1.7
comp=Z,20nm,1.1s
MUD Monsted U'grnd 143.70 357⇓*i*PKIKP PKPdf 01 47 58.3 -1.7
MUD pmax pmax
comp=Z,20nm,1.1s
SUW Suwalki 143.81 343 *e*PKP PKPdf 01 47 57.9 -2.3
BSD Bornholm Skovb 144.50 351⇑*i*P PKPdf 01 47 59.7 -1.7
comp=Z,21nm,0.9s
BSD Bornholm Skovb 144.50 351⇑*i*PKHKP PKPdf 01 47 59.7 -1.7
BSD pmax pmax
comp=Z,21nm,0.9s
AKASG Malin Array Be 144.54 335 PKP PKPdf 01 47 59.6 -1.9
comp=Z,21nm,0.7s,baz=35,slow=3.8,SNR=111
DCN Croghan 145.28 14 *e*P PKPbc 01 47 59.7 -2.8
DLF Lyons Farm 145.49 14 *e*P PKPdf 01 48 00.5 -2.6
DSB Dublin 145.57 13 *e*PKPdf PKPdf 01 48 03.1 -0.1
GKP Gorka Klasztor 145.89 348 *e*PKP PKPdf 01 48 04.7 +0.9
WAR Warsaw 145.98 344 *e*PKP PKPdf 01 48 06.3 +2.4
MALT Malatya 146.84 310⇑*i*P PKPbc 01 48 09.3 +2.1
MALT Malatya 146.84 310⇑⇑P PKPbc 01 48 09.3 +2.1
MALT P 01 48 09.4
LVV L'vov 147.20 339 *e*PKIKP PKPdf 01 48 08.4 +2.4
LVV *e* 01 48 20.4
LVV *e* 01 54 59.6
RUE Ruedersdorf 147.22 351 *e*PKPbc PKPbc 01 48 08.7 +0.4
RUE Ruedersdorf 147.22 351 *e*PKP PKPdf 01 48 07.6 +1.6
KWP Kalwaria 147.80 340 *e*PKP PKPbc 01 48 10.3 +0.4
IBBN Ibbenburen 147.90 358 *e*PKPbc PKPbc 01 48 10.4 +0.2
IAS Iasi 147.94 332 PKP2 PKPab 01 48 10.9 -2.1
OJC Ojcow 148.14 343 *e*PKP PKPbc 01 48 11.0 +0.2
CLZ Clausthal 148.22 355 *e*PKPbc PKPbc 01 48 11.5 +0.5
WTSB Winterswijk 148.26 359 *e*PKP PKPdf 01 48 06.6 -1.1
comp=Z,43nm,1.3s
KSP Ksiaz 148.38 348 *e*PKP PKPbc 01 48 12.3 +0.9
KSP Ksiaz 148.38 348 *e*PKP PKPbc 01 48 12.2 +0.8
STHS Stebnicka Huta 148.45 341 *i* PKP PKPbc 01 48 12.6 +1.0
STHS *e* 01 48 17.2
CLL Collm 148.47 352 *e*PKPbc PKPbc 01 48 11.8 +0.1
CLL Collm 148.47 352⇓*i*PKPbc PKPbc 01 48 11.8 +0.1
comp=Z,58nm,1.1s
CLL *e*PKPab PKPab 01 48 15.0 -0.1
comp=Z,28nm,1.1s
CLL *e*pPKPbc pPKPbc 01 48 22.0 -1.5
CLL Collm 148.47 352⇓*i*PKIKP PKPbc 01 48 11.8 +0.1
CLL *e* 01 48 15.0
CLL *e* 01 48 22.0
CLL pmax pmax
comp=Z,58nm,1.1s
CLL pmax pmax
comp=Z,28nm,1.1s
GTTG Gvttingen 148.55 356 *e*PKPbc PKPbc 01 48 12.2 +0.3
BURAR Bucovina Array 148.59 335⇑*i*P PKPbc 01 48 12.8 +0.8
BURAR Bucovina Array 148.59 335⇑⇑P PKPbc 01 48 12.8 +0.8
RAC Raciborz 148.67 345 *e*PKP PKPdf 01 48 13.2 +4.8
UPC Upice 148.75 348⇑*e*PKPB PKPbc 01 48 12.9 +0.5
UPC *e*pPKP pPKPdf 01 48 24.1 +3.6
BRG Berggiesshubel 148.76 351 *e*PKPdf PKPdf 01 48 08.3 -0.3
BRG *e*PKPbc PKPbc 01 48 12.8 +0.4
BRG Berggiesshubel 148.76 351 *e*PKP PKPdf 01 48 08.9 +0.3
comp=Z,3.8nm,1.1s
BRG *i* 01 48 12.7
comp=Z,21nm,1.1s
BRG *i* 01 48 16.2
comp=Z,22nm,1.1s
BRG Berggiesshubel 148.76 351 *e*PKHKP PKPbc 01 48 08.9 -3.5
BRG *i* 01 48 12.7
BRG *i* 01 48 16.2
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG pmax pmax
comp=Z,21nm,1.1s
BRG pmax pmax
comp=Z,22nm,1.1s
BUG Bochum--Univer 148.78 359 *e*PKPbc PKPbc 01 48 12.5 0.0
DPC Dobruska-Polom 148.84 348⇑*e*PKPB PKPbc 01 48 12.7 +0.1
OKC Ostrava-Krasne 148.91 345⇑*e*PKPB PKPbc 01 48 12.6 -0.2
PVCC Panska Ves 148.99 350⇑*e*PKPB PKPbc 01 48 13.3 +0.3
MORC Moravsky Berou 149.11 346⇑*i*P PKPbc 01 48 14.5 +1.2
MORC Moravsky Berou 149.11 346 P PKPbc 01 48 14.4 +1.0
CFR Carcaliu 149.19 329⇑*i*P PKPbc 01 48 14.4 +0.9
CFR Carcaliu 149.19 329⇑⇑P PKPbc 01 48 14.3 +0.8
UBBA Unterbreizbach 149.27 355 *e*PKPdf PKPdf 01 48 09.7 +0.3
UBBA *e*PKPbc PKPbc 01 48 13.6 -0.1
UBBA *e*PKPab PKPab 01 48 18.0 -0.3
MOX Moxa 149.29 353 *e*PKPdf PKPdf 01 48 09.2 -0.2
MOX *e*PKPbc PKPbc 01 48 14.1 +0.3
MOX Moxa 149.29 353 *e*PKP PKPbc 01 48 14.1 +0.3
comp=Z,50nm,1.6s
MOX Moxa 149.29 353 *e*PKIKP PKPbc 01 48 14.1 +0.3
MOX pmax pmax
comp=Z,50nm,1.6s
VRI Vrincioaia 149.33 331⇓*i*P PKPbc 01 48 14.3 +0.4
VRI Vrincioaia 149.33 331⇑*i*P PKPdf 01 48 14.6 +5.1
VRI Vrincioaia 149.33 331 P PKPbc 01 48 14.3 +0.5
VRI ⇑P 01 48 14.6
PLOR Plostina 149.38 331⇑*i*P PKPbc 01 48 14.4 +0.4
UCC Uccle 149.40 2 PKPbc PKPbc 01 48 13.6 -0.5
WERD Werda 149.40 352 *e*PKPdf PKPdf 01 48 10.0 +0.4
WERD *e*PKPbc PKPbc 01 48 14.5 +0.5
WERD *e*PKPab PKPab 01 48 18.6 -0.3
PRA Prague 149.46 350⇑PKPB PKPbc 01 48 14.0 -0.2
HGN Heimansgroeve 149.47 0 *e*PKP PKPdf 01 48 14.2 +4.5
comp=Z,29nm,1.5s
BR131 Keskin Array S 149.49 316 *e*PKPdf PKPdf 01 48 09.9 +0.1
BRTR Keskin Array B 149.49 316 PKP PKPdf 01 48 09.6 -0.1
comp=Z,6.0nm,1.1s,baz=147,slow=2.5,SNR=13
BRTR PKPbc PKPbc 01 48 14.1 -0.1
comp=Z,13nm,1.0s,baz=130,slow=2.4,SNR=45
KECS Kecovo 149.51 341 *i* PKP PKPbc 01 48 15.1 +0.8
KECS *e* 01 48 20.4
PRU Pruhonice 149.52 349⇑*e*PKPB PKPbc 01 48 14.5 +0.2
TIRR Tirgusor 149.57 328⇑*i*P PKPbc 01 48 15.2 +0.7
TIRR Tirgusor 149.57 328⇑⇑P PKPbc 01 48 15.2 +0.8
NKC Novy Kostel 149.60 352⇑*e*PKPB PKPbc 01 48 13.7 -0.8
MEM Membach 149.62 0 PKPbc PKPbc 01 48 14.4 -0.2
MEM APKPbc 01 48 26.3
HARR Harsova 149.64 329⇑*i*P PKPbc 01 48 15.8 +1.2
HARR Harsova 149.64 329⇑⇑P PKPbc 01 48 15.8 +1.1
SNF Seneffe 149.68 2 PKPbc PKPbc 01 48 14.8 +0.1
SNF PKPab PKPab 01 48 18.7 -1.3
VRAC Vranov 149.77 347⇓*i*P PKPbc 01 48 15.4 +0.5
VRAC Vranov 149.77 347⇓⇓P PKPbc 01 48 15.4 +0.4
VRAC P 01 48 16.3
BCLA Clavier 149.80 1 PKPbc PKPbc 01 48 14.0 -1.0
BCLA PKPab PKPab 01 48 18.8 -1.7
BCLA APKP 01 48 20.6
MANZ Manzenberg 149.88 352 *e*PKPdf PKPdf 01 48 10.6 +0.2
MANZ *e*PKPbc PKPbc 01 48 15.9 +0.7
ANTO Ankara 149.96 317⇑*i*P PKPbc 01 48 16.9 +1.5
ANTO Ankara 149.96 317 *e*PKPdf PKPdf 01 48 11.7 +1.2
TNS Taunus Mts 149.96 357 *e*PKPbc PKPbc 01 48 15.8 +0.4
MLR Muntele Rosu 149.97 332⇑*i*P PKPbc 01 48 16.3 +0.9
MLR Muntele Rosu 149.97 332 P PKPbc 01 48 15.7 +0.3
MLR ⇑⇑P 01 48 16.3
TREC Trest 150.01 348⇑*e*PKPB PKPbc 01 48 15.9 +0.4
ROTZ Rotzenmuhle 150.09 352 *e*PKPdf PKPdf 01 48 11.0 +0.3
ROTZ *e*PKPbc PKPbc 01 48 16.3 +0.6
DOU Dourbes 150.11 2 PKPbc PKPbc 01 48 15.9 +0.2
DOU PKPab PKPab 01 48 19.8 -1.9
DOU APKPbc 01 48 26.8
DOU APKPab 01 48 30.8
GIVF Givet 150.11 2 *e*PKP1 PKPbc 01 48 15.5 -0.3
comp=Z,127nm,1.1s
BAIF Baives 150.13 3 *e*PKP1 PKPbc 01 48 15.7 -0.1
comp=Z,118nm,1.1s
PSZ Piszkesteto 150.19 341 *e*pPKP/F PKPbc 01 48 16.3 +0.3
PSZ Piszkesteto 150.19 341⇓*i*P PKPbc 01 48 16.5 +0.5
PSZ Piszkesteto 150.19 341 *e*PKPdf PKPbc 01 48 16.4 +0.4
GRA1 Grafenberg Arr 150.27 353 *e*PKPbc PKPbc 01 48 16.9 +0.7
GRF Grafenberg Arr 150.27 353 *e*PKPbc PKPbc 01 48 16.9 +0.7
ABH Alteburg 150.33 358 PKP PKPbc 01 48 16.5 +0.2
KHC Kasperske Hory 150.51 350⇑*e*PKPB PKPbc 01 48 17.1 +0.4
RUP Ruppelstein 150.52 359 PKIKP PKPbc 01 48 17.2 +0.4
TOD Tromm 150.56 357 PKIKP PKPbc 01 48 16.9 +0.1
WLF Walferdange 150.57 0 *e*PKPdf PKPdf 01 48 12.1 +0.7
WLF *e*PKPbc PKPbc 01 48 17.7 +0.8
WLF Walferdange 150.57 0 PKPbc PKPbc 01 48 17.6 +0.7
WLF Walferdange 150.57 0 *e*PKPdf PKPdf 01 48 12.7 +1.3
BHL Bhannes 150.58 304 *e*P PKPdf 01 48 17.4 +6.0
WET Wettzell 150.60 351 *e*PKPdf PKPdf 01 48 11.8 +0.3
WET *e*PKPbc PKPbc 01 48 17.5 +0.6
WET *e*PKPab PKPab 01 48 24.2 +0.4
ZST Bratislava 150.69 345 *e*PKP PKPbc 01 48 18.2 +1.0
GEC2 GERESS Array S 150.77 350 *e*PKPdf PKPdf 01 48 11.2 -0.5
GEC2 *e*PKPbc PKPbc 01 48 17.7 +0.4
GERES GERESS Array B 150.77 350 PKP PKPdf 01 48 11.9 +0.1
comp=Z,0.8nm,0.9s,baz=52,slow=2.2,SNR=6.6
GERES PKPbc PKPbc 01 48 17.9 +0.5
comp=Z,9.6nm,1.0s,baz=48,slow=2.0,SNR=44
SRO1 Iza 150.81 343 *e*PKP PKPbc 01 48 19.1 +1.7
BUD Budapest 150.84 342⇑pPKP/F PKPbc 01 48 18.2 +0.7
ROSF Rostrenen 150.86 13 *e*PKP1 PKPbc 01 48 16.5 -1.1
comp=Z,54nm,1.2s
FLN La Foliniere 150.96 9 *e*PKP1 PKPbc 01 48 17.1 -0.7
comp=Z,126nm,1.0s
FLN *e*R
comp=Z,133nm,18.2s
FLN La Foliniere 150.96 9 *e*PKP PKPbc 01 48 17.1 -0.7
FLN LR LR
comp=Z,130nm,18.3s,MS4.8
SGMF Saint Gilles 151.09 12 *e*PKP1 PKPbc 01 48 17.1 -1.0
comp=Z,73nm,1.1s
LDF La Druitiere 151.18 9 *e*PKP1 PKPbc 01 48 17.5 -0.8
comp=Z,101nm,1.1s
LANF Langenberg 151.22 358 PKP PKPbc 01 48 18.7 +0.3
CONA Conrad Observa 151.23 347⇑*i*PKiKP PKiKP 01 48 19.5 +0.5
comp=Z,36nm,1.4s
GRR Gorron 151.26 10 *e*PKP1 PKPbc 01 48 17.8 -0.7
comp=Z,89nm,1.0s
QUIF Quistinic 151.28 13 *e*PKP1 PKPbc 01 48 17.5 -1.0
comp=Z,90nm,1.3s
SOP Sopron 151.30 345⇓*e*pPKP/F PKPbc 01 48 19.1 +0.5
STU Stuttgart 151.36 356 *e*PKPbc PKPbc 01 48 19.4 +0.7
STU *e*PKPab PKPab 01 48 26.6 -0.3
BZS Buzias 151.63 337⇓*i*P PKPbc 01 48 19.7 +0.4
BZS Buzias 151.63 337 P PKPbc 01 48 19.7 +0.4
MEZF Maizieres J'vi 151.71 2 *e*PKP1 PKPbc 01 48 19.5 0.0
comp=Z,73nm,1.1s
FUR Furstenfeldbru 151.77 353 *e*PKPbc PKPbc 01 48 20.2 +0.5
FUR *e*PKPab PKPab 01 48 29.6 +0.9
WLS Welschbruch 151.81 358 PKP PKPbc 01 48 20.2 +0.5
CDF Champ du Feu 151.81 359 *e*PKP1 PKPbc 01 48 19.5 -0.2
comp=Z,49nm,1.1s
BFO Black Forest 151.85 357 *e*PKPbc PKPbc 01 48 19.8 0.0
BFO Black Forest 151.85 357 *e*PKPdf PKPdf 01 48 10.9 -2.5
CSS Prodhromos 151.95 307 *e*PKP PKPbc 01 48 19.4 -0.6
THEF They Montfort 152.00 0 PKP PKPbc 01 48 20.8 +0.6
PKSM Moragy 152.10 341⇑*i*P PKPbc 01 48 20.2 -0.2
PKSM Moragy 152.10 341⇑⇑P PKPbc 01 48 20.2 -0.2
PKSM P 01 48 20.5
HAU Haudompre 152.23 360 *e*PKP1 PKPbc 01 48 21.3 +0.6
comp=Z,42nm,1.0s
HAU *e*R
comp=Z,185nm,20.2s
HAU Haudompre 152.23 360 *e*PKP PKPbc 01 48 21.3 +0.6
HAU LR LR
comp=Z,190nm,20.3s,MS4.9
EIL Elat 152.37 296 *e*PKPdf PKPbc 01 48 22.2 +1.2
EIL *e*PKPab PKPab 01 48 33.4 +2.2
MOF Molkenrain 152.37 359 PKP PKPbc 01 48 20.2 -0.8
HINF Hinteralfeld 152.41 359 *e*PKP1 PKPbc 01 48 20.5 -0.6
comp=Z,20nm,1.0s
MOTA Moosalm 152.60 353 *i* P PKPbc 01 48 22.2 +0.7
SNR=6.7
WTTA Wattenberg 152.62 352 *i* P PKPbc 01 48 22.0 +0.4
comp=Z,25nm,1.4s,SNR=5.3
DAVA Damuels 152.79 355 *i* P PKPbc 01 48 22.8 +0.9
comp=Z,19nm,1.1s,SNR=6.0
HYF Humbligny 152.81 5 *e*PKP1 PKPbc 01 48 21.9 -0.1
LOR Lormes 152.90 4 *e*PKP1 PKPbc 01 48 21.9 -0.3
comp=Z,42nm,1.1s
LOR *e*R
comp=Z,219nm,19.5s
LOR Lormes 152.90 4 *e*PKP PKPbc 01 48 21.9 -0.3
LOR LR LR
comp=Z,220nm,19.5s,MS5.0
SSF Saint Saulge 153.08 4 *e*PKP1 PKPbc 01 48 22.3 -0.3
comp=Z,51nm,1.0s
MFF Saint Martin d 153.12 10 *e*PKP1 PKPbc 01 48 21.9 -0.8
comp=Z,60nm,1.4s
AVF Avril sur Loir 153.34 4 *e*PKP1 PKPbc 01 48 22.5 -0.6
comp=Z,23nm,1.0s
GRUS Gruza 153.44 336 *i* PKP PKPdf 01 48 23.1 +7.3
SMF Signal de Mont 153.51 4 *e*PKP1 PKPbc 01 48 23.0 -0.5
comp=Z,36nm,1.3s
BGF Bois d'Agland 153.53 5 *e*PKP1 PKPbc 01 48 23.2 -0.4
comp=Z,20nm,0.8s
DIVS Divcibare 153.53 337 *i* PKP PKPdf 01 48 24.0 +8.2
CABF La Chapelle 153.62 0 *e*PKP1 PKPbc 01 48 24.1 +0.3
comp=Z,58nm,1.2s
AGO Saint Agoulin 154.05 5 PKP PKPbc 01 48 25.2 +0.5
PLDF La Plantade 154.17 4 PKP PKPbc 01 48 25.2 +0.2
PYM Petit Puy Mans 154.34 5 PKP PKPbc 01 48 26.0 +0.7
BNI Bardonecchia 155.18 359 *e*PKP2 PKPab 01 48 44.5 +1.4
EVO Evora 157.92 31 *e*PKIKP PKPdf 01 48 21.7 0.0
comp=Z,28nm,1.4s
EVO *e*R
comp=Z,201nm,17.0s
ESDC Sonseca Array 158.66 22 PKP PKPdf 01 48 22.3 -0.3
comp=Z,0.7nm,0.7s,baz=318,slow=4.1,SNR=5.6
TIP Timpagrande 159.00 337 *e*PKPab PKPab 01 49 00.1 +0.6
DBIC Dimbokro 162.79 140 PKP PKPdf 01 48 27.1 0.0
comp=Z,4.4nm,1.0s,baz=141,slow=14,SNR=3.5
TORD Torodi Ar. Bea 171.77 147 PKP PKPdf 01 48 33.1 -0.5
comp=Z,2.4nm,0.9s,baz=316,slow=1.2,SNR=12
TORD PKPab PKPab 01 49 55.5 -0.2
comp=Z,2.4nm,1.0s,baz=232,slow=3.6,SNR=4.6

CASC 02 01:37:45.7±2.7, 1304N×8864W, h93km±44km, MD3.7, ML3.0, 3C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.52**	**43**⇓	*e*P		x		01 38 09.5	
VSM				*e*S		x		01 38 20.8	
LCBS	**La Ceiba**	**0.69**	**332**⇓	*e*P		x		01 38 07.3	
LCBS				*e*S		x		01 38 19.1	
LFRS	**El Faro**	**0.71**	**325**⇓	*e*P		x		01 38 07.1	
LFRS				*e*S		x		01 38 22.2	
LBRS	**Las Brisas**	**0.80**	**330**	*e*P		x		01 38 09.0	
LBRS				*e*S		x		01 38 22.2	
CNCH	**Conchagua**	**0.82**	**73**⇑	*e*P		x		01 38 13.4	
CNCH				*e*S		x		01 38 28.3	
CRIN	**San Cristobal**	**1.59**	**102**	*e*P		Pn		01 38 13.6	+1.0
CRIN				*e*S		Sn		01 38 34.3	+1.2
comp=Z,130nm,0.3s									
TEL3	**Telica 3**	**1.81**	**105**⇑	*e*P		Pn		01 38 15.9	+0.4
LEON	**Leon**	**1.81**	**110**	*e*P		Pn		01 38 15.9	+0.3
CNGN	**Cerro Negro**	**1.97**	**106**	*e*P		Pn		01 38 17.9	+0.3
MIRN	**Miramar**	**1.97**	**107**	*e*P		Pn		01 38 16.1	-1.6
MOMJ	**Momotombo**	**2.14**	**107**	*e*P		Pn		01 38 20.0	+0.2
COPN	**Copaltepe**	**2.17**	**113**	*e*P		Pn		01 38 20.1	-0.1
COPN				*e*S		Sn		01 38 48.0	+1.3
comp=Z,175nm,0.4s									
APYN	**Apoyeque**	**2.37**	**110**⇑	*e*P		Pn		01 38 23.6	+0.7
TICN	**Ticuantepe**	**2.56**	**113**	*e*P		Pn		01 38 26.9	+1.6
TICN				*e*S		Sn		01 38 56.0	+0.3

*ISCJB **02** 01:46:55.3±1.6, 562S±006×14628E±007, h83km±16km, mb4.2/17, Error ellipse: s-maj=13.2km s-min=8.8km az=74.3*
*NEIC **02** 01:46:57.9±1.6, 557S×14625E, h92km±15km, mb4.4/11, Error ellipse: s-maj=11.0km s-min=10.2km az=165.0*
*IDC **02** 01:46:57.1±2.8, 557S×14630E, h84km±25km, mb4.1/9, mb1 4.3/11, mb1mx4.2/16, mbtmp4.5/11, MS3.5/1, Ms1 3.5/1, ms1mx2.1/27, Error ellipse: s-maj=22.8km s-min=13.1km az=103.0*

ISC 02 01:46:58.0±1.5, 570S±007×14629E±007, h94km±15km, n42, σ1§10/44, mb4.2/17, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**167**	P		**Pn**		**01 47 54.7**	**+0.5**
56nm,0.3s,baz=13,slow=14,SNR=134									
PMG				S		**Sn**		**01 48 36.4**	**-1.2**
89nm,0.3s,baz=124,slow=23,SNR=15									
PMG				LR		LR		01 49 12.5	
comp=Z,576nm,20.0s,baz=184,slow=35									
PMG	**Port Moresby**	**3.79**	**167**	P		**Pn**		**01 47 54.7**	**+0.5**
PMG				S		**Sn**		**01 48 36.5**	**-1.2**
PMG				LR		LR		01 49 12.5	
HNR	**Honiara**	**14.03**	**106**	*e*Pn		**Pn**		**01 50 12.8**	**+0.3**
CTA	**Charters Tower**	**14.31**	**180**	*e*P		**Pn**		**01 50 20.0**	**+3.9**
80nm,0.4s									
CTA				*e*S		**Sn**		**01 52 49.1**	**-4.4**
CTA	**Charters Tower**	**14.31**	**180**	P		**Pn**		**01 50 20.9**	**+4.9**
25nm,0.3s,baz=359,slow=14,SNR=261									
CTA				S		**Sn**		**01 52 48.9**	**-4.7**
0.8nm,0.3s,baz=105,slow=19,SNR=4.8									
CTAO	**Charters Tower**	**14.31**	**180**	*e*Pn		**Pn**		**01 50 20.1**	**+4.0**
101nm,0.5s									
KAKA	**Kakadu**	**15.34**	**242**	*e*P		**Pn**		**01 50 29.8**	**+0.5**
92nm,0.6s									
WRAB	**Tennant Creek**	**18.31**	**218**	*e*P		**Pn**		**01 51 05.0**	**-0.7**
39nm,1.0s									
WB2	**Warramunga Arr**	**18.31**	**218**	*e*P		**Pn**		**01 51 05.0**	**-0.7**
WB2				*e*S		**S**		**01 54 23.9**	**-5.2**
WRA	**Warramunga Arr**	**18.32**	**218**	P		**Pn**		**01 51 05.0**	**-0.9**
1.9nm,0.3s,baz=37,slow=12,SNR=38									
WRA				S		**S**		**01 54 26.0**	**-3.2**
0.4nm,0.3s,baz=36,slow=24,SNR=3.3									
WRA				PcP		PcP		01 55 34.6	+2.1
0.6nm,0.3s,baz=20,slow=1.6,SNR=9.5									
ASAR	**Alice Springs**	**21.48**	**212**	P		**P**		**01 51 40.1**	**+1.2**
13nm,0.8s,mb4.3,baz=43,slow=7.9,SNR=46									
ASAR				S		**S**		**01 55 35.6**	**+3.8**
2.0nm,0.9s,baz=30,slow=22,SNR=5.3									
FITZ	**Fitzroy Crossi**	**23.64**	**237**	*e*P		**P**		**01 52 00.6**	**0.0**
40nm,0.8s,mb4.8									
FITZ	**Fitzroy Crossi**	**23.64**	**237**	P		**P**		**01 52 01.5**	**+1.0**
18nm,0.7s,mb4.5,baz=82,slow=8.1,SNR=62									
STKA	**Stephens Creek**	**26.41**	**189**	*e*P		**P**		**01 52 24.3**	**-1.5**
4.6nm,0.6s,mb4.1									
STKA	**Stephens Creek**	**26.41**	**189**	P		**P**		**01 52 24.6**	**-1.2**
6.3nm,0.7s,mb4.1,baz=7.9,slow=11,SNR=12									
MBWA	**Marble Bar**	**29.98**	**237**	*e*P		**P**		**01 52 58.4**	**+0.9**
4.3nm,0.5s,mb4.3									
KKM	**Kota Kinabalu**	**32.21**	**291**	*e*P		**P**		**01 53 16.8**	**-0.3**
KSM	**Kuching**	**36.63**	**280**	*e*P		**P**		**01 53 55.9**	**+0.7**
TAU	**Tasmania Unive**	**37.07**	**179**	*e*P		**P**		**01 54 00.6**	**+1.7**
KLBR	**Kellerberrin**	**37.12**	**223**	*e*P		**P**		**01 54 00.0**	**+0.7**
11nm,0.3s,mb5.3									
MUN	**Mundaring**	**38.40**	**223**	*e*P		**P**		**01 54 10.4**	**+0.3**
RPZ	**Rata Peaks**	**43.69**	**154**	P		**P**		**01 54 54.9**	**+1.4**
11nm,1.0s,mb4.5,baz=11,slow=10,SNR=4.1									
KULM	**Kulim**	**46.86**	**283**	*e*P		**P**		**01 55 20.4**	**+1.8**
PSI	**Prapat**	**48.06**	**279**	P		**P**		**01 55 28.9**	**+1.0**
2.5nm,0.3s,mb4.5,baz=106,slow=11,SNR=3.6									
ULN	**Ulaanbaatar**	**63.51**	**332**	*e*P		**P**		**01 57 18.2**	**0.0**
4.6nm,0.8s,mb4.4									
SONM	**Songino Array**	**63.80**	**331**	P		**P**		**01 57 20.8**	**+0.7**
1.8nm,0.9s,mb3.9,baz=148,slow=6.7,SNR=10									
VNDA	**Vanda**	**72.25**	**176**	P		**P**		**01 58 14.2**	**+1.2**
1.1nm,0.6s,mb3.9,baz=324,slow=8.3,SNR=11									
MKAR	**Makanchi Array**	**76.82**	**321**	P		**P**		**01 58 39.7**	**+0.2**
1.0nm,0.4s,mb3.9,baz=97,slow=8.4,SNR=10									
MKAR	**Makanchi Array**	**76.82**	**321**	P		**P**		**01 58 39.7**	**+0.2**
ZAL	**Zalesovo**	**78.39**	**328**	P		**P**		**01 58 47.0**	**-1.1**
1.5nm,0.6s,mb3.9,baz=23,slow=3.3,SNR=5.4									
KURK	**Kurchatov**	**80.55**	**323**	*e*P		**P**		**01 58 59.6**	**-0.3**
1.0nm,0.7s,mb3.8									
AAK	**Ala-Archa**	**80.63**	**315**	*e*P		**P**		**01 59 00.5**	**+0.2**
ILAR	**Eielson Array**	**85.48**	**23**	P		**P**		**01 59 24.1**	**-1.2**
7.3nm,0.7s,mb4.7,baz=256,slow=5.3,SNR=82									
CHKZ	**Chkalovo**	**86.15**	**325**	*e*P		**P**		**01 59 26.9**	**-1.7**
1.3nm,0.6s,mb4.0									
BRVK	**Borovoye**	**86.18**	**324**	*e*P		**P**		**01 59 26.6**	**-2.2**
0.5nm,0.4s,mb3.8									
ZRNK	**Zerenda**	**86.90**	**324**	*e*P		**P**		**01 59 30.7**	**-1.6**
0.7nm,0.4s,mb3.9									
DAWY	**Dawson**	**88.30**	**25**	*e*P		**P**		**01 59 39.4**	**+0.4**
GERES	**GERESS Array B**	**121.26**	**325**	P

HOLB	**Holberg**	**1.35**	**90**	⇑Pn	**Pn**	**02 03 58.9**	**-1.5**
HOLB				Sn	**Sn**	**02 04 15.1**	**-3.3**
	comp=Z,1μm,0.3s						
HOLB				Trac		02 04 16.2	
	comp=Z,1μm,0.3s						
HOLB	**Holberg**	**1.35**	**90**	⇑*i*Pn	**Pn**	**02 03 58.9**	**-1.5**
HOLB				*e*Sn	**Sn**	**02 04 15.1**	**-3.3**
BPBC	**Brooks Peninsu**	**1.67**	**107**	Pn	**Pn**	**02 04 02.3**	**-2.5**
BPBC				Trac		02 04 23.4	
	comp=Z,292nm,0.2s						
PHC	**Port Hardy**	**1.80**	**88**	⇑Pn	**Pn**	**02 04 05.5**	**-1.1**
PHC				Sn	**Sn**	**02 04 26.2**	**-3.2**
PHC				Trac		02 04 27.6	
	comp=Z,605nm,0.2s						
PHC	**Port Hardy**	**1.80**	**88**	⇑*i*Pn	**Pn**	**02 04 05.5**	**-1.1**
PHC				*e*Sn	**Sn**	**02 04 26.2**	**-3.2**
MAYB	**Maynard**	**1.99**	**97**	⇑*i*Pn	**Pn**	**02 04 07.6**	**-1.6**
BBB	**Bella Bella**	**2.02**	**41**	Pn	**Pn**	**02 04 09.9**	**+0.2**
	32nm,0.3s,baz=224,slow=12,SNR=1077						
BBB				Sn	**Sn**	**02 04 33.4**	**-1.7**
	79nm,0.3s,baz=135,slow=20,SNR=18						
BBB	**Bella Bella**	**2.02**	**41**	Pn	**Pn**	**02 04 09.9**	**+0.2**
BBB				Sn	**Sn**	**02 04 33.3**	**-1.7**
BBB				Trac		02 04 36.7	
	comp=Z,280nm,0.2s						
BBB	**Bella Bella**	**2.02**	**41**	Pn	**Pn**	**02 04 09.9**	**+0.2**
BBB				Sn	**Sn**	**02 04 33.3**	**-1.7**
BNB	**Barry Inlet**	**2.12**	**335**	Pn	**Pn**	**02 04 10.3**	**-0.8**
BNB				Sn	**Sn**	**02 04 35.6**	**-1.9**
	comp=Z,2μm,0.3s						
BNB				Trac		02 04 38.9	
	comp=Z,2μm,0.3s						
BNB	**Barry Inlet**	**2.12**	**335**	Pn	**Pn**	**02 04 10.3**	**-0.8**
BNB				*e*Sn	**Sn**	**02 04 35.6**	**-1.9**
EDB	**Eliza Dome**	**2.16**	**110**	Pn	**Pn**	**02 04 09.3**	**-2.3**
WOSB	**Woss**	**2.41**	**101**	⇑*i*Pn	**Pn**	**02 04 13.8**	**-1.2**
NCRB	**Newcastle Ridg**	**2.69**	**94**	⇑*i*Pn	**Pn**	**02 04 17.8**	**-1.1**
ETB	**Estevan Point**	**2.72**	**117**	*e*Pn	**Pn**	**02 04 16.9**	**-2.4**
MOBC	**Moresby Island**	**2.73**	**339**	⇑Pn	**Pn**	**02 04 18.4**	**-0.9**
MOBC				Sn	**Sn**	**02 04 52.0**	**-0.4**
MOBC				Trac		02 04 57.9	
	comp=Z,33nm,0.4s						
MOBC	**Moresby Island**	**2.73**	**339**	⇑*i*Pn	**Pn**	**02 04 18.4**	**-0.9**
MOBC				*e*Sn	**Sn**	**02 04 52.0**	**-0.4**
BNAB	**Bonilla**	**2.84**	**355**	Pn	**Pn**	**02 04 21.2**	**+0.3**
BNAB				Sn	**Sn**	**02 04 54.8**	**-0.3**
	comp=Z,19nm,0.1s						
BNAB				Trac		02 04 55.9	
	comp=Z,19nm,0.1s						
BNAB	**Bonilla**	**2.84**	**355**	Pn	**Pn**	**02 04 21.2**	**+0.3**
BNAB				Sn	**Sn**	**02 04 54.8**	**-0.3**
GDR	**Gold River**	**2.85**	**107**	⇑Pn	**Pn**	**02 04 19.3**	**-1.8**
VIB	**Van Inlet**	**2.95**	**332**	Pn	**Pn**	**02 04 21.9**	**-0.5**
VIB				Trac		02 05 01.8	
	comp=Z,13nm,0.3s						
CBB	**Campbell River**	**3.20**	**100**	⇑Pn	**Pn**	**02 04 25.0**	**-0.8**
CBB				Sn	**Sn**	**02 05 01.4**	**-2.6**
CBB				Trac		02 05 08.5	
	comp=Z,44nm,0.5s						
CBB	**Campbell River**	**3.20**	**100**	⇑*i*Pn	**Pn**	**02 04 25.0**	**-0.8**
CBB				*e*Sn	**Sn**	**02 05 01.4**	**-2.6**
BTB	**Buttle Lake**	**3.28**	**110**	⇑Pn	**Pn**	**02 04 25.4**	**-1.5**
OZB	**Mount Ozzard**	**3.53**	**117**	*e*Pn	**Pn**	**02 04 27.9**	**-2.4**
RUBB	**Prince Rupert**	**3.66**	**0**	Pn	**Pn**	**02 04 33.5**	**+1.2**
RUBB				Sn	**Sn**	**02 05 15.6**	**+0.1**
RUBB				Trac		02 05 17.9	
	comp=Z,33nm,0.1s						
RUBB	**Prince Rupert**	**3.66**	**0**	Pn	**Pn**	**02 04 33.5**	**+1.2**
RUBB				Sn	**Sn**	**02 05 15.6**	**+0.1**
NDB	**Naden**	**3.68**	**334**	Pn	**Pn**	**02 04 32.3**	**-0.2**
ALB	**Alberni**	**3.77**	**110**	⇑Pn	**Pn**	**02 04 32.4**	**-1.4**
TXB	**Texada**	**3.87**	**102**	Pn	**Pn**	**02 04 34.1**	**-0.9**
TXB	**Texada**	**3.87**	**102**	Pn	**Pn**	**02 04 34.0**	**-0.9**
MGB	**Mount Grey**	**3.97**	**113**	⇑Pn	**Pn**	**02 04 34.7**	**-1.7**
SHB	**Sechelt**	**4.24**	**102**	Pn	**Pn**	**02 04 39.6**	**-0.6**
NLLB	**Nanaimo Lost L**	**4.30**	**107**	*e*Pn	**Pn**	**02 04 39.6**	**-1.3**
PFB	**Port Renfrew**	**4.32**	**117**	Pn	**Pn**	**02 04 39.9**	**-1.5**
PFB				Pn	**Pn**	**02 04 40.8**	**-0.5**
PFB	**Port Renfrew**	**4.32**	**117**	*e*Pn	**Pn**	**02 04 39.9**	**-1.5**
WPB	**Watts Point**	**4.64**	**100**	Pn	**Pn**	**02 04 45.5**	**-0.2**
WPB				Trac		02 06 16.9	
	comp=Z,43nm,0.9s						
OTR	**Olympics--Tyee**	**4.65**	**122**	P	**Pn**	**02 04 46.2**	**+0.4**
BIB	**Bowen Island**	**4.65**	**103**	Pn	**Pn**	**02 04 44.8**	**-1.1**
BIB				Trac		02 06 14.7	
	comp=Z,19nm,0.7s						
BIB	**Bowen Island**	**4.65**	**103**	*e*Pn	**Pn**	**02 04 44.8**	**-1.1**
LZB	**Mount Lazard**	**4.66**	**114**	Pn	**Pn**	**02 04 45.3**	**-0.6**
GOBB	**Galiano Island**	**4.70**	**109**	*e*Pn	**Pn**	**02 04 47.0**	**+0.6**
WSLR	**Whistler**	**4.72**	**94**	*e*Pn	**Pn**	**02 04 47.0**	**+0.2**
OBC	**Olympics--Boni**	**4.82**	**121**	P	**Pn**	**02 04 48.4**	**+0.2**
PGC	**Sidney**	**4.86**	**112**	Pn	**Pn**	**02 04 47.5**	**-1.1**
PGC	**Sidney**	**4.86**	**112**	*e*Pn	**Pn**	**02 04 47.5**	**-1.2**
SNB	**Saturna Island**	**4.97**	**110**	Pn	**Pn**	**02 04 51.1**	**+0.9**
VGZ	**Gonzales**	**5.04**	**114**	*e*Pn	**Pn**	**02 04 50.8**	**-0.5**
CRAG	**Craig**	**5.11**	**341**	*e*Pn	**Pn**	**02 04 52.5**	**+0.4**
B04A	**Port Angeles**	**5.13**	**118**	⇓P	**Pn**	**02 04 52.6**	**+0.3**
	baz=5.1,SNR=10						
HNB	**Haney**	**5.15**	**103**	Pn	**Pn**	**02 04 53.5**	**+0.8**
MCW	**Mount Constitu**	**5.21**	**110**	P	**Pn**	**02 04 54.5**	**+0.9**
FSB	**Fort Saint Jam**	**5.25**	**41**	Pn	**Pn**	**02 04 56.2**	**+2.1**
FSB				Sn	**Sn**	**02 05 55.7**	**+1.0**
	comp=Z,1.0nm,0.0s						
FSB				Trac		02 05 57.1	
	comp=Z,1.0nm,0.0s						
FSB	**Fort Saint Jam**	**5.25**	**41**	Pn	**Pn**	**02 04 56.2**	**+2.1**
FSB				*e*Sn	**Sn**	**02 05 55.7**	**+1.0**
A04A	**Legoe Bay, Lum**	**5.27**	**109**	⇑P	**Pn**	**02 04 55.1**	**+0.7**
	baz=5.3,SNR=45						
A04A				⇓S	**Sg**	**02 06 30.2**	**+5.4**
	baz=5.3						
LLLB	**Lillooet**	**5.33**	**87**	Pn	**Pn**	**02 04 55.5**	**+0.4**
VDB	**Vedder Mountai**	**5.53**	**104**	Pn	**Pn**	**02 04 58.7**	**+0.9**
A05A	**Maple Falls**	**5.54**	**104**	⇓P	**Pn**	**02 04 59.3**	**+1.2**
	baz=5.5,SNR=15						
HDW	**Hoodsport**	**5.61**	**120**	P	**Pn**	**02 04 59.5**	**+0.5**
C04A	**Brinnon**	**5.61**	**119**	⇑P	**Pn**	**02 04 59.8**	**+0.7**
	baz=5.6						
CMW	**Cultus Mountai**	**5.75**	**110**	P	**Pn**	**02 05 02.0**	**+1.1**
HOPB	**Hope**	**5.84**	**99**	Pn	**Pn**	**02 05 02.9**	**+0.8**
HOPB	**Hope**	**5.84**	**99**	Pn	**Pn**	**02 05 04.5**	**+2.4**
B05A	**Bryant**	**5.84**	**111**	⇓P	**Pn**	**02 05 02.7**	**+0.6**
	baz=5.8,SNR=38						
B05A				⇓S	**Sg**	**02 06 44.7**	**+1.8**
	baz=5.8						
JCW	**Jim Creek**	**5.97**	**111**	P	**Pn**	**02 05 04.5**	**+0.6**
RPW	**Rockport**	**6.11**	**108**	P	**Pn**	**02 05 06.6**	**+0.8**
C05A	**Tolt Reservoir**	**6.36**	**115**	⇓P	**Pn**	**02 05 10.2**	**+0.9**
	baz=6.3						
C05A				⇓S	**Sg**	**02 07 00.9**	**+1.3**
	baz=6.3						
D05A	**Enumclaw**	**6.46**	**119**	⇓P	**Pn**	**02 05 11.9**	**+1.2**
	baz=6.4						
F03A	**Seaside**	**6.51**	**134**	⇓P	**Pn**	**02 05 10.1**	**-1.3**
	baz=6.4						
E05A	**Randle**	**6.97**	**123**	⇓P	**Pn**	**02 05 18.8**	**+1.1**
	baz=6.9,SNR=12						
PNT	**Penticton**	**6.99**	**97**	Pn	**Pn**	**02 05 18.9**	**+0.9**
PNT				Trac		02 07 34.7	
	comp=Z,3.0nm,0.3s						
F04A	**Amboy**	**7.05**	**129**	⇑P	**Pn**	**02 05 20.4**	**+1.6**
	baz=7.0						
BMBC	**Bull Mountain**	**7.25**	**39**	Pn	**Pn**	**02 05 24.2**	**+2.7**
BMBC				Sn	**Sn**	**02 06 44.5**	**+0.6**
BMBC				Trac		02 06 48.4	
	comp=Z,11nm,0.2s						
BMBC	**Bull Mountain**	**7.25**	**39**	Pn	**Pn**	**02 05 24.2**	**+2.7**
BMBC				*e*Sn	**Sn**	**02 06 44.5**	**+0.6**
F05A	**White Salmon**	**7.57**	**126**	⇓P	**Pn**	**02 05 26.4**	**+0.5**
	baz=7.5						
H03A	**Soap Creek Ran**	**7.61**	**139**	⇓P	**Pn**	**02 05 26.1**	**-0.4**
	baz=7.5						
SLEB	**Sale Mountain**	**7.68**	**82**	*e*Pn	**Pn**	**02 05 26.7**	**-0.7**
DLBC	**Dease Lake**	**7.79**	**1**	Pn	**Pn**	**02 05 32.9**	**+4.1**
	1.3nm,0.3s,baz=179,slow=13,SNR=25						
DLBC				Sn	**Sn**	**02 07 03.5**	**+6.4**
	0.6nm,0.3s,baz=348,slow=20,SNR=3.2						
DLBC				LR	LR	02 08 35.2	
	comp=Z,203nm,19.1s,baz=58,slow=38						
DLBC	**Dease Lake**	**7.79**	**1**	Pn	**Pn**	**02 05 32.8**	**+4.0**
DLBC				Sn	**Sn**	**02 07 01.4**	**+4.4**
DLBC				Trac		02 07 07.4	
	comp=Z,2.0nm,0.4s						
DLBC	**Dease Lake**	**7.79**	**1**	*e*Pn	**Pn**	**02 05 32.1**	**+3.2**
DLBC				*e*Sn	**Sn**	**02 07 01.4**	**+4.4**
NEW	**Newport**	**8.89**	**101**	Pn	**Pn**	**02 05 43.0**	**-1.0**
	1.3nm,0.3s,baz=296,slow=15,SNR=7.5						
NEW	**Newport**	**8.89**	**101**	*e*Pn	**Pn**	**02 05 44.1**	**+0.1**
FNBB	**Fort Nelson**	**9.23**	**24**	Pn	**Pn**	**02 05 50.7**	**+1.9**
WHY	**Whitehorse**	**10.35**	**347**	Pn	**Pn**	**02 06 05.1**	**+1.1**
HLID	**Hailey**	**12.90**	**117**	*e*Pn	**Pn**	**02 06 40.5**	**+1.5**
	1.7nm,0.9s						
YKA	**Yellowknife Ar**	**14.60**	**30**	Pn	**Pn**	**02 07 01.9**	**-0.1**
	baz=226,slow=12,SNR=8.2						
YKA				Sn	**Sn**	**02 09 38.2**	**-5.7**
	baz=223,slow=22,SNR=3.7						
YKW3	**Yellowknife Ar**	**14.64**	**30**	Pn	**Pn**	**02 07 02.9**	**+0.2**
YKW3				Sn	**Sn**	**02 09 37.4**	**-7.7**
YKW3				Trac		02 09 41.5	
	comp=Z,1.0nm,0.4s						
YKW3	**Yellowknife Ar**	**14.64**	**30**	*e*P	**Pn**	**02 07 03.7**	**+1.0**
YKW3				*e*Sn	**Sn**	**02 09 37.4**	**-7.7**
IMW	**Indian Meadow**	**14.73**	**110**	*e*P	**Pn**	**02 07 05.5**	**+1.6**
	7.8nm,0.8s						
NVAR	**Mina Array Bea**	**14.89**	**141**	Pn	**Pn**	**02 07 09.0**	**+3.0**
	0.1nm,0.3s,baz=338,slow=14,SNR=2.4						
MOOW	**Moose Ponds**	**14.93**	**110**	Pn	**Pn**	**02 07 05.3**	**-1.4**
	6.3nm,0.7s						
MOOW				*i*		02 07 15.7	
TPAW	**Teton Pass**	**14.96**	**111**	Pn	**Pn**	**02 07 08.8**	**+1.8**
	14nm,0.8s						
TPAW				*i*		02 07 16.5	
LOHW	**Long Hollow**	**15.10**	**110**	Pn	**Pn**	**02 07 09.6**	**+0.8**
LOHW				*e*		02 07 17.1	
DUG	**Dugway**	**16.07**	**124**	*e*P	**Pn**	**02 07 21.4**	**-0.1**
	4.1nm,1.1s						
BW06	**Boulder Array**	**16.21**	**111**	*e*P	**Pn**	**02 07 22.1**	**-1.3**
	7.3nm,1.3s						
PDAR	**Pinedale Array**	**16.21**	**111**	Pn	**Pn**	**02 07 25.3**	**+2.0**
	0.1nm,0.3s,baz=316,slow=12,SNR=25						
PDAR	**Pinedale Array**	**16.21**	**111**	Pn	**Pn**	**02 07 25.3**	**+2.0**
ILAR	**Eielson Array**	**16.61**	**335**	Pn	**Pn**	**02 07 35.8**	**+7.3**
	0.0nm,0.3s,baz=140,slow=13,SNR=20						
FFC	**Flin Flon**	**17.55**	**66**	*e*P	**Pn**	**02 07 41.9**	**+1.6**
	3.9nm,0.8s						
SMCO	**Snowmass**	**20.00**	**116**	*e*P	**Pn**	**02 08 09.7**	**-0.3**
	3.9nm,1.1s						
ULM	**Lac du Bonnet**	**21.78**	**78**	P	**P**	**02 08 27.7**	**+0.2**
	3.3nm,0.7s,mb3.9,baz=284,slow=12,SNR=5.7						
ULM	**Lac du Bonnet**	**21.78**	**78**	*e*Pn	**P**	**02 08 27.9**	**+0.4**
TUC	**Tucson**	**23.31**	**134**	*e*P	**P**	**02 08 43.1**	**-0.6**
	4.4nm,1.4s,mb3.7						
ANMO	**Albuquerque**	**23.34**	**123**	P	**P**	**02 08 44.9**	**+0.9**
	0.3nm,0.3s,mb3.2,baz=319,slow=11,SNR=3.1						
ANMO	**Albuquerque**	**23.34**	**123**	*e*P	**P**	**02 08 45.3**	**+1.3**
	2.3nm,1.1s,mb3.5						
AMTX	**Amarillo**	**26.02**	**116**	*e*P	**P**	**02 09 08.2**	**-0.5**
	4.7nm,0.8s,mb4.1						
MNTX	**Cornudas Mount**	**26.43**	**126**	*e*P	**P**	**02 09 12.8**	**+0.4**
	1.5nm,0.9s,mb3.5						
MKAR	**Makanchi Array**	**78.94**	**338**	P	**P**	**02 15 45.8**	**+6.5**
	0.2nm,0.6s,mb3.2,baz=28,slow=3.4,SNR=3.3						

ISCJB ***02*** *02:11:59.9±0.5, 3802N±003×8.15W±003, h12km±4km, Error ellipse: s-maj=4.6km s-min=4.3km az=14.5*
MDD ***02*** *02:12:00.9±0.3, 3804N×821W, h11km, mbLg1.9/14, Error ellipse: s-maj=2.9km s-min=2.5km az=65.0, PRXIMO*
CSEM ***02*** *02:12:00.7±0.1, 3802N×828W, h15km, ML2.5/4, Error ellipse: s-maj=2.7km s-min=2.0km az=60.0*
IGIL ***02*** *02:12:01.8, 3803N×822W, h2km, ML2.0*
INMG ***02*** *02:12:01.0±1.3, 3803N×821W, h6km±4km, MD2.1, ML1.7, Error ellipse: s-maj=2.4km s-min=1.6km az=89.0*

ISC 02 02:12:00.2±0.4, 3804N±002×818W±003, h11km±4km, n33, σ0°87/54, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBEJ	**Beja**	**0.25**	**94**	*e*Pg	**Pg**	**02 12 06.0**	**+0.7**
PBEJ				*e*Sg	**Sg**	**02 12 09.9**	**+1.2**
PBEJ							
	97nm,0.1s						
PBEJ	**Beja**	**0.25**	**94**	*e*Sg	**Sg**	**02 12 09.9**	**+1.2**
	97nm,0.1s						
MOE	**Montemor**	**0.50**	**344**	*e*Pg	**Pg**	**02 12 10.3**	**+0.4**
MOE				*e*Sg	**Sg**	**02 12 17.2**	**+0.7**
PTEO	**Sao Teotonio**	**0.66**	**221**	*e*Pg	**Pg**	**02 12 12.9**	**-0.1**
PTEO				*e*Sg	**Sg**	**02 12 20.7**	**-0.9**
PTEO							
	15nm,0.1s						
PTEO	**Sao Teotonio**	**0.66**	**221**	*e*Pg	**Pg**	**02 12 12.9**	**-0.1**
PTEO				*e*Sg	**Sg**	**02 12 20.7**	**-0.9**
	15nm,0.1s						
EGRO	**El Granado**	**0.75**	**133**	Pg	**Pg**	**02 12 14.6**	**0.0**
	4.4nm,0.0s,SNR=72						
EGRO				Lg		02 12 25.9	
	15nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**0.75**	**133**	Pg	**Pg**	**02 12 14.5**	**-0.2**
	4.4nm,0.0s,SNR=72						
MORF	**Marmelete**	**0.83**	**207**	*e*P	**Pg**	**02 12 16.2**	**+0.1**
MORF				*e*S	**Sg**	**02 12 26.8**	**-0.1**
MORF				*e*S	**Sg**	**02 12 26.8**	**-0.1**
MORF				AML	AML	02 12 30.0	
	comp=N,44nm,0.1s						
MORF	**Marmelete**	**0.83**	**207**	*e*P	**Pg**	**02 12 16.2**	**+0.1**
MORF				*e*S	**Sg**	**02 12 26.8**	**-0.1**
PLOU	**Loures**	**1.14**	**318**	*e*P	**Pb**	**02 12 21.8**	**0.0**
PLOU				*e*S	**Sb**	**02 12 37.0**	**+0.4**
PLOU							
	comp=N,6.6nm,0.2s						
PLOU	**Loures**	**1.14**	**318**	*e*P	**Pb**	**02 12 21.8**	**0.0**
PLOU				*e*S	**Sb**	**02 12 37.0**	**+0.4**
	comp=N,6.6nm,0.2s						
ALMR	**Almeirim**	**1.15**	**344**	*e*P	**Pb**	**02 12 22.5**	**+0.4**
ALMR				*e*S	**Sb**	**02 12 37.5**	**+0.5**
ALMR				*e*S	**Sb**	**02 12 37.5**	**+0.5**
ALMR				AML	AML	02 12 40.4	
	comp=N,21nm,0.2s						
ALMR	**Almeirim**	**1.15**	**344**	*e*P	**Pb**	**02 12 22.5**	**+0.4**
ALMR				*e*S	**Sb**	**02 12 37.5**	**+0.4**
EBAD	**Badajoz**	**1.16**	**52**	Pg	**Pg**	**02 12 22.6**	**+0.2**
	comp=N,16nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**1.16**	**52**	Pg	**Pg**	**02 12 22.6**	**+0.2**
	comp=N,16nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**1.22**	**103**	Pg	**Pg**	**02 12 23.4**	**-0.3**
	comp=N,1.7nm,0.1s,SNR=26						
EMIN				Lg		02 12 40.5	
	comp=N,14nm,0.2s,SNR=22						
EMIN	**Mina Concepcio**	**1.22**	**103**	Pg	**Pg**	**02 12 23.4**	**-0.3**
	comp=N,1.7nm,0.1s,SNR=26						
PTOM	**Tomar**	**1.58**	**353**	*e*P	**Pn**	**02 12 29.6**	**+1.5**
PTOM				*e*S	**Sn**	**02 12 49.4**	**+0.8**
PTOM							
	comp=N,13nm,0.2s						
PTOM	**Tomar**	**1.58**	**353**	*e*P	**Pn**	**02 12 29.6**	**+1.5**
PTOM				*e*S	**Sn**	**02 12 49.4**	**+0.8**
	comp=N,13nm,0.2s						
PCBR	**Castelo Branco**	**1.88**	**17**	*e*Pn	**Pn**	**02 12 32.7**	**+0.5**
PCBR				*e*Sn	**Sn**	**02 12 56.0**	**+0.2**
PCBR				*e*Sg	**Sg**	**02 12 59.1**	**-1.3**
PCBR							
	comp=N,4.5nm,0.3s						
PCBR	**Castelo Branco**	**1.88**	**17**	Pn	**Pn**	**02 12 32.7**	**+0.5**
PCBR				Sn	**Sn**	**02 12 56.0**	**+0.2**
PCBR				Lg		02 12 59.1	
	comp=N,2.2nm,0.3s						
ESPR	**Espera**	**2.19**	**122**	Pg	**Pg**	**02 12 40.2**	**-1.9**
	comp=N,1.4nm,0.4s,SNR=7.9						
ESPR				Lg		02 13 12.5	
	comp=N,3.2nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.19**	**122**	Pg	**Pg**	**02 12 40.2**	**-1.9**
	comp=N,1.4nm,0.4s,SNR=7.9						
MTE	**Manteigas**	**2.40**	**12**	*e*Sn	**Sn**	**02 13 08.7**	**-0.1**
MTE				*e*Sg	**Sg**	**02 13 16.0**	**-1.4**
MTE							
	comp=N,4.0nm,0.4s						
EADA	**Adamuz**	**2.84**	**86**	Pn	**Pn**	**02 12 45.8**	**+0.3**
	comp=N,0.5nm,0.3s,SNR=7.9						
EADA				Sn	**Sn**	**02 13 20.2**	**+0.6**
	comp=N,0.6nm,0.1s,SNR=7.9						
EADA				Lg		02 13 30.7	
	comp=N,4.0nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.84**	**86**	Pn	**Pn**	**02 12 45.8**	**+0.3**
	comp=N,0.5nm,0.3s,SNR=7.9						
EADA				Sn	**Sn**	**02 13 20.2**	**+0.5**
	comp=N,0.6nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**3.67**	**62**	Pn	**Pn**	**02 12 57.5**	**+0.7**
	comp=N,0.6nm,0.2s,baz=247,slow=13,SNR=7.9						
ESDC				Sn	**Sn**	**02 13 39.7**	**-0.5**
	comp=N,0.4nm,0.2s,baz=246,slow=23,SNR=7.9						
ESDC				Lg		02 13 58.9	
	comp=N,0.5nm,0.6s,baz=253,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**3.67**	**62**	Pn	**Pn**	**02 12 57.5**	**+0.6**
	comp=N,0.6nm,0.2s,baz=247,slow=13,SNR=7.9						
ESDC				Sn	**Sn**	**02 13 39.7**	**-0.4**
	comp=N,0.4nm,0.2s,baz=246,slow=23,SNR=7.9						
ELOB	**Lobios**	**3.82**	**1**	Sn	**Sn**	**02 13 40.9**	**-2.9**
	comp=N,1.0nm,0.3s,SNR=7.9						
ELOB				Lg		02 14 01.5	
	comp=N,2.1nm,0.6s,SNR=7.9						
ELOB	**Lobios**	**3.82**	**1**	Sn	**Sn**	**02 13 40.9**	**-2.9**
	comp=N,1.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.04**	**92**	Lg		02 14 10.6	
	comp=N,1.1nm,0.6s,SNR=4.0						
ECAL	**Calabor**	**4.05**	**15**	Sn	**Sn**	**02 13 47.9**	**-1.4**
	comp=N,5.0nm,0.8s,SNR=7.9						
ECAL				Lg		02 14 08.7	
	comp=N,5.0nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**4.05**	**15**	Sn	**Sn**	**02 13 47.9**	**-1.5**
	comp=N,5.0nm,0.8s,SNR=7.9						

SZGRF ***02*** *02:30:57.7, 3588N×14000E, h33km, mb4.7, Near east coast of eastern Honshu, Japan*
BJI ***02*** *02:30:58.8, 3476N×13978E, h144km, mB4.7, mb4.5*
NIED ***02*** *02:31:00, 3490N×13920E, h140km, Mw4.4 Best double couple: M0:4.33000×10^15 NP1:φs26.00000°, δ84.00000°, λ-100.00000°. NP2:φs266.00000°, δ12.00000°, λ-31.00000°.*
MOS ***02*** *02:31:04.3±0.8, 3487N×139.13E, h142km, mb4.6/47, Error ellipse: s-maj=13.0km s-min=4.9km az=112.1*
ISCJB ***02*** *02:31:05.1±0.2, 3490N±003×139.17E±004, h147km±1km, mb4.4/91, Error ellipse: s-maj=5.6km s-min=4.4km az=147.0*
JMA ***02*** *02:31:05.7±0.1, 3491N×13922E, h145km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs235.00000°, δ8.00000°, λ-61.00000°. NP2:φs25.00000°, δ83.00000°, λ-94.00000°. Principal axes: T Plg38.0000°, Azm119.0000°; N Plg4.0000°, Azm26.0000°; P Plg52.0000°, Azm291.0000°;*
JMA Felt II J1.
NEIC ***02*** *02:31:06.2±0.5, 3482N×13903E, h144km±3km, mb4.5/53, MW4.4(NIED) Error ellipse: s-maj=5.6km s-min=4.4km az=86.0*
NEIC Recorded [2 JMA] in Kanagawa and Tokyo; [1 JMA] in Chiba, Ibaraki, Saitama and Tochigi Prefectures.
IDC ***02*** *02:31:06.2±0.4, 3482N×13890E, h141km±3km, mb4.0/20, mb1 4.1/20, mb1mx4.1/24, mbtmp4.4/20, Error ellipse: s-maj=16.0km s-min=4.9km az=71.0*

ISC 02 02:31:06.1±0.2, 3491N±003×13919E±004, h144km±1km, h142km±3.7km; pP-P, n252, σ0°77/273, mb4.4/91, 21C-26D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTJJ	**Kamata 2**	**0.10**	**281**	⇓P	**Pn**	**02 31 25.3**	**-0.1**
KTJJ				S	**Sn**	**02 31 40.2**	**+0.1**
AJI	**Ajiro2**	**0.16**	**331**	⇑P	**Pn**	**02 31 25.2**	**-0.3**
JIM2	**Oshima 3**	**0.28**	**133**	⇓P	**Pn**	**02 31 25.5**	**-0.3**
JIM2				*e*S	**Sn**	**02 31 40.5**	**-0.2**
JIZS	**Izushimoda**	**0.32**	**234**	⇑P	**Pn**	**02 31 26.0**	**+0.1**
JIZS				*e*S	**Sn**	**02 31 40.9**	**-0.1**
JOD2	**Odawara 2**	**0.37**	**347**	⇑P	**Pn**	**02 31 25.8**	**-0.3**
JOD2				*e*S	**Sn**	**02 31 40.6**	**-0.7**
JYO	**Yokosk**	**0.51**	**51**	⇓P	**Pn**	**02 31 26.9**	**+0.2**
JYO				*e*S	**Sn**	**02 31 43.0**	**+0.6**
TATJ	**Tateyama 2**	**0.59**	**77**	⇓P	**Pn**	**02 31 27.4**	**+0.2**
TATJ				*e*S	**Sn**	**02 31 43.6**	**+0.3**
JKO	**Kozu shima**	**0.72**	**183**	⇓P	**Pn**	**02 31 28.3**	**+0.3**
JYN	**Shimob**	**0.79**	**319**	⇑P	**Pn**	**02 31 28.7**	**+0.2**
SHZ3	**Shizuoka 3**	**0.82**	**282**	⇑P	**Pn**	**02 31 28.9**	**+0.2**
SHZ3				*e*S	**Sn**	**02 31 46.6**	**+0.6**
JMY	**Miyakejima3**	**0.87**	**162**	⇓P	**Pn**	**02 31 29.3**	**+0.1**
**

HHC AP 02 36 21.6
HHC XP sP 02 36 38.9 +0.4
HHC S **S** **02 39 45.2 -5.1**
HHC SCS ScS 02 46 51.7 -0.2
HHC AMB AMB
comp=Z,130nm,5.5s
HHC LR LR
comp=Z,150nm,12.9s
CLNS Chul'man 23.99 341 *e*P **P** **02 36 07.1 -0.2**
CLNS pmax pmax
comp=Z,37nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.8s
MA2 Magadan 25.83 14 *e*P **P** **02 36 24.5 +0.6**
MA2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
MA2 Magadan 25.83 14 *e*P **P** **02 36 24.5 +0.6**
comp=Z,9.3nm,0.8s,mb4.5
ULN Ulaanbaatar 27.15 308 *e*P **P** **02 36 36.0 +0.2**
ULN *e* 02 39 53.5
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
ULN Ulaanbaatar 27.15 308 *e*P **P** **02 36 36.0 +0.2**
comp=Z,5.8nm,0.8s,mb4.3
ULN *e*PcP PcP 02 39 53.5 +0.9
SONM Songino Array 27.57 308 P **P** **02 36 38.7 -0.8**
comp=Z,4.2nm,0.7s,mb4.3,baz=107,slow=8.7,SNR=31
SONM PcP PcP 02 39 54.2 +0.6
comp=Z,0.8nm,0.5s,baz=119,slow=2.6,SNR=7.1
SONM ScP ScP 02 43 20.4 -0.3
comp=Z,1.7nm,1.1s,baz=142,slow=3.7,SNR=6.7
SONM Songino Array 27.57 308 P **P** **02 36 38.7 -0.8**
SONM 02 39 54.2
YAK Yakutsk 27.81 350 *e*P **P** **02 36 42.4 +0.8**
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
YAK Yakutsk 27.81 350 *e*P **P** **02 36 41.3 -0.3**
comp=Z,23nm,0.6s,mb5.1
LZH Lanzhou 28.71 283 *e*P **P** **02 36 49.4 -0.2**
LZH AP pP 02 37 21.5 +1.4
LZH XP sP 02 37 36.2 -0.5
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CD2 Chengdu 29.91 272 *e*P **P** **02 36 58.8 -1.5**
CD2 AP pP 02 37 28.6 -2.3
CD2 XP sP 02 37 45.2 -2.2
CD2 PP PP 02 38 01.4 -9.1
CD2 S **S** **02 41 43.6 -3.4**
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
CD2 AMB AMB
comp=Z,80nm,5.2s
CD2 LR LR
comp=N,310nm,9.6s
CD2 LR LR
comp=Z,160nm,9.6s
ZAK Zakamensk 30.25 312 *e*P **P** **02 37 03.2 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
GTA Gaotai 31.52 290 *e*P **P** **02 37 12.1 -2.3**
GTA AP pP 02 37 42.5 -2.7
GTA XP sP 02 37 58.2 -3.5
GTA PCP PcP 02 40 05.0 +1.3
GTA S **S** **02 42 08.1 -4.0**
GTA SCP ScP 02 43 33.4 0.0
GTA PCS PcS 02 43 47.5 -0.8
GTA SCS ScS 02 47 28.7 -2.8
GTA AMB AMB
comp=Z,80nm,6.1s
GTA LR LR
comp=N,180nm,9.5s
GTA LR LR
comp=E,150nm,11.8s
GTA LR LR
comp=Z,100nm,8.4s
KMI Kunming 32.88 263 P **P** **02 37 25.3 -0.9**
KMI AP pP 02 37 58.2 +1.1
KMI XP sP 02 38 13.4 -0.2
KMI LR LR
comp=Z,40nm,15.6s
BILL Bilibino 36.58 17 *i*P **P** **02 37 56.5 -1.5**
TIXI Tiksi 37.21 355⇓*e*P **P** **02 38 02.4 -1.0**
TIXI pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
WMQ Urumqi 40.23 299 P **P** **02 38 29.7 +1.2**
WMQ AP pP 02 38 58.1 -2.1
WMQ PP PP 02 40 08.1 +4.1
WMQ *e*S **S** **02 44 26.3 +1.5**
WMQ XS sS 02 45 18.9 -1.1
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,110nm,5.0s
ZAL Zalesovo 42.07 314 P **P** **02 38 43.3 -0.2**
comp=Z,4.6nm,0.5s,mb4.4,baz=1.2,slow=8.9,SNR=32
ZAL PcP PcP 02 40 34.1 -1.5
comp=Z,2.7nm,0.5s,baz=354,slow=3.0,SNR=4.5
KSM Kuching 42.78 225 *e*P **P** **02 38 48.3 -1.0**
NVS Novosibirsk 43.04 315 *e*P **P** **02 38 48.7 -2.7**
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,14nm,0.6s
NVS pmax pmax
comp=Z,14nm,0.6s,mb4.8
MK31 Makanchi Array 43.76 304 P **P** **02 38 57.0 -0.1**
MK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
MKAR Makanchi Array 43.76 304 P **P** **02 38 57.2 +0.1**
comp=Z,8.8nm,0.7s,mb4.5,baz=89,slow=9.8,SNR=60
MKAR ScP ScP 02 44 18.7 -0.7
comp=Z,0.8nm,0.8s,baz=74,slow=5.2,SNR=4.4
MKAR Makanchi Array 43.76 304 P **P** **02 38 57.2 +0.1**
MKAR ScP ScP 02 44 18.7 -0.7
JIRN Jiri 45.43 276 *e*P **P** **02 39 10.5 +0.1**
comp=Z,76nm,0.4s
GUN Gumba 45.58 277 *e*P **P** **02 39 11.5 -0.1**
comp=Z,13nm,0.4s,mb4.9
KURK Kurchatov 45.86 310 *de*P **P** **02 39 13.2 -0.5**
KURK Kurchatov 45.86 310 ⇓*i*P **P** **02 39 13.1 -0.6**
comp=Z,26nm,0.8s,mb4.9
PKI Pulchoki 46.10 276 *e*P **P** **02 39 15.0 -0.6**
comp=Z,20nm,0.5s,mb5.0
PKI Pulchoki 46.10 276 *e*P **P** **02 39 15.0 -0.6**
PKI pmax pmax
comp=Z,20nm,0.5s,mb5.0
KKN Kakani 46.12 277 *e*P **P** **02 39 15.3 -0.5**
comp=Z,23nm,0.6s,mb5.0
KKN Kakani 46.12 277 *e*P **P** **02 39 15.3 -0.5**
KKN pmax pmax
comp=Z,23nm,0.6s,mb5.0
DMN Daman 46.33 277 *e*P **P** **02 39 16.9 -0.6**
comp=Z,10nm,0.5s,mb4.8
GKN Gorkha 46.56 277 *e*P **P** **02 39 18.7 -0.6**
comp=Z,16nm,0.5s,mb4.9
KOLN Koldanda 47.50 277 *e*P **P** **02 39 26.1 -0.4**
comp=Z,7.3nm,0.5s,mb4.6
TKM2 Tokmak 2 49.08 299 P **P** **02 39 39.7 +1.1**
SNR=16
KZA Kyzart 49.52 298 P **P** **02 39 43.8 +1.8**
SNR=8.4
KBK Karagaybulak 49.60 299 P **P** **02 39 43.4 +0.8**
SNR=8.2
USP Ospenovka 49.78 300 P **P** **02 39 44.3 +0.4**
SNR=10
KDAK Kodiak Island 49.89 41 P **P** **02 39 47.7 +3.0**
comp=Z,3.2nm,0.6s,mb4.1,baz=203,slow=7.7,SNR=4.5
KDAK Kodiak Island 49.89 41 P **P** **02 39 47.7 +3.0**
VOSK Vostochnaya 50.38 313 P **P** **02 39 47.9 -0.5**
VOSK pmax pmax
comp=Z,17nm,1.2s,mb4.5
CHKZ Chkalovo 50.47 314⇓*i*P **P** **02 39 48.3 -0.8**
CHKZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
CHKZ Chkalovo 50.47 314⇓*i*P **P** **02 39 48.3 -0.8**
comp=Z,9.9nm,0.8s,mb4.5
AML Almayashu 50.63 299 P **P** **02 39 51.8 +1.5**
SNR=19
BVA0 Borovoye Array 50.69 313 *i*P **P** **02 39 50.5 -0.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
BRVK Borovoye 50.75 313 *e*P **P** **02 39 50.8 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
BRVK Borovoye 50.75 313 *e*P **P** **02 39 50.8 -0.4**
comp=Z,6.4nm,0.9s,mb4.2
ZRNK Zerenda 51.53 313 P **P** **02 39 56.6 -0.4**
ZRNK pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
ZRNK Zerenda 51.53 313⇓*i*P **P** **02 39 56.5 -0.5**
comp=Z,12nm,0.7s,mb4.6
ILAR Eielson Array 52.25 31 P **P** **02 40 03.0 +0.7**
comp=Z,0.8nm,0.8s,mb3.4,baz=273,slow=6.2,SNR=10
ILAR pP pP 02 40 36.9 +1.3
comp=Z,0.9nm,0.7s,baz=276,slow=5.9,SNR=5.0
KK31 Karatay Array 52.65 301 *i*P **P** **02 40 05.1 -0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.2s,mb4.5
KKAR Karatay Array 52.65 301 *i*P **P** **02 40 05.1 -0.2**
FITZ Fitzroy Crossi 54.26 196 *e*P **P** **02 40 16.1 -1.0**
comp=Z,6.4nm,1.3s,mb4.2
FITZ Fitzroy Crossi 54.26 196 P **P** **02 40 16.5 -0.5**
comp=Z,2.5nm,0.9s,mb3.9,baz=3.8,slow=15,SNR=6.2
WRAB Tennant Creek 54.73 186 *e*P **P** **02 40 19.7 -0.7**
WRAB pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
WRAB Tennant Creek 54.73 186 *e*P **P** **02 40 19.7 -0.7**
comp=Z,5.6nm,0.5s,mb4.5
WB2 Warramunga Arr 54.74 186⇑*i*P **P** **02 40 20.0 -0.5**
WRA Warramunga Arr 54.74 186 P **P** **02 40 20.0 -0.5**
comp=Z,5.4nm,0.3s,mb4.7,baz=1.5,slow=7.6,SNR=202
CTA Charters Tower 55.10 172 *e*P **P** **02 40 23.2 +0.1**
comp=Z,4.1nm,1.1s,mb4.1
CTA Charters Tower 55.10 172 P **P** **02 40 23.2 +0.1**
comp=Z,1.9nm,0.4s,mb4.1,baz=2.8,slow=11,SNR=4.5
CTA Charters Tower 55.10 172 P **P** **02 40 23.3 +0.2**
CTA pmax pmax
comp=Z,2.0nm,0.4s
ARU Arti 56.77 319 *d*i P **P** **02 40 34.7 -0.3**
ARU pmax pmax
comp=Z,15nm,0.9s,mb4.8
ARU Arti 56.77 319 *e*P **P** **02 40 34.2 -0.7**
comp=Z,14nm,0.9s,mb4.8
INK Inuvik 57.10 26 P **P** **02 40 38.1 +0.8**
comp=Z,1.6nm,0.8s,mb3.9,baz=93,slow=1.8,SNR=5.3
INK Inuvik 57.10 26 P **P** **02 40 38.1 +0.8**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 57.10 26 *e*P **P** **02 40 37.7 +0.5**
comp=Z,1.9nm,0.7s,mb4.0
AB31 Akbulak array 57.94 311 *i*P **P** **02 40 43.0 -0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
ASAR Alice Springs 58.46 186 P **P** **02 40 46.6 -0.2**
comp=Z,1.4nm,0.4s,mb4.1,baz=12,slow=9.2,SNR=28
LVZ Lovozero 63.31 336⇑*e*P **P** **02 41 19.1 -0.4**
LVZ pmax pmax
comp=Z,88nm,2.5s,mb5.2
KEV Kevo 64.79 339 *ep* **P** **02 41 28.7 -0.5**
comp=Z,0.5nm,0.2s,mb4.0
KEV Kevo 64.79 339 *e*P **P** **02 41 28.7 -0.5**
KEV pmax pmax
comp=Z,1.0nm,0.2s,mb4.3
RES Resolute Bay 65.10 14⇓*e*P **P** **02 41 31.4 +0.2**
RES pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
RES Resolute Bay 65.10 14⇓*e*P **P** **02 41 31.4 +0.2**
comp=Z,4.9nm,0.4s,mb4.7
ARCES ARCESS Array B 65.35 339 P **P** **02 41 32.7 -0.1**
comp=Z,3.7nm,0.6s,mb4.4,baz=61,slow=8.4,SNR=16
ARCES ARCESS Array B 65.35 339 P **P** **02 41 32.7 -0.1**
STKA Stephens Creek 66.47 178 P **P** **02 41 38.0 -1.9**
comp=Z,1.9nm,0.8s,mb4.0,baz=339,slow=9.8,SNR=4.9
YKA Yellowknife Ar 66.55 29 pP pP 02 42 16.2 +1.1
comp=Z,0.4nm,0.7s,baz=297,slow=6.3,SNR=4.0
JOF Joensuu 66.98 332 *ep* **P** **02 41 42.5 -0.7**
comp=Z,6.6nm,0.3s,mb4.9
OBN Obninsk 68.71 323 *ke*P **P** **02 41 53.4 -0.7**
OBN *e* pP 02 42 25.6 -3.3
OBN pmax pmax
comp=Z,15nm,1.2s,mb4.6
OBN MLR MLR
comp=Z,100nm,18.0s
KAF Kangasniemi 69.36 332 *ep* **P** **02 41 57.2 -0.9**
comp=Z,7.6nm,0.4s,mb4.8,baz=52,slow=5.8
KAF Kangasniemi 69.36 332 *e*P **P** **02 41 57.2 -0.9**
KAF pmax pmax
comp=Z,8.0nm,0.4s,mb4.8
FINES FINESS Array B 69.85 332 P **P** **02 42 00.8 -0.3**
comp=Z,4.7nm,0.3s,mb4.6,baz=58,slow=6.7,SNR=88
FINES FINESS Array B 69.85 332 P **P** **02 42 00.8 -0.3**
GOF Gofitskoye 70.16 311 *e*P **P** **02 42 03.0 +0.1**
KIV Kislovodsk 70.93 311 *ke*P **P** **02 42 08.2 +0.6**
KIV pmax pmax
comp=Z,19nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,100nm,17.0s
KIV Kislovodsk 70.93 311 *e*P **P** **02 42 07.8 +0.2**
comp=Z,13nm,0.8s,mb4.7
VSU Vasula 71.36 329⇓*e*P **P** **02 42 09.7 -0.5**
GNI Garni 71.52 306 *de*P **P** **02 42 12.5 +1.4**
GNI pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 71.52 306 *e*P **P** **02 42 12.0 +0.8**
comp=Z,11nm,0.8s,mb4.6
SUMG Summit 72.80 359 *e*P **P** **02 42 20.1 +1.3**
comp=Z,19nm,1.1s,mb4.7
SOC Sochi 72.96 311 *e*P **P** **02 42 18.1 -1.6**
SOC *e* 02 42 33.4
SOC *e**PP pP 02 42 49.2 -5.8
SOC *e*S S 02 51 36.2 +1.5
SOC *e**SS sS 02 52 19.5 -16
SOC *e*SS SS 02 56 15.0 -3.1
SOC pmax pmax
comp=Z,16nm,0.8s,mb4.8
AKASG Malin Array Be 74.86 322 P **P** **02 42 30.1 -0.7**
comp=Z,7.9nm,0.4s,mb4.7,baz=48,slow=6.1,SNR=12
NB2 NORSAR Subarra 75.44 337 P **P** **02 42 33.6 -0.5**
comp=Z,5.5nm,0.7s,mb4.3,baz=43,slow=5.9
NB2 NORSAR Subarra 75.44 337 P **P** **02 42 33.6 -0.5**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
NOA NORSAR Array B 75.44 337 P **P** **02 42 33.9 -0.1**
comp=Z,6.3nm,0.8s,mb4.3,baz=42,slow=5.7,SNR=24
NOA PP PP 02 45 24.9 0.0
comp=Z,0.9nm,0.8s,baz=42,slow=8.9,SNR=3.6
NOA NORSAR Array B 75.44 337 P **P** **02 42 33.9 -0.1**
NOA PP PP 02 45 24.9 0.0
NAO01 NORSAR Array S 75.69 337 *e*P **P** **02 42 35.1 -0.4**
comp=Z,1.4nm,0.4s,mb3.9
FFC Flin Flon 76.47 32 *e*P **P** **02 42 40.0 +0.1**
FFC pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
FFC Flin Flon 76.47 32 *e*P **P** **02 42 40.0 +0.1**
comp=Z,1.8nm,0.8s,mb3.8
MALT Malatya 76.64 307⇑*i*P **P** **02 42 42.8 +1.9**
MALT Malatya 76.64 307 *e*P **P** **02 42 42.1 +1.2**
MALT pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
MALT Malatya 76.64 307 *e*P **P** **02 42 42.1 +1.2**
comp=Z,5.2nm,0.9s,mb4.2
FCC Fort Churchill 76.70 25 *e*P **P** **02 42 41.3 +0.1**
FCC pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
FCC Fort Churchill 76.70 25 *e*P **P** **02 42 41.3 +0.1**
comp=Z,1.5nm,0.5s,mb3.9
NVAR Mina Array Bea 77.72 52 P **P** **02 42 48.3 +1.4**
comp=Z,0.9nm,0.7s,mb3.5,baz=305,slow=5.6,SNR=3.0
NVAR pP pP 02 43 24.7 +2.2
comp=Z,1.1nm,0.7s,baz=278,slow=3.7,SNR=5.1
KWP Kalwaria 78.79 324 *e*P **P** **02 42 53.6 +0.8**
GKP Gorka Klasztor 78.80 329 *e*P **P** **02 42 53.2 +0.3**
BURAR Bucovina Array 78.84 321⇓*i*P **P** **02 42 53.8 +0.7**
BR131 Keskin Array S 78.89 311 *e*P **P** **02 42 54.1 +0.7**
comp=Z,4.7nm,0.8s,mb4.2
BRTR Keskin Array B 78.89 311 P **P** **02 42 54.0 +0.6**
comp=Z,5.3nm,0.8s,mb4.2,baz=100,slow=5.1,SNR=35
VRI Vrincioaia 79.16 319⇓*i*P **P** **02 42 55.0 +0.2**
HARR Harsova 79.24 317⇑*i*P **P** **02 42 55.9 +0.7**
ANTO Ankara 79.33 311 *e*P **P** **02 42 56.4 +0.7**
ANTO pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
ANTO Ankara 79.33 311 *e*P **P** **02 42 56.4 +0.7**
comp=Z,9.2nm,0.9s,mb4.4
STHS Stebnicka Huta 79.64 324 *e*P **P** **02 42 58.5 +1.1**
STHS *e* 02 43 01.7
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
STHS Stebnicka Huta 79.64 324 *e*P **P** **02 42 58.5 +1.1**
comp=Z,3.1nm,0.8s,mb4.0
STHS *e* 02 43 01.7
OJC Ojcow 79.78 325 *e*P **P** **02 42 58.4 +0.3**
NIE Niedzica 80.08 325 *e*P **P** **02 43 01.0 +1.2**
PDAR Pinedale Array 80.45 44 P **P** **02 43 05.0 +3.3**
comp=Z,0.3nm,0.6s,baz=307,slow=5.4,SNR=3.8
OKC Ostrava-Krasne 80.81 326 *e*P **P** **02 43 04.2 +0.5**
MORC Moravsky Berou 81.13 326⇑*i*P **P** **02 43 06.1 +0.7**
MORC Moravsky Berou 81.13 326 *e*P **P** **02 43 05.7 +0.3**
MORC pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
MORC Moravsky Berou 81.13 326 *e*P **P** **02 43 05.7 +0.4**
comp=Z,5.7nm,1.1s,mb4.1
DPC Dobruska-Polom 81.28 327 *e*P **P** **02 43 06.8 +0.7**
UPC Upice 81.30 327 *e*P **P** **02 43 06.7 +0.4**
PSZ Piszkesteto 81.32 324 *e*P **P** **02 43 07.1 +0.8**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
PSZ Piszkesteto 81.32 324 *e*P **P** **02 43 07.1 +0.8**
comp=Z,4.3nm,0.8s,mb4.1
VRAC Vranov 81.90 326⇓*i*P **P** **02 43 10.5 +1.1**
PVCC Panska Ves 81.92 328 *e*P **P** **02 43 09.9 +0.4**
BRG Berggiesshubel 81.94 328 *e*P **P** **02 43 09.7 +0.1**
comp=Z,4.0nm,0.7s,mb4.2
BRG Berggiesshubel 81.94 328 *e*P **P** **02 43 10.1 +0.5**
comp=Z,2.3nm,0.7s,mb3.9
BRG
comp=N,79nm,26.2s
BRG
comp=E,90nm,23.8s
BRG
comp=Z,92nm,20.3s
BRG Berggiesshubel 81.94 328 *e*P **P** **02 43 10.1 +0.5**
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
BRG MLR MLR
comp=N,79nm,26.2s
BRG MLR MLR
comp=E,90nm,23.8s
BRG MLR MLR
comp=Z,92nm,20.3s
CLL Collm 82.02 329 *e*P **P** **02 43 09.6 -0.4**
comp=Z,10.0nm,0.8s,mb4.5
CLL Collm 82.02 329 *i*P **P** **02 43 10.0 0.0**
comp=Z,11nm,0.8s,mb4.5
CLL *es*P sP 02 44 01.0 -0.3
CLL *e*PP PP 02 46 28.0 +8.3
CLL Collm 82.02 329 *i*P **P** **02 43 10.0 0.0**
CLL *e**SP sP 02 44 01.0 -0.3
CLL pmax pmax
comp=Z,11nm,0.8s,mb4.5
CLL Collm 82.02 329 *i*P **P** **02 43 10.0 0.0**
comp=Z,11nm,0.8s,mb4.5
CLL *es*P sP 02 44 01.0 -0.3
BZS Buzias 82.02 321⇓*i*P **P** **02 43 10.2 +0.2**
PRU Pruhonice 82.33 328 *e*P **P** **02 43 11.5 -0.1**
TREC Trest 82.41 327 *e*P **P** **02 43 12.5 +0.4**
CLZ Clausthal 82.70 331 *e*P **P** **02 43 13.7 +0.2**
comp=Z,6.0nm,1.2s,mb4.2
CLZ Clausthal 82.70 331 *e*P **P** **02 43 13.7 +0.2**
CLZ pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
WERD Werda 82.96 329 *e*P **P** **02 43 15.2 +0.3**
comp=Z,7.0nm,1.3s,mb4.2
MOX Moxa 83.10 329 *e*P **P** **02 43 15.9 +0.3**
comp=Z,8.0nm,1.3s,mb4.3
PKSM Moragy 83.12 323⇓*i*P **P** **02 43 15.9 +0.2**
VTS Vitosha 83.21 318⇑*i*P **P** **02 43 17.8 +1.6**
CONA Conrad Observa 83.23 326⇑*i*P **P** **02 43 17.7 +1.4**
comp=Z,9.1nm,1.0s,mb4.5
MANZ Manzenberg 83.39 329 *e*P **P** **02 43 17.8 +0.7**
comp=Z,8.0nm,1.2s,mb4.3
KHC Kasperske Hory 83.39 327 *e*P **P** **02 43 17.3 +0.2**
ROTZ Rotzenmuhle 83.51 329 *e*P **P** **02 43 18.6 +0.9**
comp=Z,8.0nm,1.1s,mb4.4
GEC2 GERESS Array S 83.54 327 *e*P **P** **02 43 18.0 +0.1**
comp=Z,4.0nm,0.8s,mb4.2
GEC2 GERESS Array S 83.54 327 *e*P **P** **02 43 18.0 +0.1**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
GERES GERESS Array B 83.54 327 P **P** **02 43 18.0 +0.1**
comp=Z,4.4nm,0.8s,mb4.2,baz=39,slow=5.1,SNR=32
UBBA Unterbreizbach 83.63 330 *e*P **P** **02 43 17.3 -1.0**
comp=Z,2.0nm,0.7s,mb4.0
WET Wettzell 83.69 328 *e*P **P** **02 43 19.0 +0.4**
comp=Z,3.0nm,0.9s,mb4.0
WET Wettzell 83.69 328 *e*P **P** **02 43 19.0 +0.4**
WET pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
GRA1 Grafenberg Arr 83.98 329 *e*P **P** **02 43 19.8 -0.3**
comp=Z,13nm,1.0s,mb4.6
GRF Grafenberg Arr 83.98 329 *e*P **P** **02 43 19.8 -0.3**
comp=Z,13nm,1.0s,mb4.6
GRF Grafenberg Arr 83.98 329 *e*P **P** **02 43 19.8 -0.3**
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.6
EIL Elat 83.99 302 *e*P **P** **02 43 20.5 +0.3**
comp=Z,169nm,1.0s
MOA Molin 84.02 326⇑*i*P **P** **02 43 21.3 +0.9**
comp=Z,6.1nm,0.7s,mb4.5
TNS Taunus Mts 84.72 331 *e*P **P** **02 43 24.0 +0.2**
comp=Z,3.0nm,0.7s,mb4.1
TNS Taunus Mts 84.72 331 *e*P **P** **02 43 24.0 +0.2**
TNS pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
KBA Koelnbreinsper 85.02 326⇑*i*P **P** **02 43 25.1 -0.2**
comp=Z,7.9nm,0.6s,mb4.6
KBA Koelnbreinsper 85.02 326⇑*i*P **P** **02 43 25.1 -0.2**
KBA pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
BCLA Clavier 85.79 332 ⇑P **P** **02 43 28.9 -0.3**
comp=Z,3.6nm,0.7s,mb4.2
SNF Seneffe 86.11 333 P **P** **02 43 30.7 0.0**
BFO Black Forest 86.25 330 *e*P **P** **02 43 31.6 +0.2**
comp=Z,8.0nm,1.2s,mb4.3
BFO Black Forest 86.25 330 *e*P **P** **02 43 31.6 +0.2**
BFO pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
DOU Dourbes 86.32 333 P **P** **02 43 31.2 -0.6**
comp=Z,1.9nm,0.7s,mb3.9
BAIF Baives 86.50 333 *e*P **P** **02 43 31.7 -0.9**
comp=Z,8.3nm,0.8s,mb4.2
BAIF Baives 86.50 333 *e*P **P** **02 43 31.7 -0.9**
BAIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
BAIF Baives 86.50 333 *e*P **P** **02 43 31.7 -0.9**
comp=Z,4.2nm,0.8s,mb4.2
CDF Champ du Feu 86.62 330 *e*P **P** **02 43 32.7 -0.5**
HAU Haudompre 87.32 330 *e*P **P** **02 43 36.0 -0.6**
CABF La Chapelle 88.54 330 *e*P **P** **02 43 42.3 -0.1**
LOR Lormes 88.91 331 *e*P **P** **02 43 43.9 -0.2**
LPL La Plagne 89.14 329 *e*P **P** **02 43 45.0 -0.2**
comp=Z,4.6nm,0.6s,mb4.3
LPL La Plagne 89.14 329 *e*P **P** **02 43 45.0 -0.2**
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LPL La Plagne 89.14 329 *e*P **P** **02 43 45.0 -0.2**
comp=Z,2.3nm,0.6s,mb4.3
LPG La Plagne 89.15 329 *e*P **P** **02 43 45.0 -0.2**
comp=Z,4.6nm,0.6s,mb4.3
LPG La Plagne 89.15 329 *e*P **P** **02 43 45.0 -0.2**
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LPG La Plagne 89.15 329 *e*P **P** **02 43 45.0 -0.2**
comp=Z,2.3nm,0.6s,mb4.3
SSF Saint Saulge 89.22 331 *e*P **P** **02 43 44.6 -0.9**
FLN La Foliniere 89.28 335 *e*P **P** **02 43 45.8 0.0**
LDF La Druitiere 89.30 334 *e*P **P** **02 43 45.7 -0.2**
SMF Signal de Mont 89.42 331 *e*P **P** **02 43 46.4 -0.1**
AVF Avril sur Loir 89.50 331 *e*P **P** **02 43 46.1 -0.8**
comp=Z,7.3nm,0.8s,mb4.4
AVF Avril sur Loir 89.50 331 *e*P **P** **02 43 46.1 -0.8**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AVF Avril sur Loir 89.50 331 *e*P **P** **02 43 46.1 -0.8**
comp=Z,3.7nm,0.8s,mb4.4
GRR Gorron 89.73 335 *e*P **P** **02 43 47.6 -0.4**
MBDF Montbardon 89.75 328 *e*P **P** **02 43 47.8 -0.2**
comp=Z,18nm,0.9s,mb4.7
MBDF Montbardon 89.75 328 *e*P **P** **02 43 47.8 -0.2**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MBDF Montbardon 89.75 328 *e*P **P** **02 43 47.8 -0.2**
comp=Z,8.9nm,0.9s,mb4.7
BGF Bois d'Agland 89.89 332 *e*P **P** **02 43 48.3 -0.4**
SGMF Saint Gilles 90.44 336 *e*P **P** **02 43 50.9 -0.3**

comp=Z,11nm,0.8s,mb4.5
SGMF Saint Gilles 90.44 336 *e*P **P 02 43 50.9 -0.3**
SGMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SGMF Saint Gilles 90.44 336 *e*P **P 02 43 50.9 -0.3**
comp=Z,5.7nm,0.8s,mb4.5
VIVF Saint-Julien-I 90.54 330 *e*P **P 02 43 51.3 -0.4**
MFF Saint Martin d 90.99 333 *e*P **P 02 43 53.2 -0.6**
comp=Z,6.1nm,0.8s,mb4.4
MFF Saint Martin d 90.99 333 *e*P **P 02 43 53.2 -0.6**
MFF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MFF Saint Martin d 90.99 333 *e*P **P 02 43 53.2 -0.6**
comp=Z,3.0nm,0.8s,mb4.4
RJF Les Rejaudoux 91.45 332 *e*P **P 02 43 55.8 -0.1**
comp=Z,5.8nm,0.8s,mb4.4
RJF Les Rejaudoux 91.45 332 *e*P **P 02 43 55.8 -0.1**
RJF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
RJF Les Rejaudoux 91.45 332 *e*P **P 02 43 55.8 -0.1**
comp=Z,2.9nm,0.8s,mb4.4
CAF Calviac 91.55 331 *e*P **P 02 43 56.1 -0.3**
comp=Z,15nm,1.0s,mb4.7
CAF Calviac 91.55 331 *e*P **P 02 43 56.1 -0.3**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
CAF Calviac 91.55 331 *e*P **P 02 43 56.1 -0.3**
comp=Z,7.7nm,1.0s,mb4.7
LFF La Frestale 92.05 332 *e*P **P 02 43 58.4 -0.3**
comp=Z,14nm,0.7s,mb4.8
LFF La Frestale 92.05 332 *e*P **P 02 43 58.4 -0.3**
LFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
LFF La Frestale 92.05 332 *e*P **P 02 43 58.4 -0.3**
comp=Z,7.1nm,0.7s,mb4.8
TORD Torodi Ar. Bea 117.48 312 PKP PKPdf 02 49 34.8 +0.1
comp=Z,0.7nm,0.5s,baz=24,slow=1.2,SNR=17
SAML Samuel 147.03 44 *e*PKPbc PKPbc 02 50 33.3 +1.4
LPAZ La Paz 149.32 60 PKPbc PKPbc 02 50 40.9 +3.1
comp=Z,0.6nm,0.7s,baz=286,slow=3.8,SNR=3.5
LPAZ pPKPbc pPKPbc 02 51 17.0 +1.2
comp=Z,1.4nm,0.8s,baz=310,slow=4.7,SNR=4.0

IDC 02 02:50:02.4±2.2, 787S×11923E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=200.3km s-min=25.1km az=54.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.94**	**149**	Pn	Pn	02 52 54.6	+0.8
	0.1nm,0.3s,baz=315,slow=16,SNR=4.0						
FITZ				Sn	Sn	02 55 03.3	-4.3
	0.1nm,0.3s,baz=162,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**18.93**	**131**	P	Pn	02 54 25.0	-0.4
	0.1nm,0.3s,baz=305,slow=13,SNR=7.5						
ASAR	**Alice Springs**	**21.09**	**140**	P	P	02 54 48.5	+0.2
	2.1nm,0.6s,baz=312,slow=8.7,SNR=23						
MKAR	**Makanchi Array**	**63.56**	**333**	P	P	03 00 34.8	+0.1
	0.4nm,0.6s,baz=134,slow=6.2,SNR=4.6						

*IDC **02** 03:26:35.9±0.4, 2123S×17428W, h0km, mb4.9/22, mb1 5.0/23, mb1mx4.9/25, mbtmp4.8/23, ML4.6/1, MS4.5/7, Ms1 4.6/7, ms1mx4.2/14, Error ellipse: s-maj=18.8km s-min=12.3km az=137.0*

*ISCJB **02** 03:26:40.2±0.2, 2134S×005±174.16W±004, h37km, mb5.0/90, MS4.7/22, Error ellipse: s-maj=7.3km s-min=4.0km az=116.7*

*MOS **02** 03:26:40.3±1.1, 21.18S×17433W, h33km, mb5.2/34, MS4.8/9, Error ellipse: s-maj=11.6km s-min=8.6km az=60.0*

*NEIC **02** 03:26:41.8±0.2, 2124S×17433W, mb5.0/59, Error ellipse: s-maj=8.1km s-min=4.0km az=145.0*

*BJI **02** 03:26:41.6, 2084S×17385W, h43km, mB5.5, mb5.2, Ms5.2, Msz4.8*

*SZGRF **02** 03:26:41.8, 2085S×17272W, h30km, Tonga Islands region*

*HRVD **02** 03:26:41.8±0.2, 2155S×17354W, h12km, MW5.1/89, Centroid moment Tensor Solution. LP body waves: s46,c62;Mantle waves: s89,c138; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.55±.11; $M_{\theta\theta}$-0.50±.10; $M_{\phi\phi}$-4.05±.10; $M_{r\theta}$1.72±.34; $M_{\theta\phi}$-1.69±.09; $M_{\phi r}$3.35±.30; Best double couple: $M_0$5.97500×10^{16} NP1:ϕ_s198.00000°, δ26.00000°, λ84.00000°. NP2: ϕ_s25.00000°, δ65.00000°, λ93.00000°. Principal axes: T 5.8950, Plg70.0000°, Azm302.0000°; N 0.1570, Plg3.0000°, Azm204.0000°; P -6.0540, Plg20.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ORF **02** 03:26:59.7, 1559S×17874W, h30km, mb5.8*

ISC 02 03:26:42.0±0.2, 2136S±004×17415W±004, h39km, h39km±.7km: pP-P, n483, σ0s87/337, mb5.0/90, MS4.7/22, 80C-75D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.74**	**17**	Pn	**Pn**	**03 28 24.8**	**-7.4**
	20nm,0.3s,baz=154,slow=2.3,SNR=24						
AFI				T		03 36 22.7	
	5.3nm,0.3s,baz=154,slow=20,SNR=6.1						
RAO	**Raoul Island**	**8.57**	**203**	Pn	**Pn**	**03 28 39.7**	**-3.8**
	63nm,0.3s,baz=76,slow=19,SNR=3.7						
RAO				Sn	**Sn**	**03 30 14.9**	**-3.9**
	42nm,0.3s,baz=92,slow=23,SNR=9.7						
RAO				LR	LR	03 31 36.5	
	comp=Z,947nm,21.6s,baz=200,slow=35						
RAO	**Raoul Island**	**8.57**	**203**	P	**Pn**	**03 28 39.7**	**-3.8**
RAO						03 30 14.9	
RAR	**Rarotonga**	**13.40**	**92**	Pn	**Pn**	**03 29 38.5**	**-11**
	11nm,0.3s,baz=252,slow=6.9,SNR=22						
RAR				Sn	Sn	03 31 52.5	-25
	3.7nm,0.3s,baz=108,slow=23,SNR=5.1						
RAR				LR	LR	03 34 01.2	
	comp=Z,2μm,19.5s,baz=262,slow=33						
DZM	**Mont Dzumac**	**18.05**	**264**	P	**Pn**	**03 30 51.4**	**+1.6**
	0.7nm,0.3s,baz=78,slow=19,SNR=27						
NOUC	**Port Laguerre**	**18.18**	**264**	*e*P	**Pn**	**03 30 52.4**	**+1.0**
URZ	**Urewera**	**18.46**	**202**	P	**Pn**	**03 30 55.3**	**+0.6**
	2.0nm,0.3s,baz=6.1,slow=6.2,SNR=19						
URZ				S	**S**	**03 34 06.4**	**-17**
	1.0nm,0.3s,baz=306,slow=19,SNR=3.0						
HIZ	**Hauiti**	**19.55**	**207**	PN	**Pn**	**03 31 07.6**	**-0.2**
TBI	**Tubuai**	**22.91**	**100**	*e*LQ		03 35 43.1	
	677nm,28.2s						
TBI	**Tubuai**	**22.91**	**100**	*e*P	**P**	**03 31 40.9**	**-1.6**
	234nm,1.4s,mb5.4						
TBI				*e*LR	LR	03 36 41.7	
	2μm,31.5s						
PAE	**Paea**	**23.44**	**85**	*e*P	**P**	**03 31 45.3**	**-2.6**
	80nm,1.1s,mb5.0						
PPT	**Papeete**	**23.47**	**85**	*e*P	**P**	**03 31 45.3**	**-2.8**
	61nm,1.3s,mb4.9						
PPT	**Papeete**	**23.47**	**85**	*e*LQ		03 36 04.3	
	2μm,25.2s						
PPT				*e*LR	LR	03 36 57.6	
	1μm,20.0s,baz=255						
PPT	**Papeete**	**23.47**	**85**	P	**P**	**03 31 45.4**	**-2.7**
	17nm,0.4s,mb4.8,baz=265,slow=12,SNR=4.5						
PPT				LR	LR	03 39 13.7	
	comp=Z,2μm,18.2s,MS4.7,baz=260,slow=32						
PPT	**Papeete**	**23.47**	**85**	P	**P**	**03 31 45.4**	**-2.7**
PPT				LR	LR	03 39 13.7	
TVO	**Taravao**	**23.72**	**86**	*e*P	**P**	**03 31 48.0**	**-2.5**
	117nm,1.0s,mb5.3						
RPZ	**Rata Peaks**	**25.47**	**206**	P	**P**	**03 32 06.0**	**-0.4**
	19nm,0.8s,mb4.7,baz=0.0,slow=2.6,SNR=8.2						
FOZ	**Fox Glacier**	**25.91**	**208**	*e*PN	**P**	**03 32 10.8**	**+0.3**
JCZ	**Jackson Bay**	**26.73**	**208**	PN	**P**	**03 32 20.5**	**+2.7**
ARMA	**Armidale**	**31.98**	**247**	*e*P	**P**	**03 33 04.5**	**+0.1**
ARMA				*e*		03 34 14.7	
TAOE	**Nuku Hiva Isla**	**35.01**	**74**	*e*LR	LR	03 42 13.5	
	3μm,26.5s						
RKT	**Rikitea**	**36.23**	**100**	*e*S	**S**	**03 39 17.2**	**-1.7**
	192nm,26.2s						
RKT				*e*LR	LR	03 42 50.4	
	2μm,30.0s,baz=267						
CTA	**Charters Tower**	**36.99**	**265**	*e*P	**P**	**03 33 46.5**	**-1.2**
	11nm,1.2s,mb4.5						
CTA	**Charters Tower**	**36.99**	**265**	P	**P**	**03 33 46.6**	**-1.1**
	7.8nm,0.7s,mb4.6,baz=94,slow=11,SNR=10						
CTA	**Charters Tower**	**36.99**	**265**	P	**P**	**03 33 46.6**	**-1.1**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CTAO	**Charters Tower**	**36.99**	**265**	*e*P	**P**	**03 33 46.6**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.0						
CTAO	**Charters Tower**	**36.99**	**265**	*e*P	**P**	**03 33 46.6**	**-1.1**
	comp=Z,39nm,1.4s,mb5.0						
PMG	**Port Moresby**	**39.04**	**282**	P	**P**	**03 34 04.0**	**-1.0**
	comp=Z,27nm,0.9s,mb5.0,baz=95,slow=5.3,SNR=10						
PMG	**Port Moresby**	**39.04**	**282**	P	**P**	**03 34 04.0**	**-1.0**
PMG				pmax	pmax		
	comp=Z,27nm,0.9s						
PMG	**Port Moresby**	**39.04**	**282**	*e*P	**P**	**03 34 03.0**	**-2.0**
	comp=Z,30nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**40.69**	**246**	*e*P	**P**	**03 34 15.8**	**-2.8**
	comp=Z,15nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**40.69**	**246**	P	**P**	**03 34 16.2**	**-2.4**
	comp=Z,16nm,1.0s,mb4.6,baz=98,slow=9.0,SNR=14						
STKA				LR	LR	03 49 49.6	
	comp=Z,851nm,18.6s,MS4.6,baz=58,slow=34						
KIP	**Kipapa**	**45.34**	**21**	*e*P	**P**	**03 34 58.9**	**+2.6**
MAUI	**Maui**	**45.38**	**24**	*e*P	**P**	**03 34 56.6**	**0.0**
AS31	**Alice Springs**	**47.83**	**257**	*e*P	**P**	**03 35 14.8**	**-1.0**
AS31				*e*		03 36 16.3	
ASAR	**Alice Springs**	**47.83**	**257**	P	**P**	**03 35 14.5**	**-1.3**
	comp=Z,42nm,0.9s,mb5.5,baz=88,slow=8.4,SNR=149						
ASPA	**Alice Springs**	**47.83**	**257**	*e*P	**P**	**03 35 14.8**	**-1.0**
ASPA				*e*		03 36 16.3	
WB2	**Warramunga Arr**	**48.03**	**262**	*e*P	**P**	**03 35 14.7**	**-2.7**
WRAB	**Tennant Creek**	**48.04**	**262**	P	**P**	**03 35 16.0**	**-1.4**
	comp=Z,181nm,1.0s,mb6.1,SNR=13						
WRAB	**Tennant Creek**	**48.04**	**262**	*e*P	**P**	**03 35 15.5**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,75nm,1.2s,mb5.6						
WRAB	**Tennant Creek**	**48.04**	**262**	*e*P	**P**	**03 35 15.5**	**-1.9**
	comp=Z,75nm,1.2s,mb5.6						
WRA	**Warramunga Arr**	**48.05**	**262**	P	**P**	**03 35 15.4**	**-2.0**
	comp=Z,26nm,1.0s,mb5.2,baz=98,slow=7.2,SNR=60						
KAKA	**Kakadu**	**51.58**	**270**	*e*P	**P**	**03 35 43.0**	**-1.3**
	comp=Z,32nm,1.4s,mb5.1						
FORT	**Forrest**	**52.27**	**247**	*e*P	**P**	**03 35 46.7**	**-2.7**
	comp=Z,30nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**56.48**	**262**	*e*P	**P**	**03 36 19.2**	**-0.8**
	comp=Z,16nm,1.2s,mb4.9						
FITZ	**Fitzroy Crossi**	**56.48**	**262**	P	**P**	**03 36 19.3**	**-0.7**
	comp=Z,6.4nm,0.9s,mb4.7,baz=92,slow=9.3,SNR=16						
SBA	**Scott Base**	**57.29**	**185**	*e*P	**P**	**03 36 27.8**	**+2.0**
SBA				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
SBA	**Scott Base**	**57.29**	**185**	*e*P	**P**	**03 36 27.8**	**+2.0**
	comp=Z,15nm,1.2s,mb4.9						
VNDA	**Vanda**	**57.41**	**186**	P	**P**	**03 36 27.3**	**+0.6**
	comp=Z,3.0nm,0.9s,mb4.3,baz=1.3,slow=7.2,SNR=10						
VNDA				LR	LR	03 57 22.1	
	comp=Z,268nm,20.0s,MS4.3,baz=6.2,slow=32						
VNDA	**Vanda**	**57.41**	**186**	P	**P**	**03 36 27.3**	**+0.6**
VNDA				LR	LR	03 57 22.1	
KLBR	**Kellerberrin**	**60.95**	**245**	*e*P	**P**	**03 36 51.7**	**+0.5**
	comp=Z,52nm,1.1s,mb5.6						
MBWA	**Marble Bar**	**61.17**	**257**	*e*P	**P**	**03 36 51.4**	**-1.2**
	comp=Z,34nm,1.0s,mb5.4						
MUN	**Mundaring**	**62.20**	**244**	*e*P	**P**	**03 37 00.5**	**+0.9**
CASY	**Casey**	**64.74**	**206**	*e*P	**P**	**03 37 16.9**	**+0.5**
QSPA	**South Pole Qui**	**68.72**	**180**	*e*P	**P**	**03 37 42.9**	**+1.2**
	comp=Z,33nm,1.1s,mb5.2						
MJAR	**Matsushiro Arr**	**73.07**	**322**	P	**P**	**03 38 07.0**	**-1.1**
	comp=Z,12nm,1.0s,mb4.8,baz=159,slow=6.0,SNR=23						
MAJO	**Matsushiro**	**73.07**	**322**	*e*P	**P**	**03 38 07.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
MAJO	**Matsushiro**	**73.07**	**322**	*e*P	**P**	**03 38 07.9**	**-0.2**
	comp=Z,14nm,1.0s,mb4.8						
MAT	**Matsushiro**	**73.07**	**322**	P	**P**	**03 38 07.0**	**-1.1**
MAT				S	S	03 47 35.6	+2.9
MAT	**Matsushiro**	**73.07**	**322**	*e*P	**P**	**03 38 07.0**	**-1.1**
MAT				*e*S	S	03 47 36.0	+3.3
MAT				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
MAT	**Matsushiro**	**73.07**	**322**	*e*P	**P**	**03 38 07.0**	**-1.1**
	comp=Z,27nm,1.2s,mb5.0						
MAT				*e*S	S	03 47 36.0	+3.3
KKM	**Kota Kinabalu**	**73.46**	**283**	P	**P**	**03 38 09.2**	**-1.2**
KKM	**Kota Kinabalu**	**73.46**	**283**	*e*P	**P**	**03 38 10.5**	**+0.1**
V04C	**Ramage Ranch,**	**75.88**	**42**	⇓P	**P**	**03 38 24.7**	**+0.3**
	baz=76						
FARB	**Farallon Islan**	**75.91**	**40**	⇑P	**P**	**03 38 25.3**	**+0.7**
	baz=76						
HAST	**Hastings Reser**	**75.94**	**41**	⇓P	**P**	**03 38 25.3**	**+0.6**
	baz=76,SNR=6.2						
BNLO	**Ben Lomond**	**76.04**	**40**	⇓P	**P**	**03 38 25.9**	**+0.6**
	baz=76						
JRSC	**Jasper Ridge**	**76.17**	**40**	⇓P	**P**	**03 38 27.0**	**+0.9**
	baz=76						
SAO	**San Andreas Ge**	**76.24**	**41**	*e*P	**P**	**03 38 27.5**	**+1.0**
SAO				*e*PP	pP	03 38 38.2	0.0
SAO				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
SAO	**San Andreas Ge**	**76.24**	**41**	*e*P	**P**	**03 38 27.5**	**+1.0**
	comp=Z,20nm,1.1s,mb5.0						
SAO				*e*pP	pP	03 38 38.2	0.0
PKD	**Parkfield**	**76.28**	**42**	⇑P	**P**	**03 38 27.5**	**+0.8**
	baz=76,SNR=6.7						
MCCM	**Marconi Confer**	**76.28**	**39**	⇓P	**P**	**03 38 27.4**	**+0.7**
	baz=76						
U04C	**Hernandez Rese**	**76.39**	**42**	⇓P	**P**	**03 38 28.1**	**+0.8**
	baz=77,SNR=8.8						
PACP	**Pacheco Peak**	**76.50**	**41**	⇑P	**P**	**03 38 28.4**	**+0.4**
	baz=77,SNR=13						
WENL	**Wente Brothers**	**76.61**	**40**	⇓P	**P**	**03 38 28.6**	**+0.1**
	baz=77						
OSI	**Osito Adit**	**76.61**	**44**	⇓P	**P**	**03 38 28.8**	**+0.2**
	baz=77						
109C	**Camp Elliot, M**	**76.64**	**47**	⇓P	**P**	**03 38 28.2**	**-0.5**
	baz=77						
CVS	**Carmenet Viney**	**76.66**	**39**	⇓P	**P**	**03 38 29.1**	**+0.2**
	baz=77						
NSHM	**Saint Helena R**	**76.69**	**39**	*e*P	**P**	**03 38 29.9**	**+0.9**
NSHM				*e*	pP	03 38 39.9	-0.9
HOPS	**Hopland**	**76.73**	**39**	*e*P	**P**	**03 38 30.7**	**+1.4**
	comp=Z,43nm,1.4s,mb5.2						
HOPS				*e*pP	pP	03 38 40.7	-0.3
HOPS	**Hopland**	**76.73**	**39**	⇓P	**P**	**03 38 29.6**	**+0.3**
	baz=77,SNR=5.2						
BDM	**Black Diamond**	**76.76**	**40**	⇓P	**P**	**03 38 30.0**	**+0.6**
	baz=77						
S04C	**Ingram Canyon,**	**76.79**	**41**	⇑P	**P**	**03 38 29.8**	**+0.2**
	baz=77,SNR=14						
U05C	**Westside ANR,**	**76.79**	**42**	⇑P	**P**	**03 38 30.5**	**+0.9**
	baz=77						
T05C	**Eagle Field, D**	**76.81**	**41**	⇓P	**P**	**03 38 30.0**	**+0.3**
	baz=77						
P01C	**Double 8 Ranch**	**76.89**	**38**	⇑P	**P**	**03 38 30.7**	**+0.6**
	baz=77						
MNRC	**McLaughlin Nat**	**77.02**	**39**	⇓P	**P**	**03 38 31.3**	**+0.4**
	baz=77,SNR=23						
O01C	**Eel River Cons**	**77.07**	**37**	⇑P	**P**	**03 38 32.2**	**+1.0**
	baz=77						
KSM	**Kuching**	**77.09**	**277**	*e*P	**P**	**03 38 31.3**	**0.0**
Q03C	**Winters**	**77.11**	**39**	⇑P	**P**	**03 38 32.0**	**+0.6**
	baz=77						
S05C	**Merced**	**77.30**	**41**	⇓P	**P**	**03 38 32.1**	**-0.3**
	baz=78						
GASB	**Alder Springs**	**77.37**	**38**	⇑P	**P**	**03 38 33.7**	**+0.8**
	baz=78,SNR=11						
ISA	**Isabella**	**77.42**	**44**	⇓P	**P**	**03 38 33.3**	**+0.2**
	baz=78						
JCC	**Jacoby Creek**	**77.42**	**37**	⇑P	**P**	**03 38 33.3**	**+0.2**
	baz=78						
PFO	**Pinyon Flat Ob**	**77.51**	**46**	*e*P	**P**	**03 38 33.0**	**-0.6**
PFO				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
PFO	**Pinyon Flat Ob**	**77.51**	**46**	*e*P	**P**	**03 38 33.0**	**-0.6**
	comp=Z,10nm,1.3s,mb4.6						
PFO	**Pinyon Flat Ob**	**77.51**	**46**	⇑P	**P**	**03 38 33.3**	**-0.3**
	baz=78,SNR=5.2						
YHNB	**Yeheng**	**77.57**	**303**	*e*P	**P**	**03 38 34.3**	**+0.4**
Q04C	**Lincoln**	**77.62**	**40**	⇑P	**P**	**03 38 33.7**	**-0.5**
	baz=78						
SUTB	**Sutter Buttes**	**77.64**	**39**	⇓P	**P**	**03 38 33.5**	**-0.8**
	baz=78						
O02C	**Red Bluff**	**77.69**	**38**	⇑P	**P**	**03 38 35.1**	**+0.5**
	baz=78,SNR=19						
HELL	**Mitchell Peak**	**77.70**	**42**	⇑P	**P**	**03 38 34.0**	**-0.7**
	baz=78						
CMB	**Columbia Colle**	**77.70**	**41**	*e*P	**P**	**03 38 34.4**	**-0.3**
CMB				*e*PP	pP	03 38 46.2	-0.3
CMB				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
CMB	**Columbia Colle**	**77.70**	**41**	*e*P	**P**	**03 38 34.4**	**-0.3**
	comp=Z,26nm,1.1s,mb5.1						
CMB				*e*pP	pP	03 38 46.2	-0.3
CMB	**Columbia Colle**	**77.70**	**41**	⇓P	**P**	**03 38 34.1**	**-0.6**
	baz=78,SNR=14						
PET	**Petropavlovsk**	**77.74**	**344**	*e*P	**P**	**03 38 39.7**	**+4.8**
PET				*e*S	S	03 48 26.6	+2.2
PET				*e*PS		03 49 07.5	
PET				pmax	pmax		
	comp=Z,200nm,6.4s						
PET				smax			
	comp=N,200nm,11.3s						
PET				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.6						
PET	**Petropavlovsk**	**77.74**	**344**	⇑*i*P	**P**	**03 38 35.5**	**+0.6**
N02C	**Big Bar**	**77.82**	**37**	⇓P	**P**	**03 38 34.7**	**-0.6**
	baz=78						
OHCM	**Honcut**	**77.89**	**39**	*e*P	**P**	**03 38 35.3**	**-0.4**
S06C	**San Francisco**	**77.93**	**41**	⇑P	**P**	**03 38 35.3**	**-0.7**
	baz=78						
LAVA	**Lava Cap Winer**	**77.95**	**40**	⇓P	**P**	**03 38 34.8**	**-1.3**
	baz=78,SNR=8.5						
O03C	**Acorn Hollow,**	**78.00**	**38**	⇑P	**P**	**03 38 35.5**	**-0.8**
	baz=78						
ORV	**Oroville**	**78.02**	**39**	⇓P	**P**	**03 38 36.0**	**-0.4**
	baz=78						
WDC	**Whiskeytown Da**	**78.09**	**38**	*e*P	**P**	**03 38 36.8**	**-0.1**
WDC				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.1						
WDC	**Whiskeytown Da**	**78.09**	**38**	*e*P	**P**	**03 38 36.8**	**-0.1**
	comp=Z,36nm,1.3s,mb5.2						
WDC	**Whiskeytown Da**	**78.09**	**38**	⇓P	**P**	**03 38 36.7**	**-0.2**
	baz=78,SNR=14						
CWC	**Cottonwood Cre**	**78.14**	**43**	⇓P	**P**	**03 38 37.4**	**+0.3**
	baz=78						
BC3	**Big Chuckw Mtn**	**78.21**	**47**	⇓P	**P**	**03 38 37.4**	**-0.1**
	baz=78,SNR=6.8						
GSC	**Goldstone**	**78.28**	**45**	⇑P	**P**	**03 38 37.7**	**-0.2**
	baz=78,SNR=9.2						
GLA	**Glamis**	**78.29**	**48**	⇓P	**P**	**03 38 37.9**	**-0.1**
	baz=78,SNR=5.9						
YSS	**Yuzh-Sakhalins**	**78.31**	**331**	⇑*e*P	**P**	**03 38 37.5**	**-0.6**
DAC	**Darwin (Calif)**	**78.36**	**44**	*e*P	**P**	**03 38 38.6**	**+0.3**
DAC				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
DAC	**Darwin (Calif)**	**78.36**	**44**	*e*P	**P**	**03 38 38.6**	**+0.3**
	comp=Z,11nm,1.4s,mb4.6						
P05C	**Yuba Gap, Truc**	**78.38**	**40**	⇑P	**P**	**03 38 38.4**	**-0.1**
	baz=79,SNR=7.4						
MTUM	**Tungsten Hills**	**78.40**	**42**	*e*P	**P**	**03 38 38.4**	**-0.2**
MTUM				*e*pP	pP	03 38 50.5	+0.2
TIN	**Tinemaha**	**78.43**	**43**	⇓P	**P**	**03 38 38.2**	**-0.5**
	baz=79						
M02C	**Callahan**	**78.46**	**37**	⇑P	**P**	**03 38 39.0**	**+0.2**
	baz=79,SNR=7.8						
R07C	**Lee Vining**	**78.56**	**41**	⇑P	**P**	**03 38 39.3**	**-0.1**
	baz=79						
R06C	**Coleville**	**78.58**	**41**	⇓P	**P**	**03 38 39.1**	**-0.5**
	baz=79,SNR=12						
O05C	**Quincy**	**78.62**	**39**	⇑P	**P**	**03 38 39.3**	**-0.4**
	baz=79						
S08C	**White Mtn Res**	**78.74**	**42**	⇑P	**P**	**03 38 40.7**	**+0.3**
	baz=79,SNR=27						
O04C	**Chester**	**78.76**	**39**	⇓P	**P**	**03 38 40.7**	**+0.2**
	baz=79,SNR=6.8						
YBH	**Yreka Blue Hor**	**78.77**	**37**	P	**P**	**03 38 40.5**	**0.0**
	comp=Z,15nm,0.9s,mb4.9,baz=194,slow=2.0,SNR=26						
YBH				PKKP	PKKPbc	03 57 29.4	-5.1
	comp=Z,0.4nm,0.3s,baz=291,slow=5.5,SNR=3.1						
YBH	**Yreka Blue Hor**	**78.77**	**37**	*e*P	**P**	**03 38 41.1**	**+0.5**
YBH				pmax	pmax		
	comp=Z,25nm,1.0s						
YBH	**Yreka Blue Hor**	**78.77**	**37**	*e*P	**P**	**03 38 41.0**	**+0.5**
	comp=Z,25nm,1.0s,mb5.1						
YBH	**Yreka Blue Hor**	**78.77**	**37**	⇑P	**P**	**03 38 40.9**	**+0.3**
	baz=79,SNR=14						
M03C	**McCloud**	**78.79**	**37**	⇓P	**P**	**03 38 40.6**	**-0.1**
	baz=79,SNR=8.1						
HATC	**Hat Creek Radi**	**78.87**	**38**	⇑P	**P**	**03 38 41.5**	**+0.4**
	baz=79,SNR=5.4						
WCN	**Washoe City**	**78.89**	**40**	⇓P	**P**	**03 38 41.4**	**+0.1**
	baz=79,SNR=16						
Y12C	**Blythe**	**78.90**	**47**	⇑P	**P**	**03 38 42.2**	**+0.8**
	baz=79						
TUQ	**Turquoise Mtn.**	**78.94**	**45**	⇓P	**P**	**03 38 41.4**	**-0.1**
	baz=79						
K02A	**Glendale**	**79.04**	**35**	⇓P	**P**	**03 38 41.9**	**-0.1**
	baz=79						
P06A	**Stead Airport,**	**79.04**	**40**	⇑P	**P**	**03 38 41.9**	**-0.2**
	baz=79						
ELFS	**Eagle Lake Fie**	**79.16**	**38**	⇑P	**P**	**03 38 42.5**	**-0.2**
	baz=79						
HUMO	**Hull Mountain**	**79.22**	**36**	*e*P	**P**	**03 38 44.1**	**+1.1**
	comp=Z,29nm,1.4s,mb5.0						
HUMO	**Hull Mountain**	**79.22**	**36**	⇑P	**P**	**03 38 43.2**	**+0.1**
	baz=80,SNR=10						
NVAR	**Mina Array Bea**	**79.23**	**41**	P	**P**	**03 38 42.7**	**-0.4**
	comp=Z,14nm,0.8s,mb4.9,baz=237,slow=11,SNR=47						
NVAR	**Mina Array Bea**	**79.23**	**41**	P	**P**	**03 38 42.7**	**-0.4**
M04C	**Macdoel**	**79.28**	**37**	⇑P	**P**	**03 38 43.3**	**-0.1**
	baz=80,SNR=5.3						
R08A	**Mina**	**79.30**	**42**	⇓P

116A	Eloy	80.20	49	⇓P		P	03 38 47.8	-0.5
	baz=80							
MOD	Modoc	80.23	38	eP		P	03 38 48.2	-0.3
	comp=Z,24nm,0.9s,mb5.1							
MOD					epP	pP	03 39 00.1	-0.3
X14A	Yava	80.42	47	⇓P		P	03 38 49.8	+0.2
	baz=81,SNR=6.0							
M07A	Soldier Meadow	80.56	39	⇑P		P	03 38 50.0	-0.3
	baz=81							
P09A	Austin	80.63	41	⇓P		P	03 38 50.2	-0.5
	baz=81							
W14A	Seligman	80.71	47	⇑P		P	03 38 51.7	+0.5
	baz=81,SNR=14							
TUC	Tucson	80.72	50	eP		P	03 38 51.6	+0.4
TUC					e*PP	pP	03 39 03.0	0.0
TUC					pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
TUC	Tucson	80.72	50	eP		P	03 38 51.6	+0.5
	comp=Z,8.6nm,1.0s,mb4.6							
TUC					epP	pP	03 39 03.0	0.0
N08A	GE Springer Mi	80.79	40	⇑P		P	03 38 51.4	-0.2
	baz=81,SNR=9.7							
K06A	Valley Falls	80.84	37	⇑P		P	03 38 51.9	+0.1
	baz=81,SNR=13							
KDAK	Kodiak Island	80.87	12	P		P	03 38 51.2	-0.8
	comp=Z,8.5nm,0.9s,mb4.7,baz=143,slow=4.6,SNR=4.6							
KDAK	Kodiak Island	80.87	12	P		P	03 38 51.2	-0.8
X15A	Humboldt	80.88	48	⇑P		P	03 38 52.0	-0.1
	baz=81,SNR=12							
O09A	Fish Creek Ran	80.98	41	⇓P		P	03 38 52.3	-0.3
	baz=81,SNR=6.6							
SSE	Sheshan	81.02	308	P		P	03 38 52.7	-0.1
SSE				AP		pP	03 39 04.9	+0.3
SSE				XP		sP	03 39 09.8	+0.8
SSE				S		S	03 48 59.6	+0.5
SSE				XS		sS	03 49 20.7	+1.9
SSE				SS		SS	03 54 16.3	+2.3
SSE				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,500nm,4.5s							
SSE				LR		LR		
	comp=N,60nm,22.6s,MS4.2							
SSE				LR		LR		
	comp=E,110nm,22.6s,MS4.2							
SSE				LR		LR		
	comp=Z,140nm,16.3s							
H04A	Detroit Lake	81.02	35	⇑P		P	03 38 52.6	-0.1
	baz=81,SNR=6.3							
M08A	Happy Creek Ra	81.06	39	⇓P		P	03 38 53.1	+0.1
	baz=81							
VLA	Vladivostok	81.08	323	eP		P	03 38 52.8	-0.3
BMN	Battle Mountai	81.12	40	eP		P	03 38 53.2	-0.1
BMN					e*PP	pP	03 39 05.6	+0.5
BMN					pmax	pmax		
	comp=Z,50nm,1.8s,mb5.1							
BMN	Battle Mountai	81.12	40	eP		P	03 38 53.2	-0.1
	comp=Z,50nm,1.8s,mb5.1							
BMN					epP	pP	03 39 05.6	+0.5
I05A	Bend	81.17	36	⇓P		P	03 38 53.7	+0.1
	baz=81							
J06A	Christmas Vall	81.19	37	⇑P		P	03 38 53.1	-0.5
	baz=81,SNR=14							
N09A	Rock Creek Ran	81.19	40	⇑P		P	03 38 53.0	-0.7
	baz=81							
W15A	Williams	81.24	47	⇓P		P	03 38 54.3	+0.3
	baz=82							
E03A	Lebam	81.58	33	⇓P		P	03 38 55.0	-0.7
	baz=82							
M09A	Marrel Ranch,	81.59	39	⇓P		P	03 38 55.4	-0.4
	baz=82							
I06A	Prineville	81.60	36	⇓P		P	03 38 55.0	-0.9
	baz=82,SNR=15							
F04A	Amboy	81.74	34	⇑P		P	03 38 56.6	+0.1
	baz=82							
L09A	Wilkinson Ranc	81.83	39	⇓P		P	03 38 57.2	+0.2
	baz=82							
VFP	Flag Point	81.83	35	P		P	03 38 57.7	+0.7
LVP	Lakeview Peak	81.84	34	P		P	03 38 58.1	+1.0
G05A	Wamic	81.85	35	⇓P		P	03 38 56.9	-0.3
	baz=82							
MAW	Mawson	81.95	199	P		P	03 38 58.6	+0.9
	comp=Z,9.5nm,1.2s,mb4.6,baz=120,slow=6.8,SNR=4.8							
MAW	Mawson	81.95	199	P		P	03 38 58.6	+0.9
MAW				pmax		pmax		
	comp=Z,10.0nm,1.2s							
MAW	Mawson	81.95	199	eP		P	03 38 58.4	+0.7
	comp=Z,23nm,1.4s,mb4.9							
E04A	Onalaska	82.03	33	⇓P		P	03 38 58.2	+0.1
	baz=82							
M10A	I.L. Ranch, Tu	82.19	40	⇓P		P	03 38 59.1	+0.2
	baz=82							
F05A	White Salmon	82.20	34	⇑P		P	03 38 59.1	+0.1
	baz=82							
N11A	Elko Archery C	82.25	41	⇑P		P	03 38 58.6	-0.7
	baz=82							
D04A	Dobbs Creek Ra	82.34	33	⇓P		P	03 38 59.3	-0.5
	baz=83							
E05A	Randle	82.50	33	P		P	03 39 00.3	-0.3
	baz=83,SNR=16							
ELK	Elko	82.51	41	eP		P	03 39 00.3	-0.3
ELK					e*PP	pP	03 39 12.0	-0.5
ELK					pmax	pmax		
	comp=Z,10.0nm,1.1s							
ELK	Elko	82.51	41	eP		P	03 39 00.3	-0.3
	comp=Z,9.7nm,1.1s,mb4.8							
ELK					epP	pP	03 39 12.0	-0.5
O12A	Currie	82.53	42	⇓P		P	03 39 00.7	-0.1
	baz=83,SNR=10							
M11A	Holland Ranch,	82.58	40	⇓P		P	03 39 01.3	+0.3
	baz=83							
B04A	Port Angeles	82.64	32	⇓P		P	03 39 01.6	+0.2
	baz=83							
C04A	Brinnon	82.67	32	⇓P		P	03 39 01.6	+0.1
	baz=83							
N12A	Wells--Clov Va	82.70	41	⇑P		P	03 39 00.9	-0.7
	baz=83,SNR=8.7							
FMW	Mount Fremont	82.79	33	P		P	03 39 02.2	+0.1
D05A	Enumclaw	82.81	33	⇓P		P	03 39 02.4	+0.3
	baz=83,SNR=13							
HABR	Khabarovsk	83.00	329	eP		P	03 39 03.5	+0.3
HABR				eS		S	03 49 20.7	+1.2
HABR				pmax		pmax		
	comp=Z,79nm,1.5s,mb5.5							
HABR				MLR		MLR		
	comp=Z,250nm,19.6s,MS4.6							
PGC	Sidney	83.08	31	eP		P	03 39 02.9	-0.6
	comp=Z,25nm,0.8s,mb5.3							
MSU	Marysvale	83.16	44	eP		P	03 39 05.4	+1.4
MSU					e*PP	pP	03 39 15.9	0.0
N13A	West Wendover	83.21	41	⇓P		P	03 39 04.4	+0.1
	baz=83,SNR=9.2							
NJ2	Nanjing	83.21	308	eP		P	03 39 05.9	+1.6
NJ2				AP		pP	03 39 15.8	-0.4
NJ2				XP		sP	03 39 20.0	-0.6
NJ2				PP		PP	03 42 19.4	+3.5
NJ2				SKS			03 49 20.0	
NJ2				S		S	03 49 21.0	-0.7
NJ2				XS		sS	03 49 39.0	-2.4
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.4							
NJ2				AMB		AMB		
	comp=Z,170nm,4.1s							
NJ2				LR		LR		
	comp=N,1μm,23.6s,MS5.2							
NJ2				LR		LR		
	comp=E,150nm,19.0s,MS5.2							
NJ2				LR		LR		
	comp=Z,140nm,23.8s,MS4.3							
C05A	Tolt Reservoir	83.29	33	⇑P		P	03 39 04.6	-0.1
	baz=84,SNR=15							
MDJ	Mudanjiang	83.32	323	P		P	03 39 05.5	+0.7
MDJ				AP		pP	03 39 15.0	-1.7
MDJ				XP		sP	03 39 18.6	-2.5
MDJ				PP		PP	03 42 17.2	+0.5
MDJ				SS		SS	03 54 49.0	+0.8
MDJ				AMB		AMB		
	comp=Z,20nm,1.1s,mb5.1							
MDJ				AMB		AMB		
	comp=Z,230nm,5.3s							
MDJ				LR		LR		
	comp=N,150nm,21.0s,MS4.6							
MDJ				LR		LR		
	comp=E,240nm,19.6s,MS4.6							
MDJ				LR		LR		
	comp=Z,420nm,21.0s,MS4.8							
B05A	Bryant	83.47	32	⇑P		P	03 39 05.4	-0.2
	baz=84,SNR=12							
A04A	Legoe Bay, Lum	83.48	31	⇓P		P	03 39 05.6	0.0
	baz=84							
BBB	Bella Bella	83.50	26	P		P	03 39 06.0	+0.3
	comp=Z,11nm,0.8s,mb5.0,baz=250,slow=6.3,SNR=5.6							
SVW2	Sparrevohn	83.52	9	eP		P	03 39 04.6	-1.2
M13A	Montello	83.53	41	P		P	03 39 05.8	-0.1
	baz=84,SNR=16							
HAWA	Hanford	83.55	35	eP		P	03 39 06.4	+0.4
	comp=Z,11nm,1.9s,mb4.7							
HAWA					epP	pP	03 39 17.1	-0.8
CMW	Cultus Mountai	83.57	32	P		P	03 39 06.8	+0.7
DUG	Dugway	83.70	43	eP		P	03 39 07.2	+0.4
DUG					e*PP	pP	03 39 17.9	-0.8
DUG					pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.6							
DUG	Dugway	83.70	43	eP		P	03 39 07.2	+0.4
	comp=Z,7.1nm,1.4s,mb4.6							
DUG					epP	pP	03 39 17.9	-0.7
KGM	Kluang	83.77	275	P		P	03 39 09.1	+2.0
SLKM	Skilak Lake	83.86	12	eP		P	03 39 06.4	-1.2
A05A	Maple Falls	83.97	31	⇑P		P	03 39 08.0	-0.2
	baz=84							
WTV	Waterville	84.18	33	P		P	03 39 08.3	-0.9
TMUT	Trail Mountain	84.22	44	eP		P	03 39 11.1	+1.7
TMUT					epP	pP	03 39 22.9	+1.5
MNTX	Cornudas Mount	84.35	53	eP		P	03 39 10.5	+0.5
	comp=Z,6.8nm,1.0s,mb4.7							
LAZ	Ladron	84.41	50	eP		P	03 39 11.9	+1.5
LTX	Lajitas	84.52	56	eP		P	03 39 11.2	+0.3
LTX					pmax	pmax		
	comp=Z,23nm,1.7s,mb5.0							
LTX	Lajitas	84.52	56	eP		P	03 39 11.2	+0.3
	comp=Z,23nm,1.7s,mb5.0							
SPUT	South Promonto	84.56	42	eP		P	03 39 11.4	+0.3
SPUT				epP		pP	03 39 22.5	-0.5
SRU	San Rafael	84.56	44	eP		P	03 39 10.7	-0.5
SRU					e*PP	pP	03 39 22.4	-0.7
SRU					pmax	pmax		
	comp=Z,37nm,1.4s,mb5.3							
SRU	San Rafael	84.56	44	eP		P	03 39 10.7	-0.4
	comp=Z,37nm,1.4s,mb5.3							
SRU					epP	pP	03 39 22.4	-0.7
HVU	Hansel Valley	84.62	41	eP		P	03 39 12.1	+0.6
HVU					pmax	pmax		
	comp=Z,14nm,1.3s,mb4.9							
HVU	Hansel Valley	84.62	41	eP		P	03 39 12.1	+0.7
	comp=Z,14nm,1.3s,mb4.9							
BNM	Barren Site	84.65	50	eP		P	03 39 12.3	+0.8
HLID	Hailey	84.67	39	eP		P	03 39 11.0	-0.7
	comp=Z,14nm,1.0s,mb5.0							
HLID					epP	pP	03 39 22.8	-0.8
LPM	Los Pinos Moun	84.73	50	eP		P	03 39 12.9	+0.9
DAU	Daniels Canyon	84.81	43	eP		P	03 39 12.6	+0.2
DAU					e*PP	pP	03 39 23.6	-0.7
EYAK	Cordova Ski Ar	84.81	14	eP		P	03 39 11.5	-0.9
EYAK					epP	pP	03 39 22.9	-1.4
PMR	Palmer	85.07	12	eP		P	03 39 12.3	-1.4
PMR					pmax	pmax		
	comp=Z,37nm,1.1s,mb5.4							
PMR					MLR	MLR		
	comp=Z,500nm,17.0s,MS5.0							
PMR	Palmer	85.07	12	eP		P	03 39 12.3	-1.4
	comp=Z,36nm,1.1s,mb5.4							
PMR					LR	LR		
	comp=Z,500nm,17.0s,MS5.0							
TCUT	Toone Canyon	85.10	42	eP		P	03 39 14.7	+0.9
KLR	Kul'dur	85.13	328	eP		P	03 39 10.8	-3.2
PV10	Paradox Valley	85.15	46	eP		P	03 39 13.8	-0.4
PV10				epP		pP	03 39 26.4	+0.3
ANMO	Albuquerque	85.17	50	P		P	03 39 14.4	+0.2
	comp=Z,13nm,0.9s,mb5.0,baz=213,slow=6.0,SNR=41							
ANMO	Albuquerque	85.17	50	eP		P	03 39 14.6	+0.4
ANMO				pmax		pmax		
	comp=Z,20nm,1.1s							
ANMO	Albuquerque	85.17	50	eP		P	03 39 14.6	+0.4
	comp=Z,20nm,1.1s,mb5.2							
CN2	Changchun	85.20	321	eP		P	03 39 14.0	-0.4
CN2				eXP		sP	03 39 30.0	-0.7
CN2				AMB		AMB		
	comp=Z,20nm,1.1s,mb5.2							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,700nm,19.0s,MS5.2							
CN2				LR		LR		
	comp=E,800nm,19.0s,MS5.2							
CN2				LR		LR		
	comp=Z,800nm,21.0s,MS5.1							
SNY	Shenyang	85.20	318	⇑P		P	03 39 14.5	+0.1
SNY				AMB		AMB		
	comp=Z,10.0nm,2.0s,mb4.6							
SNY				AMB		AMB		
	comp=Z,130nm,8.4s							
TTA	Tatalina	85.22	8	eP		P	03 39 13.5	-0.9
HWUT	Hardware Ranch	85.28	42	eP		P	03 39 14.8	+0.1
PV01	Paradox Valley	85.34	46	eP		P	03 39 15.7	+0.6
MA2	Magadan	85.61	343	eP		P	03 39 14.2	-2.2
MA2				eS			03 49 38.9	
MA2				pmax		pmax		
	comp=Z,30nm,1.4s,mb5.3							
MA2				MLR		MLR		
	comp=Z,5μm,19.3s							
MA2	Magadan	85.61	343	eP		P	03 39 15.2	-1.2
	comp=Z,25nm,1.1s,mb5.3							
WHN	Wuhan	85.86	305	P		P	03 39 18.8	+1.1
PLCA	Paso Flores	86.06	132	P		P	03 39 19.0	+0.4
	comp=Z,3.3nm,1.0s,mb4.5,baz=274,slow=4.5,SNR=3.8							
PLCA					LR	LR	04 12 46.4	
	comp=Z,415nm,18.1s,MS4.9,baz=192,slow=32							
MCMT	McKenzie Canyo	86.32	39	eP		P	03 39 20.6	+0.6
SKAG	Skagway	86.58	19	eP		P	03 39 20.9	-0.3
	comp=Z,4.1nm,0.3s,mb5.1							
SYO	Syowa Base	86.65	192	⇓eP		P	03 39 20.6	-0.9
SYO	Syowa Base	86.65	192	⇓ePcP		PcP	03 39 22.0	-1.9
TPAW	Teton Pass	86.70	41	eP		P	03 39 22.5	+0.7
	comp=Z,5.8nm,1.2s,mb4.7							
TPAW					epP	pP	03 39 35.6	+1.9
DLMT	Dillon	86.77	38	eP		P	03 39 22.6	+0.5
	comp=Z,11nm,1.3s,mb4.9							
IPM	Ipoh	86.80	276	P		P	03 39 24.4	+2.1
IMW	Indian Meadow	86.93	40	eP		P	03 39 23.8	+0.9
	comp=Z,3.3nm,0.8s,mb4.6							
SMCO	Snowmass	86.95	46	eP		P	03 39 23.2	+0.2
	comp=Z,5.2nm,0.9s,mb4.8							
LOHW	Long Hollow	86.97	41	eP		P	03 39 23.1	0.0
	comp=Z,4.0nm,1.0s,mb4.6							
VNA3	Neumayer Olymp	87.02	175	eP		P	03 39 22.5	-0.8
VNA3				e			03 39 25.0	
VNA3				e		pP	03 39 34.8	-0.5
VNA3				e			03 39 37.4	
VNA3				e			03 39 46.6	
VNA3				e			03 40 00.5	
VNA3				e			03 40 13.3	
SNAA	Sanae	87.03	177	⇓iP		P	03 39 13.5	-10
SNAA				e			03 39 15.4	
SNAA				e		pP	03 39 24.7	-11
SNAA				e		pP	03 39 27.2	-8.1
SNAA				e			03 39 38.0	
SNAA				e			03 39 50.3	
SNAA				e			03 40 04.4	
BW06	Boulder Array	87.16	42	eP		P	03 39 23.7	-0.3
	comp=Z,4.9nm,1.2s,mb4.6							
PDAR	Pinedale Array	87.16	42	P		P	03 39 22.9	-1.1
	comp=Z,3.0nm,0.9s,mb4.5,baz=228,slow=2.3,SNR=22							
CHMT	Chamberlain Mo	87.29	37	eP		P	03 39 24.2	-0.4
MENT	Mentasta	87.38	13	eP		P	03 39 24.2	-0.9
KULM	Kulim	87.45	277	eP		P	03 39 27.2	+1.8
DLBC	Dease Lake	87.47	22	P		P	03 39 25.3	-0.3
	comp=Z,7.0nm,0.9s,mb4.9,baz=223,slow=7.1,SNR=14							
DLBC	Dease Lake	87.47	22	eP		P	03 39 25.3	-0.3
BOZ	Bozeman (W)	87.50	39	eP		P	03 39 26.0	+0.4
BOZ					e*PP	pP	03 39 36.0	-1.6
BOZ					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7							
BOZ	Bozeman (W)	87.50	39	eP		P	03 39 26.0	+0.4
	comp=Z,3.6nm,0.8s,mb4.7							
BOZ					epP	pP	03 39 36.0	-1.6
VNA2	Neumayer--Watz	87.50	176	⇓iP		P	03 39 26.1	+0.4
VNA2				e			03 39 28.0	
VNA2				e		pP	03 39 37.8	+0.2
VNA2				e			03 39 41.4	
VNA2				e			03 39 49.3	
VNA2				e			03 40 04.3	
VNA2				e			03 40 16.1	
VNA1	Neumayer--Stat	87.71	175	⇓iP		P	03 39 27.1	+0.4
VNA1				e			03 39 29.0	
VNA1				e		pP	03 39 39.5	+0.9
VNA1				e			03 39 42.2	
VNA1				e			03 39 49.2	
VNA1				e			03 40 03.1	
VNA1				e			03 40 17.3	
HRY	Holter Researc	87.98	38	eP		P	03 39 27.0	-0.9
SNG	Songkhla	88.17	278	P		P	03 39 31.5	+2.7
WALA	Waterton Lakes	88.18	35	eP		P	03 39 28.2	-0.7
	comp=Z,13nm,1.1s,mb5.1							
COLA	College	88.31	11	eP		P	03 39 28.0	-1.5
COLA				pmax		pmax		
	comp=Z,43nm,1.1s,mb5.6							
COLA	College	88.31	11	eP		P	03 39 28.0	-1.5
	comp=Z,43nm,1.1s,mb5.6							
ILAR	Eielson Array	88.39	11	P		P	03 39 28.2	-1.7
	comp=Z,7.3nm,0.9s,mb4.9,baz=214,slow=5.9,SNR=47							
AMTX	Amarillo	88.58	52	eP		P	03 39 30.3	-0.5
	comp=Z,4.1nm,0.8s,mb4.8							
DAWY	Dawson	89.33	15	eP		P	03 39 33.7	-0.7
EGMT	Eagleton	89.88	37	eP		P	03 39 36.5	-0.4
	comp=Z,4.5nm,0.9s,mb4.8							
GYA	Guiyang	90.21	298	⇓iP		P	03 39 40.4	+2.0
GYA				AP		pP	03 39 51.4	+1.0
GYA				XP		sP	03 39 54.9	+0.1
GYA				PP		PP	03 43 13.8	+1.5
GYA				S			03 50 27.9	
GYA				AMB		AMB		
	comp=Z,20nm,1.8s,mb5.2							
GYA				AMB		AMB		
	comp=Z,200nm,6.0s							
GYA				LR		LR		
	comp=N,480nm,20.4s,MS5.0							
GYA				LR		LR		
	comp=E,460nm,21.6s,MS5.0							
GYA				LR		LR		
	comp=Z,470nm,20.4s,MS4.9							
BILL	Bilibino	90.29	353c	iP		P	03 39 37.8	-1.0
BILL				pmax		pmax		
	comp=Z,36nm,1.6s,mb5.5							
BILL				MLR		MLR		
	comp=Z,300nm,19.0s,MS4.7							
BILL	Bilibino	90.29	353	eP		P	03 39 37.8	-1.0
	comp=Z,19nm,0.9s,mb5.4							
EDM	Edmonton	90.91	32	eP		P	03 39 41.1	-0.6
LAO	LASA Array	91.23	40	eP		P	03 39 44.1	+1.0
	comp=Z,45nm,1.6s,mb5.5							
RSSD	Black Hills	91.31	43	eP		P	03 39 42.5	-1.0
RSSD				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.6							
RSSD	Black Hills	91.31	43	eP		P	03 39 42.5	-1.1
	comp=Z,2.9nm,0.9s,mb4.6							
HIA	Hailar	91.50	323	⇑iP		P	03 39 44.6	+0.2
XAN	Xi'an	91.53	306	P		P	03 39 46.0	+1.5
XAN				AMB		AMB		
	comp=Z,10.0nm,1.6s,mb4.9							
NST	Nakhon Sawan	91.73	286	P		P	03 39 48.0	+2.5
HHC	Hu-ho-hao-te	92.54	313	eP		P	03 39 49.7	+0.5
HHC				AP		pP	03 40 00.1	-1.1
HHC				XP		sP	03 40 04.1	-1.5
HHC				PP		PP	03 43 33.0	+2.2
HHC				SKS			03 50 18.7	
HHC				S			03 50 49.0	
HHC				XS		sS	03 51 05.8	-4.8
HHC				SS		SS	03 57 02.7	0.0
HHC				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.3							
HHC				AMB		AMB		
	comp=Z,160nm,4.8s							
HHC				LR		LR		
	comp=N,150nm,16.7s,MS4.7							
HHC				LR		LR		
	comp=E,130nm,14.3s,MS4.7							
HHC				LR		LR		
	comp=Z,150nm,19.0s,MS4.5							
JTS	JuntasAbangare	92.85	80	eP		P	03 39 52.0	+0.9
KMI	Kunming	92.95	296	P		P	03 39 53.3	+2.2
KMI				AP		pP	03 40 05.5	+2.4
KMI				SKS			03 50 23.6	
KMI				S			03 50 54.6	
KMI				XS		sS	03 51 15.2	+0.9
KMI				PS		PS	03 52 09.1	-1.8
KMI				SS		SS	03 57 12.7	+4.1
KMI				AMB		AMB		
	comp=Z,20nm,1.3s,mb5.4							
KMI				LR		LR		
	comp=N,130nm,23.4s,MS4.6							
KMI				LR		LR		
	comp=E,220nm,20.8s,MS4.6							
KMI				LR		LR		
	comp=Z,300nm,18.2s,MS4.8							
CHG	Chiang Mai	93.92	289	P		P	03 39 57.6	+2.0
	comp=Z,14nm,1.1s,mb5.3							
CHTO	Chiang Mai	93.92	289	eP		P	03 39 57.6	+2.0
CHTO				pmax		pmax		
	comp=Z,18nm,1.1s,mb5.4							
CHTO	Chiang Mai	93.92	289	eP		P	03 39 57.6	+2.0
	comp=Z,18nm,1.1s,mb5.4							
INK	Inuvik	94.19	14	P		P	03 39 55.5	-1.4
	comp=Z,6.0nm,0.8s,mb5.1,baz=216,slow=5.0,SNR=22							
INK	Inuvik	94.19	14	P		P	03 39 55.5	-1.3
INK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
INK	Inuvik	94.19	14	eP		P	03 39 55.4	-1.5
	comp=Z,10.0nm,0.9s,mb5.2							
YAK	Yakutsk	94.28	337	eP		P	03 39 57.5	+0.3
YAK				pmax		pmax		
	comp=Z,11nm,1.1s,mb5.2							
YAK	Yakutsk	94.28	337	⇑iP		P	03 39 56.7	-0.5
CD2	Chengdu	94.29	301	eP		P	03 39 55.7	-1.6
CD2				AP		pP	03 40 06.3	-3.0
CD2				PP		PP	03 43 45.4	+0.9
CD2				SKS			03 50 26.6	
CD2				S			03 51 01.5	
CD2				SS		SS	03 57 26.8	-0.9
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.2							
CD2				AMB		AMB		
	comp=Z,40nm,5.9s							
CD2				LR		LR		
	comp=N,150nm,10.8s							
CD2				LR		LR		
	comp=Z,180nm,12.5s,MS4.7							
YKA	Yellowknife Ar	95.81	24	P		P	03 40 03.1	-1.1
	comp=Z,2.5nm,0.8s,mb4.7,baz=236,slow=4.2,SNR=20							
YKW3	Yellowknife Ar	95.85	24	eP		P	03 40 04.7	+0.3
ECSD	EROS,Sioux Fal	95.94	45	eP		P	03 40 04.4	-0.5
ECSD				epP		pP	03 40 15.2	-1.6
LZH	Lanzhou	96.16	306	eP		P	03 40 07.6	+1.8
LZH				AP		pP	03 40 20.0	+2.2
LZH				XP		sP	03 40 27.4	+5.2
LZH				PP		PP	03 44 03.0	+4.0
LZH				SKS			03 50 41.1	
LZH				eS			03 51 20.1	
LZH				XS		sS	03 51 38.0	-4.3
LZH				SS		SS	03 57 57

MKAR				PKKPbc	PKKPbc	03 55 58.1	+1.4
KURK	**Kurchatov**	**117.06**	**317**	*e*PKIKP	PKPdf	03 45 21.5	-1.2
AAK	**Ala-Archa**	**119.66**	**308⇑**	*e*PKIKP	PKPdf	03 45 26.9	-0.8
CHKZ	**Chkalovo**	**121.83**	**321**	*e*PKIKP	PKPdf	03 45 30.7	-1.2
CHKZ				*e*		03 45 40.9	
BRVK	**Borovoye**	**122.10**	**320**	*e*PKIKP	PKPdf	03 45 31.7	-0.7
ZRNK	**Zerenda**	**122.88**	**320**	*e*PKIKP	PKPdf	03 45 33.0	-0.9
BOSA	**Boshof**	**126.91**	**201**	PKP	PKPdf	03 45 43.4	+1.8
	comp=Z,7.9nm,1.1s,baz=92,slow=4.1,SNR=5.1						
ARU	**Arti**	**127.93**	**326⇑**	*e*PKIKP	PKPdf	03 45 43.5	-0.1
OBN	**Obninsk**	**139.18**	**333**	*i* PKIKP	PKPdf	03 46 05.0	+0.3
OBN				*e*		03 46 18.1	
OBN				pmax	pmax		
	comp=Z,14nm,1.3s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.6						
OBN	**Obninsk**	**139.18**	**333**	*i* PKP	PKPdf	03 46 05.3	+0.6
OBN				LR	LR		
	comp=Z,200nm,20.0s,MS4.9						
VOR	**Voronezh**	**140.15**	**328**	PKIKP	PKPdf	03 46 07.0	+0.6
VOR				pmax	pmax		
	comp=Z,70nm,1.7s						
KIV	**Kislovodsk**	**142.11**	**315**	*i* PKIKP	PKPdf	03 46 12.0	+2.0
KIV				*e*		03 46 24.0	
KIV						03 49 23.0	
SOC	**Sochi**	**144.21**	**316**	*i* PKIKP	PKPdf	03 46 10.7	-3.0
SOC				*e*PPP		03 52 41.8	
SOC				*e*SS	SS	04 08 15.4	+4.4
SOC				*e*SSS		04 13 39.2	
ERZM	**Erzurum**	**144.58**	**310**	*i* P	PKPdf	03 46 15.4	+1.1
SUW	**Suwalki**	**144.83**	**342**	*e*PKP	PKPdf	03 46 13.5	-1.2
MUD	**Monsted U'grnd**	**144.86**	**357⇑**	*i*P	PKPdf	03 46 13.3	-1.5
	comp=Z,40nm,1.2s						
MUD	**Monsted U'grnd**	**144.86**	**357⇑**	*i*PKIKP	PKPdf	03 46 13.3	-1.5
MUD				pmax	pmax		
	comp=Z,40nm,1.2s						
BNGL	**BINGOL**	**145.07**	**308**	*i* P	PKPbc	03 46 18.5	+3.9
BNGL	**BINGOL**	**145.07**	**308**	*i* P	PKPbc	03 46 15.7	+1.0
BEST	**Besiri**	**145.33**	**306**	*i* P	PKPbc	03 46 16.9	+1.4
COP	**Copenhagen**	**145.37**	**353**	*i* P	PKPbc	03 46 14.0	-1.6
	comp=Z,12nm,0.7s						
COP	**Copenhagen**	**145.37**	**353**	*e*PKIKP	PKPdf	03 46 14.0	-1.7
COP				pmax	pmax		
	comp=Z,12nm,0.7s						
AKASG	**Malin Array Be**	**145.44**	**334**	PKPbc	PKPbc	03 46 14.6	-1.2
	comp=Z,22nm,0.9s,baz=38,slow=3.8,SNR=76						
BSD	**Bornholm Skovb**	**145.61**	**351⇑**	*i*P	PKPdf	03 46 15.2	-0.9
	comp=Z,60nm,1.3s						
BSD				*i*		03 46 27.1	
BSD	**Bornholm Skovb**	**145.61**	**351⇑**	*i*PKIKP	PKPdf	03 46 15.2	-0.9
BSD				*i*		03 46 27.1	
BSD				pmax	pmax		
	comp=Z,60nm,1.3s						
MARD	**Mardin**	**145.88**	**306**	*i* P	PKPdf	03 46 18.6	+2.1
GRSN	**GIRESUNGRSN**	**146.36**	**313**	*i* P		03 46 05.0	
RGN	**Rugen**	**146.38**	**352**	*e*PKPdf	PKPdf	03 46 19.0	+1.6
ELZG	**Elazig**	**146.82**	**308**	*i* P	PKPbc	03 46 21.1	+1.2
GKP	**Gorka Klasztor**	**146.96**	**347**	*e*PKP	PKPdf	03 46 20.3	+1.9
MALT	**Malatya**	**147.29**	**308⇑**	*i*P	PKPbc	03 46 22.9	+1.6
MALT	**Malatya**	**147.29**	**308**	*e*PKPbc	PKPbc	03 46 22.5	+1.2
LVV	**L'vov**	**148.15**	**337**	*i* PKP2	PKPab	03 46 26.6	0.0
GZT	**Gaziantep**	**148.28**	**307**	*i* P	PKPbc	03 46 26.0	+2.0
KIS	**Kishinev**	**148.36**	**329**	*e*PKIKP	PKPdf	03 46 22.0	+1.3
KIS				*e*		03 46 38.0	
KIS				*e*		03 53 28.0	
KIS				MLR	MLR		
	comp=Z,600nm,22.0s,MS5.3						
BOYT	**Boyabat**	**148.37**	**316**	*i* P	PKPdf	03 46 23.4	+2.7
CTKT	**Corum**	**148.84**	**315**	*i* P	PKPbc	03 46 26.1	+0.7
IBBN	**Ibbenburen**	**149.07**	**358**	*e*PKPbc	PKPbc	03 46 25.7	-0.3
IBBN				*e*PKPab	PKPab	03 46 29.1	-1.2
OJC	**Ojcow**	**149.16**	**342**	*e*PKPdf	PKPdf	03 46 21.6	-0.4
OJC				*e*PKPab	PKPab	03 46 26.8	-3.9
BALT	**Daday**	**149.28**	**317**	*i* P	PKPbc	03 46 26.2	-0.4
CLZ	**Clausthal**	**149.37**	**354**	*e*PKPbc	PKPbc	03 46 26.5	-0.2
STHS	**Stebnicka Huta**	**149.44**	**340**	*e*PKP	PKPbc	03 46 27.0	+0.1
STHS				*i*		03 46 33.0	
KSP	**Ksiaz**	**149.45**	**347**	*e*PKP	PKPbc	03 46 27.0	+0.1
KSP	**Ksiaz**	**149.45**	**347**	*e*PKP2	PKPab	03 46 31.2	-0.6
KSP	**Ksiaz**	**149.45**	**347**	*e*PKPdf	PKPbc	03 46 28.0	+1.1
KSP				*e*PKPab	PKPab	03 46 31.2	-0.6
BURAR	**Bucovina Array**	**149.50**	**334⇑**	*i*P	PKPbc	03 46 28.4	+1.4
COBT	**Iskenderun**	**149.56**	**306**	*i* P	PKPbc	03 46 27.6	+0.4
CLL	**Collm**	**149.59**	**351**	*e*PKPbc	PKPbc	03 46 26.6	-0.7
CLL				*e*PKPab	PKPab	03 46 31.3	-1.1
CLL	**Collm**	**149.59**	**351**	*i* PKPbc	PKPbc	03 46 26.9	-0.4
	comp=Z,37nm,1.2s						
CLL				*e*PKPab	PKPab	03 46 32.0	-0.4
	comp=Z,72nm,1.6s						
CLL				*e*pPKPbc	pPKPbc	03 46 38.0	-1.6
CLL	**Collm**	**149.59**	**351**	*i* PKP2	PKPbc	03 46 26.9	-0.4
CLL				pmax	pmax		
	comp=Z,37nm,1.2s						
CLL				pmax	pmax		
	comp=Z,72nm,1.6s						
AVNT	**Avonos**	**149.66**	**311**	*i* P	PKPab	03 46 32.1	-0.6
RAC	**Raciborz**	**149.72**	**344**	*e*PKP	PKPbc	03 46 28.4	+0.8
NIE	**Niedzica**	**149.73**	**341**	*e*PKP	PKPdf	03 46 23.5	+0.6
ELDT	**Eldivan**	**149.81**	**315**	*i* P	PKPbc	03 46 28.7	+0.9
UPC	**Upice**	**149.82**	**347⇑**	*e*PKPB	PKPbc	03 46 27.6	-0.3
UPC				*e*PKPAB	PKPab	03 46 35.5	+2.1
BRG	**Berggiesshubel**	**149.86**	**350**	*e*PKPbc	PKPbc	03 46 27.9	0.0
BRG	**Berggiesshubel**	**149.86**	**350**	*e*PKP	PKPdf	03 46 23.4	+0.3
	comp=Z,12nm,1.9s						
BRG				*i*		03 46 29.2	
	comp=Z,36nm,1.8s						
BRG				*i*		03 47 28.0	
BRG							
	comp=N,109nm,19.0s						
BRG							
	comp=E,56nm,22.2s						
BRG							
	comp=Z,123nm,18.2s						
BRG	**Berggiesshubel**	**149.86**	**350**	*e*PKHKP	PKPdf	03 46 23.5	+0.4
BRG				*i*		03 46 29.2	
BRG				pmax	pmax		
	comp=Z,12nm,1.9s						
BRG				pmax	pmax		
	comp=Z,36nm,1.8s						
BRG				MLR	MLR		
	comp=N,109nm,19.0s,MS4.7						
BRG				MLR	MLR		
	comp=E,56nm,22.2s,MS4.7						
BRG				MLR	MLR		
	comp=Z,123nm,18.2s,MS4.7						
DPC	**Dobruska-Polom**	**149.91**	**347⇑**	*e*PKPB	PKPbc	03 46 27.4	-0.7
DPC				AMS	AMS	05 02 10.0	
	comp=Z,300nm,14.0s						
OKC	**Ostrava-Krasne**	**149.95**	**344⇑**	*e*PKPB	PKPbc	03 46 28.6	+0.4
OKC				AMS	AMS	04 54 10.0	
	comp=Z,400nm,17.0s						
CFR	**Carcaliu**	**150.00**	**328⇓**	*i*P	PKPbc	03 46 28.2	-0.1
BR131	**Keskin Array S**	**150.05**	**314**	*e*PKPbc	PKPbc	03 46 28.8	+0.4
BRTR	**Keskin Array B**	**150.05**	**314**	PKP	PKPdf	03 46 22.7	-0.7
	comp=Z,0.6nm,0.8s,baz=48,slow=2.1,SNR=4.4						
BRTR				PKPbc	PKPbc	03 46 28.6	+0.3
	comp=Z,11nm,0.8s,baz=143,slow=1.7,SNR=37						
PVCC	**Panska Ves**	**150.09**	**349⇑**	*e*PKPB	PKPbc	03 46 29.0	+0.5
MORC	**Moravsky Berou**	**150.16**	**345**	*e*PKPdf	PKPdf	03 46 23.8	+0.2
MORC				*e*PKPbc	PKPbc	03 46 28.7	0.0
VRI	**Vrincioaia**	**150.18**	**330⇓**	*i*P	PKPbc	03 46 29.0	+0.3
UBBA	**Unterbreizbach**	**150.41**	**355**	*e*PKPbc	PKPbc	03 46 28.9	-0.4
MOX	**Moxa**	**150.42**	**353**	*e*PKP	PKPbc	03 46 29.6	+0.3
	comp=Z,41nm,1.6s						
MOX	**Moxa**	**150.42**	**353**	*e*PKIKP	PKPbc	03 46 29.6	+0.3
MOX				pmax	pmax		
	comp=Z,41nm,1.6s						
KECS	**Kecovo**	**150.50**	**340**	*e*PKP	PKPbc	03 46 29.3	-0.2
KECS				*e*		03 46 35.9	
WERD	**Werda**	**150.52**	**352**	*e*PKPbc	PKPbc	03 46 29.2	-0.3
TANN	**Tannenbergstha**	**150.53**	**351**	*e*PKPbc	PKPbc	03 46 29.5	-0.1
ANTO	**Ankara**	**150.54**	**315**	*e*PKIKP	PKPbc	03 46 29.7	+0.1
PRU	**Pruhonice**	**150.61**	**349⇑**	*e*PKPB	PKPbc	03 46 30.0	+0.3
PRU				*e*PKPAB	PKPab	03 46 36.3	-0.3
PRU				AMS	AMS	04 55 00.0	
	comp=Z,200nm,24.7s						
SGKT	**Sivrigoynuk**	**150.65**	**317**	*i* P	PKPdf	03 46 28.5	+4.2
NKC	**Novy Kostel**	**150.71**	**351⇑**	*e*PKPB	PKPbc	03 46 30.1	+0.1
NKC				*e*PKPAB	PKPab	03 46 36.1	-0.9
MEM	**Membach**	**150.81**	**360**	PKPbc	PKPbc	03 46 31.5	+1.3
MLR	**Muntele Rosu**	**150.82**	**330⇓**	*i*P	PKPbc	03 46 31.1	+0.9
VRAC	**Vranov**	**150.82**	**346⇑**	*i*P	PKPbc	03 46 33.0	+2.8
SNF	**Seneffe**	**150.88**	**2**	PKPbc	PKPbc	03 46 29.5	-0.9
BHL	**Bhannes**	**150.90**	**302**	*e*P	PKPdf	03 46 29.4	+4.7
BCLA	**Clavier**	**150.99**	**1**	PKPab	PKPab	03 46 37.9	-0.3
BCLA				APKPab		03 46 50.2	
MANZ	**Manzenberg**	**151.00**	**352**	*e*PKPbc	PKPbc	03 46 30.9	+0.2
TREC	**Trest**	**151.08**	**347⇑**	*e*PKPB	PKPbc	03 46 30.8	-0.1
MEST	**Erdemli**	**151.10**	**308**	*i* P	PKPbc	03 46 31.5	+0.6
TNS	**Taunus Mts**	**151.12**	**357**	*e*PKPbc	PKPbc	03 46 31.7	+0.8
TNS				*e*PKPab	PKPab	03 46 38.4	-0.3
PSZ	**Piszkesteto**	**151.19**	**340⇓**	*e*pPKP/F	PKPbc	03 46 31.8	+0.7
PSZ	**Piszkesteto**	**151.19**	**340**	*e*PKPbc	PKPbc	03 46 31.6	+0.5
PSZ				*e*PKPab	PKPab	03 46 39.5	+0.5
ROTZ	**Rotzenmuhle**	**151.20**	**351**	*e*PKPbc	PKPbc	03 46 31.4	+0.3
HENT	**Hendek**	**151.24**	**318**	*i* P	PKPbc	03 46 31.5	+0.2
VOIR		**151.27**	**331⇑**	*i*P	PKPbc	03 46 34.0	+2.7
DOU	**Dourbes**	**151.30**	**2**	PKPbc	PKPbc	03 46 31.6	+0.3
DOU				APKPbc		03 46 43.3	
GIVF	**Givet**	**151.30**	**1**	*e*PKP1	PKPbc	03 46 31.1	-0.3
	comp=Z,41nm,0.9s						
BAIF	**Baives**	**151.33**	**2**	*e*PKP1	PKPbc	03 46 31.3	-0.1
	comp=Z,34nm,1.0s						
GRA1	**Grafenberg Arr**	**151.40**	**353**	*e*PKPbc	PKPbc	03 46 31.6	0.0
GRA1				*e*PKPab	PKPab	03 46 38.9	-1.0
GRF	**Grafenberg Arr**	**151.40**	**353**	*e*PKPbc	PKPbc	03 46 31.6	0.0
GRF				*e*PKPab	PKPab	03 46 38.9	-1.0
ABH	**Alteburg**	**151.50**	**358**	PKP	PKPbc	03 46 31.7	-0.1
KHC	**Kasperske Hory**	**151.61**	**349⇑**	*e*PKPB	PKPbc	03 46 32.0	-0.1
KHC				*e*PKPAB	PKPab	03 46 40.1	-0.6
RUP	**Ruppelstein**	**151.70**	**358**	PKIKP	PKPbc	03 46 33.3	+1.0
WET	**Wettzell**	**151.71**	**350**	*e*PKPbc	PKPbc	03 46 32.9	+0.6
TOD	**Tromm**	**151.71**	**356**	PKIKP	PKPbc	03 46 32.4	+0.1
ZST	**Bratislava**	**151.73**	**344**	*e*PKP	PKPab	03 46 41.4	+0.1
WLF	**Walferdange**	**151.75**	**360**	PKPbc	PKPbc	03 46 33.1	+0.7
WLF				PKPab	PKPab	03 46 41.3	0.0
SRO1	**Iza**	**151.82**	**342**	*e*PKP	PKPab	03 46 43.0	+1.3
GEC2	**GERESS Array S**	**151.86**	**349**	*e*PKPbc	PKPbc	03 46 32.9	+0.3
GEC2				*e*PKPab	PKPab	03 46 41.9	+0.1
GERES	**GERESS Array B**	**151.86**	**349**	PKPbc	PKPbc	03 46 32.4	-0.2
	comp=Z,4.6nm,0.9s,baz=338,slow=1.4,SNR=21						
ERMK	**Ermenek**	**151.98**	**309**	*i* P	PKPbc	03 46 34.4	+1.5
ESKT	**Eskisehir**	**152.00**	**316**	*i* P	PKPdf	03 46 29.8	+3.4
BORA	**Eskisehir**	**152.05**	**317**	*i* P	PKPdf	03 46 31.2	+4.8
FLN	**La Foliniere**	**152.19**	**9**	*e*PKP1	PKPbc	03 46 32.6	-0.8
	comp=Z,23nm,1.1s						
CONA	**Conrad Observa**	**152.29**	**345⇑**	*i*PKPab	PKPab	03 46 43.9	+0.3
	comp=Z,126nm,2.5s						
SOP	**Sopron**	**152.35**	**344⇓**	*e*PKP/p	PKPab	03 46 44.6	+0.8
LANF	**Langenberg**	**152.39**	**357**	PKP	PKPbc	03 46 34.1	+0.3
LDF	**La Druitiere**	**152.41**	**9**	*e*PKP1	PKPbc	03 46 33.0	-0.9
	comp=Z,53nm,1.4s						
GRR	**Gorron**	**152.50**	**10**	*e*PKP1	PKPbc	03 46 33.4	-0.7
EIL	**Elat**	**152.52**	**293**	*e*PKPbc	PKPbc	03 46 34.1	0.0
ULDT	**Uludag**	**152.73**	**319**	*i* P	PKPdf	03 46 28.1	+0.6
FUR	**Furstenfeldbru**	**152.90**	**352**	*e*PKPbc	PKPbc	03 46 36.2	+1.2
MEZF	**Maizieres J'vi**	**152.91**	**1**	*e*PKP1	PKPbc	03 46 34.8	-0.2
	comp=Z,34nm,1.2s						
CDF	**Champ du Feu**	**152.98**	**358**	*e*PKP1	PKPbc	03 46 34.9	-0.2
	comp=Z,13nm,1.0s						
ARSA	**Arzberg**	**153.00**	**345⇑**	*i*P	PKPab	03 46 46.4	-0.2
	comp=Z,93nm,2.3s						
BFO	**Black Forest**	**153.01**	**356**	*e*PKPbc	PKPbc	03 46 35.9	+0.7
BFO				*e*PKPab	PKPab	03 46 45.8	-0.8
PKSM	**Moragy**	**153.09**	**340⇓**	*i*P	PKPdf	03 46 30.8	+2.8
TKTP	**Tekketepe**	**153.13**	**314**	*i* P	PKPbc	03 46 34.9	-0.6
ECH	**Echery**	**153.18**	**358**	PKP	PKPbc	03 46 35.6	0.0
THEF	**They Montfort**	**153.19**	**360**	PKP	PKPbc	03 46 36.3	+0.7
FELD	**Feldberg im Sc**	**153.48**	**357**	PKP	PKPbc	03 46 37.8	+1.6
PERS	**Pernice**	**153.68**	**346**	*e*PKPdf	PKPab	03 46 50.6	+1.2
LOMF	**Lomont**	**154.06**	**358**	PKP	PKPbc	03 46 38.0	+0.5
SSF	**Saint Saulge**	**154.29**	**4**	*e*PKP1	PKPbc	03 46 37.8	-0.2
GRUS	**Gruza**	**154.36**	**335**	*i* PKP	PKPab	03 46 51.1	-1.2
ROBS	**Robic**	**154.40**	**348**	*e*PKPdf	PKPab	03 46 52.4	-0.1
DIVS	**Divcibare**	**154.46**	**336**	*i* PKP	PKPbc	03 46 40.2	+1.9
BOJS	**Bojanci**	**154.71**	**344**	*i* PKPdf	PKPab	03 46 54.4	+0.6
SMF	**Signal de Mont**	**154.72**	**3**	*e*PKP1	PKPbc	03 46 38.7	-0.2
BBLS	**Bajina Basta -**	**154.88**	**336**	*i* PKP		03 46 48.3	
BNI	**Bardonecchia**	**156.36**	**359**	*e*PKP2	PKPab	03 47 01.5	+0.6
ESDC	**Sonseca Array**	**159.91**	**23**	PKPab	PKPab	03 47 16.6	+0.3
	comp=Z,1.6nm,0.7s,baz=333,slow=4.6,SNR=9.5						
DBIC	**Dimbokro**	**162.10**	**143**	PKP	PKPdf	03 46 40.3	+1.1
	comp=Z,7.2nm,1.0s,baz=260,slow=4.3,SNR=4.0						
DBIC				PKPab	PKPab	03 47 25.6	-0.2
	comp=Z,6.5nm,1.1s,baz=183,slow=8.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**170.93**	**153**	PKP	PKPdf	03 46 45.6	-0.4
	comp=Z,2.7nm,1.0s,baz=342,slow=0.4,SNR=12						
TORD				PKPab	PKPab	03 48 05.4	+0.6
	comp=Z,3.3nm,1.0s,baz=243,slow=3.5,SNR=8.3						

IDC 02 03:28:01.0±7.1, 1735S×17502W, h246km±158km, mb4.2/5, mb1 4.4/6, mb1mx3.9/17, mbtmp4.9/6, MS4.7/1, Ms1 4.7/1, ms1mx3.6/14, Error ellipse: s-maj=138.3km s-min=31.3km az=67.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.63**	**43**	P	Pn	03 29 14.3	+2.2
	43nm,0.3s,baz=235,slow=12,SNR=22						
AFI				S	S	03 30 08.0	-0.6
	50nm,0.3s,baz=149,slow=22,SNR=5.5						
AFI	**Afiamalu**	**4.63**	**43**	*e*Pn	Pn	03 28 23.3	-49
	128nm,0.5s						
AFI				S	S	03 30 08.0	-0.6
DZM	**Mont Dzumac**	**18.07**	**252**	LR	LR	03 37 08.2	
	comp=Z,2μm,18.2s,baz=96,slow=30						
URZ	**Urewera**	**21.95**	**197**	P	P	03 32 35.0	+0.2
	16nm,0.4s,baz=14,slow=4.2,SNR=11						
CTA	**Charters Tower**	**36.73**	**260**	P	P	03 34 44.8	-0.1
	1.9nm,0.5s,baz=92,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**41.74**	**241**	P	P	03 35 25.5	-0.6
	13nm,0.6s,baz=94,slow=8.9,SNR=12						
STKA	**Stephens Creek**	**41.74**	**241**	*i*	P	03 35 25.5	-0.6
WRA	**Warramunga Arr**	**47.91**	**259**	P	P	03 36 15.3	+0.6
	8.7nm,1.1s,baz=100,slow=7.2,SNR=8.3						
ASAR	**Alice Springs**	**48.05**	**254**	P	P	03 36 16.5	+0.8
	26nm,0.6s,baz=89,slow=8.1,SNR=26						

*CSEM **02** 03:43:52.8±0.9, 3898N×2787W, h7km±6km, ML1.6, Error ellipse: s-maj=5.0km s-min=2.2km az=164.0, After PDA*
*PDA **02** 03:43:52.8±0.9, 3898N×2787W, h7km±6km, MD3.3, ML1.6, Error ellipse: s-maj=5.0km s-min=2.2km az=164.0*

SVSA 02 03:43:52.8±0.9, 3898N×2787W, h7km±6km, MD3.3, ML1.6, Error ellipse: s-maj=5.0km s-min=2.2km az=164.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.14**	**313**	*e*S	Sg	03 43 57.6	-0.3
STGR							
	84nm,0.1s						
SRBC	**Serra Branca**	**0.15**	**292**	*e*P	Pg	03 43 55.6	-0.3
SRBC				*e*S	Sg	03 43 58.0	+0.1
PVIA	**Vitoria**	**0.17**	**301**	*e*S	Sg	03 43 58.6	+0.1
PVIA							
	20nm,0.1s						
PAMA	**Santo Amaro**	**0.39**	**219**	*e*P	Pg	03 43 59.5	-0.8
PAMA				*e*S	Sg	03 44 04.7	-0.7
PAMA							
	72nm,0.1s						
ROSA	**Rosais**	**0.39**	**228**	*e*P	Pg	03 43 59.5	-0.9
ROSA				*e*S	Sg	03 44 04.7	-0.9
ASBA	**Santa Barbara**	**0.50**	**121**	*e*S	Sg	03 44 07.5	-1.4
ASBA							
	12nm,0.1s						
PBIS	**Biscoitos**	**0.53**	**114**	*e*S	Sg	03 44 08.5	-1.4
PBIS							
	20nm,0.1s						
PPAD	**Pico dos Padre**	**0.53**	**122**	*e*S	Sg	03 44 08.8	-1.2
PPAD							
	6.3nm,0.1s						
PID	**Ribeirinha**	**0.57**	**200**	*e*P	Pg	03 44 02.7	-1.1
PID				*e*S	Sg	03 44 09.6	-1.7
PVNV	**Vila Nova**	**0.60**	**111**	*erx*		03 44 11.8	
RIB2	**Ribeirinha**	**0.62**	**119**	*erx*		03 44 11.7	
PICO	**Pico**	**0.65**	**223**	*e*P	Pg	03 44 03.4	-1.9
PICO				*e*S	Sg	03 44 12.0	-1.7
PFAV	**Pico das Favas**	**0.67**	**114**	*e*S	Sg	03 44 12.1	-2.2
PFAV							
	9.4nm,0.1s						
PLUZ	**Luz**	**0.87**	**273**	*e*P	Pg	03 43 55.0	-14
PLUZ				*e*S	Sg	03 43 56.5	-24
PLUZ							
	127nm,0.2s						

KRSC 02 03:49:10.9±1.5, 4993N×15637E, h14km±17km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.77**	**348**	*e*P		03 49 26.0	
SKR				*e*S		03 49 38.0	
ALID	**Alaid**	**1.08**	**331**	P		03 49 31.0	
PAU	**Pauzhetka**	**1.56**	**10**	P		03 49 39.9	
PAU				*e*S		03 50 00.6	
PAU				Smax			
	140nm,0.2s						
GRL	**Gorelyy**	**2.83**	**22**	*e*P		03 49 57.5	
RUS	**Russkaya**	**2.85**	**27**	*e*P		03 49 57.1	
RUS				*e*S		03 50 29.9	
AVH	**Avacha**	**3.65**	**23**	*e*P		03 50 08.8	

*IDC **02** 04:37:26.5±1.3, 3413N×2628E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.5/23, mbtmp3.5/7, ML3.5/3, Error ellipse: s-maj=27.5km s-min=20.4km az=160.0*
*CSEM **02** 04:37:27.4±0.1, 3409N×2617E, h2km, mb4.0/3, Error ellipse: s-maj=6.5km s-min=2.9km az=85.0*
*NEIC **02** 04:37:28.3, 3413N×2609E, h24km, mb4.0/3, MD3.6(ATH), After ATH.*
*ISCJB **02** 04:37:28.6±1.8, 3409N±003×2637E±005, h30km±16km, mb3.8/7, Error ellipse: s-maj=6.8km s-min=4.8km az=123.5*
*HLW **02** 04:37:28.1, 3437N×2637E, h33km, Mb3.3*
*ATH **02** 04:37:28.3, 3413N×2609E, h24km, MD3.6/4*

ISC 02 04:37:29.7±1.9, 3413N±003×2629E±005, h22km±17km, n32, σ0°93/40, mb3.8/7, 6C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.89**	**327**	*e*PN	**Pn**	**04 37 44.0**	**-2.9**
NPS	**Neapolis**	**1.26**	**334**	*e*PN	**Pn**	**04 37 51.0**	**-1.0**
KARP	**Karpathos**	**1.58**	**27**	*e*PN	**Pn**	**04 37 58.0**	**+1.6**
IDI	**Anoyia**	**1.63**	**315**	Pn	**Pn**	**04 37 58.4**	**+1.3**
	6.8nm,0.3s,baz=128,slow=11,SNR=21						
GVD	**Gavdhos**	**1.95**	**292**	*e*Pn	**Pn**	**04 38 00.7**	**-0.8**
GVD				*e*Sn	**Sn**	**04 38 26.0**	**+0.6**
GVD	**Gavdhos**	**1.95**	**292**	*e*Pn	**Pn**	**04 38 00.7**	**-0.8**
GVD				*e*Sn	**Sn**	**04 38 26.0**	**+0.7**
SANT	**Santorini**	**2.34**	**343**	*e*Pn	**Pn**	**04 38 06.8**	**0.0**
SANT				*e*Sn	**Sn**	**04 38 36.4**	**+1.6**
SANT	**Santorini**	**2.34**	**343**	*e*Pn	**Pn**	**04 38 06.8**	**0.0**
SANT				*e*Sn	**Sn**	**04 38 36.4**	**+1.6**
APE	**Apeiranthos**	**3.00**	**348**	*e*PN	**Pn**	**04 38 16.0**	**+0.1**
SWA1		**4.88**	**186**	⇓P	**Pn**	**04 38 42.7**	**+1.0**
SWA1				S	**Sn**	**04 39 37.6**	**+0.2**
SWA2		**4.92**	**189⇑**	*e*P	**Pn**	**04 38 43.5**	**+1.2**
SWA2				S	**Sn**	**04 39 38.5**	**-0.1**
KOT	**Kottamia**	**6.30**	**130**	⇑P	**Pn**	**04 39 00.9**	**-0.3**
KOT				S	**Sn**	**04 40 08.1**	**-4.4**
GLL	**Jalalah**	**6.47**	**133**	⇑P	**Pn**	**04 39 03.6**	**+0.1**
AMAG	**Maghara**	**6.80**	**119**	⇑P	**Pn**	**04 39 07.3**	**-0.9**
HFRF	**Wahat Farafira**	**7.17**	**165⇑**	*e*P	**Pn**	**04 39 13.9**	**+0.7**
MMAI	**Mount Meron Ar**	**7.69**	**96**	Pn	**Pn**	**04 39 20.1**	**-0.2**
	0.8nm,0.3s,baz=192,slow=20,SNR=4.6						
MMAI				Sn	**Sn**	**04 40 46.6**	**0.0**
	1.6nm,0.3s,baz=265,slow=16,SNR=4.3						
BRTR	**Keskin Array B**	**8.11**	**44**	Pn	**Pn**	**04 39 26.9**	**+0.8**
	0.1nm,0.3s,baz=225,slow=12,SNR=4.2						
**

5.6nm,0.1s,SNR=4.0
STS Lg 06 05 28.7
5.5nm,0.1s,SNR=7.9
EMAZ Mazaricos 0.95 308 Pg Pg 06 05 22.1 -0.1
2.8nm,0.1s,SNR=8.1
EMAZ Lg 06 05 35.0
8.0nm,0.2s,SNR=7.6
ECAL Calabor 1.00 115 Pg Pg 06 05 22.7 -0.4
2.6nm,0.1s,SNR=21
ECAL Lg 06 05 37.1
7.4nm,0.2s,SNR=8.4
PBRG Braganca 1.06 121 *e*P Pg 06 05 24.0 -0.3
PBRG *e*S Sg 06 05 39.0 +0.9
PBRG
3.8nm,0.2s
PVRL Vila Real 1.10 171 *e*P Pg 06 05 24.9 -0.2
PVRL *e*S Sg 06 05 40.0 +0.6
PVRL
12nm,0.1s
EPON Pontenova 1.13 31 Pg Pg 06 05 24.5 -1.1
1.0nm,0.1s,SNR=7.5
EPON Lg 06 05 39.6
1.8nm,0.2s
PVIS Viseu 1.65 178 *e*Sg Sg 06 05 56.8 -0.1
PVIS
3.7nm,0.1s
MTE Manteigas 1.99 171 *e*Sg Sg 06 06 07.3 -0.5
EARI Arriondas 2.23 64 Pg Pg 06 05 41.3 -5.3
0.3nm,0.1s,SNR=4.0

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*ISCJB **02** 06:41:29.6±2.3,30.1S±0.1×1768W±02,h49km±17km, mb4.2/5,Error ellipse: s-maj=29.3km s-min=17.8km az=146.5*
*NEIC **02** 06:41:30.7±1.9,2991S×17675W,h46km±14km,mb4.5/2, Error ellipse: s-maj=21.4km s-min=15.0km az=76.0*
*IDC **02** 06:41:30.2±3.7,2999S×17664W,h43km±29km,mb3.9/4, mb1 4.1/5,mb1mx3.9/14,mbtmp4.1/5,ML3.1/1,Error ellipse: s-maj=31.7km s-min=23.3km az=60.0*
ISC 02 06:41:30.7±2.4,300S±01×1767W±02,h45km±17km,n16, σ0982/12,mb4.2/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.29**	**303**	P	**Pn**	**06 41 50.7**	**-1.5**
	143nm,0.3s,baz=72,slow=22,SNR=12						
RAO				S	**Sn**	**06 42 09.0**	**+0.7**
	469nm,0.3s,baz=206,slow=23,SNR=9.3						
RAO	**Raoul Island**	**1.29**	**303**	P	**Pn**	**06 41 50.7**	**-1.5**
RAO				S	**Sn**	**06 42 09.0**	**+0.7**
URZ	**Urewera**	**9.74**	**210**	P	**Pn**	**06 43 49.0**	**+0.9**
	0.2nm,0.3s,baz=216,slow=23,SNR=1.8						
TCW	**Tory Channel**	**13.41**	**211**	SN	Sx	06 47 43.6	
NNZ	**Nelson**	**13.83**	**213**	SN	Sx	06 47 51.1	
THZ	**Tophouse**	**14.47**	**213**	*e*SN	Sx	06 48 06.6	
MQZ	**McQueen's Vall**	**16.14**	**209**	*e*SN	Sx	06 48 41.2	
STKA	**Stephens Creek**	**35.69**	**256**	P	**P**	**06 48 25.0**	**+0.4**
	5.0nm,0.9s,mb4.4,baz=100,slow=8.6,SNR=5.9						
PMG	**Port Moresby**	**39.47**	**294**	*e*P	pP	06 49 03.1	-5.7
	6.7nm,0.8s						
ASAR	**Alice Springs**	**44.28**	**266**	P	**P**	**06 49 35.6**	**-0.1**
	1.6nm,0.8s,mb3.8,baz=110,slow=7.8,SNR=14						
WB2	**Warramunga Arr**	**45.22**	**271**	*e*P	**P**	**06 49 43.0**	**-0.3**
WRAB	**Tennant Creek**	**45.22**	**271**	*e*P	**P**	**06 49 43.7**	**+0.4**
	5.1nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**45.23**	**271**	P	**P**	**06 49 43.0**	**-0.4**
	3.8nm,1.1s,mb4.2,baz=110,slow=6.2,SNR=21						
QSPA	**South Pole Qui**	**60.15**	**180**	*e*P	**P**	**06 51 32.4**	**-1.2**
NVAR	**Mina Array Bea**	**87.15**	**42**	P	**P**	**06 54 13.0**	**+1.1**
	0.8nm,0.9s,mb3.9,baz=213,slow=8.0,SNR=4.0						
AKASG	**Malin Array Be**	**151.63**	**324**	PKPbc	PKPbc	07 01 19.1	-0.9
	0.4nm,0.4s,baz=38,slow=1.9,SNR=3.2						

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*IDC **02** 06:59:36.6±0.5,2000S×17385W,h0km,mb4.6/17, mb1 4.8/18,mb1mx4.7/21,mbtmp4.6/18,ML5.2/2,MS4.4/4, Ms1 4.4/4,ms1mx3.8/31,Error ellipse: s-maj=20.1km s-min=14.1km az=135.0*
*ISCJB **02** 06:59:39.6±0.2,2017S±005×17381W±005,h29km, mb4.8/67,MS4.5/12,Error ellipse: s-maj=8.1km s-min=4.7km az=102.9*
*SZGRF **02** 06:59:40.9,2072S×17393W,h30km,Tonga Islands*
*MOS **02** 06:59:40.4±1.0,2014S×17390W,h33km,mb5.1/26,Error ellipse: s-maj=12.9km s-min=8.7km az=54.1*
*HRVD **02** 06:59:41.3±0.2,2018S×173.14W,h16km,MW5.2/83, Centroid moment Tensor Solution. LP body waves: s49,c70;Mantle waves: s83,c129; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.03±.22; $M_{\theta\theta}$1.53±.16; $M_{\phi\phi}$4.50±.17; $M_{r\theta}$-1.52±.47; $M_{\theta\phi}$2.65±.12; $M_{\phi r}$-2.79±.47; Best double couple: $M_0$6.82600×10^{16} NP1:ϕ_s211.00000°,δ31.00000°,λ-89.00000°. NP2: ϕ_s30.00000°,δ59.00000°,λ-91.00000°. Principal axes: T 6.8370, Plg14.0000°, Azm120.0000°; N -0.0210, Plg1.0000°, Azm30.0000°; P -6.8150, Plg76.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **02** 06:59:41.4,2045S×17390W,h41km,mB5.4,mb5.1,Ms5.1, Msz4.8*
*NEIC **02** 06:59:41.3±0.2,2007S×17384W,mb4.8/42,Error ellipse: s-maj=8.7km s-min=4.2km az=138.0*
ISC 02 06:59:41.5±0.2,2019S±005×17372W±004,h31km, h31km±.7km:pP-P,n236,σ0995/150,mb4.8/67,MS4.5/12, 21C-3D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.51**	**17**	Pn	**Pn**	**07 01 07.8**	**-7.4**
	16nm,0.3s,baz=86,slow=3.3,SNR=34						
AFI				Sn	**Sn**	**07 02 16.6**	**-12**
	26nm,0.3s,baz=15,slow=13,SNR=2.0						
AFI				T		07 07 41.8	
	16nm,0.3s,baz=120,slow=12,SNR=7.3						
AFI	**Afiamalu**	**6.51**	**17**	*e*Pn	**Pn**	**07 01 08.4**	**-6.8**
	437nm,0.8s						
RAO	**Raoul Island**	**9.80**	**202**	Pn	**Pn**	**07 01 59.3**	**-1.0**
	59nm,0.3s,baz=80,slow=23,SNR=4.2						
RAO				Sn	**Sn**	**07 03 45.4**	**-3.8**
	27nm,0.3s,baz=271,slow=24,SNR=3.1						
RAO	**Raoul Island**	**9.80**	**202**	Pn	**Pn**	**07 01 59.3**	**-1.0**
RAO				Sn	**Sn**	**07 03 45.4**	**-3.8**
RAR	**Rarotonga**	**13.10**	**97**	Pn	**Pn**	**07 02 35.4**	**-10**
	6.9nm,0.3s,baz=253,slow=9.5,SNR=26						
RAR				Sn	Sn	07 04 47.9	-22
	1.0nm,0.3s,baz=275,slow=24,SNR=2.6						
RAR				LR	LR	07 07 01.7	
	comp=Z,2μm,19.5s,baz=224,slow=34						
DZM	**Mont Dzumac**	**18.60**	**261**	P	**Pn**	**07 03 57.9**	**+1.3**
	1.5nm,0.3s,baz=86,slow=15,SNR=32						
URZ	**Urewera**	**19.69**	**202**	P	**Pn**	**07 04 09.9**	**+0.2**
	2.6nm,0.3s,baz=341,slow=5.4,SNR=6.0						
URZ				S	**Sn**	**07 07 39.8**	**-10**
	1.0nm,0.3s,baz=57,slow=13,SNR=2.6						
TBI	**Tubuai**	**22.75**	**102**	*e*LQ		07 08 57.6	
	2μm,26.2s						
TBI	**Tubuai**	**22.75**	**102**	*e*P	**P**	**07 04 38.6**	**-2.4**
	260nm,1.4s,mb5.5						
TBI				*e*LR	LR	07 09 42.1	
	2μm,33.0s						
PAE	**Paea**	**22.97**	**88**	*e*P	**P**	**07 04 43.0**	**-0.4**
	65nm,1.2s,mb4.9						
PPT	**Papeete**	**22.99**	**88**	*e*P	**P**	**07 04 43.1**	**-0.5**
	54nm,1.2s,mb4.8						
PPT	**Papeete**	**22.99**	**88**	*e*LQ		07 09 00.2	
	4μm,24.8s						
PPT				*e*LR	LR	07 09 59.6	
	1μm,21.0s						
PPT	**Papeete**	**22.99**	**88**	LR	LR	07 12 44.6	
	comp=Z,2μm,18.1s,MS4.5,baz=258,slow=34						
SNZO	**South Karori**	**23.24**	**203**	*e*P	**P**	**07 04 46.4**	**+0.2**
	13nm,0.5s,mb4.6						
TVO	**Taravao**	**23.26**	**88**	*e*P	**P**	**07 04 45.5**	**-1.0**
	114nm,1.3s,mb5.1						
QRZ	**Quartz Range**	**23.68**	**207**	PN	**P**	**07 04 50.5**	**-0.1**
LTZ	**Lake Taylor**	**25.43**	**205**	PN	**P**	**07 05 05.7**	**-0.7**
RPZ	**Rata Peaks**	**26.69**	**205**	P	**P**	**07 05 17.0**	**-0.9**
	3.7nm,0.5s,mb4.2,baz=50,slow=11,SNR=3.3						
HNR	**Honiara**	**27.56**	**289**	LR	LR	07 14 33.8	
	comp=Z,388nm,18.7s,MS4.0,baz=177,slow=33						
ARMA	**Armidale**	**32.83**	**245**	*e*P	**P**	**07 06 13.3**	**+1.1**
CNB	**Canberra Magne**	**35.75**	**237**	*e*P	**P**	**07 06 37.8**	**+0.3**
	20nm,0.8s,mb5.1						
RKT	**Rikitea**	**36.07**	**102**	*e*S	**S**	**07 12 14.7**	**-2.8**
	222nm,30.0s						
RKT				*e*LR	LR	07 15 48.3	
	1μm,31.5s						
CTA	**Charters Tower**	**37.51**	**263**	⇑*i*P	**P**	**07 06 52.2**	**-0.4**
	12nm,0.4s,mb5.0						
CTA	**Charters Tower**	**37.51**	**263**	P	**P**	**07 06 51.1**	**-1.4**
	14nm,0.5s,mb5.0,baz=86,slow=10.0,SNR=36						
CTA	**Charters Tower**	**37.51**	**263**	P	**P**	**07 06 51.1**	**-1.5**
CTA				pmax	pmax		
	comp=Z,14nm,0.5s						
CTAO	**Charters Tower**	**37.51**	**263**	*e*P	**P**	**07 06 52.2**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.0						
CTAO	**Charters Tower**	**37.51**	**263**	*e*P	**P**	**07 06 52.2**	**-0.3**
	comp=Z,13nm,0.4s,mb5.0						
PMG	**Port Moresby**	**39.21**	**280**	P	**P**	**07 07 05.7**	**-1.1**
	comp=Z,23nm,0.7s,mb5.0,baz=30,slow=3.0,SNR=9.4						
PMG	**Port Moresby**	**39.21**	**280**	*e*P	**P**	**07 07 06.5**	**-0.4**
PMG				pmax	pmax		
	comp=Z,27nm,0.8s						
PMG	**Port Moresby**	**39.21**	**280**	*e*P	**P**	**07 07 06.5**	**-0.4**
	comp=Z,28nm,0.8s,mb5.0						
TOO	**Toolangi**	**39.34**	**235**	*e*P	**P**	**07 07 07.9**	**0.0**
	comp=Z,17nm,1.0s,mb4.7						
TOO	**Toolangi**	**39.34**	**235**	*e*P	**P**	**07 07 07.9**	**0.0**
TOO				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
TAU	**Tasmania Unive**	**39.70**	**226**	*e*P	**P**	**07 07 10.9**	**-0.1**
STKA	**Stephens Creek**	**41.54**	**244**	⇑*i*P	**P**	**07 07 23.6**	**-2.5**
	comp=Z,14nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**41.54**	**244**	P	**P**	**07 07 24.0**	**-2.1**
	comp=Z,14nm,0.8s,mb4.6,baz=88,slow=9.4,SNR=22						
STKA				LR	LR	07 22 29.6	
	comp=Z,438nm,18.2s,MS4.4,baz=64,slow=33						
AS31	**Alice Springs**	**48.49**	**256**	*e*P	**P**	**07 08 21.1**	**-0.3**
ASAR	**Alice Springs**	**48.49**	**256**	P	**P**	**07 08 20.8**	**-0.6**
	comp=Z,13nm,0.9s,mb5.0,baz=87,slow=8.3,SNR=92						
ASAR				PcP	PcP	07 09 48.7	+1.6
	comp=Z,6.2nm,0.9s,baz=102,slow=3.8,SNR=9.4						
ASPA	**Alice Springs**	**48.49**	**256**	*e*P	**P**	**07 08 21.1**	**-0.3**
WB2	**Warramunga Arr**	**48.60**	**261**	⇑*i*P	**P**	**07 08 21.4**	**-0.8**
WRAB	**Tennant Creek**	**48.61**	**261**	*e*P	**P**	**07 08 21.0**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.3						
WRAB	**Tennant Creek**	**48.61**	**261**	*e*P	**P**	**07 08 21.0**	**-1.2**
	comp=Z,46nm,1.3s,mb5.3						
WRA	**Warramunga Arr**	**48.62**	**261**	P	**P**	**07 08 20.5**	**-1.9**
	comp=Z,4.6nm,0.3s,mb4.9,baz=94,slow=6.8,SNR=197						
WRA				PcP	PcP	07 09 48.1	+0.5
	comp=Z,5.5nm,0.9s,baz=95,slow=3.8,SNR=6.5						
WRA				S	**S**	**07 15 24.1**	**+1.8**
	comp=Z,0.6nm,0.9s,baz=88,slow=13,SNR=3.6						
KAKA	**Kakadu**	**51.98**	**269**	*e*P	**P**	**07 08 47.1**	**-0.7**
	comp=Z,20nm,0.8s,mb5.1						
FORT	**Forrest**	**53.10**	**246**	⇑*i*P	**P**	**07 08 55.5**	**-0.6**
	comp=Z,19nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**57.04**	**261**	*e*P	**P**	**07 09 24.6**	**0.0**
	comp=Z,5.8nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**57.04**	**261**	P	**P**	**07 09 24.7**	**+0.1**
	comp=Z,2.9nm,0.5s,mb4.6,baz=91,slow=7.7,SNR=24						
SBA	**Scott Base**	**58.48**	**185**	*e*P	**P**	**07 09 36.3**	**+1.6**
SBA				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
SBA	**Scott Base**	**58.48**	**185**	*e*P	**P**	**07 09 36.3**	**+1.6**
	comp=Z,12nm,0.8s,mb5.0						
VNDA	**Vanda**	**58.61**	**186**	P	**P**	**07 09 36.9**	**+1.3**
	comp=Z,5.9nm,0.9s,mb4.6,baz=7.5,slow=6.6,SNR=25						
VNDA	**Vanda**	**58.61**	**186**	*e*P	**P**	**07 09 35.5**	**-0.1**
VNDA				*e*PP	pP	07 09 44.4	-0.5
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VNDA	**Vanda**	**58.61**	**186**	*e*P	**P**	**07 09 35.5**	**0.0**
	comp=Z,5.8nm,0.9s,mb4.6						
VNDA				*e*pP	pP	07 09 44.4	-0.5
KLBR	**Kellerberrin**	**61.81**	**244**	⇑*i*P	**P**	**07 09 58.2**	**+0.7**
	comp=Z,22nm,0.8s,mb5.3						
MBWA	**Marble Bar**	**61.83**	**256**	*e*P	**P**	**07 09 57.6**	**0.0**
	comp=Z,3.6nm,0.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**62.09**	**243**	*e*P	**P**	**07 09 59.1**	**-0.2**
MUN	**Mundaring**	**63.07**	**244**	*e*P	**P**	**07 10 06.5**	**+0.6**
CASY	**Casey**	**65.97**	**205**	*e*P	**P**	**07 10 26.0**	**+1.2**
QSPA	**South Pole Qui**	**69.89**	**180**	*e*P	**P**	**07 10 50.9**	**+1.5**
	comp=Z,11nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**72.41**	**321**	P	**P**	**07 11 04.4**	**-0.3**
	comp=Z,9.1nm,0.7s,mb4.8,baz=159,slow=6.0,SNR=23						
MAJO	**Matsushiro**	**72.41**	**321**	*e*P	**P**	**07 11 04.9**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**72.41**	**321**	*e*P	**P**	**07 11 04.9**	**+0.1**
	comp=Z,10nm,0.8s,mb4.8						
MAT	**Matsushiro**	**72.41**	**321**	P	**P**	**07 11 04.7**	**0.0**
MAT				*e*S	S	07 20 20.8	-5.7
MAT	**Matsushiro**	**72.41**	**321**	*e*P	**P**	**07 11 05.0**	**+0.3**
MAT				S	S	07 20 21.0	-5.5
MAT				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
MAT	**Matsushiro**	**72.41**	**321**	*e*P	**P**	**07 11 05.0**	**+0.3**
	comp=Z,20nm,1.2s,mb4.9						
MAT				S	S	07 20 21.0	-5.5
ISA	**Isabella**	**76.30**	**44**	*e*P	**P**	**07 11 30.1**	**+2.8**
CMB	**Columbia Colle**	**76.56**	**41**	*e*P	**P**	**07 11 29.0**	**+0.2**
OHCM	**Honcut**	**76.73**	**39**	*e*P	**P**	**07 11 29.6**	**-0.2**
PET	**Petropavlovsk**	**76.74**	**343**	*e*P	**P**	**07 11 31.0**	**+1.2**
PET				*e*S	S	07 21 17.0	+2.2
PET				*e*PS		07 21 57.7	
PET				pmax	pmax		
	comp=Z,100nm,12.1s						
PET				pmax	pmax		
	comp=Z,100nm,11.7s						
PET				smax			
	comp=N,200nm,13.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.8						
KSM	**Kuching**	**77.35**	**276**	*e*P	**P**	**07 11 33.8**	**+0.5**
YSS	**Yuzh-Sakhalins**	**77.48**	**331**	*e*P	**P**	**07 11 34.0**	**0.0**
YSS				*e*		07 11 47.0	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
NVAR	**Mina Array Bea**	**78.09**	**41**	P	**P**	**07 11 37.0**	**-0.4**
	comp=Z,3.4nm,0.7s,mb4.4,baz=216,slow=7.6,SNR=30						
MNV	**Mina**	**78.18**	**41**	*e*P	**P**	**07 11 38.0**	**+0.1**
MNV				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
MNV	**Mina**	**78.18**	**41**	*e*P	**P**	**07 11 38.0**	**+0.1**
	comp=Z,10nm,1.3s,mb4.6						
PAHR	**Pah Rah Range**	**78.22**	**40**	*e*P	**P**	**07 11 38.4**	**+0.3**
	comp=Z,20nm,1.6s,mb4.8						
TPNV	**Topopah Spring**	**78.50**	**44**	*e*P	**P**	**07 11 40.1**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
TPNV	**Topopah Spring**	**78.50**	**44**	*e*P	**P**	**07 11 40.0**	**+0.4**
	comp=Z,10nm,1.2s,mb4.6						
TPH	**Tonopah**	**78.55**	**42**	*e*P	**P**	**07 11 39.2**	**-0.8**
TPH				pmax	pmax		
	comp=Z,25nm,1.9s,mb4.8						
TPH	**Tonopah**	**78.55**	**42**	*e*P	**P**	**07 11 39.2**	**-0.8**
	comp=Z,25nm,1.9s,mb4.8						
MOD	**Modoc**	**79.07**	**38**	*e*P	**P**	**07 11 42.7**	**-0.1**
	comp=Z,6.2nm,1.0s,mb4.5						
TUC	**Tucson**	**79.67**	**50**	*e*P	**P**	**07 11 46.7**	**+0.7**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
TUC	**Tucson**	**79.67**	**50**	*e*P	**P**	**07 11 46.7**	**+0.7**
	comp=Z,7.3nm,1.0s,mb4.6						
SSE	**Sheshan**	**80.61**	**308**	P	**P**	**07 11 52.0**	**+0.8**
SSE				AP	pP	07 12 01.7	+0.8
SSE				XP	sP	07 12 05.4	+1.0
SSE				S	S	07 21 57.6	+1.4
SSE				XS	sS	07 22 13.6	+1.3
SSE				SS	SS	07 27 10.7	+1.6
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,450nm,4.2s						
SSE				LR	LR		
	comp=N,50nm,20.0s,MS4.2						
SSE				LR	LR		
	comp=E,110nm,20.0s,MS4.2						
SSE				LR	LR		
	comp=Z,160nm,20.0s,MS4.4						
ARUT	**Antelope Range**	**80.81**	**44**	*e*P	**P**	**07 11 52.8**	**+0.6**
ARUT				*e*PP	pP	07 12 02.3	+0.3
MSU	**Marysvale**	**82.05**	**44**	*e*P	**P**	**07 12 00.1**	**+1.3**
MDJ	**Mudanjiang**	**82.62**	**323**	P	**P**	**07 12 03.0**	**+1.2**
MDJ				PP	PP	07 15 12.4	+0.9
MDJ				S	S	07 22 20.7	+3.7
MDJ				SS	SS	07 27 41.5	+2.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,150nm,7.3s						
MDJ				LR	LR		
	comp=N,110nm,29.4s,MS4.3						
MDJ				LR	LR		
	comp=E,160nm,30.8s,MS4.3						
MDJ				LR	LR		
	comp=Z,250nm,31.2s,MS4.4						
NJ2	**Nanjing**	**82.81**	**308**	*e*P	**P**	**07 12 02.4**	**-0.4**
NJ2				AP	pP	07 12 12.9	+0.4
NJ2				XP	sP	07 12 16.6	+0.6
NJ2				PP	PP	07 15 15.1	+2.0
NJ2				S	S	07 22 16.0	-2.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,210nm,5.0s						
NJ2				LR	LR		
	comp=N,960nm,24.6s,MS5.1						
NJ2				LR	LR		
	comp=E,460nm,22.0s,MS5.1						
TMUT	**Trail Mountain**	**83.11**	**44**	*e*P	**P**	**07 12 05.7**	**+1.4**
MAW	**Mawson**	**83.19**	**199**	*e*P	**P**	**07 12 05.7**	**+1.0**
	comp=E,5.3nm,0.9s,mb4.6						
MAW	**Mawson**	**83.19**	**199**	P	**P**	**07 12 05.6**	**+0.9**
	comp=E,5.7nm,0.8s,mb4.6,baz=122,slow=7.4,SNR=8.1						
MAW	**Mawson**	**83.19**	**199**	*e*P	**P**	**07 12 05.7**	**+1.0**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MNTX	**Cornudas Mount**	**83.33**	**53**	*e*P	**P**	**07 12 05.3**	**-0.1**
	comp=Z,5.1nm,1.0s,mb4.5						
SRU	**San Rafael**	**83.45**	**44**	*e*P	**P**	**07 12 07.0**	**+0.9**
SRU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
SRU	**San Rafael**	**83.45**	**44**	*e*P	**P**	**07 12 07.0**	**+0.9**
	comp=Z,6.4nm,0.7s,mb4.8						
HVU	**Hansel Valley**	**83.48**	**41**	*e*P	**P**	**07 12 06.3**	**+0.1**
HVU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
HVU	**Hansel Valley**	**83.48**	**41**	*e*P	**P**	**07 12 06.3**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.4						
HLID	**Hailey**	**83.51**	**39**	*e*P	**P**	**07 12 06.8**	**+0.4**
	comp=Z,5.0nm,0.8s,mb4.7						
BNM	**Barren Site**	**83.60**	**50**	*e*P	**P**	**07 12 07.6**	**+0.8**
LPM	**Los Pinos Moun**	**83.67**	**50**	*e*P	**P**	**07 12 08.1**	**+0.9**
PMR	**Palmer**	**83.84**	**12**	*e*P	**P**	**07 12 06.3**	**-1.8**
PMR				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
PMR	**Palmer**	**83.84**	**12**	*e*P	**P**	**07 12 06.3**	**-1.8**
	comp=Z,6.9nm,1.2s,mb4.7						
TCUT	**Toone Canyon**	**83.97**	**42**	*e*P	**P**	**07 12 09.4**	**+0.7**
TTA	**Tatalina**	**84.01**	**8**	*e*P	**P**	**07 12 08.8**	**-0.1**
TTA				pmax	pmax		
	comp=Z,33nm,1.8s,mb5.2						
TTA	**Tatalina**	**84.01**	**8**	*e*P	**P**	**07 12 08.8**	**-0.1**
	comp=Z,34nm,1.8s,mb5.2						
PV10	**Paradox Valley**	**84.05**	**46**	*e*P	**P**	**07 12 09.7**	**+0.5**
PV10				*e*pP	pP	07 12 19.1	+0.2
ANMO	**Albuquerque**	**84.11**	**50**	*e*P	**P**	**07 12 10.2**	**+0.8**
ANMO				pmax	pmax		
	comp=Z,12nm,1.1s						
ANMO	**Albuquerque**	**84.11**	**50**	*e*P	**P**	**07 12 10.2**	**+0.8**
	comp=Z,12nm,1.1s,mb4.9						
HWUT	**Hardware Ranch**	**84.14**	**42**	*e*P	**P**	**07 12 09.4**	**-0.2**
	comp=Z,4.4nm,0.9s,mb4.6						
PV01	**Paradox Valley**	**84.24**	**46**	*e*P	**P**	**07 12 10.6**	**+0.5**
PV01				*e*pP	pP	07 12 20.2	+0.4
PV01				*e*sP	sP	07 12 24.4	+1.0
CN2	**Changchun**	**84.55**	**321**	⇑P	**P**	**07 12 13.1**	**+1.4**
CN2				*e*XP	sP	07 12 26.0	+1.0
CN2				*e*S		07 22 36.3	
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,16.0s,MS5.2						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS5.2						
CN2				LR	LR		
	comp=Z,700nm,18.0s,MS5.1						
MA2	**Magadan**	**84.61**	**343**	*e*P	**P**	**07 12 10.5**	**-1.5**
MA2				*e*S		07 22 37.5	
MA2				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
MCMT	**McKenzie Canyo**	**85.16**	**39**	*e*P	**P**	**07 12 15.2**	**+0.5**
MCMT				*e*pP	pP	07 12 24.3	-0.2
SKAG	**Skagway**	**85.35**	**19**	*e*P	**P**	**07 12 15.1**	**-0.6**
REDW	**Red Top Meadow**	**85.54**	**41**	*e*P	**P**	**07 12 16.6**	**0.0**
	comp=Z,45nm,1.9s,mb5.4						
TPAW	**Teton Pass**	**85.55**	**40**	*e*P	**P**	**07 12 16.8**	**+0.1**
	comp=Z,10nm,1.3s,mb4.9						
DLMT	**Dillon**	**85.61**	**38**	*e*P	**P**	**07 12 17.0**	**0.0**
	comp=Z,4.5nm,0.8s,mb4.8						
IMW	**Indian Meadow**	**85.78**	**40**	*e*P	**P**	**07 12 18.1**	**+0.3**
	comp=Z,12nm,1.3s,mb5.0						
SMCO	**Snowmass**	**85.85**	**46**	*e*P	**P**	**07 12 18.7**	**+0.5**
	comp=Z,13nm,1.2s,mb5.0						
PDAR	**Pinedale Array**	**86.02**	**42**	P	**P**	**07 12 17.8**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.5,baz=219,slow=2.9,SNR=23						
CHMT	**Chamberlain Mo**	**86.12**	**37**	*e*P	**P**	**07 12 19.2**	**-0.3**
YMR	**Madison River**	**86.19**	**39**	*e*P	**P**	**07 12 20.4**	**+0.5**
BOZ	**Bozeman (W)**	**86.33**	**38**	*e*P	**P**	**07 12 19.8**	**-0.8**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
BOZ	**Bozeman (W)**	**86.33**	**38**	*e*P	**P**	**07 12 19.8**	**-0.8**
	comp=Z,3.1nm,0.8s

HHC				XP	sP	07 13 02.2	+1.4
HHC				PP	PP	07 16 30.8	+3.5
HHC				SKS		07 23 16.8	
HHC				S		07 23 46.0	
HHC				XS	sS	07 24 03.9	+0.2
HHC				PS	PS	07 25 06.7	+5.6
HHC				SS	SS	07 30 01.2	+4.6
HHC				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,140nm,5.3s						
HHC				LR	LR		
	comp=N,90nm,15.5s,MS4.5						
HHC				LR	LR		
	comp=E,120nm,16.6s,MS4.5						
HHC				LR	LR		
	comp=Z,50nm,17.8s,MS4.0						
KMI	**Kunming**	**92.81**	**296**	P	**P**	**07 12 52.4**	**+1.4**
KMI				AP	pP	07 13 00.7	-0.2
KMI				XP	sP	07 13 04.4	0.0
KMI				PP	PP	07 16 34.4	+1.1
KMI				SKS		07 23 21.0	
KMI				S		07 23 51.7	
KMI				XS	sS	07 24 09.2	-1.4
KMI				SS	SS	07 30 04.3	-3.3
KMI				AMB	AMB		
	comp=Z,40nm,4.1s						
KMI				LR	LR		
	comp=N,250nm,22.8s,MS4.8						
KMI				LR	LR		
	comp=E,310nm,21.8s,MS4.8						
KMI				LR	LR		
	comp=Z,270nm,20.8s,MS4.7						
INK	**Inuvik**	**92.96**	**14**	P	**P**	**07 12 49.6**	**-2.2**
	comp=Z,0.5nm,0.8s,mb4.0,baz=183,slow=2.9,SNR=4.0						
INK	**Inuvik**	**92.96**	**14**	*e*P	**P**	**07 12 50.3**	**-1.4**
	comp=Z,0.2nm,0.5s,mb3.8						
YAK	**Yakutsk**	**93.36**	**337**	*e*P	**P**	**07 12 52.9**	**-0.7**
CD2	**Chengdu**	**94.03**	**301**	*e*P	**P**	**07 12 55.8**	**-0.8**
CD2				AP	pP	07 13 04.8	-1.7
CD2				PP	PP	07 16 45.0	+2.1
CD2				SKS		07 23 26.8	
CD2				S		07 24 01.3	
CD2				SS	SS	07 30 25.3	+0.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
CD2				LR	LR		
	comp=N,80nm,18.3s						
CD2				LR	LR		
	comp=Z,80nm,19.2s,MS4.2						
YKA	**Yellowknife Ar**	**94.58**	**24**	P	**P**	**07 12 57.3**	**-1.9**
	comp=Z,0.7nm,0.8s,mb4.1,baz=240,slow=5.2,SNR=4.7						
ECSD	**EROS,Sioux Fal**	**94.84**	**45**	*e*P	**P**	**07 12 59.8**	**-0.6**
LZH	**Lanzhou**	**95.79**	**306**	*e*P	**P**	**07 13 07.0**	**+2.3**
LZH				AP	pP	07 13 15.5	+0.9
LZH				XP	sP	07 13 20.4	+2.3
LZH				PP	PP	07 17 01.0	+4.4
LZH				*e*SKS		07 23 39.2	
LZH				*e*S		07 24 17.0	
LZH				XS	sS	07 24 34.0	-2.8
LZH				SS	SS	07 30 52.0	+1.8
LZH				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,70nm,6.0s						
LZH				LR	LR		
	comp=E,240nm,18.6s						
LZH				LR	LR		
	comp=Z,320nm,19.5s,MS4.8						
LPAZ	**La Paz**	**98.45**	**111**	P	**P**	**07 13 20.0**	**+3.3**
	comp=Z,0.6nm,0.7s,mb4.2,baz=239,slow=5.7,SNR=5.3						
TIXI	**Tiksi**	**99.50**	**344**	*e*P	**P**	**07 13 20.4**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.3s,mb4.7						
MKAR	**Makanchi Array**	**113.90**	**313**	⇑*i*PKIKP	PKiKP	07 18 17.0	-0.3
AAK	**Ala-Archa**	**119.25**	**308**	*i*PKIKP	PKPdf	07 18 26.4	-1.2
CHKZ	**Chkalovo**	**121.18**	**321**	*e*PKIKP	PKPdf	07 18 30.0	-1.3
ZRNK	**Zerenda**	**122.24**	**321**	*e*PKIKP	PKPdf	07 18 32.4	-0.9
ARU	**Arti**	**127.19**	**327**	*i*PKIKP	PKPdf	07 18 42.8	0.0
ARCES	**ARCESS Array B**	**129.27**	**351**	PKP	PKPdf	07 18 45.8	-1.0
	comp=Z,2.1nm,0.9s,baz=29,slow=2.8,SNR=6.3						
AKTK	**Aktyubinsk**	**129.47**	**319**	PKP	PKPdf	07 18 47.0	-0.1
AKTO	**Aktyubinsk**	**129.47**	**319**	PKP	PKPdf	07 18 47.0	-0.1
	comp=Z,0.9nm,0.6s,baz=11,slow=0.3,SNR=5.5						
FINES	**FINESS Array B**	**136.51**	**346**	PKP	PKPdf	07 18 57.6	-2.8
	comp=Z,1.5nm,0.7s,baz=15,slow=7.2,SNR=3.3						
ANN	**Anapa**	**144.41**	**321**	⇑*i*PKIKP	PKPdf	07 19 17.5	+2.9
ANN				pmax	pmax		
	comp=Z,15nm,0.8s						
AKASG	**Malin Array Be**	**144.57**	**335**	PKP	PKPdf	07 19 12.7	-2.2
	comp=Z,10.0nm,0.6s,baz=39,slow=4.4,SNR=61						
DCN	**Croghan**	**145.29**	**14**	*e*P	PKPbc	07 19 15.0	-1.0
DLF	**Lyons Farm**	**145.50**	**14**	*e*P	PKPdf	07 19 15.0	-1.5
MARD	**Mardin**	**145.51**	**307**	*i*P	PKPdf	07 19 17.5	+1.0
DSB	**Dublin**	**145.59**	**13**	*e*PKPdf	PKPdf	07 19 16.9	+0.3
GRSN	**GIRESUNGRSN**	**145.84**	**314**	*i*P	PKPdf	07 19 15.5	-1.6
ELZG	**Elazig**	**146.39**	**310**	*i*P	PKPbc	07 19 21.6	+2.2
MALT	**Malatya**	**146.87**	**310**	⇑*i*P	PKPbc	07 19 23.0	+2.3
MALT	**Malatya**	**146.87**	**310**	*e*PKPbc	PKPbc	07 19 23.0	+2.2
KIS	**Kishinev**	**147.55**	**331**	*e*PKIKP	PKPdf	07 19 20.0	0.0
GZT	**Gaziantep**	**147.88**	**309**	*i*P	PKPbc	07 19 23.7	+0.2
OJC	**Ojcow**	**148.16**	**343**	*e*PKP	PKPbc	07 19 24.4	+0.1
CLZ	**Clausthal**	**148.24**	**355**	*e*PKPbc	PKPbc	07 19 24.5	0.0
KSP	**Ksiaz**	**148.40**	**348**	*e*PKP2	PKPab	07 19 25.7	-2.5
STHS	**Stebnicka Huta**	**148.47**	**341**	*e*PKP	PKPbc	07 19 24.6	-0.5
STHS				*e*		07 19 29.6	
STHS	**Stebnicka Huta**	**148.47**	**341**	*e*PKP	PKPbc	07 19 24.6	-0.5
STHS				*e*		07 19 29.6	
CLL	**Collm**	**148.49**	**352**	*e*PKPbc	PKPbc	07 19 25.4	+0.3
CLL	**Collm**	**148.49**	**352**	⇓*i*PKPbc	PKPbc	07 19 25.1	0.0
	comp=Z,15nm,1.1s						
CLL				*i* PKPab	PKPab	07 19 28.5	0.0
	comp=Z,38nm,1.8s						
CLL				*i* pPKPbc	pPKPbc	07 19 32.6	-2.6
CLL				*i* sPKPbc		07 19 38.9	
CLL				*i* x	x	07 19 53.4	
CLL	**Collm**	**148.49**	**352**	⇓*i*PKP2	PKPbc	07 19 25.1	0.0
CLL				pmax	pmax		
	comp=Z,15nm,1.1s						
CLL				pmax	pmax		
	comp=Z,38nm,1.8s						
GTTG	**Gvttingen**	**148.57**	**356**	*e*PKPbc	PKPbc	07 19 26.1	+0.8
BURAR	**Bucovina Array**	**148.62**	**335**	⇑*i*P	PKPbc	07 19 27.9	+2.4
NIE	**Niedzica**	**148.75**	**342**	*e*PKP	PKPbc	07 19 27.1	+1.3
UPC	**Upice**	**148.77**	**348**	⇑*e*PKPB	PKPbc	07 19 26.2	+0.3
UPC				*ep*PKP	pPKPdf	07 19 34.7	+2.6
BRG	**Berggiesshubel**	**148.78**	**351**	*e*PKPbc	PKPbc	07 19 26.0	+0.1
BRG	**Berggiesshubel**	**148.78**	**351**	*e*PKP	PKPbc	07 19 26.4	+0.5
	comp=Z,6.8nm,1.0s						
BRG				*e*		07 19 36.1	
	comp=Z,6.4nm,1.0s						
BRG	**Berggiesshubel**	**148.78**	**351**	*e*PKP2	PKPbc	07 19 26.4	+0.5
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DPC	**Dobruska-Polom**	**148.86**	**348**	⇑*e*PKPB	PKPbc	07 19 25.9	-0.2
PVCC	**Panska Ves**	**149.02**	**350**	⇑*e*PKPB	PKPbc	07 19 27.0	+0.5
MORC	**Moravsky Berou**	**149.14**	**346**	⇑*i*P	PKPbc	07 19 27.7	+0.9
MORC	**Moravsky Berou**	**149.14**	**346**	*e*PKPbc	PKPbc	07 19 27.4	+0.7
COBT	**Iskenderun**	**149.17**	**308**	*i*P	PKPdf	07 19 23.1	+0.5
MOX	**Moxa**	**149.31**	**353**	*e*PKPbc	PKPbc	07 19 27.7	+0.5
MOX	**Moxa**	**149.31**	**353**	*e*PKP	PKPbc	07 19 27.9	+0.7
WERD	**Werda**	**149.43**	**352**	*e*PKPbc	PKPbc	07 19 28.2	+0.7
BR131	**Keskin Array S**	**149.51**	**316**	*e*PKPdf	PKPdf	07 19 22.5	-0.6
KECS	**Kecovo**	**149.53**	**341**	*e*PKP	PKPbc	07 19 28.4	+0.6
PRU	**Pruhonice**	**149.54**	**349**	⇑*e*PKPB	PKPbc	07 19 28.6	+0.8
NKC	**Novy Kostel**	**149.62**	**352**	⇑*e*PKPB	PKPbc	07 19 28.3	+0.3
NKC				*ep*PKP	pPKPdf	07 19 38.2	+4.7
MANZ	**Manzenberg**	**149.90**	**352**	*e*PKPbc	PKPbc	07 19 29.5	+0.8
TNS	**Taunus Mts**	**149.98**	**357**	*e*PKPbc	PKPbc	07 19 29.4	+0.6
ANTO	**Ankara**	**149.99**	**317**	*e*PKP2	PKPbc	07 19 27.8	-1.1
MLR	**Muntele Rosu**	**150.00**	**332**	PKPbc	PKPbc	07 19 29.7	+0.8
	comp=Z,14nm,0.9s,baz=63,slow=5.9,SNR=16						
MLR	**Muntele Rosu**	**150.00**	**332**	⇓*i*P	PKPbc	07 19 29.4	+0.5
MLR	**Muntele Rosu**	**150.00**	**332**	PKP2	PKPbc	07 19 29.7	+0.8
MLR				pmax	pmax		
	comp=Z,14nm,0.9s						
TREC	**Trest**	**150.03**	**348**	⇑*e*PKPB	PKPbc	07 19 29.3	+0.3
ROTZ	**Rotzenmuhle**	**150.11**	**352**	*e*PKPbc	PKPbc	07 19 29.5	+0.3
DOU	**Dourbes**	**150.12**	**2**	PKPbc	PKPbc	07 19 29.9	+0.7
GIVF	**Givet**	**150.13**	**2**	*e*PKP1	PKPbc	07 19 29.8	+0.6
	comp=Z,32nm,0.8s						
ASF	**Jabal al Asfar**	**150.15**	**300**	PKPbc	PKPbc	07 19 31.0	+1.7
	comp=Z,4.8nm,0.7s,baz=88,slow=1.0,SNR=8.1						
ASF	**Jabal al Asfar**	**150.15**	**300**	PKP2	PKPbc	07 19 31.0	+1.8
ASF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BAIF	**Baives**	**150.15**	**3**	*e*PKP1	PKPbc	07 19 29.9	+0.7
	comp=Z,36nm,0.9s						
PSZ	**Piszkesteto**	**150.22**	**341**	⇑*ep*PKP/F	PKPbc	07 19 30.4	+1.0
GRF	**Grafenberg Arr**	**150.30**	**354**	*e*PKPbc	PKPbc	07 19 30.2	+0.6
KHC	**Kasperske Hory**	**150.53**	**350**	⇑*e*PKPB	PKPbc	07 19 30.6	+0.4
KHC				PKPAB	PKPab	07 19 36.5	-0.4
KHC	**Kasperske Hory**	**150.53**	**350**	*e*PKIKP	PKPbc	07 19 30.6	+0.4
KHC				*e*		07 19 36.5	
WLF	**Walferdange**	**150.59**	**0**	*e*PKPbc	PKPbc	07 19 31.3	+1.0
GEC2	**GERESS Array S**	**150.79**	**350**	*e*PKPbc	PKPbc	07 19 31.3	+0.5
GERES	**GERESS Array B**	**150.79**	**350**	PKPbc	PKPbc	07 19 30.7	0.0
	comp=Z,3.4nm,0.8s,baz=48,slow=2.0,SNR=19						
GERES	**GERESS Array B**	**150.79**	**350**	PKIKP	PKPbc	07 19 30.7	-0.1
GERES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FLN	**La Foliniere**	**150.97**	**9**	*e*PKP1	PKPbc	07 19 31.3	+0.1
	comp=Z,40nm,0.8s						
SGMF	**Saint Gilles**	**151.10**	**12**	*e*PKP1	PKPbc	07 19 31.3	-0.2
	comp=Z,20nm,0.9s						
LDF	**La Druitiere**	**151.19**	**9**	*e*PKP1	PKPbc	07 19 31.7	0.0
	comp=Z,30nm,0.8s						
GRR	**Gorron**	**151.28**	**10**	*e*PKP1	PKPbc	07 19 32.0	+0.1
	comp=Z,33nm,0.7s						
QUIF	**Quistinic**	**151.30**	**13**	*e*PKP1	PKPbc	07 19 31.7	-0.3
	comp=Z,23nm,1.1s						
MEZF	**Maizieres J'vi**	**151.73**	**2**	*e*PKP1	PKPbc	07 19 33.8	+0.8
CDF	**Champ du Feu**	**151.83**	**359**	*e*PKP1	PKPbc	07 19 33.8	+0.6
	comp=Z,16nm,0.9s						
BFO	**Black Forest**	**151.87**	**357**	*e*PKPbc	PKPbc	07 19 33.8	+0.5
PKSM	**Moragy**	**152.13**	**341**	⇑*i*P	PKPbc	07 19 34.2	+0.3
HAU	**Haudompre**	**152.25**	**360**	*e*PKP1	PKPbc	07 19 35.6	+1.5
	comp=Z,18nm,0.8s						
HINF	**Hinteralfeld**	**152.43**	**359**	*e*PKP1	PKPbc	07 19 34.8	+0.3
LOR	**Lormes**	**152.91**	**4**	*e*PKP1	PKPbc	07 19 36.0	+0.4
	comp=Z,7.5nm,0.7s						
SSF	**Saint Saulge**	**153.10**	**4**	*e*PKP1	PKPbc	07 19 36.6	+0.6
	comp=Z,23nm,0.9s						
AVF	**Avril sur Loir**	**153.35**	**4**	*e*PKP1	PKPbc	07 19 36.7	+0.1
	comp=Z,7.6nm,0.7s						
BGF	**Bois d'Agland**	**153.55**	**5**	*e*PKP1	PKPbc	07 19 37.4	+0.4
	comp=Z,25nm,0.9s						
CABF	**La Chapelle**	**153.64**	**0**	*e*PKP1	PKPbc	07 19 39.1	+1.9
	comp=Z,25nm,0.9s						
TORD	**Torodi Ar. Bea**	**171.74**	**147**	PKP	PKPdf	07 19 46.1	-0.9
	comp=Z,1.2nm,0.8s,baz=339,slow=1.7,SNR=6.6						

NEIC ***02*** *07:05:23.3±0.9, 5024N×1881E, h5km, MG2.5(WAR), Error ellipse: s-maj=15.7km s-min=7.0km az=5.0*
PRU ***02*** *07:05:23.0, 5030N×1877E, h0km*
WAR 02 07:05:22.6, 5025N×1886E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.60**	**93**	*e*Pg	Pg	07 05 34.4	+0.2
OJC				*e*Sg	Sg	07 05 42.8	+0.8
OKC	**Ostrava-Krasne**	**0.62**	**228**	*e*PG	Pg	07 05 34.8	+0.3
OKC				*e*SG	Sg	07 05 43.7	+1.2
	41nm,0.7s						
MORC	**Moravsky Berou**	**0.97**	**241**	*e*Pg	Pg	07 05 40.7	-0.5
MORC				*e*Sg	Sg	07 05 51.9	-1.9
NIE	**Niedzica**	**1.26**	**131**	*e*Pg	Pg	07 05 46.8	+0.1
NIE				*e*Sg	Sg	07 06 04.9	+1.8
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG	Pg	07 05 51.2	-2.6
DPC				*e*SG	Sg	07 06 13.0	-2.0
	14nm,0.5s						
KSP	**Ksiaz**	**1.74**	**291**	*e*Pg	Pg	07 05 54.9	-1.0
KSP				*e*Sg	Sg	07 06 17.3	-1.2
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*PN	Pn	07 05 56.1	+1.8
STHS				*e*SN	Sn	07 06 19.1	+1.7
STHS	**Stebnicka Huta**	**1.76**	**118**	*e*Pn	Pn	07 05 56.1	+1.8
STHS				*e*Sn	Sn	07 06 19.1	+1.7
STHS				*e*Lg		07 06 30.0	
UPC	**Upice**	**1.84**	**279**	*e*SG	Sg	07 06 19.8	-1.9
KECS	**Kecovo**	**2.07**	**148**	*e*PN	Pn	07 05 59.5	+1.0
KECS				*e*SN	Sn	07 06 25.6	+0.6
KECS	**Kecovo**	**2.07**	**148**	*e*Pn	Pn	07 05 59.5	+1.0
KECS				*e*Sn	Sn	07 06 25.6	+0.6
KECS				*e*Lg		07 06 30.0	
PRU	**Pruhonice**	**2.79**	**266**	*e*SG	Sg	07 06 47.9	-4.4
KHC	**Kasperske Hory**	**3.61**	**254**	*e*SG	Sg	07 07 16.3	-2.2
	7.2nm,0.5s						
CLL	**Collm**	**3.86**	**288**	*e*Sg	Sg	07 07 31.0	+4.3
	comp=Z,9.0nm,0.5s						

IDC 02 07:12:46.5±2.0, 2032S×17368W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/16, mbtmp4.0/6, MS4.6/3, Ms1 4.6/3, ms1mx3.5/36, Error ellipse: s-maj=116.3km s-min=23.4km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.63**	**16**	Pn	Pn	07 14 19.9	-5.3
	4.1nm,0.3s,baz=16,slow=7.0,SNR=7.4						
AFI				Sn	Sn	07 15 28.6	-13
	1.8nm,0.3s,baz=15,slow=18,SNR=2.7						
RAR	**Rarotonga**	**13.04**	**96**	Pn	Pn	07 15 47.2	-5.8
	4.5nm,0.3s,baz=253,slow=7.6,SNR=24						
DZM	**Mont Dzumac**	**18.62**	**261**	P	Pn	07 17 09.0	+3.3
	0.5nm,0.3s,baz=85,slow=18,SNR=9.4						
CTA	**Charters Tower**	**37.54**	**263**	P	P	07 20 03.1	+0.8
	3.2nm,0.4s,baz=86,slow=11,SNR=14						
STKA	**Stephens Creek**	**41.52**	**245**	P	P	07 20 34.6	-1.0
	2.0nm,0.5s,baz=82,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**48.50**	**256**	P	P	07 21 31.3	+0.2
	1.0nm,0.5s,baz=95,slow=7.5,SNR=15						
ASAR				PcP	PcP	07 22 59.0	+1.8
	1.1nm,0.8s,baz=106,slow=3.7,SNR=6.5						
WRA	**Warramunga Arr**	**48.64**	**261**	P	P	07 21 32.1	-0.1
	1.0nm,0.4s,baz=95,slow=7.0,SNR=34						
WRA				PcP	PcP	07 22 59.2	+1.6
	0.9nm,0.8s,baz=95,slow=3.7,SNR=4.6						
NVAR	**Mina Array Bea**	**78.16**	**41**	P	P	07 24 47.7	+0.1
	0.3nm,0.6s,baz=218,slow=7.3,SNR=3.8						
PDAR	**Pinedale Array**	**86.09**	**42**	LR	LR	07 53 52.3	
	comp=Z,359nm,21.4s,baz=249,slow=29						
ILAR	**Eielson Array**	**87.30**	**11**	P	P	07 25 34.4	-0.8
	0.3nm,0.7s,baz=226,slow=5.7,SNR=5.7						
JTS	**JuntasAbangare**	**92.33**	**80**	LR	LR	07 57 34.5	
	comp=Z,311nm,19.7s,baz=249,slow=29						
LVC	**Limon Verde**	**95.11**	**116**	LR	LR	07 56 43.1	
	comp=Z,267nm,19.9s,baz=63,slow=28						
AKASG	**Malin Array Be**	**144.70**	**335**	PKP	PKPdf	07 32 23.6	-1.6
	1.4nm,0.5s,baz=43,slow=4.2,SNR=13						
BRTR	**Keskin Array B**	**149.64**	**316**	PKPbc	PKPbc	07 32 38.5	+0.4
	0.7nm,0.7s,baz=191,slow=1.3,SNR=3.8						

CSEM ***02*** *07:20:25.4±0.2, 4195N×2309E, h20km, MD3.0, Error ellipse: s-maj=4.9km s-min=3.3km az=164.0*
THE ***02*** *07:20:25.5, 4194N×2307E, h13km, ML3.1*
SOF ***02*** *07:20:25.5, 4198N×2323E, h8km, MD3.0*
SKO ***02*** *07:20:25.4, 4193N×2310E, h15km*
ISCJB ***02*** *07:20:26.1±0.5, 4193N±003×2313E±005, h18km±8km, Error ellipse: s-maj=6.6km s-min=5.1km az=43.6*
ATH ***02*** *07:20:28.3, 4176N×2318E, h27km, MD3.2/3*
ISC 02 07:20:25.3±0.6, 4193N±003×2315E±005, h18km±6km, n21, σ0:86/32, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.08**	**221**	*i*Pg	Pg	**07 20 29.0**	**+0.2**
MMB	**Musomiste**	**0.55**	**128**	*i*Pg	Pg	**07 20 37.2**	**+1.0**
VTS	**Vitosha**	**0.67**	**3**	*i*P	Pg	**07 20 38.0**	**-0.4**
VTS				*i*Pg	Pg	**07 20 38.6**	**+0.2**
VTS	**Vitosha**	**0.67**	**3**	*e*Pg	Pg	**07 20 38.0**	**-0.4**
VTS				*e*Sg	Sg	**07 20 47.4**	**+0.1**
VTS	**Vitosha**	**0.67**	**3**	*i*Pg	Pg	**07 20 38.6**	**+0.2**
VAY	**Valandovo**	**0.75**	**216**	*e*Pg	Pg	**07 20 39.8**	**-0.2**
VAY				*e*Sg	Sg	**07 20 49.5**	**-0.4**
VAY	**Valandovo**	**0.75**	**216**	*e*Pg	Pg	**07 20 39.9**	**0.0**
VAY				*e*Sg	Sg	**07 20 49.8**	**-0.1**
VAY				*e*Lg		07 20 50.0	
	comp=E,104nm,0.3s						
VAY				*e*Lg		07 20 50.2	
	comp=N,171nm,0.5s						
VAY	**Valandovo**	**0.75**	**216**	*e*Pg	Pg	**07 20 39.9**	**-0.1**
VAY				*e*Sg	Sg	**07 20 49.7**	**-0.2**
STIP	**Stip**	**0.76**	**252**	*e*Pg	Pg	**07 20 39.8**	**-0.5**
STIP				*e*Sg	Sg	**07 20 50.4**	**0.0**
STIP				*e*Lg		07 20 50.6	
	comp=N,54nm,0.2s						
STIP				*e*Lg		07 20 50.6	
	comp=E,76nm,0.4s						
STIP	**Stip**	**0.76**	**252**	*e*Pg	Pg	**07 20 39.7**	**-0.5**
STIP				*e*Sg	Sg	**07 20 50.3**	**0.0**
NVR	**Nevrokopi**	**0.78**	**137**	*e*PB	Pb	**07 20 40.8**	**+0.4**
NVR				*e*SN	Sn	**07 20 51.3**	**-1.5**
KNT	**Kendrikon**	**0.79**	**194**	*e*Pg	Pg	**07 20 40.9**	**+0.1**
KNT				*e*Sg	Sg	**07 20 51.7**	**+0.5**
SOH	**Sokhos**	**1.11**	**172**	*e*Pg	Pg	**07 20 46.9**	**-0.1**
SOH				*e*Sg	Sg	**07 21 02.1**	**+0.6**
PLD	**Plovdiv**	**1.17**	**81**	*i*Pg	Pg	**07 20 48.4**	**+0.5**
RZN	**Rozhen**	**1.19**	**101**	*i*Pg	Pg	**07 20 48.6**	**+0.2**
THE	**Thessaloniki**	**1.30**	**186**	*e*Pg	Pg	**07 20 48.6**	**-1.8**
PLG	**Polygyros**	**1.57**	**172**	*e*PN	Pn	**07 20 53.7**	**+1.4**
OUR	**Ouranopolis**	**1.71**	**158**	*e*Pb	Pb	**07 20 55.3**	**-1.0**
OUR				*e*Sb	Sb	**07 21 17.3**	**-0.1**
KDZ	**Kurdzhali**	**1.71**	**99**	*i*Pg	Pg	**07 20 56.6**	**-1.7**
RDO	**Rodhopi**	**1.95**	**113**	*e*PN	Pn	**07 21 01.1**	**+3.5**
PAIG	**Paliouri**	**2.04**	**169**	*e*Pn	Pn	**07 20 59.8**	**+1.1**

IDC ***02*** *07:29:55.6±0.6, 2004S×17376W, h0km, mb4.6/13, mb1 4.8/14, mb1mx4.7/19, mbtmp4.5/14, ML4.7/1, MS4.7/3, Ms1 4.7/3, ms1mx4.0/25, Error ellipse: s-maj=21.6km s-min=16.4km az=137.0*
SZGRF ***02*** *07:30:00.1, 2050S×17250W, h33km, Tonga Islands region*
ISCJB ***02*** *07:30:06.9±0.5, 2009S±010×17398W±009, h100km, mb4.6/18, Error ellipse: s-maj=14.2km s-min=11.1km az=135.1*
ISC 02 07:30:08.3±0.5, 2008S±010×17389W±009, h100km, (h83km±1.1km:pP-P), n69, σ0:95/38, mb4.6/18, 9C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.46**	**19**	Pn	Pn	**07 31 26.0**	**-15**
	10.0nm,0.3s,baz=232,slow=3.6,SNR=15						
RAR	**Rarotonga**	**13.27**	**97**	Pn	Pn	**07 32 53.6**	**-19**
	5.4nm,0.3s,baz=271,slow=7.3,SNR=24						
DZM	**Mont Dzumac**	**18.46**	**260**	Pn	Pn	**07 34 17.3**	**-0.1**
	1.4nm,0.3s,baz=83,slow=16,SNR=28						
URZ	**Urewera**	**19.72**	**201**	P	P	**07 34 28.5**	**-1.3**
	2.0nm,0.3s,baz=4.2,slow=5.7,SNR=12						
RPZ	**Rata Peaks**	**26.72**	**205**	P	P	**07 35 36.7**	**-1.5**
	18nm,0.8s,mb4.7,baz=17,slow=5.8,SNR=8.4						
CNB	**Canberra Magne**	**35.67**	**237**	*e*P	P	**07 36 57.3**	**+0.6**
	32nm,1.2s,mb5.1						
CTA	**Charters Tower**	**37.37**	**263**	*e*P	P	**07 37 11.3**	**+0.2**
	6.7nm,0.4s,mb4.9						
CTA	**Charters Tower**	**37.37**	**263**	P	P	**07 37 11.0**	**-0.1**
	9.0nm,0.4s,mb5.0,baz=96,slow=9.8,SNR=32						
PMG	**Port Moresby**	**39.04**	**280**	P	P	**07 37 25.8**	**+0.6**
	32nm,1.0s,mb5.1,baz=104,slow=3.8,SNR=12						
TOO	**Toolangi**	**39.27**	**235**	*e*P	P	**07 37 27.1**	**0.0**
	15nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**41.44**	**244**	*e*P	P	**07 37 42.9**	**-2.1**
	13nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**41.44**	**244**	P	P	**07 37 42.5**	**-2.4**
	19nm,1.1s,mb4.8,baz=138,slow=4.2,SNR=3.5						
ASAR	**Alice Springs**	**48.36**	**256**	P	P	**07 38 39.9**	**+0.1**
	13nm,1.0s,mb4.7,baz=88,slow=8.2,SNR=67						
ASPA	**Alice Springs**	**48.36**	**256**	*e*P	P	**07 38 39.9**	**+0.1**
WB2	**Warramunga Arr**	**48.46**	**261**	*e*P	P	**07 38 40.3**	**-0.3**
WRA	**Warramunga Arr**	**48.47**	**261**	P	P	**07 38 40.2**	**-0.5**
	10nm,0.8s,mb4.7,baz=95,slow=6.9,SNR=94						
KAKA	**Kakadu**	**51.83**	**269**	*e*P	P	**07 39 06.0**	**0.0**

GEC2 GERESS Array S 150.66 350 *e*PKPbc PKPbc 07 49 50.4 +1.8
GERES GERESS Array B 150.66 350 PKPbc PKPbc 07 49 50.0 +1.4
comp=Z,3.8nm,1.0s,baz=41,slow=2.5,SNR=17
BFO Black Forest 151.76 357 *e*PKPbc PKPbc 07 49 52.2 +1.1
TORD Torodi Ar. Bea 171.91 148 PKP PKPdf 07 50 05.7 +0.6
comp=Z,0.2nm,0.7s,baz=307,slow=1.6,SNR=5.3

CSEM ***02*** *07:30:38.4, 2076S×17844W, h33km, mb5.8*
MOS ***02*** *07:31:32.8±0.8, 2068S×17870W, h553km, mb5.5/46, Error ellipse: s-maj=7.9km s-min=6.5km az=59.0*
CRAAG ***02*** *07:31:33.9, 2061S×17874W, Mb5.9*
IDC ***02*** *07:31:34.7±0.8, 2079S×17862W, h567km±8km, mb5.1/28, mb1 5.1/32, mb1mx5.1/32, mbtmp6.1/32, Error ellipse: s-maj=8.6km s-min=6.7km az=14.0*
BJI ***02*** *07:31:35.8, 2036S×17827W, h590km, mB5.8, mb5.7*
ISCJB ***02*** *07:31:35.6±0.1, 2092S±002×17869W±002, h590km, mb5.5/149, Error ellipse: s-maj=3.5km s-min=2.3km az=87.7*
HRVD ***02*** *07:31:36.5±0.1, 2077S×17854W, h585km, MW6.0/108, Centroid moment Tensor Solution. LP body waves: s108,c232;Mantle waves: s74,c86; Half duration: 2s4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.46±.01; $M_{\theta\theta}$0.25±.01; $M_{\phi\phi}$0.21±.01; $M_{r\theta}$-0.42±.01; $M_{\theta\phi}$-0.45±.01; $M_{\phi r}$-1.03±.01; Best double couple: $M_0$1.20600×10^{18} NP1:ϕ_s6.00000°, δ81.00000°, λ-66.00000°. Principal axes: T 0.9830, Plg32.0000°, Azm76.0000°; N 0.4470, Plg23.0000°, Azm182.0000°; P -1.4300, Plg49.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
NEIC ***02*** *07:31:36.5±0.1, 2084S×17870W, mb5.5/107, MW6.0 Error ellipse: s-maj=5.3km s-min=3.2km az=149.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.86; $M_{\theta\theta}$0.65; $M_{\phi\phi}$0.21; $M_{r\theta}$-0.28; $M_{\theta\phi}$0.05; $M_{\phi r}$-1.07; Best double couple: $M_0$1.30000×10^{18} NP1: ϕ_s27.00000°, δ75.00000°, λ-102.00000°. NP2: ϕ_s246.00000°, δ19.00000°, λ-52.00000°. Principal axes: T 0.9900, Plg29.0000°, Azm127.0000°; N 0.5600, Plg12.0000°, Azm30.0000°; P -1.5500, Plg58.0000°, Azm281.0000°;*
SZGRF ***02*** *07:31:36.3, 2070S×17682W, h598km, Fiji Islands region*
ISC 02 07:31:36.9±0.1, 2095S±002×17863W±002, h592km, h592km±1.5km; pP-P, n1153, σ0.87/593, mb5.5/149, 208C-226D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.30**	**176**	P		**P**	**P**	**07 33 36.7**	**-2.0**
	517nm,0.3s,baz=324,slow=3.2,SNR=26								
RAO				S		**S**	**S**	**07 35 13.8**	**-4.8**
	1μm,0.3s,baz=102,slow=22,SNR=23								
RAO	**Raoul Island**	**8.30**	**176**	*e*P		**P**	**P**	**07 33 36.6**	**-2.1**
RAO				*e*				07 35 16.0	
RAO					pmax	pmax			
	comp=Z,1μm,0.3s								
RAO	**Raoul Island**	**8.30**	**176**	*e*Pn		**P**		**07 33 36.5**	**-2.2**
	comp=Z,1μm,0.3s								
RAO				*e*Sn		**S**		**07 35 16.0**	**-2.6**
AFI	**Afiamalu**	**9.57**	**44**	P		**P**		**07 33 45.1**	**-6.0**
	comp=Z,75nm,0.3s,baz=290,slow=4.0,SNR=19								
AFI				S		**S**		**07 35 27.3**	**-14**
	comp=Z,32nm,0.3s,baz=193,slow=20,SNR=8.9								
AFI	**Afiamalu**	**9.57**	**44**	P		**P**		**07 33 45.1**	**-6.1**
AFI				S		**S**		**07 35 27.3**	**-14**
AFI					pmax	pmax			
	comp=Z,75nm,0.3s								
AFI					smax				
	comp=N,33nm,0.3s								
AFI	**Afiamalu**	**9.57**	**44**	*e*P		**P**		**07 33 44.3**	**-6.9**
AFI				*e*S		**S**		**07 35 27.2**	**-14**
BKM	**Butte a Klehm**	**12.82**	**282**	⇑*i*P		**P**		**07 34 22.6**	**-1.2**
BKM				S		**S**		**07 36 42.8**	**+1.8**
DZM	**Mont Dzumac**	**13.94**	**263**	P		**P**		**07 34 34.0**	**-1.2**
	comp=N,22nm,0.3s,baz=84,slow=14,SNR=56								
DZM				S		**S**		**07 37 01.0**	**-0.6**
	baz=11,slow=15,SNR=3.8								
DZM				ScP		ScP		07 41 50.6	+3.3
	comp=N,0.3nm,0.3s,baz=101,slow=7.6,SNR=4.2								
OUZ	**Omahuta**	**15.78**	**204**	PN		**P**		**07 34 54.5**	**+2.0**
OUZ				*e*SN		**S**		**07 37 38.7**	**+6.7**
WCZ	**Waipu Caves**	**16.16**	**201**	PN		**P**		**07 34 58.3**	**+2.4**
KUZ	**Kuaotunu**	**16.50**	**196**	PN		**P**		**07 35 00.6**	**+1.5**
KUZ				SN		**S**		**07 37 48.4**	**+4.7**
MXZ	**Matakaoa Point**	**16.77**	**188**	PN		**P**		**07 35 00.4**	**-1.2**
MXZ				*e*SN		**S**		**07 37 46.0**	**-2.2**
KAAZ	**Kauri Point**	**16.86**	**199**	PN		**P**		**07 35 04.3**	**+1.9**
WIZ	**White Island**	**16.92**	**192**	PN		**P**		**07 35 05.2**	**+2.3**
WTAZ	**Waiatarua**	**17.00**	**199**	PN		**P**		**07 35 06.0**	**+2.4**
PUZ	**Puketiti**	**17.28**	**188**	PN		**P**		**07 35 05.5**	**-0.7**
PUZ				*e*SN		**S**		**07 37 53.7**	**-2.8**
TGRZ	**Tauranga**	**17.30**	**194**	PN		**P**		**07 35 07.1**	**+0.7**
RAR	**Rarotonga**	**17.60**	**94**	P		**P**		**07 35 07.7**	**-1.4**
	comp=N,5.5nm,0.3s,baz=246,slow=6.9,SNR=18								
RAR				ScP		ScP		07 41 56.4	+2.1
	comp=N,0.3nm,0.3s,baz=260,slow=5.6,SNR=4.1								
URZ	**Urewera**	**17.65**	**191**	P		**P**		**07 35 07.9**	**-1.7**
	comp=N,51nm,0.3s,baz=359,slow=4.8,SNR=68								
URZ				S		**S**		**07 37 57.9**	**-4.5**
	comp=N,6.2nm,0.3s,baz=213,slow=18,SNR=5.6								
URZ				ScP		ScP		07 41 56.2	+1.8
	comp=N,4.3nm,0.3s,baz=279,slow=3.3,SNR=7.4								
URZ	**Urewera**	**17.65**	**191**	PN		**P**		**07 35 07.2**	**-2.4**
URZ				*e*SN		**S**		**07 37 58.0**	**-4.4**
MWZ	**Matawai**	**17.65**	**190**	PN		**P**		**07 35 07.3**	**-2.3**
MWZ				SN		**S**		**07 37 59.8**	**-2.6**
MWZ				ScS		ScS		07 45 35.3	+0.1
TAZ	**Tarawera**	**17.73**	**193**	PN		**P**		**07 35 10.4**	**0.0**
PATZ	**Paeroa**	**17.93**	**193**	PN		**P**		**07 35 11.5**	**-0.7**
HIZ	**Hauiti**	**18.39**	**196**	PN		**P**		**07 35 18.1**	**+1.8**
BKZ	**Black Stump Fm**	**18.64**	**192**	PN		**P**		**07 35 16.9**	**-1.8**
BKZ				*e*SN		**S**		**07 38 14.9**	**-3.6**
BKZ				ScP		ScP		07 41 58.1	+1.5
BKZ				ScS		ScS		07 45 37.1	-1.3
WTVZ	**West Tongariro**	**18.78**	**194**	*e*PN		**P**		**07 35 19.6**	**-0.3**
VRZ	**Vera Road**	**18.99**	**196**	*e*PN		**P**		**07 35 23.1**	**+1.3**
PXZ	**Pawanui**	**19.41**	**190**	*e*PN		**P**		**07 35 24.8**	**-0.8**
WAZ	**Wanganui**	**19.53**	**195**	PN		**P**		**07 35 26.1**	**-0.6**
TSZ	**Takapari Road**	**19.61**	**192**	PN		**P**		**07 35 26.4**	**-1.0**
BFZ	**Birch Farm**	**20.15**	**191**	PN		**P**		**07 35 31.3**	**-1.0**
BFZ				ScP		ScP		07 42 02.9	+2.8
BFZ				ScS		ScS		07 45 46.4	+2.8
MRZ	**Mangatainoka R**	**20.27**	**193**	PN		**P**		**07 35 31.7**	**-1.6**
MRZ				*e*SN		**S**		**07 38 41.7**	**-2.6**
MRZ				ScS		ScS		07 45 44.7	+0.7
MRW	**Makara Radio**	**21.00**	**194**	PN		**P**		**07 35 38.9**	**-1.0**
SNZO	**South Karori**	**21.07**	**194**	PN		**P**		**07 35 39.6**	**-1.0**
SNZO	**South Karori**	**21.07**	**194**	*e*P		**P**		**07 35 39.6**	**-1.0**
	comp=N,229nm,0.8s,mb5.9								
QRZ	**Quartz Range**	**21.20**	**199**	PN		**P**		**07 35 41.9**	**+0.2**
NNZ	**Nelson**	**21.32**	**197**	PN		**P**		**07 35 42.0**	**-0.8**
NNZ				SN		**S**		**07 39 01.0**	**+0.1**
THZ	**Tophouse**	**21.96**	**197**	*e*SN		**S**		**07 39 07.9**	**-3.1**
DSZ	**Denniston Nort**	**22.26**	**199**	*e*PN		**P**		**07 35 50.6**	**-0.5**
DSZ				SN		**S**		**07 39 14.4**	**-1.4**
KHZ	**Kahutara**	**22.40**	**195**	PN		**P**		**07 35 50.9**	**-1.6**
LTZ	**Lake Taylor**	**23.08**	**197**	*e*PN		**P**		**07 35 56.2**	**-2.3**
HNR	**Honiara**	**23.60**	**296**	P		**P**		**07 36 01.3**	**-1.7**
	comp=N,448nm,0.7s,mb6.2,baz=265,slow=1.9,SNR=35								
HNR	**Honiara**	**23.60**	**296**	*e*P		**P**		**07 36 01.5**	**-1.6**
HNR					pmax	pmax			
	comp=Z,850nm,1.1s,mb6.3								
HNR	**Honiara**	**23.60**	**296**	*e*P		**P**		**07 36 01.5**	**-1.6**
	comp=Z,850nm,1.1s,mb6.3								
RPZ	**Rata Peaks**	**24.28**	**198**	P		**P**		**07 36 08.7**	**-0.4**
	comp=Z,48nm,0.5s,mb5.4,baz=326,slow=2.3,SNR=21								
RPZ	**Rata Peaks**	**24.28**	**198**	*e*PN		**P**		**07 36 08.2**	**-0.9**
JCZ	**Jackson Bay**	**25.34**	**202**	*e*PN		**P**		**07 36 18.4**	**0.0**
JCZ				ScP		ScP		07 42 17.3	+3.3
TBI	**Tubuai**	**27.10**	**101**	*e*P		**P**		**07 36 33.5**	**-0.3**
	comp=Z,536nm,1.0s,mb6.1								
TBI				*e*pP				07 38 01.8	
	comp=Z,486nm,1.2s								
WHZ	**Wether Hill Ro**	**27.21**	**201**	*e*PN		**P**		**07 36 35.2**	**+0.4**
PAE	**Paea**	**27.59**	**88**	*e*P		**P**		**07 36 36.9**	**-1.2**
	comp=Z,602nm,1.0s,mb6.2								
PAE				*e*pP				07 38 05.5	
	comp=Z,348nm,1.4s								
PPT	**Papeete**	**27.61**	**88**	*e*P		**P**		**07 36 37.4**	**-0.9**
	comp=Z,448nm,1.1s,mb6.0								
PPT				*e*pP				07 38 06.0	
	comp=Z,204nm,1.3s								
PPT	**Papeete**	**27.61**	**88**	P		**P**		**07 36 37.3**	**-1.0**
	comp=Z,410nm,0.9s,mb6.0,baz=218,slow=1.7,SNR=48								
PPT				ScP		ScP		07 42 23.5	+2.6
	comp=Z,66nm,0.9s,baz=97,slow=4.5,SNR=8.6								
TVO	**Taravao**	**27.87**	**89**	*e*P		**P**		**07 36 39.5**	**-1.1**
	comp=Z,293nm,0.8s,mb6.0								
ARMA	**Armidale**	**28.35**	**245**	⇓*i*P		**P**		**07 36 46.5**	**+1.8**
ARMA				*e*S		**S**		**07 40 54.1**	**+3.2**
ARMA				*e*SCP		ScP		07 42 28.3	+5.1
ARMA				*e*SCS		ScS		07 46 25.2	+7.7
RIV	**Riverview**	**29.62**	**238**	*e*P		**P**		**07 36 57.0**	**+1.3**
RIV				*e*pP				07 38 30.1	
RIV				*e*S		**S**		**07 41 12.9**	**+2.3**
RIV				*e*SCS		ScS		07 46 29.5	+5.8
PMOR	**Pomariorio Ree**	**29.79**	**84**	*e*P		**P**		**07 36 55.9**	**-1.3**
	comp=Z,642nm,1.1s,mb6.2								
CNB	**Canberra Magne**	**31.49**	**236**	⇓*i*P		**P**		**07 37 13.2**	**+1.5**
	comp=Z,424nm,0.9s,mb6.1								
CNB				*e*pP				07 38 48.6	
CNB				*e*S		**S**		**07 41 41.8**	**+2.6**
CNB				*e*SCP		ScP		07 42 38.3	+4.8
CNB				*e*SCS		ScS		07 46 38.3	+5.3
CTA	**Charters Tower**	**32.87**	**265**	⇓*i*P		**P**		**07 37 23.9**	**+0.6**
	comp=Z,546nm,0.6s,mb6.4								
CTA				*e*S		**S**		**07 42 00.1**	**0.0**
CTA				*e*SCP		ScP		07 42 43.0	+4.7
CTA				*e*SCS		ScS		07 46 45.3	+5.1
CTA	**Charters Tower**	**32.87**	**265**	P		**P**		**07 37 23.9**	**+0.6**
	comp=Z,809nm,0.8s,mb6.4,baz=91,slow=10,SNR=381								
CTA				S		**S**		**07 42 00.5**	**+0.4**
	comp=Z,42nm,0.9s,baz=308,slow=19,SNR=7.6								
CTA				ScP		ScP		07 42 41.3	+3.0
	comp=Z,102nm,1.2s,baz=112,slow=3.1,SNR=7.4								
CTA	**Charters Tower**	**32.87**	**265**	⇓*i*P		**P**		**07 37 23.9**	**+0.6**
CTA				*e*S		**S**		**07 42 00.1**	**0.0**
CTA				*e*				07 46 45.3	
CTA					pmax	pmax			
	comp=Z,546nm,0.6s								
CTAO	**Charters Tower**	**32.87**	**265**	*e*P		**P**		**07 37 24.1**	**+0.8**
CTAO					pmax	pmax			
	comp=Z,1μm,0.9s,mb6.5								
CTAO	**Charters Tower**	**32.87**	**265**	*e*P		**P**		**07 37 24.1**	**+0.8**
	comp=Z,1μm,0.9s,mb6.5								
PMG	**Port Moresby**	**34.88**	**284**	P		**P**		**07 37 40.2**	**+0.1**
	comp=Z,3μm,0.9s,baz=96,slow=5.7,SNR=440								
PMG				S		**S**		**07 42 31.3**	**+1.0**
	comp=Z,36nm,1.0s,baz=332,slow=19,SNR=11								
PMG				ScP		ScP		07 42 48.1	+2.6
	comp=Z,45nm,0.9s,baz=337,slow=23,SNR=4.2								
PMG	**Port Moresby**	**34.88**	**284**	*e*P		**P**		**07 37 40.4**	**+0.3**
	comp=Z,3μm,0.9s								
TOO	**Toolangi**	**35.16**	**234**	⇓*i*P		**P**		**07 37 43.6**	**+1.1**
	comp=Z,171nm,0.9s,mb5.7								
TOO				*e*S		**S**		**07 42 35.8**	**+1.2**
TOO				*e*SCS		ScS		07 46 55.5	+2.9
TOO	**Toolangi**	**35.16**	**234**	⇓*i*P		**P**		**07 37 43.6**	**+1.1**
TOO				*e*S		**S**		**07 42 35.8**	**+1.2**
TOO				*e*				07 46 55.5	
TOO					pmax	pmax			
	comp=Z,171nm,0.9s,mb5.7								
TAU	**Tasmania Unive**	**35.90**	**225**	*e*P		**P**		**07 37 48.7**	**+0.2**
TAU					pmax	pmax			
	comp=Z,21nm,0.7s,mb4.8								
TAU	**Tasmania Unive**	**35.90**	**225**	*e*P		**P**		**07 37 48.7**	**+0.2**
	comp=Z,21nm,0.7s,mb4.8								
STKA	**Stephens Creek**	**37.07**	**245**	⇓*i*P		**P**		**07 37 57.3**	**-0.8**
	comp=Z,260nm,0.8s,mb5.8								
STKA				*e*SCP		ScP		07 42 55.8	+2.1
STKA				*e*S		**S**		**07 43 01.6**	**-1.3**
STKA				*e*PCS		PcS		07 43 50.0	-1.7
STKA				*e*SCS		ScS		07 47 04.9	+1.4
STKA	**Stephens Creek**	**37.07**	**245**	P		**P**		**07 37 57.2**	**-0.9**
	comp=Z,398nm,1.0s,mb5.9,baz=88,slow=9.0,SNR=151								
STKA				PcP		PcP		07 40 01.2	-1.2
	comp=Z,24nm,0.5s,baz=80,slow=6.1,SNR=3.2								
STKA				S		**S**		**07 42 59.7**	**-3.2**
	comp=Z,14nm,0.8s,baz=327,slow=21,SNR=3.6								
STKA				P3KPbc				08 08 07.8	
	comp=Z,2.9nm,0.7s,baz=247,slow=4.3,SNR=6.9								
TAOE	**Nuku Hiva Isla**	**38.97**	**78**	*e*P		**P**		**07 38 11.8**	**-1.7**
	comp=Z,4μm,0.9s								
RKT	**Rikitea**	**40.41**	**101**	*e*P		**P**		**07 38 24.8**	**-0.2**
	comp=Z,313nm,1.1s,mb5.8								
WAKE	**Wake Island**	**42.50**	**339**	*e*P		**P**		**07 38 39.7**	**-1.7**
	comp=Z,590nm,1.1s,mb6.0								
AS31	**Alice Springs**	**43.85**	**257**	⇓*i*P		**P**		**07 38 52.4**	**+0.5**
AS31				*e*S		**S**		**07 44 40.3**	**-0.5**
ASAR	**Alice Springs**	**43.85**	**257**	P		**P**		**07 38 52.2**	**+0.3**
	comp=Z,1μm,0.9s,mb6.3,baz=86,slow=8.6,SNR=640								
ASAR				PcP		PcP		07 40 24.9	+0.2
	comp=Z,70nm,0.6s,baz=98,slow=4.0,SNR=9.5								
ASAR				ScP		ScP		07 43 22.8	+2.2
	comp=Z,47nm,0.9s,baz=102,slow=4.6,SNR=7.2								
ASAR				S		**S**		**07 44 40.5**	**-0.3**
	comp=Z,106nm,0.9s,baz=94,slow=15,SNR=26								
ASAR				P3KPbc				08 07 40.8	
	comp=Z,0.3nm,0.7s,baz=280,slow=3.7,SNR=6.7								
ASAR				P4KPbc				08 16 38.3	
	comp=Z,1.7nm,1.1s,baz=104,slow=4.2,SNR=11								
ASAR	**Alice Springs**	**43.85**	**257**	P		**P**		**07 38 52.2**	**+0.3**
ASAR								07 40 24.9	
ASAR				S		**S**		**07 44 40.6**	**-0.2**
ASAR	**Alice Springs**	**43.85**	**257**	P		**P**		**07 38 52.2**	**+0.3**
ASAR				PcP		PcP		07 40 24.9	+0.2
ASAR				ScP		ScP		07 43 22.8	+2.2
ASAR				S		**S**		**07 44 40.5**	**-0.3**
ASAR				*e*				08 07 40.8	
ASPA	**Alice Springs**	**43.85**	**257**	⇓*i*P		**P**		**07 38 52.4**	**+0.5**
ASPA				*e*S		**S**		**07 44 40.3**	**-0.6**
WB2	**Warramunga Arr**	**43.95**	**263**	⇓*i*P		**P**		**07 38 52.5**	**-0.2**
WB2				*e*S		**S**		**07 44 39.9**	**-2.4**
WB2				*e*SCS		ScS		07 47 49.1	+3.5
WRAB	**Tennant Creek**	**43.95**	**263**	P		**P**		**07 38 52.0**	**-0.7**
	comp=Z,7μm,1.0s,SNR=62								
WRAB	**Tennant Creek**	**43.95**	**263**	*e*P		**P**		**07 38 52.5**	**-0.2**
WRAB					pmax	pmax			
	comp=Z,3μm,1.3s								
WRAB	**Tennant Creek**	**43.95**	**263**	*e*P		**P**		**07 38 52.5**	**-0.2**
	comp=Z,3μm,1.3s								
WRA	**Warramunga Arr**	**43.96**	**263**	P		**P**		**07 38 52.4**	**-0.4**
	comp=Z,792nm,1.0s,mb6.2,baz=94,slow=6.9,SNR=471								
WRA				PcP		PcP		07 40 26.0	+0.8
	comp=Z,99nm,1.2s,baz=99,slow=3.6,SNR=6.7								
WRA				ScP		ScP		07 43 24.0	+2.9
	comp=Z,32nm,1.1s,baz=96,slow=3.9,SNR=7.9								
WRA				S		**S**		**07 44 40.3**	**-2.1**
	comp=Z,26nm,0.7s,baz=100,slow=12,SNR=9.3								
WRA				P4KPbc				08 16 37.1	
	comp=Z,2.1nm,1.1s,baz=86,slow=3.9,SNR=6.2								
WRA	**Warramunga Arr**	**43.96**	**263**	P		**P**		**07 38 52.4**	**-0.4**
WRA								07 40 26.0	
WRA				S		**S**		**07 44 40.3**	**-2.1**
WRA	**Warramunga Arr**	**43.96**	**263**	P		**P**		**07 38 52.4**	**-0.4**
WRA				PcP		PcP		07 40 26.0	+0.8
WRA				ScP		ScP		07 43 24.0	+2.9
WRA				S		**S**		**07 44 40.3**	**-2.1**
KIP	**Kipapa**	**46.67**	**27**	*e*P		**P**		**07 39 12.0**	**-1.4**
KIP					pmax	pmax			
	comp=Z,393nm,1.4s,mb5.8								
KIP	**Kipapa**	**46.67**	**27**	*e*P		**P**		**07 39 12.0**	**-1.4**
	comp=Z,393nm,1.4s,mb5.8								
HKL	**Haleakala**	**46.82**	**29**	P		**P**		**07 39 13.8**	**-0.7**
HKL	**Haleakala**	**46.82**	**29**	*e*P		**P**		**07 39 13.7**	**-0.8**
KAKA	**Kakadu**	**47.40**	**272**	⇓*i*P		**P**		**07 39 18.7**	**-0.1**
	comp=Z,1μm,0.9s,mb6.5								
KAKA				*e*SCP		ScP		07 43 39.1	+3.7
KAKA				*e*S		**S**		**07 45 30.9**	**+0.6**
FORT	**Forrest**	**48.58**	**247**	⇓*i*P		**P**		**07 39 27.7**	**+0.1**
	comp=Z,751nm,0.8s,mb6.2								
FORT				*e*S		**S**		**07 45 45.6**	**-0.9**
GUMO	**Guam**	**49.64**	**311**	P		**P**		**07 39 35.1**	**-0.3**
	comp=Z,2μm,1.1s,mb6.5,baz=169,slow=8.1,SNR=71								
GUMO				ScP		ScP		07 43 46.8	+1.8
	comp=Z,342nm,1.1s,baz=178,slow=3.4,SNR=9.1								
GUMO	**Guam**	**49.64**	**311**	P		**P**		**07 39 35.1**	**-0.3**
GUMO				ScP		ScP		07 43 46.8	+1.8
FITZ	**Fitzroy Crossi**	**52.39**	**263**	⇓*i*P		**P**		**07 39 55.8**	**+0.6**
	comp=Z,1μm,1.4s,mb6.0								
FITZ				*e*S		**S**		**07 46 39.1**	**+1.4**
FITZ	**Fitzroy Crossi**	**52.39**	**263**	S		**S**		**07 46 39.3**	**+1.6**
	comp=Z,31nm,0.9s,baz=271,slow=21,SNR=14								
DRV	**Dumont d'Urvil**	**52.74**	**199**	PP		PP		07 42 14.0	+8.3
DRV				S		Sx		07 47 11.0	
DRV				L				07 53 00.0	
MBWA	**Marble Bar**	**57.19**	**258**	*e*P		**P**		**07 40 28.9**	**+0.3**
	comp=Z,788nm,0.9s,mb5.9								
KLBR	**Kellerberrin**	**57.34**	**245**	⇓*i*P		**P**		**07 40 30.0**	**+0.4**
	comp=Z,1μm,0.8s,mb6.1								
KLBR				*e*pP		pP		07 42 22.7	+0.1
KLBR				*e*S		**S**		**07 47 42.9**	**+1.0**
SBA	**Scott Base**	**57.39**	**184**	*e*P		**P**		**07 40 32.3**	**+2.3**
SBA					pmax	pmax			
	comp=Z,240nm,1.1s,mb5.3								
SBA	**Scott Base**	**57.39**	**184**	*e*P		**P**		**07 40 31.1**	**+1.2**
	comp=Z,317nm,1.3s,mb5.4								
VNDA	**Vanda**	**57.42**	**185**	P		**P**		**07 40 31.5**	**+1.3**
	comp=Z,34nm,0.8s,mb4.6,baz=355,slow=7.3,SNR=62								
VNDA				ScP		ScP		07 44 20.9	+1.8
	comp=Z,27nm,0.9s,baz=347,slow=4.5,SNR=11								
VNDA	**Vanda**	**57.42**	**185**	P		**P**		**07 40 31.5**	**+1.3**
VNDA								07 44 20.9	
VNDA					pmax	pmax			
	comp=Z,34nm,0.8s								
VNDA					pmax	pmax			
	comp=N,27nm,0.9s								
VNDA	**Vanda**	**57.42**	**185**	*e*P		**P**		**07 40 31.2**	**+1.0**
	comp=N,45nm,0.9s,mb4.7								
NWAO	**Narrogin (SRO)**	**57.65**	**244**	*e*P		**P**		**07 40 32.5**	**+0.8**
NWAO					pmax	pmax			
	comp=Z,439nm,1.1s								
NWAO	**Narrogin (SRO)**	**57.65**	**244**	*e*P		**P**		**07 40 32.5**	**+0.7**
	comp=Z,439nm,1.1s,mb5.5								
NWAO				*e*pP		pP		07 42 27.1	+2.2
MUN	**Mundaring**	**58.61**	**245**	*e*P		**P**		**07 40 38.9**	**+0.7**
MUN				*e*S		**S**		**07 47 59.4**	**+1.5**
CBIJ	**Chichi jima**	**61.00**	**320**	P		**P**		**07 40 52.9**	**-1.1**
	comp=Z,117nm,0.5s,mb5.3,baz=237,slow=2.0,SNR=14								
DAV	**Davao City (W)**	**61.44**	**291**	*e*P		**P**		**07 40 56.7**	**-0.2**
KAPI	**Kappang**	**61.74**	**276**	P		**P**		**07 40 58.8**	**-0.1**
	comp=Z,991nm,1.6s,mb5.8,SNR=27								
BUKP	**Musuan**	**62.27**	**291**	*e*P		**P**		**07 41 03.2**	**+0.9**
SCPH	**Surigao**	**62.82**	**293**	⇓*e*P		**P**		**07 41 05.2**	**-0.6**
	comp=Z,264μm,8.3s								
CGP	**Cagayan de Oro**	**62.87**	**292**	*e*P		**P**		**07 41 06.8**	**+0.7**
RPN	**Rapa Nui**	**62.89**	**111**	P		**P**		**07 41 06.5**	**+0.3**
	comp=Z,59nm,0.5s,mb5.1,baz=283,slow=3.8,SNR=7.9								
RPN	**Rapa Nui**	**62.89**	**111**	*e*P		**P**		**07 41 07.8**	**+1.6**
	comp=Z,156nm,1.0s,mb5.3								
CASY	**Casey**	**63.31**	**205**	*e*P		**P**		**07 41 09.8**	**+0.9**
CASY				*e*pP		pP		07 43 05.4	+0.1
CASY				*e*S		**S**		**07 48 57.4**	**+1.4**
MSLP	**Maasin**	**63.54**	**293**	*e*P		**P**		**07 41 10.1**	**-0.2**
PAGZ	**Pagadian**	**63.73**	**290**	*e*P		**P**		**07 41 12.2**	**+0.6**
TBP	**Tagbilaran**	**64.18**	**293**	*e*P		**P**		**07 41 23.0**	**+8.6**
LLP	**Lapu-Lapu**	**64.39**	**293**	⇓*e*P		**P**		**07 41 15.8**	**0.0**
GUIM	**Jordan**	**65.73**	**293**	*e*P		**P**		**07 41 22.7**	**-1.4**
PVCP	**Virac**	**65.86**	**296**	*e*P		**P**		**07 41 25.3**	**+0.3**
JHJ	**Hachijo jima 2**	**66.83**	**323**	P		**P**		**07 41 29.6**	**-1.4**
	comp=Z,392nm,0.5s,mb6.1,baz=236,slow=21,SNR=27								
AUQP	**San Andres**	**66.96**	**295**	*e*P		**P**		**07 41 33.5**	**+1.7**
TSM	**Tawau**	**67.08**	**284**	P		**P**		**07 41 33.6**	**+1.1**
CUYO	**

PET pmax pmax
comp=Z,42nm,1.1s,mb4.8
PET pmax pmax
comp=Z,900nm,14.7s
PET pmax pmax
comp=Z,900nm,12.9s
PET smax
comp=E,60nm,1.5s
PET smax
comp=E,2µm,8.3s
PET smax
comp=N,800nm,8.5s
PET smax
comp=E,2µm,18.5s
PET smax
comp=N,700nm,13.8s
PET Petropavlovsk 76.25 346 *e*P **P 07 42 23.5 -2.1**
comp=N,227nm,1.2s,mb5.5
KS15 Wonju Array Si 76.85 319 *e*P **P 07 42 28.2 -0.7**
SSE Sheshan 77.53 310 P **P 07 42 32.0 -0.6**
SSE AP pP 07 44 36.6 +0.8
SSE S S 07 51 36.1 -0.3
SSE SCS ScS 07 51 55.5 -1.5
SSE AMB AMB
comp=Z,70nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,880nm,6.0s
SDPT Sand Point 77.55 10 *e*P **P 07 42 30.3 -2.4**
comp=Z,477nm,0.9s,mb5.9
INCN Inchon 77.65 318 *e*P **P 07 42 32.4 -0.9**
comp=Z,313nm,1.3s,mb5.6
SNCC San Nicolas Is 77.98 47 ⇑P **P 07 42 35.2 +0.2**
baz=78
SNCC ⇓S S 07 51 46.1 +5.0
baz=78
VLA Vladivostok 78.31 325*c i*P **P 07 42 36.4 -0.4**
VLA *e* 07 45 41.8
VLA *e*S S 07 51 50.0 +5.5
VLA pmax pmax
comp=Z,264nm,1.3s,mb5.5
FARB Farallon Islan 78.33 42 ⇑P **P 07 42 36.9 0.0**
baz=78,SNR=13
FARB ⇑S S 07 51 48.6 +3.9
baz=78
V03C Hunter Liggett 78.44 44 ⇑P **P 07 42 37.7 +0.3**
baz=79
V03C ⇑S S 07 51 49.2 +3.3
baz=79
HAST Hastings Reser 78.46 44 P **P 07 42 38.1 +0.5**
baz=79,SNR=27
HAST ⇑S S 07 51 49.1 +3.0
baz=79
V04C Ramage Ranch, 78.46 45 ⇓P **P 07 42 37.5 -0.1**
baz=79
V04C ⇑S S 07 51 48.3 +2.2
baz=79
BNLO Ben Lomond 78.51 43 ⇓P **P 07 42 37.9 +0.1**
baz=79,SNR=9.2
BNLO ⇓S S 07 51 49.2 +2.6
baz=79
SBC Santa Barbara 78.53 46 ⇑P **P 07 42 38.3 +0.4**
baz=79
SBC ⇑S S 07 51 50.3 +3.5
baz=79
SAC San Andreas 78.63 42 P **P 07 42 38.9 +0.4**
SAC San Andreas 78.63 42 *e*P **P 07 42 38.4 -0.1**
JRSC Jasper Ridge 78.63 43 ⇑P **P 07 42 38.5 0.0**
baz=79,SNR=8.4
JRSC ⇓S S 07 51 51.1 +3.2
baz=79
MCCM Marconi Confer 78.68 42 *e*P **P 07 42 38.7 -0.1**
MCCM Marconi Confer 78.68 42 ⇓P **P 07 42 38.6 -0.1**
baz=79,SNR=10
MCCM ⇓S S 07 51 51.1 +2.7
baz=79
SAO San Andreas Ge 78.75 43 *e*P **P 07 42 39.2 +0.1**
SAO *e**PP pP 07 44 41.6 -1.3
SAO pmax pmax
comp=Z,175nm,1.4s,mb5.2
SAO San Andreas Ge 78.75 43 *e*P **P 07 42 39.2 +0.1**
comp=Z,175nm,1.4s,mb5.2
SAO *e*pP pP 07 44 41.6 -1.3
CHGN Chignik 78.82 11 *e*P **P 07 42 37.4 -2.1**
PKD Parkfield 78.85 45 ⇑P **P 07 42 39.6 0.0**
baz=79,SNR=7.4
PKD ⇑S S 07 51 54.3 +4.2
baz=79
PTRM Twissleman Ran 78.90 45 *e*P **P 07 42 40.5 +0.5**
U04C Hernandez Rese 78.94 44 ⇓P **P 07 42 40.8 +0.7**
baz=79,SNR=8.8
U04C ⇑S S 07 51 54.4 +3.3
baz=79
PACP Pacheco Peak 79.00 43 ⇑P **P 07 42 40.8 +0.3**
baz=79,SNR=20
PACP ⇓S S 07 51 54.9 +3.2
baz=79
CVS Carmenet Viney 79.07 42 ⇑P **P 07 42 40.5 -0.3**
baz=79,SNR=21
CVS ⇓S S 07 51 55.2 +2.9
baz=79
WENL Wente Brothers 79.07 43 ⇓P **P 07 42 41.2 +0.4**
baz=79,SNR=8.0
WENL ⇑S S 07 51 55.7 +3.3
baz=79
NSHM Saint Helena R 79.08 41 *e*P **P 07 42 41.0 +0.1**
FMP Fort Macarthur 79.09 48 ⇑P **P 07 42 40.9 0.0**
baz=79
FMP ⇑S S 07 51 56.6 +4.0
baz=79
HOPS Hopland 79.09 41 *e*P **P 07 42 41.2 +0.3**
comp=Z,180nm,1.2s,mb5.3
HOPS *e*pP pP 07 44 45.3 +0.5
HOPS Hopland 79.09 41 ⇑P **P 07 42 41.0 +0.1**
baz=79,SNR=20
HOPS ⇑S S 07 51 55.4 +2.8
baz=79
BDM Black Diamond 79.20 42 ⇓P **P 07 42 41.4 -0.1**
baz=79
BDM ⇑S S 07 51 57.0 +3.3
baz=79
P01C Double 8 Ranch 79.22 40 ⇑P **P 07 42 41.7 +0.1**
baz=79,SNR=13
P01C ⇑S S 07 51 57.7 +3.8
baz=79
S04C Ingram Canyon, 79.27 43 ⇑P **P 07 42 42.2 +0.4**
baz=79,SNR=21
S04C ⇓S S 07 51 58.8 +4.4
baz=79
OSI Osito Adit 79.30 47 ⇑P **P 07 42 41.9 -0.1**
baz=80
OSI ⇓S S 07 51 59.4 +4.6
baz=80
T05C Eagle Field, D 79.33 44 ⇓P **P 07 42 42.6 +0.5**
baz=80
T05C ⇑S S 07 52 00.1 +5.1
baz=80
KIPM Iron Peak 79.34 40 *e*P **P 07 42 42.7 +0.5**
O01C Eel River Cons 79.35 40 ⇓P **P 07 42 42.9 +0.7**
baz=80,SNR=40
O01C ⇑S S 07 51 58.6 +3.3
baz=80
U05C Westside ANR, 79.36 44 ⇓P **P 07 42 42.6 +0.2**
baz=80
U05C ⇑S S 07 51 59.7 +4.3
baz=80
MNRC McLaughlin Nat 79.40 41 ⇓P **P 07 42 43.1 +0.6**
baz=80,SNR=34
MNRC ⇑S S 07 51 59.9 +4.1
baz=80
GZH Guangzhou 79.43 300 P **P 07 42 43.5 +0.8**
GZH S S 07 51 55.1 -1.0
GZH AMB AMB
comp=Z,420nm,1.2s,mb5.6
109C Camp Elliot, M 79.45 49 ⇑P **P 07 42 42.7 -0.2**
baz=80,SNR=6.7
109C ⇓S S 07 52 00.8 +4.5
baz=80
Q03C Winters 79.52 42 ⇑P **P 07 42 43.7 +0.6**
baz=80,SNR=16
Q03C ⇑S S 07 52 02.6 +5.6
baz=80
KGM Kluang 79.58 276 P **P 07 42 44.5 +1.0**
JCC Jacoby Creek 79.65 39 ⇑P **P 07 42 44.2 +0.3**
baz=80
JCC ⇑S S 07 52 02.7 +4.3
baz=80
GASB Alder Springs 79.71 41 ⇓P **P 07 42 45.2 +1.0**
baz=80,SNR=33
GASB ⇓S S 07 52 03.4 +4.5
baz=80
NJ2 Nanjing 79.71 310 *e*P **P 07 42 43.3 -0.9**
NJ2 AP pP 07 44 50.6 +2.3
NJ2 PP PP 07 45 57.0 +0.7
NJ2 S S 07 51 57.0 -2.0
NJ2 SKS 07 52 01.0
S05C Merced 79.82 44 ⇓P **P 07 42 44.4 -0.4**
baz=80,SNR=19
S05C ⇑S S 07 52 04.4 +4.3
baz=80
KHMM Horse Mountain 79.86 39 *e*P **P 07 42 45.6 +0.6**
KHMM *e*pP pP 07 44 50.4 +1.2
O02C Red Bluff 79.99 40 ⇑P **P 07 42 46.4 +0.8**
baz=80,SNR=68
O02C ⇓S S 07 52 06.1 +4.3
baz=80
SUTB Sutter Buttes 80.02 41 ⇓P **P 07 42 45.3 -0.5**
baz=80,SNR=24
SUTB ⇓S S 07 52 05.9 +3.8
baz=80
T06C Millerton Lake 80.02 44 ⇑P **P 07 42 45.4 -0.4**
baz=80
T06C ⇑S S 07 52 06.7 +4.6
baz=80
Q04C Lincoln 80.04 42 ⇓P **P 07 42 45.7 -0.2**
baz=80,SNR=9.9
Q04C ⇓S S 07 52 07.4 +5.1
baz=80
ISA Isabella 80.06 46 ⇓P **P 07 42 46.1 +0.1**
baz=80,SNR=18
ISA ⇑S S 07 52 07.7 +5.2
baz=80
N02C Big Bar 80.08 39 ⇑P **P 07 42 46.4 +0.3**
baz=80,SNR=8.1
N02C ⇓S S 07 52 06.6 +3.9
baz=80
LPIG La Paz 80.14 60 P **P 07 42 46.6 +0.2**
comp=Z,22nm,0.7s,mb4.6,baz=21,slow=4.6,SNR=7.0
CMB Columbia Colle 80.18 43 *e*P **P 07 42 46.5 -0.1**
CMB pmax pmax
comp=Z,102nm,1.2s,mb5.0
CMB Columbia Colle 80.18 43 *e*P **P 07 42 46.5 -0.2**
comp=Z,102nm,1.2s,mb5.0
CMB *e*pP pP 07 44 51.2 +0.2
CMB Columbia Colle 80.18 43 P **P 07 42 46.6 -0.1**
baz=80,SNR=31
CMB ⇑S S 07 52 08.0 +4.2
baz=80
M01C Crescent City 80.25 38 ⇑P **P 07 42 47.5 +0.5**
baz=80,SNR=5.3
M01C ⇑S S 07 52 10.0 +5.5
baz=80
OHCM Honcut 80.27 41 *e*P **P 07 42 47.1 0.0**
HELL Mitchell Peak 80.28 45 ⇑P **P 07 42 46.6 -0.5**
baz=80,SNR=28
HELL ⇓S S 07 52 07.4 +2.6
baz=80
PFO Pinyon Flat Ob 80.31 48 P **P 07 42 47.0 -0.3**
SNR=9.9
PFO Pinyon Flat Ob 80.31 48 *e*P **P 07 42 47.8 +0.5**
PFO pmax pmax
comp=Z,92nm,1.5s,mb4.9
PFO Pinyon Flat Ob 80.31 48 *e*P **P 07 42 47.8 +0.5**
comp=Z,92nm,1.5s,mb4.9
PFO *e*pP pP 07 44 52.4 +0.8
PFO Pinyon Flat Ob 80.31 48 ⇓P **P 07 42 47.3 0.0**
baz=80,SNR=15
PFO ⇓S S 07 52 09.8 +4.8
baz=80
O03C Acorn Hollow, 80.34 41 ⇓P **P 07 42 47.2 -0.2**
baz=80,SNR=12
O03C ⇑S S 07 52 09.0 +3.6
baz=80
WDC Whiskeytown Da 80.39 40 *e*P **P 07 42 47.8 +0.1**
WDC pmax pmax
comp=Z,182nm,1.4s,mb5.2
WDC Whiskeytown Da 80.39 40 *e*P **P 07 42 47.8 +0.1**
comp=Z,182nm,1.4s,mb5.2
WDC *e*pP pP 07 44 54.1 +2.0
WDC Whiskeytown Da 80.39 40 ⇑P **P 07 42 47.8 +0.1**
baz=81,SNR=35
WDC ⇑S S 07 52 09.0 +3.2
baz=81
LAVA Lava Cap Winer 80.39 42 ⇑P **P 07 42 47.4 -0.3**
baz=81,SNR=20
LAVA ⇓S S 07 52 09.4 +3.5
baz=81
ORV Oroville 80.39 41 ⇓P **P 07 42 47.5 -0.3**
baz=81,SNR=46
ORV ⇑S S 07 52 08.8 +2.9
baz=81
KBO Bosley Butte 80.42 38 *e*P **P 07 42 48.0 +0.1**
S06C San Francisco 80.44 43 ⇓P **P 07 42 47.8 -0.1**
baz=81,SNR=14
S06C ⇑S S 07 52 10.3 +4.0
baz=81
KCC Kaiser Creek 80.45 44 ⇑P **P 07 42 48.1 0.0**
baz=81
KCC ⇑S S 07 52 10.2 +3.6
baz=81
QIZ Qiongzhong 80.51 295 ⇓P **P 07 42 49.1 +0.8**
QIZ XP sP 07 45 51.4 -1.4
QIZ S S 07 52 09.7 +2.6
QIZ XS sS 07 55 49.6 +0.7
QIZ AMB AMB
comp=Z,70nm,1.6s,mb4.8
QIZ AMB AMB
comp=Z,1µm,4.4s
QIZ Qiongzhong 80.51 295 *e*P **P 07 42 47.9 -0.4**
comp=Z,209nm,1.6s,mb5.3
HABR Khabarovsk 80.54 331 *i*P **P 07 42 48.8 +0.3**
HABR *e*S S 07 52 11.0 +3.6
MDJ Mudanjiang 80.55 325 *e*P **P 07 42 48.4 -0.2**
comp=Z,352nm,1.3s,mb5.6
MDJ *e*pP pP 07 44 56.5 +3.4
K01A Sixes 80.67 37 ⇓P **P 07 42 49.4 +0.3**
baz=81
COCO West Island 80.70 260 P **P 07 42 51.6 +2.3**
comp=Z,3µm,1.1s,mb6.6,SNR=7.2
COCO West Island 80.70 260 *e*P **P 07 42 51.3 +1.9**
comp=Z,800nm,1.1s,mb6.1
M02C Callahan 80.71 39 ⇑P **P 07 42 50.1 +0.8**
baz=81,SNR=38
M02C ⇓S S 07 52 13.6 +4.5
baz=81
L02A Cave Junction 80.75 38 ⇓P **P 07 42 50.1 +0.5**
baz=81,SNR=12
L02A ⇑S S 07 52 13.8 +4.3
baz=81
CWC Cottonwood Cre 80.77 45 ⇓P **P 07 42 49.9 +0.2**
baz=81,SNR=9.3
CWC ⇓S S 07 52 14.3 +4.6
baz=81
KEBM Edson Butte 80.78 37 *e*P **P 07 42 49.4 -0.3**
P05C Yuba Gap, Truc 80.79 42 ⇑P **P 07 42 50.0 +0.2**
baz=81,SNR=32
P05C ⇑S S 07 52 13.0 +3.0
baz=81
MLAC Mammoth Lakes 80.94 44 ⇓P **P 07 42 51.0 +0.4**
baz=81,SNR=7.8
MLAC ⇓S S 07 52 15.2 +3.7
baz=81
MAW Mawson 80.95 200 P **P 07 42 51.3 +0.7**
comp=Z,17nm,0.3s,mb4.9,baz=61,slow=17,SNR=7.3
MAW Mawson 80.95 200 *e*P **P 07 42 51.5 +1.0**
comp=Z,21nm,0.4s,mb4.9
MAW *e*pP pP 07 44 55.6 +0.4
MTUM Tungsten Hills 80.96 44 *e*P **P 07 42 51.5 +0.8**
GSC Goldstone 80.99 47 ⇑P **P 07 42 50.8 0.0**
baz=81,SNR=26
GSC ⇑S S 07 52 16.5 +4.5
baz=81
O05C Quincy 81.00 41 P **P 07 42 51.1 +0.2**
baz=81,SNR=20
O05C ⇑S S 07 52 14.9 +2.9
baz=81
DAC Darwin (Calif) 81.00 46 *e*P **P 07 42 50.7 -0.1**
DAC pmax pmax
comp=Z,19nm,0.8s,mb4.6
DAC Darwin (Calif) 81.00 46 *e*P **P 07 42 50.7 -0.2**
comp=Z,19nm,0.8s,mb4.6
DAC *e*pP pP 07 44 56.1 +0.6
YBH Yreka Blue Hor 81.00 39 P **P 07 42 51.4 +0.5**
comp=Z,75nm,0.8s,mb5.2,baz=200,slow=1.0,SNR=78
YBH Yreka Blue Hor 81.00 39 P **P 07 42 51.5 +0.6**
YBH pmax pmax
comp=Z,210nm,1.2s
YBH Yreka Blue Hor 81.00 39 *e*P **P 07 42 51.4 +0.5**
comp=Z,208nm,1.3s,mb5.4
YBH Yreka Blue Hor 81.00 39 ⇓P **P 07 42 51.3 +0.5**
baz=81,SNR=52
YBH ⇑S S 07 52 15.1 +3.0
baz=81
TIN Tinemaha 81.02 45 ⇓P **P 07 42 51.2 +0.3**
baz=81,SNR=12
TIN ⇓S S 07 52 14.9 +2.7
baz=81
BC3 Big Chuckw Mtn 81.03 49 ⇑P **P 07 42 51.5 +0.5**
baz=81,SNR=27
BC3 ⇑S S 07 52 16.9 +4.5
baz=81
M03C McCloud 81.06 40 P **P 07 42 51.5 +0.3**
baz=81,SNR=43
M03C ⇓S S 07 52 15.4 +2.7
baz=81
R06C Coleville 81.06 43 ⇓P **P 07 42 51.5 +0.3**
baz=81,SNR=26
R06C ⇓S S 07 52 16.2 +3.6
baz=81
R07C Lee Vining 81.07 44 ⇑P **P 07 42 51.5 +0.3**
baz=81,SNR=21
R07C ⇓S S 07 52 16.3 +3.5
baz=81
O04C Chester 81.11 41 P **P 07 42 51.6 +0.2**
baz=81,SNR=54
O04C ⇓S S 07 52 15.9 +2.7
baz=81
PMSA Palmer Station 81.11 157 *e*P **P 07 42 52.3 +0.9**
comp=Z,537nm,1.6s,mb5.7
GLA Glamis 81.16 50 ⇓P **P 07 42 52.3 +0.6**
baz=81,SNR=43
GLA ⇑S S 07 52 18.6 +5.0
baz=81
HATC Hat Creek Radi 81.19 40 ⇓P **P 07 42 52.0 +0.2**
baz=81,SNR=46
HATC ⇑S S 07 52 16.6 +2.7
baz=81
K02A Glendale 81.20 38 ⇓P **P 07 42 52.1 +0.2**
baz=81,SNR=29
K02A ⇑S S 07 52 15.6 +1.6
baz=81
S08C White Mtn Res 81.31 44 ⇓P **P 07 42 53.0 +0.6**
baz=82,SNR=51
S08C ⇑S S 07 52 16.6 +1.5
baz=82
WCN Washoe City 81.33 42 ⇑P **P 07 42 52.9 +0.4**
baz=82,SNR=33
WCN ⇓S S 07 52 18.0 +2.7
baz=82
KDAK Kodiak Island 81.38 14 P **P 07 42 51.0 -1.8**
comp=Z,441nm,1.0s,mb5.8,SNR=14
KDAK Kodiak Island 81.38 14 *e*P **P 07 42 51.2 -1.6**
comp=Z,158nm,1.3s,mb5.3
HUMO Hull Mountain 81.40 38 *e*P **P 07 42 53.5 +0.6**
comp=Z,163nm,1.2s,mb5.3
HUMO Hull Mountain 81.40 38 ⇓P **P 07 42 53.4 +0.5**
baz=82,SNR=55
HUMO ⇓S S 07 52 18.6 +2.5
baz=82
P06A Stead Airport, 81.46 42 ⇑P **P 07 42 53.5 +0.2**
baz=82,SNR=12
P06A ⇑S S 07 52 18.7 +2.0
baz=82
ELFS Eagle Lake Fie 81.51 41 ⇑P **P 07 42 53.6 +0.1**
baz=82
ELFS ⇑S S 07 52 18.7 +1.6
baz=82
J02A Umpqua 81.53 37 ⇓P **P 07 42 53.8 +0.2**
baz=82,SNR=26
J02A ⇑S S 07 52 19.6 +2.3
baz=82
M04C Macdoel 81.54 39 ⇑P **P 07 42 53.9 +0.3**
baz=82,SNR=37
M04C ⇓S S 07 52 17.9 +0.4
baz=82
BUOR Burton Butte 81.61 39 P **P 07 42 54.3 +0.3**
DL2 Dalian 81.65 317 *i*PR **P 07 42 54.0 -0.2**
DL2 AP pP 07 44 58.4 -0.8
DL2 PP PP 07 46 16.6 +4.6
DL2 S S 07 52 16.7 -1.9
DL2 AMB AMB
comp=Z,100nm,1.1s,mb5.3
DL2 AMB AMB
comp=Z,610nm,4.0s
TUQ Turquoise Mtn. 81.67 47 ⇓P **P 07 42 54.3 0.0**
baz=82,SNR=18
TUQ ⇑S S 07 52 21.4 +2.7
baz=82
M05C Lookout 81.70 40 ⇓P **P 07 42 54.6 +0.1**
baz=82,SNR=22
M05C ⇑S S 07 52 19.7 +0.7
baz=82
Q07A Schurz 81.72 43 ⇑P **P 07 42 54.8 +0.2**
baz=82
Q07A ⇑S S 07 52 19.8 +0.6
baz=82
Y12C Blythe 81.74 49 ⇑P **P 07 42 55.1 +0.4**
baz=82,SNR=28
Y12C ⇓S S 07 52 22.4 +2.9
baz=82
NVAR Mina Array Bea 81.75 44 P **P 07 42 54.9 +0.2**
comp=Z,28nm,0.7s,mb4.9,baz=230,slow=11,SNR=66
NVAR pP pP 07 44 58.9 -0.7
comp=Z,7.0nm,1.0s,baz=224,slow=5.0,SNR=4.8
NVAR PKKPbc PKKPbc 08 01 23.9 +3.1
comp=Z,1.8nm,0.7s,baz=60,slow=4.4,SNR=14
NVAR PKPPKP 08 09 23.3
comp=Z,0.3nm,0.4s,baz=78,slow=3.5,SNR=5.3
NVAR Mina Array Bea 81.75 44 P **P 07 42 54.9 +0.2**
NVAR pP pP 07 44 58.9 -0.7
NVAR PKKPbc PKKPbc 08 01 23.9 +3.1
NVAR P'P' 08 09 23.3
L04A Klamath Falls 81.75 39 P **P 07 42 55.0 +0.3**
baz=82,SNR=46
L04A ⇓S S 07 52 18.9 -0.6
baz=82
I02A Mapleton 81.78 37 ⇑P **P 07 42 55.1 +0.2**
baz=82,SNR=12
I02A ⇓S S 07 52 20.3 +0.4
baz=82
O06A Flanigan 81.79 41 P **P 07 42 55.1 +0.2**
baz=82,SNR=83
O06A ⇑S S 07 52 19.9 0.0
baz=82
PAHR Pah Rah Range 81.80 42 *e*P **P 07 42 55.2 +0.3**
comp=Z,177nm,1.3s,mb5.4
VSP Spence Mountai 81.82 39 P **P 07 42 55.6 +0.5**
R08A Mina 81.83 44 ⇑P **P 07 42 55.1 +0.1**
baz=82,SNR=8.5
R08A ⇑S S 07 52 21.8 +1.5
baz=82
MNV Mina 81.85 44 *e*P **P 07 42 55.3 +0.1**
MNV pmax pmax
comp=Z,11nm,0.8s
MNV Mina 81.85 44 *e*P **P 07 42 55.3 +0.1**
comp=Z,11nm,0.8s
MNV *e*pP pP 07 45 02.0 +1.8
J03A Ideyld Park 81.88 37 ⇑P **P 07 42 55.8 +0.4**
baz=82
J03A ⇑S S 07 52 21.5 +0.6
baz=82
HSO Harness Mounta 81.90 37 P **P 07 42 56.2 +0.7**
HOG Hogback Mounta 81.90 39 P **P 07 42 56.2 +0.7**
M06C Likely Place G 82.00 40 P **P 07 42 56.4 +0.4**
baz=82,SNR=39
M06C ⇑S S 07 52 21.9 -0.2
baz=82
P07A Fallon 82.01 42 ⇓P **P 07 42 56.1 +0.1**
baz=82
P07A ⇑S S 07 52 22.7 +0.6
baz=82
S09A Goldfield 82.05 45 ⇑P **P 07 42 55.9 -0.3**
baz=82,SNR=20
S09A ⇑S S 07 52 22.3 -0.3
baz=82
I03A Eugene 82.07 37 ⇓P **P 07 42 56.4 0.0**
baz=82,SNR=13
I03A ⇓S S 07 52 21.8 -1.0
baz=82
K04A Chilquin 82.11 39 ⇑P **P 07 42 56.7 +0.2**
baz=82,SNR=11
K04A ⇑S S 07 52 20.5 -2.6
baz=82

H02A Toledo 82.12 36 ⇓P P 07 42 57.1 +0.5
baz=82
SNY Shenyang 82.17 320 ⇓P P 07 42 56.4 -0.4
SNY S S 07 52 18.8 -5.0
SNY AMB AMB
comp=Z,170nm,1.9s,mb5.2
SNY AMB AMB
comp=Z,1μm,6.2s
Q08A Gabbs 82.23 43 P P 07 42 57.1 0.0
baz=82,SNR=42
Q08A ⇑S S 07 52 24.2 -0.1
baz=82
WHN Wuhan 82.24 307 P P 07 42 57.5 +0.3
WHN S S 07 52 19.7 -4.7
WHN AMB AMB
comp=Z,410nm,1.1s,mb5.9
WHN AMB AMB
comp=Z,3μm,9.7s
TPH Tonopah 82.25 44 eP P 07 42 57.7 +0.5
TPH pmax pmax
comp=Z,196nm,1.3s,mb5.5
TPH Tonopah 82.25 44 eP P 07 42 57.7 +0.4
comp=Z,196nm,1.3s,mb5.5
NEE Needles 82.25 48 ⇑S S 07 52 25.4 +0.8
baz=82
Y13A Salome 82.26 49 ⇓P P 07 42 57.9 +0.6
baz=82,SNR=36
Y13A ⇓S S 07 52 26.3 +1.6
baz=82
TPNV Topopah Spring 82.27 46 eP P 07 42 57.9 +0.6
TPNV pmax pmax
comp=Z,37nm,1.0s,mb4.9
TPNV Topopah Spring 82.27 46 eP P 07 42 57.6 +0.2
comp=Z,37nm,0.9s,mb4.9
CN2 Changchun 82.30 323 ⇓P P 07 42 57.2 -0.2
CN2 eAP pP 07 44 58.0 -4.7
CN2 eS S 07 52 27.8 +2.8
W12A Cal Nev Ari 82.32 48 ⇑P P 07 42 58.0 +0.5
baz=82,SNR=6.5
W12A ⇓S S 07 52 27.2 +2.0
baz=82
O07A Toulon 82.38 42 ⇑P P 07 42 57.9 0.0
baz=83,SNR=31
O07A ⇑S S 07 52 25.0 -0.8
baz=83
COR Corvallis 82.45 36 P P 07 42 58.4 +0.2
COR pmax pmax
comp=Z,200nm,1.4s,mb5.5
COR Corvallis 82.45 36 eP P 07 42 57.7 -0.5
comp=Z,196nm,1.4s,mb5.5
H03A Soap Creek Ran 82.52 36 ⇓P P 07 42 58.7 +0.2
baz=83,SNR=20
H03A ⇓S S 07 52 26.5 -0.7
baz=83
MOD Modoc 82.53 40 eP P 07 42 58.5 -0.2
comp=Z,55nm,1.1s,mb5.0
IPM Ipoh 82.61 278 P P 07 43 00.3 +1.3
P08A Dixie Valley 82.61 43 ⇓P P 07 42 59.2 +0.2
baz=83,SNR=14
P08A ⇑S S 07 52 27.4 -0.7
baz=83
KLR Kul'dur 82.61 330α *i*P P **07 42 55.1 -3.9**
KLR eS S 07 52 20.5 -7.6
KLR pmax pmax
comp=E,90nm,1.6s
KLR pmax pmax
comp=Z,280nm,1.6s,mb5.5
KLR pmax pmax
comp=E,700nm,8.0s
KLR pmax pmax
comp=Z,2μm,8.0s
Z14A Wintersburg 82.66 50 ⇑P P 07 42 59.8 +0.6
baz=83,SNR=36
Z14A ⇑S S 07 52 28.1 -0.5
baz=83
X13A Yucca 82.67 49 ⇓P P 07 42 59.7 +0.4
baz=83,SNR=34
X13A ⇓S S 07 52 28.3 -0.4
baz=83
Q09A Carvers 82.70 44 ⇑P P 07 42 59.6 +0.2
baz=83,SNR=10
Q09A ⇑S S 07 52 27.8 -1.1
baz=83
BROR Big Rock Looko 82.72 37 P P 07 42 59.5 -0.1
115A Sonoran Desert 82.85 51 ⇓P P 07 43 00.7 +0.5
baz=83,SNR=26
115A ⇓S S 07 52 29.8 -0.6
baz=83
O08A Rochester Mine 82.90 42 ⇓P P 07 43 00.7 +0.2
baz=83
O08A ⇑S S 07 52 28.0 -2.9
baz=83
M07A Soldier Meadow 82.91 41 P P 07 43 00.9 +0.3
baz=83,SNR=42
M07A ⇓S S 07 52 27.7 -3.4
baz=83
Y14A Wickenburg 82.92 50 P P 07 43 00.9 +0.3
baz=83,SNR=27
Y14A ⇓S S 07 52 29.8 -1.4
baz=83
WIFE Three Sisters- 82.95 37 P P 07 43 01.0 +0.2
K06A Valley Falls 83.10 39 ⇓P P 07 43 01.7 +0.2
baz=83,SNR=32
K06A ⇑S S 07 52 29.0 -3.9
baz=83
UBT Ubonrachathani 83.11 289 P P 07 42 50.0 -12
H04A Detroit Lake 83.13 37 P P 07 43 01.2 -0.4
baz=83,SNR=37
H04A ⇑S S 07 52 27.1 -6.1
baz=83
P09A Austin 83.13 43 ⇑P P 07 43 01.6 0.0
baz=83,SNR=11
P09A ⇑S S 07 52 29.6 -3.6
baz=83
TIA Tai'an 83.14 313 ⇓P P 07 43 01.4 -0.3
F03A Seaside 83.16 35 ⇓P P 07 43 01.8 0.0
baz=83
F03A ⇓S S 07 52 29.1 -4.4
baz=83
116A Eloy 83.16 51 ⇓P P 07 43 02.5 +0.7
baz=83,SNR=38
116A ⇓S S 07 52 31.2 -2.4
baz=83
BKCOR Black Crater 83.17 37 P P 07 43 02.0 +0.2
N08A GE Springer Mi 83.20 42 P P 07 43 02.1 +0.1
baz=83,SNR=42
N08A ⇑S S 07 52 29.9 -4.0
baz=83
KULM Kulim 83.25 278 *e*P **P 07 43 03.6 +1.4**
X14A Yava 83.27 49 ⇑P P 07 43 02.9 +0.6
baz=83,SNR=34
X14A ⇓S S 07 52 31.9 -2.7
baz=83
I05A Bend 83.33 38 ⇑P P 07 43 02.8 +0.2
baz=84,SNR=26
I05A ⇑S S 07 52 30.1 -5.0
baz=84
J06A Christmas Vall 83.43 39 P P 07 43 02.9 -0.2
baz=84,SNR=59
J06A ⇓S S 07 52 30.0 -6.1
baz=84
M08A Happy Creek Ra 83.43 41 ⇑P P 07 43 03.3 +0.2
baz=84,SNR=20
M08A ⇑S S 07 52 31.5 -4.7
baz=84
O09A Fish Creek Ran 83.44 43 P P 07 43 03.2 0.0
baz=84,SNR=24
O09A ⇑S S 07 52 31.5 -4.7
baz=84
W14A Seligman 83.52 49 ⇑P P 07 43 04.3 +0.8
baz=84,SNR=28
W14A ⇑S S 07 52 34.4 -2.6
baz=84
E03A Lebam 83.56 35 ⇑P P 07 43 03.6 -0.1
baz=84,SNR=24
E03A ⇑S S 07 52 31.2 -6.1
baz=84
BMN Battle Mountai 83.57 42 eP P 07 43 03.8 0.0
BMN pmax pmax
comp=Z,123nm,1.3s,mb5.3
BMN Battle Mountai 83.57 42 eP P 07 43 03.8 0.0
comp=Z,123nm,1.3s,mb5.3
BMN epP pP 07 45 11.0 +1.4
N09A Rock Creek Ran 83.62 42 ⇓P P 07 43 04.1 0.0
baz=84,SNR=25
N09A ⇑S S 07 52 32.6 -5.4
baz=84

ON2 Olympics--Nort 83.65 34 P P 07 43 04.7 +0.5
TUC Tucson 83.71 52 eP P 07 43 05.6 +1.1
TUC pmax pmax
comp=Z,122nm,1.4s,mb5.2
TUC Tucson 83.71 52 eP P 07 43 05.6 +1.1
comp=Z,122nm,1.4s,mb5.2
X15A Humboldt 83.74 50 ⇑P P 07 43 05.3 +0.7
baz=84,SNR=28
X15A ⇑S S 07 52 35.5 -3.7
baz=84
F04A Amboy 83.78 36 ⇓P P 07 43 04.4 -0.4
baz=84,SNR=24
F04A ⇓S S 07 52 32.2 -7.4
baz=84
I06A Prineville 83.80 38 P P 07 43 05.5 +0.5
baz=84,SNR=82
I06A ⇓S S 07 52 33.9 -5.8
baz=84
D03A Wishkah Elem. 83.81 34 ⇑P P 07 43 05.2 +0.2
baz=84,SNR=5.8
SVW2 Sparrevohn 83.84 11 *e*P **P 07 43 03.1 -2.0**
C03A Quillayute Air 83.93 33 ⇑P P 07 43 06.1 +0.5
baz=84
PSI Prapat 83.95 275 P P 07 43 05.5 -0.1
comp=Z,74nm,1.0s,mb5.2,baz=193,slow=17,SNR=8.5
G05A Wamic 83.96 37 ⇑P P 07 43 05.6 -0.1
baz=84,SNR=7.5
G05A ⇓S S 07 52 33.7 -7.6
baz=84
SNG Songkhla 83.98 280 P P 07 43 08.0 +2.2
comp=Z,124nm,1.0s,mb5.4
OOW Octopus West 83.98 34 P P 07 43 06.6 +0.7
M09A Marrel Ranch, 83.99 41 ⇑P P 07 43 06.0 +0.2
baz=84
M09A ⇑S S 07 52 36.1 -5.5
baz=84
OCWA Octopus Mounta 84.00 34 *e*P **P 07 43 06.3 +0.4**
comp=Z,217nm,1.1s,mb5.6
E04A Onalaska 84.03 35 ⇑P P 07 43 06.4 +0.3
baz=84,SNR=9.0
E04A ⇑S 07 52 35.9
baz=84
MA2 Magadan 84.06 345 *d*i P **P 07 43 04.1 -2.1**
MA2 *e**SP sP 07 45 58.1 -14
MA2 *e*S 07 52 40.0
MA2 *e*SP 07 53 36.7
MA2 *e*SSS 08 01 56.2
MA2 pmax pmax
comp=Z,300nm,1.3s,mb5.7
MA2 pmax pmax
comp=N,100nm,1.5s
MA2 Magadan 84.06 345 *e*P **P 07 43 04.0 -2.1**
comp=N,402nm,1.4s,mb5.8
W15A Williams 84.07 49 ⇑P P 07 43 06.6 +0.3
baz=84,SNR=11
W15A ⇓S 07 52 38.0
baz=84
USHA Ushuaia 84.08 147 P P 07 43 07.1 +0.8
comp=N,38nm,0.9s,mb4.9,baz=231,slow=6.1,SNR=12
OTR Olympics--Tyee 84.13 33 P P 07 43 07.2 +0.7
N10A Dunphy 84.18 42 ⇑P P 07 43 06.9 0.0
baz=84,SNR=6.3
N10A ⇓S 07 52 37.1
baz=84
L09A Wilkinson Ranc 84.19 41 ⇓P P 07 43 06.9 0.0
baz=84,SNR=14
L09A ⇓S 07 52 36.5
baz=84
F05A White Salmon 84.27 36 P P 07 43 07.1 -0.2
baz=84,SNR=9.3
F05A ⇑S 07 52 36.0
baz=84
D04A Dobbs Creek Ra 84.31 35 ⇑P P 07 43 07.9 +0.4
baz=84,SNR=5.6
D04A ⇓S 07 52 38.1
baz=84
MID Middleton Isla 84.35 16 *e*P **P 07 43 06.3 -1.3**
SLKM Skilak Lake 84.37 14 *e*P **P 07 43 06.5 -1.3**
E05A Randle 84.53 35 ⇑P P 07 43 08.0 -0.5
baz=85,SNR=33
E05A ⇑S 07 52 36.4
baz=85
B04A Port Angeles 84.55 34 ⇑P P 07 43 08.5 -0.1
baz=85,SNR=20
B04A ⇓S 07 52 37.4
baz=85
ARUT Antelope Range 84.61 46 *e*P **P 07 43 09.3 +0.4**
ARUT Antelope Range 84.61 46 *e*P **P 07 43 09.2 +0.3**
C04A Brinnon 84.61 34 ⇑P P 07 43 08.8 0.0
baz=85,SNR=17
C04A ⇑S 07 52 38.5
baz=85
M10A I.L. Ranch, Tu 84.61 42 ⇓P P 07 43 09.1 +0.2
baz=85,SNR=25
M10A ⇓S 07 52 39.6
baz=85
LON Longmire 84.62 35 P P 07 43 08.1 -0.8
N11A Elko Archery C 84.72 43 ⇑P P 07 43 09.4 -0.1
baz=85,SNR=8.9
N11A ⇓S 07 52 40.3
baz=85
D05A Enumclaw 84.80 35 ⇑P P 07 43 10.0 +0.2
baz=85,SNR=27
D05A ⇑S 07 52 37.9
baz=85
PGC Sidney 84.95 33 *e*P **P 07 43 09.9 -0.6**
comp=N,206nm,1.1s,mb5.7
ELK Elko 85.00 43 *e*P **P 07 43 10.5 -0.3**
ELK pmax pmax
comp=Z,14nm,0.9s
ELK Elko 85.00 43 *e*P **P 07 43 10.5 -0.3**
comp=Z,14nm,0.9s,mb4.6
M11A Holland Ranch, 85.03 42 ⇓P P 07 43 11.2 +0.3
baz=85,SNR=8.6
M11A ⇑S 07 52 41.6
baz=85
O12A Currie 85.06 44 P P 07 43 10.9 -0.1
baz=85,SNR=14
O12A ⇓S 07 52 43.2
baz=85
N12A Wells--Clov Va 85.19 43 ⇓P P 07 43 11.6 -0.1
baz=85
N12A ⇓S 07 52 44.0
baz=85
C05A Tolt Reservoir 85.27 35 ⇑P P 07 43 11.5 -0.5
baz=85,SNR=20
C05A ⇓S 07 52 41.3
baz=85
CRAG Craig 85.36 24 *e*P **P 07 43 11.7 -0.8**
comp=Z,93nm,1.0s,mb5.4
A04A Legoe Bay, Lum 85.38 33 P P 07 43 12.5 -0.1
baz=86,SNR=56
A04A ⇑S 07 52 42.4
baz=86
EBG Ellensburg 85.39 36 P P 07 43 12.8 +0.2
B05A Bryant 85.40 34 P P 07 43 12.5 -0.3
baz=86,SNR=31
B05A ⇓S 07 52 41.9
baz=86
EYAK Cordova Ski Ar 85.47 16 *e*P **P 07 43 11.4 -1.7**
TTA Tatalina 85.48 10 *e*P **P 07 43 11.7 -1.4**
TBM Table Mountain 85.53 35 P P 07 43 13.4 +0.1
LTY Liberty 85.55 35 P P 07 43 12.8 -0.7
PMR Palmer 85.58 14 P P 07 43 11.6 -2.0
PMR pmax pmax
comp=Z,160nm,1.1s,mb5.6
PMR Palmer 85.58 14 *e*P **P 07 43 11.5 -2.1**
comp=Z,237nm,1.4s,mb5.6
HAWA Hanford 85.65 37 *e*P **P 07 43 13.8 -0.2**
comp=Z,14nm,1.3s
HAWA epP pP 07 45 21.7 +1.2
N13A West Wendover 85.72 43 ⇓P P 07 43 14.2 -0.1
baz=86,SNR=8.5
N13A ⇓S 07 52 46.5
baz=86
SIT Sitka 85.75 22 *e*P **P 07 43 13.2 -1.2**
SIT pmax pmax
comp=Z,59nm,1.1s,mb5.1
SIT Sitka 85.75 22 *e*P **P 07 43 13.2 -1.2**
comp=Z,59nm,1.1s,mb5.1
BJT Baijiatuau 85.79 316 *e*P **P 07 43 14.6 0.0**
BJT pmax pmax
comp=Z,113nm,0.8s
BJT Baijiatuau 85.79 316 *e*P **P 07 43 14.6 0.0**
comp=Z,113nm,0.8s,mb5.5
MOIG Morelia 85.83 67 *i*P **P 07 43 15.4 +0.6**
A05A Maple Falls 85.87 33 P P 07 43 14.2 -0.7
baz=86,SNR=10
A05A ⇑S 07 52 43.9
baz=86
ZAIG Zacatecas 85.92 64 *i*P **P 07 43 16.1 +0.9**
OT3 Othello 3 85.98 36 P P 07 43 15.7 +0.2
M13A Montello 86.02 43 ⇓P P 07 43 15.4 -0.2
baz=86,SNR=25
M13A ⇓S 07 52 48.8
baz=86
SYO Syowa Base 86.17 193⇑ *e*P **P 07 43 15.0 -1.3**
SYO Syowa Base 86.17 193⇑ *i*PcP PcP 07 43 16.8 -1.2
WTV Waterville 86.20 35 P P 07 43 15.9 -0.6
DUG Dugway 86.28 44 *e*P **P 07 43 16.7 -0.2**
DUG *e* 07 46 48.1
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG Dugway 86.28 44 *e*P **P 07 43 16.7 -0.1**
comp=Z,7.7nm,0.8s
DUG *e*PP PP 07 46 48.1 -0.9
GYA Guiyang 86.36 300⇓ *i*P **P 07 43 17.9 +0.6**
GYA XP sP 07 46 26.5 +3.0
GYA SKS 07 52 45.9
GYA S 07 53 03.2
GYA AMB AMB
comp=Z,170nm,1.8s,mb5.4
GYA AMB AMB
comp=Z,940nm,6.9s
BGU Big Grassy Mou 86.52 44 *e*P **P 07 43 17.7 -0.3**
BGU *e*pP pP 07 45 25.9 +0.9
BGU *e*PP PP 07 46 50.5 -0.4
NLU North Lily Min 86.64 45 *e*P **P 07 43 18.9 +0.3**
NLU *e*pP pP 07 45 27.2 +1.6
PLIG Platanillo 86.79 69 *i*P **P 07 43 20.4 +1.1**
TMUT Trail Mountain 86.88 46 *e*P **P 07 43 20.4 +0.7**
TMUT *e*pP pP 07 45 29.2 +2.4
MPU Maple Canyon 86.96 45 *e*P **P 07 43 20.4 +0.3**
comp=Z,40nm,1.4s,mb5.0
MPU *e*PP PP 07 46 53.5 -0.9
NOQ North Oquirrh 86.97 44 *e*P **P 07 43 20.3 +0.2**
comp=Z,92nm,1.6s,mb5.3
NOQ *e*pP pP 07 45 28.6 +1.4
NOQ *e*PP PP 07 46 54.0 -0.5
HLID Hailey 87.04 41 *e*P **P 07 43 20.7 +0.3**
comp=Z,40nm,1.3s,mb5.0
SPUT South Promonto 87.09 44 *e*P **P 07 43 20.9 +0.2**
SPUT *e*pP pP 07 45 29.6 +1.7
SPUT *e*PP PP 07 46 55.4 0.0
HVU Hansel Valley 87.13 43 *e*P **P 07 43 21.1 +0.2**
HVU *e**PP pP 07 45 26.7 -1.4
HVU *e* 07 46 54.8
HVU pmax pmax
comp=Z,82nm,1.3s,mb5.3
HVU Hansel Valley 87.13 43 *e*P **P 07 43 21.1 +0.2**
comp=Z,82nm,1.3s,mb5.3
HVU *e*pP pP 07 45 26.7 -1.4
HVU *e*PP PP 07 46 54.8 -0.9
SRU San Rafael 87.25 46 *e*P **P 07 43 21.9 +0.5**
SRU *e* 07 46 54.7
SRU pmax pmax
comp=Z,78nm,1.1s,mb5.3
SRU San Rafael 87.25 46 *e*P **P 07 43 21.9 +0.4**
comp=Z,78nm,1.1s,mb5.3
SRU *e*pP pP 07 45 30.3 +1.6
SRU *e*PP PP 07 46 54.7 -1.9
PNT Penticton 87.35 34 P P 07 43 21.6 -0.3
YAIG Yautepec 87.35 69 *i*P **P 07 43 22.6 +0.7**
LAZ Ladron 87.39 52 *e*P **P 07 43 22.6 +0.5**
Y22C IRIS PASSCAL I 87.40 52 ⇓P P 07 43 22.7 +0.5
baz=88
Y22C ⇓S 07 52 56.9
baz=88
LENM Lemitar 87.40 52 *e*P **P 07 43 23.0 +0.8**
DAU Daniels Canyon 87.41 45 P P 07 43 23.2 +1.0
DAU Daniels Canyon 87.41 45 *e*P **P 07 43 23.0 +0.8**
MNTX Cornudas Mount 87.48 55 *e*P **P 07 43 22.9 +0.4**
comp=Z,36nm,0.9s,mb5.1
SNAA Sanae 87.58 179⇑ *i*P **P 07 43 12.7 -10**
SNAA Sanae 87.58 179⇑ *i*P **P 07 43 12.7 -10**
SNAA *e* 07 43 14.3
SNAA *e* 07 43 20.9
SNAA *e* 07 43 29.4
SNAA *e* 07 43 37.3
SNAA *e* pP 07 45 18.5 -12
SNAA *e* pP 07 45 21.7 -8.7
SNAA *e* pP 07 45 24.7 -5.7
SNAA *e* 07 52 44.9
SNAA *e* 08 00 56.2
SKAG Skagway 87.60 21 *e*P **P 07 43 22.4 -0.7**
comp=Z,148nm,1.4s,mb5.5
NST Nakhon Sawan 87.61 288 ⇑P P 07 43 25.0 +1.9
comp=Z,192nm,1.4s,mb5.6
BNM Barren Site 87.65 52 *e*P **P 07 43 24.1 +0.8**
BNM *e*PP PP 07 46 56.4 -3.4
TCUT Toone Canyon 87.67 44 *e*P **P 07 43 23.9 +0.5**
LPM Los Pinos Moun 87.72 52 *e*P **P 07 43 24.3 +0.7**
LPM *e*pP pP 07 45 29.9 -1.2
VNA3 Neumayer Olymp 87.74 176⇑ *i*P **P 07 43 23.4 -0.3**
VNA3 Neumayer Olymp 87.74 176⇑ *i*P **P 07 43 23.4 -0.3**
VNA3 *e* 07 43 24.4
VNA3 *e* 07 43 31.2
VNA3 *e* 07 43 39.9
VNA3 *e* 07 43 48.1
VNA3 *e* pP 07 45 28.2 -2.9
VNA3 *e* pP 07 45 32.1 +1.0
VNA3 *e* pP 07 45 34.8 +3.7
VNA3 *e* 07 51 49.4
VNA3 *e* 07 52 53.6
VNA3 *e* 08 01 05.1
LTX Lajitas 87.79 58 *e*P **P 07 43 25.2 +1.3**
LTX pmax pmax
comp=Z,60nm,0.9s,mb5.3
LTX Lajitas 87.79 58 *e*P **P 07 43 25.2 +1.2**
comp=Z,60nm,0.9s,mb5.3
PPM Popocatepetl 87.81 69 *i*P **P 07 43 25.7 +1.6**
HWUT Hardware Ranch 87.81 44 *e*P **P 07 43 23.9 -0.2**
comp=Z,39nm,1.3s,mb5.0
HWUT *e*PP PP 07 46 59.4 -1.7
PV10 Paradox Valley 87.91 47 *e*P **P 07 43 24.7 +0.2**
PV10 *e*pP pP 07 45 33.6 +1.6
XAN Xi'an 87.94 308 P P 07 43 25.3 +0.6
XAN AP pP 07 45 29.6 -2.5
XAN SKS 07 52 56.1
XAN S 07 53 24.2
XAN AMB AMB
comp=Z,300nm,1.4s,mb5.8
XAN AMB AMB
comp=Z,980nm,5.8s
MENT Mentasta 88.02 15 *e*P **P 07 43 23.6 -1.4**
NEW Newport 88.07 36 *e*P **P 07 43 24.2 -1.1**
NEW *e* 07 47 00.6
NEW pmax pmax
comp=Z,44nm,1.1s
NEW Newport 88.07 36 *e*P **P 07 43 24.2 -1.1**
comp=Z,44nm,1.1s,mb5.1
NEW *e*pP pP 07 45 33.8 +1.0
NEW *e*PP PP 07 47 00.6 -2.5
ANMO Albuquerque 88.14 51 *e*P **P 07 43 25.8 +0.2**
ANMO *e**PP pP 07 45 32.2 -0.9
VNA2 Neumayer--Watz 88.17 177⇑ *i*P **P 07 43 25.7 0.0**
baz=213,slow=2.5
VNA2 Neumayer--Watz 88.17 177⇑ *i*P **P 07 43 25.7 0.0**
baz=185,slow=3.3
VNA2 *e* 07 43 26.9
VNA2 *e* 07 43 33.6
VNA2 *e* 07 43 42.2
VNA2 *e* 07 43 50.0
VNA2 *e* pP 07 45 30.8 -2.5
VNA2 *e* pP 07 45 34.5 +1.2
VNA2 *e* pP 07 45 37.2 +3.9
VNA2 *e* 07 51 53.4
VNA2 *e* 07 52 58.7
VNA2 *e* 08 01 04.1
NVL N'lazarevskaya 88.24 183⇑ *i*P **P 07 43 25.2 -0.9**
NVL *i* 07 52 56.6
NVL *e* 07 59 37.7
NVL pmax pmax
comp=Z,104nm,1.1s,mb5.5
NVL pmax pmax
comp=N,41nm,1.6s
NVL pmax pmax
comp=E,17nm,1.6s
VNA1 Neumayer--Stat 88.40 177⇑ *i*P **P 07 43 26.9 +0.1**
VNA1 Neumayer--Stat 88.40 177⇑ *i*P **P 07 43 26.9 +0.1**

VNA1				*e*			07 43 28.2	
VNA1				*e*			07 43 34.4	
VNA1				*e*			07 43 43.8	
VNA1				*e*			07 43 51.3	
VNA1				*e*	pP		07 45 33.1	-1.4
VNA1				*e*	pP		07 45 35.8	+1.3
VNA1				*e*	pP		07 45 39.1	+4.6
GDL2	**Guadalupe Moun**	**88.48**	**55**	*e*P	**P**		**07 43 28.1**	**+0.9**
MCMT	**McKenzie Canyo**	**88.67**	**40**	*e*P	**P**		**07 43 28.5**	**+0.5**
DLBC	**Dease Lake**	**88.69**	**23**	*e*P	**P**		**07 43 27.6**	**-0.6**
AHID	**Auburn Hatcher**	**88.70**	**43**	*e*P	**P**		**07 43 28.4**	**+0.2**
	comp=E,108nm,1.2s,mb5.5							
AHID				*e*pP	pP		07 45 35.3	-0.7
AHID				*e*PP	PP		07 47 06.8	-1.2
HIA	**Hailar**	**88.72**	**325**	P	**P**		**07 43 27.6**	**-0.7**
HIA				PP	PP		07 47 03.2	-5.0
HIA				SKSac	SKSac		07 53 00.5	-1.1
HIA				S			07 53 29.0	
HIA	**Hailar**	**88.72**	**325**	*e*P	**P**		**07 43 27.6**	**-0.7**
HIA				pmax	pmax			
	comp=Z,64nm,0.8s							
HIA	**Hailar**	**88.72**	**325**	*e*P	**P**		**07 43 27.6**	**-0.7**
	comp=Z,64nm,0.8s,mb5.5							
HIA				*e*PP	pP		07 45 39.0	+3.0
VHO	**Vista Hermosa**	**88.72**	**71**	*i* P	**P**		**07 43 29.2**	**+0.9**
COLA	**College**	**88.77**	**13**	*i* P	**P**		**07 43 26.2**	**-2.3**
COLA	**College**	**88.77**	**13**	*e*P	**P**		**07 43 26.2**	**-2.3**
COLA				epP	pP		07 45 33.9	-2.3
ILAR	**Eielson Array**	**88.88**	**13**	P	**P**		**07 43 26.6**	**-2.4**
	comp=Z,55nm,0.9s,mb5.4,baz=227,slow=5.3,SNR=116							
ILAR				pP	pP		07 45 33.7	-3.1
	comp=Z,10nm,1.0s,baz=253,slow=5.1,SNR=4.1							
ILAR				PP	PP		07 47 08.3	-1.1
	comp=Z,8.0nm,0.9s,baz=226,slow=8.2,SNR=5.5							
ILAR				PKiKP	PKiKP		07 48 21.8	-2.3
	comp=Z,1.9nm,0.8s,baz=291,slow=3.2,SNR=6.5							
ILAR				PKKPbc	PKKPbc		08 01 04.0	-0.2
	comp=Z,0.6nm,0.6s,baz=350,slow=2.3,SNR=12							
ILAR	**Eielson Array**	**88.88**	**13**	P	**P**		**07 43 26.6**	**-2.4**
ILAR				pP	pP		07 45 33.7	-3.1
ILAR				PP	PP		07 47 08.3	-1.1
CLNB	**Carlsbad**	**88.88**	**55**	*e*P	**P**		**07 43 29.2**	**+0.1**
KMI	**Kunming**	**89.03**	**297**	P	**P**		**07 43 30.4**	**+0.7**
KMI				AP	pP		07 45 36.0	-1.6
KMI				XP	sP		07 46 35.3	-1.3
KMI				PP	PP		07 47 12.1	+1.5
KMI				SKS			07 53 03.5	
KMI				S			07 53 27.7	
KMI				XS	sS		07 57 15.2	-1.7
KMI				SS	SS		07 59 40.1	-0.3
KMI				AMB	AMB			
	comp=Z,230nm,1.6s,mb5.8							
KMI				AMB	AMB			
	comp=Z,1μm,4.3s							
DCID1	**Drake Creek**	**89.06**	**42**	*e*P	**P**		**07 43 30.4**	**+0.5**
DCID1				*e*pP	pP		07 45 39.5	+1.7
DCID1				*e*PP	PP		07 47 10.3	-0.6
MSO	**Missoula**	**89.08**	**38**	*e*P	**P**		**07 43 28.8**	**-1.1**
	comp=Z,19nm,1.2s,mb4.8							
MSO				*e*pP	pP		07 45 37.3	-0.5
MSO				*e*PP	PP		07 47 08.9	-2.1
DLMT	**Dillon**	**89.10**	**40**	*e*P	**P**		**07 43 30.0**	**0.0**
	comp=Z,62nm,1.4s,mb5.2							
DLMT				*e*pP	pP		07 45 38.1	+0.2
REDW	**Red Top Meadow**	**89.16**	**42**	*e*P	**P**		**07 43 30.5**	**+0.2**
	comp=Z,144nm,1.2s,mb5.7							
TPAW	**Teton Pass**	**89.16**	**42**	*e*Sn	**P**		**07 43 30.4**	**+0.1**
	comp=Z,105nm,1.2s,mb5.5							
HHC	**Hu-ho-hao-te**	**89.25**	**315**	⇓P	**P**		**07 43 31.2**	**+0.5**
HHC				AP	pP		07 45 41.7	+3.1
HHC				XP	sP		07 46 39.6	+1.9
HHC				PP	PP		07 47 13.4	+1.1
HHC				SKS			07 53 04.2	
HHC				S			07 53 36.9	
HHC				XS	sS		07 57 19.5	+0.6
HHC				SS	SS		07 59 45.5	+2.0
HHC				AMB	AMB			
	comp=Z,140nm,1.3s,mb5.6							
HHC				AMB	AMB			
	comp=Z,970nm,5.1s							
IMW	**Indian Meadow**	**89.37**	**42**	*e*P	**P**		**07 43 31.6**	**+0.3**
	comp=Z,50nm,0.8s,mb5.4							
PLCA	**Paso Flores**	**89.39**	**134**	P	**P**		**07 43 32.8**	**+1.4**
	comp=Z,26nm,0.8s,mb5.1,baz=217,slow=5.6,SNR=27							
PLCA				PKKPbc	PKKPbc		08 01 03.2	+0.3
	comp=Z,3.1nm,0.7s,baz=158,slow=1.0,SNR=6.1							
PLCA	**Paso Flores**	**89.39**	**134**	*e*P	**P**		**07 43 32.6**	**+1.2**
PLCA				*e**PP	pP		07 45 39.6	+0.3
PLCA				pmax	pmax			
	comp=Z,23nm,0.8s							
PLCA	**Paso Flores**	**89.39**	**134**	*e*P	**P**		**07 43 32.6**	**+1.2**
	comp=Z,23nm,0.8s,mb5.1							
PLCA				*e*pP	pP		07 45 39.5	+0.2
MOOW	**Moose Ponds**	**89.42**	**42**	*e*P	**P**		**07 43 31.3**	**-0.3**
	comp=Z,26nm,0.9s,mb5.1							
MOOW				*e*pP	pP		07 45 40.0	+0.5
BILL	**Bilibino**	**89.42**	**354**	*d* iP	**P**		**07 43 29.7**	**-1.8**
BILL				*e*			07 47 10.7	
BILL				*i* S			07 53 28.1	
BILL				pmax	pmax			
	comp=Z,114nm,1.5s,mb5.5							
BILL	**Bilibino**	**89.42**	**354**	*e*P	**P**		**07 43 29.8**	**-1.7**
	comp=Z,50nm,0.8s,mb5.4							
BILL				*e*pP	pP		07 45 38.4	-1.1
BILL				*e*PP	PP		07 47 08.8	-4.8
LOHW	**Long Hollow**	**89.44**	**42**	*e*P	**P**		**07 43 31.4**	**-0.2**
	comp=Z,32nm,0.6s,mb5.3							
LOHW				*e*pP	pP		07 45 41.0	+1.5
CHRT	**Chiangrai**	**89.51**	**291**	⇓P	**P**		**07 43 34.0**	**+2.0**
	comp=Z,2μm,0.8s							
CHMT	**Chamberlain Mo**	**89.52**	**39**	*e*P	**P**		**07 43 31.4**	**-0.6**
QLMT	**Earthquake Lak**	**89.53**	**41**	*e*P	**P**		**07 43 32.7**	**+0.6**
QLMT				*e*PP	PP		07 47 14.2	-0.3
FLWY	**Flagg Ranch**	**89.61**	**42**	*e*P	**P**		**07 43 32.9**	**+0.5**
	comp=Z,130nm,1.2s,mb5.6							
BW06	**Boulder Array**	**89.69**	**43**	*e*P	**P**		**07 43 32.3**	**-0.5**
	comp=Z,37nm,0.7s,mb5.3							
PDAR	**Pinedale Array**	**89.69**	**43**	P	**P**		**07 43 32.1**	**-0.7**
	comp=Z,37nm,0.7s,mb5.3,baz=211,slow=3.3,SNR=119							
PDAR				pP	pP		07 45 39.8	-0.9
	comp=Z,1.9nm,0.9s,baz=243,slow=4.0,SNR=2.5							
PDAR				PKKPbc	PKKPbc		08 01 02.8	+0.6
	comp=Z,2.0nm,0.7s,baz=80,slow=3.5,SNR=12							
PDAR				PKPPKP			08 09 10.3	
	comp=Z,0.4nm,0.7s,baz=145,slow=3.3,SNR=4.1							
SMCO	**Snowmass**	**89.71**	**48**	*e*P	**P**		**07 43 33.3**	**+0.4**
	comp=Z,55nm,1.3s,mb5.2							
YFT	**Old Faithful**	**89.71**	**42**	*e*P	**P**		**07 43 34.3**	**+1.4**
YFT				epP	pP		07 45 43.1	+2.2
YMR	**Madison River**	**89.74**	**41**	*e*P	**P**		**07 43 34.0**	**+1.0**
	comp=Z,115nm,1.4s,mb5.5							
BOZ	**Bozeman (W)**	**89.83**	**40**	*e*P	**P**		**07 43 33.2**	**-0.2**
BOZ				pmax	pmax			
	comp=Z,75nm,1.3s,mb5.4							
BOZ	**Bozeman (W)**	**89.83**	**40**	*e*P	**P**		**07 43 33.2**	**-0.2**
	comp=Z,75nm,1.3s,mb5.4							
CHG	**Chiang Mai**	**89.84**	**290**	⇓P	**P**		**07 43 35.1**	**+1.6**
	comp=Z,150nm,1.0s,mb5.8							
CHTO	**Chiang Mai**	**89.84**	**290**	P	**P**		**07 43 35.0**	**+1.5**
CHTO				pmax	pmax			
	comp=Z,390nm,1.1s,mb6.2							
CHTO	**Chiang Mai**	**89.84**	**290**	*e*P	**P**		**07 43 35.1**	**+1.6**
	comp=Z,386nm,1.1s,mb6.1							
LVIG	**Laguna Verde**	**89.99**	**69**	*i* P	**P**		**07 43 34.4**	**+0.2**
LKWY	**Lake**	**90.04**	**42**	*e*P	**P**		**07 43 36.1**	**+1.7**
LKWY				pmax	pmax			
	comp=Z,58nm,1.2s,mb5.3							
LKWY	**Lake**	**90.04**	**42**	*e*P	**P**		**07 43 36.0**	**+1.7**
	comp=Z,58nm,1.2s,mb5.3							
BTO	**Baotou**	**90.16**	**314**	*e*P	**P**		**07 43 34.6**	**-0.4**
HRY	**Holter Researc**	**90.25**	**39**	*e*P	**P**		**07 43 35.3**	**0.0**
HRY				*e*PP	PP		07 47 17.0	-3.1
WALA	**Waterton Lakes**	**90.29**	**36**	*e*P	**P**		**07 43 34.8**	**-0.7**
	comp=Z,48nm,1.1s,mb5.2							
WALA				*e*pP	pP		07 45 42.3	-1.4
CMIG	**Matias Romero**	**90.36**	**72**	*i* P	**P**		**07 43 36.5**	**+0.6**
CD2	**Chengdu**	**90.54**	**303**	P	**P**		**07 43 37.3**	**+0.6**
CD2				AP	pP		07 45 48.0	+3.2
CD2				XP	sP		07 46 46.8	+3.0
CD2				PP	PP		07 47 26.0	+3.6
CD2				PPP			07 49 30.6	
CD2				SKS			07 53 11.5	
CD2				S			07 53 40.7	
CD2				XS	sS		07 57 32.4	+1.0
CD2				SS	SS		08 00 06.3	+4.4
CD2				AMB	AMB			
	comp=Z,80nm,0.9s,mb5.7							
CD2				AMB	AMB			
	comp=Z,1μm,4.7s							
RWWY	**Rawlins**	**90.71**	**45**	*e*P	**P**		**07 43 37.3**	**-0.2**
	comp=Z,102nm,1.1s,mb5.7							
CLNS	**Chul'man**	**90.76**	**333**	*e*P	**P**		**07 43 36.0**	**-1.7**
CLNS				*e*S			07 53 36.5	
CLNS				pmax	pmax			
	comp=Z,105nm,1.6s,mb5.5							
CLNS				pmax	pmax			
	comp=N,43nm,1.1s							
CLNS				pmax	pmax			
	comp=E,20nm,1.2s							
CLNS				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
CLNS				pmax	pmax			
	comp=N,12nm,0.9s							
CLNS				pmax	pmax			
	comp=E,4.0nm,0.7s							
CLNS				smax				
	comp=N,1μm,12.9s							
CLNS				smax				
	comp=Z,134nm,11.5s							
CLNS				smax				
	comp=E,866nm,15.4s							
ISCO	**Idaho Springs**	**90.93**	**47**	P	**P**		**07 43 38.7**	**+0.2**
ISCO				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.8							
ISCO	**Idaho Springs**	**90.93**	**47**	*e*P	**P**		**07 43 38.6**	**+0.1**
	comp=Z,11nm,0.8s,mb4.8							
GCMT	**Greycliff**	**91.09**	**41**	*e*P	**P**		**07 43 39.6**	**+0.4**
GCMT				*e*pP	pP		07 45 48.4	+1.0
JCT	**Junction City**	**91.31**	**58**	*e*P	**P**		**07 43 40.0**	**-0.3**
JCT				pmax	pmax			
	comp=Z,24nm,0.7s,mb5.2							
JCT	**Junction City**	**91.31**	**58**	*e*P	**P**		**07 43 40.0**	**-0.3**
	comp=Z,24nm,0.7s,mb5.2							
AMTX	**Amarillo**	**91.65**	**53**	*e*P	**P**		**07 43 41.9**	**+0.1**
	comp=Z,50nm,1.5s,mb5.3							
PHWY	**Pilot Hill**	**91.70**	**46**	*e*P	**P**		**07 43 41.9**	**-0.2**
PHWY				*e*pP	pP		07 45 48.5	-1.8
EGMT	**Eagleton**	**92.13**	**39**	*e*P	**P**		**07 43 43.7**	**-0.3**
	comp=Z,25nm,1.2s,mb5.1							
EGMT				*e*pP	pP		07 45 51.7	-0.6
EGMT				*e*PP	PP		07 47 31.9	-2.9
YAK	**Yakutsk**	**92.31**	**338**	*d* iP	**P**		**07 43 43.4**	**-1.4**
YAK				*e*			07 47 31.3	
YAK				*i* S			07 53 17.1	
YAK				*e*			07 53 55.5	
YAK				pmax	pmax			
	comp=Z,72nm,0.8s,mb5.8							
YAK				pmax	pmax			
	comp=N,14nm,1.1s							
YAK				pmax	pmax			
	comp=E,29nm,1.4s							
YAK				pmax	pmax			
	comp=Z,16nm,1.5s,mb4.8							
YAK				pmax	pmax			
	comp=N,8.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,17nm,1.4s							
YAK				smax				
	comp=N,29nm,1.2s							
YAK				smax				
	comp=E,25nm,1.6s							
YAK	**Yakutsk**	**92.31**	**338**	*e*P	**P**		**07 43 42.7**	**-2.1**
	comp=E,103nm,0.6s,mb6.0							
LZH	**Lanzhou**	**92.58**	**308**	⇓P	**P**		**07 43 47.0**	**+0.9**
LZH				AP	pP		07 45 53.5	-0.9
LZH				XP	sP		07 46 51.9	-1.4
LZH				PP	PP		07 47 40.0	+1.9
LZH				SKS			07 53 23.0	
LZH				S			07 53 58.0	
LZH				XS	sS		07 57 49.0	-1.6
LZH				SS	SS		08 00 32.0	+1.3
LZH				AMB	AMB			
	comp=Z,240nm,1.2s,mb6.1							
LZH				AMB	AMB			
	comp=Z,830nm,4.0s							
EDM	**Edmonton**	**92.80**	**33**	*e*P	**P**		**07 43 45.6**	**-1.5**
EDM				*e*			07 47 35.4	
CIT	**Chita**	**93.52**	**325**	*e*P	**P**		**07 43 49.5**	**-0.9**
CIT				pmax	pmax			
	comp=Z,194nm,1.7s,mb6.0							
LAO	**LASA Array**	**93.62**	**41**	*e*P	**P**		**07 43 51.2**	**+0.4**
	comp=Z,41nm,1.1s,mb5.5							
RSSD	**Black Hills**	**93.88**	**44**	*e*P	**P**		**07 43 51.3**	**-0.7**
RSSD				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb5.0							
RSSD	**Black Hills**	**93.88**	**44**	*e*P	**P**		**07 43 51.2**	**-0.8**
	comp=Z,9.2nm,0.7s,mb5.0							
HKT	**Hockley**	**94.28**	**60**	*e*P	**P**		**07 43 54.0**	**+0.1**
HKT				pmax	pmax			
	comp=Z,41nm,1.7s,mb5.3							
HKT	**Hockley**	**94.28**	**60**	*e*P	**P**		**07 43 54.0**	**+0.1**
	comp=Z,41nm,1.7s,mb5.3							
CBKS	**Cedar Bluff**	**94.65**	**50**	*e*P	**P**		**07 43 55.4**	**-0.1**
CBKS				pmax	pmax			
	comp=Z,38nm,1.1s,mb5.4							
CBKS	**Cedar Bluff**	**94.65**	**50**	*e*P	**P**		**07 43 55.4**	**-0.1**
	comp=Z,38nm,1.1s,mb5.4							
CBKS				*e*pP	pP		07 46 04.9	+0.9
INK	**Inuvik**	**94.85**	**15**	*e*P	**P**		**07 43 54.1**	**-2.3**
INK				pmax	pmax			
	comp=Z,36nm,1.0s							
INK	**Inuvik**	**94.85**	**15**	*e*P	**P**		**07 43 54.1**	**-2.3**
	comp=Z,36nm,1.0s,mb5.5							
CFAA	**Coronel Fontan**	**95.31**	**127**	P	**P**		**07 43 58.7**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=249,slow=4.4,SNR=15							
CFAA				pP	pP		07 46 07.8	+0.7
	comp=Z,0.7nm,1.0s,baz=233,slow=3.0,SNR=4.3							
CFAA				PP	PP		07 47 56.4	-2.7
	comp=Z,2.2nm,1.0s,baz=247,slow=6.2,SNR=11							
CFAA	**Coronel Fontan**	**95.31**	**127**	P	**P**		**07 43 58.7**	**+0.2**
CFAA				pP	pP		07 46 07.8	+0.7
CFAA				PP	PP		07 47 56.4	-2.7
ULN	**Ulaanbaatar**	**95.32**	**319**	P	**P**		**07 43 57.5**	**-1.0**
ULN				SKSac	SKSac		07 53 37.4	-0.5
ULN	**Ulaanbaatar**	**95.32**	**319**	*e*P	**P**		**07 43 57.5**	**-1.0**
ULN				pmax	pmax			
	comp=Z,65nm,1.3s,mb5.6							
ULN	**Ulaanbaatar**	**95.32**	**319**	*e*P	**P**		**07 43 57.5**	**-1.1**
	comp=Z,65nm,1.3s,mb5.6							
SONM	**Songino Array**	**95.70**	**319**	P	**P**		**07 43 58.9**	**-1.4**
	comp=Z,5.8nm,0.7s,mb4.9,baz=131,slow=1.9,SNR=29							
SONM				PP	PP		07 47 52.3	-10
	comp=Z,4.4nm,1.0s,baz=135,slow=6.7,SNR=3.6							
SONM				PKKPbc	PKKPbc		08 00 46.3	-0.6
	comp=Z,0.5nm,0.5s,baz=223,slow=3.3,SNR=4.0							
NATX	**Nacogdoches**	**95.88**	**58**	*e*P	**P**		**07 44 01.5**	**+0.4**
BOD	**Bodaibo**	**96.19**	**330**	*e*P	**P**		**07 43 58.8**	**-3.6**
BOD				pmax	pmax			
	comp=Z,20nm,1.6s,mb5.1							
GTA	**Gaotai**	**96.80**	**309**	⇓P	**P**		**07 44 05.2**	**0.0**
GTA				AP	pP		07 46 16.6	+2.7
GTA				XP	sP		07 47 14.0	+1.3
GTA				PP	PP		07 48 07.3	-3.1
GTA				PPP			07 50 20.4	
GTA				SKS			07 53 44.6	
GTA				S			07 54 28.7	
GTA				XS	sS		07 58 24.8	-3.7
GTA				SS	SS		08 01 28.1	-1.8
GTA				AMB	AMB			
	comp=Z,40nm,1.8s,mb5.3							
GTA				AMB	AMB			
	comp=Z,230nm,7.2s							
ATAH	**Atahualpa**	**96.99**	**100**	LR	LR		08 17 23.4	
	comp=Z,327nm,19.8s,baz=322,slow=31							
YKA	**Yellowknife Ar**	**97.16**	**25**	P	**P**		**07 44 04.8**	**-2.0**
	comp=Z,7.3nm,0.9s,mb4.9,baz=242,slow=4.4,SNR=41							
YKA				pP	pP		07 46 12.1	-3.4
	comp=Z,2.6nm,1.0s,baz=241,slow=4.1,SNR=4.5							
YKA				PP	PP		07 48 03.6	-9.4
	comp=Z,2.1nm,1.1s,baz=246,slow=6.6,SNR=4.1							
YKA				PKiKP	PKiKP		07 48 36.4	-1.9
	comp=Z,1.2nm,0.8s,baz=237,slow=1.2,SNR=6.0							
YKA				PKKPbc	PKKPbc		08 00 43.0	0.0
	comp=Z,0.5nm,0.5s,baz=34,slow=2.4,SNR=9.5							
YKA	**Yellowknife Ar**	**97.16**	**25**	P	**P**		**07 44 04.8**	**-2.0**
YKA				pP	pP		07 46 12.1	-3.4
YKA				PP	PP		07 48 03.6	-9.4
YKW3	**Yellowknife Ar**	**97.19**	**25**	*e*P	**P**		**07 44 05.1**	**-1.8**
SHL	**Shillong**	**98.34**	**294**	*e*P	Pdif		07 44 12.5	+0.5
ZAK	**Zakamensk**	**98.60**	**321**	*e*P	Pdif		07 44 11.8	-1.4
ZAK				*e*			07 47 13.1	
ZAK				pmax	pmax			
	comp=Z,35nm,1.8s,mb5.4							
ZAK				pmax	pmax			
	comp=Z,21nm,2.2s,mb5.1							
TLY	**Talaya**	**98.88**	**322**	*e*P	Pdif		07 44 12.3	-2.2
TLY				*e*			07 53 54.1	
TLY				*e*S	Sdif		07 54 56.0	+2.1
TLY				pmax	pmax			
	comp=Z,21nm,1.7s,mb5.2							
LVC	**Limon Verde**	**98.94**	**118**	PKKPbc	PKKPbc		08 00 38.6	+0.4
	comp=Z,12nm,0.6s,baz=28,slow=1.5,SNR=22							
TIXI	**Tiksi**	**99.03**	**345**	*e*P	Pdif		07 44 10.8	-4.3
TIXI				*e*PS	PS		07 57 11.5	-32
TIXI				pmax	pmax			
	comp=Z,16nm,1.3s,mb5.2							
TIXI	**Tiksi**	**99.03**	**345**	*e*P	Pdif		07 44 12.2	-2.9
LSA	**Lhasa**	**100.28**	**298**	*e*P	Pdif		07 44 22.1	+1.5
ULM	**Lac du Bonnet**	**101.35**	**41**	PP	PP		07 48 35.3	-9.0
	comp=Z,1.7nm,0.8s,baz=280,slow=6.0,SNR=3.2							
ULM				PKiKP	PKiKP		07 48 46.5	+0.6
	comp=Z,2.7nm,0.7s,baz=322,slow=1.1,SNR=4.9							
LPAZ	**La Paz**	**102.43**	**113**	P	Pdif		07 44 33.4	+3.1
	comp=Z,6.0nm,0.8s,baz=237,slow=3.0,SNR=29							
LPAZ				PP	PP		07 48 41.5	-11
	comp=Z,3.7nm,1.2s,baz=324,slow=6.2,SNR=5.0							
LPAZ				PKiKP	PKiKP		07 48 51.0	+3.2
	comp=Z,4.4nm,1.1s,baz=233,slow=5.3,SNR=7.0							
LPAZ				PKKPbc	PKKPbc		08 00 29.0	+0.6
	comp=Z,3.6nm,0.7s,baz=34,slow=4.2,SNR=15							
LPAZ	**La Paz**	**102.43**	**113**	P	Pdif		07 44 33.4	+3.2
LPAZ							07 48 51.0	
LPAZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LPAZ				pmax	pmax			
	comp=Z,4.0nm,1.2s							
LPAZ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
LPAZ				pmax	pmax			
	comp=Z,4.0nm,0.7s							
LPAZ	**La Paz**	**102.43**	**113**	*e*PKPdf	Pdif		07 44 34.4	+4.1
	comp=Z,7.7nm,0.9s							
JIRN	**Jiri**	**103.83**	**295**	*e*P	PKiKP		07 48 49.0	-1.4
	comp=Z,571nm,1.9s							
JIRN	**Jiri**	**103.83**	**295**	*e*P	Pdif		07 44 33.2	-3.2
	comp=Z,35nm,1.1s							
GUN	**Gumba**	**104.16**	**295**	*e*P	PKiKP		07 48 50.9	-0.1
	comp=Z,985nm,1.9s							
PKI	**Pulchoki**	**104.47**	**294**	*e*P	PKiKP		07 48 51.1	-0.5
	comp=Z,394nm,1.9s							
PKI	**Pulchoki**	**104.47**	**294**	*e*P	Pdif		07 44 39.0	-0.3
	comp=Z,34nm,1.0s							
PKI	**Pulchoki**	**104.47**	**294**	*e*P	Pdif		07 44 39.0	-0.3
PKI				pmax	pmax			
	comp=Z,34nm,1.0s							
KKN	**Kakani**	**104.64**	**294**	*e*P	PKiKP		07 48 51.4	-0.5
	comp=Z,81nm,0.9s							
KKN	**Kakani**	**104.64**	**294**	*e*P	Pdif		07 44 39.5	-0.6
	comp=Z,56nm,1.3s							
KKN	**Kakani**	**104.64**	**294**	*e*P	Pdif		07 44 39.5	-0.6
KKN				pmax	pmax			
	comp=Z,56nm,1.3s							
DMN	**Daman**	**104.74**	**294**	*e*P	PKiKP		07 48 51.8	-0.3
	comp=Z,386nm,1.7s							
DMN	**Daman**	**104.74**	**294**	*e*P	Pdif		07 44 40.8	+0.3
	comp=Z,79nm,1.3s							
GKN	**Gorkha**	**105.25**	**294**	*e*P	PKiKP		07 48 52.1	-0.9
	comp=Z,156nm,1.2s							
GKN	**Gorkha**	**105.25**	**294**	*e*P	Pdif		07 44 43.1	+0.4
	comp=Z,40nm,1.1s							
KOLN	**Koldanda**	**106.07**	**294**	*e*P	PKiKP		07 48 53.7	-0.8
	comp=Z,302nm,1.7s							
KOLN	**Koldanda**	**106.07**	**294**	*e*P	Pdif		07 44 50.4	+4.0
	comp=Z,13nm,0.6s							
CPUP	**Villa Florida**	**106.20**	**127**	Pdiff	Pdif		07 44 47.0	0.0
	comp=Z,1.7nm,0.7s,baz=221,slow=9.7,SNR=5.0							
CPUP				PKKPbc	PKKPbc		08 00 17.4	+0.2
	comp=Z,0.8nm,0.6s,baz=25,slow=3.5,SNR=3.9							
CPUP	**Villa Florida**	**106.20**	**127**	P	Pdif		07 44 48.8	+1.8
CPUP				pmax	pmax			
	comp=Z,18nm,1.1s							
CPUP	**Villa Florida**	**106.20**	**127**	*e*PKPdf	Pdif		07 44 48.5	+1.5
	comp=Z,18nm,1.1s							
WMQ	**Urumqi**	**106.78**	**311**	*e*PDIF	Pdif		07 44 49.1	-0.4
WMQ				PP	PP		07 49 23.9	0.0
WMQ				S	Sdif		07 55 54.2	-5.5
WMQ				PS	PS		07 58 56.2	-0.9
WMQ				SS	SS		08 03 45.0	-0.7
WMQ				PP	PP			
	comp=Z,610nm,4.5s							
SIV	**San Ignacio**	**108.58**	**116**	PKKPbc	PKKPbc		08 00 08.6	-1.3
	comp=Z,5.4nm,0.7s,baz=92,slow=2.1,SNR=32							
ZAL	**Zalesovo**	**110.48**	**321**	PKiKP	PKiKP		07 49 00.8	-2.0
	comp=Z,14nm,0.6s,baz=348,slow=2.7,SNR=33							
ZAL	**Zalesovo**	**110.48**	**321**	PKPdf	PKiKP		07 49 00.8	-2.0
MK31	**Makanchi Array**	**111.08**	**313**	PKIKP	PKiKP		07 49 01.7

CHKZ pmax pmax
comp=Z,19nm,0.7s
CHKZ Chkalovo 118.86 321 *e*PKPdf PKPdf 07 49 17.2 -1.7
BVA0 Borovoye Array 119.04 320 *i* PKIKP PKPdf 07 49 17.3 -1.9
BVA0 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 119.06 308 *i* PKIKP PKPdf 07 49 17.4 -1.9
KKAR pmax pmax
comp=Z,21nm,0.7s
BRVK Borovoye 119.10 320 *e*PKIKP PKPdf 07 49 18.1 -1.2
SCHQ Schefferville 119.38 38 PKP PKPdf 07 49 17.7 -2.2
comp=Z,7.6nm,1.0s,baz=232,slow=6.2,SNR=7.7
SCHQ PKKPbc PKKPbc 07 59 34.0 +0.1
comp=Z,3.6nm,0.9s,baz=185,slow=3.6,SNR=4.1
BDFB Brasilia 119.40 123 PKP PKPdf 07 49 20.1 +0.2
comp=Z,4.1nm,1.0s,baz=263,slow=1.1,SNR=4.1
BDFB PKKPbc PKKPbc 07 59 33.9 +0.1
comp=Z,11nm,0.7s,baz=113,slow=2.1,SNR=16
ZRNK Zerenda 119.88 320 PKIKP PKPdf 07 49 18.6 -2.2
ZRNK pmax pmax
comp=Z,40nm,0.6s
ZRNK Zerenda 119.88 320 *e*PKPdf PKPdf 07 49 19.3 -1.5
KBS Kingsbay 121.76 358 PKIKP PKPdf 07 49 23.0 -1.4
KBS Kingsbay 121.76 358 *e*PKPdf PKPdf 07 49 22.7 -1.8
DAG Danmarks Havn 123.23 5⇑*i*P PKPdf 07 49 24.7 -2.6
comp=Z,11nm,0.7s
DAG Danmarks Havn 123.23 5⇑*i*PKIKP PKPdf 07 49 24.7 -2.6
DAG pmax pmax
comp=Z,11nm,0.7s
SFJD Kangerlussuaq 123.57 22 *i* P PKPdf 07 49 24.5 -3.4
comp=Z,24nm,0.6s
SFJD *e* 07 54 15.5
SFJD Kangerlussuaq 123.57 22 *i* PKIKP PKPdf 07 49 24.5 -3.4
SFJD pmax pmax
comp=Z,24nm,0.6s
SUMG Summit 123.72 13 *e*PKPdf PKPdf 07 49 27.3 -0.9
SUR Sutherland 123.81 200 *e*PKPdf PKPdf 07 49 29.5 +1.1
SOKR Solikamsk 125.17 329⇓*i*PKIKP PKPdf 07 49 29.3 -1.7
SOKR pmax pmax
comp=Z,190nm,1.3s
ARU Arti 125.23 325 *e*PKIKP PKPdf 07 49 29.9 -1.2
ARU Arti 125.23 325 *e*PKPdf PKPdf 07 49 29.9 -1.2
BOSA Boshof 125.60 206 PKP PKPdf 07 49 32.7 +0.9
comp=Z,12nm,0.7s,baz=150,slow=2.1,SNR=18
BOSA Boshof 125.60 206 *e*PKIKP PKPdf 07 49 33.1 +1.3
AB31 Akbulak array 126.00 316 *i* PKIKP PKPdf 07 49 30.0 -2.6
AB31 pmax pmax
comp=Z,21nm,0.8s
AKTK Aktyubinsk 127.01 318 PKP PKPdf 07 49 33.4 -1.1
AKTO Aktyubinsk 127.01 318 PKP PKPdf 07 49 33.4 -1.1
comp=Z,44nm,0.6s,baz=83,slow=3.3,SNR=98
WSAR Wadi Sarin 127.19 284 PKP PKPdf 07 49 35.5 +0.7
comp=Z,23nm,1.0s,baz=176,slow=2.0,SNR=15
JMDO Jabal Madar 127.53 283 P PKPdf 07 49 35.8 +0.3
SNR=6.3
SMDO Samad 127.69 283 P PKPdf 07 49 36.5 +0.7
SNR=11
BIDO Bidbid 127.69 284 P PKPdf 07 49 36.6 +0.8
SNR=8.8
BSY Bisya 128.41 283⇑P PKPdf 07 49 37.5 +0.3
SNR=19
HOQ Hoqain 128.44 284 P PKPdf 07 49 37.4 +0.2
SNR=5.7
LBTB Lobatse 128.61 208 *e*PKIKP PKPdf 07 49 39.0 +1.5
ORR Orenburg 128.72 320 *e*PKIKP PKPdf 07 49 36.3 -1.4
ORR pmax pmax
comp=Z,90nm,0.6s
KEV Kevo 128.79 349 *e*pkp PKPdf 07 49 35.6 -2.3
ARQ Araqi 129.12 284 P PKPdf 07 49 39.4 +0.9
SNR=8.4
APA Apatity 129.22 345⇓*i*PKIKP PKPdf 07 49 36.6 -2.1
APA *i* 07 52 04.0
APA *i* 07 55 52.0
APA *i* SS SS 08 08 32.0 +0.1
APA pmax pmax
comp=Z,27nm,0.6s
ARCES ARCESS Array B 129.25 349 PKhKP 07 49 24.7
comp=Z,2.8nm,0.6s,baz=57,slow=6.6,SNR=12
ARCES PKP PKPdf 07 49 36.9 -1.8
comp=Z,35nm,0.6s,baz=46,slow=0.7,SNR=57
ARCES ARCESS Array B 129.25 349 PKIKP PKPdf 07 49 36.9 -1.8
ARE0 ARCESS Array S 129.25 349 *e*PKPdf PKPdf 07 49 37.0 -1.8
ASHO Ashiyiah 129.73 285⇓P PKPdf 07 49 40.1 +0.4
SNR=20
RBK Rabkut 130.18 276 P PKPdf 07 49 42.0 +1.5
SNR=5.2
WHFO Wadi Hawf 130.67 276⇑P PKPdf 07 49 42.8 +1.4
SNR=9.3
ABTO Aybut 130.99 275⇓P PKPdf 07 49 43.5 +1.4
SNR=6.3
JOF Joensuu 133.37 342 *e*pkp PKPdf 07 49 44.3 -2.2
LSZ Lusaka 135.40 218 *e*PKPdf PKPdf 07 49 52.2 +1.8
KAF Kangasniemi 135.41 344 *e*pkp PKPdf 07 49 48.9 -1.4
MOS Moscow 136.00 331 *e*PKIKP PKPdf 07 49 49.7 -1.7
MOS pmax pmax
comp=Z,83nm,0.9s
MOS Moscow 136.00 331 *e*P PKPdf 07 49 49.6 -1.8
FINES FINESS Array B 136.03 343 PKhKP 07 49 38.0
comp=Z,3.2nm,0.5s,baz=86,slow=4.5,SNR=13
FINES PKP PKPdf 07 49 49.3 -2.2
comp=Z,13nm,0.8s,baz=48,slow=2.8,SNR=8.8
FINES SKPbc SKPbc 07 52 29.5 +1.1
comp=Z,56nm,0.8s,baz=64,slow=4.4,SNR=28
FINES FINESS Array B 136.03 343 PKP PKPdf 07 49 49.3 -2.2
FINES SKPbc SKPbc 07 52 29.5 +1.1
OBN Obninsk 136.87 331⇑*e*PKHKP 07 49 41.7
OBN *i* 07 49 51.6
OBN *e* 07 52 41.7
OBN *e* 07 55 46.4
OBN *e*SS SS 08 10 10.0 +7.0
OBN pmax pmax
comp=Z,21nm,0.6s
OBN pmax pmax
comp=Z,106nm,1.1s
OBN Obninsk 136.87 331 *e*PKPdf PKPdf 07 49 51.8 -1.2
TSUM Tsumeb 137.06 203 *e*PKPdf PKPdf 07 49 57.1 +3.7
UMR Umm Al-Rimmam 137.45 291 *e*P 07 49 44.1
KBD Kabd 137.47 291 *e*P 07 49 44.0
KBD AMb AMB 07 49 57.3
comp=Z,254nm,0.6s
RDF Al-Radifah 137.60 290 *e*P 07 49 44.2
VRSR Storozhevoye 137.79 325 *i* PKIKP PKPdf 07 49 53.0 -1.7
VRSR pmax pmax
comp=Z,5.0nm,0.9s
VRSR pmax pmax
comp=N,2.0nm,1.6s
VRSR pmax pmax
comp=E,2.0nm,1.1s
NAY Al-Naaiem 137.86 291 *e*P 07 49 44.6
NAY AMb AMB 07 49 59.6
comp=Z,65nm,1.3s
GOF Gofitskoye 138.22 315 *e*PKHKP 07 49 45.2
ZEI Tsey 138.39 311 *e*PKIKP PKPdf 07 49 54.9 -0.9
GNI Garni 138.51 307 *e*PKIKP PKPdf 07 49 56.4 +0.4
KMBO Kilima Mbogo 138.62 242 PKhKP 07 49 48.5
comp=Z,5.5nm,0.8s,baz=85,slow=1.3,SNR=8.2
KMBO SKPbc SKPbc 07 52 39.4 +3.6
comp=Z,53nm,1.1s,baz=62,slow=2.5,SNR=18
KMBO Kilima Mbogo 138.62 242 PKHKP 07 49 48.5
KMBO pmax pmax
comp=Z,6.0nm,0.8s
KMBO pmax pmax
comp=N,53nm,1.1s
KIV Kislovodsk 138.84 314 *e*PKIKP PKPdf 07 49 56.5 -0.1
KIV Kislovodsk 138.84 314 *e*PKPdf PKPdf 07 49 56.5 -0.2
NB2 NORSAR Subarra 139.35 353 PKPa 07 49 47.7
comp=Z,12nm,0.7s,baz=10,slow=3.2
NOA NORSAR Array B 139.35 353 PKhKP 07 49 47.3
comp=Z,20nm,0.7s,baz=12,slow=2.4,SNR=58
NOA SKPbc SKPbc 07 52 39.0 +1.2
comp=Z,36nm,1.0s,baz=13,slow=4.4,SNR=12
NOA SKKPbc 08 01 18.9
comp=Z,3.5nm,0.9s,baz=191,slow=4.3,SNR=4.2
NOA NORSAR Array B 139.35 353 PKHKP 07 49 47.3
NOA pmax pmax
comp=Z,20nm,0.7s
NOA pmax pmax
comp=N,36nm,1.0s
NOA pmax pmax
comp=N,4.0nm,0.9s
HFS Hagfors 139.88 350 PKhKP 07 49 49.4
comp=N,39nm,0.6s,baz=60,slow=3.9,SNR=71
HFS SKPbc SKPbc 07 52 39.7 +0.5
comp=N,29nm,0.8s,baz=22,slow=1.6,SNR=11
HFS SKKPbc 08 01 15.5
comp=N,4.4nm,0.9s,baz=325,slow=1.8,SNR=4.3
HFS Hagfors 139.88 350 PKHKP 07 49 49.4
HFS pmax pmax
comp=Z,39nm,0.6s
HFS pmax pmax
comp=N,29nm,0.8s
HFS pmax pmax
comp=N,4.0nm,0.9s
BHD Baghdad 140.06 297 *ex* x 07 50 11.0
BHD *i* x x 07 53 34.0
BHD *ex* x 07 58 55.0
ARTV Artvin 140.28 310 *i* P PKPdf 07 49 50.3 -9.0
KONO Kongsberg 140.89 353 *e*PKHKP 07 49 53.2
SOC Sochi 140.98 314 *e*PKHKP 07 49 54.1
SOC *i* 07 49 58.8
SOC *e* 07 52 05.9
SOC *e*PPP 07 56 19.6
SOC *e* 08 05 50.7
SOC *e*SS SS 08 10 54.5 +3.8
SOC pmax pmax
comp=Z,66nm,1.4s
SOC Sochi 140.98 314 *i* PKP PKPdf 07 50 00.5 0.0
ERZM Erzurum 141.07 308 *i* P PKPdf 07 49 55.5 -5.2
SZM Erzurum 141.08 308 *i* P PKPdf 07 49 56.6 -4.1
ANN Anapa 141.96 317 *i* PKHKP 07 49 57.4
ANN pmax pmax
comp=Z,32nm,1.2s
MARD Mardin 142.22 304 *i* P PKPdf 07 49 58.2 -4.5
MVH1 Achvaich 142.84 5 *e*P PKPdf 07 49 59.4 -4.4
GRSN GIRESUNGRSN 142.97 311 *i* P PKPdf 07 49 59.0 -5.0
SUW Suwalki 143.04 339 *e*PKPd PKPdf 07 50 00.8 -3.3
SUW *e* 07 52 48.7
KSK Scoval 143.05 7 *e*P PKPdf 07 50 00.6 -3.5
DRBT Darb Altahta 143.08 304⇑P PKPdf 07 50 06.2 +2.0
DRBT ⇑P 18 40 27.8
DRBT ⇑P 11 04 58.0
DRBT ⇑P 11 04 58.1
AKASG Malin Array Be 143.11 330 PKhKP 07 50 00.6
comp=Z,306nm,0.5s,baz=44,slow=4.2,SNR=476
AKASG SKPbc SKPbc 07 52 47.5 +0.2
comp=Z,50nm,1.1s,baz=39,slow=2.1,SNR=19
AKASG SKKPbc 08 01 00.5
comp=Z,2.9nm,0.7s,baz=236,slow=4.5,SNR=10
AKASG Malin Array Be 143.11 330 *i* PKIKP PKPdf 07 50 13.5 +9.2
AKASG pmax pmax
comp=Z,28nm,0.8s
AKASG Malin Array Be 143.11 330 PKP PKPdf 07 50 00.6 -3.6
AKASG SKPbc SKPbc 07 52 47.5 +0.2
AKASG SKKPbc 08 01 00.5
KAC Achnashellach 143.16 6 *e*P PKPdf 07 50 00.9 -3.5
MCD Coleburn Disti 143.25 4 *e*P PKPdf 07 50 00.7 -3.9
ELZG Elazig 143.26 307 *i* P PKPdf 07 50 03.9 -0.6
BSHR Al Beshri 143.36 302⇑P PKPdf 07 50 04.7 0.0
BSHR ⇑P 18 40 29.3
BSHR ⇑P 11 04 59.6
BSHR ⇑P 11 04 59.6
KSB Sheil Bridge 143.44 6 *e*P PKPdf 07 50 01.1 -3.7
MME1 Meikle Cairn 143.54 4 *e*P PKPdf 07 50 01.3 -3.7
KAR1 Arisaig 143.68 7 *e*P PKPdf 07 50 01.3 -3.9
URFA Urfa 143.69 305 *e*P PKPdf 07 50 05.1 -0.2
MYA Malataya 143.73 307 *e*P PKPdf 07 50 05.3 -0.1
MALT Malatya 143.73 307⇑*i*P PKPdf 07 50 04.2 -1.1
MALT Malatya 143.73 307 *e*PKPdf PKPdf 07 50 05.5 +0.1
MUD Monsted U'grnd 144.07 353⇓*i*P PKPdf 07 50 04.3 -1.6
comp=Z,372nm,0.8s
MUD *i* 07 57 21.1
MUD
comp=Z,230nm,18.0s
MUD Monsted U'grnd 144.07 353⇓*i*PKIKP PKPdf 07 50 04.3 -1.6
MUD pmax pmax
comp=Z,370nm,0.8s
MUD MLR MLR
comp=Z,230nm,18.0s
MUD Monsted U'grnd 144.07 353⇓*i*P PKPdf 07 50 04.3 -1.6
MUD *i* 07 57 21.1
ATAB Bozova 144.08 305 *i* P PKPdf 07 50 06.0 0.0
SVAK Karacayir 144.24 310 *e*P PKPdf 07 50 06.6 +0.4
SVST Sivas 144.33 310 *i* P PKPdf 07 50 07.2 +0.8
COP Copenhagen 144.33 349⇓*i*P PKPdf 07 50 05.0 -1.4
comp=Z,198nm,1.2s
COP *i* 07 52 25.4
COP *e* 07 56 24.1
COP Copenhagen 144.33 349⇓*i*PKIKP PKPdf 07 50 05.0 -1.4
COP *e* 07 56 24.1
COP *i* 08 11 27.5
COP pmax pmax
comp=Z,200nm,1.2s
COP MLR MLR
comp=Z,86nm,18.0s
COP Copenhagen 144.33 349⇓*i*P PKPdf 07 50 05.0 -1.4
COP *i* 07 52 25.4
COP *e* 07 56 24.1
COP *i* 08 11 27.5
COP LR LR
comp=Z,90nm,18.0s
BSD Bornholm Skovb 144.39 347⇓*i*P PKPdf 07 50 05.0 -1.5
comp=Z,424nm,0.8s
BSD *i* 07 52 51.2
BSD *e* 07 56 26.2
BSD
comp=Z,160nm,18.0s
BSD Bornholm Skovb 144.39 347⇓*i*PKIKP PKPdf 07 50 05.0 -1.5
BSD *e* 07 56 26.2
BSD pmax pmax
comp=Z,420nm,0.8s
BSD MLR MLR
comp=Z,170nm,18.0s
BSD Bornholm Skovb 144.39 347⇓*i*P PKPdf 07 50 05.0 -1.5
BSD *i* 07 52 51.2
BSD *e* 07 56 26.2
KVT Kavak 144.47 312 P PKPdf 07 50 07.8 +1.2
EAB Aberfoyle 144.55 6 *e*P PKPdf 07 50 04.0 -2.8
EAB AMb AMB 07 50 07.8
comp=Z,346nm,2.1s
GZT Gaziantep 144.67 306 *i* P PKPdf 07 50 07.4 +0.4
EDI Edinburgh 144.91 4 *e*P PKPdf 07 50 05.3 -2.1
EDI AMb AMB 07 50 09.1
comp=Z,294nm,2.1s
PGBU Glenifferbraes 144.91 6 *e*P PKPdf 07 50 05.5 -1.8
ESY Stoneypath 144.95 4 *e*P PKPdf 07 50 06.6 -0.8
ESY AMb AMB 07 50 09.0
comp=Z,362nm,2.2s
EAU Auchinoon 144.96 5 *e*P PKPdf 07 50 05.4 -2.0
EAU AMb AMB 07 50 09.7
comp=Z,703nm,1.9s
GAZ Gaziantep 145.00 305 P PKPdf 07 50 09.2 +1.6
EBL Broad Law 145.07 4 *e*P PKPdf 07 50 06.4 -1.3
EBL AMb AMB 07 50 09.9
comp=Z,407nm,1.2s
BOYT Boyabat 145.11 313 *i* P PKPdf 07 50 07.2 -0.5
BYBT Boyabat 145.18 314 *e*P PKPdf 07 50 09.3 +1.5
WAR Warsaw 145.24 339 *e*PKP PKPdf 07 50 08.5 +0.6
RGN Rugen 145.25 348 *e*PKPdf PKPdf 07 50 07.5 -0.4
GMK Mull of Kintyr 145.25 7 *e*P PKPdf 07 50 05.5 -2.4
GCL Cushendall 145.45 8 *e*P PKPdf 07 50 06.1 -2.2
BNN Bunyan 145.46 309 P PKPdf 07 50 07.7 -0.6
EKA Eskdalemuir Ar 145.50 5 SKKPbc 08 00 52.5
comp=Z,4.5nm,0.9s,baz=167,slow=4.2,SNR=7.8
GKP Gorka Klasztor 145.51 343 *e*PKPd PKPdf 07 50 09.3 +0.9
GKP *e* 07 52 55.0
ESK Eskdalemuir 145.51 5 *e*P PKPdf 07 50 06.7 -1.7
ESK Eskdalemuir 145.51 5 *e*PKPdf PKPdf 07 50 07.9 -0.5
YOZ Yozgat 145.54 310 *e*P PKPdf 07 50 10.3 +1.8
ECK Cauldkaine Hil 145.65 5 *e*P PKPdf 07 50 07.6 -1.0
BBH Bruntsheil 145.71 4 *e*P PKPdf 07 50 05.1 -3.7
KIS Kishinev 145.78 326 *d* PKIKP PKPdf 07 50 08.0 -0.9
KIS pmax pmax
comp=Z,3μm,6.0s
KIS pmax pmax
comp=Z,2μm,12.0s
KIS MLR MLR
comp=Z,500nm,22.0s
CORM Corum 145.82 312 P PKPdf 07 50 09.0 +0.1
GAL1 Galloway 145.82 6 *e*P PKPdf 07 50 06.2 -2.7
TOS Tosya 145.87 313 *e*P PKPdf 07 50 11.1 +2.1
KOZT Kozan 145.95 307 P PKPdf 07 50 08.4 -0.7
BDL Dobcross Hall 146.04 4 *e*P PKPdf 07 50 08.2 -1.1
BALT Daday 146.08 315 *i* P PKPdf 07 50 09.4 +0.1
BBO1 Bothel 146.08 5 *e*P PKPdf 07 50 08.5 -0.9
HTY Hatay 146.13 304 P PKPdf 07 50 11.3 +1.8
CEYT Ceyhan 146.16 306 P PKPdf 07 50 09.7 +0.2
AVNT Avonos 146.21 309 *i* P PKPdf 07 50 13.2 +3.6
CDAG Cicekdag 146.22 311 *i* P PKPdf 07 50 07.6 -2.0
CKE Keswick 146.24 5 *e*P PKPdf 07 50 07.5 -2.1
XDE Dent Fell 146.29 5 *e*P PKPdf 07 50 07.8 -1.9
XDE AMb AMB 07 50 13.9
comp=Z,630nm,1.2s
IAS Iasi 146.30 327 PKP2 PKPab 07 50 12.0 -2.6
CANT Cankiri 146.34 313 P PKPdf 07 50 11.0 +1.2
HAWK Haweek 146.35 301⇑P PKPdf 07 50 11.7 +1.9
HAWK ⇑P 11 05 12.0
HAWK ⇑P 11 05 12.0
GIM North Isle of 146.41 6 *e*P PKPdf 07 50 07.2 -2.7
ASF Jabal al Asfar 146.46 297 PKP PKPdf 07 50 10.3 +0.3
comp=Z,73nm,0.7s,baz=340,slow=1.6,SNR=62
ASF PKPbc PKPbc 07 50 13.5 +1.0
comp=Z,97nm,0.9s,baz=341,slow=2.1,SNR=88
WIM Isle of Man 146.53 6 *e*P PKPdf 07 50 08.9 -1.2
WIM AMb AMB 07 50 12.4
comp=Z,473nm,0.8s
KRTS Karatas 146.58 305 P PKPdf 07 50 12.9 +2.7
KARA Karaisali 146.60 307 P PKPdf 07 50 07.9 -2.4
SAFT Safranbolu 146.68 314 *e*P PKPdf 07 50 10.2 -0.2
BR131 Keskin Array S 146.70 311 *e*PKPbc PKPbc 07 50 13.1 -0.1
BRTR Keskin Array B 146.70 311 PKP PKPdf 07 50 10.2 -0.2
comp=Z,95nm,0.6s,baz=88,slow=1.1,SNR=124
BRTR PKPbc PKPbc 07 50 12.9 -0.2
comp=Z,104nm,0.7s,baz=132,slow=4.0,SNR=128
BRTR SKPbc SKPbc 07 52 57.2 +1.7
comp=Z,10nm,0.9s,baz=48,slow=1.8,SNR=3.5
BRTR Keskin Array B 146.70 311 PKIKP PKPdf 07 50 10.2 -0.2
BRTR 07 50 13.0
KWP Kalwaria 146.74 334 *e*PKPd PKPdf 07 50 12.8 +2.3
KAMT Kaman 146.79 311 P PKPdf 07 50 10.3 -0.2
DCN Croghan 146.98 10⇑*i*P PKPdf 07 50 09.7 -1.2
DCN Croghan 146.98 10 *e*P PKPdf 07 50 12.6 +1.7
BSTP Nigde 147.06 308 *i* P PKPbc 07 50 14.0 -0.1
RUE Ruedersdorf 147.09 346 *e*PKPbc PKPbc 07 50 13.7 -0.5
BHL Bhannes 147.11 300 *e*P PKPbc 07 50 14.6 +0.3
MERS Mersin 147.13 306 P PKPdf 07 50 11.2 +0.1
DLF Lyons Farm 147.14 9⇑*i*P PKPdf 07 50 10.0 -1.1
DLF Lyons Farm 147.14 9 *e*P PKPdf 07 50 13.0 +1.9
BURAR Bucovina Array 147.16 330⇓*i*P PKPbc 07 50 14.3 -0.1
BURAR Bucovina Array 147.16 330⇓P PKPbc 07 50 14.3 -0.1
DSB Dublin 147.21 9 *e*PKPbc PKPbc 07 50 13.2 -1.4
ANTO Ankara 147.23 312⇓*i*P PKPdf 07 50 10.4 -0.9
ANTO Ankara 147.23 312 *e*PKPdf PKPdf 07 50 11.2 0.0
ANTO *e*PKPbc PKPbc 07 50 14.6 0.0
ANTO *e*PKPab PKPab 07 50 18.6 +0.3
CFR Carcaliu 147.30 324⇓*i*P PKPdf 07 50 14.3 +2.9
CFR Carcaliu 147.30 324⇓P PKPdf 07 50 14.3 +2.9
WCB1 Church Bay 147.31 7 *e*P PKPdf 07 50 11.2 -0.2
WCB1 AMb AMB 07 50 14.0
comp=Z,16nm,0.7s
WME Myndd Eilian 147.31 6 *e*P PKPdf 07 50 10.3 -1.1
WME AMb AMB 07 50 14.3
comp=Z,142nm,0.8s
OJC Ojcow 147.36 338 *e*PKPdf PKPdf 07 50 10.6 -0.9
OJC *e*PKPbc PKPbc 07 50 14.0 -0.9
OJC *e*PKPab PKPab 07 50 18.2 -0.7
OJC *ep*PKPdf pPKPdf 07 52 30.7 +2.0
OJC *e*PP PP 07 53 46.2 -0.8
OJC Ojcow 147.36 338 *e*PKP2 PKPab 07 50 18.2 -0.7
OJC *e* 07 53 46.2
LHO Holmfirth 147.36 4 *e*P PKPdf 07 50 12.3 +0.8
WLF1 Llynfaes 147.41 6 *e*P PKPdf 07 50 09.6 -2.0
WLF1 AMb AMB 07 50 14.5
comp=Z,281nm,0.9s
SGKT Sivrigoynuk 147.41 314 *i* P PKPdf 07 50 10.7 -0.9
YRC Rhoscolyn 147.43 7 *e*P PKPdf 07 50 10.3 -1.3
YRC AMb AMB 07 50 14.8
comp=Z,158nm,2.4s
STHS Stebnicka Huta 147.48 336 *e*PKP PKPdf 07 50 10.7 -1.0
STHS *e* 07 50 15.5
STHS *i* 07 50 20.1
STHS Stebnicka Huta 147.48 336 *e*PKIKP PKPdf 07 50 10.7 -1.0
STHS *e* 07 50 15.5
WPM1 Penmaenmawr 147.49 6 *e*P PKPdf 07 50 10.4 -1.3
MEST Erdemli 147.51 306 *i* P PKPdf 07 50 14.8 +3.1
YLL Llanberis 147.58 6 *e*P PKPdf 07 50 10.3 -1.6
TIRR Tirgusor 147.59 323 *e*PKPdf PKPdf 07 50 11.2 -0.7
TIRR *e*PKPbc PKPbc 07 50 15.1 -0.4
VRI Vrincioaia 147.61 326⇑*i*P PKPdf 07 50 14.8 +2.9
VRI Vrincioaia 147.61 326 PKP2 PKPbc 07 50 15.1 -0.5
VRI Vrincioaia 147.61 326⇑P PKPdf 07 50 14.8 +2.9
KBI1 Birley Grange 147.67 3 *e*P PKPdf 07 50 11.0 -1.0
YRE Yr Eiri 147.71 7 *e*P PKPdf 07 50 10.6 -1.5
HARR Harsova 147.72 323⇓*i*P PKPbc 07 50 15.7 -0.1
HARR Harsova 147.72 323⇓P PKPbc 07 50 15.7 -0.2
VAL Valentia 147.77 14 *e*P PKPdf 07 50 11.8 -0.4
NIE Niedzica 147.83 337 *e*PKPdf PKPdf 07 50 12.1 -0.2
NIE *e*PKPbc PKPbc 07 50 16.6 +0.5
NIE *e*PKPab PKPab 07 50 21.0 +0.1
NIE Niedzica 147.83 337 *e*PKP2 PKPab 07 50 21.0 +0.1
KWE Weaver Farm 147.89 4 *e*P PKPdf 07 50 11.4 -1.0
SBD1 Bryn Du 147.90 5 *e*P PKPdf 07 50 10.3 -2.0
WIT Witteveen 147.93 354 *e*PKP PKPbc 07 50 16.4 0.0
KSP Ksiaz 147.94 342 *e*PKPd PKPbc 07 50 16.2 -0.2
KSP *e* 07 52 32.1
KSP Ksiaz 147.94 342 *e*PKP2 PKPab 07 50 20.0 -1.3
KSP *e*SS SS 08 12 07.0 -2.2
KSP Ksiaz 147.94 342 *e*PKPdf PKPdf 07 50 11.8 -0.6
KSP *i* PKPdf PKPbc 07 50 16.0 -0.4
KSP *e*PKPab PKPab 07 50 20.0 -1.3
KSP *ep*PKP pPKPdf 07 52 32.1 +2.4
KSP *e* 07 53 27.5
KSP *e*SS SS 08 12 07.0 -2.2
IKL Isikli 147.98 305 P PKPbc 07 50 16.4 -0.1
RAC Raciborz 148.02 339 *e*PKPdf PKPdf 07 50 12.3 -0.3
RAC *e*PKPbc PKPbc 07 50 16.6 0.0
RAC *e*PKPab PKPab 07 50 21.5 -0.1
MDU Mudurnu 148.03 314 P PKPbc 07 50 16.4 -0.3
HENT Hendek 148.07 315 *i* P PKPdf 07 50 10.6 -2.1
PHNC Paralimni 148.10 303⇓P PKPbc 07 50 16.7 -0.1
comp=Z,5.4nm,1.1s
PHNC Paralimni 148.10 303⇓*e*P PKPbc 07 50 16.7 -0.1
OKC Ostrava-Krasne 148.25 339 *e*PKPDF PKPdf 07 50 12.0 -0.9
OKC ⇑*e*PKPB PKPbc 07 50 16.4 -0.8
OKC *e*PKPAB PKPab 07 50 22.1 -0.5
MLR Muntele Rosu 148.27 326 PKP PKPdf 07 50 11.6 -1.4
comp=Z,123nm,1.2s,baz=259,slow=4.8,SNR=10.0
MLR PKPbc PKPbc 07 50 16.5 -0.7
comp=Z,99nm,0.6s,baz=349,slow=2.8,SNR=69
MLR Muntele Rosu 148.27 326⇓*i*P PKPdf 07 50 11.6 -1.4
MLR Muntele Rosu 148.27 326 PKP2 PKPbc 07 50 17.0 -0.2
KIZT Kizilcal 148.29 311 P PKPbc 07 50 16.8 -0.4
IBBN Ibbenburen 148.31 353 *e*PKPdf PKPdf 07 50 12.2 -0.8
IBBN *e*PKPbc PKPbc 07 50 16.5 -0.8
IBBN *e*PKPab PKPab 07 50 21.5 -1.3
HLM1 Long Mynd 148.31 5 *e*P PKPdf 07 50 12.1 -1.0
HLM1 AMb AMB 07 50 17.5
comp=Z,313nm,2.1s
UPC Upice 148.32 342 *e*PKPDF PKPdf 07 50 12.6 -0.5
UPC ⇑*e*PKPB PKPbc 07 50 17.0 -0.3
UPC *e*PKPAB PKPab 07 50 22.4 -0.5
UPC *ep*PKP pPKPdf 07 52 33.2 +2.9
UPC Upice 148.32 342 *e*PKHKP 07 50 12.6
UPC *e* 07 50 22.4
KONT Konya--Tatoy 148.34 309 P PKPdf 07 50 16.4 +3.3
CLL Collm 148.36 346 *e*PKPdf PKPdf 07 50 12.7 -0.4
comp=Z,122nm,1.8s
CLL ⇓*i*PKPbc PKPbc 07 50 16.8 -0.6
comp=Z,322nm,0.9s
CLL *i* PKPab PKPab 07 50 21.9 -1.1
comp=Z,224nm,0.8s
CLL *ep*PKPbc pPKPbc 07 52 32.6 -0.2
CLL *e*SKPdf SKPdf 07 52 51.7 +0.3
CLL *es*PKPbc 07 53 28.8
CLL *e*PKSdf 07 53 47.9
CLL *e*PP PP 07 53 48.9 -3.9
CLL *es*PP 07 56 51.0
CLL *e*SKKSac SKKSac 07 59 42.7 -2.3
CLL *e*PSKS 08 04 06.8
CLL *e*PPS 08 06 59.8
CLL *e*SS SS 08 12 12.3 -1.5
CLL *es*SS 08 15 48.8
CLL *e*SSS 08 17 47.0
CLL *e*SSSS 08 22 08.6
CLL Collm 148.36 346 *e*PKPdf PKPdf 07 50 12.0 -1.1
comp=Z,120nm,1.8s
CLL ⇓*i*PKPbc PKPbc 07 50 16.9 -0.5
comp=Z,316nm,0.9s
CLL ⇑*i*PKPab PKPab 07 50 22.0 -1.0
comp=Z,220nm,0.8s

CLL *i* sPdif 07 51 00.7
comp=Z,39nm,1.0s
CLL *e*pPKPbc pPKPbc 07 52 32.0 -0.8
CLL *e*SKPdf SKPdf 07 52 53.0 +1.6
CLL *e*sPKPbc 07 53 27.0
CLL *e*PKSdf 07 53 48.0
CLL *e*sPP 07 56 48.0
CLL *e*SKKSac SKKSac 07 59 38.0 -7.0
CLL *e*x x 08 00 46.0
CLL *e*SKSP 08 03 12.0
CLL *e*PSKS 08 04 07.0
CLL *e*(PPS) 08 06 34.0
CLL *e*sPSKS 08 07 03.0
CLL *e*SS SS 08 12 04.7 -10
CLL *e*x x 08 13 42.0
CLL *e*sSS 08 15 48.0
CLL *e*(SSS) 08 17 47.0
CLL *e*SSSS 08 22 00.0
CLL Collm 148.36 346⇓*e*PKIKP PKPdf 07 50 12.0 -1.1
CLL *i* 07 50 22.0
CLL pmax pmax
comp=Z,120nm,1.8s
CLL pmax pmax
comp=Z,316nm,0.9s
CLL pmax pmax
comp=Z,220nm,0.8s
CLL Collm 148.36 346 *e*PKP PKPdf 07 50 12.0 -1.1
CLL ⇓*i*PKP PKPbc 07 50 16.9 -0.5
DPC Dobruska-Polom 148.37 342 *e*PKPDF PKPdf 07 50 12.9 -0.2
DPC ⇑*e*PKPB PKPbc 07 50 17.4 -0.1
DPC *e*PKPAB PKPab 07 50 23.1 0.0
DPC *e*pPKP pPKPdf 07 52 33.8 +3.4
DPC Dobruska-Polom 148.37 342 *e*PKHKP PKPdf 07 50 12.9 -0.2
DPC *e* 07 50 23.1
CLZ Clausthal 148.37 349 *e*PKPdf PKPdf 07 50 12.3 -0.8
CLZ *e*PKPbc PKPbc 07 50 16.8 -0.7
CLZ *e*PKPab PKPab 07 50 21.7 -1.4
CLZ *e*PP PP 07 53 47.8 -5.1
CLZ Clausthal 148.37 349 *e*PKP2 PKPab 07 50 21.7 -1.4
CLZ *e* 07 53 47.8
SSP1 Stoney Pound 148.39 5 *e*P PKPdf 07 50 12.2 -1.0
SSP1 AMb AMB 07 50 17.8
comp=Z,311nm,2.0s
ERMK Ermenek 148.42 307 *i* P PKPdf 07 50 08.5 -4.7
MORC Moravsky Berou 148.50 340 PKP2 PKPbc 07 50 17.9 +0.1
MORC Moravsky Berou 148.50 340 *e*PKPbc PKPbc 07 50 17.5 -0.3
EIL Elat 148.52 293 *e*PKPbc PKPbc 07 50 18.5 +0.6
KECS Kecovo 148.53 335 *i* PKP PKPab 07 50 23.4 -0.3
BRG Berggiesshubel 148.54 345 *e*PKPdf PKPdf 07 50 12.7 -0.7
BRG *e*PKPbc PKPbc 07 50 17.1 -0.8
BRG *e*PKPab PKPab 07 50 22.7 -1.1
BRG Berggiesshubel 148.54 345 *e*PKP PKPdf 07 50 11.0 -2.4
BRG *i* 07 50 22.9
comp=Z,78nm,0.8s
BRG *i* pPKP pPKPdf 07 51 57.0 -34
comp=Z,14nm,1.1s
BRG *e*sPKP 07 52 53.5
comp=Z,26nm,1.2s
BRG PP PP 07 53 26.0 -28
BRG *i* 07 56 53.0
BRG *e* 08 03 48.0
BRG *i* 08 06 50.0
BRG SS SS 08 12 08.0 -7.8
BRG
comp=N,56nm,15.8s
BRG
comp=E,105nm,18.7s
BRG
comp=Z,120nm,22.2s
LIKS Likavka 148.58 337 *e*PKP PKPbc 07 50 18.1 +0.1
LIKS *e* 07 50 24.3
SNX Sinaia 148.59 326⇑*i*P PKPdf 07 50 17.2 +3.7
CSS Prodhromos 148.66 303 ⇓P PKPbc 07 50 18.1 -0.1
comp=Z,3.1nm,0.7s
CSS Prodhromos 148.66 303 *e*PKPdf PKPdf 07 50 13.2 -0.4
CSS *e*PKPbc PKPbc 07 50 18.0 -0.2
CSS ⇓*e*P 07 50 18.1
MAMC Mammari 148.68 304 P PKPbc 07 50 18.3 +0.1
PVCC Panska Ves 148.70 344 *e*PKPDF PKPdf 07 50 13.4 -0.3
PVCC ⇑*e*PKPB PKPbc 07 50 18.2 -0.1
PVCC *e*PKPAB PKPab 07 50 23.7 -0.7
ESKT Eskisehir 148.72 313 *i* P PKPdf 07 50 12.0 -1.7
WTSB Winterswijk 148.75 354 *e*PKP PKPdf 07 50 12.9 -0.9
comp=Z,98nm,0.7s
WTSB *e*x x 07 50 17.6
comp=Z,436nm,0.9s
MCH1 Michaelchurch 148.82 5 *e*P PKPdf 07 50 12.7 -1.2
HRT Hereke 148.88 316 *e*P PKPdf 07 50 17.7 +3.8
MTUR Matau 148.91 327 PKHKP PKPbc 07 50 18.6 -0.2
SSW Stow on the Wo 148.94 4 *e*P PKPdf 07 50 13.4 -0.6
PRD Provadia 148.94 322 *e*P PKPdf 07 50 18.0 +4.0
BUC1 Bucharest 148.99 324 PKHKP PKPbc 07 50 18.4 -0.6
ADVT Abdulvahap 149.03 315 P PKPbc 07 50 18.8 -0.3
SZAC Souni-Zanaja 149.07 303 ⇓P PKPbc 07 50 19.2 0.0
PRA Prague 149.15 344 PKPDF PKPdf 07 50 14.2 -0.4
PRA ⇑PKPB PKPbc 07 50 19.0 -0.4
PRA PKPAB PKPab 07 50 25.0 -1.3
PRA pPKP pPKPdf 07 52 38.0 +6.3
ALFC Alevga 149.17 304 ⇓P PKPbc 07 50 18.9 -0.5
comp=Z,5.8nm,0.6s
ALFC Alevga 149.17 304⇓*i*P PKPbc 07 50 18.9 -0.5
HGH Gray Hill 149.19 5 *e*P PKPdf 07 50 13.4 -1.1
HGH AMb AMB 07 50 21.3
comp=Z,271nm,1.7s
PRU Pruhonice 149.19 343 *e*PKPDF PKPdf 07 50 14.0 -0.5
PRU ⇑*e*PKPB PKPbc 07 50 18.9 -0.6
PRU *e*PKPAB PKPab 07 50 25.6 -0.9
PRU *e*pPKP pPKPdf 07 52 37.8 +6.0
PRU Pruhonice 149.19 343 *e*PKHKP PKPdf 07 50 14.0 -0.5
PRU *e* 07 50 25.6
YLV Yalova 149.20 316 *e*P PKPdf 07 50 12.9 -1.5
VRAC Vranov 149.21 340⇓*i*P PKPbc 07 50 19.1 -0.4
VRAC Vranov 149.21 340 PKHKP PKPbc 07 50 19.2 -0.3
VRAC Vranov 149.21 340 ⇓P PKPbc 07 50 19.1 -0.4
BUG Bochum--Univer 149.22 353 *e*PKPdf PKPdf 07 50 13.3 -1.2
BUG *e*PKPbc PKPbc 07 50 18.4 -1.1
PSZ Piszkesteto 149.22 335⇓*e*PKP/F PKPdf 07 50 13.6 -0.9
PSZ *e*PKP/p PKPbc 07 50 19.0 -0.5
PSZ Piszkesteto 149.22 335 *e*PKPdf PKPdf 07 50 13.8 -0.7
PSZ *e*PKPbc PKPbc 07 50 19.1 -0.5
SKP1 Kophill 149.24 3 *e*P PKPdf 07 50 13.8 -0.7
MOX Moxa 149.28 347 *e*PKPdf PKPdf 07 50 13.4 -1.2
MOX *e*PKPbc PKPbc 07 50 18.9 -0.8
MOX *e*PKPab PKPab 07 50 25.5 -1.3
MOX *e*pPKPbc pPKPbc 07 52 36.1 +0.8
TANN Tannenbergstha 149.31 346 *e*PKPdf PKPdf 07 50 13.6 -1.0
TANN *e*PKPbc PKPbc 07 50 19.2 -0.6
TANN *e*PKPab PKPab 07 50 25.8 -1.2
SWN1 Swindon 149.39 4 *e*P PKPdf 07 50 14.9 +0.2
AKMC Akamas 149.42 304 P PKPbc 07 50 19.1 -0.9
UBBA Unterbreizbach 149.42 349 *e*PKPdf PKPdf 07 50 14.2 -0.6
UBBA *e*PKPbc PKPbc 07 50 18.9 -1.1
UBBA *e*PP PP 07 53 53.4 -5.4
ALT Altintas 149.45 313 P PKPbc 07 50 19.6 -0.5
PPCY Paphos 149.45 304 P PKPdf 07 50 19.1 +4.2
NKC Novy Kostel 149.49 346 *e*PKPDF PKPdf 07 50 14.2 -0.7
NKC ⇑*e*PKPB PKPbc 07 50 19.7 -0.5
NKC *e*PKPAB PKPab 07 50 26.8 -0.9
NKC *e*pPKP pPKPdf 07 52 38.5 +6.2
NKC Novy Kostel 149.49 346 *e*PKIKP PKPdf 07 50 14.2 -0.7
NKC *e* 07 50 26.8
TREC Trest 149.56 342⇑*e*PKPB PKPbc 07 50 19.8 -0.5
ULDT Uludag 149.57 315 *i* P PKPbc 07 50 19.4 -1.0
SMOL Smolenice 149.62 339 *e*PKP PKPbc 07 50 20.9 +0.4
SMOL *e* 07 50 28.5
HEX Exmoor 149.66 6 *e*P PKPdf 07 50 14.3 -0.9
SWK Warminster 149.72 5 *e*P PKPdf 07 50 14.2 -1.0
SZH Strazhica 149.74 323 *e*P PKPbc 07 50 20.0 -0.8
TKTP Tekketepe 149.76 311 *i* P PKPdf 07 50 19.0 +3.7
BCK Bucak 149.82 309 P PKPdf 07 50 19.4 +3.9
GDZ Gediz 149.86 313 *i* P PKPdf 07 50 14.3 -1.2
SRO Srobarova 149.91 337 *e*PKP PKPbc 07 50 20.8 -0.4
SRO *e* 07 50 29.5
BUD Budapest 149.92 336⇓*e*PKP/F PKPdf 07 50 13.7 -1.9
BUD *e*PKP/p PKPbc 07 50 20.5 -0.7
ROTZ Rotzenmuhle 149.98 346 *e*PKPdf PKPdf 07 50 14.6 -1.1
ROTZ *e*PKPbc PKPbc 07 50 20.7 -0.6
ROTZ *e*PKPab PKPab 07 50 29.1 -0.7
SRO1 Iza 149.98 337 *e*PKP PKPdf 07 50 19.9 +4.2
SRO1 *e* 07 50 29.6
ZST Bratislava 150.01 339 *e*PKP PKPdf 07 50 15.3 -0.4
ZST *e* 07 50 21.0
ZST *e* 07 50 30.2
ZST *e* 07 52 38.0
ZST Bratislava 150.01 339 *e*PKP PKPdf 07 50 15.3 -0.4
ZST *e* 07 50 21.0
ZST *e* 07 50 30.2
ZST *e* 07 52 38.1
BEBN Eben Emael 150.02 355 PKP PKPdf 07 50 14.7 -1.0
BEBN PKPbc PKPbc 07 50 20.6 -0.8
BEBN PKPab PKPab 07 50 28.2 -1.8
HGN Heimansgroeve 150.03 354 *e*PKP PKPdf 07 50 14.9 -0.9
comp=Z,34nm,0.9s
HGN *e*x x 07 50 20.7
comp=Z,199nm,1.1s
HGN *e*x x 07 50 28.7
comp=Z,149nm,1.0s
HGN *e*pPKP pPKPdf 07 52 37.2 +4.1
UCC Uccle 150.12 356 PKP PKPdf 07 50 15.0 -0.9
UCC PKPbc PKPbc 07 50 20.8 -0.8
UCC PKPab PKPab 07 50 28.4 -1.9
EDRB Edirne 150.14 320 P PKPdf 07 50 12.9 -3.0
MRKH Merkhyat 150.15 265 *i* P PKPbc 07 50 21.8 +0.1
baz=124,slow=2.1
MEM Membach 150.17 354 PKP PKPdf 07 50 15.2 -0.8
MEM PKPbc PKPbc 07 50 21.0 -0.8
MEM PKPab PKPab 07 50 29.1 -1.4
MEM APKPab 07 52 40.0
CRAR CRAIOVA 150.18 327⇑*i*P PKPbc 07 50 21.8 0.0
KHL Karahalli 150.19 312 P PKPbc 07 50 21.4 -0.4
KHC Kasperske Hory 150.23 344 *e*PKPDF PKPdf 07 50 15.5 -0.6
KHC ⇑*e*PKPB PKPbc 07 50 21.6 -0.3
KHC *e*PKPAB PKPab 07 50 30.3 -0.5
KHC *e*pPKP pPKPdf 07 52 41.0 +7.5
KHC Kasperske Hory 150.23 344 *e*PKIKP PKPdf 07 50 15.5 -0.6
KHC *e* 07 50 30.3
BNT Bandirma 150.25 317 P PKPbc 07 50 21.6 -0.3
TNS Taunus Mts 150.25 351 *e*PKPdf PKPdf 07 50 14.9 -1.2
TNS *e*PKPbc PKPbc 07 50 21.3 -0.7
TNS *e*PKPab PKPab 07 50 29.2 -1.7
TNS Taunus Mts 150.25 351 *e*PKP2 PKPab 07 50 29.2 -1.7
GRA1 Grafenberg Arr 150.26 347 *e*PKPdf PKPdf 07 50 15.5 -0.6
GRA1 *e*PKPbc PKPbc 07 50 21.3 -0.7
GRA1 *e*PKPab PKPab 07 50 29.8 -1.2
GRA1 *e*pPKPbc pPKPbc 07 52 36.8 -1.0
GRA1 *e* 07 53 35.6
GRA1 *e*PP PP 07 53 58.0 -5.6
GRF Grafenberg Arr 150.26 347 *e*PKPdf PKPdf 07 50 15.5 -0.6
GRF *e*PKPbc PKPbc 07 50 21.3 -0.7
GRF *e*PKPab PKPab 07 50 29.8 -1.2
GRF *e*pPKPbc pPKPbc 07 52 36.8 -1.0
GRF *e* 07 53 35.6
GRF *e*PP PP 07 53 58.0 -5.6
GRF Grafenberg Arr 150.26 347 *e*PKP2 PKPab 07 50 29.8 -1.2
GRF *e* 07 53 58.0
BZS Buzias 150.30 331⇓*i*P PKPbc 07 50 21.3 -0.8
BZS Buzias 150.30 331 PKIKP PKPbc 07 50 21.5 -0.6
MRMT Marmara Adasi 150.32 317 *e*P PKPdf 07 50 11.7 -4.5
CPZ Penzance 150.33 9 *e*P PKPdf 07 50 14.4 -1.9
CPZ AMb AMB 07 50 24.1
comp=Z,173nm,1.7s
CCA1 Carnmenellis 150.35 9 *e*P PKPdf 07 50 14.7 -1.6
CRQ2 Rosemanowes 2 150.38 9 *e*P PKPdf 07 50 15.6 -0.7
CRQ2 AMb AMB 07 50 24.4
comp=Z,164nm,1.5s
WET Wettzell 150.40 345 *e*PKPdf PKPdf 07 50 15.3 -1.0
WET *e*PKPbc PKPbc 07 50 21.6 -0.7
WET *e*PKPab PKPab 07 50 30.8 -0.7
WET Wettzell 150.40 345 *e*PKIKP PKPbc 07 50 21.6 -0.7
SNF Seneffe 150.41 356 PKP PKPdf 07 50 15.7 -0.6
SNF PKPbc PKPbc 07 50 21.5 -0.8
SNF PKPab PKPab 07 50 30.0 -1.6
MFT Murefte 150.42 318 P PKPdf 07 50 20.2 +3.9
BCLA Clavier 150.42 355 PKP PKPdf 07 50 16.0 -0.4
BCLA PKPbc PKPbc 07 50 21.5 -0.9
BCLA PKPab PKPab 07 50 30.2 -1.4
CGW Gweek 150.44 9 *e*P PKPdf 07 50 15.7 -0.7
MENF Mencas 150.44 359 PKP PKPdf 07 50 16.6 +0.2
GEC2 GERESS Array S 150.46 343 *e*PKPdf PKPdf 07 50 15.4 -1.0
GEC2 *e*PKPbc PKPbc 07 50 21.7 -0.8
GEC2 *e*PKPab PKPab 07 50 30.6 -1.2
GEC2 GERESS Array S 150.46 343 *e*PKIKP PKPbc 07 50 21.7 -0.8
GERES GERESS Array B 150.46 343 PKP PKPdf 07 50 14.8 -1.6
comp=Z,4.1nm,0.8s,baz=75,slow=1.5,SNR=8.9
GERES PKPbc PKPbc 07 50 21.9 -0.6
comp=Z,62nm,0.7s,baz=29,slow=2.2,SNR=105
CMA1 Manaccan 150.47 9 *e*P PKPdf 07 50 15.8 -0.7
BTOK Tokmak 150.50 315 *i* P PKPdf 07 50 20.4 +3.9
CGH1 Goonhilly 150.50 9 *e*P PKPdf 07 50 14.5 -2.0
ELL1 Elmali 150.61 309 P PKPbc 07 50 22.5 -0.3
SOP Sopron 150.64 339⇓*e*PKP/F PKPdf 07 50 15.2 -1.5
SOP *e*PKP/p PKPbc 07 50 22.5 -0.3
CONA Conrad Observa 150.65 340⇓*i*PKPdf PKPdf 07 50 15.8 -0.9
comp=Z,220nm,2.4s,SNR=19
CONA ⇓*i*PKiKP PKiKP 07 50 22.8 -0.5
comp=Z,725nm,2.1s
CONA ⇑*i*PKPab PKPab 07 50 31.8 -0.8
comp=Z,526nm,1.9s
BALB Balikesir 150.66 315 *e*P PKPbc 07 50 22.0 -0.9
ABH Alteburg 150.71 352 PKP PKPdf 07 50 15.6 -1.2
DIM Dimitrovgrad 150.73 321 *e*P PKPdf 07 50 21.0 +4.2
GIVF Givet 150.78 355 *e*PKIKP PKPdf 07 50 17.0 +0.1
MANT Manisa 150.78 313 *i* P PKPdf 07 50 15.6 -1.3
TOD Tromm 150.80 350 PKIKP PKPdf 07 50 15.6 -1.3
DOU Dourbes 150.80 356 PKP PKPdf 07 50 15.4 -1.5
DOU PKPbc PKPbc 07 50 22.5 -0.7
DOU PKPab PKPab 07 50 31.8 -1.4
DOU APKPbc 07 52 38.1
DOU APKPab 07 52 44.9
DNZL Cakiroluk 150.82 311 *i* P PKPbc 07 50 23.1 -0.2
BAIF Baives 150.86 356 *e*PKIKP PKPdf 07 50 17.1 +0.1
RUP Ruppelstein 150.95 352 PKIKP PKPdf 07 50 16.7 -0.5
CANB Canakkale 150.99 317 *e*P PKPdf 07 50 19.7 +2.5
KDZ Kurdzhali 151.05 321 *e*P PKPdf 07 50 22.0 +4.7
WLF Walferdange 151.09 354 *e*PKPbc PKPbc 07 50 23.3 -0.6
WLF *e*PKPab PKPab 07 50 33.2 -1.2
WLF *e*pPKPbc pPKPbc 07 52 43.9 +4.0
WLF Walferdange 151.09 354 PKP PKPdf 07 50 17.5 +0.1
WLF PKPbc PKPbc 07 50 23.6 -0.2
WLF PKPab PKPab 07 50 33.5 -0.9
WLF APKPab 07 52 44.5
WLF Walferdange 151.09 354 *e*PKPdf PKPdf 07 50 17.4 +0.1
WLF *e*PKPbc PKPbc 07 50 23.9 +0.1
WLF *e*PKPab PKPab 07 50 33.5 -1.0
AKS Akhisar 151.10 314 P PKPbc 07 50 23.0 -0.9
PKSM Moragy 151.11 335⇓*i*P PKPdf 07 50 16.2 -1.2
ALN Alexandroupoli 151.12 319 *e*P PKPdf 07 50 15.5 -1.9
MOA Molln 151.21 342⇓*i* PKPbc 07 50 23.5 -0.7
comp=Z,310nm,2.7s
MOA Molln 151.21 342⇓*i* PKPab 07 50 34.1 -0.8
comp=Z,502nm,2.0s
MOA Molln 151.21 342⇑*i*PKPdf PKPdf 07 50 15.0 -2.6
comp=Z,189nm,2.9s,SNR=18
MOA ⇓*i*PKiKP PKiKP 07 50 23.5 -1.0
comp=Z,310nm,2.7s
MOA ⇓*i*PKPab PKPab 07 50 34.1 -0.8
comp=Z,502nm,2.0s
FETY Fethiye 151.26 309 P PKPdf 07 50 17.1 -0.5
ARSA Arzberg 151.36 340⇓*i* PKPbc 07 50 23.8 -0.7
comp=Z,341nm,2.3s
ARSA Arzberg 151.36 340⇓*i* PKPab 07 50 34.9 -0.6
comp=Z,365nm,2.0s
ARSA Arzberg 151.36 340⇓*i*PKPdf PKPdf 07 50 15.7 -2.1
comp=Z,214nm,2.7s
ARSA ⇓*i*PKiKP PKiKP 07 50 23.8 -1.0
comp=Z,341nm,2.3s
ARSA ⇓*i*PKPab PKPab 07 50 34.9 -0.6
comp=Z,365nm,2.0s
BEO Belgrade 151.44 331⇑*i*PKP PKPbc 07 50 23.9 -0.8
SVIS Svilajnac 151.48 329⇓*i*PKP PKPbc 07 50 24.1 -0.7
DALT Dalyan (Mudla) 151.52 310 P PKPdf 07 50 17.6 -0.4
STU Stuttgart 151.54 349 *e*PKPdf PKPdf 07 50 17.2 -0.8
STU *e*PKPbc PKPbc 07 50 24.3 -0.6
STU *e*PKPab PKPab 07 50 34.7 -1.6
STU Stuttgart 151.54 349 *e*PKPbc PKPbc 07 50 24.4 -0.5
STU *e*PKPab PKPab 07 50 34.8 -1.6
LANF Langenberg 151.56 351 PKP PKPdf 07 50 17.1 -1.0
EZN Ezine 151.56 317 P PKPbc 07 50 24.2 -0.7
YER Yerkesik 151.61 310 *e*P PKPbc 07 50 24.4 -0.6
JLP Les Platons 151.63 5 *e*P PKPdf 07 50 17.5 -0.7
JVM Valle D.L. Mar 151.65 5 *e*P PKPdf 07 50 18.1 -0.1
AYDN Tasoluk 151.65 312 *i* P PKPbc 07 50 24.2 -0.9
VTS Vitosha 151.69 325 *e*P PKPbc 07 50 24.0 -1.2
VTS Vitosha 151.69 325 *e*P PKPdf 07 50 16.6 -1.6
VTS Vitosha 151.69 325⇓*i*P PKPbc 07 50 25.0 -0.2
FUR Furstenfeldbru 151.69 346 *e*PKPbc PKPbc 07 50 24.4 -0.8
FUR *e*PKPab PKPab 07 50 35.9 -1.1
KDAG Bornova 151.71 314 *i* P PKPbc 07 50 23.9 -1.4
IZM Izmir 151.71 314 P PKPbc 07 50 24.1 -1.1
MLSB Milas 151.90 311 *e*P PKPbc 07 50 24.9 -0.7
GRUS Gruza 152.03 329 *i* PKP PKPbc 07 50 25.2 -0.8
MMB Musomiste 152.07 322 *e*P PKPdf 07 50 24.0 +5.2
BFO Black Forest 152.11 350 *e*PKPdf PKPdf 07 50 17.9 -1.0
BFO *e*PKPbc PKPbc 07 50 25.5 -0.6
BFO *e*PKPab PKPab 07 50 36.6 -2.2
KBA Koelnbreinsper 152.18 342⇑*i* PKPbc 07 50 25.2 -1.0
comp=Z,123nm,2.0s
KBA Koelnbreinsper 152.18 342⇓*i* PKPab 07 50 38.0 -1.0
comp=Z,317nm,2.0s
KBA Koelnbreinsper 152.18 342⇓*i*PKPdf PKPdf 07 50 17.5 -1.5
comp=Z,162nm,2.3s,SNR=13
KBA ⇑*i*PKPbc PKPbc 07 50 25.2 -1.0
comp=Z,123nm,2.0s
KBA ⇓*i*PKPab PKPab 07 50 38.0 -1.0
comp=Z,317nm,2.0s
WLS Welschbruch 152.18 351 PKP PKPdf 07 50 17.1 -1.9
URLA Izmir 152.18 314 *i* P PKPdf 07 50 24.5 +5.5
CDF Champ du Feu 152.19 352 *e*PKIKP PKPdf 07 50 16.9 -2.1
FLN La Foliniere 152.21 3 *e*PKIKP PKPdf 07 50 16.9 -2.1
comp=Z,79nm,1.0s
FLN *e*R
comp=Z,513nm,22.5s
FLN La Foliniere 152.21 3 *e*PKPdf PKPdf 07 50 16.9 -2.1
FLN LR LR
comp=Z,510nm,22.5s
DIVS Divcibare 152.21 330 *e*PKP PKPbc 07 50 26.2 -0.2
DIVS Divcibare 152.21 330 *e*P PKPdf 07 50 17.6 -1.5
BDRM Kayabasi 152.24 311 *i* P PKPdf 07 50 24.7 +5.7
KKB Krupnik 152.25 324 *e*P PKPbc 07 50 25.0 -1.4
DAT Datca 152.30 310 P PKPdf 07 50 16.2 -2.9
OBKA Obir 152.32 340⇓*i* PKPbc 07 50 25.3 -1.3
comp=Z,138nm,2.2s
OBKA Obir 152.32 340⇑*i* PKPab 07 50 38.8 -0.9
comp=Z,276nm,1.9s
OBKA Obir 152.32 340⇓*i*PKPdf PKPdf 07 50 17.3 -1.9
comp=Z,362nm,3.8s
OBKA ⇓*i*PKPbc PKPbc 07 50 25.3 -1.3
comp=Z,138nm,2.2s
OBKA ⇑*i*PKPab PKPab 07 50 38.8 -0.9
comp=Z,276nm,1.9s
BODT Bodrum 152.33 311 *e*P PKPbc 07 50 25.4 -1.3
MEZF Maizieres J'vi 152.35 355 *e*PKIKP PKPdf 07 50 17.8 -1.4
LDF La Druitiere 152.39 2 *e*PKIKP PKPdf 07 50 17.2 -2.1
comp=Z,73nm,1.1s
ECH Echery 152.40 352 PKP PKPdf 07 50 17.8 -1.5
WATA Walderalm 152.40 345⇓*i* PKPbc 07 50 25.9 -0.9
comp=Z,47nm,0.9s
WATA Walderalm 152.40 345⇑*i* PKPab 07 50 39.6 -0.4
comp=Z,523nm,1.9s
WATA Walderalm 152.40 345⇑*i*PKPdf PKPdf 07 50 18.7 -0.6
comp=Z,121nm,2.0s,SNR=11
WATA ⇓*i*PKPbc PKPbc 07 50 25.9 -0.9
comp=Z,47nm,0.9s
WATA ⇑*i*PKPab PKPab 07 50 39.6 -0.4
comp=Z,523nm,1.9s
WATA Walderalm 152.40 345⇑*i*P PKPdf 07 50 18.8 -0.6
WATA *i* 07 50 25.9
WATA *i* 07 50 39.6
ROSF Rostrenen 152.42 7 *e*PKIKP PKPdf 07 50 17.6 -1.7
comp=Z,98nm,1.4s
WTTA Wattenberg 152.46 345⇓*i* PKPbc 07 50 26.3 -0.6
comp=Z,556nm,2.4s
WTTA Wattenberg 152.46 345⇓*i* PKPab 07 50 39.3 -1.0
comp=Z,524nm,1.8s
WTTA Wattenberg 152.46 345⇓*i*PKPdf PKPdf 07 50 18.4 -1.0
comp=Z,357nm,2.6s,SNR=18
WTTA ⇓*i*PKiKP PKiKP 07 50 26.3 -0.8
comp=Z,556nm,2.4s
WTTA ⇓*i*PKPab PKPab 07 50 39.3 -1.0
comp=Z,524nm,1.8s
MOTA Moosalm 152.51 346⇓*i* PKPbc 07 50 26.1 -0.9
comp=Z,44nm,1.0s
MOTA Moosalm 152.51 346⇑*i* PKPab 07 50 39.8 -0.7
comp=Z,90nm,1.0s
MOTA Moosalm 152.51 346⇓*i*PKPdf PKPdf 07 50 17.3 -2.2
comp=Z,164nm,2.2s,SNR=12
MOTA ⇓*i*PKPbc PKPbc 07 50 26.1 -0.9
comp=Z,44nm,1.0s
MOTA ⇑*i*PKPab PKPab 07 50 39.8 -0.7
comp=Z,90nm,1.0s
CHOS Chios island 152.53 315 *e*P PKPdf 07 50 17.7 -1.8
THEF They Montfort 152.53 353 PKP PKPdf 07 50 17.8 -1.7
GRR Gorron 152.56 3 *e*PKIKP PKPdf 07 50 17.6 -1.9
SGMF Saint Gilles 152.57 6 *e*PKIKP PKPdf 07 50 17.5 -2.1
SQTA Sankt Quirin 152.60 345⇓*i* PKPbc 07 50 26.5 -0.7
comp=Z,39nm,0.9s,SNR=14
SQTA Sankt Quirin 152.60 345⇑*i* PKPab 07 50 40.3 -0.5
comp=Z,56nm,1.0s
SQTA Sankt Quirin 152.60 345⇑*i*PKPdf PKPdf 07 50 19.0 -0.6
comp=Z,180nm,2.2s
SQTA ⇓*i*PKiKP PKiKP 07 50 26.5 -0.8
comp=Z,39nm,0.9s,SNR=14
SQTA ⇑*i*PKPab PKPab 07 50 40.3 -0.5
comp=Z,56nm,1.0s
FELD Feldberg im Sc 152.60 350 PKP PKPdf 07 50 18.2 -1.4
BBLS Bajina Basta - 152.65 331 *e*PKP PKPbc 07 50 28.0 +0.7
HAU Haudompre 152.71 353 *e*PKIKP PKPdf 07 50 18.9 -0.9
HAU *e*R
comp=Z,260nm,21.5s
HAU Haudompre 152.71 353 *e*PKPdf PKPdf 07 50 18.9 -0.9
HAU LR LR
comp=Z,260nm,21.5s
OUR Ouranopolis 152.72 320 *e*P PKPdf 07 50 17.7 -2.0
LJU Ljubljana 152.75 340 *e*PKPdf PKPdf 07 50 18.5 -1.3
LJU *i* PKPbc PKPbc 07 50 26.6 -0.9
LJU *e*PKPab PKPab 07 50 41.5 0.0
MOF Molkenrain 152.76 352 PKP PKPdf 07 50 18.7 -1.1
SOH Sokhos 152.78 322 *e*P PKPdf 07 50 17.7 -2.2
PTCC Patocco-Chiusa 152.78 342 PKP PKPdf 07 50 19.1 -0.8
KNT Kendrikon 152.82 323 *e*P PKPdf 07 50 17.8 -2.1
HINT Hinteralfeld 152.83 352 *e*PKIKP PKPdf 07 50 18.1 -1.8
comp=Z,97nm,1.5s
DAVA Damuels 152.83 347⇓*i* PKPbc 07 50 27.1 -0.6
comp=Z,281nm,2.1s
DAVA Damuels 152.83 347⇓*i* PKPab 07 50 40.2 -1.6
comp=Z,364nm,2.1s
DAVA Damuels 152.83 347⇓*i*PKPdf PKPdf 07 50 19.3 -0.6
comp=Z,185nm,2.4s
DAVA ⇓*i*PKiKP PKiKP 07 50 27.1 -0.7
comp=Z,281nm,2.1s
DAVA ⇓*i*PKPab PKPab 07 50 40.2 -1.6
comp=Z,364nm,2.1s
QUIF Quistinic 152.84 7 *e*PKIKP PKPdf 07 50 18.3 -1.7
ROBS Robic 152.88 341 *e*PKPdf PKPdf 07 50 18.3 -1.7
ROBS *i* PKPbc PKPbc 07 50 26.2 -1.6
ROBS *e*PKPab PKPab 07 50 40.1 -1.9
GMNA Gemona 152.94 342 PKP PKPdf 07 50 19.3 -0.8
VOY Vojsko 152.96 341 *e*PKPdf PKPdf 07 50 18.8 -1.3
VOY *e*PKPbc PKPbc 07 50 26.8 -1.2
VOY *e*PKPab PKPab 07 50 40.7 -1.7
BOJS Bojanci 152.98 338 *e*PKPdf PKPdf 07 50 19.2 -0.9
BOJS *e*PKPbc PKPbc 07 50 27.4 -0.6
BOJS *e*PKPab PKPab 07 50 41.7 -0.8
PLE Pljevlja 153.08 330⇑*i*PKP PKPdf 07 50 21.0 +0.7
BBS Basel-Blauen 153.08 351 PKIKP PKPdf 07 50 19.1 -1.2
IVA Berane 153.19 329⇑*i*PKP PKPdf 07 50 19.8 -0.7
GRG Griva 153.24 323 *e*P PKPdf 07 50 18.3 -2.2
LOMF Lomont 153.29 352 PKP PKPdf 07 50 19.7 -0.9
DAVOX Davos 153.31 347 PKP PKPdf 07 50 20.2 -0.5
comp=Z,14nm,0.7s,baz=323,slow=2.3,SNR=14
DAVOX PKPbc PKPbc 07 50 28.4 -0.3
comp=Z,81nm,0.6s,baz=252,slow=2.0,SNR=51
DAVOX PKPab PKPab 07 50 43.0 -0.9
comp=Z,75nm,0.7s,baz=82,slow=0.5,SNR=13
PVY Plav 153.36 328⇑*i*PKP PKPdf 07 50 19.8 -0.9
UPM Unac-Piva 153.40 331⇑*i*PKP PKPdf 07 50 19.8 -0.9
APE Apeiranthos 153.57 313⇓*i*P PKPdf 07 50 19.0 -2.0
APE Apeiranthos 153.57 313 ⇓P PKPdf 07 50 19.0 -2.0
CTI Castel Tesino 153.58 344 PKIKP PKPdf 07 50 19.9 -1.1
NKY Niksic 153.66 330⇑*i*PKP PKPdf 07 50 19.9 -1.2
LOR Lormes 153.66 356 *e*PKIKP PKPdf 07 50 19.4 -1.7
LOR *e*R
comp=Z,187nm,22.5s
LOR Lormes 153.66 356 *e*PKPdf PKPdf 07 50 19.4 -1.7
LOR LR LR
comp=Z,190nm,22.5s

TUE	**Stuetta**	**153.72**	**347**	PKP	PKPdf	07 50 20.8	-0.4
LIT	**Litokhoron**	**153.75**	**321**	*e*P	PKPdf	07 50 18.4	-2.8
XOR	**Xorichti**	**153.79**	**319**	*e*P	PKPdf	07 50 19.7	-1.6
BRY	**Bratogost**	**153.80**	**331**	*e*PKP	PKPdf	07 50 19.7	-1.6
TTG	**Podgorica**	**153.83**	**329**	⇑*i*PKP	PKPdf	07 50 19.9	-1.4
MABI	**Malga Bissina**	**153.86**	**345**	PKP	PKPdf	07 50 19.8	-1.6
SSF	**Saint Saulge**	**153.89**	**357**	*e*PKIKP	PKPdf	07 50 19.7	-1.7
FNA	**Florina**	**153.92**	**324**	*e*P	PKPdf	07 50 19.8	-1.7
SANT	**Santorini**	**153.97**	**311**	*e*P	PKPdf	07 50 18.3	-3.2
SANT	**Santorini**	**153.97**	**311**	*e*PKPbc	PKPbc	07 50 28.0	-2.2
SANT				*e*PKPab	PKPab	07 50 45.3	-1.4
THR1	**Thera Island**	**153.97**	**311**	*e*P	PKPdf	07 50 19.8	-1.8
BUM	**Brajici-Budva**	**154.10**	**329**	⇑*i*PKP	PKPdf	07 50 20.2	-1.5
CABF	**La Chapelle**	**154.11**	**353**	*e*PKIKP	PKPdf	07 50 20.6	-1.1
	comp=Z,126nm,1.1s						
AVF	**Avril sur Loir**	**154.17**	**357**	*e*PKIKP	PKPdf	07 50 19.8	-2.0
HCY	**Herceg Novi**	**154.18**	**330**	⇑*i*PKP	PKPdf	07 50 20.8	-1.1
ULC	**Ulcinj**	**154.19**	**328**	⇑*i*PKP	PKPdf	07 50 20.9	-1.0
SMF	**Signal de Mont**	**154.28**	**356**	*e*PKIKP	PKPdf	07 50 20.2	-1.8
MFF	**Saint Martin d**	**154.38**	**2**	*e*PKIKP	PKPdf	07 50 20.2	-1.9
	comp=Z,60nm,1.2s						
BGF	**Bois d'Agland**	**154.42**	**358**	*e*PKIKP	PKPdf	07 50 20.5	-1.7
OG05	**Jujurieux**	**154.75**	**353**	PKP	PKPdf	07 50 22.1	-0.5
AGO	**Saint Agoulin**	**154.92**	**357**	PKP	PKPdf	07 50 22.0	-0.8
PLDF	**La Plantade**	**154.97**	**356**	PKP	PKPdf	07 50 22.4	-0.5
SIVA	**Sivas**	**155.08**	**309**	*e*P	PKPdf	07 50 22.0	-1.1
LPL	**La Plagne**	**155.10**	**351**	*e*PKIKP	PKPdf	07 50 22.0	-1.1
LPG	**La Plagne**	**155.12**	**351**	*e*PKIKP	PKPdf	07 50 22.2	-0.9
PYM	**Petit Puy Mans**	**155.22**	**357**	PKP	PKPdf	07 50 22.5	-0.7
FNVD	**Fontana Vidola**	**155.47**	**343**	PKP	PKPdf	07 50 23.0	-0.6
BNI	**Bardonecchia**	**155.56**	**351**	*e*PKIKP	PKPdf	07 50 23.5	-0.2
VLC	**Villacollemand**	**155.67**	**344**	*e*PKPab	PKPab	07 50 52.6	-1.4
GVD	**Gavdhos**	**155.69**	**310**	*e*PKPab	PKPab	07 50 53.6	-0.5
RJF	**Les Rejaudoux**	**155.71**	**360**	*e*PKIKP	PKPdf	07 50 22.3	-1.6
	comp=Z,60nm,1.2s						
RJF				*e*R			
	comp=Z,399nm,21.8s						
RJF	**Les Rejaudoux**	**155.71**	**360**	*e*PKPdf	PKPdf	07 50 22.3	-1.6
RJF				LR	LR		
	comp=Z,400nm,21.8s						
LBL	**Lubilhac**	**155.73**	**357**	PKP	PKPdf	07 50 22.7	-1.2
LKD	**Levkas**	**155.74**	**321**	*e*P	PKPdf	07 50 25.3	+1.3
ORIF	**Oris-en-Rattie**	**155.80**	**352**	*e*PKIKP	PKPdf	07 50 22.4	-1.6
ORIF				*e*R			
	comp=Z,364nm,21.0s						
MBDF	**Montbardon**	**155.87**	**351**	*e*PKIKP	PKPdf	07 50 22.6	-1.5
	comp=Z,33nm,0.9s						
CAF	**Calviac**	**156.08**	**359**	*e*PKIKP	PKPdf	07 50 22.8	-1.6
EMAZ	**Mazaricos**	**156.41**	**19**	PKP	PKPdf	07 50 22.9	-1.9
CII	**Carovilli**	**156.58**	**335**	PKP	PKPdf	07 50 24.1	-0.9
STS	**Santiago**	**156.59**	**19**	PKIKP	PKPdf	07 50 24.6	-0.4
LASF	**Ste Croix**	**156.84**	**355**	*e*PKIKP	PKPdf	07 50 24.1	-1.2
	comp=Z,74nm,1.2s						
ELAN	**Lanestosa**	**157.42**	**9**	PKP	PKPdf	07 50 25.2	-0.8
ERUA	**La Rua**	**157.45**	**17**	PKIKP	PKPdf	07 50 24.8	-1.3
TIP	**Timpagrande**	**157.53**	**327**	*e*PKPdf	PKPdf	07 50 25.9	-0.3
TIP				*e*PKPab	PKPab	07 51 02.1	0.0
PCAB	**Cabril**	**157.82**	**19**	*e*PKPdf	PKPdf	07 50 26.7	+0.2
PCAB	**Cabril**	**157.82**	**19**	*e*PKPab	PKPab	07 51 02.3	-1.1
PBRG	**Braganca**	**158.10**	**16**	*e*PKPdf	PKPdf	07 50 26.7	-0.2
PBRG	**Braganca**	**158.10**	**16**	*e*PKPab	PKPab	07 51 03.7	-0.9
PVRL	**Vila Real**	**158.32**	**19**	*e*PKPdf	PKPdf	07 50 27.4	+0.3
PVRL	**Vila Real**	**158.32**	**19**	*e*PKPab	PKPab	07 51 04.7	-0.8
PVIS	**Viseu**	**158.77**	**20**	*e*PKPdf	PKPdf	07 50 27.6	-0.1
PVIS	**Viseu**	**158.77**	**20**	*e*PKPab	PKPab	07 51 06.3	-1.2
MTE	**Manteigas**	**159.17**	**19**	*e*PKPdf	PKPdf	07 50 27.5	-0.6
PTOM	**Tomar**	**159.59**	**22**	*e*PKPdf	PKPdf	07 50 28.5	-0.1
PTOM	**Tomar**	**159.59**	**22**	*e*PKPab	PKPab	07 51 09.7	-1.4
PCBR	**Castelo Branco**	**159.70**	**20**	*e*PKPdf	PKPdf	07 50 28.5	-0.2
PCBR	**Castelo Branco**	**159.70**	**20**	*e*PKPab	PKPab	07 51 10.1	-1.5
GUD	**Guadarrama**	**159.81**	**12**	PKIKP	PKPdf	07 50 28.4	-0.4
PLOU	**Loures**	**159.96**	**25**	*e*PKPab	PKPab	07 51 12.5	-0.2
ETOR	**Torete**	**159.97**	**8**	PKIKP	PKPdf	07 50 27.7	-1.3
EBR	**Ebro Roquetas**	**160.17**	**2**	*e*PKPpB	PKPab	07 51 10.0	-3.6
PMPS	**Porto Santo**	**160.17**	**49**	*e*PKPbc	PKPdf	07 50 28.9	-0.3
MOE	**Montemor**	**160.58**	**23**	*e*PKPbc	PKPdf	07 50 30.1	+0.4
MOE	**Montemor**	**160.58**	**23**	*e*PKPab	PKPab	07 51 14.4	-1.0
EVO	**Evora**	**160.69**	**23**	*e*PKIKP	PKPdf	07 50 28.8	-1.0
	comp=Z,43nm,1.0s						
EVO				*e*R			
	comp=Z,315nm,21.5s						
ESDC	**Sonseca Array**	**160.78**	**13**	PKP	PKPdf	07 50 29.7	-0.2
	comp=Z,0.5nm,0.3s,baz=337,slow=1.5,SNR=6.3						
ESDC				PKPab	PKPab	07 51 14.7	-1.6
	comp=Z,21nm,0.8s,baz=344,slow=4.0,SNR=37						
ESDC	**Sonseca Array**	**160.78**	**13**	PKP	PKPdf	07 50 28.5	-1.4
EBAD	**Badajoz**	**160.83**	**20**	PKP	PKPdf	07 50 29.2	-0.8
PBEJ	**Beja**	**161.19**	**23**	*e*PKPbc	PKPdf	07 50 30.3	0.0
PBEJ	**Beja**	**161.19**	**23**	*e*PKPab	PKPab	07 51 17.0	-1.1
PTEO	**Sao Teotonio**	**161.28**	**26**	*e*PKPbc	PKPdf	07 50 30.8	+0.4
PTEO	**Sao Teotonio**	**161.28**	**26**	*e*PKPab	PKPab	07 51 17.3	-1.2
ECHE	**Chera**	**161.31**	**6**	PKIKP	PKPdf	07 50 30.4	0.0
EMIN	**Mina Concepcio**	**161.84**	**21**	PKP	PKPdf	07 50 30.4	-0.6
EADA	**Adamuz**	**162.08**	**15**	PKP	PKPdf	07 50 31.1	-0.1
CCAN	**Las Canadas**	**162.13**	**63**	PKP	PKPdf	07 50 32.6	+1.3
EBAN	**Banos Encina**	**162.27**	**13**	PKIKP	PKPdf	07 50 31.2	-0.2
ELUQ	**Luque**	**162.73**	**15**	PKIKP	PKPdf	07 50 32.0	+0.1
EQES	**Quesada**	**162.76**	**12**	PKIP	PKPdf	07 50 30.8	-1.1
EHUE	**Huescar**	**162.84**	**11**	PKIKP	PKPdf	07 50 31.6	-0.4
ESPR	**Espera**	**162.93**	**20**	PKP	PKPdf	07 50 32.0	-0.1
ECOG	**Cogollos-Vega**	**163.17**	**14**	PKIKP	PKPdf	07 50 31.4	-0.9
EJIF	**Jimena Fronter**	**163.43**	**20**	PKIKP	PKPdf	07 50 32.2	-0.3
CMAH	**Djebel Manchou**	**163.51**	**343**	P	PKPab	07 51 28.0	-0.3
CAEH	**'Ain El Ouahch**	**163.52**	**344**	P	PKPab	07 51 29.0	+0.7
ABSA	**Djebel Ababsia**	**163.82**	**342**	P	PKPab	07 51 29.0	-0.7
CKFL	**Kef-Lekhel**	**163.91**	**344**	P	PKPab	07 51 29.0	-1.1
DFRA	**Djebel Bou Aff**	**163.97**	**347**	P	PKPab	07 51 30.0	-0.3
CASM	**Ain Smara**	**164.10**	**345**	P	PKPab	07 51 29.5	-1.4
CTEI	**Djebel Teioual**	**164.31**	**345**	P	PKPab	07 51 30.0	-1.8
SET	**Setif**	**164.40**	**348**	P	PKPab	07 51 30.0	-2.2
CKHR	**Kef el Ahmar**	**164.55**	**347**	P	PKPab	07 51 32.0	-0.9
DBIC	**Dimbokro**	**164.58**	**156**	PKP	PKPdf	07 50 34.0	+0.4
	comp=Z,16nm,0.8s,baz=189,slow=0.9,SNR=13						
DBIC				PKPab	PKPab	07 51 34.6	+1.6
	comp=Z,40nm,0.9s,baz=188,slow=6.0,SNR=13						
DBIC	**Dimbokro**	**164.58**	**156**	PKIKP	PKPdf	07 50 34.0	+0.5
DBIC						07 51 34.6	
DBIC				pmax	pmax		
	comp=Z,16nm,0.8s						
DBIC				pmax	pmax		
	comp=Z,40nm,0.9s						
DBIC	**Dimbokro**	**164.58**	**156**	*e*PKPdf	PKPdf	07 50 33.8	+0.3
EBNR	**Beni Rached**	**164.71**	**360**	P	PKPab	07 51 33.0	-0.6
EMHD	**Djebel Mahouad**	**164.74**	**355**	P	PKPab	07 51 32.6	-1.1
EANR	**'Ain N'Sour**	**165.05**	**1**	P	PKPab	07 51 34.5	-0.6
ETRT	**Tiaret**	**165.61**	**0**	P	PKPab	07 51 37.0	-0.6
MDT	**Midelt**	**167.03**	**23**	PKPab	PKPab	07 51 43.5	-0.4
	comp=Z,12nm,0.9s,baz=338,slow=6.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**172.24**	**182**	PKP	PKPdf	07 50 38.0	-0.5
	comp=Z,13nm,0.8s,baz=323,slow=0.7,SNR=43						
TORD				PKPab	PKPab	07 52 07.8	+0.8
	comp=Z,17nm,1.0s,baz=176,slow=3.7,SNR=14						

JMA 02 07:49:04.9±0.3, 4387N×14834E, h0km, M3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.95**	**256**	P	Pn	07 49 40.0	+0.7
NEM2				*e*S	Sn	07 50 05.4	+0.9
JRA	**Rausu**	**2.33**	**273**	P	Pn	07 49 45.6	+1.2
JRA				*e*S	Sn	07 50 15.0	+1.3
JNK	**Nakash**	**2.64**	**265**	P	Pn	07 49 50.1	+1.4
JAK	**Akkeshi**	**2.79**	**253**	P	Pn	07 49 51.7	+0.9
JCH	**Churui**	**3.85**	**253**	P	Pn	07 50 07.3	+2.0
JCH				*e*S	Sn	07 50 52.9	+1.7
JNBK	**Urakawa-nobuka**	**4.39**	**251**	P	Pn	07 50 14.6	+1.8
JKB	**Kayabe**	**5.72**	**252**	P	Pn	07 50 32.9	+1.8
JKB				*e*S	Sn	07 51 36.8	-0.7
JOT	**Ohata**	**5.93**	**248**	P	Pn	07 50 35.5	+1.6

MOS ***02*** *08:28:35.9±1.1, 3839N×9148E, h10km, mb4.0/5, Error ellipse: s-maj=20.7km s-min=10.2km az=108.2*
ISCJB ***02*** *08:28:36.0±0.5, 3838N±006×9157E±006, h10km, mb3.8/12, Error ellipse: s-maj=9.9km s-min=6.0km az=64.0*
IDC ***02*** *08:28:36.1±0.8, 3836N×9159E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/23, mbtmp3.8/11, ML3.6/1, Error ellipse: s-maj=30.6km s-min=18.6km az=49.0*

BJI ***02*** *08:28:38.3, 3843N×9153E, h10km, mB4.4, mb4.0, ML4.0, Ms3.3, Msz3.1*
NEIC ***02*** *08:28:38.1±1.9, 3838N×9152E, h10km, mb4.0/4, Error ellipse: s-maj=32.6km s-min=16.7km az=171.0*
ISC 02 08:28:37.8±0.5, 3836N±006×9153E±006, h10km, n31, σ1§03/37, mb3.8/12, 2C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**6.17**	**333**	P	**Pn**	**08 30 11.3**	**+2.3**
WMQ				S	**Sn**	**08 31 20.0**	**+0.4**
WMQ				SG	**Sg**	**08 31 51.1**	**-4.8**
WMQ				Smax			
	comp=N,120nm,0.9s						
WMQ				Smax			
	comp=E,100nm,1.0s						
GTA	**Gaotai**	**6.55**	**78**	P	**Pn**	**08 30 13.8**	**-0.4**
GTA				PG	**Pg**	**08 30 35.0**	**-8.3**
GTA				S	**Sn**	**08 31 29.1**	**+0.1**
GTA				SG	**Sg**	**08 32 01.6**	**-6.5**
GTA				Smax			
	comp=N,30nm,1.1s						
GTA				Smax			
	comp=E,20nm,1.1s						
GTA				LR	LR		
	comp=N,220nm,12.2s						
GTA				LR	LR		
	comp=E,200nm,12.9s						
GTA				LR	LR		
	comp=Z,240nm,15.2s						
MKAR	**Makanchi Array**	**10.82**	**324**	Pn	**Pn**	**08 31 13.2**	**+0.4**
	comp=Z,8.9nm,0.3s,baz=136,slow=14,SNR=152						
MKAR				Sn	**Sn**	**08 33 11.9**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=138,slow=25,SNR=6.5						
SONM	**Songino Array**	**14.39**	**44**	Pn	**Pn**	**08 32 01.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=230,slow=15,SNR=4.6						
ZAK	**Zakamensk**	**14.64**	**31**	*e*P	**Pn**	**08 32 05.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,15nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,40nm,1.8s						
KURK	**Kurchatov**	**15.37**	**328**	*e*P	**Pn**	**08 32 13.0**	**-1.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**15.37**	**328**	*e*Pn	**Pn**	**08 32 13.0**	**-1.7**
	comp=Z,2.9nm,0.6s						
KMI	**Kunming**	**16.27**	**141**	P	**Pn**	**08 32 25.2**	**-1.2**
KMI				AMB	AMB		
	comp=Z,80nm,4.4s						
KMI				LR	LR		
	comp=Z,70nm,18.4s						
GYA	**Guiyang**	**17.42**	**129**	P	**Pn**	**08 32 43.6**	**+2.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
NVS	**Novosibirsk**	**17.42**	**344**	*e*P	**Pn**	**08 32 41.1**	**+0.2**
NVS				pmax	pmax		
	comp=N,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHKZ	**Chkalovo**	**20.98**	**324**	*e*P	**P**	**08 33 22.4**	**+1.2**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHKZ	**Chkalovo**	**20.98**	**324**	*e*P	**P**	**08 33 22.4**	**+1.2**
	comp=Z,8.2nm,0.8s						
ZRNK	**Zerenda**	**21.33**	**320**	P	**P**	**08 33 25.1**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.6						
ZRNK	**Zerenda**	**21.33**	**320**	P	**P**	**08 33 25.1**	**+0.2**
	comp=Z,3.5nm,0.9s,mb3.7						
AKTK	**Aktyubinsk**	**26.58**	**308**	P	**P**	**08 34 17.0**	**+1.0**
AKTO	**Aktyubinsk**	**26.58**	**308**	P	**P**	**08 34 17.0**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.5,baz=90,slow=6.1,SNR=2.8						
BRTR	**Keskin Array B**	**44.30**	**291**	P	**P**	**08 36 47.5**	**-0.3**
	comp=Z,0.4nm,0.3s,mb3.6,baz=41,slow=13,SNR=5.2						
ARCES	**ARCESS Array B**	**46.29**	**334**	P	**P**	**08 37 04.2**	**+0.7**
	comp=Z,2.1nm,0.9s,mb4.1,baz=81,slow=8.7,SNR=7.3						
NOA	**NORSAR Array B**	**52.82**	**323**	P	**P**	**08 37 53.0**	**-0.4**
	comp=Z,1.8nm,0.9s,mb4.0,baz=78,slow=7.4,SNR=4.1						
NOA	**NORSAR Array B**	**52.82**	**323**	P	**P**	**08 37 53.0**	**-0.4**
CLL	**Collm**	**54.60**	**311**	⇑*i*P	**P**	**08 38 05.6**	**-0.8**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
CLL	**Collm**	**54.60**	**311**	⇑*i*P	**P**	**08 38 05.6**	**-0.8**
	comp=Z,5.0nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**67.55**	**23**	P	**P**	**08 39 33.5**	**-0.9**
	comp=Z,1.1nm,0.8s,mb4.0,baz=305,slow=5.8,SNR=16						
ILAR	**Eielson Array**	**67.55**	**23**	P	**P**	**08 39 33.5**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**70.55**	**137**	P	**P**	**08 39 52.9**	**-0.1**
	comp=Z,0.4nm,0.9s,mb3.4,baz=334,slow=6.5,SNR=6.2						
ASAR	**Alice Springs**	**73.40**	**140**	P	**P**	**08 40 10.8**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=330,slow=6.2,SNR=15						
ASAR	**Alice Springs**	**73.40**	**140**	P	**P**	**08 40 10.8**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**77.31**	**12**	P	**P**	**08 40 31.3**	**-1.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=338,slow=5.2,SNR=5.8						
YKA	**Yellowknife Ar**	**77.31**	**12**	P	**P**	**08 40 31.3**	**-1.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**81.84**	**280**	P	**P**	**08 40 57.5**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=50,slow=4.9,SNR=4.3						
STKA	**Stephens Creek**	**84.00**	**139**	P	**P**	**08 41 06.8**	**-1.6**
	comp=Z,1.0nm,0.5s,mb4.2,baz=340,slow=12,SNR=3.0						

JMA ***02*** *08:41:08.7±0.3, 2462N×12196E, h62km, M3.4*
ISCJB ***02*** *08:41:09.1±1.8, 245N±03×1219E±0.1, h37km±27km, mb3.5/2, Error ellipse: s-maj=47.7km s-min=13.7km az=17.4*
IDC ***02*** *08:41:10.9±2.0, 2524N×12194E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=164.2km s-min=22.7km az=65.0*
ISC 02 08:41:09.3±2.3, 244N±02×12195E±009, h28km±13km, n10, σ0§52/14, mb3.5/2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.97**	**88**	P	**Pn**	**08 41 26.6**	**-0.4**
YOJ				S	**Sb**	**08 41 40.0**	**+0.1**
IRIF	**Iriomote-Funau**	**1.63**	**93**	P	**Pn**	**08 41 35.5**	**-0.6**
IRIF				S	**Sn**	**08 41 55.6**	**-0.5**
HATJ	**Hateruma jima**	**1.74**	**102**	P	**Pn**	**08 41 38.1**	**+0.6**
HATJ				*e*S	**Sn**	**08 41 58.9**	**+0.2**
JKRS	**Kuro-shima**	**1.89**	**96**	P	**Pn**	**08 41 39.4**	**-0.3**
JKRS				*e*S	**Sn**	**08 42 02.8**	**+0.3**
JIJ	**Ishigaki jima**	**2.00**	**92**	P	**Pn**	**08 41 41.0**	**-0.2**
JIJ				S	**Sn**	**08 42 04.8**	**-0.5**
JTJ	**Tarama**	**2.52**	**85**	P	**Pn**	**08 41 48.6**	**+0.3**
JTJ				*e*S	**Sn**	**08 42 18.8**	**+0.8**
SONM	**Songino Array**	**26.42**	**336**	P	**P**	**08 46 42.7**	**-0.8**
	1.5nm,0.9s,mb3.5,baz=153,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**38.65**	**315**	P	**P**	**08 48 31.1**	**+0.9**
	0.6nm,0.6s,mb3.5,baz=105,slow=9.3,SNR=5.8						
WRA	**Warramunga Arr**	**45.73**	**164**	P	pP	08 49 39.7	+3.3
	0.8nm,0.8s,baz=347,slow=8.9,SNR=4.8						
ASAR	**Alice Springs**	**49.20**	**165**	P	pP	08 50 07.3	+3.9
	0.3nm,0.7s,baz=342,slow=7.9,SNR=4.4						

ISCJB ***02*** *08:41:53.7±0.2, 4322N±001×023W±002, h9km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=100.0*
STR ***02*** *08:41:55.1±0.2, 4317N×025W, h5km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***02*** *08:41:55.1, 4318N×025W, h5km, ML3.2(CSEM), ML3.3(STR), ML3.5(LDG), After STR.*
LDG ***02*** *08:41:56.1±0.1, 4309N×027W, h4km, Md3.5/3, Ml3.5/20, Error ellipse: s-maj=1.6km s-min=1.4km az=143.0*
MDD ***02*** *08:41:56.4±0.2, 4308N×026W, h0km, mbLg2.6/19, Error ellipse: s-maj=2.8km s-min=1.1km az=12.0, PRXIMO*
CSEM ***02*** *08:41:56.0±0.0, 4310N×027W, h5km, ML3.3/25, Error ellipse: s-maj=0.9km s-min=0.7km az=167.0*
ISC 02 08:41:55.1±0.2, 4316N±001×026W±002, h11km±2km, n131, σ1§04/251, 2D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.14**	**228**	Pg	**Pg**	**08 41 58.1**	**-0.2**
REYF				Sg	**Sg**	**08 42 00.2**	**-0.3**
REYF	**Montagne du Re**	**0.14**	**228**	Pg	**Pg**	**08 41 58.2**	**-0.1**
REYF				Lg		08 41 59.9	
LABF	**Labassere**	**0.27**	**115**	Pg	**Pg**	**08 42 00.8**	**+0.3**
LABF				Sg	**Sg**	**08 42 04.9**	**+0.7**
LABF	**Labassere**	**0.27**	**115**	Pg	**Pg**	**08 42 00.8**	**+0.2**
LABF				Lg		08 42 04.8	
ATE	**Arette**	**0.33**	**257**	Pg	**Pg**	**08 42 01.7**	**-0.1**
ATE				Sg	**Sg**	**08 42 05.9**	**-0.4**
ATE	**Arette**	**0.33**	**257**	Pg	**Pg**	**08 42 01.7**	**-0.1**
ATE				Lg		08 42 06.3	
ETSF	**Etsaut**	**0.34**	**221**	*e*Pg	**Pg**	**08 42 01.3**	**-0.7**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**08 42 05.2**	**-1.4**
	740nm,0.3s						
ETSF	**Etsaut**	**0.34**	**221**	*e*Pg	**Pg**	**08 42 01.3**	**-0.7**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**08 42 05.2**	**-1.4**
	370nm,0.3s						
VIEF	**Viey**	**0.34**	**143**	Pg	**Pg**	**08 42 01.5**	**-0.5**
VIEF				Sg	**Sg**	**08 42 06.8**	**+0.2**
VIEF	**Viey**	**0.34**	**143**	Pg	**Pg**	**08 42 01.6**	**-0.4**
VIEF				Lg		08 42 05.7	
FDAF	**Les Forges d'A**	**0.41**	**214**	Pg	**Pg**	**08 42 02.5**	**-0.7**
FDAF				Lg		08 42 07.4	
EPF	**Esparros**	**0.45**	**106**	*e*Pg	**Pg**	**08 42 04.3**	**+0.3**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**08 42 10.2**	**+0.1**
	336nm,0.3s						
EPF	**Esparros**	**0.45**	**106**	*e*Pg	**Pg**	**08 42 04.3**	**+0.3**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**08 42 10.2**	**+0.1**
	168nm,0.3s						
ORDF	**Ordiarp**	**0.50**	**276**	Pg	**Pg**	**08 42 05.3**	**+0.4**
ORDF				Sg	**Sg**	**08 42 12.9**	**+1.4**
ORDF	**Ordiarp**	**0.50**	**276**	Pg	**Pg**	**08 42 05.5**	**+0.6**
ORDF				Lg		08 42 12.9	
LARF	**Larrau**	**0.55**	**258**	Pg	**Pg**	**08 42 05.7**	**-0.1**
LARF				Sg	**Sg**	**08 42 12.3**	**-0.8**
LARF				Sg	**Sg**	**08 42 12.7**	**-0.4**
LARF	**Larrau**	**0.55**	**258**	Pg	**Pg**	**08 42 05.7**	**-0.1**
LARF				Lg		08 42 13.7	
LARF	**Larrau**	**0.55**	**258**	Pg	**Pg**	**08 42 05.6**	**-0.2**
LARF				Sg	**Sg**	**08 42 12.7**	**-0.4**
LARF	**Larrau**	**0.55**	**258**	Pg	**Pg**	**08 42 05.7**	**-0.1**
LARF				Sg	**Sg**	**08 42 12.7**	**-0.4**
EBIE	**Bielsa**	**0.56**	**148**	⇓Pg	**Pg**	**08 42 05.3**	**-0.6**
	6.3nm,0.1s,SNR=18						
EBIE				Lg		08 42 12.0	
	107nm,0.1s,SNR=8.1						
EBIE	**Bielsa**	**0.56**	**148**	Pg	**Pg**	**08 42 05.3**	**-0.7**
	6.3nm,0.1s,SNR=18						
RESF	**Ens**	**0.56**	**129**	Pg	**Pg**	**08 42 06.0**	**0.0**
RESF				Sg	**Sg**	**08 42 13.1**	**-0.3**
RESF	**Ens**	**0.56**	**129**	Pg	**Pg**	**08 42 05.8**	**-0.2**
RESF				Lg		08 42 13.1	
SJPF	**Ste Jean**	**0.71**	**267**	*e*Pg	**Pg**	**08 42 09.0**	**+0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**08 42 18.4**	**+0.2**
	108nm,0.2s						
SJPF	**Ste Jean**	**0.71**	**267**	*e*Pg	**Pg**	**08 42 09.0**	**+0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**08 42 18.4**	**+0.2**
	54nm,0.2s						
OSSF	**Osses**	**0.74**	**278**	Pg	**Pg**	**08 42 09.2**	**-0.3**
OSSF				Sg	**Sg**	**08 42 20.7**	**+1.5**
OSSF	**Osses**	**0.74**	**278**	Pg	**Pg**	**08 42 09.0**	**-0.5**
OSSF				Lg		08 42 20.5	
IPRE	**Itoiz**	**0.88**	**247**	Pg	**Pg**	**08 42 12.2**	**0.0**
	2.2nm,0.1s,SNR=21	

6.6nm,0.1s,SNR=22
ERTA Sn **Sn** **08 42 59.2 -0.7**
2.9nm,0.1s,SNR=4.0
ERTA Lg 08 43 04.3
17nm,0.2s,SNR=7.9
ERTA Horta de San J 2.24 169 Pg **Pg** **08 42 35.6 -2.6**
6.6nm,0.1s,SNR=22
ERTA Sn **Sn** **08 42 59.2 -0.7**
2.9nm,0.1s,SNR=4.0
ELAN Lanestosa 2.33 273 Pn **Pn** **08 42 36.5 +3.1**
0.3nm,0.1s,SNR=8.2
ELAN Lg 08 43 10.8
9.7nm,0.2s,SNR=7.9
ELAN Lanestosa 2.33 273 Pn **Pn** **08 42 36.5 +3.1**
0.3nm,0.1s,SNR=8.2
EBR Ebro Roquetas 2.40 166 *eP** **Pb** **08 42 39.0 +0.6**
EBR *eS** **Sb** **08 43 09.8 +1.8**
EBR Ebro Roquetas 2.40 166 *eSG* **Sg** **08 43 14.0 +1.7**
CAF Calviac 2.43 43 *ePg* **Pg** **08 42 42.5 +0.7**
CAF *eSg* **Sg** **08 43 14.6 +1.3**
58nm,0.2s
CAF Calviac 2.43 43 *ePn* **Pn** **08 42 34.3 -0.5**
CAF *ePg* **Pg** **08 42 42.5 +0.7**
CAF *eSg* **Sg** **08 43 14.6 +1.3**
CAF Calviac 2.43 43 *ePg* **Pg** **08 42 42.5 +0.7**
CAF *eSg* **Sg** **08 43 14.6 +1.3**
29nm,0.2s
RJF Les Rejaudoux 2.49 30 *ePg* **Pg** **08 42 43.4 +0.5**
SNR=1.0
RJF *eSg* **Sg** **08 43 15.8 +0.5**
68nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.49 30 *ePn* **Pn** **08 42 35.3 -0.4**
RJF *ePg* **Pg** **08 42 43.4 +0.5**
RJF *eSg* **Sg** **08 43 15.8 +0.5**
RJF Les Rejaudoux 2.49 30 *ePg* **Pg** **08 42 43.4 +0.5**
SNR=1.0
RJF *eSg* **Sg** **08 43 15.8 +0.5**
34nm,0.2s,SNR=1.0
ETOR Torete 2.70 210 Pn **Pn** **08 42 39.1 +0.7**
3.7nm,0.2s,SNR=7.9
ETOR Sn **Sn** **08 43 11.4 +0.4**
0.9nm,0.1s,SNR=7.9
ETOR Lg 08 43 20.5
17nm,0.3s,SNR=7.9
ETOR Torete 2.70 210 Pn **Pn** **08 42 39.1 +0.6**
3.7nm,0.2s,SNR=7.9
ETOR Sn **Sn** **08 43 11.4 +0.3**
0.9nm,0.1s,SNR=7.9
EMOS Mosqueruela 2.80 183 Pn **Pn** **08 42 41.2 +1.3**
0.8nm,0.1s,SNR=16
EMOS Pg **Pg** **08 42 47.0 -1.7**
1.6nm,0.1s,SNR=138
EMOS Lg 08 43 20.5
6.0nm,0.1s,SNR=6.1
EMOS Mosqueruela 2.80 183 Pn **Pn** **08 42 41.2 +1.3**
EMOS Pg **Pg** **08 42 47.0 -1.7**
EMOS Lg 08 43 20.5
EMOS Mosqueruela 2.80 183 Pn **Pn** **08 42 41.2 +1.3**
0.8nm,0.1s,SNR=16
EMOS Mosqueruela 2.80 183 Pg **Pg** **08 42 47.0 -1.8**
1.6nm,0.1s,SNR=138
CHIF Chize 2.98 358 Pn **Pn** **08 42 43.7 +1.4**
FRNF Fournols 3.01 41 Pn **Pn** **08 42 41.9 -0.9**
LASF Ste Croix 3.12 72 *ePg* **Pg** **08 42 54.7 -0.3**
SNR=1.0
LASF *eSg* **Sg** **08 43 34.5 -1.0**
19nm,0.2s,SNR=1.0
LASF Ste Croix 3.12 72 *ePn* **Pn** **08 42 44.8 +0.5**
LASF *ePg* **Pg** **08 42 54.7 -0.3**
LASF *eSg* **Sg** **08 43 34.5 -1.0**
LASF Ste Croix 3.12 72 *ePg* **Pg** **08 42 54.7 -0.3**
SNR=1.0
LASF *eSg* **Sg** **08 43 34.5 -1.0**
9.6nm,0.2s,SNR=1.0
LBL Lubilhac 3.26 49 Pn **Pn** **08 42 45.9 -0.3**
LBL Sg **Sg** **08 43 41.3 +1.4**
MFF Saint Martin d 3.44 1 *ePg* **Pg** **08 43 01.7 +0.6**
MFF *eSg* **Sg** **08 43 45.0 -0.7**
50nm,0.4s,SNR=1.0
MFF Saint Martin d 3.44 1 *ePn* **Pn** **08 42 49.9 +1.2**
MFF *ePg* **Pg** **08 43 01.7 +0.6**
MFF *eSg* **Sg** **08 43 45.0 -0.7**
MFF Saint Martin d 3.44 1 *ePg* **Pg** **08 43 01.7 +0.6**
MFF *eSg* **Sg** **08 43 45.0 -0.7**
25nm,0.4s,SNR=1.0
PYM Petit Puy Mans 3.49 41 Pn **Pn** **08 42 45.9 -3.5**
PYM Sg **Sg** **08 43 47.8 +0.6**
ECHE Chera 3.60 189 Pn **Pn** **08 42 53.2 +2.2**
0.7nm,0.2s,SNR=7.9
ECHE Pg **Pg** **08 43 00.8 -3.5**
0.4nm,0.1s,SNR=7.9
ECHE Sn **Sn** **08 43 30.5 -3.0**
2.0nm,0.2s,SNR=4.0
ECHE Lg 08 43 44.4
3.8nm,0.3s,SNR=7.9
ECHE Chera 3.60 189 Pg **Pg** **08 43 00.8 -3.4**
0.4nm,0.1s,SNR=7.9
ECHE Sn **Sn** **08 43 30.5 -3.0**
2.0nm,0.2s,SNR=4.0
EARI Arriondas 3.62 274 Pn **Pn** **08 42 53.0 +1.8**
0.6nm,0.1s,SNR=7.9
EARI Sn **Sn** **08 43 34.8 +0.8**
0.1nm,0.1s,SNR=7.9
EARI Arriondas 3.62 274 Pn **Pn** **08 42 53.0 +1.8**
0.6nm,0.1s,SNR=7.9
EARI Sn **Sn** **08 43 34.8 +0.8**
0.1nm,0.1s,SNR=7.9
AGO Saint Agoulin 3.77 39 Pn **Pn** **08 42 52.9 -0.3**
AGO Sg **Sg** **08 43 55.3 -0.9**
GUD Guadarrama 3.85 230 Pn **Pn** **08 42 55.2 +0.9**
0.5nm,0.1s,SNR=7.9
GUD Sn **Sn** **08 43 39.2 -0.3**
0.3nm,0.1s,SNR=7.9
VIVF Saint-Julien-l 3.94 63 *ePg* **Pg** **08 43 10.7 +0.1**
SNR=1.0
VIVF *eSg* **Sg** **08 43 59.7 -1.9**
21nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 3.94 63 *ePn* **Pn** **08 42 56.8 +1.3**
VIVF *ePg* **Pg** **08 43 10.7 +0.1**
VIVF *eSg* **Sg** **08 43 59.7 -1.9**
VIVF Saint-Julien-l 3.94 63 *ePg* **Pg** **08 43 10.7 +0.1**
SNR=1.0
VIVF *eSg* **Sg** **08 43 59.7 -1.9**
11nm,0.4s,SNR=1.0
BGF Bois d'Agland 4.05 32 *ePg* **Pg** **08 43 12.8 +0.1**
BGF *eSg* **Sg** **08 44 04.3 -0.9**
93nm,0.3s,SNR=1.0
BGF Bois d'Agland 4.05 32 *ePn* **Pn** **08 42 56.8 -0.3**
BGF *ePg* **Pg** **08 43 12.8 +0.1**
BGF *eSg* **Sg** **08 44 04.3 -0.9**
BGF Bois d'Agland 4.05 32 *ePg* **Pg** **08 43 12.8 +0.1**
BGF *eSg* **Sg** **08 44 04.3 -0.9**
46nm,0.3s,SNR=1.0
ETOS Mallorca 4.10 145 Pn **Pn** **08 42 58.2 +0.5**
0.7nm,0.2s,SNR=7.9
ETOS Sn **Sn** **08 43 44.1 -1.6**
0.7nm,0.2s,SNR=7.9
ETOS Mallorca 4.10 145 Pn **Pn** **08 42 58.2 +0.5**
0.7nm,0.2s,SNR=7.9
ETOS Sn **Sn** **08 43 44.1 -1.6**
0.7nm,0.2s,SNR=7.9
EIBI Ibiza 4.30 163 Sn **Sn** **08 43 46.6 -4.1**
2.9nm,0.2s,SNR=7.9
EIBI Ibiza 4.30 163 Sn **Sn** **08 43 46.6 -4.1**
2.9nm,0.2s,SNR=7.9
SMRF Simiane la Rot 4.32 77 *ePn* **Pn** **08 43 00.7 0.0**
SMRF *ePg* **Pg** **08 43 17.7 -0.1**
AVF Avril sur Loir 4.44 34 *ePn* **Pn** **08 43 01.2 -1.3**
AVF *eSg* **Sg** **08 44 16.5 -1.3**
14nm,0.3s,SNR=1.0
AVF Avril sur Loir 4.44 34 *ePn* **Pn** **08 43 01.2 -1.3**
AVF *eSg* **Sg** **08 44 16.5 -1.3**
7.0nm,0.3s,SNR=1.0
EBEN Beniarda 4.45 180 Pn **Pn** **08 43 02.8 +0.2**
1.7nm,0.2s,SNR=7.9
EBEN Beniarda 4.45 180 Pn **Pn** **08 43 02.8 +0.2**
1.7nm,0.2s,SNR=7.9
ESDC Sonseca Array 4.46 220 Pn **Pn** **08 43 02.8 +0.1**
0.7nm,0.1s,baz=42,slow=14,SNR=5.9
ESDC Sn **Sn** **08 43 51.4 -3.2**
1.4nm,0.1s,baz=38,slow=24,SNR=5.4
ESDC Sonseca Array 4.46 220 Pn **Pn** **08 43 02.8 +0.1**
0.7nm,0.1s,SNR=5.9
ESDC Sn **Sn** **08 43 51.4 -3.2**
1.4nm,0.1s,SNR=5.4
SMF Signal de Mont 4.54 38 *ePg* **Pg** **08 43 22.4 +0.3**
SNR=1.0
SMF *eSn* **Sn** **08 43 51.4 -5.2**
SMF *eSg* **Sg** **08 44 20.7 -0.2**
15nm,0.3s,SNR=1.0
SMF Signal de Mont 4.54 38 *ePn* **Pn** **08 43 05.0 +1.2**
SMF *ePg* **Pg** **08 43 22.4 +0.3**
SMF *eSn* **Sn** **08 43 51.4 -5.2**
SMF *eSg* **Sg** **08 44 20.7 -0.2**
SMF Signal de Mont 4.54 38 *ePg* **Pg** **08 43 22.4 +0.3**
SNR=1.0
SMF *eSn* **Sn** **08 43 51.4 -5.2**
SMF *eSg* **Sg** **08 44 20.7 -0.2**
7.4nm,0.3s,SNR=1.0
HYF Humbligny 4.59 25 *eSg* **Sg** **08 44 25.2 +2.7**
SSF Saint Saulge 4.72 33 *ePn* **Pn** **08 43 06.5 +0.2**
SNR=1.0
SSF *eSg* **Sg** **08 44 24.8 -2.0**
13nm,0.3s
SSF Saint Saulge 4.72 33 *ePn* **Pn** **08 43 06.5 +0.2**
SNR=1.0
SSF *eSg* **Sg** **08 44 24.8 -2.0**
6.4nm,0.3s
ECAL Calabor 4.94 258 Pn **Pn** **08 43 10.5 +1.2**
1.6nm,0.1s,SNR=7.5
ECAL Sn **Sn** **08 44 05.3 -1.1**
0.2nm,0.1s,SNR=19
ECAL Calabor 4.94 258 Pn **Pn** **08 43 10.5 +1.2**
ECAL Sn **Sn** **08 44 05.3 -1.1**
ECAL Calabor 4.94 258 Pn **Pn** **08 43 10.5 +1.2**
ECAL Sn **Sn** **08 44 05.3 -1.2**
LOR Lormes 5.03 34 *eSg* **Sg** **08 44 37.1 +0.4**
14nm,0.3s,SNR=1.0
LOR Lormes 5.03 34 *eSg* **Sg** **08 44 37.1 +0.4**
6.8nm,0.3s,SNR=1.0
QUIF Quistinic 5.18 338 *ePg* **Pg** **08 43 33.6 -0.7**
QUIF *eSn* **Sn** **08 44 08.2 -4.1**
SNR=1.0
QUIF *eSg* **Sg** **08 44 39.8 -1.6**
7.9nm,0.3s,SNR=1.0
QUIF Quistinic 5.18 338 *ePn* **Pn** **08 43 12.6 0.0**
QUIF *ePg* **Pg** **08 43 33.6 -0.7**
QUIF *eSn* **Sn** **08 44 08.2 -4.1**
QUIF *eSg* **Sg** **08 44 39.8 -1.6**
QUIF Quistinic 5.18 338 *ePg* **Pg** **08 43 33.6 -0.7**
QUIF *eSn* **Sn** **08 44 08.2 -4.1**
SNR=1.0
QUIF *eSg* **Sg** **08 44 39.8 -1.6**
4.0nm,0.3s,SNR=1.0
GRR Gorron 5.25 356 *ePn* **Pn** **08 43 13.9 +0.4**
GRR *eSn* **Sn** **08 44 10.5 -3.5**
GRR *eSg* **Sg** **08 44 43.9 +0.3**
11nm,0.3s
GRR Gorron 5.25 356 *ePn* **Pn** **08 43 13.9 +0.4**
GRR *eSn* **Sn** **08 44 10.5 -3.5**
GRR *eSg* **Sg** **08 44 43.9 +0.3**
5.4nm,0.3s
SGMF Saint Gilles 5.34 343 *ePg* **Pg** **08 43 36.2 -1.3**
SGMF *eSn* **Sn** **08 44 10.2 -6.2**
SGMF *eSg* **Sg** **08 44 45.0 -1.7**
15nm,0.4s
SGMF Saint Gilles 5.34 343 *ePn* **Pn** **08 43 16.0 +1.1**
SGMF *ePg* **Pg** **08 43 36.2 -1.3**
SGMF *eSn* **Sn** **08 44 10.2 -6.2**
SGMF *eSg* **Sg** **08 44 45.0 -1.7**
SGMF Saint Gilles 5.34 343 *ePg* **Pg** **08 43 36.2 -1.3**
SGMF *eSg* **Sg** **08 44 45.0 -1.7**
7.5nm,0.4s
LDF La Druitiere 5.44 1 *ePn* **Pn** **08 43 16.3 +0.2**
SNR=1.0
LDF *eSn* **Sn** **08 44 16.4 -2.3**
LDF *eSg* **Sg** **08 44 48.1 -1.6**
9.7nm,0.3s,SNR=1.0
LDF La Druitiere 5.44 1 *ePn* **Pn** **08 43 16.3 +0.2**
SNR=1.0
LDF *eSn* **Sn** **08 44 16.4 -2.3**
LDF *eSg* **Sg** **08 44 48.1 -1.6**
4.8nm,0.3s,SNR=1.0
ROSF Rostrenen 5.59 339 *ePn* **Pn** **08 43 19.0 +0.7**
SNR=1.0
ROSF *eSn* **Sn** **08 44 17.7 -4.8**
7.4nm,0.6s,SNR=1.0
ROSF Rostrenen 5.59 339 *ePn* **Pn** **08 43 19.0 +0.7**
SNR=1.0
ROSF *eSn* **Sn** **08 44 17.7 -4.8**
3.7nm,0.6s,SNR=1.0
FLN La Foliniere 5.61 358 *eSn* **Sn** **08 44 18.5 -4.4**
FLN *eSg* **Sg** **08 44 56.1 +1.0**
9.9nm,0.4s
CABF La Chapelle 5.67 50 *ePg* **Pg** **08 43 43.5 -0.3**
CABF *eSg* **Sg** **08 44 56.4 -0.9**
8.0nm,0.4s
CABF La Chapelle 5.67 50 *ePg* **Pg** **08 43 43.5 -0.3**
CABF *eSg* **Sg** **08 44 56.4 -0.9**
4.0nm,0.4s

*ISCJB **02** 08:51:16.6±1.6,2089N±009×9172E±007,h99km±20km, mb3.5/3,Error ellipse: s-maj=15.0km s-min=9.3km az=51.1*
*IDC **02** 08:51:17.3±2.3,2089N×9405E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.5/21,mbtmp3.6/4,Error ellipse: s-maj=99.6km s-min=24.0km az=69.0*
ISC 02 08:51:17.3±1.5,2082N±008×9173E±007,h73km±19km, n15,σ1§00/23,mb3.5/3,1D,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.73**	**2**	*eP*	**Pn**	**08 52 26.0**	**0.0**
SHL				*eS*	**Sn**	**08 53 17.5**	**-2.1**
BOK	**Bokaro**	**6.17**	**300**	*i* x	**Pn**	**08 52 45.9**	**+0.2**
BOK				*i* S	**Sn**	**08 53 53.9**	**-0.9**
JIRN	**Jiri**	**8.48**	**324**	*ePn*	**Pn**	**08 53 18.3**	**+1.0**
JIRN				*eSn*	**Sn**	**08 54 51.6**	**+0.2**
GUN	**Gumba**	**8.85**	**324**	*ePn*	**Pn**	**08 53 23.5**	**+1.2**
GUN				*eSn*	**Sn**	**08 55 01.9**	**+1.5**
PKI	**Pulchoki**	**8.86**	**321**	*ePn*	**Pn**	**08 53 22.0**	**-0.4**
PKI				*eSn*	**Sn**	**08 55 00.3**	**-0.3**
DMN	**Daman**	**9.07**	**319**	*ePn*	**Pn**	**08 53 25.8**	**+0.5**
DMN				*eSn*	**Sn**	**08 55 06.3**	**+0.5**
KKN	**Kakani**	**9.10**	**321**	*ePn*	**Pn**	**08 53 26.2**	**+0.5**
KKN				*eSn*	**Sn**	**08 55 07.5**	**+1.0**
GKN	**Gorkha**	**9.64**	**319**	*ePn*	**Pn**	**08 53 33.4**	**+0.3**
GKN				*eSn*	**Sn**	**08 55 18.5**	**-1.2**
KOLN	**Koldanda**	**10.14**	**315**	*ePn*	**Pn**	**08 53 39.5**	**-0.5**
KOLN				*eSn*	**Sn**	**08 55 30.2**	**-1.8**
JBP	**Jabalpur**	**11.15**	**284**	*eP*	**Pn**	**08 54 01.5**	**+7.8**
JBP				AMb	AMB	08 54 04.3	
	comp=Z,22nm,0.7s						
JBP				*i* S	**Sn**	**08 55 56.4**	**-0.1**
MK05	**Makanchi Array**	**27.03**	**346**	⇓Lg		08 56 45.7	
	comp=Z,1.9nm,0.6s,baz=305,slow=26						
MKAR	**Makanchi Array**	**27.03**	**346**	P	pP	08 57 05.7	-3.9
	comp=Z,1.3nm,0.7s,baz=144,slow=10,SNR=4.3						
MKAR				pP	sP	08 57 14.6	-3.6
	comp=Z,1.2nm,0.7s,baz=162,slow=10.0,SNR=2.8						
SONM	**Songino Array**	**29.44**	**20**	P	**P**	**08 57 16.4**	**+2.4**
	comp=Z,0.4nm,0.7s,mb3.1,baz=206,slow=9.6,SNR=3.2						
SONM				pP	pP	08 57 25.2	-6.0
	comp=Z,0.4nm,0.6s,baz=193,slow=9.6,SNR=3.6						
WRA	**Warramunga Arr**	**58.13**	**131**	P	**P**	**09 01 02.0**	**-1.3**
	comp=Z,0.4nm,0.8s,mb3.5,baz=324,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**60.35**	**135**	P	**P**	**09 01 18.4**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=312,slow=6.8,SNR=8.1						

*ISCJB **02** 08:52:56.2±0.7,5930N±003×270E±0.1,h0km,Error ellipse: s-maj=9.3km s-min=4.2km az=5.3*
*NAO **02** 08:52:56.6±1.1,5930N×2703E,ML2.2*
*BER **02** 08:52:57.3±2.1,5932N×2715E,h0km,ML2.2(NAO), Suspected explosion*
*HEL **02** 08:52:57.7±0.2,5930N×2717E,h0km,ML2.0, ML2.2(NAO),Explosion*
*IDC **02** 08:52:58.6±2.1,5942N×2729E,h0km,mb1 3.1/4, mb1mx3.0/22,mbtmp3.0/4,ML2.6/4,Error ellipse: s-maj=20.0km s-min=12.2km az=115.0*
ISC 02 08:52:56.8±0.7,5931N±003×271E±01,h0km,n17, σ1§20/31,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.87**	**192**	*i* P	**Pg**	**08 53 13.0**	**-0.5**
VSU				*i* S	**Sg**	**08 53 24.8**	**0.0**
VJF	**Virojoki**	**1.25**	**11**	*eP*	**Pg**	**08 53 20.0**	**-0.8**
VJF				*eS*	**Sg**	**08 53 36.6**	**-0.5**
PVF	**Pernaja**	**1.38**	**334**	*eP*	**Pg**	**08 53 23.0**	**-0.2**
PVF				*eS*	**Sg**	**08 53 40.8**	**-0.2**
MEF	**Metsahovi**	**1.63**	**305**	*eP*	**Pn**	**08 53 27.6**	**+0.9**
MEF				*eS*	**Sn**	**08 53 47.8**	**-0.6**
FIA0	**FINESS Array S**	**2.19**	**347**	*eP*	**Pn**	**08 53 35.2**	**+0.7**
FIA0				*eS*	**Sn**	**08 54 02.7**	**+0.4**
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	**Pn**	**08 53 35.1**	**+0.6**
	baz=162,slow=16						
FIA0				Lg		08 54 05.7	
	baz=166,slow=28						
FINES	**FINESS Array B**	**2.19**	**347**	Pn	**Pn**	**08 53 35.1**	**+0.6**
	1.3nm,0.3s,baz=163,slow=16,SNR=41						
FINES				Pg	**Pg**	**08 53 36.5**	**-2.4**
	1.3nm,0.3s,baz=163,slow=16,SNR=41						
FINES				Lg		08 54 05.3	
	2.2nm,0.3s,baz=162,slow=28,SNR=15						
KAF	**Kangasniemi**	**2.83**	**353**	*eP*	**Pn**	**08 53 44.6**	**+1.3**
KAF				*eS*	**Sn**	**08 54 19.6**	**+1.4**
KAF				*eSG*	**Sg**	**08 54 25.6**	**-2.3**
KAF				MSG		08 54 27.6	
	comp=Z,4.4nm,0.2s						
KEF	**Keuruu**	**3.06**	**340**	*eP*	**Pn**	**08 53 48.3**	**+1.9**
KEF				*eS*	**Sn**	**08 54 25.2**	**+1.5**
SUF	**Sumiainen**	**3.45**	**353**	*eP*	**Pn**	**08 53 53.1**	**+1.4**
SUF				*eS*	**Sn**	**08 54 34.4**	**+1.1**
HFS	**Hagfors**	**6.81**	**283**	*e*	**Sn**	**08 55 50.6**	**-5.6**
HFS				*eSG*	**Sg**	**08 56 28.8**	**-6.9**
HFS	**Hagfors**	**6.81**	**283**	Pn	**Pn**	**08 54 37.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=108,slow=17,SNR=3.0						
HFS				Sn	**Sn**	**08 55 54.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=96,slow=27,SNR=6.4						
HFS				Lg		08 56 30.8	
	comp=Z,0.5nm,0.3s,baz=94,slow=30,SNR=5.2						
HFS	**Hagfors**	**6.81**	**283**	Sn	**Sn**	**08 55 50.6**	**-5.6**
	baz=90,slow=28						
HFS				Lg		08 56 28.8	
	baz=89,slow=37						
NOA	**NORSAR Array B**	**8.09**	**289**	Pn	**Pn**	**08 54 55.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=78,slow=13,SNR=2.2						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	**Pn**	**08 55 22.3**	**-3.3**
	baz=171,slow=14						
ARA0				Sn	**Sn**	**08 57 13.5**	**-8.1**
	baz=178,slow=28						
ARA0	**ARCESS Array S**	**10.29**	**357**	*eP*	**Pn**	**08 55 22.3**	**-3.3**
ARA0				*eS*	**Sn**	**08 57 13.5**	**-8.1**
ARCES	**ARCESS Array B**	**10.29**	**357**	Pn	**Pn**	**08 55 23.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=5.6						

CASC 02 08:53:52.6±1.7,1287N×8769W,h145km±9km,MD3.6, ML2.9,7C-4D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.65**	**105**	⇑*eP*	Pn	08 54 14.3	+0.1
CRIN				*eS*	Sn	08 54 31.9	+1.2
VSM	**San Miguel**	**0.79**	**315**	⇓*eP*	x	08 54 14.9	
TEL3	**Telica 3**	**0.88**	**110**	*eP*	Pn	08 54 15.4	-0.5
TEL3				*eS*	Sn	08 54 35.2	+1.7
LEON	**Leon**	**0.90**	**120**	⇑*eP*	Pn	08 54 15.5	-0.5
LEON				*eS*	Sn	08 54 33.5	-0.4
MIRN	**Miramar**	**1.05**	**114**	⇑*eP*	Pn	08 54 17.0	-0.3
MIRN				*eS*	Sn	08 54 37.6	+1.5
COPN	**Copaltepe**	**1.28**	**122**	⇓*eP*	Pn	08 54 19.2	-0.2
COPN				*eS*	Sn	08 54 39.8	-0.1
SNVI	**San Vicente**	**1.34**	**304**	⇓*eP*	x	08 54 20.2	
SNVI				*eS*	x	08 54 41.9	
APYN	**Apoyeque**	**1.46**	**116**	⇓*eP*	Pn	08 54 21.1	-0.2
APYN				*eS*	Sn	08 54 45.6	+2.5
LCBS	**La Ceiba**	**1.47**	**302**	⇑*eP*	x	08 54 21.4	
LCBS				*eS*	x	08 54 44.8	
LFRS	**El Faro**	**1.53**	**300**	⇑*eP*	x	08 54 22.0	
LFRS				*eS*	x	08 54 45.5	
TISN	**Laguna Tiscapa**	**1.57**	**117**	*eP*	Pn	08 54 22.7	+0.2
TISN				*eS*	Sn	08 54 46.6	+1.3
LBRS	**Las Brisas**	**1.57**	**303**	⇑*eP*	x	08 54 22.9	
MGAN	**Managua**	**1.58**	**117**	*eS*	Sn	08 54 46.2	+0.6
	comp=E,109nm,0.2s						
TICN	**Ticuantepe**	**1.65**	**120**	*eP*	Pn	08 54 23.9	+0.5
TICN				*eS*	Sn	08 54 48.5	+1.5
BOQS	**Boqueron**	**1.77**	**299**	⇑*eP*	x	08 54 26.1	
BOQS				*eS*	x	08 54 51.4	
SBLS	**San Blas**	**2.11**	**297**	*eP*	x	08 54 30.1	
RTR	**El Retiro**	**2.16**	**298**	*eP*	x	08 54 31.2	

*NEIC **02** 09:02:47.6,2886S×7135W,h39km,MG3.2(GUC),After GUC.*
GUC 02 09:02:47.6±1.0,2886S×7135W,h39km±4km,MD3.8, ML3.2,3C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.59**	**105**	⇑*iP*	Pn	09 02 59.7	+0.2
LCO				*i* S	Sn	09 03 09.5	+1.5
VACH	**Vallenar**	**0.59**	**62**	⇓*iP*	Pn	09 02 60.0	+0.4
VACH				*i* S	Sn	09 03 09.0	+1.0
LSCH	**La Serena**	**1.05**	**175**	⇓*iP*	Pn	09 03 06.3	+0.5
LSCH				*i* S	Sn	09 03 20.9	+1.6
LSCH				AML	AML	09 03 25.0	
	comp=N,323nm,0.2s						
LSCH	**La Serena**	**1.05**	**175**	⇓*iP*	Pn	09 03 06.3	+0.5
LSCH				*i* S	Sn	09 03 20.9	+1.6
TLL	**Tololo Astrono**	**1.39**	**160**	⇑*iP*	Pn	09 03 12.0	+1.5
TLL				*i* S	Sn	09 03 31.5	+3.9
TLL				AML	AML	09 03 34.8	
	comp=N,775nm,0.7s						
TLL	**Tololo Astrono**	**1.39**	**160**	⇑*iP*	Pn	09 03 12.0	+1.5
TLL				*i* S	Sn	09 03 31.5	+3.9
CPCH	**Copiapo**	**1.73**	**31**	⇓*iP*	Pn	09 03 16.2	+1.0
CPCH				*i* S	Sn	09 03 38.5	+2.5
CPCH				AML	AML	09 03 42.4	
	comp=E,2μm,0.1s						
CPCH	**Copiapo**	**1.73**	**31**	⇓*iP*	Pn	09 03 16.2	+1.0
CPCH				*i* S	Sn	09 03 38.5	+2.5
CDCH	**Caldera**	**1.83**	**15**	*eP*	Pn	09 03 14.2	-2.4
CDCH				*i* S	Sn	09 03 36.5	-2.1
CDCH				AML	AML	09 03 49.3	
	comp=N,61nm,0.6s						
CDCH	**Caldera**	**1.83**	**15**	*eP*	Pn	09 03 14.2	-2.4
CDCH				*i* S	Sn	09 03 36.5	-2.1
CMCH	**Combarbala**	**2.33**	**173**	*eP*	Pn	09 03 23.7	+0.3
CMCH				*eS*	Sn	09 03 52.3	+1.5
CMCH				AML	AML	09 04 07.4	
	comp=N,328nm,0.9s						
CMCH	**Combarbala**	**2.33**	**173**	*eP*	Pn	09 03 23.7	+0.3
CMCH				*eS*	Sn	09 03 52.3	+1.5

*ISCJB **02** 09:07:25.3±1.7,205S±02×1727W±03,h33km,mb4.2/3, Error ellipse: s-maj=43.0km s-min=16.3km az=55.8*
*NEIC **02** 09:07:29.6±8.2,2037S×17291W,h44km±38km,mb4.5/1, Error ellipse: s-maj=151.8km s-min=24.0km az=132.0*
*IDC **02** 09:07:31.8±3.0,1950S×17425W,h0km,mb3.8/2, mb1 4.1/3,mb1mx3.7/16,mbtmp3.9/3,ML2.1/1,Error ellipse: s-maj=130.0km s-min=31.1km az=138.0*
ISC 02 09:07:28.0±1.6,205S±02×1728W±03,h35km,n10,σ0§87/8, mb4.2/3,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.65**	**8**	Pn	**Pn**	**09 09 03.1**	**0.0**
	2.8nm,0.3s,baz=215,slow=24,SNR=4.2						
AFI				Sn	**Sn**	**09 10 10.1**	**-7.6**
	2.2nm,0.3s,baz=294,slow=20,SNR=1.7						
DZM	**Mont Dzumac**	**19.42**	**262**	P	**Pn**	**09 11 51.4**	**-1.1**
	0.1nm,0.3s,baz=100,slow=16,SNR=2.3						
ASAR	**Alice Springs**	**49.27**	**256**	P	**P**	**09 16 13.7**	**+0.5**
	1.2nm,0.8s,mb4.0,baz=93,slow=7.8,SNR=13						
ASAR				PcP	PcP	09 17 41.9	+6.2
	0.4nm,0.8s,baz=101,slow=4.0,SNR=4.1						
WRA	**Warramunga Arr**	**49.44**	**261**	P	**P**	**09 16 15.2**	**+0.7**
	0.8nm,0.5s,mb4.0,baz=96,slow=7.1,SNR=16						
NWAO	**Narrogin (SRO)**	**62.72**	**243**	*eP*	**P**	**09 17 50.8**	**+1.4**
CASY	**Casey**	**66.04**	**206**	*eP*	**P**	**09 18 10.0**	**-1.1**
MAJO	**Matsushiro**	**73.24**	**321**	*eP*	**P**	**09 18 55.1**	**-0.3**

2.5nm,0.4s,mb4.5
AKASG **Malin Array Be 145.25 335** PKP PKPdf 09 27 06.3 +4.4
1.6nm,0.7s,baz=38,slow=4.2,SNR=7.3
BRTR **Keskin Array B 150.38 316** PKPbc PKPbc 09 27 20.7 +5.1
0.8nm,0.7s,baz=266,slow=5.0,SNR=4.4
GERES **GERESS Array B 151.27 351** PKPbc PKPbc 09 27 24.1 +6.4
0.3nm,0.4s,baz=5.7,slow=1.0,SNR=3.4

*ISK **02** 09:20:50.6, 3726N×28.19E, h11km, MD2.8*
*CSEM **02** 09:20:50.7±0.1, 3722N×28.19E, h12km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.7km az=16.0*
*ISCJB **02** 09:20:51.5±0.5, 3723N±004×28.18E±004, h11km±7km, Error ellipse: s-maj=6.8km s-min=4.9km az=42.5*
ISC 02 09:20:51.8±0.6, 3724N±004×2820E±004, h11km±8km**, n10, σ0§71/17, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**147**	*i* PG	**Pg**	**09 20 54.2**	**-0.6**
YER				*i* SG	**Sg**	**09 20 57.2**	**+0.2**
MLSB	**Milas**	**0.34**	**280**	PG	**Pg**	**09 20 58.2**	**-0.4**
AYDN	**Tasoluk**	**0.49**	**329**	*i* P	**Pg**	**09 21 01.4**	**0.0**
AYDN				*i* S	**Sg**	**09 21 08.3**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.58**	**143**	PG	**Pg**	**09 21 02.9**	**-0.2**
DALT				SG	**Sg**	**09 21 12.5**	**+1.7**
BDRM	**Kayabasi**	**0.63**	**254**	*i* P	**Pg**	**09 21 03.6**	**-0.3**
BDRM				*i* S	**Sg**	**09 21 13.8**	**+1.6**
DAT	**Datca**	**0.71**	**225**	PG	**Pg**	**09 21 04.6**	**-0.9**
BODT	**Bodrum**	**0.73**	**256**	PG	**Pg**	**09 21 05.2**	**-0.7**
BODT				SG	**Sg**	**09 21 15.6**	**+0.1**
DNZL	**Cakiroluk**	**0.81**	**56**	*i* P	**Pg**	**09 21 07.6**	**+0.1**
DNZL				*i* S	**Sg**	**09 21 23.9**	**+5.8**
FETY	**Fethiye**	**0.93**	**130**	*e*PG	**Pg**	**09 21 08.8**	**-0.9**
MANT	**Manisa**	**1.28**	**13**	*i* P	**Pn**	**09 21 15.6**	**0.0**
MANT				*i* S	**Sb**	**09 21 32.6**	**+0.3**

*PRU **02** 09:27:15.0, 5032N×1884E, h0km*
WAR 02 09:27:15.2, 5024N×1896E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**92**	*i* Pgd	Pg	09 27 25.6	0.0
OJC				*e*Sg	Sg	09 27 33.3	+0.7
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*PG	Pg	09 27 27.5	-0.4
OKC				*e*SG	Sg	09 27 36.8	+0.3
NIE	**Niedzica**	**1.21**	**133**	*e*Pg	Pg	09 27 38.4	+0.1
NIE				*e*Sg	Sg	09 27 55.3	+1.4
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	Pg	09 27 44.5	-3.2
DPC				*e*SG	Sg	09 28 07.2	-2.4
STHS	**Stebnicka Huta**	**1.70**	**118**	*e*PN	Pn	09 27 47.1	+1.1
STHS				*e*SN	Sn	09 28 15.1	+6.7
KSP	**Ksiaz**	**1.80**	**290**	*e*Pg	Pg	09 27 48.1	-1.7
KSP				*e*Sg	Sg	09 28 12.2	-0.9
UPC	**Upice**	**1.90**	**279**	*e*SG	Sg	09 28 14.9	-1.5
PRU	**Pruhonice**	**2.85**	**267**	*e*SG	Sg	09 28 44.8	-2.1
BRG	**Berggiesshubel**	**3.26**	**283**	SG	Sg	09 28 57.9	-2.1
KHC	**Kasperske Hory**	**3.67**	**254**	*e*PN	Pn	09 28 09.5	-3.6
KHC				*e*PG	Pg	09 28 19.5	-6.0
KHC				*e*SN	Sn	09 28 53.0	-4.1
KHC				*e*SG	Sg	09 29 10.9	-2.1

*ISCJB **02** 09:29:50.8±0.5, 683N±006×7305W±006, h168km±6km, mb3.8/6, Error ellipse: s-maj=12.2km s-min=6.3km az=87.9*
*FUNV **02** 09:29:51.3, 678N×7324W, h167km, MW3.8*
*IDC **02** 09:29:51.1±0.7, 675N×7302W, h157km±11km, mb3.4/4, mb1 3.7/7, mb1mx3.4/24, mbtmp4.0/7, Error ellipse: s-maj=33.9km s-min=7.7km az=132.0*
*NEIC **02** 09:29:51.9±0.6, 672N×7299W, h169km±8km, mb4.0/3, Error ellipse: s-maj=18.2km s-min=7.7km az=133.0*
ISC 02 09:29:51.9±0.5, 683N±006×7305W±006, h162km±6km**, n23, σ0§88/29, mb3.8/6, 2C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.26**	**35**	⇑*i*P	**Pn**	**09 30 21.1**	**+1.0**
CAPV				*e*S	**Sn**	**09 30 42.8**	**+1.2**
ROSC	**El Rosal**	**2.34**	**213**	P	**Pn**	**09 30 32.3**	**+0.7**
ROSC				S	**Sn**	**09 31 00.8**	**-1.5**
VIGV	**El Vigia**	**2.60**	**40**	*e*P	**Pn**	**09 30 35.5**	**+0.7**
VIGV				*e*S	**Sn**	**09 31 08.4**	**+0.4**
SOCV	**Socops**	**2.61**	**56**	*e*P	**Pn**	**09 30 35.8**	**+0.9**
SOCV				*e*S	**Sn**	**09 31 08.3**	**+0.1**
SDV	**Santo Domingo**	**3.15**	**49**	P	**Pn**	**09 30 42.4**	**+0.9**
SDV				S	**Sn**	**09 31 20.1**	**0.0**
ELOV	**Elorza**	**3.54**	**87**	*e*P	**Pn**	**09 30 47.2**	**+0.6**
ELOV				*e*S	**Sn**	**09 31 28.9**	**-0.2**
VIRV	**Villa del Rosa**	**3.71**	**10**	*e*P	**Pn**	**09 30 47.9**	**-0.8**
VIRV				*e*S	**Sn**	**09 31 30.1**	**-2.8**
QARV	**Quebrada Arrib**	**4.18**	**36**	⇑*i*P	**Pn**	**09 30 55.4**	**+0.6**
QARV				*e*S	**Sn**	**09 31 41.7**	**-2.1**
SANV	**Sanarito**	**4.38**	**52**	*e*P	**Pn**	**09 30 57.2**	**-0.1**
CURV	**Curarigua**	**4.40**	**44**	*e*P	**Pn**	**09 30 57.7**	**+0.1**
DABV	**Dabajuro**	**4.72**	**30**	*e*P	**Pn**	**09 31 02.1**	**+0.3**
BAUV	**El Baul**	**5.39**	**67**	*e*S	**Sn**	**09 32 10.3**	**-1.8**
OTAV	**Otavalo**	**8.48**	**220**	*e*Pn	**Pn**	**09 31 50.8**	**-0.8**
PCRV	**Puerto La Cruz**	**8.96**	**68**	P	**Pn**	**09 31 57.8**	**-0.2**
CCM	**Cathedral Cave**	**35.20**	**335**	*e*P	**P**	**09 36 31.0**	**+0.6**
EYMN	**Ely**	**43.88**	**342**	*e*P	**P**	**09 37 42.2**	**-0.1**
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**09 38 08.6**	**-0.5**
PDAR	**Pinedale Array**	**48.11**	**324**	P	**P**	**09 38 16.2**	**+0.9**
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**09 40 03.2**	**-0.1**
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**09 40 03.2**	**-0.1**
INK	**Inuvik**	**73.05**	**340**	P	**P**	**09 41 04.1**	**0.0**
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	PKPbc	09 49 21.3	+0.2
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	PKPbc	09 49 24.5	+0.3

*IDC **02** 09:38:19.4±1.0, 5518N×15586W, h0km, mb4.2/17, mb1 4.4/20, mb1mx4.3/26, mbtmp4.2/20, ML4.2/3, MS3.7/7, Ms1 3.7/7, ms1mx3.1/34, Error ellipse: s-maj=22.9km s-min=16.9km az=20.0*
*ISCJB **02** 09:38:20.7±0.3, 5542N±004×15573W±005, h15km, mb4.4/40, MS3.9/8, Error ellipse: s-maj=5.5km s-min=4.1km az=151.9*
*MOS **02** 09:38:20.1±0.7, 5540N×15573W, h10km, mb4.7/16, Error ellipse: s-maj=13.6km s-min=6.2km az=85.4*
*NEIC **02** 09:38:24.0, 5531N×15588W, h15km, mb4.6/18, ML4.2(AEIC), After AEIC.*
NEIC Felt at Eagle River and Elmendorf AFB.
*BJI **02** 09:38:26.6, 5611N×15626W, h45km, mB5.1, mb4.8, Ms4.6, Msz4.3*
ISC 02 09:38:23.3±1.4, 5540N±004×15577W±005, h22km±10km**, h30**km±2.9km**: pP-P, n123,** σ0§96/126**, mb4.4**/40**, MS3.9**/8**, 1C-4D, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.75**	**302**	P	**Pn**	**09 38 52.2**	**-0.1**
SDPT	**Sand Point**	**2.69**	**271**	P	**Pn**	**09 39 04.1**	**-1.1**
KDAK	**Kodiak Island**	**2.97**	**35**	Pn	**Pn**	**09 39 08.1**	**-1.1**
KDAK				Sn	**Sn**	**09 39 42.4**	**-1.7**
KDAK	**Kodiak Island**	**2.97**	**35**	*e*Pn	**Pn**	**09 39 08.1**	**-1.1**
KDAK				*e*Sn	**Sn**	**09 39 42.1**	**-2.0**
FALS	**False Pass**	**4.42**	**266**	P	**Pn**	**09 39 28.6**	**-0.5**
SVW2	**Sparrevohn**	**5.72**	**1**	*e*P	**Pn**	**09 39 48.9**	**+2.0**
SEW	**Seward**	**5.81**	**33**	P	**Pn**	**09 39 48.9**	**+0.8**
SLKM	**Skilak Lake**	**5.92**	**28**	P	**Pn**	**09 39 51.2**	**+1.6**
AKLV	**Akutan Long Va**	**6.02**	**262**	P	**Pn**	**09 39 50.1**	**-0.9**
UNV	**Unalaska Valle**	**6.42**	**260**	P	**Pn**	**09 39 55.0**	**-1.5**
UNV				S	**Sn**	**09 41 08.3**	**-0.9**
MID	**Middleton Isla**	**6.50**	**48**	*e*P	**Pn**	**09 39 57.9**	**+0.3**
RC01	**Rabbit Creek A**	**6.54**	**27**	P	**Pn**	**09 39 58.3**	**+0.2**
PMR	**Palmer**	**7.12**	**27**	*e*P	**Pn**	**09 40 06.7**	**+0.6**
EYAK	**Cordova Ski Ar**	**7.42**	**42**	*e*Pn	**Pn**	**09 40 08.7**	**-1.5**
EYAK				Sn	**Sn**	**09 41 28.5**	**-5.2**
SML	**Sawmill**	**7.51**	**28**	P	**Pn**	**09 40 12.4**	**+0.9**
TT01	**Tatalina**	**7.54**	**359**	P	**Pn**	**09 40 12.5**	**+0.7**
TTA	**Tatalina**	**7.56**	**359**	*e*P	**Pn**	**09 40 14.1**	**+1.9**
BMRM	**Bremner River**	**8.12**	**42**	P	**Pn**	**09 40 19.1**	**-0.7**
BMRM				S	**Sn**	**09 41 50.1**	**-0.9**
KTH	**Kantishna Hill**	**8.54**	**15**	P	**Pn**	**09 40 25.8**	**+0.2**
TRF	**Thorofare Moun**	**8.55**	**17**	P	**Pn**	**09 40 26.5**	**+0.8**
MENT	**Mentasta**	**9.76**	**34**	*e*P	**Pn**	**09 40 42.9**	**+0.6**
COLA	**College**	**10.29**	**19**	*e*P	**Pn**	**09 40 50.2**	**+0.7**
COLA				*e*		09 42 37.5	
COLA	comp=Z,14nm,1.0s			pmax	pmax		
COLA	**College**	**10.29**	**19**	*e*Pn	**Pn**	**09 40 50.2**	**+0.6**
COLA	comp=Z,14nm,1.0s			*e*Sn	**Sn**	**09 42 37.5**	**-6.7**
ILAR	**Eielson Array**	**10.39**	**22**	Pn	**Pn**	**09 40 49.7**	**-1.2**
ILAR	comp=Z,1.4nm,0.3s,baz=216,slow=12,SNR=69			Sn	**Sn**	**09 42 44.1**	**-2.5**
IM3	**Indian Mountai**	**10.67**	**4**	P	**Pn**	**09 40 54.3**	**-0.5**
SIT	**Sitka**	**11.50**	**73**	P	**Pn**	**09 41 02.7**	**-3.4**
SKAG	**Skagway**	**11.73**	**61**	*e*P	**Pn**	**09 41 11.3**	**+2.0**
BESE	**Bessie Mountai**	**11.83**	**66**	P	**Pn**	**09 41 08.8**	**-1.9**
DAWY	**Dawson**	**11.96**	**37**	*e*Pn	**Pn**	**09 41 12.2**	**-0.2**
DLBC	**Dease Lake**	**14.35**	**67**	LR	LR	09 46 29.8	
INK	**Inuvik**	**16.52**	**30**	Pn	**Pn**	**09 42 13.6**	**0.0**
INK	comp=Z,0.8nm,0.3s,baz=236,slow=13,SNR=38			LR	LR	09 49 08.1	
INK	**Inuvik**	**16.52**	**30**	*e*P	**Pn**	**09 42 13.0**	**-0.6**
INK				pmax	pmax		
INK	**Inuvik**	**16.52**	**30**	*e*Pn	**Pn**	**09 42 13.0**	**-0.6**
BBB	**Bella Bella**	**16.61**	**90**	LR	LR	09 47 00.1	
BILL	**Bilibino**	**21.54**	**321**	*c i*P	**P**	**09 43 10.7**	**-0.3**
BILL				*e*		09 43 29.1	
BILL				*e*S	**S**	**09 47 18.9**	**+10**
BILL	comp=Z,36nm,1.6s,mb4.5			pmax	pmax		
BILL	comp=Z,300nm,16.0s,MS3.8			MLR	MLR		
BILL	**Bilibino**	**21.54**	**321**	*e*P	**P**	**09 43 10.9**	**0.0**
GNW	**Green Mountain**	**21.80**	**97**	*e*P	**P**	**09 43 14.6**	**+0.8**
YKW3	**Yellowknife Ar**	**22.05**	**54**	*e*P	**P**	**09 43 21.7**	**+5.2**
YKA	**Yellowknife Ar**	**22.06**	**54**	P	**P**	**09 43 16.5**	**0.0**
LON	**Longmire**	**22.83**	**98**	*e*P	**P**	**09 43 27.3**	**+2.6**
EDM	**Edmonton**	**24.57**	**77**	*e*P	**P**	**09 43 41.1**	**-0.4**
NEW	**Newport**	**24.67**	**91**	P	**P**	**09 43 42.4**	**0.0**
YBH	**Yreka Blue Hor**	**25.51**	**109**	LR	LR	09 51 17.6	
HOPS	**Hopland**	**27.28**	**113**	*e*P	**P**	**09 44 05.9**	**-0.2**
NSHM	**Saint Helena R**	**27.87**	**113**	*e*P	**P**	**09 44 06.7**	**-4.7**
NVAR	**Mina Array Bea**	**30.23**	**108**	P	**P**	**09 44 32.2**	**-0.1**
ELK	**Elko**	**30.30**	**102**	*e*P	**P**	**09 44 33.6**	**0.7**
MNV	**Mina**	**30.31**	**108**	*e*P	**P**	**09 44 33.3**	**+0.3**
PDAR	**Pinedale Array**	**32.18**	**93**	P	**P**	**09 44 49.5**	**0.0**
TPNV	**Topopah Spring**	**32.42**	**108**	*e*P	**P**	**09 44 51.8**	**+0.2**
TPNV				*e**PP	pP	09 44 59.3	+1.1
TPNV	comp=Z,7.0nm,1.1s,mb4.4			pmax	pmax		
TPNV	**Topopah Spring**	**32.42**	**108**	*e*P	**P**	**09 44 51.8**	**+0.1**
TPNV	comp=Z,6.8nm,1.1s,mb4.4			*e*pP	pP	09 44 59.3	+1.1
FCC	**Fort Churchill**	**32.65**	**58**	*e*P	**P**	**09 44 53.6**	**0.0**
FCC				*e**PP	pP	09 45 00.4	+0.2
FCC				*e*		09 46 06.5	
FCC	comp=Z,4.0nm,1.1s,mb4.3			pmax	pmax		
FCC	**Fort Churchill**	**32.65**	**58**	*e*P	**P**	**09 44 53.6**	**0.0**
FCC	comp=Z,4.0nm,1.1s,mb4.3			*e*pP	pP	09 45 00.4	+0.2
FCC				*e*PP	PP	09 46 06.5	-1.1
MSU	**Marysvale**	**33.55**	**102**	*e*P	**P**	**09 45 01.5**	**+0.1**
MSU				*e**PP	pP	09 45 09.3	+1.3
SRU	**San Rafael**	**34.06**	**99**	*e*P	**P**	**09 45 06.6**	**+0.7**
SRU				*e**PP	pP	09 45 14.0	+1.6
SRU	comp=Z,5.0nm,0.8s,mb4.5			pmax	pmax		
SRU	**San Rafael**	**34.06**	**99**	*e*P	**P**	**09 45 06.6**	**+0.7**
SRU	comp=Z,5.0nm,0.8s,mb4.5			*e*pP	pP	09 45 14.0	+1.5
TIXI	**Tiksi**	**34.45**	**327**	*e*P	**P**	**09 45 09.2**	**0.0**
ULM	**Lac du Bonnet**	**35.57**	**73**	LR	LR	09 59 14.0	
PV01	**Paradox Valley**	**35.84**	**99**	*e*P	**P**	**09 45 21.2**	**0.0**
EYMN	**Ely**	**39.25**	**73**	*e*P	**P**	**09 45 49.2**	**-0.9**
EYMN	comp=Z,5.2nm,1.1s,mb4.2			*e*pP	pP	09 45 57.3	+0.6
ANMO	**Albuquerque**	**39.30**	**100**	*e*P	**P**	**09 45 50.8**	**+0.3**
KLR	**Kul'dur**	**42.88**	**293**	*e*P	**P**	**09 46 15.3**	**-4.7**
LTX	**Lajitas**	**45.07**	**103**	*e*P	**P**	**09 46 37.8**	**+0.2**
LTX				pmax	pmax		
LTX	**Lajitas**	**45.07**	**103**	*e*P	**P**	**09 46 37.8**	**+0.3**
DAG	**Danmarks Havn**	**45.34**	**13**	⇓*i*P	**P**	**09 46 38.4**	**-1.3**
DAG	**Danmarks Havn**	**45.34**	**13**	⇓*e*P	**P**	**09 46 38.4**	**-1.3**
DAG				pmax	pmax		
DAG	**Danmarks Havn**	**45.34**	**13**	⇓*e*P	**P**	**09 46 38.4**	**-1.3**
JCT	**Junction City**	**46.36**	**99**	*e*P	**P**	**09 46 47.3**	**-0.5**
JCT				pmax	pmax		
JCT	**Junction City**	**46.36**	**99**	*e*P	**P**	**09 46 47.2**	**-0.5**
MDJ	**Mudanjiang**	**46.94**	**290**	P	**P**	**09 46 48.9**	**-3.4**
MDJ				AP	pP	09 47 02.3	+3.3
MDJ				XP	sP	09 47 08.5	+6.9
MDJ				SCP	ScP	09 52 11.3	-5.8
MDJ				S	**S**	**09 53 33.9**	**-8.3**
MDJ	comp=Z,60nm,5.5s			AMB	AMB		
MDJ	comp=N,70nm,25.7s,MS3.6			LR	LR		
MDJ	comp=E,40nm,23.6s,MS3.6			LR	LR		
MDJ	comp=Z,50nm,20.2s,MS3.5			LR	LR		
SCHQ	**Schefferville**	**47.47**	**52**	P	**P**	**09 46 55.9**	**-0.6**
SCHQ	comp=Z,1.1nm,0.5s,mb4.0,baz=349,slow=13,SNR=4.8			LR	LR	10 08 23.8	
USIN	**University of**	**47.84**	**82**	*e*P	**P**	**09 46 58.3**	**-1.0**
WVT	**Waverly**	**49.04**	**84**	*e*P	**P**	**09 47 07.6**	**-0.9**
WVT				*e**PP	pP	09 47 15.3	0.0
WVT	comp=Z,17nm,1.0s,mb5.0			pmax	pmax		
WVT	**Waverly**	**49.04**	**84**	*e*P	**P**	**09 47 07.6**	**-0.9**
WVT	comp=Z,17nm,1.0s,mb5.0			*e*pP	pP	09 47 15.3	0.0
OXF	**Oxford**	**49.30**	**86**	*e*P	**P**	**09 47 09.8**	**-0.8**
CN2	**Changchun**	**49.70**	**291**	*e*P	**P**	**09 47 12.2**	**-1.4**
PLAL	**Pickwick Lake**	**49.72**	**85**	*e*P	**P**	**09 47 12.8**	**-0.9**
KEV	**Kevo**	**55.14**	**359**	*e*p	**P**	**09 47 53.4**	**-0.6**
KEV	**Kevo**	**55.14**	**359**	*e*P	**P**	**09 47 53.4**	**-0.6**
KEV	comp=Z,6.0nm,0.6s,mb4.8			pmax	pmax		
ARCES	**ARCESS Array B**	**55.38**	**359**	P	**P**	**09 47 55.6**	**0.0**
ZAK	**Zakamensk**	**55.84**	**311**	*e*P	**P**	**09 47 59.4**	**+0.4**
ZAK	comp=Z,2.3nm,0.7s,mb4.3,baz=16,slow=7.8,SNR=14			pmax	pmax		
ULN	**Ulaanbaatar**	**56.00**	**306**	*i* P	**P**	**09 48 00.6**	**+0.5**
SONM	**Songino Array**	**56.32**	**307**	P	**P**	**09 48 03.4**	**+1.0**
JOW	**Kunigami**	**60.50**	**275**	LR	LR	10 11 58.0	
SSE	**Sheshan**	**61.23**	**284**	P	**P**	**09 48 39.9**	**+3.4**
SSE	comp=Z,30nm,0.8s,mb5.5			AMB	AMB		
SSE	comp=Z,280nm,3.8s			AMB	AMB		
NJ2	**Nanjing**	**61.78**	**286**	*e*P	**P**	**09 48 43.0**	**+2.7**
NJ2	comp=Z,10.0nm,0.6s,mb5.1			AMB	AMB		
JOF	**Joensuu**	**61.90**	**356**	*e*p	**P**	**09 48 40.6**	**-0.4**
KAF	**Kangasniemi**	**62.82**	**359**	*e*p	**P**	**09 48 47.1**	**-0.1**
KAF	**Kangasniemi**	**62.82**	**359**	*e*P	**P**	**09 48 47.1**	**-0.1**
KAF	comp=Z,2.0nm,0.5s,mb4.5			pmax	pmax		
NB2	**NORSAR Subarra**	**63.45**	**7**	P	**P**	**09 48 51.6**	**+0.2**
NB2	**NORSAR Subarra**	**63.45**	**7**	P	**P**	**09 48 51.6**	**+0.2**
NB2	comp=Z,5.0nm,0.7s,mb4.8			pmax	pmax		
NOA	**NORSAR Array B**	**63.45**	**7**	P	**P**	**09 48 51.9**	**+0.5**
FINES	**FINESS Array B**	**63.50**	**359**	P	**P**	**09 48 51.9**	**+0.1**
HFS	**Hagfors**	**64.52**	**6**	P	**P**	**09 48 58.0**	**-0.4**
CHKZ	**Chkalovo**	**64.79**	**332**	*e*P	**P**	**09 48 59.8**	**-0.4**
CHKZ				*e**PP	pP	09 49 07.5	+0.4
CHKZ	comp=Z,3.0nm,0.8s,mb4.4			pmax	pmax		
CHKZ	**Chkalovo**	**64.79**	**332**	*e*P	**P**	**09 48 59.8**	**-0.4**
CHKZ	comp=Z,3.5nm,0.8s,mb4.4			*e*pP	pP	09 49 07.5	+0.4
KURK	**Kurchatov**	**64.99**	**325**	*e*P	**P**	**09 49 01.7**	**+0.2**
KURK	comp=Z,5.0nm,0.8s,mb4.6			pmax	pmax		
KURK	**Kurchatov**	**64.99**	**325**	*e*P	**P**	**09 49 01.7**	**+0.2**
ARU	**Arti**	**65.09**	**340**	⇓*i*P	**P**	**09 49 02.2**	**0.0**
ARU	comp=Z,5.0nm,0.7s,mb4.7			pmax	pmax		
ARU	**Arti**	**65.09**	**340**	*e*P	**P**	**09 49 01.9**	**-0.3**
BRVK	**Borovoye**	**65.43**	**331**	*e*P	**P**	**09 49 04.8**	**+0.4**
BRVK	comp=Z,4.0nm,0.8s,mb4.5			pmax	pmax		
BRVK	**Borovoye**	**65.43**	**331**	*e*P	**P**	**09 49 04.8**	**+0.5**
GTA	**Gaotai**	**65.84**	**305**	*e*P	**P**	**09 49 07.9**	**+0.9**
GTA				AP	pP	09 49 21.0	+7.1
GTA				XP	sP	09 49 26.0	+9.5
GTA				PP	PP	09 51 34.7	+2.8
GTA				PPP		09 53 09.7	
GTA				SCP		09 53 37.1	
GTA				PCS		09 53 42.6	
GTA				S	S	09 57 49.6	-3.0
GTA				XS	sS	09 58 10.5	+6.5
GTA				SCS	ScS	09 58 55.6	-6.1
GTA	comp=Z,70nm,6.8s			AMB	AMB		
GTA	comp=N,140nm,14.1s,MS4.4			LR	LR		
GTA	comp=E,100nm,13.7s,MS4.4			LR	LR		
GTA	comp=Z,120nm,12.9s,MS4.3			LR	LR		
ZRNK	**Zerenda**	**65.87**	**332**	*e*P	**P**	**09 49 07.3**	**+0.1**
LZH	**Lanzhou**	**66.53**	**300**	*e*P	**P**	**09 49 06.6**	**-4.8**
LZH				AP	pP	09 49 20.7	+2.4
LZH				XP	sP	09 49 26.0	+5.1
LZH	comp=Z,10.0nm,1.0s,mb4.8			AMB	AMB		
LZH	comp=Z,50nm,4.8s			AMB	AMB		
MKAR	**Makanchi Array**	**67.08**	**321**	P	**P**	**09 49 14.9**	**0.0**
MKAR	**Makanchi Array**	**67.08**	**321**	*i* P	**P**	**09 49 17.3**	**+2.3**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax		
EKA	**Eskdalemuir Ar**	**67.38**	**17**	P	**P**	**09 49 17.5**	**+0.6**
WMQ	**Urumqi**	**67.53**	**316**	*e*P	**P**	**09 49 18.3**	**+0.5**
CD2	**Chengdu**	**70.69**	**296**	*e*P	**P**	**09 49 36.8**	**-0.6**
CD2	comp=Z,10.0nm,0.8s,mb4.8			AMB	AMB		
AKTK	**Aktyubinsk**	**70.84**	**338**	P	**P**	**09 49 38.4**	**+0.1**
AKTO	**Aktyubinsk**	**70.84**	**338**	P	**P**	**09 49 38.4**	**+0.1**
AAK	**Ala-Archa**	**73.44**	**324**	*e*P	**P**	**09 49 54.3**	**+0.5**
AAK				pmax	pmax		
AAK	**Ala-Archa**	**73.44**	**324**	*e*P	**P**	**09 49 54.3**	**+0.4**
AKASG	**Malin Array Be**	**74.19**	**357**	P	**P**	**09 49 58.0**	**-0.3**
AKASG	**Malin Array Be**	**74.19**	**357**	P	**P**	**09 49 58.0**	**-0.3**
KHC	**Kasperske Hory**	**75.47**	**7**	*e*P	**P**	**09 50 06.5**	**+0.9**
GERES	**GERESS Array B**	**75.76**	**7**	P	**P**	**09 50 07.6**	**+0.3**
KMI	**Kunming**	**75.89**	**294**	P	**P**	**09 50 06.9**	**-1.2**
KMI				AP	pP	09 50 22.9	+7.8
KMI				XP	sP	09 50 27.6	+10
KMI				PP	PP	09 52 59.7	+1.3
KMI				S	S	09 59 40.5	-8.9
KMI				XS	sS	10 00 10.4	+9.4
KMI				SS	SS	10 04 31.5	-10
KMI	comp=Z,80nm,4.0s			AMB	AMB		
KMI	comp=N,120nm,20.6s,MS4.4			LR	LR		
KMI	comp=E,150nm,20.2s,MS4.4			LR	LR		
KMI	comp=Z,150nm,19.9s,MS4.3			LR	LR		
GOF	**Gofitskoye**	**78.66**	**347**	*e*P	**P**	**09 50 26.6**	**+3.0**
ESDC	**Sonseca Array**	**82.29**	**22**	P	**P**	**09 50 44.5**	**+1.4**
BRTR	**Keskin Array B**	**84.91**	**353**	P	**P**	**09 50 57.6**	**+1.1**
QSPA	**South Pole Qui**	**145.18**	**180**	*e*P	PKPbc	09 57 55.0	-3.7

*IDC **02** 09:53:06.6±1.0, 1147N×14345E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.7/19, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=47.0km s-min=18.7km az=113.0*
*NEIC **02** 09:53:08.1±9.0, 1146N×14337E, h9km±58km, mb4.7/1, Error ellipse: s-maj=42.0km s-min=13.9km az=110.0*
*ISCJB **02** 09:53:09.5±0.8, 1151N±01×1434E±02, h33km, mb3.7/6, Error ellipse: s-maj=37.6km s-min=9.1km az=58.2*
ISC 02 09:53:12.0±0.8, 1151N±01×1435E±02, h35km**, n9, σ0§92/11, mb3.7/6, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.52**	**33**	Pn	**Pn**	**09 53 50.1**	**-0.2**
GUMO	20nm,0.3s,baz=211,slow=3.4,SNR=18			Sn	**Sn**	**09 54 19.6**	**-0.1**
GUMO	**Guam**	**2.52**	**33**	Pn	**Pn**	**09 53 50.1**	**-0.2**
GUMO	26nm,0.3s,baz=183,slow=23,SNR=16			Sn	**Sn**	**09 54 19.6**	**-0.1**
WRAB	**Tennant Creek**	**32.47**	**196**	P	**P**	**09 59 38.8**	**-0.1**
WRA	**Warramunga Arr**	**32.48**	**196**	P	**P**	**09 59 38.3**	**-0.8**
ASAR	**Alice Springs**	**36.15**	**195**	P	**P**	**10 00 11.2**	**+0.3**
MKAR	**Makanchi Array**	**62.07**	**317**	P	**P**	**10 03 29.3**	**+0.3**
ILAR	**Eielson Array**	**71.06**	**25**	P	**P**	**10 04 25.2**	**-1.2**
NVAR	**Mina Array Bea**	**89.31**	**51**	P	**P**	**10 06 07.0**	**+2.4**
NVAR	**Mina Array Bea**	**89.31**	**51**	P	**P**	**10 06 07.0**	**+2.4**

*IDC **02** 09:53:22.4±0.8, 5292N×16700W, h0km, mb4.1/21, mb1 4.2/23, mb1mx4.2/28, mbtmp4.0/23, ML3.4/2, MS3.6/6, Ms1 3.6/6, ms1mx3.0/34, Error ellipse: s-maj=22.1km s-min=14.0km az=165.0*
*BJI **02** 09:53:25.2, 5290N×16690W, h44km, mB4.7, mb4.6, Ms4.4,*

Msz4.2
ISCJB ***02*** *09:53:27.3±0.9,5286N±007×16683W±006,h46km±6km, mb4.3/38,MS3.6/7,Error ellipse: s-maj=12.5km s-min=5.2km az=142.3*
NEIC ***02*** *09:53:28.9±0.7,5293N×16691W,h45km±5km, mb4.4/17, ML3.8(AEIC),Error ellipse: s-maj=10.8km s-min=4.4km az=166.0*

ISC 02 09:53:28.9±0.8,**5291N**±007×**16686W**±006,**h46**km±6km, **n77**,σ1¶**17**/73,**mb4.3**/38,**MS3.6**/7,**1C**,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCD	**Okmok Cone D**	**0.92**	**305**	P	**Pn**	**09 53 44.3**	**-1.2**
OKCE	**Okmok Cone E**	**0.95**	**304**	P	**Pn**	**09 53 44.8**	**-1.0**
UNV	**Unalaska Valle**	**0.97**	**13**	P	**Pn**	**09 53 44.6**	**-1.5**
UNV				S	**Sn**	**09 53 58.8**	**+0.1**
NIKO	**Nikolski**	**1.21**	**274**	P	**Pn**	**09 53 47.4**	**-2.0**
NIKO				S	**Sn**	**09 54 06.4**	**+1.7**
AKLV	**Akutan Long Va**	**1.37**	**23**	P	**Pn**	**09 53 50.8**	**-0.8**
AKUT	**Akutan**	**1.39**	**27**	P	**Pn**	**09 53 51.1**	**-0.8**
AKUT				S	**Sn**	**09 54 11.0**	**+1.9**
SDPT	**Sand Point**	**4.48**	**54**	*e*P	**Pn**	**09 54 35.4**	**+1.1**
SDPT				*e*Sn	**Sn**	**09 55 21.9**	**-3.2**
ATKA	**Atka Island**	**4.54**	**264**	P	**Pn**	**09 54 35.0**	**0.0**
SPIA	**Saint Paul Isl**	**4.70**	**337**	P	**Pn**	**09 54 38.9**	**+1.6**
AMKA	**Amchitka**	**8.65**	**265**	P	**Pn**	**09 55 31.1**	**-0.4**
KDAK	**Kodiak Island**	**9.48**	**53**	Pn	**Pn**	**09 55 43.8**	**+1.0**
	0.6nm,0.3s,baz=280,slow=9.6,SNR=4.5						
SVW2	**Sparrevohn**	**10.24**	**32**	*e*P	**Pn**	**09 55 55.4**	**+2.2**
TTA	**Tatalina**	**11.57**	**25**	*e*Pn	**Pn**	**09 56 18.0**	**+6.6**
	9.0nm,1.0s						
EYAK	**Cordova Ski Ar**	**13.84**	**48**	*e*Pn	**Pn**	**09 56 45.7**	**+3.4**
COLA	**College**	**15.41**	**32**	*e*Pn	**Pn**	**09 57 06.0**	**+2.8**
	4.5nm,1.0s						
ILAR	**Eielson Array**	**15.66**	**33**	Pn	**Pn**	**09 57 04.3**	**-2.1**
	0.0nm,0.3s,baz=220,slow=12,SNR=13						
MENT	**Mentasta**	**15.78**	**41**	*e*P	**Pn**	**09 57 16.3**	**+8.5**
DAWY	**Dawson**	**18.02**	**41**	*e*P	**Pn**	**09 57 35.5**	**-0.3**
SKAG	**Skagway**	**18.60**	**57**	*e*P	**Pn**	**09 57 43.2**	**+0.3**
	7.5nm,0.8s						
DLBC	**Dease Lake**	**21.29**	**60**	P	**P**	**09 58 12.2**	**+0.7**
	1.3nm,0.6s,mb3.4,baz=240,slow=15,SNR=4.0						
DLBC				LR	LR	10 06 01.7	
	comp=Z,96nm,20.2s,MS3.2,baz=67,slow=36						
INK	**Inuvik**	**22.06**	**33**	P	**P**	**09 58 17.5**	**-2.2**
	2.0nm,0.5s,mb3.8,baz=254,slow=11,SNR=14						
INK				PcP	PcP	10 02 16.3	+0.2
	1.1nm,0.6s,baz=346,slow=3.8,SNR=5.6						
INK	**Inuvik**	**22.06**	**33**	*e*P	**P**	**09 58 17.2**	**-2.5**
	5.2nm,0.7s,mb4.1						
MA2	**Magadan**	**24.12**	**303**	*e*P	**P**	**09 58 39.9**	**-0.5**
	3.9nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**28.73**	**50**	P	**P**	**09 59 21.8**	**0.0**
	0.5nm,0.6s,mb3.5,baz=276,slow=7.5,SNR=7.3						
YKA				PcP	PcP	10 02 30.9	-0.2
	0.9nm,0.6s,baz=286,slow=2.5,SNR=12						
YKA				LR	LR	10 11 57.1	
	comp=Z,124nm,20.4s,MS3.5,baz=290,slow=39						
YKA	**Yellowknife Ar**	**28.73**	**50**	P	**P**	**09 59 21.8**	**0.0**
YKA				PcP	PcP	10 02 30.9	-0.2
YKA				LR	LR	10 11 57.1	
YBH	**Yreka Blue Hor**	**31.46**	**93**	LR	LR	10 09 07.3	
	comp=Z,148nm,20.3s,MS3.6,baz=359,slow=30						
ASAJ	**Asahikawa**	**33.98**	**276**	LR	LR	10 11 35.7	
	comp=Z,62nm,20.5s,MS3.3,baz=358,slow=32						
EGMT	**Eagleton**	**35.84**	**74**	*e*P	**P**	**10 00 24.2**	**+0.1**
	2.9nm,0.7s,mb4.3						
NVAR	**Mina Array Bea**	**36.16**	**94**	P	**P**	**10 00 27.4**	**+0.7**
	0.9nm,0.7s,mb3.8,baz=303,slow=7.2,SNR=7.9						
TPNV	**Topopah Spring**	**38.35**	**94**	*e*P	**P**	**10 00 45.7**	**+0.4**
	2.2nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**38.80**	**81**	P	**P**	**10 00 49.1**	**0.0**
	1.1nm,0.8s,mb3.6,baz=318,slow=5.3,SNR=11						
FCC	**Fort Churchill**	**39.41**	**52**	*e*P	**P**	**10 00 54.0**	**-0.2**
	3.4nm,0.8s,mb4.1						
MAJO	**Matsushiro**	**41.24**	**269**	*e*P	**P**	**10 01 09.4**	**+0.1**
	13nm,0.8s,mb4.6						
MAT	**Matsushiro**	**41.24**	**269**	P	**P**	**10 01 09.0**	**-0.3**
MAT	**Matsushiro**	**41.24**	**269**	*e*P	**P**	**10 01 09.0**	**-0.3**
	12nm,1.0s,mb4.5						
MJAR	**Matsushiro Arr**	**41.24**	**269**	P	**P**	**10 01 08.5**	**-0.9**
	1.8nm,0.7s,mb3.8,baz=49,slow=6.5,SNR=11						
MDJ	**Mudanjiang**	**41.44**	**285**	P	**P**	**10 01 14.5**	**+3.5**
MDJ				AMB	AMB		
	comp=Z,30nm,6.4s						
PV01	**Paradox Valley**	**42.24**	**86**	*e*P	**P**	**10 01 17.2**	**-0.2**
ULM	**Lac du Bonnet**	**42.54**	**64**	P	**P**	**10 01 18.5**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.6,baz=301,slow=5.9,SNR=3.4						
CN2	**Changchun**	**44.34**	**287**	*e*P	**P**	**10 01 35.4**	**+1.0**
DAG	**Danmarks Havn**	**49.02**	**9**	‖P	**P**	**10 02 10.1**	**-1.0**
	comp=Z,2.7nm,0.6s,mb4.5						
SONM	**Songino Array**	**52.33**	**302**	P	**P**	**10 02 34.5**	**-1.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=34,slow=7.3,SNR=4.4						
SCHQ	**Schefferville**	**53.99**	**45**	LR	LR	10 27 28.4	
	comp=Z,72nm,18.2s,MS3.8,baz=106,slow=38						
NJ2	**Nanjing**	**55.98**	**280**	*e*P	**P**	**10 03 05.1**	**+2.5**
ARCES	**ARCESS Array B**	**57.54**	**355**	P	**P**	**10 03 12.3**	**-1.3**
	comp=Z,2.2nm,0.9s,mb4.2,baz=30,slow=7.4,SNR=7.1						
ZAL	**Zalesovo**	**58.06**	**319**	LR	LR	10 30 18.7	
	comp=Z,66nm,20.7s,MS3.7,baz=174,slow=38						
LZH	**Lanzhou**	**61.80**	**293**	*e*P	**P**	**10 03 46.0**	**+3.1**
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,50nm,5.0s						
KURK	**Kurchatov**	**62.98**	**320**	*e*P	**P**	**10 03 49.7**	**-1.1**
	comp=Z,3.9nm,0.9s,mb4.5						
JOF	**Joensuu**	**63.64**	**351**	*e*p	**P**	**10 03 54.8**	**-0.4**
	comp=Z,2.3nm,0.4s,mb4.6						
WMQ	**Urumqi**	**64.39**	**309**	*e*P	**P**	**10 04 02.5**	**+2.4**
MKAR	**Makanchi Array**	**64.53**	**315**	P	**P**	**10 04 00.0**	**-1.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=46,slow=5.4,SNR=7.3						
ZRNK	**Zerenda**	**64.67**	**326**	*e*P	**P**	**10 04 01.7**	**-0.2**
	comp=Z,6.9nm,0.9s,mb4.7						
KAF	**Kangasniemi**	**64.86**	**353**	*e*p	**P**	**10 04 02.5**	**-0.6**
	comp=Z,0.8nm,0.3s,mb4.2						
FINES	**FINESS Array B**	**65.54**	**353**	P	**P**	**10 04 05.8**	**-1.7**
	comp=Z,2.4nm,0.6s,mb4.4,baz=23,slow=7.5,SNR=12						
NOA	**NORSAR Array B**	**66.39**	**1**	P	**P**	**10 04 12.2**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=360,slow=5.6,SNR=3.0						
HFS	**Hagfors**	**67.31**	**360**	P	**P**	**10 04 18.0**	**-0.9**
	comp=Z,3.6nm,0.4s,mb4.7,baz=29,slow=3.4,SNR=27						
AKTK	**Aktyubinsk**	**70.30**	**331**	P	**P**	**10 04 37.1**	**-0.3**
AKTO	**Aktyubinsk**	**70.30**	**331**	P	**P**	**10 04 37.1**	**-0.3**
	comp=Z,4.2nm,0.7s,mb4.5,baz=47,slow=6.8,SNR=22						
KMI	**Kunming**	**70.61**	**286**	P	**P**	**10 04 40.3**	**+1.0**
KMI				AP	pP	10 04 52.6	-0.1
KMI				XP	sP	10 04 56.9	-1.1
KMI				PP	PP	10 07 19.9	+3.8
KMI				S	S	10 13 45.2	-4.5
KMI				XS	sS	10 14 13.0	+0.9
KMI				SS	SS	10 18 20.8	-1.0
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,150nm,4.0s						
KMI				LR	LR		
	comp=Z,120nm,17.3s,MS4.2						
EKA	**Eskdalemuir Ar**	**71.29**	**10**	P	**P**	**10 04 43.5**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=342,slow=5.2,SNR=4.8						
AKASG	**Malin Array Be**	**75.88**	**350**	P	**P**	**10 05 09.4**	**-1.0**
	comp=Z,4.9nm,0.5s,mb4.7,baz=12,slow=5.8,SNR=19						
GUN	**Gumba**	**77.80**	**300**	*e*P	**P**	**10 05 22.2**	**+1.0**
	comp=Z,23nm,0.7s,mb5.2						
JIRN	**Jiri**	**77.83**	**300**	*e*P	**P**	**10 05 22.5**	**+1.1**
	comp=Z,16nm,0.7s,mb5.0						
KKN	**Kakani**	**78.21**	**301**	*e*P	**P**	**10 05 24.2**	**+0.7**
PKI	**Pulchoki**	**78.31**	**300**	*e*P	**P**	**10 05 25.6**	**+1.5**
GKN	**Gorkha**	**78.37**	**301**	*e*P	**P**	**10 05 25.0**	**+0.6**
	comp=Z,18nm,0.6s,mb5.2						
DMN	**Daman**	**78.44**	**301**	*e*P	**P**	**10 05 25.6**	**+0.8**
	comp=Z,9.1nm,0.5s,mb5.0						
GERES	**GERESS Array B**	**78.63**	**360**	P	**P**	**10 05 26.2**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=36,slow=5.4,SNR=4.3						
KOLN	**Koldanda**	**79.09**	**302**	*e*P	**P**	**10 05 29.0**	**+0.6**
DAVOX	**Davos**	**80.65**	**2**	P	**P**	**10 05 38.3**	**+1.5**
	comp=Z,3.7nm,0.8s,mb4.4,baz=341,slow=6.1,SNR=4.4						
BRTR	**Keskin Array B**	**86.05**	**344**	P	**P**	**10 06 05.5**	**+0.9**
	comp=Z,2.6nm,0.9s,mb4.5,baz=78,slow=3.0,SNR=9.8						
WRA	**Warramunga Arr**	**88.55**	**234**	P	**P**	**10 06 15.6**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.9,baz=29,slow=6.6,SNR=4.7						
ASAR	**Alice Springs**	**91.92**	**232**	P	**P**	**10 06 31.4**	**-1.0**
	comp=Z,0.4nm,0.8s,mb3.8,baz=33,slow=6.0,SNR=4.2						
KMBO	**Kilima Mbogo**	**124.63**	**330**	PKP	PKPdf	10 12 24.1	+0.9
	comp=Z,2.2nm,0.9s,baz=63,slow=22,SNR=4.1						
MATP	**Matopo**	**145.47**	**334**	PKPbc	PKPbc	10 13 02.6	+0.7
	comp=Z,4.5nm,0.8s,baz=23,slow=6.0,SNR=7.9						
TSUM	**Tsumeb**	**146.19**	**352**	PKPbc	PKPbc	10 13 05.3	+1.3
	comp=Z,2.8nm,0.9s,baz=246,slow=18,SNR=2.7						
LBTB	**Lobatse**	**150.60**	**337**	PKPbc	PKPbc	10 13 15.8	+0.1
	comp=Z,3.9nm,0.7s,baz=302,slow=2.0,SNR=6.8						

IDC 02 10:00:46.3±1.5,**2171N**×**14292E**,**h300**km±15km,**mb3.1**/5, **mb1 3.3**/8,**mb1mx3.1**/22,**mbtmp3.9**/8,**Error ellipse: s-maj=42.1km s-min=12.8km az=90.0**,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.41**	**353**	P	Pn	10 02 09.2	+0.6
	12nm,0.3s,baz=311,slow=19,SNR=12						
CBIJ				S	S	10 03 13.8	-0.8
	9.1nm,0.3s,baz=307,slow=20,SNR=5.2						
GUMO	**Guam**	**8.28**	**167**	P	Pn	10 02 44.7	+1.4
	2.9nm,0.3s,baz=190,slow=11,SNR=4.0						
MJAR	**Matsushiro Arr**	**15.34**	**346**	P	P	10 04 08.2	+1.2
	0.5nm,0.3s,baz=172,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**42.23**	**192**	P	P	10 08 10.4	-0.1
	0.4nm,0.3s,baz=17,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**45.94**	**192**	P	P	10 08 39.4	-0.4
	0.2nm,0.6s,baz=15,slow=9.3,SNR=4.1						
YKA	**Yellowknife Ar**	**76.56**	**28**	P	P	10 12 03.5	-0.3
	0.3nm,0.5s,baz=292,slow=6.0,SNR=7.3						
ARCES	**ARCESS Array B**	**78.83**	**341**	P	P	10 12 16.9	+0.6
	1.9nm,0.7s,baz=66,slow=7.4,SNR=7.5						
FINES	**FINESS Array B**	**83.07**	**334**	P	P	10 12 37.6	-0.9
	1.2nm,0.6s,baz=83,slow=4.6,SNR=5.7						
PLCA	**Paso Flores**	**145.95**	**132**	PKPbc	PKPbc	10 19 51.6	+0.9
	1.6nm,0.7s,baz=89,slow=5.4,SNR=4.6						
LPAZ	**La Paz**	**150.19**	**85**	PKPbc	PKPbc	10 20 02.0	+0.3
	0.8nm,0.4s,baz=54,slow=2.7,SNR=8.6						

LDG ***02*** *10:24:11.3±0.7,1412S×16737E,h10km,Error ellipse: s-maj=169.5km s-min=10.7km az=92.0*
NEIC ***02*** *10:24:20.4±0.9,1470S×167.18E,mb4.1/5,Error ellipse: s-maj=18.9km s-min=12.5km az=53.0*
ISCJB ***02*** *10:24:21.5±1.2,1490S±007×1669E±0.1,h109km±9km, mb4.1/7,Error ellipse: s-maj=19.3km s-min=7.4km az=112.9*
IDC ***02*** *10:24:22.0±3.2,1482S×16700E,h104km±24km,mb4.0/6, mb1 4.1/8,mb1mx3.9/16,mbtmp4.4/8,MS2.8/2,Ms1 2.8/2, ms1mx2.3/25,Error ellipse: s-maj=32.3km s-min=14.9km az=60.0*

ISC 02 10:24:22.0±1.2,**1481S**±008×**1671E**±01,**h107**km±8km,**n41**, σ0¶**70**/29,**mb4.1**/7,**1C**-**3D**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.06**	**159**	*i* P	**Pn**	**10 25 08.7**	**0.0**
BKM				S	**Sn**	**10 25 44.8**	**+0.1**
DZM	**Mont Dzumac**	**7.25**	**185**	P	**Pn**	**10 26 05.9**	**+0.6**
	15nm,0.3s,baz=37,slow=18,SNR=292						
DZM				S	**Sn**	**10 27 25.3**	**-0.6**
	5.5nm,0.3s,baz=139,slow=23,SNR=8.0						
NOUC	**Port Laguerre**	**7.29**	**186**	*e*P	**Pn**	**10 26 06.7**	**+0.9**
NOUC				*e*S	**Sn**	**10 27 23.5**	**-3.5**
HNR	**Honiara**	**8.78**	**307**	P	**Pn**	**10 26 25.1**	**-0.8**
	11nm,0.3s,baz=85,slow=5.1,SNR=8.3						
HNR				S	**Sn**	**10 28 03.0**	**0.0**
	23nm,0.3s,baz=88,slow=19,SNR=7.1						
HNR				LR	LR	10 28 37.0	
	comp=Z,48nm,19.3s,baz=1.5,slow=29						
CTA	**Charters Tower**	**20.53**	**252**	‖*i*P	**P**	**10 28 55.0**	**+3.2**
	3.0nm,0.6s						
CTA	**Charters Tower**	**20.53**	**252**	P	**P**	**10 28 54.8**	**+3.0**
	3.7nm,0.7s,baz=73,slow=13,SNR=10						
CTAO	**Charters Tower**	**20.53**	**252**	*e*P	**P**	**10 28 54.6**	**+2.8**
	3.8nm,0.6s						
URZ	**Urewera**	**24.99**	**161**	P	**P**	**10 29 36.2**	**+0.4**
	14nm,0.8s,mb4.4,baz=358,slow=5.3,SNR=6.1						
STKA	**Stephens Creek**	**28.80**	**229**	*e*P	**P**	**10 30 09.9**	**+0.1**
	3.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.80**	**229**	P	**P**	**10 30 10.0**	**+0.2**
	3.5nm,0.5s,mb4.3,baz=60,slow=7.5,SNR=8.1						
WB2	**Warramunga Arr**	**31.61**	**256**	*e*P	**P**	**10 30 34.0**	**-0.6**
WRA	**Warramunga Arr**	**31.62**	**256**	P	**P**	**10 30 34.1**	**-0.6**
	0.5nm,0.5s,mb3.5,baz=86,slow=9.4,SNR=13						
WRA				PcP	PcP	10 33 25.0	+0.6
	0.8nm,0.8s,baz=90,slow=3.0,SNR=5.5						
AS31	**Alice Springs**	**32.46**	**249**	*e*P	**P**	**10 30 42.2**	**+0.1**
ASAR	**Alice Springs**	**32.46**	**249**	P	**P**	**10 30 42.4**	**+0.3**
	1.2nm,0.5s,mb3.9,baz=76,slow=9.8,SNR=24						
ASAR				pP	pP	10 31 04.2	-1.7
	1.5nm,0.8s,baz=79,slow=9.8,SNR=4.1						
ASPA	**Alice Springs**	**32.47**	**249**	*e*P	**P**	**10 30 42.2**	**+0.1**
GUMO	**Guam**	**35.76**	**321**	LR	LR	10 42 55.0	
	comp=Z,22nm,21.9s,baz=20,slow=31						
NWAO	**Narrogin (SRO)**	**48.54**	**239**	P	**P**	**10 32 54.9**	**+0.6**
	4.7nm,0.9s,mb4.4						
VNDA	**Vanda**	**62.78**	**181**	P	**P**	**10 34 35.9**	**-0.1**
	1.6nm,0.7s,mb4.0,baz=3.7,slow=6.7,SNR=10.0						
QSPA	**South Pole Qui**	**75.22**	**180**	*e*P	**P**	**10 35 53.1**	**+0.2**
HYB	**Hyderabad**	**92.96**	**287**	*i* P	**P**	**10 37 18.0**	**-5.2**
HYB	**Hyderabad**	**92.96**	**287**	*e*P	**P**	**10 37 18.0**	**-5.2**
VNA3	**Neumayer Olymp**	**94.14**	**181**	‖*i*	**P**	**10 37 27.7**	**-0.9**
VNA2	**Neumayer--Watz**	**94.40**	**182**	‖*i*	**P**	**10 37 29.3**	**-0.5**
	baz=183,slow=5.2						
VNA1	**Neumayer--Stat**	**94.70**	**182**	‖*i*	**P**	**10 37 31.0**	**-0.1**
MKAR	**Makanchi Array**	**97.12**	**316**	P	**P**	**10 37 42.5**	**+0.3**
	0.8nm,0.7s,mb4.2,baz=90,slow=6.1,SNR=4.7						
MKAR				pP	pP	10 38 08.6	-1.6
	1.1nm,1.0s,baz=103,slow=5.2,SNR=3.2						
MKAR	**Makanchi Array**	**97.12**	**316**	P	**P**	**10 37 42.5**	**+0.3**
MKAR				pP	pP	10 38 08.6	-1.6
ARCES	**ARCESS Array B**	**120.28**	**345**	PKP	PKPdf	10 42 59.7	-0.8
	2.4nm,0.7s,baz=56,slow=2.3,SNR=8.0						
ARCES	**ARCESS Array B**	**120.28**	**345**	PKP	PKPdf	10 42 59.7	-0.8
BRTR	**Keskin Array B**	**132.41**	**311**	PKP	PKPdf	10 43 24.1	+0.4
	1.3nm,0.8s,baz=34,slow=4.9,SNR=3.8						
LOR	**Lormes**	**144.74**	**340**	*e*PKP1	PKPdf	10 43 46.0	-0.2
	19nm,1.2s						
SSF	**Saint Saulge**	**145.04**	**340**	*e*PKP1	PKPbc	10 43 47.0	+0.7
	12nm,0.8s						
LPL	**La Plagne**	**145.18**	**336**	*e*PKP1	PKPbc	10 43 47.9	+1.1
	11nm,0.8s						
LPG	**La Plagne**	**145.19**	**335**	*e*PKP1	PKPbc	10 43 48.1	+1.3
	11nm,0.7s						
SMF	**Signal de Mont**	**145.29**	**340**	*e*PKP1	PKPbc	10 43 47.6	+0.5
	4.7nm,0.6s						
AVF	**Avril sur Loir**	**145.33**	**340**	*e*PKP1	PKPbc	10 43 47.8	+0.6
MBDF	**Montbardon**	**145.81**	**335**	*e*PKP1	PKPbc	10 43 49.4	+0.7
ORIF	**Oris-en-Rattie**	**146.02**	**336**	*e*PKP1	PKPbc	10 43 50.3	+1.0
	19nm,0.8s						
SBF	**Sospel**	**146.22**	**333**	*e*PKP1	PKPbc	10 43 50.3	+0.3
	44nm,0.9s						
MFF	**Saint Martin d**	**146.54**	**344**	*e*PKP1	PKPbc	10 43 51.4	+0.5
	18nm,0.8s						
RJF	**Les Rejaudoux**	**147.24**	**341**	*e*PKP1	PKPbc	10 43 53.5	+0.7
LFF	**La Frestale**	**147.81**	**342**	*e*PKP1	PKPbc	10 43 55.1	+0.7
	27nm,0.8s						

CSEM ***02*** *10:28:08.3,3544N×2269E,h5km,MD3.7/7,After ATH*
NEIC ***02*** *10:28:08.3,3544N×2269E,h5km,MD3.7(ATH),After ATH.*

ATH 02 10:28:10.2,3553N×2278E,h8km±6km,**MD3.6**/7,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.78**	**15**	*e*PB	Pg	10 28 24.2	-1.0
KYTH	**Kithira**	**0.78**	**15**	*e*Pb	Pg	10 28 24.0	-1.2
VAM	**Vamos**	**1.17**	**96**	*e*PB	Pg	10 28 32.5	-0.1
VLI	**Veliai**	**1.19**	**6**	*e*PB	Pb	10 28 33.0	0.0
GVD	**Gavdhos**	**1.27**	**122**	*e*Pn	Pn	10 28 32.2	-2.0
ITM	**Ithomi**	**1.79**	**338**	*e*PN	Pn	10 28 43.5	+2.2
NPS	**Neapolis**	**2.33**	**96**	*e*PB	Pb	10 28 50.0	-2.4
NPS	**Neapolis**	**2.33**	**96**	*e*Pb	Pb	10 28 49.0	-3.4
APE	**Apeiranthos**	**2.70**	**55**	*e*PN	Pb	10 28 57.0	-1.8
APE	**Apeiranthos**	**2.70**	**55**	*e*Pg	Pg	10 29 00.0	-2.0
EVR	**Evrytania**	**3.47**	**347**	*e*PN	Pn	10 29 07.0	+2.5

ISCJB ***02*** *10:30:41.0±0.5,5539N±006×15576W±007,h10km, mb4.1/20,MS3.5/3,Error ellipse: s-maj=9.0km s-min=4.6km az=126.6*

IDC ***02*** *10:30:40.8±1.1,5516N×15579W,h0km,mb3.8/11, mb1 4.0/15,mb1mx3.9/24,mbtmp3.8/15,ML3.9/4,MS3.4/2, Ms1 3.3/2,ms1mx2.5/40,Error ellipse: s-maj=23.6km s-min=19.3km az=10.0*
MOS ***02*** *10:30:42.2±0.8,5547N×15566W,h13km,mb4.4/6,Error ellipse: s-maj=24.8km s-min=7.6km az=82.1*
BJI ***02*** *10:30:44.7,5530N×15590W,h40km,mB5.3,mb4.7,Ms4.9, Msz4.3*
NEIC ***02*** *10:30:44.7,5529N×15586W,h10km,mb4.5/6, ML4.0(AEIC),After AEIC.*

ISC 02 10:30:42.4±0.5,**5531N**±006×**15581W**±007,**h10**km, (**h33**km±4.5km:**pP-P**),**n70**,σ1¶**06**/74,**mb4.1**/20,**MS3.5**/3,**1C**, **South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.77**	**305**	P	**Pn**	**10 31 13.7**	**+0.7**
SDPT	**Sand Point**	**2.67**	**273**	*e*P	**Pn**	**10 31 25.6**	**+0.2**
KDAK	**Kodiak Island**	**3.05**	**34**	Pn	**Pn**	**10 31 29.5**	**-1.1**
	5.2nm,0.3s,baz=213,slow=10,SNR=34						
KDAK				Sn	**Sn**	**10 32 03.4**	**-3.9**
	14nm,0.3s,baz=306,slow=22,SNR=8.2						
KDAK	**Kodiak Island**	**3.05**	**34**	P	**Pn**	**10 31 29.6**	**-1.0**
FALS	**False Pass**	**4.39**	**267**	P	**Pn**	**10 31 50.0**	**+0.9**
SVW2	**Sparrevohn**	**5.80**	**1**	*e*Pn	**Pn**	**10 32 07.9**	**-0.6**
AKLV	**Akutan Long Va**	**5.99**	**263**	P	**Pn**	**10 32 11.4**	**+0.4**
AKLV				S	**Sn**	**10 33 17.8**	**-1.9**
SLKM	**Skilak Lake**	**6.00**	**27**	*e*P	**Pn**	**10 32 10.1**	**-1.1**
UNV	**Unalaska Valle**	**6.39**	**261**	P	**Pn**	**10 32 16.1**	**-0.5**
MID	**Middleton Isla**	**6.57**	**47**	*e*P	**Pn**	**10 32 19.5**	**+0.4**
RC01	**Rabbit Creek A**	**6.62**	**26**	P	**Pn**	**10 32 19.3**	**-0.4**
PMR	**Palmer**	**7.20**	**26**	P	**Pn**	**10 32 27.4**	**-0.3**
EYAK	**Cordova Ski Ar**	**7.50**	**41**	P	**Pn**	**10 32 31.8**	**+0.1**
SML	**Sawmill**	**7.59**	**28**	P	**Pn**	**10 32 33.3**	**+0.3**
TT01	**Tatalina**	**7.62**	**359**	P	**Pn**	**10 32 34.1**	**+0.7**
TTA	**Tatalina**	**7.64**	**359**	*e*P	**Pn**	**10 32 33.5**	**-0.2**
BMRM	**Bremner River**	**8.20**	**42**	P	**Pn**	**10 32 42.1**	**+0.8**
TRF	**Thorofare Moun**	**8.63**	**17**	P	**Pn**	**10 32 47.5**	**+0.2**
MENT	**Mentasta**	**9.84**	**34**	*e*P	**Pn**	**10 33 06.2**	**+2.4**
COLA	**College**	**10.37**	**19**	*e*P	**Pn**	**10 33 11.0**	**-0.1**
COLA	**College**	**10.37**	**19**	*e*Pn	**Pn**	**10 33 11.7**	**+0.6**
	5.8nm,0.7s						
ILAR	**Eielson Array**	**10.47**	**21**	Pn	**Pn**	**10 33 11.1**	**-1.5**
	0.5nm,0.3s,baz=201,slow=13,SNR=26						
ILAR				Sn	**Sn**	**10 35 03.9**	**-6.0**
	0.2nm,0.3s,baz=209,slow=24,SNR=4.1						
IM3	**Indian Mountai**	**10.76**	**5**	P	**Pn**	**10 33 16.0**	**-0.4**
SIT	**Sitka**	**11.54**	**73**	*e*P	**Pn**	**10 33 23.5**	**-3.6**
SKAG	**Skagway**	**11.79**	**61**	*e*P	**Pn**	**10 33 33.4**	**+2.9**
	2.6nm,0.3s						
DAWY	**Dawson**	**12.03**	**37**	*e*Pn	**Pn**	**10 33 34.7**	**+0.8**
BM3	**Burnt Mountain**	**13.25**	**19**	P	**Pn**	**10 33 49.3**	**-1.2**
DLBC	**Dease Lake**	**14.40**	**67**	Pn	**Pn**	**10 34 07.0**	**+0.8**
	0.3nm,0.3s,baz=269,slow=13,SNR=3.8						
INK	**Inuvik**	**16.60**	**30**	Pn	**Pn**	**10 34 34.8**

IDC 02 10:31:54.2±1.8, 222N×9640E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=54.6km s-min=20.7km az=172.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.59	77	P	Pn	10 32 37.1	-0.2
	4.1nm,0.3s,baz=311,slow=11,SNR=12						
PSI				Lg		10 33 16.1	
	4.2nm,0.3s,baz=156,slow=22,SNR=4.3						
WRA	Warramunga Arr	43.25	122	P	P	10 39 57.1	-0.2
	0.2nm,0.5s,baz=301,slow=9.2,SNR=4.5						
ASAR	Alice Springs	44.64	127	P	P	10 40 09.2	+0.8
	0.2nm,0.6s,baz=304,slow=8.3,SNR=3.4						
TORD	Torodi Ar. Bea	94.08	283	P	P	10 45 15.4	+0.9
	0.9nm,0.8s,baz=91,slow=4.2,SNR=5.3						

IDC 02 10:37:47.9±37.0, 1303N×14271E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=658.7km s-min=164.0km az=0.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.78	194	P	P	10 44 32.3	+1.0
	1.1nm,0.6s,baz=17,slow=9.3,SNR=12						
ASAR	Alice Springs	37.47	193	P	P	10 45 02.4	-0.7
	0.6nm,0.6s,baz=16,slow=8.6,SNR=13						
STKA	Stephens Creek	44.66	181	P	P	10 46 02.6	+0.4
	2.1nm,0.8s,baz=354,slow=9.2,SNR=2.6						

IDC 02 10:55:02.6±0.9, 2176S×6798W, h114km±13km, mb3.4/2, mb1 3.5/4, mb1mx3.3/14, mbtmp3.7/4, Error ellipse: s-maj=38.8km s-min=16.3km az=132.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.21	225	P	Pn	10 55 26.9	+0.7
	46nm,0.3s,baz=40,slow=9.5,SNR=516						
LVC				S	Sn	10 55 44.6	+0.4
	49nm,0.3s,baz=288,slow=20,SNR=67						
LPAZ	La Paz	5.45	358	P	Pn	10 56 23.1	+1.7
	0.5nm,0.3s,baz=178,slow=5.2,SNR=16						
SIV	San Ignacio	8.70	50	P	Pn	10 57 06.1	+0.6
	1.6nm,0.3s,baz=235,slow=12,SNR=40						
SIV				S	Sn	10 58 40.2	-1.4
	0.1nm,0.3s,baz=254,slow=19,SNR=2.2						
TORD	Torodi Ar. Bea	76.63	70	P	P	11 06 41.6	+0.9
	0.3nm,0.4s,baz=256,slow=5.9,SNR=9.7						
YKA	Yellowknife Ar	91.72	340	P	P	11 07 56.1	-1.1
	0.4nm,0.7s,baz=136,slow=4.8,SNR=9.0						

*CSEM **02** 11:04:26.4, 3737N×2079E, h8km, MD3.5/7, After ATH*
*NEIC **02** 11:04:26.4, 3737N×2079E, h8km, MD3.5(ATH), After ATH.*

ATH 02 11:04:27.1, 3740N×2082E, h12km±3km, MD3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.80	347	ePG	Pg	11 04 42.0	-0.5
VLS				eSB	Sb	11 04 54.0	+0.4
VLS	Valsamata	0.80	347	ePg	Pg	11 04 41.5	-1.0
VLS				eSb	Sb	11 04 54.6	+1.0
RLS	Riolos of Patr	0.83	38	ePB	Pb	11 04 43.1	-0.4
RLS				eSB	Sb	11 04 54.6	-0.1
RLS	Riolos of Patr	0.83	38	ePb	Pb	11 04 42.1	-1.4
RLS				eSb	Sb	11 04 54.6	-0.1
ITM	Ithomi	0.91	104	ePB	Pb	11 04 44.8	0.0
EVR	Evrytania	1.70	27	ePn	Pn	11 04 59.4	+2.8
EVR				eSn	Sn	11 05 24.1	+5.8
VLI	Veliai	1.82	111	ePN	Pn	11 05 00.0	+1.7
LKR	Lokris	2.13	53	ePN	Pn	11 05 04.8	+2.4
LKR	Lokris	2.13	53	ePb	Pb	11 05 03.8	-1.7
KEK	Kerkira	2.44	341	ePN	Pn	11 05 10.0	+3.2
KEK	Kerkira	2.44	341	ePg	Pg	11 05 13.9	-0.1

*IDC **02** 11:12:47.8±0.6, 2002S×17384W, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.5/20, mbtmp4.4/14, ML4.5/1, MS3.9/4, Ms1 3.9/4, ms1mx3.1/24, Error ellipse: s-maj=23.0km s-min=15.5km az=139.0*
*MOS **02** 11:12:48.0±1.0, 1995S×17394W, h10km, mb4.8/9, Error ellipse: s-maj=21.4km s-min=15.2km az=156.8*
*BJI **02** 11:12:48.3, 2061S×17333W, h38km, mB5.4, mb4.9, Ms5.0, Msz4.7*
*ISCJB **02** 11:12:51.6±0.3, 2004S±007×17389W±007, h35km, mb4.7/27, MS4.0/6, Error ellipse: s-maj=11.3km s-min=8.4km az=108.2*
*NEIC **02** 11:12:53.2±0.3, 1999S×17387W, mb4.7/14, Error ellipse: s-maj=14.3km s-min=8.8km az=145.0*

ISC 02 11:12:53.4±0.3, 2012S±006×17380W±007, h37km, h37km±1.2km: pP-P, n110, σ1°9°00/71, mb4.7/27, MS4.0/6, 7C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.47	18	Pn	Pn	11 14 18.5	-7.6
	8.8nm,0.3s,baz=87,slow=21,SNR=22						
AFI				Sn	Sn	11 15 27.0	-12
	10nm,0.3s,baz=131,slow=20,SNR=2.9						
AFI				T		11 21 08.3	
	4.6nm,0.3s,baz=119,slow=11,SNR=5.2						
AFI	Afiamalu	6.47	18	ePn	Pn	11 14 19.6	-6.5
	48nm,0.5s						
AFI				eSn	Sn	11 15 20.9	-18
RAO	Raoul Island	9.84	202	Sn	Sn	11 16 58.7	-2.7
	35nm,0.3s,baz=73,slow=20,SNR=4.6						
RAR	Rarotonga	13.18	97	Pn	Pn	11 15 47.0	-11
	4.3nm,0.3s,baz=289,slow=11,SNR=29						
RAR				Sn	Sn	11 17 57.1	-26
	0.8nm,0.3s,baz=331,slow=10,SNR=4.3						
DZM	Mont Dzumac	18.54	260	P	Pn	11 17 08.9	+1.7
	0.5nm,0.3s,baz=76,slow=17,SNR=13						
NOUC	Port Laguerre	18.67	260	eP	Pn	11 17 10.8	+2.0
URZ	Urewera	19.73	202	P	Pn	11 17 20.6	-0.8
	1.3nm,0.3s,baz=341,slow=9.1,SNR=12						
TBI	Tubuai	22.83	103	eLQ		11 21 36.9	
	298nm,26.5s						
TBI				eLR	LR	11 22 39.5	
	218nm,32.5s						
PPT	Papeete	23.06	88	eLQ		11 21 55.8	
	565nm,25.8s						
PPT				eLR	LR	11 22 52.6	
	181nm,28.0s						
PPT	Papeete	23.06	88	LR	LR	11 24 42.9	
	comp=Z,224nm,18.5s,MS3.6,baz=257,slow=31						
RPZ	Rata Peaks	26.73	205	P	P	11 18 28.2	-1.1
	8.2nm,0.7s,mb4.4,baz=45,slow=2.9,SNR=4.2						
HNR	Honiara	27.48	289	LR	LR	11 27 33.9	
	comp=Z,83nm,21.1s,MS3.3,baz=180,slow=32						
RKT	Rikitea	36.15	102	eLR	LR	11 28 43.4	
	198nm,39.5s						
CTA	Charters Tower	37.45	263	eP	P	11 20 03.0	-0.1
	3.7nm,0.4s,mb4.6						
CTA	Charters Tower	37.45	263	P	P	11 20 02.4	-0.7
	4.4nm,0.4s,mb4.6,baz=85,slow=10,SNR=8.7						
CTA	Charters Tower	37.45	263	eP	P	11 20 03.0	-0.1
CTA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
CTAO	Charters Tower	37.45	263	eP	P	11 20 02.7	-0.4
CTAO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
CTAO	Charters Tower	37.45	263	eP	P	11 20 02.7	-0.4
	comp=Z,14nm,1.0s,mb4.8						
TOO	Toolangi	39.32	235	eP	P	11 20 19.1	+0.2
	comp=Z,6.8nm,0.5s,mb4.6						
TOO	Toolangi	39.32	235	eP	P	11 20 19.1	+0.2
TOO				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
STKA	Stephens Creek	41.51	244	eP	P	11 20 34.6	-2.3
	comp=Z,6.6nm,0.9s,mb4.3						
STKA	Stephens Creek	41.51	244	P	P	11 20 35.1	-1.8
	comp=Z,7.7nm,0.9s,mb4.3,baz=102,slow=10,0,SNR=11						
AS31	Alice Springs	48.44	256	eP	P	11 21 32.3	+0.3
ASAR	Alice Springs	48.44	256	P	P	11 21 31.2	-0.8
	comp=Z,4.8nm,0.8s,mb4.6,baz=94,slow=7.3,SNR=50						
ASAR				PcP	PcP	11 22 59.5	+1.6
	comp=Z,2.4nm,0.7s,baz=100,slow=3.6,SNR=10						
ASPA	Alice Springs	48.44	256	eP	P	11 21 32.3	+0.3
WB2	Warramunga Arr	48.55	261	eP	P	11 21 32.0	-0.8
WRAB	Tennant Creek	48.55	261	eP	P	11 21 32.3	-0.6
WRAB				epP	pP	11 21 43.9	+0.1
WRA	Warramunga Arr	48.56	261	P	P	11 21 32.3	-0.6
	comp=Z,1.9nm,0.3s,mb4.7,baz=97,slow=7.2,SNR=92						
WRA				PcP	PcP	11 23 00.1	+1.8
	comp=Z,2.5nm,0.8s,baz=90,slow=3.9,SNR=6.3						
KAKA	Kakadu	51.91	269	eP	P	11 21 57.5	-0.8
	comp=Z,12nm,0.9s,mb4.8						
FITZ	Fitzroy Crossi	56.98	261	eP	P	11 22 35.0	-0.2
	comp=Z,10nm,1.5s,mb4.6						
FITZ	Fitzroy Crossi	56.98	261	P	P	11 22 35.6	+0.5
	comp=Z,2.2nm,0.7s,mb4.3,baz=96,slow=16,SNR=6.5						
SBA	Scott Base	58.55	185	eP	P	11 22 48.5	+2.4
SBA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
SBA	Scott Base	58.55	185	eP	P	11 22 48.5	+2.3
	comp=Z,8.4nm,0.8s,mb4.8						
VNDA	Vanda	58.67	186	P	P	11 22 48.5	+1.5
	comp=Z,3.3nm,0.9s,mb4.4,baz=17,slow=7.2,SNR=17						
VNDA	Vanda	58.67	186	P	P	11 22 48.6	+1.6
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNDA	Vanda	58.67	186	eP	P	11 22 47.6	+0.6
MBWA	Marble Bar	61.78	256	eP	P	11 23 06.0	-2.2
	comp=Z,11nm,1.0s,mb5.0						
KLBR	Kellerberrin	61.78	244	eP	P	11 23 09.2	+0.9
	comp=Z,9.7nm,0.8s,mb5.0						
MUN	Mundaring	63.04	244	eP	P	11 23 18.1	+1.4
QSPA	South Pole Qui	69.95	180	eP	P	11 24 01.8	+0.9
	comp=Z,8.2nm,1.0s,mb4.6						
MJAR	Matsushiro Arr	72.31	321	P	P	11 24 15.3	+0.1
	comp=Z,3.8nm,0.8s,mb4.4,baz=160,slow=6.0,SNR=8.9						
MJAR	Matsushiro Arr	72.31	321	P	P	11 24 15.3	+0.1
MAT	Matsushiro	72.31	321	P	P	11 24 14.6	-0.6
MAT	Matsushiro	72.31	321	P	P	11 24 15.0	-0.2
KSM	Kuching	77.28	276	eP	P	11 24 45.7	+1.9
KSM				epP	pP	11 24 56.8	+1.5
NVAR	Mina Array Bea	78.08	41	P	P	11 24 48.3	0.0
	comp=Z,1.8nm,0.7s,mb4.1,baz=217,slow=7.6,SNR=18						
TUC	Tucson	79.67	50	eP	P	11 24 57.5	+0.4
TUC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
TUC	Tucson	79.67	50	eP	P	11 24 57.5	+0.4
	comp=Z,3.3nm,1.0s,mb4.2						
SSE	Sheshan	80.51	308	P	P	11 25 01.7	+0.1
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,260nm,4.1s						
MDJ	Mudanjiang	82.53	323	P	P	11 25 12.5	+0.3
MDJ				AP	pP	11 25 22.1	-1.7
MDJ				XP	sP	11 25 25.5	-2.5
MDJ				AMB	AMB		
	comp=Z,40nm,6.3s						
NJ2	Nanjing	82.72	308	eP	P	11 25 13.0	-0.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
HLID	Hailey	83.50	39	eP	P	11 25 17.5	+0.2
	comp=Z,1.5nm,0.8s,mb4.2						
PV10	Paradox Valley	84.05	46	eP	P	11 25 20.0	-0.1
PV10				epP	pP	11 25 31.4	-0.2
ANMO	Albuquerque	84.12	50	P	P	11 25 20.5	0.0
	comp=Z,2.2nm,0.9s,mb4.3,baz=224,slow=6.6,SNR=8.5						
ANMO	Albuquerque	84.12	50	P	P	11 25 20.5	+0.1
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	Albuquerque	84.12	50	eP	P	11 25 21.0	+0.5
	comp=Z,3.7nm,1.0s,mb4.5						
PV01	Paradox Valley	84.24	46	eP	P	11 25 20.9	-0.1
CMIG	Matias Romero	85.82	70	LR	LR	11 57 07.2	
	comp=Z,85nm,21.7s,MS4.1,baz=333,slow=31						
PDAR	Pinedale Array	86.02	42	P	P	11 25 29.4	-0.6
	comp=Z,1.6nm,0.8s,mb4.3,baz=224,slow=2.6,SNR=12						
PLCA	Paso Flores	86.64	132	P	P	11 25 33.8	+0.8
	comp=Z,6.5nm,1.2s,mb4.7,baz=301,slow=6.4,SNR=3.7						
PLCA				LR	LR	11 58 46.5	
	comp=Z,127nm,19.2s,MS4.3,baz=85,slow=32						
PLCA	Paso Flores	86.64	132	P	P	11 25 33.8	+0.8
PLCA				LR	LR	11 58 46.5	
SYO	Syowa Base	87.93	191⇑	eP	P	11 25 39.3	+0.1
VNA3	Neumayer Olymp	88.22	175⇑	eP	P	11 25 40.6	0.0
VNA3				e		11 25 41.8	
VNA3				e	pP	11 25 51.4	-0.9
VNA3				e		11 25 57.6	
VNA3				e		11 26 04.0	
VNA3				e		11 26 16.5	
SNAA	Sanae	88.24	177⇑	eP	P	11 25 31.0	-10
SNAA				e		11 25 31.9	
SNAA				e	pP	11 25 42.2	-10
SNAA				e		11 25 47.9	
SNAA				e		11 25 56.0	
SNAA				e		11 26 09.9	
VNA2	Neumayer--Watz	88.71	176⇑	eP	P	11 25 43.1	+0.2
VNA2				e		11 25 44.4	
VNA2				e	pP	11 25 54.1	-0.5
VNA2				e		11 25 59.8	
VNA2				e		11 26 06.1	
VNA2				e		11 26 19.9	
VNA1	Neumayer--Stat	88.91	175⇑	eP	P	11 25 44.4	+0.5
VNA1				e		11 25 45.7	
VNA1				e	pP	11 25 54.5	-1.0
VNA1				e		11 26 00.3	
VNA1				e		11 26 06.5	
VNA1				e		11 26 20.8	
HHC	Hu-ho-hao-te	91.94	313	eP	P	11 25 58.8	+0.8
HHC				AP	pP	11 26 12.2	+2.6
HHC				XP	sP	11 26 17.5	+3.6
HHC				PP	PP	11 29 40.5	+2.9
HHC				SKS		11 36 26.4	
HHC				S		11 36 53.3	
HHC				XS	sS	11 37 16.2	-0.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.3						
HHC				AMB	AMB		
	comp=Z,110nm,5.6s						
HHC				LR	LR		
	comp=N,120nm,22.6s						
HHC				LR	LR		
	comp=E,110nm,15.5s						
HHC				LR	LR		
	comp=Z,60nm,20.2s,MS4.0						
KMI	Kunming	92.71	296	P	P	11 26 01.8	+0.2
KMI				AP	pP	11 26 11.8	-1.4
KMI				XP	sP	11 26 17.6	+0.2
KMI				PP	PP	11 29 43.8	+0.1
KMI				AMB	AMB		
	comp=Z,110nm,3.5s						
KMI				LR	LR		
	comp=N,160nm,16.4s,MS4.7						
KMI				LR	LR		
	comp=E,160nm,15.8s,MS4.7						
KMI				LR	LR		
	comp=Z,90nm,17.6s,MS4.3						
INK	Inuvik	92.91	14	P	P	11 26 01.5	-1.0
	comp=Z,3.4nm,1.1s,mb4.7,baz=290,slow=11,SNR=3.7						
INK	Inuvik	92.91	14	P	P	11 26 01.5	-1.0
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
INK	Inuvik	92.91	14	eP	P	11 26 00.6	-1.9
	comp=Z,5.0nm,1.2s,mb4.8						
CD2	Chengdu	93.93	301	eP	P	11 26 05.8	-1.4
CD2				AP	pP	11 26 16.4	-2.4
CD2				XP	sP	11 26 20.3	-2.7
CD2				PP	PP	11 29 54.8	+1.6
CD2				SKS		11 36 35.8	
CD2				S		11 37 10.8	
CD2				XS	sS	11 37 28.6	-5.4
CD2				SS	SS	11 43 34.7	+0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,40nm,5.9s						
CD2				LR	LR		
	comp=N,180nm,9.2s						
CD2				LR	LR		
	comp=Z,120nm,7.2s						
ECSD	EROS,Sioux Fal	94.84	45	eP	P	11 26 10.2	-1.2
LZH	Lanzhou	95.70	306	eP	P	11 26 16.2	+1.0
LZH				AP	pP	11 26 28.0	+1.1
LZH				XP	sP	11 26 33.0	+1.9
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,80nm,5.8s						
TIXI	Tiksi	99.42	344	eP	P	11 26 30.5	-1.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.7						
ARU	Arti	127.09	327	ePKIKP	PKPdf	11 31 51.3	-2.2
ARU	Arti	127.09	327	ePKPdf	PKPdf	11 31 51.2	-2.3
EKA	Eskdalemuir Ar	144.13	9	PKP	PKPdf	11 32 22.3	-2.8
	comp=Z,1.2nm,0.8s,baz=298,slow=4.3,SNR=4.5						
AKASG	Malin Array Be	144.47	335	PKP	PKPdf	11 32 23.9	-1.8
	comp=Z,4.0nm,0.6s,baz=36,slow=4.2,SNR=20						
MALT	Malatya	146.77	310	ePKP2	PKPab	11 32 32.3	-0.3
CLL	Collm	148.41	352⇑	ePKPbc	PKPbc	11 32 36.6	+0.7
	comp=Z,11nm,0.8s						
CLL				esPKPbc		11 32 50.0	
CLL	Collm	148.41	352⇑	ePKP2	PKPab	11 32 36.6	-2.6
CLL				pmax	pmax		
	comp=Z,11nm,0.8s						
BRG	Berggiesshubel	148.70	351	ePKP	PKPbc	11 32 37.5	+0.9
	comp=Z,4.2nm,0.8s						
BRG	Berggiesshubel	148.70	351	ePKP2	PKPab	11 32 37.5	-2.8
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BR131	Keskin Array S	149.41	316	ePKPbc	PKPbc	11 32 38.2	-0.2
BRTR	Keskin Array B	149.41	316	PKPbc	PKPbc	11 32 39.4	+1.0
	comp=Z,3.0nm,0.9s,baz=132,slow=1.8,SNR=11						
ASF	Jabal al Asfar	150.05	300	PKPbc	PKPbc	11 32 41.6	+1.7
	comp=Z,2.0nm,0.6s,baz=350,slow=1.0,SNR=4.4						
DOU	Dourbes	150.06	2	PKPbc	PKPbc	11 32 40.4	+0.4
DOU				APKPbc		11 32 51.5	
GIVF	Givet	150.06	2	ePKP1	PKPbc	11 32 39.6	-0.4
	comp=Z,28nm,1.0s						
BAIF	Baives	150.08	3	ePKP1	PKPbc	11 32 39.8	-0.2
	comp=Z,27nm,1.1s						
GRA1	Grafenberg Arr	150.22	353	ePKP	PKPbc	11 32 40.9	+0.6
GRF	Grafenberg Arr	150.22	353	ePKPbc	PKPbc	11 32 40.9	+0.6
GERES	GERESS Array B	150.71	350	PKPbc	PKPbc	11 32 42.2	+0.6
	comp=Z,2.0nm,0.8s,baz=24,slow=1.6,SNR=9.7						
ROSF	Rostrenen	150.82	13	ePKP1	PKPbc	11 32 39.9	-1.9
FLN	La Foliniere	150.92	9	ePKP1	PKPbc	11 32 41.2	-0.8
	comp=Z,32nm,0.9s						
MMAI	Mount Meron Ar	151.00	302	PKPbc	PKPbc	11 32 43.8	+1.6
	comp=Z,6.0nm,0.8s,baz=41,slow=5.5,SNR=5.3						
SGMF	Saint Gilles	151.05	12	ePKP1	PKPbc	11 32 41.2	-1.1
	comp=Z,43nm,1.3s						
LDF	La Druitiere	151.13	9	ePKP1	PKPbc	11 32 41.6	-0.9
	comp=Z,23nm,0.9s						
GRR	Gorron	151.22	10	ePKP1	PKPbc	11 32 41.9	-0.8
	comp=Z,34nm,0.9s						
MEZF	Maizieres J'vi	151.66	2	ePKP1	PKPbc	11 32 43.6	-0.1
CDF	Champ du Feu	151.76	358	ePKP1	PKPbc	11 32 43.7	-0.2
	comp=Z,13nm,0.9s						
HAU	Haudompre	152.18	360	ePKP1	PKPbc	11 32 45.5	+0.6
HINF	Hinteralfeld	152.36	359	ePKP1	PKPbc	11 32 44.6	-0.7
LOR	Lormes	152.85	3	ePKP1	PKPbc	11 32 46.0	-0.4
	comp=Z,22nm,1.1s						
SSF	Saint Saulge	153.03	4	ePKP1	PKPbc	11 32 46.4	-0.4
	comp=Z,19nm,1.0s						
MFF	Saint Martin d	153.07	10	ePKP1	PKPbc	11 32 45.9	-1.0
AVF	Avril sur Loir	153.29	4	ePKP1	PKPbc	11 32 46.4	-1.0
	comp=Z,27nm,1.3s						
BGF	Bois d'Agland	153.48	5	ePKP1	PKPbc	11 32 47.2	-0.6
	comp=Z,12nm,0.7s						
BOJS	Bojanci	153.60	346	ePKPdf	PKPdf	11 32 40.2	-0.1
TORD	Torodi Ar. Bea	171.84	147	PKPab	PKPab	11 34 20.1	-0.3
	comp=Z,0.6nm,0.8s,baz=225,slow=2.8,SNR=2.5						

*IDC **02** 11:18:46.2±2.0, 5476N×15548W, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.0/26, mbtmp4.1/14, ML3.8/3, MS3.5/7, Ms1 3.5/7, ms1mx3.0/34, Error ellipse: s-maj=50.7km s-min=22.8km az=146.0*
*BJI **02** 11:18:47.3, 5605N×15545W, h7km, mB4.9, mb4.5, Ms4.4, Msz4.1*
*ISCJB **02** 11:18:50.0±1.9, 5533N±009×15570W±0.10, h15km±11km, mb4.3/19, MS3.6/6, Error ellipse: s-maj=17.5km s-min=5.8km az=127.2*
*MOS **02** 11:18:49.1±0.8, 5535N×15567W, h10km, mb4.5/14, Error ellipse: s-maj=23.1km s-min=7.9km az=85.7*
*NEIC **02** 11:18:52.8, 5522N×15578W, h10km, mb4.1/2, ML3.9(AEIC), After AEIC.*

ISC 02 11:18:53.9±1.7, 5539N±009×15577W±010, h31km±11km, h15km±2.7km: pP-P, n75, σ0°98/73, mb4.3/19, MS3.6/6, 1C, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	Chignik	1.75	303	P	Pn	11 19 22.0	-0.1
SDPT	Sand Point	2.69	271	P	Pn	11 19 33.7	-1.3
SDPT				eP		11 19 37.1	
SDPT				S	Sn	11 20 07.5	+1.0
KDAK	Kodiak Island	2.98	35	Pn	Pn	11 19 38.0	-1.0
	3.4nm,0.3s,baz=215,slow=7.6,SNR=28						
KDAK				Sn	Sn	11 20 12.2	-1.4
	7.2nm,0.3s,baz=310,slow=23,SNR=8.7						
KDAK	Kodiak Island	2.98	35	P	Pn	11 19 38.2	-0.8
SVW2	Sparrevohn	5.73	1	eP	Pn	11 20 17.6	+0.8
SEW	Seward	5.81	33	P	Pn	11 20 18.7	+0.8
SLKM	Skilak Lake	5.92	28	eP	Pn	11 20 18.0	-1.5
AKLV	Akutan Long Va	6.02	262	P	Pn	11 20 20.0	-0.8
UNV	Unalaska Valle	6.42	261	P	Pn	11 20 24.4	-1.9
RC01	Rabbit Creek A	6.54	27	P	Pn	11 20 28.4	+0.4
PMR	Palmer	7.12	26	eP	Pn	11 20 37.4	+1.4
EYAK	Cordova Ski Ar	7.42	42	P	Pn	11 20 40.3	+0.2
SML	Sawmill	7.51	28	P	Pn	11 20 41.8	+0.5
TTA	Tatalina	7.57	359	eP	Pn	11 20 44.5	+2.4
BMRM	Bremner River	8.12	42	P	Pn	11 20 49.7	0.0
COLA	College	10.29	19	eP	Pn	11 21 15.3	-4.1
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
COLA	College	10.29	19	ePn	Pn	11 21 15.3	-4.1
	comp=Z,4.2nm,0.7s						
ILAR	Eielson Array	10.39	22	Pn	Pn	11 21 19.6	-1.2
	comp=Z,0.4nm,0.3s,baz=205,slow=13,SNR=22						
ILAR				Sn	Sn	11 23 14.5	-1.6
	comp=Z,0.2nm,0.3s,baz=207,slow=31,SNR=4.5						
IM3	Indian Mountai	10.68	4	P	Pn	11 21 25.4	+0.7
SKAG	Skagway	11.73	61	eP	Pn	11 21 40.9	+1.8
	comp=Z,4.6nm,0.7s						
DAWY	Dawson	11.96	37	ePn	Pn	11 21 42.8	+0.6
DLBC	Dease Lake	14.35	67	LR	LR	11 26 49.7	
	comp=Z,152nm,20.7s,baz=287,slow=33						
INK	Inuvik	16.52	30	Pn	Pn	11 22 43.1	-0.2
	comp=Z,0.2nm,0.3s,baz=231,slow=13,SNR=31						
INK				LR	LR	11 29 36.8	
	comp=Z,169nm,18.2s,baz=250,slow=38						
INK	Inuvik	16.52	30

HABR pmax pmax
comp=Z,13nm,1.1s,mb4.5
KLR Kul'dur 42.88 293 *eP* **P 11 26 45.2 -4.2**
MDJ Mudanjiang 46.94 290 P **P 11 27 20.6 -1.1**
MDJ AMB AMB
comp=Z,80nm,4.8s
CN2 Changchun 49.70 291 *eP* **P 11 27 37.4 -5.6**
TLY Talaya 54.74 311 *eP* **P 11 28 21.2 +0.8**
TLY pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
ULN Ulaanbaatar 56.01 306 *eP* **P 11 28 29.4 -0.1**
SONM Songino Array 56.33 307 P **P 11 28 32.7 +0.8**
comp=Z,3.2nm,0.8s,mb4.4,baz=40,slow=7.5,SNR=22
SONM Songino Array 56.33 307 P **P 11 28 32.7 +0.9**
SONM pmax pmax
comp=Z,3.0nm,0.8s
ZAL Zalesovo 60.23 324 P **P 11 29 00.3 +1.2**
comp=Z,0.9nm,0.8s,mb3.9,baz=160,slow=11,SNR=3.8
ZAL Zalesovo 60.23 324 P **P 11 29 00.3 +1.2**
ZAL pmax pmax
comp=Z,1.0nm,0.8s
SSE Sheshan 61.23 284 P **P 11 29 05.0 -0.9**
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,250nm,3.7s
NB2 NORSAR Subarra 63.46 7 P **P 11 29 21.4 +0.6**
comp=Z,2.1nm,0.7s,mb4.4,baz=351,slow=6.9
NOA NORSAR Array B 63.46 7 P **P 11 29 20.6 -0.2**
comp=Z,2.4nm,0.7s,mb4.4,baz=351,slow=6.7,SNR=9.1
NOA NORSAR Array B 63.46 7 P **P 11 29 20.6 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 63.46 7 P **P 11 29 20.6 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 63.50 359 P **P 11 29 21.4 +0.3**
comp=Z,2.6nm,0.8s,mb4.3,baz=64,slow=13,SNR=6.9
FINES FINESS Array B 63.50 359 P **P 11 29 21.4 +0.3**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 63.50 359 P **P 11 29 21.4 +0.3**
FINES pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 64.52 6 P **P 11 29 27.6 -0.2**
comp=Z,3.7nm,0.8s,mb4.5,baz=5.7,slow=6.0,SNR=4.9
HFS Hagfors 64.52 6 P **P 11 29 27.6 -0.2**
HFS pmax pmax
comp=Z,4.0nm,0.8s
HFS Hagfors 64.52 6 P **P 11 29 27.6 -0.2**
HFS pmax pmax
comp=Z,4.0nm,0.8s
GTA Gaotai 65.85 305 *eP* **P 11 29 39.5 +3.1**
GTA AP pP 11 29 43.8 -2.2
GTA XP sP 11 29 47.0 -2.6
LZH Lanzhou 66.53 300 *eP* **P 11 29 42.0 +1.2**
LZH AP pP 11 29 45.0 -5.4
LZH XP sP 11 29 46.8 -7.2
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,60nm,5.4s
EKA Eskdalemuir Ar 67.39 17 P **P 11 29 46.9 +0.6**
comp=Z,1.9nm,0.8s,mb4.2,baz=325,slow=5.7,SNR=6.5
EKA Eskdalemuir Ar 67.39 17 P **P 11 29 46.9 +0.7**
EKA pmax pmax
comp=Z,2.0nm,0.8s
AKTK Aktyubinsk 70.85 338 P **P 11 30 07.5 -0.2**
AKTO Aktyubinsk 70.85 338 P **P 11 30 07.5 -0.2**
comp=Z,2.8nm,0.8s,mb4.3,baz=14,slow=5.7,SNR=8.9
AKTO Aktyubinsk 70.85 338 P **P 11 30 07.5 -0.2**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 73.44 324 *eP* **P 11 30 23.6 +0.4**
AAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
AKASG Malin Array Be 74.20 357 P **P 11 30 27.2 -0.4**
comp=Z,1.9nm,0.6s,mb4.2,baz=3.6,slow=5.8,SNR=6.3
AKASG Malin Array Be 74.20 357 P **P 11 30 27.2 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 74.20 357 P **P 11 30 27.2 -0.4**
KHC Kasperske Hory 75.47 7 *eP* **P 11 30 33.5 -1.5**
GERES GERESS Array B 75.77 7 P **P 11 30 37.5 +0.9**
comp=Z,1.3nm,0.8s,mb3.9,baz=356,slow=4.3,SNR=6.9
GERES GERESS Array B 75.77 7 P **P 11 30 37.5 +0.9**
GERES pmax pmax
comp=Z,1.0nm,0.8s
KMI Kunming 75.90 294 P **P 11 30 36.9 -0.5**
KMI AP pP 11 30 43.1 -4.1
KMI XP sP 11 30 45.0 -5.8
KMI PP PP 11 33 29.9 +2.1
KMI S S 11 40 21.8 +3.9
KMI SS SS 11 45 09.9 -0.5
KMI AMB AMB
comp=Z,50nm,3.8s
KMI LR LR
comp=N,120nm,24.4s,MS4.3
KMI LR LR
comp=E,120nm,20.8s,MS4.3
KMI LR LR
comp=Z,80nm,17.9s,MS4.1
BRTR Keskin Array B 84.92 353 P **P 11 31 26.2 +0.4**
comp=Z,1.2nm,0.8s,mb4.1,baz=357,slow=3.0,SNR=6.0
BRTR Keskin Array B 84.92 353 P **P 11 31 26.3 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
RPN Rapa Nui 91.26 140 LR LR 12 01 30.0
comp=Z,64nm,20.6s,MS4.0,baz=172,slow=28

FUNV ***02*** *11:36:28.1, 651N×73.07W, h8km, MW3.2*
ISCJB ***02*** *11:36:30.4±0.8, 668N±007×7284W±007, h179km±11km, mb3.0/1, Error ellipse: s-maj=15.2km s-min=6.9km az=94.1*
IDC ***02*** *11:36:30.9±1.1, 698N×73.19W, h150km±18km, mb2.7/1, mb1 3.4/4, mb1mx3.1/23, mbtmp3.8/4, Error ellipse: s-maj=58.2km s-min=7.6km az=132.0*
ISC 02 11:36:31.5±0.8, 668N±007×7283W±007, h172km±11km, n14, σ0°60/21, mb3.0/1, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.28**	**23**	*eP*	**Pn**	**11 36 55.5**	**-5.2**
CAPV				*eS*	**Sn**	**11 37 16.4**	**-6.8**
ROSC	**El Rosal**	**2.35**	**220**	P	**Pn**	**11 37 12.4**	**+0.5**
	44nm,0.3s,baz=95,slow=18,SNR=96						
ROSC				S	**Sn**	**11 37 42.5**	**-0.7**
	34nm,0.3s,baz=91,slow=23,SNR=20						
SDV	**Santo Domingo**	**3.09**	**45**	P	**Pn**	**11 37 21.8**	**+1.0**
	35nm,0.3s,baz=258,slow=5.2,SNR=127						
SDV				S	**Sn**	**11 37 58.6**	**-0.6**
	16nm,0.3s,baz=308,slow=22,SNR=12						
QARV	**Quebrada Arrib**	**4.18**	**33**	↓*iP*	**Pn**	**11 37 34.8**	**+0.1**
SANV	**Sanarito**	**4.30**	**49**	*eP*	**Pn**	**11 37 36.8**	**+0.7**
SANV				*eS*	**Sn**	**11 38 27.0**	**+0.3**
CURV	**Curarigua**	**4.36**	**40**	*eP*	**Pn**	**11 37 37.1**	**+0.2**
CURV				*eS*	**Sn**	**11 38 28.0**	**-0.1**
DABV	**Dabajuro**	**4.74**	**27**	*eP*	**Pn**	**11 37 41.6**	**-0.2**
DABV				*eS*	**Sn**	**11 38 36.2**	**-0.7**
TEPV	**Terepaima**	**4.86**	**48**	↑*iP*	**Pn**	**11 37 44.3**	**+0.9**
SIQV	**Siquisique**	**4.95**	**37**	*eP*	**Pn**	**11 37 44.2**	**-0.3**
BAUV	**El Baul**	**5.25**	**64**	*eP*	**Pn**	**11 37 48.8**	**+0.3**
BAUV				*eS*	**Sn**	**11 38 48.9**	**0.0**
CAOV	**Caicara del Or**	**6.49**	**84**	*eP*	**Pn**	**11 38 05.3**	**+0.6**
CAOV				*eS*	**Sn**	**11 39 17.0**	**-1.2**
PCRV	**Puerto La Cruz**	**8.82**	**66**	P	**Pn**	**11 38 40.7**	**+5.2**
	0.4nm,0.3s,baz=264,slow=9.2,SNR=3.5						
YKA	**Yellowknife Ar**	**63.50**	**340**	P	**P**	**11 46 42.5**	**-0.7**
	0.2nm,0.8s,mb3.0,baz=131,slow=6.9,SNR=4.1						
WRA	**Warramunga Arr**	**150.52**	**241**	PKPbc	PKPbc	11 56 04.5	+1.8
	0.1nm,0.5s,baz=106,slow=3.0,SNR=10.0						

PRE 02 12:24:18.8±1.2, 2643S×2758E, h2km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.62**	**73**	*eP*	Pg	12 24 30.9	+0.2
ERPM				*eS*	Sg	12 24 38.8	0.0
ERPM				AML	AML	12 24 40.4	
	comp=Z,650nm,0.5s						
KSR	**Koster**	**0.84**	**313**	*eP*	Pg	12 24 35.4	+0.4
KSR				*eS*	Sg	12 24 46.0	+0.1
KSR				AML	AML	12 24 55.5	
	comp=Z,358nm,0.2s						
SLR	**Silverton**	**0.94**	**42**	*eP*	Pg	12 24 37.3	+0.5
SLR				*eS*	Sg	12 24 49.9	+1.0
SLR				AML	AML	12 24 56.5	
	comp=Z,459nm,0.2s						
SWZ	**Schweizer**	**2.14**	**249**	*eP*	Pn	12 24 56.7	+1.2
SWZ				*eS*	Sn	12 25 24.1	+1.4
SWZ				AML	AML	12 25 28.9	
	comp=Z,518nm,0.5s						
LBTB	**Lobatse**	**2.28**	**308**	*eP*	Pn	12 24 57.6	+0.2
LBTB				*eS*	Sn	12 25 26.8	+0.7
LBTB				AML	AML	12 25 32.6	
	comp=Z,521nm,0.6s						
BFT	**Belfast (SA)**	**2.34**	**72**	*eP*	Pn	12 24 59.0	+0.8
BFT				*eS*	Sn	12 25 28.6	+1.2
BFT				AML	AML	12 25 32.8	
	comp=Z,248nm,0.4s						
BOSA	**Boshof**	**3.00**	**223**	*eP*	Pn	12 25 08.2	+0.9
BOSA				*eS*	Sn	12 25 44.1	+0.3
BOSA				AML	AML	12 25 58.5	
	comp=Z,74nm,0.6s						
POGA	**Pongola**	**3.72**	**105**	*eP*	Pn	12 25 18.9	+1.7
POGA				*eS*	Sn	12 26 02.7	+1.1
POGA				AML	AML	12 26 21.0	
	comp=Z,193nm,0.5s						
HVD	**Hendrik Verwoe**	**4.54**	**203**	*eP*	Pn	12 25 28.7	+0.1
HVD				*eS*	Sn	12 26 20.7	-1.2
HVD				AML	AML	12 26 52.6	
	comp=Z,43nm,0.5s						
UPI	**Upington**	**5.94**	**250**	*eP*	Pn	12 25 49.1	+1.3
	comp=Z,11nm,0.2s						
UPI				*eS*	Sn	12 26 51.2	-5.2
UPI				AML	AML	12 27 00.1	
	comp=Z,11nm,0.2s						
SUR	**Sutherland**	**8.36**	**223**	*eP*	Pn	12 26 22.1	+1.0
SUR				*eS*	Sn	12 27 52.4	-3.7
CVNA	**Calvinia**	**8.50**	**232**	*eP*	Pn	12 26 24.2	+1.4
CVNA				*eS*	Sn	12 27 54.9	-4.4
CVNA				AML	AML	12 28 45.8	
	comp=Z,40nm,0.5s						

IDC 02 13:22:34.5±17.0, 108S×12651E, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.7/16, mbtmp4.2/3, Error ellipse: s-maj=264.1km s-min=145.2km az=154.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.94**	**183**	*eP*	Pn	13 26 40.0	+7.1
	4.4nm,1.4s						
WRA	**Warramunga Arr**	**20.26**	**158**	P	P	13 27 12.1	+0.7
	3.4nm,0.3s,baz=337,slow=11,SNR=167						
WB2	**Warramunga Arr**	**20.26**	**158**	*eP*	P	13 27 12.1	+0.6
ASAR	**Alice Springs**	**23.57**	**163**	P	P	13 27 47.0	+0.1
	2.4nm,0.3s,baz=343,slow=11,SNR=76						
STKA	**Stephens Creek**	**33.79**	**157**	P	P	13 29 18.0	-0.1
	2.8nm,1.0s,baz=342,slow=6.4,SNR=2.9						

ISCJB ***02*** *13:23:17.7±0.7, 2142N±008×1442E±02, h33km, mb3.9/9, Error ellipse: s-maj=25.4km s-min=9.9km az=155.3*
NEIC ***02*** *13:23:19.3±8.9, 2140N×14429E, h34km±63km, mb4.4/1, Error ellipse: s-maj=36.6km s-min=15.3km az=99.0*
IDC ***02*** *13:23:19.6±8.0, 2138N×14423E, h33km±62km, mb3.7/9, mb1 3.9/11, mb1mx3.8/23, mbtmp3.9/11, ML3.6/2, Error ellipse: s-maj=35.1km s-min=16.8km az=97.0*
ISC 02 13:23:19.8±2.9, 214N±01×1443E±02, h36km±25km, n13, σ0°68/14, mb3.9/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.97**	**342**	Pn	**Pn**	**13 24 45.8**	**+0.1**
	4.7nm,0.3s,baz=313,slow=20,SNR=7.7						
CBIJ				Sn	**Sn**	**13 25 52.8**	**0.0**
	12nm,0.3s,baz=142,slow=22,SNR=7.2						
MJAR	**Matsushiro Arr**	**15.98**	**342**	Pn	**Pn**	**13 27 01.5**	**-0.3**
	0.1nm,0.3s,baz=230,slow=11,SNR=2.9						
SONM	**Songino Array**	**40.20**	**320**	P	**P**	**13 30 53.6**	**+0.9**
	0.5nm,0.5s,mb3.5,baz=132,slow=6.7,SNR=5.1						
WRA	**Warramunga Arr**	**42.22**	**194**	P	**P**	**13 31 09.3**	**0.0**
	2.6nm,0.9s,mb3.9,baz=15,slow=9.0,SNR=45						
ASAR	**Alice Springs**	**45.92**	**193**	P	**P**	**13 31 38.8**	**-0.1**
	1.5nm,0.8s,mb4.0,baz=12,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**55.63**	**313**	P	**P**	**13 32 52.3**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=79,slow=8.8,SNR=4.2						
ILAR	**Eielson Array**	**61.85**	**27**	P	**P**	**13 33 35.2**	**-0.1**
	0.9nm,0.8s,mb3.9,baz=260,slow=5.1,SNR=8.6						
INK	**Inuvik**	**67.44**	**24**	P	**P**	**13 34 12.5**	**+0.7**
	1.3nm,0.9s,mb4.0,baz=247,slow=6.5,SNR=3.6						
INK	**Inuvik**	**67.44**	**24**	*eP*	**P**	**13 34 09.3**	**-2.5**
	4.2nm,1.1s,mb4.4						
YKA	**Yellowknife Ar**	**76.25**	**28**	P	**P**	**13 35 05.1**	**+0.5**
	0.5nm,0.8s,mb3.5,baz=290,slow=5.5,SNR=5.0						
YKA	**Yellowknife Ar**	**76.25**	**28**	P	**P**	**13 35 05.1**	**+0.4**
NVAR	**Mina Array Bea**	**82.55**	**52**	P	**P**	**13 35 39.5**	**+0.6**
	0.9nm,0.9s,mb3.8,baz=280,slow=3.4,SNR=7.0						
FINES	**FINESS Array B**	**83.87**	**335**	P	**P**	**13 35 44.5**	**-1.3**
	2.1nm,0.9s,mb4.3,baz=48,slow=2.8,SNR=3.4						

NEIC 02 13:26:17.5, 6003N×15334W, h128km, MG3.1 (AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVW2	**Sparrevohn**	**1.54**	**315**	P	Pn	13 26 44.9	-1.0
SVW2				S	Sn	13 27 06.6	-0.9
SLKM	**Skilak Lake**	**1.63**	**71**	P	Pn	13 26 45.6	-1.2
FIB	**Fire Island**	**1.94**	**52**	P	Pn	13 26 51.2	+0.6
FIB				S	Sn	13 27 15.4	-0.5
SEW	**Seward**	**1.95**	**86**	P	Pn	13 26 49.1	-1.6
SEW				S	Sn	13 27 13.9	-2.3
RC01	**Rabbit Creek A**	**2.07**	**58**	P	Pn	13 26 51.0	-1.3
RC01				S	Sn	13 27 17.0	-1.9
KDAK	**Kodiak Island**	**2.29**	**170**	*e*Pn	Pn	13 26 51.3	-3.6
KDAK				*e*Sn	Sn	13 27 19.3	-4.3
PMR	**Palmer**	**2.59**	**51**	P	Pn	13 26 57.4	-1.3
PMR				S	Sn	13 27 27.0	-3.5
TT01	**Tatalina**	**3.16**	**337**	P	Pn	13 27 05.0	-1.1
TTA	**Tatalina**	**3.18**	**337**	*e*P	Pn	13 27 05.3	-1.1
MID	**Middleton Isla**	**3.60**	**97**	P	Pn	13 27 10.1	-1.7
KTH	**Kantishna Hill**	**3.72**	**17**	P	Pn	13 27 12.5	-0.9
TRF	**Thorofare Moun**	**3.73**	**22**	P	Pn	13 27 12.6	-1.0
EYAK	**Cordova Ski Ar**	**3.82**	**79**	P	Pn	13 27 13.1	-1.7
MCK	**McKinley**	**4.26**	**27**	P	Pn	13 27 19.3	-1.3
CHGN	**Chignik**	**4.60**	**218**	*e*P	Pn	13 27 22.6	-2.6
MENT	**Mentasta**	**5.46**	**54**	*e*P	Pn	13 27 36.5	-0.1
COLA	**College**	**5.49**	**25**	P	Pn	13 27 35.4	-1.7
IM3	**Indian Mountai**	**5.98**	**358**	P	Pn	13 27 42.7	-1.0
DAWY	**Dawson**	**7.70**	**52**	*e*P	Pn	13 28 04.9	-2.0
BM3	**Burnt Mountain**	**8.36**	**24**	P	Pn	13 28 13.3	-2.4
SKAG	**Skagway**	**9.11**	**86**	*e*P	Pn	13 28 26.6	+0.7
	9.0nm,0.5s						
INK	**Inuvik**	**11.92**	**38**	*e*Pn	Pn	13 29 00.7	-2.5
	1.9nm,0.8s						

ISCJB ***02*** *13:27:24.9±0.3, 2137N±004×14402E±008, h33km, mb4.4/29, MS4.0/9, Error ellipse: s-maj=11.4km s-min=6.0km az=162.6*
MOS ***02*** *13:27:24.9±1.3, 2135N×14402E, h33km, mb4.6/7, Error ellipse: s-maj=18.0km s-min=9.2km az=102.0*
IDC ***02*** *13:27:26.8±5.9, 2142N×144.15E, h33km±45km, mb4.0/14, mb1 4.2/16, mb1mx4.1/25, mbtmp4.2/16, ML3.8/2, MS3.9/10, Ms1 3.8/10, ms1mx3.3/26, Error ellipse: s-maj=22.9km s-min=13.7km az=92.0*
BJI ***02*** *13:27:29.3, 2130N×144.10E, h48km, mB4.9, mb4.4, Ms4.5, Msz4.2*
NEIC ***02*** *13:27:29.3±1.4, 2131N×144.07E, h59km±13km, mb4.6/11, Error ellipse: s-maj=12.7km s-min=6.6km az=88.0*
ISC 02 13:27:27.8±1.1, 2137N±004×14406E±009, h41km±10km, n63, σ1°08/58, mb4.4/29, MS4.0/9, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.95**	**344**	Pn	**Pn**	**13 28 52.9**	**-0.4**
	5.6nm,0.3s,baz=294,slow=22,SNR=5.2						
CBIJ				Sn	**Sn**	**13 29 59.0**	**-1.1**
	2.9nm,0.3s,baz=252,slow=19,SNR=3.0						
GUMO	**Guam**	**7.78**	**174**	Pn	**Pn**	**13 29 18.3**	**-0.1**
	1.6nm,0.3s,baz=349,slow=5.5,SNR=3.9						
GUMO				LR	LR	13 31 47.5	
	comp=Z,476nm,18.6s,baz=20,slow=33						
MJAR	**Matsushiro Arr**	**15.95**	**343**	Pn	**Pn**	**13 31 10.8**	**+1.6**
	0.2nm,0.3s,baz=166,slow=12,SNR=6.7						
MJAR				LR	LR	13 36 50.2	
	comp=Z,361nm,19.5s,baz=170,slow=35						
MAJO	**Matsushiro**	**15.95**	**343**	P	**Pn**	**13 31 12.3**	**+3.1**
KLR	**Kul'dur**	**29.48**	**343**	*e*P	**P**	**13 33 24.1**	**-3.7**
PMG	**Port Moresby**	**30.74**	**174**	LR	LR	13 43 42.1	
	comp=Z,98nm,21.9s,MS3.4,baz=17,slow=32						
CD2	**Chengdu**	**37.24**	**293**	*e*P	**P**	**13 34 36.1**	**+0.8**
CD2				AP	pP	13 34 51.3	+4.7
CD2				XP	sP	13 34 58.5	+7.0
CD2				PP	PP	13 36 05.3	+4.6
CD2				S	**S**	**13 40 19.5**	**-0.1**
CD2				XS	sS	13 40 45.3	+6.9
CD2				SS	SS	13 42 54.5	-9.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				LR	LR		
	comp=N,650nm,15.6s						
CD2				LR	LR		
	comp=Z,290nm,15.6s,MS4.2						
LZH	**Lanzhou**	**37.91**	**302**	*e*P	**P**	**13 34 43.5**	**+2.5**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,90nm,4.0s						
SONM	**Songino Array**	**40.11**	**320**	P	**P**	**13 34 59.7**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.4,baz=130,slow=6.4,SNR=3.6						
CTA	**Charters Tower**	**41.26**	**177**	P	**P**	**13 35 09.3**	**+0.4**
	comp=Z,9.0nm,0.9s,mb4.4,baz=342,slow=7.9,SNR=7.6						
CTA	**Charters Tower**	**41.26**	**177**	P	**P**	**13 35 09.3**	**+0.4**
GTA	**Gaotai**	**41.73**	**306**	*e*P	**P**	**13 35 13.7**	**+1.0**
WRAB	**Tennant Creek**	**42.14**	**194**	*e*P	**P**	**13 35 13.2**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**42.14**	**194**	*e*P	**P**	**13 35 13.2**	**-2.9**
	comp=Z,28nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**42.15**	**194**	↑*iP*	**P**	**13 35 16.2**	**+0.1**
WRA	**Warramunga Arr**	**42.15**	**194**	P	**P**	**13 35 16.3**	**+0.1**
	comp=Z,22nm,0.9s,mb4.8,baz=14,slow=8.8,SNR=64						
ZAK	**Zakamensk**	**43.10**	**322**	*e*P	**P**	**13 35 22.4**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**43.18**	**206**	*e*P	**P**	**13 35 24.5**	**-0.1**
	comp=Z,8.2nm,0.8s,mb4.5						
AS31	**Alice Springs**	**45.84**	**193**	*e*P	**P**	**13 35 45.7**	**-0.1**
ASAR	**Alice Springs**	**45.85**	**193**	P	**P**	**13 35 45.8**	**0.0**
	comp=Z,6.2nm,0.6s,mb4.7,baz=14,slow=8.8,SNR=83						
ASPA	**Alice Springs**	**45.85**	**193**	*e*P	**P**	**13 35 45.7**	**-0.1**
PSI	**Prapat**	**47.60**	**253**	P	**P**	**13 36 02.6**	**+3.0**
	comp=Z,4.1nm,0.5s,mb4.7,baz=353,slow=4.4,SNR=8.3						
PSI				LR	LR	13 55 33.5	
	comp=Z,369nm,19.4s,MS4.4,baz=0.8,slow=35						
BILL	**Bilibino**	**48.68**	**11**	*e*P	**P**	**13 36 08.8**	**+0.9**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
BILL	**Bilibino**	**48.68**	**11**	*e*P	**P**	**13 36 08.3**	**+0.4**
	comp=Z,8.2nm,1.2s,mb4.6						
TIXI	**Tiksi**	**51.06**	**354**	*e*P	**P**	**13 36 32.1**	**+6.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**53.00**	**183**	*e*P	**P**	**13 36 37.5**	**-2.9**
	comp=Z,5.3nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**53.00**	**183**	P	**P**	**13 36 37.5**	**-2.9**
	comp=Z,5.0nm,0.9s,mb4.5,baz=316,slow=5.4,SNR=5.8						
FORT	**Forrest**	**54.08**	**197**	*e*P	**P**	**13 36 48.7**	**+0.4**
	comp=Z,13nm,0.6s,mb5.0						
ZAL	**Zalesovo**	**54.98**	**322**	P	**P**	**13 36 54.0**	**-0.9**
	comp=Z,1.0nm,0.3s,mb4.4,baz=26,slow=5.8,SNR=3.0						
MKAR	**Makanchi Array**	**55.52**	**313**	P	**P**	**13 36 59.0**	**+0.2**
	comp=Z,0.9nm,0.9s,mb3.8,baz=75,slow=9.2,SNR=4.9						
NVS	**Novosibirsk**	**56.06**	**322**	*e*P	**P**	**13 37 01.4**	**-1.2**
KURK	**Kurchatov**	**58.27**	**317**	*e*P	**P**	**13 37 17.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**58.27**	**317**	*e*P	**P**	**13 37 17.8**	**-0.4**
	comp=Z,5.5nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**61.95**	**27**	P	**P**	**13 37 42.1**	**-1.3**
	comp=Z,1.5nm,0.9s,mb4.1,baz=261,slow=5.8,SNR=14						
CHKZ	**Chkalovo**	**63.31**	**320**	*e*P	**P**	**13 37 51.4**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**63.31**	**320**	*e*P	**P**	**13 37 51.4**	**-1.0**
	comp=Z,3.2nm,1.0s,mb4.4						
BRVK	**Borovoye**	**63.51**	**320**	*e*P	**P**	**13 37 53.7**	**-0.1**
ZRNK	**Zerenda**	**64.29**	**320**	*e*P	**P**	**13 37 58.6**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**64.29**	**320**	*e*P	**P**	**13 37 58.6**	**-0.3**
	comp=Z,3.6nm,0.9s,mb4.4						
INK	**Inuvik**	**67.54**	**24**	P	**P**	**13 38 19.0**	**-0.8**
	comp=Z,2.2nm,0.9s,mb4.2,baz=266,slow=7.1,SNR=7.8						
INK	**Inuvik**	**67.54**	**24**	*e*P	**P**	**13 38 18.7**	**-1.1**
INK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
INK	**Inuvik**	**67.54**	**24**	*e*P	**P**	**13 38 18.6**	**-1.1**
	comp=Z,7.9nm,1.1s,mb4.7						
DLBC	**Dease Lake**	**69.93**	**34**	*e*P	**P**	**13 38 35.4**	**+0.7**
AKTK	**Aktyubinsk**	**71.36**	**318**	P	**P**	**13 38 43.3**	**-0.1**
AKTO	**Aktyubinsk**	**71.36**	**318**	P	**P**	**13 38 43.3**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=36,slow=4.3,SNR=3.5						
YKA	**Yellowknife Ar**	**76.36**	**28**	P	**P**	**13 39 11.7**	**-0.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=289,slow=5.6,SNR=11						
YKA				LR	LR	14 09 17.4	
	comp=Z,63nm,19.9s,MS3.9,baz=270,slow=33						
YKA	**Yellowknife Ar**	**76.36**	**28**	P	**P**	**13 39 11.7**	**-0.9**
YKA				LR	LR	14 09 17.4	
NVAR	**Mina Array Bea**	**82.70**	**52**	P	**P**	**13 39 48.0**	**+0.8**
	comp=Z,2.3nm,0.9s,mb4.2,baz=274,slow=4.7,SNR=11						
MNV	**Mina**	**82.81**	**52**	*e*P	**P**	**13 39 48.4**	**+0.7**
MNV				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
MNV	**Mina**	**82.81**	**52**	*e*P	**P**	**13 39 48.4**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.1						
KIV	**Kislovodsk**	**83.23**	**315**	↓*eP*	**P**	**13 39 52.0**	**+2.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
FINES	**FINESS Array B**	**83.83**	**335**	P	**P**	**13 39 50.9**	**-2.0**
	comp=Z,1.5nm,0.8s,mb4.2,baz=62,slow=9.8,SNR=2.7						
ELK	**Elko**	**84.02**	**49**	*e*P	**P**	**13 39 54.7**	**+0.8**
TPNV	**Topopah Spring**	**84.77**	**52**	*e*P	**P**	**13 39 58.4**	**+0.7**
IMW	**Indian Meadow**	**85.64**	**44**	*e*P	**P**	**13 40 01.6**	**-0.4**

1.7nm,0.5s,mb4.1
STKA Stephens Creek 42.15 242 P **P 13 43 53.6 0.0**
1.2nm,0.4s,mb3.8,baz=90,slow=11,SNR=8.6
STKA Stephens Creek 42.15 242 *eP* **P 13 43 53.3 -0.4**
WB2 Warramunga Arr 48.54 259 *eP* **P 13 44 43.8 -0.5**
WRA Warramunga Arr 48.55 259 P **P 13 44 44.2 -0.1**
1.2nm,0.5s,mb4.2,baz=94,slow=7.2,SNR=47
AS31 Alice Springs 48.63 254 *eP* **P 13 44 45.2 +0.2**
ASAR Alice Springs 48.63 254 P **P 13 44 45.4 +0.4**
7.1nm,0.7s,mb4.8,baz=89,slow=8.1,SNR=93
ASAR PcP PcP 13 46 09.9 -0.1
0.4nm,0.5s,baz=106,slow=3.8,SNR=6.3
ASPA Alice Springs 48.63 254 *eP* **P 13 44 45.2 +0.2**
CLL Collm 146.16 352 *i* PKPbc PKPbc 13 55 39.4 -1.8
comp=Z,5.0nm,0.8s
GERES GERESS Array B 148.46 350 PKPbc PKPbc 13 55 45.8 -1.7
comp=Z,0.5nm,0.5s,baz=35,slow=3.6,SNR=3.3

IDC 02 13:37:42.7±2.2,1670N×14336E,h0^{km},mb3.6/3, mb1 3.9/3,mb1mx3.5/19,mbtmp3.6/3,Error ellipse: s-maj=324.3km s-min=25.4km az=109.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.47**	**194**	P	P	13 44 58.2	+0.3
	0.9nm,0.7s,baz=16,slow=8.9,SNR=6.1						
ASAR	**Alice Springs**	**41.16**	**193**	P	P	13 45 28.8	+0.1
	0.5nm,0.7s,baz=18,slow=9.1,SNR=7.9						
ILAR	**Eielson Array**	**66.42**	**26**	P	P	13 48 33.5	-0.1
	0.3nm,0.5s,baz=236,slow=5.8,SNR=9.6						
VNA2	**Neumayer--Watz**	**123.00**	**191**	*e*	PKPdf	13 56 47.3	+6.3
VNA2				*e*		13 56 51.1	
VNA2				*e*		13 56 54.5	
VNA3	**Neumayer Olymp**	**123.13**	**190**	*e*	PKPdf	13 56 43.9	+2.7
VNA3				*e*		13 56 47.5	
VNA3				*e*		13 56 50.4	

CASC 02 13:38:28.7±2.7,1283N×8863W,h40^{km}±413^{km},MD3.5, ML2.9,3C-4D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.69**	**30⇓**	*eP*	x	13 38 56.9	
VSM				*eS*	x	13 39 07.3	
SNVI	**San Vicente**	**0.81**	**345**	*eP*	x	13 38 57.8	
SNVI				*eS*	x	13 39 09.4	
LCBS	**La Ceiba**	**0.89**	**338⇓**	*eP*	x	13 38 58.7	
LCBS				*eS*	x	13 39 10.9	
CNCH	**Conchagua**	**0.90**	**60⇑**	*eP*	x	13 38 59.2	
CNCH				*eS*	x	13 39 12.1	
LFRS	**El Faro**	**0.90**	**332⇓**	*eP*	x	13 38 58.9	
LFRS				*eS*	x	13 39 10.6	
LBRS	**Las Brisas**	**0.99**	**336⇓**	*eP*	x	13 39 00.6	
LBRS				*eS*	x	13 39 13.6	
LFU	**La Fuente**	**1.03**	**333**	*eP*	x	13 39 01.0	
LFU				*eS*	x	13 39 15.6	
BOQS	**Boqueron**	**1.10**	**325⇑**	*eP*	x	13 39 02.0	
BOQS				*eS*	x	13 39 17.0	
SBLS	**San Blas**	**1.40**	**316**	*eP*	x	13 39 06.3	
SBLS				*eS*	x	13 39 24.2	
SNJE	**San Jose**	**1.41**	**318**	*eP*	x	13 39 06.3	
SNJE				*eS*	x	13 39 24.7	
RTR	**El Retiro**	**1.45**	**317**	*eP*	x	13 39 07.1	
RTR				*eS*	x	13 39 26.1	
CRIN	**San Cristobal**	**1.55**	**94**	*eP*	Pn	13 38 55.8	+2.1
CRIN				*eS*	Sn	13 39 14.5	+1.9
LEON	**Leon**	**1.74**	**103**	*eP*	Pn	13 38 57.0	+0.6
LEON				*eS*	Sn	13 39 16.7	-0.8
comp=Z,50nm,0.3s							
TEL3	**Telica 3**	**1.76**	**98⇑**	*eP*	Pn	13 38 57.1	+0.4
TEL3				*eS*	Sn	13 39 18.2	+0.3
comp=Z,160nm,0.4s							
TELN	**Telica**	**1.77**	**97**	*eP*	Pn	13 38 57.0	+0.3
TELN				*eS*	Sn	13 39 18.7	+0.7
MIRN	**Miramar**	**1.91**	**101**	*eP*	Pn	13 39 00.1	+1.4
MIRN				*eS*	Sn	13 39 21.9	+0.4
comp=Z,190nm,0.2s							
CNGN	**Cerro Negro**	**1.91**	**100**	*eP*	Pn	13 38 57.3	-1.4
COPN	**Copaltepe**	**2.09**	**108**	*eP*	Pn	13 39 01.2	0.0
COPN				*eS*	Sn	13 39 26.5	+0.5

IDC 02 13:39:24.8±2.3,2091N×14394E,h0^{km},mb3.7/3, mb1 4.0/3,mb1mx3.5/19,mbtmp3.7/3,MS2.8/1,Ms1 2.8/1, ms1mx2.2/32,Error ellipse: s-maj=293.3km s-min=27.4km az=110.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.34**	**173**	LR	LR	13 43 32.8	
comp=Z,83nm,20.9s,baz=210,slow=34							
WRA	**Warramunga Arr**	**41.67**	**194**	P	P	13 47 15.4	+0.4
2.0nm,0.9s,baz=15,slow=9.0,SNR=8.2							
ASAR	**Alice Springs**	**45.37**	**193**	P	P	13 47 44.8	-0.1
0.6nm,0.6s,baz=17,slow=8.4,SNR=14							
ILAR	**Eielson Array**	**62.42**	**27**	P	P	13 49 49.2	-0.2
0.3nm,0.7s,baz=257,slow=5.9,SNR=5.0							

TRN 02 13:41:40.0,1286N×5990W,h35^{km},MD3.5,M3.2(FDF), 1D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRCU	**Cariacou**	**1.57**	**256**	*eP*	Pn	13 42 07.0	+1.6
GRCU				*eS*	Sn	13 42 26.2	+1.8
GRIC	**Isle de Caille**	**1.75**	**251**	*eP*	Pn	13 42 09.5	+1.7
GRIC				*eS*	Sn	13 42 29.9	+1.1
GRSS	**Sisters**	**1.77**	**252**	*eP*	Pn	13 42 09.9	+1.8
GRSS				*eS*	Sn	13 42 31.4	+2.1
GRHS	**Sauteurs**	**1.82**	**250**	*eP*	Pn	13 42 09.8	+1.0
GRHS				*eS*	Sn	13 42 32.8	+2.2
GRW	**Mount Saint Ca**	**1.86**	**248**	*eP*	Pn	13 42 10.9	+1.5
GRW				*eS*	Sn	13 42 33.3	+1.7
MVM	**Montagne Vaucl**	**1.94**	**330**	*eP*	Pn	13 42 11.5	+1.0
BIM	**Bigot**	**2.00**	**325⇓**	*eP*	Pn	13 42 12.6	+1.3
BIM				*eS*	Sn	13 42 37.0	+1.8
CRM	**Caravelle**	**2.13**	**332**	*eP*	Pn	13 42 14.3	+1.3
CRM				*eS*	Sn	13 42 39.8	+1.5
FDF	**Fort de France**	**2.23**	**327**	*eP*	Pn	13 42 16.7	+2.3
FDF				*eS*	Sn	13 42 42.6	+1.9

ISCJB ***02*** *13:52:38.7±1.8,54S×0.1×1476E±02,h158^{km}±15^{km}, mb3.7/4,Error ellipse: s-maj=31.8km s-min=17.2km az=30.6*
NEIC ***02*** *13:52:42.9±2.8,538S×14730E,h170^{km}±24^{km},mb4.1/2, Error ellipse: s-maj=29.2km s-min=26.0km az=73.0*
IDC ***02*** *13:52:42.9±1.7,561S×14747E,h179^{km}±15^{km},mb3.4/4, mb1 3.7/6,mb1mx3.4/14,mbtmp3.9/6,Error ellipse: s-maj=31.7km s-min=13.1km az=108.0*
ISC 02 13:52:43.1±1.6,56S±01×1475E±02,h177^{km}±14^{km},n14, σ0°55/16,mb3.7/4,2D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**185**	P	**Pn**	**13 53 42.2**	**+0.7**
4.9nm,0.3s,baz=30,slow=6.4,SNR=33							
PMG				S	**Sn**	**13 54 26.3**	**-0.8**
7.6nm,0.3s,baz=356,slow=5.1,SNR=5.1							
CTA	**Charters Tower**	**14.45**	**185**	P	**Pn**	**13 56 03.9**	**+4.4**
0.3nm,0.3s,baz=16,slow=13,SNR=8.4							
CTA	**Charters Tower**	**14.45**	**185**	P	**Pn**	**13 56 03.9**	**+4.4**
CTAO	**Charters Tower**	**14.45**	**185**	*eP*	**Pn**	**13 56 03.9**	**+4.4**
KAKA	**Kakadu**	**16.46**	**244**	*eP*	**Pn**	**13 56 23.4**	**-0.6**
4.7nm,0.7s							
WRAB	**Tennant Creek**	**19.15**	**221**	*eP*	**P**	**13 56 53.2**	**+0.3**
WB2	**Warramunga Arr**	**19.16**	**221**	⇓*iP*	**P**	**13 56 53.4**	**+0.4**
WRA	**Warramunga Arr**	**19.17**	**221**	P	**P**	**13 56 53.7**	**+0.6**
1.8nm,0.3s,baz=48,slow=12,SNR=173							
WRA				S	**S**	**14 00 20.6**	**-0.1**
0.0nm,0.3s,baz=41,slow=19,SNR=3.3							
ASAR	**Alice Springs**	**22.23**	**215**	P	**P**	**13 57 25.9**	**+0.6**
3.6nm,0.5s,mb4.0,baz=49,slow=8.8,SNR=102							
ASAR				S	**S**	**14 01 16.6**	**-0.3**
0.4nm,0.9s,baz=33,slow=20,SNR=3.7							
FITZ	**Fitzroy Crossi**	**24.71**	**238⇓**	*iP*	**P**	**13 57 48.2**	**+0.3**
4.8nm,0.5s,mb4.3							
FITZ	**Fitzroy Crossi**	**24.71**	**238**	P	**P**	**13 57 47.3**	**-0.6**
2.9nm,0.6s,mb4.0,baz=43,slow=10,SNR=25							
SONM	**Songino Array**	**64.31**	**331**	P	**P**	**14 02 59.1**	**-0.4**
0.5nm,0.9s,mb3.3,baz=143,slow=3.6,SNR=3.5							
VNDA	**Vanda**	**72.28**	**177**	P	**P**	**14 03 48.6**	**-0.5**
0.4nm,0.8s,mb3.2,baz=310,slow=4.6,SNR=6.1							
TORD	**Torodi Ar. Bea**	**145.48**	**285**	PKPbc	PKPbc	14 11 59.2	-1.1
0.3nm,0.5s,baz=72,slow=3.2,SNR=5.3							

ISCJB ***02*** *13:58:51.6±7.8,94S±01×1502E±02,h27^{km}±53^{km}, mb4.1/7,MS3.3/4,Error ellipse: s-maj=36.2km s-min=20.1km az=159.4*
IDC ***02*** *13:58:54.5±8.5,935S×150.15E,h33^{km}±58^{km},mb4.0/6, mb1 4.2/9,mb1mx4.0/13,mbtmp4.1/9,ML3.3/3,MS3.4/6, Ms1 3.4/6,ms1mx3.2/15,Error ellipse: s-maj=45.8km s-min=27.3km az=91.0*
NEIC ***02*** *13:58:55.2±1.9,938S×150.10E,h42^{km}±15^{km},mb4.1/3, Error ellipse: s-maj=19.4km s-min=12.7km az=88.0*
ISC 02 13:58:54.3±8.4,94S±01×1501E±02,h33^{km}±57^{km},n22, σ0°78/18,mb4.1/7,MS3.3/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.94**	**269**	Pn	**Pn**	**13 59 38.3**	**-0.4**
6.6nm,0.3s,baz=73,slow=6.1,SNR=17							
PMG				Lg		14 00 29.9	
8.6nm,0.3s,baz=235,slow=23,SNR=5.4							
HNR	**Honiara**	**9.68**	**91**	LR	LR	14 04 22.6	
comp=Z,240nm,19.5s,baz=210,slow=34							
CTA	**Charters Tower**	**11.32**	**199**	Pn	**Pn**	**14 01 34.4**	**+0.8**
0.2nm,0.3s,baz=18,slow=16,SNR=3.6							
CTA				LR	LR	14 05 29.2	
comp=Z,240nm,19.6s,baz=19,slow=35							
CTAO	**Charters Tower**	**11.32**	**199**	*eP*	**Pn**	**14 01 34.1**	**+0.5**
3.3nm,0.8s							
WRAB	**Tennant Creek**	**18.53**	**234**	*eP*	**Pn**	**14 03 07.8**	**-0.5**
13nm,0.8s							
WB2	**Warramunga Arr**	**18.54**	**234**	*eP*	**Pn**	**14 03 07.7**	**-0.7**
WRA	**Warramunga Arr**	**18.54**	**234**	P	**Pn**	**14 03 08.0**	**-0.5**
0.2nm,0.3s,baz=59,slow=11,SNR=19							
DZM	**Mont Dzumac**	**20.13**	**131**	LR	LR	14 08 54.8	
comp=Z,64nm,21.8s,MS2.9,baz=216,slow=30							
AS31	**Alice Springs**	**21.06**	**226**	*eP*	**P**	**14 03 36.5**	**+1.0**
ASAR	**Alice Springs**	**21.06**	**226**	P	**P**	**14 03 36.3**	**+0.8**
7.2nm,0.8s,mb4.0,baz=61,slow=10,SNR=57							
ASPA	**Alice Springs**	**21.06**	**226**	*eP*	**P**	**14 03 36.5**	**+1.0**
GUMO	**Guam**	**23.38**	**347**	LR	LR	14 10 42.2	
comp=Z,62nm,21.0s,MS3.0,baz=43,slow=30							
STKA	**Stephens Creek**	**23.78**	**198**	*eP*	**P**	**14 04 01.8**	**-2.0**
3.6nm,0.8s,mb3.9							
STKA	**Stephens Creek**	**23.78**	**198**	P	**P**	**14 04 01.9**	**-1.9**
6.1nm,1.0s,mb4.0,baz=1.5,slow=8.4,SNR=5.4							
STKA				LR	LR	14 13 41.0	
comp=Z,169nm,19.3s,MS3.5,baz=205,slow=37							
FITZ	**Fitzroy Crossi**	**25.31**	**247**	*eP*	**P**	**14 04 17.7**	**-0.1**
12nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**25.31**	**247**	P	**P**	**14 04 17.8**	**-0.1**
4.2nm,0.7s,mb4.1,baz=87,slow=9.1,SNR=15							
SONM	**Songino Array**	**68.83**	**330**	P	**P**	**14 09 56.1**	**+0.7**
1.5nm,1.0s,mb3.9,baz=142,slow=5.7,SNR=10							
SONM				LR	LR	14 39 50.6	
comp=Z,47nm,18.6s,MS3.8,baz=360,slow=36							
MKAR	**Makanchi Array**	**82.04**	**320**	P	**P**	**14 11 11.5**	**+0.4**
0.8nm,0.8s,mb3.7,baz=102,slow=7.0,SNR=6.6							
ZAL	**Zalesovo**	**83.49**	**327**	P	**P**	**14 11 18.2**	**-0.5**
2.8nm,0.3s,mb4.8,baz=220,slow=1.4,SNR=4.5							
ZAL	**Zalesovo**	**83.49**	**327**	P	**P**	**14 11 18.2**	**-0.5**
ILAR	**Eielson Array**	**87.34**	**22**	P	**P**	**14 11 37.6**	**-0.2**
0.8nm,0.7s,mb4.1,baz=257,slow=4.8,SNR=9.9							
TORD	**Torodi Ar. Bea**	**148.83**	**280**	PKPbc	PKPbc	14 18 40.4	+2.0
1.8nm,0.8s,baz=60,slow=2.3,SNR=9.0							

ISCJB ***02*** *14:01:41.8±1.1,4217N±007×7336E±007,h10^{km},Error ellipse: s-maj=9.4km s-min=7.2km az=175.7*
KNET ***02*** *14:01:42.2±0.5,4214N×7354E,h2^{km}±5^{km},ml2.3,Error ellipse: s-maj=3.4km s-min=2.8km az=44.0*
ISC 02 14:01:42.1±1.1,4214N±006×7343E±006,h10^{km},n11, σ1°11/21,12C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**0.58**	**26**	⇓P	**Pg**	**14 01 52.8**	**-0.6**
9.8nm,0.1s,SNR=28							
EKS2				⇓S	**Sg**	**14 02 00.8**	**-0.2**
77nm,0.1s							
UCH	**Uchtor**	**0.81**	**84**	⇓P	**Pg**	**14 01 56.0**	**-1.7**
11nm,0.2s,SNR=44							
UCH				⇓S	**Sg**	**14 02 06.8**	**-1.5**
106nm,0.2s							
AAK	**Ala-Archa**	**0.93**	**58**	⇓P	**Pg**	**14 01 59.3**	**-0.8**
8.1nm,0.1s,SNR=10							
AAK				⇑S	**Sg**	**14 02 12.5**	**+0.4**
23nm,0.2s							
KBK	**Karagaybulak**	**1.24**	**65**	⇑P	**Pn**	**14 02 04.9**	**-0.5**
15nm,0.1s,SNR=13							
KBK				⇑S	**Sb**	**14 02 22.0**	**+0.5**
40nm,0.2s							
CHMS	**Chumysh**	**1.30**	**48**	⇑P	**Pn**	**14 02 05.9**	**-0.4**
9.2nm,0.1s,SNR=8.7							
CHMS				⇑S	**Sb**	**14 02 24.0**	**+0.6**
34nm,0.2s							
KZA	**Kyzart**	**1.35**	**92**	⇑P	**Pn**	**14 02 06.4**	**-0.7**
23nm,0.2s,SNR=89							
KZA				⇑S	**Sb**	**14 02 26.4**	**+1.4**
65nm,0.2s							
USP	**Ospenovka**	**1.37**	**35**	⇑P	**Pn**	**14 02 07.4**	**0.0**
17nm,0.1s,SNR=29							
TKM2	**Tokmak 2**	**1.78**	**63**	⇑P	**Pn**	**14 02 14.2**	**+1.3**
49nm,0.2s,SNR=70							
TKM2				⇓S	**Sn**	**14 02 39.7**	**+4.0**
38nm,0.1s							
TKM2	**Tokmak 2**	**1.78**	**63**	⇑P	**Pn**	**14 02 15.3**	**+2.4**
1.2nm,0.3s							
TKM2				⇓S	**Sn**	**14 02 40.1**	**+4.4**
1.2nm,0.5s							
ULHL	**Ulahol**	**2.09**	**86**	⇑P	**Pn**	**14 02 20.3**	**+3.1**
8.6nm,0.2s,SNR=6.7							
ULHL				⇓S	**Sn**	**14 02 48.6**	**+5.3**
16nm,0.1s							
KK31	**Karatay Array**	**2.36**	**295**	P	**Pn**	**14 02 20.8**	**-0.1**
2.6nm,0.3s,baz=117,slow=15,SNR=69							
KK31				⇑S	**Sn**	**14 02 53.9**	**+4.0**
12nm,0.3s,baz=119,slow=27,SNR=14							

NSSP ***02*** *14:06:47.6,4088N×4328E,h12^{km},ML3.2*
ISCJB ***02*** *14:06:48.6±0.3,4110N±002×4338E±003,h10^{km},Error ellipse: s-maj=3.1km s-min=2.6km az=125.7*
TIF ***02*** *14:06:48.7,4113N×4349E,h10^{km}±1^{km}*
MOS ***02*** *14:06:50.0±2.2,4119N×4364E,h15^{km},mb4.0/1,Error ellipse: s-maj=27.0km s-min=8.3km az=80.5*
CSEM ***02*** *14:06:50.7±0.1,4082N×4348E,h30^{km},ML3.2,Error ellipse: s-maj=3.6km s-min=1.5km az=62.0*
ISC 02 14:06:49.0±0.3,4111N±002×4339E±003,h10^{km},n30, σ1°33/55,1C,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.31**	**14**	P	**Pg**	**14 06 54.3**	**-0.9**
AKH				S	**Sg**	**14 06 58.5**	**-0.9**
KAMZ	**Kamo**	**0.51**	**124**	P	**Pg**	**14 06 58.3**	**-0.6**
KAMZ				S	**Sg**	**14 07 06.5**	**+0.9**
KARS	**Kars**	**0.55**	**205**	PG	**Pg**	**14 07 01.0**	**+1.4**
HARI	**Harich**	**0.68**	**137**	P	**Pg**	**14 07 01.9**	**-0.3**
HARI				S	**Sg**	**14 07 10.5**	**-0.6**
LERZ	**Lernakert**	**0.69**	**142**	P	**Pg**	**14 07 01.9**	**-0.4**
LERZ				S	**Sg**	**14 07 11.2**	**-0.1**
HNAZ	**Hnaberd**	**0.74**	**130**	P	**Pg**	**14 07 02.6**	**-0.7**
HNAZ				S	**Sg**	**14 07 12.0**	**-1.0**
KZR	**Kazreti**	**0.82**	**70**	P	**Pg**	**14 07 03.0**	**-1.8**
KZR				S	**Sg**	**14 07 13.8**	**-1.6**
GOR	**Gori**	**1.03**	**31**	P	**Pg**	**14 07 07.5**	**-1.3**
GOR				S	**Sg**	**14 07 21.8**	**-0.4**
ARTV	**Artvin**	**1.11**	**274**	*i* P	**Pb**	**14 07 09.0**	**-1.3**
ARTV				*i* S	**Sg**	**14 07 23.2**	**-1.5**
TBLG	**Delisi**	**1.19**	**58**	P	**Pb**	**14 07 10.3**	**-1.3**
TBLG				S	**Sb**	**14 07 26.9**	**-0.1**
TBLG	**Delisi**	**1.19**	**58**	Pg	**Pg**	**14 07 10.4**	**-1.4**
TBLG				Sg	**Sg**	**14 07 26.9**	**-0.4**
MTA	**Mtatsminda**	**1.21**	**60**	P	**Pb**	**14 07 10.5**	**-1.4**
MTA				S	**Sb**	**14 07 27.2**	**-0.4**
ERE	**Yerevan**	**1.25**	**138**	P	**Pn**	**14 07 11.8**	**-0.7**
ERE				S	**Sb**	**14 07 28.8**	**+0.1**
BCA	**Borcka**	**1.38**	**285**	PN	**Pn**	**14 07 13.6**	**-0.7**
BCA				SN	**Sn**	**14 07 30.8**	**-1.7**
GNI	**Garni**	**1.40**	**133**	PN	**Pn**	**14 07 14.4**	**-0.3**
GNI	**Garni**	**1.40**	**133**	P	**Pn**	**14 07 15.2**	**+0.5**
GNI				S	**Sn**	**14 07 35.3**	**+2.1**
DGRG	**David-gareji**	**1.53**	**76**	P	**Pn**	**14 07 17.4**	**+1.0**
DGRG				S	**Sn**	**14 07 37.9**	**+1.5**
ZEI	**Tsey**	**1.70**	**13**	*e*Pg	**Pg**	**14 07 21.0**	**-0.7**
ZEI				*e*Sg	**Sg**	**14 07 43.6**	**-0.2**
LACR	**Lac**	**1.84**	**21**	*e*Pn	**Pn**	**14 07 22.5**	**+1.8**
LACR				*e*Sg	**Sg**	**14 07 46.3**	**-2.0**
ERZM	**Erzurum**	**1.96**	**233**	*i* P	**Pg**	**14 07 26.7**	**+0.2**
ERZM				*i* S	**Sg**	**14 07 58.3**	**+6.4**
KORR	**Kora**	**2.04**	**14**	*e*Pn	**Pn**	**14 07 25.7**	**+2.3**
KORR				*e*Sg	**Sg**	**14 07 51.7**	**-2.9**
VLKR	**Vladikavkaz**	**2.16**	**26**	*e*Pn	**Pn**	**14 07 26.9**	**+1.8**
VLKR				*e*Sg	**Sg**	**14 07 53.8**	**-4.6**
ARNR	**Ardon**	**2.18**	**17**	*e*Pn	**Pn**	**14 07 27.5**	**+2.2**
ARNR				*e*Sg	**Sg**	**14 07 54.8**	**-4.3**
SNJR	**Sundja**	**2.23**	**28**	*e*PN	**Pn**	**14 07 27.6**	**+1.6**
SNJR				*e*S	**Sn**	**14 07 55.2**	**+1.7**
KMSR	**Komsomolskaya**	**2.36**	**16**	*e*Pn	**Pn**	**14 07 29.9**	**+2.1**
KMSR				*e*Sn	**Sn**	**14 07 59.0**	**+2.2**
BTKR	**Batakoyurt**	**2.42**	**20**	*e*Pn	**Pn**	**14 07 30.5**	**+1.9**
BTKR				*e*Sn	**Sn**	**14 08 00.1**	**+1.9**
KIV	**Kislovodsk**	**2.89**	**350**	*e*PN	**Pn**	**14 07 37.4**	**+2.3**
KIV				*i*		14 07 41.7	
KIV				*i*		14 08 20.9	
KIV				pmax	pmax		
comp=Z,7.0nm,0.5s							
KIV				pmax	pmax		
comp=Z,28nm,0.9s							
KIV				pmax	pmax		
comp=Z,37nm,0.8s							
KIV	**Kislovodsk**	**2.89**	**350**	*e*Pn	**Pn**	**14 07 37.4**	**+2.3**
comp=Z,7.0nm,0.5s							
SOC	**Sochi**	**3.68**	**313**	*e*PN	**Pn**	**14 07 41.5**	**-4.4**
SOC				*e*		14 08 29.4	
SOC				pmax	pmax		
comp=Z,11nm,0.8s							
SOC				smax			
comp=E,54nm,0.7s							
SOC				MLR	MLR		
comp=Z,72nm,9.0s							
SOC	**Sochi**	**3.68**	**313**	*e*Pn	**Pn**	**14 07 41.5**	**-4.4**
comp=Z,11nm,0.8s							
SOC				*e*Sn	**Sn**	**14 08 29.4**	**0.0**

ISCJB ***02*** *14:15:17.5±0.5,3906N±004×2200E±004,h2^{km},Error ellipse: s-maj=5.2km s-min=3.9km az=157.7*
NEIC ***02*** *14:15:17.9,3904N×2203E,h3^{km},MD3.0(ATH),After ATH.*
THE ***02*** *14:15:17.7,3904N×2200E,h10^{km},ML2.8*
CSEM ***02*** *14:15:17.9,3904N×2203E,h3^{km},MD3.0/6,After ATH*
ATH ***02*** *14:15:17.9,3904N×2202E,h2^{km},MD3.0/6*
ISC 02 14:15:17.8±0.6,3905N±004×2200E±004,h0^{km}±9^{km},n18, σ0°72/23,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.20**	**229**	*e*PG	**Pg**	**14 15 21.5**	**-0.1**
EVR				*e*SG	**Sg**	**14 15 25.2**	**+1.0**
EVR	**Evrytania**	**0.20**	**229**	*e*Pg	**Pg**	**14 15 21.0**	**-0.6**
EVR				*e*Sg	**Sg**	**14 15 24.2**	**0.0**
AGG	**Agios Georgios**	**0.26**	**96**	*e*Pg	**Pg**	**14 15 23.3**	**+0.6**
AGG				*e*Sg	**Sg**	**14 15 26.6**	**+0.5**
LKR	**Lokris**	**0.88**	**117**	*e*PG	**Pg**	**14 15 34.3**	**-0.3**
MEV	**Metsovon**	**0.95**	**321**	*e*Pg	**Pg**	**14 15 35.4**	**-0.6**
XOR	**Xorichti**	**0.98**	**71**	*e*Pg	**Pg**	**14 15 35.8**	**-0.8**
JAN	**Janina**	**1.08**	**305**	*e*PG	**Pg**	**14 15 38.5**	**0.0**
JAN	**Janina**	**1.08**	**305**	*e*Pn	**Pn**	**14 15 40.4**	**+0.3**
LKD	**Levkas**	**1.11**	**253**	*e*Pg	**Pg**	**14 15 38.2**	**-0.8**
LIT	**Litokhoron**	**1.12**	**20**	*e*Pg	**Pg**	**14 15 38.9**	**-0.4**
LIT				*e*Sg	**Sg**	**14 15 55.5**	**+1.8**
KZN	**Kozani**	**1.27**	**352**	*e*PB	**Pb**	**14 15 42.0**	**-0.6**
KZN	**Kozani**	**1.27**	**352**	*e*Pg	**Pg**	**14 15 41.4**	**-0.7**
IGT	**Igoumenitsa**	**1.38**	**291**	*e*Pg	**Pg**	**14 15 43.6**	**-0.7**
IGT				*e*Sg	**Sg**	**14 16 03.2**	**+1.0**
VLS	**Valsamata**	**1.41**	**232**	*e*PB	**Pb**	**14 15 45.5**	**+0.6**
FNA	**Florina**	**1.80**	**345**	*e*Pb	**Pn**	**14 15 49.4**	**-0.6**
KEK	**Kerkira**	**1.83**	**292**	*e*PB	**Pb**	**14 15 53.0**	**+0.9**
KEK	**Kerkira**	**1.83**	**292**	*e*Pb	**Pb**	**14 15 53.5**	**+1.4**
BIA	**Bitola**	**2.04**	**345**	*e*Pn	**Pn**	**14 15 53.0**	**-0.3**

ISCJB ***02*** *14:21:33.5±0.7,5143N±004×16.15E±004,h0^{km},Error ellipse: s-maj=5.3km s-min=3.2km az=34.8*
CSEM ***02*** *14:21:34.2±0.3,5153N×1618E,h2^{km},ML2.6/3,Error ellipse: s-maj=5.7km s-min=4.7km az=43.0,Suspected Mining induced.*
PRU ***02*** *14:21:36.8,5136N×1616E,h0^{km}*
WAR ***02*** *14:21:36.2,5145N×1617E,ML2.5,Mining Induced*
NEIC ***02*** *14:21:36.7±1.9,5139N×1604E,h5^{km},MG2.5(WAR), Error ellipse: s-maj=20.6km s-min=8.1km az=204.0*
VIE ***02*** *14:21:37.5±0.4,5124N×1630E,h0^{km},mb1.9/3,ML2.6/3, Error ellipse: s-maj=2.6km s-min=2.5km az=102.0 52 km WNW of Breslau Suspected Mining induced.*
ISC 02 14:21:34.4±0.6,5146N±003×1619E±004,h0^{km},n20, σ1°01/39,1C-2D,Poland

| Code |

0.3nm,0.7s,baz=19,slow=8.4,SNR=6.6
ILAR Eielson Array 62.28 27 P P 14 40 12.9 -0.2
0.6nm,0.8s,baz=248,slow=4.8,SNR=5.7

NEIC 02 14:55:36.2±2.4,2632S×2873E,h5km,mb3.6/1,Error ellipse: s-maj=35.1km s-min=14.9km az=71.0,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.11**	**294**	*e*Pn	Pn	14 56 26.8	+0.9
LBTB				*e*Sn	Sn	14 56 55.5	-8.0
BOSA	**Boshof**	**3.84**	**233**	*e*Pn	Pn	14 56 35.9	-0.1
BOSA				*e*Pg	Pg	14 56 43.6	-6.2
BOSA				*e*Sn	Sn	14 57 11.0	-10
BOSA				*e*Sg	Sg	14 57 18.9	-21
SUR	**Sutherland**	**9.17**	**227**	*e*Pn	Pn	14 57 49.5	+0.4
SUR				*e*Sn	Sn	14 59 19.6	-13
SUR				*e*Sg	Sn	15 00 07.9	+35
LSZ	**Lusaka**	**11.00**	**357**	Pn	Pn	14 58 21.4	+7.2
2.6nm,0.6s							
TSUM	**Tsumeb**	**12.48**	**302**	*e*Pn	Pn	14 58 34.1	-0.4
SNAA	**Sanae**	**48.68**	**193**	*e*P	P	15 04 21.2	-0.2
0.2nm,0.4s							

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*IDC **02** 15:16:34.3±4.0, 1209N×124.10E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/18, mbtmp3.3/3, Error ellipse: s-maj=355.0km s-min=28.5km az=64.0*
*MAN **02** 15:16:34.2, 1285N×125.31E, h1km, mb3.4, ML4.6, MS6.3*
*ISCJB **02** 15:16:36.5±1.3, 1284N±007×1254E±01, h54km±14km, mb3.4/3, Error ellipse: s-maj=19.0km s-min=8.3km az=124.2*
ISC 02 15:16:37.9±1.3,1282N±007×1254E±01,h44km±16km,n15, σ1§10/17,mb3.4/3,3C,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.21**	**179**	*e*P	**Pn**	**15 16 57.4**	**-1.0**
PVCP	**Virac**	**1.46**	**302**	⇑*e*P	**Pn**	**15 17 00.0**	**-1.7**
PVCP				*i* S	**Sn**	**15 17 20.2**	**+0.6**
PVCP	**Virac**	**1.46**	**302**	*e*P	**Pn**	**15 16 59.5**	**-2.2**
MMPH	**Masbate**	**1.81**	**256**	*e*P	**Pn**	**15 17 05.5**	**-1.1**
MMPH				*e*S	**Sn**	**15 17 28.8**	**+0.5**
OCLP	**Ormoc**	**1.93**	**204**	*e*P	**Pn**	**15 17 08.5**	**+0.4**
MSLP	**Maasin**	**2.72**	**192**	*e*P	**Pn**	**15 17 21.1**	**+2.0**
RCP	**Roxas**	**2.90**	**245**	⇑*e*P	**Pn**	**15 17 20.6**	**-0.8**
SCPH	**Surigao**	**3.02**	**179**	⇑*e*P	**Pn**	**15 17 24.2**	**+1.1**
GUIM	**Jordan**	**3.52**	**232**	*e*P	**Pn**	**15 17 29.2**	**-0.9**
POLP	**Polilio Island**	**3.88**	**300**	*e*P	**Pn**	**15 17 37.7**	**+2.8**
BALP	**Baler**	**4.72**	**308**	*e*P	**Pn**	**15 17 46.6**	**0.0**
CAUP	**Cauayan**	**5.38**	**320**	*e*P	**Pn**	**15 17 55.3**	**-0.3**
WRA	**Warramunga Arr**	**33.72**	**165**	P	**P**	**15 23 13.9**	**-1.0**
0.3nm,0.6s,mb3.4,baz=342,slow=9.6,SNR=4.7							
ASAR	**Alice Springs**	**37.20**	**167**	P	**P**	**15 23 44.6**	**-0.1**
0.2nm,0.3s,mb3.4,baz=348,slow=7.0,SNR=11							
MKAR	**Makanchi Array**	**49.51**	**322**	P	**P**	**15 25 24.9**	**+0.9**
0.3nm,0.6s,mb3.5,baz=132,slow=6.4,SNR=3.6							

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*IDC **02** 15:17:42.3±0.9, 2953S×17659W, h0km, mb4.3/6, mb1 4.5/8, mb1mx4.3/15, mbtmp4.3/8, ML3.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/29, Error ellipse: s-maj=29.8km s-min=21.6km az=162.0*
*NEIC **02** 15:17:44.1±0.7, 2947S×17668W, h10km, mb4.6/9, Error ellipse: s-maj=14.7km s-min=12.7km az=82.0*
*ISCJB **02** 15:17:48.8±2.1, 2966S±007×1769W±02, h53km±15km, mb4.6/14, MS3.7/4, Error ellipse: s-maj=24.9km s-min=11.6km az=3.7*
ISC 02 15:17:47.6±4.2,2956S±007×1768W±01,h31km±28km,n41, σ1§11/28,mb4.6/14,MS3.7/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.04**	**287**	Pn	**Pn**	**15 18 07.6**	**+1.5**
86nm,0.3s,baz=80,slow=23,SNR=8.3							
RAO	**Raoul Island**	**1.04**	**287**	*e*Pg	**Pn**	**15 18 07.0**	**+0.9**
URZ	**Urewera**	**10.05**	**209**	Pn	**Pn**	**15 20 08.2**	**-1.7**
0.4nm,0.3s,baz=345,slow=13,SNR=2.8							
URZ				Sn	**Sn**	**15 22 00.6**	**-1.0**
0.8nm,0.3s,baz=131,slow=19,SNR=7.0							
SNZO	**South Karori**	**13.62**	**208**	Pn	**Pn**	**15 20 59.0**	**+0.4**
SNZO				*e*Sn	**Sn**	**15 23 17.5**	**-11**
RPZ	**Rata Peaks**	**17.15**	**211**	P	**Pn**	**15 21 44.7**	**-0.2**
0.8nm,0.3s,baz=75,slow=20,SNR=5.4							
TBI	**Tubuai**	**25.19**	**82**	*e*LR	LR	15 29 10.0	
111nm,30.5s							
PPT	**Papeete**	**27.57**	**70**	*e*LR	LR	15 30 10.8	
60nm,21.0s,baz=232							
PPT	**Papeete**	**27.57**	**70**	LR	LR	15 31 45.6	
comp=Z,138nm,21.5s,MS3.5,baz=245,slow=31							
CTA	**Charters Tower**	**34.73**	**277**	*e*P	**P**	**15 24 36.9**	**+2.0**
3.0nm,0.8s,mb4.3							
CTA	**Charters Tower**	**34.73**	**277**	P	**P**	**15 24 37.1**	**+2.2**
3.5nm,0.7s,mb4.4,baz=127,slow=8.5,SNR=3.5							
CTA				LR	LR	15 35 54.5	
comp=Z,83nm,21.9s,MS3.4,baz=53,slow=31							
CTAO	**Charters Tower**	**34.73**	**277**	*e*P	**P**	**15 24 36.6**	**+1.8**
4.4nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**35.71**	**256**	*e*P	**P**	**15 24 42.8**	**-0.5**
6.5nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**35.71**	**256**	P	**P**	**15 24 42.8**	**-0.5**
7.8nm,0.8s,mb4.7,baz=80,slow=8.7,SNR=17							
STKA	**Stephens Creek**	**35.71**	**256**	*e*P	**P**	**15 24 42.8**	**-0.5**
AS31	**Alice Springs**	**44.22**	**266**	*e*P	**P**	**15 25 54.2**	**+0.3**
ASAR	**Alice Springs**	**44.23**	**266**	P	**P**	**15 25 53.4**	**-0.6**
2.8nm,0.7s,mb4.1,baz=97,slow=8.1,SNR=48							
ASAR				PcP	PcP	15 27 39.4	+1.2
0.8nm,0.9s,baz=122,slow=3.4,SNR=3.9							
ASPA	**Alice Springs**	**44.23**	**266**	*e*P	**P**	**15 25 54.2**	**+0.2**
WB2	**Warramunga Arr**	**45.13**	**271**	*e*P	**P**	**15 26 00.6**	**-0.6**
WRAB	**Tennant Creek**	**45.13**	**271**	*e*P	**P**	**15 26 01.1**	**0.0**
7.4nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**45.14**	**271**	P	**P**	**15 26 01.0**	**-0.3**
3.5nm,0.8s,mb4.2,baz=108,slow=7.9,SNR=16							
FITZ	**Fitzroy Crossi**	**53.43**	**269**	*e*P	**P**	**15 27 03.8**	**-0.8**
3.5nm,0.8s,mb4.3							
CASY	**Casey**	**56.38**	**208**	*e*P	**P**	**15 27 27.7**	**+1.8**
15nm,0.9s,mb5.0							
QSPA	**South Pole Qui**	**60.55**	**180**	*e*P	**P**	**15 27 57.6**	**+2.6**
11nm,1.2s,mb4.9							
MJAR	**Matsushiro Arr**	**78.17**	**324**	P	**P**	**15 29 42.9**	**-1.0**
3.3nm,0.8s,mb4.3,baz=162,slow=5.3,SNR=9.8							
MAJO	**Matsushiro**	**78.17**	**324**	*e*P	**P**	**15 29 42.8**	**-1.1**
5.4nm,0.8s,mb4.5							
SNAA	**Sanae**	**78.96**	**178**	P	**P**	**15 29 49.8**	**+1.5**
1.8nm,1.1s,mb3.9							
COCO	**West Island**	**80.99**	**261**	P	**P**	**15 30 00.2**	**+1.0**
150nm,1.0s,mb5.9							
YSS	**Yuzh-Sakhalins**	**84.46**	**333**	P	**P**	**15 30 17.3**	**0.0**
10.0nm,0.8s,mb5.0							
NVAR	**Mina Array Bea**	**86.90**	**42**	P	**P**	**15 30 27.6**	**-1.8**
1.4nm,1.1s,mb4.1,baz=209,slow=6.6,SNR=4.7							
PDAR	**Pinedale Array**	**94.79**	**43**	LR	LR	16 08 11.4	
comp=Z,51nm,19.6s,MS4.0,baz=89,slow=32							
CPUP	**Villa Florida**	**99.67**	**128**	LR	LR	16 12 45.0	
comp=Z,49nm,19.1s,MS4.0,baz=317,slow=33							
MKAR	**Makanchi Array**	**118.04**	**310**	PKP	PKPdf	15 36 30.2	-1.2
1.0nm,1.0s,baz=101,slow=1.2,SNR=4.4							
MKAR	**Makanchi Array**	**118.04**	**310**	PKP	PKPdf	15 36 30.2	-1.2
ZRNK	**Zerenda**	**127.38**	**316**	*e*PKPdf	PKPdf	15 36 48.4	-0.9
AKTO	**Aktyubinsk**	**134.31**	**313**	PKP	PKPdf	15 37 02.2	-0.2
1.3nm,0.9s,baz=279,slow=2.1,SNR=4.3							
FINES	**FINESS Array B**	**144.71**	**341**	PKP	PKPdf	15 37 18.6	-2.7
3.3nm,1.0s,baz=38,slow=7.0,SNR=3.3							
MALT	**Malatya**	**149.66**	**296**	*e*PKPbc	PKPbc	15 37 34.7	+0.5
ASF	**Jabal al Asfar**	**151.04**	**284**	PKPbc	PKPbc	15 37 39.4	+1.9
0.7nm,0.2s,baz=309,slow=2.5,SNR=3.8							
AKASG	**Malin Array Be**	**151.25**	**325**	PKPbc	PKPbc	15 37 37.4	-0.6
3.1nm,0.8s,baz=49,slow=2.5,SNR=10							
BRTR	**Keskin Array B**	**153.11**	**300**	PKPbc	PKPbc	15 37 42.6	+0.5
1.0nm,0.9s,baz=98,slow=3.7,SNR=5.0							
BRTR				PKPab	PKPab	15 37 55.0	+1.2
1.8nm,0.8s,baz=107,slow=4.2,SNR=9.7							
TORD	**Torodi Ar. Bea**	**163.61**	**175**	PKPab	PKPab	15 38 40.3	+1.1
2.1nm,1.1s,baz=185,slow=2.8,SNR=5.0							

IDC 02 15:20:32.9±5.1,1987S×17308W,h77km±74km,mb3.6/4, mb1 3.8/7,mb1mx3.6/19,mbtmp4.1/7,ML4.0/2,Error ellipse: s-maj=50.2km s-min=31.8km az=66.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.06**	**12**	P	Pn	15 22 01.4	+1.6
3.5nm,0.3s,baz=156,slow=19,SNR=10							
AFI				S	Sn	15 23 07.9	+0.2
1.7nm,0.3s,baz=58,slow=19,SNR=2.5							
RAR	**Rarotonga**	**12.54**	**98**	P	Pn	15 23 28.1	-0.2
1.6nm,0.3s,baz=281,slow=3.1,SNR=17							
DZM	**Mont Dzumac**	**19.24**	**260**	P	Pn	15 24 51.0	-1.7
0.2nm,0.3s,baz=89,slow=18,SNR=3.9							
CTA	**Charters Tower**	**38.15**	**263**	P	P	15 27 45.4	+0.7
1.9nm,0.4s,baz=78,slow=11,SNR=5.9							
STKA	**Stephens Creek**	**42.22**	**244**	P	P	15 28 16.7	-1.6
1.1nm,0.5s,baz=105,slow=12,SNR=6.2							
ASAR	**Alice Springs**	**49.15**	**256**	P	P	15 29 14.2	+1.3
0.7nm,0.7s,baz=90,slow=8.6,SNR=9.1							
WRA	**Warramunga Arr**	**49.26**	**260**	P	P	15 29 14.3	+0.6
0.4nm,0.3s,baz=93,slow=6.9,SNR=32							

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*ISCJB **02** 15:22:49.9±1.8, 2423S±02×1792E±02, h474km±17km, mb4.0/8, Error ellipse: s-maj=35.0km s-min=17.1km az=83.1*
*NEIC **02** 15:22:51.1±1.7, 2428S×179.15E, h472km±19km, mb4.2/6, Error ellipse: s-maj=31.3km s-min=17.8km az=47.0*
*IDC **02** 15:22:59.9±3.5, 2482S×17905E, h582km±45km, mb3.3/4, mb1 3.4/6, mb1mx3.2/14, mbtmp4.4/6, Error ellipse: s-maj=77.8km s-min=41.9km az=57.0*
ISC 02 15:22:51.4±1.8,2435S±02×1793E±02,h481km±17km,n20, σ0§81/21,mb4.0/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.53**	**153**	*e*Pn	**P**	**15 24 22.1**	**-0.2**
DZM	**Mont Dzumac**	**12.00**	**278**	P	**P**	**15 25 37.3**	**+7.3**
1.4nm,0.3s,baz=83,slow=17,SNR=6.9							
URZ	**Urewera**	**14.02**	**187**	P	**P**	**15 25 52.8**	**+1.3**
1.0nm,0.3s,baz=352,slow=5.0,SNR=7.5							
SNZO	**South Karori**	**17.37**	**192**	*e*P	**P**	**15 26 25.5**	**-1.2**
CTA	**Charters Tower**	**30.81**	**271**	*e*P	**P**	**15 28 28.4**	**+1.6**
4.9nm,0.6s,mb4.1							
CTA	**Charters Tower**	**30.81**	**271**	P	**P**	**15 28 28.8**	**+2.0**
3.4nm,0.3s,mb4.2,baz=98,slow=9.6,SNR=9.4							
CTAO	**Charters Tower**	**30.81**	**271**	*e*P	**P**	**15 28 25.1**	**-1.7**
7.0nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**33.94**	**249**	P	**P**	**15 28 52.1**	**-1.5**
2.3nm,1.1s,mb3.5,baz=97,slow=15,SNR=3.0							
STKA	**Stephens Creek**	**33.94**	**249**	*e*P	**P**	**15 28 51.8**	**-1.7**
AS31	**Alice Springs**	**41.30**	**261**	*e*P	**P**	**15 29 54.2**	**+0.3**
ASAR	**Alice Springs**	**41.30**	**261**	P	**P**	**15 29 54.2**	**+0.3**
2.9nm,0.9s,mb3.7,baz=94,slow=8.3,SNR=12							
ASAR				S	**S**	**15 35 25.2**	**-7.4**
0.4nm,0.9s,baz=102,slow=16,SNR=5.0							
ASPA	**Alice Springs**	**41.31**	**261**	*e*P	**P**	**15 29 54.2**	**+0.2**
WB2	**Warramunga Arr**	**41.70**	**267**	*e*P	**P**	**15 29 57.0**	**-0.1**
WRA	**Warramunga Arr**	**41.71**	**267**	P	**P**	**15 29 57.3**	**+0.2**
3.2nm,0.5s,mb4.0,baz=98,slow=6.9,SNR=32							
SBA	**Scott Base**	**53.93**	**183**	*e*P	**P**	**15 31 29.5**	**+0.6**
3.2nm,0.9s,mb3.6							
CASY	**Casey**	**59.45**	**206**	*e*P	**P**	**15 31 59.0**	**-8.0**
12nm,0.7s,mb4.3							
QSPA	**South Pole Qui**	**65.77**	**180**	*e*P	**P**	**15 32 48.3**	**+0.3**
8.1nm,1.2s,mb4.2							
MAJO	**Matsushiro**	**71.86**	**326**	P	**P**	**15 33 24.7**	**-0.2**
8.2nm,1.1s,mb4.2							
VNA3	**Neumayer Olymp**	**84.50**	**177**	*e*	**P**	**15 34 32.0**	**-0.9**
VNA2	**Neumayer--Watz**	**84.91**	**178**	*e*	**P**	**15 34 35.3**	**+0.4**
baz=182,slow=4.2							

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*ISCJB **02** 15:24:38.7±0.5, 6640N±004×14191W±009, h10km, Error ellipse: s-maj=6.1km s-min=4.3km az=86.1*
*NEIC **02** 15:24:42.4, 6634N×14237W, h20km, ML3.2(AEIC), After AEIC.*
*PGC **02** 15:24:44.6, 6636N×14201W, h20km, ML2.9/2, 282km northwest of Dawson, Yt Eastern Alaska.*
ISC 02 15:24:40.5±0.5,6635N±003×14205W±008,h10km,n18, σ1§20/29,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.47**	**318**	P	**Pn**	**15 25 07.2**	**+0.2**
BM3				S	**Sn**	**15 25 26.1**	**-0.2**
DAWY	**Dawson**	**2.56**	**153**	Pn	**Pn**	**15 25 23.5**	**+1.5**
DAWY				Pg	**Pg**	**15 25 27.6**	**-2.0**
DAWY				Sn	**Sn**	**15 25 54.2**	**+1.0**
DAWY				Sg	**Sg**	**15 26 03.3**	**+0.6**
DAWY				Trac		15 26 05.2	
comp=Z,23nm,0.1s							
DAWY	**Dawson**	**2.56**	**153**	P	**Pn**	**15 25 23.4**	**+1.4**
COLA	**College**	**2.83**	**241**	*e*Pn	**Pn**	**15 25 24.3**	**-1.4**
COLA				*e*Pg	**Pg**	**15 25 31.7**	**-3.0**
COLA				*e*S	**Sn**	**15 26 05.6**	**+5.7**
DOT	**Dot Lake**	**2.85**	**198**	P	**Pn**	**15 25 26.8**	**+0.7**
COLD	**Coldfoot**	**3.34**	**289**	P	**Pn**	**15 25 32.7**	**-0.1**
COLD				S	**Sn**	**15 26 12.7**	**+0.1**
MENT	**Mentasta**	**3.50**	**193**	P	**Pn**	**15 25 36.6**	**+1.5**
PAX	**Paxson**	**3.70**	**205**	P	**Pn**	**15 25 38.4**	**+0.6**
INK	**Inuvik**	**3.84**	**55**	Pn	**Pn**	**15 25 42.9**	**+3.2**
INK				Sg	**Sg**	**15 26 43.0**	**-0.9**
INK				Trac		15 26 50.9	
comp=Z,10.0nm,0.2s							
INK	**Inuvik**	**3.84**	**55**	*e*P	**Pn**	**15 25 42.7**	**+3.1**
MCK	**McKinley**	**3.93**	**231**	P	**Pn**	**15 25 40.9**	**0.0**
TRF	**Thorofare Moun**	**4.56**	**234**	P	**Pn**	**15 25 49.6**	**0.0**
KTH	**Kantishna Hill**	**4.70**	**237**	P	**Pn**	**15 25 50.9**	**-0.6**
IM3	**Indian Mountai**	**4.76**	**271**	P	**Pn**	**15 25 52.1**	**-0.2**
HYT	**Haines Junctio**	**5.91**	**158**	Pn	**Pn**	**15 26 10.2**	**+2.1**
HYT				Pg	**Pg**	**15 26 30.0**	**-3.7**
HYT				Sg	**Sg**	**15 27 48.4**	**-1.9**
HYT				Trac		15 27 60.0	
comp=Z,14nm,0.7s							
WHY	**Whitehorse**	**6.55**	**147**	Pn	**Pn**	**15 26 18.7**	**+1.8**
WHY				Sg	**Sg**	**15 28 09.5**	**-1.3**
WHY				Trac		15 28 31.0	
comp=Z,9.0nm,1.1s							
YKW3	**Yellowknife Ar**	**12.37**	**95**	Trac		15 30 20.4	
comp=Z,1.0nm,0.2s							
YKW3	**Yellowknife Ar**	**12.37**	**95**	Pn	**Pn**	**15 27 36.0**	**-0.7**
YKW3				Sn	**Sn**	**15 29 45.7**	**-8.9**

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*IDC **02** 15:32:07.4±18.0, 1882S×17166E, h235km±50km, mb3.9/5, mb1 3.9/7, mb1mx3.6/16, mbtmp4.5/7, Error ellipse: s-maj=245.9km s-min=38.1km az=85.0*
*ISCJB **02** 15:32:24.4±5.0, 1888S±01×1695E±06, h254km±7km, mb4.2/6, Error ellipse: s-maj=95.8km s-min=17.8km az=173.5*
ISC 02 15:32:26.6±5.0,1895S±01×1694E±06,h245km±7km,n13, σ0§64/14,mb4.2/6,1C-2D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.61**	**317**	⇑*i*P	**Pn**	**15 33 05.3**	**0.0**
BKM				S	**S**	**15 33 35.1**	**-0.7**
DZM	**Mont Dzumac**	**4.23**	**220**	P	**Pn**	**15 33 33.4**	**+0.5**
3.0nm,0.3s,baz=75,slow=18,SNR=31							
NOUC	**Port Laguerre**	**4.34**	**221**	*e*P	**Pn**	**15 33 34.8**	**+0.5**
HNR	**Honiara**	**13.10**	**314**	P	**Pn**	**15 35 24.8**	**+1.0**
3.6nm,0.3s,baz=76,slow=0.2,SNR=10							
CTA	**Charters Tower**	**21.86**	**263**	*e*P	**P**	**15 37 00.4**	**+0.8**
5.8nm,1.5s,mb3.9							
CTA	**Charters Tower**	**21.86**	**263**	P	**P**	**15 37 00.2**	**+0.6**
2.5nm,0.5s,mb4.0,baz=81,slow=12,SNR=7.0							
PMG	**Port Moresby**	**23.50**	**290**	P	**P**	**15 37 15.1**	**+0.6**
12nm,0.8s,mb4.5,baz=128,slow=13,SNR=4.3							
STKA	**Stephens Creek**	**28.18**	**237**	P	**P**	**15 37 55.5**	**-1.0**
1.8nm,0.6s,mb3.9,baz=67,slow=11,SNR=6.7							
WB2	**Warramunga Arr**	**33.04**	**262**	⇓*i*P	**P**	**15 38 38.0**	**-1.1**
WRA	**Warramunga Arr**	**33.05**	**262**	P	**P**	**15 38 38.6**	**-0.6**
1.1nm,0.3s,mb3.9,baz=82,slow=6.7,SNR=53							
ASAR	**Alice Springs**	**33.37**	**255**	P	**P**	**15 38 41.8**	**-0.1**
13nm,0.4s,mb4.8,baz=81,slow=8.8,SNR=450							
ASPA	**Alice Springs**	**33.37**	**255**	⇓*i*P	**P**	**15 38 41.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.43**	**264**	*e*P	**P**	**15 39 49.7**	**+0.3**
5.8nm,0.5s,mb4.3							

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*CSEM **02** 15:46:53.4±1.1, 3895N×2789W, h2km±4km, ML1.4, Error ellipse: s-maj=3.6km s-min=1.5km az=78.0, After PDA*
*PDA **02** 15:46:53.4±1.1, 3895N×2789W, h2km±4km, MD2.7, ML1.4, Error ellipse: s-maj=3.6km s-min=1.5km az=78.0*

SVSA 02 15:46:53.4±1.1,3895N×2789W,h2km±4km,MD2.7,ML1.4, Error ellipse: s-maj=3.6km s-min=1.5km az=78.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.14**	**305**	*e*P	Pg	15 46 56.0	-0.2
SRBC				*e*S	Sg	15 46 58.0	0.0
STGR	**Santa Cruz**	**0.15**	**325**	*e*P	Pg	15 46 56.1	-0.3
STGR				*e*S	Sg	15 46 58.7	+0.3
STGR							
49nm,0.1s							
STGR	**Santa Cruz**	**0.15**	**325**	*e*P	Pg	15 46 56.1	-0.3
STGR				*e*S	Sg	15 46 58.7	+0.3
PVIA	**Vitoria**	**0.17**	**313**	*e*P	Pg	15 46 56.6	0.0
PVIA				*e*S	Sg	15 46 59.1	+0.3
PVIA							
9.6nm,0.1s							
PAMA	**Santo Amaro**	**0.35**	**220**	*e*P	Pg	15 47 00.5	+0.3
PAMA				*e*S	Sg	15 47 04.9	+0.1
PAMA							
33nm,0.2s							
ROSA	**Rosais**	**0.36**	**230**	*e*P	Pg	15 46 59.6	-0.7
ROSA				*e*S	Sg	15 47 05.2	+0.2
ASBA	**Santa Barbara**	**0.50**	**118**	*e*S	Sg	15 47 09.2	-0.3
ASBA							
18nm,0.2s							
PID	**Ribeirinha**	**0.54**	**199**	*e*P	Pg	15 47 02.7	-1.1
PID				*e*S	Sg	15 47 09.8	-1.0
PTEI	**Pico do Teixo**	**0.58**	**219**	*e*S	Sg	15 47 11.5	-0.7
PTEI							
10.0nm,0.2s							
PICO	**Pico**	**0.62**	**223**	*e*P	Pg	15 47 04.0	-1.2
PICO				*e*S	Sg	15 47 12.3	-0.9
PBOI	**Pico dos Bois**	**0.64**	**216**	*e*rx		15 47 14.1	
PLUZ	**Luz**	**0.85**	**275**	*e*P	Pg	15 46 55.4	-14
PLUZ				*e*S	Sg	15 46 56.7	-24
PLUZ							
70nm,0.1s							

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*NIED **02** 15:48:00, 3540N×13570E, h5km, Mw3.9 Best double couple: M0=6.87000×10^14 NP1:φs=245.00000°, δ83.00000°, λ-171.00000°. NP2:φs=154.00000°, δ81.00000°, λ-7.00000°.*
*NEIC **02** 15:48:25.4±0.9, 3501N×13571E, h15km, mb4.1/4, Error ellipse: s-maj=19.8km s-min=10.6km az=154.0*
NEIC Recorded [3 JMA] in Fukui; [2 JMA] in Hyogo and Kyoto; [1 JMA] in Kagawa, Okayama and Shiga Prefectures.
*ISCJB **02** 15:48:25.7±0.3, 3536N±003×13571E±003, h10km, mb3.8/8, MS3.0/1, Error ellipse: s-maj=4.3km s-min=3.0km az=168.8*
*JMA **02** 15:48:25.6, 3539N×13572E, h7km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs=147.00000°, δ69.00000°, λ-9.00000°. NP2:φs=241.00000°, δ82.00000°, λ-158.00000°. Principal axes: T Plg9.0000°, Azm12.0000°; N Plg67.0000°, Azm260.0000°; P Plg21.0000°, Azm106.0000°;*
JMA Felt III J1.
*IDC **02** 15:48:26.3±1.1, 3530N×13572E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML3.3/2, MS3.1/2, Ms1 3.1/2, ms1mx2.3/37 Error ellipse: s-maj=25.5km s-min=19.9km az=28.0*
*MOS **02** 15:48:28.1±1.6, 3524N×13577E, h33km, mb4.4/4, Error ellipse: s-maj=18.2km s-min=13.2km az=62.7*
ISC 02 15:48:26.5±0.3,3535N±003×13569E±003,h10km,n31, σ1§28/44,mb3.8/8,MS3.0/1,3C-5D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.24**	**254**	⇓P	**Pg**	**15 48 31.2**	**-0.3**
JWT				S	**Sg**	**15 48 34.6**	**-0.3**
JFM	**Mihama**	**0.30**	**53**	⇑P	**Pg**	**15 48 31.0**	**-1.5**
JFM				S	**Sg**	**15 48 34.6**	**-1.9**
JKY	**Yasaka**	**0.55**	**300**	⇓P	**Pg**	**15 48 36.5**	**-0.8**
JKY				S	**Sg**	**15 48 44.2**	**-0.3**
JHE	**Heguri**	**0.69**	**180**	⇑P	**Pg**	**15 48 39.9**	**-0.1**
JHE				S	**Sg**	**15 48 48.9**	**-0.1**
JKS	**Kasai**	**0.78**	**242**	⇑P	**Pg**	**15 48 41.4**	**-0.2**
JKS				S	**Sg**	**15 48 51.9**	**0.0**
JKSM	**Kasumi**	**0.87**	**286**	⇓P	**Pg**	**15 48 42.4**	**-0.9**
JKSM				S	**Sg**	**15 48 53.8**	**-0.8**
TSUJ	**Tsu 2**	**0.88**	**137**	⇓P	**Pg**	**15 48 42.3**	**-1.1**
TSUJ				S	**Sg**	**15 48 53.6**	**-1.2**
JGM	**Miyama**	**0.91**	**67**	⇓P	**Pg**	**15 48 42.3**	**-1.7**
JGM				S	**Sg**	**15 48 53.3**	**-2.6**
MAJO	**Matsushiro**	**2.36**	**59**	*e*Pn	**Pn**	**15 49 04.5**	**-0.8**
MAJO				*e*Sn	**Sn**	**15 49 37.3**	**+2.9**
MAT	**Matsushiro**	**2.36**	**59**	P	**Pn**	**15 49 05.6**	**+0.2**
MAT				S	**Sn**	**15 49 35.1**	**+0.7**
MAT	**Matsushiro**	**2.36**	**59**	*e*P	**Pn**	**15 49 06.0**	**+0.6**
MAT				*e*S	**Sn**	**15 49 39.0**	**+4.6**
MJAR	**Matsushiro Arr**	**2.37**	**59**	Pn	**Pn**	**15 49 06.6**	**+1.2**
6.8nm,0.3s,baz=253,slow=14,SNR=38							
MJAR				Sn	**Sn**	**15 49 39.0**	**+4.5**
6

ISCJB **02** *16:05:47.1±0.3,3647N×002×7067E×003,h204km±4km, mb4.2/49,Error ellipse: s-maj=4.2km s-min=3.0km az=154.7*
MOS **02** *16:05:48.5±0.9,3657N×7063E,h212km,mb4.1/19,Error ellipse: s-maj=8.7km s-min=4.9km az=108.3*
NEIC **02** *16:05:49.7±0.3,3647N×7070E,mb4.3/28,Error ellipse: s-maj=6.1km s-min=5.0km az=200.0*
BJI **02** *16:05:49.3,3680N×7051E,h228km,mB4.8,mb4.5*
IDC **02** *16:05:49.6±0.8,3637N×7064E,h215km±7km,mb3.9/18, mb1 4.0/20,mb1mx3.9/25,mbtmp4.5/20,Error ellipse: s-maj=12.2km s-min=11.1km az=25.0*
NNC **02** *16:05:54.9±2.8,3705N×7068E,h216km±21km,mb3.6, mpv5.2,Error ellipse: s-maj=28.4km s-min=12.6km az=32.0*
OMAN **02** *16:07:57.1,2892N×6218E,h116km,Error ellipse: s-maj=1105.0km s-min=20.5km az=39.0*
ISC 02 16:05:48.4±0.3,3645N±002×7071E±003,h202km±3km, h215km±2.7km:pP-P,n221,σ1900/253,mb4.2/49,19C-21D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.79**	**159**	⇓P	**Pn**	**16 06 37.0**	**+1.3**
CHCP	**Chirah Chowk**	**3.48**	**142**	⇑P	**Pn**	**16 06 44.5**	**+0.7**
THW	**Thamme Wali**	**3.74**	**167**	⇓P	**Pn**	**16 06 47.9**	**+0.9**
SBDP	**Sheikh Budin**	**4.14**	**179**	⇑P	**Pn**	**16 06 51.9**	**0.0**
DRP	**Derazinda**	**4.71**	**185**	P	**Pn**	**16 06 59.2**	**+0.1**
SARP	**Sargodha**	**4.80**	**160**	P	**Pn**	**16 07 00.5**	**+0.3**
JMU	**Jammu**	**5.08**	**136**	*e*S	**Sn**	**16 08 01.0**	**-2.3**
KSH	**Kashi**	**5.17**	**52**	⇓*i*P	**Pn**	**16 07 06.5**	**+1.6**
KSH				S	**Sn**	**16 07 57.8**	**-7.5**
KSH				Smax			
	comp=N,2μm,0.6s						
KSH				Smax			
	comp=E,2μm,0.5s						
DLH	**Dalhousie**	**5.83**	**130**	*e*P	**Pn**	**16 07 14.0**	**+0.6**
DLH				*ex*	x	16 08 21.0	
PONG	**Pong**	**6.24**	**134**	*e*P	**Pn**	**16 07 18.0**	**-0.7**
PONG				*e*S	**Sn**	**16 08 28.0**	**-2.3**
UCH	**Uchtor**	**6.48**	**26**	P	**Pn**	**16 07 22.1**	**+0.3**
	SNR=606						
KZA	**Kyzart**	**6.63**	**31**	P	**Pn**	**16 07 23.6**	**-0.2**
	SNR=229						
EKS2	**Erkin-Say**	**6.64**	**20**	P	**Pn**	**16 07 23.9**	**0.0**
	SNR=223						
KK31	**Karatay Array**	**6.65**	**359**	⇓P	**Pn**	**16 07 22.9**	**-1.1**
	comp=E,55nm,0.2s,baz=176,slow=13,SNR=1420						
KK31				⇑S	**Sn**	**16 08 33.6**	**-6.3**
	comp=E,260nm,0.8s,baz=172,slow=24,SNR=4.0						
KKAR	**Karatay Array**	**6.65**	**359**	*e*PN	**Pn**	**16 07 22.9**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,40nm,0.2s						
AAK	**Ala-Archa**	**6.83**	**24**	P	**Pn**	**16 07 26.7**	**+0.3**
	SNR=57						
AAK	**Ala-Archa**	**6.83**	**24**	⇓*i*Pn	**Pn**	**16 07 25.5**	**-0.9**
AAK				*e*S	**Sn**	**16 08 32.1**	**-12**
BHK	**Bhakra**	**6.90**	**135**	*e*P	**Pn**	**16 07 30.2**	**+2.9**
BHK				*ex*	**Sn**	**16 08 37.4**	**-8.5**
KBK	**Karagaybulak**	**7.01**	**27**	P	**Pn**	**16 07 29.3**	**+0.6**
	SNR=118						
FRU	**Bishkek**	**7.05**	**24**	⇓*i*PN	**Pn**	**16 07 29.4**	**+0.1**
FRU				*e*S	**Sn**	**16 08 52.0**	**+2.6**
FRU				pmax	pmax		
	comp=Z,220nm,1.2s						
FRU				smax			
	comp=E,200nm,1.4s						
SDNR	**Sundarnagar**	**7.17**	**132**	*e*P	**Pn**	**16 07 31.0**	**+0.3**
SDNR				*e*S	**Sn**	**16 08 47.6**	**-4.5**
ULHL	**Ulahol**	**7.20**	**35**	P	**Pn**	**16 07 30.8**	**-0.4**
	SNR=74						
CHMS	**Chumysh**	**7.25**	**24**	P	**Pn**	**16 07 31.3**	**-0.4**
	SNR=207						
USP	**Ospenovka**	**7.41**	**22**	P	**Pn**	**16 07 32.9**	**-0.9**
	SNR=76						
TKM2	**Tokmak 2**	**7.48**	**29**	P	**Pn**	**16 07 35.0**	**+0.2**
	SNR=45						
TKM2	**Tokmak 2**	**7.48**	**29**	⇑P	**Pn**	**16 07 34.8**	**0.0**
	comp=E,27nm,0.5s						
TKM2	**Tokmak 2**	**7.48**	**29**	PN	**Pn**	**16 07 34.8**	**0.0**
TKM2				pmax	pmax		
	comp=Z,171nm,0.5s						
SMLA	**Simla**	**7.55**	**133**	*e*P	**Pn**	**16 07 35.2**	**-0.5**
SMLA				⇓*i*P		16 07 35.4	
SMLA				*e*S	**Sn**	**16 08 55.7**	**-5.4**
SMLA				*i* S	**Sn**	**16 08 58.5**	**-2.7**
SMLA				AML	AML	16 09 01.9	
	comp=N,364nm,0.2s						
SMLA				AML	AML	16 09 02.9	
	comp=E,393nm,0.3s						
KLP	**Kalpa**	**7.95**	**126**	*e*P	**Pn**	**16 07 41.0**	**+0.1**
KLP				*e*S	**Sn**	**16 09 04.3**	**-6.2**
KNDC	**Almaty**	**8.30**	**34**	⇑P	**Pn**	**16 07 46.1**	**+0.7**
	comp=E,305nm,0.8s						
DDI	**Dehra Dun**	**8.66**	**133**	*ex*	x	16 09 05.0	
BHGR	**Bahadurgarh**	**9.35**	**144**	*e*S	**Sn**	**16 09 36.7**	**-7.1**
KHET	**Khetri**	**9.39**	**151**	*e*P	**Pn**	**16 07 59.2**	**-0.5**
KHET				*e*S	**Sn**	**16 09 37.8**	**-7.1**
KHET				AML	AML	16 09 42.0	
	comp=N,139nm,0.3s						
KHET				AML	AML	16 09 42.1	
	comp=E,139nm,0.3s						
JOSI	**Joshimath**	**9.44**	**126**	*ex*	**Pn**	**16 07 55.8**	**-4.5**
NDI	**New Delhi**	**9.49**	**143**	*e*P	**Pn**	**16 08 00.5**	**-0.4**
NDI				*e*S	**Sn**	**16 09 39.0**	**-8.1**
JASL	**Jaisalmer**	**9.49**	**179**	*e*P	**Pn**	**16 08 00.6**	**-0.4**
AYAN	**Aya Nagar**	**9.61**	**144**	*e*P	**Pn**	**16 08 02.3**	**-0.2**
AYAN				*e*S	**Sn**	**16 09 42.5**	**-7.6**
AYAN				AML	AML	16 09 47.7	
	comp=Z,115nm,0.5s						
SONA	**Sohna**	**9.79**	**145**	*e*P	**Pn**	**16 08 04.9**	**+0.1**
SONA				*e*S	**Sn**	**16 09 47.1**	**-7.1**
AJM	**Ajmer**	**10.49**	**160**	*i* P	**Pn**	**16 08 13.0**	**-0.8**
AJM				*e*P		16 08 13.7	
AJM				AMb	AMB	16 08 14.1	
	comp=Z,33nm,0.6s						
AJM				*i* S	**Sn**	**16 10 04.0**	**-6.9**
LGTI	**Lohaghat**	**10.62**	**128**	*e*P	**Pn**	**16 08 14.0**	**-1.5**
LGTI				*e*S	**Sn**	**16 10 06.0**	**-8.0**
AGRA	**Agra**	**11.05**	**144**	*e*P	**Pn**	**16 08 20.0**	**-1.1**
AGRA				AMb	AMB	16 08 20.4	
	comp=Z,67nm,0.3s						
AGRA				*e*S	**Sn**	**16 10 15.4**	**-9.0**
BHJ	**Bhuj**	**13.18**	**184**	*e*P	**Pn**	**16 08 48.1**	**+0.1**
BHJ				AMb	AMB	16 08 55.0	
	comp=Z,130nm,1.1s						
MKAR	**Makanchi Array**	**13.47**	**36**	P	**Pn**	**16 08 50.5**	**-1.1**
	comp=Z,2.8nm,0.3s,baz=219,slow=14,SNR=130						
MKAR	**Makanchi Array**	**13.47**	**36**	*i* P	**Pn**	**16 08 51.4**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,20nm,0.8s						
MK05	**Makanchi Array**	**13.47**	**36**	⇓P	**Pn**	**16 08 51.5**	**-0.1**
	comp=Z,21nm,0.7s						
KOLN	**Koldanda**	**13.92**	**125**	*e*P	**Pn**	**16 08 57.5**	**+0.3**
	comp=Z,24nm,0.3s						
BHPL	**Bhopal**	**14.38**	**154**	*e*P	**Pn**	**16 09 01.2**	**-1.6**
BHPL				AMb	AMB	16 09 08.0	
	comp=Z,56nm,0.6s						
BHPL				*ex*	x	16 11 35.0	
GKN	**Gorkha**	**14.47**	**122**	*e*P	**Pn**	**16 09 04.7**	**+0.7**
	comp=Z,62nm,0.3s						
GKN				*e*S	**S**	**16 11 35.6**	**-9.2**
WMQ	**Urumqi**	**14.92**	**55**	P	**Pn**	**16 09 10.3**	**+0.9**
WMQ				XP		16 10 04.8	
WMQ				S	**S**	**16 11 48.1**	**-7.0**
WMQ				SCP	ScP	16 17 19.1	+0.1
WMQ				PCS	PcS	16 17 41.8	+2.2
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
AB31	**Akbulak array**	**15.02**	**332**	⇑P	**Pn**	**16 09 08.5**	**-2.2**
	comp=Z,10nm,0.5s,baz=143,slow=11,SNR=149						
AB31				⇑S	**S**	**16 11 50.0**	**-7.3**
	comp=Z,4.8nm,0.6s,baz=138,slow=26,SNR=3.9						
AB31	**Akbulak array**	**15.02**	**332**	*i* P	**Pn**	**16 09 08.3**	**-2.4**
AB31				S	**S**	**16 11 44.0**	**-13**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AB31				smax			
	comp=Z,1.0nm,0.3s						
DMN	**Daman**	**15.04**	**122**	*e*P	**Pn**	**16 09 11.9**	**+0.9**
	comp=Z,66nm,0.4s						
KKN	**Kakani**	**15.05**	**121**	*e*P	**Pn**	**16 09 11.9**	**+0.9**
	comp=Z,41nm,0.2s						
PKI	**Pulchoki**	**15.28**	**121**	*e*P	**Pn**	**16 09 14.8**	**+1.0**
	comp=Z,71nm,0.4s						
KURK	**Kurchatov**	**15.36**	**19**	⇓P	**Pn**	**16 09 12.8**	**-2.0**
	comp=Z,8.5nm,1.0s						
KURK	**Kurchatov**	**15.36**	**19**	⇓*i*P	**Pn**	**16 09 12.9**	**-1.9**
KURK	**Kurchatov**	**15.36**	**19**	⇓*e*Pn	**Pn**	**16 09 12.8**	**-2.0**
GUN	**Gumba**	**15.39**	**119**	*e*P	**Pn**	**16 09 16.1**	**+0.9**
	comp=Z,52nm,0.3s						
JIRN	**Jiri**	**15.76**	**119**	*e*P	**Pn**	**16 09 21.6**	**+1.9**
	comp=Z,174nm,0.5s						
BANOM	**Banah**	**16.17**	**234**	P	**P**	**16 09 23.7**	**-0.2**
	SNR=17						
BANOM	**Banah**	**16.17**	**234**	P	**P**	**16 09 23.7**	**-0.2**
	SNR=17						
VOSK	**Vostochnaya**	**16.28**	**1**	⇑P	**P**	**16 09 24.0**	**-1.1**
	comp=Z,7.5nm,0.8s						
VOSK	**Vostochnaya**	**16.28**	**1**	P	**P**	**16 09 24.0**	**-1.1**
VOSK				S	**S**	**16 12 18.0**	**-7.2**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VOSK				smax			
	comp=Z,12nm,1.0s						
ZRNK	**Zerenda**	**16.55**	**356**	⇑P	**P**	**16 09 28.0**	**-0.1**
	comp=Z,6.8nm,0.7s						
ZRNK	**Zerenda**	**16.55**	**356**	P	**P**	**16 09 27.9**	**-0.2**
ZRNK				S	**S**	**16 12 23.2**	**-7.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZRNK				smax			
	comp=Z,10.0nm,0.9s						
ZRNK	**Zerenda**	**16.55**	**356**	⇑*i*P	**P**	**16 09 28.3**	**+0.2**
	comp=Z,9.1nm,0.6s						
ZRNK				*e*S	**S**	**16 12 20.4**	**-10**
BVA0	**Borovoye Array**	**16.58**	**359**	⇓P	**P**	**16 09 28.3**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=182,slow=15,SNR=60						
BVA0	**Borovoye Array**	**16.58**	**359**	*i* P	**P**	**16 09 28.6**	**+0.2**
BVA0				*i* S	**S**	**16 12 25.9**	**-5.4**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVA0				smax			
	comp=Z,4.0nm,1.3s						
BRVK	**Borovoye**	**16.61**	**359**	⇓*i*P	**P**	**16 09 28.9**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRVK	**Borovoye**	**16.61**	**359**	⇓*i*P	**P**	**16 09 28.9**	**0.0**
	comp=Z,7.4nm,0.7s						
AKTK	**Aktyubinsk**	**16.71**	**331**	P	**P**	**16 09 30.1**	**+0.2**
AKTK				S	**S**	**16 12 27.1**	**-6.9**
AKTO	**Aktyubinsk**	**16.71**	**331**	⇑P	**P**	**16 09 29.7**	**-0.2**
	comp=Z,1.7nm,0.8s						
AKTO	**Aktyubinsk**	**16.71**	**331**	P	**P**	**16 09 30.1**	**+0.2**
	comp=Z,6.1nm,0.3s,baz=141,slow=10,SNR=211						
AKTO				S	**S**	**16 12 27.1**	**-6.9**
	comp=Z,0.2nm,0.3s,baz=209,slow=20,SNR=4.4						
WSAR	**Wadi Sarin**	**16.80**	**222**	P	**P**	**16 09 32.2**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=32,slow=11,SNR=19						
WSAR	**Wadi Sarin**	**16.80**	**222**	P	**P**	**16 09 32.2**	**+1.3**
NGP	**Nagpur**	**16.89**	**152**	*e*P	**P**	**16 09 30.4**	**-1.4**
NGP				*e*S	**S**	**16 12 36.3**	**-1.3**
WBK	**Wadi Bani Khal**	**17.14**	**220**	⇓P	**P**	**16 09 36.5**	**+1.9**
WBK	**Wadi Bani Khal**	**17.14**	**220**	⇓P	**P**	**16 09 36.5**	**+1.9**
ASHO	**Ashiyiah**	**17.20**	**231**	P	**P**	**16 09 36.0**	**+0.8**
	SNR=28						
ASHO	**Ashiyiah**	**17.20**	**231**	P	**P**	**16 09 36.0**	**+0.8**
	SNR=28						
CHKZ	**Chkalovo**	**17.23**	**360**	⇓P	**P**	**16 09 35.2**	**-0.4**
	comp=Z,3.6nm,0.5s						
CHKZ	**Chkalovo**	**17.23**	**360**	⇓*e*P	**P**	**16 09 35.8**	**+0.2**
CHKZ				*e*S	**S**	**16 12 44.9**	**+0.5**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CHKZ	**Chkalovo**	**17.23**	**360**	⇓*e*P	**P**	**16 09 35.8**	**+0.2**
	comp=Z,7.8nm,0.5s						
CHKZ				*e*S	**S**	**16 12 44.9**	**+0.5**
SMDO	**Samad**	**17.26**	**223**	⇓P	**P**	**16 09 36.3**	**+0.4**
SMDO	**Samad**	**17.26**	**223**	⇓P	**P**	**16 09 36.3**	**+0.4**
BLSP	**Bilaspur**	**17.38**	**142**	*e*P	**P**	**16 09 34.3**	**-2.9**
JMDO	**Jabal Madar**	**17.79**	**221**	⇑P	**P**	**16 09 43.9**	**+2.2**
JMDO	**Jabal Madar**	**17.79**	**221**	⇑P	**P**	**16 09 43.9**	**+2.2**
ARQ	**Araqi**	**17.92**	**227**	P	**P**	**16 09 44.4**	**+1.3**
	SNR=9.2						
ARQ	**Araqi**	**17.92**	**227**	P	**P**	**16 09 44.4**	**+1.3**
	SNR=9.2						
BSY	**Bisya**	**17.98**	**224**	P	**P**	**16 09 45.5**	**+1.8**
	SNR=7.2						
BSY	**Bisya**	**17.98**	**224**	P	**P**	**16 09 45.5**	**+1.8**
	SNR=7.2						
BOK	**Bokaro**	**18.17**	**130**	*ex*	**P**	**16 09 48.2**	**+2.4**
BOK				AMb	AMB	16 09 51.9	
	comp=Z,12nm,0.3s						
LSA	**Lhasa**	**18.39**	**106**	*e*P	**P**	**16 09 56.5**	**+8.3**
LSA	**Lhasa**	**18.39**	**106**	*e*P	**P**	**16 09 57.0**	**+8.8**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s						
LSA	**Lhasa**	**18.39**	**106**	*e*P	**P**	**16 09 57.0**	**+8.8**
	comp=Z,11nm,0.8s						
ORR	**Orenburg**	**18.95**	**328**	⇓*i*P	**P**	**16 09 53.9**	**-0.4**
ORR				*i*		16 13 14.3	
ORR				pmax	pmax		
	comp=Z,80nm,0.8s						
HYB	**Hyderabad**	**20.19**	**158**	*i* P	**P**	**16 10 11.0**	**+3.5**
HYB				*e*S	**S**	**16 13 41.0**	**-1.7**
HYB	**Hyderabad**	**20.19**	**158**	*e*P	**P**	**16 10 12.0**	**+4.5**
HYB				*e*S	**S**	**16 13 52.0**	**+9.3**
NVS	**Novosibirsk**	**20.32**	**21**	⇑*i*P	**P**	**16 10 08.6**	**-0.3**
NVS				*e*S	**S**	**16 13 42.8**	**-2.4**
NVS				pmax	pmax		
	comp=N,26nm,1.8s						
NVS				pmax	pmax		
	comp=Z,27nm,1.8s						
NVS				smax			
	comp=E,43nm,1.4s						
KBD	**Kabd**	**20.63**	**256**	*e*P	**P**	**16 10 12.1**	**-0.1**
KBD				AMb	AMB	16 10 15.2	
	comp=Z,88nm,0.6s						
MIB	**Mutribah**	**20.64**	**258**	*e*P	**P**	**16 10 12.1**	**-0.2**
MIB				AMb	AMB	16 10 15.2	
	comp=Z,39nm,0.6s						
GNI	**Garni**	**20.69**	**288**	P	**P**	**16 10 14.6**	**+1.8**
	comp=Z,5.2nm,0.4s,baz=19,slow=5.9,SNR=7.0						
GNI	**Garni**	**20.69**	**288**	P	**P**	**16 10 14.6**	**+1.8**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
GNI	**Garni**	**20.69**	**288**	*e*P	**P**	**16 10 15.0**	**+2.2**
	comp=Z,49nm,1.1s						
RDF	**Al-Radifah**	**20.86**	**256**	*e*P	**P**	**16 10 14.4**	**-0.2**
RDF				AMb	AMB	16 10 20.7	
	comp=Z,35nm,0.4s						
NAY	**Al-Naaiem**	**20.95**	**257**	*e*P	**P**	**16 10 15.0**	**-0.6**
NAY				AMb	AMB	16 10 18.1	
	comp=Z,16nm,0.6s						
SHL	**Shillong**	**21.10**	**115**	*e*P	**P**	**16 10 14.3**	**-2.8**
ZEI	**Tsey**	**21.55**	**295**	*e*P	**P**	**16 10 24.0**	**+2.1**
ZEI				*e**PP		16 10 55.4	
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
ARU	**Arti**	**21.61**	**341**	*e*P	**P**	**16 10 22.3**	**-0.2**
ARU				pmax	pmax		
	comp=Z,45nm,1.6s,mb4.8						
ARU	**Arti**	**21.61**	**341**	*e*P	**P**	**16 10 22.0**	**-0.5**
	comp=Z,22nm,0.8s,mb4.7						
GOF	**Gofitskoye**	**22.58**	**301**	*e*P	**P**	**16 10 31.6**	**0.0**
GOF				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**22.61**	**298**	*e*P	**P**	**16 10 31.8**	**0.0**
KIV				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
KIV	**Kislovodsk**	**22.61**	**298**	*e*P	**P**	**16 10 34.6**	**+2.7**
	comp=Z,12nm,0.6s,mb4.6						
GTA	**Gaotai**	**23.10**	**74**	*e*P	**P**	**16 10 39.5**	**+3.1**
GTA				S	**S**	**16 14 36.8**	**+4.7**
GTA				AMB	AMB		
	comp=Z,40nm,4.9s						
GTA				LR	LR		
	comp=N,60nm,8.4s						
GTA				LR	LR		
	comp=E,60nm,8.0s						
GTA				LR	LR		
	comp=Z,60nm,11.0s						
MALT	**Malatya**	**25.65**	**284**	P	**P**	**16 11 00.8**	**+1.3**
ANN	**Anapa**	**26.45**	**299**	*e*P	**P**	**16 11 17.2**	**+11**
ANN				*e**PP	pP	16 12 01.0	+14
ANN				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.7						
LZH	**Lanzhou**	**26.65**	**81**	*e*P	**P**	**16 11 10.2**	**+1.8**
LZH				AP	pP	16 11 52.5	+3.5
LZH				PP	PP	16 12 05.0	-7.8
LZH				XP	sP	16 12 19.3	+6.8
LZH				PCP	PcP	16 14 31.0	+4.3
LZH				*e*S	**S**	**16 15 23.1**	**-5.1**
LZH				XS	sS	16 16 44.0	+2.8
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
LZH				AMB	AMB		
	comp=Z,50nm,5.0s						
CD2	**Chengdu**	**27.96**	**92**	*e*P	**P**	**16 11 20.2**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
SONM	**Songino Array**	**28.56**	**55**	P	**P**	**16 11 27.4**	**+2.1**
	comp=Z,1.1nm,0.8s,mb3.5,baz=279,slow=11,SNR=9.2						
ULN	**Ulaanbaatar**	**29.00**	**55**	P	**P**	**16 11 30.9**	**+1.7**
ULN				*e**PP	pP	16 12 14.7	+4.4
BR131	**Keskin Array S**	**29.23**	**288**	*e*P	**P**	**16 11 31.4**	**+0.2**
BR131				*e*		16 11 39.7	
BRTR	**Keskin Array B**	**29.23**	**288**	P	**P**	**16 11 31.7**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.6,baz=101,slow=10,SNR=5.9						
MOS	**Moscow**	**29.55**	**321**	*e*P	**P**	**16 11 32.5**	**-1.6**
MOS				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.1						
KMI	**Kunming**	**29.61**	**103**	P	**P**	**16 11 33.9**	**-0.7**
KMI				AP	pP	16 12 24.1	+8.4
KMI				XP	sP	16 12 45.7	+6.6
OBN	**Obninsk**	**29.83**	**320**	*αe*P	**P**	**16 11 36.6**	**+0.1**
OBN				*e*		16 12 37.0	
OBN				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.0						
OBN	**Obninsk**	**29.83**	**320**	*e*P	**P**	**16 11 36.7**	**+0.2**
	comp=Z,31nm,0.6s,mb5.1						
HHC	**Hu-ho-hao-te**	**32.00**	**69**	*e*P	**P**	**16 11 58.2**	**+2.6**
HHC				AP	pP	16 12 43.2	+6.3
HHC				XP	sP	16 13 09.4	+9.2
HHC				PCP	PcP	16 14 43.2	+2.8
HHC				S	**S**	**16 16 50.1**	**-1.9**
HHC				SCP	ScP	16 18 04.4	-0.1
HHC				XS	sS	16 18 11.7	+6.1
HHC				PCS	PcS	16 18 27.7	+2.4
HHC				SS	SS	16 19 00.5	-18
HHC				SCS	ScS	16 22 01.4	-2.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
HHC				AMB	AMB		
	comp=Z,120nm,4.9s						
AKASG	**Malin Array Be**	**32.80**	**309**	P	**P**	**16 12 01.5**	**-1.0**
	comp=Z,3.1nm,0.5s,mb4.1,baz=80,slow=7.6,SNR=26						
JOF	**Joensuu**	**35.80**	**330**	*ep*	**P**	**16 12 27.9**	**-0.4**
	comp=Z,16nm,0.4s,mb4.9						
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**16 12 41.8**	**+0.1**
	comp=Z,12nm,0.6s,mb4.6,baz=116,slow=9.8,SNR=49						
KAF	**Kangasniemi**	**37.55**	**327**	*ep*	**P**	**16 12 42.7**	**-0.3**
	comp=Z,15nm,0.7s,mb4.6,baz=112,slow=8.2						
KAF	**Kangasniemi**	**37.55**	**327**	*e*P	**P**	**16 12 42.7**	**-0.3**
KAF				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.6						
NJ2	**Nanjing**	**39.71**	**82**	*e*P	**P**	**16 13 02.1**	**+1.1**
NJ2				AP	pP	16 13 46.4	+2.7
NJ2				PP	PP	16 14 41.1	+4.5
NJ2				S	**S**	**16 18 50.0**	**+0.7**
NJ2				XS	sS	16 20 09.0	+4.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
NJ2				LR	LR		
	comp=N,450nm,23.4s						
NJ2				LR	LR		
	comp=E,590nm,22.6s						
NJ2				LR	LR		
	comp=Z,360nm,24.1s						
MORC	**Moravsky Berou**	**40.21**	**307**	*e*P	**P**	**16 13 05.3**	**+0.2**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
MORC	**Moravsky Berou**	**40.21**	**307**	*e*P	**P**	**16 13 05.3**	**+0.2**
	comp=Z,3.0nm,0.8s,mb3.8						
MORC				*e*		16 13 09.5	
KEV	**Kevo**	**40.77**	**338**	*ep*	**P**	**16 13 09.6**	**-0.1**
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**16 13 12.8**	**+0.4**
	comp=Z,11nm,0.6s,mb4.5,baz=112,slow=7.9,SNR=57						
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**16 13 12.8**	**+0.3**
ARE0	**ARCESS Array S**	**41.10**	**338**	*e*P	**P**	**16 13 12.7**	**+0.3**
ARE0				*e*		16 13 27.5	
SSE	**Sheshan**	**41.91**	**82**	P	**P**	**16 13 19.3**	**+0.3**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,240nm,3.9s						
BRG	**Berggiesshubel**	**42.47**	**308**	*e*P	**P**	**16 13 23.8**	**+0.3**
	comp=Z,2.3nm,0.7s,mb3.7						
BRG	**Berggiesshubel**	**42.47**	**308**	*e*P	**P**	**16 13 23.8**	**+0.3**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
GERES	**GERESS Array B**	**42.77**	**305**	P	**P**	**16 13 25.8**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.2,baz=103,slow=7.1,SNR=3.3						
HFS	**Hagfors**	**42.97**	**322**	P	**P**	**16 13 27.6**	**+0.1**
	comp=Z,24nm,0.7s,mb4.7,baz=106,slow=11,SNR=52						
AQU	**L'Aquila**	**43.96**	**296**	P	**P**	**16 13 35.0**	**-0.4**
AQU				pmax	pmax		
	comp=Z,43nm,1.2s,mb4.7						
AQU	**L'Aquila**	**43.96**	**296**	P	**P**	**16 13 35.0**	**-0.4**
	comp=Z,42nm,1.2s,mb4.7						
NB2	**NORSAR Subarra**	**44.28**	**323**	P	**P**	**16 13 37.1**	**-0.8**
	comp=Z,14nm,0.6s,mb4.5,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**16 13 37.5**	**-0.5**
	comp=Z,16nm,0.7s,mb4.5,baz=97,slow=7.8,SNR=50						
MDJ	**Mudanjiang**	**44.63**	**60**	P	**P**	**16 13 40.6**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,50nm,5.

MTLF	Montolieu	51.67	300	eP		P	16 14 34.1	-0.4
LDF	La Druitiere	51.82	307	eP		P	16 14 35.1	-0.5
	comp=Z,6.1nm,0.7s,mb3.9							
LDF	La Druitiere	51.82	307	eP		P	16 14 35.1	-0.5
LDF				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.8							
LDF	La Druitiere	51.82	307	eP		P	16 14 35.1	-0.5
	comp=Z,3.0nm,0.7s,mb3.8							
FLN	La Foliniere	52.01	307	eP		P	16 14 36.6	-0.4
GRR	Gorron	52.35	307	eP		P	16 14 38.4	-1.1
	comp=Z,7.0nm,0.7s,mb3.9							
GRR	Gorron	52.35	307	eP		P	16 14 38.4	-1.1
GRR				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.0							
GRR	Gorron	52.35	307	eP		P	16 14 38.4	-1.1
	comp=Z,3.5nm,0.7s,mb3.9							
ETSF	Etsaut	53.74	300	eP		P	16 14 49.5	-0.2
	comp=Z,7.3nm,0.6s,mb4.1							
ETSF	Etsaut	53.74	300	eP		P	16 14 49.5	-0.2
ETSF				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.1							
ETSF	Etsaut	53.74	300	eP		P	16 14 49.5	-0.2
	comp=Z,3.7nm,0.6s,mb4.1							
ROSF	Rostrenen	53.91	307	eP		P	16 14 50.0	-0.9
	comp=Z,16nm,1.0s,mb4.2							
ROSF	Rostrenen	53.91	307	eP		P	16 14 50.0	-0.9
ROSF				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.2							
ROSF	Rostrenen	53.91	307	eP		P	16 14 50.0	-0.9
	comp=Z,8.1nm,1.0s,mb4.2							
DAG	Danmarks Havn	54.72	344	⇑iP		P	16 14 57.0	+0.3
	comp=Z,4.0nm,0.6s,mb4.1							
DAG	Danmarks Havn	54.72	344	⇑iP		P	16 14 57.0	+0.3
DAG				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.1							
BILL	Bilibino	58.76	26	eP		P	16 15 26.0	+0.9
BILL				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.0							
BILL	Bilibino	58.76	26	eP		P	16 15 26.0	+0.9
	comp=Z,3.2nm,0.8s,mb4.0							
SUMG	Summit	61.04	341	eP		P	16 15 41.6	+1.0
	comp=Z,12nm,1.1s,mb4.5							
TORD	Torodi Ar. Bea	65.48	268	P		P	16 16 08.2	-1.5
	comp=Z,11nm,0.5s,mb4.7,baz=49,slow=5.8,SNR=84							
INK	Inuvik	74.00	9	P		P	16 17 02.2	+0.5
INK	Inuvik	74.00	9	eP		P	16 17 01.7	0.0
INK				e*PP		pP	16 17 49.7	-0.1
INK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
INK	Inuvik	74.00	9	eP		P	16 17 01.7	0.0
	comp=Z,7.5nm,1.0s,mb4.3							
INK				epP		pP	16 17 49.7	0.0
DBIC	Dimbokro	74.46	267	P		P	16 17 03.8	-0.6
	comp=Z,2.6nm,0.5s,mb4.1,baz=36,slow=9.3,SNR=7.8							
DBIC	Dimbokro	74.46	267	P		P	16 17 03.8	-0.6
DBIC				pmax	pmax			
	comp=Z,3.0nm,0.5s							
DBIC	Dimbokro	74.46	267	eP		P	16 17 03.2	-1.2
	comp=Z,4.9nm,0.8s,mb4.2							
ILAR	Eielson Array	74.89	16	P		P	16 17 06.3	-0.5
	comp=Z,1.2nm,0.5s,mb3.8,baz=321,slow=4.9,SNR=18							
DAWY	Dawson	77.03	13	eP		P	16 17 20.2	+1.2
BOSA	Boshof	77.55	220	P		P	16 17 22.0	+0.2
	comp=Z,4.1nm,0.7s,mb4.2,baz=14,slow=7.5,SNR=5.3							
BOSA	Boshof	77.55	220	P		P	16 17 22.0	+0.2
KDAK	Kodiak Island	79.34	22	P		P	16 17 32.0	+0.4
	comp=Z,4.9nm,0.6s,mb4.3,baz=63,slow=2.1,SNR=4.2							
YKA	Yellowknife Ar	81.31	2	P		P	16 17 42.3	+0.2
	comp=Z,2.1nm,0.7s,mb3.9,baz=347,slow=5.2,SNR=20							
YKA				pP		pP	16 18 33.0	+1.9
	comp=Z,1.2nm,0.8s,baz=348,slow=5.4,SNR=4.9							
YKA	Yellowknife Ar	81.31	2	P		P	16 17 42.4	+0.2
YKA				pP		pP	16 18 33.0	+1.9
WRA	Warramunga Arr	82.16	122	P		P	16 17 45.8	-0.7
	comp=Z,2.2nm,0.8s,mb3.9,baz=322,slow=4.9,SNR=18							
WRA				pP		pP	16 18 38.4	+2.8
	comp=Z,0.3nm,0.5s,baz=325,slow=5.0,SNR=4.1							
WRAB	Tennant Creek	82.16	122	eP		P	16 17 46.3	-0.2
WRAB				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.5							
WRAB	Tennant Creek	82.16	122	eP		P	16 17 46.3	-0.2
	comp=Z,10nm,0.9s,mb4.5							
ASAR	Alice Springs	84.42	125	P		P	16 17 58.1	+0.1
	comp=Z,1.8nm,0.8s,mb3.9,baz=310,slow=4.9,SNR=32							
ASAR				pP		pP	16 18 50.0	+2.7
	comp=Z,0.8nm,0.7s,baz=318,slow=5.9,SNR=4.8							
BINY	Binghamton	96.02	336	eP		P	16 18 53.5	+1.0
VNA2	Neumayer--Watz	120.26	202	ePKPdf		PKPdf	16 24 14.0	-1.3
	baz=19,slow=2.6							
VNA2				e			16 24 15.5	
VNA2				e			16 24 18.0	
VNA3	Neumayer Olymp	121.07	202	ePKPdf		PKPdf	16 24 14.4	-2.4
VNA3				e			16 24 15.7	
VNA3				e			16 24 18.1	
CPUP	Villa Florida	134.98	268	PKP		PKPdf	16 24 42.1	-1.2
	comp=Z,0.6nm,0.5s,baz=77,slow=3.6,SNR=3.4							
PLCA	Paso Flores	149.59	250	PKPbc		PKPbc	16 25 13.0	-0.8
	comp=Z,1.0nm,0.4s,baz=161,slow=3.1,SNR=5.3							

IDC 02 16:18:41.8±67.0, 2002S×17906E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=1191.0km s-min=151.8km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.53	243	P	P	16 25 40.3	-0.1
	2.2nm,1.0s,baz=96,slow=10,SNR=3.6						
WRA	Warramunga Arr	41.93	262	P	P	16 26 34.9	+0.8
	0.9nm,0.3s,baz=97,slow=7.7,SNR=34						
ASAR	Alice Springs	41.94	257	P	P	16 26 34.2	0.0
	1.6nm,0.7s,baz=87,slow=8.4,SNR=27						

IDC 02 16:27:09.4±1.9, 001N×12672E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=171.8km s-min=24.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.19	160	P	P	16 31 56.8	+0.5
	0.3nm,0.4s,baz=338,slow=11,SNR=9.2						
ASAR	Alice Springs	24.55	164	P	P	16 32 30.9	+0.2
	0.4nm,0.5s,baz=347,slow=7.6,SNR=10						
MKAR	Makanchi Array	60.61	326	P	P	16 37 22.1	+0.2
	0.3nm,0.3s,baz=120,slow=7.7,SNR=11						

*MOS **02** 16:27:30.2±1.4, 3821N×7389E, h108km, mb3.5/1, Error ellipse: s-maj=20.3km s-min=8.6km az=95.2*
*NEIC **02** 16:27:30.3±1.2, 3814N×7386E, h97km±15km, mb3.8/4, Error ellipse: s-maj=17.4km s-min=5.5km az=63.0*
*IDC **02** 16:27:30.6±6.5, 3817N×7381E, h89km±55km, mb3.5/5, mb1 3.6/8, mb1mx3.3/25, mbtmp3.9/8, ML3.7/3, Error ellipse: s-maj=49.9km s-min=27.6km az=0.0*
*ISCJB **02** 16:27:33.4±0.4, 3829N±003×74.18E±008, h156km±8km, mb3.6/5, Error ellipse: s-maj=9.8km s-min=5.0km az=164.1*
*NNC **02** 16:27:38.2±3.5, 3854N×7363E, h90km±45km, mb3.3, mpv3.2, Error ellipse: s-maj=28.5km s-min=17.3km az=177.0*

ISC 02 16:27:34.4±0.4, 3828N±003×7421E±008, h151km±7km, n51, σ1º12/54, mb3.6/5, 4C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.86	354	P	Sn	16 29 10.0	-8.3
	SNR=6.4						
KZA	Kyzart	3.87	12	P	Pn	16 28 33.4	+0.4
	SNR=34						
UCH	Uchtor	3.95	3	P	Pn	16 28 34.4	+0.5
	SNR=36						
ULHL	Ulahol	4.25	21	P	Pn	16 28 38.7	+0.8
	SNR=11						
AAK	Ala-Archa	4.35	3	P	Pn	16 28 39.5	+0.3
	SNR=7.5						
AAK	Ala-Archa	4.35	3	ePn	Pn	16 28 38.3	-0.9
EKS2	Erkin-Say	4.39	356	P	Pn	16 28 39.7	0.0
	SNR=21						
KBK	Karagaybulak	4.41	7	P	Pn	16 28 40.8	+0.8
	SNR=19						
CHCP	Chirah Chowk	4.68	190	P	Pn	16 28 45.2	+1.7
CHMS	Chumysh	4.73	5	P	Pn	16 28 44.7	+0.5
	SNR=7.3						
TKM2	Tokmak 2	4.75	12	P	Pn	16 28 45.4	+0.9
	SNR=14						
TKM2	Tokmak 2	4.75	12	⇑P	Pn	16 28 45.2	+0.7
	0.4nm,0.5s						
TKM2				⇓S	Sn	16 29 38.9	-0.2
	3.7nm,0.8s						
CEP	Cherat	4.82	203	P	Pn	16 28 46.0	+0.6
KK31	Karatay Array	5.57	331	P	Pn	16 28 53.6	-1.8
	5.6nm,0.3s,baz=144,slow=13,SNR=182						
KK31				S	Sn	16 29 51.0	-7.6
	50nm,0.6s,baz=146,slow=22,SNR=15						
SARP	Sargodha	6.47	192	P	Pn	16 29 06.0	-1.3
SBDP	Sheikh Budin	6.58	206	P	Pn	16 29 08.0	-0.8
DRP	Derazinda	7.30	208	P	Pn	16 29 20.0	+1.6
MKAR	Makanchi Array	10.38	32	P	Pn	16 30 00.5	+1.1
	0.2nm,0.3s,baz=204,slow=15,SNR=21						
MKAR	Makanchi Array	10.38	32	P	Pn	16 30 00.5	+1.1
KURK	Kurchatov	12.82	13	⇑P	Pn	16 30 35.9	+4.8
	3.2nm,0.6s						
KURK	Kurchatov	12.82	13	ePn	Pn	16 30 29.5	-1.6
KOLN	Koldanda	13.11	140	eP	Pn	16 30 34.2	-0.6
KOLN				eS	Sn	16 32 53.3	-6.4
GKN	Gorkha	13.46	137	eP	Pn	16 30 38.4	-0.9
KKN	Kakani	13.98	135	eP	Pn	16 30 44.9	-1.0
DMN	Daman	14.02	136	eP	Pn	16 30 46.0	-0.4
PKI	Pulchoki	14.22	135	eP	Pn	16 30 49.3	+0.4
GUN	Gumba	14.22	133	eP	Pn	16 30 48.6	-0.3
JIRN	Jiri	14.59	133	eP	Pn	16 30 53.4	-0.2
	5.1nm,0.3s						
VOSK	Vostochnaya	14.62	352	⇓P	Pn	16 30 57.1	+3.2
	2.6nm,0.8s						
BVA0	Borovoye Array	14.98	351	⇑P	Pn	16 31 02.1	+3.7
	1.4nm,0.7s,baz=158,slow=12,SNR=49						
AB31	Akbulak array	15.02	321	⇑P	Pn	16 30 56.5	-2.4
	2.1nm,0.6s,baz=134,slow=13,SNR=33						
BRVK	Borovoye	15.03	351	eP	Pn	16 30 57.5	-1.4
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	Borovoye	15.03	351	eP	Pn	16 30 57.5	-1.4
	comp=Z,6.9nm,0.8s						
ZRNK	Zerenda	15.11	348	⇓P	Pn	16 31 03.1	+3.2
	comp=Z,4.8nm,0.7s						
ZRNK	Zerenda	15.11	348	eP	Pn	16 30 58.5	-1.5
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ZRNK	Zerenda	15.11	348	eP	Pn	16 30 58.5	-1.5
	comp=Z,6.0nm,0.7s						
CHKZ	Chkalovo	15.59	352	eP	Pn	16 31 01.2	-4.8
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CHKZ	Chkalovo	15.59	352	eP	Pn	16 31 01.2	-4.7
	comp=Z,2.3nm,0.5s						
AKTK	Aktyubinsk	16.74	322	P	Pn	16 31 18.2	-1.7
AKTO	Aktyubinsk	16.74	322	⇓P	Pn	16 31 19.7	-0.2
	comp=Z,0.1nm,0.8s						
AKTO	Aktyubinsk	16.74	322	P	Pn	16 31 18.2	-1.7
	comp=Z,0.4nm,0.3s,baz=120,slow=15,SNR=12						
ZAL	Zalesovo	17.26	21	P	Pn	16 31 26.5	+0.3
	comp=Z,1.1nm,0.3s,baz=254,slow=8.5,SNR=12						
NVS	Novosibirsk	17.66	17	iP	Pn	16 31 30.0	-1.0
ARU	Arti	20.93	335	eP	P	16 32 04.5	-0.6
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARU	Arti	20.93	335	eP	P	16 32 04.5	-0.6
	comp=Z,2.2nm,0.6s						
SONM	Songino Array	25.23	57	P	P	16 32 51.3	+5.2
	comp=Z,0.5nm,0.8s,mb3.1,baz=259,slow=9.8,SNR=6.0						
FINES	FINESS Array B	37.49	324	P	P	16 34 34.7	+1.4
	comp=Z,0.4nm,0.3s,mb3.5,baz=110,slow=14,SNR=5.7						
ARCES	ARCESS Array B	40.52	336	P	P	16 34 60.0	+1.5
	comp=Z,1.4nm,0.5s,mb3.9,baz=111,slow=7.7,SNR=13						
HFS	Hagfors	43.28	321	P	P	16 35 22.1	+1.3
	comp=Z,1.9nm,0.7s,mb3.9,baz=99,slow=9.3,SNR=5.6						
ESLA	Sonseca Array	58.88	298	P	P	16 37 17.1	-0.1
TORD	Torodi Ar. Bea	68.30	270	P	P	16 38 20.3	+1.3
	comp=Z,0.3nm,0.4s,mb3.4,baz=48,slow=5.3,SNR=4.6						

*ISCJB **02** 16:28:11.1±0.3, 4983N±003×1838E±003, h0km, Error ellipse: s-maj=3.9km s-min=2.2km az=27.8*
*NEIC **02** 16:28:11.8±0.4, 4980N×1852E, h5km, MG2.7(WAR), Error ellipse: s-maj=7.6km s-min=4.4km az=193.0*
*CSEM **02** 16:28:12.8±0.1, 4988N×1849E, h1km, ML3.2/5, Error ellipse: s-maj=2.9km s-min=1.7km az=5.0*
*IPEC **02** 16:28:12.5±0.1, 4982N×1852E, h7km±1km, ML2.1/2, Error ellipse: s-maj=2.0km s-min=0.8km az=161.0*
*PRU **02** 16:28:13.6, 4982N×1841E, h0km*
*VIE **02** 16:28:13.3±0.4, 4969N×1838E, h0km, mb2.2/4, ML2.4/4, Error ellipse: s-maj=2.9km s-min=1.6km az=87.0 19 km*
SSE of Ostrava Suspected Mining induced.

ISC 02 16:28:12.0±0.3, 4984N±003×1845E±002, h0km, n40, σ1º11/70, 4C-2D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.20	269	ePG	Pg	16 28 17.2	+1.4
OKC				eSG	Sg	16 28 21.1	+2.8
	4μm,1.4s						
OKC	Ostrava-Krasne	0.20	269	ePg	Pg	16 28 16.9	+1.1
OKC				eSg	Sg	16 28 21.1	+2.8
	4μm,1.4s						
RAC	Raciborz	0.30	326	ePg	Pg	16 28 19.7	+2.1
RAC				eSg	Sg	16 28 25.8	+4.3
MORC	Moravsky Berou	0.59	264	ePg	Pg	16 28 23.8	+0.4
MORC	Moravsky Berou	0.59	264	ePg	Pg	16 28 24.2	+0.9
LIKS	Likavka	0.90	151	e	Sn	16 28 45.8	+0.3
OJC	Ojcow	0.95	66	ePg	Pg	16 28 29.5	-0.6
OJC				eSg	Sg	16 28 42.4	0.0
OJC	Ojcow	0.95	66	ePg	Pg	16 28 29.5	-0.6
OJC				eSg	Sg	16 28 42.1	-0.3
JAVC	Velka Javorina	1.11	208	ePg	Pg	16 28 34.3	+1.1
NIE	Niedzica	1.28	109	ePg	Pg	16 28 35.8	-0.7
NIE				eSg	Sg	16 28 53.9	+0.8
VRAC	Vranov	1.32	247	ePn	Pn	16 28 37.1	-0.6
VRAC				eSg	Sg	16 28 55.5	+1.0
	16nm,0.3s						
DPC	Dobruska-Polom	1.47	291	ePG	Pg	16 28 39.8	-0.2
DPC				eSG	Sg	16 29 00.8	+1.8
	71nm,1.2s						
DPC	Dobruska-Polom	1.47	291	ePn	Pn	16 28 39.7	+0.1
DPC	Dobruska-Polom	1.47	291	ePg	Pg	16 28 39.8	-0.2
DPC				eSg	Sg	16 29 00.4	+1.4
SMOL	Smolenice	1.49	207	ePN	Pn	16 28 39.9	-0.1
KRUC	Moravsky	1.55	241	ePn	Pn	16 28 40.6	-0.2
KRUC				eSg	Sg	16 29 02.1	+0.2
	18nm,0.3s						
UPC	Upice	1.71	294	ePG	Pg	16 28 43.9	-0.8
KSP	Ksiaz	1.71	307	ePn	Pn	16 28 43.1	+0.1
KSP				ePg	Pg	16 28 44.8	+0.1
KSP				eSg	Sg	16 29 08.0	+1.1
STHS	Stebnicka Huta	1.86	102	ePN	Pn	16 28 47.5	+2.4
STHS				eSN	Sn	16 29 12.6	+3.3
STHS				eSG	Sg	16 29 20.0	+8.2
ZST	Bratislava	1.87	209	ePN	Pn	16 28 43.9	-1.3
KECS	Kecovo	1.90	135	ePN	Pn	16 28 44.4	-1.3
KECS				eSN	Sn	16 29 09.9	-0.4
KECS				eSG	Sg	16 29 15.8	+2.7
KECS	Kecovo	1.90	135	ePn	Pn	16 28 44.4	-1.3
KECS				eSn	Sn	16 29 10.0	-0.3
KECS				eSg	Sg	16 29 15.8	+2.7
PSZ	Piszkesteto	2.15	153	⇑ePB	Pn	16 28 48.7	-0.3
PSZ	Piszkesteto	2.15	153	ePn	Pn	16 28 46.9	-2.1
PSZ				ePg	Pg	16 28 56.0	+2.9
PSZ	Piszkesteto	2.15	153	ePn	Pn	16 28 46.9	-2.1
PSZ	Piszkesteto	2.15	153	⇑eP	Pn	16 28 48.7	-0.3
PSZ	Piszkesteto	2.15	153	ePg	Pg	16 28 56.0	+2.9
PRU	Pruhonice	2.53	275	ePG	Pg	16 28 59.0	-1.5
PRU				eSG	Sg	16 29 33.4	0.0
	50nm,1.2s						
CONA	Conrad Observa	2.57	223	⇑iPn	Pn	16 28 54.4	-0.4
CONA				⇑iSg	Sg	16 29 33.4	-1.1
	3.5nm,0.4s						
PVCC	Panska Ves	2.59	287	ePG	Pg	16 29 00.7	-0.9
KWP	Kalwaria	2.77	93	Pn	Pn	16 28 54.8	-2.8
KWP				ePg	Pg	16 29 04.6	-0.4
KWP	Kalwaria	2.77	93	Pn	Pn	16 28 54.8	-2.7
KWP	Kalwaria	2.77	93	ePg	Pg	16 29 04.6	-0.4
BRG	Berggiesshubel	3.07	291	PG	Pg	16 29 09.1	-1.7
BRG				SG	Sg	16 29 50.2	-0.4
	9.3nm,0.9s						
KHC	Kasperske Hory	3.26	259	ePN	Pn	16 29 03.9	-0.4
KHC				ePG	Pg	16 29 11.8	-2.6
KHC				eSG	Sg	16 29 56.7	+0.1
	106nm,1.8s						
GEC2	GERESS Array S	3.26	254	ePn	Pn	16 29 05.0	+0.6
GEC2				eSg	Sg	16 29 56.4	-0.5
GEC2	GERESS Array S	3.26	254	ePn	Pn	16 29 05.0	+0.6
GEC2				eSg	Sg	16 29 56.3	-0.5
MOA	Molln	3.41	236	⇓iPn	Pn	16 29 05.9	-0.5
MOA				⇓iSg	Sg	16 30 01.6	+0.1
	comp=Z,6.9nm,0.7s						
WET	Wettzell	3.70	261	ePn	Pn	16 29 10.0	-0.4
WET				eSn	Sg	16 30 11.6	+0.7
CLL	Collm	3.77	295	ePg	Pg	16 29 24.0	-0.3
CLL				iSg	Sg	16 30 13.0	-0.2
	comp=Z,29nm,1.2s						

IDC 02 16:35:07.0±6.4, 8252S×16076E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.8/13, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=201.5km s-min=34.4km az=103.0, Antarctica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	5.04	3	Pn	Pn	16 36 25.1	+1.4
	1.5nm,0.3s,baz=182,slow=15,SNR=95						
VNDA				Sn	Sn	16 37 18.9	-3.7
	5.6nm,0.3s,baz=68,slow=19,SNR=9.7						
VNDA				Lg		16 37 45.3	
	5.3nm,0.3s,baz=280,slow=17,SNR=3.8						
ASAR	Alice Springs	59.81	331	P	P	16 45 13.7	-0.3
	0.7nm,0.6s,baz=176,slow=6.1,SNR=14						
WRA	Warramunga Arr	63.48	332	P	P	16 45 38.1	-0.7
	0.7nm,0.5s,baz=180,slow=5.8,SNR=14						

*CSEM **02** 16:37:14.8±0.9, 3898N×2785W, h5km±8km, ML1.7, Error ellipse: s-maj=5.2km s-min=3.2km az=176.0, After PDA*
*PDA **02** 16:37:14.8±0.9, 3898N×2785W, h5km±8km, MD2.8, ML1.7, Error ellipse: s-maj=5.2km s-min=3.2km az=176.0*

SVSA 02 16:37:14.8±0.9, 3898N×2785W, h5km±8km, MD2.8, ML1.7, Error ellipse: s-maj=5.2km s-min=3.2km az=176.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	0.16	311	eP	Pg	16 37 18.1	+0.1
STGR				eS	Sg	16 37 20.2	+0.1
STGR							
	83nm,0.3s						
STGR	Santa Cruz	0.16	311	eP	Pg	16 37 18.1	+0.1
STGR				eS	Sg	16 37 20.2	+0.1
SRBC	Serra Branca	0.16	292	eS	Sg	16 37 20.0	-0.2
PVIA	Vitoria	0.18	301	eS	Sg	16 37 20.8	0.0
PVIA							
	12nm,0.1s						
PAMA	Santo Amaro	0.39	221	eS	Sg	16 37 27.4	-0.1
PAMA							
	58nm,0.1s						
ROSA	Rosais	0.40	230	eP	Pg	16 37 21.6	-0.9
ROSA				eS	Sg	16 37 27.2	-0.5
ASBA	Santa Barbara	0.48	122	eS	Sg	16 37 29.6	-0.7
ASBA							
	23nm,0.2s						
PID	Ribeirinha	0.57	202	eP	Pg	16 37 24.7	-1.1
PID				eS	Sg	16 37 31.9	-1.3
PIED	Piedade	0.58	196	erx		16 37 33.6	
PTEI	Pico do Teixo	0.62	220	eS	Sg	16 37 33.7	-1.1
PTEI							
	19nm,0.1s						
PICO	Pico	0.65	224	eP	Pg	16 37 25.6	-1.8
PICO				eS	Sg	16 37 34.4	-1.4
PBOI	Pico dos Bois	0.68	218	eS	Sg	16 37 34.7	-1.9
PBOI							
	31nm,0.1s						
PLUZ	Luz	0.88	273	eP	Pg	16 37 17.1	-15
PLUZ				eS	Sg	16 37 18.7	-24
PLUZ							
	130nm,0.2s						

MEX 02 16:42:27.6±1.1, 1590N×9866W, h18km±999km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.71	46	iP	Pb	16 42 39.6	-1.8
PNIG				iS	Sb	16 42 47.5	-3.4
UTMO	Huajuapan	2.09	23	iP	Pn	16 42 58.2	-3.5
UTMO				iS	Sn	16 43 24.9	-2.3
OXX	Oaxaca	2.20	57	eP	Pn	16 43 08.5	+5.3
MEIG	Mezcala	2.22	336	eP	Pn	16 43 01.4	-2.0
MEIG				iS	Sn	16 43 26.1	-4.2
PLIG	Platanillo	2.61	342	eP	Pn	16 43 06.5	-2.3
PLIG				iS	Sn	16 43 35.3	-4.7

*NEIC **02** 16:45:29.2±3.2, 821S×10901E, h10km, mb4.2/5, Error ellipse: s-maj=80.5km s-min=17.6km az=70.0*
*IDC **02** 16:45:33.0±12.0, 751S×110.12E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=208.3km s-min=164.2km az=148.0*
*ISCJB **02** 16:45:39.0±2.3, 85S±02×1098E±04, h33km, mb3.8/5, Error ellipse: s-maj=57.0km s-min=7.8km az=138.2*

ISC 02 16:45:42.0±2.1, 84S±02×1100E±04, h35km, n14, σ0º99/17, mb3.8/5, 1C, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	1.06	345	⇑iP	Pn	16 45 58.8	-1.5
BJII				iS	Sn	16 46 14.7	+0.8
MBWA	Marble Bar	15.82	145	ePn	Pn	16 49 18.3	-3.6
	11nm,1.1s						
MBWA				eSn	Sn	16 52 00.7	-15
FITZ	Fitzroy Crossi	18.04	124	eP	Pn	16 49 49.4	-0.3
	5.8nm,1.1s						
FITZ	Fitzroy Crossi	18.04	124	P	Pn	16 49 49.3	-0.4
	0.1nm,0.3s,baz=295,slow=17,SNR=4.2						
FITZ				S	S	16 52 57.8	-17
	0.1nm,0.3s,baz=139,slow=13,SNR=3.8						
KAKA	Kakadu	22.49	103	eP	P	16 50 37.0	-1.2
	7.1nm,0.9s,mb4.1						
WRA	Warramunga Arr	26.22	119	P	P	16 51 13.3	-0.1
	1.1nm,0.8s,mb3.5,baz=295,slow=11,SNR=8.1

SOCV Socops 2.55 56⇓iP Pn 16 53 52.6 +1.0
SOCV eS Sn 16 54 24.9 +0.8
SDV Santo Domingo 3.09 49 P Pn 16 53 59.2 +1.0
223nm,0.3s,baz=228,slow=6.5,SNR=610
SDV S Sn 16 54 35.9 -0.1
24nm,0.3s,baz=68,slow=9.1,SNR=4.5
SDV Santo Domingo 3.09 49 ePn Pn 16 53 59.0 +0.8
SDV eSn Sn 16 54 36.1 +0.1
ELOV Elorza 3.49 87⇓iP Pn 16 54 04.1 +0.8
ELOV eS Sn 16 54 45.4 +0.3
VIRV Villa del Rosa 3.67 9⇓iP Pn 16 54 04.6 -1.0
VIRV eS Sn 16 54 47.0 -2.2
QARV Quebrada Arrib 4.13 36⇓eP Pn 16 54 12.2 +0.6
QARV eS Sn 16 54 59.4 -0.5
SANV Sanarito 4.32 52 eP Pn 16 54 14.1 +0.2
CURV Curarigua 4.34 44 eP Pn 16 54 14.6 +0.3
CURV eS Sn 16 55 04.1 -0.7
DABV Dabajuro 4.66 30 eP Pn 16 54 19.0 +0.5
DABV eS Sn 16 55 10.9 -1.5
TEPV Terepaima 4.87 50 eP Pn 16 54 21.5 +0.3
SIQV Siquisique 4.91 40⇓iP Pn 16 54 21.6 -0.1
SIQV eS Sn 16 55 16.5 -1.7
CAOV Caicara del Or 6.64 86 eS Sn 16 55 55.0 -4.4
BIRV Birongo 7.56 61 eP Pn 16 54 55.6 -1.2
CUPV Cœpira 7.81 65 eP Pn 16 54 59.0 -1.1
OTAV Otavalo 8.54 220 ePn Pn 16 55 07.0 -2.9
9.6nm,0.5s
OTAV eSn Sn 16 56 40.4 -4.4
PCRV Puerto La Cruz 8.90 68 P Pn 16 55 14.3 -0.3
3.9nm,0.3s,baz=228,slow=5.5,SNR=12
SJG San Juan 13.03 30 P Pn 16 56 08.2 -0.3
3.2nm,0.3s,baz=344,slow=17,SNR=3.2
SJG San Juan 13.03 30 P Pn 16 56 08.1 -0.5
8.3nm,0.5s
ATAH Atahualpa 14.78 201 P Pn 16 56 32.2 +1.6
0.7nm,0.3s,baz=298,slow=5.3,SNR=3.1
SAML Samuel 18.50 148 eP P 16 57 12.1 -1.3
9.0nm,0.6s
SAML e 16 57 39.1
LPAZ La Paz 23.50 168 P P 16 58 05.0 +0.2
0.8nm,0.5s,mb3.4,baz=11,slow=7.8,SNR=3.4
ACSO Alum Creek Sta 34.41 346 P P 16 59 42.7 +1.2
6.7nm,0.9s,mb4.4
LTX Lajitas 36.53 312 eP P 16 59 59.6 +0.1
3.4nm,0.6s,mb4.2
SADO Sadowa 38.14 353 P P 17 00 13.7 +0.6
4.0nm,0.5s,mb4.3,baz=193,slow=6.9,SNR=5.6
MNTX Cornudas Mount 39.03 314 eP P 17 00 20.7 +0.2
6.0nm,0.7s,mb4.3
LAZ Ladron 41.73 316 eP P 17 00 43.6 +0.9
PV01 Paradox Valley 44.78 319 eP P 17 01 08.4 +1.3
ULM Lac du Bonnet 47.29 340 P P 17 01 26.1 -0.7
6.8nm,0.4s,mb4.7,baz=146,slow=8.4,SNR=18
MSU Marysvale 47.36 318 eP P 17 01 27.4 +0.1
SCHQ Schefferville 48.09 5 P P 17 01 33.4 +0.5
1.7nm,0.5s,mb3.9,baz=178,slow=9.6,SNR=3.1
PDAR Pinedale Array 48.12 324 P P 17 01 33.3 +0.2
1.9nm,0.6s,mb3.9,baz=118,slow=8.6,SNR=15
TCUT Toone Canyon 48.27 321 eP P 17 01 35.3 +0.9
HWUT Hardware Ranch 48.65 321 eP P 17 01 36.6 -0.6
5.6nm,0.9s,mb4.2
BGU Big Grassy Mou 49.19 320 eP P 17 01 41.3 0.0
TPNV Topopah Spring 49.43 314 eP P 17 01 42.9 -0.2
2.1nm,0.8s,mb3.8
ISA Isabella 50.52 311 P P 17 01 52.0 +0.7
8.2nm,0.7s,mb4.5
HLID Hailey 51.48 322 eP P 17 01 58.6 0.0
5.4nm,1.1s,mb4.1
NVAR Mina Array Bea 51.54 315 P P 17 01 59.8 +0.8
1.0nm,0.6s,mb3.6,baz=118,slow=7.9,SNR=8.9
FCC Fort Churchill 54.26 347 eP P 17 02 17.9 -1.0
6.9nm,1.0s,mb4.3
WALA Waterton Lakes 54.34 328 P P 17 02 19.1 -0.4
7.2nm,1.2s,mb4.3
FRB Frobisher Bay 56.87 2 P P 17 02 36.5 -1.0
6.8nm,1.0s,mb4.5,baz=298,slow=12,SNR=3.3
YKA Yellowknife Ar 63.27 340 P P 17 03 20.4 -0.7
5.5nm,0.6s,mb4.6,baz=132,slow=6.7,SNR=76
DLBC Dease Lake 67.35 331 P P 17 03 47.9 +0.6
1.4nm,0.4s,mb4.2,baz=54,slow=3.9,SNR=3.0
SUMG Summit 68.93 11 eP P 17 03 57.1 0.0
8.7nm,0.6s,mb4.7
ILAR Eielson Array 76.98 335 P P 17 04 43.8 -0.7
0.8nm,0.7s,mb3.5,baz=94,slow=4.5,SNR=4.9
MKAR Makanchi Array 122.25 20 PKP PKPdf 17 11 44.8 -0.5
0.2nm,0.4s,baz=298,slow=1.1,SNR=5.8
SONM Songino Array 125.54 1 PKP PKPdf 17 11 51.6 0.0
0.1nm,0.4s,baz=295,slow=1.8,SNR=4.1
ASAR Alice Springs 149.23 234 PKPbc PKPbc 17 12 38.8 -0.4
0.8nm,0.5s,baz=112,slow=3.7,SNR=7.6
WRA Warramunga Arr 150.46 241 PKPbc PKPbc 17 12 42.0 -0.1
0.9nm,0.5s,baz=110,slow=2.3,SNR=24

TIF 02 17:14:56.7, 4114N×4352E, h2km±9km, Turkey-Georgia-Armenia border region

*ISCJB **02** 17:15:47.5±0.7, 41.15N±004×43.42E±004, h10km, Error ellipse: s-maj=6.2km s-min=4.0km az=141.6*
*TIF **02** 17:15:47.3, 41.13N×43.48E, h10km±1km*
*MOS **02** 17:15:52.8±0.6, 41.30N×43.70E, h17km, mb3.8/1, Error ellipse: s-maj=22.7km s-min=10.1km az=73.8*
*CSEM **02** 17:15:52.1, 41.30N×43.70E, h17km, mb3.8, After OBN*
ISC 02 17:15:47.6±0.7, 4114N±004×4340E±004, h10km, n17, σ1§25/31, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.28**	**15**	P	**Pg**	**17 15 53.1**	**-0.2**
AKH				S	**Sg**	**17 15 57.3**	**+0.3**
KZR	**Kazreti**	**0.81**	**72**	P	**Pg**	**17 16 01.9**	**-1.3**
KZR				S	**Sg**	**17 16 12.6**	**-1.1**
GOR	**Gori**	**1.00**	**32**	P	**Pg**	**17 16 06.4**	**-0.5**
GOR				S	**Sg**	**17 16 20.3**	**+0.4**
ARTV	**Artvin**	**1.11**	**273**	*i* P	**Pb**	**17 16 07.9**	**-1.0**
ARTV				*i* S	**Sb**	**17 16 22.7**	**-0.7**
TBLG	**Delisi**	**1.17**	**59**	P	**Pb**	**17 16 09.5**	**-0.4**
TBLG				S	**Sb**	**17 16 25.7**	**+0.6**
MTA	**Mtatsminda**	**1.19**	**62**	*e*Pg	**Pg**	**17 16 09.5**	**-1.0**
MTA				*e*Sg	**Sg**	**17 16 25.5**	**-0.4**
DGRG	**David-gareji**	**1.52**	**78**	*e*Pg	**Pg**	**17 16 16.5**	**-0.4**
DGRG				*e*Sg	**Sg**	**17 16 38.6**	**+2.0**
ZEI	**Tsey**	**1.67**	**13**	*e*Pg	**Pg**	**17 16 19.8**	**+0.1**
ZEI				*e*Sg	**Sg**	**17 16 43.4**	**+2.0**
LACR	**Lac**	**1.81**	**21**	*i* Pg	**Pg**	**17 16 21.0**	**-1.4**
LACR				*e*Sg	**Sg**	**17 16 45.2**	**-0.7**
ERZM	**Erzurum**	**1.98**	**232**	*i* P	**Pn**	**17 16 21.7**	**+0.6**
ERZM				*i* S	**Sg**	**17 16 58.4**	**+7.1**
KORR	**Kora**	**2.01**	**14**	*e*Pn	**Pn**	**17 16 24.2**	**+2.6**
KORR				*e*Sg	**Sg**	**17 16 50.9**	**-1.3**
VLKR	**Vladikavkaz**	**2.13**	**26**	*e*Pn	**Pn**	**17 16 24.9**	**+1.6**
VLKR				*e*Sg	**Sg**	**17 16 52.1**	**-4.0**
ARNR	**Ardon**	**2.15**	**18**	*e*Pn	**Pn**	**17 16 25.8**	**+2.3**
ARNR				*e*Sg	**Sg**	**17 16 53.7**	**-3.1**
KIV	**Kislovodsk**	**2.86**	**350**	PN	**Pn**	**17 16 37.0**	**+3.7**
KIV				*e*		17 16 44.3	
KIV				*e*		17 16 49.6	
KIV				*i*		17 17 19.9	
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV				pmax	pmax		
	comp=Z,12nm,0.7s						
KIV	**Kislovodsk**	**2.86**	**350**	Pn	**Pn**	**17 16 37.0**	**+3.7**
	comp=Z,4.0nm,0.7s						
KIV	**Kislovodsk**	**2.86**	**350**	*e*Pb	**Pb**	**17 16 44.3**	**+5.5**
KIV	**Kislovodsk**	**2.86**	**350**	*e*Pg	**Pg**	**17 16 49.6**	**+7.1**
KIV				*i* Sb	**Sb**	**17 17 19.9**	**+6.0**
	comp=Z,12nm,0.7s						

*INMG **02** 17:26:36.5±1.5, 40.45N×56.3W, h0km, ML1.7, Error ellipse: s-maj=3.0km s-min=2.7km az=78.0*
MDD 02 17:26:36.2±0.4, 4043N×564W, h0km, mbLg1.8/9, Error ellipse: s-maj=4.6km s-min=4.0km az=8.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUD	**Guadarrama**	**1.15**	**79**	Pg	Pg	17 26 56.9	-1.4
	3.3nm,0.2s,SNR=12						
GUD				Lg		17 27 13.2	
	3.5nm,0.2s,SNR=8.3						
MTE	**Manteigas**	**1.46**	**269**	*e*P	Pn	17 27 02.9	-0.9
MTE				*e*S	Sg	17 27 22.4	-0.7
MTE							
	7.5nm,0.5s						
ESDC	**Sonseca Array**	**1.49**	**120**	Pg	Pg	17 27 03.4	-1.5
	6.7nm,0.1s,baz=301,slow=16,SNR=18						
ESDC				Lg		17 27 24.0	
	6.5nm,0.1s,baz=307,slow=27,SNR=7.9						
PCBR	**Castelo Branco**	**1.53**	**248**	*e*P	Pn	17 27 04.4	-0.4
PCBR				*e*S	Sn	17 27 24.8	-0.6
PCBR							
	6.3nm,0.1s						
PBRG	**Braganca**	**1.60**	**329**	*e*Pn	Pn	17 27 04.4	-1.4
PBRG				*e*Sn	Sn	17 27 25.6	-1.6
PBRG							
	6.4nm,0.3s						
ECAL	**Calabor**	**1.72**	**331**	Pn	Pn	17 27 05.6	-1.8
	0.1nm,0.1s,SNR=7.9						
ECAL				Pg	Pg	17 27 06.8	-2.4
	2.5nm,0.2s,SNR=7.9						
ECAL				Lg		17 27 29.0	
	5.5nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**1.74**	**280**	*e*Sn	Sn	17 27 28.7	-1.9
PVIS							
	4.5nm,0.3s						
PVIS	**Viseu**	**1.74**	**280**	Sn	Sn	17 27 28.7	-1.9
	2.2nm,0.3s						
PVRL	**Vila Real**	**1.79**	**299**	*e*Pn	Pn	17 27 08.1	-0.2
PVRL				*e*Sn	Sn	17 27 30.8	-1.0
PVRL							
	6.3nm,0.2s						
EBAD	**Badajoz**	**1.98**	**213**	Pn	Pn	17 27 09.5	-1.5
	0.5nm,0.1s,SNR=7.9						
EBAD				Pg	Pg	17 27 12.2	-2.1
	SNR=7.9						
EBAD				Sn	Sn	17 27 36.4	-0.2
	6.7nm,0.2s,SNR=7.9						
EBAD				Lg		17 27 38.4	
	4.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**2.33**	**309**	Pn	Pn	17 27 13.9	-1.8
	0.5nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	17 27 42.6	-2.4
	1.0nm,0.3s,SNR=4.0						
ELOB				Lg		17 27 49.2	
	1.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**2.41**	**160**	Pg	Pg	17 27 20.1	-2.3
	0.7nm,0.1s,SNR=7.9						
EADA				Lg		17 27 51.0	
	4.6nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.75**	**81**	Pg	Pg	17 27 27.2	-1.8
	1.4nm,0.3s,SNR=7.9						
ETOR				Lg		17 28 03.9	
	1.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.78**	**197**	Pn	Pn	17 27 21.6	-0.4
	0.7nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	17 27 55.0	-1.3
	0.9nm,0.3s,SNR=7.9						
EMIN				Lg		17 28 03.4	
	2.3nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**2.88**	**6**	Pn	Pn	17 27 22.7	-0.7
	0.2nm,0.1s,SNR=4.0						
EARI				Pg	Pg	17 27 30.1	-1.4
	0.3nm,0.1s,SNR=4.0						
EARI				Lg		17 28 07.7	
	0.4nm,0.2s,SNR=4.0						
EGRO	**El Granado**	**3.23**	**207**	Pn	Pn	17 27 26.8	-1.4
	0.3nm,0.1s,SNR=7.9						
EGRO				Lg		17 28 19.4	
	1.5nm,0.3s,SNR=7.9						

*ISCJB **02** 17:28:43.8±0.2, 4584N±001×704E±002, h9km±2km, Error ellipse: s-maj=2.8km s-min=1.8km az=11.0*
*NEIC **02** 17:28:44.7, 4583N×7.13E, h10km, ML2.2(ROM), ML2.3(STR), ML2.6(LDG), After ROM.*
*ROM **02** 17:28:44.7±0.2, 4583N×7.13E, h10km±2km, Md2.4/3, Ml2.2/2, Error ellipse: s-maj=3.2km s-min=2.1km az=82.0*
*ZUR **02** 17:28:45.8, 4583N×7.13E, h6km±5km, ML2.1/5*
*CSEM **02** 17:28:45.0±0.1, 4579N×7.18E, h5km, ML2.7/20, Error ellipse: s-maj=1.4km s-min=0.9km az=114.0*
*LDG **02** 17:28:46.1±0.1, 4582N×708E, h7km, Md2.8/2, Ml2.6/21, Error ellipse: s-maj=1.7km s-min=0.8km az=103.0*
*GEN **02** 17:28:46.4, 4573N×7.19E, h2km, ML2.0*
*STR **02** 17:28:46.0±0.3, 4584N×7.19E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 02 17:28:44.9±0.2, 4582N±001×710E±002, h11km±2km, n95, σ0§90/178, 4C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRGE	**Morge**	**0.06**	**205**	⇑*i*Pg	**Pg**	**17 28 47.3**	**+0.2**
MRGE				Sg	**Sg**	**17 28 48.5**	**-0.2**
	4μm,0.1s						
EMV	**Vieux Emosson**	**0.28**	**331**	⇑*i*Pg	**Pg**	**17 28 51.5**	**+0.9**
	424nm,0.3s						
EMV				*i* Sg	**Sg**	**17 28 55.4**	**+1.0**
	424nm,0.3s						
SALAN	**Lac Salanfe**	**0.34**	**345**	⇑*i*Pg	**Pg**	**17 28 52.5**	**+0.9**
	98nm,0.3s						
SALAN				*i* Sg	**Sg**	**17 28 57.0**	**+0.9**
	98nm,0.3s						
DIX	**Grande Dixence**	**0.34**	**40**	⇓*i*Pg	**Pg**	**17 28 52.0**	**+0.3**
DIX				Sg	**Sg**	**17 28 56.4**	**+0.1**
DIX	**Grande Dixence**	**0.34**	**40**	⇓*i*Pg	**Pg**	**17 28 52.3**	**+0.6**
	651nm,0.2s						
DIX				Sg	**Sg**	**17 28 56.4**	**+0.1**
LPL	**La Plagne**	**0.40**	**220**	*e*Pn	**Pg**	**17 28 54.9**	**+2.1**
LPL				*e*Sg	**Sg**	**17 28 59.5**	**+1.4**
	74nm,0.4s						
LPL	**La Plagne**	**0.40**	**220**	*e*Pg	**Pg**	**17 28 53.4**	**+0.6**
LPL				*e*Pn	**Pg**	**17 28 54.9**	**+2.1**
LPL				*e*Sg	**Sg**	**17 28 59.5**	**+1.4**
LPL	**La Plagne**	**0.40**	**220**	*e*Pn	**Pg**	**17 28 54.9**	**+2.1**
LPL				*e*Sg	**Sg**	**17 28 59.5**	**+1.4**
	37nm,0.4s						
LPG	**La Plagne**	**0.40**	**217**	*e*Pn	**Pg**	**17 28 55.2**	**+2.3**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**17 28 58.8**	**+0.5**
	55nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**0.40**	**217**	*e*Pg	**Pg**	**17 28 53.5**	**+0.6**
LPG				*e*Pn	**Pg**	**17 28 55.2**	**+2.3**
LPG				*e*Sg	**Sg**	**17 28 58.8**	**+0.5**
LPG	**La Plagne**	**0.40**	**217**	*e*Pn	**Pg**	**17 28 55.2**	**+2.3**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**17 28 58.8**	**+0.5**
	28nm,0.2s,SNR=1.0						
GRYON	**Gryon**	**0.43**	**1**	⇑*i*Pg	**Pg**	**17 28 54.1**	**+0.7**
	107nm,0.3s						
GRYON				*i* Sg	**Sg**	**17 28 59.8**	**+0.7**
	107nm,0.3s						
TRAV		**0.55**	**124**	P	**Pg**	**17 28 55.3**	**-0.4**
SENIN	**Lac Senin**	**0.56**	**15**	*e*Pg	**Pg**	**17 28 56.2**	**+0.3**
	129nm,0.3s						
OG01	**Vacheresse**	**0.58**	**331**	Pg	**Pg**	**17 28 57.3**	**+1.0**
MCGN	**Macugnaga**	**0.64**	**77**	Pg	**Pg**	**17 28 56.8**	**-0.5**
MCGN				Sg	**Sg**	**17 29 04.6**	**-1.1**
	17nm,0.4s						
ORX	**Oropa**	**0.65**	**107**	P	**Pg**	**17 28 57.3**	**-0.2**
MMK	**Mattmark**	**0.65**	**69**	Pg	**Pg**	**17 28 57.1**	**-0.4**
ORO	**Oropa**	**0.65**	**107**	Pg	**Pg**	**17 28 57.3**	**-0.2**
ORO				Sg	**Sg**	**17 29 05.3**	**-0.8**
	75nm,0.2s						
RSP	**Reno Superiore**	**0.68**	**170**	P	**Pg**	**17 28 57.9**	**-0.2**
FENE	**Fenestrelle**	**0.79**	**182**	P	**Pg**	**17 29 00.0**	**-0.2**
FENE				S	**Sg**	**17 29 09.1**	**-1.4**
BNI	**Bardonecchia**	**0.82**	**201**	Pg	**Pg**	**17 29 00.9**	**+0.1**
BNI				Sg	**Sg**	**17 29 11.7**	**+0.1**
	12nm,0.2s						
RRL	**Cesana Torines**	**0.93**	**194**	P	**Pg**	**17 29 02.7**	**-0.1**
RRL				S	**Sg**	**17 29 14.0**	**-0.9**
OG22	**Abries**	**1.00**	**186**	Pg	**Pg**	**17 29 04.8**	**+0.5**
CABF	**La Chapelle**	**1.06**	**319**	*e*P	**Pb**	**17 29 07.4**	**+2.2**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**17 29 19.9**	**-0.4**
	12nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**1.06**	**319**	*e*Pg	**Pg**	**17 29 06.1**	**+0.9**
CABF				*e*P		17 29 07.4	
CABF				*e*Sn	**Sn**	**17 29 19.9**	**-0.4**
CABF	**La Chapelle**	**1.06**	**319**	*e*P	**Pb**	**17 29 07.4**	**+2.2**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**17 29 19.9**	**-0.4**
	6.0nm,0.3s,SNR=1.0						
MBDF	**Montbardon**	**1.12**	**192**	*e*Pg	**Pg**	**17 29 07.0**	**+0.6**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 29 20.9**	**-0.1**
	20nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.12**	**192**	*e*Pn	**Pn**	**17 29 06.3**	**-0.2**
MBDF				*e*Pg	**Pg**	**17 29 07.0**	**+0.6**
MBDF				*e*Sg	**Sg**	**17 29 20.9**	**-0.1**
MBDF	**Montbardon**	**1.12**	**192**	*e*Pg	**Pg**	**17 29 07.0**	**+0.6**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 29 20.9**	**-0.1**
	9.9nm,0.2s,SNR=1.0						
OG05	**Jujurieux**	**1.16**	**281**	Pn	**Pn**	**17 29 08.8**	**+1.7**
ORIF	**Oris-en-Rattie**	**1.24**	**224**	*e*Pg	**Pg**	**17 29 09.3**	**+0.5**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**17 29 25.9**	**+0.9**
	12nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.24**	**224**	*e*Pn	**Pn**	**17 29 08.5**	**+0.3**
ORIF				*e*Pg	**Pg**	**17 29 09.3**	**+0.5**
ORIF				*e*Sg	**Sg**	**17 29 25.9**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.24**	**224**	*e*Pg	**Pg**	**17 29 09.3**	**+0.5**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**17 29 25.9**	**+0.9**
	6.2nm,0.4s,SNR=1.0						
MUGIO	**Muggio**	**1.36**	**85**	Pg	**Pg**	**17 29 10.3**	**-0.8**
LOMF	**Lomont**	**1.54**	**353**	Pg	**Pg**	**17 29 15.8**	**+1.3**
LOMF				Sg	**Sg**	**17 29 36.2**	**+1.7**
BBS	**Basel-Blauen**	**1.67**	**10**	Pg	**Pg**	**17 29 17.0**	**0.0**
BBS				Sg	**Sg**	**17 29 39.6**	**+1.0**
VIVF	**Saint-Julien-l**	**1.96**	**241**	*e*Pg	**Pg**	**17 29 22.7**	**+0.1**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**17 29 48.2**	**+0.2**
	21nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.96**	**241**	*e*Pn	**Pn**	**17 29 18.2**	**+0.1**
VIVF				*e*Pg	**Pg**	**17 29 22.7**	**+0.1**
VIVF				*e*Sg	**Sg**	**17 29 48.2**	**+0.2**
VIVF	**Saint-Julien-l**	**1.96**	**241**	*e*Pn	**Pn**	**17 29 18.2**	**+0.1**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**17 29 48.2**	**+0.2**
	10nm,0.2s,SNR=1.0						
SBF	**Sospel**	**1.97**	**173**	*e*Sg	**Sg**	**17 29 48.6**	**+0.3**
	50nm,0.6s						
SBF	**Sospel**	**1.97**	**173**	*e*Sg	**Sg**	**17 29 48.6**	**+0.3**
	25nm,0.6s						
HINF	**Hinteralfeld**	**2.00**	**355**	*e*P	**Pn**	**17 29 20.6**	**+1.9**
	SNR=1.0						
HINF	**Hinteralfeld**	**2.00**	**355**	*e*Pg	**Pg**	**17 29 23.0**	**-0.4**
HINF				*e*Sn	**Sn**	**17 29 42.1**	**-1.6**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**17 29 48.8**	**-0.5**
	9.0nm,0.2s						
HINF	**Hinteralfeld**	**2.00**	**355**	*e*Pn	**Pn**	**17 29 18.2**	**-0.5**
HINF				*e*P		17 29 20.6	
HINF				*e*Pg	**Pg**	**17 29 23.0**	**-0.4**
HINF				*e*Sn	**Sn**	**17 29 42.1**	**-1.6**
HINF				*e*Sg	**Sg**	**17 29 48.8**	**-0.5**
HINF	**Hinteralfeld**	**2.00**	**355**	*e*P	**Pn**	**17 29 20.6**	**+1.9**
	SNR=1.0						
HINF	**Hinteralfeld**	**2.00**	**355**	*e*Pg	**Pg**	**17 29 23.0**	**-0.4**
HINF				*e*Sn	**Sn**	**17 29 42.1**	**-1.6**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**17 29 48.8**	**-0.5**
	4.5nm,0.2s						
MOF	**Molkenrain**	**2.03**	**1**	Pg	**Pg**	**17 29 24.2**	**+0.3**
MOF				Sg	**Sg**	**17 29 50.4**	**+0.1**
SMRF	**Simiane la Rot**	**2.14**	**211**	*e*P	**Pn**	**17 29 23.4**	**+2.9**
SMRF				*e*Sg	**Sg**	**17 29 54.2**	**+0.6**
	1.4nm,0.3s						
SMRF	**Simiane la Rot**	**2.14**	**211**	*e*P	**Pn**	**17 29 23.4**	**+2.9**
SMRF				*e*Sg	**Sg**	**17 29 54.2**	**+0.6**
	0.7nm,0.3s						
FELD	**Feldberg im Sc**	**2.15**	**17**	Pg	**Pg**	**17 29 26.2**	**+0.1**
HAU	**Haudompre**	**2.25**	**347**	*e*P	**Pn**	**17 29 24.3**	**+2.3**
	SNR=1.0						
HAU	**Haudompre**	**2.25**	**347**	*e*Pg	**Pg**	**17 29 28.3**	**+0.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**17 29 56.4**	**-0.7**
	6.8nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**2.25**	**347**	*e*Pn	**Pn**	**17 29 21.6**	**-0.4**
HAU				*e*P		17 29 24.3	
HAU				*e*Pg	**Pg**	**17 29 28.3**	**+0.3**
HAU				*e*Sg	**Sg**	**17 29 56.4**	**-0.7**
HAU	**Haudompre**	**2.25**	**347**	*e*Pg	**Pg**	**17 29 28.3**	**+0.3**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**17 29 56.4**	**-0.7**
	3.4nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**2.28**	**188**	*e*Pg	**Pg**	**17 29 28.4**	**-0.3**
FRF				*e*Sg	**Sg**	**17 29 58.0**	**-0.3**
	8.5nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	**2.28**	**188**	*e*Pg	**Pg**	**17 29 28.4**	**-0.3**
FRF				*e*Sg	**Sg**	**17 29 58.0**	**-0.3**
	4.2nm,0.4s,SNR=1.0						
ECH	**Echery**	**2.40**	**1**	Pg	**Pg**	**17 29 31.0**	**+0.1**
SMF	**Signal de Mont**	**2.41**	**291**	*e*Pg	**Pg**	**17 29 30.6**	**-0.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**17 30 01.1**	**-1.1**
	15nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.41**	**291**	*e*Pn	**Pn**	**17 29 24.4**	**+0.2**
SMF				*e*Pg	**Pg**	**17 29 30.6**	**-0.4**
SMF				*e*Sg	**Sg**	**17 30 01.1**	**-1.1**
SMF	**Signal de Mont**	**2.41**	**291**	*e*Pn	**Pn**	**17 29 24.4**	**+0.2**
SMF				*e*Sg	**Sg**	**17 30 01.1**	**-1.1**
	7.6nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**2.52**	**190**	*e*Sg	**Sg**	**17 30 05.3**	**-0.6**
	5.3nm,0.3s						
LMR	**La Mourre**	**2.52**	**190**	*e*Sg	**Sg**	**17 30 05.3**	**-0.6**
	2.7nm,0.3s						
CDF	**Champ du Feu**	**2.60**	**3**	*e*Pg	**Pg**	**17 29 33.9**	**-0.8**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**17 30 07.5**	**-0.8**
	4.1nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**2.60**	**3**	*e*Pn	**Pn**	**17 29 27.0**	**+0.2**
CDF				*e*Pg	**Pg**	**17 29 33.9**	**-0.8**
CDF				*e*Sg	**Sg**	**17 30 07.5**	**-0.8**
CDF	**Champ du Feu**	**2.60**	**3**	*e*Pg	**Pg**	**17 29 33.9**	**-0.8**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**17 30 07.5**	**-0.8**
	2.0nm,0.4s,SNR=1.0						
LOR	**Lormes**	**2.66**	**304**	*e*Pn	**Pn**	**17 29 27.7**	**0.0**
	baz=123						
LOR	**Lormes**	**2.66**	**304**	*e*P	**Pn**	**17 29 30.0**	**+2.3**
	baz=122,SNR=1.0						
LOR	**Lormes**	**2.66**	**304**	*e*Pg	**Pg**	**17 29 35.5**	**-0.4**
	baz=121,SNR=1.0						
LOR				*e*Sg	**Sg**	**17 30 09.4**	**-1.1**
	7.3

3.8nm,0.4s,SNR=1.0
LASF Ste Croix 2.89 234 *e*Pg **Pg 17 29 39.3 -0.9**
LASF *e*Sg **Sg 17 30 17.1 -0.5**
1.7nm,0.3s
LASF Ste Croix 2.89 234 *e*Pn **Pn 17 29 30.5 -0.3**
LASF *e*Pg **Pg 17 29 39.3 -0.9**
LASF *e*Sg **Sg 17 30 17.1 -0.5**
LASF Ste Croix 2.89 234 *e*Pg **Pg 17 29 39.3 -0.9**
LASF *e*Sg **Sg 17 30 17.1 -0.5**
0.9nm,0.3s
RFYF Reffroy 3.02 339 *e*Pg **Pg 17 29 41.8 -1.0**
baz=163
MEZF Maizieres J'vi 3.02 333 *e*Pn **Pn 17 29 32.8 +0.1**
baz=150
MEZF Maizieres J'vi 3.02 333 *e*Pg **Pg 17 29 42.1 -0.8**
baz=147,SNR=1.0
MEZF Maizieres J'vi 3.02 333 *e*Pn **Pn 17 29 32.8 +0.1**
MEZF *e*Pg **Pg 17 29 42.1 -0.8**
BGF Bois d'Agland 3.04 286 *e*Pg **Pg 17 29 41.9 -1.3**
BGF *e*Sg **Sg 17 30 23.2 +0.6**
9.3nm,0.3s,SNR=1.0
BGF Bois d'Agland 3.04 286 *e*Pg **Pg 17 29 41.9 -1.3**
BGF *e*Sg **Sg 17 30 23.2 +0.6**
4.7nm,0.3s,SNR=1.0
HYF Humbligny 3.40 297 *e*Pn **Pn 17 29 37.5 -0.4**
RJF Les Rejaudoux 3.95 264 *e*Sg **Sg 17 30 49.3 -2.6**
2.3nm,0.3s,SNR=1.0
RJF Les Rejaudoux 3.95 264 *e*Sg **Sg 17 30 49.3 -2.6**
1.1nm,0.3s,SNR=1.0

MOS ***02*** *17:40:15.4±1.1, 943N×126.19E, h33km, mb4.8/8, Error ellipse: s-maj=32.1km s-min=10.8km az=107.5*
IDC ***02*** *17:40:17.5±4.0, 948N×12638E, h36km±31km, mb4.1/11, mb1 4.2/11, mb1mx4.0/20, mbtmp4.3/11, MS3.3/7, Ms1 3.4/7, ms1mx2.9/30, Error ellipse: s-maj=56.2km s-min=12.1km az=74.0*
ISCJB ***02*** *17:40:19.5±0.6, 942N±003×12630E±005, h68km±5km, mb4.3/23, Error ellipse: s-maj=8.4km s-min=4.8km az=143.8*
MAN ***02*** *17:40:20.6, 941N×126.19E, h28km, mb4.3, ML5.2, MS1.5*
NEIC ***02*** *17:40:22.3±2.2, 944N×12636E, h82km±20km, mb4.5/12, Error ellipse: s-maj=15.6km s-min=5.9km az=67.0*
ISC 02 17:40:20.8±0.6,**942N**±003×**12631E**±005,**h63**km±5km,**n77,**
σ1§**08**/78,**mb4.4**/23,**6C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.81**	**236**	*e*P	**Pn**	**17 40 34.6**	**-1.9**
SCPH	**Surigao**	**0.88**	**294**⇑	*e*P	**Pn**	**17 40 35.2**	**-2.2**
SCPH				*e*S	**Sn**	**17 40 47.5**	**-2.1**
BIPH	**Bislig**	**1.23**	**177**⇑	*e*P	**Pn**	**17 40 40.4**	**-1.5**
BIPH				*e*S	**Sn**	**17 40 56.9**	**-0.8**
MSLP	**Maasin**	**1.59**	**297**	*e*P	**Pn**	**17 40 46.5**	**-0.2**
CGP	**Cagayan de Oro**	**1.86**	**239**	*e*P	**Pn**	**17 40 49.6**	**-0.8**
CGP				*e*S	**Sn**	**17 41 10.5**	**-2.2**
BUKP	**Musuan**	**1.96**	**219**	*e*P	**Pn**	**17 40 52.0**	**+0.2**
OCLP	**Ormoc**	**2.33**	**314**	*e*P	**Pn**	**17 40 57.6**	**+1.0**
BESP	**Borongan**	**2.33**	**339**	*e*P	**Pn**	**17 40 57.6**	**+0.9**
TBP	**Tagbilaran**	**2.42**	**277**	*e*P	**Pn**	**17 41 06.2**	**+8.2**
TBP				*e*S	**Sn**	**17 41 35.1**	**+8.5**
DAV	**Davao City (W)**	**2.44**	**197**	*e*P	**Pn**	**17 41 00.0**	**+1.7**
MATI	**Mati**	**2.46**	**181**	*e*P	**Pn**	**17 40 59.5**	**+1.0**
LLP	**Lapu-Lapu**	**2.47**	**291**⇑	*i*P	**Pn**	**17 40 58.6**	**-0.1**
LLP				*e*S	**Sn**	**17 41 26.2**	**-1.5**
DCPH	**Dipolog City**	**3.03**	**254**⇑	*e*P	**Pn**	**17 41 05.7**	**-0.6**
DCPH				*e*S	**Sn**	**17 41 40.9**	**-0.5**
PAGZ	**Pagadian**	**3.29**	**242**	*e*P	**Pn**	**17 41 10.4**	**+0.7**
GUIM	**Jordan**	**3.85**	**288**	*e*P	**Pn**	**17 41 17.4**	**-0.1**
IPIL	**Ipil**	**4.03**	**247**⇑	*i*P	**Pn**	**17 41 20.5**	**+0.6**
IPIL				*i*S	**Sn**	**17 42 07.6**	**+1.7**
RCP	**Roxas**	**4.09**	**302**⇓	*e*P	**Pn**	**17 41 21.9**	**+1.1**
PVCP	**Virac**	**4.65**	**333**⇑	*e*P	**Pn**	**17 41 29.1**	**+0.7**
PVCP	**Virac**	**4.65**	**333**	*e*P	**Pn**	**17 41 29.8**	**+1.3**
BUSP	**Coron**	**6.53**	**294**	*e*P	**Pn**	**17 41 54.8**	**+0.7**
POLP	**Polilio Island**	**6.79**	**321**	*e*P	**Pn**	**17 41 59.7**	**+2.1**
ENPP	**El Nido**	**7.00**	**285**	*e*P	**Pn**	**17 42 00.9**	**+0.3**
BALP	**Baler**	**7.79**	**324**	*e*P	**Pn**	**17 42 13.2**	**+1.8**
CAUP	**Cauayan**	**8.66**	**330**	*e*P	**Pn**	**17 42 23.6**	**+0.4**
KKM	**Kota Kinabalu**	**10.55**	**252**	*e*P	**Pn**	**17 42 51.1**	**+2.1**
KSM	**Kuching**	**17.76**	**245**	P	**Pn**	**17 44 25.0**	**+1.4**
GUMO	**Guam**	**18.65**	**75**	LR	LR	17 50 12.1	
	comp=Z,77nm,19.8s,baz=104,slow=32						
KAKA	**Kakadu**	**22.82**	**164**	*e*P	**P**	**17 45 18.9**	**+0.6**
	15nm,0.7s,mb4.5						
KULM	**Kulim**	**25.77**	**263**	*e*P	**P**	**17 45 46.8**	**+1.3**
JHJ	**Hachijo jima 2**	**26.66**	**26**	LR	LR	17 56 35.0	
	comp=Z,40nm,18.1s,baz=294,slow=37						
FITZ	**Fitzroy Crossi**	**27.36**	**181**	*e*P	**P**	**17 46 00.4**	**+0.5**
	5.5nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.36**	**181**	P	**P**	**17 46 00.6**	**+0.7**
	4.5nm,1.0s,mb4.0,baz=15,slow=13,SNR=6.7						
MJAR	**Matsushiro Arr**	**29.08**	**20**	LR	LR	17 54 44.8	
	comp=Z,89nm,20.9s,baz=200,slow=30						
WRAB	**Tennant Creek**	**30.23**	**165**	*e*P	**P**	**17 46 25.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**30.23**	**165**	*e*P	**P**	**17 46 25.1**	**-0.3**
	comp=Z,5.2nm,0.7s,mb4.4						
WRAB				*e*		17 46 29.5	
WRA	**Warramunga Arr**	**30.23**	**165**	P	**P**	**17 46 24.7**	**-0.7**
	comp=Z,1.2nm,0.6s,mb3.8,baz=347,slow=9.2,SNR=15						
WRA				S	**S**	**17 51 23.7**	**+3.2**
	comp=Z,0.4nm,0.8s,baz=342,slow=14,SNR=3.4						
WB2	**Warramunga Arr**	**30.23**	**165**	*e*P	**P**	**17 46 24.8**	**-0.6**
MBWA	**Marble Bar**	**31.07**	**192**	*e*P	**P**	**17 46 33.6**	**+0.8**
	comp=Z,33nm,1.4s,mb5.0						
AS31	**Alice Springs**	**33.71**	**167**	*e*P	**P**	**17 46 55.9**	**0.0**
ASAR	**Alice Springs**	**33.71**	**167**	P	**P**	**17 46 55.8**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=347,slow=7.4,SNR=26						
ASAR				PcP	PcP	17 49 35.4	+1.1
	comp=Z,0.5nm,0.7s,baz=342,slow=2.6,SNR=4.8						
ASPA	**Alice Springs**	**33.71**	**167**	*e*P	**P**	**17 46 55.9**	**0.0**
HNR	**Honiara**	**38.37**	**118**	LR	LR	17 59 50.1	
	comp=Z,74nm,21.2s,baz=360,slow=31						
LSA	**Lhasa**	**38.55**	**306**	P	**P**	**17 47 38.4**	**+1.2**
FORT	**Forrest**	**40.00**	**178**⇓	*i*P	**P**	**17 47 50.2**	**+0.9**
	comp=Z,34nm,0.5s,mb5.3						
ULN	**Ulaanbaatar**	**41.63**	**340**	*e*P	**P**	**17 48 02.2**	**-0.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**41.63**	**340**	*e*P	**P**	**17 48 02.2**	**-0.5**
	comp=Z,1.9nm,0.8s,mb3.8						
SONM	**Songino Array**	**41.82**	**340**	P	**P**	**17 48 03.9**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=177,slow=5.3,SNR=3.1						
SONM				LR	LR	18 06 04.2	
	comp=Z,43nm,19.1s,baz=270,slow=37						
NWAO	**Narrogin (SRO)**	**42.99**	**191**	P	**P**	**17 48 15.1**	**+1.3**
	comp=Z,7.6nm,1.1s,mb4.4,baz=5.8,slow=7.4,SNR=5.9						
NWAO				LR	LR	18 08 42.3	
	comp=Z,40nm,20.3s,baz=7.6,slow=40						
NWAO	**Narrogin (SRO)**	**42.99**	**191**	*e*P	**P**	**17 48 14.5**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,21nm,1.1s						
NWAO	**Narrogin (SRO)**	**42.99**	**191**	*e*P	**P**	**17 48 14.5**	**+0.8**
	comp=Z,21nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**43.59**	**161**⇓	*i*P	**P**	**17 48 17.2**	**-1.4**
	comp=Z,2.7nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**43.59**	**161**	P	**P**	**17 48 17.2**	**-1.4**
	comp=Z,4.0nm,0.6s,mb4.3,baz=349,slow=7.8,SNR=15						
STKA	**Stephens Creek**	**43.59**	**161**	*e*P	**P**	**17 48 17.0**	**-1.6**
STKA				⇓*i*P		17 48 17.2	
YAK	**Yakutsk**	**52.57**	**2**	P	**P**	**17 49 27.5**	**-0.4**
YAK				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
YAK	**Yakutsk**	**52.57**	**2**	P	**P**	**17 49 27.5**	**-0.4**
	comp=Z,17nm,1.2s,mb4.8						
MKAR	**Makanchi Array**	**52.72**	**323**	P	**P**	**17 49 28.4**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.2,baz=128,slow=8.5,SNR=18						
MA2	**Magadan**	**53.34**	**15**	*e*P	**P**	**17 49 34.8**	**+1.3**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MA2	**Magadan**	**53.34**	**15**	*e*P	**P**	**17 49 34.8**	**+1.2**
	comp=Z,2.8nm,0.7s,mb4.3						
KURK	**Kurchatov**	**56.78**	**326**	*e*P	**P**	**17 49 57.3**	**-1.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**56.78**	**326**	*e*P	**P**	**17 49 57.3**	**-1.1**
	comp=Z,4.0nm,0.9s,mb4.5						
TIXI	**Tiksi**	**62.19**	**1**	*e*P	**P**	**17 50 34.5**	**-1.1**
TIXI				*e*	pP	17 50 46.4	-5.9
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						

BRVK	**Borovoye**	**62.45**	**326**	*e*P	**P**	**17 50 35.9**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
BRVK	**Borovoye**	**62.45**	**326**	*e*P	**P**	**17 50 35.9**	**-1.5**
	comp=Z,2.2nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**63.13**	**325**	*e*P	**P**	**17 50 40.5**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
ZRNK	**Zerenda**	**63.13**	**325**	*e*P	**P**	**17 50 40.5**	**-1.3**
	comp=Z,9.9nm,1.4s,mb4.8						
JOF	**Joensuu**	**83.96**	**333**	*e*p	**P**	**17 52 43.1**	**-0.9**
	comp=Z,0.5nm,0.3s,mb4.1						
ARCES	**ARCESS Array B**	**85.00**	**340**	P	**P**	**17 52 48.8**	**-0.4**
	comp=Z,2.5nm,0.6s,mb4.5,baz=78,slow=6.9,SNR=14						
ARE0	**ARCESS Array S**	**85.00**	**340**	P	**P**	**17 52 48.3**	**-1.0**
BRTR	**Keskin Array B**	**86.09**	**309**	P	**P**	**17 52 54.7**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.9,baz=113,slow=3.7,SNR=2.7						
FINES	**FINESS Array B**	**86.65**	**332**	P	**P**	**17 52 56.1**	**-1.4**
	comp=Z,3.1nm,1.0s,mb4.5,baz=85,slow=6.5,SNR=7.0						
VNDA	**Vanda**	**89.09**	**173**	P	**P**	**17 53 09.1**	**0.0**
	comp=Z,2.4nm,1.0s,mb4.5,baz=318,slow=5.7,SNR=11						
VNDA	**Vanda**	**89.09**	**173**	P	**P**	**17 53 09.1**	**0.0**
NOA	**NORSAR Array B**	**93.53**	**334**	LR	LR	18 37 20.0	
	comp=Z,14nm,19.6s,baz=115,slow=37						
YKA	**Yellowknife Ar**	**94.51**	**24**	P	**P**	**17 53 34.9**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.9,baz=301,slow=4.6,SNR=5.7						
YKA	**Yellowknife Ar**	**94.51**	**24**	P	**P**	**17 53 34.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**120.61**	**291**	PKP	PKPdf	17 59 05.7	+0.4
	comp=Z,0.8nm,0.8s,baz=49,slow=1.3,SNR=4.9						
PLCA	**Paso Flores**	**145.42**	**157**	PKPbc	PKPbc	17 59 51.0	-0.5
	comp=Z,2.6nm,0.7s,baz=206,slow=5.5,SNR=6.4						

ISCJB ***02*** *17:43:12.4±0.8, 1425N±007×92.34W±005, h80km±14km, Error ellipse: s-maj=13.1km s-min=6.3km az=62.1*
CASC ***02*** *17:43:14.9±2.8, 1436N×92.12W, h80km±21km, MD4.1, ML4.4*
NEIC ***02*** *17:43:15.1, 1421N×9239W, h45km, MD4.4(MEX), After MEX.*
MEX ***02*** *17:43:15.1±0.6, 1421N×9239W, h44km±13km, MD4.4*
ISC 02 17:43:14.3±0.9,**1429N**±007×**9230W**±005,**h70**km±17km,
n19,σ0§**78**/21,**1C-1D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.65**	**88**⇑	*e*P	**Pn**	**17 43 28.5**	**-0.2**
JAT				*e*S	**Sn**	**17 43 39.4**	**+0.3**
TP2	**Tecpan 2**	**1.33**	**68**⇓	*e*P	**Pn**	**17 43 36.2**	**-0.8**
TP2				*e*S	**Sn**	**17 43 54.1**	**0.0**
TP2				AML	AML	17 43 58.8	
	comp=N,5μm,0.5s						
FUG	**Fuego 3**	**1.42**	**84**	*e*P	**Pn**	**17 43 37.5**	**-0.7**
PCG	**Pacaya**	**1.65**	**86**	*e*P	**Pn**	**17 43 41.9**	**+0.7**
PCG				*e*S	**Sn**	**17 44 00.5**	**-1.0**
CCIG	**Comitan**	**1.98**	**5**	*i*P	**Pn**	**17 43 46.6**	**+0.9**
CCIG				*i*S	**Sn**	**17 44 10.1**	**+0.4**
SCX	**San Cristobal**	**2.45**	**353**	*e*P	**Pn**	**17 43 53.0**	**+1.0**
SCX				*i*S	**Sn**	**17 44 21.5**	**+0.6**
SBLS	**San Blas**	**2.64**	**100**	*e*P	x	17 44 11.7	
SBLS				*e*S	x	17 44 43.3	
LFRS	**El Faro**	**3.22**	**102**	*e*P	x	17 44 19.3	
LFRS				*e*S	x	17 44 56.0	
LCBS	**La Ceiba**	**3.29**	**101**	*e*P	x	17 44 20.8	
LCBS				*e*S	x	17 44 56.8	
CMIG	**Matias Romero**	**3.73**	**319**	*i*P	**Pn**	**17 44 09.3**	**-0.2**
CMIG				*i*S	**Sn**	**17 44 51.2**	**-0.9**
BLLM	**Bellamira**	**4.04**	**102**	*e*P	x	17 44 31.2	
BLLM				*e*S	x	17 45 16.6	
CNCH	**Conchagua**	**4.46**	**103**	*e*P	x	17 44 36.3	
CNCH				*e*S	x	17 45 28.5	
EVV	**El Vigia**	**5.07**	**325**	*e*P		17 44 47.0	
OXX	**Oaxaca**	**5.08**	**304**	*e*P	**Pn**	**17 44 30.0**	**+2.1**
OXX				*i*S	**Sn**	**17 45 25.0**	**-0.2**
VHO	**Vista Hermosa**	**5.08**	**303**	*i*P		17 44 50.6	
VHO				*i*S	**Sn**	**17 45 24.7**	**-0.6**
UTMO	**Huajuapan**	**6.35**	**304**	*i*P	**Pn**	**17 44 56.0**	**+11**
UTMO				*i*S	**Sn**	**17 45 56.0**	**-0.3**
TEIG	**Tepich**	**7.04**	**33**	*e*P	**Pn**	**17 44 53.8**	**-0.9**
	comp=N,14nm,0.4s						
PPM	**Popocatepetl**	**7.70**	**309**	*e*P	**Pn**	**17 45 03.0**	**-0.7**
JTS	**JuntasAbangare**	**8.21**	**118**	*e*P	**Pn**	**17 45 11.6**	**+0.9**
	comp=N,13nm,0.6s						

ISCJB ***02*** *17:51:17.2±0.9, 1093N±005×8680W±006, h44km±10km, mb3.9/6, Error ellipse: s-maj=10.8km s-min=6.6km az=96.4*
CASC ***02*** *17:51:17.5±2.0, 1101N×8677W, h20km±5km, MD3.9, mb4.3(NEIC)*
NEIC ***02*** *17:51:20.1±1.1, 1144N×8630W, h47km±11km, mb4.3/2, Error ellipse: s-maj=26.9km s-min=10.7km az=46.0*
IDC ***02*** *17:51:24.4±4.7, 1167N×8645W, h73km±38km, mb3.5/4, mb1 3.8/6, mb1mx3.5/20, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=62.7km s-min=32.6km az=32.0*
ISC 02 17:51:17.9±0.9,**1092N**±005×**8678W**±005,**h37**km±11km,
n35,σ0§**97**/44,**mb3.9**/6,**11C-3D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.98**	**68**	*e*P	**Pn**	**17 51 34.6**	**-0.6**
SSNN				*e*S	**Sn**	**17 51 48.0**	**+0.2**
APON	**Apoyo**	**1.21**	**35**⇑	*e*P	**Pn**	**17 51 37.9**	**-0.4**
APON				*e*S	**Sn**	**17 51 55.2**	**+1.7**
MASN	**Masaya**	**1.22**	**30**⇓	*e*P	**Pn**	**17 51 37.6**	**-0.9**
MASN				⇑*e*P		17 51 38.6	
MASN				*e*S	**Sn**	**17 51 55.2**	**+1.4**
TICN	**Ticuantepe**	**1.23**	**26**	*e*P	**Pn**	**17 51 38.3**	**-0.3**
COPN	**Copaltepe**	**1.26**	**8**⇑	*e*P	**Pn**	**17 51 38.5**	**-0.5**
COPN				*e*S	**Sn**	**17 51 54.4**	**-0.5**
CONN	**Concepcion**	**1.30**	**60**	*e*P	**Pn**	**17 51 39.2**	**-0.3**
CONN				⇑*i*P		17 51 39.3	
CONN				*e*S	**Sn**	**17 51 55.6**	**0.0**
XAVN	**Gruta Xavier**	**1.30**	**20**⇑	*e*P	**Pn**	**17 51 39.1**	**-0.4**
XAVN				*e*S	**Sn**	**17 51 55.6**	**0.0**
MADN	**Villa Maderas**	**1.31**	**68**⇑	*e*P	**Pn**	**17 51 39.9**	**+0.1**
MADN				*e*S	**Sn**	**17 51 56.5**	**+0.5**
TISN	**Laguna Tiscapa**	**1.31**	**22**⇓	*e*P	**Pn**	**17 51 39.3**	**-0.4**
MGAN	**Managua**	**1.32**	**23**	*e*P	**Pn**	**17 51 39.4**	**-0.5**
MGAN				*e*S	**Sn**	**17 51 55.9**	**-0.4**
APYN	**Apoyeque**	**1.37**	**18**⇓	*e*P	**Pn**	**17 51 40.0**	**-0.5**
APYN				*e*S	**Sn**	**17 51 58.0**	**+0.5**
LEON	**Leon**	**1.49**	**356**⇑	*e*P	**Pn**	**17 51 41.9**	**-0.3**
MOMJ	**Momotombo**	**1.50**	**9**	*e*P	**Pn**	**17 51 41.5**	**-0.7**
MOMJ				*e*S	**Sn**	**17 52 00.5**	**0.0**
LIM1	**Limonal**	**1.51**	**98**⇑	*e*P	**Pn**	**17 51 42.9**	**+0.5**
MIRN	**Miramar**	**1.51**	**2**	*e*P	**Pn**	**17 51 42.2**	**-0.3**
CNGN	**Cerro Negro**	**1.57**	**3**⇑	*e*P	**Pn**	**17 51 42.8**	**-0.5**
TEL3	**Telica 3**	**1.64**	**358**⇑	*e*P	**Pn**	**17 51 44.1**	**-0.2**
TELN	**Telica**	**1.67**	**358**	*e*P	**Pn**	**17 51 44.6**	**-0.1**
TELN				*e*S	**Sn**	**17 52 03.9**	**-1.0**
CRIN	**San Cristobal**	**1.79**	**351**⇑	*e*P	**Pn**	**17 51 46.5**	**+0.2**
CRIN				*e*S	**Sn**	**17 52 09.8**	**+2.0**
JTS	**JuntasAbangare**	**1.90**	**109**	*e*Pn	**Pn**	**17 51 48.2**	**+0.4**
CMIG	**Matias Romero**	**9.97**	**309**	P	**Pn**	**17 53 41.2**	**+2.6**
	1.2nm,0.3s,baz=105,slow=9.8,SNR=6.5						
CMIG	**Matias Romero**	**9.97**	**309**	P	**Pn**	**17 53 41.2**	**+2.6**
SDV	**Santo Domingo**	**16.03**	**96**	P	**Pn**	**17 55 04.2**	**+3.7**
	0.5nm,0.3s,baz=300,slow=8.1,SNR=5.7						
SDV	**Santo Domingo**	**16.03**	**96**	P	**Pn**	**17 55 04.2**	**+3.7**
LTX	**Lajitas**	**24.17**	**322**	*e*P	**P**	**17 56 31.7**	**+1.1**
	5.4nm,0.9s,mb4.0						
SWET	**Sewanee**	**24.20**	**2**	*e*P	**P**	**17 56 28.1**	**-2.7**
PDAR	**Pinedale Array**	**37.42**	**332**	P	**P**	**17 58 27.2**	**-0.2**
	0.5nm,0.7s,mb3.5,baz=125,slow=10,SNR=4.6						
HWUT	**Hardware Ranch**	**37.52**	**329**	P	**P**	**17 58 29.6**	**+1.4**
	3.6nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**39.28**	**320**	P	**P**	**17 58 44.6**	**+1.6**
	0.7nm,0.7s,mb3.5,baz=137,slow=6.8,SNR=5.5						
ULM	**Lac du Bonnet**	**39.92**	**351**	P	**P**	**17 58 44.9**	**-3.5**
	3.2nm,0.8s,mb4.1,baz=168,slow=6.7,SNR=9.3						
YKA	**Yellowknife Ar**	**55.25**	**345**	P	**P**	**18 00 44.9**	**-2.3**
	0.8nm,0.8s,mb3.8,baz=147,slow=6.8,SNR=7.9						
YKA	**Yellowknife Ar**	**55.25**	**345**	P	**P**	**18 00 44.9**	**-2.3**
SONM	**Songino Array**	**120.35**	**350**	PKP	PKPdf	18 10 05.3	+0.2
	0.3nm,0.6s,baz=40,slow=1.4,SNR=3.9						
ASAR	**Alice Springs**	**139.29**	**246**	PKP	PKPdf	18 10 44.0	+3.1
	0.4nm,0.6s,baz=107,slow=2.0,SNR=8.1						
WRA	**Warramunga Arr**	**139.46**	**252**	PKP	PKPdf	18 10 44.4	+3.2
	0.6nm,0.6s,baz=93,slow=2.4,SNR=9.8						

NEIC ***02*** *18:10:05.3, 1663N×9434W, h111km, MD4.0(MEX), After MEX.*
MEX 02 18:10:05.2±1.2,**1663N**×**9434W,h110**km±14km,**MD4.0,**
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.70**	**312**	*i*P	**Pn**	**18 10 21.9**	**-1.6**
CMIG				*i*S	**Sn**	**18 10 35.8**	**-1.6**
TUIG	**Tuzandepetl**	**1.40**	**357**	*i*P	**Pn**	**18 10 29.8**	**-1.0**
TUIG				*i*S	**Sn**	**18 10 47.9**	**-2.4**
TUIG	**Tuzandepetl**	**1.40**	**357**	*i*P	**Pn**	**18 10 31.8**	**+1.0**
TUIG				*i*S	**Sn**	**18 10 47.9**	**-2.4**
SCX	**San Cristobal**	**1.64**	**86**	*i*P	**Pn**	**18 10 33.5**	**-0.2**
SCX				*i*S	**Sn**	**18 10 55.0**	**-0.3**
HUIG	**Huatulco**	**1.90**	**244**	*i*P	**Pn**	**18 10 34.6**	**-2.3**
HUIG				*i*S	**Sn**	**18 11 01.1**	**0.0**
HUIG	**Huatulco**	**1.90**	**244**	*i*P	**Pn**	**18 10 34.6**	**-2.3**
HUIG				*i*S	**Sn**	**18 11 01.0**	**-0.1**
CCIG	**Comitan**	**2.14**	**99**	*i*P	**Pn**	**18 10 38.9**	**-1.1**
CCIG				*i*S	**Sn**	**18 11 04.2**	**-2.4**
CCIG	**Comitan**	**2.14**	**99**	*i*P	**Pn**	**18 10 38.9**	**-1.1**
CCIG				*i*S	**Sn**	**18 11 02.8**	**-3.8**
OXX	**Oaxaca**	**2.33**	**282**	*e*P	**Pn**	**18 10 42.5**	**+0.1**
OXX				*i*S	**Sn**	**18 11 10.5**	**-0.3**
VHO	**Vista Hermosa**	**2.33**	**281**	*i*P	**Pn**	**18 10 42.3**	**-0.2**
VHO				*i*S	**Sn**	**18 11 10.4**	**-0.7**
UTMO	**Huajuapan**	**3.52**	**290**	*i*P	**Pn**	**18 10 57.3**	**-0.8**
UTMO				*i*S	**Sn**	**18 11 37.6**	**-1.3**
PPM	**Popocatepetl**	**4.75**	**301**	*e*P	**Pn**	**18 11 30.0**	**+15**

IDC ***02*** *18:10:53.1±1.0, 671S×13050E, h0km, mb4.1/4, mb1 4.2/7, mb1mx4.1/13, mbtmp4.1/7, ML4.1/3, MS3.1/1, Ms1 3.0/1, ms1mx2.2/22, Error ellipse: s-maj=74.1km s-min=19.4km az=73.0*
ISCJB ***02*** *18:10:54.6±0.6, 686S±006×1306E±02, h33km, mb4.6/14, MS3.0/1, Error ellipse: s-maj=22.6km s-min=5.1km az=142.8*
NEIC ***02*** *18:10:54.9±0.5, 675S×13053E, h15km, mb4.7/8, Error ellipse: s-maj=19.1km s-min=6.0km az=72.0*
ISC 02 18:10:57.5±0.5,**697S**±005×**1305E**±01,**h35**km,**n29,**
σ1§**31**/38,**mb4.6**/14,**MS3.0**/1,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.02**	**162**	*e*P	**Pn**	**18 12 30.2**	**+6.3**
	17nm,0.2s						
KAKA				*e*S	**Sn**	**18 13 33.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**12.04**	**203**	*e*P	**Pn**	**18 13 49.8**	**+3.4**
	10nm,0.2s						
FITZ				*e*S	**Sn**	**18 15 59.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.04**	**203**	Pn	**Pn**	**18 13 50.3**	**+3.9**
	1.8nm,0.3s,baz=36,slow=12,SNR=136						
FITZ				Sn	**Sn**	**18 15 57.6**	**-1.8**
	2.7nm,0.3s,baz=130,slow=16,SNR=9.6						
WRAB	**Tennant Creek**	**13.42**	**164**	*e*P	**Pn**	**18 14 07.3**	**+2.0**
WRAB				*e*S	**Sn**	**18 16 30.5**	**-2.6**
WRA	**Warramunga Arr**	**13.42**	**164**	Pn	**Pn**	**18 14 07.1**	**+1.7**
	0.5nm,0.3s,baz=338,slow=13,SNR=48						
WRA				Sn	**Sn**	**18 16 29.9**	**-3.4**
	2.8nm,0.3s,baz=336,slow=20,SNR=10						
WB2	**Warramunga Arr**	**13.43**	**164**	*e*P	**Pn**	**18 14 06.0**	**+0.6**
WB2				*e*S	**Sn**	**18 16 32.0**	**-1.4**
AS31	**Alice Springs**	**16.92**	**169**	*e*P	**Pn**	**18 14 55.9**	**+4.5**
AS31				*e*S	**S**	**18 17 56.8**	**-11**
ASAR	**Alice Springs**	**16.92**	**169**	P	**Pn**	**18 14 54.6**	**+3.1**
	0.7nm,0.3s,ba

ISC 02 18:41:18.9±1.9,525N±02×1750W±02,h199km±18km,n16,σ0°69/15,mb3.3/7,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	6.65	276	P	Pn	18 42 54.8	+0.3
KDAK	Kodiak Island	13.83	59	P	Pn	18 44 25.8	-0.9
2.5nm,0.3s,baz=283,slow=14,SNR=6.2							
KDAK	Kodiak Island	13.83	59	eP	Pn	18 44 25.0	-1.7
TTA	Tatalina	14.50	36	eP	Pn	18 44 35.0	+0.2
5.0nm,0.8s							
BILL	Bilibino	18.01	337	eP	P	18 45 15.4	+0.6
5.6nm,0.8s							
DAWY	Dawson	21.67	44	eP	P	18 45 53.6	-0.3
INK	Inuvik	25.19	35	P	P	18 46 25.8	-0.2
1.0nm,0.4s,mb3.8,baz=264,slow=7.2,SNR=6.8							
INK	Inuvik	25.19	35	eP	P	18 46 26.6	+0.6
0.8nm,0.4s,mb3.7							
ASAJ	Asahikawa	29.07	270	LR	LR	18 56 54.6	
comp=Z,23nm,19.4s,baz=328,slow=32							
YKA	Yellowknife Ar	32.74	48	P	P	18 47 33.5	+0.7
0.3nm,0.4s,mb3.1,baz=282,slow=8.3,SNR=4.4							
PDAR	Pinedale Array	43.73	76	P	P	18 49 05.2	+0.9
2.1nm,0.5s,mb3.8,baz=318,slow=3.0,SNR=17							
SONM	Songino Array	48.23	298	P	P	18 49 39.2	-0.3
0.3nm,0.5s,mb2.9,baz=56,slow=6.7,SNR=4.2							
MKAR	Makanchi Array	61.15	310	P	P	18 51 11.1	-1.1
0.1nm,0.4s,mb2.8,baz=44,slow=5.4,SNR=4.5							
MKAR	Makanchi Array	61.15	310	P	P	18 51 11.1	-1.1
WRA	Warramunga Arr	84.48	227	P	P	18 53 28.6	-0.6
0.5nm,0.6s,mb3.4,baz=30,slow=6.0,SNR=5.1							
ASAR	Alice Springs	87.93	226	P	P	18 53 46.6	+0.6
0.5nm,0.8s,mb3.4,baz=25,slow=4.6,SNR=8.8							

CASC 02 18:53:29.9±2.8,1402N×9168W,h49km±20km,MD3.7, ML3.8,1C,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.30	8	eP	Pn	18 53 40.5	+1.6
JAT				eS	Sn	18 53 45.4	+0.1
TP2	Tecpan 2	0.99	40	eP	Pn	18 53 48.2	+0.7
TP2				eS	Sn	18 54 02.3	+1.9
RBDL	Robledal	1.94	87	eP	x	18 54 19.3	
RBDL				eS	x	18 54 44.1	
RTR	El Retiro	1.98	93	⇑eP	x	18 54 19.9	
RTR				eS	x	18 54 46.1	
SBLS	San Blas	2.01	95	eP	x	18 54 20.0	
SBLS				eS	x	18 54 45.2	
SNJE	San Jose	2.02	94	eP	x	18 54 20.3	
SNJE				eS	x	18 54 45.7	
BOQS	Boqueron	2.35	97	eP	x	18 54 24.7	
BOQS				eS	x	18 54 54.2	
LFRS	El Faro	2.58	98	eP	x	18 54 28.0	
LFRS				eS	x	18 54 57.9	
LCBS	La Ceiba	2.65	98	eP	x	18 54 28.8	
LCBS				eS	x	18 55 00.2	

BJI 02 18:59:09.7,4274N×8606E,h14km,ML3.1,1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	1.61	47	PG	Pg	18 59 40.0	-0.6
WMQ				SG	Sg	19 00 03.0	+1.4
WMQ				Smax			
comp=N,80nm,0.5s							
WMQ				Smax			
comp=E,140nm,0.6s							
MK05	Makanchi Array	4.86	328	⇓Pn	Pn	19 00 22.3	-0.1
comp=E,1.8nm,0.6s,baz=147,slow=14							
MK05				⇓Lg		19 01 37.3	
comp=E,5.6nm,0.5s,baz=141,slow=30							
KURK	Kurchatov	9.47	330	⇑Lg		19 04 01.9	
comp=E,1.5nm,0.7s							

*ISCJB **02** 19:00:47.0±0.4,4595N±002×788E±003,h11km,Error ellipse: s-maj=3.6km s-min=3.0km az=56.5*
*LDG **02** 19:00:47.0±0.3,4595N×801E,h9km,Md2.3/2,Ml2.1/9, Error ellipse: s-maj=4.4km s-min=1.8km az=91.0*
*ROM **02** 19:00:47.5±0.1,4597N×794E,h11km±2km,Md2.2/2,Error ellipse: s-maj=4.5km s-min=2.4km az=91.0*
*ZUR **02** 19:00:48.2,4598N×796E,h9km±2km,ML1.7/7*

ISC 02 19:00:47.2±0.7,4596N±002×794E±005,h16km±6km,n24,σ0°52/35,1C-5D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCGN	Macugnaga	0.03	96	⇓iPg	Pg	19 00 50.1	+0.1
MCGN				Sg	Sg	19 00 51.1	-0.8
89nm,0.1s							
MMK	Mattmark	0.09	11	↑iPg	Pg	19 00 50.8	+0.3
MMK				iSg	Sg	19 00 52.3	-0.3
ORO	Oropa	0.34	175	Pg	Pg	19 00 54.7	+0.5
ORO				Sg	Sg	19 00 59.1	+0.2
182nm,0.2s							
DIX	Grande Dixence	0.39	288	⇓iPg	Pg	19 00 55.6	+0.5
DIX				Sg	Sg	19 01 00.6	+0.2
DIX	Grande Dixence	0.39	288	⇓iPg	Pg	19 00 55.5	+0.4
165nm,0.1s							
LKBD	Leukerbad	0.48	333	iSg	Pg	19 00 57.4	+0.7
40nm,0.3s							
LKBD	Leukerbad	0.48	333	ePg	Sg	19 01 03.5	+0.3
40nm,0.3s							
SENIN	Lac Senin	0.60	312	ePg	Pg	19 00 59.6	+0.6
45nm,0.2s							
MRGE	Morge	0.64	253	Pg	Pg	19 01 00.0	+0.2
GRYON	Gryon	0.65	297	ePg	Pg	19 01 00.6	+0.8
SALAN	Lac Salanfe	0.70	286	⇓iPg	Pg	19 01 01.4	+0.6
FUSIO	Fusio	0.70	45	ePg	Pg	19 01 01.2	+0.2
58nm,0.1s							
EMV	Vieux Emosson	0.73	278	⇓iPg	Pg	19 01 02.0	+0.5
45nm,0.4s							
MUGIO	Muggio	0.77	93	ePg	Pg	19 01 02.2	0.0
45nm,0.1s							
LPG	La Plagne	0.95	241	ePg	Pg	19 01 05.3	-0.4
LPG				eSg	Sg	19 01 19.0	+0.8
5.9nm,0.2s							
LPL	La Plagne	0.96	243	ePg	Pg	19 01 05.6	-0.1
LPL				eSg	Sg	19 01 19.0	+0.8
7.7nm,0.3s							
BNI	Bardonecchia	1.27	225	Pg	Pg	19 01 11.4	-0.3
CABF	La Chapelle	1.44	298	ePg	Pg	19 01 14.9	0.0
CABF				eSg	Sg	19 01 33.9	+0.3
5.6nm,0.4s							
MBDF	Montbardon	1.48	214	ePg	Pg	19 01 15.2	-0.5
MBDF				eSg	Sg	19 01 34.3	-0.8
2.7nm,0.3s							
ORIF	Oris-en-Rattie	1.79	235	ePg	Pg	19 01 21.1	-0.4
ORIF				eSg	Sg	19 01 44.6	-0.1
4.4nm,0.4s							
HINF	Hinteralfeld	2.00	339	eSg	Sg	19 01 51.0	-0.6
3.1nm,0.3s							
HAU	Haudompre	2.32	333	eSg	Sg	19 02 01.1	-0.6
2.4nm,0.3s							
VIVF	Saint-Julien-l	2.55	246	ePg	Pg	19 01 35.7	-0.4
VIVF				eSg	Sg	19 02 08.9	-0.3
1.0nm,0.2s							
LOR	Lormes	3.10	296	ePg	Pg	19 01 45.9	-0.7
LOR				eSg	Sg	19 02 25.6	-1.2
1.0nm,0.2s							

*NEIC **02** 19:11:30.4,1404N×9317W,h20km,MD4.4(MEX),After MEX.*

MEX 02 19:11:30.6±1.2,1404N×9313W,h20km±105km,MD4.4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.43	23	iP	Pn	19 12 07.9	-1.2
CCIG				iS	Sn	19 12 34.3	-4.0
SCX	San Cristobal	2.73	10	iP	Pn	19 12 12.0	-1.2
SCX				iS	Sn	19 12 46.0	+0.4
CMIG	Matias Romero	3.47	331	iP	Pn	19 12 19.9	-3.6
CMIG				iS	Sn	19 13 00.9	-3.2
OXX	Oaxaca	4.60	312	eP	Pn	19 12 39.0	0.0

*ISCJB **02** 19:24:28.4±1.6,26N±02×986E±01,h10km,mb3.6/3,Error ellipse: s-maj=23.2km s-min=19.6km az=54.6*

*IDC **02** 19:24:31.2±1.3,258N×9890E,h15km±7km,mb3.5/3, mb1 3.7/3,mb1mx3.4/19,mbtmp3.6/3,Error ellipse: s-maj=43.3km s-min=18.4km az=87.0*

ISC 02 19:24:30.9±1.6,26N±02×987E±01,h10km,n6,σ1°88/6, mb3.6/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.30	54	Pg	Pg	19 24 35.1	-1.7
1μm,0.3s,baz=278,slow=6.9,SNR=1418							
PSI				Lg		19 24 38.5	
2μm,0.3s,baz=145,slow=7.8,SNR=64							
IPM	Ipoh	2.98	52	P	Pn	19 25 19.1	+1.0
KGM	Kluang	4.67	97	P	Pn	19 25 43.4	+2.0
WRA	Warramunga Arr	41.57	124	P	P	19 32 16.9	-1.8
1.1nm,0.5s,mb3.8,baz=302,slow=9.1,SNR=18							
SONM	Songino Array	45.52	7	P	P	19 32 50.8	+0.3
0.4nm,0.6s,mb3.5,baz=189,slow=8.6,SNR=4.7							
MKAR	Makanchi Array	46.25	344	P	P	19 32 56.5	+0.2
0.6nm,0.7s,mb3.6,baz=157,slow=9.0,SNR=7.5							

IDC 02 19:48:50.4±58.0,1891S×17766W,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.7/13,mbtmp3.9/3,2C,Error ellipse: s-maj=1062.0km s-min=169.0km az=81.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.78	242	P	P	19 56 17.0	+0.4
1.1nm,0.8s,baz=63,slow=11,SNR=2.8							
WRA	Warramunga Arr	45.16	260	P	P	19 57 08.9	+0.2
0.6nm,0.3s,baz=98,slow=7.4,SNR=12							
ASAR	Alice Springs	45.21	255	P	P	19 57 09.6	+0.4
0.8nm,0.4s,baz=86,slow=8.3,SNR=9.6							
VNA3	Neumayer Olymp	89.69	176	⇑i	P	20 01 36.8	-14
VNA3				e		20 01 38.2	
VNA2	Neumayer--Watz	90.14	177	⇑i	P	20 01 39.1	-13
VNA2				e		20 01 40.8	

*IDC **02** 19:50:07.8±1.6,772S×14709E,h0km,mb3.8/4,mb1 4.0/6, mb1mx3.9/12,mbtmp3.9/6,ML4.0/2,MS3.3/3,Ms1 3.2/3, ms1mx2.6/25,Error ellipse: s-maj=48.5km s-min=13.3km az=85.0*
*ISCJB **02** 19:50:13.5±2.4,80S±0.1×1472E±02,h64km±21km, mb3.7/4,Error ellipse: s-maj=27.4km s-min=23.0km az=7.3*
*NEIC **02** 19:50:14.1±2.0,790S×147.11E,h50km±18km,mb3.8/2, Error ellipse: s-maj=17.8km s-min=16.1km az=200.0*

ISC 02 19:50:14.4±2.5,79S±02×1472E±02,h53km±23km,n21,σ0°64/17,mb3.7/4,MS3.3/2,1C,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	1.48	180	Pn	Pn	19 50 38.1	-0.4
108nm,0.3s,baz=18,slow=8.0,SNR=327							
PMG				Lg		19 51 01.0	
157nm,0.3s,baz=276,slow=21,SNR=16							
CTA	Charters Tower	12.13	184	eP	Pn	19 53 05.5	+1.1
4.0nm,1.2s							
CTA	Charters Tower	12.13	184	Pn	Pn	19 53 05.5	+1.2
0.5nm,0.3s,baz=359,slow=13,SNR=6.8							
CTA				LR	LR	19 57 06.5	
comp=Z,75nm,21.7s,baz=224,slow=34							
CTAO	Charters Tower	12.13	184	eP	Pn	19 53 04.5	+0.1
13nm,1.3s							
KAKA	Kakadu	15.24	251	eP	Pn	19 53 46.4	+0.2
6.3nm,0.8s							
WB2	Warramunga Arr	17.23	225	eP	Pn	19 54 10.2	-1.0
WRA	Warramunga Arr	17.24	225	P	Pn	19 54 11.2	-0.1
0.7nm,0.3s,baz=51,slow=11,SNR=37							
AS31	Alice Springs	20.17	218	eP	P	19 54 44.2	-0.1
ASAR	Alice Springs	20.17	218	P	P	19 54 45.8	+1.5
6.6nm,0.8s,baz=54,slow=9.4,SNR=42							
ASPA	Alice Springs	20.17	218	eP	P	19 54 44.2	-0.1
FITZ	Fitzroy Crossi	23.26	242	eP	P	19 55 17.1	-0.1
3.9nm,1.0s,mb3.8							
FITZ	Fitzroy Crossi	23.26	242	P	P	19 55 17.1	-0.1
2.2nm,1.0s,mb3.5,baz=175,slow=21,SNR=8.3							
STKA	Stephens Creek	24.39	192	P	P	19 55 26.8	-0.8
2.7nm,0.9s,mb3.7,baz=4.0,slow=13,SNR=3.1							
STKA				LR	LR	20 06 09.3	
comp=Z,92nm,19.9s,MS3.3,baz=24,slow=39							
STKA	Stephens Creek	24.39	192	eP	P	19 55 27.2	-0.4
STKA				LR	LR	20 06 09.3	
NWAO	Narrogin (SRO)	37.24	224	LR	LR	20 14 06.9	
comp=Z,55nm,20.2s,MS3.3,baz=157,slow=38							
SONM	Songino Array	66.15	331	P	P	20 00 55.9	-0.2
0.4nm,0.8s,mb3.5,baz=143,slow=3.6,SNR=4.0							
MKAR	Makanchi Array	79.07	321	P	P	20 02 13.3	+0.3
0.6nm,0.3s,mb3.9,baz=97,slow=8.6,SNR=25							
MKAR	Makanchi Array	79.07	321	P	P	20 02 13.3	+0.3
BC3	Big Chuckw Mtn	100.47	57	⇑P	PKiKP	20 09 11.0	+49
baz=1.2							
TORD	Torodi Ar. Bea	145.68	282	PKPbc	PKPbc	20 09 48.9	+1.8
0.9nm,0.3s,baz=71,slow=4.1,SNR=58							
DBIC	Dimbokro	152.22	269	PKPbc	PKPbc	20 10 05.5	+1.6
3.1nm,0.9s,baz=70,slow=2.2,SNR=3.4							

*IDC **02** 19:58:53.0±1.7,752S×10609E,h0km,mb3.8/6,mb1 3.9/6, mb1mx3.8/17,mbtmp3.8/6,Error ellipse: s-maj=79.4km s-min=21.7km az=48.0*
*NEIC **02** 19:58:54.7±1.2,752S×106.11E,h10km,mb4.3/2,Error ellipse: s-maj=59.7km s-min=13.5km az=47.0*
*ISCJB **02** 19:58:56.5±1.5,74S±04×1063E±04,h33km,mb3.8/8, Error ellipse: s-maj=73.1km s-min=16.6km az=94.8*

ISC 02 19:58:58.8±1.5,75S±04×1062E±04,h35km,n10,σ0°72/10, mb3.8/8,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	29.99	117	P	P	20 05 05.0	+1.1
0.5nm,0.8s,mb3.3,baz=290,slow=10,SNR=5.3							
ASAR	Alice Springs	31.11	124	P	P	20 05 12.7	-1.1
0.3nm,0.6s,mb3.3,baz=307,slow=9.2,SNR=5.6							
ASAR	Alice Springs	31.11	124	P	P	20 05 12.7	-1.1
SONM	Songino Array	55.04	0	P	P	20 08 27.6	+0.7
0.2nm,0.4s,mb3.5,baz=180,slow=9.5,SNR=6.4							
MKAR	Makanchi Array	58.03	341	P	P	20 08 47.9	-0.3
0.6nm,0.4s,mb3.9,baz=156,slow=8.3,SNR=12							
KURK	Kurchatov	62.64	341	eP	P	20 09 19.1	-0.5
2.1nm,0.8s,mb4.3							
ZAL	Zalesovo	63.76	346	P	P	20 09 26.1	-0.9
0.9nm,0.4s,mb4.2,baz=353,slow=8.4,SNR=3.7							
CHKZ	Chkalovo	67.88	338	eP	P	20 09 54.1	+0.5
1.8nm,0.8s,mb4.2							
ZRNK	Zerenda	67.94	337	eP	P	20 09 54.0	+0.1
BRTR	Keskin Array B	81.51	312	P	P	20 11 13.2	+0.6
1.2nm,0.7s,mb4.0,baz=133,slow=5.6,SNR=7.9							

*IDC **02** 20:01:17.9±1.8,269N×9583E,h0km,mb4.0/6,mb1 4.0/7, mb1mx3.8/20,mbtmp4.0/7,ML3.1/1,MS3.3/1,Ms1 3.3/1, ms1mx2.2/34,Error ellipse: s-maj=57.9km s-min=23.4km az=47.0*
*ISCJB **02** 20:01:24.2±4.9,28N±02×96.1E±03,h56km±39km, mb4.2/14,MS3.3/1,Error ellipse: s-maj=62.6km s-min=19.0km az=103.1*
*NEIC **02** 20:01:25.0±3.5,273N×9602E,h48km±28km,mb4.5/8, Error ellipse: s-maj=41.2km s-min=11.9km az=52.0*

ISC 02 20:01:26.4±4.9,28N±03×961E±03,h58km±39km,n22,σ0°70/21,mb4.2/14,MS3.3/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.82	89	Pn	Pn	20 02 08.0	-0.9
2.1nm,0.3s,baz=284,slow=10.0,SNR=10.0							
PSI	Prapat	2.82	89	Pn	Pn	20 02 08.0	-0.9
KULM	Kulim	5.18	61	eP	Pn	20 02 41.9	+0.6
JIRN	Jiri	26.50	340	eP	P	20 06 58.6	+0.4
14nm,0.8s,mb4.6							
PKI	Pulchoki	26.69	338	eP	P	20 06 59.8	-0.2
GUN	Gumba	26.84	340	eP	P	20 07 01.7	+0.4
16nm,0.6s,mb4.7							
DMN	Daman	26.84	338	eP	P	20 07 02.7	+1.4
10nm,0.7s,mb4.4							
KKN	Kakani	26.94	338	eP	P	20 07 02.1	-0.1
9.1nm,0.7s,mb4.4							
LSA	Lhasa	27.19	351	eP	P	20 07 04.2	-0.2
2.3nm,0.6s,mb3.9							
GKN	Gorkha	27.37	338	eP	P	20 07 05.8	-0.3
13nm,0.7s,mb4.6							
KOLN	Koldanda	27.58	336	eP	P	20 07 08.6	+0.7
9.4nm,0.8s,mb4.5							
ASAR	Alice Springs	45.21	128	P	P	20 09 38.6	+0.9
0.3nm,0.8s,mb3.2,baz=297,slow=8.1,SNR=4.1							
MKAR	Makanchi Array	45.46	347	P	P	20 09 39.0	-0.7
1.8nm,0.6s,mb4.1,baz=157,slow=9.1,SNR=20							
MKAR	Makanchi Array	45.46	347	P	P	20 09 39.0	-0.7
SONM	Songino Array	45.76	10	P	P	20 09 42.3	+0.4
2.3nm,0.6s,mb4.3,baz=189,slow=9.0,SNR=22							
KURK	Kurchatov	50.00	346	eP	P	20 10 14.3	-0.4
ZAL	Zalesovo	51.84	352	P	P	20 10 27.9	-0.7
1.9nm,0.5s,mb4.2,baz=321,slow=5.8,SNR=12							
ZRNK	Zerenda	54.81	340	P	P	20 10 49.5	-0.9
CHKZ	Chkalovo	54.90	342	eP	P	20 10 52.1	+1.1
1.9nm,0.6s,mb4.3							
ASAJ	Asahikawa	58.09	38	LR	LR	20 39 52.9	
comp=Z,22nm,19.0s,MS3.3,baz=40,slow=40							
FINES	FINESS Array B	78.11	333	P	P	20 13 18.0	-1.1
1.7nm,0.9s,mb4.0,baz=119,slow=8.6,SNR=3.1							
ARCES	ARCESS Array B	80.69	340	P	P	20 13 32.9	-0.3
1.8nm,0.8s,mb4.0,baz=95,slow=6.4,SNR=3.5							

*ISCJB **02** 20:07:51.6±0.6,268S±01×676E±01,h10km,mb4.3/20, MS3.7/11,Error ellipse: s-maj=17.6km s-min=14.9km az=1.6*
*MOS **02** 20:07:51.5±0.8,2682S×6758E,h10km,mb4.5/14,Error ellipse: s-maj=20.2km s-min=13.8km az=104.6*
*IDC **02** 20:07:51.8±0.6,2680S×6749E,h0km,mb4.3/15, mb1 4.5/15,mb1mx4.3/21,mbtmp4.3/15,MS3.6/11, Ms1 3.6/11,ms1mx3.4/23,Error ellipse: s-maj=22.8km s-min=17.3km az=16.0*
*NEIC **02** 20:07:53.4±0.3,2683S×6751E,h10km,mb4.4/3,Error ellipse: s-maj=12.2km s-min=10.1km az=191.0*

ISC 02 20:07:53.5±0.6,267S±01×676E±01,h10km,n64,σ0°76/50, mb4.3/20,MS3.7/11,7C-4D,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	37.37	257	P	P	20 15 06.2	-0.1
8.6nm,0.8s,mb4.6,baz=108,slow=5.9,SNR=8.5							
BOSA				LR	LR	20 28 18.7	
comp=Z,71nm,18.5s,MS3.5,baz=11,slow=33							
BOSA	Boshof	37.37	257	P	P	20 15 06.2	-0.1
BOSA				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.7							
BOSA				MLR	MLR		
comp=Z,71nm,18.5s,MS3.5							
LBTB	Lobatse	37.67	263	P	P	20 15 08.6	-0.2
comp=Z,3.4nm,0.8s,mb4.1,baz=119,slow=3.8,SNR=4.7							
LBTB	Lobatse	37.67	263	P	P	20 15 08.6	-0.2
LBTB				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
KMBO	Kilima Mbogo	38.67	306	LR	LR	20 28 00.8	
comp=Z,50nm,18.4s,MS3.4,baz=86,slow=31							
MAW	Mawson	40.99	183	LR	LR	20 28 16.0	
comp=Z,116nm,19.7s,MS3.8,baz=292,slow=30							
SNAA	Sanae	58.71	200	e	P	20 17 40.7	-11
SNAA				e	pP	20 17 44.6	-10
SNAA	Sanae	58.71	200	⇑eP	P	20 17 40.7	-11
ASAR	Alice Springs	59.50	103	P	P	20 17 57.2	+0.4
comp=Z,2.2nm,0.8s,mb4.2,baz=249,slow=6.0,SNR=19							
ASAR	Alice Springs	59.50	103	P	P	20 17 57.3	+0.5
ASAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
VNA2	Neumayer--Watz	60.07	201	eP	P	20 17 51.8	-8.9
VNA2				e		20 17 59.9	
VNA2				e		20 18 02.3	
VNA3	Neumayer Olymp	60.83	201	eP	P	20 17 56.0	-10
VNA3				e		20 18 05.6	
VNA3				e		20 18 08.8	
WRA	Warramunga Arr	61.10	99	P	P	20 18 08.5	+0.7
comp=Z,3.3nm,0.9s,mb4.5,baz=252,slow=6.2,SNR=12							
WRA	Warramunga Arr	61.10	99	P	P	20 18 08.5	+0.7
WRA				pmax	pmax		
comp=Z,3.0nm,0.9s							
WRAB	Tennant Creek	61.11	99	iP	P	20 18 02.0	-5.8
STKA	Stephens Creek	63.62	114	LR	LR	20 42 59.7	
comp=Z,80nm,19.9s,MS3.9,baz=206,slow=33							
VNDA	Vanda	65.03	166	P	P	20 18 33.1	-0.8
comp=Z,1.5nm,0.8s,mb4.0,baz=275,slow=8.4,SNR=9.2							
VNDA				LR	LR	20 42 43.4	
comp=Z,66nm,21.5s,MS3.8,baz=296,slow=32							
VNDA	Vanda	65.03	166	P	P	20 18 33.1	-0.8
VNDA				pmax	pmax		
comp=Z,2.0nm,0.8s							
VNDA				MLR	MLR		
comp=Z,66nm,21.5s							
AAK	Ala-Archa	69.32	5	eP	P	20 19 00.3	-0.8
AAK				pmax	pmax		
comp=Z,4.0nm,1.3s,mb4.2							
GNI	Garni	69.85	342	LR	LR	20 48 09.7	
comp=Z,63nm,20.1s,MS3.9,baz=333,slow=35							
CTA	Charters Tower	71.49	104	LR	LR	20 45 09.4	
comp=Z,31nm,21.5s,MS3.5,baz=51,slow=31							
BR131	Keskin Array S	73.29	333	eP	P	20 19 25.3	+0.2
comp=Z,3.2nm,0.9s,mb4.2							
BRTR	Keskin Array B	73.29	333	P	P	20 19 25.5	+0.4
comp=Z,3.1nm,0.9s,mb4.2,baz=156,slow=7.6,SNR=16							
BRTR	Keskin Array B	73.29	333	⇑eP	P	20 19 25.8	+0.7
KIV	Kislovodsk	73.95	342	eP	P	20 19 29.9	+0.9
KIV				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
KIV	Kislovodsk	73.95	342	eP	P	20 19 29.9	+0.9
comp=Z,8.5nm,1.0s,mb4.6							
MKAR	Makanchi Array	74.39	10	P	P	20 19 31.8	+0.2
comp=Z,0.8nm,0.7s,mb3.8,baz=201,slow=7.3,SNR=6.1							
MKAR	Makanchi Array	74.39	10	P	P	20 19 31.8	+0.3
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
TORD	Torodi Ar. Bea	75.21	293	P	P	20 19 36.4	0.0
comp=Z,1.5nm,0.7s,mb4.0,baz=106,slow=4.6,SNR=11							
AKTO	Aktyubinsk	77.29	354	LR	LR	20 52 07.0	
comp=Z,28nm,18.5s,MS3.6,baz=0.0,slow=34							
DBIC	Dimbokro	77.47	284	P	P	20 19 49.9	+0.7
comp=Z,3.7nm,0.9s,mb4.3,baz=166,slow=10,SNR=4.1							
DBIC	Dimbokro	77.47	284	P	P	20 19 49.9	+0.7
DBIC				pmax	pmax		
comp=Z,4.0nm,0.9s							
KURK	Kurchatov	77.73	7	eP	P	20 19 49.7	-0.9
VRI	Vrincioaia	81.21	332	↓iP	P	20 20 10.3	+0.8
VRI	Vrincioaia	81.21	332	↓P	P	20 20 10.2	+0.7
PLOR	Plostina	81.23	332	↓iP	P	20 20 10.0	+0.3
MLR	Muntele Rosu	81.24	332	P	P	20 20 10.4	+0.8
comp=Z,3.2nm,0.7s,mb4.4,baz=182,slow=5.6,SNR=5.1							
MLR				LR	LR	20 56 27.6	
comp=Z,50nm,18.9s,MS3.9,baz=136,slow=36							
MLR	Muntele Rosu	81.24	332	↑iP	P	20 20 10.0	+0.3
MLR	Muntele Rosu	81.24	332	↑P	P	20 20 10.0	+0.3
ZAL	Zalesovo	81.71	10	P	P

OBN pmax pmax
comp=Z,25nm,2.0s,mb5.1
GERES GERESS Array B 89.28 328 P **P 20 20 48.7 -2.1**
comp=Z,0.3nm,0.4s,mb4.0,baz=113,slow=9.3,SNR=4.9
KHC Kasperske Hovy 89.53 328‖ *eP* **P 20 20 50.3 -0.8**
ESDC Sonseca Array 93.77 313 P **P 20 21 10.8 +0.1**
comp=Z,2.3nm,0.9s,mb4.6,baz=120,slow=4.5,SNR=6.6
NOA NORSAR Array B 98.60 336 LR LR 21 08 00.7
comp=Z,16nm,18.8s,MS3.5,baz=90,slow=37
YKA Yellowknife Ar 144.22 2 PKP PKPdf 20 27 26.9 -2.7
comp=Z,1.7nm,1.1s,baz=348,slow=3.3,SNR=8.6
YKA Yellowknife Ar 144.22 2 PKIKP PKPdf 20 27 26.9 -2.7
YKA pmax pmax
comp=Z,2.0nm,1.1s
YKA Yellowknife Ar 144.22 2 PKP PKPdf 20 27 26.9 -2.7
NCB Newcomb 144.77 309 *eP* PKPdf 20 27 29.8 -0.8
DLBC Dease Lake 145.99 17 PKPbc PKPbc 20 27 33.4 0.0
comp=Z,1.4nm,0.4s,baz=292,slow=5.4,SNR=5.2
DLBC Dease Lake 145.99 17 PKPbc PKPbc 20 27 33.4 0.0
PDAR Pinedale Array 163.83 352 PKP PKPdf 20 27 56.2 -0.6
comp=Z,0.7nm,0.9s,baz=122,slow=1.9,SNR=4.5

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*ISCJB **02** 20:23:33.8±0.6, 3046N±005×1394E±0.1, h466km±9km, mb3.0/2, Error ellipse: s-maj=18.9km s-min=7.8km az=161.9*
*IDC **02** 20:23:34.3±3.3, 3010N×13855E, h413km±118km, mb2.9/2, mb1 2.9/5, mb1mx2.7/21, mbtmp3.7/5, Error ellipse: s-maj=277.6km s-min=18.9km az=68.0*
ISC 02 20:23:35.1±0.6, 3049N±005×1395E±01, h456km±9km, n24, σ0§98/35, mb3.0/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.63**	**6**	P	**P**	**20 24 41.6**	**+1.6**
JHJ	**Hachijo jima 2**	**2.64**	**5**	P	**P**	**20 24 40.1**	**+0.1**
17nm,0.3s,baz=74,slow=12,SNR=14							
CBIJ	**Chichi jima**	**4.13**	**144**	P	**P**	**20 24 51.6**	**-0.1**
4.3nm,0.3s,baz=303,slow=20,SNR=6.2							
CBIJ				S	**S**	**20 25 52.9**	**-1.3**
6.9nm,0.3s,baz=273,slow=22,SNR=6.8							
CBIJ	**Chichi jima**	**4.13**	**144**	P	**P**	**20 24 51.9**	**+0.2**
CBIJ				*e*S	**S**	**20 25 53.8**	**-0.3**
JIM2	**Oshima 3**	**4.22**	**359**	P	**P**	**20 24 52.8**	**+0.3**
BSO1	**Boso 1**	**4.34**	**17**	P	**P**	**20 24 54.7**	**+1.1**
BSO1				*e*S	**S**	**20 26 00.9**	**+3.3**
BSO3	**Boso 3**	**4.39**	**11**	*e*S	**S**	**20 25 57.9**	**-0.5**
JWZ	**Kozaga**	**4.41**	**314**	*e*S	**S**	**20 25 58.8**	**+0.1**
TATJ	**Tateyama 2**	**4.54**	**4**	P	**P**	**20 24 55.4**	**-0.1**
TATJ				*e*S	**S**	**20 26 00.2**	**-0.8**
BSO4	**Boso 4**	**4.55**	**9**	P	**P**	**20 24 56.3**	**+0.8**
BSO4				*e*S	**S**	**20 26 05.2**	**+4.2**
JOD2	**Odawara 2**	**4.77**	**356**	P	**P**	**20 24 57.3**	**-0.3**
JNY	**Yasuok**	**5.04**	**345**	P	**P**	**20 25 00.3**	**+0.1**
JYN	**Shimob**	**5.06**	**351**	P	**P**	**20 25 00.1**	**-0.2**
JHU	**Hanno**	**5.35**	**358**	P	**P**	**20 25 02.6**	**-0.6**
JHU				*e*S	**S**	**20 26 11.8**	**-3.2**
JRY	**Ryogami san**	**5.54**	**355**	P	**P**	**20 25 04.9**	**-0.1**
JYT	**Yasato**	**5.76**	**6**	P	**P**	**20 25 07.0**	**-0.1**
JYT				*e*S	**S**	**20 26 19.8**	**-2.5**
JAG	**Ashikaga**	**5.92**	**360**	P	**P**	**20 25 08.0**	**-0.8**
JAG				S	**S**	**20 26 19.4**	**-6.0**
MJAR	**Matsushiro Arr**	**6.13**	**350**	P	**P**	**20 25 11.4**	**+0.5**
0.3nm,0.3s,baz=172,slow=11,SNR=4.3							
JHO	**Hitachi**	**6.17**	**8**	P	**P**	**20 25 12.0**	**+0.6**
JHO				*e*S	**S**	**20 26 29.1**	**-1.0**
JKT	**Katashina**	**6.27**	**358**	*e*S	**S**	**20 26 27.6**	**-4.2**
JFK	**Kawauchi**	**6.96**	**9**	P	**P**	**20 25 21.3**	**+1.8**
JFK				*e*S	**S**	**20 26 45.3**	**+0.3**
JMM	**Marumori**	**7.44**	**8**	P	**P**	**20 25 26.6**	**+2.0**
JMM				*e*S	**S**	**20 26 54.0**	**-0.3**
WRA	**Warramunga Arr**	**50.38**	**186**	P	**P**	**20 31 48.2**	**-0.8**
0.6nm,0.4s,mb3.3,baz=1.3,slow=8.1,SNR=28							
ASAR	**Alice Springs**	**54.11**	**186**	P	**P**	**20 32 15.3**	**-0.6**
0.2nm,0.4s,mb2.8,baz=356,slow=5.7,SNR=13							

JMA 02 20:23:39.3, 3577N×13757E, h8km±1km, M-0.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**0.24**	**226**	*e*S	Sg	20 23 47.6	+0.2

IDC 02 20:25:37.6±7.1, 5975×14988E, h137km±47km, mb2.8/3, mb1 2.9/4, mb1mx2.8/13, mbtmp3.3/4, Error ellipse: s-maj=79.4km s-min=50.5km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.35**	**218**	P	Pn	20 26 43.7	+1.6
0.8nm,0.3s,baz=288,slow=15,SNR=3.0							
PMG				S	Sn	20 27 31.6	-0.6
1.0nm,0.3s,baz=77,slow=19,SNR=2.7							
WRA	**Warramunga Arr**	**20.52**	**226**	P	P	20 30 07.1	+2.1
0.2nm,0.4s,baz=51,slow=10,SNR=5.6							
ASAR	**Alice Springs**	**23.36**	**220**	P	P	20 30 34.7	+1.0
0.2nm,0.7s,baz=53,slow=9.4,SNR=3.9							
STKA	**Stephens Creek**	**26.91**	**196**	P	P	20 31 05.3	-0.5
3.0nm,1.0s,baz=30,slow=8.1,SNR=2.8							
TORD	**Torodi Ar. Bea**	**147.85**	**285**	PKPbc	PKPbc	20 45 06.0	-0.5
0.4nm,0.5s,baz=67,slow=2.2,SNR=6.1							

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*CSEM **02** 20:33:12.6±0.2, 2409N×4904E, h20km, ML3.8, Error ellipse: s-maj=5.5km s-min=4.4km az=178.0*
*TEH **02** 20:33:13.9, 2389N×4885E, h35km, Mn4.2*
*IDC **02** 20:33:13.8±3.4, 2440N×4916E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/22, mbtmp3.7/8, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/33, Error ellipse: s-maj=74.0km s-min=25.9km az=11.0*
*ISCJB **02** 20:33:14.7±0.9, 2445N±006×49.13E±007, h10km, mb3.8/6, MS3.3/2, Error ellipse: s-maj=9.8km s-min=8.4km az=172.3*
*NEIC **02** 20:33:14.1±0.9, 2421N×4903E, h10km, MN4.2(TEH), Error ellipse: s-maj=12.6km s-min=9.1km az=187.0*
ISC 02 20:33:16.0±0.8, 2436N±006×4907E±007, h10km, n43, σ1§22/56, mb3.8/6, MS3.3/2, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDF	**Al-Radifah**	**4.74**	**344**	*e*P	**Pn**	**20 34 28.4**	**+0.9**
RDF				AML	AML	20 35 28.4	
comp=Z,69nm,0.4s							
KBD	**Kabd**	**4.95**	**346**	*e*P	**Pn**	**20 34 31.7**	**+1.4**
KBD				AML	AML	20 35 48.0	
comp=Z,171nm,0.3s							
KBD	**Kabd**	**4.95**	**346**	*e*P	**Pn**	**20 34 31.7**	**+1.4**
KBD				*e*S	**Sn**	**20 35 27.0**	**-0.6**
NAY	**Al-Naaiem**	**5.13**	**342**	*e*P	**Pn**	**20 34 33.8**	**+0.9**
NAY				AML	AML	20 35 51.6	
comp=Z,38nm,0.5s							
UMR	**Umm Al-Rimmam**	**5.31**	**347**	*e*P	**Pn**	**20 34 37.3**	**+2.1**
UMR				AML	AML	20 35 48.1	
comp=Z,92nm,0.3s							
UMR	**Umm Al-Rimmam**	**5.31**	**347**	*e*P	**Pn**	**20 34 37.3**	**+2.0**
UMR				*e*S	**Sn**	**20 35 35.5**	**-1.0**
IMOK	**Mook**	**5.69**	**34**	*e*Pn	**Pn**	**20 34 41.8**	**+1.3**
IMOK	**Mook**	**5.69**	**34**	Pn	**Pn**	**20 34 41.7**	**+1.2**
ISRV	**Sarvestan**	**6.17**	**35**	*e*Pn	**Pn**	**20 34 48.3**	**+1.2**
ISRV	**Sarvestan**	**6.17**	**35**	Pn	**Pn**	**20 34 48.2**	**+1.1**
IGAR	**Garneh**	**8.32**	**19**	*e*Pn	**Pn**	**20 35 18.9**	**+2.2**
IGAR				*e*Sn	**Sn**	**20 36 52.1**	**+1.4**
IPIR	**Pirpir**	**8.44**	**11**	*e*Pn	**Pn**	**20 35 19.4**	**+1.1**
IPIR				*e*Sn	**Sn**	**20 36 52.4**	**-1.3**
IPIR	**Pirpir**	**8.44**	**11**	Pn	**Pn**	**20 35 19.3**	**+1.0**
IPIR				Sn	**Sn**	**20 36 52.3**	**-1.4**
IMEH	**Mehriz**	**8.55**	**34**	*e*Pn	**Pn**	**20 35 20.6**	**+0.9**
IMEH	**Mehriz**	**8.55**	**34**	Pn	**Pn**	**20 35 20.5**	**+0.8**
WSAR	**Wadi Sarin**	**8.83**	**95**	Pn	**Pn**	**20 35 21.4**	**-2.2**
comp=Z,0.7nm,0.3s,baz=263,slow=6.2,SNR=12							
WSAR				Sn	**Sn**	**20 36 56.9**	**-6.3**
comp=Z,1.4nm,0.3s,baz=52,slow=18,SNR=4.8							
WSAR	**Wadi Sarin**	**8.83**	**95**	Pn	**Pn**	**20 35 21.4**	**-2.2**
WSAR				Sn	**Sn**	**20 36 56.9**	**-6.3**
WSAR	**Wadi Sarin**	**8.83**	**95**	Pn	**Pn**	**20 35 21.4**	**-2.2**
WSAR				Sn	**Sn**	**20 36 56.8**	**-6.3**
IZEF	**Zefreh**	**8.97**	**18**	*e*Pn	**Pn**	**20 35 26.4**	**+0.8**
IZEF				*e*Sn	**Sn**	**20 37 04.8**	**-1.8**
IZEF	**Zefreh**	**8.97**	**18**	Pn	**Pn**	**20 35 26.4**	**+0.8**
IZEF				Sn	**Sn**	**20 37 04.7**	**-1.9**
IKLH	**Kalahroud**	**9.19**	**13**	*e*Pn	**Pn**	**20 35 29.1**	**+0.5**
IKLH				*e*Sn	**Sn**	**20 37 09.6**	**-2.4**
IKLH	**Kalahroud**	**9.19**	**13**	Pn	**Pn**	**20 35 29.0**	**+0.4**
IKLH				Sn	**Sn**	**20 37 09.6**	**-2.4**
IBAF	**Bafgh**	**9.21**	**37**	*e*Pn	**Pn**	**20 35 29.5**	**+0.7**
IBAF	**Bafgh**	**9.21**	**37**	Pn	**Pn**	**20 35 29.4**	**+0.6**
IDHR	**Dehrash**	**10.56**	**348**	*e*Pn	**Pn**	**20 35 46.6**	**-0.8**
IDHR				*e*Sn	**Sn**	**20 37 40.5**	**-5.2**
IRAZ	**Razeghan**	**11.03**	**4**	*e*Pn	**Pn**	**20 35 53.9**	**+0.1**
IRAZ				*e*Sn	**Sn**	**20 37 53.4**	**-3.8**
IRAZ	**Razeghan**	**11.03**	**4**	Pn	**Pn**	**20 35 53.8**	**0.0**
IRAZ				Sn	**Sn**	**20 37 53.3**	**-3.9**
IDMV	**Damavand**	**11.47**	**12**	*e*Pn	**Pn**	**20 35 59.8**	**+0.1**
IDMV	**Damavand**	**11.47**	**12**	Pn	**Pn**	**20 35 59.7**	**-0.1**
IAFJ	**Afjeh**	**11.68**	**11**	*e*Pn	**Pn**	**20 36 03.5**	**+0.8**
IAFJ	**Afjeh**	**11.68**	**11**	Pn	**Pn**	**20 36 03.4**	**+0.7**
BRTR	**Keskin Array B**	**20.09**	**323**	P	**P**	**20 37 48.0**	**-1.7**
comp=Z,0.5nm,0.6s,baz=134,slow=10,SNR=2.1							
AKASG	**Malin Array Be**	**30.45**	**335**	P	**P**	**20 39 28.7**	**0.0**
comp=Z,0.2nm,0.3s,mb3.4,baz=139,slow=8.8,SNR=4.1							
MKAR	**Makanchi Array**	**34.69**	**41**	P	**P**	**20 40 04.1**	**-1.7**
comp=Z,0.5nm,0.8s,mb3.5,baz=227,slow=11,SNR=3.8							
MKAR	**Makanchi Array**	**34.69**	**41**	P	**P**	**20 40 04.1**	**-1.7**
KURK	**Kurchatov**	**34.81**	**33**	P	**P**	**20 40 07.1**	**+0.2**
KURK	**Kurchatov**	**34.81**	**33**	P	**P**	**20 40 07.1**	**+0.2**
ZAL	**Zalesovo**	**39.77**	**33**	P	**P**	**20 40 47.7**	**-1.3**
comp=Z,1.3nm,0.4s,mb4.0,baz=235,slow=6.1,SNR=5.5							
FINES	**FINESS Array B**	**40.26**	**343**	P	**P**	**20 40 51.5**	**-1.4**
comp=Z,1.4nm,0.7s,mb3.8,baz=147,slow=11,SNR=6.1							
NOA	**NORSAR Array B**	**44.86**	**335**	P	**P**	**20 41 30.2**	**-0.2**
comp=Z,2.1nm,1.0s,mb3.9,baz=125,slow=8.2,SNR=2.8							
ESDC	**Sonseca Array**	**46.83**	**302**	P	**P**	**20 41 45.8**	**-0.2**
comp=Z,1.2nm,0.8s,mb3.9,baz=86,slow=7.3,SNR=4.0							
ARCES	**ARCESS Array B**	**47.31**	**349**	LR	LR	21 06 03.8	
comp=Z,38nm,21.1s,MS3.3,baz=352,slow=42							
DBIC	**Dimbokro**	**54.50**	**260**	LR	LR	21 05 37.2	
comp=Z,22nm,18.8s,MS3.2,baz=125,slow=36							

MEX 02 20:45:26.7±0.9, 1532N×9371W, h16km±36km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.75**	**36**	*i* P	Pn	20 45 53.0	-3.3
SCX				*i* S	Sn	20 46 14.5	-3.7
CCIG	**Comitan**	**1.79**	**57**	*i* P	Pn	20 45 53.9	-3.0
CCIG				*i* S	Sn	20 46 13.9	-5.4
CMIG	**Matias Romero**	**2.10**	**327**	*i* P	Pn	20 45 58.4	-2.7
CMIG				*i* S	Sn	20 46 21.6	-5.2
OXX	**Oaxaca**	**3.39**	**302**	*e*P	Pn	20 46 21.5	+2.6

MAN 02 20:53:25.8, 820N×12649E, h67km, mb1.6, ML3.5, MS1.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.12**	**265**‖	*i* P	Pn	20 53 37.8	+2.1
BIPH				*e*S	Sn	20 53 46.8	+3.8
MATI	**Mati**	**1.26**	**190**	*e*P	Pn	20 53 48.5	+1.1
BUKP	**Musuan**	**1.45**	**258**	*e*P	Pn	20 53 50.5	+0.6
SCPH	**Surigao**	**1.86**	**328**‖	*e*P	Pn	20 53 56.4	+1.0
PAGZ	**Pagadian**	**3.09**	**264**	*e*P	Pn	20 54 13.8	+1.6

IDC 02 20:58:01.9±1.1, 2546S×7000E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, MS3.8/3, Ms1 3.7/3, ms1mx2.8/34, Error ellipse: s-maj=41.2km s-min=27.9km az=58.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**39.80**	**255**	LR	LR	21 20 14.4	
comp=Z,56nm,18.0s,baz=175,slow=34							
ASAR	**Alice Springs**	**57.64**	**103**	P	P	21 07 54.0	+0.1
0.6nm,0.8s,baz=243,slow=5.1,SNR=6.4							
VNDA	**Vanda**	**65.74**	**166**	P	P	21 08 48.1	-0.4
1.0nm,0.9s,baz=276,slow=5.6,SNR=5.0							
MKAR	**Makanchi Array**	**72.77**	**9**	P	P	21 09 32.0	0.0
0.5nm,0.7s,baz=193,slow=5.0,SNR=4.8							
BRTR	**Keskin Array B**	**73.18**	**331**	P	P	21 09 33.8	-0.7
0.5nm,0.7s,baz=171,slow=8.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**76.76**	**292**	P	P	21 09 56.2	+1.0
0.8nm,1.1s,baz=112,slow=6.0,SNR=3.7							
SONM	**Songino Array**	**79.96**	**24**	P	P	21 10 13.4	+0.6
0.3nm,0.3s,baz=214,slow=4.5,SNR=2.8							

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*BJI **02** 21:05:01.8, 260N×9570E, h20km, mB4.7, mb4.4, Ms3.7, Msz3.4*
*ISCJB **02** 21:05:03.7±0.9, 26N±0.1×9561E±0.10, h21km, mb4.4/16, MS3.8/3, Error ellipse: s-maj=19.5km s-min=10.1km az=69.8*
*MOS **02** 21:05:05.2±0.8, 262N×9556E, h33km, mb4.5/5, Error ellipse: s-maj=22.6km s-min=12.9km az=115.8*
*NEIC **02** 21:05:05.9±0.8, 264N×9565E, mb4.6/9, Error ellipse: s-maj=19.2km s-min=7.8km az=215.0*
*IDC **02** 21:05:05.7±2.0, 271N×9566E, h20km±6km, mb3.9/5, mb1 4.0/6, mb1mx3.7/20, mbtmp4.0/6, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/27, Error ellipse: s-maj=62.1km s-min=19.8km az=53.0*
ISC 02 21:05:06.3±0.9, 26N±01×9566E±010, h22km, h22km±.2km: pP-P, n33, σ0§98/32, mb4.3/16, MS3.8/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.26**	**87**	Pn	**Pn**	**21 05 56.8**	**+0.6**
3.9nm,0.3s,baz=271,slow=5.7,SNR=13							
PSI				LR	LR	21 07 31.7	
comp=Z,332nm,20.8s,baz=278,slow=45							
KULM	**Kulim**	**5.63**	**62**	*e*P	**Pn**	**21 06 28.4**	**-0.2**
KMI	**Kunming**	**23.37**	**16**	P	**P**	**21 10 13.5**	**0.0**
KMI				AMB	AMB		
comp=Z,10.0nm,1.3s,mb4.1							
JIRN	**Jiri**	**26.48**	**341**	*e*P	**P**	**21 10 42.6**	**+0.7**
comp=Z,34nm,0.8s,mb5.0							
PKI	**Pulchoki**	**26.66**	**339**	*e*P	**P**	**21 10 45.1**	**+1.6**
DMN	**Daman**	**26.80**	**339**	*e*P	**P**	**21 10 46.8**	**+2.0**
GUN	**Gumba**	**26.81**	**341**	*e*P	**P**	**21 10 45.5**	**+0.6**
comp=Z,26nm,0.6s,mb4.9							
KKN	**Kakani**	**26.91**	**339**	*e*P	**P**	**21 10 45.9**	**+0.2**
LSA	**Lhasa**	**27.25**	**351**	*e*P	**P**	**21 10 49.5**	**+0.7**
LSA	**Lhasa**	**27.25**	**351**	*e*P	**P**	**21 10 49.4**	**+0.6**
LSA				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.0							
LSA	**Lhasa**	**27.25**	**351**	*e*P	**P**	**21 10 49.4**	**+0.5**
comp=Z,4.1nm,0.8s,mb4.0							
GKN	**Gorkha**	**27.33**	**338**	*e*P	**P**	**21 10 49.8**	**+0.2**
comp=Z,33nm,1.2s,mb4.7							
KOLN	**Koldanda**	**27.52**	**336**	*e*P	**P**	**21 10 51.6**	**+0.3**
comp=Z,14nm,0.7s,mb4.7							
CD2	**Chengdu**	**29.14**	**14**	*e*P	**P**	**21 11 07.1**	**+1.4**
CD2				AP	pP	21 11 13.0	+0.7
CD2				XP	sP	21 11 15.9	+0.9
CD2				PP	PP	21 12 02.1	-9.5
CD2				S	**S**	**21 15 58.1**	**+1.5**
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.7							
CD2				AMB	AMB		
comp=Z,30nm,5.2s							
CD2				LR	LR		
comp=E,80nm,12.4s							
CD2				LR	LR		
comp=Z,60nm,14.2s,MS3.4							
XAN	**Xi'an**	**33.60**	**20**	P	**P**	**21 11 43.0**	**-2.0**
GTA	**Gaotai**	**36.80**	**5**	*e*P	**P**	**21 12 11.3**	**-1.1**
GTA				AP	pP	21 12 17.6	-1.5
GTA				XP	sP	21 12 20.5	-1.3
WRA	**Warramunga Arr**	**44.10**	**122**	P	**P**	**21 13 12.9**	**+0.1**
comp=Z,1.7nm,0.8s,mb3.8,baz=300,slow=9.1,SNR=7.3							
ASAR	**Alice Springs**	**45.48**	**127**	P	**P**	**21 13 24.4**	**+0.6**
comp=Z,0.6nm,0.6s,mb3.6,baz=303,slow=7.9,SNR=5.6							
MKAR	**Makanchi Array**	**45.50**	**347**	P	**P**	**21 13 23.4**	**-0.5**
comp=Z,5.2nm,0.8s,mb4.4,baz=161,slow=8.3,SNR=35							
MKAR				pP	pP	21 13 29.7	-1.0
comp=Z,2.5nm,0.7s,baz=160,slow=8.4,SNR=11							
MKAR	**Makanchi Array**	**45.50**	**347**	P	**P**	**21 13 23.4**	**-0.5**
MKAR				pP	pP	21 13 29.7	-1.1
SONM	**Songino Array**	**45.97**	**10**	P	**P**	**21 13 26.7**	**-1.0**
comp=Z,2.2nm,0.8s,mb4.1,baz=195,slow=8.4,SNR=12							
SONM				pP	pP	21 13 32.7	-1.7
comp=Z,2.3nm,0.8s,baz=191,slow=8.9,SNR=10							
KURK	**Kurchatov**	**50.02**	**346**	*e*P	**P**	**21 13 58.4**	**-0.7**
KURK				pmax	pmax		
comp=Z,9.0nm,1.4s,mb4.6							
KURK	**Kurchatov**	**50.02**	**346**	*e*P	**P**	**21 13 58.4**	**-0.7**
comp=Z,8.7nm,1.4s,mb4.6							
ZAL	**Zalesovo**	**51.91**	**352**	LR	LR	21 43 37.0	
comp=Z,32nm,18.5s,MS3.4,baz=152,slow=34							
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**21 14 12.2**	**-1.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=302,slow=5.6,SNR=15							
ZAL				pP	pP	21 14 18.5	-1.6
comp=Z,1.5nm,0.6s,baz=293,slow=6.2,SNR=3.6							
BRVK	**Borovoye**	**54.46**	**341**	*e*P	**P**	**21 14 31.5**	**-0.6**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
BRVK	**Borovoye**	**54.46**	**341**	*e*P	**P**	**21 14 31.5**	**-0.5**
comp=Z,1.7nm,0.6s,mb4.2							
ZRNK	**Zerenda**	**54.79**	**341**	*e*P	**P**	**21 14 33.1**	**-1.3**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.0							
ZRNK	**Zerenda**	**54.79**	**341**	*e*P	**P**	**21 14 33.1**	**-1.3**
comp=Z,1.4nm,0.7s,mb4.1							
CHKZ	**Chkalovo**	**54.89**	**342**	*e*P	**P**	**21 14 34.1**	**-1.0**
CHKZ				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**54.89**	**342**	*e*P	**P**	**21 14 34.0**	**-1.1**
comp=Z,3.1nm,0.6s,mb4.5							
KLR	**Kul'dur**	**55.69**	**28**	*e*P	**P**	**21 14 36.7**	**-4.2**
USHA	**Ushuaia**	**126.38**	**191**	LR	LR	21 41 56.2	
comp=Z,142nm,21.4s,MS4.6,baz=250,slow=28							

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*IDC **02** 21:17:15.0±0.9, 083N×29.10W, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/24, mbtmp4.1/9, MS3.5/13, Ms1 3.5/13, ms1mx3.3/34, Error ellipse: s-maj=31.8km s-min=19.7km az=155.0*
*ISCJB **02** 21:17:15.1±0.7, 09N±02×29.1W±0.1, h10km, mb4.1/10, MS3.5/13, Error ellipse: s-maj=22.3km s-min=15.2km az=143.9*
*NEIC **02** 21:17:16.4±0.5, 083N×29.10W, h10km, mb4.6/2, Error ellipse: s-maj=16.3km s-min=12.0km az=158.0*
ISC 02 21:17:17.4±0.7, 09N±02×291W±01, h10km, n23, σ0§38/13, mb4.1/10, MS3.5/13, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**24.83**	**76**	P	**P**	**21 22 39.6**	**-0.2**
7.0nm,0.8s,mb4.3,baz=232,slow=11,SNR=9.5							
DBIC				LR	LR	21 30 31.6	
comp=Z,129nm,19.1s,MS3.4,baz=244,slow=32							
BDFB	**Brasilia**	**24.91**	**228**	LR	LR	21 31 39.2	
comp=Z,183nm,19.5s,MS3.6,baz=66,slow=35							
TORD	**Torodi Ar. Bea**	**32.82**	**67**	P	**P**	**21 23 51.4**	**+0.5**
1.4nm,0.7s,mb4.0,baz=259,slow=9.2,SNR=10							
MDT	**Midelt**	**39.21**	**33**	P	**P**	**21 24 46.0**	**+0.3**
1.6nm,0.8s,mb3.8,baz=248,slow=6.7,SNR=5.0							
MDT				LR	LR	21 39 10.1	
comp=Z,70nm,19.3s,MS3.5,baz=208,slow=34							
MDT	**Midelt**	**39.21**	**33**	P	**P**	**21 24 46.0**	**+0.3**
MDT				LR	LR	21 39 10.1	
SJG	**San Juan**	**40.22**	**297**	LR	LR	21 36 32.0	
comp=Z,31nm,19.5s,MS3.2,baz=96,slow=29							
SDV	**Santo Domingo**	**42.12**	**282**	P	**P**	**21 25 10.0**	**+0.3**
3.9nm,0.7s,mb4.2,baz=123,slow=2.5,SNR=5.9							
SDV				LR	LR	21 41 22.9	
comp=Z,44nm,18.1s,MS3.4,baz=195,slow=34							
LPAZ	**La Paz**	**42.15**	**244**	P	**P**	**21 25 09.8**	**-0.2**
1.3nm,0.4s,mb3.9,baz=59,slow=8.2,SNR=4.1							
LPAZ				LR	LR	21 42 18.9	
comp=Z,94nm,21.5s,MS3.6,baz=324,slow=36							
LPAZ	**La Paz**	**42.15**	**244**	P	**P**	**21 25 09.8**	**-0.2**
LPAZ				LR	LR	21 42 18.9	
ESDC	**Sonseca Array**	**44.87**	**28**	P	**P**	**21 25 31.3**	**-0.6**
1.2nm,0.8s,mb3.8,baz=226,slow=8.3,SNR=8.6							
ROSC	**El Rosal**	**45.35**	**276**	LR	LR	21 44 05.7	
comp=Z,86nm,18.7s,MS3.7,baz=73,slow=36							
TSUM	**Tsumeb**	**49.95**	**116**	LR	LR	21 41 32.6	
comp=Z,79nm,19.2s,MS3.7,baz=119,slow=29							
DAVOX	**Davos**	**56.93**	**31**	LR	LR	21 48 36.0	
comp=Z,31nm,19.2s,MS3.4,baz=86,slow=33							
SUR	**Sutherland**	**57.54**	**130**	LR	LR	21 48 09.9	
comp=Z,73nm,18.8s,MS3.8,baz=77,slow=32							
LBTB	**Lobatse**	**58.80**	**120**	P	**P**	**21 27 16.2**	**+0.4**
2.0nm,0.9s,mb4.2							
BOSA	**Boshof**	**59.66**	**124**	P	**P**	**21 27 21.8**	**0.0**
2.4nm,0.8s,mb4.3,baz=330,slow=8.9,SNR=2.8							
BOSA	**Boshof**	**59.66**	**124**	P	**P**	**21 27 21.0**	**-0.8**
18nm,1.3s,mb5.0							
GERES	**GERESS Array B**	**60.23**	**31**	P	**P**	**21 27 25.9**	**+0.2**
1.2nm,0.7s,mb4.0,baz=210,slow=4.5,SNR=4.0							
GERES				LR	LR	21 50 25.8

4.6nm,0.3s,baz=136,slow=20,SNR=7.9
JMK Ichinoseki 10.86 5 P Pn 21 30 00.0 +1.1
JMK S S 21 31 57.5 -2.0
VLA Vladivostok 16.34 339 *e*P P 21 30 58.2 +0.3
VLA pmax pmax
comp=Z,23nm,0.9s
SSE Sheshan 16.62 285 P P 21 30 58.6 -2.3
SSE AMB AMB
comp=Z,40nm,0.7s
SSE AMB AMB
comp=Z,210nm,4.1s
MDJ Mudanjiang 18.45 336 P P 21 31 23.0 +2.8
MDJ AMB AMB
comp=Z,60nm,3.8s
NJ2 Nanjing 18.70 287 *e*P P 21 31 22.4 -0.5
NJ2 S S 21 34 31.0 -2.9
NJ2 PCS PcS 21 39 10.0 +2.5
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
NJ2 AMB AMB
comp=Z,160nm,4.1s
HABR Khabarovsk 20.69 351 *e*P P 21 31 40.4 -1.3
KLR Kul'dur 22.02 345 *e*P P 21 31 51.2 -2.6
ULN Ulaanbaatar 32.25 317 *e*P P 21 33 24.8 +0.6
SONM Songino Array 32.63 316 P P 21 33 27.9 +0.3
comp=Z,1.5nm,0.5s,mb3.6,baz=129,slow=8.8,SNR=24
YAK Yakutsk 34.60 351‖ *e*P P 21 33 44.6 +0.3
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
GTA Gaotai 34.99 299 *e*P P 21 33 47.6 0.0
TIXI Tiksi 44.02 355‖ *e*P P 21 35 01.2 +0.2
TIXI pmax pmax
comp=Z,6.0nm,1.4s,mb3.7
JIRN Jiri 47.22 283 *e*P P 21 35 26.6 +0.9
comp=Z,14nm,0.7s,mb4.4
GUN Gumba 47.43 283 *e*P P 21 35 28.0 +0.7
comp=Z,23nm,0.9s,mb4.5
PKI Pulchoki 47.91 283 *e*P P 21 35 31.2 +0.2
KKN Kakani 47.97 283 *e*P P 21 35 31.3 -0.1
WB2 Warramunga Arr 48.08 187 *e*P P 21 35 41.0 +8.7
WRA Warramunga Arr 48.08 187 P P 21 35 31.4 -0.9
comp=Z,0.7nm,0.4s,mb3.4,baz=3.2,slow=7.6,SNR=27
DMN Daman 48.16 283 *e*P P 21 35 33.4 +0.5
MKAR Makanchi Array 48.33 309 P P 21 35 33.9 -0.3
comp=Z,0.8nm,0.4s,mb3.4,baz=88,slow=9.8,SNR=21
MKAR pP pP 21 36 53.6 -0.1
comp=Z,0.9nm,0.7s,baz=109,slow=2.5,SNR=5.7
GKN Gorkha 48.47 284 *e*P P 21 35 34.3 -0.9
KOLN Koldanda 49.42 284 *e*P P 21 35 42.5 +0.2
KURK Kurchatov 50.88 314 *e*P P 21 35 52.7 -0.4
CHKZ Chkalovo 55.81 318 *e*P P 21 36 27.8 -0.7
CHKZ pmax pmax
comp=Z,2.0nm,1.0s,mb3.4
CHKZ Chkalovo 55.81 318 *e*P P 21 36 27.8 -0.7
comp=Z,1.8nm,1.0s,mb3.4
BRVK Borovoye 56.04 317 *e*P P 21 36 30.3 +0.2
BRVK pmax pmax
comp=Z,3.0nm,1.0s,mb3.6
BRVK Borovoye 56.04 317 *e*P P 21 36 30.3 +0.2
comp=Z,3.4nm,1.0s,mb3.6
ZRNK Zerenda 56.81 317 *e*P P 21 36 34.9 -0.6
ZRNK pmax pmax
comp=Z,1.0nm,0.6s,mb3.3
ZRNK Zerenda 56.81 317 *e*P P 21 36 34.9 -0.6
comp=Z,1.3nm,0.6s,mb3.4
INK Inuvik 62.92 25 P P 21 37 16.9 +0.3
comp=Z,1.2nm,0.5s,mb3.7,baz=310,slow=6.5,SNR=5.3
KLBR Kellerberrin 63.04 201 *e*P P 21 37 18.2 +0.9
comp=Z,13nm,1.0s,mb4.4
MUN Mundaring 63.90 202 *e*P P 21 37 27.5 +4.7
KEV Kevo 71.38 340 *e*p P 21 38 08.5 -0.5
comp=Z,3.7nm,0.4s,mb4.3
KEV Kevo 71.38 340 *e*P P 21 38 08.5 -0.5
KEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
ARCES ARCESS Array B 71.94 340 P P 21 38 12.7 +0.3
comp=Z,6.1nm,0.5s,mb4.4,baz=70,slow=8.6,SNR=68
YKA Yellowknife Ar 72.17 28 P P 21 38 14.2 +0.5
comp=Z,2.0nm,0.6s,mb3.8,baz=294,slow=5.9,SNR=14
YKA Yellowknife Ar 72.17 28 P P 21 38 14.2 +0.5
JOF Joensuu 73.30 333 *e*p P 21 38 19.4 -0.8
comp=Z,10nm,0.5s,mb4.6
OBN Obninsk 74.58 325 P P 21 38 27.0 -0.6
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
KAF Kangasniemi 75.71 334 *e*p P 21 38 33.2 -0.7
comp=Z,5.2nm,0.4s,mb4.5,baz=55,slow=5.3
KAF Kangasniemi 75.71 334 *e*P P 21 38 33.2 -0.7
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.5
KIV Kislovodsk 75.93 312 P P 21 38 36.0 +0.9
KIV *e* 21 38 45.1
FINES FINESS Array B 76.17 333 P P 21 38 36.1 -0.3
comp=Z,5.5nm,0.4s,mb4.5,baz=74,slow=5.5,SNR=96
AKASG Malin Array Be 80.64 323 P P 21 39 00.0 -0.6
comp=Z,1.3nm,0.5s,mb4.0,baz=52,slow=5.4,SNR=11
NB2 NORSAR Subarra 81.94 337 P P 21 39 06.5 -0.9
comp=Z,4.2nm,0.5s,mb4.4,baz=46,slow=5.1
NOA NORSAR Array B 81.94 337 P P 21 39 06.8 -0.6
comp=Z,5.8nm,0.6s,mb4.5,baz=46,slow=4.9,SNR=16
TPNV Topopah Spring 83.56 52 *e*P P 21 39 17.5 +1.9
TPNV pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
TPNV Topopah Spring 83.56 52 *e*P P 21 39 17.5 +1.9
comp=Z,3.7nm,1.0s,mb4.1
BRTR Keskin Array B 83.88 312 *i*P P 21 39 18.6 +1.4
GERES GERESS Array B 89.63 328 P P 21 39 43.8 -0.9
comp=Z,0.3nm,0.4s,mb3.5,baz=348,slow=5.7,SNR=3.9
TORD Torodi Ar. Bea 122.44 310 PKP PKPdf 21 45 39.7 +0.1
comp=Z,0.7nm,0.6s,baz=64,slow=1.0,SNR=12
VNA2 Neumayer--Watz 133.42 194 *e*PKPdf PKPdf 21 45 59.8 -0.7
baz=112,slow=0.8
VNA2 *e* 21 46 00.6
VNA2 *e* 21 46 02.9
VNA3 Neumayer Olymp 133.64 193 *e*PKPdf PKPdf 21 46 00.2 -0.7
VNA3 *e* 21 46 01.3
LPAZ La Paz 151.50 72 PKPbc PKPbc 21 46 40.8 +2.2
comp=Z,1.2nm,0.8s,baz=38,slow=1.2,SNR=5.7
PLCA Paso Flores 151.99 125 PKPbc PKPbc 21 46 40.0 +0.4
comp=Z,1.2nm,0.6s,baz=347,slow=5.4,SNR=6.7

*IDC **02** 21:28:27.3±3.1,2082S×17881W,h608km±35km,mb3.3/5, mb1 3.5/6,mb1mx3.3/13,mbtmp4.3/6,Error ellipse: s-maj=26.0km s-min=21.7km az=154.0*
*ISCJB **02** 21:28:28.5±2.8,209S±02×1788W±02,h654km±33km, mb4.0/12,Error ellipse: s-maj=36.4km s-min=25.5km az=77.6*
*NEIC **02** 21:28:33.3±3.5,2097S×17907W,h678km±38km,mb4.3/9, Error ellipse: s-maj=36.4km s-min=21.3km az=69.0*
ISC 02 21:28:27.6±3.2,209S±02×1787W±02,h621km±39km,n24, σ0§88/17,mb4.1/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.92**	**262**	P	**P**	**21 31 26.0**	**+1.0**
0.6nm,0.3s,baz=87,slow=22,SNR=8.8							
CTA	**Charters Tower**	**32.84**	**265**	*e*P	**P**	**21 34 12.5**	**+0.3**
5.6nm,0.4s,mb4.5							
CTAO	**Charters Tower**	**32.84**	**265**	*e*P	**P**	**21 34 12.4**	**+0.2**
8.2nm,0.5s,mb4.6							
STKA	**Stephens Creek**	**37.07**	**244**	*e*P	**P**	**21 34 45.4**	**-1.7**
2.0nm,0.5s,mb3.9							
STKA	**Stephens Creek**	**37.07**	**244**	P	**P**	**21 34 45.3**	**-1.8**
2.9nm,0.6s,mb4.0,baz=89,slow=10,SNR=11							
ASAR	**Alice Springs**	**43.83**	**257**	P	**P**	**21 35 41.0**	**+0.4**
7.4nm,0.5s,mb4.4,baz=97,slow=7.6,SNR=117							
ASAR				S	**S**	**21 41 28.8**	**+0.8**
0.5nm,0.7s,baz=92,slow=15,SNR=4.5							
WRAB	**Tennant Creek**	**43.93**	**263**	*e*P	**P**	**21 35 41.0**	**-0.4**
7.4nm,0.6s,mb4.4							
WRAB				*e*		21 36 26.7	
WRA	**Warramunga Arr**	**43.94**	**263**	P	**P**	**21 35 41.3**	**-0.1**
3.8nm,0.3s,mb4.4,baz=94,slow=4.9,SNR=187							
KAKA	**Kakadu**	**47.37**	**272**	*e*P	**P**	**21 36 07.4**	**+0.1**
4.2nm,0.3s,mb4.5							
FORT	**Forrest**	**48.58**	**247**	*e*P	**P**	**21 36 16.2**	**-0.1**
11nm,0.5s,mb4.5							
FITZ	**Fitzroy Crossi**	**52.37**	**263**	*e*P	**P**	**21 36 44.5**	**+0.8**
4.7nm,0.4s,mb4.2							
MBWA	**Marble Bar**	**57.17**	**258**	*e*P	**P**	**21 37 14.6**	**-2.5**
6.7nm,0.6s,mb4.0							
VNDA	**Vanda**	**57.49**	**185**	P	**P**	**21 37 20.1**	**+1.0**
0.3nm,0.4s,baz=25,slow=8.9,SNR=6.0							
VNDA	**Vanda**	**57.49**	**185**	*e*P	**P**	**21 37 19.8**	**+0.6**
1.1nm,0.9s,mb3.1							
QSPA	**South Pole Qui**	**69.20**	**180**	*e*P	**P**	**21 38 33.7**	**0.0**
2.1nm,0.7s,mb3.7							
MJAR	**Matsushiro Arr**	**70.14**	**324**	P	**P**	**21 38 39.3**	**+0.1**
1.3nm,0.5s,mb3.6,baz=17,slow=0.8,SNR=7.0							
ZRNK	**Zerenda**	**119.80**	**320**	*e*P	PKPdf	21 46 08.1	-0.4
ARCES	**ARCESS Array B**	**129.17**	**349**	PKP	PKPdf	21 46 26.3	-0.1
1.6nm,0.8s,baz=46,slow=3.5,SNR=5.8							
FINES	**FINESS Array B**	**135.95**	**343**	PKP	PKPdf	21 46 40.8	+1.6
1.0nm,0.6s,baz=85,slow=4.2,SNR=4.6							
AKASG	**Malin Array Be**	**143.03**	**330**	PKP	PKPdf	21 46 49.8	-2.2
3.5nm,0.4s,baz=44,slow=4.2,SNR=41							
BRTR	**Keskin Array B**	**146.62**	**311**	PKPbc	PKPbc	21 47 01.8	+0.9
1.4nm,0.6s,baz=119,slow=4.5,SNR=8.1							
CLL	**Collm**	**148.28**	**346**	*i*PKPbc	PKPbc	21 47 05.9	+0.8
CLL				*i*PKPab	PKPab	21 47 10.3	-0.4
KHC	**Kasperske Hory**	**150.15**	**344**	*e*PKPbc	PKPbc	21 47 10.5	+0.9
GERES	**GERESS Array B**	**150.38**	**343**	PKPbc	PKPbc	21 47 10.7	+0.5
1.0nm,0.6s,baz=29,slow=3.0,SNR=4.1							

*ISCJB **02** 21:33:15.8±0.6,531S±01×463W±01,h10km,mb4.2/6, MS3.6/6,Error ellipse: s-maj=18.1km s-min=9.2km az=71.6*
*IDC **02** 21:33:16.9±2.0,5295S×4604W,h0km,mb4.2/6,mb1 4.3/6, mb1mx4.0/15,mbtmp4.2/6,MS3.6/6,Ms1 3.6/6, ms1mx3.3/16,Error ellipse: s-maj=67.7km s-min=23.2km az=26.0*
*NEIC **02** 21:33:17.3±0.6,5311S×4623W,h10km,mb4.5/3,Error ellipse: s-maj=19.7km s-min=10.1km az=212.0*
ISC 02 21:33:17.8±0.5,5304S±010×462W±01,h10km,n23, σ0§97/19,mb4.2/6,MS3.6/6,South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.92**	**106**	*e*P	**Pn**	**21 34 44.4**	**-1.1**
70nm,0.6s							
EFI	**East Falkland**	**7.39**	**276**	*e*Pn	**Pn**	**21 35 03.7**	**-1.9**
EFI				*e*Sn	**Sn**	**21 36 18.0**	**-11**
USHA	**Ushuaia**	**13.20**	**253**	Pn	**Pn**	**21 36 15.9**	**-9.4**
0.2nm,0.3s,baz=81,slow=8.7,SNR=2.3							
USHA				Sn	**Sn**	**21 38 37.4**	**-15**
3.3nm,0.3s,baz=343,slow=8.9,SNR=12							
TRQA	**Tornquist**	**18.55**	**318**	*e*P	**Pn**	**21 37 34.3**	**-0.4**
35nm,0.6s							
PLCA	**Paso Flores**	**20.57**	**297**	P	**P**	**21 37 57.7**	**+1.1**
9.0nm,0.9s,baz=130,slow=10,SNR=16							
PLCA				LR	LR	21 45 55.0	
comp=Z,154nm,21.1s,MS3.3,baz=129,slow=37							
PLCA	**Paso Flores**	**20.57**	**297**	*e*P	**P**	**21 37 57.1**	**+0.4**
16nm,0.8s							
PLCA				*e*pP		21 38 11.9	
PLCA				LR	LR	21 45 55.0	
VNA3	**Neumayer Olymp**	**24.33**	**152**	*e*	**P**	**21 38 36.2**	**+0.6**
VNA3				*e*		21 38 41.2	
VNA3				*e*		21 38 55.0	
VNA3				*e*		21 39 05.0	
VNA1	**Neumayer--Stat**	**24.46**	**150**	*e*	**P**	**21 38 37.6**	**+0.8**
VNA1				*e*		21 38 40.0	
VNA1				*e*		21 38 43.7	
VNA2	**Neumayer--Watz**	**24.84**	**151**	*e*	**P**	**21 38 40.0**	**-0.2**
baz=296,slow=12							
VNA2				*e*		21 38 42.7	
VNA2				*e*		21 38 46.9	
VNA2				*e*		21 39 01.2	
VNA2				*e*		21 39 07.7	
SNAA	**Sanae**	**26.49**	**151**	*e*	**P**	**21 38 44.4**	**-11**
SNAA				*e*		21 38 50.8	
SNAA				*e*		21 39 12.9	
SNAA	**Sanae**	**26.49**	**151**	*e*P	**P**	**21 38 51.9**	**-3.3**
CPUP	**Villa Florida**	**27.95**	**338**	LR	LR	21 48 32.5	
comp=Z,107nm,21.8s,MS3.4,baz=160,slow=33							
LVC	**Limon Verde**	**34.97**	**322**	P	**P**	**21 40 10.2**	**+0.2**
2.8nm,0.6s,mb4.4,baz=131,slow=12,SNR=4.1							
QSPA	**South Pole Qui**	**37.22**	**180**	*e*P	**P**	**21 40 29.8**	**+0.6**
6.3nm,0.7s,mb4.5							
BDFB	**Brasília**	**37.34**	**357**	P	**P**	**21 40 29.6**	**-0.7**
3.4nm,0.7s,mb4.3,baz=196,slow=5.7,SNR=4.0							
LPAZ	**La Paz**	**40.52**	**327**	P	**P**	**21 40 58.5**	**+1.6**
1.7nm,0.8s,mb3.7,baz=178,slow=9.2,SNR=5.3							
BOSA	**Boshof**	**56.74**	**94**	P	**P**	**21 43 01.0**	**-0.7**
4.0nm,0.9s,mb4.4,baz=254,slow=7.4,SNR=3.4							
BOSA				LR	LR	22 01 50.3	
comp=Z,81nm,19.2s,MS3.8,baz=59,slow=30							
ROSC	**El Rosal**	**62.38**	**328**	LR	LR	22 11 06.0	
comp=Z,46nm,21.4s,MS3.6,baz=40,slow=36							
MATP	**Matopo**	**64.80**	**91**	LR	LR	22 06 10.1	
comp=Z,72nm,19.6s,MS3.9,baz=264,slow=30							
DBIC	**Dimbokro**	**69.01**	**45**	LR	LR	22 06 00.3	
comp=Z,34nm,18.3s,MS3.6,baz=14,slow=28							
TORD	**Torodi Ar. Bea**	**77.64**	**48**	P	**P**	**21 45 15.2**	**+0.9**
1.4nm,1.0s,mb3.8,baz=204,slow=6.1,SNR=5.3							
KURK	**Kurchatov**	**146.57**	**71**	*e*PKPbc	PKPbc	21 52 59.3	-0.1
MKAR	**Makanchi Array**	**146.87**	**80**	PKPbc	PKPbc	21 52 59.6	-0.7
0.7nm,0.8s,baz=234,slow=4.2,SNR=4.1							

*ISCJB **02** 21:49:18.5±0.9,2422S±006×673W±02,h195km±19km, mb3.6/1,Error ellipse: s-maj=35.5km s-min=9.3km az=5.4*
*IDC **02** 21:49:18.7±1.6,2427S×6715W,h173km±31km,mb3.5/1, mb1 3.7/5,mb1mx3.4/17,mbtmp4.1/5,Error ellipse: s-maj=43.4km s-min=19.3km az=92.0*
*NEIC **02** 21:49:19.2±0.9,2421S×6724W,h188km±29km,mb3.9/2, Error ellipse: s-maj=37.3km s-min=10.3km az=96.0*
ISC 02 21:49:19.3±0.9,2422S±006×672W±02,h184km±19km,n12, σ0§96/18,mb3.6/1,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.23**	**315**	P	**Pn**	**21 50 00.1**	**+1.0**
25nm,0.3s,baz=135,slow=8.1,SNR=52							
LVC				S	**Sn**	**21 50 30.7**	**+0.7**
53nm,0.3s,baz=4.8,slow=21,SNR=37							
LVC	**Limon Verde**	**2.23**	**315**	*e*P	**Pn**	**21 49 59.6**	**+0.6**
LVC				*e*S	**Sn**	**21 50 30.0**	**+0.1**
LVC				S	**Sn**	**21 50 30.7**	**+0.7**
CFAA	**Coronel Fontan**	**7.42**	**187**	P	**Pn**	**21 51 03.5**	**-1.4**
0.1nm,0.3s,baz=24,slow=10.0,SNR=10							
CFAA				S	**Sn**	**21 52 21.4**	**-7.0**
0.2nm,0.3s,baz=133,slow=20,SNR=7.8							
CFAA	**Coronel Fontan**	**7.42**	**187**	P	**Pn**	**21 51 03.5**	**-1.4**
CFAA				S	**Sn**	**21 52 21.4**	**-7.0**
LPAZ	**La Paz**	**7.93**	**354**	P	**Pn**	**21 51 12.8**	**+1.1**
2.9nm,0.3s,baz=171,slow=11,SNR=75							
LPAZ				S	**Sn**	**21 52 39.1**	**-1.6**
0.2nm,0.3s,baz=345,slow=19,SNR=5.4							
TRQA	**Tornquist**	**14.50**	**163**	*e*P	**Pn**	**21 52 37.3**	**+1.2**
4.9nm,0.7s							
SAML	**Samuel**	**15.66**	**15**	*e*P	**Pn**	**21 52 49.4**	**-0.8**
3.0nm,0.8s							
PLCA	**Paso Flores**	**16.70**	**189**	P	**Pn**	**21 53 01.7**	**-1.1**
0.1nm,0.3s,baz=0.2,slow=8.9,SNR=3.3							
BDFB	**Brasília**	**19.95**	**68**	P	**P**	**21 53 37.2**	**0.0**
1.3nm,0.3s,baz=233,slow=12,SNR=9.6							
VNA3	**Neumayer Olymp**	**57.02**	**161**	*e*	**P**	**21 58 45.5**	**-0.3**
VNA3				*e*		21 58 47.2	
VNA3				*e*		21 58 50.0	
VNA2	**Neumayer--Watz**	**57.58**	**160**	*e*	**P**	**21 58 50.3**	**+0.5**
baz=288,slow=6.7							
VNA2				*e*		21 58 51.5	
VNA2				*e*		21 58 53.9	
TORD	**Torodi Ar. Bea**	**76.84**	**69**	P	**P**	**22 00 51.7**	**+0.9**
1.3nm,0.9s,mb3.6,baz=259,slow=5.5,SNR=10.0							

*BJI **02** 21:56:22.5,348N×9620E,h34km,mB4.9,mb4.7,Ms4.2, Msz4.0*
*ISCJB **02** 21:56:31.2±0.8,419N±005×9597E±005,h77km±7km, mb4.5/43,Error ellipse: s-maj=10.7km s-min=6.6km az=97.5*
*NEIC **02** 21:56:33.3±1.2,418N×9604E,h84km±11km,mb4.6/15, Error ellipse: s-maj=13.6km s-min=5.9km az=56.0*
*IDC **02** 21:56:33.2±3.2,419N×9610E,h82km±30km,mb4.0/18, mb1 4.1/19,mb1mx4.0/24,mbtmp4.3/19,MS3.7/5, Ms1 3.7/5,ms1mx3.1/34,Error ellipse: s-maj=21.9km s-min=12.2km az=52.0*
*MOS **02** 21:56:34.1±1.1,449N×9637E,h99km,mb4.4/9,Error ellipse: s-maj=19.6km s-min=7.8km az=117.8*
ISC 02 21:56:33.5±0.8,421N±005×9601E±006,h80km±8km, h33km±9.4km:pP-P,n96,σ1§08/94,mb4.5/43,3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.47**	**331**	P	**Pn**	**21 56 55.2**	**-3.1**
2μm,0.6s							
TSI	**Tuntungan**	**2.64**	**105**	P	**Pn**	**21 57 15.2**	**+1.2**
624nm,1.0s							
PSI	**Prapat**	**3.23**	**116**	P	**Pn**	**21 57 22.2**	**+0.4**
12nm,0.3s,baz=312,slow=8.1,SNR=27							
KULM	**Kulim**	**4.75**	**77**	*e*P	**Pn**	**21 57 42.2**	**-0.3**
IPM	**Ipoh**	**5.01**	**87**	P	**Pn**	**21 57 45.5**	**-0.6**
PPI	**Padang Panjang**	**6.38**	**136**	P	**Pn**	**21 58 06.0**	**+1.2**
23nm,1.0s							
KGM	**Kluang**	**7.62**	**106**	P	**Pn**	**21 58 21.5**	**-0.1**
KSI	**Kapahiang**	**10.21**	**140**	P	**Pn**	**21 58 55.6**	**-1.4**
46nm,0.9s							
KKTK	**Khon Kaen**	**13.79**	**29**	P	**Pn**	**21 59 53.9**	**+8.6**
KSM	**Kuching**	**14.54**	**100**	P	**Pn**	**21 59 57.7**	**+2.6**
HYB	**Hyderabad**	**21.56**	**309**	*i*P	**P**	**22 01 19.0**	**+2.6**
HYB				*e*S	**S**	**22 05 10.0**	**-0.7**
HYB	**Hyderabad**	**21.56**	**309**	*e*P	**P**	**22 01 18.0**	**+1.6**
SHL	**Shillong**	**21.61**	**350**	*e*P	**P**	**22 01 15.0**	**-1.8**
GYA	**Guiyang**	**24.36**	**24**	P	**P**	**22 01 45.5**	**+1.5**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.2							
JIRN	**Jiri**	**25.13**	**339**	*e*P	**P**	**22 01 51.3**	**+0.3**
comp=Z,18nm,0.4s,mb4.9							
PKI	**Pulchoki**	**25.34**	**338**	*e*P	**P**	**22 01 52.4**	**-0.4**
GUN	**Gumba**	**25.47**	**339**	*e*P	**P**	**22 01 53.8**	**-0.2**
comp=Z,16nm,0.4s,mb4.8							
DMN	**Daman**	**25.49**	**337**	*e*P	**P**	**22 01 55.4**	**+1.2**
comp=Z,9.9nm,0.5s,mb4.5							
KKN	**Kakani**	**25.59**	**338**	*e*P	**P**	**22 01 54.6**	**-0.5**
comp=Z,21nm,0.8s,mb4.6							
KKN	**Kakani**	**25.59**	**338**	*e*P	**P**	**22 01 54.6**	**-0.5**
KKN				pmax	pmax		
comp=Z,21nm,0.8s,mb4.6							
LSA	**Lhasa**	**25.77**	**350**	*e*P	**P**	**22 02 00.0**	**+3.3**
LSA	**Lhasa**	**25.77**	**350**	*e*P	**P**	**22 01 57.0**	**+0.3**
LSA				pmax	pmax		
comp=Z,6.0nm,0.4s,mb4.4							
LSA	**Lhasa**	**25.77**	**350**	*e*P	**P**	**22 01 57.0**	**+0.3**
comp=Z,6.4nm,0.4s,mb4.4							
GKN	**Gorkha**	**26.03**	**337**	*e*P	**P**	**22 01 58.5**	**-0.5**
comp=Z,27nm,0.5s,mb4.9							
KOLN	**Koldanda**	**26.25**	**334**	*e*P	**P**	**22 02 00.9**	**-0.1**
comp=Z,34nm,0.7s,mb4.9							
CD2	**Chengdu**	**27.55**	**15**	*e*P	**P**	**22 02 12.8**	**+0.1**
CD2				S	**S**	**22 06 48.6**	**+0.5**
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
CD2				AMB	AMB		
comp=Z,40nm,5.2s							
CD2				LR	LR		
comp=E,120nm,12.0s							
CD2				LR	LR		
comp=Z,170nm,9.2s							
XAN	**Xi'an**	**32.02**	**20**	P	**P**	**22 02 52.2**	**-0.1**
LZH	**Lanzhou**	**32.54**	**12**	*e*P	**P**	**22 02 57.0**	**+0.2**
LZH				AP	pP	22 03 04.0	-11
LZH				XP	sP	22 03 08.2	-17
LZH				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.6							
LZH				AMB	AMB		
comp=Z,60nm,4.0s							
NJ2	**Nanjing**	**35.02**	**35**	*e*P	**P**	**22 03 19.2**	**+0.9**
NJ2				AP	pP	22 03 29.1	-8.0
NJ2				XP	sP	22 03 33.3	-13
NJ2				PP	PP	22 04 37.3	-1.8
NJ2				PPP		22 04 55.1	
NJ2				S	**S**	**22 08 46.0**	**+1.4**
NJ2				XS	sS	22 09 05.0	-12
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
NJ2				AMB	AMB		
comp=Z,180nm,4.2s							
NJ2				LR	LR		
comp=N,360nm,11.8s							
NJ2				LR	LR		
comp=E,300nm,19.3s							
NJ2				LR	LR		
comp=Z,180nm,24.2s							
GTA	**Gaotai**	**35.21**	**5**	*e*P	**P**	**22 03 19.6**	**-0.4**
SWI	**Sorong**	**35.58**	**97**	P	**P**	**22 03 23.1**	**0.0**
comp=Z,28nm,0.9s,mb5.2							
FITZ	**Fitzroy Crossi**	**36.67**	**128**	*e*P	**P**	**22 03 30.8**	**-1.6**
comp=Z,5.7nm,0.7s,mb4.6							
FITZ	**Fitzroy Crossi**	**36.67**	**128**	P	**P**	**22 03 31.2**	**-1.3**
comp=Z,2.5nm,0.9s,mb4.1,baz=270,slow=7.1,SNR=2.7							
HHC	**Hu-ho-hao-te**	**39.07**	**19**	*e*P	**P**	**22 03 54.2**	**+1.6**
HHC				AP	pP	22 04 01.6	-10
HHC				XP	sP	22 04 08.5	-12
HHC				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
HHC				AMB	AMB		
comp=Z,70nm,3.9s							
BJT	**Baijiatuau**	**40.03**	**24**	*e*P	**P**	**22 04 02.4**	**+1.8**
BJT				pmax	pmax		
comp=Z,20nm,0.9s							
BJT	**Baijiatuau**	**40.03**	**24**	*e*P	**P**	**22 04 02.4**	**+1.8**
comp=Z,20nm,0.9s,mb4.9							
WSAR	**Wadi Sarin**	**40.75**	**301**	P	**P**	**22 04 08.3**	**+1.8**
comp=Z,3.0nm,0.6s,mb4.3,baz=104,slow=6.5,SNR=5.3							
WSAR	**Wadi Sarin**	**40.75**	**301**	P	**P**	**22 04 08.3**	**+1.7**
AAK	**Ala-Archa**	**42.79**	**337**	*i*P	**P**	**22 04 23.2**	**+0.1**
AAK				pmax	pmax		
comp=Z,2.0nm,1.3s,mb3.7							
MKAR	**Makanchi Array**	**44.06**	**346**	P	**P**	**22 04 32.4**	**-0.9**
comp=Z,3.4nm,0.4s,mb4.5,baz=163,slow=7.9,SNR=103							
MKAR	**Makanchi Array**	**44.06**	**346**	P	**P**	**22 04 32.4**	**-0.9**
SONM	**Songino Array**	**44.37**	**10**	P	**P**	**22 04 35.9**	**0.0**
comp=Z,8.5nm,0.8s,mb4.5,baz=188,slow=8.9,SNR=83							
SONM				PcP	PcP	22 06 19.3	+0.8
comp=Z,1.7nm,0.5s,baz=192,slow=4.1,SNR=7.9							
SONM				LR	LR	22 25 16.3	
comp=Z,89nm,18.6s,baz=186,slow=39							
SONM	**Songino Array**	**44.37**	**10**	P	**P**	**22 04 35.9**	**0.0**
SONM						22 06 19.3	
WRA	**Warramunga Arr**	**44.66**	**124**	P	**P**	**22 04 36.7**	**-1.5**
comp=Z,7.0nm,0.8s,mb4.5,baz=303,slow=9.0,SNR=36							
WRA	**Warramunga Arr**	**44.66**	**124**	*e*P	**P**	**22 04 37.4**	**-0.7**
WRAB	**Tennant Creek**	**44.66**	**124**	*e*P	**P**	**22 04 38.9**	**+0.7**
WRAB				pmax	pmax		
comp=Z,46nm,1.0s,mb5.2							
WRAB	**Tennant Creek**	**44.66**	**124**	*e*P	**P**	**22 04 38.9**	**+0.7**
comp=Z,46nm,1.0s,mb5.2							
WB2	**Warramunga Arr**	**44.67**	**124**‖	*i*P	**P**	**22 04 38.3**	**+0.1**
ASAR	**Alice Springs**	**46.17**	**129**	P	**P**

AKTK	Aktyubinsk	56.04	332	P	P	22 06 03.3	-0.7
AKTO	Aktyubinsk	56.04	332	P	P	22 06 03.3	-0.7
	comp=Z,2.3nm,0.4s,mb4.6,baz=117,slow=4.7,SNR=15						
STKA	Stephens Creek	56.25	133	eP	P	22 06 03.7	-1.8
	comp=Z,2.5nm,0.7s,mb4.3						
STKA	Stephens Creek	56.25	133	P	P	22 06 04.0	-1.5
	comp=Z,2.6nm,0.7s,mb4.4,baz=333,slow=13,SNR=9.3						
KMBO	Kilima Mbogo	58.95	266	P	P	22 06 25.4	+1.0
	comp=Z,2.9nm,0.8s,mb4.4,baz=63,slow=10,SNR=8.0						
KMBO				LR	LR	22 26 08.4	
	comp=Z,74nm,21.1s,baz=94,slow=30						
KIV	Kislovodsk	61.27	319	P	P	22 06 42.0	+1.7
BR131	Keskin Array S	66.23	312	eP	P	22 07 12.0	-0.9
	comp=Z,2.1nm,0.6s,mb4.1						
BRTR	Keskin Array B	66.23	312	P	P	22 07 12.7	-0.2
	comp=Z,1.6nm,0.6s,mb4.1,baz=131,slow=7.3,SNR=13						
OBN	Obninsk	69.45	328	P	P	22 07 32.0	-1.1
OBN				e	pP	22 07 49.1	-4.8
OBN				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.5						
TIXI	Tiksi	70.46	11	eP	P	22 07 36.8	-2.5
TIXI				e	pP	22 07 57.9	-2.2
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MATP	Matopo	70.58	247	P	P	22 07 40.2	+0.2
	comp=Z,1.7nm,0.7s,mb4.0,baz=79,slow=13,SNR=5.8						
AKASG	Malin Array Be	72.17	322	P	P	22 07 48.6	-1.0
	comp=Z,0.5nm,0.4s,mb3.7,baz=94,slow=5.5,SNR=5.8						
MLR	Muntele Rosu	73.08	316	⇓P	P	22 07 56.5	+1.5
BURAR	Bucovina Array	74.00	318	⇓P	P	22 08 01.8	+1.4
JOF	Joensuu	74.94	335	ep	P	22 08 08.3	-0.5
BOSA	Boshof	75.27	239	LR	LR	22 41 13.1	
	comp=Z,55nm,18.0s,baz=359,slow=36						
FINES	FINESS Array B	76.80	332	P	P	22 08 15.8	-0.6
	comp=Z,1.7nm,0.4s,mb4.1,baz=113,slow=6.6,SNR=20						
FINES	FINESS Array B	76.80	332	P	P	22 08 16.5	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	FINESS Array B	76.80	332	P	P	22 08 15.8	-0.6
KAF	Kangasniemi	76.88	333	ep	P	22 08 17.0	+0.1
	comp=Z,1.3nm,0.4s,mb4.0,baz=102,slow=5.3						
KAF	Kangasniemi	76.88	333	eP	P	22 08 17.0	+0.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
KEV	Kevo	78.89	341	ep	P	22 08 28.0	0.0
ARCES	ARCESS Array B	79.32	340	P	P	22 08 30.7	+0.3
	comp=Z,2.2nm,0.4s,mb4.4,baz=98,slow=6.8,SNR=46						
GERES	GERESS Array B	81.78	319	P	P	22 08 45.2	+1.7
	comp=Z,1.3nm,0.7s,mb3.9,baz=123,slow=7.2,SNR=3.5						
NOA	NORSAR Array B	83.82	331	P	P	22 08 54.4	+0.3
	comp=Z,0.5nm,0.6s,mb3.5,baz=98,slow=6.5,SNR=2.8						
VNDA	Vanda	88.99	169	P	P	22 09 18.4	-0.9
TORD	Torodi Ar. Bea	93.25	283	P	P	22 09 40.4	+1.3
	comp=Z,0.5nm,0.5s,mb4.1,baz=90,slow=5.6,SNR=14						
QSPA	South Pole Qui	94.13	180	eP	P	22 09 42.2	-1.0
CPUP	Villa Florida	146.31	227	PKPbc	PKPbc	22 16 05.5	+0.5
	comp=Z,1.5nm,0.5s,baz=138,slow=1.6,SNR=6.5						
CPUP	Villa Florida	146.31	227	PKPbc	PKPbc	22 16 05.5	+0.5

JMA 02 22:06:44.0±0.1, 4303N×14673E, h59km±2km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.80	295	P	Pn	22 06 59.5	+0.1
NEM2				eS	Sn	22 07 10.8	+0.2
JRA	Rausu	1.48	308	P	Pn	22 07 08.8	+0.4
JRA				eS	Sn	22 07 27.5	+0.8
JAK	Akkeshi	1.49	269	P	Pn	22 07 09.0	+0.5
JAK				eS	Sn	22 07 27.2	+0.2
JNK	Nakash	1.57	291	P	Pn	22 07 09.6	0.0
JNK				eS	Sn	22 07 28.6	-0.3
JOB	Onbets	2.13	268	P	Pn	22 07 17.8	+0.6
JOB				eS	Sn	22 07 42.7	+0.2
JAR	Ashorobuto	2.18	278	P	Pn	22 07 18.7	+0.8
JAR				eS	Sn	22 07 44.4	+0.6
JTKR	Abashiri--Toko	2.26	296	P	Pn	22 07 20.2	+1.3
JTKR				eS	Sn	22 07 47.4	+1.8
JCH	Churui	2.51	262	P	Pn	22 07 22.8	+0.4
JCH				eS	Sn	22 07 51.1	-0.7
JMP	Maruseppu	2.64	293	P	Pn	22 07 25.6	+1.5
JNBK	Urakawa-nobuka	3.03	257	P	Pn	22 07 30.5	+1.1

CSEM 02 22:11:11.1±0.2, 3638N×451W, h93km±1km, mb2.0/15, Error ellipse: s-maj=4.5km s-min=1.5km az=171.0
ISCJB 02 22:11:12.5±0.7, 3654N±004×458W±003, h98km±4km, Error ellipse: s-maj=7.1km s-min=3.3km az=162.9
MDD 02 22:11:12.9±0.8, 3637N×453W, h90km±5km, mb2.2/22, Error ellipse: s-maj=8.1km s-min=3.8km az=168.0, PRXIMO
INMG 02 22:11:13.6±1.3, 3643N×454W, h90km±2km, ML2.2, Error ellipse: s-maj=5.1km s-min=1.9km az=158.0
IGIL 02 22:11:13.5, 3650N×460W, h31km, ML2.4
SFS 02 22:11:13.0, 3638N×451W, h88km, ML2.0

ISC 02 22:11:13.4±0.7, 3652N±004×457W±003, h91km±5km, n51, σ0:93/96, 3C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.17	286	⇑P	Pn	22 11 25.9	-0.5
EMIJ	SNR=18			S	Sn	22 11 36.0	0.0
	14nm,0.3s,SNR=9.4						
MAL	Malaga	0.25	32	eP	Pn	22 11 26.8	+0.1
MAL				eS	Sn	22 11 35.6	-0.9
ELOJ	Sierra Loja	0.71	28	P	Pn	22 11 30.4	+0.3
	5.5nm,0.1s,SNR=10						
ELOJ				S	Sn	22 11 43.6	+1.0
	14nm,0.5s,SNR=13						
EJIF	Jimena Fronter	0.72	265	P	Pn	22 11 30.5	+0.3
	1.8nm,0.2s,SNR=7.2						
EJIF				S	Sn	22 11 42.2	-0.5
	4.2nm,0.3s,SNR=7.6						
LIJA	Lijar	0.77	300	eP	Pn	22 11 31.0	+0.3
LIJA				i S	Sn	22 11 43.0	-0.6
EGUA	Guajares	0.87	68	P	Pn	22 11 30.2	-1.5
	1.3nm,0.1s,SNR=7.9						
EGUA				S	Sn	22 11 43.8	-1.6
	0.5nm,0.2s,SNR=7.9						
ELUQ	Luque	1.07	13	P	Pn	22 11 35.3	+1.3
	3.5nm,0.2s,SNR=7.6						
ELUQ				S	Sn	22 11 50.1	+0.7
	70nm,0.2s,SNR=65						
ESPR	Espera	1.09	289	P	Pn	22 11 34.8	+0.6
	1.7nm,0.3s,SNR=20						
ESPR				S	Sn	22 11 50.7	+0.9
	7.0nm,0.3s,SNR=37						
ESPR	Espera	1.09	289	P	Pn	22 11 34.8	+0.6
	1.7nm,0.3s,SNR=20						
ESPR				S	Sn	22 11 50.7	+0.9
	7.0nm,0.3s,SNR=37						
ECOG	Cogollos-Vega	1.11	46	P	Pn	22 11 35.2	+0.8
	1.6nm,0.1s,SNR=7.9						
ECOG				S	Sn	22 11 50.6	+0.5
	12nm,0.2s,SNR=7.9						
EQUE	Quentar	1.14	53	P	Pn	22 11 35.7	+1.0
	1.1nm,0.1s,SNR=4.0						
EQUE				S	Sn	22 11 51.2	+0.4
	5.4nm,0.3s,SNR=7.4						
EBER	Berja	1.41	74	P	Pn	22 11 36.8	-1.2
	2.4nm,0.4s,SNR=18						
EBER				S	Sn	22 11 55.7	-0.9
	5.3nm,0.5s						
EBER	Berja	1.41	74	P	Pn	22 11 36.8	-1.2
	2.4nm,0.4s,SNR=18						
EBER				S	Sn	22 11 55.7	-0.9
	5.3nm,0.5s						
EADA	Adamuz	1.65	360	⇓P	Pn	22 11 42.4	+1.3
	2.7nm,0.3s,SNR=18						
EADA				S	Sn	22 12 03.5	+1.5
	1.6nm,0.3s,SNR=7.8						
EADA	Adamuz	1.65	360	P	Pn	22 11 42.4	+1.3
	2.7nm,0.3s,SNR=18						
EADA				S	Sn	22 12 03.5	+1.5
	1.6nm,0.3s,SNR=7.8						
EQES	Quesada	1.76	43	P	Pn	22 11 43.2	+0.7
	1.9nm,0.3s,SNR=21						
EQES				S	Sn	22 12 05.0	+0.5
	4.0nm,0.3s,SNR=4.8						
EQES	Quesada	1.76	43	P	Pn	22 11 43.2	+0.7
	1.9nm,0.3s,SNR=21						
EQES				S	Sn	22 12 05.0	+0.5
	4.0nm,0.3s,SNR=4.8						
EBAN	Banos Encina	1.76	21	⇑P	Pn	22 11 43.4	+0.9
	7.2nm,0.2s,SNR=18						
EBAN				S	Sn	22 12 05.9	+1.3
	10nm,0.2s,SNR=27						
EHUE	Huescar	2.04	50	⇑P	Pn	22 11 46.7	+0.5
	0.9nm,0.1s,SNR=18						
EHUE				S	Sn	22 12 10.7	-0.6
	4.1nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	2.09	307	⇓P	Pn	22 11 47.1	+0.3
	2.5nm,0.3s,SNR=18						
EMIN				S	Sn	22 12 12.2	-0.1
	2.9nm,0.3s,SNR=15						
EMIN	Mina Concepcio	2.09	307	P	Pn	22 11 47.1	+0.3
	2.5nm,0.3s,SNR=18						
EMIN				S	Sn	22 12 12.2	-0.1
	2.9nm,0.3s,SNR=15						
ERIP	Rio Piedras	2.31	292	P	Pn	22 11 49.7	0.0
	6.7nm,0.1s,SNR=7.9						
ERIP				S	Sn	22 12 16.6	-0.9
	46nm,0.1s,SNR=7.9						
EGRO	El Granado	2.54	294	⇓P	Pn	22 11 52.8	0.0
	5.7nm,0.0s,SNR=18						
EGRO				S	Sn	22 12 22.0	-1.0
	5.6nm,0.3s,SNR=12						
EGRO	El Granado	2.54	294	P	Pn	22 11 52.8	0.0
	5.7nm,0.0s,SNR=18						
EGRO				S	Sn	22 12 22.0	-1.0
	5.6nm,0.3s,SNR=12						
EVIA	Vianos	2.68	37	S	Sn	22 12 25.7	-0.6
	7.9nm,0.3s,SNR=6.8						
EBAD	Badajoz	2.96	320	P	Pn	22 11 59.2	+0.9
	17nm,0.1s,SNR=101						
EBAD				S	Sn	22 12 33.8	+0.9
	3.5nm,0.3s,SNR=11						
EBAD	Badajoz	2.96	320	P	Pn	22 11 59.2	+0.8
	17nm,0.1s,SNR=101						
EBAD				S	Sn	22 12 33.8	+0.8
	3.5nm,0.3s,SNR=11						
PBEJ	Beja	3.03	301	eP	Pn	22 11 59.7	+0.4
PBEJ				eS	Sn	22 12 33.7	-1.0
PBEJ							
	6.3nm,0.2s						
PBEJ	Beja	3.03	301	eP	Pn	22 11 59.7	+0.4
PBEJ				eS	Sn	22 12 33.7	-1.0
	6.3nm,0.2s						
ESDC	Sonseca Array	3.19	8	P	Pn	22 12 02.4	+0.9
	0.2nm,0.3s,baz=181,slow=12,SNR=4.6						
ESDC				S	Sn	22 12 38.7	+0.2
	1.5nm,0.2s,baz=189,slow=23,SNR=15						
ESDC	Sonseca Array	3.19	8	P	Pn	22 12 02.4	+0.9
	0.2nm,0.3s,SNR=4.6						
ESDC				S	Sn	22 12 38.7	+0.2
	1.5nm,0.2s,SNR=15						
ETOB	Tobarra	3.21	48	P	Pn	22 12 01.8	0.0
	0.8nm,0.1s,SNR=18						
ETOB				S	Sn	22 12 37.2	-1.8
	1.7nm,0.3s,SNR=10.0						
ETOB	Tobarra	3.21	48	P	Pn	22 12 01.8	+0.1
	0.8nm,0.1s,SNR=18						
ETOB				S	Sn	22 12 37.2	-1.8
	1.7nm,0.3s,SNR=10.0						
MORF	Marmelete	3.36	285	eP	Pn	22 12 02.6	-1.2
MORF				eS	Sn	22 12 38.2	-4.5
MORF				eS	Sn	22 12 38.2	-4.5
MORF				AML	AML	22 12 42.5	
	comp=N,11nm,0.1s						
MORF	Marmelete	3.36	285	eP	Pn	22 12 02.6	-1.2
MORF				eS	Sn	22 12 38.2	-4.5
PTEO	Sao Teotonio	3.48	288	eP	Pn	22 12 05.4	0.0
PTEO				eS	Sn	22 12 43.8	-1.7
PTEO							
	comp=N,4.1nm,0.3s						
PTEO	Sao Teotonio	3.48	288	eP	Pn	22 12 05.4	0.0
PTEO				eS	Sn	22 12 43.8	-1.7
	comp=N,4.1nm,0.3s						
MOE	Montemor	3.61	305	eP	Pn	22 12 08.1	+1.0
MOE				eS	Sn	22 12 47.9	-0.8
PCBR	Castelo Branco	4.03	326	eP	Pn	22 12 13.9	+1.1
PCBR				eS	Sn	22 12 57.8	-1.1
PCBR							
	comp=N,1.7nm,0.2s						
PCBR	Castelo Branco	4.03	326	eP	Pn	22 12 13.9	+1.1
PCBR				eS	Sn	22 12 57.8	-1.1
	comp=N,1.7nm,0.2s						
ECHE	Chera	4.18	42	P	Pn	22 12 14.7	-0.2
	comp=N,0.4nm,0.2s,SNR=7.9						
ECHE				S	Sn	22 12 59.1	-3.6
	comp=N,0.8nm,0.2s,SNR=7.9						
PTOM	Tomar	4.33	317	eP	Pn	22 12 17.8	+0.9
MTE	Manteigas	4.52	330	eP	Pn	22 12 20.9	+1.4
ETOR	Torete	4.73	24	P	Pn	22 12 22.7	+0.4
	comp=N,0.6nm,0.2s,SNR=7.9						
ETOR				S	Sn	22 13 13.6	-2.2
	comp=N,0.8nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	5.01	39	P	Pn	22 12 26.4	+0.2
	comp=N,0.1nm,0.2s,SNR=4.0						
EMOS				S	Sn	22 13 21.0	-1.8
	comp=N,4.0nm,0.8s,SNR=11						
EMOS	Mosqueruela	5.01	39	P	Pn	22 12 26.4	+0.2
	comp=N,0.1nm,0.2s,SNR=4.0						
ECAL	Calabor	5.67	343	P	Pn	22 12 35.4	+0.3
	comp=N,0.3nm,0.1s,SNR=7.9						
ECAL				S	Sn	22 13 38.2	-0.7
	comp=N,0.9nm,0.4s,SNR=4.0						
ECAL	Calabor	5.67	343	P	Pn	22 12 35.4	+0.3
	comp=N,0.3nm,0.1s,SNR=7.9						
PCAB	Cabril	5.84	334	eS	Sn	22 13 42.3	-0.7
ELOB	Lobios	5.99	334	P	Pn	22 12 40.6	+1.2
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				S	Sn	22 13 45.5	-1.2
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB	Lobios	5.99	334	P	Pn	22 12 40.6	+1.1
	comp=N,0.3nm,0.1s,SNR=7.9						

ISCJB 02 22:12:53.7±0.4, 3754N±002×2261E±004, h90km±6km, Error ellipse: s-maj=5.1km s-min=3.3km az=135.9
CSEM 02 22:12:54.5±0.1, 3753N×2258E, h60km, ML3.5, Error ellipse: s-maj=2.8km s-min=2.5km az=170.0
ATH 02 22:12:54.4, 3754N×2258E, h72km±2km, ML3.5
NEIC 02 22:12:54.4, 3753N×2259E, h71km, MG3.5(ATH), After ATH.
THE 02 22:12:56.2, 3761N×2267E, h20km, ML3.3
HLW 02 22:13:04.7, 3683N×2344E, h33km, Mb3.8

ISC 02 22:12:55.1±0.4, 3755N±002×2260E±004, h76km±8km, n44, σ0:92/65, 5C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.65	236	eP	Pn	22 13 09.5	-0.4
ITM				eS	Sn	22 13 20.3	-0.6
MGER	Gerania Oros	0.68	50	eP	Pn	22 13 10.0	-0.2
NAIG	Nisos Aigina	0.73	73	eP	Pn	22 13 10.5	-0.3
VLI	Veliai	0.87	162	eP	Pn	22 13 12.2	-0.1
VLI				eS	Sn	22 13 24.8	-0.3
VLI	Veliai	0.87	162	eP	Pn	22 13 12.2	-0.1
VLI				eS	Sn	22 13 23.8	-1.3
ATH	Athens Observa	0.98	64	eP	Pn	22 13 14.3	+0.6
ATH				eS	Sn	22 13 27.5	0.0
RLS	Riolos of Patr	1.03	300	eP	Pn	22 13 14.1	-0.2
PTL	Penteli	1.12	63	eP	Pn	22 13 15.5	+0.1
PTL				eS	Sn	22 13 30.5	0.0
LKR	Lokris	1.15	16	eP	Pn	22 13 15.7	0.0
KYTH	Kithira	1.31	164	eP	Pn	22 13 18.5	+0.7
KYTH	Kithira	1.31	164	eP	Pn	22 13 19.0	+1.2
AGG	Agios Georgios	1.49	352	ePg	Pn	22 13 20.1	0.0
AGG				eSg	Sn	22 13 37.8	-1.1
EVR	Evrytania	1.50	336	eP	Pn	22 13 20.6	+0.3
VLS	Valsamata	1.71	292	eP	Pn	22 13 22.8	-0.2
NEO	Neokhori	1.82	15	eP	Pn	22 13 25.0	+0.5
XOR	Xorichti	1.88	14	ePb	Pn	22 13 25.6	+0.3
XOR				eSb	Sn	22 13 47.7	-0.4
LKD	Levkas	1.93	308	ePb	Pn	22 13 27.1	+1.2
LKD				eSb	Sn	22 13 50.9	+1.6
APE	Apeiranthos	2.38	101	ePn	Pn	22 13 32.9	+0.9
APE				eSn	Sn	22 14 00.5	+0.2
APE	Apeiranthos	2.38	101	eP	Pn	22 13 33.0	+1.0
KARN	Karanos	2.39	153	ePn	Pn	22 13 32.8	+0.7
MEV	Metsovon	2.48	335	ePn	Pn	22 13 34.8	+1.4
VAM	Vamos	2.49	148	eP	Pn	22 13 34.0	+0.5
JAN	Janina	2.52	327	eP	Pn	22 13 35.0	+1.2
PAIG	Paliouri	2.52	19	ePn	Pn	22 13 34.0	+0.1
PAIG				eSn	Sn	22 14 02.7	-1.0
LIT	Litokhoron	2.55	358	ePn	Pn	22 13 34.5	+0.1
LIT				eSn	Sn	22 14 03.4	-1.0
IGT	Igoumenitsa	2.67	319	ePn	Pn	22 13 36.0	+0.2
IGT				eSn	Sn	22 14 07.2	+0.1
CHOS	Chios island	2.85	72	ePn	Pn	22 13 39.6	+1.2
CHOS				eSn	Sn	22 14 11.6	-0.1
PLG	Polygyros	2.90	13	eP	Pn	22 13 39.2	+0.2
OUR	Ouranopolis	2.98	21	ePn	Pn	22 13 40.5	+0.3
SIVA	Sivas	3.09	144	ePn	Pn	22 13 43.6	+2.0
SOH	Sokhos	3.32	10	ePn	Pn	22 13 45.4	+0.7
SOH				eSn	Sn	22 14 22.5	-0.6
LAST	Lasithi	3.32	135	ePn	Pn	22 13 45.9	+1.1
LAST				eSn	Sn	22 14 24.3	+1.2
FNA	Florina	3.37	344	ePn	Pn	22 13 46.3	+0.9
FNA				eSn	Sn	22 14 24.1	-0.1
GRG	Griva	3.41	357	ePn	Pn	22 13 46.4	+0.4
KNT	Kendrikon	3.62	4	ePn	Pn	22 13 50.0	+1.2
KNT				eSn	Sn	22 14 29.8	-0.5
VAY	Valandovo	3.77	360	ePn	Pn	22 13 50.0	-0.8
VAY				eSn	Sn	22 14 32.1	-1.9
ALN	Alexandroupoli	4.28	38	ePn	Pn	22 13 58.3	+0.4
SLUM		6.41	160	⇑P	Pn	22 14 25.4	-1.5
SLUM				S	Sn	22 15 23.6	-15
STON	Ston	6.51	326	i Pn	Pn	22 14 25.8	-2.4
STON				i Sn	Sn	22 15 33.4	-7.5
SWA2		8.62	163	⇑P	Pn	22 14 55.6	-1.4
SWA1		8.66	162	⇓P	Pn	22 14 56.5	-1.1
SWA1				S	Sn	22 16 18.0	-16
AWBH		10.61	148	⇑P	Pn	22 15 22.2	-1.9
AMAG	Maghara	11.16	125	⇑P	Pn	22 15 30.2	-1.5
HFRF	Wahat Farafira	11.43	153	⇑P	Pn	22 15 33.9	-1.5

IDC 02 22:34:42.1±1.1, 1548S×17328W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/17, mbtmp4.1/6, ML2.1/1, Error ellipse: s-maj=53.6km s-min=19.8km az=138.0
ISCJB 02 22:34:44.3±0.7, 152S±02×1734W±02, h33km, mb4.2/7, Error ellipse: s-maj=38.0km s-min=8.8km az=101.0
NEIC 02 22:34:46.6±0.9, 1533S×17334W, h35km, mb4.7/2, Error ellipse: s-maj=45.8km s-min=16.3km az=137.0

ISC 02 22:34:46.2±0.7, 152S±02×1733W±02, h35km, n14, σ1:36/12, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.96	48	Pn	Pn	22 35 17.9	+1.0
	32nm,0.3s,baz=168,slow=2.1,SNR=51						
AFI				Sn	Sn	22 35 39.3	-1.0
	288nm,0.3s,baz=189,slow=23,SNR=24						
AFI	Afiamalu	1.96	48	ePn	Pn	22 35 17.8	+0.8
AFI				eSn	Sn	22 35 38.0	-2.3
PPT	Papeete	22.84	99	eLR	LR	22 44 52.6	
	161nm,27.5s						
TBI	Tubuai	23.85	113	eLR	LR	22 45 25.9	
	82nm,26.8s						
URZ	Urewera	24.45	199	P	P	22 40 01.5	-0.2
	4.3nm,0.5s,mb4.2,baz=313,slow=5.0,SNR=6.4						
STKA	Stephens Creek	44.22	240	P	P	22 42 50.2	-1.7
	1.3nm,0.6s,mb3.8,baz=88,slow=12,SNR=3.8						
STKA	Stephens Creek	44.22	240	eP	P	22 42 50.4	-1.5
WRA	Warramunga Arr	50.00	257	P	P	22 43 37.5	+0.5
	0.8nm,0.7s,mb3.9,baz=95,slow=6.7,SNR=7.3						
ASAR	Alice Springs	50.28	252	P	P	22 43 40.0	+0.9
	6.4nm,0.6s,mb4.8,baz=86,slow=8.0,SNR=90						
NWAO	Narrogin (SRO)	64.80	241	P	P	22 45 19.1	-2.3
	14nm,1.3s,mb4.8						
CASY	Casey	70.60	205	P	P	22 45 58.5	+0.7
	3.0nm,0.7s,mb4.3						
NVAR	Mina Array Bea	74.13	42	P	P	22 46 21.2	+2.3
	0.7nm,0.7s,mb3.7,baz=235,slow=9.5,SNR=5.8						
BRTR	Keskin Array B	146.11	321	PKPbc	PKPbc	22 54 25.9	+3.4
	1.1nm,0.6s,baz=45,slow=2.2,SNR=9.6						
MMAI	Mount Meron Ar	148.56	309	PKPbc	PKPbc	22 54 33.0	+3.7
	1.4nm,0.8s,baz=111,slow=4.6,SNR=4.0						

SOF 02 23:14:46.6, 4085N×2279E, h1km, MD2.7
NEIC 02 23:14:48.5, 4086N×2286E, h21km, MD3.1(ATH), After ATH.
THE 02 23:14:48.5, 4086N×2282E, h6km, ML2.4
CSEM 02 23:14:48.2±0.1, 4086N×2282E, h4km, MD3.1, Error ellipse: s-maj=1.7km s-min=1.5km az=6.0
ATH 02 23:14:48.5, 4086N×2287E, h22km±3km, MD3.1/5
ISCJB 02 23:14:48.0±0.3, 4085N±002×2282E±003, h10km±4km, Error ellipse: s-maj=4.3km s-min=3.1km az=103.5
SKO 02 23:14:49.3, 4087N×2284E, h0km

ISC 02 23:14:48.7±0.4, 4086N±002×2282E±003, h3km±5km, n30, σ0:89/46, 3C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	Thessaloniki	0.25	154	ePg	Pg	23 14 53.6	+0.2
THE				eSg	Sg	23 14 57.1	+0.4
KNT	Kendrikon	0.31	11	ePg	Pg	23 14 54.9	+0.2
KNT				eSg	Sg	23 14 59.1	+0.4
GRG	Griva	0.33	288	ePg	Pg	23 14 55.5	+0.4
GRG				eSg	Sg	23 15 00.7	+1.2
SOH	Sokhos	0.41	94	ePg	Pg	23 14 56.6	+0.1
SOH				eSg	Sg	23 15 02.2	+0.4
VAY	Valandovo	0.50	338	ePg	Pg	23 14 57.9	-0.4
VAY				eSg	Sg	23 15 05.1	+0.2
VAY	Valandovo	0.50	338	i Pg	Pg	23 14 57.9	-0.5
VAY				eSg	Sg	23 15 04.9	0.0
VAY				eLg		23 15 05.3	
	comp=E,98nm,0.2s						
VAY				eLg		23 15 05.3	
	comp=N,255nm,0.3s						
VAY	Valandovo	0.50	338	i Pg	Pg	23 14 57.8	-0.5
VAY				eSg	Sg	23 15 04.8	-0.1
PLG	Polygyros	0.68	135	ePN	Pg	23 15 01.1	-0.6
LIT	Litokhoron	0.79	199	ePg	Pg	23 15 03.8	-0.1
LIT				eSg	Sg	23 15 15.4	+1.2
NVR	Nevrokopi	0.93	58	ePN	Pn	23 15 05.8	-2.8
NVR				eSN	Sn	23 15 18.0	-4.5
STIP	Stip	0.96	331	ePg	Pg	23 15 06.6	-0.6
STIP				eSg	Sg	23 15 20.3	+0.6
STIP				eLg		23 15 22.3	
	comp=N,

ESKT	**Eskisehir**	**1.01**	**60**	*i* P	**Pg**	**23 25 12.5**	**-1.2**
ESKT				*i* S	**Sg**	**23 25 26.8**	**0.0**
TKTP	**Tekketepe**	**1.09**	**154**	*i* P	**Pb**	**23 25 15.6**	**+0.4**
TKTP				*i* S	**Sg**	**23 25 31.1**	**+1.8**
ULDT	**Uludag**	**1.21**	**338**	*i* P	**Pn**	**23 25 16.8**	**-0.4**
ULDT				*i* S	**Sb**	**23 25 35.0**	**+2.1**

*IDC **02** 23:43:44.1±23.0, 2477S×179.98E, h413km±251km, mb3.4/2, mb1 3.6/3, mb1mx3.3/12, mbtmp4.3/3, Error ellipse: s-maj=207.0km s-min=38.2km az=14.0*

NEIC 02 23:43:39.7±2.2, 2453S×17983W, h376km±27km, mb4.1/6, Error ellipse: s-maj=25.5km s-min=16.0km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**13.01**	**37**	P	P	23 46 31.4	+0.1
	8.8nm,0.8s						
URZ	**Urewera**	**13.93**	**190**	P	P	23 46 41.4	0.0
	0.8nm,0.3s,baz=3.5,slow=4.5,SNR=4.5						
CTA	**Charters Tower**	**31.64**	**271**	*e*P	P	23 49 31.4	+2.0
	5.8nm,0.6s						
CTAO	**Charters Tower**	**31.64**	**271**	*e*P	P	23 49 31.1	+1.8
	6.3nm,0.6s						
PMG	**Port Moresby**	**34.85**	**290**	P	P	23 49 56.7	-0.1
	5.7nm,0.6s						
ASAR	**Alice Springs**	**42.09**	**261**	P	P	23 50 56.3	0.0
	2.8nm,0.8s,baz=99,slow=8.4,SNR=22						
WB2	**Warramunga Arr**	**42.52**	**267**	*e*P	P	23 50 59.6	-0.1
WRAB	**Tennant Creek**	**42.52**	**267**	*e*P	P	23 50 57.7	-2.0
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**42.53**	**267**	P	P	23 51 00.3	+0.5
	2.9nm,0.6s,baz=103,slow=8.2,SNR=9.9						
CASY	**Casey**	**59.62**	**206**	*e*P	P	23 52 57.9	-7.4
	20nm,0.8s						
EDM	**Edmonton**	**96.39**	**34**	*e*P	P	23 56 15.8	-11
NB2	**NORSAR Subarra**	**142.73**	**351**	PKPa	PKPdf	00 02 27.0	-1.6
	comp=Z,1.3nm,0.6s,baz=14,slow=3.3						
NOA	**NORSAR Array B**	**142.73**	**351**	PKP	PKPdf	00 02 27.6	-1.0
	comp=Z,1.7nm,0.7s,baz=16,slow=5.0,SNR=6.6						
HFS	**Hagfors**	**143.19**	**349**	PKP	PKPdf	00 02 28.8	-0.7
	comp=Z,3.7nm,0.6s,baz=26,slow=3.7,SNR=13						
EKA	**Eskdalemuir Ar**	**149.14**	**4**	PKPbc	PKPbc	00 02 45.0	+0.9
	comp=Z,0.6nm,0.5s,baz=356,slow=3.6,SNR=5.3						

*NDI **03** 00:03:38.2±15.0, 33.16N×7561E, h10km, ML3.2*
*ISCJB **03** 00:03:40.5±1.5, 3290N±006×754E±0.1, h19km±10km, Error ellipse: s-maj=15.9km s-min=7.6km az=128.7*

ISC 03 00:03:41.6±1.4, 3288N±006×755E±01, h9km±7km, n9, σ0§65/14, 2C, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.51**	**132**	*e*P	**Pg**	**00 03 50.0**	**-1.4**
DLH				*e*x	**Sg**	**00 03 59.0**	**+0.9**
PONG	**Pong**	**1.00**	**158**	*e*P	**Pg**	**00 04 01.0**	**+0.3**
BHK	**Bhakra**	**1.65**	**152**	*e*x	**Pn**	**00 04 14.8**	**+4.2**
SDNR	**Sundarnagar**	**1.85**	**138**	*e*P	**Pn**	**00 04 14.2**	**+0.8**
SDNR				*e*S	**Sn**	**00 04 36.4**	**-0.4**
SMLA	**Simla**	**2.24**	**141**	*e*P	**Pn**	**00 04 18.6**	**-0.1**
SMLA				*e*S	**Sn**	**00 04 47.2**	**+0.7**
KLP	**Kalpa**	**2.68**	**119**	*e*P	**Pn**	**00 04 24.3**	**-0.4**
KLP				*e*S	**Sn**	**00 04 57.0**	**-0.3**
KLP				AML	AML	00 05 01.2	
	comp=N,498nm,0.3s						
KLP				AML	AML	00 05 01.5	
	comp=E,720nm,0.5s						
KHET	**Khetri**	**4.80**	**177**	*e*S	**Sn**	**00 05 49.3**	**-0.3**
KHET				AML	AML	00 06 17.5	
	comp=E,18nm,0.4s						
KHET				AML	AML	00 06 17.8	
	comp=N,12nm,0.1s						
SONA	**Sohna**	**4.81**	**163**	*e*S	**Sn**	**00 05 49.9**	**0.0**
SONA				AML	AML	00 06 24.3	
	comp=E,30nm,0.4s						
SONA				AML	AML	00 06 24.6	
	comp=N,10nm,0.6s						
KK31	**Karatay Array**	**10.94**	**340**	⇑Pn	**Pn**	**00 06 24.7**	**+6.5**
	comp=N,0.4nm,0.4s,baz=166,slow=15,SNR=6.0						
KK31				⇑Sn	**Sn**	**00 08 20.9**	**+0.2**
	comp=N,0.7nm,0.5s,baz=152,slow=23,SNR=6.2						

*ISCJB **03** 00:07:48.8±0.5, 3920N±003×2171E±003, h7km±4km, Error ellipse: s-maj=4.3km s-min=3.9km az=11.3*
*NEIC **03** 00:07:49.2, 39.15N×2169E, h26km, MD2.9(ATH), After ATH.*
*THE **03** 00:07:49.8, 3920N×2171E, h10km, ML2.8*
*CSEM **03** 00:07:49.6±0.1, 39.19N×2171E, h10km, MD2.9, Error ellipse: s-maj=3.2km s-min=2.7km az=8.0*
*ATH **03** 00:07:49.2, 39.14N×2169E, h25km±1km, MD2.9/6*

ISC 03 00:07:49.6±0.4, 3922N±003×2171E±003, h9km±4km, n22, σ1§13/39, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.31**	**166**	*e*PB	**Pg**	**00 07 55.1**	**-0.6**
EVR				*e*SB	**Sg**	**00 08 00.4**	**+0.6**
AGG	**Agios Georgios**	**0.52**	**112**	*e*Pg	**Pg**	**00 07 59.5**	**-0.1**
AGG				*e*Sg	**Sg**	**00 08 08.0**	**+1.5**
MEV	**Metsovon**	**0.68**	**327**	*e*Pg	**Pg**	**00 08 02.3**	**-0.4**
MEV				*e*Sg	**Sg**	**00 08 13.3**	**+1.7**
JAN	**Janina**	**0.80**	**304**	*e*PN	**Pg**	**00 08 05.4**	**+0.4**
LKD	**Levkas**	**0.97**	**239**	*e*Pg	**Pg**	**00 08 07.4**	**-0.9**
LKD				*e*Sg	**Sg**	**00 08 22.0**	**+1.1**
LIT	**Litokhoron**	**1.07**	**34**	*e*Pg	**Pg**	**00 08 09.3**	**-0.8**
LIT				*e*Sg	**Sg**	**00 08 26.4**	**+2.4**
KZN	**Kozani**	**1.09**	**2**	*e*PN	**Pn**	**00 08 11.5**	**+0.5**
KZN				*e*SN	**Sn**	**00 08 27.5**	**+1.3**
KZN	**Kozani**	**1.09**	**2**	*e*Pb	**Pb**	**00 08 09.8**	**-0.8**
KZN				*e*Sn	**Sn**	**00 08 27.3**	**+1.1**
IGT	**Igoumenitsa**	**1.12**	**287**	*e*Pg	**Pg**	**00 08 10.0**	**-1.0**
IGT				*e*Sg	**Sg**	**00 08 27.0**	**+1.5**
LKR	**Lokris**	**1.15**	**119**	*e*PN	**Pn**	**00 08 11.1**	**-0.7**
XOR	**Xorichti**	**1.16**	**82**	*e*Pg	**Pg**	**00 08 10.9**	**-0.9**
XOR				*e*Sg	**Sg**	**00 08 28.1**	**+1.3**
XOR	**Xorichti**	**1.16**	**82**	*e*Pg	**Pg**	**00 08 10.9**	**-0.9**
XOR				*e*Sg	**Sg**	**00 08 28.1**	**+1.3**
NEO	**Neokhori**	**1.18**	**85**	*e*PN	**Pn**	**00 08 11.4**	**-0.7**
NEO				*e*SN	**Sn**	**00 08 29.4**	**+1.1**
VLS	**Valsamata**	**1.36**	**221**	*e*PN	**Pn**	**00 08 13.8**	**-0.9**
SRN	**Sarande**	**1.48**	**297**	*i* Pn	**Pn**	**00 08 18.2**	**+1.9**
SRN				*i* Sn	**Sg**	**00 08 43.6**	**+6.4**
FNA	**Florina**	**1.59**	**351**	*e*Pg	**Pg**	**00 08 18.1**	**-1.9**
FNA				*e*Sg	**Sg**	**00 08 39.1**	**-1.5**
PAIG	**Paliouri**	**1.68**	**64**	*e*Pb	**Pb**	**00 08 18.6**	**-2.0**
GRG	**Griva**	**1.82**	**17**	*e*Pb	**Pb**	**00 08 20.7**	**-2.3**
SOH	**Sokhos**	**2.04**	**38**	*e*Pn	**Pn**	**00 08 23.8**	**-0.2**
SOH				*e*Sn	**Sn**	**00 08 49.6**	**0.0**
OUR	**Ouranopolis**	**2.08**	**57**	*e*Pn	**Pn**	**00 08 24.1**	**-0.4**
OUR				*e*Sn	**Sn**	**00 08 50.7**	**+0.2**
KNT	**Kendrikon**	**2.15**	**25**	*e*Pn	**Pn**	**00 08 25.2**	**-0.2**
KNT				*e*Sn	**Sn**	**00 08 53.1**	**+0.9**
KNT	**Kendrikon**	**2.15**	**25**	*e*Pn	**Pn**	**00 08 25.2**	**-0.3**
KNT				*e*Sn	**Sn**	**00 08 53.1**	**+0.9**

*LDG **03** 01:25:44.7±0.1, 4303N×0.10W, h2km, Md1.5/2, Error ellipse: s-maj=3.0km s-min=1.4km az=167.0*
*CSEM **03** 01:25:44.7±0.1, 4302N×009W, h8km, ML2.2, Error ellipse: s-maj=2.4km s-min=1.1km az=167.0*
*STR **03** 01:25:44.7±0.0, 4302N×0.10W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 03 01:25:45.1±0.4, 4302N×010W, h0km, mbLg0.8/1, Error ellipse: s-maj=3.8km s-min=2.3km az=167.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.13**	**77**	Pg	Pg	01 25 47.5	-0.1
LABF				Sg	Sg	01 25 49.5	+0.1
LABF	**Labassere**	**0.13**	**77**	Pg	Pg	01 25 47.5	-0.1
LABF				Lg		01 25 49.6	
VIEF	**Viey**	**0.16**	**145**	Pg	Pg	01 25 48.1	-0.1
VIEF				Sg	Sg	01 25 50.6	+0.3
VIEF	**Viey**	**0.16**	**145**	Pg	Pg	01 25 48.2	0.0
VIEF				Lg		01 25 50.6	
EPF	**Esparros**	**0.32**	**87**	*e*Pg	Pg	01 25 50.7	-0.6
EPF				*e*Sg	Sg	01 25 55.5	0.0
	3.0nm,0.2s						
EPF	**Esparros**	**0.32**	**87**	*e*Pg	Pg	01 25 50.7	-0.6
EPF				*e*Sg	Sg	01 25 55.5	0.0
	1.5nm,0.2s						
ETSF	**Etsaut**	**0.36**	**251**	*e*Pg	Pg	01 25 51.8	-0.1
ETSF				*e*Sg	Sg	01 25 56.4	-0.1
	4.2nm,0.3s						
ETSF	**Etsaut**	**0.36**	**251**	*e*Pg	Pg	01 25 51.8	-0.1
ETSF				*e*Sg	Sg	01 25 56.4	-0.1
	2.1nm,0.3s						
EBIE	**Bielsa**	**0.38**	**151**	Pg	Pg	01 25 52.0	-0.3
	0.6nm,0.1s,SNR=7.9						
EBIE				Lg		01 25 57.0	
	1.2nm,0.1s,SNR=7.9						

*MOS **03** 01:37:07.3±2.1, 4326N×3864E, h10km, mb3.9/1, Error ellipse: s-maj=21.0km s-min=15.5km az=175.7*
*CSEM **03** 01:37:07.3, 4326N×3864E, h10km, mb3.9, After OBN*
*ISCJB **03** 01:37:08.2±1.3, 433N±0.1×3867E±004, h10km, Error ellipse: s-maj=21.0km s-min=4.5km az=4.7*
*TIF **03** 01:37:09.6, 4380N×3876E, h10km±2km*

ISC 03 01:37:09.3±1.3, 433N±02×3868E±004, h10km, n10, σ1§21/17, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOC	**Sochi**	**0.82**	**68**	*e*Pg	**Pg**	**01 37 24.4**	**-0.6**
SOC				*i* Sg	**Sg**	**01 37 35.1**	**-0.6**
ANN	**Anapa**	**1.77**	**330**	*i* PN	**Pn**	**01 37 38.6**	**-1.3**
SHAR	**Shatzhatmas**	**2.94**	**80**	*e*PN	**Pn**	**01 37 55.1**	**-0.9**
KIV	**Kislovodsk**	**2.99**	**76**	*e*PN	**Pn**	**01 37 54.7**	**-2.0**
KIV				*i* S	**Sn**	**01 38 34.5**	**+1.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KIV				smax			
	comp=Z,47nm,0.6s						
KIV	**Kislovodsk**	**2.99**	**76**	*e*Pn	**Pn**	**01 37 54.7**	**-2.0**
	comp=Z,7.0nm,0.6s						
KIV				*i* Sn	**Sn**	**01 38 34.5**	**+1.9**
	comp=Z,47nm,0.6s						
SUDU	**Sudak**	**3.10**	**303**	*e*Pn	**Pn**	**01 37 58.8**	**+0.5**
SUDU				*e*Sn	**Sn**	**01 38 34.3**	**-1.1**
KUBR	**Kubataba**	**3.48**	**80**	*i* Pn	**Pn**	**01 38 03.6**	**+0.1**
GOF	**Gofitskoye**	**3.60**	**59**	*e*PN	**Pn**	**01 38 09.3**	**+4.1**
GOF				*i* S	**Sn**	**01 38 49.4**	**+1.6**
GOF				pmax	pmax		
	comp=Z,30nm,0.6s						
GOF				smax			
	comp=N,100nm,0.7s						
GOF				smax			
	comp=E,110nm,0.7s						
GOF	**Gofitskoye**	**3.60**	**59**	*e*Pn	**Pn**	**01 38 09.3**	**+4.1**
	comp=E,30nm,0.6s						
GOF				*i* Sn	**Sn**	**01 38 49.4**	**+1.6**
SEV	**Sevastopol'**	**3.83**	**291**	*e*Pn	**Pn**	**01 38 09.8**	**+1.4**
SEV				*e*Sn	**Sn**	**01 38 54.3**	**+0.8**

*ISCJB **03** 01:40:19.8±1.1, 3248S±006×1787W±0.1, h40km±13km, mb4.3/8, MS3.5/1, Error ellipse: s-maj=21.0km s-min=8.2km az=41.0*
*IDC **03** 01:40:22.7±1.7, 32.16S×17881W, h44km±17km, mb3.9/4, mb1 4.2/6, mb1mx4.0/14, mbtmp4.2/6, ML4.3/2, MS3.3/2, Ms1 3.2/2, ms1mx3.0/11, Error ellipse: s-maj=29.7km s-min=11.0km az=112.0*
*NEIC **03** 01:40:23.0±1.5, 3220S×17871W, h51km±14km, mb4.7/5, Error ellipse: s-maj=16.3km s-min=13.3km az=120.0*

ISC 03 01:40:20.8±2.2, 3239S±005×1788W±01, h26km±18km, n41, σ1§36/38, mb4.3/8, MS3.5/1, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.21**	**13**	P	**Pn**	**01 41 09.1**	**-0.5**
	60nm,0.3s,baz=207,slow=22,SNR=3.3						
RAO				S	**Sn**	**01 41 42.6**	**-4.5**
	135nm,0.3s,baz=86,slow=22,SNR=4.4						
RAO				LR	LR	01 41 51.0	
	comp=Z,210nm,21.4s,baz=200,slow=30						
MXZ	**Matakaoa Point**	**5.69**	**204**	*e*PN	**Pn**	**01 41 44.0**	**+0.3**
PUZ	**Puketiti**	**6.17**	**202**	*e*PN	**Pn**	**01 41 50.6**	**+0.3**
PUZ				SN	**Sn**	**01 42 58.7**	**-1.3**
MWZ	**Matawai**	**6.66**	**206**	*e*PN	**Pn**	**01 41 56.9**	**-0.1**
MWZ				SN	**Sn**	**01 43 14.1**	**+2.1**
URZ	**Urewera**	**6.76**	**209**	P	**Pn**	**01 42 00.6**	**+2.3**
	3.7nm,0.3s,baz=242,slow=2.7,SNR=19						
URZ				S	**Sn**	**01 43 19.1**	**+4.7**
	14nm,0.3s,baz=117,slow=21,SNR=11						
URZ	**Urewera**	**6.76**	**209**	PN	**Pn**	**01 41 59.3**	**+1.0**
OUZ	**Omahuta**	**6.96**	**244**	PN	**Pn**	**01 42 07.8**	**+6.7**
KNZ	**Kokohu**	**7.22**	**203**	*e*PN	**Pn**	**01 42 05.5**	**+0.8**
BKZ	**Black Stump Fm**	**7.78**	**208**	PN	**Pn**	**01 42 13.4**	**+1.0**
BKZ				SN	**Sn**	**01 43 39.4**	**-0.2**
FWVZ	**Far West T-bar**	**8.26**	**212**	*e*PN	**Pn**	**01 42 20.6**	**+1.6**
WNVZ	**Wahianoa**	**8.30**	**212**	*e*PN	**Pn**	**01 42 20.6**	**+1.1**
BFZ	**Birch Farm**	**9.20**	**204**	*e*PN	**Pn**	**01 42 29.9**	**-1.8**
BFZ				SN	**Sn**	**01 44 09.7**	**-4.7**
TIWZ	**Tintock**	**9.41**	**206**	SN	**Sn**	**01 44 17.6**	**-2.0**
MRZ	**Mangatainoka R**	**9.43**	**207**	SN	**Sn**	**01 44 13.7**	**-6.3**
KIW	**Kapiti Island**	**9.86**	**209**	*e*PN	**Pn**	**01 42 38.0**	**-2.9**
TCW	**Tory Channel**	**10.42**	**210**	*e*PN	**Pn**	**01 42 45.2**	**-3.4**
NNZ	**Nelson**	**10.82**	**213**	SN	**Sn**	**01 44 49.2**	**-5.2**
KHZ	**Kahutara**	**11.72**	**209**	*e*PN	**Pn**	**01 43 03.3**	**-3.1**
KHZ				SN	**Sn**	**01 45 09.4**	**-7.0**
LTZ	**Lake Taylor**	**12.57**	**212**	*e*PN	**Pn**	**01 43 14.3**	**-3.6**
LTZ				SN	**Sn**	**01 45 27.4**	**-10**
MQZ	**McQueen's Vall**	**13.16**	**208**	SN	**Sn**	**01 45 39.8**	**-12**
TBI	**Tubuai**	**27.36**	**78**	*e*LR	LR	01 52 48.2	
	180nm,30.8s						
PPT	**Papeete**	**30.17**	**68**	*e*LR	LR	01 53 59.3	
	104nm,25.8s						
STKA	**Stephens Creek**	**33.44**	**260**	P	**P**	**01 46 58.1**	**+0.6**
	2.4nm,1.1s,mb4.0,baz=72,slow=13,SNR=2.8						
STKA				LR	LR	01 59 21.0	
	comp=Z,96nm,18.6s,MS3.5,baz=186,slow=34						
CTAO	**Charters Tower**	**33.53**	**283**	*e*P	**P**	**01 47 00.1**	**+1.8**
	3.8nm,0.7s,mb4.4						
PMG	**Port Moresby**	**38.92**	**298**	P	**P**	**01 47 43.8**	**-0.6**
	1.7nm,0.4s,mb4.1						
RKT	**Rikitea**	**39.61**	**88**	*e*LR	LR	01 58 34.8	
	146nm,31.8s						
ASAR	**Alice Springs**	**42.39**	**269**	P	**P**	**01 48 12.8**	**-0.3**
	2.6nm,0.6s,mb4.0,baz=110,slow=7.6,SNR=25						
TAOE	**Nuku Hiva Isla**	**42.71**	**65**	*e*LR	LR	01 59 45.9	
	380nm,27.1s						
PTCN	**Pitcairn Islan**	**43.00**	**93**	*e*P	**P**	**01 48 16.9**	**-1.1**
	162nm,1.0s						
WB2	**Warramunga Arr**	**43.55**	**275**	*e*P	**P**	**01 48 21.8**	**-0.6**
WRAB	**Tennant Creek**	**43.56**	**275**	*e*P	**P**	**01 48 21.9**	**-0.5**
	14nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**43.56**	**275**	P	**P**	**01 48 22.1**	**-0.4**
	7.3nm,0.5s,mb4.7,baz=114,slow=7.7,SNR=40						
VNDA	**Vanda**	**46.06**	**186**	P	**P**	**01 48 44.5**	**+2.2**
	0.3nm,0.6s,mb3.4,baz=353,slow=8.1,SNR=3.3						
QSPA	**South Pole Qui**	**57.73**	**180**	*e*P	**P**	**01 50 11.2**	**+1.8**
	6.1nm,0.5s,mb4.9						
QSPA				*e*pP	pP	01 50 16.0	-1.4
ARCES	**ARCESS Array B**	**140.38**	**347**	PKP	PKPdf	01 59 46.0	-1.5
	2.3nm,0.8s,baz=56,slow=3.1,SNR=6.0						
JOF	**Joensuu**	**144.01**	**337**	*e*p	PKPdf	01 59 44.2	-10
KAF	**Kangasniemi**	**146.18**	**339**	*e*p	PKPdf	01 59 53.3	-4.4
	2.5nm,0.6s,baz=58,slow=4.5						
FINES	**FINESS Array B**	**146.77**	**338**	PKPbc	PKPbc	01 59 57.1	-3.3
	1.6nm,0.4s,baz=56,slow=4.4,SNR=24						
NB2	**NORSAR Subarra**	**150.60**	**350**	PKPa	PKPbc	02 00 07.1	-3.3
	comp=Z,1.2nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.60**	**350**	PKPbc	PKPbc	02 00 07.5	-2.9
	comp=Z,1.5nm,0.5s,baz=15,slow=4.1,SNR=7.4						
TORD	**Torodi Ar. Bea**	**160.84**	**181**	PKPab	PKPab	02 01 01.0	+0.1
	comp=Z,0.5nm,0.6s,baz=178,slow=3.4,SNR=8.2						

BJI 03 01:40:35.3, 2558N×10187E, h12km, ML3.5, Ms3.9, Msz3.4, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**4.40**	**77**	P	Pn	01 41 45.2	+3.3
CD2	**Chengdu**	**5.56**	**17**	*e*P	Pn	01 42 00.3	+2.4
CD2				S	Sn	01 43 05.7	+3.9
CD2				SG	Sg	01 43 34.2	+0.3
CD2				Smax			
	comp=N,40nm,0.7s						
CD2				Smax			
	comp=E,40nm,1.1s						
CD2				LR	LR		
	comp=E,630nm,9.6s						
CD2				LR	LR		
	comp=Z,190nm,6.0s						
NJ2	**Nanjing**	**16.21**	**63**	*e*P	Pn	01 44 23.1	+0.2
NJ2				LR	LR		
	comp=N,520nm,14.3s						
NJ2				LR	LR		
	comp=E,540nm,13.8s						
NJ2				LR	LR		
	comp=Z,180nm,14.1s						

*ISCJB **03** 02:25:46.6±0.9, 4059N±004×2405E±006, h10km, Error ellipse: s-maj=7.0km s-min=5.4km az=139.1*
*ATH **03** 02:25:46.4, 4066N×2379E, h54km, MD2.8/3*
*CSEM **03** 02:25:47.2±0.2, 4046N×2395E, h25km, ML2.4, Error ellipse: s-maj=8.0km s-min=5.3km az=30.0*
*THE **03** 02:25:48.1, 4055N×2396E, h1km, ML2.4*

ISC 03 02:25:46.7±0.9, 4059N±004×2408E±007, h10km, n7, σ0§47/11, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.26**	**196**	*e*Pg	**Pg**	**02 25 52.4**	**+0.4**
OUR				*e*Sg	**Sg**	**02 25 55.2**	**-0.4**
PLG	**Polygyros**	**0.53**	**246**	*e*P	**Pg**	**02 25 56.9**	**-0.1**
PLG				*e*S	**Sg**	**02 26 04.3**	**+0.4**
SOH	**Sokhos**	**0.60**	**293**	*e*Pg	**Pg**	**02 25 58.2**	**-0.2**
SOH				*e*Sg	**Sg**	**02 26 06.2**	**0.0**
PAIG	**Paliouri**	**0.73**	**205**	*e*Pg	**Pg**	**02 26 00.4**	**-0.3**
NVR	**Nevrokopi**	**0.78**	**348**	*e*P	**Pg**	**02 26 00.9**	**-0.9**
KNT	**Kendrikon**	**1.06**	**303**	*e*Pg	**Pg**	**02 26 06.9**	**-0.3**
KNT				*e*Sg	**Sg**	**02 26 21.6**	**+0.6**
RDO	**Rodhopi**	**1.24**	**63**	*e*P	**Pn**	**02 26 10.9**	**+0.8**

IGQ 03 02:28:50.8, 075S×7979W, h24km±5km, Mb4.0, Ms3.8, 5C-10D, Error ellipse: s-maj=3.8km s-min=2.3km az=172.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERV	**Terraza Guagua**	**1.32**	**64**	⇓P	Pn	02 29 16.0	+2.3
TERV				S	Sn	02 29 32.9	+2.5
NAS1	**Nasa**	**1.32**	**85**	⇓P	Pn	02 29 16.5	+2.9
NAS1				S	Sn	02 29 35.5	+5.1
PINO	**Pino**	**1.32**	**64**	⇑P	Pn	02 29 15.9	+2.2
PINO				S	Sn	02 29 32.7	+2.2
GGP	**Refugio Guagua**	**1.32**	**64**	⇓P	Pn	02 29 16.1	+2.3
IGUA	**Igualata**	**1.37**	**123**	⇓P	Pn	02 29 16.6	+2.2
IGUA				S	Sn	02 29 34.5	+2.9
YANA	**Yana**	**1.37**	**63**	⇓P	Pn	02 29 16.4	+2.0
YANA				S	Sn	02 29 33.5	+1.7
VC1	**Cotopaxi 1**	**1.39**	**86**	⇓P	Pn	02 29 17.6	+2.9
VC1				S	Sn	02 29 36.0	+3.7
TAMB	**Tambo**	**1.42**	**88**	⇓P	Pn	02 29 17.9	+2.8
PISA	**Pisayambo**	**1.44**	**102**	⇑P	Pn	02 29 17.9	+2.5
ARRY	**Arrayan**	**1.53**	**119**	⇓P	Pn	02 29 18.4	+1.8
ARRY				S	Sn	02 29 38.3	+2.5
PATA	**Patacocha**	**1.55**	**119**	⇑P	Pn	02 29 18.9	+2.0
COTA	**Cotacachi**	**1.81**	**53**	⇑P	Pn	02 29 23.0	+2.6
COTA				S	Sn	02 29 44.6	+2.0
CAYR	**Refugio Cayamb**	**1.94**	**67**	⇓P	Pn	02 29 25.4	+3.2
ANGU	**Angureal**	**1.95**	**66**	⇓P	Pn	02 29 26.0	+3.6
ANGU				S	Sn	02 29 50.1	+4.0
CAYA	**Cayambe**	**1.98**	**66**	⇑P	Pn	02 29 26.4	+3.7
CAYA				S	Sn	02 29 51.5	+4.8

IDC 03 02:47:27.0±3.6, 564S×15114E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/10, mbtmp3.3/2, MS3.7/1, Ms1 3.7/1, ms1mx2.5/17, Error ellipse: s-maj=149.9km s-min=47.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**227**	P	P	02 52 19.0	-0.1
	0.6nm,0.5s,baz=54,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**24.43**	**221**	P	P	02 52 48.0	+0.8
	0.3nm,0.5s,baz=57,slow=8.9,SNR=4.5						
CBIJ	**Chichi jima**	**33.67**	**346**	LR	LR	03 04 58.4	
	comp=Z,148nm,21.4s,baz=115,slow=31						
TORD	**Torodi Ar. Bea**	**148.97**	**286**	PKPbc	PKPbc	03 07 17.5	+0.6
	1.1nm,0.7s,baz=51,slow=2.1,SNR=24						

IDC 03 02:59:45.2±3.9, 1506S×17339W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/14, mbtmp3.8/2, Error ellipse: s-maj=261.5km s-min=25.6km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.94**	**54**	Pn	Pn	03 00 18.4	-1.0
	13nm,0.3s,baz=254,slow=4.0,SNR=14						
AFI				Sn	Sn	03 00 39.7	-4.7
	37nm,0.3s,baz=5.9,slow=21,SNR=10						
WRA	**Warramunga Arr**	**49.93**	**256**	P	P	03 08 40.4	-0.2
	0.7nm,0.6s,baz=90,slow=6.6,SNR=4.9						
ASAR	**Alice Springs**	**50.22**	**252**	P	P	03 08 43.0	+0.1
	2.0nm,0.6s,baz=87,slow=8.0,SNR=24						
BRTR	**Keskin Array B**	**145.90**	**321**	PKPbc	PKPbc	03 19 28.2	+1.7
	0.7nm,0.7s,baz=90,slow=1.7,SNR=4.6						

**IDC 03 03:38:15.0±4.5, 2253S×17609W, h0km, mb4.0/3, mb1 4.2/4, mb1mx4.0/13, mbtmp4.1/4, ML2.6/1, MS3

VLS	**Valsamata**	**1.48**	**156**	*e*Pg	**Pn**	**04 09 28.6**	**-2.1**
VLS				*e*Sb	**Sb**	**04 09 51.1**	**+0.5**
EVR	**Evrytania**	**1.66**	**112**	*e*PN	**Pn**	**04 09 33.2**	**+0.1**
KZN	**Kozani**	**1.67**	**62**	*e*PN	**Pn**	**04 09 34.6**	**+1.3**
FNA	**Florina**	**1.71**	**43**	*e*Pb	**Pb**	**04 09 34.3**	**-0.9**
FNA				*e*Sb	**Sb**	**04 09 56.9**	**-0.3**
TIR	**Tirane**	**1.81**	**1**	*e*Pb	**Pn**	**04 09 35.3**	**+0.2**
BIA	**Bitola**	**1.86**	**37**	*e*Pb	**Pn**	**04 09 36.7**	**+0.7**
BIA				*e*Sb	**Sb**	**04 10 00.9**	**-0.6**
BIA	**Bitola**	**1.86**	**37**	*e*Pn	**Pn**	**04 09 36.8**	**+0.8**
BIA				*e*Sn	**Sg**	**04 10 03.0**	**-0.1**
BIA	**Bitola**	**1.86**	**37**	*e*Pn	**Pn**	**04 09 36.8**	**+0.8**
BIA				*e*Sn	**Sg**	**04 10 02.9**	**-0.1**
AGG	**Agios Georgios**	**2.00**	**104**	*e*Pb	**Pn**	**04 09 38.3**	**+0.4**
LIT	**Litokhoron**	**2.12**	**74**	*e*Pn	**Pn**	**04 09 39.5**	**+0.1**
LIT				*e*Sn	**Sn**	**04 10 06.9**	**+0.5**
LIT	**Litokhoron**	**2.12**	**74**	*e*Pn	**Pn**	**04 09 39.5**	**0.0**
LIT				*e*Sn	**Sn**	**04 10 06.9**	**+0.6**
GRG	**Griva**	**2.42**	**53**	*e*Pn	**Pn**	**04 09 43.5**	**-0.1**
XOR	**Xorichti**	**2.60**	**93**	*e*Pn	**Pn**	**04 09 46.9**	**+0.8**
VAY	**Valandovo**	**2.74**	**49**	*e*Pn	**Pn**	**04 09 47.4**	**-0.6**
SG1	**Sgolgore (BA)**	**2.74**	**299**	*e*Pn	**Pn**	**04 09 48.8**	**+0.7**
KNT	**Kendrikon**	**2.85**	**54**	*e*Pn	**Pn**	**04 09 49.3**	**-0.1**
PLG	**Polygyros**	**2.90**	**72**	*e*PN	**Pn**	**04 09 52.1**	**+1.9**
SOH	**Sokhos**	**2.98**	**63**	*e*Pn	**Pn**	**04 09 51.0**	**-0.3**
SOH				*e*Sn	**Sn**	**04 10 28.5**	**+0.8**
PAIG	**Paliouri**	**2.99**	**81**	*e*Pn	**Pn**	**04 09 50.8**	**-0.6**
OUR	**Ouranopolis**	**3.29**	**75**	*e*Pn	**Pn**	**04 09 55.1**	**-0.4**
DIVS	**Divcibare**	**4.55**	**1**	*i* Pn	**Pn**	**04 10 12.8**	**-0.1**
DIVS				Sn	**Sn**	**04 11 04.8**	**-1.7**

IDC 03 04:11:30.6±26.0, 2056S×17417W, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.1/15, mbtmp4.4/4, Error ellipse: s-maj=489.9km s-min=140.5km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.06**	**264**	*e*P	P	04 18 43.8	+1.5
	3.5nm,0.4s						
CTA	**Charters Tower**	**37.06**	**264**	P	P	04 18 43.9	+1.6
	4.3nm,0.4s,baz=77,slow=9.4,SNR=10.0						
STKA	**Stephens Creek**	**41.01**	**245**	*e*P	P	04 19 13.8	-1.6
	1.4nm,0.4s						
STKA	**Stephens Creek**	**41.01**	**245**	P	P	04 19 14.7	-0.7
	2.3nm,0.5s,baz=96,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**48.00**	**256**	P	P	04 20 11.6	+0.3
	3.4nm,0.6s,baz=98,slow=8.1,SNR=46						
WB2	**Warramunga Arr**	**48.14**	**261**	*e*P	P	04 20 12.4	+0.1
WRA	**Warramunga Arr**	**48.15**	**261**	P	P	04 20 12.6	+0.1
	1.6nm,0.3s,baz=96,slow=7.9,SNR=43						
FITZ	**Fitzroy Crossi**	**56.58**	**261**	*e*P	P	04 21 16.5	+1.5
	4.6nm,0.7s						

*CSEM **03** 04:22:52.5±0.7, 3890N×2913W, h0km±9km, ML2.3, Error ellipse: s-maj=18.1km s-min=4.2km az=76.0, After PDA*
*PDA **03** 04:22:52.5±0.7, 3890N×2913W, h0km±9km, MD3.2, ML2.3, Error ellipse: s-maj=18.1km s-min=4.2km az=76.0*
SVSA 03 04:22:52.5±0.7, 3890N×2913W, h0km±9km, MD3.2, ML2.3, Error ellipse: s-maj=18.1km s-min=4.2km az=76.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.41**	**140**	*e*P	Pg	04 23 00.9	+0.5
PTCA				*e*S	Sg	04 23 06.8	+1.1
PTCA							
	40nm,0.1s						
PTCA	**Ponta do Capel**	**0.41**	**140**	*e*P	Pg	04 23 00.9	+0.5
PTCA				*e*S	Sg	04 23 06.8	+1.1
PCED	**Cedros**	**0.43**	**129**	*e*P	Pg	04 23 00.6	-0.2
PCED				*e*S	Sg	04 23 06.6	+0.2
PCED							
	96nm,0.3s						
PCED	**Cedros**	**0.43**	**129**	*e*P	Pg	04 23 00.6	-0.2
PCED				*e*S	Sg	04 23 06.6	+0.2
CALA	**Caldeira**	**0.46**	**134**	*e*S	Sg	04 23 07.4	0.0
HOR	**Horta**	**0.54**	**134**	*e*S	Sg	04 23 09.3	-0.6
PICO	**Pico**	**0.68**	**126**	*e*P	Pg	04 23 04.7	-0.9
PICO				*e*S	Sg	04 23 13.7	-0.7
ROSA	**Rosais**	**0.72**	**104**	*e*P	Pg	04 23 05.0	-1.3
ROSA				*e*S	Sg	04 23 14.0	-1.6
PTEI	**Pico do Teixo**	**0.73**	**124**	*e*P	Pg	04 23 05.7	-0.8
PTEI				*e*S	Sg	04 23 15.4	-0.6
PTEI							
	56nm,0.3s						
PBOI	**Pico dos Bois**	**0.75**	**128**	*e*S	Sg	04 23 16.0	-0.7
PBOI							
	50nm,0.2s						
PID	**Ribeirinha**	**0.92**	**120**	*e*S	Sg	04 23 19.1	-2.8

WEL 03 04:24:44.6±0.5, 3774S×17942E, h33km, ML3.6/16, 1D, Error ellipse: s-maj=4.9km s-min=3.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.91**	**281**	PN	Pn	04 25 00.5	-0.5
MXZ				SN	Sn	04 25 12.1	-0.8
PUZ	**Puketiti**	**0.98**	**250**	⇓PN	Pn	04 25 01.6	-0.5
PUZ				SN	Sn	04 25 13.6	-1.1
MWZ	**Matawai**	**1.61**	**248**	PN	Pn	04 25 09.9	-0.8
WIZ	**White Island**	**1.79**	**276**	*e*PN	Pn	04 25 14.0	+0.8
KNZ	**Kokohu**	**1.88**	**227**	PN	Pn	04 25 13.6	-0.7
URZ	**Urewera**	**1.90**	**253**	PN	Pn	04 25 14.5	-0.1
URZ				SN	Sn	04 25 37.3	-0.1
TAZ	**Tarawera**	**2.36**	**257**	*e*PN	Pn	04 25 20.1	-0.8
BKZ	**Black Stump Fm**	**2.71**	**237**	PN	Pn	04 25 25.4	-0.4
NGZ	**Ngauruhoe**	**3.33**	**243**	*e*PN	Pn	04 25 33.7	-0.6
WNVZ	**Wahianoa**	**3.39**	**241**	*e*PN	Pn	04 25 34.1	-1.1
BFZ	**Birch Farm**	**3.83**	**219**	PN	Pn	04 25 38.8	-2.5
MRZ	**Mangatainoka R**	**4.17**	**224**	*e*PN	Pn	04 25 42.2	-3.8
MRZ				SN	Sn	04 26 28.3	-5.3
CAW	**Cannon Point**	**4.76**	**224**	*e*PN	Pn	04 25 50.2	-3.9
CAW				SN	Sn	04 26 42.8	-5.2
PAWZ	**Paruwai Farm**	**4.77**	**219**	*e*PN	Pn	04 25 50.4	-3.7
THZ	**Tophouse**	**6.43**	**229**	*e*PN	Pn	04 26 13.0	-3.9
MQZ	**McQueen's Vall**	**7.87**	**219**	SN	Sn	04 27 53.5	-11

*NEIC **03** 04:58:18.0, 5832N×13351W, h1km, ML2.8(AEIC), ML3.3(PGC), After PGC.*
PGC 03 04:58:18.2, 5832N×13351W, h1km, ML3.3/5, 53km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	**Bessie Mountai**	**0.75**	**291**	P	Pg	04 58 31.4	-1.3
SKAG	**Skagway**	**1.48**	**321**	*e*Pn	Pn	04 58 44.1	-1.9
SKAG				*e*Sn	Sn	04 59 02.3	-3.7
SIT	**Sitka**	**1.60**	**218**	P	Pn	04 58 46.1	-1.5
SIT				S	Sn	04 59 05.1	-3.8
DLBC	**Dease Lake**	**1.84**	**85**	Pn	Pn	04 58 49.6	-1.3
DLBC				Pg	Pg	04 58 51.1	-2.3
DLBC				Sn	Sn	04 59 14.8	0.0
DLBC				Sg	Sg	04 59 16.0	-1.3
DLBC				Trac		04 59 21.5	
	comp=Z,133nm,0.6s						
DLBC	**Dease Lake**	**1.84**	**85**	*e*Pn	Pn	04 58 49.4	-1.5
DLBC				*e*Sn	Sn	04 59 16.5	+1.7
PLBC	**Pleasant Camp**	**1.87**	**309**	Pn	Pn	04 58 51.2	-0.1
PLBC				Sg	Sg	04 59 16.9	-1.4
WHY	**Whitehorse**	**2.45**	**344**	Pn	Pn	04 58 58.0	-1.3
WHY				Pg	Pg	04 59 02.6	-2.6
WHY				Sg	Sg	04 59 30.9	-6.0
WHY				Trac		04 59 42.6	
	comp=Z,80nm,0.7s						
WHY	**Whitehorse**	**2.45**	**344**	P	Pn	04 58 59.4	+0.1
WHY				S	Sn	04 59 30.3	+0.5
CRAG	**Craig**	**2.87**	**176**	*e*Pn	Pn	04 59 02.8	-2.3
HYT	**Haines Junctio**	**3.23**	**323**	Pn	Pn	04 59 10.1	0.0
HYT				Pg	Pg	04 59 16.2	-4.0
HYT				Sg	Sg	04 59 58.2	-3.8
HYT				Trac		05 00 03.9	
	comp=Z,45nm,0.7s						
PNL	**Peninsula**	**3.33**	**296**	P	Pn	04 59 08.5	-3.0
PNL				S	Sn	04 59 44.6	-7.0
NDB	**Naden**	**4.39**	**176**	Sg	Sg	05 00 39.1	-0.1
NDB				Trac		05 00 44.8	
	comp=Z,20nm,0.8s						
RUBB	**Prince Rupert**	**4.39**	**154**	Trac		05 00 42.4	
	comp=Z,70nm,0.8s						
RUBB	**Prince Rupert**	**4.39**	**154**	Sg	Sg	05 00 34.5	-4.9
DAWY	**Dawson**	**6.43**	**336**	Trac		05 01 42.0	
	comp=Z,28nm,0.8s						
DAWY	**Dawson**	**6.43**	**336**	Sg	Sg	05 01 38.1	-6.5
DAWY	**Dawson**	**6.43**	**336**	*e*Pn	Pn	04 59 54.0	+0.1
DAWY				*e*Pg	Pg	05 00 16.1	-5.2
INK	**Inuvik**	**10.03**	**360**	Pn	Pn	05 00 41.9	-1.4
INK				Sg	Sn	05 03 31.1	+55
INK				Trac		05 03 59.2	
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**10.03**	**360**	*e*Pn	Pn	05 00 41.9	-1.5
	4.3nm,1.0s						

NEIC 03 05:32:45.1, 5108N×17831E, h15km, ML2.7(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.69**	**64**	P	Pg	05 32 56.6	-2.0
AMKA				S	Sg	05 33 07.3	-0.5
SMY	**Shemya**	**3.08**	**304**	*e*Pn	Pn	05 33 33.5	+0.3
ATKA	**Atka Island**	**4.80**	**74**	P	Pn	05 33 54.7	-2.1
SLKM	**Skilak Lake**	**19.86**	**50**	*e*P	Pn	05 37 13.3	-3.8
EYAK	**Cordova Ski Ar**	**22.04**	**51**	*e*P	P	05 37 39.9	+0.8
DAWY	**Dawson**	**25.57**	**43**	*e*P	P	05 38 12.4	-1.0

*ISCJB **03** 05:58:49.9±0.9, 325N±0.1×1392E±0.1, h216km±13km, mb3.2/2, Error ellipse: s-maj=20.2km s-min=16.8km az=66.0*
*IDC **03** 05:58:49.5±1.9, 3250N×13879E, h188km±49km, mb3.1/2, mb1 3.4/3, mb1mx3.0/19, mbtmp3.7/3, Error ellipse: s-maj=127.6km s-min=15.7km az=66.0*
*JMA **03** 05:58:50.5±0.5, 3309N×13849E, h338km, M3.2*
ISC 03 05:58:51.2±1.0, 325N±01×1392E±01, h210km±15km, n16, σ1§39/21, mb3.2/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.80**	**42**	P	**Pn**	**05 59 19.7**	**-1.1**
	9.7nm,0.3s,baz=235,slow=22,SNR=5.1						
JHJ				S	**S**	**05 59 40.7**	**-3.1**
	21nm,0.3s,baz=54,slow=22,SNR=3.6						
JIM2	**Oshima 3**	**2.20**	**6**	S	**S**	**06 00 17.1**	**+12**
BSO1	**Boso 1**	**2.62**	**35**	S	**S**	**06 00 28.1**	**+15**
JOD2	**Odawara 2**	**2.73**	**359**	P	**Pn**	**05 59 43.0**	**+4.7**
JOD2				S	**S**	**06 00 22.2**	**+7.1**
JIE	**Ise**	**2.76**	**313**	P	**Pn**	**05 59 40.7**	**+2.1**
JYN	**Shimob**	**3.01**	**351**	P	**Pn**	**05 59 44.6**	**+3.2**
JWZ	**Kozaga**	**3.05**	**290**	P	**Pn**	**05 59 42.9**	**+0.9**
JWY	**Kouya**	**3.42**	**301**	P	**Pn**	**05 59 46.6**	**+0.3**
JRY	**Ryogami san**	**3.49**	**357**	P	**Pn**	**05 59 49.1**	**+2.0**
JRY				S	**S**	**06 00 30.6**	**-0.4**
JAG	**Ashikaga**	**3.90**	**4**	P	**Pn**	**05 59 52.2**	**+0.1**
JAG				*e*S	**S**	**06 00 36.0**	**-4.0**
MJAR	**Matsushiro Arr**	**4.08**	**349**	P	**Pn**	**05 59 53.2**	**-1.1**
	4.9nm,0.3s,baz=172,slow=11,SNR=44						
MJAR				S	**S**	**06 00 39.0**	**-5.0**
	baz=159,slow=13,SNR=1.7						
MAT	**Matsushiro**	**4.08**	**349**	P	**Pn**	**05 59 53.3**	**-1.0**
JAI	**Aioi**	**4.14**	**289**	P	**Pn**	**05 59 53.7**	**-1.3**
JWT	**Wachi**	**4.16**	**312**	P	**Pn**	**05 59 52.7**	**-2.5**
WRA	**Warramunga Arr**	**52.37**	**186**	P	**P**	**06 07 41.4**	**-0.3**
	0.6nm,0.3s,mb3.5,baz=360,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**56.10**	**186**	P	**P**	**06 08 08.9**	**+0.4**
	0.3nm,0.6s,mb3.0,baz=11,slow=12,SNR=4.2						

IDC 03 06:40:17.6±3.6, 600S×14895E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.7/13, mbtmp3.9/4, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/22, Error ellipse: s-maj=99.0km s-min=41.5km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.82**	**207**	Pn	Pn	06 41 18.7	+0.9
	16nm,0.3s,baz=25,slow=5.2,SNR=30						
PMG				Sn	Sn	06 42 00.9	-2.5
	9.7nm,0.3s,baz=22,slow=20,SNR=11						
CTA	**Charters Tower**	**14.25**	**190**	LR	LR	06 48 09.3	
	comp=Z,43nm,20.6s,baz=19,slow=33						
WB2	**Warramunga Arr**	**19.84**	**224**	*e*P	Pn	06 44 50.2	-1.2
WRA	**Warramunga Arr**	**19.84**	**224**	P	Pn	06 44 49.8	-1.7
	0.5nm,0.3s,baz=50,slow=11,SNR=18						
ASAR	**Alice Springs**	**22.77**	**218**	P	P	06 45 21.3	-0.2
	0.8nm,0.4s,baz=55,slow=9.4,SNR=16						
FITZ	**Fitzroy Crossi**	**25.73**	**240**	*e*P	P	06 45 50.8	+1.1
	4.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.73**	**240**	P	P	06 45 50.3	+0.6
	1.5nm,0.3s,baz=58,slow=11,SNR=12						
TORD	**Torodi Ar. Bea**	**146.96**	**285**	PKPbc	PKPbc	07 00 02.6	+0.5
	0.2nm,0.3s,baz=72,slow=3.1,SNR=6.5						

IDC 03 07:04:04.9±9.0, 5279N×17493W, h136km±82km, mb3.4/6, mb1 3.7/7, mb1mx3.4/23, mbtmp4.0/7, Error ellipse: s-maj=44.9km s-min=30.9km az=127.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**13.65**	**60**	P	Pn	07 07 12.8	0.0
	3.6nm,0.3s,baz=251,slow=5.4,SNR=35						
KDAK				S	Sn	07 09 42.2	-1.5
	1.2nm,0.3s,baz=47,slow=22,SNR=9.0						
INK	**Inuvik**	**24.93**	**36**	P	P	07 09 15.5	+0.2
	0.4nm,0.3s,baz=199,slow=5.7,SNR=4.0						
YKA	**Yellowknife Ar**	**32.52**	**49**	P	P	07 10 22.5	-0.2
	0.3nm,0.6s,baz=269,slow=7.5,SNR=3.2						
PDAR	**Pinedale Array**	**43.63**	**76**	P	P	07 11 55.3	-0.4
	0.7nm,0.4s,baz=314,slow=3.4,SNR=8.1						
AKASG	**Malin Array Be**	**74.89**	**344**	P	P	07 15 29.7	-0.9
	0.7nm,0.4s,baz=17,slow=5.9,SNR=4.7						
WRA	**Warramunga Arr**	**84.70**	**227**	P	P	07 16 23.0	-0.4
	0.3nm,0.5s,baz=32,slow=5.8,SNR=5.0						
ASAR	**Alice Springs**	**88.16**	**226**	P	P	07 16 40.5	+0.2
	1.1nm,0.7s,baz=24,slow=5.4,SNR=11						

*TEH **03** 07:15:25.6, 2693N×5572E, h18km, ML5.2*
*BJI **03** 07:15:28.4, 2679N×5502E, h12km, mB5.3, mb5.3, Ms5.0, Msz4.8*
*ISCJB **03** 07:15:34.1±0.1, 2678N±002×5588E±001, h13km, mb5.3/278, MS4.6/74, Error ellipse: s-maj=2.6km s-min=1.7km az=38.1*
*MOS **03** 07:15:34.5±1.1, 2683N×5583E, h15km, mb5.5/119, MS4.6/36, Error ellipse: s-maj=5.3km s-min=2.8km az=125.0*
*NEIC **03** 07:15:35.6±0.1, 2676N×5584E, mb5.4/182, ML5.1(THR), Error ellipse: s-maj=4.2km s-min=2.6km az=25.0*
NEIC Two people killed and four injured on Qeshm. Some buildings damaged at Ramkan. Felt at Khamir.
*HRVD **03** 07:15:35.6±0.2, 2672N×5583E, h12km, MW5.2/81, Centroid moment Tensor Solution. LP body waves: s52,c72;Mantle waves: s81,c151; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.92±.11; $M_{\theta\theta}$-6.56±.11; $M_{\phi\phi}$0.63±.12; $M_{r\theta}$-0.57±.34; $M_{\theta\phi}$0.69±.10; $M_{\phi r}$-1.55±.34; Best double couple: $M_0$6.51100×10^{16} NP1:ϕ_s260.00000°, δ49.00000°, λ69.00000°. Principal axes: T 6.3820, Plg74.0000°, Azm102.0000°; N 0.2560, Plg16.0000°, Azm274.0000°; P -6.6390, Plg2.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **03** 07:15:36.1, 2680N×5584E, h25km, mb5.5*
*CRAAG **03** 07:15:36.0, 2682N×5585E, Mb5.4*
*THR **03** 07:15:36.6±0.7, 2691N×5591E, h14km±8km, ML5.1*
*IDC **03** 07:15:36.0±1.6, 2684N×5597E, h14km±10km, mb5.1/30, mb1 5.1/35, mb1mx5.1/36, mbtmp5.1/35, ML4.1/5, MS4.5/22, Ms1 4.5/22, ms1mx4.3/29, Error ellipse: s-maj=9.5km s-min=8.2km az=16.0*
*OMAN **03** 07:15:40.4±4.9, 2655N×5558E, h30km, Error ellipse: s-maj=5.0km s-min=3.0km az=335.0*
*BGS **03** 07:15:50.0±1.3, 2819N×5436E, h12km, mb5.2*
*SZGRF **03** 07:15:53.1, 2759N×5398E, h33km, mb4.7, MS4.4,*

Southern Iran
ISC 03 07:15:36.1±0.1, 2678N±002×5588E±001, h13km, h13km±.6km: pP-P, n990, σ1§13/1025, mb5.3/278, MS4.6/74, 56C-47D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.66**	**23**	*e*Pg	**Pg**	**07 15 47.1**	**-1.9**
BNDS				*e*Sg	**Sg**	**07 15 55.1**	**-2.7**
BNDS				AML	AML	07 16 05.9	
	comp=N,83μm,0.4s						
BNDS				AML	AML	07 16 07.2	
	comp=E,85μm,0.5s						
BNDS	**Bandar-Abbas**	**0.66**	**23**	*e*Pg	**Pg**	**07 15 46.0**	**-3.0**
BNDS				*e*Sg	**Sg**	**07 15 53.0**	**-4.8**
BANOM	**Banah**	**0.94**	**156**	⇑P	**Pb**	**07 15 55.3**	**+1.2**
	SNR=3551						
BANOM				⇑S	**Sg**	**07 16 09.5**	**+3.1**
ASHO	**Ashiyiah**	**2.10**	**176**	⇑P	**Pn**	**07 16 12.7**	**+1.9**
	SNR=807						
GHIR	**Ghir-Karzin**	**2.98**	**301**	*e*Pn	**Pn**	**07 16 25.1**	**+2.2**
GHIR				AML	AML	07 17 33.7	
	comp=E,5μm,0.6s						
GHIR	**Ghir-Karzin**	**2.98**	**301**	*e*Pn	**Pn**	**07 16 25.0**	**+2.1**
KRBR	**Kerman**	**3.28**	**13**	*e*Pn	**Pn**	**07 16 28.6**	**+1.5**
KRBR				AML	AML	07 17 29.4	
	comp=E,7μm,0.6s						
KRBR				AML	AML	07 17 35.9	
	comp=N,5μm,0.6s						
KRBR	**Kerman**	**3.28**	**13**	*e*Pn	**Pn**	**07 16 28.0**	**+0.9**
HOQ	**Hoqain**	**3.44**	**158**	⇑P	**Pn**	**07 16 29.2**	**-0.1**
	SNR=66						
ARQ	**Araqi**	**3.48**	**170**	⇓P	**Pn**	**07 16 31.8**	**+2.0**
	SNR=62						
ISRV	**Sarvestan**	**3.56**	**317**	*e*Pn	**Pn**	**07 16 32.5**	**+1.5**
ISRV	**Sarvestan**	**3.56**	**317**	Pn	**Pn**	**07 16 32.4**	**+1.4**
IMOK	**Mook**	**3.60**	**310**	*e*Pn	**Pn**	**07 16 32.8**	**+1.3**
IMOK	**Mook**	**3.60**	**310**	Pn	**Pn**	**07 16 32.7**	**+1.2**
BIDO	**Bidbid**	**3.83**	**147**	⇑P	**Pn**	**07 16 35.1**	**+0.4**
	SNR=45						
IPAR	**Pars**	**3.94**	**321**	*e*Pn	**Pn**	**07 16 37.1**	**+0.9**
SHI	**Shiraz**	**4.12**	**315**	*e*Pn	**Pn**	**07 16 40.0**	**+1.4**
BSY	**Bisya**	**4.20**	**163**	⇑P	**Pn**	**07 16 41.4**	**+1.6**
	SNR=19						
SMDO	**Samad**	**4.20**	**152**	⇓P	**Pn**	**07 16 40.0**	**+0.3**
	SNR=106						
WSAR	**Wadi Sarin**	**4.32**	**144**	Pn	**Pn**	**07 16 42.2**	**+0.7**
	comp=N,42nm,0.3s,baz=322,slow=12,SNR=210						
WSAR				Sn	**Sn**	**07 17 31.4**	**-0.2**
	comp=N,38nm,0.3s,baz=239,slow=21,SNR=1.9						
WSAR				LR	LR	07 18 31.9	
	comp=N,5μm,18.6s,baz=29,slow=41						
WSAR	**Wadi Sarin**	**4.32**	**144**	Pn	**Pn**	**07 16 42.2**	**+0.7**
WSAR				Sn	**Sn**	**07 17 31.4**	**-0.2**
WSAR				LR	LR	07 18 31.9	
IMEH	**Mehriz**	**4.72**	**347**	*e*Pn	**Pn**	**07 16 48.5**	**+1.5**
IMEH	**Mehriz**	**4.72**	**347**	Pn	**Pn**	**07 16 48.4**	**+1.4**
IBAF	**Bafgh**	**4.80**	**357**	*e*Pn	**Pn**	**07 16 49.3**	**+1.3**
JMDO	**Jabal Madar**	**4.84**	**155**	P	**Pn**	**07 16 50.1**	**+1.5**
	SNR=64						
WBK	**Wadi Bani Khal**	**5.01**	**145**	⇑P	**Pn**	**07 16 51.4**	**+0.4**
	SNR=61						
ZHSF	**Zahedan**	**5.15**	**56**	*e*Pn	**Pn**	**07 16 54.2**	**+1.4**
ZHSF				*e*Pg	**Pg**	**07 17 07.2**	**-7.7**
ZHSF	**Zahedan**	**5.15**	**56**	*e*Pn	**Pn**	**07 16 54.0**	**+1.1**
ISAD	**Sadrabad**	**5.46**	**340**	*e*Sn	**Sn**	**07 17 55.9**	**-3.8**
ICHK	**Chekchek**	**5.59**	**347**	*e*Pn	**Pn**	**07 17 00.2**	**+1.3**
IGAR	**Garneh**	**6.32**	**330**	*e*Pn	**Pn**	**07 17 13.1**	**+4.2**
NASN	**Na'in**	**6.56**	**337**	*e*Pn	**Pn**	**07 17 13.4**	**+1.1**
NASN	**Na'in**	**6.56**	**337**	*e*P	**Pn**	**07 17 13.0**	**+0.8**
IZEF	**Zefreh**	**6.83**	**334**	*e*Pn	**Pn**	**07 17 14.8**	**-1.1**
IPIR	**Pirpir**	**7.31**	**325**	*e*Pn	**Pn**	**07 17 23.0**	**+0.6**
QRN	**Al-Qurain**	**7.32**	**287**	*e*P	**Pn**	**07 17 23.7**	**+1.0**
IKLH	**Kalahroud**	**7.50**	**331**	*e*Pn	**Pn**	**07 17 24.6**	**-0.6**
KBD	**Kabd**	**7.62**	**290**	*e*P	**Pn**	**07 17 27.6**	**+0.8**
RDF	**Al-Radifah**	**7.68**	**288**	*e*P	**Pn**	**07 17 28.1**	**+0.5**
UMR	**Umm Al-Rimmam**	**7.72**	**293**	*e*P	**Pn**	**07 17 28.6**	**+0.5**
UMR				AML	AML	07 18 57.0	
	comp=Z,240nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.72**	**293**	*e*P	**Pn**	**07 17 28.5**	**+0.4**
NAY	**Al-Naaiem**	**8.02**	**290**	*e*P	**Pn**	**07 17 32.8**	**+0.5**
NAY				AML	AML	07 19 00.8	
	comp=Z,108nm,0.7s						
MIB	**Mutribah**	**8.11**	**294**	*e*P	**Pn**	**07 17 34.4**	**+0.9**
MIB				AML	AML	07 19 03.6	
	comp=Z,357nm,0.4s						
SHGR	**Shooshtar-Gavs**	**8.14**	**312**	*e*Pn	**Pn**	**07 17 35.1**	**+1.3**
SHAO	**Shalim**	**8.72**	**182**	⇓P	**Pn**	**07 17 43.8**	**+1.9**
	SNR=18						
ILAS	**Lasjerd**	**8.93**	**344**	*e*Pn	**Pn**	**07 17 45.5**	**+0.8**
ILAS	**Lasjerd**	**8.93**	**344**	Pn	**Pn**	**07 17 45.4**	**+0.7**
IVRN	**Varamin**	**8.93**	**337**	*e*Pn	**Pn**	**07 17 44.9**	**+0.2**
IVRN	**Varamin**	**8.93**	**337**	Pn	**Pn**	**07 17 44.8**	**+0.1**
WHFO	**Wadi Hawf**	**9.04**	**193**	P	**Pn**	**07 17 46.2**	**0.0**
	SNR=42						
WHFO				⇓S	**Sn**	**07 19 20.3**	**-7.4**
IFIR	**Firoozkooh**	**9.23**	**344**	*e*Pn	**Pn**	**07 17 50.0**	**+1.2**
ASAO	**Ashtian**	**9.23**	**328**	*e*Pn	**Pn**	**07 17 50.0**	**+1.1**
ISHM	**Shahmirzad**	**9.26**	**347**	*e*

LBOS *i* S **Sn** **07 22 11.4 -13**
CHCP Chirah Chowk 16.50 61 P **Pn** **07 19 27.2 0.0**
CHCP S **Sn** **07 22 15.0 -15**
MARD Mardin 16.54 313 *i* P **Pn** **07 19 23.6 -4.1**
BEST Besiri 16.57 316 *i* P **Pn** **07 19 23.4 -4.6**
AJM Ajmer 16.78 87 *eP* **Pn** **07 19 30.5 -0.2**
AJM AMb AMB 07 19 36.6
comp=Z,141nm,1.4s
AJM *ex* x 07 22 31.4
DGRG David-gareji 17.00 332 P **Pn** **07 19 36.2 +2.7**
ZALF Zalf 17.21 295⇑ *iP* **Pn** **07 19 36.2 +0.1**
BNGL BINGOL 17.30 318 *i* P **Pn** **07 19 37.1 -0.2**
JHLN Al Jahlan 17.33 305⇑ *iP* **Pn** **07 19 39.3 +1.7**
KZR Kazreti 17.36 330 P **Pn** **07 19 39.2 +1.2**
ASF Jabal al Asfar 17.38 292 P **Pn** **07 19 38.2 0.0**
comp=Z,2.1nm,0.3s,baz=338,slow=4.3,SNR=18
ASF S **Sn** **07 22 50.0 -1.4**
comp=Z,0.7nm,0.3s,baz=197,slow=18,SNR=3.2
TRBA At Turbah 17.42 222 *eP* **Pn** **07 19 35.4 -3.4**
MTA Mtatsminda 17.45 331 P **Pn** **07 19 41.1 +2.1**
BOM Bombay 17.45 113 *eP* **Pn** **07 19 39.4 +0.2**
BOM AMb AMB 07 19 44.5
comp=Z,310nm,0.9s
TBLG Delisi 17.50 331 P **Pn** **07 19 40.5 +0.7**
TBLG Delisi 17.50 331 P **Pn** **07 19 42.8 +3.1**
MAK Makhachkala 17.52 339 *d iP* **Pn** **07 19 44.6 +4.6**
MAK *i* S **Sn** **07 22 56.6 +1.6**
MAK pmax pmax
comp=Z,1μm,1.4s
MAK MLR MLR
comp=Z,1μm,10.0s
SALA Sala 17.64 294⇑ *iP* **Pn** **07 19 44.0 +2.5**
AKH Akhalkalaki 17.81 328 P **Pn** **07 19 45.7 +2.2**
ERZM Erzurum 17.81 321 *i* P **Pn** **07 19 44.1 +0.6**
EZM Erzurum 17.81 321 PN **Pn** **07 19 46.1 +2.5**
URFA Urfa 17.91 311 PN **Pn** **07 19 42.9 -1.9**
SLMH Al Salmeh 17.94 306⇑ *iP* **Pn** **07 19 46.7 +1.5**
GOR Gori 17.98 330 P **Pn** **07 19 48.8 +3.2**
PONG Pong 18.23 69 *eP* **Pn** **07 19 49.0 +0.3**
QASN Qassioun 18.23 296⇑ *iP* **Pn** **07 19 50.2 +1.5**
ATAB Bozova 18.29 310 *i* P **Pn** **07 19 51.4 +2.0**
ELZG Elazig 18.38 314 *i* P **Pn** **07 19 50.6 0.0**
ARTV Artvin 18.41 325 *i* P **Pn** **07 19 52.0 +1.1**
BRBR Barbar 18.46 296⇑ *iP* **Pn** **07 19 53.0 +1.5**
POO Poona 18.49 113⇑ *iP* **Pn** **07 19 51.0 -0.9**
comp=Z,70nm,1.0s
POO *ex* x 07 20 29.9
BHK Bhakra 18.52 71 *ex* x 07 19 36.6
MALT Malatya 18.64 312 *eP* **Pn** **07 19 54.2 +0.5**
MALT pmax pmax
comp=Z,118nm,1.0s
MALT Malatya 18.64 312 *eP* **Pn** **07 19 54.1 +0.4**
comp=Z,118nm,1.0s
MALT Malatya 18.64 312 *eP* **Pn** **07 19 54.2 +0.5**
comp=Z,118nm,1.0s
MYA Malataya 18.65 312 PN **Pn** **07 19 54.9 +1.1**
BIDA Albida 18.66 301⇑ *iP* **Pn** **07 19 54.2 +0.2**
EIL Elat 18.67 284 *eP* **Pn** **07 19 54.4 +0.4**
EIL Elat 18.67 284 *eP* **Pn** **07 19 54.4 +0.3**
ZEI Tsey 18.71 332 *eP* **Pn** **07 20 00.2 +5.6**
ZEI *eS* **Sn** **07 23 26.3 +2.7**
GZT Gaziantep 18.73 309 *i* P **Pn** **07 19 54.2 -0.6**
BCA Borcka 18.76 325 PN **Pn** **07 19 56.4 +1.2**
WRDH Warideh 18.77 302⇑ *iP* **Pn** **07 19 54.7 -0.7**
MMAI Mount Meron Ar 18.80 294 P **Pn** **07 19 55.7 +0.1**
comp=Z,3.8nm,0.3s,baz=98,slow=12,SNR=58
MMAI S **Sn** **07 23 29.2 +3.4**
comp=Z,1.4nm,0.3s,baz=107,slow=29,SNR=3.4
BHL Bhannes 18.83 297 *eP*n **Pn** **07 19 56.1 0.0**
GAZ Gaziantep 18.89 308 P **Pn** **07 19 56.9 +0.1**
BTCH Batrach 18.95 304⇑ *iP* **Pn** **07 19 59.0 +1.6**
NDI New Delhi 18.98 79 *eP* **Pn** **07 19 55.5 -2.3**
NDI *eS* **Sn** **07 23 29.8 -0.3**
SDNR Sundarnagar 19.00 71 *eP* **Pn** **07 19 58.0 -0.1**
DRWC Darouich 19.04 306⇑ *iP* **Pn** **07 19 58.1 -0.4**
SMLA Simla 19.11 72 *eP* **Pn** **07 20 00.3 +0.9**
SMLA *i* P 07 20 01.1
comp=Z,226nm,0.7s
SMLA AMb AMB 07 20 05.6
comp=Z,268nm,0.8s
SMLA *i* x x 07 23 17.0
HTY Hatay 19.22 304 P **Pn** **07 20 01.8 +1.1**
COBT Iskenderun 19.29 305 *i* P **Pn** **07 20 02.2 +0.6**
KAD Karad 19.39 115⇓ *iP* **Pn** **07 20 03.4 +0.6**
ATD Arta Tunnel 19.52 221 P **Pn** **07 20 04.1 -0.2**
comp=Z,1.6nm,0.3s,baz=37,slow=6.3,SNR=19
ATD S **Sn** **07 23 49.6 +6.5**
baz=270,slow=23,SNR=1.2
ATD LR LR 07 28 06.9
comp=Z,2μm,19.4s,baz=236,slow=38
BHPL Bhopal 19.84 96 *eP* **Pn** **07 20 07.2 -0.9**
BHPL *ex* x 07 23 45.8
CEYT Ceyhan 19.87 306 P **Pn** **07 20 09.1 +0.6**
KRTS Karatas 19.96 304 P **Pn** **07 20 11.8 +2.2**
KOZT Kozan 20.02 307 P **P** **07 20 11.2 +2.7**
KK31 Karatay Array 20.17 32 *i* P **P** **07 20 09.3 -0.9**
KK31 pmax pmax
comp=Z,307nm,1.4s
KK31 Karatay Array 20.17 32 *i* P **P** **07 20 09.3 -0.9**
comp=Z,307nm,1.4s
KKAR Karatay Array 20.17 32 P **P** **07 20 09.3 -0.9**
KKAR pmax pmax
comp=Z,430nm,1.4s
KKAR Karatay Array 20.17 32 P **P** **07 20 09.3 -0.9**
comp=Z,430nm,1.4s
KIV Kislovodsk 20.19 331 Pn **P** **07 20 12.2 +1.9**
comp=Z,5μm,1.1s,SNR=57
KIV Kislovodsk 20.19 331 *eP* **P** **07 20 12.5 +2.2**
KIV pmax pmax
comp=Z,814nm,1.0s
KIV Kislovodsk 20.19 331 *eP*n **P** **07 20 12.5 +2.2**
comp=Z,814nm,1.0s
KIV Kislovodsk 20.19 331 *eP* **P** **07 20 12.5 +2.2**
comp=Z,814nm,1.0s
AKL Akola 20.26 103 *ex* x 07 19 40.7
AKL AMb AMB 07 19 44.0
comp=Z,283nm,1.8s
GRSN GIRESUNGRSN 20.27 319 *i* P **P** **07 20 11.8 +0.6**
PHNC Paralimni 20.44 299 P **P** **07 20 18.7 +5.7**
SVSK Karacayir 20.45 315 P **P** **07 20 16.0 +2.8**
KARA Karaisali 20.48 306 P **P** **07 20 17.6 +4.1**
BNN Bunyan 20.65 311 P **P** **07 20 19.9 +4.5**
MERS Mersin 20.71 304 P **P** **07 20 17.5 +1.5**
MEST Erdemli 20.88 303 *i* P **P** **07 20 18.3 +0.4**
GOF Gofitskoye 20.95 334⇑ *iP* **P** **07 20 18.6 0.0**
GOF *i* S **S** **07 24 11.5 -0.2**
GOF pmax pmax
comp=Z,640nm,1.0s
GOF smax
comp=E,150nm,1.6s
GOF Gofitskoye 20.95 334 *i* P **P** **07 20 18.6 0.0**
comp=E,640nm,1.0s
CSS Prodhromos 20.97 298 P **P** **07 20 19.6 +0.7**
comp=E,3.1nm,1.1s
KSH Kashi 21.02 48 *eP* **P** **07 20 15.6 -3.7**
KSH *e*PCP PcP 07 24 26.7 +0.6
KSH *e*SCP ScP 07 27 57.8 -4.7
KSH PCS PcS 07 28 04.2 +0.1
KSH LR LR
comp=N,8μm,8.3s
KSH LR LR
comp=E,7μm,8.7s
KSH LR LR
comp=Z,7μm,10.8s,MS5.3
IKL Isikli 21.10 302 P **P** **07 20 21.2 +1.0**
SOC Sochi 21.28 326 *d iP* **P** **07 20 23.1 +0.9**
SOC *e**PP 07 20 28.6
SOC *e* 07 20 40.6
SOC *e*PPP 07 20 50.9
SOC *eS* **S** **07 24 18.2 0.0**
SOC *e*SS 07 24 39.4
SOC *e*SSS 07 24 57.9
SOC pmax pmax
comp=Z,90nm,1.1s,mb5.0
SOC MLR MLR
comp=Z,1μm,8.0s
SOC Sochi 21.28 326 *i* P **P** **07 20 23.1 +0.9**
comp=Z,90nm,1.1s,mb5.0
AVNT Avonos 21.29 309 *i* P **P** **07 20 27.3 +5.0**
YOZ Yozgat 21.39 312 P **P** **07 20 24.9 +1.5**
EKS2 Erkin-Say 21.55 38 P **P** **07 20 25.0 0.0**
SNR=67
ALFC Alevga 21.60 298 P **P** **07 20 26.0 +0.3**
comp=Z,2.0nm,0.6s
PTH Pithoragarh 21.62 77 *ex* x 07 20 34.5
LGTI Lohaghat 21.64 77 *eP* **P** **07 20 25.5 -0.6**
UCH Uchtor 21.68 40 P **P** **07 20 25.9 -0.5**
SNR=20
PPCY Paphos 21.73 298 P **P** **07 20 27.9 +0.9**
AKMC Akamas 21.78 298 P **P** **07 20 28.2 +0.7**
ERMK Ermenek 21.83 302 *i* P **P** **07 20 24.7 -3.3**
DESE Dese 21.84 228 *i* P **P** **07 20 31.4 +3.2**
DESE *eS* **S** **07 24 38.0 +8.7**
NGP Nagpur 21.89 100 *eP* **P** **07 20 27.4 -1.3**
AAK Ala-Archa 21.93 39 P **P** **07 20 29.3 +0.2**
SNR=34
AAK Ala-Archa 21.93 39 P **P** **07 20 28.7 -0.4**
comp=Z,942nm,0.8s,mb6.3,SNR=38
AAK Ala-Archa 21.93 39 *eP* **P** **07 20 28.3 -0.8**
AAK pmax pmax
comp=Z,82nm,0.8s,mb5.2
AAK Ala-Archa 21.93 39 *eP* **P** **07 20 28.2 -0.9**
comp=Z,82nm,0.8s,mb5.2
AAK Ala-Archa 21.93 39 *eP* **P** **07 20 28.2 -0.9**
comp=Z,82nm,0.8s,mb5.2
KZA Kyzart 22.01 41 P **P** **07 20 30.5 +0.4**
SNR=18
CDAG Cicekdag 22.02 311 *i* P **P** **07 20 27.0 -3.1**
FRU Bishkek 22.12 39 *eP* **P** **07 20 31.0 -0.2**
FRU *i* 07 20 34.5
CORM Corum 22.13 312 P **P** **07 20 33.0 +1.7**
JBP Jabalpur 22.13 94⇑ *eP* **P** **07 20 31.1 -0.2**
JBP *ex* x 07 20 40.3
comp=Z,164nm,1.2s
JBP *ex* x 07 24 26.3
KBK Karagaybulak 22.20 40 P **P** **07 20 29.3 -2.7**
SNR=11
CTKT Corum 22.25 314 *i* P **P** **07 20 34.0 +1.4**
CHMS Chumysh 22.31 39 P **P** **07 20 35.4 +2.3**
SNR=38
USP Ospenovka 22.34 38 P **P** **07 20 36.0 +2.4**
SNR=26
KAMT Kaman 22.35 310 P **P** **07 20 35.1 +1.5**
BR131 Keskin Array S 22.57 310 *eP* **P** **07 20 36.3 +0.3**
comp=Z,22nm,0.6s,mb4.8
BR131 *e*PcP PcP 07 24 29.5 +0.3
BRTR Keskin Array B 22.57 310 P **P** **07 20 36.5 +0.6**
comp=Z,37nm,1.0s,mb4.8,baz=132,slow=12,SNR=66
BRTR PcP PcP 07 24 29.7 +0.5
comp=Z,7.4nm,0.7s,baz=149,slow=6.0,SNR=4.4
BRTR S **S** **07 24 44.5 +1.2**
comp=Z,2.4nm,0.9s,baz=84,slow=19,SNR=1.9
BRTR ScP ScP 07 28 06.5 0.0
comp=Z,1.8nm,0.7s,baz=156,slow=6.2,SNR=6.1
BRTR Keskin Array B 22.57 310 P **P** **07 20 36.6 +0.7**
BRTR 07 24 29.7
BRTR S **S** **07 24 44.5 +1.2**
BOYT Boyabat 22.61 316 *i* P **P** **07 20 36.6 +0.2**
AB31 Akbulak array 22.66 7 P **P** **07 20 35.5 -1.4**
AB31 pmax pmax
comp=Z,84nm,0.8s,mb5.2
ULHL Ulahol 22.70 42 P **P** **07 20 37.9 +0.6**
SNR=13
KONT Konya--Tatoy 22.71 305 P **P** **07 20 39.4 +1.9**
TKM2 Tokmak 2 22.74 40 P **P** **07 20 37.2 -0.5**
SNR=21
HYB Hyderabad 22.95 109 *i* P **P** **07 20 41.0 +1.0**
HYB *eS* **S** **07 24 46.0 -3.8**
HYB Hyderabad 22.95 109 *eP* **P** **07 20 41.0 +1.0**
TOS Tosya 22.96 314 P **P** **07 20 42.1 +2.0**
CANT Cankiri 23.01 312 P **P** **07 20 47.2 +6.6**
ELDT Eldivan 23.08 312 *i* P **P** **07 20 41.0 -0.3**
ELDT Eldivan 23.08 312 *i* P **P** **07 20 41.0 -0.3**
ANTO Ankara 23.21 310⇓ *iP* **P** **07 20 44.9 +2.2**
ANTO Ankara 23.21 310 *eP* **P** **07 20 43.0 +0.3**
ANTO pmax pmax
comp=Z,184nm,1.0s,mb5.5
ANTO Ankara 23.21 310 *eP* **P** **07 20 43.0 +0.3**
comp=Z,184nm,1.0s,mb5.5
LOD Lodumlu 23.24 310 P **P** **07 20 44.4 +1.3**
ANN Anapa 23.30 325 *c iP* **P** **07 20 42.2 -1.5**
ANN *i* *PP 07 20 46.4
ANN *e* 07 21 08.5
ANN *eS* **S** **07 24 55.3 -0.2**
ANN pmax pmax
comp=Z,18nm,0.8s,mb4.5
KIZT Kizilcal 23.43 307 P **P** **07 20 46.4 +1.4**
BALT Daday 23.63 314 *i* P **P** **07 20 46.7 -0.3**
AKTK Aktyubinsk 23.67 3 P **P** **07 20 46.4 -1.0**
AKTK S **S** **07 25 00.9 -0.7**
AKTK LR LR 07 31 37.3
AKTO Aktyubinsk 23.67 3 P **P** **07 20 46.4 -1.0**
comp=Z,37nm,0.6s,mb5.0,baz=183,slow=9.9,SNR=100
AKTO S **S** **07 25 00.9 -0.7**
comp=Z,6.8nm,0.9s,baz=79,slow=21,SNR=2.4
AKTO LR LR 07 31 37.3
comp=Z,2μm,20.7s,MS4.5,baz=0.0,slow=41
AKTO Aktyubinsk 23.67 3 P **P** **07 20 46.4 -1.0**
AKTO S **S** **07 25 00.9 -0.7**
AAA Alma-Ata 23.73 41 *eP* **P** **07 20 45.5 -2.4**
AAA *eS* **S** **07 25 04.0 +1.4**
AAA pmax pmax
comp=Z,760nm,3.0s
AAA smax
comp=E,2μm,10.0s
AAA MLR MLR
comp=Z,3μm,11.0s,MS5.1
SAFT Safranbolu 23.94 313 P **P** **07 20 50.7 +0.9**
FURI Furi 24.13 226 *eP* **P** **07 20 51.2 -0.3**
FURI *i* P 07 20 54.7
FURI *eS* **S** **07 25 22.0 +13**
FURI Furi 24.13 226 *eP* **P** **07 20 51.2 -0.3**
FURI *i* P 07 20 54.7
FURI *eS* **S** **07 25 22.0 +13**
ELL Elmali 24.15 301 P **P** **07 20 53.4 +1.6**
SLAT Slait 24.15 248 *i* P **P** **07 20 51.5 -0.3**
baz=54,slow=9.3
TKTP Tekketepe 24.25 304 *i* P **P** **07 20 51.9 -0.8**
BLSP Bilaspur 24.32 95 *eP* **P** **07 20 53.7 +0.4**
BLSP AMb AMB 07 21 00.6
comp=Z,75nm,1.1s,mb5.1
MRKH Merkhyat 24.49 248 *i* P **P** **07 20 55.6 +0.7**
baz=55,slow=12
MRKH AMb AMB 07 21 01.2
comp=Z,361nm,2.0s,mb5.5
KOLN Koldanda 24.64 81 *eP* **P** **07 20 57.5 +1.3**
comp=Z,346nm,1.2s,mb5.8
FETY Fethiye 24.75 300 P **P** **07 20 58.1 +0.8**
ALT Altintas 24.76 306 P **P** **07 20 59.4 +2.1**
ORR Orenburg 24.82 358 *i* P **P** **07 20 57.5 -0.3**
ORR S **S** **07 25 21.3 +1.2**
ORR pmax pmax
comp=Z,590nm,1.0s,mb6.1
ORR MLR MLR
comp=Z,2μm,21.0s,MS4.6
BORA Eskisehir 24.84 308 *i* P **P** **07 20 56.4 -1.7**
HENT Hendek 24.93 311 *i* P **P** **07 20 57.6 -1.3**
KHL Karahalli 24.93 304 *eP* **P** **07 21 00.1 +1.2**
DNZL Cakiroluk 25.09 302 *i* P **P** **07 21 00.4 +0.1**
GPA Golpazari 25.11 309 *eP* **P** **07 21 01.2 +0.7**
DALT Dalyan (Mudla) 25.14 300 P **P** **07 20 59.8 -1.0**
SIM Simferopol' 25.16 322 *cP* **P** **07 21 01.4 +0.4**
SIM *eS* **S** **07 25 25.1 -0.5**
SIM pmax pmax
comp=Z,114nm,0.7s,mb5.5
SIM MLR MLR
comp=Z,900nm,18.0s,MS4.3
GDZ Gediz 25.23 306 *i* P **P** **07 21 00.8 -0.8**
YER Yerkesik 25.51 301 *eP* **P** **07 21 05.4 +1.3**
GKN Gorkha 25.54 81 *eP* **P** **07 21 05.2 +0.8**
comp=Z,220nm,1.3s,mb5.5
ADVT Abdulvahap 25.57 309 *eP* **P** **07 21 05.7 +1.0**
MANT Manisa 25.71 304 *i* P **P** **07 21 05.0 -1.0**
MANT Manisa 25.71 304 *i* P **P** **07 21 04.9 -1.0**
ULDT Uludag 25.87 308 *i* P **P** **07 21 07.6 +0.2**
YLV Yalova 25.88 309 *eP* **P** **07 21 07.2 -0.3**
DAT Datca 25.95 299 *eP* **P** **07 21 10.1 +1.9**
AYDN Tasoluk 25.96 302 *i* P **P** **07 21 08.5 +0.3**
DMN Daman 25.98 81 *eP* **P** **07 21 09.6 +1.2**
comp=Z,192nm,1.3s,mb5.5
KKN Kakani 26.12 81 *eP* **P** **07 21 10.7 +1.0**
comp=Z,216nm,1.3s,mb5.5
KKN Kakani 26.12 81 *eP* **P** **07 21 10.7 +1.0**
KKN pmax pmax
comp=Z,216nm,1.3s,mb5.5
BODT Bodrum 26.24 300 *eP* **P** **07 21 10.9 +0.2**
PKI Pulchoki 26.25 82 *eP* **P** **07 21 11.9 +1.0**
comp=Z,335nm,1.4s,mb5.7
PKI Pulchoki 26.25 82 *eP* **P** **07 21 11.9 +1.0**
PKI pmax pmax
comp=Z,335nm,1.4s,mb5.7
AKS Akhisar 26.38 304 *eP* **P** **07 21 13.7 +1.6**
BALB Balikesir 26.59 306 *eP* **P** **07 21 13.3 -0.6**
VRHR Novokhopersk 26.59 340 *eP* **P** **07 21 13.3 -0.6**
VRHR pmax pmax
comp=Z,50nm,0.7s,mb5.2
VRHR pmax pmax
comp=N,8.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.5s
GUN Gumba 26.64 81 *eP* **P** **07 21 14.8 +0.5**
comp=E,184nm,0.9s,mb5.6
KDAG Bornova 26.64 303 *i* P **P** **07 21 15.3 +0.9**
IZM Izmir 26.64 303 *eP* **P** **07 21 16.0 +1.6**
BNT Bandirma 26.82 307 *eP* **P** **07 21 16.6 +0.7**
VIS Vishakhapatnam 26.91 104 *eP* **P** **07 21 17.4 +0.6**
VIS AMb AMB 07 21 28.3
comp=Z,61nm,1.7s,mb4.9
JIRN Jiri 26.93 81 *eP* **P** **07 21 17.8 +0.8**
comp=Z,44nm,0.6s,mb5.1
URLA Izmir 27.13 303 *i* P **P** **07 21 18.5 -0.3**
MRMT Marmara Adasi 27.14 308 *eP* **P** **07 21 16.8 -2.0**
BOK Bokaro 27.26 90 *eP* **P** **07 21 20.2 +0.3**
BOK *i* P 07 21 20.4
BOK AMb AMB 07 21 24.1
comp=Z,102nm,1.3s,mb5.2
RKY Sarkoy-Tekirda 27.46 308 *eP* **P** **07 21 21.9 +0.2**
VRSR Storozhevoye 27.50 337 *eP* **P** **07 21 24.1 +2.0**
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,0.8s
IDI Anoyia 27.79 295 P **P** **07 21 25.8 +1.1**
comp=E,20nm,0.4s,mb5.1,baz=99,slow=9.2,SNR=17
ZRNK Zerenda 27.92 17 *eP* **P** **07 21 25.0 -0.8**
ZRNK *e**PP pP 07 21 28.9 -1.0
ZRNK pmax pmax
comp=Z,82nm,1.2s,mb5.2
ZRNK Zerenda 27.92 17 *eP* **P** **07 21 25.0 -0.8**
comp=Z,82nm,1.2s,mb5.2
ZRNK *e*pP pP 07 21 28.9 -1.0
VOR Voronezh 27.93 338 *eP* **P** **07 21 27.0 +1.1**
VOR *eS* **S** **07 26 09.0 -0.3**
VOR pmax pmax
comp=N,70nm,1.2s
VOR pmax pmax
comp=E,110nm,1.2s
VOR pmax pmax
comp=Z,110nm,1.2s,mb5.4
VOR smax
comp=N,180nm,1.4s
VOR smax
comp=E,100nm,1.4s
TIRR Tirgusor 28.26 316⇓ *iP* **P** **07 21 29.5 +0.6**
TIRR Tirgusor 28.26 316 *eP* **P** **07 21 28.4 -0.5**
VOSK Vostochnaya 28.27 20 P **P** **07 21 27.8 -1.2**
VOSK pmax pmax
comp=Z,66nm,0.9s,mb5.3
BRVK Borovoye 28.36 18 P **P** **07 21 29.2 -0.6**
comp=Z,454nm,0.8s,mb6.2,SNR=46
BRVK Borovoye 28.36 18 *eP* **P** **07 21 29.0 -0.8**
BRVK pmax pmax
comp=Z,74nm,1.1s,mb5.2
BRVK Borovoye 28.36 18 *eP* **P** **07 21 29.0 -0.7**
comp=Z,74nm,1.1s,mb5.2
BVA0 Borovoye Array 28.36 19 *i* P **P** **07 21 29.1 -0.7**
BVA0 pmax pmax
comp=Z,19nm,0.9s,mb4.7
CFR Carcaliu 28.79 317⇓ *iP* **P** **07 21 33.9 +0.3**
CFR Carcaliu 28.79 317⇓ P **P** **07 21 33.9 +0.3**
MK31 Makanchi Array 28.86 39 P **P** **07 21 34.1 -0.1**
MK31 pmax pmax
comp=Z,25nm,0.7s,mb5.0
MKAR Makanchi Array 28.86 39 P **P** **07 21 34.2 -0.1**
comp=Z,54nm,0.9s,mb5.3,baz=231,slow=6.5,SNR=34
MKAR PcP PcP 07 24 43.1 -0.4
comp=Z,3.2nm,0.6s,baz=234,slow=5.0,SNR=4.4
MKAR Makanchi Array 28.86 39 P **P** **07 21 34.2 -0.1**
MKAR PcP PcP 07 24 43.1 -0.4
CHKZ Chkalovo 29.00 18 *eP* **P** **07 21 34.3 -1.2**
KURK Kurchatov 29.53 30 P **P** **07 21 40.9 +0.8**
comp=Z,219nm,1.0s,mb5.8,SNR=15
KURK Kurchatov 29.53 30 *eP* **P** **07 21 40.1 -0.1**
ARU Arti 29.69 3 *eP* **P** **07 21 32.3 -9.2**
ARU *e*PPP 07 22 34.8
ARU *e* 07 32 17.6
ARU MLR MLR
comp=Z,900nm,18.0s,MS4.4
ARU MLR MLR
comp=N,900nm,17.0s,MS4.5
ARU MLR MLR
comp=E,600nm,17.0s,MS4.5
ARU Arti 29.69 3 *eP* **P** **07 21 32.1 -9.4**
comp=E,27nm,0.9s,mb5.0
VRI Vrincioaia 29.99 317⇓ *iP* **P** **07 21 45.6 +1.4**
VRI Vrincioaia 29.99 317⇓ P **P** **07 21 45.6 +1.4**
MLR Muntele Rosu 30.29 316 P **P** **07 21 47.6 +0.7**
comp=E,18nm,0.6s,mb4.9,baz=5.3,slow=6.2,SNR=16
MLR S **S** **07 26 49.3 +2.8**
comp=E,4.3nm,0.9s,baz=232,slow=16,SNR=1.6
MLR ScP ScP 07 28 28.7 -0.5
comp=E,4.8nm,0.9s,baz=244,slow=4.9,SNR=4.0
MLR LR LR 07 35 52.0
comp=E,1μm,20.5s,MS4.6,baz=120,slow=40
MLR Muntele Rosu 30.29 316 P **P** **07 21 47.6 +0.7**
MLR S **S** **07 26 49.3 +2.9**
MLR 07 28 28.7
MLR pmax pmax
comp=Z,18nm,0.6s
MLR MLR MLR
comp=Z,1μm,20.5s
MLR Muntele Rosu 30.29 316⇓ P **P** **07 21 49.0 +2.1**
MLR Muntele Rosu 30.29 316⇓ *iP* **P** **07 21 49.0 +2.1**
WMQ Urumqi 30.78 48 P **P** **07 21 53.3 +2.1**
WMQ AP pP 07 21 57.5 +2.2
WMQ PP PP 07 22 54.1 -6.6
WMQ PCP PcP 07 24 49.4 +1.0
WMQ S **S** **07 26 54.6 +0.5**
WMQ SCS ScS 07 32 27.5 +0.2
WMQ AMB AMB
comp=Z,40nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,240nm,3.5s
WMQ LR LR
comp=N,1μm,14.0s,MS4.7
WMQ LR LR
comp=E,500nm,16.0s,MS4.7
WMQ LR LR
comp=Z,1μm,26.0s
VOIR 30.83 315⇓ *iP* **P** **07 21 53.3 +1.7**
VOIR 30.83 315⇓ P **P** **07 21 53.3 +1.7**
VTS Vitosha 30.92 309⇓ *iP* **P** **07 21 54.1 +1.6**
VTS Vitosha 30.92 309 P **P** **07 21 53.8 +1.3**
VTS Vitosha 30.92 309⇓ P **P** **07 21 54.1 +1.6**
VAY Valandovo 30.96 306 *eP* **P** **07 21 52.7 -0.1**
LSA Lhasa 31.13 76 *eP* **P** **07 21 56.0 +1.7**
LSA Lhasa 31.13 76 *eP* **P** **07 21 55.2 +0.9**
LSA pmax pmax
comp=Z,13nm,0.5s,mb5.0
LSA Lhasa 31.13 76 *eP* **P** **07 21 55.2 +0.9**
comp=Z,13nm,0.5s,mb5.0
AKASG Malin Array Be 31.36 327 P **P** **07 21 54.5 -1.8**
comp=Z,12nm,0.6s,mb4.9,baz=134,slow=8.5,SNR=109
AKASG PcP PcP 07 24 49.0 -0.9
comp=Z,15nm,0.7s,baz=97,slow=2.8,SNR=9.9
AKASG S **S** **07 26 57.6 -5.5**
comp=Z,0.2nm,0.3s,baz=132,slow=14,SNR=2.4
AKASG ScP ScP 07 28 31.0 -1.6
comp=Z,0.2nm,0.2s,baz=92,slow=2.3,SNR=5.2
AKASG Malin Array Be 31.36 327 P **P** **07 21 54.5 -1.8**
AKASG 07 24 49.1
AKASG S **S** **07 26 57.7 -5.4**
AKASG Malin Array Be 31.36 327 P **P** **07 21 54.5 -1.8**
AKASG PcP PcP 07 24 49.0 -0.9
AKASG S **S** **07 26 57.6 -5.5**
AKASG ScP ScP 07 28 31.0 -1.6
OBN Obninsk 31.62 339⇑ *eP* **P** **07 21 58.6 0.0**
OBN *e* 07 24 49.8
OBN *eS* **S** **07 27 11.4 +4.2**
OBN pmax pmax
comp=Z,63nm,1.1s,mb5.4
OBN MLR MLR

comp=Z,700nm,26.0s,MS4.2
OBN Obninsk 31.62 339 *e*P **P 07 21 58.5 -0.2**
comp=Z,207nm,1.4s,mb5.8
BURAR Bucovina Array 31.76 319⇓*i*P **P 07 22 00.2 +0.4**
BURAR Bucovina Array 31.76 319⇓P **P 07 22 00.2 +0.4**
BIA Bitola 31.78 305 *e*P **P 07 22 00.8 +0.8**
MOS Moscow 31.81 340 *e*P **P 07 22 02.4 +2.1**
MOS *e* 07 23 12.9
MOS *e*S **S 07 27 07.7 -2.6**
MOS pmax pmax
comp=Z,97nm,1.2s,mb5.5
DJES Djerdap 32.12 312 *i* P **P 07 22 04.9 +1.8**
SHL Shillong 32.27 84 *e*P **P 07 22 04.5 +0.2**
SOKR Solikamsk 32.78 1⇑*i*P **P 07 22 08.5 -0.3**
SOKR *i* S **S 07 27 21.3 -4.0**
SOKR pmax pmax
comp=Z,70nm,0.9s,mb5.6
SOKR MLR MLR
comp=Z,2μm,24.0s,MS4.7
KMBO Kilima Mbogo 33.05 216 P **P 07 22 13.0 +1.8**
comp=Z,22nm,0.9s,mb5.1,baz=28,slow=11,SNR=27
KMBO LR LR 07 35 44.8
comp=Z,830nm,18.9s,MS4.5,baz=55,slow=36
KMBO Kilima Mbogo 33.05 216 P **P 07 22 13.0 +1.8**
KMBO pmax pmax
comp=Z,22nm,0.9s
KMBO MLR MLR
comp=Z,830nm,18.9s
KMBO Kilima Mbogo 33.05 216 *e*P **P 07 22 13.9 +2.7**
comp=Z,26nm,1.2s,mb5.0
GRUS Gruza 33.07 310 *i* P **P 07 22 09.8 -1.5**
BZS Buzias 33.09 314⇓*i*P **P 07 22 11.9 +0.3**
BZS Buzias 33.09 314 P **P 07 22 12.2 +0.6**
BZS Buzias 33.09 314⇓P **P 07 22 11.9 +0.4**
LVV L'vov 33.56 322 *e*P **P 07 22 13.6 -2.0**
LVV *e* 07 23 29.2
LVV *e*S **S 07 27 41.0 +3.6**
LVV *e* 07 30 00.4
DIVS Divcibare 33.63 310 *i* P **P 07 22 15.9 -0.4**
BBLS Bajina Basta - 33.96 310 *i* P **P 07 22 16.3 -2.8**
UZH Uzhgorod 33.96 319 *e*P **P 07 22 18.0 -1.1**
UZH *e*S **S 07 27 39.0 -4.7**
KWP Kalwaria 34.20 321 *e*P **P 07 22 21.2 0.0**
KWP L 07 39 46.9
comp=Z,0.9nm,17.3s
NVS Novosibirsk 34.42 28⇑*i*P **P 07 22 21.8 -1.3**
NVS *e* 07 24 56.9
NVS *i* S **S 07 27 47.1 -3.7**
NVS *i* 07 32 42.0
NVS pmax pmax
comp=E,32nm,1.1s
NVS pmax pmax
comp=Z,106nm,1.1s,mb5.7
NVS pmax pmax
comp=N,93nm,1.4s
NVS smax
comp=N,117nm,1.6s
MNK Minsk 34.49 331 *e*P **P 07 22 21.0 -2.7**
ZAL Zalesovo 34.50 30 P **P 07 22 22.8 -1.0**
comp=N,50nm,0.8s,mb5.5,baz=235,slow=8.7,SNR=72
ZAL S **S 07 27 49.0 -3.0**
comp=N,1.5nm,0.8s,baz=162,slow=24,SNR=1.8
ZAL LR LR 07 38 14.9
comp=N,842nm,20.0s,MS4.5,baz=145,slow=40
ZAL Zalesovo 34.50 30 P **P 07 22 22.8 -1.0**
ZAL S **S 07 27 49.0 -3.0**
TIP Timpagrande 34.81 301 *e*P **P 07 22 27.4 +0.9**
STHS Stebnicka Huta 34.94 320 *e*P **P 07 22 28.7 +1.1**
STHS *e* pP 07 22 32.9 +1.2
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 34.94 320 *e*P **P 07 22 28.7 +1.1**
comp=Z,6.0nm,0.9s,mb4.5
STHS *e* pP 07 22 32.9 +1.2
KECS Kecovo 34.97 318 *i* P **P 07 22 28.2 +0.3**
KECS *e* pP 07 22 31.9 -0.1
KECS pmax pmax
comp=Z,23nm,0.8s,mb5.2
KECS Kecovo 34.97 318 *i* P **P 07 22 28.2 +0.3**
comp=Z,23nm,0.8s,mb5.2
KECS *e* pP 07 22 31.9 -0.1
GRI Girifalco 35.02 300 P **P 07 22 29.8 +1.5**
PSZ Piszkesteto 35.09 317⇓*e*P **P 07 22 29.4 +0.5**
PSZ Piszkesteto 35.09 317 *e*P **P 07 22 28.9 0.0**
comp=Z,14nm,0.7s,mb5.0
PSZ Piszkesteto 35.09 317⇓*i*P **P 07 22 29.3 +0.4**
PKSM Moragy 35.24 313⇓*i*P **P 07 22 30.5 +0.3**
BUD Budapest 35.46 315⇓*e*P **P 07 22 32.6 +0.5**
CUC Castrocucco 35.66 302 P **P 07 22 36.1 +2.3**
SLCN Sala Consilina 35.86 303 P **P 07 22 37.0 +1.5**
SRO2 Moca 35.97 316 *e*P **P 07 22 37.8 +1.4**
SRO2 pmax pmax
comp=Z,36nm,0.6s,mb5.5
SRO Srobarova 36.03 316 *e*P **P 07 22 36.9 -0.1**
SRO pmax pmax
comp=Z,79nm,1.0s,mb5.6
SRO Srobarova 36.03 316 *e*P **P 07 22 36.9 -0.1**
comp=Z,79nm,1.0s,mb5.6
SRO *e* 07 22 53.5
LIKS Likavka 36.04 318 *e*P **P 07 22 36.4 -0.6**
LIKS pmax pmax
comp=Z,67nm,0.8s,mb5.6
LIKS Likavka 36.04 318 *e*P **P 07 22 36.4 -0.6**
comp=Z,67nm,0.8s,mb5.6
SRO1 Iza 36.06 316 *e*P **P 07 22 37.6 +0.3**
SRO1 *e* 07 22 51.3
SRO1 Iza 36.06 316 *e*P **P 07 22 37.6 +0.3**
SRO1 pmax pmax
comp=Z,76nm,1.1s,mb5.5
SGO Sicignano 36.14 303 P **P 07 22 39.2 +1.3**
SGO pmax pmax
comp=Z,60nm,0.8s,mb5.6
SGO Sicignano 36.14 303 P **P 07 22 39.2 +1.3**
comp=Z,60nm,0.8s,mb5.6
OJC Ojcow 36.14 320 *e*P **P 07 22 37.3 -0.6**
SUW Suwalki 36.31 327 *e*P **P 07 22 39.0 -0.4**
SUW L 07 39 30.9
comp=Z,0.6nm,23.6s
ZST Bratislava 36.93 316 *e*P **P 07 22 44.2 -0.4**
comp=Z,16nm,0.8s,mb4.9
ZST LR LR
comp=Z,270nm,13.9s,MS4.2
OKC Ostrava-Krasne 36.94 319 *e*P **P 07 22 43.9 -0.8**
OKC AMS AMS 07 40 20.0
comp=Z,1μm,17.2s
RAC Raciborz 37.01 319 *e*P **P 07 22 45.7 +0.4**
RAC *e*pP pP 07 22 49.2 -0.3
RAC L 07 42 18.7
comp=Z,0.8nm,20.6s
SOP Sopron 37.09 315⇓*e*P **P 07 22 46.4 +0.4**
MORC Moravsky Berou 37.27 318⇓*i*P **P 07 22 47.6 +0.1**
MORC Moravsky Berou 37.27 318 *e*P **P 07 22 46.9 -0.6**
MORC *e**PP pP 07 22 50.9 -0.7
MORC pmax pmax
comp=Z,31nm,0.7s,mb5.2
MORC Moravsky Berou 37.27 318 *e*P **P 07 22 46.9 -0.7**
comp=Z,31nm,0.7s,mb5.2
MORC *e*pP pP 07 22 50.9 -0.7
MORC Moravsky Berou 37.27 318 *e*P **P 07 22 46.6 -0.9**
BOJS Bojanci 37.27 311 *e*P **P 07 22 47.8 +0.2**
BOJS *e*S **S 07 28 29.5 -5.0**
ARSA Arzberg 37.61 314⇑*i*P **P 07 22 50.0 -0.5**
comp=Z,37nm,1.5s,mb4.9
CONA Conrad Observa 37.62 315 *i* P **P 07 22 50.6 +0.2**
SNR=10
CONA Conrad Observa 37.62 315 P **P 07 22 50.6 +0.1**
SNR=10
VRAC Vranov 37.66 317⇓*i*P **P 07 22 51.0 +0.2**
VRAC Vranov 37.66 317⇓P **P 07 22 51.0 +0.2**
VRAC Vranov 37.66 317 *e*P **P 07 22 50.3 -0.5**
VSU Vasula 37.66 335 *i* P **P 07 22 52.8 +2.0**
AQU L'Aquila 37.86 305 *e*P **P 07 22 53.3 +0.8**
AQU pmax pmax
comp=Z,87nm,0.9s,mb5.5
AQU L'Aquila 37.86 305 *e*P **P 07 22 53.2 +0.8**
comp=Z,87nm,0.9s,mb5.5
FIAM Fiamignano 38.05 305 P **P 07 22 55.7 +1.6**
JAVS Javornik 38.18 311 *e*P **P 07 22 55.0 -0.2**
DPC Dobruska-Polom 38.22 319 *e*P **P 07 22 54.8 -0.7**
DPC AMS AMS 07 42 10.0
comp=Z,800nm,16.7s
TREC Trest 38.32 317 *e*P **P 07 22 56.7 +0.3**
VOY Vojsko 38.33 311 *e*P **P 07 22 56.2 -0.3**
VOY *e* pP 07 23 00.2 -0.4

SNTG Esanatoglia 38.36 307 P **P 07 22 57.8 +1.1**
comp=Z,68nm,1.1s,mb5.3
KSP Ksiaz 38.43 319 *e*P **P 07 22 57.0 -0.3**
KSP L 07 39 28.2
comp=Z,1.7nm,24.2s
KSP Ksiaz 38.43 319 *e*P **P 07 22 56.8 -0.5**
KSP *e*pP pP 07 23 00.1 -1.4
KSP LR LR
comp=Z,2μm,24.2s,MS4.8
KSP Ksiaz 38.43 319 *e*P **P 07 22 56.8 -0.5**
KSP *e*pP pP 07 23 00.1 -1.4
UPC Upice 38.46 319 *e*P **P 07 22 57.1 -0.5**
CADS Cadrg 38.49 312 *e*P **P 07 22 58.0 +0.2**
GTA Gaotai 38.54 60 P **P 07 22 59.5 +1.2**
GTA AP pP 07 23 03.7 +1.3
GTA XP sP 07 23 06.7 +2.6
GTA PP PP 07 24 27.4 +0.9
GTA S **S 07 28 53.2 -0.5**
GTA SCS ScS 07 33 08.1 -0.6
GTA AMB AMB
comp=Z,20nm,1.4s,mb4.7
GTA AMB AMB
comp=Z,230nm,4.6s
GTA LR LR
comp=N,720nm,16.0s,MS4.7
GTA LR LR
comp=E,670nm,15.2s,MS4.7
GTA LR LR
comp=Z,1μm,16.0s,MS4.8
FSSB Fossombrone 38.56 307 P **P 07 22 59.5 +1.1**
comp=Z,32nm,0.6s,mb5.2
MOA Molln 38.61 314⇑*i*P **P 07 22 58.7 -0.1**
comp=Z,32nm,0.9s,mb5.0
PTCC Patocco-Chiusa 38.79 312 P **P 07 23 00.3 -0.1**
comp=Z,41nm,0.6s,mb5.3
GMNA Gemona 38.84 311 P **P 07 23 00.7 0.0**
comp=Z,335nm,1.1s,mb6.0
BADI Badiali 38.91 307 P **P 07 23 03.3 +2.0**
KBA Koelnbreinsper 38.98 313 *i* P **P 07 23 02.1 +0.2**
SNR=14
TMCR Tamitsa 39.13 348 *e*P **P 07 23 05.8 +2.6**
TMCR pmax pmax
comp=N,250nm,1.4s
TMCR pmax pmax
comp=Z,150nm,1.4s,mb5.5
TMCR pmax pmax
comp=E,120nm,1.0s
PRU Pruhonice 39.15 318 *e*P **P 07 23 00.7 -2.6**
PRU AMS AMS 07 40 40.0
comp=E,800nm,22.3s
SFI Santa Sofia 39.26 307 P **P 07 23 06.2 +1.9**
SFI pmax pmax
comp=Z,171nm,0.8s,mb5.8
SFI Santa Sofia 39.26 307 P **P 07 23 06.2 +1.9**
comp=Z,171nm,0.8s,mb5.8
GEC2 GERESS Array S 39.28 316 *e*P **P 07 23 03.8 -0.6**
comp=Z,10.0nm,1.1s,mb4.5
GEC2 GERESS Array S 39.28 316 *e*P **P 07 23 03.8 -0.6**
GEC2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
GERES GERESS Array B 39.28 316 P **P 07 23 03.7 -0.7**
comp=Z,5.6nm,0.5s,mb4.6,baz=101,slow=7.1,SNR=23
GERES ScP ScP 07 29 00.8 -0.5
comp=Z,0.4nm,0.3s,baz=149,slow=4.6,SNR=4.0
GERES LR LR 07 41 34.9
comp=Z,431nm,19.5s,MS4.3,baz=105,slow=40
GERES GERESS Array B 39.28 316 P **P 07 23 03.7 -0.7**
GERES 07 29 00.8
PVCC Panska Ves 39.32 318 *e*P **P 07 23 03.7 -1.1**
PVCC AMS AMS 07 42 40.0
KHC Kasperske Hory 39.45 316 *e*P **P 07 23 04.8 -1.0**
KHC x x 07 23 17.0
KHC AMS AMS 07 43 30.0
comp=Z,1μm,21.1s
KHC Kasperske Hory 39.45 316 *e*P **P 07 23 04.8 -1.0**
KHC *e* 07 23 17.0
KHC LR LR
comp=Z,1μm,21.1s,MS4.6
KRAR Krasnoyarsk 39.48 32⇑*e*P **P 07 23 06.3 +0.2**
KRAR MLR MLR
comp=Z,600nm,16.0s,MS4.5
VMG Vicchio 39.49 307 P **P 07 23 07.8 +1.6**
comp=Z,243nm,0.8s,mb6.0
JOF Joensuu 39.59 343 *e*p **P 07 23 05.8 -1.2**
comp=Z,15nm,0.4s,mb5.1
SEI Scarperia 39.64 308 P **P 07 23 08.7 +1.3**
comp=Z,198nm,0.6s,mb6.0
GRFL Gerfalco 39.75 306 P **P 07 23 08.1 -0.3**
comp=Z,10nm,0.7s,mb4.7
BRG Berggiesshubel 39.82 319 *i* P **P 07 23 08.4 -0.6**
comp=Z,16nm,1.3s,mb4.6
BRG *i* pP 07 23 11.7 -1.4
comp=Z,15nm,0.8s
BRG *e* 07 25 05.7
comp=Z,4.0nm,1.1s
BRG
comp=N,616nm,21.5s
BRG
comp=E,676nm,22.8s
BRG
comp=Z,406nm,14.9s
BRG Berggiesshubel 39.82 319 *i* P **P 07 23 08.4 -0.5**
BRG *i* pP 07 23 11.7 -1.4
BRG *e* 07 25 05.7
BRG pmax pmax
comp=Z,16nm,1.3s,mb4.6
BRG MLR MLR
comp=N,616nm,21.5s,MS4.6
BRG MLR MLR
comp=E,676nm,22.8s,MS4.6
BRG MLR MLR
comp=Z,406nm,14.9s
BRG Berggiesshubel 39.82 319 *e*P **P 07 23 08.2 -0.7**
comp=Z,26nm,1.3s,mb4.8
FNVD Fontana Vidola 39.83 308 P **P 07 23 10.4 +1.4**
CTI Castel Tesino 39.85 311 P **P 07 23 08.8 -0.4**
CTI pmax pmax
comp=Z,50nm,0.7s,mb5.3
CTI Castel Tesino 39.85 311 P **P 07 23 08.8 -0.4**
comp=Z,50nm,0.7s,mb5.3
WET Wettzell 39.89 316 *e*P **P 07 23 08.4 -1.1**
comp=Z,10.0nm,0.9s,mb4.5
WET Wettzell 39.89 316 *e*P **P 07 23 08.4 -1.1**
WET pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
BRES Bressanone 39.95 312 P **P 07 23 10.0 0.0**
ZCCA Zocca 39.96 308 P **P 07 23 12.1 +2.0**
comp=Z,54nm,0.8s,mb5.3
FINES FINESS Array B 40.02 338 P **P 07 23 09.5 -1.2**
comp=Z,12nm,0.5s,mb4.9,baz=137,slow=10,SNR=122
FINES S **S 07 29 17.0 +1.1**
comp=Z,3.9nm,1.0s,baz=110,slow=16,SNR=2.8
WTTA Wattenberg 40.15 313 *i* P **P 07 23 11.3 -0.4**
SNR=27
WATA Walderalm 40.21 313 *i* P **P 07 23 11.2 -1.0**
SNR=18
GSCL Gusciola 40.24 308 P **P 07 23 13.5 +1.1**
comp=Z,49nm,1.0s,mb5.2
CHTO Chiang Mai 40.33 92 *e*P **P 07 23 14.1 +0.9**
CHTO pmax pmax
comp=Z,87nm,1.5s,mb5.3
CHTO Chiang Mai 40.33 92 *e*P **P 07 23 14.1 +1.0**
comp=Z,87nm,1.5s,mb5.3
VLC Villacollemand 40.35 308 *e*P **P 07 23 14.1 +0.8**
comp=Z,46nm,0.9s,mb5.2
ERBM Eremo 40.37 308 P **P 07 23 14.8 +1.3**
comp=Z,87nm,0.8s,mb5.5
SQTA Sankt Quirin 40.42 312 *i* P **P 07 23 13.0 -0.9**
SNR=42
KAF Kangasniemi 40.44 339 *e*p **P 07 23 13.5 -0.6**
comp=Z,26nm,0.7s,mb5.1,baz=144,slow=7.8
KAF Kangasniemi 40.44 339 *e*P **P 07 23 13.5 -0.6**
KAF pmax pmax
comp=Z,26nm,0.7s,mb5.1
NKC Novy Kostel 40.50 317 *e*P **P 07 23 14.3 -0.3**
ROTZ Rotzenmuhle 40.50 316 *e*P **P 07 23 14.2 -0.4**
comp=Z,15nm,0.9s,mb4.7
RUE Ruedersdorf 40.51 321 *e*P **P 07 23 14.2 -0.5**
MOTA Moosalm 40.52 313 *i* P **P 07 23 14.2 -0.6**
SNR=23
CLL Collm 40.53 319 *i* P **P 07 23 14.7 -0.1**
comp=Z,36nm,0.9s,mb5.0
CLL *e*PP PP 07 25 01.5 +13
CLL *e*S **S 07 29 25.3 +1.8**
CLL *e*SS SS 07 32 28.5 +5.3
CLL *e*LR LR 07 35 49.9

CLL *e*L 07 42 12.3
comp=Z,596nm,18.0s
CLL Collm 40.53 319 *i* P **P 07 23 14.6 -0.2**
comp=Z,56nm,1.5s,mb5.0
CLL *i* pP pP 07 23 17.6 -1.4
CLL *e*x x 07 23 21.0
CLL *e*S **S 07 29 24.0 +0.5**
CLL *e*SS SS 07 32 26.0 +2.8
CLL Collm 40.53 319 *i* P **P 07 23 14.6 -0.2**
CLL *i* pP 07 23 17.6 -1.4
CLL *e*S **S 07 29 23.0 -0.5**
CLL pmax pmax
comp=Z,56nm,1.5s,mb5.0
CLL Collm 40.53 319 *i* P **P 07 23 14.6 -0.2**
comp=Z,56nm,1.5s,mb5.0
CLL *i* pP 07 23 17.6 -1.4
CLL *e*S **S 07 29 23.0 -0.5**
VSL Villasalto 40.53 300 *e*P **P 07 23 15.8 +1.0**
comp=Z,110nm,0.9s,mb5.5
FUR Furstenfeldbru 40.62 314 *e*P **P 07 23 14.7 -0.9**
comp=Z,28nm,0.9s,mb4.9
FUR Furstenfeldbru 40.62 314 *e*P **P 07 23 14.7 -0.9**
FUR pmax pmax
comp=Z,28nm,0.9s,mb4.9
MANZ Manzenberg 40.63 317 *e*P **P 07 23 15.3 -0.3**
comp=Z,9.0nm,1.0s,mb4.3
WERD Werda 40.65 317 *e*P **P 07 23 15.6 -0.2**
comp=Z,13nm,1.5s,mb4.3
BRMO Bormio 40.81 311 P **P 07 23 17.1 0.0**
CORF Corte 40.97 305 *e*P **P 07 23 18.2 -0.2**
SC2M Scurtabr 40.99 308 P **P 07 23 16.1 -2.5**
BSD Bornholm Skovb 41.01 325 *i* P **P 07 23 16.8 -2.0**
comp=Z,45nm,0.7s,mb5.2
BSD *e* 07 32 35.4
BSD
comp=Z,290nm,22.0s
BSD Bornholm Skovb 41.01 325 *i* P **P 07 23 16.8 -2.0**
BSD pmax pmax
comp=Z,45nm,0.7s,mb5.2
BSD MLR MLR
comp=Z,300nm,22.0s,MS4.1
BSD Bornholm Skovb 41.01 325 *i* P **P 07 23 16.8 -2.0**
comp=Z,45nm,0.7s,mb5.2
BSD *e* 07 32 35.4
GRA1 Grafenberg Arr 41.08 316 *e*P **P 07 23 19.0 -0.4**
comp=Z,49nm,1.3s,mb5.0
GRA1 LR LR
comp=Z,500nm,18.9s,MS4.4
GRF Grafenberg Arr 41.08 316 *e*P **P 07 23 19.0 -0.4**
comp=Z,49nm,1.3s,mb5.0
GRF *e*L 07 44 25.9
comp=Z,540nm,18.9s
GRF Grafenberg Arr 41.08 316 *e*P **P 07 23 19.0 -0.4**
GRF pmax pmax
comp=Z,49nm,1.3s,mb5.0
GRF MLR MLR
comp=Z,500nm,18.9s,MS4.4
PGF Pioggiola 41.11 305 *e*P **P 07 23 17.3 -2.3**
comp=Z,52nm,0.9s,mb4.8
PGF Pioggiola 41.11 305 *e*P **P 07 23 17.3 -2.3**
PGF pmax pmax
comp=Z,26nm,0.9s,mb4.9
PGF Pioggiola 41.11 305 *e*P **P 07 23 17.3 -2.3**
comp=Z,26nm,0.9s,mb4.8
BOB Bobbio (Coli) 41.11 308 P **P 07 23 18.9 -0.7**
MOX Moxa 41.13 317 *e*P **P 07 23 20.2 +0.4**
comp=Z,21nm,1.3s,mb4.6
MOX
comp=Z,700nm,19.0s
MOX Moxa 41.13 317 *e*P **P 07 23 20.2 +0.4**
MOX pmax pmax
comp=Z,21nm,1.3s,mb4.6
MOX MLR MLR
comp=Z,700nm,19.0s,MS4.5
MOX Moxa 41.13 317 *e*P **P 07 23 19.2 -0.6**
comp=Z,9.0nm,1.1s,mb4.3
DAVA Damuels 41.32 312 *i* P **P 07 23 20.2 -1.2**
SNR=78
TUE Stuetta 41.50 311 P **P 07 23 22.8 0.0**
LZH Lanzhou 41.61 65 *e*P **P 07 23 24.8 +1.1**
LZH AP pP 07 23 28.0 +0.1
LZH XP sP 07 23 29.5 0.0
LZH PP PP 07 25 04.0 +4.2
LZH *e*S **S 07 29 40.0 +0.5**
LZH AMB AMB
comp=Z,50nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,220nm,4.2s
LZH LR LR
comp=E,820nm,12.3s
LZH LR LR
comp=Z,1μm,14.0s,MS4.9
PCP Pian Castagno 41.71 308 P **P 07 23 22.4 -2.2**
CD2 Chengdu 41.89 73 P **P 07 23 26.6 +0.6**
CD2 AP pP 07 23 31.0 +0.8
CD2 XP sP 07 23 35.1 +3.3
CD2 PP PP 07 25 06.6 +3.7
CD2 PCP PcP 07 25 23.3 +1.7
CD2 PPP 07 25 36.1
CD2 SCP ScP 07 29 11.8 +0.3
CD2 PCS PcS 07 29 13.8 +0.7
CD2 S **S 07 29 42.3 -1.4**
CD2 XS sS 07 29 57.4 +6.8
CD2 SCS ScS 07 33 27.4 -1.2
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,100nm,3.8s
CD2 LR LR
comp=N,710nm,19.2s
CD2 LR LR
comp=Z,560nm,16.2s,MS4.5
FIN Finale Ligure 41.90 307 P **P 07 23 24.9 -1.2**
MOY Mondy 41.96 41 *e*P **P 07 23 28.6 +2.0**
MOY *e* pP 07 23 30.6 -0.2
ABSA Djebel Ababsia 41.96 295 P **P 07 23 29.0 +2.4**
KMI Kunming 41.98 81 P **P 07 23 28.2 +1.4**
KMI AP pP 07 23 31.5 +0.6
KMI XP sP 07 23 32.8 +0.2
KMI PP PP 07 25 08.6 +4.7
KMI PCP PcP 07 25 24.1 +2.2
KMI PPP 07 25 38.7
KMI SCP ScP 07 29 12.9 +1.0
KMI PCS PcS 07 29 14.3 +0.8
KMI S **S 07 29 46.4 +1.3**
KMI AMB AMB
comp=Z,30nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,280nm,4.6s
KMI LR LR
comp=N,350nm,15.8s,MS4.6
KMI LR LR
comp=E,470nm,15.0s,MS4.6
KMI LR LR
comp=Z,430nm,15.3s,MS4.4
RORO 41.99 307 P **P 07 23 25.3 -1.5**
CMAH Djebel Manchou 42.01 296 P **P 07 23 29.0 +2.0**
ROB Roburent 42.15 307 P **P 07 23 26.2 -2.0**
UBBA Unterbreizbach 42.16 317 *e*P **P 07 23 27.8 -0.5**
comp=Z,16nm,1.4s,mb4.5
NEGI Negi 42.21 307 P **P 07 23 27.3 -1.3**
CLZ Clausthal 42.25 319 *e*P **P 07 23 29.1 +0.1**
comp=Z,30nm,0.8s,mb5.0
CLZ Clausthal 42.25 319 *e*P **P 07 23 29.1 +0.1**
CLZ pmax pmax
comp=Z,30nm,0.8s,mb5.0
MCGN Macugnaga 42.33 310 P **P 07 23 28.7 -0.9**
comp=Z,11nm,0.6s,mb4.7
SBF Sospel 42.41 307 *e*P **P 07 23 29.3 -0.9**
comp=Z,130nm,0.9s,mb5.3
SBF Sospel 42.41 307 *e*P **P 07 23 29.3 -0.9**
SBF pmax pmax
comp=Z,65nm,0.9s,mb5.3
SBF Sospel 42.41 307 *e*P **P 07 23 29.3 -0.9**
comp=Z,65nm,0.9s,mb5.3
AUTN L'Aution 42.43 307 *e*P **P 07 23 30.1 -0.3**
ENR Entracque 42.46 307 P **P 07 23 29.9 -0.8**
LUCF Luceram 42.47 307 *e*P **P 07 23 30.8 0.0**
COP Copenhagen 42.53 325 *i* P **P 07 23 35.6 +4.4**
comp=Z,39nm,0.8s,mb5.2
COP Copenhagen 42.53 325 *e*P **P 07 23 35.6 +4.4**
comp=Z,39nm,0.8s,mb5.2
COP LR LR
comp=Z,160nm,18.0s,MS4.0
STV Sta Anna Valdi 42.53 307 P **P 07 23 29.8 -1.5**

TOD Tromm 42.57 315 *eP* **P 07 23 30.8 -0.8**
BFO Black Forest 42.57 313 *eP* **P 07 23 31.4 -0.2**
comp=Z,8.0nm,1.0s,mb4.4
BFO Black Forest 42.57 313 *eP* **P 07 23 31.4 -0.2**
BFO pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
CKFL Kef-Lekhel 42.57 296 P **P 07 23 34.0 +2.4**
MVIF Mont Vial 42.61 307 *eP* **P 07 23 31.6 -0.3**
FELD Feldberg im Sc 42.69 313 *eP* **P 07 23 31.9 -0.6**
PZZ Prazzo 42.73 308 P **P 07 23 30.7 -2.1**
CASM Ain Smara 42.76 295 P **P 07 23 37.0 +3.9**
FENE Fenestrelle 42.83 308 P **P 07 23 31.6 -2.1**
CTEI Djebel Teioual 42.84 295 P **P 07 23 36.0 +2.3**
BBS Basel-Blauen 42.93 312 *eP* **P 07 23 33.6 -0.9**
FRF La Foret Royal 42.94 306 *eP* **P 07 23 33.3 -1.2**
comp=Z,53nm,1.2s,mb4.9
FRF La Foret Royal 42.94 306 *eP* **P 07 23 33.3 -1.2**
FRF pmax pmax
comp=Z,26nm,1.2s,mb4.8
FRF La Foret Royal 42.94 306 *eP* **P 07 23 33.3 -1.2**
comp=Z,26nm,1.2s,mb4.9
TNS Taunus Mts 42.95 316 *eP* **P 07 23 34.5 -0.2**
comp=Z,66nm,1.6s,mb5.1
TNS Taunus Mts 42.95 316 *eP* **P 07 23 34.5 -0.2**
TNS pmax pmax
comp=Z,66nm,1.6s,mb5.1
ZAK Zakamensk 42.97 44 *eP* **P 07 23 35.5 +0.7**
ZAK *e* 07 25 16.5
ZAK pmax pmax
comp=Z,47nm,2.0s,mb4.9
ZAK pmax pmax
comp=Z,28nm,1.6s,mb4.7
MBDF Montbardon 42.99 308 *eP* **P 07 23 33.6 -1.4**
comp=Z,69nm,0.8s,mb5.1
MBDF Montbardon 42.99 308 *eP* **P 07 23 33.6 -1.4**
MBDF pmax pmax
comp=Z,35nm,0.8s,mb5.1
MBDF Montbardon 42.99 308 *eP* **P 07 23 33.6 -1.4**
comp=Z,35nm,0.8s,mb5.1
RRL Cesana Torines 43.01 308 P **P 07 23 34.1 -1.0**
LMR La Mourre 43.01 306 *eP* **P 07 23 33.5 -1.7**
comp=Z,15nm,0.9s,mb4.4
LMR La Mourre 43.01 306 *eP* **P 07 23 33.5 -1.7**
LMR pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
LMR La Mourre 43.01 306 *eP* **P 07 23 33.5 -1.7**
comp=Z,7.4nm,0.9s,mb4.4
APA Apatity 43.04 348⇑ *i* P **P 07 23 35.7 +0.3**
APA *i* pP 07 23 38.4 -1.2
APA *i* 07 25 19.0
APA *i* PPP 07 25 58.0
APA *e* 07 33 09.0
APA MLR MLR
comp=Z,2μm,15.0s,MS5.0
LANF Langenberg 43.06 314 *eP* **P 07 23 34.3 -1.2**
LVZ Lovozero 43.10 348 *eP* **P 07 23 35.9 +0.1**
LVZ pmax pmax
comp=Z,54nm,1.2s,mb5.2
LVZ pmax pmax
comp=N,7.0nm,0.8s
LVZ pmax pmax
comp=E,8.0nm,1.1s
LVZ MLR MLR
comp=N,318nm,13.0s,MS4.6
LVZ MLR MLR
comp=Z,625nm,13.0s,MS4.7
LVZ MLR MLR
comp=E,303nm,12.0s,MS4.6
BNI Bardonecchia 43.10 308 *eP* **P 07 23 35.2 -0.7**
BNI pmax pmax
comp=Z,16nm,0.7s,mb4.9
BNI Bardonecchia 43.10 308 *eP* **P 07 23 35.2 -0.7**
comp=Z,16nm,0.7s,mb4.8
LPG La Plagne 43.11 309 *eP* **P 07 23 34.7 -1.3**
comp=Z,89nm,1.0s,mb5.2
LPG La Plagne 43.11 309 *eP* **P 07 23 34.7 -1.3**
LPG pmax pmax
comp=Z,45nm,1.0s,mb5.2
LPG La Plagne 43.11 309 *eP* **P 07 23 34.7 -1.3**
comp=Z,45nm,1.0s,mb5.2
LPL La Plagne 43.13 309 *eP* **P 07 23 34.7 -1.4**
comp=Z,82nm,0.8s,mb5.2
LPL La Plagne 43.13 309 *eP* **P 07 23 34.7 -1.4**
LPL pmax pmax
comp=Z,41nm,0.8s,mb5.2
LPL La Plagne 43.13 309 *eP* **P 07 23 34.7 -1.4**
comp=Z,41nm,0.8s,mb5.2
RSL Roselend 43.23 309 *eP* **P 07 23 36.0 -0.9**
DFRA Djebel Bou Aff 43.25 296 P **P 07 23 40.0 +2.9**
MOF Molkenrain 43.26 312 *eP* **P 07 23 36.6 -0.5**
CMER Merouana 43.26 294 P **P 07 23 39.0 +1.8**
CDF Champ du Feu 43.28 313 *eP* **P 07 23 35.4 -1.9**
comp=Z,58nm,1.0s,mb5.0
CDF Champ du Feu 43.28 313 *eP* **P 07 23 35.4 -1.9**
CDF pmax pmax
comp=Z,29nm,1.0s,mb5.0
CDF Champ du Feu 43.28 313 *eP* **P 07 23 35.4 -1.9**
comp=Z,29nm,1.0s,mb5.0
OG01 Vacheresse 43.29 310 *eP* **P 07 23 36.7 -0.7**
ECH Echery 43.31 313 *eP* **P 07 23 36.9 -0.7**
LOMF Lomont 43.37 312 *eP* **P 07 23 37.7 -0.3**
ABH Alteburg 43.43 315 *eP* **P 07 23 37.5 -1.0**
HINF Hinteralfeld 43.44 312 *eP* **P 07 23 36.8 -1.8**
comp=Z,68nm,1.1s,mb5.0
HINF Hinteralfeld 43.44 312 *eP* **P 07 23 36.8 -1.8**
HINF pmax pmax
comp=Z,34nm,1.1s,mb5.0
HINF Hinteralfeld 43.44 312 *eP* **P 07 23 36.8 -1.8**
comp=Z,34nm,1.1s,mb5.0
OG25 Le Caire 43.44 307 *eP* **P 07 23 37.0 -1.6**
TLY Talaya 43.54 42 P **P 07 23 43.7 +4.3**
comp=Z,70nm,1.7s,mb5.1,SNR=5.4
TLY Talaya 43.54 42 *eP* **P 07 23 43.0 +3.6**
TLY *e* 07 25 34.4
TLY *e*S **S** **07 30 05.8 -2.2**
TLY *e*SS SS 07 33 21.6 -1.1
TLY pmax pmax
comp=Z,34nm,2.0s,mb4.7
TLY MLR MLR
comp=Z,509nm,12.0s,MS4.7
CKHR Kef el Ahmar 43.56 295 P **P 07 23 42.0 +2.4**
ORIF Oris-en-Rattie 43.65 308 *eP* **P 07 23 38.7 -1.6**
ORIF *e*R
comp=Z,409nm,21.0s
SET Setif 43.65 295 P **P 07 23 41.0 +0.7**
RUP Ruppelstein 43.70 315 *eP* **P 07 23 39.9 -0.8**
CABF La Chapelle 43.74 310 *eP* **P 07 23 40.0 -1.0**
comp=Z,141nm,1.1s,mb5.3
CABF La Chapelle 43.74 310 *eP* **P 07 23 40.0 -1.0**
CABF pmax pmax
comp=Z,71nm,1.1s,mb5.3
CABF La Chapelle 43.74 310 *eP* **P 07 23 40.0 -1.0**
comp=Z,71nm,1.1s,mb5.3
SMRF Simiane la Rot 43.76 307 *eP* **P 07 23 38.7 -2.4**
HAU Haudompre 43.80 312 *eP* **P 07 23 40.7 -0.8**
comp=Z,35nm,0.7s,mb4.9
HAU *e*R
comp=Z,584nm,20.2s
HAU Haudompre 43.80 312 *eP* **P 07 23 40.7 -0.8**
HAU pmax pmax
comp=Z,17nm,0.7s,mb4.9
HAU MLR MLR
comp=Z,580nm,20.3s,MS4.5
HAU Haudompre 43.80 312 *eP* **P 07 23 40.7 -0.8**
comp=Z,17nm,0.7s,mb4.9
HAU LR LR
comp=Z,580nm,20.3s,MS4.5
IBBN Ibbenburen 43.93 319 *eP* **P 07 23 42.7 +0.1**
comp=Z,35nm,1.1s,mb5.0
BUG Bochum--Univer 43.99 317 *eP* **P 07 23 43.2 +0.2**
comp=Z,32nm,1.3s,mb4.9
IRK Irkutsk 44.07 41 *eP* **P 07 23 46.6 +2.9**
IRK *e* 07 25 28.5
IRK pmax pmax
comp=Z,65nm,2.0s,mb5.0
THEF They Montfort 44.08 313 *eP* **P 07 23 42.5 -1.3**
OG05 Jujurieux 44.09 309 *eP* **P 07 23 43.1 -0.7**
WLF Walferdange 44.26 315 *eP* **P 07 23 44.6 -0.6**
comp=Z,20nm,0.9s,mb4.8
WLF Walferdange 44.26 315 P **P 07 23 44.6 -0.6**
WLF AP pP 07 23 48.3 -1.1
WLF XP sP 07 23 50.8 -0.3
WLF Walferdange 44.26 315 *eP* **P 07 23 45.0 -0.2**
WLF pmax pmax
comp=Z,51nm,1.0s,mb5.2
WLF Walferdange 44.26 315 *eP* **P 07 23 45.0 -0.2**
comp=Z,51nm,1.0s,mb5.2
WTSB Winterswijk 44.41 318 *eP* **P 07 23 46.7 +0.3**
comp=Z,14nm,1.2s,mb4.5
SONM Songino Array 44.42 48 P **P 07 23 47.2 +0.7**
comp=Z,58nm,0.9s,mb5.3,baz=258,slow=6.6,SNR=75
SONM S **S** **07 30 19.9 -0.9**
comp=Z,0.2nm,0.5s,baz=254,slow=14,SNR=2.2
SONM LR LR 07 44 46.1
comp=Z,710nm,18.0s,MS4.6,baz=263,slow=40
SONM PKPPKP 07 55 29.4
comp=Z,0.4nm,0.6s,baz=43,slow=7.1,SNR=4.2
SONM Songino Array 44.42 48 P **P 07 23 47.2 +0.7**
SONM S **S** **07 30 19.9 -0.9**
VIVF Saint-Julien-l 44.49 308 *eP* **P 07 23 45.3 -1.7**
comp=Z,81nm,1.0s,mb5.1
VIVF Saint-Julien-l 44.49 308 *eP* **P 07 23 45.3 -1.7**
VIVF pmax pmax
comp=Z,40nm,1.0s,mb5.1
VIVF Saint-Julien-l 44.49 308 *eP* **P 07 23 45.3 -1.7**
comp=Z,40nm,1.0s,mb5.1
MUD Monsted U'grnd 44.51 325 *i* P **P 07 23 48.6 +1.4**
comp=Z,34nm,0.9s,mb5.2
MUD
comp=Z,400nm,18.0s
MUD Monsted U'grnd 44.51 325 *i* P **P 07 23 48.6 +1.4**
MUD pmax pmax
comp=Z,34nm,0.9s,mb5.2
MUD MLR MLR
comp=Z,410nm,18.0s,MS4.4
MEM Membach 44.56 316⇑ P **P 07 23 47.0 -0.6**
MEM AP pP 07 23 51.8 0.0
HGN Heimansgroeve 44.64 316⇑ *eP* **P 07 23 48.7 +0.4**
comp=Z,56nm,1.7s,mb5.1
HGN *e*S **S** **07 30 25.9 +1.8**
HGN *e*SS SS 07 33 54.5 +10
HGN Heimansgroeve 44.64 316⇑ *eP* **P 07 23 48.7 +0.4**
comp=Z,56nm,1.7s,mb5.1
HGN *e*S **S** **07 30 25.9 +1.8**
BEBN Eben Emael 44.81 316 AP pP 07 23 53.6 -0.2
ULN Ulaanbaatar 44.86 48 *eP* **P 07 23 50.7 +0.7**
ULN pmax pmax
comp=Z,62nm,0.8s,mb5.5
ULN Ulaanbaatar 44.86 48 *eP* **P 07 23 50.7 +0.7**
comp=Z,62nm,0.8s,mb5.5
BCLA Clavier 44.96 316 P **P 07 23 51.0 +0.2**
comp=Z,21nm,1.1s,mb4.9
LASF Ste Croix 45.00 307 *eP* **P 07 23 49.9 -1.2**
comp=Z,99nm,0.9s,mb5.3
LASF Ste Croix 45.00 307 *eP* **P 07 23 49.9 -1.2**
comp=Z,49nm,0.9s,mb5.3
GYA Guiyang 45.15 78⇑ *iP* **P 07 23 52.7 +0.4**
GYA AP pP 07 23 56.9 +0.4
GYA XP sP 07 23 59.8 +1.7
GYA PP PP 07 25 38.7 +0.9
GYA S **S** **07 30 31.1 -0.2**
GYA SS SS 07 33 55.7 +1.9
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,160nm,5.4s
GYA LR LR
comp=N,520nm,13.8s,MS4.8
GYA LR LR
comp=E,480nm,13.5s,MS4.8
GYA LR LR
comp=Z,450nm,14.7s,MS4.5
GIVF Givet 45.19 315 *eP* **P 07 23 52.3 -0.3**
comp=Z,156nm,1.1s,mb5.5
GIVF Givet 45.19 315 *eP* **P 07 23 52.3 -0.3**
GIVF pmax pmax
comp=Z,78nm,1.1s,mb5.5
GIVF Givet 45.19 315 *eP* **P 07 23 52.3 -0.3**
comp=Z,78nm,1.1s,mb5.5
COLF Collangettes 45.25 309 *eP* **P 07 23 52.5 -0.6**
SMF Signal de Mont 45.28 310 *eP* **P 07 23 51.8 -1.5**
comp=Z,184nm,1.0s,mb5.5
SMF Signal de Mont 45.28 310 *eP* **P 07 23 51.8 -1.5**
SMF pmax pmax
comp=Z,92nm,1.0s,mb5.6
SMF Signal de Mont 45.28 310 *eP* **P 07 23 51.8 -1.5**
comp=Z,92nm,1.0s,mb5.5
DOU Dourbes 45.34 315 P **P 07 23 54.3 +0.5**
comp=Z,19nm,0.8s,mb5.0
LOR Lormes 45.35 311 *eP* **P 07 23 52.2 -1.7**
comp=Z,49nm,0.8s,mb5.1
LOR *e*R
comp=Z,799nm,20.5s
LOR Lormes 45.35 311 *eP* **P 07 23 52.2 -1.7**
LOR pmax pmax
comp=Z,25nm,0.8s,mb5.1
LOR MLR MLR
comp=Z,800nm,20.5s,MS4.6
LOR Lormes 45.35 311 *eP* **P 07 23 52.2 -1.7**
comp=Z,25nm,0.8s,mb5.1
LOR LR LR
comp=Z,800nm,20.5s,MS4.6
PLDF La Plantade 45.35 309 *eP* **P 07 23 53.5 -0.4**
NB2 NORSAR Subarra 45.50 331 P **P 07 23 53.6 -1.4**
comp=Z,10nm,0.8s,mb4.7,baz=116,slow=7.9
NB2 NORSAR Subarra 45.50 331 P **P 07 23 53.6 -1.4**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
NOA NORSAR Array B 45.50 331 P **P 07 23 53.4 -1.6**
comp=Z,25nm,1.0s,mb5.0,baz=118,slow=8.0,SNR=17
NOA PcP PcP 07 25 34.5 +0.7
comp=Z,3.9nm,0.9s,baz=114,slow=3.9,SNR=3.5
NOA LR LR 07 45 57.7
comp=Z,391nm,19.1s,MS4.4,baz=130,slow=40
NOA NORSAR Array B 45.50 331 P **P 07 23 53.4 -1.6**
NOA 07 25 34.5
NOA NORSAR Array B 45.50 331 P **P 07 23 53.4 -1.6**
NOA PcP PcP 07 25 34.5 +0.7
NOA LR LR 07 45 57.8
LBL Lubilhac 45.53 308 *eP* **P 07 23 55.1 -0.2**
NAO01 NORSAR Array S 45.55 331 *eP* **P 07 23 55.0 -0.5**
comp=Z,27nm,1.0s,mb5.1
SSF Saint Saulge 45.56 311 *eP* **P 07 23 54.1 -1.4**
comp=Z,110nm,0.9s,mb5.5
SSF Saint Saulge 45.56 311 *eP* **P 07 23 54.1 -1.4**
SSF pmax pmax
comp=Z,55nm,0.9s,mb5.5
SSF Saint Saulge 45.56 311 *eP* **P 07 23 54.1 -1.4**
comp=Z,55nm,0.9s,mb5.5
BAIF Baives 45.58 315 *eP* **P 07 23 55.4 -0.3**
comp=Z,210nm,1.1s,mb5.7
BAIF Baives 45.58 315 *eP* **P 07 23 55.4 -0.3**
BAIF pmax pmax
comp=Z,105nm,1.1s,mb5.7
BAIF Baives 45.58 315 *eP* **P 07 23 55.4 -0.3**
comp=Z,105nm,1.1s,mb5.7
KONO Kongsberg 45.59 329 *eP* **P 07 23 59.8 +4.1**
KONO *e*SS SS 07 34 09.5 +7.7
KONO Kongsberg 45.59 329 *d iP* **P 07 23 57.9 +2.1**
KONO Kongsberg 45.59 329 *eP* **P 07 23 56.9 +1.1**
comp=Z,42nm,1.1s,mb5.3
ETOS Mallorca 45.61 300 P **P 07 23 54.3 -1.7**
comp=Z,294nm,1.5s,mb6.0
SNF Seneffe 45.61 316 P **P 07 23 56.0 0.0**
EMHD Djebel Mahouad 45.62 295 P **P 07 23 57.3 +1.3**
UCC Uccle 45.62 316 P **P 07 23 56.3 +0.3**
AVF Avril sur Loir 45.63 310 *eP* **P 07 23 54.5 -1.6**
comp=Z,68nm,0.9s,mb5.3
AVF Avril sur Loir 45.63 310 *eP* **P 07 23 54.5 -1.6**
AVF pmax pmax
comp=Z,34nm,0.9s,mb5.3
AVF Avril sur Loir 45.63 310 *eP* **P 07 23 54.5 -1.6**
comp=Z,34nm,0.9s,mb5.3
AGO Saint Agoulin 45.70 309 *eP* **P 07 23 56.5 -0.1**
PYM Petit Puy Mans 45.75 309 *eP* **P 07 23 56.2 -0.9**
XAN Xi'an 45.89 68 P **P 07 23 58.2 +0.1**
XAN AP pP 07 24 08.9 +6.6
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
XAN AMB AMB
comp=Z,120nm,7.2s
XAN LR LR
comp=N,530nm,16.0s,MS4.7
XAN LR LR
comp=E,480nm,15.3s,MS4.7
XAN LR LR
comp=Z,640nm,16.7s,MS4.6
BGF Bois d'Agland 45.95 310 *eP* **P 07 23 57.2 -1.4**
comp=Z,70nm,0.7s,mb5.4
BGF Bois d'Agland 45.95 310 *eP* **P 07 23 57.2 -1.4**
BGF pmax pmax
comp=Z,35nm,0.7s,mb5.4
BGF Bois d'Agland 45.95 310 *eP* **P 07 23 57.2 -1.4**
comp=Z,35nm,0.7s,mb5.4
FRNF Fournols 46.03 308 *eP* **P 07 23 59.7 +0.5**
VERF Verneugheol 46.12 309 *eP* **P 07 23 59.9 0.0**
MTLF Montolieu 46.14 305 *eP* **P 07 23 59.6 -0.5**
comp=Z,159nm,1.0s,mb5.6
MTLF Montolieu 46.14 305 *eP* **P 07 23 59.6 -0.5**
MTLF pmax pmax
comp=Z,80nm,1.0s,mb5.6
MTLF Montolieu 46.14 305 *eP* **P 07 23 59.6 -0.5**
comp=Z,80nm,1.0s,mb5.6
KEV Kevo 46.16 347 *ep* **P 07 23 59.4 -0.9**
comp=Z,62nm,0.8s,mb5.6
KEV Kevo 46.16 347 *eP* **P 07 23 59.4 -0.9**
KEV pmax pmax
comp=Z,62nm,0.8s,mb5.6
HYF Humbligny 46.17 311 *eP* **P 07 23 59.7 -0.7**
VALF Valcebollere 46.25 304 *eP* **P 07 24 01.4 +0.4**
ARCES ARCESS Array B 46.30 346 P **P 07 24 00.6 -0.9**
comp=Z,17nm,0.9s,mb5.0,baz=143,slow=8.8,SNR=45
ARCES PcP PcP 07 25 37.2 +0.6
comp=Z,18nm,0.9s,baz=242,slow=2.6,SNR=5.0
ARCES LR LR 07 47 51.1
comp=Z,548nm,18.7s,MS4.5,baz=137,slow=42
ARCES ARCESS Array B 46.30 346 P **P 07 24 00.6 -0.8**
ARCES 07 25 37.2
ARCES ARCESS Array B 46.30 346 P **P 07 24 00.6 -0.8**
ARCES PcP PcP 07 25 37.2 +0.6
ARCES LR LR 07 47 51.1
ARE0 ARCESS Array S 46.30 346 *eP* **P 07 24 00.9 -0.6**
CAF Calviac 46.34 308 *eP* **P 07 23 59.8 -1.9**
comp=Z,98nm,0.9s,mb5.4
CAF Calviac 46.34 308 *eP* **P 07 23 59.8 -1.9**
CAF pmax pmax
comp=Z,49nm,0.9s,mb5.4
CAF Calviac 46.34 308 *eP* **P 07 23 59.8 -1.9**
comp=Z,49nm,0.9s,mb5.4
TCF Toulx Ste Croi 46.36 309 *eP* **P 07 24 00.7 -1.1**
comp=Z,89nm,1.0s,mb5.4
TCF Toulx Ste Croi 46.36 309 *eP* **P 07 24 00.7 -1.1**
TCF pmax pmax
comp=Z,45nm,1.0s,mb5.3
TCF Toulx Ste Croi 46.36 309 *eP* **P 07 24 00.7 -1.1**
comp=Z,44nm,1.0s,mb5.4
BTO Baotou 46.42 58 *eP* **P 07 24 02.4 0.0**
KTK1 Kautokeino 46.42 344 *eP* **P 07 24 02.6 +0.2**
EMIR Miracle 46.60 303 P **P 07 24 04.0 +0.2**
comp=Z,107nm,0.8s,mb5.8
RJF Les Rejaudoux 46.76 308 *eP* **P 07 24 04.3 -0.7**
comp=Z,158nm,1.0s,mb5.6
RJF *e*R
comp=Z,288nm,21.2s
RJF Les Rejaudoux 46.76 308 *eP* **P 07 24 04.3 -0.7**
RJF pmax pmax
comp=Z,79nm,1.0s,mb5.6
RJF MLR MLR
comp=Z,290nm,21.3s,MS4.2
RJF Les Rejaudoux 46.76 308 *eP* **P 07 24 04.3 -0.7**
comp=Z,79nm,1.0s,mb5.6
RJF LR LR
comp=Z,290nm,21.3s,MS4.2
EBNR Beni Rached 46.76 296 P **P 07 24 06.0 +1.0**
EIBI Ibiza 46.76 299 P **P 07 24 04.8 -0.2**
comp=Z,528nm,2.1s,mb6.1
EPOB Poblet 46.93 303⇑ P **P 07 24 06.5 +0.1**
comp=Z,162nm,1.3s,mb5.8
MLS Moulis 46.94 305 *eP* **P 07 24 06.1 -0.3**
NSS Namsos 46.95 336 *eP* **P 07 24 05.5 -1.0**
MOR8 Moi Rana 47.02 338 *eP* **P 07 24 09.8 +2.8**
ETRT Tiaret 47.02 294 P **P 07 24 08.3 +1.2**
EANR 'Ain N'Sour 47.14 295 P **P 07 24 09.5 +1.6**
LFF La Frestale 47.28 308 *eP* **P 07 24 08.3 -0.8**
comp=Z,106nm,0.9s,mb5.5
LFF La Frestale 47.28 308 *eP* **P 07 24 08.3 -0.8**
LFF pmax pmax
comp=Z,53nm,0.9s,mb5.5
LFF La Frestale 47.28 308 *eP* **P 07 24 08.3 -0.8**
comp=Z,53nm,0.9s,mb5.5
EBR Ebro Roquetas 47.38 302 *eP* **P 07 24 10.7 +0.9**
ERTA Horta de San J 47.49 302 P **P 07 24 11.2 +0.4**
comp=Z,106nm,1.1s,mb5.7
EPF Esparros 47.50 305 *eP* **P 07 24 08.8 -2.0**
comp=Z,14nm,0.8s,mb4.6
EPF Esparros 47.50 305 *eP* **P 07 24 08.8 -2.0**
EPF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
EPF Esparros 47.50 305 *eP* **P 07 24 08.8 -2.0**
comp=Z,7.0nm,0.8s,mb4.6
EGRA Graus 47.50 304 P **P 07 24 09.4 -1.4**
comp=Z,37nm,0.8s,mb5.5
STOK Stokkvaagen 47.58 338 *eP* **P 07 24 11.8 +0.4**
HHC Hu-ho-hao-te 47.59 58 *eP* **P 07 24 11.8 +0.3**
HHC AP pP 07 24 16.6 +0.9
HHC XP sP 07 24 18.7 +1.3
HHC PCP PcP 07 25 42.8 +1.6
HHC PP PP 07 26 01.9 -1.1
HHC SCP ScP 07 29 34.8 -0.2
HHC PCS PcS 07 29 35.9 -0.7
HHC S **S** **07 31 04.0 -2.5**
HHC SCS ScS 07 34 02.1 -2.9
HHC AMB AMB
comp=Z,80nm,0.8s,mb5.8
HHC AMB AMB
comp=Z,160nm,4.2s
HHC LR LR
comp=N,580nm,21.4s
HHC LR LR
comp=E,230nm,13.1s
HHC LR LR
comp=Z,350nm,20.2s,MS4.3
PSI Prapat 47.60 113 P **P 07 24 11.3 -0.3**
comp=Z,4.6nm,0.5s,mb4.7,baz=2.8,slow=3.6,SNR=8.4
PSI LR LR 07 42 13.3
comp=Z,344nm,21.8s,MS4.3,baz=346,slow=34
EBIE Bielsa 47.64 304 P **P 07 24 13.5 +1.7**
comp=Z,49nm,1.2s,mb5.4
LABF Labassere 47.69 305 *eP* **P 07 24 12.5 +0.2**
KULM Kulim 47.70 109 *eP* **P 07 24 11.5 -0.8**
BER Bergen 47.84 329 *eS* **S** **07 31 12.7 +2.7**
BER AMS AMS 07 49 57.6
comp=Z,432nm,16.9s,MS4.5
TRO Tromso 47.94 344 *eP* **P 07 24 11.7 -2.4**
TRO *e*SS SS 07 34 43.5 +3.4
TRO AMS AMS 07 48 40.7
comp=Z,322nm,17.9s,MS4.3
TRO Tromso 47.94 344 *eP* **P 07 24 11.7 -2.5**
TRO SNR=24
TRO *e*SS SS 07 34 43.5 +3.5
SNR=29
EBEN Beniarda 48.00 299 P **P 07 24 13.8 -0.9**
comp=Z,236nm,1.6s,mb6.0
MFF Saint Martin d 48.01 310 *eP* **P 07 24 13.0 -1.7**
comp=Z,53nm,1.1s,mb5.2
MFF Saint Martin d 48.01 310 *eP* **P 07 24 13.0 -1.7**
MFF pmax pmax
comp=Z,26nm,1.1s,mb5.2
MFF Saint Martin d 48.01 310 *eP* **P 07 24 13.0 -1.7**
comp=Z,26nm,1.1s,mb5.2
ESAC San Caprasio 48.09 303 P **P 07 24 15.0 -0.3**
comp=Z,103nm,0.8s,mb5.9
EMOS Mosqueruela 48.12 301 P **P 07 24 16.5 +0.9**
comp=Z,140nm,1.7s,mb5.7
ETSF Etsaut 48.16 305 *eP* **P 07 24 15.5 -0.4**
comp=Z,62nm,0.8s,mb5.4
ETSF Etsaut 48.16 305 *eP* **P 07 24 15.5 -0.4**
ETSF pmax pmax
comp=Z,31nm,0.8s,mb5.4
ETSF Etsaut 48.16 305 *eP* **P 07 24 15.5 -0.4**
comp=Z,31nm,0.8s,mb5.4
LDF La Druitiere 48.16 312 *eP* **P 07 24 14.1 -1.8**
comp=Z,43nm,0.6s,mb5.3
LDF La Druitiere 48.16 312 *eP* **P 07 24 14.1 -1.8**
LDF pmax pmax
comp=Z,22nm,0.6s,mb5.4
LDF La Druitiere 48.16 312 *eP* **P 07 24 14.1 -1.8**
comp=Z,22nm,0.6s,mb5.3
ATE Arette 48.26 305 *eP* **P 07 24 16.4 -0.3**
TSA1 Sevenoaks 48.32 316 *eP* **P 07 24 15.4 -1.7**
FLN La Foliniere 48.42 313 *eP* **P 07 24 16.2 -1.7**
comp=Z,99nm,1.0s,mb5.5
FLN *e*R
comp=Z,490nm,21.8s
FLN La Foliniere 48.42 313 *eP* **P 07 24 16.2 -1.7**
FLN pmax pmax
comp=Z,50nm,1.0s,mb5.5

FLN MLR MLR
comp=Z,490nm,21.8s,MS4.5
FLN La Foliniere 48.42 313 *e*P **P 07 24 16.2 -1.7**
comp=Z,50nm,1.0s,mb5.5
FLN LR LR
comp=Z,490nm,21.8s,MS4.5
LARF Larrau 48.47 305 *e*P **P 07 24 18.4 +0.1**
ECHE Chera 48.53 300 P **P 07 24 19.4 +0.7**
ECHE pmax pmax
comp=Z,20nm,0.7s,mb5.3
ECHE Chera 48.53 300 P **P 07 24 19.4 +0.6**
comp=Z,20nm,0.7s,mb5.2
GRR Gorron 48.63 312 *e*P **P 07 24 18.0 -1.5**
comp=Z,16nm,0.5s,mb5.0
GRR Gorron 48.63 312 *e*P **P 07 24 18.0 -1.5**
GRR pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
GRR Gorron 48.63 312 *e*P **P 07 24 18.0 -1.5**
comp=Z,8.2nm,0.5s,mb5.0
SJPF Ste Jean 48.65 305 *e*P **P 07 24 19.3 -0.3**
comp=Z,64nm,0.7s,mb5.4
SJPF Ste Jean 48.65 305 *e*P **P 07 24 19.3 -0.3**
SJPF pmax pmax
comp=Z,32nm,0.7s,mb5.5
SJPF Ste Jean 48.65 305 *e*P **P 07 24 19.3 -0.3**
comp=Z,32nm,0.7s,mb5.4
EALK Alkurruntz 48.85 305 P **P 07 24 22.4 +1.1**
comp=Z,48nm,1.1s,mb5.4
EMUR La Murta 48.85 298 P **P 07 24 19.0 -2.2**
comp=Z,45nm,1.4s,mb5.3
ELIZ Elizondo 48.87 305 P **P 07 24 20.8 -0.5**
ELIZ pmax pmax
comp=Z,32nm,1.2s,mb5.2
ELIZ Elizondo 48.87 305 P **P 07 24 20.8 -0.5**
comp=Z,32nm,1.2s,mb5.2
SKP1 Kophill 48.98 316 *e*P **P 07 24 21.9 -0.4**
ETOB Tobarra 49.04 299 P **P 07 24 22.9 +0.3**
comp=Z,85nm,1.0s,mb5.7
ETOR Torete 49.31 302 P **P 07 24 23.8 -0.9**
ETOR pmax pmax
comp=Z,12nm,1.0s,mb4.9
ETOR Torete 49.31 302 P **P 07 24 23.8 -0.9**
comp=Z,12nm,1.0s,mb4.9
JRS Jersey 49.51 313 *e*P **P 07 24 25.1 -1.2**
JLP Les Platons 49.53 313 *e*P **P 07 24 24.9 -1.5**
SWN1 Swindon 49.57 316 *e*P **P 07 24 25.3 -1.4**
JVM Valle D.L. Mar 49.59 313 *e*P **P 07 24 25.8 -1.1**
CIT Chita 49.62 43 *e*P **P 07 24 27.0 -0.1**
CIT *e* 07 31 34.7
CIT *e* 07 34 16.0
CIT pmax pmax
comp=Z,117nm,1.7s,mb5.6
ENIJ Nijar 49.70 297 P **P 07 24 25.1 -2.6**
ENIJ pmax pmax
comp=Z,22nm,0.9s,mb5.2
ENIJ Nijar 49.70 297 P **P 07 24 25.1 -2.6**
comp=Z,22nm,0.9s,mb5.2
LSZ Lusaka 49.72 216 LR LR 07 45 31.0
comp=Z,1μm,19.9s,MS5.0,baz=30,slow=36
LSZ Lusaka 49.72 216 *e*P **P 07 24 29.2 +1.4**
LSZ pmax pmax
comp=Z,45nm,1.3s,mb5.3
LSZ Lusaka 49.72 216 *e*P **P 07 24 29.2 +1.4**
comp=Z,45nm,1.3s,mb5.3
SGMF Saint Gilles 49.75 312 *e*P **P 07 24 26.7 -1.4**
comp=Z,88nm,0.9s,mb5.5
SGMF Saint Gilles 49.75 312 *e*P **P 07 24 26.7 -1.4**
SGMF pmax pmax
comp=Z,44nm,0.9s,mb5.5
SGMF Saint Gilles 49.75 312 *e*P **P 07 24 26.7 -1.4**
comp=Z,44nm,0.9s,mb5.5
KWE Weaver Farm 49.79 318 *e*P **P 07 24 27.3 -1.2**
SWK Warminster 49.80 316 *e*P **P 07 24 27.5 -1.0**
EHUE Huescar 49.92 298 P **P 07 24 29.3 -0.1**
EHUE pmax pmax
comp=Z,45nm,1.0s,mb5.5
EHUE Huescar 49.92 298 P **P 07 24 29.3 -0.1**
comp=Z,45nm,1.0s,mb5.5
QIZ Qiongzhong 50.00 87 P **P 07 24 30.7 +0.7**
QIZ S **S 07 31 41.6 +1.3**
QIZ AMB AMB
comp=Z,20nm,1.1s,mb5.1
QIZ LR LR
comp=E,200nm,20.8s
QIZ Qiongzhong 50.00 87 *e*P **P 07 24 31.0 +1.0**
comp=E,26nm,0.9s,mb5.2
QUIF Quistinic 50.14 311 *e*P **P 07 24 29.4 -1.6**
comp=E,130nm,1.1s,mb5.6
QUIF Quistinic 50.14 311 *e*P **P 07 24 29.4 -1.6**
QUIF pmax pmax
comp=Z,65nm,1.1s,mb5.6
QUIF Quistinic 50.14 311 *e*P **P 07 24 29.4 -1.6**
comp=Z,65nm,1.1s,mb5.6
HGH Gray Hill 50.21 316⇑ *e*P **P 07 24 30.6 -1.0**
HGH AMb AMB 07 24 33.3
comp=Z,88nm,1.6s,mb5.5
ROSF Rostrenen 50.23 312 *e*P **P 07 24 30.2 -1.6**
comp=Z,80nm,1.0s,mb5.4
ROSF Rostrenen 50.23 312 *e*P **P 07 24 30.2 -1.6**
ROSF pmax pmax
comp=Z,40nm,1.0s,mb5.4
ROSF Rostrenen 50.23 312 *e*P **P 07 24 30.2 -1.6**
comp=Z,40nm,1.0s,mb5.4
EBER Berja 50.25 297 P **P 07 24 32.4 +0.5**
comp=Z,120nm,1.0s,mb5.9
ELAN Lanestosa 50.26 305 P **P 07 24 31.7 -0.2**
comp=Z,71nm,1.0s,mb5.7
EQES Quesada 50.30 298 P **P 07 24 31.8 -0.5**
comp=Z,76nm,1.0s,mb5.7
HLM1 Long Mynd 50.35 317⇑ *e*P **P 07 24 31.8 -0.9**
HLM1 AMb AMB 07 24 33.9
comp=Z,37nm,1.5s,mb5.2
MCH1 Michaelchurch 50.36 317⇑ *e*P **P 07 24 31.7 -1.1**
SSP1 Stoney Pound 50.48 317⇑ *e*P **P 07 24 32.8 -0.8**
SSP1 AMb AMB 07 24 36.5
comp=Z,70nm,1.3s,mb5.5
SBD1 Bryn Du 50.63 318⇑ *e*P **P 07 24 34.2 -0.6**
SBD1 AMb AMB 07 24 40.6
comp=Z,61nm,1.8s,mb5.2
BDL Dobcross Hall 50.70 320 *e*P **P 07 24 34.5 -0.8**
ESY Stoneypath 50.70 322⇑ *e*P **P 07 24 34.3 -1.0**
ESY AMb AMB 07 24 42.2
comp=Z,97nm,1.6s,mb5.5
ECOG Cogollos-Vega 50.75 297 P **P 07 24 35.1 -0.5**
ECOG pmax pmax
comp=Z,23nm,0.7s,mb5.2
ECOG Cogollos-Vega 50.75 297 P **P 07 24 35.1 -0.5**
comp=Z,23nm,0.7s,mb5.2
CKE Keswick 50.76 320 *e*P **P 07 24 35.1 -0.6**
HEX Exmoor 50.77 315⇑ *e*P **P 07 24 34.9 -0.9**
HEX AMb AMB 07 24 42.1
comp=Z,92nm,1.4s,mb5.5
EGUA Guajares 50.80 297 P **P 07 24 35.2 -0.8**
EGUA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
EGUA Guajares 50.80 297 P **P 07 24 35.2 -0.8**
comp=Z,4.1nm,0.8s,mb4.4
DYA Yadsworthy 50.80 314⇑ *e*P **P 07 24 35.2 -0.9**
ESDC Sonseca Array 50.83 301 P **P 07 24 35.8 -0.5**
comp=Z,21nm,0.8s,mb5.1,baz=66,slow=7.4,SNR=27
ESDC Sonseca Array 50.83 301 P **P 07 24 36.2 -0.1**
comp=Z,19nm,0.8s,mb5.1
ESLA Sonseca Array 50.83 301 *e*P **P 07 24 36.3 0.0**
comp=Z,6.4nm,0.9s,mb4.5
BOD Bodaibo 50.85 36 *e*P **P 07 24 36.3 -0.1**
BOD pmax pmax
comp=Z,124nm,0.9s,mb5.8
ECK Cauldkaine Hil 50.87 321 *e*P **P 07 24 35.8 -0.7**
ECK AMb AMB 07 24 40.8
comp=Z,34nm,1.4s,mb5.1
BBO1 Bothel 50.87 320 *e*P **P 07 24 35.4 -1.1**
GUD Guadarrama 50.91 302 P **P 07 24 36.7 -0.2**
GUD pmax pmax
comp=Z,34nm,1.0s,mb5.2
GUD Guadarrama 50.91 302 P **P 07 24 36.7 -0.1**
comp=Z,34nm,1.0s,mb5.2
EBL Broad Law 50.91 321 *e*P **P 07 24 36.6 -0.3**
ESK Eskdalemuir 50.93 321 *e*P **P 07 24 37.2 +0.2**
ESK pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ESK Eskdalemuir 50.93 321 *e*P **P 07 24 37.2 +0.2**
comp=Z,2.1nm,0.4s,mb4.4
WHN Wuhan 50.95 71 P **P 07 24 38.3 +1.1**
WHN S **S 07 31 51.7 -1.9**
WHN LR LR
comp=Z,1μm,13.5s,MS5.0

ERON Agron 50.97 297 P **P 07 24 37.0 -0.3**
comp=Z,35nm,0.7s,mb5.4
XDE Dent Fell 50.97 320 *e*P **P 07 24 36.6 -0.8**
XDE AMb AMB 07 24 43.2
comp=Z,36nm,1.2s,mb5.2
WPM1 Penmaenmawr 51.06 318 *e*P **P 07 24 36.9 -1.1**
MME1 Meikle Cairn 51.14 323 *e*P **P 07 24 37.0 -1.6**
BWH Wardlaw 51.16 321 *e*P **P 07 24 38.8 0.0**
ELOJ Sierra Loja 51.23 297 P **P 07 24 37.9 -1.3**
ELOJ pmax pmax
comp=Z,44nm,1.1s,mb5.3
ELOJ Sierra Loja 51.23 297 P **P 07 24 37.9 -1.3**
comp=Z,44nm,1.1s,mb5.3
ELUQ Luque 51.27 298 P **P 07 24 37.4 -2.2**
ELUQ pmax pmax
comp=Z,26nm,0.9s,mb5.2
ELUQ Luque 51.27 298 P **P 07 24 37.4 -2.1**
comp=Z,26nm,0.9s,mb5.2
YRE Yr Eifl 51.34 318 *e*P **P 07 24 39.0 -1.1**
YRE AMb AMB 07 24 46.8
comp=Z,37nm,1.7s,mb5.0
MCD Coleburn Disti 51.34 324 *e*P **P 07 24 39.0 -1.1**
WLF1 Llynfaes 51.35 318 *e*P **P 07 24 39.8 -0.4**
CSA1 St Austell 51.41 314 *e*P **P 07 24 40.2 -0.4**
EADA Adamuz 51.45 299 ⇑P **P 07 24 40.8 -0.1**
comp=Z,133nm,1.3s,mb5.7
WCB1 Church Bay 51.45 318 *e*P **P 07 24 40.5 -0.4**
YRC Rhoscolyn 51.46 318 *e*P **P 07 24 40.3 -0.7**
YRC AMb AMB 07 24 43.2
comp=Z,44nm,1.8s,mb5.1
CMA1 Manaccan 51.54 314 *e*P **P 07 24 41.0 -0.6**
EARI Arriondas 51.55 305 P **P 07 24 40.9 -0.9**
comp=Z,157nm,2.1s,mb5.6
CGH1 Goonhilly 51.57 314⇑ *e*P **P 07 24 41.0 -0.8**
CRQ2 Rosemanowes 2 51.58 314⇑ *e*P **P 07 24 41.1 -0.8**
CRQ2 AMb AMB 07 24 44.0
comp=Z,78nm,1.6s,mb5.4
CGW Gweek 51.61 314 *e*P **P 07 24 41.4 -0.7**
CCA1 Carnmenellis 51.62 314⇑ *e*P **P 07 24 41.4 -0.7**
EAB Aberfoyle 51.70 322 *e*P **P 07 24 42.3 -0.5**
GAL1 Galloway 51.72 320 *e*P **P 07 24 42.1 -0.8**
EMIJ Mijas 51.79 297 ⇑P **P 07 24 41.8 -1.6**
comp=Z,101nm,1.0s,mb5.7
CPZ Penzance 51.84 314 *e*P **P 07 24 43.0 -0.8**
CPZ AMb AMB 07 24 50.3
comp=Z,42nm,1.3s,mb5.2
GZH Guangzhou 51.86 81 P **P 07 24 43.2 -0.8**
GZH S **S 07 32 04.8 -1.4**
GZH LR LR
comp=N,380nm,13.4s,MS4.7
GZH LR LR
comp=E,440nm,18.0s,MS4.7
GZH LR LR
comp=Z,780nm,17.1s,MS4.8
ZFT Errachidia 52.16 291 *i*P **P 07 24 46.0 -0.2**
GMK Mull of Kintyr 52.29 321 *e*P **P 07 24 46.5 -0.6**
TIA Tai'an 52.30 64 P **P 07 24 48.0 +0.7**
TORD Torodi Ar. Bea 52.35 266 P **P 07 24 46.9 -0.7**
comp=Z,39nm,0.7s,mb5.5,baz=60,slow=6.9,SNR=247
EJIF Jimena Fronter 52.36 297 P **P 07 24 46.7 -1.0**
EJIF pmax pmax
comp=Z,32nm,1.2s,mb5.1
EJIF Jimena Fronter 52.36 297 P **P 07 24 46.7 -1.1**
comp=Z,32nm,1.2s,mb5.1
GMM Mts of Mourne 52.37 319 *e*P **P 07 24 46.9 -0.9**
KAC Achnashellach 52.42 323⇑ *e*P **P 07 24 47.1 -1.0**
DSB Dublin 52.53 318 *e*P **P 07 24 48.2 -0.8**
comp=Z,27nm,1.0s,mb5.1
CZD Col de Zad 52.55 292 *i*P **P 07 24 50.5 +1.4**
GCL Cushendall 52.56 320 *e*P **P 07 24 48.4 -0.8**
ESPR Espera 52.61 297 ⇑P **P 07 24 48.3 -1.3**
comp=Z,90nm,1.0s,mb5.7
KAR1 Arisaig 52.62 323 *e*P **P 07 24 49.0 -0.7**
DLF Lyons Farm 52.63 318⇑ *i*P **P 07 24 48.4 -1.3**
MIF Mishlifen 52.64 293 *i*P **P 07 24 50.0 +0.2**
ECAL Calabor 52.76 304 P **P 07 24 50.6 0.0**
comp=Z,68nm,1.2s,mb5.5
PBRG Braganca 52.77 304 *e*P **P 07 24 50.8 0.0**
comp=Z,42nm,1.6s,mb5.1
EPON Pontenova 52.97 305 P **P 07 24 50.1 -2.1**
comp=Z,117nm,1.8s,mb5.5
ERUA La Rua 53.03 304 P **P 07 24 52.0 -0.6**
ERUA pmax pmax
comp=Z,23nm,1.2s,mb5.0
ERUA La Rua 53.03 304 P **P 07 24 52.0 -0.6**
comp=Z,22nm,1.2s,mb5.0
DCN Croghan 53.08 318⇑ *i*P **P 07 24 52.2 -0.8**
EMIN Mina Concepcio 53.14 298 P **P 07 24 52.2 -1.3**
comp=Z,60nm,1.2s,mb5.4
EBAD Badajoz 53.28 300 P **P 07 24 52.2 -2.3**
comp=Z,29nm,1.1s,mb5.1
HIA Hailar 53.37 47 *e*P **P 07 24 55.2 0.0**
HIA pmax pmax
comp=Z,61nm,0.9s
HIA Hailar 53.37 47 *e*P **P 07 24 55.2 +0.1**
comp=Z,61nm,0.9s,mb5.5
KIB El Ksiba 53.46 292 *i*P **P 07 24 56.0 +0.2**
MTE Manteigas 53.51 302 *e*P **P 07 24 56.5 +0.3**
comp=Z,71nm,1.6s,mb5.3
MTE *i*LQ 07 32 08.9
MTE Manteigas 53.51 302 *e*P **P 07 24 56.6 +0.5**
comp=Z,48nm,1.3s,mb5.3
PCBR Castelo Branco 53.52 301 *e*P **P 07 24 55.3 -0.9**
comp=Z,62nm,1.5s,mb5.3
PVIS Viseu 53.74 302 *e*P **P 07 24 58.6 +0.7**
comp=Z,63nm,1.6s,mb5.3
PCAB Cabril 53.74 303 *e*P **P 07 24 59.0 +1.1**
comp=Z,57nm,1.7s,mb5.2
ELOB Lobios 53.75 304 P **P 07 24 57.7 -0.3**
comp=Z,54nm,1.3s,mb5.3
EGRO El Granado 53.81 298 P **P 07 24 55.8 -2.6**
comp=Z,77nm,1.6s,mb5.4
TZC Tazercounte 53.92 292 *i*P **P 07 24 59.5 +0.3**
STS Santiago 54.02 305 P **P 07 24 59.1 -0.8**
STS pmax pmax
comp=Z,26nm,0.9s,mb5.2
STS Santiago 54.02 305 P **P 07 24 59.1 -0.9**
comp=Z,26nm,0.9s,mb5.2
PBEJ Beja 54.04 299 *e*P **P 07 24 59.8 -0.3**
comp=Z,33nm,1.9s,mb4.9
EVO Evora 54.09 300 *e*P **P 07 25 01.0 +0.6**
comp=Z,52nm,0.9s,mb5.2
EVO *e*R
comp=Z,261nm,18.8s
EZAM Zamans 54.20 304 P **P 07 24 58.1 -3.1**
EZAM pmax pmax
comp=Z,18nm,0.9s,mb5.0
EZAM Zamans 54.20 304 P **P 07 24 58.1 -3.1**
comp=Z,18nm,0.9s,mb5.0
PTOM Tomar 54.26 301 *e*P **P 07 25 01.9 +0.3**
comp=Z,82nm,1.8s,mb5.4
EMAZ Mazaricos 54.33 305 P **P 07 25 01.2 -1.0**
comp=Z,115nm,1.2s,mb5.7
MOE Montemor 54.35 300 *e*P **P 07 25 03.0 +0.7**
NJ2 Nanjing 54.43 68 *e*P **P 07 25 04.2 +1.3**
NJ2 AP pP 07 25 09.6 +2.4
NJ2 XP sP 07 25 12.8 +4.0
NJ2 PCP PcP 07 26 06.4 -0.1
NJ2 S **S 07 32 42.0 +0.9**
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.5
NJ2 LR LR
comp=N,1μm,15.3s,MS5.2
NJ2 LR LR
comp=E,930nm,17.8s,MS5.2
NJ2 LR LR
comp=Z,750nm,16.8s,MS4.8
PTEO Sao Teotonio 54.78 298 *e*P **P 07 25 04.1 -1.4**
comp=Z,45nm,2.0s,mb5.2
VAL Valentia 54.83 316 *e*P **P 07 24 58.0 -7.8**
DL2 Dalian 55.47 60 P **P 07 25 11.6 +1.2**
DL2 S **S 07 32 55.6 +0.6**
DL2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
DL2 LR LR
comp=N,250nm,15.4s,MS4.6
DL2 LR LR
comp=E,230nm,14.2s,MS4.6
DL2 LR LR
comp=Z,370nm,14.5s,MS4.6
KBS Kingsbay 55.65 351 *e*P **P 07 25 11.1 -0.7**
KBS AMb AMB 07 25 16.4
comp=Z,62nm,0.3s,mb6.1
KBS AMS AMS 07 54 06.2
comp=Z,450nm,18.3s,MS4.6

KBS Kingsbay 55.65 351 *c i*P **P 07 25 11.0 -0.8**
KBS Kingsbay 55.65 351 *e*P **P 07 25 10.8 -0.9**
comp=Z,87nm,1.0s,mb5.7
KBS Kingsbay 55.65 351 *e*P **P 07 25 11.1 -0.7**
comp=Z,62nm,0.3s,mb6.1,SNR=22
QZH Quanzhou 55.94 77 *e*P **P 07 25 15.0 +1.2**
QZH S **S 07 32 58.0 -3.3**
QZH LR LR
comp=N,940nm,14.9s,MS5.1
QZH LR LR
comp=E,710nm,12.4s,MS5.1
QZH LR LR
comp=Z,1μm,19.7s
SNY Shenyang 56.54 56 ⇓P **P 07 25 21.0 +2.9**
SNY AP pP 07 25 28.2 +5.8
SNY PP PP 07 27 26.4 +2.5
SNY S **S 07 33 06.8 -2.5**
SNY XS sS 07 33 23.4 +7.1
SNY SCS ScS 07 35 08.5 +1.4
SNY SS SS 07 37 02.2 +5.6
SNY AMB AMB
comp=Z,40nm,1.0s,mb5.4
SNY AMB AMB
comp=Z,280nm,4.1s
SNY LR LR
comp=N,480nm,16.7s,MS5.0
SNY LR LR
comp=E,690nm,14.1s,MS5.0
SNY LR LR
comp=Z,750nm,14.5s,MS4.9
SSE Sheshan 56.58 69 P **P 07 25 17.0 -1.4**
SSE AP pP 07 25 20.2 -2.5
SSE PP PP 07 27 22.0 -2.3
SSE S **S 07 33 07.6 -2.2**
SSE SCS ScS 07 35 06.0 -1.4
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,160nm,4.6s
SSE LR LR
comp=N,330nm,20.0s,MS4.7
SSE LR LR
comp=E,540nm,20.0s,MS4.7
SSE LR LR
comp=Z,320nm,20.0s,MS4.4
CLNS Chul'man 56.60 38 *e*P **P 07 25 18.6 +0.1**
CLNS pmax pmax
comp=Z,47nm,0.7s,mb5.6
CLNS pmax pmax
comp=N,20nm,0.8s
CLNS pmax pmax
comp=E,34nm,0.8s
JMIC Jan Mayen 56.63 339 AMS AMS 07 53 47.1
comp=Z,226nm,21.1s,MS4.2
CN2 Changchun 57.65 53 *e*P **P 07 25 24.6 -1.3**
CN2 *e*XP sP 07 25 31.5 -0.4
CN2 *e*S **S 07 33 18.5 -5.4**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 LR LR
comp=N,1μm,20.0s,MS5.0
CN2 LR LR
comp=E,400nm,20.0s,MS5.0
CN2 LR LR
comp=Z,700nm,18.0s,MS4.8
KSM Kuching 57.90 106 *e*P **P 07 25 27.7 -0.1**
YHNB Yeheng 58.44 76 *e*P **P 07 25 33.9 +2.4**
TATO Taipei 58.45 76 *e*P **P 07 25 32.5 +1.0**
comp=Z,110nm,1.0s,mb5.8
NACB Ninganchiao 58.78 77 *e*P **P 07 25 34.6 +0.8**
TSUM Tsumeb 58.91 223 P **P 07 25 36.1 +1.3**
comp=Z,14nm,1.0s,mb5.0,baz=29,slow=4.6,SNR=9.2
TSUM Tsumeb 58.91 223 *e*P **P 07 25 35.9 +1.1**
comp=Z,38nm,1.1s,mb5.3
YAK Yakutsk 59.15 32 *e*P **P 07 25 36.3 -0.1**
YAK *e* 07 26 26.2
YAK *e* 07 27 46.4
YAK *e*S **S 07 33 39.3 -4.1**
YAK *e* 07 35 18.1
YAK *e*SS SS 07 37 34.3 -3.3
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,63nm,1.0s,mb5.6
YAK pmax pmax
comp=E,28nm,1.2s
YAK pmax pmax
comp=Z,14nm,1.1s,mb4.9
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,13nm,1.4s
YAK smax
comp=E,20nm,1.6s
YAK smax
comp=Z,5.0nm,0.9s
YAK smax
comp=N,7.0nm,1.3s
YAK MLR MLR
comp=Z,507nm,12.0s,MS4.9
YAK MLR MLR
comp=N,181nm,15.0s,MS4.8
YAK MLR MLR
comp=E,455nm,13.0s,MS4.8
YAK Yakutsk 59.15 32 *e*P **P 07 25 36.1 -0.3**
comp=E,111nm,0.9s,mb5.9
LBTB Lobatse 59.21 212 P **P 07 25 38.0 +1.1**
comp=E,95nm,1.0s,mb5.8,baz=38,slow=6.9,SNR=41
LBTB Lobatse 59.21 212 P **P 07 25 38.0 +1.2**
LBTB pmax pmax
comp=Z,95nm,1.0s,mb5.8
TIXI Tiksi 59.47 21 *e*P **P 07 25 36.7 -1.9**
TIXI *e* 07 26 27.6
TIXI *e*S **S 07 33 40.1 -7.5**
TIXI pmax pmax
comp=Z,32nm,0.8s,mb5.4
TIXI smax
comp=N,31nm,8.8s
TIXI smax
comp=E,109nm,10.1s
TIXI MLR MLR
comp=Z,764nm,15.0s,MS5.0
TIXI Tiksi 59.47 21 *e*P **P 07 25 37.9 -0.7**
INCN Inchon 59.60 61 *e*P **P 07 25 39.9 +0.4**
comp=Z,63nm,1.0s,mb5.6
MDJ Mudanjiang 60.47 52 P **P 07 25 44.6 -0.9**
MDJ AP pP 07 25 47.8 -2.0
MDJ XP sP 07 25 49.1 -2.4
MDJ PCP PcP 07 26 28.0 -2.2
MDJ PP PP 07 27 58.2 -0.6
MDJ SCP ScP 07 30 29.0 -2.1
MDJ S **S 07 33 59.6 -0.9**
MDJ SCS ScS 07 35 33.3 -2.7
MDJ SS SS 07 38 03.1 +4.7
MDJ AMB AMB
comp=Z,80nm,5.2s
MDJ LR LR
comp=N,350nm,16.8s,MS4.8
MDJ LR LR
comp=E,410nm,15.2s,MS4.8
MDJ LR LR
comp=Z,580nm,14.4s,MS4.9
MDJ Mudanjiang 60.47 52 *e*P **P 07 25 45.3 -0.2**
comp=Z,26nm,1.1s,mb5.2
EFAM Famara 60.52 290 P **P 07 25 44.3 -1.6**
comp=Z,166nm,1.3s,mb6.0
KS15 Wonju Array Si 60.58 60 *e*P **P 07 25 45.9 -0.3**
DAG Danmarks Havn 60.59 345⇑ *i*P **P 07 25 45.9 -0.4**
comp=Z,19nm,0.9s,mb5.2
DAG Danmarks Havn 60.59 345⇑ *i*P **P 07 25 45.9 -0.4**
DAG pmax pmax
comp=Z,19nm,0.9s,mb5.2
KKM Kota Kinabalu 60.86 98 *e*P **P 07 25 48.5 +0.3**
DBIC Dimbokro 60.94 262 P **P 07 25 48.8 0.0**
comp=Z,23nm,0.8s,mb5.3,baz=37,slow=7.7,SNR=22
DBIC LR LR 07 53 09.4
comp=Z,307nm,18.5s,MS4.5,baz=44,slow=37
DBIC Dimbokro 60.94 262 *e*P **P 07 25 48.8 +0.1**
DBIC pmax pmax
comp=Z,39nm,1.0s
DBIC Dimbokro 60.94 262 *e*P **P 07 25 48.8 +0.1**
comp=Z,40nm,1.0s,mb5.5
CFTV Fuerteventura 61.19 289 P **P 07 25 50.3 -0.1**
comp=Z,33nm,0.8s,mb5.5
KLR Kul'dur 61.21 46 *e*P **P 07 25 46.1 -4.5**
KLR *e*S **S 07 34 05.0 -5.0**

KLR pmax pmax
comp=E,100nm,1.0s
KLR pmax pmax
comp=Z,200nm,1.0s,mb6.2
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,1µm,14.0s,MS5.1
PMPS Porto Santo 61.80 295 *e*P **P 07 25 55.0 +0.5**
VLA Vladivostok 62.39 53 *e*P **P 07 26 00.6 +2.1**
VLA pmax pmax
comp=Z,91nm,0.9s,mb5.9
VLA MLR MLR
comp=Z,700nm,15.0s,MS5.0
BOSA Boshof 62.43 210 P **P 07 25 58.9 +0.1**
comp=Z,64nm,0.9s,mb5.7,baz=36,slow=7.3,SNR=33
BOSA LR LR 07 57 01.0
comp=Z,558nm,18.9s,MS4.8,baz=24,slow=40
BOSA Boshof 62.43 210 *e*P **P 07 25 59.0 +0.2**
BOSA pmax pmax
comp=Z,54nm,0.7s,mb5.8
BOSA Boshof 62.43 210 *e*P **P 07 25 59.0 +0.2**
comp=Z,54nm,0.7s,mb5.8
EBAJ Bajamar 63.06 290 P **P 07 26 01.5 -1.4**
comp=Z,111nm,1.6s,mb5.7
HABR Khabarovsk 63.49 47 *i* P **P 07 26 08.3 +2.5**
HABR *e*S **S 07 34 42.8 +4.2**
HABR MLR MLR
comp=Z,307nm,14.8s,MS4.6
JOW Kunigami 63.71 72 P **P 07 26 07.8 +0.5**
comp=Z,34nm,0.8s,mb5.4,baz=308,slow=12,SNR=5.1
JOW LR LR 07 58 07.3
comp=Z,321nm,18.1s,MS4.5,baz=309,slow=40
JOW Kunigami 63.71 72 P **P 07 26 07.8 +0.5**
JOW LR LR 07 58 07.3
EGOM La Gomera 63.90 290 P **P 07 26 09.3 +0.8**
comp=Z,31nm,0.9s,mb5.3
SUMG Summit 65.98 341 *e*P **P 07 26 22.6 +0.6**
ALE Alert 67.12 353 P **P 07 26 29.0 -0.3**
comp=Z,286nm,0.9s,mb6.3,SNR=27
SUR Sutherland 67.66 212 P **P 07 26 34.6 +1.9**
comp=Z,405nm,0.9s,SNR=5.5
SUR Sutherland 67.66 212 *e*P **P 07 26 33.9 +1.2**
comp=Z,85nm,1.1s,mb5.7
MAJO Matsushiro 68.78 59 *e*P **P 07 26 40.0 +0.2**
MAJO pmax pmax
comp=Z,29nm,0.9s,mb5.2
MAJO Matsushiro 68.78 59 *e*P **P 07 26 40.0 +0.2**
comp=Z,29nm,0.9s,mb5.2
MAT Matsushiro 68.78 59 P **P 07 26 42.3 +2.5**
MAT *e*S S 07 35 39.6 -3.4
MAT Matsushiro 68.78 59 *e*P **P 07 26 42.0 +2.2**
MAT pmax pmax
comp=Z,20nm,0.9s,mb5.0
MAT Matsushiro 68.78 59 *e*P **P 07 26 42.0 +2.2**
comp=Z,20nm,0.9s,mb5.0
MJAR Matsushiro Arr 68.79 59 P **P 07 26 39.3 -0.5**
comp=Z,14nm,0.9s,mb4.9,baz=287,slow=7.8,SNR=22
MJAR LR LR 07 59 15.3
comp=Z,172nm,18.5s,MS4.3,baz=150,slow=38
YSS Yuzh-Sakhalins 68.90 47⇑*e*P **P 07 26 39.0 -1.5**
YSS *i* pP 07 26 43.0 -1.9
YSS *e* 07 26 50.2
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.4
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.9
YSS Yuzh-Sakhalins 68.90 47 *e*P **P 07 26 39.8 -0.7**
comp=Z,131nm,0.7s,mb6.0
YSS *e*pP pP 07 26 43.7 -1.2
KAPI Kappang 69.31 107 P **P 07 26 42.7 -0.4**
comp=Z,249nm,1.6s,mb5.9,SNR=10
ASAJ Asahikawa 69.64 50 P **P 07 26 44.5 -0.6**
comp=Z,21nm,0.8s,mb5.1,baz=271,slow=9.1,SNR=15
ASAJ Asahikawa 69.64 50 P **P 07 26 44.5 -0.6**
ASAJ pmax pmax
comp=Z,21nm,0.8s
MA2 Magadan 69.69 33 *e*P **P 07 26 46.9 +1.5**
MA2 *e*S S 07 35 52.0 -1.8
MA2 *e*SSS 07 43 28.8
MA2 pmax pmax
comp=Z,50nm,0.9s,mb5.4
MA2 MLR MLR
comp=Z,600nm,16.0s,MS4.9
MA2 Magadan 69.69 33 *e*P **P 07 26 45.3 -0.1**
comp=Z,62nm,0.8s,mb5.6
SFJD Kangerlussuaq 71.80 337 *i* P **P 07 26 59.8 +1.5**
comp=Z,40nm,1.5s,mb5.1
SFJD Kangerlussuaq 71.80 337 *e*P **P 07 26 59.8 +1.5**
SFJD pmax pmax
comp=Z,40nm,1.5s,mb5.1
SFJD Kangerlussuaq 71.80 337 *e*P **P 07 26 59.8 +1.5**
comp=Z,40nm,1.5s,mb5.1
BILL Bilibino 72.65 22 *e*P **P 07 27 03.1 -0.3**
BILL *e**PP pP 07 27 06.8 -1.0
BILL pmax pmax
comp=Z,34nm,0.9s,mb5.3
BILL Bilibino 72.65 22 *e*P **P 07 27 03.0 -0.3**
comp=Z,34nm,0.9s,mb5.3
BILL *e*pP pP 07 27 06.8 -0.9
PET Petropavlovsk 76.24 37 *e*P **P 07 27 22.0 -2.2**
PET *e*S S 07 37 01.8 -6.5
PET *e*SS SS 07 42 03.8 +1.9
PET smax
comp=N,100nm,14.0s
PET smax
comp=E,100nm,12.9s
PET MLR MLR
comp=Z,500nm,17.0s,MS4.9
RES Resolute Bay 77.01 352 *e*P **P 07 27 28.5 -0.1**
comp=Z,1.2nm,0.5s
MBWA Marble Bar 78.06 121 *e*P **P 07 27 34.1 -0.3**
comp=Z,33nm,1.2s,mb5.1
FITZ Fitzroy Crossi 81.04 115⇑*i*P **P 07 27 50.6 0.0**
comp=Z,41nm,0.8s,mb5.4
FITZ Fitzroy Crossi 81.04 115 LR LR 08 03 53.0
comp=Z,96nm,18.3s,MS4.2,baz=151,slow=36
MUN Mundaring 81.96 132 *e*P **P 07 27 54.5 -1.0**
GAMB Gambell 82.32 19 *e*P **P 07 28 00.5 +3.1**
NWAO Narrogin (SRO) 83.22 132 LR LR 07 57 25.1
comp=Z,116nm,19.3s,MS4.3,baz=107,slow=30
NWAO Narrogin (SRO) 83.22 132 *e*P **P 07 28 00.9 -1.2**
NWAO pmax pmax
comp=Z,35nm,1.1s
NWAO Narrogin (SRO) 83.22 132 *e*P **P 07 28 00.9 -1.3**
comp=Z,35nm,1.1s,mb5.3
KAKA Kakadu 83.98 107⇑*i*P **P 07 28 06.2 +0.2**
comp=Z,56nm,0.9s,mb5.7
INK Inuvik 84.94 3 P **P 07 28 10.2 -0.7**
comp=Z,39nm,1.0s,mb5.5,baz=9.1,slow=6.8,SNR=33
INK Inuvik 84.94 3 *e*P **P 07 28 10.2 -0.7**
INK pmax pmax
comp=Z,52nm,1.0s
INK Inuvik 84.94 3 *e*P **P 07 28 10.2 -0.7**
comp=Z,52nm,1.0s,mb5.6
SCHQ Schefferville 85.06 331 P **P 07 28 10.1 -1.4**
comp=Z,10nm,0.8s,mb5.0,baz=52,slow=6.5,SNR=19
SCHQ LR LR 08 10 05.7
comp=Z,152nm,19.6s,MS4.4,baz=282,slow=38
SCHQ Schefferville 85.06 331 *e*P **P 07 28 10.9 -0.6**
comp=Z,12nm,0.8s,mb5.1
COLA College 86.80 10 *e*P **P 07 28 19.3 -0.7**
COLA pmax pmax
comp=Z,39nm,0.8s,mb5.7
COLA College 86.80 10 *e*P **P 07 28 19.2 -0.8**
comp=Z,39nm,0.8s,mb5.7
TTA Tatalina 87.06 14 *e*P **P 07 28 20.9 -0.4**
DAWY Dawson 88.66 7 *e*P **P 07 28 28.2 -0.8**
SVW2 Sparrevohn 88.78 15 *e*P **P 07 28 28.9 -0.6**
WRA Warramunga Arr 89.06 113 P **P 07 28 30.2 -0.7**
comp=Z,15nm,1.0s,mb5.3,baz=312,slow=3.9,SNR=29
WRA PKKPbc PKKPbc 07 46 07.5 -0.9
comp=Z,1.2nm,0.8s,baz=114,slow=2.2,SNR=5.4
WRAB Tennant Creek 89.07 113 P **P 07 28 31.5 +0.6**
comp=Z,146nm,1.0s,mb6.3,SNR=6.8
WRAB Tennant Creek 89.07 113 *e*P **P 07 28 31.2 +0.3**
WRAB pmax pmax
comp=Z,45nm,1.0s,mb5.8
WRAB Tennant Creek 89.07 113 *e*P **P 07 28 31.2 +0.3**
comp=Z,45nm,1.0s,mb5.8
WB2 Warramunga Arr 89.07 113⇓*i*P **P 07 28 31.0 +0.1**
MENT Mentasta 89.23 9 *e*P **P 07 28 31.7 0.0**
FORT Forrest 89.58 125 *e*P **P 07 28 34.0 +0.7**
comp=Z,18nm,0.8s,mb5.4
PMR Palmer 89.64 12 *e*P **P 07 28 33.2 -0.4**
PMR pmax pmax
comp=Z,18nm,0.8s,mb5.5
PMR MLR MLR
comp=Z,400nm,20.0s,MS4.8
PMR Palmer 89.64 12 *e*P **P 07 28 33.2 -0.4**
comp=Z,18nm,0.8s,mb5.4
PMR LR LR
comp=Z,400nm,20.0s,MS4.8
SLKM Skilak Lake 90.44 13 *e*P **P 07 28 36.7 -0.6**
SLKM *e**PP pP 07 28 40.6 -1.2
ASAR Alice Springs 90.50 116 P **P 07 28 37.2 -0.4**
comp=Z,2.1nm,0.7s,mb4.6,baz=299,slow=4.4,SNR=16
ASAR PKKPbc PKKPbc 07 46 04.8 0.0
comp=Z,0.6nm,0.8s,baz=119,slow=3.5,SNR=4.2
YKW3 Yellowknife Ar 90.64 356 *e*P **P 07 28 38.2 0.0**
YKA Yellowknife Ar 90.71 356 P **P 07 28 38.1 -0.5**
comp=Z,9.1nm,0.8s,mb5.1,baz=5.9,slow=4.6,SNR=18
YKA PP PP 07 32 14.9 +1.1
comp=Z,2.0nm,0.8s,baz=0.4,slow=7.9,SNR=4.0
YKA LR LR 08 16 44.0
comp=Z,224nm,18.2s,MS4.6,baz=0.0,slow=40
YKA Yellowknife Ar 90.71 356 P **P 07 28 38.1 -0.5**
YKA 07 32 14.9
FCC Fort Churchill 91.19 345 *e*P **P 07 28 41.3 +0.5**
FCC pmax pmax
comp=Z,29nm,1.0s,mb5.6
FCC Fort Churchill 91.19 345 *e*P **P 07 28 41.3 +0.5**
comp=Z,29nm,1.0s,mb5.6
EYAK Cordova Ski Ar 91.20 10 *e*P **P 07 28 41.3 +0.4**
EYAK *e*pP pP 07 28 44.7 -0.6
KDAK Kodiak Island 92.44 15 P **P 07 28 46.9 +0.3**
comp=Z,260nm,0.8s,SNR=6.3
KDAK Kodiak Island 92.44 15 *e*P **P 07 28 46.8 +0.3**
KDAK *e*pP pP 07 28 50.1 -0.9
MAW Mawson 94.24 177 P **P 07 28 54.6 -0.3**
comp=Z,3.0nm,0.5s,mb5.0,baz=92,slow=7.7,SNR=4.2
MAW LR LR 08 04 54.5
comp=Z,227nm,18.7s,MS4.7,baz=158,slow=31
DLBC Dease Lake 94.96 3 P **P 07 28 58.8 +0.6**
comp=Z,14nm,1.0s,mb5.3,baz=342,slow=5.0,SNR=10
DLBC Dease Lake 94.96 3 *e*P **P 07 28 58.6 +0.4**
FRNY Flat Rock 95.13 327 *e*P **P 07 28 58.1 -0.9**
LONY Lake Ozonia 95.77 327 *e*P **P 07 29 02.2 +0.3**
SYO Syowa Base 96.25 186⇓*e*P **P 07 29 07.0 +2.9**
FFC Flin Flon 96.62 347 *e*P **P 07 29 05.5 -0.2**
FFC pmax pmax
comp=Z,11nm,1.1s,mb5.2
FFC Flin Flon 96.62 347 *e*P **P 07 29 05.5 -0.2**
comp=Z,11nm,1.1s,mb5.2
ULM Lac du Bonnet 99.32 342 LR LR 08 20 51.6
comp=Z,163nm,19.7s,MS4.5,baz=29,slow=39
EDM Edmonton 99.78 353 *e*P Pdif 07 29 20.2 +0.3
EYMN Ely 100.04 338 *e*Pdif Pdif 07 29 21.9 +0.8
SNAA Sanae 106.16 196 *e*PKPdf PKiKP 07 34 02.0 +2.0
D03A Wishkah Elem. 106.44 360⇑P PKiKP 07 34 02.5 +1.9
baz=106
PDAR Pinedale Array 109.51 349 PKiKP PKiKP 07 34 04.1 -2.2
comp=Z,0.7nm,1.0s,baz=65,slow=9.3,SNR=3.9
PDAR PKKP PKKPbc 07 45 21.9 +11
comp=Z,1.2nm,0.9s,baz=188,slow=5.2,SNR=5.8
I02A Mapleton 109.56 360⇓P PKiKP 07 34 11.1 +4.7
baz=109
HWUT Hardware Ranch 110.97 350 *e*PKPdf PKiKP 07 34 12.4 +3.4
P12A McGill 113.53 352⇑P PKiKP 07 34 14.9 +1.0
baz=113
WMOK Wichita Mounta 114.28 337 *e*PKIKP PKiKP 07 34 16.2 +0.9
NVAR Mina Array Bea 114.90 355 PKP PKiKP 07 34 16.6 0.0
comp=Z,2.1nm,0.7s,baz=59,slow=2.3,SNR=13
AMTX Amarillo 115.09 340 *e*PKPdf PKiKP 07 34 20.1 +3.2
S08C White Mtn Res 115.81 355⇓P PKPdf 07 34 19.3 +1.0
baz=116
FARB Farallon Islan 115.85 359⇑P PKPdf 07 34 19.0 +0.6
baz=116
QSPA South Pole Qui 116.63 180 *e*P PKPdf 07 34 18.4 -1.4
DAC Darwin (Calif) 116.98 354 *e*PKIKP PKPdf 07 34 21.7 +1.2
W14A Seligman 117.47 350⇓P PKPdf 07 34 23.0 +1.5
baz=117
V03C Hunter Liggett 117.48 357⇓P PKPdf 07 34 24.2 +2.7
baz=118
X14A Yava 118.16 349⇑P PKPdf 07 34 24.3 +1.5
baz=118
X13A Yucca 118.19 350⇑P PKPdf 07 34 24.2 +1.3
baz=118
JCT Junction City 118.49 336 *e*PKIKP PKPdf 07 34 23.5 +0.1
MNTX Cornudas Mount 119.16 342 *e*PKPdf PKPdf 07 34 25.3 +0.6
VNDA Vanda 119.41 166 PKKPbc PKKPbc 07 44 37.1 +0.2
comp=Z,2.0nm,0.9s,baz=137,slow=4.6,SNR=4.7
115A Sonoran Desert 119.77 348⇓P PKPdf 07 34 26.9 +1.0
baz=120
GLA Glamis 119.84 351⇓P PKPdf 07 34 26.4 +0.3
baz=120
TUC Tucson 119.88 347 *e*PKIKP PKPdf 07 34 26.8 +0.7
SAML Samuel 119.89 275 *e*PKPdf PKPdf 07 34 27.0 +0.8
LTX Lajitas 120.86 339 *e*PKIKP PKPdf 07 34 28.0 0.0
CPUP Villa Florida 120.93 254 PKP PKPdf 07 34 27.5 -0.6
comp=Z,2.3nm,0.7s,baz=137,slow=0.4,SNR=5.9
ROSC El Rosal 122.51 296 PKP PKPdf 07 34 33.4 +2.2
comp=Z,11nm,0.7s,baz=243,slow=5.2,SNR=13
TRQA Tornquist 127.22 241 *e*PKPbc PKPdf 07 34 40.8 +0.6
LPAZ La Paz 127.24 269 PKP PKPdf 07 34 41.2 +1.0
comp=Z,4.1nm,0.8s,baz=358,slow=2.3,SNR=11
LPAZ La Paz 127.24 269 PKIKP PKPdf 07 34 41.2 +1.0
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
LPAZ La Paz 127.24 269 *e*PKPdf PKPdf 07 34 41.9 +1.6
OTAV Otavalo 128.53 294 *e*PKPdf PKPdf 07 34 45.1 +2.4
LVC Limon Verde 129.99 262 *e*PKPdf PKPdf 07 34 47.4 +1.9
PLCA Paso Flores 134.01 238 PKP PKPdf 07 34 53.7 +0.6
comp=Z,3.8nm,1.0s,baz=58,slow=5.1,SNR=4.3
PLCA Paso Flores 134.01 238 PKIKP PKPdf 07 34 53.7 +0.7
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA Paso Flores 134.01 238 *e*PKPdf PKPdf 07 34 55.0 +2.0

CSEM ***03*** *07:30:10.3,2580N×5586E,h14km,ML3.5,After THR*
THR 03 07:30:10.3±0.4,2580N×5586E,h14km±4km,ML3.5,
Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.61**	**10**	*e*PG	Pg	07 30 39.9	-1.4
BNDS				AML	AML	07 31 12.7	
	comp=E,742nm,0.2s						
BNDS				AML	AML	07 31 13.5	
	comp=N,976nm,0.5s						
GHIR	**Ghir-Karzin**	**3.56**	**315**	*e*PN	Pn	07 31 07.3	+2.2
KRBR	**Kerman**	**4.24**	**11**	*e*PN	Pn	07 31 16.9	+2.5
KRBR				Sn	Sn	07 32 05.5	+1.8
KRBR				AML	AML	07 32 37.4	
	comp=E,34nm,0.8s						
KRBR				AML	AML	07 32 48.9	
	comp=N,33nm,0.3s						
KRBR	**Kerman**	**4.24**	**11**	*e*Pn	Pn	07 31 16.9	+2.5
	SNR=52						
KRBR				Sn	Sn	07 32 05.4	+1.7
	comp=N,33nm,0.3s,SNR=52						

BJI ***03*** *07:37:20.1,2665N×5498E,h7km,mB5.0,mb4.8,Ms4.6,*
Msz4.3
MOS ***03*** *07:37:25.6±0.9,2650N×5592E,h20km,mb4.7/51,Error*
ellipse: s-maj=8.2km s-min=4.4km az=117.1
CSEM ***03*** *07:37:25.5±0.1,2656N×5596E,h19km,mb4.7/41,Error*
ellipse: s-maj=4.9km s-min=2.5km az=156.0
IDC ***03*** *07:37:26.9±0.9,2680N×5587E,h0km,mb4.4/15,*
mb1 4.5/19,mb1mx4.3/28,mbtmp4.4/19,ML3.1/3,MS3.7/2,
Ms1 3.7/2,ms1mx3.3/22,Error ellipse: s-maj=21.2km
s-min=15.1km az=18.0
ISCJB ***03*** *07:37:27.6±0.2,2682N±002×5586E±003,h16km,*
mb4.5/77,MS3.9/6,Error ellipse: s-maj=4.1km
s-min=3.1km az=97.6
THR ***03*** *07:37:29.6±0.6,2688N×5592E,h16km±8km,ML4.1*
NEIC ***03*** *07:37:29.0,2692N×5594E,h8km,mb4.6/41,ML4.1(THR),*
MN4.1(TEH),After THR.
OMAN ***03*** *07:37:29.7,2675N×5568E,h19km,Error ellipse:*
s-maj=25.5km s-min=7.1km az=38.0
SZGRF ***03*** *07:37:33.7,2782N×5663E,h33km,mb4.3,Southern Iran*
TEH ***03*** *07:37:36.3,2703N×5557E,h18km,Mn4.1*
ISC 03 07:37:29.5±0.2,2680N±002×5586E±003,h17km,
h17km±.9km:pP-P,n262,σ1°06/276,mb4.5/77,MS3.9/6,
13C-5D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.66**	**25**	*e*PG	**Pg**	**07 37 40.8**	**-1.7**
BNDS				AML	AML	07 37 57.5	
	comp=N,13µm,0.7s						
BNDS				AML	AML	07 38 02.3	
	comp=E,12µm,0.5s						
BNDS	**Bandar-Abbas**	**0.66**	**25**	*e*Pg	**Pg**	**07 37 39.0**	**-3.5**
BNDS				*e*Sg	**Sg**	**07 37 46.0**	**-5.2**
BANOM	**Banah**	**0.96**	**156**	⇑P	**Pb**	**07 37 47.5**	**-0.2**
	comp=370						
BANOM				⇓S	**Sb**	**07 38 01.8**	**+1.7**
ASHO	**Ashiyiah**	**2.12**	**175**	⇑P	**Pn**	**07 38 06.1**	**+2.0**
	SNR=95						
GHIR	**Ghir-Karzin**	**2.95**	**301**	*e*Pn	**Pn**	**07 38 18.1**	**+2.6**
GHIR				AML	AML	07 39 25.6	
	comp=E,375nm,0.6s						
GHIR	**Ghir-Karzin**	**2.95**	**301**	*e*Pn	**Pn**	**07 38 18.0**	**+2.5**
KRBR	**Kerman**	**3.27**	**14**	*e*PN	**Pn**	**07 38 21.4**	**+1.5**
KRBR				AML	AML	07 39 06.7	
	comp=N,663nm,0.5s						
KRBR				AML	AML	07 39 22.2	
	comp=E,640nm,0.7s						
KRBR	**Kerman**	**3.27**	**14**	*e*Pn	**Pn**	**07 38 21.0**	**+1.1**
HOQ	**Hoqain**	**3.46**	**157**	⇑P	**Pn**	**07 38 21.6**	**-1.1**
ARQ	**Araqi**	**3.50**	**170**	⇑P	**Pn**	**07 38 23.5**	**+0.4**
ISRV	**Sarvestan**	**3.53**	**317**	*e*Pn	**Pn**	**07 38 25.4**	**+1.8**
ISRV	**Sarvestan**	**3.53**	**317**	Pn	**Pn**	**07 38 25.3**	**+1.7**
IMOK	**Mook**	**3.57**	**310**	*e*Pn	**Pn**	**07 38 28.4**	**+4.3**
IMOK	**Mook**	**3.57**	**310**	Pn	**Pn**	**07 38 28.3**	**+4.2**
BIDO	**Bidbid**	**3.86**	**147**	⇓P	**Pn**	**07 38 28.2**	**+0.1**
IPAR	**Pars**	**3.91**	**321**	*e*Pn	**Pn**	**07 38 31.2**	**+2.4**
IPAR	**Pars**	**3.91**	**321**	Pn	**Pn**	**07 38 31.1**	**+2.3**
BSY	**Bisya**	**4.22**	**163**	⇓P	**Pn**	**07 38 34.5**	**+1.5**
SMDO	**Samad**	**4.22**	**151**	⇑P	**Pn**	**07 38 34.1**	**+1.0**
WSAR	**Wadi Sarin**	**4.35**	**144**	Pn	**Pn**	**07 38 35.5**	**+0.7**
	comp=E,5.9nm,0.3s,baz=332,slow=14,SNR=51						
WSAR				Sn	**Sn**	**07 39 24.5**	**-0.5**
	comp=E,7.3nm,0.3s,baz=261,slow=22,SNR=4.5						
WSAR	**Wadi Sarin**	**4.35**	**144**	Pn	**Pn**	**07 38 35.5**	**+0.7**
WSAR				Sn	**Sn**	**07 39 24.5**	**-0.5**
IMEH	**Mehriz**	**4.70**	**347**	*e*Pn	**Pn**	**07 38 41.8**	**+2.2**
IBAF	**Bafgh**	**4.78**	**357**	*e*Pn	**Pn**	**07 38 42.1**	**+1.4**
IBAF				*e*Sn	**Sn**	**07 39 34.4**	**-1.2**
IBAF	**Bafgh**	**4.78**	**357**	Pn	**Pn**	**07 38 42.0**	**+1.3**
IBAF				Sn	**Sn**	**07 39 34.3**	**-1.3**
IBAF	**Bafgh**	**4.78**	**357**	Pn	**Pn**	**07 38 42.0**	**+1.3**
IBAF				*e*Sn	**Sn**	**07 39 34.4**	**-1.2**
JMDO	**Jabal Madar**	**4.86**	**155**	⇓P	**Pn**	**07 38 43.0**	**+1.1**
	SNR=9.6						
WBK	**Wadi Bani Khal**	**5.04**	**145**	⇑P	**Pn**	**07 38 44.6**	**+0.3**
	SNR=16						
ZHSF	**Zahedan**	**5.16**	**56**	*e*Pn	**Pn**	**07 38 47.2**	**+1.2**
ZHSF	**Zahedan**	**5.16**	**56**	*e*P	**Pn**	**07 38 46.0**	**0.0**
ZHSF	**Zahedan**	**5.16**	**56**	*e*Pn	**Pn**	**07 38 47.2**	**+1.2**
	SNR=52						
ISAD	**Sadrabad**	**5.43**	**340**	*e*Sn	**Sn**	**07 39 47.1**	**-4.7**
ICHK	**Chekchek**	**5.57**	**347**	*e*Pn	**Pn**	**07 38 53.1**	**+1.5**
ICHK	**Chekchek**	**5.57**	**347**	Pn	**Pn**	**07 38 53.0**	**+1.4**
NASN	**Na'in**	**6.54**	**337**	*e*PN	**Pn**	**07 39 06.7**	**+1.8**
NASN	**Na'in**	**6.54**	**337**	*e*Pn	**Pn**	**07 39 06.0**	**+1.1**
KBD	**Kabd**	**7.59**	**290**	*e*P	**Pn**	**07 39 20.9**	**+1.5**
RDF	**Al-Radifah**	**7.65**	**288**	*e*P	**Pn**	**07 39 21.0**	**+0.9**
RDF				AML	AML	07 40 43.3	
	comp=Z,13nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.69**	**293**	*e*P	**Pn**	**07 39 22.2**	**+1.5**
UMR				AML	AML	07 40 43.6	
	comp=Z,22nm,0.4s						
MIB	**Mutribah**	**8.08**	**294**	*e*P	**Pn**	**07 39 26.5**	**+0.5**
MIB				AML	AML	07 40 52.5	
	comp=Z,27nm,0.5s						
SHAO	**Shalim**	**8.74**	**181**	P	**Pn**	**07 39 34.4**	**-0.7**
	SNR=20						
IVRN	**Varamin**	**8.90**	**338**	*e*Pn	**Pn**	**07 39 38.8**	**+1.5**
IVRN	**Varamin**	**8.90**	**338**	Pn	**Pn**	**07 39 38.7**	**+1.4**
IDMV	**Damavand**	**9.34**	**340**	*e*Pn	**Pn**	**07 39 44.6**	**+1.3**
IDMV	**Damavand**	**9.34**	**340**	Pn	**Pn**	**07 39 44.5**	**+1.2**
RBK	**Rabkut**	**9.38**	**190**	⇑P	**Pn**	**07 39 42.0**	**-1.8**
	SNR=6.7						
GNI	**Garni**	**16.20**	**328**	Pn	**Pn**	**07 41 18.6**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=177,slow=4.0,SNR=8.3						
GNI				LR	LR	07 48 15.3	
	comp=Z,247nm,19.0s,baz=5.8,slow=40						
GNI	**Garni**	**16.20**	**328**	*e*P	**Pn**	**07 41 19.3**	**+3.0**
	comp=Z,40nm,1.0s						
ASF	**Jabal al Asfar**	**17.35**	**292**	P	**Pn**	**07 41 30.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=328,slow=3.9,SNR=7.7						
ASF				S	**Sn**	**07 44 35.9**	**-7.5**
	comp=Z,0.5nm,0.3s,baz=266,slow=18,SNR=2.5						
ELZG	**Elazig**	**18.35**	**314**	*i* P	**Pn**	**07 41 43.4**	**+0.3**
MALT	**Malatya**	**18.61**	**312**	*e*P	**Pn**	**07 41 47.5**	**+1.2**
MALT				pmax	pmax		
	comp=Z,28nm,1.0s						
MALT	**Malatya**	**18.61**	**312**	*e*P	**Pn**	**07 41 47.5**	**+1.2**
	comp=Z,28nm,1.0s						
MALT	**Malatya**	**18.61**	**312**	*e*P	**Pn**	**07 41 47.5**	**+1.2**
	comp=Z,28nm,1.0s						
ZEI	**Tsey**	**18.68**	**332**	*e*P	**Pn**	**07 41 49.3**	**+2.1**
GZT	**Gaziantep**	**18.70**	**309**	*i* P	**Pn**	**07 41 45.9**	**-1.5**
MMAI	**Mount Meron Ar**	**18.77**	**294**	P	**Pn**	**07 41 47.4**	**-0.9**
	baz=93,slow=15,SNR=14						
COBT	**Iskenderun**	**19.26**	**305**	*i* P	**Pn**	**07 41 54.8**	**+0.6**
KIV	**Kislovodsk**	**20.16**	**331**	*e*P	**P**	**07 42 05.1**	**+2.2**
KIV				pmax	pmax		
	comp=Z,37nm,0.8s						
KIV	**Kislovodsk**	**20.16**	**331**	*e*P	**P**	**07 42 05.1**	**+2.1**
	comp=Z,37nm,0.8s						
KIV	**Kislovodsk**	**20.16**	**331**	*e*P	**P**	**07 42 05.1**	**+2.2**
	comp=Z,37nm,0.8s						
KK31	**Karatay Array**	**20.17**	**33**	*i* P	**P**	**07 42 02.6**	**-0.4**
KK31				pmax	pmax		
	comp=Z,18nm,0.8s						
KK31	**Karatay Array**	**20.17**	**33**	*i* P	**P**	**07 42 02.6**	**-0.4**
	comp=Z,18nm,0.8s						
KKAR	**Karatay Array**	**20.17**	**33**	*i* P	**P**	**07 42 02.6**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,15nm,0.9s						
KKAR	**Karatay Array**	**20.17**	**33**	*i* P	**P**	**07 42 02.6**	**-0.4**
	comp=Z,15nm,0.9s						
GRSN	**GIRESUNGRSN**	**20.24**	**319**	*i* P	**P**	**07 41 55.4**	**-8.4**
GOF	**Gofitskoye**	**20.92**	**334**	*e*P	**P**	**07 42 11.5**	**+0.3**
GOF				pmax	pmax		
	comp=Z,80nm,0.8s						
GOF	**Gofitskoye**	**20.92**	**334**	*e*P	**P**	**07 42 11.5**	**+0.3**
	comp=Z,80nm,0.8s						
SOC	**Sochi**	**21.25**	**326**	*e*P	**P**	**07 42 14.9**	**+0.2**
SOC				*e*		07 42 27.0	
SOC				*e*PPP		07 42 44.9	
SOC				*e*S	**S**	**07 46 13.6**	**+3.4**
SOC				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.4						
SOC				MLR	MLR		
	comp=Z,188nm,11.0s,MS3.7						
SOC	**Sochi**	**21.25**	**326**	*e*P	**P**	**07 42 14.9**	**+0.2**
	comp=Z,16nm,0.8s,mb4.4						
AVNT	**Avonos**	**21.26**	**309**	*i* P	**P**	**07 42 20.3**	**+5.5**
EKS2	**Erkin-Say**	**21.55**	**38**	P	**P**	**07 42 18.6**	**+0.7**
	SNR=13						
UCH	**Uchtor**	**21.68**	**40**	P	**P**	**07 42 19.4**	**+0.1**
	SNR=11						
AAK	**Ala-Archa**	**21.93**	**39**	P	**P**	**07 42 25.9**	**+3.8**
	SNR=8.8						
AAK	**Ala-Archa**	**21.93**	**39**	*e*P	**P**	**07 42 21.6**	**-0.4**
AAK				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**21.93**	**39**	*e*P	**P**	**07 42 21.6**	**-0.5**
	comp=Z,23nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**21.93**	**39**	*e*P	**P**	**07 42 21.6**	**-0.4**
	comp=Z,23nm,0.9s,mb4.6						
KZA	**Kyzart**	**22.02**	**41**	P	**P**	**07 42 27.3**	**+4.3**
	SNR=9.2						
CTKT	**Corum**	**22.22**	**314**	*i* P	**P**	**07 42 25.8**	**+0.7**
CHMS	**Chumysh**	**22.31**	**39**	P	**P**	**07 42 28.3**	**+2.2**
	SNR=8.2						
USP	**Ospenovka**	**22.34**	**38**	P	**P**	**07 42 28.6**	**+2.2**
	SNR=5.9						
BR131	**Keskin Array S**	**22.54**	**310**	*e*P	**P**	**07 42 29.8**	**+1.3**
	comp=Z,2.6nm,0.6s,mb3.8						
BR131	**Keskin Array S**	**22.54**	**310**	*e*P	**P**	**07 42 29.8**	**+1.3**
	comp=Z,2.6nm,

comp=Z,9.0nm,0.7s,mb4.3
TKM2 Tokmak 2 22.74 40 P **P 07 42 32.5 +1.9**
SNR=8.3
ANN Anapa 23.27 325 *e*P **P 07 42 36.5 +0.3**
ANN *e**PP 07 42 40.6
ANN *e*S **S 07 46 51.4 +3.9**
ANN pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
AKTK Aktyubinsk 23.66 3 P **P 07 42 40.2 +0.2**
AKTK LR LR 07 51 53.6
AKTK Aktyubinsk 23.66 3 P **P 07 42 40.2 +0.1**
AKTO Aktyubinsk 23.66 3 P **P 07 42 40.2 +0.2**
comp=Z,7.2nm,0.5s,mb4.3,baz=180,slow=10,SNR=38
AKTO LR LR 07 51 53.6
comp=Z,198nm,19.4s,MS3.6,baz=0.0,slow=37
SGKT Sivrigoynuk 24.01 311 *i* P **P 07 42 43.8 +0.5**
ORR Orenburg 24.80 358⇑ *e*P **P 07 42 51.1 +0.6**
ORR pmax pmax
comp=Z,70nm,1.1s,mb5.1
HENT Hendek 24.90 310 *i* P **P 07 42 50.8 -0.7**
ULDT Uludag 25.84 308 *i* P **P 07 43 00.9 +0.9**
IDI Anoyia 27.76 295 P **P 07 43 17.9 +0.6**
comp=Z,6.8nm,0.8s,mb4.4,baz=84,slow=4.9,SNR=5.1
ZRNK Zerenda 27.91 17 *e*P **P 07 43 18.5 -0.1**
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
ZRNK Zerenda 27.91 17 *e*P **P 07 43 18.5 -0.1**
comp=Z,4.0nm,0.6s,mb4.2
ZRNK Zerenda 27.91 17 *e*P **P 07 43 18.5 -0.1**
comp=Z,4.0nm,0.6s,mb4.2
BRVK Borovoye 28.35 18 *e*P **P 07 43 22.5 0.0**
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
BRVK Borovoye 28.35 18 *e*P **P 07 43 22.5 0.0**
comp=Z,5.7nm,0.7s,mb4.3
BRVK Borovoye 28.35 18 *e*P **P 07 43 22.5 0.0**
comp=Z,5.7nm,0.7s,mb4.3
BVA0 Borovoye Array 28.35 19 *i* P **P 07 43 22.3 -0.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
MK31 Makanchi Array 28.86 39 P **P 07 43 27.1 0.0**
MK31 pmax pmax
comp=Z,13nm,1.3s,mb4.5
MKAR Makanchi Array 28.86 39 P **P 07 43 27.2 +0.1**
comp=Z,2.7nm,0.8s,mb4.0,baz=224,slow=8.5,SNR=19
MKAR Makanchi Array 28.86 39 P **P 07 43 27.2 +0.1**
CHKZ Chkalovo 28.99 18 *e*P **P 07 43 27.9 -0.3**
CHKZ pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
CHKZ Chkalovo 28.99 18 *e*P **P 07 43 27.9 -0.4**
comp=Z,2.0nm,0.4s,mb4.2
CHKZ Chkalovo 28.99 18 *e*P **P 07 43 27.9 -0.3**
comp=Z,2.0nm,0.4s,mb4.2
KURK Kurchatov 29.52 30 *e*P **P 07 43 33.2 +0.2**
MLR Muntele Rosu 30.26 316 P **P 07 43 41.5 +2.0**
comp=Z,7.2nm,0.9s,mb4.4,baz=356,slow=7.0,SNR=9.3
MLR Muntele Rosu 30.26 316⇑ *i*P **P 07 43 43.2 +3.7**
WMQ Urumqi 30.79 48 *e*P **P 07 43 47.3 +3.2**
WMQ LR LR
comp=N,30nm,20.0s
WMQ LR LR
comp=E,260nm,28.0s
WMQ LR LR
comp=Z,150nm,20.0s,MS3.6
VOIR 30.80 315⇓ *i*P **P 07 43 45.5 +1.3**
AKASG Malin Array Be 31.33 327 P **P 07 43 47.8 -1.1**
comp=Z,4.9nm,0.6s,mb4.5,baz=134,slow=8.3,SNR=35
AKASG PcP PcP 07 46 42.4 -0.3
comp=Z,0.3nm,0.3s,baz=99,slow=2.4,SNR=5.5
AKASG Malin Array Be 31.33 327 P **P 07 43 47.8 -1.1**
AKASG PcP PcP 07 46 42.4 -0.3
OBN Obninsk 31.59 339 *i* P **P 07 43 51.5 +0.2**
OBN pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.6
NVS Novosibirsk 34.42 28⇑ *i*P **P 07 44 13.3 -2.6**
NVS *e*S **S 07 49 47.9 +4.7**
NVS pmax pmax
comp=Z,13nm,1.0s,mb4.8
NVS pmax pmax
comp=N,13nm,1.4s
NVS pmax pmax
comp=E,4.0nm,0.9s
NVS smax
comp=N,9.0nm,1.4s
ZAL Zalesovo 34.50 30 P **P 07 44 15.7 -0.9**
comp=N,7.5nm,0.5s,mb4.9,baz=236,slow=8.1,SNR=20
KECS Kecovo 34.94 318 *e*P **P 07 44 20.9 +0.4**
KECS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KECS Kecovo 34.94 318 *e*P **P 07 44 20.9 +0.4**
comp=Z,5.6nm,0.8s,mb4.5
OJC Ojcow 36.11 320 *e*P **P 07 44 30.2 -0.3**
MORC Moravsky Berou 37.24 318 *e*P **P 07 44 39.7 -0.4**
MORC pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
MORC Moravsky Berou 37.24 318 *e*P **P 07 44 39.7 -0.4**
comp=Z,7.8nm,0.8s,mb4.6
DPC Dobruska-Polom 38.19 319 *e*P **P 07 44 48.1 0.0**
TREC Trest 38.30 317 *e*P **P 07 44 49.3 +0.3**
UPC Upice 38.43 319 *e*P **P 07 44 50.1 -0.1**
GTA Gaotai 38.55 60 *e*P **P 07 44 51.7 +0.5**
GTA AP pP 07 44 56.1 -0.4
GTA XP sP 07 44 59.5 +0.9
PRU Pruhonice 39.12 318 *e*P **P 07 44 55.5 -0.4**
GERES GERESS Array B 39.25 316 P **P 07 44 56.8 -0.2**
comp=Z,1.5nm,0.7s,mb3.8,baz=120,slow=8.1,SNR=7.4
KHC Kasperske Hory 39.42 316 *e*P **P 07 44 57.9 -0.5**
JOF Joensuu 39.57 343 *e*p **P 07 44 58.5 -1.2**
comp=Z,1.3nm,0.4s,mb4.0
BRG Berggiesshubel 39.79 319 *e*P **P 07 45 01.1 -0.5**
comp=Z,7.5nm,1.4s,mb4.2
BRG Berggiesshubel 39.79 319 *e*P **P 07 45 01.1 -0.4**
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb4.3
FINES FINESS Array B 40.00 338 P **P 07 45 02.6 -0.7**
comp=Z,2.6nm,0.5s,mb4.2,baz=144,slow=12,SNR=30
FINES FINESS Array B 40.00 338 *i* P **P 07 45 02.7 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 40.41 339 *e*p **P 07 45 06.5 -0.2**
CLL Collm 40.50 319 *i* P **P 07 45 07.2 -0.2**
comp=Z,8.0nm,1.0s,mb4.4
CLL Collm 40.50 319 *i* P **P 07 45 07.2 -0.2**
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GRA1 Grafenberg Arr 41.05 316 *e*P **P 07 45 11.8 -0.2**
comp=Z,6.0nm,1.0s,mb4.2
GRF Grafenberg Arr 41.05 316 *e*P **P 07 45 11.8 -0.2**
comp=Z,6.0nm,1.0s,mb4.2
GRF Grafenberg Arr 41.05 316 *e*P **P 07 45 11.8 -0.2**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
PGF Pioggiola 41.08 305 *e*P **P 07 45 09.9 -2.3**
comp=Z,47nm,1.2s,mb4.7
PGF Pioggiola 41.08 305 *e*P **P 07 45 09.9 -2.3**
PGF pmax pmax
comp=Z,23nm,1.2s,mb4.7
PGF Pioggiola 41.08 305 *e*P **P 07 45 09.9 -2.3**
comp=Z,23nm,1.2s,mb4.7
LZH Lanzhou 41.62 65 *e*P **P 07 45 17.7 +1.1**
LZH AP pP 07 45 22.1 +0.1
LZH XP sP 07 45 25.9 +1.8
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,100nm,4.1s
CD2 Chengdu 41.90 73 *e*P **P 07 45 18.6 -0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.2s
KMI Kunming 42.00 81 P **P 07 45 20.1 +0.3**
SBF Sospel 42.38 307 *e*P **P 07 45 22.2 -0.6**
comp=Z,35nm,0.9s,mb4.7
SBF Sospel 42.38 307 *e*P **P 07 45 22.2 -0.6**
SBF pmax pmax
comp=Z,18nm,0.9s,mb4.7
SBF Sospel 42.38 307 *e*P **P 07 45 22.2 -0.6**
comp=Z,18nm,0.9s,mb4.7
MBDF Montbardon 42.96 308 *e*P **P 07 45 26.5 -1.1**
comp=Z,8.7nm,0.7s,mb4.3
MBDF Montbardon 42.96 308 *e*P **P 07 45 26.5 -1.1**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
MBDF Montbardon 42.96 308 *e*P **P 07 45 26.5 -1.1**
comp=Z,4.3nm,0.7s,mb4.3
ZAK Zakamensk 42.97 44 *e*P **P 07 45 27.5 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.8s,mb3.9
APA Apatity 43.02 348⇑ *e*P **P 07 45 27.8 -0.2**
APA *i* 07 45 40.0
APA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
BNI Bardonecchia 43.07 308 *e*P **P 07 45 27.8 -0.7**
LPG La Plagne 43.08 309 *e*P **P 07 45 28.0 -0.6**
comp=Z,11nm,0.9s,mb4.3
LPG La Plagne 43.08 309 *e*P **P 07 45 28.0 -0.6**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
LPG La Plagne 43.08 309 *e*P **P 07 45 28.0 -0.6**
comp=Z,5.7nm,0.9s,mb4.3
LPL La Plagne 43.10 309 *e*P **P 07 45 27.7 -1.0**
comp=Z,8.3nm,0.8s,mb4.2
LPL La Plagne 43.10 309 *e*P **P 07 45 27.7 -1.0**
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
LPL La Plagne 43.10 309 *e*P **P 07 45 27.7 -1.0**
comp=Z,4.2nm,0.8s,mb4.2
CDF Champ du Feu 43.25 313 *e*P **P 07 45 28.5 -1.4**
HINF Hinteralfeld 43.41 312 *e*P **P 07 45 29.8 -1.4**
comp=Z,11nm,0.9s,mb4.3
HINF Hinteralfeld 43.41 312 *e*P **P 07 45 29.8 -1.4**
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
HINF Hinteralfeld 43.41 312 *e*P **P 07 45 29.8 -1.4**
comp=Z,5.4nm,0.9s,mb4.3
CABF La Chapelle 43.71 310 *e*P **P 07 45 32.8 -0.8**
HAU Haudompre 43.78 312 *e*P **P 07 45 33.6 -0.5**
comp=Z,9.6nm,0.8s,mb4.3
HAU Haudompre 43.78 312 *e*P **P 07 45 33.6 -0.5**
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
HAU Haudompre 43.78 312 *e*P **P 07 45 33.6 -0.5**
comp=Z,4.8nm,0.8s,mb4.3
WTSB Winterswijk 44.38 318 *e*P **P 07 45 39.6 +0.6**
SONM Songino Array 44.43 48 P **P 07 45 39.9 +0.6**
comp=Z,4.5nm,0.9s,mb4.2,baz=256,slow=8.0,SNR=22
VIVF Saint-Julien-l 44.46 308 *e*P **P 07 45 38.4 -1.2**
comp=Z,24nm,1.1s,mb4.5
VIVF Saint-Julien-l 44.46 308 *e*P **P 07 45 38.4 -1.2**
VIVF pmax pmax
comp=Z,12nm,1.1s,mb4.5
VIVF Saint-Julien-l 44.46 308 *e*P **P 07 45 38.4 -1.2**
comp=Z,12nm,1.1s,mb4.5
HGN Heimansgroeve 44.61 316 *e*P **P 07 45 41.8 +1.0**
comp=Z,22nm,1.9s,mb4.7
MEZF Maizieres J'vi 44.72 313 *e*P **P 07 45 41.1 -0.6**
comp=Z,42nm,1.2s,mb4.9
MEZF Maizieres J'vi 44.72 313 *e*P **P 07 45 41.1 -0.6**
comp=Z,21nm,1.2s,mb4.9
ULN Ulaanbaatar 44.87 48⇑ *e*P **P 07 45 43.1 +0.2**
LASF Ste Croix 44.97 307 *e*P **P 07 45 43.1 -0.6**
comp=Z,27nm,1.1s,mb4.7
LASF Ste Croix 44.97 307 *e*P **P 07 45 43.1 -0.6**
comp=Z,13nm,1.1s,mb4.7
GYA Guiyang 45.16 78 P **P 07 45 43.8 -1.4**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
GIVF Givet 45.16 315 *e*P **P 07 45 45.2 -0.1**
comp=Z,49nm,1.2s,mb4.9
GIVF Givet 45.16 315 *e*P **P 07 45 45.2 -0.1**
GIVF pmax pmax
comp=Z,25nm,1.2s,mb4.9
GIVF Givet 45.16 315 *e*P **P 07 45 45.2 -0.1**
comp=Z,24nm,1.2s,mb4.9
SMF Signal de Mont 45.25 310 *e*P **P 07 45 44.8 -1.1**
comp=Z,24nm,0.9s,mb4.7
SMF Signal de Mont 45.25 310 *e*P **P 07 45 44.8 -1.1**
SMF pmax pmax
comp=Z,12nm,0.9s,mb4.7
SMF Signal de Mont 45.25 310 *e*P **P 07 45 44.8 -1.1**
comp=Z,12nm,0.9s,mb4.7
DOU Dourbes 45.31 315 P **P 07 45 46.9 +0.5**
comp=Z,5.0nm,0.9s,mb4.3
LOR Lormes 45.32 311 *e*P **P 07 45 45.2 -1.3**
comp=Z,9.1nm,0.8s,mb4.3
LOR Lormes 45.32 311 *e*P **P 07 45 45.2 -1.3**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
LOR Lormes 45.32 311 *e*P **P 07 45 45.2 -1.3**
comp=Z,4.6nm,0.8s,mb4.3
NB2 NORSAR Subarra 45.47 331 P **P 07 45 46.4 -1.3**
comp=Z,0.3nm,0.8s,baz=114,slow=9.3
NOA NORSAR Array B 45.47 331 P **P 07 45 46.5 -1.1**
comp=Z,2.8nm,0.8s,mb4.1,baz=118,slow=8.1,SNR=6.3
NOA NORSAR Array B 45.47 331 P **P 07 45 46.5 -1.2**
SSF Saint Saulge 45.53 311 *e*P **P 07 45 47.2 -0.9**
comp=Z,26nm,1.0s,mb4.8
SSF Saint Saulge 45.53 311 *e*P **P 07 45 47.2 -0.9**
SSF pmax pmax
comp=Z,13nm,1.0s,mb4.8
SSF Saint Saulge 45.53 311 *e*P **P 07 45 47.2 -0.9**
comp=Z,13nm,1.0s,mb4.8
BAIF Baives 45.55 315 *e*P **P 07 45 48.3 0.0**
comp=Z,31nm,1.0s,mb4.9
BAIF Baives 45.55 315 *e*P **P 07 45 48.3 0.0**
BAIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
BAIF Baives 45.55 315 *e*P **P 07 45 48.3 0.0**
comp=Z,15nm,1.0s,mb4.9
AVF Avril sur Loir 45.60 310 *e*P **P 07 45 47.3 -1.4**
comp=Z,12nm,1.0s,mb4.5
AVF Avril sur Loir 45.60 310 *e*P **P 07 45 47.3 -1.4**
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
AVF Avril sur Loir 45.60 310 *e*P **P 07 45 47.3 -1.4**
comp=Z,5.9nm,1.0s,mb4.5
BGF Bois d'Agland 45.92 310 *e*P **P 07 45 50.0 -1.2**
comp=Z,21nm,0.8s,mb4.8
BGF Bois d'Agland 45.92 310 *e*P **P 07 45 50.0 -1.2**
BGF pmax pmax
comp=Z,11nm,0.8s,mb4.8
BGF Bois d'Agland 45.92 310 *e*P **P 07 45 50.0 -1.2**
comp=Z,11nm,0.8s,mb4.8
MTLF Montolieu 46.11 305 *e*P **P 07 45 52.2 -0.5**
comp=Z,19nm,0.9s,mb4.7
MTLF Montolieu 46.11 305 *e*P **P 07 45 52.2 -0.5**
MTLF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MTLF Montolieu 46.11 305 *e*P **P 07 45 52.2 -0.5**
comp=Z,9.5nm,0.9s,mb4.7
KEV Kevo 46.14 347 *e*p **P 07 45 52.1 -0.8**
comp=Z,10nm,0.9s,mb4.8
KEV Kevo 46.14 347 *e*P **P 07 45 52.1 -0.8**
KEV pmax pmax
comp=Z,11nm,0.9s,mb4.8
ARCES ARCESS Array B 46.28 346 P **P 07 45 53.6 -0.5**
comp=Z,3.8nm,0.8s,mb4.4,baz=148,slow=9.5,SNR=14
CAF Calviac 46.31 308 *e*P **P 07 45 53.9 -0.4**
comp=Z,15nm,0.8s,mb4.7
CAF Calviac 46.31 308 *e*P **P 07 45 53.9 -0.4**
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CAF Calviac 46.31 308 *e*P **P 07 45 53.9 -0.4**
comp=Z,7.5nm,0.8s,mb4.7
TCF Toulx Ste Croi 46.33 309 *e*P **P 07 45 53.7 -0.7**
comp=Z,26nm,1.1s,mb4.8
TCF Toulx Ste Croi 46.33 309 *e*P **P 07 45 53.7 -0.7**
TCF pmax pmax
comp=Z,13nm,1.1s,mb4.8
TCF Toulx Ste Croi 46.33 309 *e*P **P 07 45 53.7 -0.7**
comp=Z,13nm,1.1s,mb4.8
RJF Les Rejaudoux 46.73 308 *e*P **P 07 45 57.2 -0.4**
comp=Z,30nm,1.0s,mb4.9
RJF Les Rejaudoux 46.73 308 *e*P **P 07 45 57.2 -0.4**
RJF pmax pmax
comp=Z,15nm,1.0s,mb4.9
RJF Les Rejaudoux 46.73 308 *e*P **P 07 45 57.2 -0.4**
comp=Z,15nm,1.0s,mb4.9
HHC Hu-ho-hao-te 47.60 58 *e*P **P 07 46 01.7 -2.7**
HHC AP pP 07 46 06.4 -3.4
HHC XP sP 07 46 08.7 -3.2
HHC PCP PcP 07 47 33.4 -0.6
HHC PP PP 07 47 52.0 -3.9
HHC PCS PcS 07 51 26.7 -2.7
HHC SCS ScS 07 55 52.9 -4.5
HHC AMB AMB
comp=Z,20nm,0.8s,mb5.2
HHC AMB AMB
comp=Z,100nm,3.6s
HHC LR LR
comp=N,120nm,11.9s,MS4.3
HHC LR LR
comp=E,230nm,16.6s,MS4.3
HHC LR LR
comp=Z,330nm,11.9s,MS4.5
ETSF Etsaut 48.13 305 *e*P **P 07 46 08.2 -0.3**
comp=Z,28nm,1.1s,mb4.9
ETSF Etsaut 48.13 305 *e*P **P 07 46 08.2 -0.3**
ETSF pmax pmax
comp=Z,14nm,1.1s,mb4.9
ETSF Etsaut 48.13 305 *e*P **P 07 46 08.2 -0.3**
comp=Z,14nm,1.1s,mb4.9
LDF La Druitiere 48.13 312 *e*P **P 07 46 07.1 -1.4**
comp=Z,5.6nm,0.6s,mb4.5
LDF La Druitiere 48.13 312 *e*P **P 07 46 07.1 -1.4**
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LDF La Druitiere 48.13 312 *e*P **P 07 46 07.1 -1.4**
comp=Z,2.8nm,0.6s,mb4.5
FLN La Foliniere 48.39 313 *e*P **P 07 46 09.2 -1.3**
comp=Z,28nm,1.0s,mb4.9
FLN La Foliniere 48.39 313 *e*P **P 07 46 09.2 -1.3**
FLN pmax pmax
comp=Z,14nm,1.0s,mb5.0
FLN La Foliniere 48.39 313 *e*P **P 07 46 09.2 -1.3**
comp=Z,14nm,1.0s,mb4.9
SJPF Ste Jean 48.62 305 *e*P **P 07 46 12.2 0.0**
comp=Z,8.3nm,0.6s,mb4.7
SJPF Ste Jean 48.62 305 *e*P **P 07 46 12.2 0.0**
SJPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SJPF Ste Jean 48.62 305 *e*P **P 07 46 12.2 0.0**
comp=Z,4.2nm,0.6s,mb4.7
SGMF Saint Gilles 49.72 312 *e*P **P 07 46 19.7 -1.0**
comp=Z,16nm,0.9s,mb4.7
SGMF Saint Gilles 49.72 312 *e*P **P 07 46 19.7 -1.0**
SGMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SGMF Saint Gilles 49.72 312 *e*P **P 07 46 19.7 -1.0**
comp=Z,8.0nm,0.9s,mb4.7
QUIF Quistinic 50.11 311 *e*P **P 07 46 22.4 -1.3**
comp=Z,16nm,0.9s,mb4.7
QUIF Quistinic 50.11 311 *e*P **P 07 46 22.4 -1.3**
QUIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
QUIF Quistinic 50.11 311 *e*P **P 07 46 22.4 -1.3**
comp=Z,8.2nm,0.9s,mb4.7
ROSF Rostrenen 50.20 312 *e*P **P 07 46 23.3 -1.1**
comp=Z,8.5nm,0.8s,mb4.5
ROSF Rostrenen 50.20 312 *e*P **P 07 46 23.3 -1.1**
ROSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ROSF Rostrenen 50.20 312 *e*P **P 07 46 23.3 -1.1**
comp=Z,4.2nm,0.8s,mb4.5
ESDC Sonseca Array 50.80 301 P **P 07 46 28.9 0.0**
comp=Z,2.0nm,0.6s,mb4.2,baz=68,slow=7.8,SNR=5.5
TORD Torodi Ar. Bea 52.33 266 P **P 07 46 40.6 +0.3**
comp=Z,5.5nm,0.8s,mb4.6,baz=64,slow=7.4,SNR=39
NJ2 Nanjing 54.45 68 *e*P **P 07 46 57.1 +1.2**
NJ2 AP pP 07 47 02.5 +1.2
NJ2 XP sP 07 47 05.3 +1.9
NJ2 PCP PcP 07 48 00.0 +0.7
NJ2 S **S 07 54 31.0 -2.8**
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
NJ2 AMB AMB
comp=Z,190nm,5.0s
NJ2 LR LR
comp=N,500nm,15.2s,MS4.8
NJ2 LR LR
comp=E,360nm,15.7s,MS4.8
NJ2 LR LR
comp=Z,180nm,16.6s,MS4.2
SSE Sheshan 56.60 69 P **P 07 47 12.0 +0.7**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,210nm,5.1s
CN2 Changchun 57.66 53 *e*P **P 07 47 19.1 +0.3**
CN2 *e*XP sP 07 47 25.6 -0.8
CN2 *e*S **S 07 55 13.8 -2.6**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
YAK Yakutsk 59.14 32 *i* P **P 07 47 27.8 -1.4**
TIXI Tiksi 59.46 21 *e*P **P 07 47 29.3 -2.1**
TIXI *e* 07 48 17.4
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MDJ Mudanjiang 60.48 52 P **P 07 47 38.8 +0.4**
MDJ AMB AMB
comp=Z,40nm,5.7s
KLR Kul'dur 61.22 47 *e*P **P 07 47 39.2 -4.2**
HABR Khabarovsk 63.49 47 *e*P **P 07 47 56.6 -2.1**
HABR *e*S **S 07 56 30.3 -0.8**
HABR pmax pmax
comp=Z,4.0nm,0.3s,mb5.0
SUMG Summit 65.96 341 *e*P **P 07 48 15.4 +0.7**
comp=Z,14nm,1.0s,mb5.0
SUMG Summit 65.96 341 *e*P **P 07 48 15.4 +0.7**
comp=Z,14nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 68.91 47 *i* P **P 07 48 33.1 -0.3**
BILL Bilibino 72.64 22 *i* P **P 07 48 56.0 -0.1**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
COLA College 86.78 10*c i*P **P 07 50 12.1 -0.7**
DAWY Dawson 88.65 7 *e*P **P 07 50 21.5 -0.2**
DAWY *e*pP pP 07 50 27.3 -0.1
DAWY Dawson 88.65 7 *e*P **P 07 50 21.5 -0.2**
DAWY *e*pP pP 07 50 27.3 -0.1
WRA Warramunga Arr 89.09 113 P **P 07 50 24.1 +0.3**
comp=Z,1.0nm,1.0s,mb4.1,baz=316,slow=3.9,SNR=3.7
WRA Warramunga Arr 89.09 113 *i* P **P 07 50 29.7 +5.9**
WRA pmax pmax
comp=Z,1.0nm,0.9s

CASC 03 07:52:41.7±3.6, 1439N×8906W, h20km±20km, MD4.0, ML3.7, 10C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	**Boqueron**	**0.69**	**198**	*e*P	x	07 53 18.3	
BOQS				*e*S	x	07 53 29.1	
SNET	**Serv Nac Est T**	**0.72**	**194⇑**	*e*P	x	07 52 54.8	
SNET				*e*S	x	07 53 04.1	
RTR	**El Retiro**	**0.75**	**229⇑**	*e*P	x	07 53 19.4	
RTR				*e*S	x	07 53 32.6	
LFRS	**El Faro**	**0.76**	**180**	*e*P	x	07 53 19.1	
LFRS				*e*S	x	07 53 32.8	
SNVI	**San Vicente**	**0.80**	**164**	*e*P	x	07 53 21.1	
SNVI				*e*S	x	07 53 33.7	
VSM	**San Miguel**	**1.22**	**141⇑**	*e*P	x	07 53 28.0	
VSM				*e*S	x	07 53 45.2	
FUG	**Fuego 3**	**1.73**	**272**	*e*P	Pn	07 53 11.5	+0.9
TP2	**Tecpan 2**	**1.94**	**282⇑**	*e*P	Pn	07 53 15.8	+2.3
TP2				AML	AML	07 53 48.5	
	comp=E,892nm,0.3s						
JAT	**Jato**	**2.50**	**269**	*e*P	Pn	07 53 20.2	-1.0
CRIN	**San Cristobal**	**2.58**	**130⇑**	*e*P	Pn	07 53 24.1	+1.8
CRIN				*e*S	Sn	07 53 55.4	+2.4
TELN	**Telica**	**2.80**	**129**	*e*P	Pn	07 53 24.3	-1.0
TELN				*e*S	Sn	07 53 59.3	+0.7
TEL3	**Telica 3**	**2.81**	**130⇑**	*e*P	Pn	07 53 26.4	+1.0
TEL3				*e*S	Sn	07 53 59.6	+0.8
LEON	**Leon**	**2.88**	**133**	*e*P	Pn	07 53 26.2	-0.2
LEON				*e*S	Sn	07 53 58.0	-2.5
CNGN	**Cerro Negro**	**2.97**	**129⇓**	*e*P	Pn	07 53 28.5	+0.9
CNGN				*e*S	Sn	07 54 03.7	+1.1
MIRN	**Miramar**	**3.00**	**130⇑**	*e*P	Pn	07 53 28.4	+0.4
MOMJ	**Momotombo**	**3.14**	**128⇑**	*e*P	Pn	07 53 30.6	+0.6
COPN	**Copaltepe**	**3.25**	**132⇓**	*e*P	Pn	07 53 30.6	-1.0
APYN	**Apoyeque**	**3.40**	**129⇑**	*e*P	Pn	07 53 34.1	+0.6
MGAN	**Managua**	**3.53**	**129⇑**	*e*P	Pn	07 53 36.7	+1.3
MGAN				*e*		07 54 19.9	
	comp=E,300nm,0.8s						
APON	**Apoyo**	**3.81**	**130⇓**	*e*P	Pn	07 53 40.1	+0.8
APON				*e*S	Sn	07 54 23.1	-0.4

*ISCJB **03** 08:08:42.0±0.8, 3879N×003×2559E±004, h7km±6km,*
Error ellipse: s-maj=5.7km s-min=4.9km az=29.1
*ATH **03** 08:08:41.5, 3875N×2560E, h21km±4km, MD3.4/7, ML3.4*
*NEIC **03** 08:08:42.3, 3875N×2559E, h28km, ML3.4(ATH), After*

ATH.
CSEM ***03*** *08:08:43.1±0.1,3875N×2558E, h20km, ML3.4, Error ellipse: s-maj=4.7km s-min=3.0km az=173.0*
ISC 03 08:08:41.9±1.0,3880N±003×2559E±005, h1km±6km, n44, σ0§98/52, 1C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.69**	**50**	*e*Pb	**Pg**	**08 08 55.5**	**+0.3**
PRK				*e*Sn	**Sg**	**08 09 08.3**	**+4.1**
URLA	**Izmir**	**0.90**	**119**	*i* P	**Pg**	**08 08 59.2**	**0.0**
AYVA	**Ayvalik**	**1.00**	**59**	*i* P	**Pg**	**08 09 00.5**	**-0.5**
AYVA				*i* S	**Sg**	**08 09 14.0**	**+0.1**
EZN	**Ezine**	**1.17**	**29**	PN	**Pn**	**08 09 04.6**	**-0.9**
EZN				SN	**Sn**	**08 09 20.1**	**-2.0**
BLCB	**Balcova**	**1.21**	**109**	PN	**Pn**	**08 09 05.5**	**-0.4**
BLCB				SN	**Sn**	**08 09 20.3**	**-2.7**
IZM	**Izmir**	**1.37**	**106**	PN	**Pn**	**08 09 08.1**	**0.0**
KDAG	**Bornova**	**1.37**	**106**	*i* P	**Pn**	**08 09 07.8**	**-0.4**
KDAG				*i* S	**Sg**	**08 09 25.9**	**-0.1**
PTL	**Penteli**	**1.55**	**242**	*e*PN	**Pn**	**08 09 09.0**	**-1.6**
CANB	**Canakkale**	**1.67**	**43**	PN	**Pn**	**08 09 12.4**	**+0.1**
CANB				SN	**Sn**	**08 09 32.7**	**-1.6**
ATH	**Athens Observa**	**1.69**	**241**	*e*PN	**Pn**	**08 09 11.5**	**-1.0**
APE	**Apeiranthos**	**1.73**	**182**	*e*PN	**Pn**	**08 09 12.0**	**-1.1**
BALB	**Balikesir**	**1.97**	**64**	PN	**Pn**	**08 09 16.3**	**-0.1**
MGER	**Gerania Oros**	**2.00**	**247**	*e*PN	**Pn**	**08 09 17.0**	**+0.1**
BTOK	**Tokmak**	**2.12**	**62**	*i* P	**Pn**	**08 09 17.7**	**-0.8**
AYDN	**Tasoluk**	**2.13**	**122**	*i* P	**Pn**	**08 09 17.8**	**-0.8**
AYDN				*i* S	**Sn**	**08 09 48.6**	**+2.9**
BODT	**Bodrum**	**2.20**	**141**	PN	**Pn**	**08 09 19.7**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.25**	**32**	PN	**Pn**	**08 09 20.6**	**+0.3**
MLSB	**Milas**	**2.29**	**130**	*e*PN	**Pn**	**08 09 21.3**	**+0.5**
EDC	**Edincik**	**2.34**	**48**	*e*PN	**Pn**	**08 09 21.9**	**+0.4**
RDO	**Rodhopi**	**2.35**	**359**	*e*PN	**Pn**	**08 09 21.5**	**-0.1**
MFT	**Murefte**	**2.38**	**33**	*e*PN	**Pn**	**08 09 21.9**	**-0.1**
MRMT	**Marmara Adasi**	**2.38**	**40**	*e*PN	**Pn**	**08 09 22.0**	**0.0**
BNT	**Bandirma**	**2.38**	**48**	*e*PN	**Pn**	**08 09 21.7**	**-0.3**
DST	**Dursunbey**	**2.49**	**70**	*e*PN	**Pn**	**08 09 23.6**	**0.0**
DAT	**Datca**	**2.60**	**142**	*e*PN	**Pn**	**08 09 25.0**	**0.0**
YER	**Yerkesik**	**2.70**	**127**	*e*PN	**Pn**	**08 09 27.6**	**+1.2**
NVR	**Nevrokopi**	**2.87**	**333**	*e*PN	**Pn**	**08 09 29.6**	**+0.7**
GDZ	**Gediz**	**3.05**	**83**	*i* P	**Pg**	**08 09 39.3**	**-1.0**
ULDT	**Uludag**	**3.05**	**63**	*i* P	**Pg**	**08 09 35.4**	**-5.1**
ULDT				*i* S	**Sg**	**08 10 16.8**	**-3.3**
KHL	**Karahalli**	**3.12**	**98**	*e*PN	**Pn**	**08 09 33.2**	**+1.0**
DALT	**Dalyan (Mudla)**	**3.15**	**129**	*e*PN	**Pn**	**08 09 32.7**	**+0.1**
EDRB	**Edirne**	**3.17**	**16**	*e*PN	**Pn**	**08 09 33.8**	**+0.9**
CTT	**Catalca**	**3.20**	**42**	*e*PN	**Pn**	**08 09 33.8**	**+0.4**
YLV	**Yalova**	**3.41**	**58**	*e*PN	**Pn**	**08 09 36.4**	**+0.2**
ISK	**Istanbul-Kandi**	**3.50**	**49**	*e*PN	**Pn**	**08 09 38.9**	**+1.5**
FETY	**Fethiye**	**3.51**	**127**	*e*PN	**Pn**	**08 09 38.9**	**+1.3**
ALT	**Altintas**	**3.53**	**84**	*e*PN	**Pn**	**08 09 38.9**	**+1.0**
ADVT	**Abdulvahap**	**3.59**	**62**	*e*PN	**Pn**	**08 09 39.5**	**+0.7**
KLYT	**Kilyos**	**3.61**	**46**	*e*PN	**Pn**	**08 09 39.6**	**+0.6**
HENT	**Hendek**	**4.56**	**62**	*i* P	**Pg**	**08 10 06.2**	**-3.1**
KIZT	**Kizilcal**	**4.91**	**87**	*e*PN	**Pn**	**08 09 58.1**	**+1.2**
TIRR	**Tirgusor**	**6.04**	**20⇑**	*i*P	**Pn**	**08 10 14.4**	**+2.1**
MLR	**Muntele Rosu**	**6.69**	**2⇓**	*i*P	**Pn**	**08 10 26.5**	**+5.2**
VRI	**Vrincioaia**	**7.11**	**6⇓**	*i*P	**Pn**	**08 10 33.2**	**+6.1**

ISCJB ***03*** *08:09:25.0±2.1,537S±009×1292E±02, h234km±21km, mb3.7/2, Error ellipse: s-maj=25.5km s-min=13.2km az=137.7*
NEIC ***03*** *08:09:27.4±6.0,534S×12941E, h245km±61km, mb4.4/3, Error ellipse: s-maj=45.3km s-min=18.9km az=217.0*
IDC ***03*** *08:09:33.1±3.9,564S×12900E, h301km±41km, mb3.3/2, mb1 3.5/5, mb1mx3.3/15, mbtmp4.2/5, Error ellipse: s-maj=59.5km s-min=13.1km az=71.0*
ISC 03 08:09:30.4±1.8,55S±01×1294E±02, h272km±19km, n11, σ1§12/17, mb3.6/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.06**	**196**	*e*P	**Pn**	**08 12 26.6**	**+0.2**
	1.6nm,0.3s						
FITZ				*e*S	**S**	**08 14 44.4**	**-6.8**
FITZ	**Fitzroy Crossi**	**13.06**	**196**	P	**Pn**	**08 12 26.5**	**+0.1**
	0.4nm,0.3s,baz=48,slow=16,SNR=19						
FITZ				S	**S**	**08 14 43.2**	**-8.1**
	0.1nm,0.3s,baz=94,slow=19,SNR=2.7						
WRAB	**Tennant Creek**	**15.13**	**162**	*e*P	**Pn**	**08 12 50.1**	**-1.0**
	20nm,0.6s						
WRAB				*e*S	**S**	**08 15 35.4**	**-0.9**
WRA	**Warramunga Arr**	**15.13**	**162**	P	**Pn**	**08 12 50.4**	**-0.9**
	2.6nm,0.3s,baz=350,slow=13,SNR=47						
WRA				S	**S**	**08 15 33.8**	**-2.5**
	0.5nm,0.3s,baz=343,slow=17,SNR=4.8						
WB2	**Warramunga Arr**	**15.14**	**162**	*e*P	**Pn**	**08 12 50.4**	**-0.9**
WB2				*e*S	**S**	**08 15 37.8**	**+1.4**
MBWA	**Marble Bar**	**18.19**	**210**	*e*P	**P**	**08 13 23.3**	**-0.3**
	7.0nm,0.5s						
AS31	**Alice Springs**	**18.57**	**167**	*e*P	**P**	**08 13 29.0**	**+1.3**
ASAR	**Alice Springs**	**18.57**	**167**	P	**P**	**08 13 28.9**	**+1.2**
	1.7nm,0.3s,baz=351,slow=12,SNR=146						
ASAR				S	**S**	**08 16 44.9**	**+0.1**
	0.5nm,0.3s,baz=347,slow=22,SNR=16						
ASPA	**Alice Springs**	**18.57**	**167**	*e*P	**P**	**08 13 29.0**	**+1.3**
STKA	**Stephens Creek**	**28.61**	**158**	P	**P**	**08 15 03.0**	**+1.3**
	0.5nm,0.3s,mb3.5,baz=323,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**66.67**	**327**	P	**P**	**08 19 51.1**	**-0.9**
	0.8nm,0.4s,mb3.8,baz=124,slow=8.1,SNR=9.5						

ISCJB ***03*** *08:22:19.2±1.6,270N±01×5568E±005, h10km, Error ellipse: s-maj=17.9km s-min=5.2km az=147.9*
CSEM ***03*** *08:22:19.2±0.8,2704N×5568E, h5km, ML3.4, Error ellipse: s-maj=26.8km s-min=6.8km az=167.0*
KISR ***03*** *08:22:20.1±1.2,2673N×5531E, h8km±999km, ML3.7*
THR ***03*** *08:22:20.0±0.4,2695N×5588E, h10km±2km, ML3.4*
ISC 03 08:22:21.8±1.6,270N±01×5575E±006, h10km, n11, σ1§33/19, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.53**	**44**	*e*PG	**Pg**	**08 22 30.2**	**-2.0**
BNDS				*e*Sg	**Sg**	**08 22 38.0**	**-1.2**
BNDS				AML	AML	08 22 53.9	
	comp=E,2μm,0.5s						
BNDS	**Bandar-Abbas**	**0.53**	**44**	*e*Pg	**Pg**	**08 22 30.2**	**-2.0**
	SNR=96						
BNDS				*e*Sg	**Sg**	**08 22 38.0**	**-1.2**
	comp=E,2μm,0.5s,SNR=96						
GHIR	**Ghir-Karzin**	**2.76**	**298**	*e*PN	**Pn**	**08 23 08.2**	**+2.1**
GHIR				AML	AML	08 24 23.9	
	comp=E,133nm,0.8s						
GHIR				AML	AML	08 24 24.1	
	comp=N,101nm,0.5s						
KRBR	**Kerman**	**3.08**	**16**	*e*PN	**Pn**	**08 23 11.4**	**+0.8**
KRBR				Sn	**Sn**	**08 23 49.0**	**+1.5**
KRBR				AML	AML	08 24 12.5	
	comp=E,120nm,0.5s						
KRBR	**Kerman**	**3.08**	**16**	*e*Pn	**Pn**	**08 23 11.4**	**+0.8**
	SNR=47						
KRBR				Sn	**Sn**	**08 23 49.0**	**+1.5**
	SNR=47						
ZHSF	**Zahedan**	**5.13**	**59**	*e*PN	**Pn**	**08 23 38.4**	**-0.3**
NASN	**Na'in**	**6.30**	**337**	*e*PN	**Pn**	**08 23 57.2**	**+2.4**
UMR	**Umm Al-Rimmam**	**7.52**	**291**	*e*P	**Pn**	**08 24 11.7**	**+0.1**
UMR				AML	AML	08 25 35.4	
	comp=Z,7.9nm,0.3s						
UMR				*e*S	**Sn**	**08 25 36.4**	**-0.5**
NAY	**Al-Naaiem**	**7.84**	**288**	*e*P	**Pn**	**08 24 16.0**	**+0.1**
NAY				*e*S	**Sn**	**08 25 42.8**	**-1.8**
MIB	**Mutribah**	**7.91**	**292**	*e*P	**Pn**	**08 24 17.7**	**+0.8**
MIB				*e*S	**Sn**	**08 25 44.9**	**-1.6**
MIB				AML	AML	08 25 46.0	
	comp=Z,9.7nm,0.4s						
MIB	**Mutribah**	**7.91**	**292**	*e*P	**Pn**	**08 24 17.7**	**+0.8**
MIB				*e*S	**Sn**	**08 25 44.9**	**-1.6**

CSEM ***03*** *08:25:23.5, 1768S×17702W, h33km, mb5.8*
MOS ***03*** *08:25:57.1±1.0, 1763S×17726W, h339km, mb4.9/23, Error ellipse: s-maj=10.8km s-min=8.3km az=144.1*
ISCJB ***03*** *08:25:57.8±0.1, 1774S±003×17726W±003, h351km, mb4.8/67, Error ellipse: s-maj=5.2km s-min=2.9km az=74.7*
BJI ***03*** *08:25:58.5, 1721S×17666W, h362km, mB5.0, mb4.7*
HRVD ***03*** *08:25:59.2±0.6, 1759S×17731W, h394km±2km, MW5.3/40, Centroid moment Tensor Solution. LP body waves: s40,c54; Half duration: 1§1 Moment tensor: Scale 1017 Nm; Mrr0.09±.04; Mθθ0.39±.08; Mφφ-0.47±.07; Mrθ-0.75±.05; Mrφ-0.12±.06; Mθφ0.68±.05; Best double couple: M01.10200×1017 NP1:φs225.00000°, δ24.00000°, λ177.00000°. NP2:φs318.00000°, δ89.00000°, λ66.00000°. Principal axes: T 1.1830, Plg41.0000°, Azm206.0000°; N -0.1620, Plg24.0000°, Azm318.0000°; P -1.0210, Plg39.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***03*** *08:25:59.2±0.1, 1764S×17729W, mb4.9/39 Error ellipse: s-maj=7.3km s-min=3.9km az=142.0*
IDC ***03*** *08:26:01.2±1.2, 1776S×17732W, h375km±12km, mb4.4/17, mb1 4.5/19, mb1mx4.5/20, mbtmp5.2/19, Error ellipse: s-maj=9.9km s-min=8.8km az=144.0*
SZGRF ***03*** *08:26:04.2, 1682S×17781W, h368km, Fiji Islands region*
ISC 03 08:25:59.4±0.1, 1774S±003×17724W±003, h353km, h353km±2.4km; pP-P, n445, σ0§80/334, mb4.8/67, 72C-90D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.49**	**55**	P	**Pn**	**08 27 33.6**	**-2.3**
	32nm,0.3s,baz=284,slow=2.8,SNR=4.1						
AFI				S	**S**	**08 28 44.2**	**-10**
	baz=12,slow=20,SNR=4.1						
AFI	**Afiamalu**	**6.49**	**55**	*e*Pn	**Pn**	**08 27 33.4**	**-2.6**
RAO	**Raoul Island**	**11.48**	**183**	P	**Pn**	**08 28 34.3**	**-0.6**
	87nm,0.3s,baz=74,slow=22,SNR=4.0						
RAO				S	**S**	**08 30 38.6**	**-4.4**
	144nm,0.3s,baz=90,slow=22,SNR=4.1						
RAO	**Raoul Island**	**11.48**	**183**	P	**Pn**	**08 28 34.3**	**-0.6**
RAO				S	**S**	**08 30 38.6**	**-4.4**
DZM	**Mont Dzumac**	**15.93**	**252**	P	**P**	**08 29 25.1**	**+1.1**
	2.2nm,0.3s,baz=72,slow=19,SNR=28						
NOUC	**Port Laguerre**	**16.07**	**252**	*e*P	**P**	**08 29 26.9**	**+1.4**
NOUC				*e*S	**S**	**08 32 21.4**	**+5.1**
RAR	**Rarotonga**	**16.83**	**105**	P	**P**	**08 29 33.7**	**0.0**
	0.7nm,0.3s,baz=235,slow=10,SNR=3.3						
OUZ	**Omahuta**	**19.23**	**203**	PN	**P**	**08 30 01.8**	**+2.6**
MXZ	**Matakaoa Point**	**20.14**	**190**	*e*PN	**P**	**08 30 06.2**	**-2.2**
MTAZ	**Motutapu**	**20.20**	**199**	PN	**P**	**08 30 11.6**	**+2.7**
KAAZ	**Kauri Point**	**20.30**	**199**	PN	**P**	**08 30 12.8**	**+3.0**
OTAZ	**Otara**	**20.35**	**198**	PN	**P**	**08 30 12.8**	**+2.5**
MKAZ	**Moumakai**	**20.43**	**198**	PN	**P**	**08 30 13.0**	**+2.0**
WTAZ	**Waiatarua**	**20.44**	**199**	*e*PN	**P**	**08 30 13.5**	**+2.3**
PUZ	**Puketiti**	**20.64**	**190**	*e*PN	**P**	**08 30 12.5**	**-0.5**
PUZ				SN	**S**	**08 33 41.9**	**+1.6**
MWZ	**Matawai**	**21.03**	**192**	*e*PN	**P**	**08 30 15.5**	**-1.0**
URZ	**Urewera**	**21.04**	**192**	P	**P**	**08 30 15.0**	**-1.6**
	66nm,0.3s,mb5.3,baz=318,slow=2.7,SNR=101						
URZ				S	**S**	**08 33 45.3**	**-1.4**
	69nm,0.9s,baz=179,slow=18,SNR=9.2						
URZ	**Urewera**	**21.04**	**192**	*e*PN	**P**	**08 30 14.4**	**-2.2**
HIZ	**Hauiti**	**21.82**	**197**	PN	**P**	**08 30 25.9**	**+2.2**
BKZ	**Black Stump Fm**	**22.04**	**193**	PN	**P**	**08 30 24.2**	**-1.5**
TSZ	**Taupari Road**	**23.01**	**193**	*e*PN	**P**	**08 30 33.1**	**-1.5**
BFZ	**Birch Farm**	**23.55**	**192**	PN	**P**	**08 30 38.4**	**-0.9**
HNR	**Honiara**	**23.64**	**287**	P	**P**	**08 30 40.6**	**+0.4**
	39nm,0.5s,mb4.9,baz=110,slow=0.8,SNR=12						
HNR	**Honiara**	**23.64**	**287**	P	**P**	**08 30 40.4**	**+0.2**
HNR				pmax	pmax		
	comp=Z,45nm,0.7s,mb4.8						
HNR	**Honiara**	**23.64**	**287**	P	**P**	**08 30 40.4**	**+0.2**
	comp=Z,45nm,0.7s,mb4.8						
MRZ	**Mangatainoka R**	**23.67**	**194**	PN	**P**	**08 30 38.4**	**-2.1**
CAW	**Cannon Point**	**24.21**	**194**	PN	**P**	**08 30 44.2**	**-1.1**
SNZO	**South Karori**	**24.49**	**195**	PN	**P**	**08 30 47.5**	**-0.4**
SNZO	**South Karori**	**24.49**	**195**	*e*P	**P**	**08 30 47.6**	**-0.3**
	comp=Z,44nm,0.5s,mb4.9						
TCW	**Tory Channel**	**24.51**	**196**	*e*PN	**P**	**08 30 47.2**	**-0.8**
QRZ	**Quartz Range**	**24.64**	**199**	PN	**P**	**08 30 49.8**	**+0.6**
NNZ	**Nelson**	**24.75**	**197**	PN	**P**	**08 30 49.1**	**-1.1**
TUWZ	**Tuamarina**	**24.80**	**196**	*e*PN	**P**	**08 30 49.2**	**-1.4**
THZ	**Tophouse**	**25.39**	**197**	PN	**P**	**08 30 55.1**	**-0.8**
DSZ	**Denniston Nort**	**25.70**	**199**	PN	**P**	**08 30 58.7**	**0.0**
KHZ	**Kahutara**	**25.82**	**196**	PN	**P**	**08 30 58.9**	**-0.8**
PAE	**Paea**	**26.35**	**94**	*e*P	**P**	**08 31 04.4**	**0.0**
	comp=Z,71nm,1.1s,mb4.8						
PPT	**Papeete**	**26.36**	**94**	*e*P	**P**	**08 31 04.9**	**+0.4**
	comp=Z,66nm,1.4s,mb4.7						
PPT	**Papeete**	**26.36**	**94**	P	**P**	**08 31 03.8**	**-0.7**
	comp=Z,13nm,0.6s,mb4.3,baz=282,slow=3.4,SNR=4.2						
LTZ	**Lake Taylor**	**26.51**	**197**	PN	**P**	**08 31 04.8**	**-1.1**
TBI	**Tubuai**	**26.58**	**107**	*e*P	**P**	**08 31 07.4**	**+0.9**
	comp=Z,247nm,1.1s,mb5.3						
TVO	**Taravao**	**26.65**	**94**	*e*P	**P**	**08 31 07.6**	**+0.5**
	comp=Z,216nm,1.6s,mb5.1						
WVZ	**Waitaha Valley**	**27.24**	**199**	PN	**P**	**08 31 11.6**	**-0.7**
RPZ	**Rata Peaks**	**27.72**	**198**	P	**P**	**08 31 15.8**	**-0.8**
	comp=Z,35nm,0.4s,mb4.9,baz=38,slow=3.5,SNR=35						
FOZ	**Fox Glacier**	**28.02**	**200**	PN	**P**	**08 31 18.0**	**-1.2**
PMOR	**Pomariorio Ree**	**28.28**	**89**	*e*P	**P**	**08 31 21.6**	**+0.1**
	comp=Z,84nm,1.0s,mb4.9						
PMOR				*e*pP		08 32 28.2	
MLZ	**Mavora Lakes**	**30.10**	**201**	PN	**P**	**08 31 38.3**	**+0.8**
WHZ	**Wether Hill Ro**	**30.66**	**200**	PN	**P**	**08 31 42.8**	**+0.4**
ARMA	**Armidale**	**30.99**	**240⇑**	*i*P	**P**	**08 31 46.7**	**+1.5**
CNB	**Canberra Magne**	**34.41**	**233⇑**	*i*P	**P**	**08 32 16.1**	**+1.4**
	comp=Z,58nm,0.5s,mb5.1						
CTA	**Charters Tower**	**34.57**	**260⇑**	*i*P	**P**	**08 32 16.0**	**0.0**
	comp=Z,46nm,0.8s,mb4.8						
CTA	**Charters Tower**	**34.57**	**260**	P	**P**	**08 32 16.2**	**+0.2**
	comp=Z,28nm,0.4s,mb4.8,baz=94,slow=12						
CTA	**Charters Tower**	**34.57**	**260⇑**	*i*P	**P**	**08 32 16.0**	**0.0**
CTA				pmax	pmax		
	comp=Z,46nm,0.8s						
CTAO	**Charters Tower**	**34.57**	**260**	*e*P	**P**	**08 32 16.0**	**0.0**
CTAO				pmax	pmax		
	comp=Z,65nm,0.9s,mb4.9						
CTAO	**Charters Tower**	**34.57**	**260**	*e*P	**P**	**08 32 16.0**	**0.0**
	comp=Z,65nm,0.9s,mb4.9						
PMG	**Port Moresby**	**35.53**	**279**	P	**P**	**08 32 24.9**	**+0.8**
	comp=Z,97nm,0.9s,mb5.0,baz=90,slow=5.4,SNR=20						
PMG	**Port Moresby**	**35.53**	**279**	*c i*P	**P**	**08 32 24.9**	**+0.8**
PMG	**Port Moresby**	**35.53**	**279**	*e*P	**P**	**08 32 25.1**	**+1.0**
	comp=Z,79nm,0.9s,mb5.0						
TOO	**Toolangi**	**38.14**	**231⇑**	*i*P	**P**	**08 32 47.2**	**+1.3**
	comp=Z,76nm,0.6s,mb5.1						
TOO	**Toolangi**	**38.14**	**231⇑**	*i*P	**P**	**08 32 47.2**	**+1.3**
TOO				pmax	pmax		
	comp=Z,77nm,0.6s,mb5.1						
TAU	**Tasmania Unive**	**39.11**	**222**	*e*P	**P**	**08 32 55.1**	**+1.2**
TAU				pmax	pmax		
	comp=Z,39nm,0.8s,mb4.7						
TAU	**Tasmania Unive**	**39.11**	**222**	*e*P	**P**	**08 32 55.1**	**+1.2**
	comp=Z,39nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**39.69**	**241⇑**	*i*P	**P**	**08 32 57.6**	**-1.0**
	comp=Z,53nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**39.69**	**241**	P	**P**	**08 32 57.6**	**-1.0**
	comp=Z,62nm,0.6s,mb5.0,baz=89,slow=9.4,SNR=183						
RKT	**Rikitea**	**39.87**	**105**	*e*P	**P**	**08 33 00.1**	**0.0**
	comp=Z,52nm,1.1s,mb4.7						
WB2	**Warramunga Arr**	**45.74**	**259⇑**	*i*P	**P**	**08 33 45.7**	**-1.0**
WB2				*e*S	**S**	**08 39 58.3**	**-4.5**
WRAB	**Tennant Creek**	**45.74**	**259**	*c i*P	**P**	**08 33 45.7**	**-1.0**
WRAB	**Tennant Creek**	**45.74**	**259**	*e*P	**P**	**08 33 45.4**	**-1.3**
	comp=Z,52nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**45.75**	**259**	P	**P**	**08 33 46.1**	**-0.7**
	comp=Z,32nm,0.6s,mb4.6,baz=96,slow=7.7,SNR=361						
WRA				S	**S**	**08 39 59.2**	**-3.7**
	comp=Z,1.1nm,0.8s,baz=95,slow=12,SNR=4.0						
AS31	**Alice Springs**	**45.90**	**254⇑**	P	**P**	**08 33 48.0**	**0.0**
AS31				*e*S	**S**	**08 40 01.6**	**-3.5**
ASAR	**Alice Springs**	**45.91**	**254**	P	**P**	**08 33 48.0**	**+0.1**
	comp=Z,260nm,0.6s,mb5.5,baz=88,slow=8.3,SNR=2898						
ASAR				S	**S**	**08 40 02.1**	**-2.9**
	comp=Z,8.1nm,0.9s,baz=91,slow=16,SNR=18						
ASPA	**Alice Springs**	**45.91**	**254⇑**	*i*P	**P**	**08 33 48.0**	**0.0**
ASPA				*e*S	**S**	**08 40 01.6**	**-3.5**
GUMO	**Guam**	**48.65**	**307**	P	**P**	**08 34 08.6**	**-0.3**
	comp=Z,24nm,0.5s,mb4.7,baz=169,slow=11,SNR=6.7						
KAKA	**Kakadu**	**48.70**	**268⇓**	*i*P	**P**	**08 34 09.4**	**+0.1**
	comp=Z,48nm,0.4s,mb5.1						
FORT	**Forrest**	**51.08**	**245⇑**	*i*P	**P**	**08 34 27.1**	**+0.1**
	comp=Z,362nm,0.6s,mb5.8						
FORT				*e*S	**S**	**08 41 11.1**	**-5.8**
FITZ	**Fitzroy Crossi**	**54.15**	**260⇑**	*i*P	**P**	**08 34 49.7**	**+0.4**
	comp=Z,55nm,0.8s,mb4.9						
MBWA	**Marble Bar**	**59.19**	**256**	*e*P	**P**	**08 35 24.5**	**+0.1**
	comp=Z,102nm,0.6s,mb5.4						
KLBR	**Kellerberrin**	**59.90**	**243**	*e*P	**P**	**08 35 29.0**	**-0.2**
	comp=Z,155nm,0.8s,mb5.5						
NWAO	**Narrogin (SRO)**	**60.27**	**242**	*e*P	**P**	**08 35 31.6**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,26nm,0.8s						
NWAO	**Narrogin (SRO)**	**60.27**	**242**	*e*P	**P**	**08 35 31.6**	**-0.1**
	comp=Z,26nm,0.8s,mb4.7						
SBA	**Scott Base**	**60.66**	**184**	*e*P	**P**	**08 35 36.4**	**+2.1**
SBA				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.6						
SBA	**Scott Base**	**60.66**	**184**	*e*P	**P**	**08 35 36.4**	**+2.1**
	comp=Z,19nm,0.7s,mb4.6						
VNDA	**Vanda**	**60.71**	**185**	P	**P**	**08 35 35.6**	**+1.0**
	comp=Z,9.1nm,0.8s,mb4.3,baz=355,slow=7.1,SNR=50						
VNDA	**Vanda**	**60.71**	**185**	*e*P	**P**	**08 35 36.0**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,12nm,1.0s						
VNDA	**Vanda**	**60.71**	**185**	*e*P	**P**	**08 35 36.0**	**+1.3**
	comp=Z,12nm,1.0s,mb4.3						
MUN	**Mundaring**	**61.19**	**243⇑**	*i*P	**P**	**08 35 38.0**	**+0.2**
CASY	**Casey**	**66.76**	**205**	*e*P	**P**	**08 36 13.7**	**0.0**
MJAR	**Matsushiro Arr**	**68.44**	**323**	P	**P**	**08 36 22.5**	**-1.6**
	comp=Z,2.2nm,0.4s,mb4.2,baz=150,slow=6.3,SNR=9.3						
MJAR	**Matsushiro Arr**	**68.44**	**323**	P	**P**	**08 36 22.5**	**-1.6**
BATP	**Bataraza**	**69.34**	**287**	*e*P	**P**	**08 36 31.8**	**+2.1**
KKM	**Kota Kinabalu**	**69.78**	**284**	P	**P**	**08 36 32.8**	**+0.5**
QSPA	**South Pole Qui**	**72.32**	**180⇑**	*i*P	**P**	**08 36 48.5**	**+1.1**
	comp=Z,75nm,1.1s,mb5.3						
KSM	**Kuching**	**73.77**	**277**	*e*P	**P**	**08 36 56.3**	**+0.5**
HAST	**Hastings Reser**	**75.25**	**44**	⇓P	**P**	**08 37 04.8**	**+0.5**
	baz=75,SNR=5.5						
BNLO	**Ben Lomond**	**75.28**	**43**	⇑P	**P**	**08 37 04.5**	**+0.1**
	baz=75						
JRSC	**Jasper Ridge**	**75.40**	**42**	⇓P	**P**	**08 37 05.1**	**0.0**
	baz=76						
CHGN	**Chignik**	**75.44**	**11**	*e*P	**P**	**08 37 03.8**	**-1.5**
PKD	**Parkfield**	**75.66**	**44**	⇑P	**P**	**08 37 06.5**	**-0.1**
	baz=76						
PTRM	**Twissleman Ran**	**75.72**	**45**	*e*P	**P**	**08 37 07.3**	**+0.4**
U04C	**Hernandez Rese**	**75.74**	**44**	⇑P	**P**	**08 37 07.8**	**+0.8**
	baz=76,SNR=6.5						
PACP	**Pacheco Peak**	**75.78**	**43**	⇓P	**P**	**08 37 07.8**	**+0.5**
	baz=76,SNR=7.7						
CVS	**Carmenet Viney**	**75.81**	**42**	⇑P	**P**	**08 37 07.2**	**-0.3**
	baz=76						
HOPS	**Hopland**	**75.82**	**41**	*e*P	**P**	**08 37 07.6**	**+0.1**
HOPS	**Hopland**	**75.82**	**41**	⇓P	**P**	**08 37 07.3**	**-0.1**
	baz=76						
NSHM	**Saint Helena R**	**75.83**	**41**	*e*P	**P**	**08 37 07.6**	**+0.1**
WENL	**Wente Brothers**	**75.83**	**42**	⇑P	**P**	**08 37 07.9**	**+0.3**
	baz=76						
P01C	**Double 8 Ranch**	**75.94**	**40**	⇓P	**P**	**08 37 08.1**	**-0.1**
	baz=76						
BDM	**Black Diamond**	**75.96**	**42**	⇓P	**P**	**08 37 08.3**	**+0.1**
	baz=76						
S04C	**Ingram Canyon,**	**76.04**	**43**	⇓P	**P**	**08 37 09.0**	**+0.3**
	baz=76,SNR=7.5						
O01C	**Eel River Cons**	**76.06**	**39**	⇓P	**P**	**08 37 09.4**	**+0.6**
	baz=76,SNR=9.3						
KIPM	**Iron Peak**	**76.06**	**40**	*e*P	**P**	**08 37 08.9**	**+0.1**
MNRC	**McLaughlin Nat**	**76.14**	**41**	P	**P**	**08 37 09.9**	**+0.6**
	baz=76,SNR=5.9						
Q03C	**Winters**	**76.27**	**41**	⇑P	**P**	**08 37 10.7**	**+0.7**
	baz=76						

O04C	Chester	77.84	41	P		P	08 37 18.8	+0.2
	baz=78,SNR=14							
R06C	Coleville	77.84	43	⇓P		P	08 37 19.0	+0.4
	baz=78,SNR=5.9							
WAKR	Walker	77.84	43	eP		P	08 37 19.2	+0.5
GSC	Goldstone	77.85	47	eP		P	08 37 18.8	+0.1
GSC	Goldstone	77.85	47	⇑P		P	08 37 18.8	+0.1
	baz=78,SNR=12							
R07C	Lee Vining	77.86	43	⇑P		P	08 37 18.9	+0.1
	baz=78,SNR=6.7							
K02A	Glendale	77.87	37	⇑P		P	08 37 18.2	-0.7
	baz=78							
HATC	Hat Creek Radi	77.90	40	⇑P		P	08 37 18.9	-0.1
	baz=78,SNR=6.2							
BC3	Big Chuckw Mtn	77.95	49	⇓P		P	08 37 19.7	+0.5
	baz=78,SNR=16							
KDAK	Kodiak Island	77.98	13	eP		P	08 37 17.5	-1.9
HUMO	Hull Mountain	78.08	38	eP		P	08 37 19.9	-0.1
HUMO	Hull Mountain	78.08	38	⇓P		P	08 37 20.2	+0.2
	baz=78,SNR=12							
WCN	Washoe City	78.09	42	⇓P		P	08 37 20.2	+0.2
	baz=78,SNR=11							
GLA	Glamis	78.10	50	eP		P	08 37 20.9	+0.8
GLA	Glamis	78.10	50	⇑P		P	08 37 20.8	+0.8
	baz=78,SNR=19							
S08C	White Mtn Res	78.11	44	⇑P		P	08 37 20.7	+0.6
	baz=78,SNR=26							
J02A	Umpqua	78.20	37	⇓P		P	08 37 20.6	0.0
	baz=78							
P06A	Stead Airport,	78.21	42	⇓P		P	08 37 20.9	+0.2
	baz=78							
M04C	Macdoel	78.24	39	⇑P		P	08 37 21.0	+0.1
	baz=78,SNR=7.7							
BUOR	Burton Butte	78.30	38	P		P	08 37 21.6	+0.4
M05C	Lookout	78.41	40	⇑P		P	08 37 21.8	0.0
	baz=79							
HABR	Khabarovsk	78.42	330	P		P	08 37 21.8	0.0
HABR				eS		S	08 46 45.6	-2.0
I02A	Mapleton	78.44	36	⇑P		P	08 37 22.0	+0.1
	baz=79							
L04A	Klamath Falls	78.45	39	⇓P		P	08 37 21.9	-0.1
	baz=79,SNR=7.5							
Q07A	Schurz	78.49	43	⇑P		P	08 37 22.5	+0.3
	baz=79							
O06A	Flanigan	78.53	41	P		P	08 37 22.5	+0.1
	baz=79,SNR=32							
NVAR	Mina Array Bea	78.53	43	P		P	08 37 22.7	+0.2
	comp=Z,14nm,0.7s,mb4.8,baz=221,slow=8.3,SNR=94							
NVAR	Mina Array Bea	78.53	43	P		P	08 37 22.7	+0.2
TUQ	Turquoise Mtn.	78.54	47	⇓P		P	08 37 22.6	+0.1
	baz=79							
J03A	Ideyld Park	78.55	37	⇓P		P	08 37 22.8	+0.3
	baz=79							
PAHR	Pah Rah Range	78.55	42	eP		P	08 37 22.7	+0.2
	comp=Z,16nm,0.9s,mb4.8							
R08A	Mina	78.62	44	⇑P		P	08 37 23.0	+0.2
	baz=79,SNR=14							
MNV	Mina	78.63	43	eP		P	08 37 23.1	+0.1
MNV					pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8							
MNV	Mina	78.63	43	eP		P	08 37 23.1	+0.1
	comp=Z,20nm,0.9s,mb4.8							
Y12C	Blythe	78.67	49	⇑P		P	08 37 23.6	+0.5
	baz=79,SNR=14							
MDJ	Mudanjiang	78.69	324	P		P	08 37 23.3	0.0
MDJ				AP		pP	08 38 40.2	-3.3
MDJ				XP		sP	08 39 19.4	-1.3
MDJ				S		S	08 46 47.1	-3.4
MDJ				SCS		ScS	08 47 09.5	-1.8
MDJ				XS		sS	08 49 12.6	-0.2
MDJ				AMB		AMB		
	comp=Z,50nm,4.5s							
NJ2	Nanjing	78.69	309	eP		P	08 37 24.0	+0.7
NJ2				PCP		PcP	08 37 33.3	+2.5
NJ2				AP		pP	08 38 44.2	+0.7
NJ2				XP		sP	08 39 22.3	+1.6
NJ2				S		S	08 46 51.0	+0.5
NJ2				SKS			08 47 03.0	
NJ2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,150nm,5.0s							
NJ2				LR		LR		
	comp=N,330nm,24.5s							
NJ2				LR		LR		
	comp=E,240nm,21.5s							
NJ2				LR		LR		
	comp=Z,230nm,22.5s							
M06C	Likely Place G	78.73	40	⇓P		P	08 37 23.6	+0.1
	baz=79,SNR=13							
I03A	Eugene	78.73	37	⇓P		P	08 37 22.8	-0.7
	baz=79							
P07A	Fallon	78.77	42	⇓P		P	08 37 23.8	+0.1
	baz=79							
K04A	Chilquin	78.81	38	⇑P		P	08 37 23.7	-0.2
	baz=79							
S09A	Goldfield	78.86	44	⇓P		P	08 37 24.0	-0.2
	baz=79,SNR=9.7							
Q08A	Gabbs	79.02	43	⇑P		P	08 37 24.9	-0.1
	baz=79,SNR=14							
TPH	Tonopah	79.05	44	eP		P	08 37 25.4	+0.2
TPH					pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9							
TPH	Tonopah	79.05	44	eP		P	08 37 25.4	+0.1
	comp=Z,24nm,1.0s,mb4.9							
TPNV	Topopah Spring	79.11	46	eP		P	08 37 25.8	+0.3
TPNV					pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8							
TPNV	Topopah Spring	79.11	46	eP		P	08 37 25.8	+0.3
	comp=Z,15nm,0.8s,mb4.8							
O07A	Toulon	79.13	42	⇓P		P	08 37 25.5	-0.1
	baz=79,SNR=36							
H03A	Soap Creek Ran	79.17	36	⇑P		P	08 37 25.9	+0.1
	baz=79							
Y13A	Salome	79.20	49	⇓P		P	08 37 26.7	+0.7
	baz=79,SNR=23							
W12A	Cal Nev Ari	79.20	48	⇓P		P	08 37 26.4	+0.4
	baz=79							
MOD	Modoc	79.24	40	eP		P	08 37 26.1	-0.1
	comp=Z,12nm,0.8s,mb4.7							
IRO	Indian Ridge	79.34	37	P		P	08 37 26.8	0.0
P08A	Dixie Valley	79.38	42	⇓P		P	08 37 27.3	+0.3
	baz=80							
BROR	Big Rock Looko	79.39	37	P		P	08 37 26.9	-0.1
N07B	Gerlach	79.42	41	⇓P		P	08 37 27.2	0.0
	baz=80							
Q09A	Carvers	79.49	44	⇓P		P	08 37 27.7	+0.2
	baz=80							
FRIS	Frissel Point	79.56	37	P		P	08 37 28.1	+0.2
X13A	Yucca	79.58	49	⇓P		P	08 37 28.7	+0.6
	baz=80,SNR=9.5							
Z14A	Wintersburg	79.61	50	⇑P		P	08 37 28.9	+0.7
	baz=80,SNR=10							
SHPR	Sheep Range	79.62	46	eP		P	08 37 28.5	+0.2
M07A	Soldier Meadow	79.64	40	⇓P		P	08 37 28.5	+0.1
	baz=80,SNR=24							
H04A	Detroit Lake	79.79	36	⇓P		P	08 37 28.5	-0.6
	baz=80,SNR=8.0							
K06A	Valley Falls	79.80	39	P		P	08 37 29.4	+0.2
	baz=80,SNR=14							
115A	Sonoran Desert	79.83	51	⇓P		P	08 37 30.0	+0.6
	baz=80,SNR=9.6							
Y14A	Wickenburg	79.86	50	⇓P		P	08 37 30.0	+0.4
	baz=80,SNR=23							
P09A	Austin	79.91	43	P		P	08 37 29.8	0.0
	baz=80,SNR=12							
N08A	GE Springer Mi	79.95	41	P		P	08 37 30.1	+0.1
	baz=80,SNR=18							
I05A	Bend	80.00	37	⇓P		P	08 37 30.2	-0.1
	baz=80,SNR=6.7							
J06A	Christmas Vall	80.12	39	⇓P		P	08 37 30.4	-0.5
	baz=80,SNR=14							
116A	Eloy	80.15	51	⇓P		P	08 37 31.8	+0.7
	baz=80,SNR=15							
M08A	Happy Creek Ra	80.17	41	P		P	08 37 31.5	+0.3
	baz=80,SNR=9.2							
E03A	Lebam	80.19	34	⇓P		P	08 37 30.7	-0.5
	baz=80							
X14A	Yava	80.20	49	⇑P		P	08 37 32.1	+0.7
	baz=80,SNR=32							
O09A	Fish Creek Ran	80.21	42	⇓P		P	08 37 31.5	+0.1
	baz=80,SNR=14							
N09A	Rock Creek Ran	80.37	42	⇑P		P	08 37 32.3	0.0
	baz=80,SNR=10							
QIZ	Qiongzhong	80.40	293	P		P	08 37 34.0	+1.6
F04A	Amboy	80.42	35	⇓P		P	08 37 32.0	-0.5
	baz=81							
W14A	Seligman	80.43	48	⇑P		P	08 37 33.4	+0.9
	baz=81,SNR=19							
D03A	Wishkah Elem.	80.43	34	⇓P		P	08 37 32.4	-0.2
	baz=81							
SVW2	Sparrevohn	80.47	10	eP		P	08 37 30.9	-1.8
I06A	Prineville	80.49	38	P		P	08 37 33.1	+0.2
	baz=81,SNR=17							
WVOR	Wild Horse Val	80.56	40	eP		P	08 37 33.0	-0.2
WVOR					pmax	pmax		
	comp=Z,18nm,0.9s,mb4.8							
WVOR	Wild Horse Val	80.56	40	eP		P	08 37 33.0	-0.2
	comp=Z,18nm,0.9s,mb4.8							
CN2	Changchun	80.57	322	eP		P	08 37 33.4	+0.1
CN2				eXP		sP	08 39 30.2	-0.8
CN2				eS		S	08 47 10.0	0.0
CN2				AMB		AMB		
	comp=Z,20nm,1.2s,mb4.7							
OOW	Octopus West	80.60	33	P		P	08 37 34.1	+0.6
G05A	Wamic	80.62	36	⇑P		P	08 37 33.1	-0.4
	baz=81							
E04A	Onalaska	80.67	35	⇑P		P	08 37 34.1	+0.3
	baz=81							
X15A	Humboldt	80.68	49	P		P	08 37 34.9	+1.1
	baz=81,SNR=30							
M09A	Marrel Ranch,	80.73	41	⇓P		P	08 37 34.4	+0.3
	baz=81,SNR=6.1							
F05A	White Salmon	80.92	36	⇑P		P	08 37 34.7	-0.5
	baz=81							
L09A	Wilkinson Ranc	80.92	41	⇓P		P	08 37 35.2	0.0
	baz=81,SNR=10							
D04A	Dobbs Creek Ra	80.94	34	⇑P		P	08 37 35.2	-0.1
	baz=81							
N10A	Dunphy	80.95	42	⇑P		P	08 37 35.4	+0.1
	baz=81							
SLKM	Skilak Lake	80.97	13	eP		P	08 37 33.8	-1.6
W15A	Williams	80.99	49	⇓P		P	08 37 36.5	+1.1
	baz=81							
VTHM	Trough	81.02	37	P		P	08 37 35.6	0.0
B04A	Port Angeles	81.17	33	⇑P		P	08 37 35.9	-0.5
	baz=81							
E05A	Randle	81.17	35	⇓P		P	08 37 35.7	-0.8
	baz=81,SNR=7.3							
C04A	Brinnon	81.23	34	⇓P		P	08 37 36.4	-0.4
	baz=81							
P12A	McGill	81.33	44	⇓P		P	08 37 37.4	+0.2
	baz=82							
M10A	I.L. Ranch, Tu	81.36	41	P		P	08 37 38.0	+0.6
	baz=82,SNR=9.9							
CCUT	Cedar City	81.39	46	eP		P	08 37 38.2	+0.7
WHN	Wuhan	81.40	306	P		P	08 37 40.5	+2.9
D05A	Enumclaw	81.43	35	⇑P		P	08 37 37.9	+0.1
	baz=82							
ARUT	Antelope Range	81.45	46	eP		P	08 37 38.7	+0.8
N11A	Elko Archery C	81.49	42	⇓P		P	08 37 38.2	+0.1
	baz=82							
M11A	Holland Ranch,	81.79	42	⇓P		P	08 37 40.0	+0.4
	baz=82,SNR=6.3							
O12A	Currie	81.85	43	P		P	08 37 40.2	+0.3
	baz=82,SNR=13							
C05A	Tolt Reservoir	81.90	34	⇑P		P	08 37 39.6	-0.6
	baz=82							
N12A	Wells--Clov Va	81.96	43	⇑P		P	08 37 40.8	+0.2
	baz=82,SNR=14							
A04A	Legoe Bay, Lum	81.99	33	⇑P		P	08 37 40.3	-0.4
	baz=82,SNR=6.4							
B05A	Bryant	82.03	34	⇓P		P	08 37 40.2	-0.6
	baz=82,SNR=6.9							
PMR	Palmer	82.18	13	eP		P	08 37 39.5	-2.2
PMR					pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.8							
PMR	Palmer	82.18	13	eP		P	08 37 39.5	-2.2
	comp=Z,6.5nm,0.4s,mb4.8							
A05A	Maple Falls	82.49	33	⇑P		P	08 37 42.1	-1.1
	baz=83							
N13A	West Wendover	82.50	43	⇓P		P	08 37 43.6	+0.2
	baz=83,SNR=13							
M13A	Montello	82.79	43	⇓P		P	08 37 44.9	+0.1
	baz=83,SNR=13							
IPM	Ipoh	83.50	277	P		P	08 37 49.0	+0.6
NOQ	North Oquirrh	83.77	44	eP		P	08 37 49.6	-0.1
	comp=Z,22nm,0.9s,mb5.0							
LAZ	Ladron	84.38	51	eP		P	08 37 53.5	+0.7
LAZ				epP		pP	08 39 15.9	+1.6
MAW	Mawson	84.39	200	eP		P	08 37 52.7	-0.1
	comp=Z,5.7nm,0.6s,mb4.6							
MAW	Mawson	84.39	200	P		P	08 37 52.8	-0.1
	comp=Z,8.8nm,0.7s,mb4.7,baz=106,slow=9.1,SNR=10							
MAW	Mawson	84.39	200	eP		P	08 37 52.7	-0.1
MAW					pmax	pmax		
	comp=Z,6.0nm,0.6s							
HWUT	Hardware Ranch	84.60	43	eP		P	08 37 53.4	-0.5
	comp=Z,7.4nm,0.9s,mb4.5							
NEW	Newport	84.72	36	eP		P	08 37 53.4	-1.1
NEW					pmax	pmax		
	comp=Z,5.0nm,0.8s							
NEW	Newport	84.72	36	eP		P	08 37 53.4	-1.1
	comp=Z,4.5nm,0.8s,mb4.3							
PV10	Paradox Valley	84.78	47	eP		P	08 37 54.8	0.0
PV01	Paradox Valley	85.00	48	eP		P	08 37 55.5	-0.4
PV01				epP		pP	08 39 17.5	0.0
ANMO	Albuquerque	85.12	51	d iP		P	08 37 56.8	+0.3
DLBC	Dease Lake	85.24	23	eP		P	08 37 56.0	-1.0
COLA	College	85.37	12	eP		P	08 37 55.2	-2.5
COLA					pmax	pmax		
	comp=Z,27nm,0.8s,mb5.1							
COLA	College	85.37	12	eP		P	08 37 55.2	-2.4
	comp=Z,27nm,0.8s,mb5.1							
AHID	Auburn Hatcher	85.47	43	eP		P	08 37 58.2	+0.1
	comp=Z,12nm,1.1s,mb4.6							
GYA	Guiyang	85.92	299	P		P	08 38 00.5	+0.2
GYA				AP		pP	08 39 21.8	-0.4
GYA				XP		sP	08 39 58.4	-0.5
GYA				PP		PP	08 41 26.8	+1.1
GYA				SKS			08 47 49.8	
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
GYA				AMB		AMB		
	comp=Z,110nm,4.8s							
BILL	Biiibino	86.38	354	d iP		P	08 38 00.9	-1.7
BILL					pmax	pmax		
	comp=Z,13nm,1.2s,mb4.6							
BILL	Biiibino	86.38	354	eP		P	08 38 00.8	-1.8
	comp=Z,11nm,1.0s,mb4.6							
PDAR	Pinedale Array	86.47	43	P		P	08 38 02.4	-0.6
	comp=Z,3.0nm,0.7s,mb4.3,baz=221,slow=2.4,SNR=30							
YMR	Madison River	86.48	41	eP		P	08 38 03.5	+0.5
	comp=Z,13nm,0.7s,mb4.9							
XAN	Xi'an	87.04	307	P		P	08 38 06.0	+0.3
XAN				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.9							
HHC	Hu-ho-hao-te	87.95	314	eP		P	08 38 10.6	+0.6
HHC				AP		pP	08 39 32.8	+0.5
HHC				XP		sP	08 40 08.5	-0.5
HHC				PP		PP	08 41 44.8	+2.9
HHC				SKS			08 48 02.6	
HHC				S			08 48 21.9	
HHC				XS		sS	08 50 45.9	-2.5
HHC				SS		SS	08 54 22.8	+3.4
HHC				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.7							
HHC				AMB		AMB		
	comp=Z,120nm,3.6s							
KMI	Kunming	88.74	297	P		P	08 38 13.9	+0.2
KMI				AP		pP	08 39 38.5	+2.4
KMI				XP		sP	08 40 11.8	-1.0
KMI				SKS			08 48 06.2	
KMI				S			08 48 24.3	
KMI				PS		PS	08 50 21.0	-1.2
KMI				XS		sS	08 50 54.7	-1.4
KMI				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.9							
KMI				LR		LR		
	comp=Z,30nm,19.4s							
SYO	Syowa Base	89.56	192	⇓eP		P	08 38 16.0	-1.5
SYO	Syowa Base	89.56	192	⇓ePcP		PcP	08 38 18.8	+0.2
CD2	Chengdu	89.91	302	eP		P	08 38 18.6	-0.5
CD2				AP		pP	08 39 41.0	-0.7
CD2				XP		sP	08 40 16.6	-1.7
CD2				PP		PP	08 41 59.2	+1.7
CD2				SKS			08 48 14.1	
CD2				S			08 48 38.8	
CD2				SS		SS	08 54 50.2	+2.5
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
CD2				AMB		AMB		
	comp=Z,50nm,9.2s							
CHTO	Chiang Mai	89.99	290	P		P	08 38 20.2	+0.7
CHTO					pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9							
CHTO	Chiang Mai	89.99	290	P		P	08 38 20.2	+0.7
	comp=Z,16nm,1.1s,mb4.8							
PLCA	Paso Flores	90.64	133	P		P	08 38 23.3	+0.7
	comp=Z,2.5nm,0.8s,mb4.2,baz=273,slow=4.0,SNR=5.5							
PLCA	Paso Flores	90.64	133	P		P	08 38 23.3	+0.7
VNA3	Neumayer Olymp	90.84	176	⇑iP		P	08 38 23.0	-0.4
VNA3				e			08 38 23.8	
VNA3				e			08 38 45.8	
VNA2	Neumayer--Watz	91.29	177	⇑iP		P	08 38 25.4	-0.1
VNA2				e			08 38 26.2	
VNA2				e			08 38 48.2	
INK	Inuvik	91.43	15	eP		P	08 38 24.2	-2.0
INK					pmax	pmax		
	comp=Z,8.0nm,0.8s							
INK	Inuvik	91.43	15	eP		P	08 38 24.2	-2.0
	comp=Z,8.2nm,0.8s,mb4.7							
MAIT	Maitri	91.50	183	eP		P	08 38 26.2	-0.3
NVL	N'Iazarevskaya	91.50	183	⇓iP		P	08 38 24.9	-1.6
NVL					pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2							
VNA1	Neumayer--Stat	91.51	176	⇓iP		P	08 38 27.1	+0.6
VNA1				e			08 38 27.8	
VNA1				e			08 38 50.5	
CIT	Chita	91.66	325	eP		P	08 38 26.5	-0.7
LZH	Lanzhou	91.67	307	eP		P	08 38 28.0	+0.7
LZH				AP		pP	08 39 51.0	+1.1
LZH				XP		sP	08 40 26.0	-0.5
LZH				PP		PP	08 42 14.5	+3.2
LZH				SKS			08 48 23.0	
LZH				eS			08 48 56.0	
LZH				PS		PS	08 50 57.2	+2.9
LZH				XS		sS	08 51 22.0	-1.6
LZH				SS		SS	08 55 14.0	+1.1
LZH				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.0							
LZH				AMB		AMB		
	comp=Z,110nm,4.9s							
YKA	Yellowknife Ar	93.72	24	P		P	08 38 35.3	-1.4
	comp=Z,3.7nm,0.7s,mb4.5,baz=245,slow=4.4,SNR=18							
YKA	Yellowknife Ar	93.72	24	P		P	08 38 35.3	-1.4
ULN	Ulaanbaatar	93.75	319	i P		P	08 38 35.9	-0.9
SONM	Songino Array	94.15	319	P		P	08 38 37.2	-1.4
	comp=Z,1.0nm,0.8s,mb3.9,baz=120,slow=3.8,SNR=5.4							
ECSD	EROS,Sioux Fal	95.52	46	eP		P	08 38 43.9	-1.0
GTA	Gaotai	95.78	309	eP		P	08 38 45.9	-0.2
GTA				AP		pP	08 40 15.1	+6.2
GTA				XP		sP	08 40 50.4	+5.0
GTA				PP		PP	08 42 44.3	+1.2
GTA				PPP			08 44 52.1	
GTA				SKS			08 48 47.8	
GTA				S			08 49 30.4	
GTA				AMB		AMB		
	comp=Z,120nm,6.1s							
GTA				LR		LR		
	comp=N,80nm,7.2s							
GTA				LR		LR		
	comp=E,40nm,8.4s							
GTA				LR		LR		
	comp=Z,80nm,8.4s							
MKAR	Makanchi Array	109.81	314	PKiKP		PKiKP	08 43 47.1	-1.8
	comp=Z,0.9nm,0.6s,baz=207,slow=0.3,SNR=7.8							
MKAR				PKKPbc		PKKPbc	08 54 53.2	+0.5
	comp=Z,0.6nm,0.7s,baz=251,slow=3.7,SNR=3.9							
MKAR	Makanchi Array	109.81	314	PKPdf		PKiKP	08 43 47.1	-1.8
MKAR				PKKPbc		PKKPbc	08 54 53.2	+0.5
KURK	Kurchatov	112.44	318	⇓iPKIKP		PKiKP	08 43 52.2	-1.7
KURK	Kurchatov	112.44	318	ePKPdf		PKiKP	08 43 52.0	-1.9
CHKZ	Chkalovo	117.20	322	ePKIKP		PKPdf	08 44 00.9	-2.1
ZRNK	Zerenda	118.25	321	ePKIKP		PKPdf	08 44 03.2	-1.8
ARU	Arti	123.32	327	⇑iPKIKP		PKPdf	08 44 13.2	-1.6
AKTK	Aktyubinsk	125.46	320	PKP		PKPdf	08 44 17.0	-1.9
AKTO	Aktyubinsk	125.46	320	PKP		PKPdf	08 44 17.0	-1.8
	comp=Z,3.1nm,0.8s,baz=100,slow=2.5,SNR=15							
KEV	Kevo	125.90	350	epkp		PKPdf	08 44 17.7	-2.0
ARCES	ARCESS Array B	126.34	350	PKP		PKPdf	08 44 18.9	-1.7
	comp=Z,4.1nm,0.6s,baz=37,slow=1.6,SNR=33							
JOF	Joensuu	130.72	343	epkp		PKPdf	08 44 27.0	-1.9
KAF	Kangasniemi	132.69	345	epkp		PKPdf	08 44 30.8	-1.8
FINES	FINESS Array B	133.32	345	PKhKP			08 44 27.0	
	comp=Z,4.2nm,0.9s,baz=116,slow=4.4,SNR=6.6							
FINES				SKPbc		SKPbc	08 47 27.3	-0.9
	comp=Z,6.1nm,0.9s,baz=40,slow=7.4,SNR=10							
FINES	FINESS Array B	133.32	345	⇑iPKIKP		PKPdf	08 44 28.3	-5.5
OBN	Obninsk	134.65	333	ePKIKP		PKPdf	08 44 36.2	-0.1
OBN					pmax	pmax		
	comp=Z,6.0nm,0.9s							
NOA	NORSAR Array B	136.33	354	PKP		PKPdf	08 44 39.8	+0.4
	comp=Z,0.8nm,0.5s,baz=14,slow=4.0,SNR=3.4							
NOA				SKP			08 47 37.2	
	comp=Z,4.5nm,0.9s,baz=15,slow=4.5,SNR=8.1							
NOA	NORSAR Array B	136.33	354	PKP		PKPdf	08 44 39.8	+0.4
NOA				SKP			08 47 37.2	
KIV	Kislovodsk	137.50	317	ePKIKP		PKPdf	08 44 41.7	+0.1
KIV					pmax	pmax		
	comp=Z,8.0nm,0.9s							
AKASG	Malin Array Be	140.92	333	PKhKP			08 44 41.3	
	comp=Z,1.2nm,0.4s,baz=42,slow=4.0,SNR=11							
AKASG				SKPbc		SKPbc	08 47 49.5	-0.9
	comp=Z,0.9nm,0.5s,baz=36,slow=2.8,SNR=7.5							
MALT	Malatya	142.75	311	⇓iP		PKPdf	08 44 50.0	-1.1
MALT	Malatya	142.75	311	⇓PKIKP		PKPdf	08 44 50.1	-1.0
MALT	Malatya	142.75	311	ePKPdf		PKPdf	08 44 48.2	-2.8
LVV	L`vov	143.70	337	ePKIKP		PKPdf	08 44 54.8	+2.1
OJC	Ojcow	144.83	341	ePKP		PKPdf	08 44 53.8	-0.9
BURAR	Bucovina Array	144.97	333	⇓iP		PKPdf	08 44 55.2	+0.3
STHS	Stebnicka Huta	145.05	339	ePKP		PKPdf	08 44 55.0	0.0
STHS				e			08 45 00.8	
STHS				e			08 45 18.4	
STHS	Stebnicka Huta	145.05	339	ePKIKP		PKPdf	08 44 55.1	+0.1
KSP	Ksiaz	145.25	345	ePKP2		PKPab	08 44 55.2	-1.3
IBBN	Ibbenburen	145.

comp=Z,18nm,0.9s,baz=46,slow=1.8,SNR=11
KECS **Kecovo** **146.10 339** *e*PKP PKPdf 08 44 58.0 +1.2
KECS *e* 08 45 03.9
MLR **Muntele Rosu** **146.25 330** ||*i*P PKPdf 08 44 59.4 +2.3
MOX **Moxa** **146.41 350** *e*(PKP) 08 45 02.0
PRU **Pruhonice** **146.46 346** *e*PKP PKPdf 08 44 57.2 -0.2
PRU *ex* x 08 45 05.0
PRU *ep*PKP pPKPdf 08 46 27.9 +3.1
BHL **Bhannes** **146.48 305** *e*P PKPdf 08 44 59.6 +2.1
WERD **Werda** **146.48 349** *e*PKPbc PKPbc 08 44 59.0 -0.5
UBBA **Unterbreizbach** **146.49 352** *e*PKPbc PKPbc 08 44 59.1 -0.5
VRAC **Vranov** **146.58 343** ||*i*P PKPab 08 45 01.8 +0.1
PSZ **Piszkesteto** **146.79 339** *e*PKP2 PKPbc 08 45 00.3 -0.1
TREC **Trest** **146.89 345** *e*PKP PKPbc 08 45 00.8 +0.2
MANZ **Manzenberg** **146.96 349** *e*PKPbc PKPbc 08 45 01.3 +0.5
SMOL **Smolenice** **147.06 342** *e*PKP PKPbc 08 45 00.9 -0.2
MEM **Membach** **147.10 356** PKPbc PKPbc 08 45 01.0 -0.3
MEM E 08 45 07.4
ROTZ **Rotzenmuhle** **147.15 349** *e*PKPbc PKPbc 08 45 01.7 +0.3
ROTZ *ep*PKPbc pPKPbc 08 46 31.3 +3.8
TNS **Taunus Mts** **147.27 353** *e*PKPbc PKPbc 08 45 01.1 -0.6
SNF **Seneffe** **147.28 358** PKPbc PKPbc 08 45 00.8 -1.0
SNF PKPab PKPab 08 45 02.1 -2.5
SNF E 08 45 03.5
SNF E 08 45 07.2
GRF **Grafenberg Arr** **147.40 350** *e*PKPbc PKPbc 08 45 02.7 +0.7
GRF *ep*PKPbc pPKPbc 08 46 30.9 +2.7
KHC **Kasperske Hory** **147.48 347** *e*PKP PKPdf 08 45 01.9 +2.8
KHC *ep*PKP pPKPdf 08 46 30.9 +4.4
WET **Wettzell** **147.62 348** *ep*PKPbc pPKPbc 08 46 32.7 +3.9
GIVF **Givet** **147.67 358** *e*PKP1 PKPbc 08 45 01.8 -0.9
DOU **Dourbes** **147.69 358** PKPbc PKPbc 08 45 02.2 -0.6
DOU PKPab PKPab 08 45 04.5 -1.6
DOU E 08 45 08.7
GEC2 **GERESS Array S** **147.72 346** *e*PKPbc PKPbc 08 45 02.4 -0.5
GERES **GERESS Array B** **147.72 346** PKPbc PKPbc 08 45 02.2 -0.7
comp=Z,2.1nm,0.7s,baz=32,slow=3.8,SNR=4.4
BAIF **Baives** **147.74 358** *e*PKP1 PKPbc 08 45 01.7 -1.2
CSS **Prodhromos** **147.85 308** *e*PKPbc PKPbc 08 45 02.5 -0.7
WLF **Walferdange** **148.03 356** *e*PKPbc PKPbc 08 45 04.2 +0.5
WLF **Walferdange** **148.03 356** PKPbc PKPbc 08 45 04.7 +1.0
WLF E 08 45 10.4
WLF **Walferdange** **148.03 356** *e*PKPbc PKPbc 08 45 04.2 +0.5
CONA **Conrad Observa** **148.03 343** ||*i*PKiKP PKiKP 08 45 03.7 -1.5
comp=Z,26nm,1.3s
BZS **Buzias** **148.07 335** ||*i*P PKPbc 08 45 03.2 -0.6
EIL **Elat** **148.33 298** *e*PKPbc PKPbc 08 45 04.1 -0.3
EIL *e*PKPab PKPab 08 45 08.3 -0.5
PKSM **Moragy** **148.70 339** ||*i*P PKPdf 08 45 00.9 -0.2
FLN **La Foliniere** **148.94 4** *e*PKP1 PKPbc 08 45 04.8 -1.2
comp=Z,10.0nm,0.4s
ROSF **Rostrenen** **149.09 8** *e*PKP1 PKPbc 08 45 04.9 -1.4
comp=Z,5.8nm,0.5s
LDF **La Druitiere** **149.13 4** *e*PKP1 PKPbc 08 45 05.1 -1.3
comp=Z,13nm,0.6s
BFO **Black Forest** **149.15 353** *e*PKPbc PKPbc 08 45 06.2 -0.3
CDF **Champ du Feu** **149.18 354** *e*PKP1 PKPbc 08 45 05.9 -0.7
comp=Z,13nm,0.5s
SGMF **Saint Gilles** **149.26 7** *e*PKP1 PKPbc 08 45 05.9 -0.8
comp=Z,13nm,0.5s
MEZF **Maizieres J'vi** **149.26 357** *e*PKP1 PKPbc 08 45 06.4 -0.3
KDZ **Kurdzhali** **149.27 326** PKHKP 08 45 06.3
GRR **Gorron** **149.29 5** *e*PKP1 PKPbc 08 45 05.3 -1.5
comp=Z,14nm,0.5s
KBA **Koelnbreinsper** **149.47 346** ⇑*i*P PKPbc 08 45 06.3 -1.0
comp=Z,8.1nm,0.8s
QUIF **Quistinic** **149.51 8** *e*PKP1 PKPbc 08 45 06.2 -1.2
WTTA **Wattenberg** **149.66 348** ⇑*i*P PKPbc 08 45 07.4 -0.3
comp=Z,16nm,0.6s
HAU **Haudompre** **149.67 355** *e*PKP1 PKPbc 08 45 07.9 +0.2
comp=Z,5.1nm,0.4s
VTS **Vitosha** **149.72 329** ||*i*P PKPdf 08 45 07.9 +5.1
HINF **Hinteralfeld** **149.81 355** *e*PKP1 PKPbc 08 45 07.6 -0.5
comp=Z,9.6nm,0.8s
GRUS **Gruza** **149.85 334** *e*PKP PKPdf 08 45 07.4 +4.4
DAVA **Damuels** **149.95 350** ⇑*i*P PKPbc 08 45 08.4 0.0
comp=Z,25nm,1.6s
DIVS **Divcibare** **149.98 335** *i*PKP PKPdf 08 45 07.3 +4.1
BBLS **Bajina Basta -** **150.40 335** *i*PKP PKPdf 08 45 10.2 +6.4
BOJS **Bojanci** **150.42 342** *e*PKPbc PKPbc 08 45 09.2 -0.3
BOJS *e*PKPab PKPab 08 45 15.3 -2.0
CEY **Cerknica** **150.44 343** *e*PKPbc PKPbc 08 45 08.8 -0.7
LOR **Lormes** **150.54 358** *e*PKP1 PKPbc 08 45 09.0 -0.8
comp=Z,8.0nm,0.4s
SSF **Saint Saulge** **150.75 359** *e*PKP1 PKPbc 08 45 09.6 -0.7
comp=Z,5.4nm,0.4s
AVF **Avril sur Loir** **151.02 359** *e*PKP1 PKPbc 08 45 09.8 -1.1
comp=Z,4.5nm,0.4s
CABF **La Chapelle** **151.08 355** *e*PKP1 PKPbc 08 45 11.2 +0.2
comp=Z,9.7nm,0.6s
MFF **Saint Martin d** **151.12 4** *e*PKP1 PKPbc 08 45 09.7 -1.4
BGF **Bois d'Agland** **151.26 360** *e*PKP1 PKPbc 08 45 10.9 -0.6
comp=Z,9.2nm,0.5s
TCF **Toulx Ste Croi** **151.53 1** *e*PKP1 PKPbc 08 45 11.1 -1.0
comp=Z,5.7nm,0.6s
LPG **La Plagne** **152.12 354** *e*PKP1 PKPbc 08 45 13.7 +0.3
comp=Z,5.6nm,0.7s
RJF **Les Rejaudoux** **152.50 2** *e*PKP1 PKPbc 08 45 13.3 -0.9
ORIF **Oris-en-Rattie** **152.78 355** *e*PKP1 PKPbc 08 45 14.4 -0.4
MBDF **Montbardon** **152.88 354** *e*PKP1 PKPbc 08 45 14.7 -0.4
comp=Z,13nm,0.7s
CAF **Calviac** **152.89 1** *e*PKP1 PKPbc 08 45 14.0 -1.1
comp=Z,2.4nm,0.4s
VIVF **Saint-Julien-l** **152.91 357** *e*PKP1 PKPbc 08 45 14.6 -0.5
comp=Z,4.4nm,0.5s
EVO **Evora** **157.25 22** *e*PKP2 PKPab 08 45 45.4 -1.1
comp=Z,20nm,1.0s
DBIC **Dimbokro** **166.73 145** PKP PKPdf 08 45 22.1 -0.8
comp=Z,6.9nm,0.9s,baz=158,slow=7.9,SNR=5.5
TORD **Torodi Ar. Bea** **175.32 167** PKP PKPdf 08 45 26.4 -1.0
comp=Z,4.6nm,1.0s,baz=335,slow=1.1,SNR=18
TORD PKPab PKPab 08 47 07.3 +1.1
comp=Z,3.4nm,0.9s,baz=182,slow=3.8,SNR=11
TORD PP PP 08 50 57.5 -1.5
comp=Z,1.2nm,1.0s,baz=171,slow=5.3,SNR=4.0

*IDC **03** 08:29:48.7±0.8, 1624S×17382W, h0km, mb4.2/6, mb1 4.5/8, mb1mx4.3/16, mbtmp4.4/8, ML3.7/2, MS3.8/4, Ms1 3.8/4, ms1mx3.2/24, Error ellipse: s-maj=35.4km s-min=19.2km az=147.0*
*ISCJB **03** 08:29:51.6±0.7, 164S±0.1×1738W±0.1, h33km, mb4.2/6, MS3.7/3, Error ellipse: s-maj=21.5km s-min=13.0km az=122.2*
ISC 03 08:29:53.8±0.7, 163S±01×1737W±01, h35km, n14, σ0°99/9, mb4.2/6, MS3.7/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.03**	**39**	Pn	**Pn**	**08 30 38.6**	**-0.7**
	94nm,0.3s,baz=34,slow=3.4,SNR=16						
AFI				Sn	**Sn**	**08 31 08.1**	**-6.2**
	420nm,0.3s,baz=69,slow=23,SNR=18						
RAR	**Rarotonga**	**14.09**	**112**	Pn	**Pn**	**08 33 10.1**	**-0.7**
	2.3nm,0.3s,baz=252,slow=11,SNR=8.3						
RAR				LR	LR	08 36 52.6	
	comp=Z,301nm,21.3s,baz=268,slow=30						
PPT	**Papeete**	**23.14**	**97**	LR	LR	08 41 10.2	
	comp=Z,234nm,19.5s,MS3.6,baz=303,slow=29						
HNR	**Honiara**	**26.54**	**282**	LR	LR	08 44 38.1	
	comp=Z,243nm,18.4s,MS3.8,baz=179,slow=34						
STKA	**Stephens Creek**	**43.32**	**241**	P	**P**	**08 37 50.9**	**-1.4**
	3.8nm,0.6s,mb4.3,baz=82,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**49.34**	**258**	P	**P**	**08 38 40.3**	**+0.7**
	1.7nm,0.7s,mb4.2,baz=96,slow=6.0,SNR=5.5						
ASAR	**Alice Springs**	**49.54**	**253**	P	**P**	**08 38 40.3**	**-0.8**
	6.4nm,0.7s,mb4.8,baz=84,slow=8.5,SNR=9.9						
VNDA	**Vanda**	**62.45**	**186**	P	**P**	**08 40 14.9**	**+1.4**
	1.8nm,0.9s,mb4.2,baz=358,slow=5.8,SNR=4.7						
NVAR	**Mina Array Bea**	**75.20**	**42**	P	**P**	**08 41 34.1**	**+1.3**
	1.3nm,0.8s,mb3.9,baz=225,slow=8.7,SNR=5.3						
PDAR	**Pinedale Array**	**83.14**	**42**	P	**P**	**08 42 16.4**	**+0.2**
	1.4nm,0.8s,mb4.0,baz=226,slow=3.2,SNR=9.4						
SONM	**Songino Array**	**95.30**	**318**	LR	LR	09 26 45.0	
	comp=Z,30nm,18.9s,MS3.8,baz=273,slow=36						
KMBO	**Kilima Mbogo**	**144.86**	**243**	PKP	PKPdf	08 49 27.9	+0.9
	2.4nm,0.8s,baz=358,slow=3.8,SNR=5.5						
BRTR	**Keskin Array B**	**146.65**	**320**	PKPbc	PKPbc	08 49 32.5	+0.8
	2.2nm,0.8s,baz=82,slow=2.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**174.58**	**125**	PKPab	PKPab	08 51 34.0	+0.7
	1.2nm,0.8s,baz=258,slow=4.5,SNR=4.9						

*ISCJB **03** 08:33:36.3±0.6, 5845N±004×13360W±006, h10km, Error ellipse: s-maj=5.8km s-min=4.2km az=77.2*
*PGC **03** 08:33:38.0, 5840N×13345W, h1km, ML3.2/3, 57km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border.*
*NEIC **03** 08:33:38.7, 5842N×13371W, h10km, ML2.7(AEIC), After AEIC.*
ISC 03 08:33:36.9±0.5, 5842N±004×13357W±006, h10km, n23, σ1°40/33, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	**Bessie Mountai**	**0.69**	**284**	P	**Pg**	**08 33 50.7**	**+0.4**
BESE				S	**Sg**	**08 33 59.0**	**-0.4**
SKAG	**Skagway**	**1.38**	**319**	P	**Pn**	**08 34 02.2**	**-0.1**
SKAG				S	**Sb**	**08 34 19.8**	**-0.8**
SIT	**Sitka**	**1.66**	**215**	P	**Pn**	**08 34 03.5**	**-0.8**
SIT				S	**Sn**	**08 34 26.1**	**-1.4**
PLBC	**Pleasant Camp**	**1.78**	**307**	Pn	**Pn**	**08 34 10.0**	**+2.2**
PLBC				Pg	**Pg**	**08 34 10.7**	**-0.3**
PLBC				Sn	**Sn**	**08 34 34.7**	**+4.2**
PLBC				Sg	**Sg**	**08 34 35.9**	**+1.8**
DLBC	**Dease Lake**	**1.86**	**88**	Pn	**Pn**	**08 34 08.8**	**-0.1**
DLBC				Pg	**Pg**	**08 34 10.2**	**-2.5**
DLBC				Sn	**Sn**	**08 34 33.6**	**+1.0**
DLBC				Sg	**Sg**	**08 34 35.0**	**-1.9**
DLBC				Trac		08 34 40.0	
	comp=Z,86nm,0.4s						
DLBC	**Dease Lake**	**1.86**	**88**	P	**Pn**	**08 34 09.9**	**+1.0**
DLBC				S	**Sn**	**08 34 34.6**	**+2.0**
WHY	**Whitehorse**	**2.34**	**344**	Pn	**Pn**	**08 34 17.2**	**+1.7**
WHY				Sg	**Sg**	**08 34 51.5**	**-0.7**
WHY	**Whitehorse**	**2.34**	**344**	P	**Pn**	**08 34 15.6**	**+0.2**
WHY				S	**Sn**	**08 34 42.8**	**-1.5**
HYT	**Haines Junctio**	**3.13**	**322**	Pn	**Pn**	**08 34 29.4**	**+3.1**
HYT				Pg	**Pg**	**08 34 35.4**	**-1.5**
HYT				Sg	**Sg**	**08 35 17.7**	**+0.3**
HYT				Trac		08 35 24.9	
	comp=Z,28nm,0.6s						
PNL	**Peninsula**	**3.26**	**295**	P	**Pn**	**08 34 27.6**	**-0.6**
RUBB	**Prince Rupert**	**4.50**	**154**	Trac		08 36 07.7	
	comp=Z,66nm,1.3s						
RUBB	**Prince Rupert**	**4.50**	**154**	Sg	**Sg**	**08 35 55.1**	**-6.5**
DAWY	**Dawson**	**6.32**	**336**	Trac		08 37 13.2	
	comp=Z,2.0nm,0.1s						
DAWY	**Dawson**	**6.32**	**336**	Sg	**Sg**	**08 36 57.4**	**-2.3**
DAWY	**Dawson**	**6.32**	**336**	*e*Pn	**Pn**	**08 35 11.6**	**+1.5**
INK	**Inuvik**	**9.92**	**0**	Trac		08 39 02.1	
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**9.92**	**0**	Sg	Sx	08 38 52.8	
INK	**Inuvik**	**9.92**	**0**	*e*Pn	**Pn**	**08 36 01.6**	**+2.0**
	2.8nm,0.9s						
DLMT	**Dillon**	**18.29**	**126**	*e*P	**Pn**	**08 37 60.0**	**+9.2**
BOZ	**Bozeman (W)**	**18.48**	**124**	*e*P	**Pn**	**08 38 03.3**	**+10**
	20nm,1.1s						
QLMT	**Earthquake Lak**	**19.21**	**125**	*e*P	**Pn**	**08 38 03.2**	**+1.2**
YFT	**Old Faithful**	**19.77**	**125**	*e*P	**Pn**	**08 38 04.9**	**-3.8**
LAO	**LASA Array**	**20.19**	**114**	*e*P	**P**	**08 38 21.9**	**+10**

IDC 03 08:45:23.1±2.0, 248S×10456E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=223.5km s-min=31.0km az=41.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.70**	**313**	Pn	Pn	08 47 15.6	-0.9
	1.2nm,0.3s,baz=300,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**33.86**	**123**	P	P	08 52 08.1	+0.8
	0.4nm,0.8s,baz=296,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**35.35**	**129**	P	P	08 52 19.1	-1.1
	0.2nm,0.7s,baz=305,slow=9.4,SNR=4.6						
STKA	**Stephens Creek**	**45.48**	**134**	P	P	08 53 45.0	+1.0
	1.6nm,0.4s,baz=316,slow=11,SNR=11						

JMA 03 08:45:27.0±0.3, 2239N×12130E, h0km, M3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.59**	**37**	P	Pn	08 46 11.3	+1.1
YOJ				*e*S	Sn	08 46 44.1	+1.7
HATJ	**Hateruma jima**	**2.84**	**54**	P	Pn	08 46 14.7	+1.1
HATJ				*e*S	Sn	08 46 50.1	+1.6
IRIF	**Iriomote-Funau**	**2.96**	**49**	P	Pn	08 46 16.5	+1.3
IRIF				*e*S	Sn	08 46 53.2	+1.9
JKRS	**Kuro-shima**	**3.10**	**53**	P	Pn	08 46 18.8	+1.7
JKRS				*e*S	Sn	08 46 56.0	+1.2
JIJ	**Ishigaki jima**	**3.27**	**53**	P	Pn	08 46 21.2	+1.7
JIJ				*e*S	Sn	08 47 00.4	+1.4
JTJ	**Tarama**	**3.84**	**54**	*e*S	Sn	08 47 14.8	+1.6

IDC 03 08:49:59.6±1.2, 2627N×14202E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=100.2km s-min=14.9km az=99.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.83**	**10**	Pn	Pn	08 50 18.7	+0.1
	38nm,0.3s,baz=266,slow=21,SNR=20						
CBIJ				Sn	Sg	08 50 32.2	+5.8
	76nm,0.3s,baz=271,slow=20,SNR=14						
WRA	**Warramunga Arr**	**46.54**	**190**	P	P	08 58 29.0	+0.1
	1.2nm,0.5s,baz=9.7,slow=8.6,SNR=20						
ASAR	**Alice Springs**	**50.26**	**190**	P	P	08 58 57.5	-0.1
	0.3nm,0.8s,baz=6.0,slow=6.9,SNR=4.4						
FINES	**FINESS Array B**	**78.62**	**334**	P	P	09 02 03.3	0.0
	0.9nm,0.6s,baz=72,slow=6.2,SNR=9.3						

*ISCJB **03** 09:11:28.3±1.5, 233S±0.1×1798W±0.1, h544km±23km, mb4.2/12, Error ellipse: s-maj=20.3km s-min=14.3km az=110.5*
*NEIC **03** 09:11:30.3±1.5, 2321S×17941W, h590km±30km, mb4.4/3, Error ellipse: s-maj=25.1km s-min=21.5km az=45.0*
*IDC **03** 09:11:31.1±2.2, 2331S×17984W, h560km±24km, mb3.4/8, mb1 3.6/8, mb1mx3.4/14, mbtmp4.3/8, Error ellipse: s-maj=20.1km s-min=15.6km az=174.0*
ISC 03 09:11:28.6±1.4, 233S±01×1797W±01, h532km±21km, n25, σ0°88/20, mb4.2/12, 2C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.01**	**40**	P	**P**	**09 14 06.5**	**-0.6**
	1.1nm,0.3s,baz=220,slow=23,SNR=5.1						
DZM	**Mont Dzumac**	**12.86**	**273**	P	**P**	**09 14 21.3**	**+5.4**
	0.3nm,0.3s,baz=104,slow=18,SNR=4.2						
URZ	**Urewera**	**15.12**	**190**	P	**P**	**09 14 38.5**	**-0.9**
	1.1nm,0.3s,baz=228,slow=8.2,SNR=8.9						
RPZ	**Rata Peaks**	**21.71**	**198**	P	**P**	**09 15 43.4**	**+2.6**
	10nm,0.6s,mb4.6,baz=159,slow=20,SNR=6.4						
CTA	**Charters Tower**	**31.76**	**269**	*e*P	**P**	**09 17 10.1**	**+1.1**
	14nm,0.4s,mb4.9						
PMG	**Port Moresby**	**34.58**	**288**	P	**P**	**09 17 33.2**	**+0.4**
	9.7nm,0.8s,mb4.4,baz=113,slow=10,SNR=5.1						
STKA	**Stephens Creek**	**35.19**	**247**	*e*P	**P**	**09 17 36.5**	**-1.4**
	5.0nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**35.19**	**247**	P	**P**	**09 17 36.8**	**-1.2**
	5.7nm,0.6s,mb4.3,baz=86,slow=9.3,SNR=12						
AS31	**Alice Springs**	**42.40**	**260**	⇑*i*P	**P**	**09 18 36.5**	**+0.3**
ASAR	**Alice Springs**	**42.40**	**260**	P	**P**	**09 18 36.6**	**+0.4**
	7.3nm,0.8s,mb4.3,baz=100,slow=7.0,SNR=74						
ASAR				S	**S**	**09 24 16.8**	**-2.3**
	0.4nm,0.7s,baz=93,slow=14,SNR=6.9						
ASPA	**Alice Springs**	**42.41**	**260**	⇑*i*P	**P**	**09 18 36.5**	**+0.3**
WB2	**Warramunga Arr**	**42.71**	**265**	*e*P	**P**	**09 18 38.3**	**-0.4**
WRA	**Warramunga Arr**	**42.73**	**265**	P	**P**	**09 18 38.6**	**-0.1**
	4.5nm,0.4s,mb4.3,baz=91,slow=8.5,SNR=144						
WRA				ScP	ScP	09 23 17.7	-0.7
	1.2nm,0.9s,baz=90,slow=4.3,SNR=5.1						
KAKA	**Kakadu**	**46.54**	**274**	*e*P	**P**	**09 19 07.8**	**-0.3**
	4.0nm,0.4s,mb4.3						
FORT	**Forrest**	**46.77**	**249**	||*i*P	**P**	**09 19 09.6**	**-0.2**
	22nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**51.15**	**265**	*e*P	**P**	**09 19 42.9**	**+0.6**
	4.9nm,0.5s,mb4.1						
VNDA	**Vanda**	**54.96**	**185**	P	**P**	**09 20 09.0**	**-0.4**
	1.0nm,0.7s,mb3.1,baz=14,slow=7.2,SNR=3.2						
NVAR	**Mina Array Bea**	**84.16**	**44**	P	**P**	**09 23 04.4**	**+0.8**
	0.8nm,0.9s,mb3.2,baz=220,slow=6.4,SNR=4.5						
PDAR	**Pinedale Array**	**92.09**	**44**	P	**P**	**09 23 40.4**	**-0.6**
	0.5nm,0.7s,mb3.7,baz=113,slow=3.4,SNR=5.0						
ARCES	**ARCESS Array B**	**131.40**	**348**	PKP	PKPdf	09 29 38.5	-1.9
	1.8nm,0.9s,baz=333,slow=4.3,SNR=4.2						
HFS	**Hagfors**	**142.05**	**349**	PKhKP		09 29 55.3	
	1.7nm,0.3s,baz=72,slow=4.8,SNR=21						
AKASG	**Malin Array Be**	**144.65**	**328**	PKP	PKPdf	09 30 04.1	-0.5
	1.0nm,0.4s,baz=44,slow=3.4,SNR=11						
EKA	**Eskdalemuir Ar**	**147.94**	**4**	PKPbc	PKPbc	09 30 13.3	-0.6
	0.6nm,0.4s,baz=353,slow=2.7,SNR=6.2						
CLL	**Collm**	**150.40**	**344**	*e*PKPbc	PKPbc	09 30 20.0	+0.2
TORD	**Torodi Ar. Bea**	**169.78**	**188**	PKPab	PKPab	09 31 51.9	-1.2
	0.6nm,0.9s,baz=193,slow=5.9,SNR=3.2						

*ISCJB **03** 09:28:44.8±0.6, 215S±0.1×1744W±0.1, h108km, mb4.3/13, Error ellipse: s-maj=17.1km s-min=13.8km az=114.5*
*BJI **03** 09:28:47.1, 2160S×17440W, h113km, mB5.0, mb4.9*
*NEIC **03** 09:28:47.1±0.7, 2157S×17435W, mb4.4/3, Error ellipse: s-maj=17.9km s-min=14.4km az=121.0*
*IDC **03** 09:28:47.1±1.0, 2156S×17440W, h109km±5km, mb4.0/10, mb1 4.1/12, mb1mx4.0/18, mbtmp4.4/12, MS3.7/7, Ms1 3.7/7, ms1mx3.5/19, Error ellipse: s-maj=21.5km s-min=17.8km az=131.0*
ISC 03 09:28:46.6±0.6, 215S±01×1743W±01, h110km, h110km±3.4km: pP-P, n43, σ0°97/26, mb4.3/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.92**	**18**	P	**Pn**	**09 30 23.3**	**-16**
	5.5nm,0.3s,baz=207,slow=4.3,SNR=12						
AFI				S	**Sn**	**09 31 42.9**	**-24**
	2.4nm,0.3s,baz=264,slow=9.2,SNR=2.3						
RAR	**Rarotonga**	**13.54**	**91**	P	**Pn**	**09 31 36.0**	**-18**
	12nm,0.3s,baz=246,slow=6.4,SNR=26						
DZM	**Mont Dzumac**	**17.89**	**265**	P	**Pn**	**09 32 48.9**	**+0.6**
	0.5nm,0.3s,baz=74,slow=18,SNR=6.2						
DZM				LR	LR	09 38 21.6	
	comp=Z,147nm,18.6s,baz=244,slow=32						
URZ	**Urewera**	**18.27**	**202**	P	**P**	**09 32 49.8**	**-1.8**
	1.3nm,0.3s,baz=267,slow=1.8,SNR=12						
TBI	**Tubuai**	**23.03**	**99**	*e*LQ		09 37 42.9	
	474nm,27.8s						
TBI				*e*LR	LR	09 38 45.9	
	313nm,27.2s						
PPT	**Papeete**	**23.62**	**85**	*e*LQ		09 38 04.4	
	474nm,27.8s						
PPT				*e*LR	LR	09 38 58.1	
	278nm,26.5s						
PPT	**Papeete**	**23.62**	**85**	LR	LR	09 41 23.7	
	comp=Z,227nm,21.9s,baz=136,slow=32						
RPZ	**Rata Peaks**	**25.28**	**205**	P	**P**	**09 34 03.1**	**+0.5**
	20nm,0.8s,mb4.6,baz=138,slow=5.0,SNR=4.1						
HNR	**Honiara**	**27.51**	**292**	LR	LR	09 43 45.2	
	comp=Z,92nm,18.3s,baz=178,slow=33						
RKT	**Rikitea**	**36.35**	**100**	*e*LR	LR	09 44 49.5	
	209nm,30.0s						
CTA	**Charters Tower**	**36.84**	**265**	*e*P	**P**	**09 35 44.4**	**+0.4**
	3.3nm,1.1s,mb4.2						
CTA	**Charters Tower**	**36.84**	**265**	P	**P**	**09 35 44.7**	**+0.7**
	2.7nm,0.7s,mb4.3,baz=108,slow=16,SNR=5.1						
CTA				LR	LR	09 46 56.0	
	comp=Z,41nm,19.4s,baz=63,slow=30						
STKA	**Stephens Creek**	**40.50**	**246**	*e*P	**P**	**09 36 12.8**	**-1.8**
	4.2nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**40.50**	**246**	P	**P**	**09 36 12.6**	**-2.0**
	4.4nm,0.8s,mb4.4,baz=81,slow=8.8,SNR=14						
STKA				pP	pP	09 36 39.0	-0.6
	4.2nm,0.8s,baz=86,slow=8.3,SNR=4.2						
AS31	**Alice Springs**	**47.66**	**257**	*e*P	**P**	**09 37 11.8**	**+0.1**
ASAR	**Alice Springs**	**47.66**	**257**	P	**P**	**09 37 11.7**	**-0.1**
	9.2nm,0.9s,mb4.6,baz=102,slow=7.6,SNR=50						
ASAR				pP	pP	09 37 38.2	+0.8
	6.4nm,0.8s,baz=93,slow=7.9,SNR=7.5						
ASAR				sP	sP	09 37 49.7	0.0
	3.8nm,0.8s,baz=92,slow=8.0,SNR=2.9						
ASPA	**Alice Springs**	**47.66**	**257**	*e*P	**P**	**09 37 11.8**	**0.0**
WB2	**Warramunga Arr**	**47.87**	**262**	*e*P	**P**	**09 37 13.4**	**0.0**
WRA	**Warramunga Arr**	**47.88**	**262**	P	**P**	**09 37 13.1**	**-0.3**
	4.7nm,0.9s,mb4.3,baz=93,slow=8.6,SNR=31						
WRA				pP	pP	09 37 39.0	-0.2
	4.1nm,0.7s,baz=100,slow=7.0,SNR=5.6						
WRA				sP	sP	09 37 50.4	-1.1
	4.3nm,0.8s,baz=101,slow=8.0,SNR=4.0						
FORT	**Forrest**	**52.08**	**247**	*e*P	**P**	**09 37 45.4**	**+0.2**
	12nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**56.31**	**262**	P	**P**	**09 38 16.4**	**+0.5**
	1.8nm,0.6s,mb4.3,baz=52,slow=17,SNR=5.7						
FITZ				pP	pP	09 38 44.3	+2.0
	2.1nm,0.9s,baz=165,slow=12,SNR=1.6						
VNDA	**Vanda**	**57.25**	**186**	P	**P**	**09 38 23.6**	**+1.1**
	1.2nm,0.8s,mb4.0,baz=350,slow=7.3,SNR=3.7						
VNDA				LR	LR	09 57 30.7	
	comp=Z,65nm,18.3s,baz=169,slow=30						
NWAO	**Narrogin (SRO)**	**61.01**	**243**	LR	LR	10 05 09.1	
	comp=Z,141nm,18.3s,baz=276,slow=36						
MJAR	**Matsushiro Arr**	**73.09**	**322**	P	**P**	**09 40 04.7**	**-0.2**
	5.8nm,1.1s,mb4.3,baz=559,slow=5.7,SNR=6.2						
NVAR	**Mina Array Bea**	**79.43**	**41**	P	**P**	**09 40 40.8**	**+0.1**
	1.5nm,0.9s,mb3.8,baz=218,slow=7.2,SNR=8.1						
MAW	**Mawson**	**81.77**	**199**	P	**P**	**09 40 51.7**	**-1.4**
	1.8nm,0.6s,mb4.0,baz=149,slow=12,SNR=2.5				

σ0°96/25, mb4.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.51**	**194**	*e*PN	**Pn**	**09 50 40.5**	**-1.1**
PUZ				SN	**Sn**	**09 51 57.0**	**+2.2**
URZ	**Urewera**	**6.98**	**201**	P	**Pn**	**09 50 50.1**	**+2.2**
	1.0nm,0.3s,baz=198,slow=24,SNR=14						
URZ				S	**Sn**	**09 52 12.1**	**+6.1**
	5.3nm,0.3s,baz=304,slow=23,SNR=13						
URZ	**Urewera**	**6.98**	**201**	*e*PN	**Pn**	**09 50 48.6**	**+0.8**
URZ				SN	**Sn**	**09 52 11.7**	**+5.7**
TSZ	**Takapari Road**	**8.98**	**202**	*e*PN	**Pn**	**09 51 15.7**	**+1.1**
BFZ	**Birch Farm**	**9.47**	**199**	*e*PN	**Pn**	**09 51 22.0**	**+0.9**
BFZ				SN	**Sn**	**09 53 05.7**	**-0.3**
MRZ	**Mangatainoka R**	**9.65**	**202**	*e*PN	**Pn**	**09 51 22.5**	**-0.9**
MRZ				SN	**Sn**	**09 53 09.2**	**-1.2**
TIWZ	**Tintock**	**9.66**	**200**	SN	**Sn**	**09 53 11.3**	**+0.7**
KIW	**Kapiti Island**	**10.05**	**204**	SN	**Sn**	**09 53 19.7**	**-0.3**
TUWZ	**Tuamarina**	**10.90**	**206**	*e*PN	**Pn**	**09 51 39.0**	**-1.0**
NNZ	**Nelson**	**10.94**	**208**	SN	**Sn**	**09 53 41.7**	**+0.3**
THZ	**Tophouse**	**11.59**	**208**	*e*PN	**Pn**	**09 51 47.1**	**-1.9**
THZ				SN	**Sn**	**09 53 57.0**	**0.0**
KHZ	**Kahutara**	**11.91**	**205**	*e*PN	**Pn**	**09 51 49.7**	**-3.4**
STKA	**Stephens Creek**	**32.74**	**259**	P	**P**	**09 55 26.9**	**+0.3**
	1.9nm,0.9s,mb3.8,baz=96,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**41.57**	**269**	P	**P**	**09 56 41.5**	**+0.4**
	2.1nm,0.5s,mb4.0,baz=108,slow=7.6,SNR=34						
ASPA	**Alice Springs**	**41.58**	**269**	*e*P	**P**	**09 56 41.5**	**+0.5**
WB2	**Warramunga Arr**	**42.68**	**275**	*e*P	**P**	**09 56 49.8**	**-0.2**
WRA	**Warramunga Arr**	**42.69**	**275**	P	**P**	**09 56 50.1**	**0.0**
	3.9nm,0.4s,mb4.4,baz=112,slow=7.9,SNR=127						
VNA3	**Neumayer Olymp**	**77.04**	**177**	*e*	**P**	**10 00 44.5**	**0.0**
VNA3				*e*		10 01 51.5	
VNA2	**Neumayer--Watz**	**77.46**	**177**	*e*	**P**	**10 00 46.9**	**0.0**
VNA2				*e*		10 01 53.7	
FINES	**FINESS Array B**	**145.88**	**338**	PKPbc	PKPbc	10 08 23.9	-6.0
	1.8nm,0.8s,baz=83,slow=4.3,SNR=8.8						

*IDC **03** 09:49:52.5±4.3, 1987S×17699W, h555km±152km, mb3.0/4, mb1 3.2/5, mb1mx3.0/15, mbtmp4.0/5, Error ellipse: s-maj=129.0km s-min=95.8km az=105.0*

NEIC 03 09:49:45.1±3.7, 2065S×17785W, h355km±33km, mb3.6/2, Error ellipse: s-maj=126.2km s-min=23.9km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.86**	**42**	P	Pn	09 51 49.7	+0.2
	1.7nm,0.3s,baz=229,slow=9.3,SNR=5.9						
AFI				S	S	09 53 21.0	-10
	2.3nm,0.3s,baz=21,slow=22,SNR=5.9						
CTA	**Charters Tower**	**33.62**	**265**	*e*P	P	09 55 54.7	+1.3
	4.4nm,1.3s						
CTA	**Charters Tower**	**33.62**	**265**	P	P	09 55 55.1	+1.7
	1.9nm,0.5s,baz=85,slow=14,SNR=5.1						
STKA	**Stephens Creek**	**37.85**	**244**	*e*P	P	09 56 29.4	+0.3
	3.6nm,1.2s						
STKA	**Stephens Creek**	**37.85**	**244**	P	P	09 56 30.1	+1.0
	1.5nm,0.6s,baz=92,slow=4.6,SNR=4.9						
ASAR	**Alice Springs**	**44.62**	**257**	P	P	09 57 24.1	+0.5
	1.9nm,0.8s,baz=87,slow=8.6,SNR=14						
WRA	**Warramunga Arr**	**44.72**	**262**	P	P	09 57 23.5	-0.8
	1.0nm,0.9s,baz=98,slow=7.6,SNR=6.7						

NNC 03 09:52:40.1±3.5, 5401N×8647E, h0km, mb3.8, mpv3.4, 9C-5D, Error ellipse: s-maj=30.8km s-min=18.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.83**	**239**	⇑Pn	Pn	09 54 08.2	+0.4
	2.3nm,0.8s						
KURK				⇑Sn	Sn	09 55 19.3	+4.0
	2.1nm,0.7s						
KURK				⇑Lg		09 55 51.1	
	9.7nm,1.0s						
MK05	**Makanchi Array**	**7.70**	**202**	⇓Sn	Sn	09 56 02.7	+1.3
	1.9nm,0.7s,baz=26,slow=28						
MK05				⇓Lg		09 56 42.6	
	11nm,0.9s,baz=27,slow=30						
MK02	**Makanchi Array**	**7.72**	**202**	⇑Pn	Pn	09 54 32.5	-1.2
	1.5nm,0.6s,baz=27,slow=14						
VOSK	**Vostochnaya**	**9.35**	**268**	⇑Pn	Pn	09 54 55.9	-0.3
	2.2nm,0.5s						
VOSK				⇑Sn	Sn	09 56 40.7	-1.4
	15nm,1.2s						
CHKZ	**Chkalovo**	**9.38**	**274**	⇓Pn	Pn	09 54 57.8	+1.3
	1.5nm,0.6s						
CHKZ				⇑Sn	Sn	09 56 39.8	-3.0
	4.6nm,0.8s						
BVA0	**Borovoye Array**	**9.63**	**271**	⇑Pn	Pn	09 55 01.5	+1.5
	0.7nm,1.4s,baz=82,slow=14,SNR=7.5						
BVA0				⇓Sn	Sn	09 56 46.7	-2.1
	1.2nm,0.8s,baz=235,slow=36,SNR=10.0						
ZRNK	**Zerenda**	**10.47**	**271**	⇓Pn	Pn	09 55 11.6	+0.3
	1.8nm,0.6s						
ZRNK				⇑Sn	Sn	09 57 06.8	-2.5
	2.0nm,0.6s						

IDC 03 10:12:50.7±3.2, 1790S×17614W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML1.9/1, Error ellipse: s-maj=170.8km s-min=25.2km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.78**	**47**	Pn	Pn	10 14 18.2	+0.5
	2.0nm,0.3s,baz=281,slow=10.0,SNR=7.7						
AFI				Sn	Sn	10 15 24.9	+0.3
	5.9nm,0.3s,baz=145,slow=23,SNR=7.9						
STKA	**Stephens Creek**	**40.53**	**242**	P	P	10 20 31.8	+0.2
	3.5nm,1.1s,baz=80,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**46.76**	**259**	P	P	10 21 22.2	+0.5
	0.6nm,0.3s,baz=96,slow=7.5,SNR=63						
ASAR	**Alice Springs**	**46.87**	**254**	P	P	10 21 22.8	+0.2
	1.0nm,0.6s,baz=98,slow=8.1,SNR=20						

*GRAL **03** 10:22:38.4±1.5, 3370N×3703E, h34km±38km, MD3.5*
*CSEM **03** 10:22:39.2±0.2, 3367N×3682E, h2km, Mc2.2, Error ellipse: s-maj=6.1km s-min=3.9km az=87.0*
*ISCJB **03** 10:22:40.8±0.6, 3372N±002×3680E±005, h10km, Error ellipse: s-maj=6.0km s-min=3.4km az=6.3*
*NSSC **03** 10:22:40.3, 3371N×3675E, h2km±4km*
*GII **03** 10:23:34.2±0.7, 3390N×3683E, h0km±30km, ML2.5/4*

ISC 03 10:22:41.0±0.6, 3372N±002×3682E±005, h10km, n26, σ1§29/41, 10D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.41**	**318**	⇓P	**Pg**	**10 22 48.4**	**-0.7**
MARH	**Ras Al Marh**	**0.41**	**318**	⇓*i*P	**Pg**	**10 22 48.4**	**-0.7**
TOTH	**TOTAH**	**0.48**	**222**	⇑*i*P	**Pg**	**10 22 49.3**	**-1.1**
QASN	**Qassioun**	**0.49**	**248**	⇑P	**Pg**	**10 22 49.3**	**-1.2**
QASN	**Qassioun**	**0.49**	**248**	⇑*i*P	**Pg**	**10 22 49.3**	**-1.2**
ROOS	**tl_alroos**	**0.60**	**41**	⇓P	**Pg**	**10 22 53.1**	**+0.5**
ROOS	**tl_alroos**	**0.60**	**41**	⇓*i*P	**Pg**	**10 22 53.1**	**+0.5**
FKH	**Fakeheh**	**0.62**	**326**	*i* Pg	**Pg**	**10 22 52.7**	**-0.3**
FKH				*i* Sg	**Sg**	**10 23 02.7**	**+1.6**
HWQ	**Hawqa**	**0.91**	**308**	*i* Pg	**Pg**	**10 22 57.1**	**-1.4**
HWQ				*i* Sg	**Sg**	**10 23 10.6**	**+0.2**
BHL	**Bhannes**	**0.98**	**281**	*i* Pg	**Pg**	**10 22 57.7**	**-2.3**
BHL				*i* Sg	**Sg**	**10 23 13.5**	**+0.7**
SALA	**Sala**	**1.01**	**184**	⇑P	**Pg**	**10 22 58.9**	**-1.6**
SALA				⇓S	**Sg**	**10 23 15.4**	**+1.8**
SALA	**Sala**	**1.01**	**184**	⇑*i*P	**Pg**	**10 22 58.8**	**-1.6**
SALA				⇓*i*S	**Sg**	**10 23 15.4**	**+1.8**
KSDI	**Kefar Szold**	**1.10**	**242**	Pg	**Pg**	**10 22 59.9**	**-2.3**
KSDI				Sg	**Sg**	**10 23 19.0**	**+2.5**
MATL	**Matirih**	**1.26**	**260**	*i* Pg	**Pg**	**10 23 03.8**	**-1.5**
BIDA	**Albida**	**1.35**	**343**	⇑P	**Pn**	**10 23 05.4**	**-0.6**
BIDA				⇑S	**Sb**	**10 23 24.3**	**+0.5**
BIDA	**Albida**	**1.35**	**343**	⇑*i*P	**Pn**	**10 23 05.4**	**-0.6**
BIDA				⇑*i*S	**Sb**	**10 23 24.3**	**+0.5**
MMA0B	**Mount Meron ar**	**1.38**	**240**	Pn	**Pn**	**10 23 05.2**	**-1.1**
MMA0B				Sn	**Sn**	**10 23 27.6**	**+3.1**
MMLI	**Mount Malkishu**	**1.73**	**223**	Pn	**Pn**	**10 23 10.8**	**-0.4**
WRDH	**Warideh**	**1.81**	**350**	⇑P	**Pn**	**10 23 12.7**	**+0.4**
WRDH				⇑S	**Sn**	**10 23 36.4**	**+1.1**
WRDH	**Warideh**	**1.81**	**350**	⇑*i*P	**Pn**	**10 23 12.7**	**+0.4**
WRDH				⇓*i*S	**Sn**	**10 23 36.4**	**+1.0**
HMDT	**Nahal Hemdat**	**1.82**	**217**	Pn	**Pn**	**10 23 12.1**	**-0.3**
HMDT				Sn	**Sn**	**10 23 37.6**	**+2.1**
OFRI	**'Ofer**	**1.89**	**235**	Pn	**Pn**	**10 23 13.5**	**+0.2**
SLNF	**Slenfeh**	**1.93**	**346**	⇑P	**Pn**	**10 23 14.6**	**+0.6**
SLNF				⇓S	**Sn**	**10 23 42.3**	**+4.0**
SLNF	**Slenfeh**	**1.93**	**346**	⇑*i*P	**Pn**	**10 23 14.6**	**+0.6**
SLNF				⇓*i*S	**Sn**	**10 23 42.3**	**+4.0**
SLTI	**Sal'it**	**2.10**	**226**	Pn	**Pn**	**10 23 15.9**	**-0.4**
SLTI				Sn	**Sn**	**10 23 45.4**	**+3.1**
MKRJ	**Makawir**	**2.38**	**205**	Pn	**Pn**	**10 23 20.9**	**+0.9**

*ISCJB **03** 10:26:50.5±0.3, 4307N±002×1247E±003, h12km±3km, Error ellipse: s-maj=3.8km s-min=3.2km az=59.1*
*NEIC **03** 10:26:50.9, 4311N×1254E, h7km, ML2.8(ROM), ML2.9(LDG), After ROM.*
*ROM **03** 10:26:50.9±0.2, 4311N×1254E, h7km±2km, Md3.1/6, Ml2.8/15, Error ellipse: s-maj=2.1km s-min=1.8km az=105.0*
*CSEM **03** 10:26:50.6±0.1, 4311N×1254E, h12km, ML2.5/1, Error ellipse: s-maj=1.1km s-min=1.0km az=53.0*
*LDG **03** 10:26:52.2±0.4, 4305N×1258E, h10km, Ml2.9/5, Error ellipse: s-maj=7.8km s-min=3.8km az=112.0*

ISC 03 10:26:51.3±0.3, 4307N±002×1247E±003, h6km±3km, n52, σ0§86/71, 10C-5D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.20**	**11**	⇑*i*Pg	**Pg**	**10 26 54.8**	**-0.4**
MURB				Sg	**Sg**	**10 26 57.6**	**-0.3**
	16μm,0.3s						
SNTG	**Esanatoglia**	**0.39**	**61**	⇑*i*Pg	**Pg**	**10 26 58.1**	**-0.7**
SNTG				Sg	**Sg**	**10 27 03.7**	**-0.2**
SACS	**San Casciano d**	**0.47**	**242**	Pg	**Pg**	**10 27 01.5**	**+1.2**
	751nm,0.5s						
BADI	**Badiali**	**0.47**	**339**	Pg	**Pg**	**10 27 00.0**	**-0.4**
BADI				Sg	**Sg**	**10 27 07.4**	**+0.9**
	422nm,0.4s						
NRCA	**Norcia**	**0.53**	**116**	⇑*i*Pg	**Pg**	**10 27 01.2**	**-0.2**
ARV	**Arcevia**	**0.55**	**38**	⇑*i*Pg	**Pg**	**10 27 00.8**	**-1.1**
ARV				Sg	**Sg**	**10 27 08.6**	**-0.4**
CING	**Cingoli**	**0.61**	**60**	⇑*i*Pg	**Pg**	**10 27 02.0**	**-1.1**
CING				Sg	**Sg**	**10 27 10.9**	**-0.1**
	304nm,0.3s						
LNSS	**Leonessa**	**0.62**	**138**	Pg	**Pg**	**10 27 03.4**	**+0.1**
LNSS				Sg	**Sg**	**10 27 14.2**	**+2.7**
	995nm,0.5s						
FSSB	**Fossombrone**	**0.66**	**20**	Pg	**Pg**	**10 27 02.8**	**-1.2**
	223nm,0.3s						
CRE	**Caprese Michel**	**0.67**	**326**	Pg	**Pg**	**10 27 04.2**	**0.0**
	97nm,0.2s						
LATE	**Laterza**	**0.67**	**227**	⇓*i*Pg	**Pg**	**10 27 05.6**	**+1.4**
	782nm,0.4s						
MNS	**Montasola**	**0.70**	**167**	Pg	**Pg**	**10 27 05.7**	**+0.9**
ARCI	**Arcidosso**	**0.76**	**254**	⇑*i*Pg	**Pg**	**10 27 06.5**	**+0.5**
	134nm,0.9s						
RSM	**Repubblica di**	**0.86**	**359**	Pg	**Pg**	**10 27 08.8**	**+1.0**
	200nm,1.0s						
CAMP	**Campotosto**	**0.87**	**127**	Pg	**Pg**	**10 27 07.6**	**-0.4**
	175nm,0.6s						
PESA	**Pesaro**	**0.91**	**17**	Pg	**Pg**	**10 27 09.0**	**+0.2**
	364nm,0.6s						
FIAM	**Fiamignano**	**0.93**	**149**	Pg	**Pg**	**10 27 09.4**	**+0.2**
	235nm,0.6s						
TERO	**Teramo**	**0.94**	**118**	Pg	**Pg**	**10 27 08.4**	**-1.0**
	222nm,0.5s						
SFI	**Santa Sofia**	**0.95**	**332**	Pg	**Pg**	**10 27 09.4**	**-0.2**
	109nm,0.4s						
CSNT	**Castellina Chi**	**0.95**	**295**	Pg	**Pg**	**10 27 10.5**	**+0.9**
	231nm,0.8s						
AQU	**L'Aquila**	**0.99**	**136**	*e*Pg	**Pg**	**10 27 09.6**	**-0.7**
AQU	**L'Aquila**	**0.99**	**136**	*e*Pg	**Pg**	**10 27 09.6**	**-0.7**
TOLF	**Tolfa**	**1.06**	**199**	Pg	**Pg**	**10 27 12.6**	**+0.9**
	94nm,0.6s						
GRFL	**Gerfalco**	**1.10**	**275**	Pg	**Pg**	**10 27 12.5**	**+0.1**
	111nm,1.4s						
VMG	**Vicchio**	**1.12**	**323**	Pg	**Pg**	**10 27 13.1**	**+0.3**
	445nm,1.0s						
MAON	**Monte Argentar**	**1.18**	**238**	Pg	**Pg**	**10 27 12.2**	**-1.7**
	46nm,0.6s						
CERT	**Cerreto**	**1.18**	**161**	Pg	**Pg**	**10 27 14.7**	**+0.7**
	138nm,0.5s						
SEI	**Scarperia**	**1.28**	**321**	Pg	**Pg**	**10 27 16.4**	**+0.6**
	211nm,0.4s						
VLC	**Villacollemand**	**1.87**	**306**	*e*Pn	**Pn**	**10 27 24.6**	**+0.9**
VLC	**Villacollemand**	**1.87**	**306**	*e*Pn	**Pn**	**10 27 24.6**	**+0.8**
PGF	**Pioggiola**	**2.61**	**260**	*e*Pn	**Pn**	**10 27 33.5**	**-0.5**
PGF				*e*Sn	**Sn**	**10 28 05.0**	**-1.0**
	9.6nm,0.5s						
PGF	**Pioggiola**	**2.61**	**260**	*e*Pn	**Pn**	**10 27 33.5**	**-0.5**
PGF				*e*Sn	**Sn**	**10 28 05.0**	**-1.0**
	4.8nm,0.5s						
VOY	**Vojsko**	**3.13**	**18**	*e*Pn	**Pn**	**10 27 40.9**	**-0.3**
VOY				*e*(Sn)	**Sn**	**10 28 19.1**	**+0.2**
VOY				*e*		10 28 34.2	
VOY	**Vojsko**	**3.13**	**18**	*e*Pn	**Pn**	**10 27 40.9**	**-0.3**
VOY				Sn	**Sn**	**10 28 19.1**	**+0.2**
OBKA	**Obir**	**3.74**	**23**	⇓*i*Pn	**Pn**	**10 27 49.7**	**+0.1**
OBKA				⇑*i*Sn	**Sn**	**10 28 34.6**	**+0.6**
SBF	**Sospel**	**3.75**	**284**	*e*Pn	**Pn**	**10 27 49.7**	**0.0**
KBA	**Koelnbreinsper**	**4.06**	**8**	⇓*i*Pn	**Pn**	**10 27 54.8**	**+0.9**
KBA				⇑*i*Sn	**Sn**	**10 28 43.2**	**+1.5**
WTTA	**Wattenberg**	**4.24**	**352**	⇑*i*Pn	**Pn**	**10 27 57.6**	**+1.3**
WTTA				⇑*i*Sn	**Sn**	**10 28 48.1**	**+2.0**
SQTA	**Sankt Quirin**	**4.25**	**348**	⇓*i*Pn	**Pn**	**10 27 56.6**	**+0.1**
SQTA				⇓*i*Sn	**Sn**	**10 28 47.4**	**+1.0**
FRF	**La Foret Royal**	**4.28**	**279**	*e*Pn	**Pn**	**10 27 56.4**	**-0.6**
FRF				*e*Sn	**Sn**	**10 28 44.2**	**-3.0**
	2.9nm,0.4s						
FRF	**La Foret Royal**	**4.28**	**279**	*e*Pn	**Pn**	**10 27 56.4**	**-0.6**
FRF				*e*Sn	**Sn**	**10 28 44.2**	**-3.0**
	1.5nm,0.4s						
LMR	**La Mourre**	**4.37**	**276**	*e*Pn	**Pn**	**10 27 57.1**	**-1.1**
MBDF	**Montbardon**	**4.44**	**294**	*e*Pn	**Pn**	**10 27 58.6**	**-0.6**
LPG	**La Plagne**	**4.77**	**303**	*e*Pn	**Pn**	**10 28 03.3**	**-0.4**
LPL	**La Plagne**	**4.79**	**303**	*e*Pn	**Pn**	**10 28 03.4**	**-0.6**
SMRF	**Simiane la Rot**	**5.10**	**283**	*e*Pn	**Pn**	**10 28 08.4**	**+0.2**
CABF	**La Chapelle**	**5.76**	**310**	*e*Pn	**Pn**	**10 28 17.1**	**-0.2**
VIVF	**Saint-Julien-l**	**5.91**	**290**	*e*Pn	**Pn**	**10 28 18.8**	**-0.5**
HINF	**Hinteralfeld**	**6.18**	**322**	*e*Pn	**Pn**	**10 28 22.3**	**-0.7**
HINF				*e*Sn	**Sn**	**10 29 29.1**	**-4.9**
	3.1nm,0.4s						
LASF	**Ste Croix**	**6.34**	**282**	*e*Pn	**Pn**	**10 28 25.3**	**0.0**
CDF	**Champ du Feu**	**6.46**	**328**	*e*Pn	**Pn**	**10 28 25.9**	**-1.1**
CDF				*e*Sn	**Sn**	**10 29 35.9**	**-5.1**
	1.4nm,0.3s						
HAU	**Haudompre**	**6.55**	**321**	*e*Pn	**Pn**	**10 28 27.2**	**-0.9**
HAU				*e*Sn	**Sn**	**10 29 37.8**	**-5.3**
	3.6nm,0.3s						

NNC 03 10:39:40.3±2.1, 4470N×8040E, h0km, mb3.0, mpv2.6, 6C-2D, Error ellipse: s-maj=28.4km s-min=10.1km az=144.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK02	**Makanchi Array**	**2.47**	**32**	⇓P	Pn	10 40 22.3	+0.5
	2.6nm,0.6s,baz=198,slow=14						
MK02				⇑S	Sn	10 40 53.6	+1.0
	10nm,0.3s,baz=200,slow=24						
TKM2	**Tokmak 2**	**3.90**	**245**	⇑Pg	Pg	10 40 49.0	-6.1
	0.4nm,0.8s						
TKM2				⇑Lg		10 41 40.7	
	0.8nm,0.8s						
KURK	**Kurchatov**	**6.14**	**349**	⇑Lg		10 42 53.9	
	5.6nm,1.3s						
KK31	**Karatay Array**	**7.32**	**261**	⇑Pg	Pg	10 41 55.3	-5.2
	0.4nm,0.5s,baz=72,slow=17,SNR=3.7						
KK31				⇑Lg		10 43 32.0	
	2.2nm,0.8s,baz=74,slow=33,SNR=5.2						
CHKZ	**Chkalovo**	**11.02**	**328**	⇓Lg		10 45 29.3	
	5.1nm,1.4s						

*ISCJB **03** 10:54:21.8±1.4, 553N±02×1558W±02, h33km, mb3.8/6, MS3.8/1, Error ellipse: s-maj=25.1km s-min=6.0km az=126.0*
*BJI **03** 10:54:21.2, 5520N×15590W, h39km, mB4.8, Ms4.5, Msz4.2*
*NEIC **03** 10:54:24.7, 5521N×15588W, h39km, mb3.7/2, ML2.8(AEIC), After AEIC.*
*IDC **03** 10:54:24.1±6.1, 5595N×15659W, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, Error ellipse: s-maj=147.2km s-min=33.7km az=171.0*

ISC 03 10:54:24.0±1.4, 553N±02×1558W±02, h35km, n23, σ0§95/25, mb3.8/6, MS3.8/1, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.77**	**305**	P	**Pn**	**10 54 51.5**	**-0.5**
SDPT	**Sand Point**	**2.66**	**273**	P	**Pn**	**10 55 03.5**	**-0.8**
KDAK	**Kodiak Island**	**3.06**	**35**	P	**Pn**	**10 55 07.8**	**-2.1**
FALS	**False Pass**	**4.38**	**267**	P	**Pn**	**10 55 26.7**	**-1.4**
FALS				S	**Sn**	**10 56 17.2**	**-0.6**
SVW2	**Sparrevohn**	**5.80**	**1**	*e*P	**Pn**	**10 55 47.8**	**+0.2**
AKUT	**Akutan**	**5.88**	**263**	*e*P	**Pn**	**10 55 49.2**	**+0.6**
SEW	**Seward**	**5.90**	**33**	P	**Pn**	**10 55 48.3**	**-0.5**
SLKM	**Skilak Lake**	**6.01**	**28**	P	**Pn**	**10 55 50.5**	**+0.2**
PMR	**Palmer**	**7.21**	**26**	*e*P	**Pn**	**10 56 06.9**	**+0.1**
EYAK	**Cordova Ski Ar**	**7.50**	**41**	P	**Pn**	**10 56 10.2**	**-0.7**
SML	**Sawmill**	**7.60**	**28**	P	**Pn**	**10 56 12.6**	**+0.4**
TT01	**Tatalina**	**7.62**	**359**	P	**Pn**	**10 56 13.1**	**+0.7**
INK	**Inuvik**	**16.61**	**30**	*e*P	**Pn**	**10 58 14.3**	**+0.3**
	3.0nm,0.7s						
BILL	**Bilibino**	**21.58**	**321**	*e*P	**P**	**10 59 10.5**	**-0.1**
	3.2nm,0.8s,mb3.8						
YKA	**Yellowknife Ar**	**22.13**	**54**	P	**P**	**10 59 21.1**	**+4.7**
	0.7nm,0.7s,mb3.2,baz=271,slow=11,SNR=3.8						
CN2	**Changchun**	**49.70**	**291**	*e*P	**P**	**11 03 13.3**	**+0.9**
CN2				*e*S	**S**	**11 10 19.9**	**+1.0**
CN2				*e*SS	SS	11 13 48.1	-3.3
ARCES	**ARCESS Array B**	**55.46**	**359**	P	**P**	**11 03 55.5**	**+0.4**
	2.1nm,0.8s,mb4.2,baz=18,slow=8.9,SNR=5.0						
SONM	**Songino Array**	**56.35**	**307**	P	**P**	**11 04 02.3**	**+0.8**
	1.3nm,0.8s,mb4.0,baz=48,slow=6.6,SNR=11						
NJ2	**Nanjing**	**61.77**	**286**	*e*P	**P**	**11 04 43.5**	**+4.4**
FINES	**FINESS Array B**	**63.58**	**359**	P	**P**	**11 04 51.0**	**-0.1**
	1.4nm,0.7s,mb4.1,baz=19,slow=6.5,SNR=6.0						
MKAR	**Makanchi Array**	**67.13**	**321**	P	**P**	**11 05 12.9**	**-1.1**
	0.2nm,0.4s,mb3.5,baz=46,slow=6.2,SNR=2.4						
WMQ	**Urumqi**	**67.57**	**315**	*e*P	**P**	**11 05 20.4**	**+3.6**
WMQ				LR	LR		
	comp=N,80nm,20.0s,MS4.0						
WMQ				LR	LR		
	comp=E,50nm,23.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,40nm,26.0s,MS3.5						
KMI	**Kunming**	**75.89**	**294**	P	**P**	**11 06 09.9**	**+3.0**

*CSEM **03** 11:07:39.9±0.2, 3767N×4401E, h10km, mb4.2/1, Ms3.3, Error ellipse: s-maj=4.6km s-min=2.7km az=67.0*
*ISK **03** 11:07:40.0, 3763N×4408E, h20km, MD3.7*
*ISCJB **03** 11:07:41.8±0.2, 3751N±002×4390E±003, h10km, mb3.9/13, MS3.6/14, Error ellipse: s-maj=3.5km s-min=2.9km az=124.1*
*IDC **03** 11:07:42.5±1.1, 3752N×4373E, h0km, mb3.9/7, mb1 4.0/15, mb1mx3.9/28, mbtmp3.9/15, ML3.5/8, MS3.5/18, Ms1 3.6/18, ms1mx3.4/28, Error ellipse: s-maj=18.7km s-min=13.3km az=138.0*
*MOS **03** 11:07:44.2±1.3, 3763N×4370E, h10km, mb4.1/9, Error ellipse: s-maj=10.3km s-min=6.2km az=107.7*
*NEIC **03** 11:07:45.0±0.5, 3761N×4379E, h10km, mb4.1/7, ML3.1(ISK), Error ellipse: s-maj=9.1km s-min=6.0km az=166.0*
NEIC Minor damage in Hakkiri.
*SZGRF **03** 11:08:04.5, 38.16N×4155E, h33km, mb4.3, MS3.3, Turkey*

ISC 03 11:07:43.7±0.2, 3754N±002×4389E±003, h10km, n127, σ1§23/133, mb3.9/13, MS3.6/14, 2C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.36**	**218**	*i* PG	**Pg**	**11 07 51.4**	**+0.6**
CUKT				*i* SG	**Sg**	**11 07 59.1**	**+3.4**
VANT	**Van**	**0.99**	**337**	PG	**Pg**	**11 07 59.4**	**-3.3**
VANT				SG	**Sg**	**11 08 14.2**	**-1.4**
TVAN	**Van**	**1.06**	**339**	*i* P	**Pg**	**11 07 59.2**	**-4.9**
VANB	**Van**	**1.13**	**340**	PN	**Pn**	**11 08 00.1**	**-5.4**
BTMT	**Batman**	**2.01**	**290**	PN	**Pn**	**11 08 17.5**	**-0.1**
BEST	**Besiri**	**2.10**	**281**	*i* P	**Pn**	**11 08 18.6**	**-0.3**
BEST				*i* S	**Sg**	**11 08 49.9**	**-1.4**
MARD	**Mardin**	**2.48**	**266**	*i* P	**Pn**	**11 08 24.1**	**-0.1**
MARD				*i* S	**Sn**	**11 08 59.3**	**+4.9**
MARD	**Mardin**	**2.48**	**266**	*i* P	**Pn**	**11 08 24.0**	**-0.1**
BNGL	**BINGOL**	**2.58**	**304**	*i* P	**Pn**	**11 08 25.5**	**+0.1**
BNGL				*i* S	**Sg**	**11 09 07.5**	**+1.0**
GNI	**Garni**	**2.69**	**14**	Pn	**Pn**	**11 08 28.9**	**+1.9**
	5.8nm,0.3s,baz=354,

ASF Lg 11 11 42.9
comp=Z,0.8nm,0.3s,baz=245,slow=23,SNR=3.5
ASF LR LR 11 13 12.0
comp=Z,136nm,18.9s,baz=96,slow=42
ASF Jabal al Asfar 7.85 229 Pn **Pn 11 09 41.1 +3.3**
ASF Lg 11 11 42.9
ASF LR LR 11 13 12.0
MIB Mutribah 8.23 159 *e*P **Pn 11 09 43.5 +0.4**
MMAI Mount Meron Ar 8.27 239 Pn **Pn 11 09 42.9 -0.8**
comp=Z,2.8nm,0.3s,baz=51,slow=17,SNR=3.4
MMAI Pg Pn 11 10 19.2 +36
baz=82,slow=10,SNR=3.1
MMAI Lg 11 12 16.7
comp=Z,4.7nm,0.3s,baz=17,slow=31,SNR=5.3
BR131 Keskin Array S 8.31 288 *e*Pn **Pn 11 09 44.6 +0.4**
comp=Z,6.3nm,0.9s
BRTR Keskin Array B 8.31 288 Pn **Pn 11 09 43.7 -0.5**
comp=Z,0.2nm,0.3s,baz=106,slow=13,SNR=9.2
BRTR Pg Pn 11 10 16.8 +33
comp=Z,0.1nm,0.3s,baz=109,slow=14,SNR=3.8
BRTR Lg 11 12 22.8
comp=Z,0.1nm,0.3s,baz=122,slow=27,SNR=3.3
BRTR Keskin Array B 8.31 288 Pg Px 11 10 16.8
UMR Umm Al-Rimmam 8.58 157 *e*P **Pn 11 09 47.5 -0.4**
UMR AML AML 11 11 27.0
comp=Z,14nm,0.4s
UMR Umm Al-Rimmam 8.58 157 *e*P **Pn 11 09 49.5 +1.6**
NAY Al-Naaiem 8.73 160 *e*P **Pn 11 09 49.7 -0.3**
NAY Al-Naaiem 8.73 160 *e*P **Pn 11 09 49.7 -0.2**
NAY *e*S **Sn 11 11 26.5 -1.8**
RDF Al-Radifah 9.12 159 *e*P **Pn 11 09 55.6 +0.4**
RDF AML AML 11 11 38.1
comp=Z,25nm,0.7s
RDF Al-Radifah 9.12 159 *e*P **Pn 11 09 55.6 +0.3**
RDF *e*S **Sn 11 11 37.5 -0.4**
QRN Al-Qurain 9.39 158 *e*P **Pn 11 10 00.1 +1.1**
QRN AML AML 11 11 45.6
comp=Z,14nm,0.3s
VOR Voronezh 14.57 348 *e*P **Pn 11 11 10.0 +0.1**
VOR pmax pmax
comp=N,100nm,1.2s
VOR pmax pmax
comp=Z,70nm,1.2s
IDI Anoyia 15.46 267 Pn **Pn 11 11 22.3 +0.6**
comp=Z,0.1nm,0.3s,baz=95,slow=17,SNR=2.4
MLR Muntele Rosu 15.59 306 Pn **Pn 11 11 22.8 -0.7**
comp=Z,0.2nm,0.3s,baz=117,slow=9.0,SNR=2.1
MLR LR LR 11 18 29.3
comp=Z,218nm,18.3s,baz=302,slow=42
BANOM Banah 15.65 134 ⇓P **Pn 11 11 22.6 -1.7**
ORR Orenburg 16.04 25 *i* P **Pn 11 11 30.5 +1.2**
ORR pmax pmax
comp=Z,20nm,1.2s
ORR Orenburg 16.04 25 *i* P **Pn 11 11 30.5 +1.2**
comp=Z,20nm,1.2s
AKTK Aktyubinsk 16.39 34 Pn **Pn 11 11 33.8 +0.1**
AKTK LR LR 11 19 28.9
AKTO Aktyubinsk 16.39 34 Pn **Pn 11 11 33.8 +0.1**
comp=Z,0.1nm,0.3s,baz=236,slow=9.2,SNR=8.3
AKTO LR LR 11 19 28.9
comp=Z,106nm,18.1s,baz=0.0,slow=43
ASHO Ashiyiah 16.50 137 P **Pn 11 11 33.4 -1.8**
SNR=11
AKASG Malin Array Be 16.81 326 Pn **Pn 11 11 39.2 +0.1**
comp=Z,0.2nm,0.3s,baz=132,slow=12,SNR=5.6
ARQ Araqi 17.83 139 ⇓P **Pn 11 11 48.4 -3.5**
SNR=7.3
OBN Obninsk 18.28 347 *i* P **Pn 11 11 56.8 -0.5**
OBN pmax pmax
comp=Z,36nm,1.5s
OBN MLR MLR
comp=Z,300nm,18.0s
OBN Obninsk 18.28 347 *i* P **Pn 11 11 56.8 -0.5**
comp=Z,300nm,18.0s
BIDO Bidbid 18.56 135 ⇑P **Pn 11 12 00.7 -0.1**
SNR=5.1
BSY Bisya 18.67 138 ⇓P **Pn 11 11 59.6 -2.5**
SMDO Samad 18.88 136 ⇑P **Pn 11 12 04.4 -0.3**
SNR=12
WSAR Wadi Sarin 19.07 134 P **Pn 11 12 06.9 0.0**
comp=Z,1.1nm,0.3s,baz=311,slow=11,SNR=14
WSAR LR LR 11 19 46.4
comp=Z,207nm,21.0s,baz=118,slow=38
JMDO Jabal Madar 19.46 137 P **Pn 11 12 10.7 -1.0**
SNR=6.0
STHS Stebnicka Huta 20.18 313 *e*P **P 11 12 22.5 +4.1**
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 20.18 313 *e*P **P 11 12 22.5 +4.1**
comp=Z,3.8nm,1.1s
KECS Kecovo 20.23 310 *e*P **P 11 12 18.4 -0.5**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 20.23 310 *e*P **P 11 12 18.4 -0.5**
comp=Z,3.0nm,1.0s
PSZ Piszkesteto 20.37 308 *e*P **P 11 12 20.8 +0.4**
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ Piszkesteto 20.37 308 *e*P **P 11 12 20.8 +0.4**
comp=Z,11nm,1.1s
PSZ Piszkesteto 20.37 308 *e*P **P 11 12 20.8 +0.4**
comp=Z,11nm,1.1s
TIP Timpagrande 21.31 283 *e*P **P 11 12 31.0 +0.4**
TIP Timpagrande 21.31 283 *e*P **P 11 12 31.0 +0.4**
MORC Moravsky Berou 22.52 311 *e*P **P 11 12 45.6 +2.1**
VRAC Vranov 22.92 310 P **P 11 12 47.9 +0.2**
comp=Z,2.3nm,0.3s,mb4.0,baz=112,slow=9.5,SNR=7.5
VRAC LR LR 11 23 35.9
comp=Z,166nm,18.0s,MS3.5,baz=118,slow=42
ZRNK Zerenda 23.29 41 *e*P **P 11 12 53.2 +1.6**
ZRNK pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
ZRNK Zerenda 23.29 41 *e*P **P 11 12 53.2 +1.6**
comp=Z,7.4nm,1.0s,mb4.1
ZRNK Zerenda 23.29 41 *e*P **P 11 12 53.2 +1.6**
comp=Z,7.4nm,1.0s,mb4.1
DPC Dobruska-Polom 23.46 312 *e*P **P 11 12 53.2 -0.3**
UPC Upice 23.71 312 *e*P **P 11 12 56.8 +1.0**
BRVK Borovoye 24.01 41 *e*P **P 11 13 00.9 +2.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
BRVK Borovoye 24.01 41 *e*P **P 11 13 00.9 +2.3**
comp=Z,4.4nm,0.8s,mb3.9
BRVK Borovoye 24.01 41 *e*P **P 11 13 00.9 +2.3**
comp=Z,4.4nm,0.8s,mb3.9
PRU Pruhonice 24.40 310 *e*P **P 11 12 58.2 -4.0**
CHKZ Chkalovo 24.49 40 *e*P **P 11 13 03.6 +0.6**
CHKZ pmax pmax
comp=Z,6.0nm,1.1s,mb3.9
CHKZ Chkalovo 24.49 40 *e*P **P 11 13 03.6 +0.6**
comp=Z,6.3nm,1.1s,mb4.0
CHKZ Chkalovo 24.49 40 *e*P **P 11 13 03.6 +0.6**
comp=Z,6.3nm,1.1s,mb4.0
GERES GERESS Array B 24.58 307 P **P 11 13 03.4 -0.4**
comp=Z,2.3nm,0.7s,mb3.8,baz=110,slow=10,SNR=7.4
GERES LR LR 11 23 17.1
comp=Z,122nm,18.2s,MS3.4,baz=272,slow=38
KHC Kasperske Hory 24.74 308 *e*P **P 11 13 06.0 +0.8**
KHC Kasperske Hory 24.74 308 *i* P **P 11 13 06.4 +1.2**
BRG Berggiesshubel 25.07 312 *e*P **P 11 13 09.6 +1.4**
comp=Z,3.6nm,1.3s,mb3.8
BRG Berggiesshubel 25.07 312 *e*P **P 11 13 09.6 +1.4**
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb3.8
NKC Novy Kostel 25.76 310 *e*P **P 11 13 14.7 +0.2**
CLL Collm 25.77 312 *i* P **P 11 13 16.1 +1.5**
comp=Z,15nm,1.5s,mb4.3
CLL Collm 25.77 312 P **P 11 13 16.1 +1.5**
ATD Arta Tunnel 25.91 182 LR LR 11 23 22.6
comp=Z,73nm,18.9s,MS3.2,baz=304,slow=36
GRA1 Grafenberg Arr 26.37 308 *e*P **P 11 13 20.9 +0.9**
comp=Z,7.0nm,1.1s,mb4.1
GRA1 LR LR
comp=Z,100nm,21.7s,MS3.3
GRF Grafenberg Arr 26.37 308 *e*P **P 11 13 20.9 +0.9**
comp=Z,7.0nm,1.1s,mb4.1
GRF *e*L 11 24 46.7
comp=Z,100nm,21.7s
GRF Grafenberg Arr 26.37 308 *e*P **P 11 13 20.9 +0.9**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
GRF MLR MLR
comp=Z,100nm,21.7s,MS3.3
FINES FINESS Array B 26.40 341 P **P 11 13 19.4 -0.9**
comp=Z,1.1nm,0.6s,mb3.6,baz=133,slow=13,SNR=5.5
FINES LR LR 11 23 44.4
comp=Z,103nm,21.7s,MS3.3,baz=354,slow=36
FINES FINESS Array B 26.40 341 P **P 11 13 19.4 -0.9**
FINES LR LR 11 23 44.4
DAVOX Davos 26.67 301 P **P 11 13 22.9 +0.2**
comp=Z,3.3nm,0.8s,mb3.9,baz=129,slow=6.8,SNR=3.7
DAVOX LR LR 11 24 51.4
comp=Z,111nm,20.3s,MS3.4,baz=270,slow=39
KURK Kurchatov 27.92 51 *i* P **P 11 13 41.7 +7.8**
HFS Hagfors 29.64 329 P **P 11 13 48.3 -1.0**
comp=Z,2.6nm,0.7s,mb4.1,baz=119,slow=12,SNR=3.7
HFS Pg Pn 11 27 15.5
comp=Z,71nm,18.0s,MS3.3,baz=127,slow=40
MKAR Makanchi Array 29.68 60 P **P 11 13 52.1 +2.5**
comp=Z,0.4nm,0.4s,mb3.5,baz=258,slow=5.7,SNR=3.3
NOA NORSAR Array B 31.17 329 LR LR 11 28 01.1
comp=Z,67nm,18.1s,MS3.4,baz=105,slow=39
ARCES ARCESS Array B 33.57 348 LR LR 11 28 41.1
comp=Z,204nm,20.0s,MS3.8,baz=106,slow=38
TORD Torodi Ar. Bea 44.69 248 P **P 11 15 55.1 -1.7**
comp=Z,0.4nm,0.6s,mb3.5,baz=38,slow=7.5,SNR=3.7
SONM Songino Array 45.93 56 LR LR 11 38 30.9
comp=Z,93nm,18.6s,MS3.8,baz=93,slow=40
BOSA Boshof 68.08 198 LR LR 11 52 44.5
comp=Z,85nm,18.8s,MS4.0,baz=195,slow=40
SCHQ Schefferville 70.60 325 LR LR 11 47 50.9
comp=Z,31nm,20.6s,MS3.5,baz=116,slow=34
YKA Yellowknife Ar 78.82 350 LR LR 12 00 23.9
comp=Z,39nm,18.4s,MS3.8,baz=270,slow=40
PDAR Pinedale Array 96.50 341 LR LR 12 04 45.2
comp=Z,50nm,22.0s,MS4.0,baz=190,slow=36

*ISCJB **03** 12:04:09.5±0.8, 5404S±0.010×75E±02, h10km, mb4.4/11, MS3.9/7, Error ellipse: s-maj=17.3km s-min=13.5km az=132.6*
*IDC **03** 12:04:10.1±0.8, 5412S×743E, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/17, mbtmp4.2/9, MS3.9/7, Ms1 3.8/7, ms1mx3.6/18, Error ellipse: s-maj=30.7km s-min=19.6km az=32.0*
*NEIC **03** 12:04:11.6±0.7, 5411S×744E, h10km, mb4.8/5, Error ellipse: s-maj=24.7km s-min=14.5km az=211.0*
ISC 03 12:04:11.3±0.8, 5409S±0.010×75E±02, h10km, n32, σ0s85/22, mb4.4/11, MS3.9/7, 1C-5D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.04**	**197**	⇓*i*		**Pn**	**12 08 22.9**	**+0.8**
VNA1					*e*		12 08 25.0	
VNA1					*e*		12 08 34.3	
VNA1					*e*		12 08 39.0	
VNA1					*e*		12 08 44.4	
VNA1					*e*		12 09 07.2	
VNA1					*e*		12 11 28.4	
VNA1					*e*		12 11 34.1	
VNA2	**Neumayer--Watz**	**18.14**	**196**	⇓*i*		**Pn**	**12 08 23.3**	**0.0**
baz=23,slow=14								
VNA2					*e*		12 08 25.5	
VNA2					*e*		12 08 34.4	
VNA2					*e*		12 08 39.5	
VNA2					*e*		12 09 06.2	
VNA2					*e*		12 11 30.1	
VNA2					*e*		12 11 35.5	
SNAA	**Sanae**	**18.21**	**190**	⇓*i*		**Pn**	**12 08 14.4**	**-10**
SNAA					*e*		12 08 16.0	
SNAA					*e*		12 08 26.5	
SNAA					*e*		12 08 31.5	
SNAA					*e*		12 11 24.9	
SNAA					*e*		12 11 31.0	
VNA3	**Neumayer Olymp**	**18.79**	**197**	⇓*i*		**Pn**	**12 08 30.8**	**-0.5**
VNA3					*e*		12 08 33.5	
VNA3					*e*		12 08 40.4	
VNA3					*e*		12 08 45.1	
VNA3					*e*		12 08 49.0	
VNA3					*e*		12 11 48.5	
VNA3					*e*		12 11 53.4	
SYO	**Syowa Base**	**21.00**	**148**	⇓*e*P		**P**	**12 08 55.0**	**+0.1**
SYO	**Syowa Base**	**21.00**	**148**	⇑*e*P		**P**	**12 09 05.0**	**+10**
SUR	**Sutherland**	**23.69**	**29**	LR		LR	12 16 32.2	
comp=Z,223nm,19.4s,MS3.6,baz=123,slow=31								
BOSA	**Boshof**	**28.57**	**34**	LR		LR	12 19 23.7	
comp=Z,245nm,19.8s,MS3.8,baz=179,slow=32								
MAW	**Mawson**	**29.00**	**139**	P		**P**	**12 10 12.5**	**+1.3**
1.5nm,0.7s,mb3.8,baz=265,slow=11,SNR=3.4								
MAW	**Mawson**	**29.00**	**139**	P		**P**	**12 10 11.8**	**+0.5**
8.5nm,1.2s,mb4.3								
QSPA	**South Pole Qui**	**36.15**	**180**	*e*P		**P**	**12 11 13.9**	**+0.2**
7.6nm,1.2s,mb4.5								
VNDA	**Vanda**	**47.69**	**173**	P		**P**	**12 12 48.0**	**0.0**
3.4nm,0.8s,mb4.4,baz=174,slow=10,SNR=8.6								
VNDA				LR		LR	12 31 33.0	
comp=Z,154nm,18.1s,MS4.0,baz=180,slow=34								
VNDA	**Vanda**	**47.69**	**173**	*e*P		**P**	**12 12 48.0**	**0.0**
3.6nm,0.8s,mb4.5								
PLCA	**Paso Flores**	**51.83**	**251**	P		**P**	**12 13 18.6**	**-0.9**
1.4nm,0.8s,mb4.0,baz=176,slow=9.8,SNR=3.1								
CPUP	**Villa Florida**	**54.45**	**273**	P		**P**	**12 13 38.6**	**-0.2**
6.5nm,0.8s,mb4.6,baz=125,slow=6.9,SNR=12								
CPUP				LR		LR	12 30 39.3	
comp=Z,66nm,20.2s,MS3.7,baz=307,slow=29								
CPUP	**Villa Florida**	**54.45**	**273**	*e*P		**P**	**12 13 38.5**	**-0.3**
20nm,0.9s,mb5.1								
CFAA	**Coronel Fontan**	**56.95**	**261**	P		**P**	**12 13 56.3**	**-0.5**
0.5nm,0.9s,mb3.5,baz=143,slow=6.2,SNR=5.7								
BDFB	**Brasilia**	**57.46**	**290**	LR		LR	12 32 42.8	
comp=Z,104nm,18.4s,MS4.0,baz=232,slow=30								
KMBO	**Kilima Mbogo**	**58.19**	**36**	LR		LR	12 37 03.3	
comp=Z,140nm,19.3s,MS4.1,baz=90,slow=34								
DBIC	**Dimbokro**	**61.42**	**346**	LR		LR	12 34 14.2	
comp=Z,62nm,19.9s,MS3.8,baz=117,slow=29								
TORD	**Torodi Ar. Bea**	**67.15**	**354**	P		**P**	**12 15 05.8**	**+0.5**
1.3nm,1.0s,mb3.9,baz=186,slow=8.1,SNR=4.0								
LPAZ	**La Paz**	**68.55**	**272**	P		**P**	**12 15 15.8**	**+1.7**
4.9nm,0.9s,mb4.5,baz=138,slow=5.5,SNR=12								
LPAZ	**La Paz**	**68.55**	**272**	P		**P**	**12 15 15.8**	**+1.7**
MBWA	**Marble Bar**	**85.31**	**120**	P		**P**	**12 16 44.8**	**-3.7**
60nm,1.9s,mb5.4								
STKA	**Stephens Creek**	**85.65**	**142**	P		**P**	**12 16 48.6**	**-1.6**
2.7nm,0.6s,mb4.7,baz=188,slow=3.0,SNR=9.5								
STKA	**Stephens Creek**	**85.65**	**142**	*e*P		**P**	**12 16 48.4**	**-1.8**
ASAR	**Alice Springs**	**89.89**	**132**	P		**P**	**12 17 10.6**	**0.0**
1.8nm,0.8s,mb4.4,baz=199,slow=3.9,SNR=16								
MKAR	**Makanchi Array**	**118.75**	**49**	PKP		PKPdf	12 22 58.7	-1.1
0.9nm,0.8s,baz=252,slow=2.4,SNR=6.0								
MKAR	**Makanchi Array**	**118.75**	**49**	PKP		PKPdf	12 22 58.7	-1.1
ARCES	**ARCESS Array B**	**124.01**	**8**	PKP		PKPdf	12 23 09.1	-0.7
3.7nm,0.7s,baz=199,slow=2.6,SNR=8.6								
EDM	**Edmonton**	**145.82**	**293**	*e*PKPdf		PKPdf	12 23 49.9	-0.3
YKA	**Yellowknife Ar**	**149.43**	**309**	PKPbc		PKPbc	12 23 59.6	-1.0
4.0nm,0.8s,baz=86,slow=2.5,SNR=12								

MAN 03 12:06:16.2, 1327N×12413E, h1km, mb2.1, ML3.8, MS4.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.33**	**4**	⇑*i*P		Pg	12 06 22.7	+0.3
PVCP				*i* S		Sg	12 06 27.9	+1.2
PVCP	**Virac**	**0.33**	**4**	*e*P		Pg	12 06 22.7	+0.2
MMPH	**Masbate**	**1.03**	**209**	*e*P		Pg	12 06 36.3	+0.4
MMPH				*e*S		Sg	12 06 44.0	-5.3
RCP	**Roxas**	**2.17**	**219**	*e*P		Pn	12 06 54.5	+1.0
GUIM	**Jordan**	**3.03**	**210**	*e*P		Pn	12 07 06.2	+1.0

*ISCJB **03** 12:11:23.0±3.1, 799N±02×210E±05, h10km, Error ellipse: s-maj=33.4km s-min=12.2km az=4.9*
*BER **03** 12:11:24.9±2.5, 7995N×2171E, h22km, MD2.6, ML3.1, ML2.9(NAO)*
*CSEM **03** 12:11:24.1±0.4, 7993N×2123E, h10km, ML3.1, Error ellipse: s-maj=10.0km s-min=4.3km az=20.0*
*NAO **03** 12:11:25.7±3.5, 7994N×2090E, h22km±17km, ML2.9*
ISC 03 12:11:22.8±3.1, 800N±02×211E±05, h10km, n6, σ0s74/11, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.98**	**242**	Pn		**Pn**	**12 11 56.2**	**-0.3**
KBS				Pg		**Pg**	**12 12 00.9**	**0.0**
KBS				Lg			12 12 26.4	
KBS	**Kingsbay**	**1.98**	**242**	*e*P		**Pn**	**12 11 56.2**	**-0.3**
KBS				*e*Pg		**Pg**	**12 12 00.9**	**0.0**
KBS				*e*Sg		**Sg**	**12 12 26.4**	**-0.2**
KBS				AML		AML	12 12 28.1	
comp=Z,259nm,0.3s								
SPA0	**Spitsbergen Ar**	**2.02**	**209**	Pn		**Pn**	**12 11 56.9**	**-0.1**
baz=17,slow=14								
SPA0				Pg		**Pg**	**12 12 01.4**	**-0.1**
baz=30,slow=18								
SPA0				Lg			12 12 28.5	
baz=32,slow=28								
SPA0	**Spitsbergen Ar**	**2.02**	**209**	Pg		**Pg**	**12 12 01.5**	**-0.1**
SNR=93								
HSP	**Hornsund**	**3.18**	**203**	*e*P		**Pn**	**12 12 14.7**	**+1.7**
ARA0	**ARCESS Array S**	**10.56**	**171**	Pn		**Pn**	**12 13 53.3**	**-1.0**
baz=352,slow=12								
ARA0				Sn		**Sn**	**12 15 42.0**	**-11**
baz=7.8,slow=22								

*ISCJB **03** 12:56:08.8±0.5, 4053N±004×2160E±005, h22km±9km, Error ellipse: s-maj=7.8km s-min=5.8km az=53.9*
*THE **03** 12:56:08.6, 4052N×2160E, h10km, ML2.6*
*SKO **03** 12:56:08.7, 4054N×2159E, h12km*
*CSEM **03** 12:56:08.4±0.1, 4055N×2157E, h20km, ML2.6, Error ellipse: s-maj=3.5km s-min=2.2km az=28.0*
ISC 03 12:56:08.4±0.5, 4053N±004×2163E±004, h16km±8km, n14, σ0s92/21, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FNA	**Florina**	**0.32**	**324**	*e*Pg		**Pg**	**12 56 14.9**	**-0.3**
FNA				*e*Sg		**Sg**	**12 56 20.0**	**+0.3**
BIA	**Bitola**	**0.54**	**335**	*e*Pg		**Pg**	**12 56 18.2**	**-1.0**
BIA				*e*Sg		**Sg**	**12 56 26.9**	**+0.4**
KBN	**Korca**	**0.65**	**279**	*i* Pg		**Pg**	**12 56 20.5**	**-0.6**
KBN				*i* Sg		**Sg**	**12 56 31.4**	**+1.7**
GRG	**Griva**	**0.73**	**54**	*e*Pg		**Pg**	**12 56 22.4**	**-0.4**
GRG				*e*Sg		**Sg**	**12 56 34.1**	**+1.7**
LIT	**Litokhoron**	**0.79**	**122**	*e*Pg		**Pg**	**12 56 23.4**	**-0.4**
LIT				*e*Sg		**Sg**	**12 56 35.3**	**+1.2**
MEV	**Metsovon**	**0.80**	**202**	*e*Pg		**Pg**	**12 56 23.4**	**-0.6**
OHR	**Ohrid**	**0.86**	**313**	*e*Pg		**Pg**	**12 56 23.7**	**-1.4**
OHR				*e*Sg		**Sg**	**12 56 37.2**	**+0.8**
OHR	**Ohrid**	**0.86**	**313**	*e*Pg		**Pg**	**12 56 23.6**	**-1.5**
OHR				*e*Sg		**Sg**	**12 56 37.2**	**+0.8**
KNT	**Kendrikon**	**1.16**	**56**	*e*Pg		**Pg**	**12 56 30.1**	**-0.6**
KNT	**Kendrikon**	**1.16**	**56**	*e*Pg		**Pg**	**12 56 30.1**	**-0.7**
SOH	**Sokhos**	**1.35**	**77**	*e*Pg		**Pg**	**12 56 32.9**	**-1.5**
AGG	**Agios Georgios**	**1.60**	**160**	*e*Pg		**Pn**	**12 56 36.3**	**+0.3**
XOR	**Xorichti**	**1.67**	**133**	*e*Pb		**Pn**	**12 56 37.6**	**+0.7**
PAIG	**Paliouri**	**1.68**	**110**	*e*Pb		**Pn**	**12 56 37.1**	**0.0**

*IDC **03** 13:01:08.9±0.4, 1300N×9247E, h0km, mb4.6/21, mb1 4.6/22, mb1mx4.6/24, mbtmp4.5/22, ML3.6/1, MS3.6/8, Ms1 3.6/8, ms1mx3.3/28, Error ellipse: s-maj=18.1km s-min=11.3km az=51.0*
*MOS **03** 13:01:12.4±0.8, 1309N×9256E, h33km, mb4.8/35, Error ellipse: s-maj=10.6km s-min=5.3km az=118.0*
*ISCJB **03** 13:01:12.8±0.2, 1297N±003×9241E±003, h38km, mb4.6/73, MS3.7/17, Error ellipse: s-maj=4.7km s-min=3.7km az=58.0*
*NEIC **03** 13:01:14.7±0.2, 1303N×9251E, mb4.7/40, Error ellipse: s-maj=5.7km s-min=3.4km az=55.0*
*BJI **03** 13:01:16.2, 1282N×9261E, h53km, mB4.9, mb4.5, Ms4.2, Msz4.1*
*SZGRF **03** 13:01:19.4, 1437N×9264E, h33km, mb4.8, Andaman Islands, India, region*
ISC 03 13:01:15.3±0.2, 1302N±003×9242E±003, h40km, h40km±1.2km: pP-P, n207, σ0s97/211, mb4.6/73, MS3.7/17, 20C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.39**	**167**	*e*P		x	13 01 12.2	
PBA				*e*S		x	13 01 19.5	
PBA				*e*x		x	13 01 50.5	
comp=N,11μm,0.9s								
PBA				*e*x		x	13 01 50.6	
comp=E,15μm,0.6s								
PBA	**Port Blair**	**1.39**	**167**	*e*P		x	13 01 12.2	
PBA				*e*P		x	13 01 12.2	
PBA				*e*S		x	13 01 19.5	
PBA				*e*S		x	13 01 19.5	
NST	**Nakhon Sawan**	**7.93**	**70**	P		**Pn**	**13 03 08.0**	**+0.1**
CHG	**Chiang Mai**	**8.52**	**47**	PG		**Pn**	**13 03 16.5**	**+0.4**
CHG				SG		rx	13 03 31.7	
CHTO	**Chiang Mai**	**8.52**	**47**	*e*P		**Pn**	**13 03 15.0**	**-1.1**
CHTO				*e*			13 04 39.9	
CHTO				pmax		pmax		
comp=Z,10.0nm,0.6s								
CHTO	**Chiang Mai**	**8.52**	**47**	*e*Pn		**Pn**	**13 03 15.0**	**-1.1**
comp=Z,9.7nm,0.6s								
CHTO				*e*Sn		**Sn**	**13 04 39.9**	**-11**
VIS	**Vishakhapatnam**	**9.94**	**299**	*e*P		**Pn**	**13 03 33.9**	**-1.6**
VIS				*e*x		x	13 05 15.9	
KULM	**Kulim**	**11.17**	**133**	*e*Pn		**Pn**	**13 03 54.4**	**+2.0**
MDRS	**Chennai**	**11.86**	**272**	*e*x		x	13 06 01.0	
PSI	**Prapat**	**12.02**	**147**	Pn		**Pn**	**13 04 01.8**	**-2.1**
comp=Z,0.4nm,0.3s,baz=280,slow=17,SNR=2.7								
PSI				LR		LR	13 09 11.9	
comp=Z,200nm,18.9s,baz=145,slow=40								
BOK	**Bokaro**	**12.38**	**331**	*e*P		**Pn**	**13 04 08.4**	**-0.5**
BOK				AMb		AMB	13 04 12.8	
comp=Z,13nm,0.6s								
BOK				*i* x		x	13 05 54.9	
SHL	**Shillong**	**12.49**	**358**	*e*x		x	13 04 07.0	
SHL				*e*S		**Sn**	**13 06 14.2**	**-14**
PALK	**Pallekele**	**12.87**	**245**	*e*Pn		**Pn**	**13 04 15.4**	**-0.1**
PALK				*e*Sn		**Sn**	**13 06 24.7**	**-13**
BLSP	**Bilaspur**	**13.35**	**314**	*e*P		**Pn**	**13 04 21.2**	**-0.9**
BLSP				*e*S		Sn	13 06 27.8	-21
HYB	**Hyderabad**	**14.08**	**290**	*i* P		**Pn**	**13 04 41.0**	**+8.9**
HYB				*e*			13 06 54.0	
HYB				*e*S		**Sn**	**13 07 13.0**	**+6.1**
HYB	**Hyderabad**	**14.08**	**290**	*e*P		**Pn**	**13 04 41.0**	**+8.9**
HYB				*e*			13 06 54.0	
HYB				*e*S		**Sn**	**13 07 07.0**	**+0.1**
NGP	**Nagpur**	**15.12**	**304**	⇑*e*P		**Pn**	**13 04 44.5**	**-1.4**
NGP				*e*x		x	13 07 19.1	
KMI	**Kunming**	**15.48**	**37**	P		**Pn**	**13 04 53.0**	**+2.2**
KMI				AP		pP	13 05 01.8	-2.7
KMI				PP			13 05 05.5	
KMI				XP		sP	13 05 06.3	-3.2
KMI				PPP			13 05 12.7	
KMI				S		**S**	**13 07 44.5**	**-11**
KMI				XS		sS	13 07 55.5	-16
KMI				SS			13 08 02.0	
KMI				SSS			13 08 15.0	
KMI				AMB		AMB		
comp=Z,70nm,4.6s								
KMI				LR		LR		
comp=N,160nm,16.8s								
KMI				LR		LR		
comp=E,170nm,20.2s								
KMI				LR		LR		
comp=Z,170nm,20.2s								
JBP	**Jabalpur**	**15.54**	**312**	⇓*i*P		**Pn**	**13 04 51.6**	**+0.2**
JBP				*i* x		x	13 07 33.0	
JIRN	**Jiri**	**15.69**	**339**	*e*P		**Pn**	**13 04 52.5**	**-0.9**
comp=Z,65nm,0.6s								
PKI	**Pulchoki**	**15.90**	**337**	*e*P		**Pn**	**13 04 55.8**	**-0.3**
comp=Z,28nm,0.4s								
PKI	**Pulchoki**	**15.90**	**337**	*e*P		**Pn**	**13 04 55.8**	**-0.3**
PKI				pmax		pmax		
comp=Z,29nm,0.4s								
GUN	**Gumba**	**16.03**	**339**	*e*P		**Pn**	**13 04 58.0**	**+0.2**
comp=Z,20nm,0.4s								
DMN	**Daman**	**16.05**	**336**	*e*P		**Pn**	**13 04 57.0**	**-1.0**
comp=Z,40nm,0.6s								
KKN	**Kakani**	**16.14**	**337**	*e*P		**Pn**	**13 04 59.1**	**-0.1**
comp=Z,14nm,0.5s								
KKN	**Kakani**	**16.14**	**337**	*e*P		**Pn**	**13 04 59.1**	**-0.1**
KKN	

comp=Z,40nm,0.6s
KOLN eS S 13 08 00.8 -22
BHPL Bhopal 17.49 308 eP **Pn 13 05 16.0 -0.1**
BHPL AMb AMB 13 05 29.6
comp=Z,64nm,0.9s
BHPL ex x 13 08 18.2
QIZ Qiongzhong 17.78 68 P **Pn 13 05 20.4 +0.8**
QIZ eS **S 13 08 35.3 -7.0**
QIZ AMB AMB
comp=Z,10.0nm,1.8s
QIZ LR LR
comp=N,270nm,17.4s
QIZ LR LR
comp=Z,280nm,23.0s
KAD Karad 18.11 286 ex x 13 08 28.9
POO Poona 18.69 289 ex x 13 05 21.0
comp=Z,25nm,1.0s
POO i x x 13 08 43.0
POO ex x 13 09 06.5
POO ex x 13 09 19.5
POO i x x 13 09 35.5
GYA Guiyang 18.91 43 P **Pn 13 05 33.2 -0.2**
GYA AP pP 13 05 41.5 -0.9
GYA S **S 13 09 09.4 +4.2**
GYA AMB AMB
comp=Z,10.0nm,0.6s
GYA AMB AMB
comp=Z,90nm,3.8s
GYA LR LR
comp=N,370nm,15.7s
GYA LR LR
comp=E,310nm,15.2s
GYA LR LR
comp=Z,380nm,15.0s
CD2 Chengdu 20.65 29 P **P 13 05 53.3 +1.8**
CD2 AP 13 06 04.1
CD2 XP sP 13 06 10.0 +3.6
CD2 PP 13 06 15.0
CD2 S **S 13 09 36.1 -4.0**
CD2 XS sS 13 09 52.9 -3.1
CD2 SS 13 10 08.4
CD2 AMB AMB
comp=Z,30nm,0.6s
CD2 AMB AMB
comp=Z,90nm,5.2s
CD2 LR LR
comp=N,210nm,19.2s
CD2 LR LR
comp=Z,160nm,16.8s,MS3.5
NDI New Delhi 21.05 320 ex x 13 05 49.0
KSM Kuching 21.10 121 eP **P 13 05 55.1 -1.2**
AJM Ajmer 21.39 311 eP **P 13 06 01.1 +1.6**
AJM AMb AMB 13 06 01.9
comp=Z,20nm,0.6s,mb4.6
SMLA Simla 22.86 324 eP **P 13 06 15.3 +0.2**
SMLA AMb AMB 13 06 16.9
comp=Z,28nm,1.4s,mb4.5
SMLA eS **S 13 10 20.4 -1.5**
LZH Lanzhou 25.17 22 eP **P 13 06 35.5 -1.3**
LZH PP 13 07 14.5
LZH eS **S 13 10 54.1 -5.1**
LZH SS 13 11 57.0
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,70nm,4.0s
LZH LR LR
comp=E,520nm,12.0s
LZH LR LR
comp=Z,900nm,13.1s,MS4.5
GTA Gaotai 27.09 13 P **P 13 06 55.3 +1.1**
GTA S **S 13 11 31.6 +2.0**
GTA AMB AMB
comp=Z,80nm,5.3s
GTA LR LR
comp=N,80nm,14.4s,MS3.6
GTA LR LR
comp=E,100nm,16.0s,MS3.6
GTA LR LR
comp=Z,80nm,12.6s,MS3.5
NJ2 Nanjing 30.76 48 eP **P 13 07 29.4 +2.6**
NJ2 AP pP 13 07 37.5 -0.3
NJ2 XP sP 13 07 43.1 +0.6
NJ2 PP PP 13 08 29.6 -7.1
NJ2 S **S 13 12 29.0 +1.7**
NJ2 XS sS 13 12 45.0 -0.5
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,210nm,4.1s
NJ2 LR LR
comp=N,260nm,11.0s,MS4.2
NJ2 LR LR
comp=E,230nm,14.2s,MS4.2
NJ2 LR LR
comp=Z,330nm,15.2s,MS4.1
WMQ Urumqi 30.96 353 eP **P 13 07 29.7 +1.1**
WMQ LR LR
comp=N,60nm,24.0s,MS3.4
WMQ LR LR
comp=E,90nm,24.0s,MS3.4
WMQ LR LR
comp=Z,50nm,21.0s,MS3.1
SSE Sheshan 32.02 51 P **P 13 07 37.9 +0.1**
SSE AP pP 13 07 49.1 +0.3
SSE XP sP 13 07 54.2 +0.6
SSE S **S 13 12 46.9 +0.1**
SSE XS sS 13 13 06.1 +1.0
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,230nm,4.7s
SSE LR LR
comp=N,30nm,13.3s,MS3.4
SSE LR LR
comp=E,40nm,13.3s,MS3.4
SSE LR LR
comp=Z,70nm,16.3s,MS3.4
HHC Hu-ho-hao-te 32.40 28 eP **P 13 07 42.9 +1.6**
HHC AP pP 13 07 52.4 +0.2
HHC PP PP 13 08 48.9 -6.0
HHC PCP PcP 13 10 32.0 +4.0
HHC eS **S 13 12 51.1 -1.8**
HHC SCP ScP 13 14 12.4 +3.8
HHC PCS PcS 13 14 16.0 +3.0
HHC SCS ScS 13 18 08.9 +1.0
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
HHC AMB AMB
comp=Z,90nm,5.6s
HHC LR LR
comp=N,110nm,12.9s,MS3.9
HHC LR LR
comp=E,130nm,13.1s,MS3.9
HHC LR LR
comp=Z,130nm,16.4s,MS3.7
AAK Ala-Archa 33.35 336 c i P **P 13 07 50.3 +0.8**
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
AAK MLR MLR
comp=Z,100nm,18.0s,MS3.6
AAK Ala-Archa 33.35 336 eP **P 13 07 50.0 +0.5**
comp=Z,4.6nm,0.8s,mb4.5
WSAR Wadi Sarin 33.61 292 LR LR 13 21 23.4
comp=Z,153nm,18.8s,MS3.7,baz=295,slow=36
MK31 Makanchi Array 34.73 348 P **P 13 08 01.3 -0.2**
MK31 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MKAR Makanchi Array 34.73 348 P **P 13 08 01.1 -0.5**
comp=Z,7.6nm,0.8s,mb4.7,baz=164,slow=8.7,SNR=50
MKAR Makanchi Array 34.73 348 ⇑ i P **P 13 08 01.6 +0.1**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
KK31 Karatay Array 35.45 332 i P **P 13 08 07.8 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KKAR Karatay Array 35.45 332 i P **P 13 08 07.8 +0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
JOW Kunigami 36.26 62 P **P 13 08 15.1 +0.5**
comp=Z,6.5nm,0.4s,mb5.0,baz=110,slow=20,SNR=7.1
SONM Songino Array 36.62 16 P **P 13 08 17.8 +0.1**
comp=Z,1.7nm,0.7s,mb4.0,baz=200,slow=7.3,SNR=12
SONM PcP PcP 13 10 40.2 0.0
comp=Z,0.9nm,0.7s,baz=197,slow=1.5,SNR=3.8
SONM LR LR 13 23 57.6
comp=Z,61nm,21.6s,MS3.4,baz=192,slow=37
SONM Songino Array 36.62 16 P **P 13 08 17.8 +0.1**
SONM 13 10 40.2
ULN Ulaanbaatar 36.83 16 P **P 13 08 18.7 -0.8**
ULN e* PP pP 13 08 29.5 -1.0
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
ULN Ulaanbaatar 36.83 16 P **P 13 08 18.7 -0.8**
comp=Z,4.7nm,0.9s,mb4.3
ULN ep P pP 13 08 29.5 -1.0
ZAK Zakamensk 38.30 11 eP **P 13 08 31.4 -0.6**
ZAK e pP 13 08 42.4 -0.7
ZAK e 13 10 46.0
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb3.9
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb3.9
KURK Kurchatov 39.24 346 eP **P 13 08 39.2 -0.6**
KURK e* PP pP 13 08 51.7 +0.7
KURK pmax pmax
comp=Z,6.0nm,0.3s,mb4.8
KURK Kurchatov 39.24 346 eP **P 13 08 39.2 -0.7**
comp=Z,6.0nm,0.3s,mb4.8
KURK ep P pP 13 08 51.7 +0.7
KS15 Wonju Array Si 39.89 46 eP **P 13 08 44.9 -0.3**
KS15 ep P pP 13 08 54.9 -1.5
ZAL Zalesovo 41.27 353 P **P 13 08 55.5 -1.1**
comp=Z,2.7nm,0.3s,mb4.3,baz=294,slow=11
ZAL LR LR 13 28 23.5
comp=Z,65nm,20.5s,MS3.5,baz=38,slow=40
CN2 Changchun 41.75 36 eP **P 13 09 02.4 +1.8**
CN2 eAP pP 13 09 13.0 +1.2
CN2 eS **S 13 15 16.9 +1.9**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,12.0s,MS4.4
CN2 LR LR
comp=E,200nm,12.0s,MS4.4
CN2 LR LR
comp=Z,200nm,15.0s,MS4.1
NVS Novosibirsk 42.34 352 eP **P 13 09 03.0 -2.4**
CIT Chita 42.46 19 eP pP 13 09 16.6 -1.0
MBWA Marble Bar 43.28 141 P **P 13 09 12.1 -0.8**
comp=Z,31nm,1.6s,mb4.8
BRVK Borovoye 43.67 341 eP **P 13 09 15.8 -0.3**
BRVK e* PP pP 13 09 28.2 +0.8
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BRVK Borovoye 43.67 341 eP **P 13 09 15.8 -0.3**
comp=Z,2.7nm,0.6s,mb4.2
BRVK ep P pP 13 09 28.2 +0.9
ZRNK Zerenda 44.00 340 eP **P 13 09 18.3 -0.5**
ZRNK e* PP pP 13 09 27.4 -2.6
ZRNK pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ZRNK Zerenda 44.00 340 eP **P 13 09 18.3 -0.5**
comp=Z,3.1nm,0.8s,mb4.1
ZRNK ep P pP 13 09 27.4 -2.6
CHKZ Chkalovo 44.09 341 eP **P 13 09 19.5 0.0**
CHKZ e* PP pP 13 09 30.2 -0.6
CHKZ pmax pmax
comp=Z,12nm,0.6s,mb4.8
CHKZ Chkalovo 44.09 341 eP **P 13 09 19.5 0.0**
comp=Z,12nm,0.6s,mb4.8
CHKZ ep P pP 13 09 30.2 -0.5
MDJ Mudanjiang 44.66 38 P **P 13 09 24.5 +0.5**
MDJ AMB AMB
comp=Z,60nm,6.2s
AB31 Akbulak array 44.95 330 i P **P 13 09 26.5 +0.2**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
FITZ Fitzroy Crossi 45.06 133 eP **P 13 09 26.2 -1.0**
comp=Z,20nm,0.6s,mb5.1
FITZ Fitzroy Crossi 45.06 133 P **P 13 09 25.9 -1.3**
comp=Z,12nm,0.8s,mb4.8,baz=298,slow=7.3,SNR=23
MAJO Matsushiro 47.16 52 P **P 13 09 44.0 +0.3**
MAJO e* PP pP 13 09 54.1 -1.0
MAJO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MAJO Matsushiro 47.16 52 P **P 13 09 44.0 +0.3**
comp=Z,7.9nm,0.8s,mb4.7
MAJO ep P pP 13 09 54.1 -0.9
MJAR Matsushiro Arr 47.16 52 P **P 13 09 43.6 -0.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=246,slow=6.6,SNR=3.6
MJAR PcP PcP 13 11 15.0 +0.1
comp=Z,1.1nm,0.5s,baz=255,slow=3.3,SNR=2.9
MJAR LR LR 13 32 56.9
comp=Z,100nm,18.7s,MS3.8,baz=255,slow=40
MJAR Matsushiro Arr 47.16 52 P **P 13 09 43.6 -0.1**
MJAR 13 11 15.0
ORR Orenburg 49.01 330 ⇓ i P **P 13 09 58.3 +0.3**
ORR pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
GNI Garni 49.71 312 P **P 13 10 04.5 +1.2**
comp=Z,9.0nm,0.6s,mb5.0,baz=90,slow=11,SNR=5.9
GNI Garni 49.71 312 eP **P 13 10 04.8 +1.5**
GNI pmax pmax
comp=Z,11nm,0.8s
GNI Garni 49.71 312 eP **P 13 10 04.8 +1.4**
comp=Z,11nm,0.8s,mb4.9
MUN Mundaring 50.21 154 eP **P 13 10 07.6 +0.4**
ARU Arti 50.53 336 ⇑ eP **P 13 10 09.0 -0.6**
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
ARU MLR MLR
comp=Z,300nm,32.0s,MS4.1
ARU Arti 50.53 336 P **P 13 10 08.7 -0.9**
KLBR Kellerberrin 50.57 152 eP **P 13 10 09.8 -0.1**
comp=Z,5.7nm,0.6s,mb4.7
ZEI Tsey 51.19 315 eP **P 13 10 14.6 +0.1**
ZEI e* PP pP 13 10 26.1 +0.1
ZEI pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
NWAO Narrogin (SRO) 51.47 153 eP **P 13 10 16.4 -0.2**
KIV Kislovodsk 52.43 316 eP **P 13 10 24.2 +0.4**
KIV e* PP pP 13 10 36.5 +1.2
KIV Kislovodsk 52.43 316 eP **P 13 10 24.2 +0.4**
KIV ep P pP 13 10 36.5 +1.3
WRA Warramunga Arr 52.67 128 P **P 13 10 24.6 -0.9**
comp=Z,5.7nm,0.7s,mb4.6,baz=316,slow=8.0,SNR=98
WRA PcP PcP 13 11 35.5 +0.4
comp=Z,0.8nm,0.7s,baz=313,slow=3.5,SNR=2.7
WRAB Tennant Creek 52.67 128 eP **P 13 10 24.9 -0.7**
WRAB pmax pmax
comp=Z,14nm,0.8s,mb4.9
WRAB Tennant Creek 52.67 128 eP **P 13 10 24.9 -0.7**
comp=Z,14nm,0.8s,mb4.9
WB2 Warramunga Arr 52.68 128 eP **P 13 10 25.0 -0.7**
YSS Yuzh-Sakhalins 53.90 41 i P **P 13 10 29.6 -5.0**
YSS Yuzh-Sakhalins 53.90 41 ep P pP 13 10 43.8 -2.3
MALT Malatya 53.92 308 eP **P 13 10 35.6 +0.8**
MALT e* PP pP 13 10 47.4 +1.1
SOC Sochi 54.34 315 eP **P 13 10 37.2 -0.7**
SOC e 13 12 39.1
SOC eS **S 13 18 14.0 +0.9**
SOC pmax pmax
comp=Z,13nm,0.8s,mb4.9
ASPA Alice Springs 54.54 132 eP **P 13 10 38.7 -0.6**
AS31 Alice Springs 54.54 132 eP **P 13 10 38.7 -0.6**
ASAR Alice Springs 54.54 132 P **P 13 10 38.9 -0.4**
comp=Z,4.0nm,0.8s,mb4.5,baz=309,slow=6.9,SNR=52
ASAR PcP PcP 13 11 42.3 +0.1
comp=Z,0.7nm,0.5s,baz=305,slow=5.8,SNR=2.8
FORT Forrest 55.41 142 eP **P 13 10 46.0 +0.5**
comp=Z,7.4nm,0.6s,mb4.9
EIL Elat 55.50 297 eP **P 13 10 46.6 +0.4**
comp=Z,118nm,0.8s,mb6.0
EIL ep P pP 13 10 59.5 +1.7
YAK Yakutsk 55.73 20 i P **P 13 10 46.8 -1.1**
ANN Anapa 56.27 315 eP **P 13 10 49.2 -2.5**
ANN e* PP pP 13 10 59.7 -3.6
ANN e 13 11 45.2
ANN eS **S 13 18 36.0 -2.8**
ANN pmax pmax
comp=Z,11nm,0.7s,mb5.0
KMBO Kilima Mbogo 56.48 260 LR LR 13 31 48.5
comp=Z,84nm,18.2s,MS3.9,baz=96,slow=32
KMBO Kilima Mbogo 56.48 260 ⇑ eP **P 13 10 57.2 +4.0**
BR131 Keskin Array S 57.86 309 eP **P 13 11 02.7 -0.2**
comp=Z,4.8nm,0.8s,mb4.6
BR131 ep P pP 13 11 14.2 -0.4
BRTR Keskin Array B 57.86 309 ⇑ eP **P 13 11 02.5 -0.4**
comp=Z,5.7nm,0.8s,mb4.7,baz=120,slow=7.3,SNR=36
BRTR Keskin Array B 57.86 309 ⇑ eP **P 13 11 02.5 -0.4**
PMG Port Moresby 58.74 110 eP **P 13 11 09.3 +0.2**
PMG e* PP pP 13 11 20.8 0.0
OBN Obninsk 60.16 327 i P **P 13 11 18.2 -0.7**
OBN eS **S 13 19 31.2 +1.6**
OBN pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
CTAO Charters Tower 62.34 121 P **P 13 11 33.5 -0.2**
CTAO pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
CTAO Charters Tower 62.34 121 P **P 13 11 33.5 -0.1**
comp=Z,8.7nm,1.2s,mb4.8
TIRR Tirgusor 62.48 313 ⇓ i P **P 13 11 34.7 +0.1**
TIRR Tirgusor 62.48 313 ⇓ P **P 13 11 34.7 +0.1**
TIXI Tiksi 62.57 12 eP **P 13 11 32.2 -3.0**
TIXI e pP 13 11 42.7 -4.2
TIXI e 13 20 16.3
TIXI pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
TIXI Tiksi 62.57 12 eP **P 13 11 33.9 -1.4**
TIXI ep P pP 13 11 44.4 -2.5
CFR Carcaliu 62.79 314 ⇑ i P **P 13 11 36.9 +0.3**
CFR Carcaliu 62.79 314 ⇑ P **P 13 11 36.9 +0.3**
AKASG Malin Array Be 63.12 320 P **P 13 11 37.7 -1.1**
comp=Z,3.4nm,0.7s,mb4.6,baz=87,slow=6.0,SNR=13
AKASG Malin Array Be 63.12 320 P **P 13 11 37.7 -1.1**
VRI Vrincioaia 63.87 315 ⇑ i P **P 13 11 45.0 +1.2**
VRI Vrincioaia 63.87 315 ⇑ P **P 13 11 45.0 +1.2**
PLOR Plostina 63.92 315 ⇑ i P **P 13 11 45.5 +1.4**
MLR Muntele Rosu 64.36 314 ⇑ i P **P 13 11 48.2 +1.2**
MLR Muntele Rosu 64.36 314 ⇑ P **P 13 11 48.2 +1.2**
SNX Sinaia 64.64 314 ⇑ i P **P 13 11 38.1 -11**
SNX Sinaia 64.64 314 ⇑ P **P 13 11 38.1 -11**
STKA Stephens Creek 64.88 135 eP **P 13 11 48.4 -2.0**
comp=Z,2.7nm,0.7s,mb4.4
STKA Stephens Creek 64.88 135 P **P 13 11 48.3 -2.1**
comp=Z,2.5nm,0.6s,mb4.4,baz=307,slow=5.8,SNR=13
BURAR Bucovina Array 65.15 317 ⇑ i P **P 13 11 52.3 +0.2**
BURAR Bucovina Array 65.15 317 ⇑ P **P 13 11 52.3 +0.2**
JOF Joensuu 65.51 334 ep **P 13 11 53.2 -1.3**
comp=Z,9.8nm,0.6s,mb5.0
FINES FINESS Array B 67.41 332 P **P 13 12 05.5 -1.1**
comp=Z,6.1nm,0.7s,mb4.7,baz=102,slow=6.4,SNR=35
FINES LR LR 13 44 14.7
comp=Z,33nm,19.5s,MS3.6,baz=296,slow=38
FINES FINESS Array B 67.41 332 eP **P 13 12 05.8 -0.8**
KAF Kangasniemi 67.48 332 ep **P 13 12 06.5 -0.5**
comp=Z,6.5nm,0.6s,mb4.8,baz=103,slow=6.0
KAF Kangasniemi 67.48 332 eP **P 13 12 06.5 -0.5**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
STHS Stebnicka Huta 67.98 318 eP **P 13 12 10.2 -0.1**
STHS e pP 13 12 21.7 -0.4
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
STHS Stebnicka Huta 67.98 318 eP **P 13 12 10.2 -0.1**
comp=Z,2.6nm,0.7s,mb4.4
STHS e pP 13 12 21.7 -0.4
KECS Kecovo 68.40 317 eP **P 13 12 12.8 0.0**
KECS e pP 13 12 23.6 -1.1
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KECS Kecovo 68.40 317 eP **P 13 12 12.8 0.0**
comp=Z,2.8nm,0.8s,mb4.3
KECS e pP 13 12 23.6 -1.1
OJC Ojcow 68.99 319 eP **P 13 12 16.4 -0.1**
KEV Kevo 69.45 340 ep **P 13 12 18.2 -1.2**
LSZ Lusaka 69.49 248 eP **P 13 12 21.5 +1.9**
LSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LSZ Lusaka 69.49 248 eP **P 13 12 21.5 +1.9**
comp=Z,4.2nm,0.7s,mb4.5
PKSM Moragy 69.51 315 ⇑ i P **P 13 12 19.4 -0.3**
ARCES ARCESS Array B 69.89 340 P **P 13 12 21.7 -0.3**
comp=Z,4.2nm,0.7s,mb4.5,baz=88,slow=6.7,SNR=19
MORC Moravsky Berou 70.41 318 ⇑ i P **P 13 12 25.6 +0.3**
MORC Moravsky Berou 70.41 318 eP **P 13 12 25.8 +0.5**
MORC e* PP pP 13 12 36.9 -0.3
MORC pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MORC Moravsky Berou 70.41 318 eP **P 13 12 25.8 +0.5**
comp=Z,6.0nm,0.8s,mb4.6
MORC ep P pP 13 12 36.9 -0.3
DPC Dobruska-Polom 71.22 319 eP **P 13 12 30.8 +0.6**
UPC Upice 71.43 319 eP **P 13 12 31.8 +0.3**
UPC ep P pP 13 12 41.7 -1.6
BILL Bilibino 71.98 22 i P **P 13 12 38.8 +4.0**
PRU Pruhonice 72.36 319 eP **P 13 12 36.8 -0.2**
BRG Berggiesshubel 72.75 319 eP **P 13 12 39.7 +0.3**
comp=Z,7.0nm,1.1s,mb4.5
BRG Berggiesshubel 72.75 319 eP **P 13 12 39.7 +0.3**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
RUE Ruedersdorf 72.88 321 eP **P 13 12 40.3 +0.2**
comp=Z,14nm,0.9s,mb4.9
GEC2 GERESS Array S 72.91 317 eP **P 13 12 40.3 0.0**
comp=Z,6.0nm,1.0s,mb4.5
GEC2 GERESS Array S 72.91 317 eP **P 13 12 40.3 0.0**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GERES GERESS Array B 72.91 317 P **P 13 12 40.5 +0.3**
comp=Z,4.1nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=24
KHC Kasperske Hory 72.98 318 eP **P 13 12 40.5 -0.3**
KHC ep P pP 13 12 52.5 -0.2
CLL Collm 73.35 320 eP **P 13 12 42.9 0.0**
CLL Collm 73.35 320 i P **P 13 12 42.5 -0.4**
comp=Z,6.0nm,0.9s,mb4.5
CLL Collm 73.35 320 i P **P 13 12 42.5 -0.4**
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WET Wettzell 73.44 318 eP **P 13 12 43.7 +0.2**
comp=Z,7.0nm,1.3s,mb4.4
WET Wettzell 73.44 318 eP **P 13 12 43.7 +0.2**
WET pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
ROTZ Rotzenmuhle 73.87 318 eP **P 13 12 46.7 +0.7**
comp=Z,8.0nm,1.3s,mb4.5
MANZ Manzenberg 73.93 319 eP **P 13 12 47.2 +0.9**
comp=Z,6.0nm,0.9s,mb4.5
NB2 NORSAR Subarra 74.45 330 P **P 13 12 48.3 -1.1**
comp=Z,2.6nm,0.6s,mb4.3,baz=90,slow=5.9
NOA NORSAR Array B 74.45 330 P **P 13 12 48.4 -1.0**
comp=Z,4.1nm,0.7s,mb4.5,baz=91,slow=5.7,SNR=11
NOA LR LR 13 50 45.9
comp=Z,34nm,18.3s,MS3.7,baz=280,slow=40
GRA1 Grafenberg Arr 74.51 318 eP **P 13 12 50.4 +0.7**
comp=Z,6.0nm,0.6s,mb4.7
GRF Grafenberg Arr 74.51 318 eP **P 13 12 50.4 +0.7**
comp=Z,6.0nm,0.6s,mb4.7
GRF Grafenberg Arr 74.51 318 eP **P 13 12 50.4 +0.7**
GRF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CLZ Clausthal 74.98 320 eP **P 13 12 52.4 0.0**
comp=Z,5.0nm,0.7s,mb4.5
CLZ Clausthal 74.98 320 eP **P 13 12 52.4 0.0**
CLZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LBTB Lobatse 75.29 240 eP **P 13 12 56.8 +2.6**
LBTB pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LBTB Lobatse 75.29 240 eP **P 13 12 56.8 +2.6**
comp=Z,6.5nm,0.6s,mb4.7
IBBN Ibbenburen 76.57 321 eP **P 13 13 01.7 +0.2**
comp=Z,6.0nm,0.7s,mb4.6
BOSA Boshof 76.94 236 P **P 13 13 04.9 +1.3**
comp=Z,9.1nm,0.6s,mb4.8,baz=57,slow=6.0,SNR=20
BOSA Boshof 76.94 236 eP **P 13 13 05.5 +1.9**
BOSA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BOSA Boshof 76.94 236 eP **P 13 13 05.5 +1.9**
comp=Z,9.9nm,0.7s,mb4.8
LPG La Plagne 77.83 314 eP **P 13 13 08.7 +0.2**
comp=Z,12nm,0.8s,mb4.6
LPG La Plagne 77.83 314 eP **P 13 13 08.7 +0.2**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LPG La Plagne 77.83 314 eP **P 13 13 08.7 +0.2**
comp=Z,6.3nm,0.8s,mb4.6
SUR Sutherland 81.90 234 eP **P 13 13 32.3 +1.7**
comp=Z,16nm,0.9s,mb5.0
MAW Mawson 83.21 191 P **P 13 13 38.2 +0.8**
comp=Z,2.0nm,0.5s,mb4.4,baz=342,slow=6.8,SNR=5.3
MAW Mawson 83.21 191 eP **P 13 13 38.2 +0.8**

MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 83.21 191 *e*P **P 13 13 38.2 +0.8**
comp=Z,3.3nm,0.7s,mb4.5
ESDC Sonseca Array 86.64 310 *e*P **P 13 13 54.4 -0.2**
comp=Z,0.7nm,0.5s,mb4.2,baz=59,slow=4.4,SNR=5.4
ESLA Sonseca Array 86.64 310 P **P 13 13 58.9 +4.3**
comp=Z,1.6nm,1.0s,mb4.2
TORD Torodi Ar. Bea 87.79 283 P **P 13 14 01.4 +1.2**
comp=Z,2.9nm,0.6s,mb4.7,baz=85,slow=4.7,SNR=34
SYO Syowa Base 89.80 197⇑ *e*P **P 13 14 10.0 +0.3**
INK Inuvik 92.54 16 *e*P **P 13 14 21.2 -1.1**
INK *e**PP pP 13 14 33.2 -1.4
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 92.54 16 *e*P **P 13 14 21.1 -1.2**
comp=Z,5.5nm,1.1s,mb4.9
INK *e*pP pP 13 14 33.2 -1.4
DAWY Dawson 93.67 20 P **P 13 14 27.0 -0.6**
DBIC Dimbokro 95.56 278 P **P 13 14 37.5 +1.3**
comp=Z,3.1nm,1.0s,mb4.7,baz=236,slow=13,SNR=3.7
DBIC Dimbokro 95.56 278 P **P 13 14 35.7 -0.5**
PDAR Pinedale Array 120.94 19 PKP PKPdf 13 20 02.4 -0.9
comp=Z,0.5nm,0.5s,baz=146,slow=2.7,SNR=5.6
NVAR Mina Array Bea 121.30 28 PKPbc PKPdf 13 20 05.1 +1.1
comp=Z,1.0nm,0.6s,baz=336,slow=1.3,SNR=9.1
PLCA Paso Flores 148.61 205 PKPbc PKPbc 13 20 58.7 +0.7
comp=Z,3.6nm,0.9s,baz=328,slow=5.2,SNR=7.9
LPAZ La Paz 160.91 258 PKPab PKPab 13 21 54.5 +0.7
comp=Z,2.7nm,1.1s,baz=86,slow=4.5,SNR=5.5

*CSEM **03** 13:05:23.2±0.2, 3792N×9.33W, h15km, ML2.2, Error ellipse: s-maj=5.5km s-min=2.4km az=62.0*
*IGIL **03** 13:05:24.8, 3788N×9.39W, h13km, ML2.4*
*NEIC **03** 13:05:24.1, 3796N×9.34W, h0km, MN2.7(MDD), After MDD.*
*MDD **03** 13:05:24.3±1.1, 3784N×945W, h43km±13km, mb3.3/11, Error ellipse: s-maj=8.6km s-min=3.2km az=67.0, PRXIMO*
*ISCJB **03** 13:05:25.0±0.8, 3798N±003×9.16W±006, h10km, Error ellipse: s-maj=7.3km s-min=3.0km az=139.3*
*INMG **03** 13:05:26.0±0.8, 3788N×9.39W, h13km±2km, ML2.2, Error ellipse: s-maj=4.2km s-min=1.5km az=69.0*

ISC 03 13:05:25.8±0.8, 3791N±003×932W±006, h27km±5km, n50, σ0§98/98, 1D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.59**	**127**	*i* Pg	**Pb**	**13 05 37.4**	**-0.2**
PTEO				*e*Sg	**Sb**	**13 05 46.0**	**+0.3**
PTEO	130nm,0.3s						
PTEO	**Sao Teotonio**	**0.59**	**127**	*e*Sg	**Sb**	**13 05 46.0**	**+0.3**
PTEO	130nm,0.3s						
MORF	**Marmelete**	**0.80**	**138**	*e*P	**Pb**	**13 05 39.5**	**-1.6**
MORF				*e*S	**Sb**	**13 05 49.9**	**-1.7**
MORF				*e*S	**Sb**	**13 05 49.9**	**-1.6**
MORF				AML	AML	13 05 50.9	
MORF	comp=N,65nm,0.1s						
MORF	**Marmelete**	**0.80**	**138**	*e*P	**Pb**	**13 05 39.5**	**-1.6**
MORF				*e*S	**Sb**	**13 05 49.9**	**-1.6**
LIS	**Lisbon**	**0.82**	**9**	*e*P	**Pb**	**13 05 40.0**	**-1.5**
LIS				*e*S	**Sb**	**13 05 51.1**	**-1.0**
LIS				*e*S	**Sb**	**13 05 51.1**	**-1.0**
LIS				AML	AML	13 05 56.3	
LIS	comp=E,172nm,0.1s						
LIS	**Lisbon**	**0.82**	**9**	*e*P	**Pb**	**13 05 40.0**	**-1.4**
LIS				*e*S	**Sb**	**13 05 51.1**	**-1.0**
MOE	**Montemor**	**0.98**	**51**	*e*P	**Pn**	**13 05 44.6**	**+0.8**
MOE				*e*S	**Sb**	**13 05 58.7**	**+2.0**
PLOU	**Loures**	**0.99**	**8**	*e*P	**Pn**	**13 05 44.2**	**+0.4**
PLOU				*e*S	**Sb**	**13 05 58.2**	**+1.4**
PLOU	comp=E,54nm,0.1s						
PLOU	**Loures**	**0.99**	**8**	*e*P	**Pn**	**13 05 44.2**	**+0.4**
PLOU				*e*S	**Sb**	**13 05 58.2**	**+1.4**
PLOU	comp=E,54nm,0.1s						
PBEJ	**Beja**	**1.16**	**84**	*e*P	**Pn**	**13 05 47.1**	**+0.9**
PBEJ				*e*S	**Sn**	**13 06 02.6**	**+1.5**
PBEJ	comp=E,22nm,0.1s						
PBEJ	**Beja**	**1.16**	**84**	*e*P	**Pn**	**13 05 47.1**	**+0.9**
PBEJ				*e*S	**Sn**	**13 06 02.6**	**+1.5**
PBEJ	comp=E,22nm,0.1s						
ALMR	**Almeirim**	**1.38**	**25**	*e*P	**Pn**	**13 05 48.4**	**-0.8**
ALMR				*e*S	**Sn**	**13 06 06.0**	**-0.5**
ALMR				*e*S	**Sn**	**13 06 06.0**	**-0.5**
ALMR				AML	AML	13 06 10.7	
ALMR	comp=E,42nm,0.3s						
ALMR	**Almeirim**	**1.38**	**25**	*e*P	**Pn**	**13 05 48.4**	**-0.8**
ALMR				*e*S	**Sn**	**13 06 06.0**	**-0.5**
EGRO	**El Granado**	**1.50**	**104**	⇓P	**Pn**	**13 05 50.5**	**-0.5**
EGRO	comp=E,0.5nm,0.0s,SNR=18			S	**Sn**	**13 06 09.5**	**-0.2**
EGRO	comp=E,7.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.50**	**104**	P	**Pn**	**13 05 50.5**	**-0.5**
EGRO	comp=E,3.8nm,0.1s,SNR=18			S	**Sn**	**13 06 09.5**	**-0.2**
EGRO	comp=E,7.3nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**1.85**	**22**	*e*Pn	**Pn**	**13 05 56.1**	**+0.4**
PTOM				*e*Sn	**Sn**	**13 06 19.3**	**+1.0**
PTOM	comp=E,14nm,0.1s						
PTOM	**Tomar**	**1.85**	**22**	*e*Pn	**Pn**	**13 05 56.1**	**+0.4**
PTOM				*e*Sn	**Sn**	**13 06 19.3**	**+1.0**
PTOM	comp=E,14nm,0.1s						
EBAD	**Badajoz**	**2.00**	**64**	P	**Pn**	**13 05 58.4**	**+0.5**
EBAD	comp=E,0.0nm,0.0s,SNR=13			S	**Sn**	**13 06 22.9**	**+0.9**
EBAD	comp=E,15nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.00**	**64**	P	**Pn**	**13 05 58.3**	**+0.5**
EBAD				S	**Sn**	**13 06 22.9**	**+0.9**
EBAD	comp=E,15nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.10**	**93**	P	**Pn**	**13 05 58.9**	**-0.3**
EMIN	comp=E,0.3nm,0.1s,SNR=19			S	**Sn**	**13 06 25.6**	**+1.2**
EMIN	comp=E,2.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.10**	**93**	P	**Pn**	**13 05 58.9**	**-0.3**
EMIN				S	**Sn**	**13 06 25.6**	**+1.2**
EMIN	**Mina Concepcio**	**2.10**	**93**	P	**Pn**	**13 05 58.8**	**-0.4**
EMIN				S	**Sn**	**13 06 25.6**	**+1.2**
EMIN	comp=E,2.9nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**2.41**	**36**	*e*Pn	**Pn**	**13 06 04.2**	**+0.8**
PCBR				*e*Sn	**Sn**	**13 06 32.5**	**+0.5**
PCBR	comp=E,4.7nm,0.1s						
PCBR	**Castelo Branco**	**2.41**	**36**	*e*Pn	**Pn**	**13 06 04.2**	**+0.8**
PCBR				*e*Sn	**Sn**	**13 06 32.5**	**+0.5**
PCBR	comp=E,4.7nm,0.1s						
MTE	**Manteigas**	**2.85**	**28**	*e*Pn	**Pn**	**13 06 10.3**	**+0.9**
MTE				*e*Sn	**Sn**	**13 06 43.1**	**+0.3**
MTE	comp=E,2.9nm,0.2s						
ESPR	**Espera**	**2.95**	**110**	P	**Pn**	**13 06 11.1**	**+0.3**
ESPR	comp=E,0.1nm,0.1s,SNR=8.2			S	**Sn**	**13 06 46.1**	**+0.8**
ESPR	comp=E,6.5nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.95**	**110**	P	**Pn**	**13 06 11.1**	**+0.3**
ESPR	comp=E,1.4nm,0.1s,SNR=8.2			S	**Sn**	**13 06 46.1**	**+0.8**
ESPR	comp=E,6.5nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**3.02**	**21**	*e*Pn	**Pn**	**13 06 12.3**	**+0.6**
PVIS				*e*Sn	**Sn**	**13 06 46.5**	**-0.5**
PVRL	**Vila Real**	**3.59**	**20**	*e*Pn	**Pn**	**13 06 19.7**	**+0.1**
PVRL				*e*Sn	**Sn**	**13 07 00.3**	**-0.8**
PVRL	comp=E,20nm,0.1s						
EADA	**Adamuz**	**3.75**	**85**	P	**Pn**	**13 06 22.6**	**+0.7**
EADA	comp=E,0.0nm,0.1s,SNR=9.4			S	**Sn**	**13 07 04.6**	**-0.6**
EADA	comp=E,5.7nm,0.1s,SNR=9.3						
EADA	**Adamuz**	**3.75**	**85**	P	**Pn**	**13 06 22.6**	**+0.7**
EADA	comp=E,1.2nm,0.1s,SNR=9.4			S	**Sn**	**13 07 04.6**	**-0.6**
EADA	comp=E,5.7nm,0.1s,SNR=9.3						
EMIJ	**Mijas**	**3.87**	**109**	P	**Pn**	**13 06 23.4**	**-0.1**
EMIJ	comp=E,0.0nm,0.0s,SNR=7.9			S	**Sn**	**13 07 07.8**	**-0.2**
EMIJ	comp=E,0.8nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**3.93**	**14**	*e*Pn	**Pn**	**13 06 24.3**	**0.0**
ELOB	**Lobios**	**4.07**	**13**	P	**Pn**	**13 06 26.4**	**+0.1**
ELOB	comp=E,0.6nm,0.1s,SNR=9.9			S	**Sn**	**13 07 10.5**	**-2.6**
ELOB	comp=E,3.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**4.07**	**13**	P	**Pn**	**13 06 26.4**	**+0.1**
ELOB	comp=E,0.9nm,0.0s,SNR=9.9			S	**Sn**	**13 07 10.5**	**-2.6**
ELOB	comp=E,3.3nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**4.37**	**26**	*e*Pn	**Pn**	**13 06 30.8**	**+0.4**
PBRG				*e*Sn	**Sn**	**13 07 19.3**	**-1.1**
PBRG	comp=E,3.4nm,0.1s						
ECAL	**Calabor**	**4.49**	**25**	P	**Pn**	**13 06 32.4**	**+0.4**
ECAL	comp=E,0.8nm,0.1s,SNR=14			S	**Sn**	**13 07 21.8**	**-1.6**
ECAL	comp=E,1.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**4.49**	**25**	P	**Pn**	**13 06 32.4**	**+0.3**
ECAL	comp=E,3.4nm,0.1s,SNR=14			S	**Sn**	**13 07 21.8**	**-1.6**
ECAL	comp=E,1.9nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.54**	**65**	P	**Pn**	**13 06 33.5**	**+0.7**
ESDC	comp=E,0.8nm,0.2s,baz=252,slow=13,SNR=6.0			S	**Sn**	**13 07 24.4**	**-0.2**
ESDC	comp=E,0.8nm,0.3s,baz=251,slow=23,SNR=8.3						
ESDC	**Sonseca Array**	**4.54**	**65**	P	**Pn**	**13 06 33.5**	**+0.8**
ESDC	comp=E,0.8nm,0.2s,SNR=6.0			S	**Sn**	**13 07 24.4**	**-0.3**
ESDC	comp=E,0.8nm,0.3s,SNR=8.3						
ESLA	**Sonseca Array**	**4.54**	**65**	*e*Pn	**Pn**	**13 06 33.3**	**+0.6**
ESLA				*e*S	**Sn**	**13 07 22.2**	**-2.5**
ESLA	**Sonseca Array**	**4.54**	**65**	*e*Pn	**Pn**	**13 06 33.3**	**+0.6**
ETOB	**Tobarra**	**6.16**	**81**	P	**Pn**	**13 06 54.5**	**-0.5**
ETOB	comp=E,0.2nm,0.1s,SNR=6.2			S	**Sn**	**13 08 03.7**	**-0.9**
ETOB	comp=E,0.2nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.16**	**81**	P	**Pn**	**13 06 54.5**	**-0.5**
ETOB				S	**Sn**	**13 08 02.1**	**-2.4**
ETOB	**Tobarra**	**6.16**	**81**	P	**Pn**	**13 06 54.5**	**-0.5**
ETOB	comp=E,0.1nm,0.1s,SNR=6.2			S	**Sn**	**13 08 02.1**	**-2.4**
ETOB	SNR=7.9						
EARI	**Arriondas**	**6.23**	**29**	P	**Pn**	**13 06 57.0**	**+1.1**
EARI	comp=E,0.2nm,0.1s,SNR=7.8			S	**Sn**	**13 08 05.8**	**-0.5**
EARI	comp=E,0.2nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**6.23**	**29**	P	**Pn**	**13 06 57.0**	**+1.1**
EARI	**Arriondas**	**6.23**	**29**	P	**Pn**	**13 06 57.0**	**+1.1**
ETOR	**Torete**	**6.34**	**60**	P	**Pn**	**13 06 58.5**	**+1.1**
ETOR	comp=E,0.2nm,0.0s,SNR=7.9			S	**Sn**	**13 08 06.3**	**-2.5**
ETOR	comp=E,2.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**6.34**	**60**	P	**Pn**	**13 06 58.5**	**+1.1**
ETOR				S	**Sn**	**13 08 05.5**	**-3.4**

*IDC **03** 13:11:44.1±1.1, 2496N×9550E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=48.7km s-min=21.3km az=57.0*
*ISCJB **03** 13:11:47.2±1.0, 249N±02×956E±0.1, h33km, mb3.6/5, Error ellipse: s-maj=23.4km s-min=11.6km az=34.6*

ISC 03 13:11:49.7±1.0, 250N±02×956E±01, h35km, n6, σ0§39/7, mb3.6/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.38**	**280**	*i* PN	**Pn**	**13 12 49.0**	**+9.0**
SHL				*e*SN	**Sn**	**13 13 19.0**	**+0.1**
MKAR	**Makanchi Array**	**24.18**	**337**	P	**P**	**13 17 03.3**	**+0.6**
SONM	**Songino Array**	**24.34**	**18**	P	**P**	**13 17 04.0**	**-0.2**
BRTR	**Keskin Array B**	**53.35**	**302**	P	**P**	**13 21 04.8**	**-0.7**
WRA	**Warramunga Arr**	**58.47**	**136**	P	**P**	**13 21 42.2**	**+0.1**
ASAR	**Alice Springs**	**61.01**	**139**	P	**P**	**13 21 59.8**	**+0.1**

*IDC **03** 13:14:16.6±0.9, 2675N×5564E, h0km, mb4.0/10, mb1 4.0/11, mb1mx3.9/23, mbtmp4.0/11, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/19, Error ellipse: s-maj=20.9km s-min=17.7km az=126.0*
*ISCJB **03** 13:14:17.5±0.3, 2683N±003×5587E±005, h10km, mb4.0/15, Error ellipse: s-maj=7.2km s-min=3.0km az=131.4*
*CSEM **03** 13:14:17.3±0.1, 2671N×5589E, h18km, mb4.1/5, Error ellipse: s-maj=3.4km s-min=2.4km az=60.0*
*THR **03** 13:14:18.0±0.5, 2681N×5610E, h11km±3km, ML3.8*
*TEH **03** 13:14:18.6, 2641N×5593E, h34km, Mn4.0*
*NEIC **03** 13:14:18.6, 2641N×5593E, h34km, mb4.0/7, ML3.8(THR), MN4.0(TEH), After TEH.*
*MOS **03** 13:14:19.0±1.7, 2654N×5587E, h33km, mb4.4/5, Error ellipse: s-maj=14.7km s-min=9.4km az=108.5*
*OMAN **03** 13:14:34.2, 2574N×5644E, h6km±65km, Error ellipse: s-maj=48.8km s-min=17.7km az=267.0*

ISC 03 13:14:19.2±0.3, 2682N±003×5590E±005, h10km, n85, σ1§35/132, mb4.0/15, 3C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.63**	**23**	*e*Pg	**Pg**	**13 14 29.8**	**-1.6**
BNDS				AML	AML	13 14 58.3	
BNDS	comp=E,5μm,0.5s						
BANOM	**Banah**	**0.96**	**158**	⇓P	**Pg**	**13 14 37.3**	**-0.3**
BANOM	SNR=342			⇑S	**Sg**	**13 14 51.6**	**+1.4**
ASHO	**Ashiyiah**	**2.13**	**176**	P	**Pn**	**13 14 55.5**	**+0.8**
ASHO	**Ashiyiah**	**2.13**	**176**	P	**Pn**	**13 14 55.5**	**+0.7**
GHIR	**Ghir-Karzin**	**2.97**	**300**	*e*Pn	**Pn**	**13 15 09.2**	**+2.8**
GHIR				Sn	**Sn**	**13 15 46.9**	**+4.9**
GHIR				AML	AML	13 16 15.5	
GHIR	comp=E,433nm,1.1s						
GHIR				AML	AML	13 16 18.2	
GHIR	comp=N,306nm,0.5s						
GHIR	**Ghir-Karzin**	**2.97**	**300**	*e*Pn	**Pn**	**13 15 09.1**	**+2.8**
GHIR	SNR=47			Sn	**Sn**	**13 15 46.9**	**+4.9**
GHIR	comp=N,306nm,0.5s,SNR=47						
KRBR	**Kerman**	**3.24**	**13**	*e*Pn	**Pn**	**13 15 10.9**	**+0.8**
KRBR				Sn	**Sn**	**13 15 49.1**	**+0.3**
KRBR				AML	AML	13 16 03.3	
KRBR	comp=N,200nm,0.7s						
KRBR	**Kerman**	**3.24**	**13**	*e*Pn	**Pn**	**13 15 10.9**	**+0.8**
KRBR	SNR=47			Sn	**Sn**	**13 15 49.1**	**+0.3**
KRBR	SNR=47						
HOQ	**Hoqain**	**3.47**	**158**	⇑P	**Pn**	**13 15 10.9**	**-2.3**
ARQ	**Araqi**	**3.51**	**171**	⇓P	**Pn**	**13 15 14.3**	**+0.5**
ISRV	**Sarvestan**	**3.54**	**317**	*e*Pn	**Pn**	**13 15 15.6**	**+1.4**
ISRV				*e*Pn	**Pn**	**13 15 15.8**	**+1.6**
ISRV				*e*Pn	**Pn**	**13 15 15.9**	**+1.7**
ISRV				*e*Sn	**Sn**	**13 15 58.0**	**+1.8**
IMOK	**Mook**	**3.58**	**309**	*e*Pn	**Pn**	**13 15 15.2**	**+0.4**
IMOK				*e*Pn	**Pn**	**13 15 15.8**	**+1.0**
IMOK				*e*Pn	**Pn**	**13 15 16.7**	**+1.9**
IMOK				*e*Sn	**Sn**	**13 15 56.9**	**-0.3**
IMOK	**Mook**	**3.58**	**309**	Pn	**Pn**	**13 15 15.1**	**+0.3**
IMOK				Pn	**Pn**	**13 15 15.8**	**+1.0**
IMOK				Pn	**Pn**	**13 15 16.6**	**+1.8**
IMOK				Sn	**Sn**	**13 15 56.9**	**-0.3**
IMOK	**Mook**	**3.58**	**309**	Pn	**Pn**	**13 15 15.1**	**+0.3**
IMOK				*e*Sn	**Sn**	**13 15 56.9**	**-0.3**
BIDO	**Bidbid**	**3.85**	**148**	⇑P	**Pn**	**13 15 18.1**	**-0.4**
SMDO	**Samad**	**4.22**	**152**	⇓P	**Pn**	**13 15 23.5**	**-0.1**
WSAR	**Wadi Sarin**	**4.34**	**145**	Pn	**Pn**	**13 15 25.4**	**+0.2**
WSAR	comp=N,3.9nm,0.3s,baz=352,slow=11,SNR=53			Sn	**Sn**	**13 16 16.8**	**+0.9**
WSAR	comp=N,4.1nm,0.3s,baz=42,slow=19,SNR=4.1						
WSAR	**Wadi Sarin**	**4.34**	**145**	Pn	**Pn**	**13 15 25.4**	**+0.2**
WSAR				Sn	**Sn**	**13 16 16.8**	**+0.9**
IMEH	**Mehriz**	**4.69**	**346**	*e*Pn	**Pn**	**13 15 31.4**	**+1.4**
IMEH	**Mehriz**	**4.69**	**346**	Pn	**Pn**	**13 15 31.3**	**+1.3**
IBAF	**Bafgh**	**4.76**	**357**	*e*Pn	**Pn**	**13 15 31.6**	**+0.6**
IBAF				*e*Sn	**Sn**	**13 16 28.5**	**+2.2**
IBAF	**Bafgh**	**4.76**	**357**	Pn	**Pn**	**13 15 31.5**	**+0.5**
IBAF				Sn	**Sn**	**13 16 28.4**	**+2.1**
IBAF	**Bafgh**	**4.76**	**357**	*e*Pn	**Pn**	**13 15 31.6**	**+0.6**
IBAF				Sn	**Sn**	**13 16 28.4**	**+2.1**
JMDO	**Jabal Madar**	**4.86**	**155**	⇓P	**Pn**	**13 15 32.9**	**+0.5**
WBK	**Wadi Bani Khal**	**5.04**	**146**	⇓P	**Pn**	**13 15 34.7**	**0.0**
ISAD	**Sadrabad**	**5.43**	**340**	*e*Pn	**Pn**	**13 15 42.2**	**+2.0**
ISAD				*e*Pn	**Pn**	**13 15 43.0**	**+2.8**
ISAD				*e*Sn	**Sn**	**13 16 43.1**	**+0.4**
ISAD	**Sadrabad**	**5.43**	**340**	Pn	**Pn**	**13 15 42.2**	**+2.0**
ISAD				Pn	**Pn**	**13 15 42.9**	**+2.7**
ISAD				Sn	**Sn**	**13 16 43.0**	**+0.3**
IZEF	**Zefreh**	**6.80**	**334**	*e*Pn	**Pn**	**13 15 58.2**	**-0.8**
IZEF				*e*Pn	**Pn**	**13 15 58.7**	**-0.3**
IZEF				*e*Pn	**Pn**	**13 15 58.7**	**-0.3**
IZEF				*e*Sn	**Sn**	**13 17 15.7**	**-0.8**
IZEF	**Zefreh**	**6.80**	**334**	Pn	**Pn**	**13 15 58.2**	**-0.8**
IZEF				Pn	**Pn**	**13 15 58.7**	**-0.3**
IZEF				Sn	**Sn**	**13 17 15.6**	**-0.9**
IZEF	**Zefreh**	**6.80**	**334**	*e*Pn	**Pn**	**13 15 58.7**	**-0.3**
IZEF				*e*Sn	**Sn**	**13 17 15.7**	**-0.8**
IPIR	**Pirpir**	**7.29**	**325**	*e*Pn	**Pn**	**13 16 04.8**	**-0.8**
IPIR				*e*Pn	**Pn**	**13 16 05.6**	**0.0**
IPIR				*e*Pn	**Pn**	**13 16 05.6**	**0.0**
IPIR				*e*Sn	**Sn**	**13 17 25.6**	**-2.8**
IPIR	**Pirpir**	**7.29**	**325**	Pn	**Pn**	**13 16 04.8**	**-0.8**
IPIR				Pn	**Pn**	**13 16 05.5**	**-0.1**
IPIR				Sn	**Sn**	**13 17 25.5**	**-2.9**
IPIR	**Pirpir**	**7.29**	**325**	*e*Pn	**Pn**	**13 16 05.6**	**0.0**
IPIR				*e*Sn	**Sn**	**13 17 25.6**	**-2.8**
IKLH	**Kalahroud**	**7.48**	**331**	*e*Pn	**Pn**	**13 16 07.9**	**-0.4**
IKLH				*e*Pn	**Pn**	**13 16 08.2**	**-0.1**
IKLH				*e*Pn	**Pn**	**13 16 09.0**	**+0.7**
IKLH				*e*Sn	**Sn**	**13 17 30.5**	**-2.7**
IKLH	**Kalahroud**	**7.48**	**331**	Pn	**Pn**	**13 16 07.9**	**-0.4**
IKLH				Pn	**Pn**	**13 16 08.1**	**-0.2**
IKLH				Pn	**Pn**	**13 16 09.0**	**+0.7**
IKLH				Sn	**Sn**	**13 17 30.4**	**-2.8**
IKLH	**Kalahroud**	**7.48**	**331**	*e*Pn	**Pn**	**13 16 08.2**	**-0.1**
IKLH				*e*Sn	**Sn**	**13 17 30.5**	**-2.7**
IVRN	**Varamin**	**8.90**	**337**	*e*Pn	**Pn**	**13 16 28.8**	**+1.0**
IVRN	**Varamin**	**8.90**	**337**	Pn	**Pn**	**13 16 28.7**	**+0.9**
IAFJ	**Afjeh**	**9.69**	**339**	*e*Pn	**Pn**	**13 16 39.4**	**+0.8**
IAFJ	**Afjeh**	**9.69**	**339**	Pn	**Pn**	**13 16 39.3**	**+0.7**
IDHR	**Dehrash**	**11.34**	**316**	*e*Pn	**Pn**	**13 16 59.5**	**-1.6**
IDHR				*e*Sn	**Sn**	**13 19 01.3**	**-6.5**
IDHR	**Dehrash**	**11.34**	**316**	Pn	**Pn**	**13 16 59.4**	**-1.7**
IDHR				Sn	**Sn**	**13 19 01.2**	**-6.6**
GNI	**Garni**	**16.21**	**328**	Pn	**Pn**	**13 18 09.7**	**+2.8**
GNI	comp=N,0.9nm,0.3s,baz=107,slow=13,SNR=2.0			LR	LR	13 24 01.4	
GNI	comp=N,60nm,20.0s,baz=353,slow=36						
GNI	**Garni**	**16.21**	**328**	Pn	**Pn**	**13 18 09.8**	**+2.8**
GNI				Pn	**Pn**	**13 18 13.2**	**+6.2**
ASF	**Jabal al Asfar**	**17.37**	**292**	P	**Pn**	**13 18 24.7**	**+3.0**
ASF	comp=N,0.1nm,0.3s,baz=244,slow=15,SNR=3.2			S	**Sn**	**13 21 24.9**	**-10**
ASF	comp=N,0.2nm,0.3s,baz=177,slow=20,SNR=2.6						
MALT	**Malatya**	**18.62**	**312**	*e*P	**Pn**	**13 18 36.5**	**-0.6**
MALT				pmax	pmax		
MALT	comp=Z,6.0nm,0.8s						
MALT	**Malatya**	**18.62**	**312**	*e*P	**Pn**	**13 18 36.5**	**-0.5**
MALT	comp=Z,5.6nm,0.8s						
MALT	**Malatya**	**18.62**	**312**	*e*P	**Pn**	**13 18 36.5**	**-0.6**
MALT	comp=Z,5.6nm,0.8s						
ZEI	**Tsey**	**18.68**	**331**	*e*P	**Pn**	**13 18 40.1**	**+2.3**
KIV	**Kislovodsk**	**20.16**	**331**	*i* P	**P**	**13 18 55.9**	**+2.3**
KIV				pmax	pmax		
KIV	comp=Z,24nm,1.3s						
KIV	**Kislovodsk**	**20.16**	**331**	*e*P	**P**	**13 18 51.6**	**-2.0**
KIV	comp=Z,21nm,0.9s						
KIV	**Kislovodsk**	**20.16**	**331**	*i* P	**P**	**13 18 55.9**	**+2.3**
KIV	comp=Z,24nm,1.3s						
AAK	**Ala-Archa**	**21.89**	**39**	*i* P	**P**	**13 19 15.6**	**+3.3**
AAK	**Ala-Archa**	**21.89**	**39**	*e*P	**P**	**13 19 10.5**	**-1.8**
AAK	comp=Z,7.3nm,0.9s,mb4.1						
AAK	**Ala-Archa**	**21.89**	**39**	*e*P	**P**	**13 19 10.5**	**-1.8**
BR131	**Keskin Array S**	**22.55**	**310**	*e*P	**P**	**13 19 20.9**	**+1.5**
BR131	**Keskin Array S**	**22.55**	**310**	*e*P	**P**	**13 19 20.9**	**+1.5**
BRTR	**Keskin Array B**	**22.55**	**310**	P	**P**	**13 19 18.6**	**-0.8**
AKTK	**Aktyubinsk**	**23.64**	**3**	P	**P**	**13 19 29.5**	**-1.2**
AKTO	**Aktyubinsk**	**23.64**	**3**	P	**P**	**13 19 29.5**	**-1.2**
ORR	**Orenburg**	**24.78**	**358**	*e*P	**P**	**13 19 41.2**	**+0.1**
ORR				pmax	pmax		
ORR	comp=Z,10.0nm,1.1s,mb4.3						
ORR	**Orenburg**	**24.78**	**358**	*e*P	**P**	**13 19 41.2**	**+0.1**
SANT	**Santorini**	**27.52**	**298**	P	**P**	**13 19 57.3**	**-8.6**
BRVK	**Borovoye**	**28.32**	**18**	P	**P**	**13 20 07.6**	**-5.5**
BRVK				pmax	pmax		
BRVK	comp=Z,4.0nm,1.4s,mb3.9						
BRVK	**Borovoye**	**28.32**	**18**	P	**P**	**13 20 07.6**	**-5.4**
MKAR	**Makanchi Array**	**28.83**	**39**	P	**P**	**13 20 18.6**	**+1.0**
ZAL	**Zalesovo**	**34.47**	**30**	P	**P**	**13 21 07.1**	**0.0**
MORC	**Moravsky Berou**	**37.25**	**318**	P	**P**	**13 21 29.4**	**-1.5**
MORC				pmax	pmax		
MORC	**Moravsky Berou**	**37.25**	**318**	P	**P**	**13 21 29.4**	**-1.6**
MORC	**Moravsky Berou**	**37.25**	**318**	P	**P**	**13 21 29.4**	**-1.5**
KHC	**Kasperske Hory**	**39.43**	**316**	*e*P	**P**	**13 21 50.0**	**+0.7**
FINES	**FINESS Array B**	**39.99**	**338**	P	**P**	**13 21 52.0**	**-2.0**
FINES	**FINESS Array B**	**39.99**	**338**	P	**P**	**13 21 52.0**	**-2.0**
SONM	**Songino Array**	**44.39**	**48**	P	**P**	**13 22 31.1**	**+1.3**
ULN	**Ulaanbaatar**	**44.83**	**48**	P	**P**	**13 22 32.6**	**-0.8**
ULN				pmax	pmax		
ULN	**Ulaanbaatar**	**44.83**	**48**	P	**P**	**13 22 32.6**	**-0.7**
ULN	**Ulaanbaatar**	**44.

10nm,0.3s,baz=192,slow=2.5,SNR=26
AFI Sn **Sn** **13 28 59.1 -12**
16nm,0.3s,baz=125,slow=22,SNR=6.2
AFI Afiamalu 7.33 19 *e*Pn **Pn** **13 27 40.7 -9.0**
AFI Sn **Sn** **13 28 59.1 -12**
RAR Rarotonga 13.50 94 Pn **Pn** **13 29 01.5 -13**
8.1nm,0.3s,baz=261,slow=8.5,SNR=17
DZM Mont Dzumac 18.03 263 P **Pn** **13 30 16.9 +4.0**
0.4nm,0.3s,baz=86,slow=18,SNR=6.0
URZ Urewera 18.86 202 P **Pn** **13 30 24.0 +1.1**
1.2nm,0.3s,baz=22,slow=16,SNR=4.5
SNZO South Karori 22.41 202 P **P** **13 30 59.8 -0.8**
128nm,1.3s,mb5.2
TBI Tubuai 23.06 101 *e*LQ 13 36 09.2
2μm,26.5s
TBI *e*LR LR 13 37 03.9
1μm,22.0s,baz=276
PPT Papeete 23.50 86 *e*LQ 13 36 14.7
2μm,24.8s
PPT *e*LR LR 13 37 17.0
998nm,20.2s,baz=260
RKT Rikitea 36.39 101 *e*LQ 13 41 58.7
312nm,26.8s
RKT *e*LR LR 13 43 09.5
815nm,30.5s,baz=269
CTAO Charters Tower 36.97 264 *e*P **P** **13 33 07.8 -3.2**
CTAO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CTAO Charters Tower 36.97 264 *e*P **P** **13 33 07.8 -3.2**
comp=Z,7.5nm,1.0s,mb4.5
STKA Stephens Creek 40.81 245 *e*P **P** **13 33 41.5 -1.7**
comp=Z,2.0nm,0.6s,mb3.9
STKA Stephens Creek 40.81 245 P **P** **13 33 40.5 -2.7**
comp=Z,2.1nm,0.5s,mb4.0,baz=48,slow=8.8,SNR=6.8
STKA Stephens Creek 40.81 245 *e*P **P** **13 33 39.4 -3.8**
ASAR Alice Springs 47.87 257 P **P** **13 34 38.8 -0.8**
comp=Z,3.8nm,0.9s,mb4.4,baz=100,slow=6.7,SNR=22
WB2 Warramunga Arr 48.03 262 *e*P **P** **13 34 40.6 -0.3**
WRAB Tennant Creek 48.03 262 *e*P **P** **13 34 40.8 -0.1**
WRAB pmax pmax
comp=Z,18nm,1.1s,mb5.0
WRAB Tennant Creek 48.03 262 *e*P **P** **13 34 40.8 -0.1**
comp=Z,18nm,1.1s,mb5.0
WRA Warramunga Arr 48.04 262 P **P** **13 34 39.9 -1.0**
comp=Z,2.2nm,0.7s,mb4.3,baz=98,slow=8.7,SNR=24
FORT Forrest 52.38 247 *e*P **P** **13 35 14.3 +0.5**
comp=Z,13nm,0.7s,mb5.0
MBWA Marble Bar 61.21 257 *e*P **P** **13 36 15.8 -0.6**
comp=Z,22nm,1.4s,mb5.1
MUN Mundaring 62.34 244 *e*P **P** **13 36 25.6 +1.6**
QSPA South Pole Qui 69.18 180 *e*P **P** **13 37 09.1 +1.0**
comp=Z,7.6nm,1.3s,mb4.5
MJAR Matsushiro Arr 72.67 321 P **P** **13 37 28.9 -0.4**
comp=Z,2.0nm,0.6s,mb4.2,baz=143,slow=6.1,SNR=12
MAJO Matsushiro 72.67 321 P **P** **13 37 29.1 -0.2**
MAJO pmax pmax
comp=Z,14nm,1.3s,mb4.7
MAJO Matsushiro 72.67 321 P **P** **13 37 29.1 -0.1**
comp=Z,14nm,1.3s,mb4.7
KKM Kota Kinabalu 73.28 283 *e*P **P** **13 37 34.7 +1.8**
NVAR Mina Array Bea 78.93 42 P **P** **13 38 03.9 -1.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=216,slow=7.2,SNR=18
NVAR Mina Array Bea 78.93 42 P **P** **13 38 03.9 -1.1**
MNV Mina 79.02 42 *e*P **P** **13 38 05.1 -0.4**
MNV pmax pmax
comp=Z,15nm,1.3s,mb4.8
MNV Mina 79.02 42 *e*P **P** **13 38 05.1 -0.4**
comp=Z,14nm,1.3s,mb4.8
WVOR Wild Horse Val 81.21 38 *e*P **P** **13 38 18.1 +0.8**
WVOR pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
WVOR Wild Horse Val 81.21 38 *e*P **P** **13 38 18.1 +0.8**
comp=Z,8.9nm,1.2s,mb4.6
MAW Mawson 82.36 199 P **P** **13 38 22.4 -1.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=136,slow=12,SNR=5.3
MSU Marysvale 82.88 44 *e*P **P** **13 38 27.8 +1.7**
MSU *e* pP 13 38 38.3 +1.2
MDJ Mudanjiang 82.91 323 *e*P **P** **13 38 28.7 +2.4**
comp=Z,9.3nm,1.1s,mb4.7
HLID Hailey 84.36 39 *e*P **P** **13 38 33.6 -0.1**
comp=Z,6.2nm,1.1s,mb4.7
HLID *e* pP 13 38 43.4 -1.3
KLR Kul'dur 84.70 328 *e*P **P** **13 38 27.5 -7.9**
ANMO Albuquerque 84.92 50 *e*P **P** **13 38 37.0 +0.5**
ANMO *e* pP 13 38 47.1 -0.5
ANMO pmax pmax
comp=Z,6.0nm,1.4s
ANMO Albuquerque 84.92 50 *e*P **P** **13 38 37.0 +0.5**
comp=Z,6.4nm,1.4s,mb4.6
ANMO *e* pP 13 38 47.1 -0.5
MCMT McKenzie Canyo 86.01 39 *e*P **P** **13 38 41.9 0.0**
PDAR Pinedale Array 86.86 42 P **P** **13 38 45.4 -0.8**
comp=Z,0.9nm,0.9s,mb4.0,baz=186,slow=3.0,SNR=5.2
KULM Kulim 87.33 277 *e*P **P** **13 38 50.8 +2.4**
VNA3 Neumayer Olymp 87.48 175 *e*P **P** **13 38 48.6 -0.5**
VNA3 Neumayer Olymp 87.48 175 *e*P **P** **13 38 48.6 -0.5**
VNA3 *e* 13 38 50.2
VNA3 *e* pP 13 39 00.4 +0.2
VNA3 *e* 13 39 04.9
VNA3 *e* 13 39 22.6
COLA College 87.88 11⇓ *e*P **P** **13 38 49.7 -1.3**
COLA College 87.88 11 *e*P **P** **13 38 49.5 -1.5**
comp=Z,14nm,1.5s,mb5.0
VNA2 Neumayer--Watz 87.96 176 *e*P **P** **13 38 51.4 0.0**
baz=194,slow=3.5
VNA2 Neumayer--Watz 87.96 176 *e*P **P** **13 38 51.4 0.0**
VNA2 *e* 13 38 53.0
VNA2 *e* pP 13 39 03.3 +0.8
VNA2 *e* 13 39 07.7
VNA2 *e* 13 39 24.6
DAWY Dawson 88.91 15 *e*P **P** **13 38 54.9 -1.0**
BILL Bilibino 89.83 353 P **P** **13 39 00.4 +0.2**
BILL Bilibino 89.83 353 P **P** **13 39 00.4 +0.2**
XAN Xi'an 91.20 306 P **P** **13 39 08.1 +1.5**
XAN AP pP 13 39 16.5 -1.2
CD2 Chengdu 93.99 301 *e*P **P** **13 39 18.6 -0.9**
CD2 AP pP 13 39 29.2 -1.4
CD2 XP sP 13 39 33.5 -1.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,30nm,9.2s
CD2 LR LR
comp=N,130nm,18.0s
CD2 LR LR
comp=Z,150nm,12.0s
MKAR Makanchi Array 114.04 313 PKP PKiKP 13 44 38.9 -1.6
comp=Z,0.8nm,0.9s,baz=68,slow=8.0,SNR=4.8
MKAR Makanchi Array 114.04 313 *i* PKIKP PKiKP 13 44 39.7 -0.8
MKAR pmax pmax
comp=Z,1.0nm,0.9s
ZRNK Zerenda 122.49 320 *e*PKIKP PKPdf 13 44 56.0 -0.8
ARCES ARCESS Array B 129.90 351 PKP PKPdf 13 45 09.8 -1.1
comp=Z,2.2nm,0.8s,baz=50,slow=3.8,SNR=6.8
BNGL BINGOL 144.73 309 *i* P PKPdf 13 45 35.4 -2.8
AKASG Malin Array Be 145.00 334 PKP PKPdf 13 45 37.2 -1.4
comp=Z,2.9nm,0.4s,baz=40,slow=4.0,SNR=27
MALT Malatya 146.95 309⇓ *i* P PKPbc 13 45 46.4 +2.5
MALT Malatya 146.95 309⇓ P PKPbc 13 45 46.4 +2.4
GZT Gaziantep 147.94 308 *i* P PKPbc 13 45 47.5 +0.8
BOYT Boyabat 147.99 316 *i* P PKPbc 13 45 47.5 +0.7
CTKT Corum 148.47 315 *i* P PKPbc 13 45 48.5 +0.4
BALT Daday 148.90 318 *i* P PKPdf 13 45 44.5 -0.6
KSP Ksiaz 148.99 347 *e*PKIKP PKPbc 13 45 49.8 +0.4
CLL Collm 149.12 351 *i* (PKPbc) PKPbc 13 45 51.2 +1.5
comp=Z,42nm,1.8s
CLL *i* pPKPbc pPKPbc 13 46 01.3 +0.2
CLL Collm 149.12 351 *i* PKP2 PKPbc 13 45 51.2 +1.5
CLL pmax pmax
comp=Z,42nm,1.8s
COBT Iskenderun 149.23 307 *i* P PKPdf 13 45 52.4 +6.7
CDAG Cicekdag 149.24 314 *i* P PKPdf 13 45 44.6 -1.1
AVNT Avonos 149.30 312 *i* P PKPab 13 45 54.5 -0.3
UZH Uzhgorod 149.32 338 *i* PKIKP PKPbc 13 45 50.0 -0.2
UPC Upice 149.36 347 *e*PKP PKPbc 13 45 51.0 +0.7
BRG Berggiesshubel 149.40 350 *e*PKP PKPbc 13 45 51.6 +1.2
comp=Z,6.4nm,1.2s
BRG *e* 13 46 40.6
comp=Z,13nm,1.4s
BRG Berggiesshubel 149.40 350 *e*PKP2 PKPbc 13 45 51.6 +1.2
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG pmax pmax
comp=Z,13nm,1.4s
ELDT Eldivan 149.43 316 *i* P PKPbc 13 45 52.1 +1.6

DPC Dobruska-Polom 149.45 347 *e*PKP PKPbc 13 45 50.3 -0.2
OKC Ostrava-Krasne 149.49 344 *e*PKP PKPbc 13 45 51.7 +1.1
PVCC Panska Ves 149.62 349 *e*PKPbc PKPbc 13 45 51.4 +0.5
BR131 Keskin Array S 149.68 314 *e*PKPbc PKPbc 13 45 52.6 +1.5
BRTR Keskin Array B 149.68 314 PKPbc PKPbc 13 45 50.5 -0.6
comp=Z,2.9nm,0.8s,baz=131,slow=3.4,SNR=14
BRTR Keskin Array B 149.68 314 *i* PKIKP PKPbc 13 45 51.5 +0.4
BRTR pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 149.70 345⇑ *i* P PKPbc 13 45 52.4 +1.3
MORC Moravsky Berou 149.70 345⇑ P PKPbc 13 45 52.4 +1.3
TIRR Tirgusor 149.94 327⇓ *i* P PKPbc 13 45 52.0 +0.3
TIRR Tirgusor 149.94 327⇓ P PKPbc 13 45 52.0 +0.2
MOX Moxa 149.96 353 *e*PKP PKPbc 13 45 52.8 +1.0
comp=Z,9.0nm,0.9s
MOX *e* 13 46 42.5
MOX
comp=Z,300nm,18.0s
MOX Moxa 149.96 353 *e*PKIKP PKPbc 13 45 52.8 +1.0
MOX pmax pmax
comp=Z,9.0nm,0.9s
MOX MLR MLR
comp=Z,300nm,18.0s,MS5.1
ASF Jabal al Asfar 150.08 299 PKPbc PKPbc 13 45 53.7 +1.7
comp=Z,1.3nm,0.5s,baz=356,slow=3.1,SNR=7.8
PRU Pruhonice 150.15 349 *e*PKPbc PKPbc 13 45 51.6 -0.6
PRU *ex* x 13 46 42.5
NKC Novy Kostel 150.25 351 *e*PKPbc PKPbc 13 45 54.3 +1.8
MLR Muntele Rosu 150.39 331 PKPbc PKPbc 13 45 52.9 +0.1
comp=Z,4.0nm,0.9s,baz=42,slow=5.9,SNR=7.4
MLR Muntele Rosu 150.39 331⇑ *i* P PKPbc 13 45 54.8 +2.0
MLR Muntele Rosu 150.39 331⇑ P PKPbc 13 45 54.8 +2.0
TREC Trest 150.62 347 *e*PKPbc PKPbc 13 45 53.8 +0.4
GIVF Givet 150.85 1 *e*PKIKP PKPbc 13 45 53.4 -0.5
BAIF Baives 150.87 2 *e*PKIKP PKPbc 13 45 53.6 -0.3
comp=Z,17nm,0.9s
KHC Kasperske Hory 151.15 349 *e*PKP PKPbc 13 45 55.0 +0.4
GERES GERESS Array B 151.40 349 PKPbc PKPbc 13 45 54.2 -0.9
comp=Z,2.2nm,0.8s,baz=10,slow=1.5,SNR=9.0
FLN La Foliniere 151.75 9 *e*PKIKP PKPbc 13 45 54.9 -1.1
comp=Z,5.7nm,0.5s
LDF La Druitiere 151.96 8 *e*PKIKP PKPbc 13 45 55.4 -1.1
GRR Gorron 152.06 9 *e*PKIKP PKPbc 13 45 55.7 -1.0
comp=Z,18nm,0.8s
PKSM Moragy 152.64 340⇑ *i* P PKPbc 13 45 59.4 +1.4
PKSM Moragy 152.64 340⇑ P PKPbc 13 45 59.4 +1.4
SSF Saint Saulge 153.83 4 *e*PKIKP PKPbc 13 45 58.1 -2.5

IDC ***03*** *13:26:49.8±0.8,2089S×174.18W,h0km,mb4.5/9,*
mb1 4.7/10,mb1mx4.5/16,mbtmp4.5/10,ML4.6/1,MS4.4/5,
Ms1 4.4/5,ms1mx4.1/9, Error ellipse: s-maj=35.6km
s-min=19.4km az=142.0
BJI ***03*** *13:26:51.7,2090S×174.10W,h22km,mB5.5,mb4.9,Ms5.0,*
Msz4.7
NEIC ***03*** *13:26:51.7±8.5,2089S×174.06W,h13km±52km,mb4.9/19,*
Error ellipse: s-maj=19.2km s-min=8.8km az=152.0
ISCJB ***03*** *13:26:53.5±0.3,2102S±009×173.92W±008,h32km,*
mb4.8/36,MS4.6/17,Error ellipse: s-maj=14.6km
s-min=7.8km az=114.0
MOS ***03*** *13:26:53.6±1.5,2091S×174.25W,h33km,mb5.1/14,Error*
ellipse: s-maj=18.5km s-min=13.7km az=137.9
ISC 03 13:26:55.4±0.3,2105S±009×17388W±008,h35km,
h35km±1.7km:pP-P,n129,σ1§22/87,mb4.8/36,MS4.6/17,1C,
Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.38**	**16**	Pn	**Pn**	**13 28 33.4**	**-7.1**
	19nm,0.3s,baz=131,slow=7.3,SNR=6.8						
AFI				Sn	**Sn**	**13 29 48.3**	**-15**
	baz=41,slow=22,SNR=2.2						
AFI	**Afiamalu**	**7.38**	**16**	P	**Pn**	**13 28 33.4**	**-7.2**
AFI				pmax	pmax		
	comp=Z,19nm,0.3s						
AFI	**Afiamalu**	**7.38**	**16**	Pn	**Pn**	**13 28 32.6**	**-8.0**
RAR	**Rarotonga**	**13.17**	**93**	Pn	**Pn**	**13 29 50.9**	**-8.9**
	comp=Z,1.9nm,0.3s,baz=229,slow=3.9,SNR=4.3						
RAR				LR	LR	13 34 19.1	
	comp=Z,2μm,19.7s,baz=257,slow=33						
DZM	**Mont Dzumac**	**18.33**	**263**	P	**Pn**	**13 31 08.2**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=74,slow=17,SNR=4.2						
URZ	**Urewera**	**18.84**	**202**	P	**Pn**	**13 31 13.1**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=206,slow=1.8,SNR=7.1						
RPZ	**Rata Peaks**	**25.86**	**206**	LR	LR	13 42 37.2	
	comp=Z,2μm,18.0s,MS4.6,baz=31,slow=37						
HNR	**Honiara**	**27.71**	**291**	LR	LR	13 41 56.1	
	comp=Z,518nm,18.5s,MS4.1,baz=179,slow=33						
PMG	**Port Moresby**	**39.23**	**281**	P	**P**	**13 34 18.8**	**-1.5**
	comp=Z,26nm,1.0s,mb4.9,baz=204,slow=7.6,SNR=3.8						
PMG	**Port Moresby**	**39.23**	**281**	P	**P**	**13 34 18.8**	**-1.5**
PMG				pmax	pmax		
	comp=Z,26nm,1.0s						
PMG	**Port Moresby**	**39.23**	**281**	*e*P	**P**	**13 34 19.4**	**-0.8**
	comp=Z,33nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**41.04**	**245**	*e*P	**P**	**13 34 34.7**	**-0.7**
	comp=Z,3.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**41.04**	**245**	P	**P**	**13 34 32.0**	**-3.3**
	comp=Z,4.0nm,0.5s,mb4.3,baz=102,slow=13,SNR=5.7						
STKA				LR	LR	13 49 59.9	
	comp=Z,517nm,20.4s,MS4.4,baz=48,slow=34						
ASAR	**Alice Springs**	**48.14**	**257**	P	**P**	**13 35 29.4**	**-2.5**
	comp=Z,12nm,1.1s,mb4.9,baz=88,slow=8.2,SNR=9.8						
WB2	**Warramunga Arr**	**48.33**	**262**	*e*P	**P**	**13 35 32.5**	**-0.9**
WRAB	**Tennant Creek**	**48.33**	**262**	*e*P	**P**	**13 35 30.5**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**48.33**	**262**	*e*P	**P**	**13 35 30.5**	**-2.9**
	comp=Z,19nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**48.34**	**262**	P	**P**	**13 35 30.9**	**-2.6**
	comp=Z,4.4nm,0.7s,mb4.6,baz=98,slow=7.5,SNR=12						
FORT	**Forrest**	**52.62**	**247**	*e*P	**P**	**13 36 07.5**	**+1.7**
	comp=Z,30nm,0.7s,mb5.3						
MBWA	**Marble Bar**	**61.49**	**257**	*e*P	**P**	**13 37 09.4**	**+0.9**
	comp=Z,14nm,0.8s,mb5.1						
NWAO	**Narrogin (SRO)**	**61.57**	**243**	P	**P**	**13 37 06.3**	**-2.8**
MUN	**Mundaring**	**62.56**	**244**	*e*P	**P**	**13 37 15.8**	**0.0**
MJAR	**Matsushiro Arr**	**72.99**	**321**	P	**P**	**13 38 19.8**	**-1.7**
	comp=Z,2.7nm,0.6s,mb4.4,baz=153,slow=5.8,SNR=9.0						
MJAR				LR	LR	14 04 37.2	
	comp=Z,173nm,19.4s,MS4.3,baz=170,slow=31						
MAJO	**Matsushiro**	**72.99**	**321**	P	**P**	**13 38 17.1**	**-4.3**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MAJO	**Matsushiro**	**72.99**	**321**	P	**P**	**13 38 17.1**	**-4.3**
	comp=Z,4.0nm,0.6s,mb4.5						
ISA	**Isabella**	**77.02**	**43**	*e*P	**P**	**13 38 44.8**	**+0.1**
ISA				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
ISA	**Isabella**	**77.02**	**43**	*e*P	**P**	**13 38 44.8**	**+0.1**
	comp=Z,14nm,1.1s,mb4.8						
KSM	**Kuching**	**77.30**	**277**	*e*P	**P**	**13 38 47.0**	**+0.7**
CMB	**Columbia Colle**	**77.31**	**41**	*e*P	**P**	**13 38 45.4**	**-0.9**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CMB	**Columbia Colle**	**77.31**	**41**	*e*P	**P**	**13 38 45.4**	**-0.9**
	comp=Z,10nm,1.2s,mb4.6						
PET	**Petropavlovsk**	**77.52**	**343**	*e*P	**P**	**13 38 55.2**	**+7.7**
PET				*e*S	S	13 48 42.3	+6.2
PET				pmax	pmax		
	comp=Z,100nm,11.1s						
PET				smax			
	comp=N,200nm,15.2s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7						
SPIA	**Saint Paul Isl**	**77.98**	**2**	*e*P	**P**	**13 38 52.2**	**+2.1**
MTUM	**Tungsten Hills**	**78.00**	**42**	*e*P	**P**	**13 38 50.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**78.16**	**331**	*e*P	**P**	**13 38 50.0**	**-1.1**
YSS				*e*		13 39 04.0	
YSS				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**78.16**	**331**	P	**P**	**13 38 50.6**	**-0.4**
	comp=Z,14nm,1.0s,mb4.9						
YSS				*e*		13 39 04.7	
WAKR	**Walker**	**78.18**	**41**	*e*P	**P**	**13 38 52.2**	**+1.0**
NVAR	**Mina Array Bea**	**78.83**	**41**	P	**P**	**13 38 54.9**	**+0.2**
	comp=Z,3.5nm,0.7s,mb4.4,baz=230,slow=11,SNR=11						
NVAR	**Mina Array Bea**	**78.83**	**41**	P	**P**	**13 38 54.9**	**+0.2**
MNV	**Mina**	**78.92**	**41**	*e*P	**P**	**13 38 55.1**	**-0.2**
MNV				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
MNV	**Mina**	**78.92**	**41**	*e*P	**P**	**13 38 55.1**	**-0.2**
	comp=Z,14nm,1.2s,mb4.8						
PAHR	**Pah Rah Range**	**78.97**	**40**	*e*P	**P**	**13 38 55.7**	**+0.2**

TPNV Topopah Spring 79.23 44 *e*P **P** **13 39 02.0 +5.1**
TPNV pmax pmax
comp=Z,19nm,1.6s,mb4.8
TPNV Topopah Spring 79.23 44 *e*P **P** **13 39 02.0 +5.1**
comp=Z,19nm,1.6s,mb4.8
PMSA Palmer Station 79.24 156 *e*P **P** **13 38 47.3 -10**
SSE Sheshan 81.02 308 P **P** **13 39 07.6 +1.0**
SSE AP pP 13 39 19.5 +1.9
SSE S S 13 49 17.5 +4.1
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,150nm,4.4s
SSE LR LR
comp=N,60nm,22.2s,MS4.2
SSE LR LR
comp=E,90nm,22.2s,MS4.2
SSE LR LR
comp=Z,140nm,20.2s,MS4.3
ELK Elko 82.11 41 *e*P **P** **13 39 13.7 +1.3**
ELK pmax pmax
comp=Z,16nm,1.7s
ELK Elko 82.11 41 *e*P **P** **13 39 13.7 +1.3**
comp=Z,16nm,1.7s,mb4.7
MAW Mawson 82.33 199 P **P** **13 39 13.8 +0.3**
comp=Z,2.4nm,0.6s,mb4.3,baz=90,slow=11,SNR=4.2
MAW Mawson 82.33 199 P **P** **13 39 13.9 +0.4**
MSU Marysvale 82.76 44 *e*P **P** **13 39 16.9 +1.1**
MDJ Mudanjiang 83.22 323 P **P** **13 39 18.3 +0.2**
MDJ AP pP 13 39 27.8 -1.3
MDJ XP sP 13 39 31.6 -1.5
MDJ PP PP 13 42 24.5 -5.2
MDJ S S 13 49 39.0 +3.1
MDJ AMB AMB
comp=Z,10.0nm,1.6s,mb4.6
MDJ AMB AMB
comp=Z,260nm,5.6s
MDJ LR LR
comp=N,180nm,18.8s,MS4.6
MDJ LR LR
comp=E,180nm,16.9s,MS4.6
MDJ LR LR
comp=Z,340nm,18.8s,MS4.7
NJ2 Nanjing 83.22 308 *e*P **P** **13 39 19.3 +1.2**
NJ2 AP pP 13 39 29.0 -0.1
NJ2 XP sP 13 39 33.0 -0.1
NJ2 S S 13 49 32.0 -3.9
NJ2 SKS 13 49 34.0
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,180nm,7.1s
NJ2 LR LR
comp=N,300nm,20.5s,MS4.9
NJ2 LR LR
comp=E,370nm,19.2s,MS4.9
NJ2 LR LR
comp=Z,140nm,19.0s,MS4.3
TMUT Trail Mountain 83.83 44 *e*P **P** **13 39 22.2 +1.0**
SRU San Rafael 84.17 44 *e*P **P** **13 39 23.0 0.0**
HLID Hailey 84.27 39 *e*P **P** **13 39 23.1 -0.4**
ANMO Albuquerque 84.78 50 *e*P **P** **13 39 25.3 -0.8**
ANMO pmax pmax
comp=Z,8.0nm,1.2s
ANMO Albuquerque 84.78 50 *e*P **P** **13 39 25.3 -0.7**
comp=Z,8.1nm,1.2s,mb4.7
TTA Tatalina 84.88 8 P **P** **13 39 28.5 +1.9**
PV01 Paradox Valley 84.94 46 P **P** **13 39 26.7 -0.2**
CN2 Changchun 85.12 321 *e*P **P** **13 39 29.4 +1.6**
CN2 *e*XP sP 13 39 43.8 +1.0
CN2 *e*S 13 49 58.0
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,19.0s,MS4.7
CN2 LR LR
comp=E,200nm,19.0s,MS4.7
CN2 LR LR
comp=Z,200nm,21.0s,MS4.5
MA2 Magadan 85.39 343 *e*P **P** **13 39 28.3 -0.8**
MA2 *e*S 13 49 56.5
MA2 *e*PS 13 51 00.6
MA2 *e*SS SS 13 55 30.8 -2.0
MA2 pmax pmax
comp=Z,40nm,1.8s,mb5.2
MA2 MLR MLR
comp=Z,500nm,18.0s,MS5.0
MA2 Magadan 85.39 343 P **P** **13 39 28.6 -0.5**
comp=Z,48nm,1.6s,mb5.4
TPAW Teton Pass 86.30 40 *e*P **P** **13 39 34.2 +0.6**
comp=Z,8.4nm,1.3s,mb4.8
BW06 Boulder Array 86.76 42 *e*P **P** **13 39 34.4 -1.5**
PDAR Pinedale Array 86.76 42 P **P** **13 39 35.9 0.0**
comp=Z,2.4nm,1.1s,mb4.3,baz=217,slow=3.7,SNR=6.6
SYO Syowa Base 87.00 191⇑ *e*PcP PcP 13 39 37.2 -2.0
BOZ Bozeman (W) 87.10 38 *e*P **P** **13 39 37.0 -0.5**
BOZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.8
BOZ Bozeman (W) 87.10 38 *e*P **P** **13 39 37.0 -0.5**
comp=Z,7.8nm,1.3s,mb4.8
VNA3 Neumayer Olymp 87.31 175 *e*P **P** **13 39 39.1 +0.6**
VNA3 Neumayer Olymp 87.31 175 *e*P **P** **13 39 39.1 +0.6**
VNA3 *e* 13 39 40.7
VNA3 *e* pP 13 39 51.3 +1.7
VNA3 *e* 13 39 54.7
KULM Kulim 87.66 277 P **P** **13 39 43.2 +3.0**
KULM *e* pP 13 39 52.6 +1.3
WALA Waterton Lakes 87.79 35 *e*P **P** **13 39 40.9 0.0**
comp=Z,6.2nm,0.7s,mb5.0
VNA2 Neumayer--Watz 87.79 176 *e*P **P** **13 39 41.4 +0.5**
baz=194,slow=3.5
VNA2 Neumayer--Watz 87.79 176 *e*P **P** **13 39 41.4 +0.5**
VNA2 *e* 13 39 43.1
VNA2 *e* pP 13 39 54.1 +2.2
VNA2 *e* 13 39 57.9
COLA College 87.96 11 *e*P **P** **13 39 39.1 -2.6**
COLA pmax pmax
comp=Z,31nm,1.5s,mb5.3
COLA College 87.96 11 *e*P **P** **13 39 39.1 -2.6**
comp=Z,31nm,1.5s,mb5.3
DAWY Dawson 88.97 14 *e*P **P** **13 39 45.2 -1.3**
DAWY *e* pP 13 39 57.2 -0.3
BILL Bilibino 90.02 353 P **P** **13 39 52.6 +1.2**
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
BILL Bilibino 90.02 353 P **P** **13 39 52.6 +1.2**
comp=Z,2.7nm,0.9s,mb4.6
GYA Guiyang 90.28 298 P **P** **13 39 54.0 +1.4**
GYA PP PP 13 43 29.7 +3.0
GYA SKS 13 50 23.3
GYA S 13 50 42.8
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb5.0
GYA AMB AMB
comp=Z,160nm,6.0s
GYA LR LR
comp=N,410nm,20.8s,MS5.0
GYA LR LR
comp=E,480nm,21.2s,MS5.0
GYA LR LR
comp=Z,420nm,21.6s,MS4.8
XAN Xi'an 91.55 306 P **P** **13 40 02.2 +3.7**
XAN AP pP 13 40 10.2 +0.6
XAN AMB AMB
comp=Z,140nm,8.9s
XAN LR LR
comp=N,220nm,11.2s,MS5.2
XAN LR LR
comp=E,400nm,10.5s,MS5.2
XAN LR LR
comp=Z,160nm,8.1s
HHC Hu-ho-hao-te 92.52 313 *e*P **P** **13 40 04.3 +1.4**
HHC AP pP 13 40 15.0 +1.0
HHC XP sP 13 40 18.8 +0.8
HHC PP PP 13 43 49.6 +5.2
HHC SKS 13 50 34.0
HHC S 13 51 05.0
HHC AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
HHC AMB AMB
comp=Z,140nm,4.2s
HHC LR LR
comp=N,130nm,21.4s

HHC				LR	LR			
	comp=E,190nm,15.5s							
HHC				LR	LR			
	comp=Z,140nm,16.6s,MS4.5							
KMI	**Kunming**	**93.04**	**296**	P	**P**	**13**	**40**	**06.0 +0.6**
KMI				AP	pP	13	40	17.4 +0.9
KMI				PP	PP	13	43	51.3 +2.8
KMI				PPP		13	45	56.1
KMI				SKS		13	50	37.3
KMI				S		13	51	08.1
KMI				AMB	AMB			
	comp=Z,10.0nm,2.0s,mb4.9							
KMI				LR	LR			
	comp=N,110nm,15.9s,MS4.7							
KMI				LR	LR			
	comp=E,210nm,18.8s,MS4.7							
KMI				LR	LR			
	comp=Z,220nm,23.0s,MS4.5							
INK	**Inuvik**	**93.83**	**14**	*e*P	**P**	**13**	**40**	**07.1 -1.9**
INK				pmax	pmax			
	comp=Z,7.0nm,1.1s							
INK	**Inuvik**	**93.83**	**14**	*e*P	**P**	**13**	**40**	**07.1 -1.9**
	comp=Z,6.6nm,1.1s,mb5.0							
CD2	**Chengdu**	**94.34**	**301**	*e*P	**P**	**13**	**40**	**10.3 -1.1**
CD2				AP	pP	13	40	16.7 -5.8
CD2				PP	PP	13	43	59.9 +1.2
CD2				SKS		13	50	42.7
CD2				S		13	51	17.5
CD2				XS	sS	13	51	28.3 -11
CD2				PS	PS	13	52	41.3 +1.4
CD2				SS	SS	13	57	42.4 -0.1
CD2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb5.2							
CD2				AMB	AMB			
	comp=Z,40nm,8.6s							
CD2				LR	LR			
	comp=E,180nm,19.2s							
CD2				LR	LR			
	comp=Z,180nm,15.6s,MS4.6							
YKA	**Yellowknife Ar**	**95.43**	**24**	P	**P**	**13**	**40**	**15.3 -1.0**
	comp=Z,0.8nm,0.7s,mb4.2,baz=248,slow=3.7,SNR=4.4							
ECSD	**EROS,Sioux Fal**	**95.55**	**45**	*e*P	**P**	**13**	**40**	**14.7 -2.1**
LZH	**Lanzhou**	**96.18**	**306**	*e*P	**P**	**13**	**40**	**19.6 -0.1**
LZH				AP	pP	13	40	30.5 -0.3
LZH				XP	sP	13	40	34.8 0.0
LZH				PP	PP	13	44	16.8 +3.9
LZH				*e*SKS		13	50	54.3
LZH				*e*S		13	51	35.0
LZH				XS	sS	13	51	52.5 -2.6
LZH				SS	SS	13	58	10.0 +1.4
LZH				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb5.2							
LZH				AMB	AMB			
	comp=Z,60nm,4.9s							
LZH				LR	LR			
	comp=E,270nm,16.9s							
LZH				LR	LR			
	comp=Z,420nm,18.0s,MS5.0							
MKAR	**Makanchi Array**	**114.38**	**313**	PKP	PKiKP	13	45	30.1 -1.3
	comp=Z,0.6nm,0.7s,baz=219,slow=1.8,SNR=4.3							
CHKZ	**Chkalovo**	**121.75**	**321**	*e*PKIKP	PKPdf	13	45	46.5 +0.9
ZRNK	**Zerenda**	**122.81**	**320**	*e*PKIKP	PKPdf	13	45	44.8 -2.8
ARCES	**ARCESS Array B**	**130.10**	**351**	PKP	PKPdf	13	46	00.9 -0.7
	comp=Z,3.3nm,0.9s,baz=342,slow=1.9,SNR=5.6							
FINES	**FINESS Array B**	**137.31**	**346**	PKP	PKPdf	13	46	14.7 -0.4
	comp=Z,1.0nm,0.6s,baz=60,slow=4.6,SNR=5.8							
MUD	**Monsted U'grnd**	**144.57**	**357**	*i* P	PKPdf	13	46	27.6 -0.5
	comp=Z,30nm,1.2s							
MUD	**Monsted U'grnd**	**144.57**	**357**	*i* PKIKP	PKPdf	13	46	27.6 -0.5
MUD				pmax	pmax			
	comp=Z,30nm,1.2s							
AKASG	**Malin Array Be**	**145.27**	**334**	PKP	PKPdf	13	46	27.6 -1.8
	comp=Z,9.3nm,0.5s,baz=40,slow=3.9,SNR=14							
BSD	**Bornholm Skovb**	**145.34**	**351**	*i* P	PKPdf	13	46	27.2 -2.3
	comp=Z,38nm,1.0s							
BSD	**Bornholm Skovb**	**145.34**	**351**	*i* PKP2	PKPdf	13	46	27.2 -2.3
BSD				pmax	pmax			
	comp=Z,38nm,1.0s							
MARD	**Mardin**	**145.90**	**306**	*i* P	PKPdf	13	46	30.4 0.0
MALT	**Malatya**	**147.30**	**309**	*e*PKP2	PKPdf	13	46	35.7 +2.9
OJC	**Ojcow**	**148.94**	**343**	*e*PKP	PKPdf	13	46	38.3 +2.8
KSP	**Ksiaz**	**149.21**	**347**	*e*PKP2	PKPdf	13	46	39.7 +3.8
STHS	**Stebnicka Huta**	**149.24**	**341**	*e*PKP	PKPab	13	46	43.0 -1.8
STHS				*e*		13	46	53.7
STHS				*e*		13	47	13.8
CLL	**Collm**	**149.32**	**352**	*e*PKPbc	PKPbc	13	46	39.4 -1.1
CLL				*e*PKPab	PKPab	13	46	43.3 -1.8
CLL				*ep*PKPbc	pPKPbc	13	46	51.2 -0.6
CLL	**Collm**	**149.32**	**352**	*i* PKPbc	PKPbc	13	46	39.3 -1.2
	comp=Z,18nm,1.4s							
CLL				*i* PKPab	PKPab	13	46	43.3 -1.8
	comp=Z,26nm,1.3s							
CLL				*i* sPKPab		13	46	51.2
CLL				*i* x	x	13	47	09.4
CLL	**Collm**	**149.32**	**352**	*i* PKP2	PKPbc	13	46	39.3 -1.2
CLL				pmax	pmax			
	comp=Z,18nm,1.4s							
CLL				pmax	pmax			
	comp=Z,26nm,1.3s							
UPC	**Upice**	**149.58**	**347**	*e*PKPbc	PKPbc	13	46	41.6 +0.5
DPC	**Dobruska-Polom**	**149.66**	**347**	*e*PKPbc	PKPbc	13	46	41.6 +0.3
OKC	**Ostrava-Krasne**	**149.72**	**344**	*e*PKPbc	PKPbc	13	46	43.3 +1.8
MORC	**Moravsky Berou**	**149.93**	**345**	*e*PKP2	PKPbc	13	46	42.0 0.0
BR131	**Keskin Array S**	**150.01**	**315**	*e*PKPbc	PKPbc	13	46	42.0 -0.2
BRTR	**Keskin Array B**	**150.01**	**315**	PKPbc	PKPbc	13	46	41.4 -0.8
	comp=Z,4.6nm,0.8s,baz=128,slow=3.2,SNR=10							
UCC	**Uccle**	**150.28**	**2**	PKPbc	PKPbc	13	46	43.6 +0.9
UCC				APKPbc		13	46	54.2
UCC				APKPab		13	47	01.3
KECS	**Kecovo**	**150.29**	**341**	*e*PKP	PKPbc	13	46	44.0 +1.2
KECS				*e*		13	46	54.8
KECS				*e*		13	47	19.3
KECS				*e*		13	56	26.8
KECS				*e*		13	56	56.3
KECS	**Kecovo**	**150.29**	**341**	*e*PKIKP	PKPbc	13	46	44.0 +1.2
KECS				*e*		13	46	54.8
KECS	**Kecovo**	**150.29**	**341**	*e*PKP	PKPbc	13	46	44.0 +1.2
KECS				*e*		13	46	54.8
KECS				*e*		13	47	19.3
KECS				*e*		13	56	26.8
KECS				*e*		13	56	56.3
KECS				*e*Lg		13	57	00.0
ASF	**Jabal al Asfar**	**150.43**	**298**	PKPbc	PKPbc	13	46	43.9 +0.7
	comp=Z,3.0nm,0.7s,baz=23,slow=3.8,SNR=3.7							
MEM	**Membach**	**150.50**	**0**	PKPbc	PKPbc	13	46	44.6 +1.3
MEM				APKPbc		13	46	54.8
SGKT	**Sivrigoynuk**	**150.59**	**317**	*i* P	PKPdf	13	46	35.6 -2.5
MLR	**Muntele Rosu**	**150.68**	**331**	PKPbc	PKPbc	13	46	43.9 +0.2
	comp=Z,7.7nm,1.0s,baz=295,slow=9.5,SNR=5.8							
BCLA	**Clavier**	**150.68**	**1**	PKP	PKPdf	13	46	39.5 +1.2
DOU	**Dourbes**	**150.99**	**2**	PKPbc	PKPbc	13	46	43.7 -0.7
DOU				APKP		13	46	47.2
DOU				APKPbc		13	46	56.2
DOU				APKPab		13	47	01.2
GRA1	**Grafenberg Arr**	**151.13**	**353**	*e*PKPdf	PKPdf	13	46	38.4 -0.5
GRF	**Grafenberg Arr**	**151.13**	**353**	*e*PKPdf	PKPdf	13	46	38.4 -0.5
KHC	**Kasperske Hory**	**151.35**	**350**	*e*PKPbc	PKPbc	13	46	44.4 -0.9
WLF	**Walferdange**	**151.44**	**360**	PKPbc	PKPbc	13	46	45.8 +0.3
WLF				APKP		13	46	48.9
WLF				APKPbc		13	46	58.0
ZST	**Bratislava**	**151.51**	**345**	*e*PKP	PKPbc	13	46	45.4 -0.3
GERES	**GERESS Array B**	**151.61**	**349**	PKPbc	PKPbc	13	46	45.6 -0.3
	comp=Z,3.4nm,0.9s,baz=48,slow=2.0,SNR=6.7							

MAN 03 13:29:02.0, 1362N×12071E, h133km, MS5.5, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.26**	**116**	*e*P	Pn	13 29 22.0	+1.7
LUBP	**Lubang**	**0.47**	**284**	*e*P	Pn	13 29 22.3	+1.2
BOAC	**Boac**	**1.11**	**98**	*e*P	Pn	13 29 27.0	+0.8
BUSP	**Cocon**	**1.68**	**197**	*e*P	Pn	13 29 33.8	+1.4
OTRP	**Odiongan**	**1.79**	**134**	*e*P	Pn	13 29 34.0	+0.5
BALP	**Baler**	**2.27**	**22**	*e*P	Pn	13 29 39.4	+0.1
CUYO	**Cuyo Island**	**2.77**	**174**	*e*P	Pn	13 29 46.4	+0.7
BOLP	**Bolinao**	**2.85**	**344**	*e*P	Pn	13 29 45.7	-1.0

*NEIC **03** 13:38:05.1, 1706N×9808W, h35km, MD3.8(MEX), After MEX.*
MEX 03 13:38:04.7±1.2, 1598N×9751W, h16km±28km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.72**	**305**	*i* P	Pg	13 38 16.1	-2.7
PNIG				*i* S	Sg	13 38 25.1	-3.4
VHO	**Vista Hermosa**	**1.32**	**34**	*i* P	Pn	13 38 24.8	-3.6
VHO				*i* S	Sn	13 38 40.3	-5.4
OXX	**Oaxaca**	**1.33**	**34**	*i* P	Pn	13 38 25.5	-3.1
OXX				*i* S	Sn	13 38 41.0	-5.0
UTMO	**Huajuapan**	**1.86**	**351**	*i* P	Pn	13 38 34.4	-1.5
UTMO				*i* S	Sn	13 38 55.1	-4.0
CMIG	**Matias Romero**	**2.75**	**66**	*i* P	Pn	13 38 45.6	-2.5
CMIG				*i* S	Sn	13 39 16.4	-4.6
CMIG	**Matias Romero**	**2.75**	**66**	*i* P	Pn	13 38 50.6	+2.5
CMIG				*i* S	Sn	13 39 23.9	+2.9

*NEIC **03** 14:04:44.7±1.2, 2291N×12003E, h35km, mb4.4/2, ML4.4(TAP), Error ellipse: s-maj=26.3km s-min=13.7km az=100.0*
NEIC Recorded [3 TAP] in T'ai-nan, [2 TAP] in Kao-hsiung and [1 TAP] in Chia-i and P'ing-tung Counties.
*ISCJB **03** 14:04:48.3±1.7, 232N±0.1×120.17E±009, h82km±19km, mb4.4/2, Error ellipse: s-maj=24.1km s-min=13.1km az=16.2*
*JMA **03** 14:04:49.2±0.2, 2287N×12037E, h110km, M2.9*
ISC 03 14:04:49.1±1.8, 232N±01×12012E±010, h70km±21km, n14, σ0§84/18, mb4.4/2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**1.66**	**54**	*e*Pn	**Pn**	**14 05 15.0**	**-1.2**
YHNB	**Yeheng**	**1.86**	**38**	*e*Pn	**Pn**	**14 05 19.4**	**+0.6**
TATO	**Taipei**	**2.17**	**35**	*e*Pn	**Pn**	**14 05 21.8**	**-1.1**
YOJ	**Yonaguni jima**	**2.93**	**64**	P	**Pn**	**14 05 34.4**	**+1.1**
YOJ				*e*S	**Sn**	**14 06 09.2**	**+1.8**
HATJ	**Hateruma jima**	**3.49**	**75**	P	**Pn**	**14 05 40.7**	**-0.2**
HATJ				*e*S	**Sn**	**14 06 20.3**	**-0.6**
IRIF	**Iriomote-Funau**	**3.50**	**70**	P	**Pn**	**14 05 41.4**	**+0.4**
IRIF				*e*S	**Sn**	**14 06 21.9**	**+0.7**
JKRS	**Kuro-shima**	**3.71**	**73**	P	**Pn**	**14 05 44.3**	**+0.4**
JIJ	**Ishigaki jima**	**3.86**	**72**	P	**Pn**	**14 05 46.1**	**+0.1**
JIJ				*e*S	**Sn**	**14 06 29.1**	**-1.1**
JTJ	**Tarama**	**4.43**	**70**	*e*S	**Sn**	**14 06 43.7**	**-0.4**
INCN	**Inchon**	**15.30**	**20**	Pn	**Pn**	**14 08 20.0**	**-0.9**
DAV	**Davao City (W)**	**16.88**	**161**	Pn	**Pn**	**14 08 33.6**	**-7.0**
PMG	**Port Moresby**	**41.84**	**138**	P	**P**	**14 12 23.3**	**-8.7**
	16nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**42.34**	**308**	P	**P**	**14 12 36.9**	**+0.8**
	5.2nm,1.2s,mb4.1						
CTAO	**Charters Tower**	**50.01**	**147**	P	**P**	**14 13 35.9**	**-0.4**

*ISCJB **03** 14:07:02.8±0.5, 4053N±003×2166E±003, h3km±7km, Error ellipse: s-maj=4.7km s-min=3.8km az=19.5*
*THE **03** 14:07:03.0, 4053N×2164E, h10km, ML3.0*
*SKO **03** 14:07:03.1, 4051N×2154E, h13km*
*CSEM **03** 14:07:03.3±0.1, 4056N×2158E, h20km, ML3.0, Error ellipse: s-maj=2.9km s-min=2.1km az=21.0*
*ATH **03** 14:07:04.1, 4048N×2168E, h15km±4km, MD3.0/4*
*NEIC **03** 14:07:04.1, 4048N×2168E, h15km, MD3.0(ATH), After ATH.*
ISC 03 14:07:03.5±0.4, 4053N±003×2165E±003, h7km±7km, n22, σ1§06/36, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.24**	**157**	*e*PB	**Pg**	**14 07 08.6**	**+0.3**
FNA	**Florina**	**0.33**	**321**	*e*Pg	**Pg**	**14 07 09.7**	**-0.1**
FNA				*e*Sg	**Sg**	**14 07 14.7**	**+0.5**
BIA	**Bitola**	**0.55**	**333**	*e*Pg	**Pg**	**14 07 13.0**	**-1.1**
BIA				*e*Sg	**Sg**	**14 07 21.0**	**-0.2**
BIA	**Bitola**	**0.55**	**333**	*e*Pg	**Pg**	**14 07 13.0**	**-1.1**
BIA				*e*Sg	**Sg**	**14 07 21.8**	**+0.6**
KBN	**Korca**	**0.66**	**278**	*i* Pg	**Pg**	**14 07 15.5**	**-0.7**
KBN				*i* Sg	**Sg**	**14 07 26.5**	**+1.6**
GRG	**Griva**	**0.71**	**53**	*e*Pg	**Pg**	**14 07 17.0**	**-0.2**
LIT	**Litokhoron**	**0.77**	**123**	*e*Pg	**Pg**	**14 07 18.2**	**-0.2**
LIT				*e*Sg	**Sg**	**14 07 29.9**	**+1.5**
MEV	**Metsovon**	**0.81**	**203**	*e*Pg	**Pg**	**14 07 18.2**	**-0.9**
MEV				*e*Sg	**Sg**	**14 07 30.5**	**+0.9**
OHR	**Ohrid**	**0.87**	**312**	*e*Pg	**Pg**	**14 07 18.3**	**-1.9**
OHR				*e*Sg	**Sg**	**14 07 32.4**	**+1.0**
OHR	**Ohrid**	**0.87**	**312**	*e*Pg	**Pg**	**14 07 18.0**	**-2.2**
THE	**Thessaloniki**	**1.01**	**84**	*e*Pg	**Pg**	**14 07 22.7**	**-0.1**
THE				*e*Sg	**Sg**	**14 07 36.9**	**+1.0**
VAY	**Valandovo**	**1.05**	**41**	*e*Pg	**Pg**	**14 07 23.3**	**-0.5**
VAY				*e*Sg	**Sg**	**14 07 38.4**	**+1.0**
VAY	**Valandovo**	**1.05**	**41**	*e*Pg	**Pg**	**14 07 23.4**	**-0.4**
VAY				*e*Sg	**Sg**	**14 07 38.9**	**+1.5**
VAY	**Valandovo**	**1.05**	**41**	*e*Pg	**Pg**	**14 07 23.3**	**-0.5**
VAY				*e*Sg	**Sg**	**14 07 38.9**	**+1.5**
KNT	**Kendrikon**	**1.14**	**56**	*e*Pg	**Pg**	**14 07 24.6**	**-0.8**
KNT				*e*Sg	**Sg**	**14 07 40.7**	**+0.5**
KNT	**Kendrikon**	**1.14**	**56**	*e*Pg	**Pg**	**14 07 24.5**	**-0.9**
KNT				*e*Sg	**Sg**	**14 07 40.7**	**+0.5**
SOH	**Sokhos**	**1.33**	**77**	*e*Pg	**Pg**	**14 07 27.7**	**-1.3**
PLG	**Polygyros**	**1.38**	**96**	*e*PN	**Pn**	**14 07 29.0**	**-0.2**
PLG				*e*SN	**Sn**	**14 07 47.9**	**+0.1**
AGG	**Agios Georgios**	**1.59**	**161**	*e*Pg	**Pg**	**14 07 30.9**	**-3.2**
EVR	**Evrytania**	**1.62**	**176**	*e*PN	**Pn**	**14 07 33.9**	**+1.4**
XOR	**Xorichti**	**1.66**	**134**	*e*Pb	**Pb**	**14 07 31.9**	**-2.6**
NEO	**Neokhori**	**1.72**	**135**	*e*PN	**Pn**	**14 07 34.4**	**+0.5**

WEL 03 14:15:28.7±0.2, 3810S×17655E, h119km±2km, ML3.5/15, 1D, Error ellipse: s-maj=2.2km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.47**	**110**	PN	Pn	14 15 45.9	-0.5
URZ				SN	Sn	14 15 59.6	-0.1
MWZ	**Matawai**	**0.81**	**108**	PN	Pn	14 15 49.0	+0.2
MWZ				SN	Sn	14 16 04.3	+0.3
BKZ	**Black Stump Fm**	**1.07**	**182**	PN	Pn	14 15 51.2	-0.1
BKZ				SN	Sn	14 16 08.9	+0.4
KNZ	**Kokohu**	**1.28**	**137**	PN	Pn	14 15 53.4	-0.1
PUZ	**Puketiti**	**1.35**	**90**	SN	Sn	14 16 13.2	-0.5
HIZ	**Hauiti**	**1.39**	**252**	⇓PN	Pn	14 15 54.8	0.0
FWVZ	**Far West T-bar**	**1.40**	**214**	PN	Pn	14 15 55.3	+0.5
MOVZ	**Moawhango**	**1.45**	**205**	PN	Pn	14 15 55.0	-0.4
MXZ	**Matakaoa Point**	**1.49**	**70**	PN	Pn	14 15 56.1	+0.2
PXZ	**Pawanui**	**1.95**	**173**	PN	Pn	14 16 00.5	-0.9
TSZ	**Takapari Road**	**2.01**	**193**	*e*PN	Pn	14 16 01.0	-1.2
BFZ	**Birch Farm**	**2.59**	**185**	PN	Pn	14 16 07.6	-2.0
MRZ	**Mangatainoka R**	**2.67**	**196**	PN	Pn	14 16 08.3	-2.3
MRZ				SN	Sn	14 16 39.3	-3.5
TIWZ	**Tintock**	**2.73**	**191**	PN	Pn	14 16 09.3	-2.0
KIW	**Kapiti Island**	**3.04**	**204**	PN	Pn	14 16 12.5	-2.9
KIW				SN	Sn	14 16 47.3	-4.1
MTW	**Mount Morrison**	**3.16**	**194**	*e*PN	Pn	14 16 13.9	-3.2
CAW	**Cannon Point**	**3.22**	**200**	PN	Pn	14 16 14.5	-3.3
PAWZ	**Paruwai Farm**	**3.39**	**194**	*e*PN	Pn	14 16 16.6	-3.5
MSWZ	**Moikau Station**	**3.46**	**196**	PN	Pn	14 16 17.4	-3.6
MSWZ				SN	Sn	14 16 56.5	-5.0
TCW	**Tory Channel**	**3.57**	**209**	PN	Pn	14 16 18.7	-3.8
TUWZ	**Tuamarina**	**3.89**	**210**	PN	Pn	14 16 22.6	-4.0
NNZ	**Nelson**	**3.96**	**217**	*e*PN	Pn	14 16 23.8	-3.8
QRZ	**Quartz Range**	**4.14**	**227**	PN	Pn	14 16 26.2	-3.8
THZ	**Tophouse**	**4.61**	**216**	PN	Pn	14 16 32.0	-4.3
THZ				SN	Sn	14 17 24.3	-4.6
KHZ	**Kahutara**	**4.89**	**207**	PN	Pn	14 16 35.5	-4.6
LTZ	**Lake Taylor**	**5.71**	**214**	*e*PN	Pn	14 16 45.3	-5.7
MQZ	**McQueen's Vall**	**6.33**	**207**	*e*PN	Pn	14 16 52.9	-6.7
MQZ				SN	Sn	14 18 00.1	-10
ODZ	**Otahua Downs**	**8.23**	**211**	*e*PN	Pn	14 17 18.9	-6.4

IDC 03 14:16:04.6±2.3, 2018S×17464W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/15, mbtmp3.7/5, ML2.2/1, Error ellipse: s-maj=92.8km s-min=22.6km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.81**	**24**	Pn	Pn	14 17 46.7	+0.9
	2.4nm,0.3s,baz=48,slow=3.5,SNR=7.4						
AFI				Sn	Sn	14 19 03.3	-0.8
	2.4nm,0.3s,baz=104,slow=21,SNR=3.1						
STKA	**Stephens Creek**	**40.77**	**244**	P	P	14 23 46.2	-1.1
	1.2nm,0.7s,baz=58,slow=9.5,SNR=3.3						
ASAR	**Alice Springs**	**47.66**	**256**	P	P	14 24 43.5	+0.8
	0.8nm,0.7s,baz=104,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**47.77**	**261**	P	P	14 24 44.2	+0.7
	0.7nm,0.6s,baz=93,slow=5.8,SNR=13						
NVAR	**Mina Array Bea**	**78.66**	**42**	P	P	14 28 09.0	+0.5
	0.4nm,0.6s,baz=229,slow=11,SNR=3.6						

*NSSC **03** 14:39:59.1, 4089N×4147E, h1km±368km*
*IDC **03** 14:40:24.4±0.7, 3909N×4028E, h0km, mb4.1/12, mb1 4.1/20, mb1mx4.1/29, mbtmp4.1/20, ML3.7/8, MS3.9/19, Ms1 3.9/19, ms1mx3.7/32, Error ellipse: s-maj=14.2km s-min=8.2km az=176.0*
*ISK **03** 14:40:25.5, 3918N×4017E, h6km, MD3.9*
*BJI **03** 14:40:25.4, 3951N×3994E, h21km, mB5.2, mb4.9, Ms4.3, Msz4.3*
*ISCJB **03** 14:40:26.0±0.2, 3912N±002×4032E±002, h10km, mb4.4/74, MS4.0/24, Error ellipse: s-maj=2.7km s-min=2.1km az=117.8*
*MOS **03** 14:40:25.7±1.4, 3913N×4038E, h10km, mb4.6/44, Error ellipse: s-maj=5.3km s-min=3.8km az=120.7*
*CSEM **03** 14:40:26.2, 3912N×4035E, h10km, mb4.5*
*NEIC **03** 14:40:27.3±0.4, 3915N×4036E, h10km, mb4.4/43, MS3.8/3, ML4.5(ISK), Error ellipse: s-maj=7.7km s-min=5.0km az=173.0*
*SZGRF **03** 14:40:33.7, 3921N×4008E, h33km, mb4.4, MS3.6, Turkey*
ISC 03 14:40:27.4±0.1, 3914N±002×4034E±002, h10km, (h28km±2.2km:pP-P), n310, σ1§33/340, mb4.4/74, MS4.0/24, 18C-16D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.66**	**106**	*i* P	**Pg**	**14 40 40.4**	**+0.3**
BNGL				*i* S	**Sg**	**14 40 52.9**	**+4.2**
EZM	**Erzurum**	**1.10**	**46**	PN	**Pn**	**14 40 47.5**	**-1.3**
ERZM	**Erzurum**	**1.10**	**46**	*i* P	**Pb**	**14 40 47.4**	**-1.1**
ERZM				*i* S	**Sg**	**14 41 02.5**	**-0.3**
ERZM	**Erzurum**	**1.10**	**46**	*i* P	**Pb**	**14 40 47.4**	**-1.1**
ERZM				*i* S	**Sg**	**14 41 02.5**	**-0.3**
ELZG	**Elazig**	**1.24**	**239**	*i* P	**Pn**	**14 40 46.8**	**-4.0**
ELZG				*i* S	**Sb**	**14 41 11.8**	**+4.9**
DIY	**Diyarbakir**	**1.25**	**184**	PN	**Pn**	**14 40 50.2**	**-0.6**
DIY				SN	**Sn**	**14 41 08.9**	**+1.2**
BTMT	**Batman**	**1.30**	**136**	PN	**Pn**	**14 40 52.1**	**+0.5**
BEST	**Besiri**	**1.44**	**149**	*i* P	**Pn**	**14 40 54.9**	**+1.4**
BEST				*i* S	**Sn**	**14 41 15.3**	**+2.7**
MYA	**Malataya**	**1.71**	**242**	PN	**Pn**	**14 40 55.0**	**-2.2**
MALT	**Malatya**	**1.71**	**242**	PN	**Pn**	**14 40 55.0**	**-2.2**
MALT				SN	**Sn**	**14 41 16.7**	**-2.5**
MALT	**Malatya**	**1.71**	**242**	*e*Pn	**Pn**	**14 40 54.7**	**-2.6**
MALT	**Malatya**	**1.71**	**242**	*e*P	**Pn**	**14 40 54.7**	**-2.5**
MALT	**Malatya**	**1.71**	**242**	*e*Pn	**Pn**	**14 40 55.0**	**-2.2**
MALT				*e*Sn	**Sn**	**14 41 16.7**	**-2.5**
MARD	**Mardin**	**1.85**	**169**	*i* P	**Pn**	**14 40 59.0**	**-0.3**
MARD				*i* S	Sx	14 41 50.9	
URFA	**Urfa**	**2.08**	**216**	PN	**Pn**	**14 41 01.4**	**-0.9**
URFA				SN	**Sn**	**14 41 27.3**	**-0.9**
ATAB	**Bozova**	**2.32**	**225**	*i* P	**Pn**	**14 41 03.6**	**-2.0**
ATAB				*i* S	**Sg**	**14 41 44.2**	**+2.3**
DRBT	**Darb Altahta**	**2.32**	**191**	⇑P	**Pg**	**14 41 15.3**	**+3.4**
ARTV	**Artvin**	**2.38**	**30**	*i* P	**Pn**	**14 41 06.5**	**+0.1**
ARTV				*i* S	Sx	14 41 58.7	
GRSN	**GIRESUNGRSN**	**2.39**	**319**	*i* P	**Pn**	**14 41 05.3**	**-1.3**
GRSN				*i* S	**Pb**	**14 41 08.5**	**-2.0**
TVAN	**Van**	**2.47**	**103**	*i* P	**Pn**	**14 41 09.6**	**+2.0**
TVAN				*i* S	Sx	14 41 58.7	
VANT	**Van**	**2.48**	**105**	*e*PN	**Pn**	**14 41 08.1**	**+0.3**
BCA	**Borcka**	**2.50**	**23**	PN	**Pn**	**14 41 08.1**	**0.0**
KARS	**Kars**	**2.58**	**54**	*e*PN	**Pn**	**14 41 10.7**	**+1.6**
SVST	**Sivas**	**2.70**	**285**	*i* P	**Pn**	**14 41 11.7**	**+0.9**
SVST				*i* S	**Sn**	**14 41 43.0**	**-0.6**
SVSK	**Karacayir**	**2.70**	**288**	PN	**Pn**	**14 41 09.0**	**-1.9**
GZT	**Gaziantep**	**2.82**	**232**	*i* P	**Pn**	**14 41 13.9**	**+1.4**
GZT				*i* S	**Sn**	**14 41 50.9**	**+4.4**
GAZ	**Gaziantep**	**3.15**	**232**	*e*PN	**Pn**	**14 41 16.5**	**-0.6**
TOKT	**Tokat**	**3.16**	**293**	*e*PN	**Pn**	**14 41 15.5**	**-1.6**
CUKT	**Cukurca**	**3.19**	**125**	*e*PN	**Pn**	**14 41 19.8**	**+2.2**
SLMH	**Al Salmeh**	**3.49**	**214**	⇑*i*P	**Pn**	**14 41 21.5**	**-0.3**
BNN	**Bunyan**	**3.52**	**267**	*e*PN	**Pn**	**14 41 21

GOF Gofitskoye 6.24 18 *eP* **Pn 14 42 04.7 +5.2**
GOF pmax pmax
comp=Z,30nm,0.7s
BHL Bhannes 6.45 217 *ePn* **Pn 14 42 01.9 -0.4**
ZALF Zalf 6.67 202 ⇓*P* **Pn 14 42 05.8 +0.5**
ZALF ⇓S **Sg 14 43 52.9 -8.4**
ZALF Zalf 6.67 202 ⇓*iP* **Pn 14 42 05.8 +0.5**
BHD Baghdad 6.70 150 *ex* x 14 42 03.0
BHD *ex* x 14 42 37.0
BHD *ex* x 14 43 19.0
BHD *ex* x 14 43 47.0
BHD *i x* x 14 44 05.0
BRBR Barbar 6.73 213 ⇑*P* **Pn 14 42 07.8 +1.7**
BRBR ⇑S **Sg 14 43 55.1 -8.2**
BRBR Barbar 6.73 213 ⇑*iP* **Pn 14 42 07.8 +1.6**
FEO Feodosiya 6.93 330 *eP* **Pn 14 42 16.2 +7.2**
FEO *eS* **Sn 14 43 38.3 +10**
FEO pmax pmax
comp=Z,30nm,0.5s
CSS Prodhromos 6.99 236 *ePn* **Pn 14 42 12.3 +2.6**
comp=Z,30nm,1.0s
SUDU Sudak 6.99 327 *i* P **Pn 14 42 16.2 +6.4**
SUDU *eS* **Sn 14 43 38.4 +9.1**
SUDU pmax pmax
comp=Z,30nm,0.6s
SALA Sala 7.05 206 ⇑P **Pn 14 42 11.8 +1.2**
SALA ⇓S **Sb 14 43 59.5 +5.4**
SALA Sala 7.05 206 ⇑*iP* **Pn 14 42 11.8 +1.2**
YAL Yalta 7.06 321 *eP* **Pn 14 42 14.4 +3.6**
YAL *eS* **Sn 14 43 36.0 +4.9**
YAL pmax pmax
comp=Z,20nm,0.7s
ALU Alushta 7.09 323 *eP* **Pn 14 42 15.7 +4.5**
ALU *eS* **Sn 14 43 37.3 +5.5**
ALU pmax pmax
comp=Z,10.0nm,0.3s
MMAI Mount Meron Ar 7.30 215 Pn **Pn 14 42 13.2 -0.9**
comp=Z,2.5nm,0.3s,baz=56,slow=14,SNR=15
SIM Simferopol' 7.43 323 P **Pn 14 42 29.2 +13**
SIM *eS* **Sn 14 43 49.0 +8.9**
SIM MLR MLR
comp=Z,200nm,16.0s
ASF Jabal al Asfar 7.50 203 Pn **Pn 14 42 15.6 -1.1**
comp=Z,1.9nm,0.3s,baz=258,slow=9.7,SNR=33
ASF Lg 14 44 21.6
comp=Z,1.0nm,0.3s,baz=65,slow=19,SNR=3.5
ASF LR LR 14 45 34.3
comp=Z,402nm,20.0s,baz=85,slow=42
EIL Elat 10.44 207 Pn **Pn 14 42 58.3 +1.1**
EIL Elat 10.44 207 Pn **Pn 14 42 58.3 +1.2**
CFR Carcaliu 10.88 308 ⇓*iP* **Pn 14 43 06.6 +3.5**
CFR Carcaliu 10.88 308 ⇓P **Pn 14 43 06.6 +3.4**
MIB Mutribah 10.95 146 *eP* **Pn 14 43 03.1 -1.1**
MIB AML AML 14 45 06.1
comp=Z,32nm,0.4s
NAY Al-Naaiem 11.39 148 *eP* **Pn 14 43 08.5 -1.7**
NAY AML AML 14 45 15.2
comp=Z,6.7nm,0.7s
RDF Al-Radifah 11.81 147 *eP* **Pn 14 43 14.6 -1.2**
RDF AML AML 14 45 20.3
comp=Z,7.7nm,0.6s
VRSR Storozhevoye 12.10 357 *eP* **Pn 14 43 19.4 -0.5**
VRSR pmax pmax
comp=Z,1.0nm,0.8s
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR Storozhevoye 12.10 357 *eP* **Pn 14 43 19.4 -0.5**
comp=N,2.0nm,0.9s
MLR Muntele Rosu 12.40 305 Pn **Pn 14 43 24.1 +0.2**
comp=N,0.1nm,0.3s,baz=131,slow=17,SNR=2.3
MLR LR LR 14 48 41.7
comp=N,496nm,21.3s,baz=127,slow=40
MLR Muntele Rosu 12.40 305 ⇑*iP* **Pn 14 43 31.6 +7.7**
MLR Muntele Rosu 12.40 305 Pn **Pn 14 43 24.1 +0.2**
MLR ⇑P 14 43 31.6
MLR LR LR 14 48 41.7
IDI Anoyia 12.90 257 LR LR 14 49 10.4
comp=N,427nm,19.5s,baz=257,slow=41
BURAR Bucovina Array 13.87 313 ⇓*iP* **Pn 14 43 41.0 -2.9**
BURAR Bucovina Array 13.87 313 ⇓P **Pn 14 43 41.0 -3.0**
AKASG Malin Array Be 13.97 329 Pn **Pn 14 43 44.0 -1.3**
comp=N,1.3nm,0.3s,baz=135,slow=14,SNR=9.3
BZS Buzias 15.26 301 ⇑*iP* **Pn 14 44 06.1 +3.2**
BZS Buzias 15.26 301 ⇑P **Pn 14 44 06.1 +3.2**
ORR Orenburg 16.03 34 *eP* **Pn 14 44 11.7 -1.2**
ORR pmax pmax
comp=Z,20nm,1.1s
ORR MLR MLR
comp=Z,370nm,17.0s
OBN Obninsk 16.18 352 *dP* **Pn 14 44 12.5 -2.3**
OBN pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 16.18 352 *ePn* **Pn 14 44 12.2 -2.6**
OBN Obninsk 16.18 352 *i* P **Pn 14 44 12.5 -2.3**
comp=Z,16nm,1.0s
MOS Moscow 16.71 355 *eP* **Pn 14 44 20.6 -0.9**
AKTK Aktyubinsk 16.83 42 Pn **Pn 14 44 20.4 -2.7**
AKTK LR LR 14 52 35.8
AKTK Aktyubinsk 16.83 42 Pn **Pn 14 44 20.4 -2.7**
AKTO Aktyubinsk 16.83 42 Pn **Pn 14 44 20.4 -2.7**
comp=Z,0.4nm,0.3s,baz=236,slow=12,SNR=5.1
AKTO LR LR 14 52 35.8
comp=Z,568nm,18.4s,baz=0.0,slow=43
STHS Stebnicka Huta 17.06 313 *eP* **Pn 14 44 29.0 +3.0**
STHS pmax pmax
comp=Z,7.0nm,0.9s
STHS Stebnicka Huta 17.06 313 *eP* **Pn 14 44 29.0 +3.0**
comp=Z,7.3nm,0.9s
KECS Kecovo 17.07 310 *eP* **Pn 14 44 30.9 +4.9**
KECS pmax pmax
comp=Z,5.0nm,1.3s
KECS Kecovo 17.07 310 *eP* **Pn 14 44 30.9 +4.9**
comp=Z,5.1nm,1.3s
PSZ Piszkesteto 17.19 307 ⇓*eP* **Pn 14 44 30.8 +3.2**
PSZ Piszkesteto 17.19 307 P **Pn 14 44 26.4 -1.2**
PSZ pmax pmax
comp=Z,12nm,1.1s
PSZ Piszkesteto 17.19 307 Pn **Pn 14 44 26.4 -1.2**
comp=Z,12nm,1.1s
PSZ Piszkesteto 17.19 307 P **Pn 14 44 26.4 -1.2**
comp=Z,12nm,1.1s
AB31 Akbulak array 17.27 48 *i* P **Pn 14 44 26.6 -1.9**
AB31 pmax pmax
comp=Z,18nm,1.0s
PKSM Moragy 17.42 301 ⇑*iP* **Pn 14 44 36.3 +5.8**
PKSM Moragy 17.42 301 ⇑P **Pn 14 44 36.3 +5.8**
TIP Timpagrande 18.29 278 *eP* **Pn 14 44 43.2 +2.0**
TIP *e* 14 44 59.2
ZST Bratislava 19.04 306 *eP* **Pn 14 44 50.2 -0.1**
ZST Bratislava 19.04 306 *eP* **Pn 14 44 50.3 0.0**
SOP Sopron 19.22 304 ⇑*eP* **Pn 14 44 54.9 +2.5**
MORC Moravsky Berou 19.36 311 *eP* **Pn 14 44 53.9 -0.3**
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 19.36 311 *eP* **Pn 14 44 53.9 -0.3**
comp=Z,3.9nm,0.9s
MORC Moravsky Berou 19.36 311 *eP* **Pn 14 44 53.9 -0.3**
comp=Z,3.8nm,0.9s
CONA Conrad Observa 19.74 304 ⇑*iP* **Pn 14 44 55.8 -2.9**
comp=Z,33nm,1.3s
VRAC Vranov 19.75 309 P **Pn 14 44 56.8 -2.0**
comp=Z,0.2nm,0.3s,baz=122,slow=15,SNR=2.4
VRAC LR LR 14 54 39.0
comp=Z,211nm,18.1s,baz=114,slow=43
DPC Dobruska-Polom 20.32 311 *eP* **P 14 45 01.5 -2.0**
TREC Trest 20.42 308 *eP* **P 14 45 06.2 +1.6**
KSP Ksiaz 20.54 313 *eP* **P 14 45 06.4 +0.4**
UPC Upice 20.56 311 *eP* **P 14 45 07.6 +1.4**
ARU Arti 21.08 29 ⇑*iP* **P 14 45 10.8 -1.0**
ARU *ePPP* 14 45 36.9
ARU *eS* **S 14 49 04.3 -2.0**
ARU *eSS* 14 49 23.6
ARU pmax pmax
comp=Z,38nm,0.9s,mb4.7
ARU Arti 21.08 29 *eP* **P 14 45 10.2 -1.5**
comp=Z,37nm,0.9s,mb4.7
ARU Arti 21.08 29 *i P* **P 14 45 10.8 -1.0**
comp=Z,38nm,0.9s,mb4.7
KBA Koelnbreinsper 21.17 301 ⇑*iP* **P 14 45 13.2 +0.4**
comp=Z,45nm,1.0s,mb4.7
KBA Koelnbreinsper 21.17 301 ⇑*iP* **P 14 45 13.2 +0.4**
KBA pmax pmax
comp=Z,45nm,1.0s,mb4.8
VSU Vasula 21.23 340 *i P* **P 14 45 15.4 +1.9**

PRU Pruhonice 21.24 309 *eP* **P 14 45 12.4 -1.1**
PRU AMS AMS 14 55 10.0
comp=Z,400nm,15.1s
GEC2 GERESS Array S 21.39 306 *eP* **P 14 45 16.6 +1.5**
comp=Z,13nm,1.4s,mb4.1
GEC2 GERESS Array S 21.39 306 *eP* **P 14 45 16.6 +1.5**
GEC2 pmax pmax
comp=Z,13nm,1.4s,mb4.1
GERES GERESS Array B 21.39 306 P **P 14 45 12.0 -3.1**
comp=Z,3.0nm,0.8s,mb3.7,baz=111,slow=10,SNR=15
GERES LR LR 14 54 54.7
comp=Z,181nm,19.6s,MS3.5,baz=205,slow=41
PVCC Panska Ves 21.42 311 *eP* **P 14 45 13.5 -1.9**
KHC Kasperske Hory 21.55 306 *eP* **P 14 45 17.3 +0.5**
KHC pP 14 45 24.0
KHC AMS AMS 14 53 30.0
comp=Z,500nm,16.4s
KHC Kasperske Hory 21.55 306 *eP* **P 14 45 17.3 +0.5**
KHC *e* 14 45 24.0
KHC LR LR
comp=Z,500nm,16.4s,MS4.0
BRG Berggiesshubel 21.92 311 *eP* **P 14 45 20.1 -0.7**
comp=Z,3.3nm,0.9s,mb3.8
BRG
comp=N,288nm,23.9s
BRG
comp=E,216nm,17.9s
BRG
comp=Z,178nm,17.5s
BRG Berggiesshubel 21.92 311 *eP* **P 14 45 20.0 -0.8**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb3.7
BRG MLR MLR
comp=N,288nm,23.9s
BRG MLR MLR
comp=E,216nm,17.9s
BRG MLR MLR
comp=Z,178nm,17.5s
BRG Berggiesshubel 21.92 311 *eP* **P 14 45 20.0 -0.8**
comp=Z,178nm,17.5s
WET Wettzell 21.99 306 *eP* **P 14 45 25.6 +4.0**
comp=Z,9.0nm,1.0s,mb4.2
WET Wettzell 21.99 306 *eP* **P 14 45 25.6 +4.0**
WET pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
WSAR Wadi Sarin 22.20 130 P **P 14 45 23.5 -0.3**
comp=Z,5.2nm,1.1s,mb3.9,baz=306,slow=17,SNR=2.4
WSAR LR LR 14 55 24.4
comp=Z,573nm,19.4s,MS4.0,baz=114,slow=40
WTTA Wattenberg 22.35 301 ⇑*iP* **P 14 45 24.6 -0.8**
comp=Z,22nm,0.9s,mb4.6
WTTA Wattenberg 22.35 301 ⇑*iP* **P 14 45 24.6 -0.8**
WTTA pmax pmax
comp=Z,22nm,0.9s,mb4.6
NKC Novy Kostel 22.59 309 *eP* **P 14 45 25.4 -2.5**
ROTZ Rotzenmuhle 22.59 307 *eP* **P 14 45 31.5 +3.5**
comp=Z,26nm,1.1s,mb4.6
CLL Collm 22.63 311 *eP* **P 14 45 29.1 +0.7**
comp=Z,12nm,1.0s,mb4.3
CLL Collm 22.63 311 *i* P **P 14 45 29.0 +0.6**
comp=Z,14nm,1.6s,mb4.1
CLL *i* sP sP 14 45 34.2 +1.6
CLL *i* x x 14 45 40.6
CLL Collm 22.63 311 *i* P **P 14 45 29.0 +0.6**
CLL *i* *PP 14 45 34.2
CLL pmax pmax
comp=Z,14nm,1.6s,mb4.1
CLL Collm 22.63 311 *i* P **P 14 45 29.0 +0.6**
comp=Z,14nm,1.6s,mb4.1
CLL *i* pP 14 45 34.2
MANZ Manzenberg 22.72 308 *eP* **P 14 45 32.7 +3.4**
comp=Z,12nm,1.4s,mb4.1
MOTA Moosalm 22.72 301 ⇑*iP* **P 14 45 29.0 -0.4**
comp=Z,16nm,1.0s,mb4.4
MOTA Moosalm 22.72 301 ⇑*iP* **P 14 45 29.0 -0.4**
MOTA pmax pmax
comp=Z,16nm,1.0s,mb4.4
FUR Furstenfeldbru 22.77 303 *eP* **P 14 45 31.4 +1.5**
comp=Z,13nm,0.7s,mb4.5
FUR Furstenfeldbru 22.77 303 *eP* **P 14 45 31.4 +1.5**
FUR pmax pmax
comp=Z,13nm,0.7s,mb4.5
SOKR Solikamsk 22.96 22 *eP* **P 14 45 32.5 +0.6**
SOKR *i* S S 14 49 22.2 -20
SOKR pmax pmax
comp=Z,30nm,1.0s,mb4.7
SOKR MLR MLR
comp=Z,280nm,15.0s,MS3.8
KK31 Karatay Array 23.01 70 *i* P **P 14 45 33.6 +1.2**
KK31 pmax pmax
comp=Z,25nm,0.9s,mb4.6
KKAR Karatay Array 23.01 70 P **P 14 45 33.6 +1.2**
KKAR pmax pmax
comp=Z,24nm,1.0s,mb4.6
GRA1 Grafenberg Arr 23.18 307 *eP* **P 14 45 35.3 +1.1**
comp=Z,64nm,1.3s,mb4.9
GRA1 LR LR
comp=Z,200nm,19.1s,MS3.6
GRF Grafenberg Arr 23.18 307 *eP* **P 14 45 35.3 +1.1**
comp=Z,64nm,1.3s,mb4.9
GRF *eL* 15 00 40.4
comp=Z,193nm,19.1s
DAVOX Davos 23.46 299 P **P 14 45 36.0 -1.1**
comp=Z,4.0nm,0.6s,mb4.0,baz=115,slow=8.1,SNR=7.0
DAVA Damuels 23.53 300 ⇓*iP* **P 14 45 39.0 +1.1**
comp=Z,15nm,1.2s,mb4.3
PGF Pioggiola 23.88 288 *eP* **P 14 45 40.1 -1.0**
comp=Z,72nm,1.3s,mb4.7
PGF Pioggiola 23.88 288 *eP* **P 14 45 40.1 -1.0**
PGF pmax pmax
comp=Z,36nm,1.3s,mb4.6
PGF Pioggiola 23.88 288 *eP* **P 14 45 40.1 -1.0**
comp=Z,36nm,1.3s,mb4.7
FINES FINESS Array B 24.01 343 P **P 14 45 40.2 -2.1**
comp=Z,6.0nm,0.6s,mb4.2,baz=144,slow=10,SNR=17
FINES LR LR 14 56 56.2
comp=Z,72nm,20.5s,MS3.1,baz=354,slow=41
ZRNK Zerenda 24.02 45 *eP* **P 14 45 41.8 -0.5**
ZRNK pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
ZRNK Zerenda 24.02 45 *eP* **P 14 45 41.8 -0.5**
comp=Z,10nm,1.1s,mb4.2
STU Stuttgart 24.25 304 *eP* **P 14 45 46.4 +1.9**
comp=Z,21nm,1.2s,mb4.4
UBBA Unterbreizbach 24.25 309 *eP* **P 14 45 47.5 +3.0**
comp=Z,10.0nm,1.4s,mb4.0
CLZ Clausthal 24.36 311 *eP* **P 14 45 47.4 +2.0**
comp=Z,18nm,1.0s,mb4.5
CLZ Clausthal 24.36 311 *eP* **P 14 45 47.4 +2.0**
CLZ pmax pmax
comp=Z,18nm,1.0s,mb4.5
JOF Joensuu 24.43 350 *ep* **P 14 45 45.5 -0.6**
comp=Z,24nm,0.7s,mb4.7
KAF Kangasniemi 24.55 344 *ep* **P 14 45 47.7 +0.5**
TOD Tromm 24.68 305 *eP* **P 14 45 47.8 -0.6**
BFO Black Forest 24.74 302 *eP* **P 14 45 51.5 +2.6**
comp=Z,3.0nm,1.0s,mb3.8
BFO Black Forest 24.74 302 *eP* **P 14 45 51.5 +2.6**
BFO pmax pmax
comp=Z,3.0nm,1.0s,mb3.8
BRVK Borovoye 24.77 46 *eP* **P 14 45 49.2 0.0**
BRVK pmax pmax
comp=Z,9.0nm,1.1s,mb4.2
BRVK Borovoye 24.77 46 *eP* **P 14 45 49.2 0.0**
comp=Z,8.7nm,1.1s,mb4.2
BVA0 Borovoye Array 24.82 46 *i* P **P 14 45 49.9 +0.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.4s,mb3.5
FELD Feldberg im Sc 24.88 301 *eP* **P 14 45 50.5 +0.3**
SBF Sospel 25.00 292 *eP* **P 14 45 51.2 -0.1**
comp=Z,83nm,1.0s,mb4.9
SBF Sospel 25.00 292 *eP* **P 14 45 51.2 -0.1**
SBF pmax pmax
comp=Z,42nm,1.0s,mb4.9
SBF Sospel 25.00 292 *eP* **P 14 45 51.2 -0.1**
comp=Z,42nm,1.0s,mb4.9
BBS Basel-Blauen 25.15 300 *eP* **P 14 45 54.0 +1.3**
CHKZ Chkalovo 25.19 45 *eP* **P 14 45 52.0 -1.1**
CHKZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
CHKZ Chkalovo 25.19 45 *eP* **P 14 45 52.0 -1.0**
comp=Z,10nm,1.1s,mb4.3
CDF Champ du Feu 25.44 302 *eP* **P 14 45 55.2 -0.1**
comp=Z,12nm,1.1s,mb4.0
CDF Champ du Feu 25.44 302 *eP* **P 14 45 55.2 -0.1**
CDF pmax pmax
comp=Z,6.0nm,1.1s,mb4.0
CDF Champ du Feu 25.44 302 *eP* **P 14 45 55.2 -0.1**
comp=Z,5.9nm,1.1s,mb4.0
MBDF Montbardon 25.47 294 *eP* **P 14 45 55.8 +0.2**
comp=Z,12nm,0.8s,mb4.2
MBDF Montbardon 25.47 294 *eP* **P 14 45 55.8 +0.2**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
MBDF Montbardon 25.47 294 *eP* **P 14 45 55.8 +0.2**
comp=Z,6.1nm,0.8s,mb4.2
ECH Echery 25.49 302 *eP* **P 14 45 56.6 +0.8**
LPG La Plagne 25.51 295 *eP* **P 14 45 56.4 +0.5**
comp=Z,39nm,1.1s,mb4.5
LPG La Plagne 25.51 295 *eP* **P 14 45 56.4 +0.5**
LPG pmax pmax
comp=Z,19nm,1.1s,mb4.5
LPG La Plagne 25.51 295 *eP* **P 14 45 56.4 +0.5**
comp=Z,20nm,1.1s,mb4.5
LPL La Plagne 25.52 295 *eP* **P 14 45 56.3 +0.2**
comp=Z,15nm,0.8s,mb4.3
LPL La Plagne 25.52 295 *eP* **P 14 45 56.3 +0.2**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
LPL La Plagne 25.52 295 *eP* **P 14 45 56.3 +0.2**
comp=Z,7.4nm,0.8s,mb4.3
BNI Bardonecchia 25.55 294 *eP* **P 14 45 55.9 -0.4**
BNI pmax pmax
comp=Z,33nm,1.1s,mb4.8
BNI Bardonecchia 25.55 294 *eP* **P 14 45 55.9 -0.4**
comp=Z,33nm,1.1s,mb4.8
LOMF Lomont 25.60 300 *eP* **P 14 45 57.3 +0.6**
HINF Hinteralfeld 25.64 301 *eP* **P 14 45 57.6 +0.5**
comp=Z,10nm,0.8s,mb4.1
HINF Hinteralfeld 25.64 301 *eP* **P 14 45 57.6 +0.5**
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
HINF Hinteralfeld 25.64 301 *eP* **P 14 45 57.6 +0.5**
comp=Z,5.1nm,0.8s,mb4.1
AAK Ala-Archa 25.95 71 *eP* **P 14 45 59.9 0.0**
AAK pmax pmax
comp=Z,13nm,1.1s,mb4.4
AAK Ala-Archa 25.95 71 *eP* **P 14 45 59.9 0.0**
comp=Z,13nm,1.1s,mb4.4
FRU Bishkek 26.03 71 *eP* **P 14 46 02.2 +1.6**
FRU pmax pmax
comp=Z,36nm,1.5s,mb4.7
CABF La Chapelle 26.04 298 *eP* **P 14 46 01.4 +0.7**
comp=Z,85nm,1.1s,mb4.9
CABF La Chapelle 26.04 298 *eP* **P 14 46 01.4 +0.7**
CABF pmax pmax
comp=Z,43nm,1.1s,mb4.9
CABF La Chapelle 26.04 298 *eP* **P 14 46 01.4 +0.7**
comp=Z,42nm,1.1s,mb4.9
SMRF Simiane la Rot 26.34 292 *eP* **P 14 46 03.7 +0.3**
HFS Hagfors 26.86 330 P **P 14 46 07.7 -0.4**
comp=Z,5.5nm,0.9s,mb4.1,baz=120,slow=2.0,SNR=4.4
HFS LR LR 14 57 20.7
comp=Z,217nm,18.7s,MS3.7,baz=130,slow=38
MEZF Maizieres J'vi 26.92 302 *eP* **P 14 46 09.4 +0.7**
VIVF Saint-Julien-l 26.97 294 *eP* **P 14 46 09.6 +0.5**
comp=Z,18nm,1.1s,mb4.2
VIVF Saint-Julien-l 26.97 294 *eP* **P 14 46 09.6 +0.5**
VIVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.2
VIVF Saint-Julien-l 26.97 294 *eP* **P 14 46 09.6 +0.5**
comp=Z,9.1nm,1.1s,mb4.2
LASF Ste Croix 27.57 292 *eP* **P 14 46 15.3 +0.8**
SMF Signal de Mont 27.58 298 *eP* **P 14 46 15.1 +0.5**
comp=Z,11nm,0.9s,mb4.2
SMF Signal de Mont 27.58 298 *eP* **P 14 46 15.1 +0.5**
SMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
SMF Signal de Mont 27.58 298 *eP* **P 14 46 15.1 +0.5**
comp=Z,5.5nm,0.9s,mb4.2
ATD Arta Tunnel 27.59 175 LR LR 14 57 54.9
comp=Z,179nm,18.4s,MS3.7,baz=23,slow=38
LOR Lormes 27.61 299 *eP* **P 14 46 15.0 +0.2**
comp=Z,18nm,0.9s,mb4.4
LOR *eR*
comp=Z,366nm,18.8s
LOR Lormes 27.61 299 *eP* **P 14 46 15.0 +0.2**
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
LOR MLR MLR
comp=Z,370nm,18.8s,MS4.0
LOR Lormes 27.61 299 *eP* **P 14 46 15.0 +0.2**
comp=Z,8.8nm,0.9s,mb4.4
LOR LR LR
comp=Z,370nm,18.8s,MS4.0
BAIF Baives 27.69 305 *eP* **P 14 46 16.3 +0.7**
SSF Saint Saulge 27.83 299 *eP* **P 14 46 18.7 +1.8**
comp=Z,22nm,1.1s,mb4.4
SSF Saint Saulge 27.83 299 *eP* **P 14 46 18.7 +1.8**
SSF pmax pmax
comp=Z,11nm,1.1s,mb4.4
SSF Saint Saulge 27.83 299 *eP* **P 14 46 18.7 +1.8**
comp=Z,11nm,1.1s,mb4.4
AVF Avril sur Loir 27.93 298 *eP* **P 14 46 17.8 +0.1**
comp=Z,12nm,0.9s,mb4.2
AVF Avril sur Loir 27.93 298 *eP* **P 14 46 17.8 +0.1**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
AVF Avril sur Loir 27.93 298 *eP* **P 14 46 17.8 +0.1**
comp=Z,6.2nm,0.9s,mb4.2
TCF Toulx Ste Croi 28.70 297 *eP* **P 14 46 25.2 +0.6**
APA Apatity 28.74 354 ⇑*eP* **P 14 46 14.0 -11**
APA *i* 14 46 22.2
APA *i* 14 47 22.0
APA pmax pmax
comp=Z,22nm,1.2s,mb4.8
MTLF Montolieu 28.80 291 *eP* **P 14 46 26.5 +1.0**
KURK Kurchatov 29.15 54 *eP* **P 14 46 28.5 -0.1**
KURK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
KURK Kurchatov 29.15 54 *eP* **P 14 46 28.5 0.0**
comp=Z,4.6nm,1.0s,mb4.2
RJF Les Rejaudoux 29.20 295 *eP* **P 14 46 29.8 +0.8**
RJF *eR*
comp=Z,249nm,19.8s
RJF Les Rejaudoux 29.20 295 *eP* **P 14 46 29.8 +0.8**
RJF LR LR
comp=Z,250nm,19.8s,MS3.8
GRR Gorron 30.83 301 *eP* **P 14 46 44.1 +0.6**
comp=Z,12nm,0.7s,mb4.5
GRR Gorron 30.83 301 *eP* **P 14 46 44.1 +0.6**
GRR pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
GRR Gorron 30.83 301 *eP* **P 14 46 44.1 +0.6**
comp=Z,6.1nm,0.7s,mb4.5
MK31 Makanchi Array 31.33 62 P **P 14 46 48.4 +0.5**
MK31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MKAR Makanchi Array 31.33 62 P **P 14 46 47.7 -0.2**
comp=Z,6.5nm,0.9s,mb4.5,baz=274,slow=7.4,SNR=38
SJPF Ste Jean 31.33 291 *eP* **P 14 46 48.7 +0.8**
ARCES ARCESS Array B 31.47 350 P **P 14 46 47.8 -1.3**
comp=Z,1.4nm,0.8s,mb3.8,baz=178,slow=8.8,SNR=4.2
ARCES LR LR 15 00 06.5
comp=Z,198nm,20.2s,MS3.8,baz=107,slow=38
SGMF Saint Gilles 31.96 301 *eP* **P 14 46 54.2 +0.7**
comp=Z,13nm,0.8s,mb4.5
SGMF Saint Gilles 31.96 301 *eP* **P 14 46 54.2 +0.7**
SGMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SGMF Saint Gilles 31.96 301 *eP* **P 14 46 54.2 +0.7**
comp=Z,6.3nm,0.8s,mb4.5
QUIF Quistinic 32.37 300 *eP* **P 14 46 57.7 +0.6**
comp=Z,3.6nm,0.4s,mb4.2
QUIF Quistinic 32.37 300 *eP* **P 14 46 57.7 +0.6**
QUIF pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
QUIF Quistinic 32.37 300 *eP* **P 14 46 57.7 +0.6**
comp=Z,1.8nm,0.4s,mb4.2
ROSF Rostrenen 32.44 301 *eP* **P 14 46 58.5 +0.8**
comp=Z,9.3nm,0.9s,mb4.3
ROSF Rostrenen 32.44 301 *eP* **P 14 46 58.5 +0.8**
ROSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
ROSF Rostrenen 32.44 301 *eP* **P 14 46 58.5 +0.8**
comp=Z,4.7nm,0.9s,mb4.3
NVS Novosibirsk 32.61 47 *eP* **P 14 46 56.5 -2.6**
ZAL Zalesovo 33.36 49 P **P 14 47 03.3 -2.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=140,slow=3.3,SNR=4.7
ZAL LR LR 15 03 21.2
comp=Z,221nm,18.9s,MS3.9,baz=208,slow=41
ESDC Sonseca Array 33.98 285 P **P 14 47 08.4 -2.7**
comp=Z,0.3nm,0.3s,mb3.8,baz=70,slow=8.4,SNR=10

ESLA	**Sonseca Array**	**33.98**	**285**	*e*P		**P**	**14 47 11.6**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.6							
KMBO	**Kilima Mbogo**	**40.17**	**185**	LR		LR	15 03 47.6	
	comp=Z,117nm,18.7s,MS3.8,baz=88,slow=35							
LSA	**Lhasa**	**42.48**	**87**	*e*P		**P**	**14 48 24.4**	**+1.7**
LSA	**Lhasa**	**42.48**	**87**	*e*P		**P**	**14 48 24.5**	**+1.8**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.3							
LSA	**Lhasa**	**42.48**	**87**	*e*P		**P**	**14 48 24.5**	**+1.8**
	comp=Z,5.8nm,0.8s,mb4.3							
TORD	**Torodi Ar. Bea**	**42.80**	**244**	P		**P**	**14 48 23.1**	**-2.2**
	comp=Z,3.4nm,1.0s,mb4.0,baz=39,slow=4.3,SNR=5.3							
TLY	**Talaya**	**44.81**	**52**	*e*P		**P**	**14 48 43.4**	**+2.0**
TLY				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.2							
ZAK	**Zakamensk**	**44.81**	**54**	*e*P		**P**	**14 48 40.6**	**-0.8**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.7s,mb4.2							
SONM	**Songino Array**	**47.37**	**57**	P		**P**	**14 49 01.0**	**-0.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=280,slow=9.2,SNR=20							
SONM				LR		LR	15 11 16.7	
	comp=Z,421nm,19.0s,MS4.4,baz=290,slow=39							
ULN	**Ulaanbaatar**	**47.79**	**57**	*c i*P		**P**	**14 49 05.6**	**+0.7**
ULN	**Ulaanbaatar**	**47.79**	**57**	*e*P		**P**	**14 49 05.5**	**+0.6**
	comp=Z,14nm,0.9s,mb5.0							
LZH	**Lanzhou**	**49.48**	**72**	*e*P		**P**	**14 49 18.7**	**+0.9**
LZH				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.7							
LZH				AMB		AMB		
	comp=Z,60nm,4.0s							
LZH				LR		LR		
	comp=Z,420nm,16.3s,MS4.5							
CIT	**Chita**	**50.72**	**50**	*e*P		**P**	**14 49 25.9**	**-1.4**
CD2	**Chengdu**	**51.65**	**79**	*e*P		**P**	**14 49 33.4**	**-0.8**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
DBIC	**Dimbokro**	**51.91**	**244**	P		**P**	**14 49 33.4**	**-2.8**
	comp=Z,6.6nm,1.0s,mb4.5,baz=185,slow=8.9,SNR=3.7							
DBIC	**Dimbokro**	**51.91**	**244**	*e*P		**P**	**14 49 37.1**	**+0.9**
TIXI	**Tiksi**	**52.94**	**23**	*e*P		**P**	**14 49 42.6**	**-1.2**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.2							
TIXI	**Tiksi**	**52.94**	**23**	*e*P		**P**	**14 49 43.4**	**-0.4**
HHC	**Hu-ho-hao-te**	**53.16**	**64**	*e*P		**P**	**14 49 45.9**	**+0.4**
HHC				AP		pP	14 49 53.5	+4.8
HHC				XP		sP	14 49 56.8	+6.9
HHC				PCP		PcP	14 50 54.3	+0.8
HHC				PP		PP	14 51 46.9	+1.5
HHC				S		**S**	**14 57 11.9**	**-4.2**
HHC				XS		sS	14 57 25.4	+4.0
HHC				SCS		ScS	14 59 30.1	-5.1
HHC				SS		SS	15 00 51.3	-4.2
HHC				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
HHC				AMB		AMB		
	comp=Z,90nm,5.4s							
HHC				LR		LR		
	comp=N,100nm,19.0s,MS4.1							
HHC				LR		LR		
	comp=E,130nm,17.8s,MS4.1							
HHC				LR		LR		
	comp=Z,110nm,13.2s,MS4.1							
KMI	**Kunming**	**53.70**	**85**	P		**P**	**14 49 50.3**	**+0.9**
KMI				AP		pP	14 50 00.4	+7.8
KMI				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
HIA	**Hailar**	**55.34**	**52**	*e*P		**P**	**14 50 01.5**	**+0.2**
YAK	**Yakutsk**	**56.04**	**35**	*i* P		**P**	**14 50 08.0**	**+1.7**
CN2	**Changchun**	**61.21**	**55**	*e*P		**P**	**14 50 42.1**	**-0.3**
CN2				*e*AP		pP	14 50 49.7	+4.1
CN2				*e*S		**S**	**14 58 57.4**	**-4.7**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb5.0							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=Z,400nm,18.0s,MS4.6							
NJ2	**Nanjing**	**62.38**	**70**	*e*P		**P**	**14 50 54.8**	**+4.5**
NJ2				AMB		AMB		
	comp=Z,40nm,1.1s,mb5.5							
MDJ	**Mudanjiang**	**63.43**	**53**	P		**P**	**14 50 56.8**	**-0.4**
MDJ				AP		pP	14 51 03.2	+2.7
MDJ				XP		sP	14 51 05.9	+4.2
MDJ				PCP		PcP	14 51 33.9	-0.1
MDJ				PP		PP	14 53 13.4	-3.3
MDJ				S		**S**	**14 59 25.0**	**-5.1**
MDJ				AMB		AMB		
	comp=Z,60nm,5.7s							
MDJ				LR		LR		
	comp=Z,90nm,16.9s,MS4.0							
SSE	**Sheshan**	**64.58**	**70**	P		**P**	**14 51 04.4**	**-0.4**
SSE				AP		pP	14 51 13.7	+5.6
SSE				S		**S**	**14 59 41.3**	**-3.1**
SSE				XS		sS	14 59 57.2	+7.5
SSE				SCS		ScS	15 00 55.6	-3.8
SSE				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,220nm,4.5s							
SSE				LR		LR		
	comp=N,30nm,18.9s,MS3.7							
SSE				LR		LR		
	comp=E,40nm,18.8s,MS3.7							
SSE				LR		LR		
	comp=Z,50nm,22.8s,MS3.6							
BILL	**Biiibino**	**65.74**	**20**	*i* P		**P**	**14 51 14.3**	**+1.9**
BILL				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.4							
BILL				MLR		MLR		
	comp=Z,100nm,15.0s,MS4.1							
BOSA	**Boshof**	**68.86**	**194**	LR		LR	15 25 43.0	
	comp=Z,130nm,18.1s,MS4.2,baz=297,slow=40							
MJAR	**Matsushiro Arr**	**73.32**	**56**	LR		LR	15 26 20.0	
	comp=Z,130nm,19.2s,MS4.2,baz=45,slow=38							
COLA	**College**	**76.12**	**4**	*e*P		**P**	**14 52 15.7**	**+0.3**
COLA				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
COLA	**College**	**76.12**	**4**	*e*P		**P**	**14 52 15.7**	**+0.2**
	comp=Z,7.0nm,0.8s,mb4.6							
YKA	**Yellowknife Ar**	**76.72**	**348**	LR		LR	15 24 49.8	
	comp=Z,81nm,21.6s,MS4.0,baz=85,slow=35							
DAWY	**Dawson**	**77.14**	**360**	*e*P		**P**	**14 52 21.6**	**+0.5**
ULM	**Lac du Bonnet**	**83.02**	**333**	LR		LR	15 29 55.1	
	comp=Z,66nm,18.0s,MS4.0,baz=358,slow=36							

BJI 03 14:44:36.3, 2566N×10107E, h16km, mB4.1, mb4.5, ML3.6, Ms3.9, Msz3.7, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.60**	**109**	PG	Pg	14 45 05.7	-1.4
KMI				SG	Sg	14 45 25.1	-2.9
KMI				Smax			
	comp=N,1μm,0.6s						
KMI				Smax			
	comp=E,590nm,0.8s						
GYA	**Guiyang**	**5.09**	**80**	P	Pn	14 45 53.3	+1.4
GYA				PG	Pg	14 46 01.2	-13
GYA				S	Sn	14 46 52.0	+1.6
GYA				Smax			
	comp=N,20nm,0.6s						
GYA				Smax			
	comp=E,30nm,0.6s						
CD2	**Chengdu**	**5.74**	**24**	P	Pn	14 46 03.9	+3.1
CD2				PG	Pg	14 46 22.1	-4.1
CD2				S	Sn	14 47 08.5	+2.1
CD2				SG	Sg	14 47 34.4	-6.2
LZH	**Lanzhou**	**10.66**	**12**	*e*P	Pn	14 47 14.5	+6.2
LZH				AP		14 47 16.5	
LZH				XP		14 47 18.0	
LZH				PP		14 47 22.9	
LZH				*e*S	Sn	14 49 11.0	+3.6
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
LZH				LR	LR		
	comp=E,330nm,7.9s						
LZH				LR	LR		
	comp=Z,340nm,10.0s						
XAN	**Xi'an**	**10.77**	**37**	P	Pn	14 47 10.9	+1.0
XAN				S	Sn	14 49 05.3	-4.8
NJ2	**Nanjing**	**16.82**	**64**	*e*P	Pn	14 48 33.6	+2.5
NJ2				AMB	AMB		

comp=Z,20nm,0.6s

*IDC **03** 14:48:03.5±1.0, 5.13N×12538E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/18, mbtmp4.1/6, MS3.1/2, Ms1 3.1/2, ms1mx2.1/31, Error ellipse: s-maj=55.3km s-min=17.9km az=78.0*

*NEIC **03** 14:48:09.0±1.4, 5.17N×12535E, h42km±16km, mb4.3/8, Error ellipse: s-maj=17.7km s-min=9.3km az=82.0*

*ISCJB **03** 14:48:11.8±0.9, 5.13N±006×12503E±006, h94km±11km, mb4.1/11, Error ellipse: s-maj=10.6km s-min=9.9km az=144.6*

*MAN **03** 14:48:21.4, 591N×12483E, h94km, MS5.9*

ISC 03 14:48:12.9±0.8, 511N±006×12507E±007, h84km±10km, n29, σ1°01/29, mb4.1/11, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.88**	**1**	‖*e*P	Pn	**14 48 42.5**	**-0.8**
DAV	**Davao City (W)**	**2.01**	**15**	*e*P	Pn	**14 48 43.5**	**-1.5**
DAV	**Davao City (W)**	**2.01**	**15**	*e*Pn	Pn	**14 48 38.5**	**-6.4**
PAGZ	**Pagadian**	**3.19**	**328**	*e*P	Pn	**14 49 00.1**	**-0.7**
CGP	**Cagayan de Oro**	**3.34**	**354**	*e*P	Pn	**14 49 03.5**	**+0.6**
CGP				*e*S	Sn	**14 49 42.6**	**+1.1**
IPIL	**Ipil**	**3.64**	**317**	*e*P	Pn	**14 49 06.0**	**-0.9**
BUTP	**Butuan**	**3.87**	**8**	*e*P	Pn	**14 49 09.8**	**-0.3**
SCPH	**Surigao**	**4.66**	**5**	‖*e*P	Pn	**14 49 20.7**	**0.0**
MSLP	**Maasin**	**4.99**	**358**	*e*P	Pn	**14 49 26.8**	**+1.5**
CUYO	**Cuyo Island**	**6.97**	**325**	*e*P	Pn	**14 49 52.2**	**0.0**
ENPP	**El Nido**	**8.24**	**318**	*e*P	Pn	**14 50 09.3**	**-0.2**
BUSP	**Coron**	**8.37**	**325**	*e*P	Pn	**14 50 06.0**	**-5.4**
KKM	**Kota Kinabalu**	**8.86**	**276**	*e*Pn	Pn	**14 50 18.7**	**+0.6**
KKM				*e*Sn	Sn	**14 51 56.0**	**-0.2**
KSM	**Kuching**	**15.17**	**257**	*e*Pn	Pn	**14 51 50.9**	**+8.5**
KAKA	**Kakadu**	**19.16**	**158**	*e*P	Pn	**14 52 32.0**	**+0.6**
	6.5nm,0.6s						
GUMO	**Guam**	**21.26**	**65**	LR	LR	15 00 47.3	
	comp=Z,36nm,19.0s,baz=269,slow=36						
JOW	**Kunigami**	**21.81**	**8**	LR	LR	15 01 36.9	
	comp=Z,60nm,18.4s,baz=111,slow=37						
FITZ	**Fitzroy Crossi**	**23.07**	**179**	P	P	**14 53 11.3**	**0.0**
	4.7nm,1.0s,mb3.8,baz=350,slow=9.4,SNR=8.6						
WRAB	**Tennant Creek**	**26.51**	**160**	*e*P	P	**14 53 41.9**	**-0.6**
	6.9nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**26.52**	**160**	P	P	**14 53 41.5**	**-1.0**
	0.7nm,0.5s,mb3.5,baz=338,slow=10,SNR=16						
AS31	**Alice Springs**	**29.88**	**164**	*e*P	P	**14 54 13.8**	**+1.4**
ASAR	**Alice Springs**	**29.88**	**164**	P	P	**14 54 12.5**	**+0.1**
	0.8nm,0.5s,mb3.6,baz=346,slow=7.6,SNR=14						
MAJO	**Matsushiro**	**33.52**	**19**	*e*P	P	**14 54 43.9**	**-0.5**
	11nm,1.2s,mb4.6						
MJAR	**Matsushiro Arr**	**33.52**	**19**	P	P	**14 54 43.8**	**-0.6**
	3.9nm,0.9s,mb4.2,baz=192,slow=8.8,SNR=9.1						
STKA	**Stephens Creek**	**40.01**	**158**	P	P	**14 55 39.8**	**+0.3**
	1.7nm,0.6s,mb4.1,baz=336,slow=7.3,SNR=5.9						
MKAR	**Makanchi Array**	**55.48**	**326**	P	P	**14 57 41.4**	**+2.4**
	2.2nm,0.5s,mb4.5,baz=118,slow=7.6,SNR=47						
KURK	**Kurchatov**	**59.69**	**328**	*e*P	P	**14 58 10.5**	**+1.9**
	1.3nm,0.4s,mb4.3						
ZRNK	**Zerenda**	**65.99**	**327**	P	P	**14 58 49.0**	**-1.3**
	1.7nm,0.6s,mb4.0						
ARU	**Arti**	**72.89**	**328**	P	P	**14 59 30.3**	**-2.6**
	4.5nm,1.1s,mb4.2						

*NEIC **03** 14:56:15.1, 1599N×9762W, h24km, MD3.9(MEX), After MEX.*

MEX 03 14:56:15.5±0.8, 1603N×9762W, h16km±13km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.61**	**307**	*i* P	Pg	14 56 25.3	-2.2
PNIG				*i* S	Sg	14 56 33.5	-2.1
VHO	**Vista Hermosa**	**1.34**	**39**	*i* P	Pn	14 56 35.5	-4.1
VHO				*i* S	Sn	14 56 52.1	-5.0
VHO	**Vista Hermosa**	**1.34**	**39**	*i* P	Pn	14 56 34.2	-5.4
VHO				*i* S	Sn	14 56 52.1	-5.0
OXX	**Oaxaca**	**1.36**	**39**	*i* P	Pn	14 56 36.5	-3.3
OXX				*i* S	Sn	14 56 53.0	-4.4
HUIG	**Huatulco**	**1.48**	**100**	*i* P	Pn	14 56 38.9	-2.5
HUIG				*i* S	Sn	14 56 54.2	-6.2
MEIG	**Mezcala**	**2.69**	**315**	*i* P	Pn	14 56 55.8	-2.3
MEIG				*i* S	Sn	14 57 26.7	-3.6
CMIG	**Matias Romero**	**2.83**	**68**	*e*P	Pn	14 56 56.6	-3.4
CMIG				*i* S	Sn	14 57 29.8	-4.0
CMIG	**Matias Romero**	**2.83**	**68**	*e*P	Pn	14 56 55.6	-4.4
CMIG				*i* S	Sn	14 57 27.8	-6.0
PLIG	**Platanillo**	**2.96**	**323**	*e*P	Pn	14 56 59.5	-2.3
PLIG				*i* S	Sn	14 57 34.3	-2.7
PLIG	**Platanillo**	**2.96**	**323**	*i* P	Pn	14 57 05.3	+3.4
PLIG				*i* S	Sn	14 57 34.3	-2.7

*NEIC **03** 15:02:30.6, 38.17N×2013E, h10km, MD3.2(ATH), After ATH.*

*ATH **03** 15:02:32.0, 3824N×2024E, h9km±9km, MD3.2/7*

*ISCJB **03** 15:02:33.2±0.9, 3833N±005×2028E±008, h10km, Error ellipse: s-maj=9.9km s-min=5.9km az=131.7*

*CSEM **03** 15:02:33.1±0.2, 3829N×2030E, h0km±1km, MD3.2, Error ellipse: s-maj=5.8km s-min=2.5km az=69.0*

*THE **03** 15:02:34.4, 3837N×2034E, h10km, ML3.4*

ISC 03 15:02:33.9±0.9, 3832N±005×2033E±009, h10km, n16, σ0°86/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**124**	*e*PG	**Pg**	**15 02 37.8**	**-1.2**
LKD	**Levkas**	**0.46**	**33**	*e*Pg	**Pg**	**15 02 41.9**	**-1.0**
LKD				*e*Sg	**Sg**	**15 02 48.9**	**-0.2**
RLS	**Riolos of Patr**	**0.94**	**106**	*e*PB	**Pg**	**15 02 50.9**	**-1.0**
IGT	**Igoumenitsa**	**1.21**	**0**	*e*Pg	**Pg**	**15 02 56.1**	**-1.0**
IGT				*e*Sg	**Sg**	**15 03 13.3**	**+0.5**
EVR	**Evrytania**	**1.31**	**62**	*e*Pn	**Pn**	**15 02 57.8**	**-0.4**
EVR				*e*Sb	**Sb**	**15 03 20.3**	**+5.0**
JAN	**Janina**	**1.40**	**17**	*e*PB	**Pb**	**15 03 00.6**	**+0.6**
KEK	**Kerkira**	**1.45**	**344**	*e*PG	**Pg**	**15 02 59.9**	**-1.8**
SRN	**Sarande**	**1.58**	**351**	*i* Pn	**Pn**	**15 03 02.1**	**+0.2**
SRN				*i* Sn	**Sn**	**15 03 30.7**	**+8.3**
MEV	**Metsovon**	**1.62**	**25**	*e*Pg	**Pn**	**15 03 03.6**	**+1.1**
ITM	**Ithomi**	**1.71**	**131**	*e*PN	**Pn**	**15 03 04.9**	**+1.2**
AGG	**Agios Georgios**	**1.72**	**65**	*e*Pb	**Pn**	**15 03 04.7**	**+0.9**
LKR	**Lokris**	**2.12**	**80**	*e*PB	**Pn**	**15 03 09.8**	**+0.4**
LIT	**Litokhoron**	**2.45**	**43**	*e*Pn	**Pn**	**15 03 14.6**	**+0.8**
FNA	**Florina**	**2.59**	**18**	*e*Pn	**Pn**	**15 03 16.6**	**+0.8**
KNT	**Kendrikon**	**3.46**	**34**	*e*Pn	**Pn**	**15 03 27.8**	**0.0**
SG1	**Sgolgore (BA)**	**3.78**	**313**	*e*Pn	**Pn**	**15 03 32.3**	**+0.2**

NEIC 03 15:07:20.1, 5810N×14583W, h12km, ML3.4(AEIC), ML3.7(PMR), After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**1.36**	**349**	P	Pn	15 07 39.9	-4.9
MID				S	Sn	15 07 54.4	-8.4
EYAK	**Cordova Ski Ar**	**2.46**	**1**	P	Pn	15 07 55.2	-4.7
EYAK				S	Sn	15 08 22.9	-7.1
SEW	**Seward**	**2.75**	**319**	P	Pn	15 07 59.9	-4.0
BMRM	**Bremner River**	**2.95**	**12**	P	Pn	15 08 01.9	-4.7
SLKM	**Skilak Lake**	**3.30**	**319**	P	Pn	15 08 07.2	-4.3
RC01	**Rabbit Creek A**	**3.60**	**328**	P	Pn	15 08 11.0	-4.6
KDAK	**Kodiak Island**	**3.61**	**268**	P	Pn	15 08 09.3	-6.4
PMR	**Palmer**	**3.88**	**336**	*e*P	Pn	15 08 16.6	-2.9
SML	**Sawmill**	**3.93**	**342**	P	Pn	15 08 15.4	-4.7
SKAG	**Skagway**	**5.63**	**72**	P	Pn	15 08 38.7	-4.8
SIT	**Sitka**	**5.75**	**96**	P	Pn	15 08 37.8	-7.4
SVW2	**Sparrevohn**	**5.79**	**305**	*e*P	Pn	15 08 41.1	-4.6
TRF	**Thorofare Moun**	**5.80**	**340**	P	Pn	15 08 42.5	-3.3
BESE	**Bessie Mountai**	**5.80**	**81**	P	Pn	15 08 41.0	-4.9
WHY	**Whitehorse**	**6.16**	**61**	P	Pn	15 08 46.2	-4.5
DAWY	**Dawson**	**6.75**	**25**	*e*Pn	Pn	15 08 54.5	-4.4
DLBC	**Dease Lake**	**8.34**	**81**	*e*Pn	Pn	15 09 16.4	-4.4
DLBC				*e*Sn	Sn	15 10 46.7	-8.2

IDC 03 15:14:30.6±3.4, 1035N×9231E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, Error ellipse: s-maj=131.0km s-min=23.4km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.36**	**18**	*e*P	x	15 14 28.0	
PBA				*e*S	x	15 14 43.6	
PBA				*e*x	x	15 14 48.3	
	comp=E,790nm,0.3s						
PBA				*e*x	x	15 14 50.1	
	comp=N,874nm,0.6s						
MKAR	**Makanchi Array**	**37.30**	**349**	P	P	15 21 44.6	+0.2
	comp=N,0.6nm,0.6s,baz=173,slow=8.2,SNR=7.7						
SONM	**Songino Array**	**39.20**	**15**	P	P	15 22 00.2	-0.2
	comp=N,0.1nm,0.5s,baz=212,slow=9.5,SNR=2.8						
WRA	**Warramunga Arr**	**51.16**	**126**	P	P	15 23 35.6	+0.2
	comp=N,0.3nm,0.6s,baz=300,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**52.88**	**130**	P	P	15 23 48.9	+0.7
	comp=N,0.3nm,0.5s,baz=304,slow=7.0,SNR=15						

*IDC **03** 15:27:47.3±0.5, 2046S×17434W, h0km, mb4.8/14, mb1 4.9/15, mb1mx4.8/19, mbtmp4.8/15, ML4.6/1, MS4.4/14, Ms1 4.4/14, ms1mx4.2/23, Error ellipse: s-maj=19.5km s-min=16.2km az=125.0*

*BJI **03** 15:27:50.7, 2041S×17366W, h38km, mB5.5, mb5.2, Ms5.1, Msz4.7*

*ISCJB **03** 15:27:51.3±0.2, 2058S±005×17433W±004, h36km, mb5.0/76, MS4.5/29, Error ellipse: s-maj=8.6km s-min=4.2km az=110.9*

*MOS **03** 15:27:51.4±1.1, 2046S×17438W, h33km, mb5.1/34, MS4.6/8, Error ellipse: s-maj=11.2km s-min=8.7km az=135.1*

*NEIC **03** 15:27:53.0±0.2, 2055S×17435W, mb5.0/57, MS5.0/1, Error ellipse: s-maj=8.3km s-min=4.2km az=142.0*

*SZGRF **03** 15:27:53.0, 2054S×17406W, h33km, mb4.9, Tonga Islands*

*HRVD **03** 15:27:53.0±0.2, 2073S×17370W, h25km, MW5.2/68, Centroid moment Tensor Solution. LP body waves: s51,c82;Mantle waves: s68,c125; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.28±.21; $M_{\theta\theta}$-0.14±.14; $M_{\phi\phi}$-5.13±.14; $M_{r\theta}$2.67±.34; $M_{\theta\phi}$-2.23±.10; $M_{\phi r}$2.98±.29; Best double couple: $M_0$6.92500×10^{16} NP1:ϕ_s187.00000°, δ30.00000°, λ66.00000°. NP2: ϕ_s34.00000°, δ63.00000°, λ103.00000°. Principal axes: T 6.7200, Plg69.0000°, Azm330.0000°; N 0.4190, Plg11.0000°, Azm208.0000°; P -7.1310, Plg17.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ORF **03** 15:28:05.2, 17.16S×17649W, h30km, mb5.7*

ISC 03 15:27:53.2±0.2, 2061S±005×17429W±004, h38km, h38km±1.1km: pP-P, n412, σ0°81/262, mb5.0/76, MS4.5/29, 66C-69D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.08**	**20**	Pn	Pn	**15 29 26.1**	**-8.2**
	14nm,0.3s,baz=135,slow=1.5,SNR=48						
AFI				Sn	**Sn**	**15 30 38.7**	**-15**
	6.8nm,0.3s,baz=39,slow=22,SNR=2.8						
AFI	**Afiamalu**	**7.08**	**20**	*e*P	**Pn**	**15 29 26.4**	**-7.9**
AFI				pmax	pmax		
	comp=Z,113nm,0.6s						
AFI	**Afiamalu**	**7.08**	**20**	*e*Pn	**Pn**	**15 29 26.4**	**-7.9**
	comp=Z,113nm,0.6s						
AFI				*e*Sn	**Sn**	**15 30 36.1**	**-17**
RAO	**Raoul Island**	**9.21**	**200**	Sn	**Sn**	**15 31 41.9**	**-4.0**
	comp=Z,46nm,0.3s,baz=270,slow=22,SNR=4.5						
RAR	**Rarotonga**	**13.58**	**95**	Pn	**Pn**	**15 30 52.0**	**-11**
	comp=Z,9.1nm,0.3s,baz=256,slow=8.0,SNR=13						
RAR				Sn	Sn	15 33 09.8	-23
	comp=Z,1.7nm,0.3s,baz=80,slow=19,SNR=3.9						
DZM	**Mont Dzumac**	**18.01**	**262**	P	**Pn**	**15 32 02.6**	**+2.1**
	comp=Z,2.5nm,0.3s,baz=79,slow=18,SNR=25						
NOUC	**Port Laguerre**	**18.14**	**262**	*e*P	**Pn**	**15 32 04.9**	**+2.8**
URZ	**Urewera**	**19.10**	**201**	P	**Pn**	**15 32 13.5**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=30,slow=9.3,SNR=9.6						
SNZO	**South Karori**	**22.66**	**202**	*e*P	**P**	**15 32 49.2**	**-1.7**
	comp=Z,123nm,1.1s,mb5.2						
TBI	**Tubuai**	**23.18**	**101**	*e*LQ		15 37 17.6	
	comp=Z,913nm,28.2s						
TBI				*e*LR	LR	15 38 24.8	
	comp=Z,2μm,27.8s,baz=274						
PPT	**Papeete**	**23.54**	**87**	*e*LQ		15 37 18.7	
	comp=Z,2μm,26.2s,baz=257						
PPT				*e*LR	LR	15 38 30.3	
	comp=Z,2μm,26.2s,baz=257						
PPT	**Papeete**	**23.54**	**87**	LR	LR	15 39 33.6	
	comp=Z,752nm,20.5s,MS4.1,baz=264,slow=30						
RPZ	**Rata Peaks**	**26.09**	**205**	P	**P**	**15 33 22.9**	**-0.4**
	comp=Z,20nm,0.6s,mb4.8,baz=264,slow=2.3,SNR=13						
HNR	**Honiara**	**27.21**	**290**	P	**P**	**15 33 32.1**	**-1.2**
	comp=Z,11nm,0.4s,mb4.8,baz=266,slow=20,SNR=5.8						
HNR				LR	LR	15 42 45.4	
	comp=Z,852nm,20.6s,MS4.3,baz=179,slow=33						
HNR	**Honiara**	**27.21**	**290**	*e*P	**P**	**15 33 32.1**	**-1.2**
HNR				pmax	pmax		
	comp=Z,113nm,1.2s,mb5.3						
HNR	**Honiara**	**27.21**	**290**	*e*P	**P**	**15 33 32.1**	**-1.2**
	comp=Z,113nm,1.2s,mb5.3						
TAOE	**Nuku Hiva Isla**	**34.94**	**76**	*e*LR	LR	15 43 40.2	
	comp=Z,3μm,27.1s						
CNB	**Canberra Magne**	**35.08**	**238**	*e*P	**P**	**15 34 42.8**	**+0.2**
	comp=Z,57nm,1.4s,mb5.3						
RKT	**Rikitea**	**36.50**	**101**	*e*S	**S**	**15 40 27.0**	**-7.2**
	comp=Z,227nm,28.5s						
RKT				*e*LR	LR	15 44 31.4	
	comp=Z,2μm,28.0s,baz=266						
CTA	**Charters Tower**	**36.94**	**264**	*e*P	**P**	**15 34 57.9**	**-0.6**
	comp=Z,15nm,0.8s,mb4.9						
CTA				*e*SCP	ScP	15 41 04.8	+1.7
CTA	**Charters Tower**	**36.94**	**264**	LR	LR	15 48 12.2	
	comp=Z,564nm,20.8s,MS4.3,baz=87,slow=33						
CTA	**Charters Tower**	**36.94**	**264**	*e*P	**P**	**15 34 57.9**	**-0.6**
CTA				pmax	pmax		
	comp=Z,15nm,0.8s						
CTAO	**Charters Tower**	**36.94**	**264**	*e*P	**P**	**15 34 58.5**	**0.0**

comp=Z,42nm,0.7s,mb5.5
GUMO Guam 52.60 307 P P 15 37 02.0 -1.2
comp=Z,60nm,0.8s,mb5.6,baz=166,slow=4.3,SNR=11
FITZ Fitzroy Crossi 56.46 261⇑ iP P 15 37 30.2 -0.9
comp=Z,19nm,1.5s,mb4.9
FITZ Fitzroy Crossi 56.46 261 P P 15 37 30.4 -0.7
comp=Z,1.7nm,0.4s,mb4.4,baz=238,slow=17,SNR=17
SBA Scott Base 58.02 185 eP **P 15 37 43.7 +1.5**
SBA pmax pmax
comp=Z,49nm,1.2s,mb5.4
SBA Scott Base 58.02 185 eP **P 15 37 43.7 +1.6**
comp=Z,49nm,1.2s,mb5.4
VNDA Vanda 58.14 186 P P 15 37 43.4 +0.4
comp=Z,4.9nm,0.9s,mb4.5,baz=13,slow=6.3,SNR=7.9
VNDA LR LR 15 57 49.2
comp=Z,170nm,18.4s,MS4.2,baz=305,slow=31
VNDA Vanda 58.14 186 eP **P 15 37 43.5 +0.5**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 58.14 186 eP **P 15 37 43.5 +0.5**
comp=Z,6.5nm,1.0s,mb4.6
KLBR Kellerberrin 61.16 245 eP **P 15 38 03.9 +0.1**
comp=Z,26nm,0.9s,mb5.4
MBWA Marble Bar 61.22 257 eP **P 15 38 03.1 -1.0**
comp=Z,7.9nm,0.6s,mb5.0
NWAO Narrogin (SRO) 61.43 243 eP **P 15 38 05.9 +0.3**
NWAO pmax pmax
comp=Z,14nm,1.0s
NWAO Narrogin (SRO) 61.43 243 eP **P 15 38 05.9 +0.3**
comp=Z,14nm,1.0s,mb5.0
MUN Mundaring 62.41 244 eP **P 15 38 12.8 +0.6**
CBIJ Chichi jima 63.45 317 LR LR 16 03 39.6
comp=Z,288nm,18.5s,MS4.5,baz=117,slow=34
CASY Casey 65.36 205 P P 15 38 32.2 +0.6
comp=Z,30nm,1.0s,mb5.3
QSPA South Pole Qui 69.46 180⇑ iP **P 15 38 58.5 +0.9**
comp=Z,30nm,1.0s,mb5.2
MJAR Matsushiro Arr 72.41 321 P P 15 39 15.2 -0.2
comp=Z,13nm,0.7s,mb5.0,baz=160,slow=5.9,SNR=33
MJAR LR LR 16 05 02.2
comp=Z,233nm,20.9s,MS4.4,baz=150,slow=31
MAJO Matsushiro 72.41 321 eP **P 15 39 15.6 +0.2**
MAJO e*PP pP 15 39 25.6 -1.5
MAJO pmax pmax
comp=Z,39nm,0.8s,mb5.4
MAJO Matsushiro 72.41 321 eP **P 15 39 15.6 +0.2**
comp=Z,39nm,0.8s,mb5.4
MAJO epP pP 15 39 25.6 -1.5
MAT Matsushiro 72.41 321 P P 15 39 15.5 +0.1
MAT eS S 15 48 40.0 +3.6
MAT Matsushiro 72.41 321 eP **P 15 39 16.0 +0.6**
MAT S S 15 48 40.0 +3.6
MAT pmax pmax
comp=Z,15nm,1.0s,mb4.9
MAT Matsushiro 72.41 321 eP **P 15 39 16.0 +0.6**
comp=Z,15nm,1.0s,mb4.9
MAT S S 15 48 40.0 +3.6
JOW Kunigami 72.94 308 LR LR 16 04 58.8
comp=Z,168nm,20.3s,MS4.3,baz=124,slow=31
KKM Kota Kinabalu 73.16 283 P P 15 39 18.6 -1.3
FARB Farallon Islan 75.42 40⇓ P P 15 39 31.8 -1.2
baz=76
U04C Hernandez Rese 75.92 42⇑ P P 15 39 37.4 +1.5
baz=76
PACP Pacheco Peak 76.02 41⇑ P P 15 39 37.3 +0.9
baz=76
HOPS Hopland 76.23 39⇑ P P 15 39 38.4 +0.8
baz=76
S04C Ingram Canyon, 76.31 41⇑ P P 15 39 38.0 -0.1
baz=76
MNRC McLaughlin Nat 76.52 39⇑ P P 15 39 39.8 +0.5
baz=77
O01C Eel River Cons 76.56 37⇓ P P 15 39 40.2 +0.7
baz=77
S05C Merced 76.83 41⇑ P P 15 39 41.5 +0.5
baz=77
GASB Alder Springs 76.87 38⇓ P P 15 39 42.0 +0.7
baz=77
KSM Kuching 76.88 277 eP **P 15 39 42.0 +0.7**
ISA Isabella 76.96 44 eP **P 15 39 41.4 -0.4**
ISA pmax pmax
comp=Z,22nm,1.4s,mb4.9
ISA Isabella 76.96 44 eP **P 15 39 41.4 -0.4**
comp=Z,22nm,1.4s,mb4.9
ISA Isabella 76.96 44⇑ eP **P 15 39 41.9 +0.1**
baz=77
PET Petropavlovsk 76.99 344 eP **P 15 39 46.9 +4.9**
PET eS S 15 49 32.8 +5.3
PET eSS SS 15 54 27.0 +2.2
PET eSSS 15 57 47.5
PET pmax pmax
comp=Z,100nm,13.3s
PET smax
comp=E,100nm,16.7s
PET smax
comp=N,100nm,14.3s
PET MLR MLR
comp=Z,200nm,18.0s,MS4.5
PFO Pinyon Flat Ob 77.09 46⇑ P P 15 39 42.8 +0.3
baz=77
O02C Red Bluff 77.17 38⇑ P P 15 39 43.3 +0.3
baz=77
CMB Columbia Colle 77.22 41 eP **P 15 39 43.1 -0.1**
CMB pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CMB Columbia Colle 77.22 41 eP **P 15 39 43.1 -0.2**
comp=Z,7.3nm,1.0s,mb4.6
CMB Columbia Colle 77.22 41⇓ P P 15 39 43.2 -0.1
baz=77
HELL Mitchell Peak 77.23 43⇓ P P 15 39 43.0 -0.3
baz=77
N02C Big Bar 77.30 37⇑ P P 15 39 44.0 +0.3
baz=78
ORV Oroville 77.52 39⇑ P P 15 39 45.3 +0.3
baz=78
M01C Crescent City 77.54 36⇓ P P 15 39 45.3 +0.3
baz=78
WDC Whiskeytown Da 77.58 38⇑ P P 15 39 45.4 +0.1
baz=78
YSS Yuzh-Sakhalins 77.60 331⇑ eP **P 15 39 45.2 -0.2**
YSS e pP 15 39 56.0 -1.1
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.2
YSS MLR MLR
comp=Z,500nm,19.0s,MS4.9
YSS Yuzh-Sakhalins 77.60 331 eP **P 15 39 46.1 +0.7**
comp=Z,31nm,0.9s,mb5.2
YSS epP pP 15 39 56.5 -0.6
CWC Cottonwood Cre 77.69 43⇓ P P 15 39 46.1 +0.3
baz=78
BC3 Big Chuckw Mtn 77.80 47⇓ P P 15 39 46.8 +0.3
baz=78
R05C Kirkwood Meado 77.83 40⇑ P P 15 39 47.0 +0.4
baz=78
GSC Goldstone 77.84 45 eP **P 15 39 46.3 -0.4**
GSC Goldstone 77.84 45⇓ P P 15 39 46.5 -0.2
baz=78
GLA Glamis 77.89 48 eP **P 15 39 46.7 -0.3**
GLA Glamis 77.89 48⇑ P P 15 39 46.9 -0.1
baz=78
P05C Yuba Gap, Truc 77.89 40⇓ P P 15 39 47.1 +0.2
baz=78
DAC Darwin (Calif) 77.90 44 eP **P 15 39 46.0 -1.1**
DAC pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
DAC Darwin (Calif) 77.90 44 eP **P 15 39 46.0 -1.0**
comp=Z,7.2nm,1.2s,mb4.5
MTUM Tungsten Hills 77.93 42 eP **P 15 39 47.2 0.0**
M02C Callahan 77.94 37⇓ P P 15 39 47.6 +0.4
baz=78
L02A Cave Junction 78.03 36⇓ P P 15 39 48.2 +0.5
baz=78
R07C Lee Vining 78.08 41⇓ P P 15 39 48.2 +0.1
baz=78
WAKR Walker 78.10 41 eP **P 15 39 47.5 -0.7**
R06C Coleville 78.10 41⇑ P P 15 39 48.4 +0.3
baz=78
O05C Quincy 78.12 39⇓ P P 15 39 48.3 0.0
baz=78
YBH Yreka Blue Hor 78.24 37 eP **P 15 39 48.7 -0.2**
YBH e*PP pP 15 40 01.4 +0.7
YBH pmax pmax
comp=Z,8.0nm,1.1s
YBH Yreka Blue Hor 78.24 37 eP **P 15 39 48.6 -0.3**
comp=Z,8.1nm,1.1s,mb4.6
YBH epP pP 15 40 01.4 +0.7
YBH Yreka Blue Hor 78.24 37⇓ P P 15 39 48.9 0.0
baz=78
O04C Chester 78.25 39⇑ P P 15 39 48.7 -0.3
baz=78
S08C White Mtn Res 78.27 42⇓ P P 15 39 49.3 +0.2
baz=78,SNR=13
M03C McCloud 78.27 37⇑ P P 15 39 49.4 +0.3
baz=78
HATC Hat Creek Radi 78.36 38⇑ P P 15 39 49.5 -0.1
baz=79
WCN Washoe City 78.40 40⇓ P P 15 39 49.7 -0.1
baz=79
Y12C Blythe 78.49 47⇓ P P 15 39 50.0 -0.3
baz=79
TUQ Turquoise Mtn. 78.50 45⇓ P P 15 39 50.2 -0.2
baz=79
K02A Glendale 78.50 36⇓ P P 15 39 49.8 -0.6
baz=79
HUMO Hull Mountain 78.69 36 eP **P 15 39 51.6 +0.3**
comp=Z,4.2nm,0.9s,mb4.4
HUMO Hull Mountain 78.69 36⇑ P P 15 39 51.7 +0.3
baz=79
NVAR Mina Array Bea 78.75 42 P P 15 39 51.3 -0.4
comp=Z,7.5nm,1.0s,mb4.6,baz=214,slow=6.7,SNR=27
R08A Mina 78.83 42⇑ P P 15 39 52.0 -0.1
baz=79
MNV Mina 78.85 42 eP **P 15 39 52.0 -0.3**
MNV pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MNV Mina 78.85 42 eP **P 15 39 52.0 -0.3**
comp=Z,10nm,1.0s,mb4.7
PAHR Pah Rah Range 78.88 40 eP **P 15 39 52.1 -0.4**
comp=Z,9.4nm,1.1s,mb4.6
M05C Lookout 78.89 38⇓ P P 15 39 52.5 0.0
baz=79
O06A Flanigan 78.90 39⇑ P P 15 39 52.6 0.0
baz=79
L04A Klamath Falls 78.99 37⇑ P P 15 39 52.9 -0.2
baz=79
Y13A Salome 79.00 48⇑ P P 15 39 52.9 -0.2
baz=79
S09A Goldfield 79.00 43⇑ P P 15 39 52.7 -0.4
baz=79
I02A Mapleton 79.15 35⇑ P P 15 39 53.9 0.0
baz=79
M06C Likely Place G 79.17 38⇓ P P 15 39 54.0 0.0
baz=79
TPNV Topopah Spring 79.17 44 eP **P 15 39 53.4 -0.6**
TPNV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TPNV Topopah Spring 79.17 44 eP **P 15 39 53.4 -0.7**
comp=Z,7.9nm,0.8s,mb4.7
TPH Tonopah 79.22 42 P P 15 39 53.9 -0.4
TPH pmax pmax
comp=Z,11nm,1.0s,mb4.7
TPH Tonopah 79.22 42 P P 15 39 53.9 -0.4
comp=Z,11nm,1.0s,mb4.7
Q08A Gabbs 79.25 41⇑ P P 15 39 54.2 -0.2
baz=80
KS15 Wonju Array Si 79.33 317 eP **P 15 39 56.9 +2.0**
KS15 epP pP 15 40 06.9 +0.2
Z14A Wintersburg 79.36 48⇓ P P 15 39 54.9 -0.2
baz=80
X13A Yucca 79.43 47⇓ P P 15 39 55.6 +0.1
baz=80
O07A Toulon 79.46 40 P P 15 39 55.5 -0.1
baz=80,SNR=13
SHPR Sheep Range 79.63 45 eP **P 15 39 57.1 +0.6**
Y14A Wickenburg 79.65 48⇓ P P 15 39 56.5 -0.1
baz=80
P08A Dixie Valley 79.66 41⇑ P P 15 39 56.6 -0.1
baz=80
Q09A Carvers 79.69 42⇑ P P 15 39 56.6 -0.3
baz=80
N07B Gerlach 79.80 39⇑ P P 15 39 56.9 -0.6
baz=80
116A Eloy 79.81 50⇓ P P 15 39 57.2 -0.3
baz=80
H03A Soap Creek Ran 79.90 34⇓ P P 15 39 57.8 -0.2
baz=80
O08A Rochester Mine 79.98 40⇓ P P 15 39 58.2 -0.2
baz=80
X14A Yava 80.01 47⇓ P P 15 39 58.4 -0.2
baz=80
M07A Soldier Meadow 80.06 39⇓ P P 15 39 58.5 -0.3
baz=80
P09A Austin 80.15 41⇑ P P 15 39 59.0 -0.4
baz=80
INCN Inchon 80.16 316 eP **P 15 40 01.4 +2.0**
INCN epP pP 15 40 11.5 +0.4
W14A Seligman 80.29 47⇑ P P 15 40 00.1 0.0
baz=80
N08A GE Springer Mi 80.30 40⇑ P P 15 40 00.0 -0.1
baz=80,SNR=8.0
K06A Valley Falls 80.33 37⇓ P P 15 40 00.3 0.0
baz=80
TUC Tucson 80.34 50 eP **P 15 40 00.8 +0.4**
TUC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
TUC Tucson 80.34 50 eP **P 15 40 00.8 +0.4**
comp=Z,8.0nm,1.1s,mb4.6
SSE Sheshan 80.46 308 P P 15 40 01.8 +0.8
SSE AP pP 15 40 13.3 +0.5
SSE XP sP 15 40 18.3 +1.2
SSE PP PP 15 43 05.9 +1.5
SSE S S 15 50 07.1 +2.6
SSE XS sS 15 50 27.9 +3.8
SSE AMB AMB
comp=Z,40nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,150nm,4.5s
SSE LR LR
comp=N,50nm,18.2s,MS4.1
SSE LR LR
comp=E,70nm,18.2s,MS4.1
SSE LR LR
comp=Z,100nm,20.9s,MS4.1
X15A Humboldt 80.47 48⇑ P P 15 40 01.5 +0.4
baz=81
H04A Detroit Lake 80.48 35⇑ P P 15 40 01.3 +0.2
baz=81
O09A Fish Creek Ran 80.49 41⇓ P P 15 40 01.7 +0.5
baz=81
M08A Happy Creek Ra 80.56 39⇑ P P 15 40 01.6 0.0
baz=81
I05A Bend 80.64 36⇑ P P 15 40 01.7 -0.3
baz=81
J06A Christmas Vall 80.67 37⇑ P P 15 40 01.5 -0.6
baz=81,SNR=6.7
N09A Rock Creek Ran 80.71 40⇓ P P 15 40 02.2 -0.1
baz=81
W15A Williams 80.83 47⇓ P P 15 40 03.4 +0.4
baz=81
WVOR Wild Horse Val 81.02 38 eP **P 15 40 03.3 -0.7**
WVOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WVOR Wild Horse Val 81.02 38 eP **P 15 40 03.3 -0.7**
comp=Z,9.4nm,1.0s,mb4.7
I06A Prineville 81.08 36 P P 15 40 04.3 0.0
baz=81,SNR=8.0
M09A Marrel Ranch, 81.09 40⇓ P P 15 40 04.1 -0.3
baz=81
F04A Amboy 81.19 34⇓ P P 15 40 05.6 +0.7
baz=81
L09A Wilkinson Ranc 81.33 39⇓ P P 15 40 06.0 +0.3
baz=82
CCUT Cedar City 81.40 45 eP **P 15 40 06.2 +0.2**
P12A McGill 81.50 42⇑ P P 15 40 06.3 -0.2
baz=82
F05A White Salmon 81.66 34⇑ P P 15 40 08.4 +1.0
baz=82
M10A I.L. Ranch, Tu 81.70 40⇑ P P 15 40 08.4 +0.8
baz=82
E05A Randle 81.95 34⇓ P P 15 40 09.3 +0.4
baz=82
ELK Elko 82.03 41 eP **P 15 40 09.5 +0.1**
O12A Currie 82.06 42⇑ P P 15 40 09.9 +0.4
baz=82
B04A Port Angeles 82.08 32⇑ P P 15 40 09.5 -0.1
baz=82
M11A Holland Ranch, 82.10 40⇓ P P 15 40 10.0 +0.2
baz=82
N12A Wells--Clov Va 82.22 41⇑ P P 15 40 10.6 +0.2
baz=82
D05A Emmclaw 82.25 33⇓ P P 15 40 10.4 -0.1
baz=82
HABR Khabarovsk 82.30 329 i P **P 15 40 11.9 +1.1**
HABR e pP 15 40 20.7 -1.9
HABR eS S 15 50 22.1 -1.5
HABR pmax pmax
comp=Z,58nm,1.5s,mb5.3
HABR MLR MLR
comp=Z,356nm,21.1s,MS4.7
MAW Mawson 82.62 199⇑ iP **P 15 40 13.3 +0.9**
comp=Z,6.4nm,0.8s,mb4.7
MAW Mawson 82.62 199 P P 15 40 13.0 +0.5
comp=Z,7.2nm,0.7s,mb4.8,baz=137,slow=7.3,SNR=16
MAW Mawson 82.62 199 P P 15 40 13.0 +0.6
MAW pmax pmax
comp=Z,7.0nm,0.7s
MDJ Mudanjiang 82.64 323 P P 15 40 13.9 +1.3
MDJ AP pP 15 40 23.4 -1.0
MDJ XP sP 15 40 27.0 -1.7
MDJ PP PP 15 43 23.5 +1.0
MDJ S S 15 50 26.2 -1.0
MDJ XS sS 15 50 46.2 -0.6
MDJ SS SS 15 55 52.5 +3.0
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,110nm,8.2s
MDJ LR LR
comp=N,130nm,20.2s,MS4.5
MDJ LR LR
comp=E,120nm,17.8s,MS4.5
MDJ LR LR
comp=Z,220nm,21.0s,MS4.5
MDJ Mudanjiang 82.64 323 eP **P 15 40 13.5 +1.0**
comp=Z,26nm,1.2s,mb5.1
MDJ epP pP 15 40 24.6 +0.2
NJ2 Nanjing 82.66 308 eP **P 15 40 14.2 +1.6**
NJ2 AP pP 15 40 24.6 +0.2
NJ2 XP sP 15 40 29.1 +0.3
NJ2 S S 15 50 27.0 -0.3
NJ2 SKS 15 50 30.0
NJ2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
NJ2 AMB AMB
comp=Z,230nm,4.5s
NJ2 LR LR
comp=N,260nm,14.2s
NJ2 LR LR
comp=E,370nm,21.3s
NJ2 LR LR
comp=Z,200nm,20.4s
MSU Marysvale 82.71 44 eP **P 15 40 13.5 +0.6**
C05A Tolt Reservoir 82.73 33⇑ P P 15 40 12.9 -0.1
baz=83
N13A West Wendover 82.74 42⇓ P P 15 40 13.1 0.0
baz=83
B05A Bryant 82.91 32⇓ P P 15 40 13.2 -0.7
baz=83
A04A Legoe Bay, Lum 82.91 32⇑ P P 15 40 13.2 -0.8
baz=83
M13A Montello 83.05 41⇓ P P 15 40 14.4 -0.3
baz=83
SLKM Skilak Lake 83.15 12 eP **P 15 40 13.8 -1.4**
SLKM e*PP pP 15 40 25.7 -1.3
DUG Dugway 83.24 43 eP **P 15 40 15.8 +0.2**
DUG pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
DUG Dugway 83.24 43 eP **P 15 40 15.8 +0.2**
comp=Z,6.3nm,1.1s,mb4.6
TMUT Trail Mountain 83.78 44 eP **P 15 40 18.2 -0.2**
MNTX Cornudas Mount 84.00 53 eP **P 15 40 19.2 -0.4**
comp=Z,5.8nm,1.0s,mb4.7
LAZ Ladron 84.03 50 eP **P 15 40 21.0 +1.4**
SRU San Rafael 84.12 45 eP **P 15 40 20.2 0.0**
SRU pmax pmax
comp=Z,12nm,0.8s,mb5.1
SRU San Rafael 84.12 45 eP **P 15 40 20.2 0.0**
comp=Z,12nm,0.8s,mb5.1
GAMB Gambell 84.13 1 eP **P 15 40 19.8 -0.4**
HVU Hansel Valley 84.15 41 eP **P 15 40 19.7 -0.6**
HVU pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
HVU Hansel Valley 84.15 41 eP **P 15 40 19.7 -0.6**
comp=Z,9.3nm,0.9s,mb4.9
HLID Hailey 84.17 39 eP **P 15 40 20.5 +0.1**
comp=Z,12nm,1.0s,mb5.0
BNM Barren Site 84.27 50 eP **P 15 40 22.0 +1.0**
LPM Los Pinos Moun 84.35 50 eP **P 15 40 21.8 +0.4**
LPM epP pP 15 40 33.4 +0.3
DAU Daniels Canyon 84.35 43 eP **P 15 40 22.2 +0.9**
PMR Palmer 84.36 12 P P 15 40 20.0 -1.4
PMR pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
PMR Palmer 84.36 12 P P 15 40 20.0 -1.4
comp=Z,3.9nm,0.4s,mb4.9
KLR Kul'dur 84.43 328 eP **P 15 40 19.3 -2.4**
TTA Tatalina 84.50 8 eP **P 15 40 22.0 -0.1**
TTA e*PP pP 15 40 33.5 -0.4
CN2 Changchun 84.54 321 eP **P 15 40 23.1 +0.8**
CN2 eXP sP 15 40 39.0 +0.5
CN2 eS 15 50 46.7
CN2 AMB AMB
comp=Z,20nm,1.4s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,19.0s,MS4.7
CN2 LR LR
comp=E,200nm,19.0s,MS4.7
CN2 LR LR
comp=Z,200nm,19.0s,MS4.5
ANMO Albuquerque 84.78 50 eP **P 15 40 23.9 +0.4**
ANMO e*PP pP 15 40 35.6 +0.2
ANMO pmax pmax
comp=Z,12nm,1.2s
ANMO Albuquerque 84.78 50 eP **P 15 40 23.9 +0.4**
comp=Z,12nm,1.2s,mb4.9
ANMO epP pP 15 40 35.5 +0.2
HWUT Hardware Ranch 84.81 42 eP **P 15 40 22.8 -0.8**
comp=Z,6.4nm,0.9s,mb4.8
PV01 Paradox Valley 84.91 46 eP **P 15 40 23.7 -0.4**
PV01 epP pP 15 40 36.0 0.0
NEW Newport 85.46 34 P P 15 40 27.6 +0.7
MCMT McKenzie Canyo 85.82 39 eP **P 15 40 28.2 -0.5**
REDW Red Top Meadow 86.20 41 eP **P 15 40 31.0 +0.5**
comp=Z,9.1nm,1.1s,mb4.9
DLMT Dillon 86.27 38 eP **P 15 40 30.9 0.0**
comp=Z,9.9nm,1.1s,mb5.0
IMW Indian Meadow 86.44 40 eP **P 15 40 30.0 -1.8**
comp=Z,6.0nm,1.0s,mb4.8
SMCO Snowmass 86.52 46 eP **P 15 40 34.2 +2.0**
comp=Z,9.4nm,0.9s,mb5.0
PLCA Paso Flores 86.65 132 LR LR 16 10 32.4
comp=Z,249nm,18.6s,MS4.6,baz=75,slow=30
QLMT Earthquake Lak 86.66 39 eP **P 15 40 33.2 +0.4**
BW06 Boulder Array 86.69 42 eP **P 15 40 31.7 -1.3**
PDAR Pinedale Array 86.69 42 P P 15 40 31.9 -1.0
comp=Z,4.3nm,0.9s,mb4.7,baz=220,slow=2.6,SNR=15
PDAR LR LR 16 16 52.9
comp=Z,281nm,18.0s,MS4.7,baz=248,slow=34
CHMT Chamberlain Mo 86.77 37 eP **P 15 40 31.7 -1.6**
DLBC Dease Lake 86.83 22 eP **P 15 40 33.1 -0.6**
DLBC epP pP 15 40 46.9 +1.3
BOZ Bozeman (W) 86.99 39 eP **P 15 40 34.3 -0.1**
BOZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.8
BOZ Bozeman (W) 86.99 39 eP **P 15 40 34.2 -0.2**
comp=Z,8.1nm,1.3s,mb4.8
KULM Kulim 87.24 277 eP **P 15 40 37.1 +1.5**
SYO Syowa Base 87.36 192⇑ eP **P 15 40 35.8 -0.4**
SYO Syowa Base 87.36 192⇑ epP pP 15 40 45.3 -2.8
COLA College 87.61 11 eP **P 15 40 35.9 -1.5**
COLA e*PP pP 15 40 48.4 -0.9
COLA pmax pmax
comp=Z,30nm,1.0s,mb5.5
COLA College 87.61 11 eP **P 15 40 35.9 -1.5**
comp=Z,30nm,1.0s,mb5.5
COLA epP pP 15 40 48.4 -0.9
RWWY Rawlins 87.62 44 eP **P 15 40 37.1 -0.3**
comp=Z,8.0nm,0.8s,mb5.0
WALA Waterton Lakes 87.64 35 P P 15 40 38.2 +0.7
comp=Z,12nm,1.1s,mb5.0
VNA3 Neumayer Olymp 87.77 175⇓ iP **P 15 40 38.2 0.0**
VNA3 e 15 40 39.9
VNA3 e pP 15 40 50.1 0.0
VNA3 e 15 40 54.0
VNA3 e 15 41 03.0
VNA3 e 15 41 10.3
VNA3 e 15 41 30.5

SNAA	Sanae	87.78 177	⇓	*i*P	P	15 40 27.9	-10
SNAA				*e*		15 40 29.8	
SNAA				*e*	pP	15 40 39.6	-11
SNAA				*e*		15 40 44.6	
SNAA				*e*		15 40 50.8	
SNAA				*e*		15 40 57.2	
SNAA				*e*		15 41 14.7	
VNA2	Neumayer--Watz	88.25 176	⇓	*i*P	P	15 40 40.8	+0.3
VNA2				*e*		15 40 43.4	
VNA2				*e*	pP	15 40 53.8	+1.4
VNA2				*e*		15 40 57.5	
VNA2				*e*		15 41 08.3	
VNA2				*e*		15 41 16.9	
VNA2				*e*		15 41 33.4	
VNA2				*e*		15 44 06.3	
BJT	Baijiatuau	88.44 314		P	P	15 40 40.6	-0.7
BJT				pmax	pmax		
	comp=Z,75nm,1.5s						
BJT	Baijiatuau	88.44 314		P	P	15 40 40.6	-0.7
	comp=Z,75nm,1.5s,mb5.7						
VNA1	Neumayer--Stat	88.46 175	⇓	*i*P	P	15 40 42.2	+0.7
VNA1				*e*		15 40 44.1	
VNA1				*e*	pP	15 40 54.0	+0.6
VNA1				*e*		15 40 57.8	
VNA1				*e*		15 41 06.7	
VNA1				*e*		15 41 13.9	
VNA1				*e*		15 41 32.5	
DAWY	Dawson	88.65 15		*e*P	P	15 40 42.5	+0.2
DAWY				*e*pP	pP	15 40 54.6	+0.3
BILL	Bilibino	89.54 353	⇓	*e*P	P	15 40 46.3	-0.2
BILL				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb5.0						
BILL	Bilibino	89.54 353		*e*P	P	15 40 45.7	-0.8
	comp=Z,10nm,1.0s,mb5.1						
GYA	Guiyang	89.74 298	⇑	*i*P	P	15 40 49.5	+2.0
GYA				AP	pP	15 40 59.8	+0.4
GYA				XP	sP	15 41 03.7	0.0
GYA				PP	PP	15 44 24.4	+4.5
GYA				SKS		15 51 15.5	
GYA				S		15 51 36.9	
GYA				PS	PS	15 52 49.8	+3.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,410nm,20.4s,MS5.0						
GYA				LR	LR		
	comp=E,430nm,21.6s,MS5.0						
GYA				LR	LR		
	comp=Z,470nm,20.8s,MS4.9						
XAN	Xi'an	90.99 306		P	P	15 40 54.9	+1.6
XAN				AP	pP	15 41 04.4	-0.8
XAN				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.2						
KMI	Kunming	92.51 296	⇑	P	P	15 41 02.6	+2.3
KMI				AP	pP	15 41 13.0	+0.7
KMI				XP	sP	15 41 17.0	+0.4
KMI				PP	PP	15 44 48.5	+6.7
KMI				PPP		15 46 49.1	
KMI				S		15 52 00.9	
KMI				XS	sS	15 52 20.2	-1.3
KMI				SS	SS	15 58 18.7	+5.2
KMI				SSS		16 01 55.8	
KMI				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.3						
KMI				LR	LR		
	comp=N,170nm,18.6s,MS4.8						
KMI				LR	LR		
	comp=E,280nm,17.7s,MS4.8						
KMI				LR	LR		
	comp=Z,300nm,21.3s,MS4.7						
INK	Inuvik	93.50 14		*e*P	P	15 41 03.9	-1.0
INK				*e*'PP	pP	15 41 16.1	-0.7
YAK	Yakutsk	93.54 337		*i* P	P	15 41 03.4	-1.7
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb5.0						
YAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.3						
YAK	Yakutsk	93.54 337		P	P	15 41 02.7	-2.4
CHTO	Chiang Mai	93.56 289		*e*P	P	15 41 07.0	+1.8
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.1						
CHTO	Chiang Mai	93.56 289		*e*P	P	15 41 07.0	+1.9
	comp=Z,5.7nm,0.8s,mb5.0						
CD2	Chengdu	93.79 301		*e*P	P	15 41 05.2	-1.0
CD2				AP	pP	15 41 17.8	-0.4
CD2				XP	sP	15 41 21.4	-1.1
CD2				PP	PP	15 44 53.7	+1.9
CD2				SKS		15 51 35.2	
CD2				S		15 52 08.7	
CD2				XS	sS	15 52 28.7	-4.1
CD2				PS	PS	15 53 32.6	+1.2
CD2				SS	SS	15 58 32.2	+0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,40nm,9.2s						
CD2				LR	LR		
	comp=N,430nm,18.0s						
CD2				LR	LR		
	comp=Z,220nm,16.8s,MS4.7						
YKA	Yellowknife Ar	95.18 24		P	P	15 41 10.7	-1.9
	comp=Z,1.7nm,0.8s,mb4.5,baz=233,slow=4.3,SNR=5.4						
YKA				LR	LR	16 17 10.6	
	comp=Z,141nm,20.8s,MS4.4,baz=245,slow=31						
YKA	Yellowknife Ar	95.18 24		P	P	15 41 10.7	-1.9
YKA				LR	LR	16 17 10.6	
LZH	Lanzhou	95.62 306		*e*P	P	15 41 18.0	+3.4
LZH				AP	pP	15 41 27.4	+0.9
LZH				XP	sP	15 41 33.5	+2.6
LZH				PP	PP	15 45 12.7	+6.7
LZH				*e*S		15 52 30.0	
LZH				XS	sS	15 52 48.1	-0.6
LZH				SS	SS	15 59 01.0	+3.2
LZH				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,70nm,6.0s						
LZH				LR	LR		
	comp=E,330nm,15.8s						
LZH				LR	LR		
	comp=Z,480nm,16.9s,MS5.0						
ULN	Ulaanbaatar	97.74 318		*e*P	P	15 41 24.6	+0.4
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.9						
ULN	Ulaanbaatar	97.74 318		*e*P	P	15 41 24.6	+0.4
	comp=Z,3.9nm,1.0s,mb4.9						
SONM	Songino Array	98.14 318		P	P	15 41 24.7	-1.3
	comp=Z,0.6nm,1.1s,mb4.1,baz=124,slow=4.5,SNR=5.0						
SONM				LR	LR	16 26 52.6	
	comp=Z,146nm,18.4s,MS4.5,baz=298,slow=36						
ULM	Lac du Bonnet	98.48 39		LR	LR	16 23 44.1	
	comp=Z,234nm,18.2s,MS4.7,baz=20,slow=34						
LPAZ	La Paz	98.79 111		LR	LR	16 15 49.0	
	comp=Z,152nm,20.4s,MS4.5,baz=196,slow=29						
TIXI	Tiksi	99.77 344		*e*P	Pdif	15 41 30.6	-2.7
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.4						
ZAL	Zalesovo	112.77 321		PKiKP	PKiKP	15 46 26.0	+0.2
	comp=Z,0.9nm,0.5s,baz=225,slow=4.0,SNR=4.7						
MKAR	Makanchi Array	113.81 313		PKiKP	PKiKP	15 46 26.9	-0.8
	comp=Z,1.1nm,0.8s,baz=56,slow=3.1,SNR=9.9						
KURK	Kurchatov	116.43 317		*i* PKIKP	PKPdf	15 46 32.4	-0.4
KURK	Kurchatov	116.43 317		*e*PKPdf	PKPdf	15 46 31.5	-1.2
AAK	Ala-Archa	119.10 308		*i* PKIKP	PKPdf	15 46 37.3	-0.6
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.5						
CHKZ	Chkalovo	121.17 321		*e*PKIKP	PKPdf	15 46 40.5	-1.4
BRVK	Borovoye	121.45 320		*e*PKIKP	PKPdf	15 46 42.1	-0.3
ZRNK	Zerenda	122.23 320		*e*PKIKP	PKPdf	15 46 43.3	-0.6
ARU	Arti	127.25 326		*i* PKIKP	PKPdf	15 46 51.3	-2.2
ARU				*e*		15 48 47.4	
ARU				*e*		15 53 51.7	
ARU				MLR	MLR		
	comp=N,60nm,21.0s,MS4.8						
ARU				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.8						
ARU				MLR	MLR		
	comp=E,200nm,20.0s,MS4.8						
AKTK	Aktyubinsk	129.44 319		PKP	PKPdf	15 46 56.6	-1.1
AKTO	Aktyubinsk	129.44 319		PKP	PKPdf	15 46 56.6	-1.1
	comp=E,1.1nm,0.7s,baz=58,slow=4.2,SNR=3.8						
ARCES	ARCESS Array B	129.61 351		PKP	PKPdf	15 46 57.0	-1.0
	comp=E,3.3nm,0.7s,baz=318,slow=1.6,SNR=7.5						
FINES	FINESS Array B	136.79 346		PKhKP		15 47 00.9	
	comp=E,1.4nm,0.9s,baz=243,slow=13,SNR=2.3						
FINES				PKP	PKPdf	15 47 11.4	-0.1
	comp=E,1.9nm,0.8s,baz=48,slow=2.8,SNR=4.4						
FINES	FINESS Array B	136.79 346		*i* PKIKP	PKPdf	15 47 14.5	+3.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN	Obninsk	138.46 334		*i* PKIKP	PKPdf	15 47 13.9	-0.7
OBN				*e*		15 47 25.5	
OBN				*e*		15 54 18.8	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.6						
KIV	Kislovodsk	141.49 316		*i* PKIKP	PKPdf	15 47 18.7	-1.4
KMBO	Kilima Mbogo	142.32 239		*e*PKIKP	PKPdf	15 47 20.8	-0.8
SOC	Sochi	143.58 317		*i* PKIKP	PKPdf	15 47 25.3	+1.5
SOC				*e*		15 50 33.0	
SOC				*e*SS	SS	16 09 13.3	-1.7
SOC				*e*SSS		16 14 43.1	
ANN	Anapa	144.39 320		*i* PKIKP	PKPdf	15 47 22.4	-2.8
ANN				pmax	pmax		
	comp=Z,31nm,1.6s						
AKASG	Malin Array Be	144.72 334		PKP	PKPdf	15 47 23.7	-2.1
	comp=Z,6.8nm,0.6s,baz=40,slow=4.3,SNR=50						
AKASG	Malin Array Be	144.72 334		*i* PKIKP	PKPdf	15 47 24.0	-1.8
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKASG	Malin Array Be	144.72 334		PKP	PKPdf	15 47 23.7	-2.1
DCN	Croghan	145.83 14		*e*P	PKPdf	15 47 27.0	-0.7
DLF	Lyons Farm	146.03 13		*e*P	PKPdf	15 47 27.0	-1.1
DSB	Dublin	146.12 13		*e*PKPdf	PKPdf	15 47 28.5	+0.3
DSB				*e*pPKPdf	pPKPdf	15 47 39.1	-1.4
ELZG	Elazig	146.25 309		*i* P	PKPab	15 47 31.8	+1.5
SIM	Simferopol'	146.25 323		*c i*PKP2	PKPab	15 47 30.7	+0.3
SIM				pmax	pmax		
	comp=Z,73nm,8.0s						
MALT	Malatya	146.73 309	⇓	*i*P	PKPab	15 47 33.1	+0.9
MALT	Malatya	146.73 309		*e*PKPbc	PKPbc	15 47 32.5	+1.6
LVV	L'vov	147.42 338		*e*PKP2	PKPab	15 47 33.0	-1.9
RUE	Ruedersdorf	147.58 351		*e*PKPbc	PKPbc	15 47 33.4	+0.1
RUE	Ruedersdorf	147.58 351		*e*PKPbc	PKPbc	15 47 33.2	-0.1
MBAR	Mbarara	147.69 232	⇓	*i*PKP2	PKPab	15 47 35.4	-0.6
GZT	Gaziantep	147.72 308		*i* P	PKPbc	15 47 34.9	+1.2
BOYT	Boyabat	147.75 317		*i* P	PKPbc	15 47 35.0	+1.3
IBBN	Ibbenburen	148.32 358		*e*PKPbc	PKPbc	15 47 35.4	+0.1
CLZ	Clausthal	148.62 354		*e*PKPbc	PKPbc	15 47 36.2	+0.1
BALT	Daday	148.65 318		*i* P	PKPbc	15 47 37.2	+1.1
KSP	Ksiaz	148.70 347		*e*PKP	PKPbc	15 47 37.2	+0.9
KSP				*e*		15 47 50.8	
KSP	Ksiaz	148.70 347		*e*PKP	PKPbc	15 47 36.9	+0.6
KSP				*e*pPKP	pPKPdf	15 47 44.7	-0.1
STHS	Stebnicka Huta	148.70 340		*e*PKP	PKPbc	15 47 37.3	+1.0
STHS				*e*		15 47 45.9	
STHS	Stebnicka Huta	148.70 340		*e*PKP	PKPbc	15 47 37.3	+1.0
STHS				*e*		15 47 45.9	
BURAR	Bucovina Array	148.77 334	⇓	*i*P	PKPbc	15 47 37.9	+1.4
CLL	Collm	148.83 351		*e*PKPdf	PKPdf	15 47 34.3	+1.6
CLL			⇑	*i*PKPbc	PKPbc	15 47 36.8	+0.2
	comp=Z,26nm,0.9s						
CLL				*e*PKPab	PKPab	15 47 39.6	-1.0
CLL				*e*pPKPbc	pPKPbc	15 47 46.3	-2.6
CLL				*e*sPKPbc		15 47 51.1	
CLL				*e*L		16 52 16.9	
	comp=Z,179nm,19.8s						
CLL	Collm	148.83 351		*e*(PKPdf)	PKPdf	15 47 35.0	+2.3
CLL			⇑	*i*PKPbc	PKPbc	15 47 36.8	+0.2
	comp=Z,25nm,0.9s						
CLL				*i* PKPab	PKPab	15 47 39.5	-1.1
	comp=Z,17nm,0.8s						
CLL				*i* pPKPbc	pPKPbc	15 47 46.3	-2.6
CLL				*i* sPKPbc		15 47 50.5	
CLL	Collm	148.83 351	⇑	*e*PKP2	PKPdf	15 47 35.0	+2.3
CLL				pmax	pmax		
	comp=Z,25nm,0.9s						
CLL				pmax	pmax		
	comp=Z,17nm,0.8s						
CLL	Collm	148.83 351		*e*PKP	PKPdf	15 47 35.0	+2.3
CLL			⇑	*i*PKP	PKPbc	15 47 36.8	+0.2
CLL				*i* PKP	PKPab	15 47 39.5	-1.1
CLL				*i* pPKP	pPKPdf	15 47 46.3	+1.3
GTTG	Gvttingen	148.94 355		*e*PKPbc	PKPbc	15 47 36.4	-0.5
COBT	Iskenderun	149.01 307		*i* P	PKPbc	15 47 38.3	+1.2
UPC	Upice	149.07 347	⇑	*e*PKPB	PKPbc	15 47 37.5	+0.3
BRG	Berggiesshubel	149.11 350		*e*PKPbc	PKPbc	15 47 37.3	0.0
BRG	Berggiesshubel	149.11 350		*e*PKP	PKPdf	15 47 34.4	+1.3
	comp=Z,4.0nm,1.4s						
BRG				*i*		15 47 37.7	
	comp=Z,10nm,0.9s						
BRG				*i*		15 47 49.4	
	comp=Z,17nm,1.4s						
BRG	Berggiesshubel	149.11 350		*e*PKIKP	PKPdf	15 47 34.4	+1.3
BRG				*i*		15 47 37.7	
BRG				*i*		15 47 49.4	
BRG				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BRG				pmax	pmax		
	comp=Z,11nm,0.9s						
BRG				pmax	pmax		
	comp=Z,17nm,1.4s						
DPC	Dobruska-Polom	149.15 347	⇑	*e*PKPB	PKPbc	15 47 37.9	+0.5
DPC	Dobruska-Polom	149.15 347		*e*PKP	PKPbc	15 47 37.9	+0.5
CFR	Carcaliu	149.30 328	⇓	*i*P	PKPbc	15 47 38.5	+0.7
CFR	Carcaliu	149.30 328	⇓	P	PKPbc	15 47 38.5	+0.7
PVCC	Panska Ves	149.33 349	⇑	*e*PKPB	PKPbc	15 47 38.2	+0.3
MORC	Moravsky Berou	149.41 345		PKP2	PKPab	15 47 39.1	-3.8
BR131	Keskin Array S	149.44 315		*e*PKPdf	PKPdf	15 47 34.3	+0.6
BR131				*e*PKPbc	PKPbc	15 47 39.0	+0.9
BRTR	Keskin Array B	149.44 315		PKP	PKPdf	15 47 34.2	+0.5
	comp=Z,3.4nm,0.7s,baz=140,slow=3.3,SNR=19						
BRTR				PKPbc	PKPbc	15 47 39.1	+1.0
	comp=Z,3.3nm,0.6s,baz=128,slow=2.4,SNR=21						
VRI	Vrincioaia	149.47 330	⇓	*i*P	PKPbc	15 47 38.8	+0.6
VRI	Vrincioaia	149.47 330	⇓	P	PKPbc	15 47 38.8	+0.6
PLOR	Plostina	149.52 331	⇓	*i*P	PKPbc	15 47 39.5	+1.2
UBBA	Unterbreizbach	149.66 355		*e*PKPbc	PKPbc	15 47 38.7	0.0
MOX	Moxa	149.66 353		*e*PKPbc	PKPbc	15 47 38.8	+0.1
MOX	Moxa	149.66 353		*e*PKP	PKPbc	15 47 38.6	-0.1
	comp=Z,31nm,1.6s						
MOX				*e*		15 47 48.8	
MOX	Moxa	149.66 353		*e*PKP2	PKPbc	15 47 38.6	-0.1
MOX				pmax	pmax		
	comp=Z,31nm,1.6s						
HARR	Harsova	149.75 328	⇓	*i*P	PKPbc	15 47 39.8	+0.9
HARR	Harsova	149.75 328	⇓	P	PKPbc	15 47 39.8	+0.9
KECS	Kecovo	149.76 340		*i* PKP	PKPbc	15 47 39.2	+0.3
KECS				*e*		15 47 51.0	
WERD	Werda	149.77 352		*e*PKPbc	PKPbc	15 47 38.9	-0.1
UCC	Uccle	149.85 2		PKPbc	PKPbc	15 47 39.5	+0.3
UCC				APKP		15 47 47.0	
UCC				APKPab		15 47 56.3	
PRU	Pruhonice	149.85 349	⇑	*e*PKPB	PKPbc	15 47 39.5	+0.3
ASF	Jabal al Asfar	149.89 299		PKP	PKPdf	15 47 36.4	+2.0
	comp=Z,7.3nm,0.9s,baz=146,slow=4.4,SNR=3.9						
ASF				PKPbc	PKPbc	15 47 40.8	+1.5
	comp=Z,6.6nm,0.7s,baz=26,slow=2.3,SNR=14						
ANTO	Ankara	149.92 316		*e*PKHKP	PKPdf	15 47 34.7	+0.3
ANTO				*e*		15 47 40.1	
NKC	Novy Kostel	149.96 351	⇑	*e*PKPB	PKPbc	15 47 39.3	-0.1
SGKT	Sivrigoynuk	150.02 317		*i* P	PKPbc	15 47 39.6	0.0
MEM	Membach	150.06 360		PKPbc	PKPbc	15 47 39.5	-0.1
MEM				APKPbc		15 47 50.0	
VRAC	Vranov	150.07 346	⇓	*i*P	PKPdf	15 47 36.2	+1.5
VRAC	Vranov	150.07 346	⇓	P	PKPdf	15 47 36.2	+1.5
MLR	Muntele Rosu	150.11 331		PKPbc	PKPbc	15 47 40.1	+0.3
	comp=Z,11nm,1.0s,baz=59,slow=2.6,SNR=12						
MLR	Muntele Rosu	150.11 331	⇓	*i*P	PKPbc	15 47 40.6	+0.8
MLR	Muntele Rosu	150.11 331		PKP2	PKPbc	15 47 40.1	+0.3
MLR				pmax	pmax		
	comp=Z,11nm,1.0s						
MLR	Muntele Rosu	150.11 331	⇓	P	PKPbc	15 47 40.6	+0.8
SNF	Seneffe	150.14 2		PKP	PKPdf	15 47 34.4	-0.4
SNF				PKPbc	PKPbc	15 47 39.9	0.0
VYHS	Vyhne	150.24 342		*i* PKP	PKPbc	15 47 40.7	+0.6
VYHS				*e*		15 47 50.5	
VYHS	Vyhne	150.24 342		*e*PN	PKPdf	15 47 35.9	+1.0
VYHS				*e*SN	pPKPbc	15 47 55.3	+3.0
VYHS	Vyhne	150.24 342		*e*Pn	PKPdf	15 47 35.9	+1.0
VYHS				*i* PKP	PKPbc	15 47 40.7	+0.6
VYHS				*e*		15 47 50.5	
VYHS				*e*Sn	pPKPbc	15 47 55.3	+3.0
MANZ	Manzenberg	150.25 352		*e*PKPbc	PKPbc	15 47 40.6	+0.5
BCLA	Clavier	150.25 1		PKP	PKPdf	15 47 34.5	-0.5
BCLA				PKPbc	PKPbc	15 47 39.0	-1.2
BCLA				PKPab	PKPab	15 47 45.9	-0.4
BCLA				APKPab		15 47 57.5	
TREC	Trest	150.33 347	⇑	*e*PKPB	PKPbc	15 47 39.9	-0.4
TNS	Taunus Mts	150.37 356		*e*PKPbc	PKPbc	15 47 40.5	+0.1
BHL	Bhannes	150.39 303		*e*P	PKPbc	15 47 41.7	+1.3
PSZ	Piszkesteto	150.44 340	⇓	*e*pPKP/F	PKPbc	15 47 41.4	+0.8
PSZ	Piszkesteto	150.44 340		*e*PKPbc	PKPbc	15 47 41.3	+0.8
ROTZ	Rotzenmuhle	150.45 351		*e*PKPbc	PKPbc	15 47 40.6	0.0
MEST	Erdemli	150.54 309		*i* P	PKPbc	15 47 41.5	+0.7
VOIR		150.56 332	⇓	*i*P	PKPbc	15 47 42.4	+1.5
VOIR		150.56 332	⇓	P	PKPbc	15 47 42.4	+1.5
GIVF	Givet	150.56 1		*e*PKP1	PKPbc	15 47 40.6	-0.3
	comp=Z,37nm,0.9s						
DOU	Dourbes	150.56 1		PKPbc	PKPbc	15 47 41.0	+0.1
DOU				APKPbc		15 47 51.5	
DOU				APKPab		15 47 58.6	
BAIF	Baives	150.59 2		*e*PKP1	PKPbc	15 47 40.8	-0.1
	comp=Z,63nm,1.2s						
GRA1	Grafenberg Arr	150.65 353		*e*PKPbc	PKPbc	15 47 41.4	+0.3
GRA1				LR	LR		
	comp=Z,200nm,18.3s,MS5.0						
GRF	Grafenberg Arr	150.65 353		*e*PKPbc	PKPbc	15 47 41.4	+0.3
GRF				*e*L		16 52 51.7	
	comp=Z,161nm,18.3s						
KHC	Kasperske Hory	150.85 349	⇑	*e*PKPB	PKPbc	15 47 41.9	+0.3
KHC				pPKP	pPKPbc	15 47 56.5	+2.7
KHC	Kasperske Hory	150.85 349		*e*PKP	PKPbc	15 47 41.9	+0.3
KHC				*e*		15 47 56.5	
WET	Wettzell	150.96 350		*e*PKPbc	PKPbc	15 47 41.8	0.0
ZST	Bratislava	150.98 344		*e*PKP	PKPbc	15 47 42.8	+0.9
WLF	Walferdange	151.00 359		*e*PKPbc	PKPbc	15 47 42.5	+0.6
WLF	Walferdange	151.00 359		PKPbc	PKPbc	15 47 42.7	+0.8
WLF	Walferdange	151.00 359		*e*PKPbc	PKPbc	15 47 43.0	+1.1
GEC2	GERESS Array S	151.11 349		*e*PKPbc	PKPbc	15 47 42.2	+0.1
GEC2				*e*PKPab	PKPab	15 47 50.8	+0.9
GERES	GERESS Array B	151.11 349		PKP	PKPdf	15 47 35.2	-1.1
	comp=Z,0.7nm,0.8s,baz=162,slow=5.5,SNR=4.6						
GERES				PKPbc	PKPbc	15 47 42.4	+0.2
	comp=Z,5.5nm,0.8s,baz=45,slow=2.1,SNR=31						
ROSF	Rostrenen	151.40 13		*e*PKP1	PKPbc	15 47 41.7	-1.1
FLN	La Foliniere	151.47 9		*e*PKP1	PKPbc	15 47 42.2	-0.8
	comp=Z,21nm,0.7s						
FLN				*e*R			
	comp=Z,208nm,18.8s						
SOP	Sopron	151.60 344	⇑	*e*pPKP/F	PKPbc	15 47 43.4	+0.1
SGMF	Saint Gilles	151.62 12		*e*PKP1	PKPbc	15 47 42.3	-1.0
	comp=Z,13nm,0.8s						
LDF	La Druitiere	151.69 8		*e*PKP1	PKPbc	15 47 42.7	-0.8
	comp=Z,16nm,0.8s						
STU	Stuttgart	151.76 355		*e*PKPbc	PKPbc	15 47 44.1	+0.4
STU	Stuttgart	151.76 355		*e*PKPdf	PKPdf	15 47 37.6	+0.3
STU				*e*PKPbc	PKPbc	15 47 42.9	-0.7
GRR	Gorron	151.78 9		*e*PKP1	PKPbc	15 47 42.9	-0.8
	comp=Z,22nm,0.7s						
CSS	Prodhromos	151.81 306		*e*PKPbc	PKPbc	15 47 44.4	+0.6
BZS	Buzias	151.83 336	⇓	*i*P	PKPbc	15 47 43.8	0.0
BZS	Buzias	151.83 336	⇓	P	PKPbc	15 47 43.8	0.0
EIL	Elat	152.10 295		*e*PKPbc	PKPbc	15 47 45.3	+0.9
CDF	Champ du Feu	152.23 358		*e*PKP1	PKPbc	15 47 44.4	-0.3
	comp=Z,30nm,1.1s						
BFO	Black Forest	152.26 356		*e*PKPbc	PKPbc	15 47 44.7	-0.1
BFO				*e*PKPab	PKPab	15 47 54.2	-0.5
PKSM	Moragy	152.35 340	⇓	*i*P	PKPbc	15 47 45.4	+0.4
PKSM	Moragy	152.35 340		PKIKP	PKPbc	15 47 45.0	0.0
PKSM	Moragy	152.35 340	⇓	P	PKPbc	15 47 45.4	+0.4
HAU	Haudompre	152.66 359		*e*PKP1	PKPbc	15 47 46.3	+0.6
	comp=Z,14nm,0.8s						
HAU				*e*R			
	comp=Z,193nm,19.8s						
HINF	Hinteralfeld	152.84 358		*e*PKP1	PKPbc	15 47 45.4	-0.7
	comp=Z,5.2nm,0.7s						
LOR	Lormes	153.36 3		*e*PKP1	PKPbc	15 47 46.0	-1.2
	comp=Z,36nm,1.3s						
LOR				*e*R			
	comp=Z,267nm,21.5s						
PDKS	Podkum	153.49 345		*e*PKPbc	PKPbc	15 47 47.2	-0.3
SSF	Saint Saulge	153.55 3		*e*PKP1	PKPbc	15 47 47.4	-0.2
	comp=Z,38nm,1.3s						
DAVOX	Davos	153.67 354		PKPbc	PKPbc	15 47 47.9	0.0
	comp=Z,6.1nm,0.8s,baz=60,slow=1.4,SNR=5.7						
CEY	Cerknica	153.93 346		*e*PKPbc	PKPbc	15 47 48.8	+0.3
BOJS	Bojanci	153.96 345		*e*PKPbc	PKPbc	15 47 48.9	+0.4
TORD	Torodi Ar. Bea	171.64 152		PKP	PKPdf	15 47 56.2	-1.4
	comp=Z,1.6nm,0.9s,baz=244,slow=0.7,SNR=6.9						
TORD				PKPab	PKPab	15 49 21.8	+2.6
	comp=Z,0.5nm,0.7s,baz=206,slow=5.9,SNR=2.6						

IDC 03 15:36:56.3±2.7, 318S×13572E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/13, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=89.0km s-min=29.7km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.72	185	Pn	Pn	15 40 50.2	-1.7
	0.1nm,0.3s,baz=6.

SNZO	South Karori	9.82	200	*e*Pn	P	15 58 44.5	0.0
SNZO				*e*S		16 00 18.9	
TCW	Tory Channel	9.87	202	PN	P	15 58 45.1	+0.1
TUWZ	Tuamarina	10.17	203	PN	P	15 58 48.0	-0.4
NNZ	Nelson	10.18	206	PN	P	15 58 48.7	+0.2
NNZ				SN		16 00 42.4	
BSWZ	Blackbirch Sta	10.45	203	*e*PN	P	15 58 52.5	+1.1
THZ	Tophouse	10.83	206	*e*PN	P	15 58 55.4	-0.3
THZ				SN	S	16 00 56.0	-0.3
KHZ	Kahutara	11.19	202	PN	P	15 59 00.4	+0.8
KHZ				SN	S	16 01 02.3	-1.2
LTZ	Lake Taylor	11.95	206	*e*PN	P	15 59 09.1	+1.2
RPZ	Rata Peaks	13.21	207	P	P	15 59 22.4	+0.8
RPZ				S	S	16 01 46.1	+2.3
	0.7nm,0.3s,baz=49,slow=11,SNR=3.2						
DZM	Mont Dzumac	15.17	308	P	P	15 59 41.0	-1.8
AFI	Afiamalu	19.95	26	P	P	16 00 24.4	-7.1
	baz=38,slow=18						
AFI	Afiamalu	19.95	26	*e*P	P	16 00 23.7	-7.9
	18nm,0.9s						
STKA	Stephens Creek	31.80	260	*e*P	P	16 02 16.2	-0.5
	2.2nm,0.7s,mb3.6						
STKA	Stephens Creek	31.80	260	P	P	16 02 17.1	+0.4
	2.3nm,0.5s,mb3.8,baz=89,slow=8.7,SNR=9.6						
CTA	Charters Tower	31.82	284	*e*P	P	16 02 17.7	+0.8
	2.9nm,0.3s,mb4.1						
CTAO	Charters Tower	31.82	284	P	P	16 02 12.3	-4.6
	24nm,1.2s,mb4.4						
CTAO				*e*		16 02 17.8	
AS31	Alice Springs	40.69	270⇑	*i*P	P	16 03 30.9	+0.1
ASAR	Alice Springs	40.69	270	P	P	16 03 31.4	+0.7
	4.5nm,0.6s,mb4.0,baz=108,slow=7.4,SNR=106						
ASAR				PcP	PcP	16 05 20.9	-1.7
	0.3nm,0.4s,baz=115,slow=3.8,SNR=5.8						
ASAR				ScP	ScP	16 08 30.5	-0.1
	0.4nm,0.7s,baz=112,slow=3.4,SNR=4.1						
ASPA	Alice Springs	40.69	270⇑	*i*P	P	16 03 30.9	+0.1
WB2	Warramunga Arr	41.83	276⇑	*i*P	P	16 03 39.5	-0.4
WRAB	Tennant Creek	41.84	276	*e*P	P	16 03 39.5	-0.5
	10nm,0.4s,mb4.5						
WRA	Warramunga Arr	41.84	276	P	P	16 03 39.7	-0.3
	8.8nm,0.4s,mb4.4,baz=112,slow=7.9,SNR=205						
FORT	Forrest	43.32	258	*e*P	P	16 03 50.9	-0.8
	6.4nm,0.5s,mb4.2						
FITZ	Fitzroy Crossi	50.02	273	*e*P	P	16 04 42.7	-0.1
	5.8nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	50.02	273	P	P	16 04 42.4	-0.4
	3.2nm,0.7s,mb3.8,baz=174,slow=8.0,SNR=16						
QSPA	South Pole Qui	57.95	180	*e*P	P	16 05 39.4	+0.2
	3.8nm,0.9s,mb3.7						
SNAA	Sanae	76.45	179	*e*	P	16 07 22.9	-11
VNA3	Neumayer Olymp	76.69	177	*e*	P	16 07 34.6	-0.4
VNA3				*e*		16 07 50.5	
VNA2	Neumayer--Watz	77.10	178	*e*	P	16 07 37.1	-0.1
	baz=191,slow=6.2						
VNA2				*e*		16 07 54.8	
NVAR	Mina Array Bea	91.15	44	P	P	16 08 42.9	-4.3
	0.5nm,0.7s,mb3.5,baz=228,slow=8.5,SNR=3.6						
MKAR	Makanchi Array	117.08	310	PKP	PKPdf	16 14 20.9	-3.7
	0.1nm,0.5s,baz=131,slow=1.6,SNR=4.6						
JOF	Joensuu	143.12	336	*e*pkp	PKPdf	16 15 06.1	-7.4
KAF	Kangasniemi	145.35	338	*e*pkp	PKPdf	16 15 10.2	-7.1
	baz=38,slow=3.5						
FINES	FINESS Array B	145.91	337	PKPbc	PKPbc	16 15 15.6	-4.3
	3.6nm,0.4s,baz=47,slow=4.9,SNR=95						
AKASG	Malin Array Be	151.15	319	PKPbc	PKPbc	16 15 28.8	-4.2
	0.6nm,0.4s,baz=48,slow=3.0,SNR=5.4						
BRTR	Keskin Array B	151.26	295	PKPbc	PKPbc	16 15 29.0	-4.3
	0.6nm,0.5s,baz=140,slow=3.8,SNR=5.1						
TORD	Torodi Ar. Bea	160.94	187	PKPab	PKPab	16 16 24.0	-0.8
	0.2nm,0.4s,baz=173,slow=4.9,SNR=4.5						

MAN 03 16:20:44.8, 1016N×12465E, h106km, mb2.7, ML4.2, MS4.8, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.20	98	*e*P	Pn	16 21 00.4	+0.7
OCLP	Ormoc	0.88	357	*e*P	Pn	16 21 15.6	+11
SCPH	Surigao	0.91	115⇑	*e*P	Pn	16 21 06.7	+2.0
TBP	Tagbilaran	0.91	239	*e*P	Pn	16 21 11.1	+6.4
TBP				*e*S	Sn	16 21 21.1	+1.4
SNPH	Sibulan	1.62	240	*e*P	Pn	16 21 14.0	+1.3
SNPH				*e*S	Sn	16 21 34.5	+0.5
DCPH	Dipolog City	2.03	219⇓	*e*P	Pn	16 21 13.4	-4.5
DCPH				*e*S	Sn	16 21 22.4	-21
GUIM	Jordan	2.08	283	*e*P	Pn	16 21 25.6	+7.0
BUKP	Musuan	2.30	170	*e*P	Pn	16 21 22.5	+1.0
PAGZ	Pagadian	2.62	209	*e*P	Pn	16 21 26.5	+0.9
AUQP	San Andres	3.69	329	*e*P	Pn	16 21 30.1	-10
LUBP	Lubang	5.58	310	*e*P	Pn	16 22 06.3	+0.9

*ISCJB **03** 16:26:56.2±1.3, 168S±0.1×12184E±007, h10km, mb3.5/1, Error ellipse: s-maj=16.5km s-min=7.1km az=120.9*
*IDC **03** 16:26:57.4±7.8, 1720S×12165E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=118.3km s-min=65.1km az=173.0*
*AUST **03** 16:27:01.9, 1659S×12171E, h24km, ML3.2*
*NEIC **03** 16:27:01.0, 1659S×12171E, h24km, ML3.2(AUST), After AUST.*

ISC 03 16:26:58.6±1.3, 1681S±010×12181E±007, h10km, n13, σ1°23/24, mb3.5/1, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	3.88	110	*e*P	Pn	16 28 00.9	+2.6
FITZ				*e*S	Sn	16 28 44.4	+0.6
	30nm,0.3s						
FITZ	Fitzroy Crossi	3.88	110	Pn	Pn	16 28 00.7	+2.4
	1.5nm,0.3s,baz=302,slow=11,SNR=175						
FITZ				Sn	Sn	16 28 44.6	+0.7
	6.7nm,0.3s,baz=178,slow=22,SNR=28						
MBWA	Marble Bar	4.75	204	*e*P	Pn	16 28 12.3	+2.0
MBWA				*e*S	Sn	16 29 03.5	-1.8
KNA	Kununurra	6.77	82	*e*P	Pn	16 28 37.6	-0.4
KNA				*e*S	Sn	16 29 47.4	-7.7
MEEK	Meekatharra	10.22	196	*e*P	Pn	16 29 27.0	+1.7
MEEK				*e*S	Sn	16 31 13.5	-6.4
KAKA	Kakadu	11.06	70	*e*P	Pn	16 29 35.8	-1.1
KAKA				*e*S	Sn	16 31 29.9	-11
	14nm,0.4s						
KAKA	Kakadu	11.06	70	*e*P	Pn	16 29 35.8	-1.1
	14nm,0.4s						
KAKA				*e*S	Sn	16 31 29.9	-11
WRA	Warramunga Arr	12.30	107	Pn	Pn	16 29 53.7	-0.1
	0.3nm,0.3s,baz=285,slow=14,SNR=28						
WRA				Sn	Sn	16 32 00.3	-11
	0.8nm,0.3s,baz=288,slow=25,SNR=9.3						
WB2	Warramunga Arr	12.31	107	*e*P	Pn	16 29 54.0	+0.1
WB2				*e*S	Sn	16 32 02.3	-8.8
ASAR	Alice Springs	13.24	123	Pn	Pn	16 30 07.2	+0.6
	0.2nm,0.3s,baz=297,slow=14,SNR=17						
ASAR				Sn	Sn	16 32 33.3	-0.6
	0.3nm,0.3s,baz=300,slow=22,SNR=8.8						
MORW	Morawa	13.30	202	*e*P	Pn	16 30 07.1	-0.4
MORW				*e*S	Sn	16 32 23.0	-12
NWAO	Narrogin (SRO)	16.57	194	Pn	Pn	16 30 51.1	+0.1
	0.2nm,0.3s,baz=28,slow=15,SNR=5.6						
STKA	Stephens Creek	23.39	133	P	P	16 32 05.5	-2.2
	1.9nm,0.9s,mb3.5,baz=319,slow=11,SNR=2.7						

*ISCJB **03** 16:32:23.4±0.4, 3877N±002×2791E±002, h2km±4km, Error ellipse: s-maj=3.1km s-min=2.7km az=94.1*
*ISK **03** 16:32:23.7, 3878N×2785E, h13km, MD3.3*
*CSEM **03** 16:32:23.5±0.1, 3876N×2787E, h10km, MD3.3, Error ellipse: s-maj=1.7km s-min=1.2km az=109.0*
*ATH **03** 16:32:34.2, 3907N×2533E, h10km, MD3.3/3*

ISC 03 16:32:24.2±0.3, 3876N±002×2789E±002, h8km±3km, n46, σ0°97/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	Akhisar	0.13	334	*i*PG	Pg	16 32 26.7	-0.4
AKS				*i*SG	Sg	16 32 29.2	+0.2
MANT	Manisa	0.59	117	*i*P	Pg	16 32 34.6	-0.9
MANT				*i*S	Sg	16 32 42.5	-0.8
KDAG	Bornova	0.60	234	*i*P	Pg	16 32 35.1	-0.8
KDAG				*i*S	Sg	16 32 45.1	+1.4
IZM	Izmir	0.61	234	PG	Pg	16 32 35.3	-0.6
IZM				SG	Sg	16 32 45.4	+1.5
BLCB	Balcova	0.76	241	PG	Pg	16 32 38.4	-0.4
BLCB				SG	Sg	16 32 49.7	+0.9
BALB	Balikesir	0.88	360	*e*PG	Pg	16 32 40.6	-0.5
BALB				*e*SG	Sg	16 32 54.0	+1.5
BTOK	Tokmak	1.01	6	*i*P	Pg	16 32 42.8	-0.7
BTOK				*i*S	Sg	16 32 57.3	+0.7
DST	Dursunbey	1.02	34	*e*PG	Pg	16 32 43.6	-0.2
AYVA	Ayvalik	1.08	301	*i*P	Pg	16 32 44.8	-0.2
AYVA				*i*S	Sg	16 33 00.2	+1.2
URLA	Izmir	1.09	249	*i*P	Pg	16 32 45.0	-0.1
URLA				*i*S	Sg	16 32 59.2	0.0
URLA	Izmir	1.09	249	*i*P	Pg	16 32 45.0	-0.1
URLA				*i*S	Sg	16 32 59.2	0.0
AYDN	Tasoluk	1.10	180	*i*P	Pg	16 32 44.2	-1.0
AYDN				*i*S	Sg	16 32 59.8	+0.3
GDZ	Gediz	1.28	75	*i*P	Pn	16 32 47.1	-1.3
GDZ				*i*S	Sb	16 33 04.4	-0.8
DENT	Denizli	1.35	138	*e*PN	Pn	16 32 49.1	-0.2
PRK	Paraskevi	1.35	292	*e*PB	Pb	16 32 48.6	-1.1
KHL	Karahalli	1.35	108	*e*PN	Pn	16 32 49.7	+0.4
DNZL	Cakiroluk	1.41	139	*i*P	Pn	16 32 50.4	+0.3
DNZL				*i*S	Sb	16 33 09.9	+1.2
CANB	Canakkale	1.41	333	*e*PN	Pn	16 32 49.1	-1.0
MLSB	Milas	1.47	183	*e*PN	Pn	16 32 51.0	+0.1
KCT	Karacabey	1.55	13	PN	Pn	16 32 51.1	-0.9
EDC	Edincik	1.58	359	*e*PN	Pn	16 32 51.0	-1.5
BNT	Bandirma	1.59	1	*e*PN	Pn	16 32 51.3	-1.3
YER	Yerkesik	1.65	169	*i*PN	Pn	16 32 52.8	-0.6
ULDT	Uludag	1.69	35	*i*P	Pn	16 32 54.7	+0.9
ULDT				*i*S	Sn	16 33 17.7	+2.1
BODT	Bodrum	1.76	195	*e*PN	Pn	16 32 53.8	-1.1
ALT	Altintas	1.76	80	*e*PN	Pn	16 32 54.9	0.0
MRMT	Marmara Adasi	1.85	353	*e*PN	Pn	16 32 56.3	+0.1
IZI	Iznik	2.00	37	*i*PN	Pn	16 32 58.8	+0.6
RKY	Sarkoy-Tekirda	2.00	344	*e*PN	Pn	16 32 58.2	0.0
TKTP	Tekketepe	2.04	110	*i*P	Pn	16 33 00.3	+1.5
TKTP				*i*S	Sg	16 33 33.1	+3.4
DAT	Datca	2.04	187	*e*PN	Pn	16 32 59.5	+0.7
DALT	Dalyan (Mudla)	2.07	163	*e*PN	Pn	16 32 59.2	0.0
MFT	Murefte	2.08	347	*e*PN	Pn	16 32 58.2	-1.1
YLV	Yalova	2.14	32	*e*PN	Pn	16 32 59.8	-0.3
ADVT	Abdulvahap	2.20	40	*e*PN	Pn	16 33 01.3	+0.3
BORA	Eskisehir	2.28	60	*i*P	Pn	16 32 56.1	-6.0
BORA				*i*S	Sn	16 33 26.3	-4.1
FETY	Fethiye	2.32	156	*e*PN	Pn	16 33 03.0	+0.3
ESKT	Eskisehir	2.42	71	*i*P	Pg	16 33 08.2	-2.5
ESKT				*i*S	Sg	16 33 43.0	+0.9
ISK	Istanbul-Kandi	2.47	21	*e*PN	Pn	16 33 05.3	+0.6
HRT	Hereke	2.47	33	*e*PN	Pn	16 33 05.3	+0.6
APE	Apeiranthos	2.52	229	*e*PN	Pn	16 33 10.4	+5.1
KLYT	Kilyos	2.64	19	*e*PN	Pn	16 33 07.9	+0.8
RDO	Rodhopi	2.99	324	*e*PN	Pn	16 33 11.4	-0.4
MDU	Mudurnu	3.08	55	*e*PN	Pn	16 33 13.9	+0.8
HENT	Hendek	3.10	47	*i*P	Pg	16 33 21.1	-2.5
HENT				*i*S	Sg	16 34 04.4	+0.6
SGKT	Sivrigoynuk	3.69	59	*e*P	Pg	16 33 31.2	-3.7
SGKT				*i*S	Sg	16 34 24.3	+1.6

IDC 03 17:07:00.3±10.0, 592S×15341E, h52km±75km, mb3.4/5, mb1 3.6/6, mb1mx3.6/13, mbtmp3.7/6, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/19, Error ellipse: s-maj=87.3km s-min=34.5km az=102.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.10	240	P	Pn	17 08 42.1	+0.6
	2.0nm,0.3s,baz=49,slow=6.3,SNR=8.1						
PMG				S	Sn	17 10 02.5	+1.7
	2.1nm,0.3s,baz=115,slow=17,SNR=6.2						
PMG				LR	LR	17 10 52.1	
	comp=Z,120nm,20.9s,baz=55,slow=33						
WRA	Warramunga Arr	23.19	231	P	P	17 12 02.1	-0.5
	0.6nm,0.8s,baz=54,slow=9.3,SNR=4.4						
ASAR	Alice Springs	25.76	225	P	P	17 12 26.4	+0.2
	1.0nm,0.9s,baz=58,slow=9.2,SNR=17						
STKA	Stephens Creek	28.09	202	P	P	17 12 58.0	+11
	0.9nm,0.7s,baz=1.6,slow=12,SNR=4.1						
SONM	Songino Array	67.58	328	P	P	17 17 51.8	+0.4
	0.3nm,0.5s,baz=140,slow=6.3,SNR=4.9						
MKAR	Makanchi Array	81.56	319	P	P	17 19 11.8	-0.6
	0.6nm,0.8s,baz=116,slow=5.6,SNR=7.8						
ZAL	Zalesovo	82.42	326	P	P	17 19 17.4	+0.5
	1.1nm,0.4s,baz=360,slow=8.9,SNR=5.0						
TORD	Torodi Ar. Bea	151.21	287	PKPbc	PKPbc	17 26 50.0	+2.1
	0.6nm,0.6s,baz=76,slow=2.0,SNR=3.8						

*NEIC **03** 17:14:56.2, 3277S×6817W, h150km, MG3.5(GUC), After GUC.*

GUC 03 17:14:56.2±0.5, 3277S×6817W, h150km, MD3.6, ML3.5, 6C-2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	Mendoza	0.58	259⇑	*i*P	Pn	17 15 09.6	-8.3
MDZ				*i*S	Sn	17 15 17.5	-17
FCH	Farellones	1.86	252⇑	*i*P	Pn	17 15 30.7	+1.0
FCH				*i*S	Sn	17 15 57.4	+1.9
LMEL	Las Melosas	2.01	237⇑	*i*P	Pn	17 15 32.7	+1.3
LMEL				*i*S	Sn	17 15 60.0	+1.5
JACH	Jahuel	2.04	272	*i*P	Pn	17 15 32.7	+0.9
JACH				*i*S	Sn	17 16 00.3	+1.1
CLCH	Cerro Calan	2.08	252	*i*P	Pn	17 15 32.9	+0.6
CLCH				*i*S	Sn	17 16 01.1	+1.2
CLCH				AML	AML	17 16 05.6	
	comp=E,265nm,0.5s						
PCH	Pirque	2.14	246⇓	*i*P	Pn	17 15 33.7	+0.8
PCH				*i*S	Sn	17 16 02.1	+1.0
PEL	Peldehue	2.15	259⇑	*i*P	Pn	17 15 33.5	+0.5
PEL				*i*S	Sn	17 16 01.9	+0.5
SAN	Santiago	2.20	251	AML	AML	17 16 04.4	
	comp=E,275nm,0.3s						
ANTU	Antumapu	2.21	248	*i*S	Sn	17 16 03.0	+0.2
ANTU				AML	AML	17 16 04.6	
	comp=N,170nm,0.5s						
CHCH	Chadas Angostu	2.38	240	*i*P	Pn	17 15 36.2	+0.4
CHCH				*i*S	Sn	17 16 06.7	+0.4
ROCH	El Roble	2.40	264⇑	*i*P	Pn	17 15 36.3	+0.3
ROCH				*i*S	Sn	17 16 07.4	+0.7
CICH	Cipreses	2.43	230	*i*P	Pn	17 15 37.2	+0.8
CICH				*i*S	Sn	17 16 08.3	+0.9
CACH	El Canelo	2.43	236⇑	*i*P	Pn	17 15 37.3	+0.8
CACH				*i*S	Sn	17 16 08.7	+1.2
TACH	Talagante	2.48	249	*i*P	Pn	17 15 37.7	+0.7
TACH				*i*S	Sn	17 16 08.7	+0.2
CMCH	Combarbala	2.89	303⇓	*i*P	Pn	17 15 42.6	+0.5
CMCH				*i*S	Sn	17 16 18.2	+0.6

IDC 03 17:35:40.8±7.0, 1868N×14635E, h215km±40km, mb3.6/2, mb1 3.5/4, mb1mx3.1/19, mbtmp4.0/4, Error ellipse: s-maj=200.1km s-min=18.3km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.25	196	P	Pn	17 36 58.9	+0.2
	3.0nm,0.3s,baz=52,slow=19,SNR=4.4						
GUMO				S	S	17 38 00.3	-0.2
	3.0nm,0.3s,baz=0.2,slow=23,SNR=3.2						
MJAR	Matsushiro Arr	19.19	340	P	P	17 39 49.0	+0.6
	0.2nm,0.3s,baz=164,slow=9.9,SNR=5.4						
WRA	Warramunga Arr	40.15	198	P	P	17 42 56.9	+1.1
	0.6nm,0.3s,baz=19,slow=8.3,SNR=5.5						
FINES	FINESS Array B	87.16	335	P	P	17 48 00.3	-2.2
	2.5nm,1.0s,baz=60,slow=6.6,SNR=4.2						

IDC 03 17:49:19.7±4.6, 530S×6928E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.8/4, MS3.7/5, Ms1 3.6/5, ms1mx3.2/24, Error ellipse: s-maj=111.2km s-min=64.5km az=176.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	30.21	340	LR	LR	18 05 04.3	
	comp=Z,71nm,21.0s,baz=260,slow=31						
PSI	Prapat	30.68	75	LR	LR	18 06 13.0	
	comp=Z,132nm,19.6s,baz=184,slow=33						
KMBO	Kilima Mbogo	32.24	276	LR	LR	18 06 00.1	
	comp=Z,85nm,19.7s,baz=98,slow=31						
BOSA	Boshof	47.68	236	LR	LR	18 18 51.5	
	comp=Z,90nm,18.2s,baz=121,slow=37						
MKAR	Makanchi Array	53.13	11	P	P	17 58 40.0	+0.9
	0.6nm,0.8s,baz=189,slow=7.3,SNR=6.3						
BRTR	Keskin Array B	55.55	327	P	P	17 58 57.3	+0.6
	0.2nm,0.6s,baz=152,slow=6.5,SNR=4.0						
ZAL	Zalesovo	60.44	10	P	P	17 59 29.4	-1.7
	0.9nm,0.5s,baz=216,slow=9.6,SNR=4.8						
SONM	Songino Array	62.15	27	P	P	17 59 43.2	+0.6
	2.0nm,1.1s,baz=224,slow=6.8,SNR=11						
SONM				LR	LR	18 26 44.6	
	comp=Z,96nm,18.2s,baz=179,slow=36						
NVAR	Mina Array Bea	146.31	11	PKPbc	PKPbc	18 09 02.3	0.0
	0.9nm,0.8s,baz=300,slow=1.8,SNR=4.8						

IDC 03 18:04:38.3±2.8, 1063S×11875E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.4/15, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=226.1km s-min=24.5km az=50.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.98	139	Pn	Pn	18 07 02.0	-1.0
	0.4nm,0.3s,baz=329,slow=14,SNR=5.5						
FITZ				Sn	Sn	18 08 46.7	-9.0
	0.9nm,0.3s,baz=184,slow=20,SNR=8.4						
WRA	Warramunga Arr	17.64	124	P	Pn	18 08 44.7	-0.7
	0.1nm,0.3s,baz=297,slow=13,SNR=4.1						
WRA				S	Sn	18 11 53.6	-9.0
	0.1nm,0.3s,baz=291,slow=28,SNR=3.3						
ASAR	Alice Springs	19.41	134	P	Pn	18 09 07.7	+0.7
	0.1nm,0.3s,baz=306,slow=12,SNR=9.0						
ASAR				S	Sn	18 12 35.0	-10
	0.1nm,0.3s,baz=307,slow=22,SNR=5.7						
MKAR	Makanchi Array	65.79	333	P	P	18 15 25.2	0.0
	0.2nm,0.4s,baz=147,slow=6.8,SNR=9.9						

*ISCJB **03** 18:04:37.6±0.7, 4376N±004×105.13W±008, h0km, mb4.0/2, Error ellipse: s-maj=8.8km s-min=5.5km az=19.1*
*IDC **03** 18:04:39.9±1.6, 4375N×10548W, h0km, mb4.0/2, mb1 4.0/5, mb1mx3.6/23, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=51.3km s-min=8.7km az=150.0*
*NEIC **03** 18:04:39.9±0.9, 4377N×10528W, h0km, ML3.1, Error ellipse: s-maj=11.8km s-min=9.1km az=84.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.

ISC 03 18:04:39.3±0.7, 4374N±004×10514W±009, h0km, n29, σ1°15/31, mb4.0/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	Pilot Hill	2.45	186	*e*Pn	Pn	18 05 21.5	+1.0
RWWY	Rawlins	2.56	217	*e*Pn	Pn	18 05 22.9	+0.8
RWWY				*e*S	Sn	18 05 54.8	+1.0
LAO	LASA Array	3.04	346	*e*Pn	Pn	18 05 27.0	-1.7
PDAR	Pinedale Array	3.37	255	Pn	Pn	18 05 33.2	0.0
	4.1nm,0.3s,baz=83,slow=14,SNR=36						
PDAR				Lg		18 06 18.1	
	11nm,0.3s,baz=74,slow=32,SNR=9.1						
BW06	Boulder Array	3.37	255	*e*Pn	Pn	18 05 32.9	-0.3
GCMT	Greycliff	3.82	304	*e*Pn	Pn	18 05 40.2	+0.8
ISCO	Idaho Springs	3.96	185	*e*Pn	Pn	18 05 42.7	+1.5
LOHW	Long Hollow	3.96	270	*e*Pn	Pn	18 05 42.1	+0.8
FLWY	Flagg Ranch	4.03	277	*e*Pn	Pn	18 05 40.7	-1.6
MOOW	Moose Ponds	4.06	272	*e*Pn	Pn	18 05 39.0	-3.7
YFT	Old Faithful	4.16	282	Pn	Pn	18 05 46.5	+2.4
REDW	Red Top Meadow	4.17	267	*e*Pn	Pn	18 05 45.0	+0.8
IMW	Indian Meadow	4.20	274	*e*Pn	Pn	18 05 45.2	+0.6
TPAW	Teton Pass	4.23	269	*e*Pn	Pn	18 05 45.4	+0.4
YMR	Madison River	4.29	284	*e*Pn	Pn	18 05 44.2	-1.6
DCID1	Drake Creek	4.39	270	*e*Pg	Pg	18 05 59.0	-4.5
AHID	Auburn Hatcher	4.46	259	Pn	Pn	18 05 43.8	-4.4
SMCO	Snowmass	4.76	197	Pn	Pn	18 05 50.7	-1.7
BOZ	Bozeman (W)	5.00	295	*e*Pn	Pn	18 05 54.5	-1.1
HWUT	Hardware Ranch	5.19	248	*e*Pn	Pn	18 05 56.4	-1.9
	9.2nm,0.4s						
HRY	Holter Researc	5.58	304	*e*Pn	Pn	18 06 04.4	+0.8
DAU	Daniels Canyon	5.64	236	*e*Pn	Pn	18 06 05.4	+1.1
SRU	San Rafael	6.15	223	*e*Pn	Pn	18 06 10.9	-0.5
	10nm,0.4s						
PV01	Paradox Valley	6.17	206	*e*Pn	Pn	18 06 10.6	-1.2
PV01				*e*S	Sb	18 07 40.6	-1.5
CHMT	Chamberlain Mo	6.54	302	*e*Pn	Pn	18 06 17.2	+0.5
ULM	Lac du Bonnet	9.07	41	Pn	Pn	18 06 52.3	+0.7
	2.4nm,0.3s,baz=232,slow=13,SNR=15						
NVAR	Mina Array Bea	11.26	246	Pn	Pn	18 07 22.8	+1.4
	0.1nm,0.3s,baz=59,slow=13,SNR=2.9						
ARCES	ARCESS Array B	61.38	18	P	P	18 14 56.6	-0.5
	1.4nm,0.8s,mb4.2,baz=326,slow=7.6,SNR=3.9						
MKAR	Makanchi Array	89.61	355	P	P	18 17 38.7	-0.2
	0.5nm,0.8s,mb3.8,baz=8.5,slow=2.9,SNR=3.5						

*INMG **03** 18:08:51.7±1.4, 4157N×606W, h0km, ML1.8, Error ellipse: s-maj=5.2km s-min=2.8km az=99.0*

MDD 03 18:08:50.3±1.0, 4154N×604W, h0km, mbLg2.0/5, Error ellipse: s-maj=9.2km s-min=7.1km az=32.0, PRXIMO, Portugal

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ISC 03 18:26:53.9±1.3, 37S±01×1452E±02, h35km, n12, σ0°78/8, mb3.6/4, MS3.4/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.01**	**161**	Pn	**Pn**	**18 28 20.1**	**-0.1**
	1.7nm,0.3s,baz=344,slow=12,SNR=7.6						
CTA	**Charters Tower**	**16.34**	**176**	LR	LR	18 36 27.6	
	comp=Z,126nm,19.4s,baz=222,slow=35						
GUMO	**Guam**	**17.16**	**359**	LR	LR	18 37 28.5	
	comp=Z,53nm,18.4s,baz=283,slow=38						
WRAB	**Tennant Creek**	**19.31**	**212**	*e*P	**Pn**	**18 31 16.2**	**-0.9**
	16nm,1.0s						
WB2	**Warramunga Arr**	**19.32**	**212**	*e*P	**Pn**	**18 31 18.0**	**+0.8**
WRA	**Warramunga Arr**	**19.32**	**212**	P	**Pn**	**18 31 17.0**	**-0.3**
	0.5nm,0.3s,baz=31,slow=11,SNR=55						
ASAR	**Alice Springs**	**22.67**	**208**	P	**P**	**18 31 52.7**	**+0.7**
	3.7nm,0.9s,mb3.8,baz=35,slow=8.8,SNR=23						
FITZ	**Fitzroy Crossi**	**23.93**	**232**	P	**P**	**18 32 04.2**	**-0.4**
	2.9nm,0.7s,mb3.8,baz=72,slow=13,SNR=5.7						
FITZ				LR	LR	18 42 08.6	
	comp=Z,97nm,21.6s,MS3.2,baz=326,slow=39						
JOW	**Kunigami**	**34.47**	**333**	LR	LR	18 44 38.6	
	comp=Z,71nm,21.2s,MS3.4,baz=110,slow=31						
NWAO	**Narrogin (SRO)**	**39.12**	**219**	LR	LR	18 49 59.3	
	comp=Z,103nm,18.5s,MS3.7,baz=240,slow=36						
SONM	**Songino Array**	**61.52**	**331**	P	**P**	**18 37 06.2**	**-1.1**
	0.3nm,0.6s,mb3.6,baz=160,slow=4.6,SNR=2.6						
MKAR	**Makanchi Array**	**74.58**	**321**	P	**P**	**18 38 30.5**	**+1.3**
	0.3nm,0.8s,mb3.3,baz=114,slow=9.6,SNR=2.6						

*ISCJB **03** 18:44:09.2±0.9, 62N±02×1240E±04, h600km, mb3.9/7, Error ellipse: s-maj=57.4km s-min=12.3km az=147.1*
*IDC **03** 18:44:10.0±5.2, 621N×12409E, h586km±76km, mb3.2/6, mb1 3.2/6, mb1mx3.0/19, mbtmp4.2/6, Error ellipse: s-maj=61.1km s-min=17.6km az=71.0*
*NEIC **03** 18:44:10.7±0.8, 6.15N×12399E, h600km, mb4.6/1, Error ellipse: s-maj=54.6km s-min=11.9km az=74.0*

ISC 03 18:44:10.8±0.9, 62N±02×1240E±04, h600km, n11, σ0°77/11, mb3.9/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**27.47**	**189**	*e*P	**P**	**18 49 09.0**	**-1.6**
WRA	**Warramunga Arr**	**27.87**	**159**	P	**P**	**18 49 14.2**	**+0.2**
	3.1nm,0.3s,mb4.4,baz=333,slow=10,SNR=13						
FORT	**Forrest**	**36.94**	**174**	*e*P	**P**	**18 50 31.4**	**+0.9**
	5.8nm,0.4s,mb4.5						
NWAO	**Narrogin (SRO)**	**39.40**	**189**	P	**P**	**18 50 51.2**	**+0.9**
	7.2nm,1.0s,mb4.2,baz=144,slow=5.3,SNR=4.0						
STKA	**Stephens Creek**	**41.39**	**157**	P	**P**	**18 51 05.7**	**-0.4**
	3.1nm,0.7s,mb4.0,baz=346,slow=6.2,SNR=5.3						
STKA	**Stephens Creek**	**41.39**	**157**	P	**P**	**18 51 05.7**	**-0.4**
SONM	**Songino Array**	**44.16**	**343**	P	**P**	**18 51 27.5**	**-0.1**
	0.3nm,0.7s,mb2.9,baz=151,slow=6.9,SNR=3.4						
MKAR	**Makanchi Array**	**54.02**	**326**	P	**P**	**18 52 40.5**	**+0.5**
	1.8nm,0.4s,mb3.8,baz=121,slow=7.6,SNR=65						
MKAR				PcP	PcP	18 53 36.3	+0.9
	0.3nm,0.5s,baz=126,slow=4.4,SNR=3.6						
MKAR	**Makanchi Array**	**54.02**	**326**	P	**P**	**18 52 40.5**	**+0.5**
MKAR				PcP	PcP	18 53 36.3	+0.9
KURK	**Kurchatov**	**58.24**	**328**	*e*P	**P**	**18 53 09.3**	**+0.4**
FINES	**FINESS Array B**	**88.41**	**332**	P	**P**	**18 55 59.2**	**-0.8**
	1.4nm,0.9s,mb3.7,baz=51,slow=6.1,SNR=3.6						

*NEIC **03** 18:44:31.4±0.6, 2.725×12905E, h10km, mb4.2/2, Error ellipse: s-maj=23.1km s-min=9.6km az=70.0*
*ISCJB **03** 18:44:32.6±0.7, 2.715±008×1290E±02, h33km, mb3.9/7, Error ellipse: s-maj=23.0km s-min=8.1km az=138.1*
*IDC **03** 18:44:37.0±3.6, 2.875×12884E, h57km±35km, mb3.6/6, mb1 3.9/8, mb1mx3.7/17, mbtmp3.9/8, ML3.8/2, Error ellipse: s-maj=52.8km s-min=11.1km az=76.0*

ISC 03 18:44:35.7±2.7, 28S±01×1289E±02, h44km±28km, n14, σ1°01/16, mb3.9/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.55**	**192**	*e*P	**Pn**	**18 48 15.9**	**+4.0**
	7.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**15.55**	**192**	P	**Pn**	**18 48 12.7**	**+0.9**
	0.1nm,0.3s,baz=10.0,slow=17,SNR=3.9						
FITZ	**Fitzroy Crossi**	**15.55**	**192**	P	**Pn**	**18 48 12.7**	**+0.9**
FITZ				*e*P		18 48 15.9	
WRAB	**Tennant Creek**	**17.83**	**163**	*e*P	**Pn**	**18 48 39.7**	**-0.8**
	10nm,0.6s						
WRA	**Warramunga Arr**	**17.84**	**163**	P	**Pn**	**18 48 39.7**	**-0.9**
	0.6nm,0.3s,baz=338,slow=12,SNR=34						
WRA				S	**S**	**18 51 58.7**	**-4.9**
	0.1nm,0.3s,baz=340,slow=22,SNR=3.0						
WB2	**Warramunga Arr**	**17.84**	**163**	*e*P	**Pn**	**18 48 40.1**	**-0.5**
KSM	**Kuching**	**19.10**	**283**	*e*P	**Pn**	**18 48 56.3**	**+0.4**
ASAR	**Alice Springs**	**21.29**	**167**	P	**P**	**18 49 19.1**	**+0.5**
	6.1nm,0.5s,mb4.2,baz=351,slow=12,SNR=86						
ASAR				S	**S**	**18 53 12.3**	**-0.3**
	1.7nm,0.9s,baz=347,slow=16,SNR=6.0						
CTA	**Charters Tower**	**24.10**	**137**	P	**P**	**18 49 48.1**	**+0.9**
	3.2nm,0.7s,mb3.9,baz=295,slow=8.2,SNR=3.6						
STKA	**Stephens Creek**	**31.28**	**159**	P	**P**	**18 50 52.4**	**+0.9**
	2.0nm,0.8s,mb4.0,baz=333,slow=12,SNR=3.6						
MJAR	**Matsushiro Arr**	**40.08**	**12**	P	**P**	**18 52 06.7**	**-0.1**
	1.6nm,0.8s,mb3.8,baz=187,slow=10.0,SNR=5.5						
SONM	**Songino Array**	**54.15**	**341**	P	**P**	**18 53 58.6**	**+2.2**
	0.2nm,0.5s,mb3.3,baz=142,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**64.16**	**326**	P	**P**	**18 55 04.1**	**-1.6**
	0.4nm,0.7s,mb3.6,baz=128,slow=7.9,SNR=5.7						
KURK	**Kurchatov**	**68.41**	**328**	*e*P	**P**	**18 55 31.8**	**-1.1**
	1.9nm,0.8s,mb4.2						

*ISCJB **03** 18:46:48.1±0.4, 1796N±006×6559W±002, h47km±6km, Error ellipse: s-maj=10.3km s-min=3.4km az=0.5*
*RSPR **03** 18:46:49.4, 1797N×6558W, h42km, MD3.5/20, MD3.5/20*
*NEIC **03** 18:46:49.4, 1797N×6558W, h42km, MD3.5(RSPR), After RSPR.*
NEIC Felt [III] at Humacao and Vieques. Felt at Ceiba, Fajardo, Guaynabo, Humacao, Las Piedras, Patillas and San Juan.

ISC 03 18:46:48.9±0.4, 1801N±006×6559W±002, h43km±6km, n28, σ0°50/44, 10C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.09**	**20⇑**	*e*P	**Pn**	**18 46 55.7**	**-0.1**
MTP				*e*S	**Sn**	**18 47 00.7**	**0.0**
HUMP	**Col San Antoni**	**0.28**	**298⇓**	*e*P	**Pn**	**18 46 57.2**	**0.0**
HUMP				*e*S	**Sn**	**18 47 03.1**	**+0.1**
CPD	**Cerro la Pandu**	**0.31**	**276⇓**	*e*P	**Pn**	**18 46 57.3**	**-0.1**
CPD				*e*S	**Sn**	**18 47 03.7**	**+0.2**
CBYP	**Canovanas**	**0.36**	**316⇑**	*e*P	**Pn**	**18 46 58.0**	**0.0**
CBYP				*e*S	**Sn**	**18 47 05.0**	**+0.5**
SJG	**San Juan**	**0.54**	**281⇑**	*i*P	**Pn**	**18 47 00.0**	**-0.2**
SJG	**San Juan**	**0.54**	**281⇑**	*e*P	**Pn**	**18 46 59.5**	**-0.7**
SJG	**San Juan**	**0.54**	**281**	*e*S	**Sn**	**18 47 08.3**	**-0.1**
SJG	**San Juan**	**0.54**	**281⇑**	*e*P	**Pn**	**18 46 59.5**	**-0.7**
SJG				*e*S	**Sn**	**18 47 08.3**	**-0.1**
STVI	**Saint Thomas**	**0.69**	**60⇓**	*e*P	**Pn**	**18 47 02.8**	**+0.6**
STVI				*e*S	**Sn**	**18 47 12.2**	**+0.5**
CDVI	**St. Croix**	**0.82**	**108⇑**	*e*P	**Pn**	**18 47 03.5**	**-0.5**
CDVI				*e*S	**Sn**	**18 47 14.4**	**-0.7**
ICM	**Isla Caja Muer**	**0.89**	**263⇓**	*e*P	**Pn**	**18 47 04.6**	**-0.4**
ICM				*e*S	**Sn**	**18 47 16.4**	**-0.4**
CELP	**Cerrillos**	**0.94**	**274⇓**	*i*P	**Pn**	**18 47 05.4**	**-0.2**
CELP				*e*S	**Sn**	**18 47 16.9**	**-1.0**
OBIP	**Obispado Ponce**	**0.97**	**272⇓**	*e*P	**Pn**	**18 47 05.8**	**-0.2**
OBIP				*e*S	**Sn**	**18 47 18.0**	**-0.5**
TBVI	**Tortola**	**1.01**	**67⇑**	*e*P	**Pn**	**18 47 06.8**	**+0.2**
TBVI				*e*S	**Sn**	**18 47 19.7**	**0.0**
AOPR	**Arecibo Observ**	**1.15**	**287⇓**	*e*P	**Pn**	**18 47 08.4**	**-0.1**
AOPR				*e*S	**Sn**	**18 47 23.6**	**+0.5**
LRS	**Lares**	**1.23**	**284⇓**	*e*P	**Pn**	**18 47 09.4**	**-0.1**
ABV	**Anegada**	**1.39**	**59⇑**	*e*P	**Pn**	**18 47 11.2**	**-0.6**
ABV	**Anegada**	**1.39**	**59**	*e*S	**Sn**	**18 47 28.0**	**-1.0**
MGP	**Maguayo**	**1.43**	**270⇓**	*e*P	**Pn**	**18 47 11.7**	**-0.5**
LSP	**Las Mesas**	**1.43**	**277⇓**	*e*P	**Pn**	**18 47 13.0**	**+0.6**
LSP				*e*S	**Sn**	**18 47 30.5**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.45**	**270⇑**	*e*P	**Pn**	**18 47 11.9**	**-0.6**
CRPR				*e*S	**Sn**	**18 47 30.2**	**-0.1**
MPR	**Mayaguez**	**1.49**	**278⇑**	*e*P	**Pn**	**18 47 13.4**	**+0.3**
MPR				*e*S	**Sn**	**18 47 31.7**	**+0.4**
AGPR	**Aguadilla, PR**	**1.52**	**288⇑**	*e*P	**Pn**	**18 47 14.1**	**+0.6**
AGPR				*e*S	**Sn**	**18 47 32.4**	**+0.4**
LZG	**Guadaloupe-1**	**4.09**	**116**	*e*P	**Pn**	**18 47 49.0**	**+0.2**
SEG	**Port Louis**	**4.22**	**112**	*e*P	**Pn**	**18 47 51.3**	**+0.7**
DEG	**La Desirade**	**4.65**	**111**	*e*P	**Pn**	**18 48 00.3**	**+3.8**
BBL	**Barber's Block**	**4.65**	**121**	*e*P	**Pn**	**18 47 57.2**	**+0.7**
SDV	**Santo Domingo**	**10.31**	**209**	*e*Pn	**Pn**	**18 49 14.8**	**+0.7**
	2.6nm,0.3s						

*LDG **03** 19:09:47.6±0.3, 1469S×16679E, h10km, Mb4.6/2, Error ellipse: s-maj=43.5km s-min=9.8km az=86.0*
*MOS **03** 19:09:56.9±1.1, 1556S×16761E, h113km, mb4.6/10, Error ellipse: s-maj=14.2km s-min=10.5km az=0.4*
*BJI **03** 19:09:57.4, 1541S×16803E, h138km, mB4.8, mb4.6*
*NEIC **03** 19:09:59.0±1.0, 1546S×16761E, h127km±8km, mb4.7/22, Error ellipse: s-maj=7.3km s-min=6.1km az=55.0*
*ISCJB **03** 19:09:58.8±0.9, 1556S±005×16752E±006, h137km±8km, mb4.6/31, Error ellipse: s-maj=10.5km s-min=6.8km az=125.4*
*IDC **03** 19:09:59.7±1.3, 1556S×16741E, h129km±9km, mb4.3/14, mb1 4.3/16, mb1mx4.3/19, mbtmp4.7/16, MS3.5/2, Ms1 3.5/2, ms1mx2.7/26, Error ellipse: s-maj=12.5km s-min=11.0km az=136.0*

ISC 03 19:09:59.6±0.9, 1553S±005×16760E±006, h131km±7km, h133km±4.1km: pP-P, n159, σ0°95/84, mb4.6/31, 10C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.22**	**164**	*i*P	**Pn**	**19 10 36.6**	**+0.4**
DZM	**Mont Dzumac**	**6.60**	**189**	P	**Pn**	**19 11 34.9**	**+0.7**
	60nm,0.3s,baz=47,slow=18,SNR=357						
DZM				S	**Sn**	**19 12 46.6**	**-1.5**
	14nm,0.3s,baz=129,slow=19,SNR=3.9						
HNR	**Honiara**	**9.62**	**308**	P	**Pn**	**19 12 15.1**	**+0.4**
	30nm,0.3s,baz=231,slow=1.2,SNR=33						
HNR	**Honiara**	**9.62**	**308⇓**	*i*P	**Pn**	**19 12 14.6**	**-0.2**
HNR				*e*		19 14 00.6	
HNR				pmax	pmax		
	comp=Z,193nm,0.8s						
HNR	**Honiara**	**9.62**	**308⇓**	*i*Pn	**Pn**	**19 12 14.6**	**-0.1**
	comp=Z,193nm,0.8s						
HNR				*e*Sn	**Sn**	**19 14 00.6**	**-0.4**
AFI	**Afiamalu**	**20.01**	**88**	P	**P**	**19 14 22.8**	**+0.9**
	comp=Z,14nm,0.7s,baz=201,slow=8.6,SNR=4.1						
AFI	**Afiamalu**	**20.01**	**88**	*e*P	**P**	**19 14 20.9**	**-1.0**
AFI				pmax	pmax		
	comp=Z,21nm,0.8s						
AFI	**Afiamalu**	**20.01**	**88**	*e*P	**P**	**19 14 20.9**	**-1.0**
	comp=Z,21nm,0.8s						
CTA	**Charters Tower**	**20.82**	**254⇑**	*i*P	**P**	**19 14 32.2**	**+1.6**
	comp=Z,14nm,0.8s						
CTA	**Charters Tower**	**20.82**	**254**	P	**P**	**19 14 31.7**	**+1.1**
	comp=Z,16nm,0.8s,baz=80,slow=11,SNR=26						
CTA	**Charters Tower**	**20.82**	**254⇑**	*i*P	**P**	**19 14 32.2**	**+1.6**
CTA				pmax	pmax		
	comp=Z,14nm,0.8s						
CTAO	**Charters Tower**	**20.82**	**254**	*e*P	**P**	**19 14 32.1**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,20nm,0.8s						
CTAO	**Charters Tower**	**20.82**	**254**	*e*P	**P**	**19 14 32.1**	**+1.5**
	comp=Z,20nm,0.8s						
PMG	**Port Moresby**	**20.86**	**285**	P	**P**	**19 14 31.4**	**+0.3**
	comp=Z,30nm,1.0s,baz=119,slow=7.2,SNR=5.5						
PMG	**Port Moresby**	**20.86**	**285⇓**	*e*P	**P**	**19 14 32.0**	**+1.0**
PMG	**Port Moresby**	**20.86**	**285**	*e*P	**P**	**19 14 31.2**	**+0.2**
	comp=Z,41nm,1.1s						
URZ	**Urewera**	**24.15**	**161**	P	**P**	**19 15 03.7**	**+0.3**
	comp=Z,29nm,1.0s,mb4.8,baz=16,slow=9.6,SNR=7.0						
SNZO	**South Karori**	**26.42**	**168**	*e*P	**P**	**19 15 23.4**	**-0.5**
	comp=Z,50nm,0.9s,mb5.2						
RPZ	**Rata Peaks**	**28.25**	**175**	P	**P**	**19 15 40.5**	**+0.2**
	comp=Z,20nm,0.7s,mb4.9,baz=290,slow=3.0,SNR=7.5						
STKA	**Stephens Creek**	**28.73**	**231⇑**	*i*P	**P**	**19 15 43.8**	**-0.7**
	comp=Z,5.6nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**28.73**	**231**	P	**P**	**19 15 43.8**	**-0.7**
	comp=Z,6.5nm,0.5s,mb4.6,baz=43,slow=7.8,SNR=37						
STKA				PcP	PcP	19 18 50.1	-1.4
	comp=Z,8.1nm,0.7s,baz=63,slow=2.5,SNR=13						
STKA				ScP	ScP	19 22 21.0	+0.3
	comp=Z,2.1nm,0.7s,baz=32,slow=3.2,SNR=6.8						
WB2	**Warramunga Arr**	**31.94**	**257**	*e*P	**P**	**19 16 12.4**	**-0.4**
WRAB	**Tennant Creek**	**31.94**	**257⇑**	*e*P	**P**	**19 16 12.4**	**-0.4**
WRAB	**Tennant Creek**	**31.94**	**257**	*e*P	**P**	**19 16 11.8**	**-1.0**
	comp=Z,11nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**31.95**	**257**	P	**P**	**19 16 12.2**	**-0.7**
	comp=Z,6.8nm,0.7s,mb4.5,baz=86,slow=8.9,SNR=39						
WRA				PcP	PcP	19 19 00.4	+0.4
	comp=Z,2.3nm,0.8s,baz=90,slow=2.6,SNR=7.9						
WRA				S	**S**	**19 21 10.5**	**-4.0**
	comp=Z,2.2nm,1.0s,baz=84,slow=15,SNR=26						
AS31	**Alice Springs**	**32.70**	**250**	*e*P	**P**	**19 16 19.3**	**-0.1**
ASAR	**Alice Springs**	**32.70**	**250**	P	**P**	**19 16 19.4**	**-0.1**
	comp=Z,12nm,0.6s,mb4.8,baz=78,slow=8.8,SNR=168						
ASAR				PcP	PcP	19 19 02.5	+0.5
	comp=Z,2.1nm,0.8s,baz=92,slow=3.2,SNR=8.9						
ASAR				S	**S**	**19 21 24.4**	**-1.7**
	comp=Z,0.5nm,0.9s,baz=80,slow=17,SNR=3.3						
ASAR				ScP	ScP	19 22 36.0	+2.1
	comp=Z,4.8nm,1.1s,baz=98,slow=2.7,SNR=12						
ASAR	**Alice Springs**	**32.70**	**250**	P	**P**	**19 16 19.4**	**0.0**
ASAR						19 19 02.6	
ASAR				S	**S**	**19 21 24.4**	**-1.7**
ASPA	**Alice Springs**	**32.70**	**250**	*e*P	**P**	**19 16 19.3**	**-0.2**
KAKA	**Kakadu**	**34.19**	**270**	*e*P	**P**	**19 16 31.9**	**-0.5**
	comp=Z,18nm,1.4s,mb4.6						
GUMO	**Guam**	**36.64**	**321**	LR	LR	19 30 30.3	
	comp=Z,50nm,18.5s,baz=115,slow=34						
FORT	**Forrest**	**39.17**	**240**	*e*P	**P**	**19 17 15.2**	**+0.6**
	comp=Z,36nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**40.19**	**260⇓**	*i*P	**P**	**19 17 23.3**	**+0.3**
	comp=Z,35nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**40.19**	**260**	LR	LR	19 32 10.8	
	comp=Z,73nm,18.5s,baz=98,slow=33						
PPT	**Papeete**	**41.04**	**99**	*e*LR	LR	19 29 13.7	
	comp=Z,177nm,30.5s						
TBI	**Tubuai**	**41.11**	**108**	*e*LR	LR	19 29 14.8	
	comp=Z,150nm,37.5s						
KLBR	**Kellerberrin**	**48.00**	**241**	*e*P	**P**	**19 18 25.4**	**+0.2**
	comp=Z,6.4nm,0.6s,mb4.4						
NWAO	**Narrogin (SRO)**	**48.62**	**240**	P	**P**	**19 18 29.6**	**-0.3**
	comp=Z,11nm,0.8s,mb4.5,baz=88,slow=7.7,SNR=6.3						
NWAO	**Narrogin (SRO)**	**48.62**	**240**	*e*P	**P**	**19 18 29.8**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,14nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.62**	**240**	*e*P	**P**	**19 18 29.8**	**-0.2**
	comp=Z,14nm,0.9s,mb4.6						
MUN	**Mundaring**	**49.35**	**241**	*e*P	**P**	**19 18 36.4**	**+0.8**
MJAR	**Matsushiro Arr**	**58.76**	**332**	P	**P**	**19 19 42.6**	**-1.1**
	comp=Z,2.6nm,0.8s,mb4.1,baz=168,slow=9.0,SNR=7.4						
MAJO	**Matsushiro**	**58.76**	**332**	*e*P	**P**	**19 19 41.8**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**58.76**	**332**	*e*P	**P**	**19 19 41.8**	**-2.0**
	comp=Z,5.4nm,0.8s,mb4.4						
KSM	**Kuching**	**59.08**	**281**	*e*P	**P**	**19 19 46.7**	**+0.8**
VNDA	**Vanda**	**62.08**	**181**	P	**P**	**19 20 06.4**	**+0.1**
	comp=Z,5.0nm,0.6s,mb4.5,baz=1.8,slow=6.1,SNR=12						
VNDA	**Vanda**	**62.08**	**181**	*e*P	**P**	**19 20 06.4**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,45nm,1.6s						
VNDA	**Vanda**	**62.08**	**181**	*e*P	**P**	**19 20 06.4**	**+0.1**
	comp=Z,45nm,1.6s,mb5.0						
SBA	**Scott Base**	**62.34**	**180**	*e*P	**P**	**19 20 09.4**	**+1.3**
SBA				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.2						
SBA	**Scott Base**	**62.34**	**180**	*e*P	**P**	**19 20 09.4**	**+1.3**
	comp=Z,33nm,0.9s,mb5.2						
CASY	**Casey**	**62.91**	**202**	*e*P	**P**	**19 20 11.4**	**-0.5**
	comp=Z,14nm,0.7s,mb4.9						
SSE	**Sheshan**	**64.32**	**316**	P	**P**	**19 20 23.0**	**+1.9**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,140nm,4.3s						
SSE				LR	LR		
	comp=N,50nm,18.4s						
SSE				LR	LR		
	comp=E,20nm,18.4s						
SSE				LR	LR		
	comp=Z,50nm,16.6s						
NJ2	**Nanjing**	**66.47**	**316**	*e*P	**P**	**19 20 37.0**	**+2.1**
NJ2				PCP	PcP	19 21 05.4	+1.9
NJ2				AP	pP	19 21 08.2	+1.5
NJ2				XP	sP	19 21 21.9	+1.1
NJ2				S	S	19 29 14.0	-0.9
NJ2				XS	sS	19 30 18.0	+8.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,110nm,12.0s						
NJ2				LR	LR		
	comp=N,210nm,21.9s						
NJ2				LR	LR		
	comp=E,180nm,10.8s						
NJ2				LR	LR		
	comp=Z,160nm,22.9s						
MDJ	**Mudanjiang**	**69.13**	**332**	P	**P**	**19 20 50.5**	**-1.1**
	comp=Z,6.7nm,0.9s,mb4.4						
MIR	**Mirnyy**	**69.74**	**204**	*d i*P	**P**	**19 20 57.5**	**+2.2**
MIR				pmax	pmax		
	comp=Z,210nm,1.0s						
KLR	**Kul'dur**	**71.86**	**336**	*e*P	**P**	**19 21 05.8**	**-2.4**
QSPA	**South Pole Qui**	**74.50**	**180**	*e*P	**P**	**19 21 24.1**	**+0.4**
	comp=Z,48nm,0.9s,mb5.1						
KMI	**Kunming**	**75.00**	**302**	P	**P**	**19 21 26.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**76.40**	**320**	*e*P	**P**	**19 21 35.3**	**+0.8**
HHC				AP	pP	19 22 10.3	+3.2
HHC				XP	sP	19 22 25.8	+4.8
HHC				PP	PP	19 24 29.5	+1.7
HHC				S	S	19 31 05.5	-3.5
HHC				SKS		19 31 28.1	
HHC				XS	sS	19 32 06.8	+1.7
HHC				SS	SS	19 36 05.9	-0.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
HHC				AMB	AMB		
	comp=Z,50nm,8.0s						
HHC				LR	LR		
	comp=N,150nm,20.2s						
HHC				LR	LR		
	comp=E,170nm,19.0s						
HHC				LR	LR		
	comp=Z,90nm,19.0s						
CD2	**Chengdu**	**76.75**	**308**	*e*P	**P**	**19 21 35.4**	**-1.1**
CD2				AP	pP	19 22 07.0	-2.1
CD2				PP	PP	19 24 31.4	+0.7
CD2				S	S	19 31 10.9	-1.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,6.2s						
MAW	**Mawson**	**81.27**	**202**	P	**P**	**19 22 01.7**	**+0.6**
	comp=Z,4.9nm,0.8s,mb4.2,baz=123,slow=5.7,SNR=9.3						
MAW	**Mawson**	**81.27**	**202**	*e*P	**P**	**19 22 01.4**	**+0.3**
MAW				pmax	pmax		
	comp=Z,11nm,1.1s						
MAW	**Mawson**	**81.27**	**202**	*e*P	**P**	**19 22 01.4**	**+0.3**
	comp=Z,11nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**82.97**	**324⇑**	*e*P	**P**	**19 22 10.9**	**+1.0**
ULN	**Ulaanbaatar**	**82.97**	**324**	*e*P	**P**	**19 22 10.6**	**+0.6**
	comp=Z,5.6nm,0.8s,mb4.3						
SONM	**Songino Array**	**83.33**	**324**	P	**P**	**19 22 12.5**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.1,baz=147,slow=7.6,SNR=24						
BILL	**Bilibino**	**83.34**	**359**	*i* P	**P**	**19 22 11.1**	**-0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
BILL	**Bilibino**	**83.34**	**359**	*e*P	**P**	**19 22 10.8**	**-1.1**
	comp=Z,4.1nm,0.9s,mb4.2						
GTA	**Gaotai**	**83.45**	**314**	*e*P	**P**	**19 22 14.0**	**+1.6**
LSA	**Lhasa**	**86.25**	**302**	*e*P	**P**	**19 22 27.9**	**+1.4**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LSA	**Lhasa**	**86.25**	**302**	*e*P	**P**	**19 22 27.9**	**+1.5**
	comp=Z,1.7nm,0.6s,mb4.0						
ZAK	**Zakamensk**	**86.38**	**325⇑**	*i*P	**P**	**19 22 27.0**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
NVAR	**Mina Array Bea**	**87.55**	**49**	P	**P**	**19 22 32.9**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=221,slow=5.6,SNR=3.5						
SYO	**Syowa Base**	**88.04**	**197⇓**	*e*P	**P**	**19 22 34.0**	**-1.0**
SYO	**Syowa Base**	**88.04**	**197⇓**	*e*PCP	PcP	19 22 36.4	-0.3
TIXI	**Tiksi**	**90.81**	**349**	*i* P	**P**	**19 22 47.4**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
SNAA	**Sanae**	**92.77**	**183⇑**	*i*P	**P**	**19 22 45.8**	**-11**
SNAA				*e*		19 22 46.4	
SNAA				*e*		19 22 49.8	
SNAA	**Sanae**	**92.77**	**183**

PRU	**Pruhonice**	**139.28**	**333**	*e*PKPdf	PKPdf	19 29 13.4	+2.3
KHC	**Kasperske Hory**	**140.34**	**333**	*e*PKPdf	PKPdf	19 29 13.2	+0.2
GERES	**GERESS Array B**	**140.50**	**333**	PKhKP		19 29 07.1	
	comp=Z,0.3nm,0.5s,baz=64,slow=3.1,SNR=3.7						
GERES				PKP	PKPdf	19 29 13.3	+0.1
	comp=Z,1.9nm,0.9s,baz=107,slow=1.4,SNR=12						
GERES				SKPbc	SKPbc	19 32 38.5	+1.0
	comp=Z,2.0nm,0.8s,baz=48,slow=2.0,SNR=14						
GERES	**GERESS Array B**	**140.50**	**333**	PKHKP		19 29 07.1	
GERES						19 29 13.3	
CDF	**Champ du Feu**	**143.43**	**338**	*e*PKP1	PKPdf	19 29 16.0	-2.5
	comp=Z,14nm,1.0s						
HINF	**Hinteralfeld**	**144.09**	**338**	*e*PKP1	PKPdf	19 29 17.9	-1.8
	comp=Z,7.8nm,0.5s						
HAU	**Haudompre**	**144.11**	**338**	*e*PKP1	PKPdf	19 29 19.2	-0.5
	comp=Z,21nm,0.8s						
MEZF	**Maizieres J'vi**	**144.12**	**340**	*e*PKP1	PKPdf	19 29 18.5	-1.2
	comp=Z,14nm,0.6s						
LOMF	**Lomont**	**144.49**	**337**	PKP	PKPdf	19 29 19.8	-0.5
CABF	**La Chapelle**	**145.38**	**337**	*e*PKP1	PKPbc	19 29 23.1	+1.0
	comp=Z,47nm,0.8s						
FLN	**La Foliniere**	**145.44**	**346**	*e*PKP1	PKPbc	19 29 22.3	0.0
	comp=Z,59nm,0.7s						
LDF	**La Druitiere**	**145.52**	**346**	*e*PKP1	PKPbc	19 29 22.5	0.0
	comp=Z,38nm,0.7s						
LOR	**Lormes**	**145.59**	**340**	*e*PKP1	PKPbc	19 29 23.2	+0.5
	comp=Z,29nm,0.8s						
GRR	**Gorron**	**145.88**	**346**	*e*PKP1	PKPbc	19 29 23.8	+0.2
	comp=Z,34nm,0.7s						
SSF	**Saint Saulge**	**145.89**	**340**	*e*PKP1	PKPbc	19 29 24.3	+0.7
	comp=Z,36nm,0.6s						
HYF	**Humbligny**	**145.98**	**342**	*e*PKP1	PKPbc	19 29 24.7	+0.8
LPL	**La Plagne**	**146.05**	**336**	*e*PKP1	PKPbc	19 29 25.2	+1.1
	comp=Z,15nm,0.7s						
LPG	**La Plagne**	**146.06**	**336**	*e*PKP1	PKPbc	19 29 25.3	+1.2
	comp=Z,18nm,0.7s						
SMF	**Signal de Mont**	**146.15**	**340**	*e*PKP1	PKPbc	19 29 24.8	+0.4
	comp=Z,27nm,0.8s						
AVF	**Avril sur Loir**	**146.18**	**340**	*e*PKP1	PKPbc	19 29 24.7	+0.2
	comp=Z,14nm,0.7s						
SGMF	**Saint Gilles**	**146.37**	**348**	*e*PKP1	PKPbc	19 29 25.1	+0.1
	comp=Z,30nm,0.6s						
ROSF	**Rostrenen**	**146.43**	**349**	*e*PKP1	PKPbc	19 29 25.2	0.0
	comp=Z,14nm,0.8s						
BNI	**Bardonecchia**	**146.45**	**335**	*e*PKIKP	PKPdf	19 29 24.0	+0.3
BGF	**Bois d'Agland**	**146.55**	**341**	*e*PKP1	PKPbc	19 29 26.0	+0.4
	comp=Z,38nm,0.6s						
MBDF	**Montbardon**	**146.68**	**335**	*e*PKP1	PKPbc	19 29 26.4	+0.5
	comp=Z,17nm,0.8s						
PLDF	**La Plantade**	**146.81**	**339**	PKP	PKPbc	19 29 27.4	+1.1
QUIF	**Quistinic**	**146.81**	**349**	*e*PKP1	PKPbc	19 29 26.2	-0.1
	comp=Z,9.1nm,0.7s						
ORIF	**Oris-en-Rattie**	**146.88**	**336**	*e*PKP1	PKPbc	19 29 27.2	+0.7
	comp=Z,27nm,0.9s						
AGO	**Saint Agoulin**	**146.90**	**340**	PKP	PKPbc	19 29 27.0	+0.4
TCF	**Toulx Ste Croi**	**146.99**	**341**	*e*PKP1	PKPbc	19 29 27.2	+0.4
	comp=Z,20nm,0.8s						
SBF	**Sospel**	**147.10**	**333**	*e*PKP1	PKPbc	19 29 27.2	+0.1
	comp=Z,62nm,1.0s						
PYM	**Petit Puy Mans**	**147.21**	**340**	PKP	PKPdf	19 29 27.9	+2.9
MFF	**Saint Martin d**	**147.37**	**344**	*e*PKP1	PKPbc	19 29 28.2	+0.3
	comp=Z,47nm,0.7s						
VIVF	**Saint-Julien-l**	**147.40**	**337**	*e*PKP1	PKPbc	19 29 28.6	+0.7
	comp=Z,8.8nm,0.7s						
PGF	**Pioggiola**	**147.40**	**330**	*e*PKP1	PKPbc	19 29 28.4	+0.5
	comp=Z,42nm,1.0s						
LBL	**Lubilhac**	**147.58**	**339**	PKP	PKPbc	19 29 29.2	+0.8
FRF	**La Foret Royal**	**147.68**	**334**	*e*PKP1	PKPbc	19 29 28.9	+0.2
	comp=Z,12nm,0.6s						
SMRF	**Simiane la Rot**	**147.79**	**335**	*e*PKP1	PKPbc	19 29 29.2	+0.2
	comp=Z,12nm,0.8s						
LMR	**La Mourre**	**147.92**	**334**	*e*PKP1	PKPbc	19 29 29.6	+0.3
	comp=Z,77nm,1.3s						
RJF	**Les Rejaudoux**	**148.08**	**341**	*e*PKP1	PKPbc	19 29 30.3	+0.5
	comp=Z,13nm,0.7s						
CAF	**Calviac**	**148.25**	**340**	*e*PKP1	PKPbc	19 29 30.9	+0.7
	comp=Z,14nm,0.9s						
LASF	**Ste Croix**	**148.37**	**337**	*e*PKP1	PKPbc	19 29 31.3	+0.8
	comp=Z,17nm,0.8s						
LFF	**La Frestale**	**148.65**	**342**	*e*PKP1	PKPbc	19 29 31.8	+0.6
	comp=Z,20nm,0.7s						
MTLF	**Montolieu**	**149.59**	**339**	*e*PKP1	PKPbc	19 29 34.2	+0.6
	comp=Z,26nm,0.9s						
SJPF	**Ste Jean**	**150.89**	**343**	*e*PKP1	PKPbc	19 29 37.6	+0.9
	comp=Z,26nm,1.1s						
ETSF	**Etsaut**	**150.89**	**342**	*e*PKP1	PKPbc	19 29 37.8	+1.1
	comp=Z,16nm,0.7s						
ESDC	**Sonseca Array**	**154.84**	**345**	PKPbc	PKPbc	19 29 46.1	+0.7
	comp=Z,0.1nm,0.3s,baz=1.9,slow=4.5,SNR=4.2						
ESDC				PKPab	PKPab	19 30 00.5	-0.6
	comp=Z,0.6nm,0.8s,baz=22,slow=4.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**166.14**	**262**	PKP	PKPdf	19 29 49.4	+0.4
	comp=Z,1.0nm,0.7s,baz=0.5,slow=1.2,SNR=10						
TORD				PKPab	PKPab	19 30 50.4	0.0
	comp=Z,1.5nm,0.8s,baz=90,slow=3.7,SNR=7.0						
DBIC	**Dimbokro**	**168.50**	**221**	PKPab	PKPab	19 31 01.8	+1.0
	comp=Z,1.9nm,0.6s,baz=41,slow=5.2,SNR=3.5						

*MDD **03** 19:10:21.5±0.8, 4154N×600W, h0km, mbLg1.7/9, Error ellipse: s-maj=8.1km s-min=5.1km az=37.0, PRXIMO*

INMG 03 19:10:21.5±1.5, 4153N×598W, h0km, ML1.7, Error ellipse: s-maj=3.3km s-min=2.0km az=60.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBRG	**Braganca**	**0.64**	**296**	*e*Pg	Pg	19 10 33.5	-0.2
PBRG				*e*Sg	Sg	19 10 41.4	-0.5
PBRG							
	29nm,0.1s						
ECAL	**Calabor**	**0.70**	**306**	Pg	Pg	19 10 34.5	-0.4
	0.8nm,0.2s,SNR=11						
ECAL				Lg		19 10 44.1	
	4.6nm,0.2s,SNR=14						
ERUA	**La Rua**	**1.23**	**315**	Pg	Pg	19 10 44.5	-0.5
	3.3nm,0.2s,SNR=7.9						
ERUA				Lg		19 11 00.2	
	1.4nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**1.33**	**260**	*e*S	Sg	19 11 03.3	-1.0
PVRL							
	15nm,0.1s						
PVRL	**Vila Real**	**1.33**	**260**	Lg		19 11 03.3	
	7.7nm,0.1s						
PCAB	**Cabril**	**1.55**	**277**	*e*P	Pn	19 10 49.4	-0.9
PCAB				*e*S	Sn	19 11 09.9	-1.2
PCAB							
	8.6nm,0.1s						
ELOB	**Lobios**	**1.60**	**283**	Pg	Pg	19 10 51.9	-0.2
	0.3nm,0.1s,SNR=7.3						
ELOB				Lg		19 11 11.9	
	1.5nm,0.2s,SNR=13						
MTE	**Manteigas**	**1.64**	**227**	*e*Sn	Sn	19 11 11.3	-1.9
MTE							
	6.5nm,0.4s						
MTE	**Manteigas**	**1.64**	**227**	Sn	Sn	19 11 11.3	-1.9
	3.2nm,0.4s						
GUD	**Guadarrama**	**1.64**	**122**	Pg	Pg	19 10 51.3	-1.6
	1.9nm,0.5s,SNR=5.2						
GUD				Lg		19 11 13.8	
	3.8nm,0.3s,SNR=11						
PVIS	**Viseu**	**1.66**	**241**	*e*Pn	Pn	19 10 53.1	+1.3
PVIS				*e*Sn	Sn	19 11 14.7	+0.9
PVIS							
	6.8nm,0.1s						
EARI	**Arriondas**	**1.86**	**18**	Pg	Pg	19 10 55.8	-1.4
	SNR=7.9						
EARI				Lg		19 11 20.2	
	0.8nm,0.2s,SNR=7.0						
EPON	**Pontenova**	**2.00**	**335**	Pg	Pg	19 10 58.3	-1.5
	0.3nm,0.2s,SNR=7.9						
EPON				Lg		19 11 23.9	
	1.3nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**2.03**	**215**	*e*Sn	Sn	19 11 26.0	+2.9
PCBR							
	2.7nm,0.2s						
PCBR	**Castelo Branco**	**2.03**	**215**	Sn	Sn	19 11 26.0	+2.9
	1.4nm,0.2s						
STS	**Santiago**	**2.34**	**306**	Pg	Pg	19 11 03.4	-3.0
	1.6nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**2.40**	**140**	Pg	Pg	19 11 06.5	-1.1
	2.4nm,0.1s,baz=319,slow=18,SNR=7.9						
ESDC				Lg		19 11 37.8	
	0.3nm,0.3s,baz=318,slow=30,SNR=4.7						
EBAD	**Badajoz**	**2.88**	**196**	Lg		19 11 53.5	
	5.3nm,0.6s,SNR=7.9						
ETOR	**Torete**	**3.04**	**102**	Lg		19 11 58.2	
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.52**	**162**	Sn	Sn	19 11 56.4	-3.5
	0.1nm,0.3s,SNR=7.9						
EADA				Lg		19 12 13.7	
	0.4nm,0.2s,SNR=7.9						

*ISCJB **03** 19:21:34.1±2.0, 5960S±006×262W±0.1, h33km±18km, mb5.1/36, MS4.6/19, Error ellipse: s-maj=11.8km s-min=6.9km az=75.3*

*IDC **03** 19:21:38.6±1.3, 5963S×2638W, h53km±10km, mb4.7/22, mb1 4.7/22, mb1mx4.7/23, mbtmp4.9/22, MS4.5/17, Ms1 4.5/17, ms1mx4.5/17, Error ellipse: s-maj=13.2km s-min=11.1km az=27.0*

*MOS **03** 19:21:40.1±0.9, 5960S×2641W, h74km, mb5.2/12, MS4.3/5, Error ellipse: s-maj=24.9km s-min=13.0km az=103.7*

*HRVD **03** 19:21:45.9±0.2, 6006S×2597W, h48km±1km, MW5.2/64, Centroid moment Tensor Solution. LP body waves: s59,c89;Mantle waves: s64,c100; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.56±.03; $M_{\theta\theta}$0.21±.03; $M_{\phi\phi}$-0.77±.02; $M_{r\theta}$-0.39±.02; $M_{\theta\phi}$-0.38±.02; $M_{r\phi}$0.26±.02; Best double couple: $M_0$0.91800×10^{17} NP1:ϕ_s230.00000°, δ51.00000°, λ141.00000°. NP2:ϕ_s347.00000°, δ61.00000°, λ46.00000°. Principal axes: T 0.9260, Plg52.0000°, Azm204.0000°; N -0.0160, Plg37.0000°, Azm13.0000°; P -0.9100, Plg5.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 19:21:45.9±1.1, 5964S×2644W, h121km±9km, mb5.0/27 Error ellipse: s-maj=6.8km s-min=5.3km az=218.0*

*BJI **03** 19:21:47.5, 5960S×2640W, h120km, mB5.3*

ISC 03 19:21:37.2±1.3, 5970S±006×263W±01, h42km±12km, n222, $n_0$95/86, mb5.1/36, MS4.6/19, 23C-27D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.77**	**310**	Pn	**Pn**	**19 23 36.5**	**+8.8**
	4μm,1.1s,SNR=16						
HOPE	**Hope Point**	**7.77**	**310**	*e*Pn	**Pn**	**19 23 36.0**	**+8.2**
	2μm,1.5s						
VNA1	**Neumayer--Stat**	**13.26**	**153**	*e*P	**Pn**	**19 24 42.2**	**-0.6**
VNA1				*e*		19 24 47.2	
VNA1				*e*		19 24 54.1	
VNA1				*e*		19 25 01.9	
VNA1				*e*		19 25 09.5	
VNA1				*e*		19 27 03.4	
VNA1				*e*		19 27 08.1	
VNA3	**Neumayer Olymp**	**13.41**	**156**	*e*P	**Pn**	**19 24 43.9**	**-1.0**
VNA3				*e*		19 24 48.7	
VNA3				*e*		19 24 56.5	
VNA3				*e*		19 27 06.6	
VNA3				*e*		19 27 11.8	
VNA2	**Neumayer--Watz**	**13.66**	**153**	*e*P	**Pn**	**19 24 46.8**	**-1.5**
	baz=304,slow=14						
VNA2				*e*		19 24 51.8	
VNA2				*e*		19 24 59.6	
VNA2				*e*		19 25 06.4	
VNA2				*e*		19 25 13.4	
VNA2				*e*		19 27 10.5	
VNA2				*e*		19 27 15.8	
SNAA	**Sanae**	**15.25**	**151**	*e*P	**Pn**	**19 24 58.5**	**-11**
SNAA				*e*		19 25 02.8	
SNAA				*e*		19 25 09.4	
SNAA				*e*		19 25 18.0	
SNAA				*e*		19 27 39.4	
SNAA				*e*		19 27 43.2	
PMSA	**Palmer Station**	**18.09**	**238**	*e*Pn	**Pn**	**19 25 48.2**	**+2.9**
	59nm,0.8s						
MAIT	**Maitri**	**18.99**	**141**	*e*P	**Pn**	**19 25 56.8**	**+0.6**
EFI	**East Falkland**	**19.46**	**280**	P	**Pn**	**19 26 02.2**	**+0.3**
	2μm,0.6s,SNR=63						
EFI	**East Falkland**	**19.46**	**280**	*e*P	**Pn**	**19 26 02.4**	**+0.5**
EFI				pmax	pmax		
	comp=Z,169nm,0.6s						
EFI	**East Falkland**	**19.46**	**280**	*e*P	**Pn**	**19 26 02.4**	**+0.6**
	comp=Z,169nm,0.6s						
USHA	**Ushuaia**	**23.00**	**264**	P	**P**	**19 26 39.2**	**+0.9**
	comp=Z,186nm,0.9s,mb5.5,baz=98,slow=9.1,SNR=64						
USHA				LR	LR	19 33 32.6	
	comp=Z,2μm,21.8s,MS4.6,baz=92,slow=31						
TRIS	**Tristan da Cun**	**24.37**	**28**	P	**P**	**19 26 53.9**	**+2.5**
	comp=Z,668nm,0.8s,mb6.1						
SYO	**Syowa Base**	**28.52**	**136**	*e*P	**P**	**19 27 28.6**	**-0.1**
SYO	**Syowa Base**	**28.52**	**136**	*e*PP	pP	19 27 50.4	+10
SYO	**Syowa Base**	**28.52**	**136**	*e*PcP	PcP	19 30 38.8	-0.7
QSPA	**South Pole Qui**	**30.54**	**180**	*i*P	**P**	**19 27 48.4**	**+1.8**
	comp=Z,34nm,0.6s,mb5.4						
TRQA	**Tornquist**	**31.33**	**298**	*e*P	**P**	**19 27 53.8**	**+0.3**
	comp=Z,38nm,0.8s,mb5.3						
PLCA	**Paso Flores**	**33.26**	**285**	P	**P**	**19 28 10.4**	**0.0**
	comp=Z,20nm,0.8s,mb5.1,baz=134,slow=8.9,SNR=43						
PLCA				PcP	PcP	19 30 51.2	-0.8
	comp=Z,2.9nm,0.8s,baz=139,slow=3.7,SNR=2.7						
PLCA				ScP	ScP	19 34 32.6	-0.4
	comp=Z,1.5nm,0.7s,baz=287,slow=3.7,SNR=3.8						
PLCA				LR	LR	19 41 54.7	
	comp=Z,489nm,19.3s,MS4.2,baz=144,slow=37						
PLCA	**Paso Flores**	**33.26**	**285**	P	**P**	**19 28 10.4**	**-0.1**
PLCA						19 30 51.2	
PLCA				pmax	pmax		
	comp=Z,20nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PLCA				pmax	pmax		
	comp=N,2.0nm,0.7s						
PLCA				MLR	MLR		
	comp=Z,489nm,19.3s						
PLCA	**Paso Flores**	**33.26**	**285**	*e*P	**P**	**19 28 09.6**	**-0.8**
	comp=Z,16nm,0.6s,mb5.1						
MAW	**Mawson**	**36.97**	**140**	P	**P**	**19 28 43.2**	**+0.7**
	comp=Z,6.8nm,0.9s,mb4.5,baz=250,slow=9.8,SNR=11						
MAW				PcP	PcP	19 31 01.9	-1.0
	comp=Z,4.3nm,0.7s,baz=265,slow=3.8,SNR=7.1						
MAW				ScP	ScP	19 34 45.8	-0.7
	comp=Z,1.3nm,0.3s,baz=281,slow=5.5,SNR=6.9						
MAW				LR	LR	19 42 19.9	
	comp=Z,1μm,19.8s,MS4.6,baz=246,slow=34						
MAW	**Mawson**	**36.97**	**140**	P	**P**	**19 28 43.2**	**+0.8**
MAW						19 31 01.9	
MAW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAW				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAW				pmax	pmax		
	comp=N,1.0nm,0.3s						
MAW				MLR	MLR		
	comp=Z,1μm,19.8s						
MAW	**Mawson**	**36.97**	**140**	*e*P	**P**	**19 28 42.2**	**-0.2**
	comp=Z,12nm,1.0s,mb4.7						
SFDO	**San Fernando**	**38.32**	**291**	↑*i*P	**P**	**19 28 53.1**	**-0.8**
PCH	**Pirque**	**38.90**	**292**	↑*i*P	**P**	**19 28 58.8**	**+0.1**
FCH	**Farellones**	**39.04**	**293**	↑*i*P	**P**	**19 29 00.8**	**+1.0**
TACH	**Talagante**	**39.08**	**292**	↓*i*P	**P**	**19 29 00.1**	**-0.1**
PEL	**Peldehue**	**39.38**	**292**	↓*i*P	**P**	**19 29 03.0**	**+0.3**
LCCH	**Las Cruces**	**39.52**	**291**	↑*i*P	**P**	**19 29 04.3**	**+0.5**
CFAA	**Coronel Fontan**	**39.53**	**296**	P	**P**	**19 29 03.6**	**-0.3**
	comp=Z,5.4nm,0.6s,mb4.5,baz=160,slow=8.4,SNR=59						
CFAA				PcP	PcP	19 31 09.8	-1.0
	comp=Z,0.6nm,0.5s,baz=153,slow=2.6,SNR=4.1						
CPUP	**Villa Florida**	**39.63**	**313**	P	**P**	**19 29 04.2**	**-0.6**
	comp=Z,4.4nm,0.4s,mb4.6,baz=140,slow=6.4,SNR=35						
CPUP				ScP	ScP	19 34 54.7	-1.9
	comp=Z,2.4nm,0.6s,baz=121,slow=3.6,SNR=3.8						
CPUP				LR	LR	19 44 54.4	
	comp=Z,334nm,19.6s,MS4.2,baz=146,slow=35						
CPUP	**Villa Florida**	**39.63**	**313**	P	**P**	**19 29 04.2**	**-0.6**
CPUP						19 34 54.7	
JACH	**Jahuel**	**39.72**	**293**	↓*i*P	**P**	**19 29 05.7**	**+0.2**
SUR	**Sutherland**	**41.29**	**70**	P	**P**	**19 29 19.5**	**+1.0**
	comp=Z,7.3nm,0.7s,mb4.4,baz=217,slow=11,SNR=7.1						
SUR	**Sutherland**	**41.29**	**70**	*e*P	**P**	**19 29 20.4**	**+1.9**
	comp=Z,57nm,1.4s,mb5.0						
SBA	**Scott Base**	**42.46**	**184**	*e*P	**P**	**19 29 30.3**	**+2.2**
SBA				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.1						
SBA	**Scott Base**	**42.46**	**184**	*e*P	**P**	**19 29 30.3**	**+2.2**
	comp=Z,50nm,1.0s,mb5.1						
VNDA	**Vanda**	**42.94**	**183**	P	**P**	**19 29 33.8**	**+1.9**
	comp=Z,20nm,0.6s,mb5.0,baz=189,slow=6.9,SNR=56						
VNDA				PcP	PcP	19 31 22.5	+0.5
	comp=Z,6.4nm,0.9s,baz=178,slow=1.6,SNR=3.8						
VNDA				LR	LR	19 46 13.5	
	comp=Z,355nm,22.0s,MS4.2,baz=180,slow=34						
VNDA	**Vanda**	**42.94**	**183**	P	**P**	**19 29 33.8**	**+1.9**
VNDA						19 31 22.5	
VNDA				pmax	pmax		
	comp=Z,20nm,0.6s						
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VNDA				MLR	MLR		
	comp=Z,355nm,22.0s						
VNDA	**Vanda**	**42.94**	**183**	*e*P	**P**	**19 29 32.4**	**+0.4**
	comp=Z,25nm,0.7s,mb5.1						
BOSA	**Boshof**	**46.54**	**72**	P	**P**	**19 30 01.1**	**+0.5**
	comp=Z,8.9nm,0.8s,mb4.8,baz=204,slow=9.2,SNR=14						
BOSA				LR	LR	19 45 47.7	
	comp=Z,520nm,18.2s,MS4.5,baz=209,slow=31						
BOSA	**Boshof**	**46.54**	**72**	P	**P**	**19 30 01.1**	**+0.5**
BOSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BOSA				MLR	MLR		
	comp=Z,520nm,18.2s,MS4.5						
BOSA	**Boshof**	**46.54**	**72**	*e*P	**P**	**19 30 00.6**	**0.0**
	comp=Z,9.7nm,0.8s,mb4.8						
BDFB	**Brasilia**	**46.78**	**331**	P	**P**	**19 30 01.9**	**-0.6**
	comp=Z,9.7nm,0.8s,mb4.8,baz=170,slow=4.0,SNR=7.6						
BDFB				LR	LR	19 47 56.4	
	comp=Z,407nm,18.9s,MS4.4,baz=156,slow=34						
LVC	**Limon Verde**	**47.60**	**302**	*e*P	**P**	**19 30 09.1**	**+0.2**
	comp=Z,39nm,0.7s,mb5.5						
LBTB	**Lobatse**	**49.73**	**69**	P	**P**	**19 30 25.8**	**+0.5**
	comp=Z,10.0nm,0.7s,mb5.0,baz=226,slow=7.9,SNR=21						
LBTB	**Lobatse**	**49.73**	**69**	P	**P**	**19 30 25.8**	**+0.6**
LBTB				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
LBTB	**Lobatse**	**49.73**	**69**	*e*P	**P**	**19 30 25.1**	**-0.1**
	comp=Z,16nm,0.9s,mb5.1						
CASY	**Casey**	**50.31**	**159**	P	**P**	**19 30 28.6**	**-1.1**
	comp=Z,46nm,1.2s,mb5.4						
TSUM	**Tsumeb**	**51.16**	**57**	P	**P**	**19 30 36.0**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.3,baz=192,slow=10,SNR=9.4						
TSUM	**Tsumeb**	**51.16**	**57**	*e*P	**P**	**19 30 36.5**	**+0.5**
	comp=Z,12nm,1.2s,mb4.7						
LPAZ	**La Paz**	**52.91**	**307**	P	**P**	**19 30 49.7**	**+0.6**
	comp=Z,11nm,0.4s,mb5.2,baz=119,slow=5.7,SNR=45						
LPAZ				ScP	ScP	19 35 49.3	-2.4
	comp=Z,1.0nm,0.5s,baz=108,slow=6.4,SNR=6.3						
LPAZ	**La Paz**	**52.91**	**307**	P	**P**	**19 30 49.7**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,11nm,0.4s						
LPAZ				pmax	pmax		
	comp=N,1.0nm,0.5s						
LPAZ	**La Paz**	**52.91**	**307**	*e*P	**P**	**19 30 49.2**	**+0.1**
	comp=N,13nm,0.5s,mb5.1						
ARE	**Arequipa**	**54.16**	**303**	*e*P	**P**	**19 30 58.0**	**-0.2**
RCBR	**Riachuelo**	**54.24**	**348**	*e*P	**P**	**19 30 58.1**	**-0.7**
	comp=N,15nm,1.0s,mb4.9						
SAML	**Samuel**	**57.73**	**315**	*e*P	**P**	**19 31 22.0**	**-1.8**
	comp=N,12nm,0.6s,mb5.1						
LSZ	**Lusaka**	**59.34**	**66**	*e*P	**P**	**19 31 34.6**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
LSZ	**Lusaka**	**59.34**	**66**	*e*P	**P**	**19 31 34.6**	**-0.3**
	comp=Z,13nm,0.8s,mb5.0						
DBIC	**Dimbokro**	**68.32**	**23**	P	**P**	**19 32 34.2**	**+0.1**
	comp=Z,4.9nm,0.5s,mb4.8,baz=163,slow=6.0,SNR=22						
DBIC				LR	LR	19 55 24.6	
	comp=Z,144nm,22.0s,MS4.2,baz=151,slow=30						
DBIC	**Dimbokro**	**68.32**	**23**	P	**P**	**19 32 34.2**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
DBIC				MLR	MLR		
	comp=Z,145nm,22.0s						
DBIC	**Dimbokro**	**68.32**	**23**	*e*P	**P**	**19 32 33.6**	**-0.5**
	comp=Z,7.5nm,0.7s,mb4.8						
OTAV	**Otavalo**	**72.09**	**304**	*e*P	**P**	**19 32 56.9**	**-0.3**
	comp=Z,30nm,1.2s,mb5.1						
ROSC	**El Rosal**	**74.61**	**310**	P	**P**	**19 33 11.8**	**-0.2**
	comp=Z,13nm,0.7s,mb5.0,baz=89,slow=2.0,SNR=6.1						
ROSC				LR	LR	20 06 08.2	
	comp=Z,401nm,21.7s,MS4.7,baz=189,slow=36						
KMBO	**Kilima Mbogo**	**75.95**	**67**	P	**P**	**19 33 21.2**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=231,slow=10,SNR=3.3						
KMBO				LR	LR	20 03 35.9	
	comp=Z,1μm,19.9s,baz=96,slow=33						
KMBO	**Kilima Mbogo**	**75.95**	**67**	P	**P**	**19 33 21.2**	**+1.5**
KMBO				LR	LR	20 03 35.9	
RPZ	**Rata Peaks**	**75.96**	**193**	P	**P**	**19 33 20.3**	**+0.6**
	comp=Z,25nm,1.0s,mb5.1,baz=162,slow=3.2,SNR=4.2						
RPZ				LR	LR	20 04 07.7	
	comp=Z,389nm,18.1s,MS4.8,baz=198,slow=34						
TORD	**Torodi Ar. Bea**	**76.03**	**28**	P	**P**	**19 33 20.4**	**+0.3**
	comp=Z,19nm,0.4s,mb5.4,baz=198,slow=6.2,SNR=269						
SDV	**Santo Domingo**	**76.93**	**315**	*e*P	**P**	**19 33 23.3**	**-1.9**
	comp=Z,13nm,0.6s,mb5.0						
RKT	**Rikitea**	**79.22**	**243**	*

W14A	**Seligman**	**118.13**	**292**	⇑P	PKPdf	19 40 19.0	-0.7
	baz=118						
SCHQ	**Schefferville**	**118.69**	**335**	PKP	PKPdf	19 40 18.3	-2.4
	comp=Z,1.9nm,0.3s,baz=91,slow=1.9,SNR=9.4						
AKASG	**Malin Array Be**	**118.86**	**37**	PKP	PKPdf	19 40 18.5	-2.5
	comp=Z,0.8nm,0.5s,baz=234,slow=2.4,SNR=5.9						
AKASG				PP	PP	19 41 40.7	+0.7
	comp=Z,0.1nm,0.2s,baz=213,slow=6.8,SNR=4.6						
MSU	**Marysvale**	**120.39**	**295**	*e*PKIKP	PKPdf	19 40 23.2	-0.8
TPNV	**Topopah Spring**	**121.03**	**291**	*e*PKIKP	PKPdf	19 40 24.5	-0.7
DUG	**Dugway**	**122.04**	**296**	*e*PKIKP	PKPdf	19 40 25.7	-1.4
S09A	**Goldfield**	**122.11**	**291**	⇓P	PKPdf	19 40 26.6	-0.7
	baz=122						
S08C	**White Mtn Res**	**122.39**	**290**	⇓P	PKPdf	19 40 27.5	-0.3
	baz=122						
HWUT	**Hardware Ranch**	**122.60**	**297**	*e*PKPdf	PKPdf	19 40 25.8	-2.5
PDAR	**Pinedale Array**	**122.64**	**300**	PKP	PKPdf	19 40 25.9	-2.3
	comp=Z,1.1nm,0.5s,baz=133,slow=5.2,SNR=11						
BGU	**Big Grassy Mou**	**122.72**	**296**	*e*PKPdf	PKPdf	19 40 26.4	-2.0
KCC	**Kaiser Creek**	**122.80**	**289**	⇓P	PKPdf	19 40 28.0	-0.5
	baz=123						
O12A	**Currie**	**122.99**	**294**	⇓P	PKPdf	19 40 28.4	-0.5
	baz=123						
ULM	**Lac du Bonnet**	**123.18**	**314**	PKP	PKPdf	19 40 25.9	-3.4
	comp=Z,3.3nm,0.5s,baz=56,slow=1.2,SNR=11						
NVAR	**Mina Array Bea**	**123.19**	**290**	PKP	PKPdf	19 40 28.9	-0.4
	comp=Z,1.2nm,0.6s,baz=134,slow=2.6,SNR=12						
Q08A	**Gabbs**	**123.36**	**291**	⇑P	PKPdf	19 40 28.8	-0.8
	baz=124						
HFS	**Hagfors**	**123.48**	**23**	PKP	PKPdf	19 40 26.8	-3.1
	comp=Z,2.4nm,0.6s,baz=159,slow=4.6,SNR=13						
PACP	**Pacheco Peak**	**123.50**	**287**	⇓P	PKPdf	19 40 30.2	+0.3
	baz=124						
KOLN	**Koldanda**	**123.53**	**92**	*e*P	PKPdf	19 40 28.6	-1.4
	comp=Z,65nm,1.3s						
ELK	**Elko**	**123.59**	**294**	*e*PKIKP	PKPdf	19 40 29.1	-1.0
LOHW	**Long Hollow**	**123.77**	**300**	*e*PKPdf	PKPdf	19 40 28.1	-2.3
TPAW	**Teton Pass**	**123.83**	**299**	*e*PKPdf	PKPdf	19 40 28.7	-1.9
NB2	**NORSAR Subarra**	**123.86**	**21**	PKPd	PKPdf	19 40 27.3	-3.3
	comp=Z,5.8nm,1.1s,baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**123.86**	**21**	PKPd	PKPdf	19 40 27.3	-3.3
	baz=202,slow=1.9						
NOA	**NORSAR Array B**	**123.86**	**21**	PKP	PKPdf	19 40 28.7	-1.9
	comp=Z,5.4nm,1.0s,baz=194,slow=1.7,SNR=9.0						
MOOW	**Moose Ponds**	**123.94**	**300**	*e*PKPdf	PKPdf	19 40 29.0	-1.8
M12A	**Wells**	**123.98**	**295**	⇓P	PKPdf	19 40 30.2	-0.6
	baz=124						
O09A	**Fish Creek Ran**	**124.05**	**292**	⇑P	PKPdf	19 40 30.3	-0.6
	baz=124						
IMW	**Indian Meadow**	**124.15**	**300**	*e*PKPdf	PKPdf	19 40 29.6	-1.6
DMN	**Daman**	**124.16**	**93**	*e*P	PKPdf	19 40 30.5	-0.7
	comp=Z,29nm,1.0s						
FLWY	**Flagg Ranch**	**124.19**	**300**	*e*P	PKPdf	19 40 29.7	-1.5
GKN	**Gorkha**	**124.24**	**92**	*e*P	PKPdf	19 40 30.2	-1.1
	comp=Z,39nm,1.0s						
BMN	**Battle Mountai**	**124.27**	**293**	*e*PKIKP	PKPdf	19 40 30.9	-0.5
PKI	**Pulchoki**	**124.28**	**93**	*e*P	PKPdf	19 40 30.1	-1.3
M11A	**Holland Ranch,**	**124.39**	**294**	⇓P	PKPdf	19 40 31.7	0.0
	baz=124						
KKN	**Kakani**	**124.39**	**93**	*e*P	PKPdf	19 40 30.8	-0.8
	comp=Z,15nm,0.6s						
LAVA	**Lava Cap Winer**	**124.62**	**289**	⇓P	PKPdf	19 40 31.6	-0.5
	baz=125						
N09A	**Rock Creek Ran**	**124.74**	**293**	⇓P	PKPdf	19 40 31.9	-0.4
	baz=125						
JIRN	**Jiri**	**124.75**	**94**	*e*P	PKPdf	19 40 31.9	-0.4
	comp=Z,44nm,0.7s						
GUN	**Gumba**	**124.80**	**94**	*e*P	PKPdf	19 40 31.9	-0.5
	comp=Z,46nm,1.0s						
O07A	**Toulon**	**124.84**	**291**	⇑P	PKPdf	19 40 32.2	-0.3
	baz=125						
N08A	**GE Springer Mi**	**124.97**	**292**	⇓P	PKPdf	19 40 32.1	-0.6
	baz=125						
P05C	**Yuba Gap, Truc**	**124.98**	**289**	⇑P	PKPdf	19 40 32.3	-0.5
	baz=125						
O06A	**Flanigan**	**125.29**	**290**	⇓P	PKPdf	19 40 32.6	-0.7
	baz=125						
N07B	**Gerlach**	**125.36**	**292**	⇓P	PKPdf	19 40 33.1	-0.4
	baz=126						
HLID	**Hailey**	**125.44**	**297**	*e*PKPdf	PKPdf	19 40 30.7	-3.0
M08A	**Happy Creek Ra**	**125.61**	**292**	⇑P	PKPdf	19 40 33.6	-0.4
	baz=126						
O05C	**Quincy**	**125.65**	**289**	⇑P	PKPdf	19 40 33.7	-0.4
	baz=126						
M07A	**Soldier Meadow**	**125.94**	**292**	⇓P	PKPdf	19 40 34.5	-0.1
	baz=126						
GASB	**Alder Springs**	**126.27**	**288**	⇓P	PKPdf	19 40 35.5	+0.3
	baz=126						
P01C	**Double 8 Ranch**	**126.43**	**287**	⇓P	PKPdf	19 40 35.6	+0.1
	baz=126						
WVOR	**Wild Horse Val**	**126.50**	**293**	*e*PKIKP	PKPdf	19 40 34.7	-1.0
HATC	**Hat Creek Radi**	**126.58**	**290**	⇓P	PKPdf	19 40 35.6	-0.2
	baz=127						
M05C	**Lookout**	**126.85**	**290**	⇑P	PKPdf	19 40 35.7	-0.6
	baz=127						
WDC	**Whiskeytown Da**	**126.91**	**289**	⇓P	PKPdf	19 40 36.8	+0.3
	baz=127						
K07A	**Rock Creek Ran**	**126.98**	**293**	⇓P	PKPdf	19 40 35.8	-0.8
	baz=127						
FRB	**Frobisher Bay**	**127.23**	**338**	PKP	PKPdf	19 40 34.7	-2.4
	comp=Z,13nm,0.8s,baz=168,slow=2.7,SNR=8.8						
FINES	**FINESS Array B**	**127.38**	**29**	PKP	PKPdf	19 40 35.3	-2.1
	comp=Z,4.2nm,0.5s,baz=139,slow=1.8,SNR=53						
M04C	**Macdoel**	**127.50**	**290**	⇑P	PKPdf	19 40 37.3	-0.3
	baz=128						
CHMT	**Chamberlain Mo**	**127.52**	**300**	*e*PKPdf	PKPdf	19 40 36.5	-1.1
K06A	**Valley Falls**	**127.53**	**292**	⇑P	PKPdf	19 40 37.4	-0.2
	baz=128						
SFJD	**Kangerlussuaq**	**127.66**	**348**	PKP	PKPdf	19 40 35.6	-2.3
	comp=Z,7.2nm,0.6s,baz=106,slow=2.9						
MSO	**Missoula**	**127.76**	**300**	*e*PKPdf	PKPdf	19 40 36.6	-1.5
J06A	**Christmas Vall**	**127.83**	**293**	⇓P	PKPdf	19 40 37.3	-1.0
	baz=128						
KAF	**Kangasniemi**	**128.01**	**28**	*e*p	PKPdf	19 40 35.6	-3.0
	comp=Z,12nm,0.5s						
L02A	**Cave Junction**	**128.63**	**289**	⇑P	PKPdf	19 40 40.0	+0.3
	baz=129						
ORR	**Orenburg**	**128.66**	**52**	*e*PKIKP	PKPdf	19 40 38.5	-1.3
ORR				pmax	pmax		
	comp=Z,30nm,1.5s						
HUMO	**Hull Mountain**	**128.67**	**290**	⇑P	PKPdf	19 40 39.2	-0.6
	baz=129						
LSA	**Lhasa**	**128.92**	**97**	PKP	PKPdf	19 40 41.3	+1.0
LSA	**Lhasa**	**128.92**	**97**	*e*PKPdf	PKPdf	19 40 40.1	-0.2
AB31	**Akbulak array**	**129.00**	**57**	*i* PKIKP	PKPdf	19 40 38.6	-1.8
AB31				pmax	pmax		
	comp=Z,9.0nm,0.8s						
K02A	**Glendale**	**129.05**	**290**	⇑P	PKPdf	19 40 40.0	-0.5
	baz=129						
AKTK	**Aktyubinsk**	**129.08**	**55**	PKP	PKPdf	19 40 39.1	-1.5
AKTO	**Aktyubinsk**	**129.08**	**55**	PKP	PKPdf	19 40 39.1	-1.5
	comp=Z,7.5nm,0.9s,baz=185,slow=2.7,SNR=18						
KKAR	**Karatay Array**	**129.11**	**70**	*i* PKIKP	PKPdf	19 40 39.3	-1.3
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
J03A	**Ideyld Park**	**129.25**	**291**	⇓P	PKPdf	19 40 40.7	-0.2
	baz=129						
JOF	**Joensuu**	**129.94**	**30**	*e*p	PKPdf	19 40 39.6	-2.6
	comp=Z,10nm,0.6s						
AAK	**Ala-Archa**	**130.67**	**73**	*i* PKIKP	PKPdf	19 40 41.8	-1.8
KMI	**Kunming**	**130.80**	**112**	PKP	PKPdf	19 40 42.8	-1.0
KMI				XPKP		19 41 28.6	
KMI				PP	PP	19 43 05.8	+6.0
KMI				SS	SS	20 00 25.4	-1.0
KMI				SSS		20 05 13.7	
KMI				PP	PP		
	comp=Z,90nm,7.5s						
KMI				LR	LR		
	comp=N,100nm,18.0s,MS4.7						
KMI				LR	LR		
	comp=E,100nm,21.0s,MS4.7						
KMI				LR	LR		
	comp=Z,150nm,20.0s,MS4.7						
E05A	**Randle**	**131.08**	**294**	⇑P	PKPdf	19 40 43.3	-1.1
	baz=131						
SUMG	**Summit**	**132.26**	**355**	*e*PKPdf	PKPdf	19 40 44.8	-1.8
SUMG				*e*SKP		19 44 06.5	
GYA	**Guiyang**	**133.76**	**115**	PKP	PKPdf	19 40 48.3	-1.1
ARCES	**ARCESS Array B**	**134.15**	**23**	PKhKP		19 40 33.4	
	comp=Z,1.3nm,0.7s,baz=201,slow=2.1,SNR=6.2						
ARCES				PKP	PKPdf	19 40 46.3	-3.8
	comp=Z,7.4nm,0.7s,baz=218,slow=2.3,SNR=21						
ARCES				SKPbc	SKPbc	19 44 11.5	-4.7
	comp=Z,5.0nm,0.8s,baz=238,slow=2.3,SNR=6.4						
ARCES	**ARCESS Array B**	**134.15**	**23**	PKP	PKPdf	19 40 46.4	-3.8
ARCES				SKPbc	SKPbc	19 44 11.5	-4.7

KEV	**Kevo**	**134.63**	**23**	*ep*	PKPdf	19 40 50.3	-0.8
	comp=Z,22nm,1.0s						
ZRNK	**Zerenda**	**135.60**	**59**	*e*PKIKP	PKPdf	19 40 50.8	-2.1
CD2	**Chengdu**	**136.14**	**108**	*e*PKP	PKPdf	19 40 49.3	-4.6
CD2				XPKP		19 41 37.6	
CD2				PKS		19 44 24.1	
CD2				PP	PP		
	comp=Z,90nm,9.0s						
CD2				LR	LR		
	comp=N,270nm,20.4s						
CD2				LR	LR		
	comp=Z,210nm,19.2s,MS4.9						
BVA0	**Borovoye Array**	**136.26**	**60**	*i* PKIKP	PKPdf	19 40 54.1	0.0
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CHKZ	**Chkalovo**	**136.81**	**60**	*e*PKHKP		19 40 40.9	
CHKZ				*e*		19 40 52.1	
CHKZ	**Chkalovo**	**136.81**	**60**	*e*PKPpre		19 40 40.9	
CHKZ				*e*PKPdf	PKPdf	19 40 52.1	-3.1
CHKZ				*e*SKP		19 44 20.8	
MKAR	**Makanchi Array**	**137.50**	**75**	PKhKP		19 40 43.7	
	comp=Z,0.5nm,0.7s,baz=220,slow=3.9,SNR=6.1						
MKAR				PKP	PKPdf	19 40 54.0	-2.4
	comp=Z,3.0nm,0.9s,baz=250,slow=2.5,SNR=11						
MKAR				SKPbc	SKPbc	19 44 22.3	-4.2
	comp=Z,2.9nm,1.0s,baz=243,slow=4.0,SNR=8.5						
MKAR	**Makanchi Array**	**137.50**	**75**	PKP	PKPdf	19 40 54.0	-2.4
MKAR				SKPbc	SKPbc	19 44 22.3	-4.3
KURK	**Kurchatov**	**138.44**	**68**	*e*PKIKP	PKPdf	19 40 55.9	-2.2
YKA	**Yellowknife Ar**	**139.15**	**315**	PKP	PKPdf	19 40 55.2	-4.2
	comp=Z,5.4nm,0.6s,baz=129,slow=2.5,SNR=19						
YKA				SKPbc	SKPbc	19 44 27.9	-3.3
	comp=Z,3.4nm,0.7s,baz=122,slow=1.9,SNR=9.8						
YKA	**Yellowknife Ar**	**139.15**	**315**	PKP	PKPdf	19 40 55.2	-4.2
YKA				SKPbc	SKPbc	19 44 27.9	-3.3
LZH	**Lanzhou**	**140.37**	**104**	*e*PKP	PKPdf	19 41 04.0	+2.3
LZH				PP	PP		
	comp=Z,110nm,4.5s						
XAN	**Xi'an**	**141.18**	**111**	PKP	PKPdf	19 41 01.7	-1.4
RES	**Resolute Bay**	**141.42**	**337**	*e*PKHKP		19 40 55.1	
DLBC	**Dease Lake**	**142.78**	**302**	PKP	PKPdf	19 41 03.0	-3.0
	comp=Z,1.2nm,0.4s,baz=224,slow=14,SNR=3.4						
NVS	**Novosibirsk**	**143.24**	**66**	*i* PKIKP	PKPdf	19 41 01.8	-5.0
NVS				pmax	pmax		
	comp=Z,86nm,1.7s						
NVS				pmax	pmax		
	comp=N,38nm,1.8s						
NVS				pmax	pmax		
	comp=E,15nm,1.3s						
ZAL	**Zalesovo**	**143.42**	**68**	PKhKP		19 41 01.5	
	comp=E,6.2nm,0.4s,baz=248,slow=1.7,SNR=27						
ZAL				PKP	PKPdf	19 41 06.1	-1.0
	comp=E,4.3nm,0.5s,baz=282,slow=1.8,SNR=8.5						
SKAG	**Skagway**	**145.64**	**301**	*e*PKPdf	PKPdf	19 41 08.6	-2.3
BTO	**Baotou**	**146.93**	**105**	*e*PKP	PKPdf	19 41 13.6	+0.5
HHC	**Hu-ho-hao-te**	**147.86**	**107**	*e*PKP	PKPdf	19 41 16.8	+2.1
HHC				APKP		19 41 44.7	
HHC				PKS		19 44 49.5	
HHC				SKS	SKSdf	19 48 12.0	-7.8
HHC				PP	PP		
	comp=Z,40nm,6.1s						
HHC				LR	LR		
	comp=N,140nm,14.3s,MS5.1						
HHC				LR	LR		
	comp=E,190nm,15.5s,MS5.1						
HHC				LR	LR		
	comp=Z,100nm,20.2s,MS4.6						
INK	**Inuvik**	**148.87**	**317**	PKP	PKPdf	19 41 11.5	-4.8
	comp=Z,2.5nm,1.1s,baz=64,slow=2.4,SNR=5.4						
INK				PKPbc	PKPbc	19 41 17.2	-3.0
	comp=Z,14nm,0.8s,baz=93,slow=3.2,SNR=45						
INK	**Inuvik**	**148.87**	**317**	PKHKP		19 41 11.5	
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
INK				pmax	pmax		
	comp=Z,14nm,0.8s						
INK	**Inuvik**	**148.87**	**317**	*e*PKPdf	PKPdf	19 41 10.7	-5.6
INK				*e*PKPbc	PKPbc	19 41 17.1	-3.2
BJT	**Baijiatuau**	**149.41**	**113**	*e*PKP2	PKPab	19 41 20.8	-5.7
DAWY	**Dawson**	**149.50**	**307**	*e*PKPdf	PKPdf	19 41 12.8	-4.5
DAWY				*e*PKPbc	PKPbc	19 41 18.9	-2.9
SONM	**Songino Array**	**150.29**	**92**	PKP	PKPdf	19 41 16.7	-1.9
	comp=Z,1.0nm,1.0s,baz=237,slow=1.7,SNR=7.1						
SONM				PKPbc	PKPbc	19 41 22.9	-0.8
	comp=Z,25nm,0.8s,baz=226,slow=2.5,SNR=152						
ZAK	**Zakamensk**	**150.33**	**86**	*e*PKIKP	PKPdf	19 41 17.0	-1.7
ZAK				pmax	pmax		
	comp=Z,68nm,1.7s						
ULN	**Ulaanbaatar**	**150.64**	**93**	⇑*i* PKIKP	PKPbc	19 41 23.5	-1.1
ULN	**Ulaanbaatar**	**150.64**	**93**	*e*PKPbc	PKPbc	19 41 23.2	-1.4
EYAK	**Cordova Ski Ar**	**150.75**	**298**	*e*PKPbc	PKPbc	19 41 23.0	-1.9
TLY	**Talaya**	**151.30**	**84**	*e*PKIKP	PKPbc	19 41 24.9	-1.3
TLY				pmax	pmax		
	comp=Z,32nm,1.2s						
IRK	**Irkutsk**	**151.94**	**83**	*e*PKIKP	PKPdf	19 41 19.1	-2.0
IRK				pmax	pmax		
	comp=Z,36nm,2.1s						
KDAK	**Kodiak Island**	**152.69**	**290**	PKPbc	PKPbc	19 41 27.4	-2.0
	comp=Z,11nm,0.4s,baz=164,slow=3.7,SNR=5.2						
MJAR	**Matsushiro Arr**	**154.75**	**150**	PKPbc	PKPbc	19 41 32.4	-1.4
	comp=Z,2.6nm,0.7s,baz=170,slow=3.1,SNR=8.6						
MJAR				PKPab	PKPab	19 41 47.8	-1.0
	comp=Z,3.0nm,0.7s,baz=186,slow=4.2,SNR=7.0						
MJAR	**Matsushiro Arr**	**154.75**	**150**	PKIKP	PKPbc	19 41 32.4	-1.4
MJAR						19 41 47.8	
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CIT	**Chita**	**156.51**	**91**	*e*PKIKP	PKPdf	19 41 23.4	-4.1
CN2	**Changchun**	**156.62**	**120**	*e*PKP	PKPdf	19 41 25.8	-1.9
KLR	**Kul'dur**	**163.57**	**120**	*e*PKIKP	PKPdf	19 41 28.8	-6.6
KLR				pmax	pmax		
	comp=Z,35nm,1.8s						

*ISCJB **03** 19:40:32.8±1.1, 2493N×005×12229E±004, h29km±9km, mb4.0/13, Error ellipse: s-maj=8.8km s-min=5.8km az=7.0*
*JMA **03** 19:40:33.2±0.4, 2488N×12229E, h45km, M3.4*
*NEIC **03** 19:40:37.9±1.4, 2483N×12190E, h51km±12km, mb4.4/6, Error ellipse: s-maj=27.8km s-min=10.0km az=69.0*
*IDC **03** 19:40:48.8±11.0, 2497N×12242E, h163km±117km, mb3.5/7, mb1 3.6/7, mb1mx3.4/19, mbtmp3.9/7, Error ellipse: s-maj=104.1km s-min=14.4km az=64.0*
*BJI **03** 19:40:50.2, 2567N×12103E, h50km, mB4.3, mb4.2, ML3.9, Ms3.8, Msz3.6*

ISC 03 19:40:32.7±2.5, 2487N±005×12226E±004, h18km±17km, n26, σ1°01/32, mb4.0/13, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.71**	**278**	*e*Pn	**Pn**		**19 40 48.2**	**+0.3**
TATO				*e*Sn	**Sn**		**19 40 58.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.79**	**121**	P	**Pb**		**19 40 47.8**	**-0.2**
YOJ				*e*S	**Sb**		**19 40 58.4**	**0.0**
YHNB	**Yeheng**	**0.83**	**256**	*e*Pn	**Pn**		**19 40 49.8**	**+0.2**
YHNB				*e*Sn	**Sn**		**19 41 02.0**	**+0.6**
NACB	**Ninganchiao**	**0.93**	**221**	*e*Pn	**Pn**		**19 40 51.1**	**+0.3**
NACB				*e*Sn	**Sn**		**19 41 02.9**	**-0.7**
IRIF	**Iriomote-Funau**	**1.44**	**112**	P	**Pn**		**19 40 56.8**	**-1.1**
HATJ	**Hateruma jima**	**1.62**	**120**	P	**Pn**		**19 40 59.9**	**-0.5**
JKRS	**Kuro-shima**	**1.71**	**111**	P	**Pn**		**19 41 01.3**	**-0.4**
JIJ	**Ishigaki jima**	**1.78**	**106**	P	**Pn**		**19 41 01.9**	**-0.8**
JTJ	**Tarama**	**2.23**	**95**	P	**Pn**		**19 41 09.1**	**+0.3**
QZH	**Quanzhou**	**3.33**	**272**	P	**Pn**		**19 41 24.4**	**+0.4**
QZH				S	**Sn**		**19 42 02.1**	**-1.0**
QZH				Smax				
	comp=E,120nm,0.8s							
QZH				Smax				
	comp=N,200nm,0.8s							
NJ2	**Nanjing**	**7.75**	**338**	*e*P	**Pn**		**19 42 27.2**	**+2.5**
NJ2				S	**Sn**		**19 43 44.5**	**-7.6**
NJ2				AMB	AMB			
	comp=Z,20nm,1.1s							
NJ2				Smax				
	comp=N,200nm,0.8s							
NJ2				Smax				
	comp=E,190nm,0.9s							
NJ2				LR	LR			
	comp=N,460nm,6.6s							
NJ2				LR	LR			
	comp=E,550nm,11.4s							
NJ2				LR	LR			
	comp=Z,230nm,7.3s							
CD2	**Chengdu**	**17.42**	**294**	*e*P	**Pn**		**19 44 33.1**	**-1.7**
CD2				AP	pP		19 44 42.3	+1.3
CD2				XP	sP		19 44 48.6	+5.3
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s							
CD2				LR	LR			
	comp=E,210nm,12.0s							
CD2				LR	LR			
	comp=Z,190nm,9.6s							
ULN	**Ulaanbaatar**	**25.91**	**336**	P	**P**		**19 46 02.5**	**-1.2**
	comp=Z,3.0nm,1.1s,mb3.7							
SONM	**Songino Array**	**26.14**	**335**	P	**P**		**19 46 08.0**	**+2.3**
	comp=Z,2.2nm,0.7s,mb3.8,baz=148,slow=9.6,SNR=12							
YSS	**Yuzh-Sakhalins**	**27.43**	**31**	*e*P	**P**		**19 46 21.1**	**+3.7**
	comp=Z,15nm,1.1s,mb4.4							
MKAR	**Makanchi Array**	**38.54**	**315**	P	**P**		**19 47 55.6**	**+1.4**
	comp=Z,1.7nm,0.7s,mb3.9,baz=99,slow=7.6,SNR=17							
ZAL	**Zalesovo**	**40.22**	**326**	P	**P**		**19 48 08.4**	**+0.3**
	comp=Z,1.1nm,0.4s,mb4.0,baz=353,slow=12,SNR=4.1							
KURK	**Kurchatov**	**42.20**	**319**	P	**P**		**19 48 23.8**	**-0.7**
	comp=Z,2.9nm,0.8s,mb4.0							
WRAB	**Tennant Creek**	**46.06**	**164**	*e*P	**P**		**19 48 59.4**	**+4.0**
	comp=Z,6.2nm,0.7s,mb4.7							
WRA	**Warramunga Arr**	**46.07**	**164**	P	**P**		**19 48 56.5**	**+1.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=346,slow=8.8,SNR=13							
WB2	**Warramunga Arr**	**46.07**	**164**	*e*P	**P**		**19 48 56.7**	**+1.2**
ZRNK	**Zerenda**	**48.56**	**320**	*e*P	**P**		**19 49 14.4**	**-0.5**
	comp=Z,4.8nm,1.4s,mb4.3							
ASAR	**Alice Springs**	**49.55**	**166**	P	**P**		**19 49 24.1**	**+1.5**
	comp=Z,0.4nm,0.8s,mb3.5,baz=344,slow=11,SNR=7.8							
ARU	**Arti**	**55.16**	**323**	*e*P	**P**		**19 50 03.0**	**-1.1**
	comp=Z,15nm,1.6s,mb4.8							
FINES	**FINESS Array B**	**71.35**	**330**	P	**P**		**19 51 50.2**	**-1.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=92,slow=5.7,SNR=3.4							
BRTR	**Keskin Array B**	**73.56**	**306**	P	**P**		**19 52 05.0**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=75,slow=6.7,SNR=4.2							

*ISCJB **03** 19:44:35.3±2.3, 227N±03×943E±05, h119km±21km, mb3.9/9, Error ellipse: s-maj=97.4km s-min=19.7km az=111.3*
*IDC **03** 19:44:47.1±13.0, 2281N×9455E, h210km±127km, mb3.4/9, mb1 3.5/9, mb1mx3.2/22, mbtmp4.0/9, Error ellipse: s-maj=110.2km s-min=12.7km az=54.0*

ISC 03 19:44:37.5±2.1, 227N±03×942E±05, h119km±18km, n10, σ0°93/11, mb3.9/9, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.59**	**324**	*i* PN	**Pn**		**19 45 33.0**	**+1.4**
SHL				*e*SN	**Sn**		**19 46 12.0**	**-1.4**
MKAR	**Makanchi Array**	**25.93**	**341**	P	**P**		**19 49 59.8**	**+1.2**
	1.4nm,0.4s,mb3.7,baz=147,slow=10,SNR=48							
ZAL	**Zalesovo**	**32.03**	**349**	P	**P**		**19 50 52.3**	**-0.4**
	0.9nm,0.3s,mb4.0,baz=185,slow=6.9,SNR=3.6							
AKTO	**Aktyubinsk**	**39.54**	**324**	P	**P**		**19 51 58.1**	**+1.4**
	0.9nm,0.3s,mb4.0,baz=98,slow=8.4,SNR=4.2							
WRA	**Warramunga Arr**	**57.68**	**134**	P	**P**		**19 54 14.8**	**-0.6**
	0.7nm,0.5s,mb4.0,baz=322,slow=7.4,SNR=16							
FINES	**FINESS Array B**	**59.92**	**329**	P	**P**		**19 54 29.6**	**-1.3**
	1.4nm,1.1s,mb3.9,baz=82,slow=6.9,SNR=5.4							
ASAR	**Alice Springs**	**60.07**	**138**	P	**P**		**19 54 31.9**	**-0.1**
	0.5nm,0.5s,mb3.8,baz=320,slow=7.0,SNR=11							
ARCES	**ARCESS Array B**	**61.54**	**338**	P	**P**		**19 54 42.0**	**+0.1**
	1.6nm,0.9s,mb4.0,baz=103,slow=7.7,SNR=4.0							
HFS	**Hagfors**	**65.94**	**327**	P	**P**		**19 55 10.8**	**+0.1**
	0.6nm,0.5s,mb3.7,baz=104,slow=4.7,SNR=6.3							
NOA	**NORSAR Array B**	**67.08**	**328**	P	**P**		**19 55 17.8**	**-0.3**
	0.4nm,0.6s,mb3.5,baz=84,slow=5.9,SNR=2.5							

MAN 03 19:46:43.4, 1227N×12529E, h74km, mb2.5, ML4.0, MS4.7, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.68**	**168**	*e*P	Pn		19 47 00.0	+1.7
PLP	**Palo**	**1.14**	**195**	*e*P	Pn		19 47

PLOU
comp=N,10nm,0.2s
PLOU Loures 2.05 10 *e*Pn Pn 20 09 51.2 +0.5
PLOU *e*Sn Sn 20 10 16.1 +0.6
EMIN Mina Concepcio 2.50 68 P Pn 20 09 57.0 +0.3
comp=N,0.2nm,0.1s,SNR=7.5
EMIN S Sn 20 10 27.2 +0.9
comp=N,0.6nm,0.1s,SNR=7.9
EMIN Mina Concepcio 2.50 68 P Pn 20 09 57.0 +0.2
comp=N,0.2nm,0.1s,SNR=7.5
EMIN S Sn 20 10 27.2 +0.9
comp=N,0.6nm,0.1s,SNR=7.9
EBAD Badajoz 2.79 47 P Pn 20 10 01.1 +0.4
comp=N,0.4nm,0.1s,SNR=7.9
EBAD S Sn 20 10 34.7 +1.5
comp=N,1.5nm,0.0s,SNR=7.9
EBAD Badajoz 2.79 47 P Pn 20 10 01.1 +0.5
comp=N,0.4nm,0.1s,SNR=7.9
EBAD S Sn 20 10 34.7 +1.5
comp=N,1.5nm,0.0s,SNR=7.9
PTOM Tomar 2.91 18 *e*Pn Pn 20 10 03.1 +0.9
PTOM *e*Sn Sn 20 10 36.8 +0.7
PTOM
comp=N,5.3nm,0.1s
PTOM Tomar 2.91 18 *e*Pn Pn 20 10 03.1 +0.9
PTOM *e*Sn Sn 20 10 36.8 +0.7
ESPR Espera 3.00 89 P Pn 20 10 04.7 +1.1
comp=N,0.7nm,0.1s,SNR=7.9
ESPR S Sn 20 10 38.5 +0.1
comp=N,12nm,0.2s,SNR=7.9
ESPR Espera 3.00 89 P Pn 20 10 04.7 +1.2
comp=N,0.7nm,0.1s,SNR=7.9
ESPR S Sn 20 10 38.5 +0.1
comp=N,12nm,0.2s,SNR=7.9
PCBR Castelo Branco 3.41 29 *e*Pn Pn 20 10 09.9 +0.8
PCBR *e*Sn Sn 20 10 49.5 +1.1
PCBR
comp=N,1.2nm,0.1s
MTE Manteigas 3.88 24 *e*Sn Sn 20 11 00.3 +0.4
MTE
comp=N,1.9nm,0.3s
MTE Manteigas 3.88 24 S Sn 20 11 00.3 +0.4
comp=N,0.9nm,0.3s
PVIS Viseu 4.07 19 *e*Sn Sn 20 11 05.2 +0.7
PVIS
comp=N,3.1nm,0.1s
PVIS Viseu 4.07 19 S Sn 20 11 05.2 +0.7
comp=N,1.6nm,0.1s
EADA Adamuz 4.20 70 P Pn 20 10 20.4 +0.6
comp=N,0.1nm,0.1s,SNR=7.9
EADA S Sn 20 11 07.7 0.0
comp=N,0.4nm,0.1s,SNR=7.9
EADA Adamuz 4.20 70 P Pn 20 10 20.4 +0.6
comp=N,0.1nm,0.1s,SNR=7.9
EADA S Sn 20 11 07.7 +0.1
comp=N,0.4nm,0.1s,SNR=7.9
PVRL Vila Real 4.64 18 *e*Sn Sn 20 11 17.3 -1.2
PVRL
comp=N,3.9nm,0.1s
PVRL Vila Real 4.64 18 S Sn 20 11 17.3 -1.2
comp=N,1.9nm,0.1s
ELOB Lobios 5.14 13 P Pn 20 10 33.4 +0.7
comp=N,0.3nm,0.1s,SNR=7.9
ELOB S Sn 20 11 30.0 -0.6
comp=N,0.4nm,0.1s,SNR=7.9
ELOB Lobios 5.14 13 P Pn 20 10 33.4 +0.7
ELOB S Sn 20 11 30.0 -0.6
ESDC Sonseca Array 5.25 56 P Pn 20 10 35.4 +1.2
comp=N,0.1nm,0.1s,baz=242,slow=14,SNR=4.3
ESDC Sonseca Array 5.25 56 P Pn 20 10 35.4 +1.3
comp=N,0.1nm,0.1s,SNR=4.3
EQES Quesada 5.29 78 S Sn 20 11 34.7 +0.5
SNR=7.9
EQES Quesada 5.29 78 S Sn 20 11 34.7 +0.5
SNR=7.9
ECAL Calabor 5.54 23 P Pn 20 10 39.4 +1.4
SNR=7.9
ECAL S Sn 20 11 41.2 +0.9
SNR=7.9
ECAL Calabor 5.54 23 P Pn 20 10 39.4 +1.4
ECAL S Sn 20 11 41.2 +0.9

IDC 03 20:16:13.7±13.0, 1583S×17321W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/33, Error ellipse: s-maj=616.0km s-min=29.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.36**	**36**	Pn	Pn	20 16 52.8	-0.9
	3.6nm,0.3s,baz=85,slow=9.3,SNR=3.7						
AFI				Sn	Sn	20 17 18.0	-5.4
	9.3nm,0.3s,baz=52,slow=23,SNR=9.6						
PMG	**Port Moresby**	**39.15**	**275**	LR	LR	20 35 31.5	
	comp=Z,79nm,19.8s,baz=200,slow=30						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	20 25 09.0	-0.2
	0.6nm,0.9s,baz=86,slow=6.6,SNR=3.5						
ASAR	**Alice Springs**	**50.15**	**252**	P	P	20 25 11.2	+0.4
	1.2nm,0.5s,baz=88,slow=8.3,SNR=34						
BRTR	**Keskin Array B**	**146.61**	**321**	PKPbc	PKPbc	20 35 58.4	+1.2
	1.0nm,0.8s,baz=357,slow=5.1,SNR=5.2						

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*ISCJB **03** 20:29:11.9±0.6, 2427S×003×6707W×008, h170km±9km, mb4.3/9, Error ellipse: s-maj=11.4km s-min=5.3km az=12.9*
*NEIC **03** 20:29:12.9±0.6, 2424S×6703W, h167km±7km, mb4.5/7, Error ellipse: s-maj=11.3km s-min=7.0km az=102.0*
*IDC **03** 20:29:13.4±1.0, 24.16S×6701W, h170km±10km, mb3.8/5, mb1 3.9/10, mb1mx3.7/18, mbtmp4.4/10, Error ellipse: s-maj=16.0km s-min=14.1km az=51.0*
*GUC **03** 20:29:16.0±0.7, 2439S×6761W, h204km±168km, ML4.6*
ISC 03 20:29:12.9±0.6, 2428S×003×6705W×007, h160km±8km, n41, σ1°12/54, mb4.3/9, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.39**	**314**	P	**Pn**	**20 29 54.9**	**+1.8**
	19nm,0.3s,baz=136,slow=7.7,SNR=107						
LVC				S	**Sn**	**20 30 25.0**	**+0.9**
	59nm,0.3s,baz=88,slow=9.2,SNR=22						
LVC	**Limon Verde**	**2.39**	**314**	⇑*e*Pn	**Pn**	**20 29 55.4**	**+2.3**
LVC				*e*Sn	**Sn**	**20 30 20.5**	**-3.7**
CEN1	**Los Morros**	**3.02**	**286**	⇓*i*P	**Pn**	**20 30 03.3**	**+2.4**
CEN1				*i* S	**Sn**	**20 30 38.7**	**+0.6**
CEN1				AML	AML	20 30 41.8	
	comp=N,1μm,0.5s						
CPN1	**Cerro Paranal**	**3.08**	**263**	⇑*i*P	**Pn**	**20 30 02.9**	**+1.3**
CPN1				*i* S	**Sn**	**20 30 38.5**	**-0.9**
CPN1				AML	AML	20 30 40.4	
	comp=E,2μm,0.4s						
CRCH	**Chaqaral**	**3.83**	**237**	*e*P	**Pn**	**20 30 11.8**	**+0.6**
CRCH				*e*S	**Sn**	**20 30 54.0**	**-2.6**
CRCH	**Chaqaral**	**3.83**	**237**	*e*P	**Pn**	**20 30 11.9**	**+0.7**
CRCH				*e*S	**Sn**	**20 30 54.6**	**-2.0**
CPCH	**Copiapo**	**4.27**	**224**	*e*P	**Pn**	**20 30 17.5**	**+0.6**
CPCH				*i* S	**Sn**	**20 31 06.1**	**-0.7**
CPCH	**Copiapo**	**4.27**	**224**	*e*P	**Pn**	**20 30 17.8**	**+0.9**
CPCH				*i* S	**Sn**	**20 31 07.0**	**+0.1**
CDCH	**Caldera**	**4.40**	**230**	*e*P	**Pn**	**20 30 17.9**	**-0.6**
CDCH				*i* S	**Sn**	**20 31 06.3**	**-3.5**
CDCH	**Caldera**	**4.40**	**230**	*i* P	**Pn**	**20 30 18.0**	**-0.6**
CDCH				*i* S	**Sn**	**20 31 06.3**	**-3.5**
LCO	**Las Campanas**	**5.74**	**214**	*e*P	**Pn**	**20 30 36.2**	**+0.1**
LCO				*i* S	**Sn**	**20 31 39.8**	**-1.5**
LCO	**Las Campanas**	**5.74**	**214**	⇓*i*P	**Pn**	**20 30 36.1**	**0.0**
LCO				*i* S	**Sn**	**20 31 41.2**	**-0.1**
TLL	**Tololo Astrono**	**6.75**	**209**	⇓*i*P	**Pn**	**20 30 49.3**	**-0.2**
TLL				*i* S	**Sn**	**20 32 05.1**	**-0.4**
CFAA	**Coronel Fontan**	**7.37**	**188**	P	**Pn**	**20 30 59.5**	**+1.6**
	comp=E,0.3nm,0.3s,baz=7.2,slow=13,SNR=12						
CFAA				S	**Sn**	**20 32 18.9**	**-1.5**
	comp=E,0.4nm,0.3s,baz=114,slow=22,SNR=9.0						
LPAZ	**La Paz**	**8.02**	**353**	P	**Pn**	**20 31 06.8**	**+0.4**
	comp=E,2.7nm,0.3s,baz=161,slow=8.4,SNR=61						
LPAZ				S	**Sn**	**20 32 34.0**	**-1.9**
	comp=E,0.5nm,0.3s,baz=337,slow=20,SNR=9.6						
LPAZ	**La Paz**	**8.02**	**353**	*e*Pn	**Pn**	**20 31 06.3**	**0.0**
	comp=E,7.9nm,0.4s						
LPAZ				*e*Sn	**Sn**	**20 32 33.0**	**-2.8**
CPUP	**Villa Florida**	**9.03**	**105**	P	**Pn**	**20 31 20.2**	**+0.5**
	comp=E,0.3nm,0.3s,baz=290,slow=11,SNR=6.2						
TRQA	**Tornquist**	**14.40**	**164**	*e*Pn	**Pn**	**20 32 29.3**	**+0.1**
	comp=E,14nm,0.7s						
SAML	**Samuel**	**15.69**	**14**	*e*Pn	**Pn**	**20 32 43.4**	**-1.8**
	comp=E,6.9nm,0.7s						
PLCA	**Paso Flores**	**16.67**	**189**	P	**Pn**	**20 32 58.0**	**+0.9**
	comp=E,0.6nm,0.3s,baz=13,slow=13,SNR=8.9						
PLCA	**Paso Flores**	**16.67**	**189**	P	**Pn**	**20 32 58.0**	**+0.9**
PLCA				*e*Pn	**Pn**	**20 32 58.1**	**+1.1**
BDFB	**Brasilia**	**19.83**	**68**	P	**P**	**20 33 30.8**	**-0.3**
	comp=E,6.0nm,0.3s,baz=248,slow=10,SNR=71						
SDV	**Santo Domingo**	**33.15**	**354**	*e*P	**P**	**20 35 35.4**	**+1.5**
	comp=E,2.5nm,0.3s,mb4.4						
RCBR	**Riachuelo**	**35.09**	**64**	*e*P	**P**	**20 35 49.6**	**-1.0**
	comp=E,5.7nm,0.5s,mb4.5						
SJG	**San Juan**	**42.14**	**1**	*e*P	**P**	**20 36 48.0**	**-1.4**
	comp=E,29nm,0.3s,mb5.4						
VNA3	**Neumayer Olymp**	**56.90**	**161**	*e*	**P**	**20 38 41.5**	**+0.5**
VNA3				*e*		20 38 43.0	
VNA1	**Neumayer--Stat**	**57.10**	**160**	*e*	**P**	**20 38 43.4**	**+1.0**
VNA1				*e*		20 38 45.1	
VNA2	**Neumayer--Watz**	**57.47**	**160**	*e*	**P**	**20 38 45.7**	**+0.7**
	baz=292,slow=7.3						
VNA2				*e*		20 38 47.1	
SNAA	**Sanae**	**59.10**	**161**	*e*	**P**	**20 38 46.1**	**-10**
SNAA				*e*		20 38 47.8	
QSPA	**South Pole Qui**	**65.92**	**180**	*e*P	**P**	**20 39 42.2**	**+0.7**
	comp=E,5.5nm,0.5s,mb4.6						
DBIC	**Dimbokro**	**67.93**	**71**	P	**P**	**20 39 53.0**	**-1.2**
	comp=E,3.0nm,0.9s,mb4.0,baz=172,slow=7.6,SNR=4.3						
DBIC	**Dimbokro**	**67.93**	**71**	P	**P**	**20 39 53.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	**P**	**20 40 45.4**	**-0.8**
	comp=E,2.7nm,0.4s,mb4.2,baz=260,slow=5.9,SNR=82						
BOSA	**Boshof**	**80.64**	**117**	P	**P**	**20 41 07.7**	**0.0**
	comp=E,4.9nm,1.0s,mb4.1,baz=86,slow=13,SNR=9.4						
BOSA	**Boshof**	**80.64**	**117**	P	**P**	**20 41 07.7**	**0.0**
MAW	**Mawson**	**81.18**	**163**	P	**P**	**20 41 10.9**	**+0.3**
	comp=E,0.7nm,0.4s,mb3.6,baz=225,slow=8.6,SNR=7.0						
ESDC	**Sonseca Array**	**86.63**	**44**	P	**P**	**20 41 38.2**	**+0.1**
	comp=E,0.5nm,0.7s,mb3.5,baz=236,slow=4.6,SNR=5.8						
ASAR	**Alice Springs**	**128.19**	**205**	PKP	PKPdf	20 48 00.0	0.0
	comp=E,0.8nm,0.5s,baz=139,slow=1.8,SNR=16						
WRA	**Warramunga Arr**	**131.36**	**207**	PKP	PKPdf	20 48 06.1	+0.2
	comp=E,0.9nm,0.4s,baz=156,slow=1.8,SNR=24						
WRA				SKPbc	SKPbc	20 51 14.4	-1.7
	comp=E,0.7nm,0.5s,baz=151,slow=3.5,SNR=21						
ZAL	**Zalesovo**	**143.66**	**28**	PKP	PKPdf	20 48 25.3	-3.3
	comp=E,0.6nm,0.3s,baz=204,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**146.77**	**40**	PKPbc	PKPbc	20 48 35.3	-0.6
	comp=E,1.4nm,0.6s,baz=309,slow=3.2,SNR=22						

IDC 03 20:33:30.0±5.5, 2421S×6691W, h174km±55km, mb3.0/1, mb1 3.1/3, mb1mx3.0/15, mbtmp3.4/3, Error ellipse: s-maj=78.1km s-min=66.1km az=139.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.43**	**310**	P	Pn	20 34 13.0	+1.5
	10nm,0.3s,baz=133,slow=5.7,SNR=8.4						
LVC				S	Sn	20 34 44.3	+0.6
	24nm,0.3s,baz=274,slow=21,SNR=12						
LPAZ	**La Paz**	**7.96**	**351**	P	Pn	20 35 24.2	+1.5
	0.2nm,0.3s,baz=164,slow=7.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.56**	**69**	P	P	20 45 00.9	-0.1
	0.2nm,0.5s,baz=250,slow=4.9,SNR=5.0						
MKAR	**Makanchi Array**	**146.63**	**40**	PKPbc	PKPbc	20 52 50.8	-0.2
	0.4nm,0.5s,baz=324,slow=2.8,SNR=6.3						

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*IDC **03** 20:49:07.0±1.6, 254N×12863E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.0/5, MS2.5/1, Ms1 2.5/1, ms1mx1.7/26, Error ellipse: s-maj=94.9km s-min=20.8km az=70.0*
*ISCJB **03** 20:49:33.2±1.4, 20N±02×1280E±02, h250km, mb4.1/7, Error ellipse: s-maj=33.3km s-min=14.5km az=103.6*
*NEIC **03** 20:49:34.5±6.8, 194N×12804E, h246km±70km, mb4.2/4, Error ellipse: s-maj=40.6km s-min=11.7km az=52.0*
ISC 03 20:49:35.2±1.3, 19N±02×1280E±02, h250km, n15, σ0°48/15, mb4.1/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**17.72**	**269**	*e*P	**P**	**20 53 24.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.05**	**187**	*e*P	**P**	**20 53 48.7**	**-0.9**
	4.7nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.05**	**187**	P	**P**	**20 53 48.7**	**-1.0**
	1.2nm,0.4s,baz=13,slow=13,SNR=17						
WRAB	**Tennant Creek**	**22.60**	**164**	*e*P	**P**	**20 54 14.5**	**-0.1**
	7.5nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**22.61**	**164**	P	**P**	**20 54 14.9**	**+0.3**
	4.0nm,0.5s,mb4.2,baz=345,slow=9.8,SNR=53						
WB2	**Warramunga Arr**	**22.61**	**164**	*e*P	**P**	**20 54 14.9**	**+0.3**
MBWA	**Marble Bar**	**24.35**	**199**	*e*P	**P**	**20 54 30.7**	**+0.3**
	5.1nm,0.8s,mb4.2						
AS31	**Alice Springs**	**26.08**	**168**	*e*P	**P**	**20 54 46.4**	**+0.4**
ASAR	**Alice Springs**	**26.08**	**168**	P	**P**	**20 54 46.5**	**+0.5**
	0.5nm,0.3s,mb3.6,baz=340,slow=7.6,SNR=13						
ASPA	**Alice Springs**	**26.08**	**168**	*e*P	**P**	**20 54 46.4**	**+0.4**
KLBR	**Kellerberrin**	**34.74**	**195**	*e*P	**P**	**20 56 01.4**	**-0.4**
	23nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**36.01**	**160**	*e*P	**P**	**20 56 11.7**	**-0.8**
	4.1nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**36.01**	**160**	P	**P**	**20 56 11.8**	**-0.8**
	4.7nm,0.5s,mb4.3,baz=330,slow=7.8,SNR=28						
STKA	**Stephens Creek**	**36.01**	**160**	*e*P	**P**	**20 56 11.6**	**-1.0**
STKA				*e*pP	pP	20 57 10.0	+7.0
STKA				*e*sP	sP	20 57 34.5	+2.8
MKAR	**Makanchi Array**	**59.76**	**325**	P	**P**	**20 59 13.6**	**-0.2**
	0.7nm,0.3s,mb3.6,baz=112,slow=8.0,SNR=14						
MKAR				LR	LR	21 28 21.1	
	comp=Z,4.0nm,21.4s,baz=137,slow=40						

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*LDG **03** 20:56:38.5±0.1, 4301N×023E, h15km, Md1.7/2, Ml1.5/2, Error ellipse: s-maj=1.4km s-min=0.8km az=179.0*
STR 03 20:56:38.6±0.1, 4298N×020E, h10km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.12**	**64**	*e*Pg	Pg	20 56 41.7	+0.3
EPF				*e*Sg	Sg	20 56 43.8	+0.4
	25nm,0.2s						
LABF	**Labassere**	**0.12**	**306**	Pg	Pg	20 56 42.2	+0.8
LABF				Sg	Sg	20 56 44.6	+1.2
VIEF	**Viey**	**0.16**	**233**	Pg	Pg	20 56 43.1	+1.0
VIEF				Sg	Sg	20 56 46.1	+1.5
RESF	**Ens**	**0.20**	**149**	Pg	Pg	20 56 43.6	+0.8
RESF				Sg	Sg	20 56 47.1	+1.5
ETSF	**Etsaut**	**0.56**	**262**	*e*Pg	Pg	20 56 50.1	+0.6
ETSF				*e*Sg	Sg	20 56 57.4	+0.5
	3.9nm,0.3s						
SJPF	**Ste Jean**	**1.05**	**278**	*e*Sg	Sg	20 57 12.7	+0.2
	0.7nm,0.2s						
MTLF	**Montolieu**	**1.52**	**76**	*e*Sg	Sg	20 57 25.7	-1.8
	1.2nm,0.3s						

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*IDC **03** 21:00:38.5±0.9, 384S×13984E, h0km, mb4.6/3, mb1 4.7/6, mb1mx4.4/11, mbtmp4.6/6, ML3.8/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/15, Error ellipse: s-maj=26.1km s-min=15.4km az=94.0*
*ISCJB **03** 21:00:41.8±0.6, 393S±006×13986E±008, h33km, mb4.4/7, MS3.2/1, Error ellipse: s-maj=10.9km s-min=8.2km az=162.7*
*NEIC **03** 21:00:43.8±0.5, 390S×13989E, h35km, mb4.9/6, Error ellipse: s-maj=11.1km s-min=7.8km az=67.0*
ISC 03 21:00:44.6±0.6, 393S±006×13986E±008, h35km, n32, σ0°97/33, mb4.4/7, MS3.2/1, 2C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.06**	**127**	Pn	**Pn**	**21 02 52.2**	**-0.6**
	0.7nm,0.3s,baz=326,slow=15,SNR=3.2						
PMG	**Port Moresby**	**9.06**	**127**	*e*Pn	**Pn**	**21 02 51.3**	**-1.6**
	27nm,1.0s						
KAKA	**Kakadu**	**11.40**	**220**	*e*P	**Pn**	**21 03 24.8**	**-0.1**
	53nm,0.5s						
WRAB	**Tennant Creek**	**16.79**	**198**	*e*Pn	**Pn**	**21 04 36.9**	**-0.1**
	48nm,0.8s						
WRAB				*e*Sn	**Sn**	**21 07 35.5**	**-6.9**
WB2	**Warramunga Arr**	**16.80**	**198**	*e*P	**Pn**	**21 04 36.5**	**-0.6**
WB2				*e*S	**S**	**21 07 34.8**	**-18**
WRA	**Warramunga Arr**	**16.81**	**198**	Pn	**Pn**	**21 04 34.6**	**-2.5**
	0.6nm,0.3s,baz=17,slow=13,SNR=26						
WRA				Sn	**Sn**	**21 07 49.4**	**+6.7**
	0.7nm,0.3s,baz=23,slow=24,SNR=4.9						
WRA				Lg		21 09 39.2	
	0.8nm,0.3s,baz=13,slow=26,SNR=6.5						
CTA	**Charters Tower**	**17.23**	**159**	P	**Pn**	**21 04 44.5**	**+2.1**
	0.2nm,0.3s,baz=347,slow=11,SNR=5.0						
CTA				Lg		21 09 51.0	
	0.5nm,0.3s,baz=59,slow=23,SNR=4.5						
CTA	**Charters Tower**	**17.23**	**159**	P	**Pn**	**21 04 44.5**	**+2.1**
CTA				Lg		21 09 51.0	
GUMO	**Guam**	**18.10**	**16**	LR	LR	21 10 33.1	
	comp=Z,109nm,19.0s,baz=1.4,slow=33						
FITZ	**Fitzroy Crossi**	**19.81**	**224**	*e*P	**Pn**	**21 05 12.6**	**-1.1**
	27nm,0.8s						
FITZ				*e*S	**S**	**21 08 45.9**	**-7.3**
FITZ	**Fitzroy Crossi**	**19.81**	**224**	P	**Pn**	**21 05 12.7**	**-1.0**
	0.7nm,0.3s,baz=52,slow=11,SNR=21						
FITZ				S	**S**	**21 08 47.6**	**-5.6**
	0.8nm,0.3s,baz=170,slow=15,SNR=3.5						
FITZ				Lg		21 11 17.0	
	0.1nm,0.3s,baz=32,slow=16,SNR=3.3						
AS31	**Alice Springs**	**20.45**	**196**	⇑*i*P	**P**	**21 05 20.0**	**+1.0**
ASAR	**Alice Springs**	**20.45**	**196**	P	**P**	**21 05 20.1**	**+1.1**
	33nm,0.6s,baz=29,slow=9.4,SNR=98						
ASAR				S	**S**	**21 09 10.1**	**+4.1**
	2.4nm,0.9s,baz=10,slow=26,SNR=4.6						
ASPA	**Alice Springs**	**20.45**	**196**	⇑*i*P	**P**	**21 05 20.0**	**+1.0**
HNR	**Honiara**	**20.68**	**106**	P	**P**	**21 05 21.6**	**+0.1**
	27nm,0.3s,baz=232,slow=4.9,SNR=3.2						
HNR				LR	LR	21 13 03.3	
	comp=Z,95nm,20.1s,MS3.2,baz=178,slow=36						
KKM	**Kota Kinabalu**	**25.61**	**293**	*e*P	**P**	**21 06 10.7**	**+0.1**
MBWA	**Marble Bar**	**26.01**	**227**	*e*P	**P**	**21 06 13.9**	**-0.3**
	13nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**27.85**	**177**	P	**P**	**21 06 34.6**	**+3.9**
	1.3nm,0.8s,mb3.6,baz=347,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**27.85**	**177**	*e*P	**P**	**21 06 28.7**	**-2.0**
KSM	**Kuching**	**30.02**	**280**	*e*P	**P**	**21 06 50.2**	**+0.2**
SONM	**Songino Array**	**59.30**	**334**	P	**P**	**21 10 41.7**	**-1.0**
	0.2nm,0.6s,mb3.4,baz=158,slow=4.7,SNR=3.2						
JIRN	**Jiri**	**60.47**	**305**	*e*P	**P**	**21 10 51.2**	**+0.4**
GUN	**Gumba**	**60.82**	**305**	*e*P	**P**	**21 10 53.7**	**+0.5**
KKN	**Kakani**	**61.27**	**305**	*e*P	**P**	**21 10 56.6**	**+0.4**
	24nm,1.1s,mb5.2						
DMN	**Daman**	**61.34**	**304**	*e*P	**P**	**21 10 57.3**	**+0.6**
	13nm,0.7s,mb5.2						
GKN	**Gorkha**	**61.88**	**305**	*e*P	**P**	**21 11 00.6**	**+0.3**
	17nm,0.8s,mb5.2						
MKAR	**Makanchi Array**	**71.45**	**322**	P	**P**	**21 12 00.5**	**-0.9**
	1.6nm,0.9s,mb4.0,baz=108,slow=7.9,SNR=13						
MKAR	**Makanchi Array**	**71.45**	**322**	P	**P**	**21 12 00.5**	**-0.9**
BLO	**Bloomington**	**125.29**	**44**	*e*P	PKPdf	21 19 42.2	+0.7
DBIC	**Dimbokro**	**144.77**	**276**	PKP	PKPdf	21 20 17.2	-0.5
	7.0nm,0.6s,baz=79,slow=5.0,SNR=15						
DBIC	**Dimbokro**	**144.77**	**276**	PKP	PKPdf	21 20 17.2	-0.5
LPAZ	**La Paz**	**145.80**	**127**	PKPbc	PKPbc	21 20 20.1	+0.2
	2.9nm,0.8s,baz=214,slow=1.1,SNR=9.3						

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*ISCJB **03** 21:18:56.1±1.8, 4179N±008×74.14E±008, h10km, Error ellipse: s-maj=12.1km s-min=8.0km az=44.1*
*KNET **03** 21:18:57.3±0.5, 4190N×7420E, h10km±2km, ml1.7, Error ellipse: s-maj=3.6km s-min=1.7km az=25.0*
ISC 03 21:18:55.9±2.1, 4179N±009×7414E±008, h4km±7km, n7, σ0°35/13, 7C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.52**	**33**	⇓P	**Pg**	**21 19 06.0**	**+0.1**
	2.8nm,0.1s,SNR=28						
UCH				⇑S	**Sg**	**21 19 12.3**	**-0.3**
	23nm,0.2s						
KZA	**Kyzart**	**0.88**	**71**	⇑P	**Pg**	**21 19 12.5**	**-0.3**
	3.7nm,0.1s,SNR=27						
KZA				⇓S	**Sg**	**21 19 24.7**	**+0.5**
	17nm,0.2s						
EKS2	**Erkin-Say**	**0.91**	**343**	⇑P	**Pg**	**21 19 12.9**	**-0.4**
	0.9nm,0.1s,SNR=6.3						
EKS2				⇓S	**Sg**	**21 19 25.6**	**+0.4**
	2.8nm,0.1s						
KBK	**Karagaybulak**	**1.05**	**35**	⇓P	**Pg**	**21 19 15.8**	**-0.3**
	3.6nm,0.1s,SNR=15						
KBK				⇓S	**Sg**	**21 19 29.9**	**+0.1**
	9.7nm,0.2s						
USP	**Ospenovka**	**1.50**	**10**	⇓P	**Pn**	**21 19 23.5**	**0.0**
	5.6nm,0.2s,SNR=8.7						
USP				⇓S	**Sn**	**21 19 43.5**	**0.0**
	6.8nm,0.3s						
TKM2	**Tokmak 2**	**1.56**	**43**	⇑P	**Pn**	**21 19 25.0**	**+0.5**
	3.1nm,1.5s						
TKM2				⇑S	**Sn**	**21 19 44.6**	**-0.4**
	0.2nm,0.5s						
KK31	**Karatay Array**	**2.98**	**297**	⇑Pn	**Pn**	**21 19 50.6**	**+6.7**
	0.2nm,0.4s,baz=116,slow=15,SNR=4.5						
KK31				⇑Lg		21 20 28.6	
	0.9nm,0.6s,baz=120,slow=28,SNR=6.4						

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*CSEM **03** 21:28:30.1±0.9, 3779N×2545W, h4km±1km, ML3.0, Error ellipse: s-maj=1.6km s-min=1.0km az=48.0, After PDA*
*PDA **03** 21:28:30.1±0.9, 3779N×2545W, h4km±1km, ML3.0, Error ellipse: s-maj=1.6km s-min=1.0km az=48.0*
SVSA 03 21:28:30.1±0.9, 3779N×2545W, h4km±1km, ML3.0, Error ellipse: s-maj=1.6km s-min=1.0km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.00**	**87**	*i* P	Pg	21 28 31.2	+0.4
MESC				*e*S	Sg	21 28 32.5	+1.2
MESC	**Monte Escuro**	**0.00**	**87**	*e*S	Sg	21 28 32.5	+1.2
PMAT	**Coroa da Mata**	**0.03**	**322**	*i* P	Pg	21 28 31.4	+0.4
PMAT				*e*S	Sg	21 28 32.2	+0.5
PMAT	**Coroa da Mata**	**0.03**	**322**	*e*S	Sg	21 28 32.2	+0.5
LFA	**Lagoa do Fogo**	**0.03**	**234**	*i* P	Pg	21 28 31.6	+0.5
PCNG	**Congro**	**0.05**	**122**	*i* P	Pg	21 28 31.9	+0.6
PCNG				*e*S

SVSA 03 21:33:06.6±0.8, 3780N×2546W, h4km±1km, ML3.1, Error ellipse: s-maj=1.9km s-min=1.2km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.01**	**108**	*eP*	Pg	21 33 07.7	+0.4
PMAT	**Coroa da Mata**	**0.02**	**337**	*eP*	Pg	21 33 07.8	+0.4
PMAT				*eS*	Sg	21 33 08.6	+0.6
LFA	**Lagoa do Fogo**	**0.03**	**216**	*eP*	Pg	21 33 08.1	+0.6
PVER	**Pico Vermelho**	**0.04**	**270**	*eP*	Pg	21 33 08.1	+0.4
PVER				*eS*	Sg	21 33 09.3	+0.9
VIF	**Vila Franca**	**0.06**	**162**	*i P*	Pg	21 33 08.3	+0.4
VIF				*eS*	Sg	21 33 09.7	+1.0
VIF	**Vila Franca**	**0.06**	**162**	*eS*	Sg	21 33 09.7	+1.0
PCNG	**Congro**	**0.06**	**120**	*eP*	Pg	21 33 08.3	+0.4
PRCH	**Ribeira Ch**	**0.07**	**192**	*eP*	Pg	21 33 08.6	+0.5
PRCH				*eS*	Sg	21 33 10.1	+1.0
PRCH							
	20μm,0.3s						
PRCH	**Ribeira Ch**	**0.07**	**192**	*eP*	Pg	21 33 08.6	+0.5
PRCH				*eS*	Sg	21 33 10.1	+1.0
CML	**Cha da Macela**	**0.07**	**249**	*eP*	Pg	21 33 08.8	+0.7
FRA1	**Furnas**	**0.10**	**123**	*eP*	Pg	21 33 09.2	+0.6
PFAD	**Fenais da Ajud**	**0.12**	**69**	*eP*	Pg	21 33 09.7	+0.8
MIRA	**Miradouro**	**0.14**	**94**	*eP*	Pg	21 33 10.2	+0.7
FAC	**Faja de Cima**	**0.15**	**261**	*eP*	Pg	21 33 10.7	+1.1
PDA	**Ponta Delgada**	**0.17**	**253**	*i P*	Pg	21 33 10.0	+0.1
PDA				*i S*	Sg	21 33 13.3	+1.2
PSET	**Sete Cidades**	**0.21**	**277**	*i P*	Pg	21 33 10.9	+0.3
PSET				*eS*	Sg	21 33 14.3	+0.9
PSET							
	5μm,0.3s						
PSET	**Sete Cidades**	**0.21**	**277**	*eS*	Sg	21 33 14.3	+0.9
PSAN	**Santo Antonio**	**0.22**	**285**	*eP*	Pg	21 33 11.7	+0.9
PFET	**Feteiras**	**0.26**	**275**	*eP*	Pg	21 33 12.0	+0.4
SET2	**Ginetes**	**0.28**	**280**	*eP*	Pg	21 33 12.6	+0.6
SET4	**Mosteiros**	**0.28**	**286**	*eP*	Pg	21 33 12.5	+0.5
PSMN	**Pico do Norte,**	**0.85**	**158**	*eP*	Pg	21 33 21.4	-1.6
PSMN				*eS*	Sg	21 33 31.9	-2.1
PID	**Ribeirinha**	**2.19**	**288**	*eP*	Pn	21 33 40.1	-3.7
PID				*eS*	Sn	21 34 04.9	-6.5
PMAN	**Manadas**	**2.23**	**293**	*eS*	Sn	21 34 05.9	-6.4
PMAN							
	24nm,0.3s						
PGRA	**Graciosa**	**2.33**	**303**	*erx*		21 34 01.6	
ROSA	**Rosais**	**2.38**	**294**	*eP*	Pn	21 33 43.0	-3.3
SRBC	**Serra Branca**	**2.38**	**302**	*erx*		21 33 40.3	
PICO	**Pico**	**2.44**	**288**	*eP*	Pn	21 33 43.6	-3.6
PICO				*eS*	Sn	21 34 11.4	-6.1
HOR	**Horta**	**2.60**	**287**	*erx*		21 33 46.9	
CALA	**Caldeira**	**2.67**	**288**	*eP*	Pn	21 33 47.0	-3.4

*MOS **03** 21:37:11.6±0.9, 864S×11954E, h140km, mb4.5/5, Error ellipse: s-maj=39.2km s-min=11.9km az=117.1*
*BJI **03** 21:37:13.3, 9.105S×11900E, h147km, mB4.5, mb4.7*
*NEIC **03** 21:37:13.3±1.7, 906S×11904E, h147km±18km, mb4.8/10, Error ellipse: s-maj=18.8km s-min=9.0km az=62.0*
*IDC **03** 21:37:13.7±2.4, 861S×11967E, h140km±22km, mb4.1/7, mb1 4.0/9, mb1mx3.8/19, mbtmp4.4/9, Error ellipse: s-maj=35.1km s-min=10.2km az=53.0*
*ISCJB **03** 21:37:14.0±1.6, 88S±01×1193E±01, h165km±17km, mb4.4/19, Error ellipse: s-maj=25.0km s-min=7.9km az=105.2*

ISC 03 21:37:15.3±1.5, 881S±010×1194E±01, h160km±16km, n39, σ0°95/42, mb4.4/19, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.03**	**148**	*eP*	**Pn**	**21 39 49.1**	**+0.6**
	12nm,0.4s						
FITZ				*eS*	**Sn**	**21 41 46.9**	**-3.7**
FITZ	**Fitzroy Crossi**	**11.03**	**148**	P	**Pn**	**21 39 49.3**	**+0.7**
	1.7nm,0.3s,baz=333,slow=6.4,SNR=82						
FITZ				S	**Sn**	**21 41 48.5**	**-2.1**
	3.5nm,0.3s,baz=172,slow=20,SNR=7.6						
MBWA	**Marble Bar**	**12.28**	**179**	*e*Pn	**Pn**	**21 40 05.2**	**+0.3**
MBWA				*e*Sn	**Sn**	**21 42 12.0**	**-8.8**
KKM	**Kota Kinabalu**	**15.10**	**348**	*eP*	**Pn**	**21 40 40.4**	**0.0**
WRA	**Warramunga Arr**	**18.17**	**129**	P	**P**	**21 41 16.8**	**+1.2**
	1.2nm,0.3s,baz=301,slow=13,SNR=5.1						
WRA				S	**S**	**21 44 34.4**	**-0.8**
	1.1nm,0.3s,baz=303,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**20.25**	**139**	P	**P**	**21 41 37.1**	**-0.9**
	4.2nm,0.5s,baz=347,slow=9.6,SNR=89						
ASAR				ScP	ScP	21 49 11.8	+5.4
	1.3nm,0.6s,baz=352,slow=2.1,SNR=7.5						
KULM	**Kulim**	**23.39**	**306**	*eP*	**P**	**21 42 08.6**	**-1.0**
NWAO	**Narrogin (SRO)**	**24.09**	**185**	P	**P**	**21 42 19.2**	**+3.3**
	4.3nm,0.8s,mb4.0,baz=292,slow=7.5,SNR=3.3						
NWAO	**Narrogin (SRO)**	**24.09**	**185**	*eP*	**P**	**21 42 18.3**	**+2.4**
NWAO				pmax	pmax		
	comp=Z,110nm,2.1s						
NWAO	**Narrogin (SRO)**	**24.09**	**185**	*eP*	**P**	**21 42 18.3**	**+2.4**
	comp=Z,110nm,2.1s,mb5.0						
STKA	**Stephens Creek**	**30.82**	**141**	*eP*	**P**	**21 43 18.5**	**+2.5**
	comp=Z,2.1nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**30.82**	**141**	P	**P**	**21 43 18.2**	**+2.2**
	comp=Z,2.1nm,0.5s,mb4.2,baz=319,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**30.82**	**141**	*eP*	**P**	**21 43 17.4**	**+1.4**
CD2	**Chengdu**	**42.26**	**340**	*eP*	**P**	**21 44 54.1**	**+1.4**
CD2				AP	pP	21 45 27.6	-0.3
CD2				XP	sP	21 45 44.6	-1.3
CD2				PP	PP	21 46 37.8	+3.9
CD2				PCP	PcP	21 46 44.1	+0.5
CD2				SCP	ScP	21 50 19.6	+0.6
CD2				PCS	PcS	21 50 34.6	-1.0
CD2				S	**S**	**21 51 04.9**	**+3.8**
CD2				XS	sS	21 52 03.3	+0.9
CD2				SCS	ScS	21 54 36.7	-0.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,40nm,6.2s						
CD2				LR	LR		
	comp=E,70nm,12.0s						
CD2				LR	LR		
	comp=Z,60nm,11.0s						
JIRN	**Jiri**	**48.48**	**319**	*eP*	**P**	**21 45 41.5**	**-0.1**
	comp=Z,19nm,0.7s,mb4.9						
GUN	**Gumba**	**48.85**	**319**	*eP*	**P**	**21 45 44.9**	**+0.4**
	comp=Z,18nm,0.6s,mb4.8						
PKI	**Pulchoki**	**48.92**	**319**	*eP*	**P**	**21 45 44.8**	**-0.2**
DMN	**Daman**	**49.15**	**319**	*eP*	**P**	**21 45 45.6**	**-1.1**
	comp=Z,18nm,0.8s,mb4.8						
KKN	**Kakani**	**49.16**	**319**	*eP*	**P**	**21 45 46.7**	**-0.1**
	comp=Z,18nm,1.0s,mb4.7						
KKN	**Kakani**	**49.16**	**319**	*eP*	**P**	**21 45 46.7**	**-0.1**
KKN				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.7						
GKN	**Gorkha**	**49.72**	**319**	*eP*	**P**	**21 45 50.6**	**-0.5**
	comp=Z,6.9nm,0.4s,mb4.7						
GTA	**Gaotai**	**51.32**	**341**	*eP*	**P**	**21 46 04.4**	**+1.4**
ULN	**Ulaanbaatar**	**57.48**	**350**	*eP*	**P**	**21 46 47.5**	**0.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
ULN	**Ulaanbaatar**	**57.48**	**350**	*eP*	**P**	**21 46 47.5**	**0.0**
	comp=Z,1.8nm,0.5s,mb4.2						
SONM	**Songino Array**	**57.57**	**350**	P	**P**	**21 46 48.9**	**+0.8**
	comp=Z,4.5nm,0.5s,mb4.5,baz=168,slow=7.8,SNR=58						
ZAK	**Zakamensk**	**60.60**	**348**	*eP*	**P**	**21 47 09.2**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
MK31	**Makanchi Array**	**64.49**	**333**	P	**P**	**21 47 34.7**	**0.0**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
MKAR	**Makanchi Array**	**64.49**	**333**	P	**P**	**21 47 34.9**	**+0.1**
	comp=Z,9.9nm,0.7s,mb4.8,baz=140,slow=7.7,SNR=116						
WSAR	**Wadi Sarin**	**67.44**	**300**	P	**P**	**21 47 53.4**	**-0.1**
	comp=Z,4.4nm,0.7s,mb4.4,baz=109,slow=13,SNR=5.8						
WSAR	**Wadi Sarin**	**67.44**	**300**	P	**P**	**21 47 53.4**	**-0.2**
ZAL	**Zalesovo**	**69.02**	**339**	P	**P**	**21 48 02.0**	**-1.4**
	comp=Z,11nm,0.4s,mb4.9,baz=342,slow=4.8,SNR=35						
BVA0	**Borovoye Array**	**74.33**	**332**	*i P*	**P**	**21 48 34.3**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.5						
CHKZ	**Chkalovo**	**74.64**	**332**	*eP*	**P**	**21 48 36.6**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
CHKZ	**Chkalovo**	**74.64**	**332**	*eP*	**P**	**21 48 36.6**	**-0.4**
	comp=Z,3.4nm,0.4s,mb4.3						
ZRNK	**Zerenda**	**74.94**	**331**	*eP*	**P**	**21 48 38.1**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**74.94**	**331**	*eP*	**P**	**21 48 38.1**	**-0.6**
	comp=Z,2.6nm,0.5s,mb4.1						
AB31	**Akbulak array**	**77.66**	**325**	*i P*	**P**	**21 48 53.7**	**-0.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
TORD	**Torodi Ar. Bea**	**118.86**	**280**	PKP	PKPdf	21 55 47.2	+2.7
	comp=Z,0.5nm,0.3s,baz=34,slow=2.3,SNR=21						
WCI	**Wyandotte Cave**	**142.65**	**34**	PKIKP	PKPdf	21 56 28.7	-0.6

*CSEM **03** 22:20:54.6±0.1, 38.19N×2674E, h10km, MD3.1, Error ellipse: s-maj=1.8km s-min=1.4km az=96.0*
*ISCJB **03** 22:20:55.3±0.7, 38.18N±003×2673E±004, h9km±4km, Error ellipse: s-maj=5.3km s-min=4.2km az=101.3*
*ISK **03** 22:20:55.7, 38.19N×2680E, h17km, MD3.1*
*ATH **03** 22:20:56.8, 3822N×2619E, h10km, MD3.3/3*

ISC 03 22:20:55.5±0.7, 3817N±003×2673E±004, h10km±4km, n22, σ0°66/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.21**	**331**	*i P*	**Pg**	**22 20 59.7**	**-0.3**
URLA				*i S*	**Sg**	**22 21 02.9**	**-0.1**
BLCB	**Balcova**	**0.33**	**49**	*i* PG	**Pg**	**22 21 01.7**	**-0.3**
BLCB				*i* SG	**Sg**	**22 21 06.4**	**0.0**
IZM	**Izmir**	**0.48**	**62**	*i* PG	**Pg**	**22 21 05.1**	**+0.2**
IZM				*i* SG	**Sg**	**22 21 11.6**	**+0.4**
KDAG	**Bornova**	**0.48**	**61**	*i P*	**Pg**	**22 21 04.7**	**-0.2**
KDAG				*i S*	**Sg**	**22 21 11.7**	**+0.4**
AYDN	**Tasoluk**	**1.04**	**119**	*i P*	**Pg**	**22 21 15.5**	**-0.1**
AYDN				*i S*	**Sg**	**22 21 29.6**	**+0.4**
AKS	**Akhisar**	**1.11**	**50**	PG	**Pg**	**22 21 16.4**	**-0.4**
AKS				SG	**Sg**	**22 21 31.5**	**+0.3**
PRK	**Paraskevi**	**1.13**	**342**	*e*Pn	**Pn**	**22 21 16.5**	**-0.9**
PRK				*e*Sn	**Sn**	**22 21 32.2**	**-0.7**
AYVA	**Ayvalik**	**1.14**	**359**	*i P*	**Pb**	**22 21 16.5**	**-0.7**
AYVA				*i S*	**Sb**	**22 21 33.3**	**+1.3**
BODT	**Bodrum**	**1.20**	**157**	PN	**Pn**	**22 21 18.2**	**-0.1**
MLSB	**Milas**	**1.21**	**136**	PN	**Pn**	**22 21 18.0**	**-0.4**
MLSB				SN	**Sn**	**22 21 33.8**	**-1.0**
BDRM	**Kayabasi**	**1.24**	**153**	*i P*	**Pn**	**22 21 19.0**	**+0.1**
BDRM				*i S*	**Sb**	**22 21 35.4**	**+0.3**
APE	**Apeiranthos**	**1.45**	**221**	*e*Pb	**Pn**	**22 21 20.7**	**-1.1**
APE				*e*Sn	**Sn**	**22 21 43.1**	**+2.2**
MANT	**Manisa**	**1.48**	**77**	*i P*	**Pn**	**22 21 23.0**	**+0.9**
MANT				*i S*	**Sn**	**22 21 41.2**	**-0.2**
MANT	**Manisa**	**1.48**	**77**	*i P*	**Pn**	**22 21 23.0**	**+0.9**
MANT				*i S*	**Sn**	**22 21 41.2**	**-0.2**
DAT	**Datca**	**1.59**	**155**	PN	**Pn**	**22 21 23.9**	**+0.2**
YER	**Yerkesik**	**1.61**	**130**	PN	**Pn**	**22 21 24.1**	**+0.1**
BALB	**Balikesir**	**1.72**	**31**	PN	**Pn**	**22 21 24.5**	**-1.0**
CANB	**Canakkale**	**1.86**	**8**	*e*PN	**Pn**	**22 21 27.7**	**+0.3**
DENT	**Denizli**	**1.87**	**102**	*e*PN	**Pn**	**22 21 27.0**	**-0.5**
KCT	**Karacabey**	**2.44**	**31**	*e*PN	**Pn**	**22 21 35.7**	**+0.3**
RDO	**Rodhopi**	**3.11**	**343**	*e*PN	**Pn**	**22 21 45.7**	**+1.1**
YLV	**Yalova**	**3.15**	**40**	*e*PN	**Pn**	**22 21 45.4**	**+0.3**

NEIC 03 23:00:36.3, 5343N×16576W, h22km, ML2.7(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.61**	**313**	P	Pb	23 00 47.3	-0.9
UNV				S	Sb	23 00 55.9	-0.5
AKA	**Akutan**	**0.70**	**359**	P	Pb	23 00 48.6	-1.2
AKA				S	Sb	23 00 59.6	+0.5
AKUT	**Akutan**	**0.70**	**359**	P	Pb	23 00 48.6	-1.3
AKUT				S	Sb	23 00 58.6	-0.5
AKLV	**Akutan Long Va**	**0.74**	**351**	P	Pb	23 00 49.1	-1.4
AKLV				S	Sb	23 00 59.4	-0.7
OKCD	**Okmok Cone D**	**1.41**	**271**	P	Pn	23 00 58.8	-1.7
OKCE	**Okmok Cone E**	**1.44**	**271**	P	Pn	23 00 59.7	-1.3
NIKO	**Nikolski**	**1.92**	**257**	P	Pn	23 01 05.7	-1.9
SDPT	**Sand Point**	**3.64**	**56**	*e*P	Pn	23 01 30.6	-0.6
YKU2	**Yakutat**	**15.58**	**57**	*e*P	Pn	23 04 16.0	+1.6

*CSEM **03** 23:00:48.9±0.2, 2648N×5603E, h10km, mb4.4/18, Error ellipse: s-maj=5.1km s-min=2.7km az=152.0*
*ISCJB **03** 23:00:51.8±0.3, 2675N±004×5585E±004, h10km, mb4.2/35, Error ellipse: s-maj=5.2km s-min=4.5km az=175.1*
*THR **03** 23:00:54.7±0.3, 2678N×5598E, h20km±5km, ML4.0*
*BJI **03** 23:00:58.6, 2745N×5634E, h14km, mB4.9, mb4.6*
*IDC **03** 23:00:58.3±2.1, 2682N×5599E, h47km±26km, mb3.7/14, mb1 3.8/18, mb1mx3.7/27, mbtmp3.9/18, ML2.8/4, Error ellipse: s-maj=15.8km s-min=13.6km az=79.0*
*NEIC **03** 23:01:01.1±0.4, 2676N×5600E, mb4.3/21, Error ellipse: s-maj=8.8km s-min=7.4km az=193.0*
*MOS **03** 23:01:02.6±0.8, 2685N×5594E, h109km, mb4.2/19, Error ellipse: s-maj=10.1km s-min=6.1km az=114.1*
*TEH **03** 23:01:09.3, 2763N×5536E, h15km, Mn3.7*

ISC 03 23:00:53.8±0.3, 2677N±004×5589E±003, h10km, (h70km±10.3km:pP-P), n129, σ1°29/143, mb4.2/35, 7C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.68**	**22**	*e*PG	**Pg**	**23 01 07.2**	**+0.3**
BNDS				*e*SG	**Sg**	**23 01 16.3**	**+0.5**
BNDS				AML	AML	23 01 28.5	
	comp=N,5μm,1.0s						
BNDS				AML	AML	23 01 29.0	
	comp=E,6μm,0.4s						
BNDS	**Bandar-Abbas**	**0.68**	**22**	*e*Pg	**Pg**	**23 01 07.2**	**+0.3**
	SNR=94						
BNDS				*e*Sg	**Sg**	**23 01 16.3**	**+0.5**
	SNR=94						
GHIR	**Ghir-Karzin**	**2.99**	**301**	*e*PN	**Pn**	**23 01 44.1**	**+2.9**
GHIR				AML	AML	23 02 59.0	
	comp=N,399nm,0.9s						
GHIR				AML	AML	23 02 59.8	
	comp=E,581nm,0.7s						
KRBR	**Kerman**	**3.30**	**13**	*e*PN	**Pn**	**23 01 47.3**	**+1.9**
KRBR				AML	AML	23 02 47.7	
	comp=N,304nm,0.7s						
ISRV	**Sarvestan**	**3.58**	**317**	*e*Pn	**Pn**	**23 01 51.1**	**+1.8**
IMOK	**Mook**	**3.61**	**310**	*e*Pn	**Pn**	**23 01 53.0**	**+3.2**
IMOK				*e*Sn	**Sn**	**23 02 23.9**	**-8.5**
SHI	**Shiraz**	**4.13**	**315**	*e*Pn	**Pn**	**23 01 58.6**	**+1.7**
WSAR	**Wadi Sarin**	**4.30**	**144**	P	**Pn**	**23 02 01.3**	**+2.0**
	comp=N,0.7nm,0.3s,baz=333,slow=9.4,SNR=21						
WSAR				S	**Sn**	**23 02 50.2**	**+0.7**
	comp=N,2.9nm,0.3s,baz=234,slow=14,SNR=4.6						
WSAR	**Wadi Sarin**	**4.30**	**144**	P	**Pn**	**23 02 01.3**	**+2.0**
WSAR				S	**Sn**	**23 02 50.2**	**+0.7**
IMEH	**Mehriz**	**4.74**	**347**	*e*Pn	**Pn**	**23 02 07.3**	**+2.0**
IBAF	**Bafgh**	**4.82**	**357**	*e*Pn	**Pn**	**23 02 07.4**	**+1.1**
ZHSF	**Zahedan**	**5.16**	**56**	*e*Pn	**Pn**	**23 02 12.2**	**+1.1**
ISAD	**Sadrabad**	**5.48**	**340**	*e*Pn	**Pn**	**23 02 18.4**	**+3.0**
ICHK	**Chekchek**	**5.61**	**347**	*e*Pn	**Pn**	**23 02 18.5**	**+1.3**
IZEF	**Zefreh**	**6.85**	**334**	*e*Pn	**Pn**	**23 02 34.7**	**+0.5**
IZEF				*e*Sn	**Sn**	**23 03 38.0**	**-14**
IPIR	**Pirpir**	**7.32**	**325**	*e*Pn	**Pn**	**23 02 41.5**	**+0.7**
IPIR				*e*Sn	**Sn**	**23 03 51.0**	**-13**
QRN	**Al-Qurain**	**7.33**	**287**	*e*P	**Pn**	**23 02 42.0**	**+1.2**
QRN				AML	AML	23 04 02.0	
	comp=Z,25nm,0.3s						
IKLH	**Kalahroud**	**7.52**	**331**	*e*Pn	**Pn**	**23 02 44.5**	**+1.0**
IKLH				*e*Sn	**Sn**	**23 03 54.5**	**-14**
KBD	**Kabd**	**7.63**	**290**	*e*P	**Pn**	**23 02 45.9**	**+1.0**
KBD				AML	AML	23 04 10.4	
	comp=Z,127nm,0.3s						
KBD	**Kabd**	**7.63**	**290**	*e*P	**Pn**	**23 02 45.9**	**+0.9**
KBD				*e*S	**Sn**	**23 04 08.8**	**-2.7**
RDF	**Al-Radifah**	**7.69**	**288**	*e*P	**Pn**	**23 02 46.9**	**+1.1**
RDF				AML	AML	23 04 10.3	
	comp=Z,19nm,0.3s						
RDF	**Al-Radifah**	**7.69**	**288**	*e*P	**Pn**	**23 02 46.9**	**+1.2**
RDF				*e*S	**Sn**	**23 04 08.9**	**-4.0**
UMR	**Umm Al-Rimmam**	**7.73**	**293**	*e*P	**Pn**	**23 02 47.3**	**+1.0**
UMR				AML	AML	23 04 12.5	
	comp=Z,27nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.73**	**293**	*e*P	**Pn**	**23 02 47.3**	**+1.0**
UMR				*e*S	**Sn**	**23 04 11.4**	**-2.5**
NAY	**Al-Naaiem**	**8.03**	**290**	*e*P	**Pn**	**23 02 51.7**	**+1.2**
MIB	**Mutribah**	**8.12**	**294**	*e*P	**Pn**	**23 02 52.4**	**+0.8**
MIB	**Mutribah**	**8.12**	**294**	*e*P	**Pn**	**23 02 52.4**	**+0.7**
MIB				*e*S	**Sn**	**23 04 20.5**	**-3.0**
ISHM	**Shahmirzad**	**9.28**	**347**	*e*Pn	**Pn**	**23 03 07.3**	**-0.3**
IDMV	**Damavand**	**9.38**	**340**	*e*Pn	**Pn**	**23 03 11.0**	**+2.0**
IKIA	**Kiasar**	**9.60**	**349**	*e*Pn	**Pn**	**23 03 12.9**	**+0.9**
IGHG	**Ghaleghazi**	**11.01**	**315**	*e*Pn	**Pn**	**23 03 30.9**	**-0.4**
IGHG				*e*Sn	**Sn**	**23 05 18.7**	**-16**
IDHR	**Dehrash**	**11.37**	**316**	*e*Pn	**Pn**	**23 03 36.4**	**+0.2**
GNI	**Garni**	**16.25**	**328**	P	**Pn**	**23 04 45.1**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=358,slow=18,SNR=3.2						
GNI	**Garni**	**16.25**	**328**	*i P*	**Pn**	**23 04 44.1**	**+2.0**
GNI	**Garni**	**16.25**	**328**	*e*Pn	**Pn**	**23 04 46.1**	**+4.1**
	comp=Z,20nm,1.2s						
GNI	**Garni**	**16.25**	**328**	*e*Pn	**Pn**	**23 04 46.2**	**+4.1**
ASF	**Jabal al Asfar**	**17.39**	**293**	P	**Pn**	**23 05 00.3**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=302,slow=10.0,SNR=7.5						
ASF				S	**Sn**	**23 08 04.7**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=344,slow=11,SNR=4.0						
MALT	**Malatya**	**18.65**	**312**	*e*P	**Pn**	**23 05 12.5**	**+0.5**
MALT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MALT	**Malatya**	**18.65**	**312**	*e*P	**Pn**	**23 05 12.5**	**+0.5**
	comp=Z,7.8nm,0.8s						
EIL	**Elat**	**18.67**	**284**	*e*P	**Pn**	**23 05 14.5**	**+2.2**
	comp=Z,105nm,0.9s						
ZEI	**Tsey**	**18.73**	**332**	*e*P	**Pn**	**23 05 15.9**	**+3.0**
MMAI	**Mount Meron Ar**	**18.81**	**294**	P	**Pn**	**23 05 15.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=151,slow=10,SNR=5.9						
KKAR	**Karatay Array**	**20.18**	**32**	*i P*	**P**	**23 05 28.3**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**20.21**	**331**	*d i P*	**P**	**23 05 30.6**	**+1.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIV	**Kislovodsk**	**20.21**	**331**	*eP*	**P**	**23 05 30.9**	**+2.2**
	comp=Z,17nm,0.8s						
KIV	**Kislovodsk**	**20.21**	**331**	*eP*	**P**	**23 05 30.9**	**+2.2**
	comp=Z,17nm,0.8s						
GOF	**Gofitskoye**	**20.97**	**334**	*eP*	**P**	**23 05 48.5**	**+12**
AAK	**Ala-Archa**	**21.94**	**39**	*eP*	**P**	**23 05 47.2**	**-0.2**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**21.94**	**39**	*eP*	**P**	**23 05 47.2**	**-0.2**
	comp=Z,9.4nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**22.58**	**311**	P	**P**	**23 05 55.1**	**+0.9**
	comp=Z,2.6nm,0.8s,mb3.7,baz=129,slow=14,SNR=11						
AB31	**Akbulak array**	**22.67**	**7**	*i P*	**P**	**23 05 54.1**	**-1.1**
AKTK	**Aktyubinsk**	**23.69**	**3**	P	**P**	**23 06 04.9**	**-0.9**
AKTK	**Aktyubinsk**	**23.69**	**3**	P	**P**	**23 06 04.9**	**-0.8**
AKTO	**Aktyubinsk**	**23.69**	**3**	P	**P**	**23 06 04.9**	**-0.9**
	comp=Z,2.8nm,0.6s,mb3.9,baz=177,slow=10,SNR=18						
ORR	**Orenburg**	**24.84**	**358**	*eP*	**P**	**23 06 16.5**	**+0.3**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
ORR	**Orenburg**	**24.84**	**358**	*eP*	**P**	**23 06 16.5**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**27.93**	**17**	*eP*	**P**	**23 06 43.3**	**-0.9**
ZRNK				*e*PP	pP	23 07 02.9	+16
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
ZRNK	**Zerenda**	**27.93**	**17**	*eP*	**P**	**23 06 43.3**	**-0.8**
	comp=Z,4.5nm,1.2s,mb4.0						
ZRNK				*e*pP	pP	23 07 02.9	+16
ZRNK	**Zerenda**	**27.93**	**17**	*eP*	**P**	**23 06 43.3**	**-0.9**
	comp=Z,4.5nm,1.2s,mb4.0						
ZRNK				*e*pP	pP	23 07 02.9	+16
BRVK	**Borovoye**	**28.38**	**18**	*eP*	**P**	**23 06 46.2**	**-1.9**
BRVK				pP	pP	23 07 05.8	+15
BRVK				sP	sP	23 07 14.1	+22
BRVK	**Borovoye**	**28.38**	**18**	*eP*	**P**	**23 06 46.2**	**-1.9**
BRVK				pP	pP	23 07 05.8	+15
BVA0	**Borovoye Array**	**28.38**	**19**	*i P*	**P**	**23 06 47.4**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
MKAR	**Makanchi Array**	**28.88**	**39**	P	**P**	**23 06 51.5**	**-1.1**
	comp=Z,1.4nm,0.8s,mb3.7,baz=223,slow=8.3,SNR=8.8						
MLR	**Muntele Rosu**	**30.31**	**316**	P	**P**	**23 07 06.2**	**+1.0**
	comp=Z,2.5nm,0.9s,mb4.0,baz=20,slow=3.9

BAIF	**Baives**	**45.59**	**315**	*eP*	**P**	**23 09 14.1**	**+0.1**
	comp=Z,14nm,0.9s,mb4.6						
BAIF	**Baives**	**45.59**	**315**	*eP*	**P**	**23 09 14.1**	**+0.1**
BAIF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BAIF	**Baives**	**45.59**	**315**	*eP*	**P**	**23 09 14.1**	**+0.1**
	comp=Z,6.8nm,0.9s,mb4.6						
AVF	**Avril sur Loir**	**45.64**	**310**	*eP*	**P**	**23 09 12.2**	**-2.2**
	comp=Z,8.3nm,1.1s,mb4.3						
AVF	**Avril sur Loir**	**45.64**	**310**	*eP*	**P**	**23 09 12.2**	**-2.2**
AVF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
AVF	**Avril sur Loir**	**45.64**	**310**	*eP*	**P**	**23 09 12.2**	**-2.2**
	comp=Z,4.2nm,1.1s,mb4.3						
ARCES	**ARCESS Array B**	**46.33**	**346**	P	**P**	**23 09 19.0**	**-0.7**
	comp=Z,2.9nm,0.9s,mb4.2,baz=148,slow=8.9,SNR=8.9						
ARCES	**ARCESS Array B**	**46.33**	**346**	P	**P**	**23 09 19.0**	**-0.8**
CAF	**Calviac**	**46.36**	**308**	*eP*	**P**	**23 09 19.4**	**-0.6**
	comp=Z,19nm,1.1s,mb4.6						
CAF	**Calviac**	**46.36**	**308**	*eP*	**P**	**23 09 19.4**	**-0.6**
CAF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
CAF	**Calviac**	**46.36**	**308**	*eP*	**P**	**23 09 19.4**	**-0.6**
	comp=Z,9.6nm,1.1s,mb4.6						
TCF	**Toulx Ste Croi**	**46.37**	**309**	*eP*	**P**	**23 09 19.4**	**-0.7**
RJF	**Les Rejaudoux**	**46.77**	**308**	*eP*	**P**	**23 09 23.0**	**-0.3**
FLN	**La Foliniere**	**48.43**	**313**	*eP*	**P**	**23 09 34.8**	**-1.4**
	comp=Z,15nm,1.0s,mb4.7						
FLN	**La Foliniere**	**48.43**	**313**	*eP*	**P**	**23 09 34.8**	**-1.4**
FLN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
FLN	**La Foliniere**	**48.43**	**313**	*eP*	**P**	**23 09 34.8**	**-1.4**
	comp=Z,7.3nm,1.0s,mb4.7						
ROSF	**Rostrenen**	**50.25**	**312**	*eP*	**P**	**23 09 50.2**	**+0.1**
	comp=Z,23nm,1.3s,mb4.8						
ROSF	**Rostrenen**	**50.25**	**312**	*eP*	**P**	**23 09 50.2**	**+0.1**
ROSF				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
ROSF	**Rostrenen**	**50.25**	**312**	*eP*	**P**	**23 09 50.2**	**+0.1**
	comp=Z,11nm,1.3s,mb4.8						
ESDC	**Sonseca Array**	**50.85**	**301**	P	**P**	**23 09 55.3**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.6,baz=69,slow=7.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**52.35**	**266**	P	**P**	**23 10 06.1**	**+0.2**
	comp=Z,2.1nm,0.6s,mb4.3,baz=65,slow=7.3,SNR=35						
CN2	**Changchun**	**57.66**	**53**	*eP*	**P**	**23 10 47.9**	**+3.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
BOSA	**Boshof**	**62.42**	**210**	P	**P**	**23 11 17.7**	**+0.8**
	comp=Z,3.7nm,0.6s,mb4.7,baz=36,slow=6.0,SNR=10						
BOSA	**Boshof**	**62.42**	**210**	P	**P**	**23 11 17.7**	**+0.8**
BILL	**Bilibino**	**72.67**	**22**	P	**P**	**23 12 23.4**	**+1.7**
BILL				*e*		23 15 02.6	

*ISCJB **03** 23:03:45.6±0.6, 680N±007×7304W±008, h178km±8km, mb3.8/6, Error ellipse: s-maj=15.2km s-min=8.8km az=84.0*
*NEIC **03** 23:03:46.5±0.7, 680N×7307W, h167km±8km, mb4.0/4, Error ellipse: s-maj=11.7km s-min=10.7km az=115.0*
*IDC **03** 23:03:46.1±0.7, 677N×7297W, h163km±8km, mb3.5/5, mb1 3.7/8, mb1mx3.4/22, mbtmp4.0/8, MS3.8/1, Ms1 3.8/1, ms1mx2.6/19, Error ellipse: s-maj=22.8km s-min=7.6km az=129.0*

ISC 03 23:03:46.7±0.6, 682N±007×7306W±008, h170km±8km, n16, σ0§67/16, mb3.8/6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.32**	**213**	P	**Pn**	**23 04 27.4**	**+0.6**
	49nm,0.3s,baz=321,slow=2.5,SNR=103						
ROSC				S	**Sn**	**23 04 57.8**	**+0.1**
	128nm,0.3s,baz=110,slow=14,SNR=15						
SDV	**Santo Domingo**	**3.16**	**49**	P	**Pn**	**23 04 37.4**	**+0.5**
	5.7nm,0.3s,baz=261,slow=2.4,SNR=18						
SDV				S	**Sn**	**23 05 14.3**	**-1.5**
	19nm,0.3s,baz=79,slow=21,SNR=23						
SDV	**Santo Domingo**	**3.16**	**49**	*e*Pn	**Pn**	**23 04 37.1**	**+0.3**
SDV				*e*Sn	**Sn**	**23 05 16.3**	**+0.5**
PCRV	**Puerto La Cruz**	**8.97**	**68**	P	**Pn**	**23 05 52.9**	**+0.1**
	0.2nm,0.3s,baz=209,slow=7.3,SNR=3.1						
JTS	**JuntasAbangare**	**12.26**	**287**	*e*Pn	**Pn**	**23 06 34.5**	**-1.2**
	5.6nm,0.5s						
SAML	**Samuel**	**18.50**	**148**	*eP*	**P**	**23 07 49.8**	**0.0**
	2.1nm,0.4s						
LPAZ	**La Paz**	**23.47**	**168**	P	**P**	**23 08 39.8**	**-1.0**
	0.7nm,0.8s,mb3.2,baz=357,slow=13,SNR=3.6						
LPAZ	**La Paz**	**23.47**	**168**	*eP*	**P**	**23 08 40.4**	**-0.4**
	0.5nm,0.5s,mb3.2						
CCM	**Cathedral Cave**	**35.20**	**335**	*eP*	**P**	**23 10 25.2**	**+0.6**
	4.1nm,0.8s,mb4.1						
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**23 12 02.3**	**-0.8**
	1.8nm,0.4s,mb4.1,baz=140,slow=6.8,SNR=4.8						
PLCA	**Paso Flores**	**47.37**	**177**	LR	LR	23 32 21.5	
	comp=Z,104nm,18.6s,baz=168,slow=36						
PDAR	**Pinedale Array**	**48.12**	**324**	P	**P**	**23 12 10.3**	**+1.0**
	0.5nm,0.6s,mb3.4,baz=120,slow=8.8,SNR=4.7						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**23 12 09.6**	**+0.1**
	3.1nm,0.9s,mb3.9,baz=211,slow=8.8,SNR=4.9						
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**23 13 57.6**	**+0.3**
	1.4nm,0.5s,mb4.0,baz=135,slow=6.6,SNR=11						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	PKPbc	23 23 17.7	+2.8
	0.2nm,0.5s,baz=112,slow=3.4,SNR=4.8						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	PKPbc	23 23 19.3	+1.4
	0.5nm,0.7s,baz=106,slow=2.7,SNR=4.3						

*THR **03** 23:23:02.8±0.3, 2679N×56.12E, h7km±5km, ML3.2*
*CSEM **03** 23:23:04.9±1.0, 2716N×5562E, h5km, ML3.4, Error ellipse: s-maj=38.2km s-min=6.9km az=171.0*
*ISCJB **03** 23:23:05.2±2.0, 272N±02×5560E±004, h7km, Error ellipse: s-maj=32.8km s-min=4.9km az=170.0*
*KISR **03** 23:23:05.2±1.2, 2714N×5567E, h33km, ML3.4*

ISC 03 23:23:07.2±2.1, 272N±02×5567E±005, h7km, n11, σ0§95/20, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.50**	**62**	*e*PG	**Pg**	**23 23 14.8**	**-2.1**
BNDS				*e*SG	**Sg**	**23 23 23.6**	**+0.1**
BNDS				AML	AML	23 23 32.0	
	comp=E,2µm,0.8s						
BNDS				AML	AML	23 23 32.5	
	comp=N,2µm,0.3s						
BNDS	**Bandar-Abbas**	**0.50**	**62**	*e*Pg	**Pg**	**23 23 14.8**	**-2.1**
	SNR=91						
BNDS				*e*Sg	**Sg**	**23 23 23.6**	**+0.1**
	comp=N,2µm,0.3s,SNR=91						
GHIR	**Ghir-Karzin**	**2.63**	**296**	*e*PN	**Pn**	**23 23 55.0**	**+4.9**
GHIR				AML	AML	23 24 51.2	
	comp=N,78nm,0.6s						
GHIR				AML	AML	23 24 56.5	
	comp=E,71nm,0.3s						
KRBR	**Kerman**	**2.97**	**19**	*e*PN	**Pn**	**23 23 56.2**	**+1.5**
KRBR				AML	AML	23 24 38.5	
	comp=E,49nm,0.6s						
RDF	**Al-Radifah**	**7.39**	**286**	*eP*	**Pn**	**23 24 55.8**	**+0.3**
RDF				*e*S	**Sn**	**23 26 19.5**	**-0.1**
UMR	**Umm Al-Rimmam**	**7.40**	**291**	*eP*	**Pn**	**23 24 56.2**	**+0.6**
UMR				*e*S	**Sn**	**23 26 18.4**	**-1.5**
UMR				AML	AML	23 26 22.7	
	comp=Z,8.2nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.40**	**291**	*eP*	**Pn**	**23 24 56.2**	**+0.5**
UMR				*e*S	**Sn**	**23 26 18.4**	**-1.5**
NAY	**Al-Naaiem**	**7.72**	**288**	*eP*	**Pn**	**23 25 00.6**	**+0.5**
NAY				*e*S	**Sn**	**23 26 27.1**	**-0.7**
NAY				AML	AML	23 26 28.7	
	comp=Z,2.5nm,0.3s						
NAY	**Al-Naaiem**	**7.72**	**288**	*eP*	**Pn**	**23 25 00.6**	**+0.5**
NAY				*e*S	**Sn**	**23 26 27.1**	**-0.7**
MIB	**Mutribah**	**7.79**	**292**	*eP*	**Pn**	**23 25 01.8**	**+0.8**
MIB				*e*S	**Sn**	**23 26 29.7**	**+0.3**
MIB				AML	AML	23 26 31.2	
	comp=Z,4.9nm,0.2s						
MIB	**Mutribah**	**7.79**	**292**	*eP*	**Pn**	**23 25 01.8**	**+0.8**
MIB				*e*S	**Sn**	**23 26 29.7**	**+0.2**

*ISCJB **03** 23:45:32.1±0.3, 4203N±001×1973E±002, h14km±2km, Error ellipse: s-maj=2.8km s-min=1.9km az=105.5*
*TIR **03** 23:45:32.3, 4204N×1975E, h15km, Ml3.1*
*PDG **03** 23:45:32.5±0.2, 4201N×1971E, h20km*
*CSEM **03** 23:45:32.3±0.1, 4206N×1978E, h15km, ML3.5, Error ellipse: s-maj=1.4km s-min=1.2km az=45.0*
*NEIC **03** 23:45:32.5, 4201N×1971E, h20km, ML3.4(PDG), After PDG.*
*THE **03** 23:45:33.3, 4200N×1982E, h4km, ML3.5*
*SKO **03** 23:45:45.7, 4159N×2090E, h24km*

ISC 03 23:45:32.9±0.3, 4200N±001×1974E±002, h8km±2km, n87, σ1§10/137, 20C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.37**	**264**	⇓*i*Pg	**Pg**	**23 45 40.3**	**+0.2**
ULC				*e*Sg	**Sg**	**23 45 46.0**	**+1.1**
TTG	**Podgorica**	**0.56**	**320**	⇑*i*Pg	**Pg**	**23 45 43.1**	**-0.5**
TTG				*e*Sg	**Sg**	**23 45 52.1**	**+1.2**
PVY	**Plav**	**0.62**	**16**	⇓*i*Pg	**Pg**	**23 45 44.0**	**-0.8**
PVY				*e*Sg	**Sg**	**23 45 54.3**	**+1.4**
TIR	**Tirane**	**0.66**	**172**	*e*Pg	**Pg**	**23 45 45.4**	**-0.3**
TIR				*e*Sg	**Sg**	**23 45 55.6**	**+1.4**
BUM	**Brajici-Budva**	**0.69**	**296**	⇑*i*Pg	**Pg**	**23 45 45.5**	**-0.7**
BUM				*e*Sg	**Sg**	**23 45 56.1**	**+0.9**
IVA	**Berane**	**0.88**	**8**	⇓*i*Pg	**Pg**	**23 45 48.9**	**-0.9**
IVA				*e*Sg	**Sg**	**23 46 02.9**	**+1.8**
NKY	**Niksic**	**0.98**	**326**	⇑*i*Pg	**Pg**	**23 45 50.1**	**-1.5**
NKY				*e*Sg	**Sg**	**23 46 05.9**	**+1.6**
HCY	**Herceg Novi**	**1.02**	**296**	⇓*i*Pg	**Pg**	**23 45 51.4**	**-1.1**
HCY				*e*Sg	**Sg**	**23 46 07.1**	**+1.3**
OHR	**Ohrid**	**1.20**	**138**	*e*Pg	**Pg**	**23 45 54.1**	**-1.7**
OHR				*e*Sg	**Sg**	**23 46 11.7**	**+0.4**
OHR	**Ohrid**	**1.20**	**138**	*e*Pn	**Pn**	**23 45 54.1**	**-1.7**
OHR				*e*Sn	**Sn**	**23 46 14.5**	**+2.3**
OHR	**Ohrid**	**1.20**	**138**	*e*Pn	**Pn**	**23 45 54.1**	**-1.7**
OHR				*e*Sn	**Sn**	**23 46 14.4**	**+2.2**
TREB	**Trebinje**	**1.25**	**305**	P	**Pn**	**23 45 55.3**	**-1.3**
TREB				S	**Sb**	**23 46 13.8**	**+0.8**
BRY	**Bratogost**	**1.26**	**316**	⇓*i*Pg	**Pg**	**23 45 55.2**	**-1.9**
BRY				*e*Sg	**Sg**	**23 46 14.4**	**+1.1**
SKO	**Skopje**	**1.27**	**91**	*e*Pg	**Pg**	**23 45 57.4**	**+0.2**
SKO				*e*Sg	**Sg**	**23 46 14.8**	**+1.1**
SKO	**Skopje**	**1.27**	**91**	*e*Pn	**Pn**	**23 45 56.8**	**-0.1**
SKO				*e*Sn	**Sn**	**23 46 13.6**	**-0.5**
SKO	**Skopje**	**1.27**	**91**	*e*Pn	**Pn**	**23 45 56.7**	**-0.1**
SKO	**Skopje**	**1.27**	**91**	*e*Pg	**Pg**	**23 45 57.4**	**+0.2**
SKO				*e*Sn	**Sn**	**23 46 13.5**	**-0.5**
SKO				*e*Sg	**Sg**	**23 46 14.8**	**+1.1**
SJES	**Sjenica**	**1.27**	**7**	Pn	**Pn**	**23 45 55.6**	**-1.3**
SJES				Sg	**Sg**	**23 46 15.8**	**+1.9**
UPM	**Unac-Piva**	**1.35**	**333**	⇑*i*Pg	**Pg**	**23 45 57.0**	**-1.6**
UPM				*e*Sg	**Sg**	**23 46 16.6**	**+0.4**
UPM	**Unac-Piva**	**1.35**	**333**	⇑*i*Pg	**Pg**	**23 45 57.0**	**-1.7**
UPM				*e*Sg	**Sg**	**23 46 16.6**	**+0.4**
PLE	**Pljevlja**	**1.35**	**349**	⇑*i*Pg	**Pg**	**23 45 57.1**	**-1.7**
PLE				*e*Sg	**Sg**	**23 46 16.8**	**+0.4**
BIA	**Bitola**	**1.54**	**129**	*e*Pn	**Pn**	**23 46 01.3**	**+0.7**
BIA				*e*Sn	**Sn**	**23 46 23.9**	**+3.1**
BIA	**Bitola**	**1.54**	**129**	*e*Pn	**Pn**	**23 46 01.3**	**+0.7**
BIA				*e*Sg	**Sg**	**23 46 21.9**	**-0.6**
BIA				*e*Sn	**Sn**	**23 46 23.8**	**+3.0**
FNA	**Florina**	**1.73**	**134**	*e*Pb	**Pb**	**23 46 03.0**	**-1.9**
STON	**Ston**	**1.74**	**301**	*i* Pn	**Pn**	**23 46 03.1**	**-0.2**
STON				*i* Sn	**Sn**	**23 46 28.8**	**+3.1**
STIP	**Stip**	**1.85**	**99**	*e*Pn	**Pn**	**23 46 04.1**	**-0.8**
STIP				*e*Sn	**Sn**	**23 46 29.9**	**+1.4**
STIP	**Stip**	**1.85**	**99**	*e*Pn	**Pn**	**23 46 04.0**	**-0.9**
STIP				*e*Sn	**Sn**	**23 46 29.9**	**+1.4**
BBLS	**Bajina Basta -**	**1.88**	**353**	*i* Pn	**Pn**	**23 46 07.8**	**+2.5**
BBLS				Sg	**Sg**	**23 46 31.4**	**-1.9**
GRUS	**Gruza**	**2.02**	**21**	*i* Pn	**Pn**	**23 46 07.8**	**+0.6**
GRUS				Sg	**Sg**	**23 46 37.2**	**-0.5**
LCI	**Lecce**	**2.07**	**217**	Pn	**Pn**	**23 46 06.6**	**-1.3**
DIVS	**Divcibare**	**2.10**	**5**	*i* Pn	**Pn**	**23 46 08.1**	**-0.2**
DIVS				Sg	**Sg**	**23 46 35.1**	**-5.3**
DIVS	**Divcibare**	**2.10**	**5**	*e*Pn	**Pn**	**23 46 08.0**	**-0.3**
DIVS				*e*Sn	**Sn**	**23 46 36.4**	**+1.8**
DIVS	**Divcibare**	**2.10**	**5**	*e*Pn	**Pn**	**23 46 08.0**	**-0.3**
DIVS				Sg	**Sg**	**23 46 35.1**	**-5.3**
PE1	**Pezze di Greco**	**2.11**	**236**	*e*Pn	**Pn**	**23 46 07.3**	**-1.1**
VAY	**Valandovo**	**2.23**	**107**	*e*Pn	**Pn**	**23 46 10.0**	**0.0**
VAY				*e*Sn	**Sn**	**23 46 37.8**	**+0.1**
VAY	**Valandovo**	**2.23**	**107**	*e*Pn	**Pn**	**23 46 11.3**	**+1.2**
VAY				*e*Sn	**Sn**	**23 46 36.8**	**-1.0**
GRG	**Griva**	**2.26**	**117**	*e*Pn	**Pn**	**23 46 10.4**	**-0.1**
BAI	**Bari**	**2.33**	**248**	*e*Pn	**Pn**	**23 46 10.2**	**-1.2**
IGT	**Igoumenitsa**	**2.51**	**169**	*e*Pn	**Pn**	**23 46 14.1**	**+0.3**
IGT				*e*Sn	**Sn**	**23 46 46.5**	**+1.9**
KNT	**Kendrikon**	**2.52**	**108**	*e*Pn	**Pn**	**23 46 13.8**	**-0.1**
KNT				*e*Sn	**Sn**	**23 46 46.0**	**+1.2**
SVIS	**Svilajnac**	**2.54**	**25**	⇑*i*Pn	**Pn**	**23 46 18.9**	**+4.6**
SG1	**Sgolgore (BA)**	**2.58**	**244**	*e*Pn	**Pn**	**23 46 13.9**	**-0.9**
VTS	**Vitosha**	**2.64**	**76**	⇑*i*P	**Pn**	**23 46 20.4**	**+4.7**
CDT	**Castel del Mon**	**2.76**	**252**	*e*Pn	**Pn**	**23 46 16.4**	**-0.9**
SOH	**Sokhos**	**2.96**	**112**	*e*Pn	**Pn**	**23 46 19.9**	**-0.3**
RGNG	**Rignano Grg**	**3.12**	**265**	Pn	**Pn**	**23 46 21.3**	**-1.0**
ORI	**Oriolo Calabro**	**3.15**	**233**	Pn	**Pn**	**23 46 22.7**	**0.0**
BLY	**Banja Luka**	**3.32**	**327**	P	**Pn**	**23 46 24.3**	**-0.7**
BLY				S	**Sn**	**23 47 03.6**	**-1.0**
LKD	**Levkas**	**3.37**	**168**	*e*Pn	**Pn**	**23 46 25.4**	**-0.3**
SLCN	**Sala Consilina**	**3.49**	**244**	Pn	**Pn**	**23 46 27.2**	**-0.2**
AGG	**Agios Georgios**	**3.57**	**146**	*e*Pn	**Pn**	**23 46 28.6**	**+0.1**
AGG				*e*Sn	**Sn**	**23 47 11.6**	**+0.7**
CUC	**Castrocucco**	**3.58**	**237**	Pn	**Pn**	**23 46 28.3**	**-0.4**
TIP	**Timpagrande**	**3.62**	**220**	⇑*i*Pn	**Pn**	**23 46 27.8**	**-1.4**
TIP	**Timpagrande**	**3.62**	**220**	⇑*i*Pn	**Pn**	**23 46 27.8**	**-1.4**
PAIG	**Paliouri**	**3.63**	**123**	*e*Pn	**Pn**	**23 46 29.1**	**-0.3**
PAIG				*e*Sn	**Sn**	**23 47 12.6**	**+0.2**
SGO	**Sicignano**	**3.64**	**248**	Pn	**Pn**	**23 46 28.3**	**-1.1**
MGR	**Morigerati**	**3.67**	**241**	Pn	**Pn**	**23 46 29.7**	**-0.2**
XOR	**Xorichti**	**3.72**	**134**	*e*Pn	**Pn**	**23 46 30.9**	**+0.4**
XOR				*e*Sn	**Sn**	**23 47 14.4**	**-0.1**
BZS	**Buzias**	**3.86**	**20**	⇑*i*P	**Pn**	**23 46 32.1**	**-0.4**
BZS	**Buzias**	**3.86**	**20**	⇑P	**Pn**	**23 46 32.1**	**-0.4**
CII	**Carovilli**	**4.07**	**268**	Pn	**Pn**	**23 46 36.0**	**+0.7**
PKSM	**Moragy**	**4.28**	**350**	⇑*i*P	**Pn**	**23 46 38.8**	**+0.5**
PKSM	**Moragy**	**4.28**	**350**	⇑P	**Pn**	**23 46 38.8**	**+0.5**
NVLJ	**Novalja**	**4.38**	**307**	*i* Pn	**Pn**	**23 46 39.7**	**+0.1**
NVLJ				*i* Sn	**Sn**	**23 47 30.9**	**+0.1**
NVLJ	**Novalja**	**4.38**	**307**	*i* Pn	**Pn**	**23 46 39.6**	**0.0**
NVLJ				*i* Sn	**Sn**	**23 47 30.9**	**+0.1**
VVLD	**Villa Vallelon**	**4.56**	**270**	Pn	**Pn**	**23 46 42.1**	**0.0**
PKS6	**Bocsa**	**4.60**	**359**	*eP*	**Pn**	**23 46 43.2**	**+0.6**
PKS6				*e*S	**Sn**	**23 47 35.9**	**-0.3**
	1.8nm,0.4s						
PKSN	**Nyarlorinc**	**4.89**	**1**	*e*S	**Sn**	**23 47 43.6**	**+0.1**
	1.0nm,0.3s						
FIAM	**Fiamignano**	**4.93**	**275**	Pn	**Pn**	**23 46 48.1**	**+0.9**
PKS8	**Sarbogard**	**4.93**	**352**	⇑*e*P	**Pn**	**23 46 47.0**	**-0.2**
PKS8				*e*S	**Sn**	**23 47 42.4**	**-2.1**
	0.2nm,0.3s						
PKS7	**Kunszentmiklos**	**5.06**	**356**	*e*S	**Sn**	**23 47 46.1**	**-1.5**
	1.3nm,0.3s						
PDKS	**Podkum**	**5.30**	**322**	*e*Pn	**Pn**	**23 46 53.0**	**+0.7**
CEY	**Cerknica**	**5.36**	**316**	*i* Pn	**Pn**	**23 46 54.0**	**+0.9**
PKSG		**5.47**	**350**	*e*S	**Sn**	**23 47 57.3**	**-0.5**
	0.6nm,0.3s						
PERS	**Pernice**	**5.70**	**326**	*i* Pn	**Pn**	**23 46 58.2**	**+0.5**
PENC	**Penc**	**5.80**	**357**	*e*S	**Sn**	**23 48 04.8**	**-0.9**
	3.0nm,0.3s						
VOY	**Vojsko**	**5.83**	**316**	*e*Sn	**Sn**	**23 48 06.8**	**+0.3**
VOJS	**Vojsko**	**5.83**	**316**	*e*Pn	**Pn**	**23 47 00.0**	**+0.4**
OBKA	**Obir**	**5.85**	**322**	⇓*i*Pn	**Pn**	**23 46 60.0**	**+0.2**
OBKA				⇓*i*Sn	**Sn**	**23 48 08.3**	**+1.4**
ARSA	**Arzberg**	**6.05**	**332**	⇑*i*Pn	**Pn**	**23 47 02.4**	**-0.1**
	SNR=6.3						
ARSA				⇑*i*Sn	**Sn**	**23 48 10.0**	**-1.9**
KECS	**Kecovo**	**6.50**	**4**	*e*PN	**Pn**	**23 47 10.8**	**+2.0**
KECS				*e*SN	**Sn**	**23 48 21.9**	**-1.2**
VYHS	**Vyhne**	**6.52**	**355**	*e*SN	**Sn**	**23 48 21.3**	**-2.3**
WTTA	**Wattenberg**	**7.81**	**315**	⇑*i*Pn	**Pn**	**23 47 26.9**	**+0.2**
WATA	**Walderalm**	**7.89**	**315**	⇓*i*Pn	**Pn**	**23 47 28.3**	**+0.5**
WATA				⇓*i*Sn	**Sn**	**23 48 59.6**	**+2.4**
SQTA	**Sankt Quirin**	**8.01**	**314**	⇓*i*Pn	**Pn**	**23 47 29.8**	**+0.3**
SQTA				⇓*i*Sn	**Sn**	**23 49 02.0**	**+1.7**
MOTA	**Moosalm**	**8.14**	**314**	⇑*i*Pn	**Pn**	**23 47 31.4**	**+0.1**
	SNR=5.3						
MOTA				⇑*i*Sn	**Sn**	**23 49 05.6**	**+2.0**
KHC	**Kasperske Hory**	**8.33**	**331**	*e*SN	**Sn**	**23 49 06.3**	**-1.9**
KHC				x	x	23 49 19.5	

*CSEM **03** 23:57:12.7±0.8, 3780N×2545W, h4km±1km, ML3.1, Error ellipse: s-maj=1.3km s-min=0.8km az=40.0, After PDA*
*PDA **03** 23:57:12.7±0.8, 3780N×2545W, h4km±1km, MD2.2, ML3.1, Error ellipse: s-maj=1.3km s-min=0.8km az=40.0*

SVSA 03 23:57:12.7±0.8, 3780N×2545W, h4km±1km, MD2.2, ML3.1, Error ellipse: s-maj=1.3km s-min=0.8km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.00**	**135**	*i P*	Pg	23 57 13.7	+0.4
MESC				*e*S	Sg	23 57 15.1	+1.4
MESC	**Monte Escuro**	**0.00**	**135**	*e*S	Sg	23 57 15.1	+1.4
PMAT	**Coroa da Mata**	**0.03**	**319**	*eP*	Pg	23 57 14.0	+0.5
PMAT				*e*S	Sg	23 57 14.7	+0.6
LFA	**Lagoa do Fogo**	**0.04**	**231**	*i P*	Pg	23 57 14.2	+0.6
PCNG	**Congro**	**0.05**	**124**	*i P*	Pg	23 57 14.4	+0.6
PCNG				*e*S	Sg	23 57 15.8	+1.2
PCNG							
	12µm,0.2s						
PCNG	**Congro**	**0.05**	**124**	*e*S	Sg	23 57 15.8	+1.2
VIF	**Vila Franca**	**0.05**	**173**	*i P*	Pg	23 57 14.4	+0.5
VIF				*e*S	Sg	23 57 16.0	+1.4
VIF							
	7µm,0.2s						
VIF	**Vila Franca**	**0.05**	**173**	*e*S	Sg	23 57 16.0	+1.4
PVER	**Pico Vermelho**	**0.05**	**272**	*i P*	Pg	23 57 14.3	+0.4
PVER				*e*S	Sg	23 57 15.5	+0.8
PVER							
	11µm,0.3s						
PVER	**Pico Vermelho**	**0.05**	**272**	*e*S	Sg	23 57 15.5	+0.8
PRCH	**Ribeira Ch**	**0.07**	**201**	*eP*	Pg	23 57 14.8	+0.6
PRCH				*e*S	Sg	23 57 16.1	+0.9
PRCH							
	9µm,0.2s						
PRCH	**Ribeira Ch**	**0.07**	**201**	*eP*	Pg	23 57 14.8	+0.6
PRCH				*e*S	Sg	23 57 16.1	+0.9
CML	**Cha da Macela**	**0.08**	**253**	*i P*	Pg	23 57 15.1	+0.7
FRA1	**Furnas**	**0.09**	**126**	*eP*	Pg	23 57 15.4	+0.9
FRA1				*e*S	Sg	23 57 17.1	+1.4
PFAD	**Fenais da Ajud**	**0.11**	**66**	*i P*	Pg	23 57 15.8	+0.9
PFAD				*e*S	Sg	23 57 17.6	+1.3
PFAD	**Fenais da Ajud**	**0.11**	**66**	*e*S	Sg	23 57 17.6	+1.3
MIRA	**Miradouro**	**0.13**	**94**	*eP*	Pg	23 57 16.2	+0.8
MIRA				*e*S	Sg	23 57 18.6	+1.5
FAC	**Faja de Cima**	**0.16**	**262**	*eP*	Pg	23 57 16.9	+1.0
PSET	**Sete Cidades**	**0.22**	**278**	*i P*	Pg	23 57 17.0	+0.1
PSET				*e*S	Sg	23 57 21.2	+1.4
PSET							
	2µm,0.4s						
PSET	**Sete Cidades**	**0.22**	**278**	*e*S	Sg	23 57 21.2	+1.4
PSAN	**Santo Antonio**	**0.23**	**284**	*eP*	Pg	23 57 18.0	+0.9
PFET	**Feteiras**	**0.27**	**275**	*eP*	Pg	23 57 18.7	+0.8
SET2	**Ginetes**	**0.29**	**280**	*eP*	Pg	23 57 19.0	+0.7
SET4	**Mosteiros**	**0.29**	**286**	*eP*	Pg	23 57 18.8	+0.5
PSMN	**Pico do Norte,**	**0.85**	**159**	*eP*	Pg	23 57 27.1	-1.8
PSMN				*e*S	Sg	23 57 37.7	-2.2
PID	**Ribeirinha**	**2.20**	**288**	*erx*		23 57 48.5	
SRBC	**Serra Branca**	**2.38**	**302**	*erx*		23 57 48.4	
ROSA	**Rosais**	**2.38**	**294**	*eP*	Pn	23 57 48.9	-3.7
PICO	**Pico**	**2.45**	**288**	*eP*	Pn	23 57 50.0	-3.5
PIC

PVER	**Pico Vermelho**	**0.05 275**	*e*S	Sg		00 09 07.8	+0.8
CML	**Cha da Macela**	**0.08 255**	*i* P	Pg		00 09 07.3	+0.6
FRA1	**Furnas**	**0.09 125**	*i* P	Pg		00 09 07.5	+0.7
FRA1			*e*S	Sg		00 09 09.4	+1.4
FRA1	**Furnas**	**0.09 125**	*e*S	Sg		00 09 09.4	+1.4
PFAD	**Fenais da Ajud**	**0.11 64**	*i* P	Pg		00 09 08.0	+0.8
PFAD			*e*S	Sg		00 09 09.8	+1.1
PFAD	**Fenais da Ajud**	**0.11 64**	*e*S	Sg		00 09 09.8	+1.1
MIRA	**Miradouro**	**0.13 93**	*e*P	Pg		00 09 08.4	+0.7
FAC	**Faja de Cima**	**0.16 263**	*e*P	Pg		00 09 09.2	+0.9
PSAN	**Santo Antonio**	**0.23 285**	*e*P	Pg		00 09 10.2	+0.7
PFET	**Feteiras**	**0.27 275**	*i* P	Pg		00 09 10.9	+0.6
SET2	**Ginetes**	**0.29 280**	*e*P	Pg		00 09 11.2	+0.5

*TIR **04** 00:31:16.0, 4200N×1976E, h49km*
*ISCJB **04** 00:31:17.4±0.5, 4202N±002×1976E±003, h10km, Error ellipse: s-maj=3.6km s-min=3.2km az=170.8*
*PDG **04** 00:31:17.9±0.2, 4204N×1974E, h15km±1km*
*NEIC **04** 00:31:17.9, 4204N×1974E, h15km, ML2.5(PDG), After PDG.*

ISC 04 00:31:17.9±0.5, 4200N±003×1977E±003, h10km, n15, σ1°08/29, 3C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.10**	**66**	*i* Pg	**Pg**	**00 31 21.5**	**+1.1**
SDA	**Shkodra**	**0.21**	**284**	*i* Pg	**Pg**	**00 31 22.4**	**+0.2**
SDA				*i* Sg	**Sg**	**00 31 26.6**	**+1.4**
LACI	**Lac**	**0.37**	**187**	*i* Pg	**Pg**	**00 31 25.1**	**0.0**
LACI				*i* Sg	**Sg**	**00 31 31.3**	**+1.2**
ULC	**Ulcinj**	**0.39**	**264**	⇓*i*Pg	**Pg**	**00 31 25.1**	**-0.4**
ULC				*e*Sg	**Sg**	**00 31 31.4**	**+0.6**
BCI	**Bajram Curri**	**0.43**	**31**	*i* Pg	**Pg**	**00 31 25.6**	**-0.6**
BCI				*i* Sg	**Sg**	**00 31 33.2**	**+1.3**
KKS	**Kukesi**	**0.48**	**81**	*i* Pg	**Pg**	**00 31 26.9**	**-0.4**
KKS				*i* Sg	**Sg**	**00 31 34.6**	**+0.9**
TTG	**Podgorica**	**0.57**	**319**	⇑*i*Pg	**Pg**	**00 31 27.9**	**-1.1**
TTG				*e*Sg	**Sg**	**00 31 36.7**	**+0.3**
PVY	**Plav**	**0.61**	**14**	⇓*i*Pg	**Pg**	**00 31 28.6**	**-1.1**
PVY				*e*Sg	**Sg**	**00 31 38.3**	**+0.5**
BUM	**Brajici-Budva**	**0.71**	**295**	⇓*i*Pg	**Pg**	**00 31 30.8**	**-0.9**
BUM				*e*Sg	**Sg**	**00 31 41.8**	**+0.8**
IVA	**Berane**	**0.87**	**6**	⇑*i*Pg	**Pg**	**00 31 33.8**	**-1.0**
IVA				*e*Sg	**Sg**	**00 31 46.8**	**+0.7**
NKY	**Niksic**	**0.99**	**325**	⇑*i*Pg	**Pg**	**00 31 35.0**	**-2.0**
NKY				*e*Sg	**Sg**	**00 31 50.4**	**+0.5**
HCY	**Herceg Novi**	**1.04**	**296**	⇓*i*Pg	**Pg**	**00 31 36.2**	**-1.8**
HCY				*e*Sg	**Sg**	**00 31 52.3**	**+0.7**
BRY	**Bratogost**	**1.28**	**315**	⇓*i*Pg	**Pg**	**00 31 39.9**	**-2.5**
BRY				*e*Sg	**Sg**	**00 32 00.3**	**+1.4**
PLE	**Pljevlja**	**1.36**	**348**	⇓*i*Pg	**Pg**	**00 31 42.5**	**-1.4**
PLE				*e*Sg	**Sg**	**00 32 02.5**	**+1.0**
UPM	**Unac-Piva**	**1.36**	**332**	*e*Pg	**Pg**	**00 31 42.4**	**-1.6**
UPM				*e*Sg	**Sg**	**00 32 02.5**	**+1.0**

*ISCJB **04** 00:44:41.3±4.1, 2134N±008×1439E±02, h91km±37km, mb4.0/16, Error ellipse: s-maj=27.1km s-min=13.7km az=3.9*
*NEIC **04** 00:44:41.5±4.1, 2134N×1440E, h80km±37km, mb4.3/8, Error ellipse: s-maj=23.8km s-min=13.0km az=92.0*
*IDC **04** 00:44:41.6±8.3, 2136N×1442E, h83km±75km, mb3.5/7, mb1 3.7/8, mb1mx3.6/19, mbtmp3.7/8, ML3.6/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/16, Error ellipse: s-maj=38.4km s-min=19.1km az=86.0*

ISC 04 00:44:41.8±3.8, 2137N±008×1441E±02, h81km±35km, n25, σ1°14/18, mb4.0/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.96**	**344**	LR	LR	00 47 58.6	
	comp=Z,514nm,21.2s,baz=149,slow=33						
GUMO	**Guam**	**7.77**	**174**	LR	LR	00 48 56.4	
	comp=Z,243nm,18.5s,baz=273,slow=33						
MJAR	**Matsushiro Arr**	**15.96**	**343**	P	**Pn**	**00 48 21.6**	**+0.2**
	0.2nm,0.3s,baz=111,slow=11,SNR=4.7						
MJAR				LR	LR	00 53 59.5	
	comp=Z,211nm,20.2s,baz=165,slow=35						
ASAJ	**Asahikawa**	**22.72**	**357**	LR	LR	00 57 00.9	
	comp=Z,71nm,21.3s,baz=150,slow=32						
MA2	**Magadan**	**38.47**	**5**	*e*P	**P**	**00 51 53.2**	**-2.5**
	5.2nm,0.9s,mb4.4						
SONM	**Songino Array**	**40.12**	**320**	P	**P**	**00 52 10.6**	**+1.1**
	0.4nm,0.5s,mb3.5,baz=134,slow=8.5,SNR=4.0						
SONM				LR	LR	01 10 08.2	
	comp=Z,48nm,20.0s,baz=122,slow=38						
WRAB	**Tennant Creek**	**42.14**	**194**	*e*P	**P**	**00 52 25.7**	**-0.3**
	24nm,1.2s,mb4.8						
WB2	**Warramunga Arr**	**42.15**	**194**	*e*P	**P**	**00 52 25.9**	**-0.2**
WRA	**Warramunga Arr**	**42.15**	**194**	P	**P**	**00 52 25.9**	**-0.2**
	3.9nm,0.9s,mb4.1,baz=15,slow=8.9,SNR=7.7						
ASAR	**Alice Springs**	**45.85**	**193**	P	**P**	**00 52 56.0**	**+0.3**
	1.4nm,0.8s,mb3.8,baz=15,slow=9.6,SNR=10						
MKAR	**Makanchi Array**	**55.53**	**313**	P	**P**	**00 54 09.1**	**+0.6**
	0.2nm,0.5s,mb3.4,baz=94,slow=8.7,SNR=3.0						
KURK	**Kurchatov**	**58.28**	**317**	*e*P	**P**	**00 54 27.0**	**-1.0**
	1.7nm,0.7s,mb4.2						
PALK	**Pallekele**	**62.62**	**267**	*e*P	**P**	**00 54 58.4**	**+0.9**
	29nm,1.3s,mb5.0						
BRVK	**Borovoye**	**63.52**	**320**	*e*P	**P**	**00 55 03.2**	**-0.2**
	1.4nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**64.30**	**320**	*e*P	**P**	**00 55 07.9**	**-0.6**
	2.1nm,0.9s,mb4.0						
INK	**Inuvik**	**67.54**	**24**	*e*P	**P**	**00 55 32.0**	**+2.7**
	6.7nm,1.1s,mb4.4						
PPT	**Papeete**	**75.64**	**116**	LR	LR	01 23 25.6	
	comp=Z,72nm,19.1s,baz=225,slow=31						
YKA	**Yellowknife Ar**	**76.36**	**28**	P	**P**	**00 56 24.1**	**+2.1**
	0.8nm,0.7s,mb3.5,baz=283,slow=5.6,SNR=3.4						
NVAR	**Mina Array Bea**	**82.69**	**52**	P	**P**	**00 56 55.0**	**-1.4**
	1.1nm,0.8s,mb3.7,baz=264,slow=3.2,SNR=5.4						
FINES	**FINESS Array B**	**83.83**	**335**	P	**P**	**00 57 00.9**	**-1.3**
	0.6nm,0.7s,mb3.5,baz=90,slow=5.7,SNR=4.0						
PDAR	**Pinedale Array**	**87.04**	**45**	P	**P**	**00 57 19.2**	**+1.0**
	0.2nm,0.4s,mb3.4,baz=308,slow=2.1,SNR=2.6						
MALT	**Malatya**	**88.52**	**311**	*e*P	**P**	**00 57 20.3**	**-4.9**
	0.7nm,0.4s,mb4.0						
PLCA	**Paso Flores**	**144.91**	**131**	PKP	PKPdf	01 04 09.0	-0.3
	2.3nm,0.9s,baz=157,slow=10,SNR=4.4						
PLCA	**Paso Flores**	**144.91**	**131**	PKP	PKPdf	01 04 09.0	-0.3
LPAZ	**La Paz**	**149.13**	**86**	PKPbc	PKPbc	01 04 21.6	+0.9
	0.8nm,0.8s,baz=246,slow=6.7,SNR=5.0						

*CSEM **04** 00:56:42.2±0.5, 3863N×2857W, h18km±5km, ML1.3, Error ellipse: s-maj=2.5km s-min=2.5km az=155.0, After PDA*
*PDA **04** 00:56:42.2±0.5, 3863N×2857W, h18km±5km, MD2.7, ML1.3, Error ellipse: s-maj=2.5km s-min=2.5km az=155.0*

SVSA 04 00:56:42.2±0.5, 3863N×2857W, h18km±5km, MD2.7, ML1.3, Error ellipse: s-maj=2.5km s-min=2.5km az=155.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.10**	**267**	*e*P	Pg	00 56 45.3	-0.6
PCED				*i* S	Sg	00 56 47.7	-0.7
PCED							
	30nm,0.3s						
PCED	**Cedros**	**0.10**	**267**	*e*P	Pg	00 56 45.3	-0.6
PCED				*i* S	Sg	00 56 47.7	-0.7
CALA	**Caldeira**	**0.11**	**243**	*e*P	Pg	00 56 45.5	-0.6
CALA				*e*S	Sg	00 56 48.3	-0.3
HOR	**Horta**	**0.12**	**203**	*e*S	Sg	00 56 48.0	-0.7
PICO	**Pico**	**0.17**	**139**	*e*P	Pg	00 56 46.1	-0.7
PICO				*e*S	Sg	00 56 49.2	-0.8
ROSA	**Rosais**	**0.27**	**71**	*e*P	Pg	00 56 47.5	-0.8
ROSA				*e*S	Sg	00 56 51.1	-1.4

*STR **04** 00:59:18.9±0.1, 4298N×007E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **04** 00:59:19.7±0.0, 4299N×006E, h8km, Md2.3/2, Ml2.1/7, Error ellipse: s-maj=0.9km s-min=0.7km az=4.0*

MDD 04 00:59:20.1±0.3, 4298N×007E, h8km±3km, mbLg1.5/13, 1C-1D, Error ellipse: s-maj=1.9km s-min=1.4km az=19.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**360**	Pg	Pg	00 59 21.8	-0.2
LABF				Sg	Sg	00 59 23.4	+0.1
LABF	**Labassere**	**0.07**	**360**	Pg	Pg	00 59 21.9	-0.1
LABF				Lg		00 59 23.5	
VIEF	**Viey**	**0.10**	**201**	Pg	Pg	00 59 22.4	-0.1
VIEF				Sg	Sg	00 59 24.0	-0.2
VIEF	**Viey**	**0.10**	**201**	Pg	Pg	00 59 22.4	-0.1
VIEF				Lg		00 59 24.1	
EPF	**Esparros**	**0.20**	**76**	*e*Pg	Pg	00 59 23.9	-0.3
EPF				*e*Sg	Sg	00 59 27.1	+0.2
	58nm,0.2s						
EPF	**Esparros**	**0.20**	**76**	Pg	Pg	00 59 23.9	-0.3
EPF				Lg		00 59 27.1	
	29nm,0.2s						
RESF	**Ens**	**0.26**	**132**	Pg	Pg	00 59 25.0	-0.2
RESF				Sg	Sg	00 59 28.9	+0.2
RESF	**Ens**	**0.26**	**132**	Pg	Pg	00 59 25.1	-0.2
RESF				Lg		00 59 29.0	
EBIE	**Bielsa**	**0.30**	**170**	⇑Pg	Pg	00 59 25.7	-0.2
	6.5nm,0.1s,SNR=18						
EBIE				Lg		00 59 29.9	
	11nm,0.1s,SNR=7.9						
REYF	**Montagne du Re**	**0.35**	**285**	Pg	Pg	00 59 26.3	-0.7
REYF				Sg	Sg	00 59 31.4	-0.3
REYF	**Montagne du Re**	**0.35**	**285**	Pg	Pg	00 59 26.4	-0.6
REYF				Lg		00 59 31.4	
ETSF	**Etsaut**	**0.47**	**260**	*e*Pg	Pg	00 59 28.7	-0.5
ETSF				*e*Sg	Sg	00 59 34.8	-0.6
	16nm,0.2s						
ETSF	**Etsaut**	**0.47**	**260**	Pg	Pg	00 59 28.7	-0.5
ETSF				Lg		00 59 34.8	
	8.1nm,0.2s						
FDAF	**Les Forges d'A**	**0.50**	**251**	Pg	Pg	00 59 29.2	-0.6
FDAF				Lg		00 59 36.0	
MELF	**Melles**	**0.52**	**102**	Pg	Pg	00 59 29.4	-0.6
MELF				Lg		00 59 36.1	
ATE	**Arette**	**0.58**	**281**	Pg	Pg	00 59 30.7	-0.5
ATE				Sg	Sg	00 59 38.5	-0.3
ATE	**Arette**	**0.58**	**281**	Pg	Pg	00 59 30.8	-0.4
ATE				Lg		00 59 38.6	
EGRA	**Graus**	**0.81**	**167**	Pg	Pg	00 59 35.4	-0.2
	0.5nm,0.2s,SNR=7.9						
EGRA				Lg		00 59 44.9	
	SNR=7.9						
SALF	**Salau**	**0.85**	**105**	Pg	Pg	00 59 35.6	-0.8
SALF				Sg	Sg	00 59 47.0	-0.4
SALF	**Salau**	**0.85**	**105**	Pg	Pg	00 59 35.6	-0.8
SALF				Lg		00 59 47.1	
SJPF	**Ste Jean**	**0.96**	**278**	*e*Pg	Pg	00 59 37.6	-0.9
SJPF				*e*Sg	Sg	00 59 50.1	-0.9
	2.7nm,0.3s						
SJPF	**Ste Jean**	**0.96**	**278**	Pg	Pg	00 59 37.6	-0.9
SJPF				Lg		00 59 50.1	
	1.4nm,0.3s						
EALK	**Alkurruntz**	**1.18**	**282**	Pg	Pg	00 59 42.4	-0.3
	0.1nm,0.1s,SNR=7.9						
EALK				Lg		00 59 58.9	
	9.5nm,0.5s,SNR=7.9						
CORG	**Organya**	**1.19**	**129**	Pg	Pg	00 59 42.1	-0.7
CORG				Lg		00 59 59.0	
	0.9nm,0.2s						
ELIZ	**Elizondo**	**1.19**	**279**	Pg	Pg	00 59 43.7	+0.8
	SNR=7.9						
ELIZ				Lg		00 59 58.2	
	SNR=7.9						
IUSE	**Utxeti**	**1.19**	**269**	Lg		00 59 59.6	
	0.4nm,0.1s,SNR=7.9						
CAVN	**Les Avellanes**	**1.21**	**155**	Pg	Pg	00 59 42.6	-0.6
CAVN				Lg		00 59 59.1	
	6.2nm,0.2s						
ESAC	**San Caprasio**	**1.32**	**198**	⇓Pg	Pg	00 59 45.7	+0.3
	0.1nm,0.0s,SNR=18						
ESAC				Lg		01 00 03.8	
	19nm,0.3s,SNR=5.9						
CLLI	**Llivia**	**1.49**	**109**	Pg	Pg	00 59 48.1	-0.5
CLLI				Lg		01 00 07.8	
EMIR	**Miracle**	**1.51**	**134**	Pg	Pg	00 59 48.6	-0.5
	0.2nm,0.2s,SNR=7.9						
EMIR				Lg		01 00 09.5	
	0.7nm,0.1s,SNR=7.3						
MTLF	**Montolieu**	**1.61**	**76**	*e*Pg	Pg	00 59 49.9	-1.0
MTLF				*e*Sg	Sg	01 00 10.7	-1.1
	3.4nm,0.2s						
MTLF	**Montolieu**	**1.61**	**76**	Pg	Pg	00 59 49.9	-1.0
MTLF				Lg		01 00 10.7	
	1.7nm,0.2s						
EPOB	**Poblet**	**1.79**	**155**	Pg	Pg	00 59 53.2	-1.2
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		01 00 16.3	
	2.7nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.02**	**14**	*e*Pg	Pg	00 59 57.0	-1.7
LFF				*e*Sg	Sg	01 00 23.0	-1.8
	4.2nm,0.3s						
LFF	**La Frestale**	**2.02**	**14**	Pg	Pg	00 59 57.0	-1.7
LFF				Lg		01 00 23.0	
	2.1nm,0.3s						
ERTA	**Horta de San J**	**2.03**	**174**	Pg	Pg	00 59 57.6	-1.4
	0.3nm,0.2s,SNR=7.9						
ERTA				Lg		01 00 23.8	
	0.9nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.42**	**36**	*e*Pg	Pg	01 00 04.6	-1.8
CAF				*e*Sn	Sn	01 00 25.6	-4.0
CAF				*e*Sg	Sg	01 00 35.5	-2.2
	2.2nm,0.3s						
CAF	**Calviac**	**2.42**	**36**	Pg	Pg	01 00 04.6	-1.8
CAF				Sn	Sn	01 00 25.6	-4.0
CAF				Lg		01 00 35.5	
	1.1nm,0.3s						
RJF	**Les Rejaudoux**	**2.54**	**24**	*e*Pg	Pg	01 00 06.5	-2.3
RJF				*e*Sg	Sg	01 00 39.4	-2.4
	2.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.54**	**24**	Pg	Pg	01 00 06.5	-2.3
RJF				Lg		01 00 39.4	
	1.0nm,0.3s						
EMOS	**Mosqueruela**	**2.65**	**189**	Pg	Pg	01 00 08.5	-2.3
	0.1nm,0.1s,SNR=7.9						
EMOS				Lg		01 00 42.0	
	37nm,1.5s,SNR=7.9						
ETOR	**Torete**	**2.68**	**217**	Pn	Pn	01 00 04.1	+0.6
	SNR=4.0						
ETOR				Pg	Pg	01 00 09.7	-1.7
	SNR=7.9						
ETOR				Sn	Sn	01 00 36.4	+0.3
	SNR=7.9						
ETOR				Lg		01 00 45.6	
	0.7nm,0.4s,SNR=7.9						
LASF	**Ste Croix**	**2.96**	**67**	*e*Sg	Sg	01 00 52.7	-2.5
	2.0nm,0.3s						
LASF	**Ste Croix**	**2.96**	**67**	Lg		01 00 52.7	
	1.0nm,0.3s						
MFF	**Saint Martin d**	**3.62**	**358**	*e*Pg	Pg	01 00 26.6	-2.9
BGF	**Bois d'Agland**	**4.08**	**28**	*e*Sg	Sg	01 01 27.7	-3.5
	2.3nm,0.3s						
BGF	**Bois d'Agland**	**4.08**	**28**	Lg		01 01 27.7	
	1.1nm,0.3s						

*ISCJB **04** 01:14:16.5±0.8, 5145N±004×16.12E±004, h0km, Error ellipse: s-maj=6.0km s-min=3.5km az=43.8*
*NEIC **04** 01:14:17.9±1.8, 5147N×1614E, h5km, ML2.6(SZGRF), Error ellipse: s-maj=18.5km s-min=6.6km az=202.0*
*IPEC **04** 01:14:18.6±0.6, 5144N×1639E, h0km, ML1.7/3, Error ellipse: s-maj=10.5km s-min=2.5km az=107.0*
*WAR **04** 01:14:19.2, 5145N×1617E, ML2.3, Mining Induced*
*PRU **04** 01:14:19.7, 5136N×1616E, h0km*
*CSEM **04** 01:14:19.5±0.3, 5140N×1614E, h0km, ML3.0/4, Error ellipse: s-maj=4.8km s-min=2.0km az=12.0*

ISC 04 01:14:17.7±0.8, 5144N±004×1618E±004, h0km, n19, σ1°00/37, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**173**	*i* Pgd	**Pg**	**01 14 30.3**	**+1.1**
KSP				*e*Sg	**Sg**	**01 14 38.3**	**+1.3**
KSP	**Ksiaz**	**0.60**	**173**	⇓*i*Pg	**Pg**	**01 14 30.3**	**+1.1**
KSP				*e*Sg	**Sg**	**01 14 37.9**	**+0.9**
UPC	**Upice**	**0.94**	**186**	*e*PG	**Pg**	**01 14 36.4**	**+0.7**
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*PG	**Pg**	**01 14 39.1**	**+0.4**
DPC				*e*SG	**Sg**	**01 14 53.5**	**+0.6**
	17nm,0.5s						
PVCC	**Panska Ves**	**1.37**	**229**	*e*PG	**Pg**	**01 14 44.7**	**+0.8**
PVCC				*e*SG	**Sg**	**01 15 01.9**	**+0.3**
	40nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**249**	Pg	**Pg**	**01 14 47.0**	**+0.3**
BRG				Sg	**Sg**	**01 15 07.4**	**+1.0**
BRG	**Berggiesshubel**	**1.52**	**249**	Pg	**Pg**	**01 14 47.0**	**+0.2**
BRG				Sg	**Sg**	**01 15 07.4**	**+1.0**
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pg**	**01 14 51.1**	**-0.8**
PRU				*e*SG	**Sg**	**01 15 15.0**	**-0.1**
	17nm,0.3s						
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	**Pn**	**01 14 50.9**	**-0.1**
MORC				*e*Sn	**Sn**	**01 15 15.9**	**+0.5**
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	**Pn**	**01 14 50.9**	**-0.1**
MORC				*e*Sg	**Sg**	**01 15 15.0**	**-3.0**
MORC				*e*Sn	**Sn**	**01 15 15.9**	**+0.5**
CLL	**Collm**	**1.99**	**267**	*e*Pg	**Pg**	**01 14 55.0**	**-0.9**
CLL				*e*Sg	**Sg**	**01 15 22.0**	**+0.2**
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*PG	**Pg**	**01 14 57.7**	**+1.0**
OKC				*e*SG	**Sg**	**01 15 23.4**	**+0.3**
VRAC	**Vranov**	**2.15**	**173**	*e*Pn	**Pn**	**01 14 55.9**	**+1.1**
VRAC				*e*Sg	**Sg**	**01 15 23.5**	**-3.3**
TREC	**Trest**	**2.19**	**192**	*e*PG	**Pg**	**01 14 57.7**	**-2.0**
KRUC	**Moravsky**	**2.38**	**177**	*e*Sg	**Sg**	**01 15 33.1**	**-1.2**
	2.9nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**244**	*e*SG	**Sg**	**01 15 42.4**	**-0.6**
	15nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	**Pn**	**01 15 05.1**	**+0.7**
KHC				*e*PG	**Pg**	**01 15 10.8**	**-1.5**
KHC				*e*SN	**Sn**	**01 15 39.0**	**-0.4**
KHC				*e*SG	**Sg**	**01 15 48.0**	**-1.3**
MOX	**Moxa**	**2.99**	**256**	*e*PG	**Pg**	**01 15 15.5**	**+0.6**
MOX				*e*SG	**Sg**	**01 15 54.8**	**+1.1**
BSD	**Bornholm Skovb**	**3.76**	**349**	*i* P	**Pn**	**01 15 15.4**	**-1.5**
BSD				*i* S	**Sn**	**01 15 56.6**	**-5.2**

*ISCJB **04** 01:43:06.7±1.9, 4183N±007×2287E±008, h5km, Error ellipse: s-maj=12.1km s-min=6.6km az=66.4*
*SKO **04** 01:43:06.5, 4186N×2287E, h8km, M1.4, ML1.9*
*CSEM **04** 01:43:08.6±0.3, 4178N×2277E, h5km, ML1.9, Error ellipse: s-maj=5.4km s-min=2.7km az=31.0*
*THE **04** 01:43:09.3, 4174N×2285E, h5km, ML1.9*

ISC 04 01:43:07.1±2.1, 4184N±008×2286E±009, h5km, n7, σ0°26/14, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.53**	**254**	*e*Pg	**Pg**	**01 43 17.2**	**0.0**
STIP				*e*Sg	**Sg**	**01 43 24.1**	**0.0**
STIP				*e*Lg		01 43 24.4	
	comp=E,3.0nm,0.2s						
STIP				*e*Lg		01 43 24.4	
VAY	**Valandovo**	**0.57**	**203**	*e*Pg	**Pg**	**01 43 18.1**	**+0.1**
VAY				*e*Sg	**Sg**	**01 43 25.2**	**-0.2**
VAY	**Valandovo**	**0.57**	**203**	*e*Pg	**Pg**	**01 43 18.2**	**+0.2**
VAY				*e*Sg	**Sg**	**01 43 25.9**	**+0.6**
VAY				*e*Lg		01 43 26.2	
	comp=E,21nm,0.2s						
VAY				*e*Lg		01 43 26.2	
	comp=N,32nm,0.2s						
VAY	**Valandovo**	**0.57**	**203**	*e*Pg	**Pg**	**01 43 18.1**	**+0.1**
VAY				*e*Sg	**Sg**	**01 43 25.9**	**+0.5**
KNT	**Kendrikon**	**0.68**	**178**	*e*Pg	**Pg**	**01 43 20.2**	**+0.1**
KNT				*e*Sg	**Sg**	**01 43 28.5**	**-0.6**
GRG	**Griva**	**0.95**	**202**	*e*Pg	**Pg**	**01 43 25.2**	**-0.2**
GRG				*e*Sg	**Sg**	**01 43 37.7**	**0.0**
SOH	**Sokhos**	**1.09**	**160**	*e*Pg	**Pg**	**01 43 27.9**	**0.0**
SOH				*e*Sg	**Sg**	**01 43 42.3**	**+0.3**

*HLW **04** 01:44:27.4, 3528N×3275E, h33km, Mb3.4*
*CSEM **04** 01:44:28.8±0.1, 3510N×3268E, h60km, Mw3.1, Error ellipse: s-maj=1.9km s-min=1.6km az=177.0*
*NEIC **04** 01:44:29.0, 3514N×3272E, h68km, MD3.4(ISK), After ISK.*
*ISCJB **04** 01:44:29.4±0.3, 3504N±002×3275E±003, h68km±5km, mb3.4/1, Error ellipse: s-maj=4.3km s-min=3.4km az=88.8*
*ISK **04** 01:44:29.9, 3516N×3272E, h73km, MD3.4*
*IDC **04** 01:44:31.0±1.6, 3491N×3272E, h78km±34km, mb3.4/1, mb1 3.4/6, mb1mx3.1/22, mbtmp3.5/6, MS3.7/1, Ms1 3.7/1, ms1mx2.2/22, Error ellipse: s-maj=36.0km s-min=14.5km az=39.0*
*NIC **04** 01:44:31.6±0.2, 3513N×3281E, h50km, ML3.2, MW3.1*
*GRAL **04** 01:44:33.4±0.6, 3501N×3282E, h34km±23km, MD3.4*
*NSSC **04** 01:44:34.0, 3505N×3318E, h15km±19km*

ISC 04 01:44:31.0±0.3, 3506N±002×3277E±003, h58km±5km, n70, σ0°88/93, mb3.4/1, MS3.8/1, 6C-14D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.17**	**305**	⇓P	**Pn**	**01 44 39.9**	**-0.1**
	70nm,0.1s						
ALFC				S	**Sn**	**01 44 46.4**	**-0.2**
ALFC	**Alevga**	**0.17**	**305**	*i* Pg	**Pn**	**01 44 39.9**	**-0.1**
ALFC				S	**Sn**	**01 44 46.4**	**-0.2**
MAMC	**Mammari**	**0.39**	**73**	*i* Pg	**Pn**	**01 44 41.6**	**0.0**
PPCY	**Paphos**	**0.39**	**243**	*i* Pg	**Pn**	**01 44 42.2**	**+0.6**
CSS	**Prodhromos**	**0.47**	**102**	P	**Pn**	**01 44 42.1**	**-0.4**
	28nm,0.2s						
CSS				S	**Sn**	**01 44 50.8**	**0.0**
CSS	**Prodhromos**	**0.47**	**102**	Pg	**Pn**	**01 44 41.9**	**-0.6**
CSS				Sg	**Sn**	**01 44 48.7**	**-2.1**
CSS	**Prodhromos**	**0.47**	**102**	*e*Pn	**Pn**	**01 44 41.5**	**-0.9**
CSS				*e*Sn	**Sn**	**01 44 49.4**	**-1.4**
CSS	**Prodhromos**	**0.47**	**102**	*e*Pn	**Pn**	**01 44 41.5**	**-1.0**
CSS	**Prodhromos**	**0.47**	**102**	*i* Pg	**Pn**	**01 44 42.1**	**-0.4**
CSS				*e*Sn	**Sn**	**01 44 49.4**	**-1.4**
PHNC	**Paralimni**	**1.04**	**93**	Sg	**Sn**	**01 45 05

ASF	**Jabal al Asfar**	**4.49**	**129**	P	**Pn**	**01 45 37.6**	**+1.1**
	1.2nm,0.3s,baz=184,slow=8.4,SNR=16						
ASF				S	**Sn**	**01 46 27.8**	**+0.5**
	1.5nm,0.3s,baz=113,slow=17,SNR=8.6						
DAT	**Datca**	**4.53**	**293**	*e*PN	**Pn**	**01 45 36.7**	**-0.3**
BRTR	**Keskin Array B**	**4.71**	**8**	P	**Pn**	**01 45 41.2**	**+1.8**
	0.1nm,0.3s,baz=191,slow=15,SNR=3.4						
BRTR	**Keskin Array B**	**4.71**	**8**	P	**Pn**	**01 45 41.2**	**+1.8**
BODT	**Bodrum**	**4.85**	**296**	*e*PN	**Pn**	**01 45 41.1**	**-0.3**
PRNI	**Paran**	**5.06**	**158**	Pn	**Pn**	**01 45 44.8**	**+0.5**
KOT	**Kottamia**	**5.18**	**189**	⇑P	**Pn**	**01 45 46.4**	**+0.6**
KOT				S	**Sn**	**01 46 43.4**	**-0.8**
SUZ		**5.20**	**179**	⇑P	**Pn**	**01 45 46.5**	**+0.3**
HNKL	**Nakhl**	**5.22**	**168**	⇑P	**Pn**	**01 45 46.2**	**-0.2**
HNKL				S	**Sn**	**01 46 44.2**	**-1.0**
BLCB	**Balcova**	**5.67**	**307**	*e*PN	**Pn**	**01 45 52.0**	**-0.6**
EIL	**Elat**	**5.68**	**160**	Pn	**Pn**	**01 45 53.4**	**+0.6**
IDI	**Anoyia**	**6.46**	**274**	P	**Pn**	**01 46 02.7**	**-0.7**
	0.9nm,0.3s,baz=0.3,slow=20,SNR=33						
TR2		**6.70**	**173**	⇑P	**Pn**	**01 46 06.5**	**-0.2**
TR1		**7.10**	**172**	P	**Pn**	**01 46 13.3**	**+1.0**
AWBH		**7.48**	**207**	P	**Pn**	**01 46 17.5**	**+0.1**
SWA1		**8.32**	**228**	P	**Pn**	**01 46 28.4**	**-0.5**
SWA2		**8.49**	**229**	⇑P	**Pn**	**01 46 30.4**	**-0.7**
AKASG	**Malin Array Be**	**15.84**	**352**	P	**Pn**	**01 48 13.0**	**+2.8**
	0.6nm,0.3s,baz=172,slow=10,SNR=4.5						
GERES	**GERESS Array B**	**19.69**	**320**	P	**Pn**	**01 48 55.3**	**-2.0**
	0.1nm,0.3s,baz=121,slow=9.5,SNR=3.5						
FINES	**FINESS Array B**	**26.75**	**353**	P	**P**	**01 50 03.6**	**-1.4**
	0.4nm,0.3s,mb3.4,baz=162,slow=12,SNR=6.3						
MATP	**Matopo**	**55.33**	**185**	LR	LR	02 19 19.4	
	comp=Z,68nm,18.7s,MS3.8,baz=234,slow=38						

ISCJB ***04*** *01:59:12.2±0.3, 4509N±002×640E±003, h10km±5km, Error ellipse: s-maj=4.0km s-min=2.4km az=128.7*
LDG ***04*** *01:59:14.0±0.1, 4509N×652E, h2km, Md2.3/2, Ml2.1/11, Error ellipse: s-maj=1.8km s-min=1.1km az=68.0*
STR ***04*** *01:59:14.2±1.1, 4509N×649E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 04 01:59:13.5±0.3,**4509N**±002×**646E**±003,**h12**km±5km,**n23,**
σ0°75/43,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	**Grand'Maison**	**0.27**	**295**	Pg	**Pg**	**01 59 19.3**	**+0.3**
MBDF	**Montbardon**	**0.43**	**148**	*e*Pg	**Pg**	**01 59 21.2**	**-0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**01 59 26.8**	**-0.8**
	17nm,0.3s						
OG22	**Abries**	**0.44**	**128**	Pg	**Pg**	**01 59 21.7**	**-0.4**
OG22				Sg	**Sg**	**01 59 27.5**	**-0.4**
ORIF	**Oris-en-Rattie**	**0.45**	**248**	*e*Pg	**Pg**	**01 59 22.7**	**+0.5**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**01 59 28.8**	**+0.6**
	23nm,0.3s						
LPG	**La Plagne**	**0.46**	**27**	*e*Pg	**Pg**	**01 59 22.4**	**-0.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**01 59 29.4**	**+0.8**
	14nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**0.47**	**24**	*e*Pg	**Pg**	**01 59 22.5**	**-0.2**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**01 59 29.5**	**+0.6**
	13nm,0.2s,SNR=1.0						
SURF	**Saint Ours**	**0.66**	**157**	Pg	**Pg**	**01 59 25.9**	**-0.4**
SURF				Sg	**Sg**	**01 59 34.8**	**-0.2**
SMRF	**Simiane la Rot**	**1.28**	**210**	*e*Pg	**Pg**	**01 59 38.4**	**+0.3**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**01 59 55.2**	**+0.5**
	4.8nm,0.4s						
VIVF	**Saint-Julien-l**	**1.29**	**260**	*e*Pg	**Pg**	**01 59 39.4**	**+1.2**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**01 59 56.2**	**+1.2**
	6.4nm,0.4s,SNR=1.0						
AUTN	**L'Aution**	**1.29**	**147**	Pg	**Pg**	**01 59 40.8**	**+2.4**
LUCF	**Luceram**	**1.35**	**152**	Pg	**Pg**	**01 59 41.9**	**+2.4**
LUCF				Sg	**Sg**	**01 59 58.1**	**+1.0**
SBF	**Sospel**	**1.41**	**150**	*e*Pg	**Pg**	**01 59 40.3**	**-0.3**
SBF				*e*Sg	**Sg**	**01 59 58.3**	**-0.6**
	6.3nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**1.54**	**175**	*e*Pg	**Pg**	**01 59 42.9**	**0.0**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**02 00 02.6**	**-0.3**
	3.8nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.54**	**350**	*e*Pn	**Pn**	**01 59 41.2**	**+0.5**
	SNR=1.0						
CABF	**La Chapelle**	**1.54**	**350**	*e*Pg	**Pg**	**01 59 43.2**	**+0.1**
CABF				*e*Sn	**Sn**	**02 00 00.8**	**+0.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**02 00 03.4**	**+0.3**
	3.7nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**1.76**	**179**	*e*Pg	**Pg**	**01 59 46.0**	**-1.2**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**02 00 05.2**	**-0.7**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**02 00 09.4**	**-0.5**
	2.2nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.40**	**311**	*e*Pg	**Pg**	**01 59 59.5**	**0.0**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**02 00 29.7**	**-0.9**
	1.3nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.75**	**309**	*e*Pg	**Pg**	**02 00 05.6**	**-0.7**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**02 00 41.8**	**-0.2**
	1.1nm,0.3s,SNR=1.0						
LOR	**Lormes**	**2.83**	**321**	*e*Pg	**Pg**	**02 00 07.0**	**-0.7**
LOR				*e*Sg	**Sg**	**02 00 44.3**	**-0.1**
	0.9nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.85**	**315**	*e*Pg	**Pg**	**02 00 07.4**	**-0.6**
SSF				*e*Sg	**Sg**	**02 00 44.7**	**-0.3**
	0.7nm,0.3s						
BGF	**Bois d'Agland**	**2.92**	**301**	*e*Pn	**Pn**	**02 00 00.4**	**+0.7**
	SNR=1.0						
BGF	**Bois d'Agland**	**2.92**	**301**	*e*Pg	**Pg**	**02 00 08.2**	**-1.2**
BGF				*e*Sg	**Sg**	**02 00 46.3**	**-1.0**
	4.7nm,0.4s,SNR=1.0						
GRR	**Gorron**	**6.01**	**306**	*e*Pn	**Pn**	**02 00 42.6**	**+0.4**
	SNR=1.0						

NIED ***04*** *02:11:00, 3770N×13450E, h460km, Mw4.2 Best double couple: M0=2.37000×10^15 NP1:φ=194.00000°, δ78.00000°, λ124.00000°. NP2:φ=301.00000°, δ36.00000°, λ20.00000°.*
BJI ***04*** *02:11:35.7, 3767N×13465E, h399km, mB4.7, mb4.5*
ISCJB ***04*** *02:11:38.6±0.2, 3777N±005×13442E±005, h406km±4km, mb3.9/28, Error ellipse: s-maj=8.3km s-min=6.4km az=135.7*
IDC ***04*** *02:11:38.5±1.4, 3775N×13431E, h385km±14km, mb3.4/13, mb1 3.6/15, mb1mx3.4/23, mbtmp4.2/15, Error ellipse: s-maj=14.6km s-min=12.6km az=61.0*
MOS ***04*** *02:11:38.3±1.0, 3772N×13441E, h409km, mb3.9/10, Error ellipse: s-maj=16.7km s-min=10.2km az=128.5*
JMA ***04*** *02:11:38.4±0.2, 3769N×13447E, h417km±2km, M4.2*
NEIC ***04*** *02:11:39.6±0.4, 3771N×13435E, h400km±5km, mb4.1/17, Error ellipse: s-maj=11.5km s-min=6.8km az=180.0*
ISC 04 02:11:39.5±0.2,**3774N**±006×**13443E**±005,**h401**km±4km,
n74,σ0°81/82,**mb3.9**/28,**1D,Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAI	**Saigo**	**1.77**	**210**	P	**Pn**	**02 12 34.5**	**+0.4**
SAI				S	**S**	**02 13 18.9**	**+0.6**
JHG	**Hegura jima**	**1.98**	**86**	P	**Pn**	**02 12 35.8**	**+0.4**
JKG	**Kaga**	**2.11**	**133**	P	**Pn**	**02 12 36.6**	**+0.4**
JKG				S	**S**	**02 13 22.2**	**+0.1**
JSZ	**Suzu**	**2.35**	**96**	P	**Pn**	**02 12 38.4**	**+0.6**
JWT	**Wachi**	**2.58**	**162**	P	**Pn**	**02 12 39.9**	**+0.4**
JWT				S	**S**	**02 13 27.1**	**-0.8**
JGM	**Miyama**	**2.75**	**137**	P	**Pn**	**02 12 40.7**	**0.0**
JGM				S	**S**	**02 13 30.5**	**+0.2**
JHS	**Saijyo**	**2.94**	**201**	P	**Pn**	**02 12 42.4**	**+0.2**
JSD	**Sado**	**3.05**	**83**	P	**Pn**	**02 12 43.2**	**+0.1**
JGT	**Gotsu**	**3.19**	**213**	P	**Pn**	**02 12 44.5**	**+0.2**
MAJO	**Matsushiro**	**3.25**	**110**	*e*P	**Pn**	**02 12 44.8**	**0.0**
MAT	**Matsushiro**	**3.25**	**110**	P	**Pn**	**02 12 44.8**	**0.0**
MAT	**Matsushiro**	**3.25**	**110**	*e*P	**Pn**	**02 12 45.0**	**+0.2**
MJAR	**Matsushiro Arr**	**3.25**	**110**	P	**Pn**	**02 12 45.3**	**+0.5**
	19nm,0.3s,baz=290,slow=10,SNR=332						
JIE	**Ise**	**3.82**	**150**	P	**Pn**	**02 12 50.3**	**+0.4**
JRY	**Ryogami san**	**3.98**	**114**	P	**Pn**	**02 12 51.4**	**0.0**
JWZ	**Kozaga**	**4.33**	**166**	P	**Pn**	**02 12 54.6**	**-0.2**
JOD2	**Odawara 2**	**4.50**	**122**	P	**Pn**	**02 12 55.9**	**-0.5**
JOD2				S	**S**	**02 13 58.0**	**-0.9**
KS15	**Wonju Array Si**	**5.20**	**269**	*e*Pn	**Pn**	**02 13 03.8**	**+0.2**
JMK	**Ichinoseki**	**5.48**	**75**	P	**Pn**	**02 13 06.0**	**-0.5**
VLA	**Vladivostok**	**5.71**	**341**	*i* P	**Pn**	**02 13 09.5**	**+0.5**
VLA				pmax	pmax		
	comp=Z,54nm,1.0s						
BSO1	**Boso 1**	**6.13**	**118**	P	**Pn**	**02 13 11.7**	**-1.8**
JOT	**Ohata**	**6.28**	**53**	P	**Pn**	**02 13 15.1**	**0.0**
ASAJ	**Asahikawa**	**8.87**	**42**	P	**P**	**02 13 43.3**	**-1.2**
	comp=Z,16nm,0.3s,baz=236,slow=11,SNR=88						
ASAJ				S	**S**	**02 15 22.4**	**-4.7**
	comp=Z,3.4nm,0.3s,baz=324,slow=33,SNR=9.4						
ASAJ	**Asahikawa**	**8.87**	**42**	P	**P**	**02 13 43.3**	**-1.2**
ASAJ				S	**S**	**02 15 22.4**	**-4.6**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
CN2	**Changchun**	**9.11**	**314**	*e*P	**P**	**02 13 47.5**	**+0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
BJT	**Baijiatuau**	**14.40**	**285**	*e*P	**P**	**02 14 45.3**	**-0.1**
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	**Baijiatuau**	**14.40**	**285**	*e*P	**P**	**02 14 45.3**	**-0.1**
	comp=Z,12nm,0.6s						
XAN	**Xi'an**	**20.97**	**268**	P	**P**	**02 15 51.5**	**-1.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.5s						
ULN	**Ulaanbaatar**	**22.38**	**306**	*e*P	**P**	**02 16 05.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**22.38**	**306**	*e*P	**P**	**02 16 05.7**	**+0.3**
	comp=Z,3.9nm,0.6s,mb4.0						
SONM	**Songino Array**	**22.80**	**305**	P	**P**	**02 16 09.3**	**+0.1**
	comp=Z,2.8nm,0.5s,mb4.0,baz=114,slow=8.8,SNR=21						
GYA	**Guiyang**	**25.98**	**252**	⇓*i* P	**P**	**02 16 36.8**	**-0.9**
GYA				S	**S**	**02 20 38.2**	**-0.1**
GYA				AMB	AMB		
	comp=Z,120nm,3.5s						
GYA				LR	LR		
	comp=N,640nm,14.8s						
GYA				LR	LR		
	comp=E,540nm,14.6s						
GYA				LR	LR		
	comp=Z,510nm,15.0s						
GTA	**Gaotai**	**27.02**	**284**	*e*P	**P**	**02 16 47.0**	**+0.1**
MKAR	**Makanchi Array**	**38.99**	**300**	P	**P**	**02 18 28.4**	**-0.7**
	comp=Z,1.2nm,0.5s,mb3.5,baz=86,slow=11,SNR=11						
KURK	**Kurchatov**	**41.08**	**307**	*e*P	**P**	**02 18 45.3**	**-0.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
KURK	**Kurchatov**	**41.08**	**307**	*e*P	**P**	**02 18 45.3**	**-0.7**
	comp=Z,7.2nm,0.7s,mb4.1						
JIRN	**Jiri**	**41.42**	**271**	*e*P	**P**	**02 18 50.8**	**+2.0**
	comp=Z,9.6nm,0.3s,mb4.7						
GUN	**Gumba**	**41.56**	**271**	*e*P	**P**	**02 18 50.9**	**+1.0**
	comp=Z,22nm,0.3s,mb5.0						
PKI	**Pulchoki**	**42.08**	**271**	*e*P	**P**	**02 18 55.3**	**+1.2**
	comp=Z,11nm,0.7s,mb4.3						
PKI	**Pulchoki**	**42.08**	**271**	*e*P	**P**	**02 18 55.3**	**+1.2**
PKI				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.3						
KKN	**Kakani**	**42.09**	**271**	*e*P	**P**	**02 18 54.6**	**+0.5**
	comp=Z,17nm,0.5s,mb4.6						
KKN	**Kakani**	**42.09**	**271**	*e*P	**P**	**02 18 54.6**	**+0.5**
KKN				pmax	pmax		
	comp=Z,17nm,0.5s,mb4.6						
DMN	**Daman**	**42.31**	**271**	*e*P	**P**	**02 18 56.7**	**+0.9**
	comp=Z,5.0nm,0.3s,mb4.3						
GKN	**Gorkha**	**42.50**	**272**	*e*P	**P**	**02 18 57.1**	**-0.3**
	comp=Z,23nm,0.4s,mb4.9						
KOLN	**Koldanda**	**43.43**	**272**	*e*P	**P**	**02 19 03.3**	**-1.4**
AAK	**Ala-Archa**	**45.21**	**296**	*e*P	**P**	**02 19 17.9**	**-0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
AAK	**Ala-Archa**	**45.21**	**296**	*e*P	**P**	**02 19 17.9**	**-0.7**
	comp=Z,1.9nm,0.4s,mb3.8						
CHKZ	**Chkalovo**	**45.73**	**312**	*e*P	**P**	**02 19 21.3**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
CHKZ	**Chkalovo**	**45.73**	**312**	*e*P	**P**	**02 19 21.3**	**-1.3**
	comp=Z,2.3nm,0.5s,mb3.8						
ZRNK	**Zerenda**	**46.78**	**311**	*e*P	**P**	**02 19 29.9**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
ZRNK	**Zerenda**	**46.78**	**311**	*e*P	**P**	**02 19 29.9**	**-0.8**
	comp=Z,2.4nm,0.5s,mb3.8						
KDAK	**Kodiak Island**	**50.29**	**42**	P	**P**	**02 19 57.2**	**+0.2**
	comp=Z,3.9nm,1.0s,mb3.7,baz=240,slow=8.9,SNR=4.3						
COLA	**College**	**51.45**	**32**	*e*P	**P**	**02 20 06.8**	**+1.2**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.6						
COLA	**College**	**51.45**	**32**	*e*P	**P**	**02 20 06.8**	**+1.2**
	comp=Z,2.1nm,0.5s,mb3.6						
ARU	**Arti**	**52.09**	**317**	*e*P	**P**	**02 20 09.5**	**-0.8**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.6						
ARU	**Arti**	**52.09**	**317**	*e*P	**P**	**02 20 09.5**	**-0.8**
	comp=Z,1.9nm,0.5s,mb3.6						
INK	**Inuvik**	**56.27**	**27**	P	**P**	**02 20 40.7**	**+0.7**
	comp=Z,1.3nm,0.3s,mb3.7,baz=283,slow=13,SNR=11						
INK	**Inuvik**	**56.27**	**27**	P	**P**	**02 20 40.7**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**56.27**	**27**	*e*P	**P**	**02 20 40.3**	**+0.3**
	comp=Z,1.4nm,0.4s,mb3.6						
WRAB	**Tennant Creek**	**57.37**	**180**	*e*P	**P**	**02 20 46.9**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**57.37**	**180**	*e*P	**P**	**02 20 46.9**	**-0.7**
	comp=Z,5.9nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**57.38**	**180**	P	**P**	**02 20 47.4**	**-0.3**
	comp=Z,2.9nm,0.4s,mb4.0,baz=356,slow=7.7,SNR=8.4						
WRA				S	**S**	**02 28 15.2**	**+2.7**
	comp=Z,1.3nm,0.6s,baz=11,slow=22,SNR=6.1						
ARCES	**ARCESS Array B**	**61.30**	**338**	P	**P**	**02 21 14.0**	**-0.2**
	comp=Z,2.2nm,0.9s,mb3.6,baz=59,slow=7.2,SNR=7.0						
ARCES	**ARCESS Array B**	**61.30**	**338**	P	**P**	**02 21 14.0**	**-0.2**
KAF	**Kangasniemi**	**65.04**	**330**	*e*p	**P**	**02 21 35.8**	**-2.6**
	comp=Z,0.7nm,0.3s,mb3.8						
KAF	**Kangasniemi**	**65.04**	**330**	*e*P	**P**	**02 21 35.8**	**-2.6**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
FINES	**FINESS Array B**	**65.50**	**330**	P	**P**	**02 21 41.0**	**-0.3**
	comp=Z,0.7nm,0.4s,mb3.6,baz=73,slow=6.5,SNR=16						
AKASG	**Malin Array Be**	**70.23**	**319**	P	**P**	**02 22 10.2**	**-0.3**
	comp=Z,0.8nm,0.4s,mb3.6,baz=51,slow=6.0,SNR=9.3						
NOA	**NORSAR Array B**	**71.27**	**335**	P	**P**	**02 22 16.3**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.1,baz=44,slow=5.8,SNR=2.5						
NVAR	**Mina Array Bea**	**78.91**	**50**	P	**P**	**02 23 02.0**	**+2.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=306,slow=4.4,SNR=6.5						
PDAR	**Pinedale Array**	**81.01**	**42**	P	**P**	**02 23 11.9**	**+1.1**
	comp=Z,1.0nm,0.7s,mb3.7,baz=332,slow=0.8,SNR=7.5						
ULM	**Lac du Bonnet**	**81.82**	**30**	P	**P**	**02 23 15.7**	**+0.6**
	comp=Z,1.2nm,0.4s,mb4.0,baz=345,slow=4.8,SNR=4.5						
SCHQ	**Schefferville**	**86.00**	**12**	P	**P**	**02 23 36.9**	**+1.0**
	comp=Z,1.7nm,0.7s,mb3.9,baz=290,slow=1.5,SNR=5.2						
LPAZ	**La Paz**	**150.81**	**49**	PKPbc	PKPbc	02 30 46.8	+1.6
	comp=Z,0.7nm,0.4s,baz=19,slow=13,SNR=6.7						

IDC ***04*** *02:24:11.6±0.5, 3071N×9907E, h0km, mb4.5/23, mb1 4.6/24, mb1mx4.5/27, mbtmp4.5/24, ML4.0/1, MS4.0/14, Ms1 4.0/14, ms1mx3.7/36, Error ellipse: s-maj=18.4km s-min=11.4km az=47.0*
MOS ***04*** *02:24:15.3±0.9, 3076N×9900E, h33km, mb4.9/83, MS4.1/14, Error ellipse: s-maj=6.7km s-min=4.0km az=123.1*
ISCJB ***04*** *02:24:15.7±0.1, 3074N±002×9894E±002, h36km, mb4.7/118, MS4.1/30, Error ellipse: s-maj=3.3km s-min=2.5km az=2.9*
BJI ***04*** *02:24:16.3, 3074N×9904E, h43km, mB4.8, mb4.7, ML4.6, Ms4.8, Msz4.4*
SZGRF ***04*** *02:24:17.6, 31.17N×9961E, h33km, mb5.1, Sichuan, China*
NEIC ***04*** *02:24:18.0±0.2, 3073N×9894E, mb4.7/79, Error ellipse: s-maj=4.6km s-min=3.9km az=210.0*
HRVD ***04*** *02:24:18.0±0.5, 3077N×9926E, h28km±1km, MW4.9/58, Centroid moment Tensor Solution. LP body waves: s8,c9;Mantle waves: s58,c88; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.99±.21; Mθθ2.70±.14; Mφφ-1.72±.12; Mrθ-0.38±.21; Mθφ-0.65±.10; Mφr-0.47±.21; Best double couple: M0=2.44200×10^16 NP1:φ=321.00000°, δ68.00000°, λ-16.00000°. NP2:φ=57.00000°, δ75.00000°, λ-158.00000°. Principal axes: T 2.8170, Plg5.0000°, Azm188.0000°; N -0.7580, Plg63.0000°, Azm88.0000°; P -2.0670, Plg26.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 04 02:24:17.7±0.2,**3072N**±002×**9897E**±002,**h38**km,
h38km±2.6km:**pP-P,n366,**σ1°**07**/373,**mb4.7**/118,**MS4.1**/30,
13C-23D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.12**	**86**	P	**Pn**	**02 25 17.7**	**-0.4**
CD2				S	**Sn**	**02 26 03.2**	**-1.9**
CD2				Smax			
	comp=N,1μm,1.2s						
CD2				Smax			
	comp=E,2μm,1.4s						
CD2				LR	LR		
	comp=N,11μm,7.9s						
CD2				LR	LR		
	comp=Z,8μm,10.2s						
KMI	**Kunming**	**6.50**	**148**	⇓P	**Pn**	**02 25 52.6**	**+1.9**
KMI				XP		02 26 05.2	
KMI				S	**Sn**	**02 27 08.5**	**+5.0**
KMI				AMB	AMB		
	comp=Z,50nm,0.9s						
KMI				AMB	AMB		
	comp=Z,70nm,3.1s						
KMI				LR	LR		
	comp=N,6μm,8.9s						
KMI				LR	LR		
	comp=E,10μm,10.5s						
KMI				LR	LR		
	comp=Z,3μm,8.0s						
LZH	**Lanzhou**	**6.73**	**36**	*e*P	**Pn**	**02 25 53.5**	**-0.4**
LZH				AP		02 26 01.8	
LZH				XP		02 26 07.8	
LZH				*e*S	**Sn**	**02 27 11.0**	**+1.8**
LZH				AMB	AMB		
	comp=Z,410nm,1.0s						
LZH				AMB	AMB		
	comp=Z,1μm,4.0s						
LZH				Smax			
	comp=N,590nm,0.9s						
LZH				Smax			
	comp=E,390nm,1.0s						
LZH				LR	LR		
	comp=Z,10μm,10.1s						
LSA	**Lhasa**	**6.84**	**263**	P	**Pn**	**02 26 00.2**	**+4.7**
LSA				LR	LR		
	comp=N,2μm,11.0s						
LSA				LR	LR		
	comp=E,2μm,7.1s						
LSA				LR	LR		
	comp=Z,3μm,7.1s						
LSA	**Lhasa**	**6.84**	**263**	*e*P	**Pn**	**02 25 57.9**	**+2.4**
LSA				pmax	pmax		
	comp=Z,51nm,0.6s						
LSA	**Lhasa**	**6.84**	**263**	*e*Pn	**Pn**	**02 25 57.9**	**+2.5**
	comp=Z,51nm,0.6s						
GYA	**Guiyang**	**7.99**	**120**	P	**Pn**	**02 26 10.2**	**-0.9**
GYA				S	**Sn**	**02 27 38.8**	**-1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
GYA				Smax			
	comp=N,1μm,1.4s						
GYA				Smax			
	comp=E,1μm,1.2s						
GYA				LR	LR		
	comp=N,6μm,12.6s						
GYA				LR	LR		
	comp=E,4μm,14.1s						
GYA				LR	LR		
	comp=Z,3μm,8.7s						
SHL	**Shillong**	**8.09**	**232**	*ex*	x	02 27 49.6	
GTA	**Gaotai**	**8.70**	**4**	*e*P	**Pn**	**02 26 21.2**	**+0.3**
GTA				AP		02 26 30.6	
GTA				XP		02 26 35.4	
GTA				S	**Sn**	**02 27 58.2**	**+0.5**
GTA				AMB	AMB		
	comp=Z,20nm,0.5s						
GTA				AMB	AMB		
	comp=Z,140nm,4.9s						
GTA				LR	LR		
	comp=N,2μm,9.1s						
GTA				LR	LR		
	comp=E,4μm,11.0s						
GTA				LR	LR		
	comp=Z,2μm,8.7s						
XAN	**Xi'an**	**9.04**	**66**	P	**Pn**	**02 26 27.6**	**+1.9**
XAN				LR	LR		
	comp=N,4μm,10.2s						
XAN				LR	LR		
	comp=E,1μm,9.3s						
XAN				LR	LR		
	comp=Z,2μm,11.0s						
JIRN	**Jiri**	**11.57**	**258**	*e*P	**Pn**	**02 27 00.5**	**+0.2**
	comp=Z,169nm,0.7s						
GUN	**Gumba**	**11.76**	**260**	*e*P	**Pn**	**02 27 02.3**	**-0.6**
	comp=Z,274nm,0.6s						
CHG	**Chiang Mai**	**11.85**	**180**	⇓P	**Pn**	**02 27 07.0**	**+2.9**
	comp=Z,30nm,1.2s						
CHTO	**Chiang Mai**	**11.85**	**180**	*e*P	**Pn**	**02 27 06.4**	**+2.3**
CHTO				pmax	pmax		
	comp=Z,23nm,0.9s						
CHTO	**Chiang Mai**	**11.85**	**180**	*e*Pn	**Pn**	**02 27 06.4**	**+2.3**
	comp=Z,23nm,0.9s						
PKI	**Pulchoki**	**12.26**	**259**	*e*P	**Pn**	**02 27 09.1**	**-0.6**
	comp=Z,305nm,0.6s						
PKI	**Pulchoki**	**12.26**	**259**	*e*P	**Pn**	**02 27 09.1**	**-0.6**
PKI				pmax	pmax		
	comp=Z,305nm,0.6s						
KKN	**Kakani**	**12.30**	**260**	*e*P	**Pn**	**02 27 09.3**	**-1.0**
	comp=Z,150nm,0.5s						
KKN	**Kakani**	**12.30**	**260**	*e*P	**Pn**	**02 27 09.3**	**-1.0**
KKN				pmax	pmax		
	comp=Z,150nm,0.

comp=E,1μm,10.0s
WMQ LR LR
comp=Z,630nm,17.0s
TIA Tai'an 16.10 65 *e*P **Pn 02 28 04.8 +3.6**
JOSI Joshimath 16.71 274 *ex* x 02 28 01.7
BJT Baijiatuau 16.80 52 *e*P **Pn 02 28 11.2 +1.3**
BJT pmax pmax
comp=Z,13nm,0.8s
BJT Baijiatuau 16.80 52 *e*P **Pn 02 28 11.2 +1.2**
comp=Z,14nm,0.8s
NJ2 Nanjing 17.04 80 *e*P **Pn 02 28 13.4 +0.5**
NJ2 AP pP 02 28 22.5 -1.5
NJ2 PP 02 28 27.5
NJ2 XP sP 02 28 28.1 -0.8
NJ2 S **S 02 31 20.0 -10**
NJ2 XS sS 02 31 33.0 -12
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
NJ2 AMB AMB
comp=Z,80nm,10.0s
NJ2 LR LR
comp=N,4μm,16.4s
NJ2 LR LR
comp=E,2μm,19.0s
NJ2 LR LR
comp=Z,970nm,14.0s
BLSP Bilaspur 17.32 244 *e*P **Pn 02 28 16.2 -0.3**
BLSP AMb AMB 02 28 19.8
comp=Z,41nm,1.1s
KLP Kalpa 17.76 278 *e*P **Pn 02 28 20.7 -1.2**
SONM Songino Array 18.02 16 P **Pn 02 28 23.2 -1.8**
comp=Z,0.5nm,0.3s,baz=204,slow=12,SNR=47
SONM LR LR 02 35 53.9
comp=Z,570nm,21.6s,baz=206,slow=39
ULN Ulaanbaatar 18.21 18*c i*P **Pn 02 28 25.7 -1.7**
ULN Ulaanbaatar 18.21 18 *e*P **Pn 02 28 25.9 -1.5**
comp=Z,52nm,1.1s
QZH Quanzhou 18.28 104⇓*i*P **Pn 02 28 30.3 +2.1**
QZH *e*S **S 02 31 49.8 -5.2**
QZH AMB AMB
comp=Z,80nm,0.9s
QZH LR LR
comp=N,1μm,8.6s
QZH LR LR
comp=E,880nm,5.8s
QZH LR LR
comp=Z,2μm,9.4s
SMLA Simla 18.71 277 *e*P **Pn 02 28 30.1 -3.4**
SMLA *e*P 02 28 30.3
AGRA Agra 18.72 265 *e*P **Pn 02 28 31.0 -2.5**
NDI New Delhi 19.00 269 *e*P **Pn 02 28 34.0 -3.0**
SSE Sheshan 19.07 83 *e*P **Pn 02 28 36.3 -1.5**
SSE AP pP 02 28 46.2 -0.2
SSE XP sP 02 28 51.6 +0.3
SSE PP 02 28 53.8
SSE S **S 02 32 08.7 -2.3**
SSE AMB AMB
comp=Z,40nm,0.7s
SSE LR LR
comp=N,2μm,15.9s
SSE LR LR
comp=E,620nm,15.9s
SSE LR LR
comp=Z,1μm,13.6s
AYAN Aya Nagar 19.12 269 *e*P **Pn 02 28 36.4 -2.0**
AYAN AMb AMB 02 28 37.7
comp=Z,42nm,0.6s
SONA Sohna 19.21 268 *e*P **Pn 02 28 37.5 -2.0**
VIS Vishakhapatnam 19.23 231 *e*P **Pn 02 28 39.7 0.0**
DLH Dalhousie 19.67 281 *e*P **Pn 02 28 43.0 -1.9**
PONG Pong 19.70 280 *e*P **Pn 02 28 43.0 -2.3**
KUDL Kundal 19.74 268 *e*P **Pn 02 28 43.4 -2.4**
KUDL AMb AMB 02 28 45.2
comp=Z,52nm,1.2s
ZAK Zakamensk 19.91 8 *e*P **Pn 02 28 47.0 -0.7**
ZAK pmax pmax
comp=Z,54nm,1.5s
NGP Nagpur 20.26 247 *e*P **P 02 28 49.2 -0.5**
NGP AMb AMB 02 28 51.3
comp=Z,76nm,1.1s
DL2 Dalian 20.28 60 P **P 02 28 52.6 +2.6**
DL2 AMB AMB
comp=Z,10.0nm,0.9s
DL2 LR LR
comp=N,660nm,18.3s,MS4.1
DL2 LR LR
comp=E,440nm,16.0s,MS4.1
DL2 LR LR
comp=Z,530nm,15.5s,MS4.0
KHET Khetri 20.35 268 *e*P **P 02 28 50.4 -0.3**
KHET AMb AMB 02 28 51.4
comp=Z,40nm,1.0s
BHPL Bhopal 20.57 254 *e*P **P 02 28 52.8 -0.3**
BHPL AMb AMB 02 28 53.6
comp=Z,55nm,0.7s
MK31 Makanchi Array 20.59 326 P **P 02 28 52.5 -0.8**
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 20.59 326 P **P 02 28 52.6 -0.7**
comp=Z,10.0nm,0.6s,baz=133,slow=12,SNR=42
MKAR Makanchi Array 20.59 326 *i* P **P 02 28 52.5 -0.8**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
KSH Kashi 20.71 301 *e*P **P 02 28 57.9 +3.2**
KSH *e*AP 02 29 08.1
KSH *e*XP sP 02 29 14.6 +5.3
KSH *e*PP 02 29 21.5
KSH *e*PPP 02 29 30.2
KSH S **S 02 32 41.1 -2.8**
KSH XS sS 02 32 59.7 +0.2
KSH *e*PCP PcP 02 33 05.5 +2.2
KSH SS 02 33 16.5
KSH *e*SCP ScP 02 36 37.4 +0.6
KSH PCS PcS 02 36 40.9 -0.2
KSH SCS ScS 02 40 19.6 -0.5
KSH AMB AMB
comp=Z,10.0nm,0.1s
KSH LR LR
comp=N,2μm,8.2s
KSH LR LR
comp=E,2μm,8.7s
KSH LR LR
comp=Z,850nm,8.9s
MOY Mondy 20.98 4 *e*P **P 02 28 58.9 +1.4**
MOY pmax pmax
comp=Z,85nm,2.1s
TLY Talaya 21.23 8 *e*P **P 02 29 02.9 +2.7**
TLY *e* 02 29 28.0
TLY *e*S **S 02 32 59.3 +5.3**
TLY *e*SS 02 33 24.9
TLY pmax pmax
comp=Z,28nm,1.2s,mb4.5
TLY MLR MLR
comp=Z,409nm,18.0s,MS3.9
AJM Ajmer 21.76 265 *e*P **P 02 29 05.9 +0.1**
AJM *i* P 02 29 06.0
AJM AMb AMB 02 29 07.4
comp=Z,56nm,1.4s,mb4.8
IRK Irkutsk 21.86 9 *e*P **P 02 29 07.9 +1.0**
IRK pmax pmax
comp=Z,120nm,1.3s,mb5.2
CHCP Chirah Chowk 21.93 284 ⇓P **P 02 29 06.7 -1.1**
AKL Akola 22.12 248 *ex* x 02 28 17.8
AKL AMb AMB 02 28 44.9
comp=Z,49nm,1.2s,mb4.8
KZA Kyzart 22.13 307 P **P 02 29 11.5 +1.6**
SNR=28
TKM2 Tokmak 2 22.24 310 P **P 02 29 17.2 +6.2**
SNR=11
KBK Karagaybulak 22.57 309 P **P 02 29 17.2 +2.7**
SNR=26
SNY Shenyang 22.65 54 ⇑P **P 02 29 15.2 -0.2**
SNY S **S 02 33 22.7 +1.6**
SNY AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
SNY LR LR
comp=N,390nm,9.0s
SNY LR LR
comp=E,600nm,13.2s
SNY LR LR
comp=Z,470nm,16.1s,MS4.0
UCH Uchtor 22.69 307 P **P 02 29 18.0 +2.1**
SNR=15
HYB Hyderabad 22.82 239 *i* P **P 02 29 18.0 +0.9**
HYB *e*S **S 02 33 21.0 -2.8**
HYB Hyderabad 22.82 239 *e*P **P 02 29 18.0 +0.9**
FRU Bishkek 22.86 309 *e*P **P 02 29 19.0 +1.4**
FRU pmax pmax
comp=Z,80nm,1.8s,mb4.8
AAK Ala-Archa 22.86 308 P **P 02 29 20.4 +2.8**
SNR=11
AAK Ala-Archa 22.86 308⇑*e*P **P 02 29 17.9 +0.3**
AAK pmax pmax
comp=Z,28nm,1.2s,mb4.6
AAK MLR MLR
comp=Z,500nm,16.0s,MS4.0
AAK Ala-Archa 22.86 308 *e*P **P 02 29 17.1 -0.5**
comp=Z,60nm,1.2s,mb4.9
CEP Cherat 23.07 285 P **P 02 29 19.0 -0.7**
USP Ospenovka 23.12 310 P **P 02 29 22.1 +1.8**
SNR=41
THW Thamme Wali 23.22 282 ⇓P **P 02 29 19.7 -1.7**
EKS2 Erkin-Say 23.36 308 P **P 02 29 24.6 +1.7**
SNR=26
CIT Chita 23.84 23 *e*P **P 02 29 26.6 -0.7**
CIT *e* 02 29 38.1
CIT pmax pmax
comp=Z,69nm,2.3s,mb4.7
CN2 Changchun 24.67 51 *e*P **P 02 29 35.4 +0.6**
CN2 *e*AP 02 29 45.1
CN2 *e*PP 02 30 12.1
CN2 *e*S **S 02 33 50.0 -3.8**
CN2 *e*SS 02 34 47.9
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.6
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,17.0s,MS4.7
CN2 LR LR
comp=E,800nm,17.0s,MS4.7
CN2 LR LR
comp=Z,500nm,13.0s,MS4.2
KS15 Wonju Array Si 24.81 67 *e*P **P 02 29 37.5 +1.4**
JASL Jaisalmer 24.85 268 *e*P **P 02 29 36.0 -0.5**
KURK Kurchatov 25.09 329 *e*P **P 02 29 38.6 0.0**
KURK pmax pmax
comp=Z,25nm,0.7s,mb4.8
KURK Kurchatov 25.09 329 *e*P **P 02 29 38.6 0.0**
comp=Z,26nm,0.7s,mb4.9
KULM Kulim 25.34 176 *e*P **P 02 29 41.2 +0.3**
KRAR Krasnoyarsk 25.65 352 *i* P **P 02 29 43.6 -0.1**
KRAR MLR MLR
comp=Z,600nm,26.0s,MS4.0
KK31 Karatay Array 25.76 307 *i* P **P 02 29 45.2 +0.5**
KK31 pmax pmax
comp=Z,15nm,1.0s,mb4.5
KKAR Karatay Array 25.76 307 *i* P **P 02 29 45.2 +0.5**
KKAR pmax pmax
comp=Z,15nm,1.0s,mb4.5
JOW Kunigami 25.94 91 LR LR 02 39 43.1
comp=Z,208nm,21.2s,MS3.6,baz=265,slow=36
NVS Novosibirsk 26.61 339 *i* P **P 02 29 50.3 -2.0**
NVS *e* 02 30 50.4
NVS *e*S **S 02 34 15.3 -9.2**
NVS pmax pmax
comp=N,22nm,1.1s
NVS pmax pmax
comp=E,24nm,1.1s
NVS pmax pmax
comp=Z,26nm,1.1s,mb4.7
NVS smax
comp=N,14nm,1.8s
NVS smax
comp=E,19nm,1.6s
MDJ Mudanjiang 27.74 51 P **P 02 30 01.1 -1.4**
MDJ XP sP 02 30 19.7 +1.9
MDJ PP 02 30 53.7
MDJ S **S 02 34 41.8 -0.6**
MDJ XS sS 02 35 02.4 +2.2
MDJ AMB AMB
comp=Z,40nm,4.1s
MDJ LR LR
comp=N,990nm,17.9s,MS4.5
MDJ LR LR
comp=E,440nm,16.1s,MS4.5
MDJ LR LR
comp=Z,450nm,15.2s,MS4.2
KKM Kota Kinabalu 29.41 143 *e*P **P 02 30 17.6 +0.2**
VOSK Vostochnaya 30.00 325 P **P 02 30 22.2 -0.4**
VOSK pmax pmax
comp=Z,16nm,1.7s,mb4.5
BVA0 Borovoye Array 30.47 325 *i* P **P 02 30 26.4 -0.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.8s,mb3.9
BRVK Borovoye 30.54 325 *e*P **P 02 30 27.3 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
BRVK Borovoye 30.54 325 *e*P **P 02 30 27.3 -0.1**
comp=Z,5.2nm,0.8s,mb4.4
CHKZ Chkalovo 30.75 326 P **P 02 30 29.0 -0.2**
CHKZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
CHKZ Chkalovo 30.75 326 *e*P **P 02 30 28.9 -0.3**
comp=Z,5.4nm,0.7s,mb4.5
KLR Kul'dur 30.85 44 *e*P **P 02 30 27.8 -2.3**
KSM Kuching 31.01 158 *e*P **P 02 30 32.6 +1.1**
ZRNK Zerenda 31.12 324 *e*P **P 02 30 32.1 -0.4**
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
ZRNK Zerenda 31.12 324 *e*P **P 02 30 32.1 -0.3**
comp=Z,5.0nm,1.0s,mb4.3
HABR Khabarovsk 32.59 47 P **P 02 30 43.3 -2.1**
HABR *e*S **S 02 35 57.5 -0.9**
MAT Matsushiro 33.02 69 P **P 02 30 49.1 -0.1**
MAT *e*S **S 02 36 03.0 -2.1**
MAT Matsushiro 33.02 69 P **P 02 30 51.0 +1.8**
MJAR Matsushiro Arr 33.02 69 P **P 02 30 48.7 -0.4**
comp=Z,2.1nm,0.8s,mb4.1,baz=273,slow=12,SNR=7.8
MJAR LR LR 02 46 26.6
comp=Z,162nm,18.4s,MS3.8,baz=265,slow=40
AKTO Aktyubinsk 36.22 315 LR LR 02 46 48.6
comp=Z,219nm,18.5s,MS4.0,baz=275,slow=37
WSAR Wadi Sarin 36.56 268 P **P 02 31 20.3 +0.6**
comp=Z,8.3nm,1.0s,mb4.5,baz=96,slow=7.3,SNR=4.9
WSAR Wadi Sarin 36.56 268 P **P 02 31 20.3 +0.5**
ASAJ Asahikawa 36.72 56 P **P 02 31 20.3 -0.8**
comp=Z,8.4nm,0.8s,mb4.6,baz=261,slow=14,SNR=7.5
ASAJ Asahikawa 36.72 56 P **P 02 31 20.3 -0.8**
ASAJ pmax pmax
comp=Z,8.0nm,0.8s
YAK Yakutsk 37.12 24 *i* P **P 02 31 24.4 -0.1**
YAK pmax pmax
comp=Z,20nm,1.1s,mb4.9
YAK MLR MLR
comp=Z,100nm,23.0s,MS3.5
YSS Yuzh-Sakhalins 37.23 52 *i* P **P 02 31 25.6 +0.2**
YSS pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
YSS MLR MLR
comp=Z,400nm,21.0s,MS4.2
ARU Arti 38.10 324⇓*i*P **P 02 31 32.8 0.0**
ARU *e* 02 32 59.7
ARU *e*S **S 02 37 25.7 +2.7**
ARU pmax pmax
comp=Z,20nm,0.9s,mb4.8
ARU Arti 38.10 324 *e*P **P 02 31 32.8 0.0**
comp=Z,21nm,0.8s,mb4.9
TIXI Tiksi 44.06 13⇑*e*P **P 02 32 19.9 -1.9**
TIXI pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
GNI Garni 44.58 298 *e*P **P 02 32 28.2 +2.3**
GNI pmax pmax
comp=Z,27nm,1.0s
GNI Garni 44.58 298 *e*P **P 02 32 28.1 +2.3**
comp=Z,27nm,1.0s,mb5.0
MA2 Magadan 44.88 35 *e*P **P 02 32 29.9 +1.6**
MA2 pmax pmax
comp=Z,8μm,0.8s
MA2 Magadan 44.88 35 *e*P **P 02 32 29.9 +1.6**
comp=Z,7.6nm,0.8s,mb4.6
ZEI Tsey 45.01 301 *e*P **P 02 32 29.8 +0.5**
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
GOF Gofitskoye 45.53 305 *e*P **P 02 32 33.0 -0.5**
GOF pmax pmax
comp=Z,45nm,0.7s,mb5.5
KIV Kislovodsk 45.83 303 *e*P **P 02 32 37.0 +1.2**
KIV *e* 02 34 12.8
KIV *e*S **S 02 39 19.2 +2.1**
KIV pmax pmax
comp=Z,39nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,116nm,15.0s,MS4.0
KIV Kislovodsk 45.83 303 *e*P **P 02 32 36.6 +0.7**
comp=Z,32nm,0.9s,mb5.2
SOC Sochi 48.00 303 *e*P **P 02 32 51.3 -1.5**
SOC *e* 02 34 36.7
SOC *e*PPP 02 35 28.6
SOC *e*S **S 02 39 45.3 -2.8**
SOC pmax pmax
comp=Z,14nm,0.7s,mb5.1
SOC MLR MLR
comp=Z,129nm,14.0s,MS4.1
VRSR Storozhevoye 48.10 313 *e*P **P 02 32 53.4 -0.2**
VRSR pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,7.0nm,1.0s
ANN Anapa 49.52 305⇓*i*P **P 02 33 04.1 -0.4**
ANN pmax pmax
comp=Z,24nm,0.7s,mb5.3
MALT Malatya 49.69 296 *e*P **P 02 33 07.2 +1.5**
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.8
MALT Malatya 49.69 296 *e*P **P 02 33 07.2 +1.5**
comp=Z,12nm,1.1s,mb4.8
OBN Obninsk 49.81 318⇑*e*P **P 02 33 06.3 -0.4**
OBN *e* 02 34 57.1
OBN *e*S **S 02 40 13.1 -0.5**
OBN pmax pmax
comp=Z,12nm,0.9s,mb4.9
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.1
SIM Simferopol' 51.85 305*d i*P **P 02 33 22.7 +0.7**
SIM pmax pmax
comp=Z,20nm,0.8s,mb5.1
SIM MLR MLR
comp=Z,160nm,20.8s,MS4.0
JOF Joensuu 53.00 328 *ep* **P 02 33 28.6 -2.0**
comp=Z,11nm,0.7s,mb4.9
BR131 Keskin Array S 53.07 299 *e*P **P 02 33 31.1 0.0**
comp=Z,5.1nm,0.9s,mb4.5
BR131 *e* pP 02 33 44.0 +1.7
BRTR Keskin Array B 53.07 299 P **P 02 33 31.4 +0.4**
comp=Z,3.9nm,0.8s,mb4.4,baz=104,slow=7.0,SNR=30
BILL Bilibino 53.42 26 *e*P **P 02 33 32.1 -1.5**
BILL *e**PP pP 02 33 43.3 -1.5
BILL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BILL Bilibino 53.42 26 *e*P **P 02 33 32.1 -1.5**
comp=Z,7.2nm,0.9s,mb4.6
BILL *ep*P pP 02 33 43.3 -1.6
AKASG Malin Array Be 54.42 313 P **P 02 33 40.6 -0.3**
comp=Z,9.6nm,0.7s,mb4.8,baz=78,slow=6.2,SNR=30
EIL Elat 54.64 286 *e*P **P 02 33 43.2 +0.6**
comp=Z,125nm,0.9s
FITZ Fitzroy Crossi 54.90 149 *e*P **P 02 33 44.2 -0.2**
comp=Z,8.6nm,0.9s,mb4.8
FITZ Fitzroy Crossi 54.90 149 P **P 02 33 44.3 -0.1**
comp=Z,4.9nm,0.9s,mb4.5,baz=33,slow=8.1,SNR=6.3
VSU Vasula 55.21 322 *i* P **P 02 33 46.7 0.0**
KAF Kangasniemi 55.30 327 *ep* **P 02 33 45.8 -1.5**
comp=Z,3.8nm,0.7s,mb4.5
KAF Kangasniemi 55.30 327 *e*P **P 02 33 45.8 -1.5**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
MBWA Marble Bar 55.30 156 *e*P **P 02 33 47.1 -0.2**
comp=Z,13nm,1.1s,mb4.9
FINES FINESS Array B 55.42 326 P **P 02 33 47.8 -0.4**
comp=Z,5.2nm,0.8s,mb4.6,baz=87,slow=8.8,SNR=26
FINES LR LR 02 58 58.4
comp=Z,248nm,18.9s,MS4.3,baz=133,slow=38
ARCES ARCESS Array B 55.80 336 P **P 02 33 50.4 -0.5**
comp=Z,6.3nm,0.9s,mb4.7,baz=88,slow=11,SNR=11
ARCES LR LR 03 00 14.2
comp=Z,180nm,21.6s,MS4.1,baz=183,slow=39
ARCES ARCESS Array B 55.80 336 P **P 02 33 50.4 -0.5**
ARCES LR LR 03 00 14.2
AREO ARCESS Array S 55.80 336 *e*P **P 02 33 50.4 -0.5**
PLOR Plostina 56.88 307⇓*i*P **P 02 34 00.5 +1.9**
MLR Muntele Rosu 57.44 307⇓*i*P **P 02 34 04.8 +2.3**
MLR Muntele Rosu 57.44 307⇓P **P 02 34 04.8 +2.2**
BURAR Bucovina Array 57.50 310⇑*i*P **P 02 34 03.7 +0.8**
BURAR Bucovina Array 57.50 310⇑P **P 02 34 03.7 +0.8**
SUW Suwalki 57.65 317 *e*P **P 02 34 03.7 -0.3**
SUW pmax pmax
comp=Z,37nm,0.9s,mb5.4
SUW Suwalki 57.65 317 *e*P **P 02 34 03.6 -0.3**
comp=Z,37nm,0.9s,mb5.4
STHS Stebnicka Huta 59.70 312 *e*P **P 02 34 18.4 +0.1**
STHS Stebnicka Huta 59.70 312 *e*P **P 02 34 18.5 +0.2**
STHS pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
STHS Stebnicka Huta 59.70 312 *e*P **P 02 34 18.5 +0.2**
comp=Z,2.7nm,0.6s,mb4.5
KECS Kecovo 60.41 311 *e*P **P 02 34 23.4 +0.3**
KECS *e* 02 34 27.8
KECS Kecovo 60.41 311 *e*P **P 02 34 23.5 +0.4**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
KECS Kecovo 60.41 311 *e*P **P 02 34 23.5 +0.4**
comp=Z,2.8nm,0.7s,mb4.4
KECS *e* 02 34 27.8
OJC Ojcow 60.43 313 *e*P **P 02 34 24.3 +1.0**
WRAB Tennant Creek 60.77 141 *i* P **P 02 34 26.4 +0.8**
WRAB Tennant Creek 60.77 141 *e*P **P 02 34 25.9 +0.4**
comp=Z,13nm,0.7s,mb5.2
WRA Warramunga Arr 60.77 141 P **P 02 34 25.6 0.0**
comp=Z,5.2nm,0.5s,mb4.9,baz=333,slow=7.2,SNR=21
PMG Port Moresby 61.05 123 P **P 02 34 30.1 +2.6**
comp=Z,10.0nm,0.6s,mb5.1,baz=336,slow=12,SNR=3.4
PMG Port Moresby 61.05 123 P **P 02 34 30.1 +2.6**
PMG pmax pmax
comp=Z,10.0nm,0.6s
PMG Port Moresby 61.05 123 *e*P **P 02 34 29.0 +1.5**
comp=Z,12nm,0.7s,mb5.1
VYHS Vyhne 61.47 312 *e*P **P 02 34 30.9 +0.6**
VYHS *e* pP 02 34 41.5 -0.2
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
VYHS Vyhne 61.47 312 *e*P **P 02 34 30.9 +0.6**
comp=Z,3.4nm,0.9s,mb4.5
VYHS *e* pP 02 34 41.5 -0.2
OKC Ostrava-Krasne 61.56 313 *e*P **P 02 34 31.3 +0.4**
OKC *ep*P pP 02 34 40.9 -1.4
HFS Hagfors 61.60 325 LR LR 03 02 18.8
comp=Z,117nm,20.9s,MS4.0,baz=253,slow=37
SRO2 Moca 61.95 311 *e*P **P 02 34 34.2 +0.7**
SRO2 pmax pmax
comp=Z,11nm,1.0s,mb4.9
MORC Moravsky Berou 61.95 313⇑*i*P **P 02 34 34.6 +1.0**
MORC Moravsky Berou 61.95 313 *e*P **P 02 34 33.6 0.0**
MORC *e**PP pP 02 34 45.4 +0.4
MORC pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
MORC Moravsky Berou 61.95 313 *e*P **P 02 34 33.6 0.0**
comp=Z,5.9nm,0.8s,mb4.8
MORC *ep*P pP 02 34 45.4 +0.4
PKSM Moragy 62.21 309⇑*i*P **P 02 34 36.0 +0.7**
PKSM Moragy 62.21 309⇑P **P 02 34 36.0 +0.7**
KSP Ksiaz 62.44 315 *e*P **P 02 34 37.6 +0.8**
DPC Dobruska-Polom 62.55 314 *e*P **P 02 34 38.6 +1.0**
NB2 NORSAR Subarra 62.58 327 P **P 02 34 36.3 -1.5**
comp=Z,15nm,1.2s,mb5.0,baz=77,slow=6.9
NB2 NORSAR Subarra 62.58 327 P **P 02 34 36.3 -1.5**
NB2 pmax pmax
comp=Z,15nm,1.2s,mb5.0
NOA NORSAR Array B 62.58 327 P **P 02 34 36.7 -1.1**
comp=Z,4.4nm,0.8s,mb4.6,baz=76,slow=6.7,SNR=10
NOA LR LR 03 03 09.0
comp=Z,177nm,19.4s,MS4.2,baz=80,slow=37
NOA NORSAR Array B 62.58 327 P **P 02 34 36.7 -1.1**
NOA LR LR 03 03 09.0
VRAC Vranov 62.67 313 LR LR 03 02 05.1
comp=Z,115nm,18.9s,MS4.1,baz=176,slow=36
UPC Upice 62.70 315 *e*P **P 02 34 39.1 +0.5**
UPC *ep*P pP 02 34 48.3 -1.7
TREC Trest 63.37 313 *e*P **P 02 34 44.1 +1.1**
CONA Conrad Observa 63.53 312⇓*i*P **P 02 34 45.0 +0.9**
comp=Z,12nm,1.3s,mb4.8
PVCC Panska Ves 63.58 315 *e*P **P 02 34 43.6 -0.8**
ASAR Alice Springs 63.61 144 P **P 02 34 42.9 -1.8**

comp=Z,3.5nm,0.7s,mb4.5,baz=9.6,slow=10,SNR=11
PRU Pruhonice 63.76 314 *e*P **P 02 34 45.9 +0.3**
PRU AMS AMS 03 04 10.0
comp=Z,300nm,21.9s
BRG Berggiesshubel 63.86 315 *e*P **P 02 34 46.8 +0.5**
comp=Z,3.5nm,0.7s,mb4.5
BRG Berggiesshubel 63.86 315 *e*P **P 02 34 46.8 +0.5**
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
CLL Collm 64.30 316⇓*i*P **P 02 34 49.2 +0.1**
comp=Z,5.0nm,1.0s,mb4.5
CLL *i* x x 02 34 55.2
CLL Collm 64.30 316⇓*i*P **P 02 34 49.2 +0.1**
CLL *i* 02 34 55.2
CLL pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
MUN Mundaring 64.46 164 *e*P **P 02 34 50.4 +0.2**
KHC Kasperske Hory 64.61 314 *e*P **P 02 34 51.9 +0.7**
KHC *e*pP pP 02 35 02.9 +0.2
KHC *e*x x 02 35 30.0
KHC AMS AMS 03 04 20.0
comp=Z,200nm,15.6s
GERES GERESS Array B 64.63 313 P **P 02 34 52.0 +0.8**
comp=Z,2.7nm,0.6s,mb4.4,baz=66,slow=5.5,SNR=30
GERES LR LR 03 04 52.9
comp=Z,162nm,18.6s,MS4.2,baz=72,slow=38
NKC Novy Kostel 64.96 315 *e*P **P 02 34 53.4 -0.1**
NKC *e*pP pP 02 35 00.3 -4.7
MOX Moxa 65.34 316 *e*P **P 02 34 56.6 +0.7**
comp=Z,21nm,1.9s,mb4.8
MOX Moxa 65.34 316 *e*P **P 02 34 56.6 +0.7**
MOX pmax pmax
comp=Z,21nm,1.9s,mb4.8
NWAO Narrogin (SRO) 65.62 163 P **P 02 34 57.8 0.0**
comp=Z,26nm,0.9s,mb5.3,baz=353,slow=7.2,SNR=13
NWAO Narrogin (SRO) 65.62 163 *e*P **P 02 34 57.8 +0.1**
NWAO *e**PP pP 02 35 10.5 +1.3
NWAO pmax pmax
comp=Z,23nm,0.9s
NWAO Narrogin (SRO) 65.62 163 *e*P **P 02 34 57.8 +0.1**
comp=Z,23nm,0.9s,mb5.2
NWAO *e*pP pP 02 35 10.5 +1.3
TIP Timpagrande 65.76 302 *e*P **P 02 34 58.6 0.0**
GRA1 Grafenberg Arr 65.89 315 *e*P **P 02 34 59.8 +0.3**
comp=Z,19nm,1.6s,mb4.9
GRF Grafenberg Arr 65.89 315 *e*P **P 02 34 59.8 +0.3**
comp=Z,19nm,1.6s,mb4.9
GRF Grafenberg Arr 65.89 315 *e*P **P 02 34 59.8 +0.3**
GRF pmax pmax
comp=Z,19nm,1.6s,mb4.9
WTTA Wattenberg 66.45 312⇓*i*P **P 02 35 03.5 +0.4**
comp=Z,6.0nm,0.5s,mb4.8
WTTA Wattenberg 66.45 312⇓*i*P **P 02 35 03.5 +0.4**
WTTA pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
WATA Walderalm 66.47 312⇓*i*P **P 02 35 03.3 +0.1**
comp=Z,17nm,1.5s,mb4.8
WATA Walderalm 66.47 312⇓*i*P **P 02 35 03.3 +0.1**
WATA pmax pmax
comp=Z,17nm,1.5s,mb4.8
KMBO Kilima Mbogo 66.54 254 P **P 02 35 04.7 +1.1**
comp=Z,5.9nm,0.8s,mb4.7,baz=42,slow=10,SNR=16
KMBO LR LR 03 04 51.7
comp=Z,66nm,20.8s,MS3.8,baz=272,slow=37
KMBO Kilima Mbogo 66.54 254 *e*P **P 02 35 04.4 +0.7**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 66.54 254 *e*P **P 02 35 04.4 +0.7**
comp=Z,3.9nm,0.8s,mb4.5
SQTA Sankt Quirin 66.74 312⇓*i*P **P 02 35 05.0 +0.1**
comp=Z,22nm,1.6s,mb4.9
SQTA Sankt Quirin 66.74 312⇓*i*P **P 02 35 05.0 +0.1**
SQTA pmax pmax
comp=Z,22nm,1.6s,mb4.9
MOTA Moosalm 66.77 312⇓*i*P **P 02 35 05.0 -0.1**
comp=Z,11nm,1.3s,mb4.7
MOTA Moosalm 66.77 312⇓*i*P **P 02 35 05.0 -0.1**
MOTA pmax pmax
comp=Z,11nm,1.3s,mb4.7
FORT Forrest 67.11 153 *e*P **P 02 35 07.7 +0.4**
comp=Z,5.6nm,0.6s,mb4.8
STU Stuttgart 67.45 314 *e*P **P 02 35 09.9 +0.5**
STU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
STU Stuttgart 67.45 314 *e*P **P 02 35 09.9 +0.4**
comp=Z,4.0nm,0.6s,mb4.6
DAVA Damuels 67.56 313⇑*i*P **P 02 35 10.6 +0.4**
comp=Z,13nm,2.0s,mb4.6
CTA Charters Tower 67.94 132 P **P 02 35 11.3 -1.2**
comp=Z,5.2nm,0.7s,mb4.7,baz=318,slow=8.1,SNR=6.3
CTAO Charters Tower 67.94 132 *e*P **P 02 35 14.0 +1.5**
CTAO pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
CTAO Charters Tower 67.94 132 *e*P **P 02 35 13.9 +1.4**
comp=Z,4.2nm,0.5s,mb4.7
BFO Black Forest 68.15 314 *e*P **P 02 35 14.1 +0.3**
CDF Champ du Feu 68.77 314 *e*P **P 02 35 17.8 +0.1**
comp=Z,7.9nm,0.8s,mb4.4
CDF Champ du Feu 68.77 314 *e*P **P 02 35 17.8 +0.1**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CDF Champ du Feu 68.77 314 *e*P **P 02 35 17.8 +0.1**
comp=Z,4.0nm,0.8s,mb4.4
WLF Walferdange 68.97 316⇑P **P 02 35 19.2 +0.3**
comp=Z,8.7nm,0.9s,mb4.7
WLF Walferdange 68.97 316 *e*P **P 02 35 20.1 +1.2**
WLF pmax pmax
comp=Z,28nm,1.3s,mb5.0
WLF Walferdange 68.97 316 *e*P **P 02 35 20.1 +1.2**
comp=Z,28nm,1.3s,mb5.0
HINF Hinteralfeld 69.26 314 *e*P **P 02 35 20.5 -0.3**
comp=Z,4.8nm,0.7s,mb4.2
HINF Hinteralfeld 69.26 314 *e*P **P 02 35 20.5 -0.3**
HINF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
HINF Hinteralfeld 69.26 314 *e*P **P 02 35 20.5 -0.3**
comp=Z,2.4nm,0.7s,mb4.2
HAU Haudompre 69.50 314 *e*P **P 02 35 23.2 +1.0**
HAU *e*R
comp=Z,72nm,22.0s
HAU Haudompre 69.50 314 *e*P **P 02 35 23.2 +1.0**
HAU LR LR
comp=Z,70nm,22.0s,MS3.9
GIVF Givet 69.59 317 *e*P **P 02 35 22.9 +0.1**
comp=Z,12nm,0.8s,mb4.6
GIVF Givet 69.59 317 *e*P **P 02 35 22.9 +0.1**
GIVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GIVF Givet 69.59 317 *e*P **P 02 35 22.9 +0.1**
comp=Z,6.0nm,0.8s,mb4.6
PGF Pioggiola 69.95 308 *e*P **P 02 35 25.3 +0.3**
BAIF Baives 69.97 317 *e*P **P 02 35 25.2 +0.1**
comp=Z,18nm,1.3s,mb4.5
BAIF Baives 69.97 317 *e*P **P 02 35 25.2 +0.1**
BAIF pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BAIF Baives 69.97 317 *e*P **P 02 35 25.2 +0.1**
comp=Z,8.9nm,1.3s,mb4.5
MEZF Maizieres J'vi 70.10 315 *e*P **P 02 35 26.1 +0.2**
CABF La Chapelle 70.22 313 *e*P **P 02 35 26.5 -0.2**
comp=Z,12nm,1.0s,mb4.5
CABF La Chapelle 70.22 313 *e*P **P 02 35 26.5 -0.2**
CABF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CABF La Chapelle 70.22 313 *e*P **P 02 35 26.5 -0.2**
comp=Z,5.8nm,1.0s,mb4.5
LPG La Plagne 70.25 312 *e*P **P 02 35 27.9 +1.1**
comp=Z,32nm,0.7s,mb5.0
LPG La Plagne 70.25 312 *e*P **P 02 35 27.9 +1.1**
LPG pmax pmax
comp=Z,16nm,0.7s,mb5.1
LPG La Plagne 70.25 312 *e*P **P 02 35 27.9 +1.1**
comp=Z,16nm,0.7s,mb5.1
LPL La Plagne 70.26 312 *e*P **P 02 35 27.8 +0.9**
comp=Z,32nm,0.7s,mb5.1
LPL La Plagne 70.26 312 *e*P **P 02 35 27.8 +0.9**
LPL pmax pmax
comp=Z,16nm,0.7s,mb5.1
LPL La Plagne 70.26 312 *e*P **P 02 35 27.8 +0.9**
comp=Z,16nm,0.7s,mb5.1
SBF Sospel 70.47 310 *e*P **P 02 35 28.3 +0.1**
comp=Z,27nm,0.8s,mb4.9
SBF Sospel 70.47 310 *e*P **P 02 35 28.3 +0.1**
SBF pmax pmax
comp=Z,13nm,0.8s,mb4.9
SBF Sospel 70.47 310 *e*P **P 02 35 28.3 +0.1**
comp=Z,13nm,0.8s,mb4.9
BNI Bardonecchia 70.48 311 *e*P **P 02 35 28.5 +0.3**
BNI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BNI Bardonecchia 70.48 311 *e*P **P 02 35 28.5 +0.3**
comp=Z,7.5nm,0.8s,mb4.7
MBDF Montbardon 70.55 311 *e*P **P 02 35 27.5 -1.2**
comp=Z,12nm,0.8s,mb4.6
MBDF Montbardon 70.55 311 *e*P **P 02 35 27.5 -1.2**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MBDF Montbardon 70.55 311 *e*P **P 02 35 27.5 -1.2**
comp=Z,5.9nm,0.8s,mb4.6
ORIF Oris-en-Rattie 71.05 311 *e*P **P 02 35 32.0 +0.3**
comp=Z,14nm,0.9s,mb4.6
ORIF *e*R
comp=Z,308nm,20.8s
ORIF Oris-en-Rattie 71.05 311 *e*P **P 02 35 32.0 +0.3**
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ORIF Oris-en-Rattie 71.05 311 *e*P **P 02 35 32.0 +0.3**
comp=Z,7.2nm,0.9s,mb4.6
FRF La Foret Royal 71.11 310 *e*P **P 02 35 31.6 -0.5**
comp=Z,53nm,1.4s,mb5.0
FRF La Foret Royal 71.11 310 *e*P **P 02 35 31.6 -0.5**
FRF pmax pmax
comp=Z,27nm,1.4s,mb5.0
FRF La Foret Royal 71.11 310 *e*P **P 02 35 31.6 -0.5**
comp=Z,26nm,1.4s,mb5.0
LMR La Mourre 71.30 310 *e*P **P 02 35 33.4 +0.2**
comp=Z,6.5nm,0.6s,mb4.5
LMR La Mourre 71.30 310 *e*P **P 02 35 33.4 +0.2**
LMR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LMR La Mourre 71.30 310 *e*P **P 02 35 33.4 +0.2**
comp=Z,3.3nm,0.6s,mb4.4
LOR Lormes 71.34 314 *e*P **P 02 35 33.0 -0.4**
comp=Z,11nm,1.0s,mb4.5
LOR *e*R
comp=Z,90nm,19.5s
LOR Lormes 71.34 314 *e*P **P 02 35 33.0 -0.4**
LOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LOR MLR MLR
comp=Z,90nm,19.5s,MS4.0
LOR Lormes 71.34 314 *e*P **P 02 35 33.0 -0.4**
comp=Z,5.5nm,1.0s,mb4.4
LOR LR LR
comp=Z,90nm,19.5s,MS4.0
SMF Signal de Mont 71.62 314 *e*P **P 02 35 35.1 0.0**
comp=Z,15nm,0.8s,mb4.6
SMF Signal de Mont 71.62 314 *e*P **P 02 35 35.1 0.0**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SMF Signal de Mont 71.62 314 *e*P **P 02 35 35.1 0.0**
comp=Z,7.4nm,0.8s,mb4.7
SMRF Simiane la Rot 71.64 311 *e*P **P 02 35 34.9 -0.4**
SSF Saint Saulge 71.64 314 *e*P **P 02 35 35.2 -0.1**
comp=Z,8.3nm,0.7s,mb4.5
SSF Saint Saulge 71.64 314 *e*P **P 02 35 35.2 -0.1**
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SSF Saint Saulge 71.64 314 *e*P **P 02 35 35.2 -0.1**
comp=Z,4.2nm,0.7s,mb4.5
COLA College 71.65 24*c i*P **P 02 35 34.5 -0.8**
COLA College 71.65 24 *e*P **P 02 35 34.3 -1.0**
comp=Z,17nm,1.0s,mb4.9
MBAR Mbarara 71.69 258 *i*P **P 02 35 36.2 +0.6**
ESK Eskdalemuir 71.75 324 *e*P **P 02 35 35.5 -0.4**
ESK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ESK Eskdalemuir 71.75 324 *e*P **P 02 35 35.5 -0.4**
comp=Z,6.4nm,1.0s,mb4.5
VIVF Saint-Julien-l 71.86 312 *e*P **P 02 35 36.6 0.0**
comp=Z,22nm,1.1s,mb4.7
VIVF Saint-Julien-l 71.86 312 *e*P **P 02 35 36.6 0.0**
VIVF pmax pmax
comp=Z,11nm,1.1s,mb4.7
VIVF Saint-Julien-l 71.86 312 *e*P **P 02 35 36.6 0.0**
comp=Z,11nm,1.1s,mb4.7
AVF Avril sur Loir 71.86 314 *e*P **P 02 35 36.4 -0.2**
comp=Z,22nm,0.8s,mb4.8
AVF Avril sur Loir 71.86 314 *e*P **P 02 35 36.4 -0.2**
AVF pmax pmax
comp=Z,11nm,0.8s,mb4.8
AVF Avril sur Loir 71.86 314 *e*P **P 02 35 36.4 -0.2**
comp=Z,11nm,0.8s,mb4.8
BGF Bois d'Agland 72.27 314 *e*P **P 02 35 39.0 0.0**
comp=Z,5.2nm,0.7s,mb4.3
BGF Bois d'Agland 72.27 314 *e*P **P 02 35 39.0 0.0**
BGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BGF Bois d'Agland 72.27 314 *e*P **P 02 35 39.0 0.0**
comp=Z,2.6nm,0.7s,mb4.3
LASF Ste Croix 72.72 311 *e*P **P 02 35 41.7 0.0**
TCF Toulx Ste Croi 72.79 314 *e*P **P 02 35 42.5 +0.4**
comp=Z,21nm,0.9s,mb4.8
TCF Toulx Ste Croi 72.79 314 *e*P **P 02 35 42.5 +0.4**
TCF pmax pmax
comp=Z,11nm,0.9s,mb4.8
TCF Toulx Ste Croi 72.79 314 *e*P **P 02 35 42.5 +0.4**
comp=Z,11nm,0.9s,mb4.8
SUMG Summit 72.92 348 *e*P **P 02 35 41.7 -1.3**
comp=Z,14nm,1.3s,mb4.7
PMR Palmer 72.97 28 *e*P **P 02 35 41.7 -1.5**
PMR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
PMR Palmer 72.97 28 *e*P **P 02 35 41.7 -1.5**
comp=Z,5.8nm,0.7s,mb4.6
LDF La Druitiere 73.16 317 *e*P **P 02 35 44.2 -0.1**
comp=Z,13nm,0.9s,mb4.5
LDF La Druitiere 73.16 317 *e*P **P 02 35 44.2 -0.1**
LDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LDF La Druitiere 73.16 317 *e*P **P 02 35 44.2 -0.1**
comp=Z,6.6nm,0.9s,mb4.6
FLN La Foliniere 73.29 317 *e*P **P 02 35 44.9 -0.2**
comp=Z,25nm,1.3s,mb4.7
FLN *e*R
comp=Z,260nm,17.5s
FLN La Foliniere 73.29 317 *e*P **P 02 35 44.9 -0.2**
FLN pmax pmax
comp=Z,13nm,1.3s,mb4.7
FLN MLR MLR
comp=Z,260nm,17.5s,MS4.6
FLN La Foliniere 73.29 317 *e*P **P 02 35 44.9 -0.2**
comp=Z,13nm,1.3s,mb4.7
FLN LR LR
comp=Z,260nm,17.5s,MS4.6
CAF Calviac 73.49 313 *e*P **P 02 35 46.2 -0.1**
comp=Z,7.5nm,0.7s,mb4.4
CAF Calviac 73.49 313 *e*P **P 02 35 46.2 -0.1**
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CAF Calviac 73.49 313 *e*P **P 02 35 46.2 -0.1**
comp=Z,3.8nm,0.7s,mb4.4
KDAK Kodiak Island 73.55 32 LR LR 03 11 13.4
comp=Z,174nm,19.5s,MS4.3,baz=106,slow=38
RJF Les Rejaudoux 73.66 313 *e*P **P 02 35 47.5 +0.2**
comp=Z,14nm,0.9s,mb4.6
RJF *e*R
comp=Z,118nm,23.0s
RJF Les Rejaudoux 73.66 313 *e*P **P 02 35 47.5 +0.2**
RJF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RJF MLR MLR
comp=Z,120nm,23.0s,MS4.1
RJF Les Rejaudoux 73.66 313 *e*P **P 02 35 47.5 +0.2**
comp=Z,7.1nm,0.9s,mb4.6
RJF LR LR
comp=Z,120nm,23.0s,MS4.1
GRR Gorron 73.69 317 *e*P **P 02 35 47.4 0.0**
comp=Z,16nm,0.7s,mb4.8
GRR Gorron 73.69 317 *e*P **P 02 35 47.4 0.0**
GRR pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
GRR Gorron 73.69 317 *e*P **P 02 35 47.4 0.0**
comp=Z,8.0nm,0.7s,mb4.8
INK Inuvik 73.92 18 P **P 02 35 48.1 -0.7**
comp=Z,7.6nm,0.8s,mb4.7,baz=330,slow=7.5,SNR=8.1
INK Inuvik 73.92 18 *e*P **P 02 35 48.5 -0.3**
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 73.92 18 *e*P **P 02 35 48.5 -0.4**
comp=Z,8.5nm,0.8s,mb4.7
MFF Saint Martin d 74.09 315 *e*P **P 02 35 49.6 -0.2**
comp=Z,9.4nm,0.9s,mb4.4
MFF Saint Martin d 74.09 315 *e*P **P 02 35 49.6 -0.2**
MFF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MFF Saint Martin d 74.09 315 *e*P **P 02 35 49.6 -0.2**
comp=Z,4.7nm,0.9s,mb4.4
MTLF Montolieu 74.11 311 *e*P **P 02 35 49.8 -0.1**
STKA Stephens Creek 74.22 143 *e*P **P 02 35 49.6 -0.9**
comp=Z,2.7nm,0.9s,mb4.2
STKA Stephens Creek 74.22 143 P **P 02 35 49.6 -0.9**
comp=Z,1.6nm,0.6s,mb4.1,baz=341,slow=12,SNR=5.1
LFF La Frestale 74.32 313 *e*P **P 02 35 50.9 -0.2**
comp=Z,9.4nm,0.6s,mb4.6
LFF La Frestale 74.32 313 *e*P **P 02 35 50.9 -0.2**
LFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LFF La Frestale 74.32 313 *e*P **P 02 35 50.9 -0.2**
comp=Z,4.7nm,0.6s,mb4.6
RES Resolute Bay 74.47 4 *e*P **P 02 35 51.1 -0.9**
RES pmax pmax
comp=Z,12nm,1.0s,mb4.8
RES Resolute Bay 74.47 4 *e*P **P 02 35 51.1 -0.9**
comp=Z,12nm,1.0s,mb4.8
SGMF Saint Gilles 74.75 317 *e*P **P 02 35 53.4 -0.2**
comp=Z,22nm,1.0s,mb4.7
SGMF Saint Gilles 74.75 317 *e*P **P 02 35 53.4 -0.2**
SGMF pmax pmax
comp=Z,11nm,1.0s,mb4.7
SGMF Saint Gilles 74.75 317 *e*P **P 02 35 53.4 -0.2**
comp=Z,11nm,1.0s,mb4.7
DAWY Dawson 75.06 23 *e*P **P 02 35 54.7 -0.7**
ROSF Rostrenen 75.12 318 *e*P **P 02 35 55.7 -0.1**
comp=Z,14nm,0.9s,mb4.6
ROSF Rostrenen 75.12 318 *e*P **P 02 35 55.7 -0.1**
ROSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ROSF Rostrenen 75.12 318 *e*P **P 02 35 55.7 -0.1**
comp=Z,7.1nm,0.9s,mb4.6
QUIF Quistinic 75.27 317 *e*P **P 02 35 56.7 +0.1**
ETSF Etsaut 76.11 312 *e*P **P 02 36 01.5 +0.1**
comp=Z,12nm,0.7s,mb4.6
ETSF Etsaut 76.11 312 *e*P **P 02 36 01.5 +0.1**
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ETSF Etsaut 76.11 312 *e*P **P 02 36 01.5 +0.1**
comp=Z,5.9nm,0.7s,mb4.6
SJPF Ste Jean 76.44 312 *e*P **P 02 36 03.0 -0.3**
ESDC Sonseca Array 79.95 310 P **P 02 36 22.8 +0.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=48,slow=4.8,SNR=8.4
LSZ Lusaka 81.92 247 *e*P **P 02 36 34.2 +1.0**
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSZ Lusaka 81.92 247 *e*P **P 02 36 34.2 +1.0**
comp=Z,6.0nm,0.8s,mb4.6
DLBC Dease Lake 82.24 24 LR LR 03 14 19.9
comp=Z,113nm,21.6s,MS4.2,baz=293,slow=37
MDT Midelt 84.04 305 P **P 02 36 44.2 +0.1**
comp=Z,1.0nm,0.6s,mb4.1,baz=34,slow=5.0,SNR=5.0
LBTB Lobatse 89.44 240 *e*P **P 02 37 11.2 +0.7**
LBTB pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
LBTB Lobatse 89.44 240 *e*P **P 02 37 11.2 +0.7**
comp=Z,2.7nm,0.6s,mb4.8
TORD Torodi Ar. Bea 89.50 285 P **P 02 37 12.1 +1.2**
comp=Z,4.8nm,0.8s,mb4.9,baz=40,slow=4.0,SNR=40
FFC Flin Flon 93.01 12 *e*P **P 02 37 25.6 -1.5**
FFC *e**PP pP 02 37 37.9 -1.1
FFC pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
FFC Flin Flon 93.01 12 *e*P **P 02 37 25.6 -1.5**
comp=Z,2.3nm,0.8s,mb4.7
FFC *e*pP pP 02 37 37.9 -1.1
SCHQ Schefferville 93.93 352 P **P 02 37 32.3 +1.0**
comp=Z,1.3nm,0.8s,mb4.4,baz=353,slow=5.8,SNR=4.3
SCHQ LR LR 03 22 21.3
comp=Z,67nm,21.3s,MS4.1,baz=33,slow=37
DBIC Dimbokro 98.38 283 P **P 02 37 52.3 +0.8**
comp=Z,3.4nm,0.9s,mb4.9,baz=117,slow=6.8,SNR=2.6
QSPA South Pole Qui 120.50 180 *e*P PKPdf 02 43 06.7 +1.7
VNA2 Neumayer--Watz 124.04 202 *e*PKPdf PKPdf 02 43 11.4 -0.4
baz=33,slow=4.5
VNA1 Neumayer--Stat 124.35 203 *e*PKPdf PKPdf 02 43 08.4 -4.0
VNA3 Neumayer Olymp 124.75 202 *e*PKPdf PKPdf 02 43 15.2 +2.0
ROSC El Rosal 144.05 349 PKP PKPdf 02 43 48.0 -1.1
comp=Z,6.7nm,0.6s,baz=97,slow=18,SNR=6.4
BDFB Brasilia 146.29 289 PKPbc PKPbc 02 43 55.6 +1.5
comp=Z,8.1nm,0.7s,baz=68,slow=1.4,SNR=12
OTAV Otavalo 149.12 355 *e*PKPdf PKPdf 02 43 58.7 +1.1
OTAV *e*PKPbc PKPbc 02 44 02.8 +1.0
SAML Samuel 152.68 319 *e*PKPdf PKPdf 02 44 03.2 +0.1
SAML *e*PKPbc PKPbc 02 44 10.2 0.0

BJI ***04*** *02:31:10.9, 5395N×15998E, h102km, mB4.7, mb4.7*
ISCJB ***04*** *02:31:13.5±0.1, 5396N±003×15948E±004, h93km, mb4.4/85, Error ellipse: s-maj=4.3km s-min=2.4km az=120.0*
KRSC ***04*** *02:31:13.9±0.7, 5363N×15986E, h104km±3km, ML4.6*
NEIC ***04*** *02:31:14.7±0.1, 5392N×15937E, mb4.5/54, Error ellipse: s-maj=5.0km s-min=2.7km az=166.0*
MOS ***04*** *02:31:14.1±1.0, 5378N×15951E, h107km, mb4.5/39, Error ellipse: s-maj=9.8km s-min=5.8km az=86.6*
IDC ***04*** *02:31:15.2±0.6, 5391N×15934E, h95km±4km, mb4.1/20, mb1 4.2/21, mb1mx4.2/25, mbtmp4.4/21, MS3.3/2, Ms1 3.3/2, ms1mx2.7/33, Error ellipse: s-maj=19.6km s-min=10.4km az=154.0*

ISC 04 02:31:15.0±0.1, 5387N±002×15943E±003, h95km, h95km±1.0km: pP-P, n336, σ0996/365, mb4.4/85, 59C-55D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	**0.68**	**209**	*i* P	P	**Pn**		**02 31 32.3**	**+0.6**
NLC	**Nalytchevo**	**0.70**	**184**	P	P	**Pn**		**02 31 31.0**	**-0.9**
NLC				S	S	**Sn**		**02 31 43.5**	**-1.1**
NLC	**Nalytchevo**	**0.70**	**184**	*i* P	P	**Pn**		**02 31 31.0**	**-0.9**
SMAR	**Somma**	**0.71**	**212**	*i* P	P	**Pn**		**02 31 32.7**	**+0.6**
AVH	**Avacha**	**0.73**	**215**	*i* P	P	**Pn**		**02 31 33.2**	**+1.0**
AVH				*i* S	S	**Sn**		**02 31 47.4**	**+2.3**
KOK	**Koryaka**	**0.75**	**220**	*i* P	P	**Pn**		**02 31 33.5**	**+1.1**
UGLR	**Uglovaya**	**0.75**	**209**	*i* P	P	**Pn**		**02 31 33.1**	**+0.7**
SPN	**Mys Shipunski**	**0.85**	**155**	P	P	**Pn**		**02 31 30.8**	**-2.6**
SPN	**Mys Shipunski**	**0.85**	**155**	*i* P	P	**Pn**		**02 31 30.8**	**-2.6**
GNL	**Ganaly**	**0.90**	**260**	*i* P	P	**Pn**		**02 31 36.9**	**+2.9**
PET	**Petropavlovsk**	**0.96**	**209**	P	P	**Pn**		**02 31 34.9**	**+0.3**
PET				S	S	**Sn**		**02 31 50.7**	**+1.3**
PET	**Petropavlovsk**	**0.96**	**209**⇑	*i* Pn	P	**Pn**		**02 31 34.6**	**0.0**
PET				*e*				02 31 50.6	
PET	**Petropavlovsk**	**0.96**	**209**	*i* P	P	**Pn**		**02 31 34.9**	**+0.3**
PET				*i* S	S	**Sn**		**02 31 50.7**	**+1.3**
KRMR	**Karymshinskiy**	**1.30**	**218**	*i* P	P	**Pn**		**02 31 39.0**	**+0.5**
KRMR				*e*S	S	**Sn**		**02 31 57.5**	**+1.2**
TUMR	**Tumrok**	**1.48**	**16**	*i* P	P	**Pn**		**02 31 43.9**	**+3.2**
MKZ	**Mys Kozlova**	**1.52**	**62**	P	P	**Pn**		**02 31 41.1**	**-0.1**
MKZ				S	S	**Sn**		**02 32 01.0**	**0.0**
MKZ	**Mys Kozlova**	**1.52**	**62**	*e*P	P	**Pn**		**02 31 41.0**	**-0.2**
MKZ				*e*S	S	**Sn**		**02 32 01.0**	**0.0**
RUS	**Russkaya**	**1.54**	**202**	P	P	**Pn**		**02 31 40.6**	**-0.9**
RUS				S	S	**Sn**		**02 32 00.1**	**-1.4**
RUS	**Russkaya**	**1.54**	**202**	*i* P	P	**Pn**		**02 31 40.6**	**-0.9**
RUS				*e*S	S	**Sn**		**02 32 00.1**	**-1.4**
GRL	**Gorelyy**	**1.55**	**212**	*i* P	P	**Pn**		**02 31 42.5**	**+0.9**
GRL				*e*S	S	**Sn**		**02 32 03.2**	**+1.4**
APC	**Apacha**	**1.66**	**236**	*i* P	P	**Pn**		**02 31 45.3**	**+2.3**
APC				*i* S	S	**Sn**		**02 32 08.3**	**+4.1**
APC				Smax					
2μm,0.9s									
KMNR	**Kamenistaya**	**1.95**	**13**	*i* P	P	**Pn**		**02 31 50.5**	**+3.8**
ESO	**Esso**	**2.11**	**349**	*i* P	P	**Pn**		**02 31 52.6**	**+3.8**
ESO				*e*S	S	**Sn**		**02 32 21.9**	**+7.4**
ESO				Smax					
660nm,1.2s									
KPT	**Kopyto**	**2.15**	**12**	*e*P	P	**Pn**		**02 31 52.9**	**+3.5**
KOZ	**Kozyrevsk**	**2.21**	**6**	P	P	**Pn**		**02 31 53.8**	**+3.7**
KOZ				S	S	**Sn**		**02 32 23.7**	**+6.7**
KOZ	**Kozyrevsk**	**2.21**	**6**	*e*P	P	**Pn**		**02 31 53.7**	**+3.6**
KOZR	**Kozyr**	**2.22**	**7**	PN	Pn	**Pn**		**02 31 53.8**	**+3.5**
KOZR				S	S	**Sn**		**02 32 23.7**	**+6.5**
MIPR	**Malaya Ipel'ka**	**2.27**	**226**	*i* P	P	**Pn**		**02 31 52.6**	**+1.7**
ZLN	**Zelenaya**	**2.30**	**20**	*i* P	P	**Pn**		**02 31 54.8**	**+3.6**
LGNR	**Loginova**	**2.34**	**18**	*i* P	P	**Pn**		**02 31 55.7**	**+3.9**
CIRR	**Tsirk**	**2.38**	**18**	*e*P	P	**Pn**		**02 31 55.9**	**+3.6**
KRSR	**Krestovskiy**	**2.44**	**15**	*e*P	P	**Pn**		**02 31 56.3**	**+3.1**

SRDR Sredinnyy 2.46 4 *i* P **Pn 02 31 56.7 +3.3**
KLY Klyuchi 2.55 15 P **Pn 02 31 58.2 +3.6**
KLY S **Sn 02 32 31.8 +6.8**
KLY Klyuchi 2.55 15 *e*P **Pn 02 31 58.1 +3.5**
KLY *e*S **Sn 02 32 30.5 +5.5**
PAU Pauzhetka 2.89 215 *e*P **Pn 02 31 59.9 +0.8**
PAU Smax
1µm,0.8s
BDR Baidarnaya 2.89 20 *i* P **Pn 02 32 02.5 +3.3**
BDR *e*S **Sn 02 32 37.5 +4.3**
SMKR Semkarok 2.96 22 *i* P **Pn 02 32 02.8 +2.7**
SRKR Sorokina 2.96 19 *i* P **Pn 02 32 03.5 +3.4**
KBG Krutoberegovo 3.04 37 *e*P **Pn 02 32 02.9 +1.7**
KBG *e*S **Sn 02 32 39.4 +2.6**
KBG Smax
3µm,1.2s
KBTR Krutoberegovo 3.05 38 P **Pn 02 32 01.9 +0.6**
KBTR S **Sn 02 32 38.7 +1.8**
KBTR Krutoberegovo 3.05 38 *e*P **Pn 02 32 02.7 +1.4**
KBTR *e*S **Sn 02 32 38.7 +1.8**
SKR Severo-Kuril's 3.78 214 *e*PN **Pn 02 32 07.5 -3.7**
SKR pmax pmax
comp=Z,220nm,1.0s
ALID Alaid 3.83 220 P **Pn 02 32 13.1 +1.3**
BKI Bering 4.04 68 *i* P **Pn 02 32 12.4 -2.2**
BKI *i* S **Sn 02 32 53.2 -7.6**
BKI Smax
comp=Z,1µm,1.1s
MA2 Magadan 7.44 324 *e*Pn **Pn 02 33 05.4 +4.5**
comp=Z,21nm,0.8s
KAMR Kamenskoye 9.32 20 *e*P **Pn 02 33 27.2 +0.8**
YSS Yuzh-Sakhalins 12.67 244⇑ *e*PN **Pn 02 34 14.2 +2.5**
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 12.67 244 *e*Pn **Pn 02 34 14.1 +2.4**
comp=Z,16nm,1.0s
BILL Bilibino 14.59 10 *i* P **Pn 02 34 43.9 +7.3**
ASAJ Asahikawa 14.71 235 P **Pn 02 34 39.7 +1.6**
comp=Z,0.6nm,0.3s,baz=39,slow=9.1,SNR=9.4
ASAJ LR LR 02 39 52.0
comp=Z,65nm,21.2s,baz=290,slow=35
ASAJ Asahikawa 14.71 235 P **Pn 02 34 39.7 +1.6**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,65nm,21.2s
HABR Khabarovsk 16.18 260 *e*P **Pn 02 34 56.7 +0.1**
HABR *e*S **S 02 37 57.5 -5.2**
YAK Yakutsk 17.64 309 *e*P **Pn 02 35 16.1 +1.5**
comp=Z,76nm,0.9s
KLR Kul'dur 17.77 266 *e*P **Pn 02 35 15.2 -1.0**
KLR pmax pmax
comp=N,50nm,1.6s
KLR pmax pmax
comp=Z,54nm,1.6s
KLR MLR MLR
comp=N,700nm,13.0s
KLR MLR MLR
comp=Z,1µm,13.0s
CLNS Chul'man 19.73 293 *e*P **Pn 02 35 39.8 +0.3**
CLNS *e*S **S 02 39 15.7 +1.3**
CLNS pmax pmax
comp=N,22nm,0.8s
CLNS pmax pmax
comp=Z,31nm,0.8s
CLNS pmax pmax
comp=E,27nm,0.9s
CLNS smax
comp=N,8.0nm,0.9s
CLNS smax
comp=Z,4.0nm,0.6s
CLNS smax
comp=E,6.0nm,0.9s
MDJ Mudanjiang 21.43 257 P **P 02 35 54.6 -0.7**
MDJ AMB AMB
comp=Z,40nm,3.5s
TIXI Tiksi 22.21 335 *e*P **P 02 36 01.9 -1.7**
TIXI *e**SP sP 02 36 26.0 -8.1
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb3.8
MAJO Matsushiro 22.74 229 *e*P **P 02 36 08.4 -0.8**
MAJO pmax pmax
comp=Z,31nm,0.8s,mb4.7
MAJO Matsushiro 22.74 229 *e*P **P 02 36 08.3 -0.8**
comp=Z,31nm,0.8s,mb4.7
MAT Matsushiro 22.74 229 P **P 02 36 08.2 -1.0**
MAT S **S 02 40 11.0 +0.5**
MAT Matsushiro 22.74 229 *e*P **P 02 36 08.0 -1.2**
MAT *e*S **S 02 40 12.0 +1.5**
MAT pmax pmax
comp=Z,16nm,0.7s,mb4.5
MAT Matsushiro 22.74 229 *e*P **P 02 36 08.0 -1.2**
comp=Z,16nm,0.7s,mb4.5
MAT *e*S **S 02 40 12.0 +1.5**
MJAR Matsushiro Arr 22.74 229 P **P 02 36 08.7 -0.5**
comp=Z,25nm,1.0s,mb4.5,baz=22,slow=9.1,SNR=47
CN2 Changchun 24.31 259 *e*P **P 02 36 23.9 +0.3**
CN2 *e*AP 02 36 44.7
CN2 *e*S **S 02 40 32.3 -3.6**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.2
CN2 AMB AMB
comp=Z,200nm,6.0s
TTA Tatalina 24.56 51 *e*P **P 02 36 25.0 -0.9**
TTA pmax pmax
comp=Z,31nm,1.2s,mb4.6
TTA Tatalina 24.56 51 *e*P **P 02 36 25.0 -0.9**
comp=Z,31nm,1.2s,mb4.6
HIA Hailar 24.86 276 *e*P **P 02 36 29.0 +0.4**
HIA pmax pmax
comp=Z,12nm,0.4s
HIA Hailar 24.86 276 *e*P **P 02 36 29.0 +0.3**
comp=Z,12nm,0.4s,mb4.7
COLA College 28.14 46 *d i*P **P 02 36 57.9 -0.2**
COLA College 28.14 46 *e*P **P 02 36 57.8 -0.3**
comp=Z,11nm,1.1s,mb4.3
ULN Ulaanbaatar 32.95 281 *e*P **P 02 37 41.0 +0.5**
ULN pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
ULN Ulaanbaatar 32.95 281 *e*P **P 02 37 41.0 +0.5**
comp=Z,1.4nm,0.6s,mb4.0
TLY Talaya 33.09 289 *e*P **P 02 37 42.9 +1.2**
TLY pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
SONM Songino Array 33.35 282 P **P 02 37 44.3 +0.3**
comp=Z,1.7nm,0.6s,mb4.0,baz=56,slow=8.5,SNR=11
SONM PcP PcP 02 40 23.6 0.0
comp=Z,1.6nm,0.5s,baz=78,slow=1.6,SNR=10
SONM ScP ScP 02 43 59.6 +0.2
comp=Z,2.4nm,1.0s,baz=57,slow=2.1,SNR=13
SONM LR LR 02 52 55.8
comp=Z,81nm,18.2s,baz=133,slow=39
SONM Songino Array 33.35 282 P **P 02 37 44.3 +0.3**
SONM 02 40 23.6
INK Inuvik 33.50 38 P **P 02 37 45.2 -0.1**
comp=Z,8.2nm,0.6s,mb4.7,baz=291,slow=7.1,SNR=16
INK Inuvik 33.50 38 P **P 02 37 45.2 -0.1**
INK pmax pmax
comp=Z,8.0nm,0.6s
INK Inuvik 33.50 38⇑ *i*P **P 02 37 45.1 -0.2**
comp=Z,7.5nm,0.7s,mb4.6
HHC Hu-ho-hao-te 34.27 268⇑ *i*P **P 02 37 51.0 -0.9**
HHC AP pP 02 38 13.2 -0.4
HHC PP PP 02 39 08.4 -2.9
HHC PCP PcP 02 40 25.9 -0.4
HHC S **S 02 43 08.0 -4.0**
HHC SCP ScP 02 44 00.9 -1.8
HHC PCS PcS 02 44 11.4 -1.3
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,150nm,5.6s
HHC LR LR
comp=N,100nm,10.9s
HHC LR LR
comp=E,140nm,12.0s
HHC LR LR
comp=Z,100nm,10.9s
JOW Kunigami 35.45 233 P **P 02 38 02.2 +0.1**
comp=Z,25nm,0.5s,mb5.3,baz=2.5,slow=9.3,SNR=22
SSE Sheshan 35.60 246 *e*P **P 02 38 02.3 -1.1**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,150nm,4.5s
NJ2 Nanjing 36.15 249 *e*P **P 02 38 10.0 +2.0**
NJ2 AP pP 02 38 30.8 +1.0
NJ2 XP sP 02 38 43.9 +3.2
NJ2 PP PP 02 39 35.2 +3.2
NJ2 S **S 02 43 43.0 +2.2**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,140nm,4.6s
NJ2 LR LR
comp=N,300nm,15.2s
NJ2 LR LR
comp=E,200nm,11.6s
NJ2 LR LR
comp=Z,110nm,20.0s
KRAR Krasnoyarsk 36.97 301⇓ *e*P **P 02 38 14.0 -1.0**
DLBC Dease Lake 37.90 54 P **P 02 38 24.2 +1.4**
comp=Z,7.8nm,0.8s,mb4.6,baz=290,slow=10.0,SNR=13
DLBC Dease Lake 37.90 54⇑ *i*P **P 02 38 23.6 +0.7**
LZH Lanzhou 41.96 268 *e*P **P 02 38 57.1 +0.6**
LZH AP pP 02 39 18.7 0.0
LZH XP sP 02 39 31.0 +1.5
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
LZH AMB AMB
comp=Z,50nm,4.0s
GTA Gaotai 42.14 275 *e*P **P 02 38 58.7 +0.8**
GTA AP pP 02 39 21.5 +1.3
GTA XP sP 02 39 32.8 +1.8
GTA PP PP 02 40 40.8 +3.6
GTA PCP PcP 02 40 52.9 +2.2
GTA PPP 02 41 14.2
GTA SCP ScP 02 44 33.6 +1.1
GTA PCS PcS 02 44 42.7 +0.1
GTA S **S 02 45 12.6 +2.0**
GTA XS sS 02 45 51.8 +2.9
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,150nm,7.2s
GTA LR LR
comp=N,90nm,10.3s
GTA LR LR
comp=E,130nm,11.4s
GTA LR LR
comp=Z,70nm,11.0s
NVS Novosibirsk 42.36 304 *i* P **P 02 38 57.9 -1.8**
NVS pmax pmax
comp=N,12nm,1.5s
NVS pmax pmax
comp=E,18nm,1.5s
NVS pmax pmax
comp=Z,21nm,1.5s,mb4.7
YKW3 Yellowknife Ar 42.82 43 *e*P **P 02 39 02.8 -0.7**
YKA Yellowknife Ar 42.86 43 P **P 02 39 03.3 -0.5**
comp=Z,4.2nm,0.7s,mb4.2,baz=300,slow=7.9,SNR=8.6
YKA pP pP 02 39 26.4 +0.3
comp=Z,2.1nm,0.6s,baz=300,slow=7.9,SNR=5.3
CD2 Chengdu 45.66 263 *e*P **P 02 39 24.2 -1.9**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
WMQ Urumqi 46.35 288 P **P 02 39 32.2 +0.7**
WMQ LR LR
comp=N,20nm,20.0s
WMQ LR LR
comp=E,50nm,21.0s
WMQ LR LR
comp=Z,40nm,27.0s
B04A Port Angeles 46.65 64 ⇑P **P 02 39 33.6 -0.3**
baz=46
A04A Legoe Bay, Lum 46.67 63 ⇓P **P 02 39 33.7 -0.2**
baz=46
KURK Kurchatov 46.99 301 *e*P **P 02 39 35.3 -1.2**
KURK *e**PP pP 02 40 01.8 +2.6
KURK pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
KURK Kurchatov 46.99 301 *e*P **P 02 39 35.3 -1.2**
comp=Z,6.7nm,0.6s,mb4.5
KURK *e*pP pP 02 40 01.8 +2.7
C04A Brinnon 47.14 64 ⇓P **P 02 39 37.2 -0.4**
baz=47
B05A Bryant 47.27 63 ⇓P **P 02 39 38.1 -0.5**
baz=47,SNR=6.0
GYA Guiyang 47.29 256 P **P 02 39 39.2 +0.4**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
MKAR Makanchi Array 47.47 295 P **P 02 39 39.4 -0.9**
comp=Z,4.0nm,0.6s,mb4.3,baz=55,slow=7.3,SNR=42
E03A Lebam 47.55 66 ⇑P **P 02 39 40.5 -0.3**
baz=47
C05A Tolt Reservoir 47.84 63 ⇑P **P 02 39 42.6 -0.4**
baz=48
F03A Seaside 47.94 66 ⇓P **P 02 39 43.7 -0.1**
baz=48
E04A Onalaska 47.97 65 ⇑P **P 02 39 43.9 -0.2**
baz=48
D05A Enumclaw 47.99 64 ⇑P **P 02 39 44.3 +0.1**
baz=48
H02A Toledo 48.49 68 ⇑P **P 02 39 48.0 -0.1**
baz=48
E05A Randle 48.51 65 ⇓P **P 02 39 48.1 -0.2**
baz=48
F04A Amboy 48.55 66 ⇑P **P 02 39 48.1 -0.4**
baz=48
EDM Edmonton 48.62 53⇑ *i*P **P 02 39 48.4 -0.7**
EDM *e**PP pP 02 40 09.9 -1.9
H03A Soap Creek Ran 48.88 67 ⇓P **P 02 39 50.9 -0.2**
baz=49
I02A Mapleton 49.02 69 ⇓P **P 02 39 51.8 -0.3**
baz=49
CHKZ Chkalovo 49.09 308 *e*P **P 02 39 51.0 -1.7**
CHKZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
CHKZ Chkalovo 49.09 308 *e*P **P 02 39 51.0 -1.7**
comp=Z,7.3nm,0.6s,mb4.8
I03A Eugene 49.34 68 ⇑P **P 02 39 54.6 0.0**
baz=49
H04A Detroit Lake 49.48 67 ⇓P **P 02 39 55.0 -0.7**
baz=49
J02A Umpqua 49.57 69 ⇓P **P 02 39 56.1 -0.3**
baz=49,SNR=5.9
G05A Wamic 49.59 66 ⇑P **P 02 39 56.2 -0.2**
baz=49
BRVK Borovoye 49.63 308 *e*P **P 02 39 55.1 -1.7**
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BRVK Borovoye 49.63 308 *e*P **P 02 39 55.1 -1.7**
comp=Z,3.1nm,0.7s,mb4.3
NEW Newport 49.86 60 *e*P **P 02 39 57.2 -1.3**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 49.86 60 *e*P **P 02 39 57.2 -1.4**
comp=Z,4.6nm,1.0s,mb4.4
ZRNK Zerenda 50.30 308 *e*P **P 02 40 00.5 -1.3**
ZRNK *e* 02 41 17.8
ZRNK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZRNK Zerenda 50.30 308 *e*P **P 02 40 00.5 -1.3**
comp=Z,5.8nm,1.0s,mb4.5
ZRNK *e*PcP PcP 02 41 17.8 -1.6
I05A Bend 50.32 67 ⇑P **P 02 40 01.7 -0.3**
baz=50
L02A Cave Junction 50.35 70 ⇓P **P 02 40 02.3 +0.1**
baz=50
HUMO Hull Mountain 50.41 69 ⇓P **P 02 40 02.8 +0.1**
baz=50
KMI Kunming 50.58 259 P **P 02 40 05.5 +1.5**
KMI AP pP 02 40 26.5 -0.3
KMI XP sP 02 40 38.2 +0.7
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
KMI LR LR
comp=Z,70nm,23.7s
WALA Waterton Lakes 50.98 58 *e*P **P 02 40 05.9 -1.1**
comp=Z,14nm,1.2s,mb4.9
WALA *e*pP pP 02 40 29.4 -0.5
JCC Jacoby Creek 51.00 72 ⇓P **P 02 40 07.0 -0.2**
baz=51
I06A Prineville 51.04 66 ⇓P **P 02 40 07.4 0.0**
baz=51
YBH Yreka Blue Hor 51.13 70 *e*P **P 02 40 08.4 +0.3**
YBH *e**PP pP 02 40 30.3 -0.7
YBH pmax pmax
comp=Z,8.0nm,1.2s
YBH Yreka Blue Hor 51.13 70 *e*P **P 02 40 08.4 +0.3**
comp=Z,8.3nm,1.2s,mb4.6
YBH *e*pP pP 02 40 30.3 -0.7
YBH Yreka Blue Hor 51.13 70 ⇑P **P 02 40 08.3 +0.2**
baz=51,SNR=8.6
M02C Callahan 51.28 70 ⇑P **P 02 40 09.7 +0.5**
baz=51
L04A Klamath Falls 51.29 69 ⇑P **P 02 40 09.2 -0.1**
baz=51
N02C Big Bar 51.40 71 ⇓P **P 02 40 10.1 0.0**
baz=51
J06A Christmas Vall 51.53 67 ⇑P **P 02 40 11.0 -0.1**
baz=51,SNR=13
O01C Eel River Cons 51.58 72 ⇑P **P 02 40 11.9 +0.5**
baz=51
M04C Macdoel 51.58 69 ⇓P **P 02 40 11.7 +0.2**
baz=51,SNR=5.4
M03C McCloud 51.77 70 ⇑P **P 02 40 12.9 +0.1**
baz=52
K06A Valley Falls 51.77 67 ⇓P **P 02 40 12.9 0.0**
baz=52
WDC Whiskeytown Da 52.00 71 *e*P **P 02 40 14.6 +0.1**
WDC pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
WDC Whiskeytown Da 52.00 71 *e*P **P 02 40 14.6 +0.1**
comp=Z,6.2nm,1.2s,mb4.5
WDC Whiskeytown Da 52.00 71 ⇑P **P 02 40 14.7 +0.2**
baz=52
O02C Red Bluff 52.13 72 ⇑P **P 02 40 15.9 +0.4**
baz=52
M05C Lookout 52.24 69 ⇑P **P 02 40 16.6 +0.3**
baz=52,SNR=5.7
ARCES ARCESS Array B 52.43 341 PcP PcP 02 41 26.5 -0.8
comp=Z,3.6nm,1.0s,baz=27,slow=6.1,SNR=5.1
HATC Hat Creek Radi 52.44 70 ⇑P **P 02 40 18.1 +0.3**
baz=52
GASB Alder Springs 52.53 72 ⇑P **P 02 40 19.2 +0.7**
baz=52
ARU Arti 52.56 317⇓ *i*P **P 02 40 17.3 -1.4**
ARU *e* 02 42 15.9
ARU *e*S **S 02 47 38.3 -0.1**
ARU *e*SS SS 02 51 17.5 -0.2
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ARU Arti 52.56 317 *e*P **P 02 40 17.4 -1.3**
comp=Z,5.2nm,0.7s,mb4.7
M06C Likely Place G 52.72 69 ⇓P **P 02 40 20.2 +0.3**
baz=52
CHMT Chamberlain Mo 52.73 59 *e*P **P 02 40 19.0 -0.9**
FFC Flin Flon 52.77 46 *e*P **P 02 40 19.7 -0.6**
FFC *e**PP pP 02 40 42.6 -0.7
HOPS Hopland 52.78 73 ⇓P **P 02 40 20.4 +0.1**
baz=53
WVOR Wild Horse Val 52.90 67 *e*P **P 02 40 21.0 -0.2**
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WVOR Wild Horse Val 52.90 67 *e*P **P 02 40 21.0 -0.2**
comp=Z,3.4nm,0.8s,mb4.4
ELFS Eagle Lake Fie 52.98 70 ⇑P **P 02 40 22.4 +0.6**
baz=53
O04C Chester 52.98 70 P **P 02 40 22.6 +0.8**
baz=53,SNR=7.6
FCC Fort Churchill 53.12 39 *e*P **P 02 40 21.4 -1.4**
FCC *e**PP pP 02 40 44.5 -1.4
FCC pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
FCC Fort Churchill 53.12 39 *e*P **P 02 40 21.4 -1.5**
comp=Z,4.1nm,0.9s,mb4.5
FCC *e*pP pP 02 40 44.5 -1.4
MNRC McLaughlin Nat 53.22 73 ⇑P **P 02 40 24.0 +0.5**
baz=53
SUMG Summit 53.24 7 *e*P **P 02 40 23.9 +0.2**
comp=Z,6.7nm,0.9s,mb4.7
ORV Oroville 53.28 71 ⇑P **P 02 40 23.3 -0.7**
baz=53,SNR=5.2
M07A Soldier Meadow 53.32 68 ⇑P **P 02 40 24.7 +0.4**
baz=53,SNR=10.0
O05C Quincy 53.33 71 ⇑P **P 02 40 24.6 +0.3**
baz=53
HRY Holter Researc 53.58 59 *e*P **P 02 40 25.9 -0.3**
Q03C Winters 53.63 72 ⇓P **P 02 40 27.2 +0.6**
baz=54
L09A Wilkinson Ranc 53.71 67 ⇓P **P 02 40 27.5 +0.4**
baz=54
M08A Happy Creek Ra 53.71 68 ⇑P **P 02 40 27.8 +0.7**
baz=54,SNR=6.5
O06A Flanigan 53.80 70 ⇑P **P 02 40 28.1 +0.3**
baz=54,SNR=13
P06A Stead Airport, 54.09 70 ⇑P **P 02 40 30.1 +0.2**
baz=54
M09A Marrel Ranch, 54.24 67 ⇑P **P 02 40 31.4 +0.5**
baz=54
LAVA Lava Cap Winer 54.26 71 ⇓P **P 02 40 30.7 -0.4**
baz=54,SNR=7.1
N08A GE Springer Mi 54.31 68 ⇓P **P 02 40 31.8 +0.3**
baz=54,SNR=6.4
O07A Toulon 54.32 69 ⇑P **P 02 40 32.1 +0.5**
baz=54,SNR=10
MCMT McKenzie Canyo 54.35 61 *e*P **P 02 40 31.0 -0.8**
AAK Ala-Archa 54.39 295 *e*P **P 02 40 30.6 -1.5**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
AAK Ala-Archa 54.39 295 *e*P **P 02 40 30.6 -1.5**
comp=Z,5.7nm,0.9s,mb4.6
HLID Hailey 54.40 63 *e*P **P 02 40 31.5 -0.6**
comp=Z,1.4nm,0.9s,mb4.0
BOZ Bozeman (W) 54.41 60 *e*P **P 02 40 31.8 -0.4**
BOZ *e**PP pP 02 40 55.1 -0.3
BOZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BOZ Bozeman (W) 54.41 60 *e*P **P 02 40 31.8 -0.4**
comp=Z,2.5nm,0.7s,mb4.3
BOZ *e*pP pP 02 40 55.1 -0.3
WCN Washoe City 54.43 70 ⇓P **P 02 40 32.7 +0.4**
baz=54
WENL Wente Brothers 54.48 73 ⇓P **P 02 40 32.9 +0.2**
baz=54
BNLO Ben Lomond 54.59 74 ⇓P **P 02 40 33.2 -0.3**
baz=54
N09A Rock Creek Ran 54.59 68 ⇑P **P 02 40 33.7 +0.2**
baz=54
M10A I.L. Ranch, Tu 54.66 66 ⇑P **P 02 40 34.3 +0.3**
baz=54
R05C Kirkwood Meado 54.67 71 ⇑P **P 02 40 34.2 +0.1**
baz=54
P07A Fallon 54.75 70 ⇓P **P 02 40 34.8 +0.2**
baz=55
CMB Columbia Colle 54.96 72 ⇑P **P 02 40 36.2 0.0**
baz=55
P08A Dixie Valley 55.09 69 ⇑P **P 02 40 37.6 +0.4**
baz=55
M11A Holland Ranch, 55.13 66 ⇑P **P 02 40 37.7 +0.2**
baz=55
R06C Coleville 55.15 71 ⇑P **P 02 40 38.0 +0.5**
baz=55
PACP Pacheco Peak 55.17 73 ⇓P **P 02 40 36.5 -1.2**
baz=55
N10A Dunphy 55.23 67 ⇑P **P 02 40 38.8 +0.6**
baz=55
O09A Fish Creek Ran 55.25 68 ⇓P **P 02 40 38.9 +0.6**
baz=55,SNR=7.3
GCMT Greycliff 55.31 58 *e*P **P 02 40 38.8 +0.1**
S06C San Francisco 55.37 72 ⇓P **P 02 40 39.1 -0.1**
baz=55
HAST Hastings Reser 55.46 74 ⇑P **P 02 40 40.1 +0.3**
baz=55
S05C Merced 55.47 72 ⇓P **P 02 40 40.4 +0.5**
baz=55
N11A Elko Archery C 55.58 66 ⇑P **P 02 40 41.3 +0.6**
baz=55
R07C Lee Vining 55.67 71 ⇑P **P 02 40 42.0 +0.6**
baz=56
P09A Austin 55.71 68 ⇑P **P 02 40 41.8 +0.3**
baz=56
Q08A Gabbs 55.76 70 ⇓P **P 02 40 42.4 +0.5**
baz=56,SNR=6.3
NVAR Mina Array Bea 55.85 70 P **P 02 40 42.8 +0.2**
comp=Z,3.1nm,0.8s,mb4.4,baz=304,slow=5.6,SNR=20
NVAR pP pP 02 41 05.8 -0.1
comp=Z,2.7nm,0.8s,baz=282,slow=9.4,SNR=8.8
NVAR sP sP 02 41 16.9 +0.5
comp=Z,2.8nm,0.8s,baz=291,slow=7.5,SNR=5.9
ELK Elko 55.91 66 *e*P **P 02 40 42.9 -0.1**
ELK *e**PP pP 02 41 05.9 -0.4
ELK pmax pmax
comp=Z,6.0nm,1.3s
ELK Elko 55.91 66 *e*P **P 02 40 42.9 -0.1**

comp=Z,5.7nm,1.3s,mb4.4
ELK *e*pP pP 02 41 05.9 -0.3
ELK *e*sP sP 02 41 15.3 -1.5
U04C Hernandez Rese 55.92 74 ⇑P P 02 40 42.7 -0.3
baz=56
N12A Wells--Clov Va 55.94 66 ⇑P P 02 40 43.9 +0.6
baz=56,SNR=7.9
IMW Indian Meadow 55.98 61 *e*P **P 02 40 44.0 +0.4**
comp=Z,5.4nm,0.9s,mb4.6
R08A Mina 56.01 70 ⇓P P 02 40 43.8 0.0
baz=56
M13A Montello 56.05 65 ⇓P P 02 40 44.0 0.0
baz=56
MOOW Moose Ponds 56.18 61 *e*P **P 02 40 45.2 +0.3**
comp=Z,1.9nm,0.9s,mb4.1
TPAW Teton Pass 56.26 61 *e*P **P 02 40 46.1 +0.6**
comp=Z,5.0nm,1.0s,mb4.5
LOHW Long Hollow 56.35 61 *e*P **P 02 40 46.6 +0.4**
comp=Z,14nm,1.4s,mb4.8
LAO LASA Array 56.39 56 *e*P **P 02 40 46.2 -0.2**
comp=Z,5.5nm,0.9s,mb4.6
N13A West Wendover 56.39 65 ⇑P P 02 40 46.7 +0.2
baz=56
O12A Currie 56.51 66 ⇓P P 02 40 47.4 +0.2
baz=56
S08C White Mtn Res 56.58 71 ⇓P P 02 40 47.1 -0.7
baz=56
HELL Mitchell Peak 56.69 72 ⇓P P 02 40 47.9 -0.6
baz=56
JOF Joensuu 56.70 334 *e*p **P 02 40 45.4 -3.2**
comp=Z,5.1nm,0.9s,mb4.5
S09A Goldfield 56.95 70 ⇓P P 02 40 50.5 +0.1
baz=57,SNR=5.6
P12A McGill 56.98 67 ⇑P P 02 40 50.7 0.0
baz=57
AKTK Aktyubinsk 57.01 312 P **P 02 40 49.7 -1.1**
AKTK PcP PcP 02 41 44.0 -0.9
AKTO Aktyubinsk 57.01 312 P **P 02 40 49.7 -1.1**
comp=Z,2.6nm,0.7s,mb4.4,baz=357,slow=6.2,SNR=9.3
AKTO PcP PcP 02 41 44.0 -0.9
comp=Z,1.7nm,0.7s,baz=77,slow=3.4,SNR=4.8
SFJD Kangerlussuaq 57.36 14 P **P 02 40 52.3 -0.9**
comp=Z,4.1nm,0.5s,mb4.7,baz=0.0,slow=5.1,SNR=3.1
CWC Cottonwood Cre 57.39 72 ⇓P P 02 40 53.6 +0.2
baz=57
BW06 Boulder Array 57.49 61 *e*P **P 02 40 54.2 +0.1**
comp=Z,9.2nm,1.1s,mb4.7
PDAR Pinedale Array 57.49 61 P **P 02 40 54.4 +0.2**
comp=Z,5.6nm,0.8s,mb4.7,baz=328,slow=3.1,SNR=40
PDAR pP pP 02 41 17.2 -0.3
comp=Z,2.0nm,0.7s,baz=323,slow=3.3,SNR=4.5
DUG Dugway 57.60 65 *e*P **P 02 40 55.4 +0.4**
DUG *e**PP pP 02 41 18.0 -0.4
DUG *e**SP sP 02 41 28.7 -0.2
DUG pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
DUG Dugway 57.60 65 *e*P **P 02 40 55.4 +0.4**
comp=Z,4.9nm,1.1s,mb4.5
DUG *e*pP pP 02 41 17.9 -0.4
DUG *e*sP sP 02 41 28.7 -0.2
ISA Isabella 57.72 73 ⇓P P 02 40 55.9 0.0
baz=58
SBC Santa Barbara 57.90 74 ⇓P P 02 40 56.8 -0.3
baz=58
TPNV Topopah Spring 58.05 70 *e*P **P 02 40 58.1 0.0**
TPNV *e**PP pP 02 41 20.7 -0.8
TPNV pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TPNV Topopah Spring 58.05 70 *e*P **P 02 40 58.1 0.0**
comp=Z,5.7nm,1.0s,mb4.6
TPNV *e*pP pP 02 41 20.7 -0.8
ULM Lac du Bonnet 58.58 47 P **P 02 41 01.6 -0.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=321,slow=6.6,SNR=6.0
ULM pP pP 02 41 24.7 -0.6
comp=Z,2.9nm,0.6s,baz=312,slow=7.0,SNR=5.5
ULM sP sP 02 41 35.4 -0.3
comp=Z,2.2nm,0.8s,baz=358,slow=3.5,SNR=2.5
ULM Lac du Bonnet 58.58 47 P **P 02 41 01.6 -0.1**
ULM pP pP 02 41 24.7 -0.6
ULM sP sP 02 41 35.4 -0.3
KAF Kangasniemi 58.62 336 *e*p **P 02 41 00.1 -2.0**
comp=Z,2.9nm,0.8s,mb4.4,baz=31,slow=6.5
KAF Kangasniemi 58.62 336 *e*P **P 02 41 00.1 -2.0**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
GSC Goldstone 58.92 72 ⇓P P 02 41 04.1 -0.1
baz=59
MSU Marysvale 59.16 66 *e*P **P 02 41 06.2 +0.4**
CCUT Cedar City 59.21 68 *e*P **P 02 41 06.3 +0.2**
CCUT epP pP 02 41 28.8 -0.8
FINES FINESS Array B 59.25 336 P **P 02 41 05.6 -0.9**
comp=Z,2.0nm,0.7s,mb4.3,baz=37,slow=9.1,SNR=16
FINES FINESS Array B 59.25 336 P **P 02 41 05.6 -0.9**
TUQ Turquoise Mtn. 59.32 71 ⇓P P 02 41 06.7 -0.2
baz=59
SRU San Rafael 59.61 64 *e*P **P 02 41 08.9 0.0**
SRU *e**PP pP 02 41 32.1 -0.3
SRU pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SRU San Rafael 59.61 64 *e*P **P 02 41 08.9 0.0**
comp=Z,9.3nm,0.9s,mb4.8
SRU *e*pP pP 02 41 32.0 -0.4
PFO Pinyon Flat Ob 60.35 73 ⇓P P 02 41 14.0 0.0
baz=60
BC3 Big Chuckw Mtn 60.89 72 ⇑P P 02 41 17.2 -0.4
baz=61
PV10 Paradox Valley 60.94 64 *e*P **P 02 41 18.6 +0.6**
W14A Seligman 61.07 69 ⇓P P 02 41 19.1 +0.2
baz=61
X13A Yucca 61.11 70 ⇓P P 02 41 18.9 -0.2
baz=61
Y12C Blythe 61.34 71 ⇓P P 02 41 20.6 -0.1
baz=61
PV01 Paradox Valley 61.37 64 *e*P **P 02 41 20.6 -0.2**
SMCO Snowmass 61.44 62 *e*P **P 02 41 21.5 +0.1**
comp=Z,3.3nm,0.9s,mb4.4
SMCO *e*pP pP 02 41 44.9 -0.1
W15A Williams 61.54 69 ⇑P P 02 41 22.6 +0.6
baz=61
OBN Obninsk 61.65 327⇓*P **P 02 41 21.6 -1.2**
OBN *e* 02 43 40.3
OBN pmax pmax
comp=Z,17nm,1.9s,mb4.8
GLA Glamis 61.68 72 ⇑P P 02 41 22.9 -0.1
baz=62
Y13A Salome 61.68 71 ⇓P P 02 41 22.8 -0.1
baz=62
ISCO Idaho Springs 61.69 61 *e*P **P 02 41 23.8 +0.8**
ISCO pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ISCO Idaho Springs 61.69 61 *e*P **P 02 41 23.8 +0.8**
comp=Z,5.6nm,1.1s,mb4.5
X14A Yava 61.72 70 ⇑P P 02 41 23.6 +0.4
baz=62
Y14A Wickenburg 62.05 70 ⇑P P 02 41 25.4 -0.1
baz=62
X15A Humboldt 62.06 69 ⇓P P 02 41 26.1 +0.6
baz=62,SNR=5.6
NB2 NORSAR Subarra 62.69 343 P **P 02 41 27.8 -1.9**
comp=Z,0.9nm,0.6s,mb3.9,baz=21,slow=6.9
NB2 NORSAR Subarra 62.69 343 P **P 02 41 27.8 -1.9**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 62.69 343 P **P 02 41 28.8 -1.0**
comp=Z,1.4nm,0.7s,mb4.0,baz=20,slow=6.7,SNR=5.5
ECSD EROS,Sioux Fal 63.16 52 *e*P **P 02 41 31.9 -0.9**
115A Sonoran Desert 63.40 70 ⇓P P 02 41 34.7 +0.3
baz=63,SNR=5.5
116A Eloy 63.80 70 ⇓P P 02 41 37.1 +0.1
baz=64
ANMO Albuquerque 64.87 65 ⇓*i*P **P 02 41 44.5 +0.5**
ANMO Albuquerque 64.87 65 *e*P **P 02 41 43.9 -0.1**
comp=Z,4.1nm,1.4s,mb4.1
LAZ Ladron 64.92 66 *e*P **P 02 41 44.5 +0.1**
LAZ epP pP 02 42 08.4 +0.3
SCHQ Schefferville 65.15 27 P **P 02 41 44.8 -1.1**
comp=Z,1.5nm,0.7s,mb3.9,baz=13,slow=6.5,SNR=5.3
KSM Kuching 65.92 236 *e*P **P 02 41 51.6 +0.8**
KULM Kulim 67.70 247 *e*P **P 02 42 02.1 0.0**
AKASG Malin Array Be 67.75 328 P **P 02 42 01.1 -1.2**
comp=Z,2.7nm,0.7s,mb4.2,baz=30,slow=6.0,SNR=14
MNTX Cornudas Mount 67.93 66 *e*P **P 02 42 03.2 -0.3**
comp=Z,6.6nm,1.3s,mb4.3
MNTX *e*pP pP 02 42 26.6 -1.0
WMOK Wichita Mounta 69.06 60 *e*P **P 02 42 09.6 -1.0**
WMOK *e**PP pP 02 42 33.0 -1.6
WMOK pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
WMOK Wichita Mounta 69.06 60 *e*P **P 02 42 09.6 -0.9**
comp=Z,4.8nm,0.9s,mb4.3
WMOK *e*pP pP 02 42 33.0 -1.7
PSI Prapat 70.71 247 P **P 02 42 21.1 +0.4**
comp=Z,11nm,0.8s,mb4.7,baz=310,slow=2.1,SNR=8.8
CLL Collm 71.49 339 *i* P **P 02 42 24.9 -0.5**
comp=Z,13nm,1.5s,mb4.5
CLL Collm 71.49 339 *i* P **P 02 42 24.9 -0.5**
CLL pmax pmax
comp=Z,13nm,1.5s,mb4.5
MORC Moravsky Berou 71.86 335 *e*P **P 02 42 27.2 -0.4**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
MORC Moravsky Berou 71.86 335 *e*P **P 02 42 27.2 -0.4**
comp=Z,1.9nm,0.8s,mb4.0
WVT Waverly 73.28 51 *e*P **P 02 42 35.0 -1.0**
WVT *e**PP pP 02 42 59.4 -0.9
WVT pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
WVT Waverly 73.28 51 *e*P **P 02 42 35.0 -1.1**
comp=Z,4.2nm,0.9s,mb4.3
WVT *e*pP pP 02 42 59.4 -0.9
GERES GERESS Array B 73.65 337 P **P 02 42 38.4 +0.2**
comp=Z,0.6nm,0.6s,mb3.5,baz=46,slow=3.9,SNR=7.9
BAIF Baives 74.37 344 *e*P **P 02 42 41.6 -0.8**
SWET Sewanee 74.91 50 *e*P **P 02 42 43.6 -1.9**
SWET *e*pP pP 02 43 08.3 -1.6
MALT Malatya 75.08 316 *e*P **P 02 42 46.5 0.0**
MALT pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
MALT Malatya 75.08 316 *e*P **P 02 42 46.5 0.0**
comp=Z,1.4nm,0.9s,mb3.7
CDF Champ du Feu 75.41 341 *e*P **P 02 42 47.6 -0.8**
MEZF Maizieres J'vi 75.73 343 *e*P **P 02 42 49.0 -1.2**
BRTR Keskin Array B 75.78 320 P **P 02 42 50.0 -0.4**
comp=Z,0.5nm,0.7s,mb3.4,baz=54,slow=2.2,SNR=4.8
BRTR Keskin Array B 75.78 320⇑*e*P **P 02 42 50.5 0.0**
FLN La Foliniere 76.35 346 *e*P **P 02 42 52.9 -0.8**
LDF La Druitiere 76.46 346 *e*P **P 02 42 53.7 -0.6**
GRR Gorron 76.76 347 *e*P **P 02 42 55.0 -1.1**
comp=Z,15nm,1.1s,mb4.3
GRR Gorron 76.76 347 *e*P **P 02 42 55.0 -1.1**
GRR pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
GRR Gorron 76.76 347 *e*P **P 02 42 55.0 -1.1**
comp=Z,7.4nm,1.1s,mb4.3
SGMF Saint Gilles 77.12 348 *e*P **P 02 42 57.0 -1.0**
comp=Z,13nm,1.0s,mb4.3
SGMF Saint Gilles 77.12 348 *e*P **P 02 42 57.0 -1.0**
SGMF pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
SGMF Saint Gilles 77.12 348 *e*P **P 02 42 57.0 -1.0**
comp=Z,6.3nm,1.0s,mb4.3
ROSF Rostrenen 77.13 348 *e*P **P 02 42 57.1 -1.0**
LOR Lormes 77.13 343 *e*P **P 02 42 57.4 -0.7**
comp=Z,2.0nm,0.5s,mb3.8
LOR Lormes 77.13 343 *e*P **P 02 42 57.4 -0.7**
LOR pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
LOR Lormes 77.13 343 *e*P **P 02 42 57.4 -0.7**
comp=Z,1.0nm,0.5s,mb3.8
AVF Avril sur Loir 77.68 343 *e*P **P 02 43 00.4 -0.8**
comp=Z,7.4nm,1.0s,mb4.1
AVF Avril sur Loir 77.68 343 *e*P **P 02 43 00.4 -0.8**
AVF pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
AVF Avril sur Loir 77.68 343 *e*P **P 02 43 00.4 -0.8**
comp=Z,3.7nm,1.0s,mb4.1
SMF Signal de Mont 77.74 343 *e*P **P 02 43 00.8 -0.7**
comp=Z,8.7nm,1.0s,mb4.1
SMF Signal de Mont 77.74 343 *e*P **P 02 43 00.8 -0.7**
SMF pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
SMF Signal de Mont 77.74 343 *e*P **P 02 43 00.8 -0.7**
comp=Z,4.3nm,1.0s,mb4.1
LPL La Plagne 78.29 341 *e*P **P 02 43 04.2 -0.4**
comp=Z,5.9nm,0.7s,mb4.1
LPL La Plagne 78.29 341 *e*P **P 02 43 04.2 -0.4**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
LPL La Plagne 78.29 341 *e*P **P 02 43 04.2 -0.4**
comp=Z,3.0nm,0.7s,mb4.1
LPG La Plagne 78.31 341 *e*P **P 02 43 04.1 -0.5**
comp=Z,7.5nm,0.7s,mb4.2
LPG La Plagne 78.31 341 *e*P **P 02 43 04.1 -0.5**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
LPG La Plagne 78.31 341 *e*P **P 02 43 04.1 -0.5**
comp=Z,3.8nm,0.7s,mb4.2
ORIF Oris-en-Rattie 79.03 341 *e*P **P 02 43 08.0 -0.6**
MBDF Montbardon 79.04 341 *e*P **P 02 43 08.1 -0.6**
RJF Les Rejaudoux 79.42 344 *e*P **P 02 43 09.9 -0.9**
comp=Z,13nm,1.0s,mb4.4
RJF Les Rejaudoux 79.42 344 *e*P **P 02 43 09.9 -0.9**
RJF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
RJF Les Rejaudoux 79.42 344 *e*P **P 02 43 09.9 -0.9**
comp=Z,6.6nm,1.0s,mb4.4
CAF Calviac 79.70 344 *e*P **P 02 43 11.5 -0.8**
LFF La Frestale 79.90 345 *e*P **P 02 43 12.3 -1.0**
SMRF Simiane la Rot 80.00 341 *e*P **P 02 43 12.8 -1.1**
comp=Z,6.2nm,0.7s,mb4.2
SMRF Simiane la Rot 80.00 341 *e*P **P 02 43 12.8 -1.1**
comp=Z,6.2nm,0.7s,mb4.5
EPF Esparros 81.83 345 *e*P **P 02 43 22.6 -1.0**
ETSF Etsaut 82.10 345 *e*P **P 02 43 24.3 -0.7**
comp=Z,23nm,1.3s,mb4.5
ETSF Etsaut 82.10 345 *e*P **P 02 43 24.3 -0.7**
ETSF pmax pmax
comp=Z,11nm,1.3s,mb4.5
ETSF Etsaut 82.10 345 *e*P **P 02 43 24.3 -0.7**
comp=Z,11nm,1.3s,mb4.5
ESDC Sonseca Array 85.74 347 P **P 02 43 43.6 +0.1**
comp=Z,3.3nm,0.7s,mb4.4,baz=2.2,slow=4.7,SNR=25
ESDC pP pP 02 44 09.7 +1.2
comp=Z,0.5nm,0.6s,baz=4.1,slow=4.8,SNR=2.3
TORD Torodi Ar. Bea 110.60 337 PKiKP PKiKP 02 49 35.8 -0.7
comp=Z,0.1nm,0.5s,baz=357,slow=2.4,SNR=6.1

IDC ***04*** *02:36:25.3±0.6,324S×13977E,h0km,mb4.5/13, mb1 4.5/15,mb1mx4.5/16,mbtmp4.5/15,ML4.2/2,MS3.9/7, Ms1 3.9/7,ms1mx3.6/19,Error ellipse: s-maj=22.9km s-min=13.6km az=87.0*
MOS ***04*** *02:36:28.7±1.3,315S×13951E,h33km,mb4.7/11,Error ellipse: s-maj=15.6km s-min=8.0km az=101.2*
BJI ***04*** *02:36:30.1,380S×13992E,h89km,mB5.0,mb4.8,Ms4.4, Msz4.1*
ISCJB ***04*** *02:36:31.5±1.5,334S±004×13966E±007,h64km±14km, mb4.6/38,Error ellipse: s-maj=12.2km s-min=6.6km az=10.5*
NEIC ***04*** *02:36:33.0±1.2,329S×13967E,h63km±11km,mb4.5/25, Error ellipse: s-maj=8.7km s-min=6.8km az=75.0*
ISC 04 02:36:34.1±1.3,335S±005×13973E±008,h71km±13km, n92,σ1=01/90,mb4.5/38,3C-3D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.52**	**130**	Pn	**Pn**	**02 38 50.3**	**+2.0**
1.3nm,0.3s,baz=0.0,slow=2.0,SNR=3.9							
PMG	**Port Moresby**	**9.52**	**130**	*i* P	**Pn**	**02 38 52.5**	**+4.2**
PMG	**Port Moresby**	**9.52**	**130**	*e*Pn	**Pn**	**02 38 50.2**	**+1.9**
143nm,1.0s							
KAKA	**Kakadu**	**11.77**	**217**	*e*P	**Pn**	**02 39 17.9**	**-1.1**
215nm,0.5s							
WRAB	**Tennant Creek**	**17.30**	**197**	*e*P	**Pn**	**02 40 30.8**	**0.0**
WRAB				*e*		02 43 33.9	
WRAB				pmax	pmax		
comp=Z,72nm,0.7s							
WRAB	**Tennant Creek**	**17.30**	**197**	*e*Pn	**Pn**	**02 40 30.8**	**0.0**
comp=Z,72nm,0.7s							
WRAB				*e*Sn	**Sn**	**02 43 33.9**	**-8.7**
WB2	**Warramunga Arr**	**17.31**	**197**	*e*P	**Pn**	**02 40 30.0**	**-0.9**
WB2				*e*S	**S**	**02 43 30.6**	**-17**
WRA	**Warramunga Arr**	**17.31**	**197**	P	**Pn**	**02 40 29.4**	**-1.5**
comp=Z,2.1nm,0.3s,baz=18,slow=13,SNR=24							
WRA				S	**S**	**02 43 36.5**	**-11**
comp=Z,1.5nm,0.3s,baz=353,slow=24,SNR=5.6							
WRA				Lg		02 45 52.1	
baz=36,slow=29,SNR=3.7							
WRA	**Warramunga Arr**	**17.31**	**197**	P	**Pn**	**02 40 29.4**	**-1.5**
WRA				S	**S**	**02 43 36.5**	**-11**

CTA Charters Tower 17.81 160 *e*P **Pn 02 40 40.7 +3.6**
comp=Z,18nm,1.7s
CTA Charters Tower 17.81 160 P **Pn 02 40 37.2 +0.1**
comp=Z,0.1nm,0.3s,baz=287,slow=9.7,SNR=2.1
CTA LR LR 02 47 57.9
comp=Z,326nm,18.5s,baz=153,slow=39
CTAO Charters Tower 17.81 160 *e*P **Pn 02 40 40.6 +3.5**
CTAO pmax pmax
comp=Z,8.0nm,0.7s
CTAO Charters Tower 17.81 160 *e*P **Pn 02 40 40.6 +3.5**
comp=Z,8.1nm,0.7s
FITZ Fitzroy Crossi 20.14 222 *e*P **P 02 41 02.7 +0.4**
comp=Z,49nm,0.9s
FITZ *e*S **S 02 44 38.4 -6.1**
FITZ Fitzroy Crossi 20.14 222 P **P 02 41 03.2 +0.9**
comp=Z,21nm,0.9s,baz=54,slow=12,SNR=29
FITZ S **S 02 44 37.5 -7.0**
comp=Z,24nm,0.6s,baz=186,slow=14,SNR=9.0
FITZ LR LR 02 49 30.6
comp=Z,379nm,20.7s,baz=241,slow=39
ASAR Alice Springs 20.97 195 P **P 02 41 11.6 +0.3**
comp=Z,14nm,0.7s,baz=26,slow=9.9,SNR=44
ASAR S **S 02 44 58.1 -2.8**
comp=Z,7.6nm,0.7s,baz=16,slow=27,SNR=5.3
HNR Honiara 20.97 108 LR LR 02 48 51.5
comp=Z,149nm,19.1s,baz=182,slow=36
KKM Kota Kinabalu 25.27 292 *e*P **P 02 41 53.5 -0.1**
MBWA Marble Bar 26.30 226 *e*P **P 02 42 01.1 -1.8**
comp=Z,7.2nm,0.6s,mb4.3
STKA Stephens Creek 28.43 177 *e*P **P 02 42 21.8 -0.2**
comp=Z,3.1nm,0.8s,mb3.9
STKA Stephens Creek 28.43 177 P **P 02 42 21.9 -0.1**
comp=Z,2.3nm,0.8s,mb3.8,baz=358,slow=8.0,SNR=3.6
STKA LR LR 02 54 56.1
comp=Z,270nm,20.7s,baz=281,slow=39
FORT Forrest 29.43 201 *e*P **P 02 42 32.1 +1.3**
comp=Z,9.2nm,0.6s,mb4.6
DZM Mont Dzumac 31.91 128 P **P 02 42 53.3 +0.7**
comp=Z,3.6nm,0.6s,mb4.2,baz=225,slow=12,SNR=4.1
JOW Kunigami 31.98 340 LR LR 02 53 55.0
comp=Z,123nm,19.6s,baz=298,slow=33
NWAO Narrogin (SRO) 36.19 213 P **P 02 43 30.4 +0.7**
comp=Z,4.4nm,0.7s,mb4.5,baz=63,slow=4.5,SNR=2.8
SSE Sheshan 38.55 334 *e*P **P 02 43 48.6 -1.1**
SSE AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,40nm,3.7s
MJAR Matsushiro Arr 39.71 358 P **P 02 43 58.7 -0.7**
comp=Z,0.9nm,0.5s,mb3.9,baz=333,slow=10,SNR=6.3
MAJO Matsushiro 39.71 358 *e*P **P 02 43 57.6 -1.8**
MAJO pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
MAJO Matsushiro 39.71 358 *e*P **P 02 43 57.6 -1.8**
comp=Z,3.5nm,0.4s,mb4.5
NJ2 Nanjing 40.41 332 *e*P **P 02 44 05.1 -0.1**
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb4.9
PSI Prapat 41.24 278 P **P 02 44 13.1 +1.1**
comp=Z,32nm,0.9s,mb5.2,baz=92,slow=5.4,SNR=19
GYA Guiyang 43.59 315⇑*i*P **P 02 44 32.1 +1.0**
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
KMI Kunming 45.71 310 P **P 02 44 49.7 +1.7**
KMI AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
ASAJ Asahikawa 47.32 3 P **P 02 45 00.3 -0.3**
comp=Z,8.1nm,0.9s,mb4.5,baz=222,slow=13,SNR=7.4
CD2 Chengdu 48.34 317 *e*P **P 02 45 08.0 -0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
MDJ Mudanjiang 48.61 350 P **P 02 45 11.0 +0.5**
MDJ AMB AMB
comp=Z,50nm,3.5s
CN2 Changchun 48.67 346 *e*P **P 02 45 12.6 +1.7**
YSS Yuzh-Sakhalins 50.16 3 *i* P **P 02 45 22.0 -0.3**
YSS pmax pmax
comp=Z,14nm,1.0s,mb4.8
HHC Hu-ho-hao-te 50.97 333⇑*i*P **P 02 45 29.3 +0.9**
HHC AP pP 02 45 48.1 +1.7
HHC XP sP 02 45 57.0 +2.5
HHC PCP PcP 02 46 44.7 +1.0
HHC PP PP 02 47 27.7 +2.4
HHC SCP ScP 02 50 32.6 -1.0
HHC PCS PcS 02 50 40.6 -0.7
HHC S **S 02 52 39.1 -0.8**
HHC SS SS 02 56 12.8 -2.7
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,100nm,5.4s
HHC LR LR
comp=N,80nm,14.3s
HHC LR LR
comp=E,80nm,13.5s
HHC LR LR
comp=Z,70nm,16.3s
KLR Kul'dur 52.83 353 *e*P **P 02 45 38.7 -3.5**
GTA Gaotai 56.19 323 *e*P **P 02 46 07.2 +0.6**
GTA AP pP 02 46 26.2 +1.3
GTA XP sP 02 46 34.7 +1.8
GTA PP PP 02 48 14.5 +2.2
GTA PPP 02 49 32.5
GTA SCP ScP 02 50 54.8 -1.6
GTA PCS PcS 02 51 03.9 -0.2
GTA S **S 02 53 52.6 +2.0**
GTA XS sS 02 54 25.3 +3.6
GTA SCS ScS 02 55 43.6 -5.6
GTA SS SS 02 57 42.6 +4.7
GTA AMB AMB
comp=Z,120nm,4.2s
GTA LR LR
comp=N,70nm,9.5s
GTA LR LR
comp=E,120nm,8.7s
GTA LR LR
comp=Z,90nm,9.5s
ULN Ulaanbaatar 58.47 335 *i* P **P 02 46 23.3 +0.6**
ULN Ulaanbaatar 58.47 335 *e*P **P 02 46 22.3 -0.3**
comp=Z,0.9nm,0.5s,mb4.1
SONM Songino Array 58.73 334 P **P 02 46 24.5 0.0**
comp=Z,0.4nm,0.4s,mb3.8,baz=147,slow=8.2,SNR=3.0
JIRN Jiri 60.04 305 *e*P **P 02 46 33.9 +0.4**
comp=Z,13nm,0.5s,mb5.2
GUN Gumba 60.39 305 *e*P **P 02 46 36.6 +0.7**
comp=Z,40nm,1.0s,mb5.4
PKI Pulchoki 60.65 304 *e*P **P 02 46 37.8 +0.2**
KKN Kakani 60.84 304 *e*P **P 02 46 39.5 +0.6**
comp=Z,35nm,0.9s,mb5.4
KKN Kakani 60.84 304 *e*P **P 02 46 39.5 +0.6**
KKN pmax pmax
comp=Z,35nm,0.9s,mb5.4
DMN Daman 60.92 304 *e*P **P 02 46 40.3 +0.9**
comp=Z,21nm,0.6s,mb5.3
GKN Gorkha 61.45 304 *e*P **P 02 46 43.8 +0.8**
comp=Z,23nm,0.0s
KOLN Koldanda 62.22 304 *e*P **P 02 46 48.3 +0.1**
MA2 Magadan 63.34 6 *e*P **P 02 46 55.9 +0.3**
MA2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MA2 Magadan 63.34 6 *e*P **P 02 46 55.9 +0.3**
comp=Z,4.3nm,0.7s,mb4.5
CASY Casey 66.07 192 *e*P **P 02 47 13.8 +0.4**
comp=Z,10.0nm,0.9s,mb4.7
WMQ Urumqi 66.14 321 *e*P **P 02 47 14.5 +0.6**
WMQ AMB AMB
comp=Z,40nm,5.0s
WMQ LR LR
comp=N,30nm,24.0s
WMQ LR LR
comp=E,20nm,22.0s
WMQ LR LR
comp=Z,30nm,24.0s
MKAR Makanchi Array 70.92 322 P **P 02 47 43.7 +0.1**
comp=Z,2.8nm,0.6s,mb4.2,baz=101,slow=8.0,SNR=19
BILL Bilibino 73.61 10 *i* P **P 02 47 59.2 -0.5**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
BILL Bilibino 73.61 10 *e*P **P 02 47 59.1 -0.6**
comp=Z,2.0nm,0.3s,mb4.3
AAK Ala-Archa 74.37 316⇑*e*P **P 02 48 04.3 +0.2**
AAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
AAK Ala-Archa 74.37 316 *e*P **P 02 48 02.9 -1.3**
comp=Z,6.1nm,1.3s,mb4.2
KURK Kurchatov 74.82 325 *i* P **P 02 48 06.0 -0.7**

KURK Kurchatov 74.82 325 *eP* **P 02 48 05.6 -1.2**
comp=Z,1.8nm,0.6s,mb4.0
VNDA Vanda 75.06 175 P **P 02 48 09.2 +1.2**
comp=Z,6.0nm,0.9s,mb4.3,baz=317,slow=6.4,SNR=12
VNDA LR LR 03 19 43.3
comp=Z,119nm,21.0s,baz=322,slow=35
VNDA Vanda 75.06 175 *eP* **P 02 48 08.9 +0.8**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 75.06 175 *eP* **P 02 48 08.9 +0.8**
comp=Z,3.9nm,0.8s,mb4.2
TIXI Tiksi 75.20 356 *eP* **P 02 48 07.8 -1.1**
TIXI *e* 02 50 56.7
TIXI pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
TIXI pmax pmax
comp=Z,83nm,11.8s
TIXI pmax pmax
comp=N,74nm,10.7s
TIXI pmax pmax
comp=E,127nm,12.2s
BRVK Borovoye 80.49 325 *eP* **P 02 48 37.1 -1.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
BRVK Borovoye 80.49 325 *eP* **P 02 48 37.1 -1.1**
comp=Z,1.9nm,0.6s,mb4.1
CHKZ Chkalovo 80.50 326 *eP* **P 02 48 37.1 -1.2**
CHKZ pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
CHKZ Chkalovo 80.50 326 *eP* **P 02 48 37.1 -1.2**
comp=Z,1.3nm,0.5s,mb4.0
KDAK Kodiak Island 81.14 30 P **P 02 48 41.9 +0.2**
comp=Z,5.1nm,0.6s,mb4.5,baz=317,slow=3.8,SNR=6.6
ZRNK Zerenda 81.19 325 *eP* **P 02 48 41.1 -0.9**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ZRNK Zerenda 81.19 325 *eP* **P 02 48 41.1 -0.9**
comp=Z,3.9nm,0.8s,mb4.3
MAW Mawson 81.92 202 P **P 02 48 47.4 +1.6**
comp=Z,9.4nm,1.0s,mb4.6,baz=75,slow=4.7,SNR=11
MAW LR LR 03 25 04.3
comp=Z,92nm,20.4s,baz=77,slow=36
MAW Mawson 81.92 202 *eP* **P 02 48 46.9 +1.1**
MAW pmax pmax
comp=Z,9.0nm,1.0s
MAW Mawson 81.92 202 *eP* **P 02 48 46.9 +1.1**
comp=Z,8.7nm,1.0s,mb4.5
COLA College 85.63 24 *i P* **P 02 49 03.9 -0.9**
COLA College 85.63 24 *eP* **P 02 49 03.5 -1.3**
comp=Z,3.1nm,0.8s,mb4.3
QSPA South Pole Qui 86.60 180 ⇓*iP* **P 02 49 10.4 +0.9**
comp=Z,22nm,0.8s,mb5.2
SYO Syowa Base 90.53 201 ⇓*eP* **P 02 49 26.6 -1.5**
SYO Syowa Base 90.53 201 ⇓*epP* pP 02 49 49.5 +1.7
INK Inuvik 91.88 22 *eP* **P 02 49 31.4 -3.0**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 91.88 22 *eP* **P 02 49 31.4 -3.0**
comp=Z,2.1nm,0.8s,mb4.4
TORD Torodi Ar. Bea 137.41 286 PKhKP 02 55 38.7
comp=Z,0.3nm,0.8s,baz=61,slow=4.4,SNR=5.5
TORD PKP PKPdf 02 55 51.7 +2.2
comp=Z,0.3nm,0.6s,baz=74,slow=2.2,SNR=6.3
DBIC Dimbokro 144.58 277 PKP PKPdf 02 56 02.7 +0.4
comp=Z,9.5nm,0.5s,baz=75,slow=3.3,SNR=36
DBIC Dimbokro 144.58 277 *e*PKPdf PKPdf 02 56 02.2 -0.1
CPUP Villa Florida 146.19 152 PKPbc PKPbc 02 56 08.0 +1.8
comp=Z,1.6nm,0.7s,baz=183,slow=7.0,SNR=3.9
LPAZ La Paz 146.24 126 PKPbc PKPbc 02 56 09.2 +2.8
comp=Z,3.5nm,0.9s,baz=170,slow=2.5,SNR=13
LPAZ La Paz 146.24 126 *e*PKPbc PKPbc 02 56 08.9 +2.6
SDV Santo Domingo 149.32 78 *e*PKPbc PKPbc 02 56 15.5 +0.8
SAML Samuel 154.09 118 *e*PKPbc PKPbc 02 56 26.1 +0.5

MAN 04 02:57:55.1,1764N×11977E,h1km,mb4.0,ML5.0,MS2.4, Philippine Islands region

*ISCJB **04** 03:02:18.2±0.2,4538N±002×11251W±002,h11km, mb3.8/2,Error ellipse: s-maj=2.9km s-min=2.0km az=65.0*
*NEIC **04** 03:02:19.0,4538N×11260W,h11km,ML3.8(BUT),After BUT.*
NEIC Felt [III] at Dillon and Twin Bridges; [II] at Butte. Felt at Anaconda, Ennis, Gallatin Gateway, Garrison, Helena, Three Forks and Whitehall.
*IDC **04** 03:02:21.5±1.2,4542N×11252W,h24km±11km,mb3.6/2, mb1 3.8/8,mb1mx3.5/25,mbtmp3.7/8,ML3.9/5,Error ellipse: s-maj=10.6km s-min=7.9km az=46.0*
ISC 04 03:02:19.9±0.2,4540N±002×11247W±002,h11km,n124, σ1§47/175,mb3.8/2,33C-23D,Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMT	**Dillon**	**0.10**	**245**	*e*Pg	**Pg**	**03 02 20.5**	**-2.1**
LCCM	**Lewis and Clar**	**0.60**	**44**	⇑P	**Pg**	**03 02 31.9**	**+0.3**
MCMT	**McKenzie Canyo**	**0.64**	**205**	⇑*i*Pg	**Pg**	**03 02 30.0**	**-2.2**
BOZ	**Bozeman (W)**	**0.64**	**67**	⇑*i*Pg	**Pg**	**03 02 32.4**	**0.0**
BOZ				*e*Sg	**Sg**	**03 02 38.8**	**-2.0**
QLMT	**Earthquake Lak**	**0.93**	**127**	*e*Pg	**Pg**	**03 02 37.5**	**-0.4**
YMR	**Madison River**	**1.30**	**124**	*e*Pn	**Pn**	**03 02 44.2**	**+0.3**
YMR				*e*Sg	**Sg**	**03 02 46.2**	**+1.0**
HRY	**Holter Researc**	**1.38**	**19**	⇑*i*Pn	**Pn**	**03 02 45.2**	**+0.1**
YFT	**Old Faithful**	**1.50**	**129**	*e*Pn	**Pn**	**03 02 48.0**	**+1.2**
YFT				*e*Sn	**Sn**	**03 03 08.3**	**+2.0**
CHMT	**Chamberlain Mo**	**1.60**	**341**	⇑*i*Pn	**Pn**	**03 02 47.7**	**-0.5**
LKWY	**Lake**	**1.69**	**119**	*e*Pn	**Pn**	**03 02 51.2**	**+1.9**
LKWY				*e*Sg	**Sg**	**03 03 15.6**	**+1.3**
MSO	**Missoula**	**1.75**	**325**	*e*Pn	**Pn**	**03 02 49.1**	**-1.1**
MSO				*e*Pg	**Pg**	**03 02 51.3**	**-2.2**
MSO				*e*Sg	**Sg**	**03 03 13.3**	**-3.0**
FLWY	**Flagg Ranch**	**1.83**	**136**	⇓*e*Pn	**Pn**	**03 02 52.5**	**+1.2**
FLWY				*e*Sg	**Sg**	**03 03 19.1**	**+0.5**
IMW	**Indian Meadow**	**1.86**	**143**	⇓*i*Pn	**Pn**	**03 02 52.5**	**+0.8**
IMW				*e*Sg	**Sg**	**03 03 18.8**	**-1.0**
GCMT	**Greycliff**	**2.01**	**78**	*e*Pn	**Pn**	**03 02 54.6**	**+0.9**
GCMT				*e*Pg	**Pg**	**03 02 57.5**	**-0.9**
DCID1	**Drake Creek**	**2.03**	**153**	*e*Pn	**Pn**	**03 02 54.7**	**+0.7**
DCID1				*e*Sg	**Sg**	**03 03 23.7**	**-1.5**
MOOW	**Moose Ponds**	**2.06**	**143**	⇓*e*Pn	**Pn**	**03 02 55.5**	**+1.0**
MOOW				*e*Sg	**Sg**	**03 03 23.3**	**-3.0**
TPAW	**Teton Pass**	**2.20**	**150**	*e*Pn	**Pn**	**03 02 57.5**	**+1.1**
TPAW				*e*Sg	**Sg**	**03 03 30.0**	**-0.7**
LOHW	**Long Hollow**	**2.23**	**143**	*e*Pn	**Pn**	**03 02 58.7**	**+1.9**
LOHW				*e*Sg	**Sg**	**03 03 29.6**	**-2.2**
HLID	**Hailey**	**2.31**	**218**	*e*Pn	**Pn**	**03 02 56.1**	**-1.7**
HLID				*e*Sg	**Sg**	**03 03 29.2**	**-4.8**
REDW	**Red Top Meadow**	**2.35**	**150**	*e*Pn	**Pn**	**03 03 00.6**	**+2.3**
REDW				*e*Sg	**Sg**	**03 03 33.0**	**-2.4**
AHID	**Auburn Hatcher**	**2.82**	**159**	*e*Pn	**Pn**	**03 03 07.5**	**+2.7**
AHID				*e*Sg	**Sg**	**03 03 46.0**	**-4.4**
BSMT	**Bassoo Peak**	**2.92**	**328**	P	**Pn**	**03 03 06.4**	**+0.1**
EGMT	**Eagleton**	**3.22**	**35**	⇑*i*Pn	**Pn**	**03 03 10.9**	**+0.6**
BW06	**Boulder Array**	**3.37**	**140**	*e*Pn	**Pn**	**03 03 16.7**	**+4.3**
BW06				*e*Pg	**Pg**	**03 03 22.3**	**-2.2**
BW06				*e*Sg	**Sg**	**03 04 07.7**	**-0.5**
PDAR	**Pinedale Array**	**3.37**	**140**	Pn	**Pn**	**03 03 17.2**	**+4.8**
	2.1nm,0.3s,baz=338,slow=11,SNR=50						
PDAR				Pg	**Pg**	**03 03 21.7**	**-2.8**
	6.8nm,0.3s,baz=338,slow=16,SNR=68						
PDAR				Lg		03 04 04.0	
	3.6nm,0.3s,baz=339,slow=28,SNR=6.3						
HVU	**Hansel Valley**	**3.63**	**184**	*e*Pn	**Pn**	**03 03 16.0**	**0.0**
HVU				*e*Pg	**Pg**	**03 03 25.4**	**-4.1**
HVU				*e*Sg	**Sg**	**03 04 10.4**	**-6.1**
WALA	**Waterton Lakes**	**3.79**	**346**	*e*Pn	**Pn**	**03 03 18.1**	**0.0**
WALA				*e*Sg	**Sg**	**03 04 16.5**	**-5.0**
SPUT	**South Promonto**	**4.09**	**180**	*e*Pn	**Pn**	**03 03 21.8**	**-0.6**
SPUT				*e*Pb	**Pb**	**03 03 28.7**	**-3.2**
SPUT				*e*Pg	**Pg**	**03 03 36.4**	**-1.9**
SPUT				*e*Sg	**Sg**	**03 04 22.7**	**-8.6**
LNOR	**Lincton Mounta**	**4.10**	**279**	P	**Pn**	**03 03 23.5**	**+1.0**
M13A	**Montello**	**4.23**	**198**	⇑P	**Pn**	**03 03 27.5**	**+3.3**
	baz=4.2,SNR=9.1						
NEW	**Newport**	**4.29**	**314**	Pn	**Pn**	**03 03 23.9**	**-1.2**
	3.0nm,0.3s,baz=130,slow=12,SNR=22						
NEW				Pg	**Pg**	**03 03 37.8**	**-4.3**
	7.5nm,0.3s,baz=129,slow=17,SNR=40						
NEW				Lg		03 04 30.6	
	31nm,0.3s,baz=246,slow=22,SNR=21						
NEW	**Newport**	**4.29**	**314**	*e*Pn	**Pn**	**03 03 23.7**	**-1.3**
NEW				*e*Pg	**Pg**	**03 03 37.9**	**-4.1**
NEW				*e*Sg	**Sg**	**03 04 31.0**	**-6.6**
TCUT	**Toone Canyon**	**4.35**	**169**	*e*Pn	**Pn**	**03 03 32.0**	**+6.0**
TCUT				*e*Sg	**Sg**	**03 04 38.9**	**-0.8**
BGU	**Big Grassy Mou**	**4.50**	**185**	*e*Pn	**Pn**	**03 03 31.9**	**+4.0**
BGU				*e*Sg	**Sg**	**03 04 36.7**	**-7.6**
LAO	**LASA Array**	**4.54**	**71**	*e*Pn	**Pn**	**03 03 29.1**	**+0.6**
LAO				*e*Pg	**Pg**	**03 03 42.8**	**-4.0**
LAO				*e*Sn	**Sn**	**03 04 23.1**	**+1.9**
LAO				*e*Sg	**Sg**	**03 04 42.2**	**-3.4**
M11A	**Holland Ranch,**	**4.65**	**212**	⇓P	**Pn**	**03 03 32.4**	**+2.4**
	baz=4.6,SNR=17						
N13A	**West Wendover**	**4.72**	**196**	⇑P	**Pn**	**03 03 34.6**	**+3.6**
	baz=4.7						
CTU	**Camp Tracy**	**4.74**	**173**	*e*Pn	**Pn**	**03 03 32.1**	**+0.9**
OD2	**Odessa Site #2**	**4.75**	**297**	P	**Pn**	**03 03 32.4**	**+1.0**
NOQ	**North Oquirrh**	**4.76**	**177**	*e*Pn	**Pn**	**03 03 39.0**	**+7.5**
M10A	**I.L. Ranch, Tu**	**4.88**	**219**	⇓P	**Pn**	**03 03 35.9**	**+2.7**
	baz=4.8,SNR=7.5						
N12A	**Wells--Clov Va**	**4.92**	**203**	⇑P	**Pn**	**03 03 36.7**	**+2.9**
	baz=4.9,SNR=22						
GBL	**Gable Mountain**	**5.01**	**286**	P	**Pn**	**03 03 34.0**	**-1.0**
LOCW	**Locke Island**	**5.02**	**288**	P	**Pn**	**03 03 35.7**	**+0.6**
HAWA	**Hanford**	**5.03**	**284**	*e*Pn	**Pn**	**03 03 34.0**	**-1.2**
HAWA				*e*Sg	**Sg**	**03 04 55.1**	**-6.2**
L09A	**Wilkinson Ranc**	**5.06**	**230**	⇑P	**Pn**	**03 03 37.9**	**+2.2**
	baz=5.0						
DAU	**Daniels Canyon**	**5.07**	**169**	*e*Pn	**Pn**	**03 03 40.2**	**+4.4**
DAU				*e*Pg	**Pg**	**03 03 55.1**	**-1.9**
DAU				*e*Sg	**Sg**	**03 04 57.9**	**-4.7**
ELK	**Elko**	**5.08**	**204**	*e*Pn	**Pn**	**03 03 35.9**	**0.0**
	25nm,0.6s						
ELK				*e*Pg	**Pg**	**03 03 52.6**	**-4.6**
ELK				*e*Sg	**Sg**	**03 04 50.4**	**-13**
SNIWA	**Snively Ranch**	**5.13**	**284**	P	**Pn**	**03 03 35.8**	**-0.8**
GBB	**Gable Butte**	**5.13**	**286**	P	**Pn**	**03 03 35.5**	**-1.1**
BENWA	**Benson Ranch**	**5.17**	**285**	P	**Pn**	**03 03 36.3**	**-0.9**
DUG	**Dugway**	**5.21**	**183**	*e*Pn	**Pn**	**03 03 38.0**	**+0.3**
	25nm,0.8s						
DUG				*e*Pg	**Pg**	**03 03 55.1**	**-4.6**
DUG				*e*Sg	**Sg**	**03 05 04.5**	**-2.7**
MDW	**Midway**	**5.22**	**286**	P	**Pn**	**03 03 36.9**	**-1.0**
RWWY	**Rawlins**	**5.33**	**132**	*e*Pn	**Pn**	**03 03 43.0**	**+3.7**
	40nm,0.7s						
RWWY				*e*Pg	**Pg**	**03 03 57.2**	**-4.8**
RWWY				*e*Sg	**Sg**	**03 05 08.7**	**-2.3**
WVOR	**Wild Horse Val**	**5.35**	**238**	*e*Pn	**Pn**	**03 03 38.5**	**-1.2**
	48nm,0.7s						
WVOR				*e*Pg	**Pg**	**03 03 56.5**	**-5.9**
M09A	**Marrel Ranch,**	**5.38**	**224**	⇑P	**Pn**	**03 03 43.1**	**+3.0**
	baz=5.3,SNR=7.8						
O12A	**Currie**	**5.40**	**199**	⇓P	**Pn**	**03 03 42.0**	**+1.7**
	baz=5.4						
MPU	**Maple Canyon**	**5.42**	**173**	*e*Pn	**Pn**	**03 03 43.7**	**+3.1**
	10nm,0.7s						
NLU	**North Lily Min**	**5.45**	**177**	*e*Pn	**Pn**	**03 03 44.4**	**+3.3**
I06A	**Prineville**	**5.71**	**258**	⇓P	**Pn**	**03 03 44.5**	**-0.1**
	baz=5.6,SNR=14						
EBG	**Ellensburg**	**5.82**	**288**	P	**Pn**	**03 03 45.5**	**-0.6**
M08A	**Happy Creek Ra**	**5.84**	**230**	⇓P	**Pn**	**03 03 46.4**	**0.0**
	baz=5.8						
TBM	**Table Mountain**	**5.90**	**290**	P	**Pn**	**03 03 46.9**	**-0.4**
J06A	**Christmas Vall**	**5.91**	**251**	P	**Pn**	**03 03 47.1**	**-0.3**
	baz=5.8,SNR=42						
BMN	**Battle Mountai**	**6.07**	**217**	*e*Pn	**Pn**	**03 03 57.2**	**+7.7**
	23nm,0.8s						
BMN				*e*Sg	**Sg**	**03 05 22.2**	**-13**
TMUT	**Trail Mountain**	**6.17**	**171**	*e*Pn	**Pn**	**03 03 52.2**	**+1.2**
TMUT				*e*Sg	**Sg**	**03 05 31.6**	**-6.5**
K06A	**Valley Falls**	**6.17**	**248**	⇑P	**Pn**	**03 03 51.2**	**+0.2**
	baz=6.1						
P12A	**McGill**	**6.20**	**198**	⇑P	**Pn**	**03 03 51.1**	**-0.2**
	baz=6.2						
N08A	**GE Springer Mi**	**6.21**	**224**	⇓P	**Pn**	**03 03 52.7**	**+1.3**
	baz=6.1,SNR=13						
G05A	**Wamic**	**6.24**	**272**	⇑P	**Pn**	**03 03 51.4**	**-0.5**
	baz=6.1						
O09A	**Fish Creek Ran**	**6.28**	**215**	⇑P	**Pn**	**03 03 51.4**	**-1.0**
	baz=6.2						
M07A	**Soldier Meadow**	**6.32**	**233**	⇓P	**Pn**	**03 03 52.8**	**-0.1**
	baz=6.2,SNR=8.4						
F05A	**White Salmon**	**6.32**	**278**	⇓P	**Pn**	**03 03 52.0**	**-1.0**
	baz=6.2						
I05A	**Bend**	**6.38**	**262**	⇓P	**Pn**	**03 03 52.7**	**-1.2**
	baz=6.3						
SRU	**San Rafael**	**6.45**	**166**	*e*Pn	**Pn**	**03 03 58.0**	**+3.2**
	19nm,0.8s						
SRU				*e*Sg	**Sg**	**03 05 38.8**	**-8.2**
E05A	**Randle**	**6.58**	**283**	⇓P	**Pn**	**03 03 55.5**	**-0.9**
	baz=6.5						
MOD	**Modoc**	**6.67**	**241**	*e*Pn	**Pn**	**03 04 02.6**	**+4.8**
	5.2nm,0.7s						
MOD				*e*Pg	**Pg**	**03 04 22.0**	**-5.7**
MOD				*e*Sg	**Sg**	**03 05 49.8**	**-4.2**
C05A	**Tolt Reservoir**	**6.76**	**293**	⇓P	**Pn**	**03 03 58.0**	**-1.0**
	baz=6.7						
D05A	**Enumclaw**	**6.83**	**289**	⇑P	**Pn**	**03 03 58.9**	**-1.2**
	baz=6.7						
MSU	**Marysvale**	**6.89**	**178**	*e*Pn	**Pn**	**03 04 05.6**	**+4.8**
MSU				*e*Sg	**Sg**	**03 05 58.1**	**-3.0**
H04A	**Detroit Lake**	**6.92**	**267**	⇑P	**Pn**	**03 03 59.9**	**-1.4**
	baz=6.8						
O07A	**Toulon**	**7.05**	**224**	⇓P	**Pn**	**03 04 01.4**	**-1.6**
	baz=7.0						
M06C	**Likely Place G**	**7.19**	**237**	⇓P	**Pn**	**03 04 03.4**	**-1.6**
	baz=7.1						
B05A	**Bryant**	**7.20**	**297**	⇑P	**Pn**	**03 04 04.4**	**-0.5**
	baz=7.1						
SMCO	**Snowmass**	**7.44**	**145**	*e*Pn	**Pn**	**03 04 08.3**	**+0.1**
	17nm,1.0s						
SMCO				*e*Pg	**Pg**	**03 04 38.3**	**-4.0**
PV10	**Paradox Valley**	**7.47**	**159**	*e*Pn	**Pn**	**03 04 08.8**	**0.0**
PV10				*e*Pg	**Pg**	**03 04 35.6**	**-7.4**
M05C	**Lookout**	**7.50**	**240**	⇑P	**Pn**	**03 04 08.7**	**-0.5**
	baz=7.4						
O06A	**Flanigan**	**7.53**	**228**	⇓P	**Pn**	**03 04 10.3**	**+0.7**
	baz=7.4						
ISCO	**Idaho Springs**	**7.54**	**136**	*e*Pn	**Pn**	**03 04 13.0**	**+3.2**
	6.2nm,0.7s						
C04A	**Brinnon**	**7.60**	**291**	⇑P	**Pn**	**03 04 12.0**	**+1.5**
	baz=7.5						
PAHR	**Pah Rah Range**	**7.64**	**224**	*e*Pn	**Pn**	**03 04 11.7**	**+0.6**
	6.6nm,0.7s						
Q08A	**Gabbs**	**7.69**	**214**	⇑P	**Pn**	**03 04 13.5**	**+1.6**
	baz=7.6						
H03A	**Soap Creek Ran**	**7.70**	**268**	⇑P	**Pn**	**03 04 12.3**	**+0.5**
	baz=7.6						
M04C	**Macdoel**	**7.70**	**245**	⇑P	**Pn**	**03 04 12.0**	**+0.1**
	baz=7.6						
A04A	**Legoe Bay, Lum**	**7.74**	**299**	⇑P	**Pn**	**03 04 13.4**	**+1.0**
	baz=7.7						
F03A	**Seaside**	**7.79**	**278**	⇑P	**Pn**	**03 04 15.1**	**+2.0**
	baz=7.7						
E03A	**Lebam**	**7.81**	**282**	⇓P	**Pn**	**03 04 15.7**	**+2.3**
	baz=7.7						
PV01	**Paradox Valley**	**7.83**	**157**	*e*Pn	**Pn**	**03 04 15.8**	**+2.2**
I03A	**Eugene**	**7.84**	**263**	⇑P	**Pn**	**03 04 16.1**	**+2.3**
	baz=7.7						
EDM	**Edmonton**	**7.85**	**356**	*e*Pn	**Pn**	**03 04 12.6**	**-1.4**
EDM				*e*Pg	Pn	03 04 44.5	+31
HATC	**Hat Creek Radi**	**8.01**	**238**	⇑P	**Pn**	**03 04 19.6**	**+3.4**
	baz=7.9						
HUMO	**Hull Mountain**	**8.06**	**253**	⇓P	**Pn**	**03 04 17.1**	**+0.2**
	baz=8.0						
M03C	**McCloud**	**8.15**	**243**	⇑P	**Pn**	**03 04 20.8**	**+2.6**
	baz=8.1						
R08A	**Mina**	**8.21**	**213**	⇑P	**Pn**	**03 04 22.6**	**+3.8**
	baz=8.1						
NVAR	**Mina Array Bea**	**8.21**	**214**	Pn	**Pn**	**03 04 21.8**	**+2.8**
	0.5nm,0.3s,baz=26,slow=13,SNR=18						
NVAR				Pg	Pn	03 04 40.7	+22
	0.2nm,0.3s,baz=254,slow=24,SNR=3.9						
NVAR				Lg		03 06 31.6	
	0.6nm,0.3s,baz=43,slow=42,SNR=4.3						
NVAR	**Mina Array Bea**	**8.21**	**214**	Pn	**Pn**	**03 04 21.8**	**+2.8**
NVAR				Pg	Pn	03 04 40.7	+22
NVAR				Lg		03 06 31.6	
YBH	**Yreka Blue Hor**	**8.29**	**247**	Pn	**Pn**	**03 04 22.7**	**+2.7**
	0.2nm,0.3s,baz=52,slow=9.5,SNR=7.5						
YBH	**Yreka Blue Hor**	**8.29**	**247**	⇓P	**Pn**	**03 04 22.2**	**+2.2**
	baz=8.2						
S09A	**Goldfield**	**8.46**	**206**	⇑P	**Pn**	**03 04 25.8**	**+3.5**
	baz=8.4						
MVCO	**Mesa Verde**	**8.71**	**159**	*e*Pn	**Pn**	**03 04 28.8**	**+2.9**
WDC	**Whiskeytown Da**	**8.81**	**240**	⇓P	**Pn**	**03 04 27.7**	**+0.5**
	baz=8.7						
ORV	**Oroville**	**8.87**	**232**	⇑P	**Pn**	**03 04 29.0**	**+1.1**
	baz=8.8						
S08C	**White Mtn Res**	**8.98**	**210**	⇓P	**Pn**	**03 04 31.6**	**+2.2**
	baz=8.9						
N02C	**Big Bar**	**9.15**	**244**	⇑P	**Pn**	**03 04 33.8**	**+1.9**
	baz=9.0						
M01C	**Crescent City**	**9.16**	**251**	⇓P	**Pn**	**03 04 35.4**	**+3.4**
	baz=9.1						
SUTB	**Sutter Buttes**	**9.25**	**231**	⇑P	**Pn**	**03 04 34.5**	**+1.3**
	baz=9.2						
ECSD	**EROS,Sioux Fal**	**11.44**	**93**	*e*Pn	**Pn**	**03 05 02.6**	**-0.5**
FFC	**Flin Flon**	**11.50**	**32**	*e*Pn	**Pn**	**03 05 00.8**	**-3.1**
	4.1nm,0.6s						
ULM	**Lac du Bonnet**	**12.16**	**61**	Pn	**Pn**	**03 05 10.3**	**-2.7**
	0.5nm,0.3s,baz=250,slow=10,SNR=6.4						
ULM				Pg	Pn	03 05 59.2	+46
	0.4nm,0.3s,baz=249,slow=17,SNR=3.7						
ULM				Lg		03 08 38.8	
	0.9nm,0.3s,baz=337,slow=22,SNR=4.0						
ULM	**Lac du Bonnet**	**12.16**	**61**	Pn	**Pn**	**03 05 10.3**	**-2.7**
ULM				Pg	Pn	03 05 59.2	+46
ULM				Lg		03 08 38.8	
YKA	**Yellowknife Ar**	**17.17**	**357**	Pn	**Pn**	**03 06 15.5**	**-4.2**
	baz=170,slow=13,SNR=8.1						
YKA				Lg		03 11 05.0	
	baz=166,slow=21,SNR=2.7						
YKA	**Yellowknife Ar**	**17.17**	**357**	Pn	**Pn**	**03 06 15.5**	**-4.2**
YKA				Lg		03 11 05.0	
SCHQ	**Schefferville**	**30.25**	**55**	P	**P**	**03 08 28.8**	**-1.9**
	0.6nm,0.6s,mb3.5,baz=270,slow=14,SNR=2.3						
FINES	**FINESS Array B**	**68.37**	**20**	P	**P**	**03 13 21.1**	**-0.3**
	1.6nm,1.0s,mb4.0,baz=337,slow=2.9,SNR=3.7						

IDC 04 03:03:20.7±3.0,1168S×16597E,h0km,mb4.0/4, mb1 4.1/5,mb1mx4.0/13,mbtmp4.0/5,ML3.5/1,MS3.1/3, Ms1 3.1/3,ms1mx3.0/16,Error ellipse: s-maj=66.7km s-min=36.1km az=93.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.34**	**178**	Pn	Pn	03 05 51.2	+1.0
	0.4nm,0.3s,baz=40,slow=19,SNR=7.7						
PMG	**Port Moresby**	**18.64**	**275**	LR	LR	03 12 55.1	
	comp=Z,40nm,19.4s,baz=227,slow=31						
CTA	**Charters Tower**	**20.71**	**244**	LR	LR	03 15 01.2	
	comp=Z,86nm,20.7s,baz=50,slow=34						
AFI	**Afiamalu**	**21.81**	**98**	LR	LR	03 14 04.0	
	comp=Z,56nm,19.3s,baz=254,slow=30						
STKA	**Stephens Creek**	**30.14**	**224**	P	P	03 09 31.5	-0.7
	1.1nm,0.8s,baz=81,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**31.48**	**251**	P	P	03 09 45.1	+1.1
	2.6nm,1.0s,baz=81,slow=8.7,SNR=6.2						
ASAR	**Alice Springs**	**32.71**	**244**	P	P	03 09 55.1	+0.3
	2.8nm,0.8s,baz=70,slow=9.5,SNR=25						
SONM	**Songino Array**	**79.31**	**324**	P	P	03 15 28.4	+0.3
	0.2nm,0.3s,baz=137,slow=4.3,SNR=3.6						

*NEIC **04** 03:11:10.7±0.7,5149N×1625E,h5km,ML2.5(SZGRF), Error ellipse: s-maj=7.7km s-min=5.1km az=46.0*
*ISCJB **04** 03:11:10.6±0.8,5138N±004×1615E±004,h0km,Error ellipse: s-maj=5.9km s-min=3.1km az=50.7*
*IPEC **04** 03:11:11.0±0.3,5147N×1628E,h0km,ML1.7/2,Error ellipse: s-maj=3.8km s-min=2.0km az=84.0*
*WAR **04** 03:11:12.2,5144N×1619E,ML2.5,Mining Induced*
*PRU **04** 03:11:12.7,5138N×1618E,h0km*
*CSEM **04** 03:11:12.9±0.2,5138N×1618E,h1km,ML3.1/3,Error ellipse: s-maj=3.3km s-min=1.6km az=25.0*
ISC 04 03:11:11.0±0.7,5143N±004×1620E±004,h0km,n20, σ0§87/43,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**174**	*i* Pgd	**Pg**	**03 11 23.3**	**+0.9**
KSP				*e*Sg	**Sg**	**03 11 31.8**	**+1.7**
KSP	**Ksiaz**	**0.59**	**174**	*e*Pg	**Pg**	**03 11 23.2**	**+0.8**
KSP				*e*Sg	**Sg**	**03 11 31.0**	**+0.9**
UPC	**Upice**	**0.94**	**187**	*e*PG	**Pg**	**03 11 29.6**	**+0.7**
DPC	**Dobruska-Polom**	**1.09**	**176**	*e*PG	**Pg**	**03 11 32.2**	**+0.4**
DPC				*e*SG	**Sg**	**03 11 46.1**	**+0.2**
	19nm,0.5s						
PVCC	**Panska Ves**	**1.37**	**229**	*e*PG	**Pg**	**03 11 37.4**	**+0.1**
PVCC				*e*SG	**Sg**	**03 11 56.7**	**+1.6**
	76nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**249**	PN	**Pn**	**03 11 39.4**	**-0.1**
BRG				PG	**Pg**	**03 11 40.2**	**0.0**
BRG				SG	**Sg**	**03 12 00.7**	**+0.5**
	13nm,0.6s						
PRU	**Pruhonice**	**1.79**	**217**	*e*PN	**Pn**	**03 11 43.4**	**+0.3**
PRU				*e*PG	**Pg**	**03 11 44.7**	**-0.6**
PRU				*e*SG	**Sg**	**03 12 08.0**	**-0.5**
	14nm,0.3s						
MORC	**Moravsky Berou**	**1.86**	**152**	*e*Pn	**Pn**	**03 11 43.6**	**-

λ-112.00000°. NP2:φs261.00000°, δ28.00000°, λ-41.00000°.
BJI **04** 03:51:32.9, 3366N×13683E, h378km, mB4.6, mb4.8
MOS **04** 03:51:33.5±0.8, 3359N×13683E, h386km, mb4.6/58, Error ellipse: s-maj=9.6km s-min=4.5km az=113.6
JMA **04** 03:51:34.9±0.1, 3370N×13690E, h392km±2km, M4.5
NEIC **04** 03:51:34.3±0.1, 3362N×13682E, mb4.4/82, Error ellipse: s-maj=4.3km s-min=3.8km az=145.0
IDC **04** 03:51:34.5±0.7, 3363N×13687E, h382km±6km, mb3.9/20, mb1 4.1/24, mb1mx4.0/28, mbtmp4.7/24, Error ellipse: s-maj=12.2km s-min=7.6km az=75.0
ISCJB **04** 03:51:34.5±0.2, 3362N±003×13681E±003, h391km±1km, mb4.4/126, Error ellipse: s-maj=5.0km s-min=3.3km az=165.4
ISC 04 03:51:35.4±0.2,**3368N**±003×**13681E**±002,**h386**km±1km, **h385**km±1.5km:**pP-P,n408,**σ0§**81**/434,**mb4.4**/126,**60C-69D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.66**	**82**	P	**Pn**	**03 52 24.1**	**+0.1**
JIE	**Ise**	**0.71**	**353**	⇓P	**Pn**	**03 52 24.6**	**+0.5**
JIE				S	**S**	**03 53 02.9**	**-0.5**
TK02	**Tokai 2**	**0.83**	**71**	⇓P	**Pn**	**03 52 24.7**	**+0.3**
JWZ	**Kozaga**	**0.93**	**261**	⇓P	**Pn**	**03 52 24.9**	**+0.2**
JWZ				S	**S**	**03 53 04.2**	**-0.3**
TK03	**Tokai 3**	**1.07**	**63**	⇓P	**Pn**	**03 52 25.9**	**+0.7**
TK04	**Tokai 4**	**1.13**	**51**	⇓P	**Pn**	**03 52 26.0**	**+0.6**
JWY	**Kouya**	**1.14**	**298**	P	**Pn**	**03 52 26.5**	**+1.0**
JWY				S	**S**	**03 53 06.6**	**+0.7**
JAI	**Aioi**	**1.97**	**274**	⇑P	**Pn**	**03 52 30.6**	**+0.8**
JAI				S	**S**	**03 53 14.2**	**+0.5**
JWT	**Wachi**	**1.98**	**324**	⇑P	**Pn**	**03 52 30.4**	**+0.6**
JWT				S	**S**	**03 53 13.5**	**-0.3**
JGM	**Miyama**	**2.01**	**358**	⇑P	**Pn**	**03 52 30.7**	**+0.6**
JGM				S	**S**	**03 53 14.5**	**+0.3**
JYN	**Shimob**	**2.31**	**38**	⇓P	**Pn**	**03 52 31.6**	**-0.5**
JIM2	**Oshima 3**	**2.41**	**64**	⇓P	**Pn**	**03 52 31.9**	**-0.9**
JMN	**Monobe**	**2.44**	**272**	⇑P	**Pn**	**03 52 34.3**	**+1.2**
JMN				S	**S**	**03 53 20.4**	**+0.8**
JOD2	**Odawara 2**	**2.46**	**49**	⇓P	**Pn**	**03 52 32.5**	**-0.7**
JOD2				S	**S**	**03 53 19.1**	**-0.7**
JHJ	**Hachijo jima 2**	**2.55**	**102**	P	**Pn**	**03 52 33.1**	**-0.7**
	122nm,0.3s,baz=260,slow=22,SNR=18						
JHJ2	**Mitsune**	**2.58**	**102**	P	**Pn**	**03 52 33.6**	**-0.5**
JKG	**Kaga**	**2.62**	**352**	⇑P	**Pn**	**03 52 34.7**	**+0.3**
JKG				S	**S**	**03 53 21.6**	**-0.4**
JRY	**Ryogami san**	**2.90**	**36**	⇓P	**Pn**	**03 52 36.2**	**-0.4**
JRY				S	**S**	**03 53 24.1**	**-2.0**
MAJO	**Matsushiro**	**3.08**	**21**	⇓*i*P	**Pn**	**03 52 37.4**	**-0.7**
MAJO				*e*S	**S**	**03 53 25.8**	**-3.0**
MAT	**Matsushiro**	**3.08**	**21**	P	**Pn**	**03 52 37.7**	**-0.4**
MAT				S	**S**	**03 53 26.1**	**-2.7**
MAT	**Matsushiro**	**3.08**	**21**	P	**Pn**	**03 52 37.7**	**-0.4**
MAT				S	**S**	**03 53 26.6**	**-2.2**
MAT	**Matsushiro**	**3.08**	**21**	*e*P	**Pn**	**03 52 38.0**	**-0.1**
MAT				*e*S	**S**	**03 53 26.0**	**-2.8**
MJAR	**Matsushiro Arr**	**3.08**	**22**	P	**Pn**	**03 52 37.6**	**-0.5**
	63nm,0.3s,baz=197,slow=9.6,SNR=907						
MJAR				S	**S**	**03 53 26.7**	**-2.1**
	2.3nm,0.3s,baz=194,slow=14,SNR=15						
JHS	**Saijyo**	**3.33**	**294**	⇑P	**Pn**	**03 52 41.4**	**+1.1**
JHS				S	**S**	**03 53 34.8**	**+2.0**
JTO	**Tosashimizu**	**3.46**	**257**	⇑P	**Pn**	**03 52 42.6**	**+1.2**
JTO				S	**S**	**03 53 35.0**	**+0.1**
BSO1	**Boso 1**	**3.59**	**73**	P	**Pn**	**03 52 39.1**	**-3.5**
BSO1				*e*S	**S**	**03 53 31.8**	**-5.3**
CBIJ	**Chichi jima**	**8.04**	**143**	P	**Pn**	**03 53 25.1**	**-5.4**
	125nm,0.3s,baz=327,slow=5.5,SNR=31						
CBIJ				S	**S**	**03 54 51.4**	**-13**
	148nm,0.3s,baz=301,slow=23,SNR=14						
KS15	**Wonju Array Si**	**8.18**	**300**	⇑*i*Pn	**Pn**	**03 53 33.3**	**+1.1**
INCN	**Inchon**	**9.11**	**297**	*e*Pn	**Pn**	**03 53 44.1**	**+1.1**
	81nm,0.7s						
INCN				*e*S	**S**	**03 55 28.0**	**+0.3**
JOW	**Kunigami**	**10.05**	**229**	P	**Pn**	**03 53 54.6**	**+0.8**
	12nm,0.3s,baz=46,slow=7.9,SNR=31						
ASAJ	**Asahikawa**	**11.35**	**22**	P	**Pn**	**03 54 07.5**	**-1.6**
	1.6nm,0.3s,baz=222,slow=13,SNR=20						
ASAJ				S	**S**	**03 56 08.3**	**-6.3**
	1.0nm,0.3s,baz=81,slow=32,SNR=7.3						
ASAJ	**Asahikawa**	**11.35**	**22**	P	**Pn**	**03 54 07.5**	**-1.5**
ASAJ				S	**S**	**03 56 08.3**	**-6.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
MDJ	**Mudanjiang**	**12.27**	**335**	P	**P**	**03 54 18.8**	**+0.4**
MDJ				XP		03 55 45.3	
MDJ				S	**S**	**03 56 34.6**	**+1.4**
MDJ				SCP	ScP	04 02 22.6	+0.4
MDJ				PCS	PcS	04 03 01.2	+0.3
MDJ				AMB	AMB		
	comp=Z,20nm,0.7s						
MDJ	**Mudanjiang**	**12.27**	**335**	*e*Pn	**Pn**	**03 54 18.5**	**-1.2**
	comp=Z,14nm,0.6s						
DL2	**Dalian**	**13.30**	**297**	P	**P**	**03 54 31.4**	**+1.6**
DL2				S	**S**	**03 56 54.7**	**+0.5**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CN2	**Changchun**	**13.43**	**322**	*e*P	**P**	**03 54 32.9**	**+1.7**
CN2				*e*XP		03 55 58.7	
CN2				*e*S	**S**	**03 56 56.1**	**-0.6**
CN2				AMB	AMB		
	comp=Z,20nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
SSE	**Sheshan**	**13.45**	**263**	*e*P	**P**	**03 54 30.8**	**-0.7**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s						
SSE				AMB	AMB		
	comp=Z,60nm,4.0s						
YSS	**Yuzh-Sakhalins**	**14.01**	**17**	*i* P	**P**	**03 54 39.8**	**+2.3**
YSS				pmax	pmax		
	comp=Z,24nm,0.8s						
YSS	**Yuzh-Sakhalins**	**14.01**	**17**	*e*Pn	**P**	**03 54 39.4**	**+1.9**
	comp=Z,46nm,0.6s						
HABR	**Khabarovsk**	**14.84**	**355**	*e*P	**P**	**03 54 50.3**	**+3.8**
HABR				*e*S	**S**	**03 57 29.9**	**+5.0**
HABR				pmax	pmax		
	comp=Z,22nm,1.0s						
NJ2	**Nanjing**	**15.18**	**269**	*e*P	**P**	**03 54 51.2**	**+0.9**
NJ2				XP		03 56 21.4	
NJ2				S	**S**	**03 57 30.0**	**-1.7**
NJ2				PCP	PcP	03 59 27.0	-3.4
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,120nm,4.8s						
NJ2				LR	LR		
	comp=N,360nm,14.4s						
NJ2				LR	LR		
	comp=E,210nm,15.5s						
NJ2				LR	LR		
	comp=Z,140nm,14.5s						
KLR	**Kul'dur**	**15.98**	**348**	*e*P	**P**	**03 54 53.5**	**-5.5**
YHNB	**Yeheng**	**16.18**	**240**	*e*P	**P**	**03 55 00.1**	**-1.0**
NACB	**Ninganchiao**	**16.33**	**238**	*e*P	**P**	**03 55 01.3**	**-1.3**
BJT	**Baijiatuau**	**17.67**	**297**	⇓*i*P	**P**	**03 55 17.1**	**+0.1**
BJT				pmax	pmax		
	comp=Z,26nm,0.5s						
BJT	**Baijiatuau**	**17.67**	**297**	⇓*i*P	**P**	**03 55 17.1**	**+0.1**
	comp=Z,26nm,0.5s						
QZH	**Quanzhou**	**18.10**	**246**	P	**P**	**03 55 19.9**	**-1.6**
QZH				AMB	AMB		
	comp=Z,70nm,0.7s						
WHN	**Wuhan**	**19.27**	**267**	P	**P**	**03 55 33.7**	**-0.1**
HIA	**Hailar**	**20.08**	**326**	⇓*e*P	**P**	**03 55 40.9**	**-0.4**
HIA	**Hailar**	**20.08**	**326**	*e*P	**P**	**03 55 40.6**	**-0.7**
	comp=Z,21nm,0.9s						
HHC	**Hu-ho-hao-te**	**21.28**	**297**	⇑P	**P**	**03 55 52.5**	**+0.1**
HHC				XP	sP	03 57 40.2	-0.1
HHC				S	**S**	**03 59 21.1**	**-0.9**
HHC				PCP	PcP	03 59 43.2	+2.3
HHC				SCP	ScP	04 02 42.9	+2.4
HHC				PCS	PcS	04 03 20.5	+1.1
HHC				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
HHC				AMB	AMB		
	comp=Z,110nm,3.5s						
HHC				LR	LR		
	comp=N,120nm,4.3s						
HHC				LR	LR		
	comp=E,160nm,9.7s						
HHC				LR	LR		
	comp=Z,60nm,11.7s						
GUMO	**Guam**	**21.30**	**158**	P	**P**	**03 55 51.5**	**-1.1**
	comp=Z,225nm,0.7s,baz=172,slow=4.3,SNR=28						
BTO	**Baotou**	**22.39**	**296**	*e*P	**P**	**03 56 02.7**	**+0.3**
BTO				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.1						
XAN	**Xi'an**	**23.14**	**279**	P	**P**	**03 56 09.1**	**-0.1**
XAN				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
CIT	**Chita**	**24.85**	**325**	*e*P	**P**	**03 56 25.3**	**+0.7**
CIT				*e*		03 58 19.2	
ULN	**Ulaanbaatar**	**26.42**	**311**	⇓*i*P	**P**	**03 56 39.8**	**+1.3**
ULN				*e**PP		03 57 43.1	
ULN				*e*		03 59 52.4	
ULN				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**26.42**	**311**	⇓*i*P	**P**	**03 56 39.8**	**+1.3**
	comp=Z,20nm,1.1s,mb4.5						
ULN				*e*pP		03 57 43.1	
ULN				*e*PcP	PcP	03 59 52.4	+0.2
SONM	**Songino Array**	**26.82**	**311**	P	**P**	**03 56 43.4**	**+1.3**
	comp=Z,9.3nm,0.8s,mb4.3,baz=126,slow=9.0,SNR=51						
SONM				pP		03 57 50.1	
	comp=Z,1.1nm,0.7s,baz=143,slow=11,SNR=2.0						
SONM				PcP	PcP	03 59 53.0	-0.1
	comp=Z,1.2nm,0.6s,baz=122,slow=2.2,SNR=5.0						
SONM				ScP	ScP	04 02 54.6	-1.2
	comp=Z,0.6nm,0.7s,baz=129,slow=2.8,SNR=4.2						
SONM	**Songino Array**	**26.82**	**311**	P	**P**	**03 56 43.4**	**+1.3**
SONM				*PP		03 57 50.1	
SONM						03 59 53.0	
GYA	**Guiyang**	**27.00**	**263**	⇓*i*P	**P**	**03 56 43.3**	**-0.3**
GYA				AP		03 57 51.4	
GYA				XP	sP	03 58 36.5	-2.3
GYA				PCP	PcP	03 59 54.4	+0.9
GYA				S	**S**	**04 00 53.1**	**+0.9**
GYA				SCP	ScP	04 02 56.4	+0.1
GYA				SCS	ScS	04 06 46.8	-1.3
GYA				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.1						
GYA				AMB	AMB		
	comp=Z,70nm,5.7s						
LZH	**Lanzhou**	**27.08**	**284**	*e*P	**P**	**03 56 44.5**	**+0.2**
LZH				AP		03 57 55.0	
LZH				PCP	PcP	03 59 54.7	+1.0
LZH				*e*S	**S**	**04 00 53.3**	**-0.2**
LZH				SCP	ScP	04 02 57.3	+0.7
LZH				XS	sS	04 02 57.0	-5.9
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,100nm,4.0s						
MA2	**Magadan**	**27.50**	**15**	⇑*e*P	**P**	**03 56 48.0**	**-0.1**
MA2				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.4						
MA2	**Magadan**	**27.50**	**15**	⇓*i*P	**P**	**03 56 47.5**	**-0.5**
	comp=Z,19nm,0.9s,mb4.4						
CD2	**Chengdu**	**28.01**	**273**	⇓*i*P	**P**	**03 56 52.0**	**-0.5**
CD2				AP		03 58 00.9	
CD2				XP	sP	03 58 45.5	-2.5
CD2				PCP	PcP	03 59 57.3	+1.3
CD2				S	**S**	**04 01 06.5**	**-1.6**
CD2				XS	sS	04 03 10.0	-7.9
CD2				SCS	ScS	04 06 53.0	+0.3
CD2				AMB	AMB		
	comp=Z,100nm,0.5s,mb5.4						
YAK	**Yakutsk**	**28.73**	**353**	⇑*e*P	**P**	**03 56 57.3**	**-1.6**
YAK				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.5						
ZAK	**Zakamensk**	**29.65**	**314**	*e*P	**P**	**03 57 07.1**	**+0.1**
ZAK				*e*		03 58 19.1	
ZAK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.5						
TLY	**Talaya**	**29.94**	**317**	*e*P	**P**	**03 57 11.2**	**+1.7**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
GTA	**Gaotai**	**30.12**	**292**	P	**P**	**03 57 11.3**	**+0.3**
GTA				AP	pP	03 58 22.4	+0.5
GTA				PP	PP	03 58 31.6	+2.7
GTA				XP	sP	03 59 07.2	+0.3
GTA				PCP	PcP	04 00 02.1	+0.7
GTA				S	**S**	**04 01 42.1**	**+1.1**
GTA				SCP	ScP	04 03 07.5	+1.3
GTA				PCS	PcS	04 03 45.3	-0.1
GTA				XS	sS	04 03 47.5	-3.9
GTA				SS	SS	04 04 01.6	-8.1
GTA				SCS	ScS	04 07 02.1	-0.6
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
GTA				AMB	AMB		
	comp=Z,100nm,6.1s						
GTA				LR	LR		
	comp=N,70nm,8.8s						
GTA				LR	LR		
	comp=E,60nm,9.5s						
GTA				LR	LR		
	comp=Z,70nm,7.6s						
KMI	**Kunming**	**30.77**	**263**	P	**P**	**03 57 16.8**	**+0.1**
KMI				AP	pP	03 58 28.4	+0.6
KMI				S	**S**	**04 01 51.8**	**+0.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
KMI				AMB	AMB		
	comp=Z,70nm,4.7s						
KMI				LR	LR		
	comp=N,120nm,8.6s						
KMI				LR	LR		
	comp=E,80nm,11.7s						
KMI				LR	LR		
	comp=Z,80nm,11.7s						
MOY	**Mondy**	**31.46**	**316**	*e*P	**P**	**03 57 24.1**	**+1.4**
CHTO	**Chiang Mai**	**36.82**	**256**	⇓*i*P	**P**	**03 58 08.6**	**+0.4**
CHTO				*e*		04 00 21.2	
CHTO				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**36.82**	**256**	⇓*i*P	**P**	**03 58 08.6**	**+0.3**
	comp=Z,20nm,0.9s,mb4.4						
CHTO				*e*PcP	PcP	04 00 21.2	+0.6
TIXI	**Tiksi**	**38.27**	**356**	*e*P	**P**	**03 58 17.9**	**-2.3**
TIXI				*e**PP	pP	03 59 31.2	-2.6
TIXI				*e*		03 59 54.3	
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
TIXI				pmax	pmax		
	comp=Z,94nm,4.2s						
BILL	**Bilibino**	**38.32**	**17**	*e*P	**P**	**03 58 20.8**	**+0.2**
BILL				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.6						
BILL	**Bilibino**	**38.32**	**17**	*e*P	**P**	**03 58 20.8**	**+0.1**
	comp=Z,20nm,0.6s,mb4.6						
WMQ	**Urumqi**	**39.11**	**300**	*e*P	**P**	**03 58 28.0**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,120nm,4.0s						
KSM	**Kuching**	**40.53**	**223**	⇓*i*P	**P**	**03 58 39.1**	**+0.5**
ZAL	**Zalesovo**	**41.53**	**315**	P	**P**	**03 58 46.4**	**-0.3**
	comp=Z,5.2nm,0.6s,mb4.0,baz=14,slow=8.9,SNR=19						
ZAL				PcP	PcP	04 00 34.4	-1.2
	comp=Z,4.2nm,0.7s,baz=15,slow=2.2,SNR=7.6						
NVS	**Novosibirsk**	**42.55**	**317**	⇓*i*P	**P**	**03 58 53.8**	**-1.0**
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,22nm,1.0s						
NVS				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.5						
MK31	**Makanchi Array**	**42.81**	**305**	P	**P**	**03 58 57.1**	**+0.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
MKAR	**Makanchi Array**	**42.81**	**305**	P	**P**	**03 58 57.2**	**+0.4**
	comp=Z,10nm,0.5s,mb4.4,baz=87,slow=10,SNR=74						
MKAR				PcP	PcP	04 00 39.5	-0.5
	comp=Z,1.8nm,0.3s,baz=83,slow=4.4,SNR=9.1						
MKAR				ScP	ScP	04 03 52.5	-0.8
	comp=Z,1.4nm,0.5s,baz=83,slow=5.9,SNR=9.6						
MKAR				S	**S**	**04 05 05.3**	**+14**
	comp=Z,0.3nm,0.5s,baz=74,slow=13,SNR=3.8						
MKAR	**Makanchi Array**	**42.81**	**305**	P	**P**	**03 58 57.3**	**+0.4**
MKAR				pP		04 00 39.5	
MKAR				S	**S**	**04 05 05.3**	**+14**
MKAR	**Makanchi Array**	**42.81**	**305**	P	**P**	**03 58 57.2**	**+0.4**
MKAR				PcP	PcP	04 00 39.5	-0.5
MKAR				ScP	ScP	04 03 52.5	-0.8
MKAR				S	**S**	**04 05 05.3**	**+14**
JIRN	**Jiri**	**43.60**	**276**	*e*P	**P**	**03 59 04.2**	**+1.1**
	comp=Z,83nm,0.3s						
GUN	**Gumba**	**43.77**	**277**	*e*P	**P**	**03 59 05.3**	**+0.9**
	comp=Z,31nm,0.4s,mb5.0						
KULM	**Kulim**	**43.87**	**238**	*e*P	**P**	**03 59 05.6**	**+0.4**
PKI	**Pulchoki**	**44.28**	**276**	*e*P	**P**	**03 59 08.6**	**+0.2**
	comp=Z,29nm,0.6s,mb4.8						
PKI	**Pulchoki**	**44.28**	**276**	*e*P	**P**	**03 59 08.6**	**+0.2**
PKI				pmax	pmax		
	comp=Z,29nm,0.6s,mb4.8						
KKN	**Kakani**	**44.31**	**277**	*e*P	**P**	**03 59 09.1**	**+0.4**
	comp=Z,45nm,0.7s,mb4.9						
KKN	**Kakani**	**44.31**	**277**	*e*P	**P**	**03 59 09.1**	**+0.4**
KKN				pmax	pmax		
	comp=Z,45nm,0.7s,mb4.9						
DMN	**Daman**	**44.52**	**277**	*e*P	**P**	**03 59 10.7**	**+0.4**
	comp=Z,10nm,0.4s,mb4.5						
GKN	**Gorkha**	**44.77**	**277**	*e*P	**P**	**03 59 12.7**	**+0.5**
	comp=Z,25nm,0.4s,mb4.9						
KURK	**Kurchatov**	**45.13**	**310**	⇓*i*P	**P**	**03 59 14.8**	**-0.3**
KURK				*e*		04 00 46.8	
KURK				pmax	pmax		
	comp=Z,47nm,0.8s,mb4.9						
KURK	**Kurchatov**	**45.13**	**310**	⇓*i*P	**P**	**03 59 14.8**	**-0.2**
	comp=Z,46nm,0.8s,mb4.9						
KURK				*e*PcP	PcP	04 00 46.8	-1.2
KOLN	**Koldanda**	**45.71**	**278**	*e*P	**P**	**03 59 19.7**	**+0.2**
TKM2	**Tokmak 2**	**47.97**	**300**	P	**P**	**03 59 37.8**	**+1.0**
	SNR=9.4						
TKM2	**Tokmak 2**	**47.97**	**300**	P	**P**	**03 59 37.4**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
KZA	**Kyzart**	**48.38**	**299**	P	**P**	**03 59 41.7**	**+1.8**
	SNR=6.2						
KBK	**Karagaybulak**	**48.49**	**300**	P	**P**	**03 59 41.6**	**+0.9**
	SNR=15						
USP	**Ospenovka**	**48.70**	**301**	P	**P**	**03 59 42.6**	**+0.3**
	SNR=7.3						
AAK	**Ala-Archa**	**48.82**	**300**	P	**P**	**03 59 44.0**	**+0.7**
	SNR=5.4						
AAK	**Ala-Archa**	**48.82**	**300**	⇓*i*P	**P**	**03 59 41.9**	**-1.3**
AAK				*e*	pP	04 01 00.1	-0.9
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**48.82**	**300**	⇓*i*P	**P**	**03 59 41.9**	**-1.4**
	comp=Z,3.8nm,0.6s,mb3.9						
AAK				*e*	pP	04 01 00.1	-0.9
VOSK	**Vostochnaya**	**49.77**	**313**	P	**P**	**03 59 49.9**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**49.92**	**315**	⇓*i*P	**P**	**03 59 50.5**	**-0.9**
CHKZ				*e*		04 01 03.7	
CHKZ				pmax	pmax		
	comp=Z,25nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**49.92**	**315**	⇓*i*P	**P**	**03 59 50.5**	**-0.9**
	comp=Z,25nm,0.7s,mb4.7						
CHKZ				*e*PcP	PcP	04 01 03.7	-1.5
BVA0	**Borovoye Array**	**50.10**	**314**	*i* P	**P**	**03 59 52.7**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
BRVK	**Borovoye**	**50.16**	**314**	*e*P	**P**	**03 59 52.5**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.3						
BRVK	**Borovoye**	**50.16**	**314**	*e*P	**P**	**03 59 52.5**	**-0.8**
	comp=Z,16nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**50.95**	**314**	⇓*i*P	**P**	**03 59 58.9**	**-0.1**
ZRNK				*e*		04 01 07.1	
ZRNK				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**50.95**	**314**	⇓*i*P	**P**	**03 59 58.9**	**-0.1**
	comp=Z,20nm,0.7s,mb4.5						
ZRNK				*e*PcP	PcP	04 01 07.1	-2.0
KK31	**Karatay Array**	**51.59**	**301**	*i* P	**P**	**04 00 03.7**	**0.0**
KK31				pmax	pmax		
	comp=Z,14nm,0.5s,mb4.5						
KKAR	**Karatay Array**	**51.59**	**301**	P	**P**	**04 00 03.7**	**0.0**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
KDAK	**Kodiak Island**	**52.09**	**40**	P	**P**	**04 00 06.7**	**-0.7**
	comp=Z,6.9nm,0.8s,mb3.9,baz=243,slow=4.5,SNR=6.5						
WRAB	**Tennant Creek**	**53.37**	**183**	*e*P	**P**	**04 00 15.5**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**53.37**	**183**	*e*P	**P**	**04 00 15.5**	**-1.1**
	comp=Z,7.9nm,0.5s,mb4.2						
WB2	**Warramunga Arr**	**53.37**	**183**	⇑*i*P	**P**	**04 00 15.8**	**-0.9**
WRA	**Warramunga Arr**	**53.38**	**183**	P	**P**	**04 00 15.8**	**-0.9**
	comp=Z,6.1nm,0.4s,mb4.2,baz=359,slow=7.7,SNR=69						
WRA				PP	PP	04 02 03.5	-18
	comp=Z,1.4nm,0.6s,baz=10,slow=8.6,SNR=4.8						
WRA				ScP	ScP	04 04 37.7	-0.4
	comp=Z,0.7nm,0.8s,baz=355,slow=4.1,SNR=4.7						
WRA				S	**S**	**04 07 15.8**	**-2.4**
	comp=Z,1.3nm,0.8s,baz=354,slow=13,SNR=4.3						
PMR	**Palmer**	**53.54**	**35**	*e*P	**P**	**04 00 17.0**	**-0.8**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.0						
PMR	**Palmer**	**53.54**	**35**	*e*P	**P**	**04 00 17.0**	**-0.8**
	comp=Z,8.4nm,0.8s,mb4.0						
COLA	**College**	**53.90**	**31**	*e*P	**P**	**04 00 20.8**	**+0.4**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.6						
COLA	**College**	**53.90**	**31**	*e*P	**P**	**04 00 20.8**	**+0.4**
	comp=Z,2.8nm,0.7s,mb3.6						
CTAO	**Charters Tower**	**54.22**	**169**	*e*P	**P**	**04 00 22.0**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.8						
CTAO	**Charters Tower**	**54.22**	**169**	*e*P	**P**	**04 00 22.0**	**-0.7**
	comp=Z,4.7nm,0.8s,mb3.8						
HYB	**Hyderabad**	**54.33**	**268**	*i* P	**P**	**04 00 24.5**	**+1.0**
HYB	**Hyderabad**	**54.33**	**268**	*e*P	**P**	**04 00 23.0**	**-0.5**
ARU	**Arti**	**56.40**	**319**	⇓*i*P	**P**	**04 00 37.5**	**-0.6**
ARU				*e*	pP	04 01 58.3	-0.3
ARU				*e*		04 02 46.7	
ARU				*e*S	**S**	**04 07 59.2**	**+1.1**

DAG Danmarks Havn 68.75 354⇑iP P 04 01 58.0 -0.7
comp=Z,9.2nm,0.9s,mb4.4
DAG Danmarks Havn 68.75 354⇑eP P 04 01 58.0 -0.7
DAG pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
DAG Danmarks Havn 68.75 354⇑eP P 04 01 58.0 -0.7
comp=Z,9.2nm,0.9s,mb4.4
KAF Kangasniemi 69.52 332 ep P 04 02 01.7 -1.7
comp=Z,17nm,0.5s,mb4.8,baz=54,slow=5.7
KAF Kangasniemi 69.52 332 eP P 04 02 01.7 -1.7
KAF pmax pmax
comp=Z,17nm,0.5s,mb4.8
FINES FINESS Array B 69.99 331 P P 04 02 05.5 -0.7
comp=Z,13nm,0.6s,mb4.6,baz=59,slow=6.4,SNR=192
KIV Kislovodsk 70.22 310d iP P 04 02 08.0 +0.4
KIV pmax pmax
comp=Z,37nm,1.0s,mb4.9
KIV Kislovodsk 70.22 310 eP P 04 02 07.7 +0.1
comp=Z,26nm,0.7s,mb4.9
GNI Garni 70.64 306 eP P 04 02 10.7 +0.5
GNI pmax pmax
comp=Z,16nm,0.9s
GNI Garni 70.64 306 eP P 04 02 10.7 +0.5
comp=Z,16nm,0.9s,mb4.5
MOR8 Moi Rana 71.16 339 eP P 04 02 11.6 -1.7
MOR8 AMb AMB 04 02 12.8
comp=Z,45nm,1.0s,mb5.0
MOR8 Moi Rana 71.16 339 eP P 04 02 11.6 -1.7
comp=Z,45nm,1.0s,mb5.0
B04A Port Angeles 71.63 44 ⇑P P 04 02 16.5 +0.5
baz=71
SOC Sochi 72.28 311 eP P 04 02 18.6 -1.2
SOC e 04 02 37.9
SOC e*PP pP 04 03 45.1 0.0
SOC eS S 04 11 08.3 -2.4
SOC e 04 12 03.6
SOC eSSS 04 19 19.2
SOC pmax pmax
comp=Z,13nm,0.6s,mb4.6
B05A Bryant 72.33 43 ⇓P P 04 02 20.6 +0.5
baz=72
C05A Tolt Reservoir 72.86 44 ⇑P P 04 02 23.5 +0.3
baz=73
NSS Namsos 73.04 338 eP P 04 02 22.6 -1.7
ANN Anapa 73.09 313 eP P 04 02 23.4 -1.1
ANN pmax pmax
comp=Z,24nm,1.4s,mb4.5
H03A Soap Creek Ran 73.47 47 ⇑P P 04 02 27.3 +0.6
baz=73
UMR Umm Al-Rimmam 73.60 295 eP P 04 02 27.3 -0.2
MIB Mutribah 73.76 295 eP P 04 02 28.1 -0.3
MIB AMb AMB 04 02 28.7
comp=Z,48nm,0.7s,mb5.3
KBD Kabd 73.80 294 eP P 04 02 28.6 -0.1
KBD AMb AMB 04 02 29.1
comp=Z,118nm,0.4s
I03A Eugene 73.84 48 ⇑P P 04 02 29.3 +0.4
baz=74
QRN Al-Qurain 73.84 294 eP P 04 02 28.6 -0.3
QRN AMb AMB 04 02 29.3
comp=Z,45nm,0.6s,mb5.3
J02A Umpqua 73.97 48 ⇑P P 04 02 30.6 +1.0
baz=74
SUMG Summit 73.98 359⇓iP P 04 02 30.3 +0.7
comp=Z,17nm,0.8s,mb4.7
RDF Al-Radifah 74.03 294 eP P 04 02 29.8 -0.2
RDF AMb AMB 04 02 30.5
comp=Z,64nm,0.7s,mb5.4
NAY Al-Naaiem 74.11 295 eP P 04 02 30.1 -0.3
NAY AMb AMB 04 02 30.8
comp=Z,36nm,0.7s,mb5.1
H04A Detroit Lake 74.14 47 ⇑P P 04 02 30.8 +0.3
baz=74
AKASG Malin Array Be 74.59 321 P P 04 02 32.4 -0.7
comp=Z,9.0nm,0.5s,mb4.7,baz=51,slow=5.6,SNR=24
HUMO Hull Mountain 74.76 49 ⇑P P 04 02 34.6 +0.5
baz=75
JCC Jacoby Creek 75.01 51 ⇓P P 04 02 36.4 +0.9
baz=75
SIM Simferopol' 75.02 314 eP P 04 02 36.0 +0.4
SIM pmax pmax
comp=Z,14nm,0.6s,mb4.8
NEW Newport 75.14 42 eP P 04 02 36.1 -0.2
NEW pmax pmax
comp=Z,3.0nm,1.2s
NEW Newport 75.14 42 eP P 04 02 36.0 -0.2
comp=Z,3.4nm,1.2s,mb3.9
YBH Yreka Blue Hor 75.37 50 ⇓P P 04 02 38.4 +0.9
baz=75
M02C Callahan 75.47 50 ⇑P P 04 02 38.9 +0.8
baz=75
O01C Eel River Cons 75.50 51 ⇑P P 04 02 38.1 -0.2
baz=75
L04A Klamath Falls 75.66 49 ⇓P P 04 02 39.3 +0.1
baz=76
I06A Prineville 75.74 47 ⇑P P 04 02 39.9 +0.2
baz=76
NB2 NORSAR Subarra 75.76 336 P P 04 02 38.6 -1.1
comp=Z,12nm,0.8s,mb4.6,baz=44,slow=5.6
NB2 NORSAR Subarra 75.76 336 P P 04 02 38.6 -1.1
NB2 pmax pmax
comp=Z,12nm,0.8s,mb4.6
NOA NORSAR Array B 75.76 336 P P 04 02 38.9 -0.9
comp=Z,9.4nm,0.7s,mb4.5,baz=45,slow=5.6,SNR=33
MALT Malatya 75.81 307⇓iP P 04 02 41.1 +1.1
MALT pmax pmax
comp=Z,14nm,1.0s,mb4.5
MALT Malatya 75.81 307⇓iP P 04 02 41.1 +1.1
comp=Z,14nm,1.0s,mb4.6
M04C Macdoel 75.90 49 ⇓P P 04 02 41.1 +0.6
baz=76
M03C McCloud 76.00 50 ⇓P P 04 02 41.5 +0.4
baz=76
NAO01 NORSAR Array S 76.01 336 eP P 04 02 39.9 -1.3
comp=Z,2.7nm,0.5s,mb4.1
WDC Whiskeytown Da 76.10 50 ⇑P P 04 02 42.1 +0.5
baz=76
O02C Red Bluff 76.15 51 ⇓P P 04 02 42.6 +0.7
baz=76
J06A Christmas Vall 76.15 47 ⇓P P 04 02 42.5 +0.6
baz=76
K06A Valley Falls 76.33 48 ⇓P P 04 02 43.7 +0.8
baz=76
GASB Alder Springs 76.48 51 ⇓P P 04 02 44.7 +1.0
baz=76
HATC Hat Creek Radi 76.66 50 ⇓P P 04 02 45.2 +0.5
baz=76
O04C Chester 77.17 50 ⇑P P 04 02 47.9 +0.4
baz=77,SNR=5.5
ORV Oroville 77.32 51 ⇑P P 04 02 48.0 -0.4
baz=77
O05C Quincy 77.47 50 ⇑P P 04 02 50.3 +1.0
baz=77
WVOR Wild Horse Val 77.53 47 eP P 04 02 50.0 +0.5
WVOR pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
WVOR Wild Horse Val 77.53 47 eP P 04 02 50.0 +0.5
comp=Z,1.8nm,0.6s,mb3.9
M07A Soldier Meadow 77.79 48 ⇑P P 04 02 51.7 +0.8
baz=78
O06A Flanigan 78.06 50 ⇓P P 04 02 52.9 +0.5
baz=78,SNR=7.5
BR131 Keskin Array S 78.18 310 eP P 04 02 53.1 +0.1
comp=Z,7.7nm,0.8s,mb4.4
BRTR Keskin Array B 78.18 310 P P 04 02 53.5 +0.5
comp=Z,9.3nm,0.8s,mb4.5,baz=110,slow=4.6,SNR=76
BRTR pP pP 04 04 21.1 +1.2
comp=Z,1.3nm,1.0s,baz=72,slow=4.0,SNR=3.8
M08A Happy Creek Ra 78.24 48 ⇑P P 04 02 53.8 +0.4
baz=78
LAVA Lava Cap Winer 78.25 51 ⇑P P 04 02 53.6 +0.2
baz=78
P06A Stead Airport, 78.28 50 ⇑P P 04 02 53.8 +0.1
baz=78
L09A Wilkinson Ranc 78.36 47 ⇑P P 04 02 54.6 +0.6
baz=78
CFR Carcaliu 78.38 317⇓iP P 04 02 54.2 0.0
FFC Flin Flon 78.52 30 eP P 04 02 54.2 -0.7
FFC pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
FFC Flin Flon 78.52 30 eP P 04 02 54.2 -0.8
comp=Z,2.8nm,0.6s,mb4.1
BURAR Bucovina Array 78.53 320⇓iP P 04 02 55.3 +0.3
BURAR Bucovina Array 78.53 320 ⇓P P 04 02 55.3 +0.3
KWP Kalwaria 78.58 323 eP P 04 02 55.7 +0.4
O07A Toulon 78.66 49 ⇓P P 04 02 56.4 +0.7
baz=78,SNR=5.4

VRI Vrincioaia 78.77 318⇑iP P 04 02 56.8 +0.5
VRI Vrincioaia 78.77 318 ⇑P P 04 02 56.8 +0.6
N08A GE Springer Mi 78.78 48 ⇑P P 04 02 57.0 +0.7
baz=79,SNR=7.6
PACP Pacheco Peak 78.86 53 ⇑P P 04 02 57.5 +0.7
baz=79
CMB Columbia Colle 78.89 52 ⇑P P 04 02 57.2 +0.3
baz=79
N09A Rock Creek Ran 79.12 48 ⇑P P 04 02 59.0 +0.8
baz=79
R06C Coleville 79.22 51 ⇓P P 04 02 59.1 +0.4
baz=79
EGMT Eagleton 79.25 39 eP P 04 02 58.6 -0.3
comp=Z,7.8nm,1.0s,mb4.3
M10A I.L. Ranch, Tu 79.33 47 ⇑P P 04 03 00.0 +0.7
baz=79
HLID Hailey 79.40 44 eP P 04 03 00.5 +0.8
comp=Z,1.1nm,0.7s,mb3.6
MLR Muntele Rosu 79.43 318⇑iP P 04 03 01.4 +1.6
MLR Muntele Rosu 79.43 318 ⇑P P 04 03 01.4 +1.6
STHS Stebnicka Huta 79.45 323 eP P 04 03 00.9 +1.0
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
STHS Stebnicka Huta 79.45 323 eP P 04 03 00.9 +1.0
comp=Z,4.3nm,0.7s,mb4.2
OJC Ojcow 79.64 324 eP P 04 03 00.9 -0.1
O09A Fish Creek Ran 79.72 48 ⇑P P 04 03 02.2 +0.8
baz=80
BOZ Bozeman (W) 79.72 42 eP P 04 03 01.8 +0.4
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BOZ Bozeman (W) 79.72 42 eP P 04 03 01.8 +0.5
comp=Z,2.3nm,0.6s,mb4.0
R07C Lee Vining 79.73 51 ⇑P P 04 03 02.1 +0.7
baz=80
M11A Holland Ranch, 79.84 47 ⇑P P 04 03 03.0 +1.0
baz=80
NVAR Mina Array Bea 80.01 50 P P 04 03 03.6 +0.7
comp=Z,1.3nm,0.6s,mb3.7,baz=298,slow=5.8,SNR=16
KECS Kecovo 80.44 323 eP P 04 03 05.2 0.0
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
KECS Kecovo 80.44 323 eP P 04 03 05.2 0.0
comp=Z,1.9nm,0.8s,mb3.8
ELK Elko 80.58 47 eP P 04 03 06.8 +0.9
ELK pmax pmax
comp=Z,1.0nm,0.6s
ELK Elko 80.58 47 eP P 04 03 06.8 +0.9
comp=Z,0.9nm,0.6s,mb3.7
S08C White Mtn Res 80.64 51 ⇓P P 04 03 07.0 +0.9
baz=80
N12A Wells--Clov Va 80.64 47 ⇑P P 04 03 07.2 +1.0
baz=80
OKC Ostrava-Krasne 80.69 325 eP P 04 03 06.1 -0.4
KSP Ksiaz 80.89 326 eP P 04 03 07.6 +0.1
KSP Ksiaz 80.89 326⇓iP P 04 03 07.6 +0.1
MORC Moravsky Berou 81.03 325⇓iP P 04 03 08.4 +0.2
MORC Moravsky Berou 81.03 325 eP P 04 03 08.0 -0.2
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MORC Moravsky Berou 81.03 325 eP P 04 03 08.0 -0.2
comp=Z,7.2nm,1.0s,mb4.4
PSZ Piszkesteto 81.11 323 eP P 04 03 09.1 +0.4
PSZ pmax pmax
comp=Z,15nm,1.5s,mb4.5
PSZ Piszkesteto 81.11 323 eP P 04 03 09.1 +0.4
comp=Z,15nm,1.5s,mb4.5
S09A Goldfield 81.12 51 ⇓P P 04 03 09.1 +0.4
baz=81
O12A Currie 81.17 47 ⇑P P 04 03 09.3 +0.4
baz=81
IMW Indian Meadow 81.19 43 eP P 04 03 10.6 +1.5
comp=Z,4.4nm,0.8s,mb4.2
DPC Dobruska-Polom 81.21 326 eP P 04 03 09.5 +0.3
FLWY Flagg Ranch 81.21 42 eP P 04 03 10.4 +1.3
comp=Z,7.0nm,0.8s,mb4.4
UPC Upice 81.25 326 eP P 04 03 09.1 -0.3
VYHS Vyhne 81.26 324 iP P 04 03 09.6 +0.2
MOOW Moose Ponds 81.39 43 eP P 04 03 11.3 +1.1
comp=Z,2.0nm,0.8s,mb3.9
TPAW Teton Pass 81.44 43 eP P 04 03 11.5 +1.1
comp=Z,7.3nm,1.0s,mb4.4
P12A McGill 81.55 48 ⇓P P 04 03 11.4 +0.5
baz=81
LOHW Long Hollow 81.56 43 eP P 04 03 11.7 +0.7
comp=Z,2.0nm,0.9s,mb3.9
VRAC Vranov 81.80 325⇓iP P 04 03 12.4 +0.2
VRAC Vranov 81.80 325 ⇓P P 04 03 12.4 +0.2
PVCC Panska Ves 81.89 327 eP P 04 03 12.8 +0.1
BRG Berggiesshubel 81.93 327 eP P 04 03 12.7 -0.2
comp=Z,7.0nm,0.7s,mb4.5
BRG Berggiesshubel 81.93 327 iP P 04 03 12.6 -0.4
comp=Z,4.5nm,0.7s,mb4.3
BRG e 04 06 30.4
comp=Z,2.4nm,1.3s
BRG Berggiesshubel 81.93 327 iP P 04 03 12.6 -0.3
BRG e 04 06 30.4
BRG pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BRG pmax pmax
comp=Z,2.0nm,1.3s,mb3.7
LAO LASA Array 81.95 38 eP P 04 03 13.2 +0.2
comp=Z,6.6nm,1.1s,mb4.3
CLL Collm 82.04 328 eP P 04 03 13.0 -0.5
comp=Z,17nm,0.9s,mb4.8
CLL Collm 82.04 328⇓iP P 04 03 12.9 -0.6
comp=Z,17nm,1.0s,mb4.7
CLL Collm 82.04 328⇓iP P 04 03 12.9 -0.6
CLL pmax pmax
comp=Z,17nm,1.0s,mb4.7
CLL Collm 82.04 328⇓iP P 04 03 12.9 -0.6
comp=Z,17nm,1.0s,mb4.7
TPNV Topopah Spring 82.20 51 eP P 04 03 14.4 +0.1
TPNV e*PP pP 04 04 41.3 -0.8
TPNV pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
TPNV Topopah Spring 82.20 51 eP P 04 03 14.4 +0.1
comp=Z,4.4nm,0.8s,mb4.2
TPNV epP pP 04 04 41.3 -0.7
PRU Pruhonice 82.28 327 eP P 04 03 14.5 -0.2
TREC Trest 82.33 326 eP P 04 03 14.8 -0.2
DUG Dugway 82.39 46 eP P 04 03 15.5 +0.2
DUG pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
DUG Dugway 82.39 46 eP P 04 03 15.4 +0.2
comp=Z,6.9nm,1.4s,mb4.2
BW06 Boulder Array 82.69 43 eP P 04 03 16.9 +0.1
comp=Z,4.0nm,0.8s,mb4.2
PDAR Pinedale Array 82.69 43 P P 04 03 17.1 +0.3
comp=Z,3.7nm,0.8s,mb4.2,baz=313,slow=1.9,SNR=28
VTS Vitosha 82.78 317⇑iP P 04 03 18.1 +0.8
VTS Vitosha 82.78 317 ⇑P P 04 03 18.1 +0.8
GSC Goldstone 82.81 52 ⇓P P 04 03 17.4 0.0
baz=83
PKSM Moragy 82.89 322⇑iP P 04 03 17.1 -0.7
PKSM Moragy 82.89 322 ⇑P P 04 03 17.1 -0.7
TANN Tannenbergstha 82.92 328 eP P 04 03 17.8 -0.2
EIL Elat 82.95 301 eP P 04 03 17.8 -0.3
comp=Z,642nm,1.4s
NKC Novy Kostel 83.06 328 eP P 04 03 18.1 -0.6
MOX Moxa 83.13 328 eP P 04 03 18.8 -0.2
comp=Z,12nm,1.3s,mb4.5
MOX Moxa 83.13 328 eP P 04 03 18.5 -0.5
TUQ Turquoise Mtn. 83.31 52 ⇓P P 04 03 20.2 +0.3
baz=83
KHC Kasperske Hory 83.34 326 eP P 04 03 19.7 -0.4
GEC2 GERESS Array S 83.48 326 eP P 04 03 20.4 -0.4
comp=Z,6.0nm,0.7s,mb4.4
GEC2 GERESS Array S 83.48 326 eP P 04 03 20.4 -0.4
GEC2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
GERES GERESS Array B 83.48 326 P P 04 03 20.3 -0.5
comp=Z,4.0nm,0.5s,mb4.4,baz=40,slow=5.5,SNR=59
IBBN Ibbenburen 83.50 331 eP P 04 03 20.2 -0.7
WET Wettzell 83.65 327 eP P 04 03 21.5 -0.1
UBBA Unterbreizbach 83.70 329 eP P 04 03 21.3 -0.6
VAY Valandovo 83.96 316 eP P 04 03 22.9 -0.3
GRA1 Grafenberg Arr 84.00 328 eP P 04 03 23.5 +0.1
comp=Z,14nm,0.9s,mb4.7
GRF Grafenberg Arr 84.00 328 eP P 04 03 23.5 +0.1
comp=Z,14nm,0.9s,mb4.7
GRF Grafenberg Arr 84.00 328 eP P 04 03 23.5 +0.1
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.7
PFO Pinyon Flat Ob 84.05 53 ⇑P P 04 03 23.3 -0.4
baz=84

BUG Bochum--Univer 84.36 331 eP P 04 03 24.4 -0.8
SRU San Rafael 84.45 46 eP P 04 03 26.0 +0.4
SRU pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
SRU San Rafael 84.45 46 eP P 04 03 26.0 +0.4
comp=Z,3.8nm,0.8s,mb4.2
BC3 Big Chuckw Mtn 84.69 53 ⇓P P 04 03 27.0 +0.2
baz=84
RWWY Rawlins 84.71 43 eP P 04 03 27.0 0.0
comp=Z,3.4nm,0.8s,mb4.1
TNS Taunus Mts 84.80 330 eP P 04 03 27.4 0.0
ESK Eskdalemuir 84.97 338 eP P 04 03 27.3 -0.9
ESK pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
ESK Eskdalemuir 84.97 338 eP P 04 03 27.3 -0.9
comp=Z,2.7nm,0.5s,mb4.2
FUR Furstenfeldbru 85.09 327 eP P 04 03 28.8 0.0
X13A Yucca 85.19 51 ⇑P P 04 03 29.3 0.0
baz=85
W14A Seligman 85.29 50 ⇑P P 04 03 30.3 +0.5
baz=85
GLA Glamis 85.47 53 ⇑P P 04 03 31.1 +0.4
baz=85
STU Stuttgart 85.57 328 eP P 04 03 31.3 +0.2
Y13A Salome 85.67 52 ⇓P P 04 03 31.9 +0.3
baz=86
PV10 Paradox Valley 85.81 46 eP P 04 03 33.2 +1.0
X14A Yava 85.87 51 ⇓P P 04 03 33.0 +0.4
baz=86
Y14A Wickenburg 86.13 51 ⇑P P 04 03 34.1 +0.2
baz=86
WLF Walferdange 86.18 330 eP P 04 03 34.8 +0.7
PV01 Paradox Valley 86.25 46 eP P 04 03 35.2 +0.8
X15A Humboldt 86.28 51 ⇑P P 04 03 35.0 +0.5
baz=86
SMCO Snowmass 86.50 44 eP P 04 03 36.6 +1.0
comp=Z,3.6nm,0.8s,mb4.2
BAIF Baives 86.66 332 eP P 04 03 35.1 -1.3
CDF Champ du Feu 86.68 329 eP P 04 03 35.3 -1.2
HINF Hinterlafeld 87.31 329 eP P 04 03 38.6 -0.9
HAU Haudompre 87.39 329 eP P 04 03 39.9 +0.1
115A Sonoran Desert 87.41 52 ⇓P P 04 03 40.4 +0.5
baz=87
MEZF Maizieres J'vi 87.54 330 eP P 04 03 39.9 -0.7
CABF La Chapelle 88.58 328 eP P 04 03 44.2 -1.2
comp=Z,7.8nm,0.7s,mb4.2
CABF La Chapelle 88.58 328 eP P 04 03 44.2 -1.2
CABF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
CABF La Chapelle 88.58 328 eP P 04 03 44.2 -1.2
comp=Z,3.9nm,0.7s,mb4.2
LOR Lormes 89.01 330 eP P 04 03 47.2 -0.2
comp=Z,2.3nm,0.5s,mb3.9
LOR Lormes 89.01 330 eP P 04 03 47.2 -0.2
LOR pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
LOR Lormes 89.01 330 eP P 04 03 47.2 -0.2
comp=Z,1.1nm,0.5s,mb3.8
LPL La Plagne 89.14 327 eP P 04 03 47.2 -0.8
comp=Z,4.8nm,0.4s,mb4.2
LPL La Plagne 89.14 327 eP P 04 03 47.2 -0.8
LPL pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
LPL La Plagne 89.14 327 eP P 04 03 47.2 -0.8
comp=Z,2.4nm,0.4s,mb4.3
LPG La Plagne 89.14 327 eP P 04 03 47.3 -0.7
comp=Z,7.5nm,0.4s,mb4.4
LPG La Plagne 89.14 327 eP P 04 03 47.3 -0.7
LPG pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
LPG La Plagne 89.14 327 eP P 04 03 47.3 -0.7
comp=Z,3.8nm,0.4s,mb4.5
SSF Saint Saulge 89.32 330 eP P 04 03 48.6 -0.3
SMF Signal de Mont 89.51 330 eP P 04 03 49.4 -0.4
FLN La Foliniere 89.52 333 eP P 04 03 48.6 -1.2
LDF La Druitiere 89.52 333 eP P 04 03 49.5 -0.3
SCHQ Schefferville 89.53 13 P P 04 03 49.3 -0.5
comp=Z,1.3nm,0.7s,mb3.9,baz=345,slow=8.5,SNR=6.6
AVF Avril sur Loir 89.60 330 eP P 04 03 49.0 -1.2
comp=Z,4.5nm,0.7s,mb4.1
AVF Avril sur Loir 89.60 330 eP P 04 03 49.0 -1.2
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
AVF Avril sur Loir 89.60 330 eP P 04 03 49.0 -1.2
comp=Z,2.3nm,0.7s,mb4.1
MBDF Montbardon 89.73 327 eP P 04 03 50.8 0.0
comp=Z,7.2nm,0.7s,mb4.3
MBDF Montbardon 89.73 327 eP P 04 03 50.8 0.0
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
MBDF Montbardon 89.73 327 eP P 04 03 50.8 0.0
comp=Z,3.6nm,0.7s,mb4.3
GRR Gorron 89.97 333 eP P 04 03 51.6 -0.3
ORIF Oris-en-Rattie 89.98 328 eP P 04 03 50.8 -1.1
comp=Z,5.8nm,0.8s,mb4.1
ORIF Oris-en-Rattie 89.98 328 eP P 04 03 50.8 -1.1
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
ORIF Oris-en-Rattie 89.98 328 eP P 04 03 50.8 -1.1
comp=Z,2.9nm,0.8s,mb4.2
TCF Toulx Ste Croi 90.48 330 eP P 04 03 53.3 -0.9
comp=Z,8.7nm,0.8s,mb4.3
TCF Toulx Ste Croi 90.48 330 eP P 04 03 53.3 -0.9
TCF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TCF Toulx Ste Croi 90.48 330 eP P 04 03 53.3 -0.9
comp=Z,4.3nm,0.8s,mb4.3
VIVF Saint-Julien-l 90.57 328 eP P 04 03 53.5 -1.1
comp=Z,9.2nm,0.9s,mb4.3
VIVF Saint-Julien-l 90.57 328 eP P 04 03 53.5 -1.1
VIVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
VIVF Saint-Julien-l 90.57 328 eP P 04 03 53.5 -1.1
comp=Z,4.6nm,0.9s,mb4.3
FRF La Foret Royal 90.68 326 eP P 04 03 54.4 -0.8
comp=Z,19nm,1.0s,mb4.6
FRF La Foret Royal 90.68 326 eP P 04 03 54.4 -0.8
FRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
FRF La Foret Royal 90.68 326 eP P 04 03 54.4 -0.8
comp=Z,9.6nm,1.0s,mb4.6
SGMF Saint Gilles 90.70 334 eP P 04 03 54.7 -0.6
comp=Z,8.5nm,0.7s,mb4.4
SGMF Saint Gilles 90.70 334 eP P 04 03 54.7 -0.6
SGMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
SGMF Saint Gilles 90.70 334 eP P 04 03 54.7 -0.6
comp=Z,4.3nm,0.7s,mb4.4
SMRF Simiane la Rot 90.85 327 eP P 04 03 54.6 -1.4
ROSF Rostrenen 90.89 335 eP P 04 03 55.2 -1.0
comp=Z,15nm,0.9s,mb4.5
ROSF Rostrenen 90.89 335 eP P 04 03 55.2 -1.0
ROSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
ROSF Rostrenen 90.89 335 eP P 04 03 55.2 -1.0
comp=Z,7.3nm,0.9s,mb4.5
MFF Saint Martin d 91.17 332 eP P 04 03 56.7 -0.7
comp=Z,25nm,1.0s,mb4.7
MFF Saint Martin d 91.17 332 eP P 04 03 56.7 -0.7
MFF pmax pmax
comp=Z,13nm,1.0s,mb4.7
MFF Saint Martin d 91.17 332 eP P 04 03 56.7 -0.7
comp=Z,13nm,1.0s,mb4.7
QUIF Quistinic 91.21 334 eP P 04 03 56.9 -0.7
comp=Z,9.2nm,1.0s,mb4.3
QUIF Quistinic 91.21 334 eP P 04 03 56.9 -0.7
QUIF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
QUIF Quistinic 91.21 334 eP P 04 03 56.9 -0.7
comp=Z,4.6nm,1.0s,mb4.3
RJF Les Rejaudoux 91.56 330 eP P 04 03 58.6 -0.6
comp=Z,9.1nm,0.8s,mb4.5
RJF Les Rejaudoux 91.56 330 eP P 04 03 58.6 -0.6
RJF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
RJF Les Rejaudoux 91.56 330 eP P 04 03 58.6 -0.6
comp=Z,4.6nm,0.8s,mb4.5
CAF Calviac 91.63 330 eP P 04 03 59.2 -0.4
comp=Z,18nm,1.1s,mb4.6
CAF Calviac 91.63 330 eP P 04 03 59.2 -0.4
CAF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CAF Calviac 91.63 330 eP P 04 03 59.2 -0.4
comp=Z,9.2nm,1.1s,mb4.6
LFF La Frestale 92.17 330 eP P 04 04 01.6 -0.5
comp=Z,17nm,0.6s,mb4.9

LFF	**La Frestale**	**92.17**	**330**	*e*P	**P**	**04 04 01.6**	**-0.5**
LFF				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.8							
LFF	**La Frestale**	**92.17**	**330**	*e*P	**P**	**04 04 01.6**	**-0.5**
comp=Z,8.4nm,0.6s,mb4.8							
MNTX	**Cornudas Mount**	**92.46**	**49**	*e*P	**P**	**04 04 03.8**	**+0.4**
comp=Z,0.6nm,0.6s,mb3.7							
TORD	**Torodi Ar. Bea**	**116.79**	**310**	PKP	PKPdf	04 09 33.5	-0.9
comp=Z,1.2nm,0.6s,baz=41,slow=1.4,SNR=52							
BOSA	**Boshof**	**122.16**	**255**	PKP	PKPdf	04 09 44.9	+0.2
comp=Z,4.5nm,0.9s,baz=249,slow=1.5,SNR=7.7							
BOSA	**Boshof**	**122.16**	**255**	PKP	PKPdf	04 09 44.9	+0.2
TSUM	**Tsumeb**	**124.42**	**269**	PKP	PKPdf	04 09 49.4	+0.3
comp=Z,1.8nm,1.1s,baz=301,slow=14,SNR=3.7							
DBIC	**Dimbokro**	**125.88**	**311**	PKP	PKPdf	04 09 51.2	-0.6
comp=Z,1.2nm,0.4s,baz=179,slow=11,SNR=5.0							
DBIC	**Dimbokro**	**125.88**	**311**	PKP	PKPdf	04 09 51.2	-0.7
SDV	**Santo Domingo**	**130.28**	**37**	*e*PKPdf	PKPdf	04 10 00.3	+0.1
VNA2	**Neumayer--Watz**	**138.04**	**197**	*e*PKPdf	PKPdf	04 10 13.5	-1.3
baz=128,slow=0.7							
VNA2				*e*		04 10 16.0	
VNA3	**Neumayer Olymp**	**138.35**	**196**	*e*PKPdf	PKPdf	04 10 14.2	-1.1
VNA3				*e*		04 10 17.1	
VNA1	**Neumayer--Stat**	**138.44**	**197**	*e*PKPdf	PKPdf	04 10 14.7	-0.8
VNA1				*e*		04 10 17.5	
SAML	**Samuel**	**149.26**	**41**	*e*PKPbc	PKPbc	04 10 38.5	-0.5
LPAZ	**La Paz**	**151.64**	**58**	PKPbc	PKPbc	04 10 45.1	+0.6
comp=Z,1.6nm,0.6s,baz=356,slow=7.3,SNR=9.5							
LPAZ	**La Paz**	**151.64**	**58**	*e*PKPbc	PKPbc	04 10 45.3	+0.7

SKHL ***04*** *04:03:11.1±1.3, 4690N×14750E, h280km±20km, mb4.9/3, mbv5.8/1, msh5.5/2, msha5.2/4*
ISCJB ***04*** *04:03:13.8±0.3, 4654N±005×14691E±005, h292km±4km, mb4.0/51, Error ellipse: s-maj=7.6km s-min=5.0km az=171.1*
JMA ***04*** *04:03:14.9±0.4, 4596N×14738E, h315km, M4.0*
IDC ***04*** *04:03:14.9±1.1, 4661N×14699E, h290km±11km, mb3.5/16, mb1 3.7/18, mb1mx3.6/23, mbtmp4.2/18, Error ellipse: s-maj=14.4km s-min=10.6km az=146.0*
MOS ***04*** *04:03:14.2±0.8, 4657N×14690E, h299km, mb4.2/15, Error ellipse: s-maj=13.5km s-min=8.3km az=83.7*
BJI ***04*** *04:03:15.3, 4651N×14694E, h314km, mB4.5, mb4.5*
NEIC ***04*** *04:03:16.6±0.7, 4658N×14692E, h308km±6km, mb4.1/31, Error ellipse: s-maj=7.4km s-min=5.8km az=158.0*
ISC 04 04:03:14.7±0.3,**4654N**±005×**14694E**±005,**h288**km±4km, **n194**,σ0=**98**/207,**mb4.0**/51,**38C-35D**,**Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.45**	**153**	*i* P	**Pn**	**04 03 52.5**	**-3.9**
KUR				*i* P		04 03 52.5	
KUR				AMB	AMB	04 03 53.0	
2μm,1.4s							
KUR				AMB	AMB	04 03 53.0	
120nm,0.6s							
KUR				AMB	AMB	04 03 53.0	
100nm,0.6s							
KUR				AMB	AMB	04 03 53.0	
660nm,0.6s							
KUR				*e*S	**S**	**04 04 24.5**	**-5.0**
KUR				A		04 04 25.6	
2μm,2.0s							
KUR				A		04 04 25.6	
3μm,2.0s							
KUR				A		04 04 30.4	
110nm,0.6s							
KUR				A		04 04 30.4	
210nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.62**	**197**	*e*P	**Pn**	**04 04 05.3**	**-0.6**
YUK				AMB	AMB	04 04 06.3	
110nm,0.4s							
YUK				AMB	AMB	04 04 06.3	
360nm,0.4s							
YUK				*e*S	**S**	**04 04 46.0**	**-0.6**
YUK				A		04 04 48.0	
500nm,0.5s							
YUK				A		04 04 48.0	
510nm,0.5s							
YUK				A		04 04 49.0	
2μm,0.9s							
YUK	**Yuzh-Kuril'sk**	**2.62**	**197**	*e*PN	**Pn**	**04 04 05.3**	**-0.6**
YUK				*e*S	**S**	**04 04 46.0**	**-0.6**
YUK				pmax	pmax		
comp=Z,360nm,0.3s							
YUK				pmax	pmax		
comp=E,110nm,0.4s							
YUK				smax			
comp=N,500nm,0.5s							
YUK				smax			
comp=E,510nm,0.5s							
YUK				smax			
comp=E,2μm,0.9s							
JRA	**Rausu**	**2.90**	**207**	P	**Pn**	**04 04 08.0**	**-0.6**
YSS	**Yuzh-Sakhalins**	**2.91**	**280⇑**	*e*P	**Pn**	**04 04 11.3**	**+2.6**
YSS				AMB	AMB	04 04 12.6	
comp=E,30nm,1.0s							
YSS				*e*S	**S**	**04 04 54.5**	**+2.7**
YSS				A		04 04 58.0	
comp=E,70nm,1.1s							
YSS				A		04 04 58.0	
comp=E,230nm,1.3s							
YSS	**Yuzh-Sakhalins**	**2.91**	**280**	*e*Pn	**Pn**	**04 04 11.3**	**+2.6**
NEM2	**Nemuro 2**	**3.28**	**195**	P	**Pn**	**04 04 09.6**	**-3.0**
NEM2				*e*S	**S**	**04 04 52.3**	**-6.4**
JTKR	**Abashiri--Toko**	**3.34**	**221**	P	**Pn**	**04 04 13.9**	**+0.7**
JTKR				*e*S	**S**	**04 04 59.9**	**+0.1**
JSE	**Soyaes**	**3.43**	**244**	P	**Pn**	**04 04 16.2**	**+2.1**
JSE				*e*S	**S**	**04 05 03.9**	**+2.3**
JWK2	**Keihoku**	**3.73**	**253**	P	**Pn**	**04 04 20.6**	**+3.3**
JAK	**Akkeshi**	**3.88**	**205**	P	**Pn**	**04 04 16.8**	**-2.2**
JAK				*e*S	**S**	**04 05 05.5**	**-4.9**
ASAJ	**Asahikawa**	**3.90**	**233**	P	**Pn**	**04 04 21.1**	**+1.9**
comp=E,29nm,0.3s,baz=68,slow=13,SNR=267							
ASAJ				S	**S**	**04 05 12.8**	**+2.0**
baz=252,slow=20,SNR=4.1							
ASAJ	**Asahikawa**	**3.90**	**233**	PN	**Pn**	**04 04 21.1**	**+1.9**
ASAJ				S	**S**	**04 05 12.9**	**+2.1**
ASAJ				pmax	pmax		
comp=Z,29nm,0.3s							
JAR	**Ashorobuto**	**3.94**	**216**	P	**Pn**	**04 04 19.8**	**+0.1**
JKK2	**Kamakawa 2**	**3.98**	**230**	P	**Pn**	**04 04 21.4**	**+1.3**
JKK2				*e*S	**S**	**04 05 13.7**	**+1.3**
JFR	**Furan**	**4.57**	**224**	P	**Pn**	**04 04 27.5**	**+0.7**
JFR				*e*S	**S**	**04 05 24.0**	**-0.6**
JCH	**Churui**	**4.68**	**214**	P	**Pn**	**04 04 26.2**	**-1.9**
JCH				*e*S	**S**	**04 05 21.1**	**-5.7**
JNBK	**Urakawa-nobuka**	**5.21**	**217**	P	**Pn**	**04 04 31.8**	**-2.4**
JNBK				*e*S	**S**	**04 05 31.7**	**-6.3**
JEW	**Eniwo**	**5.38**	**229**	*e*S	**S**	**04 05 39.1**	**-2.7**
JKB	**Kayabe**	**6.29**	**225**	P	**Pn**	**04 04 45.7**	**-1.5**
JKB				*e*S	**S**	**04 05 54.8**	**-7.0**
JOT	**Ohata**	**6.68**	**222**	P	**Pn**	**04 04 49.3**	**-2.6**
JOT				*e*S	**S**	**04 06 02.2**	**-8.1**
JOSM	**Okushiri--Mats**	**6.96**	**233**	P	**Pn**	**04 04 55.0**	**-0.4**
SKR	**Severo-Kuril's**	**7.36**	**52**	*e*S	**S**	**04 06 16.4**	**-9.2**
SKR				A		04 06 25.2	
comp=Z,80nm,0.5s							
SKR				A		04 06 25.2	
comp=Z,90nm,0.5s							
SKR				A		04 06 25.2	
comp=Z,60nm,0.5s							
HABR	**Khabarovsk**	**8.28**	**288**	*e*PN	**Pn**	**04 05 14.7**	**+3.0**
HABR				pmax	pmax		
comp=Z,49nm,1.2s							
JMK	**Ichinoseki**	**8.67**	**211**	P	**Pn**	**04 05 14.2**	**-2.2**
JMK				*e*S	**S**	**04 06 47.5**	**-7.7**
KLR	**Kul'dur**	**10.55**	**290**	*e*P	**Pn**	**04 05 38.7**	**-1.0**
EKMR	**Ekimchan**	**11.15**	**311**	*e*P	**Pn**	**04 05 45.0**	**-2.0**
EKMR				AMB	AMB	04 05 46.5	
comp=Z,17nm,0.5s							
MJAR	**Matsushiro Arr**	**11.93**	**216**	P	**Pn**	**04 05 56.9**	**+0.3**
comp=Z,0.7nm,0.3s,baz=24,slow=11,SNR=10.0							
MDJ	**Mudanjiang**	**12.31**	**267**	P	**Pn**	**04 06 03.4**	**+2.2**
MDJ				XP		04 07 14.2	
MDJ				S	**S**	**04 08 19.1**	**+1.1**
MDJ				AMB	AMB		
comp=Z,20nm,0.7s							
MDJ				AMB	AMB		
comp=Z,40nm,3.9s							
MDJ	**Mudanjiang**	**12.31**	**267**	*e*Pn	**Pn**	**04 06 03.2**	**+2.0**
comp=Z,19nm,0.9s							
MA2	**Magadan**	**13.26**	**9**	*e*PN	**Pn**	**04 06 14.3**	**+1.6**
MA2				pmax	pmax		
comp=Z,20nm,0.8s							
MA2	**Magadan**	**13.26**	**9**	*e*Pn	**Pn**	**04 06 14.3**	**+1.6**
comp=Z,20nm,0.8s							
BMKR	**Bomnak**	**14.07**	**312**	*e*P	**Pn**	**04 06 21.5**	**-1.0**
BMKR				AMB	AMB	04 06 24.1	
comp=Z,11nm,0.6s							
ZEA	**Zeya**	**14.51**	**307**	*e*P	**Pn**	**04 06 26.7**	**-1.0**
ZEA				AMB	AMB	04 06 28.4	
comp=Z,11nm,0.9s							
KROS	**Kirovskiy**	**14.93**	**309**	*e*P	**Pn**	**04 06 31.5**	**-1.1**
KROS				AMB	AMB	04 06 33.2	
comp=Z,9.0nm,0.6s							
CN2	**Changchun**	**15.40**	**268**	*e*P	**Pn**	**04 06 36.5**	**-1.7**
CN2				*e*S	**S**	**04 09 18.9**	**-5.5**
CN2				AMB	AMB		
comp=Z,20nm,0.7s							
YAK	**Yakutsk**	**18.41**	**334**	*i* P	**P**	**04 07 09.8**	**+0.5**
YAK				pmax	pmax		
comp=Z,14nm,0.5s							
YAK	**Yakutsk**	**18.41**	**334**	*e*P	**P**	**04 07 10.1**	**+0.8**
comp=Z,19nm,0.6s							
BILL	**Bilibino**	**23.74**	**18⇑**	*e*P	**P**	**04 08 00.1**	**-1.3**
BILL				*i* S	**S**	**04 11 53.6**	**-1.3**
SSE	**Sheshan**	**25.15**	**241**	*e*P	**P**	**04 08 14.9**	**+0.8**
SSE				AMB	AMB		
comp=Z,30nm,0.7s,mb4.8							
SSE				AMB	AMB		
comp=Z,80nm,3.5s							
NJ2	**Nanjing**	**25.94**	**246**	*e*P	**P**	**04 08 22.2**	**+1.1**
NJ2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.2							
HHC	**Hu-ho-hao-te**	**26.05**	**270**	*e*P	**P**	**04 08 22.3**	**+0.2**
HHC				AP	pP	04 09 20.7	+4.2
HHC				XP	sP	04 09 58.3	+7.6
HHC				PCP	PcP	04 11 41.5	-0.1
HHC				S	**S**	**04 12 28.7**	**-2.7**
HHC				SCP	ScP	04 14 49.5	-3.9
HHC				SCS	ScS	04 18 38.4	-5.2
HHC				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.3							
HHC				LR	LR		
comp=N,70nm,6.4s							
HHC				LR	LR		
comp=E,80nm,4.1s							
HHC				LR	LR		
comp=Z,90nm,13.5s							
ULN	**Ulaanbaatar**	**26.93**	**288**	*i* P	**P**	**04 08 31.0**	**+1.1**
ULN	**Ulaanbaatar**	**26.93**	**288**	*e*P	**P**	**04 08 30.7**	**+0.8**
comp=Z,3.5nm,0.9s,mb3.8							
SONM	**Songino Array**	**27.37**	**288**	P	**P**	**04 08 34.7**	**+0.8**
comp=Z,1.9nm,0.3s,mb4.0,baz=76,slow=8.1,SNR=18							
SONM				ScP	ScP	04 14 56.4	-0.9
comp=Z,0.5nm,0.8s,baz=108,slow=2.3,SNR=3.7							
GTA	**Gaotai**	**34.78**	**276**	*e*P	**P**	**04 09 40.7**	**+2.3**
GTA				AP	pP	04 10 42.6	+7.5
GTA				XP	sP	04 11 18.2	+10
GTA				PCP	PcP	04 12 04.2	-0.5
GTA				S	**S**	**04 14 50.1**	**+3.1**
GTA				SCP	ScP	04 15 18.2	-3.9
GTA				PCS	PcS	04 15 51.5	-0.2
GTA				XS	sS	04 16 41.6	+12
GTA				SCS	ScS	04 19 22.7	-3.5
GTA				AMB	AMB		
comp=Z,120nm,5.7s							
GTA				LR	LR		
comp=N,60nm,9.1s							
GTA				LR	LR		
comp=E,60nm,9.5s							
GTA				LR	LR		
comp=Z,80nm,9.5s							
CD2	**Chengdu**	**36.63**	**260**	*e*P	**P**	**04 09 51.9**	**-2.2**
CD2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.2							
KDAK	**Kodiak Island**	**37.52**	**50**	P	**P**	**04 10 00.5**	**-0.9**
comp=Z,5.8nm,0.7s,mb4.1,baz=38,slow=5.3,SNR=7.1							
KDAK	**Kodiak Island**	**37.52**	**50**	P	**P**	**04 10 00.5**	**-0.9**
COLA	**College**	**38.94**	**38⇑**	*i*P	**P**	**04 10 12.3**	**-0.9**
COLA				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.3							
COLA	**College**	**38.94**	**38⇑**	*i*P	**P**	**04 10 12.3**	**-1.0**
comp=Z,10nm,0.8s,mb4.3							
WMQ	**Urumqi**	**41.00**	**289**	*e*P	**P**	**04 10 32.1**	**+2.0**
WMQ				AMB	AMB		
comp=Z,20nm,3.5s							
KMI	**Kunming**	**41.05**	**254**	P	**P**	**04 10 31.6**	**+1.1**
KMI				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.3							
MKAR	**Makanchi Array**	**43.22**	**295**	P	**P**	**04 10 48.1**	**+0.2**
comp=Z,1.2nm,0.6s,mb3.3,baz=72,slow=8.9,SNR=11							
MKAR				PcP	PcP	04 12 31.2	-0.2
comp=Z,0.8nm,0.6s,baz=72,slow=4.0,SNR=6.3							
MKAR				ScP	ScP	04 15 54.1	-0.5
comp=Z,0.3nm,0.4s,baz=48,slow=5.4,SNR=4.5							
MKAR	**Makanchi Array**	**43.22**	**295**	P	**P**	**04 10 48.1**	**+0.2**
MKAR						04 12 31.2	
KURK	**Kurchatov**	**43.90**	**302⇑**	*e*P	**P**	**04 10 53.3**	**0.0**
KURK	**Kurchatov**	**43.90**	**302**	*e*P	**P**	**04 10 52.8**	**-0.5**
comp=Z,1.6nm,0.7s,mb3.4							
INK	**Inuvik**	**44.09**	**32**	P	**P**	**04 10 53.4**	**-1.4**
comp=Z,6.1nm,0.3s,mb4.2,baz=289,slow=7.3,SNR=26							
CHKZ	**Chkalovo**	**47.27**	**308**	*e*P	**P**	**04 11 18.9**	**-0.6**
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.4							
CHKZ	**Chkalovo**	**47.27**	**308**	*e*P	**P**	**04 11 18.9**	**-0.6**
comp=Z,0.9nm,0.5s,mb3.4							
ZRNK	**Zerenda**	**48.45**	**308**	*e*P	**P**	**04 11 28.3**	**-0.2**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.4							
ZRNK	**Zerenda**	**48.45**	**308**	*e*P	**P**	**04 11 28.3**	**-0.2**
comp=Z,0.8nm,0.5s,mb3.3							
YKA	**Yellowknife Ar**	**53.58**	**35**	P	**P**	**04 12 05.4**	**-1.1**
comp=Z,1.7nm,0.4s,mb3.7,baz=302,slow=7.1,SNR=11							
PMG	**Port Moresby**	**55.69**	**180**	*e*P	**P**	**04 12 22.8**	**+1.3**
PMG				pmax	pmax		
comp=Z,30nm,1.1s							
PMG	**Port Moresby**	**55.69**	**180**	*e*P	**P**	**04 12 22.8**	**+1.3**
comp=Z,30nm,1.1s,mb4.6							
ARCES	**ARCESS Array B**	**56.59**	**339**	P	**P**	**04 12 26.6**	**-1.3**
comp=Z,1.5nm,0.7s,mb3.5,baz=37,slow=7.4,SNR=6.3							
A04A	**Legoe Bay, Lum**	**57.36**	**52**	⇓P	**P**	**04 12 33.3**	**0.0**
baz=57							
D03A	**Wishkah Elem.**	**57.70**	**54**	⇑P	**P**	**04 12 36.0**	**+0.4**
baz=57							
C04A	**Brinnon**	**57.80**	**53**	⇑P	**P**	**04 12 36.3**	**+0.1**
baz=58							
B05A	**Bryant**	**57.96**	**52**	⇓P	**P**	**04 12 37.1**	**-0.3**
baz=58							
C05A	**Tolt Reservoir**	**58.52**	**52**	⇓P	**P**	**04 12 41.3**	**0.0**
baz=58							
F04A	**Amboy**	**59.15**	**54**	⇑P	**P**	**04 12 45.7**	**+0.1**
baz=59							
JOF	**Joensuu**	**59.56**	**331**	*ep*	**P**	**04 12 45.7**	**-2.7**
comp=Z,3.4nm,0.5s,mb4.1							
J02A	**Umpqua**	**60.03**	**57**	⇑P	**P**	**04 12 52.4**	**+0.9**
baz=60							
H04A	**Detroit Lake**	**60.03**	**55**	⇑P	**P**	**04 12 51.7**	**+0.1**
baz=60							
G05A	**Wamic**	**60.19**	**54**	⇓P	**P**	**04 12 53.2**	**+0.6**
baz=60							
K02A	**Glendale**	**60.44**	**58**	⇑P	**P**	**04 12 54.1**	**-0.2**
baz=60							
NEW	**Newport**	**60.62**	**50**	*e*P	**P**	**04 12 55.4**	**-0.1**
NEW				pmax	pmax		
comp=Z,3.0nm,0.7s							
NEW	**Newport**	**60.62**	**50**	*e*P	**P**	**04 12 55.4**	**-0.1**
comp=Z,2.6nm,0.7s,mb3.9							
HUMO	**Hull Mountain**	**60.85**	**58**	⇓P	**P**	**04 12 57.7**	**+0.6**
baz=61							
SUMG	**Summit**	**61.13**	**2**	*e*P	**P**	**04 12 57.8**	**-1.1**
comp=Z,3.4nm,0.5s,mb4.1							
YBH	**Yreka Blue Hor**	**61.53**	**58**	⇑P	**P**	**04 13 02.3**	**+0.7**
baz=61							
I06A	**Prineville**	**61.61**	**55**	⇑P	**P**	**04 13 02.3**	**+0.2**
baz=61							
M02C	**Callahan**	**61.66**	**59**	⇓P	**P**	**04 13 03.3**	**+0.8**
baz=61							
L04A	**Klamath Falls**	**61.74**	**58**	⇓P	**P**	**04 13 03.2**	**+0.2**
baz=61							
N02C	**Big Bar**	**61.74**	**59**	⇑P	**P**	**04 13 03.1**	**+0.1**
baz=62							
KAF	**Kangasniemi**	**61.76**	**333**	*ep*	**P**	**04 12 59.4**	**-3.7**
comp=Z,3.8nm,0.8s,mb4.1,baz=41,slow=6.2							
KAF	**Kangasniemi**	**61.76**	**333**	*e*P	**P**	**04 12 59.4**	**-3.7**
KAF				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.1							
M04C	**Macdoel**	**62.02**	**58**	⇓P	**P**	**04 13 05.3**	**+0.5**
baz=62							
J06A	**Christmas Vall**	**62.07**	**56**	⇓P	**P**	**04 13 05.6**	**+0.4**
baz=62							
K06A	**Valley Falls**	**62.30**	**56**	⇑P	**P**	**04 13 07.2**	**+0.5**
baz=62,SNR=7.3							
FINES	**FINESS Array B**	**62.33**	**332**	P	**P**	**04 13 05.5**	**-1.4**
comp=Z,3.7nm,0.5s,mb4.3,baz=45,slow=7.8,SNR=62							
WDC	**Whiskeytown Da**	**62.35**	**59**	⇑P	**P**	**04 13 07.0**	**0.0**
baz=62							
O02C	**Red Bluff**	**62.45**	**60**	⇓P	**P**	**04 13 08.2**	**+0.5**
baz=62							
M05C	**Lookout**	**62.68**	**58**	⇓P	**P**	**04 13 09.6**	**+0.4**
baz=62							
HATC	**Hat Creek Radi**	**62.84**	**59**	⇓P	**P**	**04 13 10.7**	**+0.5**
baz=62							
O03C	**Acorn Hollow,**	**63.02**	**60**	⇑P	**P**	**04 13 11.2**	**-0.2**
baz=63							
O04C	**Chester**	**63.37**	**59**	P	**P**	**04 13 14.4**	**+0.7**
baz=63,SNR=6.1							
WVOR	**Wild Horse Val**	**63.45**	**56**	*e*P	**P**	**04 13 14.3**	**+0.1**
WVOR				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.0							
WVOR	**Wild Horse Val**	**63.45**	**56**	*e*P	**P**	**04 13 14.3**	**0.0**
comp=Z,3.4nm,0.8s,mb4.0							
FFC	**Flin Flon**	**63.56**	**37**	*e*P	**P**	**04 13 14.0**	**-0.9**
FFC				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.3							
FFC	**Flin Flon**	**63.56**	**37**	*e*P	**P**	**04 13 14.0**	**-1.0**
comp=Z,6.1nm,0.7s,mb4.3							
ORV	**Oroville**	**63.62**	**60**	⇓P	**P**	**04 13 14.9**	**-0.4**
baz=63							
M07A	**Soldier Meadow**	**63.81**	**57**	⇓P	**P**	**04 13 16.6**	**+0.1**
baz=64,SNR=8.5							
O06A	**Flanigan**	**64.22**	**58**	⇓P	**P**	**04 13 19.3**	**+0.1**
baz=64,SNR=5.3							
M08A	**Happy Creek Ra**	**64.23**	**56**	⇑P	**P**	**04 13 19.5**	**+0.2**
baz=64							
L09A	**Wilkinson Ranc**	**64.27**	**55**	⇑P	**P**	**04 13 20.0**	**+0.5**
baz=64							
P05C	**Yuba Gap, Truc**	**64.31**	**59**	⇑P	**P**	**04 13 19.7**	**-0.1**
baz=64							
HRY	**Holter Researc**	**64.38**	**48**	*e*P	**P**	**04 13 20.4**	**+0.2**
LAVA	**Lava Cap Winer**	**64.58**	**60**	⇓P	**P**	**04 13 21.7**	**+0.2**
baz=64							
WENL	**Wente Brothers**	**64.70**	**61**	⇑P	**P**	**04 13 22.5**	**+0.2**
baz=64							
O07A	**Toulon**	**64.77**	**58**	⇑P	**P**	**04 13 23.1**	**+0.3**
baz=64,SNR=5.7							
N08A	**GE Springer Mi**	**64.81**	**57**	⇓P	**P**	**04 13 23.3**	**+0.3**
baz=64,SNR=5.3							
WCN	**Washoe City**	**64.81**	**59**	⇓P	**P**	**04 13 23.6**	**+0.5**
baz=64							
HLID	**Hailey**	**65.08**	**52**	*e*P	**P**	**04 13 24.6**	**-0.1**
comp=Z,1.4nm,0.7s,mb3.7							
N09A	**Rock Creek Ran**	**65.11**	**56**	⇓P	**P**	**04 13 25.5**	**+0.6**
baz=65							
BOZ	**Bozeman (W)**	**65.19**	**49⇑**	*e*P	**P**	**04 13 25.8**	**+0.4**
BOZ				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.1							
BOZ	**Bozeman (W)**	**65.19**	**49⇑**	*e*P	**P**	**04 13 25.8**	**+0.3**
comp=Z,2.9nm,0.6s,mb4.1							
M10A	**I.L. Ranch, Tu**	**65.23**	**55**	⇑P	**P**	**04 13 26.4**	**+0.7**
baz=65							
R06C	**Coleville**	**65.50**	**59**	⇑P	**P**	**04 13 27.4**	**0.0**
baz=65							
M11A	**Holland Ranch,**	**65.72**	**55**	⇑P	**P**	**04 13 29.5**	**+0.7**
baz=65							
O09A	**Fish Creek Ran**	**65.75**	**57**	⇑P	**P**	**04 13 29.6**	**+0.6**
baz=65							
R07C	**Lee Vining**	**66.02**	**59**	⇓P	**P**	**04 13 31.3**	**+0.5**
baz=66							
Q08A	**Gabbs**	**66.18**	**58**	⇑P	**P**	**04 13 32.1**	**+0.4**
baz=66							
NVAR	**Mina Array Bea**	**66.24**	**59**	P	**P**	**04 13 32.4**	**+0.2**
comp=Z,2.7nm,0.7s,mb4.1,baz=278,slow=8.9,SNR=21							
ELK	**Elko**	**66.48**	**55**	*e*P	**P**	**04 13 34.1**	**+0.4**
ELK				pmax	pmax		
comp=Z,2.0nm,0.9s							
ELK	**Elko**	**66.48**	**55**	*e*P	**P**	**04 13 34.1**	**+0.4**
comp=Z,1.8nm,0.9s,mb3.8							
N12A	**Wells--Clov Va**	**66.53**	**55**	⇑P	**P**	**04 13 34.5**	**+0.6**
baz=66							
M13A	**Montello**	**66.68**	**54**	⇑P	**P**	**04 13 35.3**	**+0.4**
baz=66							
MOOW	**Moose Ponds**	**66.93**	**50**	*e*P	**P**	**04 13 36.3**	**-0.2**
comp=Z,5.1nm,1.3s,mb4.1							
NB2	**NORSAR Subarra**	**66.96**	**338**	P	**P**	**04 13 35.1**	**-1.5**
comp=Z,1.1nm,0.5s,mb3.8,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**66.96**	**338**	P	**P**	**04 13 35.3**	**-1.3**
comp=Z,1.5nm,0.5s,mb4.0,baz=30,slow=6.5,SNR=6.3							
HELL	**Mitchell Peak**	**66.97**	**61**	⇑P	**P**	**04 13 36.5**	**-0.2**
baz=67							
TPAW	**Teton Pass**	**67.00**	**51**	*e*P	**P**	**04 13 37.8**	**+0.9**
comp=Z,8.3nm,1.4s,mb4.3							
O12A	**Currie**	**67.08**	**55**	⇑P	**P**	**04 13 37.4**	**0.0**
baz=67							
WRA	**Warramunga Arr**	**67.14**	**193**	P	**P**	**04 13 37.1**	**-0.7**
comp=Z,0.8nm,0.7s,mb3.5,baz=9.9,slow=6.3,SNR=4.8							
S09A	**Goldfield**	**67.35**	**59**	⇓P	**P**	**04 13 39.2**	**0.0**
baz=67							
P12A	**McGill**	**67.52**	**56**	⇓P	**P**	**04 13 40.2**	**0.0**
baz=67							
KIV	**Kislovodsk**	**67.81**	**311**	*i* P	**P**	**04 13 40.5**	**-1.5**
KIV				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.4							
DUG	**Dugway**	**68.22**	**54**	*e*P	**P**	**04 13 44.5**	**0.0**
DUG				pmax	pmax		
com

TUC	**Tucson**	**74.90**	**59**	*e*P	**P**	**04 14 24.1**	**0.0**
TUC				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
TUC	**Tucson**	**74.90**	**59**	*e*P	**P**	**04 14 24.1**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.5						
SCHQ	**Schefferville**	**75.04**	**19**	P	**P**	**04 14 23.1**	**-1.9**
	comp=Z,0.4nm,0.4s,mb3.4,baz=301,slow=4.4,SNR=3.7						
ANMO	**Albuquerque**	**75.49**	**54**	*e*P	**P**	**04 14 28.0**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ANMO	**Albuquerque**	**75.49**	**54**	*e*P	**P**	**04 14 28.0**	**+0.5**
	comp=Z,1.9nm,1.1s,mb3.6						
BRTR	**Keskin Array B**	**75.53**	**313**	P	**P**	**04 14 28.1**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.3,baz=76,slow=3.7,SNR=4.7						
KHC	**Kasperske Hory**	**76.46**	**331**	*i* P	**P**	**04 14 32.7**	**-0.2**
AMTX	**Amarillo**	**78.17**	**51**	*e*P	**P**	**04 14 42.2**	**-0.1**
	comp=Z,5.5nm,0.6s,mb4.5						
MNTX	**Cornudas Mount**	**78.48**	**56**	*e*P	**P**	**04 14 44.0**	**-0.1**
	comp=Z,1.9nm,0.7s,mb3.9						
WMOK	**Wichita Mounta**	**79.83**	**50**	*e*P	**P**	**04 14 50.3**	**-1.0**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
WMOK	**Wichita Mounta**	**79.83**	**50**	*e*P	**P**	**04 14 50.3**	**-1.0**
	comp=Z,1.4nm,0.6s,mb3.9						
LTX	**Lajitas**	**81.23**	**56**	*e*P	**P**	**04 14 58.7**	**0.0**
LTX				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
LTX	**Lajitas**	**81.23**	**56**	*e*P	**P**	**04 14 58.7**	**-0.1**
	comp=Z,3.3nm,0.7s,mb4.2						
WVT	**Waverly**	**84.13**	**42**	*e*P	**P**	**04 15 12.6**	**-1.0**
WVT				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
WVT	**Waverly**	**84.13**	**42**	*e*P	**P**	**04 15 12.6**	**-1.0**
	comp=Z,2.4nm,0.6s,mb4.2						
TORD	**Torodi Ar. Bea**	**112.89**	**323**	PKiKP	PKiKP	04 21 16.3	-1.1
	comp=Z,0.2nm,0.4s,baz=27,slow=1.6,SNR=11						
BDFB	**Brasilia**	**146.76**	**27**	PKPbc	PKPbc	04 22 23.3	+0.5
	comp=Z,1.4nm,0.3s,baz=356,slow=2.9,SNR=4.8						
SNAA	**Sanae**	**151.05**	**199**	⇓*i*PKPdf	PKPdf	04 22 21.6	-5.9
SNAA				*e*		04 23 38.0	
SNAA	**Sanae**	**151.05**	**199**	*e*PKPdf	PKPdf	04 22 21.1	-6.3
CPUP	**Villa Florida**	**152.12**	**52**	PKPbc	PKPbc	04 22 35.5	-0.5
	comp=Z,0.4nm,0.4s,baz=281,slow=2.9,SNR=3.6						
PLCA	**Paso Flores**	**152.44**	**92**	PKPbc	PKPbc	04 22 36.5	-0.2
	comp=Z,1.7nm,0.4s,baz=279,slow=2.8,SNR=9.1						
PLCA	**Paso Flores**	**152.44**	**92**	*e*PKPbc	PKPbc	04 22 36.1	-0.6
VNA2	**Neumayer--Watz**	**152.60**	**198**	⇓*i*PKPdf	PKPdf	04 22 36.0	+6.2
VNA2				*e*		04 23 52.4	
VNA3	**Neumayer Olymp**	**152.82**	**196**	⇓*i*PKPdf	PKPdf	04 22 36.1	+6.0
VNA3				*e*		04 23 51.7	

*NEIC **04** 04:06:54.4, 31.81S×69.83W, h137km, MG3.6(GUC), After GUC.*

GUC 04 04:06:54.4±0.8, 31.81S×69.83W, h137km±8km, MD3.6, ML3.6, 12C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.08**	**216**	⇑*i*P	Pn	04 07 19.3	+0.6
JACH				*i* S	Sn	04 07 37.9	+0.7
CMCH	**Combarbala**	**1.18**	**302**	⇓*i*P	Pn	04 07 20.5	+0.8
CMCH				*i* S	Sn	04 07 40.1	+1.2
CMCH				AML	AML	04 07 42.2	
	comp=E,4μm,0.9s						
CMCH	**Combarbala**	**1.18**	**302**	⇓*i*P	Pn	04 07 20.5	+0.8
CMCH				*i* S	Sn	04 07 40.1	+1.2
ROCH	**El Roble**	**1.53**	**220**	⇓*i*P	Pn	04 07 23.9	+0.7
ROCH				*i* S	Sn	04 07 46.2	+1.0
PACH	**Papudo**	**1.54**	**242**	*i* P	Pn	04 07 23.6	+0.2
PACH				*i* S	Sn	04 07 45.6	+0.1
FCH	**Farellones**	**1.56**	**194**	⇑*i*P	Pn	04 07 24.8	+1.1
FCH				*i* S	Sn	04 07 47.3	+1.4
FCH				AML	AML	04 07 52.2	
	comp=E,392nm,0.3s						
OVCH	**Ovalle**	**1.68**	**315**	⇑*i*P	Pn	04 07 25.6	+0.6
OVCH				*i* S	Sn	04 07 48.9	+0.6
OVCH				AML	AML	04 07 51.3	
	comp=N,669nm,0.5s						
OVCH	**Ovalle**	**1.68**	**315**	⇑*i*P	Pn	04 07 25.6	+0.6
OVCH				*i* S	Sn	04 07 48.9	+0.6
CLCH	**Cerro Calan**	**1.69**	**200**	⇑*i*P	Pn	04 07 25.7	+0.7
CLCH				*i* S	Sn	04 07 49.4	+0.9
CLCH				AML	AML	04 07 51.6	
	comp=N,394nm,0.9s						
CLCH				AML	AML	04 07 51.9	
	comp=E,504nm,0.4s						
TLL	**Tololo Astrono**	**1.84**	**333**	⇑*i*P	Pn	04 07 28.0	+1.2
TLL				*i* S	Sn	04 07 52.6	+1.0
TLL				AML	AML	04 07 54.6	
	comp=N,1μm,0.5s						
TLL	**Tololo Astrono**	**1.84**	**333**	⇑*i*P	Pn	04 07 28.0	+1.2
TLL				*i* S	Sn	04 07 52.6	+1.0
ANTU	**Antumapu**	**1.88**	**201**	⇓*i*P	Pn	04 07 27.8	+0.5
ANTU				*i* S	Sn	04 07 53.2	+0.8
ANTU				AML	AML	04 07 56.2	
	comp=E,232nm,0.7s						
ANTU	**Antumapu**	**1.88**	**201**	⇓*i*P	Pn	04 07 27.8	+0.5
ANTU				*i* S	Sn	04 07 53.2	+0.8
PCH	**Pirque**	**1.89**	**197**	⇑*i*P	Pn	04 07 28.2	+0.8
LMEL	**Las Melosas**	**2.05**	**189**	⇑*i*P	Pn	04 07 30.1	+0.8
LMEL				AML	AML	04 08 08.7	
	comp=N,197nm,0.1s						
TACH	**Talagante**	**2.06**	**207**	⇓*i*P	Pn	04 07 29.6	+0.2
TACH				*i* S	Sn	04 07 56.4	+0.1
LCCH	**Las Cruces**	**2.21**	**221**	⇑*i*P	Pn	04 07 31.6	+0.3
LCCH				*i* S	Sn	04 08 00.2	+0.6
CHCH	**Chadas Angostu**	**2.22**	**198**	⇑*i*P	Pn	04 07 32.1	+0.7
CHCH				*i* S	Sn	04 08 00.6	+0.7
CACH	**El Canelo**	**2.39**	**195**	*e*P	Pn	04 07 34.2	+0.8
CACH				*i* S	Sn	04 08 05.3	+1.8
CICH	**Cipreses**	**2.55**	**191**	*i* P	Pn	04 07 36.5	+1.1
CICH				*i* S	Sn	04 08 08.2	+1.1
LCO	**Las Campanas**	**2.89**	**345**	⇑*i*P	Pn	04 07 40.4	+0.6
LCO				*i* S	Sn	04 08 14.3	-0.6
TRQA	**Tornquist**	**8.96**	**136**	*e*Pn	Pn	04 08 58.7	-2.0
	comp=N,4.4nm,0.5s						

*LDG **04** 04:53:53.5±1.1, 43.07N×1.95W, h2km, Md2.1/1, Ml1.7/2, Error ellipse: s-maj=44.8km s-min=18.9km az=1.0*

MDD 04 04:53:55.7±0.5, 43.00N×1.78W, h0km, mbLg1.0/9, 1C, Error ellipse: s-maj=4.2km s-min=2.1km az=89.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.17**	**106**	Pg	Pg	04 53 58.4	-0.6
	SNR=7.9						
IUSE				Lg		04 54 01.2	
	6.5nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.25**	**47**	⇑Pg	Pg	04 54 00.4	-0.1
	4.0nm,0.1s,SNR=18						
ELIZ				Lg		04 54 03.8	
	3.1nm,0.1s,SNR=7.4						
EARA	**Aranguren**	**0.27**	**147**	Pg	Pg	04 53 59.6	-1.1
	1.0nm,0.0s,SNR=7.4						
EARA				Lg		04 54 03.3	
	14nm,0.2s,SNR=4.0						
EALK	**Alkurruntz**	**0.30**	**41**	Pg	Pg	04 54 01.3	-0.2
	1.4nm,0.1s,SNR=13						
EALK				Lg		04 54 04.9	
	3.9nm,0.1s,SNR=15						
IPRE	**Itoiz**	**0.36**	**121**	Pg	Pg	04 54 03.3	+0.7
	0.2nm,0.0s,SNR=4.0						
IPRE				Lg		04 54 07.5	
	1.4nm,0.1s,SNR=5.7						
SJPF	**Ste Jean**	**0.42**	**73**	*e*Pg	Pg	04 54 03.1	-0.7
SJPF				*e*Sg	Sg	04 54 09.3	+0.1
	5.4nm,0.2s						
SJPF	**Ste Jean**	**0.42**	**73**	Pg	Pg	04 54 03.1	-0.7
SJPF				Lg		04 54 09.3	
	2.7nm,0.2s						
ETSF	**Etsaut**	**0.90**	**96**	*e*Pg	Pg	04 54 12.4	-0.5
ETSF				*e*Sg	Sg	04 54 25.9	+1.3
	1.5nm,0.2s						
ETSF	**Etsaut**	**0.90**	**96**	Pg	Pg	04 54 12.4	-0.5
ETSF				Lg		04 54 25.9	
	0.8nm,0.2s						
EBIE	**Bielsa**	**1.45**	**102**	Pg	Pg	04 54 22.4	-1.0
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		04 54 43.4	
	0.8nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.55**	**88**	*e*Pg	Pg	04 54 25.1	-0.3
EPF				*e*Sg	Sg	04 54 46.9	+1.3
	0.8nm,0.2s						
EPF	**Esparros**	**1.55**	**88**	Pg	Pg	04 54 25.1	-0.3
EPF				Lg		04 54 46.9	
	0.4nm,0.2s						
ESAC	**San Caprasio**	**1.60**	**142**	Lg		04 54 47.3	
	12nm,0.5s,SNR=7.9						
ETOR	**Torete**	**2.18**	**186**	Pg	Pg	04 54 35.8	-1.7
	0.3nm,0.3s,SNR=7.9						
ETOR				Lg		04 55 03.8	
	0.3nm,0.2s,SNR=7.9						

IDC 04 05:19:23.5±5.4, 21.45S×179.47W, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.9/12, mbtmp4.2/2, Error ellipse: s-maj=283.9km s-min=55.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.97**	**258**	P	P	05 27 23.9	-0.4
	1.4nm,0.5s,baz=101,slow=6.4,SNR=22						
WRA	**Warramunga Arr**	**43.11**	**263**	P	P	05 27 26.3	+0.8
	2.3nm,0.3s,baz=96,slow=8.3,SNR=96						
FINES	**FINESS Array B**	**136.28**	**343**	PKP	PKPdf	05 38 44.1	-2.9
	0.8nm,0.9s,baz=126,slow=3.3,SNR=3.8						
BRTR	**Keskin Array B**	**146.43**	**310**	PKPbc	PKPbc	05 39 07.5	+1.0
	0.8nm,0.6s,baz=88,slow=1.7,SNR=3.7						

*NEIC **04** 05:39:21.0, 41.60N×125.48W, h3km, mb3.7/1, ML3.3(NCEDC), After NCEDC.*
*ISCJB **04** 05:39:22.4±0.4, 41.52N±001×125.02W±004, h3km, Error ellipse: s-maj=4.3km s-min=2.0km az=163.9*

ISC 04 05:39:25.7±0.7, 41.55N±001×125.07W±004, h23km±6km, n102, σ1$09/139, 54C-50D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M01C	**Crescent City**	**0.78**	**67**	⇓P	Pb	**05 39 39.7**	**-0.8**
	baz=1.0,SNR=773						
M01C				⇑S	Sb	**05 39 49.6**	**-1.0**
	baz=1.0						
KBO	**Bosley Butte**	**0.92**	**43**	⇑*i*Pg	Pb	**05 39 41.8**	**-1.2**
KBO				*e*Sg	Sb	**05 39 52.6**	**-2.1**
JCC	**Jacoby Creek**	**1.07**	**132**	P	Pn	**05 39 43.6**	**-1.7**
	baz=1.3,SNR=195						
JCC				⇓S	Sb	**05 39 56.5**	**-2.7**
	baz=1.3						
KHMM	**Horse Mountain**	**1.22**	**123**	⇓*i*Pg	Pn	**05 39 46.0**	**-1.3**
KHMM				*e*Sg	Sn	**05 39 58.5**	**-4.4**
L02A	**Cave Junction**	**1.26**	**60**	⇑P	Pn	**05 39 46.8**	**-1.0**
	baz=1.5,SNR=19						
L02A				⇑S	Sn	**05 40 00.7**	**-3.4**
	baz=1.5						
K01A	**Sixes**	**1.34**	**19**	⇓S	Sn	**05 40 03.8**	**-2.2**
	baz=1.4						
KEBM	**Edson Butte**	**1.43**	**22**	*e*Pn	Pn	**05 39 49.2**	**-1.1**
KEBM				*e*Sn	Sn	**05 40 06.6**	**-1.7**
N02C	**Big Bar**	**1.52**	**118**	⇑P	Pn	**05 39 50.1**	**-1.3**
	baz=1.8,SNR=14						
N02C				⇑S	Sn	**05 40 08.9**	**-1.5**
	baz=1.8						
M02C	**Callahan**	**1.68**	**95**	⇓P	Pn	**05 39 53.0**	**-0.7**
	baz=2.0,SNR=105						
M02C				⇓S	Sn	**05 40 13.3**	**-1.1**
	baz=2.0						
K02A	**Glendale**	**1.70**	**43**	⇓P	Pn	**05 39 53.4**	**-0.4**
	baz=1.9,SNR=172						
O01C	**Eel River Cons**	**1.70**	**146**	⇓P	Pn	**05 39 53.3**	**-0.6**
	baz=1.9						
O01C				⇓S	Sn	**05 40 12.7**	**-2.2**
	baz=1.9						
YBH	**Yreka Blue Hor**	**1.78**	**83**	*e*Pn	Pn	**05 39 55.4**	**+0.4**
YBH	**Yreka Blue Hor**	**1.78**	**83**	⇓P	Pn	**05 39 54.9**	**-0.1**
	baz=2.1,SNR=56						
YBH				⇓S	Sn	**05 40 17.2**	**+0.3**
	baz=2.1						
HUMO	**Hull Mountain**	**1.90**	**55**	⇑*i*Pn	Pn	**05 39 56.1**	**-0.5**
HUMO	**Hull Mountain**	**1.90**	**55**	⇓P	Pn	**05 39 56.2**	**-0.4**
	baz=2.1,SNR=26						
KIPM	**Iron Peak**	**2.12**	**145**	⇑*i*Pn	Pn	**05 39 59.2**	**-0.5**
KIPM				*e*Sn	Sn	**05 40 24.7**	**-0.5**
J02A	**Umpqua**	**2.13**	**31**	⇓P	Pn	**05 39 59.4**	**-0.5**
	baz=2.3,SNR=62						
J02A				⇑S	Sn	**05 40 24.0**	**-1.7**
	baz=2.3						
WDC	**Whiskeytown Da**	**2.15**	**116**	*e*Pn	Pn	**05 39 59.4**	**-0.6**
WDC	**Whiskeytown Da**	**2.15**	**116**	⇑P	Pn	**05 39 59.4**	**-0.6**
	baz=2.4,SNR=40						
WDC				⇓S	Sn	**05 40 25.0**	**-0.9**
	baz=2.4						
O02C	**Red Bluff**	**2.21**	**128**	⇑P	Pn	**05 40 00.6**	**-0.2**
	baz=2.5,SNR=147						
O02C				⇑S	Sn	**05 40 26.6**	**-0.8**
	baz=2.5						
BBOR	**Butler Butte**	**2.23**	**52**	P	Pn	**05 40 01.5**	**+0.3**
M03C	**McCloud**	**2.24**	**96**	⇓S	Sn	**05 40 28.6**	**+0.4**
	baz=2.5						
J03A	**Ideyld Park**	**2.40**	**40**	⇑P	Pn	**05 40 03.6**	**0.0**
	baz=2.6						
M04C	**Macdoel**	**2.43**	**83**	⇓P	Pn	**05 40 04.6**	**+0.6**
	baz=2.7,SNR=33						
L04A	**Klamath Falls**	**2.46**	**74**	⇑P	Pn	**05 40 04.8**	**+0.5**
	baz=2.7,SNR=17						
P01C	**Double 8 Ranch**	**2.46**	**147**	P	Pn	**05 40 03.3**	**-1.1**
	baz=2.7,SNR=89						
P01C				⇓S	Sn	**05 40 30.5**	**-3.2**
	baz=2.7						
RNO	**Roman Nose**	**2.56**	**22**	P	Pn	**05 40 05.8**	**0.0**
GASB	**Alder Springs**	**2.61**	**136**	⇓P	Pn	**05 40 06.7**	**+0.3**
	baz=2.9,SNR=137						
GASB				⇓S	Sn	**05 40 38.3**	**+1.0**
	baz=2.9						
I02A	**Mapleton**	**2.62**	**20**	⇑P	Pn	**05 40 06.1**	**-0.4**
	baz=2.7,SNR=92						
I02A				⇓S	Sn	**05 40 35.8**	**-1.8**
	baz=2.7						
K04A	**Chilquin**	**2.71**	**66**	⇑P	Pn	**05 40 08.2**	**+0.4**
	baz=3.0,SNR=7.7						
I03A	**Eugene**	**2.76**	**28**	⇓P	Pn	**05 40 08.3**	**-0.2**
	baz=2.9,SNR=45						
I03A				⇑S	Sn	**05 40 41.3**	**+0.3**
	baz=2.9						
O03C	**Acorn Hollow,**	**2.78**	**123**	⇑P	Pn	**05 40 08.7**	**-0.1**
	baz=3.1,SNR=20						
M05C	**Lookout**	**2.96**	**92**	⇓P	Pn	**05 40 11.8**	**+0.7**
	baz=3.3						
M05C				⇑S	Sn	**05 40 46.5**	**+0.6**
	baz=3.3						
HOPS	**Hopland**	**2.98**	**148**	*e*Pn	Pn	**05 40 10.5**	**-0.9**
HOPS	**Hopland**	**2.98**	**148**	P	Pn	**05 40 10.6**	**-0.8**
	baz=3.2,SNR=84						
HBO	**Huckleberry Mo**	**3.06**	**41**	P	Pn	**05 40 14.0**	**+1.3**
IRO	**Indian Ridge**	**3.21**	**39**	P	Pn	**05 40 15.8**	**+1.0**
H02A	**Toledo**	**3.23**	**14**	⇓P	Pn	**05 40 14.3**	**-0.7**
	baz=3.3,SNR=5.8						
H02A				⇓S	Sn	**05 40 51.4**	**-1.2**
	baz=3.3						
O04C	**Chester**	**3.26**	**111**	⇑S	Sn	**05 40 54.4**	**+1.0**
	baz=3.6						
BROR	**Big Rock Looko**	**3.33**	**34**	P	Pn	**05 40 17.8**	**+1.5**
MNRC	**McLaughlin Nat**	**3.34**	**142**	⇑P	Pn	**05 40 16.5**	**0.0**
	baz=3.6,SNR=12						
ORV	**Oroville**	**3.37**	**125**	⇑P	Pn	**05 40 16.0**	**-0.9**
	baz=3.6,SNR=31						
ORV				⇑S	Sn	**05 40 55.4**	**-0.8**
	baz=3.6						
H03A	**Soap Creek Ran**	**3.39**	**22**	⇑P	Pn	**05 40 17.0**	**-0.2**
	baz=3.5,SNR=15						
H03A				⇓S	Sn	**05 40 56.4**	**-0.3**
	baz=3.5						
SUTB	**Sutter Buttes**	**3.41**	**132**	⇑P	Pn	**05 40 16.4**	**-1.1**
	baz=3.7,SNR=53						
SUTB				⇓S	Sn	**05 40 56.6**	**-0.6**
	baz=3.7						
FRIS	**Frissel Point**	**3.44**	**38**	P	Pn	**05 40 19.6**	**+1.7**
M06C	**Likely Place G**	**3.47**	**94**	⇑P	Pn	**05 40 18.8**	**+0.5**
	baz=3.8						
M06C				⇓S	Sn	**05 41 00.2**	**+1.5**
	baz=3.8						
OHCM	**Honcut**	**3.52**	**128**	*e*Pn	Pn	**05 40 18.1**	**-0.8**
O05C	**Quincy**	**3.53**	**115**	⇓P	Pn	**05 40 20.2**	**+1.1**
	baz=3.8,SNR=47						
O05C				⇑S	Sn	**05 41 01.2**	**+1.1**
	baz=3.8						
NSHM	**Saint Helena R**	**3.57**	**147**	*e*Pn	Pn	**05 40 18.9**	**-0.7**
BKCOR	**Black Crater**	**3.70**	**41**	P	Pn	**05 40 22.9**	**+1.5**
BEND	**Bend**	**3.73**	**46**	P	Pn	**05 40 23.6**	**+1.7**
Q03C	**Winters**	**3.74**	**140**	⇑P	Pn	**05 40 22.7**	**+0.6**
	baz=4.0						
H04A	**Detroit Lake**	**3.77**	**33**	P	Pn	**05 40 23.4**	**+0.9**
	baz=3.9,SNR=26						
H04A				⇑S	Sn	**05 41 06.3**	**+0.1**
	baz=3.9						
CVS	**Carmenet Viney**	**3.78**	**147**	⇑P	Pn	**05 40 21.6**	**-0.9**
	baz=4.0,SNR=13						
MCCM	**Marconi Confer**	**3.79**	**153**	*e*Pn	Pn	**05 40 21.8**	**-1.0**
MCCM	**Marconi Confer**	**3.79**	**153**	⇓P	Pn	**05 40 22.1**	**-0.7**
	baz=4.0,SNR=19						
K06A	**Valley Falls**	**3.80**	**69**	⇑P	Pn	**05 40 23.1**	**+0.3**
	baz=4.1,SNR=28						
Q04C	**Lincoln**	**3.91**	**133**	⇓P	Pn	**05 40 24.1**	**-0.2**
	baz=4.2,SNR=9.8						
Q04C				⇑S	Sn	**05 41 10.4**	**+0.8**
	baz=4.2						
J06A	**Christmas Vall**	**4.02**	**63**	⇑P	Pn	**05 40 26.1**	**+0.2**
	baz=4.3,SNR=49						
P05C	**Yuba Gap, Truc**	**4.08**	**122**	⇓P	Pn	**05 40 27.9**	**+1.2**
	baz=4.4,SNR=18						
P05C				⇓S	Sn	**05 41 14.0**	**+0.3**
	baz=4.4						
FARB	**Farallon Islan**	**4.17**	**157**	⇑P	Pn	**05 40 27.1**	**-0.7**
	baz=4.3,SNR=14						
I06A	**Prineville**	**4.31**	**55**	⇓P	Pn	**05 40 31.0**	**+1.3**
	baz=4.5						
LAVA	**Lava Cap Winer**	**4.33**	**129**	⇑P	Pn	**05 40 31.2**	**+1.1**
	baz=4.6,SNR=44						
LAVA				⇓S	Sn	**05 41 20.9**	**+0.9**
	baz=4.6						
F03A	**Seaside**	**4.51**	**14**	⇓S	Sn	**05 41 23.4**	**-1.0**
	baz=4.6						
R04C	**Big Horse Ranc**	**4.57**	**135**	⇑P	Pn	**05 40 33.3**	**-0.1**
	baz=4.8,SNR=15						
G05A	**Wamic**	**4.59**	**35**	⇑P	Pn	**05 40 35.3**	**+1.6**
	baz=4.7,SNR=13						
WCN	**Washoe City**	**4.64**	**117**	⇑P	Pn	**05 40 35.4**	**+1.1**
	baz=4.9,SNR=17						
WCN				⇓S	Sn	**05 41 27.5**	**+0.1**
	baz=4.9						
WENL	**Wente Brothers**	**4.68**	**146**	⇑P	Pn	**05 40 35.5**	**+0.6**
	baz=4.9						
JRSC	**Jasper Ridge**	**4.68**	**151**	⇓P	Pn	**05 40 33.9**	**-1.1**
	baz=4.9,SNR=32						
PAHR	**Pah Rah Range**	**4.70**	**111**	*e*Pn	Pn	**05 40 36.5**	**+1.3**
	4.6nm,0.3s						
R05C	**Kirkwood Meado**	**4.77**	**125**	⇑P	Pn	**05 40 37.3**	**+1.2**
	baz=5.0,SNR=7.9						
R05C				⇑S	Sn	**05 41 31.7**	**+1.1**
	baz=5.0						
F04A	**Amboy**	**4.78**	**23**	⇑P	Pn	**05 40 37.1**	**+0.8**
	baz=4.9,SNR=7.5						
F04A				⇓S	Sn	**05 41 29.8**	**-1.2**
	baz=4.9						
WVOR	**Wild Horse Val**	**4.88**	**77**	*e*Pn	Pn	**05 40 38.0**	**+0.4**
	10nm,0.8s						
O07A	**Toulon**	**4.90**	**104**	⇓P	Pn	**05 40 40.5**	**+2.6**
	baz=5.2						
BNLO	**Ben Lomond**	**4.95**	**152**	⇑P	Pn	**05 40 37.5**	**-1.2**
	baz=5.1,SNR=34						
S04C	**Ingram Canyon,**	**4.97**	**143**	⇓P	Pn	**05 40 39.2**	**+0.3**
	baz=5.2						
M08A	**Happy Creek Ra**	**5.03**	**89**	⇓P	Pn	**05 40 40.9**	**+1.2**
	baz=5.3						
CMB	**Columbia Colle**	**5.03**	**133**	*e*Pn	Pn	**05 40 41.0**	**+1.3**
	7.1nm,0.4s						
CMB	**Columbia Colle**	**5.03**	**133**	⇓P	Pn	**05 40 40.8**	**+1.1**
	baz=5.3						
CMB				⇑S	Sn	**05 41 36.5**	**-0.7**
	baz=5.3						
E03A	**Lebam**	**5.12**	**12**	⇓P	Pn	**05 40 41.3**	**+0.4**
	baz=5.1						
E03A				⇑S	Sn	**05 41 37.8**	**-1.5**
	baz=5.1						
P07A	**Fallon**	**5.12**	**111**	⇓P	Pn	**05 40 42.6**	**+1.6**
	baz=5.4						
N08A	**GE Springer Mi**	**5.30**	**96**	⇓P	Pn	**05 40 41.9**	**-1.5**
	baz=5.6						
N08A				⇓S	Sn	**05 41 42.3**	**-1.4**
	baz=5.6						
PACP	**Pacheco Peak**	**5.40**	**146**	⇑P	Pn	**05 40 45.2**	**+0.4**
	baz=5.6,SNR=5.0						
SAO	**San Andreas Ge**	**5.55**	**148**	*e*Pn	Pn	**05 40 46.1**	**-0.7**
E05A	**Randle**	**5.55**	**24**	⇑P	Pn	**05 40 47.8**	**+0.9**
	baz=5.6						
E05A				⇑S	Sn	**05 41 49.6**	**-0.3**
	baz=5.6						
HAST	**Hastings Reser**	**5.84**	**151**	⇑P	Pn	**05 40 48.8**	**-2.0**
	baz=6.0,SNR=70						
HAST				⇓S	Sn	**05 41 55.8**	**-1.1**
	baz=6.0						
D05A	**Enumclaw**	**6.06**	**20**	⇓S	Sn	**05 42 01.8**	**-0.6**
	baz=6.1						
U04C	**Hernandez Rese**	**6.17**	**146**	⇑P	Pn	**05 40 55.4**	**+0.1**
	baz=6.4						
V03C	**Hunter Liggett**	**6.28**	**150**	⇑P	Pn	**05 40 57.4**	**+0.5**
	baz=6.5,SNR=7.0						
PKD	**Parkfield**	**6.62**	**146**	⇑P	Pn	**05 41 01.4**	**-0.1**
	baz=6.8,SNR=13						
V04C	**Ramage Ranch,**	**6.75**	**149**	⇓P	Pn	**05 41 04.2**	**+0.8**
	baz=7.0						
HELL	**Mitchell Peak**	**6.76**	**134**	⇑P	Pn	**05 41 05.3**	**+1.8**
	baz=7.0						
V05C	**Boulder Hill,**	**6.96**	**143**	⇑P	Pn	**05 41 07.5**	**+1.2**
	baz=7.2						
B05A	**Bryant**	**7.04**	**16**	⇓P	Pn	**05 41 08.1**	**+0.8**
	baz=7.1		

h205km±2.4km;**pP-P,n153,**c1♀**24**/199,**mb4.2**/43,**9C-8D,**
Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.82**	**157**	⇓P	**Pn**	**05 58 45.6**	**-1.4**
CHCP	**Chirah Chowk**	**3.54**	**141**	⇓P	**Pn**	**05 58 57.5**	**+2.1**
CHCP				S	**Sn**	**05 59 37.0**	**-2.6**
THW	**Thamme Wali**	**3.75**	**165**	⇓P	**Pn**	**05 58 58.9**	**+0.8**
SBDP	**Sheikh Budin**	**4.13**	**177**	⇓P	**Pn**	**05 59 02.1**	**-0.6**
SRNI	**Srinagar**	**4.20**	**122**	*e*S	**Sn**	**05 59 52.0**	**-2.3**
SRNI				*e*S	**Sn**	**05 59 52.0**	**-2.3**
DRP	**Derazinda**	**4.69**	**184**	⇓P	**Pn**	**05 59 10.2**	**+0.5**
SARP	**Sargodha**	**4.82**	**158**	⇓P	**Pn**	**05 59 11.8**	**+0.4**
KSH	**Kashi**	**5.26**	**53**	P	**Pn**	**05 59 19.2**	**+2.2**
KSH				S	**Sn**	**06 00 19.4**	**+1.0**
KSH				Smax			
	comp=N,340nm,0.3s						
KSH				Smax			
	comp=E,280nm,0.4s						
DLH	**Dalhousie**	**5.91**	**130**	*ex*	x	05 58 57.0	
DLH				*ex*	x	05 59 07.0	
PONG	**Pong**	**6.31**	**134**	*e*P	**Pn**	**05 59 31.0**	**+0.6**
PONG				*ex*	**Sn**	**06 00 42.0**	**-0.8**
UCH	**Uchtor**	**6.54**	**27**	P	**Pn**	**05 59 33.6**	**+0.2**
	SNR=117						
KKAR	**Karatay Array**	**6.66**	**360**	PN	**Pn**	**05 59 33.4**	**-1.6**
KKAR				pmax	pmax		
	comp=Z,12nm,0.2s						
EKS2	**Erkin-Say**	**6.69**	**21**	P	**Pn**	**05 59 35.3**	**-0.1**
	SNR=47						
KZA	**Kyzart**	**6.70**	**31**	P	**Pn**	**05 59 35.3**	**-0.2**
	SNR=28						
AAK	**Ala-Archa**	**6.89**	**25**	P	**Pn**	**05 59 38.1**	**+0.1**
	SNR=30						
AAK	**Ala-Archa**	**6.89**	**25**	*e*Pn	**Pn**	**05 59 36.9**	**-1.1**
AAK				*e*Sn	**Sn**	**06 00 52.9**	**-3.6**
BHK	**Bhakra**	**6.97**	**134**	*e*P	**Pn**	**05 59 40.0**	**+1.0**
BHK				*ex*	x	06 00 44.2	
KBK	**Karagaybulak**	**7.07**	**27**	P	**Pn**	**05 59 40.7**	**+0.4**
	SNR=18						
FRU	**Bishkek**	**7.11**	**25**	*e*PN	**Pn**	**05 59 40.0**	**-0.8**
FRU				*e*S	**Sn**	**06 00 59.0**	**-2.7**
FRU				pmax	pmax		
	comp=Z,50nm,1.7s						
FRU				smax			
	comp=N,480μm,1.7s						
SDNR	**Sundarnagar**	**7.24**	**131**	*e*P	**Pn**	**05 59 43.0**	**+0.5**
SDNR				*e*S	**Sn**	**06 01 01.0**	**-3.7**
ULHL	**Ulaho**I	**7.28**	**35**	P	**Pn**	**05 59 43.2**	**+0.2**
	SNR=9.9						
CHMS	**Chumysh**	**7.30**	**25**	P	**Pn**	**05 59 43.2**	**-0.1**
	SNR=29						
USP	**Ospenovka**	**7.46**	**23**	P	**Pn**	**05 59 44.6**	**-0.8**
	SNR=43						
TKM2	**Tokmak 2**	**7.55**	**29**	P	**Pn**	**05 59 46.5**	**0.0**
	SNR=60						
TKM2	**Tokmak 2**	**7.55**	**29**	PN	**Pn**	**05 59 46.8**	**+0.3**
TKM2				S	**Sn**	**06 01 09.1**	**-2.8**
TKM2				pmax	pmax		
	comp=Z,18nm,0.5s						
TKM2				smax			
	comp=Z,122nm,1.0s						
SMLA	**Simla**	**7.62**	**132**	*e*P	**Pn**	**05 59 47.1**	**-0.4**
SMLA				*e*P		05 59 47.3	
SMLA				*e*S	**Sn**	**06 01 10.4**	**-3.2**
SMLA				*e*S	**Sn**	**06 01 10.6**	**-3.1**
SMLA				AML	AML	06 01 15.9	
	comp=E,213nm,0.5s						
SMLA				AML	AML	06 01 15.9	
	comp=N,439nm,0.5s						
KLP	**Kalpa**	**8.03**	**125**	*e*P	**Pn**	**05 59 54.5**	**+1.7**
KLP				*e*S	**Sn**	**06 01 21.1**	**-2.3**
KLP				AML	AML	06 01 26.1	
	comp=N,754nm,0.7s						
KLP				AML	AML	06 01 28.9	
	comp=E,509nm,0.8s						
BHGR	**Bahadurgarh**	**9.40**	**143**	*e*P	**Pn**	**06 00 11.1**	**+0.5**
BHGR				*e*S	**Sn**	**06 01 48.8**	**-7.2**
KHET	**Khetri**	**9.44**	**151**	*e*P	**Pn**	**06 00 10.3**	**-0.7**
KHET				*e*S	**Sn**	**06 01 50.0**	**-6.7**
KHET				AML	AML	06 01 53.8	
	comp=N,172nm,0.6s						
KHET				AML	AML	06 01 54.0	
	comp=E,176nm,0.8s						
JASL	**Jaisalmer**	**9.48**	**178**	*e*P	**Pn**	**06 00 08.8**	**-2.8**
NDI	**New Delhi**	**9.54**	**142**	*e*P	**Pn**	**06 00 12.0**	**-0.4**
NDI				*e*S	**Sn**	**06 01 53.0**	**-6.2**
KUDL	**Kundal**	**9.66**	**147**	*e*P	**Pn**	**06 00 13.4**	**-0.4**
KUDL				*e*S	**Sn**	**06 01 55.6**	**-6.4**
KUDL				AML	AML	06 01 59.0	
	comp=E,117nm,0.5s						
KUDL				AML	AML	06 02 00.0	
	comp=N,72nm,0.5s						
AYAN	**Aya Nagar**	**9.66**	**143**	*e*P	**Pn**	**06 00 14.2**	**+0.3**
AYAN				*e*S	**Sn**	**06 01 56.1**	**-6.1**
AYAN				AML	AML	06 02 00.2	
	comp=Z,105nm,0.6s						
SONA	**Sohna**	**9.84**	**144**	*e*P	**Pn**	**06 00 16.6**	**+0.4**
SONA				*e*S	**Sn**	**06 01 59.0**	**-7.2**
SONA				AML	AML	06 02 03.3	
	comp=N,364nm,0.9s						
SONA				AML	AML	06 02 06.0	
	comp=E,306nm,0.5s						
AJM	**Ajmer**	**10.51**	**160**	*e*P	**Pn**	**06 00 23.3**	**-1.5**
AJM				*i* P		06 00 24.0	
AJM				*e*S	**Sn**	**06 02 12.9**	**-9.3**
PTH	**Pithoragarh**	**10.61**	**128**	*e*S	**Sn**	**06 02 18.5**	**-6.1**
LGTI	**Lohaghat**	**10.70**	**128**	*e*P	**Pn**	**06 00 27.0**	**-0.2**
LGTI				*ex*	**Sn**	**06 02 24.0**	**-2.7**
BHJ	**Bhuj**	**13.16**	**184**	*e*P	**Pn**	**06 00 57.0**	**-1.4**
MK31	**Makanchi Array**	**13.55**	**37**	P	**Pn**	**06 01 03.3**	**0.0**
MK31				pmax	pmax		
	comp=Z,41nm,0.9s						
MKAR	**Makanchi Array**	**13.55**	**37**	P	**Pn**	**06 01 03.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=218,slow=12,SNR=73						
KOLN	**Koldanda**	**14.01**	**124**	*e*P	**Pn**	**06 01 10.3**	**+1.4**
KOLN				*e*S	**S**	**06 03 36.6**	**-8.1**
BHPL	**Bhopal**	**14.42**	**154**	*e*P	**Pn**	**06 01 18.3**	**+4.3**
BHPL				*ex*	**S**	**06 03 48.7**	**-5.5**
GKN	**Gorkha**	**14.56**	**121**	*e*P	**Pn**	**06 01 16.0**	**+0.3**
	comp=Z,64nm,0.3s						
GKN				*e*S	**S**	**06 03 50.3**	**-7.2**
AB31	**Akbulak array**	**14.98**	**332**	*i* P	**Pn**	**06 01 20.9**	**0.0**
AB31				*e*S	**S**	**06 03 58.0**	**-9.1**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AB31				smax			
	comp=Z,14nm,1.0s						
WMQ	**Urumqi**	**15.02**	**55**	P	**Pn**	**06 01 22.7**	**+1.4**
WMQ				XP	sP	06 02 16.1	-4.7
WMQ				S	**S**	**06 04 07.2**	**-0.7**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.7s						
WMQ				AMB	AMB		
	comp=Z,120nm,4.5s						
DMN	**Daman**	**15.13**	**121**	*e*P	**Pn**	**06 01 24.2**	**+1.5**
	comp=Z,102nm,0.7s						
DMN				*e*S	**S**	**06 04 03.8**	**-6.7**
KKN	**Kakani**	**15.14**	**121**	*e*P	**Pn**	**06 01 24.0**	**+1.2**
	comp=Z,97nm,0.5s						
KKN				*e*S	**S**	**06 04 03.5**	**-7.2**
KKN	**Kakani**	**15.14**	**121**	*e*P	**Pn**	**06 01 24.0**	**+1.2**
KKN				*e*S	**S**	**06 04 03.5**	**-7.2**
KKN				pmax	pmax		
	comp=Z,97nm,0.5s						
PKI	**Pulchoki**	**15.36**	**121**	*e*P	**Pn**	**06 01 27.0**	**+1.5**
	comp=Z,267nm,0.7s						
PKI				*e*S	**S**	**06 04 08.4**	**-7.4**
PKI	**Pulchoki**	**15.36**	**121**	*e*P	**Pn**	**06 01 27.0**	**+1.5**
PKI				*e*S	**S**	**06 04 08.4**	**-7.4**
PKI				pmax	pmax		
	comp=Z,267nm,0.7s						
KURK	**Kurchatov**	**15.41**	**20**	*e*P	**Pn**	**06 01 25.0**	**-1.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**15.41**	**20**	*e*Pn	**Pn**	**06 01 25.0**	**-1.0**
	comp=Z,4.0nm,0.6s						
GUN	**Gumba**	**15.48**	**119**	*e*P	**Pn**	**06 01 29.1**	**+2.1**
	comp=Z,296nm,1.0s						
GUN				*e*S	**S**	**06 04 10.6**	**-7.9**
JBP	**Jabalpur**	**15.53**	**146**	*ex*	**Pn**	**06 01 31.1**	**+3.6**
JBP				*i* x	**S**	**06 04 10.4**	**-9.1**
JIRN	**Jiri**	**15.85**	**119**	*e*P	**Pn**	**06 01 33.2**	**+1.8**
	comp=Z,239nm,0.6s						
JIRN				*e*S	**S**	**06 04 20.8**	**-6.1**
VOSK	**Vostochnaya**	**16.29**	**1**	P	**P**	**06 01 35.4**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,12nm,1.1s						
ZRNK	**Zerenda**	**16.55**	**357**	P	**P**	**06 01 39.3**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,13nm,0.9s						
ZRNK	**Zerenda**	**16.55**	**357**	*e*P	**P**	**06 01 39.2**	**+0.5**
	comp=Z,26nm,0.9s						
ZRNK				*e*S	**S**	**06 04 35.1**	**-6.3**
BVA0	**Borovoye Array**	**16.59**	**360**	*i* P	**P**	**06 01 38.9**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**16.63**	**359**	*e*P	**P**	**06 01 39.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,16nm,0.8s						
BRVK	**Borovoye**	**16.63**	**359**	*e*P	**P**	**06 01 39.8**	**+0.2**
	comp=Z,16nm,0.8s						
AKTK	**Aktyubinsk**	**16.67**	**331**	P	**P**	**06 01 39.8**	**-0.2**
AKTK				S	**S**	**06 04 37.2**	**-6.5**
AKTO	**Aktyubinsk**	**16.67**	**331**	P	**P**	**06 01 39.8**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=149,slow=10,SNR=100						
AKTO				S	**S**	**06 04 37.2**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=150,slow=20,SNR=4.2						
AKTO	**Aktyubinsk**	**16.67**	**331**	P	**P**	**06 01 39.4**	**-0.7**
AKTO				S	**S**	**06 04 38.0**	**-5.7**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKTO				smax			
	comp=Z,3.0nm,1.1s						
WSAR	**Wadi Sarin**	**16.72**	**221**	P	**P**	**06 01 39.7**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=13,slow=4.3,SNR=5.6						
WSAR	**Wadi Sarin**	**16.72**	**221**	P	**P**	**06 01 39.7**	**-0.9**
NGP	**Nagpur**	**16.93**	**152**	*ex*	**P**	**06 01 43.2**	**+0.3**
NGP				*ex*	**S**	**06 04 45.9**	**-3.0**
CHKZ	**Chkalovo**	**17.24**	**0**	*e*P	**P**	**06 01 46.0**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CHKZ	**Chkalovo**	**17.24**	**0**	*e*P	**P**	**06 01 46.0**	**-0.4**
	comp=Z,4.7nm,0.5s						
BLSP	**Bilaspur**	**17.43**	**142**	*ex*	**P**	**06 01 49.6**	**+1.2**
BLSP				*ex*	**S**	**06 04 57.9**	**-1.2**
POO	**Poona**	**18.07**	**170**	*ex*	x	06 02 37.0	
LSA	**Lhasa**	**18.49**	**105**	*e*P	**P**	**06 02 04.2**	**+4.3**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**18.49**	**105**	*e*P	**P**	**06 02 04.2**	**+4.3**
	comp=Z,12nm,0.8s						
ORR	**Orenburg**	**18.91**	**328**	⇑*i* P	**P**	**06 02 03.3**	**-1.1**
ORR				pmax	pmax		
	comp=Z,30nm,0.6s						
ZAL	**Zalesovo**	**20.10**	**25**	P	**P**	**06 02 17.4**	**+0.1**
	comp=Z,22nm,0.4s,baz=254,slow=9.4,SNR=76						
ZAL				S	**S**	**06 05 49.5**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=156,slow=20,SNR=4.4						
HYB	**Hyderabad**	**20.21**	**157**	*i* P	**P**	**06 02 22.0**	**+3.6**
	comp=Z,60nm,1.0s						
HYB				*e*S	**S**	**06 05 54.0**	**+0.2**
HYB	**Hyderabad**	**20.21**	**157**	*e*P	**P**	**06 02 20.0**	**+1.6**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s						
HYB	**Hyderabad**	**20.21**	**157**	*e*P	**P**	**06 02 20.0**	**+1.6**
	comp=Z,60nm,1.0s						
NVS	**Novosibirsk**	**20.37**	**21**	⇑*i*P	**P**	**06 02 19.3**	**-0.8**
NVS				*e*		06 02 57.3	
NVS				*i* S	**S**	**06 05 55.8**	**-0.9**
NVS				pmax	pmax		
	comp=Z,410nm,1.3s						
NVS				pmax	pmax		
	comp=N,40nm,1.4s						
NVS				pmax	pmax		
	comp=E,13nm,1.1s						
NVS				smax			
	comp=N,22nm,1.7s						
GNI	**Garni**	**20.59**	**288**	P	**P**	**06 02 23.4**	**+0.9**
	comp=N,8.7nm,0.5s,baz=327,slow=8.4,SNR=11						
GNI	**Garni**	**20.59**	**288**	*e*P	**P**	**06 02 23.9**	**+1.5**
GNI				pmax	pmax		
	comp=Z,21nm,0.9s						
GNI	**Garni**	**20.59**	**288**	*e*P	**P**	**06 02 23.9**	**+1.5**
	comp=Z,21nm,0.9s						
ZEI	**Tsey**	**21.46**	**295**	*e*P	**P**	**06 02 31.8**	**+0.2**
ZEI				*e**PP		06 03 04.3	
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.6						
ARU	**Arti**	**21.59**	**342**	⇓*i*P	**P**	**06 02 32.4**	**-0.5**
ARU				*e*S	**S**	**06 06 18.9**	**+1.0**
ARU				pmax	pmax		
	comp=Z,34nm,0.8s,mb4.9						
ARU	**Arti**	**21.59**	**342**	*e*P	**P**	**06 02 32.4**	**-0.5**
	comp=Z,21nm,0.6s,mb4.8						
KIV	**Kislovodsk**	**22.52**	**298**	*e*P	**P**	**06 02 41.4**	**-0.2**
KIV				*e*S	**S**	**06 06 30.2**	**-2.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
GTA	**Gaotai**	**23.21**	**74**	*e*P	**P**	**06 02 51.4**	**+3.5**
GTA				S	**S**	**06 06 40.5**	**-3.8**
GTA				AMB	AMB		
	comp=Z,230nm,4.2s						
GTA				LR	LR		
	comp=N,70nm,11.0s						
GTA				LR	LR		
	comp=E,160nm,12.9s						
GTA				LR	LR		
	comp=Z,60nm,12.2s						
SOC	**Sochi**	**24.59**	**296**	*e*P	**P**	**06 03 01.8**	**+1.3**
SOC				*e**PP		06 03 38.8	
SOC				*e*		06 06 32.7	
SOC				*e*S	**S**	**06 07 08.3**	**+2.1**
SOC				*e**SS	sS	06 08 24.7	+5.8
SOC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
KRAR	**Krasnoyarsk**	**24.73**	**31**	*e*P	**P**	**06 03 01.7**	**0.0**
KRAR				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.7						
MOY	**Mondy**	**26.40**	**45**	*e*P	**P**	**06 03 19.9**	**+3.2**
LZH	**Lanzhou**	**26.76**	**81**	*e*P	**P**	**06 03 21.0**	**+1.1**
LZH				PP	PP	06 04 16.0	-8.6
LZH				*e*S	**S**	**06 07 40.3**	**-0.1**
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
ZAK	**Zakamensk**	**27.29**	**49**	*e*P	**P**	**06 03 26.4**	**+1.7**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.0						
CD2	**Chengdu**	**28.07**	**92**	*e*P	**P**	**06 03 34.0**	**+2.4**
SONM	**Songino Array**	**28.66**	**55**	P	**P**	**06 03 39.1**	**+2.4**
	comp=Z,2.2nm,0.8s,mb3.8,baz=257,slow=10,SNR=14						
ULN	**Ulaanbaatar**	**29.10**	**55**	⇑*e*P	**P**	**06 03 43.5**	**+2.8**
ULN	**Ulaanbaatar**	**29.10**	**55**	*e*P	**P**	**06 03 42.4**	**+1.7**
	comp=Z,1.7nm,0.6s,mb3.9						
BR131	**Keskin Array S**	**29.13**	**288**	*e*P	**P**	**06 03 40.8**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.6						
BR131				*e*pP	pP	06 04 23.9	+1.4
BRTR	**Keskin Array B**	**29.13**	**288**	P	**P**	**06 03 41.1**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.6,baz=103,slow=8.6,SNR=6.6						
BRTR				pP	pP	06 04 22.3	-0.1
	comp=Z,0.9nm,0.6s,baz=94,slow=10,SNR=3.5						
KMI	**Kunming**	**29.71**	**103**	P	**P**	**06 03 50.8**	**+4.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
OBN	**Obninsk**	**29.77**	**320**	⇓*e*P	**P**	**06 03 46.2**	**-0.4**
OBN				*e*		06 04 51.0	
OBN				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.7						
CSS	**Prodhromos**	**30.16**	**278**	*e*P	**P**	**06 03 50.7**	**+0.6**
	comp=Z,4.6nm,0.7s,mb4.2						
HHC	**Hu-ho-hao-te**	**32.11**	**69**	*e*P	**P**	**06 04 10.9**	**+3.8**
HHC				AP	pP	06 04 50.4	+1.5
HHC				XP	sP	06 05 12.5	0.0
HHC				PP	PP	06 05 24.5	+0.5
HHC				PCP	PcP	06 06 55.9	+4.7
HHC				S	**S**	**06 09 07.4**	**+3.3**
HHC				XS	sS	06 10 18.4	0.0
HHC				SS	SS	06 11 18.6	-3.8
HHC				SCS	ScS	06 14 17.3	+2.9
HHC				AMB	AMB		
	comp=Z,70nm,5.1s						
HHC				LR	LR		
	comp=N,90nm,15.5s						
HHC				LR	LR		
	comp=E,110nm,9.5s						
HHC				LR	LR		
	comp=Z,90nm,16.6s						
GYA	**Guiyang**	**32.20**	**98**	P	**P**	**06 04 11.2**	**+3.4**
GYA				AP	pP	06 04 50.7	+1.0
GYA				PP	PP	06 05 25.4	+0.5
GYA				S	**S**	**06 09 07.6**	**+2.2**
GYA				SCS	ScS	06 14 18.0	+3.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,70nm,3.8s						
AKASG	**Malin Array Be**	**32.72**	**309**	P	**P**	**06 04 11.5**	**-0.9**
	comp=Z,2.7nm,0.5s,mb4.0,baz=80,slow=7.5,SNR=24						
AKASG	**Malin Array Be**	**32.72**	**309**	P	**P**	**06 04 11.5**	**-0.9**
JOF	**Joensuu**	**35.76**	**330**	*ep*	**P**	**06 04 37.3**	**-1.2**
	comp=Z,24nm,0.7s,mb4.8						
FINES	**FINESS Array B**	**37.35**	**326**	P	**P**	**06 04 51.5**	**-0.5**
	comp=Z,8.1nm,0.7s,mb4.4,baz=113,slow=10,SNR=39						
FINES				pP	pP	06 05 34.5	-0.1
	comp=Z,2.1nm,0.7s,baz=99,slow=12,SNR=2.4						
FINES	**FINESS Array B**	**37.35**	**326**	P	**P**	**06 04 51.5**	**-0.5**
FINES				pP	pP	06 05 34.5	-0.1
LVZ	**Lovozero**	**37.40**	**339**	⇑*e*P	**P**	**06 04 51.1**	**-1.2**
LVZ				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
KAF	**Kangasniemi**	**37.50**	**327**	*ep*	**P**	**06 04 51.2**	**-2.0**
	comp=Z,9.0nm,0.8s,mb4.3,baz=112,slow=8.4						
KAF	**Kangasniemi**	**37.50**	**327**	*e*P	**P**	**06 04 51.2**	**-2.0**
KAF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3						
GVD	**Gavdhos**	**37.53**	**282**	*e*P	**P**	**06 04 54.3**	**+0.8**
	comp=Z,101nm,0.6s						
APA	**Apatity**	**37.57**	**338**	⇑*i*P	**P**	**06 04 54.4**	**+0.6**
APA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
NJ2	**Nanjing**	**39.82**	**82**	*e*P	**P**	**06 05 17.2**	**+4.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
KEV	**Kevo**	**40.74**	**338**	*ep*	**P**	**06 05 18.3**	**-1.7**
	comp=Z,9.0nm,0.8s,mb4.2						
KEV	**Kevo**	**40.74**	**338**	*e*P	**P**	**06 05 18.3**	**-1.7**
KEV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**06 05 22.3**	**-0.4**
	comp=Z,16nm,0.7s,mb4.5,baz=109,slow=7.8,SNR=60						
ARCES				pP	pP	06 06 05.7	-0.5
	comp=Z,5.1nm,0.8s,baz=80,slow=7.5,SNR=3.3						
ARE0	**ARCESS Array S**	**41.08**	**338**	*e*P	**P**	**06 05 23.0**	**+0.2**
SSE	**Sheshan**	**42.02**	**82**	*e*P	**P**	**06 05 32.3**	**+1.9**
SSE				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
SSE				AMB	AMB		
	comp=Z,80nm,3.5s						
BRG	**Berggiesshubel**	**42.40**	**308**	*e*P	**P**	**06 05 33.2**	**-0.2**
	comp=Z,4.9nm,1.3s,mb3.8						
BRG	**Berggiesshubel**	**42.40**	**308**	*e*P	**P**	**06 05 33.2**	**-0.2**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.8						
YAK	**Yakutsk**	**44.22**	**35**	*e*P	**P**	**06 05 48.4**	**+0.4**
YAK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.3						
YAK				pmax	pmax		
	comp=N,3.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.6s						
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**06 05 46.7**	**-1.4**
	comp=Z,16nm,1.0s,mb4.3,baz=96,slow=7.9						
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**06 05 46.7**	**-1.4**
NB2				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.3						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**06 05 47.0**	**-1.1**
	comp=Z,6.6nm,0.7s,mb4.0,baz=97,slow=7.9,SNR=20						
NOA				pP	pP	06 06 31.6	-0.5
	comp=Z,2.1nm,0.7s,baz=97,slow=8.2,SNR=2.4						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**06 05 47.0**	**-1.1**
NOA				pP	pP	06 06 31.6	-0.5
MDJ	**Mudanjiang**	**44.73**	**60**	P	**P**	**06 05 50.1**	**-2.0**
MDJ				PP	PP	06 07 38.5	-2.3
MDJ				S	**S**	**06 12 14.8**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,40nm,4.3s						
TIXI	**Tiksi**	**45.97**	**22**	*e*P	**P**	**06 06 00.5**	**-1.2**
TIXI				*e*	pP	06 06 45.9	-0.1
TIXI				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.4						
TIXI	**Tiksi**	**45.97**	**22**	*e*P	**P**	**06 06 02.2**	**+0.4**
KMBO	**Kilima Mbogo**	**48.53**	**227**	P	**P**	**06 06 22.1**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.2,baz=215,slow=22,SNR=3.6						
KBS	**Kingsbay**	**48.60**	**347**	⇑*e*P	**P**	**06 06 23.2**	**+1.1**
YSS	**Yuzh-Sakhalins**	**53.14**	**55**	*e*P	**P**	**06 06 57.3**	**+1.4**
YSS				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.3						
YSS	**Yuzh-Sakhalins**	**53.14**	**55**	*e*P	**P**	**06 06 57.3**	**+1.4**
	comp=Z,6.3nm,0.5s,mb4.3						
DAG	**Danmarks Havn**	**54.70**	**344**	⇑*i*P	**P**	**06 07 07.0**	**-0.1**
	comp=Z,6.7nm,0.8s,mb4.2						
DAG	**Danmarks Havn**	**54.70**	**344**	⇑*i*P	**P**	**06 07 07.0**	**-0.1**
DAG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
BILL	**Bilibino**	**58.82**	**26**	*e*P	**P**	**06 07 37.1**	**+1.0**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
BILL	**Bilibino**	**58.82**	**26**	*e*P	**P**	**06 07 37.1**	**+1.1**
	comp=Z,4.6nm,0.8s,mb4.2						
SUMG	**Summit**	**61.01**	**341**	*e*P	**P**	**06 07 51.6**	**+0.6**
	comp=Z,15nm,1.0s,mb4.6						
LSZ	**Lusaka**	**65.16**	**226**	*e*P	**P**	**06 08 21.4**	**+3.1**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
LSZ	**Lusaka**	**65.16**	**226**	*e*P	**P**	**06 08 21.4**	**+3.1**
	comp=Z,1.5nm,0.6s,mb3.8						
TORD	**Torodi Ar. Bea**	**65.37**	**268**	P	**P**	**06 08 17.6**	**-2.1**
	comp=Z,2.2nm,0.7s,mb3.9,baz=48,slow=5.8,SNR=27		

TORD Torodi Ar. Bea 76.89 71 P P 06 47 35.8 +0.4
1.1nm,0.7s,baz=264,slow=5.1,SNR=9.0

IDC 04 06:36:40.7±2.2, 1697S×17846W, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/13, mbtmp3.9/5, Error ellipse: s-maj=179.1km s-min=24.7km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.05**	**240**	P	P	06 44 09.1	0.0
	1.5nm,0.6s,baz=90,slow=8.8,SNR=5.3						
WRA	**Warramunga Arr**	**44.76**	**259**	P	P	06 44 56.1	+0.2
	0.5nm,0.5s,baz=92,slow=7.4,SNR=5.2						
ASAR	**Alice Springs**	**45.00**	**253**	P	P	06 44 58.4	+0.6
	5.9nm,0.7s,baz=88,slow=8.1,SNR=63						
NVAR	**Mina Array Bea**	**78.78**	**44**	P	P	06 48 46.9	+1.7
	0.6nm,0.8s,baz=222,slow=9.3,SNR=4.3						
PDAR	**Pinedale Array**	**86.71**	**43**	P	P	06 49 25.4	-1.1
	0.3nm,0.5s,baz=166,slow=1.2,SNR=3.6						

*NEIC **04** 06:44:08.5, 3893S×17633E, h63km, ML3.7(WEL), After WEL.*

WEL 04 06:44:08.6±0.1, 3893S×17633E, h62km±1km, ML3.9/16, 4C-6D, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.19**	**281**	P*	Pn	06 44 18.0	-0.2
HATZ				S*	Sn	06 44 25.2	+0.1
HATZ	**Hinemaiaia**	**0.19**	**281**	P	Pn	06 44 18.0	-0.2
BKZ	**Black Stump Fm**	**0.27**	**152**	P*	Pn	06 44 18.8	+0.1
BKZ				eS*	Sn	06 44 25.8	-0.2
BKZ	**Black Stump Fm**	**0.27**	**152**	P	Pn	06 44 18.8	+0.1
BKZ				S	Sn	06 44 26.8	+0.8
RITZ	**Rihia Road**	**0.37**	**262**	P*	Pn	06 44 19.6	+0.2
RITZ	**Rihia Road**	**0.37**	**262**	P	Pn	06 44 19.6	+0.1
WHTZ	**Whakaora**	**0.39**	**312**	P*	Pn	06 44 19.7	+0.1
RATZ	**Rangitukua**	**0.44**	**278**	P*	Pn	06 44 19.8	-0.3
RATZ	**Rangitukua**	**0.44**	**278**	P	Pn	06 44 19.8	-0.3
KATZ	**Kakaramea**	**0.50**	**264**	P*	Pn	06 44 20.9	+0.2
KATZ	**Kakaramea**	**0.50**	**264**	P	Pn	06 44 20.8	+0.1
WATZ	**Wairara**	**0.51**	**295**	⇓P*	Pn	06 44 20.4	-0.5
WATZ	**Wairara**	**0.51**	**295**	P	Pn	06 44 20.4	-0.5
PATZ	**Paeroa**	**0.55**	**354**	P*	Pn	06 44 21.2	0.0
PATZ	**Paeroa**	**0.55**	**354**	P	Pn	06 44 21.3	+0.1
KRVZ	**Karewarewa**	**0.56**	**252**	P*	Pn	06 44 21.3	0.0
OTVZ	**Oturere**	**0.57**	**245**	S*	Sn	06 44 31.2	+0.4
WTVZ	**West Tongariro**	**0.61**	**252**	P*	Pn	06 44 21.7	-0.2
WTVZ	**West Tongariro**	**0.61**	**252**	P	Pn	06 44 21.7	-0.2
NGZ	**Ngauruhoe**	**0.62**	**246**	P*	Pn	06 44 22.1	+0.1
NGZ	**Ngauruhoe**	**0.62**	**246**	P	Pn	06 44 22.1	+0.1
TUVZ	**Tukino**	**0.63**	**237**	⇑P*	Pn	06 44 22.1	0.0
TUVZ	**Tukino**	**0.63**	**237**	P	Pn	06 44 22.2	+0.1
MOVZ	**Moawhango**	**0.66**	**223**	⇑P*	Pn	06 44 22.1	-0.3
MOVZ				S*	Sn	06 44 32.0	-0.6
MOVZ	**Moawhango**	**0.66**	**223**	P	Pn	06 44 22.2	-0.3
MOVZ				S	Sn	06 44 32.0	-0.6
WPVZ	**Whakapapa**	**0.67**	**245**	P*	Pn	06 44 22.6	0.0
WPVZ	**Whakapapa**	**0.67**	**245**	P	Pn	06 44 22.4	-0.2
FWVZ	**Far West T-bar**	**0.69**	**241**	⇓P*	Pn	06 44 22.8	0.0
FWVZ				S*	Sn	06 44 32.6	-0.7
FWVZ	**Far West T-bar**	**0.69**	**241**	P	Pn	06 44 22.8	0.0
DRZ	**Dome Shelter**	**0.69**	**239**	P*	Pn	06 44 23.2	+0.3
DRZ	**Dome Shelter**	**0.69**	**239**	P	Pn	06 44 23.2	+0.4
WNVZ	**Wahianoa**	**0.69**	**235**	⇑P*	Pn	06 44 22.9	0.0
WNVZ	**Wahianoa**	**0.69**	**235**	P	Pn	06 44 22.9	0.0
TAZ	**Tarawera**	**0.71**	**12**	P*	Pn	06 44 23.1	+0.1
TAZ	**Tarawera**	**0.71**	**12**	P	Pn	06 44 23.2	+0.1
TWVZ	**Taurewa**	**0.71**	**258**	⇓P*	Pn	06 44 22.7	-0.3
TWVZ	**Taurewa**	**0.71**	**258**	P	Pn	06 44 22.7	-0.4
TRVZ	**Turoa**	**0.71**	**238**	P*	Pn	06 44 23.1	0.0
MTVZ	**Mangateitei**	**0.81**	**235**	P*	Pn	06 44 23.9	-0.4
PKVZ	**Pokaka**	**0.85**	**244**	P*	Pn	06 44 24.5	-0.3
EDRZ	**Edgecumbe**	**0.88**	**22**	P*	Pn	06 44 24.9	-0.3
URZ	**Urewera**	**0.91**	**43**	P*	Pn	06 44 25.3	-0.2
URZ				S*	Sn	06 44 38.4	+0.4
KNZ	**Kokohu**	**1.05**	**96**	PN	Pn	06 44 27.0	-0.4
KNZ	**Kokohu**	**1.05**	**96**	eP	Pn	06 44 27.0	-0.4
MWZ	**Matawai**	**1.11**	**58**	P*	Pn	06 44 28.1	0.0
MWZ				S*	Sn	06 44 43.0	+0.4
MWZ	**Matawai**	**1.11**	**58**	P	Pn	06 44 28.2	+0.1
TSZ	**Takapari Road**	**1.17**	**194**	⇓PN	Pn	06 44 28.7	-0.1
TSZ	**Takapari Road**	**1.17**	**194**	P	Pn	06 44 28.8	-0.1
PXZ	**Pawanui**	**1.18**	**160**	PN	Pn	06 44 28.8	-0.3
TGRZ	**Tauranga**	**1.20**	**357**	P*	Pn	06 44 29.0	-0.3
TGRZ	**Tauranga**	**1.20**	**357**	P	Pn	06 44 29.0	-0.3
HIZ	**Hauiti**	**1.22**	**289**	⇓PN	Pn	06 44 29.3	-0.3
HIZ	**Hauiti**	**1.22**	**289**	P	Pn	06 44 29.3	-0.4
VRZ	**Vera Road**	**1.24**	**260**	P*	Pn	06 44 29.5	-0.3
VRZ	**Vera Road**	**1.24**	**260**	P	Pn	06 44 29.5	-0.4
WAZ	**Wanganui**	**1.33**	**231**	⇓PN	Pn	06 44 31.4	+0.3
WAZ	**Wanganui**	**1.33**	**231**	eP	Pn	06 44 31.4	+0.3
TOZ	**Tahuroa Road**	**1.36**	**331**	⇑P*	Pn	06 44 31.2	-0.2
TOZ				eS*	Sn	06 44 48.2	-0.4
TOZ	**Tahuroa Road**	**1.36**	**331**	P	Pn	06 44 31.2	-0.3
TOZ				S	Sn	06 44 48.2	-0.4
RAEZ	**Rainy Point**	**1.55**	**256**	PN	Pn	06 44 34.5	+0.5
WIZ	**White Island**	**1.55**	**26**	P*	Pn	06 44 34.7	+0.7
PUZ	**Puketiti**	**1.74**	**61**	PN	Pn	06 44 36.4	-0.1
BFZ	**Birch Farm**	**1.75**	**182**	PN	Pn	06 44 35.2	-1.5
BFZ	**Birch Farm**	**1.75**	**182**	eP	Pn	06 44 35.2	-1.5
NEZ	**North Egmont**	**1.77**	**258**	PN	Pn	06 44 38.0	+1.0
NEZ	**North Egmont**	**1.77**	**258**	P	Pn	06 44 38.0	+1.0
MRZ	**Mangatainoka R**	**1.83**	**198**	PN	Pn	06 44 36.3	-1.4
MRZ				SN	Sn	06 44 58.0	-1.8
MRZ	**Mangatainoka R**	**1.83**	**198**	eP	Pn	06 44 36.3	-1.4
PKE	**Pukeiti**	**1.84**	**261**	PN	Pn	06 44 38.3	+0.3
PKE	**Pukeiti**	**1.84**	**261**	P	Pn	06 44 38.3	+0.3
TIWZ	**Tintock**	**1.88**	**190**	PN	Pn	06 44 37.0	-1.4
NRZ	**Ngariki Road**	**1.91**	**257**	PN	Pn	06 44 39.1	+0.3
NRZ	**Ngariki Road**	**1.91**	**257**	P	Pn	06 44 39.2	+0.4
NWEZ	**Newall Road**	**1.95**	**259**	PN	Pn	06 44 39.4	+0.1
NWEZ	**Newall Road**	**1.95**	**259**	P	Pn	06 44 39.5	+0.1
MKAZ	**Moumakai**	**2.03**	**333**	P	Pn	06 44 40.3	-0.2
KIW	**Kapiti Island**	**2.22**	**209**	PN	Pn	06 44 41.3	-1.7
KIW	**Kapiti Island**	**2.22**	**209**	P	Pn	06 44 41.5	-1.6
KUZ	**Kuaotunu**	**2.23**	**347**	PN	Pn	06 44 42.8	-0.4
KUZ	**Kuaotunu**	**2.23**	**347**	eP	Pn	06 44 42.9	-0.3
MTW	**Mount Morrison**	**2.32**	**196**	P	Pn	06 44 42.1	-2.3
CAW	**Cannon Point**	**2.38**	**204**	P	Pn	06 44 43.1	-2.2
MTAZ	**Motutapu**	**2.41**	**332**	P	Pn	06 44 45.7	0.0
WTAZ	**Waiatarua**	**2.43**	**325**	P	Pn	06 44 46.0	+0.1
PAWZ	**Paruwai Farm**	**2.55**	**195**	P	Pn	06 44 44.8	-2.7
MSWZ	**Moikau Station**	**2.62**	**198**	P	Pn	06 44 45.7	-2.8
NNZ	**Nelson**	**3.22**	**224**	eP	Pn	06 44 56.6	-0.1
BSWZ	**Blackbirch Sta**	**3.36**	**213**	P	Pn	06 44 55.2	-3.4
QRZ	**Quartz Range**	**3.48**	**236**	eP	Pn	06 44 59.6	-0.7
THZ	**Tophouse**	**3.86**	**222**	eP	Pn	06 45 06.9	+1.5
DSZ	**Denniston Nort**	**4.46**	**229**	eP	Pn	06 45 13.6	-0.1
LTZ	**Lake Taylor**	**4.93**	**217**	eP	Pn	06 45 23.4	+3.3

PRE 04 06:56:33.3±1.6, 2154S×3302E, h5km, ML4.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**4.95**	**213**	eP	Pn	06 57 49.9	+1.6
BFT				eS	Sn	06 58 45.2	-0.7
BFT				AML	AML	06 59 18.3	
	comp=Z,48nm,0.6s						
POGA	**Pongola**	**5.94**	**192**	eP	Pn	06 58 02.9	+1.0
POGA				eS	Sn	06 59 06.2	-4.2
POGA				AML	AML	06 59 56.7	
	comp=Z,46nm,0.5s						
SLR	**Silverton**	**6.03**	**225**	eP	Pn	06 58 04.0	+0.9
SLR				eS	Sn	06 59 10.9	-1.6
SLR				AML	AML	06 59 58.4	
	comp=Z,91nm,0.6s						
SWZ	**Schweizer**	**8.98**	**230**	eP	Pn	06 58 44.9	+1.3
SWZ				eS	Sn	07 00 20.4	-4.8
SWZ				AML	AML	07 01 37.0	
	comp=Z,16nm,0.6s						
BOSA	**Boshof**	**9.95**	**223**	eP	Pn	06 58 57.7	+0.8
BOSA				eS	Sn	07 00 44.7	-4.3
BOSA				AML	AML	07 02 12.1	
	comp=Z,8.5nm,0.7s						

UPI Upington 12.65 235 eP Pn 06 59 35.2 +1.4

IDC 04 07:32:41.1±4.8, 717S×14740E, h144km±47km, mb3.2/2, mb1 3.2/4, mb1mx3.1/13, mbtmp3.5/4, Error ellipse: s-maj=87.4km s-min=45.9km az=128.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.24**	**186**	P	Pn	07 33 18.2	-0.5
	12nm,0.3s,baz=27,slow=10,SNR=19						
PMG				S	Sn	07 33 48.5	+0.9
	6.5nm,0.3s,baz=211,slow=20,SNR=7.1						
WRA	**Warramunga Arr**	**17.94**	**224**	P	Pn	07 36 39.9	-1.5
	0.2nm,0.3s,baz=51,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**20.91**	**217**	P	P	07 37 13.4	+1.3
	0.6nm,0.4s,baz=53,slow=8.7,SNR=17						
FITZ	**Fitzroy Crossi**	**23.82**	**241**	P	P	07 37 39.9	-0.9
	2.4nm,0.7s,baz=71,slow=9.2,SNR=6.6						
TORD	**Torodi Ar. Bea**	**145.75**	**283**	PKPbc	PKPbc	07 52 03.9	+0.7
	1.0nm,0.6s,baz=70,slow=4.3,SNR=14						

*ISCJB **04** 07:37:48.1±0.5, 5859S±008×1492W±02, h10km, mb4.1/11, MS4.6/12, Error ellipse: s-maj=14.9km s-min=11.6km az=138.9*

*IDC **04** 07:37:48.2±0.8, 5814S×14903W, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.4/14, mbtmp4.3/10, MS4.6/12, Ms1 4.6/12, ms1mx4.5/13, Error ellipse: s-maj=36.4km s-min=15.4km az=4.0*

*HRVD **04** 07:37:49.7±0.2, 5864S×149.17W, h12km, MW5.1/64, Centroid moment Tensor Solution. LP body waves: s36,c55;Mantle waves: s64,c109; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.70±.18; $M_{\theta\theta}$-4.34±.18; $M_{\phi\phi}$6.04±.13; $M_{r\theta}$-0.27±.47; $M_{\theta\phi}$1.50±.14; $M_{\phi r}$-1.68±.38; Best double couple: $M_0$5.57700×10^{16} NP1:ϕ_s142.00000°, δ81.00000°, λ172.00000°. NP2: ϕ_s234.00000°, δ82.00000°, λ9.00000°. Principal axes: T 6.6010, Plg12.0000°, Azm98.0000°; N -2.0480, Plg78.0000°, Azm275.0000°; P -4.5530, Plg1.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **04** 07:37:49.7±0.5, 5815S×14903W, h10km Error ellipse: s-maj=21.5km s-min=10.3km az=181.0*

ISC 04 07:37:49.9±0.5, 5855S±008×1491W±02, h10km, (h11km±.3km):pP-P), n27, σ1.9±03/19, mb4.1/11, MS4.6/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**25.06**	**203**	P	**P**	**07 43 17.2**	**+2.9**
	1.4nm,0.9s,mb3.5,baz=71,slow=12,SNR=4.2						
VNDA				LR	LR	07 50 30.0	
	comp=Z,792nm,20.8s,MS4.2,baz=128,slow=30						
RPZ	**Rata Peaks**	**28.57**	**284**	LR	LR	07 53 10.7	
	comp=Z,2μm,18.0s,MS4.8,baz=150,slow=32						
URZ	**Urewera**	**29.77**	**298**	LR	LR	07 53 10.2	
	comp=Z,2μm,20.4s,MS4.7,baz=273,slow=31						
TBI	**Tubuai**	**35.17**	**359**	eS	**S**	**07 50 16.2**	**-0.7**
	112nm,28.2s						
TBI				eLQ		07 52 35.4	
	488nm,28.2s						
TBI				eLR	LR	07 53 58.1	
	1μm,29.2s,baz=185						
RKT	**Rikitea**	**36.81**	**22**	eLR	LR	07 54 57.0	
	1μm,28.2s,baz=185						
PPT	**Papeete**	**40.92**	**359**	eS	**S**	**07 51 44.0**	**0.0**
	137nm,24.0s						
PPT				eLQ		07 54 55.4	
	667nm,31.2s						
PPT				eLR	LR	07 56 38.1	
	1μm,25.5s,baz=183						
PPT	**Papeete**	**40.92**	**359**	LR	LR	07 58 02.5	
	comp=Z,467nm,19.5s,MS4.4,baz=188,slow=30						
USHA	**Ushuaia**	**41.94**	**121**	P	**P**	**07 45 40.9**	**+0.2**
	7.0nm,0.8s,mb4.3,baz=162,slow=3.6,SNR=3.3						
VNA3	**Neumayer Olymp**	**47.40**	**163**	e	**P**	**07 46 22.9**	**-1.3**
VNA3				e	pP	07 46 25.9	-1.5
VNA3				e		07 46 31.9	
VNA3				e		07 46 40.7	
VNA3				e		07 46 51.1	
SNAA	**Sanae**	**47.94**	**166**	e	**P**	**07 46 15.6**	**-13**
SNAA				e	pP	07 46 19.0	-13
SNAA				e		07 46 25.7	
SNAA				e		07 46 30.3	
SNAA				e		07 46 35.2	
SNAA				e		07 46 43.2	
VNA2	**Neumayer--Watz**	**48.02**	**164**	e	**P**	**07 46 27.4**	**-1.6**
VNA2				e	pP	07 46 30.7	-1.5
VNA2				e		07 46 37.8	
VNA2				e		07 46 43.1	
VNA2				e		07 46 47.3	
VNA2				e		07 46 57.1	
VNA1	**Neumayer--Stat**	**48.14**	**164**	e	**P**	**07 46 29.2**	**-0.8**
VNA1				e	pP	07 46 32.6	-0.5
VNA1				e		07 46 38.9	
VNA1				e		07 46 44.7	
VNA1				e		07 46 48.9	
VNA1				e		07 46 57.5	
TAOE	**Nuku Hiva Isla**	**50.05**	**12**	eS	**S**	**07 53 55.9**	**+0.2**
	1μm,27.5s						
TAOE				eLR	LR	08 00 57.2	
	2μm,28.1s,baz=198						
PLCA	**Paso Flores**	**50.75**	**106**	P	**P**	**07 46 51.0**	**+1.1**
	2.2nm,0.7s,mb4.2,baz=220,slow=7.4,SNR=8.9						
PLCA				LR	LR	08 02 35.6	
	comp=Z,636nm,20.2s,MS4.6,baz=214,slow=29						
MAW	**Mawson**	**51.97**	**195**	P	**P**	**07 47 01.6**	**+2.5**
	2.2nm,0.8s,mb4.1,baz=169,slow=16,SNR=2.7						
MAW				LR	LR	08 06 34.6	
	comp=Z,448nm,21.1s,MS4.5,baz=154,slow=33						
STKA	**Stephens Creek**	**52.77**	**269**	P	**P**	**07 47 04.8**	**-0.2**
	4.6nm,1.0s,mb4.3,baz=135,slow=8.8,SNR=6.6						
STKA				LR	LR	08 05 51.6	
	comp=Z,833nm,18.7s,MS4.8,baz=112,slow=32						
CFAA	**Coronel Fontan**	**58.98**	**101**	P	**P**	**07 47 49.6**	**+0.1**
	0.2nm,0.9s,mb3.2,baz=202,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**63.39**	**268**	P	**P**	**07 48 19.4**	**-0.1**
	4.7nm,1.1s,mb4.5,baz=139,slow=6.1,SNR=19						
WRA	**Warramunga Arr**	**66.22**	**271**	P	**P**	**07 48 37.8**	**-0.1**
	2.2nm,1.0s,mb4.1,baz=145,slow=5.6,SNR=13						
CPUP	**Villa Florida**	**68.82**	**106**	P	**P**	**07 48 54.7**	**+0.4**
	4.9nm,0.8s,mb4.5,baz=205,slow=4.5,SNR=8.3						
CPUP				LR	LR	08 14 16.3	
	comp=Z,562nm,21.8s,MS4.8,baz=198,slow=32						
CPUP	**Villa Florida**	**68.82**	**106**	P	**P**	**07 48 54.7**	**+0.4**
CPUP				LR	LR	08 14 16.3	
LPAZ	**La Paz**	**71.55**	**91**	P	**P**	**07 49 11.8**	**+0.8**
	1.2nm,1.0s,mb3.8,baz=270,slow=1.2,SNR=4.1						
LPAZ				LR	LR	08 13 11.8	
	comp=Z,200nm,20.5s,MS4.4,baz=16,slow=30						
BDFB	**Brasilia**	**82.46**	**107**	P	**P**	**07 50 11.5**	**-0.9**
	2.8nm,0.7s,mb4.3,baz=238,slow=8.4,SNR=4.1						
BDFB				LR	LR	08 24 07.9	
	comp=Z,895nm,18.9s,MS5.2,baz=37,slow=34						
ROSC	**El Rosal**	**86.23**	**74**	LR	LR	08 21 33.3	
	comp=Z,83nm,18.4s,MS4.2,baz=188,slow=30						
BOSA	**Boshof**	**93.04**	**175**	LR	LR	08 28 22.6	
	comp=Z,351nm,18.2s,MS4.8,baz=90,slow=32						
MKAR	**Makanchi Array**	**147.52**	**272**	PKPbc	PKPbc	07 57 33.1	-1.0
	3.1nm,0.9s,baz=96,slow=4.9,SNR=12						
ESDC	**Sonseca Array**	**150.86**	**115**	PKPbc	PKPbc	07 57 42.6	0.0
	0.2nm,0.3s,baz=230,slow=1.4,SNR=6.0						

OTT 04 08:06:47.4±0.3, 7428N×9558W, h18km, MN2.8/3, 1D, 55km southwest from Resolute, Nu Boothia Ungava Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**0.45**	**24**	⇓PG	Pg	08 06 56.4	-0.2
RES				SG	Sg	08 07 02.3	-0.5
RES				Trac		08 07 03.1	
	comp=Z,107nm,0.1s						
PINU	**Pond Inlet**	**5.26**	**99**	PN	Pn	08 08 03.7	-1.3
PINU				SN	Sn	08 09 00.9	-4.2
PINU				Trac		08 09 06.5	
	comp=Z,1.5nm,0.1s						
PINU				SG	Sg	08 09 31.3	-4.8
AP3N	**Apex site 3 Nu**	**5.95**	**139**	PN	Pn	08 08 14.1	-0.4
AP3N				SN	Sn	08 09 18.2	-3.9
AP3N				SG	Sg	08 09 48.6	-10
AP3N				Trac		08 09 55.0	
	comp=Z,3.7nm,0.2s						
GIFN	**Gifford Fjord,**	**6.06**	**128**	PN	Pn	08 08 15.0	-1.0
GIFN				SN	Sn	08 09 20.4	-4.5
GIFN				SG	Sn	08 09 52.8	+28
GIFN				Trac		08 10 01.7	
	comp=Z,4.0nm,0.4s						
EUNU	**Eureka**	**6.15**	**15**	PN	Pn	08 08 15.8	-1.4
EUNU				SN	Sn	08 09 25.2	-1.9
ILON	**Igloolik, Nuna**	**6.52**	**132**	PN	Pn	08 08 21.6	-0.8
ILON				SN	Sn	08 09 32.2	-4.1
ILON				SG	Sn	08 10 10.6	+34
ILON				Trac		08 10 12.4	
	comp=Z,2.2nm,0.2s						
SRLN	**Sarcpa Lake, N**	**6.94**	**140**	PN	Pn	08 08 27.2	-0.9
SRLN				SN	Sn	08 09 41.2	-5.4
SRLN				LG		08 10 18.1	
QILN	**Qililugaq Expl**	**8.24**	**154**	PN	Pn	08 08 44.7	-1.3
QILN				SN	Sn	08 10 12.5	-6.2
QILN				LG		08 11 00.6	
COWN	**Contwyoto Lake**	**10.48**	**218**	SN	Sn	08 11 04.0	-10
COWN				LG		08 12 13.7	
GALN	**Gameti Lake**	**12.67**	**228**	PN	Pn	08 09 40.9	-5.7
GALN				SN	Sn	08 11 51.5	-16
GALN				LG		08 13 22.6	
YKW3	**Yellowknife Ar**	**13.58**	**220**	PN	Pn	08 09 51.2	-7.7
YKW3				SN	Sn	08 12 13.8	-16
YKW3				LG		08 13 48.9	

JMA 04 08:30:06.9±0.3, 4423N×14773E, h60km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.68**	**240**	P	Pn	08 30 34.3	+0.3
NEM2				eS	Sn	08 30 55.0	+0.6
JRA	**Rausu**	**1.90**	**262**	P	Pn	08 30 37.8	+0.8
JRA				eS	Sn	08 31 00.5	+0.6
JNK	**Nakash**	**2.27**	**255**	eS	Sn	08 31 09.6	+0.8
JAK	**Akkeshi**	**2.52**	**242**	P	Pn	08 30 46.3	+0.8
JAK				eS	Sn	08 31 15.0	-0.1
JTKR	**Abashiri--Toko**	**2.77**	**266**	P	Pn	08 30 48.3	-0.5
JAR	**Ashorobuto**	**3.02**	**253**	P	Pn	08 30 53.4	+1.2
JAR				eS	Sn	08 31 27.2	+0.1
JOB	**Onbets**	**3.13**	**246**	P	Pn	08 30 55.2	+1.5
JOB				eS	Sn	08 31 29.8	0.0
JMP	**Maruseppu**	**3.15**	**267**	P	Pn	08 30 54.2	+0.1
JCH	**Churui**	**3.57**	**245**	P	Pn	08 31 00.9	+1.2
JCH				eS	Sn	08 31 40.4	-0.2
JNBK	**Urakawa-nobuka**	**4.12**	**244**	eS	Sn	08 31 54.5	+0.2

MAN 04 08:35:01.1, 970N×12614E, h19km, mb3.1, ML4.4, MS2.4, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.65**	**277**	⇓eP	Pb	08 35 14.2	+0.3
SCPH				eS	Sb	08 35 25.1	+2.5
BUTP	**Butuan**	**0.89**	**215**	eP	Pb	08 35 17.7	-0.2
MSLP	**Maasin**	**1.34**	**289**	eP	Pn	08 35 24.9	+0.1
MSLP				eS	Sn	08 35 42.2	+0.2
BIPH	**Bislig**	**1.52**	**172**	⇓eP	Pn	08 35 25.3	-2.0
BIPH				eS	Sn	08 35 43.2	-3.3
BESP	**Borongan**	**2.01**	**340**	eP	Pn	08 35 34.1	+0.1
BUKP	**Musuan**	**2.10**	**211**	eP	Pn	08 35 36.5	+1.3
LLP	**Lapu-Lapu**	**2.23**	**286**	eP	Pn	08 35 37.5	+0.5
LLP				eS	Sn	08 36 04.6	+0.6
TBP	**Tagbilaran**	**2.25**	**270**	eP	Pn	08 35 46.2	+9.0
TBP				eS	Sn	08 36 13.3	+8.8
PAGZ	**Pagadian**	**3.29**	**236**	eP	Pn	08 35 52.7	+1.1
PVCP	**Virac**	**4.33**	**333**	⇑eP	Pn	08 36 12.9	+7.0
PVCP	**Virac**	**4.33**	**333**	eP	Pn	08 36 06.9	+0.9
LUBP	**Lubang**	**7.03**	**305**	eP	Pn	08 36 46.4	+3.4

*ISCJB **04** 08:38:44.7±0.2, 2017S±006×17378W±005, h47km, mb4.9/56, MS4.6/15, Error ellipse: s-maj=9.5km s-min=4.6km az=114.8*

*MOS **04** 08:38:45.9±3.8, 2046S×17378W, h33km, mb5.1/20, MS4.8/6, Error ellipse: s-maj=18.7km s-min=11.6km az=73.1*

*SZGRF **04** 08:38:45.2, 2000S×17367W, h33km, Tonga Islands*

*BJI **04** 08:38:45.1, 2010S×17380W, h51km, mB5.4, mb5.1, Ms5.1, Msz4.9*

*IDC **04** 08:38:46.9±3.2, 2014S×17379W, h52km±27km, mb4.4/14, mb1 4.5/16, mb1mx4.5/19, mbtmp4.7/16, ML4.6/2, MS3.8/4, Ms1 3.8/4, ms1mx3.2/25, Error ellipse: s-maj=18.3km s-min=13.6km az=138.0*

*NEIC **04** 08:38:47.1±0.2, 2006S×17378W, mb4.9/32, Error ellipse: s-maj=9.6km s-min=4.6km az=148.0*

ISC 04 08:38:46.7±0.2, 2020S±006×17376W±005, h49km, h49km±2.5km:pP-P, n356, σ0.9±75/213, mb4.9/56, MS4.6/15, 83C-43D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.53**	**17**	P	**Pn**	**08 40 11.5**	**-8.6**
	22nm,0.3s,baz=115,slow=0.5,SNR=22						
AFI				S	**Sn**	**08 41 20.1**	**-13**
	16nm,0.3s,baz=29,slow=22,SNR=2.9						
AFI				T		08 46 46.6	
	6.6nm,0.3s,baz=246,slow=22,SNR=4.7						
AFI	**Afiamalu**	**6.53**	**17**	ePn

comp=Z,8.3nm,0.8s,mb4.8,baz=98,slow=8.0,SNR=70
ASAR PcP PcP 08 48 51.0 +1.3
comp=Z,5.3nm,0.8s,baz=107,slow=3.3,SNR=11
ASAR S **S** **08 54 21.5 -0.1**
comp=Z,0.4nm,0.8s,baz=92,slow=17,SNR=3.1
WB2 Warramunga Arr 48.57 261 *e*P **P** **08 47 23.7 -1.4**
WRAB Tennant Creek 48.58 261 *e*P **P** **08 47 23.6 -1.5**
WRAB *e* 08 48 49.9
WRAB pmax pmax
comp=Z,27nm,0.9s,mb5.3
WRAB Tennant Creek 48.58 261 *e*P **P** **08 47 23.6 -1.5**
comp=Z,26nm,0.9s,mb5.3
WRAB *e*PcP PcP 08 48 49.9 -0.3
WRA Warramunga Arr 48.58 261 P **P** **08 47 23.8 -1.3**
comp=Z,9.2nm,0.7s,mb4.9,baz=93,slow=6.9,SNR=139
WRA PcP PcP 08 48 51.6 +1.3
comp=Z,5.6nm,0.8s,baz=91,slow=3.9,SNR=8.1
KAKA Kakadu 51.95 269 *e*P **P** **08 47 49.0 -1.7**
comp=Z,16nm,0.6s,mb5.1
FORT Forrest 53.06 246 *e*P **P** **08 47 58.0 -0.9**
comp=Z,20nm,0.5s,mb5.3
FITZ Fitzroy Crossi 57.01 261 *e*P **P** **08 48 27.1 -0.3**
comp=Z,15nm,1.5s,mb4.8
VNDA Vanda 58.60 186 P **P** **08 48 40.0 +1.5**
comp=Z,7.2nm,1.0s,mb4.7,baz=10,slow=7.5,SNR=17
VNDA Vanda 58.60 186 *e*P **P** **08 48 40.6 +2.1**
comp=Z,12nm,1.1s,mb4.8
KLBR Kellerberrin 61.78 244⇑*i*P **P** **08 49 00.5 +0.2**
comp=Z,23nm,0.7s,mb5.4
MUN Mundaring 63.04 244⇑*i*P **P** **08 49 09.5 +0.9**
CASY Casey 65.94 205 *e*P **P** **08 49 28.6 +1.0**
QSPA South Pole Qui 69.87 180 *e*P **P** **08 49 53.2 +0.9**
comp=Z,16nm,1.1s,mb4.9
MJAR Matsushiro Arr 72.40 321 P **P** **08 50 07.1 -0.5**
comp=Z,9.4nm,0.6s,mb4.9,baz=152,slow=6.1,SNR=30
MAJO Matsushiro 72.40 321 *e*P **P** **08 50 08.1 +0.5**
MAJO pmax pmax
comp=Z,16nm,0.8s,mb5.0
MAJO Matsushiro 72.40 321 *e*P **P** **08 50 08.1 +0.4**
comp=Z,16nm,0.8s,mb5.0
MAT Matsushiro 72.40 321 P **P** **08 50 07.4 -0.2**
MAT Matsushiro 72.40 321 *e*P **P** **08 50 07.0 -0.6**
MAT pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MAT MLR MLR
comp=Z,350nm,19.0s,MS4.7
MAT Matsushiro 72.40 321 *e*P **P** **08 50 07.0 -0.6**
comp=Z,8.2nm,0.8s,mb4.7
MAT LR LR
comp=Z,350nm,19.0s,MS4.7
PACP Pacheco Peak 75.38 41⇑P **P** **08 50 24.7 -0.4**
baz=76
ASAJ Asahikawa 75.44 329 P **P** **08 50 26.3 +1.0**
comp=Z,8.6nm,0.7s,mb4.8,baz=207,slow=8.1,SNR=16
ASAJ Asahikawa 75.44 329 P **P** **08 50 26.3 +1.0**
ASAJ pmax pmax
comp=Z,9.0nm,0.7s
S04C Ingram Canyon, 75.67 41⇑P **P** **08 50 26.4 -0.3**
baz=76
MNRC McLaughlin Nat 75.89 39⇓P **P** **08 50 27.9 0.0**
baz=76
S05C Merced 76.19 41⇓P **P** **08 50 29.8 +0.1**
baz=76
GASB Alder Springs 76.24 38⇓P **P** **08 50 30.1 +0.2**
baz=76
ISA Isabella 76.32 44⇓P **P** **08 50 30.5 +0.1**
baz=76
PFO Pinyon Flat Ob 76.44 46⇑P **P** **08 50 31.0 -0.1**
baz=77
O02C Red Bluff 76.55 38⇓P **P** **08 50 31.8 +0.1**
baz=77
CMB Columbia Colle 76.59 41⇓P **P** **08 50 31.7 -0.2**
baz=77
HELL Mitchell Peak 76.59 42⇑P **P** **08 50 31.4 -0.5**
baz=77
LAVA Lava Cap Winer 76.83 40⇓P **P** **08 50 33.2 0.0**
baz=77
O03C Acorn Hollow, 76.87 38⇑P **P** **08 50 33.9 +0.4**
baz=77
ORV Oroville 76.89 39⇓P **P** **08 50 33.7 +0.1**
baz=77
M01C Crescent City 76.92 36⇓P **P** **08 50 33.9 +0.1**
baz=77
WDC Whiskeytown Da 76.95 38⇓P **P** **08 50 33.8 -0.2**
baz=77
BC3 Big Chuckw Mtn 77.15 47⇓P **P** **08 50 34.9 -0.2**
baz=77
R05C Kirkwood Meado 77.19 40⇑P **P** **08 50 35.1 -0.2**
baz=77
GSC Goldstone 77.20 45 *e*P **P** **08 50 35.7 +0.4**
GSC Goldstone 77.20 45⇓P **P** **08 50 35.6 +0.3**
baz=77
GLA Glamis 77.24 48 *e*P **P** **08 50 35.8 +0.2**
GLA Glamis 77.24 48⇓P **P** **08 50 35.7 +0.1**
baz=77
MTUM Tungsten Hills 77.30 42 *e*P **P** **08 50 35.9 +0.1**
M02C Callahan 77.31 37⇑P **P** **08 50 35.6 -0.3**
baz=77
KSM Kuching 77.33 276 *e*P **P** **08 50 37.4 +1.4**
TIN Tinemaha 77.33 43⇓P **P** **08 50 36.5 +0.4**
baz=77
R06C Coleville 77.47 41⇓P **P** **08 50 36.8 0.0**
baz=78
YSS Yuzh-Sakhalins 77.48 331⇑*i*P **P** **08 50 37.8 +0.9**
YSS *e* pP 08 50 50.0 -1.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 77.48 331 *e*P **P** **08 50 38.0 +1.1**
comp=Z,16nm,0.7s,mb5.1
YBH Yreka Blue Hor 77.62 37⇓P **P** **08 50 37.5 -0.2**
baz=78
O04C Chester 77.62 38⇑P **P** **08 50 37.1 -0.6**
baz=78
S08C White Mtn Res 77.63 42 P **P** **08 50 38.1 +0.4**
baz=78,SNR=6.2
M03C McCloud 77.65 37⇓P **P** **08 50 37.5 -0.3**
baz=78
WCN Washoe City 77.77 40⇓P **P** **08 50 38.6 +0.1**
baz=78
Y12C Blythe 77.85 47⇑P **P** **08 50 38.9 -0.1**
baz=78
TUQ Turquoise Mtn. 77.86 45⇑P **P** **08 50 39.0 -0.1**
baz=78
NVAR Mina Array Bea 78.12 41 P **P** **08 50 40.1 -0.3**
comp=Z,4.7nm,0.8s,mb4.5,baz=218,slow=8.0,SNR=36
M04C Macdoel 78.14 37⇑P **P** **08 50 40.6 0.0**
baz=78
R08A Mina 78.19 42 P **P** **08 50 41.0 +0.1**
baz=78,SNR=8.8
MNV Mina 78.21 41 *e*P **P** **08 50 40.6 -0.4**
MNV pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MNV Mina 78.21 41 *e*P **P** **08 50 40.6 -0.4**
comp=Z,8.2nm,1.0s,mb4.6
PAHR Pah Rah Range 78.25 40 *e*P **P** **08 50 41.1 -0.1**
comp=Z,11nm,1.3s,mb4.6
M05C Lookout 78.26 38⇑P **P** **08 50 40.6 -0.6**
baz=78
O06A Flanigan 78.26 39⇑P **P** **08 50 40.8 -0.5**
baz=78
Y13A Salome 78.36 47⇑P **P** **08 50 42.0 +0.3**
baz=78
S09A Goldfield 78.37 42 P **P** **08 50 41.6 -0.2**
baz=78,SNR=5.1
W12A Cal Nev Ari 78.49 46⇓P **P** **08 50 42.8 +0.3**
baz=79
TPNV Topopah Spring 78.53 44 *e*P **P** **08 50 42.7 0.0**
TPNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
TPNV Topopah Spring 78.53 44 *e*P **P** **08 50 42.7 0.0**
comp=Z,5.2nm,0.9s,mb4.5
M06C Likely Place G 78.54 38⇑P **P** **08 50 42.6 -0.2**
baz=79
TPH Tonopah 78.58 42 *e*P **P** **08 50 42.7 -0.3**
TPH pmax pmax
comp=Z,11nm,0.9s,mb4.8
TPH Tonopah 78.58 42 *e*P **P** **08 50 42.7 -0.3**
comp=Z,11nm,0.9s,mb4.8
Q08A Gabbs 78.61 41⇓P **P** **08 50 42.8 -0.4**
baz=79
Z14A Wintersburg 78.72 48⇓P **P** **08 50 43.7 -0.1**
baz=79
X13A Yucca 78.79 47⇑P **P** **08 50 44.6 +0.4**
baz=79
O07A Toulon 78.83 40 P **P** **08 50 44.2 -0.2**
baz=79,SNR=11
115A Sonoran Desert 78.87 49⇓P **P** **08 50 44.7 +0.1**
baz=79
SHPR Sheep Range 78.98 44 *e*P **P** **08 50 45.5 +0.2**
Y14A Wickenburg 79.00 48 P **P** **08 50 45.2 -0.1**
baz=79,SNR=13
P08A Dixie Valley 79.03 40⇓P **P** **08 50 45.4 0.0**
baz=79
116A Eloy 79.17 49⇑P **P** **08 50 46.3 +0.1**
baz=79
X14A Yava 79.37 47⇓P **P** **08 50 47.7 +0.4**
baz=80
M07A Soldier Meadow 79.43 39⇓P **P** **08 50 47.4 -0.2**
baz=80
P09A Austin 79.52 41⇓P **P** **08 50 48.1 0.0**
baz=80
W14A Seligman 79.65 47⇑P **P** **08 50 49.4 +0.6**
baz=80
KDAK Kodiak Island 79.66 11 *e*P **P** **08 50 51.6 +2.7**
N08A GE Springer Mi 79.66 40⇓P **P** **08 50 48.7 -0.2**
baz=80
TUC Tucson 79.69 50 *e*P **P** **08 50 49.3 +0.2**
TUC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TUC Tucson 79.69 50 *e*P **P** **08 50 49.3 +0.2**
comp=Z,10.0nm,1.0s,mb4.7
X15A Humboldt 79.83 48⇑P **P** **08 50 50.5 +0.7**
baz=80
H04A Detroit Lake 79.86 35⇑P **P** **08 50 50.2 +0.2**
baz=80
O09A Fish Creek Ran 79.86 41 P **P** **08 50 49.8 -0.2**
baz=80,SNR=5.0
M08A Happy Creek Ra 79.93 39⇑P **P** **08 50 50.8 +0.4**
baz=80
J06A Christmas Vall 80.04 37⇑P **P** **08 50 50.6 -0.4**
baz=80
N09A Rock Creek Ran 80.07 40⇓P **P** **08 50 50.8 -0.4**
baz=80
W15A Williams 80.19 47⇑P **P** **08 50 52.6 +0.9**
baz=80
WVOR Wild Horse Val 80.39 38 *e*P **P** **08 50 52.3 -0.5**
WVOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
WVOR Wild Horse Val 80.39 38 *e*P **P** **08 50 52.2 -0.6**
comp=Z,6.5nm,1.0s,mb4.5
I06A Prineville 80.45 36⇑P **P** **08 50 53.3 +0.1**
baz=81
L09A Wilkinson Ranc 80.70 39 P **P** **08 50 54.1 -0.4**
baz=81,SNR=5.4
CCUT Cedar City 80.76 44 *e*P **P** **08 50 55.3 +0.5**
CCUT *e*pP pP 08 51 11.7 +2.6
P12A McGill 80.86 42⇓P **P** **08 50 55.3 -0.1**
baz=81
M10A I.L. Ranch, Tu 81.07 40⇑P **P** **08 50 56.6 +0.1**
baz=81
N11A Elko Archery C 81.13 41⇓P **P** **08 50 56.6 -0.2**
baz=81
E05A Randle 81.33 33⇑P **P** **08 50 57.4 -0.5**
baz=82
ELK Elko 81.40 41 *e*P **P** **08 50 57.9 -0.3**
O12A Currie 81.42 42⇑P **P** **08 50 58.3 -0.1**
baz=82
M11A Holland Ranch, 81.47 40⇑P **P** **08 50 58.5 -0.1**
baz=82
B04A Port Angeles 81.47 31⇑P **P** **08 50 59.0 +0.4**
baz=82
C04A Brinnon 81.50 32⇑P **P** **08 50 58.7 0.0**
baz=82
N12A Wells--Clov Va 81.58 41⇑P **P** **08 50 59.1 -0.1**
baz=82
D05A Enumclaw 81.64 33⇑P **P** **08 50 59.7 +0.3**
baz=82
MSU Marysvale 82.07 44 *e*P **P** **08 51 02.5 +0.7**
N13A West Wendover 82.10 41⇓P **P** **08 51 02.0 +0.1**
baz=82
C05A Tolt Reservoir 82.12 33⇑P **P** **08 51 01.4 -0.7**
baz=82
HABR Khabarovsk 82.21 328 *e*P **P** **08 51 03.8 +1.3**
HABR *e*S S 09 01 16.9 +2.9
HABR pmax pmax
comp=Z,39nm,1.7s,mb5.1
B05A Bryant 82.29 32⇓P **P** **08 51 02.6 -0.3**
baz=82
A04A Legoe Bay, Lum 82.30 31⇓P **P** **08 51 02.2 -0.8**
baz=82
M13A Montello 82.42 41⇑P **P** **08 51 03.3 -0.2**
baz=82
DUG Dugway 82.60 42 *e*P **P** **08 51 04.4 -0.1**
MDJ Mudanjiang 82.61 323 P **P** **08 51 05.0 +0.4**
MDJ AP pP 08 51 20.0 +1.1
MDJ XP sP 08 51 25.8 +1.5
MDJ S S 09 01 18.7 +0.6
MDJ XS sS 09 01 44.5 +2.4
MDJ AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,30nm,3.9s
MDJ LR LR
comp=N,140nm,21.0s,MS4.9
MDJ LR LR
comp=E,470nm,19.6s,MS4.9
MDJ LR LR
comp=Z,560nm,18.2s,MS5.0
NJ2 Nanjing 82.80 308 *e*P **P** **08 51 01.0 -4.5**
NJ2 AP pP 08 51 16.2 -3.6
NJ2 XP sP 08 51 23.9 -1.4
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
NJ2 LR LR
comp=N,260nm,14.0s
NJ2 LR LR
comp=E,330nm,23.6s
NJ2 LR LR
comp=Z,100nm,17.7s,MS4.2
TMUT Trail Mountain 83.14 44 *e*P **P** **08 51 08.5 +1.2**
MAW Mawson 83.17 199⇓*i*P **P** **08 51 08.3 +0.8**
comp=Z,6.2nm,0.9s,mb4.6
MAW Mawson 83.17 199 P **P** **08 51 08.3 +0.9**
comp=Z,7.1nm,0.9s,mb4.7,baz=108,slow=4.7,SNR=12
MAW LR LR 09 26 38.6
comp=Z,154nm,20.2s,MS4.4,baz=68,slow=34
MAW Mawson 83.17 199⇓*i*P **P** **08 51 08.3 +0.8**
MAW pmax pmax
comp=Z,6.0nm,0.9s
MPU Maple Canyon 83.25 43 *e*P **P** **08 51 08.3 +0.4**
MNTX Cornudas Mount 83.36 53 *e*P **P** **08 51 08.8 +0.3**
comp=Z,8.7nm,1.1s,mb4.7
Y22C IRIS PASSCAL I 83.38 50⇑P **P** **08 51 08.9 +0.4**
baz=84
LAZ Ladron 83.38 50 *e*P **P** **08 51 09.4 +0.8**
LAZ *e*pP pP 08 51 23.5 +0.6
SRU San Rafael 83.48 44 *e*P **P** **08 51 09.6 +0.5**
HLID Hailey 83.54 39 *e*P **P** **08 51 09.3 -0.1**
comp=Z,5.8nm,0.9s,mb4.7
LTX Lajitas 83.57 56 *e*P **P** **08 51 09.9 +0.4**
LTX pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
LTX Lajitas 83.57 56 *e*P **P** **08 51 09.9 +0.4**
comp=Z,7.5nm,1.2s,mb4.7
BNM Barren Site 83.63 50 *e*P **P** **08 51 10.3 +0.5**
LPM Los Pinos Moun 83.70 50 *e*P **P** **08 51 10.6 +0.4**
DAU Daniels Canyon 83.71 43 *e*P **P** **08 51 09.7 -0.6**
MVCO Mesa Verde 83.84 47 *e*P **P** **08 51 10.9 -0.1**
MVCO *e*PcP PcP 08 51 14.7 -0.2
TCUT Toone Canyon 84.00 42 *e*P **P** **08 51 12.1 +0.4**
TTA Tatalina 84.02 8 *e*P **P** **08 51 11.6 -0.3**
PV10 Paradox Valley 84.08 46 *e*P **P** **08 51 12.4 +0.3**
PV10 *e*pP pP 08 51 26.3 -0.2
ANMO Albuquerque 84.14 50 *e*P **P** **08 51 12.8 +0.4**
PV01 Paradox Valley 84.27 46 *e*P **P** **08 51 13.2 +0.1**
KLR Kul'dur 84.35 328 *e*P **P** **08 51 11.2 -2.3**
GDL2 Guadalupe Moun 84.36 53 *e*P **P** **08 51 14.3 +0.8**
CN2 Changchun 84.54 321 *e*P **P** **08 51 15.5 +1.0**
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.8
AHID Auburn Hatcher 85.09 41 *e*P **P** **08 51 17.2 -0.1**
comp=Z,9.8nm,1.1s,mb4.8
MCMT McKenzie Canyo 85.19 39 *e*P **P** **08 51 17.4 -0.3**
SKAG Skagway 85.37 19 *e*P **P** **08 51 17.3 -1.3**
WHN Wuhan 85.51 305 *e*P **P** **08 51 21.5 +2.2**
REDW Red Top Meadow 85.57 41 *e*P **P** **08 51 19.6 -0.1**
comp=Z,9.8nm,1.1s,mb5.0
TPAW Teton Pass 85.58 40 *e*P **P** **08 51 19.9 +0.2**
comp=Z,10nm,1.2s,mb4.9
MSO Missoula 85.71 37 *e*P **P** **08 51 19.2 -1.1**
IMW Indian Meadow 85.81 40 *e*P **P** **08 51 21.2 +0.4**
comp=Z,13nm,1.3s,mb5.0
SMCO Snowmass 85.88 46 *e*P **P** **08 51 21.2 +0.1**
BW06 Boulder Array 86.05 42 *e*P **P** **08 51 21.7 -0.3**
PDAR Pinedale Array 86.05 42 P **P** **08 51 20.7 -1.3**
comp=Z,4.5nm,1.0s,mb4.7,baz=219,slow=3.8,SNR=26
FLWY Flagg Ranch 86.06 40 *e*P **P** **08 51 22.0 -0.1**
comp=Z,10nm,1.0s,mb5.0
CHMT Chamberlain Mo 86.15 37 *e*P **P** **08 51 21.3 -1.2**
BOZ Bozeman (W) 86.36 38 *e*P **P** **08 51 22.9 -0.6**
PLCA Paso Flores 86.56 132 P **P** **08 51 25.1 +0.6**
comp=Z,1.6nm,0.9s,mb4.3,baz=245,slow=13,SNR=3.1
RWWY Rawlins 86.98 43 *e*P **P** **08 51 26.2 -0.4**
comp=Z,8.4nm,0.8s,mb5.0
ISCO Idaho Springs 87.10 46 *e*P **P** **08 51 27.1 0.0**
AMTX Amarillo 87.58 52 *e*P **P** **08 51 29.9 +0.4**
SYO Syowa Base 87.86 191⇓*e*P **P** **08 51 30.0 -0.8**
SYO Syowa Base 87.86 191⇓*e*PcP PcP 08 51 37.5 +4.9
PHWY Pilot Hill 87.94 44 *e*P **P** **08 51 30.7 -0.4**
DAWY Dawson 88.12 14 *e*P **P** **08 51 31.4 -0.6**
VNA3 Neumayer Olymp 88.14 175⇑*i*P **P** **08 51 31.9 -0.2**
VNA3 *e* 08 51 33.0
VNA3 *e* pP 08 51 41.9 -4.6
VNA3 *e* pP 08 51 46.3 -0.2
VNA3 *e* 08 51 56.5
VNA3 *e* 08 52 04.5
SNAA Sanae 88.16 177⇑*i*P **P** **08 51 21.5 -11**
SNAA *e* 08 51 23.1
SNAA *e* pP 08 51 31.4 -15
SNAA *e* pP 08 51 35.7 -11
SNAA *e* 08 51 45.4
SNAA *e* 08 51 54.3
PSI Prapat 88.44 274 P **P** **08 51 34.0 +0.5**
comp=Z,9.4nm,0.9s,mb5.0,baz=174,slow=4.9,SNR=4.7
VNA2 Neumayer--Watz 88.62 176⇑*i*P **P** **08 51 34.7 +0.3**
baz=177,slow=3.4
VNA2 *e* 08 51 36.2
VNA2 *e* pP 08 51 45.3 -3.5
VNA2 *e* pP 08 51 48.9 +0.1
VNA2 *e* 08 51 59.1
VNA2 *e* 08 52 06.7
VNA1 Neumayer--Stat 88.83 175⇑*i*P **P** **08 51 35.9 +0.5**
VNA1 *e* 08 51 37.5
VNA1 *e* pP 08 51 46.1 -3.7
VNA1 *e* pP 08 51 49.9 +0.1
VNA1 *e* 08 52 00.1
VNA1 *e* 08 52 08.5
BILL Bilibino 89.19 353⇓*i*P **P** **08 51 36.5 -0.6**
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
BILL Bilibino 89.19 353 *e*P **P** **08 51 35.7 -1.4**
comp=Z,5.0nm,0.8s,mb4.9
EDM Edmonton 89.73 32 *e*P **P** **08 51 39.2 -0.4**
GYA Guiyang 89.99 298 P **P** **08 51 42.8 +2.0**
GYA AP pP 08 51 56.7 +1.5
GYA XP sP 08 52 01.4 +0.8
GYA PP PP 08 55 17.9 +3.7
GYA SKS 09 02 07.6
GYA S 09 02 29.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,90nm,3.8s
GYA LR LR
comp=N,270nm,20.4s,MS4.9
GYA LR LR
comp=E,340nm,21.0s,MS4.9
GYA LR LR
comp=Z,310nm,20.6s,MS4.7
HKT Hockley 89.99 58 *e*P **P** **08 51 41.4 +0.6**
HKT pmax pmax
comp=Z,11nm,1.6s,mb4.9
HKT Hockley 89.99 58 *e*P **P** **08 51 41.4 +0.6**
comp=Z,11nm,1.6s,mb5.0
LAO LASA Array 90.10 40 *e*P **P** **08 51 39.1 -2.2**
XAN Xi'an 91.15 306 P **P** **08 51 47.4 +1.2**
XAN AP pP 08 51 55.3 -5.3
XAN AMB AMB
comp=Z,10.0nm,1.2s,mb5.0
HHC Hu-ho-hao-te 92.03 313 *e*P **P** **08 51 52.3 +2.0**
HHC AP pP 08 52 05.8 +1.1
HHC XP sP 08 52 11.0 +0.9
HHC PP PP 08 55 34.8 +4.5
HHC SKS 09 02 19.8
HHC S 09 02 48.0
HHC XS sS 09 03 10.7 -2.1
HHC PS PS 09 04 09.1 +4.6
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,110nm,3.7s
HHC LR LR
comp=N,180nm,18.3s,MS4.6
HHC LR LR
comp=E,120nm,23.2s,MS4.6
HHC LR LR
comp=Z,740nm,18.4s,MS5.2
CFAA Coronel Fontan 92.03 125 P **P** **08 51 50.1 -0.2**
comp=Z,0.8nm,1.0s,mb4.0,baz=202,slow=6.0,SNR=6.7
JTS JuntasAbangare 92.39 80 *e*P **P** **08 51 53.1 +1.2**
KMI Kunming 92.78 296 P **P** **08 51 56.7 +2.9**
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
YAK Yakutsk 93.36 337⇑*e*P **P** **08 51 55.0 -1.4**
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.6
CD2 Chengdu 94.00 301 *e*P **P** **08 51 58.6 -0.8**
CD2 AP pP 08 52 14.1 +0.3
CD2 XP sP 08 52 19.6 +0.4
CD2 PP PP 08 55 48.1 +2.3
CD2 SKS 09 02 27.4
CD2 S 09 03 01.7
CD2 XS sS 09 03 27.2 -3.1
CD2 PS PS 09 04 28.3 +1.9
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,60nm,9.0s
CD2 LR LR
comp=N,190nm,22.8s
CD2 LR LR
comp=Z,120nm,21.5s,MS4.3
ECSD EROS,Sioux Fal 94.87 45 *e*P **P** **08 52 02.0 -1.3**
LZH Lanzhou 95.78 306 *e*P **P** **08 52 09.9 +2.4**
LZH AP pP 08 52 25.0 +3.1
LZH XP sP 08 52 32.0 +4.7
LZH PP PP 08 56 04.5 +4.9
LZH SKS 09 02 40.2
LZH *e*S 09 03 20.0
LZH XS sS 09 03 46.2 +0.4
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,130nm,5.8s
LZH LR LR
comp=E,210nm,16.0s
LZH LR LR
comp=Z,320nm,16.9s,MS4.9
ULM Lac du Bonnet 97.85 39 P **P** **08 52 15.1 -1.7**
comp=Z,2.2nm,0.9s,mb4.7,baz=121,slow=6.6,SNR=3.5
SONM Songino Array 98.17 318 P **P** **08 52 18.3 +0.1**
comp=Z,1.0nm,1.0s,mb4.3,baz=134,slow=6.4,SNR=4.1
TIXI Tiksi 99.50 344⇑*e*P **P** **08 52 23.9 -0.4**
TIXI pmax pmax
comp=Z,2.0nm,1.2s,mb4.4
MKAR Makanchi Array 113.89 313 PKiKP PKiKP 08 57 18.6 -1.4
comp=Z,1.8nm,0.6s,baz=66,slow=0.8,SNR=16
KURK Kurchatov 116.47 317⇑*i*PKIKP PKPdf 08 57 23.0 -1.9
AAK Ala-Archa 119.24 308⇑*i*PKIKP PKPdf 08 57 30.0 -0.3
ARU Arti 127.18 327 *e*PKIKP PKPdf 08 57 42.9 -2.6
ARCES ARCESS Array B 129.28 351 PKP PKPdf 08 57 47.9 -1.6
comp=Z,1.6nm,0.8s,baz=335,slow=1.7,SNR=8.0
FINES FINESS Array B 136.51 346 PKhKP 08 57 55.4
comp=Z,0.7nm,0.6s,baz=358,slow=23,SNR=2.6
FINES FINESS Array B 136.51 346⇑*i*PKIKP PKPdf 08 58 03.4 +0.3
HFS Hagfors 139.75 354 PKhKP 08 57 59.0
comp=Z,2.6nm,0.9s,baz=57,slow=5.5,SNR=4.6
KIV Kislovodsk 141.54 316 *e*PKIKP PKPdf 08 58 13.3 +1.0
KIV pmax pmax
comp=Z,3.0nm,0.5s
KMBO Kilima Mbogo 142.96 239 PKhKP 08 58 12.9
comp=Z,3.5nm,1.0s,baz=209,slow=1.4,SNR=5.1
SUW Suwalki 143.84 343 *e*PKP PKPdf 08 58 15.1 -1.3
EKA Eskdalemuir Ar 144.21 9 PKP PKPdf 08 58 14.4 -2.6
comp=Z,4.2nm,0.8s,baz=325,slow=3.1,SNR=21
AKASG Malin Array Be 144.56 335 PKP PKPdf 08 58 15.9 -1.8
comp=Z,12nm,0.6s,baz=40,slow=4.4,SNR=56

DCN	**Croghan**	**145.31**	**14**	⇑*i*P	PKPbc	08 58 17.8	-1.0
DCN	**Croghan**	**145.31**	**14**	⇓*i*P	pPKPbc	08 58 30.9	-2.6
DLF	**Lyons Farm**	**145.52**	**14**	⇑*i*P	PKPdf	08 58 18.5	-0.8
DLF	**Lyons Farm**	**145.52**	**14**	⇓*i*P	pPKPbc	08 58 31.6	-2.6
DSB	**Dublin**	**145.60**	**13**	*e*PKPdf	PKPdf	08 58 19.1	-0.3
GKP	**Gorka Klasztor**	**145.91**	**348**	*e*PKP	PKPdf	08 58 21.5	+1.5
SIM	**Simferopol'**	**146.23**	**323**	*e*PKIKP	PKPdf	08 58 23.0	+2.5
SIM				pmax	pmax		
	comp=Z,11nm,0.7s						
MALT	**Malatya**	**146.85**	**310**	*e*PKPbc	PKPbc	08 58 25.2	+1.8
MALT				*e*PKPab	PKPab	08 58 27.5	+2.7
LVV	**L'vov**	**147.22**	**339**	*e*PKIKP	PKPdf	08 58 24.3	+2.1
IBBN	**Ibbenburen**	**147.93**	**358**	*e*PKPbc	PKPbc	08 58 26.5	+0.1
OJC	**Ojcow**	**148.17**	**343**	*e*PKP	PKPbc	08 58 27.2	+0.2
WTSB	**Winterswijk**	**148.29**	**359**	*e*PKP	PKPbc	08 58 26.8	-0.5
	comp=Z,34nm,1.2s						
KSP	**Ksiaz**	**148.40**	**348**	*e*PKP	PKPbc	08 58 28.4	+0.7
KSP	**Ksiaz**	**148.40**	**348**	*e*PKP	PKPbc	08 58 28.2	+0.5
STHS	**Stebnicka Huta**	**148.47**	**341**	*e*PKP	PKPbc	08 58 29.8	+2.0
CLL	**Collm**	**148.50**	**352**	*e*PKPbc	PKPbc	08 58 28.2	+0.3
	comp=Z,26nm,1.0s						
CLL				*e*PKPab	PKPab	08 58 30.4	-1.0
CLL				*e*pPKPbc	pPKPbc	08 58 39.0	-3.7
CLL				*e*PP	PP	09 01 58.6	+1.2
CLL	**Collm**	**148.50**	**352**	⇓*i*PKPbc	PKPbc	08 58 28.1	+0.2
	comp=Z,26nm,1.0s						
CLL				*i* PKPab	PKPab	08 58 31.1	-0.3
	comp=Z,13nm,1.0s						
CLL				*i* (pPKPbc)		08 58 39.0	
CLL				*e*PP	PP	09 01 53.0	-4.4
CLL	**Collm**	**148.50**	**352**	⇓*i*PKIKP	PKPbc	08 58 28.1	+0.2
CLL				*i*		08 58 31.1	
CLL				*i*		08 58 39.0	
CLL				pmax	pmax		
	comp=Z,26nm,1.0s						
CLL				pmax	pmax		
	comp=Z,13nm,1.0s						
CLL	**Collm**	**148.50**	**352**	⇓*i*PKP	PKPbc	08 58 28.1	+0.2
CLL				*i* PKP	PKPdf	08 58 31.1	+6.8
CLL				*i* pPKP	pPKPdf	08 58 39.0	-0.2
BURAR	**Bucovina Array**	**148.62**	**335**	⇑*i*P	PKPbc	08 58 29.5	+1.3
BURAR	**Bucovina Array**	**148.62**	**335**	⇑P	PKPbc	08 58 29.6	+1.4
UPC	**Upice**	**148.78**	**348**	⇑*e*PKPB	PKPbc	08 58 29.5	+0.9
BRG	**Berggiesshubel**	**148.79**	**351**	*e*PKPbc	PKPbc	08 58 28.8	+0.2
BRG	**Berggiesshubel**	**148.79**	**351**	*i* PKP	PKPbc	08 58 29.0	+0.4
	comp=Z,7.3nm,0.9s						
BRG							
	comp=N,176nm,15.1s						
BRG							
	comp=E,120nm,14.2s						
BRG							
	comp=Z,260nm,15.4s						
BRG	**Berggiesshubel**	**148.79**	**351**	*i* PKIKP	PKPbc	08 58 29.0	+0.4
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRG				MLR	MLR		
	comp=N,176nm,15.1s,MS5.1						
BRG				MLR	MLR		
	comp=E,120nm,14.2s,MS5.1						
BRG				MLR	MLR		
	comp=Z,260nm,15.4s,MS5.1						
BUG	**Bochum--Univer**	**148.81**	**359**	*e*PKPbc	PKPbc	08 58 28.6	-0.1
DPC	**Dobruska-Polom**	**148.87**	**347**	⇑*e*PKPB	PKPbc	08 58 29.5	+0.7
OKC	**Ostrava-Krasne**	**148.94**	**345**	⇑*e*PKPB	PKPbc	08 58 29.6	+0.6
PVCC	**Panska Ves**	**149.02**	**350**	⇑*e*PKPB	PKPbc	08 58 29.3	+0.1
MORC	**Moravsky Berou**	**149.14**	**346**	⇑*i*P	PKPbc	08 58 29.7	+0.2
MORC	**Moravsky Berou**	**149.14**	**346**	⇑PKHKP	PKPbc	08 58 28.0	-1.5
MORC	**Moravsky Berou**	**149.14**	**346**	*e*PKPbc	PKPbc	08 58 30.4	+0.9
MORC				*e*PKPab	PKPab	08 58 34.9	+0.9
CFR	**Carcaliu**	**149.21**	**329**	⇑*i*P	PKPbc	08 58 30.5	+0.8
MOX	**Moxa**	**149.32**	**353**	*e*PKPbc	PKPbc	08 58 29.7	-0.3
MOX	**Moxa**	**149.32**	**353**	*e*PKP	PKPbc	08 58 30.4	+0.4
	comp=Z,17nm,1.4s						
MOX	**Moxa**	**149.32**	**353**	*e*PKHKP	PKPbc	08 58 30.4	+0.4
MOX				pmax	pmax		
	comp=Z,17nm,1.4s						
VRI	**Vrincioaia**	**149.35**	**331**	⇑*i*P	PKPbc	08 58 30.3	+0.2
TANN	**Tannenbergstha**	**149.44**	**352**	*e*PKPbc	PKPbc	08 58 30.7	+0.4
HGN	**Heimansgroeve**	**149.50**	**0**	*e*PKP	PKPbc	08 58 30.2	-0.2
	comp=Z,14nm,1.3s						
BR131	**Keskin Array S**	**149.50**	**316**	*e*PKPdf	PKPdf	08 58 26.5	+0.6
BR131				*e*PKPbc	PKPbc	08 58 31.3	+0.9
BRTR	**Keskin Array B**	**149.50**	**316**	PKP	PKPdf	08 58 25.8	-0.1
	comp=Z,5.2nm,1.0s,baz=132,slow=1.8,SNR=5.5						
BRTR				PKPbc	PKPbc	08 58 30.9	+0.5
	comp=Z,7.9nm,0.9s,baz=130,slow=2.3,SNR=33						
KECS	**Kecovo**	**149.53**	**341**	*e*PKP	PKPbc	08 58 31.3	+0.8
KECS				*e*		08 58 36.2	
PRU	**Pruhonice**	**149.55**	**349**	⇑*e*PKPB	PKPbc	08 58 31.1	+0.6
PRU				*e*PKPAB	PKPab	08 58 37.9	+2.3
TIRR	**Tirgusor**	**149.59**	**328**	⇑*i*P	PKPbc	08 58 31.6	+1.0
NKC	**Novy Kostel**	**149.62**	**352**	⇑*e*PKPB	PKPbc	08 58 31.1	+0.4
MEM	**Membach**	**149.65**	**0**	PKPbc	PKPbc	08 58 30.6	-0.1
SNF	**Seneffe**	**149.71**	**2**	PKPbc	PKPbc	08 58 31.3	+0.3
VRAC	**Vranov**	**149.79**	**346**	PKPbc	PKPbc	08 58 30.8	-0.3
	comp=Z,4.0nm,0.9s,baz=126,slow=1.8,SNR=8.4						
BCLA	**Clavier**	**149.83**	**1**	PKPab	PKPab	08 58 36.6	-0.2
BCLA				APKPab		08 58 49.2	
TNS	**Taunus Mts**	**149.99**	**357**	*e*PKPbc	PKPbc	08 58 31.7	+0.1
MLR	**Muntele Rosu**	**149.99**	**332**	PKPbc	PKPbc	08 58 32.4	+0.8
	comp=Z,16nm,0.9s,baz=332,slow=4.2,SNR=24						
MLR	**Muntele Rosu**	**149.99**	**332**	⇑*i*P	PKPbc	08 58 32.3	+0.7
MLR	**Muntele Rosu**	**149.99**	**332**	PKIKP	PKPbc	08 58 32.4	+0.8
MLR				pmax	pmax		
	comp=Z,16nm,0.9s						
VYHS	**Vyhne**	**150.00**	**343**	*i* PKP	PKPbc	08 58 32.6	+1.0
TREC	**Trest**	**150.04**	**348**	⇑*e*PKPB	PKPbc	08 58 32.0	+0.3
DOU	**Dourbes**	**150.14**	**2**	PKPbc	PKPbc	08 58 32.1	+0.1
DOU				APKPbc		08 58 45.4	
GIVF	**Givet**	**150.14**	**2**	*e*PKP1	PKPbc	08 58 31.6	-0.4
	comp=Z,54nm,1.1s						
BAIF	**Baives**	**150.16**	**3**	*e*PKP1	PKPbc	08 58 31.8	-0.2
	comp=Z,49nm,1.0s						
PSZ	**Piszkesteto**	**150.22**	**341**	*e*PKIKP	PKPbc	08 58 32.9	+0.7
PSZ				*e*		08 58 39.2	
GRA1	**Grafenberg Arr**	**150.30**	**353**	*e*PKPbc	PKPbc	08 58 32.4	0.0
GRA1				*e*PKPab	PKPab	08 58 38.3	-0.4
GRF	**Grafenberg Arr**	**150.30**	**353**	*e*PKPbc	PKPbc	08 58 32.4	0.0
GRF				*e*PKPab	PKPab	08 58 38.3	-0.4
ABH	**Alteburg**	**150.36**	**358**	PKP	PKPbc	08 58 33.2	+0.7
VOIR		**150.43**	**333**	⇑*i*P	PKPbc	08 58 33.7	+1.0
KHC	**Kasperske Hory**	**150.54**	**350**	⇑*e*PKPB	PKPbc	08 58 33.4	+0.5
KHC				*e*PKPAB	PKPab	08 58 39.9	+0.2
RUP	**Ruppelstein**	**150.55**	**359**	PKIKP	PKPbc	08 58 34.0	+1.0
TOD	**Tromm**	**150.59**	**357**	PKIKP	PKPbc	08 58 33.6	+0.6
WLF	**Walferdange**	**150.60**	**0**	*e*PKPbc	PKPbc	08 58 33.2	+0.1
WLF	**Walferdange**	**150.60**	**0**	PKPbc	PKPbc	08 58 33.5	+0.5
WLF				PKPab	PKPab	08 58 39.9	-0.1
WLF				APKP		08 58 42.0	
WLF				E		08 58 47.3	
WLF	**Walferdange**	**150.60**	**0**	*e*PKPbc	PKPbc	08 58 33.6	+0.5
WLF				*e*PKPab	PKPab	08 58 39.9	0.0
WET	**Wettzell**	**150.63**	**351**	*e*PKPbc	PKPbc	08 58 33.6	+0.4
GEC2	**GERESS Array S**	**150.79**	**350**	*e*PKPbc	PKPbc	08 58 33.4	-0.1
GEC2				*e*PKPab	PKPab	08 58 40.3	-0.5
GERES	**GERESS Array B**	**150.79**	**350**	PKP	PKPdf	08 58 28.2	+0.3
	comp=Z,5.2nm,1.0s,baz=119,slow=1.7,SNR=3.6						
GERES				PKPbc	PKPbc	08 58 33.3	-0.2
	comp=Z,3.9nm,0.9s,baz=48,slow=2.0,SNR=28						
ROSF	**Rostrenen**	**150.89**	**13**	*e*PKP1	PKPbc	08 58 32.7	-1.1
	comp=Z,20nm,1.0s						
FLN	**La Foliniere**	**150.99**	**9**	*e*PKP1	PKPbc	08 58 33.1	-0.9
	comp=Z,60nm,0.9s						
FLN				*e*R			
	comp=Z,201nm,19.0s						
FLN	**La Foliniere**	**150.99**	**9**	*e*PKP	PKPbc	08 58 33.1	-0.9
FLN				LR	LR		
	comp=Z,200nm,19.0s,MS4.9						
SGMF	**Saint Gilles**	**151.12**	**12**	*e*PKP1	PKPbc	08 58 33.3	-1.0
	comp=Z,34nm,1.0s						
LDF	**La Druitiere**	**151.21**	**9**	*e*PKP1	PKPbc	08 58 33.7	-0.8
	comp=Z,48nm,1.0s						
LANF	**Langenberg**	**151.25**	**358**	PKP	PKPbc	08 58 35.3	+0.7
CONA	**Conrad Observa**	**151.26**	**346**	⇑*i*PKPdf	PKPdf	08 58 30.1	+1.5
	comp=Z,2.9nm,1.3s						
CONA	**Conrad Observa**	**151.26**	**346**	P	PKPbc	08 58 35.7	+1.0
	comp=Z,14nm,1.4s						
GRR	**Gorron**	**151.30**	**10**	*e*PKP1	PKPbc	08 58 34.1	-0.6
	comp=Z,50nm,0.9s						
QUIF	**Quistinic**	**151.31**	**13**	*e*PKP1	PKPbc	08 58 33.7	-1.0
STU	**Stuttgart**	**151.39**	**356**	*e*PKPbc	PKPbc	08 58 35.1	+0.2
STU				*e*PKPab	PKPab	08 58 42.9	-0.3
BZS	**Buzias**	**151.66**	**337**	⇑*i*P	PKPbc	08 58 36.3	+0.8
BZS	**Buzias**	**151.66**	**337**	⇑P	PKPbc	08 58 36.3	+0.8
MEZF	**Maizieres J'vi**	**151.75**	**2**	*e*PKP1	PKPbc	08 58 35.5	-0.2
	comp=Z,37nm,1.1s						
FUR	**Furstenfeldbru**	**151.80**	**353**	*e*PKPbc	PKPbc	08 58 35.8	-0.1
FUR				*e*PKPab	PKPab	08 58 43.8	-1.2
WLS	**Welschbruch**	**151.84**	**358**	PKP	PKPbc	08 58 36.6	+0.7
CDF	**Champ du Feu**	**151.84**	**359**	*e*PKP1	PKPbc	08 58 35.6	-0.3
	comp=Z,16nm,0.9s						
BFO	**Black Forest**	**151.88**	**357**	*e*PKPbc	PKPbc	08 58 36.1	+0.1
BFO	**Black Forest**	**151.88**	**357**	*e*PKPbc	PKPbc	08 58 36.3	+0.2
THEF	**They Montfort**	**152.04**	**0**	PKP	PKPbc	08 58 37.1	+0.7
HAU	**Haudompre**	**152.26**	**360**	*e*PKP1	PKPbc	08 58 37.5	+0.6
	comp=Z,24nm,1.0s						
HAU				*e*R			
	comp=Z,136nm,17.5s						
HAU	**Haudompre**	**152.26**	**360**	*e*PKP	PKPbc	08 58 37.5	+0.6
HAU				LR	LR		
	comp=Z,140nm,17.5s,MS4.8						
FELD	**Feldberg im Sc**	**152.35**	**357**	PKP	PKPbc	08 58 37.5	+0.4
MOF	**Molkenrain**	**152.40**	**359**	PKP	PKPbc	08 58 37.1	-0.1
HINF	**Hinteralfeld**	**152.44**	**359**	*e*PKP1	PKPbc	08 58 36.6	-0.7
	comp=Z,9.9nm,1.0s						
MOTA	**Moosalm**	**152.63**	**353**	⇑*i*P	PKPdf	08 58 31.9	+1.3
	comp=Z,2.1nm,1.3s						
MOTA	**Moosalm**	**152.63**	**353**	⇑*i*	PKPbc	08 58 37.7	-0.1
	comp=Z,8.3nm,1.1s						
MOTA	**Moosalm**	**152.63**	**353**	P	PKPbc	08 58 37.7	-0.1
	comp=Z,8.3nm,1.1s						
MOTA	**Moosalm**	**152.63**	**353**	⇑*i*P	PKPdf	08 58 31.9	+1.3
MOTA				*i*		08 58 37.7	
WTTA	**Wattenberg**	**152.65**	**352**	⇑*i*P	PKPdf	08 58 33.6	+2.9
	comp=Z,1.6nm,0.6s						
WTTA	**Wattenberg**	**152.65**	**352**	⇑*i*	PKPbc	08 58 38.3	+0.5
	comp=Z,8.7nm,0.8s						
WTTA	**Wattenberg**	**152.65**	**352**	P	PKPbc	08 58 38.3	+0.5
	comp=Z,8.7nm,0.8s						
WTTA	**Wattenberg**	**152.65**	**352**	⇑*i*P	PKPdf	08 58 33.6	+2.9
WTTA				*i*		08 58 38.3	
DAVA	**Damuels**	**152.81**	**355**	⇑*i*P	PKPdf	08 58 33.8	+2.9
	comp=Z,2.2nm,1.1s						
DAVA	**Damuels**	**152.81**	**355**	⇓*i*	PKPbc	08 58 39.3	+1.2
	comp=Z,9.6nm,1.1s						
DAVA	**Damuels**	**152.81**	**355**	P	PKPbc	08 58 39.3	+1.2
	comp=Z,9.6nm,1.1s						
DAVA	**Damuels**	**152.81**	**355**	⇑*i*P	PKPdf	08 58 33.8	+2.9
DAVA				*i*		08 58 39.3	
HYF	**Humbligny**	**152.84**	**5**	*e*PKP1	PKPbc	08 58 38.0	-0.2
LOMF	**Lomont**	**152.91**	**359**	PKP	PKPbc	08 58 37.9	-0.4
LOR	**Lormes**	**152.93**	**4**	*e*PKP1	PKPbc	08 58 38.0	-0.4
	comp=Z,20nm,1.1s						
LOR				*e*R			
	comp=Z,156nm,17.8s						
LOR	**Lormes**	**152.93**	**4**	*e*PKP	PKPbc	08 58 38.0	-0.4
LOR				LR	LR		
	comp=Z,160nm,17.8s,MS4.9						
SSF	**Saint Saulge**	**153.11**	**4**	*e*PKP1	PKPbc	08 58 38.3	-0.5
	comp=Z,23nm,0.9s						
MFF	**Saint Martin d**	**153.15**	**10**	*e*PKP1	PKPbc	08 58 38.1	-0.8
DAVOX	**Davos**	**153.32**	**354**	PKPbc	PKPbc	08 58 39.7	+0.5
	comp=Z,2.5nm,0.5s,baz=219,slow=2.6,SNR=5.8						
AVF	**Avril sur Loir**	**153.37**	**4**	*e*PKP1	PKPbc	08 58 38.6	-0.8
	comp=Z,25nm,1.3s						
SMF	**Signal de Mont**	**153.54**	**4**	*e*PKP1	PKPbc	08 58 40.0	+0.3
	comp=Z,19nm,1.2s						
BGF	**Bois d'Agland**	**153.56**	**5**	*e*PKP1	PKPbc	08 58 39.3	-0.5
	comp=Z,11nm,0.7s						
CEY	**Cerknica**	**153.65**	**347**	*i* PKPdf	PKPbc	08 58 39.7	-0.2
CEY				*e*PKPbc	pPKPbc	08 58 52.5	-2.3
CABF	**La Chapelle**	**153.65**	**0**	*e*PKP1	PKPbc	08 58 40.3	+0.3
	comp=Z,21nm,1.1s						
BOJS	**Bojanci**	**153.69**	**346**	*e*PKPdf	PKPbc	08 58 40.8	+0.7
BOJS				*e*PKPbc	pPKPbc	08 58 53.4	-1.5
TCF	**Toulx Ste Croi**	**153.77**	**6**	*e*PKP1	PKPbc	08 58 39.5	-0.7
	comp=Z,27nm,1.2s						
RJF	**Les Rejaudoux**	**154.66**	**8**	*e*PKP1	PKPbc	08 58 41.9	-0.2
RJF				*e*R			
	comp=Z,178nm,18.0s						
RJF	**Les Rejaudoux**	**154.66**	**8**	*e*PKP	PKPbc	08 58 41.9	-0.2
RJF				LR	LR		
	comp=Z,180nm,18.0s,MS4.9						
TORD	**Torodi Ar. Bea**	**171.75**	**147**	PKP	PKPdf	08 58 48.2	-1.6
	comp=Z,1.4nm,1.0s,baz=329,slow=0.7,SNR=5.7						
TORD				PKPab	PKPab	09 00 11.8	-0.1
	comp=Z,1.7nm,1.1s,baz=228,slow=3.9,SNR=3.8						

*IDC **04** 08:40:49.5±7.1,2887S×6920W,h82km±53km,mb3.5/1,*
mb1 3.3/3,mb1mx3.2/16,mbtmp3.5/3,ML3.9/2,Error
ellipse: s-maj=73.2km s-min=50.6km az=34.0
*ISCJB **04** 08:40:50.0±0.7,2853S±003×692W±0.1,h99km±19km,*
mb3.6/1,Error ellipse: s-maj=18.7km s-min=4.8km az=5.2
*NEIC **04** 08:40:51.4,2854S×6962W,h127km,MG4.3(GUC),After*
GUC.
*GUC **04** 08:40:51.4±0.9,2854S×6962W,h127km±18km,ML4.3*
ISC 04 08:40:51.3±0.6,2853S±003×693W±01,h90km±17km,n23,
σ0§88/36,mb3.6/1,4C-6D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.32**	**268**	⇑*i*P	**Pn**	**08 41 15.9**	**+1.1**
VACH				*i* S	**Sn**	**08 41 33.2**	**+0.6**
LCO	**Las Campanas**	**1.36**	**249**	*e*P	**Pn**	**08 41 15.3**	**+0.1**
LCO				*i* S	**Sn**	**08 41 33.7**	**+0.4**
CPCH	**Copiapo**	**1.52**	**320**	⇓*i*P	**Pn**	**08 41 17.1**	**-0.1**
CPCH				*i* S	**Sn**	**08 41 36.8**	**-0.1**
CPCH				AML	AML	08 41 38.5	
	comp=E,16μm,0.1s						
CPCH	**Copiapo**	**1.52**	**320**	⇓*i*P	**Pn**	**08 41 17.1**	**-0.1**
CPCH				*i* S	**Sn**	**08 41 36.8**	**-0.1**
CDCH	**Caldera**	**2.01**	**316**	⇑*i*P	**Pn**	**08 41 23.6**	**0.0**
CDCH				*i* S	**Sn**	**08 41 46.8**	**-1.4**
TLL	**Tololo Astrono**	**2.12**	**219**	⇑*i*P	**Pn**	**08 41 25.8**	**+0.7**
TLL				*i* S	**Sn**	**08 41 51.2**	**+0.4**
TLL				AML	AML	08 41 54.3	
	comp=E,997nm,0.3s						
TLL	**Tololo Astrono**	**2.12**	**219**	⇑*i*P	**Pn**	**08 41 25.8**	**+0.7**
TLL				*i* S	**Sn**	**08 41 51.2**	**+0.4**
CRCH	**Chaqaral**	**2.49**	**330**	*i* P	**Pn**	**08 41 30.3**	**+0.4**
CRCH				*i* S	**Sn**	**08 41 59.2**	**-0.4**
CRCH				AML	AML	08 42 03.9	
	comp=E,527nm,0.3s						
CRCH	**Chaqaral**	**2.49**	**330**	*i* P	**Pn**	**08 41 30.3**	**+0.4**
CRCH				*i* S	**Sn**	**08 41 59.2**	**-0.4**
OVCH	**Ovalle**	**2.68**	**219**	⇓*i*P	**Pn**	**08 41 31.7**	**-0.8**
OVCH				*i* S	**Sn**	**08 42 01.9**	**-2.2**
OVCH				AML	AML	08 42 04.3	
	comp=N,1μm,0.3s						
OVCH	**Ovalle**	**2.68**	**219**	⇓*i*P	**Pn**	**08 41 31.7**	**-0.8**
OVCH				*i* S	**Sn**	**08 42 01.9**	**-2.2**
CMCH	**Combarbala**	**3.04**	**209**	⇓*i*P	**Pn**	**08 41 37.0**	**-0.4**
CMCH				*i* S	**Sn**	**08 42 11.6**	**-1.2**
CMCH				AML	AML	08 42 19.1	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**3.04**	**209**	⇓*i*P	**Pn**	**08 41 37.0**	**-0.4**
CMCH				*i* S	**Sn**	**08 42 11.6**	**-1.2**
CPN1	**Cerro Paranal**	**4.02**	**345**	*i* P	**Pn**	**08 41 51.0**	**+0.4**
CPN1				*i* S	**Sn**	**08 42 36.7**	**+0.2**
CPN1				AML	AML	08 42 52.3	
	comp=E,158nm,0.7s						
JACH	**Jahuel**	**4.30**	**195**	*i* P	**Pn**	**08 41 54.5**	**+0.2**
FCH	**Farellones**	**4.87**	**190**	*e*P	**Pn**	**08 42 03.0**	**+0.9**
FCH				*i* S	**Sn**	**08 42 58.3**	**+1.2**
CPUP	**Villa Florida**	**10.82**	**81**	P	**Pn**	**08 43 21.8**	**-1.3**
	comp=E,0.4nm,0.3s,baz=241,slow=11,SNR=6.0						
CPUP	**Villa Florida**	**10.82**	**81**	P	**Pn**	**08 43 21.8**	**-1.3**
LPAZ	**La Paz**	**12.22**	**5**	P	**Pn**	**08 43 45.4**	**+3.3**
	comp=E,0.1nm,0.3s,baz=297,slow=6.0,SNR=5.6						
LPAZ	**La Paz**	**12.22**	**5**	P	**Pn**	**08 43 45.4**	**+3.3**
TORD	**Torodi Ar. Bea**	**80.07**	**69**	P	**P**	**08 52 51.0**	**-0.1**
	comp=E,0.5nm,0.5s,mb3.6,baz=222,slow=3.9,SNR=9.0						
WRA	**Warramunga Arr**	**126.69**	**208**	PKP	PKPdf	08 59 43.3	-0.9
	comp=E,0.3nm,0.6s,baz=177,slow=1.5,SNR=4.9						
MKAR	**Makanchi Array**	**151.25**	**43**	PKPbc	PKPbc	09 00 33.8	-0.4
	comp=E,0.5nm,0.5s,baz=310,slow=1.3,SNR=4.8						

*CSEM **04** 08:40:51.7±0.1,3608N×833W,h10km,ML4.1/6,Error*
ellipse: s-maj=2.3km s-min=1.6km az=92.0
*MDD **04** 08:40:56.2±0.8,3636N×839W,h0km,mbLg3.3/3,Error*
ellipse: s-maj=8.1km s-min=4.0km az=42.0,PRXIMO
*NEIC **04** 08:40:56.4,3639N×840W,h0km,MN3.2(MDD),After*
MDD.

*LDG **04** 08:40:57.4±0.2,3631N×843W,h10km,Ml3.6/4,Error*
ellipse: s-maj=3.8km s-min=1.7km az=37.0
*INMG **04** 08:40:58.0±1.1,3640N×847W,h4km±8km,ML2.9,Error*
ellipse: s-maj=10.1km s-min=4.0km az=47.0
*CNRM **04** 08:40:58.0,3577N×836W,h2km,MD3.4*
*ISCJB **04** 08:40:58.7±0.6,3663N±004×8.10W±003,h10km,Error*
ellipse: s-maj=5.9km s-min=2.5km az=68.8
*IGIL **04** 08:40:59.6,3644N×845W,h0km,ML3.1*
ISC 04 08:40:58.6±0.6,3652N±003×821W±003,h10km,n100,
σ1§17/174,11C-1D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.86**	**336**	*e*P	**Pg**	**08 41 15.4**	**+0.4**
MORF				*e*S	**Sg**	**08 41 26.7**	**+0.5**
MORF				*e*S	**Sg**	**08 41 26.8**	**+0.5**
MORF				AML	AML	08 41 30.1	
	comp=N,479nm,0.1s						
MORF	**Marmelete**	**0.86**	**336**	*e*P	**Pg**	**08 41 15.4**	**+0.3**
MORF				*e*S	**Sg**	**08 41 26.7**	**+0.4**
PTEO	**Sao Teotonio**	**1.10**	**338**	*e*P	**Pb**	**08 41 18.8**	**-0.9**
PTEO				*e*S	**Sb**	**08 41 35.2**	**+1.1**
PTEO							
	comp=N,82nm,0.2s						
ERIP	**Rio Piedras**	**1.14**	**42**	⇑Pg	**Pg**	**08 41 21.8**	**+1.4**
	comp=N,25nm,0.1s,SNR=18						
ERIP				Lg		08 41 39.5	
	comp=N,93nm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**1.14**	**42**	⇑P	**Pn**	**08 41 21.9**	**+1.3**
ERIP				S	**Sb**	**08 41 39.5**	**+4.3**
	comp=N,93nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.16**	**30**	⇑Pg	**Pg**	**08 41 22.3**	**+1.3**
	comp=N,37nm,0.1s,SNR=18						
EGRO				Lg		08 41 40.2	
	comp=N,222nm,0.1s,SNR=29						
EGRO	**El Granado**	**1.16**	**30**	P	**Pn**	**08 41 22.3**	**+1.4**
	comp=N,37nm,0.1s,SNR=18						
EGRO				S	**Sb**	**08 41 40.2**	**+4.3**
	comp=N,222nm,0.1s,SNR=29						
PBEJ	**Beja**	**1.52**	**10**	*e*Pn	**Pn**	**08 41 26.5**	**+0.6**
PBEJ				*e*Sn	**Sn**	**08 41 48.0**	**+2.3**
PBEJ							
	comp=N,61nm,0.2s						
PBEJ	**Beja**	**1.52**	**10**	*e*Pn	**Pn**	**08 41 26.5**	**+0.6**
PBEJ				*e*Sn	**Sn**	**08 41 48.0**	**+2.3**
	comp=N,61nm,0.2s						
EMIN	**Mina Concepcio**	**1.75**	**44**	⇑Pn	**Pn**	**08 41 29.8**	**+0.9**
	comp=N,12nm,0.1s,SNR=18						
EMIN				Sn	**Sn**	**08 41 53.2**	**+2.0**
	comp=N,61nm,0.1s,SNR=20						
EMIN	**Mina Concepcio**	**1.75**	**44**	P	**Pn**	**08 41 29.8**	**+0.9**
	comp=N,12nm,0.1s,SNR=18						
EMIN				S	**Sn**	**08 41 53.2**	**+2.0**
	comp=N,61nm,0.1s,SNR=20						
ESPR	**Espera**	**1.92**	**79**	⇑Pn	**Pn**	**08 41 31.2**	**-0.1**
	comp=N,19nm,0.1s,SNR=18						
ESPR				Sn	**Sn**	**08 41 56.7**	**+1.2**
	comp=N,92nm,0.2s,SNR=8.4						
ESPR	**Espera**	**1.92**	**79**	P	**Pn**	**08 41 31.2**	**-0.1**
	comp=N,19nm,0.1s,SNR=18						
ESPR				S	**Sn**	**08 41 56.7**	**+1.2**
	comp=N,92nm,0.2s,SNR=8.4						
MOE	**

comp=N,2.4nm,0.1s,SNR=7.9
EQES S **Sn** 08 42 54.3 +0.1
comp=N,2.7nm,0.1s
KIB El Ksiba 4.33 155 *i* P **Pn** 08 41 55.5 -8.9
CZD Col de Zad 4.35 142 *i* P **Pn** 08 41 57.5 -7.2
CZD *i* S **Sn** 08 42 41.5 -14
TZC Tazercounte 4.59 161 *i* P **Pn** 08 41 58.0 -10
TZC *i* S **Sn** 08 42 43.0 -18
ESDC Sonseca Array 4.59 46 Pn **Pn** 08 42 08.7 +0.7
comp=N,20nm,0.1s,baz=230,slow=13,SNR=43
ESDC Sn **Sn** 08 42 59.9 -1.5
comp=N,14nm,0.2s,baz=231,slow=13,SNR=4.6
ESDC Sonseca Array 4.59 46 P **Pn** 08 42 08.7 +0.6
comp=N,20nm,0.1s,SNR=43
PTO Porto 4.62 356 *e*Pn **Pn** 08 42 08.0 -0.4
PTO *e*Sn **Sn** 08 43 00.3 -1.8
EHUE Huescar 4.67 72 ⇓Pn **Pn** 08 42 08.9 -0.1
comp=N,2.0nm,0.1s,SNR=18
EHUE Sn **Sn** 08 43 02.3 -0.9
comp=N,1.5nm,0.1s,SNR=7.9
EHUE Huescar 4.67 72 P **Pn** 08 42 08.9 -0.2
comp=N,2.0nm,0.1s,SNR=18
EHUE S **Sn** 08 43 02.3 -1.0
comp=N,1.5nm,0.1s,SNR=7.9
PVRL Vila Real 4.76 4 *e*Pn **Pn** 08 42 10.2 -0.1
PVRL *e*Sn **Sn** 08 43 04.3 -1.3
PVRL
comp=N,15nm,0.1s
CIA Chichaoua 4.97 185 *i* P **Pn** 08 42 02.0 -11
CIA *i* S **Sn** 08 42 49.0 -22
EVIA Vianos 5.00 63 Pn **Pn** 08 42 13.0 -0.6
comp=N,1.9nm,0.1s,SNR=4.0
EVIA Sn **Sn** 08 43 10.2 -1.2
comp=N,5.9nm,0.2s,SNR=7.9
PCAB Cabril 5.18 2 *e*Pn **Pn** 08 42 16.0 -0.1
PCAB *e*Sn **Sn** 08 43 14.0 -1.9
PCAB
comp=N,13nm,0.1s
GUD Guadarrama 5.20 36 ⇑Pn **Pn** 08 42 17.7 +1.3
comp=N,1.5nm,0.2s,SNR=18
GUD Sn **Sn** 08 43 16.7 +0.3
comp=N,6.2nm,0.3s,SNR=7.0
GUD Guadarrama 5.20 36 ⇑P **Pn** 08 42 17.7 +1.3
GUD S **Sn** 08 43 16.7 +0.3
OUK Oukaimeden 5.31 177 *i* P **Pn** 08 42 07.0 -11
OUK *i* S **Sn** 08 42 59.0 -20
ELOB Lobios 5.34 1 Pn **Pn** 08 42 18.0 -0.3
comp=N,8.2nm,0.1s,SNR=40
ELOB Sn **Sn** 08 43 17.8 -2.0
comp=N,6.4nm,0.1s
ELOB Lobios 5.34 1 P **Pn** 08 42 18.0 -0.3
comp=N,8.2nm,0.1s,SNR=40
PBRG Braganca 5.40 12 *e*Pn **Pn** 08 42 19.3 +0.2
PBRG *e*Sn **Sn** 08 43 19.5 -1.7
PBRG
comp=N,11nm,0.2s
ZFT Errachidia 5.50 143 *i* P **Pn** 08 42 13.0 -7.5
ZFT *i* S **Sn** 08 43 09.0 -15
ECAL Calabor 5.53 11 Pn **Pn** 08 42 21.6 +0.7
comp=N,6.3nm,0.2s,SNR=12
ECAL Sn **Sn** 08 43 24.1 -0.5
comp=N,22nm,0.3s
ECAL Calabor 5.53 11 P **Pn** 08 42 21.6 +0.7
comp=N,6.3nm,0.2s,SNR=12
EZAM Zamans 5.63 356 Pn **Pn** 08 42 22.2 -0.1
comp=N,2.1nm,0.1s,SNR=5.5
EZAM Sn **Sn** 08 43 24.9 -2.1
comp=N,2.1nm,0.2s
ETOB Tobarra 5.70 66 Pn **Pn** 08 42 22.8 -0.4
comp=N,4.0nm,0.2s,SNR=38
ETOB Sn **Sn** 08 43 27.0 -1.7
comp=N,3.9nm,0.1s
ETOB Tobarra 5.70 66 P **Pn** 08 42 22.8 -0.4
comp=N,4.0nm,0.2s,SNR=38
EMUR La Murta 5.72 75 Pn **Pn** 08 42 23.0 -0.5
comp=N,0.2nm,0.1s,SNR=7.9
EMUR Sn **Sn** 08 43 26.8 -2.4
comp=N,7.4nm,0.3s,SNR=5.6
EMUR La Murta 5.72 75 P **Pn** 08 42 23.0 -0.5
comp=N,0.2nm,0.1s,SNR=7.9
ERUA La Rua 5.92 8 Pn **Pn** 08 42 26.3 +0.1
comp=N,2.8nm,0.1s,SNR=4.0
ERUA Sn **Sn** 08 43 32.7 -1.4
comp=N,3.7nm,0.2s,SNR=7.9
STS Santiago 6.36 358 Pn **Pn** 08 42 32.8 +0.5
comp=N,6.1nm,0.1s,SNR=4.0
STS Sn **Sn** 08 43 41.3 -3.7
comp=N,5.7nm,0.1s,SNR=4.0
EMAZ Mazaricos 6.45 355 Pn **Pn** 08 42 32.3 -1.1
comp=N,1.4nm,0.1s,SNR=15
EMAZ Sn **Sn** 08 43 43.3 -3.8
comp=N,2.7nm,0.1s
EMAZ Mazaricos 6.45 355 P **Pn** 08 42 32.3 -1.2
comp=N,1.4nm,0.1s,SNR=15
ETOR Torete 6.45 46 Pn **Pn** 08 42 34.8 +1.3
comp=N,2.7nm,0.2s,SNR=7.9
ETOR Sn **Sn** 08 43 44.2 -3.0
comp=N,6.1nm,0.3s,SNR=7.9
ECHE Chera 6.48 60 Pn **Pn** 08 42 34.5 +0.5
comp=N,0.6nm,0.1s,SNR=12
EBEN Beniarda 6.70 69 Pn **Pn** 08 42 36.2 -0.7
comp=N,0.2nm,0.1s,SNR=4.0
EBEN Sn **Sn** 08 43 50.5 -2.9
comp=N,1.0nm,0.1s,SNR=7.9
EBEN Beniarda 6.70 69 P **Pn** 08 42 36.2 -0.8
comp=N,0.2nm,0.1s,SNR=4.0
EPON Pontenova 6.84 7 Pn **Pn** 08 42 39.1 +0.1
comp=N,0.4nm,0.1s,SNR=4.0
EPON Sn **Sn** 08 43 54.5 -2.4
comp=N,0.8nm,0.2s,SNR=4.0
EPON Pontenova 6.84 7 P **Pn** 08 42 39.1 +0.1
comp=N,0.4nm,0.1s,SNR=4.0
EARI Arriondas 7.15 18 Sn **Sn** 08 44 03.5 -0.9
comp=N,0.5nm,0.2s,SNR=7.9
EMOS Mosqueruela 7.18 55 Pn **Pn** 08 42 45.2 +1.6
comp=N,0.6nm,0.1s,SNR=8.3
EMOS Sn **Sn** 08 44 04.7 -0.5
comp=N,1.2nm,0.2s
EMOS Mosqueruela 7.18 55 P **Pn** 08 42 45.2 +1.6
comp=N,0.6nm,0.1s,SNR=8.3
ELAN Lanestosa 7.64 27 Sn **Sn** 08 44 11.9 -4.6
comp=N,1.8nm,0.2s,SNR=7.9
ESAC San Caprasio 7.94 47 Sn **Sn** 08 44 23.1 -0.9
comp=N,3.5nm,0.1s,SNR=4.0
SJPF Ste Jean 8.49 37 *e*Pn **Pn** 08 43 02.6 +1.0
SJPF *e*Sn **Sn** 08 44 34.2 -3.3
comp=N,1.6nm,0.2s
SJPF Ste Jean 8.49 37 Pn **Pn** 08 43 02.6 +1.0
SJPF Sn **Sn** 08 44 34.2 -3.3
comp=N,0.8nm,0.2s
ETSF Etsaut 8.67 40 *e*Pn **Pn** 08 43 05.0 +0.9
ETSF *e*Sn **Sn** 08 44 38.8 -3.1
comp=N,1.3nm,0.2s
ETSF Etsaut 8.67 40 Pn **Pn** 08 43 05.0 +0.9
ETSF Sn **Sn** 08 44 38.8 -3.1
comp=N,0.6nm,0.2s
EPOB Poblet 8.69 53 Pn **Pn** 08 43 05.3 +1.0
comp=N,0.8nm,0.2s,SNR=7.9
EPOB Poblet 8.69 53 P **Pn** 08 43 05.3 +1.0
EBIE Bielsa 8.91 44 Pn **Pn** 08 43 09.0 +1.7
comp=N,0.9nm,0.1s,SNR=6.6
EBIE Sn **Sn** 08 44 44.8 -2.9
comp=N,2.3nm,0.3s,SNR=7.9
EBIE Bielsa 8.91 44 P **Pn** 08 43 09.0 +1.7
EPF Esparros 9.24 43 *e*Pn **Pn** 08 43 11.9 0.0
EPF *e*Sn **Sn** 08 44 52.3 -3.7
comp=N,3.5nm,0.3s
EPF Esparros 9.24 43 Pn **Pn** 08 43 11.9 0.0
EPF Sn **Sn** 08 44 52.3 -3.7
comp=N,1.8nm,0.3s
CAF Calviac 11.45 40 *e*Pn **Pn** 08 43 42.0 0.0
MFF Saint Martin d 11.73 28 *e*Pn **Pn** 08 43 45.3 -0.7
QUIF Quistinic 11.98 17 *e*Pn **Pn** 08 43 48.8 -0.5
ROSF Rostrenen 12.35 16 *e*Pn **Pn** 08 43 53.8 -0.6

NEIC 04 08:51:32.3,5197N×17482E,h68km,ML3.4(AEIC), After AEIC., Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.88**	**330**	P	Pn	08 51 48.5	-0.7
SMY				S	Sn	08 52 01.3	-0.4
AMKA	**Amchitka**	**2.85**	**100**	P	Pn	08 52 14.3	-1.0
AMKA				S	Sn	08 52 48.2	-0.4
ATKA	**Atka Island**	**6.78**	**84**	P	Pn	08 53 07.2	-1.8
SLKM	**Skilak Lake**	**20.99**	**52**	*e*P	P	08 56 01.4	-8.5
COLA	**College**	**23.00**	**41**	*e*P	P	08 56 29.3	-2.0

*ISCJB **04** 08:54:12.9±0.6,2393S×004×6666W×007,h202km±7km, mb3.8/11, Error ellipse: s-maj=10.4km s-min=5.9km az=8.5*
*NEIC **04** 08:54:13.5±0.6,2391S×6667W,h196km±6km,mb4.4/3, Error ellipse: s-maj=10.1km s-min=6.9km az=91.0*
*IDC **04** 08:54:13.9±0.8,2384S×6662W,h201km±8km,mb3.7/11, mb1 4.0/16,mb1mx3.9/21,mbtmp4.4/16, Error ellipse: s-maj=12.3km s-min=10.3km az=69.0*
*GUC **04** 08:54:15.0±0.9,2405S×6707W,h230km,ML5.0*
ISC 04 08:54:14.0±0.6,2396S±004×**6667W**±007,**h198**km±7km, **n39**,σ1°**10/47,mb3.8**/11,**4C-6D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.46**	**303**	P	Pn	08 54 59.1	+1.9
	122nm,0.3s,baz=126,slow=6.5,SNR=971						
LVC				S	Sn	08 55 31.7	+0.8
	85nm,0.3s,baz=262,slow=22,SNR=26						
CEN1	**Los Morros**	**3.28**	**279**	⇓*i*P	Pn	08 55 09.2	+2.3
CEN1				*i* S	Sn	08 55 49.4	+1.1
CEN1				AML	AML	08 55 50.3	
	comp=N,1μm,0.7s						
CPN1	**Cerro Paranal**	**3.47**	**258**	⇑*i*P	Pn	08 55 10.4	+1.3
CPN1				*i* S	Sn	08 55 52.0	-0.3
CPN1				AML	AML	08 55 54.3	
	comp=E,2μm,0.4s						
CRCH	**Chaqaral**	**4.29**	**236**	⇑*i*P	Pn	08 55 19.5	+0.2
CPCH	**Copiapo**	**4.74**	**224**	⇓*i*P	Pn	08 55 24.6	-0.4
CPCH				*i* S	Sn	08 56 19.3	-1.6
CDCH	**Caldera**	**4.87**	**230**	⇑*i*P	Pn	08 55 25.7	-1.0
CDCH				*i* S	Sn	08 56 20.4	-3.4
TLL	**Tololo Astrono**	**7.20**	**210**	*e*P	Pn	08 55 56.6	-0.1
TLL				*i* S	Sn	08 57 17.1	-1.1
CFAA	**Coronel Fontan**	**7.74**	**190**	P	Pn	08 56 03.7	-0.1
	comp=E,0.3nm,0.3s,baz=8.4,slow=12,SNR=94						
CFAA				S	Sn	08 57 26.1	-5.1
	comp=E,2.6nm,0.3s,baz=239,slow=17,SNR=29						
CFAA	**Coronel Fontan**	**7.74**	**190**	P	Pn	08 56 03.7	-0.1
CFAA				S	Sn	08 57 26.1	-5.1
LPAZ	**La Paz**	**7.75**	**350**	P	Pn	08 56 04.4	+0.4
	comp=E,4.3nm,0.3s,baz=162,slow=7.2,SNR=151						
LPAZ				S	Sn	08 57 27.7	-3.7
	baz=268,slow=22,SNR=3.7						
ARE	**Arequipa**	**8.72**	**328**	*e*P	Pn	08 56 14.0	-2.6
ARE				*i* S	Sn	08 57 47.4	-7.0
CPUP	**Villa Florida**	**8.79**	**108**	P	Pn	08 56 17.4	0.0
	comp=E,2.1nm,0.3s,baz=271,slow=11,SNR=71						
TRQA	**Tornquist**	**14.61**	**165**	*e*Pn	Pn	08 57 30.9	-0.5
	comp=E,10nm,0.6s						
SAML	**Samuel**	**15.29**	**13**	*e*P	Pn	08 57 38.7	-1.1
	comp=E,14nm,0.7s						
PLCA	**Paso Flores**	**17.04**	**190**	P	Pn	08 57 59.6	-1.1
	comp=E,0.3nm,0.3s,baz=11,slow=14,SNR=24						
PLCA	**Paso Flores**	**17.04**	**190**	*e*P	Pn	08 57 55.9	-4.8
PLCA				P		08 57 59.6	
BDFB	**Brasilia**	**19.39**	**68**	P	P	08 58 24.5	-0.4
	comp=E,5.7nm,0.3s,baz=246,slow=11,SNR=110						
USHA	**Ushuaia**	**30.86**	**182**	P	P	09 00 12.1	+0.5
	comp=E,5.4nm,0.7s,mb4.3,baz=346,slow=12,SNR=4.6						
VNA3	**Neumayer Olymp**	**57.09**	**161**	⇓*i*	P	09 03 40.9	+1.3
VNA3				*e*		09 03 41.4	
VNA3				*e*		09 03 45.7	
VNA1	**Neumayer--Stat**	**57.29**	**160**	⇓*i*	P	09 03 42.7	+1.8
VNA1				*e*		09 03 43.2	
VNA1				*e*		09 03 47.5	
VNA2	**Neumayer--Watz**	**57.66**	**160**	⇓*i*	P	09 03 44.8	+1.3
	baz=290,slow=7.7						
VNA2				*e*		09 03 45.3	
VNA2				*e*		09 03 49.6	
SNAA	**Sanae**	**59.29**	**161**	⇓*i*	P	09 03 45.2	-10
SNAA				*e*		09 03 45.7	
SNAA				*e*		09 03 50.1	
QSPA	**South Pole Qui**	**66.25**	**180**	*e*P	P	09 04 41.9	+1.2
DBIC	**Dimbokro**	**67.50**	**71**	P	P	09 04 47.5	-1.1
	comp=E,3.2nm,0.5s,mb4.2,baz=213,slow=7.6,SNR=13						
ANMO	**Albuquerque**	**69.68**	**326**	P	P	09 05 01.4	-0.7
	comp=E,0.6nm,0.6s,mb3.4,baz=156,slow=8.8,SNR=5.0						
SYO	**Syowa Base**	**73.48**	**159**	*e*P	P	09 05 25.3	+0.5
VNDA	**Vanda**	**74.79**	**190**	P	P	09 05 32.7	+0.4
	comp=E,1.0nm,0.8s,mb3.5,baz=138,slow=7.0,SNR=4.9						
VNDA	**Vanda**	**74.79**	**190**	P	P	09 05 32.7	+0.4
TORD	**Torodi Ar. Bea**	**76.27**	**69**	P	P	09 05 40.4	-0.4
	comp=E,7.7nm,0.7s,mb4.5,baz=256,slow=5.8,SNR=82						
PDAR	**Pinedale Array**	**77.27**	**329**	P	P	09 05 46.5	+0.2
	comp=E,0.7nm,0.6s,mb3.5,baz=114,slow=5.5,SNR=3.9						
ULM	**Lac du Bonnet**	**78.28**	**341**	P	P	09 05 50.8	-1.1
	comp=E,1.2nm,0.5s,mb3.8,baz=168,slow=9.4,SNR=4.5						
NVAR	**Mina Array Bea**	**78.69**	**321**	P	P	09 05 52.5	-1.7
	comp=E,0.3nm,0.5s,mb3.2,baz=162,slow=6.2,SNR=3.9						
MAW	**Mawson**	**81.39**	**163**	*e*P	P	09 06 09.4	+0.8
	comp=E,5.3nm,0.9s,mb4.2						
MAW	**Mawson**	**81.39**	**163**	P	P	09 06 09.3	+0.7
	comp=E,6.5nm,0.8s,mb4.3,baz=221,slow=7.1,SNR=13						
NEW	**Newport**	**84.91**	**329**	P	P	09 06 26.9	+0.4
	comp=E,1.4nm,0.7s,mb3.8,baz=54,slow=8.7,SNR=2.4						
NEW	**Newport**	**84.91**	**329**	P	P	09 06 26.9	+0.4
ESDC	**Sonseca Array**	**86.16**	**43**	P	P	09 06 32.9	+0.1
	comp=E,0.2nm,0.4s,mb3.2,baz=239,slow=2.8,SNR=4.7						
ASAR	**Alice Springs**	**128.62**	**204**	PKP	PKPdf	09 12 57.8	+0.4
	comp=E,2.4nm,0.8s,baz=145,slow=2.2,SNR=23						
WRA	**Warramunga Arr**	**131.80**	**207**	PKP	PKPdf	09 13 04.2	+0.8
	comp=E,1.3nm,0.6s,baz=155,slow=1.7,SNR=22						

*BJI **04** 08:56:28.3,5093N×12931W,h10km,mB5.1,mb4.7,Ms4.8, Msz4.3*
*PGC **04** 08:56:30.1,5066N×13047W,h10km,MLSn4.6/3,Mw5.2, 215km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia*
*IDC **04** 08:56:30.7±0.8,5077N×13031W,h0km,mb3.9/12, mb1 4.1/18,mb1mx4.1/24,mbtmp4.0/18,ML4.2/7,MS4.3/17, Ms1 4.3/17,ms1mx4.0/28, Error ellipse: s-maj=14.2km s-min=9.3km az=70.0*
*ISCJB **04** 08:56:31.2±0.2,5091N±002×13010W±003,h10km, mb4.5/36,MS4.3/17, Error ellipse: s-maj=3.3km s-min=1.8km az=114.4*
*HRVD **04** 08:56:32.7±0.3,5059N×13052W,h15km±1km,MW5.0/84, Centroid moment Tensor Solution. LP body waves: s26,c35;Mantle waves: s84,c153; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.76±.12; $M_{\theta\theta}$-2.51±.09; $M_{\phi\phi}$3.27±.12; $M_{r\theta}$0.21±.20; $M_{\theta\phi}$1.75±.09; $M_{\phi r}$-0.27±.19; Best double couple: $M_0$3.39900×10^{16} NP1:ϕ_s240.00000°,δ83.00000°,λ-3.00000°. NP2: ϕ_s331.00000°,δ87.00000°,λ-173.00000°. Principal axes: T 3.7670, Plg3.0000°, Azm105.0000°; N -0.7320, Plg83.0000°, Azm355.0000°; P -3.0320, Plg7.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 08:56:32.7±0.2,5095N×13013W,h10km,mb4.6/41, MW5.2(PGC) Error ellipse: s-maj=5.5km s-min=2.3km az=53.0*
*MOS **04** 08:56:32.8±0.9,5094N×13010W,h22km,mb4.8/18, Error ellipse: s-maj=11.4km s-min=4.9km az=119.3*
ISC 04 08:56:34.2±0.9,5096N±002×**13004W**±003,**h18**km±6km, **h17**km±1.8km**:pP-P,n394,**σ0°**99**/426,**mb4.5**/36,**MS4.3**/17, **73C-67D,Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.25**	**104**	⇑Pn	Pn	08 56 55.2	-1.6
HOLB				Sn	Sn	08 57 13.0	-0.2
	comp=Z,6μm,0.3s						
HOLB				Trac		08 57 13.9	
	comp=Z,6μm,0.3s						
HOLB	**Holberg**	**1.25**	**104**	⇑*i*Pn	Pn	08 56 55.2	-1.6
HOLB				*e*Sn	Sn	08 57 13.0	-0.2
BPBC	**Brooks Peninsu**	**1.66**	**118**	⇑Pn	Pn	08 56 59.1	-3.2
BPBC				Sn	Sn	08 57 19.0	-4.1
	comp=Z,4μm,0.2s						
BPBC				Trac		08 57 20.3	
	comp=Z,4μm,0.2s						
BPBC	**Brooks Peninsu**	**1.66**	**118**	⇑*i*Pn	Pn	08 56 59.1	-3.2
BPBC				Sn	Sn	08 57 19.0	-4.1
PHC	**Port Hardy**	**1.67**	**98**	⇑Pn	Pn	08 57 01.6	-1.0
PHC				Sn	Sn	08 57 23.9	+0.4
PHC				Trac		08 57 25.2	
	comp=Z,3μm,0.5s						
PHC	**Port Hardy**	**1.67**	**98**	⇑*i*Pn	Pn	08 57 01.6	-1.0
PHC				Sn	Sn	08 57 23.9	+0.4
BBB	**Bella Bella**	**1.71**	**44**	Pn	Pn	08 57 04.1	+1.0
	88nm,0.3s,baz=233,slow=13,SNR=787						
BBB				Sn	Sn	08 57 28.4	+3.9
	251nm,0.3s,baz=105,slow=16,SNR=12						
BBB				Lg		08 57 41.3	
	270nm,0.3s,baz=258,slow=3.0,SNR=7.1						
BBB				LR	LR	08 57 48.6	
	comp=Z,1μm,20.9s,baz=228,slow=40						
BBB	**Bella Bella**	**1.71**	**44**	⇓Pn	Pn	08 57 04.0	+0.9
BBB				Sn	Sn	08 57 27.6	+3.1
BBB				Trac		08 57 30.7	
	comp=Z,751nm,0.3s						
BBB	**Bella Bella**	**1.71**	**44**	Pn	Pn	08 57 04.0	+0.9
BBB				*e*Sn	Sn	08 57 27.6	+3.1
MAYB	**Maynard**	**1.91**	**106**	⇑Pn	Pn	08 57 04.3	-1.5
MAYB				Sn	Sn	08 57 28.2	-1.2
	comp=Z,1μm,0.2s						
MAYB				Trac		08 57 29.9	
	comp=Z,1μm,0.2s						
MAYB	**Maynard**	**1.91**	**106**	⇑*i*Pn	Pn	08 57 04.3	-1.5
MAYB				*e*Sn	Sn	08 57 28.2	-1.2
BNB	**Barry Inlet**	**1.93**	**327**	Pn	Pn	08 57 02.9	-3.2
BNB				Sn	Sn	08 57 27.1	-2.8
	comp=Z,30μm,0.4s						
BNB				Trac		08 57 31.6	
	comp=Z,30μm,0.4s						
BNB	**Barry Inlet**	**1.93**	**327**	Pn	Pn	08 57 02.9	-3.2
BNB				*e*Sn	Sn	08 57 27.1	-2.8
EDB	**Eliza Dome**	**2.16**	**119**	⇑Pn	Pn	08 57 05.8	-3.5
EDB				Sn	Sn	08 57 30.8	-4.9
EDB				Trac		08 57 34.4	
	comp=Z,439nm,0.3s						
EDB	**Eliza Dome**	**2.16**	**119**	Pn	Pn	08 57 05.8	-3.5
EDB				*e*Sn	Sn	08 57 30.8	-4.9
WOSB	**Woss**	**2.35**	**109**	⇑Pn	Pn	08 57 10.4	-1.5
WOSB				Trac		08 57 40.9	
	comp=Z,323nm,0.2s						
MOBC	**Moresby Island**	**2.51**	**334**	Pn	Pn	08 57 11.2	-2.9
MOBC				Sn	Sn	08 57 42.8	-1.5
MOBC				Trac		08 57 45.9	
	comp=Z,201nm,0.5s						
MOBC	**Moresby Island**	**2.51**	**334**	Pn	Pn	08 57 11.2	-2.9
MOBC				*e*Sn	Sn	08 57 42.8	-1.5
BNAB	**Bonilla**	**2.56**	**352**	⇓Pn	Pn	08 57 13.8	-0.9
NCRB	**Newcastle Ridg**	**2.60**	**101**	⇑Pn	Pn	08 57 14.2	-1.0
NCRB				Sn	Sn	08 57 47.0	+0.7
	comp=Z,572nm,0.4s						
NCRB				Trac		08 57 49.7	
	comp=Z,572nm,0.4s						
NCRB	**Newcastle Ridg**	**2.60**	**101**	Pn	Pn	08 57 14.2	-1.0
NCRB				*e*Sn	Sn	08 57 47.0	+0.7
ETB	**Estevan Point**	**2.76**	**124**	⇓Pn	Pn	08 57 14.2	-3.2
VIB	**Van Inlet**	**2.76**	**327**	Pn	Pn	08 57 14.3	-3.2
GDR	**Gold River**	**2.83**	**113**	⇑Pn	Pn	08 57 16.2	-2.2
CBB	**Campbell River**	**3.13**	**106**	⇑Pn	Pn	08 57 21.6	-1.0
CBB				Sn	Sn	08 57 59.2	-0.2
CBB				Trac		08 58 13.5	
	comp=Z,598nm,0.6s						
CBB	**Campbell River**	**3.13**	**106**	Pn	Pn	08 57 21.6	-1.0
CBB				*e*Sn	Sn	08 57 59.2	-0.2
BTB	**Buttle Lake**	**3.27**	**116**	⇑Pn	Pn	08 57 22.3	-2.1
BTB				Sn	Sn	08 57 59.2	-3.7
	comp=Z,474nm,0.3s						
BTB				Trac		08 58 04.7	
	comp=Z,474nm,0.3s						
BTB	**Buttle Lake**	**3.27**	**116**	⇑*i*Pn	Pn	08 57 22.3	-2.1
BTB				*e*Sn	Sn	08 57 59.2	-3.7
MASB	**Masset**	**3.29**	**339**	Pn	Pn	08 57 24.9	+0.1
MASB				Sn	Sn	08 58 03.7	+0.3
	comp=Z,2.0nm,0.2s						
MASB				Trac		08 58 07.2	
	comp=Z,2.0nm,0.2s						
MASB	**Masset**	**3.29**	**339**	*e*Pn	Pn	08 57 24.9	+0.1
MASB				*e*Sn	Sn	08 58 03.7	+0.3
RUBB	**Prince Rupert**	**3.37**	**358**	⇓Pn	Pn	08 57 25.9	0.0
NDB	**Naden**	**3.48**	**330**	Pn	Pn	08 57 25.2	-2.2
OZB	**Mount Ozzard**	**3.56**	**123**	Pn	Pn	08 57 25.0	-3.5
OZB				Sn	Sn	08 58 05.0	-5.0
OZB				Trac		08 58 08.6	
	comp=Z,69nm,0.1s						
OZB	**Mount Ozzard**	**3.56**	**123**	Pn	Pn	08 57 25.0	-3.5
OZB				*e*Sn	Sn	08 58 05.0	-5.0
ALB	**Alberni**	**3.76**	**115**	⇓Pn	Pn	08 57 29.2	-2.0
TXB	**Texada**	**3.81**	**107**	⇑Pn	Pn	08 57 30.8	-1.1
TXB				Sn	Sn	08 58 15.5	-0.7
	comp=Z,97nm,0.3s						
TXB				Trac		08 58 16.6	
	comp=Z,97nm,0.3s						
MGB	**Mount Grey**	**3.97**	**118**	⇑Pn	Pn	08 57 31.5	-2.6
MGB				Trac		08 58 19.1	
	comp=Z,149nm,0.4s						
SHB	**Sechelt**	**4.18**	**107**	⇑Pn	Pn	08 57 36.3	-0.8
SHB				Sn	Sn	08 58 24.9	-0.6
SHB				Trac		08 58 29.5	
	comp=Z,373nm,0.2s						
NLLB	**Nanaimo Lost L**	**4.27**	**112**	Pn	Pn	08 57 36.1	-2.1
NLLB				Sn	Sn	08 58 24.6	-2.9
NLLB				Trac		08 58 29.9	
	comp=Z,49nm,0.2s						
PFB	**Port Renfrew**	**4.35**	**121**	Pn	Pn	08 57 38.0	-1.3
WPB	**Watts Point**	**4.57**	**104**	⇑Pn	Pn	08 57 42.0	-0.3
WPB				Trac		08 59 11.5	
	comp=Z,515nm,1.1s						
BIB	**Bowen Island**	**4.60**	**107**	Pn	Pn	08 57 42.1	-0.7
BIB				Sg	Sg	08 58 56.2	-5.6
BIB				Trac		08 59 08.8	
	comp=Z,310nm,0.9s						
WSLR	**Whistler**	**4.62**	**98**	Pn	Pn	08 57 43.6	+0.6
WSLR				Sg	Sg	08 58 50.0	-12
WSLR				Trac		08 59 20.7	
	comp=Z,162nm,0.8s						
LZB	**Mount Lazard**	**4.67**	**118**	Pn	Pn	08 57 41.2	-2.4
C03A	**Quillayute Air**	**4.67**	**128**	P	Pn	08 57 42.6	-1.2
	baz=4.7,SNR=34						
GOBB	**Galiano Island**	**4.67**	**113**	Pn	Pn	08 57 42.7	-1.1
GOBB				Sn	Sn	08 58 34.1	-3.4
	comp=Z,58nm,0.2s						
GOBB				Trac		08 58 41.3	
	comp=Z,58nm,0.2s						
OTR	**Olympics--Tyee**	**4.70**	**126**	Pn	Pn	08 57 43.1	-1.0
PGC	**Sidney**	**4.86**	**116**	Pn	Pn	08 57 44.4	-1.9
PGC				Sn	Sn	08 58 37.3	-4.7
PGC				Trac		08 58 45.4	
	comp=Z,21nm,0.2s						
PGC	**Sidney**	**4.86**	**116**	*e*Pn	Pn	08 57 44.7	-1.6
OBC	**Olympics--Boni**	**4.87**	**125**	Pn	Pn	08 57 45.3	-1.1
CRAG	**Craig**	**4.88**	**339**	*e*Pn	Pn	08 57 45.1	-1.5
FSB	**Fort Saint Jam**	**4.94**	**42**	Pn	Pn	08 57 50.3	+2.8
FSB				Sn	Sn	08 58 50.2	+6.0
	comp=Z,45nm,0.3s						
FSB				Trac		08 58 51.4	
	comp=Z,45nm,0.3s						
SNB	**Saturna Island**	**4.95**	**114**	Pn	Pn	08 57 47.3	-0.4
SNB				Sn	Sn	08 58 43.4	-1.1
SNB				Trac		08 58 47.2	
	comp=Z,15nm,0.3s						
OCWA	**Octopus Mounta**	**5.00**	**128**	*e*

D03A **Wishkah Elem.** 5.64 131 ⇑P Pn 08 57 55.6 -1.4
baz=5.6,SNR=36
C04A **Brinnon** 5.65 122 ⇑P Pn 08 57 56.4 -0.7
baz=5.7
HDW **Hoodsport** 5.65 123 Pn Pn 08 57 56.0 -1.1
MBW **Mount Baker** 5.70 109 Pn Pn 08 57 58.4 +0.5
CMW **Cultus Mountai** 5.74 113 Pn Pn 08 57 58.1 -0.3
HOPB **Hope** 5.76 103 Pn Pn 08 57 58.8 +0.1
HOPB Sn Sn 08 59 02.5 -1.8
HOPB Trac 08 59 08.0
comp=Z,38nm,0.3s
B05A **Bryant** 5.83 115 ⇑P Pn 08 57 59.3 -0.4
baz=5.9
JCW **Jim Creek** 5.96 115 Pn Pn 08 58 00.8 -0.7
RPW **Rockport** 6.08 111 Pn Pn 08 58 03.4 +0.3
D04A **Dobbs Creek Ra** 6.13 126 ⇓P Pn 08 58 03.4 -0.4
baz=6.2
E03A **Lebam** 6.15 133 ⇑P Pn 08 58 02.7 -1.4
baz=6.1,SNR=8.1
C05A **Tolt Reservoir** 6.37 118 ⇑P Pn 08 58 07.2 +0.2
baz=6.5
D05A **Enumclaw** 6.50 122 ⇑P Pn 08 58 08.9 +0.1
baz=6.6,SNR=22
E04A **Onalaska** 6.52 129 ⇑P Pn 08 58 08.9 -0.3
baz=6.5
F03A **Seaside** 6.63 137 ⇓P Pn 08 58 09.6 -1.1
baz=6.6
SIT **Sitka** 6.85 335 *e*P Pn 08 58 13.0 -0.7
SIT pmax pmax
comp=Z,21nm,0.7s
SIT **Sitka** 6.85 335 *e*Pn Pn 08 58 13.0 -0.7
comp=Z,21nm,0.7s
PNT **Penticton** 6.90 100 Pn Pn 08 58 15.3 +0.9
PNT Trac 09 00 27.0
comp=Z,84nm,1.0s
BMBC **Bull Mountain** 6.94 40 Pn Pn 08 58 18.1 +3.3
BMBC Sn Sn 08 59 38.5 +5.2
BMBC Trac 08 59 43.8
comp=Z,171nm,0.6s
E05A **Randle** 7.03 126 ⇑P Pn 08 58 15.8 -0.3
baz=7.1,SNR=44
F04A **Amboy** 7.14 132 ⇑P Pn 08 58 16.8 -1.0
baz=7.1,SNR=14
DOWB **Downie Slide** 7.26 81 Pn Pn 08 58 20.7 +1.4
DOWB Sg Sn 09 00 20.3 +39
DOWB Trac 09 00 56.1
comp=Z,699nm,0.9s
DLBC **Dease Lake** 7.49 0 Pn Pn 08 58 25.1 +2.6
comp=Z,1.5nm,0.3s,baz=188,slow=12,SNR=23
DLBC Sn Sn 08 59 52.5 +5.6
comp=Z,0.8nm,0.3s,baz=206,slow=18,SNR=2.1
DLBC Lg 09 00 33.3
comp=Z,0.6nm,0.3s,baz=322,slow=12,SNR=4.3
DLBC LR LR 09 01 17.4
comp=Z,3μm,21.0s,baz=187,slow=37
DLBC **Dease Lake** 7.49 0 Pn Pn 08 58 25.3 +2.8
DLBC Trac 09 00 42.0
comp=Z,26nm,0.8s
DLBC **Dease Lake** 7.49 0 *e*Pn Pn 08 58 25.1 +2.6
SLEB **Sale Mountain** 7.51 84 Pn Pn 08 58 26.9 +4.2
SLEB Trac 09 00 49.5
comp=Z,103nm,1.3s
F05A **White Salmon** 7.64 128 ⇑P Pn 08 58 24.4 -0.2
baz=7.7
H03A **Soap Creek Ran** 7.75 142 ⇑P Pn 08 58 26.3 +0.2
baz=7.7
COR **Corvallis** 7.83 142 *e*P Pn 08 58 26.5 -0.6
COR pmax pmax
comp=Z,87nm,1.1s
COR **Corvallis** 7.83 142 *e*Pn Pn 08 58 26.5 -0.6
comp=Z,86nm,1.1s
G05A **Wamic** 8.17 131 ⇑P Pn 08 58 31.8 -0.1
baz=8.2
H04A **Detroit Lake** 8.21 137 ⇓P Pn 08 58 31.8 -0.5
baz=8.2,SNR=9.1
HAWA **Hanford** 8.32 119 *e*Pn Pn 08 58 33.2 -0.7
comp=Z,1.6nm,0.4s
I03A **Eugene** 8.36 144 ⇓P Pn 08 58 35.1 +0.7
baz=8.3
J02A **Umpqua** 8.78 147 ⇓P Pn 08 58 39.9 -0.2
baz=8.7
NEW **Newport** 8.81 103 Pn Pn 08 58 40.4 -0.3
comp=Z,3.1nm,0.3s,baz=290,slow=12,SNR=33
NEW Lg 09 01 04.4
comp=Z,0.1nm,0.3s,baz=347,slow=9.6,SNR=3.5
NEW LR LR 09 02 05.1
comp=Z,5μm,18.6s,baz=317,slow=37
NEW **Newport** 8.81 103 *e*P Pn 08 58 40.4 -0.2
NEW pmax pmax
comp=Z,13nm,0.6s
NEW **Newport** 8.81 103 *e*Pn Pn 08 58 40.4 -0.2
comp=Z,13nm,0.6s
FNBB **Fort Nelson** 8.91 24 Pn Pn 08 58 45.4 +3.4
FNBB Trac 09 01 56.5
comp=Z,27nm,0.8s
J03A **Ideyld Park** 8.99 145 ⇓P Pn 08 58 39.6 -3.5
baz=8.9
I05A **Bend** 9.02 136 ⇑P Pn 08 58 43.6 +0.1
baz=9.0
SKAG **Skagway** 9.03 343 *e*Pn Pn 08 58 43.6 -0.1
PLBC **Pleasant Camp** 9.24 339 Pn Pn 08 58 46.4 -0.1
K02A **Glendale** 9.34 149 ⇓P Pn 08 58 47.2 -0.7
baz=9.2
HUMO **Hull Mountain** 9.66 147 *e*Pn Pn 08 58 51.3 -1.0
comp=Z,60nm,1.2s
HUMO **Hull Mountain** 9.66 147 ⇓P Pn 08 58 52.6 +0.3
baz=9.6
I06A **Prineville** 9.68 133 ⇑P Pn 08 58 52.3 -0.1
baz=9.7
L02A **Cave Junction** 9.86 151 ⇑P Pn 08 58 55.5 +0.5
baz=9.7
M01C **Crescent City** 9.99 154 ⇑P Pn 08 58 57.4 +0.6
baz=9.8
WHY **Whitehorse** 10.09 346 Pn Pn 08 58 58.9 +0.8
K04A **Chilquin** 10.11 143 ⇓P Pn 08 58 58.6 +0.2
baz=10.0
J06A **Christmas Vall** 10.24 135 ⇓P Pn 08 59 00.4 +0.2
baz=10
L04A **Klamath Falls** 10.43 144 ⇓P Pn 08 59 03.1 +0.4
baz=10
EDM **Edmonton** 10.52 71 P Pn 08 59 08.9 +4.9
EDM Trac 09 02 20.8
comp=Z,11nm,0.7s
EDM **Edmonton** 10.52 71 *e*Pn Pn 08 59 05.9 +1.9
YBH **Yreka Blue Hor** 10.53 148 Pn Pn 08 59 04.3 +0.2
comp=Z,0.2nm,0.3s,baz=334,slow=10,SNR=14
YBH LR LR 09 02 29.9
comp=Z,996nm,21.4s,baz=330,slow=34
YBH **Yreka Blue Hor** 10.53 148 *e*P Pn 08 59 03.7 -0.4
YBH pmax pmax
comp=Z,38nm,1.1s
YBH **Yreka Blue Hor** 10.53 148 *e*Pn Pn 08 59 03.7 -0.4
comp=Z,38nm,1.1s
YBH **Yreka Blue Hor** 10.53 148 ⇑P Pn 08 59 04.6 +0.5
baz=10
K06A **Valley Falls** 10.56 137 ⇑P Pn 08 59 05.1 +0.6
baz=10
WALA **Waterton Lakes** 10.56 94 P Pn 08 59 08.2 +3.6
WALA S Sn 09 02 05.4 +63
WALA Trac 09 02 22.9
comp=Z,29nm,1.1s
WALA **Waterton Lakes** 10.56 94 *e*Pn Pn 08 59 06.2 +1.6
comp=Z,19nm,0.8s
HYT **Haines Junctio** 10.73 340 P Pn 08 59 06.8 0.0
M04C **Macdoel** 10.79 145 ⇓P Pn 08 59 08.2 +0.5
baz=11
M02C **Callahan** 10.79 150 ⇑P Pn 08 59 08.9 +1.2
baz=11
JCC **Jacoby Creek** 10.97 155 ⇑P Pn 08 59 10.6 +0.3
baz=11
KHMM **Horse Mountain** 11.00 154 *e*Pn Pn 08 59 10.2 -0.5
M03C **McCloud** 11.14 147 ⇓P Pn 08 59 12.3 -0.1
baz=11
N02C **Big Bar** 11.17 153 ⇓P Pn 08 59 13.2 +0.3
baz=11
MOD **Modoc** 11.27 140 *e*Pn Pn 08 59 13.6 -0.7
comp=Z,26nm,1.2s
MSO **Missoula** 11.37 105 *e*Pn Pn 08 59 15.8 +0.1
comp=Z,23nm,1.0s
M05C **Lookout** 11.40 144 ⇑P Pn 08 59 16.5 +0.4
baz=11
WVOR **Wild Horse Val** 11.57 133 *e*P Pn 08 59 18.0 -0.4
WVOR pmax pmax
comp=Z,20nm,1.0s
WVOR **Wild Horse Val** 11.57 133 *e*Pn Pn 08 59 18.0 -0.4
comp=Z,20nm,1.0s
WDC **Whiskeytown Da** 11.62 150 *e*P Pn 08 59 19.4 +0.3
WDC pmax pmax
comp=Z,61nm,1.4s
WDC **Whiskeytown Da** 11.62 150 *e*Pn Pn 08 59 19.4 +0.2
comp=Z,61nm,1.4s
WDC **Whiskeytown Da** 11.62 150 ⇑P Pn 08 59 19.6 +0.5
baz=12
O01C **Eel River Cons** 11.66 156 ⇓P Pn 08 59 20.0 +0.4
baz=12
CHMT **Chamberlain Mo** 11.76 104 *e*Pn Pn 08 59 21.3 +0.3
HATC **Hat Creek Radi** 11.77 146 ⇓P Pn 08 59 22.0 +0.9
baz=12
M06C **Likely Place G** 11.80 142 ⇑P Pn 08 59 22.6 +1.1
baz=12
O02C **Red Bluff** 11.91 152 ⇓P Pn 08 59 24.1 +1.0
baz=12
KIPM **Iron Peak** 12.06 155 *e*Pn Pn 08 59 26.5 +1.4
M07A **Soldier Meadow** 12.17 138 ⇑P Pn 08 59 27.1 +0.5
baz=12
ELFS **Eagle Lake Fie** 12.20 144 ⇓P Pn 08 59 27.9 +0.9
baz=12
O04C **Chester** 12.34 146 ⇓P Pn 08 59 29.8 +0.9
baz=12
L09A **Wilkinson Ranc** 12.34 132 ⇓P Pn 08 59 29.8 +0.8
baz=12
P01C **Double 8 Ranch** 12.42 155 ⇓P Pn 08 59 30.1 +0.1
baz=12
GASB **Alder Springs** 12.42 153 ⇓P Pn 08 59 30.9 +0.9
baz=12
M08A **Happy Creek Ra** 12.47 135 ⇓P Pn 08 59 31.2 +0.5
baz=12
O05C **Quincy** 12.72 146 ⇓P Pn 08 59 34.7 +0.7
baz=13
HRY **Holter Researc** 12.72 102 *e*Pn Pn 08 59 34.7 +0.6
ORV **Oroville** 12.89 149 ⇓P Pn 08 59 36.0 -0.3
baz=13
DLMT **Dillon** 12.91 109 *e*Pn Pn 08 59 36.6 -0.1
comp=Z,27nm,0.9s
HLID **Hailey** 12.92 119 *e*Pn Pn 08 59 37.9 +1.0
comp=Z,31nm,1.3s
HOPS **Hopland** 12.94 155 *e*Pn Pn 08 59 37.2 +0.2
comp=Z,242nm,1.7s
HOPS **Hopland** 12.94 155 ⇓P Pn 08 59 38.2 +1.1
baz=13
O06A **Flanigan** 12.94 143 ⇓P Pn 08 59 38.2 +1.0
baz=13
MCMT **McKenzie Canyo** 13.05 111 *e*Pn Pn 08 59 38.7 0.0
OHCM **Honcut** 13.09 149 *e*Pn Pn 08 59 39.0 -0.2
SUTB **Sutter Buttes** 13.09 151 ⇓P Pn 08 59 37.2 -2.0
baz=13
N08A **GE Springer Mi** 13.12 136 ⇓P Pn 08 59 40.3 +0.7
baz=13
MNRC **McLaughlin Nat** 13.22 153 ⇑P Pn 08 59 40.7 -0.2
baz=13
M10A **I.L. Ranch, Tu** 13.27 130 ⇑P Pn 08 59 42.3 +0.8
baz=13
O07A **Toulon** 13.32 140 ⇑P Pn 08 59 43.4 +1.1
baz=13
N09A **Rock Creek Ran** 13.33 135 ⇓P Pn 08 59 43.1 +0.6
baz=13
P06A **Stead Airport,** 13.33 144 ⇓P Pn 08 59 43.3 +0.8
baz=13
BOZ **Bozeman (W)** 13.35 106 *e*P Pn 08 59 43.5 +0.8
BOZ pmax pmax
comp=Z,39nm,1.4s
BOZ **Bozeman (W)** 13.35 106 *e*Pn Pn 08 59 43.5 +0.8
comp=Z,39nm,1.4s
P05C **Yuba Gap, Truc** 13.41 147 ⇑P Pn 08 59 43.9 +0.3
baz=13
EGMT **Eagleton** 13.51 95 *e*Pn Pn 08 59 45.8 +1.0
comp=Z,147nm,1.4s
NSHM **Saint Helena R** 13.51 154 *e*Pn Pn 08 59 44.0 -0.9
PAHR **Pah Rah Range** 13.51 142 *e*Pn Pn 08 59 45.0 +0.1
comp=Z,50nm,1.4s
Q03C **Winters** 13.57 152 ⇓P Pn 08 59 45.8 +0.1
baz=13
Q04C **Lincoln** 13.57 150 ⇑P Pn 08 59 44.7 -1.1
baz=13
M11A **Holland Ranch,** 13.70 129 ⇑P Pn 08 59 48.0 +0.6
baz=14
CVS **Carmenet Viney** 13.71 154 ⇓P Pn 08 59 46.9 -0.7
baz=14
WCN **Washoe City** 13.72 144 ⇓P Pn 08 59 48.1 +0.4
baz=14
BMN **Battle Mountai** 13.80 135 *e*P Pn 08 59 49.1 +0.2
BMN pmax pmax
comp=Z,50nm,1.6s
BMN **Battle Mountai** 13.80 135 *e*Pn Pn 08 59 49.1 +0.2
comp=Z,50nm,1.6s
P07A **Fallon** 13.84 141 ⇑P Pn 08 59 49.1 -0.3
baz=14
LAVA **Lava Cap Winer** 13.86 148 ⇓P Pn 08 59 48.5 -1.2
baz=14
QLMT **Earthquake Lak** 13.89 109 *e*Pn Pn 08 59 50.6 +0.4
N10A **Dunphy** 13.90 132 ⇑P Pn 08 59 50.0 -0.2
baz=14
O09A **Fish Creek Ran** 14.03 135 ⇓P Pn 08 59 52.3 +0.3
baz=14
DAWY **Dawson** 14.04 343 P Pn 08 59 55.6 +3.5
DAWY **Dawson** 14.04 343 *e*Pn Pn 08 59 52.3 +0.2
P08A **Dixie Valley** 14.04 139 ⇑P Pn 08 59 52.7 +0.5
baz=14
R05C **Kirkwood Meado** 14.13 146 ⇑P Pn 08 59 53.6 +0.2
baz=14
FARB **Farallon Islan** 14.18 157 ⇓P Pn 08 59 55.0 +1.0
baz=14
N11A **Elko Archery C** 14.19 130 ⇑P Pn 08 59 54.3 +0.1
baz=14
BDM **Black Diamond** 14.24 153 ⇓P Pn 08 59 55.1 +0.2
baz=14
R04C **Big Horse Ranc** 14.24 150 ⇓P Pn 08 59 55.0 0.0
baz=14
YMR **Madison River** 14.26 109 *e*Pn Pn 08 59 55.9 +0.7
comp=Z,58nm,1.1s
YKA **Yellowknife Ar** 14.27 30 Pn Pn 08 59 55.6 +0.3
baz=217,slow=12,SNR=9.8
YKA Sn Sn 09 02 29.2 -3.9
baz=222,slow=23,SNR=4.5
YKA Lg 09 03 55.1
baz=218,slow=27,SNR=3.0
YKA LR LR 09 05 51.9
comp=Z,1μm,21.1s,baz=120,slow=39
YKA **Yellowknife Ar** 14.27 30 P Pn 08 59 55.6 +0.3
YKA 09 02 29.3
YKW3 **Yellowknife Ar** 14.32 30 P Pn 08 59 56.6 +0.6
YKW3 P 08 59 56.6
YKW3 S 09 04 13.1
YKW3 Trac 09 04 47.0
comp=Z,77nm,1.6s
Q07A **Schurz** 14.39 142 ⇑P Pn 08 59 57.2 +0.3
baz=14
GCMT **Greycliff** 14.48 103 *e*Pn Pn 08 59 58.4 +0.3
ELK **Elko** 14.49 129 *e*P Pn 08 59 58.4 +0.1
ELK pmax pmax
comp=Z,74nm,1.9s
ELK **Elko** 14.49 129 *e*Pn Pn 08 59 58.4 +0.1
comp=Z,74nm,1.9s
N12A **Wells–Clov Va** 14.51 128 ⇑P Pn 08 59 58.2 -0.3
baz=14
R06C **Coleville** 14.52 145 ⇓P Pn 08 59 59.1 +0.5
baz=14
P09A **Austin** 14.56 137 ⇑P Pn 08 59 59.4 +0.2
baz=14
M13A **Montello** 14.57 125 ⇓P Pn 08 59 59.5 +0.1
baz=15
CMB **Columbia Colle** 14.63 148 *e*P Pn 08 59 59.8 -0.4
CMB pmax pmax
comp=Z,16nm,1.2s
CMB **Columbia Colle** 14.63 148 *e*Pn Pn 08 59 59.8 -0.4
comp=Z,16nm,1.2s
CMB **Columbia Colle** 14.63 148 ⇓P Pn 09 00 01.1 +1.0
baz=14
LKWY **Lake** 14.66 108 *e*P Pn 09 00 00.8 +0.3
LKWY pmax pmax
comp=Z,58nm,1.4s
LKWY **Lake** 14.66 108 *e*Pn Pn 09 00 00.8 +0.3
comp=Z,58nm,1.4s
IMW **Indian Meadow** 14.71 111 *e*Pn Pn 09 00 02.5 +1.3
comp=Z,45nm,1.0s
DCID1 **Drake Creek** 14.74 113 *e*Pn Pn 09 00 02.9 +1.2
KDAK **Kodiak Island** 14.76 306 Pn Pn 09 00 02.5 +0.6
comp=Z,0.2nm,0.3s,baz=112,slow=5.4,SNR=4.2
KDAK LR LR 09 04 16.1
comp=Z,2μm,20.4s,baz=129,slow=32
Q08A **Gabbs** 14.81 140 ⇑P Pn 09 00 02.9 +0.3
baz=15
S04C **Ingram Canyon,** 14.82 152 ⇓P Pn 09 00 03.5 +0.7
baz=15
MOOW **Moose Ponds** 14.91 111 *e*Pn Pn 09 00 04.8 +0.8
comp=Z,72nm,1.1s
N13A **West Wendover** 14.93 127 ⇓P Pn 09 00 04.1 -0.1
baz=15
BNLO **Ben Lomond** 14.93 155 ⇓P Pn 09 00 05.6 +1.3
baz=15
TPAW **Teton Pass** 14.94 113 *e*P Pn 09 00 06.0 +1.6
comp=Z,52nm,0.7s
S06C **San Francisco** 14.95 147 ⇑P Pn 09 00 03.2 -1.3
baz=15
PMR **Palmer** 14.96 323 *e*P Pn 09 00 04.5 -0.1
HVU **Hansel Valley** 15.02 121 *e*P Pn 09 00 06.7 +1.3
HVU pmax pmax
comp=Z,35nm,1.4s
HVU **Hansel Valley** 15.02 121 *e*P Pn 09 00 06.7 +1.3
comp=Z,35nm,1.4s
NVAR **Mina Array Bea** 15.03 142 Pn Pn 09 00 07.1 +1.5
comp=Z,0.1nm,0.3s,baz=42,slow=31,SNR=7.4
R07C **Lee Vining** 15.05 145 ⇑P Pn 09 00 05.0 -0.8
baz=15
LOHW **Long Hollow** 15.07 112 *e*P Pn 09 00 07.4 +1.2
comp=Z,79nm,1.3s
REDW **Red Top Meadow** 15.08 113 *e*P Pn 09 00 07.2 +1.0
comp=Z,131nm,1.3s
MNV **Mina** 15.09 142 *e*P Pn 09 00 06.8 +0.4
MNV pmax pmax
comp=Z,33nm,1.4s
MNV **Mina** 15.09 142 *e*P Pn 09 00 06.8 +0.4
comp=Z,33nm,1.4s
O12A **Currie** 15.09 129 ⇑P Pn 09 00 05.0 -1.4
baz=15
Q09A **Carvers** 15.14 138 ⇑P Pn 09 00 06.7 -0.4
baz=15
R08A **Mina** 15.18 142 ⇑P Pn 09 00 06.9 -0.6
baz=15
S05C **Merced** 15.27 149 ⇑P Pn 09 00 07.3 -1.5
baz=15
AHID **Auburn Hatcher** 15.30 115 *e*P Pn 09 00 10.2 +1.1
comp=Z,26nm,1.0s
SAO **San Andreas Ge** 15.47 153 *e*P Pn 09 00 11.0 -0.4
SAO pmax pmax
comp=Z,49nm,1.4s
SAO **San Andreas Ge** 15.47 153 *e*P Pn 09 00 11.0 -0.4
comp=Z,49nm,1.4s
BGU **Big Grassy Mou** 15.48 124 *e*P Pn 09 00 12.2 +0.7
SPUT **South Promonto** 15.52 122 *e*P Pn 09 00 12.5 +0.5
MLAC **Mammoth Lakes** 15.53 145 ⇓P Pn 09 00 12.0 -0.2
baz=15
P12A **McGill** 15.64 131 ⇑P Pn 09 00 12.3 -1.3
baz=16
TPH **Tonopah** 15.77 140 *e*P Pn 09 00 16.2 +1.0
TPH pmax pmax
comp=Z,56nm,1.3s
TPH **Tonopah** 15.77 140 *e*P Pn 09 00 16.2 +0.9
comp=Z,56nm,1.3s
MTUM **Tungsten Hills** 15.88 145 *e*P Pn 09 00 18.1 +1.5
S08C **White Mtn Res** 15.89 143 ⇓P Pn 09 00 18.0 +1.1
baz=16
S09A **Goldfield** 16.07 141 ⇑P Pn 09 00 18.9 -0.3
baz=16
DUG **Dugway** 16.13 125 *e*P Pn 09 00 20.3 +0.4
DUG pmax pmax
comp=Z,26nm,1.0s
DUG **Dugway** 16.13 125 *e*P Pn 09 00 20.3 +0.4
comp=Z,26nm,1.0s
NOQ **North Oquirrh** 16.16 123 *e*P Pn 09 00 21.4 +1.1
comp=Z,29nm,0.8s
BW06 **Boulder Array** 16.19 112 *e*P Pn 09 00 23.2 +2.5
comp=Z,92nm,1.4s
PDAR **Pinedale Array** 16.19 112 Pn Pn 09 00 22.3 +1.6
comp=Z,0.3nm,0.3s,baz=316,slow=10,SNR=159
PDAR LR LR 09 06 32.3
comp=Z,903nm,21.8s,baz=330,slow=37
TCUT **Toone Canyon** 16.21 120 *e*P Pn 09 00 22.2 +1.2
V03C **Hunter Liggett** 16.23 154 ⇑P Pn 09 00 22.8 +1.6
baz=16
LAO **LASA Array** 16.23 96 *e*P Pn 09 00 22.0 +0.8
comp=Z,156nm,1.4s
TIN **Tinemaha** 16.27 144 ⇓P Pn 09 00 21.5 -0.2
baz=16
HELL **Mitchell Peak** 16.32 147 ⇓P Pn 09 00 21.6 -0.7
baz=16
NLU **North Lily Min** 16.69 124 *e*P Pn 09 00 27.8 +0.8
COLA **College** 16.75 333 *e*P Pn 09 00 26.0 -1.8
COLA pmax pmax
comp=Z,63nm,1.0s
COLA **College** 16.75 333 *e*P Pn 09 00 25.9 -1.9
comp=Z,63nm,1.0s
DAU **Daniels Canyon** 16.79 122 *e*P Pn 09 00 28.7 +0.4
PTRM **Twissleman Ran** 16.87 151 *e*P Pn 09 00 28.3 -1.0
MPU **Maple Canyon** 16.87 123 *e*P Pn 09 00 29.8 +0.5
comp=Z,13nm,1.1s
TPNV **Topopah Spring** 17.13 140 *e*P Pn 09 00 33.1 +0.5
TPNV pmax pmax
comp=Z,138nm,1.7s
TPNV **Topopah Spring** 17.13 140 *e*P Pn 09 00 33.1 +0.5
comp=Z,138nm,1.7s
DAC **Darwin (Calif)** 17.19 144 *e*P Pn 09 00 33.8 +0.5
DAC pmax pmax
comp=Z,82nm,1.7s
DAC **Darwin (Calif)** 17.19 144 *e*P Pn 09 00 33.8 +0.4
comp=Z,82nm,1.7s
FFC **Flin Flon** 17.31 67 *e*P Pn 09 00 34.8 0.0
FFC pmax pmax
comp=Z,21nm,0.6s
FFC **Flin Flon** 17.31 67 *e*P Pn 09 00 34.8 0.0
comp=Z,21nm,0.6s
FFC *e* 09 00 44.6
SVW2 **Sparrevohn** 17.39 316 *e*P Pn 09 00 34.1 -1.7
ISA **Isabella** 17.42 147 ⇑P Pn 09 00 38.0 +1.8
baz=17
INK **Inuvik** 17.48 356 P Pn 09 00 38.1 +1.2
comp=Z,0.1nm,0.3s,baz=147,slow=9.0,SNR=8.4
INK LR LR 09 08 06.3
comp=Z,636nm,19.8s,baz=178,slow=39
INK **Inuvik** 17.48 356 P Pn 09 00 40.5 +3.5
INK **Inuvik** 17.48 356 *e*P Pn 09 00 36.8 -0.2
INK pmax pmax
comp=Z,9.0nm,1.0s
INK **Inuvik** 17.48 356 *e*P Pn 09 00 36.8 -0.2
comp=Z,9.3nm,1.0s
TMUT **Trail Mountain** 17.62 124 *e*P Pn 09 00 39.6 +0.9
ARUT **Antelope Range** 17.67 132 *e*P Pn 09 00 39.4 +0.1
MSU **Marysvale** 17.72 128 *e*P Pn 09 00 40.4 +0.5
CCUT **Cedar City** 17.90 132 *e*P Pn 09 00 41.9 -0.2
CCUT *e*PcP PcP 09 05 37.3 +19
SRU **San Rafael** 18.12 123 *e*P Pn 09 00 45.6 +0.8
SRU pmax pmax
comp=Z,17nm,0.9s
SRU **San Rafael** 18.12 123 *e*P Pn 09 00 45.6 +0.8
comp=Z,17nm,0.9s
SRU *e*PcP PcP 09 05 34.2 +16
SBC **Santa Barbara** 18.14 152 ⇓P Pn 09 00 44.0 -1.1
baz=18
RWWY **Rawlins** 18.23 112 *e*P Pn 09 00 46.3 +0.1
comp=Z,47nm,1.2s
RWWY *e*PcP PcP 09 05 36.7 +18
GSC **Goldstone** 18.35 143 ⇑P Pn 09 00 47.1 -0.5
baz=18
TUQ **Turquoise Mtn.** 18.57 141 ⇓P Pn 09 00 49.8 -0.6
baz=18
W12A **Cal Nev Ari** 19.11 139 ⇓P Pn 09 00 56.7 -0.2
baz=19
PV10 **Paradox Valley** 19.45 122 *e*P Pn 09 01 01.2 +0.3
PHWY **Pilot Hill** 19.50 110 *e*P Pn 09 01 00.9 -0.7
PV01 **Paradox Valley** 19.88 122 *e*P Pn 09 01 04.8 -1.2
W14A **Seligman** 19.96 136 ⇓P Pn 09 01 05.8 -1.1
baz=20
PFO **Pinyon Flat Ob** 19.99 145 *e*P Pn 09 01 05.7 -1.6
PFO pmax pmax
comp=Z,41nm,1.4s
PFO **Pinyon Flat Ob** 19.99 145 *e*P Pn 09 01 05.7 -1.7
comp=Z,41nm,1.4s
PFO **Pinyon Flat Ob** 19.99 145 ⇓P Pn 09 01 05.1 -2.2
baz=20
SMCO **Snowmass** 20.01 117 *e*P P 09 01 06.9 +1.1
comp=Z,56nm,1.3s
SMCO *e*PcP PcP 09 05 25.0 +3.5
X13A **Yucca** 20.16 138 ⇑P P 09 01 07.9 +0.5
baz=20
BC3 **Big Chuckw Mtn** 20.32 143 ⇓P P 09 01 09.3 +0.1
baz=20
W15A **Williams** 20.35 134 ⇓P P 09 01 09.6 +0.1
baz=20
ISCO **Idaho Springs** 20.37 114 *e*P P 09 01 11.0 +1.3
ISCO *e* 09 05 23.4

ISCO pmax pmax
comp=Z,36nm,1.4s
ISCO Idaho Springs 20.37 114 *e*P **P 09 01 11.0 +1.2**
comp=Z,36nm,1.4s
ISCO *e*PcP PcP 09 05 23.4 +1.3
109C Camp Elliot, M 20.41 147 ⇑P **P 09 01 09.9 -0.2**
baz=20
MVCO Mesa Verde 20.60 124 *e*P **P 09 01 12.6 +0.4**
Y12C Blythe 20.60 141 ⇓P **P 09 01 12.6 +0.3**
baz=20
X14A Yava 20.66 136 ⇑P **P 09 01 13.5 +0.5**
baz=21
Y13A Salome 20.83 139 ⇓P **P 09 01 15.0 +0.3**
baz=21
X15A Humboldt 20.93 135 ⇑P **P 09 01 16.5 +0.6**
baz=21
Y14A Wickenburg 21.07 137 ⇑P **P 09 01 17.4 +0.1**
baz=21
GLA Glamis 21.09 142 ⇓P **P 09 01 17.5 0.0**
baz=21
ULM Lac du Bonnet 21.59 79 P **P 09 01 22.6 -0.3**
comp=Z,5.8nm,0.6s,mb4.2,baz=290,slow=10,SNR=13
ULM LR LR 09 08 50.4
comp=Z,517nm,21.2s,MS3.9,baz=274,slow=34
ULM Lac du Bonnet 21.59 79 P **P 09 01 23.2 +0.3**
Z14A Wintersburg 21.59 138 ⇓P **P 09 01 22.8 -0.1**
baz=22
FCC Fort Churchill 21.89 55 P **P 09 01 28.2 +2.1**
FCC Fort Churchill 21.89 55 *e*P **P 09 01 27.0 +0.9**
FCC pmax pmax
comp=Z,27nm,0.9s,mb4.7
FCC Fort Churchill 21.89 55 *e*P **P 09 01 27.0 +0.9**
comp=Z,27nm,0.9s,mb4.7
115A Sonoran Desert 22.46 138 ⇓P **P 09 01 32.4 +0.2**
baz=22
116A Eloy 22.81 137 ⇑P **P 09 01 35.5 -0.4**
baz=23
ANMO Albuquerque 23.39 124 P **P 09 01 41.3 -0.7**
comp=Z,12nm,1.1s,mb4.2,baz=321,slow=10,SNR=30
ANMO LR LR 09 10 40.4
comp=Z,507nm,21.3s,MS4.0,baz=181,slow=36
ANMO Albuquerque 23.39 124 *e*P **P 09 01 41.9 -0.1**
ANMO pmax pmax
comp=Z,24nm,1.1s
ANMO Albuquerque 23.39 124 *e*P **P 09 01 41.9 -0.1**
comp=Z,24nm,1.1s,mb4.5
ANMO *e*PcP PcP 09 05 03.4 -25
TUC Tucson 23.42 135 *e*P **P 09 01 42.3 -0.1**
TUC pmax pmax
comp=Z,37nm,1.3s,mb4.7
TUC Tucson 23.42 135 *e*P **P 09 01 42.2 -0.1**
comp=Z,38nm,1.3s,mb4.7
LAZ Ladron 23.46 126 *e*P **P 09 01 43.5 +0.8**
ECSD EROS,Sioux Fal 23.62 95 *e*P **P 09 01 44.6 +0.3**
ECSD *e*PcP PcP 09 05 19.6 -9.1
LENM Lemitar 23.73 126 *e*P **P 09 01 45.6 +0.3**
LPM Los Pinos Moun 23.79 125 *e*P **P 09 01 46.0 +0.1**
Y22C IRIS PASSCAL I 23.83 126 ⇓P **P 09 01 46.9 +0.7**
baz=24
BNM Barren Site 23.92 126 *e*P **P 09 01 47.6 +0.6**
CBKS Cedar Bluff 24.48 108 *e*P **P 09 01 52.1 0.0**
CBKS pmax pmax
comp=Z,33nm,1.1s,mb4.7
CBKS Cedar Bluff 24.48 108 *e*P **P 09 01 52.1 -0.1**
comp=Z,32nm,1.1s,mb4.7
EYMN Ely 25.05 82 *e*P **P 09 01 58.2 +1.0**
comp=Z,69nm,1.2s,mb5.1
AMTX Amarillo 26.04 117 *e*P **P 09 02 06.8 +0.5**
comp=Z,57nm,1.0s,mb5.1
MNTX Cornudas Mount 26.50 127 *e*P **P 09 02 10.7 +0.3**
comp=Z,28nm,1.1s,mb4.7
WMOK Wichita Mounta 27.80 114 *e*P **P 09 02 22.5 +0.4**
WMOK pmax pmax
comp=Z,20nm,1.0s,mb4.7
WMOK Wichita Mounta 27.80 114 *e*P **P 09 02 22.5 +0.4**
comp=Z,20nm,1.0s,mb4.7
LTX Lajitas 29.28 128 *e*P **P 09 02 35.6 +0.3**
LTX pmax pmax
comp=Z,18nm,1.1s,mb4.7
LTX Lajitas 29.28 128 *e*P **P 09 02 35.6 +0.3**
comp=Z,18nm,1.1s,mb4.7
CCM Cathedral Cave 30.16 100 *e*P **P 09 02 42.7 -0.4**
CCM pmax pmax
comp=Z,12nm,1.4s,mb4.4
CCM Cathedral Cave 30.16 100 *e*P **P 09 02 42.6 -0.5**
comp=Z,12nm,1.4s,mb4.4
JCT Junction City 30.39 121 *e*P **P 09 02 44.5 -0.6**
JCT pmax pmax
comp=Z,19nm,0.9s,mb4.8
JCT Junction City 30.39 121 *e*P **P 09 02 44.5 -0.6**
comp=Z,19nm,0.9s,mb4.8
MIAR Mount Ida 31.01 108 *e*P **P 09 02 50.9 +0.3**
MIAR pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
MIAR Mount Ida 31.01 108 *e*P **P 09 02 50.9 +0.3**
comp=Z,6.0nm,0.9s,mb4.4
HKT Hockley 33.00 116 *e*P **P 09 03 08.3 +0.2**
HKT pmax pmax
comp=Z,17nm,1.5s,mb4.8
HKT Hockley 33.00 116 *e*P **P 09 03 08.3 +0.2**
comp=Z,17nm,1.5s,mb4.8
WVT Waverly 33.49 100 *e*P **P 09 03 13.4 +1.0**
WVT pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
WVT Waverly 33.49 100 *e*P **P 09 03 13.4 +1.0**
comp=Z,7.4nm,1.2s,mb4.5
OXF Oxford 33.57 103 *e*P **P 09 03 13.5 +0.4**
OXF pmax pmax
comp=Z,55nm,1.0s,mb5.4
OXF Oxford 33.57 103 *e*P **P 09 03 13.5 +0.4**
comp=Z,55nm,1.0s,mb5.4
PLAL Pickwick Lake 34.08 102 *e*P **P 09 03 17.4 -0.1**
comp=Z,5.0nm,0.8s,mb4.5
BILL Bilibino 34.59 324 *e*P **P 09 03 26.5 +4.6**
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.1
SCHQ Schefferville 37.18 59 LR LR 09 17 41.0
comp=Z,521nm,18.1s,MS4.4,baz=112,slow=34
SUMG Summit 42.83 26 P **P 09 04 32.7 +1.7**
comp=Z,8.9nm,1.1s,mb4.4
TIXI Tiksi 45.87 334 *e*P **P 09 05 01.3 +5.9**
TIXI *e*S **S 09 11 40.0 +1.3**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
TIXI smax
comp=N,66nm,14.2s
TIXI smax
comp=E,105nm,14.9s
HABR Khabarovsk 57.16 308 *e*P **P 09 06 22.9 +3.1**
HABR *e*S **S 09 14 18.8 +4.5**
ARCES ARCESS Array B 58.48 10 LR LR 09 32 13.8
comp=E,226nm,18.8s,MS4.3,baz=106,slow=36
MDJ Mudanjiang 62.55 308 P **P 09 06 53.7 -3.2**
MDJ AMB AMB
comp=Z,10.0nm,4.1s
MDJ LR LR
comp=N,120nm,21.1s,MS4.2
MDJ LR LR
comp=E,110nm,20.2s,MS4.2
MDJ LR LR
comp=Z,210nm,21.9s,MS4.3
NOA NORSAR Array B 64.11 20 P **P 09 07 07.9 +0.8**
comp=Z,0.9nm,0.8s,mb3.9,baz=344,slow=15,SNR=3.3
NOA LR LR 09 35 12.5
comp=Z,232nm,19.0s,MS4.4,baz=25,slow=36
ROSC El Rosal 65.16 115 LR LR 09 37 02.6
comp=Z,131nm,19.5s,MS4.1,baz=6.7,slow=37
FINES FINESS Array B 66.33 12 P **P 09 07 20.7 -0.9**
comp=Z,1.6nm,0.8s,mb4.1,baz=2.7,slow=4.0,SNR=5.2
FINES LR LR 09 35 50.3
comp=Z,233nm,20.7s,MS4.4,baz=347,slow=36
FINES FINESS Array B 66.33 12 *i* P **P 09 07 22.0 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 66.33 12 P **P 09 07 20.7 -0.9**
FINES LR LR 09 35 50.3
TLY Talaya 68.10 327 *e*P pP 09 07 39.5 +0.7
TLY *e* 09 09 59.6
TLY *e*S sS 09 16 48.3 +6.8
TLY *e* 09 17 33.6
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
SONM Songino Array 70.31 323 P **P 09 07 46.6 +0.1**
comp=Z,0.6nm,0.8s,mb3.6,baz=52,slow=4.3,SNR=3.5

PPT Papeete 70.36 200 LR LR 09 30 42.9
comp=Z,243nm,18.3s,MS4.5,baz=113,slow=29
NVS Novosibirsk 70.97 340 *e*P **P 09 07 51.0 +0.5**
OBN Obninsk 73.70 8⇓*e*P **P 09 08 08.9 +2.0**
OBN *e* 09 10 47.9
OBN *e*S S 09 17 25.1 -12
OBN pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
HHC Hu-ho-hao-te 73.94 316 *e*P **P 09 08 06.5 -1.8**
HHC AP pP 09 08 11.3 -3.0
HHC XP sP 09 08 13.6 -2.9
HHC PCP PcP 09 08 22.7 -0.9
HHC AMB AMB
comp=Z,100nm,5.1s
HHC LR LR
comp=N,290nm,22.8s
HHC LR LR
comp=E,850nm,28.8s
HHC LR LR
comp=Z,130nm,21.6s,MS4.2
CHKZ Chkalovo 74.30 347 *e*P **P 09 08 09.4 -0.9**
CHKZ pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
CHKZ Chkalovo 74.30 347 *e*P **P 09 08 09.4 -1.0**
comp=Z,7.9nm,1.4s,mb4.5
ZRNK Zerenda 75.22 348 *e*P **P 09 08 15.5 -0.2**
ZRNK pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ZRNK Zerenda 75.22 348 *e*P **P 09 08 15.5 -0.2**
comp=Z,6.9nm,1.1s,mb4.5
GERES GERESS Array B 75.83 24 P **P 09 08 19.4 +0.2**
comp=Z,0.4nm,0.7s,baz=317,slow=6.7,SNR=3.8
GERES LR LR 09 42 32.7
comp=Z,115nm,19.7s,MS4.2,baz=328,slow=36
SSE Sheshan 77.08 304 *e*P **P 09 08 26.8 +0.5**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,80nm,3.5s
AKASG Malin Array Be 77.19 13 P **P 09 08 25.9 -1.0**
comp=Z,1.0nm,0.5s,mb4.0,baz=341,slow=5.6,SNR=4.7
NJ2 Nanjing 77.54 306 *e*P **P 09 08 29.6 +0.8**
NJ2 AP pP 09 08 33.9 -1.0
NJ2 XP sP 09 08 36.9 -0.2
NJ2 PCP PcP 09 08 39.4 +0.3
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
NJ2 AMB AMB
comp=Z,140nm,4.7s
NJ2 LR LR
comp=N,370nm,22.0s,MS4.7
NJ2 LR LR
comp=E,280nm,25.5s,MS4.7
NJ2 LR LR
comp=Z,160nm,25.0s,MS4.2
ESDC Sonseca Array 78.16 40 P **P 09 08 33.5 +1.2**
comp=Z,0.1nm,0.4s,baz=309,slow=5.1,SNR=3.4
MKAR Makanchi Array 78.71 338 P **P 09 08 33.5 -1.8**
comp=Z,0.7nm,0.7s,mb3.7,baz=32,slow=4.6,SNR=3.4
AKTK Aktyubinsk 78.75 355 P **P 09 08 34.9 -0.6**
AKTO Aktyubinsk 78.75 355 P **P 09 08 34.9 -0.7**
comp=Z,1.9nm,0.8s,mb4.1,baz=18,slow=4.7,SNR=6.3
WMQ Urumqi 80.07 333 *e*P **P 09 08 42.1 -0.6**
WMQ PP PP 09 11 45.2 +0.4
WMQ AMB AMB
comp=Z,40nm,4.0s
WMQ LR LR
comp=N,90nm,20.0s,MS4.4
WMQ LR LR
comp=E,160nm,23.0s,MS4.4
WMQ LR LR
comp=Z,120nm,19.0s,MS4.3
LZH Lanzhou 81.24 319 *e*P **P 09 08 49.6 +0.6**
LZH AP pP 09 08 56.6 +1.6
LZH XP sP 09 08 59.8 +2.6
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,50nm,4.8s
CD2 Chengdu 85.70 316 *e*P **P 09 09 09.6 -2.3**
CD2 AP pP 09 09 14.3 -3.7
CD2 XP sP 09 09 17.2 -3.0
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.2
CD2 AMB AMB
comp=Z,40nm,9.2s
CD2 LR LR
comp=E,150nm,15.6s
CD2 LR LR
comp=Z,190nm,12.0s,MS4.7
LPAZ La Paz 85.98 122 P **P 09 09 15.0 +1.6**
comp=Z,1.9nm,1.0s,mb4.3,baz=358,slow=7.2,SNR=6.9
BRTR Keskin Array B 88.56 13 P **P 09 09 28.1 +2.3**
comp=Z,0.5nm,0.8s,mb3.9,baz=276,slow=5.4,SNR=3.4
KMI Kunming 91.13 314 P **P 09 09 37.9 +0.1**
BDFB Brasilia 97.07 106 LR LR 09 53 47.9
comp=Z,265nm,21.7s,MS4.7,baz=162,slow=35
VNA3 Neumayer Olymp 146.77 149 *e*PKPdf PKPdf 09 16 09.1 -4.2
VNA3 *e* 09 16 16.3
VNA3 *e* 09 16 22.9
VNA3 *e* 09 16 26.7
VNA3 *e* 09 16 30.8
VNA3 *e* 09 16 35.7
VNA2 Neumayer--Watz 147.54 149 *e*PKPdf PKPdf 09 16 13.7 -0.8
VNA2 Neumayer--Watz 147.54 149 *e*PKPdf PKPdf 09 16 13.7 -0.8
baz=101,slow=14
VNA2 *e* 09 16 20.2
VNA2 *e* 09 16 26.6
VNA2 *e* 09 16 31.5
VNA2 *e* 09 16 36.0
VNA2 *e* 09 16 41.8
SNAA Sanae 148.85 151 *e*PKPdf PKPdf 09 16 36.6 +20
SNAA Sanae 148.85 151 *e*PKPdf PKPdf 09 16 36.6 +20
SNAA Sanae 148.85 151 *e*PKPdf PKPdf 09 16 36.6 +20
SNAA *e* 09 16 42.6
SNAA *e* 09 16 48.3
SNAA *e* 09 16 53.4
SNAA *e* 09 16 59.4
BOSA Boshof 150.95 49 PKPbc PKPbc 09 16 26.6 +0.9
comp=Z,2.5nm,0.9s,baz=2.3,slow=5.3,SNR=2.5

NIED ***04*** *09:05:00,2270N×12120E,h20km,Mw4.7 Best double couple: M0 1.13000×10^16 NP1:φs 15.00000°,δ47.00000°,λ93.00000°. NP2:φs 190.00000°,δ43.00000°,λ86.00000°.*
IDC ***04*** *09:05:55.8±0.6,2268N×121.19E,h0km,mb4.2/13, mb1 4.3/14,mb1mx4.3/21,mbtmp4.3/14,ML4.4/1,MS4.0/7, Ms1 4.0/7,ms1mx3.5/25,Error ellipse: s-maj=22.7km s-min=13.3km az=62.0*
BJI ***04*** *09:05:57.7,2279N×12151E,h12km,mB4.8,mb4.4,ML5.0, Ms4.7,Msz4.6*
NEIC ***04*** *09:05:59.0±0.2,2274N×12142E,mb4.8/33,Error ellipse: s-maj=6.8km s-min=5.3km az=87.0*
JMA ***04*** *09:05:58.4±0.3,2271N×12120E,h90km,M4.8*
ISCJB ***04*** *09:05:58.7±1.0,2272N±003×12141E±002,h22km±8km, mb4.6/62,MS4.4/18,Error ellipse: s-maj=4.7km s-min=3.3km az=133.6*
HRVD ***04*** *09:05:59.0±0.5,2277N×12133E,h23km±1km,MW4.9/53, Centroid moment Tensor Solution. LP body waves: s22,c24;Mantle waves: s53,c70; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.87±.21; Mθθ-0.70±.12; Mφφ-2.17±.14; Mrθ0.50±.20; Mrφ-0.78±.07; Mθφ0.10±.18; Best double couple: M0 2.72900×10^16 NP1:φs 196.00000°,δ42.00000°,λ79.00000°. NP2: φs 31.00000°,δ49.00000°,λ100.00000°. Principal axes: T 2.9380, Plg82.0000°, Azm1.0000°; N -0.4220, Plg7.0000°, Azm204.0000°; P -2.5200, Plg3.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***04*** *09:06:00.3±1.0,2281N×12142E,h33km,mb4.8/29, MS4.6/4 Error ellipse: s-maj=11.1km s-min=5.9km az=118.6*
MAN ***04*** *09:07:08.7,1771N×12090E,h9km,MS3.5*
ISC 04 09:06:01.3±1.0,2278N±003×12143E±002,h26km±7km, h19km±3.8km:pP-P,n147,σ1§25/179,mb4.6/62,MS4.4/17, 6C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**1.40**	**6**	*e*P	**Pn**	**09 06 22.8**	**-2.3**
NACB				*e*Sn	**Sn**	**09 06 42.9**	**+0.2**
YHNB	**Yeheng**	**1.89**	**359**	*e*P	**Pn**	**09 06 31.2**	**-0.5**
YHNB				*e*Sn	**Sn**	**09 06 54.2**	**-0.4**
TATO	**Taipei**	**2.19**	**1**	*e*P	**Pn**	**09 06 35.8**	**-0.1**
YOJ	**Yonaguni jima**	**2.22**	**41**	P	**Pn**	**09 06 36.5**	**+0.2**
YOJ				S	**Sn**	**09 07 05.7**	**+2.9**
HATJ	**Hateruma jima**	**2.53**	**59**	P	**Pn**	**09 06 41.0**	**+0.4**
HATJ				S	**Sn**	**09 07 13.5**	**+3.0**
IRIF	**Iriomote-Funau**	**2.62**	**53**	P	**Pn**	**09 06 42.9**	**+1.1**
IRIF				S	**Sn**	**09 07 17.2**	**+4.4**
JKRS	**Kuro-shima**	**2.78**	**58**	P	**Pn**	**09 06 44.7**	**+0.7**
JKRS				S	**Sn**	**09 07 19.9**	**+3.2**
JIJ	**Ishigaki jima**	**2.95**	**57**	P	**Pn**	**09 06 46.4**	**0.0**
JIJ				S	**Sn**	**09 07 23.1**	**+2.2**
QZH	**Quanzhou**	**3.38**	**310**	P	**Pn**	**09 06 50.2**	**-2.0**
QZH				S	**Sn**	**09 07 27.6**	**-3.8**
QZH				Smax			
	comp=N,3μm,0.8s						
QZH				Smax			
	comp=E,3μm,0.8s						
JTJ	**Tarama**	**3.53**	**58**	P	**Pn**	**09 06 55.1**	**+0.8**
JTJ				S	**Sn**	**09 07 37.3**	**+2.2**
JMJ	**Miyako jima 2**	**4.08**	**59**	P	**Pn**	**09 07 03.1**	**+1.2**
JMJ				S	**Sn**	**09 07 51.5**	**+2.7**
JOGS	**Gusukube**	**4.14**	**61**	P	**Pn**	**09 07 03.6**	**+0.8**
JOGS				S	**Sn**	**09 07 53.4**	**+3.0**
APYP	**Conner**	**4.89**	**182**	*e*P	**Pn**	**09 07 16.7**	**+3.6**
CAUP	**Cauayan**	**5.81**	**176**	*e*P	**Pn**	**09 07 30.2**	**+4.5**
JKE	**Kume jima 2**	**6.02**	**53**	P	**Pn**	**09 07 28.0**	**-0.6**
JKE				*e*S	**Sn**	**09 08 38.3**	**+1.6**
JAGN	**Aguni-jima**	**6.51**	**53**	P	**Pn**	**09 07 35.7**	**+0.4**
JAGN				S	**Sn**	**09 08 48.7**	**+0.1**
BOLP	**Bolinao**	**6.52**	**193**	*e*P	**Pn**	**09 07 36.9**	**+1.4**
BALP	**Baler**	**7.00**	**179**	*e*P	**Pn**	**09 07 45.2**	**+3.2**
JIH	**Iheya**	**7.29**	**53**	P	**Pn**	**09 07 44.6**	**-1.4**
JIH				S	**Sn**	**09 09 06.3**	**-1.7**
JOW	**Kunigami**	**7.41**	**56**	Pn	**Pn**	**09 07 46.5**	**-1.2**
	comp=E,12nm,0.3s,baz=217,slow=7.7,SNR=48						
JOW				Sn	**Sn**	**09 09 07.2**	**-3.7**
	comp=E,2.3nm,0.3s,baz=124,slow=26,SNR=2.2						
JOW	**Kunigami**	**7.41**	**56**	P	**Pn**	**09 07 47.0**	**-0.7**
JOW				S	**Sn**	**09 09 11.9**	**+1.0**
SSE	**Sheshan**	**8.29**	**359**	*e*P	**Pn**	**09 07 57.9**	**-1.8**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s						
SSE				AMB	AMB		
	comp=Z,120nm,3.6s						
SSE				LR	LR		
	comp=N,680nm,17.3s						
SSE				LR	LR		
	comp=E,2μm,17.3s						
SSE				LR	LR		
	comp=Z,2μm,14.2s						
JTK	**Tokunoshima**	**8.44**	**52**	P	**Pn**	**09 08 00.6**	**-1.1**
JTK				S	**Sn**	**09 09 34.6**	**-1.5**
JAM	**Amami Oshima**	**9.27**	**51**	P	**Pn**	**09 08 12.1**	**-1.0**
JAM				*e*S	**Sn**	**09 09 54.1**	**-2.4**
JMZ	**Minamidaito 2**	**9.43**	**69**	P	**Pn**	**09 08 13.1**	**-2.3**
JMZ				S	**Sn**	**09 09 53.7**	**-6.8**
NJ2	**Nanjing**	**9.52**	**347**	*e*P	**Pn**	**09 08 20.8**	**+4.2**
NJ2				AP		09 08 24.0	
NJ2				XP		09 08 26.3	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,170nm,4.5s						
NJ2				Smax			
	comp=N,940nm,1.2s						
NJ2				Smax			
	comp=E,190nm,0.9s						
NJ2				LR	LR		
	comp=N,6μm,17.0s						
NJ2				LR	LR		
	comp=E,7μm,21.2s						
NJ2				LR	LR		
	comp=Z,3μm,13.9s						
WHN	**Wuhan**	**9.99**	**322**	*e*P	**Pn**	**09 08 24.0**	**+0.9**
WHN				LR	LR		
	comp=Z,6μm,11.4s						
QIZ	**Qiongzhong**	**11.45**	**253**	P	**Pn**	**09 08 43.4**	**+0.4**
QIZ				S	**Sn**	**09 10 52.8**	**+2.7**
QIZ				LR	LR		
	comp=N,2μm,13.7s						
QIZ				LR	LR		
	comp=E,1μm,14.0s						
QIZ				LR	LR		
	comp=Z,3μm,16.0s						
GYA	**Guiyang**	**13.92**	**288**⇓*i*P		**Pn**	**09 09 17.3**	**+0.5**
GYA				S	**Sn**	**09 11 51.1**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				LR	LR		
	comp=N,1μm,10.8s						
GYA				LR	LR		
	comp=E,3μm,12.0s						
GYA				LR	LR		
	comp=Z,4μm,13.2s						
INCN	**Inchon**	**15.33**	**16**	*e*Pn	**Pn**	**09 09 36.3**	**+0.6**
	comp=Z,9.1nm,0.5s						
KS15	**Wonju Array Si**	**15.64**	**19**	P	**Pn**	**09 09 40.2**	**+0.4**
XAN	**Xi'an**	**15.70**	**318**	P	**Pn**	**09 09 45.2**	**+4.6**
XAN				S	**Sn**	**09 12 42.6**	**+8.9**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.8s						
XAN				LR	LR		
	comp=N,1μm,13.2s						
XAN				LR	LR		
	comp=E,1μm,15.4s						
XAN				LR	LR		
	comp=Z,3μm,14.9s						
KMI	**Kunming**	**17.24**	**282**	P	**Pn**	**09 09 59.8**	**-0.4**
KMI				AP	pP	09 10 03.3	-5.3
KMI				XP	sP	09 10 05.7	-6.3
KMI				PP		09 10 15.3	
KMI				S	**Sn**	**09 13 11.0**	**-0.2**
KMI				SS		09 13 30.7	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s						
KMI				AMB	AMB		
	comp=Z,130nm,5.8s						
KMI				LR	LR		
	comp=N,870nm,11.9s						
KMI				LR	LR		
	comp=E,1μm,13.1s						
KMI				LR	LR		
	comp=Z,2μm,14.6s						
CD2	**Chengdu**	**17.71**	**301**	P	**Pn**	**09 10 06.3**	**+0.3**
CD2				AP	pP	09 10 09.9	-3.9
CD2				XP	sP	09 10 12.6	-4.6
CD2				PP		09 10 22.8	
CD2				S	**Sn**	**09 13 21.9**	**-0.7**
CD2				SS		09 13 44.8	
CD2				AMB	AMB		
	comp=Z,20nm,1.0s						
CD2				AMB	AMB		
	comp=Z,370nm,3.6s						
CD2				LR	LR		
	comp=N,2μm,11.4s						
CD2				LR	LR		
	comp=Z,3μm,13.8s						
SNY	**Shenyang**	**19.08**	**5**	⇑P	**Pn**	**09 10 18.2**	**-4.5**
SNY				S	**Sn**	**09 13 56.6**	**+1.0**
SNY				AMB	AMB		
	comp=Z,170nm,9.6s						
SNY				LR	LR		
	comp=N,790nm,13.8s						
SNY				LR	LR		
	comp=E,690nm,12.3s						
SNY				LR	LR		
	comp=Z,1μm,13.5s						
HHC	**Hu-ho-hao-te**	**19.85**	**337**	*e*P	**Pn**	**09 10 31.4**	**-0.4**
HHC				AP	pP	09 10 35.5	-1.8
HHC				XP	sP	09 10 38.5	-2.2
HHC				PP		09 10 50.7	
HHC				S	**Sn**	**09 14 08.3**	**-5.8**
HHC				XS	sS	09 14 17.3	-6.4
HHC				SS		09 14 38.5	
HHC				PCP	PcP	09 14 47.3	+0.3
HHC				SCP	ScP	09 18 20.8	-0.5
HHC				PCS	PcS	09 18 23.2	-1.2
HHC				AMB	AMB		

comp=Z,10.0nm,1.3s
HHC AMB AMB
comp=Z,210nm,5.7s
HHC LR LR
comp=N,2μm,12.9s
HHC LR LR
comp=E,1μm,11.7s
HHC LR LR
comp=Z,2μm,15.6s
MAJO Matsushiro 19.98 43 *e*P **Pn 09 10 32.0 -1.3**
MAJO pmax pmax
comp=Z,72nm,1.5s
MAJO Matsushiro 19.98 43 *e*P **Pn 09 10 31.9 -1.4**
comp=Z,72nm,1.5s
MAT Matsushiro 19.98 43 P **Pn 09 10 32.7 -0.6**
MAT S **Sn 09 14 26.0 +8.8**
MAT Matsushiro 19.98 43 *e*P **Pn 09 10 33.0 -0.3**
MAT pmax pmax
comp=Z,14nm,1.0s
MJAR Matsushiro Arr 19.98 43 P **Pn 09 10 32.6 -0.7**
comp=Z,14nm,1.0s,baz=232,slow=9.0,SNR=22
MJAR LR LR 09 19 14.5
comp=Z,273nm,18.8s,baz=215,slow=40
LZH Lanzhou 20.22 315 *e*P **P 09 10 36.5 +2.4**
LZH AP 09 10 45.5
LZH XP sP 09 10 50.0 +5.3
LZH PP 09 10 57.2
LZH *e*S **S 09 14 17.0 -2.7**
LZH XS sS 09 14 27.0 -4.1
LZH SS 09 14 46.0
LZH AMB AMB
comp=Z,60nm,1.5s
LZH AMB AMB
comp=Z,300nm,5.4s
LZH LR LR
comp=E,1μm,13.6s
LZH LR LR
comp=Z,3μm,14.3s,MS4.8
BTO Baotou 20.22 334 *e*P **P 09 10 34.1 -0.1**
BTO S **S 09 14 08.6 -11**
BTO LR LR
comp=N,5μm,11.8s,MS5.1
BTO LR LR
comp=E,2μm,11.5s,MS5.1
CHTO Chiang Mai 21.38 264 *e*P **P 09 10 47.6 +0.9**
CHTO pmax pmax
comp=Z,25nm,1.1s,mb4.5
CHTO Chiang Mai 21.38 264 *e*P **P 09 10 47.6 +0.9**
comp=Z,25nm,1.1s,mb4.5
VLA Vladivostok 22.07 21 *e*P **P 09 11 02.2 +8.1**
VLA pmax pmax
comp=Z,26nm,1.3s,mb4.5
MDJ Mudanjiang 22.79 15 P **P 09 11 00.8 -1.0**
MDJ AP 09 11 06.9
MDJ XP sP 09 11 08.9 -3.5
MDJ S **S 09 15 07.7 -1.7**
MDJ AMB AMB
comp=Z,100nm,5.2s
MDJ LR LR
comp=N,980nm,16.0s,MS4.4
MDJ LR LR
comp=E,490nm,13.7s,MS4.4
MDJ LR LR
comp=Z,1μm,16.0s,MS4.5
KSM Kuching 23.77 209 *e*P **P 09 11 10.4 -1.2**
GUMO Guam 24.04 108 P **P 09 11 14.5 +0.4**
comp=Z,61nm,0.6s,mb5.2,baz=162,slow=4.5,SNR=17
GUMO LR LR 09 19 47.7
comp=Z,232nm,18.8s,MS3.7,baz=255,slow=34
GTA Gaotai 24.75 317 *e*P **P 09 11 20.9 +0.3**
GTA AP 09 11 25.1
GTA XP sP 09 11 28.7 -2.8
GTA PP 09 11 56.3
GTA PPP 09 12 07.7
GTA PCP PcP 09 15 01.5 +4.6
GTA S **S 09 15 43.3 +2.1**
GTA XS sS 09 15 50.1 -3.8
GTA SS 09 16 42.2
GTA SCP ScP 09 18 37.9 +4.0
GTA PCS PcS 09 18 39.3 +2.4
GTA SCS ScS 09 22 24.6 +2.7
GTA AMB AMB
comp=Z,10.0nm,1.5s,mb4.1
GTA AMB AMB
comp=Z,180nm,6.5s
GTA LR LR
comp=N,210nm,10.6s,MS4.1
GTA LR LR
comp=E,330nm,13.7s,MS4.1
GTA LR LR
comp=Z,250nm,17.9s,MS3.8
ASAJ Asahikawa 27.51 34 P **P 09 11 46.6 +1.2**
comp=Z,6.0nm,0.6s,mb4.4,baz=241,slow=14,SNR=9.4
ULN Ulaanbaatar 27.55 339 *e*P **P 09 11 45.4 -0.5**
ULN *e**PP pP 09 11 50.0 -3.6
ULN pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
ULN Ulaanbaatar 27.55 339 *e*P **P 09 11 45.4 -0.4**
comp=Z,9.6nm,1.0s,mb4.4
ULN *e*pP pP 09 11 50.0 -3.7
KLR Kul'dur 27.64 15 *e*P **P 09 11 48.7 +2.1**
KLR pmax pmax
comp=Z,45nm,2.0s,mb4.8
KLR MLR MLR
comp=N,1μm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS4.9
SONM Songino Array 27.75 338 P **P 09 11 46.8 -0.8**
comp=Z,4.9nm,0.9s,mb4.2,baz=151,slow=8.1,SNR=37
SONM LR LR 09 24 14.3
comp=Z,1μm,18.8s,MS4.5,baz=151,slow=40
LSA Lhasa 27.97 291 P **P 09 11 52.6 +3.0**
LSA AP pP 09 12 01.2 +3.8
LSA AMB AMB
comp=Z,20nm,1.1s,mb4.7
LSA AMB AMB
comp=Z,130nm,7.2s
LSA LR LR
comp=N,310nm,13.4s,MS4.4
LSA LR LR
comp=E,650nm,14.9s,MS4.4
LSA LR LR
comp=Z,1μm,15.9s,MS4.5
PSI Prapat 29.50 231 LR LR 09 21 52.7
comp=Z,325nm,20.9s,MS3.9,baz=12,slow=33
YSS Yuzh-Sakhalins 29.61 30⇑ *i*P **P 09 12 05.7 +1.5**
YSS *e* 09 12 15.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 29.61 30 *e*P **P 09 12 05.0 +0.8**
comp=Z,40nm,1.2s,mb5.0
ZAK Zakamensk 31.00 337 *e*P **P 09 12 14.4 -2.1**
ZAK *e* 09 13 31.9
ZAK pmax pmax
comp=Z,5.0nm,1.9s,mb4.0
ZAK pmax pmax
comp=Z,8.0nm,1.9s,mb4.2
ZAK pmax pmax
comp=Z,5.0nm,1.9s,mb4.0
TLY Talaya 31.96 339 *e*P **P 09 12 24.2 -0.8**
TLY *e* 09 13 51.5
TLY *e*S **S 09 17 35.5 +0.8**
TLY *e*SS SS 09 19 28.7 -24
TLY pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
TLY MLR MLR
comp=Z,1μm,14.0s,MS4.8
JIRN Jiri 32.18 286 *e*P **P 09 12 28.6 +1.7**
comp=Z,37nm,0.9s,mb5.2
IRK Irkutsk 32.24 340 *e*P **P 09 12 26.2 -1.2**
IRK *e* 09 22 51.1
IRK pmax pmax
comp=Z,23nm,1.5s,mb4.8
GUN Gumba 32.46 287 *e*P **P 09 12 30.6 +1.3**
comp=Z,58nm,1.0s,mb5.3
PKI Pulchoki 32.87 286 *e*P **P 09 12 34.4 +1.5**
MOY Mondy 32.88 336 *e*P **P 09 12 31.2 -1.8**
KKN Kakani 32.99 286 *e*P **P 09 12 35.0 +1.1**
comp=Z,43nm,1.1s,mb5.3
KKN Kakani 32.99 286 *e*P **P 09 12 35.0 +1.1**
KKN pmax pmax
comp=Z,43nm,1.1s,mb5.3
DMN Daman 33.14 286 *e*P **P 09 12 36.1 +0.8**
comp=Z,77nm,1.3s,mb5.5
GKN Gorkha 33.56 287 *e*P **P 09 12 39.4 +0.5**
comp=Z,36nm,1.0s,mb5.3
KOLN Koldanda 34.48 286 *e*P **P 09 12 47.8 +0.9**
comp=Z,36nm,1.1s,mb5.2
WMQ Urumqi 34.80 315 *e*P **P 09 12 50.7 +1.0**
WMQ PP PP 09 14 08.7 0.0
WMQ PPP 09 14 25.5
WMQ PCP PcP 09 15 24.1 +1.5
WMQ S **S 09 18 20.2 +1.5**
WMQ XS sS 09 18 27.2 -4.4
WMQ SCP ScP 09 19 06.3 +0.1
WMQ PCS PcS 09 19 08.4 -0.9
WMQ SS SS 09 20 34.7 -15
WMQ SCS ScS 09 23 07.2 -2.4
WMQ AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
WMQ AMB AMB
comp=Z,100nm,5.0s
WMQ LR LR
comp=N,400nm,12.0s,MS4.6
WMQ LR LR
comp=E,470nm,10.0s,MS4.6
WMQ LR LR
comp=Z,260nm,16.0s
KRAR Krasnoyarsk 39.31 335 *i*P **P 09 13 28.1 +0.2**
MK31 Makanchi Array 39.51 317 P **P 09 13 30.1 +0.5**
MK31 pmax pmax
comp=Z,15nm,1.0s,mb4.7
MKAR Makanchi Array 39.51 317 P **P 09 13 29.0 -0.6**
comp=Z,11nm,0.9s,mb4.6,baz=112,slow=9.7,SNR=31
MKAR Makanchi Array 39.51 317⇑ *e*P **P 09 13 30.0 +0.4**
comp=Z,99nm,21.5s,MS3.6,baz=327,slow=32
PMG Port Moresby 40.72 139 LR LR 09 27 49.6
comp=Z,9.0nm,0.9s,mb4.6,baz=327,slow=32
FITZ Fitzroy Crossi 40.84 174 *e*P **P 09 13 39.7 -0.9**
comp=Z,4.6nm,0.5s,mb4.4
KSH Kashi 41.86 304 P **P 09 13 51.1 +2.0**
KSH *e*AP pP 09 13 55.8 -1.2
KSH *e*XP sP 09 13 58.3 -1.9
KSH PP PP 09 15 31.6 +5.5
KSH *e*PCP PcP 09 15 46.6 +2.0
KSH PPP 09 16 03.2
KSH SCP ScP 09 19 35.6 +2.5
KSH PCS PcS 09 19 37.3 +1.2
KSH *e*S **S 09 20 10.4 +5.0**
KSH *e*XS sS 09 20 16.4 -2.1
KSH *e*SS SS 09 23 10.7 -1.4
KSH SCS ScS 09 23 51.4 +1.2
KSH LR LR
comp=N,520nm,6.6s
KSH LR LR
comp=E,800nm,8.4s
KSH LR LR
comp=Z,800nm,14.8s,MS4.7
NVS Novosibirsk 42.81 328 *i*P **P 09 13 54.7 -2.1**
NVS pmax pmax
comp=Z,33nm,2.0s,mb4.7
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=E,30nm,1.9s
TKM2 Tokmak 2 42.81 309 P **P 09 13 58.2 +1.4**
TKM2 pmax pmax
comp=Z,23nm,1.6s,mb4.7
KURK Kurchatov 43.32 321 *e*P **P 09 14 00.6 -0.3**
KURK pmax pmax
comp=Z,24nm,1.3s,mb4.8
KURK Kurchatov 43.32 321 *e*P **P 09 14 00.6 -0.3**
comp=Z,24nm,1.3s,mb4.8
KURK *e*pP pP 09 14 04.0 -4.9
FRU Bishkek 43.50 309 *e*P **P 09 14 04.0 +1.7**
FRU MLR MLR
comp=Z,1μm,16.0s,MS4.9
AAK Ala-Archa 43.55 309⇑ *e*P **P 09 14 03.2 +0.5**
AAK pmax pmax
comp=Z,3.0nm,1.5s,mb3.8
MBWA Marble Bar 43.70 182 P **P 09 14 01.9 -2.0**
comp=Z,10.0nm,1.0s,mb4.5
WRAB Tennant Creek 44.28 162 *e*P **P 09 14 08.5 -0.1**
WRAB pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
WRAB Tennant Creek 44.28 162 *e*P **P 09 14 08.5 -0.2**
comp=Z,5.2nm,0.7s,mb4.4
WRA Warramunga Arr 44.29 162 P **P 09 14 07.5 -1.2**
comp=Z,1.7nm,0.5s,mb4.0,baz=344,slow=8.8,SNR=24
WRA PcP PcP 09 15 52.3 -0.4
comp=Z,1.5nm,0.7s,baz=342,slow=3.5,SNR=4.7
WB2 Warramunga Arr 44.29 162 *e*P **P 09 14 07.7 -1.0**
KK31 Karatay Array 46.51 308 *i*P **P 09 14 27.1 +0.8**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
KKAR Karatay Array 46.51 308 *i*P **P 09 14 27.1 +0.8**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ASAR Alice Springs 47.73 164 P **P 09 14 35.7 -0.1**
comp=Z,1.4nm,0.4s,mb4.3,baz=351,slow=13,SNR=29
ASAR PcP PcP 09 16 03.8 -1.0
comp=Z,1.3nm,0.7s,baz=350,slow=3.2,SNR=5.6
VOSK Vostochnaya 48.47 321 P **P 09 14 41.1 -0.4**
VOSK pmax pmax
comp=Z,13nm,1.6s,mb4.7
BVA0 Borovoye Array 48.91 321 *i*P **P 09 14 45.0 +0.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.7s,mb4.2
BRVK Borovoye 48.98 321 *e*P **P 09 14 45.6 +0.2**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BRVK Borovoye 48.98 321 *e*P **P 09 14 45.6 +0.2**
comp=Z,5.2nm,0.8s,mb4.6
CHKZ Chkalovo 48.98 322 *e*P **P 09 14 44.8 -0.6**
CHKZ *e* 09 16 10.9
CHKZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CHKZ Chkalovo 48.98 322 *e*P **P 09 14 44.8 -0.7**
comp=Z,6.9nm,0.6s,mb4.9
CHKZ *e*PcP PcP 09 16 10.9 +1.7
CTA Charters Tower 49.01 148 *e*P **P 09 14 47.9 +2.2**
comp=Z,2.3nm,0.4s,mb4.6
CTA Charters Tower 49.01 148 *e*P **P 09 14 47.9 +2.2**
CTA pmax pmax
comp=Z,2.0nm,0.4s
CTAO Charters Tower 49.01 148 *e*P **P 09 14 46.3 +0.6**
CTAO *e* 09 16 09.8
CTAO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
CTAO Charters Tower 49.01 148 *e*P **P 09 14 46.3 +0.6**
comp=Z,2.2nm,0.5s,mb4.4
CTAO *e*PcP PcP 09 16 09.8 +0.4
TIXI Tiksi 49.08 3 *e*P **P 09 14 45.4 -0.8**
TIXI pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ZRNK Zerenda 49.68 321 P **P 09 14 50.8 0.0**
ZRNK pmax pmax
comp=Z,19nm,1.3s,mb5.0
ZRNK Zerenda 49.68 321 *e*P **P 09 14 50.8 0.0**
comp=Z,14nm,1.1s,mb4.9
ZRNK *e*PcP PcP 09 16 10.1 -1.7
BILL Bilibino 52.93 19 *e*P **P 09 15 15.2 +0.1**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BILL Bilibino 52.93 19 *e*P **P 09 15 15.2 0.0**
comp=Z,5.9nm,0.9s,mb4.5
FORT Forrest 53.63 173 *e*P **P 09 15 19.8 -0.5**
comp=Z,11nm,0.6s,mb5.0
KLBR Kellerberrin 54.17 184 *e*P **P 09 15 23.1 -1.2**
AB31 Akbulak array 54.59 315 *i*P **P 09 15 27.6 +0.3**
AB31 pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
AKTO Aktyubinsk 55.94 316 P **P 09 15 40.2 +3.2**
AKTO pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
ARU Arti 56.37 324⇑ *i*P **P 09 15 38.8 -1.3**
ARU *e* 09 17 43.6
ARU *e*S **S 09 23 19.2 -10**
ARU pmax pmax
comp=Z,14nm,0.9s,mb5.0
ARU Arti 56.37 324 *e*P **P 09 15 37.5 -2.5**
comp=Z,9.1nm,0.5s,mb5.1
STKA Stephens Creek 57.67 160 *e*P **P 09 15 47.4 -1.9**
comp=Z,2.0nm,0.5s,mb4.4
STKA Stephens Creek 57.67 160 P **P 09 15 46.2 -3.1**
comp=Z,2.2nm,0.5s,mb4.4,baz=339,slow=6.2,SNR=15
ORR Orenburg 58.08 318 *i*P **P 09 15 51.0 -1.2**
ORR pmax pmax
comp=Z,30nm,1.2s,mb5.2
TTA Tatalina 66.61 30 *e*P **P 09 16 49.5 +0.2**
KIV Kislovodsk 66.65 310 *e*P **P 09 16 50.3 +0.8**
KIV pmax pmax
comp=Z,22nm,1.2s,mb5.1
KIV Kislovodsk 66.65 310 *e*P **P 09 16 50.7 +1.2**
comp=Z,45nm,1.4s,mb5.3
OBN Obninsk 68.74 322⇑ *e*P **P 09 17 03.6 +0.9**
OBN *e**PP pP 09 17 23.1 +12
OBN pmax pmax
comp=Z,40nm,2.5s,mb4.9
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
TAU Tasmania Unive 69.58 160 *e*P **P 09 17 07.7 -0.2**
TAU pmax pmax
comp=Z,64nm,1.4s,mb5.4
TAU Tasmania Unive 69.58 160 *e*P **P 09 17 07.7 -0.2**
comp=Z,64nm,1.4s,mb5.4
JOF Joensuu 70.04 331 *e*p **P 09 17 08.7 -2.0**
comp=Z,2.6nm,0.5s,mb4.4
ARCES ARCESS Array B 70.92 338 P **P 09 17 14.7 -1.4**
comp=Z,2.4nm,0.9s,mb4.1,baz=61,slow=8.5,SNR=5.7
ARCES LR LR 09 53 09.0
comp=Z,91nm,18.9s,MS4.1,baz=8.6,slow=40
MALT Malatya 70.97 304 *e*P **P 09 17 17.5 +1.1**
MALT pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MALT Malatya 70.97 304 *e*P **P 09 17 17.4 +1.1**
comp=Z,8.1nm,1.1s,mb4.6
KAF Kangasniemi 72.48 331 *e*p **P 09 17 23.5 -2.0**
comp=Z,2.6nm,0.6s,mb4.3
KAF Kangasniemi 72.48 331 *e*P **P 09 17 23.5 -2.0**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FINES FINESS Array B 72.77 330 P **P 09 17 25.9 -1.3**
comp=Z,1.4nm,0.5s,mb4.2,baz=66,slow=6.4,SNR=25
FINES FINESS Array B 72.77 330 *i*P **P 09 17 26.3 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 72.77 330 P **P 09 17 25.9 -1.3**
DAWY Dawson 73.68 27 *e*P **P 09 17 31.8 -0.8**
AKASG Malin Array Be 74.07 319 P **P 09 17 32.8 -2.0**
comp=Z,0.8nm,0.4s,mb4.0,baz=64,slow=5.8,SNR=5.7
BRTR Keskin Array B 74.19 307 P **P 09 17 32.6 -3.0**
comp=Z,0.7nm,0.7s,mb3.7,baz=128,slow=2.0,SNR=6.5
BRTR Keskin Array B 74.19 307⇑ *e*P **P 09 17 36.2 +0.6**
SUW Suwalki 76.55 323 *e*P **P 09 17 49.6 +0.5**
SKAG Skagway 77.12 31 P **P 09 17 52.3 0.0**
SKAG *e*PcP PcP 09 18 03.4 +0.3
NB2 NORSAR Subarra 79.57 332 P **P 09 18 04.5 -1.4**
comp=Z,1.4nm,0.5s,mb4.2,baz=54,slow=5.9
NB2 NORSAR Subarra 79.57 332 P **P 09 18 04.5 -1.4**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
NOA NORSAR Array B 79.57 332 P **P 09 18 03.3 -2.6**
comp=Z,2.1nm,0.6s,mb4.2,baz=62,slow=5.4,SNR=8.6
NOA LR LR 09 55 24.5
comp=Z,112nm,19.1s,MS4.2,baz=30,slow=37
OJC Ojcow 79.89 320 *e*P **P 09 18 07.4 -0.2**
CLL Collm 83.31 323 *i*P **P 09 18 25.3 -0.4**
comp=Z,12nm,1.4s,mb4.7
CLL *i*sP sP 09 18 30.8 -6.5
CLL Collm 83.31 323 *i*P **P 09 18 25.3 -0.4**
CLL *i**SP sP 09 18 30.8 -6.5
CLL pmax pmax
comp=Z,12nm,1.4s,mb4.7
SUMG Summit 83.92 354 *e*P **P 09 18 28.5 -0.3**
comp=Z,6.8nm,0.9s,mb4.8
GERES GERESS Array B 84.07 321 P **P 09 18 28.2 -1.4**
comp=Z,0.5nm,0.6s,mb3.8,baz=56,slow=5.0,SNR=7.4
SDV Santo Domingo 146.39 22 *e*PKPdf PKPdf 09 25 39.5 +1.0

MEX 04 09:18:54.7±0.4, 1672N×9988W, h6km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.15**	**346**	*i* P	Pg	09 18 57.5	-0.3
ACX				*i* S	Sg	09 19 00.0	0.0
CAIG	**El Cayaco**	**0.50**	**312**	*i* P	Pg	09 19 04.0	-0.3
CAIG				*i* S	Sg	09 19 11.2	+0.4
MEIG	**Mezcala**	**1.23**	**12**	*i* P	Pg	09 19 14.9	-3.4
MEIG				*i* S	Sg	09 19 30.2	-4.0

IDC 04 10:56:09.7±7.9, 4211N×6793E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/22, mbtmp3.7/3, Error ellipse: s-maj=1014.0km s-min=33.6km az=45.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**31.54**	**322**	P	P	11 02 33.2	-0.4
	0.9nm,0.8s,baz=140,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**86.93**	**120**	P	P	11 08 56.9	+0.3
	0.3nm,0.5s,baz=324,slow=4.8,SNR=6.7						
ASAR	**Alice Springs**	**89.37**	**123**	P	P	11 09 08.1	-0.1
	0.5nm,0.9s,baz=308,slow=5.5,SNR=5.5						

IDC 04 11:01:11.4±4.2, 1972S×17406W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, ML2.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/19, Error ellipse: s-maj=137.0km s-min=27.6km az=127.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.17**	**21**	Pn	Pn	11 02 43.8	-0.1
	2.0nm,0.3s,baz=57,slow=21,SNR=4.2						
AFI				LR	LR	11 03 53.7	
	comp=Z,89nm,21.4s,baz=228,slow=26						
AFI				Sn	Sn	11 03 54.2	-1.0
	1.7nm,0.3s,baz=283,slow=23,SNR=2.5						
URZ	**Urewera**	**20.01**	**201**	LR	LR	11 11 57.8	
	comp=Z,125nm,21.4s,baz=186,slow=32						
STKA	**Stephens Creek**	**41.46**	**244**	P	P	11 08 58.1	-1.8
	0.7nm,0.5s,baz=88,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**48.30**	**256**	P	P	11 09 55.1	+0.7
	0.4nm,0.5s,baz=92,slow=8.3,SNR=11						
ASAR				PcP	PcP	11 11 22.8	+1.5
	0.4nm,0.7s,baz=103,slow=3.7,SNR=4.4						
WRA	**Warramunga Arr**	**48.38**	**260**	P	P	11 09 56.2	+1.2
	0.7nm,0.6s,baz=99,slow=8.5,SNR=13						

IDC 04 11:19:02.0±2.0, 120N×9704E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/20, mbtmp3.3/5, Error ellipse: s-maj=54.0km s-min=24.9km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.47**	**50**	Pn	Pn	11 19 43.5	0.0
	1.7nm,0.3s,baz=269,slow=6.4,SNR=8.7						
WRA	**Warramunga Arr**	**42.17**	**122**	P	P	11 26 56.8	+0.5
	0.3nm,0.7s,baz=302,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**43.52**	**127**	P	P	11 27 07.5	+0.2
	0.3nm,0.8s,baz=304,slow=8.5,SNR=5.9						
SONM	**Songino Array**	**47.16**	**9**	P	P	11 27 35.2	-0.9
	0.2nm,0.5s,baz=180,slow=7.4,SNR=4.5						
MKAR	**Makanchi Array**	**47.20**	**346**	P	P	11 27 37.2	+0.7
	0.2nm,0.4s,baz=162,slow=7.1,SNR=5.1						

IDC 04 11:33:51.2±1.9, 599S×13042E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.5/13, mbtmp3.4/5, ML3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.0/17, Error ellipse: s-maj=106.3km s-min=25.1km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.91**	**201**	Pn	Pn	11 36 54.8	-1.1
	0.2nm,0.3s,baz=141,slow=21,SNR=16						
FITZ				Sn	Sn	11 39 04.0	-16
	0.2nm,0.3s,baz=241,slow=23,SNR=4.0						
WRA	**Warramunga Arr**	**14.38**	**165**	Pn	Pn	11 37 16.8	+0.9
	0.3nm,0.3s,baz=350,slow=12,SNR=10						
WRA				Sn	Sn	11 39 43.7	-12
	0.4nm,0.3s,baz=94,slow=13,SNR=9.3						
PMG	**Port Moresby**	**16.93**	**103**	LR	LR	11 45 33.0	
	comp=Z,20nm,18.5s,baz=49,slow=42						
ASAR	**Alice Springs**	**17.89**	**170**	P	Pn	11 38 02.0	+0.6
	0.1nm,0.3s,baz=341,slow=9.0,SNR=13						
ASAR				S	Sn	11 41 10.1	-11
	0.1nm,0.3s,baz=355,slow=27,SNR=5.3						
SONM	**Songino Array**	**57.63**	**341**	P	P	11 43 42.7	-0.4
	0.2nm,0.5s,baz=152,slow=6.4,SNR=3.1						
MKAR	**Makanchi Array**	**67.62**	**326**	P	P	11 44 50.6	+0.9
	0.4nm,0.5s,baz=134,slow=8.3,SNR=4.1						

KRSC 04 11:47:26.9±0.7, 6086N×16596E, h20km±4km, ML3.8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.43**	**174**	*i* P		11 47 36.0	
TILR				*e*S		11 47 43.1	
KAMR	**Kamenskoye**	**1.61**	**4**	*i* P		11 47 54.7	
KAMR				*e*S		11 48 15.2	
KAMR				Smax			
	1μm,0.8s						
OSSR	**Ossora**	**2.17**	**223**	P		11 48 02.5	
OSSR				*e*S		11 48 27.8	
OSSR				Smax			
	900nm,0.7s						
EVNR	**Evensk**	**3.39**	**291**	*e*P		11 48 19.6	
SMKR	**Semkarok**	**4.89**	**211**	*e*P		11 48 42.0	
KBTR	**Krutoberegovo**	**4.95**	**201**	*e*P		11 48 42.6	
KBTR				*e*S		11 49 37.5	
BKI	**Bering**	**5.67**	**180**	*e*P		11 48 53.0	

*ISCJB **04** 11:57:11.5±0.8, 3968N±004×2033E±006, h8km±5km, Error ellipse: s-maj=8.1km s-min=5.3km az=58.1*
*NEIC **04** 11:57:12.9, 3960N×2045E, h18km, MD3.2(ATH), After ATH.*
*THE **04** 11:57:12.6, 3965N×2038E, h10km, ML3.1*
*ATH **04** 11:57:12.9, 3960N×2045E, h18km±5km, MD3.2/5*
*CSEM **04** 11:57:13.2±0.3, 3964N×2041E, h2km, ML3.1, Error ellipse: s-maj=6.8km s-min=4.4km az=136.0*

ISC 04 11:57:13.3±0.6, 3962N±003×2042E±004, h8km±6km, n14, σ1§04/24, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.11**	**218**	*e*Pg	**Pg**	**11 57 15.2**	**-0.7**
IGT				*e*Sg	**Sg**	**11 57 17.2**	**-0.5**
JAN	**Janina**	**0.33**	**84**	*e*PB	**Pg**	**11 57 19.0**	**-0.8**
JAN				*e*SB	**Sg**	**11 57 24.6**	**+0.4**
SRN	**Sarande**	**0.41**	**308**	*i* Pg	**Pg**	**11 57 23.2**	**+1.8**
SRN				*i* Sg	**Sg**	**11 57 30.9**	**+4.0**
KEK	**Kerkira**	**0.49**	**281**	*e*PN	**Pg**	**11 57 23.1**	**+0.3**
MEV	**Metsovon**	**0.64**	**75**	*e*Pg	**Pg**	**11 57 25.2**	**-0.4**
MEV				*e*Sg	**Sg**	**11 57 35.1**	**+1.0**
MEV	**Metsovon**	**0.64**	**75**	*e*Pg	**Pg**	**11 57 25.2**	**-0.5**
MEV				*e*Sg	**Sg**	**11 57 35.1**	**+1.0**
LKD	**Levkas**	**0.93**	**169**	*e*Pg	**Pg**	**11 57 30.6**	**-0.7**
LKD				*e*Sg	**Sg**	**11 57 44.9**	**+1.6**
LKD	**Levkas**	**0.93**	**169**	*e*Pg	**Pg**	**11 57 30.5**	**-0.7**
LKD				*e*Sg	**Sg**	**11 57 44.9**	**+1.6**
KZN	**Kozani**	**1.24**	**56**	*e*PN	**Pn**	**11 57 36.6**	**-0.3**
EVR	**Evrytania**	**1.29**	**123**	*e*PN	**Pn**	**11 57 36.1**	**-1.4**
FNA	**Florina**	**1.37**	**32**	*e*Pg	**Pg**	**11 57 37.6**	**-2.0**
FNA				*e*Sg	**Sg**	**11 57 58.0**	**+0.6**
VLS	**Valsamata**	**1.45**	**175**	*e*PN	**Pn**	**11 57 40.3**	**+0.5**
AGG	**Agios Georgios**	**1.60**	**111**	*e*Pb	**Pb**	**11 57 42.5**	**-0.5**
AGG				*e*Sb	**Sb**	**11 58 04.5**	**+1.2**
LIT	**Litokhoron**	**1.66**	**73**	*e*Pb	**Pb**	**11 57 42.8**	**-1.3**
LIT				*e*Sb	**Sb**	**11 58 06.0**	**+0.8**

*CSEM **04** 12:16:08.1±0.3, 2599N×5785E, h30km, ML3.7, Error ellipse: s-maj=9.8km s-min=4.7km az=166.0*
*THR **04** 12:16:10.7±0.4, 2632N×5794E, h14km±5km, ML3.7*
*KISR **04** 12:16:11.2±0.8, 2666N×5762E, h33km, ML4.1*
*ISCJB **04** 12:16:15.9±2.1, 273N±02×5752E±008, h10km, Error ellipse: s-maj=30.0km s-min=5.6km az=148.9*

ISC 04 12:16:17.3±2.1, 271N±02×5761E±008, h10km, n11, σ1§03/19, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.33**	**286**	*e*PG	**Pg**	**12 16 45.4**	**+2.7**
BNDS				*e*SG	**Sg**	**12 17 11.0**	**+11**
BNDS				AML	AML	12 17 13.2	
	comp=N,682nm,0.5s						
BNDS				AML	AML	12 17 16.3	
	comp=E,688nm,0.4s						
BNDS	**Bandar-Abbas**	**1.33**	**286**	*e*Pg	**Pg**	**12 16 45.4**	**+2.6**
	SNR=90						
BNDS				*e*Sg	**Sg**	**12 17 11.0**	**+11**
	SNR=90						
KRBR	**Kerman**	**3.02**	**346**	*e*PN	**Pn**	**12 17 11.1**	**+6.0**
KRBR				AML	AML	12 18 05.9	
	comp=N,124nm,0.6s						
KRBR				AML	AML	12 18 11.6	
	comp=E,159nm,0.7s						
ZHSF	**Zahedan**	**3.78**	**47**	*e*PN	**Pn**	**12 17 15.4**	**-0.2**
ZHSF				*e*SG	**Sg**	**12 18 18.8**	**0.0**
GHIR	**Ghir-Karzin**	**4.28**	**288**	*e*PN	**Pn**	**12 17 25.2**	**+2.7**
GHIR				AML	AML	12 19 05.2	
	comp=E,29nm,0.5s						
UMR	**Umm Al-Rimmam**	**9.07**	**288**	*e*P	**Pn**	**12 18 27.8**	**-0.4**
UMR				AML	AML	12 20 10.5	
	comp=Z,7.8nm,0.4s						
RDF	**Al-Radifah**	**9.09**	**284**	*e*P	**Pn**	**12 18 27.5**	**-1.0**
RDF				AML	AML	12 20 09.6	
	comp=Z,6.7nm,0.4s						
RDF				*e*S	**Sn**	**12 20 10.5**	**-0.3**
NAY	**Al-Naaiem**	**9.41**	**286**	*e*P	**Pn**	**12 18 32.4**	**-0.5**
NAY				*e*S	**Sn**	**12 20 17.8**	**-0.9**
NAY				AML	AML	12 20 21.7	
	comp=Z,5.0nm,0.5s						
NAY	**Al-Naaiem**	**9.41**	**286**	*e*P	**Pn**	**12 18 32.4**	**-0.5**
NAY				*e*S	**Sn**	**12 20 17.8**	**-0.9**
MIB	**Mutribah**	**9.45**	**289**	*e*P	**Pn**	**12 18 33.4**	**-0.1**
MIB				*e*S	**Sn**	**12 20 19.9**	**+0.1**
MIB				AML	AML	12 20 22.5	
	comp=Z,13nm,0.4s						
MIB	**Mutribah**	**9.45**	**289**	*e*P	**Pn**	**12 18 33.4**	**0.0**
MIB				*e*S	**Sn**	**12 20 19.9**	**+0.2**

*INMG **04** 12:31:49.6±1.2, 4233N×792W, h11km±692km, ML1.5, Error ellipse: s-maj=3.2km s-min=2.1km az=80.0*

MDD 04 12:31:49.4±0.5, 4232N×792W, h13km±14km, mbLg1.8/10, Error ellipse: s-maj=3.5km s-min=2.5km az=103.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOB	**Lobios**	**0.47**	**193**	Pg	Pg	12 31 58.2	-0.4
	7.4nm,0.0s,SNR=32						
ELOB				Lg		12 32 04.3	
	10nm,0.1s,SNR=12						
ERUA	**La Rua**	**0.58**	**83**	Pg	Pg	12 32 00.1	-0.6
	2.5nm,0.1s						
ERUA				Lg		12 32 08.0	
	5.9nm,0.1s,SNR=6.7						
PCAB	**Cabril**	**0.62**	**188**	*e*Pg	Pg	12 32 00.9	-0.5
PCAB				*e*Sg	Sg	12 32 09.0	-0.6
PCAB							
	27nm,0.1s						
STS	**Santiago**	**0.73**	**321**	Pg	Pg	12 32 02.9	-0.7
	4.2nm,0.1s,SNR=13						
STS				Lg		12 32 12.6	
	17nm,0.1s,SNR=5.0						
ECAL	**Calabor**	**0.96**	**113**	Pg	Pg	12 32 06.8	-1.1
	0.6nm,0.1s,SNR=7.9						
ECAL				Lg		12 32 19.5	
	7.9nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**1.00**	**309**	Pg	Pg	12 32 07.6	-1.1
	1.5nm,0.1s,SNR=7.9						
EMAZ				Lg		12 32 20.4	
	5.9nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**1.02**	**120**	*e*P	Pb	12 32 08.2	-0.7
PBRG				*e*S	Sb	12 32 21.1	-1.0
PBRG							
	4.1nm,0.1s						
PVRL	**Vila Real**	**1.06**	**172**	*e*P	Pb	12 32 08.6	-0.9
PVRL				*e*S	Sb	12 32 22.6	-0.6
PVRL							
	10nm,0.1s						
EPON	**Pontenova**	**1.15**	**29**	Pg	Pg	12 32 08.8	-2.8
	0.4nm,0.1s,SNR=7.9						
EPON				Lg		12 32 25.1	
	3.7nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**1.60**	**179**	*e*P	Pn	12 32 18.2	+0.8
PVIS				*e*S	Sn	12 32 39.4	+1.4
PVIS							
	5.6nm,0.1s						
MTE	**Manteigas**	**1.94**	**172**	*e*Sg	Sg	12 32 49.9	-1.9
MTE							
	3.2nm,0.4s						
MTE	**Manteigas**	**1.94**	**172**	Lg		12 32 49.9	
	1.6nm,0.4s						
PCBR	**Castelo Branco**	**2.50**	**172**	*e*Sg	Sg	12 33 07.3	-2.5

*IDC **04** 12:43:04.1±2.1, 3684S×17766E, h194km±14km, mb4.0/3, mb1 4.0/4, mb1mx3.6/13, mbtmp4.4/4, Error ellipse: s-maj=40.6km s-min=20.2km az=43.0*
*ISCJB **04** 12:43:05.4±0.5, 3707S±005×17741E±008, h211km±3km, mb4.1/6, Error ellipse: s-maj=10.0km s-min=7.2km az=158.7*
*BJI **04** 12:43:05.3, 3680S×17750E, h193km, mB5.2, mb4.6*
*NEIC **04** 12:43:05.3, 3678S×17753E, h193km, mb4.1/3, After WEL.*
*WEL **04** 12:43:06.7±0.2, 3686S×17749E, h186km±2km, ML4.9/20, Error ellipse: s-maj=2.1km s-min=1.7km az=0.0*

ISC 04 12:43:06.4±0.5, 3708S±004×17741E±007, h206km±3km, n137, σ1§19/139, mb4.1/6, 10C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.48**	**201**	PN	**Pn**	**12 43 32.6**	**-1.4**
WIZ	**White Island**	**0.48**	**201**	P	**Pn**	**12 43 32.6**	**-1.4**
MXZ	**Matakaoa Point**	**0.86**	**124**	PN	**Pn**	**12 43 34.4**	**-1.4**
MXZ				SN	**Sn**	**12 43 56.7**	**-2.0**
MXZ	**Matakaoa Point**	**0.86**	**124**	P	**Pn**	**12 43 34.4**	**-1.4**
MXZ				S	**Sn**	**12 43 56.7**	**-2.0**
TGRZ	**Tauranga**	**1.12**	**234**	PN	**Pn**	**12 43 37.4**	**-0.1**
TGRZ	**Tauranga**	**1.12**	**234**	P	**Pn**	**12 43 37.4**	**-0.1**
EDRZ	**Edgecumbe**	**1.15**	**207**	P	**Pn**	**12 43 38.3**	**+0.5**
PUZ	**Puketiti**	**1.20**	**146**	⇑PN	**Pn**	**12 43 38.0**	**-0.1**
PUZ				SN	**Sn**	**12 44 02.0**	**-0.7**
PUZ	**Puketiti**	**1.20**	**146**	P	**Pn**	**12 43 38.0**	**-0.1**
PUZ				S	**Sn**	**12 44 02.0**	**-0.7**
URZ	**Urewera**	**1.20**	**191**	P	**Pn**	**12 43 38.2**	**+0.1**
	340nm,0.3s,baz=311,slow=2.2,SNR=5213						
URZ				S	**Sn**	**12 44 02.7**	**0.0**
	303nm,0.3s,baz=191,slow=22,SNR=38						
URZ	**Urewera**	**1.20**	**191**	⇑PN	**Pn**	**12 43 38.4**	**+0.3**
URZ				SN	**Sn**	**12 44 02.7**	**-0.1**
URZ	**Urewera**	**1.20**	**191**	P	**Pn**	**12 43 38.4**	**+0.3**
LIRZ	**Lichensteins R**	**1.23**	**221**	PN	**Pn**	**12 43 38.9**	**+0.5**
LIRZ	**Lichensteins R**	**1.23**	**221**	P	**Pn**	**12 43 38.9**	**+0.6**
MWZ	**Matawai**	**1.25**	**176**	⇑PN	**Pn**	**12 43 39.0**	**+0.4**
MWZ				SN	**Sn**	**12 44 03.8**	**+0.3**
MWZ	**Matawai**	**1.25**	**176**	P	**Pn**	**12 43 39.0**	**+0.5**
TAZ	**Tarawera**	**1.35**	**212**	PN	**Pn**	**12 43 40.3**	**+1.0**
TAZ	**Tarawera**	**1.35**	**212**	P	**Pn**	**12 43 40.4**	**+1.1**
KUZ	**Kuaotunu**	**1.39**	**283**	⇓PN	**Pn**	**12 43 38.0**	**-1.7**
KUZ				SN	**Sn**	**12 44 02.8**	**-2.8**
KUZ	**Kuaotunu**	**1.39**	**283**	P	**Pn**	**12 43 37.9**	**-1.8**
KUZ				S	**Sn**	**12 44 02.8**	**-2.8**
PATZ	**Paeroa**	**1.58**	**215**	PN	**Pn**	**12 43 42.7**	**+1.4**
PATZ	**Paeroa**	**1.58**	**215**	P	**Pn**	**12 43 42.7**	**+1.4**
MKAZ	**Moumakai**	**1.79**	**268**	PN	**Pn**	**12 43 43.1**	**-0.1**
MKAZ	**Moumakai**	**1.79**	**268**	P	**Pn**	**12 43 43.1**	**-0.1**
KNZ	**Kokohu**	**1.95**	**174**	⇑PN	**Pn**	**12 43 45.6**	**+0.8**
KNZ	**Kokohu**	**1.95**	**174**	P	**Pn**	**12 43 45.6**	**+0.9**
WHTZ	**Whakaora**	**1.96**	**216**	PN	**Pn**	**12 43 46.6**	**+1.8**
WHTZ	**Whakaora**	**1.96**	**216**	P	**Pn**	**12 43 46.6**	**+1.8**
MTAZ	**Motutapu**	**2.02**	**278**	⇑PN	**Pn**	**12 43 45.0**	**-0.5**
MTAZ	**Motutapu**	**2.02**	**278**	P	**Pn**	**12 43 45.0**	**-0.5**
HATZ	**Hinemaiaia**	**2.08**	**210**	PN	**Pn**	**12 43 47.2**	**+1.0**
HATZ	**Hinemaiaia**	**2.08**	**210**	P	**Pn**	**12 43 47.2**	**+1.1**
WATZ	**Wairara**	**2.10**	**219**	PN	**Pn**	**12 43 47.7**	**+1.4**
WATZ	**Wairara**	**2.10**	**219**	P	**Pn**	**12 43 47.6**	**+1.3**
KAAZ	**Kauri Point**	**2.18**	**276**	PN	**Pn**	**12 43 47.0**	**-0.1**
KAAZ	**Kauri Point**	**2.18**	**276**	P	**Pn**	**12 43 47.0**	**-0.2**
RATZ	**Rangitukua**	**2.20**	**215**	PN	**Pn**	**12 43 48.6**	**+1.3**
RATZ	**Rangitukua**	**2.20**	**215**	P	**Pn**	**12 43 48.7**	**+1.3**
BKZ	**Black Stump Fm**	**2.20**	**199**	⇑PN	**Pn**	**12 43 48.0**	**+0.6**
RITZ	**Rihia Road**	**2.25**	**212**	PN	**Pn**	**12 43 49.2**	**+1.3**
RITZ	**Rihia Road**	**2.25**	**212**	P	**Pn**	**12 43 49.3**	**+1.4**
WTAZ	**Waiatarua**	**2.27**	**273**	PN	**Pn**	**12 43 48.1**	**0.0**
WTAZ	**Waiatarua**	**2.27**	**273**	P	**Pn**	**12 43 48.1**	**0.0**
KATZ	**Kakaramea**	**2.32**	**215**	PN	**Pn**	**12 43 49.8**	**+1.1**
KATZ	**Kakaramea**	**2.32**	**215**	P	**Pn**	**12 43 49.9**	**+1.2**
KRVZ	**Karewarewa**	**2.45**	**214**	PN	**Pn**	**12 43 51.1**	**+1.1**
HIZ	**Hauiti**	**2.48**	**234**	PN	**Pn**	**12 43 52.2**	**+1.9**
HIZ	**Hauiti**	**2.48**	**234**	P	**Pn**	**12 43 52.3**	**+2.0**
WTVZ	**West Tongariro**	**2.49**	**215**	PN	**Pn**	**12 43 51.5**	**+1.0**
WTVZ	**West Tongariro**	**2.49**	**215**	P	**Pn**	**12 43 51.5**	**+1.1**
OTVZ	**Oturere**	**2.49**	**213**	PN	**Pn**	**12 43 51.7**	**+1.2**
TWVZ	**Taurewa**	**2.52**	**217**	PN	**Pn**	**12 43 52.0**	**+1.1**
TWVZ	**Taurewa**	**2.52**	**217**	P	**Pn**	**12 43 52.0**	**+1.2**
NGZ	**Ngauruhoe**	**2.53**	**214**	PN	**Pn**	**12 43 52.0**	**+1.1**
NGZ	**Ngauruhoe**	**2.53**	**214**	P	**Pn**	**12 43 52.2**	**+1.3**
WPVZ	**Whakapapa**	**2.58**	**214**	PN	**Pn**	**12 43 52.7**	**+1.2**
WPVZ	**Whakapapa**	**2.58**	**214**	P	**Pn**	**12 43 52.7**	**+1.2**
TUVZ	**Tukino**	**2.58**	**212**	PN	**Pn**	**12 43 52.6**	**+1.0**
TUVZ	**Tukino**	**2.58**	**212**	P	**Pn**	**12 43 52.5**	**+1.0**
FWVZ	**Far West T-bar**	**2.62**	**213**	PN	**Pn**	**12 43 52.7**	**+0.8**
FWVZ	**Far West T-bar**	**2.62**	**213**	P	**Pn**	**12 43 53.0**	**+1.1**
DRZ	**Dome Shelter**	**2.63**	**213**	*e*PN	**Pn**	**12 43 53.3**	**+1.3**
DRZ	**Dome Shelter**	**2.63**	**213**	P	**Pn**	**12 43 53.4**	**+1.4**
TRVZ	**Turoa**	**2.66**	**213**	PN	**Pn**	**12 43 53.4**	**+1.0**
WNVZ	**Wahianoa**	**2.66**	**212**	⇑PN	**Pn**	**12 43 53.2**	**+0.9**
WNVZ	**Wahianoa**	**2.66**	**212**	P	**Pn**	**12 43 53.2**	**+0.9**
MOVZ	**Moawhango**	**2.66**	**209**	⇑PN	**Pn**	**12 43 52.7**	**+0.3**
MOVZ				SN	**Sn**	**12 44 28.3**	**-0.1**
MOVZ	**Moawhango**	**2.66**	**209**	P	**Pn**	**12 43 52.7**	**+0.3**
WCZ	**Waipu Caves**	**2.72**	**294**	⇓PN	**Pn**	**12 43 50.9**	**-2.1**
WCZ	**Waipu Caves**	**2.72**	**294**	P	**Pn**	**12 43 50.9**	**-2.2**
PKVZ	**Pokaka**	**2.74**	**216**	PN	**Pn**	**12 43 54.2**	**+0.9**
VRZ	**Vera Road**	**2.92**	**225**	PN	**Pn**	**12 43 56.8**	**+1.4**
VRZ	**Vera Road**	**2.92**	**225**	*e*P	**Pn**	**12 43 56.4**	**+1.0**
PXZ	**Pawanui**	**2.98**	**188**	PN	**Pn**	**12 43 56.4**	**+0.4**
TSZ	**Takapari Road**	**3.18**	**200**	PN	**Pn**	**12 43 58.3**	**-0.1**
TSZ	**Takapari Road**	**3.18**	**200**	P	**Pn**	**12 43 58.5**	**+0.1**
RAEZ	**Rainy Point**	**3.24**	**226**	*e*PN	**Pn**	**12 44 00.6**	**+1.5**
RAEZ	**Rainy Point**	**3.24**	**226**	P	**Pn**	**12 44 01.2**	**+2.1**
WAZ	**Wanganui**	**3.28**	**215**	PN	**Pn**	**12 44 00.2**	**+0.6**
WAZ	**Wanganui**	**3.28**	**215**	*e*P	**Pn**	**12 44 00.3**	**+0.7**
NEZ	**North Egmont**	**3.40**	**229**	PN	**Pn**	**12 44 03.6**	**+2.6**
NEZ	**North Egmont**	**3.40**	**229**	P	**Pn**	**12 44 03.7**	**+2.6**
BFZ	**Birch Farm**	**3.71**	**194**	PN	**Pn**	**12 44 04.6**	**-0.1**
BFZ	**Birch Farm**	**3.71**	**194**	*e*P	**Pn**	**12 44 04.6**	**-0.1**
MRZ	**Mangatainoka R**	**3.85**	**201**	PN	**Pn**	**12 44 06.0**	**-0.5**
MRZ	**Mangatainoka R**	**3.85**	**201**	P	**Pn**	**12 44 06.0**	**-0.5**
TIWZ	**Tintock**	**3.88**	**197**	PN	**Pn**	**12 44 06.8**	**0.0**
KIW	**Kapiti Island**	**4.25**	**207**	PN	**Pn**	**12 44 10.6**	**-0.8**
KIW	**Kapiti Island**	**4.25**	**207**	P	**Pn**	**12 44 10.6**	**-0.8**
MTW	**Mount Morrison**	**4.33**	**199**	PN	**Pn**	**12 44 11.6**	**-0.9**
MTW	**Mount Morrison**	**4.33**	**199**	P	**Pn**	**12 44 11.6**	**-0.9**
CAW	**Cannon Point**	**4.41**	**204**	P	**Pn**	**12 44 12.4**	**-1.1**
MRW	**Makara Radio**	**4.64**	**206**	P	**Pn**	**12 44 15.3**	**-1.1**
WEL	**Wellington**	**4.67**	**205**	P	**Pn**	**12 44 14.2**	**-2.5**
SNZO	**South Karori**	**4.71**	**206**	P	**Pn**	**12 44 16.0**	**-1.3**
TCW	**Tory Channel**	**4.79**	**210**	P	**Pn**	**12 44 16.8**	**-1.4**
NNZ	**Nelson**	**5.18**	**216**	P	**Pn**	**12 44 21.5**	**-1.7**
QRZ	**Quartz Range**	**5.33**	**224**	*e*P	**Pn**	**12 44 23.1**	**-2.0**
BSWZ	**Blackbirch Sta**	**5.37**	**210**	P	**Pn**	**12 44 24.3**	**-1.3**
THZ	**Tophouse**	**5.83**	**215**	*e*P	**Pn**	**12 44 30.2**	**-1.3**
KHZ	**Kahutara**	**6.10**	**208**	P	**Pn**	**12 44 33.5**	**-1.5**
DSZ	**Denniston Nort**	**6.37**	**221**	*e*P	**Pn**	**12 44 37.4**	**-1.0**
LTZ	**Lake Taylor**	**6.93**	**213**	*e*P	**Pn**	**12 44 43.4**	**-2.3**
CRLZ	**Canterbury Las**	**7.44**	**208**	*e*P	**Pn**	**12 44 50.2**	**-2.2**
MQZ	**McQueen's Vall**	**7.54**	**207**	*e*P	**Pn**	**12 44 50.8**	**-2.9**
RPZ	**Rata Peaks**	**8.21**	**214**	P	**Pn**	**12 45 00.7**	**-1.6**
	2.5nm,0.3s,baz=75,slow=9.2,SNR=16						
RPZ				S	**Sn**	**12 46 28.5**	**-6.3**
	4.7nm,0.3s,baz=14,slow=22,SNR=10						
RPZ	**Rata Peaks**	**8.21**	**214**	*e*P	**Pn**	**12 44 59.2**	**-3.1**
LBZ	**Lake Benmore**	**9.12**	**215**	*e*P	**Pn**	**12 45 11.9**	**-2.2**
ODZ	**Otahua Downs**	**9.45**	**211**	*e*P	**Pn**	**12 45 16.7**	**-1.7**
EAZ	**Earnscleugh**	**10.17**	**214**	*e*P	**Pn**	**12 45 27.9**	**+0.2**
TUZ	**Tuapeka**	**10.60**	**211**	*e*P	**Pn**	**12 45 32.7**	**-0.6**
DZM	**Mont Dzumac**	**17.72**	**325**	P	**P**	**12 46 57.9**	**-0.7**
	0.3nm,0.3s,baz=106,slow=21,SNR=4.7						
STKA	**Stephens Creek**	**29.86**	**269**	*e*P	**P**	**12 48 54.8**	**+0.3**
CTA	**Charters Tower**	**31.98**	**293**	P	**P**	**12 49 12.8**	**-0.4**
	1.8nm,0.5s,mb3.9,baz=118,slow=15,SNR=3.9						
ASAR	**Alice Springs**	**39.51**	**277**	P	**P**	**12 50 17.5**	**+0.4**
	4.9nm,0.5s,mb4.2,baz=121,slow=8.1,SNR=196						
ASAR				PcP	PcP	12 52 18.9	-1.4
	0.4nm,0.6s,baz=120,slow=4.0,SNR=4.4						
FORT	**Forrest**	**41.05**	**264**	*e*P	**P**	**12 50 30.3**	**+0.6**
	6.1nm,1.1s,mb3.9						
WB2	**Warramunga Arr**	**41.12**	**282**	⇑*i*P	**P**	**12 50 30.2**	**-0.1**
WRAB	**Tennant Creek**	**41.13**	**282**	*e*P	**P**	**12 50 30.0**	**-0.4**
	7.1nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**41.13**	**282**	P	**P**	**12 50 30.3**	**0.0**
	4.3nm,0.5s,mb4.2,baz=120,slow=7.9,SNR=110						
FITZ	**Fitzroy Crossi**	**49.00**	**278**	*e*P	**P**	**12 51 32.4**	**+0.2**
	4.9nm,0.7s,mb4.0						
SYO	**Syowa Base**	**69.72**	**195**	⇑*e*P	**P**	**12 53 54.5**	**+0.6**
SNAA	**Sanae**	**71.55**	**180**	*e*	**P**	**12 53 55.6**	**-9.3**
VNA3	**Neumayer Olymp**	**71.86**	**178**	*e*	**P**	**12 54 08.4**	**+1.6**
VNA3				*e*		12 54 10.5	
VNA2	**Neumayer--Watz**	**72.24**	**178**	*e*	**P**	**12 54 09.4**	**+0.3**
VNA2				*e*		12 54 11.6	
MDJ	**Mudanjiang**	**92.10**	**328**	P	**P**	**12 55 51.6**	**-0.6**
MDJ				AMB	AMB		
	comp=Z,10.0nm,4.2s						
KMI	**Kunming**	**93.55**	**299**	P	**P**	**12 56 02.0**	**+3.1**
CD2	**Chengdu**	**96.51**	**304**	*e*P	**P**	**12 56 12.2**	**-0.2**
HHC	**Hu-ho-hao-te**	**98.22**	**316**	*e*P	**P**	**12 56 22.4**	**+2.4**
HHC				AP	pP	12 57 09.8	-1.1
HHC				XP	sP	12 57 29.8	-2.5
HHC				PP	PP	13 00 26.7	+4.5
HHC				SKS		13 06 41.0	
HHC				S		13 07 29.2	
HHC				XS	sS	13 08 52.9	-6.2
HHC				PS	PS	13 09 22.6	+2.0
HHC				SS	SS	13 14 20.4	+3.1
HHC				AMB	AMB		
	comp=Z,110nm,6.3s						
HHC				LR	LR		
	comp=N,80nm,17.8s						
HHC				LR	LR		
	comp=E,190nm,22.6s						
HHC				LR	LR		
	comp=Z,60nm,15.5s						
ARCES	**ARCESS Array B**	**144.11**	**344**	PKP	PKPdf	13 02 12.8	-4.6
	comp=Z,3.2nm,0.8s,baz=41,slow=3.9,SNR=8.7						
JOF	**Joensuu**	**146.89**	**332**	*e*p	PKPdf	13 02 19.5	-2.7
	comp=Z,4.2nm,0.6s						
KAF	**Kangasniemi**	**149.21**	**334**	*e*p	PKPdf	13 02 25.9	-0.1
	comp=Z,3.1nm,0.6s						
DBIC	**Dimbokro**	**149.66**	**176**	PKPbc	PKPbc	13 02 31.9	+0.3
	comp=Z,2.2nm,0.6s,baz=95,slow=2.1,SNR=3.8						
FINES	**FINESS Array B**	**149.73**	**333**	PKPbc	PKPbc	13 02 28.4	-3.3
	comp=Z,2.0nm,0.5s,baz=62,slow=3.6,SNR=26						
FINES	**FINESS Array B**	**149.73**	**333**	PKPbc	PKPbc	13 02 28.4	-3.3
BRTR	**Keskin Array B**	**151.60**	**287**	PKPbc	PKPbc	13 02 34.7	-1.4
	comp=Z,0.8nm,0.6s,baz=109,slow=3.0,SNR=5.7						
BRTR	**Keskin Array B**	**151.60**	**287**	PKPbc	PKPbc	13 02 34.7	-1.4
TORD	**Torodi Ar. Bea**	**155.86**	**190**	PKPab	PKPab	13 03 04.8	+1.2
	comp=Z,1.4nm,0.4s,baz=168,slow=3.8,SNR=22						

BER 04 12:43:19.3±0.4, 7112N×629W, h5km, MD3.5, ML2.4, 3C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.67**	**260**	⇑*i*P	Pg	12 43 31.1	-1.1
JNE				AML	AML	12 43 45.8	
	comp=Z,312nm,0.5s						
JNW	**Jan Mayen West**	**0.70**	**264**	⇑*i*P	Pg	12 43 31.5	-1.3
JNW				AML	AML	12 43 41.8	
	comp=Z,125nm,0.4s						
JMI	**Jan Mayen**	**0.82**	**258**	⇑*i*P	Pg	12 43 33.5	-1.6
JMI				*e*S	Sg	12 43 44.3	-1.4
JMI				AML	AML	12 43 46.7	
	comp=Z,370nm,0.4s						

*IDC **04** 12:49:47.9±3.9, 3659S×17786E, h178km±28km, mb3.3/2, mb1 3.5/2, mb1mx3.2/11, mbtmp3.8/2, Error ellipse: s-maj=60.0km s-min=32.3km az=33.0*
*ISCJB **04** 12:49:51.4±0.8, 3716S±008×1775E±02, h218km±8km, mb3.4/2, Error ellipse: s-maj=23.4km s-min=10.3km az=49.8*
*NEIC **04** 12:49:51.2±1.7, 3743S×17793E, h232km±13km, Error ellipse: s-maj=41.7km s-min=26.5km az=113.0*
*WEL **04** 12:49:54.5±0

PAIG				*e*Sg	**Sg**	**12 57 50.1**	**+0.6**
LOS	**Limnos**	**0.98**	**42**	*e*Pg	**Pg**	**12 57 41.5**	**-0.1**
LOS				*e*Sg	**Sg**	**12 57 55.6**	**+1.1**
LKR	**Lokris**	**1.10**	**240**	*e*PN	**Pn**	**12 57 43.2**	**-0.1**
LKR				*e*SN	**Sn**	**12 57 58.2**	**0.0**
OUR	**Ouranopolis**	**1.14**	**351**	*e*Pg	**Pg**	**12 57 43.5**	**-0.9**
PTL	**Penteli**	**1.19**	**193**	*e*PN	**Pn**	**12 57 44.8**	**+0.3**
ATH	**Athens Observa**	**1.30**	**198**	*e*PN	**Pn**	**12 57 46.0**	**0.0**
PLG	**Polygyros**	**1.31**	**333**	*e*PN	**Pn**	**12 57 46.2**	**+0.1**
KVR	**Kavouri**	**1.42**	**194**	*e*PN	**Pn**	**12 57 48.3**	**+0.6**
MGER	**Gerania Oros**	**1.43**	**212**	*e*PN	**Pn**	**12 57 48.3**	**+0.4**
AGG	**Agios Georgios**	**1.48**	**263**	*e*Pg	**Pg**	**12 57 49.4**	**-1.6**
AGG				*e*Sg	**Sg**	**12 58 09.0**	**-1.2**
PRK	**Paraskevi**	**1.60**	**88**	*e*PB	**Pb**	**12 57 50.3**	**-1.3**
LIT	**Litokhoron**	**1.60**	**304**	*e*Pg	**Pn**	**12 57 50.5**	**+0.4**
LIT				*e*Sg	**Sn**	**12 58 10.5**	**0.0**
CHOS	**Chios island**	**1.66**	**119**	*e*Pb	**Pb**	**12 57 51.6**	**-1.1**
CHOS				*e*Sb	**Sb**	**12 58 14.3**	**+1.0**
SRS	**Serrai**	**1.96**	**346**	*e*Pb	**Pb**	**12 57 55.1**	**-2.8**
ALN	**Alexandroupoli**	**2.19**	**39**	*e*Pn	**Pn**	**12 57 58.3**	**0.0**
GRG	**Griva**	**2.23**	**322**	*e*Pn	**Pn**	**12 57 59.9**	**+1.1**

CASC 04 13:06:48.9±2.9, 1303N×9058W, h0^{km}±11^{km}, MD3.9, 6C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.23**	**49⇑**	*e*P	x	13 07 16.3	
SBLS				*e*S	x	13 07 34.9	
RTR	**El Retiro**	**1.25**	**46⇑**	*e*P	x	13 07 16.8	
RTR				*e*S	x	13 07 34.6	
SNJE	**San Jose**	**1.26**	**48⇑**	*e*P	x	13 07 16.8	
SNJE				*e*S	x	13 07 34.9	
FUG	**Fuego 3**	**1.43**	**350**	*e*P	Pn	13 07 16.6	+0.5
FUG				*e*S	Sg	13 07 36.1	+1.1
BOQS	**Boqueron**	**1.44**	**61⇑**	*e*P	x	13 07 18.8	
BOQS				*e*S	x	13 07 39.8	
LFRS	**El Faro**	**1.59**	**68⇑**	*e*P	x	13 07 20.0	
LFRS				*e*S	x	13 07 42.8	
JAT	**Jato**	**1.65**	**321⇓**	*e*P	Pn	13 07 17.4	-1.7
LCBS	**La Ceiba**	**1.68**	**68⇑**	*e*P	x	13 07 21.4	
LCBS				*e*S	x	13 07 46.9	
SNVI	**San Vicente**	**1.79**	**71**	*e*P	x	13 07 22.9	
SNVI				*e*S	x	13 07 49.1	
TP2	**Tecpan 2**	**1.80**	**346⇓**	*e*P	Pn	13 07 21.6	+0.5
TP2				*e*S	Sn	13 07 48.2	+3.5

*LDG **04** 13:24:30.0±0.1, 4208N×260E, h3^{km}, Ml2.2/6, Error ellipse: s-maj=1.1km s-min=1.0km az=84.0*
*STR **04** 13:24:31.3±0.6, 4214N×259E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 04 13:24:30.1±0.4, 4208N×259E, h10^{km}±1^{km}, mbLg1.8/5, Error ellipse: s-maj=3.2km s-min=2.1km az=105.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLT	**Olot**	**0.11**	**308**	Pg	Pg	13 24 32.2	-0.6
CFON	**Fontmartina**	**0.34**	**200**	Pg	Pg	13 24 36.4	-0.4
CFON				Lg		13 24 41.0	
	40nm,0.2s						
CBRU	**Bruguera**	**0.37**	**304**	Pg	Pg	13 24 37.4	0.0
CBRU				Lg		13 24 42.4	
	12nm,0.1s						
SJAF	**Saint Jean de**	**0.46**	**28**	Pg	Pg	13 24 38.6	-0.5
SJAF				Sg	Sg	13 24 45.3	+0.1
SJAF	**Saint Jean de**	**0.46**	**28**	Pg	Pg	13 24 38.7	-0.5
SJAF				Lg		13 24 45.3	
FILF	**Fillols**	**0.48**	**357**	Pg	Pg	13 24 39.3	-0.2
FILF				Sg	Sg	13 24 46.0	+0.1
FILF	**Fillols**	**0.48**	**357**	Pg	Pg	13 24 39.4	-0.1
FILF				Lg		13 24 46.0	
VALF	**Valcebollere**	**0.53**	**307**	Pg	Pg	13 24 41.3	+0.8
VALF				Sg	Sg	13 24 47.6	+0.1
VALF	**Valcebollere**	**0.53**	**307**	Pg	Pg	13 24 39.9	-0.6
VALF				Lg		13 24 47.6	
CLLI	**Llivia**	**0.61**	**311**	Pg	Pg	13 24 41.5	-0.4
CLLI				Lg		13 24 49.8	
	1.8nm,0.2s						
EMIR	**Miracle**	**0.81**	**259**	Pg	Pg	13 24 45.4	-0.4
	3.2nm,0.1s,SNR=7.9						
EMIR				Lg		13 24 56.5	
	4.6nm,0.1s,SNR=7.9						
LRDF	**Laroque-de-Fa**	**0.86**	**358**	Lg		13 24 57.9	
CORG	**Organya**	**0.96**	**280**	Pg	Pg	13 24 48.5	-0.1
CORG				Lg		13 25 01.2	
	1.8nm,0.1s						
SALF	**Salau**	**1.24**	**304**	Pg	Pg	13 24 54.4	+0.4
SALF	**Salau**	**1.24**	**304**	Pg	Pg	13 24 53.8	-0.2
SALF				Lg		13 25 09.4	
MTLF	**Montolieu**	**1.29**	**348**	*e*Pg	Pg	13 24 53.8	-1.1
MTLF				*e*Sg	Sg	13 25 10.8	-0.9
	4.3nm,0.2s						
MTLF	**Montolieu**	**1.29**	**348**	Pg	Pg	13 24 53.8	-1.1
MTLF				Lg		13 25 10.8	
	2.2nm,0.2s						
CGAR	**Garraf**	**1.34**	**235**	Pg	Pg	13 24 47.6	-8.3
EPOB	**Poblet**	**1.34**	**238**	Pg	Pg	13 24 55.0	-0.9
	4.2nm,0.1s,SNR=24						
EPOB				Lg		13 25 13.2	
	4.2nm,0.1s,SNR=11						
CAVN	**Les Avellanes**	**1.38**	**262**	Pg	Pg	13 24 55.9	-0.8
CAVN				Lg		13 25 14.2	
	5.3nm,0.2s						
EGRA	**Graus**	**1.69**	**275**	Pg	Pg	13 25 01.2	-1.5
	0.2nm,0.1s,SNR=13						
EGRA				Lg		13 25 23.8	
	2.8nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.91**	**289**	Pg	Pg	13 25 05.7	-1.1
	0.2nm,0.1s,SNR=8.5						
EBIE				Lg		13 25 30.0	
	2.7nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.92**	**301**	*e*Pg	Pg	13 25 05.7	-1.2
EPF				*e*Sg	Sg	13 25 30.5	-1.2
	2.5nm,0.2s						
EPF	**Esparros**	**1.92**	**301**	Pg	Pg	13 25 05.7	-1.2
EPF				Lg		13 25 30.5	
	1.2nm,0.2s						
ERTA	**Horta de San J**	**2.03**	**237**	Pg	Pg	13 25 06.6	-2.5
	0.3nm,0.1s,SNR=5.9						
ERTA				Lg		13 25 33.5	
	1.7nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.20**	**25**	*e*Pg	Pg	13 25 11.0	-1.4
LASF				*e*Sg	Sg	13 25 39.2	-1.7
	0.8nm,0.2s						
LASF	**Ste Croix**	**2.20**	**25**	Pg	Pg	13 25 11.0	-1.4
LASF				Lg		13 25 39.2	
	0.4nm,0.2s						
ESAC	**San Caprasio**	**2.31**	**262**	Pg	Pg	13 25 13.1	-1.4
	2.6nm,0.2s,SNR=7.9						
ESAC				Lg		13 25 43.0	
	SNR=7.9						
ETSF	**Etsaut**	**2.47**	**290**	*e*Pg	Pg	13 25 16.3	-1.2
ETSF				*e*Sg	Sg	13 25 47.8	-1.7
	3.6nm,0.3s						
ETSF	**Etsaut**	**2.47**	**290**	Pg	Pg	13 25 16.3	-1.2
ETSF				Lg		13 25 47.8	
	1.8nm,0.3s						
CAF	**Calviac**	**2.87**	**353**	*e*Sg	Sg	13 25 59.7	-2.7
	1.0nm,0.2s						
CAF	**Calviac**	**2.87**	**353**	Lg		13 25 59.7	
	0.0nm,0.2s						
SJPF	**Ste Jean**	**3.00**	**291**	*e*Sg	Sg	13 26 04.8	-1.7
	1.4nm,0.3s						
SJPF	**Ste Jean**	**3.00**	**291**	Lg		13 26 04.8	
	0.7nm,0.3s						

IDC 04 13:27:50.0±4.7, 1727S×17606W, h0^{km}, mb3.8/2, mb1 4.0/3, mb1mx3.8/14, mbtmp3.9/3, ML1.9/1, Error ellipse: s-maj=259.7km s-min=25.2km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.31**	**52**	Pn	Pn	13 29 10.1	-0.4
	2.2nm,0.3s,baz=16,slow=13,SNR=6.4						
AFI				Sn	Sn	13 30 15.7	+3.3
	baz=193,slow=23,SNR=2.2						
WRA	**Warramunga Arr**	**46.95**	**259**	P	P	13 36 23.9	+1.4
	0.6nm,0.2s,baz=94,slow=7.7,SNR=60						
ASAR	**Alice Springs**	**47.12**	**254**	P	P	13 36 23.4	-0.4
	0.7nm,0.7s,baz=88,slow=8.6,SNR=16						
BRTR	**Keskin Array B**	**145.89**	**317**	PKPbc	PKPbc	13 47 30.7	-0.6
	0.5nm,0.8s,baz=90,slow=7.2,SNR=2.8						

*ISCJB **04** 13:38:40.3±1.3, 580S±006×14854E±008, h94^{km}±11^{km}, mb4.2/16, Error ellipse: s-maj=14.7km s-min=8.6km az=54.9*
*NEIC **04** 13:38:42.6±0.5, 585S×14857E, mb4.5/10, Error ellipse: s-maj=12.3km s-min=8.0km az=96.0*
*IDC **04** 13:38:43.6±0.8, 594S×14847E, h107^{km}±6^{km}, mb4.0/9, mb1 4.0/12, mb1mx4.0/16, mbtmp4.4/12, MS3.0/2, Ms1 3.0/2, ms1mx2.5/23, Error ellipse: s-maj=15.7km s-min=8.4km az=105.0*

ISC 04 13:38:44.3±1.2, 592S±006×14850E±008, h116^{km}±10^{km}, h105^{km}±1.5^{km}: pP-P, n32, σ1°06/35, mb4.2/16, 1C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**201**	P	**Pn**	**13 39 40.1**	**+0.2**
	30nm,0.3s,baz=43,slow=5.7,SNR=52						
PMG				S	**Sn**	**13 40 21.4**	**-1.5**
	52nm,0.3s,baz=243,slow=22,SNR=11						
PMG	**Port Moresby**	**3.71**	**201⇑**	*e*P	**Pn**	**13 39 39.8**	**-0.1**
PMG				*e*Sn	**Sn**	**13 40 21.9**	**-1.0**
CTA	**Charters Tower**	**14.25**	**189**	*e*P	**Pn**	**13 42 05.3**	**+4.5**
	8.1nm,0.7s						
CTA	**Charters Tower**	**14.25**	**189**	P	**Pn**	**13 42 01.7**	**+0.9**
	0.2nm,0.3s,baz=7.7,slow=16,SNR=3.7						
KAKA	**Kakadu**	**17.22**	**246**	*e*P	**Pn**	**13 42 36.5**	**-1.1**
	53nm,0.5s						
WRAB	**Tennant Creek**	**19.58**	**223**	*e*P	**P**	**13 43 04.5**	**+1.3**
	23nm,0.6s						
WB2	**Warramunga Arr**	**19.58**	**223**	*i*P	**P**	**13 43 04.5**	**+1.3**
WB2				*e*S	**S**	**13 46 36.8**	**-1.2**
WRA	**Warramunga Arr**	**19.59**	**223**	P	**P**	**13 43 04.6**	**+1.3**
	3.1nm,0.3s,baz=49,slow=11,SNR=210						
WRA				S	**S**	**13 46 36.2**	**-1.9**
	0.3nm,0.3s,baz=52,slow=22,SNR=5.3						
GUMO	**Guam**	**19.71**	**349**	LR	LR	13 49 06.7	
	comp=Z,26nm,18.4s,baz=292,slow=32						
ASAR	**Alice Springs**	**22.55**	**217**	P	**P**	**13 43 35.9**	**+0.9**
	12nm,0.6s,mb4.4,baz=50,slow=9.2,SNR=272						
ASAR				S	**S**	**13 47 34.2**	**+0.9**
	11nm,1.0s,baz=28,slow=21,SNR=21						
DZM	**Mont Dzumac**	**23.64**	**135**	P	**P**	**13 43 44.7**	**-0.1**
	8.7nm,0.7s,mb4.2,baz=312,slow=15,SNR=9.7						
ARMA	**Armidale**	**24.55**	**173**	*e*P	**P**	**13 43 54.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**25.39**	**240**	*i*P	**P**	**13 44 01.5**	**+0.7**
	92nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**25.39**	**240**	P	**P**	**13 44 01.8**	**+1.0**
	42nm,0.6s,mb5.1,baz=61,slow=8.9,SNR=115						
FITZ				S	**S**	**13 48 21.1**	**+2.4**
	2.3nm,0.9s,baz=70,slow=11,SNR=2.3						
FITZ				LR	LR	13 54 52.1	
	comp=Z,50nm,21.6s,baz=270,slow=38						
STKA	**Stephens Creek**	**26.62**	**193**	*e*P	**P**	**13 44 09.8**	**-2.1**
	6.7nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**26.62**	**193**	P	**P**	**13 44 13.3**	**+1.4**
	6.4nm,0.8s,mb4.2,baz=10,slow=9.4,SNR=12						
MBWA	**Marble Bar**	**31.72**	**239**	*e*P	**P**	**13 44 57.4**	**+0.4**
	7.0nm,0.6s,mb4.6						
JOW	**Kunigami**	**38.00**	**330**	P	**P**	**13 45 51.4**	**+0.4**
	6.0nm,0.7s,mb4.5,baz=136,slow=18,SNR=4.1						
KLBR	**Kellerberrin**	**38.47**	**225**	*e*P	**P**	**13 45 55.0**	**+0.1**
	4.8nm,0.5s,mb4.6						
URZ	**Urewera**	**41.35**	**145**	P	**P**	**13 46 18.7**	**-0.1**
	17nm,0.9s,mb4.9,baz=268,slow=4.7,SNR=3.4						
MJAR	**Matsushiro Arr**	**43.33**	**348**	P	**P**	**13 46 35.8**	**+1.1**
	1.6nm,0.9s,mb3.7,baz=173,slow=9.5,SNR=5.1						
MJAR				pP	pP	13 46 59.8	-1.5
	2.4nm,0.9s,baz=170,slow=8.7,SNR=4.0						
ULN	**Ulaanbaatar**	**64.77**	**330**	*e*P	**P**	**13 49 10.4**	**0.0**
	1.0nm,0.5s,mb3.9						
SONM	**Songino Array**	**65.07**	**330**	P	**P**	**13 49 12.5**	**+0.1**
	0.7nm,0.6s,mb3.7,baz=155,slow=4.8,SNR=6.1						
SONM				pP	pP	13 49 38.9	-1.8
	0.6nm,0.7s,baz=151,slow=6.3,SNR=3.1						
VNDA	**Vanda**	**71.91**	**177**	P	**P**	**13 49 54.8**	**-0.1**
	0.9nm,0.8s,mb3.6,baz=324,slow=7.5,SNR=4.4						
VNDA				pP	pP	13 50 20.7	-3.1
	0.4nm,0.5s,baz=331,slow=6.8,SNR=2.0						
VNDA	**Vanda**	**71.91**	**177**	*e*P	**P**	**13 49 54.6**	**-0.3**
	1.9nm,1.1s,mb3.8						
VNDA				pP	pP	13 50 20.7	-3.1
MKAR	**Makanchi Array**	**78.39**	**320**	P	**P**	**13 50 31.1**	**-1.0**
	0.8nm,0.6s,mb3.6,baz=96,slow=8.8,SNR=8.2						
ZAL	**Zalesovo**	**79.75**	**327**	P	**P**	**13 50 37.4**	**-2.0**
	1.0nm,0.4s,mb4.0,baz=305,slow=3.5,SNR=3.1						
ZAL	**Zalesovo**	**79.75**	**327**	P	**P**	**13 50 37.4**	**-2.0**
QSPA	**South Pole Qui**	**84.05**	**180**	*e*P	**P**	**13 51 01.6**	**-0.4**
	6.4nm,0.7s,mb4.6						
COLA	**College**	**84.50**	**23**	*e*P	**P**	**13 51 02.6**	**-1.6**
	2.5nm,0.7s,mb4.2						
LPAZ	**La Paz**	**137.57**	**122**	PKP	PKPdf	13 57 56.1	+1.6
	0.5nm,0.6s,baz=14,slow=5.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**146.52**	**285**	PKPbc	PKPbc	13 58 12.6	+0.5
	0.8nm,0.5s,baz=68,slow=3.7,SNR=7.4						

IDC 04 13:50:18.6±5.7, 1767S×17357W, h0^{km}, mb3.6/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, ML1.6/1, Error ellipse: s-maj=199.6km s-min=26.8km az=131.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.11**	**25**	Pn	Pn	13 51 22.5	-0.1
	1.9nm,0.3s,baz=160,slow=21,SNR=5.0						
AFI				Sn	Sn	13 52 12.2	+0.8
	12nm,0.3s,baz=214,slow=22,SNR=7.7						
WRA	**Warramunga Arr**	**49.21**	**259**	P	P	13 59 08.9	+0.4
	0.4nm,0.6s,baz=97,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**49.29**	**254**	P	P	13 59 09.3	+0.2
	0.7nm,0.7s,baz=90,slow=8.4,SNR=12						
BRTR	**Keskin Array B**	**147.78**	**319**	PKPbc	PKPbc	14 10 05.5	+0.3
	0.5nm,0.7s,baz=144,slow=40,SNR=4.2						

*BJI **04** 14:03:07.5, 856N×12655E, h78^{km}, mB4.9, mb4.9, Ms4.5, Msz4.3*
*MOS **04** 14:03:09.7±1.2, 895N×12621E, h73^{km}, mb5.1/40, MS4.3/11, Error ellipse: s-maj=10.8km s-min=6.1km az=110.0*
*ISCJB **04** 14:03:09.3±0.2, 882N±002×12639E±003, h75^{km}, mb4.8/90, Error ellipse: s-maj=3.6km s-min=2.9km az=166.3*
*IDC **04** 14:03:10.0±1.3, 880N×12617E, h68^{km}±11^{km}, mb4.5/25, mb1 4.6/27, mb1mx4.6/28, mbtmp4.8/27, MS4.2/15, Ms1 4.2/15, ms1mx3.9/24, Error ellipse: s-maj=13.1km s-min=6.0km az=81.0*
*MAN **04** 14:03:09.1, 879N×12641E, h51^{km}, mb4.4, ML5.2, MS3.4*
MAN F BISLIG SURIGAO DEL SUR - INTENSITY I.
*NEIC **04** 14:03:10.7±1.1, 883N×12632E, h74^{km}±9^{km}, mb4.9/42, Error ellipse: s-maj=8.4km s-min=4.9km az=70.0*
NEIC Felt [II PIVS] at Butuan and [I PIVS] at Bislig.
*HRVD **04** 14:03:10.7±0.2, 887N×12637E, h60^{km}, MW5.3/86, Centroid moment Tensor Solution. LP body waves: s77,c123;Mantle waves: s86,c161; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.96±.02; $M_{\theta\theta}$-0.22±.02; $M_{\phi\phi}$-0.74±.02; $M_{r\theta}$-0.22±.01; $M_{\theta\phi}$0.42±.01; $M_{\phi r}$-0.15±.02; Best double couple: $M_0$1.00600×10^{17} NP1:ϕ_s317.00000°, δ46.00000°, λ70.00000°. NP2: ϕ_s165.00000°, δ47.00000°, λ110.00000°. Principal axes: T 1.0320, Plg75.0000°, Azm149.0000°; N -0.0530, Plg15.0000°, Azm331.0000°; P -0.9790, Plg1.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 04 14:03:11.3±0.2, 881N±002×12637E±003, h77^{km}, h77^{km}±3.0^{km}: pP-P, n248, σ1°19/268, mb4.8/90, 19C-14D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.62**	**181⇓**	*e*P	**Pn**	**14 03 22.4**	**-3.5**
BIPH				*e*S	**Sn**	**14 03 34.2**	**-2.4**
BUTP	**Butuan**	**0.76**	**282**	*e*P	**Pn**	**14 03 24.6**	**-2.7**
SCPH	**Surigao**	**1.30**	**318⇑**	*e*P	**Pn**	**14 03 31.8**	**-2.1**
SCPH				*e*S	**Sn**	**14 03 50.6**	**-0.2**
BUKP	**Musuan**	**1.59**	**235**	*e*P	**Pn**	**14 03 35.7**	**-1.9**
BUKP				*e*S	**Sn**	**14 03 58.0**	**+0.4**
CGP	**Cagayan de Oro**	**1.69**	**258⇓**	*e*P	**Pn**	**14 03 38.8**	**-0.2**
CGP				*e*S	**Sn**	**14 03 57.2**	**-2.8**
MATI	**Mati**	**1.85**	**183**	*e*P	**Pn**	**14 03 39.7**	**-1.4**
MATI				*e*S	**Sn**	**14 04 05.9**	**+2.1**
DAV	**Davao City (W)**	**1.90**	**204**	*e*P	**Pn**	**14 03 42.0**	**+0.3**
DAV	**Davao City (W)**	**1.90**	**204**	*e*Pn	**Pn**	**14 03 41.4**	**-0.3**
MSLP	**Maasin**	**1.99**	**312**	*e*P	**Pn**	**14 03 42.3**	**-0.6**
KCP	**Kidapawan**	**2.19**	**215⇓**	*e*P	**Pn**	**14 03 46.2**	**+0.6**
KCP				*i*S	**Sn**	**14 04 12.6**	**+0.7**
TBP	**Tagbilaran**	**2.63**	**290**	*i*P	**Pn**	**14 03 58.7**	**+7.2**
TBP				*i*S	**Sn**	**14 04 29.1**	**+6.8**
LLP	**Lapu-Lapu**	**2.81**	**303⇑**	*e*P	**Pn**	**14 03 53.5**	**-0.4**
LLP				*e*S	**Sn**	**14 04 19.2**	**-7.5**
OCLP	**Ormoc**	**2.82**	**322**	*e*P	**Pn**	**14 03 54.6**	**+0.4**
OCLP	**Ormoc**	**2.82**	**322**	*e*P	**Sn**	**14 04 32.2**	**+5.0**
BESP	**Borongan**	**2.92**	**342**	*e*P	**Pn**	**14 03 54.5**	**-1.0**
DCPH	**Dipolog City**	**2.99**	**266⇓**	*e*P	**Pn**	**14 03 54.9**	**-1.5**
DCPH				*e*S	**Sn**	**14 04 26.5**	**-4.7**
PAGZ	**Pagadian**	**3.11**	**252**	*e*P	**Pn**	**14 03 56.6**	**-1.4**
SNPH	**Sibulan**	**3.14**	**280⇓**	*i*P	**Pn**	**14 04 02.0**	**+3.5**
SNPH				*i*S	**Sn**	**14 04 34.0**	**-0.8**
IPIL	**Ipil**	**3.89**	**255⇓**	*i*P	**Pn**	**14 04 09.8**	**+1.1**
IPIL				*i*S	**Sn**	**14 04 53.2**	**0.0**
IPIL	**Ipil**	**3.89**	**255**	*e*P	**Pn**	**14 04 07.9**	**-0.8**
GUIM	**Jordan**	**4.14**	**296**	*e*P	**Pn**	**14 04 11.3**	**-0.8**
MMPH	**Masbate**	**4.44**	**323**	*e*P	**Pn**	**14 04 20.1**	**+3.9**
RCP	**Roxas**	**4.50**	**308⇑**	*e*P	**Pn**	**14 04 17.0**	**+0.1**
RCP				*e*S	**Sn**	**14 05 08.3**	**+0.4**
KALP	**Kalibo**	**4.89**	**306⇓**	*e*P	**Pn**	**14 04 27.0**	**+4.8**
PVCP	**Virac**	**5.23**	**336⇑**	*e*P	**Pn**	**14 04 27.3**	**+0.3**
PVCP				*e*S	**Sn**	**14 05 42.3**	**+16**
PVCP	**Virac**	**5.23**	**336**	*e*P	**Pn**	**14 04 26.4**	**-0.5**
CUYO	**Cuyo Island**	**5.65**	**291**	*e*P	**Pn**	**14 04 31.7**	**-1.0**
AUQP	**San Andres**	**5.77**	**321**	*e*P	**Pn**	**14 04 37.5**	**+3.3**
BOAC	**Boac**	**6.41**	**317**	*e*P	**Pn**	**14 04 45.1**	**+2.1**
ENPP	**El Nido**	**7.24**	**290**	*e*P	**Pn**	**14 04 53.1**	**-1.3**
POLP	**Polilio Island**	**7.31**	**324**	*e*P	**Pn**	**14 04 57.0**	**+1.7**
TGY	**Tagaytay City**	**7.49**	**315⇑**	*e*P	**Pn**	**14 04 56.8**	**-1.0**
TGY	**Tagaytay City**	**7.49**	**315**	P	**Pn**	**14 04 56.2**	**-1.5**
	16nm,0.3s,baz=210,slow=18,SNR=2.2						
LUBP	**Lubang**	**7.75**	**310**	*e*P	**Pn**	**14 05 03.1**	**+1.8**
BALP	**Baler**	**8.33**	**326**	*e*P	**Pn**	**14 05 08.3**	**-0.9**
PALP	**Palanan**	**9.06**	**335**	*e*P	**Pn**	**14 05 18.7**	**-0.5**
CAUP	**Cauayan**	**9.22**	**332**	*e*P	**Pn**	**14 05 19.8**	**-1.6**
TSM	**Tawau**	**9.56**	**243**	P	**Pn**	**14 05 29.0**	**+3.0**
BOLP	**Bolinao**	**9.81**	**321**	*e*P	**Pn**	**14 05 31.0**	**+1.5**
APYP	**Conner**	**10.29**	**332**	*e*P	**Pn**	**14 05 26.1**	**-10**
KKM	**Kota Kinabalu**	**10.44**	**255**	P	**Pn**	**14 05 42.4**	**+4.4**
KKM	**Kota Kinabalu**	**10.44**	**255**	*e*P	**Pn**	**14 05 41.2**	**+3.2**
KSM	**Kuching**	**17.57**	**246**	*e*P	**Pn**	**14 07 12.2**	**+1.2**
JOW	**Kunigami**	**18.02**	**6**	P	**Pn**	**14 07 17.6**	**+1.1**
	3.6nm,0.3s,baz=186,slow=10,SNR=15						
JOW				S	**S**	**14 10 36.8**	**-0.9**
	0.2nm,0.3s,baz=258,slow=30,SNR=2.1						
JOW				LR	LR	14 13 33.1	
	comp=Z,729nm,20.3s,baz=171,slow=34						
GUMO	**Guam**	**18.75**	**74**	S	**S**	**14 10 58.3**	**+4.9**
	1.7nm,0.3s,baz=27,slow=20,SNR=1.6						
GUMO				LR	LR	14 13 26.5	
	comp=Z,836nm,20.1s,baz=243,slow=32						
GZH	**Guangzhou**	**18.91**	**320**	P	**Pn**	**14 07 28.6**	**+1.5**
GZH				S	**S**	**14 11 02.5**	**+6.0**
GZH				LR	LR		
	comp=N,600nm,22.7s						
GZH				LR	LR		
	comp=E,1μm,21.8s						
GZH				LR	LR		
	comp=Z,2μm,18.7s						
QIZ	**Qiongzhong**	**18.97**	**304**	P	**Pn**	**14 07 27.8**	**-0.1**
QIZ				XP	sP	14 07 51.4	-0.1
QIZ				S	**S**	**14 10 59.2**	**+1.5**
QIZ				XS	sS	14 11 24.6	+1.7
QIZ				AMB	AMB		
	comp=Z,30nm,1.0s						
QIZ				AMB	AMB		
	comp=Z,250nm,6.4s						
KAKA	**Kakadu**	**22.21**	**164**	*e*P	**P**	**14 07 59.9**	**-1.4**
	comp=Z,73nm,0.7s,mb5.1						
SSE	**Sheshan**	**22.70**	**348**	*e*P	**P**	**14 08 07.2**	**+0.8**
SSE				AP		14 08 24.5	
SSE				XP	sP	14 08 34.7	+2.8
SSE				S	**S**	**14 12 10.5**	**+1.4**
SSE				XS	sS	14 12 40.1	+2.8
SSE				SCS	ScS	14 19 10.3	-2.2
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
SSE				AMB	AMB		
	comp=Z,150nm,3.5s						
SSE				LR	LR		
	comp=N,280nm,16.1s						
SSE				LR	LR		
	comp=E,910nm,16.1s						
SSE				LR	LR		
	comp=Z,630nm,33.9s						
YOGI	**Yogyakarta**

CHRT	**Chiangrai**	**27.96**	**296**	⇓P	**P**	**14 08 56.0**	**+1.5**
	comp=Z,105nm,0.8s,mb5.4						
CHG	**Chiang Mai**	**28.39**	**293**	P	**P**	**14 08 59.1**	**+0.8**
	comp=Z,16nm,1.1s,mb4.5						
CHTO	**Chiang Mai**	**28.39**	**293**	*e*P	**P**	**14 08 58.8**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**28.39**	**293**	*e*P	**P**	**14 08 58.8**	**+0.5**
	comp=Z,13nm,0.9s,mb4.5						
KS15	**Wonju Array Si**	**28.54**	**3**	*e*P	**P**	**14 09 00.5**	**+0.8**
WRAB	**Tennant Creek**	**29.62**	**165**	*e*P	**P**	**14 09 08.4**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,31nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**29.62**	**165**	*e*P	**P**	**14 09 08.4**	**-0.8**
	comp=Z,31nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**29.63**	**165**	P	**P**	**14 09 08.3**	**-1.0**
	comp=Z,8.7nm,0.6s,mb4.6,baz=347,slow=9.7,SNR=70						
WRA				PcP	PcP	14 12 12.8	+0.7
	comp=Z,2.0nm,0.6s,baz=342,slow=2.9,SNR=3.8						
WB2	**Warramunga Arr**	**29.63**	**165**	*e*P	**P**	**14 09 07.8**	**-1.5**
MJAR	**Matsushiro Arr**	**29.63**	**20**	P	**P**	**14 09 08.7**	**-0.7**
	comp=Z,10nm,0.9s,mb4.4,baz=196,slow=9.1,SNR=24						
MJAR				PcP	PcP	14 12 13.2	+1.0
	comp=Z,2.2nm,0.9s,baz=166,slow=2.9,SNR=4.7						
MJAR				S	**S**	**14 13 59.2**	**0.0**
	comp=Z,0.7nm,0.8s,baz=49,slow=53,SNR=2.6						
MAJO	**Matsushiro**	**29.63**	**20**	*e*P	**P**	**14 09 08.3**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
MAJO	**Matsushiro**	**29.63**	**20**	*e*P	**P**	**14 09 08.3**	**-1.0**
	comp=Z,9.2nm,0.9s,mb4.4						
MAT	**Matsushiro**	**29.63**	**20**	P	**P**	**14 09 08.6**	**-0.7**
MAT				S	**S**	**14 13 57.0**	**-2.2**
MAT	**Matsushiro**	**29.63**	**20**	*e*P	**P**	**14 09 09.0**	**-0.3**
MAT				*e*S	**S**	**14 13 58.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
MAT				MLR	MLR		
	comp=Z,690nm,18.0s						
MAT	**Matsushiro**	**29.63**	**20**	*e*P	**P**	**14 09 09.0**	**-0.3**
	comp=Z,6.7nm,0.9s,mb4.3						
MAT				*e*S	**S**	**14 13 58.0**	**-1.2**
MAT				LR	LR		
	comp=Z,690nm,18.0s						
XAN	**Xi'an**	**29.80**	**330**	P	**P**	**14 09 12.1**	**+1.3**
XAN				LR	LR		
	comp=N,370nm,22.9s						
XAN				LR	LR		
	comp=Z,730nm,28.3s						
DL2	**Dalian**	**30.27**	**353**	P	**P**	**14 09 14.7**	**-0.2**
DL2				S	**S**	**14 14 08.8**	**-0.4**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
DL2				LR	LR		
	comp=N,210nm,15.6s						
DL2				LR	LR		
	comp=E,220nm,15.1s						
DL2				LR	LR		
	comp=Z,340nm,17.9s						
CD2	**Chengdu**	**30.46**	**319**	P	**P**	**14 09 17.7**	**+1.0**
CD2				AP	pP	14 09 35.4	+0.7
CD2				XP	sP	14 09 44.6	+1.0
CD2				PP	PP	14 10 20.5	-6.2
CD2				PCP	PcP	14 12 14.6	+0.3
CD2				S	**S**	**14 14 16.2**	**+4.0**
CD2				XS	sS	14 14 48.5	+5.3
CD2				SCP	ScP	14 15 43.7	-6.2
CD2				PCS	PcS	14 15 51.8	-6.2
CD2				SCS	ScS	14 19 40.3	-5.8
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,200nm,3.9s						
CD2				LR	LR		
	comp=N,990nm,12.6s						
CD2				LR	LR		
	comp=Z,1μm,16.8s						
MBWA	**Marble Bar**	**30.48**	**192**	*e*P	**P**	**14 09 17.0**	**+0.1**
	comp=Z,6.1nm,0.8s,mb4.3						
SNY	**Shenyang**	**32.98**	**356**	⇓P	**P**	**14 09 39.3**	**+0.6**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
SNY				LR	LR		
	comp=N,220nm,16.5s						
SNY				LR	LR		
	comp=E,280nm,13.8s						
SNY				LR	LR		
	comp=Z,330nm,18.9s						
ASAR	**Alice Springs**	**33.10**	**167**	P	**P**	**14 09 39.4**	**-0.4**
	comp=Z,8.7nm,0.6s,mb4.8,baz=352,slow=6.4,SNR=143						
ASAR				PP	PP	14 10 49.2	-6.8
	comp=Z,1.6nm,0.7s,baz=349,slow=9.4,SNR=4.1						
ASAR				PcP	PcP	14 12 22.2	+0.8
	comp=Z,4.1nm,0.7s,baz=355,slow=3.1,SNR=6.8						
ASAR				S	**S**	**14 14 53.7**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=359,slow=22,SNR=4.7						
ASAR				ScP	ScP	14 16 00.0	+1.2
	comp=Z,0.7nm,0.6s,baz=348,slow=4.2,SNR=4.7						
ASAR	**Alice Springs**	**33.10**	**167**	P	**P**	**14 09 39.4**	**-0.4**
ASAR						14 10 49.2	
ASAR						14 12 22.3	
ASAR				S	**S**	**14 14 53.7**	**+0.3**
LZH	**Lanzhou**	**34.03**	**326**	*e*P	**P**	**14 09 51.8**	**+3.9**
LZH				AP	pP	14 10 09.5	+3.5
LZH				XP	sP	14 10 19.9	+4.9
LZH				PP	PP	14 11 08.0	+1.8
LZH				*e*S	**S**	**14 15 07.0**	**-0.7**
LZH				XS	sS	14 15 43.2	+4.3
LZH				SS	SS	14 17 21.2	-17
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,90nm,4.8s						
LZH				LR	LR		
	comp=E,690nm,13.9s						
LZH				LR	LR		
	comp=Z,930nm,14.7s						
HHC	**Hu-ho-hao-te**	**34.51**	**340**	*e*P	**P**	**14 09 55.4**	**+3.4**
HHC				AP	pP	14 10 13.5	+3.3
HHC				XP	sP	14 10 22.6	+3.5
HHC				PCP	PcP	14 12 29.3	+3.8
HHC				S	**S**	**14 15 11.1**	**-4.0**
HHC				XS	sS	14 15 48.6	+2.3
HHC				SS	SS	14 17 34.7	-13
HHC				SCS	ScS	14 20 07.7	+0.9
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,150nm,4.2s						
HHC				LR	LR		
	comp=N,330nm,20.2s						
HHC				LR	LR		
	comp=E,270nm,13.1s						
HHC				LR	LR		
	comp=Z,400nm,20.2s						
VLA	**Vladivostok**	**34.52**	**7**	*de*P	**P**	**14 09 53.0**	**+0.9**
VLA				*e**PP	pP	14 10 07.7	-2.6
VLA				*e*S	**S**	**14 15 15.9**	**+0.7**
VLA				*e*		14 15 48.0	
VLA				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
VLA				MLR	MLR		
	comp=Z,200nm,17.4s						
CTA	**Charters Tower**	**34.75**	**146**	*e*P	**P**	**14 09 55.3**	**+1.2**
	comp=Z,8.9nm,0.6s,mb4.8						
CTA	**Charters Tower**	**34.75**	**146**	P	**P**	**14 09 55.4**	**+1.3**
	comp=Z,12nm,0.6s,mb4.9,baz=324,slow=11,SNR=15						
CTA				S	**S**	**14 15 24.6**	**+5.8**
	comp=Z,3.7nm,1.0s,baz=221,slow=7.9,SNR=3.2						
CTA	**Charters Tower**	**34.75**	**146**	P	**P**	**14 09 55.4**	**+1.3**
CTA				S	**S**	**14 15 24.6**	**+5.8**
CTA				pmax	pmax		
	comp=Z,12nm,0.6s						
CTA				smax			
	comp=N,4.0nm,1.0s						
CTAO	**Charters Tower**	**34.75**	**146**	*e*P	**P**	**14 09 55.1**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.0						
CTAO	**Charters Tower**	**34.75**	**146**	*e*P	**P**	**14 09 55.1**	**+1.0**
	comp=Z,25nm,1.0s,mb5.0						
CN2	**Changchun**	**34.87**	**359**	*e*P	**P**	**14 09 59.1**	**+4.0**
MDJ	**Mudanjiang**	**35.78**	**4**	P	**P**	**14 10 04.1**	**+1.1**
MDJ				AP	pP	14 10 23.0	+1.8
MDJ				XP	sP	14 10 32.4	+2.3
MDJ				PP	PP	14 11 27.1	+1.6
MDJ				S	**S**	**14 15 36.2**	**+1.6**
MDJ				XS	sS	14 16 10.0	+4.1
MDJ				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
MDJ				LR	LR		
	comp=N,510nm,24.4s						
MDJ				LR	LR		
	comp=Z,590nm,26.9s						
SHL	**Shillong**	**36.76**	**301**	*e*P	**P**	**14 10 12.3**	**+1.0**
ASAJ	**Asahikawa**	**37.90**	**19**	P	**P**	**14 10 22.4**	**+1.5**
	comp=Z,16nm,0.9s,mb4.9,baz=241,slow=18,SNR=22						
ASAJ				S	**S**	**14 16 10.2**	**+3.3**
	comp=Z,2.7nm,1.0s,baz=47,slow=8.5,SNR=2.1						
ASAJ				LR	LR	14 26 32.7	
	comp=Z,400nm,18.7s,baz=216,slow=37						
ASAJ	**Asahikawa**	**37.90**	**19**	P	**P**	**14 10 22.5**	**+1.5**
ASAJ				S	**S**	**14 16 10.2**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.9s						
ASAJ				smax			
	comp=N,3.0nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,400nm,18.7s						
HNR	**Honiara**	**38.03**	**118**	LR	LR	14 24 24.7	
	comp=Z,414nm,20.8s,baz=183,slow=33						
GTA	**Gaotai**	**38.64**	**326**	*e*P	**P**	**14 10 26.7**	**-0.4**
GTA				AP	pP	14 10 45.3	-0.2
GTA				XP	sP	14 10 53.8	-0.6
GTA				PP	PP	14 12 01.6	+4.7
GTA				PPP		14 12 23.3	
GTA				PCP	PcP	14 12 39.7	+1.8
GTA				S	**S**	**14 16 17.5**	**-0.5**
GTA				SCP	ScP	14 16 20.2	+1.1
GTA				PCS	PcS	14 16 29.0	+1.7
GTA				XS	sS	14 16 51.3	+1.8
GTA				SCS	ScS	14 20 28.3	-1.5
GTA				AMB	AMB		
	comp=Z,50nm,6.8s						
GTA				LR	LR		
	comp=N,500nm,22.4s						
GTA				LR	LR		
	comp=E,500nm,21.3s						
GTA				LR	LR		
	comp=Z,780nm,23.2s						
LSA	**Lhasa**	**38.97**	**307**	*e*P	**P**	**14 10 31.4**	**+1.5**
LSA				S	**S**	**14 16 22.3**	**-0.6**
LSA				LR	LR		
	comp=N,170nm,18.5s						
LSA				LR	LR		
	comp=E,330nm,22.5s						
LSA				LR	LR		
	comp=Z,440nm,17.2s						
FORT	**Forrest**	**39.39**	**178**	⇑*i*P	**P**	**14 10 34.0**	**+0.6**
	comp=Z,75nm,0.5s,mb5.8						
HABR	**Khabarovsk**	**40.20**	**9**	*i* P	**P**	**14 10 40.8**	**+0.6**
HABR				*e**PP	pP	14 10 54.3	-4.4
HABR				*e*S	**S**	**14 16 44.1**	**+2.7**
HABR				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**40.50**	**17**	⇑*e*P	**P**	**14 10 43.8**	**+1.2**
YSS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.7						
KLR	**Kul'dur**	**40.54**	**5**	*e*P	**P**	**14 10 39.6**	**-3.3**
KLR				MLR	MLR		
	comp=E,600nm,19.0s						
KLBR	**Kellerberrin**	**41.01**	**191**	*e*P	**P**	**14 10 48.1**	**+1.3**
	comp=E,5.5nm,0.5s,mb4.6						
BOK	**Bokaro**	**41.44**	**296**	*e*P	**P**	**14 10 49.9**	**-0.4**
BOK				*e*S	**S**	**14 17 01.4**	**+1.5**
MUN	**Mundaring**	**41.70**	**193**	*e*P	**P**	**14 10 53.0**	**+0.5**
ULN	**Ulaanbaatar**	**42.22**	**341**	⇑*e*P	**P**	**14 10 55.6**	**-1.1**
JIRN	**Jiri**	**42.26**	**302**	*e*P	**P**	**14 10 57.9**	**+0.9**
	comp=E,57nm,0.8s,mb5.3						
SONM	**Songino Array**	**42.42**	**340**	P	**P**	**14 10 56.9**	**-1.3**
	comp=E,1.5nm,0.7s,mb3.8,baz=147,slow=8.4,SNR=7.3						
SONM				PcP	PcP	14 12 50.2	+0.1
	comp=E,3.5nm,0.9s,baz=169,slow=3.6,SNR=5.0						
SONM				LR	LR	14 30 42.0	
	comp=E,344nm,19.7s,baz=151,slow=39						
SONM	**Songino Array**	**42.42**	**340**	P	**P**	**14 10 56.9**	**-1.4**
SONM						14 12 50.2	
GUN	**Gumba**	**42.60**	**302**	*e*P	**P**	**14 11 00.4**	**+0.6**
	comp=E,61nm,0.8s,mb5.4						
VIS	**Vishakhapatnam**	**42.73**	**287**	*e*P	**P**	**14 11 01.9**	**+1.1**
VIS				AMb	AMB	14 11 05.2	
	comp=Z,31nm,1.5s,mb4.8						
PKI	**Pulchoki**	**42.90**	**301**	*e*P	**P**	**14 11 02.3**	**+0.2**
	comp=Z,26nm,0.9s,mb5.0						
PKI	**Pulchoki**	**42.90**	**301**	*e*P	**P**	**14 11 02.3**	**+0.2**
PKI				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**42.99**	**161**	⇑*i*P	**P**	**14 11 01.2**	**-1.7**
	comp=Z,18nm,1.0s,mb4.8						
STKA				*e*		14 12 46.4	
STKA	**Stephens Creek**	**42.99**	**161**	P	**P**	**14 11 01.2**	**-1.7**
	comp=Z,18nm,0.8s,mb4.9,baz=336,slow=7.4,SNR=23						
STKA				PP	PP	14 12 45.8	+1.7
	comp=Z,13nm,0.9s,baz=337,slow=13,SNR=2.9						
STKA				LR	LR	14 30 19.2	
	comp=Z,285nm,21.8s,baz=125,slow=38						
KKN	**Kakani**	**43.07**	**301**	*e*P	**P**	**14 11 03.8**	**+0.2**
	comp=Z,33nm,0.9s,mb5.1						
KKN	**Kakani**	**43.07**	**301**	*e*P	**P**	**14 11 03.8**	**+0.2**
KKN				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.1						
DMN	**Daman**	**43.16**	**301**	*e*P	**P**	**14 11 04.7**	**+0.4**
GKN	**Gorkha**	**43.68**	**302**	*e*P	**P**	**14 11 08.4**	**0.0**
	comp=Z,24nm,0.8s,mb5.0						
BLSP	**Bilaspur**	**44.48**	**293**	*e*P	**P**	**14 11 14.6**	**-0.2**
BLSP				AMb	AMB	14 11 18.4	
	comp=Z,49nm,1.0s,mb5.2						
KOLN	**Koldanda**	**44.49**	**301**	*e*P	**P**	**14 11 14.9**	**0.0**
	comp=Z,60nm,0.7s,mb5.4						
TLY	**Talaya**	**46.63**	**341**	*e*P	**P**	**14 11 31.3**	**-0.6**
TLY				*e*S	**S**	**14 18 21.1**	**+5.8**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
TLY				MLR	MLR		
	comp=Z,226nm,20.0s						
NGP	**Nagpur**	**47.16**	**291**	*e*P	**P**	**14 11 35.0**	**-1.0**
NGP				AMb	AMB	14 11 37.9	
	comp=Z,53nm,1.1s,mb5.2						
HYB	**Hyderabad**	**47.24**	**286**	*i* P	**P**	**14 11 38.0**	**+1.4**
HYB	**Hyderabad**	**47.24**	**286**	*e*P	**P**	**14 11 38.0**	**+1.4**
CLNS	**Chul'man**	**47.92**	**359**	*e*P	**P**	**14 11 41.5**	**-0.4**
CLNS				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.1						
CLNS				pmax	pmax		
	comp=N,16nm,1.2s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
WMQ	**Urumqi**	**48.43**	**323**	P	**P**	**14 11 46.7**	**+0.9**
WMQ				AP	pP	14 12 07.1	+2.3
WMQ				PCP	PcP	14 13 13.4	+2.4
WMQ				PP	PP	14 13 41.0	+2.0
WMQ				PPP		14 14 36.3	
WMQ				SCP	ScP	14 16 58.6	-0.2
WMQ				PCS	PcS	14 17 06.9	-0.1
WMQ				S	**S**	**14 18 40.2**	**-0.6**
WMQ				SCS	ScS	14 21 29.2	-1.9
WMQ				SS	SS	14 22 06.6	-4.8
WMQ				AMB	AMB		
	comp=Z,90nm,4.5s						
WMQ				LR	LR		
	comp=N,400nm,16.0s						
WMQ				LR	LR		
	comp=E,390nm,15.0s						
WMQ				LR	LR		
	comp=Z,460nm,30.0s						
BHPL	**Bhopal**	**48.95**	**293**	*e*P	**P**	**14 11 49.6**	**-0.1**
BHPL				AMb	AMB	14 11 52.8	
	comp=Z,30nm,1.0s,mb5.2						
TOO	**Toolangi**	**49.49**	**160**	*e*P	**P**	**14 11 55.3**	**+1.5**
	comp=Z,13nm,1.1s,mb4.8						
TOO	**Toolangi**	**49.49**	**160**	*e*P	**P**	**14 11 55.3**	**+1.5**
TOO				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
DZM	**Mont Dzumac**	**49.86**	**129**	P	**P**	**14 11 56.2**	**-0.5**
	comp=Z,7.0nm,0.8s,mb4.7,baz=174,slow=1.4,SNR=6.4						
SMLA	**Simla**	**50.80**	**303**	*e*P	**P**	**14 12 03.9**	**+0.1**
SMLA				AMb	AMB	14 12 20.4	
	comp=Z,42nm,0.7s,mb5.6						
AJM	**Ajmer**	**51.96**	**297**	*e*P	**P**	**14 12 11.8**	**-0.7**
YAK	**Yakutsk**	**53.18**	**2**	*e*P	**P**	**14 12 22.2**	**+0.8**
YAK				*e*		14 13 32.3	
YAK				*e*		14 14 22.2	
YAK				*e*PPP		14 15 24.2	
YAK				*e*S	**S**	**14 19 46.4**	**0.0**
YAK				*e*		14 22 07.7	
YAK				*e*SS	SS	14 23 16.1	-11
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
YAK				pmax	pmax		
	comp=E,1.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
YAK				smax			
	comp=N,4.0nm,1.6s						
YAK				smax			
	comp=E,4.0nm,1.9s						
YAK				MLR	MLR		
	comp=Z,93nm,16.0s						
YAK				MLR	MLR		
	comp=N,128nm,21.0s						
YAK	**Yakutsk**	**53.18**	**2**	*e*P	**P**	**14 12 21.0**	**-0.5**
	comp=N,27nm,0.9s,mb5.3						
MKAR	**Makanchi Array**	**53.25**	**323**	P	**P**	**14 12 21.2**	**-0.8**
	comp=N,7.9nm,0.8s,mb4.8,baz=116,slow=8.2,SNR=38						
MKAR				S	**S**	**14 19 47.1**	**-0.2**
	comp=N,0.4nm,0.8s,baz=163,slow=38,SNR=2.0						
MKAR	**Makanchi Array**	**53.25**	**323**	P	**P**	**14 12 21.2**	**-0.8**
MKAR				S	**S**	**14 19 47.1**	**-0.2**
MA2	**Magadan**	**53.91**	**15**	⇑*e*P	**P**	**14 12 28.1**	**+1.3**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
KZA	**Kyzart**	**55.71**	**315**	P	**P**	**14 12 40.4**	**+0.6**
	SNR=16						
TKM2	**Tokmak 2**	**55.78**	**317**	P	**P**	**14 12 40.1**	**-0.2**
	SNR=6.6						
ZAL	**Zalesovo**	**55.95**	**332**	P	**P**	**14 12 39.4**	**-2.2**
	comp=Z,3.1nm,0.8s,mb4.4,baz=357,slow=6.3,SNR=13						
ZAL				S	**S**	**14 20 23.4**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=243,slow=13,SNR=2.9						
ZAL				LR	LR	14 39 47.3	
	comp=Z,267nm,18.3s,baz=339,slow=39						
ZAL	**Zalesovo**	**55.95**	**332**	P	**P**	**14 12 39.4**	**-2.1**
ZAL				S	**S**	**14 20 23.5**	**-0.2**
KBK	**Karagaybulak**	**56.13**	**316**	P	**P**	**14 12 44.1**	**+1.3**
	SNR=10						
UCH	**Uchtor**	**56.27**	**315**	P	**P**	**14 12 44.6**	**+0.8**
	SNR=26						
FRU	**Bishkek**	**56.42**	**316**	*e*P	**P**	**14 12 45.0**	**+0.2**
FRU				MLR	MLR		
	comp=Z,700nm,24.0s						
AAK	**Ala-Archa**	**56.43**	**316**	P	**P**	**14 12 44.8**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**56.43**	**316**	P	**P**	**14 12 44.8**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.3						
USP	**Ospenovka**	**56.66**	**317**	P	**P**	**14 12 46.0**	**-0.5**
	SNR=12						
EKS2	**Erkin-Say**	**56.93**	**316**	P	**P**	**14 12 49.3**	**+0.8**
	SNR=11						
NVS	**Novosibirsk**	**57.23**	**332**	*e*P	**P**	**14 12 48.3**	**-2.3**
KURK	**Kurchatov**	**57.32**	**326**	*c i*P	**P**	**14 12 50.2**	**-1.0**
KURK	**Kurchatov**	**57.32**	**326**	*e*P	**P**	**14 12 49.8**	**-1.5**
	comp=Z,16nm,0.9s,mb5.0						
TIXI	**Tiksi**	**62.80**	**1**	*e*P	**P**	**14 13 26.1**	**-2.6**
TIXI				*e*S	**S**	**14 21 39.7**	**-12**
TIXI				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
TIXI				smax			
	comp=N,65nm,10.4s						
TIXI				smax			
	comp=E,43nm,8.8s						
TIXI				MLR	MLR		
	comp=Z,190nm,19.0s						
BRVK	**Borovoye**	**62.99**	**326**	*e*P	**P**	**14 13 28.7**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**62.99**	**326**	*e*P	**P**	**14 13 28.7**	**-1.2**
	comp=Z,3.9nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**63.05**	**327**	P	**P**	**14 13 28.6**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
CHKZ	**Chkalovo**	**63.05**	**327**	P	**P**	**14 13 28.6**	**-1.8**
	comp=Z,8.4nm,1.1s,mb4.6						
ZRNK	**Zerenda**	**63.66**	**325**	*e*P	**P**	**14 13 31.8**	**-2.6**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**63.66**	**325**	*e*P	**P**	**14 13 31.8**	**-2.6**
	comp=Z,8.3nm,0.6s,mb4.7						
BILL	**Bilibino**	**64.78**	**15**	*c i*P	**P**	**14 13 42.0**	**+0.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.4						
BILL	**Bilibino**	**64.78**	**15**	*e*P	**P**	**14 13 41.5**	**-0.2**
	comp=Z,12nm,1.2s,mb4.6						
RPZ	**Rata Peaks**	**66.12**	**146**	P	**P**	**14 13 51.3**	**+0.9**
	comp=Z,42nm,0.8s,mb5.3,baz=98,slow=3.6,SNR=18						
ARU	**Arti**	**70.50**	**327**	⇑*i*P	**P**	**14 14 16.4**	**-1.3**
ARU				*e*		14 16 51.0	
ARU				*e*S	S	14 23 25.2	+0.4
ARU				*e*SS	SS	14 27 58.2	+1.0
ARU				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
ARU	**Arti**	**70.50**	**327**	*e*P	**P**	**14 14 16.1**	**-1.5**
	comp=Z,16nm,0.8s,mb4.9						
ORR	**Orenburg**	**71.74**	**321**	⇑*i*P	**P**	**14 14 24.9**	**-0.3**
ORR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
ORR				MLR	MLR		
	comp=Z,270nm,20.0s						
KBD	**Kabd**	**75.91**	**298**	*e*P	**P**	**14 14 50.0**	**+0.5**
MAK	**Makhachkala**	**75.91**	**312**	*e*P	PcP	14 15 03.5	+1.8
MAK				MLR	MLR		
	comp=Z,390nm,22.0s						
MIB	**Mutribah**	**76.19**	**299**	*e*P	**P**	**14 14 50.6**	**-0.5**
MIB				AMb	AMB	14 14 52.8	
	comp=Z,29nm,0.9s,mb5.0						
NAY	**Al-Naaiem**	**76.30**	**298**	*e*P	**P**	**14 14 51.2**	**-0.5**
NAY				AMb	AMB	14 14 53.5	
	comp=Z,21nm,1.0s,mb4.8						
TTA	**Tatalina**	**76.57**	**27**	*e*P	**P**	**14 14 53.8**	**+0.5**
TTA				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.4						
TTA	**Tatalina**	**76.57**	**27**	*e*P	**P**	**14 14 53.8**	**+0.5**
	comp=Z,12nm,1.4s,mb4.4						
KDAK	**Kodiak Island**	**77.83**	**33**	P	**P**	**14 15 01.6**	**+1.2**
	comp=Z,16nm,0.9s,mb4.7,baz=328,slow=4.9,SNR=8.0						
KDAK	**Kodiak Island**	**77.83**	**33**	*e*P	**P**	**14 15 01.5**	**+1.1**
	comp=Z,41nm,1.3s,mb5.0						
ZEI	**Tsey**	**78.56**	**312**	*e*P	**P**	**14 15 03.7**	**-0.7**
ZEI				*i*		14 15 11.9	
MIR	**Mirnyy**	**78.99**	**193**	*c i*P	**P**	**14 15 08.0**	**+1.3**
MIR				pmax	pmax		
	comp=Z,300nm,1.0s						
KIV	**Kislovodsk**	**79.41**	**313**	*e*P	**P**	**14 15 09.7**	**+0.7**
KIV				*e*S	S	14 25 07.4	+3.5
KIV				*e*SS	SS	14 30 16.9	+4.4
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						

MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
MALT Malatya 83.00 308 *e*P **P 14 15 28.9 +0.9**
comp=Z,4.9nm,0.8s,mb4.4
APA Apatity 83.06 337⇑*e*P **P 14 15 38.0 +10**
APA pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
ANN Anapa 83.11 314 *e*P **P 14 15 29.0 +0.4**
ANN pmax pmax
comp=Z,24nm,1.0s,mb5.0
DAWY Dawson 84.00 26 *e*P **P 14 15 34.4 +1.3**
JOF Joensuu 84.53 333 *e*p **P 14 15 33.6 -2.2**
comp=Z,9.7nm,0.8s,mb4.8
SIM Simferopol' 85.44 315 *e*P **P 14 15 40.0 -0.4**
SIM pmax pmax
comp=Z,11nm,0.6s,mb5.0
ARCES ARCESS Array B 85.59 340 P **P 14 15 40.0 -1.1**
comp=Z,9.8nm,0.9s,mb4.7,baz=51,slow=7.9,SNR=8.1
INK Inuvik 85.60 22 P **P 14 15 41.4 +0.2**
comp=Z,9.7nm,1.1s,mb4.7,baz=284,slow=7.4,SNR=9.2
INK Inuvik 85.60 22 *e*P **P 14 15 41.7 +0.5**
INK pmax pmax
comp=Z,13nm,1.2s
INK Inuvik 85.60 22 *e*P **P 14 15 41.7 +0.5**
comp=Z,13nm,1.2s,mb4.7
BRTR Keskin Array B 86.53 309 P **P 14 15 44.6 -1.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=105,slow=4.2,SNR=6.7
KAF Kangasniemi 86.96 332 *e*p **P 14 15 46.0 -1.9**
comp=Z,6.8nm,0.9s,mb4.6
KAF Kangasniemi 86.96 332 *e*P **P 14 15 46.0 -1.9**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
PPT Papeete 87.02 108 *e*SS SS 14 32 21.4 +16
PPT comp=Z,137nm,25.8s
*e*LR LR 14 43 29.7
comp=Z,726nm,28.8s
PPT Papeete 87.02 108 LR LR 14 49 15.8
comp=Z,148nm,21.2s,baz=142,slow=32
FINES FINESS Array B 87.22 332 P **P 14 15 47.4 -1.7**
comp=Z,2.9nm,0.5s,mb4.5,baz=81,slow=5.3,SNR=29
FINES LR LR 14 57 58.8
comp=Z,146nm,22.0s,baz=174,slow=38
FINES FINESS Array B 87.22 332 *i*P **P 14 15 47.5 -1.6**
FINES pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 87.75 321 P **P 14 15 50.4 -1.3**
comp=Z,1.0nm,0.5s,mb4.1,baz=74,slow=4.1,SNR=6.2
TBI Tubuai 88.15 114 *e*PP PP 14 19 21.5 +0.2
comp=Z,79nm,29.5s
TBI Tubuai 88.15 114 *e*SS SS 14 32 37.2 +16
TBI comp=Z,199nm,32.8s
*e*LR LR 14 44 12.9
comp=Z,535nm,31.8s
MAW Mawson 88.37 200 *e*P **P 14 15 54.9 +0.3**
comp=Z,3.7nm,0.9s,mb4.4
MAW Mawson 88.37 200 P **P 14 15 53.8 -0.8**
comp=Z,6.1nm,1.0s,mb4.6,baz=60,slow=7.6,SNR=11
MAW LR LR 14 48 33.0
comp=Z,101nm,21.6s,baz=60,slow=31
MAW Mawson 88.37 200 *e*P **P 14 15 54.9 +0.3**
MAW pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 88.48 173 P **P 14 15 55.1 0.0**
comp=Z,14nm,1.0s,mb5.0,baz=315,slow=5.9,SNR=40
VNDA LR LR 14 51 44.3
comp=Z,149nm,20.1s,baz=334,slow=33
VNDA Vanda 88.48 173 *e*P **P 14 15 54.8 -0.4**
comp=Z,9.8nm,0.8s,mb4.9
KMBO Kilima Mbogo 89.30 269 P **P 14 15 59.0 +0.1**
comp=Z,6.1nm,1.1s,mb4.6,baz=29,slow=6.7,SNR=6.4
KMBO LR LR 14 51 41.4
comp=Z,174nm,21.2s,baz=94,slow=33
KMBO Kilima Mbogo 89.30 269⇑*e*P **P 14 16 00.4 +1.4**
KMBO Kilima Mbogo 89.30 269 *e*P **P 14 16 00.1 +1.2**
comp=Z,4.1nm,1.0s,mb4.4
SBA Scott Base 89.38 172 *e*P **P 14 16 00.4 +1.0**
SBA pmax pmax
comp=Z,13nm,1.2s,mb4.8
SBA Scott Base 89.38 172 *e*P **P 14 16 00.4 +1.0**
comp=Z,13nm,1.2s,mb4.8
DAG Danmarks Havn 92.20 352⇓*i*P **P 14 16 11.2 -1.3**
comp=Z,5.9nm,0.9s,mb4.8
DAG Danmarks Havn 92.20 352⇓*i*P **P 14 16 11.2 -1.3**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
NB2 NORSAR Subarra 94.11 334 P **P 14 16 19.7 -1.5**
comp=Z,1.5nm,0.7s,mb4.4,baz=66,slow=4.6
NB2 NORSAR Subarra 94.11 334 P **P 14 16 19.7 -1.5**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
NOA NORSAR Array B 94.11 334 P **P 14 16 18.8 -2.4**
comp=Z,1.7nm,0.9s,mb4.4,baz=66,slow=4.6,SNR=4.9
NOA NORSAR Array B 94.11 334 P **P 14 16 18.8 -2.4**
TAOE Nuku Hiva Isla 94.74 98 *e*PP PP 14 20 10.7 -2.6
comp=Z,315nm,37.5s
TAOE Nuku Hiva Isla 94.74 98 *e*LR LR 14 47 05.7
comp=Z,2μm,31.0s
YKA Yellowknife Ar 95.04 24 P **P 14 16 25.0 -0.5**
comp=Z,4.0nm,0.9s,mb4.8,baz=298,slow=4.6,SNR=6.4
YKA LR LR 14 57 05.6
comp=Z,142nm,21.9s,baz=295,slow=34
GERES GERESS Array B 97.90 322 P **P 14 16 37.9 -0.6**
comp=Z,1.1nm,0.9s,mb4.4,baz=72,slow=4.3,SNR=6.5
QSPA South Pole Qui 98.68 180 *e*P **P 14 16 43.0 +1.0**
comp=Z,13nm,1.3s,mb5.3
NEW Newport 100.46 37 *e*P Pdif 14 16 51.8 +1.9
NEW pmax pmax
comp=Z,3.0nm,1.0s
NEW Newport 100.46 37 *e*P Pdif 14 16 51.8 +1.9
comp=Z,2.8nm,1.0s
RKT Rikitea 101.32 112 *e*LR LR 14 50 21.9
comp=Z,341nm,31.0s
NVAR Mina Array Bea 103.76 47 Pdiff Pdif 14 17 05.8 +1.2
comp=Z,1.1nm,0.9s,baz=272,slow=4.4,SNR=6.7
TORD Torodi Ar. Bea 120.89 291 PKP PKPdf 14 21 54.8 +0.2
comp=Z,1.8nm,0.8s,baz=60,slow=1.5,SNR=11
JCT Junction City 120.94 47 *e*PKIKP PKPdf 14 21 56.2 +1.4
CCM Cathedral Cave 121.65 34 *e*PKIKP PKPdf 14 21 56.9 +0.8
MIAR Mount Ida 122.66 39 *e*PKIKP PKPdf 14 21 59.4 +1.3
ACSO Alum Creek Sta 124.17 27 *e*PKPdf PKPdf 14 22 01.2 +0.2
WVT Waverly 124.92 34 *e*PKIKP PKPdf 14 22 03.2 +0.8
OXF Oxford 125.19 36 *e*PKIKP PKPdf 14 22 04.0 +1.1
PLAL Pickwick Lake 125.62 35 *e*PKPdf PKPdf 14 22 03.9 +0.2
PLCA Paso Flores 144.83 157 PKP PKPdf 14 22 40.0 +0.7
comp=Z,28nm,1.0s,baz=200,slow=4.8,SNR=26
PLCA Paso Flores 144.83 157 *e*PKP PKPdf 14 22 40.2 +0.9
TRQA Tornquist 149.92 167 *e*PKPbc PKPbc 14 22 53.7 +1.0
CPD Cerro la Pandu 150.69 24 *e*PKIKP PKPbc 14 22 55.5 +1.0
CFAA Coronel Fontan 153.56 151 PKP PKPdf 14 22 53.9 +0.6
comp=Z,0.3nm,0.9s,baz=276,slow=2.7,SNR=3.4
CFAA PKPbc PKPbc 14 23 02.2 +1.2
comp=Z,0.5nm,0.6s,baz=259,slow=2.4,SNR=7.3
CPUP Villa Florida 162.22 169 PKPab PKPab 14 23 51.7 +0.6
comp=Z,10nm,1.1s,baz=188,slow=5.0,SNR=7.5
CPUP Villa Florida 162.22 169 PKP2 PKPab 14 23 51.7 +0.5
CPUP pmax pmax
comp=Z,10.0nm,1.1s
LPAZ La Paz 164.02 119 PKP PKPdf 14 23 07.9 +2.4
comp=Z,3.2nm,1.2s,baz=17,slow=8.0,SNR=4.5

*ISCJB **04** 14:06:32.9±1.3, 148N±0.1×1456E±0.1, h121km±12km, mb4.4/18, Error ellipse: s-maj=21.3km s-min=19.3km az=133.0*
*MOS **04** 14:06:32.8±0.9, 1480N×14566E, h125km, mb4.6/3, Error ellipse: s-maj=23.5km s-min=15.0km az=112.1*
*IDC **04** 14:06:33.5±1.5, 1480N×14563E, h112km±14km, mb3.8/11, mb1 4.0/11, mb1mx3.8/20, mbtmp4.2/11, Error ellipse: s-maj=27.9km s-min=19.1km az=100.0*
*NEIC **04** 14:06:34.1±1.2, 1475N×14574E, h121km±11km, mb5.0/7, Error ellipse: s-maj=14.7km s-min=13.0km az=62.0*
ISC 04 14:06:33.1±1.5, 148N±01×1458E±01, h109km±13km, n30, σ0°97/31, mb4.4/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.48**	**217**	P	**Pn**	**14 07 00.4**	**+0.8**
	168nm,0.3s,baz=126,slow=4.1,SNR=316						
GUMO				S	**Sn**	**14 07 18.8**	**-1.0**
	791nm,0.3s,baz=15,slow=17,SNR=15						
JOW	**Kunigami**	**20.27**	**309**	P	**P**	**14 11 01.3**	**+1.4**
	6.7nm,0.6s,baz=128,slow=16,SNR=6.2						
WRA	**Warramunga Arr**	**36.29**	**198**	P	**P**	**14 13 26.3**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=6.0,slow=7.1,SNR=2.4						
FITZ	**Fitzroy Crossi**	**38.23**	**212**	P	**P**	**14 13 42.3**	**0.0**
	2.3nm,1.0s,mb4.0,baz=155,slow=17,SNR=4.5						
ULN	**Ulaanbaatar**	**45.94**	**324**	*e*P	**P**	**14 14 45.3**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**45.94**	**324**	*e*P	**P**	**14 14 45.2**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.1						
SONM	**Songino Array**	**46.30**	**324**	P	**P**	**14 14 48.2**	**+0.5**
	comp=Z,1.5nm,0.6s,mb3.9,baz=123,slow=6.6,SNR=4.9						
JIRN	**Jiri**	**56.55**	**294**	*e*P	**P**	**14 16 04.4**	**+0.3**
GUN	**Gumba**	**56.83**	**294**	*e*P	**P**	**14 16 07.0**	**+0.9**
	comp=Z,9.1nm,0.4s,mb5.2						
PKI	**Pulchoki**	**57.24**	**293**	*e*P	**P**	**14 16 09.3**	**+0.3**
	comp=Z,6.9nm,0.5s,mb4.9						
PKI	**Pulchoki**	**57.24**	**293**	*e*P	**P**	**14 16 09.3**	**+0.3**
PKI				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
KKN	**Kakani**	**57.36**	**294**	*e*P	**P**	**14 16 10.1**	**+0.3**
	comp=Z,8.8nm,0.6s,mb5.0						
KKN	**Kakani**	**57.36**	**294**	*e*P	**P**	**14 16 10.1**	**+0.3**
KKN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
DMN	**Daman**	**57.51**	**293**	*e*P	**P**	**14 16 11.5**	**+0.6**
	comp=Z,10nm,0.5s,mb5.1						
GKN	**Gorkha**	**57.92**	**294**	*e*P	**P**	**14 16 13.9**	**+0.1**
	comp=Z,17nm,0.5s,mb5.4						
KOLN	**Koldanda**	**58.84**	**294**	*e*P	**P**	**14 16 20.2**	**0.0**
	comp=Z,5.0nm,0.3s,mb5.0						
ZAL	**Zalesovo**	**61.20**	**324**	P	**P**	**14 16 34.7**	**-1.6**
	comp=Z,1.5nm,0.4s,mb4.4,baz=28,slow=4.6,SNR=4.4						
ZAL	**Zalesovo**	**61.20**	**324**	P	**P**	**14 16 34.7**	**-1.6**
MKAR	**Makanchi Array**	**61.27**	**315**	P	**P**	**14 16 36.9**	**+0.2**
	comp=Z,5.7nm,0.5s,mb4.9,baz=92,slow=8.3,SNR=30						
MKAR	**Makanchi Array**	**61.27**	**315**	P	**P**	**14 16 36.9**	**+0.2**
NVS	**Novosibirsk**	**62.31**	**325**	*i* P	**P**	**14 16 42.0**	**-1.7**
KURK	**Kurchatov**	**64.26**	**319**	P	**P**	**14 16 56.9**	**+0.3**
	comp=Z,182nm,0.5s,SNR=8.4						
KURK	**Kurchatov**	**64.26**	**319**	*e*P	**P**	**14 16 56.0**	**-0.6**
BRVK	**Borovoye**	**69.62**	**321**	*e*P	**P**	**14 17 30.2**	**-0.3**
INK	**Inuvik**	**72.94**	**23**	P	**P**	**14 17 50.8**	**+0.3**
	comp=Z,1.7nm,0.8s,mb3.9,baz=279,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**81.40**	**28**	P	**P**	**14 18 36.8**	**-0.9**
	comp=Z,1.7nm,0.7s,mb4.0,baz=285,slow=5.1,SNR=4.8						
NVAR	**Mina Array Bea**	**85.49**	**52**	P	**P**	**14 19 01.0**	**+2.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=258,slow=4.5,SNR=3.9						
ARCES	**ARCESS Array B**	**86.24**	**342**	P	**P**	**14 19 00.9**	**-1.5**
	comp=Z,3.5nm,0.8s,mb4.4,baz=64,slow=7.0,SNR=8.3						
FINES	**FINESS Array B**	**90.47**	**335**	P	**P**	**14 19 19.9**	**-2.5**
	comp=Z,0.9nm,0.5s,mb4.2,baz=73,slow=5.6,SNR=6.2						
PDAR	**Pinedale Array**	**90.50**	**45**	P	**P**	**14 19 23.1**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.8,baz=252,slow=3.9,SNR=4.9						

MAN 04 14:33:57.2, 872N×12619E, h23km, mb2.3, ML3.9, MS2.7, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.55**	**162**⇑	*i*P	Pb	14 34 08.4	+0.2
BIPH				*i* S	Sb	14 34 17.7	+2.0
BUTP	**Butuan**	**0.62**	**294**	*e*P	Pb	14 34 09.7	+0.4
BUTP				*e*S	Sb	14 34 21.1	+3.5
SCPH	**Surigao**	**1.27**	**327**⇑	*e*P	Pn	14 34 19.1	-0.4
BUKP	**Musuan**	**1.39**	**233**	*e*P	Pn	14 34 21.8	+0.7
CGP	**Cagayan de Oro**	**1.50**	**260**	*e*P	Pn	14 34 22.2	-0.5

*ISCJB **04** 14:39:45.3±3.0, 52S×02×1457E±01, h114km±29km, mb3.8/5, Error ellipse: s-maj=26.9km s-min=24.2km az=21.4*
*NEIC **04** 14:39:45.8±2.0, 5.15S×14568E, h103km±20km, mb4.2/5, Error ellipse: s-maj=20.7km s-min=16.6km az=126.0*
*IDC **04** 14:39:46.8±4.5, 522S×14582E, h115km±48km, mb3.7/4, mb1 3.8/6, mb1mx3.6/14, mbtmp4.1/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/17, Error ellipse: s-maj=47.8km s-min=30.6km az=99.0*
ISC 04 14:39:46.0±2.8, 52S±02×1457E±02, h104km±28km, n16, σ0°57/18, mb3.8/5, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**161**	P	**Pn**	**14 40 51.7**	**+0.3**
	27nm,0.3s,baz=54,slow=5.2,SNR=114						
PMG				S	**Sn**	**14 41 41.6**	**-0.5**
	15nm,0.3s,baz=127,slow=20,SNR=8.9						
PMG	**Port Moresby**	**4.46**	**161**	*e*P	**Pn**	**14 40 51.6**	**+0.2**
PMG				*e*S	**Sn**	**14 41 42.0**	**-0.2**
CTA	**Charters Tower**	**14.85**	**178**⇓	*i*P	**Pn**	**14 43 17.6**	**+7.0**
	5.9nm,0.4s						
CTA	**Charters Tower**	**14.85**	**178**	P	**Pn**	**14 43 13.2**	**+2.6**
	0.1nm,0.3s,baz=22,slow=23,SNR=3.0						
CTAO	**Charters Tower**	**14.85**	**178**	*e*P	**Pn**	**14 43 17.1**	**+6.5**
KAKA	**Kakadu**	**15.11**	**239**	*e*P	**Pn**	**14 43 13.4**	**-0.4**
	17nm,0.6s						
WRAB	**Tennant Creek**	**18.39**	**216**	*e*P	**P**	**14 43 53.4**	**+0.6**
	9.0nm,0.6s						
WB2	**Warramunga Arr**	**18.40**	**216**	*e*P	**P**	**14 43 52.4**	**-0.4**
WRA	**Warramunga Arr**	**18.41**	**216**	P	**P**	**14 43 52.5**	**-0.5**
	0.5nm,0.3s,baz=42,slow=12,SNR=30						
ASAR	**Alice Springs**	**21.64**	**211**	P	**P**	**14 44 28.1**	**+0.2**
	1.4nm,0.5s,mb3.5,baz=48,slow=8.3,SNR=30						
FITZ	**Fitzroy Crossi**	**23.46**	**235**	*e*P	**P**	**14 44 46.5**	**+0.4**
	12nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.46**	**235**	P	**P**	**14 44 46.8**	**+0.7**
	5.8nm,0.7s,mb4.0,baz=80,slow=7.9,SNR=25						
FITZ				LR	LR	14 54 58.7	
	comp=Z,50nm,21.5s,baz=176,slow=39						
STKA	**Stephens Creek**	**26.86**	**188**	*e*P	**P**	**14 45 16.4**	**-0.4**
	3.4nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**26.86**	**188**	P	**P**	**14 45 16.5**	**-0.4**
	3.6nm,0.6s,mb4.1,baz=353,slow=8.0,SNR=14						
MKAR	**Makanchi Array**	**76.04**	**321**	P	**P**	**14 51 22.2**	**+0.3**
	0.2nm,0.3s,mb3.3,baz=104,slow=6.9,SNR=6.9						
KURK	**Kurchatov**	**79.77**	**323**	P	**P**	**14 51 42.0**	**-0.6**
	1.6nm,0.7s,mb4.0						

*ISCJB **04** 14:53:29.1±0.5, 3936N±003×2060E±004, h8km±5km, Error ellipse: s-maj=5.4km s-min=4.5km az=12.4*
*NEIC **04** 14:53:29.3, 3945N×2066E, h36km, MD3.4(ATH), After ATH.*
*THE **04** 14:53:29.7, 3934N×2061E, h10km, ML3.0*
*ATH **04** 14:53:29.2, 3948N×2069E, h34km±4km, MD3.4/4*
*CSEM **04** 14:53:30.0±0.2, 3934N×2060E, h2km, MD3.4, Error ellipse: s-maj=3.8km s-min=3.2km az=61.0*
ISC 04 14:53:29.6±0.5, 3935N±003×2058E±004, h12km±5km, n15, σ0°96/26, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**314**	*e*Pg	**Pg**	**14 53 35.2**	**+0.2**
IGT				*e*Sg	**Sg**	**14 53 39.9**	**+1.3**
JAN	**Janina**	**0.37**	**35**	*e*PB	**Pg**	**14 53 36.1**	**-0.9**
JAN				*e*SB	**Sg**	**14 53 41.0**	**-1.0**
JAN	**Janina**	**0.37**	**35**	*e*Pb	**Pg**	**14 53 36.1**	**-0.9**
JAN				*e*Sb	**Sg**	**14 53 42.7**	**+0.7**
LKD	**Levkas**	**0.65**	**175**	*e*Pg	**Pg**	**14 53 41.5**	**-0.6**
LKD				*e*Sg	**Sg**	**14 53 51.0**	**+0.4**
MEV	**Metsovon**	**0.67**	**49**	*e*Pg	**Pg**	**14 53 42.0**	**-0.5**
MEV				*e*Sg	**Sg**	**14 53 51.8**	**+0.6**
SRN	**Sarande**	**0.69**	**320**	*i* Pg	**Pg**	**14 53 43.2**	**+0.2**
SRN				*i* Sg	**Sg**	**14 53 57.4**	**+5.4**
KEK	**Kerkira**	**0.70**	**301**	*e*PN	**Pn**	**14 53 43.9**	**-1.4**
EVR	**Evrytania**	**1.05**	**114**	*e*PN	**Pn**	**14 53 49.1**	**-1.1**
EVR				*e*SN	**Sn**	**14 54 03.0**	**-1.8**
VLS	**Valsamata**	**1.17**	**179**	*e*PN	**Pn**	**14 53 53.0**	**+1.2**
VLS	**Valsamata**	**1.17**	**179**	*e*Pb	**Pb**	**14 53 51.7**	**-0.1**
AGG	**Agios Georgios**	**1.40**	**103**	*e*Pg	**Pg**	**14 53 55.4**	**-1.1**
AGG				*e*Sg	**Sg**	**14 54 15.6**	**+0.8**
RLS	**Riolos of Patr**	**1.47**	**151**	*e*PN	**Pn**	**14 53 56.6**	**+0.7**
FNA	**Florina**	**1.56**	**23**	*e*Pg	**Pg**	**14 53 58.5**	**-1.0**
FNA				*e*Sg	**Sg**	**14 54 19.8**	**+0.1**
LIT	**Litokhoron**	**1.66**	**62**	*e*Pb	**Pb**	**14 53 59.2**	**-0.8**
LIT				*e*Sb	**Sb**	**14 54 22.0**	**+1.1**
XOR	**Xorichti**	**2.03**	**89**	*e*Pn	**Pn**	**14 54 04.4**	**+0.8**
XOR				*e*Sn	**Sn**	**14 54 30.8**	**+1.9**

*LDG **04** 15:10:01.9±0.1, 4410N×7848E, h10km, Mb4.6/26, Ms3.0/1, Error ellipse: s-maj=3.9km s-min=2.7km az=12.0*
*IDC **04** 15:10:02.2±0.6, 4410N×7864E, h0km, mb4.4/17, mb1 4.6/21, mb1mx4.5/27, mbtmp4.4/21, ML4.3/4, MS3.4/7, Ms1 3.5/7, ms1mx3.2/31, Error ellipse: s-maj=12.3km*
s-min=9.1km az=159.0
*NNC **04** 15:10:04.6±1.6, 4437N×7847E, h0km, mb4.7, mpv4.6, Error ellipse: s-maj=19.4km s-min=8.0km az=118.0*
*ISCJB **04** 15:10:05.1±0.2, 4438N±002×7864E±003, h25km, mb4.5/68, MS3.7/15, Error ellipse: s-maj=3.6km s-min=2.9km az=165.6*
*BJI **04** 15:10:05.9, 4442N×7871E, h30km, mB4.6, mb4.3, ML5.0, Ms4.3, Msz4.0*
*MOS **04** 15:10:05.4±0.9, 4428N×7861E, h29km, mb4.7/41, Error ellipse: s-maj=6.9km s-min=4.7km az=119.6*
MOS Felt (III) at Alma-Ata.
*NEIC **04** 15:10:06.1±0.2, 4415N×7861E, mb4.6/44, Error ellipse: s-maj=4.7km s-min=3.3km az=45.0*
NEIC Felt [III] at Almaty.
*SZGRF **04** 15:10:10.2, 4467N×7888E, h33km, mb4.7, Eastern Kazakhstan*
ISC 04 15:10:07.1±0.2, 4434N±002×7860E±003, h26km, h26km±.9km: pP-P, n243, σ1°06/269, mb4.5/68, MS3.7/15, 25C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAA	**Alma-Ata**	**1.61**	**229**	*e*PN	**Pn**	**15 10 34.2**	**+0.4**
AAA				*e*S	**Sn**	**15 10 55.3**	**+1.6**
AAA				pmax	pmax		
	comp=Z,5.0nm,0.1s						
AAA				smax			
	comp=E,25nm,0.2s						
KNDC	**Almaty**	**1.64**	**227**	⇑P	**Pn**	**15 10 33.7**	**-0.5**
	comp=E,2μm,0.3s						
KNDC				⇓S	**Sn**	**15 10 54.4**	**+0.1**
	comp=E,21μm,0.3s						
TKM2	**Tokmak 2**	**2.60**	**238**	P	**Pn**	**15 10 47.3**	**-0.2**
	SNR=151						
TKM2	**Tokmak 2**	**2.60**	**238**	⇑Pn	**Pn**	**15 10 47.2**	**-0.3**
	comp=E,44nm,0.6s						
TKM2				⇓Sn	**Sn**	**15 11 23.3**	**+5.1**
	comp=E,36nm,0.3s						
ULHL	**Ulahol**	**2.71**	**220**	P	**Pn**	**15 10 49.8**	**+0.8**
	SNR=834						
CHMS	**Chumysh**	**3.10**	**246**	P	**Pn**	**15 10 54.1**	**-0.2**
	SNR=175						
KBK	**Karagaybulak**	**3.15**	**239**	P	**Pn**	**15 10 55.6**	**+0.6**
	SNR=1175						
USP	**Ospenovka**	**3.16**	**252**	P	**Pn**	**15 10 55.0**	**-0.2**
	SNR=189						
FRU	**Bishkek**	**3.27**	**244**	*e*PN	**Pn**	**15 10 56.7**	**+0.1**
FRU				*i*		15 11 04.0	
FRU				*i*		15 11 09.5	
FRU				*i* S	**Sn**	**15 11 43.0**	**+8.4**
FRU				pmax	pmax		
	comp=Z,350nm,1.6s						
FRU				smax			
	comp=N,2μm,1.3s						
KZA	**Kyzart**	**3.34**	**228**	P	**Pn**	**15 10 58.9**	**+1.3**
	SNR=201						
AAK	**Ala-Archa**	**3.44**	**242**	P	**Pn**	**15 10 59.3**	**+0.3**
	SNR=99						
AAK	**Ala-Archa**	**3.44**	**242**	*e*Pn	**Pn**	**15 10 57.8**	**-1.2**
AAK				*e*Pg	**Pn**	**15 11 05.7**	**+6.6**
AAK				*e*Sg	**Sn**	**15 11 48.8**	**+10**
MK02	**Makanchi Array**	**3.56**	**46**	⇑Pn	**Pn**	**15 11 03.5**	**+2.9**
	comp=N,149nm,0.4s,baz=220,slow=15						
MK02				⇑Lg		15 11 59.3	
	comp=N,834nm,0.5s,baz=226,slow=29						
MK31	**Makanchi Array**	**3.56**	**45**	PN	**Pn**	**15 11 03.4**	**+2.7**
MK31						15 11 59.4	
MK31				pmax	pmax		
	comp=Z,44nm,0.3s						
MK31				pmax	pmax		
	comp=Z,302nm,0.3s						
MKAR	**Makanchi Array**	**3.56**	**45**	Pn	**Pn**	**15 11 03.6**	**+2.9**
	comp=Z,20nm,0.3s,baz=222,slow=14,SNR=350						
MKAR				Sn	**Sn**	**15 11 45.7**	**+3.7**
	comp=Z,101nm,0.3s,baz=217,slow=18,SNR=7.4						
MKAR				Lg		15 11 58.5	
	comp=Z,503nm,0.3s,baz=222,slow=28,SNR=12						
MKAR	**Makanchi Array**	**3.56**	**45**	Pn	**Pn**	**15 11 03.6**	**+2.9**
MKAR				Sn	**Sn**	**15 11 45.7**	**+3.7**
MKAR				Lg		15 11 58.5	
UCH	**Uchtor**	**3.66**	**236**	P	**Pn**	**15 11 03.1**	**+1.2**
	SNR=108						
EKS2	**Erkin-Say**	**3.89**	**246**	P	**Pn**	**15 11 05.5**	**+0.3**
	SNR=80						
KSH	**Kashi**	**5.21**	**203**	P	**Pn**	**15 11 25.5**	**+2.2**
KSH				SG	Sn	15 12 48.0	+26
KSH				Smax			
	comp=N,1μm,0.7s						
KSH				Smax			
	comp=E,5μm,1.5s						
KK31	**Karatay Array**	**5.99**	**261**	⇑Pn	**Pn**	**15 11 33.8**	**-0.3**
	comp=E,3.0nm,0.3s,baz=76,slow=16,SNR=78						
KK31				Pg	Pn	15 11 55.2	+21
	comp=E,54nm,0.5s,baz=81,slow=17,SNR=21						
KK31				⇑Lg		15 13 09.7	
	comp=E,225nm,0.5s,baz=71,slow=29,SNR=10						
KK31	**Karatay Array**	**5.99**	**261**	*e*PN	**Pn**	**15 11 33.8**	**-0.3**
KK31				pmax	pmax		
	comp=Z,54nm,0.5s						
KKAR	**Karatay Array**	**5.99**	**261**	*i* PN	**Pn**	**15 11 33.8**	**-0.3**
KURK	**Kurchatov**	**6.38**	**0**	⇑Pn	**Pn**	**15 11 40.6**	**+1.3**
	comp=Z,12nm,0.5s						
KURK				⇓Pg	Pn	15 12 04.1	+25
	comp=Z,48nm,0.5s						
KURK				⇓Lg		15 13 28.9	
	comp=Z,637nm,0.7s						
KURK	**Kurchatov**	**6.38**	**0**	*e*PN	**Pn**	**15 11 40.3**	**+1.0**
KURK				*e*		15 12 04.0	
KURK				*e*		15 13 24.4	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**6.38**	**0**	*e*Pn	**Pn**	**15 11 40.3**	**+1.0**
	comp=Z,1.1nm,0.6s						
KURK				*e*Pg	Pn	15 12 04.0	+25
KURK				*e*Sn	**Sn**	**15 12 52.5**	**+1.3**
KURK				*e*Sg	Sn	15 13 24.4	+33
WMQ	**Urumqi**	**6.57**	**91**	P	**Pn**	**15 11 42.8**	**+0.8**
WMQ				S	**Sn**	**15 12 55.8**	**-0.3**
WMQ				SG	Sn	15 13 30.1	+34
WMQ				Smax			
	comp=N,300nm,0.9s						
WMQ				Smax			
	comp=E,300nm,0.6s						
VOSK	**Vostochnaya**	**9.79**	**332**	⇑Pn	**Pn**	**15 12 26.4**	**+0.3**
	comp=E,14nm,0.6s						
VOSK				⇑Sn	**Sn**	**15 14 13.7**	**-1.4**
	comp=E,17nm,0.4s						
VOSK				⇑Lg		15 15 13.4	
	comp=E,280nm,0.8s						
VOSK	**Vostochnaya**	**9.79**	**332**	P	**Pn**	**15 12 26.4**	**+0.3**
VOSK						15 14 11.3	
VOSK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
VOSK				smax			
	comp=Z,9.0

ZAL Zalesovo 10.42 21 P **Pn 15 12 36.0 +1.2**
ZAL 15 14 26.4
ZRNK Zerenda 10.69 327 ⇓Pn **Pn 15 12 38.2 -0.3**
comp=Z,8.4nm,0.1s
ZRNK ⇑Sn **Sn 15 14 34.2 -3.1**
comp=Z,69nm,0.3s
ZRNK ⇑Lg 15 15 40.3
comp=Z,366nm,1.4s
ZRNK Zerenda 10.69 327 P **Pn 15 12 38.2 -0.3**
ZRNK 15 14 31.6
ZRNK pmax pmax
comp=Z,6.0nm,0.5s
ZRNK smax
comp=Z,40nm,0.7s
ZRNK pmax pmax
comp=Z,119nm,0.8s
ZRNK Zerenda 10.69 327 *e*Pn **Pn 15 12 38.3 -0.2**
comp=Z,25nm,0.4s
ZRNK *e*Sn **Sn 15 14 31.5 -5.8**
CHKZ Chkalovo 10.70 334 *e*P **Pn 15 12 38.9 +0.2**
CHKZ *e* 15 14 34.4
CHKZ pmax pmax
comp=Z,3.0nm,0.3s
CHKZ Chkalovo 10.70 334 *e*Pn **Pn 15 12 38.9 +0.2**
comp=Z,3.2nm,0.3s
CHKZ *e*Sn **Sn 15 14 34.4 -3.2**
NVS Novosibirsk 10.93 14 *e*P **Pn 15 12 43.0 +1.3**
CHCP Chirah Chowk 11.45 203 P **Pn 15 12 47.7 -1.1**
CEP Cherat 11.72 209 P **Pn 15 12 54.9 +2.4**
AB31 Akbulak array 13.68 298 ⇑Pn **Pn 15 13 16.6 -2.9**
comp=Z,6.2nm,0.5s,baz=102,slow=16,SNR=109
AB31 ⇓Sn **Sn 15 15 48.0 -2.6**
comp=Z,6.8nm,0.5s,baz=107,slow=23,SNR=3.7
AB31 ⇓Lg 15 17 12.7
comp=Z,81nm,0.8s
AB31 Akbulak array 13.68 298 P **Pn 15 13 16.5 -2.9**
AB31 15 15 44.4
AB31 pmax pmax
comp=Z,3.0nm,0.5s
AB31 smax
comp=Z,5.0nm,0.6s
KRAR Krasnoyarsk 14.79 33 *e*P **Pn 15 13 38.0 +3.5**
KRAR pmax pmax
comp=Z,6.0nm,1.3s
AKTK Aktyubinsk 15.19 301 Pn **Pn 15 13 37.0 -2.8**
AKTK Sn **Sn 15 16 18.7 -8.5**
AKTK Lg 15 18 05.5
AKTK LR LR 15 19 55.6
AKTO Aktyubinsk 15.19 301 ⇓Pn **Pn 15 13 38.4 -1.4**
comp=Z,1.4nm,1.0s
AKTO ⇓Sn **Sn 15 16 26.3 -1.0**
comp=Z,0.3nm,0.5s
AKTO ⇑Lg 15 18 05.7
comp=Z,15nm,1.8s
AKTO Aktyubinsk 15.19 301 Pn **Pn 15 13 37.0 -2.8**
comp=Z,1.0nm,0.3s,baz=104,slow=8.9,SNR=17
AKTO Sn **Sn 15 16 18.7 -8.6**
comp=Z,0.7nm,0.3s,baz=173,slow=22,SNR=4.5
AKTO Lg 15 18 05.5
comp=Z,0.6nm,0.3s,baz=185,slow=20,SNR=2.2
AKTO LR LR 15 19 55.6
comp=Z,233nm,21.0s,baz=0.0,slow=39
AKTO Aktyubinsk 15.19 301 P **Pn 15 13 37.0 -2.8**
AKTO 15 16 18.7
GTA Gaotai 16.54 100 *e*P **Pn 15 13 54.8 -2.4**
GTA S **Sn 15 16 56.1 -3.8**
GTA SS 15 17 13.5
GTA AMB AMB
comp=Z,40nm,5.3s
GTA LR LR
comp=N,220nm,8.7s
GTA LR LR
comp=E,150nm,8.7s
GTA LR LR
comp=Z,140nm,14.5s
MOY Mondy 16.64 56 *e*P **Pn 15 14 03.1 +4.7**
MOY pmax pmax
comp=Z,19nm,2.1s
GKN Gorkha 17.01 161 *e*P **Pn 15 13 59.7 -3.4**
KKN Kakani 17.37 160 *e*P **Pn 15 14 04.2 -3.4**
GUN Gumba 17.41 158 *e*P **Pn 15 14 04.8 -3.3**
ORR Orenburg 17.50 303 *e*P **Pn 15 14 15.1 +5.9**
ORR S **Sn 15 17 15.2 -8.0**
ORR pmax pmax
comp=Z,20nm,0.6s
ORR MLR MLR
comp=Z,290nm,14.0s
ARU Arti 17.51 321 *e*P **Pn 15 14 09.1 -0.3**
ARU *e*S **Sn 15 17 23.2 -0.4**
ARU MLR MLR
comp=N,100nm,17.0s
ARU MLR MLR
comp=Z,300nm,17.0s
ARU MLR MLR
comp=E,200nm,16.0s
ARU Arti 17.51 321 *e*Pn **Pn 15 14 08.2 -1.2**
comp=E,38nm,0.8s
ARU *e*S **Sn 15 17 11.7 -12**
PKI Pulchoki 17.61 160 *e*P **Pn 15 14 07.4 -3.2**
LSA Lhasa 17.69 142 *e*P **Pn 15 14 14.8 +3.2**
JIRN Jiri 17.73 157 *e*P **Pn 15 14 07.8 -4.3**
ZAK Zakamensk 17.73 61 *e*P **Pn 15 14 11.5 -0.6**
ZAK pmax pmax
comp=Z,18nm,1.4s
ZAK pmax pmax
comp=Z,6.0nm,1.8s
ZAK pmax pmax
comp=Z,36nm,2.0s
TLY Talaya 18.23 57 *e*P **Pn 15 14 21.1 +2.9**
TLY *e*S **Sn 15 17 46.2 +5.3**
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY MLR MLR
comp=Z,75nm,14.0s
IRK Irkutsk 18.75 56 *e*P **Pn 15 14 25.1 +0.6**
IRK pmax pmax
comp=Z,18nm,0.7s
SONM Songino Array 19.55 70 P **Pn 15 14 33.9 -0.2**
comp=Z,1.6nm,0.3s,baz=263,slow=12,SNR=36
SONM Lg 15 20 21.1
comp=Z,0.1nm,0.3s,baz=323,slow=30,SNR=3.1
SONM LR LR 15 22 32.4
comp=Z,63nm,21.9s,baz=327,slow=38
ULN Ulaanbaatar 19.99 70 *e*P **Pn 15 14 38.5 -0.8**
ULN Ulaanbaatar 19.99 70 *e*P **Pn 15 14 36.8 -2.5**
comp=Z,8.2nm,0.5s
SOKR Solikamsk 20.18 327 *e*P pP 15 14 50.9 +4.3
SOKR pmax pmax
comp=Z,20nm,0.8s
SOKR MLR MLR
comp=Z,200nm,14.0s,MS3.6
LZH Lanzhou 20.91 105 *e*P **P 15 14 47.7 +0.2**
LZH AP 15 14 55.6
LZH XP sP 15 14 59.5 +1.6
LZH PP 15 15 09.4
LZH *e*S **S 15 18 29.2 -10**
LZH *e*SS 15 19 03.0
LZH AMB AMB
comp=Z,20nm,1.2s
LZH AMB AMB
comp=Z,90nm,4.0s
LZH LR LR
comp=E,290nm,10.0s
LZH LR LR
comp=Z,450nm,11.2s,MS4.1
CD2 Chengdu 23.90 116 P **P 15 15 18.6 -0.1**
CD2 AP 15 15 25.6
CD2 XP sP 15 15 29.1 -0.4
CD2 PP 15 15 52.1
CD2 S **S 15 19 29.6 -3.8**
CD2 XS sS 15 19 41.0 -4.9
CD2 SS 15 20 19.6
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.5
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=E,170nm,14.4s
CD2 LR LR
comp=Z,190nm,14.4s,MS3.7
CIT Chita 24.35 59 *e*P **P 15 15 23.6 +0.8**
CIT pmax pmax
comp=Z,53nm,1.4s,mb4.8
HHC Hu-ho-hao-te 24.42 87 *e*P **P 15 15 22.6 -0.8**
HHC AP 15 15 28.1
HHC XP sP 15 15 31.4 -2.9
HHC PP 15 15 58.1
HHC S **S 15 19 38.1 -3.7**
HHC XS sS 15 19 48.2 -6.1
HHC SS 15 20 35.9
HHC SCP ScP 15 22 37.7 -1.2
HHC PCS PcS 15 22 40.3 -1.6
HHC AMB AMB
comp=Z,10.0nm,1.3s,mb4.1
HHC AMB AMB
comp=Z,80nm,8.7s
HHC LR LR
comp=N,120nm,3.8s
HHC LR LR
comp=E,100nm,4.1s
HHC LR LR
comp=Z,160nm,10.4s,MS3.8
KIV Kislovodsk 25.65 282 *e*P **P 15 15 34.9 +0.3**
KIV *e* 15 19 04.1
KIV *e*S **S 15 20 01.3 -0.1**
KIV pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
KIV MLR MLR
comp=Z,167nm,14.0s,MS3.7
KMI Kunming 27.42 126 P **P 15 15 52.6 +2.0**
OBN Obninsk 28.80 307⇑*e*P **P 15 16 04.0 +1.1**
OBN *e* 15 16 52.9
OBN pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.5
GYA Guiyang 28.80 119 P **P 15 16 01.7 -1.2**
GYA S **S 15 20 48.3 -2.8**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
GYA AMB AMB
comp=Z,90nm,3.8s
GYA LR LR
comp=N,450nm,16.2s,MS4.3
GYA LR LR
comp=E,470nm,15.8s,MS4.3
GYA LR LR
comp=Z,430nm,15.3s,MS4.2
JOF Joensuu 32.64 321 *e*p **P 15 16 36.5 -0.3**
comp=Z,4.6nm,0.4s,mb4.8
CN2 Changchun 33.30 74 *e*P **P 15 16 43.5 +0.9**
BRTR Keskin Array B 33.39 278 P **P 15 16 44.0 +0.7**
comp=Z,1.7nm,0.9s,mb4.0,baz=94,slow=7.4,SNR=10
AKASG Malin Array Be 33.42 299 P **P 15 16 43.4 -0.2**
comp=Z,3.9nm,0.6s,mb4.5,baz=69,slow=8.7,SNR=8.6
AKASG PcP PcP 15 19 23.6 -1.0
comp=Z,0.9nm,0.4s,baz=69,slow=3.4,SNR=5.6
AKBB Malin Array Si 33.42 299 *e*P **P 15 16 42.9 -0.7**
NJ2 Nanjing 33.60 98 *e*P **P 15 16 47.6 +2.4**
NJ2 AP pP 15 16 54.4 +1.5
NJ2 XP sP 15 16 57.6 +1.5
NJ2 PP PP 15 17 58.0 -3.4
NJ2 S **S 15 22 07.0 +0.9**
NJ2 XS sS 15 22 21.0 +2.1
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,290nm,3.8s
NJ2 LR LR
comp=N,930nm,23.5s,MS4.5
NJ2 LR LR
comp=E,250nm,20.6s,MS4.5
NJ2 LR LR
comp=Z,180nm,22.7s,MS3.7
YAK Yakutsk 34.23 41 *e*P **P 15 16 51.5 +0.9**
YAK pmax pmax
comp=Z,12nm,1.2s,mb4.7
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK Yakutsk 34.23 41 *e*P **P 15 16 51.0 +0.4**
comp=E,24nm,1.0s,mb5.1
KAF Kangasniemi 34.81 319 *e*p **P 15 16 55.3 -0.3**
comp=E,1.2nm,0.5s,mb4.1
KAF Kangasniemi 34.81 319 *e*P **P 15 16 55.3 -0.3**
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
FINES FINESS Array B 34.85 318 P **P 15 16 56.5 +0.4**
comp=Z,2.9nm,0.8s,mb4.2,baz=95,slow=9.3,SNR=17
FINES LR LR 15 33 05.6
comp=Z,34nm,20.1s,MS3.1,baz=85,slow=40
MMAI Mount Meron Ar 35.20 266 P **P 15 16 59.5 +0.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=61,slow=8.9,SNR=4.3
SSE Sheshan 35.79 97 *e*P **P 15 17 03.1 -1.0**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,100nm,3.9s
MDJ Mudanjiang 35.89 71 P **P 15 17 03.9 -1.1**
VRI Vrincioaia 36.12 291⇓*i*P pP 15 17 16.9 +2.3
TIXI Tiksi 36.30 24 *e*P **P 15 17 06.6 -1.8**
TIXI pmax pmax
comp=Z,12nm,1.0s,mb4.8
TIXI MLR MLR
comp=Z,218nm,18.0s,MS4.0
ARCES ARCESS Array B 36.53 332 P **P 15 17 11.1 +0.7**
comp=Z,3.7nm,0.5s,mb4.5,baz=94,slow=9.3,SNR=38
ARCES LR LR 15 33 41.9
comp=Z,36nm,18.8s,MS3.2,baz=158,slow=39
BURAR Bucovina Array 36.63 294⇓*i*P **P 15 17 12.1 +0.8**
MLR Muntele Rosu 36.75 291⇑*i*P **P 15 17 13.5 +1.2**
KWP Kalwaria 37.74 298 *e*P **P 15 17 21.5 +0.8**
KWP pmax pmax
comp=Z,20nm,0.8s,mb4.9
KWP Kalwaria 37.74 298 *e*P **P 15 17 21.5 +0.8**
comp=Z,20nm,0.8s,mb4.9
STHS Stebnicka Huta 38.72 298 *e*P **P 15 17 29.2 +0.3**
STHS *e* pP 15 17 37.0 +0.3
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
STHS Stebnicka Huta 38.72 298 *e*P **P 15 17 29.2 +0.3**
comp=Z,2.6nm,0.7s,mb4.1
STHS *e* pP 15 17 37.0 +0.3
OJC Ojcow 39.42 300 *e*PX **P 15 17 35.3 +0.6**
KECS Kecovo 39.45 297 *e*P **P 15 17 35.7 +0.6**
KECS *e* pP 15 17 41.4 -1.5
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
KECS Kecovo 39.45 297 *e*P **P 15 17 35.7 +0.6**
comp=Z,2.2nm,0.7s,mb4.0
KECS *e* pP 15 17 41.4 -1.5
BZS Buzias 39.60 293⇓*i*P **P 15 17 37.2 +0.9**
DPC Dobruska-Polom 41.53 301 *e*P **P 15 17 52.8 +0.6**
DPC *e*pP pP 15 18 00.7 +0.7
UPC Upice 41.67 302 *e*P **P 15 17 54.2 +0.8**
UPC *e*pP pP 15 18 01.9 +0.7
NB2 NORSAR Subarra 42.03 318 P **P 15 17 56.2 -0.1**
comp=Z,24nm,1.1s,mb4.8,baz=81,slow=8.6
NB2 NORSAR Subarra 42.03 318 P **P 15 17 56.2 -0.1**
NB2 pmax pmax
comp=Z,24nm,1.1s,mb4.7
NOA NORSAR Array B 42.03 318 P **P 15 17 56.5 +0.2**
comp=Z,6.5nm,0.6s,mb4.4,baz=82,slow=8.2,SNR=25
NOA LR LR 15 36 11.3
comp=Z,110nm,18.7s,MS3.8,baz=90,slow=37
NAO01 NORSAR Array S 42.22 318 *e*P **P 15 17 57.4 -0.5**
comp=Z,3.1nm,0.5s,mb4.2
PVCC Panska Ves 42.55 302 *e*P **P 15 18 01.4 +0.9**
PVCC *e*pP pP 15 18 09.1 +0.7
PRU Pruhonice 42.73 301 *e*P **P 15 18 02.7 +0.7**
PRU *e*pP pP 15 18 09.4 -0.5
BRG Berggiesshubel 42.82 303 *e*P **P 15 18 03.3 +0.5**
comp=Z,1.9nm,0.8s,mb3.9
BRG *e*pP pP 15 18 10.8 +0.2
comp=Z,2.0nm,0.9s
BRG Berggiesshubel 42.82 303 *e*P **P 15 18 03.3 +0.5**
BRG *e**PP pP 15 18 10.8 +0.2
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
CLL Collm 43.26 303 *e*P **P 15 18 06.5 +0.2**
CLL Collm 43.26 303⇑*i*P **P 15 18 06.5 +0.2**
comp=Z,9.0nm,0.6s,mb4.7
CLL *e*pP pP 15 18 14.0 -0.2
CLL *e*sP sP 15 18 17.0 -0.3
CLL Collm 43.26 303⇑*i*P **P 15 18 06.5 +0.2**
CLL *e* pP 15 18 14.0 -0.2
CLL *e* 15 18 17.0
CLL pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
JOW Kunigami 43.31 97 LR LR 15 38 42.8
comp=Z,68nm,21.9s,MS3.5,baz=117,slow=40
KHC Kasperske Hory 43.60 300 *e*P **P 15 18 09.1 +0.1**
GEC2 GERESS Array S 43.62 300 *e*P **P 15 18 10.3 +1.1**
GERES GERESS Array B 43.62 300 P **P 15 18 09.8 +0.6**
comp=Z,1.2nm,0.6s,mb3.8,baz=66,slow=6.4,SNR=14
YSS Yuzh-Sakhalins 43.80 63 *e*P **P 15 18 06.1 -4.6**
TANN Tannenbergstha 43.86 302 *e*P **P 15 18 12.0 +0.9**
WET Wettzell 44.03 301 *e*P **P 15 18 13.6 +1.1**
MOX Moxa 44.30 303 *e*P **P 15 18 15.2 +0.6**
MA2 Magadan 44.65 44 *e*P **P 15 18 15.7 -1.8**
MA2 pmax pmax
comp=Z,20nm,1.4s,mb4.8
GRA1 Grafenberg Arr 44.86 302 *e*P **P 15 18 20.2 +1.1**
comp=Z,11nm,1.0s,mb4.6
GRF Grafenberg Arr 44.86 302 *e*P **P 15 18 20.2 +1.1**
comp=Z,11nm,1.0s,mb4.6
GRF Grafenberg Arr 44.86 302 *e*P **P 15 18 20.2 +1.1**
GRF pmax pmax
comp=Z,11nm,1.0s,mb4.6
MJAR Matsushiro Arr 45.15 78 LR LR 15 40 05.1
comp=Z,74nm,18.1s,MS3.7,baz=250,slow=40
BUG Bochum--Univer 46.61 305 *e*P **P 15 18 33.6 +0.7**
BFO Black Forest 47.13 301 *e*P **P 15 18 37.4 +0.4**
CDF Champ du Feu 47.74 301 *e*P **P 15 18 41.8 0.0**
comp=Z,4.4nm,0.8s,mb4.2
CDF Champ du Feu 47.74 301 *e*P **P 15 18 41.8 0.0**
CDF pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
CDF Champ du Feu 47.74 301 *e*P **P 15 18 41.8 0.0**
comp=Z,2.2nm,0.8s,mb4.2
HINF Hinteralfeld 48.24 301 *e*P **P 15 18 45.5 -0.1**
comp=Z,3.0nm,0.5s,mb4.3
HINF Hinteralfeld 48.24 301 *e*P **P 15 18 45.5 -0.1**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
HINF Hinteralfeld 48.24 301 *e*P **P 15 18 45.5 -0.1**
comp=Z,1.5nm,0.5s,mb4.3
HAU Haudompre 48.47 301 *e*P **P 15 18 48.1 +0.7**
comp=Z,9.0nm,0.8s,mb4.6
HAU Haudompre 48.47 301 *e*P **P 15 18 48.1 +0.7**
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
HAU Haudompre 48.47 301 *e*P **P 15 18 48.1 +0.7**
comp=Z,4.5nm,0.8s,mb4.5
BAIF Baives 48.93 305 *e*P **P 15 18 51.0 0.0**
comp=Z,5.4nm,0.8s,mb4.3
BAIF Baives 48.93 305 *e*P **P 15 18 51.0 0.0**
BAIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BAIF Baives 48.93 305 *e*P **P 15 18 51.0 0.0**
comp=Z,2.7nm,0.8s,mb4.3
DAG Danmarks Havn 48.93 342⇑*i*P **P 15 18 51.9 +0.9**
comp=Z,6.7nm,0.8s,mb4.7
DAG Danmarks Havn 48.93 342⇑*i*P **P 15 18 51.9 +0.9**
DAG pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BILL Bilibino 48.98 30⇑*e*P **P 15 18 52.5 +1.2**
BILL *i* pP 15 19 00.3 +1.0
BILL *e* 15 20 48.6
BILL *e*SS ScS 15 28 44.3 +2.5
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BILL MLR MLR
comp=Z,100nm,19.0s,MS3.8
BILL Bilibino 48.98 30 *e*P **P 15 18 52.1 +0.8**
comp=Z,3.6nm,0.6s,mb4.6
BILL *e* pP 15 18 59.9 +0.6
MEZF Maizieres J'vi 49.06 302 *e*P **P 15 18 52.2 +0.3**
PGF Pioggiola 49.15 294 *e*P **P 15 18 51.8 -0.8**
comp=Z,55nm,1.3s,mb5.1
PGF Pioggiola 49.15 294 *e*P **P 15 18 51.8 -0.8**
PGF pmax pmax
comp=Z,28nm,1.3s,mb5.1
PGF Pioggiola 49.15 294 *e*P **P 15 18 51.8 -0.8**
comp=Z,28nm,1.3s,mb5.1
CABF La Chapelle 49.22 300 *e*P **P 15 18 52.9 -0.2**
comp=Z,8.8nm,0.9s,mb4.5
CABF La Chapelle 49.22 300 *e*P **P 15 18 52.9 -0.2**
CABF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CABF La Chapelle 49.22 300 *e*P **P 15 18 52.9 -0.2**
comp=Z,4.4nm,0.9s,mb4.5
LPG La Plagne 49.28 298 *e*P **P 15 18 53.8 +0.2**
comp=Z,16nm,0.7s,mb4.9
LPG La Plagne 49.28 298 *e*P **P 15 18 53.8 +0.2**
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
LPG La Plagne 49.28 298 *e*P **P 15 18 53.8 +0.2**
comp=Z,8.2nm,0.7s,mb4.9
LPL La Plagne 49.29 298 *e*P **P 15 18 53.8 +0.1**
comp=Z,20nm,0.7s,mb5.0
LPL La Plagne 49.29 298 *e*P **P 15 18 53.8 +0.1**
LPL pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
LPL La Plagne 49.29 298 *e*P **P 15 18 53.8 +0.1**
comp=Z,9.9nm,0.7s,mb5.0
BNI Bardonecchia 49.52 298 *e*P **P 15 18 55.8 +0.3**
BNI pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
BNI Bardonecchia 49.52 298 *e*P **P 15 18 55.8 +0.3**
comp=Z,6.9nm,0.6s,mb4.9
SBF Sospel 49.57 296 *e*P **P 15 18 55.8 0.0**
MBDF Montbardon 49.61 297 *e*P **P 15 18 56.0 -0.1**
comp=Z,10nm,0.7s,mb4.6
MBDF Montbardon 49.61 297 *e*P **P 15 18 56.0 -0.1**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MBDF Montbardon 49.61 297 *e*P **P 15 18 56.0 -0.1**
comp=Z,5.1nm,0.7s,mb4.7
ORIF Oris-en-Rattie 50.09 298 *e*P **P 15 18 59.5 -0.3**
comp=Z,1.3nm,0.7s,mb4.8
ORIF Oris-en-Rattie 50.09 298 *e*P **P 15 18 59.5 -0.3**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ORIF Oris-en-Rattie 50.09 298 *e*P **P 15 18 59.5 -0.3**
comp=Z,6.4nm,0.7s,mb4.8
FRF La Foret Royal 50.22 296 *e*P **P 15 19 00.6 -0.2**
comp=Z,41nm,1.1s,mb5.1
FRF La Foret Royal 50.22 296 *e*P **P 15 19 00.6 -0.2**
FRF pmax pmax
comp=Z,20nm,1.1s,mb5.1
FRF La Foret Royal 50.22 296 *e*P **P 15 19 00.6 -0.2**
comp=Z,20nm,1.1s,mb5.1
LOR Lormes 50.31 301 *e*P **P 15 19 00.7 -0.8**
comp=Z,4.0nm,0.6s,mb4.3
LOR Lormes 50.31 301 *e*P **P 15 19 00.7 -0.8**
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LOR Lormes 50.31 301 *e*P **P 15 19 00.7 -0.8**
comp=Z,2.0nm,0.6s,mb4.3
SMF Signal de Mont 50.60 301 *e*P **P 15 19 02.9 -0.7**
comp=Z,3.5nm,0.4s,mb4.3
SMF Signal de Mont 50.60 301 *e*P **P 15 19 02.9 -0.7**
SMF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
SMF Signal de Mont 50.60 301 *e*P **P 15 19 02.9 -0.7**
comp=Z,1.8nm,0.4s,mb4.3
SSF Saint Saulge 50.62 301 *e*P **P 15 19 02.8 -1.0**
SMRF Simiane la Rot 50.72 297 *e*P **P 15 19 04.0 -0.5**
AVF Avril sur Loir 50.83 301 *e*P **P 15 19 04.9 -0.5**
comp=Z,6.0nm,0.4s,mb4.5
AVF Avril sur Loir 50.83 301 *e*P **P 15 19 04.9 -0.5**
AVF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
AVF Avril sur Loir 50.83 301 *e*P **P 15 19 04.9 -0.5**
comp=Z,3.0nm,0.4s,mb4.6
VIVF Saint-Julien-l 50.88 298 *e*P **P 15 19 05.7 -0.1**
comp=Z,10nm,0.7s,mb4.6
VIVF Saint-Julien-l 50.88 298 *e*P **P 15 19 05.7 -0.1**
VIVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
VIVF Saint-Julien-l 50.88 298 *e*P **P 15 19 05.7 -0.1**
comp=Z,5.2nm,0.7s,mb4.6
BGF Bois d'Agland 51.25 301 *e*P **P 15 19 08.5 0.0**
TCF Toulx Ste Croi 51.76 301 *e*P **P 15 19 12.0 -0.4**
comp=Z,16nm,0.9s,mb4.6
TCF Toulx Ste Croi 51.76 301 *e*P **P 15 19 12.0 -0.4**
TCF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
TCF Toulx Ste Croi 51.76 301 *e*P **P 15 19 12.0 -0.4**
comp=Z,7.8nm,0.9s,mb4.6
LASF Ste Croix 51.76 298 *e*P **P 15 19 12.2 -0.2**
LDF La Druitiere 52.12 304 *e*P **P 15 19 14.5 -0.5**

comp=Z,13nm,1.0s,mb4.5
LDF La Druitiere 52.12 304 *e*P **P 15 19 14.5 -0.5**
LDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LDF La Druitiere 52.12 304 *e*P **P 15 19 14.5 -0.5**
comp=Z,6.7nm,1.0s,mb4.5
FLN La Foliniere 52.25 305 *e*P **P 15 19 16.1 +0.1**
GRR Gorron 52.65 304 *e*P **P 15 19 18.3 -0.7**
comp=Z,8.4nm,0.6s,mb4.5
GRR Gorron 52.65 304 *e*P **P 15 19 18.3 -0.7**
GRR pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GRR Gorron 52.65 304 *e*P **P 15 19 18.3 -0.7**
comp=Z,4.2nm,0.6s,mb4.5
RJF Les Rejaudoux 52.65 300 *e*P **P 15 19 19.2 +0.2**
comp=Z,15nm,0.8s,mb4.7
RJF Les Rejaudoux 52.65 300 *e*P **P 15 19 19.2 +0.2**
RJF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
RJF Les Rejaudoux 52.65 300 *e*P **P 15 19 19.2 +0.2**
comp=Z,7.3nm,0.8s,mb4.7
MFF Saint Martin d 53.06 302 *e*P **P 15 19 21.7 -0.3**
MTLF Montolieu 53.16 298 *e*P **P 15 19 22.7 0.0**
comp=Z,16nm,1.1s,mb4.6
MTLF Montolieu 53.16 298 *e*P **P 15 19 22.7 0.0**
MTLF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MTLF Montolieu 53.16 298 *e*P **P 15 19 22.7 0.0**
comp=Z,8.1nm,1.1s,mb4.6
LFF La Frestale 53.31 300 *e*P **P 15 19 23.7 -0.1**
SGMF Saint Gilles 53.71 305 *e*P **P 15 19 26.2 -0.6**
comp=Z,8.1nm,0.8s,mb4.4
SGMF Saint Gilles 53.71 305 *e*P **P 15 19 26.2 -0.6**
SGMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SGMF Saint Gilles 53.71 305 *e*P **P 15 19 26.2 -0.6**
comp=Z,4.1nm,0.8s,mb4.4
ROSF Rostrenen 54.09 305 *e*P **P 15 19 29.3 -0.3**
comp=Z,4.1nm,0.6s,mb4.2
ROSF Rostrenen 54.09 305 *e*P **P 15 19 29.3 -0.3**
ROSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ROSF Rostrenen 54.09 305 *e*P **P 15 19 29.3 -0.3**
comp=Z,2.0nm,0.6s,mb4.2
QUIF Quistinic 54.23 305 *e*P **P 15 19 30.2 -0.4**
comp=Z,6.7nm,0.7s,mb4.4
QUIF Quistinic 54.23 305 *e*P **P 15 19 30.2 -0.4**
QUIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
QUIF Quistinic 54.23 305 *e*P **P 15 19 30.2 -0.4**
comp=Z,3.3nm,0.7s,mb4.4
ETSF Etsaut 55.14 298 *e*P **P 15 19 37.7 +0.5**
SUMG Summit 55.54 341 *e*P **P 15 19 41.0 +1.0**
comp=Z,6.0nm,0.8s,mb4.7
KMBO Kilima Mbogo 58.34 231 *i* P **P 15 20 05.5 +5.6**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 59.03 297 P **P 15 20 04.2 -0.5**
comp=Z,0.6nm,0.4s,mb4.0,baz=52,slow=6.8,SNR=11
INK Inuvik 65.12 13 *e*P **P 15 20 45.7 +0.1**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 65.12 13 *e*P **P 15 20 45.7 +0.2**
comp=Z,3.0nm,0.6s,mb4.5
TORD Torodi Ar. Bea 71.59 271 P **P 15 21 25.2 -0.8**
comp=Z,7.4nm,0.5s,mb4.9,baz=44,slow=5.2,SNR=90
YKA Yellowknife Ar 72.99 6 P **P 15 21 34.2 -0.2**
comp=Z,4.3nm,0.6s,mb4.5,baz=347,slow=6.1,SNR=15
YKA Yellowknife Ar 72.99 6 P **P 15 21 34.2 -0.2**
LSZ Lusaka 75.00 230 *e*P **P 15 21 45.0 -1.1**
LSZ *e* pP 15 21 53.0 -1.4
LSZ pmax pmax
comp=Z,15nm,1.4s,mb4.7
LSZ Lusaka 75.00 230 *e*P **P 15 21 45.0 -1.2**
comp=Z,15nm,1.4s,mb4.7
LSZ *e* pP 15 21 53.0 -1.5
FITZ Fitzroy Crossi 75.52 134 *e*P **P 15 21 48.6 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
FITZ Fitzroy Crossi 75.52 134 P **P 15 21 47.0 -2.2**
comp=Z,1.7nm,0.6s,mb4.2,baz=153,slow=3.1,SNR=7.3
DBIC Dimbokro 80.70 270 P **P 15 22 17.2 -0.6**
comp=Z,3.1nm,0.5s,mb4.5,baz=339,slow=8.4,SNR=11
WRAB Tennant Creek 81.73 128 *e*P **P 15 22 22.4 -0.9**
WRAB pmax pmax
comp=Z,11nm,0.6s,mb5.0
WRAB Tennant Creek 81.73 128 *e*P **P 15 22 22.4 -1.0**
comp=Z,11nm,0.6s,mb5.0
WRA Warramunga Arr 81.73 128 P **P 15 22 22.3 -1.0**
comp=Z,8.8nm,0.7s,mb4.8,baz=330,slow=4.7,SNR=97
WB2 Warramunga Arr 81.73 128 ⇑*i*P **P 15 22 22.3 -1.1**
ASAR Alice Springs 84.46 131 P **P 15 22 36.0 -1.4**
comp=Z,4.5nm,0.7s,mb4.7,baz=325,slow=5.3,SNR=86
FORT Forrest 87.32 139 *e*P **P 15 22 49.8 -1.8**
comp=Z,14nm,0.6s,mb5.4
CTA Charters Tower 88.93 120 *e*P **P 15 22 58.2 -1.1**
comp=Z,3.0nm,0.6s,mb4.8
CTA Charters Tower 88.93 120 P **P 15 22 57.8 -1.4**
comp=Z,3.8nm,0.6s,mb4.9,baz=329,slow=10,SNR=8.9
CTA Charters Tower 88.93 120 *e*P **P 15 22 58.2 -1.1**
CTA pmax pmax
comp=Z,3.0nm,0.6s
PDAR Pinedale Array 92.97 6 P **P 15 23 18.1 +0.1**
comp=Z,0.3nm,0.5s,mb4.0,baz=46,slow=4.3,SNR=3.5
STKA Stephens Creek 95.10 130 P **P 15 23 24.2 -3.6**
comp=Z,1.1nm,0.7s,mb4.4,baz=297,slow=4.5,SNR=3.3
STKA Stephens Creek 95.10 130 P **P 15 23 24.2 -3.6**
VNA2 Neumayer--Watz 129.89 205 *e*PKPdf PKPdf 15 29 12.4 -1.8
baz=32,slow=2.4
VNA2 *e* 15 29 13.8
VNA2 *e* 15 29 14.6
VNA2 *e* 15 29 20.6
VNA2 *e* 15 29 24.2
VNA3 Neumayer Olymp 130.70 205 *e*PKPdf PKPdf 15 29 13.9 -1.8
VNA3 *e* 15 29 15.0
VNA3 *e* 15 29 16.1
VNA3 *e* 15 29 21.9
VNA3 *e* 15 29 25.3
CPUP Villa Florida 140.35 282 PKP PKPdf 15 29 31.7 -2.0
comp=Z,0.3nm,0.3s,baz=351,slow=5.1,SNR=3.2

*NEIC **04** 15:23:25.4, 38.19S×177.19E, h55km, ML3.8(WEL), After WEL.*
WEL 04 15:23:25.4±0.2, 3818S×17716E, h55km±2km, ML3.3/4, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.09**	**208**	P*	Pn	15 23 33.5	-0.3
URZ				S*	Sn	15 23 39.6	-0.2
URZ				S*	Sn	15 23 39.8	0.0
URZ	**Urewera**	**0.09**	**208**	P	Pn	15 23 33.5	-0.3
MWZ	**Matawai**	**0.33**	**119**	P*	Pn	15 23 35.0	-0.3
MWZ				S*	Sn	15 23 42.5	+0.2
MWZ	**Matawai**	**0.33**	**119**	P	Pn	15 23 35.0	-0.2
EDRZ	**Edgecumbe**	**0.34**	**282**	P	Pn	15 23 35.5	+0.1
MARZ	**Manawahe**	**0.43**	**296**	P*	Pn	15 23 36.1	-0.1
MARZ				S*	Sn	15 23 43.6	-0.5
MARZ	**Manawahe**	**0.43**	**296**	P	Pn	15 23 36.1	-0.2
TAZ	**Tarawera**	**0.52**	**264**	P*	Pn	15 23 37.5	+0.3
MKRZ	**Makatiti**	**0.55**	**274**	P*	Pn	15 23 38.1	+0.5
MKRZ	**Makatiti**	**0.55**	**274**	P	Pn	15 23 38.3	+0.7
LIRZ	**Lichensteins R**	**0.64**	**286**	P*	Pn	15 23 37.7	-0.9
LIRZ	**Lichensteins R**	**0.64**	**286**	P	Pn	15 23 38.2	-0.4
WIZ	**White Island**	**0.65**	**2**	P*	Pn	15 23 38.3	-0.5
WIZ	**White Island**	**0.65**	**2**	P	Pn	15 23 38.5	-0.3
PATZ	**Paeroa**	**0.74**	**254**	P*	Pn	15 23 40.0	+0.1
TGRZ	**Tauranga**	**0.84**	**302**	P*	Pn	15 23 40.9	-0.3
TGRZ	**Tauranga**	**0.84**	**302**	P	Pn	15 23 40.9	-0.3
PUZ	**Puketiti**	**0.87**	**83**	PN	Pn	15 23 41.9	+0.3
PUZ	**Puketiti**	**0.87**	**83**	*e*P	Pn	15 23 42.0	+0.5
KNZ	**Kokohu**	**0.93**	**155**	PN	Pn	15 23 41.9	-0.4
KNZ				SN	Sn	15 23 54.9	+0.1
KNZ	**Kokohu**	**0.93**	**155**	*e*P	Pn	15 23 41.9	-0.4
BKZ	**Black Stump Fm**	**1.12**	**208**	P*	Pn	15 23 44.7	-0.1
BKZ	**Black Stump Fm**	**1.12**	**208**	*e*P	Pn	15 23 44.7	-0.1
OTVZ	**Oturere**	**1.53**	**230**	*e*P*	Pn	15 23 50.7	+0.3
TUVZ	**Tukino**	**1.61**	**227**	P*	Pn	15 23 51.4	0.0
TUVZ	**Tukino**	**1.61**	**227**	P	Pn	15 23 52.1	+0.7
WPVZ	**Whakapapa**	**1.63**	**231**	*e*P*	Pn	15 23 51.7	0.0
WPVZ	**Whakapapa**	**1.63**	**231**	P	Pn	15 23 52.0	+0.3
MOVZ	**Moawhango**	**1.65**	**222**	P*	Pn	15 23 51.7	-0.3
FWVZ	**Far West T-bar**	**1.66**	**229**	*e*P*	Pn	15 23 52.4	+0.3
FWVZ	**Far West T-bar**	**1.66**	**229**	*e*P	Pn	15 23 52.5	+0.4
WNVZ	**Wahianoa**	**1.68**	**226**	P*	Pn	15 23 52.4	0.0
WNVZ	**Wahianoa**	**1.68**	**226**	P	Pn	15 23 52.4	0.0
VRZ	**Vera Road**	**2.11**	**243**	*e*P	Pn	15 23 59.1	+0.8
WAZ	**Wanganui**	**2.31**	**227**	*e*PN	Pn	15 24 01.9	+0.8
WAZ	**Wanganui**	**2.31**	**227**	*e*P	Pn	15 24 02.3	+1.2
WCZ	**Waipu Caves**	**3.17**	**314**	PN	Pn	15 24 13.7	+0.8
WCZ	**Waipu Caves**	**3.17**	**314**	*e*P	Pn	15 24 13.7	+0.8

KRSC 04 15:57:06.6±1.0, 5057N×15527E, h205km±5km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**0.35**	**31**	*i* P		15 57 33.7	
PAU	**Pauzhetka**	**1.32**	**47**	*e*P		15 57 39.4	
PAU				*e*S		15 58 03.5	
PAU				Smax			
160nm,1.1s							
MIPR	**Malaya Ipel'ka**	**1.95**	**28**	*i* P		15 57 45.3	
MIPR				*i* S		15 58 14.0	
APC	**Apacha**	**2.63**	**26**	*i* P		15 57 52.4	
GRL	**Gorelyy**	**2.65**	**40**	*e*P		15 57 53.8	
RUS	**Russkaya**	**2.75**	**46**	*e*P		15 57 54.8	
RUS				*e*S		15 58 29.1	
KOK	**Koryaka**	**3.43**	**36**	*e*P		15 58 02.7	
UGLR	**Uglovaya**	**3.44**	**38**	*e*P		15 58 02.8	
AVH	**Avacha**	**3.45**	**37**	*e*P		15 58 02.4	
SMAR	**Somma**	**3.47**	**38**	*e*P		15 58 03.1	
SDLR	**Sedlovina**	**3.52**	**38**	*e*P		15 58 04.2	
GNL	**Ganaly**	**3.54**	**27**	*e*P		15 58 02.7	
NLC	**Nalytchevo**	**3.63**	**43**	*e*S		15 58 46.4	
SPN	**Mys Shipunski**	**3.89**	**48**	*e*P		15 58 07.3	
SPN				*e*S		15 58 50.6	
MKZ	**Mys Kozlova**	**5.61**	**42**	*e*S		15 59 29.2	
KBTR	**Krutoberegovo**	**7.23**	**36**	*e*P		15 58 50.5	
BKI	**Bering**	**7.96**	**50**	S		16 00 17.4	

MAN 04 15:58:42.6, 878N×12612E, h48km, mb2.1, ML3.8, MS5.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.53**	**291**	*e*P	Pn	15 58 54.9	+0.8
BUTP				*e*S	Sn	15 59 06.0	+3.6
SCPH	**Surigao**	**1.18**	**328**	⇑*e*P	Pn	15 59 03.8	+1.2
BUKP	**Musuan**	**1.38**	**230**	*e*P	Pn	15 59 06.7	+1.3
CGP	**Cagayan de Oro**	**1.45**	**257**	*e*P	Pn	15 59 06.8	+0.4
MATI	**Mati**	**1.82**	**176**	*e*P	Pn	15 59 12.4	+0.9

*MOS **04** 15:59:25.2±1.4, 5507N×11127E, h21km, mb4.0/1, Error ellipse: s-maj=13.7km s-min=7.1km az=70.9*
MOS Felt (II) at Ulyunkhan.
BYKL 04 15:59:25.6±0.1, 5508N×11130E, h19km±2km, 8C-10D, FELT I=II MSK at Ulyunkhan, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.22**	**201**	⇓*i*Pg	Pg	15 59 30.9	0.0
YLYR				*e*Sg	Sg	15 59 34.9	+0.3
YLYR				Pmax			
253nm,0.1s							
YLYR				Smax			
4μm,0.1s							
YLYR	**Ulyunkhan**	**0.22**	**201**	⇓*i*PG	Pg	15 59 30.9	0.0
YLYR				*e*		15 59 34.8	
YLYR				pmax	pmax		
comp=Z,266nm,0.1s							
YLYR				smax			
comp=E,4μm,0.1s							
KMO	**Kumora**	**0.81**	**356**	⇑*i*Pg	Pg	15 59 40.3	-1.2
KMO				*e*Pb	Pb	15 59 41.3	+0.2
KMO				*e*		15 59 45.0	
KMO				*e*Sg	Sg	15 59 51.2	-1.0
KMO				max			
comp=E,494nm,0.3s							
KMO				Smax			
comp=E,3μm,0.8s							
KMO	**Kumora**	**0.81**	**356**	*e*PG	Pg	15 59 40.3	-1.2
KMO				*e*		15 59 50.7	
KMO				pmax	pmax		
comp=Z,282nm,0.4s							
KMO				smax			
comp=E,3μm,0.7s							
YOA	**Uoyan**	**1.08**	**13**	⇑*i*Pg	Pg	15 59 45.5	-1.1
YOA				*e*Pb	Pb	15 59 46.9	+1.2
YOA				*e*Sg	Sg	16 00 00.5	-0.3
YOA				*e*Sb	Sb	16 00 04.0	+4.6
YOA				max			
comp=E,494nm,0.2s							
YOA				max			
comp=E,3μm,0.5s							
YOA	**Uoyan**	**1.08**	**13**	*e*PG	Pg	15 59 45.5	-1.1
YOA				*i* SG	Sg	16 00 00.9	+0.1
NIZ	**Nizh Angarsk**	**1.22**	**306**	⇑*i*Pg	Pg	15 59 47.5	-1.7
NIZ				*e*		15 59 51.4	
NIZ				*e*Sg	Sg	16 00 03.9	-1.3
NIZ				*e*Sb	Sb	16 00 05.3	+1.9
NIZ				Pmax			
comp=E,472nm,0.2s							
NIZ				max			
comp=E,936nm,0.5s							
NIZ	**Nizh Angarsk**	**1.22**	**306**	*e*PG	Pg	15 59 47.5	-1.7
NIZ				*e*		16 00 04.0	
NIZ				pmax	pmax		
comp=Z,482nm,0.4s							
NIZ				smax			
comp=N,936nm,0.5s							
UKT	**Uakit**	**1.39**	**72**	⇑*i*Pg	Pg	15 59 50.6	-1.9
comp=N,74nm,0.4s							
UKT				⇑*i*Pg	Pg	15 59 50.6	-1.9
comp=N,552nm,0.4s							
UKT				⇑*i*Pg	Pg	15 59 50.6	-1.9
comp=N,419nm,0.4s							
UKT				*i* Sg	Sg	16 00 09.4	-1.3
UKT				Pmax			
comp=N,302nm,0.4s							
UKT				Smax			
comp=N,619nm,0.4s							
SYVR	**Suvo**	**1.62**	**209**	⇓*i*Pg	Pg	15 59 54.0	-2.7
SYVR				*e*Pb	Pb	15 59 54.7	-0.1
SYVR				*e*Sg	Sg	16 00 16.9	-0.9
SYVR				*e*Sb	Sb	16 00 17.6	+2.8
SYVR				max			
comp=N,289nm,0.3s							
SYVR				max			
comp=N,743nm,0.5s							
SYVR	**Suvo**	**1.62**	**209**	*e*PN	Pn	15 59 53.9	+0.8
SYVR				*e*		16 00 16.7	
SYVR				pmax	pmax		
comp=Z,296nm,0.4s							
SYVR				smax			
comp=E,768nm,0.5s							
SVKR	**Severomuysk**	**1.65**	**50**	⇓*i*Pg	Pg	15 59 55.8	-1.6
SVKR				*e*Sg	Sg	16 00 18.6	-0.3
SVKR				Pmax			
comp=E,202nm,0.1s							
SVKR				Smax			
comp=E,2μm,0.4s							
SVKR	**Severomuysk**	**1.65**	**50**	*e*PN	Pn	15 59 55.7	+2.2
SVKR				*e*		15 59 56.0	
SVKR				*e*S	Sn	16 00 15.0	+0.8
SVKR				*e*		16 00 18.0	
SVKR				pmax	pmax		
comp=Z,249nm,0.5s							
SVKR				smax			
comp=N,2μm,0.5s							
MXMB	**Maximikha**	**2.36**	**221**	⇓*i*Pn	Pn	16 00 04.3	+1.0
MXMB				*e*Pg	Pg	16 00 07.4	-3.5
MXMB				*e*Sn	Sn	16 00 33.1	+1.4
MXMB				*e*Sg	Sg	16 00 39.6	-1.9
MXMB				Pmax			
comp=N,98nm,0.4s							
MXMB				Smax			
comp=N,767nm,0.5s							
OGRR	**Ongureny**	**2.60**	**238**	⇓*i*Pn	Pn	16 00 08.0	+1.4
OGRR				*e*Pg	Pg	16 00 12.3	-3.2
OGRR				*e*Sn	Sn	16 00 38.0	+0.3
OGRR				*e*Sg	Sg	16 00 45.9	-3.4
OGRR				Pmax			
comp=N,42nm,0.3s							
OGRR				Smax			
comp=N,262nm,0.3s							
OGRR	**Ongureny**	**2.60**	**238**	*e*PN	Pn	16 00 08.0	+1.4
OGRR				*e*S	Sn	16 00 45.9	+8.2
OGRR				smax			
comp=N,263nm,0.4s							
NLYR	**Nelyaty**	**2.86**	**59**	⇑*i*Pn	Pn	16 00 11.2	+1.0
NLYR				*e*Pg	Pg	16 00 16.7	-3.8
NLYR				*e*Sn	Sn	16 00 43.5	-0.6
NLYR				*e*Sg	Sg	16 00 53.5	-4.1
NLYR				Pmax			
comp=N,38nm,0.3s							
NLYR				Smax			
comp=N,315nm,1.0s							
NLYR	**Nelyaty**	**2.86**	**59**	*e*PN	Pn	16 00 11.0	+0.8
NLYR				*e*		16 00 15.2	
NLYR				*e*		16 00 53.7	
NLYR				pmax	pmax		
comp=Z,37nm,0.3s							
NLYR				smax			
comp=N,318nm,1.1s							
KELR	**Kotokel**	**3.00**	**221**	*e*Pn	Pn	16 00 13.0	+0.8
KELR				*e*Pg	Pg	16 00 19.6	-3.6
KELR				*e*Sn	Sn	16 00 48.8	+1.2
KELR				*e*Sg	Sg	16 00 59.0	-3.2
KELR				Pmax			
comp=N,37nm,0.1s							
KELR				Smax			
comp=N,485nm,0.4s							
BOD	**Bodaibo**	**3.13**	**28**	*e*Pn	Pn	16 00 14.0	+0.1
BOD				*e*Pg	Pg	16 00 21.7	-3.9
BOD				*e*Sn	Sn	16 00 51.6	+0.9
BOD				*e*Sg	Sg	16 01 02.3	-3.8
BOD				Pmax			
comp=N,17nm,0.2s							
BOD				Smax			
comp=N,95nm,0.5s							
CIT	**Chita**	**3.35**	**155**	⇓*i*Pn	Pn	16 00 17.2	+0.3
CIT				*e*Pg	Pg	16 00 25.6	-4.1
CIT				*e*Sn	Sn	16 00 56.9	+0.8
CIT				*e*Sg	Sg	16 01 08.5	-4.6
CIT				Pmax			
comp=N,72nm,0.6s							
CIT				Smax			
comp=N,247nm,0.7s							
CIT	**Chita**	**3.35**	**155**	*e*PN	Pn	16 00 17.1	+0.2
CIT				*e*		16 00 25.5	
CIT				*e*S	Sn	16 00 56.6	+0.5
CIT				*e*		16 01 08.5	
CIT				pmax	pmax		
comp=Z,72nm,0.6s							
CIT				smax			
comp=E,250nm,1.1s							
TRTB	**Turuntaevo**	**3.59**	**219**	⇑*i*Pn	Pn	16 00 21.4	+1.1
TRTB				*e*Pg	Pg	16 00 29.4	-5.1
TRTB				*e*Sn	Sn	16 01 02.1	-0.1
TRTB				*e*Sg	Sg	16 01 17.4	-3.7
TRTB				Pmax			
comp=E,37nm,0.4s							
TRTB				Smax			
comp=E,79nm,0.4s							
TRG	**Tyrgan**	**3.74**	**234**	*e*Pn	Pn	16 00 23.5	+1.3
TRG				*e*Pg	Pg	16 00 33.4	-3.8
TRG				*e*Sn	Sn	16 01 05.4	-0.3
TRG				*e*Sg	Sg	16 01 21.7	-4.0
TRG				Pmax			
comp=E,9.0nm,0.3s							
TRG				Smax			
comp=E,126nm,0.4s							
TRG	**Tyrgan**	**3.74**	**234**	*e*PN	Pn	16 00 21.4	-0.8
TRG				*e*		16 00 30.0	
TRG				*e*S	Sn	16 01 05.1	-0.6
TRG				*e*		16 01 18.6	
TRG				pmax	pmax		
comp=Z,15nm,0.2s							
TRG				smax			
comp=N,130nm,0.2s							
FFNB	**Fofonovo**	**4.07**	**224**	*e*Pg	Pg	16 00 38.6	-4.9
FFNB				*e*Sg	Sg	16 01 30.8	-5.4
FFNB				Smax			
comp=N,252nm,0.4s							
CRS	**Chara**	**4.32**	**62**	*e*Pn	Pn	16 00 31.7	+1.5
CRS				*e*Pg	Pg	16 00 43.6	-4.7
CRS				*e*Sn	Sn	16 01 18.4	-1.6
CRS				*e*Sg	Sg	16 01 39.5	-4.7
CRS				Pmax			
comp=N,19nm,0.6s							
CRS				Smax			
comp=N,161nm,0.8s							
CRS	**Chara**	**4.32**	**62**	*e*PN	Pn	16 00 31.4	+1.2
CRS				*e*		16 00 42.9	
CRS				*e*		16 01 38.9	
CRS				pmax	pmax		
comp=Z,21nm,0.7s							
CRS				smax			
comp=E,160nm,1.1s							
LSTR	**Listvyanka**	**5.03**	**233**	*e*Pn	Pn	16 00 40.5	+0.5
LSTR				⇓*i*		16 00 41.2	
LSTR				*e*Pg	Pg	16 00 55.5	-6.4
LSTR				*e*Sn	Sn	16 01 36.4	-1.1
LSTR				*e*Sg	Sg	16 02 01.3	-5.7
LSTR				Pmax			
comp=E,5.0nm,0.5s							
LSTR				Smax			
comp=E,74nm,1.0s							
LSTR	**Listvyanka**	**5.03**	**233**	*e*PN	Pg	16 00 56.2	-5.7
LSTR				*e*		16 01 58.3	
IRK	**Irkutsk**	**5.05**	**239**	*e*Sg	Sg	16 02 01.8	-6.0
IRK				Smax			
comp=E,313nm,0.4s							
IRK	**Irkutsk**	**5.05**	**239**	*e*PN	Pg	16 00 57.8	-4.6
IRK				*e*		16 01 59.9	
IRK				pmax	pmax		
comp=Z,102nm,0.1s							
IRK				smax			
comp=N,327nm,0.4s							
TUP	**Tupik**	**5.06**	**94**	⇓*i*Pn	Pn	16 00 40.9	+0.5
TUP				*e*Pg	Pg	16 00 56.0	-6.4
TUP				*e*Sn	Sn	16 01 36.3	-1.9
TUP				*e*Sg	Sg	16 02 01.5	-6.4
TUP				Pmax			
comp=N,17nm,0.4s							
TUP				Smax			
comp=N,199nm,0.6s							
TUP	**Tupik**	**5.06**	**94**	*e*PN	Pn	16 00 40.7	+0.3
TUP				*e*		16 00 55.3	
TUP				*e*		16 02 02.6	
TUP				pmax	pmax		
comp=Z,16nm,0.5s							
TUP				smax			
comp=N,202nm,1.0s							
KPC	**Khapcheranga**	**5.43**	**173**	*e*Pn	Pn	16 00 45.1	-0.3
KPC				*e*Pg	Pg	16 01 03.5	-6.0
KPC				*e*Sg	Sg	16 02 13.6	-6.1
KPC				Pmax			
comp=N,6.0nm,0.4s							
KPC				Smax			
comp=N,112nm,0.7s							
KPC	**Khapcheranga**	**5.43**	**173**	*e*PN	Pn	16 00 45.5	+0.1
KPC				*e*		16 01 02.2	
KPC				*e*		16 02 15.0	
KPC				pmax	pmax		
comp=Z,10.0nm,0.3s							
KPC				smax			
comp=N,112nm,0.8s							
TLY	**Talaya**	**5.71**	**237**	*e*PN	Pn	16 01 09.6	+20
TLY				*e*		16 02 18.8	
TLY				pmax	pmax		
comp=Z,10.0nm,0.6s							
TLY				smax			
comp=N,33nm,0.4s							
ARS	**Arshan**	**6.17**	**243**	*e*Pn	Pn	16 00 57.4	+1.7
ARS				*e*Pg	Pn	16 01 16.4	+21
ARS				*e*Sn	Sn	16 02 03.0	-2.7
ARS				*e*Sg	Sn	16 02 35.1	+29
ARS				Pmax			
comp=N,22nm,0.5s							
ARS				Smax			
comp=N,175nm,0.6s							
ARS	**Arshan**	**6.17**	**243**	*e*PN	Pn	16 01 14.3	+19
ZAK	**Zakamensk**	**6.77**	**229**	*e*Pn	Pn	16 01 04.6	+0.7
ZAK				*e*Pg	Pn	16 01 28.1	+24
ZAK				*e*Sg	Sn	16 02 54.5	+34
ZAK				Pmax			

comp=N,2.0nm,0.6s
ZAK Smax
comp=N,28nm,1.1s
MOY Mondy 7.05 245 *e*Pn Pn 16 01 09.2 +1.5
MOY *e*Sn Sn 16 02 25.4 -1.9
MOY *e*Sg Sn 16 03 03.8 +36
MOY max
comp=N,65nm,0.5s
MOY Smax
comp=N,113nm,1.1s
MOY Mondy 7.05 245 *e*PN Pn 16 01 09.1 +1.4
MOY *e* 16 01 30.3
MOY *e* 16 03 01.7
MOY pmax pmax
comp=Z,6.0nm,0.5s
MOY smax
comp=E,112nm,1.5s
ORL Orlik 7.26 254 ⇓*i*Pn Pn 16 01 12.4 +1.7
ORL *e*Sn Sn 16 02 31.6 -1.0
ORL *e*Sg Sn 16 03 10.5 +38
ORL max
comp=E,65nm,0.6s
ORL Smax
comp=E,39nm,0.8s
ULN Ulaanbaatar 7.70 202 *e*Pg Px 16 01 44.2
ULN *e*Sg Sx 16 03 24.6
CLNS Chul'man 7.83 71 *e*Pg Px 16 01 46.8
CLNS *e*Sg Sx 16 03 27.1
ALDR Aldan 8.50 60 *e*Sg Sx 16 03 48.7
KRAR Krasnoyarsk 10.48 283 *e*P Pn 16 01 54.2 -0.6
KRAR pmax pmax
comp=Z,10.0nm,0.5s
ARDR Aradan 10.85 264 *e*Sg Sx 16 05 01.9
TIXI Tiksi 18.26 18 *e*P Pn 16 03 37.2 -0.6
TIXI pmax pmax
comp=Z,1.0nm,1.2s
KURK Kurchatov 20.08 271 *e*P P 16 03 57.0 -0.9
ARU Arti 29.11 295 *e*P P 16 05 25.1 0.0
ARU pmax pmax
comp=Z,1.0nm,0.8s

IDC 04 16:01:53.5±34.0, 2279S×17960E, h565km±311km, mb2.7/3, mb1 2.9/3, mb1mx2.7/13, mbtmp3.7/3, Error ellipse: s-maj=272.3km s-min=160.9km az=119.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.11**	**269**	P	P	16 07 28.3	+1.8
	3.5nm,0.9s,baz=108,slow=9.6,SNR=3.3						
ASAR	**Alice Springs**	**41.86**	**259**	P	P	16 08 54.2	-0.5
	0.3nm,0.5s,baz=94,slow=7.0,SNR=12						
WRA	**Warramunga Arr**	**42.12**	**265**	P	P	16 08 56.8	0.0
	0.4nm,0.6s,baz=96,slow=8.3,SNR=16						
ARCES	**ARCESS Array B**	**130.73**	**348**	PKP	PKPdf	16 19 59.7	-1.1
	2.2nm,0.8s,baz=19,slow=3.1,SNR=3.7						
AKASG	**Malin Array Be**	**143.84**	**328**	PKP	PKPdf	16 20 22.8	-2.0
	0.4nm,0.4s,baz=38,slow=3.9,SNR=6.9						
MMAI	**Mount Meron Ar**	**146.90**	**296**	PKPbc	PKPbc	16 20 33.7	+0.8
	0.9nm,0.3s,baz=86,slow=4.8,SNR=4.3						

*JMA **04** 16:06:30.7±0.3, 2261N×12132E, h44km, M3.6*
*IDC **04** 16:06:30.4±1.3, 2263N×12169E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.4/20, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=44.3km s-min=25.6km az=68.0*
*ISCJB **04** 16:06:31.1±2.3, 2275N±006×12130E±009, h26km±24km, mb3.3/3, Error ellipse: s-maj=15.8km s-min=7.0km az=68.4*
*NEIC **04** 16:06:33.5±1.0, 2284N×12146E, h35km, MG3.6(JMA), Error ellipse: s-maj=27.4km s-min=11.3km az=86.0*

ISC 04 16:06:31.0±2.5, 2281N±006×1213E±01, h13km±21km, n16, σ0983/22, mb3.3/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**1.39**	**12**	*e*P	**Pn**	**16 06 54.3**	**-1.8**
YHNB	**Yeheng**	**1.85**	**3**	*e*Pn	**Pn**	**16 07 03.0**	**+0.6**
TATO	**Taipei**	**2.17**	**5**	*e*Pn	**Pn**	**16 07 07.2**	**+0.5**
YOJ	**Yonaguni jima**	**2.29**	**44**	P	**Pn**	**16 07 09.0**	**+0.6**
YOJ				S	**Sn**	**16 07 37.0**	**+0.5**
HATJ	**Hateruma jima**	**2.64**	**61**	P	**Pn**	**16 07 12.8**	**-0.4**
HATJ				S	**Sn**	**16 07 44.8**	**-0.2**
IRIF	**Iriomote-Funau**	**2.72**	**56**	P	**Pn**	**16 07 15.0**	**+0.7**
IRIF				S	**Sn**	**16 07 47.4**	**+0.4**
JKRS	**Kuro-shima**	**2.89**	**60**	P	**Pn**	**16 07 16.7**	**+0.1**
JKRS				S	**Sn**	**16 07 51.8**	**+0.6**
JIJ	**Ishigaki jima**	**3.05**	**59**	P	**Pn**	**16 07 18.9**	**0.0**
JIJ				S	**Sn**	**16 07 54.4**	**-0.9**
JTJ	**Tarama**	**3.63**	**59**	P	**Pn**	**16 07 27.3**	**+0.4**
JTJ				S	**Sn**	**16 08 09.8**	**+0.2**
JOGS	**Gusukube**	**4.25**	**62**	P	**Pn**	**16 07 35.7**	**+0.2**
APYP	**Conner**	**4.92**	**180**	*e*P	**Pn**	**16 07 44.0**	**-0.6**
ABRA	**Dolores**	**5.16**	**186**	*e*P	**Pn**	**16 07 50.3**	**+2.4**
JOW	**Kunigami**	**7.52**	**56**	Pn	**Pn**	**16 08 18.6**	**-1.7**
	0.9nm,0.3s,baz=198,slow=18,SNR=5.6						
MKAR	**Makanchi Array**	**39.39**	**317**	P	**P**	**16 14 05.0**	**+4.7**
	0.5nm,0.8s,mb3.3,baz=111,slow=8.0,SNR=5.3						
WRA	**Warramunga Arr**	**44.36**	**162**	P	**P**	**16 14 40.3**	**-0.7**
	0.1nm,0.3s,mb3.0,baz=344,slow=8.8,SNR=6.6						
ASAR	**Alice Springs**	**47.80**	**164**	P	**P**	**16 15 07.6**	**-0.4**
	0.2nm,0.3s,mb3.6,baz=342,slow=7.3,SNR=12						

*ISCJB **04** 16:08:46.9±0.6, 3544N±009×1357E±0.1, h355km±4km, mb3.0/4, Error ellipse: s-maj=16.0km s-min=11.9km az=107.3*
*IDC **04** 16:08:47.9±1.8, 3545N×13592E, h358km±33km, mb2.8/4, mb1 3.0/6, mb1mx2.8/22, mbtmp3.5/6, Error ellipse: s-maj=55.5km s-min=17.7km az=62.0*
*JMA **04** 16:08:48.5±0.2, 3549N×13568E, h344km±2km, M2.9*
*NEIC **04** 16:08:48.4±0.8, 3541N×13585E, h362km±13km, Error ellipse: s-maj=30.5km s-min=16.4km az=75.0*

ISC 04 16:08:47.9±0.6, 3547N±009×1357E±01, h348km±4km, n23, σ0977/30, mb3.0/4, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.26**	**76**	P	**Pn**	**16 09 31.9**	**+0.4**
JFM				*e*S	**S**	**16 10 05.8**	**-0.7**
JWT	**Wachi**	**0.29**	**231**	P	**Pn**	**16 09 31.9**	**+0.3**
JWT				S	**S**	**16 10 06.1**	**-0.5**
JKY	**Yasaka**	**0.50**	**289**	P	**Pn**	**16 09 32.3**	**+0.4**
JKY				*e*S	**S**	**16 10 07.0**	**-0.2**
JGM	**Miyama**	**0.88**	**74**	P	**Pn**	**16 09 33.1**	**+0.1**
JGM				*e*S	**S**	**16 10 08.2**	**-0.9**
JKG	**Kaga**	**0.97**	**33**	P	**Pn**	**16 09 33.2**	**-0.1**
JKG				*e*S	**S**	**16 10 08.3**	**-1.4**
JIE	**Ise**	**1.36**	**141**	P	**Pn**	**16 09 35.6**	**+0.5**
JHS	**Saijyo**	**2.15**	**258**	P	**Pn**	**16 09 40.6**	**+0.5**
MAJO	**Matsushiro**	**2.31**	**62**	P	**Pn**	**16 09 42.6**	**+1.3**
MAT	**Matsushiro**	**2.31**	**62**	P	**Pn**	**16 09 41.1**	**-0.2**
MAT				S	**S**	**16 10 25.3**	**+1.1**
MAT	**Matsushiro**	**2.31**	**62**	P	**Pn**	**16 09 42.9**	**+1.6**
MAT	**Matsushiro**	**2.31**	**62**	*e*P	**Pn**	**16 09 43.0**	**+1.7**
MAT				*e*S	**S**	**16 10 25.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.31**	**62**	P	**Pn**	**16 09 41.2**	**-0.1**
	1.2nm,0.3s,baz=250,slow=7.8,SNR=13						
JYN	**Shimob**	**2.34**	**88**	P	**Pn**	**16 09 41.3**	**-0.2**
JSZ	**Suzu**	**2.40**	**34**	P	**Pn**	**16 09 41.8**	**-0.2**
JHG	**Hegura jima**	**2.58**	**22**	P	**Pn**	**16 09 43.8**	**+0.4**
JRY	**Ryogami san**	**2.68**	**77**	P	**Pn**	**16 09 44.7**	**+0.4**
JOD2	**Odawara 2**	**2.79**	**93**	P	**Pn**	**16 09 45.9**	**+0.6**
ASAJ	**Asahikawa**	**10.14**	**30**	P	**Pn**	**16 11 06.0**	**-1.5**
	1.8nm,0.3s,baz=221,slow=8.8,SNR=24						
YSS	**Yuzh-Sakhalins**	**12.64**	**23**	*e*P	**Pn**	**16 11 36.4**	**-0.8**
SONM	**Songino Array**	**24.97**	**309**	P	**P**	**16 13 42.4**	**+1.5**
	0.4nm,0.5s,mb2.9,baz=128,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**41.05**	**303**	P	**P**	**16 15 58.4**	**-0.1**
	0.4nm,0.6s,mb2.8,baz=93,slow=9.5,SNR=5.9						
WRA	**Warramunga Arr**	**55.12**	**182**	P	**P**	**16 17 43.9**	**-1.2**
	0.4nm,0.4s,mb3.1,baz=358,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**58.83**	**182**	P	**P**	**16 18 10.3**	**-0.6**
	0.4nm,0.7s,mb3.0,baz=359,slow=4.4,SNR=8.9						

CASC 04 16:09:12.2±2.3, 1087N×8544W, h122km±5km, MD3.7, ML3.4, 15C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIN3	**Volcan Rincon**	**0.09**	**143**	⇑*e*P	Pn	16 09 28.5	-0.3
RIN3				*e*S	Sn	16 09 43.6	+2.3
CONN	**Concepcion**	**0.72**	**345**	⇓*e*P	Pn	16 09 32.0	+0.1
JTS	**JuntasAbangare**	**0.74**	**140**	⇑*i*P	Pn	16 09 31.9	-0.2
JTS				*e*S	Sn	16 09 46.6	-0.4
JTS				AML	AML	16 09 49.3	
	comp=Z,952nm,0.3s						
VCR	**Vista de Mar**	**0.76**	**195**	⇑*i*P	Pn	16 09 32.5	+0.3
VCR				*e*S	Sn	16 09 48.7	+1.4
VACR	**Volcan Arenal**	**0.84**	**118**	⇑*e*P	Pn	16 09 33.0	+0.1
VACR				*e*S	Sn	16 09 50.5	+2.0
FORC	**Fortuna**	**0.85**	**117**	⇑*i*P	Pn	16 09 33.3	+0.3
FORC				*e*S	Sn	16 09 48.6	0.0
FORC				*i* S	Sn	16 09 49.3	+0.6
EPA	**Esparza**	**1.20**	**136**	⇑*i*P	Pn	16 09 36.9	+0.5
EPA				*e*S	Sn	16 09 55.5	+0.8
CAO	**Cobano**	**1.20**	**164**	⇓*i*P	Pn	16 09 36.7	+0.3
CAO				*e*S	Sn	16 09 55.0	+0.3
APON	**Apoyo**	**1.21**	**329**	⇑*e*P	Pn	16 09 36.8	+0.3
APON				*e*S	Sn	16 09 57.1	+2.1
CGA2	**Cerro Gallo 2**	**1.27**	**131**	*e*P	Pn	16 09 37.7	+0.5
CGA2				*e*S	Sn	16 09 56.8	+0.7
POA2	**Poas 2**	**1.35**	**120**	⇓*e*P	Pn	16 09 38.5	+0.5
POA2				*e*S	Sn	16 09 58.6	+1.0
TICN	**Ticuantepe**	**1.40**	**326**	⇑*e*P	Pn	16 09 39.0	+0.5
PRS1	**Puriscal**	**1.41**	**128**	⇑*e*P	Pn	16 09 40.9	+2.2
MGAN	**Managua**	**1.50**	**328**	*e*P	Pn	16 09 39.8	+0.1
TISN	**Laguna Tiscapa**	**1.51**	**327**	⇓*e*P	Pn	16 09 40.0	+0.2
TISN				*e*S	Sn	16 10 01.6	+0.8
XAVN	**Gruta Xavier**	**1.55**	**326**	⇓*e*P	Pn	16 09 40.4	+0.1
XAVN				*e*S	Sn	16 10 04.3	+2.7
APYN	**Apoyeque**	**1.63**	**327**	⇑*e*P	Pn	16 09 41.1	-0.1
APYN				*e*S	Sn	16 10 06.0	+2.6
	comp=Z,236nm,0.3s						
COPN	**Copaltepe**	**1.73**	**319**	⇑*e*P	Pn	16 09 42.6	+0.2
OCM	**Ochomogo**	**1.74**	**123**	*e*S	Sn	16 10 05.6	-0.1
OCM				AML	AML	16 10 11.5	
	comp=N,634nm,0.1s						
IRZ2	**Volcan Irazu 2**	**1.76**	**120**	⇑*i*P	Pn	16 09 43.7	+1.0
LCR2	**La Lucha 2**	**1.80**	**128**	*e*P	Pn	16 09 44.5	+1.3
LCR2				*e*S	Sn	16 10 08.1	+1.2
URSC	**Urasca**	**1.93**	**122**	*e*P	Pn	16 09 46.4	+1.6
URSC				*e*S	Sn	16 10 12.1	+2.4
MIRN	**Miramar**	**2.00**	**322**	⇑*e*P	Pn	16 09 46.0	+0.3
CNGN	**Cerro Negro**	**2.04**	**323**	*e*P	Pn	16 09 46.4	+0.1
CNGN				*e*S	Sn	16 10 14.0	+1.7
	comp=Z,35nm,0.5s						
LEON	**Leon**	**2.10**	**317**	⇑*e*P	Pn	16 09 47.5	+0.5
LEON				*e*S	Sn	16 10 11.4	-2.1
BUS	**Buena Vista**	**2.10**	**128**	*e*P	Pn	16 09 48.6	+1.6
BUS				*e*S	Sn	16 10 16.2	+2.6
CRIN	**San Cristobal**	**2.41**	**319**	*e*P	Pn	16 09 51.4	+0.5
CTCR	**Cotoan**	**3.28**	**126**	⇑*e*P	Pn	16 10 02.9	+0.7

*ISCJB **04** 16:18:27.0±1.1, 3038N±003×5738E±004, h25km±10km, mb4.0/20, MS3.1/6, Error ellipse: s-maj=6.1km s-min=4.6km az=113.2*
*MOS **04** 16:18:27.4±1.9, 3014N×5742E, h33km, mb4.3/9, Error ellipse: s-maj=12.6km s-min=9.5km az=79.5*
*NEIC **04** 16:18:27.2, 3043N×5732E, h14km, mb4.2/11, ML4.3(THR), MN4.6(TEH), After THR.*
*THR **04** 16:18:27.1±0.6, 3041N×5733E, h14km±9km, ML4.3*
*CSEM **04** 16:18:27.5±0.1, 3034N×5737E, h30km, mb4.4/9, Error ellipse: s-maj=2.2km s-min=1.6km az=30.0*
*IDC **04** 16:18:30.3±4.5, 3039N×5732E, h38km±49km, mb3.7/8, mb1 3.8/11, mb1mx3.6/25, mbtmp3.9/11, ML3.7/3, MS3.2/8, Ms1 3.2/8, ms1mx3.0/23, Error ellipse: s-maj=29.4km s-min=18.4km az=163.0*
*TEH **04** 16:18:33.4, 3075N×5737E, h19km, Mn4.6*

ISC 04 16:18:27.1±1.5, 3039N±003×5743E±004, h10km±10km, n122, σ1§12/126, mb4.0/20, MS3.1/6, 2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.70**	**235**	*e*PG	**Pg**	**16 18 39.6**	**-1.2**
KRBR				AML	AML	16 18 49.8	
	comp=N,26μm,0.4s						
KRBR				AML	AML	16 18 55.2	
	comp=E,14μm,0.8s						
KRBR	**Kerman**	**0.70**	**235**	*e*Pg	**Pg**	**16 18 39.0**	**-1.7**
IBAF	**Bafgh**	**2.00**	**307**	*e*Pn	**Pn**	**16 19 01.2**	**+0.2**
IBAF				*e*Lg		16 19 28.2	
IBAF	**Bafgh**	**2.00**	**307**	Pn	**Pn**	**16 19 01.1**	**+0.1**
IBAF				Lg		16 19 28.1	
IMEH	**Mehriz**	**2.62**	**293**	*e*Pn	**Pn**	**16 19 09.7**	**+0.2**
BNDS	**Bandar-Abbas**	**3.17**	**201**	*e*PN	**Pn**	**16 19 18.9**	**+1.8**
BNDS				AML	AML	16 20 07.6	
	comp=N,453nm,0.5s						
BNDS	**Bandar-Abbas**	**3.17**	**201**	*e*Pn	**Pn**	**16 19 18.0**	**+0.9**
ICHK	**Chekchek**	**3.18**	**306**	*e*Pn	**Pn**	**16 19 17.7**	**+0.5**
ISAD	**Sadrabad**	**3.55**	**296**	*e*Pn	**Pn**	**16 19 24.6**	**+2.3**
ISAD				*e*Sn	**Sn**	**16 20 02.4**	**-1.9**
ISRV	**Sarvestan**	**3.88**	**256**	*e*Pn	**Pn**	**16 19 28.3**	**+1.5**
ISRV	**Sarvestan**	**3.88**	**256**	Pn	**Pn**	**16 19 28.2**	**+1.4**
IMOK	**Mook**	**4.31**	**253**	*e*Pn	**Pn**	**16 19 32.4**	**-0.4**
IMOK	**Mook**	**4.31**	**253**	Pn	**Pn**	**16 19 32.3**	**-0.5**
SHI	**Shiraz**	**4.33**	**261**	*e*Pn	**Pb**	**16 19 41.6**	**-1.7**
SHI	**Shiraz**	**4.33**	**261**	Pn	**Pb**	**16 19 41.5**	**-1.8**
GHIR	**Ghir-Karzin**	**4.41**	**243**	*e*PN	**Pn**	**16 19 35.0**	**+0.9**
GHIR				*e*SG	**Sg**	**16 20 41.9**	**-6.8**
GHIR	**Ghir-Karzin**	**4.41**	**243**	*e*Pn	**Pn**	**16 19 34.0**	**-0.1**
GHIR				*e*Sg	**Sg**	**16 20 41.0**	**-7.6**
BANOM	**Banah**	**4.56**	**193**	P	**Pn**	**16 19 38.1**	**+1.9**
	SNR=29						
NASN	**Na'in**	**4.62**	**303**	*e*Pn	**Pn**	**16 19 37.7**	**+0.8**
NASN				*e*Sg	**Sg**	**16 20 47.9**	**-7.4**
NASN				AML	AML	16 20 57.8	
	comp=N,223nm,0.5s						
NASN	**Na'in**	**4.62**	**303**	*e*Pn	**Pn**	**16 19 37.0**	**0.0**
NASN				*e*Sg	**Sg**	**16 20 47.0**	**-8.4**
NASN	**Na'in**	**4.62**	**303**	*e*Pn	**Pn**	**16 19 37.7**	**+0.7**
	SNR=52						
NASN				*e*Sg	**Sg**	**16 20 47.9**	**-7.5**
	SNR=90						
IZEF	**Zefreh**	**5.02**	**301**	*e*Pn	**Pn**	**16 19 43.9**	**+1.5**
IZEF	**Zefreh**	**5.02**	**301**	Pn	**Pn**	**16 19 43.8**	**+1.4**
IKLH	**Kalahroud**	**5.77**	**302**	*e*Pn	**Pn**	**16 19 54.3**	**+1.5**
IKLH	**Kalahroud**	**5.77**	**302**	Pn	**Pn**	**16 19 54.2**	**+1.4**
ASHO	**Ashiyiah**	**5.81**	**192**	P	**Pn**	**16 19 55.1**	**+1.8**
	SNR=30						
ISFB	**Sefidab**	**5.91**	**313**	*e*Pn	**Pn**	**16 19 55.1**	**+0.4**
ISFB	**Sefidab**	**5.91**	**313**	Pn	**Pn**	**16 19 55.0**	**+0.3**
IMOG	**Moghan**	**5.92**	**15**	*e*Pn	**Pn**	**16 19 54.6**	**-0.3**
IMOG	**Moghan**	**5.92**	**15**	Pn	**Pn**	**16 19 54.5**	**-0.4**
IPIR	**Pirpir**	**6.03**	**294**	*e*Pn	**Pn**	**16 19 58.3**	**+1.9**
IPIR	**Pirpir**	**6.03**	**294**	Pn	**Pn**	**16 19 58.2**	**+1.8**
IMYA	**Miamay**	**6.34**	**20**	*e*Pn	**Pn**	**16 20 00.9**	**+0.2**
IMYA	**Miamay**	**6.34**	**20**	Pn	**Pn**	**16 20 00.8**	**+0.1**
IKRD	**Kardeh**	**6.43**	**8**	*e*Pn	**Pn**	**16 19 59.2**	**-2.7**
IKRD	**Kardeh**	**6.43**	**8**	Pn	**Pn**	**16 19 59.1**	**-2.8**
IFIR	**Firoozkooh**	**6.55**	**324**	*e*Pn	**Pn**	**16 20 03.5**	**0.0**
IFIR	**Firoozkooh**	**6.55**	**324**	Pn	**Pn**	**16 20 03.4**	**-0.1**
IKIA	**Kiasar**	**6.59**	**333**	*e*Pn	**Pn**	**16 20 04.6**	**+0.5**
IKIA	**Kiasar**	**6.59**	**333**	Pn	**Pn**	**16 20 04.5**	**+0.4**
IVRN	**Varamin**	**6.65**	**315**	*e*Pn	**Pn**	**16 20 05.3**	**+0.4**
IVRN	**Varamin**	**6.65**	**315**	Pn	**Pn**	**16 20 05.2**	**+0.3**
IGLO	**Galoogah**	**6.76**	**332**	*e*Pn	**Pn**	**16 20 06.8**	**+0.4**
IGLO	**Galoogah**	**6.76**	**332**	Pn	**Pn**	**16 20 06.7**	**+0.3**
HOQ	**Hoqain**	**6.78**	**181**	P	**Pn**	**16 20 06.7**	**0.0**
	SNR=9.0						
IDMV	**Damavand**	**6.88**	**320**	*e*Pn	**Pn**	**16 20 08.7**	**+0.7**
IDMV	**Damavand**	**6.88**	**320**	Pn	**Pn**	**16 20 08.6**	**+0.6**
DAMV	**Damavand**	**6.95**	**320**	*e*PN	**Pn**	**16 20 09.8**	**+0.8**
DAMV	**Damavand**	**6.95**	**320**	*e*Pn	**Pn**	**16 20 09.0**	**0.0**
ARQ	**Araqi**	**7.07**	**187**	P	**Pn**	**16 20 13.4**	**+2.8**
	SNR=10.0						
WSAR	**Wadi Sarin**	**7.20**	**171**	Pn	**Pn**	**16 20 12.8**	**+0.4**
	comp=N,4.0nm,0.3s,baz=354,slow=9.9,SNR=51						
WSAR				LR	LR	16 22 44.8	
	comp=N,71nm,18.8s,baz=88,slow=35						
IAFJ	**Afjeh**	**7.26**	**320**	*e*Pn	**Pn**	**16 20 13.9**	**+0.6**
IPRN	**Paran-Amol**	**7.27**	**325**	*e*Pn	**Pn**	**16 20 13.4**	**-0.1**
IPRN				*e*Sn	**Sn**	**16 21 27.4**	**-8.7**
IPRN	**Paran-Amol**	**7.27**	**325**	Pn	**Pn**	**16 20 13.3**	**-0.2**
IPRN				Sn	**Sn**	**16 21 27.3**	**-8.8**
SMDO	**Samad**	**7.32**	**176**	P	**Pn**	**16 20 14.7**	**+0.6**
	SNR=7.1						
ASAO	**Ashtian**	**7.50**	**305**	*e*Pn	**Pn**	**16 20 17.6**	**+1.0**
IMHD	**Mahdasht**	**7.75**	**315**	*e*Pn	**Pn**	**16 20 20.4**	**+0.4**
IMHD	**Mahdasht**	**7.75**	**315**	Pn	**Pn**	**16 20 20.3**	**+0.3**
WBK	**Wadi Bani Khal**	**7.87**	**170**	P	**Pn**	**16 20 22.2**	**+0.5**
	SNR=9.9						
QRN	**Al-Qurain**	**8.44**	**261**	*e*P	**Pn**	**16 20 28.6**	**-0.9**
UMR	**Umm Al-Rimmam**	**8.47**	**267**	*e*P	**Pn**	**16 20 28.9**	**-1.0**
KBD	**Kabd**	**8.55**	**264**	*e*P	**Pn**	**16 20 30.4**	**-0.5**
MIB	**Mutribah**	**8.76**	**269**	*e*P	**Pn**	**16 20 33.1**	**-0.8**
MIB				AML	AML	16 22 07.5	
	comp=Z,15nm,0.6s						
NAY	**Al-Naaiem**	**8.92**	**265**	*e*P	**Pn**	**16 20 35.1**	**-1.0**
NAY				AML	AML	16 22 16.6	
	comp=Z,8.8nm,0.5s						
IGHG	**Ghaleghazi**	**9.99**	**296**	*e*Pn	**Pn**	**16 20 51.6**	**+0.9**
WHFO	**Wadi Hawf**	**12.85**	**196**	P	**Pn**	**16 21 28.3**	**-1.6**
	SNR=5.7						
ABTO	**Aybut**	**13.51**	**197**	P	**Pn**	**16 21 36.9**	**-2.0**
	SNR=6.4						
GNI	**Garni**	**14.21**	**317**	LR	LR	16 27 07.2	
	comp=Z,102nm,21.2s,baz=32,slow=37						
MALT	**Malatya**	**17.55**	**302**	*e*P	**Pn**	**16 22 34.7**	**+2.9**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MALT	**Malatya**	**17.55**	**302**	*e*P	**Pn**	**16 22 34.7**	**+2.9**
	comp=Z,4.5nm,0.8s						
ASF	**Jabal al Asfar**	**17.64**	**281**	P	**Pn**	**16 22 31.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=315,slow=5.7,SNR=3.1						
KIV	**Kislovodsk**	**17.89**	**323**	*e*P	**Pn**	**16 22 47.0**	**+11**
KIV				pmax	pmax		
	comp=Z,14nm,1.2s						
KIV				MLR	MLR		
	comp=Z,32nm,14.0s						
AAK	**Ala-Archa**	**18.33**	**44**	*e*P	**Pn**	**16 22 41.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AAK	**Ala-Archa**	**18.33**	**44**	*e*P	**Pn**	**16 22 41.8**	**+0.3**
	comp=Z,2.2nm,0.4s						
AAK	**Ala-Archa**	**18.33**	**44**	*e*P	**Pn**	**16 22 41.8**	**+0.3**
	comp=Z,2.0nm,0.4s						
MMAI	**Mount Meron Ar**	**18.92**	**284**	P	**Pn**	**16 22 48.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=58,slow=11,SNR=4.8						
SOC	**Sochi**	**19.28**	**318**	*e*P	**Pn**	**16 23 00.8**	**+7.8**
SOC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
EIL	**Elat**	**19.47**	**274**	*e*P	**Pn**	**16 22 54.7**	**-0.6**
	comp=Z,180nm,1.0s						
EIL	**Elat**	**19.47**	**274**	*e*P	**Pn**	**16 22 54.7**	**-0.6**
	comp=Z,180nm,1.0s						
AKTK	**Aktyubinsk**	**20.03**	**1**	P	**P**	**16 22 59.5**	**-0.6**
AKTK				LR	LR	16 31 57.8	
AKTK	**Aktyubinsk**	**20.03**	**1**	P	**P**	**16 22 59.5**	**-0.7**
AKTO	**Aktyubinsk**	**20.03**	**1**	P	**P**	**16 22 59.5**	**-0.7**
	comp=Z,4.3nm,0.7s,baz=176,slow=15,SNR=13						
AKTO				LR	LR	16 31 57.8	
	comp=Z,91nm,19.8s,MS3.1,baz=0.0,slow=40						
ORR	**Orenburg**	**21.30**	**355**	*e*P	**P**	**16 23 19.1**	**+5.1**
ORR				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.4						
ANN	**Anapa**	**21.32**	**318**	*e*P	**P**	**16 23 18.0**	**+3.8**
ANN				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.2						
BR131	**Keskin Array S**	**21.54**	**302**	*e*P	**P**	**16 23 15.6**	**-0.8**
	comp=Z,7.0nm,0.8s,mb4.1						
BR131	**Keskin Array S**	**21.54**	**302**	*e*P	**P**	**16 23 15.6**	**-0.9**
	comp=Z,7.0nm,0.8s,mb4.1						
BRTR	**Keskin Array B**	**21.54**	**302**	P	**P**	**16 23 15.8**	**-0.7**
	comp=Z,8.5nm,0.7s,mb4.3,baz=117,slow=12,SNR=67						
KOLN	**Koldanda**	**23.01**	**90**	*e*P	**P**	**16 23 32.4**	**+0.3**
	comp=Z,21nm,1.2s,mb4.5						
ATD	**Arta Tunnel**	**23.14**	**219**	LR	LR	16 34 13.2	
	comp=Z,70nm,19.8s,MS3.1,baz=54,slow=41						
GKN	**Gorkha**	**23.85**	**89**	*e*P	**P**	**16 23 40.5**	**-0.1**
ZRNK	**Zerenda**	**24.09**	**17**	*e*P	**P**	**16 23 42.0**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**24.09**	**17**	*e*P	**P**	**16 23 42.0**	**-0.7**
	comp=Z,5.4nm,1.0s,mb3.9						
ZRNK	**Zerenda**	**24.09**	**17**	*e*P	**P**	**16 23 42.0**	**-0.7**
	comp=Z,5.0nm,1.0s,mb3.9						
DMN	**Daman**	**24.34**	**90**	*e*P	**P**	**16 23 44.5**	**-0.6**
KKN	**Kakani**	**24.45**	**89**	*e*P	**P**	**16 23 45.0**	**-1.1**
	comp=Z,15nm,0.9s,mb4.4						
KKN	**Kakani**	**24.45**	**89**	*e*P	**P**	**16 23 45.0**	**-1.1**
KKN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
BRVK	**Borovoye**	**24.52**	**19**	*e*P	**P**	**16 23 46.9**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**24.52**	**19**	*e

CMCH	**Combarbala**	**2.75**	**221**	⇓*i*P	Pn	16 22 34.9	+0.5
CMCH				*i* S	Sn	16 23 09.2	+0.6

IDC 04 16:22:54.0±7.0, 613N×9602E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=378.1km s-min=29.7km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.20**	**346**	P	P	16 30 48.7	+0.1
	0.3nm,0.6s,baz=166,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**45.73**	**125**	P	P	16 31 18.1	+1.2
	0.4nm,0.6s,baz=306,slow=8.3,SNR=6.4						
ASAR	**Alice Springs**	**47.37**	**130**	P	P	16 31 29.4	-0.5
	0.6nm,0.9s,baz=303,slow=7.4,SNR=5.9						

*ISCJB **04** 16:31:32.4±0.8, 3698N±006×3481E±004, h40km±11km, Error ellipse: s-maj=10.6km s-min=5.8km az=167.6*
*ISK **04** 16:31:32.1, 3697N×3480E, h36km, MD3.2*
*CSEM **04** 16:31:32.3±0.1, 3695N×3483E, h30km, MD3.2, Error ellipse: s-maj=4.3km s-min=2.1km az=4.0*
*NSSC **04** 16:31:40.9, 3665N×3554E, h23km±11km*

ISC 04 16:31:32.8±0.7, 3698N±006×3481E±005, h37km±12km, n18, σ0°56/29, 12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.26**	**243**	*i* PG	**Pn**	**16 31 40.0**	**-0.3**
MERS				*i* SG	**Sn**	**16 31 45.2**	**-0.3**
KARA	**Karaisali**	**0.34**	**35**	*i* PG	**Pn**	**16 31 41.5**	**+0.2**
KARA				*i* SG	**Sn**	**16 31 47.8**	**+0.6**
KRTS	**Karatas**	**0.61**	**132**	*i* PG	**Pn**	**16 31 44.5**	**-0.5**
KRTS				*i* SG	**Sn**	**16 31 54.2**	**+0.6**
MEST	**Erdemli**	**0.66**	**234**	*i* P	**Pn**	**16 31 45.1**	**-0.5**
MEST				*i* S	**Sn**	**16 31 49.2**	**-5.6**
CEYT	**Ceyhan**	**0.75**	**88**	*i* PG	**Pn**	**16 31 46.3**	**-0.6**
KOZT	**Kozan**	**0.95**	**58**	*i* PG	**Pn**	**16 31 49.6**	**-0.1**
IKL	**Isikli**	**1.17**	**231**	*i* PN	**Pn**	**16 31 52.5**	**-0.1**
COBT	**Iskenderun**	**1.25**	**111**	*i* P	**Pn**	**16 31 53.8**	**0.0**
COBT				*i* S	**Sn**	**16 32 08.9**	**-0.4**
ARNB	**Al Arnab**	**1.46**	**140**	⇑P	**Pn**	**16 31 57.1**	**+0.5**
ARNB				⇑S	**Sn**	**16 32 08.4**	**-6.1**
DRWC	**Darouich**	**1.54**	**103**	⇓P	**Pn**	**16 31 57.2**	**-0.5**
DRWC				⇓S	**Sn**	**16 32 10.4**	**-6.0**
DRWC	**Darouich**	**1.54**	**103**	⇓*i*P	**Pn**	**16 31 57.2**	**-0.5**
ERMK	**Ermenek**	**1.56**	**258**	*i* P	**Pn**	**16 31 56.9**	**-1.0**
ERMK				*i* S	**Sn**	**16 32 18.3**	**+1.4**
BTCH	**Batrach**	**1.63**	**125**	⇓P	**Pn**	**16 31 59.0**	**+0.1**
BTCH				⇓S	**Sn**	**16 32 10.6**	**-8.1**
BTCH	**Batrach**	**1.63**	**125**	⇓*i*P	**Pn**	**16 31 59.0**	**0.0**
SLNF	**Slenfeh**	**1.80**	**140**	⇓P	**Pn**	**16 32 01.9**	**+0.6**
SLNF				⇓S	**Sn**	**16 32 17.5**	**-5.3**
SLNF	**Slenfeh**	**1.80**	**140**	⇓*i*P	**Pn**	**16 32 01.9**	**+0.7**
WRDH	**Warideh**	**1.96**	**138**	⇓P	**Pn**	**16 32 03.9**	**+0.4**
WRDH				⇓S	**Sn**	**16 32 21.2**	**-5.7**
WRDH	**Warideh**	**1.96**	**138**	⇓*i*P	**Pn**	**16 32 03.9**	**+0.4**

*TIF **04** 16:32:07.6, 4155N×4667E, h9km±1km*
*ISCJB **04** 16:32:08.2±0.7, 4141N±005×4671E±004, h10km, Error ellipse: s-maj=7.5km s-min=4.3km az=22.4*
*MOS **04** 16:32:08.4±1.8, 4170N×4693E, h12km, mb4.0/1, Error ellipse: s-maj=18.7km s-min=7.4km az=127.5*
*CSEM **04** 16:32:08.4, 4170N×4693E, h12km, mb4.0, After OBN*

ISC 04 16:32:08.5±0.7, 4137N±006×4670E±004, h10km, n23, σ0°96/45, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**0.78**	**82**	*i* PG	**Pg**	**16 32 22.0**	**-1.6**
AKT				*i* S	**Sg**	**16 32 34.0**	**+0.1**
DGRG	**David-gareji**	**1.00**	**275**	P	**Pn**	**16 32 27.8**	**-0.9**
DGRG				S	**Sn**	**16 32 43.2**	**+0.5**
BTLR	**Botlikh**	**1.34**	**345**	*i* PG	**Pn**	**16 32 27.0**	**-6.3**
BTLR				*e*S	**Sn**	**16 32 42.3**	**-8.9**
BTLR				pmax	pmax		
	comp=Z,263nm,0.3s						
BTLR	**Botlikh**	**1.34**	**345**	*i* Pg	**Pn**	**16 32 27.0**	**-6.3**
	comp=Z,263nm,0.3s						
BTLR				*e*Sg	**Sn**	**16 32 42.3**	**-8.9**
UNCR	**Uncukul**	**1.34**	**3**	*i* PG	**Pn**	**16 32 28.5**	**-4.8**
UNCR				*i* S	**Sn**	**16 32 44.5**	**-6.8**
UNCR				pmax	pmax		
	comp=Z,479nm,0.3s						
UNCR	**Uncukul**	**1.34**	**3**	*i* Pg	**Pn**	**16 32 28.5**	**-4.8**
	comp=Z,479nm,0.3s						
UNCR				*i* Sg	**Sn**	**16 32 44.5**	**-6.8**
KRNR	**Karanay**	**1.46**	**6**	⇑*i*PG	**Pn**	**16 32 26.2**	**-8.8**
KRNR				*i* S	**Sn**	**16 32 42.2**	**-12**
KRNR				pmax	pmax		
	comp=Z,125nm,0.2s						
KRNR	**Karanay**	**1.46**	**6**	*i* Pg	**Pn**	**16 32 26.2**	**-8.8**
	comp=Z,125nm,0.2s						
KRNR				*i* Sg	**Sn**	**16 32 42.2**	**-12**
MTA	**Mtatsminda**	**1.47**	**283**	P	**Pn**	**16 32 34.2**	**-0.8**
MTA				S	**Sn**	**16 32 53.0**	**-1.3**
TBLG	**Delisi**	**1.52**	**284**	P	**Pn**	**16 32 34.7**	**-1.0**
TBLG				S	**Sn**	**16 32 54.8**	**-0.6**
TBLG	**Delisi**	**1.52**	**284**	Pn	**Pn**	**16 32 35.0**	**-0.7**
GOR	**Gori**	**2.04**	**288**	P	**Pn**	**16 32 42.2**	**-0.6**
GOR				S	**Sn**	**16 33 08.3**	**0.0**
SNJR	**Sundja**	**2.20**	**321**	*i* Pn	**Pn**	**16 32 46.0**	**+0.9**
SNJR				*i* Sb	**Sb**	**16 33 13.9**	**-1.8**
VLKR	**Vladikavkaz**	**2.25**	**319**	*i* Pn	**Pn**	**16 32 46.6**	**+0.8**
VLKR				*i* Sb	**Sb**	**16 33 14.8**	**-2.3**
LACR	**Lac**	**2.31**	**310**	*e*Pn	**Pn**	**16 32 46.8**	**+0.2**
LACR				*i* Sn	**Sn**	**16 33 15.2**	**+0.2**
AKH	**Akhalkalaki**	**2.41**	**272**	P	**Pn**	**16 32 49.4**	**+1.4**
AKH				S	**Sn**	**16 33 20.6**	**+3.0**
ZEI	**Tsey**	**2.51**	**305**	*e*Pn	**Pn**	**16 32 49.4**	**0.0**
ZEI				*i* Sn	**Sn**	**16 33 19.7**	**-0.3**
ARNR	**Ardon**	**2.56**	**316**	*i* Pn	**Pn**	**16 32 50.5**	**+0.5**
ARNR				*e*Sn	**Sn**	**16 33 21.6**	**+0.5**
BTKR	**Batakoyurt**	**2.56**	**322**	*e*Pn	**Pn**	**16 32 50.8**	**+0.7**
BTKR				*e*Sn	**Sn**	**16 33 22.2**	**+0.9**
KORR	**Kora**	**2.60**	**312**	*e*Pn	**Pn**	**16 32 50.8**	**+0.2**
KORR				*i* Sn	**Sn**	**16 33 22.2**	**0.0**
KMSR	**Komsomolskaya**	**2.68**	**319**	*i* Pn	**Pn**	**16 32 52.3**	**+0.6**
KMSR				*i* Sn	**Sn**	**16 33 24.8**	**+0.6**
TRKR	**Terskaya**	**2.76**	**329**	*i* Pn	**Pn**	**16 32 53.9**	**+1.0**
TRKR				*i* Sn	**Sn**	**16 33 27.5**	**+1.2**
DIGR	**Digorskoe uzhe**	**2.78**	**304**	*i* Pn	**Pn**	**16 32 52.8**	**-0.3**
DIGR				*i* Sn	**Sn**	**16 33 25.6**	**-1.0**

*MOS **04** 16:50:16.6±2.6, 3837N×6968E, h33km, mb4.1/3, Error ellipse: s-maj=35.1km s-min=18.3km az=96.6*
*ISCJB **04** 16:50:20.2±3.3, 387N±02×698E±0.1, h46km±29km, mb3.6/4, Error ellipse: s-maj=25.6km s-min=17.6km az=0.9*
*IDC **04** 16:50:26.7±6.2, 3889N×6988E, h84km±52km, mb3.5/4, mb1 3.6/7, mb1mx3.3/23, mbtmp3.8/7, ML3.5/3, Error ellipse: s-maj=54.7km s-min=34.5km az=157.0*

ISC 04 16:50:24.5±2.9, 388N±02×699E±01, h71km±25km, n15, σ1°31/18, mb3.5/4, 1C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.36**	**6**	⇓Pn	**Pn**	**16 51 26.7**	**-1.5**
	1.7nm,0.3s,baz=185,slow=12,SNR=219						
KK31				Pg	**Pn**	**16 51 37.1**	**+8.9**
	12nm,0.2s,baz=193,slow=18,SNR=20						
KK31				⇓Sn	**Sn**	**16 52 18.0**	**+0.2**
	9.0nm,0.5s						
KK31				Lg		16 52 31.6	
	15nm,0.5s,baz=192,slow=27,SNR=5.9						
TKM2	**Tokmak 2**	**6.01**	**45**	⇑Pn	**Pn**	**16 51 49.5**	**-1.3**
	0.3nm,0.5s						
TKM2				⇓Sn	**Sn**	**16 52 59.4**	**+1.2**
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**12.14**	**45**	P	**Pn**	**16 53 15.5**	**+1.0**
	0.0nm,0.3s,baz=237,slow=16,SNR=3.2						
AKTO	**Aktyubinsk**	**14.37**	**328**	P	**Pn**	**16 53 46.2**	**+2.0**
	1.1nm,0.3s,baz=129,slow=11,SNR=13						
AKTO	**Aktyubinsk**	**14.37**	**328**	P	**Pn**	**16 53 46.2**	**+1.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ORR	**Orenburg**	**16.64**	**325**	*e*P	**Pn**	**16 54 09.9**	**-3.2**
ORR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
ZAL	**Zalesovo**	**18.28**	**29**	P	**Pn**	**16 54 30.9**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=229,slow=9.9,SNR=4.1						
FINES	**FINESS Array B**	**35.11**	**325**	P	**P**	**16 57 10.1**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.7,baz=122,slow=13,SNR=6.8						
FINES	**FINESS Array B**	**35.11**	**325**	P	**P**	**16 57 10.1**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**42.03**	**322**	P	**P**	**16 58 08.4**	**-0.5**
	comp=Z,0.1nm,0.6s,mb2.7,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**42.03**	**322**	P	**P**	**16 58 08.8**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.7,baz=97,slow=8.1,SNR=4.4						
NOA	**NORSAR Array B**	**42.03**	**322**	P	**P**	**16 58 08.8**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**64.90**	**267**	P	**P**	**17 00 57.4**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=50,slow=5.7,SNR=7.7						
YKA	**Yellowknife Ar**	**79.02**	**2**	P	**P**	**17 02 21.2**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.7,baz=354,slow=5.1,SNR=4.3						
YKA	**Yellowknife Ar**	**79.02**	**2**	P	**P**	**17 02 21.2**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*CSEM **04** 16:50:47.5±0.2, 3866N×2684E, h40km, MD2.8, Error ellipse: s-maj=5.4km s-min=3.5km az=106.0*

ISK 04 16:50:48.5, 3871N×2686E, h30km, MD2.8, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.36**	**156**	PG	Pb	16 50 57.2	+0.5
BLCB				SG	Sb	16 51 04.0	+1.7
URLA	**Izmir**	**0.41**	**211**	*i* P	Pb	16 50 57.9	+0.4
URLA				*i* S	Sb	16 51 04.2	+0.6
KDAG	**Bornova**	**0.44**	**134**	*i* P	Pb	16 50 58.9	+0.9
KDAG				*i* S	Sb	16 51 07.1	+2.5
IZM	**Izmir**	**0.45**	**135**	PG	Pb	16 50 58.3	+0.3
IZM				SG	Sb	16 51 06.4	+1.8
AYVA	**Ayvalik**	**0.61**	**348**	*i* P	Pb	16 50 57.7	-3.0
AYVA				*i* S	Sb	16 51 04.8	-4.2
AKS	**Akhisar**	**0.76**	**77**	PG	Pn	16 51 03.8	+0.6
AKS				SG	Sb	16 51 14.2	+0.8
BALB	**Balikesir**	**1.22**	**40**	PN	Pn	16 51 10.5	+1.0
KCT	**Karacabey**	**1.94**	**36**	PN	Pn	16 51 19.8	+0.5

*INMG **04** 16:58:50.0±1.0, 4232N×733W, h11km±13km, ML1.6, Error ellipse: s-maj=2.7km s-min=1.4km az=100.0*

MDD 04 16:58:49.7±0.2, 4232N×734W, h11km±1km, mbLg1.8/11, 2C-1D, Error ellipse: s-maj=2.7km s-min=2.4km az=130.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.16**	**61**	⇑Pg	Pg	16 58 53.2	-0.2
	19nm,0.1s,SNR=18						
ERUA				Lg		16 58 55.8	
	36nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**0.58**	**130**	⇓Pg	Pg	16 59 00.7	-0.3
	5.0nm,0.1s,SNR=18						
ECAL				Lg		16 59 08.5	
	29nm,0.2s,SNR=28						
PBRG	**Braganca**	**0.68**	**139**	*e*Pg	Pg	16 59 02.2	-0.6
PBRG				*e*Sg	Sg	16 59 11.3	-0.3
PBRG							
	15nm,0.1s						
ELOB	**Lobios**	**0.70**	**231**	⇑Pg	Pg	16 59 02.6	-0.7
	4.5nm,0.1s,SNR=18						
ELOB				Lg		16 59 11.7	
	7.7nm,0.1s,SNR=16						
PCAB	**Cabril**	**0.79**	**221**	*e*Pg	Pg	16 59 04.5	-0.6
PCAB				*e*Sg	Sg	16 59 15.0	-0.4
PCAB							
	26nm,0.1s						
EPON	**Pontenova**	**1.02**	**8**	Pg	Pg	16 59 08.3	-1.1
	0.9nm,0.1s,SNR=5.9						
EPON				Lg		16 59 22.1	
	6.4nm,0.1s,SNR=7.9						
STS	**Santiago**	**1.06**	**303**	Pg	Pg	16 59 09.3	-0.9
	3.3nm,0.1s,SNR=7.9						
STS				Lg		16 59 22.6	
	5.9nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**1.08**	**195**	*e*P	Pb	16 59 09.9	-0.5
PVRL				*e*S	Sb	16 59 24.2	-0.2
PVRL							
	19nm,0.1s						
EMAZ	**Mazaricos**	**1.37**	**298**	Pg	Pg	16 59 14.7	-1.3
	2.7nm,0.2s,SNR=6.2						
EMAZ				Sn	Sn	16 59 32.7	-0.2
	2.4nm,0.2s,SNR=7.9						
PTO	**Porto**	**1.51**	**219**	*e*Sg	Sg	16 59 36.9	-1.4
PVIS	**Viseu**	**1.65**	**195**	*e*Pn	Pn	16 59 17.7	-1.0
PVIS	**Viseu**	**1.65**	**195**	*e*Pg	Pg	16 59 19.7	-1.7
PVIS				*e*Sg	Sg	16 59 41.3	-1.6
PVIS							
	5.1nm,0.1s						
PVIS	**Viseu**	**1.65**	**195**	Pn	Pn	16 59 17.7	-1.0
PVIS				Pg	Pg	16 59 19.7	-1.7
PVIS				Lg		16 59 41.3	
	2.5nm,0.1s						
EARI	**Arriondas**	**1.85**	**57**	Pg	Pg	16 59 23.0	-2.2
	SNR=7.9						
EARI				Lg		16 59 48.7	
	0.4nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**1.92**	**185**	*e*Sg	Sg	16 59 49.6	-1.8
MTE							
	5.1nm,0.5s						
MTE	**Manteigas**	**1.92**	**185**	Lg		16 59 49.6	
	2.5nm,0.5s						
PCBR	**Castelo Branco**	**2.47**	**183**	*e*Sg	Sg	17 00 06.7	-2.5
PCBR							
	1.8nm,0.3s						
PCBR	**Castelo Branco**	**2.47**	**183**	Lg		17 00 06.7	
	0.9nm,0.3s						

IGQ 04 17:04:12.9, 073S×8135W, h10km±8km, Mb4.3, Ms4.1, 4C-4D, Error ellipse: s-maj=9.2km s-min=5.0km az=40.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.71**	**67**	⇑P	Pn	17 04 45.1	+2.4
MAG1				S	Sn	17 05 06.0	+1.4
QIL1	**Quilotoa**	**2.42**	**93**	P	Pn	17 04 52.5	0.0
PINO	**Pino**	**2.80**	**78**	⇓P	Pn	17 04 59.3	+1.5
TERV	**Terraza Guagua**	**2.80**	**79**	P	Pn	17 04 59.4	+1.6
TERV				S	Sn	17 05 34.4	+2.8
GGP	**Refugio Guagua**	**2.81**	**79**	P	Pn	17 04 59.8	+1.9
IGUA	**Igualata**	**2.81**	**106**	⇓P	Pn	17 05 00.6	+2.6
YANA	**Yana**	**2.84**	**78**	P	Pn	17 04 59.4	+1.0
CAMI	**Rancho Maria**	**2.85**	**89**	P	Pn	17 05 00.3	+2.0
NAS1	**Nasa**	**2.87**	**88**	P	Pn	17 05 01.5	+2.7
VC1	**Cotopaxi 1**	**2.95**	**88**	P	Pn	17 05 02.8	+3.0
PISA	**Pisayambo**	**2.98**	**96**	P	Pn	17 05 03.7	+3.5
TAMB	**Tambo**	**2.98**	**89**	P	Pn	17 05 03.3	+3.1
ARRY	**Arrayan**	**3.00**	**105**	P	Pn	17 05 02.7	+2.2
ARRY				S	Sn	17 05 37.2	+0.9
RUN5	**Runtun**	**3.00**	**103**	P	Pn	17 05 04.0	+3.4
RUN5				S	Sn	17 05 39.0	+2.4
PATA	**Patacocha**	**3.02**	**105**	P	Pn	17 05 03.4	+2.7
PATA				S	Sn	17 05 39.1	+2.2
ULBA	**Ulba**	**3.03**	**104**	P	Pn	17 05 03.4	+2.5
COTA	**Cotacachi**	**3.19**	**71**	⇑P	Pn	17 05 05.9	+2.7
ANTI	**Antisana**	**3.20**	**85**	⇑P	Pn	17 05 07.2	+3.9
CAYR	**Refugio Cayamb**	**3.42**	**78**	⇓P	Pn	17 05 10.7	+4.4
ANGU	**Angureal**	**3.43**	**77**	⇑P	Pn	17 05 10.4	+4.0
CAYA	**Cayambe**	**3.45**	**77**	⇓P	Pn	17 05 10.7	+3.9
CONE	**Cono NE Rev Vo**	**3.77**	**80**	P	Pn	17 05 15.4	+4.4

IDC 04 17:05:21.3±3.6, 639S×14797E, h77km±26km, mb3.4/3, mb1 3.5/5, mb1mx3.3/14, mbtmp3.7/5, Error ellipse: s-maj=58.7km s-min=26.2km az=104.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.10**	**195**	P	Pn	17 06 07.2	-0.7
	7.1nm,0.3s,baz=29,slow=6.6,SNR=32						
PMG				S	Sn	17 06 44.8	+1.0
	14nm,0.3s,baz=289,slow=21,SNR=8.7						
WB2	**Warramunga Arr**	**18.88**	**223**	*e*P	Pn	17 09 35.2	-1.6
WRA	**Warramunga Arr**	**18.89**	**223**	P	Pn	17 09 35.4	-1.5
	0.2nm,0.3s,baz=48,slow=11,SNR=18						
ASAR	**Alice Springs**	**21.86**	**217**	P	P	17 10 08.1	+0.5
	0.9nm,0.5s,baz=55,slow=8.7,SNR=40						
ASAR				S	S	17 14 06.0	+1.2
	0.8nm,0.8s,baz=37,slow=22,SNR=5.0						
FITZ	**Fitzroy Crossi**	**24.69**	**240**	*e*P	P	17 10 36.0	+0.9
	3.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.69**	**240**	P	P	17 10 35.8	+0.7
	1.7nm,0.5s,baz=52,slow=8.8,SNR=14						
STKA	**Stephens Creek**	**26.04**	**192**	P	P	17 10 47.4	+0.1
	1.3nm,0.9s,baz=13,slow=12,SNR=4.4						

IDC 04 18:01:19.2±5.8, 3151S×17963W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/11, mbtmp3.9/2, Error ellipse: s-maj=221.5km s-min=60.0km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.67**	**269**	P	P	18 09 09.2	-0.2
	0.7nm,0.7s,baz=108,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**42.76**	**274**	P	P	18 09 18.7	+0.5
	1.4nm,0.4s,baz=114,slow=8.0,SNR=36						
FINES	**FINESS Array B**	**145.68**	**338**	PKPbc	PKPbc	18 20 58.5	-1.4
	0.7nm,0.8s,baz=5.7,slow=2.8,SNR=3.8						

*ISCJB **04** 18:12:52.6±0.5, 4404N±003×2001E±004, h18km±4km, Error ellipse: s-maj=5.4km s-min=4.9km az=39.1*
*BEO **04** 18:12:52.9±0.1, 4401N×2008E, h6km*
*CSEM **04** 18:12:52.1±0.1, 4403N×2005E, h15km, ML2.2/2, Error ellipse: s-maj=3.4km s-min=3.0km az=113.0*
*VIE **04** 18:12:55.4±0.6, 4423N×1983E, h8km, mb2.6/2, ML2.2/2, Error ellipse: s-maj=6.5km s-min=4.5km az=57.0 85 km SW of Beograd*

ISC 04 18:12:52.6±0.4, 4403N±002×2004E±004, h11km±3km, n22, σ0°83/33, 8C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divcibare**	**0.08**	**336**	*i* Pg	**Pg**	**18 12 55.3**	**+0.2**
DIVS				Sg	**Sg**	**18 12 57.0**	**+0.1**
BBLS	**Bajina Basta -**	**0.48**	**251**	*i* Pg	**Pg**	**18 13 02.4**	**+0.4**
BBLS				Sg	**Sg**	**18 13 09.8**	**+1.5**
GRUS	**Gruza**	**0.51**	**106**	*i* Pg	**Pg**	**18 13 01.7**	**-0.9**
GRUS				Sg	**Sg**	**18 13 08.6**	**-0.8**
SJES	**Sjenica**	**0.76**	**185**	Pg	**Pg**	**18 13 06.5**	**-0.9**
SJES				Sg	**Sg**	**18 13 17.9**	**+0.6**
BEO	**Belgrade**	**0.85**	**21**	⇑*i*Pg	**Pg**	**18 13 09.0**	**0.0**
BEO				Sg	**Sg**	**18 13 20.9**	**+0.9**
SVIS	**Svilajnac**	**0.90**	**72**	*i* Pg	**Pg**	**18 13 09.8**	**-0.1**
SVIS				Sg	**Sg**	**18 13 21.6**	**0.0**
FGSL	**Fruska Gora**	**1.14**	**352**	Pg	**Pg**	**18 13 13.7**	**-0.8**
FGSL				Sg	**Sg**	**18 13 29.9**	**+0.5**
BZS	**Buzias**	**1.95**	**35**	⇑*i*P	**Pn**	**18 13 25.5**	**0.0**
BZS				S	**Sn**	**18 13 53.0**	**+3.1**
STON	**Ston**	**2.06**	**237**	*i* Pn	**Pn**	**18 13 28.5**	**+1.5**
STON				*i* Sn	**Sg**	**18 13 57.8**	**-0.9**
PKSM	**Moragy**	**2.40**	**336**	⇑*i*P	**Pn**	**18 13 31.3**	**-0.4**
PKSM	**Moragy**	**2.40**	**336**	S	**Sg**	**18 14 08.7**	**-0.9**
PKSM	**Moragy**	**2.40**	**336**	⇑*e*Pn	**Pn**	**18 13 31.2**	**-0.5**
PKS9	**Tamasi**	**2.84**	**335**	⇑*i*P	**Pn**	**18 13 37.7**	**-0.1**
PKS8	**Sarbogard**	**3.01**	**342**	⇑*e*P	**Pn**	**18 13 39.9**	**-0.2**
PKS7	**Kunszentmiklos**	**3.08**	**349**	⇓*e*P	**Pn**	**18 13 41.1**	**0.0**
PKSG		**3.56**	**342**	⇓*i*P	**Pn**	**18 13 47.6**	**0.0**
VOIR		**3.84**	**67**	⇓*i*P	**Pn**	**18 13 56.0**	**+4.4**
KECS	**Kecovo**	**4.47**	**4**	*e*PN	**Pn**	**18 14 01.2**	**+1.0**
ARSA	**Arzberg**	**4.52**	**317**	⇑*i*Pn	**Pn**	**18 14 01.1**	**+0.3**
ARSA				⇓*i*Sn	**Sn**	**18 14 51.7**	**-1.6**
VYHS	**Vyhne**	**4.54**	**350**	*e*SN	**Sn**	**18 14 54.6**	**+0.6**
SMOL	**Smolenice**	**4.84**	**339**	*e*SN	**Sn**	**18 15 01.7**	**+0.5**
CONA	**Conrad Observa**	**4.87**	**325**	⇑*i*Pn	**Pn**	**18 14 05.5**	**-0.1**
CONA				⇓*i*Sn	**Sn**	**18 15 00.4**	**-1.5**

*IDC **04** 18:15:28.8±1.1, 1588S×173.12W, h0km, mb4.1/6, mb1 4.4/7, mb1mx4.2/17, mbtmp4.2/7, ML4.1/1, MS4.0/9, Ms1 4.0/9, ms1mx3.7/20, Error ellipse: s-maj=58.3km s-min=20.2km az=154.0*
*NEIC **04** 18:15:31.9±0.5, 1535S×17347W, h10km, mb4.5/8, Error ellipse: s-maj=30.2km s-min=9.6km az=148.0*
*ISCJB **04** 18:15:34.0±0.6, 153S±02×1736W±02, h33km, mb4.2/14, MS4.0/9, Error ellipse: s-maj=37.6km s-min=11.0km az=116.3*

ISC 04 18:15:36.1±0.6, 154S±02×1735W±02, h35km, n41, σ0°60/24, mb4.2/14, MS4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**49**	Pn	**Pn**	**18 16 00.9**	**-9.0**
	68nm,0.3s,baz=197,slow=3.1,SNR=46						
AFI				Sn	**Sn**	**18 16 20.5**	**-15**
	408nm,0.3s,baz=238,slow=16,SNR=29						
AFI	**Afiamalu**	**2.19**	**49**	*e*Pn	**Pn**	**18 16 01.2**	**-8.8**
AFI				*e*S	**Sn**	**18 16 22.9**	**-13**
RAR	**Rarotonga**	**14.27**	**116**	Pn	**Pn**	**18 18 44.6**	**-11**
	1.0nm,0.3s,baz=251,slow=8.1,SNR=4.4						
PPT	**Papeete**	**23.03**	**99**	*e*LR	LR	18 25 49.5	
	626nm,25.0s						
PPT	**Papeete**	**23.03**	**99**	LR	LR	18 26 38.6	
	comp=Z,328nm,21.5s,MS3.8,baz=281,slow=30						
TBI	**Tubuai**	**24.00**	**113**	*e*LQ		18 25 26.0	
	562nm,29.8s						
TBI		

KHC Kasperske Hory 145.81 352 *e*PKP PKPdf 18 35 12.0 +1.0
BR131 Keskin Array S 146.06 321 *e*PKPbc PKPbc 18 35 13.8 +1.5
BRTR Keskin Array B 146.06 321 PKPbc PKPbc 18 35 13.2 +0.9
2.2nm,0.8s,baz=104,slow=2.5,SNR=14
GERES GERESS Array B 146.08 351 PKPbc PKPbc 18 35 09.5 -2.9
0.8nm,0.9s,baz=48,slow=2.0,SNR=9.0
ZST Bratislava 146.10 347 *e*PKP PKPdf 18 35 13.6 +2.1
SRO Srobarova 146.19 346 *e*PKP PKPbc 18 35 15.9 +3.2

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*IDC **04** 18:25:18.4±1.7,2278S×70.19E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.6/20,mbtmp3.7/5,MS4.1/8,Ms1 4.1/8, ms1mx3.6/26,Error ellipse: s-maj=56.3km s-min=28.7km az=77.0*
*ISCJB **04** 18:25:20.5±1.2,230S±02×706E±03,h10km,mb3.9/7, MS4.2/8,Error ellipse: s-maj=41.9km s-min=25.9km az=123.0*
*HRVD **04** 18:25:20.4±0.3,2270S×6925E,h18km±1km,MW5.0/66, Centroid moment Tensor Solution. LP body waves: s17,c19;Mantle waves: s66,c95; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.64±.15; Mθθ-2.67±.11; Mφφ3.31±.13; Mrθ0.77±.28; Mrφ0.69±.11; Mθr-0.67±.26; Best double couple: M=3.26100×1016 NP1:φs230.00000°,δ70.00000°,λ-8.00000°. NP2: φs323.00000°,δ82.00000°,λ-160.00000°. Principal axes: T 3.4720, Plg8.0000°, Azm95.0000°; N -0.4180, Plg69.0000°, Azm344.0000°; P -3.0510, Plg20.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 18:25:20.4±1.7,2283S×7024E,h10km,mb4.2/1 Error ellipse: s-maj=58.4km s-min=27.6km az=75.0*
ISC 04 18:25:21.9±1.2,230S±02×705E±03,h10km,n14,σ0§65/7, mb3.9/7,MS4.2/8,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**38.87**	**299**	LR	LR	18 44 48.4	
	comp=Z,215nm,20.4s,MS4.0,baz=95,slow=30						
BOSA	**Boshof**	**40.90**	**252**	LR	LR	18 45 46.5	
	comp=Z,404nm,20.4s,MS4.3,baz=99,slow=30						
MAW	**Mawson**	**44.88**	**184**	LR	LR	18 48 52.0	
	comp=Z,81nm,19.0s,MS3.7,baz=61,slow=31						
ASAR	**Alice Springs**	**57.81**	**104**	P	**P**	**18 35 14.0**	**+0.6**
	0.4nm,0.8s,mb3.5,baz=253,slow=6.5,SNR=3.9						
WRA	**Warramunga Arr**	**59.12**	**100**	P	**P**	**18 35 22.7**	**+0.2**
	0.9nm,0.9s,mb3.8,baz=257,slow=6.5,SNR=4.5						
STKA	**Stephens Creek**	**62.78**	**115**	LR	LR	19 00 22.9	
	comp=Z,267nm,20.5s,MS4.4,baz=103,slow=33						
VNDA	**Vanda**	**68.04**	**166**	P	**P**	**18 36 20.9**	**-0.6**
	1.0nm,0.9s,mb3.8,baz=268,slow=7.2,SNR=3.1						
VNDA				LR	LR	19 02 24.8	
	comp=Z,94nm,18.1s,MS4.0,baz=356,slow=33						
MKAR	**Makanchi Array**	**70.26**	**9**	P	**P**	**18 36 31.0**	**-4.3**
	1.0nm,0.9s,mb3.7,baz=197,slow=4.5,SNR=6.5						
SONM	**Songino Array**	**77.53**	**24**	P	**P**	**18 37 17.3**	**-0.5**
	0.8nm,0.7s,mb3.7,baz=211,slow=5.0,SNR=4.1						
ULN	**Ulaanbaatar**	**77.80**	**24**	*e*P	**P**	**18 37 18.9**	**-0.4**
	2.6nm,1.3s,mb4.0						
DBIC	**Dimbokro**	**79.20**	**282**	LR	LR	19 09 25.4	
	comp=Z,224nm,20.4s,MS4.5,baz=112,slow=34						
DZM	**Mont Dzumac**	**86.80**	**112**	LR	LR	19 15 38.1	
	comp=Z,263nm,19.4s,MS4.7,baz=28,slow=35						
BRG	**Berggiesshubel**	**88.74**	**328**	*e*(P)	**P**	**18 38 16.6**	**+0.9**
	3.0nm,1.3s,mb4.5						
ARCES	**ARCESS Array B**	**97.69**	**345**	LR	LR	19 18 52.6	
	comp=Z,49nm,21.7s,MS4.0,baz=17,slow=33						

NNC 04 18:34:13.4±11.0,3747N×6945E,h0km,mb3.7,mpv3.2, 4C,Error ellipse: s-maj=120.2km s-min=92.1km az=145.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.69**	**8**	⇑P	Pn	18 35 36.5	-2.7
	5.5nm,0.3s,baz=180,slow=13						
KK31				⇑S	Sn	18 36 47.1	+1.9
	2.1nm,0.3s,baz=185,slow=26						
TKM2	**Tokmak 2**	**7.20**	**39**	⇑P	Pn	18 36 02.5	+2.6
	0.1nm,0.3s						
AB31	**Akbulak array**	**13.65**	**333**	⇑P	Pn	18 37 29.0	+0.8
	0.7nm,0.3s						

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*IDC **04** 18:59:57.9±1.8,795S×12537E,h0km,mb3.5/1,mb1 4.2/3, mb1mx3.8/14,mbtmp3.9/3,ML4.2/2,Error ellipse: s-maj=206.1km s-min=30.8km az=60.0*
*ISCJB **04** 19:00:00.2±1.4,88S±02×1243E±01,h33km,mb3.6/1, Error ellipse: s-maj=25.8km s-min=13.4km az=68.9*
ISC 04 19:00:02.6±1.4,88S±02×1242E±01,h35km,n6,σ0§51/7, mb3.6/1,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.00**	**116**	*e*P	**Pn**	**19 02 17.2**	**+7.1**
	7.2nm,0.4s						
KAKA				*e*S	**Sn**	**19 03 50.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**9.35**	**171**	*e*P	**Pn**	**19 02 14.4**	**-0.4**
	15nm,0.3s						
FITZ				*e*S	Sx	19 03 48.6	
WRA	**Warramunga Arr**	**14.81**	**139**	Pn	**Pn**	**19 03 29.2**	**-0.2**
	1.0nm,0.3s,baz=323,slow=14,SNR=59						
WRA				Sn	Sx	19 06 01.0	
	1.1nm,0.3s,baz=315,slow=25,SNR=9.1						
WB2	**Warramunga Arr**	**14.82**	**139**	*e*P	**Pn**	**19 03 29.2**	**-0.3**
WB2				*e*S	Sx	19 06 01.2	
ASAR	**Alice Springs**	**17.47**	**149**	P	**Pn**	**19 04 04.5**	**+1.1**
	0.8nm,0.3s,baz=318,slow=12,SNR=68						
ASAR				S	Sx	19 07 05.7	
	0.4nm,0.3s,baz=316,slow=22,SNR=7.5						
MKAR	**Makanchi Array**	**66.73**	**330**	P	**P**	**19 10 50.1**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=137,slow=6.1,SNR=7.2						

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*IDC **04** 19:04:18.7±1.0,1559S×17326W,h0km,mb4.3/9, mb1 4.4/9,mb1mx4.2/19,mbtmp4.3/9,MS3.7/6,Ms1 3.7/6, ms1mx3.4/24,Error ellipse: s-maj=35.2km s-min=22.4km az=141.0*
*NEIC **04** 19:04:19.2±0.7,1509S×17327W,h10km,mb4.5/5,Error ellipse: s-maj=35.7km s-min=14.5km az=148.0*
*ISCJB **04** 19:04:21.7±0.6,155S±0.1×17327W±0.10,h33km,mb4.5/14, MS3.7/6,Error ellipse: s-maj=19.2km s-min=12.6km az=136.2*
*MOS **04** 19:04:21.9±2.6,1529S×173.18W,h33km,mb4.7/3,Error ellipse: s-maj=29.2km s-min=16.4km az=151.3*
ISC 04 19:04:23.9±0.6,155S±01×17323W±010,h35km,n34, σ1§25/28,mb4.5/14,MS3.7/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.11**	**42**	Pn	**Pn**	**19 04 49.0**	**-7.7**
	72nm,0.3s,baz=342,slow=6.4,SNR=93						
AFI				Sn	**Sn**	**19 05 08.2**	**-13**
	baz=66,slow=20						
AFI	**Afiamalu**	**2.11**	**42**	*e*Pn	**Pn**	**19 04 48.7**	**-7.9**
AFI				*e*Sn	**Sn**	**19 05 06.3**	**-15**
DZM	**Mont Dzumac**	**20.32**	**248**	P	**P**	**19 08 57.3**	**+0.5**
	15nm,1.0s,baz=84,slow=19,SNR=3.6						
PPT	**Papeete**	**22.76**	**99**	*e*LR	LR	19 14 49.5	
	288nm,25.0s						
PPT	**Papeete**	**22.76**	**99**	LR	LR	19 16 30.2	
	comp=Z,122nm,18.9s,MS3.4,baz=114,slow=32						
TBI	**Tubuai**	**23.71**	**113**	*e*P	**P**	**19 09 26.8**	**-5.8**
	210nm,1.2s,mb5.4						
TBI				*e*LR	LR	19 15 18.8	
	390nm,29.0s						
PMOR	**Pomariorio Ree**	**24.44**	**92**	*e*P	**P**	**19 09 36.0**	**-3.2**
	20nm,1.2s,mb4.4						
HNR	**Honiara**	**26.86**	**280**	P	**P**	**19 10 03.2**	**+2.0**
	24nm,0.7s,mb4.8,baz=92,slow=5.9,SNR=3.6						
HNR				LR	LR	19 19 27.0	
	comp=Z,146nm,18.7s,MS3.6,baz=1.1,slow=34						
CTA	**Charters Tower**	**38.79**	**257**	P	**P**	**19 11 44.2**	**-0.8**
	4.4nm,0.9s,mb4.2,baz=70,slow=15,SNR=2.5						
CTA				LR	LR	19 25 13.2	
	comp=Z,127nm,21.9s,MS3.7,baz=288,slow=32						
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**19 12 27.0**	**-1.9**
	4.2nm,0.9s,mb4.2,baz=66,slow=8.0,SNR=7.6						
STKA	**Stephens Creek**	**44.14**	**240**	*e*P	**P**	**19 12 26.4**	**-2.5**
WB2	**Warramunga Arr**	**49.98**	**257**	*e*P	**P**	**19 13 13.4**	**-1.1**
WRAB	**Tennant Creek**	**49.98**	**257**	*e*P	**P**	**19 13 13.7**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**49.98**	**257**	*e*P	**P**	**19 13 13.7**	**-0.8**
	comp=Z,3.1nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**49.99**	**257**	P	**P**	**19 13 13.5**	**-1.1**
	comp=Z,2.3nm,0.6s,mb4.4,baz=91,slow=6.7,SNR=50						
WRA				PcP	PcP	19 14 34.8	+0.6
	comp=Z,0.8nm,0.6s,baz=93,slow=3.4,SNR=5.1						
ASAR	**Alice Springs**	**50.24**	**252**	P	**P**	**19 13 16.2**	**-0.2**
	comp=Z,3.8nm,0.5s,mb4.7,baz=87,slow=8.0,SNR=65						
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**19 14 49.5**	**+0.4**
	comp=Z,1.3nm,0.9s,mb4.1,baz=14,slow=5.9,SNR=5.7						
VNDA				LR	LR	19 37 51.2	
	comp=Z,40nm,19.9s,MS3.6,baz=344,slow=32						
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**19 14 50.5**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**19 14 50.5**	**+1.3**
	comp=Z,3.7nm,1.2s,mb4.4						
VNDA				LR	LR	19 37 51.2	
ASAJ	**Asahikawa**	**71.70**	**328**	P	**P**	**19 15 43.4**	**+1.2**
	comp=Z,3.6nm,0.7s,mb4.4,baz=164,slow=11,SNR=4.9						
YSS	**Yuzh-Sakhalins**	**73.65**	**330**	P	**P**	**19 15 54.1**	**+0.3**
QSPA	**South Pole Qui**	**74.55**	**180**	*e*P	**P**	**19 16 00.3**	**+1.2**
	comp=Z,16nm,1.3s,mb4.8						
HLID	**Hailey**	**79.59**	**39**	*e*P	**P**	**19 16 28.0**	**+0.7**
	comp=Z,2.8nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**19 16 41.5**	**+0.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=242,slow=3.2,SNR=6.4						
COLA	**College**	**82.42**	**11**	*e*P	**P**	**19 16 41.6**	**-0.8**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
COLA	**College**	**82.42**	**11**	*e*P	**P**	**19 16 41.6**	**-0.8**
	comp=Z,5.7nm,1.0s,mb4.5						
CMIG	**Matias Romero**	**83.75**	**70**	LR	LR	19 43 44.3	
	comp=Z,42nm,21.2s,MS3.8,baz=183,slow=28						
PLCA	**Paso Flores**	**89.33**	**132**	LR	LR	19 47 05.4	
	comp=Z,124nm,21.1s,MS4.3,baz=188,slow=29						
VNA3	**Neumayer Olymp**	**92.75**	**175**	*e*	**P**	**19 17 32.7**	**+0.2**
VNA3				*e*		19 17 36.3	
VNA2	**Neumayer--Watz**	**93.25**	**175**	*e*	**P**	**19 17 36.6**	**+1.8**
	baz=234,slow=2.1						
VNA2				*e*		19 17 39.6	
KHC	**Kasperske Hory**	**145.99**	**352**	*e*PKP	PKPdf	19 24 00.0	+1.0
GERES	**GERESS Array B**	**146.26**	**352**	PKPbc	PKPbc	19 24 00.9	+0.3
	comp=Z,0.8nm,0.9s,baz=354,slow=1.3,SNR=7.3						
BR131	**Keskin Array S**	**146.33**	**321**	*e*PKPbc	PKPbc	19 24 02.0	+1.2
BRTR	**Keskin Array B**	**146.33**	**321**	PKPbc	PKPbc	19 24 02.0	+1.2
	comp=Z,5.6nm,1.0s,baz=108,slow=2.7,SNR=21						

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*BJI **04** 19:15:01.6,2679N×14025E,h503km,mB4.5,mb4.7*
*MOS **04** 19:15:05.8±0.7,2747N×14001E,h498km,mb4.1/6,Error ellipse: s-maj=28.3km s-min=11.1km az=117.3*
*IDC **04** 19:15:07.4±0.6,2745N×13990E,h493km±9km,mb3.3/11, mb1 3.3/14,mb1mx3.2/22,mbtmp4.1/14,Error ellipse: s-maj=24.7km s-min=13.9km az=72.0*
*ISCJB **04** 19:15:07.2±0.4,2749N±005×1400E±01,h511km±6km, mb4.0/27,Error ellipse: s-maj=17.3km s-min=6.9km az=171.1*
*JMA **04** 19:15:08.8±0.1,2766N×14046E,h514km,M3.9*
*NEIC **04** 19:15:08.1±1.1,2749N×13997E,h503km±10km,mb4.3/10, Error ellipse: s-maj=16.2km s-min=12.1km az=100.0*
ISC 04 19:15:08.1±0.4,2757N±005×1401E±01,h508km±6km,n53, σ0§86/60,mb4.0/27,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.89**	**104**	P	**P**	**19 16 13.8**	**+0.5**
	36nm,0.3s,baz=111,slow=23,SNR=11						
CBIJ				S	**S**	**19 17 04.7**	**-1.8**
	70nm,0.3s,baz=269,slow=22,SNR=12						
CBIJ	**Chichi jima**	**1.89**	**104**	P	**P**	**19 16 13.7**	**+0.3**
CBIJ				S	**S**	**19 17 04.9**	**-1.6**
JHHJ	**Haha-jima-NKT**	**2.05**	**117**	P	**P**	**19 16 15.2**	**+1.0**
JHHJ				S	**S**	**19 17 07.8**	**-0.1**
BSO1	**Boso 1**	**7.10**	**6**	P	**P**	**19 16 57.1**	**+1.6**
BSO3	**Boso 3**	**7.22**	**3**	P	**P**	**19 16 57.4**	**+0.7**
BSO3				S	**S**	**19 18 25.7**	**0.0**
JIE	**Ise**	**7.41**	**337**	P	**P**	**19 17 01.4**	**+2.8**
JHU	**Hanno**	**8.29**	**355**	S	**S**	**19 18 44.7**	**-1.0**
JRY	**Ryogami san**	**8.48**	**353**	S	**S**	**19 18 49.1**	**-0.3**
JYT	**Yasato**	**8.63**	**0**	P	**P**	**19 17 12.4**	**+1.2**
JYT				S	**S**	**19 18 51.0**	**-1.2**
JAG	**Ashikaga**	**8.85**	**356**	P	**P**	**19 17 13.8**	**+0.4**
JAG				S	**S**	**19 18 51.6**	**-4.7**
JHO	**Hitachi**	**9.02**	**2**	P	**P**	**19 17 16.7**	**+1.5**
JHO				S	**S**	**19 18 58.6**	**-1.1**
MJAR	**Matsushiro Arr**	**9.09**	**350**	P	**P**	**19 17 16.5**	**+0.5**
	0.4nm,0.3s,baz=197,slow=8.4,SNR=5.7						
MAJO	**Matsushiro**	**9.09**	**350**	P	**P**	**19 17 15.1**	**-0.9**
MAT	**Matsushiro**	**9.09**	**350**	*e*S	**S**	**19 19 00.8**	**-0.2**
JOW	**Kunigami**	**10.58**	**269**	P	**P**	**19 17 30.1**	**-1.5**
	2.6nm,0.3s,baz=126,slow=19,SNR=5.3						
KS15	**Wonju Array Si**	**14.26**	**317**	*e*P	**P**	**19 18 11.9**	**+1.6**
CD2	**Chengdu**	**31.82**	**285**	*e*P	**P**	**19 20 49.1**	**-1.4**
ULN	**Ulaanbaatar**	**32.73**	**317**	*e*P	**P**	**19 20 57.8**	**-0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
ULN	**Ulaanbaatar**	**32.73**	**317**	*e*P	**P**	**19 20 57.8**	**-0.4**
	comp=Z,1.9nm,0.4s,mb3.9						
SONM	**Songino Array**	**33.11**	**317**	P	**P**	**19 21 00.9**	**-0.6**
	comp=Z,1.1nm,0.5s,mb3.5,baz=124,slow=8.2,SNR=7.3						
ZAK	**Zakamensk**	**36.05**	**319**	*e*P	**P**	**19 21 20.9**	**-5.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.4						
JIRN	**Jiri**	**47.46**	**283**	*e*P	**P**	**19 22 57.3**	**+1.0**
	comp=Z,40nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**47.56**	**187**	P	**P**	**19 22 56.8**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.0,baz=4.2,slow=7.8,SNR=9.5						
GUN	**Gumba**	**47.67**	**284**	*e*P	**P**	**19 22 58.7**	**+0.8**
	comp=Z,28nm,0.4s,mb4.9						
ZAL	**Zalesovo**	**47.94**	**319**	P	**P**	**19 22 59.6**	**-0.4**
	comp=Z,2.9nm,0.3s,mb4.1,baz=356,slow=7.1,SNR=11						
PKI	**Pulchoki**	**48.15**	**283**	*e*P	**P**	**19 23 01.6**	**+0.1**
KKN	**Kakani**	**48.22**	**284**	*e*P	**P**	**19 23 02.2**	**+0.2**
	comp=Z,7.7nm,0.5s,mb4.3						
KKN	**Kakani**	**48.22**	**284**	*e*P	**P**	**19 23 02.2**	**+0.2**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.3						
DMN	**Daman**	**48.41**	**284**	*e*P	**P**	**19 23 03.7**	**+0.3**
	comp=Z,16nm,0.7s,mb4.4						
GKN	**Gorkha**	**48.72**	**284**	*e*P	**P**	**19 23 05.9**	**+0.1**
	comp=Z,6.1nm,0.3s,mb4.4						
MKAR	**Makanchi Array**	**48.76**	**309**	P	**P**	**19 23 06.2**	**+0.2**
	comp=Z,2.7nm,0.4s,mb4.0,baz=87,slow=10,SNR=52						
MKAR				ScP	ScP	19 27 27.9	+0.3
	comp=Z,0.4nm,0.6s,baz=76,slow=5.5,SNR=6.5						
KOLN	**Koldanda**	**49.67**	**284**	*e*P	**P**	**19 23 13.1**	**+0.3**
	comp=Z,5.3nm,0.3s,mb4.3						
ASAR	**Alice Springs**	**51.29**	**187**	P	**P**	**19 23 23.8**	**-0.9**
	comp=Z,0.2nm,0.4s,mb2.8,baz=20,slow=11,SNR=4.1						
KURK	**Kurchatov**	**51.35**	**314**	*e*P	**P**	**19 23 24.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**51.35**	**314**	*e*P	**P**	**19 23 24.9**	**-0.2**
	comp=Z,8.1nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**56.30**	**318**	*e*P	**P**	**19 23 59.8**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**56.30**	**318**	*e*P	**P**	**19 23 59.8**	**-0.3**
	comp=Z,5.8nm,0.9s,mb3.9						
BRVK	**Borovoye**	**56.52**	**317**	*e*P	**P**	**19 24 01.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.8						
BRVK	**Borovoye**	**56.52**	**317**	*e*P	**P**	**19 24 01.8**	**+0.2**
	comp=Z,4.3nm,0.9s,mb3.8						
ARCES	**ARCESS Array B**	**72.49**	**340**	P	**P**	**19 25 43.8**	**+1.0**
	comp=Z,1.2nm,0.5s,mb3.7,baz=70,slow=7.9,SNR=13						
JOF	**Joensuu**	**73.84**	**333**	*ep*	**P**	**19 25 48.7**	**-1.9**
	comp=Z,2.1nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**76.25**	**334**	*ep*	**P**	**19 26 03.5**	**-0.6**
	comp=Z,2.5nm,0.4s,mb4.1,baz=55,slow=5.2						
KAF	**Kangasniemi**	**76.25**	**334**	*e*P	**P**	**19 26 03.5**	**-0.6**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**76.71**	**333**	P	**P**	**19 26 06.8**	**+0.2**
	comp=Z,2.4nm,0.3s,mb4.2,baz=74,slow=5.0,SNR=66						
MIB	**Mutribah**	**79.04**	**298**	*e*P	**P**	**19 26 19.3**	**+0.1**
MIB				AMb	AMB	19 26 19.9	
	comp=Z,13nm,0.6s,mb4.7						
RDF	**Al-Radifah**	**79.25**	**297**	*e*P	**P**	**19 26 20.4**	**+0.1**
RDF				AMb	AMB	19 26 21.7	
	comp=Z,14nm,0.7s,mb4.6						
NAY	**Al-Naaiem**	**79.35**	**297**	*e*P	**P**	**19 26 21.0**	**+0.1**
NAY				AMb	AMB	19 26 22.3	
	comp=Z,11nm,0.8s,mb4.5						
AKASG	**Malin Array Be**	**81.15**	**323**	P	**P**	**19 26 30.1**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.4,baz=54,slow=5.4,SNR=7.9						
NB2	**NORSAR Subarra**	**82.48**	**338**	P	**P**	**19 26 36.5**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.4,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**82.48**	**338**	P	**P**	**19 26 36.9**	**-0.2**
	comp=Z,1.4nm,0.6s,mb3.7,baz=45,slow=5.0,SNR=4.2						
BRTR	**Keskin Array B**	**84.33**	**312**	P	**P**	**19 26 46.5**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.3,baz=88,slow=3.7,SNR=4.0						
BRTR	**Keskin Array B**	**84.33**	**312**	P	**P**	**19 26 46.5**	**+0.2**
ANMO	**Albuquerque**	**91.56**	**49**	P	**P**	**19 27 24.5**	**+4.3**
	comp=Z,1.1nm,0.9s,mb3.8,baz=279,slow=7.7,SNR=4.3						

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*MDD **04** 19:58:16.7±1.1,3729N×859W,h18km±6km,mbLg1.9/9, Error ellipse: s-maj=8.2km s-min=4.7km az=41.0,PRXIMO*
*IGIL **04** 19:58:16.1,3724N×866W,h21km,ML2.6*
INMG 04 19:58:17.0±1.0,3728N×857W,h14km±3km,ML1.7,Error ellipse: s-maj=3.9km s-min=2.7km az=61.0,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.07**	**289**	*e*P	Pg	19 58 19.7	-0.1
MORF				*e*S	Sg	19 58 22.3	+0.5
MORF				*e*S	Sg	19 58 22.3	+0.5
MORF				AML	AML	19 58 22.8	
	comp=N,1μm,0.2s						
PTEO	**Sao Teotonio**	**0.29**	**335**	*i* Pg	Pg	19 58 22.4	-0.7
PTEO				*e*Sg	Sg	19 58 26.9	-0.2
PTEO							
	comp=N,24nm,0.1s						
EGRO	**El Granado**	**0.90**	**73**	Pg	Pg	19 58 33.2	-1.2
	comp=N,1.8nm,0.1s,SNR=7.9						
EGRO				Lg		19 58 45.5	
	comp=N,7.4nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**0.93**	**37**	*e*P	Pb	19 58 33.9	-1.0
PBEJ				*e*S	Sb	19 58 45.7	-1.3
PBEJ							
	comp=N,10nm,0.1s						
ERIP	**Rio Piedras**	**1.05**	**85**	Pg	Pg	19 58 35.6	-1.7
	comp=N,1.9nm,0.1s,SNR=7.9						
ERIP				Lg		19 58 48.6	
	comp=N,43nm,0.2s,SNR=7.9						
MOE	**Montemor**	**1.25**	**8**	*e*P	Pn	19 58 38.9	-1.1
MOE				*e*S	Sb	19 58 54.4	-1.9
EMIN	**Mina Concepcio**	**1.58**	**72**	Pg	Pg	19 58 45.3	-2.1
	comp=N,0.1nm,0.1s,SNR=15						
EMIN				Lg		19 59 06.2	
	comp=N,1.8nm,0.3s,SNR=10						
EBAD	**Badajoz**	**1.92**	**39**	Pg	Pg	19 58 52.0	-1.8
	comp=N,0.9nm,0.1s,SNR=7.9						
EBAD				Lg		19 59 15.9	
	comp=N,4.1nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**2.33**	**3**	*e*Sg	Sg	19 59 29.2	-2.8
PTOM							
	comp=N,3.7nm,0.1s						
PTOM	**Tomar**	**2.33**	**3**	Lg		19 59 29.2	
	comp=N,1.9nm,0.1s						
PCBR	**Castelo Branco**	**2.69**	**18**	*e*Sn	Sn	19 59 28.6	-3.7
PCBR				*e*Sg	Sg	19 59 40.2	-3.3
PCBR							
	comp=N,2.4nm,0.3s						
EADA	**Adamuz**	**3.28**	**73**	Sn	Sn	19 59 43.3	-3.5
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				Lg		20 00 00.1	
	comp=N,0.6nm,0.1s,SNR=7.9						

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*IDC **04** 20:09:23.6±1.2,649S×10430E,h0km,mb4.1/9,mb1 4.2/9, mb1mx4.1/18,mbtmp4.1/9,MS3.2/2,Ms1 3.2/2, ms1mx2.5/31,Error ellipse: s-maj=66.5km s-min=15.3km az=48.0*
*ISCJB **04** 20:09:26.7±0.7,65S±02×1043E±02,h33km,mb4.4/22, MS3.4/2,Error ellipse: s-maj=38.2km s-min=7.8km az=95.6*
*BJI **04** 20:09:26.9,650S×10440E,h35km,mB5.4,mb5.0,Ms4.7, Msz4.4*
*MOS **04** 20:09:27.1±0.7,631S×10450E,h33km,mb4.6/7,Error ellipse: s-maj=35.7km s-min=12.0km az=123.6*
*NEIC **04** 20:09:28.9±0.4,647S×10436E,h35km,mb4.5/14,Error ellipse: s-maj=25.0km s-min=4.7km az=47.0*
ISC 04 20:09:32.1±5.8,65S±02×1043E±02,h65km±55km,n40, σ0§61/38,mb4.4/22,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**10.73**	**330**	LR	LR	20 16 17.0	
	comp=Z,192nm,18.7s,baz=354,slow=39						
MBWA	**Marble Bar**	**20.83**	**136**	P	**P**	**20 14 07.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**23.75**	**121**	*e*P	**P**	**20 14 39.0**	**+0.6**
	3.2nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**23.75**	**121**	P	**P**	**20 14 38.8**	**+0.4**
	1.9nm,0.7s,mb3.5,baz=274,slow=13,SNR=4.5						
FITZ				LR	LR	20 23 45.0	
	comp=Z,37nm,20.7s,baz=174,slow=36						
WRA	**Warramunga Arr**	**32.04**	**117**	P	**P**	**20 15 52.8**	**+0.3**
	0.5nm,0.3s,mb3.7,baz=303,slow=9.0,SNR=20						

GNI	**Garni**	**71.76**	**316**	*eP*	**P**	**20 20 46.8**	**-0.7**
ARU	**Arti**	**73.08**	**335**	*eP*	**P**	**20 20 55.4**	**+0.1**
ARU				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.2							
ARU	**Arti**	**73.08**	**335**	*eP*	**P**	**20 20 55.4**	**+0.1**
comp=Z,3.0nm,0.8s,mb4.2							
MALT	**Malatya**	**75.56**	**312**	P	**P**	**20 21 10.4**	**+0.7**
BRTR	**Keskin Array B**	**79.54**	**312**	P	**P**	**20 21 32.9**	**+1.0**
comp=Z,1.8nm,0.6s,mb4.1,baz=137,slow=6.6,SNR=14							
BR131	**Keskin Array S**	**79.54**	**312**	*eP*	**P**	**20 21 33.3**	**+1.4**
comp=Z,1.4nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**90.11**	**332**	P	**P**	**20 22 25.3**	**+0.3**
comp=Z,0.5nm,0.4s,mb4.0,baz=100,slow=7.3,SNR=12							
ACSO	**Alum Creek Sta**	**145.82**	**10**	*e*PKPdf	PKPdf	20 29 04.3	+1.0

CSEM ***04*** *20:09:46.6±0.8, 3861N×2861W, h16km±10km, ML1.3, Error ellipse: s-maj=6.0km s-min=4.8km az=62.0, After PDA*

PDA ***04*** *20:09:46.6±0.8, 3861N×2861W, h16km±10km, MD2.7, ML1.3, Error ellipse: s-maj=6.0km s-min=4.8km az=62.0*

SVSA 04 20:09:46.6±0.8, 3861N×2861W, h16km±10km, MD2.7, ML1.3, Error ellipse: s-maj=6.0km s-min=4.8km az=62.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.08**	**284**	*eP*	Pg	20 09 49.2	-0.6
PCED				*eS*	Sg	20 09 51.3	-0.6
PCED							
20nm,0.2s							
PCED	**Cedros**	**0.08**	**284**	*eP*	Pg	20 09 49.2	-0.6
PCED				*eS*	Sg	20 09 51.3	-0.6
CALA	**Caldeira**	**0.08**	**249**	*eP*	Pg	20 09 49.7	-0.1
CALA				*eS*	Sg	20 09 51.9	0.0
PICO	**Pico**	**0.18**	**128**	*eP*	Pg	20 09 50.2	-0.8
PICO				*eS*	Sg	20 09 53.5	-0.5
ROSA	**Rosais**	**0.30**	**69**	*eP*	Pg	20 09 52.4	-0.7
ROSA				*eS*	Sg	20 09 56.1	-1.3
PID	**Ribeirinha**	**0.42**	**114**	*erx*		20 09 53.4	

BJI ***04*** *20:13:44.6, 2121N×14409E, h41km, mB4.8, mb4.3, Ms4.4, Msz4.0*

ISCJB ***04*** *20:13:53.1±1.3, 2141N±005×14425E±007, h122km±12km, mb4.3/37, Error ellipse: s-maj=10.6km s-min=8.0km az=166.9*

MOS ***04*** *20:13:53.3±1.3, 2139N×14407E, h121km, mb4.3/24, Error ellipse: s-maj=15.0km s-min=7.4km az=104.9*

IDC ***04*** *20:13:53.5±3.3, 2143N×14439E, h121km±30km, mb3.8/13, mb1 3.9/15, mb1mx3.8/24, mbtmp4.2/15, MS4.0/12, Ms1 4.0/12, ms1mx3.6/36, Error ellipse: s-maj=26.6km s-min=12.2km az=84.0*

NEIC ***04*** *20:13:54.1±1.4, 2143N×14432E, h118km±13km, mb4.4/22, Error ellipse: s-maj=10.2km s-min=7.5km az=80.0*

ISC 04 20:13:54.0±1.2, 2144N±005×14431E±007, h114km±11km, h38km±6.8km; pP-P, n99, σ1§18/92, mb4.3/37, 1C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.82**	**176**	P	**Pn**	**20 15 45.0**	**0.0**
2.4nm,0.3s,baz=315,slow=1.4,SNR=4.3							
GUMO	**Guam**	**7.82**	**176**	P	**Pn**	**20 15 45.0**	**0.0**
GUMO				pmax	pmax		
comp=Z,2.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.96**	**342**	P	**Pn**	**20 17 31.5**	**-0.5**
comp=Z,0.4nm,0.3s,baz=115,slow=12,SNR=13							
MAJO	**Matsushiro**	**15.97**	**342**	*eP*	**Pn**	**20 17 32.0**	**0.0**
MAJO				pmax	pmax		
comp=Z,7.0nm,0.6s							
MAJO	**Matsushiro**	**15.97**	**342**	*e*Pn	**Pn**	**20 17 32.0**	**0.0**
comp=Z,6.7nm,0.6s							
MAT	**Matsushiro**	**15.97**	**342**	P	**Pn**	**20 17 31.8**	**-0.2**
MAT				S	**S**	**20 20 43.8**	**+8.8**
MAT	**Matsushiro**	**15.97**	**342**	*eP*	**Pn**	**20 17 32.0**	**0.0**
MAT				pmax	pmax		
comp=Z,10.0nm,1.1s							
TATO	**Taipei**	**21.27**	**284**	P	**P**	**20 18 30.5**	**-0.6**
YHNB	**Yeheng**	**21.35**	**283**	*eP*	**P**	**20 18 31.8**	**-0.1**
KS15	**Wonju Array Si**	**21.38**	**322**	*eP*	**P**	**20 18 33.1**	**+0.9**
ASAJ	**Asahikawa**	**22.66**	**357**	P	**P**	**20 18 44.7**	**-1.1**
comp=Z,1.9nm,0.6s,mb3.6,baz=205,slow=19,SNR=2.2							
ASAJ				LR	LR	20 27 55.7	
comp=Z,173nm,19.2s,baz=181,slow=37							
ASAJ	**Asahikawa**	**22.66**	**357**	P	**P**	**20 18 44.7**	**-1.1**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.6s							
ASAJ				MLR	MLR		
comp=Z,173nm,19.2s							
VLA	**Vladivostok**	**23.98**	**337**	*eP*	**P**	**20 18 59.0**	**+1.2**
VLA				pmax	pmax		
comp=Z,31nm,1.7s,mb4.4							
VLA				MLR	MLR		
comp=Z,200nm,13.2s							
NJ2	**Nanjing**	**25.02**	**300**	*eP*	**P**	**20 19 02.0**	**-5.2**
NJ2				AP	pP	20 19 12.3	-20
NJ2				XP	sP	20 19 19.4	-26
NJ2				S	**S**	**20 23 15.0**	**-7.8**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.5							
NJ2				AMB	AMB		
comp=Z,390nm,4.0s							
NJ2				LR	LR		
comp=N,380nm,10.2s							
NJ2				LR	LR		
comp=E,440nm,12.0s							
NJ2				LR	LR		
comp=Z,280nm,11.2s							
YSS	**Yuzh-Sakhalins**	**25.49**	**358**	*eP*	**P**	**20 19 18.9**	**+7.4**
YSS				*e*SS		20 24 46.0	
YSS				MLR	MLR		
comp=N,400nm,14.0s							
YSS				MLR	MLR		
comp=Z,400nm,14.0s							
MDJ	**Mudanjiang**	**26.12**	**336**	P	**P**	**20 19 15.6**	**-1.6**
MDJ				AP	pP	20 19 27.1	-15
MDJ				XP	sP	20 19 34.5	-21
MDJ				PP		20 20 01.1	
MDJ				S	**S**	**20 23 43.5**	**+3.2**
MDJ				XS	sS	20 24 00.6	-23
MDJ				SS		20 24 56.1	
MDJ				LR	LR		
comp=N,180nm,16.3s							
MDJ				LR	LR		
comp=E,280nm,15.5s							
MDJ				LR	LR		
comp=Z,160nm,17.0s							
HABR	**Khabarovsk**	**27.98**	**347**	*eP*	**P**	**20 19 34.0**	**+0.2**
HABR				S	**S**	**20 24 14.5**	**+4.9**
CD2	**Chengdu**	**37.43**	**293**	*eP*	**P**	**20 20 55.1**	**-0.9**
CD2				S	**S**	**20 26 34.5**	**-1.4**
CD2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.7							
CD2				LR	LR		
comp=E,430nm,18.0s							
CD2				LR	LR		
comp=Z,370nm,16.8s							
SONM	**Songino Array**	**40.21**	**320**	P	**P**	**20 21 18.7**	**-0.5**
comp=Z,1.0nm,0.6s,mb3.8,baz=135,slow=7.5,SNR=5.1							
SONM				LR	LR	20 39 25.8	
comp=Z,190nm,18.6s,baz=277,slow=38							
SONM	**Songino Array**	**40.21**	**320**	P	**P**	**20 21 18.7**	**-0.5**
SONM				pmax	pmax		
comp=Z,1.0nm,0.6s							
SONM				MLR	MLR		
comp=Z,190nm,18.6s							
GTA	**Gaotai**	**41.88**	**306**	*eP*	**P**	**20 21 33.2**	**+0.3**
GTA				AP	pP	20 21 39.0	-20
GTA				AMB	AMB		
comp=Z,30nm,5.7s							
GTA				LR	LR		
comp=N,240nm,19.4s							
GTA				LR	LR		
comp=E,160nm,14.8s							
GTA				LR	LR		
comp=Z,180nm,14.5s							
WRAB	**Tennant Creek**	**42.25**	**194**	*eP*	**P**	**20 21 36.2**	**+0.3**
WRAB				pmax	pmax		
comp=Z,14nm,0.6s,mb4.9							
WRAB	**Tennant Creek**	**42.25**	**194**	*eP*	**P**	**20 21 36.2**	**+0.3**
comp=Z,14nm,0.6s,mb4.9							
WB2	**Warramunga Arr**	**42.26**	**194**	*eP*	**P**	**20 21 36.1**	**+0.1**
WRA	**Warramunga Arr**	**42.26**	**194**	P	**P**	**20 21 34.9**	**-1.1**
comp=Z,9.8nm,0.6s,mb4.7,baz=15,slow=8.8,SNR=54							
WRA	**Warramunga Arr**	**42.26**	**194**	P	**P**	**20 21 34.9**	**-1.1**
WRA				pmax	pmax		
comp=Z,10.0nm,0.6s							
ZAK	**Zakamensk**	**43.20**	**322**	*eP*	**P**	**20 21 40.3**	**-3.2**
ZAK				pmax	pmax		
comp=Z,9.0nm,2.0s,mb4.2							
FITZ	**Fitzroy Crossi**	**43.34**	**206**	*eP*	**P**	**20 21 45.5**	**+0.8**
comp=Z,8.0nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**43.34**	**206**	P	**P**	**20 21 44.1**	**-0.5**
comp=Z,4.4nm,0.8s,mb4.2,baz=62,slow=11,SNR=5.4							
KULM	**Kulim**	**45.22**	**256**	*eP*	**P**	**20 22 01.4**	**+1.8**
ASAR	**Alice Springs**	**45.96**	**193**	P	**P**	**20 22 04.7**	**-0.7**
comp=Z,4.2nm,0.6s,mb4.3,baz=16,slow=8.9,SNR=44							
ASAR	**Alice Springs**	**45.96**	**193**	P	**P**	**20 22 04.7**	**-0.7**
ASAR				pmax	pmax		
comp=Z,4.0nm,0.6s							
PSI	**Prapat**	**47.84**	**254**	P	**P**	**20 22 21.7**	**+1.6**
comp=Z,5.3nm,0.9s,mb4.4,baz=93,slow=12,SNR=5.2							
PSI				LR	LR	20 40 30.7	
comp=Z,164nm,18.1s,baz=254,slow=33							
PSI	**Prapat**	**47.84**	**254**	P	**P**	**20 22 21.7**	**+1.6**
PSI				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.3							
PSI				MLR	MLR		
comp=Z,164nm,18.1s							
TIXI	**Tiksi**	**51.02**	**354**	*eP*	**P**	**20 22 46.3**	**+2.1**
TIXI				*e*		20 24 45.4	
TIXI				*e*PPP		20 25 50.3	
TIXI				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.2							
TIXI				pmax	pmax		
comp=Z,97nm,4.3s							
TIXI				MLR	MLR		
comp=Z,71nm,15.0s							
JIRN	**Jiri**	**52.83**	**289**	*eP*	**P**	**20 22 58.2**	**+0.6**
comp=Z,14nm,0.9s,mb5.0							
JIRN				*e*Pg			
comp=Z,8.1nm,0.6s							
STKA	**Stephens Creek**	**53.07**	**183**	*eP*	**P**	**20 22 56.8**	**-2.6**
comp=Z,3.6nm,1.0s,mb4.4							
STKA	**Stephens Creek**	**53.07**	**183**	P	**P**	**20 22 56.9**	**-2.5**
comp=Z,4.8nm,1.0s,mb4.5,baz=349,slow=6.2,SNR=7.0							
GUN	**Gumba**	**53.08**	**289**	*eP*	**P**	**20 23 01.4**	**+2.0**
PKI	**Pulchoki**	**53.53**	**289**	*eP*	**P**	**20 23 02.9**	**+0.1**
KKN	**Kakani**	**53.62**	**289**	*eP*	**P**	**20 23 04.1**	**+0.7**
comp=Z,14nm,1.1s,mb4.9							
KKN	**Kakani**	**53.62**	**289**	*eP*	**P**	**20 23 04.1**	**+0.7**
KKN				pmax	pmax		
comp=Z,14nm,1.1s,mb4.9							
DMN	**Daman**	**53.79**	**289**	*eP*	**P**	**20 23 04.5**	**-0.2**
GKN	**Gorkha**	**54.16**	**290**	*eP*	**P**	**20 23 08.6**	**+1.3**
FORT	**Forrest**	**54.21**	**197**	*eP*	**P**	**20 23 08.6**	**+0.9**
comp=Z,9.1nm,0.6s,mb5.0							
ZAL	**Zalesovo**	**55.08**	**322**	P	**P**	**20 23 13.7**	**-0.3**
comp=Z,0.8nm,0.4s,mb4.2,baz=28,slow=11,SNR=5.1							
ZAL	**Zalesovo**	**55.08**	**322**	P	**P**	**20 23 13.7**	**-0.3**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.4s							
KOLN	**Koldanda**	**55.09**	**290**	*eP*	**P**	**20 23 14.4**	**+0.3**
MKAR	**Makanchi Array**	**55.65**	**313**	P	**P**	**20 23 17.2**	**-0.9**
comp=Z,0.9nm,0.8s,mb3.9,baz=92,slow=8.5,SNR=6.0							
MKAR	**Makanchi Array**	**55.65**	**313**	P	**P**	**20 23 17.2**	**-0.9**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
KDAK	**Kodiak Island**	**57.82**	**34**	LR	LR	20 45 05.9	
comp=Z,242nm,19.3s,baz=273,slow=32							
KURK	**Kurchatov**	**58.38**	**317**	*eP*	**P**	**20 23 36.4**	**-0.9**
KURK				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
KURK	**Kurchatov**	**58.38**	**317**	*eP*	**P**	**20 23 36.4**	**-1.0**
comp=Z,2.8nm,0.7s,mb4.4							
NWAO	**Narrogin (SRO)**	**59.93**	**206**	LR	LR	20 51 16.7	
comp=Z,132nm,21.0s,baz=153,slow=37							
CHKZ	**Chkalovo**	**63.41**	**320**	*eP*	**P**	**20 24 10.7**	**-0.6**
CHKZ				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
CHKZ	**Chkalovo**	**63.41**	**320**	*eP*	**P**	**20 24 10.7**	**-0.7**
comp=Z,3.7nm,1.0s,mb4.3							
BRVK	**Borovoye**	**63.62**	**320**	P	**P**	**20 24 14.4**	**+1.7**
ZRNK	**Zerenda**	**64.39**	**320**	*eP*	**P**	**20 24 17.7**	**-0.1**
ZRNK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.2							
ZRNK	**Zerenda**	**64.39**	**320**	*eP*	**P**	**20 24 17.7**	**0.0**
comp=Z,3.5nm,0.9s,mb4.2							
DAWY	**Dawson**	**64.95**	**28**	*eP*	**P**	**20 24 23.9**	**+2.5**
INK	**Inuvik**	**67.39**	**24**	*eP*	**P**	**20 24 40.4**	**+3.4**
INK				pmax	pmax		
comp=Z,8.0nm,1.0s							
INK	**Inuvik**	**67.39**	**24**	*eP*	**P**	**20 24 40.4**	**+3.4**
comp=Z,8.1nm,1.0s,mb4.5							
DLBC	**Dease Lake**	**69.75**	**34**	*eP*	**P**	**20 24 50.2**	**-1.5**
ARU	**Arti**	**70.10**	**324**	↑*eP*	**P**	**20 24 53.1**	**-0.7**
ARU				*i*		20 27 25.5	
ARU				*e*PPP		20 29 06.9	
ARU				*e*S	S	20 33 57.8	+2.3
ARU				*e*SS	SS	20 38 24.3	-3.0
ARU				pmax	pmax		
comp=Z,4.0nm,1.3s,mb4.1							
PPT	**Papeete**	**75.47**	**116**	LR	LR	20 56 42.0	
comp=Z,164nm,19.4s,baz=313,slow=34							
YKA	**Yellowknife Ar**	**76.19**	**28**	LR	LR	20 57 43.6	
comp=Z,79nm,19.6s,baz=300,slow=34							
ARCES	**ARCESS Array B**	**79.50**	**342**	P	**P**	**20 25 46.8**	**-1.1**
comp=Z,4.4nm,1.0s,mb4.2,baz=27,slow=11,SNR=2.3							
ARCES				LR	LR	21 04 47.6	
comp=Z,86nm,20.6s,baz=48,slow=38							
NEW	**Newport**	**79.77**	**42**	*eP*	**P**	**20 25 50.1**	**+0.7**
NEW				pmax	pmax		
comp=Z,6.0nm,1.0s							
NEW	**Newport**	**79.77**	**42**	*eP*	**P**	**20 25 50.1**	**+0.7**
comp=Z,6.0nm,1.0s,mb4.4							
CMB	**Columbia Colle**	**81.08**	**53**	*eP*	**P**	**20 25 57.8**	**+1.4**
CMB				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.4							
CMB	**Columbia Colle**	**81.08**	**53**	*eP*	**P**	**20 25 57.8**	**+1.3**
comp=Z,6.0nm,0.9s,mb4.4							
NVAR	**Mina Array Bea**	**82.48**	**52**	P	**P**	**20 26 03.2**	**-0.5**
comp=Z,0.8nm,0.3s,mb4.1,baz=297,slow=4.8,SNR=5.1							
MNV	**Mina**	**82.59**	**52**	*eP*	**P**	**20 26 03.3**	**-1.0**
MNV				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.3							
MNV	**Mina**	**82.59**	**52**	*eP*	**P**	**20 26 03.3**	**-1.0**
comp=Z,4.7nm,1.1s,mb4.2							
KIV	**Kislovodsk**	**83.36**	**315**	*eP*	**P**	**20 26 08.7**	**+0.4**
KIV				pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.5							
KIV				MLR	MLR		
comp=Z,98nm,16.0s							
KIV	**Kislovodsk**	**83.36**	**315**	*eP*	**P**	**20 26 06.6**	**-1.7**
comp=Z,6.4nm,0.9s,mb4.5							
DAC	**Darwin (Calif)**	**83.80**	**54**	*eP*	**P**	**20 26 11.0**	**+0.5**
DAC				pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.1							
DAC	**Darwin (Calif)**	**83.80**	**54**	*eP*	**P**	**20 26 11.0**	**+0.5**
comp=Z,4.3nm,1.2s,mb4.2							
ELK	**Elko**	**83.81**	**49**	*eP*	**P**	**20 26 12.8**	**+2.2**
ELK				pmax	pmax		
comp=Z,3.0nm,1.0s							
ELK	**Elko**	**83.81**	**49**	*eP*	**P**	**20 26 12.8**	**+2.2**
comp=Z,3.4nm,1.0s,mb4.1							
FINES	**FINESS Array B**	**83.87**	**335**	P	**P**	**20 26 08.3**	**-2.5**
comp=Z,1.3nm,0.7s,mb3.9,baz=90,slow=4.5,SNR=6.2							
FINES	**FINESS Array B**	**83.87**	**335**	P	**P**	**20 26 08.3**	**-2.6**
FINES				pmax	pmax		
comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**83.87**	**335**	P	**P**	**20 26 08.3**	**-2.5**
TPNV	**Topopah Spring**	**84.54**	**53**	*eP*	**P**	**20 26 13.6**	**-0.7**
TPNV				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
TPNV	**Topopah Spring**	**84.54**	**53**	*eP*	**P**	**20 26 13.6**	**-0.6**
comp=Z,2.5nm,0.7s,mb4.2							
FFC	**Flin Flon**	**85.49**	**32**	*eP*	**P**	**20 26 19.2**	**+0.2**
FFC				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.5							
FFC	**Flin Flon**	**85.49**	**32**	*eP*	**P**	**20 26 19.2**	**+0.2**
comp=Z,7.4nm,1.1s,mb4.5							
DUG	**Dugway**	**85.72**	**48**	*eP*	**P**	**20 26 23.6**	**+3.4**
DUG				pmax	pmax		
comp=Z,11nm,1.2s,mb4.7							
DUG	**Dugway**	**85.72**	**48**	*eP*	**P**	**20 26 23.6**	**+3.4**
comp=Z,11nm,1.2s,mb4.7							
PDAR	**Pinedale Array**	**86.83**	**45**	LR	LR	21 06 38.3	
comp=Z,115nm,18.4s,baz=261,slow=36							
SMCO	**Snowmass**	**90.21**	**47**	*eP*	**P**	**20 26 40.2**	**-1.3**
comp=Z,7.3nm,1.2s,mb4.7							
ULM	**Lac du Bonnet**	**91.08**	**34**	LR	LR	21 07 47.4	
comp=Z,71nm,20.1s,baz=356,slow=36							
BRTR	**Keskin Array B**	**91.28**	**314**	P	**P**	**20 26 44.5**	**-2.0**
comp=Z,0.3nm,0.6s,mb3.6,baz=268,slow=21,SNR=3.3							
ASF	**Jabal al Asfar**	**92.52**	**306**	LR	LR	21 14 11.4	
comp=Z,31nm,18.2s,baz=324,slow=39							
GERES	**GERESS Array B**	**97.35**	**330**	LR	LR	21 16 05.5	
comp=Z,76nm,19.1s,baz=78,slow=38							
PLCA	**Paso Flores**	**144.79**	**131**	PKP	PKPdf	20 33 17.9	+0.5
comp=Z,12nm,1.0s,baz=223,slow=4.7,SNR=14							
PLCA	**Paso Flores**	**144.79**	**131**	PKIKP	PKPdf	20 33 17.9	+0.6
PLCA				pmax	pmax		
comp=Z,12nm,1.0s							
LPAZ	**La Paz**	**148.91**	**86**	PKPbc	PKPbc	20 33 28.9	+0.6
comp=Z,1.1nm,0.6s,baz=270,slow=1.3,SNR=6.9							
LPAZ	**La Paz**	**148.91**	**86**	PKP2	PKPbc	20 33 28.9	+0.6
LPAZ				pmax	pmax		
comp=Z,1.0nm,0.6s							

CSEM ***04*** *20:19:23.6±0.9, 3897N×2790W, h3km±6km, ML1.4, Error ellipse: s-maj=5.6km s-min=3.3km az=86.0, After PDA*

PDA ***04*** *20:19:23.6±0.9, 3897N×2790W, h3km±6km, MD3.1, ML1.4, Error ellipse: s-maj=5.6km s-min=3.3km az=86.0*

SVSA 04 20:19:23.6±0.9, 3897N×2790W, h3km±6km, MD3.1, ML1.4, Error ellipse: s-maj=5.6km s-min=3.3km az=86.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.09**	**315**	*eP*	Pg	20 19 25.4	0.0
PGRA				*eS*	Sg	20 19 26.9	+0.3
PGRA							
48nm,0.4s							
PGRA	**Graciosa**	**0.09**	**315**	*eP*	Pg	20 19 25.4	0.0
PGRA				*eS*	Sg	20 19 26.9	+0.3
SRBC	**Serra Branca**	**0.13**	**302**	*eS*	Sg	20 19 27.7	-0.2
STGR	**Santa Cruz**	**0.14**	**325**	*eS*	Sg	20 19 29.4	+1.3
STGR							
21nm,0.1s							
PVIA	**Vitoria**	**0.15**	**311**	*erx*		20 19 30.4	
PAMA	**Santo Amaro**	**0.36**	**217**	*eS*	Sg	20 19 35.7	+0.5
PAMA							
20nm,0.1s							
ROSA	**Rosais**	**0.36**	**227**	*eP*	Pg	20 19 30.2	-0.4
ROSA				*eS*	Sg	20 19 35.2	-0.1
PMAN	**Manadas**	**0.36**	**204**	*eP*	Pg	20 19 30.1	-0.5
PMAN				*eS*	Sg	20 19 35.2	-0.2
PMAN							
86nm,0.2s							
PMAN	**Manadas**	**0.36**	**204**	*eP*	Pg	20 19 30.1	-0.5
PMAN				*eS*	Sg	20 19 35.2	-0.2
PID	**Ribeirinha**	**0.55**	**198**	*eP*	Pg	20 19 33.4	-0.8
PID				*eS*	Sg	20 19 40.1	-1.2
PICO	**Pico**	**0.62**	**222**	*eP*	Pg	20 19 34.4	-1.1
PICO				*eS*	Sg	20 19 42.6	-1.0

BJI ***04*** *20:20:59.1, 2043N×14362E, h42km, mB4.9, mb4.5, Ms4.5, Msz3.9*

ISCJB ***04*** *20:21:07.9±1.4, 2121N±005×14364E±009, h94km±14km, mb4.3/30, Error ellipse: s-maj=13.8km s-min=8.1km az=155.1*

MOS ***04*** *20:21:08.3±1.6, 2122N×14368E, h98km, mb4.3/18, Error ellipse: s-maj=18.6km s-min=7.3km az=106.6*

NEIC ***04*** *20:21:09.4±1.3, 2129N×14380E, h102km±12km, mb4.4/10, Error ellipse: s-maj=14.6km s-min=6.8km az=77.0*

IDC ***04*** *20:21:10.0±3.3, 2121N×14365E, h109km±30km, mb3.8/13, mb1 3.9/15, mb1mx3.8/23, mbtmp4.1/15, MS3.8/3, Ms1 3.8/3, ms1mx3.0/37, Error ellipse: s-maj=27.3km s-min=11.7km az=85.0*

ISC 04 20:21:09.5±1.2, 2126N±005×14371E±009, h95km±12km, n80, σ1§27/74, mb4.3/30, 7C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.71**	**172**	P	**Pn**	**20 22 59.4**	**+0.4**
3.5nm,0.3s,baz=166,slow=13,SNR=8.0							
GUMO	**Guam**	**7.71**	**172**	P	**Pn**	**20 22 59.4**	**+0.5**
GUMO				pmax	pmax		
comp=Z,4.0nm,0.3s							
GUMO	**Guam**	**7.71**	**172**	P	**Pn**	**20 22 59.4**	**+0.4**
JHJ	**Hachijo jima 2**	**12.32**	**344**	LR	LR	20 28 22.9	
comp=Z,313nm,19.2s,baz=23,slow=35							
MJAR	**Matsushiro Arr**	**15.97**	**344**	P	**Pn**	**20 24 47.1**	**-1.4**
comp=Z,0.3nm,0.3s,baz=159,slow=8.8,SNR=7.4							
MAJO	**Matsushiro**	**15.97**	**344**	*eP*	**Pn**	**20 24 48.8**	**+0.3**
MAJO				pmax	pmax		
comp=Z,7.0nm,0.7s							
MAJO	**Matsushiro**	**15.97**	**344**	*e*Pn	**Pn**	**20 24 48.8**	**+0.3**
comp=Z,6.9nm,0.7s							
MAT	**Matsushiro**	**15.97**	**344**	P	**Pn**	**20 24 54.7**	**+6.2**
MAT	**Matsushiro**	**15.97**	**344**	*eP*	**Pn**	**20 24 55.0**	**+6.5**
MAT				pmax	pmax		
comp=Z,6.0nm,0.9s							
MAT	**Matsushiro**	**15.97**	**344**	*eP*	**Pn**	**20 24 55.0**	**+6.5**
comp=Z,5.9nm,0.9s							
NACB	**Ninganchiao**	**20.60**	**282**	*eP*	**P**	**20 25 40.9**	**-0.1**
YHNB	**Yeheng**	**20.84**	**284**	P	**P**	**20 25 43.3**	**-0.2**
KS15	**Wonju Array Si**	**21.17**	**323**	P	**P**	**20 25 47.3**	**+0.3**
SSE	**Sheshan**	**22.42**	**301**	*eP*	**P**	**20 25 57.5**	**-2.8**
SSE				AMB	AMB		
comp=Z,30nm,0.7s,mb4.7							
SSE				AMB	AMB		
comp=Z,130nm,3.5s							
ASAJ	**Asahikawa**	**22.81**	**358**	P	**P**	**20 26 04.5**	**+0.1**
comp=Z,3.2nm,0.9s,mb3.6,baz=192,slow=14,SNR=2.1							
ASAJ	**Asahikawa**	**22.81**	**358**	P	**P**	**20 26 04.6**	**+0.2**
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.9s							
VLA	**Vladivostok**	**23.93**	**338**	*eP*	**P**	**20 26 15.6**	**+0.9**
VLA				pmax	pmax		
comp=Z,42nm,1.7s,mb4.5							
NJ2	**Nanjing**	**24.62**	**301**	*eP*	**P**	**20 26 19.3**	**-1.6**
NJ2				AP		20 26 29.4	
NJ2				XP	sP	20 26 36.4	-17
NJ2				PP		20 26 56.5	
NJ2				PPP		20 27 08.1	
NJ2			

WRAB pmax pmax
comp=Z,11nm,0.5s,mb4.8
WRAB Tennant Creek 41.95 193 *e*P **P 20 28 51.9 +1.1**
comp=Z,11nm,0.5s,mb4.8
WB2 Warramunga Arr 41.96 193 *e*P **P 20 28 51.2 +0.3**
WRA Warramunga Arr 41.96 193 P **P 20 28 49.9 -1.1**
comp=Z,6.7nm,0.6s,mb4.6,baz=14,slow=8.8,SNR=52
WRA Warramunga Arr 41.96 193 *i* P **P 20 28 50.5 -0.5**
WRA pmax pmax
comp=Z,7.0nm,0.6s
FITZ Fitzroy Crossi 42.94 206 *e*P **P 20 29 00.4 +1.5**
comp=Z,8.4nm,1.0s,mb4.4
FITZ Fitzroy Crossi 42.94 206 P **P 20 28 57.5 -1.4**
comp=Z,5.9nm,1.1s,mb4.2,baz=13,slow=14,SNR=3.2
ZAK Zakamensk 42.99 322 *e*P **P 20 28 59.4 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,2.1s,mb4.1
ASAR Alice Springs 45.66 193 P **P 20 29 19.8 -0.8**
comp=Z,5.0nm,0.6s,mb4.4,baz=15,slow=8.8,SNR=80
ASAR Alice Springs 45.66 193 P **P 20 29 19.8 -0.8**
ASAR pmax pmax
comp=Z,5.0nm,0.6s
PSI Prapat 47.25 253 LR LR 20 50 37.6
comp=Z,134nm,18.0s,baz=171,slow=37
BILL Biiibino 48.85 11 *e*P **P 20 29 45.7 +0.4**
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
TIXI Tiksi 51.13 354⇑ *e*P **P 20 29 59.7 -2.9**
TIXI pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
WMQ Urumqi 51.24 310 *e*P **P 20 30 05.0 +1.7**
WMQ LR LR
comp=N,50nm,20.0s
WMQ LR LR
comp=E,80nm,24.0s
WMQ LR LR
comp=Z,80nm,18.0s
STKA Stephens Creek 52.87 182 P **P 20 30 12.6 -2.8**
comp=Z,2.8nm,0.7s,mb4.4,baz=357,slow=9.6,SNR=7.5
FORT Forrest 53.88 197 *e*P **P 20 30 23.6 +0.8**
comp=Z,9.4nm,0.6s,mb5.0
MKAR Makanchi Array 55.35 313 P **P 20 30 33.2 -0.3**
comp=Z,1.0nm,0.9s,mb3.9,baz=88,slow=9.1,SNR=7.1
MKAR Makanchi Array 55.35 313 *i* P **P 20 30 34.5 +1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 55.35 313 P **P 20 30 33.2 -0.3**
KURK Kurchatov 58.13 317⇑ *e*P **P 20 30 53.2 +0.1**
KURK Kurchatov 58.13 317 *e*P **P 20 30 52.6 -0.5**
comp=Z,3.6nm,0.9s,mb4.4
AAK Ala-Archa 60.82 308⇑ *e*P **P 20 31 13.5 +1.9**
CHKZ Chkalovo 63.19 320 *e*P **P 20 31 26.9 -0.6**
CHKZ pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
CHKZ Chkalovo 63.19 320 *e*P **P 20 31 26.9 -0.6**
comp=Z,4.8nm,1.2s,mb4.3
BRVK Borovoye 63.38 320 *e*P **P 20 31 29.5 +0.7**
ZRNK Zerenda 64.16 320 *e*P **P 20 31 33.7 -0.2**
ZRNK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ZRNK Zerenda 64.16 320 *e*P **P 20 31 33.7 -0.1**
comp=Z,3.5nm,0.9s,mb4.2
INK Inuvik 67.77 23 *e*P **P 20 32 00.3 +3.3**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 67.77 23 *e*P **P 20 32 00.3 +3.3**
comp=Z,6.7nm,0.9s,mb4.5
YKA Yellowknife Ar 76.61 28 P **P 20 32 49.5 -0.1**
comp=Z,1.6nm,0.7s,mb3.9,baz=290,slow=5.3,SNR=3.2
YKA Yellowknife Ar 76.61 28 P **P 20 32 49.5 -0.2**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 76.61 28 P **P 20 32 49.5 -0.1**
ARCES ARCESS Array B 79.49 342 P **P 20 33 05.2 -0.4**
comp=Z,3.3nm,0.9s,mb4.2,baz=316,slow=34,SNR=2.9
ARCES ARCESS Array B 79.49 342 P **P 20 33 05.2 -0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
MOS Moscow 81.31 327 *e*P **P 20 33 25.0 +10**
OBN Obninsk 82.12 326⇑ *e*P **P 20 33 21.9 +2.3**
OBN pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
OBN MLR MLR
comp=Z,100nm,17.0s
NVAR Mina Array Bea 83.03 52 P **P 20 33 22.4 -1.9**
comp=Z,0.4nm,0.4s,mb3.6,baz=232,slow=3.5,SNR=4.2
NVAR Mina Array Bea 83.03 52 P **P 20 33 22.4 -1.9**
KIV Kislovodsk 83.08 314⇑ *e*P **P 20 33 25.8 +1.2**
KIV pmax pmax
comp=Z,16nm,1.9s,mb4.5
GNI Garni 83.11 310⇑ *e*P **P 20 33 26.5 +1.8**
GNI pmax pmax
comp=Z,20nm,1.5s
FINES FINESS Array B 83.79 335 P **P 20 33 26.2 -2.0**
comp=Z,0.8nm,0.6s,mb3.7,baz=90,slow=5.7,SNR=7.1
FINES FINESS Array B 83.79 335 *i* P **P 20 33 26.7 -1.5**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 83.79 335 P **P 20 33 26.2 -2.0**
DUG Dugway 86.26 48 *e*P **P 20 33 39.9 -0.7**
DUG pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
DUG Dugway 86.26 48 *e*P **P 20 33 39.9 -0.6**
comp=Z,6.1nm,1.1s,mb4.4
BRTR Keskin Array B 91.00 314 P **P 20 34 01.5 -1.5**
comp=Z,0.4nm,0.7s,mb3.7,baz=29,slow=2.8,SNR=4.1
ANMO Albuquerque 93.12 51⇑ *e*P **P 20 34 13.5 +0.7**
ATD Arta Tunnel 95.78 285 LR LR 21 14 44.0
comp=Z,47nm,19.1s,baz=47,slow=34
PLCA Paso Flores 145.10 132 PKPbc PKPbc 20 40 34.5 -0.9
comp=Z,7.5nm,1.0s,baz=290,slow=2.2,SNR=9.3
PLCA Paso Flores 145.10 132 PKIKP PKPdf 20 40 34.5 -1.2
PLCA pmax pmax
comp=Z,8.0nm,1.0s
PLCA Paso Flores 145.10 132 PKPbc PKPbc 20 40 34.5 -0.9
LPAZ La Paz 149.48 86 PKPbc PKPbc 20 40 47.9 +0.3
comp=Z,0.9nm,0.6s,baz=260,slow=3.7,SNR=5.6
LPAZ La Paz 149.48 86 PKP2 PKPbc 20 40 47.9 +0.3
LPAZ pmax pmax
comp=Z,1.0nm,0.6s

IDC 04 20:26:45.1±2.3, 1995S×17575W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.1/28, Error ellipse: s-maj=86.4km s-min=30.5km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.11**	**33**	Pn	Pn	20 28 17.5	-13
	2.9nm,0.3s,baz=36,slow=13,SNR=5.2						
AFI				Sn	Sn	20 29 28.9	-23
	1.4nm,0.3s,baz=174,slow=23,SNR=2.8						
AFI				LR	LR	20 30 47.1	
	comp=Z,168nm,21.1s,baz=204,slow=34						
ASAR	**Alice Springs**	**46.70**	**256**	P	P	20 35 14.9	-0.7
	0.1nm,0.3s,baz=92,slow=8.3,SNR=8.6						
WRA	**Warramunga Arr**	**46.77**	**261**	P	P	20 35 17.4	+1.2
	0.3nm,0.3s,baz=96,slow=7.5,SNR=13						
MJAR	**Matsushiro Arr**	**71.05**	**322**	P	P	20 38 05.2	+0.3
	0.4nm,0.4s,baz=169,slow=41,SNR=3.2						
NVAR	**Mina Array Bea**	**79.19**	**42**	P	P	20 38 52.2	+0.4
	0.6nm,0.4s,baz=219,slow=6.3,SNR=5.4						

*BJI **04** 20:37:56.7, 720S×12964E, h139km, mb4.6*
*IDC **04** 20:37:56.1±4.6, 740S×12888E, h100km±40km, mb3.7/4, mb1 3.9/7, mb1mx3.8/13, mbtmp4.1/7, Error ellipse: s-maj=76.1km s-min=19.2km az=68.0*
*NEIC **04** 20:37:58.5±1.4, 743S×12884E, h123km±14km, mb4.5/14, Error ellipse: s-maj=16.2km s-min=8.1km az=54.0*
*MOS **04** 20:38:00.6±1.1, 751S×12883E, h164km, mb4.1/4, Error ellipse: s-maj=66.0km s-min=12.3km az=115.8*
*ISCJB **04** 20:38:02.6±1.7, 78S±0.1×1289E±0.1, h195km±19km, mb4.1/14, Error ellipse: s-maj=23.7km s-min=11.0km az=108.7*
ISC 04 20:37:58.2±1.8, 74S±01×1290E±01, h121km±19km, n39, σ0§82/43, mb4.4/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.28**	**147**	*e*P	**Pn**	**20 39 30.3**	**+1.9**
	78nm,0.5s						
KAKA				*e*S	**Sn**	**20 40 36.5**	**-2.3**
FITZ	**Fitzroy Crossi**	**11.09**	**197**	*e*P	**Pn**	**20 40 31.3**	**-2.0**
	23nm,0.4s						
FITZ				*e*S	**Sn**	**20 42 22.5**	**-13**
FITZ	**Fitzroy Crossi**	**11.09**	**197**	P	**Pn**	**20 40 31.3**	**-1.9**
	4.6nm,0.3s,baz=31,slow=12,SNR=129						
FITZ				S	**Sn**	**20 42 24.2**	**-11**
	2.9nm,0.3s,baz=72,slow=23,SNR=4.1						
WRAB	**Tennant Creek**	**13.49**	**158**	*e*P	**Pn**	**20 41 05.9**	**+1.2**
WRAB				*e*		20 43 24.7	
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WRAB	**Tennant Creek**	**13.49**	**158**	*e*Pn	**Pn**	**20 41 05.9**	**+1.2**
	comp=Z,9.9nm,0.6s						
WRAB				*e*Sn	**Sn**	**20 43 24.7**	**-8.8**
WRA	**Warramunga Arr**	**13.50**	**158**	P	**Pn**	**20 41 04.6**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=333,slow=14,SNR=54						
WRA				S	**Sn**	**20 43 24.9**	**-8.7**
	comp=Z,4.2nm,0.3s,baz=330,slow=23,SNR=10						
WB2	**Warramunga Arr**	**13.50**	**158**	*e*P	**Pn**	**20 41 04.9**	**+0.1**
WB2				*e*S	**Sn**	**20 43 23.6**	**-10**
MBWA	**Marble Bar**	**16.31**	**212**	*e*Pn	**Pn**	**20 41 40.2**	**+0.1**
	comp=Z,5.5nm,0.4s						
ASAR	**Alice Springs**	**16.84**	**164**	P	**Pn**	**20 41 47.5**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=339,slow=9.6,SNR=26						
ASAR				S	**S**	**20 44 38.5**	**-16**
	comp=Z,0.4nm,0.3s,baz=331,slow=17,SNR=4.0						
KSM	**Kuching**	**20.59**	**295**	*e*P	**P**	**20 42 28.4**	**+0.8**
FORT	**Forrest**	**23.25**	**182**	*e*P	**P**	**20 42 55.8**	**+1.0**
	comp=Z,16nm,1.7s,mb4.1						
KLBR	**Kellerberrin**	**26.22**	**202**	*e*P	pP	20 43 54.2	+6.6
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**27.04**	**156**	*e*P	**P**	**20 43 28.8**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.6						
STKA	**Stephens Creek**	**27.04**	**156**	P	**P**	**20 43 28.5**	**-0.5**
	comp=Z,1.0nm,0.5s,mb3.6,baz=308,slow=8.7,SNR=5.7						
KULM	**Kulim**	**30.93**	**293**	P	**P**	**20 44 04.0**	**+0.4**
CD2	**Chengdu**	**45.11**	**329**	*e*P	**P**	**20 46 02.5**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
JIRN	**Jiri**	**54.08**	**312**	*e*P	**P**	**20 47 10.4**	**0.0**
GUN	**Gumba**	**54.45**	**312**	*e*P	**P**	**20 47 13.3**	**+0.3**
	comp=Z,11nm,0.6s,mb5.1						
PKI	**Pulchoki**	**54.61**	**311**	*e*P	**P**	**20 47 13.0**	**-1.2**
KKN	**Kakani**	**54.83**	**312**	*e*P	**P**	**20 47 15.7**	**0.0**
	comp=Z,25nm,1.4s,mb5.0						
KKN	**Kakani**	**54.83**	**312**	*e*P	**P**	**20 47 15.7**	**0.0**
KKN				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
DMN	**Daman**	**54.86**	**311**	*e*P	**P**	**20 47 15.2**	**-0.8**
GKN	**Gorkha**	**55.42**	**311**	*e*P	**P**	**20 47 20.0**	**0.0**
	comp=Z,9.1nm,0.3s,mb5.2						
KOLN	**Koldanda**	**56.07**	**311**	*e*P	**P**	**20 47 24.8**	**+0.1**
	comp=Z,7.3nm,0.6s,mb4.9						
SONM	**Songino Array**	**58.52**	**342**	P	**P**	**20 47 41.7**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.9,baz=145,slow=5.3,SNR=3.5						
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**20 48 44.6**	**+0.2**
	comp=Z,5.1nm,0.5s,mb4.6,baz=118,slow=8.2,SNR=149						
AAK	**Ala-Archa**	**70.19**	**320**	*e*P	**P**	**20 48 58.3**	**+0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
AAK	**Ala-Archa**	**70.19**	**320**	*e*P	**P**	**20 48 58.3**	**+0.4**
	comp=Z,1.1nm,0.6s,mb3.9						
VNDA	**Vanda**	**72.16**	**173**	P	**P**	**20 49 10.3**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=321,slow=7.8,SNR=4.8						
KURK	**Kurchatov**	**72.34**	**329**	*e*P	**P**	**20 49 10.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**72.34**	**329**	*e*P	**P**	**20 49 10.6**	**-0.2**
	comp=Z,8.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**78.08**	**329**	*e*P	**P**	**20 49 43.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
CHKZ	**Chkalovo**	**78.08**	**329**	*e*P	**P**	**20 49 43.3**	**-0.4**
	comp=Z,2.1nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**78.56**	**328**	*e*P	**P**	**20 49 45.8**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**78.56**	**328**	*e*P	**P**	**20 49 45.8**	**-0.5**
	comp=Z,4.4nm,0.9s,mb4.3						
ARU	**Arti**	**85.51**	**328**	*e*P	**P**	**20 50 21.9**	**-0.7**
ARU	**Arti**	**85.51**	**328**	*e*P	**P**	**20 50 21.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**127.87**	**281**	PKP	PKPdf	20 56 49.5	0.0
	comp=Z,0.4nm,0.6s,baz=52,slow=2.4,SNR=7.2						
CPUP	**Villa Florida**	**145.90**	**170**	PKPbc	PKPbc	20 57 24.9	+1.3
	comp=Z,0.4nm,0.3s,baz=171,slow=6.2,SNR=3.3						

*CSEM **04** 20:45:54.0±0.5, 3854N×2862W, h14km±4km, ML1.4, Error ellipse: s-maj=4.6km s-min=2.0km az=48.0, After PDA*
*PDA **04** 20:45:54.0±0.5, 3854N×2862W, h14km±4km, MD2.8, ML1.4, Error ellipse: s-maj=4.6km s-min=2.0km az=48.0*
SVSA 04 20:45:54.0±0.5, 3854N×2862W, h14km±4km, MD2.8, ML1.4, Error ellipse: s-maj=4.6km s-min=2.0km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.01**	**215**	*e*P	Pg	20 45 56.0	-0.5
HOR				*e*S	Sg	20 45 57.9	-0.2
CALA	**Caldeira**	**0.08**	**304**	*e*S	Sg	20 45 58.8	-0.2
PCED	**Cedros**	**0.11**	**325**	*i* P	Pg	20 45 56.8	-0.5
PCED				*e*S	Sg	20 45 58.9	-0.7
PCED							
	20nm,0.1s						
PCED	**Cedros**	**0.11**	**325**	*e*S	Sg	20 45 58.9	-0.7
PICO	**Pico**	**0.16**	**104**	*e*P	Pg	20 45 57.5	-0.4
PICO				*e*S	Sg	20 46 00.1	-0.5
ROSA	**Rosais**	**0.35**	**58**	*e*P	Pg	20 46 00.2	-0.9
ROSA				*e*S	Sg	20 46 04.5	-1.3

*IDC **04** 20:47:42.4±1.6, 2084S×17453W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/16, mbtmp4.1/7, MS3.7/5, Ms1 3.8/5, ms1mx3.1/27, Error ellipse: s-maj=74.8km s-min=22.6km az=149.0*
*NEIC **04** 20:47:55.6±0.9, 1897S×17597W, h35km, mb4.5/3, Error ellipse: s-maj=62.4km s-min=11.4km az=150.0*
ISC 04 20:47:44.0±4.3, 208S±03×1736W±04, h56km±31km, n52, σ1§15/16, mb4.3/9, MS3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.10**	**15**	Pn	**Pn**	**20 49 24.8**	**-0.4**
	5.7nm,0.3s,baz=104,slow=23,SNR=3.5						
AFI				Sn	**Sn**	**20 50 43.0**	**-1.5**
	3.1nm,0.3s,baz=328,slow=23,SNR=3.5						
AFI	**Afiamalu**	**7.10**	**15**	*e*Pn	**Pn**	**20 49 27.7**	**+2.4**
AFI				*e*Sn	**Sn**	**20 50 38.8**	**-5.7**
DZM	**Mont Dzumac**	**18.61**	**263**	P	**Pn**	**20 51 58.5**	**+0.9**
	0.4nm,0.3s,baz=104,slow=19,SNR=3.9						
HNR	**Honiara**	**27.88**	**290**	LR	LR	21 02 50.4	
	comp=Z,128nm,19.5s,MS3.5,baz=172,slow=34						
CTA	**Charters Tower**	**37.55**	**264**	P	**P**	**20 54 52.1**	**-0.6**
	1.9nm,0.4s,mb4.2,baz=90,slow=12,SNR=2.5						
CTA				LR	LR	21 05 41.5	
	comp=Z,45nm,19.8s,MS3.3,baz=260,slow=29						
PMG	**Port Moresby**	**39.44**	**281**	*e*P	**P**	**20 55 08.1**	**-0.5**
	4.9nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**41.37**	**245**	P	**P**	**20 55 22.8**	**-1.8**
	1.5nm,0.6s,mb3.8,baz=108,slow=9.6,SNR=5.7						
STKA	**Stephens Creek**	**41.37**	**245**	*e*P	**P**	**20 55 23.1**	**-1.4**
ASAR	**Alice Springs**	**48.45**	**256**	P	**P**	**20 56 20.7**	**0.0**
	2.2nm,0.7s,mb4.3,baz=96,slow=7.8,SNR=32						
WB2	**Warramunga Arr**	**48.61**	**261**	*e*P	**P**	**20 56 22.6**	**+0.6**
WRAB	**Tennant Creek**	**48.62**	**261**	*e*P	**P**	**20 56 21.6**	**-0.4**
	3.8nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**48.62**	**261**	P	**P**	**20 56 20.5**	**-1.6**
	2.7nm,0.8s,mb4.3,baz=96,slow=7.6,SNR=28						
GUMO	**Guam**	**53.24**	**306**	LR	LR	21 14 42.3	
	comp=Z,41nm,18.6s,MS3.5,baz=82,slow=31						
FITZ	**Fitzroy Crossi**	**57.05**	**261**	P	**P**	**20 57 25.5**	**+1.3**
	1.4nm,0.6s,mb4.2,baz=219,slow=19,SNR=8.4						
MBWA	**Marble Bar**	**61.79**	**257**	*e*P	**P**	**20 57 57.4**	**+0.5**
	1.6nm,0.4s,mb4.5						
NWAO	**Narrogin (SRO)**	**61.89**	**243**	LR	LR	21 24 11.0	
	comp=Z,104nm,19.9s,MS4.0,baz=121,slow=36						
MJAR	**Matsushiro Arr**	**72.98**	**321**	P	**P**	**20 59 10.2**	**+2.5**
	1.8nm,0.7s,mb4.1,baz=157,slow=5.8,SNR=8.1						
NVAR	**Mina Array Bea**	**78.50**	**41**	P	pP	20 59 49.4	-5.4
	1.5nm,0.6s,baz=214,slow=7.2,SNR=4.2						
NVAR	**Mina Array Bea**	**78.50**	**41**	P	pP	20 59 49.4	-5.4
PLCA	**Paso Flores**	**86.03**	**132**	LR	LR	21 30 36.6	
	comp=Z,161nm,19.2s,MS4.4,baz=93,slow=30						
SDV	**Santo Domingo**	**105.17**	**86**	*e*PKiKP	PKiKP	21 06 10.2	+10
ZRNK	**Zerenda**	**122.81**	**320**	*e*P	PKPdf	21 06 38.2	+4.6
AKASG	**Malin Array Be**	**145.19**	**334**	PKP	PKPdf	21 07 18.2	+3.0
	1.2nm,0.4s,baz=38,slow=3.8,SNR=7.5						
MALT	**Malatya**	**147.36**	**309**	*e*PKP	PKPdf	21 07 26.9	+8.0
CLL	**Collm**	**149.14**	**352**	*i* PKPbc	PKPbc	21 07 31.8	+5.8
	comp=Z,8.0nm,1.1s						
CLL				*e*(pPKPbc)		21 07 43.0	
CLL	**Collm**	**149.14**	**352**	*i* P	PKPbc	21 07 31.8	+5.8
CLL				*e*		21 07 41.0	
UPC	**Upice**	**149.43**	**348**	*e*PKP	PKPbc	21 07 32.9	+6.2
BRG	**Berggiesshubel**	**149.43**	**351**	*e*P	PKPbc	21 07 32.3	+5.6
	comp=Z,2.3nm,0.9s						
PVCC	**Panska Ves**	**149.67**	**350**	*e*PKP	PKPbc	21 07 32.9	+5.6
PVCC				*ep*PKP	pPKPdf	21 07 44.6	+5.3
BR131	**Keskin Array S**	**150.05**	**315**	*e*PKPbc	PKPbc	21 07 33.3	+5.0
BRTR	**Keskin Array B**	**150.05**	**315**	PKPbc	PKPbc	21 07 33.1	+4.9
	comp=Z,1.4nm,0.7s,baz=132,slow=4.0,SNR=9.6						
PRU	**Pruhonice**	**150.19**	**349**	*e*PKP	PKPbc	21 07 34.5	+5.9
PRU				*ep*PKP	pPKPdf	21 07 42.4	+2.3
NKC	**Novy Kostel**	**150.27**	**352**	*e*PKP	PKPbc	21 07 35.3	+6.5
NKC				*ex*	x	21 07 46.7	
ASF	**Jabal al Asfar**	**150.56**	**299**	PKPbc	PKPbc	21 07 35.4	+6.0
	comp=Z,0.6nm,0.3s,baz=181,slow=4.9,SNR=5.2						
MLR	**Muntele Rosu**	**150.61**	**331**	PKPbc	PKPbc	21 07 36.0	+6.4
	comp=Z,3.8nm,0.9s,baz=123,slow=3.1,SNR=4.0						
BAIF	**Baives**	**150.78**	**3**	*e*PKP1	PKPbc	21 07 35.0	+5.0
	comp=Z,21nm,1.2s						
KHC	**Kasperske Hory**	**151.18**	**350**	*e*PKP	PKPbc	21 07 37.1	+6.2
KHC				*ep*PKP	pPKPdf	21 07 48.4	+6.7
GERES	**GERESS Array B**	**151.44**	**350**	PKPbc	PKPbc	21 07 37.1	+5.6
	comp=Z,1.4nm,0.8s,baz=21,slow=1.9,SNR=13						
ROSF	**Rostrenen**	**151.47**	**14**	*e*PKP1	PKPbc	21 07 37.6	+6.0
MMAI	**Mount Meron Ar**	**151.53**	**301**	PKPbc	PKPbc	21 07 37.6	+5.8
	comp=Z,4.6nm,0.8s,baz=60,slow=4.9,SNR=8.5						
FLN	**La Foliniere**	**151.59**	**10**	*e*PKP1	PKPbc	21 07 37.6	+5.7
SGMF	**Saint Gilles**	**151.71**	**13**	*e*PKP1	PKPbc	21 07 38.1	+6.0
LDF	**La Druitiere**	**151.81**	**9**	*e*PKP1	PKPbc	21 07 37.7	+5.3
GRR	**Gorron**	**151.89**	**10**	*e*PKP1	PKPbc	21 07 38.1	+5.5
	comp=Z,6.3nm,0.7s						
QUIF	**Quistinic**	**151.90**	**14**	*e*PKP1	PKPbc	21 07 38.6	+6.0
	comp=Z,8.2nm,1.0s						
MEZF	**Maizieres J'vi**	**152.37**	**2**	*e*PKP1	PKPbc	21 07 38.8	+5.2
CDF	**Champ du Feu**	**152.47**	**359**	*e*PKP1	PKPbc	21 07 39.1	+5.2
	comp=Z,5.3nm,0.9s						
HINF	**Hinteralfeld**	**153.07**	**359**	*e*PKP1	PKPbc	21 07 40.4	+5.2
LOR	**Lormes**	**153.55**	**4**	*e*PKP1	PKPbc	21 07 42.0	+5.8
SSF	**Saint Saulge**	**153.73**	**4**	*e*PKP1	PKPbc	21 07 42.4	+5.8
	comp=Z,4.8nm,0.9s						
LPL	**La Plagne**	**155.38**	**359**	*e*PKP1	PKPdf	21 07 45.7	+15
LPG	**La Plagne**	**155.40**	**359**	*e*PKP1	PKPdf	21 07 46.1	+15

*ISCJB **04** 21:13:15.0±1.8, 34N±02×1227E±03, h554km±23km, mb3.8/13, Error ellipse: s-maj=51.1km s-min=10.2km az=123.1*
*NEIC **04** 21:13:15.9±1.3, 346N×12274E, h546km±16km, mb4.0/7, Error ellipse: s-maj=34.6km s-min=6.6km az=62.0*
*IDC **04** 21:13:17.0±2.1, 345N×12286E, h562km±28km, mb3.1/8, mb1 3.2/8, mb1mx3.0/20, mbtmp4.0/8, Error ellipse: s-maj=74.3km s-min=11.9km az=67.0*
ISC 04 21:13:16.1±1.8, 35N±02×1227E±03, h549km±23km, n22, σ0§52/21, mb3.8/13, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**6.98**	**292**	*e*P	**P**	**21 15 03.5**	**-0.2**
KAKA	**Kakadu**	**18.74**	**149**	*e*P	**P**	**21 17 01.1**	**+0.4**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.62**	**172**	*e*P	**P**	**21 17 27.1**	**+0.3**
	5.6nm,1.2s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.62**	**172**	P	**P**	**21 17 26.8**	**+0.1**
	2.2nm,0.7s,mb3.9,baz=133,slow=14,SNR=9.9						
MBWA	**Marble Bar**	**24.65**	**187**	*e*P	**P**	**21 17 53.5**	**-0.2**
	1.7nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**25.91**	**154**	P	**P**	**21 18 03.8**	**-1.0**
	2.4nm,0.3s,mb4.3,baz=337,slow=9.5,SNR=59						
WRA				ScP	ScP	21 24 02.0	-0.8
	0.8nm,1.1s,baz=350,slow=3.3,SNR=4.9						
WB2	**Warramunga Arr**	**25.91**	**154**	*e*P	**P**	**21 18 05.0**	**+0.1**
ASAR	**Alice Springs**	**29.08**	**159**	P	**P**	**21 18 32.9**	**+0.3**
	1.2nm,0.5s,mb3.8,baz=336,slow=7.6,SNR=20						
FORT	**Forrest**	**34.43**	**172**	*e*P	**P**	**21 19 18.9**	**+0.8**
	9.1nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**39.46**	**154**	P	**P**	**21 19 58.8**	**-0.5**
	1.9nm,0.5s,mb3.9,baz=307,slow=9.9,SNR=5.9						
SONM	**Songino Array**	**46.39**	**345**	P	**P**	**21 20 53.8**	**+0.4**
	0.4nm,0.5s,mb3.2,baz=162,slow=6.7,SNR=3.2						
MKAR	**Makanchi Array**	**55.55**	**327**	P	**P**	**21 22 00.5**	**+0.7**
	1.0nm,0.3s,mb3.5,baz=126,slow=7.8,SNR=40						
MKAR				PcP	PcP	21 22 51.5	0.0
	0.7nm,0.6s,baz=129,slow=4.4,SNR=6.8						
MKAR	**Makanchi Array**	**55.55**	**327**	P	**P**	**21 22 00.5**	**+0.7**
MKAR				PcP	PcP	21 22 51.5	0.0
KURK	**Kurchatov**	**59.87**	**329**	*e*P	**P**	**21 22 29.2**	**+0.1**
	2.2nm,0.7s,mb3.6						
BRVK	**Borovoye**	**65.47**	**328**	P	**P**	**21 23 05.2**	**0.0**
CHKZ	**Chkalovo**	**65.61**	**329**	*e*P	**P**	**21 23 06.2**	**+0.2**
	0.4nm,0.2s,mb3.6						
ZRNK	**Zerenda**	**66.10**	**328**	*e*P	**P**	**21 23 08.9**	**-0.2**
	5.4nm,1.1s,mb4.0						
AKTK	**Aktyubinsk**	**71.41**	**322**	P	**P**	**21 23 41.2**	**+0.1**
AKTO	**Aktyubinsk**	**71.41**	**322**	P	**P**	**21 23 41.2**	**+0.1**
	1.3nm,0.5s,mb3.7,baz=124,slow=5.6,SNR=5.3						
FINES	**FINESS Array B**

comp=Z,58nm,0.5s
SLR Silverton 6.09 222 eS Sn 21 53 13.4 -1.7
SLR AML AML 21 53 59.8
comp=Z,89nm,0.6s
POGA Pongola 6.16 190 eP Pn 21 52 05.8 -0.2
POGA eS Sn 21 53 13.5 -3.3
POGA AML AML 21 54 03.9
comp=Z,50nm,0.6s
KSR Koster 7.10 229 eP Pn 21 52 20.8 +1.9
KSR eS Sn 21 53 36.6 -3.2
KSR AML AML 21 54 59.9
comp=Z,31nm,0.2s
SWZ Schweizer 9.02 228 eP Pn 21 52 45.9 +0.6
SWZ eS Sn 21 54 23.0 -4.2
SWZ AML AML 21 55 41.2
comp=Z,16nm,0.6s
BOSA Boshof 10.03 222 eP Pn 21 52 59.9 +0.9
BOSA eS Sn 21 54 46.9 -5.0
BOSA AML AML 21 56 08.9
comp=Z,13nm,0.7s
UPI Upington 12.66 234 eP Pn 21 53 37.0 +2.0
SUR Sutherland 15.39 222 eP Pn 21 54 14.6 +2.4

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*ISCJB **04** 21:54:09.3±6.3, 148S±0.1×1666E±0.1, h10km±38km, mb4.2/13, MS3.4/3, Error ellipse: s-maj=20.9km s-min=14.0km az=80.7*
*IDC **04** 21:54:10.0±1.1, 1490S×16667E, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, ML4.2/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/20, Error ellipse: s-maj=36.4km s-min=23.8km az=93.0*
*LDG **04** 21:54:11.7±0.2, 1476S×16760E, h10km, Mb4.3/1, Error ellipse: s-maj=24.9km s-min=11.7km az=38.0*
*NEIC **04** 21:54:16.2±0.3, 1494S×16649E, h35km, mb4.3/9, Error ellipse: s-maj=11.7km s-min=8.6km az=110.0*

ISC 04 21:54:14.4±4.8, 148S±01×1667E±01, h33km±33km, n65, σ1§10/22, mb4.2/13, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.22**	**182**	Pn	**Pn**	**21 55 57.1**	**-0.5**
	3.7nm,0.3s,baz=259,slow=22,SNR=32						
DZM				LR	LR	21 58 14.0	
	comp=Z,234nm,20.4s,baz=155,slow=34						
NOUC	**Port Laguerre**	**7.25**	**183**	eP	**Pn**	**21 55 59.1**	**+1.0**
HNR	**Honiara**	**8.46**	**308**	LR	LR	21 59 05.3	
	comp=Z,135nm,20.9s,baz=179,slow=35						
PMG	**Port Moresby**	**19.80**	**284**	eP	**Pn**	**21 58 42.1**	**-1.6**
	1.6nm,0.3s						
CTA	**Charters Tower**	**20.15**	**252**	LR	LR	22 04 16.2	
	comp=Z,39nm,20.4s,MS2.8,baz=272,slow=30						
CTAO	**Charters Tower**	**20.15**	**252**	eP	**P**	**21 58 45.1**	**-0.6**
	1.9nm,0.4s						
STKA	**Stephens Creek**	**28.49**	**229**	P	**P**	**22 00 04.9**	**-1.6**
	0.9nm,0.6s,mb3.6,baz=274,slow=20,SNR=4.6						
STKA				LR	LR	22 10 10.5	
	comp=Z,124nm,21.4s,MS3.5,baz=206,slow=34						
WRAB	**Tennant Creek**	**31.22**	**256**	eP	**P**	**22 00 31.5**	**+0.8**
	4.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**31.23**	**256**	P	**P**	**22 00 31.9**	**+1.1**
	0.4nm,0.5s,mb3.5,baz=87,slow=9.7,SNR=6.1						
ASAR	**Alice Springs**	**32.09**	**249**	P	**P**	**22 00 39.3**	**+1.0**
	1.1nm,0.8s,mb3.7,baz=74,slow=9.4,SNR=7.2						
ASAR				PcP	PcP	22 03 30.1	+3.0
	0.5nm,0.7s,baz=88,slow=3.0,SNR=3.1						
TAU	**Tasmania Unive**	**32.55**	**207**	eP	**P**	**22 00 42.0**	**-0.4**
	4.8nm,0.6s,mb4.6						
PMOR	**Pomariorio Ree**	**43.86**	**96**	eP	**P**	**22 02 18.0**	**+0.5**
	17nm,1.1s,mb4.7						
MBWA	**Marble Bar**	**44.95**	**255**	P	**P**	**22 02 27.6**	**+1.4**
MJAR	**Matsushiro Arr**	**57.71**	**333**	P	**P**	**22 04 02.1**	**+0.3**
	1.2nm,0.7s,mb4.1,baz=173,slow=8.2,SNR=5.6						
VNDA	**Vanda**	**62.76**	**181**	P	**P**	**22 04 35.5**	**-0.9**
	1.0nm,0.6s,mb4.1,baz=7.1,slow=5.5,SNR=13						
VNDA	**Vanda**	**62.76**	**181**	eP	**P**	**22 04 35.9**	**-0.5**
	1.3nm,0.6s,mb4.2						
SBA	**Scott Base**	**63.05**	**180**	eP	**P**	**22 04 39.2**	**+0.9**
	3.8nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**75.21**	**180**	eP	**P**	**22 05 54.8**	**+1.1**
	3.6nm,0.9s,mb4.3						
BILL	**Bilibino**	**82.62**	**360**	eP	**P**	**22 06 33.3**	**-1.0**
	5.7nm,0.6s,mb4.8						
SNAA	**Sanae**	**93.43**	**183**	eP	**P**	**22 07 26.5**	**+0.1**
	0.8nm,0.8s,mb4.2						
VNA3	**Neumayer Olymp**	**94.12**	**181**	e	**P**	**22 07 27.4**	**-2.2**
VNA3				e		22 07 32.1	
VNA3				e	pP	22 07 35.6	-4.6
VNA2	**Neumayer--Watz**	**94.38**	**182**	e	**P**	**22 07 29.1**	**-1.7**
VNA2				e		22 07 33.4	
VNA2				e	pP	22 07 36.4	-5.0
VNA2				e	pP	22 07 39.4	-2.0
ANMO	**Albuquerque**	**95.84**	**56**	LR	LR	22 46 56.7	
	comp=Z,41nm,19.3s,MS3.9,baz=241,slow=33						
MKAR	**Makanchi Array**	**96.86**	**316**	P	**P**	**22 07 43.4**	**+1.4**
	1.1nm,0.8s,mb4.3,baz=90,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**96.86**	**316**	P	**P**	**22 07 43.4**	**+1.4**
ARCES	**ARCESS Array B**	**120.18**	**345**	PKP	PKPdf	22 13 01.9	+0.1
	3.4nm,0.9s,baz=56,slow=3.6,SNR=33						
FINES	**FINESS Array B**	**125.58**	**338**	PKP	PKPdf	22 13 13.2	+1.0
	1.3nm,0.9s,baz=108,slow=4.5,SNR=4.4						
CABF	**La Chapelle**	**144.38**	**337**	ePKP1	PKPdf	22 13 48.8	+1.7
	3.9nm,0.6s						
FLN	**La Foliniere**	**144.53**	**345**	ePKP1	PKPdf	22 13 48.3	+1.0
LDF	**La Druitiere**	**144.60**	**345**	ePKP1	PKPdf	22 13 48.6	+1.1
	8.2nm,0.8s						
LOR	**Lormes**	**144.61**	**340**	ePKP1	PKPdf	22 13 48.8	+1.3
SSF	**Saint Saulge**	**144.91**	**340**	ePKP1	PKPdf	22 13 48.6	+0.6
	14nm,0.9s						
GRR	**Gorron**	**144.97**	**345**	ePKP1	PKPdf	22 13 48.6	+0.5
	16nm,0.6s						
LPL	**La Plagne**	**145.02**	**335**	ePKP1	PKPbc	22 13 49.4	+1.8
	10.0nm,0.7s						
LPG	**La Plagne**	**145.03**	**335**	ePKP1	PKPbc	22 13 49.4	+1.8
	12nm,0.7s						
SMF	**Signal de Mont**	**145.16**	**339**	ePKP1	PKPbc	22 13 49.3	+1.2
	19nm,1.0s						
AVF	**Avril sur Loir**	**145.20**	**340**	ePKP1	PKPbc	22 13 49.2	+1.0
	10nm,0.8s						
BNI	**Bardonecchia**	**145.42**	**335**	ePKPdf	PKPdf	22 13 50.0	+1.1
SGMF	**Saint Gilles**	**145.49**	**347**	ePKP1	PKPbc	22 13 49.8	+0.7
	18nm,0.9s						
ROSF	**Rostrenen**	**145.56**	**348**	ePKP1	PKPbc	22 13 50.0	+0.7
	11nm,0.8s						
BGF	**Bois d'Agland**	**145.57**	**340**	ePKP1	PKPbc	22 13 50.6	+1.2
	19nm,0.9s						
MBDF	**Montbardon**	**145.65**	**334**	ePKP1	PKPbc	22 13 51.2	+1.6
PLDF	**La Plantade**	**145.82**	**339**	PKP	PKPbc	22 13 51.8	+1.7
PLDF	**La Plantade**	**145.82**	**339**	eP	PKPbc	22 13 51.8	+1.7
ORIF	**Oris-en-Rattie**	**145.86**	**335**	ePKP1	PKPbc	22 13 51.8	+1.6
	26nm,0.9s						
QUIF	**Quistinic**	**145.93**	**348**	ePKP1	PKPbc	22 13 51.1	+0.6
TCF	**Toulx Ste Croi**	**146.02**	**341**	ePKP1	PKPbc	22 13 51.8	+1.1
	12nm,1.0s						
SBF	**Sospel**	**146.05**	**333**	ePKP1	PKPbc	22 13 52.2	+1.4
PYM	**Petit Puy Mans**	**146.23**	**339**	PKP	PKPdf	22 13 53.0	+2.7
PYM	**Petit Puy Mans**	**146.23**	**339**	eP	PKPdf	22 13 53.0	+2.7
VIVF	**Saint-Julien-l**	**146.39**	**337**	ePKP1	PKPbc	22 13 53.2	+1.4
	5.9nm,0.8s						
MFF	**Saint Martin d**	**146.44**	**343**	ePKP1	PKPbc	22 13 52.3	+0.3
	14nm,0.9s						
LBL	**Lubilhac**	**146.59**	**339**	PKP	PKPbc	22 13 54.4	+2.0
LBL	**Lubilhac**	**146.59**	**339**	eP	PKPbc	22 13 54.4	+2.0
FRF	**La Foret Royal**	**146.64**	**333**	ePKP1	PKPbc	22 13 53.5	+0.9
	32nm,1.2s						
SMRF	**Simiane la Rot**	**146.76**	**335**	ePKP1	PKPbc	22 13 54.2	+1.3
LMR	**La Mourre**	**146.88**	**333**	ePKP1	PKPbc	22 13 54.4	+1.1
	37nm,1.2s						
RJF	**Les Rejaudoux**	**147.12**	**341**	ePKP1	PKPbc	22 13 55.0	+1.1
CAF	**Calviac**	**147.27**	**340**	ePKP1	PKPbc	22 13 55.4	+1.0
	13nm,1.1s						
LASF	**Ste Croix**	**147.36**	**337**	ePKP1	PKPbc	22 13 56.1	+1.5
LFF	**La Frestale**	**147.69**	**341**	ePKP1	PKPbc	22 13 56.7	+1.2
MTLF	**Montolieu**	**148.60**	**338**	ePKP1	PKPbc	22 13 59.3	+1.4
	6.7nm,0.8s						
EPF	**Esparros**	**149.53**	**340**	ePKP1	PKPbc	22 14 01.7	+1.5
ETSF	**Etsaut**	**149.93**	**341**	ePKP1	PKPbc	22 14 03.0	+1.8
	2.9nm,0.4s						
SJPF	**Ste Jean**	**149.94**	**342**	ePKP1	PKPbc	22 14 02.6	+1.3

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*IDC **04** 22:41:33.6±5.0, 2386N×12330E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.6/15, Error ellipse: s-maj=138.3km s-min=98.3km az=80.0*
*ISCJB **04** 22:41:37.1±0.6, 2356N±006×12291E±004, h33km, mb3.5/7, Error ellipse: s-maj=8.6km s-min=4.9km az=139.3*
*JMA **04** 22:41:38.7±0.2, 2369N×12290E, h44km, M3.3*
*NEIC **04** 22:41:38.6±0.6, 2365N×12302E, h35km, mb3.7/2, Error ellipse: s-maj=24.7km s-min=9.0km az=53.0*

ISC 04 22:41:39.1±0.6, 2365N±006×12293E±004, h35km, n21, σ0§64/29, mb3.5/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.81**	**5**	P	**Pn**	**22 41 53.4**	**-0.6**
YOJ				S	**Sn**	**22 42 04.1**	**-0.7**
HATJ	**Hateruma jima**	**0.90**	**63**	P	**Pn**	**22 41 55.1**	**-0.1**
HATJ				eS	**Sn**	**22 42 07.0**	**+0.1**
IRIF	**Iriomote-Funau**	**1.00**	**47**	P	**Pn**	**22 41 56.6**	**0.0**
IRIF				eS	**Sn**	**22 42 09.3**	**-0.2**
JKRS	**Kuro-shima**	**1.15**	**59**	P	**Pn**	**22 41 59.0**	**+0.4**
JKRS				eS	**Sn**	**22 42 13.7**	**+0.6**
JIJ	**Ishigaki jima**	**1.32**	**57**	P	**Pn**	**22 42 00.7**	**-0.3**
JIJ				S	**Sn**	**22 42 16.9**	**-0.4**
NACB	**Ninganchiao**	**1.33**	**293**	ePn	**Pn**	**22 42 00.4**	**-0.8**
NACB				eSn	**Sn**	**22 42 11.2**	**-6.4**
YHNB	**Yeheng**	**1.75**	**306**	ePn	**Pn**	**22 42 07.7**	**+0.8**
YHNB				eSn	**Sn**	**22 42 17.8**	**-10**
TATO	**Taipei**	**1.86**	**315**	ePn	**Pn**	**22 42 10.1**	**+1.6**
JTJ	**Tarama**	**1.90**	**58**	P	**Pn**	**22 42 09.4**	**+0.5**
JTJ				eS	**Sn**	**22 42 31.6**	**0.0**
JOGS	**Gusukube**	**2.52**	**63**	P	**Pn**	**22 42 18.2**	**+0.7**
ULN	**Ulaanbaatar**	**27.27**	**336**	eP	**P**	**22 47 18.9**	**-1.2**
	0.6nm,0.4s,mb3.5						
SONM	**Songino Array**	**27.50**	**335**	P	**P**	**22 47 21.4**	**-0.7**
	0.4nm,0.7s,mb3.1,baz=149,slow=9.4,SNR=5.1						
SONM				LR	LR	22 57 45.4	
	comp=Z,30nm,18.3s,baz=273,slow=35						
MKAR	**Makanchi Array**	**39.83**	**316**	P	**P**	**22 49 09.3**	**+0.3**
	0.3nm,0.5s,mb3.3,baz=97,slow=10,SNR=8.1						
KURK	**Kurchatov**	**43.53**	**320**	eP	**P**	**22 49 38.9**	**-0.3**
CTAO	**Charters Tower**	**49.06**	**150**	P	**P**	**22 50 22.3**	**-0.4**
BRVK	**Borovoye**	**49.17**	**321**	eP	**P**	**22 50 23.6**	**+0.1**
	0.7nm,0.5s,mb4.0						
NWAO	**Narrogin (SRO)**	**56.52**	**186**	P	**P**	**22 51 17.8**	**0.0**
STKA	**Stephens Creek**	**58.03**	**161**	eP	**P**	**22 51 27.5**	**-1.0**
FINES	**FINESS Array B**	**72.71**	**330**	P	**P**	**22 53 03.3**	**-0.2**
	0.2nm,0.3s,mb3.5,baz=59,slow=4.8,SNR=10						
BRTR	**Keskin Array B**	**74.77**	**307**	P	**P**	**22 53 16.9**	**+1.4**
	0.3nm,0.5s,mb3.5,baz=97,slow=4.2,SNR=3.9						
GERES	**GERESS Array B**	**84.26**	**321**	P	**P**	**22 54 07.5**	**+0.4**
	0.6nm,0.7s,mb3.8,baz=71,slow=5.8,SNR=6.6						

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*IDC **04** 23:01:33.8±3.8, 2845S×178.13W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/11, mbtmp3.9/3, Error ellipse: s-maj=81.2km s-min=18.3km az=55.0*
*NEIC **04** 23:01:35.4±0.9, 2843S×17804W, h10km, mb4.4/2, Error ellipse: s-maj=22.7km s-min=15.8km az=105.0*
*ISCJB **04** 23:01:37.8±1.5, 284S±0.1×1779W±0.2, h50km±16km, mb4.1/5, Error ellipse: s-maj=28.8km s-min=16.0km az=28.6*

ISC 04 23:01:39.2±1.4, 284S±01×1779W±02, h49km±15km, n10, σ1§28/10, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**184**	Pn	**Pn**	**23 01 52.5**	**-2.0**
	188nm,0.3s,baz=124,slow=21,SNR=10						
RAO				Sn	**Sn**	**23 02 06.7**	**+1.2**
	476nm,0.3s,baz=263,slow=24,SNR=11						
AFI	**Afiamalu**	**15.51**	**23**	eP	**Pn**	**23 05 15.1**	**+0.5**
STKA	**Stephens Creek**	**35.09**	**254**	P	**P**	**23 08 25.4**	**-2.3**
	1.2nm,0.5s,mb4.1,baz=87,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**43.38**	**265**	P	**P**	**23 09 37.2**	**+0.5**
	0.6nm,0.5s,mb3.6,baz=104,slow=7.7,SNR=7.0						
WRAB	**Tennant Creek**	**44.18**	**270**	eP	**P**	**23 09 44.5**	**+1.3**
	4.5nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**44.19**	**270**	P	**P**	**23 09 42.9**	**-0.4**
	1.1nm,0.5s,mb3.9,baz=110,slow=7.9,SNR=4.6						
CASY	**Casey**	**56.94**	**207**	eP	**P**	**23 11 21.5**	**+2.2**
	1.9nm,0.7s,mb4.2						
VNA3	**Neumayer Olymp**	**80.26**	**176**	e	**P**	**23 13 44.3**	**-0.4**
VNA3				e		23 13 47.7	
VNA2	**Neumayer--Watz**	**80.69**	**177**	e	**P**	**23 13 46.1**	**-0.9**
	baz=192,slow=6.7						
VNA2				e		23 13 49.4	
FINES	**FINESS Array B**	**143.34**	**341**	PKP	PKPdf	23 21 08.3	+0.3
	1.9nm,0.7s,baz=77,slow=4.1,SNR=4.9						

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*IDC **04** 23:32:59.7±1.7, 726S×12995E, h0km, mb4.1/2, mb1 4.4/5, mb1mx4.1/13, mbtmp4.3/5, ML4.5/3, Error ellipse: s-maj=98.6km s-min=24.9km az=79.0*
*ISCJB **04** 23:33:02.3±0.4, 730S±005×12997E±009, h33km, mb4.1/9, Error ellipse: s-maj=13.2km s-min=5.9km az=141.4*
*NEIC **04** 23:33:03.8±2.8, 728S×12995E, h29km±21km, mb4.2/8, Error ellipse: s-maj=8.9km s-min=6.7km az=218.0*

ISC 04 23:33:02.9±3.7, 726S±007×12996E±009, h21km±27km, n28, σ0§50/35, mb4.1/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.95**	**156**	eP	**Pn**	**23 34 34.5**	**+4.8**
	100nm,0.2s						
KAKA				eS	**Sn**	**23 35 36.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.57**	**201**	eP	**Pn**	**23 35 46.7**	**-0.1**
	6.4nm,0.2s						
FITZ				eS	**Sn**	**23 37 44.6**	**-11**
FITZ	**Fitzroy Crossi**	**11.57**	**201**	Pn	**Pn**	**23 35 47.0**	**+0.2**
	1.6nm,0.3s,baz=35,slow=13,SNR=70						
FITZ				Sn	**Sn**	**23 37 46.0**	**-9.4**
	3.3nm,0.3s,baz=104,slow=14,SNR=6.5						
WRAB	**Tennant Creek**	**13.30**	**162**	ePn	**Pn**	**23 36 10.8**	**+0.3**
	22nm,0.6s						
WRAB				eSn	**Sn**	**23 38 27.5**	**-10**
WRA	**Warramunga Arr**	**13.31**	**162**	Pn	**Pn**	**23 36 11.1**	**+0.5**
	2.7nm,0.3s,baz=344,slow=13,SNR=25						
WRA				Sn	**Sn**	**23 38 27.8**	**-10**
	2.0nm,0.3s,baz=333,slow=23,SNR=4.8						
WB2	**Warramunga Arr**	**13.31**	**162**	eP	**Pn**	**23 36 11.1**	**+0.5**
WB2				eS	**Sn**	**23 38 29.0**	**-9.0**
ASAR	**Alice Springs**	**16.75**	**167**	Pn	**Pn**	**23 36 56.1**	**-0.1**
	1.7nm,0.3s,baz=338,slow=9.6,SNR=49						
ASAR				Sn	**Sn**	**23 39 53.2**	**-8.4**
	0.5nm,0.3s,baz=352,slow=27,SNR=6.2						
MBWA	**Marble Bar**	**17.00**	**215**	ePn	**Pn**	**23 36 59.3**	**0.0**
MBWA				eSn	**Sn**	**23 39 53.4**	**-14**
KKM	**Kota Kinabalu**	**19.04**	**314**	eP	**Pn**	**23 37 23.3**	**-1.1**
CTAO	**Charters Tower**	**20.31**	**131**	eP	**P**	**23 37 37.1**	**-0.3**
	14nm,1.2s						
STKA	**Stephens Creek**	**26.79**	**158**	eP	**P**	**23 38 40.7**	**-0.8**
NWAO	**Narrogin (SRO)**	**28.14**	**203**	eP	**P**	**23 38 53.0**	**-0.6**
	1.4nm,0.7s,mb3.7						
HNR	**Honiara**	**29.75**	**96**	eP	**P**	**23 39 08.0**	**+0.3**
KULM	**Kulim**	**31.79**	**292**	eP	**P**	**23 39 26.0**	**+0.2**
MAJO	**Matsushiro**	**44.25**	**10**	P	**P**	**23 41 10.3**	**-0.5**
YSS	**Yuzh-Sakhalins**	**55.16**	**11**	P	**P**	**23 42 34.0**	**+0.2**
ULN	**Ulaanbaatar**	**58.49**	**342**	eP	**P**	**23 42 57.4**	**0.0**
	0.7nm,0.3s,mb4.2						
SONM	**Songino Array**	**58.67**	**342**	P	**P**	**23 42 59.8**	**+1.1**
	0.3nm,0.6s,mb3.5,baz=151,slow=5.9,SNR=3.5						
MKAR	**Makanchi Array**	**68.42**	**327**	P	**P**	**23 44 03.6**	**+0.6**
	3.0nm,0.4s,mb4.7,baz=116,slow=8.3,SNR=51						
MA2	**Magadan**	**68.65**	**11**	P	**P**	**23 44 04.2**	**-0.4**
AAK	**Ala-Archa**	**70.71**	**320**	eP	**P**	**23 44 17.6**	**+0.3**
	0.9nm,0.4s,mb4.0						
KURK	**Kurchatov**	**72.71**	**329**	eP	**P**	**23 44 29.1**	**-0.2**
	1.6nm,0.3s,mb4.4						
BRVK	**Borovoye**	**78.33**	**328**	eP	**P**	**23 45 01.0**	**-0.5**
	0.8nm,0.6s,mb3.8						
BILL	**Bilibino**	**79.37**	**13**	eP	**P**	**23 45 06.9**	**-0.4**
GNI	**Garni**	**90.98**	**310**	eP	**P**	**23 46 05.7**	**+0.3**
	0.8nm,0.5s,mb4.3						
KIV	**Kislovodsk**	**93.02**	**314**	eP	**P**	**23 46 14.8**	**0.0**
	1.3nm,0.5s,mb4.6						
MALT	**Malatya**	**95.64**	**308**	P	**P**	**23 46 27.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**128.82**	**281**	PKP	PKPdf	23 52 08.9	+0.1
	0.2nm,0.3s,baz=68,slow=2.3,SNR=14						

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*ISCJB **04** 23:48:35.4±0.5, 4062S±003×17665E±006, h33km, mb4.6/6, MS4.2/4, Error ellipse: s-maj=6.7km s-min=2.5km az=56.2*
*NEIC **04** 23:48:38.1, 4050S×17640E, h24km, mb4.8/3, ML4.7(WEL), After WEL.*
NEIC Felt in Manawatu and northern Wairarapa.
*WEL **04** 23:48:38.2±0.1, 4050S×17640E, h24km±1km, ML4.8/54, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0, MM 4.*
WEL Felt between Wanganui, Wellington and Hawke's Bay, maximum reported intensity.
*IDC **04** 23:48:50.5±2.2, 3877S×17574E, h94km±19km, mb4.3/3, mb1 4.5/3, mb1mx4.0/11, mbtmp4.6/3, MS3.8/3, Ms1 3.7/3, ms1mx3.1/22, Error ellipse: s-maj=61.9km s-min=22.8km az=3.0*

ISC 04 23:48:37.3±0.5, 4057S±003×17653E±007, h35km, n123, σ0§79/117, mb4.6/6, MS4.2/4, 11C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.25**	**242**	⇑P*	**Pn**	**23 48 45.7**	**+1.1**
BFZ				S*	**Sn**	**23 48 50.7**	**+1.1**
BFZ	**Birch Farm**	**0.25**	**242**	P	**Pn**	**23 48 45.8**	**+1.2**
BFZ				S	**Sn**	**23 48 51.1**	**+1.5**
TIWZ	**Tintock**	**0.54**	**247**	⇑P*	**Pn**	**23 48 49.4**	**+1.0**
PXZ	**Pawanui**	**0.59**	**25**	⇓P*	**Pn**	**23 48 49.7**	**+0.5**
PXZ				S*	**Sn**	**23 48 59.1**	**+1.5**
TSZ	**Takapari Road**	**0.67**	**319**	P*	**Pn**	**23 48 47.3**	**-3.0**
TSZ	**Takapari Road**	**0.67**	**319**	P	**Pn**	**23 48 47.4**	**-2.9**
MRZ	**Mangatainoka R**	**0.73**	**262**	⇑P*	**Pn**	**23 48 50.9**	**-0.2**
MRZ				S*	**Sn**	**23 49 00.3**	**-0.8**
MRZ	**Mangatainoka R**	**0.73**	**262**	P	**Pn**	**23 48 50.9**	**-0.3**
MTW	**Mount Morrison**	**0.98**	**233**	⇑P*	**Pn**	**23 48 55.7**	**+1.2**
MTW	**Mount Morrison**	**0.98**	**233**	P	**Pn**	**23 48 55.7**	**+1.1**
TRWZ	**Traveller**	**1.05**	**217**	⇑P*	**Pn**	**23 48 57.3**	**+1.8**
PAWZ	**Paruwai Farm**	**1.17**	**225**	⇑P*	**Pn**	**23 48 58.4**	**+1.3**
PAWZ	**Paruwai Farm**	**1.17**	**225**	P	**Pn**	**23 48 58.4**	**+1.2**
CAW	**Cannon Point**	**1.24**	**244**	⇑P*	**Pn**	**23 48 58.7**	**+0.7**
CAW	**Cannon Point**	**1.24**	**244**	P	**Pn**	**23 48 58.8**	**+0.7**
KIW	**Kapiti Island**	**1.27**	**256**	⇑P*	**Pn**	**23 48 59.0**	**+0.4**
KIW	**Kapiti Island**	**1.27**	**256**	P	**Pn**	**23 48 59.0**	**+0.5**
MSWZ	**Moikau Station**	**1.29**	**228**	⇑P*	**Pn**	**23 48 59.6**	**+0.8**
MSWZ	**Moikau Station**	**1.29**	**228**	P	**Pn**	**23 48 59.6**	**+0.8**
MOVZ	**Moawhango**	**1.30**	**332**	⇑PN	**Pn**	**23 48 58.5**	**-0.6**
MOVZ	**Moawhango**	**1.30**	**332**	P	**Pn**	**23 48 58.5**	**-0.5**
BKZ	**Black Stump Fm**	**1.40**	**359**	PN	**Pn**	**23 48 59.9**	**-0.4**
BKZ	**Black Stump Fm**	**1.40**	**359**	P	**Pn**	**23 48 59.9**	**-0.4**
WNVZ	**Wahianoa**	**1.43**	**330**	PN	**Pn**	**23 49 00.6**	**-0.1**
WNVZ	**Wahianoa**	**1.43**	**330**	P	**Pn**	**23 49 00.6**	**-0.2**
MTVZ	**Mangateitei**	**1.43**	**325**	PN	**Pn**	**23 49 00.9**	**+0.1**
WAZ	**Wanganui**	**1.44**	**304**	⇑PN	**Pn**	**23 49 01.1**	**+0.2**
WAZ	**Wanganui**	**1.44**	**304**	P	**Pn**	**23 49 01.1**	**+0.3**
TUVZ	**Tukino**	**1.46**	**332**	PN	**Pn**	**23 49 01.2**	**0.0**
TUVZ	**Tukino**	**1.46**	**332**	P	**Pn**	**23 49 01.3**	**+0.1**
TRVZ	**Turoa**	**1.47**	**329**	PN	**Pn**	**23 49 01.4**	**0.0**
DRZ	**Dome Shelter**	**1.49**	**330**	PN	**Pn**	**23 49 01.8**	**+0.3**
DRZ	**Dome Shelter**	**1.49**	**330**	P	**Pn**	**23 49 02.0**	**+0.4**
FWVZ	**Far West T-bar**	**1.51**	**330**	PN	**Pn**	**23 49 01.8**	**-0.1**
FWVZ	**Far West T-bar**	**1.51**	**330**	P	**Pn**	**23 49 01.8**	**-0.1**
BHW	**Baring Head**	**1.51**	**236**	PN	**Pn**	**23 49 02.3**	**+0.4**
BHW	**Baring Head**	**1.51**	**236**	P	**Pn**	**23 49 02.3**	**+0.4**
WEL	**Wellington**	**1.52**	**241**	PN	**Pn**	**23 49 02.4**	**+0.4**
MRW	**Makara Radio**	**1.54**	**244**	PN	**Pn**	**23 49 02.5**	**+0.3**
MRW	**Makara Radio**	**1.54**	**244**	P	**Pn**	**23 49 02.5**	**+0.2**
OTVZ	**Oturere**	**1.55**	**334**	PN	**Pn**	**23 49 02.7**	**+0.3**
WPVZ	**Whakapapa**	**1.56**	**330**	PN	**Pn**	**23 49 02.6**	**+0.1**
WPVZ	**Whakapapa**	**1.56**	**330**	P	**Pn**	**23 49 02.3**	**-0.2**
NGZ	**Ngauruhoe**	**1.56**	**332**	ePN	**Pn**	**23 49 02.4**	**-0.2**
NGZ	**Ngauruhoe**	**1.56**	**332**	P	**Pn**	**23 49 02.6**	**0.0**
PKVZ	**Pokaka**	**1.57**	**324**	PN	**Pn**	**23 49 02.5**	**-0.1**
SNZO	**South Karori**	**1.57**	**241**	PN	**Pn**	**23 49 03.0**	**+0.3**
SNZO	**South Karori**	**1.57**	**241**	P	**Pn**	**23 49 03.0**	**+0.3**
WTVZ	**West Tongariro**	**1.62**	**333**	ePN	**Pn**	**23 49 03.7**	**+0.3**
KRVZ	**Karewarewa**	**1.62**	**335**	PN	**Pn**	**23 49 03.3**	**-0.1**
RITZ	**Rihia Road**	**1.67**	**342**	P	**Pn**	**23 49 04.4**	**+0.4**
HATZ	**Hinemaiaia**	**1.71**	**348**	PN	**Pn**	**23 49 04.2**	**-0.4

TORD PKPbc PKPab 00 08 41.0 +1.5
1.2nm,0.6s,baz=164,slow=3.6,SNR=12
FINES FINESS Array B 152.45 329 PKPbc PKPbc 00 08 28.2 -1.5
1.3nm,0.6s,baz=108,slow=6.2,SNR=6.6
FINES FINESS Array B 152.45 329 PKPbc PKPbc 00 08 28.2 -1.5
GERES GERESS Array B 165.28 310 PKPab PKPab 00 09 35.4 -0.1
0.4nm,0.8s,baz=123,slow=3.6,SNR=4.2

*IDC **04** 23:57:51.2±0.6, 1765N×11988E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.3/20, mbtmp4.2/17, MS4.1/13, Ms1 4.1/13, ms1mx3.9/25, Error ellipse: s-maj=30.9km s-min=12.7km az=66.0*
*MOS **04** 23:57:55.1±1.1, 1776N×12002E, h33km, mb4.7/20, MS4.3/6, Error ellipse: s-maj=14.5km s-min=6.1km az=118.7*
*ISCJB **04** 23:57:57.7±0.5, 1762N±003×11975E±005, h52km±6km, mb4.5/49, MS4.2/22, Error ellipse: s-maj=7.5km s-min=5.4km az=151.4*
*BJI **04** 23:58:01.5, 18.13N×11957E, h35km, mB4.7, mb4.4, ML4.6, Ms4.5, Msz4.2*
*NEIC **04** 23:58:01.4±0.3, 1750N×11975E, mb4.7/26, Error ellipse: s-maj=11.7km s-min=6.0km az=65.0*
ISC 04 23:57:58.8±0.5, 1767N±003×11984E±005, h48km±5km, h70km±9.3km:pP-P, n157, σ1§21/141, mb4.5/49, MS4.2/22, 23C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.83**	**91**	*eP*	**Pn**	**23 58 12.5**	**-1.7**
BOLP	**Bolinao**	**1.28**	**177**	*eP*	**Pn**	**23 58 18.1**	**-2.2**
APYP	**Conner**	**1.35**	**82**	*eP*	**Pn**	**23 58 21.8**	**+0.5**
BCPH	**Baguio City Da**	**1.46**	**151**	||*eP*	**Pn**	**23 58 21.8**	**-1.0**
BCPH				*i* S	**Sn**	**23 58 42.5**	**+1.7**
SCZP	**Santa Cruz**	**1.88**	**178**	*eP*	**Pn**	**23 58 28.6**	**+0.1**
CVP	**Callao Caves**	**1.89**	**89**	||*iP*	**Pn**	**23 58 29.0**	**+0.4**
CVP				*i* S	**Sn**	**23 58 55.0**	**+3.7**
CAUP	**Cauayan**	**2.03**	**110**	*eP*	**Pn**	**23 58 32.9**	**+2.4**
SGCP	**Mt. Cagua**	**2.18**	**74**	*eP*	**Pn**	**23 58 33.6**	**+1.1**
PCPH	**Palayan**	**2.42**	**150**	||*eP*	**Pn**	**23 58 36.4**	**+0.6**
BALP	**Baler**	**2.54**	**139**	*eP*	**Pn**	**23 58 39.5**	**+2.0**
PALP	**Palanan**	**2.54**	**103**	*eP*	**Pn**	**23 58 38.1**	**+0.6**
POLP	**Polilio Island**	**3.55**	**145**	*eP*	**Pn**	**23 58 58.3**	**+6.9**
TGY	**Tagaytay City**	**3.70**	**163**	Pn	**Pn**	**23 58 53.1**	**-0.3**
	41nm,0.3s,baz=206,slow=3.5,SNR=5.7						
LUBP	**Lubang**	**3.93**	**174**	*eP*	**Pn**	**23 58 58.0**	**+1.4**
PGP	**Puerto Galera**	**4.28**	**165**	*eP*		23 59 18.0	
ENPP	**El Nido**	**6.43**	**184**	*eP*	**Pn**	**23 59 29.4**	**-1.6**
NACB	**Ninganchiao**	**6.68**	**14**	*e*Pn	**Pn**	**23 59 40.0**	**+5.7**
NACB				*e*Sn	**Sn**	**00 00 47.3**	**-1.8**
YHNB	**Yeheng**	**7.11**	**11**	*e*Pn	**Pn**	**23 59 42.6**	**+2.3**
YHNB				*e*Sn	**Sn**	**00 00 56.6**	**-3.2**
TATO	**Taipei**	**7.43**	**12**	*e*Pn		23 59 59.7	
GZH	**Guangzhou**	**8.13**	**313**	P	**Pn**	**23 59 50.3**	**-4.0**
GZH				Smax			
	comp=N,30nm,1.2s						
GZH				Smax			
	comp=E,30nm,0.8s						
GZH				LR	LR		
	comp=N,3μm,16.8s						
GZH				LR	LR		
	comp=E,3μm,16.2s						
GZH				LR	LR		
	comp=Z,2μm,13.7s						
QIZ	**Qiongzhong**	**9.59**	**280**	*e*Pn	**Pn**	**00 00 08.3**	**-5.9**
	comp=Z,20nm,0.6s						
QIZ				*e*Sn	**Sn**	**00 01 49.7**	**-11**
JOW	**Kunigami**	**12.00**	**39**	LR	LR	00 04 58.1	
	comp=Z,659nm,21.8s,baz=123,slow=36						
SSE	**Sheshan**	**13.43**	**5**	*eP*	**Pn**	**00 01 06.1**	**-0.5**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s						
SSE				AMB	AMB		
	comp=Z,80nm,3.5s						
SSE				LR	LR		
	comp=N,150nm,20.7s						
SSE				LR	LR		
	comp=E,740nm,20.7s						
SSE				LR	LR		
	comp=Z,210nm,16.9s						
NJ2	**Nanjing**	**14.35**	**357**	*eP*	**Pn**	**00 01 18.0**	**-1.1**
NJ2				S	**Sn**	**00 03 45.0**	**-12**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,500nm,4.0s						
NJ2				LR	LR		
	comp=N,2μm,11.9s						
NJ2				LR	LR		
	comp=E,4μm,15.1s						
NJ2				LR	LR		
	comp=Z,710nm,11.8s						
GYA	**Guiyang**	**15.01**	**308**	P	**Pn**	**00 01 24.8**	**-3.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				LR	LR		
	comp=N,940nm,15.4s						
GYA				LR	LR		
	comp=E,730nm,14.8s						
GYA				LR	LR		
	comp=Z,680nm,15.0s						
KMI	**Kunming**	**17.56**	**298**	P	**Pn**	**00 02 00.2**	**+0.2**
KMI				AP	pP	00 02 06.9	-4.7
KMI				XP	sP	00 02 09.0	-8.6
XAN	**Xi'an**	**19.01**	**331**	P	**Pn**	**00 02 16.6**	**-1.1**
XAN				AP	pP	00 02 25.2	-2.5
CD2	**Chengdu**	**19.68**	**315**	P	**Pn**	**00 02 26.5**	**+0.9**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s						
CD2				AMB	AMB		
	comp=Z,60nm,4.5s						
CD2				LR	LR		
	comp=Z,60nm,10.8s						
BJT	**Baijiatuau**	**22.50**	**353**	*eP*	pP	00 03 03.2	-2.4
CBIJ	**Chichi jima**	**22.66**	**62**	LR	LR	00 09 59.1	
	comp=Z,299nm,20.1s,MS3.7,baz=306,slow=32						
LZH	**Lanzhou**	**23.18**	**325**	*eP*	**P**	**00 03 02.7**	**+1.3**
LZH				AP		00 03 07.7	
LZH				PP		00 03 33.4	
LZH				AMB	AMB		
	comp=Z,40nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,12.8s						
LZH				LR	LR		
	comp=Z,2μm,14.7s,MS4.8						
JHJ	**Hachijo jima 2**	**23.63**	**46**	LR	LR	00 11 56.5	
	comp=Z,344nm,19.3s,MS3.8,baz=301,slow=36						
HHC	**Hu-ho-hao-te**	**24.18**	**345**	*eP*	**P**	**00 03 11.5**	**+0.9**
HHC				AP		00 03 18.6	
HHC				PP		00 03 46.9	
HHC				S	**S**	**00 07 26.1**	**+0.6**
HHC				XS	sS	00 07 37.0	-9.2
HHC				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
HHC				AMB	AMB		
	comp=Z,100nm,4.6s						
HHC				LR	LR		
	comp=N,420nm,13.5s,MS4.4						
HHC				LR	LR		
	comp=E,840nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=Z,480nm,14.6s,MS4.1						
BTO	**Baotou**	**24.38**	**342**	*eP*	**P**	**00 03 12.1**	**-0.3**
GUMO	**Guam**	**24.43**	**96**	LR	LR	00 12 05.1	
	comp=Z,529nm,18.3s,MS4.1,baz=321,slow=35						
MAJO	**Matsushiro**	**24.84**	**37**	*eP*	pP	00 03 30.6	+1.7
MJAR	**Matsushiro Arr**	**24.84**	**37**	P	**P**	**00 03 22.8**	**+6.2**
	comp=Z,0.7nm,0.5s,mb3.5,baz=223,slow=5.0,SNR=2.8						
PSI	**Prapat**	**25.28**	**237**	P	**P**	**00 03 21.4**	**+0.8**
	comp=Z,4.6nm,0.5s,mb4.2,baz=23,slow=7.1,SNR=5.7						
PSI				LR	LR	00 13 16.3	
	comp=Z,352nm,18.1s,MS3.9,baz=347,slow=36						
BJII	**Banjamegara**	**26.78**	**203**	⇑*iP*	pP	00 03 43.0	-3.6
GTA	**Gaotai**	**27.79**	**325**	*eP*	**P**	**00 03 43.2**	**0.0**
LSA	**Lhasa**	**28.79**	**300**	P	**P**	**00 03 54.0**	**+1.9**
HIA	**Hailar**	**31.52**	**360**	*eP*	**P**	**00 04 13.3**	**-3.0**
HIA	**Hailar**	**31.52**	**360**	P	pP	00 04 26.4	-2.4
ULN	**Ulaanbaatar**	**31.89**	**344**	⇑*eP*	**P**	**00 04 19.3**	**-0.2**
ULN	**Ulaanbaatar**	**31.89**	**344**	*eP*	**P**	**00 04 23.6**	**+4.1**
	comp=Z,0.6nm,0.4s,mb3.8						
SONM	**Songino Array**	**32.04**	**343**	P	**P**	**00 04 19.7**	**-1.2**
	comp=Z,1.1nm,0.8s,mb3.7,baz=159,slow=8.9,SNR=7.8						
SONM				LR	LR	00 18 07.1	
	comp=Z,178nm,18.5s,MS3.8,baz=156,slow=38						
JIRN	**Jiri**	**32.51**	**294**	*eP*	**P**	**00 04 26.1**	**+1.1**
	comp=Z,40nm,0.7s,mb5.5						
KAKA	**Kakadu**	**32.65**	**157**	*eP*	**P**	**00 04 24.5**	**-1.6**
	comp=Z,15nm,1.1s,mb4.8						
GUN	**Gumba**	**32.83**	**294**	*eP*	**P**	**00 04 28.6**	**+0.9**
	comp=Z,54nm,0.8s,mb5.5						
KLR	**Kul'dur**	**32.93**	**14**	*eP*	**P**	**00 04 26.2**	**-2.4**
KLR				MLR	MLR		
	comp=N,600nm,13.0s,MS4.6						
KLR				MLR	MLR		
	comp=E,500nm,13.0s,MS4.6						
KLR				MLR	MLR		
	comp=Z,700nm,13.0s,MS4.5						
HABR	**Khabarovsk**	**33.13**	**19**	*eP*	**P**	**00 04 27.7**	**-2.7**
PKI	**Pulchoki**	**33.18**	**293**	*eP*	**P**	**00 04 30.5**	**-0.3**
	comp=Z,20nm,0.7s,mb5.1						
PKI	**Pulchoki**	**33.18**	**293**	*eP*	**P**	**00 04 30.5**	**-0.3**
PKI				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2						
KKN	**Kakani**	**33.33**	**294**	*eP*	**P**	**00 04 32.7**	**+0.6**
	comp=Z,36nm,0.9s,mb5.3						
KKN	**Kakani**	**33.33**	**294**	*eP*	**P**	**00 04 32.7**	**+0.6**
KKN				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.3						
DMN	**Daman**	**33.45**	**293**	*eP*	**P**	**00 04 33.4**	**+0.3**
	comp=Z,44nm,1.0s,mb5.4						
GKN	**Gorkha**	**33.93**	**294**	*eP*	**P**	**00 04 36.7**	**-0.6**
	comp=Z,43nm,0.8s,mb5.4						
YSS	**Yuzh-Sakhalins**	**34.78**	**28**	*eP*	pP	00 04 58.2	+0.9
KOLN	**Koldanda**	**34.79**	**293**	*eP*	**P**	**00 04 44.0**	**-0.8**
	comp=Z,33nm,1.0s,mb5.2						
ZAK	**Zakamensk**	**35.23**	**342**	*eP*	**P**	**00 04 48.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**36.00**	**171**	*eP*	**P**	**00 04 53.0**	**-2.1**
	comp=Z,4.9nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**39.99**	**158**	P	**P**	**00 05 27.0**	**-1.8**
WRA	**Warramunga Arr**	**39.99**	**158**	P	**P**	**00 05 26.2**	**-2.6**
	comp=Z,2.7nm,0.6s,mb4.2,baz=340,slow=9.0,SNR=10						
WRA	**Warramunga Arr**	**39.99**	**158**	*i* P	**P**	**00 05 27.2**	**-1.6**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WB2	**Warramunga Arr**	**40.00**	**158**	*eP*	**P**	**00 05 28.0**	**-0.8**
MKAR	**Makanchi Array**	**42.39**	**322**	P	**P**	**00 05 48.3**	**-0.2**
	comp=Z,3.6nm,0.9s,mb4.0,baz=119,slow=8.9,SNR=24						
MKAR				PcP	PcP	00 07 41.4	+0.4
	comp=Z,1.1nm,0.6s,baz=183,slow=2.1,SNR=7.2						
MKAR	**Makanchi Array**	**42.39**	**322**	P	**P**	**00 05 48.3**	**-0.2**
MKAR				PcP	PcP	00 07 41.4	+0.4
ASAR	**Alice Springs**	**43.31**	**161**	P	**P**	**00 05 55.2**	**-0.8**
	comp=Z,2.9nm,0.5s,mb4.3,baz=339,slow=6.7,SNR=26						
YAK	**Yakutsk**	**44.86**	**7**	P	pP	00 06 18.1	-3.1
CTA	**Charters Tower**	**45.61**	**144**	P	**P**	**00 06 14.8**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.4,baz=344,slow=9.6,SNR=4.2						
CTAO	**Charters Tower**	**45.61**	**144**	*eP*	**P**	**00 06 15.2**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CTAO	**Charters Tower**	**45.61**	**144**	*eP*	**P**	**00 06 15.2**	**+1.0**
	comp=Z,2.0nm,0.5s,mb4.3						
FRU	**Bishkek**	**45.71**	**313**	*eP*	**P**	**00 06 16.0**	**+1.0**
FRU				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.5						
AAK	**Ala-Archa**	**45.73**	**313**	⇑*eP*	**P**	**00 06 15.5**	**+0.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb4.1						
AAK	**Ala-Archa**	**45.73**	**313**	*eP*	**P**	**00 06 15.7**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.0						
PET	**Petropavlovsk**	**46.44**	**32**	*eP*	pP	00 06 33.5	-0.3
PET				*e*S	**S**	**00 13 12.0**	**+6.7**
PET				*e*SS	SS	00 16 22.2	-9.2
PET				smax			
	comp=N,100nm,19.1s						
PET				MLR	MLR		
	comp=Z,100nm,21.0s,MS3.7						
KURK	**Kurchatov**	**46.47**	**325**	*eP*	**P**	**00 06 21.7**	**+0.7**
KURK				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
KURK	**Kurchatov**	**46.47**	**325**	*eP*	**P**	**00 06 21.7**	**+0.7**
FORT	**Forrest**	**48.81**	**171**	*eP*	**P**	**00 06 38.7**	**-0.5**
	comp=Z,7.9nm,0.6s,mb4.9						
KLBR	**Kellerberrin**	**49.02**	**182**	*eP*	**P**	**00 06 40.3**	**-0.5**
	comp=Z,28nm,1.5s,mb5.1						
NWAO	**Narrogin (SRO)**	**50.37**	**183**	P	**P**	**00 06 50.1**	**-1.0**
	comp=Z,7.0nm,0.9s,mb4.7,baz=44,slow=10.0,SNR=5.2						
NWAO	**Narrogin (SRO)**	**50.37**	**183**	*eP*	**P**	**00 06 47.8**	**-3.3**
BRVK	**Borovoye**	**52.13**	**324**	*eP*	**P**	**00 07 05.2**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**52.13**	**324**	*eP*	**P**	**00 07 05.2**	**+0.9**
	comp=Z,3.9nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**52.20**	**325**	*eP*	**P**	**00 07 05.3**	**+0.5**
CHKZ				*e*PP	pP	00 07 23.8	+5.8
CHKZ				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CHKZ	**Chkalovo**	**52.20**	**325**	*eP*	**P**	**00 07 05.2**	**+0.5**
	comp=Z,9.8nm,1.2s,mb4.6						
CHKZ				*e*pP	pP	00 07 23.8	+5.9
ZRNK	**Zerenda**	**52.81**	**324**	*eP*	**P**	**00 07 08.9**	**-0.4**
ZRNK				*e*PP	pP	00 07 26.9	+4.4
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
ZRNK	**Zerenda**	**52.81**	**324**	*eP*	**P**	**00 07 08.9**	**-0.3**
	comp=Z,10nm,1.4s,mb4.6						
ZRNK				*e*pP	pP	00 07 26.9	+4.5
STKA	**Stephens Creek**	**53.50**	**157**	*eP*	**P**	**00 07 12.2**	**-2.1**
	comp=Z,3.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**53.50**	**157**	P	**P**	**00 07 12.1**	**-2.2**
	comp=Z,4.1nm,0.7s,mb4.5,baz=334,slow=8.4,SNR=12						
TIXI	**Tiksi**	**54.24**	**4**	*eP*	**P**	**00 07 18.1**	**-1.7**
TIXI				*e*S	**S**	**00 14 54.4**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI				smax			
	comp=N,38nm,15.0s						
TIXI				smax			
	comp=E,81nm,15.3s						
TIXI				MLR	MLR		
	comp=Z,178nm,14.0s,MS4.3						
BILL	**Bilibino**	**58.22**	**19**	*eP*	**P**	**00 07 48.1**	**0.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.3						
AKTK	**Aktyubinsk**	**58.68**	**319**	P	**P**	**00 07 51.7**	**+0.3**
AKTO	**Aktyubinsk**	**58.68**	**319**	P	**P**	**00 07 51.7**	**+0.3**
	comp=Z,1.8nm,0.4s,mb4.4,baz=105,slow=9.8,SNR=11						
ARU	**Arti**	**59.65**	**326**	⇑*iP*	**P**	**00 07 57.5**	**-0.5**
ARU				*e*		00 10 09.8	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARU	**Arti**	**59.65**	**326**	*eP*	**P**	**00 07 58.0**	**-0.1**
	comp=Z,3.4nm,0.4s,mb4.7						
ARU				*e*pP	pP	00 08 19.0	+7.6
ORR	**Orenburg**	**60.91**	**320**	⇑*iP*	**P**	**00 08 07.2**	**+0.6**
ORR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
TAU	**Tasmania Unive**	**65.36**	**158**	*eP*	**P**	**00 08 35.9**	**-0.3**
GNI	**Garni**	**67.56**	**307**	LR	LR	00 42 17.0	
	comp=Z,103nm,18.9s,MS4.1,baz=266,slow=39						
GNI	**Garni**	**67.56**	**307**	*eP*	**P**	**00 08 52.6**	**+2.4**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KIV	**Kislovodsk**	**68.79**	**311**	*eP*	**P**	**00 08 58.9**	**+1.0**
KIV				*e*		00 09 23.9	
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KIV				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.4						
KIV	**Kislovodsk**	**68.79**	**311**	*eP*	**P**	**00 08 58.3**	**+0.3**
	comp=Z,7.3nm,0.9s,mb4.6						
KIV				*e*PP	PP	00 11 32.9	+2.7
TTA	**Tatalina**	**71.78**	**29**	*eP*	pP	00 09 25.0	-4.9
	comp=Z,6.0nm,1.0s						
OBN	**Obninsk**	**71.88**	**323**	⇑*eP*	**P**	**00 09 15.6**	**-1.2**
OBN				*e*		00 11 56.5	
OBN				*e*S	S	00 18 42.1	+8.1
OBN				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
MALT	**Malatya**	**72.65**	**305**	||*iP*	**P**	**00 09 23.1**	**+1.7**
MALT	**Malatya**	**72.65**	**305**	||*P*	**P**	**00 09 23.1**	**+1.8**
JOF	**Joensuu**	**73.78**	**332**	*ep*	**P**	**00 09 27.1**	**-0.9**
	comp=Z,2.2nm,0.4s,mb4.4						
JOF	**Joensuu**	**73.78**	**332**	*eP*	**P**	**00 09 27.1**	**-0.9**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ARCES	**ARCESS Array B**	**75.11**	**339**	P	**P**	**00 09 35.5**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.1,baz=82,slow=8.7,SNR=4.9						
ARCES				LR	LR	00 44 20.3	
	comp=Z,146nm,18.5s,MS4.3,baz=32,slow=37						
PMR	**Palmer**	**75.13**	**30**	*eP*	**P**	**00 09 36.2**	**+0.3**
PMR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
PMR	**Palmer**	**75.13**	**30**	*eP*	**P**	**00 09 36.2**	**+0.4**
	comp=Z,9.3nm,0.9s,mb4.7						
BRTR	**Keskin Array B**	**76.07**	**308**	P	**P**	**00 09 40.1**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=27,slow=1.6,SNR=5.2						
KAF	**Kangasniemi**	**76.20**	**331**	*ep*	**P**	**00 09 41.0**	**-1.0**
	comp=Z,3.0nm,0.5s,mb4.5,baz=75,slow=5.2						
KAF	**Kangasniemi**	**76.20**	**331**	*eP*	**P**	**00 09 41.0**	**-1.0**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**76.44**	**330**	P	**P**	**00 09 42.8**	**-0.6**
	comp=Z,1.4nm,0.4s,mb4.2,baz=60,slow=5.7,SNR=20						
FINES				LR	LR	00 44 10.3	
	comp=Z,90nm,18.7s,MS4.1,baz=79,slow=36						
AKASG	**Malin Array Be**	**76.92**	**319**	P	**P**	**00 09 44.6**	**-1.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=67,slow=5.8,SNR=7.7						
TIRR	**Tirgusor**	**78.84**	**313**	⇑*iP*	pP	00 10 04.5	-6.1
TIRR	**Tirgusor**	**78.84**	**313**	⇑*P*	pP	00 10 04.5	-6.2
DAWY	**Dawson**	**78.90**	**26**	*eP*	**P**	**00 09 57.7**	**+0.6**
VRI	**Vrincioaia**	**79.65**	**315**	⇑*iP*	**P**	**00 10 02.8**	**+1.6**
VRI	**Vrincioaia**	**79.65**	**315**	⇑*P*	**P**	**00 10 02.8**	**+1.6**
PLOR	**Plostina**	**79.71**	**315**	⇑*iP*	**P**	**00 10 03.0**	**+1.5**
INK	**Inuvik**	**79.72**	**21**	*eP*	**P**	**00 09 54.9**	**-6.6**
SUW	**Suwalki**	**79.73**	**323**	P	**P**	**00 10 00.9**	**-0.7**
BURAR	**Bucovina Array**	**80.20**	**317**	⇑*iP*	**P**	**00 10 05.2**	**+1.0**
MLR	**Muntele Rosu**	**80.28**	**315**	⇑*iP*	**P**	**00 10 05.8**	**+1.2**
MLR	**Muntele Rosu**	**80.28**	**315**	⇑*P*	**P**	**00 10 05.8**	**+1.2**
VOIR		**80.90**	**315**	⇑*iP*	**P**	**00 10 05.9**	**-2.0**
VOIR		**80.90**	**315**	⇑*P*	**P**	**00 10 05.9**	**-1.9**
KWP	**Kalwaria**	**81.25**	**319**	*eP*	**P**	**00 10 10.6**	**+0.9**
VTS	**Vitosha**	**82.99**	**312**	⇑*iP*	**P**	**00 10 18.3**	**-0.5**
VTS	**Vitosha**	**82.99**	**312**	⇑*P*	**P**	**00 10 18.3**	**-0.5**
KMBO	**Kilima Mbogo**	**83.28**	**267**	P	**P**	**00 10 21.4**	**+1.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=34,slow=11,SNR=4.3						
KMBO				LR	LR	00 43 14.6	
	comp=Z,77nm,19.0s,MS4.1,baz=93,slow=33						
NB2	**NORSAR Subarra**	**83.38**	**332**	P	**P**	**00 10 19.6**	**-1.3**
	comp=Z,2.4nm,0.8s,mb4.3,baz=66,slow=4.8						
NB2	**NORSAR Subarra**	**83.38**	**332**	P	**P**	**00 10 19.6**	**-1.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
NOA	**NORSAR Array B**	**83.38**	**332**	P	**P**	**00 10 20.4**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=66,slow=5.3,SNR=7.1						
NOA				LR	LR	00 48 49.7	
	comp=Z,100nm,19.7s,MS4.2,baz=55,slow=37						
MORC	**Moravsky Berou**	**84.38**	**320**	*eP*	**P**	**00 10 26.9**	**+1.0**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
MORC	**Moravsky Berou**	**84.38**	**320**	*eP*	**P**	**00 10 26.9**	**+0.9**
	comp=Z,0.7nm,0.6s,mb4.0						
KSP	**Ksiaz**	**84.74**	**322**	*eP*	**P**	**00 10 28.4**	**+0.6**
PKSM	**Moragy**	**84.92**	**317**	⇑*iP*	**P**	**00 10 28.9**	**+0.2**
PKSM	**Moragy**	**84.92**	**317**	⇑*P*	**P**	**00 10 28.9**	**+0.2**
VRAC	**Vranov**	**85.12**	**320**	⇑*iP*	**P**	**00 10 30.7**	**+1.0**
VRAC	**Vranov**	**85.12**	**320**	⇑*P*	**P**	**00 10 30.7**	**+1.0**
DLBC	**Dease Lake**	**85.19**	**30**	*eP*	**P**	**00 10 32.2**	**+2.2**
BRG	**Berggiesshubel**	**86.11**	**322**	*eP*	**P**	**00 10 35.1**	**+0.6**
	comp=Z,3.5nm,1.1s,mb4.5						
BRG				*e*	pP	00 10 49.2	+0.5
	comp=Z,1.9nm,0.9s						
BRG							
	comp=N,63nm,12.8s						
BRG							
	comp=E,89nm,13.8s						
BRG							
	comp=Z,186nm,13.9s						
BRG	**Berggiesshubel**	**86.11**	**322**	*eP*	**P**	**00 10 35.2**	**+0.6**
BRG				*e*	pP	00 10 49.2	+0.6
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.6						
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
BRG				MLR	MLR		
	comp=N,63nm,12.8s,MS4.4						
BRG				MLR	MLR		
	comp=E,89nm,13.9s,MS4.4						
BRG				MLR	MLR		
	comp=Z,186nm,13.9s,MS4.6						
KHC	**Kasperske Hory**	**87.02**	**321**	⇑*eP*	**P**	**00 10 40.6**	**+1.6**
GERES	**GERESS Array B**	**87.06**	**321**	P	**P**	**00 10 38.3**	**-0.9**
	comp=Z,0.9nm,1.0s,mb4.0,baz=48,slow=6.0,SNR=8.0						
GERES				LR	LR	00 53 58.7	
	comp=Z,164nm,18.6s,MS4.5,baz=170,slow=39						
YKA	**Yellowknife Ar**	**89.44**	**22**	P	**P**	**00 10 50.6**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.5,baz=310,slow=4.4,SNR=9.3						
DAVOX	**Davos**	**90.26**	**320**	LR	LR	00 52 14.3	
	comp=Z,162nm,19.2s,MS4.5,baz=64,slow=36						
HLID	**Hailey**	**101.41**	**37**	*eP*	Pdif	00 11 52.9	+7.8
TPNV	**Top

FSR			*i* S	**Sn**	**00 04 16.8**	**+0.3**
ANTU	**Antumapu**	**1.95 162**	*e*P	**Pn**	**00 03 54.4**	**-0.1**
ANTU			*i* S	**Sn**	**00 04 17.9**	**+0.1**
ANTU			AML	AML	00 04 23.7	
	comp=N,1μm,0.3s					
ANTU	**Antumapu**	**1.95 162**	*e*P	**Pn**	**00 03 54.4**	**-0.1**
ANTU			*i* S	**Sn**	**00 04 17.9**	**+0.1**
TACH	**Talagante**	**1.97 170**	⇓*i*P	**Pn**	**00 03 54.7**	**0.0**
PCH	**Pirque**	**2.03 160**	*e*P	**Pn**	**00 03 55.6**	**+0.1**
YECH	**El Yeso**	**2.23 151**	*e*P	**Pn**	**00 03 58.8**	**+0.6**
LNV	**Longovilo**	**2.24 181**	*e*P	**Pn**	**00 03 58.0**	**-0.4**
CHCH	**Chadas Angostu**	**2.29 165**	*e*P	**Pn**	**00 03 59.1**	**0.0**
MDZ	**Mendoza**	**2.43 119**	*e*P	**Pn**	**00 03 49.0**	**-12**
MDZ			⇑*i*P		00 04 09.5	
MDZ			*i* S	**Sn**	**00 04 18.8**	**-11**
CACH	**El Canelo**	**2.48 165**	*e*P	**Pn**	**00 04 02.3**	**+0.6**
CFAA	**Coronel Fontan**	**2.67 89**	P	**Pn**	**00 04 05.6**	**+1.4**
	comp=N,7.3nm,0.3s,baz=250,slow=8.7,SNR=408					
CFAA			S	**Sn**	**00 04 40.9**	**+5.6**
	comp=N,9.8nm,0.3s,baz=347,slow=18,SNR=7.8					
CICH	**Cipreses**	**2.72 163**	*e*P	**Pn**	**00 04 05.7**	**+0.8**
CDCH	**Caldera**	**4.64 6**	*e*P	**Pn**	**00 04 29.0**	**-2.4**
PLCA	**Paso Flores**	**9.03 176**	P	**Pn**	**00 05 31.0**	**-0.3**
	comp=N,0.1nm,0.3s,baz=100,slow=9.3,SNR=2.2					
PLCA	**Paso Flores**	**9.03 176**	P	**Pn**	**00 05 31.0**	**-0.3**
LVC	**Limon Verde**	**9.32 14**	P	**Pn**	**00 05 32.6**	**-2.7**
	comp=N,0.3nm,0.3s,baz=177,slow=10,SNR=3.0					
LVC			S	**Sn**	**00 07 28.0**	**+9.3**
	comp=N,0.3nm,0.3s,baz=70,slow=22,SNR=3.6					
CPUP	**Villa Florida**	**13.39 70**	P	**Pn**	**00 06 31.2**	**+0.2**
	comp=N,0.5nm,0.3s,baz=232,slow=11,SNR=5.4					
CPUP			S	**Sn**	**00 09 10.1**	**+12**
	comp=N,0.7nm,0.3s,baz=146,slow=19,SNR=2.9					
LPAZ	**La Paz**	**15.63 12**	P	**Pn**	**00 07 00.4**	**-0.1**
	comp=N,0.2nm,0.3s,baz=183,slow=7.9,SNR=12					
LPAZ	**La Paz**	**15.63 12**	*e*P	**Pn**	**00 07 01.4**	**+0.9**
	comp=N,2.1nm,0.7s					
SAML	**Samuel**	**23.89 20**	*e*P	**P**	**00 08 32.1**	**-0.2**
	comp=N,0.7nm,0.5s,mb3.4					
BDFB	**Brasilia**	**26.61 58**	P	**P**	**00 08 55.6**	**-1.4**
	comp=N,2.8nm,0.7s,mb3.9,baz=77,slow=1.6,SNR=3.8					
OTAV	**Otavalo**	**32.48 347**	*e*P	**P**	**00 09 50.7**	**+1.8**
	comp=N,1.6nm,0.9s,mb3.9					
VNA3	**Neumayer Olymp**	**51.27 159**	*e*	**P**	**00 12 22.0**	**0.0**
VNA3			*e*	pP	00 12 36.7	+0.1
VNA2	**Neumayer--Watz**	**51.91 158**	*e*	**P**	**00 12 26.8**	**0.0**
	baz=286,slow=7.9					
VNA2			*e*	pP	00 12 41.3	-0.1
TORD	**Torodi Ar. Bea**	**82.89 70**	P	**P**	**00 15 42.2**	**-0.3**
	comp=N,1.7nm,0.7s,mb4.2,baz=261,slow=4.8,SNR=21					
MKAR	**Makanchi Array**	**154.80 46**	PKPab	PKPab	00 23 33.7	-0.4
	comp=N,0.8nm,0.7s,baz=297,slow=3.1,SNR=7.0					

MAN 05 00:14:30.1,1781N×11947E,h1km,MS5.3,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**1.48**	**163**	*e*P	Pn	00 14 57.1	-0.9
APYP	**Conner**	**1.69**	**88**	*e*P	Pn	00 15 00.3	-0.6
CVP	**Callao Caves**	**2.25**	**92**	*e*P	Pn	00 15 08.0	-0.5
CAUP	**Cauayan**	**2.41**	**111**	*e*P	Pn	00 15 11.9	+1.2
BALP	**Baler**	**2.88**	**135**	*e*P	Pn	00 15 18.2	+1.0

IDC ***05*** *00:39:00.3±0.6,2142N×12182E,h0km,mb4.4/22, mb1 4.6/22,mb1mx4.6/25,mbtmp4.5/22,MS4.2/11, Ms1 4.2/11,ms1mx3.9/19,Error ellipse: s-maj=22.1km s-min=13.1km az=74.0*

NIED ***05*** *00:39:00,2170N×12190E,h32km,Mw5.0 Best double couple: M0:3.60000×10¹⁶ NP1:φs=49.00000°,δ77.00000°, λ133.00000°. NP2:φs=153.00000°,δ44.00000°,λ19.00000°.*

ISCJB ***05*** *00:39:03.0±0.2,2160N±002×12192E±002,h26km, mb4.7/82,MS4.4/35,Error ellipse: s-maj=3.5km s-min=2.4km az=67.8*

BJI ***05*** *00:39:04.0,2174N×12177E,h14km,mB5.0,mb4.7,ML4.4, Ms4.7,Msz4.4*

HRVD ***05*** *00:39:04.7±0.2,2150N×12177E,h20km±1km,MW5.0/72, Centroid moment Tensor Solution. LP body waves: s35,c50;Mantle waves: s72,c126; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.81±.15; Mθθ3.82±.12; Mφφ-3.01±.13; Mrθ0.31±.21; Mθφ-2.05±.10; Mφr-0.08±.23; Best double couple: M0:3.99300×10¹⁶ NP1:φs151.00000°,δ88.00000°,λ2.00000°. NP2: φs60.00000°,δ88.00000°,λ178.00000°. Principal axes: T 4.4070, Plg3.0000°, Azm15.0000°; N -0.8300, Plg87.0000°, Azm196.0000°; P -3.5780, Plg0.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***05*** *00:39:04.6±0.4,2167N×12189E,h90km,M4.6*

NEIC ***05*** *00:39:04.7±0.3,2156N×12192E,mb4.9/36,MS4.5/2, Error ellipse: s-maj=8.2km s-min=6.6km az=103.0*

NEIC Felt at Heng-ch'un and Lan-yu.

MOS ***05*** *00:39:04.0±1.4,2160N×12184E,h33km,mb5.0/39, MS4.4/14,Error ellipse: s-maj=9.1km s-min=5.3km az=112.8*

ISC 05 00:39:04.9±0.2,2157N±002×12198E±002,h27km, h27km±1.3km:pP-P,n266,σ1§25/298,mb4.7/82,MS4.4/35, 16C-20D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**2.61**	**352**	*e*Pn	**Pn**	**00 39 42.0**	**-3.3**
NACB				*e*Sn	**Sn**	**00 40 13.2**	**-3.0**
HATJ	**Hateruma jima**	**2.99**	**34**	P	**Pn**	**00 39 50.4**	**-0.1**
HATJ				S	**Sn**	**00 40 24.9**	**-0.6**
YOJ	**Yonaguni jima**	**3.03**	**18**	P	**Pn**	**00 39 50.2**	**-0.8**
YOJ				S	**Sn**	**00 40 26.4**	**0.0**
YHNB	**Yeheng**	**3.13**	**350**	*e*Pn	**Pn**	**00 39 51.1**	**-1.3**
YHNB				*e*S	**Sn**	**00 40 31.2**	**+2.3**
IRIF	**Iriomote-Funau**	**3.19**	**30**	P	**Pn**	**00 39 52.9**	**-0.3**
IRIF				*e*S	**Sn**	**00 40 30.5**	**+0.1**
JKRS	**Kuro-shima**	**3.25**	**35**	P	**Pn**	**00 39 54.3**	**+0.3**
JKRS				*e*S	**Sn**	**00 40 31.2**	**-0.6**
SGCP	**Mt. Cagua**	**3.31**	**179**	*e*P	**Pn**	**00 39 54.4**	**-0.6**
TATO	**Taipei**	**3.42**	**353**	*e*Pn	**Pn**	**00 39 55.9**	**-0.4**
TATO				*e*Sn	**Sn**	**00 40 32.3**	**-3.6**
JIJ	**Ishigaki jima**	**3.42**	**35**	P	**Pn**	**00 39 56.1**	**-0.3**
JIJ				*e*S	**Sn**	**00 40 34.1**	**-2.0**
PIP	**Pasuquin**	**3.47**	**202**	⇓*i*P	**Pn**	**00 39 55.5**	**-1.7**
PIP				*e*S	**Sn**	**00 40 35.5**	**-1.9**
APYP	**Conner**	**3.76**	**191**	*e*P	**Pn**	**00 39 59.8**	**-1.2**
JTJ	**Tarama**	**3.95**	**39**	P	**Pn**	**00 40 03.7**	**0.0**
JTJ				*e*S	**Sn**	**00 40 48.8**	**-0.4**
ABRA	**Dolores**	**4.08**	**197**	*e*P	**Pn**	**00 40 04.6**	**-0.9**
JMJ	**Miyako jima 2**	**4.44**	**43**	P	**Pn**	**00 40 10.5**	**0.0**
JMJ				*e*S	**Sn**	**00 41 01.0**	**-0.2**
JOGS	**Gusukube**	**4.47**	**44**	P	**Pn**	**00 40 10.9**	**0.0**
JOGS				*e*S	**Sn**	**00 41 01.7**	**-0.4**
QZH	**Quanzhou**	**4.58**	**318**	P	**Pn**	**00 40 09.4**	**-2.9**
QZH				S	**Sn**	**00 40 56.4**	**-8.1**
QZH				Smax			
	comp=N,470nm,0.8s						
QZH				Smax			
	comp=E,610nm,1.0s						
CAUP	**Cauayan**	**4.61**	**182**	*e*P	**Pn**	**00 40 13.9**	**+1.2**
BOLP	**Bolinao**	**5.52**	**201**	*e*P	**Pn**	**00 40 26.2**	**+0.9**
BALP	**Baler**	**5.81**	**184**	*e*P	**Pn**	**00 40 29.9**	**+0.6**
SCZP	**Santa Cruz**	**6.09**	**199**	*e*P	**Pn**	**00 40 33.9**	**+0.8**
JKE	**Kume jima 2**	**6.46**	**42**	P	**Pn**	**00 40 38.6**	**+0.4**
JAGN	**Aguni-jima**	**6.93**	**43**	P	**Pn**	**00 40 45.7**	**+1.0**
JAGN				*e*S	**Sn**	**00 42 00.6**	**-2.1**
JIH	**Iheya**	**7.71**	**44**	P	**Pn**	**00 40 54.6**	**-0.7**
JOW	**Kunigami**	**7.78**	**46**	Pn	**Pn**	**00 40 50.9**	**-5.3**
	comp=E,4.3nm,0.3s,baz=192,slow=26,SNR=4.1						
JOW				Sn	**Sn**	**00 42 19.3**	**-4.1**
	comp=E,2.6nm,0.3s,baz=133,slow=27,SNR=3.6						
JOW				LR	LR	00 44 29.6	
	comp=E,3μm,18.0s,baz=327,slow=41						
JOW	**Kunigami**	**7.78**	**46**	P	**Pn**	**00 40 55.4**	**-0.8**
JTK	**Tokunoshima**	**8.86**	**44**	P	**Pn**	**00 41 09.7**	**-1.4**
JMZ	**Minamidaito 2**	**9.47**	**62**	P	**Pn**	**00 41 18.7**	**-0.7**
SSE	**Sheshan**	**9.51**	**356**	*e*P	**Pn**	**00 41 19.9**	**-0.1**
SSE				AP		00 41 24.5	
SSE				XP		00 41 28.2	
SSE				S	**Sn**	**00 43 06.1**	**+0.1**
SSE				XS		00 43 14.2	
SSE				AMB	AMB		
	comp=Z,30nm,0.9s						
SSE				AMB	AMB		
	comp=Z,110nm,3.9s						
SSE				LR	LR		
	comp=N,440nm,14.5s						
SSE				LR	LR		
	comp=E,2μm,14.5s						
SSE				LR	LR		
	comp=Z,1μm,13.2s						
NJ2	**Nanjing**	**10.80**	**346**	*e*P	**Pn**	**00 41 37.6**	**-0.1**
NJ2				AP		00 41 42.5	
NJ2				PP		00 41 45.1	
NJ2				XP		00 41 46.2	
NJ2				PPP		00 41 53.2	
NJ2				S	**Sn**	**00 43 35.7**	**-2.0**
NJ2				XS		00 43 44.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,340nm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,18.0s						
NJ2				LR	LR		
	comp=E,8μm,15.3s						
NJ2				LR	LR		
	comp=Z,2μm,12.2s						
WHN	**Wuhan**	**11.26**	**324**	P	**Pn**	**00 41 45.0**	**+1.1**
WHN				PP		00 41 54.1	
WHN				S	**Sn**	**00 43 49.6**	**+0.8**
WHN				LR	LR		
	comp=Z,2μm,12.9s						
QIZ	**Qiongzhong**	**11.66**	**260**	P	**Pn**	**00 41 48.6**	**-0.9**
QIZ				S	**Sn**	**00 43 57.3**	**-1.4**
QIZ				LR	LR		
	comp=N,3μm,15.3s						
QIZ				LR	LR		
	comp=Z,2μm,17.2s						
QIZ	**Qiongzhong**	**11.66**	**260**	*e*Pn	**Pn**	**00 41 49.2**	**-0.3**
	comp=Z,121nm,1.4s						
JFU	**Fukue jima 2**	**12.57**	**27**	P	**Pn**	**00 42 03.1**	**+1.1**
JTU	**Tsushima**	**14.46**	**25**	P	**Pn**	**00 42 28.4**	**+0.7**
GYA	**Guiyang**	**14.81**	**292**	⇓*i*P	**Pn**	**00 42 31.9**	**-0.6**
GYA				AP	pP	00 42 37.8	-7.5
GYA				XP	sP	00 42 41.6	-7.2
GYA				PP		00 42 44.8	
GYA				S	**Sn**	**00 45 11.9**	**-3.7**
GYA				AMB	AMB		
	comp=Z,60nm,1.0s						
GYA				AMB	AMB		
	comp=Z,190nm,4.2s						
GYA				LR	LR		
	comp=N,2μm,11.7s						
GYA				LR	LR		
	comp=E,1μm,14.2s						
GYA				LR	LR		
	comp=Z,1μm,11.7s						
TIA	**Tai'an**	**15.19**	**345**	*e*P	**Pn**	**00 42 38.2**	**+0.7**
TIA				LR	LR		
	comp=N,2μm,12.0s						
TIA				LR	LR		
	comp=E,2μm,11.0s						
INCN	**Inchon**	**16.36**	**13**	*e*Pn	**Pn**	**00 42 53.2**	**+0.6**
KKM	**Kota Kinabalu**	**16.41**	**201**	*e*Pn	**Pn**	**00 42 54.1**	**+0.8**
JHS	**Saijyo**	**16.57**	**34**	P	**Pn**	**00 42 59.3**	**+4.0**
KS15	**Wonju Array Si**	**16.62**	**17**	*e*Pn	**Pn**	**00 42 56.8**	**+0.9**
XAN	**Xi'an**	**16.94**	**320**	P	**Pn**	**00 42 59.8**	**-0.1**
XAN				AP	pP	00 43 10.0	+1.0
XAN				S	**Sn**	**00 46 11.7**	**+4.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.5s						
XAN				LR	LR		
	comp=N,960nm,14.0s						
XAN				LR	LR		
	comp=E,1μm,15.8s						
XAN				LR	LR		
	comp=Z,1μm,14.4s						
DL2	**Dalian**	**17.28**	**359**	PR	**Pn**	**00 43 06.4**	**+2.2**
DL2				*e*S	**Sn**	**00 46 17.7**	**+2.1**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s						
DL2				AMB	AMB		
	comp=Z,230nm,8.9s						
DL2				LR	LR		
	comp=N,460nm,11.8s						
DL2				LR	LR		
	comp=E,590nm,12.7s						
DL2				LR	LR		
	comp=Z,500nm,13.8s						
KMI	**Kunming**	**18.01**	**285**	P	**Pn**	**00 43 14.1**	**+0.9**
KMI				AP	pP	00 43 19.7	-1.2
KMI				XP	sP	00 43 23.1	-1.2
KMI				PP		00 43 29.1	
KMI				PPP		00 43 37.3	
KMI				S	**Sn**	**00 46 27.8**	**-5.5**
KMI				XS	sS	00 46 36.5	-14
KMI				SS		00 46 49.9	
KMI				SSS		00 47 02.7	
KMI				AMB	AMB		
	comp=Z,20nm,1.7s						
KMI				AMB	AMB		
	comp=Z,330nm,3.8s						
KMI				LR	LR		
	comp=N,1μm,11.0s						
KMI				LR	LR		
	comp=E,1μm,13.2s						
KMI				LR	LR		
	comp=Z,1μm,13.0s						
JWT	**Wachi**	**18.03**	**38**	P	**Pn**	**00 43 17.6**	**+4.2**
CD2	**Chengdu**	**18.78**	**303**	⇓*i*P	**Pn**	**00 43 22.9**	**+0.3**
CD2				AP	pP	00 43 29.3	0.0
CD2				XP	sP	00 43 34.7	+1.9
CD2				PP		00 43 36.2	
CD2				S	**Sn**	**00 46 44.3**	**-7.6**
CD2				XS	sS	00 46 54.6	-11
CD2				SS		00 47 10.8	
CD2				AMB	AMB		
	comp=Z,90nm,0.8s						
CD2				AMB	AMB		
	comp=Z,410nm,5.6s						
CD2				LR	LR		
	comp=N,3μm,12.6s						
CD2				LR	LR		
	comp=Z,2μm,15.6s						
JGF	**Kuroka**	**19.40**	**41**	P	**Pn**	**00 43 30.3**	**+0.3**
SNY	**Shenyang**	**20.24**	**3**	⇑P	**P**	**00 43 38.3**	**+0.4**
SNY				AP		00 43 48.1	
SNY				XP	sP	00 43 53.7	+4.9
SNY				S	**S**	**00 47 20.9**	**-2.7**
SNY				XS	sS	00 47 32.2	-3.1
SNY				SS		00 47 48.2	
SNY				AMB	AMB		
	comp=Z,20nm,1.8s						
SNY				LR	LR		
	comp=N,770nm,11.0s,MS4.5						
SNY				LR	LR		
	comp=E,1μm,12.2s,MS4.5						
SNY				LR	LR		
	comp=Z,950nm,12.3s,MS4.4						
MAJO	**Matsushiro**	**20.54**	**40**	*e*P	**P**	**00 43 44.1**	**+2.9**
MAJO				pmax	pmax		
	comp=Z,53nm,1.0s						
MAJO	**Matsushiro**	**20.54**	**40**	*e*P	**P**	**00 43 44.1**	**+2.9**
	comp=Z,53nm,1.0s						
MAT	**Matsushiro**	**20.54**	**40**	P	**P**	**00 43 44.7**	**+3.5**
MAT				S	**S**	**00 47 31.0**	**+1.4**
MAT	**Matsushiro**	**20.54**	**40**	P	**P**	**00 43 43.8**	**+2.6**
MAT	**Matsushiro**	**20.54**	**40**	*e*P	**P**	**00 43 45.0**	**+3.8**
MAT				*e*S	**S**	**00 47 29.0**	**-0.6**
MAT				pmax	pmax		
	comp=Z,46nm,1.0s						
MAT	**Matsushiro**	**20.54**	**40**	*e*P	**P**	**00 43 45.0**	**+3.8**
	comp=Z,46nm,1.0s						
MAT				*e*S	**S**	**00 47 29.0**	**-0.6**
MJAR	**Matsushiro Arr**	**20.54**	**40**	P	**P**	**00 43 43.1**	**+1.9**
	comp=Z,44nm,0.9s,baz=231,slow=11,SNR=80						
MJAR				LR	LR	00 52 26.4	
	comp=Z,452nm,20.7s,MS3.8,baz=265,slow=39						
JRY	**Ryogami san**	**20.62**	**42**	P	**P**	**00 43 46.8**	**+4.7**
CHRT	**Chiangrai**	**20.83**	**269**	⇓P	**P**	**00 43 46.0**	**+1.7**
	comp=Z,105nm,0.9s						
HHC	**Hu-ho-hao-te**	**21.15**	**338**	*e*P	**P**	**00 43 47.2**	**-0.6**
HHC				AP		00 43 54.0	
HHC				XP	sP	00 43 57.6	-1.0
HHC				PP		00 44 10.2	
HHC				S	**S**	**00 47 33.7**	**-7.9**
HHC				XS	sS	00 47 45.5	-7.9
HHC				PCP	PcP	00 47 53.9	+1.0
HHC				SS		00 48 07.9	
HHC				SCP	ScP	00 51 27.9	0.0
HHC				PCS	PcS	00 51 30.8	-0.2
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
HHC				AMB	AMB		
	comp=Z,170nm,5.3s						
HHC				LR	LR		
	comp=N,1μm,15.9s,MS4.7						
HHC				LR	LR		
	comp=E,2μm,14.7s,MS4.7						
HHC				LR	LR		
	comp=Z,790nm,16.1s,MS4.2						
LZH	**Lanzhou**	**21.43**	**316**	⇑P	**P**	**00 43 51.7**	**+0.9**
LZH				AP		00 44 01.3	
LZH				XP	sP	00 44 07.0	+5.3
LZH				PP		00 44 12.0	
LZH				S	**S**	**00 47 41.5**	**-5.6**
LZH				XS	sS	00 47 58.0	-0.9
LZH				*e*SS		00 48 20.0	
LZH				AMB	AMB		
	comp=Z,210nm,1.4s,mb5.3						
LZH				AMB	AMB		
	comp=Z,510nm,4.2s						
LZH				LR	LR		
	comp=E,2μm,12.1s						
LZH				LR	LR		
	comp=Z,2μm,14.0s,MS4.6						
NST	**Nakhon Sawan**	**21.50**	**258**	P	**P**	**00 43 53.0**	**+1.4**
BTO	**Baotou**	**21.52**	**335**	*e*P	**P**	**00 43 50.3**	**-1.4**
BTO				S	**S**	**00 47 41.1**	**-7.7**
BTO				LR	LR		
	comp=N,2μm,13.0s,MS4.8						
BTO				LR	LR		
	comp=E,2μm,15.6s,MS4.8						
JSD	**Sado**	**21.60**	**37**	P	**P**	**00 43 53.4**	**+0.8**
CHG	**Chiang Mai**	**21.79**	**267**	P	**P**	**00 43 56.0**	**+1.4**
CHTO	**Chiang Mai**	**21.79**	**267**	*e*P	**P**	**00 43 55.8**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.4						
CHTO	**Chiang Mai**	**21.79**	**267**	*e*P	**P**	**00 43 55.8**	**+1.2**
	comp=Z,19nm,1.1s,mb4.4						
CN2	**Changchun**	**22.35**	**7**	*e*P	**P**	**00 44 02.7**	**+2.0**
CN2				*e*S	**S**	**00 48 01.0**	**-4.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,1μm,12.0s,MS4.7						
CN2				LR	LR		
	comp=E,1μm,12.0s,MS4.7						
CN2				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
JYA	**Atsumi**	**22.81**	**38**	P	**P**	**00 44 07.2**	**+1.7**
VLA	**Vladivostok**	**23.03**	**19**	*e*P	**P**	**00 44 08.6**	**+0.8**
VLA				pmax	pmax		
	comp=Z,178nm,1.6s,mb5.2						
VLA				MLR	MLR		
	comp=Z,1μm,16.5s,MS4.4						
GUMO	**Guam**	**23.20**	**106**	LR	LR	00 51 04.0	
	comp=Z,279nm,19.3s,MS3.7,baz=284,slow=31						
MDJ	**Mudanjiang**	**23.83**	**14**	P	**P**	**00 44 16.8**	**+1.1**
MDJ				AP		00 44 22.5	
MDJ				XP	sP	00 44 25.7	-1.3
MDJ				S	**S**	**00 48 32.5**	**+2.8**
MDJ				SCP	ScP	00 51 33.8	-1.0
MDJ				PCS	PcS	00 51 36.6	-1.3
MDJ				SCS	ScS	00 55 20.2	-1.5
MDJ				AMB	AMB		
	comp=Z,90nm,1.3s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,360nm,4.8s						
MDJ				LR	LR		
	comp=N,490nm,19.9s,MS4.2						
MDJ				LR	LR		
	comp=E,780nm,19.9s,MS4.2						
MDJ				LR	LR		
	comp=Z,550nm,21.4s,MS4.0						
MDJ	**Mudanjiang**	**23.83**	**14**	*e*P	**P**	**00 44 17.3**	**+1.6**
	comp=Z,138nm,1.3s,mb5.2						
JOM	**Ohasama**	**24.31**	**38**	P	**P**	**00 44 20.8**	**+0.7**
JTM	**Tenmabayashi**	**25.07**	**36**	P	**P**	**00 44 31.1**	**+4.1**
JOT	**Ohata**	**25.48**	**35**	P	**P**	**00 44 31.8**	**+1.1**
GTA	**Gaotai**	**25.98**	**318**	*e*P	**P**	**00 44 35.6**	**+0.4**
GTA				AP	pP	00 44 42.6	-0.6
GTA				XP	sP	00 44 45.8	-0.7
GTA				S	**S**	**00 49 03.3**	**-0.8**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.1						
GTA				AMB	AMB		
	comp=Z,110nm,3.8s						
GTA				LR	LR		
	comp=N,640nm,19.0s,MS4.4						
GTA				LR	LR		
	comp=E,920nm,18.2s,MS4.4						
GTA				LR	LR		
	comp=Z,920nm,16.7s,MS4.4						
JEM	**Erimo**	**27.06**	**36**	P	**P**	**00 44 48.9**	**+3.9**
ASAJ	**Asahikawa**	**28.23**	**32**	P	**P**	**00 44 58.5**	**+3.1**
	comp=Z,25nm,0.9s,mb4.9,baz=248,slow=18,SNR=12						
ASAJ				LR	LR	00 56 41.9	
	comp=Z,507nm,19.3s,MS4.1,baz=67,slow=37						
ASAJ	**Asahikawa**	**28.23**	**32**	P	**P**	**00 45 00.3**	**+4.8**
JMP	**Maruseppu**	**28.54**	**33**	P	**P**	**00 45 04.5**	**+6.3**
KLR	**Kul'dur**	**28.67**	**13**	*e*P	**P**	**00 44 57.0**	**-2.4**
KLR				MLR	MLR		
	comp=E,900nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.7						
HABR	**Khabarovsk**	**28.81**	**18**	*e*P	**P**	**00 45 01.3**	**+0.7**
HABR				*e*S	**S**	**00 49 51.7**	**+2.9**
ULN	**Ulaanbaatar**	**28.85**	**339**	*e*P	**P**	**00 44 59.7**	**-1.3**
ULN				*e**PP	pP	00 45 08.6	-0.4
ULN				pmax	pmax		
	comp=Z,37nm,1.5s,mb4.9						
ULN	**Ulaanbaatar**	**28.85**	**339**	*e*P	**P**	**00 44 59.7**	**-1.3**
	comp=Z,37nm,1.5s,mb4.9						
ULN				*e*pP	pP	00 45 08.6	-0.4
LSA	**Lhasa**	**28.88**	**293**	*e*P	**P**	**00 45 03.7**	**+2.5**
LSA				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.0						
LSA	**Lhasa**	**28.88**	**293**	*e*P	**P**	**00 45 03.7**	**+2.5**
	comp=Z,16nm,0.5s,mb5.0						
SONM	**Songino Array**	**29.05**	**338**	P	**P**	**00 45 01.7**	**-1.0**
	comp=Z,7.4nm,0.9s,mb4.4,baz=155,slow=9.4,SNR=42						
SONM				ScP	ScP	00 51 52.3	+2.1
	comp=Z,0.3nm,0.6s,baz=165,slow=6.0,SNR=2.4						
SONM				LR	LR	00 57 35.8	
	comp=Z,808nm,19.3s,MS4.3,baz=150,slow=38						
PSI	**Prapat**	**29.17**	**233**	P	**P**	**00 45 03.6**	**-0.2**
	comp=Z,6.8nm,0.9s,mb4.4,baz=63,slow=7.7,SNR=5.2						
PSI				LR	LR	00 56 12.6	
	comp=Z,409nm,20.5s,MS4.0,baz=161,slow=36						
YSS	**Yuzh-Sakhalins**	**30.41**	**29**	⇑*e*P	**P**	**00 45 15.9**	**+1.1**
YSS				*i* *SP	sP	00 45 22.4	-3.7
YSS				*e*		00 45 34.0	
YSS				*e*		00 46 26.0	
YSS				*e*		00 50 14.0	
YSS				*e*SSS		00 52 22.0	
YSS				pmax	pmax		
	comp=Z,20μm,1.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s,MS4.3						
YSS				MLR	MLR		
	comp=E,300nm,16.0s,MS4.3						
YSS				MLR	MLR		
	comp=Z,500nm,

PKI	**Pulchoki**	**33.70**	**288**	*eP*	**P**	**00 45 44.6**	**+0.9**
KKN	**Kakani**	**33.82**	**288**	*eP*	**P**	**00 45 45.6**	**+0.8**
DMN	**Daman**	**33.97**	**288**	*eP*	**P**	**00 45 46.9**	**+0.9**
	comp=Z,132nm,1.4s,mb5.7						
MOY	**Mondy**	**34.18**	**337**	*eP*	**P**	**00 45 45.8**	**-2.1**
GKN	**Gorkha**	**34.40**	**288**	*eP*	**P**	**00 45 50.1**	**+0.3**
	comp=Z,130nm,1.3s,mb5.7						
KOLN	**Koldanda**	**35.31**	**288**	*eP*	**P**	**00 45 58.1**	**+0.5**
	comp=Z,61nm,0.9s,mb5.5						
WMQ	**Urumqi**	**36.01**	**316**	P	**P**	**00 46 04.7**	**+1.1**
WMQ				AP	pP	00 46 11.3	-0.4
WMQ				PPP		00 46 44.5	
WMQ				PP	PP	00 47 25.1	-0.6
WMQ				S	**S**	**00 51 39.1**	**-1.6**
WMQ				XS	sS	00 51 49.7	-4.3
WMQ				SS	SS	00 53 58.1	-20
WMQ				SCS	ScS	00 56 20.1	+0.5
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,110nm,5.0s						
WMQ				LR	LR		
	comp=N,500nm,14.0s,MS4.6						
WMQ				LR	LR		
	comp=E,540nm,13.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,270nm,20.0s						
FITZ	**Fitzroy Crossi**	**39.59**	**175**	P	**P**	**00 46 32.9**	**-1.0**
	comp=Z,2.6nm,0.7s,mb4.1,baz=358,slow=11,SNR=5.8						
KRAR	**Krasnoyarsk**	**40.60**	**335**	*eP*	**P**	**00 46 39.8**	**-2.5**
KRAR				pmax	pmax		
	comp=Z,23nm,0.4s,mb5.2						
MKAR	**Makanchi Array**	**40.73**	**318**	P	**P**	**00 46 43.5**	**+0.2**
	comp=Z,26nm,0.9s,mb4.9,baz=109,slow=10,SNR=124						
MKAR				ScP	ScP	00 52 33.0	+0.9
	comp=Z,0.5nm,0.8s,baz=149,slow=2.8,SNR=3.6						
MKAR	**Makanchi Array**	**40.73**	**318**	P	**P**	**00 46 43.5**	**+0.2**
MKAR				ScP	ScP	00 52 33.0	+0.9
YAK	**Yakutsk**	**40.78**	**6**	*eP*	**P**	**00 46 45.4**	**+1.7**
YAK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.3						
YAK				pmax	pmax		
	comp=N,10.0nm,1.3s						
YAK				MLR	MLR		
	comp=Z,313nm,13.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,269nm,15.0s,MS4.4						
YAK				MLR	MLR		
	comp=E,268nm,14.0s,MS4.4						
PET	**Petropavlovsk**	**42.08**	**33**	*iP*	**P**	**00 46 56.0**	**+1.7**
PET				*eS*	**S**	**00 53 18.9**	**+6.9**
PET				*e*SS	SS	00 56 18.0	-1.8
PET				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.0						
PET				smax			
	comp=E,200nm,21.8s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.1						
PET	**Petropavlovsk**	**42.08**	**33**	*eP*	**P**	**00 46 55.9**	**+1.5**
	comp=Z,14nm,0.4s,mb4.9						
PALK	**Pallekele**	**42.27**	**257**	*eP*	**P**	**00 46 51.5**	**-4.5**
MBWA	**Marble Bar**	**42.53**	**183**	*eP*	**P**	**00 47 02.0**	**+3.9**
KSH	**Kashi**	**42.96**	**305**	*eP*	**P**	**00 47 02.6**	**+1.1**
KSH				*e*AP	pP	00 47 12.6	+2.9
KSH				*e*XP	sP	00 47 16.4	+3.4
KSH				*e*PP	PP	00 48 44.8	+3.3
KSH				*e*PCP	PcP	00 48 54.1	+2.4
KSH				*e*PPP		00 49 18.5	
KSH				*e*SCP	ScP	00 52 41.4	+0.5
KSH				PCS	PcS	00 52 45.2	+1.1
KSH				*e*S	**S**	**00 53 15.6**	**-9.4**
KSH				*e*XS	sS	00 53 40.2	+1.7
KSH				*e*SS	SS	00 56 29.9	-7.4
KSH				SCS	ScS	00 57 00.5	+0.1
KSH				AMB	AMB		
	comp=Z,10.0nm,0.2s,mb5.2						
KSH				LR	LR		
	comp=N,770nm,12.8s,MS5.0						
KSH				LR	LR		
	comp=E,1μm,12.2s,MS5.0						
KSH				LR	LR		
	comp=Z,890nm,14.1s,MS4.8						
WRAB	**Tennant Creek**	**42.99**	**163**	*eP*	**P**	**00 47 02.4**	**+0.6**
WRA	**Warramunga Arr**	**42.99**	**163**	P	**P**	**00 47 00.4**	**-1.4**
	comp=Z,6.2nm,0.8s,mb4.4,baz=344,slow=8.8,SNR=17						
WB2	**Warramunga Arr**	**43.00**	**163**	*eP*	**P**	**00 47 01.2**	**-0.6**
MA2	**Magadan**	**43.13**	**21**	*eP*	**P**	**00 47 03.7**	**+0.8**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.5						
MA2	**Magadan**	**43.13**	**21**	*eP*	**P**	**00 47 03.7**	**+0.8**
	comp=Z,3.2nm,0.3s,mb4.5						
ULHL	**Ulahol**	**43.34**	**309**	P	**P**	**00 47 06.0**	**+1.4**
	SNR=7.4						
TKM2	**Tokmak 2**	**43.97**	**310**	P	**P**	**00 47 10.9**	**+1.2**
	SNR=21						
KZA	**Kyzart**	**44.02**	**309**	P	**P**	**00 47 12.6**	**+2.5**
	SNR=15						
NVS	**Novosibirsk**	**44.10**	**329**	*i* P	**P**	**00 47 08.3**	**-2.4**
NVS				*i*		00 48 52.3	
NVS				*i* S	**S**	**00 53 37.1**	**-4.5**
NVS				pmax	pmax		
	comp=N,12nm,0.8s						
NVS				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
NVS				pmax	pmax		
	comp=E,11nm,0.7s						
NVS				smax			
	comp=N,6.0nm,1.6s						
NVS				smax			
	comp=E,16nm,1.8s						
KBK	**Karagaybulak**	**44.37**	**309**	P	**P**	**00 47 14.6**	**+1.8**
	SNR=14						
KURK	**Kurchatov**	**44.57**	**322**⇑	*eP*	**P**	**00 47 14.0**	**-0.5**
KURK	**Kurchatov**	**44.57**	**322**	*eP*	**P**	**00 47 13.8**	**-0.7**
	comp=E,86nm,1.5s,mb5.4						
CHMS	**Chumysh**	**44.59**	**310**	P	**P**	**00 47 14.8**	**+0.2**
	SNR=10						
UCH	**Uchtor**	**44.59**	**309**	P	**P**	**00 47 16.6**	**+2.0**
	SNR=26						
FRU	**Bishkek**	**44.65**	**310**⇓	*eP*	**P**	**00 47 16.0**	**+0.9**
FRU				*e*		00 47 28.0	
FRU				pmax	pmax		
	comp=Z,50nm,2.0s,mb5.0						
FRU				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.5						
AAK	**Ala-Archa**	**44.69**	**309***c*	*iP*	**P**	**00 47 15.3**	**-0.1**
AAK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**44.69**	**309**	*eP*	**P**	**00 47 15.9**	**+0.4**
USP	**Ospenovka**	**44.83**	**310**	P	**P**	**00 47 17.6**	**+1.1**
	SNR=11						
EKS2	**Erkin-Say**	**45.21**	**309**	P	**P**	**00 47 21.1**	**+1.5**
	SNR=7.5						
ASAR	**Alice Springs**	**46.44**	**165**	P	**P**	**00 47 27.4**	**-1.8**
	comp=Z,2.2nm,0.8s,mb4.1,baz=345,slow=6.9,SNR=14						
BRVK	**Borovoye**	**50.23**	**322**	*eP*	**P**	**00 47 58.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,36nm,1.5s,mb5.2						
BRVK	**Borovoye**	**50.23**	**322**	*eP*	**P**	**00 47 58.3**	**-0.2**
	comp=Z,36nm,1.5s,mb5.2						
CHKZ	**Chkalovo**	**50.24**	**323**	*eP*	**P**	**00 47 58.0**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2						
CHKZ	**Chkalovo**	**50.24**	**323**	*eP*	**P**	**00 47 58.0**	**-0.5**
	comp=Z,27nm,1.1s,mb5.2						
TIXI	**Tiksi**	**50.25**	**3**	*eP*	**P**	**00 47 57.4**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,602nm,16.0s,MS4.7						
ZRNK	**Zerenda**	**50.93**	**322**	*eP*	**P**	**00 48 03.3**	**-0.5**
FORT	**Forrest**	**52.38**	**173**	*eP*	**P**	**00 48 15.0**	**+0.4**
	comp=Z,10nm,0.7s,mb4.9						
KLBR	**Kellerberrin**	**53.02**	**185**	*eP*	**P**	**00 48 15.8**	**-3.5**
	comp=Z,29nm,1.3s,mb5.0						
BILL	**Bilibino**	**53.89**	**19**	*eP*	**P**	**00 48 26.0**	**+0.2**
BILL				*e*PP	pP	00 48 32.3	-1.8
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
BILL	**Bilibino**	**53.89**	**19**	*eP*	**P**	**00 48 26.0**	**+0.2**
	comp=Z,8.5nm,1.3s,mb4.5						
BILL				*e*pP	pP	00 48 32.3	-1.8
NWAO	**Narrogin (SRO)**	**54.38**	**185**	*eP*	**P**	**00 48 31.6**	**+2.3**
NWAO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**54.38**	**185**	*eP*	**P**	**00 48 31.6**	**+2.2**
	comp=Z,4.1nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**56.37**	**160**	*eP*	**P**	**00 48 41.2**	**-2.4**
	comp=Z,3.8nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**56.37**	**160**	P	**P**	**00 48 42.1**	**-1.6**
	comp=Z,2.6nm,0.7s,mb4.4,baz=5.5,slow=8.3,SNR=4.1						
STKA				LR	LR	01 15 18.7	
	comp=Z,173nm,21.1s,MS4.1,baz=18,slow=39						
AKTK	**Aktyubinsk**	**57.16**	**317**	P	**P**	**00 48 49.5**	**+0.3**
AKTO	**Aktyubinsk**	**57.16**	**317**	P	**P**	**00 48 49.5**	**+0.3**
	comp=Z,5.8nm,1.1s,mb4.5,baz=94,slow=10,SNR=15						
ARU	**Arti**	**57.63**	**324**⇑	*iP*	**P**	**00 48 51.7**	**-0.9**
ARU				*e*		00 50 57.4	
ARU				*e*S	**S**	**00 56 49.7**	**+0.6**
ARU				*e*SS	SS	01 00 39.4	0.0
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
ARU	**Arti**	**57.63**	**324**	*eP*	**P**	**00 48 51.6**	**-1.0**
	comp=Z,17nm,1.0s,mb5.0						
ORR	**Orenburg**	**59.30**	**318**⇑	*iP*	**P**	**00 49 03.3**	**-0.9**
ORR				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.2						
ORR				MLR	MLR		
	comp=Z,240nm,19.0s,MS4.3						
MIB	**Mutribah**	**66.73**	**294**	*eP*	**P**	**00 49 52.6**	**-0.9**
MIB				AMb	AMB	00 49 55.5	
	comp=Z,43nm,0.8s,mb5.5						
RDF	**Al-Radifah**	**66.74**	**293**	*eP*	**P**	**00 49 53.4**	**-0.2**
RDF				AMb	AMB	00 49 55.6	
	comp=Z,52nm,0.7s,mb5.7						
GNI	**Garni**	**66.89**	**306**	P	**P**	**00 49 56.1**	**+1.5**
	comp=Z,3.3nm,0.8s,mb4.4,baz=112,slow=7.6,SNR=13						
GNI	**Garni**	**66.89**	**306**⇑	*eP*	**P**	**00 49 52.6**	**-2.0**
GNI				pmax	pmax		
	comp=Z,34nm,1.7s						
GNI	**Garni**	**66.89**	**306**	*eP*	**P**	**00 49 56.0**	**+1.4**
	comp=Z,32nm,1.3s,mb5.2						
NAY	**Al-Naaiem**	**66.93**	**294**	*eP*	**P**	**00 49 53.7**	**-1.1**
NAY				AMb	AMB	00 49 56.6	
	comp=Z,28nm,0.7s,mb5.4						
ZEI	**Tsey**	**67.11**	**309**	*eP*	**P**	**00 49 53.9**	**-2.1**
ZEI				*e**PP	pP	00 50 03.1	-1.5
ZEI				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
TTA	**Tatalina**	**67.41**	**29**	*eP*	**P**	**00 49 59.1**	**+1.3**
VRHR	**Novokhopersk**	**67.54**	**318**	*eP*	**P**	**00 49 57.7**	**-1.0**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
VRHR				pmax	pmax		
	comp=N,8.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,20nm,1.0s						
KIV	**Kislovodsk**	**67.80**	**310**	*eP*	**P**	**00 50 00.5**	**+0.1**
KIV				*e*		00 50 25.9	
KIV				*e*S	S	00 58 56.3	-0.4
KIV				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.4						
KIV				MLR	MLR		
	comp=Z,176nm,17.0s,MS4.3						
KIV	**Kislovodsk**	**67.80**	**310**	*eP*	**P**	**00 50 00.7**	**+0.4**
TMCR	**Tamitsa**	**68.18**	**332**	*eP*	**P**	**00 50 01.1**	**-1.6**
TMCR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
TMCR				pmax	pmax		
	comp=N,20nm,0.9s						
TMCR				pmax	pmax		
	comp=E,10.0nm,1.1s						
VRSR	**Storozhevoye**	**69.04**	**318**	*eP*	**P**	**00 50 07.2**	**-0.9**
VRSR				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
VRSR				pmax	pmax		
	comp=N,10.0nm,3.6s						
VRSR				pmax	pmax		
	comp=E,2.0nm,1.0s						
MOS	**Moscow**	**69.31**	**323**	*eP*	**P**	**00 50 08.5**	**-1.3**
MOS				*e*	pP	00 50 17.0	-1.4
MOS				*e*		00 50 34.1	
MOS				*e*		00 52 40.3	
MOS				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
SOC	**Sochi**	**69.99**	**310**	*eP*	**P**	**00 50 14.1**	**+0.2**
SOC				*e*		00 52 53.4	
SOC				*e*PPP		00 54 36.4	
SOC				*e*S	S	00 59 21.6	-1.0
SOC				*e*		01 00 11.4	
SOC				*e*SS	SS	01 03 52.0	0.0
SOC				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
SOC				MLR	MLR		
	comp=Z,134nm,13.0s,MS4.4						
OBN	**Obninsk**	**70.00**	**322***d*	*iP*	**P**	**00 50 13.3**	**-0.7**
OBN				*e*		00 50 24.8	
OBN				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
OBN	**Obninsk**	**70.00**	**322**	*eP*	**P**	**00 50 12.7**	**-1.3**
	comp=Z,49nm,1.6s,mb5.2						
OBN				*e*pP	pP	00 50 21.0	-1.6
PMR	**Palmer**	**70.75**	**30**	P	**P**	**00 50 19.0**	**+0.4**
PMR				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
PMR	**Palmer**	**70.75**	**30**	P	**P**	**00 50 19.0**	**+0.3**
	comp=Z,11nm,0.8s,mb4.8						
COLA	**College**	**70.77**	**27**	*eP*	**P**	**00 50 19.9**	**+1.2**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
COLA	**College**	**70.77**	**27**	*eP*	**P**	**00 50 19.9**	**+1.1**
	comp=Z,1.5nm,0.5s,mb4.2						
JOF	**Joensuu**	**71.33**	**331**	*ep*	**P**	**00 50 20.3**	**-1.8**
	comp=Z,3.2nm,0.5s,mb4.5						
JOF	**Joensuu**	**71.33**	**331**	*eP*	**P**	**00 50 20.3**	**-1.8**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ANN	**Anapa**	**71.35**	**312**	*eP*	**P**	**00 50 21.0**	**-1.3**
ANN				*e*S	S	00 59 40.2	+1.7
ANN				pmax	pmax		
	comp=Z,50nm,1.7s,mb5.2						
MALT	**Malatya**	**72.06**	**305**⇓	*iP*	**P**	**00 50 27.5**	**+1.0**
MALT	**Malatya**	**72.06**	**305**	*eP*	**P**	**00 50 27.6**	**+1.1**
MALT				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
MALT	**Malatya**	**72.06**	**305**	*eP*	**P**	**00 50 27.6**	**+1.1**
	comp=Z,26nm,1.4s,mb5.0						
ARCES	**ARCESS Array B**	**72.22**	**338**	P	**P**	**00 50 28.2**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.2,baz=80,slow=7.5,SNR=4.2						
SIM	**Simferopol'**	**73.62**	**312**	*eP*	**P**	**00 50 36.3**	**+0.6**
SIM				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SIM				MLR	MLR		
	comp=Z,270nm,22.7s,MS4.5						
KAF	**Kangasniemi**	**73.78**	**331**	*ep*	**P**	**00 50 33.4**	**-3.3**
	comp=Z,1.4nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**73.78**	**331**	*eP*	**P**	**00 50 33.4**	**-3.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**74.06**	**330**	P	**P**	**00 50 37.2**	**-1.1**
	comp=Z,3.4nm,0.7s,mb4.4,baz=90,slow=9.5,SNR=19						
DAWY	**Dawson**	**74.52**	**27**	*eP*	**P**	**00 50 41.9**	**+0.9**
AKASG	**Malin Array Be**	**75.30**	**319**	P	**P**	**00 50 44.5**	**-1.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=63,slow=5.2,SNR=17						
BR131	**Keskin Array S**	**75.31**	**307**	*eP*	**P**	**00 50 46.3**	**+0.7**
BRTR	**Keskin Array B**	**75.31**	**307**	P	**P**	**00 50 44.9**	**-0.7**
	comp=Z,2.1nm,0.8s,mb4.2,baz=108,slow=4.8,SNR=16						
INK	**Inuvik**	**75.36**	**22**	*eP*	**P**	**00 50 44.8**	**-1.1**
INK				*e**PP	pP	00 50 53.7	-0.9
INK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
INK	**Inuvik**	**75.36**	**22**	*eP*	**P**	**00 50 44.8**	**-1.1**
	comp=Z,5.5nm,1.0s,mb4.4						
INK				*e*pP	pP	00 50 53.7	-0.9
EIL	**Elat**	**77.17**	**297**	*eP*	**P**	**00 50 58.6**	**+2.4**
CFR	**Carcaliu**	**77.62**	**314**⇓	*iP*	**P**	**00 51 01.5**	**+2.8**
CFR	**Carcaliu**	**77.62**	**314**⇓	P	**P**	**00 51 01.6**	**+2.9**
SUW	**Suwalki**	**77.81**	**323**	*eP*	**P**	**00 50 59.0**	**-0.7**
VRI	**Vrincioaia**	**78.34**	**315**⇓	*iP*	**P**	**00 51 03.2**	**+0.5**
VRI	**Vrincioaia**	**78.34**	**315**⇓	P	**P**	**00 51 03.2**	**+0.5**
BURAR	**Bucovina Array**	**78.75**	**317**⇓	*iP*	**P**	**00 51 08.0**	**+3.1**
BURAR	**Bucovina Array**	**78.75**	**317**⇓	P	**P**	**00 51 08.0**	**+3.0**
MLR	**Muntele Rosu**	**78.99**	**315**	P	**P**	**00 51 06.0**	**-0.2**
	comp=Z,4.9nm,0.9s,mb4.4,baz=204,slow=2.1,SNR=5.0						
MLR	**Muntele Rosu**	**78.99**	**315**⇓	*iP*	**P**	**00 51 06.5**	**+0.3**
MLR	**Muntele Rosu**	**78.99**	**315**⇓	P	**P**	**00 51 06.5**	**+0.3**
DAG	**Danmarks Havn**	**79.05**	**351**⇓	*iP*	**P**	**00 51 04.3**	**-2.3**
	comp=Z,9.6nm,1.3s,mb4.6						
DAG	**Danmarks Havn**	**79.05**	**351**⇓	*eP*	**P**	**00 51 04.3**	**-2.3**
DAG				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
DAG	**Danmarks Havn**	**79.05**	**351**⇓	*eP*	**P**	**00 51 04.3**	**-2.3**
	comp=Z,9.6nm,1.3s,mb4.6						
KWP	**Kalwaria**	**79.62**	**319**	*eP*	**P**	**00 51 09.7**	**0.0**
DLBC	**Dease Lake**	**80.81**	**30**	*eP*	**P**	**00 51 17.2**	**+1.1**
NB2	**NORSAR Subarra**	**80.87**	**333**	P	**P**	**00 51 14.6**	**-1.8**
	comp=Z,3.8nm,0.9s,mb4.3,baz=61,slow=5.6						
NB2	**NORSAR Subarra**	**80.87**	**333**	P	**P**	**00 51 14.6**	**-1.8**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**80.87**	**333**	P	**P**	**00 51 15.0**	**-1.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=62,slow=5.2,SNR=6.4						
NOA				LR	LR	01 31 19.3	
	comp=Z,315nm,18.3s,MS4.7,baz=65,slow=39						
OJC	**Ojcow**	**81.14**	**321**	*eP*	**P**	**00 51 18.7**	**+0.8**
BZS	**Buzias**	**81.78**	**316**⇑	*iP*	**P**	**00 51 23.4**	**+2.1**
BZS	**Buzias**	**81.78**	**316**⇑	P	**P**	**00 51 23.4**	**+2.1**
VTS	**Vitosha**	**81.85**	**312**⇑	*iP*	**P**	**00 51 22.5**	**+0.9**
VTS	**Vitosha**	**81.85**	**312**⇑	P	**P**	**00 51 22.5**	**+0.8**
KSP	**Ksiaz**	**82.92**	**322**	*eP*	**P**	**00 51 28.4**	**+1.2**
KSP	**Ksiaz**	**82.92**	**322**	*eP*	**P**	**00 51 26.8**	**-0.4**
UPC	**Upice**	**83.23**	**322**	*eP*	**P**	**00 51 25.0**	**-3.8**
VRAC	**Vranov**	**83.41**	**321**	P	**P**	**00 51 29.8**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.3,baz=65,slow=4.8,SNR=7.4						
VRAC	**Vranov**	**83.41**	**321**⇑	*iP*	**P**	**00 51 30.4**	**+0.7**
PKSM	**Moragy**	**83.46**	**317**⇑	*iP*	**P**	**00 51 30.2**	**+0.2**
PKSM	**Moragy**	**83.46**	**317**⇑	P	**P**	**00 51 30.2**	**+0.2**
PVCC	**Panska Ves**	**84.05**	**322**	*eP*	**P**	**00 51 33.5**	**+0.5**
TREC	**Trest**	**84.07**	**321**	*eP*	**P**	**00 51 33.0**	**-0.1**
BRG	**Berggiesshubel**	**84.25**	**323**	*eP*	**P**	**00 51 38.5**	**+4.5**
	comp=Z,1.3nm,0.8s,mb4.1						
BRG				*e*	pP	00 51 44.9	+2.2
	comp=Z,1.4nm,1.0s						
BRG							
	comp=N,163nm,15.4s						
BRG							
	comp=E,106nm,15.9s						
BRG							
	comp=Z,186nm,13.9s						
BRG	**Berggiesshubel**	**84.25**	**323**	*eP*	**P**	**00 51 38.5**	**+4.5**
BRG				*e*	pP	00 51 44.9	+2.1
BRG				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb4.0						
BRG				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.9						
BRG				MLR	MLR		
	comp=N,163nm,15.4s,MS4.6						
BRG				MLR	MLR		
	comp=E,106nm,15.9s,MS4.6						
BRG				MLR	MLR		
	comp=Z,186nm,13.9s,MS4.6						
PRU	**Pruhonice**	**84.31**	**322**	*eP*	**P**	**00 51 33.9**	**-0.4**
PRU				*e*pP	pP	00 51 42.1	-1.0
PRU				AMS	AMS	01 34 30.0	
	comp=Z,200nm,15.8s						
PRU	**Pruhonice**	**84.31**	**322**	*eP*	**P**	**00 51 33.9**	**-0.4**
PRU				*e*	pP	00 51 42.1	-1.0
CLL	**Collm**	**84.57**	**323**	*eP*	**P**	**00 51 36.0**	**+0.4**
CLL				*i* pP	pP	00 51 43.4	-1.0
	comp=Z,10.0nm,1.0s						
CLL				*e*PP	PP	00 54 50.0	-1.3
CLL				*i* sPP		00 54 59.4	
CLL	**Collm**	**84.57**	**323**	*eP*	**P**	**00 51 36.0**	**+0.4**
CLL				*i* pP	pP	00 51 43.4	-1.0
YKA	**Yellowknife Ar**	**85.08**	**23**	P	**P**	**00 51 39.1**	**+0.9**
	comp=Z,1.0nm,0.7s,mb4.0,baz=314,slow=5.0,SNR=5.2						
YKA				LR	LR	01 33 50.1	
	comp=Z,77nm,20.9s,MS4.1,baz=340,slow=39						
SUMG	**Summit**	**85.16**	**354**	*eP*	**P**	**00 51 38.5**	**-0.1**
	comp=Z,5.7nm,0.8s,mb4.8						
KHC	**Kasperske Hory**	**85.26**	**321**	*eP*	**P**	**00 51 38.6**	**-0.5**
KHC				pP	pP	00 51 45.5	-2.4
KHC				AMS	AMS	01 35 00.0	
	comp=Z,300nm,14.3s						
KHC	**Kasperske Hory**	**85.26**	**321**	*eP*	**P**	**00 51 38.6**	**-0.5**
KHC				*e*	pP	00 51 45.5	-2.4
GERES	**GERESS Array B**	**85.32**	**321**	P	**P**	**00 51 39.2**	**-0.2**
	comp=Z,1.2nm,0.8s,mb4.1,baz=57,slow=4.9,SNR=11						
GERES				LR	LR	01 33 09.9	
	comp=Z,208nm,20.0s,MS4.5,baz=63,slow=38						
NKC	**Novy Kostel**	**85.39**	**323**	*eP*	**P**	**00 51 39.3**	**-0.5**
KMBO	**Kilima Mbogo**	**85.50**	**267**	P	**P**	**00 51 41.3**	**+1.0**
	comp=Z,4.2nm,0.9s,mb4.7,baz=49,slow=9.9,SNR=7.4						
CDF	**Champ du Feu**	**89.23**	**323**	*eP*	**P**	**00 51 56.9**	**-1.4**
	comp=Z,9.3nm,1.0s,mb4.8						
CDF	**Champ du Feu**	**89.23**	**323**	*eP*	**P**	**00 51 56.9**	**-1.4**
CDF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.8						
CDF	**Champ du Feu**	**89.23**	**323**	*eP*	**P**	**00 51 56.9**	**-1.4**
	comp=Z,4.7nm,1.0s,mb4.8						
HINF	**Hinteralfeld**	**89.79**	**322**	*eP*	**P**	**00 51 59.0**	**-1.9**
HAU	**Haudompre**	**89.97**	**323**	*eP*	**P**	**00 52 00.0**	**-1.8**
HAU				*e*R			
	comp=Z,239nm,20.8s						
HAU	**Haudompre**	**89.97**	**323**	*eP*	**P**	**00 52 00.0**	**-1.8**
HAU				LR	LR		
	comp=Z,240nm,20.8s,MS4.6						
EKA	**Eskdalemuir Ar**	**90.35**	**332**	P	**P**	**00 52 05.0**	**+1.5**
	comp=Z,1.3nm,1.0s,mb4.2,baz=63,slow=6.1,SNR=4.8						
LPG	**La Plagne**	**91.10**	**320**	*eP*	**P**	**00 52 05.4**	**-1

PIP	**Pasuquin**	**1.50 77**	⇓*iP*	Pn	00 51 00.6	+1.3
BOLP	**Bolinao**	**1.79 153**	*e*P	Pn	00 51 03.3	+0.7
APYP	**Conner**	**2.07 93**	*e*P	Pn	00 51 05.0	-1.0
CAUP	**Cauayan**	**2.82 111**	*e*P	Pn	00 51 17.1	+1.5
BALP	**Baler**	**3.28 133**	*e*P	Pn	00 51 22.9	+1.4

*NEIC **05** 00:52:08.5, 3140S×68.12W, h140km, MG4.0(GUC), After GUC.*

GUC 05 00:52:08.5±0.7, 3140S×6812W, h140km±43km, MD3.8, ML4.0, 2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**2.46**	**238**	*e*P	Pn	00 52 49.7	+1.0
JACH				*i* S	Sn	00 53 20.2	+0.6
CMCH	**Combarbala**	**2.48**	**274**	⇓*iP*	Pn	00 52 49.7	+0.8
CMCH				*i* S	Sn	00 53 20.9	+0.9
CMCH				AML	AML	00 53 23.7	
	comp=N,956nm,0.7s						
CMCH	**Combarbala**	**2.48**	**274**	⇓*iP*	Pn	00 52 49.7	+0.8
CMCH				*i* S	Sn	00 53 20.9	+0.9
TLL	**Tololo Astrono**	**2.62**	**297**	*e*P	Pn	00 52 52.7	+2.1
TLL				*i* S	Sn	00 53 24.7	+1.7
TLL				AML	AML	00 53 31.0	
	comp=N,254nm,0.8s						
TLL	**Tololo Astrono**	**2.62**	**297**	P	Pn	00 52 52.7	+2.1
TLL				*i* S	Sn	00 53 24.7	+1.7
FCH	**Farellones**	**2.67**	**223**	*e*P	Pn	00 52 52.5	+1.3
FCH				*i* S	Sn	00 53 25.8	+1.8
ROCH	**El Roble**	**2.92**	**237**	*i* P	Pn	00 52 55.2	+0.8
ROCH				*i* S	Sn	00 53 29.4	-0.3
PCH	**Pirque**	**3.01**	**222**	*e*P	Pn	00 52 56.6	+1.1
LCO	**Las Campanas**	**3.26**	**316**	*e*P	Pn	00 53 00.2	+1.4
LCO				*i* S	Sn	00 53 38.9	+1.2
TACH	**Talagante**	**3.28**	**226**	*i* P	Pn	00 52 59.3	+0.2
CHCH	**Chadas Angostu**	**3.31**	**220**	*i* P	Pn	00 53 00.5	+1.0
CACH	**El Canelo**	**3.43**	**217**	*e*P	Pn	00 53 01.9	+0.9

CASC 05 00:55:58.4±2.0, 1247N×8819W, h36km±999km, MD3.7, ML3.2, 7C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.88**	**23**	⇓*e*P	x	00 56 20.2	
CNCH				*e*S	x	00 56 32.4	
VSM	**San Miguel**	**0.96**	**355**	⇓*e*P	x	00 56 21.9	
VSM				*e*S	x	00 56 35.4	
BLLM	**Bellamira**	**0.97**	**357**	⇓*e*P	x	00 56 21.4	
BLLM				*e*S	x	00 56 34.4	
CRIN	**San Cristobal**	**1.14**	**78**	⇑*e*P	Pn	00 56 18.7	+0.8
CRIN				*e*S	Sn	00 56 34.6	+2.4
LEON	**Leon**	**1.27**	**92**	⇑*e*P	Pn	00 56 18.9	-0.7
LEON				*e*S	Sn	00 56 36.0	+0.5
TELN	**Telica**	**1.34**	**84**	*e*P	Pn	00 56 21.5	+0.9
TELN				*e*S	Sn	00 56 37.9	+0.8
LCBS	**La Ceiba**	**1.41**	**327**	⇓*e*P	x	00 56 27.6	
LCBS				*e*S	x	00 56 46.0	
LFRS	**El Faro**	**1.43**	**324**	⇓*e*P	x	00 56 27.7	
LFRS				*e*S	x	00 56 45.7	
MIRN	**Miramar**	**1.45**	**91**	⇑*e*P	Pn	00 56 21.9	-0.2
MIRN				*e*S	Sn	00 56 40.0	+0.2
CNGN	**Cerro Negro**	**1.46**	**88**	*e*P	Pn	00 56 22.3	+0.1
CNGN				*e*S	Sn	00 56 41.5	+1.4
LBRS	**Las Brisas**	**1.51**	**327**	⇑*e*P	x	00 56 29.7	
LBRS				*e*S	x	00 56 48.1	
LFU	**La Fuente**	**1.56**	**325**	⇑*e*P	x	00 56 29.9	
LFU				*e*S	x	00 56 48.7	
COPN	**Copaltepe**	**1.59**	**100**	⇓*e*P	Pn	00 56 23.7	-0.3
COPN				*e*S	Sn	00 56 44.5	+1.2
MOMJ	**Momotombo**	**1.62**	**92**	⇓*e*P	Pn	00 56 23.9	-0.4
MOMJ				*e*S	Sn	00 56 45.7	+1.7
BOQS	**Boqueron**	**1.65**	**320**	⇑*e*P	x	00 56 31.5	
BOQS				*e*S	x	00 56 53.0	
APYN	**Apoyeque**	**1.82**	**97**	⇑*e*P	Pn	00 56 26.9	-0.2
APYN				*e*S	Sn	00 56 48.8	-0.1
XAVN	**Gruta Xavier**	**1.85**	**100**	*e*P	Pn	00 56 28.3	+0.7
XAVN				*e*S	Sn	00 56 50.8	+1.0
MGAN	**Managua**	**1.93**	**99**	*e*P	Pn	00 56 28.3	-0.4
MGAN				*e*S	Sn	00 56 51.5	-0.1
MGAN				*i*		00 56 53.8	
	comp=N,213nm,0.3s						
SBLS	**San Blas**	**1.95**	**315**	*e*P	x	00 56 35.9	
SBLS				*e*S	x	00 57 00.8	
SNJE	**San Jose**	**1.96**	**316**	*e*P	x	00 56 35.8	
SNJE				*e*S	x	00 57 01.3	
TICN	**Ticuantepe**	**1.96**	**102**	*e*P	Pn	00 56 29.4	+0.2
TICN				*e*S	Sn	00 56 53.6	+1.0

MEX 05 01:10:46.8±0.4, 1673N×9981W, h10km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.18**	**323**	*i* P	Pg	01 10 50.0	-0.6
ACX				*i* S	Sg	01 10 53.0	-0.1
CAIG	**El Cayaco**	**0.55**	**306**	*i* P	Pg	01 10 56.8	-0.6
CAIG				*i* S	Sg	01 11 04.0	-0.6
MEIG	**Mezcala**	**1.21**	**8**	*i* P	Pb	01 11 06.1	-3.6
MEIG				*i* S	Sb	01 11 21.1	-4.3

NNC 05 02:27:23.4±2.3, 3709N×7114E, h208km±44km, mb2.2, mpv3.2, 5C, Error ellipse: s-maj=36.8km s-min=17.3km az=51.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.03**	**356**	P	Pn	02 28 51.0	-0.1
	1.4nm,0.3s,baz=184,slow=12,SNR=94						
KK31				⇑S	Sn	02 30 01.2	+0.6
	2.0nm,0.3s,baz=185,slow=24,SNR=8.8						
TKM2	**Tokmak 2**	**6.75**	**29**	⇑P	Pn	02 29 01.2	+0.7
	0.4nm,0.5s						
TKM2				⇑S	Sn	02 30 15.3	-2.3
	0.3nm,0.7s						
AB31	**Akbulak array**	**14.63**	**330**	⇑P	Pn	02 30 40.6	-0.1
	0.4nm,0.5s						
AB31				⇑S	S	02 33 23.4	+0.3
	0.5nm,0.7s						

*ISCJB **05** 02:36:01.4±0.6, 1949N±006×10874W±006, h10km, mb4.0/19, MS3.9/13, Error ellipse: s-maj=10.2km s-min=5.0km az=84.0*

*IDC **05** 02:36:02.2±1.7, 1956N×10872W, h0km, mb3.9/8, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, ML3.9/2, MS3.9/15, Ms1 3.9/15, ms1mx3.7/26, Error ellipse: s-maj=66.5km s-min=17.6km az=65.0*

*HRVD **05** 02:36:03.3±0.8, 1952N×10888W, h20km±2km, MW4.8/54, Centroid moment Tensor Solution. LP body waves: s5,c7;Mantle waves: s54,c69; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.40±.14; $M_{\theta\theta}$-1.40±.10; $M_{\phi\phi}$1.80±.14; $M_{r\theta}$0.07±.20; $M_{\theta\phi}$-0.76±.09; $M_{\phi r}$0.72±.26; Best double couple: $M_0$1.88600×10^{16} NP1:ϕ_b301.00000°, δ71.00000°, λ177.00000°. NP2:ϕ_b32.00000°, δ87.00000°, λ19.00000°. Principal axes: T 2.1580, Plg15.0000°, Azm258.0000°; N -0.5390, Plg71.0000°, Azm39.0000°; P -1.6140, Plg12.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 02:36:03.3±0.7, 1951N×10876W, h10km, mb4.1/25 Error ellipse: s-maj=12.3km s-min=6.0km az=49.0*

ISC 05 02:36:03.7±0.5, 1954N±005×10872W±005, h10km, n103, σ1°24/93, mb4.0/18, MS3.9/13, 12C-24D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**4.78**	**342**	Pn	**Pn**	**02 37 14.0**	**-1.7**
	6.2nm,0.3s,baz=180,slow=9.1,SNR=5.5						
LPIG				LR	LR	02 38 43.7	
	comp=Z,1μm,19.1s,baz=181,slow=34						
SFJM	**Santa Fe**	**5.42**	**79**	*e*P	**Pn**	**02 37 25.0**	**+0.5**
PPM	**Popocatepetl**	**9.54**	**91**	*i* P	**Pn**	**02 38 24.1**	**+3.0**
MNTX	**Cornudas Mount**	**12.48**	**13**	*e*Pn	**Pn**	**02 39 03.1**	**+1.9**
	5.4nm,1.2s						
MNTX				*e*Sn	**Sn**	**02 41 07.7**	**-13**
TUC	**Tucson**	**12.86**	**352**	*e*Pn	**Pn**	**02 39 07.6**	**+1.1**
	33nm,1.8s						
116A	**Eloy**	**13.24**	**349**	⇑P	**Pn**	**02 39 13.6**	**+1.9**
	baz=13,SNR=5.8						
CMIG	**Matias Romero**	**13.36**	**98**	Pn	**Pn**	**02 39 14.7**	**+1.4**
	0.5nm,0.3s,baz=278,slow=12,SNR=7.5						
CMIG				LR	LR	02 44 02.2	
	comp=Z,438nm,21.5s,baz=271,slow=36						
115A	**Sonoran Desert**	**13.48**	**347**	⇓P	**Pn**	**02 39 17.2**	**+2.2**
	baz=14						
JCT	**Junction City**	**13.55**	**35**	*e*Pn	**Pn**	**02 39 17.9**	**+1.9**
	10nm,0.9s						
Z14A	**Wintersburg**	**14.28**	**345**	⇓P	**Pn**	**02 39 29.0**	**+3.1**
	baz=14						
GLA	**Glamis**	**14.53**	**339**	⇓P	**Pn**	**02 39 30.6**	**+1.4**
	baz=15						
Y14A	**Wickenburg**	**14.84**	**346**	⇓P	**Pn**	**02 39 34.6**	**+1.1**
	baz=15,SNR=6.5						
LAZ	**Ladron**	**14.87**	**5**	*e*Pn	**Pn**	**02 39 36.6**	**+2.6**
Y13A	**Salome**	**14.93**	**343**	⇑P	**Pn**	**02 39 36.1**	**+1.4**
	baz=15						
Y12C	**Blythe**	**15.07**	**341**	⇓P	**Pn**	**02 39 38.1**	**+1.4**
	baz=15						
X15A	**Humboldt**	**15.22**	**349**	⇑P	**Pn**	**02 39 38.9**	**+0.3**
	baz=15,SNR=12						
BC3	**Big Chuckw Mtn**	**15.29**	**338**	⇓P	**Pn**	**02 39 42.6**	**+3.1**
	baz=15,SNR=6.7						
X14A	**Yava**	**15.33**	**347**	⇑P	**Pn**	**02 39 41.2**	**+1.1**
	baz=15						
ANMO	**Albuquerque**	**15.48**	**7**	Pn	**Pn**	**02 39 48.0**	**+5.9**
	0.1nm,0.3s,baz=196,slow=10,SNR=9.0						
HKT	**Hockley**	**15.62**	**46**	*e*Pn	**Pn**	**02 39 43.4**	**-0.4**
	36nm,1.8s						
HKT				*e*Sn	**Sn**	**02 42 34.1**	**-2.8**
PFO	**Pinyon Flat Ob**	**15.62**	**335**	⇑P	**Pn**	**02 39 48.1**	**+4.2**
	baz=16						
X13A	**Yucca**	**15.67**	**344**	⇓P	**Pn**	**02 39 45.1**	**+0.6**
	baz=16						
W15A	**Williams**	**15.90**	**349**	⇓P	**Pn**	**02 39 48.9**	**+1.4**
	baz=16						
W14A	**Seligman**	**16.08**	**347**	⇑P	**Pn**	**02 39 49.4**	**-0.5**
	baz=16,SNR=9.0						
TUQ	**Turquoise Mtn.**	**17.07**	**340**	⇑P	**Pn**	**02 40 02.5**	**+0.1**
	baz=17						
GSC	**Goldstone**	**17.25**	**337**	⇑P	**Pn**	**02 40 05.7**	**+1.0**
	baz=17						
WMOK	**Wichita Mounta**	**17.52**	**28**	*e*Pn	**Pn**	**02 40 06.5**	**-1.5**
	6.1nm,1.0s						
WMOK				Sn	**Sn**	**02 43 05.9**	**-17**
NATX	**Nacogdoches**	**17.55**	**43**	*e*Pn	**Pn**	**02 40 07.5**	**-0.9**
	188nm,2.3s						
MVCO	**Mesa Verde**	**17.61**	**1**	*e*Pn	**Pn**	**02 40 10.4**	**+1.2**
CCUT	**Cedar City**	**18.40**	**348**	*e*P	**Pn**	**02 40 20.0**	**+1.1**
DAC	**Darwin (Calif)**	**18.41**	**337**	*e*P	**Pn**	**02 40 19.1**	**+0.1**
	4.0nm,1.1s						
PV01	**Paradox Valley**	**18.53**	**0**	*e*P	**Pn**	**02 40 21.9**	**+1.5**
TPNV	**Topopah Spring**	**18.56**	**341**	*e*P	**Pn**	**02 40 21.6**	**+0.8**
	14nm,1.3s						
ARUT	**Antelope Range**	**18.65**	**348**	*e*P	**Pn**	**02 40 22.1**	**+0.2**
PV10	**Paradox Valley**	**18.77**	**359**	*e*P	**Pn**	**02 40 22.5**	**-0.9**
MSU	**Marysvale**	**19.15**	**352**	*e*P	**Pn**	**02 40 28.4**	**+0.5**
HELL	**Mitchell Peak**	**19.32**	**334**	⇑P	**Pn**	**02 40 27.9**	**-2.2**
	baz=19						
SRU	**San Rafael**	**19.57**	**356**	*e*P	**Pn**	**02 40 31.2**	**-1.8**
	6.7nm,1.1s						
S09A	**Goldfield**	**19.58**	**340**	⇑P	**Pn**	**02 40 31.8**	**-1.3**
	baz=20,SNR=12						
SMCO	**Snowmass**	**19.63**	**4**	*e*P	**Pn**	**02 40 32.6**	**-1.1**
	17nm,1.3s						
S08C	**White Mtn Res**	**19.71**	**337**	⇑P	**Pn**	**02 40 33.0**	**-1.6**
	baz=20						
MIAR	**Mount Ida**	**20.09**	**39**	*e*P	**P**	**02 40 36.3**	**-1.1**
	4.1nm,1.1s						
ISCO	**Idaho Springs**	**20.37**	**7**	*e*P	**P**	**02 40 42.0**	**+1.6**
	7.2nm,1.1s						
R08A	**Mina**	**20.45**	**338**	⇑P	**P**	**02 40 39.9**	**-1.3**
	baz=20						
MNV	**Mina**	**20.54**	**338**	*e*P	**P**	**02 40 42.8**	**+0.6**
	12nm,1.3s						
MPU	**Maple Canyon**	**20.56**	**354**	*e*P	**P**	**02 40 43.3**	**+0.8**
	7.0nm,1.0s						
NVAR	**Mina Array Bea**	**20.59**	**338**	P	**P**	**02 40 44.1**	**+1.3**
	4.4nm,1.0s,baz=172,slow=13						
Q08A	**Gabbs**	**20.84**	**339**	⇓P	**P**	**02 40 43.3**	**-2.3**
	baz=21						
DUG	**Dugway**	**20.89**	**351**	*e*P	**P**	**02 40 46.8**	**+0.8**
	6.5nm,0.9s						
DAU	**Daniels Canyon**	**20.92**	**355**	*e*P	**P**	**02 40 46.4**	**0.0**
UALR	**University of**	**20.99**	**40**	*e*P	**P**	**02 40 47.1**	**0.0**
	10nm,0.9s						
R06C	**Coleville**	**21.09**	**336**	⇓P	**P**	**02 40 47.4**	**-0.8**
	baz=21						
O12A	**Currie**	**21.30**	**347**	⇓P	**P**	**02 40 49.7**	**-0.8**
	baz=21						
WENL	**Wente Brothers**	**21.31**	**330**	⇓P	**P**	**02 40 50.8**	**+0.2**
	baz=21						
R05C	**Kirkwood Meado**	**21.49**	**335**	⇓P	**P**	**02 40 51.2**	**-1.3**
	baz=22						
TCUT	**Toone Canyon**	**21.63**	**354**	*e*P	**P**	**02 40 51.7**	**-2.4**
O09A	**Fish Creek Ran**	**21.82**	**342**	⇓P	**P**	**02 40 56.2**	**+0.2**
	baz=22						
ELK	**Elko**	**21.86**	**347**	*e*P	**P**	**02 40 56.8**	**+0.3**
	5.2nm,1.2s,mb3.8						
WCN	**Washoe City**	**21.88**	**337**	⇓P	**P**	**02 40 55.9**	**-0.8**
	baz=22						
N12A	**Wells--Clov Va**	**21.92**	**347**	⇓P	**P**	**02 40 57.8**	**+0.7**
	baz=22						
SPUT	**South Promonto**	**21.93**	**352**	*e*P	**P**	**02 40 57.6**	**+0.3**
O07A	**Toulon**	**22.33**	**339**	⇓P	**P**	**02 41 02.5**	**+1.0**
	baz=22						
N09A	**Rock Creek Ran**	**22.54**	**342**	⇓P	**P**	**02 41 01.3**	**-2.4**
	baz=23						
ORV	**Oroville**	**22.79**	**334**	⇑P	**P**	**02 41 05.3**	**-1.1**
	baz=23						
M10A	**I.L. Ranch, Tu**	**22.90**	**345**	⇓P	**P**	**02 41 08.4**	**+0.8**
	baz=23						
N07B	**Gerlach**	**22.92**	**340**	⇓P	**P**	**02 41 06.6**	**-1.2**
	baz=23						
M09A	**Marrel Ranch,**	**23.05**	**343**	⇓P	**P**	**02 41 07.2**	**-1.9**
	baz=23						
PDAR	**Pinedale Array**	**23.17**	**358**	P	**P**	**02 41 08.8**	**-1.5**
	1.1nm,0.9s,mb3.3,baz=169,slow=11,SNR=7.1						
LRAL	**Lakeview Retre**	**23.60**	**51**	*e*P	**P**	**02 41 14.4**	**-0.4**
	2.3nm,0.6s,mb3.8						
PLAL	**Pickwick Lake**	**23.87**	**46**	*e*P	**P**	**02 41 16.7**	**-0.6**
	7.4nm,0.9s,mb4.1						
TPAW	**Teton Pass**	**23.95**	**356**	*e*P	**P**	**02 41 17.5**	**-0.6**
	13nm,1.3s,mb4.2						
LOHW	**Long Hollow**	**24.06**	**357**	*e*P	**P**	**02 41 17.2**	**-1.8**
	7.9nm,1.0s,mb4.1						
M05C	**Lookout**	**24.20**	**337**	⇓P	**P**	**02 41 19.3**	**-1.0**
	baz=24						
MOOW	**Moose Ponds**	**24.20**	**356**	*e*P	**P**	**02 41 19.9**	**-0.4**
	13nm,1.6s,mb4.1						
WVOR	**Wild Horse Val**	**24.32**	**342**	*e*P	**P**	**02 41 21.0**	**-0.4**
	5.3nm,1.0s,mb3.9						
HLID	**Hailey**	**24.43**	**350**	*e*P	**P**	**02 41 22.5**	**+0.1**
	3.4nm,0.9s,mb3.8						
N02C	**Big Bar**	**24.61**	**333**	⇓P	**P**	**02 41 21.4**	**-2.7**
	baz=25						
WVT	**Waverly**	**24.70**	**44**	*e*P	**P**	**02 41 24.4**	**-0.5**
	2.4nm,0.8s,mb3.8						
YBH	**Yreka Blue Hor**	**25.12**	**335**	LR	LR	02 51 01.8	
	comp=Z,108nm,22.0s,MS3.3,baz=158,slow=36						
CHMT	**Chamberlain Mo**	**27.56**	**353**	*e*P	**P**	**02 41 50.3**	**-0.5**
NEW	**Newport**	**29.46**	**349**	LR	LR	02 54 22.0	
	comp=Z,117nm,19.0s,MS3.5,baz=169,slow=37						
ULM	**Lac du Bonnet**	**32.30**	**15**	P	**P**	**02 42 33.0**	**+0.3**
	0.8nm,0.3s,mb4.0,baz=226,slow=4.9,SNR=4.9						
ULM				LR	LR	02 55 54.1	
	comp=Z,95nm,19.9s,MS3.5,baz=205,slow=37						
OTAV	**Otavalo**	**35.32**	**119**	*e*P	**P**	**02 42 58.6**	**-0.3**
SJG	**San Juan**	**40.24**	**85**	P	**P**	**02 43 40.9**	**+0.3**
	20nm,1.2s,mb4.7						
FCC	**Fort Churchill**	**40.60**	**12**	*e*P	**P**	**02 43 41.3**	**-2.2**
	6.0nm,0.9s,mb4.2						
TAOE	**Nuku Hiva Isla**	**41.89**	**231**	*e*LR	LR	02 55 16.6	
	702nm,26.1s						
YKA	**Yellowknife Ar**	**43.11**	**356**	LR	LR	03 02 23.3	
	comp=Z,146nm,18.2s,MS3.9,baz=140,slow=37						
SAML	**Samuel**	**53.03**	**118**	*e*P	**P**	**02 45 19.6**	**-1.2**
SAML				*e*PcP	PcP	02 46 28.9	-0.4
LPAZ	**La Paz**	**53.47**	**129**	P	**P**	**02 45 25.2**	**+1.2**
	1.6nm,0.8s,mb4.0,baz=315,slow=4.7,SNR=5.7						
LPAZ				LR	LR	03 04 42.7	
	comp=Z,63nm,21.3s,MS3.6,baz=281,slow=32						
LPAZ	**La Paz**	**53.47**	**129**	*e*P	**P**	**02 45 25.2**	**+1.2**
	2.6nm,0.9s,mb4.2						
LPAZ				*e*pP	pP	02 45 35.1	+7.9
LPAZ				*e*sP	sP	02 45 39.2	+11
LPAZ				LR	LR	03 04 42.7	
PPT	**Papeete**	**54.50**	**230**	*e*LR	LR	03 01 07.0	
	284nm,26.2s						
PPT	**Papeete**	**54.50**	**230**	LR	LR	03 02 23.4	
	comp=Z,125nm,19.6s,MS4.0,baz=77,slow=29						
TBI	**Tubuai**	**58.28**	**225**	*e*LR	LR	03 02 51.1	
	100nm,26.0s						
CFAA	**Coronel Fontan**	**63.97**	**142**	P	**P**	**02 46 38.0**	**+0.9**
	0.2nm,0.5s,mb3.4,baz=328,slow=8.9,SNR=5.1						
CPUP	**Villa Florida**	**67.57**	**131**	P	**P**	**02 47 00.5**	**+0.2**
	2.5nm,0.9s,mb4.2,baz=320,slow=5.2,SNR=3.8						
BDFB	**Brasilia**	**69.17**	**116**	P	**P**	**02 47 10.9**	**+0.5**
	2.0nm,0.7s,mb4.2,baz=308,slow=8.4,SNR=3.2						
PLCA	**Paso Flores**	**69.67**	**150**	LR	LR	03 10 19.5	
	comp=Z,166nm,20.0s,MS4.3,baz=118,slow=30						
AFI	**Afiamalu**	**70.40**	**247**	LR	LR	03 09 35.0	
	comp=Z,101nm,22.0s,MS4.0,baz=158,slow=29						
ARCES	**ARCESS Array B**	**85.42**	**15**	P	**P**	**02 48 42.4**	**+0.9**
	1.7nm,0.8s,mb4.2,baz=335,slow=5.4,SNR=4.6						
ARCES				LR	LR	03 31 00.2	
	comp=Z,34nm,20.1s,MS3.7,baz=14,slow=39						
DZM	**Mont Dzumac**	**92.61**	**248**	LR	LR	03 19 41.2	
	comp=Z,165nm,19.8s,MS4.5,baz=23,slow=28						
DAVOX	**Davos**	**93.94**	**37**	LR	LR	03 29 47.6	
	comp=Z,77nm,19.0s,MS4.2,baz=276,slow=34						
HNR	**Honiara**	**94.35**	**262**	LR	LR	03 20 41.4	
	comp=Z,108nm,21.3s,MS4.3,baz=180,slow=28						
GERES	**GERESS Array B**	**94.84**	**34**	LR	LR	03 30 42.7	
	comp=Z,58nm,19.6s,MS4.1,baz=89,slow=35						

*IDC **05** 02:54:35.6±3.6, 333S×13985E, h0km, mb3.9/3, mb1 4.3/4, mb1mx3.9/10, mbtmp4.1/4, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/15, Error ellipse: s-maj=115.0km s-min=28.2km az=92.0*

*ISCJB **05** 02:54:41.0±2.0, 34S±01.1×1393E±04, h33km, mb4.0/1, Error ellipse: s-maj=50.2km s-min=19.2km az=0.1*

*NEIC **05** 02:54:41.4±2.2, 348S×13970E, h35km, mb4.1/2, Error ellipse: s-maj=55.2km s-min=19.6km az=92.0*

ISC 05 02:54:43.4±2.0, 34S±01×1393E±03, h35km, n11, σ1°00/10, mb4.0/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.45**	**216**	*e*P	**Pn**	**02 57 25.1**	**+0.7**
	13nm,0.3s						
WRAB	**Tennant Creek**	**17.11**	**196**	*e*Pn	**Pn**	**02 58 39.2**	**-0.7**
	12nm,0.7s						
WB2	**Warramunga Arr**	**17.12**	**196**	*e*P	**Pn**	**02 58 36.7**	**-3.2**
WRA	**Warramunga Arr**	**17.13**	**196**	P	**Pn**	**02 58 39.1**	**-0.8**
	0.6nm,0.3s,baz=19,slow=12,SNR=9.7						
CTA	**Charters Tower**	**17.93**	**158**	LR	LR	03 06 03.2	
	comp=Z,84nm,20.8s,baz=234,slow=39						
FITZ	**Fitzroy Crossi**	**19.79**	**221**	*e*P	**Pn**	**02 59 12.1**	**-0.3**
	5.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.79**	**221**	P	**Pn**	**02 59 12.1**	**-0.2**
	4.1nm,0.8s,baz=47,slow=12,SNR=11						
FITZ				LR	LR	03 06 32.5	
	comp=Z,70nm,21.2s,baz=250,slow=35						
AS31	**Alice Springs**	**20.80**	**194**	*e*P	**P**	**02 59 22.9**	**+1.3**
ASAR	**Alice Springs**	**20.80**	**194**	P	**P**	**02 59 21.4**	**-0.2**
	7.1nm,0.8s,baz=26,slow=9.7,SNR=55						
ASPA	**Alice Springs**	**20.80**	**194**	*e*P	**P**	**02 59 22.9**	**+1.3**
MKAR	**Makanchi Array**	**70.68**	**322**	P	**P**	**03 05 55.4**	**-0.2**
	0.8nm,0.5s,mb4.0,baz=117,slow=7.6,SNR=7.2						

*CSEM **05** 03:02:00.2±0.8, 3861N×2862W, h17km±7km, ML1.8, Error ellipse: s-maj=5.1km s-min=4.0km az=59.0, After PDA*

*PDA **05** 03:02:00.2±0.8, 3861N×2862W, h17km±7km, MD2.8, ML1.8, Error ellipse: s-maj=5.1km s-min=4.0km az=59.0*

SVSA 05 03:02:00.2±0.8, 3861N×2862W, h17km±7km, MD2.8, ML1.8, Error ellipse: s-maj=5.1km s-min=4.0km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.07**	**285**	*i* P	Pg	03 02 02.8	-0.6
PCED				*i* S	Sg	03 02 05.0	-0.5
PCED							
	29nm,0.2s						
PCED	**Cedros**	**0.07**	**285**	*i* S	Sg	03 02 05.0	-0.5
CALA	**Caldeira**	**0.07**	**247**	*e*P	Pg	03 02 03.2	-0.2
CALA				*e*S	Sg	03 02 05.7	+0.1
HOR	**Horta**	**0.08**	**187**	*e*P	Pg	03 02 02.7	-0.8
HOR				*e*S	Sg	03 02 05.0	-0.7
PICO	**Pico**	**0.18**	**126**	*e*P	Pg	03 02 04.2	-0.6
PICO				*e*S	Sg	03 02 07.3	-0.6
ROSA	**Rosais**	**0.31**	**69**	*e*P	Pg	03 02 05.9	-1.0
ROSA				*e*S	Sg	03 02 09.8	-1.6
PMAN	**Manadas**	**0.41**	**87**	*e*P	Pg	03 02 07.4	-1.2
PMAN				*e*S	Sg	03 02 12.5	-1.8
PMAN							
	41nm,0.1s						
PMAN	**Manadas**	**0.41**	**87**	*e*P	Pg	03 02 07.4	-1.2
PMAN				*e*S	Sg	03 02 12.5	-1.8

*ISCJB **05** 03:14:07.7±5.8, 58S±05×1547E±0.1, h90km±39km, mb3.6/3, Error ellipse: s-maj=86.3km s-min=23.1km az=178.9*

*IDC **05** 03:14:09.9±6.8, 577S×15471E, h94km±52km, mb3.4/2, mb1 3.9/4, mb1mx3.5/13,

PHC Port Hardy 2.11 32 Pn Pn 03 35 59.3 -2.2
PHC Sn Sn 03 36 22.4 -5.4
PHC Trac 03 36 26.6
comp=Z,5.0nm,0.1s
GDR Gold River 2.24 67 Pn Pn 03 36 01.7 -1.6
GDR Sn Sn 03 36 28.5 -2.5
comp=Z,2.0nm,0.1s
GDR Trac 03 36 31.9
comp=Z,2.0nm,0.1s
OZB Mount Ozzard 2.45 88 ⇓Pn Pn 03 36 04.7 -1.4
OZB Sn Sn 03 36 32.0 -4.1
OZB Trac 03 36 33.7
comp=Z,4.0nm,0.1s
BTB Buttle Lake 2.48 76 Pn Pn 03 36 05.5 -1.0
BTB Sn Sn 03 36 33.4 -3.4
comp=Z,16nm,0.3s
BTB Trac 03 36 36.1
comp=Z,16nm,0.3s
NCRB Newcastle Ridg 2.52 53 ⇓Pn Pn 03 36 06.4 -0.7
NCRB Sn Sn 03 36 35.4 -2.5
comp=Z,1.0nm,0.1s
NCRB Trac 03 36 37.3
comp=Z,1.0nm,0.1s
CBB Campbell River 2.73 65 ⇓Pn Pn 03 36 09.4 -0.7
CBB Sn Sn 03 36 41.4 -1.8
CBB Trac 03 36 42.5
comp=Z,4.0nm,0.2s
MGB Mount Grey 2.98 87 Pn Pn 03 36 12.8 -0.6
MGB Sn Sn 03 36 46.0 -3.1
MGB Trac 03 36 47.9
comp=Z,3.0nm,0.2s
PFB Port Renfrew 3.18 95 Trac 03 36 54.6
comp=Z,1.0nm,0.3s
PFB Port Renfrew 3.18 95 Pn Pn 03 36 15.9 -0.2
PFB Sn Sn 03 36 51.1 -3.0
TXB Texada 3.21 75 Pn Pn 03 36 16.1 -0.6
TXB Trac 03 36 56.4
comp=Z,5.0nm,0.3s
BBB Bella Bella 3.32 12 Pn Pn 03 36 17.3 -0.9
BBB Sn Sn 03 36 53.0 -4.8
BBB Trac 03 36 56.9
comp=Z,5.0nm,0.1s
NLLB Nanaimo Lost L 3.44 83 Pn Pn 03 36 19.9 +0.1
NLLB Sn Sn 03 36 59.5 -1.2
NLLB Trac 03 37 01.6
comp=Z,2.0nm,0.1s
SHB Sechelt 3.56 77 Pn Pn 03 36 21.1 -0.3
SHB Sn Sn 03 37 01.1 -2.3
SHB Trac 03 37 06.7
comp=Z,5.0nm,0.2s
LZB Mount Lazard 3.58 93 Trac 03 37 03.6
LZB Mount Lazard 3.58 93 Pn Pn 03 36 21.0 -0.6
LZB Sn Sn 03 37 00.8 -3.2
BIB Bowen Island 3.90 81 Pn Pn 03 36 25.8 -0.3
BIB Sn Sn 03 37 10.5 -1.4
comp=Z,1.0nm,0.2s
BIB Trac 03 37 15.1
comp=Z,1.0nm,0.2s
WPB Watts Point 3.99 77 Pn Pn 03 36 27.2 -0.2
WPB Trac 03 37 19.6
comp=Z,2.0nm,0.4s
VDB Vedder Mountai 4.68 86 Pn Pn 03 36 37.4 +0.6
LLLB Lillooet 5.03 68 Pn Pn 03 36 42.5 +0.8
FSB Fort Saint Jam 6.32 27 Pn Pn 03 36 59.5 +0.2

NIED ***05*** *03:42:00, 2170N×12190E, h47km, Mw4.1 Best double couple: M0 1.41000×10^15 NP1:φ0 41.00000°, δ79.00000°, λ124.00000°. NP2:φ0 146.00000°, δ36.00000°, λ19.00000°.*
ISCJB ***05*** *03:42:44.2±1.0, 2159N±009×122.1E±02, h33km, Error ellipse: s-maj=31.2km s-min=5.3km az=44.0*
JMA ***05*** *03:42:45.0±0.3, 2171N×12192E, h82km, M3.5*
ISC 05 03:42:45.6±1.0, 2161N±009×1220E±02, h35km, n9, σ0°78/15, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**2.96**	**34**	P	**Pn**	**03 43 30.1**	**+0.1**
HATJ				*e*S	**Sn**	**03 44 04.6**	**+0.3**
YOJ	**Yonaguni jima**	**2.99**	**18**	P	**Pn**	**03 43 30.2**	**-0.3**
YOJ				*e*S	**Sn**	**03 44 05.0**	**-0.1**
IRIF	**Iriomote-Funau**	**3.15**	**30**	P	**Pn**	**03 43 32.7**	**0.0**
IRIF				S	**Sn**	**03 44 09.1**	**0.0**
JKRS	**Kuro-shima**	**3.21**	**35**	P	**Pn**	**03 43 34.0**	**+0.5**
JKRS				S	**Sn**	**03 44 10.7**	**+0.1**
JIJ	**Ishigaki jima**	**3.39**	**36**	P	**Pn**	**03 43 35.9**	**0.0**
JIJ				S	**Sn**	**03 44 13.9**	**-1.0**
APYP	**Conner**	**3.80**	**191**	*e*P	**Pn**	**03 43 41.2**	**-0.3**
CVP	**Callao Caves**	**3.89**	**182**	*e*P	**Pn**	**03 43 41.0**	**-1.9**
JTJ	**Tarama**	**3.92**	**39**	P	**Pn**	**03 43 43.8**	**+0.6**
JTJ				S	**Sn**	**03 44 28.0**	**0.0**
BALP	**Baler**	**5.85**	**184**	*e*P	**Pn**	**03 44 12.2**	**+2.3**

IGIL ***05*** *03:44:49.3, 3654N×967W, h0km, ML1.9*
INMG ***05*** *03:44:52.2±1.1, 3666N×959W, h16km±4km, ML1.9, Error ellipse: s-maj=5.1km s-min=2.8km az=53.0*
MDD 05 03:44:52.8±1.7, 3677N×951W, h85km±8km, mb2.6/9, Error ellipse: s-maj=12.4km s-min=7.1km az=48.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.87**	**52**	*e*P	Pn	03 45 09.6	-1.0
MORF				*e*S	Sn	03 45 23.8	-0.2
MORF				*e*S	Sn	03 45 23.8	-0.2
MORF				AML	AML	03 45 24.3
comp=N,19nm,0.2s							
MORF	**Marmelete**	**0.87**	**52**	*e*P	Pn	03 45 09.6	-1.1
MORF				*e*S	Sn	03 45 23.8	-0.2
PTEO	**Sao Teotonio**	**1.00**	**39**	*e*Pn	Pn	03 45 11.8	-0.3
PTEO				*e*Sn	Sn	03 45 26.6	+0.1
PTEO							
comp=N,7.6nm,0.1s							
EGRO	**El Granado**	**1.79**	**64**	P	Pn	03 45 22.2	+0.2
comp=N,1.1nm,0.1s,SNR=12							
EGRO				S	Sn	03 45 45.6	+1.3
comp=N,4.5nm,0.1s,SNR=13							
PBEJ	**Beja**	**1.81**	**46**	*e*Pn	Pn	03 45 22.6	+0.3
PBEJ				*e*Sn	Sn	03 45 45.9	+1.1
PBEJ							
comp=N,2.6nm,0.1s							
MOE	**Montemor**	**1.98**	**27**	*e*Pn	Pn	03 45 25.8	+1.3
MOE				*e*Sn	Sn	03 45 50.3	+1.7
PLOU	**Loures**	**2.13**	**8**	*e*Pn	Pn	03 45 26.8	+0.3
PLOU				*e*Sn	Sn	03 45 53.5	+1.2
PLOU							
comp=N,8.2nm,0.1s							
EMIN	**Mina Concepcio**	**2.47**	**65**	P	Pn	03 45 31.3	+0.2
comp=N,0.2nm,0.1s,SNR=6.9							
EMIN				S	Sn	03 46 01.2	+0.8
comp=N,0.9nm,0.1s,SNR=7.4							
EBAD	**Badajoz**	**2.80**	**44**	S	Sn	03 46 09.1	+0.7
comp=N,3.9nm,0.1s,SNR=5.1							
ESPR	**Espera**	**2.93**	**87**	P	Pn	03 45 37.4	+0.1
comp=N,0.9nm,0.1s							
ESPR				S	Sn	03 46 11.3	-0.3
comp=N,8.0nm,0.2s,SNR=5.7							
PTOM	**Tomar**	**2.97**	**17**	*e*Pn	Pn	03 45 38.7	+0.9
PTOM				*e*Sn	Sn	03 46 13.6	+1.1
PTOM							
comp=N,4.1nm,0.1s							
PCBR	**Castelo Branco**	**3.46**	**27**	*e*Pn	Pn	03 45 45.7	+1.4
PCBR				*e*Sn	Sn	03 46 25.4	+1.2
PCBR							
comp=N,1.0nm,0.2s							
MTE	**Manteigas**	**3.94**	**22**	*e*Sn	Sn	03 46 36.7	+0.8
MTE							
comp=N,2.1nm,0.4s							
MTE	**Manteigas**	**3.94**	**22**	S	Sn	03 46 36.7	+0.8
comp=N,1.1nm,0.4s							
PVIS	**Viseu**	**4.14**	**17**	*e*Pn	Pn	03 45 55.6	+2.0
PVIS				*e*Sn	Sn	03 46 41.1	+0.4
EADA	**Adamuz**	**4.17**	**69**	P	Pn	03 45 54.7	+0.7
comp=N,0.1nm,0.1s,SNR=7.9							
EADA				S	Sn	03 46 40.7	-0.7
comp=N,0.4nm,0.1s,SNR=7.9							
PVRL	**Vila Real**	**4.71**	**17**	*e*Pn	Pn	03 46 02.3	+0.9
PVRL				*e*Sn	Sn	03 46 54.4	-0.3
PVRL							
comp=N,6.7nm,0.1s							
EBAN	**Banos Encina**	**4.76**	**71**	P	Pn	03 46 03.1	+1.0
comp=N,0.3nm,0.1s,SNR=7.9							
EBAN				S	Sn	03 46 54.8	-1.2
comp=N,0.9nm,0.2s,SNR=7.9							
PCAB	**Cabril**	**5.06**	**13**	*e*Pn	Pn	03 46 07.0	+0.8
PCAB				*e*Sn	Sn	03 47 03.4	0.0
PCAB							
comp=N,2.0nm,0.1s							
ELOB	**Lobios**	**5.21**	**12**	P	Pn	03 46 08.6	+0.4
comp=N,0.1nm,0.0s,SNR=7.9							
ELOB				S	Sn	03 47 05.6	-1.4
comp=N,1.4nm,0.2s,SNR=6.7							
EQES	**Quesada**	**5.24**	**77**	P	Pn	03 46 09.3	+0.7
comp=N,0.2nm,0.1s,SNR=4.0							
EQES				S	Sn	03 47 08.1	+0.5
comp=N,0.1nm,0.1s							
ESDC	**Sonseca Array**	**5.24**	**55**	S	Sn	03 47 09.1	+1.4
comp=N,0.5nm,0.1s,baz=242,slow=23,SNR=5.0							
ECAL	**Calabor**	**5.59**	**22**	P	Pn	03 46 15.0	+1.6
comp=N,0.1nm,0.1s,SNR=7.9							
ECAL				S	Sn	03 47 18.2	+1.9
comp=N,1.0nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.18**	**4**	P	Pn	03 46 21.1	-0.3
comp=N,0.5nm,0.1s,SNR=7.9							
EMAZ				S	Sn	03 47 29.5	-1.2
comp=N,1.1nm,0.2s,SNR=7.9							

IDC 05 04:02:30.5±2.2, 429N×12650E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=166.7km s-min=27.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.29**	**163**	P	P	04 07 58.8	+0.3
2.1nm,0.9s,baz=342,slow=10,SNR=4.1							
ASAR	**Alice Springs**	**28.71**	**166**	P	P	04 08 29.7	+0.4
0.3nm,0.6s,baz=350,slow=7.6,SNR=4.4							
MKAR	**Makanchi Array**	**56.96**	**325**	P	P	04 12 17.8	+0.1
0.7nm,0.6s,baz=125,slow=7.8,SNR=4.3							

IDC ***05*** *04:23:28.7±0.7, 3791N×2873E, h0km, mb4.3/15, mb1 4.3/23, mb1mx4.2/31, mbtmp4.2/23, ML3.9/6, MS3.5/8, Ms1 3.5/8, ms1mx3.1/32, Error ellipse: s-maj=13.0km s-min=11.2km az=147.0*
MOS ***05*** *04:23:28.4±1.0, 3785N×2873E, h10km, mb4.5/30, Error ellipse: s-maj=6.8km s-min=3.4km az=125.2*
THE ***05*** *04:23:28.6, 3786N×2896E, h10km, ML4.6*
NEIC ***05*** *04:23:29.0, 3793N×2868E, h5km, mb4.4/62, ML4.5(ISK), After ISK.*
BJI ***05*** *04:23:29.0, 3790N×2870E, h5km, mB5.1, mb4.8, Ms4.2, Msz4.2*
HRVD ***05*** *04:23:29.0±0.8, 3780N×2865E, h22km±1km, MW4.8/45, Centroid moment Tensor Solution. LP body waves: s9,c10; Mantle waves: s45,c54; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.94±.21; Mθθ 1.43±.13; Mφφ 0.50±.12; Mrθ-0.66±.19; Mθφ-0.49±.08; Mφr 0.22±.23; Best double couple: M0 1.92200×10^16 NP1:φ0 295.00000°, δ34.00000°, λ-88.00000°. NP2:φ0 112.00000°, δ56.00000°, λ-92.00000°. Principal axes: T 1.7720, Plg11.0000°, Azm203.0000°; N 0.2980, Plg1.0000°, Azm113.0000°; P -2.0710, Plg79.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISK ***05*** *04:23:29.6, 3794N×2868E, h7km, MD4.2, ML4.5*
CSEM ***05*** *04:23:30.0, 3795N×2868E, h10km, mb4.5*
SZGRF ***05*** *04:23:31.6, 3803N×2930E, h33km, mb4.1, Turkey*
ISCJB ***05*** *04:23:31.3±0.3, 3790N±002×2870E±002, h27km±3km, mb4.3/56, MS3.7/10, Error ellipse: s-maj=2.6km s-min=2.2km az=23.6*
HLW ***05*** *04:23:50.1, 3650N×2864E, h24km, Mb3.8*
ISC 05 04:23:31.1±0.4, 3791N±001×2870E±002, h10km±3km, h34km±.6km: pP-P, n421, σ1°10/446, mb4.3/56, MS3.7/10, 27C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.31**	**121**	*i* PG	**Pg**	**04 23 36.7**	**-0.6**
DNZL	**Cakiroluk**	**0.35**	**129**	*i* P	**Pg**	**04 23 37.7**	**-0.4**
DNZL				*i* S	**Sg**	**04 23 45.6**	**+2.8**
AYDN	**Tasoluk**	**0.70**	**249**	*i* P	**Pg**	**04 23 43.7**	**-0.8**
AYDN				*i* S	**Sg**	**04 23 54.4**	**+0.7**
KHL	**Karahalli**	**0.77**	**57**	*i* PG	**Pg**	**04 23 44.6**	**-1.3**
KHL				*i* SG	**Sg**	**04 23 55.6**	**-0.4**
YER	**Yerkesik**	**0.84**	**203**	*i* PG	**Pg**	**04 23 46.2**	**-1.1**
MLSB	**Milas**	**0.96**	**230**	*i* PG	**Pg**	**04 23 48.4**	**-1.1**
MLSB				*i* SG	**Sg**	**04 24 02.7**	**+0.8**
DALT	**Dalyan (Mudla)**	**1.14**	**182**	*i* PN	**Pn**	**04 23 51.8**	**-1.3**
DALT				*i* SN	**Sn**	**04 24 09.3**	**+0.6**
AKS	**Akhisar**	**1.19**	**325**	*i* PN	**Pn**	**04 23 52.5**	**-1.2**
KDAG	**Bornova**	**1.23**	**294**	*i* P	**Pn**	**04 23 53.6**	**-0.7**
KDAG				*i* S	**Sb**	**04 24 11.1**	**+0.8**
IZM	**Izmir**	**1.23**	**294**	*i* PN	**Pn**	**04 23 53.3**	**-1.0**
TKTP	**Tekketepe**	**1.29**	**84**	*i* P	**Pn**	**04 23 54.5**	**-0.5**
TKTP				*i* S	**Sb**	**04 24 13.8**	**+1.8**
TKTP	**Tekketepe**	**1.29**	**84**	*i* P	**Pn**	**04 23 54.5**	**-0.6**
TKTP				*i* S	**Sb**	**04 24 13.8**	**+1.9**
BDRM	**Kayabasi**	**1.31**	**230**	*i* P	**Pn**	**04 23 54.5**	**-0.9**
BDRM				*i* S	**Sb**	**04 24 15.1**	**+2.6**
FETY	**Fethiye**	**1.31**	**166**	PN	**Pn**	**04 23 54.8**	**-0.6**
FETY				SN	**Sn**	**04 24 14.3**	**+1.4**
GDZ	**Gediz**	**1.33**	**27**	*i* P	**Pn**	**04 23 55.0**	**-0.6**
GDZ				*i* S	**Sb**	**04 24 13.4**	**+0.4**
BLCB	**Balcova**	**1.39**	**290**	PN	**Pn**	**04 23 55.6**	**-0.9**
BODT	**Bodrum**	**1.39**	**233**	PN	**Pn**	**04 23 55.7**	**-0.8**
DAT	**Datca**	**1.48**	**217**	PN	**Pn**	**04 23 57.0**	**-0.7**
ELL	**Elmali**	**1.51**	**140**	PN	**Pn**	**04 23 58.7**	**+0.6**
BCK	**Bucak**	**1.57**	**106**	PN	**Pn**	**04 23 58.5**	**-0.4**
ALT	**Altintas**	**1.59**	**44**	PN	**Pn**	**04 23 58.6**	**-0.6**
DST	**Dursunbey**	**1.69**	**358**	PN	**Pn**	**04 23 59.8**	**-0.8**
ARG	**Arkhangelos**	**1.75**	**195**	*i* P	**Pn**	**04 24 02.4**	**+0.9**
NISR	**Nisiros**	**1.80**	**224**	*e*P	**Pn**	**04 24 01.5**	**-0.7**
BALB	**Balikesir**	**1.84**	**340**	PN	**Pn**	**04 24 01.8**	**-0.9**
ANTB	**Antalya**	**1.86**	**122**	PN	**Pn**	**04 24 03.1**	**+0.2**
KSL	**Kastellorizon**	**1.90**	**158**	*e*P	**Sn**	**04 24 19.0**	**-8.3**
CHOS	**Chios island**	**2.14**	**284**	*e*Pn	**Pn**	**04 24 06.2**	**-0.5**
CHOS				*e*Sn	**Sn**	**04 24 38.0**	**+4.7**
PRK	**Paraskevi**	**2.32**	**306**	*e*P	**Pn**	**04 24 09.0**	**-0.3**
KCT	**Karacabey**	**2.37**	**354**	PN	**Pn**	**04 24 09.2**	**-0.7**
CANB	**Canakkale**	**2.46**	**329**	PN	**Pn**	**04 24 10.6**	**-0.6**
IZI	**Iznik**	**2.50**	**14**	PN	**Pn**	**04 24 11.2**	**-0.5**
BNT	**Bandirma**	**2.52**	**346**	PN	**Pn**	**04 24 11.2**	**-0.7**
EDC	**Edincik**	**2.52**	**345**	*e*PN	**Pn**	**04 24 11.2**	**-0.8**
ADVT	**Abdulvahap**	**2.65**	**17**	PN	**Pn**	**04 24 14.4**	**+0.7**
APE	**Apeiranthos**	**2.66**	**253**	PN	**Pn**	**04 24 13.5**	**-0.4**
APE	**Apeiranthos**	**2.66**	**253**	*e*Pn	**Pn**	**04 24 13.4**	**-0.5**
APE				*e*Sn	**Sn**	**04 24 48.2**	**+2.1**
APE	**Apeiranthos**	**2.66**	**253**	*e*P	**Pn**	**04 24 14.2**	**+0.3**
APE	**Apeiranthos**	**2.66**	**253**	⇑*i*P	**Pn**	**04 24 19.5**	**+5.6**
APE	**Apeiranthos**	**2.66**	**253**	*c i*P	**Pn**	**04 24 13.5**	**-0.4**
APE	**Apeiranthos**	**2.66**	**253**	⇑P	**Pn**	**04 24 19.5**	**+5.6**
EZN	**Ezine**	**2.66**	**317**	PN	**Pn**	**04 24 13.5**	**-0.5**
KIZT	**Kizilcal**	**2.68**	**68**	PN	**Pn**	**04 24 14.7**	**+0.5**
GPA	**Golpazari**	**2.69**	**27**	*e*PN	**Pn**	**04 24 14.4**	**+0.1**
YLV	**Yalova**	**2.70**	**11**	*e*PN	**Pn**	**04 24 14.4**	**-0.1**
KONT	**Konya--Tatoy**	**2.90**	**88**	PN	**Pn**	**04 24 18.0**	**+0.8**
HRT	**Hereke**	**3.00**	**14**	*e*PN	**Pn**	**04 24 19.3**	**+0.7**
SANT	**Santorini**	**3.01**	**240**	*e*Pn	**Pn**	**04 24 18.7**	**-0.1**
SANT	**Santorini**	**3.01**	**240**	*e*Pn	**Pn**	**04 24 23.9**	**+5.1**
SANT				*e*Sn	**Sg**	**04 25 07.7**	**-0.1**
THR1	**Thera Island**	**3.01**	**240**	*e*Pn	**Pn**	**04 24 19.2**	**+0.4**
RKY	**Sarkoy-Tekirda**	**3.01**	**337**	PN	**Pn**	**04 24 18.3**	**-0.5**
THR3	**Thira Island,**	**3.03**	**241**	*e*Pn	**Pn**	**04 24 18.6**	**-0.4**
MFT	**Murefte**	**3.07**	**340**	*e*PN	**Pn**	**04 24 19.0**	**-0.6**
ISK	**Istanbul-Kandi**	**3.16**	**5**	*e*PN	**Pn**	**04 24 21.5**	**+0.7**
MDU	**Mudurnu**	**3.21**	**37**	*e*PN	**Pn**	**04 24 22.5**	**+1.0**
CTT	**Catalca**	**3.24**	**356**	*e*PN	**Pn**	**04 24 21.5**	**-0.4**
KLYT	**Kilyos**	**3.35**	**4**	*e*PN	**Pn**	**04 24 23.6**	**+0.2**
ALN	**Alexandroupoli**	**3.62**	**326**	*e*Pn	**Pn**	**04 24 26.7**	**-0.5**
ALN				*e*Sn	**Sn**	**04 25 12.8**	**+2.9**
NPS	**Neapolis**	**3.63**	**224**	*e*P	**Pn**	**04 24 28.0**	**+0.8**
XRY	**Khrisi**	**3.88**	**220**	*e*P	**Pn**	**04 24 32.0**	**+1.3**
IDI	**Anoyia**	**4.03**	**231**	Pn	**Pn**	**04 24 33.2**	**+0.5**
7.3nm,0.3s,baz=60,slow=12,SNR=15							
IDI				Sn	**Sn**	**04 25 22.7**	**+2.7**
9.4nm,0.3s,baz=210,slow=23,SNR=6.1							
RDO	**Rodhopi**	**4.05**	**324**	*e*P	**Pn**	**04 24 32.7**	**-0.4**
KAMT	**Kaman**	**4.19**	**68**	*e*PN	**Pn**	**04 24 36.5**	**+1.6**
EDRB	**Edirne**	**4.21**	**340**	*e*PN	**Pn**	**04 24 35.3**	**+0.1**
BRTR	**Keskin Array B**	**4.26**	**63**	Pn	**Pn**	**04 24 36.2**	**+0.2**
1.8nm,0.3s,baz=245,slow=14,SNR=45							
BRTR				Sn	**Sn**	**04 25 26.3**	**+0.6**
2.5nm,0.3s,baz=229,slow=28,SNR=8.0							
BRTR				Lg		04 25 43.8
baz=263,slow=19,SNR=2.0							
BRTR	**Keskin Array B**	**4.26**	**63**	Pn	**Pn**	**04 24 36.2**	**+0.2**
BRTR				Sn	**Sn**	**04 25 26.3**	**+0.6**
BR131	**Keskin Array S**	**4.26**	**63**	*e*Pn	**Pn**	**04 24 36.3**	**+0.3**
BR131	**Keskin Array S**	**4.26**	**63**	*e*Pn	**Pn**	**04 24 36.3**	**+0.3**
IKL	**Isikli**	**4.32**	**111**	*e*PN	**Pn**	**04 24 38.9**	**+2.1**
OUR	**Ouranopolis**	**4.39**	**305**	*e*Pn	**Pn**	**04 24 37.6**	**-0.2**
VAM	**Vamos**	**4.40**	**237**	*e*P	**Pn**	**04 24 45.0**	**+7.2**
PAIG	**Paliouri**	**4.40**	**299**	*e*Pn	**Pn**	**04 24 37.9**	**0.0**
SAFT	**Safranbolu**	**4.53**	**42**	*e*PN	**Pn**	**04 24 40.2**	**+0.5**
KARN	**Karanos**	**4.59**	**238**	*e*Pn	**Pn**	**04 24 41.2**	**+0.8**
CANT	**Cankiri**	**4.67**	**53**	*e*PN	**Pn**	**04 24 43.2**	**+1.6**
VLI	**Veliai**	**4.74**	**257**	*e*P	**Pg**	**04 25 00.5**	**-1.5**
MERS	**Mersin**	**4.75**	**101**	*e*PN	**Pn**	**04 24 44.6**	**+1.9**
CSS	**Prodhromos**	**4.75**	**127**	*e*Pn	**Pn**	**04 24 43.5**	**+0.7**
CSS	**Prodhromos**	**4.75**	**127**	*e*Pn	**Pn**	**04 24 43.5**	**+0.8**
GVD	**Gavdhos**	**4.82**	**232**	*e*Pn	**Pn**	**04 24 46.4**	**+2.7**
JMB	**Yambol**	**4.83**	**341**	*e*Pn	**Pn**	**04 24 43.5**	**-0.3**
SOH	**Sokhos**	**5.06**	**307**	*e*Pn	**Pn**	**04 24 47.2**	**+0.3**
NVR	**Nevrokopi**	**5.07**	**314**	*e*P	**Pn**	**04 24 47.2**	**+0.1**
SRS	**Serrai**	**5.08**	**311**	*e*Pn	**Pn**	**04 24 47.0**	**-0.3**
KARA	**Karaisali**	**5.09**	**95**	*e*PN	**Pn**	**04 24 48.5**	**+1.2**
AGG	**Agios Georgios**	**5.12**	**284**	*e*Pn	**Pn**	**04 24 48.7**	**+0.9**
CORM	**Corum**	**5.14**	**62**	*e*PN	**Pn**	**04 24 48.5**	**+0.4**
TOS	**Tosya**	**5.17**	**51**	*e*PN	**Pn**	**04 24 49.6**	**+1.2**
KRTS	**Karatas**	**5.49**	**102**	*e*PN	**Pn**	**04 24 54.9**	**+2.0**
EVR	**Evrytania**	**5.50**	**283**	*e*P	**Pn**	**04 24 54.5**	**+1.5**
KNT	**Kendrikon**	**5.54**	**308**	*e*Pn	**Pn**	**04 24 54.2**	**+0.7**
KOZT	**Kozan**	**5.67**	**92**	*e*PN	**Pn**	**04 24 57.3**	**+2.0**
CEYT	**Ceyhan**	**5.68**	**97**	*e*PN	**Pn**	**04 24 58.1**	**+2.6**
GRG	**Griva**	**5.75**	**304**	*e*Pn	**Pn**	**04 24 57.5**	**+1.1**
VAY	**Valandovo**	**5.83**	**308**	*e*Pn	**Pn**	**04 24 57.8**	**+0.3**
VAY	**Valandovo**	**5.83**	**308**	*e*Pn	**Pn**	**04 24 57.7**	**+0.2**
FNA	**Florina**	**6.36**	**299**	*e*Pn	**Pn**	**04 25 06.1**	**+1.3**
BIA	**Bitola**	**6.50**	**301**	*e*Pn	**Pn**	**04 25 07.8**	**+1.1**
BIA	**Bitola**	**6.50**	**301**	*e*Pn	**Pn**	**04 25 07.7**	**+1.1**
TIRR	**Tirgusor**	**6.54**	**358**	⇑*i*P	**Pn**	**04 25 07.2**	**-0.1**
TIRR	**Tirgusor**	**6.54**	**358**	⇑P	**Pn**	**04 25 07.2**	**-0.1**
IGT	**Igoumenitsa**	**6.74**	**286**	*e*Pn	**Pn**	**04 25 12.8**	**+2.8**
SVSK	**Karacayir**	**6.78**	**70**	*e*PN	**Pn**	**04 25 13.2**	**+2.7**
OHR	**Ohrid**	**6.89**	**300**	*e*Pn	**Pn**	**04 25 12.7**	**+0.6**
SKO	**Skopje**	**6.89**	**308**	*e*Pn	**Pn**	**04 25 14.0**	**+1.8**
SKO	**Skopje**	**6.89**	**308**	*e*Pn	**Pn**	**04 25 13.9**	**+1.8**
SLUM		**7.02**	**205**	⇑P	**Pn**	**04 25 13.5**	**-0.3**
CFR	**Carcaliu**	**7.27**	**357**	⇑*i*P	**Pn**	**04 25 16.7**	**-0.6**
CFR	**Carcaliu**	**7.27**	**357**	⇑P	**Pn**	**04 25 16.7**	**-0.7**
MANS	**Anshas**	**7.32**	**161**	P	**Pn**	**04 25 25.3**	**+7.3**
MMAI	**Mount Meron Ar**	**7.33**	**130**	Pn	**Pn**	**04 25 16.6**	**-1.5**
26nm,0.3s,baz=320,slow=12,SNR=49							
MMAI				Sn	**Sn**	**04 26 36.8**	**-4.6**
5.2nm,0.3s,baz=309,slow=24,SNR=4.4							
MLR	**Muntele Rosu**	**7.85**	**346**	Pn	**Pn**	**04 25 25.8**	**+0.6**
2.5nm,0.3s,baz=149,slow=1.7,SNR=37							
MLR				Lg		04 27 24.9
0.4nm,0.3s,baz=95,slow=18,SNR=2.1							
MLR				LR	LR	04 28 56.1
comp=Z,477nm,19.9s,baz=56,slow=42							
MLR	**Muntele Rosu**	**7.85**	**346**	⇑*i*P	**Pn**	**04 25 26.3**	**+1.1**
MLR	**Muntele Rosu**	**7.85**	**346**	⇑P	**Pn**	**04 25 26.3**	**+1.0**
AANS		**7.92**	**163**	P	**Pn**	**04 25 25.3**	**-0.9**
VOIR		**8.00**	**341**	⇑*i*P	**Pn**	**04 25 27.8**	**+0.5**
PLOR	**Plostina**	**8.08**	**350**	⇑*i*P	**Pn**	**04 25 29.7**	**+1.3**
VRI	**Vrincioaia**	**8.08**	**350**	⇓*i*P	**Pn**	**04 25 28.9**	**+0.5**
VRI	**Vrincioaia**	**8.08**	**350**	⇓P	**Pn**	**04 25 28.9**	**+0.5**
SIM	**Simferopol'**	**8.12**	**28**	*e*P	**Pn**	**04 25 32.0**	**+3.0**
SIM				S	**Sn**	**04 26 56.0**	**-4.8**
AMAG	**Maghara**	**8.15**	**151**	⇑P	**Pn**	**04 25 29.8**	**+0.4**
KOT	**Kottamia**	**8.38**	**161**	P	**Pn**	**04 25 33.1**	**+0.6**
KOT				S	**Sn**	**04 26 46.9**	**-20**
HNAT	**Natroun**	**8.41**	**169**	P	**Pn**	**04 25 31.7**	**-1.2**
HHAG	**Hagoal**	**8.43**	**159**	P	**Pn**	**04 25 33.5**	**+0.4**
FYM	**Al Fayyum**	**8.43**	**166**	P	**Pn**	**04 25 31.8**	**-1.4**
SUZ		**8.75**	**156**	P	**Pn**	**04 25 36.3**	**-1.3**
ASF	**Jabal al Asfar**	**8.83**	**128**	Pn	**Pn**	**04 25 38.2**	**-0.5**
0.7nm,0.3s,baz=246,slow=10,0,SNR=4.9							
ASF				Sn	**Sn**	**04 27 18.2**	**0.0**
baz=123,slow=22,SNR=1.9							
SWA1		**8.98**	**197**	⇑P	**Pn**	**04 25 39.4**	**-1.3**
SWA1				S	Sn	04 26 59.2	-23
SWA2		**9.06**	**198**	⇓P	**Pn**	**04 25 40.2**	**-1.6**
SWA2		**9.06**	**198**	P	**

comp=Z,34nm,1.2s,SNR=16
WTTA Wattenberg 15.63 312⇓ *i*P Pn 04 27 17.1 +5.7
WTTA pmax pmax
comp=Z,34nm,1.2s
KHC Kasperske Hory 15.65 321 *e*P Pn 04 27 11.0 -0.6
KHC x x 04 27 24.5
KHC AMS AMS 04 33 50.0
comp=Z,800nm,11.4s
KHC Kasperske Hory 15.65 321 *e*P Pn 04 27 11.0 -0.6
KHC *e* 04 27 24.5
KHC Kasperske Hory 15.65 321 *e*P Pn 04 27 11.0 -0.6
comp=Z,800nm,11.4s
WATA Walderalm 15.70 312⇑ *i*P Pn 04 27 18.0 +5.8
comp=Z,31nm,1.3s,SNR=11
WATA Walderalm 15.70 312⇑ *i*P Pn 04 27 18.0 +5.7
WATA pmax pmax
comp=Z,31nm,1.3s
PRU Pruhonice 15.77 324 *e*P Pn 04 27 13.3 +0.2
PRU AMS AMS 04 34 00.0
comp=Z,400nm,9.5s
PRU Pruhonice 15.77 324 *e*P Pn 04 27 13.3 +0.2
comp=Z,400nm,9.5s
SQTA Sankt Quirin 15.86 311⇑ *i*P Pn 04 27 19.9 +5.5
comp=Z,20nm,1.1s,SNR=7.9
SQTA Sankt Quirin 15.86 311⇑ *i*P Pn 04 27 19.9 +5.6
SQTA pmax pmax
comp=Z,20nm,1.1s
MOTA Moosalm 15.99 312⇑ *i*P Pn 04 27 20.7 +4.8
comp=Z,31nm,1.2s,SNR=12
MOTA Moosalm 15.99 312⇑ *i*P Pn 04 27 20.7 +4.8
MOTA pmax pmax
comp=Z,31nm,1.2s
WET Wettzell 16.02 320 *e*P Pn 04 27 20.7 +4.4
comp=Z,20nm,1.1s
WET Wettzell 16.02 320 *e*P Pn 04 27 20.7 +4.4
WET pmax pmax
comp=Z,20nm,1.1s
VRHR Novokhopersk 16.05 31 *e*P Pn 04 27 20.4 +3.6
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,7.0nm,0.4s
VRHR pmax pmax
comp=E,9.0nm,0.3s
PVCC Panska Ves 16.14 326 *e*P Pn 04 27 21.6 +3.7
FUR Furstenfeldbru 16.31 314 *e*P Pn 04 27 23.7 +3.6
comp=Z,60nm,1.5s
FUR Furstenfeldbru 16.31 314 *e*P Pn 04 27 23.7 +3.6
FUR pmax pmax
comp=Z,60nm,1.5s
DAVOX Davos 16.46 309 Pn **Pn 04 27 21.8 -0.3**
comp=Z,0.1nm,0.3s,baz=122,slow=15,SNR=2.1
DAVOX LR LR 04 34 45.4
comp=Z,268nm,19.3s,baz=111,slow=41
SUW Suwalki 16.55 349 *e*P Pn 04 27 25.4 +2.3
SUW pmax pmax
comp=Z,106nm,1.0s
SUW Suwalki 16.55 349 *e*P Pn 04 27 25.4 +2.2
comp=Z,106nm,1.0s
BRG Berggiesshubel 16.66 326 *e*P Pn 04 27 27.5 +2.9
comp=Z,11nm,1.1s
BRG Berggiesshubel 16.66 326 *e*P Pn 04 27 25.2 +0.6
comp=Z,0.9nm,1.0s
BRG *e* 04 27 27.4
comp=Z,6.7nm,1.1s
BRG
comp=N,333nm,16.5s
BRG
comp=E,445nm,14.0s
BRG
comp=Z,247nm,12.6s
BRG Berggiesshubel 16.66 326 *e*P Pn 04 27 25.2 +0.6
BRG pmax pmax
comp=Z,1.0nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG MLR MLR
comp=N,333nm,16.5s
BRG MLR MLR
comp=E,445nm,14.0s
BRG MLR MLR
comp=Z,247nm,12.6s
DAVA Damuels 16.69 310⇑ *i*P Pn 04 27 28.6 +3.7
comp=Z,27nm,1.4s,SNR=8.8
NKC Novy Kostel 16.93 322 *e*P Pn 04 27 30.1 +2.2
NKC AMS AMS 04 34 40.0
comp=Z,500nm,13.0s
NKC Novy Kostel 16.93 322 *e*P Pn 04 27 30.1 +2.2
comp=Z,500nm,13.0s
TANN Tannenbergstha 17.04 322 *e*P Pn 04 27 30.6 +1.3
SBF Sospel 17.12 297 *e*P Pn 04 27 30.3 -0.1
GRA1 Grafenberg Arr 17.21 319 *e*P Pn 04 27 33.6 +2.1
comp=Z,12nm,1.5s
GRF Grafenberg Arr 17.21 319 *e*P Pn 04 27 33.6 +2.1
comp=Z,12nm,1.5s
GRF Grafenberg Arr 17.21 319 *e*P Pn 04 27 33.6 +2.1
GRF pmax pmax
comp=Z,12nm,1.5s
CLL Collm 17.39 325⇑ *i*P Pn 04 27 35.7 +1.9
comp=Z,17nm,1.3s
CLL *i* x x 04 27 38.9
CLL *i* sPP 04 27 46.9
CLL *e*SS 04 31 02.0
CLL Collm 17.39 325⇑ *i*P Pn 04 27 35.7 +1.9
CLL pmax pmax
comp=Z,17nm,1.3s
CLL MLR MLR
comp=Z,600nm,9.3s
CLL Collm 17.39 325⇑ *i*P Pn 04 27 35.7 +1.9
comp=Z,17nm,1.3s
CLL *i* 04 27 38.9
CLL *e*S **Sn 04 31 02.0 +15**
CLL Collm 17.39 325 *e*P Pn 04 27 35.5 +1.8
comp=Z,17nm,1.3s
MOX Moxa 17.60 322 *e*P Pn 04 27 38.9 +2.6
comp=Z,16nm,1.3s
MOX Moxa 17.60 322 *e*P Pn 04 27 38.4 +2.1
comp=Z,20nm,1.5s
MOX
comp=Z,300nm,15.0s
MOX Moxa 17.60 322 *e*P Pn 04 27 38.4 +2.1
MOX pmax pmax
comp=Z,20nm,1.5s
MOX MLR MLR
comp=Z,300nm,15.0s
FRF La Foret Royal 17.62 296 *e*P Pn 04 27 36.6 0.0
comp=Z,32nm,1.2s
FRF La Foret Royal 17.62 296 *e*P Pn 04 27 36.6 0.0
FRF pmax pmax
comp=Z,16nm,1.2s
FRF La Foret Royal 17.62 296 *e*P Pn 04 27 36.6 0.0
comp=Z,16nm,1.2s
LMR La Mourre 17.68 295 *e*P Pn 04 27 37.3 0.0
comp=Z,59nm,1.5s
LMR La Mourre 17.68 295 *e*P Pn 04 27 37.3 0.0
LMR pmax pmax
comp=Z,29nm,1.5s
LMR La Mourre 17.68 295 *e*P Pn 04 27 37.3 0.0
comp=Z,29nm,1.5s
MBDF Montbardon 17.79 299 *e*P Pn 04 27 38.3 -0.4
STU Stuttgart 17.81 314 *e*P Pn 04 27 40.3 +1.4
STU Stuttgart 17.81 314 *e*P Pn 04 27 39.6 +0.7
STU pmax pmax
comp=Z,15nm,1.2s
STU Stuttgart 17.81 314 *e*Pn Pn 04 27 39.6 +0.7
comp=Z,15nm,1.2s
STU Stuttgart 17.81 314 *e*P Pn 04 27 39.6 +0.7
comp=Z,15nm,1.2s
BNI Bardonecchia 17.94 300 *e*P Pn 04 27 41.9 +1.3
OBN Obninsk 18.02 15 *e*P Pn 04 27 37.5 -4.0
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,200nm,17.0s
LPG La Plagne 18.02 302 *e*P Pn 04 27 41.5 0.0
comp=Z,36nm,1.2s
LPG La Plagne 18.02 302 *e*P Pn 04 27 41.5 0.0
LPG pmax pmax
comp=Z,18nm,1.2s
LPG La Plagne 18.02 302 *e*P Pn 04 27 41.5 0.0
comp=Z,18nm,1.2s
LPL La Plagne 18.04 302 *e*P Pn 04 27 41.8 0.0
comp=Z,32nm,1.1s
LPL La Plagne 18.04 302 *e*P Pn 04 27 41.8 0.0
LPL pmax pmax
comp=Z,16nm,1.1s
LPL La Plagne 18.04 302 *e*P Pn 04 27 41.8 0.0
comp=Z,16nm,1.1s
FELD Feldberg im Sc 18.09 310 *e*P Pn 04 27 42.5 +0.1
BFO Black Forest 18.10 312 *e*P Pn 04 27 45.6 +3.1
comp=Z,18nm,1.2s
BFO Black Forest 18.10 312 *e*P Pn 04 27 45.6 +3.1
BFO pmax pmax
comp=Z,18nm,1.2s
ORIF Oris-en-Rattie 18.46 300 *e*P Pn 04 27 46.6 -0.3
comp=Z,30nm,1.2s
ORIF *e*R
comp=Z,145nm,17.5s
ORIF Oris-en-Rattie 18.46 300 *e*P Pn 04 27 46.6 -0.3
ORIF pmax pmax
comp=Z,15nm,1.2s
ORIF Oris-en-Rattie 18.46 300 *e*P Pn 04 27 46.6 -0.3
comp=Z,15nm,1.2s
SMRF Simiane la Rot 18.46 296 *e*P Pn 04 27 46.6 -0.3
LOMF Lomont 18.60 307 *e*P Pn 04 27 49.3 +0.7
LANF Langenberg 18.71 313 *e*P Pn 04 27 53.6 +3.6
ECH Echery 18.75 310 *e*P Pn 04 27 52.1 +1.7
CDF Champ du Feu 18.76 311 *e*P Pn 04 27 50.5 -0.1
comp=Z,32nm,1.2s
CDF Champ du Feu 18.76 311 *e*P Pn 04 27 50.5 -0.1
CDF pmax pmax
comp=Z,16nm,1.2s
CDF Champ du Feu 18.76 311 *e*P Pn 04 27 50.5 -0.1
comp=Z,16nm,1.2s
HINF Hinteralfeld 18.77 309 *e*P Pn 04 27 50.4 -0.3
CABF La Chapelle 18.81 305 *e*P Pn 04 27 50.7 -0.5
comp=Z,59nm,1.2s
CABF La Chapelle 18.81 305 *e*P Pn 04 27 50.7 -0.5
CABF pmax pmax
comp=Z,30nm,1.2s
CABF La Chapelle 18.81 305 *e*P Pn 04 27 50.7 -0.5
comp=Z,30nm,1.2s
MOS Moscow 18.82 16 *e*P Pn 04 27 50.6 -0.7
HAU Haudompre 19.16 309 *e*P Pn 04 27 54.8 -0.5
comp=Z,25nm,0.9s
HAU *e*R
comp=Z,252nm,17.5s
HAU Haudompre 19.16 309 *e*P Pn 04 27 54.8 -0.5
HAU pmax pmax
comp=Z,13nm,0.9s
HAU Haudompre 19.16 309 *e*P Pn 04 27 54.8 -0.5
comp=Z,13nm,0.9s
VIVF Saint-Julien-l 19.28 299 *e*P Pn 04 27 56.1 -0.7
THEF They Montfort 19.47 309 *e*P Pn 04 27 58.8 -0.3
RUP Ruppelstein 19.49 314 *e*P Pn 04 27 58.3 -1.0
LASF Ste Croix 19.70 296 *e*P Pn 04 28 01.0 -0.8
WLF Walferdange 19.99 313 P **Pn 04 28 03.3 -2.0**
comp=Z,4.1nm,1.0s
WLF Walferdange 19.99 313 *e*P Pn 04 28 03.6 -1.7
WLF pmax pmax
comp=Z,13nm,1.0s
WLF Walferdange 19.99 313 *e*P Pn 04 28 03.6 -1.7
comp=Z,13nm,1.0s
WLF Walferdange 19.99 313 *e*P Pn 04 28 04.0 -1.3
MEZF Maizieres J'vi 20.15 309 *e*P P 04 28 05.5 +0.2
comp=Z,37nm,1.1s
MEZF Maizieres J'vi 20.15 309 *e*P P 04 28 05.5 +0.2
comp=Z,18nm,1.1s
PLDF La Plantade 20.26 301 *e*P P 04 28 06.7 +0.2
BUG Bochum--Univer 20.28 319 *e*P P 04 28 07.4 +0.7
comp=Z,22nm,1.4s
SMF Signal de Mont 20.29 303 *e*P P 04 28 06.7 -0.2
comp=Z,51nm,1.3s
SMF Signal de Mont 20.29 303 *e*P P 04 28 06.7 -0.2
SMF pmax pmax
comp=Z,25nm,1.3s
SMF Signal de Mont 20.29 303 *e*P P 04 28 06.7 -0.2
comp=Z,25nm,1.3s
LBL Lubilhac 20.34 299 *e*P P 04 28 07.9 +0.5
LOR Lormes 20.47 305 *e*P P 04 28 08.9 +0.1
comp=Z,52nm,1.1s
LOR *e*R
comp=Z,291nm,18.3s
LOR Lormes 20.47 305 *e*P P 04 28 08.9 +0.1
LOR pmax pmax
comp=Z,26nm,1.1s
LOR MLR MLR
comp=Z,290nm,18.3s,MS3.7
LOR Lormes 20.47 305 *e*P P 04 28 08.9 +0.1
comp=Z,26nm,1.1s
LOR LR LR
comp=Z,290nm,18.3s,MS3.7
IBBN Ibbenburen 20.52 321 *e*P P 04 28 09.9 +0.5
AGO Saint Agoulin 20.61 301 *e*P P 04 28 10.2 -0.1
PYM Petit Puy Mans 20.62 300 *e*P P 04 28 10.9 +0.4
SSF Saint Saulge 20.63 304 *e*P P 04 28 10.7 +0.1
comp=Z,47nm,1.1s
SSF Saint Saulge 20.63 304 *e*P P 04 28 10.7 +0.1
SSF pmax pmax
comp=Z,23nm,1.1s
SSF Saint Saulge 20.63 304 *e*P P 04 28 10.7 +0.1
comp=Z,23nm,1.1s
HGN Heimansgroeve 20.64 316⇓ *e*P P 04 28 08.7 -2.0
comp=Z,17nm,1.2s
HGN *e*S **S 04 32 04.6 +3.4**
AVF Avril sur Loir 20.66 304 *e*P P 04 28 10.3 -0.5
comp=Z,62nm,1.4s
AVF Avril sur Loir 20.66 304 *e*P P 04 28 10.3 -0.5
AVF pmax pmax
comp=Z,31nm,1.4s
AVF Avril sur Loir 20.66 304 *e*P P 04 28 10.3 -0.5
comp=Z,31nm,1.4s
MTLF Montolieu 20.77 293 *e*P P 04 28 12.1 0.0
comp=Z,25nm,1.1s
MTLF Montolieu 20.77 293 *e*P P 04 28 12.1 0.0
MTLF pmax pmax
comp=Z,13nm,1.1s
MTLF Montolieu 20.77 293 *e*P P 04 28 12.1 0.0
comp=Z,13nm,1.1s
WTSB Winterswijk 20.81 319 *e*P P 04 28 12.6 +0.1
comp=Z,19nm,1.2s
BCLA Clavier 20.82 314 P **P 04 28 13.3 +0.6**
comp=Z,11nm,1.1s
BGF Bois d'Agland 20.93 303 *e*P P 04 28 13.9 +0.1
GIVF Givet 20.95 313 *e*P P 04 28 14.0 0.0
DOU Dourbes 21.08 313 P **P 04 28 15.3 -0.1**
comp=Z,3.4nm,0.9s,mb3.7
CAF Calviac 21.11 298 *e*P P 04 28 15.9 +0.2
comp=Z,27nm,1.2s,mb4.2
CAF Calviac 21.11 298 *e*P P 04 28 15.9 +0.2
CAF pmax pmax
comp=Z,14nm,1.2s,mb4.2
CAF Calviac 21.11 298 *e*P P 04 28 15.9 +0.2
comp=Z,14nm,1.2s,mb4.1
TCF Toulx Ste Croi 21.29 302 *e*P P 04 28 17.5 -0.2
comp=Z,32nm,1.3s,mb4.2
TCF Toulx Ste Croi 21.29 302 *e*P P 04 28 17.5 -0.2
TCF pmax pmax
comp=Z,16nm,1.3s,mb4.2
TCF Toulx Ste Croi 21.29 302 *e*P P 04 28 17.5 -0.2
comp=Z,16nm,1.3s,mb4.2
BAIF Baives 21.29 313 *e*P P 04 28 17.1 -0.6
comp=Z,16nm,0.9s,mb4.1
BAIF Baives 21.29 313 *e*P P 04 28 17.1 -0.6
BAIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
BAIF Baives 21.29 313 *e*P P 04 28 17.1 -0.6
comp=Z,8.1nm,0.9s,mb4.1
SNF Seneffe 21.44 314 P **P 04 28 19.3 -0.1**
SNF E 04 28 22.0
SNF Seneffe 21.44 314 P **P 04 28 19.2 -0.1**
UCC Uccle 21.53 315 P **P 04 28 20.4 +0.1**
UCC Uccle 21.53 315 P **P 04 28 20.3 0.0**
RJF Les Rejaudoux 21.56 299 *e*P P 04 28 20.2 -0.4
RJF *e*R
comp=Z,141nm,17.3s
RJF Les Rejaudoux 21.56 299 *e*P P 04 28 20.2 -0.4
RJF LR LR
comp=Z,140nm,17.3s,MS3.4
LFF La Frestale 22.04 297 *e*P P 04 28 24.7 -1.0
ERTA Horta de San J 22.08 287 P **P 04 28 27.6 +1.5**
comp=Z,11nm,1.0s,mb4.2
ERTA Horta de San J 22.08 287 P **P 04 28 27.6 +1.5**
comp=Z,11nm,1.0s,mb4.2
EGRA Graus 22.09 290 P **P 04 28 28.5 +2.1**
comp=Z,9.1nm,0.8s,mb4.3
EPF Esparros 22.12 292 *e*P P 04 28 26.0 -0.5
comp=Z,10nm,0.9s,mb3.9
EPF Esparros 22.12 292 *e*P P 04 28 26.0 -0.5
EPF pmax pmax
comp=Z,5.0nm,0.9s,mb3.9
EPF Esparros 22.12 292 *e*P P 04 28 26.0 -0.5
comp=Z,5.1nm,0.9s,mb3.9
ESAC San Caprasio 22.67 289 P **P 04 28 32.3 -0.1**
comp=Z,22nm,0.7s,mb4.7
ESAC San Caprasio 22.67 289 P **P 04 28 32.3 -0.2**
comp=Z,22nm,0.7s,mb4.7
MENF Mencas 22.70 312 *e*P P 04 28 32.5 -0.2
ETSF Etsaut 22.77 292 *e*P P 04 28 32.2 -1.3
MFF Saint Martin d 22.95 301 *e*P P 04 28 34.0 -1.4
comp=Z,75nm,1.3s,mb4.7
MFF Saint Martin d 22.95 301 *e*P P 04 28 34.0 -1.4
MFF pmax pmax
comp=Z,38nm,1.3s,mb4.7
MFF Saint Martin d 22.95 301 *e*P P 04 28 34.0 -1.4
comp=Z,38nm,1.3s,mb4.7
SJPF Ste Jean 23.27 292 *e*P P 04 28 36.8 -1.9
comp=Z,15nm,0.9s,mb4.1
SJPF Ste Jean 23.27 292 *e*P P 04 28 36.8 -1.9
SJPF pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
SJPF Ste Jean 23.27 292 *e*P P 04 28 36.8 -1.9
comp=Z,7.6nm,0.9s,mb4.1
LDF La Druitiere 23.42 306 *e*P P 04 28 38.4 -1.9
comp=Z,90nm,1.5s,mb4.7
LDF La Druitiere 23.42 306 *e*P P 04 28 38.4 -1.9
LDF pmax pmax
comp=Z,45nm,1.5s,mb4.7
LDF La Druitiere 23.42 306 *e*P P 04 28 38.4 -1.9
comp=Z,45nm,1.5s,mb4.7
FINES FINESS Array B 23.61 357 P **P 04 28 41.6 -0.7**
comp=Z,7.1nm,0.9s,mb4.1,baz=163,slow=14,SNR=15
FINES LR LR 04 38 40.3
comp=Z,84nm,20.6s,MS3.2,baz=148,slow=39
FLN La Foliniere 23.69 307 *e*P P 04 28 41.2 -1.8
comp=Z,57nm,1.4s,mb4.5
FLN *e*R
comp=Z,222nm,17.1s
FLN La Foliniere 23.69 307 *e*P P 04 28 41.2 -1.8
FLN pmax pmax
comp=Z,29nm,1.4s,mb4.5
FLN MLR MLR
comp=Z,220nm,17.1s,MS3.7
FLN La Foliniere 23.69 307 *e*P P 04 28 41.2 -1.8
comp=Z,28nm,1.4s,mb4.5
FLN LR LR
comp=Z,220nm,17.1s,MS3.7
ETOB Tobarra 23.71 281 P **P 04 28 43.5 +0.3**
comp=Z,10.0nm,1.1s,mb4.2
ETOB Tobarra 23.71 281 P **P 04 28 43.5 +0.3**
comp=Z,10.0nm,1.1s,mb4.2
GRR Gorron 23.83 306 *e*P P 04 28 42.4 -1.9
comp=Z,55nm,1.1s,mb4.6
GRR Gorron 23.83 306 *e*P P 04 28 42.4 -1.9
GRR pmax pmax
comp=Z,27nm,1.1s,mb4.6
GRR Gorron 23.83 306 *e*P P 04 28 42.4 -1.9
comp=Z,27nm,1.1s,mb4.6
HFS Hagfors 24.20 342 P **P 04 28 47.2 -0.5**
comp=Z,19nm,0.9s,mb4.5,baz=142,slow=7.4,SNR=22
HFS LR LR 04 38 23.3
comp=Z,119nm,18.9s,MS3.4,baz=152,slow=37
KAF Kangasniemi 24.27 357 *e*p P 04 28 45.0 -3.3
comp=Z,9.4nm,0.9s,mb4.2
KAF Kangasniemi 24.27 357 *e*P P 04 28 45.0 -3.3
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
AKTK Aktyubinsk 24.30 50 P **P 04 28 47.1 -1.4**
AKTK Aktyubinsk 24.30 50 P **P 04 28 47.2 -1.3**
AKTO Aktyubinsk 24.30 50 P **P 04 28 47.1 -1.4**
comp=Z,2.3nm,0.6s,mb3.8,baz=251,slow=12,SNR=10
EVIA Vianos 24.45 281 P **P 04 28 49.9 0.0**
EVIA pmax pmax
comp=Z,13nm,0.9s,mb4.4
EVIA Vianos 24.45 281 P **P 04 28 49.9 0.0**
comp=Z,12nm,0.9s,mb4.3
EVIA Vianos 24.45 281 P **P 04 28 49.9 0.0**
comp=Z,12nm,0.9s,mb4.3
SGMF Saint Gilles 24.90 305 *e*P P 04 28 52.3 -1.7
comp=Z,15nm,0.9s,mb4.2
SGMF Saint Gilles 24.90 305 *e*P P 04 28 52.3 -1.7
SGMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
SGMF Saint Gilles 24.90 305 *e*P P 04 28 52.3 -1.7
comp=Z,7.7nm,0.9s,mb4.2
EQES Quesada 25.02 280 P **P 04 28 53.3 -1.8**
comp=Z,7.0nm,0.8s,mb4.2
EQES Quesada 25.02 280 P **P 04 28 53.3 -1.9**
comp=Z,7.0nm,0.8s,mb4.2
JOF Joensuu 25.09 3 *e*p P 04 28 51.2 -4.5
comp=Z,4.4nm,0.8s,mb4.0
JOF Joensuu 25.09 3 *e*P P 04 28 51.2 -4.5
JOF pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
QUIF Quistinic 25.23 304 *e*P P 04 28 55.2 -1.8
ROSF Rostrenen 25.39 304 *e*P P 04 28 56.5 -1.9
comp=Z,13nm,0.8s,mb4.2
ROSF Rostrenen 25.39 304 *e*P P 04 28 56.5 -1.9
ROSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
ROSF Rostrenen 25.39 304 *e*P P 04 28 56.5 -1.9
comp=Z,6.4nm,0.8s,mb4.2
ESDC Sonseca Array 25.45 284 P **P 04 28 59.0 0.0**
comp=Z,3.6nm,0.6s,mb4.1,baz=74,slow=9.4,SNR=25
ESDC Sonseca Array 25.45 284 P **P 04 28 58.1 -0.8**
comp=Z,16nm,0.9s,mb4.5
ESDC Sonseca Array 25.45 284 P **P 04 28 58.1 -0.9**
comp=Z,16nm,0.9s,mb4.5
ESLA Sonseca Array 25.45 284 *e*P P 04 28 59.2 +0.2
ESLA Sonseca Array 25.45 284 *e*P P 04 28 59.2 +0.2
GUD Guadarrama 25.50 286 P **P 04 28 59.8 +0.4**
GUD pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
GUD Guadarrama 25.50 286 P **P 04 28 59.8 +0.4**
comp=Z,5.2nm,0.7s,mb4.2
EBAN Banos Encina 25.52 281 P **P 04 28 59.9 +0.3**
EBAN pmax pmax
comp=Z,13nm,0.7s,mb4.6
EBAN Banos Encina 25.52 281 P **P 04 28 59.9 +0.2**
comp=Z,13nm,0.7s,mb4.6
EBAN Banos Encina 25.52 281 P **P 04 28 59.9 +0.3**
comp=Z,13nm,0.7s,mb4.6
NAO01 NORSAR Array S 25.55 340 *e*P P 04 28 59.8 -0.1
comp=Z,13nm,0.9s,mb4.5
NAO01 NORSAR Array S 25.55 340 *e*P P 04 28 59.8 -0.1
comp=Z,13nm,0.9s,mb4.5
NB2 NORSAR Subarra 25.62 340 P **P 04 28 59.3 -1.3**
comp=Z,10nm,0.9s,mb4.4,baz=142,slow=9.3
NB2 NORSAR Subarra 25.62 340 P **P 04 28 59.3 -1.3**
NB2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
NOA NORSAR Array B 25.62 340 P **P 04 28 59.6 -0.9**
comp=Z,6.9nm,0.8s,mb4.2,baz=144,slow=8.9,SNR=21
EADA Adamuz 26.13 281 P **P 04 29 04.6 -0.7**
comp=Z,9.8nm,0.9s,mb4.3
EADA Adamuz 26.13 281 P **P 04 29 04.6 -0.6**
comp=Z,9.8nm,0.9s,mb4.3
EARI Arriondas 26.18 293 P **P 04 29 07.3 +1.7**
comp=Z,5.4nm,1.0s,mb4.0
EARI Arriondas 26.18 293 P **P 04 29 07.3 +1.6**
comp=Z,5.4nm,1.0s,mb4.0
PBRG Braganca 27.36 289 *e*P P 04 29 16.2 -0.1
comp=Z,21nm,1.4s,mb4.5
MDT Midelt 27.55 270 P **P 04 29 18.2 +0.2**
comp=Z,3.5nm,1.0s,mb4.0,baz=108,slow=8.5,SNR=5.3
EKA Eskdalemuir Ar 27.62 319 P **P 04 29 17.1 -1.5**
comp=Z,2.8nm,1.0s,mb3.8,baz=95,slow=9.3,SNR=7.7
EKA PcP PcP 04 32 34.8 -1.2
comp=Z,1.0nm,0.7s,baz=90,slow=2.8,SNR=5.9
EKA Eskdalemuir Ar 27.62 319 PcP PcP 04 32 34.8 -1.1
EMIN Mina Concepcio 27.84 281 P **P 04 29 19.9 -0.6**
comp=Z,4.9nm,0.7s,mb4.2
MTE Manteigas 28.09 287 *e*P P 04 29 22.3 -0.5
comp=Z,30nm,1.6s,mb4.7
MTE *e*S **S 04 34 09.8 +2.2**
MTE *i* LQ 04 35 34.5
MTE *i* LR LR 04 37 56.1
comp=Z,86nm,18.0s
MTE Manteigas 28.09 287 *e*P P 04 29 22.9 0.0
comp=Z,19nm,1.0s,mb4.7
PCBR Castelo Branco 28.11 285 *e*P P 04 29 22.8 -0.2
comp=Z,26nm,1.1s,mb4.8
EGRO El Granado 28.51 281 P **P 04 29 27.7 +1.1**
comp=Z,9.0nm,0.9s,mb4.5
PBEJ Beja 28.71 282 *e*P P 04 29 28.5 +0.2
comp=Z,34nm,1.5s,mb4.8
PTOM Tomar 28.86 285 *e*P P 04 29 29.8 +0.2
comp=Z,19nm,1.9s,mb4.5
ZRNK Zerenda 31.56 48 *e*P P 04 29 53.5 0.0

ZRNK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZRNK Zerenda 31.56 48 *e*P **P 04 29 53.5 0.0**
comp=Z,6.6nm,1.0s,mb4.4
ARCES ARCESS Array B 31.73 358 P **P 04 29 53.2 -1.8**
comp=Z,5.5nm,1.0s,mb4.3,baz=27,slow=16,SNR=4.7
ARCES LR LR 04 43 11.6
comp=Z,95nm,19.5s,MS3.5,baz=191,slow=37
CHKZ Chkalovo 32.65 47 *e*P **P 04 30 00.9 -2.2**
CHKZ pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
CHKZ Chkalovo 32.65 47 *e*P **P 04 30 00.9 -2.3**
comp=Z,7.7nm,1.2s,mb4.5
CHKZ Chkalovo 32.65 47 *e*P **P 04 30 00.9 -2.2**
comp=Z,7.7nm,1.2s,mb4.5
ANR Andizhan 33.63 71 *e*P **P 04 30 10.0 -1.7**
TORD Torodi Ar. Bea 34.43 231 P **P 04 30 17.8 -0.8**
comp=Z,3.4nm,0.6s,mb4.4,baz=34,slow=8.5,SNR=31
AAK Ala-Archa 34.93 68 *e*P **P 04 30 22.5 -0.4**
FRU Bishkek 34.99 67 *e*P **P 04 30 24.0 +0.6**
FRU pmax pmax
comp=Z,32nm,1.7s,mb5.0
FRU Bishkek 34.99 67 *e*P **P 04 30 24.0 +0.6**
comp=Z,32nm,1.7s,mb5.0
KURK Kurchatov 37.25 53 *e*P **P 04 30 41.6 -1.2**
KURK pmax pmax
comp=Z,13nm,1.5s,mb4.5
KURK Kurchatov 37.25 53 *e*P **P 04 30 41.6 -1.1**
comp=Z,13nm,1.5s,mb4.5
KURK Kurchatov 37.25 53 *e*P **P 04 30 41.6 -1.2**
comp=Z,13nm,1.5s,mb4.5
MKAR Makanchi Array 39.90 60 P **P 04 31 04.2 -0.8**
comp=Z,2.2nm,0.7s,mb4.0,baz=282,slow=6.1,SNR=16
ZAL Zalesovo 41.04 48 P **P 04 31 12.9 -1.5**
comp=Z,1.2nm,0.4s,mb3.9,baz=191,slow=20,SNR=2.7
DBIC Dimbokro 43.50 233 P **P 04 31 33.5 -1.1**
comp=Z,6.0nm,0.9s,mb4.3,baz=22,slow=7.7,SNR=4.1
WMQ Urumqi 44.19 63 *e*P **P 04 31 40.8 +0.7**
WMQ LR LR
comp=N,110nm,20.0s,MS4.1
WMQ LR LR
comp=E,200nm,21.0s,MS4.1
WMQ LR LR
comp=Z,100nm,20.0s,MS3.7
ZAK Zakamensk 52.80 51 *e*P **P 04 32 46.1 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
ZAK Zakamensk 52.80 51 *e*P **P 04 32 46.1 -0.3**
comp=Z,3.0nm,1.8s,mb3.9
SONM Songino Array 55.55 53 P **P 04 33 05.8 -0.6**
comp=Z,0.8nm,0.6s,mb4.0,baz=273,slow=8.6,SNR=4.3
ULN Ulaanbaatar 55.95 53 *e*P **P 04 33 07.6 -1.8**
LZH Lanzhou 58.46 67 *e*P **P 04 33 24.0 -3.1**
LZH AMB AMB
comp=Z,50nm,1.0s
LZH LR LR
comp=N,500nm,15.0s
LZH LR LR
comp=Z,380nm,20.0s,MS4.5
HHC Hu-ho-hao-te 61.76 59 *e*P **P 04 33 49.5 -0.2**
HHC AP pP 04 33 59.7 +6.6
HHC XP sP 04 34 03.6 +9.3
HHC PCP PcP 04 34 31.2 +0.3
HHC PP PP 04 36 06.7 +1.1
HHC SCP ScP 04 38 29.8 -2.8
HHC PCS PcS 04 38 33.0 -0.9
HHC S **S 04 42 04.5 -8.2**
HHC XS sS 04 42 23.4 +5.2
HHC PS 04 42 26.6
HHC SCS ScS 04 43 34.5 -7.0
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,60nm,4.5s
HHC LR LR
comp=Z,120nm,15.3s,MS4.2
KMI Kunming 62.91 78 P **P 04 33 59.4 +2.0**
KMI AP pP 04 34 08.9 +8.1
KMI XP sP 04 34 12.2 +10
KMI LR LR
comp=Z,70nm,19.6s,MS3.8
SCHQ Schefferville 62.94 320 P **P 04 33 54.9 -2.7**
comp=Z,1.9nm,0.8s,mb4.3,baz=54,slow=14,SNR=3.7
BOSA Boshof 66.25 183 P **P 04 34 18.5 -0.8**
comp=Z,5.2nm,1.1s,mb4.5,baz=28,slow=12,SNR=4.1
SNY Shenyang 69.13 53 *e*P **P 04 34 44.0 +6.6**
CN2 Changchun 69.22 50 *e*P **P 04 34 38.1 +0.1**
MDJ Mudanjiang 71.25 48 P **P 04 34 48.9 -1.5**
MDJ AMB AMB
comp=Z,50nm,4.1s
NJ2 Nanjing 71.26 64 *e*P **P 04 34 52.0 +1.5**
NJ2 AP pP 04 35 02.4 +8.5
NJ2 PCP PcP 04 35 11.0 +0.7
NJ2 S S 04 44 06.0 -1.8
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,310nm,3.9s
DAWY Dawson 77.92 355 *e*P **P 04 35 28.1 -1.1**
DAWY *e*pP pP 04 35 38.0 +5.4
DAWY Dawson 77.92 355 *e*P **P 04 35 28.1 -1.1**
DAWY *e*pP pP 04 35 38.0 +5.4
EDM Edmonton 83.46 338 *e*P **P 04 35 58.1 -0.7**
EGMT Eagleton 86.78 334 *e*P **P 04 36 13.8 -1.7**
BOZ Bozeman (W) 89.48 333 *e*P **P 04 36 25.3 -3.0**
BOZ pmax pmax
comp=Z,6.0nm,1.3s,mb4.8
BOZ Bozeman (W) 89.48 333 *e*P **P 04 36 25.3 -3.0**
comp=Z,5.7nm,1.3s,mb4.7
BOZ Bozeman (W) 89.48 333 *e*P **P 04 36 25.3 -3.0**
comp=Z,6.0nm,1.3s,mb4.8
MNV Mina 98.13 334 *e*P **P 04 37 08.6 +0.6**
MNV pmax pmax
comp=Z,1.0nm,0.5s,mb4.6
MNV Mina 98.13 334 *e*P **P 04 37 08.6 +0.6**
comp=Z,1.2nm,0.5s,mb4.7
MNV Mina 98.13 334 *e*P **P 04 37 08.6 +0.6**
comp=Z,1.0nm,0.5s,mb4.6

IDC ***05*** *04:26:35.0±0.4, 2.13N×9663E, h0km, mb4.5/22, mb1 4.6/23, mb1mx4.5/25, mbtmp4.5/23, ML3.9/1, MS3.9/6, Ms1 3.9/6, ms1mx3.4/23, Error ellipse: s-maj=18.2km s-min=12.2km az=54.0*
BJI ***05*** *04:26:36.6, 185N×9671E, h40km, mB4.9, mb5.1, Ms4.4, Msz4.1*
ISCJB ***05*** *04:26:37.8±0.2, 2.13N±004×9667E±003, h29km, mb4.8/84, MS4.1/19, Error ellipse: s-maj=5.5km s-min=4.5km az=51.9*
SZGRF ***05*** *04:26:39.0, 144N×9631E, h33km, mb4.7, Off west coast of northern Sumatera, Indonesia*
NEIC ***05*** *04:26:39.5±0.2, 2.14N×9667E, mb4.9/37, Error ellipse: s-maj=6.1km s-min=4.4km az=37.0*
MOS ***05*** *04:26:39.5±0.8, 221N×9669E, h40km, mb5.3/34, Error ellipse: s-maj=9.6km s-min=5.9km az=103.4*
ISC 05 04:26:40.1±0.2,**214**N×004×**9665E**±003,**h31**km, **h31**±1.6km:**pP-P, n185,** σ0**90**/176,**mb4.8**/84,**MS4.1**/19, **13C-4D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.34**	**55**	⇑*e*P	**Pn**	**04 27 18.2**	**+1.7**
TSI				*e*S	**Sn**	**04 27 51.9**	**+7.7**
PSI	**Prapat**	**2.36**	**74**	Pn	**Pn**	**04 27 17.2**	**+0.4**
	28nm,0.3s,baz=270,slow=8.8,SNR=121						
PSI				LR	LR	04 28 07.4	
	comp=Z,2μm,20.8s,baz=128,slow=39						
BSI	**Banda Aceh**	**3.60**	**338**	P	**Pn**	**04 27 31.8**	**-2.0**
	443nm,0.8s						
IPM	**Ipoh**	**4.95**	**62**	P	**Pn**	**04 27 53.4**	**+1.0**
KULM	**Kulim**	**5.07**	**52**	⇑*i*Pn	**Pn**	**04 27 54.5**	**+0.5**
KULM				*e*Sn	**Sn**	**04 28 53.6**	**+2.1**
SNG	**Songkhla**	**6.38**	**38**	P	**Pn**	**04 28 12.0**	**0.0**
	630nm,1.0s						
KGM	**Kluang**	**6.66**	**91**	P	**Pn**	**04 28 17.1**	**+1.2**
NNT	**Nongplab**	**10.83**	**16**	P	**Pn**	**04 29 14.0**	**+1.0**
KSM	**Kuching**	**13.66**	**93**	⇑*e*Pn	**Pn**	**04 29 53.3**	**+1.6**
PALK	**Pallekele**	**16.69**	**288**	*e*Pn	**Pn**	**04 30 33.1**	**+1.5**
	17nm,1.0s						
CHG	**Chiang Mai**	**16.73**	**8**	P	**Pn**	**04 30 31.2**	**-0.9**
	22nm,1.1s						
CHTO	**Chiang Mai**	**16.73**	**8**	*e*P	**Pn**	**04 30 31.2**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.4s						
CHTO	**Chiang Mai**	**16.73**	**8**	*e*Pn	**Pn**	**04 30 31.2**	**-0.9**
	comp=Z,8.9nm,0.4s						
CHRT	**Chiangrai**	**17.89**	**10**	⇑P	**Pn**	**04 30 46.0**	**-0.6**
	comp=Z,368nm,0.7s						
KKM	**Kota Kinabalu**	**19.89**	**78**	P	**Pn**	**04 31 09.6**	**-1.1**
KKM	**Kota Kinabalu**	**19.89**	**78**	*e*P	**Pn**	**04 31 09.3**	**-1.4**
VIS	**Vishakhapatnam**	**20.27**	**321**	*e*P	**P**	**04 31 17.9**	**+4.8**
VIS				*e*S	**S**	**04 34 47.9**	**-11**
QIZ	**Qiongzhong**	**21.18**	**37**	*e*P	**P**	**04 31 22.2**	**-0.8**
	comp=Z,20nm,0.8s,mb4.5						
PCI	**Palu**	**23.38**	**97**	P	**P**	**04 31 46.0**	**-0.3**
	comp=Z,70nm,0.9s,mb5.1						
HYB	**Hyderabad**	**23.38**	**312**	*i* P	**P**	**04 31 49.0**	**+2.6**
HYB				*e*S	**S**	**04 35 53.5**	**-3.5**
HYB	**Hyderabad**	**23.38**	**312**	*e*P	**P**	**04 31 49.0**	**+2.6**
KMI	**Kunming**	**23.60**	**14**	P	**P**	**04 31 49.2**	**+0.9**
KMI				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=N,360nm,12.7s,MS4.1						
KMI				LR	LR		
	comp=E,340nm,14.7s,MS4.1						
KMI				LR	LR		
	comp=Z,420nm,15.9s,MS4.0						
GYA	**Guiyang**	**26.03**	**21**	⇓*i*P	**P**	**04 32 09.9**	**-0.6**
GYA				AP	pP	04 32 19.8	+0.5
GYA				XP	sP	04 32 23.7	+0.6
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,240nm,17.8s,MS4.0						
GYA				LR	LR		
	comp=E,280nm,17.6s,MS4.0						
GYA				LR	LR		
	comp=Z,240nm,17.9s,MS3.8						
LSA	**Lhasa**	**27.91**	**350**	P	**P**	**04 32 28.4**	**+1.0**
LSA				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.1						
LSA	**Lhasa**	**27.91**	**350**	*e*P	**P**	**04 32 28.4**	**+1.0**
LSA				pmax	pmax		
	comp=Z,49nm,0.9s,mb5.1						
LSA	**Lhasa**	**27.91**	**350**	*e*P	**P**	**04 32 28.4**	**+1.1**
	comp=Z,49nm,0.9s,mb5.1						
CD2	**Chengdu**	**29.40**	**13**	*e*P	**P**	**04 32 41.0**	**+0.4**
CD2				AP	pP	04 32 48.2	-1.4
CD2				XP	sP	04 32 52.5	-0.8
CD2				PP	PP	04 33 37.5	-10
CD2				S	**S**	**04 37 33.0**	**+0.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,80nm,6.2s						
CD2				LR	LR		
	comp=N,180nm,14.2s						
CD2				LR	LR		
	comp=Z,160nm,12.8s,MS3.8						
MBWA	**Marble Bar**	**32.35**	**137**	*e*P	**P**	**04 33 07.1**	**+0.5**
	comp=Z,7.1nm,0.7s,mb4.6						
WHN	**Wuhan**	**32.85**	**29**	P	**P**	**04 33 11.7**	**+0.6**
WHN				S	**S**	**04 38 34.0**	**+7.5**
WHN				LR	LR		
	comp=Z,980nm,13.2s,MS4.7						
XAN	**Xi'an**	**33.75**	**19**	P	**P**	**04 33 17.3**	**-1.6**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
XAN				LR	LR		
	comp=E,350nm,15.7s						
XAN				LR	LR		
	comp=Z,410nm,16.7s,MS4.2						
FITZ	**Fitzroy Crossi**	**34.92**	**126**	⇓*i*P	**P**	**04 33 28.6**	**-0.4**
	comp=Z,22nm,0.6s,mb5.3						
NJ2	**Nanjing**	**36.37**	**33**	*e*P	**P**	**04 33 41.0**	**-0.4**
NJ2				AP	pP	04 33 50.6	+0.1
NJ2				XP	sP	04 33 55.0	+0.8
NJ2				AMB	AMB		
	comp=Z,40nm,1.4s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,500nm,4.1s						
NJ2				LR	LR		
	comp=N,1μm,21.7s						
NJ2				LR	LR		
	comp=E,690nm,11.7s						
NJ2				LR	LR		
	comp=Z,320nm,18.6s,MS4.1						
SSE	**Sheshan**	**36.98**	**36**	*e*P	**P**	**04 33 44.6**	**-2.0**
SSE				AP	pP	04 33 53.2	-2.5
SSE				XP	sP	04 33 56.6	-2.8
SSE				PP	PP	04 35 10.5	-0.6
SSE				PCP	PcP	04 36 04.6	-2.7
SSE				S	**S**	**04 39 29.3**	**-0.7**
SSE				XS	sS	04 39 44.6	-0.2
SSE				SCS	ScS	04 43 53.7	-5.6
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,60nm,3.5s						
SSE				LR	LR		
	comp=N,480nm,18.4s,MS4.4						
SSE				LR	LR		
	comp=E,290nm,18.4s,MS4.4						
SSE				LR	LR		
	comp=Z,540nm,13.8s,MS4.5						
GTA	**Gaotai**	**37.21**	**4**	⇑P	**P**	**04 33 48.4**	**-0.2**
GTA				AP	pP	04 33 59.7	+2.0
GTA				XP	sP	04 34 03.9	+2.5
GTA				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.5						
GTA				AMB	AMB		
	comp=Z,130nm,6.1s						
GTA				LR	LR		
	comp=N,120nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=E,180nm,16.0s,MS4.0						
GTA				LR	LR		
	comp=Z,130nm,15.2s,MS3.8						
KAKA	**Kakadu**	**38.47**	**113**	*e*P	**P**	**04 33 58.0**	**-1.2**
	comp=Z,34nm,0.8s,mb5.1						
BJT	**Baijiatuau**	**41.66**	**23**	*e*P	**P**	**04 34 26.4**	**+0.7**
BJT				*e**PP	pP	04 34 38.9	+4.0
BJT				pmax	pmax		
	comp=Z,39nm,1.0s						
BJT	**Baijiatuau**	**41.66**	**23**	*e*P	**P**	**04 34 26.4**	**+0.6**
	comp=Z,39nm,1.0s,mb5.0						
BJT				*e*pP	pP	04 34 38.9	+4.0
WMQ	**Urumqi**	**42.27**	**350**	P	**P**	**04 34 31.0**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,80nm,4.0s						
WMQ				LR	LR		
	comp=N,110nm,21.0s,MS4.0						
WMQ				LR	LR		
	comp=E,190nm,21.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,100nm,20.0s,MS3.7						
WRA	**Warramunga Arr**	**42.99**	**122**	P	**P**	**04 34 36.6**	**0.0**
	comp=Z,23nm,0.7s,mb5.0,baz=300,slow=9.2,SNR=64						
WRAB	**Tennant Creek**	**43.00**	**122**	*e*P	**P**	**04 34 36.4**	**-0.2**
WRAB				*e**PP	pP	04 34 44.1	-1.6
WRAB				pmax	pmax		
	comp=Z,78nm,1.3s,mb5.3						
WRAB	**Tennant Creek**	**43.00**	**122**	*e*P	**P**	**04 34 36.4**	**-0.2**
	comp=Z,78nm,1.3s,mb5.3						
WRAB				*e*pP	pP	04 34 44.0	-1.7
WB2	**Warramunga Arr**	**43.00**	**122**	⇑*i*P	**P**	**04 34 36.5**	**-0.1**
WB2				*e*	pP	04 34 43.8	-2.0
ULHL	**Ulahol**	**43.93**	**338**	P	**P**	**04 34 45.0**	**+0.9**
	SNR=20						
KZA	**Kyzart**	**44.16**	**337**	P	**P**	**04 34 47.5**	**+1.5**
	SNR=11						
FORT	**Forrest**	**44.34**	**140**	*e*P	**P**	**04 34 47.5**	**+0.1**
	comp=Z,24nm,0.7s,mb5.0						
ASPA	**Alice Springs**	**44.39**	**128**	*e*P	**P**	**04 34 48.2**	**+0.4**
ASAR	**Alice Springs**	**44.39**	**128**	P	**P**	**04 34 48.0**	**+0.2**
	comp=Z,8.4nm,0.8s,mb4.5,baz=306,slow=8.1,SNR=61						
ASAR				PcP	PcP	04 36 32.2	+0.9
	comp=Z,1.6nm,0.7s,baz=310,slow=2.7,SNR=5.6						
ASAR				ScP	ScP	04 40 23.4	+2.3
	comp=Z,0.2nm,0.3s,baz=304,slow=5.2,SNR=4.5						
ASAR	**Alice Springs**	**44.39**	**128**	P	**P**	**04 34 48.0**	**+0.2**
ASAR						04 36 32.2	
AS31	**Alice Springs**	**44.39**	**127**	*e*P	**P**	**04 34 48.2**	**+0.4**
UCH	**Uchtor**	**44.58**	**336**	P	**P**	**04 34 50.8**	**+1.5**
	SNR=33						
TKM2	**Tokmak 2**	**44.75**	**338**	P	**P**	**04 34 51.6**	**+0.9**
	SNR=27						
KBK	**Karagaybulak**	**44.77**	**337**	P	**P**	**04 34 52.3**	**+1.5**
	SNR=17						
AAK	**Ala-Archa**	**44.93**	**337**	P	**P**	**04 34 54.8**	**+2.7**
	SNR=8.1						
AAK	**Ala-Archa**	**44.93**	**337**	*e*P	**P**	**04 34 52.3**	**+0.2**
AAK				*e**PP	pP	04 35 06.8	+5.5
AAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**44.93**	**337**	*e*P	**P**	**04 34 52.3**	**+0.2**
	comp=Z,13nm,0.9s,mb4.8						
AAK				*e*pP	pP	04 35 06.8	+5.5
CHMS	**Chumysh**	**45.14**	**337**	P	**P**	**04 34 54.2**	**+0.5**
	SNR=6.3						
EKS2	**Erkin-Say**	**45.24**	**336**	P	**P**	**04 34 55.9**	**+1.4**
	SNR=21						
USP	**Ospenovka**	**45.46**	**337**	P	**P**	**04 34 57.2**	**+0.9**
	SNR=26						
MK31	**Makanchi Array**	**46.21**	**346**	P	**P**	**04 35 02.2**	**0.0**
MK31				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.3						
MKAR	**Makanchi Array**	**46.21**	**346**	P	**P**	**04 35 02.2**	**0.0**
	comp=Z,51nm,0.7s,mb5.6,baz=161,slow=7.8,SNR=281						
SONM	**Songino Array**	**46.30**	**9**	P	**P**	**04 35 02.9**	**0.0**
	comp=Z,22nm,0.7s,mb5.2,baz=188,slow=8.9,SNR=84						
ULN	**Ulaanbaatar**	**46.43**	**10**	*e*P	**P**	**04 35 04.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
ULN	**Ulaanbaatar**	**46.43**	**10**	*e*P	**P**	**04 35 04.3**	**+0.3**
	comp=Z,20nm,1.0s,mb5.0						
KK31	**Karatay Array**	**46.98**	**334**	*i* P	**P**	**04 35 08.6**	**+0.3**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
KKAR	**Karatay Array**	**46.98**	**334**	P	**P**	**04 35 08.6**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZAK	**Zakamensk**	**48.40**	**6**	⇑*e*P	**P**	**04 35 19.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.8						
MOY	**Mondy**	**49.49**	**4**	*e*P	**P**	**04 35 27.7**	**+0.1**
KURK	**Kurchatov**	**50.75**	**345**	⇑*e*P	**P**	**04 35 37.2**	**0.0**
KURK	**Kurchatov**	**50.75**	**345**	⇑*i*P	**P**	**04 35 37.1**	**-0.1**
	comp=Z,27nm,0.8s,mb5.2						
HIA	**Hailar**	**50.94**	**19**	*e*P	**P**	**04 35 38.5**	**-0.1**
HIA				pmax	pmax		
	comp=Z,27nm,1.0s						
HIA	**Hailar**	**50.94**	**19**	*e*P	**P**	**04 35 38.5**	**-0.1**
	comp=Z,27nm,1.0s,mb5.1						
MDJ	**Mudanjiang**	**51.33**	**30**	P	**P**	**04 35 41.4**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,50nm,4.2s						
MDJ	**Mudanjiang**	**51.33**	**30**	*e*P	**P**	**04 35 40.8**	**-0.7**
	comp=Z,16nm,0.8s,mb5.0						
MAT	**Matsushiro**	**51.38**	**43**	P	**P**	**04 35 41.2**	**-0.7**
MAT	**Matsushiro**	**51.38**	**43**	*e*P	**P**	**04 35 41.0**	**-0.9**
MAJO	**Matsushiro**	**51.38**	**43**	*e*P	**P**	**04 35 41.5**	**-0.4**
MJAR	**Matsushiro Arr**	**51.38**	**43**	P	**P**	**04 35 41.1**	**-0.8**
	comp=Z,7.2nm,0.8s,mb4.7,baz=216,slow=6.5,SNR=19						
MJAR				PcP	PcP	04 36 56.8	+0.5
	comp=Z,0.6nm,0.4s,baz=247,slow=1.9,SNR=4.8						
VLA	**Vladivostok**	**51.48**	**33**	*e*P	**P**	**04 35 42.5**	**-0.1**
VLA				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.3						
VLA				MLR	MLR		
	comp=Z,300nm,17.1s,MS4.4						
PMG	**Port Moresby**	**51.60**	**104**	*e*P	**P**	**04 35 43.7**	**+0.1**
PMG				*SP	sP	04 35 56.7	+0.2
PMG				pmax	pmax		
	comp=Z,44nm,0.8s						
PMG	**Port Moresby**	**51.60**	**104**	*e*P	**P**	**04 35 43.7**	**+0.2**
	comp=Z,44nm,0.8s,mb5.4						
PMG				*e*pP	pP	04 35 52.5	-0.4
PMG				sP	sP	04 35 56.7	+0.1
CIT	**Chita**	**51.69**	**13**	*e*P	**P**	**04 35 45.1**	**+0.9**
CIT				pmax	pmax		
	comp=Z,55nm,1.5s,mb5.3						
ZAL	**Zalesovo**	**52.55**	**351**	P	**P**	**04 35 50.0**	**-0.6**
	comp=Z,45nm,0.5s,mb5.6,baz=312,slow=5.9,SNR=111						
ZAL	**Zalesovo**	**52.55**	**351**	*i* P	**P**	**04 35 50.3**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,45nm,0.5s						
CTA	**Charters Tower**	**53.41**	**117**	*e*P	**P**	**04 35 52.7**	**-4.2**
	comp=Z,8.9nm,0.9s,mb4.7						
CTA	**Charters Tower**	**53.41**	**117**	*e*P	**P**	**04 35 52.7**	**-4.2**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NVS	**Novosibirsk**	**53.67**	**350**	*i* P	**P**	**04 35 56.9**	**-2.0**
NVS				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.3						
NVS				pmax	pmax		
	comp=N,20nm,0.7s						
NVS				pmax	pmax		
	comp=E,21nm,0.7s						
KRAR	**Krasnoyarsk**	**53.80**	**357**	*e*P	**P**	**04 35 59.7**	**-0.1**
KRAR				pmax	pmax		
	comp=Z,31nm,0.5s,mb5.5						
ATD	**Arta Tunnel**	**54.15**	**283**	LR	LR	04 56 00.5	
	comp=Z,57nm,18.2s,MS3.7,baz=153,slow=33						
STKA	**Stephens Creek**	**54.38**	**132**	*e*P	**P**	**04 36 02.6**	**-1.5**
	comp=Z,4.6nm,0.9s,mb4.4						
STKA				*e*	pP	04 36 11.2	-2.2
STKA	**Stephens Creek**	**54.38**	**132**	P	**P**	**04 36 02.5**	**-1.5**
	comp=Z,6.1nm,0.9s,mb4.5,baz=316,slow=8.6,SNR=13						
VOSK	**Vostochnaya**	**54.75**	**341**	P	**P**	**04 36 05.9**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
BVA0	**Borovoye Array**	**55.19**	**341**	*i* P	**P**	**04 36 09.1**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**55.26**	**341**	*e*P	**P**	**04 36 09.8**	**-0.6**
BRVK				*e**PP	pP	04 36 20.3	+0.5
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BRVK	**Borovoye**	**55.26**	**341**	*e*P	**P**	**04 36 09.8**	**-0.6**
	comp=Z,9.6nm,0.8s,mb4.9						
BRVK				*e*pP	pP	04 36 20.3	+0.5
ZRNK	**Zerenda**	**55.59**	**340**	*e*P	**P**	**04 36 11.9**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**55.59**	**340**	*e*P	**P**	**04 36 11.9**	**-0.9**
	comp=Z,14nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**55.67**	**342**	P	**P**	**04 36 12.9**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
CHKZ	**Chkalovo**	**55.67**	**342**	⇑*e*P	**P**	**04 36 12.9**	**-0.4**
	comp=Z,34nm,0.8s,mb5.4						
CHKZ				*e*PcP	PcP	04 37 12.3	-0.3
KLR	**Kul'dur**	**55.67**	**27**	*e*P	**P**	**04 36 09.8**	**-3.6**
KLR				pmax	pmax		
	comp=E,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.3						
AB31	**Akbulak array**	**56.44**	**332**	P	**P**	**04 36 18.6**	**-0.3**
AB31				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
HABR	**Khabarovsk**	**56.72**	**30**	*e*P	**P**	**04 36 20.4**	**-0.4**
HABR				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
AKTK	**Aktyubinsk**	**58.15**	**332**	P	**P**	**04 36 30.4**	**-0.6**
AKTO	**Aktyubinsk**	**58.15**	**332**	P	**P**	**04 36 30.4**	**-0.6**
	comp=Z,11nm,0.8s,mb4.9,baz=125,slow=6.5,SNR=18						
KMBO	**Kilima Mbogo**	**59.48**	**267**	LR	LR	04 58 07.9	
	comp=Z,143nm,20.0s,MS4.1,baz=92,slow=32						
KMBO	**Kilima Mbogo**	**59.48**	**267**	P	**P**	**04 36 40.4**	**+0.2**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**59.48**	**267**	P	**P**	**04 36 40.4**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.1						
YSS	**Yuzh-Sakhalins**	**59.89**	**35**	*i* P	**P**	**04 36 43.3**	**+0.3**
YSS				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.2						
GNI	**Garni**	**60.25**	**316**	*c i*P	**P**	**04 36 46.0**	**+0.6**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ZEI	**Tsey**	**61.94**	**318**	*e*P	**P

ARU Arti 62.12 337 *eP* **P 04 36 56.5 -1.6**
comp=Z,18nm,0.8s,mb5.2
KIV Kislovodsk 63.25 319 *eP* **P 04 37 05.9 +0.2**
KIV *eS* **S 04 45 35.9 +0.5**
KIV pmax pmax
comp=Z,20nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,31nm,17.0s,MS3.5
MALT Malatya 64.10 312 *eP* **P 04 37 11.3 0.0**
MALT *e*PP pP 04 37 20.0 -0.8
MALT pmax pmax
comp=Z,41nm,0.6s,mb5.6
MALT Malatya 64.10 312 *eP* **P 04 37 11.3 0.0**
comp=Z,41nm,0.6s,mb5.6
MALT *e*pP pP 04 37 20.0 -0.8
YAK Yakutsk 64.68 17 *c iP* **P 04 37 14.1 -1.0**
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=Z,49nm,1.0s,mb5.5
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK Yakutsk 64.68 17 *eP* **P 04 37 13.3 -1.8**
comp=E,70nm,0.8s,mb5.7
MMAI Mount Meron Ar 64.92 306 P **P 04 37 14.8 -1.8**
comp=E,0.7nm,0.3s,mb4.2,baz=146,slow=10,SNR=4.3
SOKR Solikamsk 65.02 339 *eP* **P 04 37 17.4 +0.1**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
SOC Sochi 65.06 318 *eP* **P 04 37 23.4 +5.8**
SOC *e*PPP 04 41 15.8
SOC *eS* S 04 46 04.4 +6.5
SOC *e* 04 47 10.3
SOC *e*SS SS 04 50 06.6 -3.6
SOC *e*SSS 04 53 08.2
SOC pmax pmax
comp=Z,19nm,0.8s,mb5.2
BR131 Keskin Array S 68.08 312 *eP* **P 04 37 35.4 -1.4**
comp=Z,2.0nm,0.9s,mb4.2
BR131 *e*pP pP 04 37 45.3 -1.2
BRTR Keskin Array B 68.08 312 P **P 04 37 35.8 -1.0**
comp=Z,1.6nm,0.8s,mb4.1,baz=120,slow=7.5,SNR=11
BRTR Keskin Array B 68.08 312 *i P* **P 04 37 36.7 -0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
CASY Casey 68.98 174 P **P 04 37 42.8 +0.3**
comp=Z,18nm,1.1s,mb4.9
CASY *e*pP pP 04 37 49.3 -2.8
MA2 Magadan 70.73 26 *eP* **P 04 37 52.6 -0.6**
MA2 pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
MA2 Magadan 70.73 26 *eP* **P 04 37 52.6 -0.7**
comp=Z,7.9nm,0.6s,mb4.8
OBN Obninsk 71.54 328⇑ *iP* **P 04 37 57.5 -0.6**
OBN *i* 04 38 18.0
OBN pmax pmax
comp=Z,23nm,1.1s,mb5.0
OBN MLR MLR
comp=Z,100nm,22.0s,MS4.0
PET Petropavlovsk 71.77 34 *eP* **P 04 37 58.7 -0.8**
PET pmax pmax
comp=Z,33nm,0.8s,mb5.3
PET MLR MLR
comp=Z,100nm,18.0s,MS4.1
TIXI Tiksi 72.37 10 *eP* **P 04 38 01.6 -1.5**
TIXI pmax pmax
comp=Z,20nm,1.3s,mb4.9
MAW Mawson 73.49 193 P **P 04 38 09.0 -0.8**
comp=Z,1.7nm,0.9s,mb4.0,baz=328,slow=9.5,SNR=2.1
LBTB Lobatse 73.81 243 P **P 04 38 13.1 +1.5**
LBTB pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
LBTB Lobatse 73.81 243 P **P 04 38 13.1 +1.5**
comp=Z,3.4nm,0.9s,mb4.3
AKASG Malin Array Be 74.19 322 P **P 04 38 13.1 -0.7**
comp=Z,3.2nm,0.7s,mb4.4,baz=95,slow=4.6,SNR=15
AKASG Malin Array Be 74.19 322 P **P 04 38 13.1 -0.7**
BOSA Boshof 74.77 240 P **P 04 38 17.5 +0.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=145,slow=12,SNR=2.4
BOSA LR LR 05 08 17.7
comp=Z,113nm,19.5s,MS4.2,baz=10.0,slow=34
MLR Muntele Rosu 75.02 317 P **P 04 38 18.9 +0.2**
comp=Z,3.4nm,0.8s,mb4.3,baz=108,slow=13,SNR=3.7
JOF Joensuu 77.07 335 *ep* **P 04 38 29.6 -0.7**
comp=Z,1.7nm,0.5s,mb4.2
JOF Joensuu 77.07 335 *eP* **P 04 38 29.6 -0.7**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
STHS Stebnicka Huta 78.91 320 *eP* **P 04 38 42.0 +1.5**
STHS *e* pP 04 38 50.0 -0.2
STHS *e* 04 39 05.1
STHS Stebnicka Huta 78.91 320 *eP* **P 04 38 42.0 +1.5**
STHS *e* pP 04 38 50.0 -0.2
STHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
STHS Stebnicka Huta 78.91 320 *eP* **P 04 38 42.0 +1.5**
comp=Z,6.0nm,1.2s,mb4.4
STHS *e* pP 04 38 50.0 -0.2
STHS *e* 04 39 05.2
FINES FINESS Array B 78.92 332 P **P 04 38 40.2 -0.4**
comp=Z,4.5nm,0.7s,mb4.5,baz=102,slow=6.3,SNR=23
FINES LR LR 05 18 07.9
comp=Z,67nm,18.8s,MS4.0,baz=165,slow=39
FINES FINESS Array B 78.92 332 P **P 04 38 40.2 -0.4**
FINES LR LR 05 18 07.9
KAF Kangasniemi 79.01 333 *ep* **P 04 38 40.1 -1.0**
comp=Z,11nm,0.7s,mb4.9,baz=104,slow=5.1
KAF Kangasniemi 79.01 333 *eP* **P 04 38 40.1 -1.0**
KAF pmax pmax
comp=Z,11nm,0.7s,mb4.9
KECS Kecovo 79.25 319 *eP* **P 04 38 42.3 -0.1**
KECS *e* pP 04 38 51.8 -0.3
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 79.25 319 *eP* **P 04 38 42.3 -0.1**
comp=Z,2.1nm,0.8s,mb4.1
KECS *e* pP 04 38 51.8 -0.3
VYHS Vyhne 80.33 319 *eP* **P 04 38 48.2 -0.1**
VYHS *e* pP 04 38 55.6 -2.4
BILL Bilibino 80.49 21 *deP* **P 04 38 48.5 -0.6**
BILL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.6
BILL Bilibino 80.49 21 *eP* **P 04 38 48.0 -1.1**
comp=Z,2.7nm,0.5s,mb4.4
ARCES ARCESS Array B 81.48 340 P **P 04 38 54.5 +0.1**
comp=Z,3.0nm,0.5s,mb4.5,baz=94,slow=5.0,SNR=35
ARE0 ARCESS Array S 81.48 340 *eP* **P 04 38 54.5 +0.1**
UPC Upice 82.40 321 *eP* **P 04 38 59.6 +0.4**
UPC *ep*P pP 04 39 09.1 +0.1
PRU Pruhonice 83.29 320 *eP* **P 04 39 04.3 +0.5**
GERES GERESS Array B 83.75 319 P **P 04 39 07.0 +0.8**
comp=Z,3.3nm,0.8s,mb4.5,baz=96,slow=5.9,SNR=25
KHC Kasperske Hory 83.86 319 *eP* **P 04 39 07.1 +0.4**
KHC *ep*P pP 04 39 14.0 -2.5
CLL Collm 84.37 321 *i P* **P 04 39 09.1 -0.2**
CLL Collm 84.37 321 *eP* **P 04 39 06.0 -3.3**
CLL pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
CLL Collm 84.37 321 *eP* **P 04 39 06.0 -3.3**
comp=Z,4.0nm,1.2s,mb4.4
CLL *i* 04 39 09.1
HFS Hagfors 84.64 330 P **P 04 39 11.3 +0.5**
comp=Z,1.3nm,0.5s,mb4.3,baz=97,slow=4.9,SNR=8.6
GRA1 Grafenberg Arr 85.42 320 *eP* **P 04 39 15.1 +0.5**
comp=Z,5.0nm,0.8s,mb4.7
GRF Grafenberg Arr 85.42 320 *eP* **P 04 39 15.1 +0.5**
comp=Z,5.0nm,0.8s,mb4.7
GRF Grafenberg Arr 85.42 320 *eP* **P 04 39 15.1 +0.5**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
NB2 NORSAR Subarra 85.93 331 P **P 04 39 16.6 -0.5**
comp=Z,1.3nm,0.7s,mb4.3,baz=95,slow=5.1
NB2 NORSAR Subarra 85.93 331 P **P 04 39 16.6 -0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
NOA NORSAR Array B 85.93 331 P **P 04 39 16.6 -0.6**
comp=Z,1.8nm,0.8s,mb4.3,baz=97,slow=5.4,SNR=6.9
NOA LR LR 05 22 07.6
comp=Z,52nm,19.5s,MS3.9,baz=70,slow=39
DAVOX Davos 86.24 317 P **P 04 39 19.5 +0.8**
comp=Z,5.5nm,0.6s,mb5.0,baz=126,slow=6.3,SNR=12
VNDA Vanda 86.84 169 P **P 04 39 21.1 -0.5**
comp=Z,0.4nm,0.6s,mb3.8,baz=236,slow=3.6,SNR=3.2

LPG La Plagne 88.42 315 *eP* pP 04 39 37.4 -1.7
comp=Z,5.4nm,0.8s
LPG La Plagne 88.42 315 *eP* pP 04 39 37.4 -1.7
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
LPG La Plagne 88.42 315 *eP* pP 04 39 37.4 -1.7
comp=Z,2.7nm,0.8s
EKA Eskdalemuir Ar 93.84 326 P **P 04 39 54.6 +0.3**
comp=Z,1.7nm,0.8s,mb4.5,baz=102,slow=5.1,SNR=11
EKA PP PP 04 43 42.8 +2.7
comp=Z,1.3nm,0.9s,baz=75,slow=10,SNR=4.3
TORD Torodi Ar. Bea 94.35 283 P **P 04 39 58.5 +1.7**
comp=Z,0.2nm,0.7s,baz=138,slow=29,SNR=4.1
EGMT Eagleton 124.99 21 *e*PKPdf PKPdf 04 45 35.7 -1.5
DLMT Dillon 126.05 25 *e*PKPdf PKPdf 04 45 38.2 -1.0
ULM Lac du Bonnet 126.72 10 PKP PKPdf 04 45 39.5 -0.9
comp=Z,1.0nm,0.8s,baz=15,slow=4.9,SNR=5.2
PDAR Pinedale Array 129.44 25 PKP PKPdf 04 45 45.2 -0.5
comp=Z,0.7nm,0.7s,baz=90,slow=0.4,SNR=6.2
PDAR PP PP 04 47 55.7 +0.5
comp=Z,0.5nm,0.8s,baz=64,slow=6.8,SNR=3.6
MSU Marysvale 131.59 30 *e*PKIKP PKPdf 04 45 51.2 +1.4
PV10 Paradox Valley 133.23 28 *e*PKPdf PKPdf 04 45 54.5 +1.6
MIAR Mount Ida 142.27 14 *e*PKHKP 04 46 04.3
LRAL Lakeview Retre 144.85 5 *e*PKPdf PKPdf 04 46 12.9 -1.1
CPUP Villa Florida 145.31 224 PKPbc PKPbc 04 46 15.8 +1.1
comp=Z,2.4nm,0.6s,baz=120,slow=2.8,SNR=12
CPUP Villa Florida 145.31 224 *e*PKPdf PKPdf 04 46 15.7 +0.9
HKT Hockley 145.94 20 *e*PKP2 PKPab 04 46 16.2 -0.9
LPAZ La Paz 159.45 226 PKPab PKPab 04 47 16.4 +3.0
comp=Z,0.5nm,0.7s,baz=211,slow=5.9,SNR=2.8
LPAZ La Paz 159.45 226 PKPab PKPab 04 47 16.4 +3.0

ISCJB ***05*** *04:29:17.2±1.1,608S±01×195W±06,h10km,mb3.8/2,*
Error ellipse: s-maj=46.7km s-min=13.7km az=136.8
IDC ***05*** *04:29:18.5±2.6,6060S×1966W,h0km,mb3.8/2,mb1 3.9/2,*
mb1mx3.6/15,mbtmp3.8/2,Error ellipse: s-maj=95.2km
s-min=48.6km az=7.0
ISC 05 04:29:19.3±1.1,608S±01×194W±06,h10km,n7,σ0§22/6,
mb3.8/2,East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**10.92**	**160**	*eP*	**Pn**	**04 31 55.3**	**-0.3**
VNA1				*e*		04 31 58.2	
VNA1				*e*		04 32 04.0	
VNA1				*e*		04 33 55.4	
VNA3	**Neumayer Olymp**	**11.23**	**164**	*eP*	**Pn**	**04 32 00.0**	**+0.1**
VNA3				*e*		04 32 03.2	
VNA3				*e*		04 32 08.9	
VNA3				*e*		04 32 29.0	
VNA3				*e*		04 33 57.5	
VNA3				*e*		04 34 07.1	
VNA2	**Neumayer--Watz**	**11.30**	**160**	*eP*	**Pn**	**04 32 01.0**	**+0.2**
	baz=321,slow=13						
VNA2				*e*		04 32 04.4	
VNA2				*e*		04 32 09.4	
VNA2				*e*		04 32 30.8	
VNA2				*e*		04 33 59.1	
VNA2				*e*		04 34 08.9	
SNAA	**Sanae**	**12.77**	**156**	*eP*	**Pn**	**04 32 08.9**	**-12**
SNAA				*e*		04 32 11.7	
SNAA				*e*		04 32 17.5	
SNAA				*e*		04 32 38.2	
SNAA				*e*		04 34 26.1	
SNAA				*e*		04 34 35.0	
LPAZ	**La Paz**	**56.36**	**300**	P	**P**	**04 39 00.6**	**0.0**
	0.7nm,0.7s,mb3.8,baz=157,slow=2.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**75.56**	**21**	P	**P**	**04 41 04.1**	**0.0**
	1.0nm,1.0s,mb3.7,baz=196,slow=6.0,SNR=5.7						
SONM	**Songino Array**	**146.86**	**88**	PKPbc	PKPbc	04 49 01.2	-0.6
	1.7nm,0.9s,baz=224,slow=4.0,SNR=4.6						

CSEM ***05*** *04:38:43.1±0.1,3788N×2874E,h15km,mb4.1/6,Ms2.9,*
Error ellipse: s-maj=1.6km s-min=1.2km az=144.0
ISK ***05*** *04:38:43.1,3792N×2867E,h11km,MD3.9,ML4.1*
NEIC ***05*** *04:38:43.0,3791N×2869E,h11km,mb4.0/13,ML4.1(ISK),*
After ISK.
THE ***05*** *04:38:43.6,3801N×2886E,h10km,ML3.0*
ISCJB ***05*** *04:38:44.4±0.4,3784N±002×2874E±002,h28km±3km,*
mb3.9/13,MS2.9/6,Error ellipse: s-maj=2.9km
s-min=2.7km az=12.8
IDC ***05*** *04:38:45.8±3.5,3785N×2872E,h27km±27km,mb3.8/7,*
mb1 4.0/13,mb1mx3.8/27,mbtmp3.9/13,ML4.0/5,MS3.0/8,
Ms1 3.0/8,ms1mx2.8/29,Error ellipse: s-maj=16.3km
s-min=14.3km az=166.0
HLW ***05*** *04:38:50.3,3749N×2873E,h33km,Mb3.8*
ISC 05 04:38:44.5±0.4,3788N±002×2871E±002,h12km±3km,
n162,σ1§02/187,mb3.9/13,MS2.9/6,5C-8D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.28**	**116**	*i* PG	**Pg**	**04 38 50.0**	**-0.3**
DNZL	**Cakiroluk**	**0.32**	**125**	*i* P	**Pg**	**04 38 51.0**	**-0.1**
DNZL				*i* S	**Sg**	**04 38 56.2**	**+0.8**
AYDN	**Tasoluk**	**0.70**	**252**	*i* P	**Pg**	**04 38 57.2**	**-0.9**
AYDN				*i* S	**Sg**	**04 39 09.2**	**+2.0**
KHL	**Karahalli**	**0.78**	**55**	*i* PG	**Pg**	**04 38 58.1**	**-1.5**
KHL				*i* SG	**Sg**	**04 39 10.5**	**+0.7**
YER	**Yerkesik**	**0.82**	**205**	*i* PG	**Pg**	**04 38 59.6**	**-0.7**
MLSB	**Milas**	**0.94**	**232**	*i* PG	**Pg**	**04 39 01.6**	**-1.1**
MLSB				*i* SG	**Sg**	**04 39 15.9**	**+0.8**
DALT	**Dalyan (Mudla)**	**1.11**	**183**	PN	**Pn**	**04 39 05.0**	**-0.8**
AKS	**Akhisar**	**1.23**	**325**	PN	**Pn**	**04 39 05.8**	**-1.6**
KDAG	**Bornova**	**1.26**	**295**	*i* P	**Pn**	**04 39 06.8**	**-1.1**
KDAG				*i* S	**Sb**	**04 39 25.0**	**+0.8**
IZM	**Izmir**	**1.26**	**295**	PN	**Pn**	**04 39 06.7**	**-1.2**
FETY	**Fethiye**	**1.27**	**166**	PN	**Pn**	**04 39 07.9**	**-0.2**
TKTP	**Tekketepe**	**1.28**	**82**	*i* P	**Pn**	**04 39 08.1**	**-0.1**
TKTP				*i* S	**Sb**	**04 39 27.1**	**+2.2**
GDZ	**Gediz**	**1.35**	**26**	*i* P	**Pn**	**04 39 08.5**	**-0.6**
GDZ				*i* S	**Sb**	**04 39 29.9**	**+2.9**
BODT	**Bodrum**	**1.38**	**234**	PN	**Pn**	**04 39 09.0**	**-0.6**
BLCB	**Balcova**	**1.41**	**292**	PN	**Pn**	**04 39 08.9**	**-1.1**
DAT	**Datca**	**1.46**	**219**	PN	**Pn**	**04 39 09.9**	**-0.7**
ELL	**Elmali**	**1.48**	**139**	PN	**Pn**	**04 39 11.6**	**+0.8**
BCK	**Bucak**	**1.54**	**105**	PN	**Pn**	**04 39 12.4**	**+0.6**
ALT	**Altintas**	**1.61**	**43**	PN	**Pn**	**04 39 12.4**	**-0.3**
ARG	**Arkhangelos**	**1.72**	**196**	*eP*	**Pn**	**04 39 15.7**	**+1.4**
DST	**Dursunbey**	**1.73**	**358**	PN	**Pn**	**04 39 13.1**	**-1.2**
URLA	**Izmir**	**1.74**	**287**	*i* P	**Pn**	**04 39 13.6**	**-0.8**
URLA				*i* S	**Sn**	**04 39 39.8**	**+3.3**
ANTB	**Antalya**	**1.83**	**122**	*e*PN	**Pn**	**04 39 17.0**	**+1.3**
BALB	**Balikesir**	**1.88**	**340**	PN	**Pn**	**04 39 15.5**	**-0.9**
CHOS	**Chios island**	**2.16**	**284**	*e*Pn	**Pn**	**04 39 20.3**	**+0.1**
CHOS				*e*Sn	**Sn**	**04 39 50.0**	**+3.1**
PRK	**Paraskevi**	**2.35**	**306**	*e*P	**Pn**	**04 39 22.3**	**-0.6**
KCT	**Karacabey**	**2.40**	**353**	*e*PN	**Pn**	**04 39 22.3**	**-1.3**
CANB	**Canakkale**	**2.50**	**329**	*e*PN	**Pn**	**04 39 23.8**	**-1.1**
IZI	**Iznik**	**2.53**	**13**	*e*PN	**Pn**	**04 39 25.5**	**+0.2**
BNT	**Bandirma**	**2.55**	**346**	*e*PN	**Pn**	**04 39 24.5**	**-1.2**
EDC	**Edincik**	**2.55**	**345**	*e*PN	**Pn**	**04 39 24.5**	**-1.2**
KARP	**Karpathos**	**2.64**	**209**	*e*P	**Pn**	**04 39 27.2**	**+0.4**
APE	**Apeiranthos**	**2.66**	**253**	*e*PN	**Pn**	**04 39 27.4**	**+0.3**
APE	**Apeiranthos**	**2.66**	**253**	*e*Pn	**Pn**	**04 39 27.5**	**+0.4**
APE	**Apeiranthos**	**2.66**	**253**	*e*P	**Pn**	**04 39 27.1**	**0.0**
ADVT	**Abdulvahap**	**2.67**	**17**	*e*PN	**Pn**	**04 39 27.4**	**+0.1**
KIZT	**Kizilcal**	**2.68**	**67**	*e*PN	**Pn**	**04 39 27.8**	**+0.3**
EZN	**Ezine**	**2.70**	**317**	*e*PN	**Pn**	**04 39 26.5**	**-1.1**
GPA	**Golpazari**	**2.71**	**27**	*e*PN	**Pn**	**04 39 27.8**	**0.0**
YLV	**Yalova**	**2.73**	**11**	*e*PN	**Pn**	**04 39 28.6**	**+0.4**
KONT	**Konya--Tatoy**	**2.88**	**88**	*e*PN	**Pn**	**04 39 30.6**	**+0.4**
SANT	**Santorini**	**3.00**	**241**	*e*Pn	**Pn**	**04 39 33.6**	**+1.8**
SANT	**Santorini**	**3.00**	**241**	*e*Pn	**Pn**	**04 39 31.9**	**0.0**
SANT				Sn	**Sn**	**04 40 00.8**	**-7.0**
SANT	**Santorini**	**3.00**	**241**	*e*Pn	**Pn**	**04 39 31.9**	**0.0**
SANT				Sn	**Sn**	**04 40 00.8**	**-7.0**
THR1	**Thera Island**	**3.00**	**241**	*e*Pn	**Pn**	**04 39 34.1**	**+2.2**
THR3	**Thira Island,**	**3.02**	**242**	*e*Pn	**Pn**	**04 39 33.8**	**+1.6**
HRT	**Hereke**	**3.03**	**14**	*e*PN	**Pn**	**04 39 32.1**	**-0.2**
MFT	**Murefte**	**3.11**	**340**	*e*PN	**Pn**	**04 39 32.1**	**-1.3**
ISK	**Istanbul-Kandi**	**3.20**	**5**	*e*PN	**Pn**	**04 39 35.0**	**+0.5**
MDU	**Mudurnu**	**3.23**	**36**	*e*PN	**Pn**	**04 39 34.8**	**-0.2**
CTT	**Catalca**	**3.27**	**356**	*e*PN	**Pn**	**04 39 35.5**	**-0.1**
KLYT	**Kilyos**	**3.38**	**4**	*e*PN	**Pn**	**04 39 37.1**	**0.0**
LOS	**Limnos**	**3.50**	**307**	*e*PN	**Pn**	**04 39 38.5**	**-0.2**
ALN	**Alexandroupoli**	**3.66**	**326**	*e*Pn	**Pn**	**04 39 40.0**	**-0.8**
ANTO	**Ankara**	**3.75**	**57**	*e*Pn	**Pn**	**04 39 45.1**	**+2.9**

ANTO *e*Sn **Sn 04 40 28.0 +1.7**
IDI Anoyia 4.02 231 Pn **Pn 04 39 44.7 -1.1**
4.4nm,0.3s,baz=60,slow=12,SNR=17
IDI Sn **Sn 04 40 32.8 0.0**
2.4nm,0.3s,baz=344,slow=6.4,SNR=5.1
RDO Rodhopi 4.09 324 *eP* **Pn 04 39 46.4 -0.4**
KAMT Kaman 4.19 68 *e*PN **Pn 04 39 49.3 +1.1**
BRTR Keskin Array B 4.27 63 Pn **Pn 04 39 49.6 +0.4**
1.2nm,0.3s,baz=318,slow=10,SNR=61
BRTR Pg **Pg 04 40 02.5 -3.8**
1.6nm,0.3s,baz=233,slow=15,SNR=38
BRTR Sn **Sn 04 40 38.3 -0.6**
1.9nm,0.3s,baz=337,slow=13,SNR=6.2
BRTR Lg 04 41 04.3
baz=246,slow=27,SNR=2.0
BRTR Keskin Array B 4.27 63 Pn **Pn 04 39 49.6 +0.4**
BRTR Pg **Pg 04 40 02.5 -3.8**
BRTR Sn **Sn 04 40 38.3 -0.6**
BRTR Lg 04 41 04.3
BRTR Keskin Array B 4.27 63 Pg **Pg 04 40 02.5 -3.8**
BR131 Keskin Array S 4.27 63 *e*Pn **Pn 04 39 49.6 +0.4**
BR131 *e*Sn **Sn 04 40 37.0 -1.9**
BR131 Keskin Array S 4.27 63 *e*Pn **Pn 04 39 49.7 +0.5**
BR131 *e*Sn **Sn 04 40 37.0 -1.9**
IKL Isikli 4.30 111 *e*PN **Pn 04 39 51.7 +2.0**
KARN Karanos 4.58 239 *e*Pn **Pn 04 39 56.4 +2.9**
CSS Prodhromos 4.72 127 *e*Pn **Pn 04 39 56.5 +1.0**
CSS *e*Sn **Sn 04 40 48.8 -1.4**
CSS Prodhromos 4.72 127 *e*Pn **Pn 04 39 56.5 +1.0**
CSS *e*Sn **Sn 04 40 48.8 -1.4**
MERS Mersin 4.74 101 *e*PN **Pn 04 39 57.0 +1.3**
GVD Gavdhos 4.81 232 *e*Pn **Pn 04 39 53.7 -3.0**
GVD *e*Sn **Sn 04 40 52.2 0.0**
GVD Gavdhos 4.81 232 *e*Pn **Pn 04 39 53.7 -3.0**
NVR Nevrokopi 5.11 314 *eP* **Pn 04 40 00.5 -0.3**
SRS Serrai 5.12 311 *e*Pn **Pn 04 40 00.5 -0.4**
TOS Tosya 5.18 51 *e*PN **Pn 04 40 02.2 +0.4**
YOZ Yozgat 5.46 69 *e*PN **Pn 04 40 06.6 +1.0**
KNT Kendrikon 5.57 308 *e*Pn **Pn 04 40 07.5 +0.4**
TIRR Tirgusor 6.58 358 ||*iP* **Pn 04 40 20.4 -0.6**
TIRR Tirgusor 6.58 358 ||P **Pn 04 40 20.4 -0.7**
SLUM 6.99 205 ||P **Pn 04 40 26.2 -0.5**
MMAI Mount Meron Ar 7.30 130 Pn **Pn 04 40 30.0 -0.9**
12nm,0.3s,baz=321,slow=12,SNR=24
MMAI Sn **Sn 04 41 49.2 -4.4**
9.7nm,0.3s,baz=279,slow=33,SNR=8.1
MLR Muntele Rosu 7.88 346 Pn **Pn 04 40 38.9 -0.1**
1.6nm,0.3s,baz=210,slow=7.8,SNR=9.4
MLR LR LR 04 44 08.8
comp=Z,148nm,21.1s,baz=160,slow=41
MLR Muntele Rosu 7.88 346 ||*iP* **Pn 04 40 39.2 +0.3**
MLR Muntele Rosu 7.88 346 ||P **Pn 04 40 39.1 +0.2**
AMAG Maghara 8.12 151 P **Pn 04 40 41.2 -0.9**
PLOR Plostina 8.12 350 ||*iP* **Pn 04 40 42.6 +0.5**
VRI Vrincioaia 8.12 350⇑ ||*iP* **Pn 04 40 42.4 +0.2**
VRI Vrincioaia 8.12 350 ⇑P **Pn 04 40 42.4 +0.3**
HMYD Mayadein 8.24 167 P **Pn 04 40 43.9 0.0**
KOT Kottamia 8.34 161 P **Pn 04 40 45.7 +0.5**
KOT S **Sn 04 42 07.4 -12**
HNAT Natroun 8.37 169 P **Pn 04 40 45.3 -0.3**
HHAG Hagoal 8.39 159 ||P **Pn 04 40 45.2 -0.7**
HHAG S **Sn 04 42 09.5 -11**
FYM Al Fayyum 8.39 166 P **Pn 04 40 45.7 -0.1**
SUZ 8.71 156 P **Pn 04 40 50.3 0.0**
ASF Jabal al Asfar 8.80 128 Pn **Pn 04 40 51.5 0.0**
0.6nm,0.3s,baz=280,slow=16,SNR=3.8
ASF Sn **Sn 04 42 30.5 0.0**
0.3nm,0.3s,baz=68,slow=22,SNR=2.7
SWA1 8.95 197 ⇑P **Pn 04 40 52.9 -0.7**
SWA1 S **Sn 04 42 22.8 -11**
SWA2 9.03 198 P **Pn 04 40 54.2 -0.4**
HNKL Nakhl 9.05 150 ||P **Pn 04 40 54.3 -0.6**
TIP Timpagrande 9.46 282 *e*Pn **Pn 04 41 01.3 +0.7**
TIP *e*Sn **Sn 04 42 47.6 +0.9**
AWBH 9.53 179 P **Pn 04 41 01.0 -0.5**
BURAR Bucovina Array 10.06 346⇑ *iP* **Pn 04 41 09.9 +1.1**
BURAR Bucovina Array 10.06 346 ⇑P **Pn 04 41 09.8 +1.0**
ASUT 10.72 166 P **Pn 04 41 17.7 -0.1**
HHRG Al Ghardaqah 11.39 158 P **Pn 04 41 26.5 -0.4**
VRAC Vranov 14.39 326 LR LR 04 47 33.5
comp=Z,56nm,21.1s,baz=326,slow=37
GERES GERESS Array B 15.44 320 Pn **Pn 04 42 25.1 +3.0**
0.1nm,0.3s,baz=124,slow=12,SNR=10
GERES LR LR 04 48 50.8
comp=Z,69nm,18.6s,baz=282,slow=39
DAVOX Davos 16.50 309 LR LR 04 49 59.0
comp=Z,94nm,18.9s,baz=101,slow=41
BRG Berggiesshubel 16.70 326 *eP* **Pn 04 42 41.3 +3.0**
4.8nm,1.2s
SBF Sospel 17.15 297 *eP* **Pn 04 42 44.7 +0.8**
FRF La Foret Royal 17.64 296 *eP* **Pn 04 42 51.3 +1.2**
LMR La Mourre 17.70 295 *eP* **Pn 04 42 51.8 +1.0**
MBDF Montbardon 17.82 300 *eP* **Pn 04 42 50.9 -1.4**
9.8nm,0.9s
MBDF Montbardon 17.82 300 *eP* **Pn 04 42 50.9 -1.4**
4.9nm,0.9s
LPG La Plagne 18.05 302 *eP* **Pn 04 42 56.2 +1.1**
22nm,1.3s
LPG La Plagne 18.05 302 *eP* **Pn 04 42 56.2 +1.1**
11nm,1.3s
LPL La Plagne 18.07 302 *eP* **Pn 04 42 56.2 +0.9**
14nm,1.1s
LPL La Plagne 18.07 302 *eP* **Pn 04 42 56.2 +0.9**
6.8nm,1.1s
ORIF Oris-en-Rattie 18.48 300 *eP* **Pn 04 43 00.8 +0.4**
ORIF *e*R
90nm,17.5s
SMRF Simiane la Rot 18.49 297 *eP* **Pn 04 43 01.4 +1.0**
CDF Champ du Feu 18.80 311 *eP* **Pn 04 43 04.1 -0.1**
6.7nm,0.9s
CDF Champ du Feu 18.80 311 *eP* **Pn 04 43 04.1 -0.1**
3.3nm,0.9s
HINF Hinteralfeld 18.80 309 *eP* **Pn 04 43 04.3 +0.1**
CABF La Chapelle 18.84 305 *eP* **Pn 04 43 05.4 +0.7**
28nm,1.3s
CABF La Chapelle 18.84 305 *eP* **Pn 04 43 05.4 +0.7**
14nm,1.3s
HAU Haudompre 19.19 309 *eP* **Pn 04 43 09.9 +1.0**
HAU *e*R
54nm,17.2s
VIVF Saint-Julien-l 19.30 299 *eP* **Pn 04 43 10.2 -0.1**
LASF Ste Croix 19.73 296 *eP* **Pn 04 43 15.3 0.0**
SMF Signal de Mont 20.32 303 *eP* **P 04 43 21.5 +1.1**
35nm,1.5s
SMF Signal de Mont 20.32 303 *eP* **P 04 43 21.5 +1.1**
17nm,1.5s
LOR Lormes 20.50 305 *eP* **P 04 43 23.3 +1.0**
33nm,1.4s
LOR *e*R
90nm,17.0s
LOR Lormes 20.50 305 *eP* **P 04 43 23.3 +1.0**
16nm,1.4s
LOR LR LR
comp=Z,90nm,17.0s,MS3.2
SSF Saint Saulge 20.66 304 *eP* **P 04 43 25.1 +1.0**
comp=Z,17nm,0.9s
SSF Saint Saulge 20.66 304 *eP* **P 04 43 25.1 +1.0**
comp=Z,8.3nm,0.9s
AVF Avril sur Loir 20.68 304 *eP* **P 04 43 25.1 +0.8**
BGF Bois d'Agland 20.96 303 *eP* **P 04 43 27.6 +0.3**
TCF Toulx Ste Croi 21.32 302 *eP* **P 04 43 32.2 +1.1**
comp=Z,1.1nm,1.0s,mb3.8
TCF Toulx Ste Croi 21.32 302 *eP* **P 04 43 32.2 +1.1**
comp=Z,5.5nm,1.0s,mb3.8
BAIF Baives 21.32 303 *eP* **P 04 43 31.7 +0.5**
comp=Z,8.3nm,0.8s,mb3.8
BAIF Baives 21.32 313 *eP* **P 04 43 31.7 +0.5**
comp=Z,4.2nm,0.8s,mb3.8
RJF Les Rejaudoux 21.59 299 *eP* **P 04 43 34.8 +0.8**
comp=Z,9.8nm,1.0s,mb3.9
RJF *e*R
comp=Z,70nm,18.5s
RJF Les Rejaudoux 21.59 299 *eP* **P 04 43 34.8 +0.8**
comp=Z,4.9nm,1.0s,mb3.9
EPF Esparros 22.14 292 *eP* **P 04 43 40.7 +0.7**
ETSF Etsaut 22.79 292 *eP* **P 04 43 47.3 +0.4**
MFF Saint Martin d 22.98 302 *eP* **P 04 43 48.5 -0.3**
comp=Z,13nm,1.0s,mb4.0
MFF Saint Martin d 22.98 302 *eP* **P 04 43 48.5 -0.3**
comp=Z,6.6nm,1.0s,mb4.0
LDF La Druitiere 23.45 306 *eP* **P 04 43 52.2 -1.6**
comp=Z,11nm,1.0s,mb

FINES **FINESS Array B** 23.65 357 P P 04 43 55.0 -0.8
comp=Z,2.9nm,0.8s,mb3.7,baz=162,slow=13,SNR=6.7
FINES LR LR 04 53 52.9
comp=Z,37nm,21.4s,MS2.8,baz=187,slow=38
FLN **La Foliniere** 23.72 307 *e*P P 04 43 54.3 -2.1
FLN *e*R
comp=Z,79nm,17.8s
FLN **La Foliniere** 23.72 307 *e*P P 04 43 54.3 -2.1
FLN LR LR
comp=Z,80nm,17.8s,MS3.2
GRR **Gorron** 23.86 306 *e*P P 04 43 55.6 -2.1
comp=Z,47nm,1.4s,mb4.4
GRR **Gorron** 23.86 306 *e*P P 04 43 55.6 -2.1
comp=Z,24nm,1.4s,mb4.4
HFS **Hagfors** 24.24 342 P P 04 44 00.5 -0.6
comp=Z,8.2nm,0.9s,mb4.2,baz=161,slow=9.4,SNR=11
HFS LR LR 04 55 22.5
comp=Z,72nm,19.1s,MS3.2,baz=324,slow=41
AKTK **Aktyubinsk** 24.31 49 P P 04 44 00.3 -1.5
AKTK **Aktyubinsk** 24.31 49 P P 04 44 00.3 -1.5
AKTO **Aktyubinsk** 24.31 49 P P 04 44 00.3 -1.5
comp=Z,1.4nm,0.6s,mb3.6,baz=255,slow=12,SNR=4.5
SGMF **Saint Gilles** 24.93 305 *e*P P 04 44 05.8 -1.6
ESDC **Sonseca Array** 25.46 284 P P 04 44 11.8 -0.5
comp=Z,3.1nm,0.8s,mb3.9,baz=70,slow=10,SNR=11
NB2 **NORSAR Subarra** 25.66 340 P P 04 44 12.8 -1.2
comp=Z,3.5nm,0.9s,mb3.9,baz=144,slow=9.3
NOA **NORSAR Array B** 25.66 340 P P 04 44 13.1 -1.0
comp=Z,2.4nm,0.8s,mb3.8,baz=143,slow=9.0,SNR=8.5
NOA LR LR 04 54 31.8
comp=Z,12nm,20.8s,MS2.4,baz=170,slow=37
ARCES **ARCESS Array B** 31.77 358 LR LR 04 57 01.1
comp=Z,17nm,19.3s,MS2.7,baz=189,slow=34
TORD **Torodi Ar. Bea** 34.42 232 P P 04 45 30.5 -1.2
comp=Z,1.5nm,0.9s,mb3.9,baz=33,slow=8.7,SNR=13
MKAR **Makanchi Array** 39.91 60 P P 04 46 17.4 -0.9
comp=Z,1.1nm,0.7s,mb3.7,baz=283,slow=7.1,SNR=8.4
MKAR **Makanchi Array** 39.91 60 P P 04 46 17.4 -0.9

ISCJB ***05*** *04:43:15.8±1.2,218S±02×1709E±02,h33km,mb4.5/7, Error ellipse: s-maj=26.7km s-min=17.5km az=84.9*
IDC ***05*** *04:43:15.4±9.6,2202S×17076E,h0km,mb4.4/3, mb1 4.6/4,mb1mx4.2/12,mbtmp4.5/4,ML4.8/1,Error ellipse: s-maj=193.5km s-min=44.6km az=44.0*
NEIC ***05*** *04:43:17.4±1.4,2171S×17100E,h35km,mb4.7/4,Error ellipse: s-maj=30.3km s-min=20.1km az=223.0*
ISC 05 04:43:17.3±1.2,217S±02×1711E±02,h35km,n13,
σ1°13/13,mb4.5/7,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	Urewera	17.32	164	P		Pn		04 47 16.1	-0.1
	3.0nm,0.3s,baz=325,slow=12,SNR=9.9								
PMG	Port Moresby	26.02	294	*e*P		P		04 48 45.8	-1.2
	88nm,1.4s,mb5.1								
STKA	Stephens Creek	28.11	243	P		P		04 49 04.3	-1.5
	1.3nm,0.5s,mb3.8,baz=81,slow=11,SNR=5.3								
STKA	Stephens Creek	28.11	243	P		P		04 49 04.3	-1.5
AS31	Alice Springs	34.28	259	*e*P		P		04 49 59.8	-0.3
ASAR	Alice Springs	34.28	259	P		P		04 50 01.0	+0.9
	5.3nm,0.8s,mb4.5,baz=96,slow=7.8,SNR=38								
ASPA	Alice Springs	34.28	259	*e*P		P		04 49 59.8	-0.3
WB2	Warramunga Arr	34.31	266	*e*P		P		04 50 01.7	+1.3
WRAB	Tennant Creek	34.31	266	*e*P		P		04 50 01.7	+1.3
	4.2nm,0.4s,mb4.7								
WRA	Warramunga Arr	34.32	266	P		P		04 50 01.8	+1.4
	2.9nm,0.2s,mb4.8,baz=97,slow=7.7,SNR=43								
KAKA	Kakadu	37.87	277	*e*P		P		04 50 28.8	-2.0
	3.4nm,0.4s,mb4.4								
FITZ	Fitzroy Crossi	42.75	266	*e*P		P		04 51 05.7	-5.5
	12nm,1.6s,mb4.4								
DAWY	Dawson	93.71	20	*e*P		P		04 56 30.7	+0.3

ISCJB ***05*** *05:07:10.5±0.4,4605N±002×1195E±003,h4km,Error ellipse: s-maj=3.7km s-min=2.7km az=58.1*
NEIC ***05*** *05:07:11.2,4609N×1189E,h4km,MD2.5(ROM),After ROM.*
ROM ***05*** *05:07:11.2±0.7,4609N×1189E,h4km,Md2.5/1,Ml1.3/4, Error ellipse: s-maj=8.4km s-min=3.3km az=48.0*
CSEM ***05*** *05:07:12.2±0.3,4604N×1172E,h12km,ML2.4/3,Error ellipse: s-maj=6.7km s-min=3.2km az=117.0*
VIE ***05*** *05:07:14.2±0.6,4615N×1167E,h8km,mb1.3/1,ML1.8/4, Error ellipse: s-maj=3.5km s-min=2.2km az=138.0 19 km ENE of Borgo*
ISC 05 05:07:11.0±0.8,4603N±003×1193E±004,h9km±13km,n18,
σ0°51/33,7C-5D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CGRP	Cima Grappa	0.17	210	⇓*i*Pg		Pg		05 07 14.2	-0.4
CGRP				*i* Sg		Sg		05 07 16.8	-0.3
CTI	Castel Tesino	0.19	276	Pg		Pg		05 07 14.8	-0.2
CTI				Sg		Sg		05 07 18.0	+0.4
	103nm,0.3s								
FAU	Forcella Aurin	0.20	11	⇓*i*Pg		Pg		05 07 14.9	-0.3
FAU				*i* Sg		Sg		05 07 18.1	0.0
FAU	Forcella Aurin	0.20	11	*i* Pg		Pg		05 07 14.9	-0.3
FAU				*i* Sg		Sg		05 07 18.0	0.0
MTLO	Montello	0.25	151	⇓*i*Pg		Pg		05 07 16.0	+0.1
CAE	Caneva	0.36	93	⇑*i*Pg		Pg		05 07 17.8	-0.3
CAE				*i* Sg		Sg		05 07 23.3	+0.6
APPI	Appiano	0.66	313	Pg		Pg		05 07 24.0	+0.3
APPI				Sg		Sg		05 07 33.0	+0.6
	19nm,0.3s								
BRES	Bressanone	0.68	349	Pg		Pg		05 07 23.9	-0.3
	116nm,1.8s								
MABI	Malga Bissina	0.98	272	Pg		Pg		05 07 30.5	+0.6
	8.0nm,1.7s								
WTTA	Wattenberg	1.25	351	⇓*i*Pg		Pg		05 07 35.9	+0.9
WTTA				⇑*i*Sg		Sg		05 07 50.9	-0.3
	1.8nm,0.3s								
CADS	Cadrg	1.28	80	*i* Pg		Pg		05 07 35.4	-0.1
CADS				*i* Sg		Sg		05 07 52.6	+0.6
CADS									
	comp=Z,3.0nm,0.1s								
CADS	Cadrg	1.28	80	Pg		Pg		05 07 35.4	-0.1
CADS				*i* Sg		Sg		05 07 52.6	+0.6
	comp=Z,3.0nm,0.1s								
SQTA	Sankt Quirin	1.29	338	⇑*i*Pg		Pg		05 07 35.8	+0.1
SQTA				⇑*i*Sg		Sg		05 07 51.8	-0.7
	comp=Z,3.4nm,0.2s								
WATA	Walderalm	1.33	350	⇑*i*Pg		Pg		05 07 37.2	+0.7
WATA				⇑*i*Sg		Sg		05 07 53.6	-0.2
	comp=Z,3.2nm,0.2s								
VOJS	Vojsko	1.36	89	*i* Pg		Pg		05 07 36.7	-0.5
VOJS				*e*Sg		Sg		05 07 55.7	+0.8
MOTA	Moosalm	1.43	337	⇓*i*Pg		Pg		05 07 38.6	+0.1
MOTA				⇑*i*Sg		Sg		05 07 56.4	-0.7
	comp=Z,2.2nm,0.2s								
JAVS	Javornik	1.50	94	*i* Pg		Pg		05 07 38.4	-1.4
JAVS				*i* Sg		Sg		05 07 59.0	-0.2
JAVS									
	comp=Z,2.0nm,0.2s								
JAVS	Javornik	1.50	94	*i* Pg		Pg		05 07 38.4	-1.3
JAVS				*i* Sg		Sg		05 07 59.0	-0.2
	comp=Z,2.0nm,0.2s								

IDC ***05*** *05:14:13.6±1.0,2055S×7070W,h0km,mb4.1/3,mb1 4.2/4, mb1mx3.9/15,mbtmp4.1/4,ML2.0/2,MS4.0/3,Ms1 4.0/3, ms1mx3.2/24,Error ellipse: s-maj=23.2km s-min=15.1km az=77.0*
ISCJB ***05*** *05:14:14.9±0.5,2044S±005×708W±0.1,h26km,mb4.4/8, MS4.0/3,Error ellipse: s-maj=14.5km s-min=6.4km az=149.4*
NEIC ***05*** *05:14:16.9±0.5,2040S×7074W,mb4.6/6,Error ellipse: s-maj=16.7km s-min=9.2km az=72.0*
ISC 05 05:14:17.4±0.5,2044S±005×707W±01,h28km,
h28km±1.5km:pP-P,n32,σ1°15/27,mb4.4/8,MS4.0/3,3C,
Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.75	142	Pg		Pn		05 15 00.3	+0.6
	17nm,0.3s,baz=302,slow=11,SNR=77								
LVC				Lg				05 15 39.0	
	106nm,0.3s,baz=76,slow=11,SNR=9.9								
ARE	Arequipa	4.02	350	*e*P		Pn		05 15 17.0	-0.1
ARE				*e*S		Sn		05 16 04.0	+0.8
LPAZ	La Paz	4.81	31	Pn		Pn		05 15 28.4	+0.5
	0.0nm,0.3s,baz=243,slow=12,SNR=2.4								
LPAZ				Lg				05 16 50.4	
	baz=302,slow=24,SNR=1.4								
LPAZ	La Paz	4.81	31	*e*Pn		Pn		05 15 35.9	+7.9
LPAZ				Lg				05 16 50.4	
CFAA	Coronel Fontan	11.35	169	Pn		Pn		05 16 57.4	-0.2
	0.0nm,0.3s,baz=340,slow=12,SNR=3.3								
CFAA				Sn		Sn		05 19 12.3	+8.9
	0.0nm,0.3s,baz=288,slow=8.1,SNR=1.9								
CFAA				LR		LR		05 20 36.9	
	comp=Z,20nm,18.1s,baz=330,slow=34								
CFAA	Coronel Fontan	11.35	169	Pn		Pn		05 16 57.4	-0.2
CFAA				Sn		Sn		05 19 12.3	+8.8
CFAA				LR		LR		05 20 36.9	
SAML	Samuel	13.55	34	*e*Pn		Pn		05 17 27.4	-0.3
	6.4nm,0.8s								
CPUP	Villa Florida	13.63	118	Pn		Pn		05 17 28.0	-0.8
	0.1nm,0.3s,baz=301,slow=12,SNR=2.1								
CPUP	Villa Florida	13.63	118	*e*Pn		Pn		05 17 29.6	+0.7
	14nm,1.0s								
PLCA	Paso Flores	20.23	180	P		P		05 18 48.9	-1.4
	7.1nm,0.9s,baz=0.5,slow=14,SNR=11								
PLCA	Paso Flores	20.23	180	P		P		05 18 48.9	-1.4
OTAV	Otavalo	21.89	339	*e*P		pP		05 19 18.9	+3.1
BDFB	Brasilia	22.11	81	P		P		05 19 10.7	+0.1
	6.8nm,1.1s,mb4.0,baz=270,slow=18,SNR=6.0								
BDFB				LR		LR		05 29 20.7	
	comp=Z,498nm,19.1s,MS4.0,baz=250,slow=41								
SDV	Santo Domingo	29.14	0	*e*P		P		05 20 14.5	-1.5
	2.7nm,0.8s,mb4.0								
SJG	San Juan	38.57	7	P		P		05 21 35.3	-2.5
	17nm,1.1s,mb4.7								
MIAR	Mount Ida	58.84	338	*e*P		P		05 24 13.4	0.0
	4.6nm,0.8s,mb4.6								
VNA3	Neumayer Olymp	61.62	161	⇑*i*		P		05 24 33.0	+0.5
VNA3				*e*		pP		05 24 41.2	+0.1
VNA2	Neumayer--Watz	62.22	161	⇑*i*		P		05 24 36.5	0.0
	baz=298,slow=7.3								
VNA2				*e*		pP		05 24 44.8	-0.3
SNAA	Sanae	63.84	161	⇑*i*		Px		05 24 36.0	
SNAA				*e*				05 24 43.6	
PV01	Paradox Valley	68.25	329	*e*P		P		05 25 16.9	+1.4
PV01				*e*pP		pP		05 25 25.5	+1.2
SMCO	Snowmass	68.31	330	P		P		05 25 14.4	-1.6
	2.8nm,0.9s,mb4.3								
SMCO				*e*pP		pP		05 25 23.7	-1.0
SMCO				sP		sP		05 25 27.8	-0.2
PHWY	Pilot Hill	69.36	333	*e*P		P		05 25 20.2	-2.3
QSPA	South Pole Qui	69.75	180	*e*P		P		05 25 25.6	+0.7
	11nm,1.1s,mb4.7								
SRU	San Rafael	69.97	328	*e*P		P		05 25 27.7	+1.4
	3.4nm,0.9s,mb4.3								
SRU				*e*pP		pP		05 25 34.1	-0.9
ARUT	Antelope Range	70.48	325	*e*P		P		05 25 31.7	+2.3
VNDA	Vanda	77.59	190	LR		LR		05 55 06.8	
	comp=Z,81nm,21.4s,MS4.0,baz=135,slow=32								
TORD	Torodi Ar. Bea	78.62	71	P		P		05 26 17.4	+0.8
	2.8nm,0.5s,mb4.5,baz=251,slow=5.5,SNR=62								
AFI	Afiamalu	95.25	253	LR		LR		06 01 45.6	
	comp=Z,59nm,19.8s,MS4.1,baz=126,slow=30								
ASAR	Alice Springs	130.02	210	PKP		PKPdf		05 33 25.4	+0.8
	0.5nm,0.7s,baz=145,slow=2.0,SNR=5.0								
WRA	Warramunga Arr	132.96	213	PKP		PKPdf		05 33 30.9	+0.8
	0.6nm,0.6s,baz=152,slow=1.6,SNR=5.4								
MKAR	Makanchi Array	145.74	34	PKPbc		PKPbc		05 33 54.9	+1.2
	3.2nm,0.8s,baz=329,slow=2.1,SNR=19								
MJAR	Matsushiro Arr	150.08	309	PKPbc		PKPbc		05 34 06.6	+1.2
	1.9nm,0.7s,baz=79,slow=1.5,SNR=7.2								

FUNV 05 05:14:46.5,673N×7321W,h162km,MW3.6,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	Capacho	1.44	38	⇓*i*P		Pn		05 15 16.3	-0.1
CAPV				*e*S		Sn		05 15 37.6	-1.6
VIGV	El Vigia	2.79	41	*e*P		Pn		05 15 30.7	-0.9
VIGV				*e*S		Sn		05 16 03.5	-3.0
SOCV	Socops	2.80	56	*e*P		Pn		05 15 31.0	-0.8
SOCV				*e*S		Sn		05 16 03.0	-4.0
VIRV	Villa del Rosa	3.83	12	*e*P		Pn		05 15 43.3	-1.6
VIRV				*e*S		Sn		05 16 25.7	-4.6
QARV	Quebrada Arrib	4.36	37	*e*P		Pn		05 15 50.6	-1.1
QARV				*e*S		Sn		05 16 37.4	-5.2
SANV	Sanarito	4.56	53	*e*P		Pn		05 15 52.7	-1.6
SANV				*e*S		Sn		05 16 42.9	-4.5
TEPV	Terepaima	5.11	51	*e*P		Pn		05 16 00.1	-1.5
TEPV				*e*S		Sn		05 16 55.0	-5.3
BAUV	El Baul	5.58	66	*e*S		Sn		05 17 04.1	-7.1

NEIC ***05*** *05:26:54.7±12.0,659S×14728E,h120km±32km,mb3.4/1, Error ellipse: s-maj=153.0km s-min=36.2km az=202.0*
ISCJB ***05*** *05:26:57.4±6.1,69S±04×1470E±03,h126km±31km, mb3.5/1,Error ellipse: s-maj=71.1km s-min=43.3km az=53.4.*
IDC ***05*** *05:26:59.2±5.0,695S×14722E,h128km±37km,mb3.1/2, mb1 3.4/5,mb1mx3.2/14,mbtmp3.7/5,MS3.9/1,Ms1 3.9/1, ms1mx3.0/9,Error ellipse: s-maj=74.3km s-min=48.2km az=100.0*
ISC 05 05:26:57.9±5.5,68S±04×1470E±03,h119km±30km,n9,
σ0°97/8,mb3.5/1,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.57	177	P		Pn		05 27 38.5	+0.1
	18nm,0.3s,baz=341,slow=5.9,SNR=29								
PMG				S		Sn		05 28 09.6	0.0
	18nm,0.3s,baz=189,slow=23,SNR=20								
CTA	Charters Tower	13.21	183	P		Pn		05 30 00.8	+0.1
	0.3nm,0.3s,baz=9.7,slow=15,SNR=2.1								
WRAB	Tennant Creek	17.91	222	*e*P		Pn		05 30 58.4	-0.8
	1.2nm,0.5s								
WB2	Warramunga Arr	17.91	222	*e*P		Pn		05 30 59.4	+0.1
WRA	Warramunga Arr	17.92	222	P		Pn		05 30 59.1	-0.3
	0.3nm,0.3s,baz=40,slow=12,SNR=4.6								
ASAR	Alice Springs	20.95	216	P		P		05 31 32.9	+1.6
	0.7nm,0.4s,baz=47,slow=8.7,SNR=14								
STKA	Stephens Creek	25.43	191	P		P		05 32 13.8	-0.6
	0.8nm,0.4s,mb3.5,baz=342,slow=6.4,SNR=3.4								
RAO	Raoul Island	39.87	128	LR		LR		05 48 01.5	
	comp=Z,153nm,19.1s,baz=315,slow=32								
TORD	Torodi Ar. Bea	145.29	283	PKPbc		PKPbc		05 46 22.9	+1.5
	0.7nm,0.9s,baz=77,slow=1.9,SNR=3.8								

IDC ***05*** *05:48:25.8±4.1,2634S×17850E,h597km±39km,mb3.6/4, mb1 3.7/7,mb1mx3.4/15,mbtmp4.6/7,Error ellipse: s-maj=53.7km s-min=27.4km az=49.0*
NEIC ***05*** *05:48:26.1±1.7,2634S×17850E,h604km±16km,mb4.4/10, Error ellipse: s-maj=24.2km s-min=13.7km az=50.0*
ISCJB ***05*** *05:48:30.2±2.5,266S±02×1780E±03,h637km±17km, mb4.2/11,Error ellipse: s-maj=49.2km s-min=11.3km az=105.3*
ISC 05 05:48:28.1±2.5,264S±02×1783E±03,h610km±17km,n36,
σ0°78/33,mb4.3/11,6D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.67	289	P		P		05 51 03.9	+0.4
	3.1nm,0.3s,baz=98,slow=13,SNR=35								
NOUC	Port Laguerre	11.78	289	*e*P		P		05 51 04.7	+0.1
URZ	Urewera	11.83	185	P		P		05 51 02.6	-2.5
	1.4nm,0.3s,baz=322,slow=20,SNR=6.5								
URZ	Urewera	11.83	185	*e*PN		P		05 51 00.8	-4.3
MRZ	Mangatainoka R	14.37	188	PN		P		05 51 27.2	-2.7
QRZ	Quartz Range	15.13	197	PN		P		05 51 38.8	+1.9
NNZ	Nelson	15.30	194	PN		P		05 51 38.5	+0.1
TUWZ	Tuamarina	15.38	192	*e*PN		P		05 51 38.7	-0.6
THZ	Tophouse	15.92	195	PN		P		05 51 44.6	+0.4
DSZ	Denniston Nort	16.19	198	PN		P		05 51 47.8	+1.2
KHZ	Kahutara	16.41	193	*e*PN		P		05 51 48.5	-0.2
LTZ	Lake Taylor	17.04	195	PN		P		05 51 54.3	0.0
RPZ	Rata Peaks	18.22	197	P		P		05 52 05.6	+0.4
	1.5nm,0.3s,baz=9.5,slow=6.1,SNR=5.7								
CTA	Charters Tower	30.08	275	⇓*i*P		P		05 53 50.6	+0.8
	14nm,0.4s,mb4.9								
CTAO	Charters Tower	30.08	275	⇓*i*P		P		05 53 50.5	+0.7
	17nm,0.4s,mb5.0								
STKA	Stephens Creek	32.42	252	*e*P		P		05 54 08.5	-1.2
	2.9nm,0.3s,mb4.4								
STKA	Stephens Creek	32.42	252	P		P		05 54 08.7	-1.0
	3.1nm,0.3s,mb4.4,baz=94,slow=9.8,SNR=20								
AS31	Alice Springs	40.19	264	*e*P		P		05 55 13.5	+0.3
ASAR	Alice Springs	40.19	264	P		P		05 55 13.6	+0.3
	5.1nm,0.5s,mb4.3,baz=90,slow=7.2,SNR=92								
ASPA	Alice Springs	40.19	264	*e*P		P		05 55 13.5	+0.3
WB2	Warramunga Arr	40.78	270	⇓*i*P		P		05 55 17.7	-0.2
WRAB	Tennant Creek	40.78	270	*e*P		P		05 55 17.6	-0.4
	19nm,0.9s,mb4.6								
WRA	Warramunga Arr	40.79	270	P		P		05 55 17.8	-0.2
	4.1nm,0.4s,mb4.3,baz=104,slow=7.6,SNR=48								
FORT	Forrest	44.04	252	*e*P		P		05 55 42.8	-0.5
	12nm,0.6s,mb4.6								
KAKA	Kakadu	45.10	279	*e*P		P		05 55 50.6	-0.8
	4.2nm,0.3s,mb4.5								
FITZ	Fitzroy Crossi	49.17	268	*e*P		P		05 56 22.2	+0.4
	11nm,0.9s,mb4.3								
FITZ	Fitzroy Crossi	49.17	268	P		P		05 56 22.5	+0.7
	5.5nm,0.7s,mb4.1,baz=137,slow=10,SNR=18								
KLBR	Kellerberrin	52.64	249	*e*P		P		05 56 46.8	0.0
	6.6nm,0.7s,mb4.1								
MBWA	Marble Bar	53.48	262	*e*P		P		05 56 52.3	-0.5
	2.3nm,0.4s,mb3.9								
QSPA	South Pole Qui	63.65	180	*e*P		P		05 58 01.4	+0.6
	6.6nm,1.1s,mb3.9								
SNAA	Sanae	82.16	180	⇓*i*		P		05 59 34.9	-11
VNA3	Neumayer Olymp	82.43	177	⇓*i*		P		05 59 47.3	-0.3
VNA2	Neumayer--Watz	82.83	178	⇓*i*		P		05 59 49.9	+0.3
	baz=188,slow=5.5								
FINES	FINESS Array B	140.32	339	PKhKP				06 06 40.5	
	0.4nm,0.4s,baz=349,slow=1.9,SNR=4.4								
NB2	NORSAR Subarra	144.31	349	PKPa		PKPdf		06 06 53.6	-2.1
	comp=Z,0.7nm,0.6s,baz=19,slow=2.9								
NOA	NORSAR Array B	144.31	349	PKP		PKPdf		06 06 53.5	-2.2
	comp=Z,1.2nm,0.8s,baz=16,slow=3.3,SNR=5.1								

JMA 05 06:13:14.9±0.1,2463N×12418E,h11km±3km,M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIJ	Ishigaki jima	0.27	187	P		Pg		06 13 20.1	-0.3
JIJ				S		Sg		06 13 23.9	-0.1
JKRS	Kuro-shima	0.42	202	P		Pg		06 13 23.3	+0.1
JKRS				S		Sg		06 13 29.3	+0.5
JTJ	Tarama	0.47	89	P		Pg		06 13 24.2	0.0
JTJ				S		Sg		06 13 31.3	+0.8
IRIF	Iriomote-Funau	0.50	234	P		Pg		06 13 24.4	-0.4
IRIF				*e*S		Sg		06 13 31.9	+0.5
HATJ	Hateruma jima	0.67	211	P		Pg		06 13 27.7	-0.1
HATJ				S		Sg		06 13 37.2	+0.7
JMJ	Miyako jima 2	1.03	79	P		Pg		06 13 34.1	-0.6
JMJ				S		Sg		06 13 48.3	+0.2
YOJ	Yonaguni jima	1.08	261	P		Pb		06 13 33.7	-1.8
YOJ				*e*S		Sb		06 13 48.8	-0.8
JOGS	Gusukube	1.12	83	P		Pb		06 13 35.6	-0.7
JOGS				S		Sb		06 13 51.6	+0.7
JKE	Kume jima 2	2.90	54	P		Pn		06 14 00.1	-0.9
JAGN	Aguni-jima	3.38	54	P		Pn		06 14 07.1	-0.5
JAGN				*e*S		Sn		06 14 47.1	-0.7

ISCJB ***05*** *06:18:42.8±0.3,107N±006×28.11W±005,h10km,mb4.6/56, MS5.3/8,Error ellipse: s-maj=10.6km s-min=5.7km az=104.6*
SZGRF ***05*** *06:18:42.7,009N×2768W,h33km,mb5.2,Central Mid-Atlantic Ridge*
IDC ***05*** *06:18:42.7±0.5,122N×28.12W,h0km,mb4.3/21, mb1 4.4/21,mb1mx4.4/25,mbtmp4.3/21,MS5.0/2, Ms1 5.0/2,ms1mx4.2/28,Error ellipse: s-maj=19.3km s-min=11.4km az=149.0*
MOS ***05*** *06:18:42.5±0.7,107N×28.14W,h10km,mb5.0/29,Error ellipse: s-maj=15.1km s-min=5.3km az=59.7*
HRVD ***05*** *06:18:44.6±0.3,091N×2799W,h24km±2km,MW5.4/68, Centroid moment Tensor Solution. LP body waves: s59,c89;Mantle waves: s68,c87; Half duration: 1±1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.13±.04; $M_{\theta\theta}$0.34±.04; $M_{\phi\phi}$-0.47±.05; $M_{r\theta}$0.08±.06; $M_{r\phi}$-1.26±.04; $M_{\theta\phi}$0.04±.07; Best double couple: $M_0$1.32700×10^{17} NP1:φ_s171.00000°, δ86.00000°,λ-1.00000°. NP2:φ_s261.00000°,δ89.00000°, λ-176.00000°. Principal axes: T 1.2600, Plg2.0000°, Azm36.0000°; N 0.1320, Plg86.0000°, Azm269.0000°; P -1.3930, Plg3.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***05*** *06:18:44.5,110N×2820W,h10km,mB5.5,Ms5.7,Msz5.2*
NEIC ***05*** *06:18:44.6±0.3,107N×28.17W,h10km,mb4.9/37,Error ellipse: s-maj=10.1km s-min=5.1km az=147.0*
ISC 05 06:18:45.0±0.3,107N±006×2813W±005,h10km,
(h12km±2.4km:pP-P),n179,σ0°94/176,mb4.6/56,MS5.3/8,
7C-8D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DBIC	Dimbokro	23.87	76	P		P		06 23 56.2	-2.4
	16nm,1.1s,mb4.3,baz=241,slow=12,SNR=5.7								
DBIC	Dimbokro	23.87	76	*e*P		P		06 23 56.3	-2.3
DBIC				pmax		pmax			
	comp=Z,202nm,2.1s								
DBIC	Dimbokro	23.87	76	*e*P		P		06 23 56.3	-2.3
	comp=Z,202nm,2.1s,mb5.2								
BDFB	Brasilia	25.72	229	P		P		06 24 14.5	-0.9
	comp=Z,6.6nm,0.8s,mb4.2,baz=78,slow=9.3,SNR=7.6								
TORD	Torodi Ar. Bea	31.89	67	P		P		06 25 07.5	-2.8
	comp=Z,18nm,1.2s

MTLF	Montolieu	50.05	29	eP	P	06 27 39.5	-0.2
OTAV	Otavalo	50.32	269	eP	P	06 27 42.4	+0.6
	comp=Z,20nm,1.8s,mb4.8						
LFF	La Frestale	50.59	26	eP	P	06 27 43.7	-0.1
ATAH	Atahualpa	50.78	260	LR	LR	06 49 18.6	
	comp=Z,2μm,19.1s,MS5.2,baz=0.0,slow=36						
CAF	Calviac	51.18	27	eP	P	06 27 48.3	+0.1
RJF	Les Rejaudoux	51.22	27	eP	P	06 27 48.9	+0.3
LASF	Ste Croix	51.39	29	eP	P	06 27 49.6	-0.2
	comp=Z,58nm,1.5s,mb5.0						
QUIF	Quistinic	51.43	21	eP	P	06 27 50.2	0.0
	comp=Z,13nm,1.0s,mb4.5						
QUIF	Quistinic	51.43	21	eP	P	06 27 50.2	0.0
QUIF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
QUIF	Quistinic	51.43	21	eP	P	06 27 50.2	0.0
	comp=Z,6.3nm,1.0s,mb4.5						
MFF	Saint Martin d	51.52	24	eP	P	06 27 50.8	-0.1
	comp=Z,30nm,1.4s,mb4.7						
MFF	Saint Martin d	51.52	24	eP	P	06 27 50.8	-0.1
MFF				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
MFF	Saint Martin d	51.52	24	eP	P	06 27 50.8	-0.1
	comp=Z,15nm,1.4s,mb4.7						
ROSF	Rostrenen	51.75	21	eP	P	06 27 52.7	+0.2
SGMF	Saint Gilles	51.94	21	eP	P	06 27 53.9	0.0
LMR	La Mourre	52.20	32	eP	P	06 27 55.9	0.0
TCF	Toulx Ste Croi	52.29	26	eP	P	06 27 56.7	+0.2
	comp=Z,22nm,1.4s,mb4.6						
TCF	Toulx Ste Croi	52.29	26	eP	P	06 27 56.7	+0.2
TCF				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
TCF	Toulx Ste Croi	52.29	26	eP	P	06 27 56.7	+0.2
	comp=Z,11nm,1.4s,mb4.6						
VIVF	Saint-Julien-l	52.36	29	eP	P	06 27 56.9	-0.2
GRR	Gorron	52.69	23	eP	P	06 27 59.1	-0.4
BGF	Bois d'Agland	52.78	26	eP	P	06 28 00.1	-0.1
SBF	Sospel	53.05	32	eP	P	06 28 01.9	-0.3
FLN	La Foliniere	53.14	23	eP	P	06 28 02.5	-0.3
	comp=Z,6.6nm,0.7s,mb4.4						
FLN	La Foliniere	53.14	23	eP	P	06 28 02.5	-0.3
FLN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
FLN	La Foliniere	53.14	23	eP	P	06 28 02.5	-0.3
	comp=Z,3.3nm,0.7s,mb4.4						
LDF	La Druitiere	53.14	23	eP	P	06 28 03.1	+0.3
	comp=Z,24nm,1.3s,mb4.7						
LDF	La Druitiere	53.14	23	eP	P	06 28 03.1	+0.3
LDF				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
LDF	La Druitiere	53.14	23	eP	P	06 28 03.1	+0.3
	comp=Z,12nm,1.3s,mb4.7						
AVF	Avril sur Loir	53.18	27	eP	P	06 28 03.2	+0.1
SMF	Signal de Mont	53.29	27	eP	P	06 28 03.7	-0.3
MBDF	Montbardon	53.31	31	eP	P	06 28 04.3	+0.2
SSF	Saint Saulge	53.45	27	eP	P	06 28 05.0	-0.2
LOR	Lormes	53.77	27	eP	P	06 28 07.7	+0.2
LPG	La Plagne	53.84	30	eP	P	06 28 08.5	+0.5
LPL	La Plagne	53.84	30	eP	P	06 28 08.4	+0.4
CABF	La Chapelle	54.31	29	eP	P	06 28 11.3	-0.1
	comp=Z,62nm,1.6s,mb5.0						
CABF	La Chapelle	54.31	29	eP	P	06 28 11.3	-0.1
CABF				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.0						
CABF	La Chapelle	54.31	29	eP	P	06 28 11.3	-0.1
	comp=Z,31nm,1.6s,mb5.0						
HAU	Haudompre	55.45	27	eP	P	06 28 20.0	+0.4
HINF	Hinteralfeld	55.54	28	eP	P	06 28 20.6	+0.2
TIP	Timpagrande	55.79	42	eP	P	06 28 21.7	-0.5
BAIF	Baives	56.04	25	eP	P	06 28 24.0	+0.1
	comp=Z,31nm,1.4s,mb4.8						
BAIF	Baives	56.04	25	eP	P	06 28 24.0	+0.1
BAIF				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
BAIF	Baives	56.04	25	eP	P	06 28 24.0	+0.1
	comp=Z,16nm,1.4s,mb4.8						
CDF	Champ du Feu	56.17	28	eP	P	06 28 25.1	+0.3
BFO	Black Forest	56.60	28	eP	P	06 28 28.1	+0.2
PLCA	Paso Flores	56.71	218	P	P	06 28 29.9	+1.3
	comp=Z,4.3nm,1.0s,mb4.4,baz=342,slow=3.7,SNR=3.8						
HGN	Heimansgroeve	57.30	25	eP	P	06 28 34.1	+1.3
	comp=Z,16nm,1.3s,mb4.9						
VOY	Vojsko	57.95	33	eP	P	06 28 37.8	+0.4
VOY				e		06 28 51.5	
JAVS	Javornik	57.96	34	eP	P	06 28 38.3	+0.8
CADS	Cadrg	57.98	33	eP	P	06 28 38.3	+0.7
LBTB	Lobatse	58.07	120	eP	P	06 28 38.7	+0.4
LBTB				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
LBTB	Lobatse	58.07	120	eP	P	06 28 38.7	+0.4
	comp=Z,12nm,1.1s,mb4.8						
BOJS	Bojanci	58.39	35	eP	P	06 28 41.3	+0.8
GRA1	Grafenberg Arr	58.92	29	eP	P	06 28 44.6	+0.3
	comp=Z,38nm,1.6s,mb5.2						
GRF	Grafenberg Arr	58.92	29	eP	P	06 28 44.6	+0.3
	comp=Z,38nm,1.6s,mb5.2						
GRF	Grafenberg Arr	58.92	29	eP	P	06 28 44.6	+0.3
GRF				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.2						
BOSA	Boshof	58.98	125	P	P	06 28 46.5	+1.9
	comp=Z,4.0nm,0.8s,mb4.5,baz=305,slow=8.2,SNR=5.4						
BOSA	Boshof	58.98	125	eP	P	06 28 46.4	+1.8
BOSA				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
BOSA	Boshof	58.98	125	eP	P	06 28 46.4	+1.8
	comp=Z,14nm,1.3s,mb4.8						
PERS	Pernice	58.99	33	eP	P	06 28 45.5	+0.8
GERES	GERESS Array B	59.60	31	P	P	06 28 48.9	-0.1
	comp=Z,2.6nm,0.9s,mb4.2,baz=224,slow=3.7,SNR=21						
KHC	Kasperske Hory	59.72	30	eP	P	06 28 49.3	-0.5
MOX	Moxa	59.75	28	eP	P	06 28 51.1	+1.1
	comp=Z,33nm,1.9s,mb5.0						
MOX	Moxa	59.75	28	eP	P	06 28 51.1	+1.1
MOX				pmax	pmax		
	comp=Z,33nm,1.9s,mb5.0						
NKC	Novy Kostel	59.88	29	eP	P	06 28 52.2	+1.4
SOP	Sopron	60.40	33	eP	P	06 28 55.5	+1.1
PRU	Pruhonice	60.75	30	eP	P	06 28 57.2	+0.4
CLL	Collm	60.85	28	iP	P	06 28 58.4	+0.9
	comp=Z,31nm,1.8s,mb5.1						
CLL				eP	P	06 31 04.6	-6.9
CLL				eS	S	06 37 19.5	+4.4
CLL				eS	S	06 38 55.7	+7.1
CLL				eS	S	06 41 16.5	+2.5
CLL	Collm	60.85	28	iP	P	06 28 58.3	+0.8
	comp=Z,48nm,2.1s,mb5.3						
CLL				eS	S	06 37 18.0	+2.9
CLL				eS	S	06 38 56.0	+7.4
CLL				eS	S	06 41 08.0	-6.0
CLL	Collm	60.85	28	iP	P	06 28 58.3	+0.8
CLL				eS	S	06 37 18.0	+2.9
CLL				pmax	pmax		
	comp=Z,48nm,2.1s,mb5.3						
CLL				MLR	MLR		
	comp=Z,3μm,17.5s,MS5.5						
CLL	Collm	60.85	28	iP	P	06 28 58.3	+0.8
	comp=Z,48nm,2.1s,mb5.3						
CLL				eS	S	06 37 18.0	+2.9
CLL				eS	S	06 38 56.0	+7.4
ZST	Bratislava	61.00	33	eP	P	06 28 59.1	+0.6
ZST	Bratislava	61.00	33	eP	P	06 28 59.2	+0.7
ZST				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
ZST	Bratislava	61.00	33	eP	P	06 28 59.2	+0.7
	comp=Z,12nm,1.0s,mb5.0						
BRG	Berggiesshubel	61.02	29	eP	P	06 29 00.1	+1.5
	comp=Z,6.8nm,1.3s,mb4.6						
BRG				SS	S	06 37 23.0	+5.8
BRG							
	comp=N,1μm,18.8s						
BRG							
	comp=E,1μm,20.2s						
BRG							
	comp=Z,2μm,18.6s						
BRG	Berggiesshubel	61.02	29	eP	P	06 29 00.1	+1.5
	comp=Z,6.8nm,1.3s,mb4.6						
BRG				S	S	06 37 33.0	+16
BRG							
	comp=N,1μm,18.8s						
BRG							
	comp=E,1μm,20.2s						
BRG							
	comp=Z,2μm,18.6s						
BRG	Berggiesshubel	61.02	29	eP	P	06 29 00.2	+1.6
BRG				S	S	06 37 33.0	+16
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
BRG				MLR	MLR		
	comp=N,1μm,18.8s,MS5.2						
BRG				MLR	MLR		
	comp=E,1μm,20.2s,MS5.2						
BRG				MLR	MLR		
	comp=Z,2μm,18.6s,MS5.3						
PVCC	Panska Ves	61.10	30	eP	P	06 29 00.1	+0.9
BUD	Budapest	61.66	34	⇑P	P	06 29 04.0	+1.0
UPC	Upice	61.81	30	eP	P	06 29 02.1	-1.9
VYHS	Vyhne	62.12	33	eP	P	06 29 06.0	0.0
VYHS				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.8						
VYHS	Vyhne	62.12	33	eP	P	06 29 06.0	0.0
	comp=Z,11nm,1.5s,mb4.8						
KSP	Ksiaz	62.16	30	eP	P	06 29 07.6	+1.3
MORC	Moravsky Berou	62.16	32	⇓iP	P	06 29 07.4	+1.1
MORC	Moravsky Berou	62.16	32	eP	P	06 29 06.6	+0.3
MORC				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.9						
MORC	Moravsky Berou	62.16	32	eP	P	06 29 06.6	+0.3
	comp=Z,12nm,1.3s,mb4.8						
PSZ	Piszkesteto	62.39	34	⇑eP	P	06 29 08.9	+1.0
PSZ	Piszkesteto	62.39	34	eP	P	06 29 07.5	-0.4
PSZ				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.3						
PSZ	Piszkesteto	62.39	34	eP	P	06 29 07.5	-0.3
	comp=Z,36nm,1.4s,mb5.3						
OKC	Ostrava-Krasne	62.51	32	eP	P	06 29 09.1	+0.4
ACSO	Alum Creek Sta	63.09	315	eP	P	06 29 12.3	-0.2
	comp=Z,3.5nm,0.6s,mb4.7						
SWET	Sewanee	63.45	309	eP	P	06 29 13.9	-1.0
OJC	Ojcow	63.61	32	eP	P	06 29 16.7	+0.7
STHS	Stebnicka Huta	63.95	33	e	P	06 29 26.9	+8.7
MLR	Muntele Rosu	64.80	39	⇑iP	P	06 29 24.2	+0.4
PLOR	Plostina	65.40	39	⇓iP	P	06 29 24.8	-2.9
KMBO	Kilima Mbogo	65.42	92	P	P	06 29 26.5	-1.3
	comp=Z,1.6nm,0.9s,mb4.0,baz=221,slow=19,SNR=2.4						
KMBO	Kilima Mbogo	65.42	92	P	P	06 29 26.5	-1.3
VRI	Vrincioaia	65.46	39	⇑iP	P	06 29 26.2	-1.9
NB2	NORSAR Subarra	66.89	20	P	P	06 29 37.2	-0.1
	comp=Z,13nm,1.4s,mb4.8,baz=224,slow=6.5						
NB2	NORSAR Subarra	66.89	20	P	P	06 29 37.2	-0.1
NB2				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
NOA	NORSAR Array B	66.89	20	P	P	06 29 34.6	-2.7
	comp=Z,2.1nm,0.9s,mb4.2,baz=224,slow=6.3,SNR=3.9						
BR131	Keskin Array S	67.88	47	eP	P	06 29 43.2	-0.4
	comp=Z,1.7nm,0.8s,mb4.1						
BRTR	Keskin Array B	67.88	47	P	P	06 29 43.1	-0.5
	comp=Z,5.5nm,1.2s,mb4.5,baz=224,slow=5.2,SNR=14						
AKASG	Malin Array Be	69.07	35	P	P	06 29 50.1	-0.8
	comp=Z,6.6nm,0.8s,mb4.6,baz=242,slow=7.2,SNR=32						
MALT	Malatya	71.08	50	⇓iP	P	06 30 04.1	+0.8
MALT	Malatya	71.08	50	eP	P	06 30 03.8	+0.5
MALT				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
MALT	Malatya	71.08	50	eP	P	06 30 03.8	+0.5
	comp=Z,21nm,1.4s,mb4.9						
SUMG	Summit	71.70	357	eP	P	06 30 07.1	+0.1
	comp=Z,10nm,1.1s,mb4.7						
FINES	FINESS Array B	72.71	24	P	P	06 30 11.7	-1.4
	comp=Z,5.8nm,1.1s,mb4.4,baz=253,slow=2.0,SNR=8.1						
VNA2	Neumayer--Watz	73.15	173	eP	P	06 30 14.8	-0.9
VNA2				e	pP	06 30 18.5	-0.5
VNA2				e	pP	06 30 19.6	+0.6
VNA2				e		06 30 26.5	
VNA2				e		06 30 29.8	
VNA2				e		06 30 31.7	
VNA2				e		06 30 35.3	
VNA2				e		06 30 48.0	
KAF	Kangasniemi	73.16	24	ep	P	06 30 14.5	-1.2
VNA3	Neumayer Olymp	73.19	174	eP	P	06 30 15.0	-0.9
VNA3				e	pP	06 30 18.6	-0.6
VNA3				e	pP	06 30 19.9	+0.7
VNA3				e		06 30 26.8	
VNA3				e		06 30 30.2	
VNA3				e		06 30 32.1	
VNA3				e		06 30 35.4	
VNA3				e		06 30 48.1	
JCT	Junction City	73.69	301	eP	P	06 30 20.0	+1.1
JCT				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
JCT	Junction City	73.69	301	eP	P	06 30 20.0	+1.1
	comp=Z,7.3nm,1.3s,mb4.5						
ECSD	EROS,Sioux Fal	73.82	315	eP	P	06 30 17.4	-2.2
SNAA	Sanae	74.43	172	eP	P	06 30 15.6	-7.6
SNAA				e	pP	06 30 18.9	-7.6
SNAA				e	pP	06 30 20.2	-6.3
SNAA				e		06 30 25.0	
SNAA				e		06 30 28.8	
SNAA				e		06 30 30.9	
ULM	Lac du Bonnet	75.09	322	P	P	06 30 25.4	-1.6
	comp=Z,2.3nm,0.9s,mb4.1,baz=114,slow=8.1,SNR=5.6						
ULM	Lac du Bonnet	75.09	322	P	P	06 30 25.4	-1.6
JOF	Joensuu	75.58	24	ep	P	06 30 30.2	+0.4
DAG	Danmarks Havn	75.81	2	⇑iP	P	06 30 31.5	+0.3
	comp=Z,7.7nm,1.3s,mb4.5						
DAG	Danmarks Havn	75.81	2	⇑eP	P	06 30 31.5	+0.3
DAG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
DAG	Danmarks Havn	75.81	2	⇑eP	P	06 30 31.5	+0.3
	comp=Z,7.7nm,1.3s,mb4.5						
FCC	Fort Churchill	76.81	331	eP	P	06 30 35.1	-1.8
FCC				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
FCC	Fort Churchill	76.81	331	eP	P	06 30 35.1	-1.8
	comp=Z,11nm,1.0s,mb4.8						
LAZ	Ladron	80.32	305	eP	P	06 30 56.9	+0.7
LAO	LASA Array	81.05	317	eP	P	06 30 59.2	-0.9
	comp=Z,17nm,1.3s,mb4.8						
PV01	Paradox Valley	81.81	308	eP	P	06 31 04.0	-0.1
PV10	Paradox Valley	82.20	308	eP	P	06 31 07.1	+0.9
PDAR	Pinedale Array	82.97	313	P	P	06 31 08.8	-1.4
	comp=Z,0.4nm,0.7s,mb3.6,baz=90,slow=5.9,SNR=4.3						
DLMT	Dillon	85.34	315	eP	P	06 31 22.2	-0.1
	comp=Z,19nm,1.5s,mb5.0						
BGU	Big Grassy Mou	85.44	311	eP	P	06 31 25.2	+2.4
MCMT	McKenzie Canyo	85.49	315	eP	P	06 31 22.9	-0.1
EDM	Edmonton	86.28	323	eP	P	06 31 25.6	-1.3
HLID	Hailey	86.57	313	eP	P	06 31 30.8	+2.5
	comp=Z,5.5nm,1.4s,mb4.6						
ARU	Arti	87.28	34	eP	P	06 31 31.1	-0.7
ARU				e	pP	06 31 33.1	-2.1
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
ARU	Arti	87.28	34	eP	P	06 31 31.1	-0.8
	comp=Z,6.0nm,0.8s,mb4.9						
ARU				ePcP	PcP	06 31 33.1	-0.8
NVAR	Mina Array Bea	89.47	308	P	P	06 31 42.0	-0.2
	comp=Z,0.2nm,0.4s,mb3.8,baz=12,slow=7.6,SNR=3.0						
CD2	Chengdu	124.36	51	ePKP	PKPdf	06 37 39.6	-4.5
HHC	Hu-ho-hao-te	124.50	37	ePKP	PKPdf	06 37 45.3	+0.9
HHC				PP	PP	06 39 35.4	+4.9
HHC				PKS		06 41 21.1	
HHC				SKS	SKSdf	06 44 55.5	-0.9
HHC				PP	PP		
	comp=Z,60nm,5.9s						
HHC				LR	LR		
	comp=N,510nm,15.0s,MS5.4						
HHC				LR	LR		
	comp=E,500nm,18.6s,MS5.4						
HHC				LR	LR		
	comp=Z,2μm,36.0s						
KMI	Kunming	125.82	58	PKP	PKPdf	06 37 46.4	-0.5
KMI				XPKP		06 37 51.6	
KMI				PP	PP	06 39 45.4	+6.0
KMI				PP	PP		
	comp=Z,80nm,5.2s						
KMI				LR	LR		
	comp=N,740nm,20.2s,MS5.5						
KMI				LR	LR		
	comp=E,970nm,21.4s,MS5.5						
KMI				LR	LR		
	comp=Z,1μm,17.3s,MS5.6						
GYA	Guiyang	128.56	54	PKP	PKPdf	06 37 58.0	+5.8
GYA				PP	PP		
	comp=Z,110nm,7.9s						
GYA				LR	LR		
	comp=N,280nm,19.7s,MS5.0						
GYA				LR	LR		
	comp=E,180nm,20.7s,MS5.0						
GYA				LR	LR		
	comp=Z,160nm,19.8s,MS4.7						
CN2	Changchun	129.46	25	ePKP	PKPdf	06 37 55.7	+1.8
NJ2	Nanjing	134.60	41	ePKP	PKPdf	06 37 59.1	-4.5
NJ2				PP	PP	06 40 37.0	+0.6
NJ2				PKS		06 41 33.0	
NJ2				PP	PP		
	comp=Z,330nm,6.8s						
NJ2				LR	LR		
	comp=N,3μm,26.6s,MS6.0						
NJ2				LR	LR		
	comp=E,3μm,28.3s,MS6.0						
NJ2				LR	LR		
	comp=Z,1μm,24.6s,MS5.6						
SSE	Sheshan	136.73	40	ePKP	PKPdf	06 38 09.0	+1.5
SSE				PP	PP		
	comp=Z,110nm,4.7s						
ASAR	Alice Springs	151.58	144	PKPbc	PKPbc	06 38 41.9	+2.5
	comp=Z,1.0nm,0.8s,baz=202,slow=1.8,SNR=8.1						

ISCJB ***05*** *06:27:05.9±0.2, 109N±004×2800W±003, h10km, mb5.1/160, MS5.4/171, Error ellipse: s-maj=6.4km s-min=3.8km az=119.6*

IDC ***05*** *06:27:05.6±0.4, 1.18N×2809W, h0km, mb4.5/26, mb1 4.5/26, mb1mx4.5/28, mbtmp4.5/26, MS5.4/17, Ms1 5.4/17, ms1mx5.3/23, Error ellipse: s-maj=14.5km s-min=10.2km az=150.0*

MOS ***05*** *06:27:05.5±1.2, 1.12N×2803W, h10km, mb5.4/81, MS5.5/24, Error ellipse: s-maj=9.5km s-min=3.8km az=59.7*

SZGRF ***05*** *06:27:07.3, 063N×2766W, h33km, mb5.7, MS5.5, Central Mid-Atlantic Ridge*

NEIC ***05*** *06:27:08.0±0.3, 1.18N×2807W, h10km, mb5.2/124, MS5.4/107, MW5.9, Error ellipse: s-maj=8.4km s-min=5.2km az=155.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^17Nm; Mrr0.48; Mθθ1.61; Mφφ-2.08; Mrθ1.17; Mθφ-8.74; Mφr-1.03; Best double couple: M0 9.10000×10^17 NP1:φs175.00000°, δ83.00000°, λ8.00000°. NP2:φs84.00000°, δ82.00000°, λ173.00000°. Principal axes: T 8.9800, Plg10.0000°, Azm39.0000°; N 0.1900, Plg80.0000°, Azm217.0000°; P -9.1700, Plg0.0000°, Azm309.0000°;*

CSEM ***05*** *06:27:07.4, 1.13N×2795W, h10km, ML6.0*

IGIL ***05*** *06:27:07.4, 1.10N×2800W, h10km, MS5.6*

CRAAG ***05*** *06:27:07.4, 1.13N×2795W, Mw6.0*

HRVD ***05*** *06:27:08.0±0.1, 1.12N×2780W, h16km, MW6.0/109, Centroid moment Tensor Solution. LP body waves: s109,c223;Mantle waves: s103,c400; Half duration: 2s5 Moment tensor: Scale 10^18Nm; Mrr-0.21±.01; Mθθ0.39±.01; Mφφ-0.18±.01; Mrθ-0.02±.03; Mφr-1.31±.01; Mθφ0.02±.03; Best double couple: M0 1.34200×10^18 NP1:φs264.00000°, δ89.00000°, λ180.00000°. NP2: φs354.00000°, δ90.00000°, λ1.00000°. Principal axes: T 1.4450, Plg1.0000°, Azm219.0000°; N -0.2060, Plg89.0000°, Azm18.0000°; P -1.2390, Plg0.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***05*** *06:27:08.9, 120N×28.10W, h10km, mB5.8, Ms5.9, Msz5.6*

ISC 05 06:27:08.1±0.2, 111N±004×2804W±003, h10km, (h17km±1.9km:pP-P), n603, σ1s21/513, mb5.1/160, MS5.4/171, 25C-42D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASCN	Ascension	16.33	124	ePn		Pn	Pn	06 30 58.5	+1.1
	297nm,1.1s								
DBIC	Dimbokro	23.77	76	P		P	P	06 32 19.0	-1.7
	39nm,0.8s,mb4.9,baz=236,slow=12,SNR=33								
DBIC	Dimbokro	23.77	76	P		P	P	06 32 19.0	-1.8
DBIC					pmax	pmax			
	comp=Z,39nm,0.8s								
DBIC	Dimbokro	23.77	76	eP		P		06 32 18.7	-2.1
	comp=Z,105nm,1.0s,mb5.2								
DBIC					LR	LR			
	comp=Z,10μm,14.3s,MS5.4								
BDFB	Brasilia	25.82	229	P		P	P	06 32 39.1	-0.3
	comp=Z,21nm,0.9s,mb4.6,baz=59,slow=10,SNR=6.1								
CAM4	Nova Friburgo	27.29	210	⇑iP		P		06 32 52.9	+0.2
CAM4				i				06 33 18.1	
CAM4				i				06 34 57.2	
EGOM	La Gomera	28.83	20	P		P	P	06 33 09.7	+3.3
	comp=Z,63nm,1.2s,mb5.2								
TORD	Torodi Ar. Bea	31.78	67	P		P	P	06 33 30.8	-1.8
	comp=Z,46nm,0.8s,mb5.4,baz=256,slow=9.7,SNR=236								
SAML	Samuel	36.41	253	eP		P		06 34 11.1	-1.6
	comp=Z,42nm,1.2s,mb5.2								
SAML					LR	LR			
	comp=Z,4μm,20.0s,MS5.2								
PCRV	Puerto La Cruz	37.48	285		LR	LR		06 48 48.2	
	comp=Z,4μm,20.7s,MS5.1,baz=302,slow=35								
MDT	Midelt	38.48	33	P		P		06 34 31.0	+0.8
	comp=Z,6.1nm,0.8s,mb4.4,baz=218,slow=6.4,SNR=20								
MDT					LR	LR		06 49 52.5	
	comp=Z,12μm,18.3s,MS5.8,baz=241,slow=36								
CPUP	Villa Florida	39.28	224	P		P		06 34 38.0	+1.1
	comp=Z,2.5nm,0.7s,baz=34,slow=8.5,SNR=7.0								
CPUP	Villa Florida	39.28	224	P		P		06 34 38.0	+1.1
CPUP					pmax	pmax			
	comp=Z,3.0nm,0.7s								
CPUP	Villa Florida	39.28	224	eP		P		06 34 37.9	+0.9
	comp=Z,107nm,1.2s,mb5.5								
CPUP					LR	LR			
	comp=Z,2μm,20.0s,MS4.9								
MORF	Marmelete	40.22	24	eP		P		06 34 44.7	0.0
MORF				eS		S		06 40 52.0	+0.3
MORF				eS		S		06 40 52.0	+0.4
MORF					AMS	AMS		06 48 55.3	
	comp=Z,7μm,17.3s,MS5.6								
PTEO	Sao Teotonio	40.39	24	eP		P		06 34 46.8	+0.6
EGRO	El Granado	40.90	25	P		P		06 34 54.8	+4.4
	comp=Z,22nm,1.4s,mb4.6								
SJG	San Juan	41.05	297	P		P		06 34 50.1	-1.5
	comp=Z,3.9nm,0.3s,mb4.5,baz=85,slow=6.3,SNR=2.9								
SJG					LR	LR		06 48 19.7	
	comp=Z,5μm,21.5s,MS5.4,baz=128,slow=31								
ESPR	Espera	41.07	27	P		P		06 34 56.0	+4.3
	comp=Z,9.8nm,1.0s,mb4.4								
PBEJ	Beja	41.15	24	eP		P		06 34 53.4	+0.9
LIS	Lisbon	41.24	23	eP		P		06 34 52.5	-0.6
LIS				eS		S		06 41 07.4	+0.6
LIS				eS		S		06 41 07.9	+1.1
LIS					AMS	AMS		06 48 29.2

comp=Z,11nm,0.9s,mb4.6
ESLA Sonseca Array 44.21 27 *e*P **P 06 35 17.7 +0.4**
comp=Z,42nm,1.7s,mb4.9
ECHA Ech Chlef 44.26 35 P **P 06 35 19.2 +1.6**
PCAB Cabril 44.26 22 *e*P **P 06 35 18.8 +1.1**
EBNR Beni Rached 44.45 35 P **P 06 35 28.6 +9.4**
PBRG Braganca 44.83 23 *e*P **P 06 35 22.8 +0.6**
GUD Guadarrama 44.92 26 P **P 06 35 24.4 +1.5**
GUD pmax pmax
comp=Z,13nm,0.9s,mb4.8
GUD Guadarrama 44.92 26 P **P 06 35 24.4 +1.4**
comp=Z,13nm,0.9s,mb4.8
EMHD Djebel Mahouad 45.21 36 P **P 06 35 34.0 +8.8**
AKET Djebel Ketaf 45.65 37 P **P 06 35 27.0 -1.8**
ABA Alger-Bouzarea 45.67 35 P **P 06 35 30.0 +1.1**
ATAF Djebel Tarf 45.78 37 P **P 06 35 28.2 -1.5**
LVC Limon Verde 46.27 237 P **P 06 35 31.9 -1.7**
comp=Z,2.4nm,0.9s,mb4.1,baz=312,slow=9.1,SNR=3.4
LVC Limon Verde 46.27 237 P **P 06 35 36.8 +3.2**
comp=Z,22nm,1.4s,mb4.9
LVC LR LR
comp=Z,3µm,19.0s,MS5.3
EIBI Ibiza 46.32 32 P **P 06 35 37.8 +3.7**
comp=Z,19nm,0.9s,mb5.0
ROSC El Rosal 46.37 276 P **P 06 35 33.7 -0.7**
comp=Z,4.0nm,0.7s,mb4.5,baz=98,slow=15,SNR=4.2
BBSR BB Station 46.45 316 PFAKE 06 35 50.0 +15
BBSR LR LR
comp=Z,3µm,22.0s,MS5.2
CKHR Kef el Ahmar 46.62 38 P **P 06 35 44.0 +7.6**
SET Setif 46.67 38 P **P 06 35 44.5 +7.7**
DFRA Djebel Bou Aff 47.19 38 P **P 06 35 47.0 +6.1**
CTEI Djebel Teioual 47.21 39 P **P 06 35 51.0 +10**
EBR Ebro Roquetas 47.22 30 *e*Ts 06 35 44.0
EBR *e*Ts 06 43 06.5
CASM Ain Smara 47.39 38 P **P 06 35 52.0 +10**
CKFL Kef-Lekhel 47.62 39 P **P 06 35 52.0 +7.8**
EPOB Poblet 47.91 30 P **P 06 35 50.3 +3.8**
comp=Z,16nm,1.3s,mb4.9
CAEH 'Ain El Ouahch 47.94 38 P **P 06 35 53.0 +6.3**
ABSA Djebel Ababsia 48.01 39 P **P 06 35 54.0 +6.7**
EGRA Graus 48.19 28 P **P 06 35 48.8 +0.2**
comp=Z,10nm,0.6s,mb5.0
CMAH Djebel Manchou 48.20 39 P **P 06 35 56.0 +7.3**
SJPF Ste Jean 48.20 26 *e*P **P 06 35 47.5 -1.2**
comp=Z,78nm,0.8s,mb5.5
SJPF Ste Jean 48.20 26 *e*P **P 06 35 47.5 -1.2**
SJPF pmax pmax
comp=Z,39nm,0.8s,mb5.5
SJPF Ste Jean 48.20 26 *e*P **P 06 35 47.5 -1.2**
comp=Z,39nm,0.8s,mb5.5
LARF Larrau 48.25 27 *e*P **P 06 35 50.0 +1.0**
OSSF Osses 48.30 26 *e*P **P 06 35 49.9 +0.5**
ETSF Etsaut 48.33 27 *e*P **P 06 35 48.5 -1.2**
comp=Z,117nm,1.3s,mb5.5
ETSF Etsaut 48.33 27 *e*P **P 06 35 48.5 -1.2**
ETSF pmax pmax
comp=Z,58nm,1.3s,mb5.5
ETSF Etsaut 48.33 27 *e*P **P 06 35 48.5 -1.2**
comp=Z,58nm,1.3s,mb5.5
ATE Arette 48.41 27 *e*P **P 06 35 50.7 +0.4**
LABF Labassere 48.73 27 *e*P **P 06 35 53.5 +0.7**
EPF Esparros 48.84 28 *e*P **P 06 35 52.5 -1.2**
comp=Z,170nm,1.4s,mb5.6
EPF Esparros 48.84 28 *e*P **P 06 35 52.5 -1.2**
EPF pmax pmax
comp=Z,85nm,1.4s,mb5.6
EPF Esparros 48.84 28 *e*P **P 06 35 52.5 -1.2**
comp=Z,85nm,1.4s,mb5.6
SALF Salau 49.04 28 *e*P **P 06 35 53.9 -1.2**
TSUM Tsumeb 49.11 117 P **P 06 35 55.4 -0.3**
comp=Z,8.9nm,0.8s,mb4.8,baz=271,slow=10,SNR=8.9
TSUM LR LR 06 54 27.5
comp=Z,2µm,18.1s,MS5.2,baz=292,slow=33
TSUM Tsumeb 49.11 117 *e*P **P 06 35 55.9 +0.2**
comp=Z,29nm,1.1s,mb5.2
TSUM LR LR
comp=Z,3µm,20.0s,MS5.3
MLS Moulis 49.14 28 *e*P **P 06 35 57.9 +2.0**
MTLF Montolieu 49.97 29 *e*P **P 06 36 01.2 -1.0**
comp=Z,60nm,1.2s,mb5.2
MTLF Montolieu 49.97 29 *e*P **P 06 36 01.2 -1.0**
MTLF pmax pmax
comp=Z,30nm,1.2s,mb5.2
MTLF Montolieu 49.97 29 *e*P **P 06 36 01.2 -1.0**
comp=Z,30nm,1.2s,mb5.2
TRQA Tornquist 49.98 215 *e*P **P 06 36 04.3 +2.0**
comp=Z,12nm,0.8s,mb5.0
TRQA LR LR
comp=Z,3µm,19.0s,MS5.3
CFAA Coronel Fontan 50.09 226 P **P 06 36 03.5 +0.3**
comp=Z,0.1nm,0.5s,baz=60,slow=14,SNR=2.8
OTAV Otavalo 50.42 269 *e*P **P 06 36 06.3 +0.6**
comp=Z,5.8nm,0.8s,mb4.7
OTAV LR LR
comp=Z,2µm,21.0s,MS5.2
LFF La Frestale 50.51 26 *e*P **P 06 36 05.2 -1.2**
comp=Z,91nm,0.8s,mb5.5
LFF La Frestale 50.51 26 *e*P **P 06 36 05.2 -1.2**
LFF pmax pmax
comp=Z,46nm,0.8s,mb5.5
LFF La Frestale 50.51 26 *e*P **P 06 36 05.2 -1.2**
comp=Z,46nm,0.8s,mb5.5
ATAH Atahualpa 50.88 260 P **P 06 36 09.6 +0.4**
comp=Z,2.0nm,0.8s,mb4.1,baz=305,slow=19,SNR=2.1
CAF Calviac 51.10 27 *e*P **P 06 36 09.6 -1.2**
comp=Z,34nm,0.9s,mb5.0
CAF Calviac 51.10 27 *e*P **P 06 36 09.6 -1.2**
CAF pmax pmax
comp=Z,17nm,0.9s,mb5.0
CAF Calviac 51.10 27 *e*P **P 06 36 09.6 -1.2**
comp=Z,17nm,0.9s,mb5.0
RJF Les Rejaudoux 51.14 27 *e*P **P 06 36 09.9 -1.2**
RJF *e*R
comp=Z,8µm,19.8s
RJF Les Rejaudoux 51.14 27 *e*P **P 06 36 09.9 -1.2**
RJF LR LR
comp=Z,8µm,19.8s,MS5.8
LASF Ste Croix 51.31 29 *e*P **P 06 36 11.3 -1.0**
QUIF Quistinic 51.36 21 *e*P **P 06 36 12.2 -0.6**
comp=Z,100nm,1.4s,mb5.2
QUIF Quistinic 51.36 21 *e*P **P 06 36 12.2 -0.6**
QUIF pmax pmax
comp=Z,50nm,1.4s,mb5.2
QUIF Quistinic 51.36 21 *e*P **P 06 36 12.2 -0.6**
comp=Z,50nm,1.4s,mb5.2
MFF Saint Martin d 51.45 24 *e*P **P 06 36 12.2 -1.2**
comp=Z,91nm,1.2s,mb5.3
MFF Saint Martin d 51.45 24 *e*P **P 06 36 12.2 -1.2**
MFF pmax pmax
comp=Z,46nm,1.2s,mb5.3
MFF Saint Martin d 51.45 24 *e*P **P 06 36 12.2 -1.2**
comp=Z,46nm,1.2s,mb5.3
ROSF Rostrenen 51.68 21 *e*P **P 06 36 14.5 -0.6**
comp=Z,265nm,1.9s,mb5.5
ROSF Rostrenen 51.68 21 *e*P **P 06 36 14.5 -0.6**
ROSF pmax pmax
comp=Z,132nm,1.9s,mb5.5
ROSF Rostrenen 51.68 21 *e*P **P 06 36 14.5 -0.6**
comp=Z,132nm,1.9s,mb5.5
SGMF Saint Gilles 51.87 21 *e*P **P 06 36 15.5 -1.0**
comp=Z,164nm,1.3s,mb5.5
SGMF Saint Gilles 51.87 21 *e*P **P 06 36 15.5 -1.0**
SGMF pmax pmax
comp=Z,82nm,1.3s,mb5.5
SGMF Saint Gilles 51.87 21 *e*P **P 06 36 15.5 -1.0**
comp=Z,82nm,1.3s,mb5.5
SMRF Simiane la Rot 52.09 30 *e*P **P 06 36 17.0 -1.2**
LMR La Mourre 52.12 32 *e*P **P 06 36 17.3 -1.1**
comp=Z,130nm,1.4s,mb5.3
LMR La Mourre 52.12 32 *e*P **P 06 36 17.3 -1.1**
LMR pmax pmax
comp=Z,65nm,1.4s,mb5.4
LMR La Mourre 52.12 32 *e*P **P 06 36 17.3 -1.1**
comp=Z,65nm,1.4s,mb5.4
PYM Petit Puy Mans 52.16 27 *e*P **P 06 36 21.1 +2.4**
TCF Toulx Ste Croi 52.21 26 *e*P **P 06 36 18.3 -0.8**
VIVF Saint-Julien-l 52.28 29 *e*P **P 06 36 18.7 -0.9**
comp=Z,40nm,0.8s,mb5.1
VIVF Saint-Julien-l 52.28 29 *e*P **P 06 36 18.7 -0.9**
VIVF pmax pmax
comp=Z,20nm,0.8s,mb5.1
VIVF Saint-Julien-l 52.28 29 *e*P **P 06 36 18.7 -0.9**
comp=Z,20nm,0.8s,mb5.1
AGO Saint Agoulin 52.44 27 *e*P **P 06 36 24.6 +3.8**
PLDF La Plantade 52.60 27 *e*P **P 06 36 24.1 +2.1**

GRR Gorron 52.61 23 *e*P **P 06 36 21.7 -0.4**
comp=Z,258nm,1.7s,mb5.6
GRR Gorron 52.61 23 *e*P **P 06 36 21.7 -0.4**
GRR pmax pmax
comp=Z,129nm,1.7s,mb5.6
GRR Gorron 52.61 23 *e*P **P 06 36 21.7 -0.4**
comp=Z,129nm,1.7s,mb5.6
BGF Bois d'Agland 52.70 26 *e*P **P 06 36 21.8 -0.9**
comp=Z,24nm,0.9s,mb4.8
BGF Bois d'Agland 52.70 26 *e*P **P 06 36 21.8 -0.9**
BGF pmax pmax
comp=Z,12nm,0.9s,mb4.8
BGF Bois d'Agland 52.70 26 *e*P **P 06 36 21.8 -0.9**
comp=Z,12nm,0.9s,mb4.8
VAL Valentia 52.81 14⇓*i*S **S 06 44 11.2 +19**
MVIF Mont Vial 52.85 32 *e*P **P 06 36 25.9 +2.1**
ORIF Oris-en-Rattie 52.91 30 *e*P **P 06 36 23.3 -1.0**
comp=Z,26nm,0.8s,mb4.9
ORIF *e*R
comp=Z,8µm,20.0s
ORIF Oris-en-Rattie 52.91 30 *e*P **P 06 36 23.3 -1.0**
ORIF pmax pmax
comp=Z,13nm,0.8s,mb4.9
ORIF Oris-en-Rattie 52.91 30 *e*P **P 06 36 23.3 -1.0**
comp=Z,13nm,0.8s,mb4.9
LUCF Luceram 52.95 32 *e*P **P 06 36 26.1 +1.6**
SBF Sospel 52.97 32 *e*P **P 06 36 23.7 -1.0**
comp=Z,169nm,1.2s,mb5.6
SBF Sospel 52.97 32 *e*P **P 06 36 23.7 -1.0**
SBF pmax pmax
comp=Z,85nm,1.2s,mb5.5
SBF Sospel 52.97 32 *e*P **P 06 36 23.7 -1.0**
comp=Z,85nm,1.2s,mb5.5
AUTN L'Aution 53.06 32 *e*P **P 06 36 27.2 +1.8**
FLN La Foliniere 53.06 23 *e*P **P 06 36 24.7 -0.7**
comp=Z,66nm,1.0s,mb5.2
FLN *e*R
comp=Z,5µm,20.2s
FLN La Foliniere 53.06 23 *e*P **P 06 36 24.7 -0.7**
FLN pmax pmax
comp=Z,33nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,5µm,20.3s,MS5.6
FLN La Foliniere 53.06 23 *e*P **P 06 36 24.7 -0.7**
comp=Z,33nm,1.0s,mb5.2
FLN LR LR
comp=Z,5µm,20.3s,MS5.6
LDF La Druitiere 53.07 23 *e*P **P 06 36 24.8 -0.6**
comp=Z,60nm,1.1s,mb5.1
LDF La Druitiere 53.07 23 *e*P **P 06 36 24.8 -0.6**
LDF pmax pmax
comp=Z,30nm,1.1s,mb5.1
LDF La Druitiere 53.07 23 *e*P **P 06 36 24.8 -0.6**
comp=Z,30nm,1.1s,mb5.1
SURF Saint Ours 53.08 31 *e*P **P 06 36 28.2 +2.7**
SURF Saint Ours 53.08 31 *e*P **P 06 36 28.0 +2.5**
AVF Avril sur Loir 53.10 27 *e*P **P 06 36 24.9 -0.8**
SMF Signal de Mont 53.21 27 *e*P **P 06 36 25.7 -0.8**
comp=Z,78nm,1.2s,mb5.2
SMF Signal de Mont 53.21 27 *e*P **P 06 36 25.7 -0.8**
SMF pmax pmax
comp=Z,39nm,1.2s,mb5.2
SMF Signal de Mont 53.21 27 *e*P **P 06 36 25.7 -0.8**
comp=Z,39nm,1.2s,mb5.2
MBDF Montbardon 53.23 31 *e*P **P 06 36 25.7 -0.9**
comp=Z,61nm,1.0s,mb5.2
MBDF Montbardon 53.23 31 *e*P **P 06 36 25.7 -0.9**
MBDF pmax pmax
comp=Z,31nm,1.0s,mb5.2
MBDF Montbardon 53.23 31 *e*P **P 06 36 25.7 -0.9**
comp=Z,31nm,1.0s,mb5.2
SSF Saint Saulge 53.38 26 *e*P **P 06 36 26.7 -1.0**
comp=Z,113nm,1.7s,mb5.2
SSF Saint Saulge 53.38 26 *e*P **P 06 36 26.7 -1.0**
SSF pmax pmax
comp=Z,56nm,1.7s,mb5.2
SSF Saint Saulge 53.38 26 *e*P **P 06 36 26.7 -1.0**
comp=Z,56nm,1.7s,mb5.2
BNI Bardonecchia 53.41 30 *e*P **P 06 36 29.3 +1.4**
BNI pmax pmax
comp=Z,38nm,1.0s,mb5.3
BNI Bardonecchia 53.41 30 *e*P **P 06 36 29.3 +1.4**
comp=Z,38nm,1.0s,mb5.3
LOR Lormes 53.69 27 *e*P **P 06 36 29.4 -0.6**
comp=Z,106nm,1.6s,mb5.2
LOR *e*R
comp=Z,8µm,20.5s
LOR Lormes 53.69 27 *e*P **P 06 36 29.4 -0.6**
LOR pmax pmax
comp=Z,53nm,1.5s,mb5.2
LOR MLR MLR
comp=Z,8µm,20.5s,MS5.8
LOR Lormes 53.69 27 *e*P **P 06 36 29.4 -0.6**
comp=Z,53nm,1.5s,mb5.2
LOR LR LR
comp=Z,8µm,20.5s,MS5.8
LPG La Plagne 53.76 30 *e*P **P 06 36 30.2 -0.3**
comp=Z,49nm,1.0s,mb5.1
LPG La Plagne 53.76 30 *e*P **P 06 36 30.2 -0.3**
LPG pmax pmax
comp=Z,24nm,1.0s,mb5.1
LPG La Plagne 53.76 30 *e*P **P 06 36 30.2 -0.3**
comp=Z,24nm,1.0s,mb5.1
LPL La Plagne 53.76 30 *e*P **P 06 36 30.1 -0.5**
comp=Z,53nm,1.1s,mb5.1
LPL La Plagne 53.76 30 *e*P **P 06 36 30.1 -0.5**
LPL pmax pmax
comp=Z,26nm,1.1s,mb5.1
LPL La Plagne 53.76 30 *e*P **P 06 36 30.1 -0.5**
comp=Z,26nm,1.1s,mb5.1
CABF La Chapelle 54.23 28 *e*P **P 06 36 33.6 -0.4**
comp=Z,88nm,1.1s,mb5.3
CABF La Chapelle 54.23 28 *e*P **P 06 36 33.6 -0.4**
CABF pmax pmax
comp=Z,44nm,1.1s,mb5.3
CABF La Chapelle 54.23 28 *e*P **P 06 36 33.6 -0.4**
comp=Z,44nm,1.1s,mb5.3
DCN Croghan 54.84 15 *e*P **P 06 36 42.0 +3.6**
DSB Dublin 54.98 16 *e*P **P 06 36 38.8 -0.6**
comp=Z,18nm,1.3s,mb5.0
DLF Lyons Farm 54.99 16 *e*P **P 06 36 45.0 +5.5**
LOMF Lomont 55.12 28 *e*P **P 06 36 41.5 +1.1**
MEZF Maizieres J'vi 55.15 26 *e*P **P 06 36 40.0 -0.6**
THEF They Montfort 55.36 27 *e*P **P 06 36 43.4 +1.2**
HAU Haudompre 55.37 27 *e*P **P 06 36 41.1 -1.1**
comp=Z,84nm,0.9s,mb5.4
HAU *e*R
comp=Z,9µm,22.5s
HAU Haudompre 55.37 27 *e*P **P 06 36 41.1 -1.1**
HAU pmax pmax
comp=Z,42nm,0.9s,mb5.5
HAU MLR MLR
comp=Z,9µm,22.5s,MS5.8
HAU Haudompre 55.37 27 *e*P **P 06 36 41.1 -1.1**
comp=Z,42nm,0.9s,mb5.5
HAU LR LR
comp=Z,9µm,22.5s,MS5.8
HINF Hinteralfeld 55.47 28 *e*P **P 06 36 41.9 -1.0**
comp=Z,62nm,1.3s,mb5.2
HINF Hinteralfeld 55.47 28 *e*P **P 06 36 41.9 -1.0**
HINF pmax pmax
comp=Z,31nm,1.3s,mb5.2
HINF Hinteralfeld 55.47 28 *e*P **P 06 36 41.9 -1.0**
comp=Z,31nm,1.3s,mb5.2
MENF Mencas 55.53 23 *e*P **P 06 36 47.7 +4.3**
MOF Molkenrain 55.62 28 *e*P **P 06 36 45.4 +1.4**
HOPE Hope Point 55.64 186 PFAKE 06 37 00.0 +16
HOPE LR LR
comp=Z,3µm,20.0s,MS5.4
TIP Timpagrande 55.70 42 *e*P **P 06 36 41.2 -3.3**
ECH Echery 55.89 28 *e*P **P 06 36 47.3 +1.3**
BAIF Baives 55.96 25 *e*P **P 06 36 46.0 -0.5**
comp=Z,74nm,1.3s,mb5.3
BAIF Baives 55.96 25 *e*P **P 06 36 46.0 -0.5**
BAIF pmax pmax
comp=Z,37nm,1.3s,mb5.2
BAIF Baives 55.96 25 *e*P **P 06 36 46.0 -0.5**
comp=Z,37nm,1.3s,mb5.3
CDF Champ du Feu 56.09 28 *e*P **P 06 36 47.2 -0.2**
comp=Z,48nm,1.1s,mb5.1
CDF Champ du Feu 56.09 28 *e*P **P 06 36 47.2 -0.2**
CDF pmax pmax
comp=Z,24nm,1.1s,mb5.1
CDF Champ du Feu 56.09 28 *e*P **P 06 36 47.2 -0.2**
comp=Z,24nm,1.1s,mb5.1
WLS Welschbruch 56.13 28 *e*P **P 06 36 48.8 +1.2**

DOU Dourbes 56.15 25 P **P 06 36 47.3 -0.6**
DOU E pP 06 36 51.6 +0.6
GIVF Givet 56.25 25 *e*P **P 06 36 48.2 -0.4**
WES Weston 56.49 322 PFAKE 06 37 00.0 +10
WES LR LR
comp=Z,2µm,22.0s,MS5.2
WLF Walferdange 56.50 26 *e*P **P 06 36 51.4 +1.1**
WLF pmax pmax
comp=Z,29nm,1.4s,mb5.1
WLF Walferdange 56.50 26 *e*P **P 06 36 51.4 +1.1**
comp=Z,29nm,1.4s,mb5.1
BFO Black Forest 56.53 28 P **P 06 36 50.5 0.0**
comp=Z,95nm,1.4s,mb5.6,SNR=6.9
BFO Black Forest 56.53 28 *e*P **P 06 36 50.3 -0.2**
DAVA Damuels 56.56 30⇓*i*P **P 06 36 50.7 -0.1**
comp=Z,43nm,1.2s,mb5.4
UCC Uccle 56.59 24 P **P 06 36 51.9 +0.9**
UCC E 06 36 58.8
BCLA Clavier 56.70 25 E 06 36 59.5
HRV Harvard--Oak R 56.70 322 *e*P **P 06 36 50.3 -1.5**
comp=Z,34nm,1.0s,mb5.3
HRV LR LR
comp=Z,3µm,22.0s,MS5.4
LANF Langenberg 56.74 27 *e*P **P 06 36 53.4 +1.4**
PLCA Paso Flores 56.80 218 P **P 06 36 52.9 +0.4**
comp=Z,2.6nm,0.9s,mb4.2,baz=32,slow=9.6,SNR=2.2
PLCA LR LR 07 01 33.7
comp=Z,2µm,18.4s,MS5.3,baz=56,slow=36
SUR Sutherland 56.88 130 P **P 06 36 54.4 +1.5**
comp=Z,7.3nm,1.0s,mb4.7,baz=270,slow=15,SNR=2.8
SUR LR LR 06 55 24.9
comp=Z,3µm,21.9s,MS5.3,baz=312,slow=30
SUR Sutherland 56.88 130 *e*P **P 06 36 55.8 +2.8**
comp=Z,30nm,1.2s,mb5.2
SUR LR LR
comp=Z,2µm,20.0s,MS5.3
RUP Ruppelstein 56.92 26 *e*P **P 06 36 54.2 +0.9**
MEM Membach 57.14 25 P **P 06 36 56.3 +1.5**
MEM E 06 37 02.3
BEBN Eben Emael 57.14 25 E **P 06 36 59.2 +4.4**
BEBN E pP 06 37 02.8 +4.7
SQTA Sankt Quirin 57.19 31⇓*i*P **P 06 36 54.2 -1.1**
comp=Z,124nm,1.8s,mb5.6
SQTA Sankt Quirin 57.19 31⇓*i*P **P 06 36 54.2 -1.0**
SQTA pmax pmax
comp=Z,124nm,1.8s,mb5.6
MOTA Moosalm 57.22 31⇑*i*P **P 06 36 55.3 -0.1**
comp=Z,47nm,1.3s,mb5.4
MOTA Moosalm 57.22 31⇑*i*P **P 06 36 55.3 -0.1**
MOTA pmax pmax
comp=Z,47nm,1.3s,mb5.4
STU Stuttgart 57.25 28 *e*P **P 06 36 57.1 +1.5**
STU pmax pmax
comp=Z,12nm,0.8s,mb5.0
STU Stuttgart 57.25 28 *e*P **P 06 36 57.1 +1.5**
comp=Z,12nm,0.8s,mb5.0
JTS JuntasAbangare 57.28 281 PFAKE 06 37 10.0 +14
JTS LR LR
comp=Z,2µm,22.0s,MS5.3
WTTA Wattenberg 57.44 31⇓*i*P **P 06 36 56.6 -0.3**
comp=Z,39nm,1.1s,mb5.3
WTTA Wattenberg 57.44 31⇓*i*P **P 06 36 56.6 -0.4**
WTTA pmax pmax
comp=Z,39nm,1.1s,mb5.3
WATA Walderalm 57.46 31⇓*i*P **P 06 36 55.5 -1.6**
comp=Z,55nm,1.4s,mb5.4
WATA Walderalm 57.46 31⇓*i*P **P 06 36 55.5 -1.6**
WATA pmax pmax
comp=Z,55nm,1.4s,mb5.4
DWPF Disney 57.61 303 PFAKE 06 37 10.0 +12
DWPF LR LR
comp=Z,4µm,22.0s,MS5.4
TOD Tromm 57.65 28 *e*P **P 06 36 59.0 +0.6**
ESK Eskdalemuir 57.69 17 *e*P **P 06 36 58.2 -0.6**
comp=Z,29nm,1.2s,mb5.2
ESK LR LR
comp=Z,1µm,20.9s,MS5.0
VOJS Vojsko 57.86 33 *e*P **P 06 37 00.2 +0.3**
CADS Cadrg 57.90 33 *e*P **P 06 37 00.9 +0.8**
CADS *e* 06 37 08.2
LSZ Lusaka 57.90 109 *e*P **P 06 37 01.4 +1.2**
comp=Z,64nm,1.8s,mb5.3
LSZ LR LR
comp=Z,3µm,36.9s,MS5.1
LBTB Lobatse 58.01 121 *e*P **P 06 36 59.8 -1.1**
comp=Z,29nm,1.0s,mb5.3
LBTB LR LR
comp=Z,724nm,10.9s,MS5.0
LJU Ljubljana 58.22 34 *e*S **S 06 45 09.9 +5.7**
STON Ston 58.26 38 *i* P **P 06 37 01.7 -1.1**
NHSC New Hope 58.30 309 PFAKE 06 37 20.0 +17
NHSC LR LR
comp=Z,4µm,22.0s,MS5.4
BOJS Bojanci 58.30 35 *e*P **P 06 37 03.1 +0.1**
BOJS *e* 06 37 11.2
BOJS *e*PP PP 06 39 23.6 +12
BOJS *e*PPP 06 40 47.6
BOJS *e*S **S 06 45 09.5 +4.2**
CBN Corbin 58.32 315 PFAKE 06 37 20.0 +17
CBN LR LR
comp=Z,3µm,20.0s,MS5.4
EFI East Falkland 58.40 201 PFAKE 06 37 20.0 +16
EFI LR LR
comp=Z,4µm,20.7s,MS5.5
WTSB Winterswijk 58.48 24 *e*P **P 06 37 08.8 +4.6**
comp=Z,68nm,1.6s,mb5.4
SDMD Soldier's Deli 58.51 317 *e*P **P 06 37 04.9 +0.4**
GRA1 Grafenberg Arr 58.84 29 *e*P **P 06 37 05.5 -1.3**
comp=Z,124nm,1.6s,mb5.7
GRA1 *e*PPP 06 40 45.4
GRA1 *e*S **S 06 45 12.0 -0.4**
GRA1 LR LR
comp=Z,4µm,20.8s,MS5.5
GRF Grafenberg Arr 58.84 29 *e*P **P 06 37 05.5 -1.3**
comp=Z,124nm,1.6s,mb5.7
GRF *e*PPP 06 40 45.4
GRF *e*S **S 06 45 11.9 -0.5**
GRF *e*L 06 59 55.5
comp=Z,4µm,20.8s
GRF Grafenberg Arr 58.84 29 *e*P **P 06 37 05.5 -1.3**
GRF *e*PPP 06 40 45.4
GRF *e*S **S 06 45 12.0 -0.4**
GRF pmax pmax
comp=Z,124nm,1.6s,mb5.7
PERS Pernice 58.90 33 *e*P **P 06 37 07.1 -0.1**
BOSA Boshof 58.92 125 P **P 06 37 06.0 -1.3**
comp=Z,9.3nm,1.0s,mb4.8,baz=289,slow=8.4,SNR=8.5
BOSA LR LR 06 57 14.6
comp=Z,6µm,21.5s,MS5.7,baz=292,slow=31
BOSA Boshof 58.92 125 *e*P **P 06 37 05.7 -1.7**
comp=Z,35nm,1.1s,mb5.3
NCB Newcomb 59.13 323 PFAKE 06 37 20.0 +11
NCB LR LR
comp=Z,2µm,20.0s,MS5.3
MOA Molln 59.19 32⇑*i*P **P 06 37 06.9 -2.3**
comp=Z,19nm,1.1s,mb5.1
BINY Binghamton 59.30 320 *e*P **P 06 37 09.1 -0.9**
comp=Z,32nm,1.3s,mb5.2
BINY LR LR
comp=Z,3µm,20.0s,MS5.4
OHR Ohrid 59.35 41 *e*P **P 06 37 17.8 +7.5**
GERES GERESS Array B 59.52 31 P **P 06 37 10.4 -1.1**
comp=Z,3.2nm,0.8s,mb4.4,baz=224,slow=5.6,SNR=29
GERES LR LR 07 00 06.2
comp=Z,5µm,21.5s,MS5.6,baz=239,slow=33
KHC Kasperske Hory 59.64 30 *e*P **P 06 37 11.9 -0.4**
KHC *e*pP pP 06 37 18.5 +3.0
KHC *e*x x 06 37 29.0
KHC *e*S **S 06 45 22.4 -0.2**
KHC AMS AMS 06 59 00.0
comp=Z,5µm,21.9s
KHC Kasperske Hory 59.64 30 *e*P **P 06 37 11.9 -0.4**
KHC *e* 06 37 18.5
KHC *e*S **S 06 45 22.4 -0.2**
KHC MLR MLR
comp=Z,5µm,21.9s,MS5.6
MOX Moxa 59.67 28 *e*P **P 06 37 13.0 +0.4**
MOX *e* 06 37 19.3
comp=Z,226nm,2.4s
MOX *e* 06 41 00.0
MOX
comp=Z,4µm,21.0s
MOX Moxa 59.67 28 *e*P **P 06 37 13.0 +0.4**
MOX *e* 06 37 19.3
MOX pmax pmax

comp=Z,226nm,2.4s,mb5.8
MOX MLR MLR
comp=Z,4µm,21.0s,MS5.5
MOX Moxa 59.67 28 *e*P **P 06 37 13.0 +0.4**
comp=Z,226nm,2.4s,mb5.8
MOX *e* 06 37 19.3
MOX *e* 06 41 00.0
MOX LR LR
comp=Z,4µm,21.0s,MS5.5
SSPA Standing Stone 59.80 318 PFAKE 06 37 30.0 +17
SSPA LR LR
comp=Z,1µm,19.0s,MS5.1
NKC Novy Kostel 59.80 29 *e*P **P 06 37 20.5 +7.1**
NKC *ex* x 06 37 29.1
NKC *e*S **S 06 45 27.0 +2.3**
NKC AMS AMS 07 00 20.0
comp=Z,4µm,19.9s
BLA Blacksburg 60.08 313 *e*P **P 06 37 18.5 +3.2**
BLA pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
BLA Blacksburg 60.08 313 *e*P **P 06 37 18.5 +3.1**
comp=Z,3.0nm,1.3s,mb4.2
CONA Conrad Observa 60.08 33⇓*i*P **P 06 37 15.4 0.0**
comp=Z,42nm,1.6s,mb5.2
SKO Skopje 60.18 41 *e*P **P 06 37 17.2 +1.1**
SOP Sopron 60.32 33⇓*e*P **P 06 37 17.7 +0.7**
DIVS Divcibare 60.33 38 *i* P **P 06 37 16.6 -0.4**
FWV Forest Hill 60.51 313 *e*P **P 06 37 20.7 +2.4**
VAY Valandovo 60.62 42 *e*P **P 06 37 18.6 -0.4**
PKSM Moragy 60.65 35⇓*i*P **P 06 37 16.3 -2.9**
PKSM Moragy 60.65 35 ⇓P **P 06 37 16.3 -3.0**
PRU Pruhonice 60.67 30 *e*P **P 06 37 19.9 +0.5**
PRU *e*pP pP 06 37 25.7 +3.1
PRU *e*S **S 06 45 38.3 +2.4**
PRU AMS AMS 07 03 10.0
comp=Z,4µm,17.6s
MCWV Mont Chateau 60.70 316 *e*P **P 06 37 20.2 +0.7**
comp=Z,19nm,0.9s,mb5.2
MCWV LR LR
comp=Z,860nm,20.3s,MS4.9
TREC Trest 60.72 31 *e*P **P 06 37 19.3 -0.4**
TREC *e*pP pP 06 37 26.2 +3.3
TREC AMS AMS 06 59 20.0
comp=Z,5µm,23.6s
CLL Collm 60.77 28 *e*P **P 06 37 21.4 +1.3**
comp=Z,104nm,1.9s,mb5.6
CLL *e*PP PP 06 39 37.3 +3.4
CLL *e*PPP 06 41 06.5
CLL *e*S **S 06 45 45.2 +8.0**
CLL *e*ScS ScS 06 47 17.5 +6.3
CLL *e*SS SS 06 49 35.0 -0.9
CLL *e*SSSS 06 52 48.5
CLL *e*LR LR 06 55 28.3
CLL *e*L 07 00 27.3
comp=Z,3µm,22.0s
CLL Collm 60.77 28 *e*P **P 06 37 21.0 +0.9**
CLL ⇑*i*P(2) 06 37 27.9
comp=Z,103nm,1.9s
CLL *i* x x 06 37 36.0
CLL *e*PP PP 06 39 37.0 +3.1
CLL *e*S **S 06 45 40.0 +2.8**
comp=N,4µm,28.8s
CLL *e*S **S 06 45 40.0 +2.8**
comp=E,4µm,20.2s
CLL *e*ScS ScS 06 47 17.0 +5.8
CLL Collm 60.77 28⇑*i*P **P 06 37 27.9 +7.8**
CLL *e*S **S 06 45 40.0 +2.8**
CLL pmax pmax
comp=Z,103nm,1.9s,mb5.6
CLL MLR MLR
comp=Z,4µm,12.8s,MS5.7
APE Apeiranthos 60.89 47⇓*i*P **P 06 37 20.8 -0.1**
APE Apeiranthos 60.89 47 ⇓P **P 06 37 20.8 -0.1**
ZST Bratislava 60.91 33 *e*P **P 06 37 21.1 +0.1**
ZST *e*sP sP 06 37 27.6 +2.1
ZST *e*S **S 06 45 42.4 +3.4**
ZST Bratislava 60.91 33 *e*P **P 06 37 21.1 +0.1**
comp=Z,92nm,1.5s,mb5.7
ZST *e* 06 37 27.6
ZST *e*S **S 06 45 42.4 +3.4**
ZST LR LR
comp=Z,920nm,16.9s,MS5.0
BRG Berggiesshubel 60.94 29 *e*P **P 06 37 21.3 +0.1**
comp=Z,2.0nm,0.6s,mb4.4
BRG Berggiesshubel 60.94 29 *e*P **P 06 37 21.1 -0.1**
comp=Z,2.0nm,0.6s,mb4.4
BRG *i* 06 44 45.8
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 60.94 29 *e*P **P 06 37 21.3 +0.1**
BRG pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
PVCC Panska Ves 61.02 30 *e*S **S 06 45 43.8 +3.4**
PVCC AMS AMS 07 01 10.0
comp=Z,4µm,18.6s
PVCC Panska Ves 61.02 30 *e*S **S 06 45 43.8 +3.4**
KKB Krupnik 61.22 42 *i* P **P 06 37 28.5 +5.4**
VRAC Vranov 61.30 32⇓*i*P **P 06 37 23.5 -0.2**
VRAC Vranov 61.30 32 ⇓P **P 06 37 23.5 -0.1**
SRO Srobarova 61.36 34 *e*P **P 06 37 25.0 +1.0**
SRO pmax pmax
comp=Z,68nm,1.4s,mb5.6
SRO Srobarova 61.36 34 *e*P **P 06 37 25.0 +1.0**
comp=Z,68nm,1.4s,mb5.6
MMB Musomiste 61.52 42 *i* P **P 06 37 25.0 -0.1**
VTS Vitosha 61.63 41 *i* P **P 06 37 25.9 0.0**
VTS Vitosha 61.63 41⇑*i*P **P 06 37 26.1 +0.2**
VTS Vitosha 61.63 41 ⇑P **P 06 37 26.1 +0.2**
UPC Upice 61.73 30 *e*P **P 06 37 26.2 -0.4**
UPC *e*pP pP 06 37 33.4 +3.6
ERPA Erie 61.88 318 PFAKE 06 37 40.0 +12
ERPA LR LR
comp=Z,2µm,22.0s,MS5.2
VYHS Vyhne 62.03 33 *e*P **P 06 37 27.6 -1.0**
VYHS *e* 06 37 35.0
VYHS *e*S **S 06 45 55.5 +2.3**
VYHS Vyhne 62.03 33 *e*P **P 06 37 27.6 -1.0**
comp=Z,36nm,1.6s,mb5.2
VYHS *e* 06 37 35.0
VYHS *e*S **S 06 45 55.5 +2.3**
VYHS LR LR
comp=Z,3µm,36.8s,MS5.2
KSP Ksiaz 62.08 30 *e*P **P 06 37 34.4 +5.5**
KSP *e*pP pP 06 37 37.4 +5.3
KSP *e*PcP PcP 06 38 06.1 -3.1
KSP Ksiaz 62.08 30 *e*P **P 06 37 29.9 +1.0**
KSP *e**PP pP 06 37 37.0 +4.9
KSP *e* 06 39 47.5
KSP *e*PPP 06 41 13.0
KSP *e*S **S 06 45 55.0 +1.2**
KSP Ksiaz 62.08 30 *e*P **P 06 37 29.9 +1.0**
KSP *e*pP pP 06 37 37.0 +4.9
KSP *e*PP PP 06 39 47.5 +2.1
KSP *e*PPP 06 41 13.0
KSP *e*S **S 06 45 55.0 +1.2**
KSP LR LR
comp=Z,10µm,20.5s,MS6.0
KSP Ksiaz 62.08 30 *e*S **S 06 46 07.1 +13**
MORC Moravsky Berou 62.08 32⇑*i*P **P 06 37 29.3 +0.4**
MORC Moravsky Berou 62.08 32 *e*P **P 06 37 29.2 +0.3**
comp=Z,150nm,1.8s,mb5.8
BZS Buzias 62.10 37⇓*i*P **P 06 37 30.5 +1.5**
BZS Buzias 62.10 37 ⇓P **P 06 37 30.5 +1.4**
SCHQ Schefferville 62.19 336 P **P 06 37 27.7 -1.9**
comp=Z,3.8nm,0.8s,mb4.6,baz=139,slow=6.4,SNR=4.8
SCHQ LR LR 07 02 05.3
comp=Z,2µm,18.3s,MS5.3,baz=139,slow=34
SCHQ Schefferville 62.19 336 *e*P **P 06 37 28.2 -1.5**
comp=Z,94nm,1.7s,mb5.6
SCHQ LR LR
comp=Z,1µm,20.1s,MS5.1
RZN Rozhen 62.23 42 *i* P **P 06 37 29.7 -0.2**
PGB Panagyurishte 62.24 41 *i* P **P 06 37 29.4 -0.6**
PAYG Puerto Ayora 62.27 269 PFAKE 06 37 40.0 +10
PAYG LR LR
comp=Z,2µm,20.0s,MS5.2
PSZ Piszkesteto 62.30 34⇑*e*P **P 06 37 31.6 +1.2**
PSZ Piszkesteto 62.30 34 *e*P **P 06 37 30.6 +0.2**
PSZ pmax pmax
comp=Z,83nm,1.2s,mb5.7
PSZ Piszkesteto 62.30 34 *e*P **P 06 37 30.6 +0.2**
comp=Z,83nm,1.2s,mb5.7
PLD Plovdiv 62.40 42 *i* P **P 06 37 30.9 -0.2**
OKC Ostrava-Krasne 62.43 32 *e*P **P 06 37 32.3 +1.0**
OKC *ex* x 06 37 38.4
OKC *e*S **S 06 45 58.2 0.0**
OKC AMS AMS 06 58 40.0
comp=Z,3µm,27.9s
OKC Ostrava-Krasne 62.43 32 *e*P **P 06 37 32.3 +1.0**
OKC *e* 06 37 38.4
OKC *e*S **S 06 45 58.2 0.0**
LIKS Likavka 62.49 33 *e*pP pP 06 37 36.7 +1.8
RAC Raciborz 62.60 32 *e*P **P 06 37 32.6 +0.2**
RAC L 07 00 44.2
comp=Z,4.0nm,24.2s
KDZ Kurdzhali 62.69 43 *i* P **P 06 37 33.2 +0.2**
DIM Dimitrovgrad 62.94 42 *i* P **P 06 37 35.0 +0.4**
KECS Kecovo 62.94 34 *e*P **P 06 37 34.0 -0.7**
KECS *e* 06 37 41.9
ACSO Alum Creek Sta 63.13 315 *e*P **P 06 37 34.6 -1.3**
comp=Z,15nm,0.8s,mb5.2
ACSO LR LR
comp=Z,2µm,22.0s,MS5.3
SWET Sewanee 63.50 309 *e*P **P 06 37 36.9 -1.5**
OJC Ojcow 63.52 32 *e*P **P 06 37 37.4 -1.1**
OJC *e*pP pP 06 37 39.7 -2.1
OJC *e*S **S 06 46 18.4 +6.5**
OJC *e*SS SS 06 50 23.7 +4.7
OJC L 07 02 19.4
comp=Z,8.8nm,22.2s
OJC Ojcow 63.52 32 *e*P **P 06 37 37.4 -1.1**
OJC *e**PP pP 06 37 39.7 -2.1
OJC *e*S **S 06 46 18.4 +6.5**
OJC *e*SS SS 06 50 23.7 +4.7
LRAL Lakeview Retre 63.67 307 P **P 06 37 40.6 +1.1**
comp=Z,9.8nm,1.0s,mb4.8
LRAL LR LR
comp=Z,4µm,27.6s,MS5.5
BORG Borgarnes 63.69 3 PFAKE 06 37 50.0 +10
BORG LR LR
comp=Z,2µm,20.0s,MS5.2
STHS Stebnicka Huta 63.87 33 *e*P **P 06 37 42.5 +1.7**
STHS *e* 06 37 50.4
STHS Stebnicka Huta 63.87 33 *e*P **P 06 37 42.5 +1.7**
STHS *e* 06 37 50.4
STHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
STHS Stebnicka Huta 63.87 33 *e*P **P 06 37 42.5 +1.7**
comp=Z,9.0nm,1.1s,mb4.7
STHS *e* 06 37 50.4
GKP Gorka Klasztor 64.03 28 *e*P **P 06 37 45.2 +3.4**
GKP *e*pP pP 06 37 50.5 +5.4
GKP *e*S **S 06 46 35.5 +17**
GKP L 07 01 01.9
comp=Z,2.5nm,21.7s
GKP Gorka Klasztor 64.03 28 *e*P **P 06 37 45.2 +3.4**
GKP *e**PP pP 06 37 50.5 +5.4
GKP *e*S **S 06 46 35.5 +17**
VOIR 64.12 39⇓*i*P **P 06 37 42.4 -0.1**
VOIR 64.12 39 ⇓P **P 06 37 42.4 -0.1**
BSD Bornholm Skovb 64.14 26 *i* P **P 06 37 40.4 -2.2**
BSD *i* S **S 06 46 24.0 +4.4**
BSD
comp=Z,5µm,21.0s
BSD Bornholm Skovb 64.14 26 *e*P **P 06 37 40.4 -2.2**
BSD *i* S **S 06 46 24.0 +4.4**
BSD MLR MLR
comp=Z,5µm,21.0s,MS5.7
BSD Bornholm Skovb 64.14 26 *e*P **P 06 37 40.4 -2.2**
BSD *i* S **S 06 46 24.0 +4.4**
BER Bergen 64.44 18 *e*P **P 06 37 43.5 -1.1**
BER *e*S **S 06 46 29.4 +6.1**
BER AMS AMS 07 01 19.0
comp=Z,6µm,20.0s,MS5.8
PRD Provadia 64.67 42 *i* P **P 06 37 53.8 +7.8**
MLR Muntele Rosu 64.71 39⇑*i*P **P 06 37 45.9 -0.4**
MLR Muntele Rosu 64.71 39 ⇑P **P 06 37 45.9 -0.4**
PLAL Pickwick Lake 65.10 308 *e*P **P 06 37 48.7 -0.2**
comp=Z,58nm,1.5s,mb5.4
PLAL LR LR
comp=Z,812nm,26.9s,MS4.8
KONO Kongsberg 65.25 20 *e*P **P 06 37 50.8 +0.9**
KONO *e*S S 06 46 32.8 -0.5
KONO Kongsberg 65.25 20 *e*P **P 06 37 50.8 +0.9**
KONO LR LR
comp=Z,3µm,21.1s,MS5.4
WVT Waverly 65.26 310 *e*P **P 06 37 47.9 -2.0**
comp=Z,12nm,1.0s,mb4.9
WVT LR LR
comp=Z,3µm,21.0s,MS5.4
BLO Bloomington 65.27 313 *e*P **P 06 37 48.6 -1.4**
BLO pmax pmax
comp=Z,27nm,1.0s,mb5.2
BLO Bloomington 65.27 313 *e*P **P 06 37 48.5 -1.4**
comp=Z,27nm,1.0s,mb5.2
KMBO Kilima Mbogo 65.32 92 P **P 06 37 51.4 +1.0**
comp=Z,9.2nm,1.1s,mb4.7,baz=237,slow=5.0,SNR=8.5
KMBO LR LR 07 02 06.4
comp=Z,3µm,18.4s,MS5.5,baz=256,slow=32
KMBO Kilima Mbogo 65.32 92 *e*P **P 06 37 52.5 +2.2**
comp=Z,22nm,1.4s,mb5.0
KMBO LR LR
comp=Z,2µm,20.0s,MS5.4
VRI Vrincioaia 65.37 39⇓*i*P **P 06 37 50.6 0.0**
VRI Vrincioaia 65.37 39 ⇓P **P 06 37 50.6 0.0**
LVV L'vov 65.62 34 *e*P **P 06 37 59.6 +7.3**
LVV *e* 06 40 20.0
LVV *e*S S 06 46 41.0 +3.2
LVV *e* 06 47 01.6
LVV *e* 06 50 56.4
LVV MLR MLR
comp=E,2µm,19.0s,MS5.4
LVV MLR MLR
comp=N,2µm,18.0s,MS5.4
LVV MLR MLR
comp=Z,2µm,18.0s,MS5.4
TIRR Tirgusor 65.85 41⇑*i*P **P 06 37 50.7 -3.0**
TIRR Tirgusor 65.85 41 ⇑P **P 06 37 50.7 -3.0**
OXF Oxford 66.02 308 PFAKE 06 38 10.0 +15
OXF LR LR
comp=Z,3µm,22.7s,MS5.5
NB2 NORSAR Subarra 66.82 20 P **P 06 37 58.1 -1.8**
comp=Z,100nm,2.0s,mb5.5,baz=223,slow=6.5
NB2 NORSAR Subarra 66.82 20 P **P 06 37 58.1 -1.8**
NB2 pmax pmax
comp=Z,100nm,2.0s,mb5.5
NOA NORSAR Array B 66.82 20 P **P 06 37 59.4 -0.6**
comp=Z,4.9nm,0.9s,mb4.5,baz=222,slow=6.4,SNR=10
NOA LR LR 07 01 58.6
comp=Z,3µm,21.4s,MS5.4,baz=230,slow=31
KIS Kishinev 67.16 38 *e*P **P 06 38 02.0 -0.1**
KIS *e* 06 40 32.0
KIS *e*S S 06 46 54.0 -2.5
KIS *e*SSS 06 54 13.0
KIS MLR MLR
comp=Z,3µm,17.0s,MS5.5
KIS MLR MLR
comp=N,2µm,18.0s,MS5.5
KIS MLR MLR
comp=E,2µm,16.0s,MS5.5
KIS MLR MLR
comp=Z,3µm,18.0s
SUW Suwalki 67.35 30 *e*P **P 06 38 03.0 -0.3**
SUW *e*pP pP 06 38 11.6 +5.0
SUW Suwalki 67.35 30 *e*S S 06 47 00.8 +2.0
SUW Suwalki 67.35 30 *e*S S 06 47 00.8 +2.0
SFJD Kangerlussuaq 67.64 351⇑*i*P **P 06 38 12.9 +7.8**
comp=Z,18nm,1.1s,mb5.0
SFJD *i* 06 38 23.6
SFJD *i* S S 06 47 04.4 +2.2
SFJD
comp=Z,1µm,20.0s
SFJD Kangerlussuaq 67.64 351⇑*i*P **P 06 38 12.9 +7.8**
SFJD *i* S S 06 47 04.4 +2.2
SFJD pmax pmax
comp=Z,18nm,1.1s,mb5.0
SFJD MLR MLR
comp=Z,1µm,20.0s,MS5.2
BHL Bhannes 67.72 54 *e*P **P 06 38 05.9 +0.3**
BR131 Keskin Array S 67.79 47 *e*P **P 06 38 05.5 -0.6**
comp=Z,8.4nm,0.8s,mb4.8
BR131 LR LR
comp=Z,642nm,23.7s,MS4.8
BRTR Keskin Array B 67.79 47 P **P 06 38 05.8 -0.2**
comp=Z,8.9nm,0.8s,mb4.9,baz=233,slow=5.6,SNR=40
FVM French Village 67.79 311 *e*P **P 06 38 08.3 +2.2**
FVM pmax pmax
comp=Z,16nm,0.9s,mb5.0
FVM French Village 67.79 311 *e*P **P 06 38 08.3 +2.2**
comp=Z,16nm,0.8s,mb5.1
CCM Cathedral Cave 68.43 311 *e*P **P 06 38 10.8 +0.7**
comp=Z,42nm,1.1s,mb5.4
CCM LR LR
comp=Z,2µm,22.0s,MS5.3
AKASG Malin Array Be 68.98 35 P **P 06 38 12.8 -0.7**
comp=Z,19nm,0.8s,mb5.1,baz=241,slow=7.0,SNR=37
NSS Namsos 69.61 17 *e*P **P 06 38 19.4 +2.0**
NSS *e*S S 06 47 31.9 +6.3
NATX Nacogdoches 69.64 303 P **P 06 38 16.8 -0.8**
NATX LR LR
comp=Z,756nm,21.2s,MS4.9
SIM Simferopol' 69.81 42 *e*P **P 06 38 15.6 -3.1**
SIM *e*S S 06 47 27.0 -1.0
SIM *e*SS SS 06 51 58.0 +1.5
SIM pmax pmax
comp=Z,160nm,11.8s
SIM MLR MLR
comp=Z,3µm,20.0s,MS5.5
MNK Minsk 69.95 31 *e*P **P 06 38 18.0 -1.5**
HKT Hockley 70.28 301 PFAKE 06 38 30.0 +8.5
HKT LR LR
comp=Z,3µm,22.0s,MS5.5
PMSA Palmer Station 70.78 195 PFAKE 06 38 40.0 +15
PMSA LR LR
comp=Z,2µm,21.0s,MS5.5
JMIC Jan Mayen 70.92 7 *e*P **P 06 38 26.2 +0.8**
JMIC *e*S S 06 47 40.6 -0.3
MALT Malatya 70.98 50⇓*i*P **P 06 38 25.6 -0.2**
MALT Malatya 70.98 50 *e*P **P 06 38 25.7 -0.1**
MALT pmax pmax
comp=Z,18nm,0.9s,mb5.0
MALT Malatya 70.98 50 *e*P **P 06 38 25.6 -0.2**
comp=Z,18nm,0.8s,mb5.0
VSU Vasula 71.37 27⇑*e*P **P 06 38 26.0 -2.2**
MOR8 Moi Rana 71.51 17 *e*P **P 06 38 30.2 +1.2**
EYMN Ely 71.66 321 PFAKE 06 38 40.0 +10
EYMN LR LR
comp=Z,1µm,20.0s,MS5.2
SUMG Summit 71.67 357 *e*P **P 06 38 30.9 +1.0**
comp=Z,62nm,1.3s,mb5.4
ANN Anapa 72.00 43 *e*P **P 06 38 30.8 -1.2**
ANN *e*S S 06 47 52.0 -1.5
ANN pmax pmax
comp=Z,76nm,1.8s,mb5.3
ANN MLR MLR
comp=N,2µm,16.0s
ANN MLR MLR
comp=Z,425nm,16.0s,MS4.8
FINES FINESS Array B 72.64 24 P **P 06 38 35.6 -0.2**
comp=Z,5.8nm,0.8s,mb4.5,baz=222,slow=2.6,SNR=18
FINES LR LR 07 07 41.1
comp=Z,4µm,20.2s,MS5.7,baz=240,slow=34
VNA1 Neumayer--Stat 72.81 173⇓*i*P **P 06 38 37.2 +0.4**
VNA1 *e* pP 06 38 40.5 +0.4
VNA1 *e* 06 38 42.5
VNA1 *e* 06 38 46.0
VNA1 *e* 06 38 54.2
VNA1 *e* 06 39 00.2
KAF Kangasniemi 73.08 24 *e*p **P 06 38 37.4 -1.0**
comp=Z,11nm,1.0s,mb4.7,baz=238,slow=6.0
KAF Kangasniemi 73.08 24 *e*P **P 06 38 37.4 -1.0**
KAF pmax pmax
comp=Z,11nm,1.0s,mb4.7
VNA2 Neumayer--Watz 73.17 173⇓*i*P **P 06 38 38.3 -0.7**
baz=331,slow=3.7
VNA2 *e* pP 06 38 42.2 0.0
VNA2 *e* 06 38 43.4
VNA2 *e* 06 38 47.8
VNA2 *e* 06 38 54.9
VNA2 *e* 06 39 00.8
VNA3 Neumayer Olymp 73.21 174⇓*i*P **P 06 38 37.2 -2.0**
VNA3 *e* pP 06 38 40.6 -1.9
VNA3 *e* 06 38 42.2
VNA3 *e* 06 38 46.6
VNA3 *e* 06 38 54.8
VNA3 *e* 06 38 59.8
SOC Sochi 73.25 45 *e*P **P 06 38 37.9 -1.5**
SOC *e* 06 38 52.5
SOC *e*S S 06 48 05.7 -2.0
SOC *e* 06 48 39.9
SOC pmax pmax
comp=Z,23nm,0.9s,mb5.1
SOC MLR MLR
comp=Z,1µm,17.0s,MS5.3
WMOK Wichita Mounta 73.59 306 PFAKE 06 38 50.0 +8.6
WMOK LR LR
comp=Z,673nm,19.0s,MS5.0
PUL Pulkovo 73.62 27 *e*P **P 06 38 37.2 -4.4**
JCT Junction City 73.75 301 *e*P **P 06 38 41.4 -1.0**
comp=Z,14nm,1.0s,mb4.8
JCT LR LR
comp=Z,2µm,20.0s,MS5.3
ECSD EROS,Sioux Fal 73.86 315 *e*P **P 06 38 40.5 -2.5**
SNAA Sanae 74.45 172⇓*i*P **P 06 38 34.0 -12**
SNAA *e* pP 06 38 37.2 -13
SNAA *e* 06 38 39.0
SNAA *e* 06 38 43.2
SNAA *e* 06 38 50.9
SNAA *e* 06 38 56.4
BHD Baghdad 74.72 56 *ex* x 06 38 49.0
BHD *ex* x 06 48 36.0
OBN Obninsk 74.81 33 *e*P **P 06 38 46.2 -2.3**
OBN *i* 06 38 56.7
OBN pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
OBN Obninsk 74.81 33⇑*e*P **P 06 38 46.3 -2.2**
OBN LR LR
comp=Z,3µm,20.0s,MS5.6
CBKS Cedar Bluff 75.09 310 P **P 06 38 49.3 -0.8**
comp=Z,71nm,1.4s,mb5.4
CBKS LR LR
comp=Z,1µm,18.4s,MS5.3
TRO Tromso 75.12 15 *e*P **P 06 38 49.9 -0.4**
TRO *e*S S 06 48 30.4 +1.7
TRO *e*SS SS 06 53 24.3 +6.6
ULM Lac du Bonnet 75.12 322 P **P 06 38 48.1 -2.2**
comp=Z,4.3nm,0.9s,mb4.4,baz=123,slow=6.3,SNR=9.7
ULM LR LR 07 06 43.8
comp=Z,2µm,20.6s,MS5.4,baz=99,slow=32
VOR Voronezh 75.19 36 *e*P **P 06 38 53.0 +2.3**
VOR pmax pmax
comp=Z,250nm,1.2s,mb6.0
KIV Kislovodsk 75.42 45 *e*P **P 06 38 50.6 -1.5**
KIV *e* 06 41 40.5
KIV *e*PPP 06 43 27.7
KIV *e*S S 06 48 29.4 -2.7
KIV *e*SS SS 06 53 23.0 +0.6
KIV pmax pmax
comp=Z,45nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,2µm,19.0s,MS5.5
KIV Kislovodsk 75.42 45⇑*e*P **P 06 38 50.5 -1.6**
KIV LR LR
comp=Z,2µm,27.6s,MS5.2
JOF Joensuu 75.50 24 *e*p **P 06 38 51.4 -1.1**
comp=Z,9.0nm,0.8s,mb4.8
JOF Joensuu 75.50 24 *e*P **P 06 38 51.4 -1.1**
JOF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MOS Moscow 75.59 32 *e*P **P 06 38 57.1 +4.1**
MOS pmax pmax
comp=Z,111nm,2.0s,mb5.4
ONI Oni 75.68 46 P **P 06 38 53.6 0.0**
DAG Danmarks Havn 75.77 2⇓*i*P **P 06 38 53.7 -0.3**
comp=Z,5.0nm,1.0s,mb4.4
DAG Danmarks Havn 75.77 2⇓*e*P **P 06 38 53.7 -0.3**
DAG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
DAG Danmarks Havn 75.77 2⇓*e*P **P 06 38 53.7 -0.3**
comp=Z,5.0nm,1.0s,mb4.4
KTK1 Kautokeino 75.92 17 *e*P **P 06 38 56.6 +1.7**
KTK1 AMb AMB 06 39 21.7
comp=Z,59nm,1.2s,mb5.4
AMTX Amarillo 75.97 306 *e*P **P 06 38 58.8 +3.6**
comp=Z,139nm,2.0s,mb5.5
AMTX LR LR
comp=Z,2µm,31.2s,MS5.2
ZEI Tsey 76.04 46 *e*P **P 06 38 56.2 +0.6**
ZEI pmax pmax
comp=Z,20nm,1.2s,mb4.9
GNI Garni 76.16 49 *e*P **P 06 38 56.9 +0.6**
comp=Z,22nm,1.1s,mb5.0
GNI LR LR

comp=Z,2μm,28.9s,MS5.3
NVL N'lazarevskaya 76.34 167 *e*P **P 06 39 04.8 +7.5**
NVL *i* S S 06 48 48.0 +5.8
NVL pmax pmax
comp=Z,31nm,1.6s,mb5.0
MTA Mtatsminda 76.48 47 P **P 06 38 58.1 0.0**
MTA S S 06 48 55.0 +11
NAY Al-Naaiem 76.62 60 *e*P **P 06 38 58.4 -0.6**
NAY AMb AMB 06 38 59.5
comp=Z,14nm,0.8s,mb4.9
MIB Mutribah 76.77 60 *e*P **P 06 38 59.4 -0.4**
MIB AMb AMB 06 39 08.1
comp=Z,50nm,1.0s,mb5.4
FCC Fort Churchill 76.83 331 *e*P **P 06 38 57.4 -2.6**
FCC pmax pmax
comp=Z,28nm,1.1s,mb5.1
FCC Fort Churchill 76.83 331 *e*P **P 06 38 57.4 -2.6**
comp=Z,28nm,1.1s,mb5.1
DGRG David-gareji 76.86 48 P **P 06 39 01.9 +1.6**
DGRG S S 06 49 02.4 +14
ARCES ARCESS Array B 76.88 17 P **P 06 38 57.7 -2.7**
comp=Z,3.4nm,0.9s,mb4.3,baz=234,slow=4.1,SNR=7.0
ARCES LR LR 07 08 54.6
comp=Z,3μm,19.2s,MS5.6,baz=233,slow=33
LTX Lajitas 76.94 300 PFAKE 06 39 10.0 +9.3
LTX LR LR
comp=Z,1μm,22.0s,MS5.2
KBD Kabd 77.01 60 *e*P **P 06 39 01.4 +0.3**
KEV Kevo 77.44 17 PFAKE 06 39 10.0 +6.5
KEV LR LR
comp=Z,3μm,22.3s,MS5.6
APA Apatity 78.40 20⇓*i*P **P 06 39 09.3 +0.5**
APA *i* pP 06 39 14.0 +1.9
APA pmax pmax
comp=Z,16nm,1.0s,mb4.9
MNTX Cornudas Mount 78.65 302 *e*P **P 06 39 08.4 -1.8**
comp=Z,20nm,1.4s,mb4.8
MNTX LR LR
comp=Z,953nm,29.5s,MS5.0
MAK Makhachkala 78.68 46 *e*P **P 06 39 11.9 +1.5**
MAK *i* 06 39 17.5
MAK *e* 06 42 11.2
MAK *e*PPP 06 44 04.5
MAK *i* S S 06 49 10.7 +3.1
MAK *e* 06 49 32.8
MAK *e*SS SS 06 54 11.3 -0.3
MAK pmax pmax
comp=Z,46nm,0.6s,mb5.6
MAK MLR MLR
comp=Z,3μm,17.0s,MS5.7
ISCO Idaho Springs 79.75 310 *e*P **P 06 39 21.9 +5.7**
ISCO pmax pmax
comp=Z,27nm,1.3s,mb5.0
ISCO Idaho Springs 79.75 310 PFAKE 06 39 30.0 +14
ISCO LR LR
comp=Z,2μm,27.6s,MS5.3
PHWY Pilot Hill 79.82 312 *e*P **P 06 39 20.4 +3.8**
FFC Flin Flon 79.86 326 *e*P **P 06 39 14.5 -2.3**
comp=Z,35nm,1.5s,mb5.1
FFC LR LR
comp=Z,3μm,36.9s,MS5.3
ANMO Albuquerque 79.88 305 *e*P **P 06 39 21.5 +4.5**
comp=Z,63nm,1.8s,mb5.2
ANMO LR LR
comp=Z,2μm,33.2s,MS5.1
BNM Barren Site 79.94 304 *e*P **P 06 39 22.7 +5.5**
LPM Los Pinos Moun 79.95 305 *e*P **P 06 39 18.9 +1.6**
LAZ Ladron 80.38 305 *e*P **P 06 39 19.1 -0.5**
KBS Kingsbay 80.39 7 *e*P **P 06 39 21.2 +1.6**
KBS *e*S S 06 49 26.6 +0.9
KBS AMS AMS 07 07 39.3
comp=Z,917nm,20.6s,MS5.1
KBS Kingsbay 80.39 7⇑*e*P **P 06 39 16.1 -3.6**
KBS LR LR
comp=Z,2μm,22.0s,MS5.4
SMCO Snowmass 80.72 309 *e*P **P 06 39 23.7 +2.3**
comp=Z,34nm,1.2s,mb5.2
LAO LASA Array 81.09 317 *e*P **P 06 39 22.6 -0.9**
comp=Z,34nm,0.9s,mb5.3
LAO LR LR
comp=Z,673nm,16.1s,MS5.1
MVCO Mesa Verde 81.73 307 *e*P **P 06 39 28.2 +1.3**
PV01 Paradox Valley 81.86 308 *e*P **P 06 39 28.2 +0.7**
PV10 Paradox Valley 82.25 308 *e*P **P 06 39 31.9 +2.4**
ALE Alert 82.67 356 P **P 06 39 31.8 0.0**
comp=Z,78nm,1.9s,mb5.4,SNR=6.6
RPN Rapa Nui 82.75 243 PFAKE 06 39 40.0 +7.8
RPN LR LR
comp=Z,2μm,21.0s,MS5.5
RES Resolute Bay 82.94 346 P **P 06 39 33.8 +0.6**
RES pmax pmax
comp=Z,11nm,0.9s,mb4.9
RES Resolute Bay 82.94 346 P **P 06 39 33.8 +0.6**
comp=Z,12nm,0.9s,mb4.9
BW06 Boulder Array 83.02 313 *e*P **P 06 39 37.0 +3.4**
comp=Z,21nm,1.4s,mb5.0
BW06 LR LR
comp=Z,1μm,18.4s,MS5.4
PDAR Pinedale Array 83.02 313 P **P 06 39 34.5 +1.0**
comp=Z,1.2nm,0.8s,baz=83,slow=4.8,SNR=8.0
PDAR LR LR 07 11 23.0
comp=Z,3μm,21.8s,MS5.7,baz=104,slow=32
SYO Syowa Base 83.15 160⇑*e*P **P 06 39 40.5 +6.2**
TUC Tucson 83.27 302 PFAKE 06 39 50.0 +15
TUC LR LR
comp=Z,2μm,20.0s,MS5.5
GCMT Greycliff 83.36 316 *e*P **P 06 39 34.3 -1.0**
EGMT Eagleton 83.63 318 *e*P **P 06 39 35.7 -1.0**
comp=Z,30nm,1.5s,mb5.2
EGMT LR LR
comp=Z,983nm,20.0s,MS5.2
LKWY Lake 83.78 315 PFAKE 06 39 50.0 +13
LKWY LR LR
comp=Z,4μm,21.0s,MS5.8
LOHW Long Hollow 83.85 314 *e*P **P 06 39 40.5 +2.7**
comp=Z,25nm,1.3s,mb5.2
FLWY Flagg Ranch 83.95 314 *e*P **P 06 39 40.3 +2.0**
comp=Z,54nm,1.4s,mb5.5
MOOW Moose Ponds 83.96 314 *e*P **P 06 39 38.3 -0.1**
comp=Z,18nm,1.3s,mb5.0
REDW Red Top Meadow 84.01 313 *e*P **P 06 39 38.1 -0.6**
comp=Z,91nm,1.8s,mb5.6
YFT Old Faithful 84.08 314 *e*P **P 06 39 41.0 +2.0**
TPAW Teton Pass 84.09 313 *e*P **P 06 39 39.3 +0.2**
comp=Z,81nm,1.8s,mb5.6
IMW Indian Meadow 84.11 314 *e*P **P 06 39 41.0 +1.8**
comp=Z,59nm,1.6s,mb5.5
DAU Daniels Canyon 84.11 310 *e*P **P 06 39 41.7 +2.5**
AHID Auburn Hatcher 84.15 313 PFAKE 06 39 50.0 +11
AHID LR LR
comp=Z,4μm,20.0s,MS5.8
YMR Madison River 84.19 315 *e*P **P 06 39 39.7 +0.1**
comp=Z,84nm,1.5s,mb5.7
YMR LR LR
comp=Z,2μm,22.0s,MS5.3
DCID1 Drake Creek 84.27 314 *e*P **P 06 39 42.2 +2.3**
MPU Maple Canyon 84.38 310 PFAKE 06 39 50.0 +9.5
MPU LR LR
comp=Z,3μm,20.0s,MS5.6
115A Sonoran Desert 84.51 303⇓P **P 06 39 41.0 -0.2**
baz=84
QLMT Earthquake Lak 84.53 315 *e*P **P 06 39 44.4 +3.1**
X15A Humboldt 84.59 304⇑P **P 06 39 42.1 +0.5**
baz=84
ORR Orenburg 84.65 38⇓*i*P **P 06 39 41.1 -0.8**
ORR pmax pmax
comp=Z,30nm,2.4s,mb5.0
ORR MLR MLR
comp=Z,2μm,19.0s,MS5.5
NLU North Lily Min 84.71 310 *e*P **P 06 39 46.1 +3.9**
MSU Marysvale 84.72 308 *e*P **P 06 39 40.5 -1.8**
BOZ Bozeman (W) 84.72 316 *e*P **P 06 39 43.3 +1.0**
comp=Z,5.3nm,1.4s,mb4.5
BOZ LR LR
comp=Z,2μm,25.8s,MS5.4
MVU Marysvale 84.75 308 PFAKE 06 39 50.0 +7.6
MVU LR LR
comp=Z,2μm,21.0s,MS5.5
HRY Holter Researc 84.93 317 *e*P **P 06 39 43.3 0.0**
DUG Dugway 85.29 310 *e*P **P 06 39 44.4 -0.7**
comp=Z,53nm,1.6s,mb5.4
DUG LR LR
comp=Z,1μm,22.0s,MS5.3
HVU Hansel Valley 85.33 312 *e*P **P 06 39 44.8 -0.5**
HVU pmax pmax
comp=Z,20nm,1.4s,mb5.0

HVU Hansel Valley 85.33 312 *e*P **P 06 39 44.8 -0.6**
comp=Z,20nm,1.4s,mb5.1
DLMT Dillon 85.38 315 *e*P **P 06 39 44.4 -1.2**
comp=Z,92nm,1.5s,mb5.7
BGU Big Grassy Mou 85.49 311 *e*P **P 06 39 46.1 0.0**
MCMT McKenzie Canyo 85.53 315 *e*P **P 06 39 45.7 -0.7**
CCUT Cedar City 85.62 307 *e*P **P 06 39 50.6 +3.9**
ARUT Antelope Range 85.69 308 *e*P **P 06 39 48.2 +1.1**
CHMT Chamberlain Mo 85.92 317 *e*P **P 06 39 49.6 +1.3**
EDM Edmonton 86.30 323 *e*P **P 06 39 47.8 -2.4**
M13A Montello 86.36 311⇑P **P 06 39 49.9 -0.5**
baz=86
MSO Missoula 86.39 317 *e*P **P 06 39 48.7 -1.9**
comp=Z,16nm,1.5s,mb5.0
MSO LR LR
comp=Z,796nm,19.4s,MS5.1
SOKR Solikamsk 86.42 31 *i*P **P 06 39 45.6 -5.1**
SOKR S 06 50 28.2
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
HLID Hailey 86.61 313 *e*P **P 06 39 53.1 +1.4**
comp=Z,12nm,0.9s,mb5.1
O12A Currie 86.78 310⇓P **P 06 39 51.9 -0.5**
baz=87
P12A McGill 86.88 309⇑P **P 06 39 52.9 -0.1**
baz=87
M12A Wells 86.93 311⇓P **P 06 39 53.3 +0.1**
baz=87
N12A Wells--Clov Va 87.01 311⇓P **P 06 39 53.4 -0.2**
baz=87
ELK Elko 87.16 311 *e*P **P 06 39 54.1 -0.2**
comp=Z,33nm,1.5s,mb5.3
ELK LR LR
comp=Z,1μm,20.4s,MS5.3
ARU Arti 87.20 34 *e*P **P 06 39 46.6 -7.9**
ARU *e*SS SS 06 56 11.3 -6.6
ARU Arti 87.20 34 *e*P **P 06 39 55.4 +0.8**
ARU LR LR
comp=Z,2μm,24.9s,MS5.4
YKA Yellowknife Ar 87.43 332 LR LR 07 15 07.3
comp=Z,4μm,20.9s,MS5.8,baz=80,slow=33
M11A Holland Ranch, 87.58 311⇓P **P 06 39 57.5 +1.1**
baz=88
TPNV Topopah Spring 87.91 307 *e*P **P 06 40 01.9 +4.0**
comp=Z,27nm,1.3s,mb5.3
TPNV LR LR
comp=Z,3μm,22.0s,MS5.7
PFO Pinyon Flat Ob 88.07 303 PFAKE 06 40 10.0 +11
PFO LR LR
comp=Z,2μm,21.0s,MS5.6
PFO Pinyon Flat Ob 88.07 303⇑P **P 06 40 02.4 +3.7**
baz=88
NEW Newport 88.57 318 PFAKE 06 40 10.0 +8.9
NEW LR LR
comp=Z,2μm,22.0s,MS5.6
BMN Battle Mountai 88.67 310 PFAKE 06 40 10.0 +8.5
BMN LR LR
comp=Z,2μm,20.0s,MS5.5
TPH Tonopah 88.68 308 PFAKE 06 40 10.0 +8.4
TPH LR LR
comp=Z,2μm,22.0s,MS5.4
S09A Goldfield 88.68 308⇓P **P 06 40 00.9 -0.7**
baz=89
DAC Darwin (Calif) 88.99 306 *e*P **P 06 40 06.0 +3.0**
comp=Z,164nm,1.1s
DAC LR LR
comp=Z,1μm,23.4s,MS5.2
Q08A Gabbs 89.23 309⇓P **P 06 40 05.6 +1.4**
baz=89
MNV Mina 89.41 308 *e*P **P 06 40 05.2 +0.2**
comp=Z,11nm,1.5s,mb5.0
MNV LR LR
comp=Z,1μm,19.0s,MS5.4
NVAR Mina Array Bea 89.53 308 P **P 06 40 03.2 -2.3**
comp=Z,0.4nm,0.8s,baz=182,slow=5.1,SNR=3.7
WVOR Wild Horse Val 89.70 312 PFAKE 06 40 20.0 +14
WVOR LR LR
comp=Z,2μm,19.0s,MS5.5
ISA Isabella 89.72 305 PFAKE 06 40 20.0 +14
ISA LR LR
comp=Z,793nm,22.0s,MS5.1
SNCC San Nicolas Is 90.64 303 PFAKE 06 40 20.0 +9.2
SNCC LR LR
comp=Z,1μm,19.0s,MS5.4
O06A Flanigan 90.67 310⇓P **P 06 40 10.7 -0.2**
baz=91
MOD Modoc 90.96 312 PFAKE 06 40 20.0 +7.8
MOD LR LR
comp=Z,2μm,21.0s,MS5.5
QSPA South Pole Qui 91.17 180 *e*P **P 06 40 16.3 +3.1**
comp=Z,14nm,1.1s,mb5.2
CMB Columbia Colle 91.18 308 PFAKE 06 40 20.0 +6.7
CMB LR LR
comp=Z,2μm,22.0s,MS5.5
MAW Mawson 91.36 157 LR LR 07 12 22.4
comp=Z,2μm,21.6s,MS5.5,baz=273,slow=30
SAO San Andreas Ge 92.08 307 PFAKE 06 40 30.0 +13
SAO LR LR
comp=Z,2μm,22.0s,MS5.6
WDC Whiskeytown Da 92.71 311 PFAKE 06 40 30.0 +10
WDC LR LR
comp=Z,930nm,21.0s,MS5.2
YBH Yreka Blue Hor 92.76 312 PFAKE 06 40 30.0 +9.4
YBH LR LR
comp=Z,1μm,22.0s,MS5.3
HUMO Hull Mountain 92.89 313 PFAKE 06 40 30.0 +8.8
HUMO LR LR
comp=Z,3μm,22.0s,MS5.7
COR Corvallis 92.99 315 PFAKE 06 40 30.0 +8.4
COR LR LR
comp=Z,1μm,22.0s,MS5.3
HOPS Hopland 93.23 309 PFAKE 06 40 30.0 +7.3
HOPS LR LR
comp=Z,2μm,19.0s,MS5.5
OCWA Octopus Mounta 93.33 318 PFAKE 06 40 30.0 +6.8
OCWA LR LR
comp=Z,2μm,20.0s,MS5.6
BRVK Borovoye 94.13 37⇓*e*P **P 06 40 24.9 -2.0**
BRVK MLR MLR
comp=Z,2μm,21.0s,MS5.6
CHKZ Chkalovo 94.25 36 *e*P **P 06 40 28.5 +1.1**
CHKZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
CHKZ Chkalovo 94.25 36 *e*P **P 06 40 28.5 +1.0**
comp=Z,1.6nm,0.7s,mb4.6
INK Inuvik 94.67 339 *e*P **P 06 40 30.9 +1.5**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 94.67 339 *e*P **P 06 40 30.9 +1.5**
comp=Z,2.1nm,0.9s,mb4.6
DLBC Dease Lake 95.33 329 *e*P **P 06 40 32.6 +0.2**
SIT Sitka 98.41 328 PFAKE 06 41 00.0 +14
SIT LR LR
comp=Z,4μm,20.0s,MS5.9
AAK Ala-Archa 98.46 47⇓*e*P **P 06 40 43.1 -3.5**
AAK MLR MLR
comp=Z,2μm,20.0s,MS5.6
KURK Kurchatov 99.64 38 *e*P Pdif 06 40 52.4 +0.6
KURK Kurchatov 99.64 38 PFAKE 06 41 00.0 +8.2
KURK LR LR
comp=Z,2μm,19.0s,MS5.7
DGAR Diego Garcia 100.55 97 PFAKE 06 41 10.0 +14
DGAR LR LR
comp=Z,3μm,19.0s,MS5.8
COLA College 101.24 338 PFAKE 06 41 10.0 +11
COLA LR LR
comp=Z,2μm,20.0s,MS5.5
SBA Scott Base 102.92 183 PFAKE 06 41 20.0 +14
SBA LR LR
comp=Z,1μm,20.0s,MS5.5
PMR Palmer 103.30 335 PFAKE 06 41 20.0 +12
PMR LR LR
comp=Z,4μm,20.0s,MS6.0
VNDA Vanda 103.47 182 PFAKE 06 41 20.0 +11
VNDA LR LR
comp=Z,1μm,20.0s,MS5.4
TIXI Tiksi 105.85 7 PFAKE 06 45 40.0 +8.0
TIXI LR LR
comp=Z,1μm,19.0s,MS5.5
RKT Rikitea 106.00 246 *e*PS PS 06 55 00.1 -0.5
comp=Z,998nm,32.8s
RKT Rikitea 106.00 246 *e*LR LR 07 16 09.6
comp=Z,1μm,27.8s
KDAK Kodiak Island 106.71 333 PFAKE 06 45 40.0 +6.4
KDAK LR LR
comp=Z,664nm,20.0s,MS5.2

WMQ Urumqi 107.52 43 *e*PDIF Pdif 06 41 29.2 +2.4
WMQ PP PP 06 46 00.8 +6.3
WMQ LR LR
comp=N,2μm,24.0s,MS5.7
WMQ LR LR
comp=E,2μm,25.0s,MS5.7
WMQ LR LR
comp=Z,4μm,36.0s
PALK Pallekele 108.44 82 PFAKE 06 45 50.0 +13
PALK LR LR
comp=Z,2μm,19.0s,MS5.6
CASY Casey 108.72 164 PFAKE 06 45 50.0 +13
CASY LR LR
comp=Z,2μm,21.0s,MS5.6
BILL Bilibino 110.28 354 PFAKE 06 45 50.0 +10
BILL LR LR
comp=Z,949nm,20.0s,MS5.4
DRV Dumont d'Urvil 114.03 175 SP SP 06 56 20.0 +2.6
DRV SS SS 07 02 29.0 -2.5
LSA Lhasa 114.50 57 PFAKE 06 46 00.0 +12
LSA LR LR
comp=Z,2μm,20.0s,MS5.8
YAK Yakutsk 114.79 11 PFAKE 06 46 00.0 +11
YAK LR LR
comp=Z,2μm,20.0s,MS5.6
SONM Songino Array 117.22 33 PKiKP PKiKP 06 45 56.7 +3.2
comp=Z,0.7nm,0.6s,baz=266,slow=2.4,SNR=4.1
ULN Ulaanbaatar 117.56 32 PFAKE 06 46 10.0 +16
ULN LR LR
comp=Z,4μm,22.0s,MS6.0
GTA Gaotai 117.59 44 *e*PKP PKPdf 06 45 55.8 +1.6
GTA PP PP 06 47 11.5 +5.0
GTA PKS 06 49 31.1
GTA SKS SKSdf 06 53 07.4 +1.0
GTA PP PP
comp=Z,100nm,6.1s
GTA LR LR
comp=N,1μm,27.4s,MS5.6
GTA LR LR
comp=E,1μm,26.2s,MS5.6
GTA LR LR
comp=Z,3μm,29.3s,MS5.7
TBI Tubuai 119.12 244 *e*LQ 07 17 27.0
comp=Z,1μm,40.8s
TBI Tubuai 119.12 244 *e*PP PP 06 47 07.7 -9.4
comp=Z,108nm,29.5s
TBI Tubuai 119.12 244 *e*SS SS 07 03 38.1 +0.3
comp=Z,1μm,35.5s
TBI *e*LR LR 07 22 18.3
comp=Z,1μm,25.8s
MA2 Magadan 119.49 1 PFAKE 06 46 10.0 +12
MA2 LR LR
comp=Z,900nm,20.0s,MS5.4
PPT Papeete 120.31 250 *e*LQ 07 17 26.5
comp=Z,6μm,36.8s
PPT Papeete 120.31 250 *e*PP PP 06 47 14.0 -11
comp=Z,128nm,24.5s
PPT Papeete 120.31 250 *e*PS PS 06 57 16.5 +1.0
comp=Z,770nm,25.0s
PPT Papeete 120.31 250 *e*SS SS 07 03 57.7 +4.6
comp=Z,2μm,33.2s
PPT *e*LR LR 07 22 56.8
comp=Z,1μm,24.2s
LZH Lanzhou 121.97 45 *e*PKP PKPdf 06 46 03.0 +0.3
LZH XPKP 06 46 11.5
LZH PP PP 06 47 37.0 +0.4
LZH SKS SKSdf 06 53 10.0 -4.7
LZH PP PP
comp=Z,270nm,6.5s
LZH LR LR
comp=N,2μm,16.2s
LZH LR LR
comp=Z,3μm,21.0s,MS5.9
HIA Hailar 122.66 25 PFAKE 06 46 20.0 +16
HIA LR LR
comp=Z,2μm,21.0s,MS5.8
SMY Shemya 123.23 344 PFAKE 06 46 20.0 +15
SMY LR LR
comp=Z,2μm,22.0s,MS5.6
CD2 Chengdu 124.26 51 *e*PKP PKPdf 06 46 03.4 -3.6
CD2 XPKP 06 46 09.8
CD2 PP PP 06 47 52.7 +0.7
CD2 PKS 06 49 38.8
CD2 SKS SKSdf 06 53 14.0 -5.0
CD2 PP PP
comp=Z,160nm,4.3s
CD2 LR LR
comp=N,2μm,20.4s
CD2 LR LR
comp=Z,2μm,26.4s
COCO West Island 124.26 104 PFAKE 06 46 20.0 +13
COCO LR LR
comp=Z,1μm,19.0s,MS5.6
CHTO Chiang Mai 124.30 66 PFAKE 06 46 20.0 +13
CHTO LR LR
comp=Z,1μm,22.0s,MS5.5
POHA Pohakuloa 124.52 295 PFAKE 06 46 20.0 +12
POHA LR LR
comp=Z,885nm,19.0s,MS5.5
KMI Kunming 125.72 58 PKP PKPdf 06 46 09.4 -0.5
KMI XPKP 06 46 13.9
KMI PP PP 06 48 05.8 +4.0
KMI LR LR
comp=N,690nm,17.7s,MS5.5
KMI LR LR
comp=E,720nm,16.7s,MS5.5
KMI LR LR
comp=Z,1μm,19.1s,MS5.6
PET Petropavlovsk 125.77 355 PFAKE 06 46 20.0 +10
PET LR LR
comp=Z,1μm,21.0s,MS5.5
KLR Kul'dur 126.91 16 *e*PKIKP PKPdf 06 46 08.0 -4.1
BJT Baijiatuau 127.63 35 PFAKE 06 46 30.0 +17
BJT LR LR
comp=Z,2μm,20.0s,MS5.8
GYA Guiyang 128.46 54 PKP PKPdf 06 46 21.7 +6.6
GYA PKS 06 49 56.7
GYA PP PP
comp=Z,870nm,8.4s
GYA LR LR
comp=N,2μm,26.1s,MS5.7
GYA LR LR
comp=E,1μm,23.0s,MS5.7
GYA LR LR
comp=Z,2μm,22.5s,MS5.6
ENH Enshi 128.93 49 PFAKE 06 46 30.0 +14
ENH LR LR
comp=Z,4.0nm,20.0s
CN2 Changchun 129.39 25 *e*PKP PKPdf 06 46 15.7 -1.1
CN2 PP PP 06 48 29.1 +3.1
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,400nm,21.0s,MS5.2
CN2 LR LR
comp=E,300nm,21.0s,MS5.2
CN2 LR LR
comp=Z,200nm,21.0s,MS4.8
MDJ Mudanjiang 130.31 21 PKP PKPdf 06 46 17.7 -0.9
MDJ XPKP 06 46 22.4
MDJ PKS 06 49 54.6
MDJ LR LR
comp=N,1μm,29.1s,MS5.6
MDJ LR LR
comp=E,1μm,29.1s,MS5.6
MDJ LR LR
comp=Z,2μm,24.2s,MS5.7
MDJ Mudanjiang 130.31 21 PFAKE 06 46 30.0 +11
MDJ LR LR
comp=Z,2μm,21.0s,MS5.7
DL2 Dalian 131.40 32 *e*PKP PKPdf 06 46 17.0 -3.7
DL2 PP PP 06 48 39.8 +0.8
DL2 SS SS 07 06 11.7 -0.4
DL2 PP PP
comp=Z,170nm,7.9s
DL2 LR LR
comp=N,770nm,20.5s,MS5.5
DL2 LR LR
comp=E,470nm,21.0s,MS5.5
DL2 LR LR
comp=Z,1μm,20.6s,MS5.6
YSS Yuzh-Sakhalins 131.46 8 PFAKE 06 46 30.0 +9.2
YSS LR LR
comp=Z,317nm,23.0s,MS5.0
QIZ Qiongzhong 134.06 62 PFAKE 06 46 40.0 +14
QIZ LR LR

comp=Z,1μm,20.0s,MS5.7
NJ2 Nanjing 134.51 41 *e*PKP PKPdf 06 46 23.1 -3.4
NJ2 PP PP 06 48 59.0 0.0
NJ2 LR LR
comp=N,770nm,26.6s,MS5.4
NJ2 LR LR
comp=E,800nm,28.3s,MS5.4
NJ2 LR LR
comp=Z,410nm,24.6s,MS5.1
INCN Inchon 135.01 29 PFAKE 06 46 40.0 +13
INCN LR LR
comp=Z,381nm,32.3s,MS4.9
SSE Sheshan 136.64 40 *e*PKP PKPdf 06 46 32.1 +1.6
SSE PP PP 06 49 17.6 +5.2
SSE PP PP
comp=Z,220nm,3.5s
SSE LR LR
comp=N,680nm,30.7s,MS5.6
SSE LR LR
comp=E,2μm,30.8s,MS5.6
SSE LR LR
comp=Z,2μm,33.6s,MS5.5
MIDW Midway 138.58 317 PFAKE 06 46 50.0 +16
MIDW LR LR
comp=Z,609nm,20.1s,MS5.3
MAJO Matsushiro 140.42 17 PFAKE 06 46 50.0 +13
MAJO LR LR
comp=Z,309nm,25.3s,MS5.0
MJAR Matsushiro Arr 140.42 17 PKP PKPdf 06 46 36.7 -0.7
comp=Z,2.1nm,0.9s,baz=346,slow=2.2,SNR=3.3
MJAR Matsushiro Arr 140.42 17 PKP PKPdf 06 46 36.7 -0.7
AFI Afiamalu 141.95 249 PFAKE 06 46 50.0 +10
AFI LR LR
comp=Z,686nm,39.6s,MS5.1
MBWA Marble Bar 142.78 125 PFAKE 06 46 50.0 +8.4
MBWA LR LR
comp=Z,1μm,19.5s,MS5.6
STKA Stephens Creek 147.87 163 *e*P PKPab 06 47 00.4 +4.6
comp=Z,5.8nm,0.9s
STKA Stephens Creek 147.87 163 PKPbc PKPbc 06 46 54.3 +1.0
comp=Z,1.2nm,0.7s,baz=217,slow=5.1,SNR=2.8
STKA Stephens Creek 147.87 163 *e*PKPab PKPab 06 46 57.1 +1.3
FITZ Fitzroy Crossi 149.12 125 *e*P PKPbc 06 46 56.9 +0.3
comp=Z,11nm,0.7s
ASAR Alice Springs 151.55 143 PKPbc PKPbc 06 47 01.8 -0.7
comp=Z,2.6nm,1.0s,baz=199,slow=2.1,SNR=12
ASAR Alice Springs 151.55 143 PKIKP PKPdf 06 47 01.8 +5.6
ASAR pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 154.55 138 PKPbc PKPbc 06 47 09.3 +0.2
comp=Z,4.4nm,1.1s,baz=235,slow=2.1,SNR=7.5
WRA Warramunga Arr 154.55 138 PKIKP PKPbc 06 47 09.3 +0.3
WRA pmax pmax
comp=Z,4.0nm,1.1s
WRAB Tennant Creek 154.56 138 PFAKE 06 47 10.0 +9.4
WRAB LR LR
comp=Z,1μm,29.0s,MS5.6
WAKE Wake Island 155.12 325 PFAKE 06 47 10.0 +8.6
WAKE LR LR
comp=Z,314nm,28.4s,MS5.0
CTAO Charters Tower 160.33 164 PFAKE 06 47 20.0 +12
CTAO LR LR
comp=Z,626nm,26.3s
HNR Honiara 168.53 224 PFAKE 06 47 30.0 +15
HNR LR LR
comp=Z,1μm,22.0s
PMG Port Moresby 170.47 150 PFAKE 06 47 30.0 +14
PMG LR LR
comp=Z,1μm,21.0s

SZGRF ***05*** *06:34:26.5, 0.13S×28.29W, h33km, mb5.7, Central Mid-Atlantic Ridge*
IDC ***05*** *06:34:30.3±0.4, 107N×28.11W, h0km, mb4.8/29, mb1 4.9/29, mb1mx4.9/30, mbtmp4.8/29, MS5.6/5, Ms1 5.6/5, ms1mx5.1/19, Error ellipse: s-maj=13.3km s-min=9.6km az=152.0*
MOS ***05*** *06:34:30.0±0.9, 107N×28.11W, h10km, mb5.4/82, Error ellipse: s-maj=7.6km s-min=3.7km az=61.2*
ISCJB ***05*** *06:34:30.3±0.2, 106N±004×28.11W±002, h10km, mb5.2/179, MS5.5/17, Error ellipse: s-maj=5.9km s-min=2.9km az=135.0*
BJI ***05*** *06:34:31.8, 100N×28.20W, h10km, mB5.8, Ms6.0, Msz5.7*
HRVD ***05*** *06:34:31.8±0.2, 107N×28.02W, h26km, MW5.7/91, Centroid moment Tensor Solution. LP body waves: s32,c42;Mantle waves: s91,c217; Half duration: 1†7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.43±.10; $M_{\theta\theta}$-1.17±.08; $M_{\phi\phi}$-0.74±.08; $M_{r\theta}$-0.15±.17; $M_{\theta\phi}$-3.80±.08; $M_{\phi r}$-1.50±.19; Best double couple: M_0=4.21300×10^{17} NP1:ϕ_s=84.00000°, δ89.00000°, λ-173.00000°. NP2: ϕ_s=352.00000°, δ84.00000°, λ-21.00000°. Principal axes: T 4.2760, Plg10.0000°, Azm40.0000°; N -0.1280, Plg68.0000°, Azm156.0000°; P -4.1500, Plg19.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***05*** *06:34:31.8±0.2, 102N×28.16W, h10km, mb5.3/136 Error ellipse: s-maj=5.2km s-min=2.7km az=160.0*
CRAAG ***05*** *06:34:33.9, 106N×28.06W, Mw5.6*
CSEM ***05*** *06:34:33.9, 106N×28.06W, h33km, ML5.6*
ISC 05 06:34:32.3±0.2, 104N±004×2814W±002, h10km, (h15km±2.4km:pP-P), n632, σ0§80/601, mb5.2/179, MS5.5/17, 64C-76D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**23.88**	**76**	P	**P**	**06 39 44.1**	**-1.9**
31nm,0.8s,mb4.8,baz=235,slow=11,SNR=8.7							
DBIC	**Dimbokro**	**23.88**	**76**	P	**P**	**06 39 44.1**	**-1.9**
DBIC				pmax	pmax		
comp=Z,31nm,0.8s							
DBIC	**Dimbokro**	**23.88**	**76**	*e*P	**P**	**06 39 43.8**	**-2.3**
CAM3	**Guarapari**	**24.80**	**209**	‖*i*P	**P**	**06 39 55.0**	**+0.6**
CAM3				*i*		06 40 00.1	
CAM3				*i*		06 40 17.7	
CAM3				*i*		06 40 24.1	
BDFB	**Brasilia**	**25.70**	**229**	P	**P**	**06 40 02.8**	**+0.2**
comp=Z,50nm,1.0s,mb5.0,baz=51,slow=10,SNR=17							
BDFB				LR	LR	06 49 16.8	
comp=Z,18μm,18.1s,MS5.6,baz=50,slow=34							
CAM4	**Nova Friburgo**	**27.18**	**210**	*e*P	**P**	**06 40 15.4**	**-0.6**
CAM4				*i*		06 40 21.8	
CAM4				*i*		06 40 39.1	
CAM4				*i*		06 40 51.1	
TORD	**Torodi Ar. Bea**	**31.90**	**66**	P	**P**	**06 40 56.4**	**-1.4**
comp=Z,21nm,0.7s,mb5.1,baz=257,slow=9.1,SNR=48							
CRM	**Caravelle**	**35.13**	**294**	*e*P	**P**	**06 41 26.9**	**+1.0**
BIM	**Bigot**	**35.20**	**294**	*e*P	**P**	**06 41 27.8**	**+1.3**
FDF	**Fort de France**	**35.34**	**294**	*e*P	**P**	**06 41 28.5**	**+0.8**
BBL	**Barber's Block**	**35.90**	**295**	*e*P	**P**	**06 41 33.3**	**+0.8**
TBG	**Guadaloupe-3**	**36.17**	**296**	*e*P	**P**	**06 41 36.0**	**+1.1**
SEG	**Port Louis**	**36.24**	**297**	*e*P	**P**	**06 41 36.6**	**+1.1**
HMG	**Houelmont**	**36.27**	**296**	*e*P	**P**	**06 41 36.7**	**+1.0**
SAML	**Samuel**	**36.30**	**253**	*e*P	**P**	**06 41 37.0**	**+1.0**
comp=Z,250nm,1.7s,mb5.9							
SAML				*e*PP	PP	06 42 58.3	-0.2
LZG	**Guadaloupe-1**	**36.39**	**296**	*e*P	**P**	**06 41 37.8**	**+1.1**
BPA	**Boggy Peak**	**36.79**	**298**	*e*P	**P**	**06 41 41.7**	**+1.5**
CPB	**Codrington**	**36.99**	**298**	*e*P	**P**	**06 41 43.8**	**+1.9**
PCRV	**Puerto La Cruz**	**37.40**	**285**	P	**P**	**06 41 45.5**	**+0.1**
comp=Z,7.8nm,0.8s,mb4.6,baz=186,slow=10,SNR=3.9							
MDT	**Midelt**	**38.59**	**33**	P	**P**	**06 41 56.1**	**+0.7**
comp=Z,7.4nm,0.8s,mb4.5,baz=228,slow=7.0,SNR=16							
CPUP	**Villa Florida**	**39.16**	**224**	P	**P**	**06 42 01.2**	**+1.1**
comp=Z,40nm,1.0s,mb5.1,baz=33,slow=8.1,SNR=33							
CPUP				LR	LR	06 57 44.9	
comp=Z,11μm,19.2s,MS5.7,baz=18,slow=36							
CPUP	**Villa Florida**	**39.16**	**224**	*e*P	**P**	**06 42 00.3**	**+0.1**
CPUP				pmax	pmax		
comp=Z,200nm,1.1s							
CPUP	**Villa Florida**	**39.16**	**224**	*e*P	**P**	**06 42 00.3**	**+0.1**
comp=Z,203nm,1.1s,mb5.8							
CPUP				*e*PP	PP	06 43 22.3	-7.6
MTP	**Monte Pirata**	**40.46**	**297**	*e*P	**P**	**06 42 11.1**	**+0.1**
PTEO	**Sao Teotonio**	**40.49**	**24**	*e*P	**P**	**06 42 11.0**	**-0.3**
comp=Z,78nm,2.1s,mb5.1							
CPD	**Cerro la Pandu**	**40.76**	**297**	*e*P	**P**	**06 42 13.4**	**-0.1**
SJG	**San Juan**	**40.99**	**297**	P	**P**	**06 42 15.6**	**+0.2**
comp=Z,73nm,0.7s,mb5.4,baz=82,slow=4.9,SNR=24							
SJG				LR	LR	06 56 49.1	
comp=Z,3μm,18.2s,MS5.2,baz=123,slow=33							
SJG	**San Juan**	**40.99**	**297**	*e*P	**P**	**06 42 15.1**	**-0.3**
SJG				pmax	pmax		
comp=Z,200nm,1.2s							
SJG	**San Juan**	**40.99**	**297**	*e*P	**P**	**06 42 15.1**	**-0.3**
comp=Z,200nm,1.2s,mb5.6							
PBEJ	**Beja**	**41.26**	**25**	*e*P	**P**	**06 42 17.5**	**-0.1**
comp=Z,51nm,1.5s,mb4.9							
MOE	**Montemor**	**41.48**	**24**	*e*P	**P**	**06 42 20.7**	**+1.3**
EVO	**Evora**	**41.63**	**24**	*e*P	**P**	**06 42 19.3**	**-1.3**
comp=Z,48nm,1.0s,mb4.8							
PTOM	**Toar**	**42.40**	**23**	*e*P	**P**	**06 42 27.5**	**+0.6**
comp=Z,66nm,1.7s,mb5.0							
PCBR	**Castelo Branco**	**42.96**	**23**	*e*P	**P**	**06 42 31.8**	**+0.3**
comp=Z,34nm,1.8s,mb4.8							
SDV	**Santo Domingo**	**43.01**	**282**	P	**P**	**06 42 32.6**	**+0.8**
comp=Z,48nm,0.8s,mb5.3,baz=117,slow=5.3,SNR=46							
SDV	**Santo Domingo**	**43.01**	**282**	*e*P	**P**	**06 42 32.5**	**+0.6**
comp=Z,79nm,1.0s,mb5.4							
LPAZ	**La Paz**	**43.06**	**245**	P	**P**	**06 42 33.8**	**+1.5**
comp=Z,56nm,1.1s,mb5.2,baz=64,slow=5.1,SNR=69							
LPAZ				LR	LR	07 00 00.1	
comp=Z,7μm,19.3s,MS5.6,baz=72,slow=36							
LPAZ	**La Paz**	**43.06**	**245**	*e*P	**P**	**06 42 33.4**	**+1.1**
LPAZ				pmax	pmax		
comp=Z,44nm,0.9s							
LPAZ	**La Paz**	**43.06**	**245**	*e*P	**P**	**06 42 33.4**	**+1.1**
comp=Z,44nm,0.9s,mb5.2							
MTE	**Manteigas**	**43.41**	**23**	*e*P	**P**	**06 42 35.8**	**+0.7**
comp=Z,31nm,2.0s,mb4.7							
PVIS	**Viseu**	**43.55**	**22**	*e*P	**P**	**06 42 37.0**	**+0.8**
comp=Z,35nm,2.0s,mb4.7							
ETRT	**Tiaret**	**43.79**	**35**	P	**P**	**06 42 39.5**	**+1.3**
EANR	**'Ain N'Sour**	**44.07**	**35**	P	**P**	**06 42 42.5**	**+2.1**
ESDC	**Sonseca Array**	**44.32**	**27**	P	**P**	**06 42 42.8**	**+0.4**
comp=Z,7.2nm,0.7s,mb4.5,baz=223,slow=8.8,SNR=36							
ESLA	**Sonseca Array**	**44.32**	**27**	*e*P	**P**	**06 42 43.3**	**+0.9**
comp=Z,43nm,1.8s,mb4.9							
PCAB	**Cabril**	**44.36**	**22**	*e*P	**P**	**06 42 43.0**	**+0.3**
comp=Z,54nm,1.8s,mb5.0							
EBNR	**Beni Rached**	**44.56**	**35**	P	**P**	**06 42 44.0**	**-0.3**
PBRG	**Braganca**	**44.93**	**23**	*e*P	**P**	**06 42 47.8**	**+0.5**
comp=Z,24nm,2.0s,mb4.7							
EMHD	**Djebel Mahouad**	**45.32**	**36**	P	**P**	**06 42 52.0**	**+1.6**
AKET	**Djebel Ketaf**	**45.77**	**37**	P	**P**	**06 42 56.4**	**+2.5**
ABA	**Alger-Bouzarea**	**45.78**	**35**	P	**P**	**06 42 50.0**	**-4.0**
ATAF	**Djebel Tarf**	**45.89**	**37**	P	**P**	**06 42 57.6**	**+2.7**
LVC	**Limon Verde**	**46.15**	**237**	P	**P**	**06 42 56.6**	**-0.3**
comp=Z,17nm,0.9s,mb5.0,baz=42,slow=8.5,SNR=14							
LVC	**Limon Verde**	**46.15**	**237**	*e*P	**P**	**06 42 55.6**	**-1.3**
comp=Z,86nm,1.6s,mb5.4							
ARE	**Arequipa**	**46.17**	**246**	*e*P	**P**	**06 42 54.0**	**-3.1**
ROSC	**El Rosal**	**46.28**	**276**	P	**P**	**06 42 59.3**	**+1.4**
comp=Z,22nm,0.7s,mb5.2,baz=100,slow=2.6,SNR=29							
ROSC				LR	LR	07 01 40.6	
comp=Z,7μm,18.2s,MS5.6,baz=124,slow=35							
CMER	**Merouana**	**46.73**	**39**	P	**P**	**06 43 02.0**	**+0.6**
CKHR	**Kef el Ahmar**	**46.74**	**38**	P	**P**	**06 43 03.0**	**+1.4**
SET	**Setif**	**46.79**	**38**	P	**P**	**06 43 03.5**	**+1.5**
DFRA	**Djebel Bou Aff**	**47.31**	**38**	P	**P**	**06 43 07.3**	**+1.3**
CTEI	**Djebel Teioual**	**47.32**	**39**	P	**P**	**06 43 08.0**	**+1.9**
CASM	**Ain Smara**	**47.50**	**39**	P	**P**	**06 43 09.0**	**+1.5**
CKFL	**Kef-Lekhel**	**47.73**	**39**	P	**P**	**06 43 11.0**	**+1.7**
CAEH	**'Ain El Ouahch**	**48.06**	**38**	P	**P**	**06 43 13.0**	**+1.2**
ABSA	**Djebel Ababsia**	**48.13**	**39**	P	**P**	**06 43 13.0**	**+0.6**
SJPF	**Ste Jean**	**48.31**	**26**	*e*P	**P**	**06 43 13.0**	**-0.7**
comp=Z,37nm,0.8s,mb5.2							
SJPF	**Ste Jean**	**48.31**	**26**	*e*P	**P**	**06 43 13.0**	**-0.7**
SJPF				pmax	pmax		
comp=Z,19nm,0.8s,mb5.2							
SJPF	**Ste Jean**	**48.31**	**26**	*e*P	**P**	**06 43 13.0**	**-0.7**
comp=Z,18nm,0.8s,mb5.2							
CMAH	**Djebel Manchou**	**48.31**	**39**	P	**P**	**06 43 14.5**	**+0.7**
LARF	**Larrau**	**48.35**	**27**	*e*P	**P**	**06 43 15.6**	**+1.5**
ETSF	**Etsaut**	**48.44**	**27**	*e*P	**P**	**06 43 14.3**	**-0.4**
comp=Z,51nm,0.8s,mb5.3							
ETSF	**Etsaut**	**48.44**	**27**	*e*P	**P**	**06 43 14.3**	**-0.4**
ETSF				pmax	pmax		
comp=Z,25nm,0.8s,mb5.3							
ETSF	**Etsaut**	**48.44**	**27**	*e*P	**P**	**06 43 14.3**	**-0.4**
comp=Z,25nm,0.8s,mb5.3							
ATE	**Arette**	**48.52**	**27**	*e*P	**P**	**06 43 16.9**	**+1.5**
REYF	**Montagne du Re**	**48.65**	**27**	*e*P	**P**	**06 43 17.7**	**+1.3**
LABF	**Labassere**	**48.84**	**27**	*e*P	**P**	**06 43 19.4**	**+1.5**
MASC	**Masc**	**48.89**	**296**	*e*P	**P**	**06 43 19.2**	**+1.0**
EPF	**Esparros**	**48.95**	**28**	*e*P	**P**	**06 43 17.9**	**-0.8**
SALF	**Salau**	**49.14**	**28**	*e*P	**P**	**06 43 21.4**	**+1.2**
TSUM	**Tsumeb**	**49.17**	**117**	P	**P**	**06 43 22.4**	**+2.0**
comp=Z,4.0nm,0.7s,mb4.5,baz=263,slow=11,SNR=5.9							
TSUM	**Tsumeb**	**49.17**	**117**	*e*P	**P**	**06 43 19.4**	**-1.0**
comp=Z,14nm,1.0s,mb5.0							
MLS	**Moulis**	**49.25**	**28**	*e*P	**P**	**06 43 21.5**	**+0.5**
MOAC	**Moa**	**49.68**	**296**	*e*P	**P**	**06 43 24.8**	**+0.5**
TRQA	**Tornquist**	**49.87**	**215**	*e*P	**P**	**06 43 25.1**	**-0.6**
comp=Z,95nm,1.5s,mb5.6							
CFAA	**Coronel Fontan**	**49.97**	**226**	P	**P**	**06 43 25.8**	**-0.7**
comp=Z,0.7nm,0.7s,baz=71,slow=6.0,SNR=11							
MTLF	**Montolieu**	**50.08**	**29**	*e*P	**P**	**06 43 26.8**	**-0.5**
comp=Z,60nm,1.3s,mb5.2							
MTLF	**Montolieu**	**50.08**	**29**	*e*P	**P**	**06 43 26.8**	**-0.5**
MTLF				pmax	pmax		
comp=Z,30nm,1.3s,mb5.2							
MTLF	**Montolieu**	**50.08**	**29**	*e*P	**P**	**06 43 26.8**	**-0.5**
comp=Z,30nm,1.3s,mb5.2							
RCC	**Rio Carpintero**	**50.16**	**295**	*e*P	**P**	**06 43 25.8**	**-2.1**
OTAV	**Otavalo**	**50.32**	**269**	*e*P	**P**	**06 43 28.9**	**-0.2**
comp=Z,80nm,1.5s,mb5.5							
LFF	**La Frestale**	**50.62**	**26**	*e*P	**P**	**06 43 30.8**	**-0.6**
comp=Z,45nm,0.8s,mb5.2							
LFF	**La Frestale**	**50.62**	**26**	*e*P	**P**	**06 43 30.8**	**-0.6**
LFF				pmax	pmax		
comp=Z,23nm,0.8s,mb5.2							
LFF	**La Frestale**	**50.62**	**26**	*e*P	**P**	**06 43 30.8**	**-0.6**
comp=Z,23nm,0.8s,mb5.2							
HLGC	**Holguin**	**50.74**	**296**	*e*P	**P**	**06 43 33.1**	**+0.8**
ATAH	**Atahualpa**	**50.78**	**260**	P	**P**	**06 43 33.3**	**+0.7**
comp=Z,9.9nm,0.7s,mb4.8,baz=114,slow=4.1,SNR=10							
CAF	**Calviac**	**51.20**	**27**	*e*P	**P**	**06 43 35.3**	**-0.5**
comp=Z,28nm,1.0s,mb4.9							
CAF	**Calviac**	**51.20**	**27**	*e*P	**P**	**06 43 35.3**	**-0.5**
CAF				pmax	pmax		
comp=Z,14nm,1.0s,mb4.8							
CAF	**Calviac**	**51.20**	**27**	*e*P	**P**	**06 43 35.3**	**-0.5**
comp=Z,14nm,1.0s,mb4.9							
RJF	**Les Rejaudoux**	**51.25**	**27**	*e*P	**P**	**06 43 35.3**	**-0.8**
LMGC	**Las Mercedes**	**51.36**	**295**	*e*P	**P**	**06 43 38.4**	**+1.4**
LASF	**Ste Croix**	**51.42**	**29**	*e*P	**P**	**06 43 36.7**	**-0.7**
QUIF	**Quistinic**	**51.46**	**21**	*e*P	**P**	**06 43 36.9**	**-0.8**
comp=Z,183nm,1.9s,mb5.4							
QUIF	**Quistinic**	**51.46**	**21**	*e*P	**P**	**06 43 36.9**	**-0.8**
QUIF				pmax	pmax		
comp=Z,91nm,1.9s,mb5.4							
QUIF	**Quistinic**	**51.46**	**21**	*e*P	**P**	**06 43 36.9**	**-0.8**
comp=Z,91nm,1.9s,mb5.4							
MFF	**Saint Martin d**	**51.55**	**24**	*e*P	**P**	**06 43 37.7**	**-0.7**
comp=Z,48nm,1.0s,mb5.1							
MFF	**Saint Martin d**	**51.55**	**24**	*e*P	**P**	**06 43 37.7**	**-0.7**
MFF				pmax	pmax		
comp=Z,24nm,1.0s,mb5.1							
MFF	**Saint Martin d**	**51.55**	**24**	*e*P	**P**	**06 43 37.7**	**-0.7**
comp=Z,24nm,1.0s,mb5.1							
ROSF	**Rostrenen**	**51.78**	**21**	*e*P	**P**	**06 43 39.6**	**-0.5**
comp=Z,28nm,1.1s,mb4.8							
ROSF	**Rostrenen**	**51.78**	**21**	*e*P	**P**	**06 43 39.6**	**-0.5**
ROSF				pmax	pmax		
comp=Z,14nm,1.0s,mb4.8							
ROSF	**Rostrenen**	**51.78**	**21**	*e*P	**P**	**06 43 39.6**	**-0.5**
comp=Z,14nm,1.0s,mb4.8							
SGMF	**Saint Gilles**	**51.97**	**21**	*e*P	**P**	**06 43 40.9**	**-0.6**
comp=Z,52nm,0.9s,mb5.1							
SGMF	**Saint Gilles**	**51.97**	**21**	*e*P	**P**	**06 43 40.9**	**-0.6**
SGMF				pmax	pmax		
comp=Z,26nm,0.9s,mb5.2							
SGMF	**Saint Gilles**	**51.97**	**21**	*e*P	**P**	**06 43 40.9**	**-0.6**
comp=Z,26nm,0.9s,mb5.2							
LBL	**Lubilhac**	**51.98**	**28**	*e*P	**P**	**06 43 42.5**	**+0.9**
SMRF	**Simiane la Rot**	**52.20**	**30**	*e*P	**P**	**06 43 42.9**	**-0.3**
LMR	**La Mourre**	**52.23**	**32**	*e*P	**P**	**06 43 42.7**	**-0.8**
PYM	**Petit Puy Mans**	**52.26**	**27**	*e*P	**P**	**06 43 44.6**	**+0.9**
TCF	**Toulx Ste Croi**	**52.31**	**26**	*e*P	**P**	**06 43 43.6**	**-0.5**
FCH	**Farellones**	**52.36**	**225**	*e*P	**P**	**06 43 44.7**	**+0.3**
VIVF	**Saint-Julien-I**	**52.38**	**29**	*e*P	**P**	**06 43 44.1**	**-0.5**
comp=Z,42nm,0.9s,mb5.0							
VIVF	**Saint-Julien-I**	**52.38**	**29**	*e*P	**P**	**06 43 44.1**	**-0.5**
VIVF				pmax	pmax		
comp=Z,21nm,0.9s,mb5.1							
VIVF	**Saint-Julien-I**	**52.38**	**29**	*e*P	**P**	**06 43 44.1**	**-0.5**
comp=Z,21nm,0.9s,mb5.1							
AGO	**Saint Agoulin**	**52.55**	**27**	*e*P	**P**	**06 43 46.3**	**+0.5**
PLDF	**La Plantade**	**52.71**	**27**	*e*P	**P**	**06 43 47.4**	**+0.4**
GRR	**Gorron**	**52.72**	**23**	*e*P	**P**	**06 43 46.4**	**-0.7**
comp=Z,26nm,0.8s,mb4.9							
GRR	**Gorron**	**52.72**	**23**	*e*P	**P**	**06 43 46.4**	**-0.7**
GRR				pmax	pmax		
comp=Z,13nm,0.8s,mb4.9							
GRR	**Gorron**	**52.72**	**23**	*e*P	**P**	**06 43 46.4**	**-0.7**
comp=Z,13nm,0.8s,mb4.9							
BGF	**Bois d'Agland**	**52.80**	**26**	*e*P	**P**	**06 43 47.2**	**-0.5**
MVIF	**Mont Vial**	**52.96**	**32**	*e*P	**P**	**06 43 49.6**	**+0.8**
ORIF	**Oris-en-Rattie**	**53.02**	**30**	*e*P	**P**	**06 43 49.0**	**-0.3**
LUCF	**Luceram**	**53.05**	**32**	*e*P	**P**	**06 43 49.8**	**+0.2**
SBF	**Sospel**	**53.08**	**32**	*e*P	**P**	**06 43 49.7**	**-0.1**
comp=Z,143nm,1.2s,mb5.5							
SBF	**Sospel**	**53.08**	**32**	*e*P	**P**	**06 43 49.7**	**-0.1**
SBF				pmax	pmax		
comp=Z,72nm,1.2s,mb5.5							
SBF	**Sospel**	**53.08**	**32**	*e*P	**P**	**06 43 49.7**	**-0.1**
comp=Z,72nm,1.2s,mb5.5							
FLN	**La Foliniere**	**53.16**	**23**	*e*P	**P**	**06 43 49.8**	**-0.6**
comp=Z,49nm,0.9s,mb5.1							
FLN	**La Foliniere**	**53.16**	**23**	*e*P	**P**	**06 43 49.8**	**-0.6**
FLN				pmax	pmax		
comp=Z,25nm,0.9s,mb5.1							
FLN	**La Foliniere**	**53.16**	**23**	*e*P	**P**	**06 43 49.8**	**-0.6**
comp=Z,24nm,0.9s,mb5.1							
LDF	**La Druitiere**	**53.17**	**23**	*e*P	**P**	**06 43 49.8**	**-0.6**
comp=Z,60nm,1.1s,mb5.1							
LDF	**La Druitiere**	**53.17**	**23**	*e*P	**P**	**06 43 49.8**	**-0.6**
LDF				pmax	pmax		
comp=Z,30nm,1.1s,mb5.1							
LDF	**La Druitiere**	**53.17**	**23**	*e*P	**P**	**06 43 49.8**	**-0.6**
comp=Z,30nm,1.1s,mb5.1							
AUTN	**L'Aution**	**53.17**	**32**	*e*P	**P**	**06 43 50.7**	**+0.3**
SURF	**Saint Ours**	**53.19**	**31**	*e*P	**P**	**06 43 52.3**	**+1.8**
GRN	**Grenoble**	**53.19**	**29**	*e*P	**P**	**06 43 52.3**	**+1.7**
AVF	**Avril sur Loir**	**53.21**	**27**	*e*P	**P**	**06 43 50.4**	**-0.3**
SMF	**Signal de Mont**	**53.32**	**27**	*e*P	**P**	**06 43 51.0**	**-0.5**
MBDF	**Montbardon**	**53.34**	**31**	*e*P	**P**	**06 43 51.4**	**-0.2**
comp=Z,66nm,1.0s,mb5.2							
MBDF	**Montbardon**	**53.34**	**31**	*e*P	**P**	**06 43 51.4**	**-0.2**
MBDF				pmax	pmax		
comp=Z,33nm,1.0s,mb5.2							
MBDF	**Montbardon**	**53.34**	**31**	*e*P	**P**	**06 43 51.4**	**-0.2**
comp=Z,33nm,1.0s,mb5.2							
SSF	**Saint Saulge**	**53.48**	**27**	*e*P	**P**	**06 43 52.4**	**-0.3**
BNI	**Bardonecchia**	**53.52**	**30**	*e*P	**P**	**06 43 54.6**	**+1.6**
BNI				pmax	pmax		
comp=Z,28nm,1.0s,mb5.2							
BNI	**Bardonecchia**	**53.52**	**30**	*e*P	**P**	**06 43 54.6**	**+1.6**
comp=Z,28nm,1.0s,mb5.1							
LOR	**Lormes**	**53.80**	**27**	*e*P	**P**	**06 43 54.6**	**-0.4**
comp=Z,23nm,0.9s,mb4.8							
LOR	**Lormes**	**53.80**	**27**	*e*P	**P**	**06 43 54.6**	**-0.4**
LOR				pmax	pmax		
comp=Z,12nm,0.9s,mb4.8							
LOR	**Lormes**	**53.80**	**27**	*e*P	**P**	**06 43 54.6**	**-0.4**
comp=Z,12nm,0.9s,mb4.8							
LPG	**La Plagne**	**53.87**	**30**	*e*P	**P**	**06 43 55.6**	**0.0**
comp=Z,34nm,1.0s,mb5.0							
LPG	**La Plagne**	**53.87**	**30**	*e*P	**P**	**06 43 55.6**	**0.0**
LPG				pmax	pmax		
comp=Z,17nm,1.0s,mb4.9							
LPG	**La Plagne**	**53.87**	**30**	*e*P	**P**	**06 43 55.6**	**0.0**
comp=Z,17nm,1.0s,mb4.9							
LPL	**La Plagne**	**53.87**	**30**	*e*P	**P**	**06 43 55.4**	**-0.2**
comp=Z,23nm,0.9s,mb4.8							
LPL	**La Plagne**	**53.87**	**30**	*e*P	**P**	**06 43 55.4**	**-0.2**
LPL				pmax	pmax		
comp=Z,12nm,0.9s,mb4.8							
LPL	**La Plagne**	**53.87**	**30**	*e*P	**P**	**06 43 55.4**	**-0.2**
comp=Z,12nm,0.9s,mb4.8							
CABF	**La Chapelle**	**54.34**	**29**	*e*P	**P**	**06 43 58.7**	**-0.3**
comp=Z,63nm,1.1s,mb5.1							
CABF	**La Chapelle**	**54.34**	**29**	*e*P	**P**	**06 43 58.7**	**-0.3**
CABF				pmax	pmax		
comp=Z,32nm,1.1s,mb5.2							
CABF	**La Chapelle**	**54.34**	**29**	*e*P	**P**	**06 43 58.7**	**-0.3**
comp=Z,32nm,1.1s,mb5.2							
MGV	**Manicaragua**	**54.58**	**297**	*e*P	**P**	**06 44 00.5**	**-0.2**
DCN	**Croghan**	**54.93**	**15**	*e*P	**P**	**06 43 55.9**	**-7.4**
DCN	**Croghan**	**54.93**	**15**	*e*P	**P**	**06 43 55.8**	**-7.5**
DCN	**Croghan**	**54.93**	**15**	*e*P	**P**	**06 43 55.8**	**-7.5**
DLF	**Lyons Farm**	**55.08**	**16**	*e*P	**P**	**06 43 57.1**	**-

comp=Z,176nm,2.3s,mb5.7,SNR=7.8
MOTA Moosalm 57.33 31⇓*i*P P 06 44 20.2 -0.2
MOTA pmax pmax
comp=Z,176nm,2.3s,mb5.7
MOTA Moosalm 57.33 31⇓*i*P P 06 44 20.2 -0.2
comp=Z,176nm,2.3s,mb5.7
PAL Palisades 57.34 320 *e*P P 06 44 20.3 -0.2
PAL pmax pmax
comp=Z,59nm,1.0s,mb5.6
PAL Palisades 57.34 320 *e*P P 06 44 20.3 -0.2
comp=Z,59nm,1.0s,mb5.6
ABH Alteburg 57.38 27 *e*P P 06 44 20.6 -0.2
SOR Soroa 57.46 296 *e*P P 06 44 10.8 -11
WTTA Wattenberg 57.55 31 *i*P P 06 44 22.2 +0.2
comp=Z,23nm,1.0s,mb5.2,SNR=7.7
WTTA Wattenberg 57.55 31 *i*P P 06 44 22.2 +0.2
WTTA pmax pmax
comp=Z,23nm,1.0s,mb5.2
WATA Walderalm 57.56 31⇓*i*P P 06 44 21.9 -0.2
comp=Z,157nm,2.2s,mb5.7
WATA Walderalm 57.56 31⇓*i*P P 06 44 21.9 -0.2
WATA pmax pmax
comp=Z,157nm,2.2s,mb5.7
DWPF Disney 57.57 303 *e*P P 06 44 21.8 -0.3
comp=Z,68nm,0.9s,mb5.7
TOD Tromm 57.75 28 *e*P P 06 44 22.6 -0.8
ESK Eskdalemuir 57.79 17 *e*P P 06 44 22.4 -1.3
ESK pmax pmax
comp=Z,13nm,0.9s,mb5.0
ESK Eskdalemuir 57.79 17 *e*P P 06 44 22.4 -1.2
comp=Z,13nm,0.9s,mb5.0
HNH Hanover 57.81 323 *e*P P 06 44 23.6 -0.3
comp=Z,6.4nm,1.0s,mb4.6
VOJS Vojsko 57.97 33 *e*S S 06 52 28.9 +3.8
LSZ Lusaka 57.97 109 *e*P P 06 44 25.9 +0.9
LSZ pmax pmax
comp=Z,18nm,1.0s,mb5.1
LSZ Lusaka 57.97 109 *e*P P 06 44 25.9 +0.9
comp=Z,18nm,1.0s,mb5.0
VOY Vojsko 57.97 33 *e*P P 06 44 24.7 -0.3
CADS Cadrg 58.01 33 *e*P P 06 44 24.9 -0.3
LBTB Lobatse 58.06 120 *e*P P 06 44 24.9 -0.7
LBTB pmax pmax
comp=Z,33nm,0.8s,mb5.4
LBTB Lobatse 58.06 120 *e*P P 06 44 24.9 -0.7
comp=Z,33nm,0.8s,mb5.4
NHSC New Hope 58.27 309 *e*P P 06 44 27.4 +0.4
comp=Z,143nm,1.0s,mb6.0
CBN Corbin 58.30 315 *e*P P 06 44 27.1 -0.1
comp=Z,16nm,0.6s,mb5.2
LJU Ljubljana 58.33 34 *e*P P 06 44 27.6 +0.2
STON Ston 58.38 38 *i*P P 06 44 26.8 -1.0
BOJS Bojanci 58.41 35 *e*P P 06 44 28.2 +0.2
MVL Millersville 58.44 318 *e*P P 06 44 28.2 -0.1
SDMD Soldier's Deli 58.49 317 *e*P P 06 44 29.6 +1.0
WTSB Winterswijk 58.58 25 *e*P P 06 44 29.0 -0.2
comp=Z,76nm,2.1s,mb5.4
OBKA Obir 58.62 33⇑*i*P P 06 44 30.1 +0.6
comp=Z,18nm,0.8s,mb5.1,SNR=5.8
GRA1 Grafenberg Arr 58.95 29 *e*P P 06 44 31.5 -0.3
comp=Z,184nm,2.1s,mb5.7
GRF Grafenberg Arr 58.95 29 *e*P P 06 44 31.5 -0.3
comp=Z,184nm,2.1s,mb5.7
GRF Grafenberg Arr 58.95 29 *e*P P 06 44 31.5 -0.3
GRF pmax pmax
comp=Z,184nm,2.1s,mb5.7
BOSA Boshof 58.96 125 P P 06 44 30.3 -1.5
comp=Z,19nm,0.8s,mb5.2,baz=284,slow=8.3,SNR=12
BOSA Boshof 58.96 125 *e*P P 06 44 32.0 +0.2
BOSA pmax pmax
comp=Z,20nm,0.7s,mb5.3
BOSA Boshof 58.96 125 *e*P P 06 44 32.0 +0.1
comp=Z,20nm,0.7s,mb5.3
PERS Pernice 59.01 33 *e*P P 06 44 31.7 -0.5
NCB Newcomb 59.13 323 *e*P P 06 44 32.4 -0.6
comp=Z,39nm,1.4s,mb5.2
WIT Witteveen 59.16 24 *e*P P 06 44 34.7 +1.4
FRNY Flat Rock 59.22 324 *e*P P 06 44 33.5 -0.2
BINY Binghamton 59.29 320 *e*P P 06 44 34.7 +0.5
comp=Z,44nm,1.0s,mb5.4
MOA Molln 59.30 32⇑*i*P P 06 44 33.0 -1.2
comp=Z,28nm,0.9s,mb5.3,SNR=7.2
OHR Ohrid 59.46 41 *e*P P 06 44 35.5 +0.2
JSC Jenkinsville 59.54 310 *e*P P 06 44 36.2 +0.3
ARSA Arzberg 59.60 33⇓*i*P P 06 44 36.1 -0.2
comp=Z,18nm,1.4s,mb4.9,SNR=8.5
GERES GERESS Array B 59.63 31 P P 06 44 36.0 -0.5
comp=Z,3.7nm,0.7s,mb4.5,baz=230,slow=6.1,SNR=27
KHC Kasperske Hory 59.75 30 *e*P P 06 44 36.9 -0.4
KHC *e*pP pP 06 44 43.5 +3.0
KHC *e*x x 06 44 49.0
KHC Kasperske Hory 59.75 30 *e*P P 06 44 36.9 -0.4
KHC *e* 06 44 43.5
MOX Moxa 59.78 28 *e*P P 06 44 38.2 +0.7
comp=Z,135nm,2.2s,mb5.6
MOX Moxa 59.78 28 *e*P P 06 44 38.2 +0.7
MOX pmax pmax
comp=Z,135nm,2.2s,mb5.6
SSPA Standing Stone 59.78 318 *e*P P 06 44 37.2 -0.3
comp=Z,37nm,1.3s,mb5.2
NKC Novy Kostel 59.90 29 *e*P P 06 44 37.8 -0.6
BLA Blacksburg 60.05 313 *e*P P 06 44 39.6 +0.2
BLA pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BLA Blacksburg 60.05 313 *e*P P 06 44 39.6 +0.2
comp=Z,4.7nm,1.1s,mb4.4
MSNY Massena 60.07 323 *e*P P 06 44 39.2 -0.3
CONA Conrad Observa 60.20 33⇑*i*P P 06 44 39.9 -0.5
comp=Z,31nm,1.4s,mb5.1,SNR=15
SKO Skopje 60.30 41 *e*P P 06 44 41.5 +0.4
ELN Prospectdale 60.30 313 *e*P P 06 44 41.5 +0.4
SOP Sopron 60.43 33⇑*e*P P 06 44 41.7 -0.3
DIVS Divcibare 60.44 38 *i*Pn P 06 44 42.9 +0.9
FWV Forest Hill 60.49 313 *e*P P 06 44 43.1 +0.7
MCWV Mont Chateau 60.68 316 *e*P P 06 44 43.3 -0.4
comp=Z,29nm,1.0s,mb5.4
VAY Valandovo 60.74 42 *e*P P 06 44 43.7 -0.4
PKSM Moragy 60.76 35⇑*i*P P 06 44 44.4 +0.2
PKSM Moragy 60.76 35 P P 06 44 44.8 +0.6
PKSM Moragy 60.76 35 ⇑P P 06 44 44.4 +0.2
PRU Pruhonice 60.78 30 *e*P P 06 44 44.1 -0.2
TREC Trest 60.83 31 *e*P P 06 44 44.8 +0.1
CLL Collm 60.88 28⇓*i*P P 06 44 45.4 +0.4
comp=Z,145nm,2.2s,mb5.7
CLL *i*x x 06 44 55.6
CLL Collm 60.88 28⇓*i*P P 06 44 45.4 +0.4
CLL pmax pmax
comp=Z,145nm,2.2s,mb5.7
APE Apeiranthos 61.01 47⇑*e*P P 06 44 44.8 -1.1
ZST Bratislava 61.02 33 *e*P P 06 44 46.2 +0.2
ZST pmax pmax
comp=Z,253nm,2.3s,mb5.9
ZST Bratislava 61.02 33 *e*P P 06 44 46.2 +0.2
comp=Z,253nm,2.3s,mb5.9
BRG Berggiesshubel 61.05 29 *i*P P 06 44 46.3 +0.2
comp=Z,23nm,1.7s,mb5.0
BRG SS S 06 52 39.0 -26
BRG
comp=N,767nm,13.4s
BRG
comp=E,1μm,13.7s
BRG
comp=Z,2μm,12.4s
BRG Berggiesshubel 61.05 29 *i*P P 06 44 46.7 +0.5
comp=Z,23nm,1.7s,mb5.0
BRG S S 06 52 39.0 -26
BRG
comp=N,767nm,13.3s
BRG
comp=E,1μm,13.7s
BRG
comp=Z,2μm,12.4s
BRG Berggiesshubel 61.05 29 *i*P P 06 44 46.7 +0.5
BRG pmax pmax
comp=Z,23nm,1.7s,mb5.0
BRG MLR MLR
comp=N,767nm,13.4s,MS5.3
BRG MLR MLR
comp=E,1μm,13.7s,MS5.3
BRG MLR MLR
comp=Z,2μm,12.4s,MS5.5
PVCC Panska Ves 61.13 30 *e*P P 06 44 47.1 +0.4
KKB Krupnik 61.33 42 *i*P P 06 44 47.8 -0.3
SRO1 Iza 61.40 34 *e*P P 06 44 49.3 +0.8
VRAC Vranov 61.41 32⇓*i*P P 06 44 49.0 +0.4

VRAC Vranov 61.41 32 ⇓P P 06 44 49.0 +0.4
MMB Musomiste 61.64 42 *i*P P 06 44 50.7 +0.5
BUD Budapest 61.68 34⇑*e*P P 06 44 50.8 +0.3
VTS Vitosha 61.75 41 *i*P P 06 44 49.8 -1.1
VTS Vitosha 61.75 41⇑*i*P P 06 44 52.6 +1.7
VTS Vitosha 61.75 41 P P 06 44 52.7 +1.8
VTS Vitosha 61.75 41 ⇑P P 06 44 52.6 +1.6
UPC Upice 61.84 30 *e*P P 06 44 51.4 -0.1
ERPA Erie 61.87 318 *e*P P 06 44 51.0 -0.7
comp=Z,77nm,1.1s,mb5.8
RUE Ruedersdorf 62.01 28 *e*P P 06 44 53.7 +1.0
comp=Z,58nm,1.0s,mb5.7
VYHS Vyhne 62.14 33 *i*P P 06 44 53.8 +0.2
VYHS pmax pmax
comp=Z,56nm,2.0s,mb5.3
VYHS Vyhne 62.14 33 *i*P P 06 44 53.8 +0.2
comp=Z,56nm,2.0s,mb5.3
KSP Ksiaz 62.19 30 *e*P P 06 44 54.5 +0.6
KSP L 07 02 21.1
comp=Z,8.9nm,20.5s
KSP Ksiaz 62.19 30 *e*P P 06 44 54.2 +0.3
MORC Moravsky Berou 62.19 32⇑*i*P P 06 44 55.0 +1.1
MORC Moravsky Berou 62.19 32 *e*P P 06 44 53.9 +0.1
comp=Z,79nm,1.6s,mb5.6
BZS Buzias 62.21 37⇑*i*P P 06 44 55.1 +1.1
BZS Buzias 62.21 37 ⇑P P 06 44 55.1 +1.1
SCHQ Schefferville 62.21 336 P P 06 44 53.7 -0.4
comp=Z,14nm,0.8s,mb5.1,baz=120,slow=6.2,SNR=18
SCHQ Schefferville 62.21 336 *e*P P 06 44 52.9 -1.2
comp=Z,25nm,1.0s,mb5.3
RZN Rozhen 62.34 42 *i*P P 06 44 55.4 +0.5
PGB Panagyurishte 62.36 41 *i*P P 06 44 55.4 +0.4
PSZ Piszkesteto 62.41 34⇑*e*P P 06 44 55.7 +0.3
PSZ Piszkesteto 62.41 34⇓*i*P P 06 44 56.7 +1.3
PSZ Piszkesteto 62.41 34 *e*P P 06 44 56.2 +0.8
PLD Plovdiv 62.52 42 *i*P P 06 44 56.3 +0.2
OKC Ostrava-Krasne 62.54 32 *e*P P 06 44 56.4 +0.2
KDZ Kurdzhali 62.80 43 *i*P P 06 44 57.2 -0.8
DIM Dimitrovgrad 63.05 42 *i*P P 06 44 59.5 -0.1
KECS Kecovo 63.05 34 *i*P P 06 44 59.9 +0.3
KECS pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
KECS Kecovo 63.05 34 *i*P P 06 44 59.9 +0.3
comp=Z,7.1nm,1.1s,mb4.7
ACSO Alum Creek Sta 63.11 315 *e*P P 06 44 59.4 -0.7
comp=Z,38nm,1.0s,mb5.5
SWET Sewanee 63.47 309 *e*P P 06 45 02.2 -0.2
OJC Ojcow 63.63 32 *e*P P 06 45 03.3 -0.2
LRAL Lakeview Retre 63.63 307 *e*P P 06 45 03.3 -0.2
comp=Z,21nm,1.0s,mb5.1
STHS Stebnicka Huta 63.98 33 *e*P P 06 45 08.1 +2.3
STHS pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
STHS Stebnicka Huta 63.98 33 *e*P P 06 45 08.1 +2.3
comp=Z,10nm,1.1s,mb4.8
STHS *e* 06 45 24.5
STHS *e* pP 06 45 24.5 +16
STHS Stebnicka Huta 63.98 33 *e*pP P 06 45 08.1 +2.3
VOIR 64.24 39⇓*i*P P 06 45 08.5 +1.0
VOIR 64.24 39 ⇓P P 06 45 08.5 +1.0
PRD Provadia 64.78 42 *i*P P 06 45 09.2 -1.8
MLR Muntele Rosu 64.83 39⇑*i*P P 06 45 11.1 -0.2
MLR Muntele Rosu 64.83 39 P P 06 45 12.2 +0.9
PLAL Pickwick Lake 65.07 308 *e*P P 06 45 12.1 -0.8
comp=Z,51nm,1.4s,mb5.4
WVT Waverly 65.23 310 *e*P P 06 45 12.9 -1.0
WVT pmax pmax
comp=Z,19nm,1.0s,mb5.1
WVT Waverly 65.23 310 *e*P P 06 45 12.9 -1.0
comp=Z,19nm,1.0s,mb5.1
BLO Bloomington 65.24 313 *e*P P 06 45 13.8 -0.2
BLO pmax pmax
comp=Z,91nm,1.4s,mb5.6
BLO Bloomington 65.24 313 *e*P P 06 45 13.8 -0.2
comp=Z,91nm,1.4s,mb5.6
KONO Kongsberg 65.35 20⇓*e*P P 06 45 12.8 -1.9
BURAR Bucovina Array 65.35 37⇑*i*P P 06 45 17.0 +2.3
BURAR Bucovina Array 65.35 37 ⇑P P 06 45 17.1 +2.3
KMBO Kilima Mbogo 65.42 92 P P 06 45 16.6 +1.4
comp=Z,4.3nm,1.0s,mb4.5,baz=234,slow=4.6,SNR=5.4
KMBO Kilima Mbogo 65.42 92 *e*P P 06 45 18.7 +3.5
KMBO pmax pmax
comp=Z,17nm,1.4s
KMBO Kilima Mbogo 65.42 92 *e*P P 06 45 18.7 +3.5
comp=Z,17nm,1.4s,mb4.9
PLOR Plostina 65.43 39⇑*i*P P 06 45 14.1 -1.1
VRI Vrincioaia 65.48 39⇑*i*P P 06 45 15.7 +0.1
VRI Vrincioaia 65.48 39 P P 06 45 16.3 +0.7
VRI Vrincioaia 65.48 39 ⇑P P 06 45 15.7 +0.2
USIN University of 65.68 312 *e*P P 06 45 16.3 -0.5
comp=Z,63nm,1.1s,mb5.6
LVV L'vov 65.73 34 *e*P P 06 45 16.6 -0.6
LVV *e* 06 49 23.4
LVV *e*S S 06 54 08.0 +4.6
LVV L'vov 65.73 34 *e*P P 06 45 16.4 -0.8
CFR Carcaliu 66.08 40⇓*i*P P 06 45 19.5 0.0
CFR Carcaliu 66.08 40 ⇓P P 06 45 19.5 0.0
NAO01 NORSAR Array S 66.67 20 *e*P P 06 45 22.8 -0.4
comp=Z,6.2nm,0.8s,mb4.7
PARMO Parma 66.86 310 *e*P P 06 45 23.1 -1.3
GNAR Gosnell 66.87 309 *e*P P 06 45 23.6 -0.8
comp=Z,1μm,1.5s
NB2 NORSAR Subarra 66.92 20 P P 06 45 24.5 -0.3
comp=Z,18nm,1.0s,mb5.1,baz=224,slow=6.5
NB2 NORSAR Subarra 66.92 20 P P 06 45 24.5 -0.3
NB2 pmax pmax
comp=Z,18nm,1.0s,mb5.1
NOA NORSAR Array B 66.92 20 P P 06 45 25.1 +0.3
comp=Z,5.6nm,0.8s,mb4.6,baz=223,slow=6.4,SNR=19
HBAR Harrisburg 67.25 308 *e*P P 06 45 25.9 -1.0
SUW Suwalki 67.46 30 *e*P P 06 45 28.3 +0.1
SUW L 07 02 07.3
comp=Z,3.0nm,28.9s
SUW Suwalki 67.46 30 *e*P P 06 45 28.3 +0.1
SFJD Kangerlussuaq 67.69 351 *e*P P 06 45 28.3 -1.4
FVM French Village 67.76 311 *e*P P 06 45 29.1 -1.1
FVM pmax pmax
comp=Z,52nm,1.4s,mb5.4
FVM French Village 67.76 311 *e*P P 06 45 29.1 -1.0
comp=Z,52nm,1.4s,mb5.4
BR131 Keskin Array S 67.91 47 *e*P P 06 45 30.6 -0.4
comp=Z,6.2nm,0.7s,mb4.8
BRTR Keskin Array B 67.91 47 P P 06 45 30.8 -0.3
comp=Z,7.4nm,0.7s,mb4.8,baz=242,slow=5.7,SNR=31
UALR University of 68.39 307 *e*P P 06 45 33.0 -1.0
comp=Z,31nm,1.0s,mb5.3
CCM Cathedral Cave 68.40 311 *e*P P 06 45 32.6 -1.6
CCM pmax pmax
comp=Z,36nm,1.1s,mb5.3
CCM Cathedral Cave 68.40 311 *e*P P 06 45 32.6 -1.6
comp=Z,36nm,1.1s,mb5.3
AKASG Malin Array Be 69.09 35 P P 06 45 37.7 -0.8
comp=Z,12nm,0.7s,mb5.0,baz=241,slow=7.0,SNR=27
AKASG Malin Array Be 69.09 35 P P 06 45 37.7 -0.8
NATX Nacogdoches 69.59 304 *e*P P 06 45 40.7 -0.8
comp=Z,66nm,1.1s,mb5.5
MNK Minsk 70.06 31 *e*P P 06 45 42.0 -2.4
HKT Hockley 70.23 301 *e*P P 06 45 44.6 -0.9
HKT pmax pmax
comp=Z,47nm,2.0s,mb5.1
HKT Hockley 70.23 301 *e*P P 06 45 44.6 -0.8
comp=Z,47nm,2.0s,mb5.1
MALT Malatya 71.10 50⇓*i*P P 06 45 51.2 +0.4
MALT Malatya 71.10 50 *e*P P 06 45 51.0 +0.2
comp=Z,16nm,0.8s,mb5.0
VSU Vasula 71.47 27⇑*e*P P 06 45 50.6 -2.4
EYMN Ely 71.65 321 *e*P P 06 45 51.9 -2.2
comp=Z,20nm,1.2s,mb4.9
SUMG Summit 71.73 357 *e*P P 06 45 54.3 -0.3
comp=Z,69nm,1.3s,mb5.4
ANN Anapa 72.12 43 *e*P P 06 45 54.3 -2.6
ANN *e*PP pP 06 45 57.4 -2.8
ANN *e*S S 06 55 17.6 -1.5
ANN pmax pmax
comp=Z,33nm,1.1s,mb5.2
ANN MLR MLR
comp=Z,454nm,17.0s,MS4.8
FINES FINESS Array B 72.74 24 P P 06 46 00.4 -0.2
comp=Z,9.9nm,0.8s,mb4.8,baz=191,slow=1.9,SNR=32
VNA1 Neumayer--Stat 72.76 173⇓*i*P P 06 46 01.4 +0.7
VNA1 *e* pP 06 46 04.3 +0.3
VNA1 *e* pP 06 46 05.8 +1.8
VNA1 *e* 06 46 09.2
VNA1 *e* 06 46 11.9

VNA1 *e* 06 46 18.6
VNA2 Neumayer--Watz 73.12 173⇓*i*P P 06 46 03.2 +0.3
baz=325,slow=6.0
VNA2 *e* pP 06 46 06.2 +0.1
VNA2 *e* pP 06 46 07.4 +1.3
VNA2 *e* 06 46 11.1
VNA2 *e* 06 46 13.1
VNA2 *e* 06 46 18.4
VNA2 *e* 06 46 25.2
VNA2 *e* 06 46 30.7
VNA2 *e* 06 46 45.2
VNA3 Neumayer Olymp 73.16 174⇓*i*P P 06 46 03.3 +0.2
VNA3 *e* pP 06 46 06.4 0.0
VNA3 *e* pP 06 46 07.4 +1.0
VNA3 *e* 06 46 18.5
VNA3 *e* 06 46 25.4
VNA3 *e* 06 46 29.9
VNA3 *e* 06 46 45.2
KAF Kangasniemi 73.19 24 *e*p P 06 46 03.0 -0.3
comp=Z,12nm,0.7s,mb4.9,baz=241,slow=5.8
KAF Kangasniemi 73.19 24 *e*P P 06 46 03.0 -0.3
KAF pmax pmax
comp=Z,12nm,0.7s,mb4.9
SOC Sochi 73.36 45*c i*P P 06 46 01.4 -2.9
SOC *e*PP pP 06 46 04.9 -2.7
SOC *e* 06 46 16.6
SOC *e* 06 48 47.2
SOC *e*PPP 06 50 31.9
SOC *e*S S 06 55 31.9 -1.4
SOC *e* 06 56 21.5
SOC *e*SS SS 07 00 09.6 -5.7
SOC pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
SOC MLR MLR
comp=Z,1μm,18.0s,MS5.3
WMOK Wichita Mounta 73.55 306 *e*P P 06 46 03.8 -1.6
WMOK pmax pmax
comp=Z,55nm,1.0s,mb5.4
WMOK Wichita Mounta 73.55 306 *e*P P 06 46 03.8 -1.6
comp=Z,55nm,1.0s,mb5.4
JCT Junction City 73.70 301 *e*P P 06 46 06.0 -0.3
JCT pmax pmax
comp=Z,38nm,1.2s,mb5.2
JCT Junction City 73.70 301 *e*P P 06 46 06.0 -0.3
comp=Z,38nm,1.2s,mb5.2
ECSD EROS,Sioux Fal 73.84 315 *e*P P 06 46 05.6 -1.6
MSL Mosul 74.30 53 *e*x x 06 46 10.0
SNAA Sanae 74.40 172⇓*i*P P 06 45 59.3 -11
SNAA *e* pP 06 46 02.2 -11
SNAA *e* pP 06 46 03.8 -10
SNAA *e* 06 46 06.6
SNAA *e* 06 46 08.6
SNAA *e* 06 46 13.9
SNAA *e* 06 46 18.7
SNAA *e* 06 46 24.5
OBN Obninsk 74.92 33 *e*P P 06 46 12.6 -0.8
OBN pmax pmax
comp=Z,36nm,1.6s,mb5.0
CBKS Cedar Bluff 75.06 310 *e*P P 06 46 13.7 -0.5
CBKS pmax pmax
comp=Z,41nm,1.2s,mb5.2
CBKS Cedar Bluff 75.06 310 *e*P P 06 46 13.7 -0.6
comp=Z,41nm,1.2s,mb5.2
ULM Lac du Bonnet 75.11 322 P P 06 46 12.9 -1.6
comp=Z,22nm,1.0s,mb5.0,baz=106,slow=5.3,SNR=34
VOR Voronezh 75.30 36 *e*P P 06 46 14.5 -1.1
VOR pmax pmax
comp=Z,180nm,2.0s,mb5.7
KIV Kislovodsk 75.54 45 *e*P P 06 46 15.4 -1.6
KIV pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
JOF Joensuu 75.60 24 *e*p P 06 46 17.0 -0.3
comp=Z,12nm,0.8s,mb4.9
JOF Joensuu 75.60 24 *e*P P 06 46 17.0 -0.3
JOF pmax pmax
comp=Z,12nm,0.8s,mb4.9
MOS Moscow 75.70 32 *e*P P 06 46 17.7 -0.2
MOS *e* 06 46 28.3
MOS pmax pmax
comp=Z,101nm,1.6s,mb5.5
ONI Oni 75.79 46 S P 06 46 18.3 -0.1
DAG Danmarks Havn 75.84 2⇓*i*P P 06 46 18.1 -0.6
comp=Z,10.0nm,0.9s,mb4.8
DAG Danmarks Havn 75.84 2⇓*e*P P 06 46 18.1 -0.6
DAG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DAG Danmarks Havn 75.84 2⇓*e*P P 06 46 18.1 -0.6
comp=Z,10nm,0.9s,mb4.8
ZEI Tsey 76.16 46 *e*P P 06 46 21.3 +0.8
ZEI *e*PP pP 06 46 29.8 +6.0
ZEI *e* 06 49 11.2
ZEI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GNI Garni 76.28 49 *e*P P 06 46 21.9 +0.7
GNI pmax pmax
comp=Z,100nm,1.5s
GNI Garni 76.28 49 *e*P P 06 46 21.9 +0.7
comp=Z,100nm,1.5s,mb5.5
MAIT Maitri 76.28 167 *e*P P 06 46 18.9 -2.3
NVL N'lazarevskaya 76.29 167 *e*P P 06 46 24.5 +3.2
NVL pmax pmax
comp=Z,27nm,1.7s,mb4.9
FCC Fort Churchill 76.84 331 *e*P P 06 46 22.9 -1.4
FCC pmax pmax
comp=Z,82nm,1.2s,mb5.5
FCC Fort Churchill 76.84 331 *e*P P 06 46 22.9 -1.4
comp=Z,82nm,1.2s,mb5.5
LTX Lajitas 76.88 300 *e*P P 06 46 24.2 -0.4
LTX pmax pmax
comp=Z,11nm,1.0s,mb4.7
LTX Lajitas 76.88 300 *e*P P 06 46 24.2 -0.4
comp=Z,11nm,1.0s,mb4.7
ARCES ARCESS Array B 76.98 17 P P 06 46 24.1 -1.0
comp=Z,4.4nm,0.7s,mb4.5,baz=225,slow=5.0,SNR=11
KEV Kevo 77.54 17 *e*p P 06 46 27.1 -1.2
comp=Z,8.1nm,0.7s,mb4.8
KEV Kevo 77.54 17 *e*P P 06 46 27.1 -1.2
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
APA Apatity 78.49 20⇓*i*P P 06 46 33.5 -0.1
APA *e*S S 06 56 28.8 -1.0
APA pmax pmax
comp=Z,47nm,1.3s,mb5.3
MNTX Cornudas Mount 78.60 302 *e*P P 06 46 33.3 -0.9
comp=Z,13nm,1.1s,mb4.8
TMCR Tamitsa 78.86 24 *e*P P 06 46 35.3 -0.3
TMCR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
TMCR pmax pmax
comp=N,40nm,1.1s
TMCR pmax pmax
comp=E,20nm,0.7s
ISCO Idaho Springs 79.72 310 *e*P P 06 46 40.9 +0.6
ISCO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ISCO Idaho Springs 79.72 310 *e*P P 06 46 40.9 +0.6
comp=Z,9.5nm,0.9s,mb4.7
PHWY Pilot Hill 79.79 312 *e*P P 06 46 41.0 +0.2
ANMO Albuquerque 79.83 305*de*P P 06 46 41.2 +0.3
ANMO Albuquerque 79.83 305 *e*P P 06 46 41.1 +0.2
comp=Z,22nm,1.5s,mb4.9
FFC Flin Flon 79.86 326 P P 06 46 40.9 -0.2
comp=Z,141nm,1.0s,mb5.8,SNR=9.8
FFC Flin Flon 79.86 326 *e*P P 06 46 39.6 -1.5
FFC pmax pmax
comp=Z,55nm,1.4s,mb5.3
FFC Flin Flon 79.86 326 *e*P P 06 46 39.6 -1.5
comp=Z,55nm,1.4s,mb5.3
BNM Barren Site 79.89 304 *e*P P 06 46 41.8 +0.5
LPM Los Pinos Moun 79.91 305 *e*P P 06 46 42.3 +1.0
Y22C IRIS PASSCAL I 80.12 304 ⇓P P 06 46 42.7 +0.2
baz=80
LAZ Ladron 80.34 305 *e*P P 06 46 44.3 +0.7
KBS Kingsbay 80.47 7⇑*e*P P 06 46 43.9 -0.5
KBS Kingsbay 80.47 7 *e*P P 06 46 44.8 +0.4
comp=Z,33nm,1.4s,mb5.1
SMCO Snowmass 80.69 309 *e*P P 06 46 46.2 +0.7
comp=Z,40nm,1.3s,mb5.2
SMCO *e*PP PP 06 49 47.8 -1.6
LAO LASA Array 81.07 317 *e*P P 06 46 47.6 0.0
comp=Z,71nm,1.0s,mb5.5
MVCO Mesa Verde 81.69 307 *e*P P 06 46 51.5 +0.7
PV01 Paradox Valley 81.83 308 *e*P P 06 46 52.4 +0.8
PV10 Paradox Valley 82.22 308 *e*P P 06 46 54.4 +0.8

ALE	Alert	82.73	356	P	P	06 46 55.0	-1.3
	comp=Z,81nm,1.3s,mb5.6,SNR=5.3						
RES	Resolute Bay	82.98	346	eP	P	06 46 57.6	0.0
RES				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.3						
RES	Resolute Bay	82.98	346	eP	P	06 46 57.6	0.0
	comp=Z,45nm,1.4s,mb5.3						
PDAR	Pinedale Array	82.99	313	P	P	06 46 57.7	+0.1
	comp=Z,3.6nm,0.9s,mb4.4,baz=91,slow=6.5,SNR=11						
BW06	Boulder Array	82.99	313	eP	P	06 46 57.0	-0.7
	comp=Z,11nm,1.1s,mb4.8						
SYO	Syowa Base	83.12	160⇑	epP	pP	06 47 02.8	+1.1
TUC	Tucson	83.23	302	eP	P	06 46 59.0	+0.1
TUC				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
TUC	Tucson	83.23	302	eP	P	06 46 59.0	+0.1
	comp=Z,8.0nm,1.3s,mb4.6						
GCMT	Greycliff	83.34	316	eP	P	06 46 59.3	-0.2
SRU	San Rafael	83.43	309	eP	P	06 47 00.5	+0.6
SRU				e		06 50 08.7	
SRU				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
SRU	San Rafael	83.43	309	eP	P	06 47 00.5	+0.5
	comp=Z,13nm,1.0s,mb4.9						
SRU				ePP	PP	06 50 08.7	-3.2
EGMT	Eagleton	83.62	318	eP	P	06 47 00.6	-0.2
	comp=Z,37nm,1.4s,mb5.3						
LOHW	Long Hollow	83.82	314	eP	P	06 47 02.0	0.0
	comp=Z,66nm,1.6s,mb5.5						
FLWY	Flagg Ranch	83.93	314	eP	P	06 47 02.7	+0.2
	comp=Z,156nm,1.8s,mb5.8						
MOOW	Moose Ponds	83.94	314	eP	P	06 47 02.5	-0.1
	comp=Z,41nm,1.7s,mb5.3						
TMUT	Trail Mountain	83.97	309	eP	P	06 47 03.1	+0.4
REDW	Red Top Meadow	83.98	313	eP	P	06 47 02.8	0.0
	comp=Z,27nm,1.2s,mb5.2						
116A	Eloy	84.01	302	⇓P	P	06 47 03.0	+0.1
	baz=84						
YFT	Old Faithful	84.06	314	eP	P	06 47 04.6	+1.5
TPAW	Teton Pass	84.07	313	eP	P	06 47 03.4	+0.2
	comp=Z,38nm,1.5s,mb5.3						
DAU	Daniels Canyon	84.08	310	eP	P	06 47 04.0	+0.7
IMW	Indian Meadow	84.09	314	eP	P	06 47 03.3	0.0
	comp=Z,58nm,1.6s,mb5.5						
YMR	Madison River	84.16	315	eP	P	06 47 05.0	+1.3
	comp=Z,23nm,0.9s,mb5.3						
DCID1	Drake Creek	84.24	314	eP	P	06 47 04.5	+0.5
TCUT	Toone Canyon	84.24	311	eP	P	06 47 04.5	+0.4
MPU	Maple Canyon	84.35	310	eP	P	06 47 04.6	0.0
	comp=Z,9.6nm,1.2s,mb4.8						
HWUT	Hardware Ranch	84.39	312	eP	P	06 47 04.8	0.0
	comp=Z,70nm,1.6s,mb5.5						
115A	Sonoran Desert	84.47	303	⇓P	P	06 47 05.5	+0.3
	baz=84						
QLMT	Earthquake Lak	84.51	315	eP	P	06 47 06.4	+1.0
X15A	Humboldt	84.55	304	⇑P	P	06 47 06.4	+0.8
	baz=84,SNR=12						
W15A	Williams	84.60	305	⇓P	P	06 47 06.9	+0.9
	baz=85						
NLU	North Lily Min	84.68	310	eP	P	06 47 06.6	+0.3
MSU	Marysvale	84.69	308	eP	P	06 47 07.1	+0.8
BOZ	Bozeman (W)	84.70	316	eP	P	06 47 06.2	-0.2
BOZ				pmax	pmax		
	comp=Z,59nm,2.0s,mb5.4						
BOZ	Bozeman (W)	84.70	316	eP	P	06 47 06.2	-0.2
	comp=Z,59nm,2.0s,mb5.4						
NOQ	North Oquirrh	84.75	311	eP	P	06 47 06.8	+0.2
	comp=Z,13nm,0.7s,mb5.2						
ORR	Orenburg	84.77	38	⇓iP	P	06 47 07.5	+0.8
ORR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
HRY	Holter Researc	84.92	317	eP	P	06 47 07.4	-0.1
SPUT	South Promonto	85.04	311	eP	P	06 47 08.2	+0.1
X14A	Yava	85.08	304	⇓P	P	06 47 08.5	+0.1
	baz=85						
Z14A	Wintersburg	85.09	303	⇓P	P	06 47 08.5	+0.1
	baz=85						
Y14A	Wickenburg	85.16	304	⇓P	P	06 47 09.0	+0.3
	baz=85,SNR=6.3						
DUG	Dugway	85.26	310	eP	P	06 47 09.3	+0.1
DUG				pmax	pmax		
	comp=Z,56nm,1.6s,mb5.4						
DUG	Dugway	85.26	310	eP	P	06 47 09.3	+0.1
	comp=Z,56nm,1.7s,mb5.4						
W14A	Seligman	85.27	305	⇓P	P	06 47 09.6	+0.4
	baz=85,SNR=7.6						
HVU	Hansel Valley	85.31	312	eP	P	06 47 09.1	-0.3
HVU				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.2						
HVU	Hansel Valley	85.31	312	eP	P	06 47 09.1	-0.3
	comp=Z,31nm,1.5s,mb5.2						
DLMT	Dillon	85.36	315	eP	P	06 47 10.3	+0.5
	comp=Z,119nm,1.5s,mb5.8						
BGU	Big Grassy Mou	85.46	311	eP	P	06 47 09.7	-0.5
MCMT	McKenzie Canyo	85.51	315	eP	P	06 47 11.1	+0.6
CCUT	Cedar City	85.58	307	eP	P	06 47 11.7	+0.9
ARUT	Antelope Range	85.65	308	eP	P	06 47 11.4	+0.2
Y13A	Salome	85.84	304	⇑P	P	06 47 11.8	-0.3
	baz=86						
X13A	Yucca	85.86	304	⇓P	P	06 47 12.6	+0.4
	baz=86,SNR=7.9						
CHMT	Chamberlain Mo	85.90	317	eP	P	06 47 12.2	-0.2
EDM	Edmonton	86.30	323	eP	P	06 47 13.6	-0.8
M13A	Montello	86.33	311	⇑P	P	06 47 14.1	-0.4
	baz=86,SNR=21						
N13A	West Wendover	86.34	311	⇓P	P	06 47 14.4	-0.2
	baz=86						
MSO	Missoula	86.37	317	eP	P	06 47 14.3	-0.4
	comp=Z,25nm,1.6s,mb5.2						
ABKT	Ailbek	86.41	52	P	P	06 47 16.1	+1.2
	comp=Z,31nm,0.4s,mb5.9,SNR=5.2						
Y12C	Blythe	86.42	304	⇓P	P	06 47 15.0	+0.1
	baz=86						
WALA	Waterton Lakes	86.44	319	eP	P	06 47 14.8	-0.3
	comp=Z,51nm,1.4s,mb5.6						
HLID	Hailey	86.58	313	eP	P	06 47 16.2	+0.5
GLA	Glamis	86.66	303	⇑P	P	06 47 15.8	-0.4
	baz=87						
W12A	Cal Nev Ari	86.73	305	⇑P	P	06 47 16.3	-0.2
	baz=87						
O12A	Currie	86.74	310	⇑P	P	06 47 16.4	-0.2
	baz=87,SNR=17						
P12A	McGill	86.85	309	⇓P	P	06 47 17.1	0.0
	baz=87,SNR=11						
N12A	Wells--Clov Va	86.98	311	⇑P	P	06 47 17.7	0.0
	baz=87,SNR=22						
ELK	Elko	87.13	311	eP	P	06 47 18.7	+0.3
ELK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ELK	Elko	87.13	311	eP	P	06 47 18.7	+0.2
	comp=Z,7.9nm,0.3s,mb5.4						
BC3	Big Chuckw Mtn	87.19	303	⇑P	P	06 47 18.9	+0.1
	baz=87						
ARU	Arti	87.31	34	eP	P	06 47 20.6	+1.3
ARU				e		06 50 47.2	
ARU				eS		06 57 48.5	
ARU	Arti	87.31	34	eP	P	06 47 18.9	-0.4
	comp=Z,12nm,0.8s,mb5.2						
YKA	Yellowknife Ar	87.45	332	P	P	06 47 17.6	-2.4
	comp=Z,1.3nm,0.6s,mb4.3,baz=96,slow=4.9,SNR=4.4						
YKA	Yellowknife Ar	87.45	332	P	P	06 47 17.6	-2.4
N11A	Elko Archery C	87.51	311	⇑P	P	06 47 20.2	-0.1
	baz=88						
M11A	Holland Ranch,	87.56	311	⇑P	P	06 47 20.8	+0.3
	baz=88,SNR=17						
TUQ	Turquoise Mtn.	87.60	305	⇓P	P	06 47 20.8	+0.1
	baz=88						
TPNV	Topopah Spring	87.87	307	eP	P	06 47 22.8	+0.8
TPNV				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.2						
TPNV	Topopah Spring	87.87	307	eP	P	06 47 22.8	+0.8
	comp=Z,17nm,1.1s,mb5.2						
PFO	Pinyon Flat Ob	88.03	303	⇓P	P	06 47 22.8	+0.1
	baz=88						
N10A	Dunphy	88.09	311	⇑P	P	06 47 23.0	-0.1
	baz=88						
M10A	I.L. Ranch, Tu	88.12	311	⇑P	P	06 47 23.4	+0.2
	baz=88						
GSC	Goldstone	88.32	305	⇓P	P	06 47 24.0	-0.1
	baz=88						
NEW	Newport	88.56	318	eP	P	06 47 23.9	-1.3
NEW				pmax	pmax		
	comp=Z,15nm,1.4s						
NEW	Newport	88.56	318	eP	P	06 47 23.9	-1.3
	comp=Z,14nm,1.4s,mb5.1						
P09A	Austin	88.58	309	⇑P	P	06 47 25.0	-0.3
	baz=89						
109C	Camp Elliot, M	88.58	303	⇓P	P	06 47 25.0	-0.4
	baz=89						
O09A	Fish Creek Ran	88.61	310	⇓P	P	06 47 25.5	0.0
	baz=89,SNR=5.6						
BMN	Battle Mountai	88.64	310	eP	P	06 47 26.3	+0.7
BMN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
BMN	Battle Mountai	88.64	310	eP	P	06 47 26.3	+0.7
	comp=Z,7.6nm,0.9s,mb5.0						
S09A	Goldfield	88.64	308	⇑P	P	06 47 25.6	-0.1
	baz=89,SNR=9.4						
TPH	Tonopah	88.64	308	eP	P	06 47 26.8	+1.1
TPH				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.5						
TPH	Tonopah	88.64	308	eP	P	06 47 26.8	+1.1
	comp=Z,27nm,1.1s,mb5.5						
M09A	Marrel Ranch,	88.80	311	⇓P	P	06 47 26.0	-0.4
	baz=89						
N09A	Rock Creek Ran	88.86	311	⇓P	P	06 47 26.4	-0.3
	baz=89						
L09A	Wilkinson Ranc	88.96	312	⇓P	P	06 47 27.1	0.0
	baz=89						
Q08A	Gabbs	89.19	309	⇓P	P	06 47 27.6	-0.7
	baz=89						
P08A	Dixie Valley	89.30	309	⇑P	P	06 47 28.0	-0.7
	baz=89						
N08A	GE Springer Mi	89.32	311	⇓P	P	06 47 28.7	-0.2
	baz=89						
R08A	Mina	89.34	308	⇓P	P	06 47 28.4	-0.5
	baz=89						
CWC	Cottonwood Cre	89.34	306	⇑P	P	06 47 28.9	0.0
	baz=89						
MNV	Mina	89.38	308	eP	P	06 47 29.2	+0.1
MNV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
MNV	Mina	89.38	308	eP	P	06 47 29.2	+0.1
	comp=Z,9.1nm,1.1s,mb5.0						
S08C	White Mtn Res	89.40	307	⇓P	P	06 47 30.0	+0.8
	baz=89,SNR=5.3						
TIN	Tinemaha	89.45	307	⇓P	P	06 47 29.2	-0.3
	baz=89						
NVAR	Mina Array Bea	89.49	308	P	P	06 47 29.2	-0.4
	comp=Z,2.3nm,0.8s,mb4.5,baz=96,slow=5.8,SNR=12						
NVAR				PP	PP	06 51 00.9	0.0
	comp=Z,2.0nm,1.0s,baz=96,slow=7.3,SNR=4.4						
FMP	Fort Macarthur	89.56	304	⇑P	P	06 47 30.0	0.0
	baz=90						
ISA	Isabella	89.67	305	⇑P	P	06 47 31.0	+0.5
	baz=90						
OSI	Osito Adit	89.90	304	⇓P	P	06 47 31.3	-0.3
	baz=90						
O07A	Toulon	89.91	310	⇓P	P	06 47 31.0	-0.6
	baz=90						
MLAC	Mammoth Lakes	89.93	307	⇓P	P	06 47 32.4	+0.7
	baz=90						
HELL	Mitchell Peak	90.10	307	⇑P	P	06 47 31.8	-0.6
	baz=90						
M07A	Soldier Meadow	90.10	311	⇓P	P	06 47 32.6	+0.1
	baz=90						
R06C	Coleville	90.39	308	⇑P	P	06 47 34.4	+0.6
	baz=90						
O06A	Flanigan	90.63	310	⇑P	P	06 47 34.9	-0.1
	baz=91						
P06A	Stead Airport,	90.70	310	⇑P	P	06 47 35.3	0.0
	baz=91						
SBC	Santa Barbara	90.72	304	⇑P	P	06 47 34.9	-0.4
	baz=91						
S06C	San Francisco	90.72	308	⇓P	P	06 47 35.3	-0.1
	baz=91						
J06A	Christmas Vall	90.77	313	⇑P	P	06 47 35.3	-0.3
	baz=91						
I06A	Prineville	90.78	314	⇑P	P	06 47 36.2	+0.5
	baz=91						
K06A	Valley Falls	90.86	313	⇑P	P	06 47 36.1	+0.1
	baz=91						
R05C	Kirkwood Meado	90.88	309	⇓P	P	06 47 36.7	+0.6
	baz=91,SNR=24						
M06C	Likely Place G	91.09	311	⇓P	P	06 47 37.4	+0.3
	baz=91						
QSPA	South Pole Qui	91.10	180	eP	P	06 47 36.0	-1.2
	comp=Z,25nm,1.2s,mb5.4						
CMB	Columbia Colle	91.14	308	⇑P	P	06 47 36.9	-0.4
	baz=91						
ELFS	Eagle Lake Fie	91.30	310	⇓P	P	06 47 37.9	-0.2
	baz=91						
O05C	Quincy	91.48	310	⇓P	P	06 47 38.5	-0.4
	baz=92						
H05A	Madras	91.48	315	⇓P	P	06 47 39.2	+0.2
	baz=92						
U04C	Hernandez Rese	91.52	306	⇓P	P	06 47 39.3	+0.2
	baz=92						
I05A	Bend	91.54	314	⇓P	P	06 47 39.3	+0.1
	baz=92						
F05A	White Salmon	91.58	316	⇓P	P	06 47 39.4	0.0
	baz=92						
M05C	Lookout	91.59	311	⇓P	P	06 47 39.1	-0.3
	baz=92						
O04C	Chester	91.59	310	⇓P	P	06 47 38.8	-0.7
	baz=92						
E05A	Randle	91.75	316	⇑P	P	06 47 39.2	-1.0
	baz=92						
B05A	Bryant	91.88	318	⇓P	P	06 47 39.0	-1.7
	baz=92						
ORV	Oroville	91.94	309	⇓P	P	06 47 40.8	-0.3
	baz=92						
K04A	Chilquin	91.95	313	⇑P	P	06 47 40.5	-0.6
	baz=92						
M04C	Macdoel	92.08	312	⇑P	P	06 47 41.7	0.0
	baz=92						
H04A	Detroit Lake	92.17	315	⇑P	P	06 47 42.2	+0.1
	baz=92						
G04A	Mulino	92.34	315	⇑P	P	06 47 42.0	-0.8
	baz=92						
D04A	Dobbs Creek Ra	92.43	317	⇑P	P	06 47 43.0	-0.2
	baz=92						
YBH	Yreka Blue Hor	92.74	312	⇑P	P	06 47 44.5	-0.2
	baz=93						
PGC	Sidney	92.75	319	eP	P	06 47 44.4	-0.4
	comp=Z,52nm,1.0s,mb5.9						
F03A	Seaside	93.04	316	⇑P	P	06 47 47.1	+1.0
	baz=93						
N02C	Big Bar	93.25	311	⇓P	P	06 47 46.6	-0.4
	baz=93						
OCWA	Octopus Mounta	93.31	318	eP	P	06 47 46.5	-0.9
	comp=Z,38nm,1.4s,mb5.6						
L02A	Cave Junction	93.37	312	⇓P	P	06 47 47.6	0.0
	baz=93						
I02A	Mapleton	93.39	314	⇓P	P	06 47 47.5	-0.2
	baz=93						
INK	Inuvik	94.70	339	P	P	06 47 54.1	+0.4
INK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
INK	Inuvik	94.70	339	P	P	06 47 54.1	+0.3
	comp=Z,8.4nm,1.0s,mb5.1						
DLBC	Dease Lake	95.34	329	eP	P	06 47 56.2	-0.5
DAWY	Dawson	98.23	336	eP	P	06 48 08.6	-1.2
AAK	Ala-Archa	98.58	47⇑	eP	P	06 48 08.3	-3.0
KURK	Kurchatov	99.75	38⇑	eP	Pdif	06 48 11.8	-4.8
WMQ	Urumqi	107.63	43	ePDIF	Pdif	06 48 54.2	+2.6
WMQ				PP	PP	06 53 24.7	+5.1
WMQ				S	Sdif	07 00 56.0	0.0
WMQ				SS	SS	07 08 32.5	+2.4
WMQ				LR	LR		
	comp=N,2μm,17.0s,MS5.8						
WMQ				LR	LR		
	comp=E,2μm,19.0s,MS5.8						
WMQ				LR	LR		
	comp=Z,2μm,24.0s,MS5.7						
SONM	Songino Array	117.33	33	PKP	PKPdf	06 53 18.0	+0.1
	comp=Z,0.7nm,0.6s,baz=193,slow=2.6,SNR=4.4						
ULN	Ulaanbaatar	117.67	32⇑	ePKIKP	PKPdf	06 53 15.6	-3.0
GTA	Gaotai	117.71	44	ePKP	PKPdf	06 53 19.4	+0.7
GTA				PP	PP	06 54 35.0	+3.5
GTA				PKS		06 56 55.4	
GTA				SKS	SKSdf	07 00 30.9	+0.1
GTA				SS	SS	07 10 40.8	-3.0
GTA				PP	PP		
	comp=Z,110nm,8.0s						
GTA				LR	LR		
	comp=N,1μm,30.4s,MS5.5						
GTA				LR	LR		
	comp=E,1μm,27.8s,MS5.5						
GTA				LR	LR		
	comp=Z,3μm,30.8s,MS5.7						
LZH	Lanzhou	122.08	45	ePKP	PKPdf	06 53 23.5	-3.6
LZH				XPKP		06 53 34.0	
LZH				LR	LR		
	comp=N,2μm,16.2s						
LZH				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
HIA	Hailar	122.76	24⇑	ePKIKP	PKPdf	06 53 26.9	-1.5
CD2	Chengdu	124.38	51	ePKP	PKPdf	06 53 26.5	-5.0
CD2				PKS		06 57 01.9	
CD2				PP	PP		
	comp=Z,150nm,9.2s						
HHC	Hu-ho-hao-te	124.52	37	ePKP	PKPdf	06 53 33.5	+1.7
HHC				PP	PP	06 55 24.5	+6.4
HHC				PKS		06 57 09.2	
HHC				SKS	SKSdf	07 00 43.8	+0.1
HHC				SKKS	SKKSac	07 02 15.3	-1.5
HHC				PP	PP		
	comp=Z,70nm,8.2s						
HHC				LR	LR		
	comp=N,2μm,20.0s,MS5.9						
HHC				LR	LR		
	comp=E,2μm,23.0s,MS5.9						
HHC				LR	LR		
	comp=Z,4μm,25.2s,MS6.0						
KMI	Kunming	125.84	58	PDIF	Pdif	06 50 12.7	+0.2
KMI				PKP	PKPdf	06 53 34.2	-0.1
KMI				XPKP		06 53 38.7	
KMI				PP	PP	06 55 31.4	+4.5
KMI				PKS		06 57 09.5	
KMI				PPP		06 58 13.2	
KMI				SKS	SKSdf	07 00 43.5	-2.7
KMI				SKKS	SKKSac	07 02 22.1	-3.1
KMI				S	Sdif	07 03 24.8	-3.1
KMI				SS	SS	07 12 29.5	+1.9
KMI				LR	LR		
	comp=N,690nm,18.4s,MS5.5						
KMI				LR	LR		
	comp=E,720nm,17.2s,MS5.5						
KMI				LR	LR		
	comp=Z,1μm,19.5s,MS5.6						
KLR	Kul'dur	127.00	16	ePKIKP	PKPdf	06 53 32.8	-3.7
GYA	Guiyang	128.58	54	PKP	PKPdf	06 53 44.1	+4.6
GYA				PKS		06 57 19.2	
GYA				PP	PP		
	comp=Z,160nm,8.6s						
GYA				LR	LR		
	comp=N,570nm,20.7s,MS5.4						
GYA				LR	LR		
	comp=E,640nm,21.4s,MS5.4						
GYA				LR	LR		
	comp=Z,730nm,20.8s,MS5.3						
CN2	Changchun	129.49	25	ePKP	PKPdf	06 53 42.0	+0.7
CN2				PP	PP	06 55 55.2	+4.3
CN2				SS	SS	07 13 14.0	+1.0
CN2				PP	PP		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,400nm,21.0s,MS5.2						
CN2				LR	LR		
	comp=E,300nm,21.0s,MS5.2						
CN2				LR	LR		
	comp=Z,200nm,21.0s,MS4.8						
SNY	Shenyang	130.25	28	ePKP	PKPdf	06 53 38.1	-4.6
MDJ	Mudanjiang	130.41	21	PKP	PKPdf	06 53 42.1	-0.9
MDJ				XPKP		06 53 46.8	
MDJ				PP	PP	06 55 55.8	-1.1
MDJ				PKS		06 57 18.7	
MDJ				LR	LR		
	comp=N,310nm,17.3s						
MDJ				LR	LR		
	comp=E,220nm,27.8s						
MDJ				LR	LR		
	comp=Z,410nm,18.2s,MS5.2						
YSS	Yuzh-Sakhalins	131.54	8⇓	ePKIKP	PKPdf	06 53 42.2	-3.0
NJ2	Nanjing	134.63	41	ePKP	PKPdf	06 53 46.9	-4.1
NJ2				XPKP		06 54 00.6	
NJ2				PP	PP	06 56 24.0	+0.1
NJ2				PP	PP		
	comp=Z,470nm,5.4s						
SSE	Sheshan	136.75	40	ePKP	PKPdf	06 53 55.3	+0.4
SSE				PP	PP	06 56 42.3	+5.0
SSE				SS	SS	07 14 43.1	+2.1
SSE				PP	PP		
	comp=Z,350nm,12.0s						
SSE				LR	LR		
	comp=N,680nm,30.7s,MS5.6						
SSE				LR	LR		
	comp=E,2μm,30.8s,MS5.6						
SSE				LR	LR		
	comp=Z,2μm,25.5s						
MJAR	Matsushiro Arr	140.51	17	PKhKP		06 53 59.0	
	comp=Z,1.3nm,0.4s,baz=40,slow=2.4,SNR=4.4						
FORT	Forrest	142.80	145	eP	PKPdf	06 54 05.7	-0.2
	comp=Z,10nm,0.7s						
CNB	Canberra Magne	145.82	176	eP	PKPbc	06 54 15.0	+3.3
	comp=Z,33nm,1.2s						
STKA	Stephens Creek	147.83	163	eP	PKPbc	06 54 18.1	+0.6
	comp=Z,6.4nm,0.6s						
STKA	Stephens Creek	147.83	163	PKPbc	PKPbc	06 54 19.1	+1.7
	comp=Z,7.2nm,0.6s,baz=150,slow=3.9,SNR=11						
FITZ	Fitzroy Crossi	149.16	125	eP	PKPbc	06 54 22.1	+1.2
	comp=Z,21nm,0.8s						
ASPA	Alice Springs	151.55	144	eP	PKPbc	06 54 30.4	+3.8
ASAR	Alice Springs	151.55	144	PKPbc	PKPbc	06 54 25.9	-0.7
	comp=Z,3.3nm,0.7s,baz=190,slow=1.3,SNR=13						
ASAR	Alice Springs	151.55	144	PKIKP	PKPbc	06 54 25.9	-0.7
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	Warramunga Arr	154.56	139	PKP	PKPdf	06 54 27.2	+2.4
	comp=Z,1.5nm,0.9s,baz=241,slow=1.9,SNR=4.6						
WRA				PKPbc	PKPbc	06 54 35.0	+1.8
	comp=Z,1.7nm,0.6s,baz=242,slow=2.3,SNR=10						
WRA				PKPab	PKPab	06 54 48.6	+0.8
	comp=Z,2.6nm,0.7s,baz=237,slow=2.8,SNR=6.4						
WRA	Warramunga Arr	154.56	139	PKIKP	PKPdf	06 54 27.2	+2.4
WRA						06 54 35.0	

NIED ***05*** *06:51:00,2840N×130.10E,h17km,Mw4.1 Best double couple: M0 1.81000×10^15 NP1:φs276.00000°,δ89.00000°, λ-102.00000°. NP2:φs180.00000°,δ12.00000°, λ-6.00000°.*

MOS ***05*** *06:51:12.7±2.6,2819N×13022E,h33km,mb4.5/4,Error ellipse: s-maj=29.8km s-min=12.5km az=115.5*

ISCJB ***05*** *06:51:12.3±0.8,2831N±004×130.10E±005,h28km±5km, mb4.0/15,Error ellipse: s-maj=8.9km s-min=5.0km az=78.5*

JMA ***05*** *06:51:12.8±0.1,2840N×13006E,h28km±1km,M4.3*

JMA Felt II J1.

IDC ***05*** *06:51:16.5±2.4,2829N×12999E,h52km±22km,mb3.6/12, mb1 3.9/15,mb1mx3.8/23,mbtmp4.1/15,ML4.4/3,Error ellipse: s-maj=17.4km s-min=14.1km az=85.0*

NEIC ***05*** *06:51:19.7±1.6,2813N×12983E,h80km±13km,mb4.2/5, Error ellipse: s-maj=24.9km s-min=11.3km az=89.0*

NEIC Recorded [2 JMA] on Kikaiga-shima.

ISC 05 06:51:13.8±0.6,2836N±004×13003E±005,h25km±3km, n39,σ0°96/44,mb4.0/15,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	0.06	227	P	Pb	06 51 17.7	-0.6
JZK				S	Sb	06 51 21.8	+0.5
JAM	Amami Oshima	0.37	278	P	Pb	06 51 21.4	-0.6
JAM				S	Sb	06 51 27.2	-0.3
JTK	Tokunoshima	1.11	239	P	Pn	06 51 33.8	+0.1
JTK				eS	Sn	06 51 49.0	+0.8
JNN	Nakanoshima	1.48	355	P	Pn	06 51 38.4	-0.5
JNN				eS	Sn	06 51 57

ASAJ Asahikawa 18.68 29 P **Pn** **06 55 32.8 +2.4**
1.6nm,0.3s,baz=69,slow=28,SNR=4.2
ASAJ Asahikawa 18.68 29 P **Pn** **06 55 32.8 +2.4**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
SONM Songino Array 26.73 323 P **P** **06 56 52.9 +1.8**
comp=Z,1.7nm,0.9s,mb3.6,baz=123,slow=11,SNR=5.4
MKAR Makanchi Array 41.36 310 P **P** **06 58 59.0 +1.4**
comp=Z,0.2nm,0.4s,mb3.1,baz=98,slow=10,SNR=2.7
ZAL Zalesovo 41.58 321 P **P** **06 59 00.1 +0.6**
comp=Z,1.1nm,0.4s,mb3.9,baz=226,slow=17,SNR=3.1
KURK Kurchatov 44.42 315 *e*P **P** **06 59 27.5 +5.1**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
KURK Kurchatov 44.42 315 *e*P **P** **06 59 27.5 +5.0**
comp=Z,2.0nm,0.8s,mb3.9
WRA Warramunga Arr 48.20 175 P **P** **06 59 52.0 -0.1**
comp=Z,4.6nm,0.9s,mb4.5,baz=351,slow=8.6,SNR=11
ZRNK Zerenda 50.61 317 *e*P pP 07 00 18.8 +0.4
ZRNK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ZRNK Zerenda 50.61 317 *e*P pP 07 00 18.8 +0.4
comp=Z,2.8nm,0.9s
ASAR Alice Springs 51.86 175 P **P** **07 00 20.4 +0.4**
comp=Z,1.2nm,0.5s,mb4.1,baz=9.2,slow=14,SNR=20
ARU Arti 56.73 321 *e*P **P** **07 01 01.3 +5.9**
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ARU Arti 56.73 321 *e*P **P** **07 01 01.3 +5.9**
comp=Z,8.8nm,1.0s,mb4.7
STKA Stephens Creek 60.91 169 P **P** **07 01 22.6 -1.8**
comp=Z,3.6nm,0.7s,mb4.6,baz=324,slow=5.2,SNR=9.9
STKA Stephens Creek 60.91 169 *e*P **P** **07 01 22.3 -2.1**
FINES FINESS Array B 71.80 331 P **P** **07 02 32.9 -1.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=64,slow=4.4,SNR=5.8
AKASG Malin Array Be 74.95 320 P **P** **07 02 51.7 -1.0**
comp=Z,1.7nm,0.6s,mb4.2,baz=59,slow=6.4,SNR=5.3
BR131 Keskin Array S 76.99 308 *e*P **P** **07 03 05.0 +0.7**
comp=Z,4.3nm,1.0s,mb4.3
BRTR Keskin Array B 76.99 308 P **P** **07 03 03.2 -1.1**
comp=Z,1.1nm,0.8s,mb3.8,baz=99,slow=6.4,SNR=6.3
NB2 NORSAR Subarra 78.11 334 P **P** **07 03 08.5 -2.1**
comp=Z,2.0nm,0.8s,mb4.1,baz=53,slow=5.6
NB2 NORSAR Subarra 78.11 334 P **P** **07 03 08.5 -2.1**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
NOA NORSAR Array B 78.11 334 P **P** **07 03 08.8 -1.8**
comp=Z,0.5nm,0.6s,mb3.6,baz=51,slow=5.5,SNR=3.4
NOA NORSAR Array B 78.11 334 P **P** **07 03 08.8 -1.8**
GERES GERESS Array B 84.46 323 P **P** **07 03 42.8 -1.5**
comp=Z,0.4nm,0.6s,mb3.7,baz=15,slow=5.5,SNR=4.0
PDAR Pinedale Array 90.51 39 P **P** **07 04 14.4 +0.9**
comp=Z,0.3nm,0.7s,mb3.8,baz=270,slow=2.7,SNR=2.4

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*ISCJB **05** 08:03:17.7±4.4, 30S±0.1×1364E±04, h36km±39km, mb3.5/1, Error ellipse: s-maj=67.8km s-min=19.0km az=170.4*
*IDC **05** 08:03:17.1±3.3, 307S×13537E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/12, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=142.1km s-min=18.3km az=83.0*
ISC 05 08:03:16.2±5.0, 29S±01×1365E±04, h13km±30km, n8, σ1§16/10, mb3.5/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.55**	**202**	*e*P	**Pn**	**08 05 48.0**	**+0.9**
	12nm,0.4s						
WB2	**Warramunga Arr**	**17.07**	**187**	*e*P	**Pn**	**08 07 13.6**	**-0.9**
WRA	**Warramunga Arr**	**17.07**	**187**	Pn	**Pn**	**08 07 13.0**	**-1.5**
	0.3nm,0.3s,baz=2.2,slow=13,SNR=7.8						
WRA				Sn	**Sn**	**08 10 19.5**	**-4.6**
	0.2nm,0.3s,baz=9.6,slow=22,SNR=5.7						
FITZ	**Fitzroy Crossi**	**18.50**	**214**	*e*P	**Pn**	**08 07 33.2**	**+1.1**
	7.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.50**	**214**	P	**Pn**	**08 07 30.3**	**-1.9**
	0.2nm,0.3s,baz=72,slow=19,SNR=4.4						
ASAR	**Alice Springs**	**20.80**	**187**	P	**P**	**08 07 58.3**	**+1.1**
	4.0nm,0.7s,baz=10,slow=10,SNR=26						
ASAR				S	**S**	**08 11 49.0**	**+0.1**
	0.9nm,1.0s,baz=12,slow=19,SNR=4.3						
ASPA	**Alice Springs**	**20.80**	**187**	*e*P	**P**	**08 07 58.3**	**+1.2**
MKAR	**Makanchi Array**	**68.62**	**323**	P	**P**	**08 14 18.7**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=128,slow=9.5,SNR=3.6						

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*TIF **05** 08:07:24.8, 4325N×4383E, h35km±1km*
MOS 05 08:07:24.8±0.2, 4324N×4382E, h14km, mb3.6/1, 2C-8D, Error ellipse: s-maj=11.8km s-min=8.2km az=122.4, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORR	**Kora**	**0.24**	**131**	⇓*i*PG	Pg	08 07 32.2	+2.2
KORR				*i* S	Sg	08 07 37.5	+3.9
ARNR	**Ardon**	**0.34**	**99**	⇑*i*PG	Pg	08 07 33.5	+1.7
ARNR				*i* S	Sg	08 07 39.6	+3.2
KMSR	**Komsomolskaya**	**0.37**	**70**	⇓*i*PG	Pg	08 07 34.0	+1.7
KMSR				*i* S	Sg	08 07 40.4	+3.1
DIGR	**Digorskoe uzhe**	**0.39**	**207**	⇓*i*PG	Pg	08 07 34.1	+1.5
DIGR				*i* S	Sg	08 07 40.8	+3.0
ZEI	**Tsey**	**0.48**	**173**	⇓*i*PG	Pg	08 07 35.2	+0.9
ZEI				*i* S	Sg	08 07 42.5	+1.8
BTKR	**Batakoyurt**	**0.54**	**76**	⇓*i*PG	Pg	08 07 36.5	+1.0
BTKR				*i* S	Sg	08 07 44.8	+2.1
LACR	**Lac**	**0.55**	**140**	⇓*i*PG	Pg	08 07 36.5	+1.0
LACR				*i* S	Sg	08 07 44.7	+1.9
PRTR	**Priterechnaya**	**0.61**	**33**	⇑*i*PG	Pg	08 07 37.5	+0.8
PRTR				*i* S	Sg	08 07 46.7	+1.9
KUBR	**Kubataba**	**0.63**	**332**	*i* PG	Pg	08 07 38.1	+1.0
KUBR				*e*S	Sg	08 07 47.4	+1.9
VLKR	**Vladikavkaz**	**0.66**	**107**	⇓*i*PG	Pg	08 07 38.3	+0.6
VLKR				*i* S	Sg	08 07 47.8	+1.4
SNJR	**Sundja**	**0.75**	**103**	⇓*i*PG	Pg	08 07 39.6	+0.3
SNJR				*i* S	Sg	08 07 50.2	+1.0
SHAR	**Shatzhatmas**	**0.97**	**301**	*e*PG	Pg	08 07 43.2	-0.4
SHAR				*e*S	Sb	08 07 56.1	-0.1
BEYR	**Belyy Ugol+**	**1.06**	**317**	*e*PG	Pg	08 07 45.0	-0.2
BEYR				*e*S	Sb	08 07 58.2	-0.4
KIV0	**Kislovodsk Arr**	**1.08**	**311**	*e*PG	Pg	08 07 45.2	-0.5
KIV0				*e*S	Sb	08 07 58.7	-0.6

IDC 05 08:12:38.1±35.0, 618S×10819E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.1/3, 1D, Error ellipse: s-maj=593.9km s-min=141.8km az=129.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**1.89**	**127**	⇓*i*P	Pn	08 13 20.4	+8.7
BJII				*i* S	Sn	08 13 32.2	-4.0
WRA	**Warramunga Arr**	**28.85**	**121**	P	P	08 18 39.0	+0.9
	0.9nm,0.5s,baz=294,slow=11,SNR=11						
WB2	**Warramunga Arr**	**28.86**	**121**	*e*P	P	08 18 39.7	+1.4
ASAR	**Alice Springs**	**30.23**	**128**	P	P	08 18 50.8	+0.3
	1.2nm,0.7s,baz=310,slow=9.2,SNR=10						
STKA	**Stephens Creek**	**40.33**	**134**	P	P	08 20 17.2	-0.1
	11nm,0.5s,baz=309,slow=7.7,SNR=62						

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*NEIC **05** 08:18:10.4, 3440S×70.14W, h20km, MD3.6(GUC), After GUC.*
GUC 05 08:18:10.4±0.4, 3440S×7014W, h20km±2km, MD3.6, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.24**	**288**	⇓*i*P	Pb	08 18 15.8	-0.4
CICH				*i* S	Sb	08 18 20.5	+0.3
CACH	**El Canelo**	**0.47**	**306**	⇑*i*P	Pb	08 18 19.6	-0.4
CACH				*i* S	Sb	08 18 26.2	-0.3
CHCH	**Chadas Angostu**	**0.63**	**317**	*i* P	Pb	08 18 22.4	-0.3
SFDO	**San Fernando**	**0.76**	**253**	*i* P	Pb	08 18 24.5	-0.3
SFDO				*i* S	Sb	08 18 35.5	+0.8
PCH	**Pirque**	**0.83**	**338**	*i* P	Pb	08 18 26.1	-0.1
TACH	**Talagante**	**0.99**	**318**	⇓*i*P	Pb	08 18 28.7	-0.3
LNV	**Longovilo**	**1.14**	**292**	*i* P	Pn	08 18 31.3	+0.1
LNV				*i* S	Sb	08 18 46.6	+0.8

IDC 05 08:18:50.6±35.0, 645N×12717E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=586.0km s-min=107.3km az=164.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.45**	**184**	P	P	08 24 12.8	+1.8
	2.6nm,0.9s,baz=14,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**27.16**	**165**	P	P	08 24 35.4	-0.2
	0.5nm,0.3s,baz=343,slow=10,SNR=34						
ASAR	**Alice Springs**	**30.65**	**168**	P	P	08 25 07.3	+0.7
	0.6nm,0.4s,baz=354,slow=8.0,SNR=14						
STKA	**Stephens Creek**	**40.53**	**161**	P	P	08 26 30.4	-1.0
	0.4nm,0.3s,baz=335,slow=8.4,SNR=6.5						

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*NEIC **05** 08:24:05.6, 1563N×9607W, h3km, MD3.9(MEX), After MEX.*
MEX 05 08:24:06.1±0.6, 1566N×9604W, h5km±6km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.13**	**328**	*i* P	Pg	08 24 08.2	-0.5
HUIG				*i* S	Sg	08 24 10.5	0.0
HUIG	**Huatulco**	**0.13**	**328**	*i* P	Pg	08 24 08.2	-0.5
HUIG				*i* S	Sg	08 24 10.5	+0.1
VHO	**Vista Hermosa**	**1.56**	**335**	*i* P	Pn	08 24 31.1	-3.4
VHO				*i* S	Sn	08 24 50.3	-4.7
OXX	**Oaxaca**	**1.56**	**335**	*i* P	Pn	08 24 31.5	-3.0
OXX				*i* S	Sn	08 24 50.5	-4.6
CMIG	**Matias Romero**	**1.80**	**38**	*i* P	Pn	08 24 34.3	-3.6
CMIG				*i* S	Sn	08 24 56.2	-4.9
CMIG	**Matias Romero**	**1.80**	**38**	*i* P	Pn	08 24 34.3	-3.6
CMIG				*i* S	Sn	08 24 57.9	-3.2
PPM	**Popocatepetl**	**4.19**	**324**	*i* P	Pn	08 25 11.8	+1.0
PPM				*i* S	Sn	08 25 56.0	-4.1
PPM	**Popocatepetl**	**4.19**	**324**	*i* P	Pn	08 25 13.6	+2.9
PPM				*i* S	Sn	08 25 57.7	-2.4

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*BJI **05** 08:32:36.3, 5194N×17860E, h31km, mB5.0, mb5.1, Ms4.3, Msz4.1*
*ISCJB **05** 08:32:37.3±0.2, 5165N±005×17878E±003, h41km, mb4.8/121, MS4.0/13, Error ellipse: s-maj=6.8km s-min=2.3km az=8.2*
*MOS **05** 08:32:38.1±1.0, 5162N×17882E, h51km, mb4.9/50, Error ellipse: s-maj=7.5km s-min=6.8km az=117.5*
*NEIC **05** 08:32:38.6±0.2, 5162N×17875E, mb4.8/74, ML4.5(AEIC), Error ellipse: s-maj=7.3km s-min=3.2km az=179.0*
*IDC **05** 08:32:38.4±0.6, 5159N×17881E, h43km±4km, mb4.2/23, mb1 4.4/24, mb1mx4.3/27, mbtmp4.5/24, ML4.6/1, MS3.9/7, Ms1 3.9/7, ms1mx3.4/35, Error ellipse: s-maj=16.0km s-min=10.6km az=156.0*
ISC 05 08:32:39.1±0.2, 5164N±005×17878E±003, h43km, h43km±.5km: pP-P, n377, σ0§88/373, mb4.8/121, MS4.0/13, 65C-51D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.42**	**128**	P	**Pn**	**08 32 47.1**	**-1.9**
AMKA				S	**Sn**	**08 32 54.2**	**-1.7**
SMY	**Shemya**	**3.08**	**293**	P	**Pn**	**08 33 27.8**	**+2.7**
SMY				S	**Sn**	**08 34 03.4**	**+2.7**
ATKA	**Atka Island**	**4.39**	**80**	P	**Pn**	**08 33 43.8**	**+0.6**
ATKA				S	**Sn**	**08 34 33.0**	**0.0**
NIKO	**Nikolski**	**7.70**	**75**	P	**Pn**	**08 34 28.8**	**+0.2**
SPIA	**Saint Paul Isl**	**8.47**	**45**	P	**Pn**	**08 34 41.0**	**+1.8**
UNV	**Unalaska Valle**	**9.20**	**70**	P	**Pn**	**08 34 50.4**	**+1.2**
AKLV	**Akutan Long Va**	**9.57**	**69**	P	**Pn**	**08 34 54.3**	**+0.1**
AKUT	**Akutan**	**9.67**	**69**	*e*Pn	**Pn**	**08 34 58.6**	**+3.0**
PET	**Petropavlovsk**	**12.38**	**284**	*e*P	**Pn**	**08 35 36.6**	**+3.9**
PET				pmax	pmax		
	comp=Z,25nm,1.0s						
SDPT	**Sand Point**	**12.89**	**65**	*e*P	**Pn**	**08 35 41.5**	**+1.9**
	comp=Z,10nm,0.3s						
SKR	**Severo-Kuril's**	**14.24**	**275**	*e*P	**Pn**	**08 35 58.6**	**+0.6**
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				pmax	pmax		
	comp=N,160nm,0.9s						
SKR				pmax	pmax		
	comp=E,100nm,0.9s						
BILL	**Bilibino**	**17.55**	**344**	⇓*i*P	**Pn**	**08 36 44.4**	**+4.1**
BILL				pmax	pmax		
	comp=Z,72nm,1.0s						
BILL				MLR	MLR		
	comp=Z,400nm,19.0s						
BILL	**Bilibino**	**17.55**	**344**	*e*P	**Pn**	**08 36 44.1**	**+3.8**
	comp=Z,55nm,0.8s						
KDAK	**Kodiak Island**	**17.57**	**58**	P	**Pn**	**08 36 39.7**	**-0.9**
	comp=Z,2.1nm,0.3s,baz=288,slow=6.1,SNR=26						
KDAK	**Kodiak Island**	**17.57**	**58**	*e*Pn	**Pn**	**08 36 39.8**	**-0.8**
	comp=Z,18nm,0.6s						
TTA	**Tatalina**	**17.57**	**40**	*e*P	**Pn**	**08 36 44.5**	**+3.9**
TTA				pmax	pmax		
	comp=Z,52nm,1.3s						
TTA	**Tatalina**	**17.57**	**40**	*e*Pn	**Pn**	**08 36 44.5**	**+3.9**
	comp=Z,52nm,1.3s						
MA2	**Magadan**	**17.59**	**308**	*e*P	**Pn**	**08 36 43.5**	**+2.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SLKM	**Skilak Lake**	**19.28**	**51**	*e*P	**Pn**	**08 37 01.2**	**-0.2**
PMR	**Palmer**	**20.06**	**48**	*e*P	**P**	**08 37 11.8**	**+3.2**
PMR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PMR	**Palmer**	**20.06**	**48**	*e*P	**P**	**08 37 11.8**	**+3.2**
	comp=Z,10nm,0.6s						
EYAK	**Cordova Ski Ar**	**21.46**	**52**	*e*P	**P**	**08 37 23.1**	**-0.6**
COLA	**College**	**21.66**	**40**	*e*P	**P**	**08 37 26.9**	**+1.1**
COLA				pmax	pmax		
	comp=Z,23nm,0.7s,mb4.7						
COLA	**College**	**21.66**	**40**	*e*P	**P**	**08 37 26.9**	**+1.1**
	comp=Z,23nm,0.7s,mb4.7						
MENT	**Mentasta**	**22.84**	**46**	*e*P	**P**	**08 37 41.6**	**+3.2**
YSS	**Yuzh-Sakhalins**	**23.79**	**273**	⇑*e*P	**P**	**08 37 48.0**	**+0.3**
YSS				*e*		08 37 58.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
DAWY	**Dawson**	**24.96**	**44**	*e*P	**P**	**08 37 58.0**	**-0.4**
ASAJ	**Asahikawa**	**25.20**	**267**	P	**P**	**08 38 00.8**	**+0.3**
	comp=Z,31nm,0.8s,mb4.9,baz=69,slow=4.5,SNR=22						
ASAJ				LR	LR	08 47 03.6	
	comp=Z,135nm,18.4s,MS3.5,baz=190,slow=34						
ASAJ	**Asahikawa**	**25.20**	**267**	P	**P**	**08 38 00.8**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,31nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,135nm,18.4s						
HABR	**Khabarovsk**	**27.94**	**281**	*e*P	**P**	**08 38 24.3**	**-0.9**
HABR				*e*S	**S**	**08 43 06.4**	**+0.4**
HABR				pmax	pmax		
	comp=Z,39nm,1.4s,mb4.8						
YAK	**Yakutsk**	**28.11**	**311**	*e*P	**P**	**08 38 27.2**	**+0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
YAK				pmax	pmax		
	comp=E,9.0nm,1.4s						
INK	**Inuvik**	**28.13**	**36**	P	**P**	**08 38 27.2**	**+0.4**
	comp=E,1.9nm,0.5s,mb4.0,baz=241,slow=9.8,SNR=14						
INK				PcP	PcP	08 41 39.4	-0.8
	comp=E,1.2nm,0.6s,baz=286,slow=3.9,SNR=3.7						
INK				ScP	ScP	08 45 14.5	-3.1
	comp=E,2.8nm,1.0s,baz=220,slow=3.0,SNR=5.4						
INK				LR	LR	08 49 56.9	
	comp=E,240nm,19.9s,MS3.8,baz=25,slow=37						
INK	**Inuvik**	**28.13**	**36**	P	**P**	**08 38 27.2**	**+0.3**
INK						08 41 39.4	
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK				pmax	pmax		
	comp=N,3.0nm,1.0s						
INK				MLR	MLR		
	comp=Z,240nm,20.0s						
INK	**Inuvik**	**28.13**	**36**	*e*P	**P**	**08 38 26.7**	**-0.2**
	comp=Z,25nm,1.2s,mb4.7						
DLBC	**Dease Lake**	**29.48**	**56**	PcP	PcP	08 41 42.2	-1.4
	comp=Z,0.6nm,0.4s,baz=307,slow=5.1,SNR=3.8						
DLBC				LR	LR	08 49 32.3	
	comp=Z,249nm,19.0s,MS3.9,baz=286,slow=34						
KLR	**Kul'dur**	**29.65**	**284**	*e*P	**P**	**08 38 36.9**	**-3.5**
KLR				pmax	pmax		
	comp=E,34nm,1.6s						
KLR				pmax	pmax		
	comp=Z,62nm,1.6s,mb5.1						
TIXI	**Tiksi**	**29.67**	**331**	*e*P	**P**	**08 38 42.2**	**+1.6**
MJAR	**Matsushiro Arr**	**32.34**	**258**	P	**P**	**08 39 04.8**	**+0.7**
	comp=Z,2.4nm,0.6s,mb4.2,baz=48,slow=8.4,SNR=10						
MJAR				LR	LR	08 50 03.4	
	comp=Z,161nm,20.4s,MS3.7,baz=185,slow=32						
MAJO	**Matsushiro**	**32.34**	**258**	*e*P	**P**	**08 39 04.6**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
MAJO	**Matsushiro**	**32.34**	**258**	*e*P	**P**	**08 39 04.6**	**+0.5**
	comp=Z,3.7nm,0.5s,mb4.5						
MAT	**Matsushiro**	**32.34**	**258**	P	**P**	**08 39 04.3**	**+0.2**
MAT	**Matsushiro**	**32.34**	**258**	*e*P	**P**	**08 39 04.0**	**-0.1**
MAT				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
MAT	**Matsushiro**	**32.34**	**258**	*e*P	**P**	**08 39 04.0**	**-0.1**
	comp=Z,11nm,0.9s,mb4.7						
VLA	**Vladivostok**	**32.38**	**274**	*e*P	**P**	**08 39 04.4**	**0.0**
VLA				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.2						
MDJ	**Mudanjiang**	**33.04**	**277**	P	**P**	**08 39 09.7**	**-0.5**
MDJ				AMB	AMB		
	comp=Z,50nm,11.6s						
CN2	**Changchun**	**36.01**	**279**	*e*P	**P**	**08 39 37.7**	**+1.8**
YKA	**Yellowknife Ar**	**36.15**	**46**	P	**P**	**08 39 36.5**	**-0.6**
	comp=Z,7.3nm,0.6s,mb4.8,baz=283,slow=8.2,SNR=21						
YKA				pP	pP	08 39 48.8	0.0
	comp=Z,13nm,0.8s,baz=284,slow=8.3,SNR=16						
YKA				ScP	ScP	08 45 41.5	-3.3
	comp=Z,2.0nm,0.9s,baz=304,slow=3.3,SNR=4.2						
YKA				LR	LR	08 54 50.9	
	comp=Z,181nm,20.5s,MS3.8,baz=275,slow=37						
YKA	**Yellowknife Ar**	**36.15**	**46**	P	**P**	**08 39 36.5**	**-0.6**
YKA				*PP	pP	08 39 48.9	0.0
YKA	**Yellowknife Ar**	**36.15**	**46**	P	**P**	**08 39 36.5**	**-0.6**
YKA				pP	pP	08 39 48.9	0.0
YKA				ScP	ScP	08 45 41.5	-3.3
HIA	**Hailar**	**36.78**	**290**	*e*P	**P**	**08 39 41.7**	**-0.8**
HIA				*e*PP	pP	08 39 58.5	+4.2
HIA				pmax	pmax		
	comp=Z,11nm,0.8s						
HIA	**Hailar**	**36.78**	**290**	*e*P	**P**	**08 39 41.7**	**-0.8**
	comp=Z,11nm,0.8s,mb4.8						
HIA				*e*pP	pP	08 39 58.5	+4.3
A05A	**Maple Falls**	**36.96**	**70**	⇓P	**P**	**08 39 43.5**	**-0.5**
	baz=37						
B05A	**Bryant**	**37.30**	**71**	⇓P	**P**	**08 39 46.2**	**-0.6**
	baz=37						
D05A	**Enumclaw**	**37.88**	**73**	⇑P	**P**	**08 39 51.8**	**0.0**
	baz=38						
KS15	**Wonju Array Si**	**38.16**	**269**	*e*P	**P**	**08 39 54.8**	**+0.7**
SNY	**Shenyang**	**38.24**	**277**	⇑*i*P	**P**	**08 39 55.3**	**+0.5**
SNY				AP	pP	08 40 04.6	-2.1
SNY				XP	sP	08 40 08.0	-3.8
SNY				PP	PP	08 41 26.8	+4.0
SNY				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
F04A	**Amboy**	**38.25**	**75**	⇑P	**P**	**08 39 55.4**	**+0.5**
	baz=38						
E05A	**Randle**	**38.32**	**73**	⇓P	**P**	**08 39 55.3**	**-0.2**
	baz=38						
COR	**Corvallis**	**38.41**	**77**	*e*P	**P**	**08 39 57.0**	**+0.8**
COR				*e*PP	pP	08 40 08.8	+0.7
COR				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.3						
COR	**Corvallis**	**38.41**	**77**	*e*P	**P**	**08 39 57.0**	**+0.8**
	comp=Z,48nm,0.8s,mb5.3						
COR				*e*pP	pP	08 40 08.8	+0.7
I03A	**Eugene**	**38.75**	**78**	⇓P	**P**	**08 39 59.4**	**+0.3**
	baz=39						
EBG	**Ellensburg**	**38.86**	**72**	P	**P**	**08 40 00.2**	**+0.2**
J02A	**Umpqua**	**38.90**	**79**	⇓P	**P**	**08 40 01.1**	**+0.8**
	baz=39						
H04A	**Detroit Lake**	**39.03**	**76**	⇑P	**P**	**08 40 01.6**	**+0.1**
	baz=39,SNR=5.9						
CIT	**Chita**	**39.08**	**297**	*e*P	**P**	**08 40 02.3**	**+0.4**
CIT				*e*		08 40 19.5	
CIT				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.9						
BROR	**Big Rock Looko**	**39.09**	**77**	P	**P**	**08 40 02.9**	**+0.9**
G05A	**Wamic**	**39.26**	**75**	⇓P	**P**	**08 40 03.3**	**-0.1**
	baz=39						
J03A	**Ideyld Park**	**39.27**	**78**	⇓P	**P**	**08 40 03.7**	**+0.2**
	baz=39						
K02A	**Glendale**	**39.28**	**80**	⇓P	**P**	**08 40 04.0**	**+0.5**
	baz=39						
FRIS	**Frissel Point**	**39.34**	**77**	P	**P**	**08 40 04.9**	**+0.9**
IRO	**Indian Ridge**	**39.35**	**77**	P	**P**	**08 40 05.7**	**+1.6**
L02A	**Cave Junction**	**39.55**	**80**	⇓P	**P**	**08 40 05.9**	**+0.2**
	baz=39						
H05A	**Madras**	**39.63**	**76**	⇑P	**P**	**08 40 06.6**	**+0.2**
	baz=40						
HUMO	**Hull Mountain**	**39.69**	**79**	*e*P	**P**	**08 40 06.5**	**-0.5**
	comp=Z,4.4nm,0.9s,mb4.2						
HUMO				*e*pP	pP	08 40 19.5	+0.6
HUMO	**Hull Mountain**	**39.69**	**79**	⇓P	**P**	**08 40 07.6**	**+0.7**
	baz=40						
BBOR	**Butler Butte**	**39.71**	**79**	P	**P**	**08 40 08.5**	**+1.4**
I05A	**Bend**	**39.87**	**76**	⇑P	**P**	**08 40 08.8**	**+0.3**
	baz=40						
EDM	**Edmonton**	**40.00**	**60**	*e*P	**P**	**08 40 08.2**	**-1.3**
EDM				*e*PP	pP	08 40 20.1	-1.4
KHMM	**Horse Mountain**	**40.20**	**82**	*e*P	**P**	**08 40 12.4**	**+1.2**
NEW	**Newport**	**40.21**	**69**	*e*P	**P**	**08 40 10.1**	**-1.1**
NEW				*e*PP	pP	08 40 21.1	-2.0
NEW				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NEW	**Newport**	**40.21**	**69**	*e*P	**P**	**08 40 10.1**	**-1.2**
	comp=Z,7.8nm,0.8s,mb4.5						
NEW				*e*pP	pP	08 40 21.1	-2.0
BUOR	**Burton Butte**	**40.31**	**79**	P	**P**	**08 40 13.7**	**+1.6**
YBH	**Yreka Blue Hor**	**40.34**	**80**	*e*P	**P**	**08 40 13.4**	**+1.1**
YBH				*e*PP	pP	08 40 25.2	+1.0
YBH				pmax	pmax		
	comp=Z,14nm,0.9s						
YBH	**Yreka Blue Hor**	**40.34**	**80**	*e*P	**P**	**08 40 13.4**	**+1.0**
	comp=Z,14nm,0.9s,mb4.7						
YBH				*e*pP	pP	08 40 25.2	+1.0
YBH	**Yreka Blue Hor**	**40.34**	**80**	⇑P	**P**	**08 40 13.5**	**+1.2**
	baz=40,SNR=18						
K04A	**Chilquin**	**40

	baz=42						
O03C	Acorn Hollow,	41.77	82	⇊P	P	08 40 24.2	+0.1
	baz=42						
BSMT	Bassoo Peak	41.77	68	P	P	08 40 23.3	-0.8
M06C	Likely Place G	42.01	80	⇊P	P	08 40 26.8	+0.7
	baz=42,SNR=8.7						
O04C	Chester	42.16	81	⇊P	P	08 40 28.1	+0.9
	baz=42,SNR=20						
MNRC	McLaughlin Nat	42.19	84	⇊P	P	08 40 27.5	0.0
	baz=42						
ELFS	Eagle Lake Fie	42.20	80	⇊P	P	08 40 27.8	+0.2
	baz=42						
ORV	Oroville	42.36	82	⇊P	P	08 40 28.4	-0.5
	baz=42						
SUTB	Sutter Buttes	42.38	83	⇊P	P	08 40 29.4	+0.3
	baz=42						
WVOR	Wild Horse Val	42.43	77	*e*P	P	08 40 29.5	+0.1
WVOR				*e**PP	pP	08 40 41.5	+0.1
WVOR				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.1						
WVOR	Wild Horse Val	42.43	77	*e*P	P	08 40 29.4	0.0
	comp=Z,42nm,0.9s,mb5.1						
WVOR				*ep*P	pP	08 40 41.5	+0.1
O05C	Quincy	42.48	81	⇊P	P	08 40 30.1	+0.3
	baz=42,SNR=8.8						
CVS	Carmenet Viney	42.50	84	⇊P	P	08 40 30.9	+0.9
	baz=42						
OHCM	Honcut	42.50	83	*e*P	P	08 40 29.6	-0.4
OHCM				*ep*P	pP	08 40 41.4	-0.7
Q03C	Winters	42.60	84	⇑P	P	08 40 30.6	-0.3
	baz=42						
M07A	Soldier Meadow	42.70	79	⇑P	P	08 40 32.4	+0.7
	baz=43,SNR=64						
MSO	Missoula	42.79	69	*e*P	P	08 40 31.0	-1.4
	comp=Z,3.4nm,0.5s,mb4.3						
MSO				*ep*P	pP	08 40 42.3	-2.1
O06A	Flanigan	43.03	80	⇑P	P	08 40 34.6	+0.3
	baz=43,SNR=18						
N07B	Gerlach	43.19	79	⇑P	P	08 40 35.7	+0.2
	baz=43,SNR=31						
L09A	Wilkinson Ranc	43.25	77	⇑P	P	08 40 36.4	+0.3
	baz=43,SNR=7.4						
P06A	Stead Airport,	43.27	81	⇑P	P	08 40 36.8	+0.5
	baz=43,SNR=8.6						
LAVA	Lava Cap Winer	43.31	83	⇑P	P	08 40 36.8	+0.2
	baz=43						
PAHR	Pah Rah Range	43.57	81	*e*P	P	08 40 38.9	+0.2
	comp=Z,19nm,0.9s,mb4.8						
PAHR				*ep*P	pP	08 40 50.5	-0.2
WCN	Washoe City	43.59	81	⇊P	P	08 40 39.1	+0.3
	baz=44,SNR=10						
O07A	Toulon	43.61	80	⇊P	P	08 40 39.6	+0.6
	baz=44,SNR=22						
N08A	GE Springer Mi	43.70	79	⇑P	P	08 40 40.0	+0.2
	baz=44,SNR=18						
S04C	Ingram Canyon,	43.72	85	⇑P	P	08 40 39.8	-0.1
	baz=44						
M09A	Marrel Ranch,	43.73	77	⇑P	P	08 40 40.4	+0.3
	baz=44						
R05C	Kirkwood Meado	43.76	82	⇑P	P	08 40 40.6	+0.4
	baz=44						
O08A	Rochester Mine	43.97	79	⇑P	P	08 40 42.5	+0.6
	baz=44						
CMB	Columbia Colle	43.98	83	*e*P	P	08 40 42.4	+0.4
CMB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
CMB	Columbia Colle	43.98	83	*e*P	P	08 40 42.4	+0.5
	comp=Z,8.8nm,0.9s,mb4.5						
CMB	Columbia Colle	43.98	83	⇑P	P	08 40 42.3	+0.3
	baz=44						
P07A	Fallon	43.98	81	⇑P	P	08 40 42.8	+0.8
	baz=44						
N09A	Rock Creek Ran	44.03	78	P	P	08 40 42.8	+0.4
	baz=44,SNR=11						
PACP	Pacheco Peak	44.06	85	⇊P	P	08 40 43.5	+0.9
	baz=44						
HRY	Holter Researc	44.08	68	*e*P	P	08 40 41.5	-1.2
HRY				*ep*P	pP	08 40 53.4	-1.4
M10A	I.L. Ranch, Tu	44.23	77	⇑P	P	08 40 44.0	0.0
	baz=44,SNR=9.3						
R06C	Coleville	44.26	82	⇊P	P	08 40 44.8	+0.6
	baz=44						
HAST	Hastings Reser	44.29	86	⇑P	P	08 40 45.3	+0.9
	baz=44						
HLID	Hailey	44.32	73	*e*P	P	08 40 43.9	-0.8
	comp=Z,14nm,1.3s,mb4.5						
HLID				*ep*P	pP	08 40 55.8	-1.0
DLMT	Dillon	44.38	70	*e*P	P	08 40 43.4	-1.7
	comp=Z,2.9nm,0.7s,mb4.1						
P08A	Dixie Valley	44.38	80	⇑P	P	08 40 45.6	+0.4
	baz=44						
Q07A	Schurz	44.39	81	⇊P	P	08 40 45.8	+0.5
	baz=44						
S06C	San Francisco	44.40	83	⇊P	P	08 40 45.7	+0.3
	baz=44						
S05C	Merced	44.44	84	⇊P	P	08 40 45.4	-0.2
	baz=44						
BMN	Battle Mountai	44.46	78	*e*P	P	08 40 46.0	+0.2
BMN				*e**PP	pP	08 40 57.6	-0.3
BMN				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.1						
BMN	Battle Mountai	44.46	78	*e*P	P	08 40 46.0	+0.2
	comp=Z,34nm,0.8s,mb5.1						
BMN				*ep*P	pP	08 40 57.6	-0.2
EGMT	Eagleton	44.55	65	*e*P	P	08 40 45.4	-1.2
	comp=Z,12nm,0.8s,mb4.8						
EGMT				*ep*P	pP	08 40 56.9	-1.8
O09A	Fish Creek Ran	44.64	79	⇑P	P	08 40 47.7	+0.5
	baz=44,SNR=16						
TLY	Talaya	44.64	301	*e*P	P	08 40 47.8	+0.5
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
N10A	Dunphy	44.72	78	⇑P	P	08 40 47.8	-0.1
	baz=45						
M11A	Holland Ranch,	44.74	76	⇑P	P	08 40 48.5	+0.4
	baz=45,SNR=6.7						
R07C	Lee Vining	44.77	82	⇊P	P	08 40 48.9	+0.6
	baz=45						
ULN	Ulaanbaatar	44.78	295	*e*P	P	08 40 48.8	+0.4
ULN				*e**PP	pP	08 41 00.5	+0.1
ULN				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.8						
ULN	Ulaanbaatar	44.78	295	*e*P	P	08 40 48.8	+0.4
	comp=Z,19nm,1.1s,mb4.8						
ULN				*ep*P	pP	08 41 00.5	0.0
BOZ	Bozeman (W)	44.78	69	*e*P	P	08 40 47.1	-1.3
BOZ				*e**PP	pP	08 40 59.4	-1.1
BOZ				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.0						
BOZ	Bozeman (W)	44.78	69	*e*P	P	08 40 47.1	-1.3
	comp=Z,14nm,0.6s,mb5.0						
BOZ				*ep*P	pP	08 40 59.4	-1.0
U04C	Hernandez Rese	44.78	85	⇊P	P	08 40 48.6	+0.2
	baz=45						
Q08A	Gabbs	44.98	81	⇊P	P	08 40 50.1	+0.2
	baz=45,SNR=17						
NVAR	Mina Array Bea	45.02	81	P	P	08 40 50.9	+0.6
	comp=Z,9.8nm,0.8s,mb4.7,baz=290,slow=8.4,SNR=34						
NVAR				pP	pP	08 41 02.3	-0.1
	comp=Z,7.7nm,0.7s,baz=297,slow=8.0,SNR=17						
P09A	Austin	45.04	79	⇊P	P	08 40 50.7	+0.3
	baz=45,SNR=7.5						
MNV	Mina	45.11	81	*e*P	P	08 40 51.2	+0.2
MNV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
MNV	Mina	45.11	81	*e*P	P	08 40 51.2	+0.2
	comp=Z,8.9nm,0.8s,mb4.7						
N11A	Elko Archery C	45.13	77	⇑P	P	08 40 51.4	+0.3
	baz=45						
SONM	Songino Array	45.17	295	P	P	08 40 52.1	+0.7
	comp=Z,8.1nm,0.7s,mb4.7,baz=59,slow=9.5,SNR=43						
SONM				PcP	PcP	08 42 30.5	-0.7
	comp=Z,2.9nm,0.7s,baz=73,slow=1.9,SNR=5.2						
SONM				LR	LR	09 01 09.4	
	comp=Z,203nm,18.1s,MS4.1,baz=94,slow=38						
SONM	Songino Array	45.17	295	P	P	08 40 52.1	+0.7
SONM				PcP	PcP	08 42 30.5	-0.7
R08A	Mina	45.19	81	⇑P	P	08 40 51.7	+0.1
	baz=45,SNR=17						
U05C	Westside ANR,	45.21	85	⇊P	P	08 40 52.5	+0.7
	baz=45						
QLMT	Earthquake Lak	45.36	70	*e*P	P	08 40 52.3	-0.7
QLMT				*ep*P	pP	08 41 03.5	-1.6
Q09A	Carvers	45.46	80	⇊P	P	08 40 54.5	+0.7
	baz=45						
ELK	Elko	45.48	77	*e*P	P	08 40 54.2	+0.3
ELK				*e**PP	pP	08 41 05.6	-0.4
ELK				pmax	pmax		
	comp=Z,36nm,0.8s						
ELK	Elko	45.48	77	*e*P	P	08 40 54.2	+0.3
	comp=Z,36nm,0.8s,mb5.3						
ELK				*ep*P	pP	08 41 05.6	-0.4
ZAK	Zakamensk	45.52	300	⇑*i*P	P	08 40 54.7	+0.5
ZAK				*e*		08 42 31.7	
ZAK				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
MTUM	Tungsten Hills	45.53	83	*e*P	P	08 40 55.1	+0.8
MTUM				*ep*P	pP	08 41 06.0	-0.4
N12A	Wells--Clov Va	45.54	77	⇑P	P	08 40 54.5	+0.1
	baz=45,SNR=13						
PTRM	Twissleman Ran	45.59	86	*e*P	P	08 40 55.1	+0.3
PTRM				*ep*P	pP	08 41 06.8	-0.1
HELL	Mitchell Peak	45.67	84	⇑P	P	08 40 55.3	-0.1
	baz=46,SNR=6.0						
S08C	White Mtn Res	45.68	82	⇑P	P	08 40 54.9	-0.6
	baz=46						
M13A	Montello	45.76	75	⇑P	P	08 40 56.0	-0.1
	baz=46,SNR=7.8						
TPH	Tonopah	45.90	81	*e*P	P	08 40 58.0	+0.7
TPH				*e**PP	pP	08 41 09.2	-0.2
TPH				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
TPH	Tonopah	45.90	81	*e*P	P	08 40 58.0	+0.7
	comp=Z,18nm,0.8s,mb5.0						
TPH				*ep*P	pP	08 41 09.2	-0.2
TIN	Tinemaha	45.92	83	⇊P	P	08 40 57.3	-0.1
	baz=46						
YFT	Old Faithful	45.93	70	*e*P	P	08 40 57.7	+0.3
YFT				*ep*P	pP	08 41 09.6	+0.1
N13A	West Wendover	46.04	76	⇑P	P	08 40 58.2	-0.1
	baz=46,SNR=5.2						
MOY	Mondy	46.05	302	*e*P	P	08 40 59.0	+0.6
O12A	Currie	46.06	77	⇑P	P	08 40 58.7	+0.1
	baz=46,SNR=21						
S09A	Goldfield	46.13	81	⇑P	P	08 40 58.9	-0.1
	baz=46,SNR=12						
HHC	Hu-ho-hao-te	46.16	284	*e*P	P	08 40 59.6	+0.3
HHC				AP	pP	08 41 11.6	+0.2
HHC				XP	sP	08 41 16.7	+0.2
HHC				PCP	PcP	08 42 36.0	+1.3
HHC				PP	PP	08 42 48.7	+0.7
HHC				SCP	ScP	08 46 24.0	-0.3
HHC				PCS	PcS	08 46 29.7	+0.5
HHC				S	**S**	**08 47 42.2**	**-0.1**
HHC				XS	sS	08 48 03.0	+0.6
HHC				SCS	ScS	08 50 49.2	-1.8
HHC				SS	SS	08 51 00.5	-7.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.1						
HHC				LR	LR		
	comp=N,190nm,21.6s						
HHC				LR	LR		
	comp=E,90nm,13.9s						
HHC				LR	LR		
	comp=Z,150nm,22.8s,MS3.9						
IMW	Indian Meadow	46.19	71	*e*P	P	08 40 59.2	-0.3
	comp=Z,5.2nm,0.8s,mb4.5						
IMW				*ep*P	pP	08 41 10.7	-0.9
FLWY	Flagg Ranch	46.22	70	*e*P	P	08 40 59.7	0.0
	comp=Z,8.9nm,0.8s,mb4.8						
FLWY				*ep*P	pP	08 41 11.5	-0.4
HVU	Hansel Valley	46.34	74	*e*P	P	08 41 00.6	-0.1
HVU				*e**PP	pP	08 41 12.0	-0.8
HVU				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
HVU	Hansel Valley	46.34	74	*e*P	P	08 41 00.6	-0.1
	comp=Z,15nm,0.9s,mb4.9						
HVU				*ep*P	pP	08 41 12.0	-0.9
TPAW	Teton Pass	46.42	71	*e*P	P	08 41 02.2	+0.9
	comp=Z,7.4nm,0.7s,mb4.7						
TPAW				*ep*P	pP	08 41 12.7	-0.7
P12A	McGill	46.46	78	⇑P	P	08 41 01.7	+0.1
	baz=46,SNR=11						
SSE	Sheshan	46.49	267	*e*P	P	08 41 01.6	-0.3
SSE				AMB	AMB		
SSE				AMB	AMB		
	comp=Z,130nm,5.7s						
LOHW	Long Hollow	46.55	71	*e*P	P	08 41 02.0	-0.3
	comp=Z,2.3nm,0.6s,mb4.3						
LOHW				*ep*P	pP	08 41 13.6	-0.8
ISA	Isabella	46.66	84	⇑P	P	08 41 02.7	-0.6
	baz=46						
SBC	Santa Barbara	46.69	87	⇊P	P	08 41 03.1	-0.3
	baz=47						
BGU	Big Grassy Mou	46.71	75	*e*P	P	08 41 04.3	+0.7
BGU				*ep*P	pP	08 41 14.6	-1.1
DAC	Darwin (Calif)	46.81	83	*e*P	P	08 41 04.5	+0.1
DAC				*e**PP	pP	08 41 15.8	-0.7
DAC				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
DAC	Darwin (Calif)	46.81	83	*e*P	P	08 41 04.5	+0.1
	comp=Z,8.4nm,1.0s,mb4.6						
DAC				*ep*P	pP	08 41 15.8	-0.7
FCC	Fort Churchill	46.87	45	*e*P	P	08 41 03.4	-1.5
FCC				*e**PP	pP	08 41 15.8	-1.2
FCC				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
FCC	Fort Churchill	46.87	45	*e*P	P	08 41 03.4	-1.4
	comp=Z,13nm,0.9s,mb4.9						
FCC				*ep*P	pP	08 41 15.8	-1.1
HWUT	Hardware Ranch	47.17	73	*e*P	P	08 41 06.3	-0.9
	comp=Z,2.7nm,0.7s,mb4.3						
HWUT				*ep*P	pP	08 41 18.5	-0.8
TPNV	Topopah Spring	47.22	82	*e*P	P	08 41 07.5	0.0
TPNV				*e**PP	pP	08 41 18.7	-1.0
TPNV				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.3						
TPNV	Topopah Spring	47.22	82	*e*P	P	08 41 07.5	0.0
	comp=Z,31nm,0.8s,mb5.3						
TPNV				*ep*P	pP	08 41 18.7	-0.9
DUG	Dugway	47.28	76	*e*P	P	08 41 08.1	0.0
DUG				*e**PP	pP	08 41 19.7	-0.5
DUG				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.5						
DUG	Dugway	47.28	76	*e*P	P	08 41 08.1	0.0
	comp=Z,61nm,1.0s,mb5.5						
DUG				*ep*P	pP	08 41 19.7	-0.5
NJ2	Nanjing	47.29	270	*e*P	P	08 41 10.3	+2.1
NJ2				AP	pP	08 41 21.1	+0.8
NJ2				PCP	PcP	08 42 40.5	+1.8
NJ2				S	**S**	**08 48 00.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,190nm,5.2s						
NJ2				LR	LR		
	comp=N,450nm,11.6s						
NJ2				LR	LR		
	comp=E,360nm,23.4s						
NJ2				LR	LR		
	comp=Z,170nm,22.6s						
BW06	Boulder Array	47.67	71	*e*P	P	08 41 10.2	-0.9
	comp=Z,14nm,0.7s,mb5.1						
BW06				*ep*P	pP	08 41 22.0	-1.2
PDAR	Pinedale Array	47.67	71	P	P	08 41 10.3	-0.7
	comp=Z,6.9nm,0.7s,mb4.8,baz=315,slow=4.0,SNR=50						
PDAR				pP	pP	08 41 22.3	-0.9
	comp=Z,17nm,0.7s,baz=303,slow=3.8,SNR=32						
PDAR				ScP	ScP	08 46 28.0	-2.7
	comp=Z,0.8nm,0.8s,baz=29,slow=3.4,SNR=5.1						
KRAR	Krasnoyarsk	47.77	311	⇑*e*P	P	08 41 11.6	-0.3
KRAR				pmax	pmax		
	comp=Z,22nm,0.4s,mb5.5						
NLU	North Lily Min	47.88	76	*e*P	P	08 41 09.9	-2.8
NLU				*ep*P	pP	08 41 23.6	-1.2
GSC	Goldstone	47.93	84	⇊P	P	08 41 12.9	-0.2
	baz=48,SNR=8.2						
DAU	Daniels Canyon	48.09	75	*e*P	P	08 41 14.8	+0.5
DAU				*e**PP	pP	08 41 26.7	+0.2
MPU	Maple Canyon	48.10	75	*e*P	P	08 41 14.8	+0.3
	comp=Z,15nm,0.8s,mb5.1						
MPU				*ep*P	pP	08 41 25.3	-1.3
ARUT	Antelope Range	48.41	79	*e*P	P	08 41 16.6	-0.2
ARUT				*e**PP	pP	08 41 28.5	-0.4
CCUT	Cedar City	48.60	79	*e*P	P	08 41 18.5	+0.2
CCUT				*ep*P	pP	08 41 30.2	-0.3
MSU	Marysvale	48.72	77	*e*P	P	08 41 19.4	+0.2
MSU				*e**PP	pP	08 41 31.5	+0.2
TMUT	Trail Mountain	48.81	76	*e*P	P	08 41 20.2	+0.3
TMUT				*ep*P	pP	08 41 31.8	-0.3
W12A	Cal Nev Ari	49.13	82	⇊P	P	08 41 22.2	-0.1
	baz=49						
PFO	Pinyon Flat Ob	49.27	85	⇑P	P	08 41 22.0	-1.3
	baz=49						
SRU	San Rafael	49.34	75	*e*P	P	08 41 23.9	0.0
SRU				*e**PP	pP	08 41 35.8	-0.3
SRU				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.4						
SRU	San Rafael	49.34	75	*e*P	P	08 41 23.9	0.0
	comp=Z,42nm,1.0s,mb5.4						
SRU				*ep*P	pP	08 41 35.8	-0.3
RWWY	Rawlins	49.71	71	*e*P	P	08 41 25.5	-1.3
	comp=Z,10.0nm,1.0s,mb4.8						
BC3	Big Chuckw Mtn	49.86	84	⇑P	P	08 41 27.1	-0.8
	baz=50						
X13A	Yucca	50.24	82	⇊P	P	08 41 30.0	-0.8
	baz=50						
W14A	Seligman	50.29	81	⇑P	P	08 41 31.1	-0.1
	baz=50,SNR=9.7						
Y12C	Blythe	50.37	84	⇑P	P	08 41 31.2	-0.6
	baz=50,SNR=5.5						
GLA	Glamis	50.65	84	⇑P	P	08 41 33.5	-0.3
	baz=50						
PV10	Paradox Valley	50.70	75	*e*P	P	08 41 34.4	+0.2
PV10				*ep*P	pP	08 41 46.1	-0.3
Y13A	Salome	50.76	83	⇊P	P	08 41 34.2	-0.5
	baz=51						
ULM	Lac du Bonnet	50.80	56	P	P	08 41 33.4	-1.6
	comp=Z,2.2nm,0.6s,mb4.3,baz=301,slow=6.4,SNR=8.4						
ULM				pP	pP	08 41 45.0	-2.2
	comp=Z,2.9nm,0.4s,baz=296,slow=7.0,SNR=7.6						
W15A	Williams	50.81	81	⇊P	P	08 41 34.9	-0.1
	baz=51						
X14A	Yava	50.90	82	⇑P	P	08 41 35.4	-0.4
	baz=51,SNR=9.0						
WHN	Wuhan	51.13	272	P	P	08 41 37.3	-0.2
PV01	Paradox Valley	51.14	75	*e*P	P	08 41 37.3	-0.3
PV01				*ep*P	pP	08 41 49.2	-0.6
Y14A	Wickenburg	51.19	82	⇊P	P	08 41 37.6	-0.2
	baz=51						
X15A	Humboldt	51.29	81	⇑P	P	08 41 38.8	+0.1
	baz=51,SNR=11						
Z14A	Wintersburg	51.60	83	⇑P	P	08 41 40.4	-0.7
	baz=52						
MVCO	Mesa Verde	51.78	76	*e*P	P	08 41 42.0	-0.3
MVCO				*ep*P	pP	08 41 53.9	-0.7
ISCO	Idaho Springs	51.84	72	*e*P	P	08 41 42.5	-0.3
ISCO				*e**PP	pP	08 41 53.6	-1.4
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
ISCO	Idaho Springs	51.84	72	*e*P	P	08 41 42.5	-0.2
	comp=Z,3.9nm,1.1s,mb4.2						
ISCO				*ep*P	pP	08 41 53.6	-1.4
XAN	Xi'an	52.12	279	P	P	08 41 44.6	-0.3
XAN				AP	pP	08 41 52.6	-4.5
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
115A	Sonoran Desert	52.49	83	⇊P	P	08 41 47.7	0.0
	baz=52						
ZAL	Zalesovo	52.76	312	P	P	08 41 48.5	-1.1
	comp=Z,2.2nm,0.3s,mb4.5,baz=49,slow=6.6,SNR=9.6						
ZAL				LR	LR	09 06 24.2	
	comp=Z,106nm,18.8s,MS3.9,baz=70,slow=38						
NVS	Novosibirsk	52.91	314	*i* P	P	08 41 46.6	-4.1
NVS				*i*		08 42 58.1	
NVS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
NVS				pmax	pmax		
	comp=N,2.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.3s						
116A	Eloy	52.92	83	⇑P	P	08 41 50.4	-0.3
	baz=53						
SUMG	Summit	53.40	13	*e*P	P	08 41 53.8	-0.5
	comp=E,24nm,1.2s,mb5.0						
TUC	Tucson	53.65	82	*e*P	P	08 41 56.1	-0.1
TUC				*e**PP	pP	08 42 07.7	-0.8
TUC				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
TUC	Tucson	53.65	82	*e*P	P	08 41 56.1	0.0
	comp=Z,9.4nm,1.2s,mb4.6						
TUC				*ep*P	pP	08 42 07.7	-0.7
LZH	Lanzhou	53.85	284	*e*P	P	08 41 58.2	+0.6
LZH				AP	pP	08 42 10.5	+0.6
LZH				XP	sP	08 42 15.5	+0.5
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GTA	Gaotai	54.06	290	*e*P	P	08 41 59.8	+0.7
GTA				AP	pP	08 42 11.6	+0.2
GTA				XP	sP	08 42 16.7	+0.2
GTA				PCP	PcP	08 43 03.7	+0.1
GTA				PP	PP	08 44 03.1	+2.2
GTA				PPP		08 45 12.3	
GTA				SCP	ScP	08 46 57.2	-1.0
GTA				PCS	PcS	08 47 02.4	-0.6
GTA				S	**S**	**08 49 30.5**	**-1.8**
GTA				XS	sS	08 49 52.6	-0.2
GTA				SCS	ScS	08 51 42.1	-2.7
GTA				SS	SS	08 53 12.2	-1.9
GTA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GTA				AMB	AMB		
	comp=Z,130nm,6.5s						
GTA				LR	LR		
	comp=N,120nm,13.7s,MS4.2						
GTA				LR	LR		
	comp=E,80nm,14.1s,MS4.2						
GTA				LR	LR		
	comp=Z,90nm,15.2s,MS4.0						
ECSD	EROS,Sioux Fal	54.47	62	*e*P	P	08 42 00.7	-1.5
ECSD				*ep*P	pP	08 42 11.7	-2.8
LAZ	Ladron	54.47	78	*e*P	P	08 42 03.0	+0.9
LAZ				*ep*P	pP	08 42 14.8	+0.3
EYMN	Ely	54.49	56	*e*P	P	08 42 00.4	-1.9
	comp=Z,5.5nm,0.9s,mb4.5						
EYMN				*ep*P	pP	08 42 12.4	-2.2
ANMO	Albuquerque	54.51	77	*e*P	P	08 42 02.6	+0.2
ANMO				*e**PP	pP	08 42 13.9	-0.9
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANMO	Albuquerque	54.51	77	*e*P	P	08 42 02.6	+0.1
	comp=Z,3.1nm,0.9s,mb4.3						
ANMO				*ep*P	pP	08 42 13.9	-0.9
LENM	Lemitar	54.73	78	*e*P	P	08 42 04.4	+0.4
LENM				*ep*P	pP	08 42 16.2	-0.1
LPM	Los Pinos Moun	54.84	77	*e*P	P	08 42 05.2	+0.3
LPM				*ep*P	pP	08 42 16.9	-0.3
BNM	Barren Site	54.95	78	*e*P	P	08 42 06.0	+0.4
BNM				*ep*P	pP	08 42 17.9	-0.1
MNTX	Cornudas Mount	57.40	79	*e*P	P	08 42 22.9	-0.2
	comp=Z,26nm,0.9s,mb5.3						
MNTX				*ep*P	pP	08 42 34.8	-0.7

MKAR ScP ScP 08 47 18.3 -0.2
comp=Z,0.3nm,0.5s,baz=138,slow=9.6,SNR=3.9
GYA Guiyang 58.79 274 P P 08 42 32.4 -0.4
GYA AP pP 08 42 44.8 -0.4
GYA XP sP 08 42 50.4 +0.2
GYA PP PP 08 44 44.0 +0.9
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=N,270nm,18.4s,MS4.6
GYA LR LR
comp=E,310nm,18.8s,MS4.6
GYA LR LR
comp=Z,300nm,18.6s,MS4.4
CHKZ Chkalovo 59.13 319 *e*P **P 08 42 34.8 -0.4**
CHKZ pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
CHKZ Chkalovo 59.13 319 *e*P **P 08 42 34.8 -0.4**
comp=Z,7.9nm,0.6s,mb4.9
WMOK Wichita Mounta 59.26 72 *e*P **P 08 42 34.4 -1.7**
WMOK *e**PP pP 08 42 47.5 -1.0
WMOK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WMOK Wichita Mounta 59.26 72 *e*P **P 08 42 34.4 -1.6**
comp=Z,3.9nm,0.9s,mb4.4
WMOK *e*pP pP 08 42 47.5 -1.1
BVA0 Borovoye Array 59.70 318 *i* P **P 08 42 39.3 +0.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BRVK Borovoye 59.72 318 *e*P **P 08 42 39.2 0.0**
BRVK pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
BRVK Borovoye 59.72 318 *e*P **P 08 42 39.1 -0.1**
comp=Z,6.2nm,0.5s,mb4.9
LTX Lajitas 60.10 80 *e*P **P 08 42 41.2 -0.7**
LTX *e**PP pP 08 42 53.6 -0.8
LTX pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
LTX Lajitas 60.10 80 *e*P **P 08 42 41.1 -0.7**
comp=Z,6.6nm,0.7s,mb4.8
LTX *e*pP pP 08 42 53.6 -0.8
ZRNK Zerenda 60.33 319 P **P 08 42 43.5 +0.1**
ZRNK Zerenda 60.33 319 *e*P **P 08 42 43.3 -0.1**
comp=Z,18nm,0.6s,mb5.3
SCHQ Schefferville 60.73 37 P **P 08 42 44.9 -1.3**
comp=Z,4.1nm,0.7s,mb4.7,baz=320,slow=6.1,SNR=8.2
ARU Arti 61.57 327 ‖ *i* P **P 08 42 52.2 +0.3**
ARU *e* 08 43 08.8
ARU *e* 08 43 31.8
ARU *e*S **S 08 51 11.3 +0.7**
ARU *e*SS SS 08 55 14.3 +2.1
ARU pmax pmax
comp=Z,18nm,0.7s,mb5.3
ARU Arti 61.57 327 *e*P **P 08 42 51.7 -0.2**
comp=Z,17nm,0.5s,mb5.4
JCT Junction City 61.65 76 *e*P **P 08 42 50.8 -1.5**
JCT *e**PP pP 08 43 03.2 -1.6
JCT pmax pmax
comp=Z,12nm,1.0s,mb5.0
JCT Junction City 61.65 76 *e*P **P 08 42 50.8 -1.5**
comp=Z,12nm,1.0s,mb5.0
JCT *e*pP pP 08 43 03.2 -1.6
KMI Kunming 62.19 276 P **P 08 42 57.6 +1.6**
KMI AMB AMB
comp=Z,10.0nm,0.5s,mb5.2
MIAR Mount Ida 62.45 68 *e*P pP 08 43 08.8 -1.5
MIAR pmax pmax
comp=Z,13nm,0.7s,mb5.2
MIAR Mount Ida 62.45 68 *e*pP pP 08 43 08.8 -1.5
comp=Z,13nm,0.7s
JOF Joensuu 62.95 344 *e*p **P 08 42 59.5 -1.5**
comp=Z,4.2nm,0.6s,mb4.8
JOF Joensuu 62.95 344 *e*P **P 08 42 59.5 -1.5**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
KAF Kangasniemi 64.51 346 *e*p **P 08 43 09.7 -1.6**
comp=Z,3.3nm,0.4s,mb4.7
KAF Kangasniemi 64.51 346 *e*P **P 08 43 09.7 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
WVT Waverly 64.58 63 *e*P **P 08 43 09.9 -1.9**
WVT *e**PP pP 08 43 22.6 -1.8
WVT pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
WVT Waverly 64.58 63 *e*P **P 08 43 09.9 -1.9**
comp=Z,3.7nm,0.8s,mb4.5
WVT *e*pP pP 08 43 22.6 -1.8
OXF Oxford 64.86 66 *e*P **P 08 43 11.9 -1.8**
OXF *e**PP pP 08 43 24.4 -1.8
OXF pmax pmax
comp=Z,20nm,0.6s,mb5.3
OXF Oxford 64.86 66 *e*P **P 08 43 11.9 -1.7**
comp=Z,20nm,0.6s,mb5.3
OXF *e*pP pP 08 43 24.4 -1.8
FINES FINESS Array B 65.18 346 P **P 08 43 14.1 -1.6**
comp=Z,1.9nm,0.6s,mb4.3,baz=29,slow=9.4,SNR=11
PLAL Pickwick Lake 65.28 65 *e*P **P 08 43 14.2 -2.2**
comp=Z,3.5nm,0.8s,mb4.4
PLAL *e*pP pP 08 43 26.6 -2.4
AAK Ala-Archa 65.53 308*c* *i*P **P 08 43 17.4 -0.5**
AAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
AAK Ala-Archa 65.53 308 *e*P **P 08 43 17.1 -0.8**
comp=Z,5.3nm,0.6s,mb4.8
LSA Lhasa 65.92 288 *e*P **P 08 43 22.0 +1.5**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
LSA Lhasa 65.92 288 *e*P **P 08 43 21.9 +1.5**
comp=Z,5.6nm,0.6s,mb4.8
AB31 Akbulak array 66.80 321 *i* P **P 08 43 26.5 +0.4**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
KK31 Karatay Array 67.08 311 *i* P **P 08 43 27.8 -0.1**
KK31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
KKAR Karatay Array 67.08 311 *i* P **P 08 43 27.8 -0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
NB2 NORSAR Subarra 67.23 353 P **P 08 43 27.2 -1.7**
comp=Z,0.9nm,0.5s,mb4.1,baz=6.1,slow=6.2
NB2 NORSAR Subarra 67.23 353 P **P 08 43 27.2 -1.7**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
NOA NORSAR Array B 67.23 353 P **P 08 43 27.7 -1.2**
comp=Z,1.9nm,0.7s,mb4.2,baz=9.0,slow=6.3,SNR=7.0
NOA NORSAR Array B 67.23 353 P **P 08 43 27.7 -1.2**
OBN Obninsk 69.08 338‖ *e*P **P 08 43 39.7 -0.7**
OBN pmax pmax
comp=Z,13nm,0.5s,mb5.1
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
GUN Gumba 70.35 290 *e*P **P 08 43 49.3 +1.1**
comp=Z,86nm,0.5s
JIRN Jiri 70.36 290 *e*P **P 08 43 49.4 +1.1**
comp=Z,81nm,0.7s,mb5.7
KKN Kakani 70.79 291 *e*P **P 08 43 51.9 +1.0**
comp=Z,48nm,0.6s,mb5.6
KKN Kakani 70.79 291 *e*P **P 08 43 51.9 +1.0**
KKN pmax pmax
comp=Z,48nm,0.6s,mb5.6
PKI Pulchoki 70.88 290 *e*P **P 08 43 52.1 +0.6**
comp=Z,46nm,0.7s,mb5.5
PKI Pulchoki 70.88 290 *e*P **P 08 43 52.1 +0.6**
PKI pmax pmax
comp=Z,46nm,0.7s,mb5.5
GKN Gorkha 71.00 291 *e*P **P 08 43 52.6 +0.4**
comp=Z,49nm,0.5s,mb5.7
DMN Daman 71.03 291 *e*P **P 08 43 53.3 +0.9**
KOLN Koldanda 71.78 292 *e*P **P 08 43 57.2 +0.3**
comp=Z,38nm,0.9s,mb5.3
AKASG Malin Array Be 74.82 340 P **P 08 44 13.8 -1.0**
comp=Z,1.1nm,0.3s,mb4.2,baz=21,slow=5.7,SNR=7.6
AKASG sP sP 08 44 31.5 -1.1
comp=Z,2.4nm,0.5s,baz=20,slow=6.0,SNR=4.5
AKASG Malin Array Be 74.82 340 P **P 08 44 13.8 -1.0**
AKASG sP sP 08 44 31.5 -1.1
CTA Charters Tower 76.89 211 P **P 08 44 25.4 -1.3**
comp=Z,5.8nm,0.8s,mb4.5,baz=357,slow=8.3,SNR=5.4
KIV Kislovodsk 77.49 329‖ *e*P **P 08 44 30.8 +0.8**
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KHC Kasperske Hory 78.82 350‖ *e*P **P 08 44 39.5 +2.1**
GERES GERESS Array B 79.09 350 P **P 08 44 38.1 -0.7**
comp=Z,0.3nm,0.4s,baz=34,slow=11,SNR=2.4
FLN La Foliniere 79.98 360 *e*P **P 08 44 42.4 -1.3**
LDF La Druitiere 80.14 359 *e*P **P 08 44 43.3 -1.3**
comp=Z,6.0nm,0.7s,mb4.3
LDF La Druitiere 80.14 359 *e*P **P 08 44 43.3 -1.3**
LDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LDF La Druitiere 80.14 359 *e*P **P 08 44 43.3 -1.3**
comp=Z,3.0nm,0.7s,mb4.3
GNI Garni 80.20 326‖ *e*P **P 08 44 45.4 +0.5**
GNI pmax pmax
comp=Z,9.0nm,1.3s
GRR Gorron 80.36 360 *e*P **P 08 44 44.4 -1.3**
comp=Z,5.3nm,0.6s,mb4.4
GRR Gorron 80.36 360 *e*P **P 08 44 44.4 -1.3**
GRR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
GRR Gorron 80.36 360 *e*P **P 08 44 44.4 -1.3**
comp=Z,2.7nm,0.6s,mb4.3
ROSF Rostrenen 80.39 1 *e*P **P 08 44 44.8 -1.1**
comp=Z,16nm,1.1s,mb4.5
ROSF Rostrenen 80.39 1 *e*P **P 08 44 44.8 -1.1**
ROSF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ROSF Rostrenen 80.39 1 *e*P **P 08 44 44.8 -1.1**
comp=Z,7.8nm,1.1s,mb4.5
SGMF Saint Gilles 80.48 1 *e*P **P 08 44 45.1 -1.3**
comp=Z,8.9nm,0.7s,mb4.5
SGMF Saint Gilles 80.48 1 *e*P **P 08 44 45.1 -1.3**
SGMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SGMF Saint Gilles 80.48 1 *e*P **P 08 44 45.1 -1.3**
comp=Z,4.4nm,0.7s,mb4.5
WRA Warramunga Arr 81.17 222 P **P 08 44 48.5 -1.6**
comp=Z,2.8nm,0.8s,mb4.2,baz=34,slow=6.0,SNR=12
PSI Prapat 81.51 264 P **P 08 44 51.5 -0.3**
comp=Z,11nm,0.8s,mb4.8,baz=20,slow=3.8,SNR=7.6
MFF Saint Martin d 82.14 359 *e*P **P 08 44 53.8 -1.4**
HYB Hyderabad 82.70 289 *i* P **P 08 44 58.0 -0.1**
HYB Hyderabad 82.70 289 *e*P **P 08 44 58.0 -0.1**
LPL La Plagne 82.98 354 *e*P **P 08 44 58.5 -1.1**
LPG La Plagne 83.00 354 *e*P **P 08 44 58.7 -1.0**
FITZ Fitzroy Crossi 83.45 230 P **P 08 45 01.4 -0.6**
comp=Z,4.5nm,0.8s,mb4.5,baz=104,slow=12,SNR=6.0
MBDF Montbardon 83.77 354 *e*P **P 08 45 02.2 -1.4**
MALT Malatya 83.95 330 *e*P **P 08 45 04.8 +0.3**
MALT pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
MALT Malatya 83.95 330 *e*P **P 08 45 04.8 +0.3**
comp=Z,5.2nm,1.1s,mb4.6
BRTR Keskin Array B 84.06 334 P **P 08 45 04.3 -0.7**
comp=Z,1.5nm,0.7s,mb4.2,baz=53,slow=2.1,SNR=8.9
ASAR Alice Springs 84.67 221 P **P 08 45 06.8 -1.4**
comp=Z,2.2nm,0.8s,mb4.3,baz=32,slow=5.2,SNR=14
MIB Mutribah 88.38 319 *e*P **P 08 45 26.0 -0.3**
MIB AMb AMB 08 45 26.8
comp=Z,42nm,0.8s,mb5.7
APE Apeiranthos 88.61 339‖ *e*P **P 08 45 24.5 -2.9**
NAY Al-Naaiem 88.91 319 *e*P **P 08 45 28.2 -0.6**
NAY AMb AMB 08 45 29.1
comp=Z,14nm,0.8s,mb5.4
RDF Al-Radifah 89.07 319 *e*P **P 08 45 29.1 -0.5**
RDF AMb AMB 08 45 30.1
comp=Z,41nm,0.6s
QRN Al-Qurain 89.08 318 *e*P **P 08 45 28.7 -0.9**
STKA Stephens Creek 89.34 211 P **P 08 45 28.0 -2.9**
comp=Z,2.7nm,0.8s,mb4.6,baz=1.0,slow=8.5,SNR=8.7
STKA Stephens Creek 89.34 211 *e*P **P 08 45 27.7 -3.1**
CPD Cerro la Pandu 90.73 59 *e*P **P 08 45 37.1 -0.2**
TORD Torodi Ar. Bea 115.44 357 PKP PKPdf 08 51 14.9 -1.2
comp=Z,0.8nm,0.5s,baz=349,slow=1.7,SNR=13
TORD pPKP pPKPdf 08 51 28.5 -1.1
comp=Z,0.4nm,0.5s,baz=340,slow=2.4,SNR=2.7
DBIC Dimbokro 121.84 4 PKP PKPdf 08 51 27.4 -1.0
comp=Z,2.5nm,0.9s,baz=27,slow=4.6,SNR=5.4
PLCA Paso Flores 132.50 105 PKP PKPdf 08 51 48.0 -0.7
comp=Z,3.1nm,1.0s,baz=221,slow=1.3,SNR=5.7
MAW Mawson 145.76 218 PKPbc PKPbc 08 52 10.9 -2.3
comp=Z,4.4nm,0.6s,baz=57,slow=4.9,SNR=6.8
MAW Mawson 145.76 218 PKP2 PKPab 08 52 10.9 -2.8
MAW pmax pmax
comp=Z,4.0nm,0.6s
LBTB Lobatse 146.46 312 *e*PKP2 PKPab 08 52 15.1 -1.2
BOSA Boshof 149.66 309 *e*PKPbc PKPbc 08 52 23.9 0.0
comp=Z,7.6nm,0.6s,baz=40,slow=1.8,SNR=25
BOSA Boshof 149.66 309 *e*PKPbc PKPbc 08 52 23.4 -0.5
VNA3 Neumayer Olymp 159.96 172 *e*PKPdf PKPdf 08 52 29.7 -3.6
VNA2 Neumayer--Watz 160.44 174 *e*PKPdf PKPdf 08 52 30.4 -3.5

IDC 05 08:36:34.6±2.0, 1120S×12061E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.7/15, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=154.9km s-min=16.8km az=51.0, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.41**	**145**	*e*P	Pn	08 38 38.0	+0.3
FITZ	6.0nm,0.8s			*e*S	Sn	08 40 12.8	-0.5
FITZ	**Fitzroy Crossi**	**8.41**	**145**	Pn	Pn	08 38 38.3	+0.7
FITZ	0.8nm,0.3s,baz=338,slow=12,SNR=21			Sn	Sn	08 40 12.9	-0.4
WRA	**Warramunga Arr**	**15.81**	**125**	Pn	Pn	08 40 17.0	-1.6
WRA	0.7nm,0.3s,baz=162,slow=22,SNR=7.1			Sn	Sn	08 43 07.0	-7.5
ASAR	**Alice Springs**	**17.71**	**136**	P	Pn	08 40 44.1	+1.4
ASAR	0.2nm,0.3s,baz=316,slow=13,SNR=20			S	Sn	08 44 02.3	+1.7
MKAR	**Makanchi Array**	**67.13**	**332**	P	P	08 47 30.1	+0.1
	0.2nm,0.5s,baz=142,slow=7.3,SNR=2.7						

LDG ***05*** *08:45:44.3±0.1, 4304N×073W, h15km, Md2.4/2, Ml2.1/2, Error ellipse: s-maj=3.2km s-min=1.2km az=9.0*
STR ***05*** *08:45:44.3±0.3, 4301N×074W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 05 08:45:45.1±0.2, 4306N×072W, h10km±1km, mbLg1.7/12, Error ellipse: s-maj=3.0km s-min=1.5km az=15.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.03**	**20**	Pg	Pg	08 45 47.4	+0.5
ATE				Sg	Sg	08 45 49.2	+0.9
ATE	**Arette**	**0.03**	**20**	Pg	Pg	08 45 47.4	+0.5
ATE				Lg		08 45 49.1	
ETSF	**Etsaut**	**0.19**	**144**	*e*Pg	Pg	08 45 49.0	-0.2
ETSF				*e*Sg	Sg	08 45 51.6	-0.4
ETSF	**Etsaut**	**0.19**	**144**	Pg	Pg	08 45 49.0	-0.2
ETSF	174nm,0.2s			Lg		08 45 51.6	
LARF	**Larrau**	**0.20**	**265**	Pg	Pg	08 45 49.1	-0.2
LARF	87nm,0.2s			Sg	Sg	08 45 52.6	+0.5
LARF	**Larrau**	**0.20**	**265**	Pg	Pg	08 45 49.1	-0.2
LARF				Lg		08 45 52.4	
ORDF	**Ordiarp**	**0.23**	**314**	Pg	Pg	08 45 49.4	-0.3
ORDF				Sg	Sg	08 45 52.7	-0.2
ORDF	**Ordiarp**	**0.23**	**314**	Pg	Pg	08 45 49.5	-0.2
ORDF				Lg		08 45 53.1	
REYF	**Montagne du Re**	**0.24**	**87**	Pg	Pg	08 45 49.9	0.0
REYF				Sg	Sg	08 45 53.3	+0.1
REYF	**Montagne du Re**	**0.24**	**87**	Pg	Pg	08 45 49.9	0.0
REYF				Lg		08 45 53.3	
FDAF	**Les Forges d'A**	**0.26**	**155**	Pg	Pg	08 45 49.3	-1.1
FDAF				Lg		08 45 53.8	
SJPF	**Ste Jean**	**0.38**	**279**	*e*Pg	Pg	08 45 51.8	-0.7
SJPF				*e*Sg	Sg	08 45 57.2	-0.4
SJPF	**Ste Jean**	**0.38**	**279**	Pg	Pg	08 45 51.8	-0.7
SJPF	39nm,0.3s			Lg		08 45 57.2	
OSSF	**Osses**	**0.45**	**297**	Pg	Pg	08 45 52.6	-1.2
OSSF				Sg	Sg	08 45 58.2	-1.5
OSSF	**Osses**	**0.45**	**297**	Pg	Pg	08 45 52.8	-1.0
OSSF	20nm,0.3s			Lg		08 45 59.8	
IPRE	**Itoiz**	**0.53**	**242**	Pg	Pg	08 45 55.4	0.0
IPRE	1.2nm,0.1s,SNR=5.9			Lg		08 46 02.8	
VIEF	**Viey**	**0.57**	**107**	Pg	Pg	08 45 55.3	-0.8
VIEF	8.8nm,0.2s,SNR=18			Sg	Sg	08 46 02.5	-1.1
VIEF	**Viey**	**0.57**	**107**	Pg	Pg	08 45 55.4	-0.7
VIEF				Lg		08 46 02.5	
LABF	**Labassere**	**0.58**	**91**	Pg	Pg	08 45 55.8	-0.5
LABF				Sg	Sg	08 46 04.2	+0.3
LABF	**Labassere**	**0.58**	**91**	Pg	Pg	08 45 55.9	-0.3
LABF				Lg		08 46 03.7	
EALK	**Alkurruntz**	**0.60**	**286**	Pg	Pg	08 45 55.8	-1.0
EALK	2.9nm,0.1s,SNR=37			Lg		08 46 03.5	
ELIZ	**Elizondo**	**0.61**	**281**	Pg	Pg	08 45 55.9	-0.9
ELIZ	16nm,0.2s,SNR=15 2.4nm,0.1s,SNR=20			Lg		08 46 04.5	
IUSE	**Utxeti**	**0.62**	**260**	Pg	Pg	08 45 56.4	-0.7
IUSE	12nm,0.2s,SNR=19 3.0nm,0.1s,SNR=7.9			Lg		08 46 05.2	
IUNC	**Unciti**	**0.65**	**243**	Pg	Pg	08 45 57.9	+0.2
IUNC	4.1nm,0.1s,SNR=7.9 1.7nm,0.1s,SNR=7.9			Lg		08 46 07.0	
EARA	**Aranguren**	**0.69**	**246**	Lg		08 46 08.6	
EBIE	**Bielsa**	**0.73**	**120**	Pg	Pg	08 45 58.3	-0.9
EBIE	11nm,0.2s,SNR=7.9 2.9nm,0.1s,SNR=16			Lg		08 46 07.8	
EPF	**Esparros**	**0.77**	**91**	*e*Pg	Pg	08 45 59.5	-0.5
EPF	4.0nm,0.1s,SNR=11			*e*Sg	Sg	08 46 09.5	-0.6
EPF	**Esparros**	**0.77**	**91**	Pg	Pg	08 45 59.5	-0.5
EPF	5.9nm,0.2s			Lg		08 46 09.5	
RESF	**Ens**	**0.81**	**107**	Lg		08 46 10.6	
MELF	**Melles**	**1.10**	**99**	Pg	Pg	08 46 05.1	-1.1
MELF				Lg		08 46 21.2	
EGRA	**Graus**	**1.15**	**138**	Pg	Pg	08 46 07.2	0.0
EGRA	0.9nm,0.1s,SNR=7.3			Lg		08 46 23.2	
ESAC	**San Caprasio**	**1.34**	**172**	Pg	Pg	08 46 11.2	+0.4
ESAC	2.5nm,0.2s,SNR=7.9 3.2nm,0.2s,SNR=9.4			Lg		08 46 28.5	
SALF	**Salau**	**1.43**	**101**	Pg	Pg	08 46 11.7	-0.8
SALF	**Salau**	**1.43**	**101**	Pg	Pg	08 46 11.7	-0.9
SALF	26nm,0.2s,SNR=7.9			Lg		08 46 31.2	
LFF	**La Frestale**	**2.16**	**29**	*e*Sg	Sg	08 46 53.3	-1.1
LFF	**La Frestale**	**2.16**	**29**	Lg		08 46 53.3	
EPOB	**Poblet**	**2.16**	**141**	Pg	Pg	08 46 24.6	-1.9
EPOB	5.0nm,0.3s 2.5nm,0.3s 0.6nm,0.2s,SNR=7.9			Lg		08 46 53.1	
MTLF	**Montolieu**	**2.16**	**81**	*e*Pg	Pg	08 46 24.7	-1.8
MTLF	2.2nm,0.2s,SNR=7.9			*e*Sg	Sg	08 46 52.9	-1.7
MTLF	**Montolieu**	**2.16**	**81**	Pg	Pg	08 46 24.7	-1.8
MTLF	1.6nm,0.3s			Lg		08 46 52.9	
ERTA	**Horta de San J**	**2.24**	**159**	Lg		08 46 55.7	
EMOS	**Mosqueruela**	**2.70**	**176**	Lg		08 47 07.0	
	2.3nm,0.1s,SNR=7.9 1.1nm,0.2s,SNR=7.9						

IDC ***05*** *08:54:38.5±1.5, 2069S×17409W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.2/16, mbtmp4.1/8, MS3.8/5, Ms1 3.8/5, ms1mx3.3/28, Error ellipse: s-maj=73.2km s-min=20.5km az=151.0*
ISCJB ***05*** *08:54:42.7±0.6, 206S±01×174.3W±0.1, h33km, mb4.3/16, MS3.8/4, Error ellipse: s-maj=20.4km s-min=11.0km az=97.8*
NEIC ***05*** *08:54:43.2±0.5, 2038S×17424W, mb4.6/10, Error ellipse: s-maj=19.6km s-min=9.4km az=134.0*
ISC 05 08:54:44.7±0.6, 205S±01×1742W±01, h35km, (h27km±2.7km:pP-P), n38, σ0:90/28, mb4.3/16, MS3.8/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.96**	**20**	Pn	Pn	**08 56 18.9**	**-5.2**
AFI	19nm,0.3s,baz=307,slow=1.4,SNR=25			Sn	Sn	**08 57 31.8**	**-10**
AFI	13nm,0.3s,baz=282,slow=20,SNR=3.4			T		09 03 27.4	
AFI	**Afiamalu**	**6.96**	**20**	Pn	Pn	**08 56 18.9**	**-5.2**
AFI	4.3nm,0.3s,baz=339,slow=21,SNR=3.9			Sn	Sn	**08 57 31.8**	**-10**
RAO	**Raoul Island**	**9.34**	**200**	*e*Pn	Pn	**08 56 56.7**	**-0.1**
RAR	**Rarotonga**	**13.53**	**96**	Pn	Pn	**08 57 42.3**	**-12**
	12nm,0.3s,baz=241,slow=3.8,SNR=21						
DZM	**Mont Dzumac**	**18.09**	**262**	P	Pn	**08 58 57.7**	**+4.6**
DZM	0.6nm,0.3s,baz=90,slow=14,SNR=4.3			LR	LR	09 04 03.5	
TBI	**Tubuai**	**23.14**	**102**	*e*LQ		09 04 06.1	
TBI	comp=Z,132nm,18.1s,baz=201,slow=31 1μm,26.5s			*e*LR	LR	09 04 59.3	
PPT	**Papeete**	**23.47**	**87**	*e*LQ		09 03 57.4	
PPT	328nm,27.5s			*e*LR	LR	09 05 08.4	
PPT	**Papeete**	**23.47**	**87**	LR	LR	09 05 55.0	
	370nm,25.8s comp=Z,249nm,20.0s,MS3.7,baz=275,slow=29						
HNR	**Honiara**	**27.23**	**290**	LR	LR	09 09 41.1	
	comp=Z,131nm,18.6s,MS3.5,baz=359,slow=33						
CTA	**Charters Tower**	**37.01**	**264**	P	**P**	**09 01 51.8**	**+0.9**
	2.3nm,0.6s,mb4.2,baz=108,slow=3.2,SNR=3.4						
CTAO	**Charters Tower**	**37.01**	**264**	*e*P	**P**	**09 01 52.0**	**+1.0**
	2.6nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**40.99**	**245**	*e*P	**P**	**09 02 22.0**	**-2.2**
	2.1nm,1.1s,mb3.7						
STKA	**Stephens Creek**	**40.99**	**245**	P	**P**	**09 02 21.9**	**-2.3**
	0.5nm,0.5s,mb3.5,baz=70,slow=11,SNR=5.1						
AS31	**Alice Springs**	**47.96**	**256**	*e*P	**P**	**09 03 19.8**	**-0.1**
ASAR	**Alice Springs**	**47.96**	**256**	P	**P**	**09 03 19.9**	**+0.1**
	2.0nm,0.7s,mb4.2,baz=96,slow=8.0,SNR=26						
ASPA	**Alice Springs**	**47.97**	**256**	*e*P	**P**	**09 03 19.8**	**-0.1**
WB2	**Warramunga Arr**	**48.09**	**261**	*e*P	**P**	**09 03 21.1**	**+0.2**
WRAB	**Tennant Creek**	**48.10**	**261**	*e*P	**P**	**09 03 21.3**	**+0.4**
	9.4nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**48.11**	**261**	P	**P**	**09 03 20.6**	**-0.4**
	0.8nm,0.3s,mb4.2,baz=96,slow=7.7,SNR=48						
FORT	**Forrest**	**52.55**	**246**	*e*P	**P**	**09 03 54.2**	**-0.4**
	7.0nm,0.7s,mb4.7						
GUMO	**Guam**	**52.58**	**307**	LR	LR	09 24 14.8	
	comp=Z,59nm,19.3s,MS3.6,baz=49,slow=34						
FITZ	**Fitzroy Crossi**	**56.53**	**261**	P	**P**	**09 04 24.9**	**+1.4**
	2.5nm,0.8s,mb4.3,baz=90,slow=5.1,SNR=6.2						
KLBR	**Kellerberrin**	**61.26**	**244**	*e*P	**P**	**09 04 56.9**	**+0.6**
	7.8nm,0.7s,mb5.0						
QSPA	**South Pole Qui**	**69.57**	**180**	*e*P	**P**	**09 05 49.8**	**-0.3**
	5.4nm,1.1s,mb4.4						
MJAR	**Matsushiro Arr**	**72.36**	**321**	P	**P**	**09 06 06.4**	**-0.6**
	0.8nm,0.6s,mb3.9,baz=153,slow=8.2,SNR=3.9						
NVAR	**Mina Array Bea**	**78.63**	**42**	P	**P**	**09 06 44.1**	**+1.2**
	2.9nm,1.0s,mb4.2,baz=224,slow=9.8						
MNV	**Mina**	**78.72**	**42**	*e*P	**P**	**09 06 44.0**	**+0.6**
	5.4nm,1.2s,mb4.3						
ANMO	**Albuquerque**	**84.67**	**50**	*e*P	**P**	**09 07 15.6**	**+0.8**
	1.0nm,0.9s,mb4.0						
ANMO				*e*pP	pP	09 07 24.8	-1.1
PDAR	**Pinedale Array**	**86.56**	**42**	P	**P**	**09 07 23.9**	**-0.4**
	0.9nm,0.8s,mb4.0,baz=215,slow=1.8,SNR=6.4						
PLCA	**Paso Flores**	**86.68**	**132**	LR	LR	09 37 39.2	
	comp=Z,144nm,20.6s,MS4.4,baz=89,slow=30						
COLA	**College**	**87.49**	**11**	*e*P	**P**	**09 07 28.4**	**-0.3**
	6.7nm,1.0s,mb4.8						
COLA				*e*pP	pP	09 07 35.6	-4.2
COLA				*e*sP	sP	09 07 41.4	-2.4
INK	**Inuvik**	**93.38**	**14**	*e*P	**P**	**09 07 54.6**	**-1.6**
	2.3nm,1.1s,mb4.5						
INK				*e*pP	pP	09 08 04.1	-3.3
MKAR	**Makanchi Array**	**113.78**	**313**	PKP	PKiKP	09 13 20.0	+0.4
	0.4nm,0.8s,baz=79,slow=2.6,SNR=4.7						
AKASG	**Malin Array Be**	**144.65**	**334**	PKP	PKPdf	09 14 17.3	-0.2
	1.6nm,0.6s,baz=42,slow=4.2,SNR=13						
CLL	**Collm**	**148.73**	**351**	*e*PKPbc	PKPbc	09 14 28.0	-0.3
	comp=Z,5.0nm,1.0s						
CLL				*e*(sPKPbc)		09 14 41.0	
BRG	**Berggiesshubel**	**149.01**	**350**	*e*P	PKPab	09 14 35.0	+1.9

comp=Z,3.1nm,1.0s
BRTR **Keskin Array B** **149.41 315** PKPbc PKPbc 09 14 29.1 -0.9
comp=Z,0.9nm,0.7s,baz=119,slow=3.6,SNR=4.0
KHC **Kasperske Hory** **150.76 349** PKPbc PKPbc 09 14 34.5 +1.3

GUC 05 08:57:07.5±0.4, 3470S×7253W, h15km±100km, MD3.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.19**	**52**	*i* P	Pn	08 57 26.8	-2.8
LNV				*i* S	Sb	08 57 41.3	-3.6
CACH	**El Canelo**	**1.70**	**70**	⇑*i* P	Pn	08 57 35.5	-1.1
CACH				*i* S	Sn	08 57 56.9	-1.2
CHCH	**Chadas Angostu**	**1.73**	**64**	*e* P	Pn	08 57 35.7	-1.3
CHCH				*i* S	Sn	08 57 57.0	-1.9
CICH	**Cipreses**	**1.79**	**78**	⇑*i* P	Pn	08 57 36.5	-1.3
CICH				*i* S	Sn	08 57 58.9	-1.3

*ISCJB **05** 09:00:18.8±2.6, 368N±02×703E±02, h228km±33km, Error ellipse: s-maj=30.0km s-min=23.7km az=57.4*
*NNC **05** 09:00:19.5±6.0, 3684N×7027E, h203km±37km, mb2.6, mpv3.4, Error ellipse: s-maj=63.1km s-min=35.3km az=170.0*

ISC 05 09:00:20.6±2.8, 369N±02×703E±02, h217km±30km, n11, σ0§81/13, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.20**	**1**	P	**Pn**	**09 01 50.5**	**0.0**
	1.9nm,0.3s,baz=191,slow=13,SNR=105						
KK31				⇓S	**S**	**09 03 02.7**	**+0.6**
	2.9nm,0.6s,baz=189,slow=24,SNR=4.3						
UCH	**Uchtor**	**6.23**	**30**	P	**Pn**	**09 01 51.3**	**+0.3**
	SNR=27						
EKS2	**Erkin-Say**	**6.34**	**24**	P	**Pn**	**09 01 52.9**	**+0.5**
	SNR=14						
KZA	**Kyzart**	**6.42**	**35**	P	**Pn**	**09 01 53.5**	**0.0**
	SNR=26						
AAK	**Ala-Archa**	**6.57**	**28**	P	**Pn**	**09 01 55.7**	**+0.4**
	SNR=9.5						
ULHL	**Ulahol**	**7.03**	**39**	P	**Pn**	**09 02 01.3**	**+0.1**
	SNR=7.7						
TKM2	**Tokmak 2**	**7.25**	**32**	P	**Pn**	**09 02 00.5**	**-3.6**
	SNR=7.1						
TKM2	**Tokmak 2**	**7.25**	**32**	⇑P	**Pn**	**09 02 03.1**	**-1.0**
	1.0nm,0.7s						
TKM2				⇑S	**S**	**09 03 26.0**	**-0.8**
	0.5nm,0.7s						
AB31	**Akbulak array**	**14.47**	**332**	⇑P	**Pn**	**09 03 34.4**	**-1.2**
	0.4nm,0.3s,baz=146,slow=12,SNR=13						
VOSK	**Vostochnaya**	**15.83**	**1**	⇑P	**Pn**	**09 03 51.1**	**-0.8**
	3.0nm,1.4s						
ZRNK	**Zerenda**	**16.08**	**357**	⇑P	**P**	**09 03 55.9**	**+1.7**
	1.7nm,0.5s						

IDC 05 09:01:37.2±1.6, 706S×15230E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/14, mbtmp4.0/5, ML2.6/1, Error ellipse: s-maj=52.8km s-min=28.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.60**	**245**	Pn	Pn	09 03 02.5	+0.8
	1.1nm,0.3s,baz=9.5,slow=6.1,SNR=3.6						
PMG				Sn	Sn	09 04 07.3	+0.5
	3.0nm,0.3s,baz=190,slow=17,SNR=3.6						
KAKA	**Kakadu**	**20.35**	**252**	*e* P	P	09 06 21.9	+6.8
	20nm,0.5s						
WB2	**Warramunga Arr**	**21.62**	**232**	*e* P	P	09 06 30.7	+1.9
WRA	**Warramunga Arr**	**21.63**	**232**	P	P	09 06 29.6	+0.6
	2.8nm,0.6s,baz=57,slow=9.9,SNR=23						
ASAR	**Alice Springs**	**24.18**	**225**	P	P	09 06 56.5	+1.3
	1.9nm,0.5s,baz=57,slow=9.3,SNR=35						
STKA	**Stephens Creek**	**26.64**	**201**	*e* P	P	09 07 17.3	-0.2
	5.3nm,1.0s						
STKA	**Stephens Creek**	**26.64**	**201**	P	P	09 07 17.2	-0.3
	3.5nm,0.9s,baz=4.2,slow=9.1,SNR=7.4						
FITZ	**Fitzroy Crossi**	**28.20**	**245**	*e* P	P	09 07 31.0	-0.5
	8.8nm,1.8s						
FITZ				*e*		09 07 39.8	
FITZ	**Fitzroy Crossi**	**28.20**	**245**	P	P	09 07 31.1	-0.4
	2.0nm,0.7s,baz=55,slow=12,SNR=6.6						
GERES	**GERESS Array B**	**125.69**	**327**	PKP	PKPdf	09 20 42.0	+1.3
	0.5nm,0.7s,baz=125,slow=8.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**150.45**	**284**	PKPbc	PKPbc	09 21 30.0	-0.7
	1.4nm,0.7s,baz=63,slow=2.6,SNR=10						
TORD				PKPab	PKPab	09 21 38.9	+1.7
	1.3nm,0.7s,baz=73,slow=2.6,SNR=6.4						

IDC 05 09:21:21.3±4.7, 2110S×17586W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/15, mbtmp4.0/4, MS3.6/3, Ms1 3.6/3, ms1mx3.1/27, Error ellipse: s-maj=297.9km s-min=26.4km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.14**	**29**	LR	LR	09 25 48.6	
	comp=Z,140nm,20.4s,baz=210,slow=33						
TBI	**Tubuai**	**24.53**	**100**	*e* LR	LR	09 32 11.5	
	108nm,33.5s						
PPT	**Papeete**	**25.03**	**86**	*e* LR	LR	09 32 25.2	
	152nm,27.0s						
CTA	**Charters Tower**	**35.43**	**265**	P	P	09 28 20.6	+1.5
	2.6nm,0.5s,baz=90,slow=3.0,SNR=5.8						
CTA				LR	LR	09 41 05.1	
	comp=Z,104nm,19.9s,baz=83,slow=33						
ASAR	**Alice Springs**	**46.34**	**257**	P	P	09 29 49.5	+0.5
	1.7nm,0.7s,baz=98,slow=8.2,SNR=23						
WRA	**Warramunga Arr**	**46.51**	**262**	P	P	09 29 49.7	-0.6
	1.2nm,0.6s,baz=97,slow=5.1,SNR=14						
YBH	**Yreka Blue Hor**	**79.52**	**38**	LR	LR	10 02 41.0	
	comp=Z,78nm,21.1s,baz=160,slow=31						
NVAR	**Mina Array Bea**	**80.10**	**42**	P	P	09 33 33.8	+0.8
	0.3nm,0.5s,baz=222,slow=9.3,SNR=3.0						
CLL	**Collm**	**149.06**	**349**	*e* P	PKPdf	09 41 10.0	+2.7
	comp=Z,10.0nm,1.7s						
CLL				*i* x	x	09 41 17.0	
BRG	**Berggiesshubel**	**149.30**	**348**	*e* P	PKPdf	09 41 11.0	+3.3
	comp=Z,1.1nm,0.6s						
BRG				*i*		09 41 15.9	
	comp=Z,2.6nm,1.4s						
GERES	**GERESS Array B**	**151.28**	**347**	PKPbc	PKPbc	09 41 16.1	-0.7
	comp=Z,0.6nm,0.7s,baz=48,slow=2.0,SNR=5.2						

*NEIC **05** 09:41:52.0, 1735N×9484W, h138km, MD4.0(MEX), After MEX.*

MEX 05 09:41:51.8±1.0, 1736N×9484W, h138km±9km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.27**	**188**	*i* P	Pn	09 42 09.8	-1.0
CMIG				*i* S	Sn	09 42 22.8	-2.4
EVV	**El Vigia**	**1.19**	**336**	*e* P	Pn	09 42 16.0	-1.2
EVV				*i* S	Sn	09 42 34.5	-2.1
OXX	**Oaxaca**	**1.82**	**261**	*i* P	Pn	09 42 23.0	-1.0
OXX				*i* S	Sn	09 42 48.5	-0.2
VHO	**Vista Hermosa**	**1.83**	**261**	*i* P	Pn	09 42 22.9	-1.3
VHO				*i* S	Sn	09 42 47.5	-1.4
HUIG	**Huatulco**	**2.00**	**218**	*i* P	Pn	09 42 23.6	-2.5
HUIG				*i* S	Sn	09 42 51.5	-1.0
CCIG	**Comitan**	**2.81**	**112**	*i* P	Pn	09 42 36.1	-0.1
CCIG				*i* S	Sn	09 43 08.7	-1.7
CCIG	**Comitan**	**2.81**	**112**	*i* P	Pn	09 42 36.4	+0.2
CCIG				*i* S	Sn	09 43 08.7	-1.7
UTMO	**Huajuapan**	**2.86**	**280**	*i* P	Pn	09 42 35.1	-1.7
UTMO				*i* S	Sn	09 43 08.9	-2.8

IDC 05 09:43:43.4±31.0, 1666S×17828W, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.1/14, mbtmp4.4/4, 1D, Error ellipse: s-maj=602.6km s-min=135.8km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.35**	**240**	P	P	09 51 14.7	+0.3
	2.0nm,0.8s,baz=80,slow=5.6,SNR=7.8						
WB2	**Warramunga Arr**	**44.98**	**258**	⇓*i* P	P	09 52 01.0	+0.7
WRA	**Warramunga Arr**	**44.99**	**258**	P	P	09 52 01.0	+0.6
	1.2nm,0.3s,baz=94,slow=7.8,SNR=31						
ASAR	**Alice Springs**	**45.26**	**253**	P	P	09 52 03.0	+0.4
	12nm,0.5s,baz=88,slow=8.0,SNR=241						
ASPA	**Alice Springs**	**45.27**	**253**	*e* P	P	09 52 03.3	+0.7
KAKA	**Kakadu**	**47.74**	**268**	*e* P	P	09 52 23.2	+1.2
	3.2nm,0.3s						
FITZ	**Fitzroy Crossi**	**53.37**	**260**	*e* P	P	09 53 04.6	+0.1
	6.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.37**	**260**	P	P	09 53 04.6	+0.1
	1.8nm,0.4s,baz=107,slow=11,SNR=11						

*IDC **05** 09:45:33.8±1.7, 671N×12775E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=110.6km s-min=19.3km az=68.0*
*ISCJB **05** 09:45:40.9±1.2, 62N±01×1276E±02, h33km, mb3.6/6, Error ellipse: s-maj=29.6km s-min=7.4km az=106.8*

ISC 05 09:45:43.5±1.0, 62N±01×1275E±02, h35km, n9, σ1§09/12, mb3.6/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.42**	**303**	*e* P	**Pn**	**09 46 08.5**	**+1.7**
MATI				*e* S	**Sn**	**09 46 23.5**	**-0.7**
BIPH	**Bislig**	**2.27**	**332**	⇑*e* P	**Pn**	**09 46 20.6**	**+2.1**
BIPH				*i* S	**Sn**	**09 46 44.0**	**-1.4**
BUKP	**Musuan**	**2.92**	**306**	*e* P	**Pn**	**09 46 27.5**	**+0.1**
BUKP				*e* S	**Sn**	**09 46 55.9**	**-5.4**
FITZ	**Fitzroy Crossi**	**24.19**	**184**	P	**P**	**09 50 56.3**	**-0.3**
	3.5nm,1.0s,mb3.7,baz=0.0,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**26.82**	**166**	P	**P**	**09 51 20.7**	**+0.3**
	0.4nm,0.4s,mb3.3,baz=348,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**30.32**	**168**	P	**P**	**09 51 51.8**	**+0.2**
	0.3nm,0.8s,mb3.1,baz=344,slow=7.3,SNR=6.9						
STKA	**Stephens Creek**	**40.17**	**161**	P	**P**	**09 53 14.9**	**-1.3**
	0.5nm,0.4s,mb3.6,baz=357,slow=15,SNR=4.0						
MKAR	**Makanchi Array**	**55.99**	**324**	P	**P**	**09 55 13.1**	**-5.4**
	1.5nm,0.4s,mb4.4,baz=117,slow=8.0,SNR=17						
AKTO	**Aktyubinsk**	**72.22**	**321**	P	**P**	**09 56 58.4**	**-6.5**
	0.7nm,0.5s,mb3.8,baz=79,slow=10,SNR=4.0						

*CSEM **05** 09:46:47.2±0.1, 3490N×2677E, h40km, MD3.7, Error ellipse: s-maj=3.2km s-min=1.9km az=105.0*
*ISCJB **05** 09:46:47.8±0.5, 3494N±004×2658E±004, h72km±5km, mb3.7/11, Error ellipse: s-maj=6.3km s-min=5.5km az=116.2*
*ISK **05** 09:46:47.6, 3497N×2657E, h40km, MD3.4*
*THE **05** 09:46:48.1, 3497N×2686E, h26km*
*MOS **05** 09:46:48.6±1.3, 3507N×2645E, h60km, mb3.9/9, Error ellipse: s-maj=11.2km s-min=7.7km az=121.8*
*ATH **05** 09:46:49.7, 3524N×2662E, h33km±3km, MD3.7/8*
*NEIC **05** 09:46:50.1, 3531N×2659E, h31km, mb3.8/9, MD3.4(ISK), MD3.7(ATH), After ATH.*
*HLW **05** 09:46:52.2, 3461N×2693E, h33km, Mb3.7*
*IDC **05** 09:46:53.7±1.9, 35.16N×2647E, h95km±16km, mb3.5/3, mb1 3.3/6, mb1mx3.2/23, mbtmp3.6/6, Error ellipse: s-maj=35.6km s-min=13.6km az=148.0*

ISC 05 09:46:47.4±0.8, 3496N±003×2649E±004, h29km±6km, n87, σ1§46/104, mb3.8/10, 5C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.78**	**293**	*e* PN	**Pb**	**09 47 05.4**	**+3.0**
NPS				*e* SN	**Sb**	**09 47 17.4**	**+4.8**
KARP	**Karpathos**	**0.81**	**43**	⇓*i* PN	**Pb**	**09 47 00.8**	**-2.1**
KARP				*e* SN	**Sb**	**09 47 09.9**	**-3.6**
IDI	**Anoyia**	**1.35**	**285**	P	**Pn**	**09 47 15.4**	**+5.2**
	39nm,0.3s,baz=94,slow=14,SNR=76						
IDI				S	**Sn**	**09 47 35.5**	**+8.3**
	31nm,0.3s,baz=340,slow=17,SNR=6.5						
SANT	**Santorini**	**1.64**	**330**	*e* Pb	**Pb**	**09 47 16.1**	**-0.9**
SANT				*e* Sb	**Sb**	**09 47 38.3**	**+1.0**
SANT	**Santorini**	**1.64**	**330**	*e* Pn	**Pn**	**09 47 16.0**	**+1.7**
SANT	**Santorini**	**1.64**	**330**	*e* Pn	**Pn**	**09 47 16.0**	**+1.7**
THR1	**Thera Island**	**1.64**	**330**	*e* Pb	**Pb**	**09 47 16.0**	**-1.0**
THR3	**Thira Island,**	**1.70**	**329**	*e* Pb	**Pb**	**09 47 17.1**	**-0.9**
NISR	**Nisiros**	**1.73**	**17**	*e* PN	**Pn**	**09 47 15.0**	**-0.5**
ARG	**Arkhangelos**	**1.84**	**46**	*e* PN	**Pn**	**09 47 17.6**	**+0.6**
VAM	**Vamos**	**1.93**	**284**	*e* PN	**Pn**	**09 47 23.3**	**+5.1**
DAT	**Datca**	**1.98**	**26**	PN	**Pn**	**09 47 18.6**	**-0.3**
DAT				SN	**Sn**	**09 47 42.4**	**-0.4**
BODT	**Bodrum**	**2.21**	**17**	PN	**Pn**	**09 47 22.9**	**+0.9**
BODT	**Bodrum**	**2.21**	**17**	Pn	**Pn**	**09 47 22.9**	**+0.9**
BDRM	**Kayabasi**	**2.24**	**20**	*i* P	**Pn**	**09 47 27.0**	**+4.4**
BDRM				*i* S	**Sn**	**09 47 55.8**	**+6.5**
APE	**Apeiranthos**	**2.25**	**340**	PN	**Pn**	**09 47 23.9**	**+1.3**
APE				SN	**Sn**	**09 47 50.0**	**+0.7**
APE	**Apeiranthos**	**2.25**	**340**	*e* Pn	**Pn**	**09 47 23.9**	**+1.3**
APE				*e* Sn	**Sn**	**09 47 51.4**	**+2.1**
APE	**Apeiranthos**	**2.25**	**340**	*c i* P	**Pn**	**09 47 23.6**	**+1.0**
APE				*e* S	**Sn**	**09 47 51.7**	**+2.4**
APE	**Apeiranthos**	**2.25**	**340**	*e* Pb	**Pn**	**09 47 23.9**	**+1.3**
APE				*e* Sn	**Sn**	**09 47 50.0**	**+0.7**
APE				*e* S	**Sn**	**09 47 51.7**	**+2.4**
DALT	**Dalyan (Mudla)**	**2.52**	**43**	*e* PN	**Pn**	**09 47 27.5**	**+1.2**
DALT	**Dalyan (Mudla)**	**2.52**	**43**	Pn	**Pn**	**09 47 27.6**	**+1.3**
MLSB	**Milas**	**2.56**	**24**	*e* PN	**Pn**	**09 47 27.6**	**+0.7**
MLSB	**Milas**	**2.56**	**24**	Pn	**Pn**	**09 47 27.6**	**+0.7**
YER	**Yerkesik**	**2.62**	**33**	*e* PN	**Pn**	**09 47 27.9**	**+0.2**
YER	**Yerkesik**	**2.62**	**33**	Pn	**Pn**	**09 47 27.9**	**+0.2**
YER	**Yerkesik**	**2.62**	**33**	Pn	**Pn**	**09 47 28.0**	**+0.3**
FETY	**Fethiye**	**2.70**	**51**	*e* PN	**Pn**	**09 47 29.0**	**+0.2**
AYDN	**Tasoluk**	**2.92**	**22**	*i* P	**Pn**	**09 47 33.9**	**+2.0**
AYDN				*i* S	**Sn**	**09 48 10.3**	**+4.2**
KYTH	**Kithira**	**3.11**	**296**	*e* PN	**Pn**	**09 47 38.3**	**+3.9**
VLI	**Veliai**	**3.38**	**302**	*e* PN	**Pn**	**09 47 41.0**	**+2.8**
DNZL	**Cakiroluk**	**3.42**	**36**	*i* P	**Pn**	**09 47 43.4**	**+4.6**
DNZL				*i* S	**Sn**	**09 48 24.6**	**+6.2**
CHOS	**Chios island**	**3.44**	**354**	*e* Pn	**Pn**	**09 47 39.6**	**+0.5**
CHOS				*e* Sn	**Sn**	**09 48 19.2**	**+0.4**
DENT	**Denizli**	**3.47**	**36**	*e* PN	**Pn**	**09 47 40.4**	**+1.0**
DENT	**Denizli**	**3.47**	**36**	Pn	**Pn**	**09 47 40.5**	**+1.1**
SLUM		**3.62**	**198**	⇑P	**Pn**	**09 47 43.0**	**+1.6**
MANT	**Manisa**	**3.90**	**25**	*i* P	**Pn**	**09 47 45.5**	**+0.2**
MANT				*i* S	**Sn**	**09 48 38.4**	**+8.2**
AGG	**Agios Georgios**	**5.25**	**322**	*e* Pn	**Pn**	**09 48 06.4**	**+2.6**
SWA1		**5.71**	**187**	⇑P	**Pn**	**09 48 11.4**	**+1.1**
SWA1				S	**Sn**	**09 49 08.6**	**-6.2**
SWA2		**5.76**	**189**	⇑P	**Pn**	**09 48 12.0**	**+1.1**
SUZ		**7.40**	**132**	⇓P	**Pn**	**09 48 31.6**	**-1.8**
BRTR	**Keskin Array B**	**7.42**	**48**	P	**Pn**	**09 48 36.2**	**+2.5**
	0.1nm,0.3s,baz=255,slow=12,SNR=3.9						
BRTR				S	**Sn**	**09 50 01.5**	**+4.6**
	0.2nm,0.3s,baz=215,slow=26,SNR=3.1						
GNI	**Garni**	**15.37**	**65**	*e* P	**Pn**	**09 50 21.6**	**-0.6**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**15.86**	**6**	P	**Pn**	**09 50 30.6**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=193,slow=11,SNR=3.2						
GERES	**GERESS Array B**	**16.79**	**330**	P	**Pn**	**09 50 40.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=143,slow=9.9,SNR=4.4						
KHC	**Kasperske Hory**	**17.07**	**330**	*e* P	**Pn**	**09 50 48.5**	**+4.7**
SBF	**Sospel**	**17.17**	**307**	*e* P	**Pn**	**09 50 38.6**	**-6.5**
MBDF	**Montbardon**	**17.97**	**309**	*e* P	**Pn**	**09 50 49.7**	**-5.3**
ORIF	**Oris-en-Rattie**	**18.63**	**308**	*e* P	**Pn**	**09 50 59.8**	**-3.2**
CABF	**La Chapelle**	**19.28**	**313**	*e* P	**Pn**	**09 51 08.0**	**-2.9**
	comp=Z,12nm,0.9s						
CABF	**La Chapelle**	**19.28**	**313**	*e* P	**Pn**	**09 51 08.0**	**-2.9**
CABF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CABF	**La Chapelle**	**19.28**	**313**	*e* P	**Pn**	**09 51 08.0**	**-2.9**
	comp=Z,5.9nm,0.9s						
VIVF	**Saint-Julien-l**	**19.38**	**307**	*e* P	**Pn**	**09 51 09.1**	**-3.0**
LASF	**Ste Croix**	**19.64**	**304**	*e* P	**Pn**	**09 51 12.2**	**-3.0**
	comp=Z,70nm,1.6s						
LASF	**Ste Croix**	**19.64**	**304**	*e* P	**Pn**	**09 51 12.2**	**-3.0**
	comp=Z,35nm,1.6s						
SMF	**Signal de Mont**	**20.66**	**311**	*e* P	**P**	**09 51 23.9**	**-0.9**
	comp=Z,4.9nm,0.6s						
SMF	**Signal de Mont**	**20.66**	**311**	*e* P	**P**	**09 51 23.9**	**-0.9**
SMF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SMF	**Signal de Mont**	**20.66**	**311**	*e* P	**P**	**09 51 23.9**	**-0.9**
	comp=Z,2.5nm,0.6s						
LOR	**Lormes**	**20.94**	**313**	*e* P	**P**	**09 51 26.7**	**-1.0**
	comp=Z,3.3nm,0.5s						
LOR	**Lormes**	**20.94**	**313**	*e* P	**P**	**09 51 26.7**	**-1.0**
LOR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LOR	**Lormes**	**20.94**	**313**	*e* P	**P**	**09 51 26.7**	**-1.0**
	comp=Z,1.6nm,0.5s						
AVF	**Avril sur Loir**	**21.03**	**311**	*e* P	**P**	**09 51 28.0**	**-0.7**
	comp=Z,7.7nm,0.8s,mb3.8						
AVF	**Avril sur Loir**	**21.03**	**311**	*e* P	**P**	**09 51 28.0**	**-0.7**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
AVF	**Avril sur Loir**	**21.03**	**311**	*e* P	**P**	**09 51 28.0**	**-0.7**
	comp=Z,3.8nm,0.8s,mb3.8						
SSF	**Saint Saulge**	**21.05**	**312**	*e* P	**P**	**09 51 28.3**	**-0.7**
	comp=Z,19nm,1.1s,mb4.0						
SSF	**Saint Saulge**	**21.05**	**312**	*e* P	**P**	**09 51 28.3**	**-0.7**
SSF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.0						
SSF	**Saint Saulge**	**21.05**	**312**	*e* P	**P**	**09 51 28.3**	**-0.7**
	comp=Z,9.3nm,1.1s,mb4.0						
BAIF	**Baives**	**22.18**	**320**	*e* P	**P**	**09 51 39.8**	**-1.3**
	comp=Z,3.8nm,0.6s,mb3.7						
BAIF	**Baives**	**22.18**	**320**	*e* P	**P**	**09 51 39.8**	**-1.3**
BAIF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
BAIF	**Baives**	**22.18**	**320**	*e* P	**P**	**09 51 39.8**	**-1.3**
	comp=Z,1.9nm,0.6s,mb3.7						
SJPF	**Ste Jean**	**22.94**	**299**	*e* P	**P**	**09 51 47.7**	**-1.4**
	comp=Z,4.8nm,0.7s,mb3.8						
SJPF	**Ste Jean**	**22.94**	**299**	*e* P	**P**	**09 51 47.7**	**-1.4**
SJPF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
SJPF	**Ste Jean**	**22.94**	**299**	*e* P	**P**	**09 51 47.7**	**-1.4**
	comp=Z,2.4nm,0.7s,mb3.8						
MFF	**Saint Martin d**	**23.17**	**308**	*e* P	**P**	**09 51 49.6**	**-1.9**
	comp=Z,3.6nm,0.5s,mb3.8						
MFF	**Saint Martin d**	**23.17**	**308**	*e* P	**P**	**09 51 49.6**	**-1.9**
MFF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8						
MFF	**Saint Martin d**	**23.17**	**308**	*e* P	**P**	**09 51 49.6**	**-1.9**
	comp=Z,1.8nm,0.5s,mb3.8						
GRR	**Gorron**	**24.29**	**312**	*e* P	**P**	**09 52 00.4**	**-1.7**
	comp=Z,3.7nm,0.4s,mb3.9						
GRR	**Gorron**	**24.29**	**312**	*e* P	**P**	**09 52 00.4**	**-1.7**
	comp=Z,1.9nm,0.4s,mb3.9						
SGMF	**Saint Gilles**	**25.28**	**311**	*e* P	**P**	**09 52 09.4**	**-1.8**
QUIF	**Quistinic**	**25.55**	**310**	*e* P	**P**	**09 52 12.6**	**-1.0**
ROSF	**Rostrenen**	**25.76**	**310**	*e* P	**P**	**09 52 14.2**	**-1.3**
	comp=Z,6.0nm,0.8s,mb3.9						
ROSF	**Rostrenen**	**25.76**	**310**	*e* P	**P**	**09 52 14.2**	**-1.3**
ROSF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
ROSF	**Rostrenen**	**25.76**	**310**	*e* P	**P**	**09 52 14.2**	**-1.3**
	comp=Z,3.0nm,0.8s,mb3.9						
KONO	**Kongsberg**	**27.07**	**341**	⇑*i* P	**P**	**09 52 32.3**	**+5.0**
TORD	**Torodi Ar. Bea**	**31.20**	**232**	P	**P**	**09 53 05.5**	**+1.5**
	comp=Z,2.7nm,0.5s,mb4.3,baz=33,slow=8.7,SNR=44						
ARCES	**ARCESS Array B**	**34.64**	**359**	P	**P**	**09 53 30.8**	**-3.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=171,slow=8.5,SNR=6.3						
ARCES	**ARCESS Array B**	**34.64**	**359**	P	**P**	**09 53 30.8**	**-3.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**42.98**	**56**	P	**P**	**09 54 43.0**	**-0.9**
	comp=Z,0.3nm,0.5s,mb3.3,baz=285,slow=6.7,SNR=4.2						

*ISCJB **05** 10:33:53.2±0.3, 185N±006×9071W±007, h10km, mb4.5/46, MS4.0/15, Error ellipse: s-maj=11.7km s-min=5.3km az=99.0*
*IDC **05** 10:33:53.1±0.8, 191N×9080W, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.3/21, mbtmp4.4/11, ML3.2/1, MS3.9/17, Ms1 3.9/17, ms1mx3.8/27, Error ellipse: s-maj=28.9km s-min=14.7km az=57.0*
*BJI **05** 10:33:54.5, 180N×9070W, h10km, mB5.5, Ms5.1, Msz4.7*
*NEIC **05** 10:33:54.6±0.3, 181N×9074W, h10km, mb4.6/38, Error ellipse: s-maj=10.6km s-min=4.9km az=52.0*

ISC 05 10:33:55.2±0.3, 182N±006×9074W±007, h10km, n189, σ0§80/171, mb4.5/46, MS4.0/15, 38C-48D, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**2.52**	**170**	*e* Pn	**Pn**	**10 34 33.9**	**-2.3**
OTAV	**Otavalo**	**12.39**	**97**	*e* Pn	**Pn**	**10 36 52.2**	**+0.6**
ATAH	**Atahualpa**	**15.12**	**126**	Pn	**Pn**	**10 37 34.0**	**+5.1**
	0.2nm,0.3s,baz=316,slow=15,SNR=11						
ATAH				LR	LR	10 42 22.5	
	comp=Z,528nm,19.0s,baz=72,slow=33						
CMIG	**Matias Romero**	**15.71**	**345**	Pn	**Pn**	**10 37 38.9**	**+2.4**
	0.1nm,0.3s,baz=203,slow=7.7,SNR=3.5						
CMIG				LR	LR	10 42 28.8	
	comp=Z,178nm,21.1s,baz=158,slow=33						
ROSC	**El Rosal**	**16.66**	**79**	Pn	**Pn**	**10 37 49.8**	**+1.1**
	1.6nm,0.3s,baz=105,slow=19,SNR=2.6						
ROSC				LR	LR	10 43 25.8	
	comp=Z,634nm,18.5s,baz=204,slow=34						
SDV	**Santo Domingo**	**21.20**	**70**	P	**P**	**10 38 41.5**	**+0.6**

2.8nm,0.8s,mb4.0
PV10 Paradox Valley 40.06 337 *e*P **P 10 41 29.3 -1.3**
ISCO Idaho Springs 40.15 342 *e*P **P 10 41 32.1 +0.8**
8.6nm,0.7s,mb4.6
W12A Cal Nev Ari 40.15 329 ⇓P **P 10 41 31.7 +0.3**
baz=40
TUQ Turquoise Mtn. 40.81 328 ⇑P **P 10 41 37.4 +0.6**
baz=41
GSC Goldstone 41.18 327 ⇓P **P 10 41 40.5 +0.7**
baz=41
SHPR Sheep Range 41.23 330 *e*P **P 10 41 40.8 +0.5**
SRU San Rafael 41.27 336 *e*P **P 10 41 40.8 +0.2**
2.8nm,0.8s,mb3.9
SRU *e* 10 41 54.8
SNCC San Nicolas Is 41.29 322 ⇓P **P 10 41 41.6 +0.9**
baz=41
ARUT Antelope Range 41.42 332 *e*P **P 10 41 42.8 +1.0**
MSU Marysvale 41.45 334 *e*P **P 10 41 42.5 +0.4**
ECSD EROS,Sioux Fal 42.06 354 *e*P **P 10 41 45.5 -1.5**
ECSD *e* 10 41 51.3
TPNV Topopah Spring 42.13 329 *e*P **P 10 41 48.7 +1.1**
6.5nm,1.2s,mb4.1
DAC Darwin (Calif) 42.34 327 *e*P **P 10 41 49.7 +0.4**
15nm,1.8s,mb4.3
DAU Daniels Canyon 42.68 337 *e*P **P 10 41 52.7 +0.7**
CPUP Villa Florida 42.71 133 P **P 10 41 53.5 +1.1**
2.2nm,0.8s,mb3.9,baz=310,slow=5.3,SNR=3.2
CPUP LR LR 10 59 26.2
comp=Z,119nm,20.6s,MS3.8,baz=304,slow=36
DUG Dugway 43.13 335 *e*P **P 10 41 56.1 +0.4**
4.6nm,0.9s,mb4.2
S09A Goldfield 43.22 329 ⇓P **P 10 41 57.0 +0.5**
baz=43
TCUT Toone Canyon 43.34 337 *e*P **P 10 41 58.0 +0.6**
HELL Mitchell Peak 43.41 326 ⇓P **P 10 41 58.5 +0.5**
baz=44
P12A McGill 43.46 333 ⇑P **P 10 41 59.1 +0.7**
baz=44,SNR=6.0
S08C White Mtn Res 43.55 328 P **P 10 42 00.0 +0.9**
baz=44,SNR=5.5
PKD Parkfield 43.76 324 ⇑P **P 10 42 00.7 -0.1**
baz=44
HWUT Hardware Ranch 43.82 337 *e*P **P 10 42 01.0 -0.3**
19nm,1.4s,mb4.6
MLAC Mammoth Lakes 44.01 327 ⇑P **P 10 42 03.5 +0.7**
baz=44
O12A Currie 44.03 333 ⇓P **P 10 42 03.5 +0.5**
baz=44
Q09A Carvers 44.05 330 ⇑P **P 10 42 03.6 +0.5**
baz=44
BW06 Boulder Array 44.10 340 *e*P **P 10 42 02.7 -0.8**
14nm,1.6s,mb4.4
BW06 *e* 10 42 16.4
PDAR Pinedale Array 44.10 340 P **P 10 42 02.9 -0.7**
2.0nm,0.9s,mb3.8,baz=140,slow=7.2,SNR=15
PDAR LR LR 11 00 25.9
comp=Z,164nm,18.6s,MS4.0,baz=151,slow=36
R08A Mina 44.16 329 ⇓P **P 10 42 04.7 +0.7**
baz=44
MNV Mina 44.24 329 *e*P **P 10 42 05.4 +0.7**
8.8nm,1.1s,mb4.4
NVAR Mina Array Bea 44.32 329 P **P 10 42 06.0 +0.8**
5.1nm,0.8s,mb4.3,baz=148,slow=10.0,SNR=33
NVAR PcP PcP 10 43 48.8 -0.6
1.1nm,0.8s,baz=137,slow=5.9,SNR=4.0
Q08A Gabbs 44.45 329 ⇓P **P 10 42 06.9 +0.6**
baz=45,SNR=7.9
R07C Lee Vining 44.46 328 ⇑P **P 10 42 07.1 +0.8**
baz=45
P09A Austin 44.58 331 ⇑P **P 10 42 07.7 +0.3**
baz=45
S05C Merced 44.62 326 ⇑P **P 10 42 08.6 +0.8**
baz=45
N12A Wells--Clov Va 44.63 334 ⇑P **P 10 42 08.4 +0.6**
baz=45
ELK Elko 44.63 333 *e*P **P 10 42 07.4 -0.4**
7.1nm,1.1s,mb4.4
HAST Hastings Reser 44.65 324 ⇓P **P 10 42 08.2 +0.3**
baz=45
M13A Montello 44.67 335 P **P 10 42 08.1 +0.1**
baz=45,SNR=11
S06C San Francisco 44.74 327 ⇓P **P 10 42 08.7 +0.1**
baz=45
N11A Elko Archery C 44.92 333 ⇑P **P 10 42 10.2 +0.1**
baz=45
Q07A Schurz 44.96 329 ⇑P **P 10 42 10.6 +0.2**
baz=45
REDW Red Top Meadow 45.08 339 *e*P **P 10 42 10.8 -0.5**
30nm,1.3s,mb5.0
O09A Fish Creek Ran 45.09 331 P **P 10 42 11.8 +0.4**
baz=45,SNR=7.3
CMB Columbia Colle 45.14 327 ⇓P **P 10 42 11.9 0.0**
baz=45
P08A Dixie Valley 45.15 330 ⇓P **P 10 42 12.4 +0.4**
baz=45
N10A Dunphy 45.19 332 ⇓P **P 10 42 12.6 +0.3**
baz=45
LOHW Long Hollow 45.21 340 *e*P **P 10 42 11.9 -0.5**
20nm,1.4s,mb4.8
TPAW Teton Pass 45.22 339 *e*P **P 10 42 12.7 +0.2**
8.4nm,0.8s,mb4.6
BMN Battle Mountai 45.30 331 *e*P **P 10 42 13.7 +0.6**
15nm,1.3s,mb4.7
MOOW Moose Ponds 45.38 340 *e*P **P 10 42 13.2 -0.5**
6.9nm,1.3s,mb4.3
DCID1 Drake Creek 45.40 339 *e*P **P 10 42 13.8 0.0**
M11A Holland Ranch, 45.43 333 ⇑P **P 10 42 14.4 +0.2**
baz=46,SNR=9.8
P07A Fallon 45.45 329 ⇓P **P 10 42 14.2 -0.1**
baz=46
R05C Kirkwood Meado 45.45 327 ⇓P **P 10 42 14.9 +0.6**
baz=46
IMW Indian Meadow 45.58 340 *e*P **P 10 42 14.9 -0.4**
5.6nm,0.8s,mb4.5
IMW *e* 10 42 26.3
R04C Big Horse Ranc 45.61 326 ⇑P **P 10 42 16.1 +0.6**
baz=46
FLWY Flagg Ranch 45.66 340 *e*P **P 10 42 15.9 0.0**
9.1nm,0.9s,mb4.7
BDFB Brasilia 45.66 114 LR LR 11 01 38.7
comp=Z,277nm,18.2s,MS4.2,baz=99,slow=36
WCN Washoe City 45.72 328 ⇑P **P 10 42 17.2 +0.7**
baz=46
N09A Rock Creek Ran 45.77 332 ⇓P **P 10 42 16.4 -0.4**
baz=46
M10A I.L. Ranch, Tu 45.84 333 ⇑P **P 10 42 17.2 -0.2**
baz=46
LAVA Lava Cap Winer 45.85 327 ⇑P **P 10 42 17.4 -0.1**
baz=46
O07A Toulon 45.91 330 ⇑P **P 10 42 17.6 -0.4**
baz=46,SNR=5.5
BDM Black Diamond 45.91 325 ⇑P **P 10 42 18.2 +0.2**
baz=46
EYMN Ely 45.95 359 *e*P **P 10 42 16.1 -2.2**
5.5nm,0.9s,mb4.5
N08A GE Springer Mi 46.01 331 ⇓P **P 10 42 18.8 +0.1**
baz=46
P06A Stead Airport, 46.08 329 ⇓P **P 10 42 19.3 0.0**
baz=46
P05C Yuba Gap, Truc 46.17 328 ⇓P **P 10 42 18.8 -1.2**
baz=46
M09A Marrel Ranch, 46.18 332 ⇓P **P 10 42 19.8 -0.3**
baz=46
PLCA Paso Flores 46.19 159 P **P 10 42 20.8 +0.7**
4.9nm,1.0s,mb4.4,baz=9.0,slow=7.4,SNR=3.6
PLCA LR LR 10 56 47.5
comp=Z,194nm,18.9s,MS4.1,baz=118,slow=30
Q04C Lincoln 46.26 327 ⇓P **P 10 42 21.1 +0.4**
baz=46
FARB Farallon Islan 46.39 324 ⇓P **P 10 42 21.5 -0.3**
baz=46
O06A Flanigan 46.39 329 P **P 10 42 22.1 +0.3**
baz=46,SNR=6.5
N07B Gerlach 46.42 330 ⇓P **P 10 42 21.8 -0.2**
baz=47
Q03C Winters 46.47 326 ⇑P **P 10 42 22.1 -0.2**
baz=47
QLMT Earthquake Lak 46.56 340 *e*P **P 10 42 23.1 +0.1**
HLID Hailey 46.59 336 *e*P **P 10 42 23.3 -0.1**
9.3nm,0.9s,mb4.7
OHCM Honcut 46.67 327 *e*P **P 10 42 24.1 +0.1**
LAO LASA Array 46.68 345 *e*P **P 10 42 23.4 -0.7**
6.1nm,0.6s,mb4.7
L09A Wilkinson Ranc 46.76 332 ⇑P **P 10 42 24.2 -0.3**
baz=47,SNR=11
SUTB Sutter Buttes 46.76 327 ⇑P **P 10 42 24.3 -0.3**
baz=47
O05C Quincy 46.82 328 ⇓P **P 10 42 25.4 +0.4**
baz=47,SNR=5.4
ORV Oroville 46.84 327 ⇓P **P 10 42 25.6 +0.4**
baz=47
MNRC McLaughlin Nat 46.88 326 ⇑P **P 10 42 25.9 +0.3**
baz=47
M07A Soldier Meadow 46.98 331 ⇑P **P 10 42 25.8 -0.6**
baz=47,SNR=7.9
O04C Chester 47.17 328 ⇑P **P 10 42 28.1 +0.3**
baz=47
ELFS Eagle Lake Fie 47.20 329 ⇓P **P 10 42 28.2 +0.2**
baz=47,SNR=6.7
BOZ Bozeman (W) 47.34 340 *e*P **P 10 42 28.4 -0.7**
8.1nm,1.2s,mb4.5
BOZ *e* 10 42 37.0
DLMT Dillon 47.43 339 *e*P **P 10 42 29.6 -0.3**
2.6nm,0.6s,mb4.3
M06C Likely Place G 47.49 329 ⇑P **P 10 42 30.1 -0.2**
baz=48
WVOR Wild Horse Val 47.53 332 *e*P **P 10 42 29.4 -1.2**
15nm,1.5s,mb4.8
GASB Alder Springs 47.57 326 ⇑P **P 10 42 31.9 +1.0**
baz=48
MOD Modoc 47.93 330 *e*P **P 10 42 33.4 -0.3**
5.0nm,0.6s,mb4.7
M05C Lookout 47.95 329 P **P 10 42 33.6 -0.3**
baz=48,SNR=8.7
WDC Whiskeytown Da 48.12 327 ⇓P **P 10 42 33.2 -2.1**
baz=48
HRY Holter Researc 48.34 341 *e*P **P 10 42 36.5 -0.5**
M03C McCloud 48.39 328 ⇓P **P 10 42 35.9 -1.4**
baz=48
ULM Lac du Bonnet 48.45 356 P **P 10 42 36.0 -1.7**
6.5nm,0.7s,mb4.8,baz=174,slow=6.9,SNR=16
O01C Eel River Cons 48.52 326 ⇓P **P 10 42 37.0 -1.2**
baz=49
K06A Valley Falls 48.58 331 ⇓P **P 10 42 37.4 -1.4**
baz=49
M04C Macdoel 48.62 329 ⇑P **P 10 42 38.3 -0.8**
baz=49
N02C Big Bar 48.71 327 ⇑P **P 10 42 39.2 -0.5**
baz=49,SNR=5.9
M02C Callahan 48.86 328 ⇓P **P 10 42 40.3 -0.7**
baz=49
J06A Christmas Vall 48.87 332 ⇓P **P 10 42 39.9 -1.1**
baz=49
YBH Yreka Blue Hor 49.03 328 *e*P **P 10 42 40.0 -2.2**
5.2nm,1.4s,mb4.4
YBH Yreka Blue Hor 49.03 328 ⇓P **P 10 42 41.0 -1.2**
baz=49
I06A Prineville 49.42 332 ⇓P **P 10 42 44.8 -0.4**
baz=50
L02A Cave Junction 49.80 328 ⇓P **P 10 42 47.4 -0.7**
baz=50
I05A Bend 50.09 332 ⇑P **P 10 42 49.9 -0.4**
baz=50
K02A Glendale 50.18 329 ⇑P **P 10 42 50.4 -0.6**
baz=50
J03A Ideyld Park 50.34 330 ⇑P **P 10 42 52.9 +0.8**
baz=50
J02A Umpqua 50.65 329 ⇑P **P 10 42 53.8 -0.7**
baz=51
H04A Detroit Lake 50.91 331 ⇓P **P 10 42 55.5 -1.0**
baz=51
I03A Eugene 50.93 330 ⇓P **P 10 42 56.1 -0.5**
baz=51
D05A Enumclaw 52.70 334 ⇓P **P 10 43 08.9 -1.0**
baz=53
C05A Tolt Reservoir 52.95 334 ⇑P **P 10 43 10.8 -0.9**
baz=53
FFC Flin Flon 53.53 352 *e*P **P 10 43 14.4 -1.5**
9.7nm,1.5s,mb4.5
B05A Bryant 53.57 334 ⇓P **P 10 43 15.3 -0.9**
baz=54
A04A Legoe Bay, Lum 54.18 334 ⇓P **P 10 43 19.7 -1.1**
baz=54
EDM Edmonton 54.54 344 *e*P **P 10 43 22.3 -1.0**
SCHQ Schefferville 56.33 16 LR LR 11 06 38.7
comp=Z,109nm,19.8s,MS4.0,baz=133,slow=35
FCC Fort Churchill 56.84 358 *e*P **P 10 43 38.2 -1.7**
7.2nm,0.8s,mb4.8
PPT Papeete 61.05 249 *e*S **S 10 52 40.8 +13**
PPT *e*LR LR 11 02 13.8
337nm,26.0s,baz=78
PPT Papeete 61.05 249 LR LR 11 03 04.6
comp=Z,244nm,18.8s,MS4.4,baz=304,slow=29
TBI Tubuai 62.32 242 *e*S **S 10 52 57.8 +14**
TBI *e*LR LR 11 02 49.4
353nm,28.0s
YKA Yellowknife Ar 63.10 348 P **P 10 44 21.1 -1.8**
2.3nm,0.8s,mb4.3,baz=147,slow=6.5,SNR=8.2
YKA LR LR 11 13 22.4
comp=Z,38nm,18.1s,MS3.6,baz=180,slow=38
YKA Yellowknife Ar 63.10 348 P **P 10 44 21.1 -1.8**
YKA LR LR 11 13 22.4
DLBC Dease Lake 64.29 338 *e*P **P 10 44 30.5 -0.2**
DAWY Dawson 71.41 340 *e*P **P 10 45 14.1 -1.5**
INK Inuvik 72.42 345 *e*P **P 10 45 20.4 -1.2**
8.1nm,1.2s,mb4.5
DBIC Dimbokro 85.71 83 LR LR 11 22 26.3
comp=Z,69nm,18.2s,MS4.1,baz=174,slow=34
VNA3 Neumayer Olymp 88.84 161 *e*P **P 10 46 47.8 -1.7**
VNA3 *e* pP 10 46 51.0 -1.8
VNA2 Neumayer--Watz 89.53 161 *e*P **P 10 46 50.8 -1.9**
baz=310,slow=5.5
VNA2 *e* pP 10 46 54.7 -1.4
NOA NORSAR Array B 94.20 29 LR LR 11 23 10.3
comp=Z,28nm,21.1s,MS3.7,baz=310,slow=31
GERES GERESS Array B 98.11 40 LR LR 11 26 46.0
comp=Z,74nm,18.4s,MS4.2,baz=272,slow=32
MDJ Mudanjiang 121.47 327 PKP PKPdf 10 52 48.9 +0.1
MDJ PP PP
comp=Z,40nm,5.3s
CN2 Changchun 124.21 329 *e*PKP PKPdf 10 52 55.1 +1.0
SNY Shenyang 126.58 328 *e*PKP PKPdf 10 53 03.5 +4.9
ASAR Alice Springs 131.65 240 PKP PKPdf 10 53 07.2 -1.0
comp=Z,0.6nm,0.7s,baz=103,slow=2.0,SNR=7.9
WRA Warramunga Arr 132.43 244 PKP PKPdf 10 53 08.7 -1.1
comp=Z,0.9nm,0.7s,baz=107,slow=2.3,SNR=13
HHC Hu-ho-hao-te 132.91 337 *e*PKP PKPdf 10 53 10.9 +0.2
HHC PP PP 10 55 39.2 +3.3
HHC PKS 10 56 46.1
HHC SKS SKSdf 11 00 20.6 -1.4
HHC SKKS SKKSac 11 02 28.8 -3.3
HHC SS SS 11 13 22.3 +4.6
HHC PP PP
comp=Z,110nm,4.2s
HHC LR LR
comp=N,110nm,17.4s,MS4.8
HHC LR LR
comp=E,90nm,13.3s,MS4.8
HHC LR LR
comp=Z,110nm,16.7s,MS4.6
WMQ Urumqi 134.54 2 *e*PKP PKPdf 10 53 16.1 +2.4
SSE Sheshan 135.35 320 *e*PKP PKPdf 10 53 16.6 +1.4
SSE PP PP
comp=Z,80nm,3.9s
NJ2 Nanjing 136.16 323 *e*PKP PKPdf 10 53 14.0 -2.7
CD2 Chengdu 144.64 338 *e*PKP PKPdf 10 53 29.9 -2.1
KMI Kunming 150.19 335 PKP PKPdf 10 53 43.5 +2.2

*NEIC **05** 10:40:41.6±1.2, 3234S×17944W, h342km±18km, mb4.4/4, Error ellipse: s-maj=43.5km s-min=8.8km az=99.0*
*ISCJB **05** 10:40:42.5±0.8, 3222S±006×1797E±0.1, h300km±9km, mb4.0/6, Error ellipse: s-maj=19.0km s-min=8.4km az=30.6*
*IDC **05** 10:40:42.7±1.5, 3224S×17996W, h310km±17km, mb3.7/3, mb1 3.8/7, mb1mx3.6/15, mbtmp4.5/7, Error ellipse: s-maj=31.3km s-min=18.0km az=103.0*

ISC 05 10:40:47.5±1.3, 3250S±008×1795E±02, h323km±12km, n54, o0°96/60, mb3.9/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.92**	**35**	P	**Pn**	**10 41 43.6**	**-10**
147nm,0.3s,baz=207,slow=20,SNR=8.5							
RAO	**Raoul Island**	**3.92**	**35**	P	**Pn**	**10 41 43.6**	**-11**
MWZ	**Matawai**	**6.04**	**195**	PN	**Pn**	**10 42 18.5**	**+0.6**
MWZ	**Matawai**	**6.04**	**195**	*e*P	**Pn**	**10 42 18.6**	**+0.7**
URZ	**Urewera**	**6.07**	**198**	P	**Pn**	**10 42 17.3**	**-1.0**
6.5nm,0.3s,baz=315,slow=1.5,SNR=24							
URZ				S	**S**	**10 43 35.9**	**+4.2**
7.5nm,0.3s,baz=94,slow=23,SNR=17							
URZ	**Urewera**	**6.07**	**198**	*e*PN	**Pn**	**10 42 18.1**	**-0.2**
URZ				SN	**S**	**10 43 35.4**	**+3.8**
URZ	**Urewera**	**6.07**	**198**	*e*P	**Pn**	**10 42 18.6**	**+0.3**
BKZ	**Black Stump Fm**	**7.09**	**199**	PN	**Pn**	**10 42 29.0**	**-1.3**
BKZ	**Black Stump Fm**	**7.09**	**199**	*e*P	**Pn**	**10 42 29.0**	**-1.3**
FWVZ	**Far West T-bar**	**7.47**	**204**	PN	**Pn**	**10 42 35.4**	**+0.5**
FWVZ	**Far West T-bar**	**7.47**	**204**	*e*P	**Pn**	**10 42 35.4**	**+0.6**
WNVZ	**Wahianoa**	**7.52**	**204**	*e*PN	**Pn**	**10 42 38.3**	**+2.9**
WNVZ	**Wahianoa**	**7.52**	**204**	P	**Pn**	**10 42 38.3**	**+2.9**
PXZ	**Pawanui**	**7.82**	**195**	*e*PN	**Pn**	**10 42 37.7**	**-1.3**
TSZ	**Takapari Road**	**8.07**	**200**	*e*PN	**Pn**	**10 42 41.0**	**-1.1**
TSZ				*e*SN	**S**	**10 44 16.0**	**+0.7**
TSZ	**Takapari Road**	**8.07**	**200**	*e*P	**Pn**	**10 42 41.4**	**-0.7**
BFZ	**Birch Farm**	**8.58**	**197**	*e*PN	**Pn**	**10 42 49.9**	**+1.7**
BFZ				*e*SN	**S**	**10 44 27.6**	**+1.0**
BFZ	**Birch Farm**	**8.58**	**197**	*e*P	**Pn**	**10 42 48.1**	**-0.1**
MRZ	**Mangatainoka R**	**8.74**	**200**	*e*PN	**Pn**	**10 42 48.1**	**-2.0**
MRZ				*e*SN	**S**	**10 44 29.0**	**-1.1**
MRZ	**Mangatainoka R**	**8.74**	**200**	*e*P	**Pn**	**10 42 48.1**	**-2.0**
KIW	**Kapiti Island**	**9.12**	**202**	PN	**Pn**	**10 42 55.0**	**+0.1**
KIW	**Kapiti Island**	**9.12**	**202**	P	**Pn**	**10 42 55.2**	**+0.4**
CAW	**Cannon Point**	**9.30**	**201**	*e*PN	**Pn**	**10 42 55.0**	**-1.9**
CAW	**Cannon Point**	**9.30**	**201**	P	**Pn**	**10 42 56.4**	**-0.6**
MRW	**Makara Radio**	**9.53**	**202**	*e*PN	**Pn**	**10 42 59.9**	**+0.2**
MRW	**Makara Radio**	**9.53**	**202**	P	**Pn**	**10 43 00.1**	**+0.4**
SNZO	**South Karori**	**9.60**	**202**	*e*Pn	**Pn**	**10 43 02.3**	**+1.7**
293nm,1.4s							
TCW	**Tory Channel**	**9.65**	**204**	*e*PN	**Pn**	**10 43 01.3**	**+0.1**
TCW	**Tory Channel**	**9.65**	**204**	P	**Pn**	**10 43 01.8**	**+0.6**
NNZ	**Nelson**	**9.99**	**208**	*e*PN	**Pn**	**10 43 05.5**	**+0.2**
NNZ				*e*SN	**S**	**10 44 57.4**	**-0.6**
NNZ	**Nelson**	**9.99**	**208**	*e*P	**Pn**	**10 43 05.8**	**+0.5**
QRZ	**Quartz Range**	**10.02**	**212**	*e*PN	**Pn**	**10 43 05.8**	**+0.1**
THZ	**Tophouse**	**10.64**	**208**	PN	**Pn**	**10 43 11.6**	**-1.6**
THZ				*e*SN	**S**	**10 45 12.6**	**0.0**
THZ	**Tophouse**	**10.64**	**208**	*e*P	**Pn**	**10 43 11.9**	**-1.3**
KHZ	**Kahutara**	**10.97**	**204**	*e*PN	**Pn**	**10 43 15.6**	**-1.6**
KHZ	**Kahutara**	**10.97**	**204**	*e*P	**Pn**	**10 43 17.5**	**+0.3**
DSZ	**Denniston Nort**	**11.08**	**211**	*e*PN	**Pn**	**10 43 19.8**	**+1.2**
DSZ	**Denniston Nort**	**11.08**	**211**	*e*P	**Pn**	**10 43 20.3**	**+1.8**
LTZ	**Lake Taylor**	**11.75**	**207**	*e*PN	**Pn**	**10 43 27.1**	**+0.5**
LTZ	**Lake Taylor**	**11.75**	**207**	*e*P	**Pn**	**10 43 27.1**	**+0.5**
RPZ	**Rata Peaks**	**13.02**	**208**	P	**Pn**	**10 43 41.5**	**-0.2**
1.7nm,0.3s,baz=49,slow=17,SNR=9.7							
DZM	**Mont Dzumac**	**15.55**	**309**	P		**10 44 09.7**	**+0.3**
0.1nm,0.3s,baz=159,slow=17,SNR=3.1							
STKA	**Stephens Creek**	**31.97**	**261**	P	**P**	**10 46 44.0**	**-0.1**
0.4nm,0.4s,mb3.0,baz=107,slow=12,SNR=7.3							
STKA	**Stephens Creek**	**31.97**	**261**	*e*P	**P**	**10 46 44.0**	**-0.1**
ASAR	**Alice Springs**	**40.92**	**271**	P	**P**	**10 47 59.5**	**+0.4**
1.4nm,0.4s,mb3.6,baz=104,slow=7.4,SNR=37							
WB2	**Warramunga Arr**	**42.10**	**276**	*e*P	**P**	**10 48 08.5**	**-0.1**
WRAB	**Tennant Creek**	**42.10**	**276**	*e*P	**P**	**10 48 08.2**	**-0.5**
8.9nm,0.3s,mb4.4							
WRA	**Warramunga Arr**	**42.11**	**276**	P	**P**	**10 48 08.7**	**-0.1**
5.3nm,0.3s,mb4.2,baz=112,slow=8.1,SNR=227							
QSPA	**South Pole Qui**	**57.62**	**180**	*e*P	**P**	**10 50 05.8**	**+1.3**
6.2nm,0.5s,mb4.2							
SNAA	**Sanae**	**76.11**	**179**	*e*	**P**	**10 51 48.5**	**-12**
SNAA	**Sanae**	**76.11**	**179**	*e*P	**P**	**10 51 48.4**	**-12**
1.3nm,0.3s,mb4.1							
VNA3	**Neumayer Olymp**	**76.35**	**177**	*e*	**P**	**10 52 01.0**	**-0.5**
VNA2	**Neumayer--Watz**	**76.76**	**178**	*e*	**P**	**10 52 03.5**	**-0.3**
baz=176,slow=5.5							
TORD	**Torodi Ar. Bea**	**160.64**	**186**	PKPab	PKPab	11 00 51.0	-1.5
0.5nm,0.5s,baz=184,slow=3.9,SNR=5.0							

PRE 05 10:49:20.1±1.4, 2180S×3320E, h5km, ML4.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**4.83**	**216**	*e*P	Pn	10 50 34.5	+1.1
BFT				*e*S	Sn	10 51 27.7	-1.9
BFT				AML	AML	10 52 12.5	
comp=Z,146nm,0.6s							
POGA	**Pongola**	**5.73**	**194**	*e*P	Pn	10 50 46.9	+1.1
POGA				*e*S	Sn	10 51 48.8	-3.1
POGA				AML	AML	10 52 41.8	
comp=Z,125nm,0.6s							
KSR	**Koster**	**7.03**	**234**	*e*P	Pn	10 51 05.5	+1.8
KSR				*e*S	Sn	10 52 21.6	-2.5
KSR				AML	AML	10 53 21.7	
comp=Z,50nm,0.7s							
LBTB	**Lobatse**	**7.68**	**244**	*e*P	Pn	10 51 13.4	+0.9
LBTB				*e*S	Sn	10 52 37.2	-2.6
LBTB				AML	AML	10 53 33.8	
comp=Z,70nm,0.6s							
SWZ	**Schweizer**	**8.94**	**232**	*e*P	Pn	10 51 30.8	+0.9
SWZ				*e*S	Sn	10 53 07.3	-3.6
SWZ				AML	AML	10 54 20.5	
comp=Z,35nm,0.5s							
BOSA	**Boshof**	**9.88**	**225**	*e*P	Pn	10 51 43.7	+0.9
BOSA				*e*S	Sn	10 53 29.1	-4.9
BOSA				AML	AML	10 55 10.1	
comp=Z,25nm,0.6s							
UPI	**Upington**	**12.63**	**236**	*e*P	Pn	10 52 21.8	+1.4
SUR	**Sutherland**	**15.24**	**224**	*e*P	Pn	10 52 57.8	+1.9
SUR				*e*S	Sn	10 55 37.4	-7.6

IDC 05 10:49:35.9±5.9, 2000S×17932E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/12, mbtmp3.5/2, Error ellipse: s-maj=286.5km s-min=53.5km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.18**	**262**	P	P	10 57 30.5	+0.3
0.2nm,0.3s,baz=98,slow=7.3,SNR=18							
ASAR	**Alice Springs**	**42.18**	**257**	P	P	10 57 30.6	+0.4
0.6nm,0.6s,baz=87,slow=8.4,SNR=11							
GERES	**GERESS Array B**	**148.98**	**341**	PKPbc	PKPbc	11 09 25.4	-0.3
0.5nm,0.5s,baz=19,slow=4.5,SNR=3.8							

IDC 05 11:00:27.6±1.8, 340N×12764E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=103.0km s-min=24.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.45**	**185**	*e*P	P	11 05 20.0	+2.6
3.4nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.45**	**185**	P	P	11 05 18.7	+1.3
2.6nm,0.7s,baz=6.3,slow=9.2,SNR=5.9							
WRA	**Warramunga Arr**	**24.11**	**164**	P	P	11 05 45.8	+0.9
1.7nm,0.6s,baz=342,slow=11,SNR=18							
WB2	**Warramunga Arr**	**24.11**	**164**	*e*P	P	11 05 45.8	+0.9
ASAR	**Alice Springs**	**27.58**	**168**	P	P	11 06 17.4	+1.1
0.2nm,0.4s,baz=338,slow=7.6,SNR=5.6							
STKA	**Stephens Creek**	**37.51**	**160**	P	P	11 07 41.8	-1.3
2.3nm,0.6s,baz=349,slow=8.9,SNR=7.4							
MKAR	**Makanchi Array**	**58.34**	**325**	P	P	11 10 24.1	-0.3
0.3nm,0.4s,baz=125,slow=8.3,SNR=4.3							

*NEIC **05** 11:10:04.4, 2642S×6945W, h15km, ML3.8(GUC), After GUC.*

GUC 05 11:10:04.4±0.7, 2642S×6945W, h15km±7km, MD3.9, ML3.8, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**1.05**	**274**	⇓*i*P	Pb	11 10 23.1	-1.3
CRCH				*i* S	Sb	11 10 36.9	-1.1
CPCH	**Copiapo**	**1.23**	**221**	*e*P	Pn	11 10 25.5	-1.6
CPCH				*i* S	Sb	11 10 41.9	-1.1
CPCH				AML	AML	11 10 43.3	
comp=E,7μm,0.1s							
CPCH	**Copiapo**	**1.23**	**221**	*e*P	Pn	11 10 25.5	-1.6
CPCH				*i* S	Sb	11 10 41.9	-1.1
CDCH	**Caldera**	**1.39**	**242**	*e*P	Pn	11 10 28.4	-0.9
CDCH				*i* S	Sn	11 10 46.6	-0.8
CPN1	**Cerro Paranal**	**1.99**	**334**	*e*P	Pn	11 10 38.4	+1.0
CPN1				*i* S	Sn	11 11 04.0	+2.0
CPN1				AML	AML	11 11 05.3	
comp=E,529nm,0.5s							
CEN1	**Los Morros**	**3.10**	**347**	*e*P	Pn	11 10 51.9	-0.8
CEN1				*i* S	Sn	11 11 31.4	+1.9
LVC	**Limon Verde**	**3.83**	**7**	*e*Pn	Pn	11 11 07.0	+4.3
LVC				*e*S	Sn	11 12 01.1	+14
TLL	**Tololo Astrono**	**3.92**	**197**	*e*P	Pn	11 11 07.1	+3.1

*ISCJB **05** 11:32:52.7±0.9, 1808S×008×17820W±005, h409km±9km, mb4.3/35, Error ellipse: s-maj=13.3km s-min=6.4km az=133.0*
*BJI **05** 11:32:53.0, 1800S×17820W, h393km, mB4.8, mb4.8*
*NEIC **05** 11:32:53.0±1.2, 1800S×178.18W, h393km±12km, mb4.4/22, Error ellipse: s-maj=16.9km s-min=7.8km az=163.0*
*IDC **05** 11:32:54.6±1.8, 1813S×178.16W, h418km±20km, mb3.9/12, mb1 4.0/15, mb1mx3.9/19, mbtmp4.7/15, Error ellipse: s-maj=20.7km s-min=10.7km az=166.0*
ISC 05 11:32:53.8±0.9, 1808S±008×**17815W**±005, **h405**km±8km, **n183**, σ0§**49**/147, **mb4.3**/35, **54C-45D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.40**	**57**	P	**P**	**11 34 42.6**	**+0.3**
	7.4nm,0.3s,baz=259,slow=19,SNR=12						
AFI				S	**S**	**11 36 08.9**	**-1.6**
	14nm,0.3s,baz=57,slow=21,SNR=6.1						
AFI	**Afiamalu**	**7.40**	**57**	*e*Pn	**Pn**	**11 34 42.3**	**+0.3**
	30nm,0.4s						
DZM	**Mont Dzumac**	**15.01**	**252**	P	**P**	**11 36 08.0**	**+2.0**
	0.2nm,0.3s,baz=108,slow=20,SNR=2.8						
RAR	**Rarotonga**	**17.59**	**103**	P	**P**	**11 36 35.0**	**+1.4**
	1.5nm,0.3s,baz=274,slow=6.9,SNR=4.6						
PAE	**Paea**	**27.19**	**94**	*e*P	**P**	**11 38 02.3**	**0.0**
	76nm,1.1s,mb5.1						
PPT	**Papeete**	**27.20**	**93**	*e*P	**P**	**11 38 02.6**	**+0.2**
	59nm,1.3s,mb4.8						
PPT	**Papeete**	**27.20**	**93**	P	**P**	**11 38 03.1**	**+0.7**
	15nm,0.5s,mb4.7,baz=238,slow=9.5,SNR=4.1						
PMOR	**Pomariorio Ree**	**29.15**	**89**	*e*P	**P**	**11 38 19.6**	**0.0**
	36nm,1.1s,mb4.6						
CTA	**Charters Tower**	**33.66**	**261**	P	**P**	**11 38 59.0**	**+0.5**
	16nm,0.9s,mb4.4,baz=98,slow=10,SNR=10						
CTAO	**Charters Tower**	**33.66**	**261**	*e*P	**P**	**11 38 58.5**	**0.0**
	17nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**11 39 39.8**	**-1.4**
	0.8nm,0.4s,mb3.4,baz=84,slow=8.4,SNR=5.3						
WB2	**Warramunga Arr**	**44.83**	**260**	*e*P	**P**	**11 40 29.0**	**-0.6**
WRA	**Warramunga Arr**	**44.84**	**260**	P	**P**	**11 40 28.8**	**-0.9**
	3.5nm,0.6s,mb3.9,baz=98,slow=6.9,SNR=46						
AS31	**Alice Springs**	**44.98**	**254**	⇓*i*P	**P**	**11 40 30.5**	**-0.3**
ASAR	**Alice Springs**	**44.98**	**254**	P	**P**	**11 40 30.6**	**-0.1**
	16nm,0.5s,mb4.6,baz=90,slow=8.3,SNR=312						
ASAR				S	**S**	**11 46 32.8**	**-5.3**
	1.5nm,0.9s,baz=92,slow=17,SNR=9.5						
ASPA	**Alice Springs**	**44.98**	**254**	⇓*i*P	**P**	**11 40 30.5**	**-0.3**
KAKA	**Kakadu**	**47.83**	**269**	*e*P	**P**	**11 40 52.5**	**0.0**
	26nm,0.6s,mb4.7						
GUMO	**Guam**	**48.17**	**308**	P	**P**	**11 40 56.2**	**+1.0**
	25nm,0.6s,mb4.8,baz=135,slow=16,SNR=4.2						
FITZ	**Fitzroy Crossi**	**53.24**	**261**	*e*P	**P**	**11 41 32.8**	**+0.3**
	7.0nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**53.24**	**261**	P	**P**	**11 41 32.9**	**+0.5**
	3.7nm,0.6s,mb3.8,baz=148,slow=9.5,SNR=14						
MJAR	**Matsushiro Arr**	**68.19**	**323**	P	**P**	**11 43 11.9**	**-0.1**
	9.7nm,0.8s,mb4.5,baz=159,slow=6.1,SNR=28						
MAJO	**Matsushiro**	**68.19**	**323**	*e*P	**P**	**11 43 11.8**	**-0.2**
	13nm,0.9s,mb4.6						
MAT	**Matsushiro**	**68.19**	**323**	P	**P**	**11 43 11.5**	**-0.4**
MAT	**Matsushiro**	**68.19**	**323**	*e*P	**P**	**11 43 12.0**	**+0.1**
	9.7nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**71.98**	**180**	*e*P	**P**	**11 43 34.8**	**+0.1**
	10nm,0.7s,mb4.5						
S04C	**Ingram Canyon,**	**76.88**	**43**	⇓P	**P**	**11 44 02.9**	**+0.4**
	baz=77						
MNRC	**McLaughlin Nat**	**76.97**	**41**	⇓P	**P**	**11 44 03.5**	**+0.5**
	baz=77						
109C	**Camp Elliot, M**	**77.24**	**49**	⇓P	**P**	**11 44 04.6**	**+0.1**
	baz=77						
GASB	**Alder Springs**	**77.25**	**41**	⇓P	**P**	**11 44 05.0**	**+0.4**
	baz=77						
O02C	**Red Bluff**	**77.52**	**40**	⇓P	**P**	**11 44 06.5**	**+0.4**
	baz=78						
SUTB	**Sutter Buttes**	**77.58**	**41**	⇓P	**P**	**11 44 06.8**	**+0.4**
	baz=78						
ISA	**Isabella**	**77.76**	**46**	⇓P	**P**	**11 44 07.5**	**+0.2**
	baz=78						
CMB	**Columbia Colle**	**77.79**	**43**	*e*P	**P**	**11 44 07.2**	**-0.3**
	4.5nm,0.8s,mb4.2						
CMB	**Columbia Colle**	**77.79**	**43**	⇓P	**P**	**11 44 07.5**	**0.0**
	baz=78						
O03C	**Acorn Hollow,**	**77.89**	**41**	⇓P	**P**	**11 44 08.1**	**0.0**
	baz=78						
WDC	**Whiskeytown Da**	**77.91**	**40**	⇑P	**P**	**11 44 08.1**	**-0.1**
	baz=78						
HELL	**Mitchell Peak**	**77.94**	**45**	⇓P	**P**	**11 44 08.2**	**-0.2**
	baz=78						
ORV	**Oroville**	**77.95**	**41**	⇑P	**P**	**11 44 08.4**	**0.0**
	baz=78						
LAVA	**Lava Cap Winer**	**77.98**	**42**	⇓P	**P**	**11 44 08.6**	**0.0**
	baz=78						
PFO	**Pinyon Flat Ob**	**78.08**	**49**	⇓P	**P**	**11 44 09.1**	**0.0**
	baz=78						
M02C	**Callahan**	**78.21**	**39**	⇑P	**P**	**11 44 10.4**	**+0.6**
	baz=78						
L02A	**Cave Junction**	**78.23**	**38**	⇑P	**P**	**11 44 10.2**	**+0.2**
	baz=78						
R05C	**Kirkwood Meado**	**78.37**	**43**	⇑P	**P**	**11 44 11.0**	**+0.4**
	baz=78						
P05C	**Yuba Gap, Truc**	**78.37**	**42**	⇑P	**P**	**11 44 11.2**	**+0.5**
	baz=78						
CWC	**Cottonwood Cre**	**78.44**	**46**	⇑P	**P**	**11 44 10.9**	**-0.2**
	baz=79						
MDJ	**Mudanjiang**	**78.46**	**325**	*e*P	**P**	**11 44 12.1**	**+0.9**
	15nm,1.0s,mb4.6						
YBH	**Yreka Blue Hor**	**78.50**	**39**	⇑P	**P**	**11 44 11.6**	**+0.3**
	baz=79						
O05C	**Quincy**	**78.55**	**41**	⇑P	**P**	**11 44 11.8**	**+0.1**
	baz=79						
M03C	**McCloud**	**78.58**	**40**	⇑P	**P**	**11 44 11.9**	**+0.1**
	baz=79						
MLAC	**Mammoth Lakes**	**78.58**	**44**	⇑P	**P**	**11 44 12.2**	**+0.3**
	baz=79						
MTUM	**Tungsten Hills**	**78.61**	**45**	*e*P	**P**	**11 44 12.4**	**+0.5**
O04C	**Chester**	**78.66**	**41**	⇓P	**P**	**11 44 12.6**	**+0.4**
	baz=79						
R06C	**Coleville**	**78.67**	**43**	⇓P	**P**	**11 44 12.5**	**+0.2**
	baz=79						
R07C	**Lee Vining**	**78.70**	**44**	⇓P	**P**	**11 44 12.7**	**+0.2**
	baz=79						
HATC	**Hat Creek Radi**	**78.72**	**40**	⇓P	**P**	**11 44 12.5**	**0.0**
	baz=79						
BC3	**Big Chuckw Mtn**	**78.82**	**49**	⇑P	**P**	**11 44 13.2**	**+0.1**
	baz=79						
HUMO	**Hull Mountain**	**78.88**	**38**	⇓P	**P**	**11 44 13.3**	**-0.2**
	baz=79						
WCN	**Washoe City**	**78.92**	**42**	⇑P	**P**	**11 44 13.7**	**0.0**
	baz=79,SNR=5.4						
S08C	**White Mtn Res**	**78.96**	**45**	⇑P	**P**	**11 44 14.4**	**+0.6**
	baz=79,SNR=7.4						
GLA	**Glamis**	**78.97**	**50**	⇓P	**P**	**11 44 14.4**	**+0.5**
	baz=79						
J02A	**Umpqua**	**78.99**	**37**	⇑P	**P**	**11 44 13.9**	**-0.1**
	baz=79						
P06A	**Stead Airport,**	**79.04**	**42**	⇓P	**P**	**11 44 14.6**	**+0.3**
	baz=79						
M04C	**Macdoel**	**79.05**	**39**	⇓P	**P**	**11 44 14.6**	**+0.3**
	baz=79						
ELFS	**Eagle Lake Fie**	**79.05**	**41**	⇑P	**P**	**11 44 14.5**	**+0.1**
	baz=79						
M05C	**Lookout**	**79.22**	**40**	⇑P	**P**	**11 44 15.4**	**+0.1**
	baz=79,SNR=5.2						
I02A	**Mapleton**	**79.23**	**37**	⇑P	**P**	**11 44 15.3**	**+0.1**
	baz=79						
L04A	**Klamath Falls**	**79.25**	**39**	⇓P	**P**	**11 44 15.4**	**0.0**
	baz=79						
O06A	**Flanigan**	**79.35**	**42**	⇑P	**P**	**11 44 16.0**	**+0.1**
	baz=80,SNR=8.0						
NVAR	**Mina Array Bea**	**79.38**	**44**	P	**P**	**11 44 16.1**	**+0.1**
	4.3nm,0.7s,mb4.2,baz=226,slow=8.7,SNR=33						
TUQ	**Turquoise Mtn.**	**79.40**	**47**	⇓P	**P**	**11 44 16.4**	**+0.2**
	baz=80						
R08A	**Mina**	**79.46**	**44**	⇑P	**P**	**11 44 16.5**	**0.0**
	baz=80						
MNV	**Mina**	**79.47**	**44**	*e*P	**P**	**11 44 16.3**	**-0.3**
	10nm,1.4s,mb4.3						
M06C	**Likely Place G**	**79.54**	**40**	⇑P	**P**	**11 44 17.1**	**+0.1**
	baz=80,SNR=6.8						
Y12C	**Blythe**	**79.54**	**49**	⇓P	**P**	**11 44 17.0**	**0.0**
	baz=80						
S09A	**Goldfield**	**79.71**	**45**	⇓P	**P**	**11 44 17.7**	**-0.2**
	baz=80						
Q08A	**Gabbs**	**79.86**	**44**	⇓P	**P**	**11 44 18.7**	**0.0**
	baz=80						
O07A	**Toulon**	**79.96**	**42**	⇓P	**P**	**11 44 19.0**	**-0.2**
	baz=80,SNR=6.1						
Y13A	**Salome**	**80.07**	**50**	⇓P	**P**	**11 44 20.2**	**+0.4**
	baz=80						
P08A	**Dixie Valley**	**80.21**	**43**	⇑P	**P**	**11 44 20.7**	**+0.3**
	baz=80						
N07B	**Gerlach**	**80.25**	**41**	⇓P	**P**	**11 44 20.5**	**-0.2**
	baz=80						
CN2	**Changchun**	**80.30**	**322**	*e*P	**P**	**11 44 21.6**	**+0.6**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
Q09A	**Carvers**	**80.33**	**44**	⇑P	**P**	**11 44 21.1**	**0.0**
	baz=80						
X13A	**Yucca**	**80.46**	**49**	⇓P	**P**	**11 44 21.7**	**0.0**
	baz=81						
M07A	**Soldier Meadow**	**80.46**	**41**	⇑P	**P**	**11 44 21.9**	**+0.1**
	baz=81,SNR=6.4						
Z14A	**Wintersburg**	**80.50**	**50**	⇑P	**P**	**11 44 22.4**	**+0.4**
	baz=81						
H04A	**Detroit Lake**	**80.58**	**37**	⇑P	**P**	**11 44 21.7**	**-0.7**
	baz=81						
K06A	**Valley Falls**	**80.60**	**39**	⇓P	**P**	**11 44 22.4**	**-0.2**
	baz=81,SNR=5.8						
115A	**Sonoran Desert**	**80.71**	**51**	⇓P	**P**	**11 44 22.7**	**-0.4**
	baz=81						
G04A	**Mulino**	**80.73**	**36**	⇓P	**P**	**11 44 22.7**	**-0.5**
	baz=81						
Y14A	**Wickenburg**	**80.74**	**50**	⇓P	**P**	**11 44 23.2**	**-0.1**
	baz=81						
P09A	**Austin**	**80.74**	**43**	⇑P	**P**	**11 44 23.2**	**-0.1**
	baz=81						
N08A	**GE Springer Mi**	**80.78**	**42**	⇓P	**P**	**11 44 23.6**	**+0.1**
	baz=81						
I05A	**Bend**	**80.80**	**38**	⇑P	**P**	**11 44 23.4**	**-0.2**
	baz=81						
J06A	**Christmas Vall**	**80.92**	**39**	P	**P**	**11 44 23.9**	**-0.3**
	baz=81,SNR=7.1						
E03A	**Lebam**	**80.95**	**35**	⇓P	**P**	**11 44 24.0**	**-0.4**
	baz=81						
116A	**Eloy**	**81.04**	**52**	⇓P	**P**	**11 44 25.1**	**+0.3**
	baz=81						
O09A	**Fish Creek Ran**	**81.05**	**43**	⇑P	**P**	**11 44 24.8**	**-0.1**
	baz=81						
X14A	**Yava**	**81.08**	**49**	⇑P	**P**	**11 44 25.5**	**+0.4**
	baz=81						
H05A	**Madras**	**81.11**	**37**	⇑P	**P**	**11 44 26.0**	**+0.8**
	baz=81						
N09A	**Rock Creek Ran**	**81.20**	**42**	⇑P	**P**	**11 44 25.5**	**-0.1**
	baz=81						
I06A	**Prineville**	**81.29**	**38**	P	**P**	**11 44 26.2**	**+0.1**
	baz=81,SNR=9.0						
W14A	**Seligman**	**81.30**	**49**	⇑P	**P**	**11 44 26.7**	**+0.6**
	baz=81,SNR=5.7						
WVOR	**Wild Horse Val**	**81.38**	**40**	*e*P	**P**	**11 44 26.2**	**-0.4**
	comp=Z,8.3nm,1.0s,mb4.4						
G05A	**Wamic**	**81.41**	**37**	⇑P	**P**	**11 44 26.2**	**-0.5**
	baz=82						
MA2	**Magadan**	**81.42**	**345**	*e*P	**P**	**11 44 25.4**	**-1.4**
	comp=Z,2.9nm,0.5s,mb4.3						
X15A	**Humboldt**	**81.56**	**50**	⇓P	**P**	**11 44 27.9**	**+0.4**
	baz=82,SNR=5.5						
M09A	**Marrel Ranch,**	**81.56**	**42**	⇑P	**P**	**11 44 27.5**	**0.0**
	baz=82						
TUC	**Tucson**	**81.61**	**52**	*e*P	**P**	**11 44 28.6**	**+0.8**
	comp=Z,10.0nm,1.2s,mb4.4						
F05A	**White Salmon**	**81.71**	**36**	⇑P	**P**	**11 44 27.9**	**-0.4**
	baz=82						
D04A	**Dobbs Creek Ra**	**81.71**	**35**	⇑P	**P**	**11 44 27.9**	**-0.4**
	baz=82						
L09A	**Wilkinson Ranc**	**81.75**	**41**	⇑P	**P**	**11 44 28.5**	**0.0**
	baz=82						
N10A	**Dunphy**	**81.78**	**43**	⇑P	**P**	**11 44 28.5**	**-0.1**
	baz=82						
E05A	**Randle**	**81.95**	**35**	⇓P	**P**	**11 44 28.8**	**-0.7**
	baz=82						
P12A	**McGill**	**82.17**	**44**	⇑P	**P**	**11 44 30.6**	**0.0**
	baz=82						
M10A	**I.L. Ranch, Tu**	**82.19**	**42**	⇓P	**P**	**11 44 30.4**	**-0.4**
	baz=82						
D05A	**Enumclaw**	**82.20**	**35**	⇓P	**P**	**11 44 29.9**	**-0.9**
	baz=82						
M11A	**Holland Ranch,**	**82.61**	**42**	⇓P	**P**	**11 44 33.1**	**+0.1**
	baz=83,SNR=5.3						
C05A	**Tolt Reservoir**	**82.66**	**35**	⇑P	**P**	**11 44 32.3**	**-0.9**
	baz=83						
O12A	**Currie**	**82.69**	**44**	⇑P	**P**	**11 44 33.2**	**-0.1**
	baz=83,SNR=6.5						
A04A	**Legoe Bay, Lum**	**82.75**	**33**	⇑P	**P**	**11 44 33.0**	**-0.6**
	baz=83						
B05A	**Bryant**	**82.79**	**34**	⇓P	**P**	**11 44 33.1**	**-0.7**
	baz=83						
N12A	**Wells--Clov Va**	**82.80**	**43**	⇑P	**P**	**11 44 33.9**	**+0.1**
	baz=83,SNR=7.9						
N13A	**West Wendover**	**83.34**	**43**	⇑P	**P**	**11 44 36.4**	**-0.2**
	baz=84						
MSU	**Marysvale**	**83.53**	**46**	*e*P	**P**	**11 44 38.3**	**+0.7**
M13A	**Montello**	**83.62**	**43**	⇑P	**P**	**11 44 37.9**	**-0.2**
	baz=84						
HLID	**Hailey**	**84.59**	**41**	*e*P	**P**	**11 44 42.9**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.0						
SRU	**San Rafael**	**84.95**	**46**	*e*P	**P**	**11 44 44.5**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.1						
PV10	**Paradox Valley**	**85.65**	**47**	*e*P	**P**	**11 44 47.3**	**-0.7**
PV01	**Paradox Valley**	**85.87**	**48**	*e*P	**P**	**11 44 48.7**	**-0.4**
LTX	**Lajitas**	**85.88**	**58**	*e*P	**P**	**11 44 49.8**	**+0.7**
	comp=Z,14nm,1.1s,mb4.6						
ANMO	**Albuquerque**	**86.01**	**51**	*e*P	**P**	**11 44 49.4**	**-0.4**
	comp=Z,3.6nm,1.2s,mb4.0						
MCMT	**McKenzie Canyo**	**86.21**	**40**	*e*P	**P**	**11 44 50.6**	**-0.1**
DLMT	**Dillon**	**86.63**	**40**	*e*P	**P**	**11 44 52.3**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.0						
TPAW	**Teton Pass**	**86.75**	**42**	*e*P	**P**	**11 44 53.1**	**-0.1**
	comp=Z,5.8nm,1.3s,mb4.2						
IMW	**Indian Meadow**	**86.95**	**42**	*e*P	**P**	**11 44 54.6**	**+0.4**
	comp=Z,1.6nm,0.3s,mb4.2						
PDAR	**Pinedale Array**	**87.31**	**43**	P	**P**	**11 44 55.4**	**-0.5**
	comp=Z,1.9nm,0.7s,mb3.9,baz=241,slow=2.1,SNR=16						
BOZ	**Bozeman (W)**	**87.36**	**40**	*e*P	**P**	**11 44 56.0**	**-0.2**
	comp=Z,6.2nm,1.3s,mb4.2						
CD2	**Chengdu**	**89.36**	**303**	*e*P	**P**	**11 45 06.3**	**+0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
JCT	**Junction City**	**89.42**	**58**	*e*P	**P**	**11 45 05.3**	**-0.5**
	comp=Z,5.6nm,1.0s,mb4.2						
SNAA	**Sanae**	**90.42**	**179**	⇑*i*	**P**	**11 44 57.9**	**-13**
SNAA				*e*		11 44 58.7	
VNA3	**Neumayer Olymp**	**90.56**	**176**	⇑*i*	**P**	**11 45 09.9**	**-1.2**
VNA3				*e*		11 45 10.7	
VNA2	**Neumayer--Watz**	**91.00**	**177**	⇑*i*	**P**	**11 45 12.1**	**-1.0**
	baz=195,slow=4.8						
VNA2				*e*		11 45 13.1	
PLCA	**Paso Flores**	**91.04**	**134**	P	**P**	**11 45 13.4**	**+0.1**
	comp=Z,3.1nm,0.8s,mb4.2,baz=103,slow=6.2,SNR=5.7						
VNA1	**Neumayer--Stat**	**91.22**	**177**	⇑*i*	**P**	**11 45 14.2**	**0.0**
VNA1				*e*		11 45 15.2	
SONM	**Songino Array**	**93.84**	**319**	P	**P**	**11 45 26.2**	**+0.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=120,slow=5.3,SNR=4.1						
ARCES	**ARCESS Array B**	**126.52**	**350**	PKP	PKPdf	11 51 07.4	-2.1
	comp=Z,4.2nm,1.1s,baz=124,slow=0.4,SNR=8.4						
STHS	**Stebnicka Huta**	**145.04**	**338**	*e*PKP	PKPdf	11 51 43.3	-0.3
BRTR	**Keskin Array B**	**145.07**	**315**	PKPbc	PKPbc	11 51 44.0	-0.1
	comp=Z,2.3nm,0.6s,baz=129,slow=3.3,SNR=15						
CLL	**Collm**	**145.68**	**348**	⇑*i*PKPbc	PKPbc	11 51 44.8	-1.1
	comp=Z,12nm,0.8s						
UPC	**Upice**	**145.72**	**344**	*e*PKP	PKPdf	11 51 46.0	+1.3
DPC	**Dobruska-Polom**	**145.78**	**343**	*e*PKP	PKPdf	11 51 45.6	+0.8
BRG	**Bergqueshubel**	**145.89**	**346**	*e*P	PKPdf	11 51 45.7	+0.7
	comp=Z,2.7nm,0.9s						
PVCC	**Panska Ves**	**146.06**	**345**	*e*PKP	PKPdf	11 51 45.9	+0.6
KECS	**Kecovo**	**146.09**	**338**	*e*PKP	PKPdf	11 51 46.7	+1.3
PRU	**Pruhonice**	**146.57**	**345**	*e*PKP	PKPdf	11 51 46.9	+0.7
VYHS	**Vyhne**	**146.66**	**339**	*e*PKP	PKPdf	11 51 48.5	+2.2
GRA1	**Grafenberg Arr**	**147.57**	**349**	*e*PKP	PKPbc	11 51 54.1	+3.0
KHC	**Kasperske Hory**	**147.60**	**346**	*e*PKP	PKPdf	11 51 49.9	+2.0
GERES	**GERESS Array B**	**147.84**	**345**	PKPbc	PKPbc	11 51 51.0	-0.8
	comp=Z,2.8nm,0.7s,baz=21,slow=2.8,SNR=18						
GIVF	**Givet**	**147.96**	**356**	*e*PKP1	PKPbc	11 51 50.2	-1.9
	comp=Z,28nm,0.9s						
CONA	**Conrad Observa**	**148.10**	**342**	⇑*i*PKPbc	PKPbc	11 51 52.1	-0.4
	comp=Z,5.1nm,0.9s						
FLN	**La Foliniere**	**149.33**	**3**	*e*PKP1	PKPbc	11 51 53.1	-2.4
	comp=Z,21nm,1.0s						
CDF	**Champ du Feu**	**149.42**	**353**	*e*PKP1	PKPbc	11 51 53.1	-2.6
	comp=Z,3.1nm,0.4s						
LDF	**La Druitiere**	**149.52**	**3**	*e*PKP1	PKPbc	11 51 53.6	-2.4
	comp=Z,3.9nm,0.5s						
ROSF	**Rostrenen**	**149.53**	**7**	*e*PKP1	PKPbc	11 51 53.5	-2.5
MEZF	**Maizieres J'vi**	**149.54**	**356**	*e*PKP1	PKPbc	11 51 53.7	-2.3
GRR	**Gorron**	**149.69**	**4**	*e*PKP1	PKPbc	11 51 54.0	-2.4
SGMF	**Saint Gilles**	**149.69**	**6**	*e*PKP1	PKPbc	11 51 53.9	-2.5
	comp=Z,11nm,0.9s						
WATA	**Walderalm**	**149.75**	**347**	⇑*i*P	PKPbc	11 51 55.1	-1.4
	comp=Z,3.5nm,1.1s						
WTTA	**Wattenberg**	**149.80**	**347**	⇑*i*P	PKPbc	11 51 55.6	-1.1
	comp=Z,7.5nm,0.7s						
HAU	**Haudompre**	**149.92**	**354**	*e*PKP1	PKPbc	11 51 55.8	-1.1
	comp=Z,5.8nm,0.5s						
SQTA	**Sankt Quirin**	**149.93**	**347**	⇓*i*P	PKPbc	11 51 56.1	-0.8
	comp=Z,2.0nm,0.7s						
HINF	**Hinteralfeld**	**150.06**	**353**	*e*PKP1	PKPbc	11 51 55.0	-2.3
	comp=Z,5.0nm,0.7s						
LOR	**Lormes**	**150.84**	**357**	*e*PKP1	PKPbc	11 51 57.1	-2.0
	comp=Z,9.3nm,0.7s						
SSF	**Saint Saulge**	**151.06**	**358**	*e*PKP1	PKPbc	11 51 57.8	-1.8
	comp=Z,7.1nm,0.7s						
CABF	**La Chapelle**	**151.33**	**354**	*e*PKP1	PKPbc	11 51 58.8	-1.4
	comp=Z,8.2nm,0.8s						
AVF	**Avril sur Loir**	**151.34**	**358**	*e*PKP1	PKPbc	11 51 57.9	-2.3
	comp=Z,2.9nm,0.7s						
MFF	**Saint Martin d**	**151.51**	**3**	*e*PKP1	PKPbc	11 51 58.3	-2.3
	comp=Z,9.9nm,0.9s						
BGF	**Bois d'Agland**	**151.59**	**359**	*e*PKP1	PKPbc	11 51 58.8	-2.0
TCF	**Toulx Ste Croi**	**151.87**	**359**	*e*PKP1	PKPbc	11 51 59.2	-2.2
	comp=Z,7.6nm,0.9s						
LPG	**La Plagne**	**152.35**	**353**	*e*PKP1	PKPbc	11 52 01.3	-1.2
	comp=Z,6.9nm,1.0s						
RJF	**Les Rejaudoux**	**152.85**	**1**	*e*PKP1	PKPbc	11 52 02.1	-1.5
	comp=Z,12nm,1.1s						
TORD	**Torodi Ar. Bea**	**175.10**	**178**	PKP	PKPdf	11 52 14.2	-1.6
	comp=Z,1.5nm,1.0s,baz=20,slow=2.3,SNR=5.6						
TORD				PKPab	PKPab	11 53 54.2	+0.1
	comp=Z,0.7nm,0.7s,baz=182,slow=3.7,SNR=4.7						

*KISR **05** 12:28:58.0±0.9, 2945N×5147E, h34km, ML3.4*
*THR **05** 12:29:00.8±0.4, 2941N×5152E, h18km, ML3.6*
*ISCJB **05** 12:29:01.1±1.9, 2940N±004×5137E±003, h23km±19km, Error ellipse: s-maj=7.0km s-min=4.3km az=157.4*
*CSEM **05** 12:29:01.4±0.1, 2921N×5136E, h45km, ML3.6, Error ellipse: s-maj=2.0km s-min=1.3km az=169.0*
*TEH **05** 12:29:02.6, 2923N×5134E, h26km, Mn3.6*
ISC 05 12:29:02.4±2.0, 2936N±004×**5138E**±003, **h22**km±18km, **n24**, σ1§**05**/36, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**1.21**	**105**	*e*Pn	**Pn**	**12 29 20.8**	**-3.3**
ISRV	**Sarvestan**	**1.52**	**89**	*e*Pn	**Pn**	**12 29 26.9**	**-1.4**
GHIR	**Ghir-Karzin**	**1.77**	**127**	*e*PG	**Pn**	**12 29 32.1**	**+0.3**
GHIR				*e*Sg	**Sn**	**12 29 55.0**	**+1.4**
GHIR				AML	AML	12 30 02.4	
	comp=N,479nm,0.6s						
GHIR				AML	AML	12 30 13.1	
	comp=E,518nm,0.5s						
GHIR	**Ghir-Karzin**	**1.77**	**127**	*e*Pg	**Pn**	**12 29 32.2**	**+0.4**
	SNR=91						
GHIR				*e*Sg	**Sn**	**12 29 55.0**	**+1.3**
	SNR=91						
QRN	**Al-Qurain**	**3.09**	**259**	*e*P	**Pn**	**12 29 48.6**	**-1.3**
QRN				AML	AML	12 30 18.4	
	comp=Z,80nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.20**	**274**	*e*P	**Pn**	**12 29 50.7**	**-0.7**
UMR				AML	AML	12 30 30.8	
	comp=Z,104nm,0.4s						
KBD	**Kabd**	**3.22**	**268**	*e*P	**Pn**	**12 29 50.7**	**-1.1**
KBD				AML	AML	12 30 27.0	
	comp=Z,162nm,0.4s						
KBD				*e*S	**Sn**	**12 30 30.6**	**+1.1**
ISAD	**Sadrabad**	**3.23**	**37**	*e*Sn	**Sn**	**12 30 29.9**	**+0.2**
RDF	**Al-Radifah**	**3.37**	**264**	*e*P	**Pn**	**12 29 52.8**	**-1.0**
RDF				AML	AML	12 30 31.2	
	comp=Z,76nm,0.4s						
IMEH	**Mehriz**	**3.45**	**53**	*e*Pn	**Pn**	**12 29 56.7**	**+1.8**
IMEH

IGAR	Garneh	3.23	97	ePn	Pn	12 41 03.6	-3.0
IZEF	Zefreh	3.30	85	ePn	Pn	12 41 06.9	-0.7
BHD	Baghdad	3.44	281	ex	x	12 41 11.0	
BHD				ex	x	12 41 24.0	
BHD				ex	x	12 41 55.0	
BHD				ex	x	12 42 13.0	
BHD	Baghdad	3.44	281	ePn	Pn	12 41 11.0	+1.4
BHD				eSn	Sn	12 41 55.0	+4.6
IMHD	Mahdasht	3.53	31	ePn	Pn	12 41 13.1	+2.3
IMHD				eSn	Sn	12 41 54.7	+2.2
KBD	Kabd	3.55	190	eP	Pn	12 41 12.3	+1.3
KBD				eS	Sn	12 41 54.8	+1.8
KBD				AML	AML	12 42 07.6	
	comp=Z,261nm,0.5s						
KBD	Kabd	3.55	190	eP	Pn	12 41 12.3	+1.3
KBD				eS	Sn	12 41 54.2	+1.3
NAY	Al-Naaiem	3.56	197	eP	Pn	12 41 12.3	+1.0
NAY				eS	Sn	12 41 56.0	+2.7
NAY				AML	AML	12 41 56.9	
	comp=Z,57nm,0.4s						
NAY	Al-Naaiem	3.56	197	eP	Pn	12 41 12.3	+1.1
NAY				eS	Sn	12 41 54.4	+1.0
IVRN	Varamin	3.60	49	ePn	Pn	12 41 13.2	+1.5
IVRN				eSn	Sn	12 41 54.7	+0.6
ISFB	Sefidab	3.60	61	ePn	Pn	12 41 12.8	+1.1
ISFB				eSn	Sn	12 41 53.9	-0.4
NASN	Na'in	3.70	87	ePN	Pn	12 41 13.6	+0.4
NASN	Na'in	3.70	87	ePn	Pn	12 41 13.0	-0.1
RDF	Al-Radifah	3.81	191	eP	Pn	12 41 15.8	+1.2
RDF				AML	AML	12 41 58.0	
	comp=Z,80nm,0.4s						
THKV	Tehran--Karaj	3.82	32	ePN	Pn	12 41 16.8	+2.1
THKV				AML	AML	12 42 25.8	
	comp=E,100nm,0.6s						
THKV	Tehran--Karaj	3.82	32	ePn	Pn	12 41 16.0	+1.3
QRN	Al-Qurain	3.95	186	eP	Pn	12 41 17.4	+0.9
QRN				AML	AML	12 42 04.5	
	comp=Z,107nm,0.2s						
IGZV	Gazvin	3.98	21	ePn	Pn	12 41 19.7	+2.7
IGZV				eSn	Sn	12 42 05.9	+2.2
DAMV	Damavand	4.17	44	ePn	Pn	12 41 20.8	+1.3
DAMV	Damavand	4.17	44	ePn	Pn	12 41 20.0	+0.5
IDMV	Damavand	4.17	45	ePn	Pn	12 41 21.1	+1.6
IDMV				eSn	Sn	12 42 08.7	+0.5
ISAD	Sadrabad	4.53	98	ePn	Pn	12 41 18.9	-5.6
IFIR	Firoozkooh	4.65	49	ePn	Pn	12 41 27.8	+1.6
ICHK	Chekchek	5.08	93	Pn	Pn	12 41 30.2	-1.9
ICHK	Chekchek	5.08	93	ePn	Pn	12 41 30.3	-1.8
IMOK	Mook	5.17	133	ePn	Pn	12 41 32.8	-0.6
IMEH	Mehriz	5.42	102	ePn	Pn	12 41 31.3	-5.4
ASF	Jabal al Asfar	9.75	270	Pn	Pn	12 42 34.8	-1.4
	comp=Z,0.4nm,0.3s,baz=12,slow=17,SNR=3.9						
ASF				Sn	Sn	12 44 21.9	-3.7
	comp=Z,0.3nm,0.3s,baz=121,slow=15,SNR=2.6						
MALT	Malatya	9.89	307	eP	Pn	12 42 39.1	+1.0
MALT				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MALT	Malatya	9.89	307	eP	Pn	12 42 39.1	+1.0
	comp=Z,1.7nm,0.6s						
EIL	Elat	11.91	259	P	Pn	12 43 06.5	+0.7
EIL	Elat	11.91	259	P	Pn	12 43 06.5	+0.7
WSAR	Wadi Sarin	13.03	134	Pn	Pn	12 43 16.7	-4.3
	comp=Z,0.6nm,0.3s,baz=307,slow=8.5,SNR=6.4						
WSAR	Wadi Sarin	13.03	134	Pn	Pn	12 43 16.7	-4.3
BRTR	Keskin Array B	13.84	305	Pn	Pn	12 43 34.0	+2.0
	comp=Z,0.1nm,0.3s,baz=130,slow=13,SNR=4.7						
AKTK	Aktyubinsk	19.11	19	P	Pn	12 44 37.0	-2.7
AKTO	Aktyubinsk	19.11	19	P	Pn	12 44 37.0	-2.7
	comp=Z,0.2nm,0.3s,baz=188,slow=8.1,SNR=4.0						
TIRR	Tirgusor	19.51	313	eP	Pn	12 44 43.6	-0.9
VRI	Vrincioaia	21.25	315 ⇊	iP	P	12 45 03.4	+1.3
VRI	Vrincioaia	21.25	315 ⇊	iP	P	12 45 03.4	+1.3
PLOR	Plostina	21.29	314 ⇈	iP	P	12 45 04.1	+1.5
MLR	Muntele Rosu	21.55	313	P	P	12 45 07.0	+1.7
	comp=Z,4.7nm,0.6s,mb4.1,baz=139,slow=3.2,SNR=6.6						
MLR	Muntele Rosu	21.55	313 ⇊	iP	P	12 45 07.1	+1.8
MLR	Muntele Rosu	21.55	313 ⇊	iP	P	12 45 07.1	+1.8
VOIR		22.08	312 ⇈	iP	P	12 45 13.1	+2.1
VOIR		22.08	312 ⇈	iP	P	12 45 13.2	+2.2
AKASG	Malin Array Be	22.90	327	P	P	12 45 18.1	-1.6
	comp=Z,0.6nm,0.3s,mb3.4,baz=136,slow=7.5,SNR=5.1						
ZRNK	Zerenda	25.10	30	eP	P	12 45 41.2	+0.5
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
ZRNK	Zerenda	25.10	30	eP	P	12 45 41.2	+0.5
	comp=Z,1.0nm,0.6s,mb3.5						
MKAR	Makanchi Array	29.36	51	P	P	12 46 16.9	-2.1
	comp=Z,1.9nm,0.7s,mb4.0,baz=243,slow=8.0,SNR=16						
GERES	GERESS Array B	30.53	312	P	P	12 46 28.4	-0.9
	comp=Z,0.5nm,0.6s,mb3.5,baz=110,slow=11,SNR=3.7						
FINES	FINESS Array B	32.21	340	P	P	12 46 43.7	-0.4
	comp=Z,1.8nm,0.6s,mb4.1,baz=147,slow=10,SNR=9.6						
ZAL	Zalesovo	33.40	40	P	P	12 46 51.5	-3.1
	comp=Z,1.4nm,0.4s,mb4.3,baz=199,slow=8.3,SNR=5.3						
ZAL	Zalesovo	33.40	40	P	P	12 46 51.5	-3.1
MBDF	Montbardon	34.30	303	eP	P	12 47 01.4	-0.9
	comp=Z,11nm,0.7s,mb4.6						
MBDF	Montbardon	34.30	303	eP	P	12 47 01.4	-0.9
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MBDF	Montbardon	34.30	303	eP	P	12 47 01.4	-0.9
	comp=Z,5.3nm,0.7s,mb4.6						
BNI	Bardonecchia	34.40	303	eP	P	12 47 02.9	-0.3
BNI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BNI	Bardonecchia	34.40	303	eP	P	12 47 02.9	-0.3
	comp=Z,7.0nm,0.8s,mb4.6						
LPG	La Plagne	34.40	304	eP	P	12 47 02.4	-0.8
	comp=Z,9.5nm,0.7s,mb4.5						
LPG	La Plagne	34.40	304	eP	P	12 47 02.4	-0.8
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LPG	La Plagne	34.40	304	eP	P	12 47 02.4	-0.8
	comp=Z,4.8nm,0.7s,mb4.5						
LPL	La Plagne	34.42	304	eP	P	12 47 02.3	-1.0
CDF	Champ du Feu	34.52	309	eP	P	12 47 02.7	-1.6
ORIF	Oris-en-Rattie	34.95	303	eP	P	12 47 07.0	-0.9
CABF	La Chapelle	35.01	306	eP	P	12 47 08.0	-0.4
	comp=Z,18nm,0.7s,mb4.8						
CABF	La Chapelle	35.01	306	eP	P	12 47 08.0	-0.4
CABF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
CABF	La Chapelle	35.01	306	eP	P	12 47 08.0	-0.4
	comp=Z,9.2nm,0.7s,mb4.8						
KMBO	Kilima Mbogo	35.24	200	LR	LR	13 02 40.7	
	comp=Z,48nm,18.1s,MS3.3,baz=91,slow=38						
HFS	Hagfors	35.69	331	P	P	12 47 14.0	-0.4
	comp=Z,4.2nm,0.6s,mb4.5,baz=120,slow=8.8,SNR=11						
VIVF	Saint-Julien-l	35.80	303	eP	P	12 47 13.9	-1.4
MEZF	Maizieres J'vi	35.99	309	eP	P	12 47 16.1	-0.8
SMF	Signal de Mont	36.55	306	eP	P	12 47 20.6	-1.1
	comp=Z,12nm,0.6s,mb4.6						
SMF	Signal de Mont	36.55	306	eP	P	12 47 20.6	-1.1
SMF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
SMF	Signal de Mont	36.55	306	eP	P	12 47 20.6	-1.1
	comp=Z,6.1nm,0.6s,mb4.6						
LOR	Lormes	36.61	307	eP	P	12 47 20.8	-1.4
SSF	Saint Saulge	36.82	306	eP	P	12 47 23.0	-1.0
	comp=Z,5.1nm,0.7s,mb4.2						
SSF	Saint Saulge	36.82	306	eP	P	12 47 23.0	-1.0
SSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
SSF	Saint Saulge	36.82	306	eP	P	12 47 23.0	-1.0
	comp=Z,2.5nm,0.7s,mb4.2						
AVF	Avril sur Loir	36.90	306	eP	P	12 47 23.4	-1.2
NB2	NORSAR Subarra	37.22	331	P	P	12 47 26.1	-1.3
	comp=Z,1.3nm,0.7s,mb3.9,baz=124,slow=8.6						
NB2	NORSAR Subarra	37.22	331	P	P	12 47 26.1	-1.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
NOA	NORSAR Array B	37.22	331	P	P	12 47 26.2	-1.1
	comp=Z,1.0nm,0.7s,mb3.8,baz=124,slow=8.5,SNR=4.8						
TCF	Toulx Ste Croi	37.64	305	eP	P	12 47 30.0	-0.9
ARCES	ARCESS Array B	39.08	347	P	P	12 47 42.4	-0.7
	comp=Z,2.4nm,1.0s,mb3.9,baz=154,slow=8.9,SNR=5.5						
ARCES	ARCESS Array B	39.08	347	P	P	12 47 42.3	-0.8
LDF	La Druitiere	39.41	308	eP	P	12 47 44.1	-1.8
	comp=Z,4.3nm,0.6s,mb4.1						
LDF	La Druitiere	39.41	308	eP	P	12 47 44.1	-1.8
LDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LDF	La Druitiere	39.41	308	eP	P	12 47 44.1	-1.8
	comp=Z,2.2nm,0.6s,mb4.1						
FLN	La Foliniere	39.67	309	eP	P	12 47 46.4	-1.6
GRR	Gorron	39.88	308	eP	P	12 47 48.3	-1.5
SGMF	Saint Gilles	41.01	308	eP	P	12 47 57.1	-2.0
	comp=Z,3.8nm,0.5s,mb4.0						
SGMF	Saint Gilles	41.01	308	eP	P	12 47 57.1	-2.0
SGMF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
SGMF	Saint Gilles	41.01	308	eP	P	12 47 57.1	-2.0
	comp=Z,1.9nm,0.5s,mb4.0						
ULN	Ulaanbaatar	46.15	53	P	P	12 48 38.2	-2.3
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ULN	Ulaanbaatar	46.15	53	P	P	12 48 38.2	-2.2
	comp=Z,2.3nm,1.0s,mb4.1						
ULN	Ulaanbaatar	46.15	53	P	P	12 48 38.2	-2.3
	comp=Z,2.0nm,1.0s,mb4.0						
TORD	Torodi Ar. Bea	46.79	257	P	P	12 48 44.9	-0.6
	comp=Z,0.6nm,0.6s,mb3.7,baz=54,slow=7.9,SNR=7.5						
SUMG	Summit	58.25	339	eP	P	12 50 10.1	-0.4
	comp=Z,4.9nm,0.8s,mb4.6						
SUMG	Summit	58.25	339	eP	P	12 50 10.1	-0.3
	comp=Z,4.9nm,0.8s,mb4.6						

ISCJB ***05*** *12:46:30.7±0.8,2158N±004×143.18E±008,h274km±7km, mb4.2/36, Error ellipse: s-maj=11.7km s-min=6.8km az=175.4*
BJI ***05*** *12:46:30.2,2160N×14300E,h235km,mB4.7,mb4.5*
IDC ***05*** *12:46:32.0±1.4,2159N×14304E,h272km±13km,mb3.9/17, mb1 4.1/19,mb1mx4.0/27,mbtmp4.6/19, Error ellipse: s-maj=15.9km s-min=8.3km az=94.0*
NEIC ***05*** *12:46:34.3±1.0,2163N×14304E,h295km±10km,mb4.2/17, Error ellipse: s-maj=10.7km s-min=5.0km az=85.0*
JMA ***05*** *12:46:35.5±0.3,2198N×14343E,h302km,M4.6*
ISC 05 12:46:32.4±0.8,2164N±004×14318E±008,h275km±7km, n80,σ1°9°05/86,mb4.2/36,2C,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	5.05	350	P	Pn	12 47 50.8	+1.2
JHHJ				eS	S	12 48 49.4	-2.0
CBIJ	Chichi jima	5.51	351	P	Pn	12 47 55.9	+0.8
	75nm,0.3s,baz=170,slow=1.0,SNR=21						
CBIJ				S	S	12 49 00.3	-1.1
	26nm,0.3s,baz=277,slow=23,SNR=3.1						
CBIJ	Chichi jima	5.51	351	P	Pn	12 47 56.0	+0.9
CBIJ				S	S	12 48 59.4	-2.0
GUMO	Guam	8.16	168	P	Pn	12 48 31.4	+3.6
	10nm,0.3s,baz=168,slow=3.2,SNR=12						
JIM2	Oshima 3	13.44	347	P	Pn	12 49 32.2	-0.7
JIM2				eS	S	12 51 55.5	-6.2
JWZ	Kozaga	13.56	332	P	Pn	12 49 36.6	+2.2
JIE	Ise	13.93	337	P	Pn	12 49 39.3	+0.5
JOD2	Odawara 2	14.04	346	P	Pn	12 49 40.0	-0.2
JOD2				eS	S	12 52 07.0	-8.2
JTO	Tosashimizu	14.48	323	P	Pn	12 49 47.8	+2.3
JRY	Ryogami san	14.81	346	P	Pn	12 49 48.7	-0.6
JRY				eS	S	12 52 23.3	-8.2
MJAR	Matsushiro Arr	15.47	345	P	Pn	12 49 55.9	-1.2
	2.1nm,0.3s,baz=164,slow=9.5,SNR=20						
MJAR				S	S	12 52 44.1	-0.7
	0.5nm,0.3s,baz=168,slow=16,SNR=5.2						
MJAR				ScP	ScP	12 57 45.8	-2.4
	0.1nm,0.3s,baz=181,slow=3.3,SNR=4.5						
MJAR	Matsushiro Arr	15.47	345	P	Pn	12 49 55.9	-1.2
MJAR				S	S	12 52 44.1	-0.7
MJAR				ScP	ScP	12 57 45.8	-2.4
MAJO	Matsushiro	15.47	345	eP	Pn	12 49 56.2	-1.0
	10nm,0.3s						
MAT	Matsushiro	15.47	345	P	Pn	12 49 56.2	-1.0
MAT				eS	S	12 52 47.6	+2.7
MAT	Matsushiro	15.47	345	eP	Pn	12 49 56.0	-1.2
	8.2nm,0.7s						
MAT				S	S	12 52 48.0	+3.1
JSJ	Shimokoshiki	15.63	313	P	Pn	12 49 59.4	+0.3
JHS	Saijyo	15.98	329	P	Pn	12 50 03.4	+0.3
JMK	Ichinoseki	17.34	355	P	P	12 50 17.5	+1.2
JTU	Tsushima	17.66	320	P	P	12 50 21.9	+2.2
JOT	Ohata	19.77	355	P	P	12 50 42.9	+0.6
JKB	Kayabe	20.27	355	P	P	12 50 47.6	0.0
KS15	Wonju Array Si	20.57	323	eP	P	12 50 51.2	+0.4
NEM2	Nemuro 2	21.77	5	P	P	12 51 00.6	-1.6
SSE	Sheshan	21.81	300	eP	P	12 51 02.1	-0.4
SSE				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
SSE				AMB	AMB		
	comp=Z,110nm,3.5s						
JTKR	Abashiri--Toko	22.28	1	P	P	12 51 07.7	+0.9
ASAJ	Asahikawa	22.42	359	P	P	12 51 09.1	+0.9
	comp=Z,6.6nm,0.5s,mb4.2,baz=124,slow=8.9,SNR=11						
NJ2	Nanjing	24.00	301	eP	P	12 51 21.6	-0.9
NJ2				AP		12 52 08.5	
NJ2				XP	sP	12 52 38.9	-7.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
NJ2				AMB	AMB		
	comp=Z,250nm,4.6s						
NJ2				LR	LR		
	comp=N,410nm,12.2s						
NJ2				LR	LR		
	comp=E,740nm,13.2s						
NJ2				LR	LR		
	comp=Z,260nm,14.6s						
YSS	Yuzh-Sakhalins	25.26	359	eP	P	12 51 31.4	-2.3
MDJ	Mudanjiang	25.52	337	P	P	12 51 36.8	+0.7
MDJ				AMB	AMB		
	comp=Z,40nm,5.7s						
MDJ	Mudanjiang	25.52	337	eP	P	12 51 36.0	-0.1
	comp=Z,11nm,1.0s,mb4.2						
SNY	Shenyang	26.02	325	eP	P	12 51 42.4	+1.8
SNY				AMB	AMB		
	comp=Z,10.0nm,2.6s,mb3.8						
CN2	Changchun	26.56	330	eP	P	12 51 48.5	+3.1
HHC	Hu-ho-hao-te	32.87	313	eP	P	12 52 42.9	+2.1
HHC				S	S	12 57 46.0	+8.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,70nm,5.9s						
HHC				LR	LR		
	comp=N,130nm,17.6s						
HHC				LR	LR		
	comp=E,140nm,13.5s						
HHC				LR	LR		
	comp=Z,50nm,10.6s						
HIA	Hailar	33.26	332	P	P	12 52 44.2	+0.1
	comp=Z,6.9nm,0.7s,mb4.3						
KAKA	Kakadu	35.73	198	eP	P	12 53 04.2	-1.0
	comp=Z,10nm,0.6s,mb4.5						
CD2	Chengdu	36.38	293	eP	P	12 53 10.7	0.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
KMI	Kunming	37.19	283	P	P	12 53 17.9	+0.4
ULN	Ulaanbaatar	39.01	321	eP	P	12 53 32.8	+0.1
	comp=Z,1.4nm,0.5s,mb3.6						
SONM	Songino Array	39.38	321	P	P	12 53 35.6	-0.1
	comp=Z,1.9nm,0.5s,mb3.8,baz=133,slow=7.8,SNR=11						
GTA	Gaotai	40.91	306	eP	P	12 53 47.5	-0.6
GTA				AP	pP	12 54 39.6	-4.6
GTA				XP	sP	12 55 08.7	-6.8
GTA				PP	PP	12 55 28.8	0.0
GTA				SCP	ScP	12 59 07.3	+1.5
GTA				S	S	12 59 42.0	+3.4
GTA				XS	sS	13 01 15.6	-3.2
GTA				SCS	ScS	13 03 21.6	-0.3
GTA				AMB	AMB		
	comp=Z,70nm,5.3s						
GTA				LR	LR		
	comp=N,190nm,18.2s						
GTA				LR	LR		
	comp=E,380nm,23.9s						
GTA				LR	LR		
	comp=Z,90nm,12.9s						
CTA	Charters Tower	41.58	176	eP	P	12 53 54.4	+0.8
	comp=Z,3.4nm,0.4s,mb3.9						
WRA	Warramunga Arr	42.22	192	P	P	12 53 58.8	0.0
	comp=Z,20nm,0.4s,mb4.7,baz=16,slow=9.8,SNR=496						
WRA				ScP	ScP	12 59 11.9	+0.8
	comp=Z,0.7nm,0.6s,baz=12,slow=4.6,SNR=5.4						
FITZ	Fitzroy Crossi	43.07	205 ⇈	iP	P	12 54 05.3	-0.2
	comp=Z,13nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	43.07	205	P	P	12 54 05.2	-0.3
	comp=Z,7.2nm,0.5s,mb4.1,baz=21,slow=9.7,SNR=8.3						
AS31	Alice Springs	45.92	192	eP	P	12 54 27.6	-0.4
ASAR	Alice Springs	45.93	192	P	P	12 54 27.6	-0.5
	comp=Z,6.0nm,0.6s,mb4.1,baz=16,slow=9.5,SNR=103						
ASPA	Alice Springs	45.93	192	eP	P	12 54 27.6	-0.4
PSI	Prapat	46.89	253	P	P	12 54 35.6	+0.1
	comp=Z,7.9nm,0.4s,mb4.4,baz=57,slow=3.3,SNR=7.5						
AKUT	Akutan	50.16	37	eP	P	12 55 00.4	+0.1
STKA	Stephens Creek	53.23	182 ⇈	iP	P	12 55 20.5	-2.4
	comp=Z,11nm,0.4s,mb4.5						
STKA	Stephens Creek	53.23	182	P	P	12 55 20.6	-2.3
	comp=Z,16nm,0.5s,mb4.6,baz=358,slow=7.2,SNR=82						
SDPT	Sand Point	53.46	36	eP	P	12 55 24.7	+0.2
FORT	Forrest	54.10	196	eP	P	12 55 28.8	-0.3
	comp=Z,32nm,0.6s,mb4.8						
ZAL	Zalesovo	54.27	322	P	P	12 55 29.8	-0.5
	comp=Z,1.2nm,0.6s,mb3.4,baz=8.0,slow=9.5,SNR=5.4						
MKAR	Makanchi Array	54.74	313	P	P	12 55 33.6	-0.1
	comp=Z,0.7nm,0.4s,mb3.4,baz=90,slow=9.3,SNR=12						
MKAR				PcP	PcP	12 56 31.9	-0.7
	comp=Z,0.7nm,0.6s,baz=83,slow=4.5,SNR=7.4						
KDAK	Kodiak Island	58.25	35	P	P	12 55 58.7	+0.3
	comp=Z,5.7nm,0.4s,mb4.3,baz=251,slow=4.1,SNR=16						
TOO	Toolangi	58.93	178	eP	P	12 56 03.8	+0.8
	comp=Z,5.9nm,0.9s,mb4.0						
NWAO	Narrogin (SRO)	59.65	205	P	P	12 56 07.5	-0.3
	comp=Z,2.9nm,0.5s,mb4.1,baz=27,slow=7.3						
COLA	College	61.70	27	eP	P	12 56 21.6	-0.1
	comp=Z,2.2nm,0.7s,mb3.9						
CHKZ	Chkalovo	62.58	320	eP	P	12 56 26.6	-0.9
	comp=Z,1.6nm,0.5s,mb3.9						
ZRNK	Zerenda	63.55	319	P	P	12 56 33.6	-0.2
	comp=Z,3.4nm,0.8s,mb4.0						
AKTK	Aktyubinsk	70.61	318	P	P	12 57 18.5	+0.4
AKTO	Aktyubinsk	70.61	318	P	P	12 57 18.5	+0.4
	comp=Z,1.0nm,0.6s,mb3.7,baz=127,slow=8.8,SNR=5.0						
YKA	Yellowknife Ar	76.51	28	P	P	12 57 52.2	-0.1
	comp=Z,5.9nm,0.6s,mb4.5,baz=291,slow=5.9,SNR=16						
YKA	Yellowknife Ar	76.51	28	P	P	12 57 52.2	-0.1
KEV	Kevo	78.42	341	ep	P	12 58 01.9	-0.9
	comp=Z,7.9nm,0.5s,mb4.7						
ARCES	ARCESS Array B	78.98	341	P	P	12 58 05.4	-0.4
	comp=Z,6.7nm,0.5s,mb4.6,baz=73,slow=8.4,SNR=47						
JOF	Joensuu	80.37	334	ep	P	12 58 12.2	-1.1
	comp=Z,4.5nm,0.5s,mb4.5						
KAF	Kangasniemi	82.78	335	ep	P	12 58 24.5	-1.3
	comp=Z,2.8nm,0.6s,mb4.3,baz=55,slow=4.8						
NVAR	Mina Array Bea	83.18	51	P	P	12 58 29.6	+1.7
	comp=Z,2.5nm,0.7s,mb4.2,baz=279,slow=4.7,SNR=19						
FINES	FINESS Array B	83.23	334	P	P	12 58 26.9	-1.2
	comp=Z,2.7nm,0.4s,mb4.4,baz=76,slow=5.0,SNR=32						
HLID	Hailey	83.89	46	eP	P	12 58 32.6	+1.1
	comp=Z,1.0nm,0.7s,mb3.8						
HRY	Holter Researc	84.24	42	eP	P	12 58 34.3	+1.1
NOA	NORSAR Array B	89.00	339	P	P	12 58 54.9	-1.3
	comp=Z,0.3nm,0.8s,mb3.2,baz=51,slow=4.2,SNR=3.1						
TORD	Torodi Ar. Bea	128.78	309	PKP	PKPdf	13 05 07.0	0.0
	comp=Z,0.3nm,0.4s,baz=22,slow=1.2,SNR=7.8						
TORD				SKPbc		13 08 00.2	
	comp=Z,1.3nm,0.9s,baz=49,slow=2.0,SNR=6.1						
DBIC	Dimbokro	137.88	308	SKPbc	SKPbc	13 08 30.2	-1.4
	comp=Z,5.2nm,1.0s,baz=8.5,slow=0.7,SNR=3.8						
PLCA	Paso Flores	145.72	131	PKPbc	PKPbc	13 05 39.9	+0.9
	comp=Z,21nm,0.7s,baz=232,slow=3.6,SNR=66						
PLCA	Paso Flores	145.72	131	ePKPdf	PKPdf	13 05 39.9	+1.9
LPAZ	La Paz	149.95	85	PKP	PKPdf	13 05 47.0	+2.0
	comp=Z,5.4nm,0.6s,baz=89,slow=3.1,SNR=4.1						
LPAZ				PKPbc	PKPbc	13 05 52.7	+2.6
	comp=Z,5.4nm,0.6s,baz=293,slow=1.8,SNR=34						
LPAZ	La Paz	149.95	85	PKP	PKPdf	13 05 47.0	+2.0
LPAZ				ePKPbc	PKPbc	13 05 52.5	+2.3
LPAZ				PKPbc	PKPbc	13 05 52.7	+2.6

IDC 05 12:55:06.6±1.8,120N×12615E,h0km,mb4.0/3,mb1 4.1/4, mb1mx3.8/15,mbtmp3.9/4,ML3.7/1, Error ellipse: s-maj=116.0km s-min=22.3km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.19	181	P	Pn	12 59 32.2	-0.4
	0.2nm,0.3s,baz=350,slow=12,SNR=5.2						
WRA	Warramunga Arr	22.49	159	P	P	13 00 07.2	-0.3
	2.7nm,0.3s,baz=338,slow=11,SNR=42						
ASAR	Alice Springs	25.84	164	P	P	13 00 40.3	+0.7
	0.9nm,0.3s,baz=345,slow=11,SNR=13						
STKA	Stephens Creek	36.01	157	P	P	13 02 06.0	-3.3
	1.0nm,0.3s,baz=327,slow=11,SNR=3.8						
MKAR	Makanchi Array	59.31	326	P	P	13 05 10.3	+0.2
	0.6nm,0.4s,baz=119,slow=7.7,SNR=12	

KPT *i* S **Sn** **13 54 30.7 +2.6**
TUMR Tumrok 1.35 255 *e*P **Pn** **13 54 12.3 +0.5**
KOZR Kozyr 1.48 287 PN **Pn** **13 54 15.0 +1.5**
KOZR S **Sn** **13 54 36.5 +3.9**
KOZ Kozyrevsk 1.49 287 P **Pn** **13 54 15.0 +1.3**
KOZ S **Sn** **13 54 36.5 +3.6**
KOZ Kozyrevsk 1.49 287 *i* P **Pn** **13 54 15.0 +1.3**
KOZ *e*S **Sn** **13 54 35.6 +2.7**
SRDR Sredinnyy 1.66 295 *i* P **Pn** **13 54 16.4 +0.6**
SRDR *e*S **Sn** **13 54 39.4 +2.7**
BKI Bering 2.07 101 *i* P **Pn** **13 54 15.6 -5.6**
BKI *i* S **Sn** **13 54 37.1 -9.3**
BKI Smax
24µm,0.5s
ESO Esso 2.12 279 *i* P **Pn** **13 54 22.7 +0.8**
ESO Smax
5µm,1.1s
KII Karymskiy 2.36 228 P **Pn** **13 54 24.2 -0.9**
KII S **Sn** **13 54 52.6 -0.7**
KII Karymskiy 2.36 228 *e*P **Pn** **13 54 24.1 -1.0**
SPN Mys Shipunski 2.92 210 P **Pn** **13 54 30.0 -2.6**
SPN S **Sn** **13 55 01.7 -5.0**
SPN Mys Shipunski 2.92 210 *i* P **Pn** **13 54 30.0 -2.6**
SPN *i* S **Sn** **13 55 01.9 -4.8**
NLC Nalytchevo 3.07 217 P **Pn** **13 54 33.2 -1.4**
NLC S **Sn** **13 55 07.4 -2.9**
NLC Nalytchevo 3.07 217 *i* P **Pn** **13 54 33.3 -1.3**
NLC *e*S **Sn** **13 55 08.5 -1.8**
SDLR Sedlovina 3.15 222 *i* P **Pn** **13 54 35.3 -0.4**
SDLR *i* S **Sn** **13 55 11.4 -0.9**
SMAR Somma 3.19 223 *i* P **Pn** **13 54 36.1 -0.2**
SMAR *i* S **Sn** **13 55 12.6 -0.8**
AVH Avacha 3.22 223 *i* P **Pn** **13 54 36.6 0.0**
AVH *e*S **Sn** **13 55 13.7 -0.2**
UGLR Uglovaya 3.23 222 *i* P **Pn** **13 54 36.6 -0.2**
KOK Koryaka 3.24 225 *i* P **Pn** **13 54 36.9 0.0**
GNL Ganaly 3.26 235 *i* P **Pn** **13 54 37.9 +0.7**
PET Petropavlovsk 3.44 222 P **Pn** **13 54 39.1 -0.5**
PET S **Sn** **13 55 18.1 -1.1**
PET Petropavlovsk 3.44 222 ⇓*i*PN **Pn** **13 54 39.0 -0.6**
PET *e*S **Sn** **13 55 17.4 -1.8**
PET pmax pmax
comp=Z,700nm,0.5s
PET pmax pmax
comp=Z,997nm,0.4s
PET smax
comp=N,2µm,1.0s
PET smax
comp=E,1µm,0.7s
PET smax
comp=E,2µm,1.1s
PET smax
comp=N,3µm,0.7s
PET MLR MLR
comp=Z,600nm,30.0s
PET Petropavlovsk 3.44 222 *e*Pn **Pn** **13 54 38.7 -0.9**
PET *e*Sn **Sn** **13 55 20.2 +1.0**
PET Petropavlovsk 3.44 222 *e*P **Pn** **13 54 39.1 -0.5**
PET *e*S **Sn** **13 55 18.1 -1.1**
OSSR Ossora 3.62 5 *i* P **Pn** **13 54 43.1 +1.0**
OSSR *i* S **Sn** **13 55 23.8 0.0**
KRMR Karymshinskiy 3.79 223 *e*P **Pn** **13 54 44.3 0.0**
KRMR *e*S **Sn** **13 55 27.9 +0.1**
RUS Russkaya 3.96 217 P **Pn** **13 54 45.6 -1.2**
RUS S **Sn** **13 55 28.8 -3.3**
RUS Russkaya 3.96 217 *i* P **Pn** **13 54 46.2 -0.6**
RUS *e*S **Sn** **13 55 30.4 -1.7**
GRL Gorelyy 4.03 221 *e*P **Pn** **13 54 48.2 +0.6**
APC Apacha 4.12 231 *i* P **Pn** **13 54 49.7 +0.8**
APC Smax
comp=Z,340nm,0.7s
MIPR Malaya Ipel'ka 4.76 227 *e*P **Pn** **13 54 58.5 +1.0**
PAU Pauzhetka 5.36 221 *i* P **Pn** **13 55 06.0 +0.2**
PAU Smax
comp=Z,490nm,1.0s
SKR Severo-Kuril's 6.26 220 *e*PN **Pn** **13 55 13.6 -4.4**
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=E,120nm,0.5s
SKR pmax pmax
comp=Z,260nm,0.5s
ALID Alaid 6.32 224 *e*P **Pn** **13 55 18.9 +0.1**
KAMR Kamenskoye 7.10 14 *i* P **Pn** **13 55 29.7 +0.3**
KAMR *e*S **Sn** **13 56 46.7 -1.8**
KAMR Smax
comp=Z,240nm,1.1s
MA2 Magadan 7.39 307 *de*PN **Pn** **13 55 35.1 +1.7**
MA2 *e*S **Sn** **13 57 01.4 +5.7**
MA2 pmax pmax
comp=Z,40nm,0.7s
MA2 pmax pmax
comp=E,30nm,0.8s
MA2 Magadan 7.39 307 *e*Pn **Pn** **13 55 34.6 +1.2**
comp=E,39nm,0.7s
SMY Shemya 7.45 108 *e*PN **Pn** **13 55 34.0 -0.2**
SMY pmax pmax
comp=Z,12nm,0.4s
SMY Shemya 7.45 108 *e*P **Pn** **13 55 34.0 -0.2**
comp=Z,12nm,0.4s
BILL Bilibino 12.56 7 *e*PN **Pn** **13 56 45.2 +1.4**
BILL Bilibino 12.56 7 *e*Pn **Pn** **13 56 45.2 +1.4**
comp=Z,24nm,0.9s
YSS Yuzh-Sakhalins 15.03 243⇑*e*P **Pn** **13 57 17.8 +1.8**
YSS *e*S **S** **14 00 06.0 -7.8**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,200nm,13.0s
YSS Yuzh-Sakhalins 15.03 243 *e*P **Pn** **13 57 17.8 +1.8**
comp=Z,14nm,0.6s
ASAJ Asahikawa 17.15 236 P **Pn** **13 57 42.5 0.0**
comp=Z,4.7nm,0.3s,baz=49,slow=6.2,SNR=55
ASAJ S **S** **14 00 43.1 -14**
comp=Z,0.4nm,0.3s,baz=276,slow=30,SNR=4.0
ASAJ LR LR 14 04 53.5
comp=Z,84nm,21.0s,baz=249,slow=39
ASAJ Asahikawa 17.15 236 P **Pn** **13 57 42.5 0.0**
ASAJ S **S** **14 00 43.1 -14**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
ASAJ MLR MLR
comp=Z,84nm,21.0s
YAK Yakutsk 17.95 304 *e*P **Pn** **13 57 51.5 -0.8**
YAK pmax pmax
comp=Z,46nm,1.1s
YAK pmax pmax
comp=N,14nm,1.6s
YAK pmax pmax
comp=E,46nm,1.3s
YAK Yakutsk 17.95 304 *e*P **Pn** **13 57 51.2 -1.1**
comp=E,74nm,0.8s
HABR Khabarovsk 18.21 258 P **Pn** **13 57 52.8 -2.6**
HABR S **S** **14 01 16.4 -2.2**
AKUT Akutan 18.27 82 *e*P **Pn** **13 57 53.5 -2.6**
comp=E,112nm,1.7s
KLR Kul'dur 19.66 264 *e*P **Pn** **13 58 07.3 -5.3**
CLNS Chul'man 20.72 289 *e*P **P** **13 58 25.3 +3.4**
CLNS *e*S **S** **14 02 04.1 -4.5**
CLNS *e*SS 14 02 28.0
CLNS *e* 14 02 39.6
CLNS pmax pmax
comp=Z,53nm,0.9s
CLNS pmax pmax
comp=N,36nm,0.8s
CLNS pmax pmax
comp=E,61nm,0.9s
CLNS pmax pmax
comp=Z,25nm,0.9s
CLNS pmax pmax
comp=N,26nm,0.8s
CLNS pmax pmax
comp=E,24nm,0.7s
CLNS smax
comp=E,227nm,13.0s
CLNS smax
comp=Z,39nm,12.2s
CLNS smax
comp=N,243nm,12.3s
CLNS MLR MLR
comp=N,400nm,14.0s
CLNS MLR MLR
comp=E,200nm,14.0s
CLNS MLR MLR
comp=Z,200nm,14.0s
SDPT Sand Point 20.86 75 *e*P **P** **13 58 24.4 +1.0**
comp=Z,2.2nm,0.7s
TIXI Tiksi 21.40 331 *e*P **P** **13 58 25.2 -3.9**
TIXI *e*S **S** **14 02 19.7 -2.1**
TIXI pmax pmax
comp=Z,46nm,0.8s,mb4.9
TIXI pmax pmax
comp=Z,20nm,0.7s,mb4.6
TIXI pmax pmax
comp=N,4.0nm,0.6s
TIXI pmax pmax
comp=E,16nm,0.8s
TIXI smax
comp=N,91nm,11.0s
TIXI smax
comp=E,29nm,14.2s
CHGN Chignik 21.73 72 *e*P **P** **13 58 31.4 -1.2**
TTA Tatalina 22.09 54 *e*P **P** **13 58 35.4 -1.1**
SVW2 Sparrevohn 22.37 59 *e*P **P** **13 58 38.1 -1.3**
MDJ Mudanjiang 23.54 256 P **P** **13 58 50.4 -0.5**
MDJ AMB AMB
comp=Z,30nm,4.2s
KDAK Kodiak Island 24.44 66 P **P** **13 58 56.7 -2.4**
comp=Z,30nm,0.7s,mb4.8,baz=298,slow=5.9,SNR=31
KDAK Kodiak Island 24.44 66 *e*P **P** **13 58 56.3 -2.8**
comp=Z,28nm,0.7s,mb4.7
MAJO Matsushiro 25.22 231 *e*P **P** **13 59 06.7 +0.5**
MAJO pmax pmax
comp=Z,28nm,0.8s,mb4.7
MAJO Matsushiro 25.22 231 *e*P **P** **13 59 06.7 +0.5**
comp=Z,28nm,0.8s,mb4.7
MAT Matsushiro 25.22 231 P **P** **13 59 06.6 +0.4**
MAT Matsushiro 25.22 231 *e*P **P** **13 59 07.0 +0.8**
MAT pmax pmax
comp=Z,23nm,0.8s,mb4.7
MAT Matsushiro 25.22 231 *e*P **P** **13 59 07.0 +0.8**
comp=Z,23nm,0.8s,mb4.7
MJAR Matsushiro Arr 25.22 231 P **P** **13 59 06.9 +0.7**
comp=Z,13nm,0.7s,mb4.5,baz=30,slow=8.8,SNR=57
MJAR LR LR 14 08 36.7
comp=Z,95nm,21.7s,baz=25,slow=35
PMR Palmer 25.40 57 *e*P **P** **13 59 06.3 -1.5**
PMR pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
PMR Palmer 25.40 57 *e*P **P** **13 59 06.2 -1.6**
comp=Z,10.0nm,0.8s,mb4.3
COLA College 25.65 49 *e*P **P** **13 59 09.1 -1.0**
COLA pmax pmax
comp=Z,13nm,0.8s,mb4.4
COLA College 25.65 49 *e*P **P** **13 59 09.1 -1.1**
comp=Z,13nm,0.8s,mb4.4
BOD Bodaibo 26.20 295 *e*P **P** **13 59 16.1 +1.0**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb3.9
CN2 Changchun 26.35 259 *e*P **P** **13 59 19.0 +2.6**
MENT Mentasta 27.68 53 *e*P **P** **13 59 27.1 -1.2**
SNY Shenyang 28.68 258 *e*P **P** **13 59 42.5 +5.3**
DAWY Dawson 29.39 50 *e*P **P** **13 59 42.2 -1.3**
INK Inuvik 31.02 40 P **P** **13 59 57.2 -0.7**
comp=Z,2.6nm,0.5s,mb4.2,baz=292,slow=6.1,SNR=16
INK Inuvik 31.02 40 P **P** **13 59 57.2 -0.7**
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 31.02 40 *e*P **P** **13 59 56.8 -1.1**
comp=Z,6.6nm,0.9s,mb4.4
SKAG Skagway 32.53 57 *e*P **P** **14 00 11.1 0.0**
comp=Z,15nm,1.1s,mb4.7
SKAG LR LR
comp=Z,100nm,19.0s
ULN Ulaanbaatar 34.31 281 *e*P **P** **14 00 26.0 -0.6**
ULN pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
ULN Ulaanbaatar 34.31 281 *e*P **P** **14 00 26.0 -0.6**
comp=Z,1.3nm,0.6s,mb3.9
SONM Songino Array 34.70 281 P **P** **14 00 30.4 +0.4**
comp=Z,3.5nm,0.7s,mb4.3,baz=61,slow=8.9,SNR=11
SONM PcP PcP 14 03 02.4 +0.2
comp=Z,1.2nm,0.6s,baz=9.5,slow=1.1,SNR=3.9
SONM LR LR 14 16 23.7
comp=Z,81nm,18.0s,baz=255,slow=39
SONM Songino Array 34.70 281 P **P** **14 00 30.4 +0.4**
SONM 14 03 02.4
ZAK Zakamensk 35.02 287 *e*P **P** **14 00 32.3 -0.4**
ZAK *e* 14 01 57.4
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.1
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.1
DLBC Dease Lake 35.46 57 *e*P **P** **14 00 37.3 +0.8**
HHC Hu-ho-hao-te 36.08 268 *e*P **P** **14 00 43.7 +1.9**
HHC AP pP 14 00 53.4 -8.1
HHC XP sP 14 00 57.4 -14
HHC PP PP 14 02 06.4 +1.1
HHC PCP PcP 14 03 09.6 +3.4
HHC S **S** **14 06 21.2 +6.2**
HHC XS sS 14 06 37.2 -12
HHC SCP ScP 14 06 51.7 +6.8
HHC PCS PcS 14 06 56.1 +2.3
HHC SCS ScS 14 10 56.1 +5.3
HHC AMB AMB
comp=Z,10.0nm,0.3s,mb5.2
HHC AMB AMB
comp=Z,100nm,4.9s
HHC LR LR
comp=N,110nm,10.3s
HHC LR LR
comp=E,80nm,18.8s
HHC LR LR
comp=Z,110nm,12.5s
KRAR Krasnoyarsk 37.55 300 *i* P **P** **14 00 54.2 0.0**
SSE Sheshan 37.91 247 *e*P **P** **14 00 59.1 +1.8**
SSE AMB AMB
comp=Z,100nm,3.5s
NJ2 Nanjing 38.39 250 *e*P **P** **14 01 04.0 +2.7**
NJ2 AP pP 14 01 13.3 -7.8
NJ2 XP sP 14 01 18.4 -12
NJ2 PP PP 14 02 34.1 +3.5
NJ2 S **S** **14 06 54.0 +4.0**
NJ2 XS sS 14 07 12.0 -12
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,270nm,4.2s
NJ2 LR LR
comp=N,480nm,13.9s
NJ2 LR LR
comp=E,370nm,12.8s
NJ2 LR LR
comp=Z,250nm,12.1s
YKA Yellowknife Ar 40.37 45 P **P** **14 01 17.0 -0.8**
comp=Z,4.5nm,0.8s,mb4.4,baz=300,slow=8.3,SNR=9.6
YKA LR LR 14 19 35.9
comp=Z,39nm,18.4s,baz=265,slow=38
ZAL Zalesovo 42.59 301 P **P** **14 01 35.5 -0.5**
comp=Z,0.8nm,0.4s,mb3.8,baz=296,slow=3.2,SNR=3.8
ZAL LR LR 14 20 35.2
comp=Z,70nm,19.6s,baz=57,slow=38
GTA Gaotai 43.70 275 *e*P **P** **14 01 44.2 -0.7**
GTA AP pP 14 01 53.6 -11
GTA XP sP 14 01 57.7 -17
GTA PP PP 14 03 27.2 -0.9
GTA PCP PcP 14 03 32.3 +1.7
GTA PPP 14 05 33.5
GTA SCP ScP 14 07 20.8 +6.2
GTA PCS PcS 14 07 25.0 +1.5
GTA S **S** **14 08 09.7 +1.0**
GTA XS sS 14 08 26.5 -17
GTA SS SS 14 11 16.8 -10
GTA SCS ScS 14 11 39.2 +3.3
GTA AMB AMB
comp=Z,40nm,5.3s
GTA LR LR
comp=N,100nm,14.1s
GTA LR LR
comp=E,120nm,12.9s
GTA LR LR
comp=Z,100nm,14.1s
KBS Kingsbay 44.52 352 *ce*P **P** **14 01 52.0 +0.5**
B05A Bryant 44.94 66 ⇓P **P** **14 01 54.7 -0.1**
baz=45
E03A Lebam 45.26 69 ⇑P **P** **14 01 57.6 +0.2**
baz=45
C05A Tolt Reservoir 45.51 67 ⇓P **P** **14 01 59.3 0.0**
baz=45
D05A Enumclaw 45.67 67 ⇑P **P** **14 02 00.6 0.0**
baz=46
EDM Edmonton 46.17 56 *e*P **P** **14 02 04.0 -0.5**
E05A Randle 46.20 68 ⇑P **P** **14 02 04.6 -0.1**
baz=46
H04A Detroit Lake 47.21 70 ⇑P **P** **14 02 12.3 -0.3**
baz=47
G05A Wamic 47.30 69 ⇑P **P** **14 02 13.4 +0.1**
baz=47
WMQ Urumqi 47.43 289 P **P** **14 02 17.0 +2.7**
WMQ AP pP 14 02 26.6 -8.1
WMQ PP PP 14 04 06.7 +0.5
WMQ S **S** **14 09 07.9 +5.6**
WMQ XS sS 14 09 24.8 -12
WMQ SCS ScS 14 12 04.6 +4.7
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.8
WMQ LR LR
comp=N,150nm,25.0s
WMQ LR LR
comp=E,140nm,26.0s
WMQ LR LR
comp=Z,70nm,26.0s
CD2 Chengdu 47.59 264 *e*P **P** **14 02 14.3 -1.3**
CD2 AP pP 14 02 32.9 -3.1
CD2 PP PP 14 04 05.8 -1.9
CD2 S **S** **14 09 02.3 -2.3**
CD2 SS SS 14 12 25.8 -7.7
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,70nm,5.9s
CD2 LR LR
comp=E,120nm,9.0s
CD2 LR LR
comp=Z,130nm,9.6s
J03A Ideyld Park 47.67 72 ⇓P **P** **14 02 14.0 -2.2**
baz=48
H05A Madras 47.74 70 ⇓P **P** **14 02 16.4 -0.3**
baz=48
DAG Danmarks Havn 47.84 0⇑*i*P **P** **14 02 17.2 -0.3**
comp=Z,4.5nm,0.8s,mb4.3
DAG Danmarks Havn 47.84 0⇑*i*P **P** **14 02 17.2 -0.3**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
HUMO Hull Mountain 48.19 73 ⇑P **P** **14 02 19.6 -0.6**
baz=48
MKAR Makanchi Array 48.29 295 P **P** **14 02 19.9 -1.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=55,slow=6.9,SNR=19
I06A Prineville 48.76 70 ⇑P **P** **14 02 24.3 -0.3**
baz=48
YBH Yreka Blue Hor 48.92 73 LR LR 14 20 19.5
comp=Z,84nm,18.7s,baz=313,slow=33
YBH Yreka Blue Hor 48.92 73 ⇓P **P** **14 02 26.0 +0.2**
baz=49
M02C Callahan 49.08 74 ⇑P **P** **14 02 27.1 +0.1**
baz=49
N02C Big Bar 49.22 75 ⇓P **P** **14 02 28.3 +0.2**
baz=49
J06A Christmas Vall 49.26 70 ⇓P **P** **14 02 28.5 +0.1**
baz=49,SNR=11
CHKZ Chkalovo 49.34 308 *e*P **P** **14 02 27.3 -1.7**
CHKZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CHKZ Chkalovo 49.34 308 *e*P **P** **14 02 27.3 -1.7**
comp=Z,10nm,0.9s,mb4.8
M04C Macdoel 49.36 73 ⇓P **P** **14 02 29.5 +0.4**
baz=49
K06A Valley Falls 49.52 71 ⇑P **P** **14 02 30.6 +0.3**
baz=49
WDC Whiskeytown Da 49.81 74 ⇑P **P** **14 02 32.6 +0.1**
baz=50
O02C Red Bluff 49.95 75 ⇓P **P** **14 02 33.2 -0.4**
baz=50
M05C Lookout 50.02 73 ⇑P **P** **14 02 34.3 +0.1**
baz=50
MSO Missoula 50.05 63 *e*P **P** **14 02 33.5 -0.9**
comp=Z,5.2nm,1.1s,mb4.4
GASB Alder Springs 50.36 75 ⇓P **P** **14 02 37.1 +0.4**
baz=50
O03C Acorn Hollow, 50.49 75 ⇓P **P** **14 02 37.0 -0.8**
baz=50
M06C Likely Place G 50.50 72 ⇑P **P** **14 02 37.6 -0.1**
baz=50
ZRNK Zerenda 50.55 309 *e*P **P** **14 02 36.9 -1.2**
ZRNK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ZRNK Zerenda 50.55 309 *e*P **P** **14 02 36.9 -1.3**
comp=Z,5.4nm,0.6s,mb4.8
HOPS Hopland 50.63 76 ⇓P **P** **14 02 38.6 -0.2**
baz=50
FCC Fort Churchill 50.64 41 *e*P **P** **14 02 38.0 -0.8**
FCC pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
FCC Fort Churchill 50.64 41 *e*P **P** **14 02 38.0 -0.8**
comp=Z,4.4nm,0.8s,mb4.5
ELFS Eagle Lake Fie 50.77 73 ⇑P **P** **14 02 40.3 +0.5**
baz=51
O04C Chester 50.78 74 ⇓P **P** **14 02 40.2 +0.3**
baz=51
M07A Soldier Meadow 51.07 71 ⇑P **P** **14 02 42.3 +0.2**
baz=51
ORV Oroville 51.10 75 ⇑P **P** **14 02 42.4 +0.2**
baz=51
O05C Quincy 51.13 74 ⇑P **P** **14 02 42.7 +0.2**
baz=51
HRY Holter Researc 51.19 62 *e*P **P** **14 02 42.8 -0.2**
SUMG Summit 51.24 8 *e*P **P** **14 02 43.4 0.0**
comp=Z,9.6nm,0.9s,mb4.8
ARCES ARCESS Array B 51.27 342 P **P** **14 02 42.8 -0.8**
comp=Z,4.4nm,0.7s,mb4.6,baz=29,slow=8.4,SNR=11
ARCES LR LR 14 27 04.7
comp=Z,24nm,19.2s,baz=357,slow=39
L09A Wilkinson Ranc 51.43 70 ⇓P **P** **14 02 44.9 +0.2**
baz=51
Q03C Winters 51.48 76 ⇑P **P** **14 02 45.2 +0.1**
baz=51
O06A Flanigan 51.58 73 ⇑P **P** **14 02 45.7 -0.2**
baz=51
FARB Farallon Islan 51.59 77 ⇓P **P** **14 02 46.0 +0.1**
baz=51
N07B Gerlach 51.61 72 ⇓P **P** **14 02 46.0 -0.1**
baz=51
DLMT Dillon 51.74 63 *e*P **P** **14 02 46.5 -0.6**
comp=Z,2.3nm,0.6s,mb4.4
P05C Yuba Gap, Truc 51.77 74 ⇓P **P** **14 02 47.0 -0.3**
baz=52
M09A Marrel Ranch, 51.97 70 ⇑P **P** **14 02 49.1 +0.3**
baz=52
MCMT McKenzie Canyo 51.98 64 *e*P **P** **14 02 48.2 -0.7**
N08A GE Springer Mi 52.06 71 ⇓P **P** **14 02 49.2 -0.2**
baz=52
LAVA Lava Cap Winer 52.08 75 ⇓P **P** **14 02 49.6 0.0**
baz=52
O07A Toulon 52.09 72 ⇑P **P** **14 02 50.0 +0.3**
baz=52
WCN Washoe City 52.23 74 ⇓P **P** **14 02 50.6 -0.1**
baz=52
N09A Rock Creek Ran 52.34 71 ⇑P **P** **14 02 51.7 +0.2**
baz=52
M10A I.L. Ranch, Tu 52.38 69 ⇓P **P** **14 02 52.0 +0.1**
baz=52
ARU Arti 52.44 317⇑*i*P **P** **14 02 52.2 -0.1**
ARU *e* pP 14 03 10.1 -2.9
ARU *e* 14 03 58.6
ARU *e* 14 04 50.7
ARU *e*S **S** **14 10 14.1 +2.0**
ARU *e*SS SS 14 13 52.8 +1.9
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
R05C Kirkwood Meado 52.48 74 ⇓P **P** **14 02 52.7 +0.1**
baz=52
KMI Kunming 52.61 260 P **P** **14 02 54.4 +0.9**
KMI AP pP 14 03 06.6 -7.7
KMI XP sP 14 03 10.4 -13
KMI PP PP 14 04 58.2 +4.9
KMI S **S** **14 10 19.5 +5.1**
KMI XS sS 14 10 37.3 -13
KMI SS SS 14 13 55.7 +2.1
KMI AMB AMB
comp=Z,60nm,4.3s
KMI LR LR
comp=N,170nm,16.9s
KMI LR LR
comp=E,110nm,17.7s
KMI LR LR
comp=Z,130nm,14.7s

CMB Columbia Colle 52.79 75 ⇓P P 14 02 54.8 0.0
baz=53
M11A Holland Ranch, 52.84 69 ⇓P P 14 02 55.3 0.0
baz=53
R06C Coleville 52.95 74 ⇓P P 14 02 56.6 +0.6
baz=53
O09A Fish Creek Ran 53.00 71 ⇓P P 14 02 56.6 +0.3
baz=53
P09A Austin 53.47 72 ⇑P P 14 03 00.6 +0.8
baz=53
R07C Lee Vining 53.48 74 ⇓P P 14 03 00.9 +0.9
baz=53
Q08A Gabbs 53.54 73 P P 14 03 01.1 +0.8
baz=53,SNR=10
FLWY Flagg Ranch 53.60 63 *eP* **P 14 03 01.8 +1.0**
comp=Z,5.4nm,0.6s,mb4.8
IMW Indian Meadow 53.61 64 *eP* **P 14 03 01.5 +0.6**
comp=Z,4.1nm,0.7s,mb4.6
NVAR Mina Array Bea 53.64 73 P P 14 03 01.8 +0.7
comp=Z,8.1nm,0.7s,mb4.9,baz=309,slow=6.5,SNR=71
N12A Wells--Clov Va 53.65 69 ⇓P P 14 03 01.9 +0.7
baz=53
MNV Mina 53.72 73 *eP* **P 14 03 02.1 +0.4**
MNV pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MNV Mina 53.72 73 *eP* **P 14 03 02.1 +0.4**
comp=Z,7.3nm,0.8s,mb4.8
M13A Montello 53.75 68 ⇑P P 14 03 02.3 +0.4
baz=54
R08A Mina 53.81 73 ⇓P P 14 03 02.8 +0.6
baz=54,SNR=7.2
MOOW Moose Ponds 53.81 64 *eP* **P 14 03 02.8 +0.5**
comp=Z,2.4nm,0.8s,mb4.3
TPAW Teton Pass 53.90 64 *eP* **P 14 03 03.8 +0.8**
comp=Z,4.3nm,0.7s,mb4.6
O12A Currie 54.23 69 ⇑P P 14 03 05.9 +0.5
baz=54,SNR=6.5
MTUM Tungsten Hills 54.28 74 *eP* **P 14 03 06.7 +0.9**
S08C White Mtn Res 54.39 74 ⇑P P 14 03 07.5 +0.9
baz=54,SNR=5.6
TPH Tonopah 54.49 73 *eP* **P 14 03 07.9 +0.7**
TPH pmax pmax
comp=Z,20nm,0.8s,mb5.2
TPH Tonopah 54.49 73 *eP* **P 14 03 07.9 +0.7**
comp=Z,20nm,0.8s,mb5.2
HELL Mitchell Peak 54.52 75 P P 14 03 07.7 +0.2
baz=54,SNR=9.7
V05C Boulder Hill, 54.63 77 ⇑P P 14 03 08.7 +0.5
baz=54
TIN Tinemaha 54.68 74 ⇓P P 14 03 09.1 +0.4
baz=54
P12A McGill 54.72 70 ⇓P P 14 03 09.3 +0.4
baz=54
S09A Goldfield 54.75 73 P P 14 03 09.8 +0.6
baz=54,SNR=18
HWUT Hardware Ranch 54.93 66 *eP* **P 14 03 11.2 +0.8**
comp=Z,3.6nm,0.7s,mb4.5
FRU Bishkek 54.97 296 *eP* **P 14 03 09.5 -1.2**
FRU pmax pmax
comp=Z,20nm,1.8s,mb4.8
PDAR Pinedale Array 55.12 64 P P 14 03 12.0 +0.2
comp=Z,4.3nm,0.7s,mb4.6,baz=339,slow=3.8,SNR=30
AAK Ala-Archa 55.17 296⇓ *eP* **P 14 03 11.2 -1.0**
AAK pmax pmax
comp=Z,14nm,1.7s,mb4.7
AAK Ala-Archa 55.17 296 *eP* **P 14 03 10.7 -1.5**
comp=Z,5.4nm,0.8s,mb4.6
CWC Cottonwood Cre 55.21 75 ⇓P P 14 03 13.0 +0.6
baz=55
DUG Dugway 55.30 68 *eP* **P 14 03 14.1 +1.0**
DUG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
DUG Dugway 55.30 68 *eP* **P 14 03 14.1 +1.0**
comp=Z,4.4nm,0.7s,mb4.6
JOF Joensuu 55.81 335 *ep* **P 14 03 15.8 -1.0**
comp=Z,17nm,0.7s,mb5.2
JOF Joensuu 55.81 335 *eP* **P 14 03 15.8 -1.0**
JOF pmax pmax
comp=Z,17nm,0.7s,mb5.2
TPNV Topopah Spring 55.84 73 *eP* **P 14 03 17.4 +0.5**
TPNV pmax pmax
comp=Z,13nm,0.5s,mb5.2
TPNV Topopah Spring 55.84 73 *eP* **P 14 03 17.4 +0.4**
comp=Z,13nm,0.5s,mb5.2
DAU Daniels Canyon 55.96 67 *eP* **P 14 03 18.9 +1.1**
ULM Lac du Bonnet 56.09 49 P P 14 03 18.4 -0.4
comp=Z,3.7nm,0.5s,mb4.7,baz=320,slow=7.6,SNR=12
ULM LR LR 14 26 45.2
comp=Z,59nm,21.9s,baz=141,slow=35
ARUT Antelope Range 56.73 70 *eP* **P 14 03 23.9 +0.6**
GSC Goldstone 56.75 75 ⇑P P 14 03 23.6 +0.2
baz=56,SNR=7.2
TMUT Trail Mountain 56.80 68 *eP* **P 14 03 24.9 +1.0**
MSU Marysvale 56.87 69 *eP* **P 14 03 25.4 +1.1**
CCUT Cedar City 56.95 71 *eP* **P 14 03 25.6 +0.8**
AKTO Aktyubinsk 57.10 312 LR LR 14 28 54.8
comp=Z,50nm,19.7s,baz=0.0,slow=37
TUQ Turquoise Mtn. 57.13 74 ⇑P P 14 03 26.3 +0.1
baz=57
SRU San Rafael 57.30 67 *eP* **P 14 03 28.1 +0.8**
SRU pmax pmax
comp=Z,27nm,1.0s,mb5.2
SRU San Rafael 57.30 67 *eP* **P 14 03 28.1 +0.8**
comp=Z,27nm,1.0s,mb5.2
KAF Kangasniemi 57.66 337 *ep* **P 14 03 27.7 -2.1**
comp=Z,3.1nm,0.6s,mb4.5,baz=26,slow=6.5
KAF Kangasniemi 57.66 337 *eP* **P 14 03 27.7 -2.1**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
W12A Cal Nev Ari 57.81 73 ⇓P P 14 03 31.2 +0.3
baz=58
PFO Pinyon Flat Ob 58.20 76 ⇓P P 14 03 33.3 -0.3
baz=58
FINES FINESS Array B 58.30 337 P P 14 03 32.5 -1.8
comp=Z,3.1nm,0.6s,mb4.5,baz=32,slow=8.8,SNR=13
FINES LR LR 14 29 43.2
comp=Z,35nm,21.4s,baz=192,slow=37
FINES FINESS Array B 58.30 337 *i P* **P 14 03 33.7 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 58.30 337 P P 14 03 32.5 -1.9
FINES LR LR 14 29 43.2
PV10 Paradox Valley 58.62 67 *eP* **P 14 03 37.3 +0.8**
BC3 Big Chuckw Mtn 58.72 75 ⇑P P 14 03 37.2 0.0
baz=58,SNR=5.2
W14A Seligman 58.84 72 ⇑P P 14 03 38.9 +0.8
baz=59,SNR=7.0
X13A Yucca 58.90 73 ⇑P P 14 03 38.7 +0.2
baz=59,SNR=5.4
PV01 Paradox Valley 59.05 67 *eP* **P 14 03 40.0 +0.6**
SMCO Snowmass 59.09 65 *eP* **P 14 03 40.3 +0.5**
comp=Z,7.5nm,0.8s,mb4.8
SMCO *e* 14 03 55.2
Y12C Blythe 59.16 74 ⇓P P 14 03 40.4 +0.1
baz=59
W15A Williams 59.30 72 ⇓P P 14 03 42.4 +1.1
baz=59
ISCO Idaho Springs 59.32 64 *eP* **P 14 03 42.7 +1.3**
ISCO pmax pmax
comp=Z,21nm,1.3s,mb5.0
ISCO Idaho Springs 59.32 64 *eP* **P 14 03 42.7 +1.4**
comp=Z,21nm,1.3s,mb5.0
Y13A Salome 59.49 74 ⇑P P 14 03 43.1 +0.6
baz=59
X14A Yava 59.50 73 ⇓P P 14 03 43.5 +0.9
baz=59,SNR=7.7
GLA Glamis 59.52 75 ⇓P P 14 03 43.1 +0.4
baz=59,SNR=5.0
EYMN Ely 59.71 48 *eP* **P 14 03 43.5 -0.6**
comp=Z,14nm,0.6s,mb5.2
MVCO Mesa Verde 59.78 67 *eP* **P 14 03 45.1 +0.5**
X15A Humboldt 59.84 72 ⇑P P 14 03 45.8 +0.8
baz=60
Y14A Wickenburg 59.84 73 ⇑P P 14 03 45.2 +0.2
baz=60
GUN Gumba 59.98 276 *eP* **P 14 03 46.6 +0.7**
comp=Z,29nm,0.6s,mb5.5
JIRN Jiri 59.99 276 *eP* **P 14 03 46.6 +0.6**
Z14A Wintersburg 60.31 74 ⇓P P 14 03 48.4 +0.2
baz=60
KKN Kakani 60.41 277 *eP* **P 14 03 49.1 +0.3**
comp=Z,18nm,0.8s,mb5.2
KKN Kakani 60.41 277 *eP* **P 14 03 49.1 +0.3**
KKN pmax pmax
comp=Z,18nm,0.8s,mb5.2
PKI Pulchoki 60.50 276 *eP* **P 14 03 49.7 +0.2**
GKN Gorkha 60.61 277 *eP* **P 14 03 50.2 0.0**

ECSD EROS,Sioux Fal 60.70 55 *eP* **P 14 03 50.0 -0.8**
OBN Obninsk 61.08 328 *ceP* **P 14 03 52.3 -1.1**
OBN *i* *PP pP 14 04 19.4 +4.8
OBN pmax pmax
comp=Z,33nm,1.6s,mb5.1
115A Sonoran Desert 61.20 74 ⇓P P 14 03 55.3 +1.1
baz=61,SNR=6.5
KOLN Koldanda 61.37 278 *eP* **P 14 03 55.3 0.0**
comp=Z,30nm,0.9s,mb5.3
NB2 NORSAR Subarra 61.45 345 P P 14 03 55.2 -0.7
comp=Z,5.9nm,0.7s,mb4.7,baz=18,slow=6.9
NB2 NORSAR Subarra 61.45 345 P P 14 03 55.2 -0.7
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
NB2 NORSAR Subarra 61.45 345 P P 14 03 55.2 -0.7
comp=Z,5.9nm,0.7s,mb4.7
NOA NORSAR Array B 61.45 345 P P 14 03 55.0 -0.9
comp=Z,6.2nm,0.8s,mb4.7,baz=18,slow=6.8,SNR=20
116A Eloy 61.60 73 ⇑P P 14 03 57.3 +0.5
baz=61
ANMO Albuquerque 62.56 68 *eP* **P 14 04 04.0 +0.6**
ANMO pmax pmax
comp=Z,2.0nm,0.6s
ANMO Albuquerque 62.56 68 *eP* **P 14 04 04.0 +0.6**
comp=Z,2.2nm,0.6s,mb4.3
LAZ Ladron 62.63 69 *eP* **P 14 04 05.0 +1.2**
SCHQ Schefferville 62.75 30 P P 14 04 03.3 -1.3
comp=Z,3.7nm,0.6s,mb4.5,baz=326,slow=5.7,SNR=12
MNTX Cornudas Mount 65.65 69 *eP* **P 14 04 23.9 +0.3**
comp=Z,16nm,1.1s,mb4.8
WMOK Wichita Mounta 66.67 62 *eP* **P 14 04 29.8 -0.3**
WMOK pmax pmax
comp=Z,18nm,0.9s,mb4.9
WMOK Wichita Mounta 66.67 62 *eP* **P 14 04 29.8 -0.3**
comp=Z,18nm,0.9s,mb4.9
AKASG Malin Array Be 67.10 330 P P 14 04 32.1 -0.7
comp=Z,3.2nm,0.6s,mb4.3,baz=28,slow=5.9,SNR=19
CCM Cathedral Cave 67.67 55 *eP* **P 14 04 35.5 -0.9**
CCM pmax pmax
comp=Z,14nm,1.0s,mb4.8
CCM Cathedral Cave 67.67 55 *eP* **P 14 04 35.5 -0.9**
comp=Z,14nm,1.0s,mb4.8
LTX Lajitas 68.42 70 *eP* **P 14 04 41.7 +0.6**
LTX pmax pmax
comp=Z,31nm,1.2s,mb5.0
LTX Lajitas 68.42 70 *eP* **P 14 04 41.6 +0.6**
comp=Z,31nm,1.2s,mb5.0
KIV Kislovodsk 68.48 318 *eP* **P 14 04 41.6 +0.1**
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
KIV MLR MLR
comp=Z,38nm,22.0s
MIAR Mount Ida 69.40 59 *eP* **P 14 04 46.7 -0.5**
MIAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MIAR Mount Ida 69.40 59 *eP* **P 14 04 46.7 -0.5**
comp=Z,8.2nm,0.9s,mb4.6
JCT Junction City 69.54 66 *eP* **P 14 04 47.6 -0.4**
JCT pmax pmax
comp=Z,20nm,0.8s,mb5.0
JCT Junction City 69.54 66 *eP* **P 14 04 47.6 -0.4**
comp=Z,20nm,0.8s,mb5.0
KWP Kalwaria 69.83 333 *eP* **P 14 04 51.1 +1.3**
SOC Sochi 69.92 319 *eP* **P 14 04 48.7 -1.6**
SOC *e*PP pP 14 05 10.2 -1.8
SOC *e* 14 07 20.9
SOC *e*PPP 14 09 12.3
SOC *e*S S 14 13 53.3 -0.4
SOC *e* 14 14 51.2
SOC pmax pmax
comp=Z,17nm,1.0s,mb4.8
STHS Stebnicka Huta 70.40 334 *eP* **P 14 04 54.5 +1.2**
STHS Stebnicka Huta 70.40 334 *eP* **P 14 04 54.6 +1.3**
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
STHS Stebnicka Huta 70.40 334 *eP* **P 14 04 54.6 +1.3**
comp=Z,5.1nm,1.0s,mb4.3
CLL Collm 70.42 340 *i P* **P 14 04 53.2 -0.3**
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
CLL Collm 70.42 340 *i P* **P 14 04 53.2 -0.3**
comp=Z,10.0nm,1.3s,mb4.5
CLL *ep*P pP 14 05 05.0 -10
UPC Upice 70.58 338 *eP* **P 14 04 55.0 +0.6**
BRG Berggiesshubel 70.66 339 *eP* **P 14 04 54.7 -0.1**
comp=Z,2.1nm,0.8s,mb4.0
BRG Berggiesshubel 70.66 339 *eP* **P 14 04 54.7 -0.2**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
DPC Dobruska-Polom 70.66 338 *eP* **P 14 04 55.8 +0.9**
WVT Waverly 70.82 54 *eP* **P 14 04 55.3 -0.5**
WVT pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
WVT Waverly 70.82 54 *eP* **P 14 04 55.3 -0.5**
comp=Z,3.3nm,0.4s,mb4.5
GNI Garni 70.90 314⇑ *eP* **P 14 04 56.7 +0.4**
GNI pmax pmax
comp=Z,12nm,1.7s
SSPA Standing Stone 71.29 44 *eP* **P 14 04 57.3 -1.4**
comp=Z,9.4nm,0.8s,mb4.7
MOX Moxa 71.32 341 *eP* **P 14 04 58.8 -0.1**
comp=Z,11nm,1.5s,mb4.5
MOX Moxa 71.32 341 *eP* **P 14 04 58.8 -0.1**
MOX pmax pmax
comp=Z,11nm,1.5s,mb4.5
VYHS Vyhne 71.84 335 *eP* **P 14 05 02.8 +0.8**
VYHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.0
VYHS Vyhne 71.84 335 *eP* **P 14 05 02.8 +0.8**
comp=Z,2.9nm,1.2s,mb4.0
KHC Kasperske Hory 72.39 339 *eP* **P 14 05 05.8 +0.5**
GERES GERESS Array B 72.63 339 P P 14 05 07.3 +0.5
comp=Z,1.3nm,0.6s,mb3.9,baz=46,slow=3.9,SNR=13
GERES LR LR 14 42 17.5
comp=Z,37nm,18.6s,baz=278,slow=40
GERES GERESS Array B 72.63 339 P P 14 05 07.3 +0.5
GERES LR LR 14 42 17.5
LRAL Lakeview Retre 73.76 55 *eP* **P 14 05 12.3 -1.0**
comp=Z,11nm,0.6s,mb4.8
CDF Champ du Feu 74.23 343 *eP* **P 14 05 15.5 -0.6**
comp=Z,6.5nm,0.8s,mb4.1
CDF Champ du Feu 74.23 343 *eP* **P 14 05 15.5 -0.6**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
CDF Champ du Feu 74.23 343 *eP* **P 14 05 15.5 -0.6**
comp=Z,3.3nm,0.8s,mb4.1
FLN La Foliniere 74.97 348 *eP* **P 14 05 19.2 -1.2**
LDF La Druitiere 75.10 348 *eP* **P 14 05 20.1 -1.0**
GRR Gorron 75.39 349 *eP* **P 14 05 22.0 -0.8**
comp=Z,21nm,1.1s,mb4.5
GRR Gorron 75.39 349 *eP* **P 14 05 22.0 -0.8**
GRR pmax pmax
comp=Z,11nm,1.0s,mb4.5
GRR Gorron 75.39 349 *eP* **P 14 05 22.0 -0.8**
comp=Z,11nm,1.0s,mb4.5
BRTR Keskin Array B 75.49 322 P P 14 05 23.8 +0.4
comp=Z,1.7nm,0.8s,mb3.9,baz=44,slow=3.8,SNR=11
ROSF Rostrenen 75.69 350 *eP* **P 14 05 23.3 -1.2**
comp=Z,15nm,1.0s,mb4.4
ROSF Rostrenen 75.69 350 *eP* **P 14 05 23.3 -1.2**
ROSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
ROSF Rostrenen 75.69 350 *eP* **P 14 05 23.3 -1.2**
comp=Z,7.3nm,1.0s,mb4.4
SGMF Saint Gilles 75.70 350 *eP* **P 14 05 23.7 -0.9**
LOR Lormes 75.88 345 *eP* **P 14 05 25.3 -0.3**
QUIF Quistinic 76.09 350 *eP* **P 14 05 26.2 -0.6**
SSF Saint Saulge 76.13 345 *eP* **P 14 05 26.3 -0.7**
comp=Z,6.3nm,0.9s,mb4.1
SSF Saint Saulge 76.13 345 *eP* **P 14 05 26.3 -0.7**
SSF pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
SSF Saint Saulge 76.13 345 *eP* **P 14 05 26.3 -0.7**
comp=Z,3.2nm,0.9s,mb4.0
CABF La Chapelle 76.18 343 *eP* **P 14 05 26.8 -0.5**
comp=Z,9.4nm,0.9s,mb4.2
CABF La Chapelle 76.18 343 *eP* **P 14 05 26.8 -0.5**
CABF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
CABF La Chapelle 76.18 343 *eP* **P 14 05 26.8 -0.5**
comp=Z,4.7nm,0.9s,mb4.2
AVF Avril sur Loir 76.42 345 *eP* **P 14 05 27.9 -0.7**
SMF Signal de Mont 76.49 345 *eP* **P 14 05 28.2 -0.8**
MFF Saint Martin d 77.06 348 *eP* **P 14 05 31.7 -0.6**
comp=Z,11nm,1.1s,mb4.2
MFF Saint Martin d 77.06 348 *eP* **P 14 05 31.7 -0.6**

MFF pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
MFF Saint Martin d 77.06 348 *eP* **P 14 05 31.7 -0.6**
comp=Z,5.6nm,1.1s,mb4.2
TCF Toulx Ste Croi 77.07 346 *eP* **P 14 05 31.8 -0.5**
LPL La Plagne 77.14 343 *eP* **P 14 05 32.2 -0.5**
comp=Z,3.2nm,0.5s,mb4.0
LPL La Plagne 77.14 343 *eP* **P 14 05 32.2 -0.5**
LPL pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
LPL La Plagne 77.14 343 *eP* **P 14 05 32.2 -0.5**
comp=Z,1.6nm,0.5s,mb4.0
LPG La Plagne 77.15 343 *eP* **P 14 05 32.5 -0.3**
SMRF Simiane la Rot 78.83 343 *eP* **P 14 05 40.8 -1.2**
WRA Warramunga Arr 78.98 207 P P 14 05 43.3 +0.4
comp=Z,0.8nm,0.5s,mb3.8,baz=17,slow=5.9,SNR=14
LASF Ste Croix 79.00 344 *eP* **P 14 05 42.3 -0.7**
ETSF Etsaut 80.76 347 *eP* **P 14 05 51.9 -0.6**
comp=Z,10.0nm,1.0s,mb4.3
ETSF Etsaut 80.76 347 *eP* **P 14 05 51.9 -0.6**
ETSF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
ETSF Etsaut 80.76 347 *eP* **P 14 05 51.9 -0.6**
comp=Z,5.0nm,1.0s,mb4.3
ASAR Alice Springs 82.66 206 P P 14 06 02.8 +0.3
comp=Z,1.1nm,0.9s,mb3.7,baz=17,slow=5.0,SNR=9.2
ESDC Sonseca Array 84.33 349 P P 14 06 12.2 +1.1
comp=Z,2.3nm,0.7s,mb4.1,baz=4.0,slow=4.6,SNR=11
EVO Evora 85.83 352 *eP* **P 14 06 17.5 -1.0**
comp=Z,8.9nm,0.6s,mb4.6
QSPA South Pole Qui 145.40 180 *eP* PKPdf 14 13 14.4 -2.0

SZGRF ***05*** *13:59:13.7,2262S×17949W,h33km,South of Fiji Islands*
ISCJB ***05*** *14:00:18.4±0.9,2097S±008×17899W±007,h582km±13km,*
mb4.3/24,Error ellipse: s-maj=13.0km s-min=8.3km
az=119.7
BJI ***05*** *14:00:19.9,2090S×17900W,h592km,mB4.6,mb4.7*
NEIC ***05*** *14:00:20.0±0.7,2092S×17896W,h592km±8km,mb4.5/11,*
Error ellipse: s-maj=10.0km s-min=6.2km az=152.0
IDC ***05*** *14:00:21.5±1.3,2104S×17908W,h606km±14km,mb3.6/15,*
mb1 3.7/18,mb1mx3.6/23,mbtmp4.6/18,Error ellipse:
s-maj=14.4km s-min=9.9km az=161.0
ISC 05 14:00:20.0±1.0,2102S±008×17896W±007,h586km±13km,
n125,σ0°72/50,mb4.3/24,18C-9D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.84**	**45**	P	**P**	**14 02 36.2**	**-0.6**
	6.5nm,0.3s,baz=324,slow=3.6,SNR=12						
AFI				S	**S**	**14 04 23.8**	**-5.4**
	9.7nm,0.3s,baz=28,slow=22,SNR=8.4						
DZM	**Mont Dzumac**	**13.63**	**263**	P	**P**	**14 03 14.8**	**-0.3**
	1.0nm,0.3s,baz=78,slow=17,SNR=12						
URZ	**Urewera**	**17.52**	**190**	P	**P**	**14 03 50.4**	**-1.3**
	1.6nm,0.3s,baz=312,slow=8.5,SNR=8.1						
RAR	**Rarotonga**	**17.90**	**94**	P	**P**	**14 03 55.4**	**+0.2**
	2.7nm,0.3s,baz=214,slow=5.4,SNR=6.6						
RPZ	**Rata Peaks**	**24.12**	**198**	P	**P**	**14 04 51.5**	**+0.5**
	11nm,0.8s,mb4.6,baz=44,slow=15,SNR=3.2						
PMOR	**Pomariorio Ree**	**30.11**	**84**	*eP*	**P**	**14 05 43.6**	**+0.4**
	39nm,1.0s,mb5.0						
CNB	**Canberra Magne**	**31.20**	**236**	*eP*	**P**	**14 05 54.0**	**+1.5**
	47nm,1.6s,mb4.9						
CTA	**Charters Tower**	**32.55**	**265**	*eP*	**P**	**14 06 05.1**	**+1.1**
	5.2nm,0.4s,mb4.5						
CTA	**Charters Tower**	**32.55**	**265**	P	**P**	**14 06 04.6**	**+0.6**
	7.8nm,0.4s,mb4.7,baz=86,slow=10,SNR=17						
CTAO	**Charters Tower**	**32.55**	**265**	*eP*	**P**	**14 06 05.0**	**+1.0**
	6.6nm,0.5s,mb4.5						
PMG	**Port Moresby**	**34.59**	**284**	P	**P**	**14 06 20.0**	**-1.1**
	14nm,0.8s,mb4.7,baz=107,slow=6.6,SNR=5.1						
PMG	**Port Moresby**	**34.59**	**284**	*eP*	**P**	**14 06 20.7**	**-0.5**
TOO	**Toolangi**	**34.87**	**234**	*eP*	**P**	**14 06 23.9**	**+0.5**
	3.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**36.76**	**245**	*eP*	**P**	**14 06 38.1**	**-0.9**
	3.8nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**36.76**	**245**	P	**P**	**14 06 38.2**	**-0.7**
	5.2nm,0.5s,mb4.3,baz=86,slow=9.7,SNR=31						
STKA				PcP	PcP	14 08 43.5	-1.5
	1.2nm,0.4s,baz=90,slow=5.2,SNR=3.0						
STKA	**Stephens Creek**	**36.76**	**245**	*eP*	**P**	**14 06 38.0**	**-1.0**
ASAR	**Alice Springs**	**43.53**	**257**	P	**P**	**14 07 33.4**	**+0.6**
	11nm,0.5s,mb4.7,baz=95,slow=7.9,SNR=185						
ASAR				PcP	PcP	14 09 07.3	+0.1
	3.9nm,0.6s,baz=103,slow=3.9,SNR=14						
ASAR				ScP	ScP	14 12 02.6	-0.7
	1.2nm,0.8s,baz=102,slow=4.3,SNR=5.5						
ASAR				S	**S**	**14 13 17.5**	**-2.6**
	2.8nm,0.9s,baz=92,slow=15,SNR=15						
WB2	**Warramunga Arr**	**43.63**	**263**	*eP*	**P**	**14 07 33.6**	**0.0**
WB2				*e*S	**S**	**14 13 12.6**	**-8.9**
WRAB	**Tennant Creek**	**43.63**	**263**	*eP*	**P**	**14 07 33.6**	**-0.1**
	7.2nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**43.64**	**263**	P	**P**	**14 07 33.6**	**-0.1**
	5.0nm,0.3s,mb4.5,baz=97,slow=7.4,SNR=276						
WRA				S	**S**	**14 13 17.6**	**-4.0**
	1.5nm,0.8s,baz=100,slow=13,SNR=7.2						
KAKA	**Kakadu**	**47.09**	**272**	*eP*	**P**	**14 08 00.0**	**+0.1**
	7.0nm,0.3s,mb4.7						
FORT	**Forrest**	**48.27**	**247**	*eP*	**P**	**14 08 08.6**	**-0.1**
	19nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.07**	**263**	*eP*	**P**	**14 08 37.0**	**+0.6**
	6.0nm,0.3s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.07**	**263**	P	**P**	**14 08 36.6**	**+0.2**
	3.0nm,0.3s,mb4.1,baz=138,slow=7.0,SNR=49						
MBWA	**Marble Bar**	**56.87**	**258**	*eP*	**P**	**14 09 09.8**	**-0.1**
KLBR	**Kellerberrin**	**57.03**	**245**	*eP*	**P**	**14 09 10.9**	**-0.1**
	27nm,1.0s,mb4.4						
VNDA	**Vanda**	**57.32**	**185**	P	**P**	**14 09 13.1**	**+0.1**
	1.2nm,0.5s,mb3.4,baz=358,slow=6.1,SNR=9.2						
VNDA	**Vanda**	**57.32**	**185**	*eP*	**P**	**14 09 14.2**	**+1.2**
NWAO	**Narrogin (SRO)**	**57.34**	**244**	P	**P**	**14 09 12.8**	**-0.3**
	8.3nm,0.9s,mb4.0,baz=111,slow=10.0,SNR=4.4						
NWAO	**Narrogin (SRO)**	**57.34**	**244**	*eP*	**P**	**14 09 13.2**	**+0.1**
MUN	**Mundaring**	**58.30**	**245**	*eP*	**P**	**14 09 20.1**	**+0.5**
QSPA	**South Pole Qui**	**69.05**	**180**	*eP*	**P**	**14 10 28.0**	**+0.1**
	7.1nm,0.9s,mb4.1						
MJAR	**Matsushiro Arr**	**70.10**	**324**	P	**P**	**14 10 33.4**	**-0.8**
	4.8nm,0.7s,mb4.1,baz=157,slow=5.9,SNR=16						
ASAJ	**Asahikawa**	**73.76**	**332**	P	**P**	**14 10 56.1**	**+0.8**
	5.9nm,0.8s,mb4.2,baz=140,slow=5.3,SNR=5.3						
YBH	**Yreka Blue Hor**	**81.25**	**39**	P	**P**	**14 11 36.1**	**+0.4**
	1.9nm,0.7s,mb3.6,baz=159,slow=5.5,SNR=6.7						
NVAR	**Mina Array Bea**	**82.02**	**44**	P	**P**	**14 11 40.2**	**+0.6**
	0.5nm,0.5s,mb3.3,baz=222,slow=6.7,SNR=4.7						
NVAR	**Mina Array Bea**	**82.02**	**44**	P	**P**	**14 11 40.2**	**+0.6**
CN2	**Changchun**	**82.17**	**323**	*eP*	**P**	**14 11 40.5**	**+0.2**
PSI	**Prapat**	**83.65**	**275**	P	**P**	**14 11 47.8**	**+0.1**
	6.3nm,0.8s,mb4.2,baz=136,slow=8.8,SNR=4.1						
SNAA	**Sanae**	**87.52**	**179⇑**	*i*PKPdf	**P**	**14 11 53.9**	**-12**
SNAA				*e*		14 11 54.2	
SNAA				*e*		14 11 55.1	
SNAA				*e*		14 11 55.6	
VNA3	**Neumayer Olymp**	**87.69**	**177⇑**	*i*PKPdf	**P**	**14 12 06.1**	**-0.9**
VNA3				*e*		14 12 07.0	
VNA3				*e*		14 12 07.9	
XAN	**Xi'an**	**87.73**	**308**	P	**P**	**14 12 08.1**	**+0.8**
VNA2	**Neumayer--Watz**	**88.12**	**177⇑**	*i*PKPdf	**P**	**14 12 08.5**	**-0.5**
VNA2				*e*		14 12 09.4	
VNA2				*e*		14 12 10.4	
VNA1	**Neumayer--Stat**	**88.35**	**177⇑**	*i*PKPdf	**P**	**14 12 09.8**	**-0.3**
VNA1				*e*		14 12 11.8	
COLA	**College**	**88.90**	**13**	*eP*	**P**	**14 12 10.5**	**-2.2**
	2.2nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**89.95**	**44**	P	**P**	**14 12 17.9**	**+0.4**
	0.6nm,0.6s,mb3.6,baz=246,slow=5.3,SNR=5.0						
MKAR	**Makanchi Array**	**110.90**	**313**	PKiKP	PKiKP	14 17 45.5	-1.8
	0.5nm,0.4s,baz=165,slow=0.8,SNR=11						
ZRNK	**Zerenda**	**119.73**	**320**	*e*PKPdf	PKPdf	14 18 02.3	-1.9
SUR	**Sutherland**	**123.64**	**200**	PKP	PKPdf	14 18 11.7	+0.1
	4.9nm,0.9s,baz=141,slow=1.2,SNR=5.8						
AKTK	**Aktyubinsk**	**126.85**	**318**	PKP	PKPdf	14 18 17.0	-0.8
AKTO	**Aktyubinsk**	**126.85**	**318**	PKP	PKPdf	14 18 17.0	-0.8
	1.8nm,0.6s,baz=87,slow=4.2,SNR=6.9						
ARCES	**ARCESS Array B**	**129.26**	**349**	PKP	PKPdf	14 18 19.9	-2.4
	3.8nm,0.6s,baz=29,slow=1.3,SNR=24						
ARCES				SKPbc	SKPbc	14 20 47.6	-2.0
	1.5nm,0.9s,baz=66,slow=3.3,SNR=3.7						
ARCES	**ARCESS Array B**	**129.26**	**349**	PKP	PKPdf	14 18 19.9	-2.5
ARCES				SKPbc	SKPbc	14 20 47.6	-2.0
JOF	**Joensuu**	**133.34**	**342**	*ep*	PKPdf	14 18 27.6	-2.5
KAF	**Kangasniemi**	**135.39**	**343**	*ep*	PKPdf	14 18 31.9	-2.0
FINES	**FINESS Array B**	**136.01**	**343**	PKhKP		14 18 24.4	
	0.8nm,0.7s,baz=79,slow=4.1,SNR=5.8						

FINES			PKP	PKPdf	14 18 32.6	-2.4
	1.5nm,0.6s,baz=103,slow=4.1,SNR=6.2					
FINES			SKPbc	SKPbc	14 21 10.0	-2.4
	1.2nm,0.5s,baz=29,slow=4.4,SNR=8.9					
FINES	**FINES Array B**	**136.01 343**	PKP		14 18 24.4	
FINES			PKP	PKPdf	14 18 32.6	-2.4
FINES			SKPbc	SKPbc	14 21 10.0	-2.4
NB2	**NORSAR Subarra**	**139.38 352**	PKPa		14 18 31.6	
	comp=Z,0.5nm,0.5s,baz=16,slow=3.2					
NOA	**NORSAR Array B**	**139.38 352**	PKhKP		14 18 30.2	
	comp=Z,0.9nm,0.6s,baz=16,slow=4.7,SNR=5.8					
NOA			PKP	PKPdf	14 18 39.6	-1.6
	comp=Z,0.9nm,0.5s,baz=14,slow=4.0,SNR=4.6					
AKASG	**Malin Array Be**	**143.02 330**	PKP	PKPdf	14 18 44.1	-3.6
	comp=Z,14nm,0.4s,baz=44,slow=4.2,SNR=86					
MALT	**Malatya**	**143.52 307** ⇑	*i*P	PKPdf	14 18 48.0	-0.6
MALT	**Malatya**	**143.52 307** ⇑	P	PKPdf	14 18 48.0	-0.7
BR131	**Keskin Array S**	**146.51 311**	*e*PKPdf	PKPbc	14 18 55.7	-0.5
BRTR	**Keskin Array B**	**146.51 311**	PKPbc	PKPbc	14 18 55.7	-0.6
	comp=Z,4.8nm,0.7s,baz=138,slow=4.4,SNR=25					
BURAR	**Bucovina Array**	**147.06 329** ⇑	*i*P	PKPbc	14 18 57.4	-0.3
BURAR	**Bucovina Array**	**147.06 329** ⇑	P	PKPbc	14 18 57.4	-0.3
CFR	**Carcaliu**	**147.18 324** ⇑	*i*P	PKPbc	14 18 57.9	-0.1
CFR	**Carcaliu**	**147.18 324** ⇑	P	PKPbc	14 18 57.9	-0.2
STHS	**Stebnicka Huta**	**147.42 335**	*e*PKP	PKPbc	14 18 58.5	-0.2
STHS			*e*		14 19 12.0	
TIRR	**Tirgusor**	**147.46 322** ⇑	*i*P	PKPbc	14 18 58.2	-0.6
TIRR	**Tirgusor**	**147.46 322** ⇑	P	PKPbc	14 18 58.2	-0.5
VRI	**Vrincioaia**	**147.50 326** ⇑	*i*P	PKPbc	14 18 58.7	-0.2
VRI	**Vrincioaia**	**147.50 326** ⇑	P	PKPbc	14 18 58.7	-0.2
PLOR	**Plostina**	**147.55 326** ⇑	*i*P	PKPbc	14 18 58.8	-0.2
MLR	**Muntele Rosu**	**148.16 326** ⇓	*i*P	PKPbc	14 18 59.0	-1.5
MLR	**Muntele Rosu**	**148.16 326** ⇓	P	PKPbc	14 18 60.0	-0.6
OKC	**Ostrava-Krasne**	**148.20 339**	*e*PKPbc	PKPbc	14 19 00.4	-0.2
OKC			*e*PKPab	PKPab	14 19 05.1	-0.8
UPC	**Upice**	**148.29 342**	*e*PKPbc	PKPbc	14 19 00.5	-0.4
UPC			*e*PKPab	PKPab	14 19 06.1	-0.2
DPC	**Dobruska-Polom**	**148.34 341**	*e*PKPbc	PKPbc	14 19 00.6	-0.4
DPC			*e*PKPab	PKPab	14 19 06.7	+0.2
CLL	**Collm**	**148.35 346**	*e*PKPbc	PKPbc	14 19 00.1	-0.9
CLL	**Collm**	**148.35 346** ⇓	*i*PKPbc	PKPbc	14 19 00.3	-0.7
	comp=Z,12nm,0.9s					
CLL			*i* PKPab	PKPab	14 19 05.3	-1.3
KECS	**Kecovo**	**148.47 335**	*e*PKP	PKPbc	14 19 01.1	-0.2
KECS			*e*		14 19 06.7	
BRG	**Berggiesshubel**	**148.52 344**	*e*PKPbc	PKPbc	14 19 00.8	-0.7
BRG			*e*PKPab	PKPab	14 19 06.0	-1.3
BRG	**Berggiesshubel**	**148.52 344**	*i* P	PKPdf	14 19 00.8	+3.8
	comp=Z,3.8nm,0.7s					
VOIR		**148.66 327** ⇓	*i*P	PKPbc	14 19 02.3	+0.5
VOIR		**148.66 327** ⇓	P	PKPbc	14 19 02.3	+0.5
PVCC	**Panska Ves**	**148.68 343**	*e*PKPbc	PKPbc	14 19 01.4	-0.4
VYHS	**Vyhne**	**149.09 337**	*e*PKP	PKPbc	14 19 02.5	-0.3
VYHS			*e*		14 19 09.7	
PRU	**Pruhonice**	**149.17 343**	*e*PKPbc	PKPbc	14 19 02.2	-0.8
MOX	**Moxa**	**149.28 347**	*e*PKPbc	PKPbc	14 19 02.5	-0.8
TANN	**Tannenbergstha**	**149.31 346**	*e*PKPbc	PKPbc	14 19 02.7	-0.6
UBBA	**Unterbreizbach**	**149.43 349**	*e*PKPbc	PKPbc	14 19 02.5	-1.1
BZS	**Buzias**	**150.21 330** ⇓	*i*P	PKPbc	14 19 04.8	-0.7
KHC	**Kasperske Hory**	**150.22 343**	*e*PKPbc	PKPbc	14 19 04.9	-0.6
GRA1	**Grafenberg Arr**	**150.26 347**	*e*PKPbc	PKPbc	14 19 04.6	-1.0
GRF	**Grafenberg Arr**	**150.26 347**	*e*PKPbc	PKPbc	14 19 04.6	-1.0
TNS	**Taunus Mts**	**150.27 350**	*e*PKPbc	PKPbc	14 19 05.0	-0.6
GEC2	**GERESS Array S**	**150.44 343**	*e*PKPbc	PKPbc	14 19 05.2	-0.8
GERES	**GERESS Array B**	**150.44 343**	PKPbc	PKPbc	14 19 05.3	-0.7
	comp=Z,3.2nm,0.6s,baz=24,slow=2.4,SNR=33					
GERES			PKPab	PKPab	14 19 15.4	+0.1
	comp=Z,0.4nm,0.4s,baz=57,slow=3.6,SNR=4.0					
GERES			pPKPbc	pPKPbc	14 21 23.5	+2.8
	comp=Z,0.7nm,0.8s,baz=11,slow=3.0,SNR=2.3					
CONA	**Conrad Observa**	**150.61 339** ⇓	*i*PKiKP	PKiKP	14 19 06.0	-0.9
	comp=Z,9.6nm,0.6s					
GIVF	**Givet**	**150.82 355**	*e*PKP1	PKPbc	14 19 05.8	-1.1
	comp=Z,23nm,0.7s					
PKSM	**Moragy**	**151.04 334** ⇑	*i*P	PKPbc	14 19 06.5	-0.9
PKSM	**Moragy**	**151.04 334** ⇑	P	PKPbc	14 19 06.5	-0.9
WLF	**Walferdange**	**151.13 353**	*e*PKPbc	PKPbc	14 19 07.5	-0.1
MOA	**Molln**	**151.18 341** ⇓	*i*P	PKPbc	14 19 06.6	-1.1
	comp=Z,4.0nm,0.7s					
STU	**Stuttgart**	**151.55 349**	*e*PKPbc	PKPbc	14 19 08.0	-0.5
STU			*e*PKPab	PKPab	14 19 18.8	-1.1
FUR	**Furstenfeldbru**	**151.69 345**	*e*PKPbc	PKPbc	14 19 08.3	-0.5
FUR			*e*PKPab	PKPab	14 19 19.9	-0.6
GRUS	**Gruza**	**151.93 329**	*i* P	PKPbc	14 19 08.6	-0.8
DIVS	**Divcibare**	**152.12 330**	*i* P	PKPbc	14 19 09.2	-0.6
BFO	**Black Forest**	**152.13 350**	*e*PKPbc	PKPbc	14 19 08.9	-0.9
BFO			*e*PKPab	PKPab	14 19 21.2	-1.2
CDF	**Champ du Feu**	**152.21 351**	*e*PKP1	PKPbc	14 19 08.7	-1.3
	comp=Z,9.8nm,0.7s					
FLN	**La Foiniere**	**152.29 2**	*e*PKP1	PKPbc	14 19 08.6	-1.6
	comp=Z,5.4nm,0.4s					
MEZF	**Maizieres J'vi**	**152.39 354**	*e*PKP1	PKPbc	14 19 08.8	-1.6
	comp=Z,7.1nm,0.5s					
WTTA	**Wattenberg**	**152.44 344** ⇓	*i*P	PKPbc	14 19 09.6	-0.9
	comp=Z,6.9nm,0.4s					
LDF	**La Druitiere**	**152.47 2**	*e*PKP1	PKPbc	14 19 08.9	-1.6
	comp=Z,3.0nm,0.5s					
ROSF	**Rostrenen**	**152.52 6**	*e*PKP1	PKPbc	14 19 08.9	-1.8
BBLS	**Bajina Basta -**	**152.56 330**	*e*P	PKPdf	14 19 03.3	+0.1
SQTA	**Sankt Quirin**	**152.59 345** ⇑	*i*P	PKPbc	14 19 10.0	-0.8
	comp=Z,2.8nm,0.9s					
GRR	**Gorron**	**152.65 3**	*e*PKP1	PKPbc	14 19 09.4	-1.5
SGMF	**Saint Gilles**	**152.67 5**	*e*PKP1	PKPbc	14 19 09.3	-1.7
HINF	**Hinteralfeld**	**152.85 351**	*e*PKP1	PKPbc	14 19 09.9	-1.5
LOR	**Lormes**	**153.71 356**	*e*PKP1	PKPbc	14 19 12.0	-1.2
	comp=Z,3.1nm,0.5s					
SSF	**Saint Saulge**	**153.94 356**	*e*PKP1	PKPbc	14 19 12.5	-1.2
CABF	**La Chapelle**	**154.14 352**	*e*PKP1	PKPbc	14 19 13.5	-0.6
	comp=Z,12nm,0.9s					
TORD	**Torodi Ar. Bea**	**172.15 185**	PKP	PKPdf	14 19 20.9	-1.2
	comp=Z,1.2nm,0.9s,baz=254,slow=2.3,SNR=6.1					
TORD			PKPab	PKPab	14 20 49.8	-0.3
	comp=Z,0.5nm,0.8s,baz=180,slow=4.5,SNR=5.3					

MAN 05 14:34:01.8, 1331N×12044E, h38km, mb2.3, ML3.9, MS1.0, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.46**	**336**	*e*P	Pn	14 34 13.2	+1.3
BUSP	**Coron**	**1.32**	**190**	*e*P	Pn	14 34 24.3	+0.6
PCPH	**Palayan**	**2.33**	**16** ⇓	*i*P	Pn	14 34 38.5	+0.9
PCPH				*i* S	Sn	14 34 41.9	-23
BALP	**Baler**	**2.66**	**24**	*e*P	Pn	14 34 43.3	+1.3
BALP				*e*S	Sn	14 34 49.4	-24
CAUP	**Cauayan**	**3.85**	**20**	*e*P	Pn	14 35 02.9	+4.4

IDC 05 14:37:57.1±1.5, 3872S×4899E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, MS3.5/3, Ms1 3.4/3, ms1mx3.1/15, Error ellipse: s-maj=71.3km s-min=25.3km az=40.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**20.14**	**355**	P	P	14 42 32.9	+0.2
	1.0nm,0.4s,baz=164,slow=12,SNR=3.5						
BOSA	**Boshof**	**22.12**	**290**	LR	LR	14 49 01.2	
	comp=Z,61nm,18.9s,baz=6.5,slow=30						
MAW	**Mawson**	**29.95**	**169**	LR	LR	14 52 59.7	
	comp=Z,50nm,20.0s,baz=242,slow=30						
VNDA	**Vanda**	**57.18**	**166**	LR	LR	15 11 03.3	
	comp=Z,104nm,19.8s,baz=212,slow=35						
TORD	**Torodi Ar. Bea**	**67.92**	**309**	P	P	14 48 57.8	+0.2
	0.6nm,1.1s,baz=150,slow=6.1,SNR=2.4						
ASAR	**Alice Springs**	**71.80**	**106**	P	P	14 49 22.1	+0.6
	0.4nm,0.5s,baz=233,slow=6.0,SNR=10						
STKA	**Stephens Creek**	**72.71**	**117**	P	P	14 49 26.6	-0.2
	0.5nm,0.4s,baz=243,slow=4.5,SNR=4.0						
WRA	**Warramunga Arr**	**74.28**	**103**	P	P	14 49 36.6	+0.5
	0.8nm,1.0s,baz=231,slow=5.2,SNR=5.5						

*ISCJB **05** 14:47:47.1±0.2, 4324N±002×058W×002, h13km±2km, Error ellipse: s-maj=2.9km s-min=2.3km az=114.5*
*NEIC **05** 14:47:49.1, 43.16N×064W, h5km, ML2.6(STR), ML2.7(LDG), MN2.5(MDD), After LDG.*
*MDD **05** 14:47:49.3±0.2, 43.15N×062W, h10km±2km, mbLg2.4/14, Error ellipse: s-maj=2.7km s-min=1.5km az=14.0, PRXIMO*
*LDG **05** 14:47:49.1±0.1, 43.16N×064W, h5km, Md2.9/2, Ml2.7/9, Error ellipse: s-maj=1.4km s-min=1.1km az=158.0*
*CSEM **05** 14:47:49.1±0.0, 43.17N×064W, h2km, ML2.6/13, Error ellipse: s-maj=1.1km s-min=0.8km az=154.0*
*STR **05** 14:47:49.2±0.2, 4302N×066W, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 05 14:47:48.3±0.2, 4320N±002×060W±002, h13km±2km, n93, σ0:90/175, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.13**	**213**	Pg	**Pg**	**14 47 51.5**	**-0.1**
ATE				Sg	**Sg**	**14 47 53.8**	**-0.2**
ATE	**Arette**	**0.13**	**213**	Pg	**Pg**	**14 47 51.6**	**0.0**
ATE				Lg		14 47 53.3	
REYF	**Montagne du Re**	**0.20**	**129**	Pg	**Pg**	**14 47 53.2**	**+0.5**
REYF				Sg	**Sg**	**14 47 56.2**	**+0.5**
REYF	**Montagne du Re**	**0.20**	**129**	Pg	**Pg**	**14 47 53.3**	**+0.6**
REYF				Lg		14 47 56.3	
ORDF	**Ordiarp**	**0.24**	**274**	Pg	**Pg**	**14 47 54.3**	**+0.8**
ORDF				Lg		14 47 58.3	
ETSF	**Etsaut**	**0.30**	**174**	*e*Pg	**Pg**	**14 47 53.8**	**-0.6**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**14 47 56.9**	**-1.6**
	459nm,0.2s						
ETSF	**Etsaut**	**0.30**	**174**	*e*Pg	**Pg**	**14 47 53.8**	**-0.6**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**14 47 56.9**	**-1.6**
	230nm,0.2s						
LARF	**Larrau**	**0.32**	**241**	Pg	**Pg**	**14 47 54.8**	**0.0**
LARF				Sg	**Sg**	**14 47 57.9**	**-1.3**
LARF	**Larrau**	**0.32**	**241**	Pg	**Pg**	**14 47 54.9**	**+0.1**
LARF				Lg		14 47 59.4	
FDAF	**Les Forges d'A**	**0.38**	**176**	Pg	**Pg**	**14 47 55.2**	**-0.6**
FDAF				Lg		14 47 59.5	
SJPF	**Ste Jean**	**0.46**	**260**	*e*Pg	**Pg**	**14 47 57.5**	**+0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**14 48 03.7**	**+0.1**
	70nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**0.46**	**260**	*e*Pg	**Pg**	**14 47 57.5**	**+0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**14 48 03.7**	**+0.1**
	35nm,0.2s,SNR=1.0						
OSSF	**Osses**	**0.49**	**277**	Pg	**Pg**	**14 47 57.8**	**0.0**
OSSF				Sg	**Sg**	**14 48 05.4**	**+1.1**
OSSF	**Osses**	**0.49**	**277**	Pg	**Pg**	**14 47 57.7**	**-0.1**
OSSF				Lg		14 48 04.5	
LABF	**Labassere**	**0.52**	**106**	Pg	**Pg**	**14 47 59.4**	**+1.0**
LABF				Sg	**Sg**	**14 48 06.6**	**+1.3**
LABF	**Labassere**	**0.52**	**106**	Pg	**Pg**	**14 47 59.3**	**+0.9**
LABF				Lg		14 48 07.0	
VIEF	**Viey**	**0.56**	**124**	Pg	**Pg**	**14 47 59.4**	**+0.3**
VIEF				Sg	**Sg**	**14 48 06.2**	**-0.3**
VIEF	**Viey**	**0.56**	**124**	Pg	**Pg**	**14 47 59.4**	**+0.3**
VIEF				Lg		14 48 06.4	
EALK	**Alkurruntz**	**0.66**	**272**	Pg	**Pg**	**14 48 00.9**	**-0.3**
	5.5nm,0.1s,SNR=27						
EALK				Lg		14 48 10.5	
	41nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.68**	**235**	Pg	**Pg**	**14 48 01.1**	**-0.3**
	3.6nm,0.1s,SNR=15						
IPRE				Lg		14 48 10.5	
	46nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**0.68**	**235**	Pg	**Pg**	**14 48 01.1**	**-0.3**
	3.6nm,0.1s,SNR=15						
ELIZ	**Elizondo**	**0.68**	**268**	Pg	**Pg**	**14 48 01.0**	**-0.5**
	6.9nm,0.2s,SNR=15						
ELIZ				Lg		14 48 11.0	
	35nm,0.2s,SNR=16						
EPF	**Esparros**	**0.71**	**103**	*e*Pg	**Pg**	**14 48 03.3**	**+1.3**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**14 48 12.5**	**+1.1**
	34nm,0.2s						
EPF	**Esparros**	**0.71**	**103**	*e*Pg	**Pg**	**14 48 03.3**	**+1.3**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**14 48 12.5**	**+1.1**
	17nm,0.2s						
IUSE	**Utxeti**	**0.74**	**251**	Pg	**Pg**	**14 48 02.5**	**0.0**
	4.0nm,0.1s,SNR=7.9						
IUSE				Lg		14 48 12.0	
	24nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.74**	**251**	Pg	**Pg**	**14 48 02.5**	**0.0**
	4.0nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.75**	**133**	Pg	**Pg**	**14 48 02.7**	**-0.1**
	4.0nm,0.1s,SNR=137						
EBIE				Lg		14 48 11.8	
	53nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.75**	**133**	Pg	**Pg**	**14 48 02.6**	**-0.1**
EBIE				Lg		14 48 11.8	
EBIE	**Bielsa**	**0.75**	**133**	Pg	**Pg**	**14 48 02.7**	**-0.1**
	4.0nm,0.1s,SNR=137						
RESF	**Ens**	**0.79**	**119**	Pg	**Pg**	**14 48 03.8**	**+0.2**
RESF				Lg		14 48 14.0	
EARA	**Aranguren**	**0.83**	**240**	Lg		14 48 15.3	
	13nm,0.1s,SNR=7.9						
MELF	**Melles**	**1.05**	**107**	Pg	**Pg**	**14 48 09.1**	**+0.6**
MELF				Lg		14 48 23.0	
EGRA	**Graus**	**1.21**	**146**	Pg	**Pg**	**14 48 11.7**	**+0.2**
	1.3nm,0.1s,SNR=7.9						
EGRA				Lg		14 48 27.6	
	8.5nm,0.2s,SNR=7.9						
MLS	**Moulis**	**1.27**	**100**	Lg		14 48 29.9	
SALF	**Salau**	**1.39**	**108**	Pg	**Pg**	**14 48 15.8**	**+0.9**
SALF	**Salau**	**1.39**	**108**	Pg	**Pg**	**14 48 15.2**	**+0.3**
SALF				Lg		14 48 33.7	
ESAC	**San Caprasio**	**1.48**	**176**	Pg	**Pg**	**14 48 16.0**	**-0.6**
	35nm,0.1s,SNR=20						
ESAC				Lg		14 48 34.6	
	145nm,0.3s,SNR=9.8						
ESAC	**San Caprasio**	**1.48**	**176**	Pg	**Pg**	**14 48 16.0**	**-0.6**
	35nm,0.1s,SNR=20						
GRBF	**Gourbit**	**1.61**	**102**	Pg	**Pg**	**14 48 19.7**	**+0.5**
PAND	**Andorre**	**1.72**	**112**	Lg		14 48 45.0	
LFF	**La Frestale**	**1.99**	**29**	*e*Pg	**Pg**	**14 48 27.1**	**+0.6**
LFF				*e*Sg	**Sg**	**14 48 53.6**	**+1.2**
	14nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**1.99**	**29**	Pn	**Pn**	**14 48 22.6**	**+0.9**
LFF				Pg	**Pg**	**14 48 27.1**	**+0.6**
LFF				Lg		14 48 53.6	
	6.9nm,0.3s						
LFF	**La Frestale**	**1.99**	**29**	*e*Pn	**Pn**	**14 48 22.6**	**+0.9**
LFF				*e*Pg	**Pg**	**14 48 27.1**	**+0.6**
LFF				*e*Sg	**Sg**	**14 48 53.6**	**+1.2**
LFF	**La Frestale**	**1.99**	**29**	*e*Pg	**Pg**	**14 48 27.1**	**+0.6**
LFF				*e*Sg	**Sg**	**14 48 53.6**	**+1.2**
	6.9nm,0.3s,SNR=1.0						
EMIR	**Miracle**	**2.03**	**128**	Pg	**Pg**	**14 48 25.9**	**-1.2**
	SNR=7.9						
EMIR				Lg		14 48 52.7	
	7.4nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.03**	**128**	Pg	**Pg**	**14 48 25.9**	**-1.3**
	SNR=7.9						
MTLF	**Montolieu**	**2.06**	**85**	*e*Pg	**Pg**	**14 48 27.6**	**-0.3**
MTLF				*e*Sn	**Sn**	**14 48 48.0**	**-0.2**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**14 48 55.2**	**+0.6**
	9.3nm,0.4s						
MTLF	**Montolieu**	**2.06**	**85**	Pn	**Pn**	**14 48 23.2**	**+0.6**
MTLF				Pg	**Pg**	**14 48 27.6**	**-0.3**
MTLF				Sn	**Sn**	**14 48 48.0**	**-0.2**
MTLF				Lg		14 48 55.2	
	4.7nm,0.4s						
MTLF	**Montolieu**	**2.06**	**85**	*e*Pn	**Pn**	**14 48 23.2**	**+0.6**
MTLF				*e*Pg	**Pg**	**14 48 27.6**	**-0.3**
MTLF				*e*Sn	**Sn**	**14 48 48.0**	**-0.2**
MTLF				*e*Sg	**Sg**	**14 48 55.2**	**+0.6**
MTLF	**Montolieu**	**2.06**	**85**	*e*Pg	**Pg**	**14 48 27.6**	**-0.3**
MTLF				*e*Sn	**Sn**	**14 48 48.0**	**-0.2**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**14 48 55.2**	**+0.6**
	4.7nm,0.4s						
ELAN	**Lanestosa**	**2.07**	**272**	Pg	**Pg**	**14 48 27.8**	**-0.1**
	0.7nm,0.2s,SNR=7.9						
ELAN				Lg		14 48 55.6	
	1.2nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**2.07**	**272**	Pg	**Pg**	**14 48 27.8**	**-0.2**
ELAN				Sn	**Sn**	**14 48 50.9**	**+2.5**
ELAN	**Lanestosa**	**2.07**	**272**	Pg	**Pg**	**14 48 27.8**	**-0.2**
	0.7nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**14 48 50.9**	**+2.5**
	1.2nm,0.4s,SNR=7.9						
VALF	**Valcebollere**	**2.08**	**111**	Pg	**Pg**	**14 48 29.0**	**+0.8**
VALF				Lg		14 48 55.3	
EPOB	**Poblet**	**2.23**	**145**	Pn	**Pn**	**14 48 25.1**	**+0.2**
	0.1nm,0.0s,SNR=7.9						
EPOB				Pg	**Pg**	**14 48 29.4**	**-1.5**
	2.0nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**14 48 52.3**	**+0.1**
	1.0nm,0.1s,SNR=7.9						
EPOB				Lg		14 48 58.5	
	11nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.23**	**145**	Pn	**Pn**	**14 48 25.1**	**+0.3**
	0.1nm,0.0s,SNR=7.9						
EPOB	**Poblet**	**2.23**	**145**	Pg	**Pg**	**14 48 29.5**	**-1.4**
EPOB				Sn	**Sn**	**14 48 52.3**	**+0.1**
	1.0nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.34**	**162**	Pg	**Pg**	**14 48 31.6**	**-1.6**
	0.1nm,0.2s,SNR=7.9						
ERTA				Lg		14 49 01.4	
	11nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.34**	**162**	Pg	**Pg**	**14 48 31.6**	**-1.6**
	SNR=7.9						
EBR	**Ebro Roquetas**	**2.51**	**161**	*e*SG	**Sg**	**14 49 09.0**	**+0.1**
EBR				*e*S*S*		14 49 12.5	
CAF	**Calviac**	**2.59**	**47**	*e*Pn	**Pn**	**14 48 30.0**	**+0.2**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**14 48 59.8**	**-1.3**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**14 49 11.8**	**+0.5**
	4.2nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.59**	**47**	*e*Pn	**Pn**	**14 48 30.0**	**+0.2**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**14 48 59.8**	**-1.3**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**14 49 11.8**	**+0.5**
	2.1nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.60**	**35**	*e*Pg	**Pg**	**14 48 37.0**	**-1.1**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**14 49 00.7**	**-0.7**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**14 49 12.1**	**+0.3**
	5.2nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.60**	**35**	Pn	**Pn**	**14 48 30.7**	**+0.7**
RJF				Pg	**Pg**	**14 48 37.0**	**-1.1**
RJF				Sn	**Sn**	**14 49 00.7**	**-0.7**
RJF				Lg		14 49 12.1	
	2.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.60**	**35**	*e*Pn	**Pn**	**14 48 30.7**	**+0.7**
RJF				*e*Pg	**Pg**	**14 48 37.0**	**-1.1**
RJF				*e*Sn	**Sn**	**14 49 00.7**	**-0.7**
RJF				*e*Sg	**Sg**	**14 49 12.1**	**+0.3**
RJF	**Les Rejaudoux**	**2.60**	**35**	*e*Pg	**Pg**	**14 48 37.0**	**-1.1**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**14 49 00.7**	**-0.7**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**14 49 12.1**	**+0.3**
	2.6nm,0.2s,SNR=1.0						
ETOR	**Torete**	**2.61**	**205**	Pn	**Pn**	**14 48 31.4**	**+1.3**
	0.7nm,0.2s,SNR=7.9						
ETOR				Pg	**Pg**	**14 48 35.4**	**-2.9**
	2.9nm,0.4s,SNR=7.9						
ETOR				Sn	**Sn**	**14 49 01.7**	**0.0**
	1.0nm,0.2s,SNR=7.9						
ETOR				Lg		14 49 11.6	
	3.6nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.61**	**205**	Pg	**Pg**	**14 48 35.4**	**-2.9**
	2.9nm,0.4s,SNR=7.9						
ETOR				Sn	**Sn**	**14 49 01.7**	**0.0**
	1.0nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.67**	**105**	Lg		14 49 15.6	
	SNR=7.9						
EMOS	**Mosqueruela**	**2.83**	**178**	Pn	**Pn**	**14 48 33.0**	**-0.2**
	21nm,1.1s,SNR=7.9						
EMOS				Sn	**Sn**	**14 49 05.8**	**-1.4**
	SNR=7.9						
EMOS	**Mosqueruela**	**2.83**	**178**	Pn	**Pn**	**14 48 35.0**	**+1.8**
EMOS				Sn	**Sn**	**14 49 07.3**	**+0.2**
EMOS	**Mosqueruela**	**2.83**	**178**	Pn	**Pn**	**14 48 35.0**	**+1.8**
	0.1nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**14 49 07.3**	**+0.1**
	SNR=7.9						
LASF	**Ste Croix**	**3.35**	**73**	*e*Pg	**Pg**	**14 48 51.9**	**-0.6**
LASF				*e*Sn	**Sn**	**14 49 18.8**	**-1.3**
LASF				*e*Sg	**Sg**	**14 49 35.5**	**-0.5**
	1.5nm,0.2s						
LASF	**Ste Croix**	**3.35**	**73**	Pn	**Pn**	**14 48 41.0**	**+0.6**

ML3.4,5C-3D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.77**	**55**⇓	*e*P	Pb	15 54 13.3	-0.6
SSNN				*e*S	Sb	15 54 25.1	+1.0
MADN	**Villa Maderas**	**1.10**	**59**⇑	*e*P	Pn	15 54 18.7	-0.8
MADN				*e*S	Sb	15 54 33.4	0.0
CONN	**Concepcion**	**1.11**	**50**⇑	*e*P	Pn	15 54 18.6	-1.1
TICN	**Ticuantepe**	**1.21**	**12**	*e*P	Pn	15 54 20.9	-0.2
TICN				*e*S	Sb	15 54 38.0	+1.3
LIM1	**Limonal**	**1.23**	**97**⇑	*e*P	Pn	15 54 20.2	-1.1
LIM1				*e*S	Sb	15 54 37.8	+0.6
MGAN	**Managua**	**1.32**	**11**	*e*P	Pn	15 54 22.1	-0.4
MGAN				*e*S	Sn	15 54 40.2	+0.7
COPN	**Copaltepe**	**1.33**	**356**⇓	*e*P	Pn	15 54 22.0	-0.7
COPN				*e*S	Sn	15 54 41.8	+1.9
	comp=Z,668nm,0.4s						
APYN	**Apoyeque**	**1.39**	**6**⇑	*e*P	Pn	15 54 22.3	-1.1
APYN				*e*S	Sn	15 54 41.8	+0.5
MIRN	**Miramar**	**1.60**	**352**⇑	*e*P	Pn	15 54 25.7	-0.6
MIRN				*e*S	Sn	15 54 47.7	+1.2
LEON	**Leon**	**1.61**	**346**⇓	*e*P	Pn	15 54 26.3	-0.2
CNGN	**Cerro Negro**	**1.66**	**353**	*e*P	Pn	15 54 26.3	-0.9
CGA2	**Cerro Gallo 2**	**2.16**	**112**	*e*P	Pn	15 54 35.2	+1.2
CGA2				*e*S	Sn	15 55 00.7	+0.4
PRS1	**Puriscal**	**2.31**	**111**	*e*P	Pn	15 54 38.7	+2.5
PRS1				*e*S	Sn	15 55 05.7	+1.6
LCR2	**La Lucha 2**	**2.69**	**114**	*e*P	Pn	15 54 43.4	+2.0
LCR2				*e*S	Sn	15 55 14.8	+1.4
URSC	**Urasca**	**2.86**	**110**	*e*P	Pn	15 54 45.6	+2.0
BUS	**Buena Vista**	**2.98**	**115**	*e*P	Pn	15 54 46.9	+1.5
BUS				*e*S	Sn	15 55 21.8	+1.1

IDC ***05*** *16:30:26.2±1.4,2091N×14484E,h0km,mb4.1/4, mb1 4.3/5,mb1mx3.9/20,mbtmp4.1/5,ML3.5/1,Error ellipse: s-maj=75.8km s-min=27.7km az=105.0*
ISCJB ***05*** *16:30:29.5±0.9,209N±0.1×1447E±0.3,h33km,mb4.0/5, Error ellipse: s-maj=46.8km s-min=14.5km az=2.4*
NEIC ***05*** *16:30:29.9±0.7,2093N×14478E,h25km,mb4.6/1,Error ellipse: s-maj=35.5km s-min=11.4km az=91.0*
ISC 05 16:30:31.6±0.9,210N±01×1447E±03,h35km,n10, σ0§51/10,mb4.0/5,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.53**	**341**	Pn	**Pn**	**16 34 20.6**	**-0.1**
	0.2nm,0.3s,baz=167,slow=11,SNR=4.7						
WRAB	**Tennant Creek**	**41.87**	**195**	*e*P	**P**	**16 38 18.7**	**+0.4**
	6.9nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**41.88**	**195**	*e*P	**P**	**16 38 18.3**	**-0.1**
WRA	**Warramunga Arr**	**41.88**	**195**	P	**P**	**16 38 18.5**	**+0.2**
	4.2nm,0.7s,mb4.2,baz=14,slow=8.8,SNR=31						
AS31	**Alice Springs**	**45.57**	**194**	*e*P	**P**	**16 38 48.2**	**+0.2**
ASAR	**Alice Springs**	**45.57**	**194**	P	**P**	**16 38 48.4**	**+0.3**
	1.5nm,0.6s,mb4.1,baz=14,slow=8.6,SNR=34						
ASPA	**Alice Springs**	**45.57**	**194**	*e*P	**P**	**16 38 48.2**	**+0.1**
STKA	**Stephens Creek**	**52.60**	**183**	P	**P**	**16 39 40.5**	**-1.4**
	1.0nm,1.0s,mb3.7,baz=20,slow=6.8,SNR=3.6						
NVAR	**Mina Array Bea**	**82.51**	**52**	P	**P**	**16 42 50.9**	**+0.3**
	0.6nm,0.7s,mb3.7,baz=258,slow=6.4,SNR=4.3						
NVAR	**Mina Array Bea**	**82.51**	**52**	P	**P**	**16 42 50.9**	**+0.3**

ISCJB ***05*** *17:12:34.8±1.7,2393S±007×668W±04,h161km±49km, Error ellipse: s-maj=56.5km s-min=12.0km az=5.7*
NEIC ***05*** *17:12:35.6±1.4,2392S×6675W,h148km±40km,Error ellipse: s-maj=36.3km s-min=13.6km az=106.0*
IDC ***05*** *17:12:35.6±3.7,2388S×6681W,h150km±96km,mb1 3.5/4, mb1mx3.3/17,mbtmp3.8/4,Error ellipse: s-maj=82.8km s-min=24.4km az=110.0*
ISC 05 17:12:35.9±1.7,2393S±010×668W±04,h156km±56km,n7, σ0§21/11,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.32**	**304**	P	**Pn**	**17 13 15.4**	**+0.3**
	5.2nm,0.3s,baz=128,slow=8.1,SNR=32						
LVC				S	**Sn**	**17 13 45.0**	**-0.3**
	9.9nm,0.3s,baz=252,slow=24,SNR=12						
LVC	**Limon Verde**	**2.32**	**304**	*e*P	**Pn**	**17 13 15.4**	**+0.3**
LVC				S	**Sn**	**17 13 45.0**	**-0.3**
LPAZ	**La Paz**	**7.70**	**351**	P	**Pn**	**17 14 25.5**	**+0.2**
	0.6nm,0.3s,baz=157,slow=11,SNR=14						
LPAZ				S	**Sn**	**17 15 51.2**	**-0.1**
	0.1nm,0.3s,baz=311,slow=20,SNR=3.5						
LPAZ	**La Paz**	**7.70**	**351**	*e*Pn	**Pn**	**17 14 25.7**	**+0.4**
LPAZ				S	**Sn**	**17 15 51.2**	**-0.1**
TRQA	**Tornquist**	**14.68**	**165**	*e*P	**Pn**	**17 15 56.0**	**0.0**
PLCA	**Paso Flores**	**17.04**	**190**	P	**Pn**	**17 16 24.8**	**0.0**
	0.1nm,0.3s,baz=348,slow=9.3,SNR=2.7						
BDFB	**Brasilia**	**19.52**	**68**	P	**P**	**17 16 51.0**	**-0.2**
	1.2nm,0.3s,baz=242,slow=11,SNR=8.3						

LDG ***05*** *17:14:36.6±0.1,4311N×089W,h2km,Md1.2/2,Error ellipse: s-maj=4.3km s-min=1.5km az=4.0*
STR ***05*** *17:14:36.8±0.0,4311N×089W,h2km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM 05 17:14:36.5±0.1,4310N×089W,h10km,ML2.0,Error ellipse: s-maj=2.0km s-min=0.7km az=7.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.09**	**229**	Pg	Pg	17 14 39.1	+0.1
LARF				Sg	Sg	17 14 40.7	-0.1
ATE	**Arette**	**0.14**	**96**	Pg	Pg	17 14 39.7	0.0
ATE				Sg	Sg	17 14 41.9	0.0
SJPF	**Ste Jean**	**0.24**	**273**	*e*Pg	Pg	17 14 41.5	0.0
SJPF				*e*Sg	Sg	17 14 44.7	-0.2
	1.0nm,0.3s						
SJPF	**Ste Jean**	**0.24**	**273**	*e*Pg	Pg	17 14 41.5	0.0
SJPF				*e*Sg	Sg	17 14 44.7	-0.2
	0.5nm,0.3s						
ETSF	**Etsaut**	**0.32**	**130**	*e*Pg	Pg	17 14 42.7	-0.1
ETSF				*e*Sg	Sg	17 14 47.2	+0.2
	2.8nm,0.3s						
ETSF	**Etsaut**	**0.32**	**130**	*e*Pg	Pg	17 14 42.7	-0.1
ETSF				*e*Sg	Sg	17 14 47.2	+0.2
	1.4nm,0.3s						

IDC 05 17:20:41.9±3.0,3140S×17777W,h0km,mb3.7/2, mb1 4.0/3,mb1mx3.7/13,mbtmp3.8/3,ML3.1/1,MS3.2/1, Ms1 3.2/1,ms1mx2.8/24,Error ellipse: s-maj=70.2km s-min=36.4km az=114.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.15**	**356**	LR	LR	17 21 48.5	
	comp=Z,541nm,21.4s,baz=121,slow=31						
URZ	**Urewera**	**8.03**	**210**	Pn	Pn	17 22 40.3	+0.6
	0.2nm,0.3s,baz=135,slow=10.0,SNR=3.1						
URZ				Sn	Sn	17 24 10.1	-1.2
	0.3nm,0.3s,baz=180,slow=20,SNR=4.5						
ASAR	**Alice Springs**	**43.26**	**268**	P	P	17 28 45.5	+0.4
	0.8nm,0.9s,baz=107,slow=7.5,SNR=14						
WRA	**Warramunga Arr**	**44.34**	**273**	P	P	17 28 53.8	+0.1
	0.6nm,0.3s,baz=111,slow=8.1,SNR=32						
FINES	**FINESS Array B**	**146.15**	**340**	PKPbc	PKPbc	17 40 22.3	-1.7
	1.3nm,0.9s,baz=64,slow=4.4,SNR=6.5						

ISCJB ***05*** *17:33:54.8±0.5,5963S±008×262W±02,h10km,mb4.0/10, MS3.8/7,Error ellipse: s-maj=15.9km s-min=9.3km az=105.2*
IDC ***05*** *17:33:54.8±0.7,5957S×2624W,h0km,mb4.1/9,mb1 4.2/9, mb1mx4.1/18,mbtmp4.1/9,MS3.8/7,Ms1 3.7/7, ms1mx3.6/19,Error ellipse: s-maj=24.4km s-min=19.1km az=10.0*
NEIC ***05*** *17:34:06.5±4.8,5959S×2637W,h96km±44km,mb4.2/4, Error ellipse: s-maj=16.5km s-min=12.3km az=219.0*
ISC 05 17:33:56.5±0.5,5963S±008×262W±02,h10km,n26, σ0§58/19,mb4.0/10,MS3.8/7,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.31**	**153**⇑	*i*P	**Pn**	**17 37 05.4**	**0.0**
VNA1				*e*		17 37 06.3	
VNA1				*e*		17 37 08.0	
VNA1				*e*		17 37 09.2	
VNA1				*e*		17 37 09.9	
VNA1				*e*		17 39 15.0	
VNA1				*e*		17 39 21.4	
VNA1				*e*		17 39 25.4	
VNA1				*e*		17 39 30.3	
VNA1				*e*		17 39 36.9	
VNA3	**Neumayer Olymp**	**13.46**	**157**⇑	*i*P	**Pn**	**17 37 07.4**	**0.0**
VNA3				*e*		17 37 08.1	
VNA3				*e*		17 37 09.0	
VNA3				*e*		17 37 10.1	
VNA3				*e*		17 39 23.2	
VNA3				*e*		17 39 26.0	
VNA3				*e*		17 39 28.2	
VNA3				*e*		17 39 34.5	
VNA2	**Neumayer--Watz**	**13.71**	**153**⇑	*i*P	**Pn**	**17 37 10.3**	**-0.5**
	baz=301,slow=16						
VNA2				*e*		17 37 11.1	
VNA2				*e*		17 37 12.2	
VNA2				*e*		17 37 14.2	
VNA2				*e*		17 37 16.3	
VNA2				*e*		17 37 20.3	
VNA2				*e*		17 37 23.8	
VNA2				*e*		17 39 28.9	
VNA2				*e*		17 39 30.5	
VNA2				*e*		17 39 44.1	
SNAA	**Sanae**	**15.29**	**152**⇑	*i*P	**Pn**	**17 37 20.5**	**-12**
SNAA				*e*		17 37 21.7	
SNAA				*e*		17 37 25.6	
SNAA				*e*		17 37 27.0	
SNAA				*e*		17 37 42.3	
SNAA				*e*		17 39 56.2	
SNAA				*e*		17 40 00.8	
SNAA				*e*		17 40 01.8	
SNAA				*e*		17 40 03.5	
USHA	**Ushuaia**	**23.04**	**263**	P	**P**	**17 39 01.3**	**-0.5**
	15nm,1.0s,mb4.4,baz=89,slow=9.3,SNR=5.6						
USHA				LR	LR	17 45 31.3	
	comp=Z,269nm,18.2s,MS3.7,baz=286,slow=30						
QSPA	**South Pole Qui**	**30.61**	**180**	*e*P	**P**	**17 40 11.4**	**+0.8**
	4.3nm,1.1s,mb4.2						
TRQA	**Tornquist**	**31.32**	**297**	*e*P	**P**	**17 40 17.3**	**+0.4**
PLCA	**Paso Flores**	**33.27**	**285**	LR	LR	17 54 21.6	
	comp=Z,102nm,18.4s,MS3.6,baz=175,slow=37						
CFAA	**Coronel Fontan**	**39.53**	**296**	P	**P**	**17 41 26.8**	**-0.6**
	0.4nm,0.7s,mb3.2,baz=149,slow=7.6,SNR=6.5						
CFAA	**Coronel Fontan**	**39.53**	**296**	P	**P**	**17 41 26.8**	**-0.6**
CPUP	**Villa Florida**	**39.61**	**313**	P	**P**	**17 41 28.2**	**+0.1**
	0.8nm,0.5s,mb3.7,baz=135,slow=5.5,SNR=3.3						
VNDA	**Vanda**	**43.01**	**183**	P	**P**	**17 41 57.0**	**+1.0**
	3.5nm,0.7s,mb4.2,baz=187,slow=7.0,SNR=14						
VNDA				LR	LR	17 58 25.6	
	comp=Z,59nm,19.5s,MS3.5,baz=199,slow=34						
BOSA	**Boshof**	**46.49**	**72**	P	**P**	**17 42 23.6**	**-0.1**
	1.7nm,0.7s,mb4.1,baz=183,slow=19,SNR=5.0						
BOSA				LR	LR	17 57 11.0	
	comp=Z,83nm,18.8s,MS3.7,baz=60,slow=30						
BOSA	**Boshof**	**46.49**	**72**	*e*P	**P**	**17 42 23.8**	**0.0**
	1.1nm,0.5s,mb4.0						
BOSA				LR	LR	17 57 11.1	
BDFB	**Brasilia**	**46.74**	**331**	LR	LR	17 57 00.2	
	comp=Z,126nm,20.1s,MS3.9,baz=354,slow=30						
LBTB	**Lobatse**	**49.68**	**69**	P	**P**	**17 42 48.6**	**+0.2**
	0.8nm,0.6s,mb4.0,baz=221,slow=8.0,SNR=4.5						
LBTB	**Lobatse**	**49.68**	**69**	*e*P	**P**	**17 42 48.8**	**+0.4**
	2.0nm,0.8s,mb4.2						
LPAZ	**La Paz**	**52.90**	**306**	P	**P**	**17 43 12.7**	**+0.1**
	0.7nm,0.4s,mb4.0,baz=86,slow=10,SNR=6.9						
LPAZ	**La Paz**	**52.90**	**306**	*e*P	**P**	**17 43 13.1**	**+0.5**
	1.6nm,0.5s,mb4.2						
DBIC	**Dimbokro**	**68.25**	**23**	LR	LR	18 07 11.7	
	comp=Z,57nm,20.9s,MS3.8,baz=319,slow=29						
KMBO	**Kilima Mbogo**	**75.90**	**67**	LR	LR	18 15 17.4	
	comp=Z,113nm,18.9s,MS4.2,baz=88,slow=33						
TORD	**Torodi Ar. Bea**	**75.96**	**28**	P	**P**	**17 45 43.6**	**+0.1**
	2.1nm,0.6s,mb4.2,baz=198,slow=6.4,SNR=22						
ASAR	**Alice Springs**	**95.41**	**162**	P	**P**	**17 47 19.8**	**-1.3**
	1.0nm,0.7s,mb4.4,baz=188,slow=4.4,SNR=17						
ARCES	**ARCESS Array B**	**134.08**	**23**	PKP	PKPdf	17 53 11.4	-2.7
	4.4nm,1.1s,baz=236,slow=1.0,SNR=5.8						
INK	**Inuvik**	**148.84**	**317**	PKPbc	PKPbc	17 53 39.7	-4.6
	1.0nm,0.7s,baz=191,slow=9.7,SNR=4.2						
SONM	**Songino Array**	**150.26**	**92**	PKPbc	PKPbc	17 53 46.1	-1.7
	4.6nm,0.9s,baz=214,slow=3.2,SNR=11						
SONM				PKPab	PKPab	17 53 52.2	-1.8
	1.7nm,0.6s,baz=234,slow=5.0,SNR=4.4						

ISCJB ***05*** *18:04:10.7±0.7,4389N±008×105.19W±008,h0km,mb4.1/1, Error ellipse: s-maj=11.1km s-min=8.5km az=149.8*
IDC ***05*** *18:04:11.8±2.0,4372N×10541W,h0km,mb4.0/1, mb1 3.9/3,mb1mx3.5/22,mbtmp3.8/3,ML3.3/2,MS3.2/2, Ms1 3.1/2,ms1mx2.3/40,Error ellipse: s-maj=56.3km s-min=8.4km az=150.0*
NEIC ***05*** *18:04:12.6±0.7,4381N×10523W,h0km,ML2.9,Error ellipse: s-maj=12.4km s-min=9.4km az=167.0,Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
ISC 05 18:04:12.5±0.7,4382N±008×10525W±008,h0km,n14, σ1§29/15,mb4.1/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.52**	**184**	*e*P	**Pn**	**18 04 54.5**	**-0.2**
RWWY	**Rawlins**	**2.57**	**215**	*e*P	**Pn**	**18 04 55.6**	**+0.3**
PDAR	**Pinedale Array**	**3.32**	**253**	Pn	**Pn**	**18 05 05.8**	**+0.2**
	2.0nm,0.3s,baz=73,slow=16,SNR=32						
PDAR				Pg	**Pg**	**18 05 14.1**	**-2.0**
	7.2nm,0.3s,baz=77,slow=18,SNR=31						
PDAR				Lg		18 05 49.8	
	5.7nm,0.3s,baz=74,slow=31,SNR=8.6						
LOHW	**Long Hollow**	**3.89**	**269**	*e*Pn	**Pn**	**18 05 15.1**	**+1.6**
FLWY	**Flagg Ranch**	**3.94**	**276**	P	**Pn**	**18 05 16.3**	**+2.1**
ISCO	**Idaho Springs**	**4.03**	**184**	*e*P	**Pn**	**18 05 15.1**	**-0.3**
REDW	**Red Top Meadow**	**4.09**	**266**	*e*Pg	**Pg**	**18 05 23.8**	**-7.2**
IMW	**Indian Meadow**	**4.11**	**273**	*e*Pn	**Pn**	**18 05 18.8**	**+2.2**
TPAW	**Teton Pass**	**4.15**	**267**	*e*Pn	**Pn**	**18 05 15.2**	**-1.8**
DLMT	**Dillon**	**5.47**	**289**	*e*P	**Pn**	**18 05 34.3**	**-0.9**
ECSD	**EROS,Sioux Fal**	**6.25**	**88**	*e*Pn	**Pn**	**18 05 47.1**	**+1.1**
ULM	**Lac du Bonnet**	**9.07**	**42**	Pn	**Pn**	**18 06 23.3**	**-1.4**
	1.1nm,0.3s,baz=229,slow=12,SNR=7.0						
ULM				Lg		18 08 57.8	
	0.2nm,0.3s,baz=16,slow=20,SNR=1.9						
ULM				LR	LR	18 10 33.0	
	comp=Z,38nm,19.1s,baz=249,slow=41						
ARCES	**ARCES Array B**	**61.34**	**18**	P	**P**	**18 14 29.8**	**-0.2**
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**18 14 29.8**	**-0.2**
	1.3nm,0.7s,mb4.1,baz=334,slow=6.0,SNR=4.4						

IDC ***05*** *18:24:07.8±1.0,090N×9724E,h0km,mb4.1/11, mb1 4.2/12,mb1mx4.0/21,mbtmp4.1/12,ML3.4/1,Error ellipse: s-maj=38.7km s-min=16.5km az=52.0*
BJI ***05*** *18:24:08.9,1.11N×9793E,h6km,mB4.7,mb4.7*
MOS ***05*** *18:24:10.9±1.0,088N×9727E,h33km,mb4.6/3,Error ellipse: s-maj=20.7km s-min=11.2km az=108.4*
ISCJB ***05*** *18:24:11.2±0.6,097N±008×9740E±009,h33km,mb4.2/16, Error ellipse: s-maj=15.7km s-min=9.2km az=105.0*
NEIC ***05*** *18:24:12.6±0.4,093N×9738E,h30km,mb4.5/5,Error ellipse: s-maj=12.4km s-min=6.7km az=51.0*
ISC 05 18:24:13.7±0.6,098N±009×9743E±010,h35km,n36, σ0§88/37,mb4.2/16,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.35**	**40**	Pn	**Pn**	**18 24 49.9**	**+0.1**
	8.6nm,0.3s,baz=305,slow=6.0,SNR=14						
PSI				Sn	**Sn**	**18 25 27.2**	**+10**
	10nm,0.3s,baz=128,slow=16,SNR=4.6						
KULM	**Kulim**	**5.36**	**37**	*e*Pn	**Pn**	**18 25 30.6**	**-0.4**
JIRN	**Jiri**	**28.63**	**339**	*e*P	**P**	**18 30 08.0**	**+1.2**
	19nm,0.9s,mb4.8						
PKI	**Pulchoki**	**28.84**	**337**	*e*P	**P**	**18 30 10.5**	**+1.9**
GUN	**Gumba**	**28.97**	**339**	*e*P	**P**	**18 30 10.6**	**+0.8**
KKN	**Kakani**	**29.09**	**337**	*e*P	**P**	**18 30 12.0**	**+1.2**
LSA	**Lhasa**	**29.18**	**349**	*e*P	**P**	**18 30 12.6**	**+1.0**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**29.18**	**349**	*e*P	**P**	**18 30 12.6**	**+1.0**
	comp=Z,2.9nm,0.4s,mb4.4						
GKN	**Gorkha**	**29.53**	**337**	*e*P	**P**	**18 30 15.3**	**+0.6**
KOLN	**Koldanda**	**29.75**	**335**	*e*P	**P**	**18 30 16.1**	**-0.6**
	comp=Z,9.4nm,0.8s,mb4.6						
CD2	**Chengdu**	**30.36**	**11**	*e*P	**P**	**18 30 23.5**	**+1.4**
XAN	**Xi'an**	**34.60**	**17**	P	**P**	**18 30 58.0**	**-1.2**
XAN				AP	pP	18 31 05.3	-4.1
GTA	**Gaotai**	**38.31**	**3**	*e*P	**P**	**18 31 31.2**	**+0.4**
GTA				AP	pP	18 31 35.5	-5.5
GTA				XP	sP	18 31 39.0	-6.2
WRA	**Warramunga Arr**	**41.73**	**122**	P	**P**	**18 31 59.6**	**+0.4**
	comp=Z,1.4nm,0.7s,mb3.7,baz=302,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**41.73**	**122**	*e*P	**P**	**18 31 58.4**	**-0.9**
WB2	**Warramunga Arr**	**41.74**	**122**	*e*P	**P**	**18 32 00.0**	**+0.7**
ASAR	**Alice Springs**	**43.08**	**127**	P	**P**	**18 32 11.3**	**+1.1**
	comp=Z,1.0nm,0.8s,mb3.6,baz=298,slow=7.8,SNR=29						
SONM	**Songino Array**	**47.31**	**8**	P	**P**	**18 32 43.5**	**-0.3**
	comp=Z,1.7nm,0.5s,mb4.2,baz=182,slow=9.4,SNR=4.0						
MKAR	**Makanchi Array**	**47.51**	**346**	P	**P**	**18 32 45.4**	**+0.1**
	comp=Z,4.5nm,0.7s,mb4.6,baz=160,slow=7.7,SNR=34						
STKA	**Stephens Creek**	**53.04**	**132**	P	**P**	**18 33 26.9**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=310,slow=8.8,SNR=5.1						
STKA	**Stephens Creek**	**53.04**	**132**	*e*P	**P**	**18 33 26.9**	**-0.3**
ZAL	**Zalesovo**	**53.80**	**351**	P	**P**	**18 33 32.2**	**-0.6**
	comp=Z,6.2nm,0.5s,mb4.8,baz=305,slow=5.2,SNR=20						
KLR	**Kul'dur**	**56.35**	**26**	*e*P	**P**	**18 33 47.6**	**-3.5**
BRVK	**Borovoye**	**56.59**	**341**	*e*P	**P**	**18 33 52.0**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**56.59**	**341**	*e*P	**P**	**18 33 52.0**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**56.93**	**340**	*e*P	**P**	**18 33 54.3**	**-1.0**
CHKZ	**Chkalovo**	**57.00**	**341**	*e*P	**P**	**18 33 55.2**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**57.00**	**341**	*e*P	**P**	**18 33 55.2**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.6						
AKTK	**Aktyubinsk**	**59.53**	**332**	P	**P**	**18 34 12.3**	**-1.1**
AKTO	**Aktyubinsk**	**59.53**	**332**	P	**P**	**18 34 12.3**	**-1.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=156,slow=9.1,SNR=4.1						
FINES	**FINESS Array B**	**80.30**	**332**	P	**P**	**18 36 20.1**	**-0.9**
	comp=Z,1.1nm,0.8s,mb3.9,baz=97,slow=10,SNR=3.2						
ARCES	**ARCESS Array B**	**82.82**	**340**	P	**P**	**18 36 34.0**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.2,baz=90,slow=4.1,SNR=5.5						
GERES	**GERESS Array B**	**85.12**	**319**	P	**P**	**18 36 46.4**	**+0.4**
	comp=Z,0.9nm,0.9s,mb3.9,baz=87,slow=6.8,SNR=7.2						
NB2	**NORSAR Subarra**	**87.31**	**331**	P	**P**	**18 36 56.1**	**-0.7**
	comp=Z,0.6nm,0.5s,mb4.1,baz=86,slow=6.2						
NOA	**NORSAR Array B**	**87.31**	**331**	P	**P**	**18 36 56.7**	**-0.1**
	comp=Z,1.1nm,0.9s,mb4.1,baz=90,slow=5.0,SNR=3.9						
NOA	**NORSAR Array B**	**87.31**	**331**	P	**P**	**18 36 56.7**	**-0.1**

MAN 05 18:28:25.8,1058N×12544E,h69km,mb2.3,ML3.9,MS6.5, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.72**	**232**	*e*P	Pn	18 28 43.7	+2.8
MSLP				*e*S	Sn	18 28 55.5	+3.5
PLP	**Palo**	**0.74**	**322**	*e*P	Pn	18 28 41.7	+0.7
PLP				*e*S	Sn	18 28 51.4	-0.9
SCPH	**Surigao**	**0.80**	**177**⇑	*e*P	Pn	18 28 42.7	+1.0
BESP	**Borongan**	**1.01**	**360**	*e*P	Pn	18 28 45.3	+0.9
BESP				*e*S	Sn	18 29 00.2	+2.0

IDC 05 18:52:17.6±3.3,311S×15219E,h0km,mb4.0/3,mb1 4.3/3, mb1mx3.8/14,mbtmp4.0/3,Error ellipse: s-maj=117.0km s-min=45.5km az=119.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.15**	**225**	P	P	18 57 36.3	+1.0
	6.3nm,0.4s,baz=49,slow=9.5,SNR=151						
ASAR	**Alice Springs**	**27.02**	**219**	P	P	18 58 01.2	-0.1
	0.4nm,0.5s,baz=52,slow=8.5,SNR=26						
FITZ	**Fitzroy Crossi**	**29.98**	**238**	P	P	18 58 28.4	+0.8
	2.0nm,0.8s,baz=82,slow=7.1,SNR=18						
TORD	**Torodi Ar. Bea**	**149.18**	**291**	PKPbc	PKPbc	19 12 08.0	+0.1
	0.2nm,0.3s,baz=87,slow=2.8,SNR=7.6						

MAN 05 18:55:03.4,1578N×12187E,h9km,mb3.2,ML4.5,MS2.5, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.29**	**262**	*e*P	Pg	18 55 10.1	+0.9
BALP				*e*S	Sg	18 55 15.1	+2.1
PCPH	**Palayan**	**0.78**	**254**⇓	*e*P	Pg	18 55 17.7	-0.7
PCPH				*i*S	Sg	18 55 28.5	0.0
POLP	**Polilio Island**	**1.05**	**176**	*e*P	Pg	18 55 22.8	-0.8
POLP				*e*S	Sg	18 55 39.6	+2.3
CAUP	**Cauayan**	**1.16**	**358**	*e*P	Pb	18 55 24.4	-1.2
CAUP				*e*S	Sg	18 55 41.5	+0.8
BCPH	**Baguio City Da**	**1.38**	**296**⇑	*e*P	Pn	18 55 28.1	-0.7
BCPH				*i*S	Sb	18 55 47.6	+0.6
PALP	**Palanan**	**1.38**	**23**	*e*P	Pn	18 55 27.6	-1.3
SCZP	**Santa Cruz**	**1.89**	**270**	*e*P	Pn

MSLP	**Maasin**	8.50	358	*e*P	Pn	18 58 31.9 -0.3
LLP	**Lapu-Lapu**	8.75	352⇑	*e*P	Pn	18 58 36.4 +0.8
GUIM	**Jordan**	9.33	344	*e*P	Pn	18 58 46.1 +2.8
OCLP	**Ormoc**	9.42	357	*e*P	Pn	18 58 44.9 +0.5
PLP	**Palo**	9.52	359	*e*P	Pn	18 58 46.3 +0.6
KKM	**Kota Kinabalu**	9.95	297	P	Pn	18 58 51.9 +0.5
KKM	**Kota Kinabalu**	9.95	297	*e*P	Pn	18 58 53.0 +1.6
CUYO	**Cuyo Island**	10.07	336	*e*P	Pn	18 58 55.1 +2.1
BATP	**Bataraza**	10.23	315	*e*P	Pn	18 58 55.4 +0.3
TLE	**Tual**	10.44	133	P	Pn	18 58 58.0 +0.2
	667nm,1.1s					
ENPP	**El Nido**	11.12	330	*e*P	Pn	18 59 07.2 +0.6
BAKI	**Biak**	11.30	104	P	Pn	18 59 10.1 +1.0
	576nm,1.3s					
AUQP	**San Andres**	11.91	348	*e*P	Pn	18 59 20.1 +3.1
PVCP	**Virac**	11.97	355	*e*P	Pn	18 59 18.1 +0.3
WSI	**Waingapu**	12.18	203	P	Pn	18 59 22.0 +1.6
	2μm,0.8s					
LUBP	**Lubang**	13.01	338	*e*P	Pn	18 59 31.9 +0.9
TGY	**Tagaytay City**	13.11	342	P	Pn	18 59 35.2 +2.9
	14nm,0.3s,baz=177,slow=5.0,SNR=14					
POLP	**Polillo Island**	13.44	347	*e*P	Pn	18 59 37.4 +1.0
KMMI	**Kalianget**	14.07	232	P	Pn	18 59 43.1 -1.3
	1μm,1.1s					
DNP	**Denpasar**	14.21	224	P	Pn	18 59 49.3 +3.2
	2μm,0.7s					
NBBI	**Negara**	14.42	227	P	Pn	18 59 50.0 +1.3
	1μm,1.1s					
BALP	**Baler**	14.50	346	*e*P	Pn	18 59 50.4 +0.7
KSM	**Kuching**	14.83	270	*e*P	Pn	18 59 55.6 +1.8
BCPH	**Baguio City Da**	15.37	343⇑	*e*P	Pn	19 00 03.5 +3.1
CAUP	**Cauayan**	15.61	348	*e*P	Pn	19 00 03.4 +0.1
KAKA	**Kakadu**	15.94	153⇓	*i*P	Pn	19 00 05.6 -1.8
	288nm,0.6s					
JAY	**Jayapura**	16.08	105	P	Pn	19 00 09.1 0.0
	112nm,0.8s					
CVP	**Callao Caves**	16.34	349	*e*P	Pn	19 00 12.5 +0.2
ABRA	**Dolores**	16.55	345	*e*P	Pn	19 00 14.2 -0.5
APYP	**Conner**	16.62	347	*e*P	Pn	19 00 15.3 -0.3
BJII	**Banjamegara**	17.77	240	P	Pn	19 00 27.9 -1.4
	217nm,1.5s					
MMPI	**Merauke**	18.18	124	P	P	19 00 34.2 +2.0
	3μm,0.7s					
LEM	**Lembang**	19.39	244	P	P	19 00 45.1 -0.2
	106nm,1.2s					
FITZ	**Fitzroy Crossi**	19.57	179⇓	*i*P	P	19 00 46.9 -0.3
	76nm,0.6s					
FITZ				*e*S	S	19 04 15.5 -3.4
FITZ	**Fitzroy Crossi**	19.57	179	P	P	19 00 47.0 -0.3
	4.2nm,0.3s,baz=15,slow=9.2,SNR=145					
FITZ				S	S	19 04 14.8 -4.2
	1.0nm,0.3s,baz=278,slow=23,SNR=40					
FITZ				ScP	ScP	19 08 20.6 +0.8
	0.4nm,0.3s,baz=13,slow=2.9,SNR=5.3					
KGM	**Kluang**	21.82	271	P	P	19 01 11.6 +0.5
GUMO	**Guam**	22.87	58	P	P	19 01 21.9 +0.8
	44nm,0.7s,mb5.0,baz=192,slow=19,SNR=3.5					
QIZ	**Qiongzhong**	22.92	320	P	P	19 01 17.0 -4.6
QIZ				LR	LR	
	comp=N,350nm,16.0s					
KSI	**Kapahiang**	23.13	257	P	P	19 01 23.9 +0.4
	comp=N,208nm,0.9s,mb5.6					
WRAB	**Tennant Creek**	23.21	158	P	P	19 01 24.0 -0.3
	comp=N,4μm,0.8s,SNR=95					
WRAB	**Tennant Creek**	23.21	158	*e*P	P	19 01 24.1 -0.1
MBWA	**Marble Bar**	23.22	193	*e*P	P	19 01 24.2 -0.1
	comp=N,78nm,1.3s,mb5.0					
WRA	**Warramunga Arr**	23.22	158	P	P	19 01 23.9 -0.4
	comp=N,348nm,0.8s,mb5.8,baz=328,slow=12,SNR=282					
WRA				S	S	19 05 19.6 -3.8
	comp=N,34nm,1.0s,baz=325,slow=16,SNR=6.9					
WRA				ScP	ScP	19 08 28.6 -0.3
	comp=N,9.2nm,0.9s,baz=340,slow=3.2,SNR=7.3					
WRA	**Warramunga Arr**	23.22	158	P	P	19 01 23.9 -0.4
WRA				S	S	19 05 19.6 -3.7
WB2	**Warramunga Arr**	23.22	158⇓	*i*P	P	19 01 24.0 -0.4
WB2				*e*S	S	19 05 19.8 -3.6
WB2				*e*SCS	ScS	19 12 12.7 -2.5
YHNB	**Yeheng**	23.23	351	*e*P	P	19 01 22.7 -1.7
QZH	**Quanzhou**	24.07	345	*e*P	P	19 01 31.0 -1.0
QZH				AMB	AMB	
	comp=Z,110nm,0.9s,mb5.4					
GZH	**Guangzhou**	24.25	333	P	P	19 01 37.5 +3.8
GZH				LR	LR	
	comp=N,370nm,17.3s					
GZH				LR	LR	
	comp=E,370nm,20.7s					
GZH				LR	LR	
	comp=Z,360nm,15.7s					
IPM	**Ipoh**	24.25	277	P	P	19 01 34.7 +1.0
PMG	**Port Moresby**	24.50	117	P	P	19 01 36.9 +0.9
	comp=Z,170nm,0.7s,mb5.7,baz=356,slow=3.5,SNR=46					
PMG	**Port Moresby**	24.50	117	P	P	19 01 36.9 +1.0
PMG				pmax	pmax	
	comp=Z,170nm,0.7s					
PMG	**Port Moresby**	24.50	117	*e*P	P	19 01 37.2 +1.3
KULM	**Kulim**	24.72	279	*e*P	P	19 01 38.2 +0.2
JOW	**Kunigami**	25.28	7	P	P	19 01 44.0 +1.0
	comp=Z,205nm,0.7s,mb5.8,baz=207,slow=9.0,SNR=18					
KKTK	**Khon Kaen**	26.42	305	P	P	19 01 53.5 +0.2
AS31	**Alice Springs**	26.51	162⇓	*i*P	P	19 01 54.2 +0.2
ASAR	**Alice Springs**	26.51	162	P	P	19 01 54.2 +0.1
	comp=Z,71nm,0.6s,mb5.5,baz=346,slow=7.7,SNR=796					
ASAR				PcP	PcP	19 05 14.9 +0.6
	comp=Z,11nm,0.5s,baz=349,slow=2.2,SNR=10					
ASAR				S	S	19 06 14.2 -1.3
	comp=Z,27nm,1.0s,baz=353,slow=20,SNR=10					
ASAR				ScP	ScP	19 08 39.8 +1.6
	comp=Z,2.2nm,0.5s,baz=344,slow=3.0,SNR=6.2					
ASAR	**Alice Springs**	26.51	162	P	P	19 01 54.2 +0.1
ASAR						19 05 14.9
ASAR				S	S	19 06 14.2 -1.3
ASPA	**Alice Springs**	26.51	162⇓	*i*P	P	19 01 54.2 +0.2
NST	**Nakhon Sawan**	28.36	301	P	pP	19 02 52.1 +6.4
SSE	**Sheshan**	29.59	353	*e*P	P	19 02 20.3 -1.1
SSE				PCP	PcP	19 05 25.0 +3.1
SSE				AMB	AMB	
	comp=Z,30nm,0.7s,mb5.1					
SSE				AMB	AMB	
	comp=Z,30nm,3.5s					
SSE				LR	LR	
	comp=N,70nm,32.9s					
SSE				LR	LR	
	comp=E,330nm,32.9s					
SSE				LR	LR	
	comp=Z,120nm,37.4s					
CTA	**Charters Tower**	29.88	137⇓	*i*P	P	19 02 25.2 +1.3
	comp=Z,34nm,0.8s,mb5.1					
CTA	**Charters Tower**	29.88	137	P	P	19 02 25.4 +1.4
	comp=Z,42nm,0.8s,mb5.2,baz=316,slow=11,SNR=34					
CTA	**Charters Tower**	29.88	137⇓	*i*P	P	19 02 25.2 +1.3
CTA				pmax	pmax	
	comp=Z,34nm,0.8s					
CTAO	**Charters Tower**	29.88	137	*e*P	P	19 02 25.8 +1.9
CTAO				pmax	pmax	
	comp=Z,59nm,0.9s,mb5.3					
CTAO	**Charters Tower**	29.88	137	*e*P	P	19 02 25.8 +1.9
	comp=Z,59nm,0.9s,mb5.3					
CBIJ	**Chichi jima**	30.18	31	P	P	19 02 26.1 -0.5
	comp=Z,154nm,0.7s,mb5.8,baz=315,slow=18,SNR=3.9					
CBIJ				LR	LR	19 13 21.2
	comp=Z,153nm,21.0s,baz=148,slow=33					
GYA	**Guiyang**	30.45	326⇑	*i*P	P	19 02 29.5 +0.5
GYA				AMB	AMB	
	comp=Z,30nm,0.8s,mb5.1					
GYA				AMB	AMB	
	comp=Z,130nm,4.9s					
GYA				LR	LR	
	comp=N,420nm,16.8s					
GYA				LR	LR	
	comp=E,480nm,16.4s					
GYA				LR	LR	
	comp=Z,510nm,16.6s					
WHN	**Wuhan**	30.57	341	P	P	19 02 31.3 +1.3
WHN				AP	pP	19 03 13.0 +7.6
WHN				PP	PP	19 03 32.8 -10
CHG	**Chiang Mai**	30.86	305	P	P	19 02 33.7 +1.1
CHTO	**Chiang Mai**	30.86	305	*e*P	P	19 02 33.1 +0.5
CHTO				pmax	pmax	
	comp=Z,15nm,0.9s,mb4.7					
CHTO	**Chiang Mai**	30.86	305	*e*P	P	19 02 33.1 +0.5
	comp=Z,15nm,0.9s,mb4.7					
CHTO				*e*	pP	19 03 08.4 +0.3
CHTO				*e*		19 03 33.5
NJ2	**Nanjing**	30.88	350	*e*P	P	19 02 31.4 -1.4
NJ2				AMB	AMB	
	comp=Z,10.0nm,0.6s,mb4.7					
NJ2				AMB	AMB	
	comp=Z,290nm,4.3s					
NJ2				LR	LR	
	comp=N,570nm,25.3s					
NJ2				LR	LR	
	comp=E,2μm,20.2s					
NJ2				LR	LR	
	comp=Z,260nm,15.6s					
COCO	**West Island**	31.27	243	*es*P	P	19 02 40.2 +4.0
KMI	**Kunming**	31.86	319	P	P	19 02 39.2 -2.1
KMI				SS	SS	19 09 39.7 -24
KMI				LR	LR	
	comp=N,180nm,18.7s					
KMI				LR	LR	
	comp=E,140nm,19.1s					
KMI				LR	LR	
	comp=Z,240nm,16.7s					
FORT	**Forrest**	32.30	175⇓	*i*P	P	19 02 45.2 0.0
	comp=Z,148nm,0.6s,mb5.9					
FORT				*e*S	S	19 07 44.7 -1.6
KLBR	**Kellerberrin**	33.73	191⇓	*i*P	P	19 02 57.5 -0.1
	comp=Z,28nm,0.6s,mb5.2					
KLBR				*e*S	S	19 08 01.4 -6.9
MUN	**Mundaring**	34.44	193⇑	*i*P	P	19 03 04.1 +0.4
NWAO	**Narrogin (SRO)**	35.13	192	P	P	19 03 09.8 +0.2
	comp=Z,16nm,0.5s,mb4.9,baz=24,slow=6.9,SNR=43					
NWAO	**Narrogin (SRO)**	35.13	192	*e*P	P	19 03 10.0 +0.4
NWAO				pmax	pmax	
	comp=Z,41nm,1.1s					
NWAO	**Narrogin (SRO)**	35.13	192	*e*P	P	19 03 10.0 +0.4
	comp=Z,42nm,1.1s,mb5.0					
CD2	**Chengdu**	35.51	327	*e*P	P	19 03 09.3 -3.5
CD2				AP	pP	19 03 51.8 +3.0
CD2				XP	sP	19 04 12.8 +4.6
CD2				PP	PP	19 04 40.3 +3.3
CD2				PCP	PcP	19 05 33.4 -4.9
CD2				AMB	AMB	
	comp=Z,10.0nm,0.9s,mb4.5					
CD2				AMB	AMB	
	comp=Z,40nm,6.9s					
CD2				LR	LR	
	comp=E,330nm,18.0s					
CD2				LR	LR	
	comp=Z,380nm,14.4s					
XAN	**Xi'an**	35.67	337	P	P	19 03 13.5 -0.8
XAN				LR	LR	
	comp=N,220nm,14.7s					
XAN				LR	LR	
	comp=E,370nm,17.4s					
XAN				LR	LR	
	comp=Z,200nm,14.2s					
KS15	**Wonju Array Si**	35.77	4	*e*P	P	19 03 16.3 +1.2
HNR	**Honiara**	36.35	108	P	P	19 03 20.2 +0.2
	comp=Z,71nm,0.4s,mb5.7,baz=248,slow=1.8,SNR=17					
HNR	**Honiara**	36.35	108	P	P	19 03 20.2 +0.2
HNR				pmax	pmax	
	comp=Z,71nm,0.4s,mb5.7					
HNR	**Honiara**	36.35	108	*e*P	P	19 03 20.5 +0.4
	comp=Z,248nm,1.0s,mb5.8					
STKA	**Stephens Creek**	36.76	156	*e*P	P	19 03 22.0 -1.5
	comp=Z,72nm,0.9s,mb5.3					
STKA				*e*S	S	19 08 50.4 -4.1
STKA	**Stephens Creek**	36.76	156	P	P	19 03 22.0 -1.5
	comp=Z,72nm,0.7s,mb5.4,baz=329,slow=8.3,SNR=204					
STKA				S	S	19 08 50.5 -4.0
	comp=Z,6.3nm,0.9s,baz=188,slow=19,SNR=5.6					
MAJO	**Matsushiro**	36.82	18	*e*P	P	19 03 23.5 -0.5
MAJO				pmax	pmax	
	comp=Z,56nm,0.8s,mb5.2					
MAJO	**Matsushiro**	36.82	18	*e*P	P	19 03 23.5 -0.5
	comp=Z,56nm,0.8s,mb5.2					
MAT	**Matsushiro**	36.82	18	P	P	19 03 23.4 -0.6
MAT				S	S	19 08 57.0 +1.4
MAT	**Matsushiro**	36.82	18	*e*P	P	19 03 23.0 -1.0
MAT				*e*S	S	19 08 57.0 +1.4
MAT				pmax	pmax	
	comp=Z,53nm,0.8s,mb5.2					
MAT	**Matsushiro**	36.82	18	*e*P	P	19 03 23.0 -1.0
	comp=Z,53nm,0.8s,mb5.2					
MAT				*e*S	S	19 08 57.0 +1.4
MJAR	**Matsushiro Arr**	36.82	18	P	P	19 03 23.3 -0.7
	comp=Z,46nm,0.7s,mb5.2,baz=194,slow=8.7,SNR=166					
MJAR				S	S	19 08 52.5 -3.0
	comp=Z,0.9nm,0.9s,baz=158,slow=13,SNR=3.5					
BJT	**Baijiatuau**	39.11	349	*e*P	P	19 03 42.5 -0.7
BJT				pmax	pmax	
	comp=Z,9.0nm,0.4s					
BJT	**Baijiatuau**	39.11	349	*e*P	P	19 03 42.5 -0.8
	comp=Z,8.9nm,0.4s,mb4.8					
LZH	**Lanzhou**	39.60	333	*e*P	P	19 03 47.5 +0.3
LZH				AMB	AMB	
	comp=Z,20nm,1.5s,mb4.5					
ARMA	**Armidale**	40.62	144	*e*P	P	19 03 57.3 +1.7
HHC	**Hu-ho-hao-te**	40.97	344	*e*P	P	19 03 57.0 -1.5
HHC				PP	PP	19 05 35.5 -1.0
HHC				PCP	PcP	19 05 58.2 +2.9
HHC				PCS	PcS	19 09 47.5 +1.0
HHC				AMB	AMB	
	comp=Z,80nm,5.1s					
HHC				LR	LR	
	comp=N,180nm,17.5s					
HHC				LR	LR	
	comp=E,370nm,17.9s					
HHC				LR	LR	
	comp=Z,140nm,18.3s					
VLA	**Vladivostok**	41.79	7	*e*P	P	19 04 05.2 +0.1
VLA				pmax	pmax	
	comp=Z,49nm,1.3s,mb5.0					
CN2	**Changchun**	42.03	0	*e*P	P	19 04 06.5 -0.6
CN2				*e*S	S	19 10 17.4 +4.1
CN2				SS	SS	19 13 16.3 -11
CN2				AMB	AMB	
	comp=Z,10.0nm,1.3s,mb4.3					
CN2				AMB	AMB	
	comp=Z,200nm,4.0s					
CN2				LR	LR	
	comp=N,200nm,16.0s					
CN2				LR	LR	
	comp=E,300nm,16.0s					
CN2				LR	LR	
	comp=Z,200nm,16.0s					
LSA	**Lhasa**	42.72	314	*e*P	P	19 04 14.4 +1.7
LSA	**Lhasa**	42.72	314	*e*P	P	19 04 13.8 +1.1
LSA				pmax	pmax	
	comp=Z,17nm,0.8s,mb4.7					
LSA	**Lhasa**	42.72	314	*e*P	P	19 04 13.8 +1.1
	comp=Z,17nm,0.8s,mb4.7					
LSA				*e*pP	pP	19 04 49.3 -0.5
MDJ	**Mudanjiang**	43.03	5	P	P	19 04 14.7 -0.4
MDJ				PCP	PcP	19 06 02.7 +0.5
MDJ				PCS	PcS	19 09 56.8 +2.0
MDJ				AMB	AMB	
	comp=Z,40nm,0.8s,mb5.1					
MDJ				AMB	AMB	
	comp=Z,60nm,4.9s					
MDJ				LR	LR	
	comp=N,70nm,10.6s					
MDJ				LR	LR	
	comp=E,80nm,12.7s					
MDJ				LR	LR	
	comp=Z,70nm,5.5s					
MDJ	**Mudanjiang**	43.03	5	*e*P	P	19 04 15.6 +0.4
	comp=Z,33nm,0.8s,mb5.0					
CNB	**Canberra Magne**	43.14	151⇓	*i*P	P	19 04 17.1 +1.1
	comp=Z,88nm,1.1s,mb5.3					
TOO	**Toolangi**	43.28	156⇓	*i*P	P	19 04 19.0 +1.8
	comp=Z,59nm,0.9s,mb5.2					
TOO	**Toolangi**	43.28	156⇓	*i*P	P	19 04 19.0 +1.8
TOO				pmax	pmax	
	comp=Z,59nm,0.9s,mb5.2					
GTA	**Gaotai**	44.16	332	*e*P	P	19 04 24.4 +0.2
GTA				PP	PP	19 06 07.8 -2.8
GTA				SCS	ScS	19 14 02.8 -1.7
GTA				AMB	AMB	
	comp=Z,60nm,4.6s					
GTA				LR	LR	
	comp=N,420nm,19.0s					
GTA				LR	LR	
	comp=E,510nm,16.7s					
GTA				LR	LR	
	comp=Z,290nm,16.7s					
ASAJ	**Asahikawa**	45.10	18	P	P	19 04 32.5 +0.9
	comp=Z,36nm,0.5s,mb5.3,baz=235,slow=10,SNR=71					
ASAJ	**Asahikawa**	45.10	18	P	P	19 04 32.5 +0.9
ASAJ				pmax	pmax	
	comp=Z,36nm,0.5s					
JIRN	**Jiri**	45.40	308	*e*P	P	19 04 34.4 +0.5
	comp=Z,21nm,0.6s,mb5.0					
GUN	**Gumba**	45.76	309	*e*P	P	19 04 37.0 +0.2
	comp=Z,50nm,0.8s,mb5.2					
PKI	**Pulchoki**	45.97	308	*e*P	P	19 04 38.2 -0.2
	comp=Z,7.0nm,0.4s,mb4.6					
KKN	**Kakani**	46.17	308	*e*P	P	19 04 40.1 +0.1
	comp=Z,11nm,0.4s,mb4.8					
DMN	**Daman**	46.23	308	*e*P	P	19 04 40.8 +0.4
NOUC	**Port Laguerre**	46.55	123	*e*P	P	19 04 44.3 +1.3
DZM	**Mont Dzumac**	46.66	123	P	P	19 04 45.7 +1.9
	comp=Z,28nm,0.9s,mb4.9,baz=318,slow=6.4,SNR=15					
GKN	**Gorkha**	46.77	308	*e*P	P	19 04 45.2 +0.5
HABR	**Khabarovsk**	47.48	9⇑	*i*P	P	19 04 51.0 +0.8
HABR				S	S	19 11 32.6 +0.9
HABR				pmax	pmax	
	comp=Z,46nm,1.1s,mb5.0					
KOLN	**Koldanda**	47.49	307	*e*P	P	19 04 50.3 0.0
YSS	**Yuzh-Sakhalins**	47.72	16	*e*P	P	19 04 51.3 -0.7
YSS				pmax	pmax	
	comp=Z,30nm,0.9s,mb4.9					
HIA	**Hailar**	47.73	355	*e*P	P	19 04 52.1 0.0
HIA				pmax	pmax	
	comp=Z,8.0nm,0.8s					
HIA	**Hailar**	47.73	355	*e*P	P	19 04 52.1 0.0
	comp=Z,7.8nm,0.8s,mb4.4					
KLR	**Kul'dur**	47.80	6	*e*P	P	19 04 49.0 -3.6
KLR				pmax	pmax	
	comp=Z,56nm,1.8s,mb4.9					
HYB	**Hyderabad**	48.39	292	*i*P	P	19 04 58.0 +0.8
HYB				*e*pP	pP	19 05 42.0 +7.0
HYB	**Hyderabad**	48.39	292	*e*P	P	19 04 58.0 +0.8
HYB				*e*		19 05 42.0
ULN	**Ulaanbaatar**	48.69	344	*e*P	P	19 04 58.9 -0.5
SONM	**Songino Array**	48.85	343	P	P	19 05 00.2 -0.4
	comp=Z,5.9nm,0.7s,mb4.3,baz=170,slow=9.0,SNR=8.3					
CIT	**Chita**	51.19	351	*e*P	P	19 05 18.8 +0.5
CIT				pmax	pmax	
	comp=Z,28nm,1.3s,mb4.7					
ZAK	**Zakamensk**	52.04	342	*e*P	P	19 05 23.5 -1.1
ZAK				*e*		19 06 28.8
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.5s,mb3.9					
ZAK				pmax	pmax	
	comp=Z,10.0nm,1.9s,mb4.1					
TLY	**Talaya**	53.09	343	*e*P	P	19 05 32.0 -0.3
TLY				*e*		19 12 54.2
TLY				pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.5					
WMQ	**Urumqi**	53.60	327	*e*P	P	19 05 36.2 +0.2
WMQ				AMB	AMB	
	comp=Z,10.0nm,1.0s,mb4.5					
WMQ				AMB	AMB	
	comp=Z,70nm,4.0s					
WMQ				LR	LR	
	comp=N,170nm,18.0s					
WMQ				LR	LR	
	comp=E,90nm,18.0s					
WMQ				LR	LR	
	comp=Z,110nm,22.0s					
SMLA	**Simla**	53.99	308	*i*P	P	19 05 39.0 +0.2
	comp=Z,19nm,0.3s,mb5.3					
SMLA				*i*S	S	19 13 02.1 +0.8
CLNS	**Chul'man**	55.09	360	*e*P	P	19 05 45.8 -0.9
CLNS				pmax	pmax	
	comp=Z,40nm,0.7s,mb5.3					
CLNS				pmax	pmax	
	comp=N,27nm,0.8s					
CLNS				pmax	pmax	
	comp=E,8.0nm,0.9s					
BOD	**Bodaibo**	56.76	353	*e*P	P	19 05 58.5 -0.1
BOD				pmax	pmax	
	comp=Z,16nm,1.0s,mb4.8					
PET	**Petropavlovsk**	58.30	23	*e*P	P	19 06 08.8 -0.6
PET				*e*S	S	19 13 58.6 +0.3
PET				*e*SS	SS	19 17 56.6 +3.7
PET				pmax	pmax	
	comp=Z,25nm,0.6s,mb5.2					
PET				smax		
	comp=N,100nm,18.5s					
PET				smax		
	comp=E,100nm,21.0s					
PET				pmax	pmax	
	comp=E,100nm,18.0s					
MK31	**Makanchi Array**	58.43	327	P	P	19 06 08.5 -1.8
MK31				pmax	pmax	
	comp=Z,2.0nm,0.3s,mb4.4					
MKAR	**Makanchi Array**	58.43	327	P	P	19 06 09.1 -1.2
	comp=Z,10nm,0.6s,mb4.9,baz=121,slow=7.7,SNR=75					
MKAR				ScP	ScP	19 10 41.1 -2.1
	comp=Z,1.7nm,0.7s,baz=123,slow=5.0,SNR=4.0					
KRAR	**Krasnoyarsk**	60.17	340⇑	*e*P	P	19 06 20.6 -1.6
KRAR				pmax	pmax	
	comp=Z,6.0nm,0.6s,mb4.6					
YAK	**Yakutsk**	60.39	2	*e*P	P	19 06 23.2 -0.5
YAK				*e**PP	pP	19 07 04.4 +1.2
YAK				*e*		19 07 08.9
YAK				*i*S	S	19 14 22.5 -2.6
YAK				*i*		19 15 52.9
YAK				pmax	pmax	
	comp=N,11nm,0.9s					
YAK				pmax	pmax	
	comp=Z,65nm,0.9s,mb5.5					
YAK				pmax	pmax	
	comp=E,4.0nm,1.0s					
YAK				smax		
	comp=N,10.0nm,1.2s					
YAK				smax		
	comp=Z,6.0nm,1.1s					
YAK				smax		
	comp=E,19nm,1.5s					
YAK	**Yakutsk**	60.39	2	*e*P	P	19 06 23.3 -0.4
AAK	**Ala-Archa**	60.90	319	*ce*P	P	19 06 25.9 -1.3
AAK				pmax	pmax	
	comp=Z,4.0nm,1.3s,mb4.1					
AAK	**Ala-Archa**	60.90	319	P	P	19 06 23.0 -4.2
FRU	**Bishkek**	60.92	319	*e*P	P	19 06 34.0 +6.7
FRU				*e*	pP	19 07 15.0 +8.2
RPZ	**Rata Peaks**	60.96	143	P	P	19 06 28.6 +1.0
	comp=Z,27nm,0.6s,mb5.3,baz=230,slow=2.8,SNR=15					
MA2	**Magadan**	61.16	15	*c*i P	P	19 06 29.4 +0.5
MA2				*e**PP	pP	19 07 08.8 +0.3
MA2				*e*S	S	19 14 34.0 -0.8
MA2				pmax	pmax	
	comp=N,20nm,0.7s					
MA2				pmax	pmax	
	comp=Z,50nm,0.7s,mb5.5					
MA2	**Magadan**	61.16	15	*e*P	P	19 06 29.1 +0.2
	comp=Z,33nm,0.7s,mb5.3					
MA2				*e*	pP	19 07 07.8 -0.7
ZAL	**Zalesovo**	61.79	334	P	P	19 06 31.1 -2.0
	comp=Z,2.9nm,0.6s,mb4.3,baz=346,slow=8.0,SNR=9.9					
ZAL				S	S	19 14 37.2 -5.6
	comp=Z,0.7nm,0.4s,baz=248,slow=23,SNR=8.9					
ZAL	**Zalesovo**	61.79	334	P	P	19 06 31.1 -2.0
ZAL				S	S	19 14 37.2 -5.6
URZ	**Urewera**	62.10	135	P	P	19 06 35.1 -0.1
	comp=Z,17nm,0.7s,mb5.0,baz=353,slow=4.8,SNR=9.5					
KURK	**Kurchatov**	62.71	329	P	P	19 06 38.8 -0.4
	comp=Z,225nm,0.4s,SNR=21					
NVS	**Novosibirsk**	63.08	334⇑	*i*P	P	19 06 38.2 -3.5
NVS				*e**PP	pP	19 07 16.8 -4.7
NVS				*i*S	S	19 14 51.9 -6.9
NVS				*i* *SS	sS	19 16 09.1 +1.2
NVS				pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.7					
NVS				pmax	pmax	
	comp=N,7.0nm,0.9s					
NVS				pmax	pmax	
	comp=E,6.0nm,0.6s					
NVS				smax		
	comp=E,19nm,1.6s					
NVS				smax		
	comp=N,8.0nm,1.5s					
KKAR	**Karatay Array**	63.74	318	*i*P	P	19

BRVK	**Borovoye**	**68.33**	**328**	*e*P	**P**	**19 07 14.6**	**-0.7**
BRVK				*e*	pP	19 07 53.8	-1.9
CHKZ	**Chkalovo**	**68.46**	**329**	*e*P	**P**	**19 07 14.8**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**68.46**	**329**	*e*P	**P**	**19 07 14.8**	**-1.3**
	comp=Z,12nm,1.1s,mb4.5						
CHKZ				*e*	pP	19 07 54.3	-2.1
CASY	**Casey**	**68.52**	**186**	*e*P	**P**	**19 07 16.4**	**0.0**
ZRNK	**Zerenda**	**68.97**	**327**	*e*P	**P**	**19 07 17.8**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**68.97**	**327**	*e*P	**P**	**19 07 17.8**	**-1.5**
	comp=Z,7.7nm,0.6s,mb4.6						
TIXI	**Tiksi**	**70.00**	**1**	*e*P	**P**	**19 07 23.4**	**-2.1**
TIXI				*e*S	S	19 16 11.2	-11
TIXI				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
TIXI				smax			
	comp=N,41nm,9.4s						
TIXI				smax			
	comp=E,20nm,10.5s						
TIXI	**Tiksi**	**70.00**	**1**	*e*P	**P**	**19 07 24.0**	**-1.6**
MIR	**Mirnyy**	**71.72**	**193**	*e*P	**P**	**19 07 37.5**	**+1.6**
MIR				pmax	pmax		
	comp=Z,100nm,0.7s,mb5.7						
BILL	**Bilibino**	**72.02**	**15**	*e*P	**P**	**19 07 37.4**	**-0.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.2						
AB31	**Akbulak array**	**72.81**	**321**	P	**P**	**19 07 40.7**	**-1.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTK	**Aktyubinsk**	**74.36**	**322**	P	**P**	**19 07 50.1**	**-1.3**
AKTO	**Aktyubinsk**	**74.36**	**322**	P	**P**	**19 07 50.1**	**-1.3**
	comp=Z,3.2nm,0.3s,mb4.5,baz=102,slow=8.2,SNR=14						
ARU	**Arti**	**75.90**	**328**⇑	*i*P	**P**	**19 07 58.7**	**-1.5**
ARU				*e*		19 10 51.3	
ARU				*e*S	S	19 17 28.2	-0.5
ARU				*e*SS	SS	19 22 20.1	-4.6
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
ARU	**Arti**	**75.90**	**328**	*e*P	**P**	**19 07 58.8**	**-1.5**
AKUT	**Akutan**	**76.57**	**34**	*e*P	**P**	**19 08 04.2**	**+0.2**
ORR	**Orenburg**	**76.67**	**323**	*e*P	**P**	**19 08 03.9**	**-0.6**
ORR				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
SDPT	**Sand Point**	**79.84**	**34**	*e*P	**P**	**19 08 21.9**	**-0.1**
MAW	**Mawson**	**81.21**	**200**	P	**P**	**19 08 29.1**	**-0.2**
	comp=Z,5.2nm,0.7s,mb4.3,baz=86,slow=8.3,SNR=4.6						
VNDA	**Vanda**	**81.52**	**172**	P	**P**	**19 08 30.6**	**-0.3**
	comp=Z,16nm,0.7s,mb4.8,baz=320,slow=6.6,SNR=92						
VNDA				LR	LR	19 44 50.7	
	comp=Z,36nm,20.2s,baz=106,slow=36						
VNDA	**Vanda**	**81.52**	**172**	P	**P**	**19 08 30.6**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,16nm,0.7s						
VNDA				MLR	MLR		
	comp=Z,36nm,20.2s						
VNDA	**Vanda**	**81.52**	**172**	*e*P	**P**	**19 08 30.5**	**-0.3**
	comp=Z,14nm,0.7s,mb4.7						
SVW2	**Sparrevohn**	**83.43**	**29**	*e*P	**P**	**19 08 41.4**	**+0.7**
SVW2				*e*		19 09 37.9	
KIV	**Kislovodsk**	**83.47**	**314**	*e*P	**P**	**19 08 39.9**	**-1.1**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
TTA	**Tatalina**	**83.52**	**27**	*e*P	**P**	**19 08 42.4**	**+1.2**
TTA				*e*		19 09 38.4	
KDAK	**Kodiak Island**	**84.54**	**32**	P	**P**	**19 08 47.0**	**+0.6**
	comp=Z,4.3nm,0.4s,mb4.5,baz=271,slow=4.0,SNR=8.2						
COLA	**College**	**87.30**	**25**⇑	*i*P	**P**	**19 08 59.8**	**-0.1**
OBN	**Obninsk**	**87.89**	**325**⇑	*e*P	**P**	**19 09 02.1**	**-0.6**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.8						
KMBO	**Kilima Mbogo**	**87.92**	**269**	P	**P**	**19 09 03.6**	**+0.7**
	comp=Z,5.3nm,0.9s,mb4.4,baz=71,slow=6.7,SNR=7.4						
KMBO	**Kilima Mbogo**	**87.92**	**269**	*e*P	**P**	**19 09 04.7**	**+1.8**
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KMBO	**Kilima Mbogo**	**87.92**	**269**	*e*P	**P**	**19 09 04.7**	**+1.8**
	comp=Z,5.9nm,1.1s,mb4.3						
BRTR	**Keskin Array B**	**90.16**	**310**	*i*P	**P**	**19 09 21.6**	**+8.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**90.35**	**333**	*e*p	**P**	**19 09 12.6**	**-1.6**
	comp=Z,9.7nm,0.8s,mb4.8						
JOF	**Joensuu**	**90.35**	**333**	*e*P	**P**	**19 09 12.6**	**-1.6**
JOF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**91.51**	**180**	*e*P	**P**	**19 09 19.5**	**-0.1**
ARCES	**ARCESS Array B**	**91.90**	**340**	P	**P**	**19 09 19.8**	**-1.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=87,slow=5.1,SNR=12						
ARCES				LR	LR	19 54 32.3	
	comp=Z,58nm,19.5s,baz=72,slow=38						
KAF	**Kangasniemi**	**92.75**	**332**	*e*p	**P**	**19 09 20.4**	**-4.9**
	comp=Z,1.9nm,0.4s,mb4.6						
KAF	**Kangasniemi**	**92.75**	**332**	*e*P	**P**	**19 09 20.4**	**-4.9**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
FINES	**FINESS Array B**	**92.96**	**332**	P	**P**	**19 09 23.9**	**-2.3**
	comp=Z,1.2nm,0.7s,mb4.2,baz=102,slow=8.0,SNR=6.2						
FINES				LR	LR	19 55 15.7	
	comp=Z,48nm,18.4s,baz=352,slow=38						
MLR	**Muntele Rosu**	**95.33**	**316**	LR	LR	19 57 34.6	
	comp=Z,64nm,18.1s,baz=277,slow=38						
HFS	**Hagfors**	**99.16**	**332**	P	S	Pdif	19 09 52.3 -2.1
	comp=Z,2.0nm,0.9s,baz=137,slow=11,SNR=3.5						
HFS				LR	LR	19 56 25.4	
	comp=Z,81nm,18.5s,baz=60,slow=36						
NOA	**NORSAR Array B**	**99.98**	**333**	LR	LR	19 58 43.0	
	comp=Z,43nm,18.8s,baz=55,slow=37						
PDAR	**Pinedale Array**	**114.00**	**41**	PKiKP	PKiKP	19 14 52.1	+1.0
	comp=Z,0.4nm,0.5s,baz=151,slow=3.4,SNR=3.8						
PDAR				PKKPab	PKKPab	19 25 40.2	+0.1
	comp=Z,0.6nm,0.6s,baz=111,slow=4.7,SNR=5.0						
ULM	**Lac du Bonnet**	**117.59**	**28**	PKP	PKPdf	19 14 57.1	-1.0
	comp=Z,1.5nm,0.5s,baz=207,slow=1.8,SNR=3.6						
ANMO	**Albuquerque**	**119.62**	**48**	‖*i*PKIKP	PKPdf	19 15 04.3	+2.3
TORD	**Torodi Ar. Bea**	**122.04**	**286**	PKP	PKPdf	19 15 06.6	-0.1
	comp=Z,0.8nm,0.6s,baz=80,slow=1.6,SNR=11						
TORD				SKP		19 18 26.9	
	comp=Z,1.0nm,0.7s,baz=63,slow=2.0,SNR=3.6						
TORD				PKKPbc	PKKPbc	19 25 06.4	+2.4
	comp=Z,2.8nm,0.7s,baz=274,slow=3.4,SNR=20						
SCHQ	**Schefferville**	**122.91**	**8**	PKP	PKPdf	19 15 08.4	+0.1
	comp=Z,3.7nm,0.5s,baz=283,slow=1.7,SNR=14						
DBIC	**Dimbokro**	**129.43**	**280**	PKP	PKPdf	19 15 21.3	+0.6
	comp=Z,1.9nm,0.6s,baz=189,slow=9.1,SNR=5.2						
DBIC				SKPbc		19 18 27.6	
	comp=Z,3.5nm,0.6s,baz=63,slow=9.0,SNR=5.9						
PLCA	**Paso Flores**	**138.52**	**162**	PKP	PKPdf	19 15 38.8	+1.0
	comp=Z,4.0nm,0.9s,baz=221,slow=3.5,SNR=6.1						
PLCA				SKPbc	SKPbc	19 18 57.1	+0.7
	comp=Z,3.5nm,1.0s,baz=204,slow=1.0,SNR=4.2						
CPUP	**Villa Florida**	**155.28**	**175**	PKP	PKPdf	19 16 07.2	+1.9
	comp=Z,0.4nm,0.4s,baz=102,slow=5.2,SNR=3.4						
CPUP				PKPab	PKPab	19 16 32.6	+1.3
	comp=Z,3.5nm,0.6s,baz=166,slow=5.2,SNR=8.8						
LPAZ	**La Paz**	**160.39**	**139**	PKP	PKPdf	19 16 15.0	+3.4
	comp=Z,2.9nm,0.9s,baz=359,slow=1.4,SNR=8.5						
LPAZ				PKPab	PKPab	19 16 56.5	+3.0
	comp=Z,2.4nm,0.7s,baz=209,slow=2.7,SNR=6.6						
LPAZ	**La Paz**	**160.39**	**139**	PKIKP	PKPdf	19 16 15.0	+3.4
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**160.39**	**139**	*e*PKPdf	PKPdf	19 16 14.3	+2.7
LPAZ				*e*		19 16 57.2	

ISCJB ***05*** *19:03:24.4±0.8, 5839N±005×1156E±007, h0km, Error ellipse: s-maj=7.1km s-min=5.4km az=12.3*
BER ***05*** *19:03:27.1±2.8, 5833N×1138E, h0km±11km, MD2.4, ML1.9, ML1.9(NAO)*
HEL ***05*** *19:03:27.7±0.7, 5839N×1154E, h0km, ML1.9, ML1.9(BER), ML1.9(NAO), Suspected explosion*
NAO ***05*** *19:03:29.3±2.3, 5850N×1142E, ML1.9*
IDC ***05*** *19:03:29.5±2.0, 5847N×1149E, h0km, mb1 3.4/3, mb1mx3.1/21, mbtmp3.4/3, ML2.5/4, Error ellipse: s-maj=15.3km s-min=12.7km az=58.0*
ISC 05 19:03:25.7±0.8, 5839N±005×1141E±007, h0km, n20, σ1§06/42, Sweden

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

KONO	**Kongsberg**	**1.57**	**324**	*e*P	**Pn**	**19 03 55.0**	**+0.1**
KONO				*e*S	**Sn**	**19 04 15.8**	**0.0**
KONO				AML	AML	19 04 18.6	
	comp=Z,111nm,0.1s						
HFS	**Hagfors**	**2.10**	**33**	*e*P	**Pn**	**19 04 03.4**	**+1.2**
HFS				*e*PG	**Pg**	**19 04 05.3**	**-0.7**
HFS				*e*S	**Sn**	**19 04 29.3**	**+0.2**
HFS				*e*SG	**Sg**	**19 04 32.3**	**-1.1**
HFS	**Hagfors**	**2.10**	**33**	Pn	**Pn**	**19 04 03.5**	**+1.3**
	comp=Z,2.1nm,0.3s,baz=209,slow=15,SNR=133						
HFS				Pg	**Pg**	**19 04 05.5**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=214,slow=14,SNR=79						
HFS				Sn	**Sn**	**19 04 29.8**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=213,slow=21,SNR=7.5						
HFS				Lg		19 04 32.5	
	comp=Z,1.5nm,0.3s,baz=213,slow=26,SNR=9.5						
HFS	**Hagfors**	**2.10**	**33**	Pn	**Pn**	**19 04 03.4**	**+1.2**
	baz=207,slow=18						
HFS				Pg	**Pg**	**19 04 05.3**	**-0.7**
	baz=212,slow=18						
HFS				Sn	**Sn**	**19 04 29.3**	**+0.2**
	baz=209,slow=28						
HFS				Lg		19 04 32.3	
	baz=213,slow=28						
SNART	**Snartemo**	**2.21**	**270**	*e*P	**Pn**	**19 04 02.4**	**-1.2**
SNART				AML	AML	19 04 35.0	
	comp=Z,7.3nm,0.2s						
NAO	**NORSAR Subarra**	**2.46**	**353**	*e*P	**Pn**	**19 04 07.0**	**-0.1**
NAO				*e*PB	**Pb**	**19 04 10.6**	**-0.2**
NAO				*e*S	**Sn**	**19 04 39.1**	**+1.4**
NAO				*e*SG	**Sg**	**19 04 44.5**	**-0.1**
NOA	**NORSAR Array B**	**2.66**	**358**	Pn	**Pn**	**19 04 10.2**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=189,slow=16,SNR=3.6						
NOA				Sn	**Sn**	**19 04 43.1**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=19,slow=17,SNR=4.7						
NOA				Lg		19 04 51.6	
	comp=Z,0.9nm,0.3s,baz=205,slow=18,SNR=4.3						
BLS5	**Blasjo**	**2.77**	**294**	*e*P	**Pn**	**19 04 11.5**	**+0.2**
BLS5				AML	AML	19 04 58.1	
	comp=Z,4.0nm,0.4s						
KMY	**Karmoy**	**3.31**	**287**	*e*P	**Pn**	**19 04 17.3**	**-1.4**
BSD	**Bornholm Skovb**	**3.81**	**148**	*i*P	**Pn**	**19 04 34.3**	**+8.7**
BSD				*i*S	**Sn**	**19 05 23.0**	**+12**
RAF	**Rauma**	**5.87**	**59**	*e*P	**Pn**	**19 04 55.1**	**+1.3**
RAF				*e*S	**Sn**	**19 05 58.1**	**-3.7**
RAF				MSG		19 06 33.8	
	comp=Z,0.9nm,0.2s						
MEF	**Metsahovi**	**6.90**	**69**	*e*P	**Pn**	**19 05 07.8**	**-0.2**
MEF				*e*S	**Sn**	**19 06 19.9**	**-7.3**
MEF				MSG		19 06 29.0	
	comp=Z,0.7nm,0.1s						
VAF	**Ylistaro**	**7.22**	**45**	*e*P	**Pn**	**19 05 14.1**	**+1.6**
VAF				*e*S	**Sn**	**19 06 33.6**	**-1.6**
KEF	**Keuruu**	**7.68**	**55**	*e*P	**Pn**	**19 05 19.8**	**+1.0**
KEF				*e*S	**Sn**	**19 06 41.6**	**-4.9**
KEF				MSG		19 06 49.5	
	comp=Z,0.4nm,0.1s						
FIA0	**FINESS Array S**	**7.98**	**61**	Pn	**Pn**	**19 05 23.6**	**+0.7**
	baz=249,slow=14						
FIA0				Sn	**Sn**	**19 06 49.9**	**-3.9**
	baz=249,slow=28						
FIA0	**FINESS Array S**	**7.98**	**61**	*e*P	**Pn**	**19 05 23.0**	**+0.1**
FIA0				*e*S	**Sn**	**19 06 48.0**	**-5.8**
FIA0				MSG		19 06 54.9	
	comp=Z,0.4nm,0.2s						
FINES	**FINESS Array B**	**7.98**	**61**	Pn	**Pn**	**19 05 23.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=250,slow=12,SNR=16						
FINES				Sn	**Sn**	**19 06 50.0**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=253,slow=23,SNR=3.3						
FINES				Lg		19 07 38.2	
	comp=Z,0.1nm,0.3s,baz=247,slow=27,SNR=3.0						
KAF	**Kangasniemi**	**8.29**	**57**	*e*P	**Pn**	**19 05 27.1**	**0.0**
KAF				*e*S	**Sn**	**19 06 55.9**	**-5.5**
KAF				MSG		19 07 00.9	
	comp=Z,0.4nm,0.2s						
SUF	**Sumiainen**	**8.45**	**53**	*e*P	**Pn**	**19 05 29.8**	**+0.4**
SUF				*e*S	**Sn**	**19 07 00.1**	**-5.3**
ARCES	**ARCESS Array B**	**12.73**	**23**	Pn	**Pn**	**19 06 24.6**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=215,slow=14,SNR=2.6						

NEIC ***05*** *19:17:57.5, 1704N×9531W, h116km, MD4.2(MEX), After MEX.*
MEX 05 19:17:57.7±0.8, 1707N×9533W, h113km±8km, MD4.2, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.43**	**86**	*i*P	Pn	19 18 13.1	-1.3
CMIG				*i*S	Sn	19 18 25.1	-1.9
TUIG	**Tuzandepetl**	**1.30**	**42**	*i*P	Pn	19 18 20.6	-1.8
TUIG				*i*S	Sn	19 18 38.9	-2.1
OXX	**Oaxaca**	**1.33**	**271**	*i*P	Pn	19 18 22.0	-0.7
OXX				*i*S	Sn	19 18 41.0	-0.7
OXX	**Oaxaca**	**1.33**	**271**	*i*P	Pn	19 18 22.8	+0.1
OXX				*i*S	Sn	19 18 42.2	+0.5
VHO	**Vista Hermosa**	**1.34**	**271**	*i*P	Pn	19 18 22.2	-0.6
VHO				*i*S	Sn	19 18 40.9	-1.0
VHO	**Vista Hermosa**	**1.34**	**271**	*i*P	Pn	19 18 22.2	-0.6
VHO				*i*S	Sn	19 18 41.8	-0.1
EVV	**El Vigia**	**1.38**	**359**	*i*P	Pn	19 18 21.5	-1.8
EVV				*i*S	Sn	19 18 37.5	-5.3
HUIG	**Huatulco**	**1.49**	**210**	*i*P	Pn	19 18 22.6	-2.0
HUIG				*i*S	Sn	19 18 43.9	-1.0
UTMO	**Huajuapan**	**2.48**	**288**⇑	*i*P	Pn	19 18 36.4	-0.6
UTMO				*i*S	Sn	19 19 05.1	-2.0
SCX	**San Cristobal**	**2.60**	**97**	*e*P	Pn	19 18 38.5	0.0
SCX				*i*S	Sn	19 19 09.5	-0.4
PNIG	**Pinotepa**	**2.76**	**256**	*i*P	Pn	19 18 37.8	-2.8
PNIG				*i*S	Sn	19 19 11.5	-2.2
PNIG	**Pinotepa**	**2.76**	**256**	*i*P	Pn	19 18 37.7	-2.9
PNIG				*i*S	Sn	19 19 11.3	-2.4
CCIG	**Comitan**	**3.16**	**104**	*i*P	Pn	19 18 45.2	-0.7
CCIG				*i*S	Sn	19 19 22.3	-0.7
PPM	**Popocatepetl**	**3.71**	**303**	*i*P	Pn	19 18 54.2	+0.9
PPM				*i*P		19 18 55.0	
PPM				*i*S	Sn	19 19 39.6	+3.4
MEIG	**Mezcala**	**4.18**	**282**	*i*P	Pn	19 18 59.0	-0.5
MEIG				*i*S	Sn	19 19 44.7	-2.7
PLIG	**Platanillo**	**4.19**	**289**	*i*P	Pn	19 18 59.4	-0.2
PLIG				*i*S	Sn	19 19 45.1	-2.5
ACX	**Acapulco**	**4.39**	**268**	*i*P	Pn	19 18 59.0	-3.3

CRAAG ***05*** *19:39:26.9, 3665N×150E, Ml3.0*
NEIC ***05*** *19:39:32.5±4.6, 3617N×171E, h10km, MG3.7(MDD), Error ellipse: s-maj=56.4km s-min=13.0km az=145.0*
CSEM ***05*** *19:39:32.9±0.2, 3617N×166E, h5km, ML2.7/7, Error ellipse: s-maj=4.0km s-min=3.1km az=169.0*
ISCJB ***05*** *19:39:33.5±0.9, 3635N±005×159E±006, h15km±8km, Error ellipse: s-maj=10.1km s-min=6.2km az=113.6*
MDD ***05*** *19:39:34.0±0.7, 3631N×159E, h0km, mb3.5/11, Error ellipse: s-maj=7.4km s-min=5.5km az=120.0, PRXIMO*
ISC 05 19:39:33.5±0.8, 3638N±010×161E±008, h6km±14km, n30, σ1§15/46, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.10**	**216**	P	**Pg**	**19 39 36.0**	**+0.2**
ECHA	**Ech Chlef**	**0.30**	**221**	P	**Pg**	**19 39 38.5**	**-0.8**
ECHF	**Ech Chlef**	**0.31**	**225**	P	**Pg**	**19 39 38.5**	**-1.0**
EANR	**'Ain N'Sour**	**0.59**	**224**	P	**Pg**	**19 39 44.0**	**-0.9**
ETRT	**Tiaret**	**1.01**	**194**	P	**Pg**	**19 39 46.0**	**-7.0**
EMHD	**Djebel Mahouad**	**1.10**	**99**	P	**Pg**	**19 39 54.2**	**-0.4**
EIBI	**Ibiza**	**2.66**	**356**	Pn	**Pn**	**19 40 18.3**	**+1.4**
	1.8nm,0.1s,SNR=9.7						
EIBI				Sn	**Sn**	**19 40 48.0**	**-1.3**
	11nm,0.2s,SNR=9.8						
EIBI	**Ibiza**	**2.66**	**356**	Pn	**Pn**	**19 40 18.3**	**+1.5**
	1.8nm,0.1s,SNR=9.7						
EMUR	**La Murta**	**2.71**	**304**	Pn	**Pn**	**19 40 17.7**	**+0.2**
	1.1nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**19 40 50.0**	**-0.6**
	5.0nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**2.71**	**304**	Pn	**Pn**	**19 40 17.7**	**+0.2**
	1.1nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**19 40 50.0**	**-0.6**
	5.0nm,0.3s,SNR=4.0						
EBEN	**Beniarda**	**2.74**	**328**	Pn	**Pn**	**19 40 18.9**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EBEN				Sn	**Sn**	**19 40 50.6**	**-0.9**
	1.0nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.74**	**328**	Pn	**Pn**	**19 40 18.9**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**3.12**	**282**	Pn	**Pn**	**19 40 23.7**	**+0.5**
	0.6nm,0.1s,SNR=4.0						
ENIJ				Sn	**Sn**	**19 41 01.1**	**+0.2**
	0.9nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**3.38**	**313**	Pn	**Pn**	**19 40 27.9**	**+1.1**
	1.4nm,0.1s,SNR=11						
ETOB				Sn	**Sn**	**19 41 06.4**	**-0.8**
	2.2nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**3.38**	**313**	Pn	**Pn**	**19 40 27.9**	**+1.1**
	1.4nm,0.1s,SNR=11						
ETOB				Sn	**Sn**	**19 41 06.4**	**-0.8**
	2.2nm,0.2s,SNR=5.0						
ETOS	**Mallorca**	**3.52**	**15**	Pn	**Pn**	**19 40 29.7**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**19 41 10.1**	**-0.5**
	0.8nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.52**	**15**	Pn	**Pn**	**19 40 29.7**	**+1.0**
ETOS				Sn	**Sn**	**19 41 08.0**	**-2.6**
ETOS	**Mallorca**	**3.52**	**15**	Pn	**Pn**	**19 40 29.7**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**3.65**	**294**	Pn	**Pn**	**19 40 33.6**	**+3.0**
	0.5nm,0.2s,SNR=4.0						
EHUE				Sn	**Sn**	**19 41 16.0**	**+2.1**
	0.6nm,0.2s,SNR=4.0						
EBER	**Berja**	**3.65**	**280**	Pn	**Pn**	**19 40 29.8**	**-0.7**
	1.6nm,0.2s,SNR=14						
EBER				Sn	**Sn**	**19 41 12.3**	**-1.7**
	2.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.65**	**280**	Pn	**Pn**	**19 40 29.8**	**-0.8**
	1.6nm,0.2s,SNR=14						
EBER				Sn	**Sn**	**19 41 12.3**	**-1.7**
	2.3nm,0.2s,SNR=7.9						
ECHE	**Chera**	**3.80**	**328**	Sn	**Sn**	**19 41 19.0**	**+1.4**
	0.5nm,0.2s,SNR=4.0						
EVIA	**Vianos**	**3.97**	**306**	Sn	**Sn**	**19 41 22.7**	**+0.9**
	5.2nm,0.2s,SNR=4.0						
EQES	**Quesada**	**4.00**	**292**	Pn	**Pn**	**19 40 36.4**	**+1.1**
	1.6nm,0.1s,SNR=5.6						
EQES				Sn	**Sn**	**19 41 22.1**	**-0.4**
	2.1nm,0.1s,SNR=5.0						
EQES	**Quesada**	**4.00**	**292**	Pn	**Pn**	**19 40 36.4**	**+1.1**
	1.6nm,0.1s,SNR=5.6						
EQES				Sn	**Sn**	**19 41 22.1**	**-0.5**
	2.1nm,0.1s,SNR=5.0						
EQUE	**Quentar**	**4.13**	**283**	Pn	**Pn**	**19 40 37.7**	**+0.5**
	1.4nm,0.1s,SNR=6.5						
EGUA	**Guajares**	**4.19**	**278**	Sn	**Sn**	**19 41 26.8**	**-0.4**
	0.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.30**	**338**	Pn	**Pn**	**19 40 41.6**	**+2.1**
	0.5nm,0.1s,SNR=8.5						
EMOS				Sn	**Sn**	**19 41 28.0**	**-2.0**
	3.1nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**4.30**	**338**	Pn	**Pn**	**19 40 41.6**	**+2.1**
EMOS				Sn	**Sn**	**19 41 28.0**	**-2.0**
ERTA	**Horta de San J**	**4.68**	**348**	Sn	**Sn**	**19 41 37.7**	**-1.6**
	0.6nm,0.1s,SNR=7.9						

MOS ***05*** *19:48:08.1±1.0, 585S×1447E, h33km, mb4.6/1, Error ellipse: s-maj=26.3km s-min=11.5km az=79.5*
ISCJB ***05*** *19:48:10.2±2.2, 594S±008×1478E±01, h62km±20km, mb4.3/10, Error ellipse: s-maj=24.8km s-min=13.7km az=13.4*
IDC ***05*** *19:48:11.0±3.6, 592S×1478E, h51km±30km, mb4.0/7, mb1 4.2/10, mb1mx4.2/14, mbtmp4.3/10, ML3.9/3, MS3.5/2, Ms1 3.5/2, ms1mx3.0/15, Error ellipse: s-maj=38.4km s-min=18.1km az=85.0*
NEIC ***05*** *19:48:11.8±1.6, 598S×1478E, h59km±14km, mb4.5/6, Error ellipse: s-maj=14.8km s-min=9.7km az=94.0*
ISC 05 19:48:11.9±2.1, 596S±009×1478E±01, h62km±19km, n30, σ0§92/29, mb4.3/10, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.49**	**191**	P	**Pn**	**19 49 03.0**	**-0.7**
	37nm,0.3s,baz=44,slow=5.8,SNR=55						
PMG				S	**Sn**	**19 49 44.7**	**+1.0**
	25nm,0.3s,baz=228,slow=23,SNR=9.6						
PMG				LR	LR	19 50 42.8	
	comp=Z,461nm,18.3s,baz=38,slow=43						
PMG	**Port Moresby**	**3.49**	**191**	P	**Pn**	**19 49 03.0**	**-0.7**
PMG				S	**Sn**	**19 49 44.7**	**+0.9**
CTA	**Charters Tower**	**14.13**	**186**	P	**Pn**	**19 51 29.0**	**+0.2**
	0.2nm,0.3s,baz=355,slow=13,SNR=2.9						
KAKA	**Kakadu**	**16.60**	**245**	*e*P	**Pn**	**19 52 01.7**	**+1.2**
	11nm,0.5s						
WRAB	**Tennant Creek**	**19.10**	**222**	*e*P	**Pn**	**19 52 27.6**	**-3.3**
WRAB				pmax	pmax		
	comp=Z,11nm,0.7s						
WRAB	**Tennant

IUNC	**Unciti**	**0.10**	**224**	⇓Pg		**Pg**	**19 49 55.4**	**-0.1**
	53nm,0.1s,SNR=18							
IUNC				Lg			19 49 57.6	
	317nm,0.1s,SNR=7.9							
IUNC	**Unciti**	**0.10**	**224**	Pg		**Pg**	**19 49 55.4**	**-0.1**
	53nm,0.1s,SNR=18							
IUNC				Lg			19 49 57.6	
	317nm,0.1s,SNR=7.9							
EARA	**Aranguren**	**0.14**	**246**	Pg		**Pg**	**19 49 56.2**	**+0.1**
	200nm,0.1s,SNR=99							
EARA				Lg			19 49 59.3	
	528nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.16**	**317**	⇓Pg		**Pg**	**19 49 56.7**	**+0.3**
	9.5nm,0.1s,SNR=18							
IUSE				Lg			19 49 59.9	
	66nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.16**	**317**	Pg		**Pg**	**19 49 56.7**	**+0.3**
	9.5nm,0.1s,SNR=18							
IUSE				Lg			19 49 59.9	
	66nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**0.31**	**25**	*e*Pg		**Pg**	**19 49 59.4**	**+0.3**
SJPF				*e*Sg		**Sg**	**19 50 04.0**	**+0.7**
	100nm,0.3s							
SJPF	**Ste Jean**	**0.31**	**25**	*e*Pg		**Pg**	**19 49 59.4**	**+0.3**
SJPF				*e*Sg		**Sg**	**19 50 04.0**	**+0.7**
	50nm,0.3s							
ELIZ	**Elizondo**	**0.35**	**344**	Pg		**Pg**	**19 50 00.0**	**+0.2**
	7.5nm,0.2s,SNR=42							
ELIZ				Lg			19 50 05.2	
	12nm,0.2s,SNR=22							
LARF	**Larrau**	**0.37**	**56**	Pg		**Pg**	**19 50 00.4**	**+0.2**
LARF				Sg		**Sg**	**19 50 06.7**	**+1.6**
LARF	**Larrau**	**0.37**	**56**	Pg		**Pg**	**19 50 00.3**	**+0.1**
LARF				Lg			19 50 06.3	
EALK	**Alkurruntz**	**0.40**	**349**	Pg		**Pg**	**19 50 00.9**	**+0.1**
	3.2nm,0.2s,SNR=14							
EALK				Lg			19 50 07.5	
	30nm,0.2s,SNR=9.4							
OSSF	**Osses**	**0.44**	**13**	Pg		**Pg**	**19 50 01.5**	**0.0**
OSSF				Sg		**Sg**	**19 50 07.9**	**+0.6**
OSSF	**Osses**	**0.44**	**13**	Pg		**Pg**	**19 50 01.5**	**0.0**
OSSF				Lg			19 50 08.1	
ORDF	**Ordiarp**	**0.51**	**42**	Pg		**Pg**	**19 50 03.3**	**+0.3**
ORDF				Lg			19 50 09.3	
ATE	**Arette**	**0.57**	**63**	Pg		**Pg**	**19 50 04.0**	**-0.1**
ATE				Sg		**Sg**	**19 50 12.0**	**+0.4**
ATE	**Arette**	**0.57**	**63**	Pg		**Pg**	**19 50 04.2**	**+0.1**
ATE				Lg			19 50 13.1	
ETSF	**Etsaut**	**0.62**	**83**	*e*Pg		**Pg**	**19 50 04.6**	**-0.4**
ETSF				*e*Sg		**Sg**	**19 50 14.4**	**+1.2**
	30nm,0.4s							
ETSF	**Etsaut**	**0.62**	**83**	*e*Pg		**Pg**	**19 50 04.6**	**-0.4**
ETSF				*e*Sg		**Sg**	**19 50 14.4**	**+1.2**
	15nm,0.4s							
EBIE	**Bielsa**	**1.15**	**97**	Pg		**Pg**	**19 50 16.1**	**+1.1**
	0.5nm,0.1s,SNR=21							
EBIE				Lg			19 50 33.1	
	6.2nm,0.2s,SNR=12							
EBIE	**Bielsa**	**1.15**	**97**	Pg		**Pg**	**19 50 15.2**	**+0.2**
	0.5nm,0.1s,SNR=21							
RESF	**Ens**	**1.28**	**90**	Pg		**Pg**	**19 50 18.5**	**+0.9**
RESF				Sg		**Sg**	**19 50 37.5**	**+3.3**
RESF	**Ens**	**1.28**	**90**	Pg		**Pg**	**19 50 19.3**	**+1.7**
RESF				Lg			19 50 35.5	
EPF	**Esparros**	**1.29**	**81**	*e*Pn		**Pn**	**19 50 16.9**	**-0.4**
EPF	**Esparros**	**1.29**	**81**	*e*Pg		**Pg**	**19 50 18.0**	**+0.2**
EPF				*e*Sg		**Sg**	**19 50 35.1**	**+0.5**
	15nm,0.4s							
EPF	**Esparros**	**1.29**	**81**	Pn		**Pn**	**19 50 16.9**	**-0.4**
EPF				Pg		**Pg**	**19 50 18.0**	**+0.2**
EPF				Lg			19 50 35.1	
	7.7nm,0.4s							
EPF	**Esparros**	**1.29**	**81**	*e*Pg		**Pg**	**19 50 18.0**	**+0.2**
EPF				*e*Sg		**Sg**	**19 50 35.1**	**+0.5**
	7.7nm,0.4s							
ESAC	**San Caprasio**	**1.31**	**148**	Pg		**Pg**	**19 50 18.4**	**+0.4**
	23nm,0.2s,SNR=14							
ESAC				Lg			19 50 37.0	
	46nm,0.2s,SNR=8.8							
ESAC	**San Caprasio**	**1.31**	**148**	Pg		**Pg**	**19 50 18.8**	**+0.7**
	23nm,0.2s,SNR=14							
EGRA	**Graus**	**1.42**	**116**	Pg		**Pg**	**19 50 20.6**	**+0.3**
	4.1nm,0.3s,SNR=13							
EGRA				Lg			19 50 41.1	
	1.3nm,0.2s,SNR=5.1							
ELAN	**Lanestosa**	**1.54**	**286**	Pg		**Pg**	**19 50 22.4**	**-0.2**
	0.3nm,0.1s,SNR=7.9							
ELAN				Lg			19 50 44.5	
	2.7nm,0.2s,SNR=4.5							
ELAN	**Lanestosa**	**1.54**	**286**	Pg		**Pg**	**19 50 22.4**	**-0.2**
	0.3nm,0.1s,SNR=7.9							
SALF	**Salau**	**1.91**	**91**	Lg			19 50 55.8	
ETOR	**Torete**	**2.07**	**194**	Pn		**Pn**	**19 50 29.6**	**+1.6**
	0.1nm,0.1s,SNR=7.9							
ETOR				Pg		**Pg**	**19 50 33.4**	**+0.7**
	0.5nm,0.2s,SNR=7.9							
ETOR				Lg			19 50 58.6	
	1.1nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**2.28**	**145**	Pn		**Pn**	**19 50 29.6**	**-1.2**
	SNR=7.9							
ERTA				Pg		**Pg**	**19 50 36.7**	**0.0**
	0.3nm,0.1s,SNR=7.9							
ERTA				Lg			19 51 05.9	
	0.7nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**2.28**	**145**	Pg		**Pg**	**19 50 36.7**	**+0.1**
	0.3nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**2.35**	**112**	Pn		**Pn**	**19 50 31.3**	**-0.6**
	SNR=4.0							
EMIR				Pg		**Pg**	**19 50 37.7**	**-0.4**
	0.2nm,0.1s,SNR=7.9							
EMIR				Lg			19 51 08.1	
	SNR=7.9							
EMIR	**Miracle**	**2.35**	**112**	Pn		**Pn**	**19 50 31.3**	**-0.6**
	SNR=4.0							
EPOB	**Poblet**	**2.36**	**128**	Pn		**Pn**	**19 50 33.0**	**+1.0**
	0.1nm,0.1s,SNR=4.0							
EPOB				Pg		**Pg**	**19 50 37.2**	**-1.1**
	0.1nm,0.1s,SNR=7.9							
EPOB				Lg			19 51 06.7	
	1.6nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**2.56**	**164**	Pg		**Pg**	**19 50 39.2**	**-2.9**
	0.0nm,0.1s,SNR=7.9							
EMOS				Lg			19 51 13.9	
	0.1nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**2.62**	**36**	*e*Sg		**Sg**	**19 51 15.6**	**-1.4**
	4.6nm,0.3s							
LFF	**La Frestale**	**2.62**	**36**	*e*Sg		**Sg**	**19 51 15.6**	**-1.4**
	2.3nm,0.3s							
MTLF	**Montolieu**	**2.70**	**78**	*e*Pg		**Pg**	**19 50 43.4**	**-1.3**
MTLF				*e*Sg		**Sg**	**19 51 18.8**	**-0.9**
	1.8nm,0.3s							
MTLF	**Montolieu**	**2.70**	**78**	*e*Pg		**Pg**	**19 50 43.4**	**-1.3**
MTLF				*e*Sg		**Sg**	**19 51 18.8**	**-0.9**
	0.9nm,0.3s							
RJF	**Les Rejaudoux**	**3.25**	**39**	*e*P		**Pn**	**19 50 46.0**	**+1.8**
RJF	**Les Rejaudoux**	**3.25**	**39**	*e*Pg		**Pg**	**19 50 53.4**	**-1.8**
RJF				*e*Sg		**Sg**	**19 51 35.1**	**-2.2**
	1.8nm,0.4s							
RJF	**Les Rejaudoux**	**3.25**	**39**	Pn		**Pn**	**19 50 46.0**	**+1.8**
RJF				Pg		**Pg**	**19 50 53.4**	**-1.8**
RJF				Lg			19 51 35.1	
	0.9nm,0.4s							
RJF	**Les Rejaudoux**	**3.25**	**39**	*e*Pg		**Pg**	**19 50 53.4**	**-1.8**
RJF				*e*Sg		**Sg**	**19 51 35.1**	**-2.2**
	0.9nm,0.4s							
CAF	**Calviac**	**3.27**	**49**	*e*Pn		**Pn**	**19 50 43.4**	**-1.0**
ESDC	**Sonseca Array**	**3.70**	**212**	Lg			19 51 51.6	
	0.4nm,0.3s,baz=28,slow=29,SNR=4.4							

*CSEM **05** 19:50:01.9±0.8, 3869N×2897W, h3km±4km, ML2.1, Error ellipse: s-maj=6.9km s-min=4.1km az=34.0, After PDA*
*PDA **05** 19:50:01.9±0.8, 3869N×2897W, h3km±4km, MD3.0, ML2.1, Error ellipse: s-maj=6.9km s-min=4.1km az=34.0*
SVSA 05 19:50:01.9±0.8, 3869N×2897W, h3km±4km, MD3.0, ML2.1, Error ellipse: s-maj=6.9km s-min=4.1km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.17**	**127**	*e*P	Pg	19 50 06.1	+1.0
PTCA				*e*S	Sg	19 50 08.6	+1.3
PTCA	103nm,0.2s						
PTCA	**Ponta do Capel**	**0.17**	**127**	*e*P	Pg	19 50 06.1	+1.0
PTCA				*e*S	Sg	19 50 08.6	+1.3
PCED	**Cedros**	**0.21**	**106**	*e*P	Pg	19 50 05.9	-0.1
PCED				*e*S	Sg	19 50 09.2	+0.4
PCED	156nm,0.3s						
PCED	**Cedros**	**0.21**	**106**	*e*P	Pg	19 50 05.9	-0.1
PCED				*e*S	Sg	19 50 09.2	+0.4
CALA	**Caldeira**	**0.23**	**117**	*e*P	Pg	19 50 06.2	-0.2
CALA				*e*S	Sg	19 50 09.2	-0.2
HOR	**Horta**	**0.31**	**121**	*e*P	Pg	19 50 07.4	-0.4
HOR				*e*S	Sg	19 50 11.6	-0.2
PICO	**Pico**	**0.46**	**113**	*i* P	Pg	19 50 10.3	-0.5
PICO				*e*S	Sg	19 50 16.4	-0.4
PICO	**Pico**	**0.46**	**113**	*e*S	Sg	19 50 16.4	-0.4
PTEI	**Pico do Teixo**	**0.51**	**112**	*e*S	Sg	19 50 19.3	+0.9
PTEI	19nm,0.1s						
PBOI	**Pico dos Bois**	**0.53**	**118**	*e*S	Sg	19 50 19.4	+0.6
PBOI	25nm,0.1s						
ROSA	**Rosais**	**0.57**	**86**	*i* P	Pg	19 50 11.7	-1.1
ROSA				*e*S	Sg	19 50 18.9	-1.2
ROSA	**Rosais**	**0.57**	**86**	*e*S	Sg	19 50 18.9	-1.2
PAMA	**Santo Amaro**	**0.61**	**90**	*e*S	Sg	19 50 20.4	-1.3
PAMA	43nm,0.1s						
PMAN	**Manadas**	**0.69**	**94**	*e*P	Pg	19 50 13.4	-1.7
PMAN				*e*S	Sg	19 50 22.2	-1.8
PMAN	72nm,0.1s						
PMAN	**Manadas**	**0.69**	**94**	*e*P	Pg	19 50 13.4	-1.7
PMAN				*e*S	Sg	19 50 22.2	-1.8
PID	**Ribeirinha**	**0.71**	**110**	*e*P	Pg	19 50 14.1	-1.3
PGRA	**Graciosa**	**0.84**	**66**	*e*rx	Sg	19 50 24.8	-4.1

*CSEM **05** 20:22:00.7, 3555N×2578E, h25km, MD3.5/8, After ATH*
*NEIC **05** 20:22:00.7, 3555N×2578E, h25km, MD3.5(ATH), After ATH.*
*ATH **05** 20:22:00.7, 3554N×2579E, h26km±2km, MD3.5/8*
*ISCJB **05** 20:21:01.5±0.7, 3548N±004×2583E±006, h22km±6km, Error ellipse: s-maj=8.8km s-min=5.8km az=77.7*
*THE **05** 20:22:01.5, 3541N×2589E, h17km*
ISC 05 20:22:01.6±0.6, 3551N±004×2576E±006, h18km±5km, n16, σ1º03/22, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.27**	**207**	⇓*i*PB	**Pg**	**20 22 08.3**	**+0.6**
NPS				*e*SB	**Sg**	**20 22 12.7**	**+0.9**
LAST	**Lasithi**	**0.41**	**214**	*e*Pg	**Pg**	**20 22 10.3**	**+0.1**
LAST				*e*Sg	**Sg**	**20 22 16.3**	**+0.4**
XRY	**Khrisi**	**0.63**	**185**	*e*PN	**Pn**	**20 22 14.0**	**-1.6**
THR1	**Thera Island**	**0.90**	**344**	*e*Pg	**Pg**	**20 22 19.2**	**+0.1**
SANT	**Santorini**	**0.90**	**344**	*e*Pg	**Pg**	**20 22 19.2**	**+0.1**
SANT				*e*Sg	**Sg**	**20 22 34.6**	**+3.7**
SANT	**Santorini**	**0.90**	**344**	*e*P	**Pb**	**20 22 19.1**	**+0.5**
SIVA	**Sivas**	**0.92**	**238**	*e*Pg	**Pg**	**20 22 19.7**	**+0.2**
SIVA				*e*Sg	**Sg**	**20 22 31.3**	**-0.3**
THR3	**Thira Island,**	**0.95**	**342**	*e*Pg	**Pg**	**20 22 20.1**	**+0.1**
KARP	**Karpathos**	**1.14**	**88**	*e*PN	**Pn**	**20 22 22.0**	**-0.6**
VAM	**Vamos**	**1.28**	**266**	*e*PN	**Pn**	**20 22 25.0**	**+0.5**
VAM				*e*SN	**Sn**	**20 22 43.6**	**+2.4**
KARN	**Karanos**	**1.51**	**267**	*e*Pg	**Pg**	**20 22 28.0**	**-2.6**
KARN				*e*Sg	**Sg**	**20 22 48.4**	**-2.0**
APE	**Apeiranthos**	**1.57**	**353**	*e*Pb	**Pb**	**20 22 28.5**	**-1.6**
APE	**Apeiranthos**	**1.57**	**353**	*e*Pn	**Pn**	**20 22 28.7**	**+0.2**
ARG	**Arkhangelos**	**2.05**	**69**	*e*PN	**Pn**	**20 22 35.5**	**+0.4**
KYTH	**Kithira**	**2.34**	**290**	*e*PN	**Pn**	**20 22 39.5**	**+0.4**
VLI	**Veliai**	**2.59**	**299**	*e*PN	**Pn**	**20 22 42.8**	**+0.3**

*ISCJB **05** 20:28:36.7±0.6, 4123N±003×658W±005, h11km, Error ellipse: s-maj=5.1km s-min=3.9km az=20.5*
*INMG **05** 20:28:38.2±1.7, 4122N×663W, h3km±7km, ML1.9, Error ellipse: s-maj=3.4km s-min=2.1km az=93.0*
*MDD **05** 20:28:38.9±0.6, 4123N×668W, h11km±1km, mbLg1.8/13, Error ellipse: s-maj=5.1km s-min=3.3km az=100.0, PRXIMO*
ISC 05 20:28:37.4±0.7, 4122N±003×663W±005, h7km±9km, n20, σ0º77/22, 1D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBRG	**Braganca**	**0.59**	**352**	*e*Pg	**Pg**	**20 28 49.6**	**+0.9**
PBRG				*e*Sg	**Sg**	**20 28 57.2**	**+0.8**
PBRG	23nm,0.1s						
ECAL	**Calabor**	**0.72**	**353**	⇓Pg	**Pg**	**20 28 52.2**	**+0.9**
	11nm,0.2s,SNR=18						
ECAL				Lg		20 29 02.2	
	8.8nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**0.82**	**274**	*e*P	**Pg**	**20 28 53.6**	**+0.4**
PVRL				*e*S	**Sg**	**20 29 03.7**	**-0.2**
PVRL	77nm,0.1s						
MTE	**Manteigas**	**1.08**	**221**	*e*P	**Pg**	**20 28 58.2**	**+0.1**
MTE				*e*S	**Sg**	**20 29 12.2**	**+0.2**
MTE	9.1nm,0.3s						
PVIS	**Viseu**	**1.08**	**243**	*e*P	**Pg**	**20 28 58.4**	**+0.2**
PVIS				*e*S	**Sg**	**20 29 12.3**	**0.0**
PVIS	34nm,0.1s						
PCAB	**Cabril**	**1.16**	**295**	*e*P	**Pg**	**20 28 59.5**	**-0.2**
PCAB				*e*S	**Sg**	**20 29 14.6**	**-0.1**
PCAB	19nm,0.1s						
ERUA	**La Rua**	**1.23**	**342**	Pg	**Pg**	**20 28 59.9**	**-1.1**
	3.0nm,0.3s,SNR=7.9						
ERUA				Lg		20 29 17.6	
	2.2nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**1.25**	**301**	Pg	**Pg**	**20 28 60.0**	**-1.5**
	0.8nm,0.1s,SNR=12						
ELOB				Lg		20 29 17.6	
	5.7nm,0.1s,SNR=24						
PCBR	**Castelo Branco**	**1.52**	**205**	*e*Pg	**Pg**	**20 29 06.6**	**0.0**
PCBR				*e*Sn	**Sn**	**20 29 25.4**	**+0.2**
PCBR	7.7nm,0.2s						
GUD	**Gudarrama**	**1.96**	**106**	Pn	**Pn**	**20 29 10.7**	**-0.4**
	0.8nm,0.2s,SNR=8.5						
GUD				Lg		20 29 40.2	
	4.0nm,0.3s,SNR=7.9						
PTOM	**Tomar**	**2.10**	**221**	*e*Sg	**Sg**	**20 29 45.1**	**+0.1**
PTOM	4.8nm,0.3s						
PTOM	**Tomar**	**2.10**	**221**	Lg		20 29 45.1	
	2.4nm,0.3s						
EPON	**Pontenova**	**2.14**	**350**	Pg	**Pg**	**20 29 18.1**	**-0.3**
	0.7nm,0.3s,SNR=4.0						
EPON				Lg		20 29 46.5	
	1.1nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**2.33**	**26**	Lg		20 29 50.3	
	0.6nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**2.46**	**315**	Lg		20 29 55.8	
	0.5nm,0.2s,SNR=5.6						
EBAD	**Badajoz**	**2.48**	**187**	Pn	**Pn**	**20 29 18.0**	**-0.2**
	0.3nm,0.1s,SNR=8.6						
EBAD				Lg		20 29 57.1	
	2.0nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**3.11**	**49**	Lg		20 30 17.6	
	2.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.44**	**152**	Pn	**Pn**	**20 29 33.5**	**+2.1**
	SNR=7.9						
EADA				Sn	**Sn**	**20 30 08.6**	**-3.7**
	0.7nm,0.1s,SNR=7.9						
EADA				Lg		20 30 24.6	
	0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.45**	**181**	Lg		20 30 26.1	
	2.0nm,0.4s,SNR=7.9						
ETOR	**Torete**	**3.48**	**95**	Pg	**Pg**	**20 29 43.4**	**-0.7**
	0.6nm,0.3s,SNR=7.9						
ETOR				Lg		20 30 28.8	
	0.8nm,0.3s,SNR=7.9						

*MOS **05** 20:31:29.4±1.9, 3474N×7098E, h33km, mb4.1/4, Error ellipse: s-maj=42.8km s-min=18.4km az=90.3*
*IDC **05** 20:31:45.9±27.0, 3580N×7108E, h99km±150km, mb3.5/4, mb1 3.5/6, mb1mx3.2/22, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=275.2km s-min=55.7km az=174.0*
*ISCJB **05** 20:31:52.8±0.6, 3645N±004×708E±01, h138km±14km, mb3.6/3, Error ellipse: s-maj=17.2km s-min=6.9km az=16.3*
*NNC **05** 20:31:59.8±1.3, 3736N×7005E, h0km, mb3.7, mpv4.0, Error ellipse: s-maj=13.3km s-min=12.6km az=177.0*
ISC 05 20:31:54.0±0.6, 3644N±004×709E±01, h134km±13km, n30, σ0º70/34, mb3.6/3, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.74**	**162**	P	**Pn**	**20 32 38.6**	**+1.2**
CHCP	**Chirah Chowk**	**3.39**	**144**	P	**Pn**	**20 32 46.0**	**+0.2**
THW	**Thamme Wali**	**3.70**	**169**	P	**Pn**	**20 32 50.6**	**+0.8**
THW				S	**Sn**	**20 33 31.0**	**-2.1**
SBDP	**Sheikh Budin**	**4.13**	**181**	P	**Pn**	**20 32 55.6**	**+0.2**
DRP	**Derazinda**	**4.71**	**187**	P	**Pn**	**20 33 03.3**	**+0.1**
SARP	**Sargodha**	**4.74**	**161**	P	**Pn**	**20 33 03.3**	**-0.3**
DLH	**Dalhousie**	**5.72**	**131**	*e*P	**Sn**	**20 34 15.0**	**-6.3**
UCH	**Uchtor**	**6.43**	**25**	P	**Pn**	**20 33 26.5**	**+0.2**
	SNR=18						
KZA	**Kyzart**	**6.58**	**30**	P	**Pn**	**20 33 28.1**	**-0.1**
	SNR=11						
EKS2	**Erkin-Say**	**6.61**	**19**	P	**Pn**	**20 33 28.8**	**+0.2**
	SNR=20						
KK31	**Karatay Array**	**6.67**	**358**	Pn	**Pn**	**20 33 29.0**	**-0.4**
	9.8nm,0.6s,baz=177,slow=12,SNR=152						
KK31				⇑Sn	**Sn**	**20 34 40.0**	**-4.1**
	13nm,0.8s,baz=191,slow=18,SNR=7.3						
AAK	**Ala-Archa**	**6.79**	**23**	P	**Pn**	**20 33 31.6**	**+0.5**
	SNR=9.0						
KBK	**Karagaybulak**	**6.96**	**26**	P	**Pn**	**20 33 33.5**	**+0.1**
	SNR=6.0						
CHMS	**Chumysh**	**7.20**	**23**	P	**Pn**	**20 33 36.5**	**-0.1**
	SNR=8.0						
USP	**Ospenovka**	**7.37**	**21**	P	**Pn**	**20 33 38.9**	**0.0**
	SNR=28						
TKM2	**Tokmak 2**	**7.43**	**28**	P	**Pn**	**20 33 40.2**	**+0.6**
	SNR=8.6						
MKAR	**Makanchi Array**	**13.40**	**36**	P	**Pn**	**20 34 58.5**	**-0.3**
	0.1nm,0.3s,baz=215,slow=14,SNR=3.6						
AB31	**Akbulak array**	**15.09**	**331**	⇑Pn	**Pn**	**20 35 19.3**	**-0.9**
	0.5nm,0.2s,baz=145,slow=12,SNR=18						
AB31				⇓Sn	**Sn**	**20 37 54.4**	**-13**
	1.0nm,0.6s,baz=150,slow=22,SNR=4.4						
AKTO	**Aktyubinsk**	**16.79**	**330**	⇑Pn	**Pn**	**20 35 41.6**	**+0.6**
	0.1nm,0.8s						
AKTO				⇑Sn	**Sn**	**20 38 38.5**	**-10**
	0.2nm,1.5s						
AKTO	**Aktyubinsk**	**16.79**	**330**	P	**Pn**	**20 35 41.9**	**+0.9**
	0.3nm,0.3s,baz=166,slow=5.1,SNR=7.3						
ZAL	**Zalesovo**	**20.00**	**25**	P	**P**	**20 36 15.6**	**-0.3**
	2.8nm,0.4s,baz=242,slow=7.5,SNR=12						
ZAL	**Zalesovo**	**20.00**	**25**	P	**P**	**20 36 15.6**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NVS	**Novosibirsk**	**20.28**	**21**	*e*P	**P**	**20 36 18.5**	**-0.4**
FINES	**FINESS Array B**	**37.48**	**326**	P	**P**	**20 38 55.0**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=123,slow=5.1,SNR=3.2						
FINES	**FINESS Array B**	**37.48**	**326**	P	**P**	**20 38 55.0**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**20 39 25.5**	**+0.5**
	comp=Z,2.1nm,0.9s,mb3.8,baz=108,slow=7.8,SNR=7.3						
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**20 39 25.5**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**44.37**	**323**	P	**P**	**20 39 50.4**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.4,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**20 39 50.6**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.5,baz=97,slow=7.8,SNR=4.4						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**20 39 50.6**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*LDG **05** 20:47:59.0±0.8, 1827N×6868W, h10km, Mb4.6/25, Error ellipse: s-maj=43.3km s-min=13.4km az=85.0*
*ISCJB **05** 20:48:08.9±0.4, 1814N±004×6835W±003, h79km±4km, mb4.3/51, Error ellipse: s-maj=6.0km s-min=4.5km az=5.0*
*IDC **05** 20:48:09.0±1.6, 1809N×6838W, h67km±15km, mb3.9/18, mb1 4.2/21, mb1mx4.1/24, mbtmp4.3/21, MS3.4/7, Ms1 3.4/7, ms1mx3.2/22, Error ellipse: s-maj=12.2km s-min=9.7km az=119.0*
*NEIC **05** 20:48:09.7±0.3, 1818N×6837W, h70km±3km, mb4.5/35, MD4.4(RSPR), Error ellipse: s-maj=4.5km s-min=3.6km az=148.0*
NEIC Felt [IV] at Mayaguez, Puerto Rico. Felt at Aguada, Arecibo and Rio Grande, Puerto Rico.
*RSPR **05** 20:48:19.4, 1810N×6772W, h51km±4km, MD4.4/18, MD4.4/18*
ISC 05 20:48:09.4±0.3, 1820N±004×6840W±002, h61km±3km, n195, σ0º92/200, mb4.4/51, 23C-39D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**1.20**	**89**	⇑*e*P	**Pn**	**20 48 30.6**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.24**	**99**	⇑*i*P	**Pn**	**20 48 30.9**	**+0.3**
LSP	**Las Mesas**	**1.25**	**91**	⇓*i*P	**Pn**	**20 48 31.1**	**+0.4**
AGPR	**Aguadilla, PR**	**1.25**	**78**	⇓*e*P	**Pn**	**20 48 31.5**	**+0.8**
MGP	**Maguayo**	**1.26**	**99**	⇓*i*P	**Pn**	**20 48 31.2**	**+0.3**
LRS	**Lares**	**1.48**	**86**	⇓*i*P	**Pn**	**20 48 34.5**	**+0.6**
AOPR	**Arecibo Observ**	**1.57**	**85**	⇑*e*P	**Pn**	**20 48 35.5**	**+0.4**
OBIP	**Obispado Ponce**	**1.71**	**95**	⇑*i*P	**Pn**	**20 48 37.2**	**+0.2**
CELP	**Cerrillos**	**1.73**	**94**	⇑*i*P	**Pn**	**20 48 37.4**	**+0.2**
ICM	**Isla Caja Muer**	**1.81**	**100**	⇑*i*P	**Pn**	**20 48 38.2**	**-0.2**
SJG	**San Juan**	**2.14**	**92**	⇓*e*P	**Pn**	**20 48 42.9**	**+0.1**
SJG	**San Juan**	**2.14**	**92**	⇑*e*P	**Pn**	**20 48 42.7**	**-0.1**
SJG	**San Juan**	**2.14**	**92**	P	**Pn**	**20 48 42.9**	**+0.1**
	268nm,0.3s,baz=314,slow=12,SNR=102						
SJG				S	**Sn**	**20 49 08.6**

SOR	Soroa	14.43 291	eP	Pn	20 51 36.1	+5.8
ROSC	El Rosal	14.48 204	P	Pn	20 51 31.2	+0.3
	comp=E,3.6nm,0.3s,baz=90,slow=20,SNR=7.6					
ROSC			S	Sn	20 54 07.7	-2.4
	comp=E,1.4nm,0.3s,baz=94,slow=22,SNR=3.0					
ROSC			LR	LR	20 56 35.4	
	comp=E,85nm,20.8s,baz=206,slow=35					
BBSR	BB Station	14.50 13	eP	Pn	20 51 29.7	-1.4
	comp=E,41nm,0.4s					
JTS	JuntasAbangare	17.86 246	eP	Pn	20 52 15.4	+1.8
	comp=E,16nm,0.9s					
TEIG	Tepich	18.88 279	eP	Pn	20 52 25.7	-0.2
OTAV	Otavalo	20.41 210	eP	P	20 52 44.1	+2.9
	comp=E,35nm,1.0s					
FWV	Forest Hill	22.16 333	eP	P	20 52 56.0	-4.1
SAML	Samuel	27.47 169	eP	P	20 53 49.0	-0.7
	comp=E,7.7nm,0.5s,mb4.5					
SADO	Sadowa	27.97 344	P	P	20 53 53.8	-0.4
	comp=E,4.0nm,0.6s,mb4.2,baz=158,slow=13,SNR=4.5					
WMOK	Wichita Mounta	31.63 307	eP	P	20 54 26.3	-0.2
	comp=E,6.3nm,0.6s,mb4.6					
LTX	Lajitas	34.00 296	eP	P	20 54 47.6	+0.3
	comp=E,4.8nm,0.7s,mb4.5					
LPAZ	La Paz	34.27 180	P	P	20 54 49.9	+0.3
	comp=E,1.4nm,0.4s,mb4.2,baz=348,slow=8.4,SNR=2.0					
LPAZ			LR	LR	21 10 09.2	
	comp=E,40nm,21.1s,baz=261,slow=39					
LPAZ	La Paz	34.27 180	P	P	20 54 49.9	+0.3
LPAZ			LR	LR	21 10 09.2	
ECSD	EROS,Sioux Fal	34.81 323	eP	P	20 54 53.6	-0.6
MNTX	Cornudas Mount	35.94 299	eP	P	20 55 04.4	+0.5
	comp=E,1.5nm,0.5s,mb4.2					
SCHQ	Schefferville	36.58 2	P	P	20 55 09.5	+0.1
	comp=E,5.8nm,0.6s,mb4.6,baz=177,slow=6.5,SNR=16					
SCHQ	Schefferville	36.58 2	P	P	20 55 09.5	+0.1
BNM	Barren Site	37.56 303	eP	P	20 55 18.0	+0.3
ULM	Lac du Bonnet	38.79 332	P	P	20 55 26.8	-1.2
	comp=E,5.7nm,0.7s,mb4.4,baz=121,slow=7.8,SNR=12					
BDFB	Brasília	39.17 148	P	P	20 55 30.4	-0.8
	comp=E,1.6nm,0.4s,mb4.2,baz=312,slow=9.7,SNR=3.4					
LVC	Limon Verde	40.57 181	P	P	20 55 41.4	-1.4
	comp=E,3.1nm,0.6s,mb4.1,baz=36,slow=4.4,SNR=5.0					
SRU	San Rafael	41.96 309	eP	P	20 55 54.6	+0.4
	comp=E,3.5nm,0.7s,mb4.1					
PDAR	Pinedale Array	42.52 314	P	P	20 55 58.5	-0.3
	comp=E,0.7nm,0.5s,mb3.7,baz=114,slow=10,SNR=8.7					
TMUT	Trail Mountain	42.52 309	eP	P	20 55 58.5	-0.3
FFC	Flin Flon	44.58 333	eP	P	20 56 13.5	-1.8
	comp=E,7.9nm,0.8s,mb4.6					
TUQ	Turquoise Mtn.	45.30 302	⇑P	P	20 56 23.0	+2.0
	baz=45					
O12A	Currie	45.42 309	⇓P	P	20 56 22.7	+0.7
	baz=45					
DLMT	Dillon	45.52 316	eP	P	20 56 23.6	+0.8
	comp=E,11nm,1.1s,mb4.7					
CPUP	Villa Florida	45.55 166	P	P	20 56 20.7	-2.4
	comp=E,1.4nm,0.6s,mb4.1,baz=333,slow=8.3,SNR=7.4					
CPUP	Villa Florida	45.55 166	P	P	20 56 20.7	-2.4
N12A	Wells--Clov Va	45.78 310	⇓P	P	20 56 24.7	-0.1
	baz=46					
M12A	Wells	45.84 310	⇓P	P	20 56 25.4	0.0
	baz=46					
M11A	Holland Ranch,	46.48 310	⇓P	P	20 56 30.8	+0.5
	baz=46					
S09A	Goldfield	46.73 305	P	P	20 56 34.0	+1.8
	baz=47,SNR=6.8					
P09A	Austin	47.03 307	⇑P	P	20 56 35.8	+1.1
	baz=47					
O09A	Fish Creek Ran	47.21 308	⇓P	P	20 56 37.0	+1.0
	baz=47,SNR=6.9					
S08C	White Mtn Res	47.43 304	P	P	20 56 40.1	+2.3
	baz=47,SNR=9.1					
Q08A	Gabbs	47.49 306	⇓P	P	20 56 39.6	+1.4
	baz=48					
R08A	Mina	47.53 306	⇓P	P	20 56 40.3	+1.8
	baz=48					
N09A	Rock Creek Ran	47.60 309	⇓P	P	20 56 40.0	+0.9
	baz=48					
M09A	Marrel Ranch,	47.69 310	⇑P	P	20 56 40.3	+0.6
	baz=48					
NVAR	Mina Array Bea	47.70 306	P	P	20 56 40.5	+0.7
	comp=E,1.5nm,0.6s,mb4.2,baz=151,slow=2.6,SNR=17					
HELL	Mitchell Peak	47.97 303	⇓P	P	20 56 43.9	+2.0
	baz=48					
L09A	Wilkinson Ranc	47.99 311	⇓P	P	20 56 42.2	+0.1
	baz=48					
N08A	GE Springer Mi	48.04 309	P	P	20 56 43.1	+0.6
	baz=48,SNR=9.5					
R07C	Lee Vining	48.22 305	⇓P	P	20 56 45.6	+1.8
	baz=48					
KCC	Kaiser Creek	48.30 304	⇓P	P	20 56 46.9	+2.4
	baz=48					
M08A	Happy Creek Ra	48.37 310	⇑P	P	20 56 46.0	+0.9
	baz=48					
O07A	Toulon	48.47 308	⇓P	P	20 56 46.1	+0.3
	baz=48,SNR=5.4					
R06C	Coleville	48.60 306	⇓P	P	20 56 49.0	+2.2
	baz=49					
N07B	Gerlach	48.66 309	⇓P	P	20 56 47.8	+0.5
	baz=49					
M07A	Soldier Meadow	48.94 309	P	P	20 56 50.2	+0.8
	baz=49,SNR=5.8					
R05C	Kirkwood Meado	49.12 306	⇓P	P	20 56 52.2	+1.4
	baz=49,SNR=5.5					
K07A	Rock Creek Ran	49.29 311	⇓P	P	20 56 52.9	+0.8
	baz=49					
NEW	Newport	49.46 319	eP	P	20 56 52.8	-0.5
	comp=E,13nm,0.8s,mb5.0					
LAVA	Lava Cap Winer	49.64 306	⇓P	P	20 56 56.1	+1.4
	baz=50					
M06C	Likely Place G	49.87 309	⇓P	P	20 56 56.9	+0.4
	baz=50					
K06A	Valley Falls	50.03 311	⇑P	P	20 56 58.3	+0.6
	baz=50					
I06A	Prineville	50.26 312	P	P	20 56 60.0	+0.5
	baz=50,SNR=5.5					
ORV	Oroville	50.34 307	⇓P	P	20 57 01.7	+1.6
	baz=50					
M05C	Lookout	50.39 309	⇑P	P	20 57 00.8	+0.3
	baz=50					
O02C	Red Bluff	51.42 307	⇓P	P	20 57 08.9	+0.8
	baz=51					
F05A	White Salmon	51.59 315	⇑P	P	20 57 10.2	+0.7
	baz=52					
YBH	Yreka Blue Hor	51.61 309	⇑P	P	20 57 08.9	-0.7
	baz=52					
M02C	Callahan	51.66 309	⇑P	P	20 57 09.4	-0.6
	baz=52					
P01C	Double 8 Ranch	51.74 306	⇓P	P	20 57 11.8	+1.3
	baz=52					
H04A	Detroit Lake	51.82 313	⇓P	P	20 57 11.5	+0.4
	baz=52					
HUMO	Hull Mountain	51.95 310	⇓P	P	20 57 11.2	-0.9
	baz=52					
E05A	Randle	51.96 315	⇑P	P	20 57 12.6	+0.4
	baz=52					
C05A	Tolt Reservoir	52.21 317	⇓P	P	20 57 10.4	-3.6
	baz=52					
D05A	Enumclaw	52.27 316	⇑P	P	20 57 13.9	-0.6
	baz=52					
L02A	Cave Junction	52.34 310	⇓P	P	20 57 11.5	-3.5
	baz=52					
K02A	Glendale	52.36 310	⇑P	P	20 57 14.6	-0.5
	baz=52					
I03A	Eugene	52.44 312	⇓P	P	20 57 10.0	-5.7
	baz=52					
J02A	Umpqua	52.53 311	⇓P	P	20 57 16.6	+0.2
	baz=52					
H03A	Soap Creek Ran	52.58 313	⇓P	P	20 57 17.3	+0.5
	baz=53					
B05A	Bryant	52.62 317	⇑P	P	20 57 14.5	-2.5
	baz=53					
I02A	Mapleton	52.83 312	⇑P	P	20 57 18.4	-0.3
	baz=53					
F03A	Seaside	53.03 314	⇑P	P	20 57 19.0	-1.1
	baz=53					
E03A	Lebam	53.17 315	⇓P	P	20 57 20.2	-0.9
	baz=53					
YKA	Yellowknife Ar	54.52 336	P	P	20 57 29.1	-1.8
	comp=E,6.1nm,0.7s,mb4.8,baz=114,slow=7.4,SNR=8.8					
YKA			LR	LR	21 18 34.2	
	comp=E,64nm,21.5s,baz=95,slow=33					
SUMG	Summit	57.03 10	eP	P	20 57 49.2	+0.3
	comp=E,5.3nm,0.8s,mb4.6					
SUMG			epP	pP	20 58 05.4	+0.3
PLCA	Paso Flores	58.66 182	P	P	20 57 59.1	-1.2
	comp=E,3.1nm,1.1s,mb4.2,baz=328,slow=8.4,SNR=3.8					
ESDC	Sonseca Array	59.07 54	P	P	20 58 04.0	+0.8
	comp=E,1.9nm,0.6s,mb4.3,baz=272,slow=7.3,SNR=14					
DLBC	Dease Lake	59.89 328	eP	P	20 58 08.7	-0.1
ROSF	Rostrenen	60.13 44	eP	P	20 58 10.3	-0.2
	comp=E,11nm,0.9s,mb4.6					
ROSF	Rostrenen	60.13 44	eP	P	20 58 10.3	-0.2
	comp=E,5.7nm,0.9s,mb4.6					
QUIF	Quistinic	60.16 45	eP	P	20 58 10.2	-0.5
	comp=E,8.2nm,0.7s,mb4.6					
QUIF	Quistinic	60.16 45	eP	P	20 58 10.2	-0.5
	comp=E,4.1nm,0.7s,mb4.6					
SJPF	Ste Jean	61.22 50	eP	P	20 58 17.6	-0.3
	comp=E,6.1nm,0.6s,mb4.6					
SJPF	Ste Jean	61.22 50	eP	P	20 58 17.6	-0.3
	comp=E,3.0nm,0.6s,mb4.6					
ETSF	Etsaut	61.70 51	eP	P	20 58 20.8	-0.3
GRR	Gorron	61.74 44	eP	P	20 58 21.0	-0.4
FLN	La Foliniere	62.01 44	eP	P	20 58 23.0	-0.2
	comp=E,8.7nm,0.6s,mb4.8					
FLN	La Foliniere	62.01 44	eP	P	20 58 23.0	-0.2
	comp=E,4.3nm,0.6s,mb4.8					
MFF	Saint Martin d	62.11 46	eP	P	20 58 23.8	-0.1
	comp=E,8.4nm,0.6s,mb4.8					
MFF	Saint Martin d	62.11 46	eP	P	20 58 23.8	-0.1
	comp=E,4.2nm,0.6s,mb4.8					
LDF	La Druitiere	62.24 44	eP	P	20 58 24.4	-0.3
	comp=E,8.5nm,0.6s,mb4.8					
LDF	La Druitiere	62.24 44	eP	P	20 58 24.4	-0.3
	comp=E,4.3nm,0.6s,mb4.8					
EPF	Esparros	62.36 50	eP	P	20 58 25.3	-0.3
	comp=E,6.8nm,0.7s,mb4.6					
EPF	Esparros	62.36 50	eP	P	20 58 25.3	-0.3
	comp=E,3.4nm,0.7s,mb4.6					
LFF	La Frestale	62.68 48	eP	P	20 58 27.6	-0.1
	comp=E,7.1nm,0.7s,mb4.6					
LFF	La Frestale	62.68 48	eP	P	20 58 27.6	-0.1
	comp=E,3.5nm,0.7s,mb4.6					
RJF	Les Rejaudoux	63.23 48	eP	P	20 58 31.0	-0.4
	comp=E,5.3nm,0.7s,mb4.5					
RJF	Les Rejaudoux	63.23 48	eP	P	20 58 31.0	-0.4
	comp=E,2.7nm,0.7s,mb4.5					
CAF	Calviac	63.62 48	eP	P	20 58 33.4	-0.5
	comp=E,3.8nm,0.5s,mb4.3					
CAF	Calviac	63.62 48	eP	P	20 58 33.4	-0.5
	comp=E,1.9nm,0.5s,mb4.4					
TCF	Toulx Ste Croi	63.73 47	eP	P	20 58 34.2	-0.4
	comp=E,6.7nm,0.8s,mb4.4					
TCF	Toulx Ste Croi	63.73 47	eP	P	20 58 34.2	-0.4
	comp=E,3.3nm,0.8s,mb4.4					
MTLF	Montolieu	63.73 50	eP	P	20 58 34.3	-0.4
	comp=E,8.3nm,0.8s,mb4.5					
MTLF	Montolieu	63.73 50	eP	P	20 58 34.3	-0.4
	comp=E,4.2nm,0.8s,mb4.5					
INK	Inuvik	64.09 338	eP	P	20 58 35.2	-1.8
	comp=E,1.1nm,0.6s,mb4.1					
BGF	Bois d'Agland	64.17 47	eP	P	20 58 37.2	-0.4
	comp=E,4.4nm,0.5s,mb4.5					
BGF	Bois d'Agland	64.17 47	eP	P	20 58 37.2	-0.4
	comp=E,2.2nm,0.5s,mb4.4					
AVF	Avril sur Loir	64.52 46	eP	P	20 58 39.2	-0.6
	comp=E,5.2nm,0.9s,mb4.3					
AVF	Avril sur Loir	64.52 46	eP	P	20 58 39.2	-0.6
	comp=E,2.6nm,0.9s,mb4.3					
SSF	Saint Saulge	64.63 46	eP	P	20 58 39.9	-0.6
SMF	Signal de Mont	64.86 46	eP	P	20 58 41.4	-0.6
	comp=E,15nm,1.0s,mb4.7					
SMF	Signal de Mont	64.86 46	eP	P	20 58 41.4	-0.6
	comp=E,7.3nm,1.0s,mb4.7					
LOR	Lormes	64.87 46	eP	P	20 58 41.3	-0.8
	comp=E,7.4nm,0.6s,mb4.6					
LOR	Lormes	64.87 46	eP	P	20 58 41.3	-0.8
	comp=E,3.7nm,0.6s,mb4.6					
LASF	Ste Croix	64.91 49	eP	P	20 58 42.0	-0.3
VIVF	Saint-Julien-l	65.47 48	eP	P	20 58 45.8	-0.2
	comp=E,8.8nm,0.9s,mb4.5					
VIVF	Saint-Julien-l	65.47 48	eP	P	20 58 45.8	-0.2
	comp=E,4.4nm,0.9s,mb4.5					
DAWY	Dawson	65.48 333	eP	P	20 58 45.4	-0.7
GIVF	Givet	65.53 43	eP	P	20 58 45.8	-0.5
MEZF	Maizieres J'vi	65.67 44	eP	P	20 58 46.9	-0.4
	comp=E,22nm,0.6s,mb5.1					
MEZF	Maizieres J'vi	65.67 44	eP	P	20 58 46.9	-0.4
	comp=E,22nm,0.6s,mb5.4					
SMRF	Simiane la Rot	66.15 49	eP	P	20 58 49.8	-0.6
HINF	Hinteralfeld	66.89 45	eP	P	20 58 54.4	-0.7
	comp=E,3.5nm,0.6s,mb4.3					
HINF	Hinteralfeld	66.89 45	eP	P	20 58 54.4	-0.7
	comp=E,1.8nm,0.6s,mb4.3					
LPL	La Plagne	66.90 48	eP	P	20 58 55.0	-0.1
	comp=E,4.3nm,0.6s,mb4.3					
LPL	La Plagne	66.90 48	eP	P	20 58 55.0	-0.1
	comp=E,2.2nm,0.6s,mb4.4					
LPG	La Plagne	66.92 48	eP	P	20 58 55.0	-0.2
	comp=E,5.0nm,0.7s,mb4.3					
LPG	La Plagne	66.92 48	eP	P	20 58 55.0	-0.2
	comp=E,2.5nm,0.7s,mb4.3					
CDF	Champ du Feu	67.15 44	eP	P	20 58 56.2	-0.5
	comp=E,2.5nm,0.5s,mb4.2					
CDF	Champ du Feu	67.15 44	eP	P	20 58 56.2	-0.5
	comp=E,1.3nm,0.5s,mb4.2					
TORD	Torodi Ar. Bea	67.33 83	P	P	20 58 57.0	-0.8
	comp=E,1.1nm,0.9s,mb3.9,baz=289,slow=6.2,SNR=7.2					
NB2	NORSAR Subarra	69.23 31	P	P	20 59 09.8	+0.1
	comp=Z,17nm,0.7s,mb4.1,baz=271,slow=6.5					
NOA	NORSAR Array B	69.23 31	P	P	20 59 09.1	-0.6
	comp=Z,14nm,0.7s,mb4.0,baz=271,slow=6.3,SNR=5.8					
BRG	Berggiesshubel	71.31 42	eP	P	20 59 22.0	-0.5
	comp=Z,14nm,0.8s,mb3.9					
GERES	GERESS Array B	71.37 44	P	P	20 59 21.8	-1.0
	comp=Z,0.8nm,0.8s,mb3.7,baz=280,slow=3.9,SNR=8.4					
GERES			LR	LR	21 25 29.5	
	comp=Z,29nm,18.2s,baz=95,slow=31					
ARCES	ARCESS Array B	74.46 21	P	P	20 59 40.6	-0.5
	comp=Z,4.1nm,0.6s,mb4.5,baz=288,slow=4.2,SNR=25					
VYHS	Vyhne	74.79 44	eP	P	20 59 43.5	+0.5
VYHS			epP	pP	21 00 02.0	+2.2
VYHS	Vyhne	74.79 44	eP	P	20 59 43.5	+0.5
VYHS			e	pP	21 00 02.1	+2.3
STHS	Stebnicka Huta	76.17 42	eP	P	20 59 52.3	+1.4
FINES	FINESS Array B	76.31 30	P	P	20 59 51.2	-0.5
	comp=Z,2.5nm,0.6s,mb4.3,baz=271,slow=3.2,SNR=16					
FINES			LR	LR	21 25 46.5	
	comp=Z,27nm,21.1s,baz=173,slow=30					
FINES	FINESS Array B	76.31 30	P	P	20 59 51.2	-0.5
FINES			LR	LR	21 25 46.5	
JOF	Joensuu	78.31 27	ep	P	21 00 01.7	-1.2
UNV	Unalaska Valle	80.17 323	eP	P	21 00 13.0	-0.1
BRTR	Keskin Array B	87.44 49	P	P	21 00 50.5	+0.5
	comp=Z,1.0nm,0.7s,mb4.2,baz=280,slow=2.6,SNR=6.5					
AKTO	Aktyubinsk	97.02 31	LR	LR	21 43 25.9	
	comp=Z,22nm,21.2s,baz=0.0,slow=34					
STKA	Stephens Creek	149.72 238	PKPbc	PKPbc	21 07 49.4	-2.8
	comp=Z,0.7nm,0.7s,baz=34,slow=3.6,SNR=3.0					
STKA	Stephens Creek	149.72 238	PKPbc	PKPbc	21 07 49.4	-2.8
ASAR	Alice Springs	158.48 252	PKPab	PKPab	21 08 33.9	-0.9
	comp=Z,0.5nm,0.6s,baz=95,slow=4.0,SNR=4.2					

*NEIC **05** 20:57:53.2, 44.60S×168.12E, h81km, ML4.1(WEL), After WEL.*

WEL 05 20:57:53.2±0.3, 4461S×16818E, h81km±2km, ML4.1/16, 4C-6D, Error ellipse: s-maj=2.2km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.19	249	⇑PN	Pn	20 58 05.1	0.0
MSZ				SN	Sn	20 58 13.2	-0.7
MSZ	Milford Sound	0.19	249	P	Pn	20 58 05.1	0.0
MSZ				S	Sn	20 58 12.1	-1.8
WKZ	Wanaka	0.64	111	⇓PN	Pn	20 58 09.0	+0.6
WKZ				SN	Sn	20 58 19.2	-0.3
WKZ	Wanaka	0.64	111	P	Pn	20 58 09.0	+0.7
JCZ	Jackson Bay	0.67	38	⇓PN	Pn	20 58 09.2	+0.5
JCZ				SN	Sn	20 58 20.7	+0.5
JCZ	Jackson Bay	0.67	38	P	Pn	20 58 09.3	+0.6
MLZ	Mavora Lakes	0.74	180	⇑PN	Pn	20 58 09.6	+0.2
MLZ				SN	Sn	20 58 21.8	+0.4
MLZ	Mavora Lakes	0.74	180	P	Pn	20 58 09.6	+0.2
EAZ	Earnscleugh	1.02	128	⇓PN	Pn	20 58 12.8	+0.2
EAZ				SN	Sn	20 58 26.1	-0.9
EAZ	Earnscleugh	1.02	128	P	Pn	20 58 12.8	+0.3
DCZ	Deep Cove	1.14	219	PN	Pn	20 58 12.9	-1.1
DCZ				SN	Sn	20 58 29.4	-0.1
DCZ	Deep Cove	1.14	219	P	Pn	20 58 12.9	-1.1
DCZ				S	Sn	20 58 29.5	0.0
WHZ	Wether Hill Ro	1.30	187	⇑PN	Pn	20 58 16.0	0.0
WHZ				SN	Sn	20 58 32.8	-0.3
WHZ	Wether Hill Ro	1.30	187	P	Pn	20 58 16.0	0.0
WHZ				S	Sn	20 58 32.7	-0.4
LBZ	Lake Benmore	1.45	82	⇓PN	Pn	20 58 17.7	-0.2
LBZ				SN	Sn	20 58 34.8	-1.8
LBZ	Lake Benmore	1.45	82	P	Pn	20 58 17.7	-0.2
FOZ	Fox Glacier	1.50	47	PN	Pn	20 58 19.1	+0.4
FOZ	Fox Glacier	1.50	47	P	Pn	20 58 19.2	+0.6
TUZ	Tuapeka	1.69	143	PN	Pn	20 58 21.2	+0.1
TUZ	Tuapeka	1.69	143	P	Pn	20 58 21.2	+0.1
ODZ	Otahua Downs	1.81	105	⇓PN	Pn	20 58 22.4	-0.2
ODZ	Otahua Downs	1.81	105	P	Pn	20 58 22.4	-0.2
SYZ	Scrubby Hill	2.05	161	⇑PN	Pn	20 58 25.7	0.0
HHSZ	Highcliff Hill	2.13	128	PN	Pn	20 58 27.4	+0.4
APZ	The Paps	2.23	183	PN	Pn	20 58 27.8	-0.4
RPZ	Rata Peaks	2.25	68	⇓PN	Pn	20 58 27.5	-1.0
RPZ	Rata Peaks	2.25	68	P	Pn	20 58 27.5	-1.0
WVZ	Waitaha Valley	2.40	51	PN	Pn	20 58 29.1	-1.3
WVZ	Waitaha Valley	2.40	51	eP	Pn	20 58 29.2	-1.3
MQZ	McQueen's Vall	3.34	76	PN	Pn	20 58 41.6	-1.6
MQZ	McQueen's Vall	3.34	76	eP	Pn	20 58 41.6	-1.6
CRLZ	Canterbury Las	3.36	74	PN	Pn	20 58 41.6	-1.9
CRLZ	Canterbury Las	3.36	74	eP	Pn	20 58 41.8	-1.7
LTZ	Lake Taylor	3.48	60	P	Pn	20 58 43.1	-2.0
KHZ	Kahutara	4.47	63	eP	Pn	20 58 56.3	-2.2
THZ	Tophouse	4.47	52	eP	Pn	20 58 56.7	-1.9
QRZ	Quartz Range	4.95	42	eP	Pn	20 59 03.9	-1.2
NNZ	Nelson	5.10	50	eP	Pn	20 59 06.7	-0.4
CAW	Cannon Point	6.15	58	P	Pn	20 59 18.6	-2.8
NWEZ	Newall Road	6.81	40	P	Pn	20 59 30.8	+0.4
PKE	Pukeiti	6.93	41	P	Pn	20 59 32.8	+0.8
FWVZ	Far West T-bar	7.66	48	eP	Pn	20 59 44.9	+2.8
HIZ	Hauiti	7.88	42	eP	Pn	20 59 44.5	-0.5

IDC 05 21:18:44.2±40.0, 589S×10796E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.9/3, 1D, Error ellipse: s-maj=685.2km s-min=182.3km az=134.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	Banjamegara	2.25	130	⇓iP	Pn	21 19 29.3	+6.6
WRA	Warramunga Arr	29.19	121	P	P	21 24 47.8	+0.5
	0.3nm,0.6s,baz=294,slow=11,SNR=4.6						
ASAR	Alice Springs	30.58	128	P	P	21 25 00.1	+0.4
	0.6nm,0.7s,baz=303,slow=8.5,SNR=7.4						
STKA	Stephens Creek	40.69	134	P	P	21 26 26.5	+0.2
	5.0nm,0.5s,baz=313,slow=8.1,SNR=16						

NEIC 05 22:09:59.5, 5966N×15283W, h96km, MG2.8(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	Skilak Lake	1.56	56	P	Pn	22 10 25.4	-1.0
SEW	Seward	1.76	74	P	Pn	22 10 27.6	-1.3
KDAK	Kodiak Island	1.88	176	P	Pn	22 10 28.5	-1.9
SVW2	Sparrevohn	1.99	318	P	Pn	22 10 30.5	-1.3
FIB	Fire Island	2.00	40	P	Pn	22 10 31.2	-0.8
RC01	Rabbit Creek A	2.10	46	P	Pn	22 10 33.0	-0.3
PMR	Palmer	2.66	42	P	Pn	22 10 39.3	-1.3
KNK	Knik Glacier	2.79	49	P	Pn	22 10 40.7	-1.6
SML	Sawmill	3.09	44	P	Pn	22 10 44.6	-1.7
MID	Middleton Isla	3.31	91	P	Pn	22 10 47.8	-1.6
TTA	Tatalina	3.63	336	eP	Pn	22 10 51.9	-1.7
EYAK	Cordova Ski Ar	3.66	73	P	Pn	22 10 52.2	-1.7
TRF	Thorofare Moun	4.00	17	P	Pn	22 10 57.6	-1.0
KTH	Kantishna Hill	4.01	12	P	Pn	22 10 57.8	-1.0
MCK	McKinley	4.49	23	P	Pn	22 11 04.3	-0.9
CHGN	Chignik	4.49	224	eP	Pn	22 11 03.7	-1.6
PAX	Paxson	4.86	44	P	Pn	22 11 09.1	-1.1
PNL	Peninsula	6.80	84	P	Pn	22 11 34.6	-2.1
CRAG	Craig	11.37	103	eP	Pn	22 12 37.5	-1.3
	8.8nm,1.0s						

*ISCJB **05** 22:42:11.9±0.8, 3855N±003×2376E±006, h19km±8km, Error ellipse: s-maj=8.4km s-min=4.4km az=173.4*
*NEIC **05** 22:42:11.5, 3861N×2376E, h18km, ML3.1(ATH), After ATH.*
*CSEM **05** 22:42:11.5, 3861N×2376E, h18km, ML3.1, After ATH*
*ATH **05** 22:42:11.4, 3861N×2376E, h18km±2km, ML3.1*
*THE **05** 22:42:14.0, 3865N×2373E, h11km, ML2.8*

ISC 05 22:42:12.1±0.6, 3859N±002×2376E±005, h15km±4km, n19, σ1§20/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	Penteli	0.55	171	ePn	Pg	22 42 22.8	-0.1
PTL				eSn	Sg	22 42 31.4	+1.2
AOS	Alonnisos	0.59	9	ePg	Pg	22 42 23.8	+0.1
AOS				eSg	Sg	22 42 32.6	+1.1
LKR	Lokris	0.60	276	ePn	Pg	22 42 22.6	-1.2
LKR				eSn	Sg	22 42 31.4	-0.4
ATH	Athens Observa	0.62	183	ePn	Pn	22 42 24.1	-2.2
MGER	Gerania Oros	0.72	213	ePN	Pn	22 42 25.6	-2.1
MGER				eSN	Sg	22 42 36.5	+0.9
KVR	Kavouri	0.76	179	ePN	Pn	22 42 26.5	-1.8
NAIG	Nisos Aigina	0.85	194	ePN	Pn	22 42 28.5	-1.1
XOR	Xorichti	0.89	331	ePg	Pg	22 42 29.0	-0.4
XOR				eSg	Sg	22 42 41.8	+0.7
AGG	Agios Georgios	1.20	292	ePg	Pg

ARCES	ARCESS Array B	130.02 350	PKP		PKPdf	23 02 01.6	-0.8
	0.4nm,0.4s,baz=315,slow=0.9,SNR=7.3						
AKASG	Malin Array Be	144.41 332	PKP		PKPdf	23 02 26.0	-2.8
	1.1nm,0.5s,baz=43,slow=3.9,SNR=8.4						
BRTR	Keskin Array B	148.39 312	PKPbc		PKPbc	23 02 38.6	-0.7
	0.6nm,0.5s,baz=147,slow=5.1,SNR=6.6						
CLL	Collm	149.20 348	i PKPbc		PKPbc	23 02 41.5	+0.2
	comp=Z,8.0nm,1.0s						
CLL			i PKPab		PKPab	23 02 45.8	-1.0
	comp=Z,3.0nm,0.6s						
UPC	Upice	149.28 344	e PKP		PKPbc	23 02 42.3	+0.8
DPC	Dobruska-Polom	149.34 344	e PKP		PKPbc	23 02 42.6	+0.9
BRG	Berggiesshubel	149.42 347	i P		PKPbc	23 02 42.1	+0.2
	comp=Z,2.5nm,0.8s						
BRG			e			23 29 57.8	
	comp=Z,1.4nm,0.8s						
PVCC	Panska Ves	149.61 346	e PKP		PKPbc	23 02 43.2	+0.9
PRU	Pruhonice	150.12 345	e PKP		PKPbc	23 02 44.1	+0.5
VYHS	Vyhne	150.25 339	e PKP		PKPbc	23 02 44.6	+0.7
NKC	Novy Kostel	150.33 348	e PKP		PKPbc	23 02 44.8	+0.7
TREC	Trest	150.53 344	e PKP		PKPbc	23 02 45.1	+0.6
KHC	Kasperske Hory	151.15 346	e PKP		PKPbc	23 02 46.6	+0.7
GERES	GERESS Array B	151.38 346	PKPbc		PKPbc	23 02 47.0	+0.5
	comp=Z,0.7nm,0.6s,baz=11,slow=2.7,SNR=8.9						

*ISCJB **05** 22:43:42.8±0.5, 5478N±003×16455E±005, h10km, mb3.8/6, Error ellipse: s-maj=4.5km s-min=3.9km az=109.5*
*KRSC **05** 22:43:44.8±0.6, 5476N×16465E, h40km±14km, ML4.1*
*MOS **05** 22:43:45.8±1.6, 5477N×16452E, h53km, mb4.1/3, Error ellipse: s-maj=16.1km s-min=15.0km az=78.5*
*IDC **05** 22:43:47.3±2.2, 5570N×16433E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=59.8km s-min=28.1km az=136.0*
*NEIC **05** 22:43:48.8±1.0, 5574N×16425E, h10km, mb4.0/4, Error ellipse: s-maj=19.5km s-min=14.7km az=142.0*

ISC 05 22:43:43.8±0.5, 5481N±003×16458E±005, h10km, n57, σ1§17/82, mb3.8/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.90	63	i P	Pg	22 44 00.2	-0.9
BKI				i S	Sg	22 44 11.5	-1.2
BKI				Smax			
	4μm,0.4s						
MKZ	Mys Kozlova	1.67	262	P	Pn	22 44 12.7	-0.5
MKZ				S	Sn	22 44 32.6	-2.1
MKZ	Mys Kozlova	1.67	262	i P	Pn	22 44 12.6	-0.6
MKZ				eS	Sn	22 44 32.9	-1.8
KBG	Krutoberegovo	1.80	324	eP	Pn	22 44 14.7	-0.2
KBG				Smax			
	430nm,0.6s						
ZLN	Zelenaya	2.47	301	eP	Pn	22 44 24.5	+0.4
ZLN				eS	Sn	22 44 53.7	-0.6
SMKR	Semkarok	2.50	317	eP	Pn	22 44 24.9	+0.4
SMKR				eS	Sn	22 44 54.3	-0.8
CIRR	Tsirk	2.54	303	eP	Pn	22 44 25.9	+0.8
CIRR				eS	Sn	22 44 55.8	-0.3
LGNR	Loginova	2.56	302	eP	Pn	22 44 26.1	+0.8
LGNR				eS	Sn	22 44 55.9	-0.5
TUMR	Tumrok	2.59	282	eS	Sn	22 44 56.2	-1.2
BDR	Baidarnaya	2.60	314	eP	Pn	22 44 26.4	+0.5
BDR				eS	Sn	22 44 56.6	-0.8
KMNR	Kamenistaya	2.66	293	i P	Pn	22 44 27.4	+0.7
KMNR				eS	Sn	22 44 57.9	-1.0
SRKR	Sorokina	2.67	315	eP	Pn	22 44 27.5	+0.6
SRKR				eS	Sn	22 44 58.7	-0.6
KRSR	Krestovskiy	2.68	303	eP	Pn	22 44 27.3	+0.3
KRSR				eS	Sn	22 44 59.6	0.0
KLY	Klyuchi	2.69	306	P	Pn	22 44 26.5	-0.6
KLY				S	Sn	22 44 56.8	-3.0
KLY	Klyuchi	2.69	306	i P	Pn	22 44 26.4	-0.7
KLY				eS	Sn	22 44 56.8	-3.0
KPT	Kopyto	2.74	297	eP	Pn	22 44 29.3	+1.5
KPT				eS	Sn	22 45 01.8	+0.8
KOZR	Kozyr	2.95	297	PN	Pn	22 44 33.4	+2.7
KOZR				S	Sn	22 45 09.1	+3.0
KOZ	Kozyrevsk	2.96	297	P	Pn	22 44 33.4	+2.6
KOZ				S	Sn	22 45 09.1	+2.7
KOZ	Kozyrevsk	2.96	297	eP	Pn	22 44 32.1	+1.3
SRDR	Sredinnyy	3.15	301	eP	Pn	22 44 34.6	+1.2
SRDR				eS	Sn	22 45 11.0	0.0
SPN	Mys Shipunski	3.19	239	P	Pn	22 44 33.3	-0.7
SPN				S	Sn	22 45 08.9	-3.2
SPN	Mys Shipunski	3.19	239	eP	Pn	22 44 33.5	-0.5
SPN				eS	Sn	22 45 08.9	-3.2
NLC	Nalytchevo	3.50	244	P	Pn	22 44 37.9	-0.4
NLC				S	Sn	22 45 15.5	-4.2
NLC	Nalytchevo	3.50	244	i P	Pn	22 44 38.0	-0.3
NLC				eS	Sn	22 45 17.1	-2.6
ESO	Esso	3.54	291	P	Pn	22 44 39.2	+0.4
SDLR	Sedlovina	3.69	248	eP	Pn	22 44 41.3	+0.4
SDLR				eS	Sn	22 45 22.7	-1.7
SMAR	Somma	3.74	248	eP	Pn	22 44 42.1	+0.5
UGLR	Uglovaya	3.75	247	eP	Pn	22 44 42.3	+0.5
AVH	Avacha	3.77	248	eP	Pn	22 44 42.9	+0.8
AVH				eS	Sn	22 45 25.6	-0.9
KOK	Koryaka	3.82	249	i P	Pn	22 44 43.3	+0.7
KOK				eS	Sn	22 45 26.3	-1.3
PET	Petropavlovsk	3.93	245	P	Pn	22 44 45.8	+1.6
PET				S	Sn	22 45 29.4	-1.0
PET	Petropavlovsk	3.93	245	eP	Pn	22 44 45.8	+1.6
GNL	Ganaly	4.05	257	i P	Pn	22 44 47.4	+1.6
KRMR	Karymshinskiy	4.30	245	eP	Pn	22 44 50.1	+0.8
RUS	Russkaya	4.33	239	P	Pn	22 44 50.0	+0.4
RUS				S	Sn	22 45 37.5	-2.6
RUS	Russkaya	4.33	239	eP	Pn	22 44 50.0	+0.4
RUS				eS	Sn	22 45 37.5	-2.6
GRL	Gorelyy	4.48	242	eP	Pn	22 44 52.9	+1.2
APC	Apacha	4.78	250	eP	Pn	22 44 57.4	+1.5
MIPR	Malaya Ipel'ka	5.31	245	eP	Pn	22 45 04.7	+1.6
MA2	Magadan	8.88	308	ePN	Pn	22 45 47.2	-5.0
YAK	Yakutsk	19.45	306	eP	Pn	22 48 06.9	-4.7
YAK				pmax	pmax		
	comp=Z,22nm,0.4s						
YAK	Yakutsk	19.45	306	eP	Pn	22 48 06.9	-4.7
	comp=Z,22nm,0.4s						
MJAR	Matsushiro Arr	25.70	236	P	pP	22 49 22.9	+5.7
	comp=Z,1.4nm,0.6s,baz=38,slow=9.3,SNR=4.3						
INK	Inuvik	30.87	40	P	P	22 49 59.1	-1.1
	comp=Z,1.1nm,0.5s,mb3.9,baz=255,slow=3.7,SNR=7.1						
INK	Inuvik	30.87	40	P	P	22 49 59.1	-1.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	30.87	40	eP	P	22 49 58.7	-1.5
	comp=Z,1.0nm,0.4s,mb4.0						
ULN	Ulaanbaatar	35.69	283	P	P	22 50 44.5	+2.2
NACB	Ninganchiao	44.04	244	eP	pP	22 51 57.9	+3.1
KURK	Kurchatov	49.05	303	eP	P	22 52 29.6	-1.4
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KURK	Kurchatov	49.05	303	eP	P	22 52 29.6	-1.4
	comp=Z,0.6nm,0.4s,mb4.0						
MKAR	Makanchi Array	49.77	297	P	P	22 52 36.1	-0.3
	comp=Z,0.1nm,0.5s,mb3.1,baz=64,slow=9.2,SNR=3.6						
CHKZ	Chkalovo	50.83	310	eP	P	22 52 40.3	-4.2
	comp=Z,0.4nm,0.4s,mb3.7						
ZRNK	Zerenda	52.03	310	eP	P	22 52 53.6	+0.1
FINES	FINESS Array B	59.55	338	P	P	22 53 46.1	-1.3
	comp=Z,2.5nm,1.0s,mb4.2,baz=51,slow=7.3,SNR=3.8						
NB2	NORSAR Subarra	62.58	346	P	P	22 54 06.5	-1.5
	comp=Z,0.1nm,0.6s,mb3.1,baz=21,slow=6.9						
NOA	NORSAR Array B	62.58	346	P	P	22 54 06.8	-1.2
	comp=Z,0.9nm,0.6s,mb4.0,baz=19,slow=6.7,SNR=5.5						
NOA	NORSAR Array B	62.58	346	P	P	22 54 06.8	-1.2

*LDG **05** 22:47:05.5±0.7, 1499S×16678E, h10km, Mb4.5/2, Error ellipse: s-maj=77.5km s-min=59.9km az=30.0*
*ISCJB **05** 22:47:20.3±1.0, 1525S±008×16732E±008, h153km±9km, mb4.2/9, Error ellipse: s-maj=14.0km s-min=10.8km az=94.6*
*NEIC **05** 22:47:21.9±1.5, 1522S×16727E, h143km±13km, mb4.5/8, Error ellipse: s-maj=13.4km s-min=10.9km az=223.0*
*IDC **05** 22:47:22.9±7.1, 1524S×16728E, h160km±64km, mb3.7/4, mb1 3.8/5, mb1mx3.6/14, mbtmp4.1/5, MS3.0/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=58.4km s-min=32.2km az=170.0*

ISC 05 22:47:21.4±1.0, 1523S±007×16736E±008, h149km±9km, n57, σ0§91/30, mb4.2/9, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	Butte a Klehm	2.57	161	i P	Pn	22 48 01.4	-1.9
BKM				S	Sn	22 48 35.2	-0.4
DZM	Mont Dzumac	6.86	187	eP	Pn	22 48 57.2	-2.4
DZM				eS	Sn	22 50 05.3	-11
DZM	Mont Dzumac	6.86	187	P	Pn	22 49 01.1	+1.5
	4.2nm,0.3s,baz=10,slow=22,SNR=24						
DZM				S	Sn	22 50 18.5	+2.0
	8.5nm,0.3s,baz=144,slow=23,SNR=10						
NOUC	Port Laguerre	6.91	188	eP	Pn	22 49 01.1	+0.8
NOUC				eS	Sn	22 50 11.8	-5.8
HNR	Honiara	9.25	308	P	Pn	22 49 32.9	+1.5
RAO	Raoul Island	19.48	138	eP	P	22 51 37.9	+1.1
	138nm,0.6s						
AFI	Afiamalu	20.24	89	eP	P	22 51 46.0	+1.0
	10nm,0.3s						
PMG	Port Moresby	20.56	284	LR	LR	22 58 41.6	
	comp=Z,46nm,21.7s,baz=199,slow=33						
PMG	Port Moresby	20.56	284	eP	P	22 51 46.4	-1.9
	14nm,0.7s						
CTAO	Charters Tower	20.68	253	P	P	22 51 49.4	-0.3
STKA	Stephens Creek	28.74	230	P	P	22 53 05.0	+0.1
	3.2nm,0.5s,mb4.3,baz=47,slow=8.2,SNR=14						
WRAB	Tennant Creek	31.78	257	eP	P	22 53 32.2	+0.6
WRA	Warramunga Arr	31.79	257	P	P	22 53 31.5	-0.2
	0.4nm,0.5s,mb3.4,baz=86,slow=8.9,SNR=2.2						
ASAR	Alice Springs	32.58	250	P	P	22 53 38.8	+0.2
	1.7nm,0.6s,mb4.0,baz=81,slow=9.0,SNR=12						
MAJO	Matsushiro	58.38	333	eP	P	22 57 01.1	0.0
	2.3nm,0.3s,mb4.5						
VNDA	Vanda	62.37	181	eP	P	22 57 28.3	+0.1
	0.8nm,0.5s,mb3.8						
SBA	Scott Base	62.64	180	P	P	22 57 30.1	+0.1
QSPA	South Pole Qui	74.80	180	eP	P	22 58 45.4	+0.1
	2.7nm,0.3s,mb4.3						
MA2	Magadan	75.75	351	P	P	22 58 50.7	+0.1
HIA	Hailar	76.76	330	P	P	22 58 56.8	+0.4
PMR	Palmer	83.94	19	eP	P	22 59 34.1	-0.6
	4.7nm,0.4s,mb4.6						
COLA	College	86.76	18	eP	P	22 59 47.9	-0.8
	2.4nm,0.4s,mb4.4						
SNAA	Sanae	93.06	183	e	P	23 00 08.6	-10
VNA3	Neumayer Olymp	93.72	181	e	P	23 00 20.3	-0.9
VNA3				e		23 00 21.4	
VNA3				e		23 00 23.5	
VNA2	Neumayer--Watz	93.99	182	e	P	23 00 21.8	-0.6
	baz=184,slow=5.4						
VNA2				e		23 00 23.4	
VNA2				e		23 00 25.4	
MKAR	Makanchi Array	97.62	316	P	P	23 00 39.4	+0.5
	0.5nm,0.7s,mb4.1,baz=92,slow=7.2,SNR=6.5						
MKAR	Makanchi Array	97.62	316	P	P	23 00 39.4	+0.5
ARCES	ARCESS Array B	120.75	345	PKP	PKPdf	23 05 54.6	-1.1
	1.6nm,0.7s,baz=49,slow=5.5,SNR=16						
FINES	FINESS Array B	126.21	338	PKP	PKPdf	23 06 05.5	-0.7
	1.1nm,0.9s,baz=249,slow=5.3,SNR=3.4						
CABF	La Chapelle	145.02	337	ePKP1	PKPbc	23 06 41.3	+0.7
	20nm,0.9s						
FLN	La Foliniere	145.10	346	ePKP1	PKPbc	23 06 40.6	-0.3
	8.5nm,0.6s						
LDF	La Druitiere	145.17	345	ePKP1	PKPbc	23 06 40.8	-0.3
	13nm,0.9s						
LOR	Lormes	145.23	340	ePKP1	PKPbc	23 06 41.6	+0.3
	7.4nm,0.7s						
SSF	Saint Saulge	145.53	340	ePKP1	PKPbc	23 06 42.7	+0.5
	19nm,0.8s						
GRR	Gorron	145.53	346	ePKP1	PKPbc	23 06 42.3	+0.1
	15nm,0.8s						
LPL	La Plagne	145.68	336	ePKP1	PKPbc	23 06 43.6	+0.9
	14nm,1.1s						
LPG	La Plagne	145.69	336	ePKP1	PKPbc	23 06 43.8	+1.1
SMF	Signal de Mont	145.78	340	ePKP1	PKPbc	23 06 43.2	+0.2
	6.1nm,0.8s						
AVF	Avril sur Loir	145.82	340	ePKP1	PKPbc	23 06 43.2	+0.1
	5.0nm,0.8s						
SGMF	Saint Gilles	146.03	348	ePKP1	PKPbc	23 06 43.7	0.0
	6.5nm,0.5s						
ROSF	Rostrenen	146.09	349	ePKP1	PKPbc	23 06 42.8	-1.1
	21nm,1.2s						
BGF	Bois d'Agland	146.19	341	ePKP1	PKPbc	23 06 44.6	+0.4
	12nm,0.6s						
MBDF	Montbardon	146.31	335	ePKP1	PKPbc	23 06 45.5	+0.9
	7.5nm,0.7s						
QUIF	Quistinic	146.47	348	ePKP1	PKPbc	23 06 44.7	-0.3
	7.1nm,0.7s						
ORIF	Oris-en-Rattie	146.51	336	ePKP1	PKPbc	23 06 45.9	+0.8
	7.6nm,0.8s						
TCF	Toulx Ste Croi	146.63	341	ePKP1	PKPbc	23 06 45.7	+0.2
	12nm,1.0s						
MFF	Saint Martin d	147.02	344	ePKP1	PKPbc	23 06 46.8	+0.2
	15nm,0.6s						
VIVF	Saint-Julien-l	147.03	337	ePKP1	PKPbc	23 06 47.0	+0.4
FRF	La Foret Royal	147.31	334	ePKP1	PKPbc	23 06 47.3	-0.1
SMRF	Simiane la Rot	147.42	335	ePKP1	PKPbc	23 06 48.3	+0.6
	5.5nm,0.8s						
RJF	Les Rejaudoux	147.72	341	ePKP1	PKPbc	23 06 48.9	+0.4
	5.8nm,0.7s						
CAF	Calviac	147.89	340	ePKP1	PKPbc	23 06 49.5	+0.6
LASF	Ste Croix	148.00	337	ePKP1	PKPbc	23 06 49.8	+0.6
	5.7nm,0.7s						
LFF	La Frestale	148.29	342	ePKP1	PKPbc	23 06 50.4	+0.4
	9.0nm,0.7s						
MTLF	Montolieu	149.23	339	ePKP1	PKPbc	23 06 52.7	+0.3
	6.7nm,0.8s						
ETSF	Etsaut	150.54	342	ePKP1	PKPbc	23 06 56.4	+0.9
	9.6nm,0.8s						
TORD	Torodi Ar. Bea	165.94	263	PKP	PKPdf	23 07 09.6	+1.1
	0.5nm,0.6s,baz=14,slow=2.7,SNR=6.2						

*ISCJB **05** 22:50:27.6±1.1, 3854N±003×2375E±008, h10km±7km, Error ellipse: s-maj=10.8km s-min=4.8km az=1.1*
*NEIC **05** 22:50:29.4, 3855N×2372E, h31km, MD2.9(ATH), After ATH.*
*CSEM **05** 22:50:29.4, 3855N×2372E, h31km, MD2.9/3, After ATH*
*ATH **05** 22:50:29.4, 3855N×2372E, h31km, MD2.9/5*
*THE **05** 22:50:30.9, 3863N×2371E, h10km, ML2.7*

ISC 05 22:50:29.0±0.8, 3856N±003×2375E±008, h17km±5km, n14, σ1§10/21, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	Penteli	0.52	170	ePn	Pg	22 50 40.0	+0.6
ATH	Athens Observa	0.59	183	ePn	Pn	22 50 41.6	-1.0
ATH				eSn	Sg	22 50 49.7	+1.1
LKR	Lokris	0.59	279	ePn	Pn	22 50 41.4	-1.3
MGER	Gerania Oros	0.69	214	ePN	Pn	22 50 42.8	-1.2
MGER				eSN	Sg	22 50 53.0	+1.2
KVR	Kavouri	0.73	179	ePN	Pn	22 50 44.5	-0.1
NAIG	Nisos Aigina	0.83	195	ePN	Pn	22 50 46.0	+0.1
NAIG				eSN	Sn	22 50 57.0	-0.7
XOR	Xorichti	0.91	332	ePg	Pg	22 50 46.3	-0.5
XOR				eSg	Sg	22 50 59.0	+0.2
AGG	Agios Georgios	1.20	293	ePg	Pg	22 50 52.3	+0.1
AGG				eSg	Sg	22 51 08.1	+0.2
PAIG	Paliouri	1.36	358	ePg	Pg	22 50 53.0	-2.3
OUR	Ouranopolis	1.78	6	ePb	Pb	22 50 59.9	-1.3
LIT	Litokhoron	1.82	328	ePb	Pb	22 51 00.2	-1.7
PLG	Polygyros	1.82	353	ePn	Pn	22 51 00.4	+0.8
SOH	Sokhos	2.28	352	ePn	Pn	22 51 07.1	+1.3
SOH				eSn	Sn	22 51 35.0	+1.5
KNT	Kendrikon	2.68	346	ePn	Pn	22 51 13.0	+1.7
KNT				eSn	Sn	22 51 44.6	+1.2

*NIED **05** 23:17:00, 4240N×14740E, h65km, Mw4.8 Best double couple: M0:1.79000×10^16 NP1:φs109.00000°, δ77.00000°, λ-70.00000°. NP2:φs231.00000°, δ23.00000°, λ-146.00000°.*
*MOS **05** 23:17:51.5±0.9, 4234N×14746E, h33km, mb4.9/41, Error ellipse: s-maj=8.6km s-min=5.3km az=114.0*
MOS Felt (II) at Yuzhno-Kuril'sk.
*ISCJB **05** 23:17:52.4±0.7, 4232N±003×14741E±004, h41km±5km, mb4.6/78, MS3.8/11, Error ellipse: s-maj=5.6km s-min=4.4km az=92.5*
*SKHL **05** 23:17:53.6±1.1, 4260N×14760E, h50km±18km, mb5.4/9, mbh4.9/1, mbv5.3/2, ms4.2/2, msh5.4/1*
*IDC **05** 23:17:53.4±0.5, 4232N×14757E, h40km±3km, mb4.1/22, mb1 4.3/25, mb1mx4.2/29, mbtmp4.4/25, ML4.8/3, MS3.6/10, Ms1 3.6/10, ms1mx3.3/27, Error ellipse: s-maj=13.0km s-min=10.1km az=19.0*
*JMA **05** 23:17:54.0±0.2, 4243N×14738E, h60km, M4.9*
JMA Felt II J1.
*BJI **05** 23:17:54.8, 4220N×14740E, h70km, mB4.7, mb4.7, Ms3.9, Msz3.4*
*NEIC **05** 23:17:56.8±0.3, 4225N×14741E, mb4.7/43, MW4.8(NIED), Error ellipse: s-maj=7.7km s-min=4.3km az=154.0*
NEIC Felt [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [2 JMA] in eastern Hokkaido.

ISC 05 23:17:54.5±0.6, 4241N±003×14742E±004, h43km±5km, h68km±4.2km: pP-P, n257, σ1§06/282, mb4.6/78, MS3.8/11, 10C-12D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.56	308	⇑P	Pn	23 18 19.6	-0.1
NEM2				eS	Sn	23 18 38.3	-0.4
YUK	Yuzh-Kuril'sk	1.98	325	i P	Pn	23 18 24.5	-1.1
YUK				i P		23 18 24.5	
YUK				AMB	AMB	23 18 26.0	
	5μm,0.5s						
YUK				AMB	AMB	23 18 26.0	
	5μm,0.5s						
YUK				AMB	AMB	23 18 26.0	
	15μm,0.5s						
YUK				AMB	AMB	23 18 26.5	
	4μm,0.2s						
YUK				AMB	AMB	23 18 26.5	
	2μm,0.2s						
YUK				AMB	AMB	23 18 26.5	
	11μm,0.2s						
YUK				pP		23 18 34.5	
YUK				sP		23 18 41.0	
YUK				i S	Sn	23 18 48.5	-0.7
YUK				A		23 18 49.5	
	35μm,0.8s						
YUK				A		23 18 49.5	
	78μm,0.8s						
YUK				A		23 18 52.0	
	34μm,0.5s						
YUK				A		23 18 52.0	
	25μm,0.5s						
YUK	Yuzh-Kuril'sk	1.98	325	i PN	Pn	23 18 24.5	-1.1
YUK				i S	Sn	23 18 48.5	-0.7
JAK	Akkeshi	2.09	287	⇓P	Pn	23 18 27.0	0.0
JAK				eS	Sn	23 18 51.5	-0.3
JRA	Rausu	2.27	313	⇑P	Pn	23 18 29.5	0.0
JRA				eS	Sn	23 18 56.0	-0.3
JNK	Nakash	2.30	302	P	Pn	23 18 29.5	-0.5
JNK				eS	Sn	23 18 55.7	-1.4
JOB	Onbets	2.69	282	⇓P	Pn	23 18 35.3	0.0
JOB				eS	Sn	23 19 05.8	-0.8
JAR	Ashorobuto	2.83	290	⇓P	Pn	23 18 37.2	+0.1
JAR				eS	Sn	23 19 09.3	-0.6
KUR	Kuril'sk	2.84	6	i P	Pn	23 18 33.2	-4.1
KUR				i P		23 18 33.2	
KUR				AMB	AMB	23 18 34.0	
	2μm,1.5s						
KUR				AMB	AMB	23 18 34.0	
	3μm,1.5s						
KUR				AMB	AMB	23 18 35.3	
	1μm,0.5s						
KUR				AMB	AMB	23 18 35.3	
	760nm,0.5s						
KUR				AMB	AMB	23 18 35.3	
	2μm,0.5s						
KUR				eS	Sn	23 19 05.7	-4.6
KUR				A		23 19 11.0	
	2μm,0.4s						
KUR				A		23 19 11.0	
	820nm,0.4s						
KUR				A		23 19 18.0	
	3μm,2.0s						
KUR				A		23 19 18.0	
	5μm,2.0s						
KUR	Kuril'sk	2.84	6α	i PN	Pn	23 18 33.2	-4.1
KUR				pmax	pmax		
	comp=N,2μm,1.5s						
KUR				pmax	pmax		
	comp=Z,3μm,1.5s						
KUR				pmax	pmax		
	comp=N,1μm,0.5s						
KUR				pmax	pmax		
	comp=E,760nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,0.5s						
JTKR	Abashiri--Toko	3.00	302	P	Pn	23 18 40.2	+0.6
JTKR				eS	Sn	23 19 14.7	+0.4
JCH	Churui	3.01	275	⇓P	Pn	23 18 39.9	+0.3
JCH				eS	Sn	23 19 13.7	-0.7
JNBK	Urakawa-nobuka	3.46	269	⇓P	Pn	23 18 45.5	-0.4
JNBK				eS	Sn	23 19 24.8	-0.8
JFR	Furan	3.63	284	⇓P	Pn	23 18 48.5	+0.3
JFR				eS	Sn	23 19 29.0	-0.8
JKK2	Kamakawa 2	3.72	295	P	Pn	23 18 50.5	+1.1
JKK2				eS	Sn	23 19 33.7	+1.8
ASAJ	Asahikawa	3.91	297	P	Pn	23 18 53.7	+1.6
	comp=Z,68nm,0.3s,baz=116,slow=11,SNR=97						
ASAJ				S	Sn	23 19 39.5	+2.8
	comp=Z,29nm,0.3s,baz=107,slow=21,SNR=9.7						
ASAJ				LR	LR	23 20 39.5	
	comp=Z,516nm,21.3s,baz=326,slow=41						
ASAJ	Asahikawa	3.91	297	PN	Pn	23 18 53.7	+1.6
ASAJ				S	Sn	23 19 39.5	+2.8
ASAJ				pmax	pmax		
	comp=Z,69nm,0.3s						
ASAJ				smax			
	comp=N,29nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,516nm,21.3s						
JSE	Soyaes	4.33	308	P	Pn	23 18 58.4	+0.6
JHR	Hokuryu	4.38	290	P	Pn	23 18 59.9	+1.4
JEW	Eniwo	4.43	278	P	Pn	23 19 00.1	+1.0
JEW				eS	Sn	23 19 50.5	+1.2
JKB	Kayabe	4.78	266	⇓P	Pn	23 19 03.6	-0.3
JKB				eS	Sn	23 19 56.2	-1.8
JYG	Yagishiri	4.81	297	P	Pn	23 19 06.2	+1.8
JOT	Ohata	4.87	260	P	Pn	23 19 04.8	-0.3
JOT				eS	Sn	23 19 57.7	-2.5
JANG	Nango	4.88	247	P	Pn	23 19 03.4	-2.0
JANG				eS	Sn	23 19 55.9	-4.7
JWK2	Keihoku	4.94	308	P	Pn	23 19 08.0	+1.9
YSS	Yuzh-Sakhalins	5.63	325	i P	Pn	23 19 16.0	+0.4
YSS				AMB	AMB	23 19 16.9	
	comp=Z,150nm,0.8s						
YSS				AMB	AMB	23 19 16.9	
	comp=Z,140nm,0.8s						
YSS				AMB	AMB	23 19 16.9	
	comp=Z,200nm,0.7s						
YSS

comp=E,18nm,0.8s
TYV AMB AMB 23 20 08.0
comp=E,48nm,0.8s
TYV AMB AMB 23 20 12.0
comp=E,400nm,8.0s
TYV AMB AMB 23 20 12.0
comp=E,300nm,8.0s
TYV eS **Sn** **23 21 43.0 -0.5**
TYV A 23 21 44.7
comp=E,35nm,1.0s
TYV AMS AMS 23 23 58.0
comp=E,500nm,14.0s
MJAR Matsushiro Arr 9.22 234 P **Pn** **23 20 04.7 -0.1**
comp=E,2.1nm,0.3s,baz=36,slow=13,SNR=16
MJAR S **Sn** **23 21 48.3 +1.1**
comp=E,6.4nm,0.3s,baz=248,slow=32,SNR=5.1
MJAR LR LR 23 23 39.8
comp=E,239nm,19.9s,baz=80,slow=38
MAJO Matsushiro 9.22 234 ePN **Pn** **23 20 04.9 +0.1**
MAJO pmax pmax
comp=Z,41nm,0.6s
MAJO Matsushiro 9.22 234 ePn **Pn** **23 20 04.9 +0.1**
comp=Z,41nm,0.6s
MAJO eSn **Sn** **23 21 46.7 -0.5**
MAT Matsushiro 9.22 234 P **Pn** **23 20 04.6 -0.2**
MAT S **Sn** **23 21 49.6 +2.4**
MAT Matsushiro 9.22 234 ePN **Pn** **23 20 05.0 +0.2**
MAT pmax pmax
comp=Z,11nm,0.7s
MAT Matsushiro 9.22 234 eP **Pn** **23 20 05.0 +0.2**
comp=Z,11nm,0.7s
MAT eS **Sn** **23 21 50.0 +2.8**
SKR Severo-Kuril's 10.21 33 eP **Pn** **23 20 11.0 -7.4**
SKR AMB AMB 23 20 13.0
comp=Z,80nm,0.5s
SKR AMB AMB 23 20 13.0
comp=Z,60nm,0.5s
SKR AMB AMB 23 20 13.0
comp=Z,110nm,0.5s
SKR pP 23 20 22.1
SKR eS **Sn** **23 22 01.2 -10**
SKR A 23 22 02.5
comp=Z,290nm,0.2s
SKR A 23 22 02.5
comp=Z,80nm,0.5s
SKR A 23 22 02.5
comp=Z,60nm,0.5s
SKR AMS AMS 23 24 30.0
comp=Z,2μm,18.0s
HABR Khabarovsk 10.59 309 ePN **Pn** **23 20 26.1 +2.5**
HABR pmax pmax
comp=Z,36nm,1.0s
JHJ Hachijo jima 2 11.06 216 P **Pn** **23 20 26.7 -3.4**
comp=Z,37nm,0.3s,baz=81,slow=23,SNR=7.0
JHJ S **Sn** **23 22 21.2 -11**
comp=Z,177nm,0.3s,baz=124,slow=23,SNR=14
GRNR Gornyy 11.27 322 eP **Pn** **23 20 29.0 -3.8**
GRNR AMB AMB 23 20 31.2
comp=Z,80nm,1.0s
GRNR AMB AMB 23 20 31.2
comp=Z,100nm,1.0s
GRNR AMB AMB 23 20 31.2
comp=Z,130nm,1.0s
VLA Vladivostok 11.44 279⇓ *i*PN **Pn** **23 20 35.0 -0.2**
VLA pmax pmax
comp=Z,65nm,0.6s
KLR Kul'dur 12.87 307 *e*rx **Pn** **23 20 53.0 -1.8**
KLR AMS AMS 23 25 26.0
comp=Z,900nm,19.0s
KLR AMS AMS 23 25 26.0
comp=Z,500nm,19.0s
KLR AMS AMS 23 26 27.0
comp=Z,500nm,15.0s
PET Petropavlovsk 13.02 31 eP **Pn** **23 20 51.9 -4.9**
PET AMB AMB 23 20 53.2
comp=Z,15nm,0.4s
PET eS **Sn** **23 23 05.1 -15**
PET A 23 23 14.2
comp=Z,35nm,0.9s
PET A 23 23 17.6
comp=Z,35nm,0.7s
PET AMS AMS 23 25 22.7
comp=Z,300nm,18.0s
PET AMS AMS 23 26 22.2
comp=Z,200nm,14.0s
PET Petropavlovsk 13.02 31 ePn **Pn** **23 21 01.0 +4.2**
MDJ Mudanjiang 13.13 286 P **Pn** **23 20 57.8 -0.5**
MDJ S **Sn** **23 23 19.1 -3.8**
MDJ AMB AMB
comp=Z,30nm,1.0s
MDJ AMB AMB
comp=Z,30nm,4.6s
MDJ LR LR
comp=N,130nm,22.9s
MDJ LR LR
comp=E,80nm,16.6s
MDJ LR LR
comp=Z,160nm,15.0s
MDJ Mudanjiang 13.13 286 ePn **Pn** **23 20 57.9 -0.4**
comp=Z,21nm,0.8s
EKMR Ekimchan 14.41 323 eP **Pn** **23 21 09.4 -6.3**
EKMR AMB AMB 23 21 16.9
comp=Z,20nm,0.8s
CBIJ Chichi jima 15.87 197 P **Pn** **23 21 30.7 -4.0**
comp=Z,15nm,0.3s,baz=106,slow=23,SNR=5.6
CBIJ S S 23 24 14.6 -28
comp=Z,12nm,0.3s,baz=253,slow=21,SNR=4.9
CBIJ LR LR 23 27 58.5
comp=Z,150nm,18.3s,baz=56,slow=38
CN2 Changchun 16.10 282 eP **Pn** **23 21 35.8 -2.0**
MA2 Magadan 17.31 6 eP **Pn** **23 21 49.4 -3.5**
MA2 pmax pmax
comp=Z,20nm,0.7s
MA2 Magadan 17.31 6 ePn **Pn** **23 21 48.9 -4.1**
comp=Z,24nm,0.8s
BMKR Bomnak 17.33 322 eP **Pn** **23 21 49.3 -3.8**
BMKR AMB AMB 23 21 50.4
comp=Z,19nm,0.5s
ZEA Zeya 17.54 317 eP **Pn** **23 21 51.4 -4.3**
ZEA AMB AMB 23 21 52.6
comp=Z,32nm,0.9s
ZEA sP sP 23 22 08.1 -4.2
SNY Shenyang 17.69 276⇑P **Pn** **23 21 56.5 -1.1**
SNY AP pP 23 22 09.0 +0.6
SNY PP 23 22 11.9
SNY XP sP 23 22 19.1 +5.2
SNY S **S** **23 25 00.9 -18**
SNY AMB AMB
comp=Z,20nm,1.6s
SNY AMB AMB
comp=Z,150nm,3.9s
SNY LR LR
comp=N,180nm,12.6s
SNY LR LR
comp=E,100nm,14.4s
SNY LR LR
comp=Z,120nm,13.2s
KROS Kirovskiy 18.05 319 eP **Pn** **23 21 56.6 -5.4**
KROS AMB AMB 23 21 59.0
comp=Z,6.0nm,0.5s
HIA Hailar 20.39 299 eP **P** **23 22 28.0 +0.4**
HIA e 23 22 42.7
HIA pmax pmax
comp=Z,11nm,0.5s
HIA Hailar 20.39 299 eP **P** **23 22 28.0 +0.4**
comp=Z,12nm,0.5s
HIA e 23 22 42.7
YAK Yakutsk 22.31 338 eP **P** **23 22 45.4 -2.8**
YAK e*PP 23 22 57.0
YAK e 23 23 20.2
YAK eS **S** **23 26 41.5 -10**
YAK e*SS sS 23 26 47.0 -21
YAK pmax pmax
comp=Z,13nm,0.7s,mb4.5
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,13nm,1.0s,mb4.3
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK smax
comp=N,9.0nm,1.4s
YAK smax
comp=Z,6.0nm,0.8s
YAK smax
comp=E,5.0nm,1.0s
YAK MLR MLR
comp=Z,1μm,68.0s
YAK MLR MLR
comp=N,1μm,78.0s
YAK MLR MLR
comp=E,188nm,34.0s
BJT Baijiatuau 23.57 275 eP **P** **23 23 00.8 -0.3**
BJT e 23 23 09.8
BJT pmax pmax
comp=Z,16nm,1.0s
BJT Baijiatuau 23.57 275 eP **P** **23 23 00.8 -0.3**
comp=Z,16nm,1.0s,mb4.4
BJT e 23 23 09.8
TIA Tai'an 24.16 265 eP **P** **23 23 07.0 +0.4**
CIT Chita 24.73 305 eP **P** **23 23 11.8 +0.1**
CIT e 23 23 20.4
CIT e 23 27 34.4
CIT pmax pmax
comp=Z,30nm,2.8s,mb4.3
HHC Hu-ho-hao-te 26.73 279 eP **P** **23 23 32.6 +2.8**
HHC S **S** **23 27 48.5 -14**
HHC AMB AMB
comp=Z,20nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,90nm,5.2s
HHC LR LR
comp=N,120nm,16.6s,MS3.9
HHC LR LR
comp=E,180nm,11.9s,MS3.9
HHC LR LR
comp=Z,100nm,16.6s,MS3.5
TATO Taipei 27.55 239 eP **P** **23 23 36.8 -0.4**
BILL Biiibino 27.60 15 eP **P** **23 23 40.8 +3.2**
BILL Biiibino 27.60 15 eP **P** **23 23 40.8 +3.1**
BTO Baotou 27.92 279 eP **P** **23 23 43.6 +3.1**
ULN Ulaanbaatar 28.75 295 eP **P** **23 23 48.7 +0.8**
ULN e pP 23 24 01.9 +2.4
ULN pmax pmax
comp=Z,21nm,0.6s,mb5.0
ULN Ulaanbaatar 28.75 295 eP **P** **23 23 48.6 +0.8**
comp=Z,21nm,0.6s,mb5.0
ULN e pP 23 24 01.9 +2.4
GUMO Guam 28.80 185 LR LR 23 33 31.9
comp=Z,73nm,20.4s,MS3.3,baz=36,slow=33
SONM Songino Array 29.19 295 P **P** **23 23 51.7 -0.1**
comp=Z,20nm,0.8s,mb4.9,baz=79,slow=7.7,SNR=8.2
SONM pP pP 23 24 03.8 +0.3
comp=Z,24nm,0.7s,baz=79,slow=9.2,SNR=10
SONM sP sP 23 24 09.4 +0.8
comp=Z,21nm,0.7s,baz=82,slow=8.1,SNR=5.4
SONM Songino Array 29.19 295 P **P** **23 23 51.7 -0.1**
SONM *PP pP 23 24 03.8 +0.4
TIXI Tiksi 30.71 349 eP **P** **23 24 01.8 -3.5**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
ZAK Zakamensk 31.08 300 eP **P** **23 24 09.3 +0.8**
ZAK pmax pmax
comp=Z,17nm,1.2s,mb4.8
MOY Mondy 32.47 303 eP **P** **23 24 22.0 +1.3**
ENH Enshi 32.61 261 P **P** **23 24 21.6 -0.3**
LZH Lanzhou 34.04 274 eP **P** **23 24 35.0 +0.6**
LZH AP pP 23 24 53.0 +6.9
LZH XP sP 23 25 02.0 +11
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.0
CD2 Chengdu 36.49 266 eP **P** **23 24 58.7 +3.2**
CD2 AP pP 23 25 16.9 +10
CD2 XP sP 23 25 25.7 +13
CD2 PP PP 23 26 24.3 +5.3
CD2 S **S** **23 30 34.0 -0.5**
CD2 XS sS 23 31 05.2 +11
CD2 SS SS 23 33 02.9 -12
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
CD2 AMB AMB
comp=Z,80nm,6.8s
CD2 LR LR
comp=N,700nm,18.0s
CD2 LR LR
comp=Z,390nm,19.8s,MS4.2
KRAR Krasnoyarsk 37.13 311⇓ *e*P **P** **23 25 00.0 -0.9**
KRAR pmax pmax
comp=Z,22nm,0.5s,mb5.2
TTA Tatalina 38.36 38 eP **P** **23 25 15.7 +4.4**
TTA e*PP pP 23 25 26.6 +3.5
TTA pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
TTA Tatalina 38.36 38 eP **P** **23 25 15.7 +4.5**
comp=Z,6.8nm,1.3s,mb4.2
TTA epP pP 23 25 26.6 +3.5
KDAK Kodiak Island 40.02 46 P **P** **23 25 23.0 -2.2**
comp=Z,10nm,0.8s,mb4.6,baz=326,slow=4.1,SNR=9.6
KDAK Kodiak Island 40.02 46 P **P** **23 25 23.0 -2.2**
SLKM Skilak Lake 41.07 42 eP **P** **23 25 35.9 +2.1**
MCK McKinley 41.58 37 eP **P** **23 25 39.1 +1.1**
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
MCK McKinley 41.58 37 eP **P** **23 25 39.1 +1.1**
comp=Z,9.0nm,1.1s,mb4.3
ZAL Zalesovo 41.99 308 P **P** **23 25 41.3 -0.1**
comp=Z,5.7nm,0.3s,mb4.6,baz=32,slow=8.3,SNR=34
ZAL pP pP 23 25 52.1 -1.1
comp=Z,4.1nm,0.6s,baz=32,slow=9.7,SNR=6.7
ZAL sP sP 23 25 59.0 +0.7
comp=Z,3.5nm,0.5s,baz=52,slow=8.1,SNR=3.6
ZAL LR LR 23 45 10.5
comp=Z,95nm,19.0s,MS3.7,baz=28,slow=39
ZAL Zalesovo 41.99 308 P **P** **23 25 41.3 0.0**
ZAL *PP pP 23 25 52.2 -1.1
ZAL *SP sP 23 25 59.0 +0.6
ZAL Zalesovo 41.99 308 P **P** **23 25 41.3 -0.1**
ZAL pP pP 23 25 52.1 -1.1
ZAL sP sP 23 25 59.0 +0.7
ZAL LR LR 23 45 10.5
COLA College 42.05 35 eP **P** **23 25 42.7 +0.9**
COLA pmax pmax
comp=Z,14nm,0.8s,mb4.6
COLA College 42.05 35 eP **P** **23 25 42.7 +0.9**
comp=Z,14nm,0.8s,mb4.6
NVS Novosibirsk 42.72 310⇓ *i*P **P** **23 25 47.4 +0.1**
NVS eS **S** **23 32 05.1 -2.8**
NVS pmax pmax
comp=Z,17nm,1.0s,mb4.7
NVS pmax pmax
comp=E,16nm,1.1s
NVS smax
comp=E,19nm,2.2s
NVS smax
comp=N,13nm,1.9s
MK31 Makanchi Array 45.39 299 P **P** **23 26 08.1 -0.6**
MK31 pmax pmax
comp=Z,21nm,0.8s,mb5.0
MKAR Makanchi Array 45.39 299 P **P** **23 26 08.9 +0.2**
comp=Z,4.6nm,0.6s,mb4.5,baz=78,slow=8.8,SNR=48
DAWY Dawson 45.76 36 eP **P** **23 26 15.9 +4.3**
LSA Lhasa 46.45 273 eP **P** **23 26 19.0 +2.0**
KURK Kurchatov 46.45 305 eP **P** **23 26 17.1 0.0**
KURK pmax pmax
comp=Z,16nm,0.6s,mb5.1
KURK Kurchatov 46.45 305 eP **P** **23 26 17.1 0.0**
comp=Z,16nm,0.6s,mb5.1
INK Inuvik 47.47 30 P **P** **23 26 24.9 0.0**
comp=Z,5.8nm,0.5s,mb4.8,baz=290,slow=7.7,SNR=11
INK Inuvik 47.47 30 eP **P** **23 26 25.2 +0.2**
INK pmax pmax
comp=Z,6.0nm,0.3s
INK Inuvik 47.47 30 eP **P** **23 26 25.2 +0.2**
comp=Z,6.2nm,0.3s,mb5.0
CHKZ Chkalovo 50.16 311 eP **P** **23 26 46.0 +0.4**
CHKZ pmax pmax
comp=Z,15nm,0.8s,mb5.1
CHKZ Chkalovo 50.16 311 eP **P** **23 26 46.0 +0.4**
comp=Z,15nm,0.8s,mb5.1
VOSK Vostochnaya 50.28 310 P **P** **23 26 45.4 -1.2**
VOSK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BVA0 Borovoye Array 50.51 310 P **P** **23 26 49.9 +1.6**
BVA0 pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
BRVK Borovoye 50.56 310 eP **P** **23 26 49.6 +0.9**
BRVK e*PP pP 23 27 06.9 +6.0
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRVK Borovoye 50.56 310 eP **P** **23 26 49.6 +0.9**
comp=Z,11nm,0.9s,mb4.8
BRVK epP pP 23 27 06.9 +6.1
JIRN Jiri 51.21 274 eP **P** **23 26 54.0 +0.5**
TKM2 Tokmak 2 51.27 297 P **P** **23 27 00.6 +6.6**
SNR=11
GUN Gumba 51.30 275 eP **P** **23 26 54.9 +0.7**
comp=Z,76nm,0.8s,mb5.7
ZRNK Zerenda 51.32 311 eP **P** **23 26 54.7 +0.3**
ZRNK e*PP pP 23 27 13.2 +6.6
ZRNK pmax pmax
comp=Z,18nm,0.8s,mb5.0
ZRNK Zerenda 51.32 311 eP **P** **23 26 54.7 +0.4**
comp=Z,18nm,0.8s,mb5.0
ZRNK epP pP 23 27 13.2 +6.6
DLBC Dease Lake 51.54 42 P **P** **23 26 57.3 +1.3**
KKN Kakani 51.81 275 eP **P** **23 26 58.7 +0.7**
comp=Z,41nm,0.8s,mb5.4
KKN Kakani 51.81 275 eP **P** **23 26 58.7 +0.7**
KKN pmax pmax
comp=Z,41nm,0.8s,mb5.4
KBK Karagaybulak 51.82 296 P **P** **23 27 04.4 +6.4**
SNR=14
PKI Pulchoki 51.84 274 eP **P** **23 26 58.3 +0.1**
USP Ospenovka 51.84 297 P **P** **23 27 04.3 +6.0**
SNR=19
KZA Kyzart 51.87 296 P **P** **23 27 07.3 +8.9**
SNR=15
DMN Daman 52.04 275 eP **P** **23 27 00.7 +1.0**
AAK Ala-Archa 52.13 297 P **P** **23 27 05.8 +5.4**
SNR=7.3
AAK Ala-Archa 52.13 297⇑ eP **P** **23 27 00.2 -0.2**
AAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
AAK Ala-Archa 52.13 297 eP **P** **23 26 59.3 -1.1**
comp=Z,7.5nm,0.6s,mb4.8
GKN Gorkha 52.17 275 eP **P** **23 27 01.0 +0.3**
EKS2 Erkin-Say 52.59 297 P **P** **23 27 09.9 +6.1**
SNR=14
KOLN Koldanda 53.06 276 eP **P** **23 27 07.9 +0.6**
comp=Z,20nm,0.8s,mb5.1
KKAR Karatay Array 54.52 299 *i* P **P** **23 27 23.1 +5.1**
KKAR pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
ARU Arti 55.46 318⇓ *i*P **P** **23 27 24.6 -0.2**
ARU e 23 28 26.3
ARU e 23 29 25.4
ARU ePPP 23 30 39.2
ARU eS **S** **23 34 57.8 -8.8**
ARU pmax pmax
comp=Z,24nm,1.4s,mb5.0
ARU Arti 55.46 318 eP **P** **23 27 24.7 -0.1**
comp=Z,14nm,0.6s,mb5.2
YKA Yellowknife Ar 56.81 33 P **P** **23 27 33.4 -1.0**
comp=Z,1.4nm,0.7s,mb4.1,baz=305,slow=7.5,SNR=3.1
YKA pP pP 23 27 44.3 -2.4
comp=Z,5.3nm,0.7s,baz=304,slow=7.7,SNR=8.6
YKA LR LR 23 55 01.1
comp=Z,52nm,19.4s,MS3.6,baz=180,slow=39
YKA Yellowknife Ar 56.81 33 P **P** **23 27 33.4 -1.0**
YKA *PP pP 23 27 44.4 -2.4
AB31 Akbulak array 58.06 310 *i* P **P** **23 27 43.2 0.0**
AB31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
AKTK Aktyubinsk 58.57 311 P **P** **23 27 46.7 0.0**
AKTK LR LR 23 55 03.0
AKTO Aktyubinsk 58.57 311 P **P** **23 27 46.7 0.0**
comp=Z,3.2nm,0.4s,mb4.7,baz=80,slow=12,SNR=15
AKTO LR LR 23 55 03.0
comp=Z,51nm,18.8s,MS3.7,baz=150,slow=38
AKTO Aktyubinsk 58.57 311 P **P** **23 27 48.8 +2.1**
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
ORR Orenburg 59.74 314⇓ *i*P **P** **23 27 59.2 +4.3**
ORR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ORR MLR MLR
comp=Z,60nm,17.0s,MS3.8
KEV Kevo 60.04 340 *e*p **P** **23 27 57.5 +0.6**
ARCES ARCESS Array B 60.57 340 P **P** **23 28 00.1 -0.5**
comp=Z,14nm,1.2s,mb5.0,baz=44,slow=8.4,SNR=30
DAG Danmarks Havn 60.77 356⇑ *i*P **P** **23 28 02.9 +1.0**
comp=Z,6.0nm,0.6s,mb4.9
DAG Danmarks Havn 60.77 356⇑ *i*P **P** **23 28 02.9 +1.0**
DAG pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
NEW Newport 63.07 48 P **P** **23 28 19.4 +2.0**
WRA Warramunga Arr 63.20 194 P **P** **23 28 18.2 0.0**
comp=Z,1.9nm,0.9s,mb4.2,baz=9.4,slow=6.9,SNR=5.0
WRA sP sP 23 28 33.5 -2.2
comp=Z,6.1nm,0.6s,baz=14,slow=7.0,SNR=12
JOF Joensuu 63.37 333 *e*p **P** **23 28 18.3 -1.0**
comp=Z,6.5nm,0.3s,mb5.2
JOF Joensuu 63.37 333 eP **P** **23 28 18.3 -1.0**
JOF pmax pmax
comp=Z,7.0nm,0.3s,mb5.3
WALA Waterton Lakes 64.36 46 eP **P** **23 28 25.1 -0.7**
SUMG Summit 65.24 2 eP **P** **23 28 34.2 +2.6**
comp=Z,57nm,1.3s,mb5.4
WVOR Wild Horse Val 65.54 54 eP **P** **23 28 32.9 -0.6**
WVOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
WVOR Wild Horse Val 65.54 54 eP **P** **23 28 32.9 -0.6**
comp=Z,2.3nm,0.8s,mb4.3
KAF Kangasniemi 65.60 334 *e*p **P** **23 28 33.1 -0.8**
comp=Z,4.3nm,0.4s,mb4.8,baz=42,slow=6.1
KAF Kangasniemi 65.60 334 eP **P** **23 28 33.1 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
FINES FINESS Array B 66.16 333 P **P** **23 28 36.6 -0.8**
comp=Z,5.6nm,0.5s,mb4.8,baz=46,slow=7.4,SNR=43
FINES LR LR 00 00 42.7
comp=Z,47nm,18.4s,MS3.7,baz=6.1,slow=39
FINES FINESS Array B 66.16 333 *i* P **P** **23 28 39.7 +2.2**
FINES pmax pmax
comp=Z,6.0nm,0.5s
OBN Obninsk 66.52 324⇑ eP **P** **23 28 39.4 -0.4**
OBN pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.0
OBN Obninsk 66.52 324 eP **P** **23 28 39.6 -0.2**
FFC Flin Flon 66.66 36 eP **P** **23 28 39.8 -0.9**
FFC e 23 28 48.4
FFC pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
FFC Flin Flon 66.66 36 eP **P** **23 28 39.8 -0.9**
comp=Z,1.8nm,0.8s,mb4.2
FFC e 23 28 48.4
ASAR Alice Springs 66.92 193 P **P** **23 28 40.9 -1.5**
comp=Z,0.4nm,0.6s,baz=14,slow=5.4,SNR=4.3
ASAR sP sP 23 28 57.5 -2.4
comp=Z,1.4nm,0.7s,baz=13,slow=5.8,SNR=7.4
FCC Fort Churchill 67.09 30 eP **P** **23 28 43.5 +0.1**
FCC e*PP pP 23 29 02.1 +6.1
SCO Scoresbysund 67.16 356 *i* P **P** **23 28 46.6 +2.8**
comp=Z,4.4nm,1.0s,mb4.4
SCO Scoresbysund 67.16 356 *i* P **P** **23 28 46.6 +2.8**
SCO pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
MCMT McKenzie Canyo 67.48 49 eP **P** **23 28 43.5 -2.4**
BOZ Bozeman (W) 67.66 48 eP **P** **23 28 46.6 -0.4**
BOZ e*PP pP 23 29 08.1 +8.5
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BOZ Bozeman (W) 67.66 48 eP **P** **23 28 46.6 -0.4**
comp=Z,4.2nm,0.8s,mb4.5
BOZ epP pP 23 29 08.1 +8.5
VRSR Storozhevoye 67.87 320 eP **P** **23 28 48.6 +0.2**
VRSR pmax pmax
comp=N,1.0nm,0.8s
VRSR pmax pmax
comp=E,1.0nm,0.8s
VRSR pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
NVAR Mina Array Bea 68.13 58 P **P** **23 28 50.0 0.0**
comp=Z,2.3nm,1.0s,mb4.2,baz=298,slow=5.7,SNR=11
TPAW Teton Pass 69.38 50 eP **P** **23 28 57.8 0.0**
comp=Z,2.6nm,0.8s,mb4.2
TPAW epP pP 23 29 15.2 +4.8
ISA Isabella 69.71 60 P **P** **23 29 01.0 +1.2**
GOF Gofitskoye 69.90 313 *i* P **P** **23 29 08.0 +7.0**
GOF pmax pmax
comp=Z,21nm,0.7s,mb5.2

HWUT	Hardware Ranch	70.22	51	P	P	23 29 03.3	+0.4
TPNV	Topopah Spring	70.32	58	eP	P	23 29 03.2	-0.3
TPNV				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
TPNV	Topopah Spring	70.32	58	eP	P	23 29 03.1	-0.4
	comp=Z,3.3nm,1.1s,mb4.2						
PDAR	Pinedale Array	70.63	50	P	P	23 29 04.1	-1.3
	comp=Z,1.2nm,0.7s,mb4.0,baz=289,slow=3.5,SNR=9.8						
KIV	Kislovodsk	70.81	312	eP	P	23 29 07.9	+1.4
KIV				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
KIV	Kislovodsk	70.81	312	eP	P	23 29 07.9	+1.4
	comp=Z,11nm,0.7s,mb4.9						
NB2	NORSAR Subarra	70.92	339	P	P	23 29 06.6	-0.6
	comp=Z,13nm,1.0s,mb4.8,baz=31,slow=6.5						
NB2	NORSAR Subarra	70.92	339	P	P	23 29 06.6	-0.6
NB2				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
NOA	NORSAR Array B	70.92	339	P	P	23 29 06.4	-0.8
	comp=Z,3.7nm,0.5s,mb4.6,baz=32,slow=6.2,SNR=16						
HFS	Hagfors	71.00	338	P	P	23 29 06.5	-1.2
	comp=Z,6.5nm,0.4s,mb4.9,baz=37,slow=7.7,SNR=27						
SRU	San Rafael	72.43	53	eP	P	23 29 15.7	-0.6
SRU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
SRU	San Rafael	72.43	53	eP	P	23 29 15.7	-0.6
	comp=Z,6.8nm,1.0s,mb4.5						
AKASG	Malin Array Be	72.78	324	P	P	23 29 17.9	-0.4
	comp=Z,1.1nm,0.4s,mb4.1,baz=38,slow=5.7,SNR=12						
STKA	Stephens Creek	74.11	185	P	P	23 29 24.6	-1.6
KWP	Kalwaria	76.33	327	eP	P	23 29 43.3	+4.3
KWP				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
KWP	Kalwaria	76.33	327	eP	P	23 29 43.3	+4.4
	comp=Z,40nm,1.1s,mb5.3						
ECSD	EROS,Sioux Fal	76.83	42	eP	P	23 29 40.3	-1.5
OJC	Ojcow	77.02	329	eP	P	23 29 49.2	+6.3
OKC	Ostrava-Krasne	77.97	329	eP	P	23 29 53.9	+5.8
UPC	Upice	78.21	331	eP	P	23 29 53.7	+4.2
DPC	Dobruska-Polom	78.23	330	eP	P	23 29 56.0	+6.4
MORC	Moravsky Berou	78.24	329	eP	P	23 29 49.9	+0.3
MORC				e*PP	pP	23 30 08.8	+6.3
MORC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
MORC	Moravsky Berou	78.24	329	eP	P	23 29 49.9	+0.2
	comp=Z,4.7nm,0.9s,mb4.4						
MORC				epP	pP	23 30 08.8	+6.3
CLL	Collm	78.60	333	i P	P	23 29 50.2	-1.4
	comp=Z,3.0nm,0.8s,mb4.3						
CLL				i x	x	23 29 57.4	
	comp=Z,7.0nm,1.0s						
CLL				i (PcP)	PcP	23 30 01.9	+1.4
CLL				epP	pP	23 30 10.0	+5.5
CLL				i sP	sP	23 30 19.0	+10
CLL	Collm	78.60	333	i P	P	23 29 50.2	-1.4
CLL				i		23 29 57.4	
CLL				i	pP	23 30 01.9	-2.6
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CLL	Collm	78.60	333	i P	P	23 29 50.2	-1.4
	comp=Z,3.0nm,0.8s,mb4.3						
CLL				i		23 29 57.4	
CLL				i	pP	23 30 01.9	-2.6
BR131	Keskin Array S	78.61	314	eP	P	23 29 51.8	+0.1
	comp=Z,0.9nm,0.6s,mb3.9						
BRTR	Keskin Array B	78.61	314	P	P	23 29 52.0	+0.3
	comp=Z,0.6nm,0.8s,baz=9.5,slow=1.5,SNR=3.9						
BRTR				PP	PP	23 32 51.1	+1.2
	comp=Z,0.7nm,0.8s,baz=71,slow=8.0,SNR=3.7						
PVCC	Panska Ves	78.71	332	eP	P	23 29 57.9	+5.7
SCHQ	Schefferville	78.82	19	P	P	23 29 53.4	+0.6
	comp=Z,1.7nm,0.8s,mb4.0,baz=4.8,slow=12,SNR=2.7						
SCHQ				LR	LR	00 03 36.3	
	comp=Z,70nm,20.1s,MS4.0,baz=338,slow=35						
VRAC	Vranov	78.98	330	P	P	23 29 53.3	-0.4
	comp=Z,1.0nm,0.4s,mb4.1,baz=52,slow=1.1,SNR=2.8						
PRU	Pruhonice	79.17	331	eP	P	23 30 01.2	+6.5
TREC	Trest	79.40	330	eP	P	23 30 01.1	+5.1
TREC				ex	x	23 30 11.5	
EKA	Eskdalemuir Ar	79.47	343	P	P	23 29 55.9	-0.5
	comp=Z,3.9nm,0.6s,mb4.5,baz=25,slow=5.1,SNR=5.7						
KHC	Kasperske Hory	80.23	331	eP	P	23 30 00.7	+0.2
KHC				ePCP	PcP	23 30 07.1	-0.5
KHC				epP	pP	23 30 20.0	+6.6
KHC	Kasperske Hory	80.23	331	eP	P	23 30 00.7	+0.2
KHC				e		23 30 07.1	
GERES	GERESS Array B	80.43	331	P	P	23 30 01.3	-0.2
	comp=Z,0.5nm,0.7s,baz=54,slow=5.0,SNR=5.7						
GERES				LR	LR	00 09 35.3	
	comp=Z,58nm,19.1s,MS4.0,baz=215,slow=38						
GIVF	Givet	82.23	337	eP	P	23 30 10.8	-0.3
MMAI	Mount Meron Ar	82.47	308	P	P	23 30 13.7	+1.4
	comp=Z,1.3nm,0.6s,mb4.0,baz=326,slow=2.1,SNR=2.6						
CDF	Champ du Feu	82.98	335	eP	P	23 30 14.9	-0.1
HAU	Haudompre	83.63	335	eP	P	23 30 18.1	-0.2
LOR	Lormes	85.05	336	eP	P	23 30 24.6	-1.0
LOR				epP	pP	23 30 43.9	+5.4
MIAR	Mount Ida	85.25	46	eP	P	23 30 25.6	-0.9
MIAR				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
MIAR	Mount Ida	85.25	46	eP	P	23 30 25.6	-0.9
	comp=Z,7.4nm,1.3s,mb4.7						
SSF	Saint Saulge	85.34	336	eP	P	23 30 27.2	+0.2
GRR	Gorron	85.36	339	eP	P	23 30 27.3	+0.2
SMF	Signal de Mont	85.62	336	eP	P	23 30 27.9	-0.5
	comp=Z,13nm,1.0s,mb4.8						
SMF				epP	pP	23 30 47.1	+5.7
SMF	Signal de Mont	85.62	336	eP	P	23 30 27.9	-0.5
SMF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
SMF	Signal de Mont	85.62	336	eP	P	23 30 27.9	-0.5
	comp=Z,6.4nm,1.0s,mb4.8						
SMF				epP	pP	23 30 47.1	+5.7
AVF	Avril sur Loir	85.63	336	eP	P	23 30 27.9	-0.6
	comp=Z,11nm,1.0s,mb4.8						
AVF				epP	pP	23 30 47.2	+5.8
AVF	Avril sur Loir	85.63	336	eP	P	23 30 27.9	-0.6
AVF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
AVF	Avril sur Loir	85.63	336	eP	P	23 30 27.9	-0.6
	comp=Z,5.4nm,1.0s,mb4.7						
AVF				epP	pP	23 30 47.2	+5.8
LPL	La Plagne	85.70	333	eP	P	23 30 28.7	-0.1
	comp=Z,3.8nm,0.9s,mb4.3						
LPL	La Plagne	85.70	333	eP	P	23 30 28.7	-0.1
LPL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
LPL	La Plagne	85.70	333	eP	P	23 30 28.7	-0.1
	comp=Z,1.9nm,0.9s,mb4.3						
LPG	La Plagne	85.71	333	eP	P	23 30 28.9	0.0
	comp=Z,11nm,1.0s,mb4.7						
LPG	La Plagne	85.71	333	eP	P	23 30 28.9	0.0
LPG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
LPG	La Plagne	85.71	333	eP	P	23 30 28.9	0.0
	comp=Z,5.3nm,1.0s,mb4.7						
SGMF	Saint Gilles	85.91	340	eP	P	23 30 29.5	-0.3
	comp=Z,12nm,1.0s,mb4.8						
SGMF	Saint Gilles	85.91	340	eP	P	23 30 29.5	-0.3
SGMF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
SGMF	Saint Gilles	85.91	340	eP	P	23 30 29.5	-0.3
	comp=Z,6.0nm,1.0s,mb4.8						
BNI	Bardonecchia	86.13	333	eP	P	23 30 31.4	+0.5
BNI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
BNI	Bardonecchia	86.13	333	eP	P	23 30 31.4	+0.5
	comp=Z,7.4nm,1.1s,mb4.8						
MBDF	Montbardon	86.39	333	eP	P	23 30 32.0	-0.2
TCF	Toulx Ste Croi	86.42	337	eP	P	23 30 31.9	-0.5
	comp=Z,3.7nm,0.9s,mb4.3						
TCF	Toulx Ste Croi	86.42	337	eP	P	23 30 31.9	-0.5
TCF				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
TCF	Toulx Ste Croi	86.42	337	eP	P	23 30 31.9	-0.5
	comp=Z,1.9nm,0.9s,mb4.3						
ORIF	Oris-en-Rattie	86.51	334	eP	P	23 30 32.5	-0.3
	comp=Z,3.6nm,0.7s,mb4.4						
ORIF	Oris-en-Rattie	86.51	334	eP	P	23 30 32.5	-0.3
ORIF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
ORIF	Oris-en-Rattie	86.51	334	eP	P	23 30 32.5	-0.3
	comp=Z,1.8nm,0.7s,mb4.4						
MFF	Saint Martin d	86.81	338	eP	P	23 30 34.0	-0.2
MFF				epP	pP	23 30 54.2	+6.9
VIVF	Saint-Julien-l	86.96	334	eP	P	23 30 34.6	-0.4
	comp=Z,5.2nm,0.9s,mb4.5						
VIVF	Saint-Julien-l	86.96	334	eP	P	23 30 34.6	-0.4
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
VIVF	Saint-Julien-l	86.96	334	eP	P	23 30 34.6	-0.4
	comp=Z,2.6nm,0.9s,mb4.5						
CAF	Calviac	87.70	336	eP	P	23 30 38.3	-0.3
	comp=Z,8.1nm,1.0s,mb4.6						
CAF				epP	pP	23 30 59.3	+7.7
CAF	Calviac	87.70	336	eP	P	23 30 38.3	-0.3
CAF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
CAF	Calviac	87.70	336	eP	P	23 30 38.3	-0.3
	comp=Z,4.1nm,1.0s,mb4.6						
CAF				epP	pP	23 30 59.3	+7.7
TORD	Torodi Ar. Bea	116.38	322	PKP	PKPdf	23 36 32.2	-1.1
	comp=Z,0.7nm,0.3s,baz=17,slow=1.9,SNR=45						
TORD				PP	PP	23 37 37.7	-2.1
	comp=Z,0.7nm,0.9s,baz=30,slow=5.6,SNR=4.4						
DBIC	Dimbokro	125.01	326	PKP	PKPdf	23 36 49.5	-0.4
	comp=Z,2.2nm,0.8s,baz=102,slow=24,SNR=4.9						
DBIC	Dimbokro	125.01	326	PKP	PKPdf	23 36 49.5	-0.4
SNAA	Sanae	147.23	197	ePKPdf	PKPdf	23 37 19.4	-11
SNAA				e		23 37 20.7	
VNA2	Neumayer--Watz	148.75	196	ePKPdf	PKPdf	23 37 35.3	+2.1
	baz=159,slow=1.9						
VNA2				e		23 37 36.5	
VNA2				e		23 37 44.2	
VNA2				e		23 37 51.7	
VNA2				e		23 37 58.1	
VNA2				e		23 38 05.0	
VNA2				e		23 38 12.1	
VNA2				e		23 38 20.2	
VNA3	Neumayer Olymp	148.93	194	ePKPdf	PKPdf	23 37 35.2	+1.7
VNA3				e		23 37 39.5	
VNA3				e		23 37 50.4	
VNA3				e		23 37 57.8	
VNA1	Neumayer--Stat	149.15	196	ePKPdf	PKPdf	23 37 36.3	+2.4
CFAA	Coronel Fontan	149.75	81	PKPbc	PKPbc	23 37 38.3	-1.3
	comp=Z,0.8nm,0.7s,baz=274,slow=2.6,SNR=16						
CFAA				PKPab	PKPab	23 37 44.4	-0.6
	comp=Z,0.3nm,0.6s,baz=298,slow=2.4,SNR=5.0						
CFAA	Coronel Fontan	149.75	81	PKPbc	PKPbc	23 37 38.3	-1.3
CFAA				PKPab	PKPab	23 37 44.4	-0.6
BDFB	Brasilia	150.21	31	PKPbc	PKPbc	23 37 40.3	-0.3
	comp=Z,6.6nm,0.8s,baz=20,slow=0.8,SNR=9.2						
PLCA	Paso Flores	151.70	100	PKPbc	PKPbc	23 37 42.8	-1.4
	comp=Z,2.6nm,0.8s,baz=262,slow=2.8,SNR=6.5						

JMA 05 23:24:21.8±0.4, 3291N×14231E, h45km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.06	328	P	Pn	23 24 55.0	+1.1
BSO1				eS	Sn	23 25 20.1	+1.7
JHJ2	Mitsune	2.10	276	P	Pn	23 24 55.7	+1.2
BSO2	Boso 2	2.25	325	eS	Sn	23 25 25.0	+2.0
BSO3	Boso 3	2.41	322	P	Pn	23 24 59.9	+1.2
BSO4	Boso 4	2.64	322	P	Pn	23 25 04.0	+2.1
JOD2	Odawara 2	3.56	312	P	Pn	23 25 17.5	+3.0
JHO	Hitachi	3.96	339	P	Pn	23 25 20.6	+0.6
JHO				eS	Sn	23 26 03.3	-1.9
JYN	Shimob	4.05	311	P	Pn	23 25 24.0	+2.8
JYN				eS	Sn	23 26 10.3	+2.9
JRY	Ryogami san	4.19	319	P	Pn	23 25 25.0	+1.9
JRY				eS	Sn	23 26 11.7	+1.0
JAG	Ashikaga	4.22	327	P	Pn	23 25 25.3	+1.7
JAG				eS	Sn	23 26 10.9	-0.7
JFK	Kawauchi	4.60	346	P	Pn	23 25 29.2	+0.4
JFK				eS	Sn	23 26 17.4	-3.5
MAT	Matsushiro	4.95	318	eS	Sn	23 26 30.5	+0.9
JMM	Marumori	5.10	346	P	Pn	23 25 37.2	+1.6
JMM				eS	Sn	23 26 30.4	-2.8
JMK	Ichinoseki	6.09	352	P	Pn	23 25 51.0	+1.7
JMK				eS	Sn	23 26 54.3	-3.4

*CSEM **05** 23:33:21.3±0.9, 3870N×2930W, h8km±7km, ML2.5, Error ellipse: s-maj=14.6km s-min=6.2km az=17.0, After PDA*
*PDA **05** 23:33:21.3±0.9, 3870N×2930W, h8km±7km, MD3.3, ML2.5, Error ellipse: s-maj=14.6km s-min=6.2km az=17.0*
SVSA 05 23:33:21.3±0.9, 3870N×2930W, h8km±7km, MD3.3, ML2.5, Error ellipse: s-maj=14.6km s-min=6.2km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.47	98	i P	Pg	23 33 29.2	-1.3
PCED				i S	Sg	23 33 35.6	-1.1
PCED							
	74nm,0.2s						
PCED	Cedros	0.47	98	i S	Sg	23 33 35.6	-1.1
CALA	Caldeira	0.48	104	eP	Pg	23 33 29.2	-1.4
CALA				eS	Sg	23 33 35.6	-1.3
HOR	Horta	0.55	108	eS	Sg	23 33 37.4	-1.7
PICO	Pico	0.71	106	eP	Pg	23 33 32.8	-2.2
PICO				eS	Sg	23 33 41.5	-2.8
ROSA	Rosais	0.83	88	i P	Pg	23 33 34.7	-2.5
ROSA				eS	Sg	23 33 43.8	-4.2
ROSA	Rosais	0.83	88	eS	Sg	23 33 43.8	-4.2
PMAN	Manadas	0.95	93	erx		23 33 45.1	
PID	Ribeirinha	0.96	105	eP	Pg	23 33 36.4	-3.3
SRBC	Serra Branca	1.04	70	erx		23 33 35.5	

*ISCJB **06** 00:08:23.5±0.6, 2957S×007×179.1W±02, h328km±9km, mb3.6/5, Error ellipse: s-maj=29.3km s-min=8.0km az=35.6*
*NEIC **06** 00:08:24.7±0.7, 2958S×17894W, h338km±10km, mb4.0/2, Error ellipse: s-maj=24.2km s-min=9.7km az=110.0*
*IDC **06** 00:08:24.3±0.8, 2944S×17906W, h319km±10km, mb3.3/3, mb1 3.4/4, mb1mx3.3/11, mbtmp4.0/4, Error ellipse: s-maj=30.5km s-min=24.5km az=115.0*
ISC 06 00:08:24.7±0.6, 2962S±008×1791W±02, h319km±9km, n35, σ1°10/40, mb3.6/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.06	70	P	Pn	00 09 08.5	+1.2
	253nm,0.3s,baz=44,slow=23,SNR=14						
RAO				S	S	00 09 40.4	-1.0
	52nm,0.3s,baz=103,slow=22,SNR=5.5						
RAO	Raoul Island	1.06	70	P	Pn	00 09 08.5	+1.2
RAO				S	S	00 09 40.4	-1.0
PUZ	Puketiti	8.72	194	PN	Pn	00 10 30.9	+3.8
PUZ				SN	S	00 12 03.4	-3.5
PUZ	Puketiti	8.72	194	eP	Pn	00 10 30.9	+3.8
PUZ				S	S	00 12 03.4	-3.5
MWZ	Matawai	9.14	197	PN	Pn	00 10 35.9	+3.7
MWZ				eSN	S	00 12 14.6	-1.7
MWZ	Matawai	9.14	197	eP	Pn	00 10 35.9	+3.7
URZ	Urewera	9.19	199	P	Pn	00 10 35.4	+2.7
	1.5nm,0.3s,baz=276,slow=1.3,SNR=17						
URZ				S	S	00 12 17.1	-0.2
	1.2nm,0.3s,baz=268,slow=18,SNR=5.4						
URZ	Urewera	9.19	199	PN	Pn	00 10 35.4	+2.6
BKZ	Black Stump Fm	10.21	200	PN	Pn	00 10 46.8	+1.7
BKZ	Black Stump Fm	10.21	200	eP	Pn	00 10 45.8	+0.7
WNVZ	Wahianoa	10.64	203	PN	Pn	00 10 52.9	+2.5
WNVZ	Wahianoa	10.64	203	P	Pn	00 10 52.4	+2.0
TSZ	Takapari Road	11.19	200	PN	Pn	00 10 57.8	+0.7
TSZ	Takapari Road	11.19	200	eP	Pn	00 10 58.1	+1.1
MRZ	Mangatainoka R	11.86	200	PN	Pn	00 11 04.7	-0.4
MRZ				SN	S	00 13 11.7	-5.4
MRZ	Mangatainoka R	11.86	200	eP	Pn	00 11 04.7	-0.4
KIW	Kapiti Island	12.25	202	PN	Pn	00 11 09.8	0.0
TCW	Tory Channel	12.78	203	PN	Pn	00 11 15.9	-0.2
TCW	Tory Channel	12.78	203	P	Pn	00 11 15.2	-0.9
NNZ	Nelson	13.11	206	PN	Pn	00 11 19.9	-0.2
NNZ	Nelson	13.11	206	eP	Pn	00 11 18.5	-1.5
THZ	Tophouse	13.76	206	PN	Pn	00 11 27.5	-0.2
THZ	Tophouse	13.76	206	eP	Pn	00 11 27.1	-0.7
KHZ	Kahutara	14.10	203	PN	Pn	00 11 31.8	0.0
KHZ	Kahutara	14.10	203	eP	P	00 11 29.8	-1.0
AFI	Afiamalu	17.02	25	eP	P	00 12 01.6	-1.1
	25nm,0.2s						
STKA	Stephens Creek	33.76	256	P	P	00 14 36.8	-0.3
	1.4nm,0.5s,mb3.4,baz=105,slow=13,SNR=6.1						
ASAR	Alice Springs	42.23	267	P	P	00 15 47.5	+0.3
	0.9nm,0.5s,mb3.2,baz=102,slow=7.0,SNR=17						
WRA	Warramunga Arr	43.15	272	P	P	00 15 54.4	-0.1
	0.9nm,0.4s,mb3.2,baz=109,slow=7.6,SNR=3.6						
SBA	Scott Base	48.75	184	P	P	00 16 37.7	-0.2
MBWA	Marble Bar	55.39	264	P	P	00 17 25.9	-0.5
CASY	Casey	55.40	208	eP	P	00 17 17.4	-9.1
	4.4nm,0.5s,mb4.0						
MAW	Mawson	72.71	201	eP	P	00 19 19.3	+1.0
	1.2nm,0.4s,mb4.0						
FINES	FINESS Array B	144.09	340	PKP	PKPdf	00 27 18.6	-3.8
	0.8nm,0.4s,baz=58,slow=3.4,SNR=14						
TORD	Torodi Ar. Bea	163.60	183	PKPab	PKPab	00 28 44.5	+1.4
	0.6nm,1.2s,baz=179,slow=3.4,SNR=5.0						

*NEIC **06** 00:16:28.0, 3837S×17605E, h158km, MG3.7(WEL), After WEL.*
WEL 06 00:16:28.1±0.4, 3838S×17605E, h157km±3km, ML3.7/16, Error ellipse: s-maj=3.1km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	Karewarewa	0.78	204	PN	Pn	00 16 52.0	+0.1
WTVZ	West Tongariro	0.82	206	PN	Pn	00 16 52.2	+0.1
WTVZ	West Tongariro	0.82	206	P	Pn	00 16 52.2	+0.1
OTVZ	Oturere	0.84	201	PN	Pn	00 16 52.7	+0.4
TWVZ	Taurewa	0.84	214	PN	Pn	00 16 52.2	-0.1
TWVZ	Taurewa	0.84	214	P	Pn	00 16 52.2	-0.1
URZ	Urewera	0.84	82	SN	Sn	00 17 10.3	-0.5
BKZ	Black Stump Fm	0.86	156	PN	Pn	00 16 52.8	+0.3
BKZ				SN	Sn	00 17 11.4	+0.3
BKZ	Black Stump Fm	0.86	156	P	Pn	00 16 52.8	+0.4
BKZ				S	Sn	00 17 11.4	+0.4
NGZ	Ngauruhoe	0.87	203	PN	Pn	00 16 52.6	+0.1
NGZ	Ngauruhoe	0.87	203	P	Pn	00 16 52.6	+0.1
WPVZ	Whakapapa	0.92	205	PN	Pn	00 16 52.9	+0.1
WPVZ	Whakapapa	0.92	205	P	Pn	00 16 52.9	+0.1
TUVZ	Tukino	0.94	199	PN	Pn	00 16 53.5	+0.4
TUVZ	Tukino	0.94	199	P	Pn	00 16 53.5	+0.5
FWVZ	Far West T-bar	0.96	204	PN	Pn	00 16 53.3	+0.2
FWVZ	Far West T-bar	0.96	204	P	Pn	00 16 53.3	+0.1
TRVZ	Turoa	1.00	203	PN	Pn	00 16 53.7	+0.2
WNVZ	Wahianoa	1.01	200	PN	Pn	00 16 53.7	+0.1
WNVZ	Wahianoa	1.01	200	P	Pn	00 16 53.7	+0.1
MOVZ	Moawhango	1.05	192	PN	Pn	00 16 53.7	-0.3
PKVZ	Pokaka	1.06	211	PN	Pn	00 16 53.8	-0.2
MWZ	Matawai	1.17	88	PN	Pn	00 16 55.1	+0.2
MWZ				SN	Sn	00 17 15.6	+0.1
MWZ	Matawai	1.17	88	P	Pn	00 16 55.1	+0.2
MWZ				S	Sn	00 17 15.6	+0.1
TSZ	Takapari Road	1.68	182	PN	Pn	00 16 59.6	-0.4
TSZ	Takapari Road	1.68	182	P	Pn	00 16 59.6	-0.5
PUZ	Puketiti	1.77	81	PN	Pn	00 17 00.6	-0.4
PUZ	Puketiti	1.77	81	eP	Pn	00 17 00.6	-0.4
PXZ	Pawanui	1.77	159	PN	Pn	00 17 01.1	+0.1
BFZ	Birch Farm	2.31	176	PN	Pn	00 17 06.0	-1.2
MRZ	Mangatainoka R	2.31	189	PN	Pn	00 17 05.6	-1.6
TIWZ	Tintock	2.40	183	PN	Pn	00 17 06.9	-1.4
KIW	Kapiti Island	2.63	199	PN	Pn	00 17 08.7	-2.4
KIW	Kapiti Island	2.63	199	P	Pn	00 17 08.7	-2.4
MTW	Mount Morrison	2.81	188	PN	Pn	00 17 10.8	-2.5
MTW	Mount Morrison	2.81	188	P	Pn	00 17 10.8	-2.5
CAW	Cannon Point	2.83	195	PN	Pn	00 17 11.1	-2.5
CAW	Cannon Point	2.83	195	P	Pn	00 17 11.1	-2.5
MRW	Makara Radio	3.03	200	P	Pn	00 17 13.2	-2.9
PAWZ	Paruwai Farm	3.04	189	P	Pn	00 17 13.5	-2.7
MSWZ	Moikau Station	3.10	191	P	Pn	00 17 14.1	-2.8
TCW	Tory Channel	3.14	205	P	Pn	00 17 14.4	-3.1
NNZ	Nelson	3.50	215	eP	Pn	00 17 18.5	-3.6
BSWZ	Blackbirch Sta	3.73	206	P	Pn	00 17 21.6	-3.3
THZ	Tophouse	4.15	214	eP	Pn	00 17 26.7	-3.8
KHZ	Kahutara	4.47	205	eP	Pn	00 17 30.8	-3.8
LTZ	Lake Taylor	5.26	212	eP	Pn	00 17 39.9	-5.0

*ISCJB **06** 00:23:25.6±3.2, 49S±0.1×1496E±0.1, h80km±27km, mb3.9/9, Error ellipse: s-maj=21.9km s-min=19.2km az=134.4*
*IDC **06** 00:23:25.0±5.5, 489S×14971E, h62km±45km, mb3.8/6, mb1 4.0/7, mb1mx3.9/15, mbtmp4.1/7, ML3.2/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/21, Error ellipse: s-maj=33.8km s-min=26.9km az=27.0*
*NEIC **06** 00:23:26.1±2.0, 493S×14961E, h72km±17km, mb4.1/4, Error ellipse: s-maj=13.6km s-min=11.3km az=61.0*
ISC 06 00:23:26.5±2.9, 49S±01×1497E±01, h76km±25km, n21, σ0°50/18, mb3.9/9, 1C, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.11	209	P	Pn	00 24 39.9	-0.6
	6.3nm,0.3s,baz=349,slow=8.5,SNR=13						
PMG				S	Sn	00 25 39.2	+1.0
	5.4nm,0.3s,baz=5.5,slow=20,SNR=3.9						
HNR	Honiara	11.15	114	LR	LR	00 29 44.9	
	comp=Z,64nm,18.1s,baz=358,slow=34						
CTA	Charters Tower	15.45	192	LR	LR	00 32 02.0	
	comp=Z,124nm,20.5s,baz=47,slow=33						
GUMO	Guam	18.98	346	LR	LR	00 33 31.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.91**	**55**⇓	*eP*	Pb	00 32 48.0	+0.3
LEON	**Leon**	**0.93**	**76**⇑	*eP*	Pb	00 32 47.6	-0.4
TELN	**Telica**	**1.05**	**66**⇓	*eP*	Pb	00 32 49.2	-0.8
TELN				*eS*	Sb	00 33 02.4	-0.9
CNCH	**Conchagua**	**1.09**	**359**⇓	*eP*	x	00 33 04.9	
CNCH				*eS*	x	00 33 20.2	
MIRN	**Miramar**	**1.11**	**77**	*eP*	Pn	00 32 50.3	-0.5
CNGN	**Cerro Negro**	**1.13**	**74**⇑	*eP*	Pn	00 32 50.5	-0.8
COPN	**Copaltepe**	**1.20**	**90**⇑	*eP*	Pn	00 32 51.7	-0.4
COPN				*eS*	Sb	00 33 08.6	+1.1
MOMJ	**Momotombo**	**1.27**	**80**⇑	*eP*	Pn	00 32 52.6	-0.5
MOMJ				*eS*	Sn	00 33 12.6	+3.2
VSM	**San Miguel**	**1.31**	**340**⇑	*eP*	x	00 33 08.4	
VSM				*eS*	x	00 33 26.9	
BLLM	**Bellamira**	**1.32**	**342**⇓	*eP*	x	00 33 07.8	
BLLM				*eS*	x	00 33 25.9	
APYN	**Apoyeque**	**1.43**	**88**	*eP*	Pn	00 32 55.1	-0.2
XAVN	**Gruta Xavier**	**1.46**	**91**	*eP*	Pn	00 32 55.5	-0.1
XAVN				*eS*	Sn	00 33 15.2	+1.1
TISN	**Laguna Tiscapa**	**1.51**	**91**⇑	*eP*	Pn	00 32 56.6	+0.2
TISN				*eS*	Sn	00 33 16.1	+0.6
MGAN	**Managua**	**1.53**	**91**	*eP*	Pn	00 32 56.9	+0.2
MGAN				*eS*	Sn	00 33 15.8	-0.2
MGAN				*i*		00 33 20.5	
	comp=N,3μm,0.6s						
TICN	**Ticuantepe**	**1.56**	**95**⇑	*eP*	Pn	00 32 57.0	0.0
TICN				*eS*	Sn	00 33 18.4	+1.8
MASN	**Masaya**	**1.64**	**97**	*eP*	Pn	00 32 57.2	-1.0
APON	**Apoyo**	**1.73**	**99**⇓	*eP*	Pn	00 32 59.6	+0.1
SNVI	**San Vicente**	**1.74**	**325**	*eP*	x	00 33 13.7	
SNVI				*eS*	x	00 33 37.5	
LCBS	**La Ceiba**	**1.85**	**322**	*eP*	x	00 33 15.0	
LCBS				*eS*	x	00 33 36.9	
LFRS	**El Faro**	**1.88**	**320**	*eP*	x	00 33 14.9	
LFRS				*eS*	x	00 33 38.0	
PICS	**Picacho**	**2.09**	**318**⇓	*eP*	x	00 33 05.5	
PICS				*eS*	x	00 33 20.0	
BOQS	**Boqueron**	**2.10**	**317**	*eP*	x	00 33 19.0	
BOQS				*eS*	x	00 33 44.6	
SSNN	**San Juan del S**	**2.12**	**115**⇑	*eP*	Pn	00 33 04.8	0.0
CONN	**Concepcion**	**2.23**	**106**⇓	*eP*	Pn	00 33 06.1	-0.2
MADN	**Villa Maderas**	**2.36**	**109**	*eP*	Pn	00 33 07.7	-0.4
SNJE	**San Jose**	**2.42**	**314**	*eP*	x	00 33 23.0	
SNJE				*eS*	x	00 33 55.0	
RBDL	**Robledal**	**2.65**	**317**	*eP*	x	00 33 26.4	
RBDL				*eS*	x	00 33 59.5	
LIM1	**Limonal**	**2.91**	**120**	*eP*	Pn	00 33 16.3	+0.6
LIM1				*i S*	Sn	00 33 49.8	-0.3

*ISCJB **06** 01:05:00.8±0.4, 47.18S±007×118W±0.1, h10km, mb4.0/18, MS3.8/3, Error ellipse: s-maj=10.8km s-min=10.3km az=166.8*
*IDC **06** 01:05:01.1±0.8, 47.19S×1182W, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/20, mbtmp3.9/11, MS3.7/3, Ms1 3.7/3, ms1mx3.4/16, Error ellipse: s-maj=25.8km s-min=17.0km az=156.0*
*NEIC **06** 01:05:02.5±0.3, 4722S×1184W, h10km, mb4.3/9, Error ellipse: s-maj=10.9km s-min=7.9km az=174.0*
ISC 06 01:05:02.4±0.4, 4727S±007×118W±01, h10km, n32, σ0963/28, mb4.0/18, MS3.8/3, 4D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.52**	**177**⇓	*i*	**P**	**01 10 13.8**	**+1.0**
VNA1				*e*		01 10 15.6	
VNA1				*e*		01 10 25.5	
VNA1				*e*		01 10 40.0	
VNA2	**Neumayer--Watz**	**23.82**	**176**⇓	*i*	**P**	**01 10 15.4**	**-0.2**
	baz=339,slow=9.6						
VNA2				*e*		01 10 17.2	
VNA2				*e*		01 10 27.3	
VNA2				*e*		01 10 41.1	
VNA3	**Neumayer Olymp**	**24.07**	**178**⇓	*i*	**P**	**01 10 17.1**	**-0.8**
VNA3				*e*		01 10 19.0	
VNA3				*e*		01 10 27.8	
SNAA	**Sanae**	**24.84**	**173**⇓	*i*	**P**	**01 10 13.9**	**-11**
SNAA				*e*		01 10 15.6	
SNAA				*e*		01 10 24.8	
SNAA				*e*		01 10 39.5	
SNAA	**Sanae**	**24.84**	**173**	*eP*	**P**	**01 10 13.3**	**-12**
PMSA	**Palmer Station**	**32.83**	**219**	*eP*	**P**	**01 11 36.3**	**+0.2**
BOSA	**Boshof**	**34.24**	**70**	P	**P**	**01 11 48.4**	**0.0**
	1.8nm,0.8s,mb4.0,baz=176,slow=7.9,SNR=4.6						
TSUM	**Tsumeb**	**36.85**	**51**	P	**P**	**01 12 11.2**	**+0.4**
	1.8nm,0.6s,mb4.1,baz=214,slow=9.9,SNR=10						
LBTB	**Lobatse**	**36.99**	**66**	P	**P**	**01 12 12.5**	**+0.5**
	1.4nm,1.0s,mb3.8,baz=339,slow=13,SNR=4.1						
TRQA	**Tornquist**	**37.46**	**265**	*eP*	**P**	**01 12 16.2**	**+0.2**
	2.2nm,0.9s,mb4.0						
CPUP	**Villa Florida**	**41.30**	**284**	*eP*	**P**	**01 12 47.2**	**-0.9**
	2.6nm,0.5s,mb4.1						
MAW	**Mawson**	**41.81**	**146**	P	**P**	**01 12 52.3**	**+0.1**
	2.2nm,0.6s,mb4.0,baz=260,slow=11,SNR=3.1						
PLCA	**Paso Flores**	**41.89**	**257**	P	**P**	**01 12 54.0**	**+1.2**
	2.0nm,1.1s,mb3.7,baz=45,slow=2.9,SNR=3.3						
MATP	**Matopo**	**42.17**	**65**	P	**P**	**01 12 54.8**	**-0.3**
	1.7nm,0.8s,mb3.8,baz=216,slow=15,SNR=4.8						
QSPA	**South Pole Qui**	**42.99**	**180**	*eP*	**P**	**01 13 00.8**	**-1.1**
	7.3nm,1.1s,mb4.3						
BDFB	**Brasilia**	**43.48**	**304**	LR	LR	01 25 49.3	
	comp=Z,58nm,21.5s,MS3.5,baz=98,slow=29						
CFAA	**Coronel Fontan**	**45.32**	**269**	P	**P**	**01 13 19.8**	**-0.7**
	0.2nm,0.7s,mb3.1,baz=148,slow=9.7,SNR=5.2						
CFAA	**Coronel Fontan**	**45.32**	**269**	P	**P**	**01 13 19.8**	**-0.7**
LVC	**Limon Verde**	**51.56**	**278**	P	**P**	**01 14 09.3**	**+0.7**
	1.5nm,0.5s,mb4.2,baz=107,slow=4.1,SNR=5.8						
LVC	**Limon Verde**	**51.56**	**278**	*eP*	**P**	**01 14 09.3**	**+0.7**
	2.0nm,0.5s,mb4.3						
DBIC	**Dimbokro**	**54.05**	**9**	LR	LR	01 32 31.9	
	comp=Z,65nm,18.3s,MS3.7,baz=334,slow=31						
VNDA	**Vanda**	**55.43**	**178**	P	**P**	**01 14 37.1**	**+0.1**
	1.6nm,0.8s,mb4.1,baz=206,slow=5.7,SNR=5.8						
VNDA	**Vanda**	**55.43**	**178**	*eP*	**P**	**01 14 37.2**	**+0.2**
	9.2nm,1.4s,mb4.6						
LPAZ	**La Paz**	**55.48**	**284**	*eP*	**P**	**01 14 37.7**	**+0.3**
	0.6nm,0.4s,mb4.0						
SAML	**Samuel**	**57.78**	**294**	*eP*	**P**	**01 14 53.1**	**-0.7**
	1.8nm,0.5s,mb4.4						
CASY	**Casey**	**58.52**	**156**	*eP*	**P**	**01 14 58.9**	**0.0**
	2.2nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**61.34**	**15**	P	**P**	**01 15 17.5**	**-0.8**
	0.4nm,0.4s,mb3.9,baz=193,slow=9.4,SNR=16						
OTAV	**Otavalo**	**74.52**	**288**	P	**P**	**01 16 42.0**	**+0.8**
SDV	**Santo Domingo**	**76.35**	**300**	*eP*	**P**	**01 16 51.1**	**-0.7**
	2.9nm,0.7s,mb4.3						
MDT	**Midelt**	**79.98**	**6**	LR	LR	01 48 41.3	
	comp=Z,77nm,19.2s,MS4.1,baz=240,slow=33						
ESDC	**Sonseca Array**	**86.84**	**6**	P	**P**	**01 17 47.7**	**+0.6**
	0.5nm,0.6s,mb4.0,baz=173,slow=5.1,SNR=5.1						
PDAR	**Pinedale Array**	**124.27**	**298**	PKP	PKPdf	01 23 59.9	-1.6
	0.3nm,0.6s,baz=123,slow=3.3,SNR=2.7						

NEIC 06 01:13:55.1, 5550N×15948W, h60km, ML3.4(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.59**	**255**	P	Pn	01 14 07.2	-0.7
SDPT				S	Sn	01 14 17.3	-0.1
CHGN	**Chignik**	**1.00**	**36**	P	Pn	01 14 12.2	-0.8
FALS	**False Pass**	**2.35**	**256**	P	Pn	01 14 31.1	-0.2
AKUT	**Akutan**	**3.89**	**252**	*e*Pn	Pn	01 14 52.1	-0.2
AKUT				*e*Sn	Sn	01 15 38.8	+2.0
UNV	**Unalaska Valle**	**4.40**	**251**	*e*Pn	Pn	01 14 58.8	-0.5
UNV				*e*Sn	Sn	01 15 53.9	+4.6
KDAK	**Kodiak Island**	**4.44**	**56**	P	Pn	01 14 58.4	-1.4
SVW2	**Sparrevohn**	**5.97**	**18**	*e*Pn	Pn	01 15 19.5	-1.3
SVW2				*e*Sn	Sn	01 16 24.2	-3.6
SPIA	**Saint Paul Isl**	**6.22**	**290**	P	Pn	01 15 22.9	-1.3
TTA	**Tatalina**	**7.66**	**12**	*e*Pn	Pn	01 15 42.8	-1.1
	8.1nm,0.3s						
TTA				*e*Sn	Sn	01 17 04.7	-4.5
INK	**Inuvik**	**17.52**	**33**	*e*Pn	Pn	01 17 53.9	-1.3

*SZGRF **06** 01:39:04.5, 1133N×4540W, h33km, mb4.7, Northern Mid-Atlantic Ridge*
*ISCJB **06** 01:39:12.9±0.3, 1348N±005×4482W±006, h10km, mb4.3/44, MS3.8/12, Error ellipse: s-maj=9.4km s-min=6.1km az=86.2*
*MOS **06** 01:39:12.9±0.9, 1345N×4479W, h10km, mb4.8/22, Error ellipse: s-maj=18.8km s-min=7.0km az=50.6*
*IDC **06** 01:39:12.4±0.7, 1352N×4484W, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/23, mbtmp4.0/12, MS3.8/12, Ms1 3.8/12, ms1mx3.6/19, Error ellipse: s-maj=26.0km s-min=15.2km az=132.0*
*NEIC **06** 01:39:14.7±0.2, 1346N×4483W, h10km, mb4.5/21, Error ellipse: s-maj=8.5km s-min=5.4km az=133.0*
ISC 06 01:39:15.1±0.3, 1347N±005×4482W±006, h10km, n111, σ0986/105, mb4.3/44, MS3.8/12, 13C-7D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**21.12**	**155**	*eP*	**P**	**01 43 59.3**	**-0.6**
	3.8nm,0.8s,mb3.8						
SDV	**Santo Domingo**	**25.72**	**263**	P	**P**	**01 44 44.3**	**-1.2**
	1.0nm,0.3s,mb3.9,baz=90,slow=6.1,SNR=3.0						
SDV	**Santo Domingo**	**25.72**	**263**	*eP*	**P**	**01 44 44.9**	**-0.6**
	2.3nm,0.6s,mb3.9						
BBSR	**BB Station**	**26.16**	**319**	P	**P**	**01 44 50.1**	**+0.5**
SAML	**Samuel**	**28.78**	**220**	*eP*	**P**	**01 45 13.3**	**+0.3**
	1.4nm,0.6s,mb3.9						
BDFB	**Brasilia**	**29.10**	**186**	P	**P**	**01 45 15.1**	**-0.8**
	3.2nm,0.7s,mb4.2,baz=20,slow=11,SNR=5.5						
BDFB				LR	LR	01 56 58.8	
	comp=Z,108nm,18.1s,MS3.5,baz=352,slow=37						
OTAV	**Otavalo**	**35.81**	**251**	*eP*	**P**	**01 46 15.1**	**+0.6**
	0.9nm,0.4s,mb4.0						
LPAZ	**La Paz**	**37.48**	**219**	P	**P**	**01 46 29.7**	**+0.8**
	2.0nm,0.8s,mb4.0,baz=25,slow=7.7,SNR=10						
LPAZ				LR	LR	02 01 34.3	
	comp=Z,198nm,18.9s,MS3.9,baz=73,slow=36						
LPAZ	**La Paz**	**37.48**	**219**	P	**P**	**01 46 29.7**	**+0.8**
LPAZ				LR	LR	02 01 34.3	
JTS	**JuntasAbangare**	**39.37**	**270**	*eP*	**P**	**01 46 45.7**	**+1.0**
DBIC	**Dimbokro**	**39.89**	**96**	LR	LR	02 02 03.1	
	comp=Z,142nm,18.9s,MS3.8,baz=213,slow=34						
DBIC	**Dimbokro**	**39.89**	**96**	*eP*	**P**	**01 46 48.5**	**-0.5**
MDT	**Midelt**	**41.37**	**55**	P	**P**	**01 47 02.2**	**+0.9**
	3.2nm,1.2s,mb3.8,baz=257,slow=7.6,SNR=4.4						
CPUP	**Villa Florida**	**41.39**	**197**	LR	LR	02 04 11.9	
	comp=Z,91nm,20.5s,MS3.6,baz=56,slow=36						
CPUP	**Villa Florida**	**41.39**	**197**	*eP*	**P**	**01 47 00.6**	**-0.8**
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CPUP	**Villa Florida**	**41.39**	**197**	*eP*	**P**	**01 47 00.6**	**-0.9**
	comp=Z,2.4nm,0.4s,mb4.2						
TEIG	**Tepich**	**42.03**	**285**	*eP*	**P**	**01 47 07.8**	**+1.1**
LVC	**Limon Verde**	**42.93**	**214**	P	**P**	**01 47 14.6**	**+0.6**
ESLA	**Sonseca Array**	**44.35**	**46**	P	**P**	**01 47 25.5**	**0.0**
TORD	**Torodi Ar. Bea**	**45.22**	**85**	P	**P**	**01 47 31.3**	**-1.1**
	comp=Z,1.9nm,0.9s,mb3.9,baz=277,slow=5.9,SNR=13						
CFAA	**Coronel Fontan**	**50.13**	**206**	P	**P**	**01 48 09.9**	**-0.6**
	comp=Z,0.2nm,0.7s,mb3.2,baz=37,slow=5.1,SNR=3.3						
WLF	**Walferdange**	**54.97**	**38**	*eP*	**P**	**01 48 47.1**	**+0.7**
	comp=Z,8.0nm,1.0s,mb4.7						
BFO	**Black Forest**	**55.83**	**40**	*eP*	**P**	**01 48 52.8**	**+0.3**
	comp=Z,10.0nm,1.5s,mb4.6						
BFO	**Black Forest**	**55.83**	**40**	*eP*	**P**	**01 48 52.8**	**+0.3**
BFO				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
BUG	**Bochum--Univer**	**56.32**	**36**	*eP*	**P**	**01 48 56.2**	**+0.2**
	comp=Z,14nm,1.5s,mb4.8						
TNS	**Taunus Mts**	**56.56**	**38**	*eP*	**P**	**01 48 57.7**	**-0.1**
	comp=Z,4.0nm,1.2s,mb4.3						
TNS	**Taunus Mts**	**56.56**	**38**	*eP*	**P**	**01 48 57.7**	**-0.1**
TNS				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
IBBN	**Ibbenburen**	**56.93**	**36**	*eP*	**P**	**01 49 00.8**	**+0.4**
	comp=Z,14nm,0.6s,mb5.2						
FUR	**Furstenfeldbru**	**57.64**	**41**	*eP*	**P**	**01 49 05.1**	**-0.3**
	comp=Z,21nm,1.3s,mb5.0						
FUR	**Furstenfeldbru**	**57.64**	**41**	*eP*	**P**	**01 49 05.1**	**-0.3**
FUR				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.0						
UBBA	**Unterbreizbach**	**57.69**	**38**	*eP*	**P**	**01 49 05.9**	**+0.1**
	comp=Z,5.0nm,1.5s,mb4.3						
GRA1	**Grafenberg Arr**	**58.07**	**39**	*eP*	**P**	**01 49 08.1**	**-0.3**
	comp=Z,6.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**58.07**	**39**	*eP*	**P**	**01 49 08.1**	**-0.3**
	comp=Z,6.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**58.07**	**39**	*eP*	**P**	**01 49 08.1**	**-0.3**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
MOX	**Moxa**	**58.61**	**38**	*eP*	**P**	**01 49 12.1**	**-0.1**
	comp=Z,10.0nm,1.4s,mb4.7						
MOX	**Moxa**	**58.61**	**38**	*eP*	**P**	**01 49 12.6**	**+0.4**
WET	**Wettzell**	**58.94**	**40**	*eP*	**P**	**01 49 14.6**	**+0.1**
	comp=Z,5.0nm,1.1s,mb4.5						
WET	**Wettzell**	**58.94**	**40**	*eP*	**P**	**01 49 14.6**	**+0.1**
WET				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
PLCA	**Paso Flores**	**58.97**	**203**	LR	LR	02 18 24.6	
	comp=Z,115nm,18.2s,MS4.0,baz=219,slow=40						
PLCA	**Paso Flores**	**58.97**	**203**	*eP*	**P**	**01 49 14.1**	**-0.6**
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PLCA	**Paso Flores**	**58.97**	**203**	*eP*	**P**	**01 49 14.1**	**-0.6**
	comp=Z,3.4nm,1.0s,mb4.3						
TANN	**Tannenbergstha**	**59.05**	**39**	*eP*	**P**	**01 49 14.6**	**-0.7**
	comp=Z,13nm,1.6s,mb4.7						
ANMO	**Albuquerque**	**59.23**	**303**⇓	*iP*	**P**	**01 49 17.0**	**+0.5**
KHC	**Kasperske Hory**	**59.38**	**41**	*eP*	**P**	**01 49 16.4**	**-1.2**
GEC2	**GERESS Array S**	**59.38**	**41**	*eP*	**P**	**01 49 16.5**	**-1.1**
	comp=Z,11nm,1.6s,mb4.6						
GEC2	**GERESS Array S**	**59.38**	**41**	*eP*	**P**	**01 49 16.5**	**-1.1**
GEC2				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.6						
GERES	**GERESS Array B**	**59.38**	**41**	P	**P**	**01 49 15.7**	**-1.8**
	comp=Z,0.8nm,1.0s,mb3.7,baz=247,slow=9.5,SNR=7.2						
GERES				LR	LR	02 10 55.8	
	comp=Z,40nm,20.2s,MS3.5,baz=93,slow=32						
GERES	**GERESS Array B**	**59.38**	**41**	P	**P**	**01 49 15.7**	**-1.8**
GERES				LR	LR	02 10 55.8	
CLL	**Collm**	**59.65**	**38**	*eP*	**P**	**01 49 19.5**	**+0.1**
	comp=Z,10.0nm,0.2s,mb5.5						
CLL	**Collm**	**59.65**	**38**	*i P*	**P**	**01 49 19.7**	**+0.3**
	comp=Z,14nm,1.6s,mb4.7						
CLL	**Collm**	**59.65**	**38**	*i P*	**P**	**01 49 19.7**	**+0.3**
CLL				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.7						
BRG	**Berggiesshubel**	**60.09**	**39**	*eP*	**P**	**01 49 22.5**	**+0.1**
	comp=Z,4.0nm,1.2s,mb4.3						
PRU	**Pruhonice**	**60.21**	**40**	*eP*	**P**	**01 49 22.5**	**-0.8**
TREC	**Trest**	**60.63**	**41**	*eP*	**P**	**01 49 25.8**	**-0.4**
UPC	**Upice**	**61.26**	**39**	*eP*	**P**	**01 49 30.4**	**0.0**
VRAC	**Vranov**	**61.34**	**41**⇑	*iP*	**P**	**01 49 28.3**	**-2.7**
VRAC	**Vranov**	**61.34**	**41**⇑	P	**P**	**01 49 28.3**	**-2.6**
DPC	**Dobruska-Polom**	**61.41**	**40**	*eP*	**P**	**01 49 32.1**	**+0.6**
ZST	**Bratislava**	**61.42**	**42**	*eP*	**P**	**01 49 31.9**	**+0.4**
ZST				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
ZST	**Bratislava**	**61.42**	**42**	*eP*	**P**	**01 49 31.9**	**+0.4**
	comp=Z,6.8nm,0.7s,mb4.9						
MORC	**Moravsky Berou**	**62.05**	**41**⇑	*iP*	**P**	**01 49 36.1**	**+0.4**
MORC	**Moravsky Berou**	**62.05**	**41**⇑	P	**P**	**01 49 36.1**	**+0.4**
PKSM	**Moragy**	**62.07**	**45**⇓	*iP*	**P**	**01 49 35.3**	**-0.6**
SRO1	**Iza**	**62.08**	**43**	*eP*	**P**	**01 49 36.5**	**+0.6**
SRO	**Srobarova**	**62.14**	**43**	*eP*	**P**	**01 49 35.4**	**-1.0**
SRO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
SRO	**Srobarova**	**62.14**	**43**	*eP*	**P**	**01 49 35.4**	**-1.0**
	comp=Z,12nm,1.1s,mb5.0						
NOA	**NORSAR Array B**	**62.18**	**27**	P	**P**	**01 49 35.3**	**-1.3**
	comp=Z,1.5nm,1.0s,mb4.1,baz=247,slow=7.0,SNR=3.2						
NOA				LR	LR	02 10 37.5	
	comp=Z,42nm,20.2s,MS3.6,baz=250,slow=30						
SRO2	**Moca**	**62.19**	**43**	*eP*	**P**	**01 49 37.2**	**+0.5**
SRO2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
OKC	**Ostrava-Krasne**	**62.44**	**41**	*eP*	**P**	**01 49 37.8**	**-0.6**
PDAR	**Pinedale Array**	**62.46**	**311**	P	**P**	**01 49 37.9**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.8,baz=122,slow=7.9,SNR=5.4						
PDAR				LR	LR	02 13 56.8	
	comp=Z,37nm,20.6s,MS3.5,baz=313,slow=33						
PDAR	**Pinedale Array**	**62.46**	**311**	P	**P**	**01 49 37.9**	**-0.6**
PDAR				LR	LR	02 13 56.8	
VYHS	**Vyhne**	**62.62**	**42**	*eP*	**P**	**01 49 39.0**	**-0.5**
VYHS				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.7						
VYHS	**Vyhne**	**62.62**	**42**	*eP*	**P**	**01 49 39.0**	**-0.5**
	comp=Z,9.4nm,1.5s,mb4.7						
VYHS				*e*		01 49 49.1	
KECS	**Kecovo**	**63.69**	**42**	*eP*	**P**	**01 49 47.8**	**+1.1**
KECS				*e*		01 49 56.0	
KECS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
KECS	**Kecovo**	**63.69**	**42**	*eP*	**P**	**01 49 47.8**	**+1.1**
	comp=Z,3.1nm,1.1s,mb4.2						
KECS				*e*		01 49 56.0	
NIE	**Niedzica**	**63.74**	**41**	*eP*	**P**	**01 49 48.9**	**+1.9**
BZS	**Buzias**	**64.04**	**46**⇓	*iP*	**P**	**01 49 48.7**	**-0.3**
BZS	**Buzias**	**64.04**	**46**⇓	P	**P**	**01 49 48.6**	**-0.3**
STHS	**Stebnicka Huta**	**64.34**	**41**	*eP*	**P**	**01 49 52.5**	**+1.6**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
STHS	**Stebnicka Huta**	**64.34**	**41**	*eP*	**P**	**01 49 52.5**	**+1.6**
	comp=Z,2.9nm,1.3s,mb4.2						
BGU	**Big Grassy Mou**	**64.87**	**309**	*eP*	**P**	**01 49 53.3**	**-1.1**
CCUT	**Cedar City**	**64.95**	**305**	*eP*	**P**	**01 49 54.9**	**-0.1**
KWP	**Kalwaria**	**65.32**	**41**	*eP*	**P**	**01 49 58.4**	**+1.1**
MLR	**Muntele Rosu**	**67.05**	**46**⇑	*iP*	**P**	**01 50 09.5**	**+1.1**
MLR	**Muntele Rosu**	**67.05**	**46**⇑	P	**P**	**01 50 09.5**	**+1.1**
VRI	**Vrincioaia**	**67.62**	**46**⇑	*iP*	**P**	**01 50 13.0**	**+0.9**
VRI	**Vrincioaia**	**67.62**	**46**⇑	P	**P**	**01 50 13.0**	**+0.9**
FINES	**FINESS Array B**	**69.15**	**29**	LR	LR	02 15 18.6	
	comp=Z,51nm,20.8s,MS3.7,baz=198,slow=31						
TSUM	**Tsumeb**	**69.50**	**117**	*eP*	**P**	**01 50 25.2**	**+1.4**
	comp=Z,2.8nm,1.0s,mb4.2						
AKASG	**Malin Array Be**	**69.59**	**41**	P	**P**	**01 50 23.1**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=267,slow=5.9,SNR=17						
AKASG	**Malin Array Be**	**69.59**	**41**	*i P*	**P**	**01 50 23.2**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**70.62**	**21**	P	**P**	**01 50 29.1**	**-1.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=266,slow=6.2,SNR=5.5						
ARCES				LR	LR	02 14 17.4	
	comp=Z,63nm,20.4s,MS3.9,baz=243,slow=30						
BRTR	**Keskin Array B**	**72.70**	**52**	P	**P**	**01 50 42.5**	**-0.6**
	comp=Z,2.5nm,1.1s,mb4.1,baz=262,slow=5.6,SNR=9.0						
OBN	**Obninsk**	**74.15**	**36**	*eP*	**P**	**01 50 51.8**	**+0.1**
OBN				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.0						
ANN	**Anapa**	**75.17**	**47**	*eP*	**P**	**01 51 07.8**	**+10**
VRSR	**Storozhevoye**	**75.89**	**40**	*eP*	**P**	**01 51 01.8**	**0.0**
VRSR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
VRSR				pmax	pmax		
	comp=N,3.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,6.0nm,1.0s						
MBAR	**Mbarara**	**76.11**	**94**⇓	*eP*	**P**	**01 51 06.5**	**+3.5**
SUR	**Sutherland**	**77.51**	**128**	*eP*	**P**	**01 51 12.0**	**+1.1**
	comp=E,3.2nm,0.8s,mb4.3						
LBTB	**Lobatse**	**78.55**	**119**	*eP*	**P**	**01 51 17.4**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LBTB	**Lobatse**	**78.55**	**119**	*eP*	**P**	**01 51 17.4**	**+0.7**
	comp=Z,2.2nm,0.7s,mb4.2						
KIV	**Kislovodsk**	**79.01**	**47**⇑	*eP*	**P**	**01 51 19.9**	**+0.7**
KIV				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.5						
BOSA	**Boshof**	**79.56**	**123**	P	**P**	**01 51 22.5**	**+0.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=260,slow=5.8,SNR=3.4						
BOSA				LR	LR	02 18 54.2	
	comp=Z,104nm,18.6s,MS4.2,baz=221,slow=30						
BOSA	**Boshof**	**79.56**	**123**	P	**P**	**01 51 22.5**	**+0.3**
BOSA				LR	LR	02 18 54.2	
GNI	**Garni**	**81.12**	**51**⇑	*eP*	**P**	**01 51 32.5**	**+1.8**
GNI				pmax	pmax		
	comp=Z,13nm,1.7s					

JTS					*e*S		Sn	02 11 44.9	+2.1
JTS					AML		AML	02 11 50.4	
	comp=N,11nm,0.3s								
PTP	**Ponta Puerca**	**19.12**	**59**	*e*S				02 10 56.6	

NEIC ***06*** *02:12:07.2±3.3,279S×135.70E, h35km, mb4.1/4, Error ellipse: s-maj=47.1km s-min=32.7km az=180.0*
ISCJB ***06*** *02:12:08.2±3.2, 30S±01×136.1E±0.1, h45km±29km, mb4.0/3, MS3.6/1, Error ellipse: s-maj=28.0km s-min=15.5km az=65.0*
IDC ***06*** *02:12:11.7±5.4, 289S×136.15E, h61km±52km, mb3.7/3, mb1 3.8/5, mb1mx3.7/12, mbtmp3.9/5, ML3.9/2, MS3.7/1, Ms1 3.7/1, ms1mx2.6/18, Error ellipse: s-maj=54.7km s-min=19.0km az=85.0*

ISC 06 02:12:08.0±3.5, 287S±010×1363E±02, h29km±27km, n16, σ1§14/20, mb4.0/3, MS3.6/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.51**	**201**	*e*P	**Pn**	**02 14 37.4**	**+0.8**
	18nm,0.5s						
KAKA				*e*S	**Sn**	**02 16 33.4**	**+0.1**
WRAB	**Tennant Creek**	**17.07**	**186**	*e*Pn	**Pn**	**02 16 02.6**	**-1.8**
	44nm,1.4s						
WB2	**Warramunga Arr**	**17.08**	**186**	*e*P	**Pn**	**02 16 02.9**	**-1.6**
WRA	**Warramunga Arr**	**17.08**	**186**	P	**Pn**	**02 16 02.9**	**-1.6**
	0.6nm,0.3s,baz=11,slow=13,SNR=7.7						
WRA				S	**Sn**	**02 19 05.8**	**-7.7**
	0.1nm,0.3s,baz=9.4,slow=21,SNR=4.5						
FITZ	**Fitzroy Crossi**	**18.41**	**214**	*e*P	**Pn**	**02 16 22.4**	**+1.5**
	8.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.41**	**214**	P	**Pn**	**02 16 20.2**	**-0.7**
	0.3nm,0.3s,baz=27,slow=11,SNR=8.6						
FITZ				S	**Sn**	**02 19 37.1**	**-8.6**
	0.2nm,0.3s,baz=167,slow=20,SNR=3.6						
CTA	**Charters Tower**	**19.66**	**151**	P	**Pn**	**02 16 36.8**	**+0.7**
	0.3nm,0.3s,baz=327,slow=13,SNR=3.3						
CTAO	**Charters Tower**	**19.66**	**151**	P	**Pn**	**02 16 37.1**	**+1.1**
	3.0nm,0.6s						
AS31	**Alice Springs**	**20.80**	**186**	*e*P	**P**	**02 16 48.1**	**+1.2**
ASAR	**Alice Springs**	**20.81**	**186**	P	**P**	**02 16 48.1**	**+1.2**
	9.9nm,0.7s,baz=10,slow=10,SNR=40						
ASAR				S	**S**	**02 20 37.2**	**-0.3**
	0.7nm,0.7s,baz=6.1,slow=27,SNR=3.5						
ASAR	**Alice Springs**	**20.81**	**186**	P	**P**	**02 16 48.1**	**+1.2**
ASAR				S	**S**	**02 20 37.2**	**-0.3**
ASPA	**Alice Springs**	**20.81**	**186**	*e*P	**P**	**02 16 48.1**	**+1.2**
MBWA	**Marble Bar**	**24.32**	**220**	*e*P	**P**	**02 17 17.5**	**-5.5**
	32nm,1.1s,mb4.7						
MJAR	**Matsushiro Arr**	**39.25**	**2**	LR	LR	02 33 49.3	
	comp=Z,91nm,18.2s,MS3.6,baz=260,slow=33						
MKAR	**Makanchi Array**	**68.48**	**323**	P	**P**	**02 23 07.2**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=111,slow=7.9,SNR=3.2						
VNDA	**Vanda**	**75.84**	**174**	P	**P**	**02 23 50.5**	**-0.9**
	1.6nm,0.9s,mb3.9,baz=348,slow=6.9,SNR=5.8						

MAN 06 02:23:49.9, 1225N×12522E, h38km, mb2.6, ML4.1, MS4.0, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.68**	**162**	*e*P	Pn	02 24 03.8	+0.7
BESP				*e*S	Sn	02 24 14.0	+1.6
PLP	**Palo**	**1.11**	**192**	*i* P	Pn	02 24 09.3	+0.4
PLP				*e*S	Sn	02 24 23.9	+0.9
OCLP	**Ormoc**	**1.33**	**207**	*e*P	Pn	02 24 14.0	+1.9
PVCP	**Virac**	**1.69**	**322**	*e*P	Pn	02 24 17.9	+1.0
MSLP	**Maasin**	**2.13**	**190**	*e*P	Pn	02 24 24.8	+1.8
MSLP				*e*S	Sn	02 24 55.3	+7.0
SCPH	**Surigao**	**2.47**	**174⇑**	*e*P	Pn	02 24 28.8	+1.2
RCP	**Roxas**	**2.52**	**254⇓**	*e*P	Pn	02 24 29.2	+0.9
RCP				*e*S	Sn	02 24 59.6	+1.8
GUIM	**Jordan**	**3.04**	**238**	*e*P	Pn	02 24 35.8	+0.3
PAGZ	**Pagadian**	**4.74**	**203**	*e*P	Pn	02 24 58.2	-0.6

MOS ***06*** *02:52:45.8±1.9, 1773S×17902W, h455km, mb4.8/5, Error ellipse: s-maj=20.3km s-min=12.2km az=157.2*
ISCJB ***06*** *02:52:47.1±0.8, 1751S±008×17863W±007, h520km±11km, mb4.7/24, Error ellipse: s-maj=13.6km s-min=8.4km az=118.0*
IDC ***06*** *02:52:47.3±1.4, 1752S×17857W, h512km±17km, mb3.8/9, mb1 4.0/11, mb1mx3.9/16, mbtmp4.8/11, Error ellipse: s-maj=17.4km s-min=11.1km az=141.0*
NEIC ***06*** *02:52:54.7±0.4, 1795S×179.19W, mb4.8/17, Error ellipse: s-maj=16.7km s-min=11.1km az=137.0*

ISC 06 02:52:47.9±0.7, 1752S±008×17855W±007, h517km±10km, n96, σ0§79/61, mb4.7/24, 5C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.45**	**62**	P	**P**	**02 54 39.1**	**+0.1**
	7.4nm,0.3s,baz=65,slow=3.2,SNR=12						
AFI				S	**S**	**02 56 08.7**	**-1.5**
	2.4nm,0.3s,baz=288,slow=23,SNR=3.2						
AFI	**Afiamalu**	**7.45**	**62**	*e*P	**P**	**02 54 39.1**	**+0.1**
AFI				*e*S	**S**	**02 56 10.3**	**+0.1**
DZM	**Mont Dzumac**	**14.83**	**250**	P	**P**	**02 55 56.2**	**+0.2**
	3.0nm,0.3s,baz=69,slow=20,SNR=10						
NOUC	**Port Laguerre**	**14.96**	**250**	*e*P	**P**	**02 55 58.0**	**+0.6**
URZ	**Urewera**	**21.01**	**190**	P	**P**	**02 56 53.4**	**-1.2**
	13nm,0.6s,mb4.8,baz=0.6,slow=2.1,SNR=7.8						
URZ				S	**S**	**03 00 06.3**	**-8.2**
	3.9nm,0.5s,baz=24,slow=22,SNR=3.4						
SNZO	**South Karori**	**24.41**	**192**	*e*P	**P**	**02 57 24.6**	**-0.4**
	27nm,0.8s,mb4.9						
RPZ	**Rata Peaks**	**27.55**	**196**	P	**P**	**02 57 52.9**	**+0.1**
	10nm,0.5s,mb4.8,baz=3.6,slow=2.6,SNR=7.0						
ARMA	**Armidale**	**30.02**	**239⇓**	*i* P	**P**	**02 58 15.5**	**+1.2**
CTA	**Charters Tower**	**33.38**	**260**	*e*P	**P**	**02 58 43.0**	**0.0**
	16nm,0.9s,mb4.5						
CTA	**Charters Tower**	**33.38**	**260**	*e*P	**P**	**02 58 43.0**	**0.0**
CTA				pmax	pmax		
	comp=Z,16nm,0.9s						
CTAO	**Charters Tower**	**33.38**	**260**	*e*P	**P**	**02 58 43.0**	**0.0**
CTAO				pmax	pmax		
	comp=Z,32nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**33.38**	**260**	*e*P	**P**	**02 58 43.0**	**0.0**
	comp=Z,32nm,1.1s,mb4.8						
CNB	**Canberra Magne**	**33.55**	**232**	*e*P	**P**	**02 58 45.4**	**+0.9**
	comp=Z,74nm,0.6s,mb5.4						
PMG	**Port Moresby**	**34.26**	**279**	P	**P**	**02 58 51.6**	**+1.2**
	comp=Z,45nm,0.9s,mb5.0,baz=72,slow=4.0,SNR=7.7						
PMG	**Port Moresby**	**34.26**	**279**	*e*P	**P**	**02 58 51.4**	**+1.0**
PMG				pmax	pmax		
	comp=Z,66nm,1.0s						
PMG	**Port Moresby**	**34.26**	**279**	*e*P	**P**	**02 58 51.4**	**+1.0**
	comp=Z,66nm,1.0s,mb5.1						
TOO	**Toolangi**	**37.31**	**230**	*e*P	**P**	**02 59 16.7**	**+1.0**
	comp=Z,63nm,0.9s,mb5.2						
TOO	**Toolangi**	**37.31**	**230**	*e*P	**P**	**02 59 16.7**	**+1.0**
TOO				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.2						
TAU	**Tasmania Unive**	**38.44**	**222**	*e*P	**P**	**02 59 25.6**	**+0.7**
STKA	**Stephens Creek**	**38.70**	**241⇓**	*i* P	**P**	**02 59 25.9**	**-1.1**
	comp=Z,30nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**02 59 26.0**	**-1.0**
	comp=Z,46nm,0.7s,mb5.1,baz=90,slow=9.4,SNR=108						
STKA	**Stephens Creek**	**38.70**	**241**	*e*P	**P**	**02 59 25.8**	**-1.2**
WB2	**Warramunga Arr**	**44.56**	**259⇓**	*i* P	**P**	**03 00 12.6**	**-0.8**
WRAB	**Tennant Creek**	**44.56**	**259**	*d* P	**P**	**03 00 12.5**	**-0.9**
WRAB	**Tennant Creek**	**44.56**	**259**	*e*P	**P**	**03 00 12.6**	**-0.7**
	comp=Z,23nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**44.57**	**259**	P	**P**	**03 00 12.6**	**-0.8**
	comp=Z,14nm,0.6s,mb4.7,baz=96,slow=6.9,SNR=81						
WRA				S	**S**	**03 06 05.5**	**-5.7**
	comp=Z,0.9nm,0.8s,baz=94,slow=14,SNR=4.4						
AS31	**Alice Springs**	**44.76**	**254⇓**	*i* P	**P**	**03 00 15.0**	**0.0**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**03 00 15.1**	**+0.1**
	comp=Z,144nm,0.7s,mb5.6,baz=88,slow=8.1,SNR=956						
ASAR				PcP	PcP	03 01 45.2	-0.8
	comp=Z,3.0nm,0.7s,baz=102,slow=4.5,SNR=4.0						
ASAR				S	**S**	**03 06 10.7**	**-3.3**
	comp=Z,3.3nm,0.9s,baz=88,slow=16,SNR=14						
ASPA	**Alice Springs**	**44.77**	**254⇓**	*i* P	**P**	**03 00 15.0**	**0.0**
KAKA	**Kakadu**	**47.45**	**269**	*e*P	**P**	**03 00 34.8**	**-0.6**
	comp=Z,20nm,0.4s,mb5.0						
FORT	**Forrest**	**50.05**	**244⇓**	*i* P	**P**	**03 00 54.2**	**-0.5**
	comp=Z,76nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**52.96**	**260⇓**	*i* P	**P**	**03 01 15.8**	**+0.1**
	comp=Z,9.4nm,0.4s,mb4.5						
MBWA	**Marble Bar**	**58.04**	**256**	*e*P	**P**	**03 01 50.4**	**-0.6**
	comp=Z,26nm,0.8s,mb4.5						
KLBR	**Kellerberrin**	**58.88**	**243⇓**	*i* P	**P**	**03 01 56.0**	**-0.8**
	comp=Z,47nm,0.7s,mb4.8						
NWAO	**Narrogin (SRO)**	**59.27**	**242**	*e*P	**P**	**03 01 59.1**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**59.27**	**242**	*e*P	**P**	**03 01 59.1**	**-0.3**
	comp=Z,6.9nm,0.7s,mb4.0						
MUN	**Mundaring**	**60.18**	**243**	*e*P	**P**	**03 02 05.5**	**+0.1**
SBA	**Scott Base**	**60.79**	**184**	*e*P	**P**	**03 02 11.6**	**+2.1**
SBA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
SBA	**Scott Base**	**60.79**	**184**	*e*P	**P**	**03 02 11.6**	**+2.1**
	comp=Z,8.8nm,1.0s,mb4.0						
VNDA	**Vanda**	**60.82**	**185**	P	**P**	**03 02 09.8**	**+0.1**
	comp=Z,3.1nm,0.9s,mb3.6,baz=352,slow=7.8,SNR=14						
VNDA	**Vanda**	**60.82**	**185**	*e*P	**P**	**03 02 10.1**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VNDA	**Vanda**	**60.82**	**185**	*e*P	**P**	**03 02 10.1**	**+0.5**
	comp=Z,4.8nm,1.1s,mb3.7						
CASY	**Casey**	**66.43**	**205**	*e*P	**P**	**03 02 45.5**	**0.0**
	comp=Z,13nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**72.53**	**180**	*e*P	**P**	**03 03 22.8**	**+0.7**
	comp=Z,16nm,0.8s,mb4.5						
YSS	**Yuzh-Sakhalins**	**73.01**	**333**	*e*P	**P**	**03 03 26.2**	**+1.4**
YSS				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.4						
YBH	**Yreka Blue Hor**	**78.31**	**39**	P	**P**	**03 03 54.1**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=214,slow=3.6,SNR=3.0						
NVAR	**Mina Array Bea**	**79.24**	**44**	P	**P**	**03 03 59.9**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=233,slow=12,SNR=8.7						
NVAR				pP	pP	03 05 56.4	+6.1
	comp=Z,0.9nm,0.8s,baz=216,slow=8.5,SNR=5.2						
ANMO	**Albuquerque**	**85.96**	**52⇑**	*i* P	**P**	**03 04 33.1**	**0.0**
HIA	**Hailar**	**85.98**	**325**	*e*P	**P**	**03 04 33.5**	**+0.3**
PDAR	**Pinedale Array**	**87.17**	**43**	P	**P**	**03 04 39.1**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.6,baz=240,slow=2.9,SNR=8.2						
PDAR				pP	pP	03 06 40.0	+7.3
	comp=Z,1.0nm,1.0s,baz=264,slow=3.0,SNR=5.8						
YAK	**Yakutsk**	**89.17**	**338**	*e*P	**P**	**03 04 47.5**	**-0.6**
YAK				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.2						
SYO	**Syowa Base**	**89.50**	**193⇓**	*e*P	**P**	**03 04 47.2**	**-2.5**
SNAA	**Sanae**	**90.98**	**179⇑**	*i* P	**P**	**03 04 44.5**	**-12**
VNA3	**Neumayer Olymp**	**91.13**	**176⇑**	*i* P	**P**	**03 04 57.1**	**-0.1**
VNA3				*e*		03 04 57.5	
VNA3				*e*		03 05 07.1	
VNA2	**Neumayer--Watz**	**91.57**	**177⇑**	*i* P	**P**	**03 04 59.4**	**+0.2**
	baz=210,slow=4.1						
VNA2				*e*		03 05 09.2	
VNA1	**Neumayer--Stat**	**91.80**	**177⇑**	*i* P	**P**	**03 05 00.4**	**+0.1**
VNA1				*e*		03 05 01.0	
VNA1				*e*		03 05 10.8	
SOC	**Sochi**	**138.59**	**317**	*i* PKHKP	PKPdf	03 11 13.4	-1.2
SOC				*e*		03 14 15.3	
SOC				*e*PPP		03 17 20.2	
SOC				pmax	pmax		
	comp=Z,17nm,0.7s						
ANN	**Anapa**	**139.45**	**320**	*i* PKIKP	PKPdf	03 11 21.3	+5.1
ANN				pmax	pmax		
	comp=Z,25nm,1.1s						
EKA	**Eskdalemuir Ar**	**142.09**	**4**	PKP	PKPdf	03 11 17.7	-3.3
	comp=Z,0.3nm,0.7s,baz=297,slow=3.1,SNR=3.8						
BR131	**Keskin Array S**	**144.41**	**315**	*e*PKPdf	PKPdf	03 11 24.9	-0.1
BRTR	**Keskin Array B**	**144.41**	**315**	PKP	PKPdf	03 11 24.8	-0.3
	comp=Z,1.5nm,0.7s,baz=108,slow=3.4,SNR=10						
CLL	**Collm**	**145.06**	**347**	*i,i*(P)	PKPdf	03 11 26.2	+0.1
	comp=Z,4.0nm,0.7s						
CLL	**Collm**	**145.06**	**347**	*i,i*PKHKP	PKPdf	03 11 26.2	+0.1
CLL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MOX	**Moxa**	**145.97**	**348**	*e*PKP	PKPdf	03 11 29.1	+1.5
TNS	**Taunus Mts**	**146.90**	**352**	*e*PKHKP	PKPbc	03 11 31.1	-0.9
WET	**Wettzell**	**147.12**	**346**	*e*PKHKP	PKPbc	03 11 32.5	-0.1
GEC2	**GERESS Array S**	**147.21**	**345**	*e*PKHKP	PKPbc	03 11 32.6	-0.3
GERES	**GERESS Array B**	**147.21**	**345**	PKPbc	PKPbc	03 11 32.3	-0.5
	comp=Z,1.3nm,0.6s,baz=27,slow=3.2,SNR=16						
GIVF	**Givet**	**147.39**	**356**	*e*PKP1	PKPbc	03 11 32.8	-0.5
BAIF	**Baives**	**147.47**	**357**	*e*PKP1	PKPbc	03 11 33.1	-0.4
BFO	**Black Forest**	**148.76**	**351**	*e*PKIKP	PKPbc	03 11 35.9	-0.9
FLN	**La Foliniere**	**148.80**	**2**	*e*PKP1	PKPbc	03 11 36.1	-0.8
	comp=Z,11nm,0.7s						
CDF	**Champ du Feu**	**148.83**	**352**	*e*PKP1	PKPbc	03 11 36.5	-0.4
	comp=Z,4.9nm,0.8s						
LDF	**La Druitiere**	**148.98**	**2**	*e*PKP1	PKPbc	03 11 36.4	-0.9
ROSF	**Rostrenen**	**149.03**	**6**	*e*PKP1	PKPbc	03 11 36.9	-0.5
GRR	**Gorron**	**149.16**	**3**	*e*PKP1	PKPbc	03 11 37.1	-0.7
	comp=Z,10nm,0.7s						
SGMF	**Saint Gilles**	**149.18**	**5**	*e*PKP1	PKPbc	03 11 37.0	-0.8
	comp=Z,11nm,0.9s						
HINF	**Hinteralfeld**	**149.46**	**353**	*e*PKP1	PKPbc	03 11 37.7	-0.8
	comp=Z,4.7nm,0.8s						
LJU	**Ljubljana**	**149.55**	**342**	*i* PKPbc	PKPbc	03 11 36.4	-2.3
LJU				*i*		03 11 38.2	
BOJS	**Bojanci**	**149.81**	**341**	*i* PKPbc	PKPbc	03 11 36.6	-2.7
BOJS				*e*		03 11 39.6	
DAVOX	**Davos**	**150.00**	**348**	PKPbc	PKPbc	03 11 39.9	+0.1
	comp=Z,5.5nm,0.5s,baz=300,slow=2.4,SNR=13						
LOR	**Lormes**	**150.27**	**357**	*e*PKP1	PKPbc	03 11 40.6	+0.2
	comp=Z,5.1nm,0.5s						
SSF	**Saint Saulge**	**150.49**	**357**	*e*PKP1	PKPbc	03 11 40.6	-0.3
	comp=Z,5.0nm,0.5s						
CABF	**La Chapelle**	**150.74**	**353**	*e*PKP1	PKPbc	03 11 41.5	0.0
	comp=Z,8.1nm,0.9s						
AVF	**Avril sur Loir**	**150.77**	**357**	*e*PKP1	PKPbc	03 11 40.7	-0.8
	comp=Z,1.5nm,0.4s						
SMF	**Signal de Mont**	**150.89**	**357**	*e*PKP1	PKPbc	03 11 41.3	-0.5
MFF	**Saint Martin d**	**150.97**	**2**	*e*PKP1	PKPbc	03 11 41.3	-0.7
	comp=Z,2.5nm,0.5s						
BGF	**Bois d'Agland**	**151.02**	**358**	*e*PKP1	PKPbc	03 11 41.2	-0.9
	comp=Z,3.3nm,0.4s						
TCF	**Toulx Ste Croi**	**151.31**	**359**	*e*PKP1	PKPbc	03 11 42.8	0.0
	comp=Z,2.6nm,0.5s						
LPL	**La Plagne**	**151.74**	**352**	*e*PKP1	PKPbc	03 11 43.5	-0.2
LPG	**La Plagne**	**151.76**	**352**	*e*PKP1	PKPbc	03 11 43.3	-0.5
ORIF	**Oris-en-Rattie**	**152.44**	**353**	*e*PKP1	PKPbc	03 11 45.1	-0.2
MBDF	**Montbardon**	**152.51**	**352**	*e*PKP1	PKPbc	03 11 45.2	-0.2
VIVF	**Saint-Julien-l**	**152.62**	**355**	*e*PKP1	PKPbc	03 11 44.9	-0.8
	comp=Z,3.0nm,0.5s						
FRF	**La Foret Royal**	**153.67**	**351**	*e*PKP1	PKPbc	03 11 48.1	+0.2
TORD	**Torodi Ar. Bea**	**175.64**	**183**	PKPab	PKPab	03 13 40.1	+0.1
	comp=Z,0.8nm,0.8s,baz=172,slow=4.2,SNR=5.6						

CSEM ***06*** *03:12:04.8±3.8, 7855N×782E, h10km, ML2.0, Error ellipse: s-maj=106.1km s-min=24.4km az=109.0*
ISCJB ***06*** *03:12:05.2±2.2, 7828N±006×89E±07, h10km, Error ellipse: s-maj=21.4km s-min=8.6km az=7.2*
BER ***06*** *03:12:05.8±3.2, 7844N×8.13E, h6km±23km, MD2.2, ML2.6, ML2.1(NAO)*
NAO ***06*** *03:12:06.3±4.0, 7845N×845E, h5km±23km, ML2.0*

ISC 06 03:12:06.7±2.4, 7828N±006×91E±08, h10km, n8, σ1§01/13, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.85**	**40**	Pg	**Pg**	**03 12 21.9**	**-1.3**
KBS				Lg		03 12 34.3	
KBS	**Kingsbay**	**0.85**	**40**	*e*P	**Pg**	**03 12 21.7**	**-1.4**
KBS				*e*S	**Sg**	**03 12 34.3**	**0.0**
KBS				AML	AML	03 12 37.2	
	comp=Z,151nm,0.2s						
KBS	**Kingsbay**	**0.85**	**40**	Pg	**Pg**	**03 12 21.9**	**-1.3**
KBS				*e*S	**Sg**	**03 12 34.3**	**0.0**
	comp=Z,151nm,0.2s,SNR=70						
SPA0	**Spitsbergen Ar**	**1.49**	**91**	Pn	**Pn**	**03 12 34.6**	**+1.1**
	baz=297,slow=8.6						
SPA0				Lg		03 12 57.8	
	baz=282,slow=22						
HSP	**Hornsund**	**1.89**	**130**	*e*P	**Pn**	**03 12 39.0**	**+0.1**
HOPEN	**Hopen**	**3.90**	**109**	*e*P	**Pn**	**03 13 07.1**	**+0.5**
HOPEN				*e*S	**Sn**	**03 13 53.0**	**+0.5**
HOPEN				AML	AML	03 13 55.3	
	comp=N,48nm,0.2s						
ARA0	**ARCESS Array S**	**9.83**	**144**	Pn	**Pn**	**03 14 29.1**	**+1.0**
	baz=340,slow=12						
ARA0				Sn	**Sn**	**03 16 16.3**	**-2.2**
	baz=352,slow=22						
ARA0	**ARCESS Array S**	**9.83**	**144**	Pn	**Pn**	**03 14 29.0**	**+0.9**
	SNR=9.7						
ARA0				Sn	**Sn**	**03 16 16.3**	**-2.2**
	SNR=5.5						

IDC ***06*** *03:23:05.9±2.1, 6.19S×129.95E, h0km, mb4.1/1, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, ML3.8/3, Error ellipse: s-maj=92.8km s-min=27.3km az=77.0*
NEIC ***06*** *03:23:14.4±1.1, 672S×129.49E, h35km, Error ellipse: s-maj=42.7km s-min=10.9km az=58.0*
ISCJB ***06*** *03:23:24.2±1.9, 707S±009×1297E±0.1, h206km±23km, mb3.8/1, Error ellipse: s-maj=21.7km s-min=13.5km az=128.6*

ISC 06 03:23:23.2±1.6, 702S±009×1295E±01, h160km±16km, n9, σ1§25/16, mb3.9/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.35**	**153**	*e*P	**Pn**	**03 24 55.7**	**+1.1**
	15nm,0.2s						
KAKA				*e*S	**Sn**	**03 26 05.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.64**	**198**	*e*P	**Pn**	**03 26 06.7**	**+2.4**
	4.2nm,0.6s						
FITZ				*e*S	**Sn**	**03 28 13.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.64**	**198**	Pn	**Pn**	**03 26 06.7**	**+2.4**
	0.5nm,0.3s,baz=26,slow=13,SNR=16						
FITZ				Sn	**Sn**	**03 28 11.0**	**-2.2**
	0.2nm,0.3s,baz=103,slow=17,SNR=3.1						
WRA	**Warramunga Arr**	**13.68**	**160**	Pn	**Pn**	**03 26 29.7**	**-0.8**
	0.3nm,0.3s,baz=344,slow=12,SNR=7.4						
WRA				Sn	**Sn**	**03 28 56.1**	**-6.1**
	0.9nm,0.3s,baz=332,slow=23,SNR=8.3						
WB2	**Warramunga Arr**	**13.68**	**160**	*e*P	**Pn**	**03 26 29.7**	**-0.9**
WB2				*e*S	**Sn**	**03 28 56.1**	**-6.1**
ASAR	**Alice Springs**	**17.08**	**166**	P	**Pn**	**03 27 14.9**	**+2.6**
	0.5nm,0.3s,baz=347,slow=10,SNR=22						
ASAR				S	**S**	**03 30 21.5**	**+0.2**
	0.2nm,0.3s,baz=358,slow=27,SNR=4.8						
ASAR	**Alice Springs**	**17.08**	**166**	P	**Pn**	**03 27 14.9**	**+2.6**
ASAR				S	**S**	**03 30 21.5**	**+0.2**
KSM	**Kuching**	**20.92**	**293**	*e*P	**P**	**03 27 52.8**	**-0.3**
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**03 34 04.0**	**-0.8**
	0.9nm,0.4s,mb3.9,baz=120,slow=8.2,SNR=9.5						

BJI ***06*** *03:30:09.0, 4738N×15386E, h66km, mB4.7, mb4.8, Ms3.8, Msz3.5*
MOS ***06*** *03:30:09.1±0.9, 4739N×15355E, h49km, mb5.2/74, Error ellipse: s-maj=8.0km s-min=4.4km az=104.7*
ISCJB ***06*** *03:30:09.5±0.3, 4721N±004×15363E±005, h59km, mb4.9/151, MS3.8/12, Error ellipse: s-maj=6.6km s-min=2.7km az=97.3*
SKHL ***06*** *03:30:10.6±1.0, 4720N×15390E, h51km±19km, mb5.2/9, ms3.9/1, msh5.3/1*
JMA ***06*** *03:30:10.9±0.9, 4715N×15380E, h30km, M5.2*
SZGRF ***06*** *03:30:11.5, 4757N×15344E, h33km, mb4.9, Kuril Islands, Russia*
NEIC ***06*** *03:30:11.1±0.9, 4717N×15378E, h64km±7km, mb4.9/83, Error ellipse: s-maj=8.6km s-min=4.9km az=140.0*
IDC ***06*** *03:30:12.8±3.5, 4720N×15365E, h78km±31km, mb4.2/18, mb1 4.3/20, mb1mx4.3/22, mbtmp4.5/20, MS3.6/7, Ms1 3.6/7, ms1mx3.1/25, Error ellipse: s-maj=16.9km s-min=13.8km az=117.0*
BGS ***06*** *03:30:17.0±1.7, 4921N×15789E, h33km, mb5.0*

ISC 06 03:30:11.4±0.3, 4728N±004×15362E±005, h61km, h61km±5.3km: pP-P, n447, σ1§12/462, mb4.9/151, 27C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.78**	**25**	*e*P	**Pn**	**03 31 03.9**	**-3.2**
SKR				AMB	AMB	03 31 06.4	
	110nm,0.5s						
SKR				AMB	AMB	03 31 06.4	
	90nm,0.5s						
SKR				AMB	AMB	03 31 06.4	
	230nm,0.5s						
SKR				*e*rx	rx	03 31 08.0	
SKR				*i* rx	rx	03 31 27.1	
SKR				*e*S	**Sn**	**03 31 44.5**	**-5.8**
SKR				A		03 31 52.0	
	620nm,0.5s						
SKR				A		03 31 52.0	
	250nm,0.5s						
SKR				A		03 31 52.0	
	150nm,0.5s						
SKR				A		03 32 07.0	
	2μm,2.0s						
SKR				A		03 32 07.0	
	2μm,2.0s						
SKR	**Severo-Kuril's**	**3.78**	**25**	*e*PN	**Pn**	**03 31 03.9**	**-3.2**
SK

comp=E,250nm,1.4s
PET A 03 33 00.8
comp=E,120nm,0.5s
PET AMS AMS 03 34 37.0
comp=E,120nm,18.0s
PET Petropavlovsk 6.59 27 *e*Pn **Pn 03 31 44.9 -0.7**
comp=E,49nm,0.6s
PET *e*Sn **Sn 03 32 54.2 -5.1**
NEM2 Nemuro 2 6.79 238 P **Pn 03 31 48.2 -0.2**
NEM2 *e*S **Sn 03 32 59.2 -5.1**
JRA Rausu 6.83 244 P **Pn 03 31 51.4 +2.5**
JNK Nakash 7.27 243 P **Pn 03 31 56.8 +1.9**
YSS Yuzh-Sakhalins 7.42 271 *i* P **Pn 03 32 03.0 +6.0**
YSS AMB AMB 03 32 04.3
comp=E,250nm,1.0s
YSS AMB AMB 03 32 04.3
comp=E,80nm,0.9s
YSS *i* S **Sn 03 33 27.4 +7.7**
YSS A 03 33 30.5
comp=E,50nm,0.9s
YSS A 03 33 30.5
comp=E,120nm,0.9s
YSS AMS AMS 03 34 47.0
comp=E,500nm,19.0s
YSS AMS AMS 03 34 47.0
comp=E,400nm,19.0s
YSS Yuzh-Sakhalins 7.42 271 *ce*PN **Pn 03 32 01.9 +4.9**
YSS Yuzh-Sakhalins 7.42 271 *e*Pn **Pn 03 32 02.6 +5.6**
comp=E,202nm,0.9s
JTKR Abashiri--Toko 7.57 248 P **Pn 03 32 01.8 +2.8**
JAK Akkeshi 7.63 239 *e*S **Sn 03 33 19.5 -5.2**
JMP Maruseppu 7.90 249 P **Pn 03 32 06.6 +3.1**
UGL Uglegorsk 7.93 287 *i* P **Pn 03 32 10.0 +6.1**
UGL *e*P 03 32 10.5
UGL AMB AMB 03 32 11.5
comp=E,650nm,1.6s
UGL AMB AMB 03 32 11.5
comp=E,170nm,0.8s
UGL AMS AMS 03 35 27.0
comp=E,400nm,15.0s
UGL AMS AMS 03 35 27.0
comp=E,600nm,18.0s
UGL Uglegorsk 7.93 287 *c i*PN **Pn 03 32 10.0 +6.1**
UGL S **Sn 03 33 42.0 +10**
UGL pmax pmax
comp=E,650nm,1.6s
UGL pmax pmax
comp=E,170nm,0.8s
UGL MLR MLR
comp=E,400nm,15.0s
UGL MLR MLR
comp=E,600nm,18.0s
JAR Ashorobuto 8.01 244 P **Pn 03 32 06.9 +1.9**
JAR *e*S **Sn 03 33 33.5 -0.5**
TYV Tymovskoe 8.04 300 *e*P **Pn 03 32 10.8 +5.4**
TYV AMB AMB 03 32 12.5
comp=E,101nm,1.0s
TYV AMB AMB 03 32 12.5
comp=E,198nm,1.0s
TYV *e*S **Sn 03 33 40.2 +5.3**
TYV A 03 33 43.5
comp=E,48nm,1.0s
JOB Onbets 8.19 241 P **Pn 03 32 08.6 +1.1**
JOB *e*S **Sn 03 33 35.5 -3.0**
ASAJ Asahikawa 8.34 252 P **Pn 03 32 12.2 +2.6**
comp=E,3.6nm,0.3s,baz=82,slow=15,SNR=25
ASAJ LR LR 03 35 17.1
comp=E,150nm,20.8s,baz=357,slow=36
ASAJ Asahikawa 8.34 252 P **Pn 03 32 13.6 +4.1**
JKK2 Kamakawa 2 8.35 250 P **Pn 03 32 13.1 +3.4**
JWK2 Keihoku 8.35 261 P **Pn 03 32 16.2 +6.5**
JCH Churui 8.64 241 P **Pn 03 32 13.6 0.0**
JCH *e*S **Sn 03 33 44.8 -4.8**
JFR Furan 8.80 246 P **Pn 03 32 18.4 +2.5**
JAB Ashibetsu 8.87 249 P **Pn 03 32 20.1 +3.4**
JEM Erimo 9.13 239 P **Pn 03 32 20.6 +0.3**
JEM *e*S **Sn 03 33 55.5 -5.9**
JBT2 Biratori 2 9.15 245 P **Pn 03 32 21.6 +1.0**
JBT2 *e*S **Sn 03 33 59.7 -2.4**
JNBK Urakawa-nobuka 9.20 241 P **Pn 03 32 20.5 -0.8**
JNBK *e*S **Sn 03 33 57.9 -5.4**
JNB Noboribetsu 10.14 246 P **Pn 03 32 35.1 +0.9**
JNB *e*S **Sn 03 34 22.8 -3.5**
NKL Nikolayevsk 10.16 310 *e*P **Pn 03 32 33.5 -0.8**
NKL AMB AMB 03 32 35.8
comp=E,26nm,1.0s
NKL AMB AMB 03 32 35.8
comp=E,52nm,1.0s
NKL AMB AMB 03 32 35.8
comp=E,100nm,1.0s
JKB Kayabe 10.47 244 P **Pn 03 32 37.5 -1.1**
JKB *e*S **Sn 03 34 27.7 -6.6**
JSH Shimam 10.68 249 P **Pn 03 32 43.3 +1.8**
JYM2 Yakumo 2 10.75 246 P **Pn 03 32 42.4 0.0**
JSR Shiriuchi 11.05 243 P **Pn 03 32 45.4 -1.2**
JTM Tenmabayashi 11.12 239 P **Pn 03 32 45.2 -2.3**
JTM *e*S **Sn 03 34 40.5 -10**
JANG Nango 11.13 236 P **Pn 03 32 44.8 -2.9**
JANG *e*S **Sn 03 34 39.6 -11**
JTH Tanohata 11.24 233 P **Pn 03 32 45.8 -3.3**
JTH *e*S **Sn 03 34 40.9 -12**
JOSM Okushiri--Mats 11.33 248 P **Pn 03 32 50.4 0.0**
JKZ Kuzumaki 11.50 235 P **Pn 03 32 49.6 -3.1**
GRNR Gornyy 11.81 294 *e*P **Pn 03 32 57.1 +0.1**
GRNR AMB AMB 03 32 58.8
comp=E,42nm,1.0s
JOM Ohasama 11.88 233 P **Pn 03 32 54.8 -3.1**
OFUJ Ofunato 11.96 231 P **Pn 03 32 55.6 -3.4**
JRG Rokugo 12.30 235 P **Pn 03 33 01.2 -2.4**
JRG *e*S **Sn 03 35 08.6 -10**
MA2 Magadan 12.43 353 *ce*PN **Pn 03 33 08.4 +3.0**
MA2 Magadan 12.43 353 *e*Pn **Pn 03 33 08.4 +3.1**
comp=E,17nm,0.5s
HABR Khabarovsk 12.53 282 *e*PN **Pn 03 33 09.9 +3.2**
HABR *e*S **Sn 03 35 29.6 +5.1**
JIO Ouri 12.59 230 *e*S **Sn 03 35 13.6 -12**
JYA Atsumi 13.37 235 P **Pn 03 33 15.4 -2.8**
EKMR Ekimchan 14.43 301 *e*P **Pn 03 33 32.0 -0.3**
EKMR AMB AMB 03 33 37.9
comp=E,19nm,0.8s
KLR Kul'dur 14.69 286 *e*P **Pn 03 33 36.0 +0.3**
MAJO Matsushiro 15.68 232 *e*P **Pn 03 33 46.8 -1.6**
MAJO pmax pmax
comp=Z,12nm,0.6s
MAJO Matsushiro 15.68 232 *e*Pn **Pn 03 33 46.8 -1.6**
comp=Z,12nm,0.6s
MAT Matsushiro 15.68 232 P **Pn 03 33 46.5 -1.9**
MAT Matsushiro 15.68 232 *e*P **Pn 03 33 47.0 -1.4**
MAT pmax pmax
comp=Z,10.0nm,0.8s
MAT Matsushiro 15.68 232 *e*P **Pn 03 33 47.0 -1.4**
comp=Z,10nm,0.8s
MJAR Matsushiro Arr 15.68 232 P **Pn 03 33 46.9 -1.5**
comp=Z,0.5nm,0.3s,baz=26,slow=13,SNR=24
VLA Vladivostok 15.86 263 *e*P **Pn 03 33 50.2 -0.4**
VLA pmax pmax
comp=Z,38nm,0.8s
MDJ Mudanjiang 16.91 270 P **Pn 03 34 04.2 +0.4**
MDJ AMB AMB
comp=Z,20nm,0.8s
MDJ AMB AMB
comp=Z,20nm,2.7s
MDJ Mudanjiang 16.91 270 *e*P **Pn 03 34 04.2 +0.5**
comp=Z,23nm,0.8s
BMKR Bomnak 17.21 305 *e*P **Pn 03 34 06.7 -0.9**
BMKR AMB AMB 03 34 10.0
comp=Z,45nm,0.6s
YASR Yasnyy 17.40 300 *e*P **Pn 03 34 08.4 -1.5**
YASR AMB AMB 03 34 12.3
comp=Z,35nm,0.5s
ZEA Zeya 17.91 301 *e*P **Pn 03 34 13.0 -3.1**
ZEA AMB AMB 03 34 17.0
comp=Z,24nm,0.5s
CLNS Chul'man 19.94 309 *e*P **Pn 03 34 40.1 -0.3**
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=E,23nm,0.9s
CLNS pmax pmax
comp=Z,53nm,0.9s
CN2 Changchun 19.99 270 *e*P **Pn 03 34 37.5 -3.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
YAK Yakutsk 20.07 326 *de*P **P 03 34 40.7 +1.1**
YAK pmax pmax
comp=Z,47nm,0.7s
YAK Yakutsk 20.07 326 *e*P **P 03 34 42.1 +2.5**
comp=Z,109nm,0.8s
KS15 Wonju Array Si 21.32 252 *e*P **P 03 34 54.9 +1.8**
BILL Bilibino 21.80 13 *oe*P **P 03 34 57.4 -0.8**
BILL *PP 03 35 16.0
BILL *e*SP sP 03 35 25.4 +6.2
BILL pmax pmax
comp=Z,16nm,1.0s,mb4.4
BILL Bilibino 21.80 13 *e*P **P 03 34 56.7 -1.5**
comp=Z,14nm,0.8s,mb4.5
SNY Shenyang 22.01 267 ||P **P 03 35 00.2 -0.3**
SNY AMB AMB
comp=Z,10.0nm,0.5s,mb4.5
SNY AMB AMB
comp=Z,40nm,6.0s
INCN Inchon 22.11 254 *e*P **P 03 35 03.7 +2.1**
comp=Z,73nm,0.8s,mb5.2
HIA Hailar 22.53 288 ||*e*P **P 03 35 04.5 -1.5**
HIA Hailar 22.53 288 *e*P **P 03 35 08.9 +3.0**
comp=Z,8.9nm,0.4s,mb4.5
BOD Bodaibo 25.92 309 *e*P **P 03 35 34.5 -3.2**
BOD pmax pmax
comp=Z,17nm,0.9s,mb4.6
CIT Chita 26.13 295 *e*P **P 03 35 38.2 -1.4**
TIXI Tiksi 27.06 343 ||*e*P **P 03 35 46.6 -1.3**
TIXI pmax pmax
comp=Z,15nm,1.3s,mb4.4
SSE Sheshan 29.62 249 *e*P **P 03 36 08.3 -2.4**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,70nm,3.6s
NJ2 Nanjing 30.49 253 *e*P **P 03 36 18.1 -0.3**
NJ2 AP pP 03 36 39.1 +5.7
NJ2 PP PP 03 37 18.5 -10
NJ2 PPP 03 37 39.0
NJ2 S **S 03 41 08.0 -7.3**
NJ2 XS sS 03 41 48.0 +7.1
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.7
NJ2 AMB AMB
comp=Z,310nm,3.7s
NJ2 LR LR
comp=N,900nm,22.5s
NJ2 LR LR
comp=E,1μm,15.8s
NJ2 LR LR
comp=Z,440nm,20.3s
ULN Ulaanbaatar 31.05 289 *e*P **P 03 36 23.1 -0.3**
ULN pmax pmax
comp=Z,18nm,1.3s,mb4.7
ULN Ulaanbaatar 31.05 289 *e*P **P 03 36 23.1 -0.3**
comp=Z,18nm,1.3s,mb4.7
SONM Songino Array 31.49 289 P **P 03 36 26.9 -0.3**
comp=Z,8.7nm,0.7s,mb4.7,baz=96,slow=11,SNR=4.0
TTA Tatalina 31.79 42 *e*P **P 03 36 29.9 0.0**
TTA pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
TTA Tatalina 31.79 42 *e*P **P 03 36 29.9 0.0**
comp=Z,2.5nm,0.6s,mb4.2
SVW2 Sparrevohn 31.87 45 *e*P **P 03 36 31.0 +0.4**
TLY Talaya 32.25 297 *e*P **P 03 36 33.6 -0.3**
TLY pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
TLY MLR MLR
comp=Z,103nm,22.0s
ZAK Zakamensk 32.77 294 *e*P **P 03 36 37.5 -1.0**
ZAK pmax pmax
comp=Z,14nm,1.5s,mb4.7
KDAK Kodiak Island 33.50 52 P **P 03 36 43.4 -1.4**
comp=Z,3.1nm,0.7s,mb4.3,baz=153,slow=8.9,SNR=2.9
KDAK Kodiak Island 33.50 52 P **P 03 36 43.4 -1.4**
COLA College 35.50 39 *c i*P **P 03 37 02.6 +0.5**
COLA College 35.50 39 *e*P **P 03 37 02.0 -0.2**
comp=Z,6.8nm,0.8s,mb4.6
XAN Xi'an 35.91 265 P **P 03 37 06.4 +0.8**
XAN AP pP 03 37 17.9 -2.9
XAN AMB AMB
comp=Z,40nm,0.8s,mb5.4
KRAR Krasnoyarsk 37.55 306 *i* P **P 03 37 19.2 -0.3**
LZH Lanzhou 38.22 271 *e*P **P 03 37 26.5 +1.3**
LZH AP pP 03 37 45.0 +4.5
LZH XP sP 03 37 51.0 +3.4
LZH AMB AMB
comp=Z,50nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,310nm,5.6s
GTA Gaotai 39.23 279 P **P 03 37 35.2 +1.5**
GTA AP pP 03 37 54.6 +5.6
GTA XP sP 03 38 04.0 +7.9
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
INK Inuvik 41.02 33 P **P 03 37 48.5 +0.1**
comp=Z,2.5nm,0.7s,mb3.9,baz=298,slow=4.8,SNR=8.6
INK Inuvik 41.02 33 *e*P **P 03 37 48.3 -0.1**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 41.02 33 *e*P **P 03 37 48.3 -0.2**
comp=Z,3.9nm,0.6s,mb4.2
CD2 Chengdu 41.27 265 P **P 03 37 51.7 +1.2**
CD2 AMB AMB
comp=Z,100nm,0.9s,mb5.5
ZAL Zalesovo 42.60 305 LR LR 03 57 21.9
comp=Z,81nm,21.0s,baz=8.1,slow=38
NVS Novosibirsk 43.14 307 ⇑*i*P **P 03 38 03.9 -1.9**
NVS pmax pmax
comp=E,13nm,0.7s
NVS pmax pmax
comp=Z,13nm,0.7s,mb4.8
DLBC Dease Lake 44.97 46 P **P 03 38 20.6 +0.1**
comp=Z,2.0nm,0.8s,mb4.0,baz=302,slow=16,SNR=3.7
MK31 Makanchi Array 47.01 297 P **P 03 38 35.7 -0.7**
MK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
MKAR Makanchi Array 47.01 297 P **P 03 38 35.9 -0.5**
comp=Z,8.2nm,0.5s,mb4.9,baz=69,slow=7.7,SNR=81
MKAR PcP PcP 03 40 07.4 -0.4
comp=Z,1.1nm,0.6s,baz=98,slow=1.4,SNR=4.2
KURK Kurchatov 47.36 303 *e*P **P 03 38 38.3 -0.9**
KURK *PP pP 03 38 55.2 +0.3
KURK pmax pmax
comp=Z,37nm,0.7s,mb5.4
KURK Kurchatov 47.36 303 *e*P **P 03 38 38.3 -0.9**
comp=Z,37nm,0.7s,mb5.4
KURK pP pP 03 38 55.2 +0.3
RES Resolute Bay 50.22 19 *e*P **P 03 39 01.1 0.0**
RES *e*PP pP 03 39 14.2 -2.8
RES pmax pmax
comp=Z,34nm,1.0s,mb5.3
RES Resolute Bay 50.22 19 *e*P **P 03 39 01.1 0.0**
comp=Z,34nm,1.0s,mb5.3
RES *e*pP pP 03 39 14.2 -2.8
CHKZ Chkalovo 50.35 310 *e*P **P 03 39 01.0 -1.1**
CHKZ pmax pmax
comp=Z,50nm,0.5s,mb5.8
CHKZ Chkalovo 50.35 310 *e*P **P 03 39 01.0 -1.1**
comp=Z,50nm,0.5s,mb5.8
LSA Lhasa 50.59 273 *e*P **P 03 39 06.6 +2.7**
LSA *e*PP pP 03 39 24.8 +5.0
LSA pmax pmax
comp=Z,57nm,0.6s,mb5.7
LSA Lhasa 50.59 273 *e*P **P 03 39 06.6 +2.7**
comp=Z,57nm,0.6s,mb5.7
LSA *e*pP pP 03 39 24.8 +5.0
VOSK Vostochnaya 50.62 309 P **P 03 39 03.2 -0.9**
VOSK pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
BVA0 Borovoye Array 50.79 309 P **P 03 39 04.7 -0.7**
BRVK Borovoye 50.83 309 *e*P **P 03 39 05.0 -0.7**
BRVK pmax pmax
comp=Z,13nm,0.6s,mb5.0
BRVK Borovoye 50.83 309 *e*P **P 03 39 05.0 -0.7**
comp=Z,13nm,0.6s,mb5.0
ZRNK Zerenda 51.55 310 P **P 03 39 10.5 -0.6**
ZRNK pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ZRNK Zerenda 51.55 310 *e*P **P 03 39 10.3 -0.8**
comp=Z,19nm,0.5s,mb5.3
SHL Shillong 52.73 268 *e*P **P 03 39 21.8 +2.0**
ULHL Ulahol 53.05 295 P **P 03 39 23.0 +0.8**
SNR=5.0
USP Ospenovka 53.55 297 P **P 03 39 26.2 +0.3**
SNR=13
KBK Karagaybulak 53.62 296 P **P 03 39 26.9 +0.5**
SNR=5.1
KZA Kyzart 53.76 295 P **P 03 39 28.8 +1.4**
SNR=6.4
AAK Ala-Archa 53.91 296 P **P 03 39 29.1 +0.6**
SNR=5.8
AAK Ala-Archa 53.91 296 *e*P **P 03 39 27.7 -0.8**
AAK *e*PP pP 03 39 41.5 -3.0
AAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
AAK Ala-Archa 53.91 296 *e*P **P 03 39 27.7 -0.8**
comp=Z,5.8nm,0.6s,mb4.7
AAK *e*pP pP 03 39 41.5 -3.0
EKS2 Erkin-Say 54.33 297 P **P 03 39 32.1 +0.5**
SNR=9.7
ARU Arti 54.85 317 ⇑*i*P **P 03 39 34.4 -0.9**
ARU *e* 03 41 36.7
ARU *e*S **S 03 47 10.4 -1.6**
ARU *e*SS SS 03 50 54.5 -1.4
ARU pmax pmax
comp=Z,21nm,0.6s,mb5.3
ARU Arti 54.85 317 *e*P **P 03 39 34.4 -1.0**
comp=Z,38nm,0.5s,mb5.7
ARU pP pP 03 39 49.2 -2.3
JIRN Jiri 55.25 275 *e*P **P 03 39 40.1 +1.9**
comp=Z,99nm,0.7s,mb5.9
GUN Gumba 55.30 275 *e*P **P 03 39 40.3 +1.7**
comp=Z,44nm,0.6s,mb5.7
KKN Kakani 55.78 275 *e*P **P 03 39 44.3 +2.3**
PKI Pulchoki 55.84 275 *e*P **P 03 39 44.0 +1.6**
DMN Daman 56.02 275 *e*P **P 03 39 45.5 +1.8**
KK31 Karatay Array 56.05 299 *i* P **P 03 39 43.6 -0.3**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
KKAR Karatay Array 56.05 299 *i* P **P 03 39 43.6 -0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
GKN Gorkha 56.08 276 *e*P **P 03 39 45.6 +1.4**
comp=Z,187nm,1.0s
DAG Danmarks Havn 56.13 358 ⇑*i*P **P 03 39 43.0 -1.5**
comp=Z,6.2nm,0.7s,mb4.8
DAG Danmarks Havn 56.13 358 ⇑*e*P **P 03 39 43.0 -1.5**
DAG pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
DAG Danmarks Havn 56.13 358 ⇑*e*P **P 03 39 43.0 -1.5**
comp=Z,6.2nm,0.7s,mb4.8
PMG Port Moresby 56.73 188 ||*e*P **P 03 39 47.6 -1.1**
KOLN Koldanda 56.94 276 *e*P **P 03 39 51.9 +1.7**
comp=Z,94nm,1.0s,mb5.8
KEV Kevo 56.96 341 *ep* **P 03 39 48.4 -2.0**
comp=Z,5.0nm,0.6s,mb4.7
KEV Kevo 56.96 341 *e*P **P 03 39 48.4 -2.0**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ARCES ARCESS Array B 57.46 341 P **P 03 39 53.1 -0.9**
comp=Z,4.5nm,0.6s,mb4.7,baz=31,slow=7.2,SNR=40
ARCES LR LR 04 08 39.0
comp=Z,58nm,18.8s,baz=13,slow=40
JOSI Joshimath 57.88 282 *ex* x 03 39 52.5
BOK Bokaro 57.99 271 *e*P **P 03 39 58.4 +0.7**
BOK AMb AMB 03 40 01.8
comp=Z,13nm,0.8s,mb5.0
KLP Kalpa 58.13 283 *e*P **P 03 39 59.2 +0.6**
KLP AMb AMB 03 40 01.9
comp=Z,15nm,0.5s,mb5.3
AB31 Akbulak array 58.35 310 *e*P **P 03 39 59.7 -0.5**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
AKTO Aktyubinsk 58.63 312 P **P 03 40 01.3 -0.8**
SMLA Simla 59.10 284 *e*P **P 03 40 04.9 -0.5**
ORR Orenburg 59.52 314 *e*P **P 03 40 07.6 -0.7**
ORR pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
SUMG Summit 60.15 4 *e*P **P 03 40 12.9 +0.4**
comp=Z,20nm,0.8s,mb5.2
NDI New Delhi 60.64 282 *e*P **P 03 40 15.5 -0.4**
NDI *e*P 03 40 16.0
BHGR Bahadurgarh 60.82 282 *e*P **P 03 40 17.3 +0.2**
AYAN Aya Nagar 60.83 281 *e*P **P 03 40 16.9 -0.3**
AYAN AMb AMB 03 40 18.6
comp=Z,17nm,0.8s,mb5.2
SONA Sohna 61.01 281 *e*P **P 03 40 18.4 0.0**
SONA AMb AMB 03 40 20.0
comp=Z,31nm,0.6s,mb5.6
JOF Joensuu 61.01 334 *ep* **P 03 40 17.2 -1.2**
comp=Z,7.1nm,0.5s,mb5.0
AGRA Agra 61.10 280 *e*P **P 03 40 19.3 +0.3**
BOZ Bozeman (W) 61.16 53 *e*P **P 03 40 19.7 +0.3**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BOZ Bozeman (W) 61.16 53 *e*P **P 03 40 19.6 +0.2**
comp=Z,3.0nm,0.8s,mb4.5
KUDL Kundal 61.47 282 *e*P **P 03 40 21.4 -0.2**
KUDL AMb AMB 03 40 23.1
comp=Z,36nm,0.9s,mb5.5
BLSP Bilaspur 61.66 273 *e*P **P 03 40 22.7 -0.1**
BLSP AMb AMB 03 40 39.4
comp=Z,21nm,1.5s,mb5.0
NVAR Mina Array Bea 61.88 63 P **P 03 40 30.7 +6.4**
comp=Z,1.0nm,0.8s,mb4.0,baz=301,slow=7.0,SNR=5.8
KHET Khetri 61.97 282 *e*P **P 03 40 25.0 0.0**
KHET AMb AMB 03 40 26.8
comp=Z,11nm,1.0s,mb4.9
SCO Scoresbysund 62.50 358 *i* P **P 03 40 28.9 +0.4**
comp=Z,4.9nm,0.6s,mb4.8
SCO Scoresbysund 62.50 358 *i* P **P 03 40 28.9 +0.4**
SCO pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
MOR8 Moi Rana 62.62 343 *e*P **P 03 40 27.4 -1.9**
MOR8 AMb AMB 03 40 28.3
comp=Z,42nm,0.6s,mb5.7
MOR8 Moi Rana 62.62 343 *e*P **P 03 40 27.4 -1.9**
comp=Z,42nm,0.6s,mb5.8
KAF Kangasniemi 63.11 335 *ep* **P 03 40 31.0 -1.5**
comp=Z,22nm,0.8s,mb5.3,baz=37,slow=6.3
KAF Kangasniemi 63.11 335 *e*P **P 03 40 31.0 -1.5**
KAF pmax pmax
comp=Z,22nm,0.8s,mb5.3
FINES FINESS Array B 63.71 335 P **P 03 40 35.7 -0.7**
comp=Z,22nm,0.6s,mb5.4,baz=38,slow=7.6,SNR=134
FINES LR LR 04 12 44.1
comp=Z,43nm,18.3s,baz=354,slow=40
AJM Ajmer 63.80 281 *e*P **P 03 40 38.0 +1.0**
AJM AMb AMB 03 40 40.1
comp=Z,26nm,0.6s,mb5.4
VIS Vishakhapatnam 63.87 268 *e*P **P 03 40 36.0 -1.5**
VIS AMb AMB 03 40 42.3
comp=Z,42nm,1.4s,mb5.3
BHPL Bhopal 64.10 277 *e*P **P 03 40 39.9 +0.8**
BHPL AMb AMB 03 40 41.6
comp=Z,22nm,0.6s,mb5.3
PDAR Pinedale Array 64.15 54 P **P 03 40 39.4 0.0**
comp=Z,0.7nm,0.8s,baz=333,slow=5.0,SNR=6.6
NGP Nagpur 64.42 274 *ex* x 03 40 32.4
NGP AMb AMB 03 40 42.0
comp=Z,30nm,1.1s,mb5.2
OBN Obninsk 65.07 326 *ke*P **P 03 40 44.7 -0.6**
OBN *e* pP 03 40 59.1 -2.7
OBN *e* 03 41 20.7
OBN S S 03 49 19.0 -4.1
OBN pmax pmax
comp=Z,31nm,1.1s,mb5.2
ULM Lac du Bonnet 65.89 41 P **P 03 40 49.7 -1.0**
comp=Z,0.5nm,0.5s,baz=323,slow=5.1,SNR=3.5
ULM Lac du Bonnet 65.89 41 P **P 03 40 49.7 -1.0**
VSU Vasula 65.90 333 *c i*P **P 03 40 50.1 -0.6**
JASL Jaisalmer 65.99 284 *e*P **P 03 40 50.7 -0.6**
AKL Akola 66.11 275 *ex* x 03 40 20.3
AKL AMb AMB 03 40 28.4
comp=Z,32nm,0.7s,mb5.5
VRSR Storozhevoye 66.90 321 *e*P **P 03 40 57.3 +0.2**
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=E,4.0nm,0.9s
NB2 NORSAR Subarra 67.84 341 P **P 03 41 02.5 -0.5**
comp=Z,15nm,0.8s,mb5.1,baz=27,slow=6.5
NB2 NORSAR Subarra 67.84 341 P **P 03 41 02.5 -0.5**
NB2 pmax pmax
comp=Z,15nm,0.8s,mb5.1
NOA NORSAR Array B 67.84 341 P **P 03 41 02.7 -0.3**
comp=Z,12nm,0.8s,mb5.0,baz=28,slow=6.5,SNR=37
NOA LR LR 04 15 43.3
comp=Z,22nm,18.9s,baz=15,slow=40

WRAB **Tennant Creek 69.12 199** *i* P **P 03 41 12.7 +1.7**
WRA **Warramunga Arr 69.13 199** P **P 03 41 09.2 -1.8**
comp=Z,0.3nm,0.4s,baz=19,slow=6.7,SNR=6.9
KONO **Kongsberg 69.44 341** *e*P **P 03 41 11.8 -1.2**
KONO pmax pmax
comp=Z,12nm,0.9s,mb4.8
KONO **Kongsberg 69.44 341** *e*P **P 03 41 11.8 -1.2**
comp=Z,12nm,0.9s,mb4.8
GOF **Gofitskoye 69.70 315** *e*P **P 03 41 14.2 -0.4**
KAD **Karad 70.38 274** *e*P **P 03 41 19.7 +1.0**
KAD AMb AMB 03 41 22.1
comp=Z,33nm,0.9s,mb5.2
KIV **Kislovodsk 70.68 314** *e*P **P 03 41 21.3 +0.7**
KIV pmax pmax
comp=Z,23nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,39nm,18.0s
KIV **Kislovodsk 70.68 314** *e*P **P 03 41 21.1 +0.6**
comp=Z,22nm,0.8s,mb5.1
SUW **Suwalki 70.69 332** *e*P **P 03 41 19.8 -0.9**
LRW **Lerwick 70.99 347** *e*P **P 03 41 22.6 +0.1**
SNART **Snartemo 71.15 342** *e*P **P 03 41 23.3 -0.2**
SNART AMb AMB 03 41 25.3
comp=Z,26nm,0.6s,mb5.3
ANMO **Albuquerque 71.26 59**⇓*e*P **P 03 41 24.1 0.0**
AKASG **Malin Array Be 71.30 326** P **P 03 41 23.4 -0.9**
comp=Z,9.5nm,0.7s,mb4.9,baz=33,slow=6.1,SNR=40
AKASG **Malin Array Be 71.30 326** P **P 03 41 23.4 -0.9**
BSD **Bornholm Skovb 72.21 337**⇑*i*P **P 03 41 29.2 -0.6**
comp=Z,7.8nm,0.5s,mb4.9
BSD **Bornholm Skovb 72.21 337**⇑*i*P **P 03 41 29.2 -0.6**
BSD pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
COP **Copenhagen 72.35 338** *i* P **P 03 41 32.1 +1.5**
comp=Z,27nm,0.9s,mb5.2
COP **Copenhagen 72.35 338** *e*P **P 03 41 32.1 +1.5**
COP pmax pmax
comp=Z,27nm,0.9s,mb5.2
COP **Copenhagen 72.35 338** *e*P **P 03 41 32.1 +1.5**
comp=Z,27nm,0.9s,mb5.2
MUD **Monsted U'grnd 72.44 340** *i* P **P 03 41 32.5 +1.3**
comp=Z,9.0nm,0.6s,mb4.9
MUD **Monsted U'grnd 72.44 340** *i* P **P 03 41 32.5 +1.3**
MUD pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
GNI **Garni 72.45 310** *de*P **P 03 41 32.7 +1.5**
GNI pmax pmax
comp=Z,13nm,0.9s
ANN **Anapa 72.52 318** *e*P **P 03 41 29.7 -1.9**
ANN *e*S S 03 50 49.7 -1.6
ANN pmax pmax
comp=Z,44nm,1.3s,mb5.2
SCHQ **Schefferville 72.68 23** P **P 03 41 32.1 -0.5**
comp=Z,2.8nm,0.7s,mb4.3,baz=320,slow=6.4,SNR=8.2
OBR **Brabster 72.74 348** *e*P **P 03 41 33.6 +0.6**
ASAR **Alice Springs 72.82 199** P **P 03 41 33.8 +0.3**
comp=Z,4.4nm,0.8s,mb4.5,baz=13,slow=5.7,SNR=34
ORE **Reay 72.89 348** *e*P **P 03 41 34.5 +0.6**
OTO **Tongue 73.04 348** *e*P **P 03 41 35.4 +0.7**
GKP **Gorka Klasztor 73.17 334** *e*P **P 03 41 35.3 -0.2**
KAC **Achnashellach 74.12 348** *e*P **P 03 41 40.6 -0.5**
KPL **Plockton 74.33 349** *e*P **P 03 41 42.0 -0.2**
KWP **Kalwaria 74.54 329** *e*P **P 03 41 43.8 +0.3**
KAR1 **Arisaig 74.76 348** *e*P **P 03 41 44.3 -0.5**
OJC **Ojcow 75.02 331** *e*P **P 03 41 46.2 -0.1**
STHS **Stebnicka Huta 75.23 330** *e*P **P 03 41 48.1 +0.6**
STHS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
STHS **Stebnicka Huta 75.23 330** *e*P **P 03 41 48.1 +0.6**
comp=Z,4.9nm,0.7s,mb4.5
ESY **Stoneypath 75.25 346** *e*P **P 03 41 48.5 +0.8**
ESY AMb AMB 03 41 54.2
comp=Z,30nm,2.1s,mb4.8
EAB **Aberfoyle 75.26 347** *e*P **P 03 41 48.7 +1.1**
EAB AMb AMB 03 41 50.3
comp=Z,33nm,1.4s,mb5.1
BURAR **Bucovina Array 75.33 327**⇓*i*P **P 03 41 47.8 -0.3**
EAU **Auchinoon 75.45 347** *e*P **P 03 41 49.0 +0.2**
EAU AMb AMB 03 41 51.1
comp=Z,44nm,0.7s,mb5.5
PGBU **Glenifferbraes 75.64 347** *e*P **P 03 41 49.4 -0.4**
ESK **Eskdalemuir 75.93 347** *e*P **P 03 41 51.6 +0.1**
ESK AMb AMB 03 41 53.2
comp=Z,15nm,0.7s,mb5.1
ESK **Eskdalemuir 75.93 347** *e*P **P 03 41 50.8 -0.7**
ESK pmax pmax
comp=Z,11nm,0.6s,mb5.0
ESK **Eskdalemuir 75.93 347** *e*P **P 03 41 50.8 -0.7**
comp=Z,11nm,0.6s,mb5.0
UPC **Upice 75.96 334** *e*P **P 03 41 51.7 0.0**
DPC **Dobruska-Polom 76.00 333** *e*P **P 03 41 52.0 +0.1**
ECK **Cauldkaine Hil 76.05 347** *e*P **P 03 41 53.2 +1.0**
ECK AMb AMB 03 41 54.0
comp=Z,16nm,0.7s,mb5.1
CLL **Collm 76.12 336** *e*P **P 03 41 51.9 -0.7**
comp=Z,23nm,0.6s,mb5.3
CLL **Collm 76.12 336** *i* P **P 03 41 52.1 -0.5**
comp=Z,23nm,0.6s,mb5.3
CLL *i* x x 03 42 00.7
CLL **Collm 76.12 336** *i* P **P 03 41 52.1 -0.5**
CLL *i* 03 42 00.7
CLL pmax pmax
comp=Z,23nm,0.6s,mb5.3
MORC **Moravsky Berou 76.13 332**⇑*i*P **P 03 41 51.4 -1.2**
BWH **Wardlaw 76.13 347** *e*P **P 03 41 53.7 +1.0**
CFR **Carcaliu 76.22 324**⇓*i*P **P 03 41 53.6 +0.5**
CFR **Carcaliu 76.22 324** ⇓P **P 03 41 53.6 +0.5**
BRG **Berggiesshubel 76.25 335** *e*P **P 03 41 52.6 -0.7**
comp=Z,8.0nm,1.0s,mb4.6
BRG **Berggiesshubel 76.25 335** *e*P **P 03 41 52.8 -0.5**
comp=Z,4.6nm,1.0s,mb4.4
BRG **Berggiesshubel 76.25 335** *e*P **P 03 41 52.8 -0.5**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KECS **Kecovo 76.29 330** *e*P **P 03 41 53.4 -0.1**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS **Kecovo 76.29 330** *e*P **P 03 41 53.4 -0.1**
comp=Z,2.3nm,0.8s,mb4.2
PVCC **Panska Ves 76.37 335** *e*P **P 03 41 55.0 +1.0**
IBBN **Ibbenburen 76.58 339** *e*P **P 03 41 54.4 -0.8**
comp=Z,14nm,0.6s,mb5.1
CKE **Keswick 76.61 346** *e*P **P 03 41 56.6 +1.3**
CKE AMb AMB 03 41 59.0
comp=Z,45nm,1.3s,mb5.2
GTTG **Gvttingen 76.73 338** *e*P **P 03 41 54.5 -1.5**
comp=Z,8.0nm,0.8s,mb4.7
XDE **Dent Fell 76.75 347** *e*P **P 03 41 57.4 +1.3**
XDE AMb AMB 03 41 58.4
comp=Z,23nm,1.0s,mb5.0
MLR **Muntele Rosu 76.83 325** P **P 03 41 57.5 +0.9**
comp=Z,6.4nm,0.6s,mb4.7,baz=189,slow=5.9,SNR=12
MLR **Muntele Rosu 76.83 325**⇓*i*P **P 03 41 57.8 +1.2**
MLR **Muntele Rosu 76.83 325** ⇓P **P 03 41 57.8 +1.2**
VYHS **Vyhne 76.83 331** *e*P **P 03 41 56.8 +0.2**
VYHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
VYHS **Vyhne 76.83 331** *e*P **P 03 41 56.8 +0.2**
comp=Z,3.4nm,0.8s,mb4.3
VRAC **Vranov 76.84 333**⇑*i*P **P 03 41 54.3 -2.3**
VRAC **Vranov 76.84 333** ⇑P **P 03 41 54.3 -2.4**
PRU **Pruhonice 76.86 334** *e*P **P 03 41 56.6 -0.2**
MALT **Malatya 77.04 313**⇓*i*P **P 03 41 59.5 +1.7**
MALT **Malatya 77.04 313** ⇓P **P 03 41 59.5 +1.7**
WERD **Werda 77.09 336** *e*P **P 03 41 56.8 -1.3**
comp=Z,5.0nm,0.9s,mb4.4
MOX **Moxa 77.10 336** *e*P **P 03 41 57.9 -0.2**
comp=Z,7.0nm,0.7s,mb4.7
MOX **Moxa 77.10 336** *e*P **P 03 41 58.1 0.0**
WTSB **Winterswijk 77.12 340** *e*P **P 03 41 57.9 -0.3**
comp=Z,20nm,0.7s,mb5.1
VOIR **77.22 326**⇓*i*P **P 03 41 59.7 +0.9**
VOIR **77.22 326** ⇓P **P 03 41 59.7 +0.9**
NKC **Novy Kostel 77.25 336** *e*P **P 03 42 00.1 +1.2**
UBBA **Unterbreizbach 77.38 337** *e*P **P 03 41 58.5 -1.2**
comp=Z,5.0nm,0.7s,mb4.5
LHO **Holmfirth 77.41 345** *e*P **P 03 42 01.2 +1.4**
MANZ **Manzenberg 77.56 336** *e*P **P 03 42 00.6 -0.1**
comp=Z,4.0nm,0.8s,mb4.4
KBI1 **Birley Grange 77.63 345** *e*P **P 03 42 02.2 +1.1**
ZST **Bratislava 77.66 332** *e*P **P 03 42 02.8 +1.6**
ZST pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ZST **Bratislava 77.66 332** *e*P **P 03 42 02.8 +1.6**
comp=Z,5.1nm,0.8s,mb4.5

KHC **Kasperske Hory 77.91 334** *e*P **P 03 42 02.7 +0.1**
KWE **Weaver Farm 77.91 345** *e*P **P 03 42 04.1 +1.5**
GRA1 **Grafenberg Arr 78.08 336** *e*P **P 03 42 03.8 +0.3**
comp=Z,25nm,0.7s,mb5.2
GRF **Grafenberg Arr 78.08 336** *e*P **P 03 42 03.8 +0.3**
comp=Z,25nm,0.7s,mb5.2
GRF **Grafenberg Arr 78.08 336** *e*P **P 03 42 03.8 +0.3**
GRF pmax pmax
comp=Z,25nm,0.7s,mb5.2
WET **Wettzell 78.10 335** *e*P **P 03 42 03.6 -0.1**
comp=Z,11nm,1.1s,mb4.7
WET **Wettzell 78.10 335** *e*P **P 03 42 03.6 -0.1**
WET pmax pmax
comp=Z,11nm,1.1s,mb4.7
GEC2 **GERESS Array S 78.13 334** *e*P **P 03 42 03.6 -0.2**
comp=Z,4.0nm,0.6s,mb4.5
GEC2 **GERESS Array S 78.13 334** *e*P **P 03 42 03.6 -0.2**
GEC2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GERES **GERESS Array B 78.13 334** P **P 03 42 03.5 -0.3**
comp=Z,2.9nm,0.6s,mb4.4,baz=34,slow=5.2,SNR=24
GERES LR LR 04 17 19.7
comp=Z,48nm,20.6s,baz=95,slow=36
BR131 **Keskin Array S 78.24 317** *e*P **P 03 42 04.0 -0.4**
comp=Z,1.8nm,0.8s,mb4.0
BRTR **Keskin Array B 78.24 317** P **P 03 42 04.9 +0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=70,slow=1.4,SNR=12
BRTR PP PP 03 45 04.0 +2.2
comp=Z,1.1nm,0.8s,baz=57,slow=5.4,SNR=4.6
SBD1 **Bryn Du 78.26 346** *e*P **P 03 42 06.3 +1.7**
SBD1 AMb AMB 03 42 06.9
comp=Z,24nm,0.7s,mb5.2
CONA **Conrad Observa 78.29 333**⇑*i*P **P 03 42 05.1 +0.4**
comp=Z,5.4nm,0.7s,mb4.6
TNS **Taunus Mts 78.33 338** *e*P **P 03 42 04.9 0.0**
comp=Z,13nm,0.7s,mb5.0
TNS **Taunus Mts 78.33 338** *e*P **P 03 42 04.9 0.0**
TNS pmax pmax
comp=Z,13nm,0.7s,mb5.0
BZS **Buzias 78.35 328**⇓*i*P **P 03 42 04.4 -0.7**
BZS **Buzias 78.35 328** ⇓P **P 03 42 04.4 -0.6**
DLF **Lyons Farm 78.38 348** *e*P **P 03 42 04.3 -0.9**
DCN **Croghan 78.44 348** *e*P **P 03 42 04.6 -1.0**
HGN **Heimansgroeve 78.44 340** *e*P **P 03 42 05.2 -0.4**
comp=Z,12nm,0.5s,mb5.0
ANTO **Ankara 78.52 318** *e*P **P 03 42 06.2 +0.2**
ANTO pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ANTO **Ankara 78.52 318** *e*P **P 03 42 06.2 +0.3**
comp=Z,6.6nm,0.6s,mb4.7
HLM1 **Long Mynd 78.57 346** *e*P **P 03 42 07.8 +1.5**
HLM1 AMb AMB 03 42 09.3
comp=Z,21nm,1.6s,mb4.8
SSP1 **Stoney Pound 78.70 346** *e*P **P 03 42 08.5 +1.5**
PKSM **Moragy 78.88 330**⇓*i*P **P 03 42 08.7 +0.7**
PKSM **Moragy 78.88 330** ⇓P **P 03 42 08.7 +0.7**
MCH1 **Michaelchurch 79.09 346** *e*P **P 03 42 11.0 +1.9**
GIVF **Givet 79.32 340** *e*P **P 03 42 09.3 -1.1**
HGH **Gray Hill 79.40 345** *e*P **P 03 42 12.2 +1.3**
HGH AMb AMB 03 42 13.5
comp=Z,33nm,0.9s,mb5.2
WLF **Walferdange 79.41 339** *e*P **P 03 42 11.7 +0.8**
comp=Z,6.0nm,1.0s,mb4.5
STU **Stuttgart 79.46 337** *e*P **P 03 42 12.6 +1.4**
comp=Z,11nm,0.7s,mb4.9
MENF **Mencas 79.48 342** *e*P **P 03 42 13.1 +1.8**
BAIF **Baives 79.50 341** *e*P **P 03 42 10.4 -1.0**
comp=Z,20nm,0.9s,mb4.8
BAIF **Baives 79.50 341** *e*P **P 03 42 10.4 -1.0**
BAIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BAIF **Baives 79.50 341** *e*P **P 03 42 10.4 -1.0**
comp=Z,9.9nm,0.9s,mb4.7
STKA **Stephens Creek 79.54 190** P **P 03 42 09.1 -2.4**
comp=Z,2.5nm,0.8s,mb4.2,baz=350,slow=6.6,SNR=5.4
STKA LR LR 04 12 22.8
comp=Z,173nm,22.0s,baz=26,slow=32
KBA **Koelnbreinsper 79.82 334**⇓*i*P **P 03 42 14.0 +0.9**
comp=Z,23nm,0.8s,mb5.2
KBA **Koelnbreinsper 79.82 334**⇓*i*P **P 03 42 14.0 +0.9**
KBA pmax pmax
comp=Z,23nm,0.8s,mb5.2
BFO **Black Forest 80.10 337** *e*P **P 03 42 14.4 -0.2**
comp=Z,10.0nm,0.9s,mb4.8
BFO **Black Forest 80.10 337** *e*P **P 03 42 14.4 -0.2**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
HEX **Exmoor 80.12 346** *e*P **P 03 42 16.0 +1.3**
WTTA **Wattenberg 80.16 335**⇑*i*P **P 03 42 15.5 +0.5**
comp=Z,15nm,0.6s,mb5.1
WTTA **Wattenberg 80.16 335**⇑*i*P **P 03 42 15.5 +0.6**
WTTA pmax pmax
comp=Z,15nm,0.6s,mb5.1
GRUS **Gruza 80.16 327** *e*P **P 03 42 14.8 -0.1**
MOTA **Moosalm 80.24 335**⇑*i*P **P 03 42 15.5 +0.2**
comp=Z,8.0nm,0.9s,mb4.7
MOTA **Moosalm 80.24 335**⇑*i*P **P 03 42 15.5 +0.2**
MOTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
DIVS **Divcibare 80.25 328** *i* P **P 03 42 15.2 -0.2**
WLS **Welschbruch 80.27 338** *e*P **P 03 42 15.7 +0.2**
CDF **Champ du Feu 80.30 338** *e*P **P 03 42 14.7 -0.9**
comp=Z,24nm,0.8s,mb4.9
CDF **Champ du Feu 80.30 338** *e*P **P 03 42 14.7 -0.9**
CDF pmax pmax
comp=Z,12nm,0.8s,mb4.9
CDF **Champ du Feu 80.30 338** *e*P **P 03 42 14.7 -0.9**
comp=Z,12nm,0.8s,mb4.9
HTL **Hartland 80.31 346** *e*P **P 03 42 16.2 +0.5**
VTS **Vitosha 80.33 325**⇑*i*P **P 03 42 16.5 +0.6**
VTS **Vitosha 80.33 325** ⇑P **P 03 42 16.4 +0.6**
ECH **Echery 80.51 338** *e*P **P 03 42 14.8 -2.0**
FELD **Feldberg im Sc 80.60 337** *e*P **P 03 42 16.7 -0.6**
DAVA **Damuels 80.64 336**⇑*i*P **P 03 42 17.8 +0.3**
comp=Z,9.1nm,0.8s,mb4.8
BBLS **Bajina Basta - 80.65 328** *e*P **P 03 42 18.4 +0.8**
DYA **Yadsworthy 80.75 346** *e*P **P 03 42 19.8 +1.6**
MEZF **Maizieres J'vi 80.76 339** *e*P **P 03 42 17.6 -0.5**
comp=Z,35nm,0.7s,mb5.1
MEZF **Maizieres J'vi 80.76 339** *e*P **P 03 42 17.6 -0.5**
comp=Z,35nm,0.7s,mb5.4
THEF **They Montfort 80.79 339** *e*P **P 03 42 16.3 -2.0**
MOF **Molkenrain 80.85 338** *e*P **P 03 42 18.0 -0.6**
HAU **Haudompre 80.91 338** *e*P **P 03 42 18.8 -0.1**
HAU *e*R
comp=Z,48nm,20.0s
HAU **Haudompre 80.91 338** *e*P **P 03 42 18.8 -0.1**
HAU LR LR
comp=Z,50nm,20.0s
HINF **Hinteralfeld 80.95 338** *e*P **P 03 42 17.8 -1.4**
comp=Z,11nm,0.9s,mb4.5
HINF **Hinteralfeld 80.95 338** *e*P **P 03 42 17.8 -1.4**
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
HINF **Hinteralfeld 80.95 338** *e*P **P 03 42 17.8 -1.4**
comp=Z,5.4nm,0.9s,mb4.5
CSA1 **St Austell 80.99 346** *e*P **P 03 42 21.0 +1.7**
CCA1 **Carnmenellis 81.21 346** *e*P **P 03 42 22.1 +1.6**
CRQ2 **Rosemanowes 2 81.22 346** *e*P **P 03 42 22.4 +1.8**
CRQ2 AMb AMB 03 42 23.4
comp=Z,28nm,1.3s,mb5.0
CGH1 **Goonhilly 81.33 346** *e*P **P 03 42 23.1 +1.9**
FLN **La Foliniere 81.73 343** *e*P **P 03 42 22.5 -0.8**
comp=Z,56nm,1.1s,mb5.1
FLN *e*R
comp=Z,59nm,21.5s
FLN **La Foliniere 81.73 343** *e*P **P 03 42 22.5 -0.8**
FLN pmax pmax
comp=Z,28nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,60nm,21.5s
FLN **La Foliniere 81.73 343** *e*P **P 03 42 22.5 -0.8**
comp=Z,28nm,1.1s,mb5.1
FLN LR LR
comp=Z,60nm,21.5s
LDF **La Druitiere 81.82 343** *e*P **P 03 42 22.9 -0.8**
comp=Z,17nm,0.9s,mb4.7
LDF **La Druitiere 81.82 343** *e*P **P 03 42 22.9 -0.8**
LDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LDF **La Druitiere 81.82 343** *e*P **P 03 42 22.9 -0.8**
comp=Z,8.4nm,0.9s,mb4.7
GRR **Gorron 82.16 343** *e*P **P 03 42 25.1 -0.4**
comp=Z,58nm,1.0s,mb5.1
GRR **Gorron 82.16 343** *e*P **P 03 42 25.1 -0.4**
GRR pmax pmax

comp=Z,29nm,1.0s,mb5.2
GRR **Gorron 82.16 343** *e*P **P 03 42 25.1 -0.4**
comp=Z,29nm,1.0s,mb5.2
LOR **Lormes 82.20 340** *e*P **P 03 42 25.0 -0.7**
comp=Z,34nm,0.7s,mb5.1
LOR *e*R
comp=Z,59nm,20.2s
LOR **Lormes 82.20 340** *e*P **P 03 42 25.0 -0.7**
LOR pmax pmax
comp=Z,17nm,0.7s,mb5.1
LOR **Lormes 82.20 340** *e*P **P 03 42 25.0 -0.7**
comp=Z,17nm,0.7s,mb5.1
CABF **La Chapelle 82.27 338** *e*P **P 03 42 25.6 -0.5**
comp=Z,11nm,0.8s,mb4.6
CABF **La Chapelle 82.27 338** *e*P **P 03 42 25.6 -0.5**
CABF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CABF **La Chapelle 82.27 338** *e*P **P 03 42 25.6 -0.5**
comp=Z,5.7nm,0.8s,mb4.5
SSF **Saint Saulge 82.48 340** *e*P **P 03 42 26.7 -0.5**
comp=Z,18nm,0.7s,mb4.8
SSF **Saint Saulge 82.48 340** *e*P **P 03 42 26.7 -0.5**
SSF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SSF **Saint Saulge 82.48 340** *e*P **P 03 42 26.7 -0.5**
comp=Z,9.3nm,0.7s,mb4.8
HYF **Humbligny 82.48 341** *e*P **P 03 42 27.0 -0.2**
SGMF **Saint Gilles 82.61 344** *e*P **P 03 42 27.7 -0.2**
comp=Z,37nm,0.6s,mb5.3
SGMF **Saint Gilles 82.61 344** *e*P **P 03 42 27.7 -0.2**
SGMF pmax pmax
comp=Z,19nm,0.6s,mb5.3
SGMF **Saint Gilles 82.61 344** *e*P **P 03 42 27.7 -0.2**
comp=Z,19nm,0.6s,mb5.3
ROSF **Rostrenen 82.67 345** *e*P **P 03 42 28.1 -0.1**
comp=Z,42nm,0.7s,mb5.2
ROSF **Rostrenen 82.67 345** *e*P **P 03 42 28.1 -0.1**
ROSF pmax pmax
comp=Z,21nm,0.7s,mb5.3
ROSF **Rostrenen 82.67 345** *e*P **P 03 42 28.1 -0.1**
comp=Z,21nm,0.7s,mb5.3
AVF **Avril sur Loir 82.77 340** *e*P **P 03 42 28.2 -0.5**
comp=Z,35nm,0.7s,mb5.2
AVF **Avril sur Loir 82.77 340** *e*P **P 03 42 28.2 -0.5**
AVF pmax pmax
comp=Z,17nm,0.7s,mb5.2
AVF **Avril sur Loir 82.77 340** *e*P **P 03 42 28.2 -0.5**
comp=Z,17nm,0.7s,mb5.2
SMF **Signal de Mont 82.79 340** *e*P **P 03 42 28.3 -0.5**
comp=Z,43nm,0.9s,mb5.2
SMF **Signal de Mont 82.79 340** *e*P **P 03 42 28.3 -0.5**
SMF pmax pmax
comp=Z,22nm,0.9s,mb5.2
SMF **Signal de Mont 82.79 340** *e*P **P 03 42 28.3 -0.5**
comp=Z,22nm,0.9s,mb5.2
QUIF **Quistinic 83.05 345** *e*P **P 03 42 29.8 -0.4**
comp=Z,11nm,0.6s,mb4.8
QUIF **Quistinic 83.05 345** *e*P **P 03 42 29.8 -0.4**
QUIF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
QUIF **Quistinic 83.05 345** *e*P **P 03 42 29.8 -0.4**
comp=Z,5.6nm,0.6s,mb4.8
BGF **Bois d'Agland 83.10 340** *e*P **P 03 42 30.0 -0.4**
comp=Z,18nm,0.6s,mb5.0
BGF **Bois d'Agland 83.10 340** *e*P **P 03 42 30.0 -0.4**
BGF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
BGF **Bois d'Agland 83.10 340** *e*P **P 03 42 30.0 -0.4**
comp=Z,9.1nm,0.6s,mb5.0
LPL **La Plagne 83.12 337** *e*P **P 03 42 30.8 +0.3**
comp=Z,20nm,0.8s,mb4.9
LPL **La Plagne 83.12 337** *e*P **P 03 42 30.8 +0.3**
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LPL **La Plagne 83.12 337** *e*P **P 03 42 30.8 +0.3**
comp=Z,9.8nm,0.8s,mb4.9
LPG **La Plagne 83.13 337** *e*P **P 03 42 30.9 +0.3**
comp=Z,18nm,0.7s,mb4.9
LPG **La Plagne 83.13 337** *e*P **P 03 42 30.9 +0.3**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LPG **La Plagne 83.13 337** *e*P **P 03 42 30.9 +0.3**
comp=Z,8.8nm,0.7s,mb4.9
PLDF **La Plantade 83.47 339** *e*P **P 03 42 32.7 +0.3**
TCF **Toulx Ste Croi 83.50 340** *e*P **P 03 42 32.4 -0.1**
comp=Z,28nm,0.7s,mb5.2
TCF **Toulx Ste Croi 83.50 340** *e*P **P 03 42 32.4 -0.1**
TCF pmax pmax
comp=Z,14nm,0.7s,mb5.2
TCF **Toulx Ste Croi 83.50 340** *e*P **P 03 42 32.4 -0.1**
comp=Z,14nm,0.7s,mb5.2
AGO **Saint Agoulin 83.51 340** *e*P **P 03 42 33.3 +0.8**
MFF **Saint Martin d 83.72 342** *e*P **P 03 42 33.7 +0.1**
comp=Z,25nm,0.7s,mb5.2
MFF **Saint Martin d 83.72 342** *e*P **P 03 42 33.7 +0.1**
MFF pmax pmax
comp=Z,13nm,0.7s,mb5.2
MFF **Saint Martin d 83.72 342** *e*P **P 03 42 33.7 +0.1**
comp=Z,12nm,0.7s,mb5.2
PYM **Petit Puy Mans 83.83 340** *e*P **P 03 42 33.8 -0.4**
MBDF **Montbardon 83.84 337** *e*P **P 03 42 33.9 -0.3**
comp=Z,11nm,0.6s,mb4.8
MBDF **Montbardon 83.84 337** *e*P **P 03 42 33.9 -0.3**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
MBDF **Montbardon 83.84 337** *e*P **P 03 42 33.9 -0.3**
comp=Z,5.5nm,0.6s,mb4.9
ORIF **Oris-en-Rattie 83.89 338** *e*P **P 03 42 34.7 +0.2**
comp=Z,20nm,0.7s,mb5.0
ORIF **Oris-en-Rattie 83.89 338** *e*P **P 03 42 34.7 +0.2**
ORIF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ORIF **Oris-en-Rattie 83.89 338** *e*P **P 03 42 34.7 +0.2**
comp=Z,10nm,0.7s,mb5.1
VIVF **Saint-Julien-l 84.26 338** *e*P **P 03 42 36.6 +0.2**
comp=Z,24nm,0.9s,mb5.0
VIVF **Saint-Julien-l 84.26 338** *e*P **P 03 42 36.6 +0.2**
VIVF pmax pmax
comp=Z,12nm,0.9s,mb5.0
VIVF **Saint-Julien-l 84.26 338** *e*P **P 03 42 36.6 +0.2**
comp=Z,12nm,0.9s,mb5.0
SBF **Sospel 84.46 336** *e*P **P 03 42 36.3 -1.1**
RJF **Les Rejaudoux 84.59 341** *e*P **P 03 42 38.2 +0.2**
comp=Z,32nm,1.0s,mb5.1
RJF *e*R
comp=Z,75nm,21.8s
RJF **Les Rejaudoux 84.59 341** *e*P **P 03 42 38.2 +0.2**
RJF pmax pmax
comp=Z,16nm,1.0s,mb5.1
RJF MLR MLR
comp=Z,80nm,21.8s
RJF **Les Rejaudoux 84.59 341** *e*P **P 03 42 38.2 +0.2**
comp=Z,16nm,1.0s,mb5.1
RJF LR LR
comp=Z,80nm,21.8s
CAF **Calviac 84.83 340** *e*P **P 03 42 39.8 +0.6**
comp=Z,24nm,0.7s,mb5.1
CAF **Calviac 84.83 340** *e*P **P 03 42 39.8 +0.6**
CAF pmax pmax
comp=Z,12nm,0.7s,mb5.1
CAF **Calviac 84.83 340** *e*P **P 03 42 39.8 +0.6**
comp=Z,12nm,0.7s,mb5.1
SMRF **Simiane la Rot 84.85 337** *e*P **P 03 42 39.9 +0.6**
comp=Z,9.8nm,0.8s,mb4.7
SMRF **Simiane la Rot 84.85 337** *e*P **P 03 42 39.9 +0.6**
comp=Z,9.8nm,0.8s,mb5.0
FRF **La Foret Royal 84.95 337** *e*P **P 03 42 39.8 0.0**
comp=Z,8.9nm,0.9s,mb4.6
FRF **La Foret Royal 84.95 337** *e*P **P 03 42 39.8 0.0**
FRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
FRF **La Foret Royal 84.95 337** *e*P **P 03 42 39.8 0.0**
comp=Z,4.4nm,0.9s,mb4.6
LFF **La Frestale 85.11 341** *e*P **P 03 42 41.1 +0.5**
comp=Z,24nm,0.6s,mb5.2
LFF **La Frestale 85.11 341** *e*P **P 03 42 41.1 +0.5**
LFF pmax pmax
comp=Z,12nm,0.6s,mb5.2
LFF **La Frestale 85.11 341** *e*P **P 03 42 41.1 +0.5**
comp=Z,12nm,0.6s,mb5.2
LASF **Ste Croix 85.20 339** *e*P **P 03 42 41.6 +0.5**
comp=Z,19nm,1.0s,mb4.9
LMR **La Mourre 85.20 337** *e*P **P 03 42 40.6 -0.5**
comp=Z,18nm,0.9s,mb4.9
LMR **La Mourre 85.20 337** *e*P **P 03 42 40.6 -0.5**
LMR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9

LMR	La Mourre	85.20	337	eP	P	03 42 40.6	-0.5
	comp=Z,9.0nm,0.9s,mb4.9						
MTLF	Montolieu	86.29	340	eP	P	03 42 47.2	+0.7
	comp=Z,11nm,0.7s,mb4.9						
MTLF	Montolieu	86.29	340	eP	P	03 42 47.2	+0.7
MTLF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
MTLF	Montolieu	86.29	340	eP	P	03 42 47.2	+0.7
	comp=Z,5.7nm,0.7s,mb4.9						
EPF	Esparros	87.02	341	eP	P	03 42 50.4	+0.4
	comp=Z,6.5nm,0.5s,mb4.8						
EPF	Esparros	87.02	341	eP	P	03 42 50.4	+0.4
EPF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.8						
EPF	Esparros	87.02	341	eP	P	03 42 50.4	+0.4
	comp=Z,3.3nm,0.5s,mb4.8						
SJPF	Ste Jean	87.28	342	eP	P	03 42 52.3	+1.0
ETSF	Etsaut	87.34	341	eP	P	03 42 53.0	+1.4
	comp=Z,8.8nm,0.6s,mb4.9						
ETSF	Etsaut	87.34	341	eP	P	03 42 53.0	+1.4
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
ETSF	Etsaut	87.34	341	eP	P	03 42 53.0	+1.4
	comp=Z,4.4nm,0.6s,mb4.9						
TORD	Torodi Ar. Bea	114.81	330	PKP	PKiKP	03 48 43.4	-1.6
	comp=Z,0.5nm,1.2s,baz=13,slow=2.4,SNR=4.1						
CFAA	Coronel Fontan	144.55	79	PKP	PKPdf	03 49 37.9	-2.9
	comp=Z,0.8nm,0.6s,baz=278,slow=4.5,SNR=9.8						
CPUP	Villa Florida	147.90	60	PKPbc	PKPbc	03 49 48.2	-1.3
	comp=Z,0.9nm,0.5s,baz=331,slow=3.3,SNR=5.4						
PLCA	Paso Flores	147.91	95	PKPbc	PKPbc	03 49 48.6	-0.9
	comp=Z,3.3nm,0.8s,baz=293,slow=2.5,SNR=6.5						
VNA2	Neumayer--Watz	154.61	194	ePKPdf	PKPdf	03 49 56.4	-0.3
VNA2				e		03 50 03.2	
VNA2				e		03 50 06.5	
VNA2				e		03 50 19.1	
VNA2				e		03 50 31.5	
VNA2				e		03 50 40.4	
VNA2				e		03 50 48.2	
VNA3	Neumayer Olymp	154.69	193	ePKPdf	PKPdf	03 49 56.6	-0.2
VNA3				e		03 50 02.7	
VNA3				e		03 50 18.6	
VNA3				e		03 50 30.7	
VNA3				e		03 50 40.0	
VNA3				e		03 50 47.4	
VNA1	Neumayer--Stat	154.99	194	ePKPdf	PKPdf	03 49 58.1	+0.9
VNA1				e		03 50 04.0	
VNA1				e		03 50 20.7	
VNA1				e		03 50 40.3	

*IDC **06** 04:06:55.5±0.7, 56.16S×26.71W, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.3/17, mbtmp4.3/10, MS3.8/2, Ms1 3.7/2, ms1mx3.4/20, Error ellipse: s-maj=22.4km s-min=20.9km az=164.0*
*MOS **06** 04:06:59.4±1.0, 56.07S×26.77W, h33km, mb4.9/6, Error ellipse: s-maj=41.1km s-min=18.5km az=99.6*
*ISCJB **06** 04:07:00.5±3.0, 56.08S±0.08×268W±0.2, h46km±26km, mb4.5/17, MS3.7/2, Error ellipse: s-maj=17.2km s-min=13.8km az=153.5*
*NEIC **06** 04:07:03.9±1.4, 56.12S×26.83W, h64km±12km, mb4.7/12, Error ellipse: s-maj=10.1km s-min=8.4km az=65.0*

ISC 06 04:07:02.9±2.4, 56.17S±0.08×269W±0.2, h54km±22km, n53, σ0.71/31, mb4.5/17, MS3.7/2, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.83	285	ePn	Pn	04 08 26.9	+0.1
	69nm,0.8s						
SNAA	Sanae	18.55	156	eP	Pn	04 11 03.6	-12
SNAA				ePcP	PcP	04 15 30.7	-12
PMSA	Palmer Station	19.96	229	P	Pn	04 11 32.3	-0.4
	57nm,1.0s						
USHA	Ushuaia	23.34	256	P	P	04 12 06.5	0.0
	3.0nm,0.6s,mb3.9,baz=79,slow=13,SNR=4.9						
TRQA	Tornquist	29.55	293	eP	P	04 13 01.6	-0.7
	3.8nm,0.7s,mb4.2						
PLCA	Paso Flores	32.21	280	P	P	04 13 25.1	-0.8
	1.2nm,0.8s,mb3.8,baz=169,slow=4.5,SNR=3.5						
PLCA				PcP	PcP	04 16 13.0	-0.4
	1.4nm,0.8s,baz=27,slow=4.5,SNR=3.8						
PLCA				LR	LR	04 25 29.6	
	comp=Z,103nm,20.1s,MS3.5,baz=168,slow=34						
PLCA	Paso Flores	32.21	280	eP	P	04 13 24.4	-1.4
PLCA						04 16 13.0	
PLCA				pmax	pmax		
	comp=Z,12nm,1.3s						
PLCA	Paso Flores	32.21	280	eP	P	04 13 24.4	-1.4
	comp=Z,12nm,1.3s,mb4.6						
PLCA				PcP	PcP	04 16 13.0	-0.4
PLCA				LR	LR	04 25 29.6	
QSPA	South Pole Qui	34.08	180	eP	P	04 13 42.3	+0.2
	comp=Z,12nm,0.7s,mb4.9						
QSPA				ePcP	PcP	04 16 18.0	-0.6
CPUP	Villa Florida	37.04	311	P	P	04 14 07.4	-0.1
	comp=Z,5.4nm,0.6s,mb4.5,baz=135,slow=7.2,SNR=23						
CPUP				PcP	PcP	04 16 27.2	-0.1
	comp=Z,0.3nm,0.3s,baz=155,slow=5.9,SNR=3.4						
BDFB	Brasilia	43.57	330	P	P	04 15 02.0	+0.5
	comp=Z,2.7nm,0.7s,mb4.1,baz=186,slow=10.0,SNR=3.9						
LVC	Limon Verde	45.52	300	eP	P	04 15 17.8	+0.7
	comp=Z,9.2nm,0.6s,mb4.9						
LVC				ePcP	PcP	04 16 56.1	+1.1
BOSA	Boshof	45.82	75	LR	LR	04 31 21.7	
	comp=Z,134nm,18.1s,MS3.9,baz=178,slow=32						
SBA	Scott Base	45.97	184	eP	P	04 15 23.2	+2.6
SBA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
SBA	Scott Base	45.97	184	eP	P	04 15 23.2	+2.6
	comp=Z,3.3nm,0.8s,mb4.3						
VNDA	Vanda	46.46	183	P	P	04 15 24.4	0.0
	comp=Z,5.9nm,0.7s,mb4.6,baz=186,slow=5.2,SNR=32						
VNDA	Vanda	46.46	183	eP	P	04 15 24.4	0.0
VNDA				e		04 16 58.7	
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VNDA	Vanda	46.46	183	eP	P	04 15 24.4	0.0
	comp=Z,5.8nm,0.8s,mb4.6						
VNDA				ePcP	PcP	04 16 58.7	+0.4
TSUM	Tsumeb	49.58	60	P	P	04 15 48.4	-0.2
	comp=Z,0.9nm,0.8s,mb3.8,baz=196,slow=6.6,SNR=3.5						
TSUM	Tsumeb	49.58	60	eP	P	04 15 48.5	0.0
	comp=Z,0.7nm,0.8s,mb3.7						
LPAZ	La Paz	50.60	305	P	P	04 15 57.6	+1.3
	comp=Z,12nm,0.5s,mb5.0,baz=129,slow=5.8,SNR=106						
LPAZ				PcP	PcP	04 17 14.3	+1.0
	comp=Z,1.6nm,0.6s,baz=188,slow=4.0,SNR=2.3						
LPAZ	La Paz	50.60	305	↑iP	P	04 15 57.4	+1.1
LPAZ						04 17 14.3	
LPAZ				pmax	pmax		
	comp=Z,12nm,0.6s						
LPAZ	La Paz	50.60	305	↑iP	P	04 15 57.4	+1.1
	comp=Z,12nm,0.6s,mb5.0						
LPAZ				PcP	PcP	04 17 14.3	+1.0
SAML	Samuel	55.02	314	eP	P	04 16 28.4	-0.5
	comp=Z,8.0nm,1.0s,mb4.7						
SAML				epP	pP	04 16 41.4	-2.1
LSZ	Lusaka	58.24	68	P	P	04 16 51.4	-0.3
LSZ				pmax	pmax		
	comp=Z,23nm,2.1s,mb4.8						
LSZ	Lusaka	58.24	68	P	P	04 16 51.4	-0.4
	comp=Z,23nm,2.1s,mb4.8						
DBIC	Dimbokro	65.20	24	P	P	04 17 38.3	-0.3
	comp=Z,4.0nm,1.0s,mb4.4,baz=288,slow=5.8,SNR=4.5						
TORD	Torodi Ar. Bea	73.07	29	P	P	04 18 27.4	+0.1
	comp=Z,1.9nm,0.4s,mb4.4,baz=202,slow=6.4,SNR=122						
SDV	Santo Domingo	74.23	315	P	P	04 18 34.6	+0.5
TAU	Tasmania Unive	81.16	176	eP	P	04 19 11.9	-0.8
TAU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
TAU	Tasmania Unive	81.16	176	eP	P	04 19 11.9	-0.8
	comp=Z,9.0nm,0.8s,mb4.8						
ASAR	Alice Springs	98.81	162	P	P	04 20 36.5	-0.4
	comp=Z,0.5nm,0.7s,mb4.2,baz=180,slow=4.7,SNR=5.3						
SDMD	Soldier's Deli	104.22	322	eP	Pdif	04 20 58.1	-2.8
HBAR	Harrisburg	106.18	310	ePKPdf	PKiKP	04 25 18.6	-2.6
MSU	Marysvale	118.58	297	ePKIKP	PKPdf	04 25 44.5	-0.2
DUG	Dugway	120.18	298	ePKIKP	PKPdf	04 25 47.1	-0.7
BW06	Boulder Array	120.57	302	ePKPdf	PKPdf	04 25 47.2	-1.3
PDAR	Pinedale Array	120.57	302	PKP	PKPdf	04 25 46.0	-2.5
	comp=Z,0.4nm,0.5s,baz=144,slow=4.9,SNR=4.3						
HWUT	Hardware Ranch	120.65	300	ePKPdf	PKPdf	04 25 47.4	-1.3
NVAR	Mina Array Bea	121.62	293	PKP	PKPdf	04 25 50.0	-0.5
	comp=Z,0.5nm,0.3s,baz=191,slow=4.4,SNR=3.6						
LOHW	Long Hollow	121.71	302	ePKPdf	PKPdf	04 25 49.7	-1.0
BOZ	Bozeman (W)	123.72	303	ePKIKP	PKPdf	04 25 53.2	-1.3
FINES	FINESS Array B	124.40	28	PKP	PKPdf	04 25 53.5	-2.3
	comp=Z,1.8nm,0.8s,baz=144,slow=3.1,SNR=14						
ARCES	ARCESS Array B	130.99	22	PKP	PKPdf	04 26 06.4	-2.0
	comp=Z,0.7nm,0.5s,baz=181,slow=2.4,SNR=15						
INK	Inuvik	146.02	320	PKPbc	PKPbc	04 26 34.8	-1.9
	comp=Z,6.5nm,0.7s,baz=111,slow=4.6,SNR=27						
INK	Inuvik	146.02	320	ePKIKP	PKPdf	04 26 33.3	-2.5
INK						04 26 34.8	
INK	Inuvik	146.02	320	ePKPdf	PKPdf	04 26 33.3	-2.5
INK				PKPbc	PKPbc	04 26 34.8	-1.9
INK				ePKPab	PKPab	04 26 35.0	-2.3
DAWY	Dawson	147.01	312	ePKPbc	PKPbc	04 26 37.6	-1.9
DAWY				eSKPdf	SKPdf	04 29 49.0	-18
ZAK	Zakamensk	150.18	80	ePKIKP	PKPdf	04 26 46.6	+4.0
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.8s						
COLA	College	150.76	311	ePKIKP	PKPdf	04 26 47.0	+3.5
COLA				e		04 26 55.6	
MCK	McKinley	151.00	309	ePKIKP	PKPdf	04 26 48.5	+4.6
SVW2	Sparrevohn	153.45	302	ePKPab	PKPab	04 27 05.7	-1.9
TTA	Tatalina	153.99	306	ePKIKP	PKPdf	04 26 55.4	+7.1

*ISCJB **06** 04:26:05.8±2.6, 2370S±0.10×1777W±0.2, h138km±27km, mb4.0/6, Error ellipse: s-maj=27.6km s-min=11.7km az=49.0*
*NEIC **06** 04:26:11.0±2.6, 2351S×17749W, h190km±41km, mb4.3/2, Error ellipse: s-maj=43.4km s-min=16.8km az=102.0*
*IDC **06** 04:26:14.2±8.2, 2355S×17705W, h260km±154km, mb3.3/4, mb1 3.7/6, mb1mx3.5/14, mbtmp4.3/6, Error ellipse: s-maj=113.3km s-min=26.9km az=85.0*

ISC 06 04:26:06.7±2.7, 237S±02×1776W±02, h130km±28km, n13, σ0.48/16, mb4.0/6, 6C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	11.20	31	P	Pn	04 28 42.8	-0.1
	16nm,0.3s,baz=156,slow=2.4,SNR=14						
AFI				S	Sn	04 30 37.2	-9.1
	5.1nm,0.3s,baz=44,slow=19,SNR=4.2						
AFI	Afiamalu	11.20	31	ePn	Pn	04 28 43.0	+0.1
	44nm,0.2s						
AFI				eS	Sn	04 30 39.0	-7.3
URZ	Urewera	15.19	196	P	Pn	04 29 39.3	+5.0
	2.7nm,0.3s,baz=330,slow=4.8,SNR=12						
URZ				S	S	04 32 18.0	-12
	1.5nm,0.3s,baz=124,slow=23,SNR=8.9						
RPZ	Rata Peaks	22.03	202	P	P	04 30 50.6	0.0
	5.9nm,0.6s,mb4.2,baz=200,slow=5.1,SNR=6.2						
STKA	Stephens Creek	36.82	248	P	P	04 33 01.8	-0.3
	0.7nm,0.3s,mb3.7,baz=83,slow=8.1,SNR=4.0						
ASAR	Alice Springs	44.22	260	P	P	04 34 03.0	+0.2
	0.5nm,0.3s,mb3.6,baz=98,slow=7.3,SNR=6.2						
WRA	Warramunga Arr	44.60	265	P	P	04 34 05.2	-0.7
	0.4nm,0.3s,mb3.5,baz=105,slow=8.4,SNR=24						
MBWA	Marble Bar	57.56	259	P	P	04 35 43.3	+0.7
	17nm,1.3s,mb4.7						
CASY	Casey	61.24	206	P	P	04 36 07.9	0.0
	1.4nm,0.6s,mb4.0						
109C	Camp Elliot, M	80.58	48	↑P	P	04 38 18.0	+13
	baz=1.0,SNR=6.6						
109C				⇓S		04 38 30.4	
	baz=1.0						
PFO	Pinyon Flat Ob	81.44	48	↑P	P	04 38 09.8	+0.6
	baz=0.5,SNR=20						
PFO				↑S		04 38 16.7	
	baz=0.5						
BC3	Big Chuckw Mtn	82.15	48	↑P	P	04 38 12.2	-0.7
	baz=0.6						
BC3				↑S		04 38 21.3	
	baz=0.6						
GLA	Glamis	82.24	49	⇓P	P	04 38 18.4	+5.0
	baz=1.0						
GLA				↑S		04 38 31.7	
	baz=1.0						

*SZGRF **06** 04:34:12.1, 1655N×9195W, h200km, mb4.8, Mexico-Guatemala border region*
*IDC **06** 04:34:25.8±0.5, 1534N×9157W, h185km±3km, mb4.4/21, mb1 4.5/23, mb1mx4.5/24, mbtmp5.0/23, MS4.0/3, Ms1 3.9/3, ms1mx3.3/25, Error ellipse: s-maj=13.4km s-min=7.2km az=62.0*
*ISCJB **06** 04:34:26.0±0.2, 1531N±003×9146W±002, h194km, mb4.6/157, Error ellipse: s-maj=4.0km s-min=2.2km az=61.2*
*BJI **06** 04:34:27.6, 1540N×9190W, h207km, mB5.1*
*HRVD **06** 04:34:27.6±0.2, 1538N×9176W, h189km±1km, MW5.3/99, Centroid moment Tensor Solution. LP body waves: s75,c124;Mantle waves: s99,c168; Half duration: 1§1 Moment tensor: Scale 1017Nm; Mrr0.69±.02; Mθθ-0.58±.02; Mφφ-0.10±.03; Mrθ0.50±.02; Mrφ0.44±.02; Mθφ-0.92±.02; Best double couple: M0 1.30300×1017 NP1:φ§278.00000°, δ24.00000°, λ45.00000°. NP2: φ§145.00000°, δ73.00000°, λ107.00000°. Principal axes: T 1.3070, Plg58.0000°, Azm78.0000°; N -0.0080, Plg17.0000°, Azm320.0000°; P -1.2980, Plg26.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 04:34:27.6, 1539N×9187W, h208km, mb4.7/118, MD5.1(MEX), After MEX.*
*MOS **06** 04:34:28.1±0.9, 1529N×9145W, h218km, mb4.8/64, Error ellipse: s-maj=6.2km s-min=4.3km az=95.0*
*BGS **06** 04:34:28.4±1.3, 1538N×9111W, h200km, mb4.9*
*MEX **06** 04:34:28.6±1.0, 1540N×9190W, h202km±10km, MD5.0*

ISC 06 04:34:27.8±0.2, 1532N±003×9140W±002, h196km, h196km±.8km: pP-P, n682, σ1§06/640, mb4.6/157, 104C-73D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	Tecpan 2	0.64	146	⇓eP	Pn	04 34 54.7	-0.3
TP2				AML	AML	04 35 21.2	
	comp=N,83μm,0.6s						
FUG	Fuego 3	1.02	148	↑iP	Pn	04 34 57.3	+0.1
JAT	Jato	1.02	193	⇓eP	Pn	04 34 54.8	-2.5
JAT				eS	Sn	04 35 18.6	-1.5
CCIG	Comitan	1.19	323	iP	Pn	04 34 56.5	-2.1
CCIG				iS	Sn	04 35 19.2	-3.1
PCG	Pacaya	1.20	140	⇓eP	Pn	04 34 60.0	+1.4
SCX	San Cristobal	1.84	320	iP	Pn	04 35 02.3	-2.1
SCX				iS	Sn	04 35 26.5	-6.3
SNJE	San Jose	2.25	130	⇓eP	x	04 35 27.1	
SNJE				eS	x	04 36 03.8	
BOQS	Boqueron	2.58	127	↑eP	x	04 35 31.0	
BOQS				eS	x	04 36 10.5	
PICS	Picacho	2.60	127	eP	x	04 35 49.2	
SNET	Serv Nac Est T	2.65	127	eP	x	04 35 15.8	
BLLM	Bellamira	3.58	121	eP	x	04 35 45.1	
BLLM				eS	x	04 36 34.9	
SCIG		3.63	3	⇓iP	Pn	04 35 24.3	-0.5
SCIG				iS	Sn	04 36 08.5	-1.1
CMIG	Matias Romero	3.79	298	P	Pn	04 35 21.2	-5.5
	comp=N,353nm,0.3s,baz=107,slow=6.6,SNR=2906						
CMIG				S	Sn	04 36 02.1	-11
	comp=N,438nm,0.3s,baz=336,slow=20,SNR=24						
CMIG	Matias Romero	3.79	298	↑iP	Pn	04 35 21.4	-5.4
CMIG				iS	Sn	04 36 01.5	-12
CMIG	Matias Romero	3.79	298	iP	Pn	04 35 20.9	-5.8
CMIG				iS	Sn	04 36 01.7	-11
TUIG	Tuzandepetl	3.96	313	↑iP	Pn	04 35 24.8	-4.2
TUIG				iS	Sn	04 36 07.4	-10
TUIG	Tuzandepetl	3.96	313	iP	Pn	04 35 24.0	-5.0
TUIG				iS	Sn	04 36 08.6	-8.4
CNCH	Conchagua	4.01	120	↑eP	x	04 35 49.5	
CNCH				eS	x	04 36 44.1	
HUIG	Huatulco	4.56	276	↑iP	Pn	04 35 29.2	-7.3
HUIG				iS	Sn	04 36 18.9	-12
HUIG	Huatulco	4.56	276	iP	Pn	04 35 28.9	-7.6
HUIG				iS	Sn	04 36 13.7	-17
EVV	El Vigia	4.90	310	eP	Pn	04 35 35.5	-5.3
CRIN	San Cristobal	4.96	121	⇓eP	Pn	04 35 46.0	+4.4
LEON	Leon	5.24	123	eP	Pn	04 35 48.8	+3.6
CNGN	Cerro Negro	5.35	121	eP	Pn	04 35 50.6	+4.0
MIRN	Miramar	5.37	122	eP	Pn	04 35 50.9	+4.0
OXX	Oaxaca	5.41	290	iP	Pn	04 35 43.0	-4.3
VHO	Vista Hermosa	5.42	289	↑iP	Pn	04 35 43.3	-4.2
VHO				iS	Sn	04 36 37.7	-13
VHO	Vista Hermosa	5.42	289	iP	Pn	04 35 43.0	-4.4
VHO				iS	Sn	04 36 37.8	-12
MOMJ	Momotombo	5.53	121	eP	Pn	04 35 53.8	+4.9
COPN	Copaltepe	5.62	123	⇓eP	Pn	04 35 53.5	+3.5
TEIG	Tepich	5.71	31	ePn	Pn	04 35 52.2	+0.9
APYN	Apoyeque	5.78	121	eP	Pn	04 35 56.7	+4.5
XAVN	Gruta Xavier	5.85	122	eP	Pn	04 35 57.5	+4.5
TISN	Laguna Tiscapa	5.90	122	⇓eP	Pn	04 35 58.3	+4.6
MGAN	Managua	5.91	122	eP	Pn	04 35 57.5	+3.7
MGAN				i		04 37 08.0	
	comp=N,1μm,0.6s						
APON	Apoyo	6.19	122	↑eP	Pn	04 36 01.6	+4.2
UTMO	Huajuapan	6.63	293	↑iP	Pn	04 35 59.5	-3.7
UTMO				iS	Sn	04 37 07.1	-12
SSNN	San Juan del S	6.72	126	eP	Pn	04 36 07.6	+3.2
CONN	Concepcion	6.74	123	⇓eP	Pn	04 36 08.2	+3.6
MADN	Villa Maderas	6.90	124	eP	Pn	04 36 09.6	+2.9
LIM1	Limonal	7.54	127	⇓eP	Pn	04 36 17.1	+2.1
PPM	Popocatepetl	7.85	299	eP	Pn	04 36 17.0	-2.1
JTS	JuntasAbangare	8.03	128	ePn	Pn	04 36 23.2	+1.8
JTS				eSn	Sn	04 37 49.5	-2.2
ACX	Acapulco	8.33	282	iP	Pn	04 36 20.0	-5.4
PLIG	Platanillo	8.34	293	iP	Pn	04 36 22.4	-3.1
PLIG				iS	Sn	04 37 45.7	-13
UNM	Universidad Na	8.43	299	iP	Pn	04 36 23.4	-3.3
UNM				iP		04 36 25.2	
UNM				iS	Sn	04 37 49.0	-12
UNM	Universidad Na	8.43	299	iP	Pn	04 36 25.4	-1.3
MRX	Morelia	10.31	296	eP	Pn	04 36 51.0	-0.1
CNI	Changuinola	10.47	123	⇓eP	Pn	04 36 55.0	+1.9
CTCR	Cotoan	10.58	126	eP	Pn	04 36 56.1	+1.5
BRU2	Volcan	10.70	126	⇓iP	Pn	04 36 57.4	+1.3
BRU	Baru	10.79	126	eP	Pn	04 36 59.7	+2.3
SOR	Soroa	10.87	46	eP	Pn	04 36 59.7	+1.5
SOR				eS	Sn	04 39 06.5	+7.2
	comp=N,3.7nm,3.8s						
SOR				e			
	comp=E,4.6nm,2.8s						
SFJM	Santa Fe	12.21	297	eP	Pn	04 37 11.5	-4.0
AZU	Azuero	13.21	123	eP	Pn	04 37 31.4	+3.4
MCJ	Malvern	13.39	77	⇓eP	Pn	04 37 36.0	+5.7
CVJ	Coleyville	13.59	76	⇓iP	Pn	04 37 40.7	+8.0
BBJ	Bamboo Saint A	13.86	75	⇓eP	Pn	04 37 43.8	+7.6
STH	Stony Hill	14.24	77	⇓eP	Pn	04 37 42.6	+1.8
GWJ	Greenwich	14.32	77	⇓iP	Pn	04 37 49.2	+7.4
HKT	Hockley	15.12	345	eP	Pn	04 37 53.9	+2.2
HKT				pmax	pmax		
	comp=Z,173nm,1.6s						
HKT	Hockley	15.12	345	eP	Pn	04 37 53.9	+2.2
	comp=Z,173nm,1.6s						
HLGC	Holguin	15.59	67	eP	Pn	04 38 00.3	+3.0
RCC	Rio Carpintero	15.66	70	eP	Pn	04 38 01.8	+3.6
RCC				eS	S	04 40 53.6	+1.7
	comp=N,781nm,18.4s						
RCC				e			
	comp=E,561nm,18.4s						
DWPF	Disney	15.72	34	ePn	Pn	04 38 01.9	+2.9
MOAC	Moa	16.51	69	eP	Pn	04 38 05.0	-3.4
MOAC				eS	S	04 41 08.6	-1.5
	comp=N,4μm,6.1s						
MOAC				e			
	comp=E,2μm,3.4s						
NATX	Nacogdoches	16.64	350	ePn	Pn	04 38 10.2	+0.4
JCT	Junction City	16.95	334	eP	Pn	04 38 13.9	+0.3
JCT				pmax	pmax		
	comp=Z,81nm,1.0s						
JCT	Junction City	16.95	334	ePn	Pn	04 38 13.9	+0.3
	comp=Z,81nm,1.0s						
MASC	Masc	17.04	71	eP	Pn	04 38 18.5	+3.7
LTX	Lajitas	17.96	323	eP	Pn	04 38 24.2	-1.3
LTX				pmax	pmax		
	comp=Z,43nm,1.3s						
LTX	Lajitas	17.96	323	eP	Pn	04 38 24.1	-1.4
	comp=Z,43nm,1.3s						
LRAL	Lakeview Retre	18.08	12	ePn	Pn	04 38 27.5	+0.5
	comp=Z,53nm,0.9s						
OXF	Oxford	19.19	5	eP	P	04 38 37.7	+0.9
MIAR	Mount Ida	19.24	355	eP	P	04 38 37.5	+0.2
UALR	University of	19.39	358	eP	P	04 38 39.6	+0.7
OTAV	Otavalo	19.70	138	eP	P	04 38 44.6	+2.4
	comp=Z,46nm,0.7s						
ROSC	El Rosal	19.74	120	P	P	04 38 44.9	+2.3
	comp=Z,3.5nm,0.3s,baz=3.6,slow=1.0,SNR=38						
PLAL	Pickwick Lake	19.81	8	eP	P	04 38 43.9	+0.6
	comp=Z,53nm,0.8s						
LPIG	La Paz	19.82	299	LR	LR	04 47 44.9	
	comp=Z,290nm,18.7s,baz=206,slow=41						
HBAR	Harrisburg	20.16	2	eP	P	04 38 48.0	+0.8
SWET	Sewanee	20.41	13	eP	P	04 38 51.3	+1.5
NHSC	New Hope	20.42	28	eP	P	04 38 52.9	+3.0
COW	Cow Castle Cre	20.43	26	eP	P	04 38 52.6	+2.7
WMOK	Wichita Mounta	20.45	342	eP	P	04 38 48.8	-1.4
HALT	Halls	20.59	5	eP	P	04 38 52.2	+0.6
GNAR	Gosnell	20.60	3	eP	P	04 38 51.8	0.0
MNTX	Cornudas Mount	20.71	324	eP	P	04 38 52.0	-1.0
GLAT	Glass	20.95	5	eP	P	04 38 56.3	+0.8
WVT	Waverly	20.97	8	eP	P	04 38 55.9	+0.2
WVT				pmax	pmax		
	comp=Z,69nm,0.6s						
WVT	Waverly	20.97	8	eP	P	04 38 55.9	+0.2
	comp=Z,69nm,0.6s						
JSC	Jenkinsville	20.98	24	eP	P	04 38 57.8	+2.0
UTMT	University of	21.06	6	eP	P	04 38 57.2	+0.5
PVMO	Portageville	21.06	4	eP	P	04 38 58.2	+1.5
SDV	Santo Domingo	21.27	105	P	P	04 38 59.3	+0.3
	comp=Z,80nm,0.7s,mb5.4,baz=310,slow=5.4,SNR=152						
SDV				ScP	ScP	04 46 14.3	+0.7
	comp=Z,5.0nm,0.2s,baz=

baz=25,SNR=5.4
115A Sonoran Desert 25.64 316 ⇓P P 04 39 39.2 -0.1
baz=25
ATAH Atahualpa 25.65 149 P P 04 39 42.8 +3.4
comp=Z,41nm,0.7s,mb5.2,baz=335,slow=7.0,SNR=25
ATAH PcP PcP 04 43 06.5 +2.0
comp=Z,12nm,0.8s,baz=38,slow=3.8,SNR=4.6
ACSO Alum Creek Sta 25.88 15 eP P 04 39 42.4 +0.9
comp=Z,47nm,0.6s,mb5.3
ACSO epP pP 04 40 23.1 +2.1
CBN Corbin 25.94 26 eP P 04 39 44.5 +2.5
MCWV Mont Chateau 26.27 20 eP P 04 39 45.9 +0.9
comp=Z,56nm,1.1s,mb5.1
Z14A Wintersburg 26.52 316 ⇑P P 04 39 47.5 +0.3
baz=26
SCIA State Center 26.54 357 eP P 04 39 47.7 +0.3
MVCO Mesa Verde 26.57 328 eP P 04 39 47.9 +0.2
PCRV Puerto La Cruz 26.58 98 P P 04 39 48.6 +0.8
comp=Z,5.8nm,0.6s,mb4.4,baz=260,slow=4.9,SNR=5.5
X15A Humboldt 26.77 319 ⇑P P 04 39 50.0 +0.6
baz=26,SNR=10
Y14A Wickenburg 26.91 317 ⇑P P 04 39 50.9 +0.2
baz=27
X14A Yava 27.17 318 ⇑P P 04 39 53.4 +0.4
baz=27,SNR=7.7
SDMD Soldier's Deli 27.18 25 eP P 04 39 57.3 +4.2
W15A Williams 27.23 320 ⇑P P 04 39 54.5 +0.9
baz=27,SNR=11
PV01 Paradox Valley 27.32 330 eP P 04 39 55.9 +1.6
Y13A Salome 27.38 316 ⇑P P 04 39 55.3 +0.5
baz=27,SNR=5.3
ISCO Idaho Springs 27.38 336 eP P 04 39 55.1 +0.2
ISCO pmax pmax
comp=Z,33nm,1.2s,mb4.8
ISCO Idaho Springs 27.38 336 eP P 04 39 55.1 +0.3
comp=Z,33nm,1.2s,mb4.8
SMCO Snowmass 27.42 333 epP pP 04 40 35.4 +0.5
GLA Glamis 27.62 314 eP P 04 39 57.3 +0.3
GLA e 04 43 09.8
GLA Glamis 27.62 314 ⇓P P 04 39 57.4 +0.4
baz=27,SNR=8.3
W14A Seligman 27.76 319 ⇓P P 04 39 59.0 +0.7
baz=28,SNR=9.2
Y12C Blythe 27.80 315 ⇑P P 04 39 59.2 +0.5
baz=28
SSPA Standing Stone 27.83 22 eP P 04 40 00.3 +1.4
X13A Yucca 27.85 318 ⇓P P 04 39 59.6 +0.5
baz=28,SNR=7.5
MVL Millersville 27.88 25 eP P 04 40 00.3 +0.9
BC3 Big Chuckw Mtn 28.39 314 ⇑P P 04 40 04.3 +0.5
baz=28,SNR=9.4
ERPA Erie 28.46 18 eP P 04 40 05.5 +1.1
comp=Z,45nm,0.8s,mb5.2
PHWY Pilot Hill 28.61 338 eP P 04 40 06.0 +0.1
ECSD EROS,Sioux Fal 28.67 352 eP P 04 40 04.9 -1.4
BAR Barrett 28.73 311 epP pP 04 40 47.3 +0.6
W12A Cal Nev Ari 28.96 318 ⇓P P 04 40 09.4 +0.5
baz=29
SRU San Rafael 29.05 328 eP P 04 40 10.8 +1.1
PFO Pinyon Flat Ob 29.06 313 eP P 04 40 06.3 -3.5
PFO pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
PFO Pinyon Flat Ob 29.06 313 eP P 04 40 06.3 -3.4
comp=Z,2.4nm,0.8s,mb3.9
PFO Pinyon Flat Ob 29.06 313 ⇓P P 04 40 10.4 +0.6
baz=29
BRNJ Basking Ridge 29.21 27 eP P 04 40 11.0 -0.1
CCUT Cedar City 29.48 323 eP P 04 40 14.7 +1.2
MSU Marysvale 29.48 326 eP P 04 40 14.7 +1.2
TMUT Trail Mountain 29.54 328 epP pP 04 40 55.7 +1.7
CPNY Central Park 29.56 27 eP P 04 40 15.8 +1.6
BBSR BB Station 29.61 50 eP P 04 40 16.9 +2.2
RWWY Rawlins 29.62 336 eP P 04 40 15.3 +0.6
comp=Z,48nm,1.2s,mb5.0
ARUT Antelope Range 29.68 323 eP P 04 40 17.0 +1.7
TUQ Turquoise Mtn. 29.73 317 ⇑P P 04 40 16.4 +0.7
baz=29,SNR=5.6
PAL Palisades 29.76 27 eP P 04 40 17.3 +1.4
PAL pmax pmax
comp=Z,73nm,1.0s,mb5.3
PAL Palisades 29.76 27 eP P 04 40 17.3 +1.3
comp=Z,73nm,1.0s,mb5.3
SHPR Sheep Range 29.88 319 eP P 04 40 18.3 +1.3
SHPR epP pP 04 40 56.9 -0.2
SHPR ePcP PcP 04 43 15.8 +0.9
BINY Binghamton 29.90 23 eP P 04 40 18.4 +1.3
GSC Goldstone 30.24 316 epP pP 04 41 03.4 +3.2
GSC ePcP PcP 04 43 16.6 +0.7
GSC Goldstone 30.24 316 ⇓P P 04 40 21.0 +0.9
baz=30
MPU Maple Canyon 30.29 328 epP pP 04 41 00.3 -0.4
DAU Daniels Canyon 30.40 329 eP P 04 40 22.9 +1.3
DAU epP pP 04 41 01.7 0.0
NLU North Lily Min 30.47 328 epP pP 04 41 04.7 +2.4
TPNV Topopah Spring 30.84 319 eP P 04 40 27.3 +1.8
TPNV e*PP pP 04 41 07.3 +1.7
TPNV e 04 43 18.3
TPNV pmax pmax
comp=Z,26nm,1.3s,mb4.7
TPNV Topopah Spring 30.84 319 eP P 04 40 27.3 +1.8
comp=Z,26nm,1.3s,mb4.7
TPNV epP pP 04 41 07.3 +1.7
TPNV ePcP PcP 04 43 18.2 +0.8
CTU Camp Tracy 30.86 329 epP pP 04 41 08.7 +2.9
NOQ North Oquirrh 31.02 328 epP pP 04 41 09.8 +2.7
TCUT Toone Canyon 31.02 330 eP P 04 40 25.2 -1.8
TCUT epP pP 04 41 07.3 +0.2
DUG Dugway 31.03 327 epP pP 04 41 09.6 +2.3
SADO Sadowa 31.14 17 P P 04 40 28.2 +0.1
comp=Z,57nm,0.7s,mb5.3,baz=218,slow=9.0,SNR=68
SADO Sadowa 31.14 17 P P 04 40 28.2 +0.1
DAC Darwin (Calif) 31.32 317 eP P 04 40 30.6 +0.9
DAC epP pP 04 41 08.1 -1.7
HWUT Hardware Ranch 31.47 330 eP P 04 40 31.2 +0.2
HWUT epP pP 04 41 11.8 +0.7
HWUT ePcP PcP 04 43 18.8 -0.4
QUA2 Belchertown 31.47 28 eP P 04 40 31.7 +0.7
comp=Z,72nm,1.0s,mb5.3
PDAR Pinedale Array 31.48 334 P P 04 40 30.0 -1.1
comp=Z,0.7nm,0.7s,mb3.4,baz=129,slow=12,SNR=5.3
PDAR pP pP 04 41 10.4 -0.8
comp=Z,6.1nm,1.0s,baz=142,slow=7.5,SNR=7.4
PDAR PcP PcP 04 43 17.9 -1.2
comp=Z,2.2nm,0.5s,baz=135,slow=5.7,SNR=12
PDAR ScP ScP 04 46 44.5 +0.8
comp=Z,1.8nm,1.0s,baz=141,slow=3.1,SNR=5.0
ISA Isabella 31.57 315 eP P 04 40 32.4 +0.6
ISA e*PP pP 04 41 13.6 +1.6
ISA e 04 43 20.8
ISA Isabella 31.57 315 ⇓P P 04 40 32.3 +0.4
baz=31
P12A McGill 31.67 324 ⇑P P 04 40 33.6 +0.9
baz=31
SPUT South Promonto 31.67 329 eP P 04 40 32.7 -0.1
SPUT epP pP 04 41 12.5 -0.4
BGU Big Grassy Mou 31.68 328 eP P 04 40 32.8 0.0
ACCN Adirondack Com 31.81 25 eP P 04 40 34.9 +0.9
S09A Goldfield 31.93 319 ⇑P P 04 40 35.7 +0.7
baz=32,SNR=15
HRV Harvard--Oak R 32.01 28 eP P 04 40 36.8 +1.1
HRV pmax pmax
comp=Z,54nm,1.0s,mb5.0
HRV Harvard--Oak R 32.01 28 eP P 04 40 36.8 +1.1
comp=Z,54nm,1.0s,mb5.0
WES Weston 32.03 29 eP P 04 40 37.4 +1.6
WES pmax pmax
comp=Z,87nm,1.2s,mb5.2
WES Weston 32.03 29 eP P 04 40 37.4 +1.6
comp=Z,87nm,1.2s,mb5.2
NCB Newcomb 32.08 24 epP pP 04 41 17.5 +1.0
O12A Currie 32.13 325 ⇓P P 04 40 37.7 +0.9
baz=32,SNR=5.8
TPH Tonopah 32.15 320 eP P 04 40 38.8 +1.9
TPH epP pP 04 41 18.1 +1.0
AHID Auburn Hatcher 32.16 332 eP P 04 40 36.9 -0.1
comp=Z,24nm,1.0s,mb4.7
AHID epP pP 04 41 16.4 -0.9
TIN Tinemaha 32.18 317 ⇑P P 04 40 38.3 +1.1
baz=32
HVU Hansel Valley 32.19 329 eP P 04 40 39.7 +2.5
HVU epP pP 04 41 17.2 -0.3
N13A West Wendover 32.24 327 ⇑P P 04 40 38.4 +0.6
baz=32
S08C White Mtn Res 32.40 318 ⇑P P 04 40 40.0 +0.9
baz=32,SNR=7.7

MIV Mineville/With 32.44 24 eP P 04 40 39.8 +0.4
HELL Mitchell Peak 32.50 316 ⇓P P 04 40 40.6 +0.7
baz=32
LONY Lake Ozonia 32.50 23 eP P 04 40 40.5 +0.5
LONY epP pP 04 41 21.3 +1.1
REDW Red Top Meadow 32.52 333 eP P 04 40 39.6 -0.5
REDW epP pP 04 41 19.5 -0.9
EYMN Ely 32.53 360 eP P 04 40 39.5 -0.8
EYMN epP pP 04 41 20.8 +0.3
EYMN epP pP 04 41 21.2 +0.7
M13A Montello 32.59 327 ⇓P P 04 40 41.1 +0.4
baz=32,SNR=16
Q09A Carvers 32.59 321 ⇓P P 04 40 41.3 +0.6
baz=32
LOHW Long Hollow 32.62 334 eP P 04 40 41.0 +0.1
comp=Z,24nm,0.9s,mb4.7
LOHW epP pP 04 41 20.7 -0.6
TPAW Teton Pass 32.67 333 eP P 04 40 41.8 +0.3
comp=Z,71nm,1.1s,mb5.1
N12A Wells--Clov Va 32.69 326 P P 04 40 42.6 +1.0
baz=32,SNR=6.7
MSNY Massena 32.72 22 eP P 04 40 42.2 +0.3
MSNY epP pP 04 41 21.7 -0.5
MOOW Moose Ponds 32.79 334 epP pP 04 41 22.1 -0.6
R08A Mina 32.87 319 ⇓P P 04 40 44.0 +0.8
baz=33
MLAC Mammoth Lakes 32.91 318 ⇑P P 04 40 44.0 +0.5
baz=33
MNV Mina 32.95 319 eP P 04 40 45.3 +1.5
MNV pmax pmax
comp=Z,43nm,1.1s,mb4.9
MNV Mina 32.95 319 eP P 04 40 45.3 +1.5
comp=Z,43nm,1.1s,mb4.9
IMW Indian Meadow 32.99 334 eP P 04 40 44.6 +0.4
IMW epP pP 04 41 25.7 +1.2
IMW ePcP PcP 04 43 23.8 +0.4
P09A Austin 33.02 322 ⇑P P 04 40 45.2 +0.8
baz=33
M12A Wells 33.02 327 ⇑P P 04 40 45.0 +0.5
baz=33,SNR=12
FLWY Flagg Ranch 33.04 334 eP P 04 40 45.5 +0.9
comp=Z,23nm,0.8s,mb4.8
FLWY epP pP 04 41 25.0 0.0
NVAR Mina Array Bea 33.04 319 P P 04 40 46.1 +1.5
comp=Z,17nm,0.7s,mb4.7,baz=125,slow=9.3,SNR=49
NVAR pP pP 04 41 22.7 -2.2
comp=Z,21nm,0.8s,baz=134,slow=7.7,SNR=5.2
NVAR PcP PcP 04 43 23.0 -0.5
comp=Z,0.7nm,0.5s,baz=151,slow=2.1,SNR=4.2
NVAR ScP ScP 04 46 50.0 +1.0
comp=Z,2.9nm,0.7s,baz=133,slow=3.8,SNR=9.0
NVAR Mina Array Bea 33.04 319 P P 04 40 46.1 +1.5
NVAR pP pP 04 41 22.7 -2.2
NVAR PcP PcP 04 43 23.0 -0.5
NVAR ScP ScP 04 46 50.0 +1.0
N11A Elko Archery C 33.05 325 ⇑P P 04 40 45.6 +0.9
baz=33
FRNY Flat Rock 33.05 24 eP P 04 40 45.6 +0.8
FRNY epP pP 04 41 26.8 +1.7
Q08A Gabbs 33.06 320 ⇓P P 04 40 45.8 +0.9
baz=33,SNR=11
PKD Parkfield 33.15 314 ⇓P P 04 40 46.7 +1.2
baz=33
V04C Ramage Ranch, 33.22 313 ⇑P P 04 40 47.4 +1.2
baz=33
LKWY Lake 33.31 335 epP pP 04 41 29.8 +2.5
R07C Lee Vining 33.31 318 ⇓P P 04 40 48.4 +1.4
baz=33
YFT Old Faithful 33.39 334 ePcP PcP 04 43 26.4 +1.9
N10A Dunphy 33.42 324 ⇑P P 04 40 48.3 +0.4
baz=33
O09A Fish Creek Ran 33.45 323 ⇓P P 04 40 49.1 +1.0
baz=33,SNR=18
M11A Holland Ranch, 33.50 326 ⇑P P 04 40 49.4 +0.7
baz=33,SNR=15
U04C Hernandez Rese 33.52 314 ⇑P P 04 40 49.4 +0.6
baz=33
BMN Battle Mountai 33.63 323 eP P 04 40 51.1 +1.3
BMN pmax pmax
comp=Z,85nm,1.5s,mb5.0
BMN Battle Mountai 33.63 323 eP P 04 40 51.1 +1.3
comp=Z,84nm,1.5s,mb5.0
BMN epP pP 04 41 29.6 -0.6
LAO LASA Array 33.64 341 eP P 04 40 49.3 -0.5
comp=Z,33nm,1.2s,mb4.7
LAO epP pP 04 41 30.6 +0.3
LAO esP sP 04 41 51.0 -1.7
S05C Merced 33.74 316 ⇓P P 04 40 50.7 0.0
baz=33,SNR=5.8
WAKR Walker 33.80 318 eP P 04 40 52.8 +1.6
WAKR epP pP 04 41 34.1 +2.5
R06C Coleville 33.82 318 ⇑P P 04 40 51.8 +0.5
baz=34
QLMT Earthquake Lak 33.95 334 epP pP 04 41 34.8 +1.8
M10A I.L. Ranch, Tu 33.97 325 ⇑P P 04 40 53.5 +0.8
baz=34,SNR=7.0
GCMT Greycliff 34.04 337 eP P 04 40 52.2 -1.0
P07A Fallon 34.07 320 ⇓P P 04 40 54.7 +1.1
baz=34
N09A Rock Creek Ran 34.08 323 ⇑P P 04 40 54.3 +0.7
baz=34,SNR=8.7
CMB Columbia Colle 34.15 317 eP P 04 40 55.2 +1.0
CMB e*PP pP 04 41 35.7 +0.9
CMB Columbia Colle 34.15 317 ⇑P P 04 40 54.5 +0.2
baz=34
PACP Pacheco Peak 34.21 315 ⇑P P 04 40 54.7 0.0
baz=34
HLID Hailey 34.32 330 eP P 04 40 56.0 +0.3
HLID epP pP 04 41 35.5 -0.8
R05C Kirkwood Meado 34.33 318 ⇓P P 04 40 56.7 +0.9
baz=34
O07A Toulon 34.44 321 ⇑P P 04 40 57.3 +0.5
baz=34,SNR=14
WCN Washoe City 34.47 319 ⇑P P 04 40 58.2 +1.2
baz=34
PAHR Pah Rah Range 34.48 320 eP P 04 40 58.3 +1.3
PAHR epP pP 04 41 37.1 -0.5
WVL Waterville 34.48 28 eP P 04 40 58.6 +1.6
comp=Z,34nm,1.0s,mb4.8
S04C Ingram Canyon, 34.49 316 ⇑P P 04 40 57.3 +0.1
baz=34
MCMT McKenzie Canyo 34.56 333 eP P 04 40 58.5 +0.8
R04C Big Horse Ranc 34.64 317 ⇑P P 04 40 58.5 +0.1
baz=34
BOZ Bozeman (W) 34.69 335 eP P 04 40 58.4 -0.5
BOZ e*PP pP 04 41 39.1 -0.4
BOZ Bozeman (W) 34.69 335 eP P 04 40 58.4 -0.5
BOZ epP pP 04 41 39.1 -0.4
BOZ esP sP 04 42 01.9 -0.1
P06A Stead Airport, 34.78 320 ⇑P P 04 41 00.1 +0.5
baz=34
LAVA Lava Cap Winer 34.78 318 ⇑P P 04 41 00.1 +0.5
baz=34
WENL Wente Brothers 34.84 315 ⇓P P 04 41 00.9 +0.7
baz=34
DLMT Dillon 34.87 334 eP P 04 41 00.9 +0.5
comp=Z,36nm,1.0s,mb4.8
DLMT epP pP 04 41 39.8 -1.3
DLMT esP sP 04 42 03.0 -0.5
L09A Wilkinson Ranc 34.93 325 ⇑P P 04 41 01.3 +0.4
baz=35
M08A Happy Creek Ra 34.96 323 ⇓P P 04 41 01.5 +0.3
baz=35,SNR=14
P05C Yuba Gap, Truc 35.01 319 ⇓P P 04 41 01.9 +0.4
baz=35
O06A Flanigan 35.02 321 ⇓P P 04 41 02.5 +0.8
baz=35,SNR=31
ULM Lac du Bonnet 35.03 355 P P 04 41 00.1 -1.7
comp=Z,8.9nm,0.7s,mb4.4,baz=177,slow=9.1,SNR=19
ULM pP pP 04 41 39.6 -2.8
comp=Z,30nm,0.8s,baz=177,slow=9.0,SNR=14
LRM Limekiln Ridge 35.17 334 eP P 04 41 03.0 -0.1
LRM epP pP 04 41 43.3 -0.4
Q04C Lincoln 35.24 317 ⇑P P 04 41 04.1 +0.5
baz=35
M07A Soldier Meadow 35.38 323 ⇑P P 04 41 05.6 +0.8
baz=35
Q03C Winters 35.55 317 ⇑P P 04 41 07.0 +0.8
baz=35
O05C Quincy 35.58 319 ⇓P P 04 41 07.7 +1.2
baz=35
OHCM Honcut 35.59 318 eP P 04 41 07.8 +1.3
OHCM epP pP 04 41 49.2 +2.0
OHCM ePcP PcP 04 43 32.0 +1.2
EMMW East Machias 35.62 30 eP P 04 41 08.2 +1.4

comp=Z,58nm,1.0s,mb5.1
HRY Holter Researc 35.64 336 eP P 04 41 06.8 -0.2
HRY epP pP 04 41 47.5 -0.3
ORV Oroville 35.72 318 ⇓P P 04 41 08.0 +0.3
baz=35
WVOR Wild Horse Val 35.75 325 eP P 04 41 08.3 +0.4
WVOR pmax pmax
comp=Z,22nm,1.0s,mb4.6
WVOR Wild Horse Val 35.75 325 eP P 04 41 08.3 +0.4
comp=Z,22nm,1.0s,mb4.6
WVOR epP pP 04 41 47.3 -1.3
WVOR esP sP 04 42 09.7 -1.3
ELFS Eagle Lake Fie 35.85 320 ⇑P P 04 41 09.6 +0.9
baz=36
O04C Chester 35.89 320 ⇑P P 04 41 09.8 +0.7
baz=36
EGMT Eagleton 35.96 339 eP P 04 41 09.5 -0.2
comp=Z,49nm,1.0s,mb5.0
EGMT epP pP 04 41 51.5 +1.0
M06C Likely Place G 36.04 321 ⇑P P 04 41 10.8 +0.4
baz=36,SNR=5.8
MOD Modoc 36.36 323 eP P 04 41 12.5 -0.6
MOD epP pP 04 41 55.7 +1.7
CHMT Chamberlain Mo 36.38 335 eP P 04 41 12.9 -0.3
CHMT epP pP 04 41 53.0 -1.1
HATC Hat Creek Radi 36.41 320 ⇑P P 04 41 13.9 +0.4
baz=36
M05C Lookout 36.54 321 ⇑P P 04 41 14.6 0.0
baz=36
GASB Alder Springs 36.56 318 ⇓P P 04 41 15.1 +0.4
baz=36
MSO Missoula 36.60 334 eP P 04 41 15.3 +0.2
comp=Z,2.8nm,1.1s,mb3.7
MSO epP pP 04 41 54.9 -1.1
K06A Valley Falls 36.89 324 ⇓P P 04 41 18.4 +0.8
baz=37,SNR=7.0
SAML Samuel 36.92 129 eP P 04 41 16.5 -1.3
comp=Z,27nm,0.7s,mb4.9
WDC Whiskeytown Da 36.95 319 epP pP 04 42 00.2 +1.2
WDC Whiskeytown Da 36.95 319 ⇓P P 04 41 16.9 -1.2
baz=37
M03C McCloud 37.08 320 ⇓P P 04 41 18.9 -0.3
baz=37
J06A Christmas Vall 37.12 324 ⇓P P 04 41 18.8 -0.7
baz=37,SNR=15
ARE Arequipa 37.19 147 eP P 04 41 22.0 +1.9
M04C Macdoel 37.21 321 ⇓P P 04 41 20.1 -0.1
baz=37,SNR=8.7
N02C Big Bar 37.57 319 ⇓P P 04 41 22.3 -1.0
baz=37
I06A Prineville 37.60 325 ⇓P P 04 41 23.1 -0.4
baz=37,SNR=8.1
M02C Callahan 37.60 320 ⇑P P 04 41 22.3 -1.3
baz=37
YBH Yreka Blue Hor 37.71 321 P P 04 41 22.2 -2.2
comp=Z,3.3nm,0.8s,mb3.9,baz=157,slow=3.0,SNR=7.2
YBH pP pP 04 42 00.9 -4.7
comp=Z,4.2nm,0.7s,baz=251,slow=8.4,SNR=3.2
YBH Yreka Blue Hor 37.71 321 eP P 04 41 22.9 -1.6
YBH epP pP 04 42 02.8 -2.8
YBH Yreka Blue Hor 37.71 321 ⇓P P 04 41 24.0 -0.4
baz=37
BSMT Bassoo Peak 37.76 334 epP pP 04 42 05.2 -0.8
KHMM Horse Mountain 37.87 319 eP P 04 41 27.0 +1.3
KHMM epP pP 04 42 07.9 +0.9
JCC Jacoby Creek 38.03 318 ⇓P P 04 41 27.3 +0.2
baz=38
I05A Bend 38.33 325 ⇓P P 04 41 29.0 -0.6
baz=38
WALA Waterton Lakes 38.36 336 eP P 04 41 29.8 -0.1
WALA epP pP 04 42 12.6 +1.5
L02A Cave Junction 38.50 320 ⇑P P 04 41 30.1 -0.9
baz=38
M01C Crescent City 38.65 320 ⇑P P 04 41 31.5 -0.7
baz=38
K02A Glendale 38.78 321 ⇓P P 04 41 33.2 -0.1
baz=38
J03A Ideyld Park 38.81 322 ⇑P P 04 41 33.3 -0.4
baz=38
LPAZ La Paz 38.91 143 P P 04 41 35.9 +1.4
comp=Z,42nm,0.6s,mb5.1,baz=330,slow=7.3,SNR=318
LPAZ PcP PcP 04 43 41.6 +0.6
comp=Z,6.2nm,0.8s,baz=7.9,slow=9.0,SNR=2.8
LPAZ ScP ScP 04 47 13.0 +2.4
comp=Z,1.8nm,0.9s,baz=277,slow=8.1,SNR=3.5
G05A Wamic 39.04 326 ⇑P P 04 41 34.2 -1.3
baz=39
NEW Newport 39.09 333 pP pP 04 42 14.4 -2.8
comp=Z,2.6nm,0.6s,baz=135,slow=10,SNR=3.5
NEW LR LR 05 00 00.9
comp=Z,171nm,19.6s,baz=40,slow=39
NEW Newport 39.09 333 epP pP 04 42 17.9 +0.7
H04A Detroit Lake 39.17 325 ⇑P P 04 41 36.2 -0.4
baz=39,SNR=18
J02A Umpqua 39.17 322 ⇓P P 04 41 36.0 -0.7
baz=39
HOOD Mount Hood Mea 39.28 326 eP P 04 41 39.1 +1.6
HOOD epP pP 04 42 18.8 -0.1
KEBM Edson Butte 39.35 321 eP P 04 41 39.6 +1.5
I03A Eugene 39.35 323 ⇓P P 04 41 37.9 -0.2
baz=39,SNR=7.9
F05A White Salmon 39.53 327 ⇑P P 04 41 39.2 -0.4
baz=39
G04A Mulino 39.66 325 ⇑P P 04 41 39.9 -0.7
baz=39
I02A Mapleton 39.69 323 ⇓P P 04 41 40.0 -1.0
baz=39
COR Corvallis 39.74 324 epP pP 04 42 24.9 +2.2
H03A Soap Creek Ran 39.79 324 ⇑P P 04 41 41.2 -0.5
baz=40,SNR=5.2
E05A Randle 40.13 327 ⇓P P 04 41 43.7 -0.8
baz=40,SNR=5.7
FFC Flin Flon 40.17 350 eP P 04 41 43.9 -1.0
FFC e*PP pP 04 42 26.2 -0.2
FFC pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
FFC Flin Flon 40.17 350 eP P 04 41 43.9 -1.0
comp=Z,3.4nm,0.8s,mb3.8
FFC epP pP 04 42 26.2 -0.3
LON Longmire 40.29 327 eP P 04 41 46.0 +0.2
LON epP pP 04 42 24.8 -2.6
E04A Onalaska 40.66 327 ⇓P P 04 41 47.5 -1.4
baz=40
D05A Emmclaw 40.67 328 ⇓P P 04 41 48.6 -0.4
baz=40
F03A Seaside 40.70 325 ⇓P P 04 41 48.8 -0.4
baz=40
E03A Lebam 41.09 326 ⇑P P 04 41 51.4 -0.9
baz=41
GNW Green Mountain 41.34 328 epP pP 04 42 37.5 +1.4
C04A Brinnon 41.52 328 ⇓P P 04 41 55.5 -0.4
baz=41
EDM Edmonton 41.59 340 eP P 04 41 55.6 -0.8
A04A Legoe Bay, Lum 42.04 329 ⇓P P 04 41 59.4 -0.7
baz=42,SNR=5.1
PGC Sidney 42.37 329 epP pP 04 42 44.8 +0.2
FCC Fort Churchill 43.41 358 eP P 04 42 10.7 -0.4
FCC e*PP pP 04 42 53.1 -0.1
LVC Limon Verde 43.66 149 P P 04 42 14.1 +1.1
comp=Z,24nm,0.8s,mb4.6,baz=318,slow=6.5,SNR=28
LVC PcP PcP 04 43 58.1 +1.5
comp=Z,20nm,0.8s,baz=285,slow=5.7,SNR=12
LVC Limon Verde 43.66 149 eP P 04 42 13.6 +0.5
comp=Z,56nm,1.1s,mb4.8
SCHQ Schefferville 43.79 20 P P 04 42 13.8 -0.3
comp=Z,30nm,0.9s,mb4.6,baz=218,slow=6.8,SNR=36
SCHQ pP pP 04 42 53.7 -2.6
comp=Z,9.1nm,0.9s,baz=212,slow=14,SNR=2.3
SCHQ LR LR 05 01 41.5
comp=Z,246nm,20.9s,baz=30,slow=37
SCHQ Schefferville 43.79 20 P P 04 42 13.8 -0.3
SCHQ pP pP 04 42 53.7 -2.6
SCHQ LR LR 05 01 41.5
TLL Tololo Astrono 49.38 156 i P P 04 42 58.9 +1.3
YKW3 Yellowknife Ar 49.95 346 eP P 04 43 01.1 -0.7
YKW3 epP pP 04 43 44.0 -1.0
CFAA Coronel Fontan 51.68 155 P P 04 43 14.2 -0.5
comp=Z,3.3nm,0.7s,mb3.9,baz=337,slow=6.6,SNR=84
CFAA PcP PcP 04 44 25.7 +0.3
comp=Z,3.4nm,0.8s,baz=322,slow=2.8,SNR=12
DLBC Dease Lake 51.70 335 eP P 04 43 15.8 +1.0
DLBC epP pP 04 43 58.3 -0.1
BDFB Brasilia 52.75 124 P P 04 43 22.2 -0.3
comp=Z,24nm,0.8s,mb4.7,baz=298,slow=8.6,SNR=46
CPUP Villa Florida 53.02 141 P P 04 43 23.5 -1.0
comp=Z,36nm,0.7s,mb4.9,baz=316,slow=8.1,SNR=132

CPUP Villa Florida 53.02 141 *eP* **P 04 43 23.5 -1.1**
DAWY Dawson 58.69 338 *epP* pP 04 44 47.6 -1.8
PLCA Paso Flores 59.03 162 P **P 04 44 07.4 +0.3**
comp=Z,30nm,0.8s,mb5.0,baz=337,slow=8.2,SNR=55
PLCA PcP PcP 04 44 53.3 -0.5
comp=Z,11nm,1.1s,baz=314,slow=3.0,SNR=2.8
PLCA Paso Flores 59.03 162 *eP* **P 04 44 07.5 +0.4**
PLCA *e**PP pP 04 44 52.3 +0.5
PLCA pmax pmax
comp=Z,34nm,0.9s
PLCA Paso Flores 59.03 162 *eP* **P 04 44 07.5 +0.4**
comp=Z,34nm,0.9s,mb5.0
PLCA *epP* pP 04 44 52.2 +0.5
INK Inuvik 59.35 343 *eP* **P 04 44 08.1 -1.2**
INK *e**PP pP 04 44 52.9 -1.1
INK pmax pmax
comp=Z,38nm,0.9s
INK Inuvik 59.35 343 *eP* **P 04 44 08.1 -1.2**
comp=Z,38nm,0.9s,mb5.0
INK *epP* pP 04 44 52.9 -1.1
RES Resolute Bay 59.40 359 *eP* **P 04 44 08.0 -1.6**
MENT Mentasta 59.79 335 *eP* **P 04 44 12.1 -0.2**
TRQA Tornquist 59.84 153 *eP* **P 04 44 11.9 -0.8**
TRQA *epP* pP 04 44 57.6 +0.1
CAM4 Nova Friburgo 60.74 127⇑ *iP* **P 04 44 19.2 +0.4**
CAM4 *i* 04 44 22.3
CAM4 *i* 04 44 43.8
SML Sawmill 61.25 333 *epP* pP 04 45 00.5 -6.7
PMR Palmer 61.52 333 *eP* **P 04 44 23.2 -0.7**
PMR *e**PP pP 04 45 06.6 -2.4
PMR pmax pmax
comp=Z,18nm,1.0s,mb4.7
PMR Palmer 61.52 333 *eP* **P 04 44 23.2 -0.7**
comp=Z,18nm,1.0s,mb4.7
PMR *epP* pP 04 45 06.5 -2.5
MAUI Maui 61.55 286 *iP* **P 04 44 23.2 -1.0**
KDAK Kodiak Island 61.91 328 P **P 04 44 25.4 -1.2**
comp=Z,3.2nm,0.5s,mb4.2,baz=153,slow=4.2,SNR=8.2
MCK McKinley 62.25 335 *eP* **P 04 44 28.2 -0.7**
COLA College 62.28 336 *eP* **P 04 44 27.6 -1.5**
COLA *e**PP pP 04 45 12.7 -1.5
COLA pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
COLA College 62.28 336 *eP* **P 04 44 27.6 -1.5**
comp=Z,5.4nm,0.9s,mb4.2
COLA *epP* pP 04 45 12.7 -1.5
SVW2 Sparrevohn 64.30 331 *eP* **P 04 44 40.4 -1.9**
SVW2 *e* pP 04 45 24.1 -3.6
CHGN Chignik 64.66 325 *eP* **P 04 44 43.7 -0.9**
SUMG Summit 64.81 15 *eP* **P 04 44 44.0 -1.6**
comp=Z,16nm,1.1s,mb4.6
SUMG *epP* pP 04 45 31.9 +0.7
TTA Tatalina 64.99 333 *eP* **P 04 44 44.8 -2.0**
FALS False Pass 67.27 323 *eP* **P 04 45 00.1 -1.1**
FALS *epP* pP 04 45 43.3 -3.8
UNV Unalaska Valle 69.00 322 *eP* **P 04 45 11.6 -0.4**
SPIA Saint Paul Isl 71.23 326 *eP* **P 04 45 26.2 +0.7**
SPIA *epP* pP 04 46 09.7 -2.2
DAG Danmarks Havn 71.25 13⇑ *iP* **P 04 45 24.4 -1.3**
comp=Z,7.0nm,0.5s,mb4.5
DAG *i* pP 04 46 12.8 +0.8
DAG Danmarks Havn 71.25 13⇑ *iP* **P 04 45 24.4 -1.3**
DAG *i* pP 04 46 12.8 +0.8
DAG pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
EFI East Falkland 72.75 159⇓ *eP* **P 04 45 35.6 +1.0**
EMAZ Mazaricos 74.23 49 P **P 04 45 42.4 -0.9**
comp=Z,23nm,0.6s,mb5.0
DCN Croghan 74.37 38⇑ *iP* **P 04 45 43.0 -1.0**
KSK Scoval 74.39 34 *eP* **P 04 45 43.2 -1.0**
STS Santiago 74.55 49 ⇓P **P 04 45 44.7 -0.4**
STS pmax pmax
comp=Z,15nm,0.6s,mb4.8
STS Santiago 74.55 49 ⇓P **P 04 45 44.7 -0.3**
comp=Z,15nm,0.6s,mb4.8
DLF Lyons Farm 74.82 38⇑ *iP* **P 04 45 45.4 -1.2**
GCL Cushendall 74.89 36⇑ *eP* **P 04 45 46.2 -0.9**
KAR1 Arisaig 74.90 34 *eP* **P 04 45 46.3 -0.8**
DSB Dublin 74.92 38 *eP* **P 04 45 45.8 -1.3**
comp=Z,15nm,1.4s,mb4.4
DSB *epP* pP 04 46 35.6 +1.7
KPL Plockton 74.96 34⇑ *eP* **P 04 45 46.4 -1.0**
ELOB Lobios 75.03 50 P **P 04 45 47.5 -0.4**
comp=Z,7.1nm,0.7s,mb4.4
PTOM Tomar 75.06 53 *eP* **P 04 45 47.9 -0.1**
comp=Z,21nm,0.9s,mb4.8
GMM Mts of Mourne 75.08 37⇑ *eP* **P 04 45 46.9 -1.2**
KAC Achnashellach 75.14 34 *eP* **P 04 45 47.1 -1.3**
GMK Mull of Kintyr 75.18 36⇑ *eP* **P 04 45 47.7 -0.9**
MOE Montemor 75.26 54 *eP* **P 04 45 49.2 +0.1**
MOE *epP* pP 04 46 35.3 -0.6
PVIS Viseu 75.31 51 *eP* **P 04 45 49.0 -0.4**
comp=Z,19nm,0.8s,mb4.8
PVIS *epP* pP 04 46 38.2 +2.0
PVRL Vila Real 75.37 51 *eP* **P 04 45 50.0 +0.3**
comp=Z,15nm,1.5s,mb4.4
PVRL *epP* pP 04 46 37.6 +1.0
EPON Pontenova 75.52 49 P **P 04 45 51.0 +0.4**
comp=Z,11nm,0.7s,mb4.6
EVO Evora 75.52 54⇑ *iP* **P 04 45 49.7 -0.9**
comp=Z,42nm,0.9s,mb4.8
EVO *eR*
comp=Z,123nm,19.8s
MTE Manteigas 75.62 52 *eP* **P 04 45 50.4 -0.7**
comp=Z,20nm,0.9s,mb4.7
MTE *epP* pP 04 46 40.2 +2.2
MTE Manteigas 75.62 52 *eP* **P 04 45 50.4 -0.7**
comp=Z,17nm,0.8s,mb4.7
MTE *epP* pP 04 46 40.9 +2.9
ERUA La Rua 75.64 50 P **P 04 45 51.4 +0.1**
ERUA pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
ERUA La Rua 75.64 50 P **P 04 45 51.4 +0.1**
comp=Z,6.7nm,0.5s,mb4.5
PBEJ Beja 75.70 54 *eP* **P 04 45 51.5 -0.1**
comp=Z,14nm,1.6s,mb4.3
PBEJ *epP* pP 04 46 41.4 +2.9
GAL1 Galloway 75.73 37⇑ *eP* **P 04 45 50.7 -1.1**
CPZ Penzance 75.74 41 *eP* **P 04 45 51.0 -0.8**
PCBR Castelo Branco 75.74 52 *eP* **P 04 45 52.0 +0.1**
comp=Z,14nm,1.1s,mb4.5
PCBR *epP* pP 04 46 42.0 +3.2
EAB Aberfoyle 75.80 35 *eP* **P 04 45 51.3 -0.9**
EAB AMb AMB 04 45 52.4
comp=Z,23nm,1.0s,mb4.8
WIM Isle of Man 75.83 37⇑ *eP* **P 04 45 51.7 -0.7**
WIM AMb AMB 04 45 53.3
comp=Z,26nm,1.0s,mb4.8
ORE Reay 75.85 33⇑ *eP* **P 04 45 51.5 -1.0**
YRC Rhoscolyn 76.00 38 *eP* **P 04 45 52.3 -1.0**
YRC AMb AMB 04 45 53.5
comp=Z,50nm,0.8s,mb5.2
ECAL Calabor 76.00 50 P **P 04 45 52.7 -0.6**
comp=Z,4.1nm,0.4s,mb4.4
CGH1 Goonhilly 76.02 42⇑ *eP* **P 04 45 52.8 -0.6**
PBRG Braganca 76.02 50 *eP* **P 04 45 53.1 -0.3**
comp=Z,22nm,1.4s,mb4.6
PBRG *epP* pP 04 46 43.4 +3.0
CMA1 Manaccan 76.04 41 *eP* **P 04 45 52.1 -1.4**
EGRO El Granado 76.08 55 P **P 04 45 53.8 +0.1**
comp=Z,7.2nm,0.6s,mb4.5
WLF1 Llynfaes 76.10 38 *eP* **P 04 45 52.7 -1.2**
YRE Yr Eifl 76.12 38 *eP* **P 04 45 53.1 -0.9**
MCD Coleburn Disti 76.23 34⇑ *eP* **P 04 45 53.9 -0.7**
WPM1 Penmaenmawr 76.39 38 *eP* **P 04 45 54.4 -1.1**
MME1 Meikle Cairn 76.42 34⇑ *eP* **P 04 45 54.4 -1.2**
EDI Edinburgh 76.47 35⇑ *eP* **P 04 45 54.9 -1.0**
EDI AMb AMB 04 45 56.7
comp=Z,27nm,1.1s,mb4.8
XDE Dent Fell 76.48 37 *eP* **P 04 45 54.8 -1.2**
XDE AMb AMB 04 45 58.3
comp=Z,55nm,1.3s,mb5.0
ESK Eskdalemuir 76.54 36⇑ *eP* **P 04 45 55.5 -0.9**
ESK AMb AMB 04 45 56.1
comp=Z,38nm,0.8s,mb5.1
ESK Eskdalemuir 76.54 36 *eP* **P 04 45 55.4 -0.9**
ESK pmax pmax
comp=Z,31nm,0.9s,mb4.9
ESK Eskdalemuir 76.54 36 *eP* **P 04 45 55.4 -0.9**
comp=Z,31nm,0.9s,mb4.9
ESK *esP* sP 04 47 04.4 +0.2
BHH Howats Hill 76.56 36⇑ *eP* **P 04 45 55.4 -1.0**
ECK Cauldkaine Hil 76.60 36⇑ *eP* **P 04 45 55.8 -0.9**
ECK AMb AMB 04 45 56.8
comp=Z,37nm,1.2s,mb4.9
EMIN Mina Concepcio 76.68 54 P **P 04 45 56.7 -0.4**
comp=Z,10nm,0.6s,mb4.6
CKE Keswick 76.69 37⇑ *eP* **P 04 45 56.2 -1.0**
BBH Bruntsheil 76.72 36⇑ *eP* **P 04 45 56.7 -0.7**
HEX Exmoor 76.75 40⇑ *eP* **P 04 45 56.5 -1.1**
ESY Stoneypath 76.79 35⇑ *eP* **P 04 45 57.0 -0.7**
ESY AMb AMB 04 45 58.7
comp=Z,40nm,1.0s,mb5.0
EARI Arriondas 76.92 48 P **P 04 45 58.6 +0.1**
comp=Z,6.0nm,0.7s,mb4.3
SSP1 Stoney Pound 76.98 39⇑ *eP* **P 04 45 57.9 -0.9**
SSP1 AMb AMB 04 45 58.8
comp=Z,46nm,1.3s,mb5.0
HLM1 Long Mynd 77.11 39⇑ *eP* **P 04 45 58.4 -1.2**
HLM1 AMb AMB 04 46 00.2
comp=Z,48nm,1.3s,mb5.0
MCH1 Michaelchurch 77.11 39 *eP* **P 04 45 58.3 -1.2**
HGH Gray Hill 77.28 40⇑ *eP* **P 04 45 59.3 -1.2**
HGH AMb AMB 04 46 00.9
comp=Z,50nm,1.0s,mb5.1
ESPR Espera 77.47 55 P **P 04 46 00.9 -0.6**
ROSF Rostrenen 77.49 43 *eP* **P 04 46 00.4 -1.2**
comp=Z,26nm,1.1s,mb4.5
ROSF Rostrenen 77.49 43 *eP* **P 04 46 00.4 -1.2**
ROSF pmax pmax
comp=Z,13nm,1.1s,mb4.5
ROSF Rostrenen 77.49 43 *eP* **P 04 46 00.4 -1.2**
comp=Z,13nm,1.1s,mb4.5
LHO Holmfirth 77.57 38⇑ *eP* **P 04 46 01.3 -0.8**
QUIF Quistinic 77.62 44 *eP* **P 04 46 01.4 -1.0**
comp=Z,25nm,0.7s,mb4.6
QUIF *epP* pP 04 46 48.2 -1.3
QUIF Quistinic 77.62 44 *eP* **P 04 46 01.4 -1.0**
QUIF pmax pmax
comp=Z,12nm,0.7s,mb4.6
QUIF Quistinic 77.62 44 *eP* **P 04 46 01.4 -1.0**
comp=Z,12nm,0.7s,mb4.7
QUIF *epP* pP 04 46 48.2 -1.3
KBI1 Birley Grange 77.81 38 *eP* **P 04 46 02.8 -0.6**
EJIF Jimena Fronter 77.84 55 P **P 04 46 03.7 +0.1**
EJIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
EJIF Jimena Fronter 77.84 55 P **P 04 46 03.7 +0.1**
comp=Z,4.8nm,0.6s,mb4.3
SGMF Saint Gilles 77.97 43 *eP* **P 04 46 02.9 -1.4**
comp=Z,18nm,1.0s,mb4.4
SGMF Saint Gilles 77.97 43 *eP* **P 04 46 02.9 -1.4**
SGMF pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
SGMF Saint Gilles 77.97 43 *eP* **P 04 46 02.9 -1.4**
comp=Z,9.3nm,1.0s,mb4.4
GUD Guadarrama 78.13 51 ⇑P **P 04 46 05.4 +0.2**
GUD pmax pmax
comp=Z,18nm,0.6s,mb4.9
GUD Guadarrama 78.13 51 ⇑P **P 04 46 05.4 +0.2**
comp=Z,18nm,0.6s,mb4.9
EADA Adamuz 78.24 54 P **P 04 46 04.5 -1.3**
comp=Z,3.2nm,0.5s,mb4.2
EMIJ Mijas 78.38 55 P **P 04 46 07.0 +0.5**
comp=Z,4.8nm,0.5s,mb4.4
ESDC Sonseca Array 78.44 52 P **P 04 46 06.6 -0.3**
comp=Z,5.5nm,0.6s,mb4.3,baz=285,slow=5.7,SNR=32
ESDC pP pP 04 46 51.7 -2.4
comp=Z,2.7nm,0.7s,baz=289,slow=5.7,SNR=3.7
ESDC Sonseca Array 78.44 52 P **P 04 46 06.6 -0.3**
comp=Z,7.0nm,0.8s,mb4.3
ESLA Sonseca Array 78.44 52 *eP* **P 04 46 06.1 -0.8**
comp=Z,2.0nm,0.8s,mb3.8
ESLA *esP* sP 04 47 15.3 +0.5
ELOJ Sierra Loja 78.76 54 P **P 04 46 09.4 +0.8**
ELOJ pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
ELOJ Sierra Loja 78.76 54 P **P 04 46 09.4 +0.8**
comp=Z,3.1nm,0.4s,mb4.3
ERON Agron 79.06 55 P **P 04 46 10.6 +0.3**
GRR Gorron 79.07 43 *eP* **P 04 46 09.1 -1.2**
comp=Z,24nm,0.6s,mb4.7
GRR *epP* pP 04 46 56.0 -1.6
GRR Gorron 79.07 43 *eP* **P 04 46 09.1 -1.2**
GRR pmax pmax
comp=Z,12nm,0.6s,mb4.7
GRR Gorron 79.07 43 *eP* **P 04 46 09.1 -1.2**
comp=Z,12nm,0.6s,mb4.7
GRR *epP* pP 04 46 56.0 -1.6
ECOG Cogollos-Vega 79.19 54 ⇑P **P 04 46 11.7 +0.7**
ECOG pmax pmax
comp=Z,14nm,0.6s,mb4.8
ECOG Cogollos-Vega 79.19 54 ⇑P **P 04 46 11.7 +0.7**
comp=Z,14nm,0.6s,mb4.8
FLN La Foliniere 79.24 42 *eP* **P 04 46 10.1 -1.1**
comp=Z,18nm,0.6s,mb4.6
FLN *eR*
comp=Z,141nm,21.2s
FLN La Foliniere 79.24 42 *eP* **P 04 46 10.1 -1.1**
FLN pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
FLN MLR MLR
comp=Z,140nm,21.3s
FLN La Foliniere 79.24 42 *eP* **P 04 46 10.1 -1.1**
comp=Z,9.1nm,0.6s,mb4.6
FLN LR LR
comp=Z,140nm,21.3s
EGUA Guajares 79.28 55 P **P 04 46 11.6 +0.1**
comp=Z,0.2nm,0.3s,mb3.2
EQES Quesada 79.48 54 P **P 04 46 13.4 +0.9**
comp=Z,5.4nm,0.6s,mb4.3
LDF La Druitiere 79.51 42 *eP* **P 04 46 11.5 -1.2**
comp=Z,18nm,0.6s,mb4.6
LDF La Druitiere 79.51 42 *eP* **P 04 46 11.5 -1.2**
LDF pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
LDF La Druitiere 79.51 42 *eP* **P 04 46 11.5 -1.2**
comp=Z,8.9nm,0.6s,mb4.6
EVIA Vianos 79.75 53 P **P 04 46 14.4 +0.4**
EBER Berja 79.80 55 P **P 04 46 14.6 +0.3**
comp=Z,20nm,0.9s,mb4.7
SJPF Ste Jean 79.82 48 *eP* **P 04 46 13.7 -0.7**
comp=Z,50nm,1.3s,mb4.7
SJPF *epP* pP 04 47 00.8 -0.9
SJPF Ste Jean 79.82 48 *eP* **P 04 46 13.7 -0.7**
SJPF pmax pmax
comp=Z,25nm,1.3s,mb4.7
SJPF Ste Jean 79.82 48 *eP* **P 04 46 13.7 -0.7**
comp=Z,25nm,1.3s,mb4.7
SJPF *epP* pP 04 47 00.8 -0.9
EHUE Huescar 79.85 54 P **P 04 46 14.5 0.0**
EHUE pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
EHUE Huescar 79.85 54 P **P 04 46 14.5 0.0**
comp=Z,3.9nm,0.7s,mb4.2
MFF Saint Martin d 79.88 44 *eP* **P 04 46 13.4 -1.3**
comp=Z,26nm,1.1s,mb4.5
MFF Saint Martin d 79.88 44 *eP* **P 04 46 13.4 -1.3**
MFF pmax pmax
comp=Z,13nm,1.0s,mb4.5
MFF Saint Martin d 79.88 44 *eP* **P 04 46 13.4 -1.3**
comp=Z,13nm,1.0s,mb4.5
ETSF Etsaut 80.34 48 *eP* **P 04 46 16.5 -0.7**
comp=Z,9.8nm,0.6s,mb4.3
ETSF Etsaut 80.34 48 *eP* **P 04 46 16.5 -0.7**
ETSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
ETSF Etsaut 80.34 48 *eP* **P 04 46 16.5 -0.7**
comp=Z,4.9nm,0.6s,mb4.3
BILL Bilibino 80.46 338 *eP* **P 04 46 16.5 -1.3**
BILL pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
BILL Bilibino 80.46 338 *eP* **P 04 46 16.5 -1.2**
comp=Z,9.1nm,0.6s,mb4.6
BILL *epP* pP 04 47 03.3 -1.9
ESAC San Caprasio 80.65 49 P **P 04 46 19.9 +1.1**
comp=Z,5.7nm,0.3s,mb4.7
ECHE Chera 80.73 52 P **P 04 46 19.5 +0.3**
LFF La Frestale 80.83 46 *eP* **P 04 46 18.6 -1.2**
comp=Z,23nm,0.7s,mb4.6
LFF La Frestale 80.83 46 *eP* **P 04 46 18.6 -1.2**
LFF pmax pmax
comp=Z,11nm,0.7s,mb4.6
LFF La Frestale 80.83 46 *eP* **P 04 46 18.6 -1.2**
comp=Z,11nm,0.7s,mb4.6
EBIE Bielsa 80.89 48 P **P 04 46 20.1 +0.1**
comp=Z,5.2nm,0.6s,mb4.3
EMOS Mosqueruela 80.94 51 P **P 04 46 20.9 +0.6**
comp=Z,9.3nm,0.6s,mb4.6
EPF Esparros 80.96 48 *eP* **P 04 46 18.7 -1.7**
comp=Z,8.0nm,0.6s,mb4.2
EPF Esparros 80.96 48 *eP* **P 04 46 18.7 -1.7**
EPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
EPF Esparros 80.96 48 *eP* **P 04 46 18.7 -1.7**
comp=Z,4.0nm,0.6s,mb4.2
EGRA Graus 81.12 49 P **P 04 46 21.2 -0.1**
comp=Z,6.0nm,0.5s,mb4.5
RJF Les Rejaudoux 81.29 45 *eP* **P 04 46 20.9 -1.3**
comp=Z,12nm,0.8s,mb4.3
RJF *eR*
comp=Z,161nm,20.2s
RJF Les Rejaudoux 81.29 45 *eP* **P 04 46 20.9 -1.3**
RJF pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
RJF MLR MLR
comp=Z,160nm,20.3s
RJF Les Rejaudoux 81.29 45 *eP* **P 04 46 20.9 -1.3**
comp=Z,5.9nm,0.8s,mb4.3
RJF LR LR
comp=Z,160nm,20.3s
MLS Moulis 81.52 48 *eP* **P 04 46 22.9 -0.5**
TCF Toulx Ste Croi 81.54 44 *eP* **P 04 46 22.1 -1.4**
comp=Z,14nm,0.8s,mb4.3
TCF *epP* pP 04 47 09.1 -1.9
TCF Toulx Ste Croi 81.54 44 *eP* **P 04 46 22.1 -1.4**
TCF pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
TCF Toulx Ste Croi 81.54 44 *eP* **P 04 46 22.1 -1.4**
comp=Z,6.8nm,0.8s,mb4.3
TCF *epP* pP 04 47 09.1 -1.9
HYF Humbligny 81.60 43 *eP* **P 04 46 22.7 -1.1**
SALF Salau 81.63 48 *eP* **P 04 46 24.1 +0.1**
CAF Calviac 81.75 46 *eP* **P 04 46 23.2 -1.4**
BGF Bois d'Agland 81.91 44 *eP* **P 04 46 24.1 -1.3**
comp=Z,37nm,0.9s,mb4.7
BGF Bois d'Agland 81.91 44 *eP* **P 04 46 24.1 -1.3**
BGF pmax pmax
comp=Z,19nm,0.9s,mb4.7
BGF Bois d'Agland 81.91 44 *eP* **P 04 46 24.1 -1.3**
comp=Z,19nm,0.9s,mb4.7
BAIF Baives 81.95 40 *eP* **P 04 46 24.3 -1.3**
DOU Dourbes 82.18 40 ⇓P **P 04 46 26.4 -0.5**
DOU AP pP 04 47 15.5 +1.1
AVF Avril sur Loir 82.19 44 *eP* **P 04 46 25.0 -1.9**
comp=Z,17nm,0.9s,mb4.4
AVF *epP* pP 04 47 12.3 -2.2
AVF Avril sur Loir 82.19 44 *eP* **P 04 46 25.0 -1.9**
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
AVF Avril sur Loir 82.19 44 *eP* **P 04 46 25.0 -1.9**
comp=Z,8.7nm,0.9s,mb4.4
AVF *epP* pP 04 47 12.3 -2.2
PYM Petit Puy Mans 82.21 45 *eP* **P 04 46 26.8 -0.2**
SSF Saint Saulge 82.23 43 *eP* **P 04 46 25.5 -1.6**
comp=Z,22nm,0.9s,mb4.5
SSF Saint Saulge 82.23 43 *eP* **P 04 46 25.5 -1.6**
SSF pmax pmax
comp=Z,11nm,0.9s,mb4.5
SSF Saint Saulge 82.23 43 *eP* **P 04 46 25.5 -1.6**
comp=Z,11nm,0.9s,mb4.5
MTLF Montolieu 82.23 47 *eP* **P 04 46 25.2 -1.9**
comp=Z,19nm,1.0s,mb4.4
MTLF Montolieu 82.23 47 *eP* **P 04 46 25.2 -1.9**
MTLF pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
MTLF Montolieu 82.23 47 *eP* **P 04 46 25.2 -1.9**
comp=Z,9.7nm,1.0s,mb4.4
LOR Lormes 82.41 43 *eP* **P 04 46 26.8 -1.2**
comp=Z,33nm,1.0s,mb4.6
LOR *epP* pP 04 47 13.9 -1.8
LOR *eR*
comp=Z,105nm,20.2s
LOR Lormes 82.41 43 *eP* **P 04 46 26.8 -1.2**
LOR pmax pmax
comp=Z,16nm,1.0s,mb4.6
LOR MLR MLR
comp=Z,100nm,20.3s
LOR Lormes 82.41 43 *eP* **P 04 46 26.8 -1.2**
comp=Z,16nm,1.0s,mb4.6
LOR *epP* pP 04 47 13.9 -1.8
LOR LR LR
comp=Z,100nm,20.3s
LBL Lubilhac 82.50 45 *eP* **P 04 46 27.9 -0.6**
BCLA Clavier 82.54 40 ⇓P **P 04 46 28.1 -0.6**
comp=Z,4.8nm,0.9s,mb4.2
BCLA AP pP 04 47 15.9 -0.4
SMF Signal de Mont 82.55 44 *eP* **P 04 46 27.3 -1.4**
comp=Z,14nm,0.7s,mb4.5
SMF Signal de Mont 82.55 44 *eP* **P 04 46 27.3 -1.4**
SMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
SMF Signal de Mont 82.55 44 *eP* **P 04 46 27.3 -1.4**
comp=Z,7.2nm,0.7s,mb4.5
PLDF La Plantade 82.57 44 *eP* **P 04 46 28.0 -0.8**
NB2 NORSAR Subarra 82.71 29 P **P 04 46 29.4 -0.2**
comp=Z,9.3nm,1.1s,mb4.4,baz=291,slow=5.3
NB2 NORSAR Subarra 82.71 29 P **P 04 46 29.4 -0.2**
NB2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
NOA NORSAR Array B 82.71 29 P **P 04 46 29.4 -0.2**
comp=Z,4.1nm,0.8s,mb4.2,baz=291,slow=5.2,SNR=14
NOA pP pP 04 47 15.9 -1.4
comp=Z,4.6nm,0.8s,baz=290,slow=5.2,SNR=5.3
MEZF Maizieres J'vi 82.88 42 *eP* **P 04 46 29.4 -1.0**
comp=Z,22nm,0.9s,mb4.6
MEZF Maizieres J'vi 82.88 42 *eP* **P 04 46 29.4 -1.0**
comp=Z,22nm,0.9s,mb4.9
MEM Membach 82.93 40 P **P 04 46 30.7 +0.1**
MEM AP pP 04 47 18.2 -0.2
LASF Ste Croix 83.20 46 *eP* **P 04 46 30.7 -1.4**
comp=Z,16nm,1.1s,mb4.4
WLF Walferdange 83.27 40 *eP* **P 04 46 31.5 -0.9**
comp=Z,9.0nm,0.9s,mb4.5
WLF *epP* pP 04 47 20.8 +0.6
WLF Walferdange 83.27 40 P **P 04 46 31.7 -0.7**
WLF AP pP 04 47 21.5 +1.3
WLF XP sP 04 47 41.2 +0.5
THEF They Montfort 83.55 42 *eP* **P 04 46 31.9 -2.0**
VIVF Saint-Julien-l 83.57 45 *eP* **P 04 46 32.6 -1.4**
comp=Z,23nm,1.0s,mb4.6
VIVF *epP* pP 04 47 20.8 -0.9
VIVF Saint-Julien-l 83.57 45 *eP* **P 04 46 32.6 -1.4**
VIVF *e**PP pP 04 47 20.8 -0.9
VIVF pmax pmax
comp=Z,11nm,1.0s,mb4.5
VIVF Saint-Julien-l 83.57 45 *eP* **P 04 46 32.6 -1.4**
comp=Z,11nm,1.0s,mb4.5
VIVF *epP* pP 04 47 20.8 -0.9
RUP Ruppelstein 83.83 40 *eP* **P 04 46 36.5 +1.3**
HAU Haudompre 83.84 42 *eP* **P 04 46 35.3 0.0**
comp=Z,22nm,0.8s,mb4.7
HAU *eR*
comp=Z,91nm,21.0s
HAU Haudompre 83.84 42 *eP* **P 04 46 35.3 0.0**
HAU pmax pmax
comp=Z,11nm,0.8s,mb4.6
HAU MLR MLR
comp=Z,90nm,21.0s
HAU Haudompre 83.84 42 *eP* **P 04 46 35.3 0.0**
comp=Z,11nm,0.8s,mb4.6
HAU LR LR
comp=Z,90nm,21.0s
CABF La Chapelle 84.06 43 *eP* **P 04 46 35.8 -0.6**
comp=Z,20nm,1.0s,mb4.5
CABF La Chapelle 84.06 43 *eP* **P 04 46 35.8 -0.6**
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
CABF La Chapelle 84.06 43 *eP* **P 04 46 35.8 -0.6**
comp=Z,9.8nm,1.0s,mb4.5
HINF Hinteralfeld 84.22 42 *eP* **P 04 46 35.9 -1.4**
comp=Z,5.9nm,0.6s,mb4.2
HINF Hinteralfeld 84.22 42 *eP* **P 04 46 35.9 -1.4**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
HINF Hinteralfeld 84.22 42 *eP* **P 04 46 35.9 -1.4**
comp=Z,3.0nm,0.6s,mb4.2
ECH Echery 84.31 42 *eP* **P 04 46 37.1 -0.6**
CDF Champ du Feu 84.33 41 *eP* **P 04 46 36.9 -0.9**
comp=Z,19nm,1.1s,mb4.4
CDF *epP* pP 04 47 23.8 -1.8
CDF Champ du Feu 84.33 41 *eP* **P 04 46 36.9 -0.9**
CDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
CDF Champ du Feu 84.33 41 *eP* **P 04 46 36.9 -0.9**
comp=Z,9.3nm,1.1s,mb4.4

CDF				*e*pP	pP	04 47 23.8	-1.8
LOMF	**Lomont**	**84.34**	**43**	*e*P	**P**	**04 46 37.4**	**-0.4**
WLS	**Welschbruch**	**84.38**	**41**	*e*P	**P**	**04 46 36.1**	**-1.9**
ORIF	**Oris-en-Rattie**	**84.38**	**45**	*e*P	**P**	**04 46 37.6**	**-0.4**
	comp=Z,16nm,0.8s,mb4.5						
ORIF				*e*R			
	comp=Z,127nm,20.0s						
ORIF	**Oris-en-Rattie**	**84.38**	**45**	*e*P	**P**	**04 46 37.6**	**-0.4**
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
ORIF	**Oris-en-Rattie**	**84.38**	**45**	*e*P	**P**	**04 46 37.6**	**-0.4**
	comp=Z,8.1nm,0.8s,mb4.5						
MOF	**Molkenrain**	**84.39**	**42**	*e*P	**P**	**04 46 38.4**	**+0.3**
SMRF	**Simiane la Rot**	**84.43**	**46**	*e*P	**P**	**04 46 37.4**	**-0.9**
	comp=Z,16nm,1.0s,mb4.4						
SMRF	**Simiane la Rot**	**84.43**	**46**	*e*P	**P**	**04 46 37.4**	**-0.9**
	comp=Z,16nm,1.0s,mb4.7						
LANF	**Langenberg**	**84.50**	**41**	*e*P	**P**	**04 46 39.5**	**+0.9**
TNS	**Taunus Mts**	**84.53**	**39**	*e*P	**P**	**04 46 38.5**	**-0.3**
	comp=Z,19nm,1.0s,mb4.8						
TNS				*e*pP	pP	04 47 27.3	+0.6
TNS	**Taunus Mts**	**84.53**	**39**	*e*P	**P**	**04 46 38.5**	**-0.3**
TNS				*e**PP	pP	04 47 27.3	+0.6
TNS				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
ARCES	**ARCESS Array B**	**84.71**	**18**	P	**P**	**04 46 38.5**	**-1.2**
	comp=Z,2.7nm,0.6s,mb4.1,baz=294,slow=3.5,SNR=26						
ARCES				pP	pP	04 47 24.2	-3.3
	comp=Z,5.0nm,0.7s,baz=297,slow=5.3,SNR=2.7						
ARCES				PKKPbc	PKKPbc	05 04 46.8	-0.9
	comp=Z,1.2nm,0.9s,baz=87,slow=2.6,SNR=4.5						
ARCES	**ARCESS Array B**	**84.71**	**18**	P	**P**	**04 46 38.5**	**-1.2**
ARCES				pP	pP	04 47 24.2	-3.3
ARCES				PKKPbc	PKKPbc	05 04 46.8	-0.9
ARE0	**ARCESS Array S**	**84.71**	**18**	*e*P	**P**	**04 46 38.3**	**-1.4**
ARE0				*e*pP	pP	04 47 29.6	+2.0
LPL	**La Plagne**	**84.79**	**44**	*e*P	**P**	**04 46 40.1**	**0.0**
	comp=Z,16nm,1.0s,mb4.4						
LPL	**La Plagne**	**84.79**	**44**	*e*P	**P**	**04 46 40.1**	**0.0**
LPL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
LPL	**La Plagne**	**84.79**	**44**	*e*P	**P**	**04 46 40.1**	**0.0**
	comp=Z,7.8nm,1.0s,mb4.4						
LPG	**La Plagne**	**84.81**	**44**	*e*P	**P**	**04 46 40.4**	**+0.2**
BNI	**Bardonecchia**	**84.89**	**45**	*e*P	**P**	**04 46 39.6**	**-1.0**
BNI				*e**PP	pP	04 47 29.4	+0.9
BNI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
BNI	**Bardonecchia**	**84.89**	**45**	*e*P	**P**	**04 46 39.6**	**-1.0**
	comp=Z,5.9nm,1.0s,mb4.3						
BNI				*e*pP	pP	04 47 29.4	+0.9
DBIC	**Dimbokro**	**84.94**	**84**	P	**P**	**04 46 40.1**	**-0.7**
	comp=Z,4.0nm,0.8s,mb4.2,baz=183,slow=5.5,SNR=7.9						
DBIC				pP	pP	04 47 26.9	-1.9
	comp=Z,18nm,1.1s,baz=218,slow=2.5,SNR=6.8						
FELD	**Feldberg im Sc**	**84.95**	**42**	*e*P	**P**	**04 46 40.6**	**-0.3**
BFO	**Black Forest**	**85.02**	**41**	*e*P	**P**	**04 46 40.1**	**-1.2**
	comp=Z,8.0nm,1.1s,mb4.4						
BFO				*e*pP	pP	04 47 28.3	-0.9
BFO	**Black Forest**	**85.02**	**41**	*e*P	**P**	**04 46 40.1**	**-1.2**
BFO				*e**PP	pP	04 47 28.3	-0.9
BFO				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
MBDF	**Montbardon**	**85.04**	**45**	*e*P	**P**	**04 46 41.0**	**-0.3**
	comp=Z,19nm,0.8s,mb4.6						
MBDF	**Montbardon**	**85.04**	**45**	*e*P	**P**	**04 46 41.0**	**-0.3**
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
MBDF	**Montbardon**	**85.04**	**45**	*e*P	**P**	**04 46 41.0**	**-0.3**
	comp=Z,9.6nm,0.8s,mb4.6						
GTTG	**Gvttingen**	**85.05**	**38**	*e*P	**P**	**04 46 41.3**	**-0.1**
	comp=Z,18nm,1.1s,mb4.7						
GTTG				*e*pP	pP	04 47 30.2	+0.9
LMR	**La Mourre**	**85.26**	**46**	*e*P	**P**	**04 46 40.8**	**-1.6**
	comp=Z,36nm,1.0s,mb4.8						
LMR				*e*pP	pP	04 47 29.4	-1.0
LMR	**La Mourre**	**85.26**	**46**	*e*P	**P**	**04 46 40.8**	**-1.6**
LMR				*e**PP	pP	04 47 29.4	-1.0
LMR				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
LMR	**La Mourre**	**85.26**	**46**	*e*P	**P**	**04 46 40.8**	**-1.6**
	comp=Z,18nm,1.0s,mb4.8						
LMR				*e*pP	pP	04 47 29.4	-1.0
FRF	**La Foret Royal**	**85.29**	**46**	*e*P	**P**	**04 46 41.8**	**-0.8**
	comp=Z,30nm,0.9s,mb4.7						
FRF	**La Foret Royal**	**85.29**	**46**	*e*P	**P**	**04 46 41.8**	**-0.8**
FRF				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
FRF	**La Foret Royal**	**85.29**	**46**	*e*P	**P**	**04 46 41.8**	**-0.8**
	comp=Z,15nm,0.9s,mb4.7						
UBBA	**Unterbreizbach**	**85.30**	**39**	*e*P	**P**	**04 46 43.6**	**+1.0**
	comp=Z,9.0nm,1.6s,mb4.2						
UBBA				*e*pP	pP	04 47 31.2	+0.6
AUTN	**L'Aution**	**85.70**	**46**	*e*P	**P**	**04 46 45.9**	**+1.3**
SBF	**Sospel**	**85.75**	**46**	*e*P	**P**	**04 46 42.8**	**-2.0**
	comp=Z,27nm,1.0s,mb4.6						
SBF	**Sospel**	**85.75**	**46**	*e*P	**P**	**04 46 42.8**	**-2.0**
SBF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
SBF	**Sospel**	**85.75**	**46**	*e*P	**P**	**04 46 42.8**	**-2.0**
	comp=Z,13nm,1.0s,mb4.6						
MOX	**Moxa**	**86.32**	**38**	*e*P	**P**	**04 46 47.2**	**-0.5**
	comp=Z,10.0nm,1.3s,mb4.4						
MOX				*e*pP	pP	04 47 35.8	+0.1
MOX	**Moxa**	**86.32**	**38**	*e*P	**P**	**04 46 47.2**	**-0.5**
MOX				*e*	pP	04 47 35.8	+0.1
	comp=Z,38nm,1.9s						
MOX	**Moxa**	**86.32**	**38**	*e*P	**P**	**04 46 47.2**	**-0.5**
MOX				*e*	pP	04 47 35.8	+0.1
MOX				pmax	pmax		
	comp=Z,38nm,1.9s,mb4.8						
DAVA	**Damuels**	**86.34**	**42**	⇑*i*P	**P**	**04 46 47.5**	**-0.3**
	comp=Z,71nm,2.4s,mb5.0						
DAVA				*i*	pP	04 47 36.1	+0.3
GRA1	**Grafenberg Arr**	**86.40**	**39**	*e*P	**P**	**04 46 47.3**	**-0.7**
	comp=Z,9.0nm,0.8s,mb4.5						
GRA1				*e*pP	pP	04 47 36.7	+0.6
GRA1				*e*sP	sP	04 47 55.7	-0.9
GRF	**Grafenberg Arr**	**86.40**	**39**	*e*P	**P**	**04 46 47.3**	**-0.7**
	comp=Z,9.0nm,0.8s,mb4.5						
GRF				*e*pP	pP	04 47 36.7	+0.6
GRF				*e*sP	sP	04 47 55.7	-0.9
GRF	**Grafenberg Arr**	**86.40**	**39**	*e*P	**P**	**04 46 47.3**	**-0.7**
GRF				*e**PP	pP	04 47 36.7	+0.6
GRF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
WERD	**Werda**	**86.80**	**38**	*e*pP	pP	04 47 38.0	-0.1
MANZ	**Manzenberg**	**86.84**	**39**	*e*P	**P**	**04 46 50.9**	**+0.7**
	comp=Z,3.0nm,0.9s,mb4.0						
MANZ				*e*pP	pP	04 47 39.2	+0.9
CLL	**Collm**	**86.92**	**38**	*e*P	**P**	**04 46 51.1**	**+0.6**
CLL				*e*pP	pP	04 47 39.6	+0.9
CLL				*e*sP	sP	04 47 59.2	0.0
CLL				*e*PP	PP	04 50 16.4	+0.2
CLL				*e*S		04 57 09.6	
CLL				*e*SP		04 58 15.3	
CLL				*e*sS	sS	04 58 30.0	-6.0
CLL				*e*SS	SS	05 03 06.5	+7.4
CLL				*e*SS		05 04 25.7	
CLL				*e*L		05 33 07.7	
	comp=Z,100nm,18.2s						
CLL	**Collm**	**86.92**	**38**	*e*(P)	**P**	**04 46 54.0**	**+3.5**
CLL				⇑*i*pP	pP	04 47 39.5	+0.8
	comp=Z,20nm,1.2s						
CLL				*i* sP	sP	04 47 59.3	+0.1
CLL				*e*PP	PP	04 50 17.0	+0.8
CLL				*e*S		04 57 09.0	
CLL				*e*(SP)		04 58 16.0	
CLL	**Collm**	**86.92**	**38**	*e*P	**P**	**04 46 54.0**	**+3.5**
CLL				⇑*i*pP	pP	04 47 39.5	+0.8
CLL				*e*S		04 57 09.0	
NKC	**Novy Kostel**	**86.96**	**39**	*e*pP	pP	04 47 39.2	+0.3
NKC				*e*sP	sP	04 47 58.9	-0.5
MOTA	**Moosalm**	**87.11**	**42**	⇑*i*P	**P**	**04 46 51.1**	**-0.3**
MOTA				*i*	pP	04 47 40.0	+0.4
MOTA				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
MOTA	**Moosalm**	**87.11**	**42**	⇑*i*P	**P**	**04 46 51.1**	**-0.3**
	comp=Z,6.9nm,1.1s,mb4.3						
MOTA				*i*	pP	04 47 40.0	+0.4
WET	**Wettzell**	**87.61**	**40**	*e*P	**P**	**04 46 55.2**	**+1.4**
	comp=Z,9.0nm,1.3s,mb4.4						
WET				*e*pP	pP	04 47 42.2	+0.2
WET	**Wettzell**	**87.61**	**40**	*e*P	**P**	**04 46 55.2**	**+1.4**
WET				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
BRG	**Berggiesshubel**	**87.63**	**38**	*e*P	**P**	**04 46 53.3**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.1						
BRG				*e*pP	pP	04 47 42.1	0.0
BRG	**Berggiesshubel**	**87.63**	**38**	*e*P	**P**	**04 46 53.3**	**-0.6**
	comp=Z,1.9nm,0.9s,mb3.9						
BRG				*e*	pP	04 47 43.1	+0.9
	comp=Z,9.7nm,1.5s						
BRG				*e*		04 48 01.0	
BRG				*e*		04 50 21.7	
	comp=Z,3.6nm,1.0s						
BRG				*e*		04 58 23.0	
BRG	**Berggiesshubel**	**87.63**	**38**	*e*P	**P**	**04 46 53.3**	**-0.6**
BRG				*e*	pP	04 47 43.1	+1.0
BRG				*e*		04 50 21.7	
BRG				*e*		04 58 23.0	
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KHC	**Kasperske Hory**	**88.04**	**39**	*e*P	**P**	**04 46 55.5**	**-0.4**
KHC				*e*pP	pP	04 47 44.1	0.0
KHC				*e*sP	sP	04 48 02.5	-2.1
KHC	**Kasperske Hory**	**88.04**	**39**	⇑*e*P	**P**	**04 46 54.2**	**-1.7**
GEC2	**GERESS Array S**	**88.22**	**40**	*e*P	**P**	**04 46 56.2**	**-0.5**
	comp=Z,6.0nm,1.3s,mb4.3						
GEC2				*e*pP	pP	04 47 44.7	-0.3
GEC2	**GERESS Array S**	**88.22**	**40**	*e*P	**P**	**04 46 56.2**	**-0.5**
GEC2				*e**PP	pP	04 47 44.7	-0.3
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.3						
GERES	**GERESS Array B**	**88.22**	**40**	P	**P**	**04 46 56.1**	**-0.6**
	comp=Z,2.2nm,0.9s,mb4.0,baz=318,slow=3.6,SNR=12						
GERES				pP	pP	04 47 42.6	-2.4
	comp=Z,3.2nm,0.9s,baz=298,slow=2.9,SNR=7.6						
GERES				PP	PP	04 50 26.6	-0.1
	comp=Z,0.6nm,0.6s,baz=298,slow=5.9,SNR=3.8						
PRU	**Pruhonice**	**88.31**	**38**	*e*pP	pP	04 47 46.4	+1.0
PRU				*e*sP	sP	04 48 06.0	+0.1
KBA	**Koelnbreinsper**	**88.63**	**41**	⇓*i*P	**P**	**04 46 58.3**	**-0.4**
KBA				*i*	pP	04 47 47.3	+0.3
KBA				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.3						
KBA	**Koelnbreinsper**	**88.63**	**41**	⇓*i*P	**P**	**04 46 58.3**	**-0.4**
	comp=Z,7.3nm,1.3s,mb4.3						
KBA				*i*	pP	04 47 47.3	+0.3
UPC	**Upice**	**88.98**	**38**	*e*pP	pP	04 47 49.0	+0.3
UPC				*e*sP	sP	04 48 11.9	+2.8
FINES	**FINESS Array B**	**89.06**	**25**	P	**P**	**04 46 59.3**	**-1.4**
	comp=Z,4.7nm,1.0s,mb4.3,baz=336,slow=4.2,SNR=6.0						
FINES				pP	pP	04 47 45.9	-3.1
	comp=Z,5.5nm,0.7s,baz=248,slow=2.1,SNR=5.5						
FINES	**FINESS Array B**	**89.06**	**25**	P	**P**	**04 46 59.3**	**-1.4**
FINES				pP	pP	04 47 45.9	-3.1
TIXI	**Tiksi**	**89.09**	**348**	*e*P	**P**	**04 46 57.5**	**-3.3**
TIXI				*e*		04 57 23.5	
TIXI				*e*		04 58 37.0	
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
DPC	**Dobruska-Polom**	**89.23**	**38**	*e*pP	pP	04 47 49.4	-0.4
DPC				*e*sP	sP	04 48 11.0	+0.7
TORD	**Torodi Ar. Bea**	**89.50**	**77**	P	**P**	**04 47 00.9**	**-1.8**
	comp=Z,0.3nm,0.4s,mb3.4,baz=315,slow=4.8,SNR=6.5						
TORD				pP	pP	04 47 48.1	-3.0
	comp=Z,0.9nm,0.6s,baz=292,slow=4.2,SNR=4.5						
CONA	**Conrad Observa**	**89.90**	**40**	⇓*i*P	**P**	**04 47 04.0**	**-0.6**
	comp=Z,5.0nm,1.5s,mb4.1						
VYHS	**Vyhne**	**91.49**	**39**	*e*P	**P**	**04 47 12.1**	**+0.2**
VYHS				*e*pP	pP	04 48 01.2	+0.8
VYHS				*e*PP	PP	04 50 52.2	-0.3
VYHS	**Vyhne**	**91.49**	**39**	*e*P	**P**	**04 47 12.1**	**+0.2**
VYHS				*e*	pP	04 48 01.2	+0.8
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.2						
VYHS	**Vyhne**	**91.49**	**39**	*e*P	**P**	**04 47 12.1**	**+0.2**
	comp=Z,4.9nm,1.6s,mb4.2						
VYHS				*e*	pP	04 48 01.2	+0.8
STHS	**Stebnicka Huta**	**92.51**	**37**	*e*P	**P**	**04 47 15.8**	**-0.8**
STHS				*e*		04 48 13.2	
STHS				pmax	pmax		
	comp=Z,8.0nm,2.1s,mb4.4						
STHS	**Stebnicka Huta**	**92.51**	**37**	*e*P	**P**	**04 47 15.8**	**-0.8**
	comp=Z,8.4nm,2.1s,mb4.4						
STHS				*e*		04 48 13.2	
AKASG	**Malin Array Be**	**96.31**	**33**	PP	PP	04 51 25.6	-4.4
	comp=Z,5.5nm,1.1s,baz=298,slow=7.3,SNR=8.1						
YAK	**Yakutsk**	**96.40**	**342**	⇑*e*P	**P**	**04 47 34.6**	**+0.2**
YAK				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.4						
OBN	**Obninsk**	**97.25**	**27**	*e*P	**P**	**04 47 37.4**	**-0.9**
BRTR	**Keskin Array B**	**105.08**	**41**	PKiKP	PKiKP	04 52 25.9	-0.8
	comp=Z,0.3nm,0.5s,baz=280,slow=2.6,SNR=3.1						
BRTR				PKKPbc	PKKPbc	05 03 53.5	-0.2
	comp=Z,0.7nm,0.8s,baz=90,slow=4.0,SNR=3.9						
CN2	**Changchun**	**112.21**	**332**	*e*PKP	PKiKP	04 52 36.3	-3.7
SYO	**Syowa Base**	**118.23**	**162**	⇓*e*X		04 49 55.8	
BOSA	**Boshof**	**120.37**	**114**	PKP	PKPdf	04 52 54.4	-1.3
	comp=Z,6.3nm,0.8s,baz=344,slow=0.4,SNR=14						
BOSA	**Boshof**	**120.37**	**114**	PKP	PKPdf	04 52 54.4	-1.3
WMQ	**Urumqi**	**121.14**	**1**	PKP	PKPdf	04 52 55.1	-2.1
WMQ				XPKP		04 54 12.2	
WMQ				PP	PP	04 54 32.7	+2.8
WMQ				PPP		04 57 10.0	
WMQ				SKS	SKSdf	04 59 43.5	-7.0
WMQ				SKKS	SKKSac	05 01 03.1	-6.4
WMQ				S	Sdif	05 01 59.0	-5.2
WMQ				PS	PS	05 04 25.9	+1.6
WMQ				SS	SS	05 10 44.6	-2.5
WMQ				PP	PP		
	comp=Z,30nm,20.0s						
SSE	**Sheshan**	**124.23**	**326**	*e*PKP	PKPdf	04 52 59.6	-3.5
GTA	**Gaotai**	**124.56**	**349**	PKP	PKPdf	04 53 03.6	-0.1
GTA				XPKP		04 54 21.1	
GTA				SKS	SKSdf	04 59 54.1	-2.8
GTA				SKKS	SKKSac	05 01 28.0	-3.5
GTA				PP	PP		
	comp=Z,90nm,7.6s						
GTA				LR	LR		
	comp=N,180nm,17.9s						
GTA				LR	LR		
	comp=E,190nm,24.3s						
GTA				LR	LR		
	comp=Z,70nm,16.0s						
NJ2	**Nanjing**	**124.69**	**329**	*e*PKP	PKPdf	04 53 00.8	-3.2
NJ2				XPKP		04 54 19.4	
NJ2				PP	PP	04 54 52.0	-1.7
NJ2				PKS		04 56 33.0	
NJ2				SKS	SKSdf	04 59 47.0	-10
NJ2				PP	PP		
	comp=Z,210nm,6.4s						
NJ2				LR	LR		
	comp=N,480nm,14.8s						
NJ2				LR	LR		
	comp=E,380nm,17.3s						
NJ2				LR	LR		
	comp=N,480nm,14.8s						
NJ2				LR	LR		
	comp=Z,170nm,22.0s						
LZH	**Lanzhou**	**126.88**	**345**	*e*PKP	PKPdf	04 53 04.6	-3.6
LZH				XPKP		04 54 25.4	
LZH				PP	PP	04 55 07.6	-0.6
LZH				PKS		04 56 39.9	
LZH				*e*SKKS	SKKSac	05 01 35.6	-11
LZH				*e*SS	SS	05 11 52.1	-7.2
LZH				PP	PP		
	comp=Z,80nm,6.5s						
LZH				LR	LR		
	comp=N,350nm,19.6s						
LZH				LR	LR		
	comp=Z,450nm,20.4s						
STKA	**Stephens Creek**	**129.21**	**241**	*e*P	PKPdf	04 53 10.5	-2.1
	comp=Z,3.5nm,0.9s						
STKA				*e*		04 53 59.3	
STKA	**Stephens Creek**	**129.21**	**241**	PKP	PKPdf	04 53 10.2	-2.4
	comp=Z,5.8nm,0.9s,baz=45,slow=3.1,SNR=7.6						
STKA				pPKP	pPKPdf	04 53 59.0	-4.4
	comp=Z,5.4nm,0.8s,baz=104,slow=2.1,SNR=6.6						
CD2	**Chengdu**	**131.78**	**342**	*e*PKP	PKPdf	04 53 15.3	-2.2
CD2				PP	PP	04 55 42.3	+2.2
CD2				PKS		04 56 50.1	
CD2				SKS	SKSdf	05 00 05.8	-4.4
CD2				SKKS	SKKSac	05 02 11.5	-5.1
CD2				SS	SS	05 12 56.8	-2.7
CD2				PP	PP		
	comp=Z,80nm,9.0s						
CD2				LR	LR		
	comp=E,290nm,20.4s						
CD2				LR	LR		
	comp=Z,220nm,16.8s						
WB2	**Warramunga Arr**	**136.26**	**257**	*e*P	PKPdf	04 53 26.2	+0.3
WB2				*e*		04 54 15.6	
WRAB	**Tennant Creek**	**136.26**	**257**	⇑*i*PKIKP	PKPdf	04 53 26.9	+1.0
WRA	**Warramunga Arr**	**136.27**	**257**	PKhKP		04 53 12.5	
	comp=Z,0.4nm,0.6s,baz=89,slow=3.3,SNR=5.0						
WRA				PKP	PKPdf	04 53 25.9	0.0
	comp=Z,3.2nm,0.5s,baz=88,slow=2.6,SNR=27						
ASAR	**Alice Springs**	**136.65**	**252**	PKhKP		04 53 15.8	
	comp=Z,0.7nm,0.6s,baz=106,slow=3.8,SNR=9.6						
ASAR				PKP	PKPdf	04 53 25.1	-1.5
	comp=Z,3.2nm,0.6s,baz=95,slow=2.2,SNR=15						
ASAR				pPKP	pPKPdf	04 54 13.8	-3.6
	comp=Z,1.5nm,0.8s,baz=105,slow=2.4,SNR=2.1						
ASAR	**Alice Springs**	**136.65**	**252**	PKHKP		04 53 15.8	
ASAR						04 53 25.1	
KMI	**Kunming**	**137.51**	**341**	PKP	PKPdf	04 53 25.7	-2.5
FITZ	**Fitzroy Crossi**	**144.46**	**260**	*e*P	PKPdf	04 53 39.9	-0.8
	comp=Z,28nm,0.9s						
FITZ				*e*		04 54 28.3	
FITZ	**Fitzroy Crossi**	**144.46**	**260**	PKP	PKPdf	04 53 39.0	-1.6
	comp=Z,18nm,0.9s,baz=84,slow=1.8,SNR=14						
FITZ				pPKP	pPKPdf	04 54 27.4	-4.1
	comp=Z,3.3nm,0.5s,baz=93,slow=7.1,SNR=3.7						
CHTO	**Chiang Mai**	**144.59**	**343**	*e*PKIKP	PKPdf	04 53 38.9	-2.0
KKM	**Kota Kinabalu**	**145.37**	**306**	*e*PKPab	PKPab	04 53 43.5	+0.6
KLBR	**Kellerberrin**	**148.87**	**234**	*e*P	PKPdf	04 53 48.8	+0.7
	comp=Z,15nm,1.1s						
KLBR				*e*		04 54 40.7	
MUN	**Mundaring**	**149.89**	**232**	*e*P	PKPbc	04 53 54.8	+0.1
MUN				*e*		04 54 39.7	
KSM	**Kuching**	**152.81**	**306**	*e*PKPbc	PKPbc	04 54 01.6	+0.2
KSM				*e*PKPab	PKPab	04 54 14.1	+0.9

NIED ***06*** *04:42:00,4320N×14780E,h11km,Mw4.1 Best double couple: M0 1.56000×10^15 NP1:φ0=23.00000°,δ61.00000°, λ70.00000°. NP2:φ0=240.00000°,δ35.00000°,λ122.00000°.*
SKHL ***06*** *04:42:26.1±3.2,4270N×14930E,h33km,mb4.7/4,ms4.0/2, msh5.2/1*
JMA ***06*** *04:42:40.0±0.8,4321N×14782E,h14km,M4.0*
ISCJB ***06*** *04:42:43.8±1.1,4374N±007×1477E±0.1,h42km±7km, mb4.5/27,MS4.1/2,Error ellipse: s-maj=15.0km s-min=8.6km az=70.0*
MOS ***06*** *04:42:45.4±1.1,4387N×14765E,h53km,mb4.8/13,Error ellipse: s-maj=11.5km s-min=8.0km az=117.7*
MOS Felt (II) at Yuzhno-Kuril'sk.
IDC ***06*** *04:42:46.9±3.7,4375N×14776E,h60km±34km,mb3.9/9, mb1 4.0/11,mb1mx3.8/21,mbtmp4.1/11,ML3.5/1,MS3.1/1, Ms1 3.1/1,ms1mx1.9/28,Error ellipse: s-maj=42.3km s-min=27.4km az=171.0*
BJI ***06*** *04:42:46.5,4384N×14771E,h63km,mB4.8,mb4.8,Ms4.3*
NEIC ***06*** *04:42:47.1±1.4,4393N×14764E,h51km±12km,mb4.4/10, Error ellipse: s-maj=15.1km s-min=11.0km az=103.0*
NEIC Felt [II] at Yuzhno-Kuril'sk.
ISC 06 04:42:41.8±2.2,4364N±007×14784E±009,h20km±14km, h39km±1.5km:pP-P,n94,σ1°19/96,mb4.5/27,MS4.1/2, 3C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.49**	**286**	*e*P	**Pn**	**04 43 08.0**	**+0.7**
YUK				AMB	AMB	04 43 12.0	
	370nm,0.5s						
YUK				AMB	AMB	04 43 12.0	
	550nm,0.5s						
YUK				*e*S	**Sn**	**04 43 37.0**	**+11**
YUK				A		04 43 39.5	
	4μm,0.8s						
YUK				A		04 43 39.5	
	2μm,0.8s						
YUK				A		04 43 46.0	
	8μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**1.49**	**286**	*e*PN	**Pn**	**04 43 08.0**	**+0.7**
YUK				*i*		04 43 19.0	
YUK				pmax	pmax		
	comp=N,370nm,0.5s						
YUK				pmax	pmax		
	comp=Z,550nm,0.5s						
YUK				pmax	pmax		
	comp=E,370μm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				smax			
	comp=N,4μm,0.8s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,8μm,1.0s						
YUK				smax			
	comp=E,8μm,1.0s						
NEM2	**Nemuro 2**	**1.55**	**260**	P	**Pn**	**04 43 07.2**	**-1.0**
KUR	**Kuril'sk**	**1.59**	**1**	*e*P	**Pn**	**04 43 08.1**	**-0.6**
KUR				AMB	AMB	04 43 19.0	
	comp=E,2μm,1.6s						
KUR				AMB	AMB	04 43 20.6	
	comp=E,170nm,0.7s						
KUR				AMB	AMB	04 43 20.6	
	comp=E,240nm,0.7s						
KUR				AMB	AMB	04 43 20.6	
	comp=E,450nm,0.7s						
KUR				*e*S	**Sn**	**04 43 42.0**	**+13**
KUR				A		04 43 47.4	
	comp=E,2μm,2.0s						
KUR				A		04 43 47.4	
	comp=E,4μm,2.0s						
KUR				A		04 44 02.5	
	comp=E,750nm,0.8s						
KUR				A		04 44 02.5	
	comp=E,250nm,0.8s						
KUR	**Kuril'sk**	**1.59**	**1**	*e*PN	**Pn**	**04 43 08.0**	**-0.7**

comp=Z,600nm,16.0s
SKR Severo-Kuril's 9.02 36 *e*rx rx 04 45 50.5
HABR Khabarovsk 10.12 303 PN **Pn 04 45 05.0 -0.8**
MAJO Matsushiro 10.23 229 *e*PN **Pn 04 45 12.1 +4.7**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MAJO Matsushiro 10.23 229 *e*P **Pn 04 45 12.1 +4.7**
comp=Z,8.4nm,0.8s
MAT Matsushiro 10.23 229 X 04 45 13.6
MAT Matsushiro 10.23 229 *e*PN **Pn 04 45 14.0 +6.6**
MAT pmax pmax
comp=Z,8.0nm,0.6s
MAT Matsushiro 10.23 229 *e*P **Pn 04 45 14.0 +6.6**
comp=Z,8.0nm,0.6s
MJAR Matsushiro Arr 10.23 229 P **Pn 04 45 11.9 +4.6**
comp=Z,0.3nm,0.3s,baz=28,slow=14,SNR=9.8
PET Petropavlovsk 11.81 34 *e*PN **Pn 04 45 41.6 +13**
PET *e*S **Sn 04 47 49.7 +10**
PET MLR MLR
comp=Z,300nm,17.0s
PET MLR MLR
comp=Z,200nm,18.0s
KLR Kul'dur 12.42 302 *e*P **Pn 04 45 39.7 +2.4**
KLR AMS AMS 04 57 35.0
comp=Z,500nm,14.0s
KLR AMS AMS 04 57 35.0
comp=Z,900nm,14.0s
EKMR Ekimchan 13.65 319 *e*P **Pn 04 45 52.7 -1.4**
EKMR AMB AMB 04 45 53.2
comp=Z,3.0nm,0.7s
YASR Yasnyy 16.28 313 *e*P **Pn 04 46 28.3 -0.8**
BMKR Bomnak 16.58 319 *e*P **Pn 04 46 35.2 +2.2**
HIA Hailar 20.09 296 *e*P **P 04 47 13.3 -0.7**
HIA pmax pmax
comp=Z,6.0nm,0.7s
HIA Hailar 20.09 296 *e*P **P 04 47 13.3 -0.7**
comp=Z,5.7nm,0.7s
SSE Sheshan 24.49 248 *e*P **P 04 48 01.8 +2.3**
SSE AMB AMB
comp=Z,30nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,80nm,4.8s
NJ2 Nanjing 25.52 253 *e*P **P 04 48 11.9 +3.1**
NJ2 PP 04 48 55.2
NJ2 S **S 04 52 25.0 -10**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,110nm,10.0s
NJ2 LR LR
comp=N,1μm,36.0s,MS4.2
NJ2 LR LR
comp=E,830nm,36.0s,MS4.2
BILL Bilibino 26.32 16 *e*P **P 04 48 16.4 +0.3**
BILL pmax pmax
comp=Z,2.0nm,0.5s,mb3.9
BILL Bilibino 26.32 16 *e*P **P 04 48 16.4 +0.3**
comp=Z,2.1nm,0.5s,mb3.9
ZAK Zakamensk 30.75 299 *e*P **P 04 48 56.2 +0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
ZAK Zakamensk 30.75 299 *e*P **P 04 48 56.2 +0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
LZH Lanzhou 34.28 273 *e*P **P 04 49 27.1 +0.6**
LZH AMB AMB
comp=Z,20nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,120nm,5.1s
GTA Gaotai 35.81 280 *e*P **P 04 49 40.8 +1.1**
CD2 Chengdu 36.90 265 *e*P **P 04 49 49.4 +0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
ZAL Zalesovo 41.48 307 *i* P **P 04 50 24.3 -2.9**
ZAL pmax pmax
comp=Z,2μm,0.4s
MKAR Makanchi Array 45.08 298 P **P 04 50 56.3 0.0**
comp=Z,5.7nm,0.8s,mb4.5,baz=74,slow=8.9,SNR=36
MKAR Makanchi Array 45.08 298⇑ *e*P **P 04 50 56.9 +0.6**
KURK Kurchatov 46.01 304 *e*P **P 04 51 03.8 +0.1**
KURK *e**SP sP 04 51 18.4 +5.9
KURK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KURK Kurchatov 46.01 304 *e*P **P 04 51 03.8 +0.1**
comp=Z,7.2nm,0.9s,mb4.6
KURK *e*pP pP 04 51 14.8 +4.8
KURK *e*sP sP 04 51 18.4 +5.9
INK Inuvik 46.24 30 P **P 04 51 05.3 -0.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=264,slow=5.6,SNR=12
INK Inuvik 46.24 30 *e*P **P 04 51 06.5 +1.0**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 46.24 30 *e*P **P 04 51 06.5 +1.0**
comp=Z,2.7nm,0.7s,mb4.3
CHKZ Chkalovo 49.59 310 *e*P **P 04 51 31.1 -0.3**
CHKZ *e**PP pP 04 51 42.5 +4.7
CHKZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
CHKZ Chkalovo 49.59 310 *e*P **P 04 51 31.1 -0.3**
comp=Z,7.7nm,1.0s,mb4.7
CHKZ *e*pP pP 04 51 42.5 +4.7
BRVK Borovoye 50.01 310 *e*P **P 04 51 34.2 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BRVK Borovoye 50.01 310 *e*P **P 04 51 34.2 -0.4**
comp=Z,2.5nm,0.8s,mb4.3
ZRNK Zerenda 50.76 310 *e*P **P 04 51 40.1 -0.2**
ZRNK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
ZRNK Zerenda 50.76 310 *e*P **P 04 51 40.0 -0.3**
comp=Z,9.5nm,1.2s,mb4.6
AAK Ala-Archa 51.86 296 *e*P **P 04 51 48.1 -0.4**
AAK *e**PP pP 04 51 59.8 +4.9
AAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
AAK Ala-Archa 51.86 296 *e*P **P 04 51 48.1 -0.4**
comp=Z,5.3nm,0.9s,mb4.5
AAK *e*pP pP 04 51 59.8 +4.8
ARU Arti 54.77 317⇓ *i*P **P 04 52 09.7 -0.2**
ARU *e* 04 53 11.4
ARU *e* 04 54 11.5
ARU *e*S **S 04 59 38.4 -11**
ARU *e*SS SS 05 03 21.1 -12
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
RES Resolute Bay 54.93 17 *e*P **P 04 52 11.2 +0.1**
RES *e**PP pP 04 52 21.8 +4.3
RES pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
RES Resolute Bay 54.93 17 *e*P **P 04 52 11.2 +0.1**
comp=Z,10nm,1.0s,mb4.8
RES *e*pP pP 04 52 21.8 +4.3
ARCES ARCESS Array B 59.52 340 P **P 04 52 42.5 -1.1**
comp=Z,3.9nm,1.0s,mb4.4,baz=40,slow=6.8,SNR=7.7
JOF Joensuu 62.42 332 *e*p **P 04 53 00.2 -3.0**
comp=Z,3.5nm,0.5s,mb4.8
FINES FINESS Array B 65.20 333 P **P 04 53 20.4 -1.2**
comp=Z,1.7nm,0.5s,mb4.4,baz=48,slow=8.2,SNR=18
FINES FINESS Array B 65.20 333 *e*P **P 04 53 21.3 -0.2**
OBN Obninsk 65.70 324⇓ *e*P **P 04 53 25.0 +0.2**
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
ASAR Alice Springs 68.19 194 *e*P **P 04 53 49.4 +8.8**
GOF Gofitskoye 69.29 313 *e*P **P 04 53 47.3 -0.2**
MBWA Marble Bar 69.46 208 *e*P **P 04 53 50.1 +1.5**
PDAR Pinedale Array 69.59 50 P **P 04 53 50.0 +0.6**
comp=Z,0.2nm,0.4s,mb3.4,baz=239,slow=22,SNR=2.6
NB2 NORSAR Subarra 69.88 339 P **P 04 53 50.8 -0.3**
comp=Z,1.2nm,0.7s,mb3.9,baz=32,slow=6.2
NB2 NORSAR Subarra 69.88 339 P **P 04 53 50.8 -0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 69.88 339 P **P 04 53 50.0 -1.1**
comp=Z,4.1nm,0.9s,mb4.3,baz=33,slow=6.1,SNR=9.1
KIV Kislovodsk 70.21 312 *e*P **P 04 53 54.4 +1.3**
KIV pmax pmax
comp=Z,14nm,0.8s,mb4.9
KIV MLR MLR
comp=Z,77nm,17.0s,MS4.0
AKASG Malin Array Be 71.96 324 P **P 04 54 02.4 -1.4**
comp=Z,3.0nm,0.7s,mb4.3,baz=38,slow=6.1,SNR=10
AKASG Malin Array Be 71.96 324 *e*P **P 04 54 03.4 -0.4**
AKASG Malin Array Be 71.96 324 P **P 04 54 02.4 -1.4**
SOC Sochi 72.04 313 *e*P **P 04 54 02.2 -2.1**
SOC *e* 04 54 20.3
SOC *e* 04 56 52.4
SOC *e*PPP 04 58 33.2
SOC *e*S S 05 03 10.8 -14
SOC *e* 05 04 15.2
SOC *e*SS SS 05 07 54.2 -7.7
SOC pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLL Collm 77.64 333 *e*P **P 04 54 36.0 -0.6**
comp=Z,9.0nm,1.3s,mb4.5
BRTR Keskin Array B 77.98 314 P **P 04 54 39.5 +0.9**
comp=Z,0.5nm,0.6s,mb3.6,baz=76,slow=5.2,SNR=2.6
KHC Kasperske Hory 79.30 331 *e*pP **P 04 54 46.0 +0.2**
KHC x x 04 54 48.5
KHC Kasperske Hory 79.30 331 *e*P **P 04 54 46.0 +0.2**
KHC *e* 04 54 48.5
KHC Kasperske Hory 79.30 331 *e*P **P 04 54 48.5 +2.7**
GERES GERESS Array B 79.50 331 P **P 04 54 46.7 -0.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=31,slow=8.0,SNR=6.8
TORD Torodi Ar. Bea 115.59 323 PKP PKPdf 05 01 20.5 -1.8
comp=Z,0.1nm,0.4s,baz=357,slow=1.6,SNR=6.0
BDFB Brasilia 148.99 31 PKPbc PKPbc 05 02 27.7 -0.5
comp=Z,3.9nm,1.1s,baz=118,slow=5.6,SNR=3.0
VNA2 Neumayer--Watz 150.02 196 *e*PKPdf PKPdf 05 02 26.9 +1.1
VNA2 *e* 05 02 32.6
VNA2 *e* 05 02 40.5
VNA2 *e* 05 02 45.8
VNA2 *e* 05 02 50.5
VNA2 *e* 05 02 56.6
VNA2 *e* 05 03 01.1

IDC 06 04:50:50.5±17.0, 070N×12844E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=271.8km s-min=132.1km az=163.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.32**	**165**	P	P	04 55 38.6	-0.2
	0.6nm,0.5s,baz=344,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**24.80**	**168**	P	P	04 56 15.2	+1.1
	1.6nm,0.7s,baz=351,slow=10,SNR=11						
STKA	**Stephens Creek**	**34.71**	**160**	P	P	04 57 41.5	-0.5
	2.7nm,1.0s,baz=331,slow=10,SNR=3.1						

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*NEIC **06** 04:56:09.9, 37.16S×176.73E, h244km, MG3.9(WEL), After WEL.*

WEL 06 04:56:09.7±0.3, 37.12S×176.75E, h243km±3km, ML3.9/19, Error ellipse: s-maj=4.4km s-min=3.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.17**	**166**	PN	Pn	04 56 45.0	-0.1
URZ				SN	S	04 57 12.6	-0.3
URZ	**Urewera**	**1.17**	**166**	*e*P	Pn	04 56 45.0	-0.1
MXZ	**Matakaoa Point**	**1.32**	**110**	PN	Pn	04 56 46.1	+0.1
MXZ				SN	S	04 57 13.4	-1.1
MXZ	**Matakaoa Point**	**1.32**	**110**	P	Pn	04 56 46.1	+0.1
MXZ				S	S	04 57 13.4	-1.2
MWZ	**Matawai**	**1.36**	**153**	PN	Pn	04 56 46.6	+0.2
MWZ				SN	S	04 57 15.0	-0.1
MWZ	**Matawai**	**1.36**	**153**	P	Pn	04 56 46.6	+0.3
PUZ	**Puketiti**	**1.53**	**129**	PN	Pn	04 56 47.8	+0.2
PUZ				SN	S	04 57 17.0	-0.4
PUZ	**Puketiti**	**1.53**	**129**	P	Pn	04 56 47.8	+0.2
PUZ				S	S	04 57 17.0	-0.4
KNZ	**Kokohu**	**2.03**	**159**	PN	Pn	04 56 52.1	+0.2
KNZ				SN	S	04 57 24.4	-0.7
BKZ	**Black Stump Fm**	**2.05**	**186**	PN	Pn	04 56 52.0	-0.1
BKZ	**Black Stump Fm**	**2.05**	**186**	P	Pn	04 56 52.0	-0.1
WTVZ	**West Tongariro**	**2.19**	**204**	PN	Pn	04 56 54.3	+0.9
OTVZ	**Oturere**	**2.21**	**202**	PN	Pn	04 56 54.5	+0.9
NGZ	**Ngauruhoe**	**2.24**	**203**	P	Pn	04 56 54.9	+1.0
WPVZ	**Whakapapa**	**2.29**	**204**	PN	Pn	04 56 55.2	+0.8
WPVZ	**Whakapapa**	**2.29**	**204**	P	Pn	04 56 55.2	+0.9
TUVZ	**Tukino**	**2.31**	**202**	P	Pn	04 56 53.8	-0.8
FWVZ	**Far West T-bar**	**2.33**	**204**	PN	Pn	04 56 55.5	+0.7
FWVZ	**Far West T-bar**	**2.33**	**204**	P	Pn	04 56 55.5	+0.7
TRVZ	**Turoa**	**2.37**	**203**	PN	Pn	04 56 56.0	+0.8
WNVZ	**Wahianoa**	**2.38**	**202**	PN	Pn	04 56 55.6	+0.3
WNVZ	**Wahianoa**	**2.38**	**202**	P	Pn	04 56 55.6	+0.3
MOVZ	**Moawhango**	**2.42**	**199**	PN	Pn	04 56 55.4	-0.2
MOVZ	**Moawhango**	**2.42**	**199**	P	Pn	04 56 55.4	-0.2
PXZ	**Pawanui**	**2.91**	**178**	PN	Pn	04 57 00.2	-0.5
WAZ	**Wanganui**	**2.97**	**207**	PN	Pn	04 57 01.8	+0.3
WAZ	**Wanganui**	**2.97**	**207**	*e*P	Pn	04 57 01.8	+0.3
TSZ	**Takapari Road**	**3.00**	**192**	PN	Pn	04 57 01.1	-0.7
BFZ	**Birch Farm**	**3.58**	**186**	PN	Pn	04 57 07.1	-1.1
BFZ	**Birch Farm**	**3.58**	**186**	*e*P	Pn	04 57 07.1	-1.2
MRZ	**Mangatainoka R**	**3.65**	**194**	PN	Pn	04 57 07.6	-1.6
MRZ	**Mangatainoka R**	**3.65**	**194**	P	Pn	04 57 07.6	-1.5
TIWZ	**Tintock**	**3.71**	**190**	PN	Pn	04 57 08.8	-1.1
KIW	**Kapiti Island**	**4.00**	**200**	PN	Pn	04 57 11.3	-1.9
KIW	**Kapiti Island**	**4.00**	**200**	P	Pn	04 57 11.3	-1.9
MTW	**Mount Morrison**	**4.15**	**193**	PN	Pn	04 57 12.9	-2.1
MTW	**Mount Morrison**	**4.15**	**193**	P	Pn	04 57 12.9	-2.0
CAW	**Cannon Point**	**4.19**	**198**	PN	Pn	04 57 13.4	-2.0
CAW	**Cannon Point**	**4.19**	**198**	P	Pn	04 57 13.4	-2.1
MRW	**Makara Radio**	**4.40**	**201**	P	Pn	04 57 15.8	-2.2
SNZO	**South Karori**	**4.47**	**200**	P	Pn	04 57 16.4	-2.5
TCW	**Tory Channel**	**4.52**	**204**	P	Pn	04 57 17.1	-2.3
NNZ	**Nelson**	**4.86**	**212**	*e*P	Pn	04 57 21.0	-2.5
QRZ	**Quartz Range**	**4.95**	**220**	*e*P	Pn	04 57 21.5	-3.2
BSWZ	**Blackbirch Sta**	**5.10**	**205**	P	Pn	04 57 24.5	-2.0
THZ	**Tophouse**	**5.51**	**212**	*e*P	Pn	04 57 27.9	-3.7
KHZ	**Kahutara**	**5.84**	**204**	*e*P	Pn	04 57 33.2	-2.5
DSZ	**Denniston Nort**	**6.00**	**218**	*e*P	Pn	04 57 35.0	-2.7
LTZ	**Lake Taylor**	**6.62**	**210**	*e*P	Pn	04 57 42.1	-3.4
WVZ	**Waitaha Valley**	**7.52**	**216**	*e*P	Pn	04 57 53.1	-3.8
JCZ	**Jackson Bay**	**9.23**	**219**	*e*P	Pn	04 58 14.0	-4.5

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*IDC **06** 05:04:39.5±1.1, 1589S×17298W, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.1/16, mbtmp4.1/6, ML4.3/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/27, Error ellipse: s-maj=59.6km s-min=23.2km az=155.0*

*ISCJB **06** 05:04:40.2±0.7, 152S±0.1×172.8W±0.1, h33km, mb4.1/7, MS3.5/2, Error ellipse: s-maj=19.2km s-min=8.6km az=100.5*

*NEIC **06** 05:04:46.1±0.7, 1531S×17329W, h35km, mb4.4/2, Error ellipse: s-maj=31.0km s-min=16.1km az=148.0*

ISC 06 05:04:42.9±0.7, 151S±01×17280W±010, h35km, n18, σ0.995/15, mb4.1/7, MS3.5/2, 1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.56**	**39**	Pn	**Pn**	**05 05 08.8**	**+0.7**
	62nm,0.3s,baz=194,slow=4.0,SNR=40						
AFI				Sn	**Sn**	**05 05 26.7**	**-0.4**
	282nm,0.3s,baz=73,slow=22,SNR=23						
AFI	**Afiamalu**	**1.56**	**39**	⇓ *i*Pn	**Pn**	**05 05 08.8**	**+0.7**
AFI				*e*Sn	**Sn**	**05 05 26.7**	**-0.4**
RAR	**Rarotonga**	**13.78**	**118**	Pn	**Pn**	**05 07 54.7**	**-0.9**
	1.4nm,0.3s,baz=330,slow=8.1,SNR=3.7						
RAR				T		05 22 10.4	
	4.6nm,0.3s,baz=104,slow=21,SNR=4.8						
RAO	**Raoul Island**	**14.83**	**198**	LR	LR	05 12 47.9	
	comp=Z,204nm,19.7s,baz=61,slow=35						
DZM	**Mont Dzumac**	**20.84**	**248**	LR	LR	05 15 35.0	
	comp=Z,164nm,21.6s,MS3.4,baz=22,slow=32						
PPT	**Papeete**	**22.41**	**99**	LR	LR	05 16 52.1	
	comp=Z,205nm,19.8s,MS3.6,baz=41,slow=33						
STKA	**Stephens Creek**	**44.68**	**240**	P	**P**	**05 12 49.0**	**-3.2**
	3.1nm,0.9s,mb4.1,baz=88,slow=7.0,SNR=4.8						
STKA	**Stephens Creek**	**44.68**	**240**	*e*P	**P**	**05 12 51.7**	**-0.5**
WB2	**Warramunga Arr**	**50.46**	**256**	*e*P	**P**	**05 13 37.2**	**+0.1**
WRAB	**Tennant Creek**	**50.46**	**257**	P	**P**	**05 13 37.1**	**-0.1**
	1.3nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**50.47**	**256**	P	**P**	**05 13 36.8**	**-0.4**
	1.3nm,0.7s,mb4.1,baz=90,slow=6.8,SNR=15						
ASAR	**Alice Springs**	**50.75**	**252**	P	**P**	**05 13 39.0**	**-0.2**
	3.6nm,0.6s,mb4.5,baz=86,slow=8.7,SNR=33						
QSPA	**South Pole Qui**	**74.92**	**180**	*e*P	**P**	**05 16 22.5**	**+2.3**
	7.7nm,1.1s,mb4.5						
ANMO	**Albuquerque**	**80.18**	**50**	P	**P**	**05 16 55.5**	**+6.0**
	0.7nm,0.8s,mb3.6,baz=257,slow=4.7,SNR=3.6						
ANMO	**Albuquerque**	**80.18**	**50**	P	**P**	**05 16 55.5**	**+6.0**
PDAR	**Pinedale Array**	**81.67**	**42**	P	**P**	**05 17 03.1**	**+5.6**
	0.2nm,0.4s,mb3.4,baz=220,slow=5.5,SNR=3.0						
GERES	**GERESS Array B**	**145.95**	**352**	PKPbc	PKPbc	05 24 22.3	+3.6
	0.3nm,0.2s,baz=46,slow=5.8,SNR=4.5						
BRTR	**Keskin Array B**	**146.31**	**322**	PKPbc	PKPbc	05 24 24.2	+4.5
	3.3nm,0.9s,baz=129,slow=1.8,SNR=14						

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*NEIC **06** 05:07:08.0, 30.10S×71.50W, h41km, MG4.2(GUC), After GUC.*

GUC 06 05:07:08.0±0.9, 30.10S×71.50W, h41km±3km, MD4.2, ML4.2, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.29**	**50**⇑	*i*P	Pn	05 07 16.5	+0.2
LSCH				*i* S	Sn	05 07 22.1	+0.1
LSCH				AML	AML	05 07 22.4	
	comp=E,20μm,0.3s						
LSCH	**La Serena**	**0.29**	**50**⇑	*i*P	Pn	05 07 16.5	+0.2
LSCH				*i* S	Sn	05 07 22.1	+0.1
OVCH	**Ovalle**	**0.57**	**153**	*e*P	Pn	05 07 20.1	+0.4
OVCH				*i* S	Sn	05 07 28.5	+0.5
TLL	**Tololo Astrono**	**0.61**	**97**	*e*P	Pn	05 07 21.5	+1.3
TLL				*i* S	Sn	05 07 30.9	+2.0
TLL				AML	AML	05 07 33.3	
	comp=E,18μm,0.5s						
TLL	**Tololo Astrono**	**0.61**	**97**	*e*P	Pn	05 07 21.5	+1.3
TLL				*i* S	Sn	05 07 30.9	+2.0
CMCH	**Combarbala**	**1.16**	**158**	*e*P	Pn	05 07 28.6	+0.9
CMCH				*i* S	Sn	05 07 44.3	+2.0
JACH	**Jahuel**	**2.69**	**163**	*i* P	Pn	05 07 52.1	+3.3
CPCH	**Copiapo**	**2.91**	**21**	*i* P	Pn	05 07 53.1	+1.3
CPCH				*i* S	Sn	05 08 26.7	+1.2
CPCH				AML	AML	05 08 46.1	
	comp=E,2μm,0.1s						
CPCH	**Copiapo**	**2.91**	**21**	*i* P	Pn	05 07 53.1	+1.3
CPCH				*i* S	Sn	05 08 26.7	+1.2
CDCH	**Caldera**	**3.07**	**11**	*e*P	Pn	05 07 53.2	-0.8
FCH	**Farellones**	**3.38**	**163**	*e*P	Pn	05 08 02.0	+3.8
TACH	**Talagante**	**3.58**	**172**	*e*P	Pn	05 08 01.7	+0.8
PCH	**Pirque**	**3.61**	**167**	*e*P	Pn	05 08 02.8	+1.4
CHCH	**Chadas Angostu**	**3.89**	**170**	*e*P	Pn	05 08 06.7	+1.5
CACH	**El Canelo**	**4.08**	**169**	*e*P	Pn	05 08 11.4	+3.5
LVC	**Limon Verde**	**7.81**	**18**	*e*Pn	Pn	05 09 00.9	+1.9
	comp=E,2.1nm,0.4s						
TRQA	**Tornquist**	**11.19**	**138**	*e*P	Pn	05 09 43.1	-2.2
	comp=E,2.3nm,0.5s						
CPUP	**Villa Florida**	**13.05**	**77**	Pn	Pn	05 10 09.7	-1.0
	comp=E,3.4nm,0.5s						
CPUP				*e*Sn	Sn	05 12 28.8	-5.7
LPAZ	**La Paz**	**14.09**	**13**	*e*Pn	Pn	05 10 26.4	+1.5
	comp=E,4.5nm,1.5s						

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*IDC **06** 05:10:02.4±1.3, 2729S×71.19W, h0km, mb3.9/2, mb1 3.8/6, mb1mx3.7/17, mbtmp3.7/6, ML3.8/4, MS3.4/4, Ms1 3.3/4, ms1mx2.9/25, Error ellipse: s-maj=37.4km s-min=24.1km az=92.0*

*ISCJB **06** 05:10:06.6±0.7, 2731S±003×71.12W±009, h45km±7km, mb4.0/3, MS3.8/2, Error ellipse: s-maj=13.5km s-min=4.8km az=13.2*

*NEIC **06** 05:10:06.8, 2739S×7100W, h35km, mb4.1/2, ML4.5(GUC), After GUC.*

*GUC **06** 05:10:06.8±0.8, 2739S×7101W, h35km±8km, ML4.5*

ISC 06 05:10:06.4±1.3, 2732S±003×7117W±009, h24km±8km, n30, σ0.994/33, mb4.0/3, MS3.8/2, 7C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.39**	**52**⇑	*i*P	**Pb**	**05 10 15.3**	**+0.5**
CDCH				*i* S	**Sb**	**05 10 21.4**	**+1.0**
CDCH				AML	AML	05 10 21.9	
	comp=N,74μm,0.3s						
CPCH	**Copiapo**	**0.73**	**93**⇓	*i*P	**Pb**	**05 10 19.9**	**-0.6**
CPCH				*i* S	**Sb**	**05 10 28.5**	**-1.6**
CPCH				AML	AML	05 10 29.4	
	comp=E,95μm,0.1s						
CPCH	**Copiapo**	**0.73**	**93**⇓	*i*P	**Pb**	**05 10 19.9**	**-0.6**
CPCH				*i* S	**Sb**	**05 10 28.5**	**-1.6**
CRCH	**Chaqaral**	**1.09**	**27**⇑	*i*P	**Pn**	**05 10 26.4**	**+0.2**
CRCH				*i* S	**Sn**	**05 10 40.8**	**+0.3**
VACH	**Vallenar**	**1.31**	**164**⇑	*i*P	**Pn**	**05 10 30.9**	**+1.7**
VACH				*i* S	**Sn**	**05 10 47.0**	**+1.1**
LSCH	**La Serena**	**2.58**	**181**⇓	*i*P	**Pn**	**05 10 46.2**	**-0.6**
LSCH				*i* S	**Sn**	**05 11 16.8**	**-0.6**
LSCH				AML	AML	05 11 28.2	
	comp=N,2μm,0.3s						
LSCH	**La Serena**	**2.58**	**181**⇓	*i*P	**Pn**	**05 10 46.2**	**-0.6**
LSCH				*i* S	**Sn**	**05 11 16.8**	**-0.6**
TLL	**Tololo Astrono**	**2.86**	**174**⇑	*i*P	**Pn**	**05 10 51.2**	**+0.7**
OVCH	**Ovalle**	**3.28**	**180**	*e*P	**Pn**	**05 10 55.5**	**-0.9**
CFAA	**Coronel Fontan**	**4.98**	**150**	Pn	**Pn**	**05 11 20.9**	**+1.2**
	comp=N,1.7nm,0.3s,baz=332,slow=9.7,SNR=7.5						
CFAA				Sn	**Sn**	**05 12 18.4**	**+1.8**
	comp=N,2.6nm,0.3s,baz=221,slow=15,SNR=5.6						
LVC	**Limon Verde**	**5.11**	**24**	Pn	**Pn**	**05 11 22.2**	**+0.7**
	comp=N,2.3nm,0.3s,baz=0.9,slow=16,SNR=13						
LVC				Sn	**Sn**	**05 12 20.9**	**+1.0**
	comp=N,12nm,0.3s,baz=233,slow=4.5,SNR=3.0						
LVC				Lg		05 12 39.1	
	comp=N,22nm,0.3s,baz=158,slow=24,SNR=7.8						
MDZ	**Mendoza**	**5.90**	**161**	*e*P	**Pn**	**05 11 27.7**	**-4.7**
LPAZ	**La Paz**	**11.33**	**15**	Pn	**Pn**	**05 12 46.0**	**-0.9**
	comp=N,0.1nm,0.3s,baz=209,slow=6.7,SNR=4.6						
LPAZ				LR	LR	05 16 55.4	
	comp=N,30nm,20.1s,baz=86,slow=36						
LPAZ	**La Paz**	**11.33**	**15**	*e*Pn	**Pn**	**05 12 46.4**	**-0.5**
	comp=N,1.9nm,0.7s						
LPAZ				LR	LR	05 16 55.4	
	comp=N,143nm,21.5s,baz=345,slow=39						
CPUP	**Villa Florida**	**12.40**	**89**	Pn	**Pn**	**05 13 01.6**	**+0.1**
	comp=N,0.1nm,0.3s,baz=265,slow=7.8,SNR=3.2						
CPUP	**Villa Florida**	**12.40**	**89**	*e*Pn	**Pn**	**05 12 53.9**	**-7.6**
	comp=N,32nm,0.8s						
TRQA	**Tornquist**	**13.21**	**146**	Pn	**Pn**	**05 13 11.1**	**-1.3**
	comp=N,4.4nm,0.7s						
PLCA	**Paso Flores**	**13.39**	**178**	LR	LR	05 18 45.1	
	comp=N,143nm,21.5s,baz=345,slow=39						
SAML	**Samuel**	**19.77**	**24**	*e*P	**Pn**	**05 14 35.4**	**-1.0**
	comp=N,3.5nm,1.0s						
BDFB	**Brasilia**	**24.43**	**66**	P	**P**	**05 15 22.0**	**-1.2**
	comp=N,1.4nm,0.6s,mb3.6,baz=263,slow=10.0,SNR=4.1						
BDFB				LR	LR	05 26 22.3	
	comp=N,85nm,21.9s,MS3.2,baz=275,slow=40						
TEIG	**Tepich**	**50.08**	**339**	*e*P	**P**	**05 18 59.6**	**+0.2**
	comp=N,4.6nm,0.9s,mb4.5						
VNA3	**Neumayer Olymp**	**55.30**	**160**⇑	*i*	**P**	**05 19 37.6**	**-0.4**
VNA3				*e*		05 19 38.5	
VNA2	**Neumayer--Watz**	**55.92**	**159**⇑	*i*	**P**	**05 19 42.0**	**-0.5**
VNA2				*e*		05 19 42.7	
SNAA	**Sanae**	**57.52**	**160**⇑	*i*	**P**	**05 19 41.6**	**-12**
SNAA				*e*		05 19 42.3	
TORD	**Torodi Ar. Bea**	**81.25**	**70**	P	**P**	**05 22 20.0**	**-0.5**
	comp=N,0.7nm,0.5s,mb3.8,baz=262,slow=5.1,SNR=7.8						
DLBC	**Dease Lake**	**98.40**	**333**	LR	LR	06 13 01.4	
	comp=N,94nm,18.1s,MS4.3,baz=305,slow=38						
WRA	**Warramunga Arr**	**126.92**	**210**	PKP	PKPdf	05 29 08.1	-0.2
	comp=N,0.5nm,0.6s,baz=162,slow=1.6,SNR=6.3						
ZAL	**Zalesovo**	**148.06**	**27**	PKPbc	PKPbc	05 29 50.0	-0.1
	comp=N,2.5nm,0.6s,baz=175,slow=7.0,SNR

NIKO	Nikolski	1.26	65	P	Pn	05 48 34.1	-1.7
NIKO				S	Sn	05 48 48.6	-2.9
OKCE	Okmok Cone E	1.84	57	P	Pn	05 48 44.4	+0.6
OKCE				S	Sn	05 49 05.3	-0.4
ATKA	Atka Island	2.14	265	ePn	Pn	05 48 49.9	+2.1
ATKA				eSn	Sn	05 49 13.3	+0.2
UNV	Unalaska Valle	2.91	60	P	Pn	05 48 58.5	+0.1
AKLV	Akutan Long Va	3.34	57	P	Pn	05 49 04.9	+0.5
AKUT	Akutan	3.42	58	eP	Pn	05 49 08.5	+3.0
SPIA	Saint Paul Isl	4.75	3	P	Pn	05 49 27.4	+3.7
FALS	False Pass	4.98	58	ePn	Pn	05 49 29.4	+2.5
FALS				eSn	Sn	05 50 27.2	+4.0
SDPT	Sand Point	6.72	60	ePn	Pn	05 49 53.6	+2.7
CHGN	Chignik	8.16	57	eP	Pn	05 50 12.1	+1.5
KDAK	Kodiak Island	11.67	56	P	Pn	05 50 56.6	-2.0
	3.7nm,0.3s,baz=237,slow=8.1,SNR=31						
KDAK	Kodiak Island	11.67	56	P	Pn	05 50 57.3	-1.3
SVW2	Sparrevohn	11.98	38	eP	Pn	05 51 05.8	+2.9
TTA	Tatalina	13.09	31	eP	Pn	05 51 22.1	+4.1
TTA				pmax	pmax		
	comp=Z,73nm,1.5s						
TTA	Tatalina	13.09	31	ePn	Pn	05 51 22.1	+4.1
	comp=Z,73nm,1.5s						
SLKM	Skilak Lake	13.86	46	eP	Pn	05 51 30.5	+1.9
PMR	Palmer	14.84	43	eP	Pn	05 51 43.8	+2.0
PMR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PMR	Palmer	14.84	43	eP	Pn	05 51 43.8	+2.0
	comp=Z,1.1nm,0.3s						
MCK	McKinley	16.04	37	eP	Pn	05 51 59.9	+2.4
MCK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MCK	McKinley	16.04	37	ePn	Pn	05 51 59.9	+2.4
	comp=Z,8.8nm,1.1s						
COLA	College	17.09	34	eP	Pn	05 52 10.8	+0.1
COLA				e		05 55 16.0	
COLA				pmax	pmax		
	comp=Z,15nm,1.1s						
COLA	College	17.09	34	ePn	Pn	05 52 10.8	+0.1
	comp=Z,15nm,1.1s						
COLA				eSn	Sn	05 55 16.0	-3.5
PET	Petropavlovsk	18.48	284	eP	Pn	05 52 30.7	+2.8
PET				eS	S	05 55 48.3	-8.4
PET				MLR	MLR		
	comp=Z,100nm,13.0s						
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
BILL	Bilibino	19.15	333	P	Pn	05 52 38.7	+2.7
BILL				pmax	pmax		
	comp=Z,11nm,1.1s						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s						
BILL	Bilibino	19.15	333	eP	Pn	05 52 38.2	+2.2
	comp=Z,18nm,1.1s						
DAWY	Dawson	19.93	42	eP	Pn	05 52 43.0	-2.2
DLBC	Dease Lake	23.56	59	P	P	05 53 22.6	+0.5
	comp=Z,7.2nm,0.8s,mb4.1,baz=278,slow=9.6,SNR=14						
DLBC				LR	LR	06 03 24.1	
	comp=Z,95nm,18.2s,MS3.3,baz=296,slow=39						
INK	Inuvik	23.74	34	P	P	05 53 22.2	-1.5
	comp=Z,2.3nm,0.4s,mb4.0,baz=234,slow=7.8,SNR=48						
INK				LR	LR	06 03 52.8	
	comp=Z,188nm,18.2s,MS3.6,baz=68,slow=40						
A04A	Legoe Bay, Lum	30.27	78	⇑P	P	05 54 22.9	+0.5
	baz=30						
D03A	Wishkah Elem.	30.35	81	⇑P	P	05 54 24.1	+1.0
	baz=30						
A05A	Maple Falls	30.52	77	⇓P	P	05 54 24.8	+0.3
	baz=30						
C04A	Brinnon	30.56	80	⇓P	P	05 54 25.7	+0.8
	baz=30						
E03A	Lebam	30.75	82	⇓P	P	05 54 27.4	+0.9
	baz=30						
B05A	Bryant	30.84	78	⇑P	P	05 54 27.7	+0.4
	baz=31						
C05A	Tolt Reservoir	31.34	79	⇓P	P	05 54 32.2	+0.4
	baz=31						
D05A	Enumclaw	31.39	80	⇓P	P	05 54 32.9	+0.7
	baz=31						
ASAJ	Asahikawa	31.67	274	LR	LR	06 06 48.7	
	comp=Z,80nm,20.4s,MS3.4,baz=349,slow=35						
F04A	Amboy	31.74	82	⇓P	P	05 54 35.8	+0.5
	baz=31						
E05A	Randle	31.83	81	⇑P	P	05 54 36.3	+0.2
	baz=32						
H04A	Detroit Lake	32.52	84	⇑P	P	05 54 42.4	+0.3
	baz=32,SNR=5.2						
H05A	Madras	33.12	83	⇑P	P	05 54 47.6	+0.3
	baz=33						
HUMO	Hull Mountain	33.17	88	⇑P	P	05 54 48.7	+0.9
	baz=33						
I05A	Bend	33.35	84	⇑P	P	05 54 50.1	+0.7
	baz=33						
NEW	Newport	33.80	75	P	P	05 54 52.7	-0.6
	comp=Z,5.6nm,0.7s,mb4.6,baz=295,slow=8.2,SNR=10						
NEW	Newport	33.80	75	P	P	05 54 52.7	-0.6
YBH	Yreka Blue Hor	33.82	89	P	P	05 54 53.6	+0.2
	comp=Z,2.5nm,0.8s,mb4.2,baz=318,slow=2.3,SNR=5.4						
YBH	Yreka Blue Hor	33.82	89	⇓P	P	05 54 54.4	+1.0
	baz=34						
M02C	Callahan	33.93	90	⇓P	P	05 54 55.3	+0.9
	baz=34						
N02C	Big Bar	33.98	91	⇑P	P	05 54 55.7	+0.8
	baz=34						
I06A	Prineville	34.11	84	⇑P	P	05 54 56.2	+0.2
	baz=34						
M04C	Macdoel	34.32	88	⇑P	P	05 54 58.7	+0.9
	baz=34						
M03C	McCloud	34.45	89	⇓P	P	05 55 00.1	+1.2
	baz=34						
J06A	Christmas Vall	34.53	85	P	P	05 55 00.3	+0.7
	baz=34,SNR=14						
WDC	Whiskeytown Da	34.59	90	⇑P	P	05 55 01.4	+1.3
	baz=34						
O02C	Red Bluff	34.68	91	⇑P	P	05 55 01.7	+0.8
	baz=34						
K06A	Valley Falls	34.72	86	⇑P	P	05 55 02.2	+0.9
	baz=34						
M05C	Lookout	34.99	88	⇑P	P	05 55 04.1	+0.6
	baz=35,SNR=6.5						
GASB	Alder Springs	35.04	92	⇓P	P	05 55 04.9	+0.9
	baz=35						
HATC	Hat Creek Radi	35.11	89	⇑P	P	05 55 05.3	+0.7
	baz=35						
HOPS	Hopland	35.23	93	⇓P	P	05 55 06.7	+1.0
	baz=35						
M06C	Likely Place G	35.49	88	⇑P	P	05 55 08.6	+0.7
	baz=35						
O04C	Chester	35.64	90	⇑P	P	05 55 09.7	+0.6
	baz=35						
ELFS	Eagle Lake Fie	35.68	89	⇓P	P	05 55 10.1	+0.6
	baz=35						
ORV	Oroville	35.85	91	⇑P	P	05 55 11.7	+0.7
	baz=36						
WVOR	Wild Horse Val	35.91	85	eP	P	05 55 11.5	+0.1
WVOR				e		05 57 32.0	
WVOR				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
WVOR	Wild Horse Val	35.91	85	eP	P	05 55 11.5	+0.1
	comp=Z,12nm,1.0s,mb4.8						
WVOR				ePcP	PcP	05 57 32.0	-6.0
O05C	Quincy	35.96	90	⇓P	P	05 55 12.2	+0.3
	baz=36						
M07A	Soldier Meadow	36.18	87	⇑P	P	05 55 14.3	+0.5
	baz=36,SNR=5.3						
O06A	Flanigan	36.50	89	⇑P	P	05 55 17.0	+0.4
	baz=36						
M08A	Happy Creek Ra	36.63	86	⇓P	P	05 55 18.1	+0.5
	baz=36,SNR=5.7						
L09A	Wilkinson Ranc	36.73	85	⇓P	P	05 55 18.8	+0.3
	baz=36,SNR=6.2						
CHMT	Chamberlain Mo	36.75	75	eP	P	05 55 17.8	-0.9
LAVA	Lava Cap Winer	36.80	92	⇑P	P	05 55 19.2	+0.1
	baz=36						
PAHR	Pah Rah Range	37.05	89	eP	P	05 55 21.5	+0.3
	comp=Z,8.3nm,1.2s,mb4.4						
WCN	Washoe City	37.07	90	⇑P	P	05 55 21.6	+0.2
	baz=37						
O07A	Toulon	37.09	88	P	P	05 55 21.9	+0.3
	baz=37,SNR=8.3						
R05C	Kirkwood Meado	37.24	91	⇑P	P	05 55 23.3	+0.4
	baz=37						
O08A	Rochester Mine	37.45	87	⇓P	P	05 55 25.1	+0.5
	baz=37						
P07A	Fallon	37.45	89	⇑P	P	05 55 24.7	+0.1
	baz=37						
CMB	Columbia Colle	37.47	92	⇓P	P	05 55 24.9	+0.1
	baz=37						
N09A	Rock Creek Ran	37.51	86	⇓P	P	05 55 25.0	-0.1
	baz=37						
HRY	Holter Researc	37.69	75	eP	P	05 55 26.0	-0.7
M10A	I.L. Ranch, Tu	37.71	85	⇑P	P	05 55 26.8	0.0
	baz=37						
R06C	Coleville	37.74	91	⇑P	P	05 55 27.5	+0.4
	baz=37						
HLID	Hailey	37.83	80	eP	P	05 55 27.7	-0.1
	comp=Z,6.7nm,1.4s,mb4.2						
P08A	Dixie Valley	37.86	88	⇑P	P	05 55 28.6	+0.6
	baz=38						
S06C	San Francisco	37.90	92	⇑P	P	05 55 28.7	+0.2
	baz=38						
DLMT	Dillon	37.94	77	eP	P	05 55 27.0	-1.7
	comp=Z,4.5nm,1.2s,mb4.1						
MCMT	McKenzie Canyo	38.08	78	eP	P	05 55 29.4	-0.5
O09A	Fish Creek Ran	38.11	87	⇑P	P	05 55 30.5	+0.3
	baz=38,SNR=5.5						
M11A	Holland Ranch,	38.22	84	⇓P	P	05 55 31.2	+0.1
	baz=38						
EGMT	Eagleton	38.24	72	eP	P	05 55 30.6	-0.6
	comp=Z,8.0nm,0.9s,mb4.5						
R07C	Lee Vining	38.26	91	⇓P	P	05 55 31.8	+0.4
	baz=38						
BOZ	Bozeman (W)	38.37	76	eP	P	05 55 32.2	-0.1
BOZ				e		05 57 45.3	
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.3						
BOZ	Bozeman (W)	38.37	76	eP	P	05 55 32.2	-0.2
	comp=Z,8.4nm,1.3s,mb4.3						
BOZ				ePcP	PcP	05 57 45.2	-0.2
Q08A	Gabbs	38.46	89	⇑P	P	05 55 33.3	+0.1
	baz=38						
NVAR	Mina Array Bea	38.50	90	P	P	05 55 33.4	-0.1
	comp=Z,4.1nm,0.8s,mb4.2,baz=302,slow=7.3,SNR=25						
NVAR				ScP	ScP	06 01 29.4	-1.7
	comp=Z,0.8nm,0.7s,baz=310,slow=2.0,SNR=7.0						
NVAR	Mina Array Bea	38.50	90	P	P	05 55 33.4	-0.1
NVAR				ScP	ScP	06 01 29.4	-1.7
P09A	Austin	38.52	88	⇓P	P	05 55 33.9	+0.3
	baz=38						
MNV	Mina	38.59	90	eP	P	05 55 34.2	0.0
MNV				*PP	pP	05 55 42.4	-2.0
MNV				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
MNV	Mina	38.59	90	eP	P	05 55 34.2	0.0
	comp=Z,3.6nm,1.1s,mb4.0						
MNV				pP	pP	05 55 42.4	-2.0
N11A	Elko Archery C	38.61	85	⇓P	P	05 55 34.6	+0.2
	baz=38						
R08A	Mina	38.67	90	⇑P	P	05 55 35.3	+0.4
	baz=38,SNR=9.6						
M12A	Wells	38.76	84	⇑P	P	05 55 35.8	+0.1
	baz=38,SNR=8.3						
MJAR	Matsushiro Arr	38.87	267	P	P	05 55 36.4	-0.2
	comp=Z,3.2nm,0.8s,mb4.1,baz=54,slow=7.5,SNR=9.3						
MJAR				PcP	PcP	05 57 46.7	-0.3
	comp=Z,1.8nm,0.7s,baz=101,slow=2.0,SNR=4.0						
MAJO	Matsushiro	38.87	267	eP	P	05 55 36.9	+0.4
MAJO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
MAJO	Matsushiro	38.87	267	eP	P	05 55 36.9	+0.3
	comp=Z,12nm,1.0s,mb4.6						
MAT	Matsushiro	38.87	267	P	P	05 55 36.5	0.0
MAT	Matsushiro	38.87	267	eP	P	05 55 37.0	+0.5
MAT				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
MAT	Matsushiro	38.87	267	eP	P	05 55 37.0	+0.5
	comp=Z,11nm,0.9s,mb4.6						
N12A	Wells--Clov Va	39.02	84	⇑P	P	05 55 38.0	+0.2
	baz=39,SNR=10						
MTUM	Tungsten Hills	39.02	92	eP	P	05 55 38.3	+0.5
S08C	White Mtn Res	39.17	91	P	P	05 55 40.2	+1.1
	baz=39,SNR=6.6						
HELL	Mitchell Peak	39.18	93	⇓P	P	05 55 38.9	-0.2
	baz=39,SNR=5.6						
M13A	Montello	39.25	83	⇓P	P	05 55 39.7	-0.1
	baz=39,SNR=5.6						
MDJ	Mudanjiang	39.26	283	P	P	05 55 43.3	+3.4
MDJ				AMB	AMB		
	comp=Z,60nm,7.7s						
YMR	Madison River	39.29	77	eP	P	05 55 38.0	-2.1
	comp=Z,4.5nm,0.5s,mb4.5						
YMR				ePcP	PcP	05 57 49.2	+0.8
TIN	Tinemaha	39.42	92	⇑P	P	05 55 41.6	+0.4
	baz=39						
GCMT	Greycliff	39.45	75	eP	P	05 55 41.2	-0.2
GCMT				ePcP	PcP	05 57 48.7	-0.2
YFT	Old Faithful	39.49	77	eP	P	05 55 38.3	-3.4
N13A	West Wendover	39.52	84	⇑P	P	05 55 41.5	-0.5
	baz=39						
O12A	Currie	39.54	85	⇓P	P	05 55 41.9	-0.3
	baz=39,SNR=9.2						
S09A	Goldfield	39.61	90	⇑P	P	05 55 42.6	-0.1
	baz=39,SNR=5.9						
IMW	Indian Meadow	39.73	78	eP	P	05 55 43.9	+0.1
	comp=Z,7.1nm,0.9s,mb4.4						
FLWY	Flagg Ranch	39.77	77	eP	P	05 55 43.9	-0.3
	comp=Z,5.6nm,0.9s,mb4.3						
HVU	Hansel Valley	39.84	82	eP	P	05 55 44.7	0.0
HVU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
HVU	Hansel Valley	39.84	82	eP	P	05 55 44.7	0.0
	comp=Z,5.5nm,0.8s,mb4.3						
CWC	Cottonwood Cre	39.91	92	⇑P	P	05 55 45.0	-0.2
	baz=40						
P12A	McGill	39.93	86	⇑P	P	05 55 45.2	-0.2
	baz=40						
ISA	Isabella	40.18	93	⇓P	P	05 55 46.8	-0.6
	baz=40						
BGU	Big Grassy Mou	40.20	83	eP	P	05 55 47.5	-0.1
BGU				epP	pP	05 56 00.5	+2.6
BGU				ePcP	PcP	05 57 50.2	-1.1
DAC	Darwin (Calif)	40.31	92	eP	P	05 55 48.7	+0.1
DAC				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
DAC	Darwin (Calif)	40.31	92	eP	P	05 55 48.7	+0.1
	comp=Z,6.2nm,1.2s,mb4.2						
HWUT	Hardware Ranch	40.68	81	eP	P	05 55 50.3	-1.3
	comp=Z,2.1nm,0.8s,mb3.8						
HWUT				ePcP	PcP	05 57 51.3	-1.6
TPNV	Topopah Spring	40.70	90	eP	P	05 55 51.8	0.0
TPNV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
TPNV	Topopah Spring	40.70	90	eP	P	05 55 51.8	0.0
	comp=Z,11nm,1.0s,mb4.4						
OSI	Osito Adit	40.72	95	⇓P	P	05 55 51.6	-0.4
	baz=40						
DUG	Dugway	40.77	84	eP	P	05 55 52.4	+0.1
DUG				e		05 57 52.3	
DUG				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5						
DUG	Dugway	40.77	84	eP	P	05 55 52.4	+0.1
	comp=Z,15nm,1.1s,mb4.5						
DUG				ePcP	PcP	05 57 52.3	-0.8
PDAR	Pinedale Array	41.21	78	P	P	05 55 55.6	-0.4
	comp=Z,7.9nm,0.9s,mb4.3,baz=311,slow=5.7,SNR=52						
GSC	Goldstone	41.43	92	⇑P	P	05 55 57.6	-0.2
	baz=41,SNR=7.0						
DAU	Daniels Canyon	41.58	82	eP	P	05 55 59.1	+0.1
DAU				e		05 57 55.8	
ARUT	Antelope Range	41.88	87	eP	P	05 56 01.5	0.0
ARUT				e		05 56 20.1	
ARUT				e		05 58 09.3	
TUQ	Turquoise Mtn.	41.88	92	⇓P	P	05 56 01.2	-0.3
	baz=42						
CCUT	Cedar City	42.08	87	eP	P	05 56 02.9	-0.1
CN2	Changchun	42.19	285	eP	P	05 56 08.3	+4.3
MSU	Marysvale	42.19	85	eP	P	05 56 03.8	-0.2
MSU				e		05 57 57.9	
TMUT	Trail Mountain	42.30	84	eP	P	05 56 05.1	+0.3
W12A	Cal Nev Ari	42.62	91	⇑P	P	05 56 07.1	-0.4
	baz=42						
PFO	Pinyon Flat Ob	42.78	94	eP	P	05 56 08.2	-0.6
PFO				e		05 57 59.3	
PFO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
PFO	Pinyon Flat Ob	42.78	94	eP	P	05 56 08.2	-0.7
	comp=Z,6.1nm,1.0s,mb4.3						
PFO				ePcP	PcP	05 57 59.3	-0.4
PFO	Pinyon Flat Ob	42.78	94	⇑P	P	05 56 08.2	-0.6
	baz=42						
SRU	San Rafael	42.83	83	eP	P	05 56 09.5	+0.3
SRU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
SRU	San Rafael	42.83	83	eP	P	05 56 09.5	+0.3
	comp=Z,9.4nm,0.9s,mb4.5						
109C	Camp Elliot, M	42.88	95	⇓P	P	05 56 09.4	-0.2
	baz=43						
RWWY	Rawlins	43.25	78	eP	P	05 56 11.9	-0.7
	comp=Z,6.6nm,0.8s,mb4.4						
BC3	Big Chuckw Mtn	43.37	93	⇓P	P	05 56 12.7	-0.9
	baz=43						
X13A	Yucca	43.73	91	⇓P	P	05 56 15.7	-0.8
	baz=43,SNR=8.2						
W14A	Seligman	43.77	90	P	P	05 56 16.8	-0.1
	baz=44,SNR=8.2						
Y12C	Blythe	43.87	92	⇓P	P	05 56 17.1	-0.5
	baz=44,SNR=5.0						
GLA	Glamis	44.16	93	⇓P	P	05 56 19.3	-0.6
	baz=44,SNR=5.2						
PV10	Paradox Valley	44.19	83	eP	P	05 56 20.0	-0.1
Y13A	Salome	44.25	92	⇓P	P	05 56 20.0	-0.6
	baz=44						
W15A	Williams	44.29	89	⇓P	P	05 56 21.1	+0.1
	baz=44						
X14A	Yava	44.38	90	⇓P	P	05 56 21.6	-0.1
	baz=44,SNR=17						
Y14A	Wickenburg	44.67	91	⇓P	P	05 56 23.3	-0.7
	baz=44,SNR=11						
X15A	Humboldt	44.77	90	⇑P	P	05 56 24.6	-0.1
	baz=44,SNR=10						
ULM	Lac du Bonnet	44.85	61	P	P	05 56 24.3	-1.1
	comp=Z,1.0nm,0.3s,mb4.1,baz=308,slow=8.5,SNR=3.5						
SMCO	Snowmass	44.94	81	eP	P	05 56 25.6	-0.6
	comp=Z,4.8nm,1.1s,mb4.2						
SMCO				e	pP	05 56 33.5	-2.9
Z14A	Wintersburg	45.10	91	⇓P	P	05 56 26.7	-0.7
	baz=45						
115A	Sonoran Desert	45.99	92	⇑P	P	05 56 34.0	-0.4
	baz=46,SNR=6.2						
116A	Eloy	46.41	91	⇑P	P	05 56 37.1	-0.6
	baz=46						
TUC	Tucson	47.14	91	eP	P	05 56 43.2	-0.3
TUC				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
TUC	Tucson	47.14	91	eP	P	05 56 43.2	-0.3
	comp=Z,13nm,1.1s,mb4.8						
LAZ	Ladron	47.95	86	eP	P	05 56 50.2	+0.5
LENM	Lemitar	48.21	86	eP	P	05 56 51.9	+0.2
LENM				ePcP	PcP	05 58 20.0	+1.4
ECSD	EROS,Sioux Fal	48.23	69	eP	P	05 56 50.0	-1.9
LPM	Los Pinos Moun	48.32	86	eP	P	05 56 52.5	-0.1
BNM	Barren Site	48.43	86	eP	P	05 56 53.5	0.0
BNM				ePcP	PcP	05 58 19.2	-0.1
MNTX	Cornudas Mount	50.87	87	eP	P	05 57 11.2	-0.8
	comp=Z,5.0nm,0.8s,mb4.5						
GUMO	Guam	52.42	239	LR	LR	06 14 25.2	
	comp=Z,32nm,20.7s,MS3.3,baz=310,slow=30						
WMOK	Wichita Mounta	52.79	79	eP	P	05 57 25.2	-1.1
WMOK				e		05 58 42.2	
WMOK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WMOK	Wichita Mounta	52.79	79	eP	P	05 57 25.2	-1.1
	comp=Z,9.2nm,0.8s,mb4.8						
WMOK				ePcP	PcP	05 58 42.2	+6.8
LTX	Lajitas	53.58	88	eP	P	05 57 31.2	-1.0
LTX				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
LTX	Lajitas	53.58	88	eP	P	05 57 31.2	-0.9
	comp=Z,16nm,1.1s,mb4.9						
NJ2	Nanjing	53.71	277	eP	P	05 57 40.1	+7.0
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.3						
JCT	Junction City	55.13	84	eP	P	05 57 41.9	-1.5
JCT				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
JCT	Junction City	55.13	84	eP	P	05 57 41.9	-1.5
	comp=Z,16nm,1.3s,mb4.9						
SCHQ	Schefferville	55.95	43	P	P	05 57 47.3	-2.0
	comp=Z,2.4nm,0.7s,mb4.4,baz=296,slow=7.2,SNR=7.0						
MIAR	Mount Ida	56.04	76	eP	P	05 57 48.5	-1.4
MIAR				e		05 58 46.4	
MIAR				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
MIAR	Mount Ida	56.04	76	eP	P	05 57 48.5	-1.5
	comp=Z,15nm,1.1s,mb5.0						
MIAR				ePcP	PcP	05 58 46.4	-1.5
ZAL	Zalesovo	56.81	317	LR	LR	06 24 22.2	
	comp=Z,50nm,19.4s,MS3.6,baz=84,slow=38						
ARCES	ARCESS Array B	57.75	353	P	P	05 58 00.3	-1.8
	comp=Z,3.0nm,0.8s,mb4.4,baz=18,slow=8.3,SNR=4.8						
ARCES				LR	LR	06 21 17.4	
	comp=Z,93nm,19.8s,MS3.9,baz=339,slow=34						
WVT	Waverly	58.30	71	eP	P	05 58 05.0	-0.9
WVT				e		05 58 56.0	
WVT				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
WVT	Waverly	58.30	71	eP	P	05 58 05.0	-0.9
	comp=Z,6.2nm,1.3s,mb4.5						
WVT				ePcP	PcP	05 58 56.0	-0.8
PLAL	Pickwick Lake	58.97	72	eP	P	05 58 08.3	-2.2
	comp=Z,3.2nm,0.8s,mb4.4						
BLA	Blacksburg	61.74	65	eP	P	05 58 28.4	-1.1
BLA				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.0						
BLA	Blacksburg	61.74	65	eP	P	05 58 28.4	-1.1
	comp=Z,0.8nm,0.8s,mb3.9						
CD2	Chengdu	63.55	287	eP	P	05 58 45.6	+4.0
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
JOF	Joensuu	63.67	349	ep	P	05 58 40.4	-2.0
	comp=Z,0.7nm,0.3s,mb4.2						
FINES	FINESS Array B	65.67	351	LR	LR	06 27 29.8	
	comp=Z,69nm,21.1s,MS3.8,baz=354,slow=36						
HNR	Honiara	66.56	212	LR	LR	06 23 01.0	
	comp=Z,86nm,20.3s,MS4.0,baz=356,slow=31						
NB2	NORSAR Subarra	66.85	359	P	P	05 59 01.7	-1.3
	comp=Z,0.1nm,0.6s,mb3.0,baz=4.1,slow=6.2						
NOA	NORSAR Array B	66.85	359	P	P	05 59 01.6	-1.4
	comp=Z,1.0nm,0.6s,mb4.0,baz=0.5,slow=6.2,SNR=6.0						
NOA				LR	LR	06 26 55.4	
	comp=Z,27nm,21.6s,MS3.4,baz=260,slow=35						
KMI	Kunming	68.44	283	P	P	05 59 16.6	+3.6
KMI				PP	PP	06 01 49.1	+4.9
KMI				S	S	06 08 17.1	+4.9
KMI				SS	SS	06 12 41.8	+5.6
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0	

az=95.1

*IDC **06** 06:05:12.1±0.8, 190N×9069W, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.3/24, mbtmp4.4/16, ML3.0/3, MS4.3/19, Ms1 4.2/19, ms1mx4.1/25, Error ellipse: s-maj=27.4km s-min=12.8km az=53.0*

*BJI **06** 06:05:14.6, 180N×9070W, h17km, mB5.4, Ms5.0, Msz4.6*

*HRVD **06** 06:05:14.6±0.2, 186N×9081W, h15km±1km, MW5.1/79, Centroid moment Tensor Solution. LP body waves: s37,c47;Mantle waves: s79,c124; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.51±.18; Mθθ-2.66±.14; Mφφ4.17±.21; Mrθ-0.88±.28; Mθφ-4.82±.16; Mφr-1.14±.35; Best double couple: M0 6.14100×10^16^ NP1:φs109.00000°, δ74.00000°, λ-170.00000°. NP2: φs16.00000°, δ81.00000°, λ-16.00000°. Principal axes: T 6.7080, Plg4.0000°, Azm63.0000°; N -1.1350, Plg72.0000°, Azm166.0000°; P -5.5730, Plg18.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 06:05:14.6±0.3, 179N×9072W, mb4.6/33 Error ellipse: s-maj=8.7km s-min=3.9km az=51.0*

ISC 06 06:05:14.0±0.3, 181N±006×9074W±006, h10km, (h18km±4km:pP-P), n174, σ0 74/155, mb4.5/42, MS4.3/19, 30C-38D, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**2.51**	**170**	*e*Pn	**Pn**	**06 05 52.6**	**-2.2**
OTAV	**Otavalo**	**12.38**	**97**	*e*Pn	**Pn**	**06 08 11.7**	**+1.4**
	118nm,1.6s						
ATAH	**Atahualpa**	**15.11**	**126**	Pn	**Pn**	**06 08 50.1**	**+2.6**
	0.2nm,0.3s,baz=323,slow=16,SNR=2.7						
ATAH				LR	LR	06 13 44.3	
	comp=Z,2μm,18.3s,baz=128,slow=34						
CMIG	**Matias Romero**	**15.72**	**345**	Pn	**Pn**	**06 08 56.1**	**+0.6**
	0.2nm,0.3s,baz=170,slow=7.2,SNR=7.4						
CMIG				LR	LR	06 13 37.2	
	comp=Z,2μm,21.0s,baz=152,slow=32						
ROSC	**El Rosal**	**16.65**	**79**	Pn	**Pn**	**06 09 07.1**	**-0.4**
	0.2nm,0.3s,baz=82,slow=15,SNR=6.1						
ROSC				LR	LR	06 14 53.9	
	comp=Z,1μm,18.6s,baz=242,slow=35						
TEIG	**Tepich**	**18.46**	**7**	*e*P	**Pn**	**06 09 30.4**	**+0.5**
SDV	**Santo Domingo**	**21.20**	**70**	P	**P**	**06 10 00.2**	**+0.5**
	26nm,0.7s,mb4.7,baz=258,slow=8.0,SNR=34						
SDV	**Santo Domingo**	**21.20**	**70**	*e*P	**P**	**06 10 00.4**	**+0.7**
	65nm,1.2s,mb4.8						
PCRV	**Puerto La Cruz**	**27.23**	**71**	P	**P**	**06 10 58.4**	**+0.3**
	40nm,1.1s,mb4.9,baz=299,slow=4.8,SNR=7.2						
LPAZ	**La Paz**	**28.67**	**130**	P	**P**	**06 11 12.9**	**+2.0**
	6.9nm,1.3s,mb4.2,baz=313,slow=9.8,SNR=4.6						
LPAZ				LR	LR	06 22 08.0	
	comp=Z,658nm,21.5s,MS4.2,baz=119,slow=35						
LPAZ	**La Paz**	**28.67**	**130**	*e*P	**P**	**06 11 12.4**	**+1.4**
	6.0nm,1.1s,mb4.2						
SJG	**San Juan**	**29.06**	**55**	LR	LR	06 20 51.6	
	comp=Z,929nm,21.9s,MS4.4,baz=244,slow=32						
LPIG	**La Paz**	**29.15**	**321**	LR	LR	06 20 07.6	
	comp=Z,343nm,21.0s,MS3.9,baz=26,slow=31						
SAML	**Samuel**	**29.47**	**112**	*e*P	**P**	**06 11 16.7**	**-1.3**
	12nm,1.4s,mb4.4						
LVC	**Limon Verde**	**32.29**	**140**	P	**P**	**06 11 45.3**	**+2.4**
	6.6nm,0.8s,mb4.5,baz=292,slow=8.8,SNR=6.9						
LVC				LR	LR	06 22 00.3	
	comp=Z,247nm,19.9s,MS3.9,baz=312,slow=31						
LVC	**Limon Verde**	**32.29**	**140**	*e*P	**P**	**06 11 44.5**	**+1.6**
	7.6nm,0.8s,mb4.6						
OXF	**Oxford**	**32.56**	**2**	*e*P	**P**	**06 11 46.7**	**+1.4**
	24nm,1.3s,mb5.0						
MIAR	**Mount Ida**	**32.67**	**356**	*e*P	**P**	**06 11 46.5**	**+0.2**
	9.7nm,1.1s,mb4.7						
MIAR				*e*pP	pP	06 11 51.2	+1.8
MNTX	**Cornudas Mount**	**32.78**	**337**	*e*P	**P**	**06 11 46.5**	**-0.7**
	4.0nm,0.8s,mb4.4						
MNTX				*e*pP	pP	06 11 51.6	+1.3
SWET	**Sewanee**	**33.53**	**7**	*e*P	**P**	**06 11 53.8**	**-0.1**
WMOK	**Wichita Mounta**	**33.60**	**348**	*e*P	**P**	**06 11 53.8**	**-0.6**
	15nm,1.3s,mb4.8						
RPN	**Rapa Nui**	**33.90**	**211**	LR	LR	06 21 38.0	
	comp=Z,646nm,18.5s,MS4.4,baz=40,slow=29						
WVT	**Waverly**	**34.25**	**4**	*e*P	**P**	**06 11 59.7**	**-0.3**
	16nm,1.5s,mb4.7						
AMTX	**Amarillo**	**34.45**	**344**	*e*P	**P**	**06 12 02.3**	**+0.6**
	8.5nm,0.8s,mb4.7						
BNM	**Barren Site**	**35.43**	**337**	*e*P	**P**	**06 12 11.7**	**+1.4**
BNM				*e*pP	pP	06 12 16.6	+3.3
LPM	**Los Pinos Moun**	**35.58**	**337**	*e*P	**P**	**06 12 12.0**	**+0.5**
LPM				*e*pP	pP	06 12 17.9	+3.3
LENM	**Lemitar**	**35.58**	**337**	*e*P	**P**	**06 12 12.3**	**+0.7**
LENM				*e*pP	pP	06 12 17.4	+2.8
TUC	**Tucson**	**35.73**	**330**	*e*P	**P**	**06 12 13.1**	**+0.3**
	4.9nm,1.2s,mb4.3						
TUC				*e*pP	pP	06 12 18.2	+2.3
CCM	**Cathedral Cave**	**36.07**	**359**	*e*P	**P**	**06 12 15.2**	**-0.6**
	12nm,0.8s,mb4.9						
ANMO	**Albuquerque**	**36.08**	**338**	P	**P**	**06 12 16.0**	**+0.2**
	2.7nm,1.0s,mb4.1,baz=154,slow=9.2,SNR=8.3						
ANMO	**Albuquerque**	**36.08**	**338**	*e*P	**P**	**06 12 16.3**	**+0.5**
	3.9nm,0.8s,mb4.4						
ANMO				*e*pP	pP	06 12 21.5	+2.7
116A	**Eloy**	**36.39**	**329**	⇓P	**P**	**06 12 18.9**	**+0.4**
	baz=37						
WCI	**Wyandotte Cave**	**36.47**	**6**	*e*P	**P**	**06 12 19.0**	**-0.1**
	12nm,1.2s,mb4.7						
115A	**Sonoran Desert**	**36.77**	**329**	⇑P	**P**	**06 12 22.2**	**+0.5**
	baz=37						
BLO	**Bloomington**	**37.38**	**5**	*e*P	**P**	**06 12 26.6**	**-0.3**
	6.9nm,0.7s,mb4.6						
Z14A	**Wintersburg**	**37.66**	**329**	⇑P	**P**	**06 12 29.2**	**-0.1**
	baz=38						
Y14A	**Wickenburg**	**38.14**	**329**	⇑P	**P**	**06 12 33.7**	**+0.4**
	baz=38,SNR=8.9						
X15A	**Humboldt**	**38.20**	**331**	⇓P	**P**	**06 12 34.2**	**+0.4**
	baz=38						
GLA	**Glamis**	**38.43**	**327**	⇑P	**P**	**06 12 35.9**	**+0.1**
	baz=39						
Y13A	**Salome**	**38.47**	**328**	⇑P	**P**	**06 12 36.6**	**+0.5**
	baz=39						
X14A	**Yava**	**38.51**	**330**	⇑P	**P**	**06 12 36.8**	**+0.4**
	baz=39						
W15A	**Williams**	**38.77**	**331**	⇓P	**P**	**06 12 39.1**	**+0.5**
	baz=39,SNR=6.4						
Y12C	**Blythe**	**38.79**	**328**	⇓P	**P**	**06 12 39.0**	**+0.2**
	baz=39						
MVCO	**Mesa Verde**	**38.84**	**337**	*e*P	**P**	**06 12 39.7**	**+0.5**
MVCO				*e*pP	pP	06 12 44.8	+2.5
X13A	**Yucca**	**39.08**	**329**	⇓P	**P**	**06 12 41.8**	**+0.6**
	baz=39						
W14A	**Seligman**	**39.19**	**330**	⇑P	**P**	**06 12 43.0**	**+0.9**
	baz=39						
BC3	**Big Chuckw Mtn**	**39.23**	**327**	⇑P	**P**	**06 12 43.0**	**+0.5**
	baz=39						
CFAA	**Coronel Fontan**	**39.51**	**149**	P	**P**	**06 12 45.2**	**+0.4**
	0.3nm,0.7s,mb3.1,baz=328,slow=7.8,SNR=3.8						
CFAA	**Coronel Fontan**	**39.51**	**149**	P	**P**	**06 12 45.2**	**+0.4**
109C	**Camp Elliot, M**	**39.61**	**324**	⇑P	**P**	**06 12 45.8**	**+0.2**
	baz=40						
PV01	**Paradox Valley**	**39.68**	**338**	*e*P	**P**	**06 12 46.9**	**+0.7**
PV01				*e*pP	pP	06 12 52.1	+2.8
SMCO	**Snowmass**	**40.03**	**340**	*e*P	**P**	**06 12 50.3**	**+1.1**
	4.7nm,0.9s,mb4.2						
SMCO				*e*pP	pP	06 12 55.5	+3.3
ISCO	**Idaho Springs**	**40.16**	**342**	*e*P	**P**	**06 12 50.8**	**+0.6**
	14nm,0.9s,mb4.7						
TUQ	**Turquoise Mtn.**	**40.82**	**328**	⇓P	**P**	**06 12 56.3**	**+0.6**
	baz=41						
GSC	**Goldstone**	**41.20**	**327**	⇓P	**P**	**06 12 59.2**	**+0.4**
	baz=41						
SHPR	**Sheep Range**	**41.25**	**330**	*e*P	**P**	**06 12 59.6**	**+0.4**
SHPR				*e*pP	pP	06 13 06.1	+3.8
ARUT	**Antelope Range**	**41.44**	**332**	*e*P	**P**	**06 13 01.2**	**+0.5**
ARUT				*e*pP	pP	06 13 07.3	+3.5
MSU	**Marysvale**	**41.47**	**334**	*e*P	**P**	**06 13 01.6**	**+0.6**
MSU				*e*pP	pP	06 13 06.9	+2.8
ECSD	**EROS,Sioux Fal**	**42.07**	**354**	*e*P	**P**	**06 13 04.8**	**-1.1**
ECSD				*e*pP	pP	06 13 09.8	+0.8
DAC	**Darwin (Calif)**	**42.35**	**327**	*e*P	**P**	**06 13 08.6**	**+0.4**
DAC				*e*pP	pP	06 13 13.8	+2.5
DAU	**Daniels Canyon**	**42.69**	**337**	*e*P	**P**	**06 13 11.8**	**+0.9**
DAU				*e*pP	pP	06 13 16.7	+2.6
CPUP	**Villa Florida**	**42.70**	**133**	P	**P**	**06 13 10.2**	**-0.9**
	2.5nm,0.8s,mb4.0,baz=301,slow=6.7,SNR=5.1						
CPUP				LR	LR	06 32 24.6	
	comp=Z,251nm,19.6s,MS4.1,baz=310,slow=38						
CPUP	**Villa Florida**	**42.70**	**133**	*e*P	**P**	**06 13 10.6**	**-0.4**
	12nm,0.8s,mb4.7						
DUG	**Dugway**	**43.14**	**335**	*e*P	**P**	**06 13 15.4**	**+0.8**
	4.0nm,0.8s,mb4.2						
DUG				*e*pP	pP	06 13 20.5	+2.8
S09A	**Goldfield**	**43.23**	**329**	⇑P	**P**	**06 13 15.7**	**+0.4**
	baz=43						
TIN	**Tinemaha**	**43.27**	**327**	⇓P	**P**	**06 13 16.0**	**+0.4**
	baz=43						
TCUT	**Toone Canyon**	**43.35**	**337**	*e*P	**P**	**06 13 17.1**	**+0.7**
TCUT				*e*pP	pP	06 13 22.0	+2.6
HELL	**Mitchell Peak**	**43.43**	**326**	⇑P	**P**	**06 13 17.2**	**+0.3**
	baz=44						
P12A	**McGill**	**43.47**	**333**	⇓P	**P**	**06 13 17.8**	**+0.5**
	baz=44						
S08C	**White Mtn Res**	**43.57**	**328**	⇓P	**P**	**06 13 18.9**	**+0.8**
	baz=44						
HWUT	**Hardware Ranch**	**43.83**	**337**	*e*P	**P**	**06 13 20.3**	**+0.1**
	9.3nm,1.0s,mb4.5						
HWUT				*e*pP	pP	06 13 25.4	+2.0
BGU	**Big Grassy Mou**	**43.84**	**335**	*e*P	**P**	**06 13 20.3**	**0.0**
BGU				*e*pP	pP	06 13 25.7	+2.3
SPUT	**South Promonto**	**43.93**	**336**	*e*P	**P**	**06 13 21.4**	**+0.4**
SPUT				*e*pP	pP	06 13 25.8	+1.7
PDAR	**Pinedale Array**	**44.12**	**340**	P	**P**	**06 13 20.2**	**-2.3**
	1.4nm,1.0s,mb3.6,baz=142,slow=7.5,SNR=9.7						
PDAR				LR	LR	06 31 34.6	
	comp=Z,833nm,19.1s,MS4.7,baz=176,slow=36						
MNV	**Mina**	**44.25**	**329**	*e*P	**P**	**06 13 24.6**	**+1.0**
	5.8nm,0.9s,mb4.3						
MNV				*e*pP	pP	06 13 29.2	+2.5
N13A	**West Wendover**	**44.28**	**334**	⇓P	**P**	**06 13 23.8**	**0.0**
	baz=44						
NVAR	**Mina Array Bea**	**44.33**	**329**	P	**P**	**06 13 24.7**	**+0.5**
	2.8nm,0.9s,mb4.0,baz=144,slow=9.6,SNR=15						
HVU	**Hansel Valley**	**44.45**	**336**	*e*P	**P**	**06 13 25.6**	**+0.4**
	7.5nm,1.0s,mb4.4						
Q08A	**Gabbs**	**44.46**	**329**	⇓P	**P**	**06 13 25.5**	**+0.3**
	baz=45						
R07C	**Lee Vining**	**44.47**	**328**	⇓P	**P**	**06 13 25.7**	**+0.4**
	baz=45						
P09A	**Austin**	**44.59**	**331**	⇓P	**P**	**06 13 26.5**	**+0.2**
	baz=45						
N12A	**Wells--Clov Va**	**44.64**	**334**	⇑P	**P**	**06 13 26.9**	**+0.2**
	baz=45						
M13A	**Montello**	**44.68**	**335**	⇓P	**P**	**06 13 26.8**	**-0.2**
	baz=45,SNR=8.7						
N11A	**Elko Archery C**	**44.93**	**333**	⇑P	**P**	**06 13 29.2**	**+0.2**
	baz=45						
LONY	**Lake Ozonia**	**44.96**	**16**	*e*P	**P**	**06 13 28.0**	**-1.2**
R06C	**Coleville**	**45.00**	**328**	⇑P	**P**	**06 13 30.1**	**+0.6**
	baz=45						
M12A	**Wells**	**45.05**	**334**	⇑P	**P**	**06 13 29.6**	**-0.3**
	baz=45,SNR=15						
REDW	**Red Top Meadow**	**45.09**	**339**	*e*P	**P**	**06 13 30.2**	**-0.1**
REDW				*e*pP	pP	06 13 35.1	+1.8
O09A	**Fish Creek Ran**	**45.10**	**331**	⇓P	**P**	**06 13 30.5**	**+0.2**
	baz=45						
LOHW	**Long Hollow**	**45.22**	**340**	*e*P	**P**	**06 13 30.6**	**-0.8**
	8.1nm,1.0s,mb4.5						
LOHW				*e*pP	pP	06 13 36.1	+1.6
TPAW	**Teton Pass**	**45.24**	**339**	*e*P	**P**	**06 13 30.9**	**-0.5**
	8.0nm,0.6s,mb4.7						
TPAW				*e*pP	pP	06 13 36.4	+1.8
MOOW	**Moose Ponds**	**45.39**	**340**	*e*P	**P**	**06 13 32.8**	**+0.2**
	4.3nm,1.0s,mb4.2						
DCID1	**Drake Creek**	**45.41**	**339**	*e*P	**P**	**06 13 33.0**	**+0.2**
M11A	**Holland Ranch,**	**45.45**	**333**	⇑P	**P**	**06 13 33.3**	**+0.2**
	baz=46,SNR=7.0						
R05C	**Kirkwood Meado**	**45.47**	**327**	⇑P	**P**	**06 13 33.8**	**+0.5**
	baz=46						
IMW	**Indian Meadow**	**45.59**	**340**	*e*P	**P**	**06 13 33.9**	**-0.3**
	5.7nm,0.7s,mb4.6						
IMW				*e*pP	pP	06 13 39.1	+1.8
R04C	**Big Horse Ranc**	**45.62**	**326**	⇓P	**P**	**06 13 34.8**	**+0.3**
	baz=46						
BDFB	**Brasilia**	**45.65**	**114**	P	**P**	**06 13 33.2**	**-1.5**
	3.5nm,0.9s,mb4.3,baz=333,slow=9.5,SNR=5.7						
BDFB				LR	LR	06 32 48.8	
	comp=Z,606nm,20.5s,MS4.5,baz=98,slow=36						
FLWY	**Flagg Ranch**	**45.67**	**340**	*e*P	**P**	**06 13 35.0**	**+0.1**
	8.2nm,0.8s,mb4.7						
FLWY				*e*pP	pP	06 13 39.9	+2.0
WCN	**Washoe City**	**45.73**	**328**	⇑P	**P**	**06 13 35.7**	**+0.3**
	baz=46						
N09A	**Rock Creek Ran**	**45.78**	**332**	⇓P	**P**	**06 13 35.6**	**-0.2**
	baz=46						
M10A	**I.L. Ranch, Tu**	**45.85**	**333**	⇑P	**P**	**06 13 36.3**	**0.0**
	baz=46						
LAVA	**Lava Cap Winer**	**45.87**	**327**	⇑P	**P**	**06 13 36.3**	**-0.1**
	baz=46						
O07A	**Toulon**	**45.92**	**330**	⇓P	**P**	**06 13 36.4**	**-0.4**
	baz=46						
YFT	**Old Faithful**	**46.04**	**340**	*e*P	**P**	**06 13 38.1**	**+0.4**
PLCA	**Paso Flores**	**46.17**	**159**	P	**P**	**06 13 38.9**	**+0.1**
	3.2nm,1.0s,mb4.2,baz=278,slow=6.4,SNR=4.0						
PLCA				LR	LR	06 29 59.8	
	comp=Z,400nm,18.5s,MS4.4,baz=360,slow=32						
P05C	**Yuba Gap, Truc**	**46.19**	**328**	⇑P	**P**	**06 13 38.6**	**-0.3**
	baz=46						
O06A	**Flanigan**	**46.41**	**329**	⇓P	**P**	**06 13 40.7**	**+0.1**
	baz=47,SNR=8.2						
HLID	**Hailey**	**46.61**	**336**	*e*P	**P**	**06 13 42.0**	**-0.2**
	7.7nm,0.9s,mb4.6						
HLID				*e*pP	pP	06 13 47.6	+2.2
OHCM	**Honcut**	**46.68**	**327**	*e*P	**P**	**06 13 43.1**	**+0.3**
LAO	**LASA Array**	**46.70**	**345**	*e*P	**P**	**06 13 42.0**	**-0.9**
	8.5nm,0.9s,mb4.7						
LAO				*e*pP	pP	06 13 47.4	+1.3
L09A	**Wilkinson Ranc**	**46.77**	**332**	⇓P	**P**	**06 13 42.9**	**-0.6**
	baz=47						
SUTB	**Sutter Buttes**	**46.78**	**327**	⇓P	**P**	**06 13 43.2**	**-0.4**
	baz=47						
O05C	**Quincy**	**46.83**	**328**	⇓P	**P**	**06 13 43.9**	**-0.1**
	baz=47						
GCMT	**Greycliff**	**46.85**	**342**	*e*P	**P**	**06 13 43.6**	**-0.5**
GCMT				*e*pP	pP	06 13 48.5	+1.2
ORV	**Oroville**	**46.85**	**327**	⇓P	**P**	**06 13 43.9**	**-0.2**
	baz=47						
M07A	**Soldier Meadow**	**47.00**	**331**	⇑P	**P**	**06 13 44.8**	**-0.5**
	baz=47						
O04C	**Chester**	**47.18**	**328**	⇓P	**P**	**06 13 46.9**	**+0.2**
	baz=47						
ELFS	**Eagle Lake Fie**	**47.21**	**329**	⇓P	**P**	**06 13 47.2**	**+0.3**
	baz=47						
BOZ	**Bozeman (W)**	**47.36**	**340**	*e*P	**P**	**06 13 47.5**	**-0.6**
	4.5nm,0.9s,mb4.4						
BOZ				*e*pP	pP	06 13 52.5	+1.2
BOZ				*es*P	sP	06 13 55.4	+2.9
DLMT	**Dillon**	**47.45**	**339**	*e*P	**P**	**06 13 48.5**	**-0.3**
	4.9nm,0.8s,mb4.5						
DLMT				*e*pP	pP	06 13 53.8	+1.9
M06C	**Likely Place G**	**47.51**	**329**	⇓P	**P**	**06 13 48.9**	**-0.3**
	baz=48						
GASB	**Alder Springs**	**47.58**	**326**	⇑P	**P**	**06 13 49.7**	**-0.2**
	baz=48						
LRM	**Limekiln Ridge**	**47.79**	**340**	*e*P	**P**	**06 13 50.5**	**-1.0**
LRM				*e*pP	pP	06 13 56.2	+1.5
M05C	**Lookout**	**47.97**	**329**	⇓P	**P**	**06 13 52.3**	**-0.6**
	baz=48						
HRY	**Holter Researc**	**48.36**	**341**	*e*P	**P**	**06 13 55.2**	**-0.7**
HRY				*e*pP	pP	06 14 00.1	+1.1
ULM	**Lac du Bonnet**	**48.46**	**356**	P	**P**	**06 13 54.5**	**-2.1**
	10nm,0.8s,mb4.9,baz=175,slow=7.1,SNR=11						
ULM				LR	LR	06 35 47.2	
	comp=Z,194nm,21.4s,MS4.1,baz=272,slow=38						
K06A	**Valley Falls**	**48.59**	**331**	⇓P	**P**	**06 13 57.5**	**-0.1**
	baz=49						
M04C	**Macdoel**	**48.63**	**329**	⇑P	**P**	**06 13 57.4**	**-0.5**
	baz=49						
N02C	**Big Bar**	**48.72**	**327**	⇓P	**P**	**06 13 58.1**	**-0.5**
	baz=49						
M02C	**Callahan**	**48.88**	**328**	⇓P	**P**	**06 13 60.0**	**+0.1**
	baz=49						
CHMT	**Chamberlain Mo**	**49.02**	**340**	*e*P	**P**	**06 14 00.6**	**-0.3**
CHMT				*e*pP	pP	06 14 05.4	+1.3
YBH	**Yreka Blue Hor**	**49.05**	**328**	P	**P**	**06 14 02.2**	**+1.1**
	2.7nm,0.8s,mb4.3,baz=109,slow=6.9,SNR=8.2						
YBH	**Yreka Blue Hor**	**49.05**	**328**	⇓P	**P**	**06 14 00.4**	**-0.8**
	baz=49						
I06A	**Prineville**	**49.43**	**332**	⇑P	**P**	**06 14 03.3**	**-0.8**
	baz=50						
RKT	**Rikitea**	**49.68**	**237**	*e*S	**S**	**06 21 25.9**	**+11**
	242nm,24.5s						
RKT				*e*LR	LR	06 28 30.8	
	614nm,32.0s,baz=64						
I05A	**Bend**	**50.10**	**332**	⇓P	**P**	**06 14 07.5**	**-1.7**
	baz=50						
K02A	**Glendale**	**50.19**	**329**	⇓P	**P**	**06 14 08.7**	**-1.2**
	baz=50						
J03A	**Ideyld Park**	**50.35**	**330**	⇑P	**P**	**06 14 12.2**	**+1.2**
	baz=50						
H04A	**Detroit Lake**	**50.93**	**331**	⇓P	**P**	**06 14 14.9**	**-0.5**
	baz=51						
C05A	**Tolt Reservoir**	**52.97**	**334**	⇓P	**P**	**06 14 30.2**	**-0.5**
	baz=53						
FFC	**Flin Flon**	**53.54**	**352**	*e*P	**P**	**06 14 33.7**	**-1.1**
	5.8nm,0.9s,mb4.5						
C04A	**Brinnon**	**53.55**	**333**	⇑P	**P**	**06 14 34.6**	**-0.4**
	baz=54						
B05A	**Bryant**	**53.58**	**334**	⇓P	**P**	**06 14 34.6**	**-0.5**
	baz=54						
B04A	**Port Angeles**	**54.05**	**333**	⇑P	**P**	**06 14 38.9**	**+0.3**
	baz=54						
A05A	**Maple Falls**	**54.14**	**335**	⇑P	**P**	**06 14 38.7**	**-0.5**
	baz=54						
A04A	**Legoe Bay, Lum**	**54.19**	**334**	⇓P	**P**	**06 14 38.2**	**-1.4**
	baz=54,SNR=7.7						
C03A	**Quillayute Air**	**54.45**	**333**	⇑P	**P**	**06 14 39.0**	**-2.5**
	baz=55						
EDM	**Edmonton**	**54.56**	**344**	*e*P	**P**	**06 14 41.0**	**-1.2**
FCC	**Fort Churchill**	**56.85**	**358**	*e*P	**P**	**06 14 58.8**	**+0.1**
PPT	**Papeete**	**61.06**	**249**	*e*S	**S**	**06 23 58.2**	**+11**
	726nm,25.8s						
PPT				*e*LR	LR	06 33 45.3	
	912nm,26.5s,baz=66						
PPT	**Papeete**	**61.06**	**249**	LR	LR	06 35 06.9	
	comp=Z,454nm,18.7s,MS4.7,baz=112,slow=29						
TBI	**Tubuai**	**62.32**	**243**	*e*S	**S**	**06 24 10.8**	**+8.0**
	408nm,28.2s						
TBI				*e*LR	LR	06 34 24.8	
	1μm,28.2s,baz=70						
YKA	**Yellowknife Ar**	**63.12**	**348**	LR	LR	06 42 17.8	
	comp=Z,25nm,21.6s,MS3.4,baz=115,slow=35						
DLBC	**Dease Lake**	**64.30**	**338**	*e*P	**P**	**06 15 49.6**	**0.0**
DLBC				*e*pP	pP	06 15 54.2	+1.4
DAWY	**Dawson**	**71.42**	**340**	*e*P	**P**	**06 16 33.8**	**-0.6**
INK	**Inuvik**	**72.43**	**345**	*e*P	**P**	**06 16 39.3**	**-1.1**
	7.6nm,1.2s,mb4.5						
DBIC	**Dimbokro**	**85.70**	**83**	P	**P**	**06 17 52.2**	**-1.0**
	4.5nm,0.8s,mb4.8,baz=240,slow=7.5,SNR=4.4						
DBIC				LR	LR	06 50 17.6	
	comp=Z,146nm,20.8s,MS4.4,baz=254,slow=32						
DBIC	**Dimbokro**	**85.70**	**83**	P	**P**	**06 17 52.2**	**-1.0**
VNA2	**Neumayer--Watz**	**89.52**	**161**	*e*P	**P**	**06 18 11.7**	**+0.2**
	baz=283,slow=6.9						
VNA2				*e*	pP	06 18 12.8	-2.0
VNA2				*e*	pP	06 18 16.5	+1.7
VNA2				*e*		06 18 17.8	
VNA2				*e*		06 18 31.4	
NOA	**NORSAR Array B**	**94.20**	**29**	LR	LR	06 58 50.3	
	comp=Z,39nm,18.1s,MS3.9,baz=280,slow=34						
VNDA	**Vanda**	**95.49**	**192**	LR	LR	06 53 19.0	
	comp=Z,84nm,21.9s,MS4.2,baz=1.9,slow=30						
GERES	**GERESS Array B**	**98.11**	**40**	LR	LR	06 57 12.0	
	comp=Z,172nm,19.7s,MS4.5,baz=271,slow=32						
MDJ	**Mudanjiang**	**121.48**	**327**	PKP	PKPdf	06 24 08.1	+0.4
CN2	**Changchun**	**124.23**	**329**	*e*PKP	PKPdf	06 24 16.1	+3.2
ASAR	**Alice Springs**	**131.65**	**240**	PKP	PKPdf	06 24 28.4	+1.3
	0.4nm,0.8s,baz=90,slow=3.2,SNR=3.1						
WRA	**Warramunga Arr**	**132.43**	**244**	PKP	PKPdf	06 24 27.8	-0.8
	0.4nm,0.9s,baz=104,slow=2.6,SNR=4.9						
HHC	**Hu-ho-hao-te**	**132.93**	**337**	*e*PKP	PKPdf	06 24 31.3	+1.8
HHC				PP	PP	06 27 00.1	+5.3
HHC				PKS		06 28 05.9	
HHC				SKS	SKSdf	06 31 37.4	-3.5
HHC				SKKS	SKKSac	06 33 46.7	-4.3
HHC				SS	SS	06 44 36.4	-0.3
HHC				PP	PP		
	comp=Z,80nm,5.2s						
HHC				LR	LR		
	comp=N,90nm,16.6s,MS4.8						
HHC				LR	LR		
	comp=E,130nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=Z,170nm,20.2s,MS4.8						
WMQ	**Urumqi**	**134.55**	**2**	*e*PKP	PKPdf	06 24 33.0	+0.5
SSE	**Sheshan**	**135.37**	**320**	*e*PKP	PKPdf	06 24 31.0	-3.1
NJ2	**Nanjing**	**136.18**	**323**	*e*PKP	PKPdf	06 24 33.1	-2.5
NJ2				XPKP		06 24 45.2	
NJ2				PP	PP	06 27 19.0	+3.6
NJ2				PP	PP		
	comp=Z,30nm,10.0s						
N

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**1.36**	**155**	P	Pn	06 29 22.9	+0.4
JTJ				S	Sn	06 29 46.5	-0.4
JIJ	**Ishigaki jima**	**1.51**	**178**	P	Pn	06 29 23.7	-0.2
JIJ				S	Sn	06 29 48.4	-1.0
JMJ	**Miyako jima 2**	**1.53**	**134**	*e*S	Sn	06 29 49.5	-0.1
IRIF	**Iriomote-Funau**	**1.57**	**192**	P	Pn	06 29 24.3	-0.1
IRIF				S	Sn	06 29 50.8	+0.4
JKRS	**Kuro-shima**	**1.64**	**182**	P	Pn	06 29 25.0	-0.1
JKRS				S	Sn	06 29 51.2	-0.3
JOGS	**Gusukube**	**1.64**	**133**	P	Pn	06 29 25.8	+0.7
JOGS				*e*S	Sn	06 29 51.6	+0.1
YOJ	**Yonaguni jima**	**1.71**	**215**	P	Pn	06 29 26.3	+0.5
HATJ	**Hateruma jima**	**1.83**	**188**	P	Pn	06 29 26.8	-0.2
HATJ				*e*S	Sn	06 29 54.8	-0.1
JKE	**Kume jima 2**	**2.47**	**79**	P	Pn	06 29 32.6	-1.3
JAGN	**Aguni-jima**	**2.93**	**75**	P	Pn	06 29 37.1	-2.1
JAGN				*e*S	Sn	06 30 12.5	-4.3
JMZ	**Minamidaito 2**	**6.43**	**89**	P	Pn	06 30 20.8	-2.9
JMZ				*e*S	Sn	06 31 31.0	-6.0

*MOS **06** 06:42:14.8±0.7,3640N×7062E,h197km,mb4.1/3,Error ellipse: s-maj=15.9km s-min=6.8km az=89.7*
*ISCJB **06** 06:42:15.3±0.7,3645N±003×7064E±007,h201km±8km, mb3.7/8,Error ellipse: s-maj=9.5km s-min=4.4km az=132.3*
*BJI **06** 06:42:15.1,3623N×7080E,h189km,mB4.8,mb4.6*
*NEIC **06** 06:42:16.6±1.3,3642N×7072E,h198km±15km,mb4.4/9, Error ellipse: s-maj=12.5km s-min=7.2km az=64.0*
*IDC **06** 06:42:17.4±4.7,3637N×7074E,h211km±46km,mb3.6/7, mb1 3.7/10,mb1mx3.5/22,mbtmp4.2/10,MS3.9/1, Ms1 3.9/1,ms1mx2.6/14,Error ellipse: s-maj=22.1km s-min=17.1km az=20.0*
*NNC **06** 06:42:21.2±2.1,3689N×7060E,h187km±19km,mb3.3, mpv5.1,Error ellipse: s-maj=18.2km s-min=10.6km az=15.0*

ISC 06 06:42:16.1±0.6,3645N±004×7062E±007,h193km±8km, n69,σ0§78/82,mb3.7/8,5C-8D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.22**	**53**	P	**Pn**	**06 43 34.7**	**+1.6**
KSH				S	**Sn**	**06 44 33.1**	**-0.6**
KSH				Smax			
	comp=N,450nm,0.5s						
KSH				Smax			
	comp=E,840nm,0.5s						
DLH	**Dalhousie**	**5.89**	**130**	*e*P	**Pn**	**06 43 47.0**	**+5.2**
DLH				*e*S	**Sn**	**06 44 50.0**	**+0.5**
UCH	**Uchtor**	**6.51**	**26**	P	**Pn**	**06 43 50.1**	**+0.4**
	SNR=139						
KK31	**Karatay Array**	**6.64**	**359**	⇓P	**Pn**	**06 43 51.4**	**-0.1**
	comp=E,57nm,0.3s,baz=179,slow=14,SNR=726						
KK31				⇑S	**Sn**	**06 45 02.4**	**-4.7**
	baz=188,slow=23						
KKAR	**Karatay Array**	**6.64**	**359**	PN	**Pn**	**06 43 51.5**	**0.0**
KKAR				pmax	pmax		
	comp=Z,17nm,0.3s						
EKS2	**Erkin-Say**	**6.66**	**21**	P	**Pn**	**06 43 52.1**	**+0.3**
	SNR=36						
KZA	**Kyzart**	**6.67**	**31**	P	**Pn**	**06 43 51.6**	**-0.2**
	SNR=50						
AAK	**Ala-Archa**	**6.86**	**25**	P	**Pn**	**06 43 54.7**	**+0.4**
	SNR=48						
AAK	**Ala-Archa**	**6.86**	**25**	*e*PN	**Pn**	**06 43 53.4**	**-0.9**
AAK				pmax	pmax		
	comp=Z,44nm,0.6s						
AAK	**Ala-Archa**	**6.86**	**25**	*e*Pn	**Pn**	**06 43 53.4**	**-0.9**
	comp=Z,44nm,0.6s						
AAK				*e*S	**Sn**	**06 45 07.5**	**-4.7**
KBK	**Karagaybulak**	**7.04**	**27**	P	**Pn**	**06 43 56.9**	**+0.3**
	SNR=49						
FRU	**Bishkek**	**7.08**	**25**	*e*PN	**Pn**	**06 43 57.0**	**-0.2**
FRU				pmax	pmax		
	comp=Z,73nm,0.8s						
SDNR	**Sundarnagar**	**7.23**	**131**	*e*P	**Pn**	**06 44 00.6**	**+1.5**
SDNR				*e*S	**Sn**	**06 45 15.0**	**-5.9**
ULHL	**Ulahol**	**7.24**	**35**	P	**Pn**	**06 43 59.4**	**+0.1**
	SNR=15						
CHMS	**Chumysh**	**7.27**	**25**	P	**Pn**	**06 43 59.4**	**-0.3**
	SNR=36						
USP	**Ospenovka**	**7.43**	**22**	P	**Pn**	**06 44 01.0**	**-0.8**
	SNR=25						
TKM2	**Tokmak 2**	**7.51**	**29**	P	**Pn**	**06 44 03.0**	**+0.1**
	SNR=141						
TKM2	**Tokmak 2**	**7.51**	**29**	⇓P	**Pn**	**06 44 03.0**	**+0.1**
TKM2				⇑S	**Sn**	**06 45 24.6**	**-3.0**
SMLA	**Simla**	**7.61**	**132**	*i* P	**Pn**	**06 44 01.9**	**-2.2**
SMLA				*i* S	**Sn**	**06 45 24.7**	**-5.2**
	comp=Z,623nm,0.3s						
KLP	**Kalpa**	**8.01**	**126**	*e*P	**Pn**	**06 44 10.2**	**+0.8**
KLP				*e*S	**Sn**	**06 45 34.6**	**-5.0**
KLP				AML	AML	06 45 37.6	
	comp=E,107nm,0.6s						
KLP				AML	AML	06 45 37.7	
	comp=N,104nm,0.6s						
KHET	**Khetri**	**9.44**	**151**	*e*P	**Pn**	**06 44 27.1**	**-0.9**
KHET				*e*S	**Sn**	**06 46 05.2**	**-8.2**
KHET				AML	AML	06 46 09.3	
	comp=E,13nm,0.2s						
KHET				AML	AML	06 46 09.7	
	comp=N,22nm,0.1s						
KUDL	**Kundal**	**9.66**	**147**	⇑*e*P	**Pn**	**06 44 30.0**	**-0.8**
KUDL				*e*S	**Sn**	**06 46 09.1**	**-10**
KUDL				AML	AML	06 46 11.8	
	comp=E,27nm,0.6s						
KUDL				AML	AML	06 46 12.4	
	comp=N,9.6nm,0.6s						
SONA	**Sohna**	**9.84**	**144**	*e*S	**Sn**	**06 46 14.7**	**-8.2**
SONA				AML	AML	06 46 17.2	
	comp=E,34nm,0.3s						
SONA				AML	AML	06 46 18.4	
	comp=N,24nm,0.5s						
MK05	**Makanchi Array**	**13.51**	**37**	⇓P	**Pn**	**06 45 20.5**	**+0.5**
	comp=N,9.7nm,0.8s						
MK31	**Makanchi Array**	**13.51**	**37**	P	**Pn**	**06 45 20.5**	**+0.5**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**13.51**	**37**	P	**Pn**	**06 45 19.9**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=227,slow=16,SNR=35						
GKN	**Gorkha**	**14.54**	**121**	*e*P	**Pn**	**06 45 33.0**	**+0.2**
	comp=Z,20nm,0.4s						
AB31	**Akbulak array**	**14.98**	**332**	⇓P	**Pn**	**06 45 37.6**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=147,slow=12,SNR=22						
AB31				⇑S	**Sn**	**06 48 19.4**	**-6.2**
	comp=Z,2.2nm,0.7s,baz=146,slow=25,SNR=4.1						
AB31	**Akbulak array**	**14.98**	**332**	*e*P	**Pn**	**06 45 37.8**	**-0.4**
AB31				S	**Sn**	**06 48 19.4**	**-6.3**
AB31				smax			
	comp=Z,1.0nm,0.7s						
KKN	**Kakani**	**15.12**	**121**	*e*P	**Pn**	**06 45 39.7**	**-0.2**
	comp=Z,16nm,0.4s						
KKN	**Kakani**	**15.12**	**121**	*e*P	**Pn**	**06 45 39.7**	**-0.2**
KKN				pmax	pmax		
	comp=Z,16nm,0.4s						
PKI	**Pulchoki**	**15.34**	**121**	*e*P	**Pn**	**06 45 42.3**	**-0.3**
	comp=Z,21nm,0.7s						
PKI	**Pulchoki**	**15.34**	**121**	*e*P	**Pn**	**06 45 42.3**	**-0.3**
PKI				pmax	pmax		
	comp=Z,21nm,0.7s						
KURK	**Kurchatov**	**15.37**	**19**	*e*P	**Pn**	**06 45 43.5**	**+0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KURK	**Kurchatov**	**15.37**	**19**	*e*P	**Pn**	**06 45 43.5**	**+0.5**
	comp=Z,2.7nm,0.4s						
GUN	**Gumba**	**15.46**	**119**	*e*P	**Pn**	**06 45 44.6**	**+0.5**
	comp=Z,8.3nm,0.3s						
JIRN	**Jiri**	**15.83**	**119**	*e*P	**Pn**	**06 45 49.0**	**+0.4**
	comp=Z,22nm,0.4s						
VOSK	**Vostochnaya**	**16.27**	**1**	⇓P	**Pn**	**06 45 54.4**	**+0.5**
	comp=Z,1.9nm,0.3s						
VOSK	**Vostochnaya**	**16.27**	**1**	P	**Pn**	**06 45 54.6**	**+0.8**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**16.53**	**357**	⇑P	**Pn**	**06 45 57.7**	**+0.7**
	comp=Z,3.9nm,0.5s						
ZRNK	**Zerenda**	**16.53**	**357**	P	**Pn**	**06 45 57.7**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZRNK	**Zerenda**	**16.53**	**357**	*e*P	**Pn**	**06 45 57.6**	**+0.6**
	comp=Z,7.2nm,0.6s						
BVA0	**Borovoye Array**	**16.57**	**360**	⇓P	**Pn**	**06 45 57.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=152,slow=8.5,SNR=25						
BVA0	**Borovoye Array**	**16.57**	**360**	*e*P	**Pn**	**06 45 57.7**	**+0.3**
BRVK	**Borovoye**	**16.60**	**359**	*e*P	**Pn**	**06 45 57.7**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**16.60**	**359**	*e*P	**Pn**	**06 45 57.6**	**-0.2**
	comp=Z,3.4nm,0.8s						
AKTK	**Aktyubinsk**	**16.67**	**331**	P	**Pn**	**06 45 58.9**	**+0.3**
AKTK				S	**S**	**06 48 57.1**	**-4.7**
AKTO	**Aktyubinsk**	**16.67**	**331**	⇓P	**Pn**	**06 45 58.8**	**+0.1**
AKTO	**Aktyubinsk**	**16.67**	**331**	P	**Pn**	**06 45 58.9**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=140,slow=10.0,SNR=34						
AKTO				S	**S**	**06 48 57.1**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=309,slow=23,SNR=2.8						
WSAR	**Wadi Sarin**	**16.76**	**221**	P	**Pn**	**06 46 00.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=33,slow=21,SNR=6.0						
WSAR	**Wadi Sarin**	**16.76**	**221**	P	**Pn**	**06 46 00.3**	**+0.6**
CHKZ	**Chkalovo**	**17.22**	**360**	⇓P	**Pn**	**06 46 05.1**	**-0.1**
	comp=Z,2.1nm,0.4s						
CHKZ	**Chkalovo**	**17.22**	**360**	P	**Pn**	**06 46 05.3**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**17.22**	**360**	*e*P	**Pn**	**06 46 04.9**	**-0.3**
	comp=Z,4.0nm,0.4s						
ZAL	**Zalesovo**	**20.07**	**25**	P	**P**	**06 46 34.6**	**+0.1**
	comp=Z,16nm,0.3s,baz=254,slow=6.8,SNR=15						
NVS	**Novosibirsk**	**20.34**	**21**	*e*P	**P**	**06 46 36.3**	**-1.1**
NVS				*e*		06 50 11.5	
NVS				pmax	pmax		
	comp=Z,16nm,1.1s						
NVS				pmax	pmax		
	comp=N,22nm,1.6s						
GTA	**Gaotai**	**23.17**	**74**	*e*P	**P**	**06 47 07.7**	**+2.3**
CD2	**Chengdu**	**28.04**	**92**	*e*P	**P**	**06 47 48.7**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**37.35**	**326**	P	**P**	**06 49 10.7**	**+0.8**
	comp=Z,1.6nm,0.6s,mb3.7,baz=127,slow=12,SNR=7.5						
GVD	**Gavdhos**	**37.56**	**282**	*e*P	**P**	**06 49 10.3**	**-1.4**
	comp=Z,243nm,0.7s						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**06 49 41.1**	**+0.5**
	comp=Z,1.7nm,0.7s,mb3.6,baz=109,slow=9.1,SNR=8.2						
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**06 50 06.5**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.4,baz=96,slow=7.9						
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**06 50 06.5**	**+0.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**06 50 06.5**	**+0.5**
	comp=Z,1.3nm,0.7s,mb3.4,baz=96,slow=7.8,SNR=6.2						
TIXI	**Tiksi**	**45.93**	**22**	*e*P	**P**	**06 50 19.0**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
KMBO	**Kilima Mbogo**	**48.57**	**227**	LR	LR	07 13 44.2	
	comp=Z,133nm,21.9s,baz=94,slow=39						
TORD	**Torodi Ar. Bea**	**65.41**	**268**	P	**P**	**06 52 37.8**	**-0.1**
	comp=Z,1.0nm,0.4s,mb3.8,baz=49,slow=6.0,SNR=31						
WRA	**Warramunga Arr**	**82.23**	**122**	P	**P**	**06 54 14.7**	**-0.9**
	comp=Z,1.1nm,0.7s,mb3.6,baz=322,slow=5.1,SNR=18						
ASAR	**Alice Springs**	**84.48**	**125**	P	**P**	**06 54 26.1**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.6,baz=312,slow=4.9,SNR=8.2						

CASC 06 06:42:55.1±3.1,1164N×8677W,h85km±22km,MD3.8, ML3.4,9C-9D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.56**	**18**	⇓*e*P	Pn	06 43 10.9	+1.1
COPN				*e*S	Sn	06 43 23.6	+2.9
XAVN	**Gruta Xavier**	**0.67**	**41**	⇑*i*P	Pn	06 43 11.1	+0.3
XAVN				*e*S	Sn	06 43 23.0	+0.5
TISN	**Laguna Tiscapa**	**0.70**	**45**	⇓*e*P	Pn	06 43 11.2	+0.1
TISN				*e*S	Sn	06 43 22.9	-0.1
MGAN	**Managua**	**0.72**	**46**	⇑*e*P	Pn	06 43 11.2	-0.1
MGAN				*e*S	Sn	06 43 23.1	-0.3
MGAN				*i*		06 43 23.8	
	comp=N,934nm,0.7s						
APYN	**Apoyeque**	**0.72**	**35**	⇑*e*P	Pn	06 43 11.1	-0.2
APYN				*e*S	Sn	06 43 24.5	+1.1
APON	**Apoyo**	**0.74**	**69**	⇑*e*P	Pn	06 43 11.6	0.0
LEON	**Leon**	**0.78**	**351**	⇑*e*P	Pn	06 43 13.2	+1.3
LEON				*e*S	Sn	06 43 23.8	-0.6
MIRN	**Miramar**	**0.79**	**4**	⇑*e*P	Pn	06 43 12.8	+0.7
MIRN				*e*S	Sn	06 43 25.6	+0.8
MOMJ	**Momotombo**	**0.79**	**17**	⇑*e*P	Pn	06 43 12.0	-0.1
MOMJ				*e*S	Sn	06 43 24.6	-0.2
CNGN	**Cerro Negro**	**0.85**	**5**	⇓*e*P	Pn	06 43 13.1	+0.3
CNGN				*e*S	Sn	06 43 26.8	+0.9
TELN	**Telica**	**0.96**	**357**	⇓*e*P	Pn	06 43 13.2	-0.7
TELN				*e*S	Sn	06 43 28.6	+0.6
SSNN	**San Juan del S**	**0.97**	**111**	*e*P	Pn	06 43 15.8	+1.7
SSNN				*e*S	Sn	06 43 30.0	+1.7
CRIN	**San Cristobal**	**1.08**	**346**	⇓*e*P	Pn	06 43 16.4	+1.0
CRIN				*e*S	Sn	06 43 32.5	+1.9
CONN	**Concepcion**	**1.13**	**94**	⇓*i*P	Pn	06 43 16.1	+0.1
CONN				*e*S	Sn	06 43 31.1	-0.4
MADN	**Villa Maderas**	**1.24**	**101**	⇓*i*P	Pn	06 43 17.5	+0.2
MADN				*e*S	Sn	06 43 32.8	-1.1
LIM1	**Limonal**	**1.76**	**122**	⇓*e*P	Pn	06 43 24.2	+0.2
LIM1				*e*S	Sn	06 43 46.5	+0.6
CNCH	**Conchagua**	**1.93**	**328**	⇑*e*P	x	06 43 44.9	
CNCH				*e*S	x	06 44 09.7	
VSM	**San Miguel**	**2.30**	**321**	*e*P	x	06 43 51.0	
VSM				*e*S	x	06 44 19.3	
LCBS	**La Ceiba**	**2.94**	**313**	*e*P	x	06 43 59.5	
LCBS				*e*S	x	06 44 32.9	
LFRS	**El Faro**	**2.98**	**312**	*e*P	x	06 44 00.2	
LFRS				*e*S	x	06 44 33.5	
LBRS	**Las Brisas**	**3.04**	**313**	*e*P	x	06 44 01.1	
LBRS				*e*S	x	06 44 36.0	
BOQS	**Boqueron**	**3.21**	**311**	⇓*e*P	x	06 44 04.1	
BOQS				*e*S	x	06 44 41.8	
SBLS	**San Blas**	**3.53**	**308**	⇑*e*P	x	06 44 08.4	
SBLS				*e*S	x	06 44 47.8	

*NEIC **06** 07:13:14.9±1.1,3210S×17819W,h143km±10km,mb5.0/5, Error ellipse: s-maj=24.6km s-min=9.7km az=105.0*
*ISCJB **06** 07:13:16.3±0.6,3167S±004×1792W±01,h106km±7km, mb5.0/7,Error ellipse: s-maj=16.8km s-min=5.7km az=32.8*
*IDC **06** 07:13:18.6±1.1,3155S×17904W,h126km±12km,mb4.7/2, mb1 4.6/4,mb1mx4.1/12,mbtmp4.9/4,MS2.9/1,Ms1 2.9/1, ms1mx2.7/12,Error ellipse: s-maj=23.7km s-min=11.7km az=113.0*

ISC 06 07:13:17.6±0.6,3168S±005×1791W±01,h105km±6km,n75, σ1§43/80,mb5.0/7,7C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.62**	**23**	P	**Pn**	**07 13 59.6**	**+1.3**
	137nm,0.3s,baz=58,slow=22,SNR=9.4						
RAO				S	**Sn**	**07 14 29.7**	**0.0**
	846nm,0.3s,baz=100,slow=22,SNR=18						
RAO				LR	LR	07 14 52.1	
	comp=Z,229nm,18.0s,baz=56,slow=38						
RAO	**Raoul Island**	**2.62**	**23**	P	**Pn**	**07 13 59.6**	**+1.2**
RAO				S	**Sn**	**07 14 29.7**	**0.0**
MXZ	**Matakaoa Point**	**6.25**	**199**	PN	**Pn**	**07 14 48.8**	**+1.4**
MXZ				SN	**Sn**	**07 15 60.0**	**+2.6**
MXZ	**Matakaoa Point**	**6.25**	**199**	P	**Pn**	**07 14 49.0**	**+1.7**
MXZ				S	**Sn**	**07 15 59.2**	**+1.8**
PUZ	**Puketiti**	**6.75**	**198**	PN	**Pn**	**07 14 55.1**	**+1.1**
PUZ				SN	**Sn**	**07 16 10.5**	**+1.2**
PUZ	**Puketiti**	**6.75**	**198**	*e*P	**Pn**	**07 14 55.1**	**+1.1**
MWZ	**Matawai**	**7.20**	**202**	PN	**Pn**	**07 15 01.2**	**+1.0**
MWZ	**Matawai**	**7.20**	**202**	*e*P	**Pn**	**07 15 01.2**	**+1.0**
URZ	**Urewera**	**7.27**	**204**	P	**Pn**	**07 15 02.3**	**+1.2**
	4.6nm,0.3s,baz=280,slow=2.1,SNR=73						
URZ				S	**Sn**	**07 16 23.3**	**+1.2**
	21nm,0.3s,baz=235,slow=22,SNR=15						
URZ	**Urewera**	**7.27**	**204**	PN	**Pn**	**07 15 02.3**	**+1.1**
URZ				SN	**Sn**	**07 16 25.5**	**+3.3**
URZ	**Urewera**	**7.27**	**204**	*e*P	**Pn**	**07 15 02.3**	**+1.1**
PATZ	**Paeroa**	**7.70**	**208**	P	**Pn**	**07 15 11.1**	**+4.1**
KNZ	**Kokohu**	**7.79**	**199**	PN	**Pn**	**07 15 07.7**	**-0.5**
BKZ	**Black Stump Fm**	**8.30**	**205**	PN	**Pn**	**07 15 14.6**	**-0.5**
BKZ				SN	**Sn**	**07 16 48.7**	**+1.6**
BKZ	**Black Stump Fm**	**8.30**	**205**	*e*P	**Pn**	**07 15 14.6**	**-0.5**
HIZ	**Hauiti**	**8.44**	**214**	*e*PN	**Pn**	**07 15 20.7**	**+3.7**
HIZ	**Hauiti**	**8.44**	**214**	*e*P	**Pn**	**07 15 20.9**	**+3.9**
FWVZ	**Far West T-bar**	**8.74**	**209**	PN	**Pn**	**07 15 22.2**	**+1.2**
FWVZ	**Far West T-bar**	**8.74**	**209**	*e*P	**Pn**	**07 15 22.3**	**+1.3**
WNVZ	**Wahianoa**	**8.78**	**208**	P	**Pn**	**07 15 22.5**	**+0.9**
MTVZ	**Mangateitei**	**8.88**	**208**	PN	**Pn**	**07 15 21.1**	**-1.8**
PXZ	**Pawanui**	**8.96**	**200**	PN	**Pn**	**07 15 21.9**	**-2.3**
VRZ	**Vera Road**	**8.97**	**212**	*e*P	**Pn**	**07 15 30.4**	**+6.2**
TSZ	**Takapari Road**	**9.28**	**204**	*e*PN	**Pn**	**07 15 25.5**	**-2.9**
TSZ	**Takapari Road**	**9.28**	**204**	P	**Pn**	**07 15 26.3**	**-2.1**
WAZ	**Wanganui**	**9.39**	**209**	*e*PN	**Pn**	**07 15 29.1**	**-0.8**
WAZ	**Wanganui**	**9.39**	**209**	*e*P	**Pn**	**07 15 30.9**	**+0.9**
BFZ	**Birch Farm**	**9.75**	**201**	*e*PN	**Pn**	**07 15 31.6**	**-3.2**
BFZ	**Birch Farm**	**9.75**	**201**	*e*P	**Pn**	**07 15 31.3**	**-3.5**
MRZ	**Mangatainoka R**	**9.95**	**204**	PN	**Pn**	**07 15 33.4**	**-4.1**
MRZ				*e*SN	**Sn**	**07 17 19.1**	**-8.1**
MRZ	**Mangatainoka R**	**9.95**	**204**	*e*P	**Pn**	**07 15 33.8**	**-3.7**
KIW	**Kapiti Island**	**10.37**	**206**	P	**Pn**	**07 15 39.4**	**-3.8**
MTW	**Mount Morrison**	**10.42**	**203**	PN	**Pn**	**07 15 39.8**	**-4.1**
MTW	**Mount Morrison**	**10.42**	**203**	P	**Pn**	**07 15 39.6**	**-4.3**
CAW	**Cannon Point**	**10.53**	**205**	P	**Pn**	**07 15 41.3**	**-4.0**
MRW	**Makara Radio**	**10.77**	**206**	P	**Pn**	**07 15 44.8**	**-3.8**
SNZO	**South Karori**	**10.83**	**206**	*e*P	**Pn**	**07 15 44.7**	**-4.8**
TCW	**Tory Channel**	**10.91**	**207**	P	**Pn**	**07 15 45.8**	**-4.8**
NNZ	**Nelson**	**11.29**	**210**	*e*PN	**Pn**	**07 15 51.0**	**-4.6**
NNZ	**Nelson**	**11.29**	**210**	*e*P	**Pn**	**07 15 52.0**	**-3.6**
BSWZ	**Blackbirch Sta**	**11.50**	**207**	P	**Pn**	**07 15 54.4**	**-4.0**
THZ	**Tophouse**	**11.94**	**210**	*e*P	**Pn**	**07 15 59.8**	**-4.4**
KHZ	**Kahutara**	**12.23**	**207**	*e*PN	**Pn**	**07 16 02.9**	**-5.2**
KHZ	**Kahutara**	**12.23**	**207**	*e*P	**Pn**	**07 16 03.2**	**-4.9**
DSZ	**Denniston Nort**	**12.42**	**213**	*e*PN	**Pn**	**07 16 06.7**	**-3.9**
DSZ	**Denniston Nort**	**12.42**	**213**	*e*P	**Pn**	**07 16 11.1**	**+0.5**
LTZ	**Lake Taylor**	**13.04**	**209**	*e*PN	**Pn**	**07 16 13.7**	**-5.1**
LTZ	**Lake Taylor**	**13.04**	**209**	*e*P	**Pn**	**07 16 13.2**	**-5.6**
RPZ	**Rata Peaks**	**14.32**	**210**	P	**Pn**	**07 16 30.2**	**-5.1**
	0.5nm,0.3s,baz=14,slow=8.3,SNR=4.9						
RPZ				S	**Sn**	**07 19 02.9**	**-10**
	1.0nm,0.3s,baz=333,slow=23,SNR=9.9						
CTA	**Charters Tower**	**33.12**	**282**	⇑*i*P	**P**	**07 19 45.3**	**+1.7**
	11nm,0.3s,mb5.2						
CTAO	**Charters Tower**	**33.12**	**282**	*e*P	**P**	**07 19 45.2**	**+1.6**
	8.9nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**33.31**	**259**	*e*P	**P**	**07 19 45.2**	**0.0**
	11nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**33.31**	**259**	P	**P**	**07 19 44.9**	**-0.3**
	12nm,0.6s,mb4.9,baz=98,slow=9.4,SNR=25						
STKA	**Stephens Creek**	**33.31**	**259**	*e*P	**P**	**07 19 44.7**	**-0.5**
AS31	**Alice Springs**	**42.14**	**269**	⇑*i*P	**P**	**07 20 59.8**	**+0.4**
ASAR	**Alice Springs**	**42.14**	**269**	P	**P**	**07 20 59.4**	**-0.1**
	12nm,0.3s,mb5.1,baz=106,slow=7.6,SNR=163						
ASPA	**Alice Springs**	**42.14**	**269**	⇑*i*P	**P**	**07 20 59.8**	**+0.3**
WB2	**Warramunga Arr**	**43.23**	**274**	⇑*i*P	**P**	**07 21 08.1**	**-0.2**
WRAB	**Tennant Creek**	**43.24**	**274**	P	**P**	**07 21 08.0**	**-0.3**
	608nm,0.4s,SNR=90						
WRAB	**Tennant Creek**	**43.24**	**274**	*e*P	**P**	**07 21 08.4**	**+0.1**
	23nm,0.5s,mb5.2						
WRA	**Warramunga Arr**	**43.24**	**274**	P	**P**	**07 21 08.3**	**-0.1**
	49nm,0.3s,mb5.7,baz=111,slow=8.1,SNR=1116						
VNDA	**Vanda**	**46.74**	**186**	P	**P**	**07 21 37.2**	**+1.2**
	0.9nm,0.6s,baz=352,slow=7.7,SNR=14						
VNDA	**Vanda**	**46.74**	**186**	*e*P	**P**	**07 21 37.4**	**+1.4**
KAKA	**Kakadu**	**48.26**	**282**	*e*P	**P**	**07 21 46.7**	**-1.2**
	46nm,1.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.45**	**271**	*e*P	**P**	**07 22 12.5**	**+0.5**
	5.7nm,1.0s,mb4.6						
QSPA	**South Pole Qui**	**58.44**	**180**	*e*P	**P**	**07 23 03.5**	**+1.3**
SNAA	**Sanae**	**76.91**	**179**	⇑*i*	**P**	**07 24 45.7**	**-13**
SNAA				*e*		07 24 48.9	
SNAA				*e*		07 24 57.7	
VNA3	**Neumayer Olymp**	**77.09**	**177**	⇑*i*	**P**	**07 24 58.4**	**-0.9**
VNA3				*e*		07 25 02.1	
VNA2	**Neumayer--Watz**	**77.52**	**177**	⇑*i*	**P**	**07 25 01.1**	**-0.6**
	baz=181,slow=5.1						
VNA2				*e*		07 25 04.6	
VNA2				*e*		07 25 13.8	
VNA1	**Neumayer--Stat**	**77.75**	**177**	*e*	**P**	**07 25 02.6**	**-0.4**
VNA1				*e*		07 25 06.3	
VNA1				*e*		07

Msz4.2

*IDC **06** 08:02:47.6±0.7, 370S×139.93E, h0km, mb4.5/7, mb1 4.8/9, mb1mx4.6/12, mbtmp4.7/9, ML4.1/2, MS4.0/13, Ms1 4.0/13, ms1mx3.8/24, Error ellipse: s-maj=28.6km s-min=17.6km az=71.0*

*MOS **06** 08:02:50.3±1.7, 376S×139.85E, h33km, mb4.6/8, Error ellipse: s-maj=16.6km s-min=8.1km az=104.0*

*HRVD **06** 08:02:51.8±0.2, 380S×140.13E, h20km±1km, MW5.0/64, Centroid moment Tensor Solution. LP body waves: s14,c14;Mantle waves: s64,c90; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.34±.19; Mθθ-1.81±.10; Mφφ3.15±.16; Mrθ-1.65±.27; Mφφ1.45±.09; Mφr0.87±.25; Best double couple: M0 3.61600×10^16 NP1:φs53.00000°, δ60.00000°, λ-26.00000°. NP2: φs157.00000°, δ68.00000°, λ-147.00000°. Principal axes: T 3.5810, Plg5.0000°, Azm283.0000°; N 0.0690, Plg51.0000°, Azm187.0000°; P -3.6500, Plg38.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **06** 08:02:51.1±1.2, 395S±004×14003E±007, h45km±11km, mb4.7/32, MS4.1/14 Error ellipse: s-maj=10.9km s-min=7.3km az=173.4*

*NEIC **06** 08:02:51.8±0.4, 385S×139.93E, h30km, mb4.7/22, Error ellipse: s-maj=10.8km s-min=7.2km az=88.0*

NEIC Felt [III] at Wamena.

ISC 06 08:02:53.6±1.0, 400S±004×14005E±006, h52km±9km, h40km±3.7km: pP-P, n97, σ1°38/91, mb4.7/32, MS4.1/14, 2C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**4.82**	**305**	P	**Pn**	**08 04 05.5**	**+1.8**
	968nm,0.8s						
TLE	**Tual**	**7.46**	**257**	P	**Pn**	**08 04 41.0**	**+1.1**
	455nm,0.9s						
PMG	**Port Moresby**	**8.87**	**128**	Pn	**Pn**	**08 05 00.2**	**+1.1**
	4.1nm,0.3s,baz=310,slow=9.0,SNR=13						
PMG				Lg		08 07 42.9	
	1.3nm,0.3s,baz=229,slow=19,SNR=2.7						
PMG				LR	LR	08 09 19.3	
	comp=Z,1μm,18.3s,baz=75,slow=43						
PMG	**Port Moresby**	**8.87**	**128**	*e*P	**Pn**	**08 05 00.3**	**+1.1**
PMG	**Port Moresby**	**8.87**	**128**	*e*Pn	**Pn**	**08 05 00.1**	**+0.9**
	124nm,0.9s						
KAKA	**Kakadu**	**11.47**	**221**	*e*P	**Pn**	**08 05 33.7**	**-1.0**
	321nm,0.5s						
KAKA				*e*S	**Sn**	**08 07 39.0**	**-2.3**
WRAB	**Tennant Creek**	**16.79**	**199**	*e*P	**Pn**	**08 06 43.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,153nm,0.7s						
WRAB	**Tennant Creek**	**16.79**	**199**	*e*Pn	**Pn**	**08 06 43.6**	**-1.4**
	comp=Z,153nm,0.7s						
WB2	**Warramunga Arr**	**16.80**	**199**	*e*P	**Pn**	**08 06 43.4**	**-1.8**
WB2				*e*S	**S**	**08 09 44.0**	**-15**
WRA	**Warramunga Arr**	**16.80**	**199**	Pn	**Pn**	**08 06 43.6**	**-1.7**
	comp=Z,2.4nm,0.3s,baz=18,slow=13,SNR=74						
WRA				Sn	**Sn**	**08 09 48.5**	**-2.4**
	comp=Z,1.8nm,0.3s,baz=16,slow=22,SNR=4.9						
WRA				Lg		08 11 35.4	
	baz=23,slow=28,SNR=3.3						
WRA	**Warramunga Arr**	**16.80**	**199**	P	**Pn**	**08 06 43.6**	**-1.6**
WRA						08 09 48.5	
CTA	**Charters Tower**	**17.10**	**160**	P	**Pn**	**08 06 54.2**	**+5.2**
	comp=Z,1.1nm,0.3s,baz=338,slow=10,SNR=11						
CTA				Lg		08 11 50.1	
	comp=Z,0.2nm,0.3s,baz=54,slow=19,SNR=3.1						
CTA	**Charters Tower**	**17.10**	**160**	*e*P	**Pn**	**08 06 54.6**	**+5.6**
CTA				pmax	pmax		
	comp=Z,17nm,0.7s						
CTAO	**Charters Tower**	**17.10**	**160**	*e*P	**Pn**	**08 06 52.8**	**+3.8**
CTAO				pmax	pmax		
	comp=Z,22nm,0.8s						
CTAO	**Charters Tower**	**17.10**	**160**	*e*Pn	**Pn**	**08 06 52.8**	**+3.9**
	comp=Z,22nm,0.8s						
GUMO	**Guam**	**18.11**	**15**	LR	LR	08 13 32.4	
	comp=Z,341nm,19.7s,baz=199,slow=36						
FITZ	**Fitzroy Crossi**	**19.89**	**224**	*e*P	**Pn**	**08 07 21.7**	**-0.9**
	comp=Z,109nm,0.7s						
FITZ				*e*S	**S**	**08 10 53.8**	**-7.8**
FITZ	**Fitzroy Crossi**	**19.89**	**224**	P	**Pn**	**08 07 21.8**	**-0.8**
	comp=Z,74nm,0.8s,baz=50,slow=12,SNR=72						
FITZ				S	**S**	**08 10 54.5**	**-7.1**
	comp=Z,21nm,0.7s,baz=46,slow=23,SNR=4.5						
FITZ				Lg		08 13 24.8	
	comp=Z,114nm,1.1s,baz=9.8,slow=19,SNR=5.0						
FITZ				LR	LR	08 14 25.1	
	comp=Z,356nm,20.9s,baz=46,slow=35						
AS31	**Alice Springs**	**20.43**	**196**	⇑*i*P	**P**	**08 07 29.2**	**+2.6**
ASAR	**Alice Springs**	**20.44**	**196**	P	**P**	**08 07 29.4**	**+2.8**
	comp=Z,90nm,0.7s,baz=29,slow=9.7,SNR=569						
ASAR				S	**S**	**08 11 13.1**	**+0.6**
	comp=Z,7.8nm,0.9s,baz=23,slow=12,SNR=3.2						
ASAR				Lg		08 13 42.1	
	comp=Z,24nm,0.9s,baz=12,slow=30,SNR=3.2						
ASAR	**Alice Springs**	**20.44**	**196**	P	**P**	**08 07 29.4**	**+2.8**
ASAR				S	**S**	**08 11 13.1**	**+0.6**
ASPA	**Alice Springs**	**20.44**	**196**	⇑*i*P	**P**	**08 07 29.2**	**+2.6**
HNR	**Honiara**	**20.48**	**106**	LR	LR	08 15 24.0	
	comp=Z,406nm,20.1s,MS3.8,baz=90,slow=37						
TSM	**Tawau**	**23.64**	**290**	P	**P**	**08 08 02.0**	**+1.9**
KKM	**Kota Kinabalu**	**25.80**	**293**	P	**P**	**08 08 21.2**	**+1.4**
KKM	**Kota Kinabalu**	**25.80**	**293**	*e*P	**P**	**08 08 20.3**	**+0.5**
MBWA	**Marble Bar**	**26.09**	**227**	*e*P	**P**	**08 08 24.8**	**+2.3**
	comp=Z,22nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**27.77**	**177**	*e*P	**P**	**08 08 36.4**	**-1.1**
	comp=Z,2.2nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**27.77**	**177**	P	**P**	**08 08 35.9**	**-1.7**
	comp=Z,1.3nm,0.5s,mb3.8,baz=328,slow=5.4,SNR=5.3						
STKA				Lg		08 17 48.2	
	comp=Z,13nm,1.0s,baz=110,slow=23,SNR=4.0						
STKA				LR	LR	08 20 27.3	
	comp=Z,624nm,20.9s,MS4.2,baz=350,slow=38						
FORT	**Forrest**	**28.94**	**202**	*e*P	**P**	**08 08 53.2**	**+5.3**
	comp=Z,23nm,0.6s,mb5.1						
KLBR	**Kellerberrin**	**34.53**	**215**	*e*P	**P**	**08 09 40.0**	**+3.0**
	comp=Z,7.5nm,0.6s,mb4.8						
SSE	**Sheshan**	**39.26**	**334**	*e*P	**P**	**08 10 15.8**	**-1.3**
SSE				AP	pP	08 10 25.7	-5.0
SSE				XP	sP	08 10 29.1	-7.7
SSE				PCP	PcP	08 12 25.0	-0.2
SSE				S	**S**	**08 16 15.1**	**+1.0**
SSE				XS	sS	08 16 30.6	-6.3
SSE				SCS	ScS	08 20 21.8	+0.7
SSE				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,80nm,3.5s						
SSE				LR	LR		
	comp=N,110nm,39.7s,MS3.8						
SSE				LR	LR		
	comp=E,270nm,39.7s,MS3.8						
SSE				LR	LR		
	comp=Z,170nm,23.2s						
PPI	**Padang Panjang**	**39.77**	**274**	P	**P**	**08 10 22.1**	**+0.7**
	comp=Z,86nm,0.9s,mb5.5						
IPM	**Ipoh**	**39.88**	**282**	P	**P**	**08 10 23.3**	**+1.0**
MJAR	**Matsushiro Arr**	**40.36**	**358**	P	**P**	**08 10 25.1**	**-1.1**
	comp=Z,0.7nm,0.3s,mb3.8,baz=169,slow=9.4,SNR=4.9						
MJAR				LR	LR	08 25 49.2	
	comp=Z,135nm,19.0s,MS3.8,baz=155,slow=34						
KULM	**Kulim**	**40.42**	**283**	*e*P	**P**	**08 10 26.5**	**-0.2**
NJ2	**Nanjing**	**41.12**	**332**	*e*P	**P**	**08 10 32.9**	**+0.4**
NJ2				AP	pP	08 10 42.6	-3.6
NJ2				XP	sP	08 10 47.6	-4.6
NJ2				PP	PP	08 12 11.1	+2.9
NJ2				S	**S**	**08 16 41.0**	**-0.9**
NJ2				XS	sS	08 16 59.0	-5.8
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,250nm,4.1s						
NJ2				LR	LR		
	comp=N,760nm,23.2s						
NJ2				LR	LR		
	comp=E,630nm,11.7s						
NJ2				LR	LR		
	comp=Z,270nm,12.2s						
PSI	**Prapat**	**41.65**	**279**	P	**P**	**08 10 37.2**	**+0.4**
	comp=Z,17nm,0.8s,mb4.7,baz=129,slow=1.9,SNR=13						
KMI	**Kunming**	**46.37**	**311**	P	**P**	**08 11 16.2**	**+1.6**
KMI				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
KMI				LR	LR		
	comp=N,160nm,15.5s,MS4.2						
KMI				LR	LR		
	comp=E,160nm,15.2s,MS4.2						
KMI				LR	LR		
	comp=Z,220nm,28.4s						
RAO	**Raoul Island**	**47.06**	**127**	LR	LR	08 29 07.8	
	comp=Z,282nm,18.2s,MS4.3,baz=204,slow=33						
XAN	**Xi'an**	**47.89**	**325**	P	**P**	**08 11 25.4**	**-1.1**
XAN				AP	pP	08 11 35.9	-4.5
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
AFI	**Afiamalu**	**48.51**	**105**	LR	LR	08 27 05.4	
	comp=Z,86nm,22.0s,MS3.7,baz=246,slow=30						
CD2	**Chengdu**	**49.02**	**318**	P	**P**	**08 11 35.9**	**+0.7**
CD2				AP	pP	08 11 45.1	-4.1
CD2				XP	sP	08 11 49.0	-6.2
CD2				PP	PP	08 13 28.8	-0.3
CD2				S	**S**	**08 18 36.2**	**+0.2**
CD2				XS	sS	08 18 52.8	-6.6
CD2				SS	SS	08 22 02.8	-4.6
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=E,300nm,16.8s						
CD2				LR	LR		
	comp=Z,220nm,19.2s,MS4.2						
LZH	**Lanzhou**	**52.30**	**323**	*e*P	**P**	**08 11 59.5**	**-0.4**
LZH				AP	pP	08 12 12.5	-1.5
LZH				XP	sP	08 12 17.5	-2.5
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,150nm,5.1s						
KLR	**Kul'dur**	**53.50**	**353**	*e*P	**P**	**08 12 05.2**	**-3.5**
GTA	**Gaotai**	**56.89**	**323**	*e*P	**P**	**08 12 33.6**	**+0.4**
GTA				AP	pP	08 12 48.1	+0.7
GTA				AMB	AMB		
	comp=Z,50nm,3.8s						
GTA				LR	LR		
	comp=N,100nm,16.0s,MS4.2						
GTA				LR	LR		
	comp=E,140nm,18.2s,MS4.2						
GTA				LR	LR		
	comp=Z,90nm,14.1s,MS4.0						
ULN	**Ulaanbaatar**	**59.19**	**335**	*e*P	**P**	**08 12 49.2**	**0.0**
ULN	**Ulaanbaatar**	**59.19**	**335**	*e*P	**P**	**08 12 49.1**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.4						
SONM	**Songino Array**	**59.45**	**334**	LR	LR	08 36 58.7	
	comp=Z,216nm,21.8s,MS4.2,baz=72,slow=35						
CIT	**Chita**	**60.18**	**341**	*e*P	**P**	**08 12 52.9**	**-3.2**
GUN	**Gumba**	**61.01**	**305**	*e*P	**P**	**08 13 02.0**	**+0.3**
KKN	**Kakani**	**61.46**	**305**	*e*P	**P**	**08 13 05.3**	**+0.5**
DMN	**Daman**	**61.54**	**304**	*e*P	**P**	**08 13 06.3**	**+1.0**
	comp=Z,35nm,1.0s,mb5.5						
GKN	**Gorkha**	**62.07**	**305**	*e*P	**P**	**08 13 09.5**	**+0.7**
	comp=Z,38nm,0.8s,mb5.6						
ZAK	**Zakamensk**	**62.71**	**334**	*e*P	**P**	**08 13 12.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.9s,mb4.6						
KOLN	**Koldanda**	**62.84**	**304**	*e*P	**P**	**08 13 15.1**	**+1.1**
	comp=Z,23nm,0.9s,mb5.3						
MOY	**Mondy**	**64.64**	**334**	*e*P	**P**	**08 13 25.0**	**-0.8**
BOD	**Bodaibo**	**65.09**	**345**	*e*P	**P**	**08 13 27.1**	**-1.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CASY	**Casey**	**65.51**	**193**	*e*P	**P**	**08 13 35.2**	**+3.7**
CASY	**Casey**	**65.51**	**193**	*e*P	**P**	**08 13 32.2**	**+0.7**
	comp=Z,7.2nm,0.9s,mb4.7						
WMQ	**Urumqi**	**66.84**	**321**	*e*P	**P**	**08 13 37.8**	**-2.2**
PPT	**Papeete**	**70.10**	**107**	LR	LR	08 38 25.0	
	comp=Z,204nm,19.8s,MS4.4,baz=286,slow=30						
MIR	**Mirnyy**	**70.39**	**198**	*e*P	**P**	**08 14 07.0**	**+4.8**
MKAR	**Makanchi Array**	**71.62**	**322**	P	**P**	**08 14 09.3**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.4,baz=108,slow=7.8,SNR=15						
UNV	**Unalaska Valle**	**72.77**	**30**	*e*P	**P**	**08 14 18.8**	**+2.3**
	comp=Z,45nm,1.2s,mb5.3						
ZAL	**Zalesovo**	**73.72**	**330**	P	**P**	**08 14 20.6**	**-1.4**
	comp=Z,1.5nm,0.5s,mb4.2,baz=352,slow=8.0,SNR=4.6						
ZAL				LR	LR	08 47 08.3	
	comp=Z,118nm,19.6s,MS4.2,baz=347,slow=36						
VNDA	**Vanda**	**74.39**	**175**	P	**P**	**08 14 28.4**	**+2.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=320,slow=8.2,SNR=9.3						
VNDA				LR	LR	08 49 58.5	
	comp=Z,121nm,18.6s,MS4.2,baz=113,slow=38						
VNDA	**Vanda**	**74.39**	**175**	*e*P	**P**	**08 14 28.2**	**+2.2**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**74.39**	**175**	*e*P	**P**	**08 14 28.2**	**+2.2**
	comp=Z,1.7nm,0.7s,mb4.1						
NVS	**Novosibirsk**	**74.97**	**330**	*e*P	**P**	**08 14 26.9**	**-2.4**
KURK	**Kurchatov**	**75.53**	**325**	*e*P	**P**	**08 14 31.9**	**-0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**75.53**	**325**	*e*P	**P**	**08 14 31.9**	**-0.7**
	comp=Z,3.7nm,0.9s,mb4.3						
TIXI	**Tiksi**	**75.86**	**356**	*e*P	**P**	**08 14 32.9**	**-1.5**
TIXI				*e*S	S	08 24 03.3	-10
TIXI				*e*		08 24 44.5	
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**81.19**	**325**	*e*P	**P**	**08 15 02.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**81.19**	**325**	*e*P	**P**	**08 15 02.9**	**-0.9**
	comp=Z,3.1nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**81.21**	**326**	*e*P	**P**	**08 15 02.9**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**81.21**	**326**	*e*P	**P**	**08 15 02.9**	**-1.0**
	comp=Z,3.6nm,0.8s,mb4.3						
SVW2	**Sparrevohn**	**81.42**	**26**	*e*P	**P**	**08 15 05.9**	**+0.9**
ZRNK	**Zerenda**	**81.89**	**325**	*e*P	**P**	**08 15 06.2**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**81.89**	**325**	*e*P	**P**	**08 15 06.2**	**-1.3**
	comp=Z,5.0nm,0.9s,mb4.4						
TTA	**Tatalina**	**82.01**	**25**	*e*P	**P**	**08 15 10.1**	**+2.0**
TTA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TTA	**Tatalina**	**82.01**	**25**	*e*P	**P**	**08 15 10.1**	**+2.0**
	comp=Z,4.2nm,0.8s,mb4.4						
MCK	**McKinley**	**85.27**	**25**	*e*P	**P**	**08 15 23.9**	**-0.9**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
MCK	**McKinley**	**85.27**	**25**	*e*P	**P**	**08 15 23.9**	**-0.9**
	comp=Z,2.1nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**85.96**	**180**	*e*P	**P**	**08 15 29.3**	**+1.1**
	comp=Z,4.3nm,0.8s,mb4.7						
COLA	**College**	**86.08**	**24**	*e*P	**P**	**08 15 28.4**	**-0.4**
DAWY	**Dawson**	**89.44**	**26**	*e*P	**P**	**08 15 44.5**	**-0.3**
GNI	**Garni**	**96.61**	**310**	LR	LR	09 04 10.2	
	comp=Z,41nm,18.7s,MS3.9,baz=340,slow=38						
ARCES	**ARCESS Array B**	**102.15**	**341**	P	Pdif	08 16 40.6	-2.1
	comp=Z,2.4nm,0.8s,baz=65,slow=7.1,SNR=5.3						
PLCA	**Paso Flores**	**127.41**	**151**	PKP	PKPdf	08 21 55.6	+3.0
	comp=Z,1.1nm,0.7s,baz=168,slow=2.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**137.89**	**285**	PKP	PKPdf	08 22 15.9	+3.6
	comp=Z,0.5nm,0.7s,baz=62,slow=1.3,SNR=3.5						
DBIC	**Dimbokro**	**144.96**	**276**	PKP	PKPdf	08 22 26.5	+1.5
	comp=Z,16nm,0.5s,baz=82,slow=4.2,SNR=48						
DBIC	**Dimbokro**	**144.96**	**276**	*e*PKPdf	PKPdf	08 22 26.4	+1.4
CPUP	**Villa Florida**	**145.48**	**152**	PKPbc	PKPbc	08 22 28.3	+2.3
	comp=Z,3.6nm,0.6s,baz=221,slow=3.1,SNR=23						
LPAZ	**La Paz**	**145.61**	**127**	PKPbc	PKPbc	08 22 30.5	+4.1
	comp=Z,7.8nm,0.7s,baz=235,slow=1.0,SNR=35						
LPAZ	**La Paz**	**145.61**	**127**	*e*PKPab	PKPab	08 22 30.1	+3.4
SDV	**Santo Domingo**	**149.14**	**79**	*e*PKPbc	PKPbc	08 22 37.9	+1.7

IDC 06 08:44:43.6±1.6, 002S×9757E, h0km, mb4.2/6, mb1 4.3/7, mb1mx3.9/20, mbtmp4.1/7, ML3.3/1, Error ellipse: s-maj=56.4km s-min=18.5km az=62.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.11**	**26**	Pn	Pn	08 45 32.5	-1.5
	4.0nm,0.3s,baz=180,slow=9.2,SNR=15						
WRA	**Warramunga Arr**	**41.08**	**121**	P	P	08 52 29.2	+0.3
	2.3nm,0.8s,baz=302,slow=9.0,SNR=20						
ASAR	**Alice Springs**	**42.37**	**126**	P	P	08 52 40.4	+0.9
	2.3nm,0.6s,baz=298,slow=7.9,SNR=39						
SONM	**Songino Array**	**48.28**	**8**	P	P	08 53 27.1	+0.7
	1.7nm,0.5s,baz=188,slow=7.3,SNR=3.4						
MKAR	**Makanchi Array**	**48.51**	**346**	P	P	08 53 28.5	+0.3
	3.2nm,0.5s,baz=157,slow=8.2,SNR=37						
STKA	**Stephens Creek**	**52.27**	**132**	P	P	08 53 56.2	-0.4
	1.3nm,0.9s,baz=306,slow=8.7,SNR=2.8						
ZAL	**Zalesovo**	**54.81**	**351**	P	P	08 54 14.7	-0.6
	3.8nm,0.5s,baz=310,slow=6.2,SNR=13						
CPUP	**Villa Florida**	**144.34**	**221**	PKP	PKPdf	09 04 22.1	+0.4
	0.6nm,0.6s,baz=90,slow=1.0,SNR=3.7						

IDC 06 08:45:36.9±4.6, 2583N×14101E, h304km±114km, mb3.2/3, mb1 3.4/3, mb1mx3.0/17, mbtmp3.9/3, Error ellipse: s-maj=273.1km s-min=164.1km az=160.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.64**	**40**	P	Pn	08 46 21.4	+0.1
	9.0nm,0.3s,baz=257,slow=19,SNR=6.0						
CBIJ				S	S	08 46 56.9	+0.2
	53nm,0.3s,baz=303,slow=23,SNR=7.0						
WRA	**Warramunga Arr**	**45.96**	**189**	P	P	08 53 30.4	+0.2
	1.4nm,0.4s,baz=9.0,slow=8.4,SNR=51						
ASAR	**Alice Springs**	**49.69**	**189**	P	P	08 53 58.6	+0.1
	0.2nm,0.3s,baz=12,slow=6.6,SNR=7.4						
STKA	**Stephens Creek**	**57.39**	**179**	P	P	08 54 53.9	-0.2
	1.3nm,0.6s,baz=333,slow=6.8,SNR=4.5						

IDC 06 08:55:52.4±62.0, 2062S×17823W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/11, mbtmp3.7/3, Error ellipse: s-maj=1132.0km s-min=165.1km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.55**	**244**	P	P	09 03 07.2	-1.0
	0.8nm,0.5s,baz=96,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**44.28**	**257**	P	P	09 04 04.5	+0.7
	1.1nm,0.7s,baz=99,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**44.37**	**262**	P	P	09 04 05.3	+0.7
	0.2nm,0.3s,baz=96,slow=7.5,SNR=16						

*ISCJB **06** 09:01:50.3±2.2, 799N±0.1×205E±04, h10km, Error ellipse: s-maj=17.9km s-min=8.1km az=45.2*

*BER **06** 09:01:52.6±4.9, 8020N×2021E, h23km±34km, ML2.7(NAO)*

*NAO **06** 09:01:52.4±3.6, 8006N×2019E, h25km±18km, ML2.7*

ISC 06 09:01:49.8±2.1, 801N±01×206E±04, h10km, n5, σ0°38/11, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.94**	**239**	Pn	**Pn**	**09 02 22.7**	**-0.2**
KBS				Pg	**Pg**	**09 02 27.1**	**+0.1**
KBS				Lg		09 02 51.9	
KBS	**Kingsbay**	**1.94**	**239**	*e*P	**Pn**	**09 02 23.8**	**+1.0**
KBS				*e*Pg	**Pg**	**09 02 27.1**	**+0.1**
KBS				*e*Sg	**Sg**	**09 02 52.1**	**-0.1**
SPA0	**Spitsbergen Ar**	**2.04**	**205**	Pn	**Pn**	**09 02 24.2**	**-0.1**
SPA0				Pg	**Pg**	**09 02 28.9**	**-0.1**
SPA0				Lg		09 02 57.3	
	baz=44,slow=28						
HOPEN	**Hopen**	**3.68**	**163**	*e*P	**Pn**	**09 02 47.0**	**+0.3**
HOPEN				*e*Sg	**Sg**	**09 03 48.1**	**+0.2**
ARA0	**ARCESS Array S**	**10.65**	**171**	Pn	**Pn**	**09 04 21.7**	**-0.7**
	baz=360,slow=11						
ARA0				Sn	**Sn**	**09 06 11.0**	**-11**
	baz=2.7,slow=22						

*ISCJB **06** 09:06:19.2±0.9, 3748N±004×2085E±005, h12km±5km, mb3.5/7, Error ellipse: s-maj=7.9km s-min=5.0km az=107.6*

*CSEM **06** 09:06:19.1±0.1, 3745N×2087E, h8km, mb3.4/1, Error ellipse: s-maj=3.6km s-min=2.1km az=54.0*

*NEIC **06** 09:06:21.3, 3763N×2101E, h15km, ML3.8(ATH), After ATH.*

*ATH **06** 09:06:21.3, 3763N×2101E, h15km±1km, MD3.8/10, ML3.8*

*THE **06** 09:06:23.2, 3760N×21.13E, h8km, ML3.5*

*IDC **06** 09:06:27.5±3.8, 3765N×2105E, h78km±38km, mb3.4/7, mb1 3.4/9, mb1mx3.3/24, mbtmp3.6/9, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/22, Error ellipse: s-maj=27.1km s-min=24.4km az=139.0*

*HLW **06** 09:06:45.6, 3635N×2792E, h33km, Mb3.5*

ISC 06 09:06:20.5±0.9, 3754N±003×2090E±005, h7km±5km, n41, σ1°23/47, mb3.5/7, 1C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.68**	**339**	*e*PB	**Pg**	**09 06 33.3**	**-0.2**
VLS				*e*SN	**Sg**	**09 06 43.6**	**+1.2**
RLS	**Riolos of Patr**	**0.68**	**41**	*e*PN	**Pg**	**09 06 32.6**	**-1.0**
RLS				*e*SN	**Sg**	**09 06 40.3**	**-2.2**
ITM	**Ithomi**	**0.90**	**114**	*e*PB	**Pg**	**09 06 37.2**	**-0.4**
ITM				*e*SN	**Sg**	**09 06 49.8**	**+0.5**
EVR	**Evrytania**	**1.55**	**27**	*e*PN	**Pn**	**09 06 48.4**	**0.0**
EVR				*e*SN	**Sn**	**09 07 07.9**	**-0.9**
VLI	**Veliai**	**1.82**	**116**	*e*PN	**Pn**	**09 06 54.0**	**+1.7**
AGG	**Agios Georgios**	**1.86**	**37**	*e*Pb	**Pb**	**09 06 53.6**	**-1.1**
MGER	**Gerania Oros**	**1.92**	**76**	*e*PN	**Pn**	**09 06 53.8**	**+0.2**
LKR	**Lokris**	**1.99**	**56**	*e*PN	**Pn**	**09 06 55.6**	**+1.0**
IGT	**Igoumenitsa**	**2.04**	**348**	*e*Pn	**Pn**	**09 06 56.8**	**+1.6**
IGT				*e*Sn	**Sn**	**09 07 23.9**	**+3.1**
NAIG	**Nisos Aigina**	**2.07**	**83**	*e*PN	**Pn**	**09 06 56.5**	**+0.9**
KYTH	**Kithira**	**2.13**	**126**	*e*PN	**Pn**	**09 06 58.7**	**+2.3**
MEV	**Metsovon**	**2.25**	**6**	*e*Pn	**Pn**	**09 06 59.7**	**+1.5**
ATH	**Athens Observa**	**2.27**	**78**	*e*PB	**Pn**	**09 06 58.5

ISC 06 10:48:51.1±1.5,70S±02×1288E±03,h35km,n7,σ0$35/7, mb3.8/1,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 39nm,0.5s	**6.75**	**148**	⇓*i*P	**Pn**	**10 50 35.3**	**+7.6**
KAKA				*e*S	Sx	10 51 42.7	
FITZ	**Fitzroy Crossi** 9.7nm,0.3s	**11.49**	**195**	*e*P	**Pn**	**10 51 32.4**	**-0.2**
FITZ				*e*S	Sx	10 53 26.2	
FITZ	**Fitzroy Crossi** 1.9nm,0.3s,baz=32,slow=11,SNR=81	**11.49**	**195**	Pn	**Pn**	**10 51 32.5**	**0.0**
FITZ	1.1nm,0.3s,baz=274,slow=22,SNR=3.9			Sn	Sx	10 53 30.7	
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=331,slow=14,SNR=53	**13.98**	**158**	Pn	**Pn**	**10 52 06.6**	**-0.1**
WRA	1.0nm,0.3s,baz=324,slow=23,SNR=8.1			Sn	Sx	10 54 30.8	
WB2	**Warramunga Arr**	**13.99**	**158**	*e*P	**Pn**	**10 52 06.3**	**-0.4**
WB2				*e*S	Sx	10 54 28.0	
ASAR	**Alice Springs** 0.6nm,0.3s,baz=332,slow=9.2,SNR=47	**17.32**	**164**	P	**Pn**	**10 52 50.7**	**+0.6**
ASAR	0.3nm,0.3s,baz=317,slow=15,SNR=4.6			S	Sx	10 55 51.5	
MKAR	**Makanchi Array** 0.4nm,0.5s,mb3.8,baz=118,slow=8.0,SNR=5.2	**67.54**	**327**	P	**P**	**10 59 43.7**	**0.0**

CASC 06 10:51:01.6±2.3,813N×8299W,h0km±10km,MD4.1,1C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.61**	**60**	*e*P	Pg	10 51 13.0	-0.3
BRU2	**Volcan**	**0.72**	**24**	*e*P	Pg	10 51 16.4	+0.9
BRU	**Baru**	**0.80**	**32**	*e*P	Pg	10 51 18.5	+1.6
CTCR	**Cotoan**	**0.80**	**16**⇑	*e*P	Pg	10 51 17.3	+0.4
CTCR				*e*S	Sg	10 51 29.7	+2.5
CNI	**Changuinola**	**1.36**	**20**⇓	*e*P	Pg	10 51 26.6	-1.1
CNI				*e*S	Sg	10 51 49.1	+3.7
BUS	**Buena Vista**	**1.61**	**332**	*e*P	Pn	10 51 31.0	-0.3
BUS				*e*S	Sn	10 51 55.2	+2.4
LCR2	**La Lucha 2**	**1.90**	**328**⇓	*e*P	Pn	10 51 35.8	+0.6
LCR2				*e*S	Sn	10 52 01.9	+2.2
PRS1	**Puriscal**	**2.26**	**325**⇓	*e*P	Pn	10 51 40.0	-0.3
CGA2	**Cerro Gallo 2**	**2.38**	**322**	*e*P	Pn	10 51 43.0	+1.1
CGA2				*e*S	Sn	10 52 13.1	+1.4
AZU	**Azuero**	**2.71**	**97**	*e*P	Pn	10 51 47.0	+0.7

*PRU **06** 10:56:47.3,5028N×1883E,h0km*

WAR 06 10:56:47.0,5025N×1896E,ML2.5,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**92**	*e*Pg	Pg	10 56 57.1	-0.3
OJC				*e*Sg	Sg	10 57 05.2	+0.8
OKC	**Ostrava-Krasne** 25nm,0.8s	**0.66**	**232**	*e*PG	Pg	10 56 59.4	-0.3
OKC				*e*SG	Sg	10 57 08.9	+0.6
NIE	**Niedzica**	**1.21**	**133**	*e*Pg	Pg	10 57 10.7	+0.5
NIE				*e*Sg	Sg	10 57 28.2	+2.4
DPC	**Dobruska-Polom** 16nm,0.5s	**1.69**	**275**	*e*PG	Pg	10 57 16.3	-3.1
DPC				*e*SG	Sg	10 57 38.8	-2.6
STHS	**Stebnicka Huta**	**1.70**	**118**	*e*PN	Pn	10 57 19.0	+1.1
STHS				*e*SN	Sn	10 57 44.3	+4.0
KOLL	**Kolacno**	**1.71**	**192**	*e*PN	Pn	10 57 18.8	+0.8
KOLL				*e*SN	Sn	10 57 42.8	+2.3
VYHS	**Vyhne**	**1.75**	**183**	*e*PN	Pn	10 57 17.1	-1.6
VYHS				*e*SN	Sn	10 57 40.0	-1.7
KSP	**Ksiaz**	**1.80**	**290**	*e*Pg	Pg	10 57 19.5	-2.0
KSP				*e*Sg	Sg	10 57 42.3	-2.6
UPC	**Upice**	**1.90**	**279**	*e*SG	Sg	10 57 47.0	-1.1
KECS	**Kecovo**	**2.03**	**150**	*e*PN	Pn	10 57 24.7	+2.3
KECS				*e*SN	Sn	10 57 49.3	+0.8
PRU	**Pruhonice** 4.0nm,0.5s	**2.85**	**267**	*e*SG	Sg	10 58 15.0	-3.7
KHC	**Kasperske Hory** 5.0nm,0.6s	**3.67**	**254**	*ex*	Sn	10 58 29.0	+0.2
KHC				*e*SG	Sg	10 58 41.7	-3.1

*NEIC **06** 11:49:48.6, 1796N×6874W, h187km, MD3.6(RSPR), After RSPR.*

RSPR 06 11:49:48.6,1796N×6874W,h187km±4km,MD3.6/5, MD3.6/5,5C,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.55**	**88**⇑	*e*P	Pn	11 50 21.4	-0.2
CRPR				*e*S	Sn	11 50 47.6	+0.4
MGP	**Maguayo**	**1.57**	**88**	*e*S	Sn	11 50 47.2	-0.3
LSP	**Las Mesas**	**1.59**	**82**⇑	*e*P	Pn	11 50 22.6	+0.7
LSP				*e*S	Sn	11 50 48.0	+0.2
AGPR	**Aguadilla, PR**	**1.63**	**72**⇑	*e*P	Pn	11 50 22.2	-0.1
AGPR				*e*S	Sn	11 50 49.4	+0.9
LRS	**Lares**	**1.83**	**79**⇑	*e*P	Pn	11 50 24.3	0.0
LRS				*e*S	Sn	11 50 53.1	+1.0
OBIP	**Obispado Ponce**	**2.03**	**87**	*e*S	Sn	11 50 57.5	+1.6
CELP	**Cerrillos**	**2.06**	**86**⇑	*e*P	Pn	11 50 27.9	+1.2
CELP				*e*S	Sn	11 50 57.6	+1.2
STVI	**Saint Thomas**	**3.61**	**83**	*e*S	Sn	11 51 30.9	+1.7
TBVI	**Tortola**	**3.95**	**83**	*e*S	Sn	11 51 38.2	+1.4

*PGC **06** 11:53:17.7, 6293N×14393W, h1km, ML2.7/3, 237km northeast of Valdez, Ak Eastern Alaska.*
*ISCJB **06** 11:53:18.2±0.5, 6275N±005×14329W±007, h1km, Error ellipse: s-maj=7.2km s-min=4.1km az=28.3*
*NEIC **06** 11:53:19.7, 6285N×14384W, h2km, ML2.2(AEIC), ML2.7(PGC), After AEIC.*

ISC 06 11:53:19.9±0.5,6278N±005×14338W±007,h1km,n9, σ1$34/17,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.21**	**52**	Pn	**Pn**	**11 53 56.8**	**-1.0**
DAWY				Pg	**Pg**	**11 53 59.9**	**-2.4**
DAWY				Sg	**Sg**	**11 54 30.1**	**-0.9**
DAWY	comp=Z,24nm,0.1s			Trac		11 54 32.6	
SML	**Sawmill**	**2.51**	**249**	*e*Pn	**Pn**	**11 53 59.9**	**-1.9**
SML				*e*Sn	**Sn**	**11 54 31.2**	**-1.9**
MCK	**McKinley**	**2.69**	**293**	*e*Pn	**Pn**	**11 54 05.4**	**+1.1**
MCK				*e*Sn	**Sn**	**11 54 38.5**	**+1.0**
COLA	**College**	**2.89**	**319**	*e*Pn	**Pn**	**11 54 08.7**	**+1.6**
COLA				*e*Sn	**Sn**	**11 54 43.4**	**+0.9**
HYT	**Haines Junctio**	**3.41**	**122**	Pn	**Pn**	**11 54 14.8**	**+0.7**
HYT				Pg	**Pg**	**11 54 23.8**	**-1.5**
HYT				Sg	**Sg**	**11 55 14.6**	**+5.2**
HYT	comp=Z,5.0nm,0.3s			Trac		11 55 19.3	
SLKM	**Skilak Lake**	**3.98**	**238**	*e*Pn	**Pn**	**11 54 16.6**	**-5.4**
WHY	**Whitehorse**	**4.56**	**114**	Pn	**Pn**	**11 54 31.4**	**+1.4**
WHY				Sn	**Sn**	**11 55 24.9**	**+1.2**
WHY				Sg	**Sg**	**11 55 47.9**	**+1.3**
WHY	comp=Z,5.0nm,0.5s			Trac		11 55 51.7	
DLBC	**Dease Lake** comp=Z,2.0nm,0.6s	**7.87**	**118**	Trac		11 57 54.7	
FNBB	**Fort Nelson**	**10.66**	**102**	Pn	**Pn**	**11 55 53.2**	**-0.5**
FNBB				Trac		11 59 10.7	
	comp=Z,1.0nm,0.4s						

*NEIC **06** 12:10:13.8, 15.19N×9455W, h10km, MD4.4(MEX), After MEX.*

MEX 06 12:10:14.3±0.6,1519N×9454W,h13km±9km,MD4.4,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.61**	**291**	*i*P	Pn	12 10 39.1	-3.4
HUIG				*i*S	Sn	12 10 58.1	-5.0
CMIG	**Matias Romero**	**1.92**	**350**	*i*P	Pn	12 10 43.3	-3.3
CMIG				*i*S	Sn	12 11 06.0	-4.6
SCX	**San Cristobal**	**2.39**	**50**	*e*P	Pn	12 10 51.0	-2.2
SCX				*i*S	Sn	12 11 21.5	-0.9
CCIG	**Comitan**	**2.56**	**65**	*i*P	Pn	12 10 52.3	-3.1
CCIG				*i*S	Sn	12 11 23.2	-3.2
VHO	**Vista Hermosa**	**2.81**	**312**	*i*P	Pn	12 10 56.9	-2.0
VHO				*i*S	Sn	12 11 29.7	-3.0
TUIG	**Tuzandepetl**	**2.83**	**2**	*i*P	Pn	12 10 53.5	-5.6
TUIG				*i*S	Sn	12 11 29.1	-4.0
TUIG	**Tuzandepetl**	**2.83**	**2**	*i*P	Pn	12 10 55.0	-4.1
TUIG				*i*S	Sn	12 11 31.2	-1.9
PPM	**Popocatepetl**	**5.49**	**315**	*e*P	Pn	12 11 39.0	+3.3
PPM	**Popocatepetl**	**5.49**	**315**	*e*P	Pn	12 11 49.0	+13
TEIG	**Tepich** 12nm,0.5s	**7.79**	**49**	*e*Pn	Pn	12 12 04.7	-2.7

*NEIC **06** 12:24:16.1, 1906N×6792W, h25km, MD2.8(RSPR), After RSPR.*

RSPR 06 12:24:16.1,1906N×6792W,h25km±38km,MD2.8/8, MD2.8/8,7C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.97**	**127**⇑	*e*P	Pn	12 24 30.9	-3.1
AGPR				*e*S	Sb	12 24 43.7	-2.8
LSP	**Las Mesas**	**1.18**	**138**⇑	*e*P	Pn	12 24 34.4	-2.6
LSP				*e*S	Sn	12 24 49.8	-2.5
LRS	**Lares**	**1.27**	**127**⇑	*e*P	Pn	12 24 35.4	-2.8
LRS				*e*S	Sn	12 24 51.3	-3.2
CRPR	**Cabo Rojo, PR**	**1.30**	**144**⇑	*e*P	Pn	12 24 36.5	-2.1
CRPR				*e*S	Sn	12 24 52.7	-2.5
MGP	**Maguayo**	**1.31**	**143**⇑	*e*P	Pn	12 24 37.1	-1.6
MGP				*e*S	Sn	12 24 53.1	-2.3
CELP	**Cerrillos**	**1.60**	**127**⇑	*e*P	Pn	12 24 41.2	-1.6
CELP				*e*S	Sn	12 24 60.0	-2.7
OBIP	**Obispado Ponce**	**1.60**	**129**⇓	*e*P	Pn	12 24 41.7	-1.1
OBIP				*e*S	Sn	12 25 00.0	-2.6
HUMP	**Col San Antoni**	**2.17**	**115**⇑	*e*P	Pn	12 24 49.4	-1.1
HUMP				*e*S	Sn	12 25 14.8	-1.7

*NNC **06** 12:27:38.8±2.9, 3646N×6951E, h0km, mb3.8, mpv4.3, Error ellipse: s-maj=26.8km s-min=20.0km az=153.0*
*MOS **06** 12:27:40.5±0.8, 3621N×7025E, h60km, mb4.5/1, Error ellipse: s-maj=14.6km s-min=8.0km az=89.6*
*ISCJB **06** 12:27:40.4±0.7, 36.16N±003×70.17E±007, h63km±9km, mb3.9/9, Error ellipse: s-maj=9.3km s-min=4.3km az=159.6*
*IDC **06** 12:27:41.6±8.2, 36.16N×7027E, h56km±75km, mb3.6/8, mb1 3.8/10, mb1mx3.6/22, mbtmp3.9/10, ML3.7/2, MS3.4/4, Ms1 3.5/4, ms1mx2.9/29, Error ellipse: s-maj=43.2km s-min=19.8km az=16.0*
*NEIC **06** 12:27:41.0±1.4, 36.19N×7027E, h48km±15km, mb4.0/5, Error ellipse: s-maj=14.7km s-min=5.4km az=58.0*
*BJI **06** 12:27:42.4, 3659N×7012E, h44km, mB4.9, mb4.5, ML3.8*

ISC 06 12:27:42.4±0.6,3619N±003×7015E±008,h69km±8km,n68, σ1$23/74,mb3.8/9,8C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.76**	**148**	P	**Pn**	**12 28 27.1**	**+2.8**
CHCP	**Chirah Chowk**	**3.59**	**134**	P	**Pn**	**12 28 38.2**	**+2.6**
CHCP				S	**Sn**	**12 29 26.0**	**+9.2**
THW	**Thamme Wali**	**3.63**	**158**	P	**Pn**	**12 28 36.5**	**+0.4**
SBDP	**Sheikh Budin**	**3.92**	**172**	⇓P	**Pn**	**12 28 39.3**	**-0.7**
DRP	**Derazinda**	**4.43**	**179**	P	**Pn**	**12 28 46.7**	**-0.4**
SARP	**Sargodha**	**4.74**	**153**	P	**Pn**	**12 28 51.2**	**-0.1**
DLH	**Dalhousie**	**6.03**	**125**	*e*P	**Pn**	**12 29 12.0**	**+3.1**
DLH				*ex*	x	12 30 52.0	
KK31	**Karatay Array** 10nm,0.5s,baz=188,slow=13,SNR=142	**6.91**	**2**	⇑P	**Pn**	**12 29 19.2**	**-1.8**
KK31	20nm,0.8s,baz=189,slow=26,SNR=3.6			⇑S	**Sn**	**12 30 36.7**	**-1.5**
UCH	**Uchtor** SNR=32	**6.92**	**28**	P	**Pn**	**12 29 21.8**	**+0.8**
EKS2	**Erkin-Say** SNR=6.5	**7.05**	**22**	P	**Pn**	**12 29 23.5**	**+0.7**
KZA	**Kyzart** SNR=14	**7.09**	**32**	P	**Pn**	**12 29 24.4**	**+1.0**
AAK	**Ala-Archa** SNR=15	**7.26**	**26**	P	**Pn**	**12 29 26.6**	**+0.9**
AAK	**Ala-Archa**	**7.26**	**26**	*e*P	**Pn**	**12 29 24.8**	**-0.9**
AAK				*e*		12 30 51.5	
AAK	comp=Z,23nm,0.6s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,23nm,0.6s	**7.26**	**26**	*e*Pn	**Pn**	**12 29 24.8**	**-1.0**
AAK				*e*Sn	**Sn**	**12 30 51.5**	**+4.8**
SDNR	**Sundarnagar**	**7.35**	**128**	*e*P	**Pn**	**12 29 28.6**	**+1.7**
SDNR				*ex*	x	12 30 54.4	
KBK	**Karagaybulak** SNR=7.5	**7.45**	**28**	P	**Pn**	**12 29 29.7**	**+1.4**
FRU	**Bishkek**	**7.48**	**26**	*e*P	**Pn**	**12 29 29.5**	**+0.8**
FRU				*e*S	**Sn**	**12 30 56.5**	**+4.5**
FRU	comp=Z,37nm,1.4s			pmax	pmax		
FRU	comp=E,100μm,1.2s			smax			
CHMS	**Chumysh** SNR=11	**7.67**	**26**	P	**Pn**	**12 29 31.9**	**+0.5**
SMLA	**Simla**	**7.72**	**129**	*i*P	**Pn**	**12 29 32.7**	**+0.6**
SMLA				*i*x	x	12 31 00.8	
USP	comp=E,300nm,0.3s **Ospenovka** SNR=8.5	**7.82**	**24**	P	**Pn**	**12 29 33.1**	**-0.3**
TKM2	**Tokmak 2** SNR=21	**7.93**	**30**	P	**Pn**	**12 29 35.5**	**+0.6**
TKM2	**Tokmak 2**	**7.93**	**30**	⇑P	**Pn**	**12 29 35.5**	**+0.6**
TKM2				⇑S	**Sn**	**12 31 07.3**	**+4.3**
KLP	**Kalpa**	**8.18**	**122**	*e*P	**Pn**	**12 29 39.2**	**+1.0**
KLP				*e*S	**Sn**	**12 31 06.9**	**-2.2**
KLP				AML	AML	12 32 04.2	
KLP	comp=E,189nm,0.5s			AML	AML	12 32 07.0	
KHET	**Khetri**	**9.40**	**148**⇓	*e*P	**Pn**	**12 29 53.6**	**-1.3**
KHET				*e*S	**Sn**	**12 31 33.8**	**-5.2**
NDI	**New Delhi**	**9.57**	**139**	*e*P	**Pn**	**12 29 56.5**	**-0.8**
NDI				*ex*	x	12 31 43.0	
KUDL	**Kundal**	**9.65**	**144**	*e*P	**Pn**	**12 29 57.4**	**-1.0**
KUDL				*e*S	**Sn**	**12 31 38.8**	**-6.3**
KUDL				AML	AML	12 33 02.2	
KUDL	comp=N,9.6nm,0.3s			AML	AML	12 33 02.7	
JOSI	**Joshimath**	**9.66**	**123**	*ex*	x	12 27 22.4	
JOSI				*ex*	x	12 29 16.6	
JOSI				AML	AML	12 30 01.1	
JOSI	comp=E,107nm,0.2s			AML	AML	12 30 07.1	
SONA	comp=N,111nm,1.0s **Sohna**	**9.85**	**142**	*e*P	**Pn**	**12 30 01.1**	**0.0**
SONA				*e*S	**Sn**	**12 31 44.4**	**-5.6**
SONA				AML	AML	12 32 55.5	
SONA	comp=E,38nm,0.7s			AML	AML	12 32 57.1	
MKAR	comp=N,40nm,0.2s **Makanchi Array** comp=N,0.2nm,0.3s,baz=221,slow=13,SNR=4.0	**13.95**	**37**	P	**Pn**	**12 30 56.0**	**-0.7**
KOLN	**Koldanda** comp=N,10nm,0.4s	**14.15**	**123**	*e*P	**Pn**	**12 30 57.0**	**-2.4**
GKN	**Gorkha** comp=N,34nm,0.5s	**14.73**	**120**	*e*P	**Pn**	**12 31 04.0**	**-2.9**
AB31	**Akbulak array** comp=N,1.6nm,0.3s,baz=159,slow=13,SNR=66	**15.04**	**333**	⇑P	**Pn**	**12 31 04.5**	**-6.4**
DMN	**Daman**	**15.30**	**120**	*e*P	**Pn**	**12 31 12.6**	**-1.6**
KKN	**Kakani** comp=N,17nm,0.5s	**15.31**	**119**	*e*P	**Pn**	**12 31 13.4**	**-0.9**
KKN	**Kakani**	**15.31**	**119**	*e*P	**Pn**	**12 31 13.4**	**-0.9**
KKN	comp=Z,17nm,0.5s			pmax	pmax		
PKI	**Pulchoki**	**15.53**	**119**	*e*P	**Pn**	**12 31 15.9**	**-1.3**
GUN	**Gumba**	**15.67**	**117**	*e*P	**Pn**	**12 31 18.8**	**-0.1**
KURK	**Kurchatov**	**15.75**	**20**	*e*P	**Pn**	**12 31 19.4**	**-0.6**
KURK	comp=Z,7.0nm,1.0s			pmax	pmax		
KURK	**Kurchatov** comp=Z,7.4nm,1.0s	**15.75**	**20**	*e*P	**Pn**	**12 31 19.4**	**-0.6**
JIRN	**Jiri** comp=Z,24nm,0.5s	**16.04**	**117**	*e*P	**Pn**	**12 31 23.9**	**+0.4**
VOSK	**Vostochnaya**	**16.54**	**2**	⇓P	**Pn**	**12 31 29.0**	**-0.9**
AKTK	**Aktyubinsk**	**16.72**	**332**	P	**Pn**	**12 31 31.2**	**-0.9**
AKTK				S	**S**	**12 34 25.3**	**-19**
AKTO	**Aktyubinsk** comp=Z,0.5nm,0.3s,baz=134,slow=13,SNR=12	**16.72**	**332**	P	**Pn**	**12 31 31.2**	**-0.9**
AKTO				S	**S**	**12 34 25.3**	**-19**
	comp=Z,0.1nm,0.3s,baz=175,slow=22,SNR=3.7						
ZRNK	**Zerenda**	**16.78**	**358**	⇑P	**Pn**	**12 31 32.2**	**-0.7**
ZRNK	**Zerenda**	**16.78**	**358**	*e*P	**Pn**	**12 31 32.3**	**-0.5**
ZRNK				pmax	pmax		
ZRNK	comp=Z,4.0nm,0.6s **Zerenda** comp=Z,3.8nm,0.6s	**16.78**	**358**	*e*P	**Pn**	**12 31 32.3**	**-0.5**
BVA0	**Borovoye Array** comp=Z,0.1nm,0.8s,baz=174,slow=13,SNR=15	**16.84**	**0**	⇑P	**Pn**	**12 31 33.3**	**-0.2**
BRVK	**Borovoye**	**16.87**	**0**	*e*P	**Pn**	**12 31 32.9**	**-1.0**
CHKZ	**Chkalovo**	**17.49**	**1**	⇑P	**Pn**	**12 31 40.6**	**-1.0**
CHKZ	**Chkalovo**	**17.49**	**1**	*e*P	**Pn**	**12 31 40.7**	**-0.9**
CHKZ				pmax	pmax		
CHKZ	comp=Z,5.0nm,0.7s **Chkalovo** comp=Z,4.7nm,0.7s	**17.49**	**1**	*e*P	**Pn**	**12 31 40.7**	**-0.9**
ZAL	**Zalesovo** comp=Z,8.7nm,0.4s,baz=253,slow=7.5,SNR=16	**20.47**	**25**	P	**P**	**12 32 14.7**	**+0.3**
NVS	**Novosibirsk**	**20.72**	**22**	*e*P	**P**	**12 32 17.5**	**+0.4**
GTA	**Gaotai**	**23.61**	**73**	*e*P	**P**	**12 32 50.7**	**+3.7**
GTA				AMB	AMB		
MALT	comp=Z,10.0nm,0.8s,mb4.2 **Malatya**	**25.28**	**284**	*e*P	**P**	**12 33 04.4**	**+2.2**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.7s,mb3.4,baz=101,slow=10,SNR=5.9	**28.88**	**288**	P	**P**	**12 33 37.2**	**+2.7**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.4s,mb3.8,baz=88,slow=7.0,SNR=4.6	**32.61**	**309**	P	**P**	**12 34 09.1**	**+1.7**
FINES	**FINESS Array B** comp=Z,35nm,18.2s,baz=221,slow=38	**37.37**	**327**	LR	LR	12 51 25.3	
ARCES	**ARCESS Array B** comp=Z,2.1nm,0.8s,mb4.0,baz=113,slow=8.0,SNR=7.6	**41.17**	**338**	P	**P**	**12 35 19.3**	**-0.7**
HFS	**Hagfors** comp=Z,37nm,18.7s,baz=319,slow=41	**42.89**	**322**	LR	LR	12 56 44.5	
NOA	**NORSAR Array B** comp=Z,1.1nm,0.6s,mb3.8,baz=99,slow=7.9,SNR=4.4	**44.22**	**323**	P	**P**	**12 35 46.2**	**+1.6**
NOA				LR	LR	12 56 05.5	
NOA	comp=Z,23nm,18.1s,baz=250,slow=38 **NORSAR Array B**	**44.22**	**323**	P	**P**	**12 35 46.2**	**+1.6**
NOA				LR	LR	12 56 05.5	
TIXI	**Tiksi**	**46.32**	**22**	*e*P	**P**	**12 36 01.5**	**+0.2**
TIXI				pmax	pmax		
TORD	comp=Z,3.0nm,0.7s,mb4.1 **Torodi Ar. Bea** comp=Z,1.0nm,0.6s,mb3.8,baz=42,slow=5.5,SNR=8.2	**65.03**	**268**	P	**P**	**12 38 15.8**	**+0.6**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.5s,mb3.6,baz=323,slow=5.0,SNR=15	**82.41**	**121**	P	**P**	**12 39 57.5**	**+0.5**
ASAR	**Alice Springs** comp=Z,0.5nm,0.6s,mb3.6,baz=309,slow=4.9,SNR=19	**84.64**	**124**	P	**P**	**12 40 08.9**	**+0.6**
CTA	**Charters Tower** comp=Z,87nm,21.4s,baz=46,slow=36	**91.03**	**114**	LR	LR	13 21 56.3	
ELN	**Prospectdale**	**102.13**	**337**	*e*Pdif	Pdif	12 41 30.3	+0.9

*IDC **06** 12:42:50.3±6.3, 3051N×13735E, h298km±112km, mb2.9/3, mb1 3.0/4, mb1mx2.8/20, mbtmp3.4/4, Error ellipse: s-maj=153.0km s-min=23.4km az=63.0*
*ISCJB **06** 12:42:53.4±0.8, 312N±0.1×1388E±0.1, h415km±12km, mb2.9/3, Error ellipse: s-maj=20.1km s-min=16.7km az=74.4*
*JMA **06** 12:42:54.9±0.3, 3131N×13873E, h407km, M3.4*
*NEIC **06** 12:42:55.0, 3131N×13873E, h407km, MG3.3(JMA), After JMA.*

ISC 06 12:42:54.7±0.8,313N±01×1389E±01,h408km±12km,n16, σ1$29/23,mb2.9/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.00**	**24**	P	**Pn**	**12 43 52.7**	**+1.4**
JWZ	**Kozaga**	**3.48**	**311**	P	**Pn**	**12 44 01.5**	**-1.0**
JIE	**Ise**	**3.59**	**330**	P	**Pn**	**12 44 04.3**	**+0.8**
BSO3	**Boso 3**	**3.78**	**21**	P	**Pn**	**12 44 05.2**	**+0.1**
BSO3				*e*S	**S**	**12 45 02.1**	**-0.2**
BSO1	**Boso 1**	**3.81**	**27**	P	**Pn**	**12 44 05.8**	**+0.4**
BSO1				*e*S	**S**	**12 45 02.9**	**+0.1**
JHU	**Hanno**	**4.57**	**4**	P	**Pn**	**12 44 13.0**	**+0.3**
JHU				S	**S**	**12 45 13.1**	**-3.1**
JRY	**Ryogami san**	**4.72**	**0**	P	**Pn**	**12 44 15.8**	**+1.6**
JYT	**Yasato**	**5.06**	**12**	P	**Pn**	**12 44 17.6**	**0.0**
JYT				S	**S**	**12 45 22.1**	**-3.0**
JAG	**Ashikaga**	**5.16**	**5**	P	**Pn**	**12 44 18.9**	**+0.3**
JAG				S	**S**	**12 45 24.1**	**-2.9**
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=192,slow=5.6,SNR=5.1	**5.28**	**354**	P	**Pn**	**12 44 22.0**	**+2.2**
MJAR	0.4nm,0.3s,baz=192,slow=26,SNR=4.0			S	**S**	**12 45 30.8**	**+1.6**
MAJO	**Matsushiro**	**5.28**	**354**	*e*Pn	**Pn**	**12 44 20.9**	**+1.0**
JTO	**Tosashimizu**	**5.37**	**289**	P	**Pn**	**12 44 18.7**	**-2.2**
JHO	**Hitachi**	**5.50**	**15**	P	**Pn**	**12 44 22.7**	**+0.4**
JHO				S	**S**	**12 45 31.4**	**-2.2**
MKAR	**Makanchi Array** 0.5nm,0.4s,mb3.2,baz=94,slow=10,SNR=5.5	**45.61**	**307**	P	**P**	**12 50 37.0**	**+0.7**
WRA	**Warramunga Arr** 0.5nm,0.5s,mb3.0,baz=1.0,slow=7.7,SNR=10.0	**51.11**	**185**	P	**P**	**12 51 16.6**	**-1.1**
ASAR	**Alice Springs** 0.2nm,0.7s,mb2.5,baz=9.0,slow=7.7,SNR=6.9	**54.84**	**186**	P	**P**	**12 51 43.9**	**-0.7**

IDC 06 12:45:09.5±1.2,2416S×6686W,h194km±21km,mb3.4/1, mb1 3.4/5,mb1mx3.2/17,mbtmp3.8/5,Error ellipse: s-maj=31.0km s-min=14.0km az=89.0,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 13nm,0.3s,baz=128,slow=6.8,SNR=117	**2.43**	**309**	P	Pn	12 45 54.0	+1.9
LVC	7.0nm,0.3s,baz=72,slow=24,SNR=24			S	Sn	12 46 26.3	+0.8
CFAA	**Coronel Fontan** 0.2nm,0.3s,baz=6.0,slow=12,SNR=12	**7.52**	**189**	P	Pn	12 46 57.4	+1.1
CFAA	0.4nm,0.3s,baz=272,slow=19,SNR=8.9			S	Sn	12 48 19.0	-2.2
LPAZ	**La Paz** 0.6nm,0.3s,baz=161,slow=7.1,SNR=13	**7.92**	**351**	P	Pn	12 47 02.5	+0.9
LPAZ	0.1nm,0.3s,baz=108,slow=19,SNR=3.0			S	Sn	12 48 29.3	-1.4
BDFB	**Brasilia** 0.6nm,0.3s,baz=243,slow=10,SNR=11	**19.63**	**68**	P		12 49 24.1	+0.9
TORD	**Torodi Ar. Bea** 0.5nm,0.4s,baz=257,slow=5.6,SNR=12	**76.51**	**69**	P	P	12 56 38.3	+0.3
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=163,slow=1.6,SNR=5.1	**131.54**	**207**	PKP	PKPdf	13 03 60.0	+1.1

*NEIC **06** 13:11:41.0±1.1, 571S×14669E, h10km, mb4.2/1, Error ellipse: s-maj=20.9km s-min=15.8km az=129.0*
*ISCJB **06** 13:11:42.2±7.1, 58S±0.1×1468E±02, h29km±54km, mb3.9/3, Error ellipse: s-maj=26.7km s-min=17.6km az=150.7*
*IDC **06** 13:11:44.8±5.0, 620S×14649

σ1°06/18, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.54**	**216**	*e*PG	**Pg**	**13 27 38.7**	**+0.2**
OKC				*e*SG	**Sg**	**13 27 46.1**	**+0.7**
	29nm,0.5s						
OJC	**Ojcow**	**0.75**	**93**	*e*Pg	**Pg**	**13 27 41.5**	**-1.1**
OJC				*e*Sg	**Sg**	**13 27 51.5**	**-0.8**
NIE	**Niedzica**	**1.38**	**127**	*e*Pg	**Pg**	**13 27 54.0**	**-0.7**
NIE				*e*Sg	**Sg**	**13 28 11.7**	**-0.9**
DPC	**Dobruska-Polom**	**1.48**	**274**	*e*PG	**Pg**	**13 27 56.0**	**-0.7**
DPC				*e*SG	**Sg**	**13 28 16.5**	**+0.6**
	17nm,0.8s						
KSP	**Ksiaz**	**1.60**	**292**	*e*Pg	**Pg**	**13 27 59.2**	**+0.3**
KSP				*e*Sg	**Sg**	**13 28 20.8**	**+1.2**
UPC	**Upice**	**1.69**	**279**	*e*SG	**Sg**	**13 28 22.4**	**-0.3**
VYHS	**Vyhne**	**1.78**	**176**	*e*PN	**Pn**	**13 27 59.3**	**-1.0**
STHS	**Stebnicka Huta**	**1.89**	**116**	*e*PN	**Pn**	**13 28 02.4**	**+0.6**
STHS				*e*SN	**Sn**	**13 28 29.0**	**+2.7**
KECS	**Kecovo**	**2.16**	**145**	*e*PN	**Pn**	**13 28 08.1**	**+2.7**
KECS				*e*SN	**Sn**	**13 28 33.3**	**+0.4**
PRU	**Pruhonice**	**2.65**	**265**	*e*SG	**Sg**	**13 28 52.8**	**-0.5**
	3.9nm,0.5s						
KHC	**Kasperske Hory**	**3.48**	**253**	*e*SG	**Sg**	**13 29 18.2**	**-1.7**
	4.5nm,0.5s						

*NEIC **06** 13:27:36.2, 3861S×17738E, h62km, ML3.9(WEL), After WEL.*
WEL 06 13:27:35.9±0.2, 3860S×17739E, h66km±1km, ML3.8/10, 1D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.28**	**22**	⇓PN	Pn	13 27 46.4	-0.1
MWZ				S	Sn	13 27 54.0	-0.2
MWZ	**Matawai**	**0.28**	**22**	P	Pn	13 27 46.4	-0.1
MWZ				S	Sn	13 27 53.8	-0.4
URZ	**Urewera**	**0.40**	**326**	PN	Pn	13 27 47.2	-0.3
URZ				SN	Sn	13 27 55.4	-0.4
URZ	**Urewera**	**0.40**	**326**	P	Pn	13 27 47.2	-0.2
KNZ	**Kokohu**	**0.48**	**153**	PN	Pn	13 27 47.9	-0.2
KNZ				SN	Sn	13 27 56.9	-0.1
KNZ	**Kokohu**	**0.48**	**153**	P	Pn	13 27 47.9	-0.2
EDRZ	**Edgecumbe**	**0.71**	**313**	PN	Pn	13 27 50.6	0.0
EDRZ	**Edgecumbe**	**0.71**	**313**	P	Pn	13 27 50.6	0.0
TAZ	**Tarawera**	**0.79**	**297**	PN	Pn	13 27 51.8	+0.3
TAZ	**Tarawera**	**0.79**	**297**	P	Pn	13 27 51.8	+0.3
MARZ	**Manawahe**	**0.83**	**317**	PN	Pn	13 27 51.9	-0.1
MARZ	**Manawahe**	**0.83**	**317**	P	Pn	13 27 51.9	-0.2
PUZ	**Puketiti**	**0.86**	**53**	PN	Pn	13 27 52.5	+0.1
PUZ				SN	Sn	13 28 04.9	+0.4
PUZ	**Puketiti**	**0.86**	**53**	P	Pn	13 27 52.5	+0.1
MKRZ	**Makatiti**	**0.86**	**302**	PN	Pn	13 27 52.7	+0.3
MKRZ	**Makatiti**	**0.86**	**302**	P	Pn	13 27 52.7	+0.3
BKZ	**Black Stump Fm**	**0.91**	**231**	PN	Pn	13 27 53.0	0.0
BKZ				SN	Sn	13 28 06.0	+0.3
BKZ	**Black Stump Fm**	**0.91**	**231**	P	Pn	13 27 53.0	0.0
PATZ	**Paeroa**	**0.92**	**283**	PN	Pn	13 27 53.1	-0.1
PATZ	**Paeroa**	**0.92**	**283**	P	Pn	13 27 53.1	0.0
LIRZ	**Lichensteins R**	**0.99**	**306**	PN	Pn	13 27 53.9	-0.1
LIRZ	**Lichensteins R**	**0.99**	**306**	P	Pn	13 27 53.2	-0.9
HATZ	**Hinemaiaia**	**1.06**	**253**	PN	Pn	13 27 54.5	-0.4
HATZ				SN	Sn	13 28 07.8	-1.3
HATZ	**Hinemaiaia**	**1.06**	**253**	P	Pn	13 27 54.5	-0.4
HATZ				S	Sn	13 28 07.8	-1.3
WIZ	**White Island**	**1.08**	**351**	PN	Pn	13 27 54.5	-0.7
WIZ	**White Island**	**1.08**	**351**	P	Pn	13 27 54.5	-0.7
WHTZ	**Whakaora**	**1.13**	**266**	PN	Pn	13 27 56.5	+0.7
TGRZ	**Tauranga**	**1.24**	**314**	PN	Pn	13 27 56.8	-0.6
TGRZ	**Tauranga**	**1.24**	**314**	P	Pn	13 27 56.8	-0.5
MXZ	**Matakaoa Point**	**1.26**	**35**	PN	Pn	13 27 57.9	+0.4
MXZ	**Matakaoa Point**	**1.26**	**35**	P	Pn	13 27 57.9	+0.4
RITZ	**Rihia Road**	**1.26**	**252**	PN	Pn	13 27 57.5	-0.1
RITZ	**Rihia Road**	**1.26**	**252**	P	Pn	13 27 57.5	0.0
RITZ				S	Sn	13 28 12.8	-0.9
RATZ	**Rangitukua**	**1.30**	**257**	PN	Pn	13 27 58.0	-0.1
RATZ	**Rangitukua**	**1.30**	**257**	P	Pn	13 27 58.0	0.0
WATZ	**Wairara**	**1.30**	**265**	PN	Pn	13 27 58.2	+0.1
KATZ	**Kakaramea**	**1.38**	**254**	PN	Pn	13 27 59.0	-0.1
KATZ	**Kakaramea**	**1.38**	**254**	P	Pn	13 27 59.0	-0.1
KRVZ	**Karewarewa**	**1.46**	**249**	PN	Pn	13 27 59.9	-0.3
OTVZ	**Oturere**	**1.46**	**247**	PN	Pn	13 28 00.1	-0.2
PXZ	**Pawanui**	**1.49**	**196**	PN	Pn	13 27 59.0	-1.6
WTVZ	**West Tongariro**	**1.50**	**249**	PN	Pn	13 28 00.5	-0.2
WTVZ	**West Tongariro**	**1.50**	**249**	P	Pn	13 28 00.5	-0.2
MOVZ	**Moawhango**	**1.51**	**237**	PN	Pn	13 28 00.3	-0.6
MOVZ	**Moawhango**	**1.51**	**237**	P	Pn	13 28 00.3	-0.6
NGZ	**Ngauruhoe**	**1.51**	**247**	PN	Pn	13 28 00.7	-0.2
NGZ	**Ngauruhoe**	**1.51**	**247**	P	Pn	13 28 00.7	-0.2
WPVZ	**Whakapapa**	**1.56**	**247**	PN	Pn	13 28 01.4	-0.2
WPVZ	**Whakapapa**	**1.56**	**247**	P	Pn	13 28 01.4	-0.2
WNVZ	**Wahianoa**	**1.58**	**242**	PN	Pn	13 28 01.5	-0.3
WNVZ	**Wahianoa**	**1.58**	**242**	P	Pn	13 28 01.5	-0.3
DRZ	**Dome Shelter**	**1.58**	**244**	PN	Pn	13 28 01.8	0.0
DRZ	**Dome Shelter**	**1.58**	**244**	P	Pn	13 28 01.7	-0.1
FWVZ	**Far West T-bar**	**1.58**	**245**	PN	Pn	13 28 01.5	-0.3
FWVZ	**Far West T-bar**	**1.58**	**245**	P	Pn	13 28 01.5	-0.3
TWVZ	**Taurewa**	**1.60**	**252**	PN	Pn	13 28 01.6	-0.4
TWVZ	**Taurewa**	**1.60**	**252**	P	Pn	13 28 01.6	-0.5
TRVZ	**Turoa**	**1.60**	**243**	PN	Pn	13 28 01.8	-0.3
MTVZ	**Mangateitei**	**1.69**	**242**	PN	Pn	13 28 02.9	-0.4
TOZ	**Tahuroa Road**	**1.72**	**300**	PN	Pn	13 28 03.5	-0.2
TOZ	**Tahuroa Road**	**1.72**	**300**	*e*P	Pn	13 28 03.5	-0.2
PKVZ	**Pokaka**	**1.74**	**246**	PN	Pn	13 28 03.6	-0.3
TSZ	**Takapari Road**	**1.84**	**217**	PN	Pn	13 28 03.5	-1.8
TSZ	**Takapari Road**	**1.84**	**217**	P	Pn	13 28 03.5	-1.7
HIZ	**Hauiti**	**1.99**	**272**	PN	Pn	13 28 07.9	+0.5
HIZ	**Hauiti**	**1.99**	**272**	P	Pn	13 28 07.9	+0.6
VRZ	**Vera Road**	**2.12**	**255**	PN	Pn	13 28 09.2	0.0
VRZ	**Vera Road**	**2.12**	**255**	P	Pn	13 28 09.2	+0.1
WAZ	**Wanganui**	**2.20**	**237**	PN	Pn	13 28 10.1	0.0
WAZ	**Wanganui**	**2.20**	**237**	P	Pn	13 28 10.1	-0.1
BFZ	**Birch Farm**	**2.26**	**203**	PN	Pn	13 28 08.5	-2.5
BFZ	**Birch Farm**	**2.26**	**203**	P	Pn	13 28 08.5	-2.5
KUZ	**Kuaotunu**	**2.27**	**324**	PN	Pn	13 28 10.7	-0.5
KUZ	**Kuaotunu**	**2.27**	**324**	*e*P	Pn	13 28 10.7	-0.5
RAEZ	**Rainy Point**	**2.44**	**253**	P	Pn	13 28 14.2	+0.8
MRZ	**Mangatainoka R**	**2.49**	**214**	P	Pn	13 28 11.5	-2.7
NEZ	**North Egmont**	**2.66**	**254**	P	Pn	13 28 17.6	+1.2
PKE	**Pukeiti**	**2.72**	**256**	P	Pn	13 28 18.0	+0.7
NRZ	**Ngariki Road**	**2.80**	**254**	P	Pn	13 28 19.3	+1.0
NWEZ	**Newall Road**	**2.83**	**255**	P	Pn	13 28 20.1	+1.3
MTW	**Mount Morrison**	**2.94**	**209**	P	Pn	13 28 16.8	-3.5
KIW	**Kapiti Island**	**2.96**	**219**	P	Pn	13 28 17.8	-2.8
CAW	**Cannon Point**	**3.08**	**215**	P	Pn	13 28 18.6	-3.6
PAWZ	**Paruwai Farm**	**3.17**	**208**	P	Pn	13 28 19.6	-3.7
MSWZ	**Moikau Station**	**3.26**	**210**	P	Pn	13 28 20.4	-4.2
MRW	**Makara Radio**	**3.35**	**217**	P	Pn	13 28 22.0	-3.8
WEL	**Wellington**	**3.36**	**216**	P	Pn	13 28 22.2	-3.8
SNZO	**South Karori**	**3.41**	**216**	P	Pn	13 28 22.6	-4.0
TCW	**Tory Channel**	**3.55**	**222**	P	Pn	13 28 24.8	-3.7
WCZ	**Waipu Caves**	**3.60**	**317**	*e*P	Pn	13 28 29.9	+0.7
NNZ	**Nelson**	**4.05**	**228**	P	Pn	13 28 31.7	-3.7
BSWZ	**Blackbirch Sta**	**4.12**	**220**	P	Pn	13 28 32.0	-4.3
QRZ	**Quartz Range**	**4.36**	**238**	*e*P	Pn	13 28 36.1	-3.6
THZ	**Tophouse**	**4.67**	**226**	*e*P	Pn	13 28 39.9	-4.0
KHZ	**Kahutara**	**4.82**	**216**	*e*P	Pn	13 28 40.4	-5.5
DSZ	**Denniston Nort**	**5.31**	**232**	*e*P	Pn	13 28 48.1	-4.6
DSZ				S	Sn	13 29 46.5	-6.0
LTZ	**Lake Taylor**	**5.71**	**221**	*e*P	Pn	13 28 53.1	-5.0
LTZ				S	Sn	13 29 53.7	-8.6
CRLZ	**Canterbury Las**	**6.14**	**214**	*e*P	Pn	13 28 58.6	-5.4
MQZ	**McQueen's Vall**	**6.23**	**214**	P	Pn	13 28 59.7	-5.6
MQZ				S	Sn	13 30 04.4	-11
WVZ	**Waitaha Valley**	**6.75**	**226**	*e*P	Pn	13 29 07.1	-5.1
WVZ				S	Sn	13 30 19.1	-8.5
RPZ	**Rata Peaks**	**7.00**	**221**	*e*P	Pn	13 29 10.8	-5.0
FOZ	**Fox Glacier**	**7.65**	**227**	P	Pn	13 29 19.8	-4.8
FOZ				S	Sn	13 30 37.2	-13
LBZ	**Lake Benmore**	**7.92**	**221**	*e*P	Pn	13 29 23.6	-4.7

IDC 06 13:54:31.4±3.0, 2009S×6986W, h86km±23km, mb3.4/2, mb1 3.6/5, mb1mx3.4/18, mbtmp3.8/5, Error ellipse: s-maj=52.8km s-min=22.6km az=98.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.67**	**161**	P	Pn	13 55 11.0	-1.3
	21nm,0.3s,baz=338,slow=9.7,SNR=160						
LVC				S	Sn	13 55 49.4	+5.6
	42nm,0.3s,baz=242,slow=22,SNR=6.6						
LPAZ	**La Paz**	**4.12**	**24**	P	Pn	13 55 33.5	+1.5
	3.0nm,0.3s,baz=200,slow=7.6,SNR=50						
CPUP	**Villa Florida**	**13.09**	**121**	P	Pn	13 57 35.5	+1.6
	0.4nm,0.3s,baz=295,slow=14,SNR=4.8						
PLCA	**Paso Flores**	**20.59**	**181**	P	P	13 59 05.0	+1.6
	0.9nm,0.5s,baz=353,slow=12,SNR=7.1						
TORD	**Torodi Ar. Bea**	**77.73**	**71**	P	P	14 06 19.3	+0.4
	0.7nm,0.4s,baz=257,slow=5.2,SNR=13						
MKAR	**Makanchi Array**	**144.99**	**34**	PKP	PKPdf	14 13 58.4	-0.2
	1.2nm,0.6s,baz=317,slow=3.6,SNR=13						
SONM	**Songino Array**	**152.16**	**5**	PKPbc	PKPbc	14 14 16.5	-0.4
	0.4nm,0.7s,baz=234,slow=1.2,SNR=3.2						

*MOS **06** 13:57:45.8±1.1, 2078S×69.14W, h70km, mb5.1/11, Error ellipse: s-maj=18.1km s-min=8.8km az=116.1*
*ISCJB **06** 13:57:47.9±0.2, 2076S±004×6907W±007, h89km, mb4.6/48, Error ellipse: s-maj=9.4km s-min=4.7km az=128.3*
*NEIC **06** 13:57:49.4±0.2, 2079S×69.12W, mb4.6/33, Error ellipse: s-maj=7.6km s-min=4.0km az=65.0*
*IDC **06** 13:57:49.1±0.4, 2075S×69.15W, h88km±4km, mb4.4/17, mb1 4.5/19, mb1mx4.5/21, mbtmp4.7/19, MS3.8/3, Ms1 3.8/3, ms1mx3.2/18, Error ellipse: s-maj=16.2km s-min=6.2km az=83.0*
*HRVD **06** 13:57:49.3±0.6, 2072S×69.42W, h117km±4km, MW5.0/40, Centroid moment Tensor Solution. LP body waves: s24,c26;Mantle waves: s40,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.23; $M_{\theta\theta}$0.57±.22; $M_{\phi\phi}$2.17±.30; $M_{r\theta}$-0.03±.17; $M_{\theta\phi}$-0.26±.25; $M_{\phi r}$-2.98±.21; Best double couple: $M_0$3.87100×10^{16} NP1:ϕ_s168.00000°, δ20.00000°, λ-100.00000°. NP2: ϕ_s358.00000°, δ70.00000°, λ-86.00000°. Principal axes: T 3.5930, Plg25.0000°, Azm85.0000°; N 0.5530, Plg3.0000°, Azm177.0000°; P -4.1500, Plg65.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **06** 13:57:49.3, 2080S×69.10W, h88km, mb5.3*
ISC 06 13:57:49.8±0.2, 2080S±004×6909W±006, h91km, h91km±.6km: pP-P, n209, σ0°73/191, mb4.6/48, 35C-41D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.81**	**175**	P	**Pn**	**13 58 20.1**	**+0.6**
	541nm,0.3s,baz=347,slow=11,SNR=302						
LVC				S	**Sn**	**13 58 43.6**	**+1.5**
	3μm,0.3s,baz=194,slow=22,SNR=91						
LVC				LR	LR	13 58 49.1	
	comp=Z,502nm,21.8s,baz=312,slow=32						
LVC	**Limon Verde**	**1.81**	**175**	P	**Pn**	**13 58 20.1**	**+0.6**
LVC				S	**Sn**	**13 58 43.6**	**+1.5**
LVC				LR	LR	13 58 49.1	
LPAZ	**La Paz**	**4.58**	**12**	P	**Pn**	**13 59 01.1**	**+4.3**
	8.7nm,0.3s,baz=195,slow=7.0,SNR=58						
LPAZ				LR	LR	14 00 38.5	
	comp=Z,309nm,20.2s,baz=197,slow=37						
LPAZ	**La Paz**	**4.58**	**12**	*e*Pn	**Pn**	**13 59 00.3**	**+3.5**
LPAZ				LR	LR	14 00 38.5	
ARE	**Arequipa**	**4.88**	**332**	*e*P	**Pn**	**13 58 58.0**	**-2.8**
ARE				*e*S	**Sn**	**13 59 51.0**	**-5.1**
CFAA	**Coronel Fontan**	**10.78**	**176**	P	**Pn**	**14 00 16.4**	**-4.7**
	0.3nm,0.3s,baz=351,slow=15,SNR=17						
CFAA				S	**Sn**	**14 02 07.8**	**-12**
	0.4nm,0.3s,baz=197,slow=19,SNR=5.0						
CPUP	**Villa Florida**	**12.10**	**119**	P	**Pn**	**14 00 38.3**	**-0.8**
	3.5nm,0.3s,baz=279,slow=12,SNR=19						
SAML	**Samuel**	**13.09**	**27**	*e*Pn	**Pn**	**14 00 52.3**	**+0.2**
	8.9nm,0.6s						
TRQA	**Tornquist**	**18.26**	**162**	*e*P	**Pn**	**14 01 56.0**	**-1.1**
	24nm,0.7s						
PLCA	**Paso Flores**	**19.91**	**183**	P	**Pn**	**14 02 13.6**	**-2.9**
	1.8nm,0.3s,baz=359,slow=11,SNR=31						
PLCA	**Paso Flores**	**19.91**	**183**	*e*P	**Pn**	**14 02 13.4**	**-3.1**
PLCA				pmax	pmax		
	comp=Z,15nm,0.6s						
PLCA	**Paso Flores**	**19.91**	**183**	*e*P	**Pn**	**14 02 13.4**	**-3.1**
	comp=Z,15nm,0.6s						
BDFB	**Brasilia**	**20.66**	**79**	P	**P**	**14 02 22.4**	**+0.2**
	comp=Z,78nm,0.5s,baz=264,slow=10,SNR=26						
BDFB				LR	LR	14 11 51.7	
	comp=Z,318nm,19.0s,baz=250,slow=41						
OTAV	**Otavalo**	**22.83**	**335**	*e*P	**P**	**14 02 47.3**	**+2.1**
	comp=Z,5.5nm,0.8s,mb3.9						
SDV	**Santo Domingo**	**29.54**	**357**	P	**P**	**14 03 44.8**	**-0.9**
	comp=Z,6.9nm,0.2s,mb4.9,baz=222,slow=9.7,SNR=9.6						
PCRV	**Puerto La Cruz**	**31.09**	**9**	P	**P**	**14 04 00.0**	**+0.6**
	comp=Z,7.0nm,0.5s,mb4.6,baz=223,slow=1.8,SNR=3.5						
EFI	**East Falkland**	**31.99**	**167**	*e*P	**P**	**14 04 06.5**	**-0.8**
USHA	**Ushuaia**	**33.98**	**179**	P	**P**	**14 04 24.0**	**-0.6**
	comp=Z,7.2nm,0.9s,mb4.5,baz=357,slow=7.8,SNR=5.0						
RCBR	**Riachuelo**	**35.45**	**70**	*e*P	**P**	**14 04 38.5**	**+1.2**
	comp=Z,65nm,0.6s,mb5.6						
SJG	**San Juan**	**38.78**	**4**	P	**P**	**14 05 03.6**	**-1.9**
	comp=Z,31nm,0.6s,mb5.3,baz=74,slow=20,SNR=7.6						
TEIG	**Tepich**	**44.89**	**334**	*e*P	**P**	**14 05 54.5**	**-0.8**
CMIG	**Matias Romero**	**45.37**	**324**	P	**P**	**14 05 58.6**	**-0.5**
	comp=Z,5.1nm,0.8s,mb4.3,baz=120,slow=5.7,SNR=4.9						
SWET	**Sewanee**	**57.96**	**344**	*e*P	**P**	**14 07 31.1**	**-1.6**
JCT	**Junction City**	**58.92**	**329**	*e*P	**P**	**14 07 38.9**	**-0.5**
JCT				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
JCT	**Junction City**	**58.92**	**329**	*e*P	**P**	**14 07 38.9**	**-0.6**
	comp=Z,10nm,0.6s,mb5.0						
VNA3	**Neumayer Olymp**	**60.78**	**161**	*e*	**P**	**14 07 52.1**	**-0.1**
VNA3				*e*		14 08 00.7	
VNA3				*e*		14 08 05.9	
VNA3				*e*	pP	14 08 15.1	+0.2
VNA3				*e*		14 08 34.5	
VNA1	**Neumayer--Stat**	**60.99**	**161**	*e*	**P**	**14 07 54.0**	**+0.4**
VNA1				*e*		14 07 55.4	
VNA1				*e*	pP	14 08 17.0	+0.7
VNA2	**Neumayer--Watz**	**61.36**	**161**	*e*	**P**	**14 07 55.7**	**-0.4**
	baz=303,slow=7.9						
VNA2				*e*		14 07 57.5	
VNA2				*e*		14 08 00.4	
VNA2				*e*		14 08 05.3	
VNA2				*e*	pP	14 08 18.4	-0.4
VNA2				*e*		14 08 29.1	
ACSO	**Alum Creek Sta**	**62.09**	**348**	*e*P	**P**	**14 07 59.9**	**-1.1**
	comp=Z,10nm,0.8s,mb4.9						
ACSO				*e*pP	pP	14 08 22.3	-1.4
CCM	**Cathedral Cave**	**62.14**	**340**	*e*P	**P**	**14 07 59.7**	**-1.6**
CCM				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
CCM	**Cathedral Cave**	**62.14**	**340**	*e*P	**P**	**14 07 59.7**	**-1.6**
	comp=Z,12nm,1.0s,mb4.9						
MNTX	**Cornudas Mount**	**62.73**	**325**	*e*P	**P**	**14 08 03.8**	**-1.4**
	comp=Z,12nm,1.1s,mb4.7						
MNTX				*e*pP	pP	14 08 26.5	-1.6
SNAA	**Sanae**	**62.99**	**161**	*e*	**P**	**14 07 54.9**	**-12**
SNAA				*e*		14 07 56.7	
SNAA				*e*		14 08 05.3	
SNAA	**Sanae**	**62.99**	**161**	*e*P	**P**	**14 07 55.2**	**-12**
BINY	**Binghamton**	**63.01**	**354**	*e*P	**P**	**14 08 07.6**	**+0.5**
	comp=Z,9.2nm,0.7s,mb4.8						
ERPA	**Erie**	**63.41**	**351**	*e*P	**P**	**14 08 09.6**	**-0.2**
	comp=Z,14nm,0.5s,mb5.1						
ERPA				*e*pP	pP	14 08 31.9	-0.7
AMTX	**Amarillo**	**63.45**	**330**	*e*P	**P**	**14 08 08.2**	**-1.8**
	comp=Z,6.7nm,0.5s,mb4.8						
AMTX				*e*pP	pP	14 08 32.1	-0.7
BNM	**Barren Site**	**65.30**	**326**	*e*P	**P**	**14 08 21.5**	**-0.5**
BNM				*e*pP	pP	14 08 44.7	-0.3
LAZ	**Ladron**	**65.76**	**326**	*e*P	**P**	**14 08 24.0**	**-1.0**
LAZ				*e*pP	pP	14 08 46.6	-1.4
ANMO	**Albuquerque**	**65.83**	**327**	*e*P	**P**	**14 08 25.1**	**-0.4**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ANMO	**Albuquerque**	**65.83**	**327**	*e*P	**P**	**14 08 25.1**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.8						
116A	**Eloy**	**66.90**	**322**	⇓P	**P**	**14 08 32.4**	**+0.1**
	baz=67						
115A	**Sonoran Desert**	**67.31**	**321**	⇓P	**P**	**14 08 35.3**	**+0.4**
	baz=68						
Z14A	**Wintersburg**	**68.20**	**321**	⇓P	**P**	**14 08 40.8**	**+0.3**
	baz=68						
X15A	**Humboldt**	**68.61**	**323**	⇓P	**P**	**14 08 43.5**	**+0.5**
	baz=69						
MVCO	**Mesa Verde**	**68.62**	**327**	*e*P	**P**	**14 08 42.6**	**-0.5**
Y14A	**Wickenburg**	**68.65**	**322**	⇑P	**P**	**14 08 43.2**	**0.0**
	baz=69						
DBIC	**Dimbokro**	**68.70**	**74**	P	**P**	**14 08 44.0**	**+0.5**
	comp=Z,20nm,0.7s,mb5.1,baz=210,slow=7.0,SNR=36						
DBIC				LR	LR	14 36 14.2	
	comp=Z,133nm,19.0s,baz=342,slow=34						
DBIC	**Dimbokro**	**68.70**	**74**	*e*P	**P**	**14 08 42.9**	**-0.7**
DBIC				pmax	pmax		
	comp=Z,33nm,1.3s						
DBIC	**Dimbokro**	**68.70**	**74**	*e*P	**P**	**14 08 42.9**	**-0.7**
	comp=Z,33nm,1.3s,mb5.0						
DBIC				LR	LR	14 36 14.2	
X14A	**Yava**	**68.96**	**322**	⇑P	**P**	**14 08 45.6**	**+0.4**
	baz=69						
Y13A	**Salome**	**69.04**	**321**	⇑P	**P**	**14 08 46.1**	**+0.4**
	baz=69						
GLA	**Glamis**	**69.10**	**320**	⇓P	**P**	**14 08 46.2**	**+0.1**
	baz=69						
W15A	**Williams**	**69.12**	**323**	⇑P	**P**	**14 08 47.0**	**+0.8**
	baz=69						
ISCO	**Idaho Springs**	**69.26**	**331**	*e*P	**P**	**14 08 46.8**	**-0.3**
ISCO				*e**PP	pP	14 09 09.5	-0.8
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
ISCO	**Idaho Springs**	**69.26**	**331**	*e*P	**P**	**14 08 46.8**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.3						
ISCO				*e*pP	pP	14 09 09.5	-0.8
PV01	**Paradox Valley**	**69.37**	**328**	*e*P	**P**	**14 08 48.5**	**+0.7**
QSPA	**South Pole Qui**	**69.38**	**180**	*e*P	**P**	**14 08 48.0**	**+0.1**
SMCO	**Snowmass**	**69.40**	**329**	*e*P	**P**	**14 08 48.8**	**+0.8**
	comp=Z,6.4nm,0.8s,mb4.5						
Y12C	**Blythe**	**69.40**	**321**	⇑P	**P**	**14 08 48.0**	**+0.1**
	baz=70						
X13A	**Yucca**	**69.59**	**322**	⇑P	**P**	**14 08 49.4**	**+0.3**
	baz=70						
W14A	**Seligman**	**69.60**	**323**	⇑P	**P**	**14 08 49.4**	**+0.2**
	baz=70						
BC3	**Big Chuckw Mtn**	**69.89**	**320**	⇓P	**P**	**14 08 51.3**	**+0.3**
	baz=70,SNR=8.2						
PFO	**Pinyon Flat Ob**	**70.47**	**319**	⇑P	**P**	**14 08 54.0**	**-0.4**
	baz=71						
W12A	**Cal Nev Ari**	**70.70**	**322**	⇓P	**P**	**14 08 56.3**	**+0.5**
	baz=71						
SRU	**San Rafael**	**71.10**	**327**	*e*P	**P**	**14 08 58.6**	**+0.3**
SRU				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
SRU	**San Rafael**	**71.10**	**327**	*e*P	**P**	**14 08 58.6**	**+0.3**
	comp=Z,15nm,0.8s,mb4.9						
EYMN	**Ely**	**71.33**	**344**	*e*P	**P**	**14 08 58.4**	**-1.3**
	comp=Z,3.5nm,0.8s,mb4.2						
TUQ	**Turquoise Mtn.**	**71.41**	**321**	⇓P	**P**	**14 09 00.5**	**+0.4**
	baz=72						
CCUT	**Cedar City**	**71.45**	**324**	*e*P	**P**	**14 09 01.1**	**+0.7**
MSU	**Marysvale**	**71.51**	**326**	*e*P	**P**	**14 09 01.7**	**+0.9**
ARUT	**Antelope Range**	**71.66**	**324**	*e*P	**P**	**14 09 03.1**	**+1.4**
GSC	**Goldstone**	**71.84**	**320**	⇓P	**P**	**14 09 02.9**	**+0.2**
	baz=72						
SNCC	**San Nicolas Is**	**72.14**	**317**	⇑P	**P**	**14 09 04.6**	**+0.1**
	baz=72						
DAU	**Daniels Canyon**	**72.45**	**327**	*e*P	**P**	**14 09 06.9**	**+0.5**
TPNV	**Topopah Spring**	**72.64**	**322**	*e*P	**P**	**14 09 08.4**	**+0.9**
TPNV				pmax	pmax		
	comp=Z,35nm,1.7s,mb4.9						
TPNV	**Topopah Spring**	**72.64**	**322**	*e*P	**P**	**14 09 08.4**	**+0.9**
	comp=Z,35nm,1.7s,mb4.9						
DAC	**Darwin (Calif)**	**72.97**	**321**	*e*P	**P**

baz=77
Q04C Lincoln 76.92 321 ⇓P **P 14 09 32.0 -0.2**
baz=77
M08A Happy Creek Ra 76.95 324 ⇑P **P 14 09 33.2 +0.8**
baz=77
L09A Wilkinson Ranc 76.95 325 ⇓P **P 14 09 32.8 +0.4**
baz=77
TORD Torodi Ar. Bea 77.28 71 P **P 14 09 34.5 +0.3**
comp=Z,11nm,0.4s,mb4.9,baz=252,slow=5.2,SNR=51
TORD pP pP 14 09 57.9 +0.1
comp=Z,23nm,0.8s,baz=254,slow=5.2,SNR=7.1
M07A Soldier Meadow 77.34 324 ⇑P **P 14 09 34.7 +0.1**
baz=78
O05C Quincy 77.38 322 ⇑P **P 14 09 35.3 +0.6**
baz=78
ORV Oroville 77.45 321 ⇑P **P 14 09 35.3 +0.2**
baz=78,SNR=6.0
HRY Holter Researc 77.49 331 *e*P **P 14 09 35.5 +0.1**
VNDA Vanda 77.50 190 P **P 14 09 35.0 -0.5**
comp=Z,2.6nm,0.8s,mb4.0,baz=133,slow=6.2,SNR=13
VNDA Vanda 77.50 190 P **P 14 09 35.0 -0.5**
EGMT Eagleton 77.60 333 *e*P **P 14 09 35.7 -0.3**
comp=Z,9.3nm,1.1s,mb4.4
EGMT *e*pP pP 14 09 58.8 -0.9
ELFS Eagle Lake Fie 77.70 322 ⇑P **P 14 09 36.4 -0.1**
baz=78
M06C Likely Place G 77.94 323 ⇓P **P 14 09 37.5 -0.4**
baz=78
HATC Hat Creek Radi 78.25 322 ⇓P **P 14 09 39.7 +0.1**
baz=78
M05C Lookout 78.43 323 ⇓P **P 14 09 40.2 -0.3**
baz=79
K06A Valley Falls 78.88 324 ⇓P **P 14 09 43.4 +0.3**
baz=79
SUR Sutherland 79.07 120 *e*P **P 14 09 44.5 +0.4**
M04C Macdoel 79.09 323 ⇓P **P 14 09 44.2 0.0**
baz=79
J06A Christmas Vall 79.13 325 P **P 14 09 44.8 +0.3**
baz=79,SNR=12
N02C Big Bar 79.33 321 ⇑P **P 14 09 45.2 -0.3**
baz=80
M02C Callahan 79.42 322 ⇑P **P 14 09 45.5 -0.5**
baz=80
YBH Yreka Blue Hor 79.56 322 ⇓P **P 14 09 46.4 -0.4**
baz=80
I06A Prineville 79.63 325 P **P 14 09 48.0 +0.9**
baz=80,SNR=7.1
WALA Waterton Lakes 80.18 332 *e*P **P 14 09 49.7 -0.4**
comp=Z,7.0nm,0.9s,mb4.5
WALA *e*pP pP 14 10 12.8 -1.0
FFC Flin Flon 80.32 341 *e*P **P 14 09 50.0 -0.9**
FFC pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
FFC Flin Flon 80.32 341 *e*P **P 14 09 50.0 -0.9**
comp=Z,7.8nm,0.9s,mb4.5
I05A Bend 80.34 325 ⇓P **P 14 09 51.3 +0.3**
baz=80
L02A Cave Junction 80.34 322 ⇓P **P 14 09 51.0 0.0**
baz=80
TSUM Tsumeb 80.40 107 *e*P **P 14 09 53.1 +1.8**
comp=Z,10nm,0.9s,mb4.7
K02A Glendale 80.67 323 ⇓P **P 14 09 53.7 +1.0**
baz=81
J03A Ideyld Park 80.75 323 ⇓P **P 14 09 54.5 +1.3**
baz=81
BROR Big Rock Looko 81.05 324 P **P 14 09 54.5 -0.3**
G05A Wamic 81.08 326 ⇓P **P 14 09 55.4 +0.5**
baz=81
J02A Umpqua 81.10 323 ⇑P **P 14 09 55.3 +0.2**
baz=81
H04A Detroit Lake 81.18 325 ⇓P **P 14 09 54.9 -0.6**
baz=81
OD2 Odessa Site #2 81.21 328 P **P 14 09 55.8 +0.2**
I03A Eugene 81.32 324 ⇑P **P 14 09 56.0 -0.1**
baz=82
F05A White Salmon 81.58 326 ⇑P **P 14 09 57.6 +0.1**
baz=82
I02A Mapleton 81.64 323 ⇓P **P 14 09 57.9 0.0**
baz=82
H03A Soap Creek Ran 81.78 324 ⇓P **P 14 09 58.7 +0.1**
baz=82
FCC Fort Churchill 81.92 347 *e*P **P 14 09 58.4 -0.9**
FCC pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
FCC Fort Churchill 81.92 347 *e*P **P 14 09 58.4 -0.9**
comp=Z,7.7nm,0.8s,mb4.6
WTV Waterville 82.04 328 P **P 14 10 00.2 +0.2**
F04A Amboy 82.12 326 ⇓P **P 14 10 00.1 -0.3**
baz=82
H02A Toledo 82.17 324 ⇓P **P 14 10 00.7 0.0**
baz=82
E05A Randle 82.19 326 ⇓P **P 14 10 00.3 -0.5**
baz=82
D05A Enumclaw 82.72 327 ⇑P **P 14 10 03.0 -0.5**
baz=83
EDM Edmonton 83.06 335 *e*P **P 14 10 04.0 -1.3**
EDM *e**PP pP 14 10 27.0 -2.2
E03A Lebam 83.12 326 ⇑P **P 14 10 05.4 -0.2**
baz=83
JCW Jim Creek 83.36 328 P **P 14 10 05.6 -1.2**
B05A Bryant 83.48 328 ⇑P **P 14 10 06.2 -1.2**
baz=84
BOSA Boshof 83.92 118 P **P 14 10 09.9 +0.2**
comp=Z,3.1nm,0.7s,mb4.2,baz=262,slow=3.4,SNR=7.3
A05A Maple Falls 83.97 328 ⇑P **P 14 10 08.9 -1.0**
baz=84
A04A Legoe Bay, Lum 84.09 328 ⇑P **P 14 10 10.2 -0.4**
baz=84
C03A Quillayute Air 84.55 326 ⇑P **P 14 10 12.2 -0.6**
baz=85
MAW Mawson 85.04 163 P **P 14 10 14.5 -0.9**
comp=Z,2.0nm,0.8s,mb4.1,baz=220,slow=8.3,SNR=4.0
MAW pP pP 14 10 38.7 -0.6
comp=Z,3.7nm,0.7s,baz=282,slow=6.1,SNR=3.6
ESDC Sonseca Array 85.46 45 P **P 14 10 18.6 +1.2**
comp=Z,0.2nm,0.3s,mb3.6,baz=230,slow=5.1,SNR=7.2
LBTB Lobatse 85.46 115 *e*P **P 14 10 18.6 +1.2**
YKA Yellowknife Ar 90.48 341 P **P 14 10 40.2 -1.1**
comp=Z,5.5nm,0.8s,mb4.7,baz=135,slow=4.6,SNR=13
YKA pP pP 14 11 03.4 -2.2
comp=Z,6.0nm,0.7s,baz=134,slow=4.6,SNR=10.0
YKA Yellowknife Ar 90.48 341 P **P 14 10 40.2 -1.1**
YKA pP pP 14 11 03.4 -2.2
ESK Eskdalemuir 94.08 32 *e*P **P 14 10 52.0 -6.0**
ESK pmax pmax
comp=Z,31nm,1.8s,mb5.3
ESK Eskdalemuir 94.08 32 *e*P **P 14 10 52.0 -6.0**
comp=Z,31nm,1.8s,mb5.3
TIXI Tiksi 128.09 353 *e*PKIKP PKPdf 14 16 42.1 -3.2
TIXI *e* 14 17 07.8
TIXI pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 130.45 208 PKhKP 14 16 37.8
comp=Z,0.2nm,0.5s,baz=138,slow=2.0,SNR=4.8
ASAR PKP PKPdf 14 16 49.1 -0.7
comp=Z,1.7nm,0.7s,baz=114,slow=1.7,SNR=16
WRA Warramunga Arr 133.46 211 PKP PKPdf 14 16 55.5 0.0
comp=Z,1.4nm,0.5s,baz=153,slow=1.8,SNR=12
ZRNK Zerenda 134.62 35 *e*PKIKP PKPdf 14 16 58.0 +0.4
CHKZ Chkalovo 135.10 33 *e*PKIKP PKPdf 14 16 59.2 +0.7
NVS Novosibirsk 140.11 25 *e*PKIKP PKPdf 14 17 06.1 -1.6
ZAL Zalesovo 141.40 25 PKP PKPdf 14 17 09.6 -0.5
comp=Z,2.6nm,0.5s,baz=172,slow=2.2,SNR=7.9
ZAL pPKP pPKPdf 14 17 32.9 -2.4
comp=Z,2.1nm,0.6s,baz=186,slow=2.5,SNR=3.7
ZAL Zalesovo 141.40 25 PKP PKPdf 14 17 09.6 -0.5
ZAL pPKP pPKPdf 14 17 32.9 -2.4
ASAJ Asahikawa 144.92 319 PKP PKPdf 14 17 15.3 -0.9
comp=Z,12nm,0.7s,baz=260,slow=3.5,SNR=12
MKAR Makanchi Array 145.17 35 PKPbc PKPbc 14 17 17.0 +0.6
comp=Z,6.1nm,0.7s,baz=324,slow=3.6,SNR=50
MKAR pPKPbc 14 17 40.0
comp=Z,4.1nm,0.8s,baz=318,slow=1.9,SNR=5.2
MKAR Makanchi Array 145.17 35 PKPbc PKPbc 14 17 17.0 +0.6
MKAR pPKPbc 14 17 40.0
KLR Kul'dur 147.12 335 *e*PKIKP PKPdf 14 17 17.5 -2.5
MOY Mondy 148.24 12 *e*PKP2 PKPab 14 17 26.3 -2.2
ZAK Zakamensk 149.87 10 *e*PKIKP PKPdf 14 17 22.8 -1.7
ZAK pmax pmax
comp=Z,4.0nm,1.5s
ZAK pmax pmax
comp=Z,13nm,1.3s
MJAR Matsushiro Arr 151.51 309 PKPbc PKPbc 14 17 32.3 -0.9
comp=Z,6.4nm,0.8s,baz=103,slow=1.2,SNR=12
MJAR PKPab PKPab 14 17 40.6 -1.3
comp=Z,4.5nm,0.9s,baz=70,slow=2.0,SNR=7.3
MAT Matsushiro 151.51 309 PKP PKPbc 14 17 32.7 -0.5
MAT Matsushiro 151.51 309 *e*PKP PKPbc 14 17 33.0 -0.2
SONM Songino Array 152.79 7 PKP PKPdf 14 17 29.7 +0.8
comp=Z,1.2nm,0.8s,baz=336,slow=0.9,SNR=8.4
SONM PKPbc PKPbc 14 17 36.3 +0.2
comp=Z,2.6nm,0.7s,baz=295,slow=2.0,SNR=13
SONM pPKPbc pPKPbc 14 17 59.5 -1.7
comp=Z,2.3nm,0.6s,baz=339,slow=1.6,SNR=6.0
ULN Ulaanbaatar 152.82 6 *i* PKIKP PKPdf 14 17 33.2 +4.2
ULN Ulaanbaatar 152.82 6 *e*PKPbc PKPbc 14 17 36.1 -0.1
GTA Gaotai 159.15 25 *e*PKP PKPdf 14 17 38.6 +1.3
CD2 Chengdu 168.06 31 *e*PKP PKPdf 14 17 41.9 -3.7

IDC 06 14:00:36.8±4.3, 2247N×14285E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/18, mbtmp3.9/4, Error ellipse: s-maj=324.8km s-min=25.8km az=88.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.96**	**192**	P	P	P	14 08 37.8	+0.3
1.2nm,0.6s,baz=13,slow=8.5,SNR=14								
ASAR	**Alice Springs**	**46.67**	**191**	P	P	P	14 09 07.0	0.0
0.3nm,0.6s,baz=14,slow=11,SNR=8.3								
ARCES	**ARCESS Array B**	**78.10**	**341**	P	P	P	14 12 38.2	+0.6
2.0nm,0.9s,baz=62,slow=8.3,SNR=3.5								
FINES	**FINESS Array B**	**82.36**	**334**	P	P	P	14 12 59.6	-0.9
0.5nm,0.3s,baz=74,slow=5.1,SNR=6.7								

*NEIC **06** 14:05:49.1, 1589N×9385W, h16km, MD4.2(MEX), After MEX.*

MEX 06 14:05:48.2±1.2, 1579N×9394W, h20km±239km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.57**	**53**	*e*P		Pn	14 06 13.0	-1.9
CMIG	**Matias Romero**	**1.58**	**325**	*i* P		Pn	14 06 12.8	-2.3
CMIG				*i* S		Sn	14 06 29.9	-5.0
CCIG	**Comitan**	**1.80**	**74**	*i* P		Pn	14 06 14.4	-3.7
CCIG				*i* S		Sn	14 06 36.7	-3.6
CCIG	**Comitan**	**1.80**	**74**	*i* P		Pn	14 06 14.4	-3.7
CCIG				*i* S		Sn	14 06 34.5	-5.9
OXX	**Oaxaca**	**2.96**	**296**	*e*P		Pn	14 06 32.0	-2.1
OXX	**Oaxaca**	**2.96**	**296**	*e*P		Pn	14 06 30.0	-4.1

*NEIC **06** 14:23:00.7±4.7, 1043N×7543W, h20km±30km, mb4.0/3, Error ellipse: s-maj=18.2km s-min=9.4km az=213.0*
*ISCJB **06** 14:23:01.6±0.7, 1065N±006×75.17W±006, h33km, mb3.8/8, MS3.4/2, Error ellipse: s-maj=10.0km s-min=7.2km az=76.8*
*IDC **06** 14:23:04.6±7.5, 1038N×7558W, h45km±69km, mb3.6/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.8/6, MS3.3/5, Ms1 3.3/5, ms1mx3.0/29, Error ellipse: s-maj=28.2km s-min=21.1km az=47.0*

ISC 06 14:23:03.6±0.7, 1069N±007×7516W±008, h35km, n21, σ1°33/21, mb3.8/8, MS3.4/2, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**4.81**	**111**	P		**Pn**	**14 24 13.7**	**+0.2**
100nm,0.3s,baz=316,slow=6.1,SNR=446								
SDV				S		**Sn**	**14 25 07.9**	**-0.1**
184nm,0.3s,baz=63,slow=19,SNR=20								
SDV				LR		LR	14 25 57.5	
comp=Z,110nm,18.4s,baz=234,slow=34								
SDV	**Santo Domingo**	**4.81**	**111**	*e*Pn		**Pn**	**14 24 13.6**	**0.0**
SDV				*e*Sn		**Sn**	**14 25 08.9**	**+0.9**
SDV				LR		LR	14 25 57.5	
ROSC	**El Rosal**	**5.85**	**172**	P		**Pn**	**14 24 29.4**	**+1.6**
14nm,0.3s,baz=103,slow=14,SNR=15								
ROSC				S		**Sn**	**14 25 33.4**	**-0.2**
42nm,0.3s,baz=290,slow=22,SNR=8.3								
ROSC				LR		LR	14 27 01.1	
comp=Z,139nm,21.1s,baz=14,slow=42								
ROSC	**El Rosal**	**5.85**	**172**	*e*Pn		**Pn**	**14 24 28.6**	**+0.8**
ROSC				S		**Sn**	**14 25 33.4**	**-0.2**
ROSC				LR		LR	14 27 01.1	
JTS	**JuntasAbangare**	**9.63**	**269**	P		**Pn**	**14 25 14.9**	**-4.8**
PCRV	**Puerto La Cruz**	**10.37**	**92**	P		**Pn**	**14 25 26.6**	**-3.2**
2.4nm,0.3s,baz=224,slow=6.0,SNR=6.5								
PCRV				LR		LR	14 30 41.3	
comp=Z,339nm,18.2s,baz=259,slow=42								
ATAH	**Atahualpa**	**17.86**	**191**	P		**Pn**	**14 27 11.6**	**+2.3**
0.4nm,0.3s,baz=22,slow=4.9,SNR=4.8								
CMIG	**Matias Romero**	**20.17**	**291**	LR		LR	14 34 49.8	
comp=Z,112nm,20.4s,MS3.2,baz=220,slow=35								
SAML	**Samuel**	**22.86**	**148**	*e*P		**P**	**14 28 02.3**	**-1.5**
8.3nm,0.9s,mb4.2								
LPAZ	**La Paz**	**27.69**	**165**	P		**P**	**14 28 47.4**	**-1.0**
1.3nm,0.6s,mb3.7,baz=340,slow=4.9,SNR=7.0								
LPAZ	**La Paz**	**27.69**	**165**	*e*P		**P**	**14 28 47.1**	**-1.3**
3.2nm,0.9s,mb4.0								
ANMO	**Albuquerque**	**37.35**	**315**	P		**P**	**14 30 12.3**	**-0.4**
0.9nm,0.5s,mb3.8,baz=102,slow=7.0,SNR=3.2								
CFAA	**Coronel Fontan**	**42.57**	**171**	P		**P**	**14 30 54.3**	**-1.7**
0.3nm,0.6s,mb3.2,baz=0.0,slow=8.1,SNR=4.4								
BW06	**Boulder Array**	**43.79**	**323**	*e*P		**P**	**14 31 05.9**	**0.0**
2.0nm,1.0s,mb3.8								
PDAR	**Pinedale Array**	**43.79**	**323**	P		**P**	**14 31 06.1**	**+0.2**
0.8nm,0.9s,mb3.5,baz=139,slow=9.2,SNR=4.8								
PDAR				pP		pP	14 31 18.5	+2.3
1.5nm,0.9s,baz=123,slow=9.4,SNR=8.3								
SCHQ	**Schefferville**	**44.53**	**7**	LR		LR	14 50 07.5	
comp=Z,62nm,19.2s,MS3.5,baz=89,slow=36								
DBIC	**Dimbokro**	**69.50**	**87**	P		**P**	**14 34 11.5**	**+3.0**
2.6nm,0.4s,mb4.5,baz=276,slow=6.0,SNR=9.5								
DBIC	**Dimbokro**	**69.50**	**87**	P		**P**	**14 34 11.5**	**+3.0**
TORD	**Torodi Ar. Bea**	**74.97**	**79**	P		**P**	**14 34 45.0**	**+3.8**
0.3nm,0.5s,mb3.4,baz=276,slow=6.6,SNR=5.1								
ASAR	**Alice Springs**	**149.45**	**241**	PKPbc		PKPbc	14 42 47.6	-1.4
1.3nm,0.6s,baz=117,slow=3.3,SNR=14								
ASAR				PKPab		PKPab	14 42 52.5	-1.4
1.1nm,0.5s,baz=113,slow=3.8,SNR=16								
WRA	**Warramunga Arr**	**150.14**	**249**	PKPbc		PKPbc	14 42 49.1	-1.6
1.3nm,0.7s,baz=101,slow=3.1,SNR=15								
WRA				PKPab		PKPab	14 42 55.7	-1.0
1.1nm,0.6s,baz=94,slow=3.8,SNR=19								

*NIED **06** 14:28:00, 3360N×13230E, h50km, Mw3.7 Best double couple: M0=4.62000×10^14 NP1:φs178.00000°, δ86.00000°, λ-73.00000°. NP2:φs280.00000°, δ17.00000°, λ-167.00000°.*
*ISCJB **06** 14:28:56.2±0.4, 3353N±004×13226E±006, h60km±5km, mb3.6/4, Error ellipse: s-maj=8.2km s-min=5.5km az=41.5*
*JMA **06** 14:28:57.5, 3356N×13227E, h49km, M3.6 Broadband fault plane solution: P waves. NP1:φs349.00000°, δ16.00000°, λ-99.00000°. NP2:φs178.00000°, δ74.00000°, λ-87.00000°. Principal axes: T Plg29.0000°, Azm266.0000°; N Plg3.0000°, Azm357.0000°; P Plg61.0000°, Azm92.0000°;*
JMA Felt II J1.
*NEIC **06** 14:28:58.9±0.7, 3359N×13224E, h73km±10km, MG3.9(JMA) Error ellipse: s-maj=13.7km s-min=8.8km az=146.0*
NEIC Recorded [1 JMA] in Ehime and Kochi Prefectures. Also recorded [1 JMA] in Hiroshima and Yamaguchi Prefectures, Honshu.
*IDC **06** 14:28:59.0±3.0, 3347N×13232E, h82km±53km, mb3.5/4, mb1 3.6/6, mb1mx3.3/22, mbtmp3.8/6, ML3.2/2, MS2.7/2, Ms1 2.7/2, ms1mx2.1/24, Error ellipse: s-maj=78.4km s-min=20.9km az=128.0*

ISC 06 14:28:57.3±0.4, 3354N±004×13227E±006, h53km±5km, n20, σ0°85/28, mb3.6/4, 4C-3D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.17**	**84**	⇑P		**Pn**	**14 29 05.4**	**-0.5**
JNA				S		**Sn**	**14 29 11.1**	**-0.9**
UWA2	**Uwa jima 2**	**0.44**	**137**	⇑P		**Pn**	**14 29 07.9**	**-0.2**
UWA2				S		**Sn**	**14 29 15.6**	**-0.3**
JHM	**Kurahashi**	**0.64**	**20**	⇑P		**Pn**	**14 29 10.1**	**-0.3**
JHM				S		**Sn**	**14 29 19.5**	**-0.4**
JUS	**Usuki**	**0.64**	**223**	⇓P		**Pn**	**14 29 10.4**	**-0.1**
JUS				S		**Sn**	**14 29 20.0**	**0.0**
JET	**Tanbara**	**0.69**	**70**	P		**Pn**	**14 29 11.0**	**-0.1**
JET				S		**Sn**	**14 29 20.9**	**-0.2**
JKU	**Kubokawa**	**0.70**	**109**	⇓P		**Pn**	**14 29 11.1**	**-0.1**
JKU				S		**Sn**	**14 29 21.0**	**-0.3**
JTO	**Tosashimizu**	**0.81**	**146**	⇓P		**Pn**	**14 29 12.6**	**0.0**
JTO				*e*S		**Sn**	**14 29 23.3**	**-0.5**
JHT	**Toyohira**	**1.13**	**6**	⇑P		**Pn**	**14 29 17.2**	**+0.4**
JHT				S		**Sn**	**14 29 31.5**	**+0.2**
KS15	**Wonju Array Si**	**5.29**	**319**	*e*Pn		**Pn**	**14 30 14.6**	**+0.8**
MAJO	**Matsushiro**	**5.72**	**57**	P		**Pn**	**14 30 21.1**	**+1.5**
MAT	**Matsushiro**	**5.72**	**57**	P		**Pn**	**14 30 21.0**	**+1.4**
MAT				S		rx	14 31 47.1	
MAT	**Matsushiro**	**5.72**	**57**	*e*P		**Pn**	**14 30 21.0**	**+1.4**
MAT				*e*S		rx	14 31 47.0	
MJAR	**Matsushiro Arr**	**5.72**	**57**	P		**Pn**	**14 30 21.5**	**+1.9**
1.2nm,0.3s,baz=241,slow=13,SNR=13								
MJAR				LR		LR	14 32 48.1	
comp=Z,68nm,20.6s,baz=100,slow=40								
JOW	**Kunigami**	**7.53**	**208**	P		**Pn**	**14 30 46.4**	**+2.0**
0.7nm,0.3s,baz=117,slow=18,SNR=5.1								
JOW				S		**Sn**	**14 32 08.8**	**+0.5**
0.8nm,0.3s,baz=135,slow=20,SNR=2.2								
ASAJ	**Asahikawa**	**13.27**	**34**	LR		LR	14 37 22.2	
comp=Z,35nm,19.1s,baz=237,slow=38								
SONM	**Songino Array**	**24.12**	**314**	P		**P**	**14 34 07.8**	**-0.3**
0.2nm,0.4s,mb2.9,baz=134,slow=12,SNR=3.5								
ARCES	**ARCESS Array B**	**64.53**	**338**	P		**P**	**14 39 27.1**	**-1.5**
1.7nm,0.8s,mb4.1,baz=47,slow=6.6,SNR=4.3								
FINES	**FINESS Array B**	**68.26**	**330**	P		**P**	**14 39 51.4**	**-1.1**
0.8nm,0.4s,mb4.1,baz=72,slow=6.1,SNR=8.3								
NB2	**NORSAR Subarra**	**74.30**	**334**	P		**P**	**14 40 27.3**	**-1.6**
comp=Z,0.1nm,0.5s,mb3.0,baz=53,slow=6.2								
NOA	**NORSAR Array B**	**74.30**	**334**	P		**P**	**14 40 27.7**	**-1.2**
comp=Z,0.6nm,0.6s,mb3.7,baz=50,slow=5.7,SNR=3.5								

*ISCJB **06** 15:04:19.7±3.6, 54S±02×1519E±02, h78km±31km, mb4.1/9, Error ellipse: s-maj=41.9km s-min=18.1km az=69.4*
*NEIC **06** 15:04:20.4±2.9, 537S×15200E, h74km±26km, mb4.5/6, Error ellipse: s-maj=34.6km s-min=15.1km az=124.0*
*IDC **06** 15:04:21.8±5.8, 558S×15206E, h81km±46km, mb3.8/5, mb1 4.0/6, mb1mx3.8/14, mbtmp4.1/6, ML3.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/26, Error ellipse: s-maj=48.1km s-min=28.5km az=106.0*

ISC 06 15:04:20.7±3.0, 54S±02×1520E±02, h74km±26km, n22, σ0°94/20, mb4.1/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.27**	**230**	P		**Pn**	**15 05 51.3**	**+0.8**
3.3nm,0.3s,baz=42,slow=15,SNR=12								
PMG				S		**Sn**	**15 07 00.7**	**0.0**
4.4nm,0.3s,baz=55,slow=15,SNR=12								
PMG	**Port Moresby**	**6.27**	**230**	*e*Pn		**Pn**	**15 05 50.4**	**-0.1**
PMG				S		**Sn**	**15 07 00.8**	**0.0**
CTA	**Charters Tower**	**15.66**	**201**	LR		LR	15 12 18.7	
comp=Z,67nm,21.4s,baz=283,slow=31								
GUMO	**Guam**	**20.15**	**339**	LR		LR	15 14 32.7	
comp=Z,45nm,21.6s,baz=194,slow=30								
KAKA	**Kakadu**	**20.66**	**248**	*e*P		**P**	**15 08 54.0**	**-0.4**
21nm,1.1s								
WRAB	**Tennant Creek**	**22.48**	**228**	*e*P		**P**	**15 09 13.5**	**-0.2**
10nm,0.7s,mb4.3								
WRA	**Warramunga Arr**	**22.49**	**228**	P		**P**	**15 09 13.0**	**-0.9**
4.7nm,0.7s,mb4.0,baz=53,slow=9.7,SNR=50								
WRA				PcP		PcP	15 13 06.6	+1.2
1.1nm,0.9s,baz=46,slow=2.2,SNR=4.7								
AS31	**Alice Springs**	**25.21**	**222**	*e*P		**P**	**15 09 40.6**	**+1.2**
ASAR	**Alice Springs**	**25.21**	**222**	P		**P**	**15 09 39.4**	**-0.1**
3.3nm,0.6s,mb3.9,baz=57,slow=8.6,SNR=32								
ASPA	**Alice Springs**	**25.21**	**222**	*e*P		**P**	**15 09 40.6**	**+1.2**
STKA	**Stephens Creek**	**28.11**	**199**	*e*P		**P**	**15 10 05.6**	**+0.1**
1.8nm,0.9s,mb3.6								
STKA	**Stephens Creek**	**28.11**	**199**	P		**P**	**15 10 04.0**	**-1.5**
2.2nm,0.9s,mb3.7,baz=9.6,slow=10.0,SNR=4.6								
FITZ	**Fitzroy Crossi**	**28.71**	**242**	*e*P		**P**	**15 10 10.2**	**-0.7**
7.6nm,0.5s,mb4.6								
SONM	**Songino Array**	**66.41**	**328**	P		**P**	**15 15 03.2**	**+1.2**
0.6nm,0.5s,mb3.7,baz=137,slow=5.2,SNR=5.5								
SVW2	**Sparrevohn**	**77.66**	**23**	*e*P		**P**	**15 16 09.4**	**+0.3**
SML	**Sawmill**	**80.97**	**25**	*e*P		**P**	**15 16 24.0**	**-3.1**
MCK	**McKinley**	**81.69**	**23**	*e*P		**P**	**15 16 30.0**	**-0.9**
16nm,1.4s,mb4.7								
COLA	**College**	**82.67**	**22**	*e*P		**P**	**15 16 35.2**	**-0.9**
5.8nm,0.6s,mb4.6								
DAWY	**Dawson**	**85.63**	**24**	*e*P		**P**	**15 16 51.4**	**+0.3**
NVAR	**Mina Array Bea**	**93.04**	**52**	P		**P**	**15 17 27.5**	**+1.4**
0.5nm,0.7s,mb4.0,baz=262,slow=6.3,SNR=4.2								
TORD	**Torodi Ar. Bea**	**149.75**	**287**	PKPbc		PKPbc	15 24 03.4	+1.4
1.5nm,0.9s,baz=87,slow=2.0,SNR=8.2								
DBIC	**Dimbokro**	**156.99**	**274**	PKPab		PKPab	15 24 40.0	+1.9
5.1nm,0.9s,baz=124,slow=3.6,SNR=3.6								

*ISCJB **06** 15:08:04.9±2.9, 205S±05×177.1W±04, h608km±33km, mb4.0/6, Error ellipse: s-maj=89.2km s-min=34.4km az=99.1*
*IDC **06** 15:08:06.8±2.3, 2020S×17767W, h562km±29km, mb3.4/5, mb1 3.5/6, mb1mx3.3/14, mbtmp4.4/6, Error ellipse: s-maj=56.5km s-min=18.2km az=148.0*
*NEIC **06** 15:08:10.2±1.6, 2023S×17782W, h600km, mb4.1/3, Error ellipse: s-maj=56.5km s-min=19.6km az=143.0*

ISC 06 15:08:05.6±2.9, 204S±05×1773W±06, h578km±46km, n14, σ0°36/13, mb4.0/6, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.25**	**261**	P		**P**	**15 11 16.8**	**-0.1**
0.7nm,0.3s,baz=99,slow=17,SNR=6.3								
CTA	**Charters Tower**	**34.15**	**264**	*e*P		**P**	**15 14 03.8**	**+0.2**
2.5nm,0.3s,mb4.3								
CTA	**Charters Tower**	**34.15**	**264**	P		**P**	**15 14 03.6**	**0.0**
3.1nm,0.3s,mb4.3,baz=84,slow=9.8,SNR=5.7								
CTAO	**Charters Tower**	**34.15**	**264**	*e*P		**P**	**15 14 03.7**	**+0.1**
STKA	**Stephens Creek**	**38.43**	**244**	*e*P		**P**	**15 14 38.2**	**-0.5**
1.3nm,0.4s,mb3.8								
STKA	**Stephens Creek**	**38.43**	**244**	P		**P**	**15 14 38.3**	**-0.4**
1.6nm,0.4s,mb3.9,baz=86,slow=10,SNR=18								
ASAR	**Alice Springs**	**45.18**	**257**	P		**P**	**15 15 32.4**	**+0.7**
4.0nm,0.7s,mb4.1,baz=98,slow=7.8,SNR=42								
ASAR				S		**S**	**15 21 30.4**	**+0.5**
1.8nm,1.1s,baz=94,slow=16,SNR=7.1								
WRAB	**Tennant Creek**	**45.25**	**262**	*e*P		**P**	**15 15 32.2**	**-0.1**
3.0nm,0.4s,mb4.2								
WRA	**Warramunga Arr**	**45.26**	**262**	P		**P**	**15 15 32.4**	**0.0**
2.7nm,0.6s,mb4.0,baz=97,slow=7.5,SNR=104								
WRA				S		**S**	**15 21 30.5**	**-0.6**
0.8nm,0.9s,baz=93,slow=13,SNR=3.9								
MJAR	**Matsushiro Arr**	**70.48**	**323**	P		**P**	**15 18 22.7**	**-0.1**
1.8nm,0.6s,mb3.7,baz=160,slow=6.3,SNR=5.6								
MJAR	**Matsushiro Arr**	**70.48**	**323**	P		**P**	**15 18 22.7**	**-0.1**
BRTR	**Keskin Array B**	**147.22**	**313**	PKPbc		PKPbc	15 26 46.9	+2.2
0.7nm,0.6s,baz=130,slow=6.6,SNR=4.0								
CLL	**Collm**	**148.07**	**348**	⇑*i*PKPbc		PKPbc	15 26 49.0	+2.2
comp=Z,6.0nm,0.5s								
**GERES

TASR			*e*			15 10 39.6
ELT	**Yel'tsovka**	**3.49 341**	*e*PN	**Pn**		**15 10 08.6 +2.4**
ELT			*e*			15 10 58.9
CERR	**Cheremushki**	**3.52 34**	*e*PN	**Pn**		**15 10 07.2 +0.6**
CERR			*e*			15 10 14.6
CERR			*e*			15 10 59.9
ZAL	**Zalesovo**	**4.47 334**	Pn	**Pn**		**15 10 19.8 +0.2**
	9.0nm,0.3s,baz=327,slow=10,SNR=32					
ZAL			Sn	**Sn**		**15 11 13.1 +0.9**
	7.0nm,0.3s,baz=149,slow=24,SNR=4.3					
ZAL			Lg			15 11 31.2
	9.9nm,0.3s,baz=61,slow=19,SNR=4.0					
ZAL	**Zalesovo**	**4.47 334**	Pn	**Pn**		**15 10 19.8 +0.1**
ZAL			Sn	**Sn**		**15 11 13.1 +0.9**
ZAL			Lg			15 11 31.2
MK05	**Makanchi Array**	**5.05 233**	⇓Pn	**Pn**		**15 10 28.5 +0.8**
	22nm,0.2s,baz=52,slow=15					
MK05			⇑Sn	**Sn**		**15 11 26.4 -0.2**
	32nm,0.3s,baz=59,slow=29					
MK05			⇑Lg			15 11 49.4
	80nm,0.5s,baz=52,slow=32					
MK31	**Makanchi Array**	**5.05 233**	PN	**Pn**		**15 10 28.6 +0.9**
MK31						15 11 28.7
MK31			pmax	pmax		
	comp=Z,4.0nm,0.2s					
MK31			smax			
	comp=Z,11nm,0.4s					
MK31			pmax	pmax		
	comp=Z,40nm,0.5s					
MKAR	**Makanchi Array**	**5.05 233**	Pn	**Pn**		**15 10 28.7 +1.0**
	comp=Z,22nm,0.3s,baz=54,slow=15,SNR=434					
MKAR			Sn	**Sn**		**15 11 28.7 +2.1**
	comp=Z,16nm,0.3s,baz=48,slow=25,SNR=9.9					
MKAR			Lg			15 11 49.9
	comp=Z,22nm,0.3s,baz=47,slow=32,SNR=11					
MKAR	**Makanchi Array**	**5.05 233**	PN	**Pn**		**15 10 28.7 +1.0**
MKAR						15 11 28.7
MKAR	**Makanchi Array**	**5.05 233**	Pn	**Pn**		**15 10 28.7 +1.0**
MKAR			Sn	**Sn**		**15 11 28.7 +2.1**
MKAR			Lg			15 11 49.9
NVS	**Novosibirsk**	**5.72 330**	*e*PN	**Pn**		**15 10 37.9 +1.1**
NVS			*e*			15 10 55.2
NVS			*e*			15 11 43.8
KURK	**Kurchatov**	**6.15 280**	⇑Pn	**Pn**		**15 10 43.2 +0.4**
	comp=Z,9.5nm,0.6s					
KURK			⇑Sn	**Sn**		**15 11 53.0 -0.6**
	comp=Z,12nm,0.8s					
KURK			⇑Lg			15 12 22.6
	comp=Z,61nm,0.8s					
KURK	**Kurchatov**	**6.15 280**	PN	**Pn**		**15 10 44.2 +1.4**
KURK						15 11 56.1
KURK			pmax	pmax		
	comp=Z,6.0nm,0.6s					
KURK			smax			
	comp=Z,10.0nm,0.8s					
KURK			pmax	pmax		
	comp=Z,49nm,0.8s					
KURK	**Kurchatov**	**6.15 280**	*e*Pn	**Pn**		**15 10 43.0 +0.3**
	comp=Z,22nm,1.9s					
TLY	**Talaya**	**9.94 74**	*i* P	**Pn**		**15 11 24.4 -10**
VOSK	**Vostochnaya**	**11.09 291**	⇑Pn	**Pn**		**15 11 49.9 -0.6**
	comp=Z,2.8nm,1.1s					
VOSK			⇑Sn	**Sn**		**15 13 55.0 0.0**
	comp=Z,4.9nm,0.8s					
VOSK	**Vostochnaya**	**11.09 291**	P	**Pn**		**15 11 49.9 -0.6**
VOSK						15 13 52.5
VOSK			pmax	pmax		
	comp=Z,3.0nm,1.2s					
VOSK			smax			
	comp=Z,4.0nm,0.9s					
TKM2	**Tokmak 2**	**11.18 236**	⇓Pn	**Pn**		**15 11 51.7 0.0**
	comp=Z,3.2nm,0.7s					
TKM2			⇓Sn	**Sn**		**15 13 56.8 -0.4**
	comp=Z,2.6nm,0.6s					
TKM2			⇓Lg			15 15 04.1
	comp=Z,15nm,1.2s					
TKM2	**Tokmak 2**	**11.18 236**	P	**Pn**		**15 11 51.6 -0.1**
TKM2						15 13 54.3
TKM2			pmax	pmax		
	comp=Z,2.0nm,0.7s					
TKM2			smax			
	comp=Z,2.0nm,0.6s					
TKM2			pmax	pmax		
	comp=Z,18nm,1.2s					
CHKZ	**Chkalovo**	**11.46 295**	⇑Pn	**Pn**		**15 11 54.9 -0.7**
	comp=Z,1.3nm,0.5s					
CHKZ			⇑Sn	**Sn**		**15 14 03.8 -0.4**
	comp=Z,3.7nm,0.6s					
CHKZ	**Chkalovo**	**11.46 295**	P	**Pn**		**15 11 54.8 -0.8**
CHKZ						15 14 02.4
CHKZ			pmax	pmax		
	comp=Z,1.0nm,0.5s					
CHKZ			smax			
	comp=Z,2.0nm,0.6s					
BVA0	**Borovoye Array**	**11.48 292**	⇓Pn	**Pn**		**15 11 56.0 +0.2**
	comp=Z,0.3nm,0.6s,baz=272,slow=41,SNR=15					
BVA0			⇑Sn	**Sn**		**15 14 04.3 -0.4**
	comp=Z,1.4nm,0.9s,baz=105,slow=23,SNR=4.8					
BVA0	**Borovoye Array**	**11.48 292**	P	**Pn**		**15 11 56.0 +0.1**
BVA0			*i*			15 14 00.2
BVA0			smax			
	comp=Z,1.0nm,0.9s					
BRVK	**Borovoye**	**11.55 292**	P	**Pn**		**15 11 57.0 +0.2**
BRVK			pmax	pmax		
	comp=Z,1.0nm,0.4s					
BRVK	**Borovoye**	**11.55 292**	Pn	**Pn**		**15 11 57.0 +0.2**
	comp=Z,1.3nm,0.4s					
AAK	**Ala-Archa**	**11.97 237**	*e*P	**Pn**		**15 12 01.8 -0.7**
AAK	**Ala-Archa**	**11.97 237**	*e*Pn	**Pn**		**15 12 01.2 -1.2**
	comp=Z,4.9nm,0.6s					
SONM	**Songino Array**	**12.19 93**	Pn	**Pn**		**15 12 04.3 -1.2**
	baz=286,slow=15,SNR=8.0					
SONM			Lg			15 15 31.5
	comp=Z,0.2nm,0.3s,baz=284,slow=31,SNR=4.2					
ZRNK	**Zerenda**	**12.31 291**	⇓Pn	**Pn**		**15 12 07.4 +0.3**
	comp=Z,1.4nm,0.6s					
ZRNK			⇑Sn	**Sn**		**15 14 24.4 -0.4**
	comp=Z,6.8nm,1.0s					
ZRNK	**Zerenda**	**12.31 291**	P	**Pn**		**15 12 07.3 +0.2**
ZRNK						15 14 20.9
ZRNK			pmax	pmax		
	comp=Z,1.0nm,0.6s					
ZRNK			smax			
	comp=Z,7.0nm,1.0s					
ZRNK	**Zerenda**	**12.31 291**	*e*P	**Pn**		**15 12 07.1 0.0**
	comp=Z,1.9nm,0.4s					
ULN	**Ulaanbaatar**	**12.60 92**	*e*P	**Pn**		**15 12 00.1 -11**
AB31	**Akbulak array**	**18.26 279**	⇑P	**Pn**		**15 13 24.6 -0.8**
	comp=Z,0.7nm,0.5s,baz=80,slow=12,SNR=8.3					
ARU	**Arti**	**18.76 301**	⇑*e*P	**Pn**		**15 13 30.9 -0.6**
ARU			pmax	pmax		
	comp=Z,5μm,0.8s					
ARU	**Arti**	**18.76 301**	*e*P	**Pn**		**15 13 32.3 +0.7**
	comp=Z,4.7nm,0.5s					
AKTK	**Aktyubinsk**	**19.24 283**	P	**Pn**		**15 13 37.1 -0.2**
AKTO	**Aktyubinsk**	**19.24 283**	⇓P	**Pn**		**15 13 36.9 -0.5**
AKTO	**Aktyubinsk**	**19.24 283**	P	**Pn**		**15 13 37.1 -0.2**
	comp=Z,0.3nm,0.3s,baz=83,slow=11,SNR=14					
CD2	**Chengdu**	**22.37 143**	*e*P	**P**		**15 14 09.9 -0.3**
CD2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3					
TIXI	**Tiksi**	**28.42 26**	*e*P	**P**		**15 14 59.8 -7.1**
TIXI			pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4					
BRTR	**Keskin Array B**	**39.19 276**	P	**P**		**15 16 38.9 -1.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=57,slow=5.3,SNR=3.6					
NB2	**NORSAR Subarra**	**42.43 315**	P	**P**		**15 17 03.4 -3.6**
	comp=Z,0.4nm,0.4s,mb3.4,baz=66,slow=7.9					
NOA	**NORSAR Array B**	**42.43 315**	P	**P**		**15 17 04.9 -2.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=66,slow=7.7,SNR=3.7					

CSEM ***06*** *15:12:36.7±0.1,73.14N×130.8E,h10km,ML3.0,Error ellipse: s-maj=5.4km s-min=2.8km az=92.0*
ISCJB ***06*** *15:12:36.6±0.6,73.16N±003×150E±02,h10km,mb3.5/1, Error ellipse: s-maj=7.8km s-min=4.6km az=155.6*
NAO ***06*** *15:12:38.1±1.0,73.25N×150.4E,ML2.3*
BER ***06*** *15:12:40.6±4.8,73.26N×147.4E,h8km±27km,MD2.9,ML2.4, ML2.3(NAO)*
IDC ***06*** *15:12:41.1±2.8,73.03N×152.5E,h0km,mb3.5/1,mb1 3.5/5, mb1mx3.2/22,mbtmp3.4/5,ML3.0/4,Error ellipse: s-maj=35.1km s-min=19.1km az=13.0*
HEL ***06*** *15:12:43.1±0.5,72.94N×148.5E,h10km,ML3.0, MD2.9(BER),ML2.4(BER)*

ISC 06 15:12:38.9±0.5,73.19N±003×150E±02,h10km,n39, σ1§48/64,mb3.6/1,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**3.79**	**159**	*e*P	**Pn**	**15 13 39.1**	**+1.8**
TRO				*e*S	**Sn**	**15 14 18.9**	**-3.0**
TRO	**Tromso**	**3.79**	**159**	*e*P	**Pn**	**15 13 38.3**	**+1.0**
TRO				*e*S	**Sn**	**15 14 19.8**	**-2.1**
TRO				AML	AML	15 14 20.3	
	comp=Z,7.0nm,0.2s						
TRO	**Tromso**	**3.79**	**159**	P	**Pn**	**15 13 39.0**	**+1.7**
TRO				*e*S	**Sn**	**15 14 19.8**	**-2.1**
	comp=Z,7.0nm,0.2s,SNR=49						
HSP	**Hornsund**	**3.84**	**2**	*e*P	**Pn**	**15 13 36.6**	**-1.5**
HOPEN	**Hopen**	**4.23**	**33**	*e*P	**Pn**	**15 13 45.2**	**+1.7**
HOPEN				*e*S	**Sn**	**15 14 31.4**	**-1.6**
HOPEN				AML	AML	15 14 34.6	
	comp=N,31nm,0.7s						
KIF	**Kilpisjarvi**	**4.60**	**153**	*e*P	**Pn**	**15 13 49.7**	**+1.2**
KIF				*e*S	**Sn**	**15 14 39.8**	**-2.2**
KIF				MSN		15 14 42.4	
	comp=Z,27nm,0.3s						
KTK1	**Kautokeino**	**4.97**	**144**	*e*S	**Sn**	**15 14 52.9**	**+1.8**
KTK1				AML	AML	15 14 55.4	
	comp=Z,8.8nm,0.4s						
KTK1	**Kautokeino**	**4.97**	**144**	*e*S	**Sn**	**15 14 52.9**	**+1.9**
	comp=Z,8.8nm,0.4s,SNR=49						
ARA0	**ARCESS Array S**	**4.97**	**132**	Pn	**Pn**	**15 13 55.0**	**+1.4**
	baz=321,slow=12						
ARA0				Sn	**Sn**	**15 14 50.0**	**-1.1**
	baz=320,slow=22						
ARA0	**ARCESS Array S**	**4.97**	**132**	*e*P	**Pn**	**15 13 55.5**	**+1.9**
ARA0				*e*S	**Sn**	**15 14 50.9**	**-0.2**
ARCES	**ARCESS Array B**	**4.97**	**132**	Pn	**Pn**	**15 13 55.4**	**+1.9**
	comp=Z,1.4nm,0.3s,baz=324,slow=12,SNR=70						
ARCES				Sn	**Sn**	**15 14 49.7**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=321,slow=20,SNR=11						
SPA0	**Spitsbergen Ar**	**5.03**	**3**	Pn	**Pn**	**15 13 53.9**	**-0.5**
	baz=168,slow=22						
SPA0				Sn	**Sn**	**15 14 47.5**	**-5.0**
	baz=162,slow=18						
SPA0	**Spitsbergen Ar**	**5.03**	**3**	*e*	**Pn**	**15 13 53.9**	**-0.5**
SPA0				*e*		15 14 47.5	
LOF	**Lofoten**	**5.11**	**186**	*e*P	**Pn**	**15 13 55.9**	**+0.4**
LOF				*e*S	**Sn**	**15 14 50.2**	**-4.3**
LOF	**Lofoten**	**5.11**	**186**	*e*P	**Pn**	**15 13 55.8**	**+0.3**
LOF				*e*S	**Sn**	**15 14 51.0**	**-3.6**
LOF				AML	AML	15 14 53.1	
	comp=Z,12nm,0.5s						
LOF	**Lofoten**	**5.11**	**186**	P	**Pn**	**15 13 55.8**	**+0.3**
LOF				*e*S	**Sn**	**15 14 51.0**	**-3.5**
	comp=Z,12nm,0.5s,SNR=49						
KEV	**Kevo**	**5.14**	**126**	*e*P	**Pn**	**15 13 58.0**	**+2.2**
KEV				*e*S	**Sn**	**15 14 54.3**	**-0.9**
KEV				MSN		15 14 59.2	
	comp=Z,3.5nm,0.2s						
KBS	**Kingsbay**	**5.82**	**354**	*e*P	**Pn**	**15 14 03.6**	**-1.6**
KBS				*e*		15 15 03.8	
KBS	**Kingsbay**	**5.82**	**354**	*e*P	**Pn**	**15 14 03.6**	**-1.6**
KBS				Sn	**Sn**	**15 15 03.8**	**-8.2**
STOK	**Stokkvaagen**	**6.93**	**187**	*e*P	**Pn**	**15 14 19.6**	**-0.8**
STOK				*e*S	**Sn**	**15 15 33.2**	**-6.1**
STOK	**Stokkvaagen**	**6.93**	**187**	*e*P	**Pn**	**15 14 19.5**	**-0.9**
STOK				*e*S	**Sn**	**15 15 33.3**	**-6.0**
STOK				AML	AML	15 15 35.5	
	comp=Z,15nm,0.6s						
SGF	**Sodankyl**	**6.94**	**141**	*e*P	**Pn**	**15 14 21.9**	**+1.2**
SGF				*e*S	**Sn**	**15 15 36.6**	**-3.0**
SGF				MSN		15 15 41.3	
	comp=Z,2.9nm,0.3s						
MOR8	**Moi Rana**	**7.06**	**182**	*e*P	**Pn**	**15 14 21.5**	**-0.7**
MOR8				*e*S	**Sn**	**15 15 34.2**	**-8.3**
MOR8	**Moi Rana**	**7.06**	**182**	*e*P	**Pn**	**15 14 22.1**	**-0.2**
MOR8				*e*S	**Sn**	**15 15 36.7**	**-5.9**
MOR8				AML	AML	15 15 38.4	
	comp=Z,7.3nm,0.3s						
MOR8	**Moi Rana**	**7.06**	**182**	*e*P	**Pn**	**15 14 22.0**	**-0.3**
	SNR=47						
APA0	**Apatity Array**	**8.20**	**124**	Pn	**Pn**	**15 14 39.6**	**+1.7**
	baz=321,slow=11						
APA0				Sn	**Sn**	**15 16 06.2**	**-4.4**
	baz=315,slow=28						
APA0	**Apatity Array**	**8.20**	**124**	*e*P	**Pn**	**15 14 39.6**	**+1.7**
APA0				*e*S	**Sn**	**15 16 06.2**	**-4.4**
KU4	**Liikasenvaara**	**8.47**	**137**	*e*P	**Pn**	**15 14 43.1**	**+1.4**
KU4				*e*S	**Sn**	**15 16 12.2**	**-5.2**
KU4				MSN		15 16 18.1	
	comp=Z,2.0nm,0.2s						
MSF	**Maaselka**	**8.77**	**139**	*e*P	**Pn**	**15 14 47.2**	**+1.5**
MSF				*e*S	**Sn**	**15 16 20.6**	**-4.0**
MSF				MSN		15 16 24.7	
	comp=Z,1.3nm,0.2s						
NSS	**Namsos**	**8.77**	**189**	*e*P	**Pn**	**15 14 45.3**	**-0.5**
KJN	**Kajaani**	**10.21**	**147**	*e*P	**Pn**	**15 15 05.6**	**+0.1**
KJN				*e*S	**Sn**	**15 16 52.9**	**-7.2**
KJN				MSN		15 17 01.1	
	comp=Z,3.5nm,0.4s						
NOA	**NORSAR Array B**	**12.29**	**189**	Pn	**Pn**	**15 15 33.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=34,slow=10,SNR=1.9						
FIA0	**FINESS Array S**	**12.51**	**155**	Pn	**Pn**	**15 15 37.1**	**+0.3**
	baz=345,slow=16						
FIA0	**FINESS Array S**	**12.51**	**155**	*e*P	**Pn**	**15 15 37.1**	**+0.3**
FINES	**FINESS Array B**	**12.51**	**155**	Pn	**Pn**	**15 15 37.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=344,slow=15,SNR=3.4						
FINES				Sn	**Sn**	**15 17 48.4**	**-7.8**
	comp=Z,0.1nm,0.3s,baz=350,slow=24,SNR=2.9						
HFS	**Hagfors**	**13.13**	**183**	*e*P	**Pn**	**15 15 44.9**	**-0.5**
HFS	**Hagfors**	**13.13**	**183**	Pn	**Pn**	**15 15 45.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=2.4,slow=10,SNR=7.0						
HFS	**Hagfors**	**13.13**	**183**	Pn	**Pn**	**15 15 44.9**	**-0.5**
	baz=5.2,slow=11						
TORD	**Torodi Ar. Bea**	**60.53**	**195**	P	**P**	**15 22 50.9**	**+1.7**
	comp=Z,0.4nm,0.7s,mb3.6,baz=18,slow=5.0,SNR=2.9						

ISCJB ***06*** *15:22:20.7±1.2,3720N±007×857W±008,h25km±5km, Error ellipse: s-maj=14.2km s-min=7.5km az=86.4*
IGIL ***06*** *15:22:21.7,3720N×858W,h21km,ML2.6*
CSEM ***06*** *15:22:21.2±0.5,3725N×860W,h20km,ML2.1,Error ellipse: s-maj=11.8km s-min=5.3km az=31.0*
NEIC ***06*** *15:22:21.6,3726N×854W,h11km,MN2.6(MDD),After MDD.*
INMG ***06*** *15:22:22.7±1.6,3726N×849W,h12km±6km,ML2.1,Error ellipse: s-maj=6.3km s-min=3.5km az=36.0*
MDD ***06*** *15:22:22.0±0.9,3724N×854W,h19km±6km,mbLg2.5/6, Error ellipse: s-maj=8.4km s-min=5.9km az=23.0,PRXIMO*

ISC 06 15:22:21.3±1.1,3722N±007×854W±007,h22km±6km,n27, σ1§08/38,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.12**	**313**	*e*P	**Pb**	**15 22 25.7**	**0.0**
MORF				*e*S	**Sb**	**15 22 28.6**	**-0.1**
MORF				*e*S	**Sb**	**15 22 28.7**	**-0.1**
MORF				AML	AML	15 22 29.4	
	comp=E,1μm,0.1s						
MORF	**Marmelete**	**0.12**	**313**	*e*P	**Pb**	**15 22 25.7**	**0.0**
MORF				*e*S	**Sb**	**15 22 28.6**	**-0.1**
PTEO	**Sao Teotonio**	**0.35**	**335**	*e*Pg	**Pb**	**15 22 29.0**	**0.0**
PTEO				*e*Sg	**Sb**	**15 22 34.2**	**0.0**
PTEO							
	comp=E,115nm,0.1s						
PTEO	**Sao Teotonio**	**0.35**	**335**	*e*Sg	**Sb**	**15 22 34.2**	**0.0**
	comp=E,115nm,0.1s						
EGRO	**El Granado**	**0.90**	**69**	Pg	**Pb**	**15 22 38.2**	**+0.1**
	comp=E,4.9nm,0.1s,SNR=20						
EGRO				Lg		15 22 50.0	
	comp=E,66nm,0.2s,SNR=40						
EGRO	**El Granado**	**0.90**	**69**	Pg	**Pb**	**15 22 37.8**	**-0.3**
EGRO				Lg		15 22 50.0	
EGRO	**El Granado**	**0.90**	**69**	Pg	**Pb**	**15 22 37.8**	**-0.3**
	comp=E,4.9nm,0.1s,SNR=20						
EGRO				Lg		15 22 50.0	
	comp=E,68nm,0.1s,SNR=40						
PBEJ	**Beja**	**0.96**	**33**	*e*P	**Pb**	**15 22 39.6**	**+0.3**
PBEJ				*e*S	**Sb**	**15 22 51.4**	**-0.2**
PBEJ							
	comp=E,34nm,0.1s						
PBEJ	**Beja**	**0.96**	**33**	*e*P	**Pb**	**15 22 39.6**	**+0.3**
PBEJ				*e*S	**Sb**	**15 22 51.4**	**-0.2**
	comp=E,34nm,0.1s						
ERIP	**Rio Piedras**	**1.03**	**81**	Pg	**Pb**	**15 22 40.2**	**-0.2**
	comp=E,6.1nm,0.1s,SNR=7.9						
ERIP				Lg		15 22 54.8	
	comp=E,20nm,0.1s,SNR=7.9						
MOE	**Montemor**	**1.31**	**6**	*e*S	**Sn**	**15 23 03.3**	**+2.4**
EMIN	**Mina Concepcio**	**1.58**	**69**	Pn	**Pn**	**15 22 46.7**	**-1.2**
	comp=E,0.2nm,0.0s,SNR=7.9						
EMIN				Pg	**Pn**	**15 22 50.9**	**+3.0**
	comp=E,1.0nm,0.1s,SNR=16						
EMIN				Lg		15 23 09.6	
	comp=E,5.7nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**1.58**	**69**	Pn	**Pn**	**15 22 46.7**	**-1.2**
	comp=E,0.2nm,0.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.58**	**69**	Pg	**Pn**	**15 22 50.9**	**+3.0**
	comp=E,1.0nm,0.1s,SNR=16						
EMIN				Lg		15 23 09.6	
	comp=E,5.7nm,0.1s,SNR=11						
PLOU	**Loures**	**1.73**	**344**	*e*P	**Pn**	**15 22 49.3**	**-0.7**
PLOU				*e*S	**Sn**	**15 23 09.7**	**-1.7**
PLOU							
	comp=E,11nm,0.1s						
EBAD	**Badajoz**	**1.95**	**38**	Pg	**Pn**	**15 22 56.3**	**+3.3**
	comp=E,1.4nm,0.1s,SNR=5.0						
EBAD				Lg		15 23 22.9	
	comp=E,9.4nm,0.1s,SNR=12						
EBAD	**Badajoz**	**1.95**	**38**	Pg	**Pn**	**15 22 56.3**	**+3.3**
	comp=E,1.4nm,0.1s,SNR=5.0						
EBAD				Lg		15 23 22.9	
	comp=E,14nm,0.1s,SNR=12						
ESPR	**Espera**	**2.17**	**99**	Pn	**Pn**	**15 22 57.0**	**+0.9**
	comp=E,1.3nm,0.1s,SNR=4.0						
ESPR				Sn	**Sn**	**15 23 22.5**	**+0.2**
	comp=E,4.3nm,0.1s,SNR=4.0						
ESPR				Lg		15 23 30.4	
	comp=E,3.9nm,0.1s,SNR=4.0						
ESPR	**Espera**	**2.17**	**99**	Pn	**Pn**	**15 22 57.0**	**+0.9**
ESPR				Sn	**Sn**	**15 23 22.5**	**+0.1**
ESPR				Lg		15 23 30.4	
ESPR	**Espera**	**2.17**	**99**	Pn	**Pn**	**15 22 57.0**	**+0.9**
	comp=E,1.3nm,0.1s,SNR=4.0						
ESPR				Sn	**Sn**	**15 23 22.5**	**+0.1**
	SNR=4.0						
ESPR				Lg		15 23 30.4	
	comp=E,3.9nm,0.1s,SNR=4.0						
PCBR	**Castelo Branco**	**2.74**	**17**	*e*Sg	**Sn**	**15 23 43.0**	**+6.6**
PCBR							
	comp=E,3.2nm,0.1s						
PCBR	**Castelo Branco**	**2.74**	**17**	Lg		15 23 43.0	
	comp=E,1.6nm,0.1s						
EADA	**Adamuz**	**3.28**	**72**	Pn	**Pn**	**15 23 10.8**	**-0.5**
	comp=E,0.2nm,0.0s,SNR=7.9						
EADA				Pg	**Pn**	**15 23 20.9**	**+10**
	comp=E,0.3nm,0.1s,SNR=4.0						
EADA				Sn	**Sn**	**15 23 48.0**	**-1.7**
	comp=E,1.8nm,0.1s,SNR=7.9						
EADA				Lg		15 24 02.9	
	comp=E,2.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.28**	**72**	Pn	**Pn**	**15 23 10.8**	**-0.5**
	comp=E,0.2nm,0.0s,SNR=7.9						
EADA	**Adamuz**	**3.28**	**72**	Pg	**Pn**	**15 23 20.9**	**+10**
	comp=E,0.3nm,0.1s,SNR=4.0						
EADA				Sn	**Sn**	**15 23 48.0**	**-1.6**
	SNR=7.9						
EADA				Lg		15 24 02.9	
	comp=E,2.1nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.35**	**54**	Lg		15 24 37.4	
	comp=E,0.4nm,0.3s,baz=235,slow=26,SNR=3.6						
ESDC	**Sonseca Array**	**4.35**	**54**	Lg		15 24 37.4	
	comp=E,0.4nm,0.3s,SNR=3.6						

ISCJB ***06*** *15:34:07.3±0.6,25.13S±004×117.87E±006,h10km, mb4.1/6,Error ellipse: s-maj=8.1km s-min=4.6km az=52.5*
IDC ***06*** *15:34:08.4±1.5,25.08S×117.82E,h0km,mb3.8/3, mb1 4.4/7,mb1mx4.2/14,mbtmp4.2/7,ML4.2/3,Error ellipse: s-maj=30.6km s-min=23.2km az=117.0*
AUST ***06*** *15:34:10.0,25.03S×117.44E,h6km,ML4.5*
NEIC ***06*** *15:34:09.0,25.03S×117.44E,h6km,mb4.1/7, ML4.5(AUST),After AUST.*
NEIC Felt in the Burringurrah area.

ISC 06 15:34:09.1±0.5,2512S±004×11784E±005,h10km, (h11km±1.3km:pP-P),n47,σ1§38/83,mb4.1/6,12C-6D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEEK	**Meekatharra**	**1.67**	**155**	⇓*i*P	**Pg**	**15 34 42.4**	**+1.3**
MEEK				*e*S	**Sg**	**15 35 05.3**	**+2.6**
	954nm,0.2s						
GIRL	**Giralia**	**3.31**	**320**	*e*P	**Pg**	**15 35 10.5**	**-2.0**
GIRL				*e*S	**Sn**	**15 35 47.2**	**+6.9**
	534nm,0.2s						
MORW	**Morawa**	**4.25**	**202**	⇑*i*P	**Pn**	**15 35 12.0**	**-1.9**
MORW				*e*S	**Sn**	**15 35 58.5**	**-5.0**
	429nm,0.3s						
MBWA	**Marble Bar**	**4.31**	**24**	⇓*i*P	**Pn**	**15 35 14.7**	**0.0**
MBWA				*e*		15 35 29.9	
MBWA				*e*S	**Sn**	**15 36 04.3**	**-0.7**
BLDU	**Ballidu**	**5.56**	**190**	⇑*i*P	**Pn**	**15 35 31.6**	**-0.3**
BLDU				*e*S	**Sn**	**15 36 31.2**	**-4.7**
	88nm,0.4s						
BLDU	**Ballidu**	**5.56**	**190**	⇑*i*P	**Pn**	**15 35 31.6**	**-0.3**
	88nm,0.4s						
BLDU				*e*S	**Sn**	**15 36 31.2**	**-4.7**
KLBR	**Kellerberrin**	**6.45**	**181**	⇑*i*P	**Pn**	**15 35 44.6**	**+0.5**
KLBR				*e*S	**Sn**	**15 36 51.7**	**-6.1**
	79nm,0.2s						
KLBR	**Kellerberrin**	**6.45**	**181**	⇑*i*P	**Pn**	**15 35 44.6**	**+0.5**
	79nm,0.2s						
KLBR				*e*S	**Sn**	**15 36 51.7**	**-6.1**
MUN	**Mundaring**	**6.98**	**191**	⇑*i*P	**Pn**	**15 35 50.4**	**-1.1**
MUN				*e*S	**Sn**	**15 37 05.4**	**-5.5**
KMBL	**Kambalda**	**7.17**	**151**	*e*P	**Pn**	**15 35 56.2**	**+2.1**
KMBL				*e*S	**Sn**	**15 37 12.3**	**-3.3**
	792nm,0.7s						
KMBL	**Kambalda**	**7.17**	**151**	*e*P	**Pn**	**15 35 56.2**	**+2.1**
	792nm,0.7s						
KMBL				*e*S	**Sn**	**15 37 12.3**	**-3.3**
NWAO	**Narrogin (SRO)**	**7.80**	**184**	⇓*i*P	**Pn**

0.6nm,0.3s,baz=251,slow=21,SNR=4.3
WRA Lg 15 42 43.7
0.2nm,0.3s,baz=249,slow=30,SNR=2.9
WRA Warramunga Arr 16.09 75 Pn **Pn 15 37 54.6 -0.8**
WRA Sn **Sn 15 40 52.1 -1.7**
WRA Lg 15 42 43.6
WRAB Tennant Creek 16.10 75 *e*Pn **Pn 15 37 55.1 -0.5**
BBOO Buckleboo 17.67 120 *e*P **Pn 15 38 13.6 -1.8**
BBOO *e*S **Sn 15 41 21.7 -11**
4.1nm,0.4s
BBOO Buckleboo 17.67 120 *e*P **Pn 15 38 13.6 -1.8**
4.1nm,0.4s
BBOO *e*S **Sn 15 41 21.7 -11**
KAKA Kakadu 18.50 51 *e*P **Pn 15 38 28.5 +3.0**
KAKA *e*S **Sn 15 41 48.1 -4.2**
6.9nm,0.5s
KAKA Kakadu 18.50 51 *e*P **Pn 15 38 28.5 +3.0**
6.9nm,0.5s
KAKA *e*S **Sn 15 41 48.1 -4.2**
QIS Mount Isa 20.56 82⇑ *i*P **P 15 38 50.1 +2.2**
QIS *e*S **S 15 42 44.1 +6.2**
3.1nm,0.6s
QIS Mount Isa 20.56 82⇑ *i*P **P 15 38 50.1 +2.2**
3.1nm,0.6s
QIS *e*S **S 15 42 44.1 +6.2**
STKA Stephens Creek 21.91 113 ⇓ *i*P **P 15 39 03.4 +0.9**
STKA *e*S **S 15 42 58.7 -5.8**
4.2nm,0.6s
STKA Stephens Creek 21.91 113 P **P 15 39 03.8 +1.3**
5.7nm,0.5s,mb4.3,baz=290,slow=12,SNR=43
STKA S **S 15 43 01.7 -2.7**
4.4nm,0.6s,baz=0.8,slow=17,SNR=4.8
STKA Lg 15 45 39.2
17nm,0.9s,baz=162,slow=19,SNR=3.9
STKA Stephens Creek 21.91 113 ⇓ *i*P **P 15 39 03.4 +0.9**
4.2nm,0.6s,mb4.0
STKA *e*S **S 15 42 58.7 -5.8**
ARPS Mount Arapiles 23.57 125 *e*P **P 15 39 23.1 +3.1**
ARPS *e*S **S 15 43 47.2 +13**
11nm,0.9s
ARPS Mount Arapiles 23.57 125 *e*P **P 15 39 23.1 +3.1**
11nm,0.9s,mb4.3
ARPS *e*S **S 15 43 47.2 +13**
QLP Quilpie 23.79 99 *e*P **P 15 39 25.7 +3.7**
CTA Charters Tower 26.68 85 P **P 15 39 52.3 +4.0**
8.5nm,0.9s,mb4.3,baz=263,slow=13,SNR=8.4
CTAO Charters Tower 26.68 85 *e*P **P 15 39 51.9 +3.7**
3.2nm,0.6s,mb4.0
PMG Port Moresby 31.96 66 P **P 15 40 41.4 +6.2**
17nm,0.8s,mb4.9,baz=225,slow=4.3,SNR=3.7
VNDA Vanda 56.37 170 P **P 15 43 52.1 +1.7**
1.1nm,0.8s,mb3.9,baz=306,slow=6.5,SNR=7.8
VNDA Vanda 56.37 170 *e*P **P 15 43 52.4 +2.0**
1.4nm,0.9s,mb4.0
SNAA Sanae 75.28 196 *e* **P 15 45 41.9 -10**
SNAA *e* pP 15 45 44.5 -11
VNA2 Neumayer--Watz 76.89 196 *e* **P 15 46 01.2 -0.3**
baz=124,slow=3.5
VNA2 *e* pP 15 46 05.3 +0.5
VNA2 *e* 15 46 15.5
VNA3 Neumayer Olymp 77.24 195 *e* **P 15 46 04.0 +0.5**
VNA3 *e* pP 15 46 07.1 +0.3
VNA3 *e* 15 46 18.4
MKAR Makanchi Array 78.46 336 P **P 15 46 10.8 +0.5**
0.2nm,0.5s,mb3.4,baz=144,slow=5.2,SNR=4.5

IDC 06 15:49:38.1±2.3,960S×11926E,h0km,mb3.4/1,mb1 3.3/3, mb1mx3.2/15,mbtmp3.1/3,ML3.0/3,Error ellipse: s-maj=201.8km s-min=25.1km az=52.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.48**	**144**	Pn	Pn	15 52 08.3	-1.2
	0.1nm,0.3s,baz=330,slow=15,SNR=5.0						
FITZ				Sn	Sn	15 53 57.6	-10
	0.1nm,0.3s,baz=180,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**17.83**	**127**	P	Pn	15 53 47.2	-0.3
	0.0nm,0.3s,baz=298,slow=14,SNR=4.6						
ASAR	**Alice Springs**	**19.79**	**137**	P	Pn	15 54 11.4	+0.1
	0.1nm,0.3s,baz=318,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**65.10**	**333**	P	P	16 00 20.6	0.0
	0.2nm,0.4s,baz=145,slow=5.4,SNR=7.0						

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*NEIC **06** 15:53:43.7±1.5,526N×9426E,h30km,Error ellipse: s-maj=40.4km s-min=14.9km az=50.0*
*ISCJB **06** 15:53:51.1±4.5,55N±02×949E±04,h98km±32km,mb3.7/5, Error ellipse: s-maj=70.0km s-min=17.1km az=120.4*
*IDC **06** 15:53:53.1±6.0,562N×9507E,h94km±41km,mb3.4/5, mb1 3.5/6,mb1mx3.2/21,mbtmp3.7/6,Error ellipse: s-maj=103.4km s-min=17.6km az=59.0*
ISC 06 15:53:52.2±4.3,56N±02×949E±04,h89km±30km,n9, σ0°39/11,mb3.7/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.89**	**124**	P	Pn	15 55 03.2	0.0
	0.9nm,0.3s,baz=302,slow=15,SNR=5.2						
PSI				S	Sn	15 55 58.9	+0.3
	0.4nm,0.3s,baz=302,slow=19,SNR=2.7						
PSI	**Prapat**	**4.89**	**124**	P	Pn	15 55 03.2	0.0
PSI				S	Sn	15 55 58.9	+0.3
KULM	**Kulim**	**5.77**	**92**	*e*P	Pn	15 55 14.9	-0.3
MKAR	**Makanchi Array**	**42.48**	**347**	P	P	16 01 38.4	-0.1
	1.9nm,0.8s,mb3.9,baz=169,slow=8.2,SNR=15						
SONM	**Songino Array**	**43.26**	**11**	P	P	16 01 44.6	-0.1
	0.6nm,0.7s,mb3.4,baz=186,slow=8.1,SNR=4.4						
WRA	**Warramunga Arr**	**46.36**	**124**	P	P	16 02 09.4	+0.1
	0.7nm,0.5s,mb3.6,baz=307,slow=9.5,SNR=14						
WRAB	**Tennant Creek**	**46.36**	**124**	*e*P	P	16 02 09.9	+0.5
ASAR	**Alice Springs**	**47.90**	**129**	P	P	16 02 20.5	-0.9
	0.3nm,0.6s,mb3.3,baz=303,slow=7.8,SNR=11						
ZAL	**Zalesovo**	**48.92**	**352**	P	P	16 02 29.6	+0.4
	0.7nm,0.3s,mb4.0,baz=273,slow=8.2,SNR=3.8						

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*IDC **06** 16:33:02.2±1.0,2241N×14386E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.8/17,mbtmp3.9/6,Error ellipse: s-maj=52.4km s-min=20.6km az=80.0*
*ISCJB **06** 16:33:05.0±1.8,224N±0.1×144.1E±07,h33km,mb3.9/7, Error ellipse: s-maj=94.0km s-min=17.6km az=165.1*
*NEIC **06** 16:33:20.8±0.7,2224N×14353E,h150km,mb4.4/1,Error ellipse: s-maj=38.3km s-min=14.9km az=84.0*
ISC 06 16:33:06.5±1.8,225N±01×1444E±07,h35km,n10,σ0°75/8, mb3.9/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**43.24**	**194**	*e*P	P	16 41 04.7	+0.4
	2.8nm,0.3s,mb4.5						
WRA	**Warramunga Arr**	**43.26**	**194**	P	P	16 41 05.0	+0.6
	0.6nm,0.3s,mb3.8,baz=16,slow=8.9,SNR=54						
ASAR	**Alice Springs**	**46.95**	**193**	P	P	16 41 33.8	0.0
	0.4nm,0.5s,mb3.6,baz=13,slow=9.8,SNR=9.1						
STKA	**Stephens Creek**	**54.09**	**183**	P	P	16 42 26.7	-1.0
	0.9nm,0.5s,mb4.0,baz=338,slow=6.7,SNR=3.9						
STKA	**Stephens Creek**	**54.09**	**183**	P	P	16 42 26.7	-1.0
MKAR	**Makanchi Array**	**54.98**	**312**	P	P	16 42 33.9	-0.3
	0.8nm,0.6s,mb4.0,baz=91,slow=8.5,SNR=12						
MKAR				PcP	PcP	16 43 34.5	-1.1
	0.5nm,0.5s,baz=79,slow=5.5,SNR=8.8						
ARCES	**ARCESS Array B**	**78.55**	**342**	P	P	16 45 05.5	+1.3
	0.8nm,0.7s,mb3.7,baz=82,slow=8.3,SNR=1.3						
FINES	**FINESS Array B**	**82.96**	**335**	P	P	16 45 26.9	-1.0
	0.6nm,0.4s,mb4.0,baz=63,slow=5.8,SNR=7.3						
PLCA	**Paso Flores**	**145.43**	**130**	PKPbc	PKPbc	16 52 43.3	+2.6
	1.1nm,0.4s,baz=263,slow=2.8,SNR=6.8						
LPAZ	**La Paz**	**148.80**	**84**	PKPbc	PKPbc	16 52 54.3	+4.1
	0.7nm,0.5s,baz=9.5,slow=6.1,SNR=3.6						

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*MOS **06** 16:53:38.4±1.2,1072S×16192E,h33km,mb5.0/13,Error ellipse: s-maj=12.2km s-min=10.3km az=147.3*
*ISCJB **06** 16:53:38.0±0.3,1077S±005×16186E±005,h30km, mb4.7/36,MS4.1/11,Error ellipse: s-maj=7.5km s-min=6.9km az=171.5*
*NEIC **06** 16:53:40.0±0.3,1072S×16186E,mb4.8/20,Error ellipse: s-maj=9.5km s-min=7.1km az=111.0*
*IDC **06** 16:53:39.7±0.8,1074S×16172E,h29km±5km,mb4.3/11, mb1 4.4/12,mb1mx4.4/14,mbtmp4.4/12,ML4.5/1,MS3.9/13, Ms1 3.9/13,ms1mx3.8/20,Error ellipse: s-maj=25.2km s-min=16.4km az=93.0*

*HRVD **06** 16:53:40.0±0.7,1077S×16180E,h38km±1km,MW4.9/39, Centroid moment Tensor Solution. LP body waves: s8,c10;Mantle waves: s39,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.27±.25; $M_{\theta\theta}$-0.15±.18; $M_{\phi\phi}$-2.12±.16; $M_{r\theta}$-0.77±.15; $M_{\theta\phi}$1.46±.13; $M_{\phi r}$-1.06±.14; Best double couple: $M_0$2.94800×10^{16} NP1:ϕ_s307.00000°, δ45.00000°,λ51.00000°. NP2:ϕ_s176.00000°,δ57.00000°, λ122.00000°. Principal axes: T 2.9310, Plg62.0000°, Azm141.0000°; N 0.0290, Plg27.0000°, Azm338.0000°; P -2.9650, Plg7.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **06** 16:53:41.9,1070S×16190E,h30km,mB4.9,mb4.9,Ms4.8, Msz4.5*
ISC 06 16:53:39.9±0.3,1079S±004×16195E±005,h32km, h32km±1.1km:pP-P,n87,σ1°24/85,mb4.7/36,MS4.1/11,2C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.39**	**304**	Pn	Pn	16 54 17.5	+0.7
	616nm,0.3s,baz=121,slow=2.2,SNR=394						
HNR				LR	LR	16 54 46.3	
	comp=Z,928nm,20.5s,baz=251,slow=31						
HNR				Sn	Sn	16 54 47.8	+2.8
	1μm,0.3s,baz=92,slow=22,SNR=13						
HNR	**Honiara**	**2.39**	**304**	*e*Pn	Pn	16 54 16.9	+0.1
HNR				*e*Sn	Sn	16 54 47.0	+2.0
NOUC	**Port Laguerre**	**12.00**	**160**	*e*P	Pn	16 56 31.0	+2.4
NOUC				*e*S	Sn	16 58 38.6	-2.7
DZM	**Mont Dzumac**	**12.02**	**160**	*e*P	Pn	16 56 31.0	+2.1
DZM				*e*S	Sn	16 58 33.3	-8.5
DZM	**Mont Dzumac**	**12.02**	**160**	Pn	Pn	16 56 31.1	+2.3
	3.2nm,0.3s,baz=6.1,slow=18,SNR=25						
DZM				Sn	Sn	16 58 40.4	-1.3
	0.9nm,0.3s,baz=218,slow=21,SNR=4.3						
DZM				LR	LR	17 00 15.3	
	comp=Z,693nm,20.2s,baz=19,slow=33						
PMG	**Port Moresby**	**14.63**	**274**	Pn	Pn	16 57 06.2	+1.6
	0.3nm,0.3s,baz=76,slow=17,SNR=1.9						
PMG				Sn	Sn	16 59 45.3	-0.3
	3.5nm,0.3s,baz=176,slow=22,SNR=12						
PMG				LR	LR	17 00 44.0	
	comp=Z,82nm,20.6s,baz=106,slow=30						
PMG	**Port Moresby**	**14.63**	**274**	P	Pn	16 57 06.2	+1.6
PMG						16 59 45.3	
CTA	**Charters Tower**	**17.72**	**237**	*e*P	Pn	16 57 45.5	+1.4
	46nm,0.9s						
CTA	**Charters Tower**	**17.72**	**237**	P	Pn	16 57 45.7	+1.6
	2.0nm,0.3s,baz=70,slow=12,SNR=39						
CTA	**Charters Tower**	**17.72**	**237**	*e*P	Pn	16 57 45.5	+1.4
CTA				pmax	pmax		
	comp=Z,46nm,0.9s						
CTAO	**Charters Tower**	**17.72**	**237**	*e*P	Pn	16 57 45.5	+1.4
CTAO				pmax	pmax		
	comp=Z,71nm,0.9s						
CTAO	**Charters Tower**	**17.72**	**237**	*e*P	Pn	16 57 45.5	+1.4
	comp=Z,71nm,0.9s						
ARMA	**Armidale**	**21.77**	**205**	*e*P	P	16 58 30.3	+1.5
AFI	**Afiamalu**	**25.84**	**100**	LR	LR	17 08 04.6	
	comp=Z,428nm,18.1s,MS4.0,baz=245,slow=33						
RAO	**Raoul Island**	**26.29**	**137**	LR	LR	17 07 45.6	
	comp=Z,324nm,18.6s,MS3.9,baz=152,slow=32						
CNB	**Canberra Magne**	**26.97**	**203**	*e*P	P	16 59 20.3	+1.8
	comp=Z,20nm,1.2s,mb4.5						
WRAB	**Tennant Creek**	**28.09**	**248**	*e*P	P	16 59 27.4	-1.2
WRAB	**Tennant Creek**	**28.09**	**248**	*e*P	P	16 59 27.6	-1.0
	comp=Z,35nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**28.10**	**248**	P	P	16 59 27.9	-0.8
	comp=Z,4.9nm,0.8s,mb4.2,baz=75,slow=8.9,SNR=22						
STKA	**Stephens Creek**	**28.18**	**219**	*e*P	P	16 59 29.0	-0.4
	comp=Z,2.9nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**28.18**	**219**	P	P	16 59 28.8	-0.6
	comp=Z,2.0nm,0.8s,mb3.8,baz=9.4,slow=11,SNR=6.0						
STKA				LR	LR	17 10 12.0	
	comp=Z,682nm,18.4s,MS4.3,baz=33,slow=35						
KAKA	**Kakadu**	**28.95**	**263**⇑ *i*P		P	16 59 34.9	-1.3
	comp=Z,13nm,0.4s,mb5.0						
GUMO	**Guam**	**29.56**	**325**	LR	LR	17 11 10.2	
	comp=Z,151nm,18.8s,MS3.6,baz=127,slow=36						
AS31	**Alice Springs**	**29.62**	**241**	*e*P	P	16 59 40.7	-1.5
ASAR	**Alice Springs**	**29.62**	**241**	P	P	16 59 41.0	-1.2
	comp=Z,1.7nm,0.7s,mb3.9,baz=63,slow=9.8,SNR=24						
ASPA	**Alice Springs**	**29.63**	**241**	*e*P	P	16 59 40.7	-1.5
TOO	**Toolangi**	**30.50**	**206**	*e*P	P	16 59 51.4	+1.4
	comp=Z,6.5nm,0.6s,mb4.6						
TOO	**Toolangi**	**30.50**	**206**	*e*P	P	16 59 51.4	+1.4
TOO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
URZ	**Urewera**	**30.54**	**156**	LR	LR	17 10 47.1	
	comp=Z,332nm,18.1s,MS4.0,baz=24,slow=34						
RPZ	**Rata Peaks**	**33.74**	**168**	P	P	17 00 19.6	+1.2
	comp=Z,21nm,1.2s,mb4.9,baz=327,slow=17,SNR=3.4						
RPZ				LR	LR	17 12 45.4	
	comp=Z,254nm,19.1s,MS4.0,baz=183,slow=34						
RPZ	**Rata Peaks**	**33.74**	**168**	P	P	17 00 19.6	+1.2
RPZ				LR	LR	17 12 45.4	
FITZ	**Fitzroy Crossi**	**35.86**	**254**	*e*P	P	17 00 35.6	-1.1
	comp=Z,12nm,0.5s,mb5.1						
FORT	**Forrest**	**37.19**	**233**	*e*P	P	17 00 55.3	+7.3
	comp=Z,16nm,0.7s,mb5.0						
MBWA	**Marble Bar**	**41.77**	**250**	*e*P	P	17 01 25.6	-0.5
	comp=Z,11nm,0.8s,mb4.5						
KLBR	**Kellerberrin**	**45.73**	**236**	*e*P	P	17 02 05.5	+7.5
	comp=Z,28nm,1.3s,mb5.0						
MUN	**Mundaring**	**47.10**	**236**	*e*P	P	17 02 09.3	+0.5
PPT	**Papeete**	**47.37**	**104**	LR	LR	17 17 01.0	
	comp=Z,224nm,20.7s,MS4.1,baz=163,slow=29						
MJAR	**Matsushiro Arr**	**52.11**	**336**	P	P	17 02 46.5	-0.4
	comp=Z,0.4nm,0.5s,mb3.6,baz=161,slow=12,SNR=3.3						
MJAR				pP	pP	17 02 56.5	-0.1
	comp=Z,2.8nm,0.7s,baz=166,slow=8.9,SNR=5.0						
MJAR				LR	LR	17 21 56.9	
	comp=Z,146nm,20.7s,MS4.0,baz=40,slow=33						
MJAR	**Matsushiro Arr**	**52.11**	**336**	P	P	17 02 46.6	-0.3
MJAR				*PP	pP	17 02 56.5	-0.1
MAJO	**Matsushiro**	**52.12**	**336**	P	P	17 02 46.1	-0.8
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MAJO	**Matsushiro**	**52.12**	**336**	P	P	17 02 46.1	-0.8
	comp=Z,3.9nm,0.6s,mb4.5						
MAT	**Matsushiro**	**52.12**	**336**	P	P	17 02 45.2	-1.7
MAT	**Matsushiro**	**52.12**	**336**	P	P	17 02 55.0	+8.1
CN2	**Changchun**	**63.66**	**331**	*e*P	P	17 04 16.3	+8.3
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
KLR	**Kul'dur**	**65.40**	**339**	*e*P	P	17 04 24.2	+4.9
KLR				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.2						
VNDA	**Vanda**	**66.72**	**180**	P	P	17 04 28.2	+0.5
	comp=Z,8.7nm,0.7s,mb4.9,baz=344,slow=6.6,SNR=88						
VNDA	**Vanda**	**66.72**	**180**	P	P	17 04 28.3	+0.5
VNDA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VNDA	**Vanda**	**66.72**	**180**	*e*P	P	17 04 28.0	+0.3
	comp=Z,5.8nm,0.7s,mb4.7						
SBA	**Scott Base**	**67.10**	**179**	*e*P	P	17 04 31.3	+1.1
SBA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
SBA	**Scott Base**	**67.10**	**179**	*e*P	P	17 04 31.3	+1.1
	comp=Z,10nm,1.0s,mb4.8						
XAN	**Xi'an**	**67.23**	**314**	P	P	17 04 38.9	+7.9
KMI	**Kunming**	**67.83**	**303**	P	P	17 04 37.0	+2.2
KMI				AP	pP	17 04 46.7	+1.9
KMI				XP	sP	17 04 50.4	+1.9
KMI				PP	PP	17 07 07.9	+3.4
KMI				PPP		17 08 44.8	
KMI				LR	LR		
	comp=N,150nm,14.0s,MS4.6						
KMI				LR	LR		
	comp=E,200nm,15.2s,MS4.6						
KMI				LR	LR		
	comp=Z,250nm,21.7s						
NIKO	**Nikolski**	**68.24**	**19**	*e*P	P	17 04 38.3	+0.9
HHC	**Hu-ho-hao-te**	**69.26**	**321**	*e*P	P	17 04 53.4	+10
HHC				AP	pP	17 05 00.1	+6.4
HHC				XP	sP	17 05 02.8	+5.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2	**Chengdu**	**69.51**	**309**	*e*P	P	17 04 45.0	-0.3
CD2				AP	pP	17 04 55.3	0.0
CD2				XP	sP	17 04 59.6	+0.6
CD2				PP	PP	17 07 20.8	+1.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,6.2s						
LZH	**Lanzhou**	**71.86**	**314**	*e*P	P	17 05 08.5	+9.0
LZH				XP	sP	17 05 17.5	+4.2
LZH				XP	sP	17 05 23.0	+10
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
CIT	**Chita**	**75.11**	**331**	*e*P	P	17 05 27.8	+9.1
CIT				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.0						
ULN	**Ulaanbaatar**	**75.94**	**325**	*e*P	P	17 05 22.7	-0.7
ULN				*e*	pP	17 05 31.4	-2.1
ULN				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**75.94**	**325**	*e*P	P	17 05 22.7	-0.7
	comp=Z,17nm,1.1s,mb4.9						
ULN				*e*	pP	17 05 31.4	-2.1
SONM	**Songino Array**	**76.29**	**325**	P	P	17 05 25.3	-0.1
	comp=Z,2.2nm,0.7s,mb4.2,baz=144,slow=5.9,SNR=14						
SONM				pP	pP	17 05 34.5	-1.0
	comp=Z,9.6nm,0.9s,baz=138,slow=5.1,SNR=18						
SONM				LR	LR	17 35 09.2	
	comp=Z,150nm,20.2s,MS4.3,baz=7.4,slow=33						
SONM	**Songino Array**	**76.29**	**325**	P	P	17 05 25.3	-0.1
SONM				*PP	pP	17 05 34.5	-1.0
YAK	**Yakutsk**	**76.84**	**345**	*e*P	P	17 05 26.3	-2.2
YAK				*e*	pP	17 05 36.8	-1.8
YAK				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.3						
YAK	**Yakutsk**	**76.84**	**345**	*e*P	P	17 05 26.2	-2.3
	comp=Z,27nm,0.7s,mb5.3						
YAK				*e*	pP	17 05 36.8	-1.8
KDAK	**Kodiak Island**	**77.75**	**23**	P	P	17 05 34.5	+0.9
	comp=Z,4.6nm,0.7s,mb4.5,baz=214,slow=0.9,SNR=7.2						
KDAK	**Kodiak Island**	**77.75**	**23**	*e*P	P	17 05 34.2	+0.6
	comp=Z,9.1nm,0.9s,mb4.7						
BILL	**Bilibino**	**78.68**	**2**⇑ *e*P		P	17 05 39.4	+0.6
BILL				*i*	pP	17 05 48.1	-0.8
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BILL	**Bilibino**	**78.68**	**2**	*e*P	P	17 05 37.9	-0.9
	comp=Z,25nm,1.0s,mb5.1						
BILL				*e*	pP	17 05 48.3	-0.6
SVW2	**Sparrevohn**	**79.07**	**20**	*e*P	P	17 05 41.8	+0.9
SVW2				*e*	pP	17 05 51.6	+0.6
QSPA	**South Pole Qui**	**79.22**	**180**	*e*P	P	17 05 41.9	+0.2
	comp=Z,9.3nm,1.0s,mb4.7						
ZAK	**Zakamensk**	**79.38**	**326**	*e*P	P	17 05 41.3	-1.4
ZAK				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
TLY	**Talaya**	**79.87**	**327**	*e*P	P	17 05 49.1	+3.8
TLY				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
TTA	**Tatalina**	**80.30**	**18**	*e*P	P	17 05 48.6	+1.0
TTA				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.0						
TTA	**Tatalina**	**80.30**	**18**	*e*P	P	17 05 48.6	+1.0
	comp=Z,28nm,1.5s,mb5.0						
SML	**Sawmill**	**82.06**	**21**	*e*P	P	17 05 57.6	+0.6
MCK	**McKinley**	**83.12**	**20**	*e*P	P	17 06 02.3	-0.2
MCK				*e*	pP	17 06 12.4	-0.3
MCK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
MCK	**McKinley**	**83.12**	**20**	*e*P	P	17 06 02.3	-0.2
	comp=Z,5.5nm,1.0s,mb4.5						
MCK				*e*	pP	17 06 12.4	-0.3
MAW	**Mawson**	**83.55**	**202**	P	P	17 06 04.8	+0.1
	comp=Z,10nm,1.1s,mb4.9,baz=99,slow=3.1,SNR=7.7						
TIXI	**Tiksi**	**85.16**	**350**	*e*P	P	17 06 12.0	-0.8
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.6						
DAWY	**Dawson**	**86.69**	**22**	*e*P	P	17 06 21.5	+1.1
DAWY				*e*	pP	17 06 31.3	+0.6
MKAR	**Makanchi Array**	**90.80**	**317**	P	P	17 06 38.6	-1.2
	comp=Z,0.3nm,0.4s,mb3.9,baz=98,slow=5.6,SNR=6.6						
MKAR				pP	pP	17 06 47.1	-3.0
	comp=Z,4.6nm,0.7s,baz=95,slow=5.9,SNR=29						
LPIG	**La Paz**	**92.30**	**66**	LR	LR	17 41 10.9	
	comp=Z,77nm,20.9s,MS4.1,baz=216,slow=31						
YKA	**Yellowknife Ar**	**96.46**	**28**	P	P	17 07 04.9	-1.0
	comp=Z,0.8nm,0.6s,mb4.3,baz=258,slow=4.7,SNR=4.1						
YKA	**Yellowknife Ar**	**96.46**	**28**	P	P	17 07 04.9	-1.0
VNA3	**Neumayer Olymp**	**97.96**	**183**	*e*	P	17 07 10.5	-2.2
VNA3				*e*		17 07 13.5	
VNA3				*e*	pP	17 07 21.6	-1.4
VNA2	**Neumayer--Watz**	**98.16**	**184**	*e*	P	17 07 13.0	-0.6
	baz=198,slow=5.6						
VNA2				*e*		17 07 16.4	
VNA2				*e*	pP	17 07 22.9	-0.9
CPUP	**Villa Florida**	**126.91**	**135**	PKP	PKPdf	17 12 40.6	+0.2
	comp=Z,0.3nm,0.3s,baz=265,slow=0.9,SNR=7.1						
CPUP				pPKP	pPKPdf	17 12 52.4	+1.4
	comp=Z,0.6nm,0.5s,baz=272,slow=3.5,SNR=2.3						
CPUP	**Villa Florida**	**126.91**	**135**	*e*PKPdf	PKPdf	17 12 40.6	+0.3

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*SZGRF **06** 17:02:51.3,34.19N×47.12E,h14km,mb4.8,MS3.8, Western Iran*
*ISCJB **06** 17:03:02.6±0.1,3558N±002×4603E±001,h10km, mb4.9/172,MS4.1/37,Error ellipse: s-maj=2.4km s-min=1.4km az=37.3*
*THR **06** 17:03:02.3±0.5,3560N×4585E,h14km±4km,ML4.8*
*MOS **06** 17:03:05.5±1.1,3558N×4601E,h33km,mb5.1/69, MS4.0/22,Error ellipse: s-maj=5.1km s-min=2.7km az=127.8*
*BJI **06** 17:03:05.1,3572N×4554E,h57km,mB5.1,mb4.7,Ms4.7, Msz4.3*
*IDC **06** 17:03:05.9±2.2,3571N×4612E,h20km±12km,mb4.6/21, mb1 4.7/29,mb1mx4.6/32,mbtmp4.7/29,ML4.5/7,MS4.0/17, Ms1 4.0/17,ms1mx3.8/27,Error ellipse: s-maj=13.3km s-min=11.7km az=129.0*
*CSEM **06** 17:03:07.0,3568N×4613E,h50km,mb5.0*
*TEH **06** 17:03:07.0,3565N×4596E,h11km,Mn4.9*
*HRVD **06** 17:03:08.0±0.8,3597N×4604E,h25km±2km,MW4.8/54, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s54,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.52±.14; $M_{\theta\theta}$-1.26±.10; $M_{\phi\phi}$1.78±.11; $M_{r\theta}$0.69±.26; $M_{\theta\phi}$-0.13±.10; $M_{\phi r}$1.38±.28; Best double couple: $M_0$2.16400×10^{16} NP1:ϕ_s313.00000°,δ41.00000°,

IBST Bostanabad 2.19 18 Pn **Pn 17 03 41.9 +0.9**
IBST Sn **Sn 17 04 08.9 +0.8**
MSL Mosul 2.48 286 *ex* x 17 03 50.0
MSL *ex* x 17 04 22.0
CUKT Cukurca 2.54 310 *i P* **Pn 17 03 47.5 +1.7**
ITBZ Tabriz 2.61 2 Pn **Pn 17 03 49.0 +2.2**
ITBZ Sn **Sn 17 04 18.5 0.0**
ITBZ Sn **Sn 17 04 19.5 +1.0**
ITBZ Tabriz 2.61 2 Pn **Pn 17 03 49.0 +2.2**
ITBZ Sn **Sn 17 04 18.5 0.0**
ISHB Shabestar 2.68 353 Pn **Pn 17 03 50.9 +3.2**
ISHB Sn **Sn 17 04 19.6 -0.6**
ISHB Sn **Sn 17 04 21.0 +0.8**
BHD Baghdad 2.71 211 *ex* x 17 03 53.0
BHD *i x* x 17 03 57.0
BHD *i x* x 17 04 04.0
BHD *i x* x 17 04 27.0
BHD *i x* x 17 04 35.0
BHD *i x* x 17 04 42.0
IMRD Marand 3.10 355 Pn **Pn 17 03 49.3 -4.2**
IMRD Lg 17 04 42.1
IRAZ Razeghan 3.19 93 Pn **Pn 17 03 50.2 -4.6**
IRAZ Lg 17 04 47.4
ASAO Ashtian 3.45 107 *e*PN **Pn 17 03 59.7 +1.4**
ASAO *e*Pg **Pg 17 04 06.5 -4.2**
ASAO AML AML 17 05 09.5
comp=N,1µm,1.0s
IGZV Gazvin 3.48 76 Pn **Pn 17 03 57.5 -1.3**
IGZV Sn **Sn 17 04 41.8 +1.7**
IGZV Sn **Sn 17 04 42.3 +2.2**
GRMI Germi 3.51 25 *e*Pn **Pn 17 03 59.8 +0.6**
VANT Van 3.52 324 *i P* **Pn 17 04 03.4 +4.1**
TVAN Van 3.58 325 *i P* **Pn 17 04 02.7 +2.6**
IMHD Mahdasht 3.78 88 Pn **Pn 17 04 03.7 +0.8**
IMHD Sn **Sn 17 04 48.5 +1.1**
IMHD Sn **Sn 17 04 49.0 +1.6**
IMHD Mahdasht 3.78 88 Pn **Pn 17 04 03.7 +0.8**
IMHD Sn **Sn 17 04 48.5 +1.1**
THKV Tehran--Karaj 3.96 84 *e*PN **Pn 17 04 06.8 +1.4**
THKV *e*SG **Sg 17 05 09.7 -1.9**
THKV AML AML 17 05 22.9
comp=E,1µm,0.7s
THKV Tehran--Karaj 3.96 84 *e*Pn **Pn 17 04 06.8 +1.5**
SNR=52
THKV *e*Sg **Sg 17 05 09.7 -1.9**
comp=E,1µm,0.7s,SNR=90
CHTH Charan 4.16 85 *e*PN **Pn 17 04 09.3 +1.3**
SHGR Shooshtar-Gavs 4.20 146 *e*PN **Pn 17 04 08.8 +0.2**
SHGR AML AML 17 05 40.6
comp=E,873nm,0.8s
SHGR AML AML 17 05 45.5
comp=N,871nm,0.4s
TEH Tehran 4.36 87 Pn **Pn 17 04 11.2 +0.3**
BEST Besiri 4.44 302 *i P* **Pn 17 04 12.4 +0.5**
BTMT Batman 4.45 307 *i P* **Pn 17 04 13.4 +1.3**
MARD Mardin 4.55 293 *i P* **Pn 17 04 14.4 +0.9**
GNI Garni 4.63 348 Pn **Pn 17 04 17.2 +2.6**
comp=N,4.5nm,0.3s,baz=180,slow=6.2,SNR=16
GNI Pg **Pg 17 04 28.7 -4.6**
comp=N,29nm,0.3s,baz=188,slow=4.0,SNR=24
GNI Lg 17 05 31.9
comp=N,8.3nm,0.3s,baz=197,slow=18,SNR=3.9
GNI LR LR 17 06 26.7
comp=N,1µm,21.4s,baz=342,slow=44
IVRN Varamin 4.70 96 Pn **Pn 17 04 17.2 +1.6**
IVRN Sn **Sn 17 05 11.0 +0.8**
IVRN Sn **Sn 17 05 11.3 +1.1**
IVRN Varamin 4.70 96 Pn **Pn 17 04 17.2 +1.6**
IVRN Sn **Sn 17 05 11.0 +0.8**
DAMV Damavand 4.84 88 *e*PN **Pn 17 04 19.1 +1.6**
DAMV *e*Pg **Pg 17 04 31.7 -5.6**
DAMV Damavand 4.84 88 *e*Pn **Pn 17 04 19.0 +1.5**
SNR=52
IDMV Damavand 4.89 89 Pn **Pn 17 04 19.8 +1.6**
IDMV Sn **Sn 17 05 14.8 0.0**
IDMV Sn **Sn 17 05 15.0 +0.2**
IDMV Damavand 4.89 89 Pn **Pn 17 04 19.8 +1.6**
IDMV Sn **Sn 17 05 14.8 0.0**
IPIR Pirpir 4.98 125 Pn **Pn 17 04 22.2 +2.7**
IPRN Paran-Amol 5.08 81 Pn **Pn 17 04 24.2 +3.4**
IPRN Lg 17 05 47.5
BNGL BINGOL 5.12 312 *i P* **Pn 17 04 21.0 -0.3**
IKLH Kalahroud 5.13 115 Pn **Pn 17 04 24.5 +3.1**
IKLH Sn **Sn 17 05 20.6 -0.1**
IKLH Sn **Sn 17 05 20.9 +0.2**
IKLH Kalahroud 5.13 115 Pn **Pn 17 04 24.5 +3.1**
IKLH Sn **Sn 17 05 20.6 -0.1**
DIY Diyarbakir 5.18 298 P **Pn 17 04 23.0 +0.9**
IFIR Firoozkooh 5.48 88 Pn **Pn 17 04 28.3 +2.1**
IFIR Sn **Sn 17 05 29.4 +0.1**
ERZM Erzurum 5.65 321 *i P* **Pn 17 04 34.5 +5.9**
EZM Erzurum 5.65 321 P **Pn 17 04 32.0 +3.4**
ILAS Lasjerd 5.66 90 Pn **Pn 17 04 31.3 +2.6**
DGRG David-gareji 5.84 355 P **Pn 17 04 35.3 +4.1**
DGRG S **Sg 17 06 18.5 +6.3**
IZEF Zefreh 5.88 116 Pn **Pn 17 04 34.7 +2.9**
IZEF Sn **Sn 17 05 39.1 -0.2**
ISHM Shahmirzad 5.91 86 Pn **Pn 17 04 34.4 +2.2**
ISHM Sn **Sn 17 05 39.1 -0.9**
ISHM Sn **Sn 17 05 39.8 -0.2**
ISHM Shahmirzad 5.91 86 Pn **Pn 17 04 34.4 +2.2**
ISHM Sn **Sn 17 05 39.1 -0.9**
URFA Urfa 6.08 289 P **Pn 17 04 35.5 +1.0**
IGLO Galoogah 6.09 81 Pn **Pn 17 04 41.4 +6.7**
AKH Akhalkalaki 6.11 342 P **Pn 17 04 38.6 +3.6**
AKH S **Sg 17 06 28.7 +7.9**
MTA Mtatsminda 6.14 351 P **Pn 17 04 39.4 +4.1**
MTA S **Sg 17 06 23.0 +1.4**
TBLG Delisi 6.18 351 P **Pn 17 04 42.4 +6.5**
TBLG S **Sg 17 06 26.7 +3.6**
TBLG Delisi 6.18 351 P **Pn 17 04 39.6 +3.7**
UMR Umm Al-Rimmam 6.22 166 *e*P **Pn 17 04 38.2 +1.8**
UMR *e*S **Sn 17 05 43.8 -3.7**
UMR AML AML 17 05 46.8
comp=Z,122nm,0.5s
IKIA Kiasar 6.24 82 Pn **Pn 17 04 39.5 +2.8**
IKIA Lg 17 06 23.5
NASN Na'in 6.28 115 *e*Pn **Pn 17 04 39.1 +1.8**
ELZG Elazig 6.32 299 *i P* **Pn 17 04 37.8 0.0**
ARTV Artvin 6.42 331 *i P* **Pn 17 04 45.8 +6.6**
IANJ Anjiloo 6.43 89 Pn **Pn 17 04 40.5 +1.2**
NAY Al-Naaiem 6.44 170 *e*P **Pn 17 04 41.5 +2.1**
NAY *e*S **Sn 17 05 49.5 -3.5**
NAY AML AML 17 05 52.0
comp=Z,56nm,0.6s
ATAB Bozova 6.49 289 *i P* **Pb 17 04 56.9 -0.7**
GOR Gori 6.53 347 P **Pn 17 04 45.2 +4.5**
GOR S **Sg 17 06 32.9 -1.2**
KBD Kabd 6.58 167 *e*P **Pn 17 04 43.1 +1.7**
KBD *e*S **Sn 17 05 52.7 -3.7**
MALT Malatya 6.65 296 P **Pn 17 04 42.5 +0.2**
MALT Malatya 6.65 296 *e*P **Pn 17 04 43.1 +0.7**
MALT pmax pmax
comp=Z,237nm,1.6s
MALT Malatya 6.65 296 *e*Pn **Pn 17 04 43.1 +0.8**
comp=Z,237nm,1.6s
MALT Malatya 6.65 296 *e*Pn **Pn 17 04 43.1 +0.7**
comp=Z,237nm,1.6s
MYA Malataya 6.66 296 P **Pn 17 04 43.2 +0.8**
BCA Borcka 6.76 331 P **Pn 17 04 52.2 +8.4**
RDF Al-Radifah 6.80 169 *e*P **Pn 17 04 46.7 +2.3**
RDF *e*S **Sn 17 05 57.7 -4.1**
RDF AML AML 17 06 02.3
comp=Z,104nm,0.4s
GZT Gaziantep 7.03 287 *i P* **Pn 17 04 47.6 0.0**
QRN Al-Qurain 7.04 166 *e*P **Pn 17 04 49.7 +2.0**
QRN *e*S **Sn 17 06 04.2 -3.6**
QRN AML AML 17 06 10.7
comp=Z,114nm,0.4s
ONI Oni 7.23 345 P **Pn 17 04 54.5 +4.2**
ONI S **Sg 17 06 51.5 -5.2**
GAZ Gaziantep 7.28 285 P **Pn 17 04 51.4 +0.5**
ZEI Tsey 7.33 348 *e*P **Pn 17 04 54.7 +3.1**
ISAD Sadrabad 7.37 118 Pn **Pn 17 04 53.5 +1.3**
MAK Makhachkala 7.42 8 *e*P **Pn 17 04 55.0 +2.1**
MAK *e*S **Sn 17 06 19.0 +1.9**
MAK pmax pmax
comp=Z,397nm,1.6s
MAK MLR MLR
comp=Z,2µm,14.0s
MAK Makhachkala 7.42 8 *e*P **Pn 17 04 55.0 +2.1**
comp=Z,397nm,1.6s
MAK *e*S **Sn 17 06 19.0 +1.9**
comp=Z,2µm,14.0s
ICHK Chekchek 7.74 113 Pn **Pn 17 04 58.6 +1.4**
ICHK Lg 17 07 10.0
COBT Iskenderun 7.96 279 *i P* **Pn 17 05 02.9 +2.5**
FKH Fakeheh 8.03 263 *e*Pn **Pn 17 05 02.8 +1.6**
IMEH Mehriz 8.32 118 Pn **Pn 17 05 06.5 +1.3**
ASF Jabal al Asfar 8.33 248 Pn **Pn 17 05 07.3 +1.9**
comp=Z,6.0nm,0.3s,baz=287,slow=9.6,SNR=16
ASF Lg 17 07 31.7
comp=Z,2.3nm,0.3s,baz=270,slow=23,SNR=3.5
ASF LR LR 17 09 09.8
comp=Z,1µm,18.3s,baz=291,slow=43
SVSK Karacayir 8.34 304 P **Pn 17 05 08.5 +3.0**
HWQ Hawqa 8.39 264 *e*Pn **Pn 17 05 08.2 +2.1**
CEYT Ceyhan 8.41 282 *e*P **Pn 17 05 12.3 +5.8**
KOZT Kozan 8.42 286 P **Pn 17 05 10.4 +3.8**
ISRV Sarvestan 8.63 134 Pn **Pn 17 05 10.9 +1.4**
ISRV Sn **Sn 17 06 43.3 -3.6**
IMOK Mook 8.66 137 Pn **Pn 17 05 10.4 +0.5**
IMOK Sn **Sn 17 06 44.7 -2.9**
IMOK Sn **Sn 17 06 45.4 -2.2**
IMOK Mook 8.66 137 Pn **Pn 17 05 10.4 +0.5**
IMOK Sn **Sn 17 06 44.7 -2.9**
KRTS Karatas 8.68 279 *e*P **Pn 17 05 18.6 +8.5**
BHL Bhannes 8.71 262 *e*Pn **Pn 17 05 14.2 +3.6**
KIV Kislovodsk 8.71 344 Pn **Pn 17 05 16.2 +5.6**
comp=Z,852nm,1.1s,SNR=16
KIV Kislovodsk 8.71 344 *e*P **Pn 17 05 12.9 +2.3**
KIV *e*S **Sn 17 06 48.0 -0.8**
KIV pmax pmax
comp=Z,211nm,1.2s
KIV MLR MLR
comp=Z,526nm,8.0s
KIV Kislovodsk 8.71 344 *e*P **Pn 17 05 14.9 +4.3**
comp=Z,203nm,1.1s
KIV Kislovodsk 8.71 344 *e*P **Pn 17 05 12.9 +2.3**
comp=Z,211nm,1.2s
KIV *e*S **Sn 17 06 48.0 -0.8**
comp=Z,526nm,8.0s
IBAF Bafgh 8.91 114 Pn **Pn 17 05 14.4 +1.0**
KARA Karaisali 8.99 284 *e*P **Pn 17 05 20.7 +6.2**
MMAI Mount Meron Ar 9.17 257 Pn **Pn 17 05 18.9 +2.0**
comp=Z,6.6nm,0.3s,baz=73,slow=18,SNR=14
MMAI Lg 17 07 53.1
comp=Z,2.9nm,0.3s,baz=94,slow=23,SNR=3.3
SOC Sochi 9.32 330 *e*P **Pn 17 05 23.4 +4.4**
SOC *e* 17 07 11.0
SOC pmax pmax
comp=Z,80nm,1.1s
SOC MLR MLR
comp=Z,3µm,15.0s
MERS Mersin 9.38 281 *e*P **Pn 17 05 27.7 +7.9**
ISHV Shirvan 9.58 75 Pn **Pn 17 05 24.4 +1.9**
MEST Erdemli 9.66 279 *i P* **Pn 17 05 24.4 +0.8**
GOF Gofitskoye 9.70 347 *e*P **Pn 17 05 29.8 +5.7**
GOF pmax pmax
comp=Z,50nm,1.3s
ISFR Esferayen 9.76 78 Pn **Pn 17 05 28.4 +3.4**
ISFR Sn **Sn 17 07 10.0 -4.7**
ABKT Ailbek 9.97 73 Pn **Pn 17 05 30.4 +2.5**
comp=Z,459nm,1.0s,SNR=13
CDAG Cicekdag 10.07 297 *i P* **Pn 17 05 26.4 -2.9**
CORM Corum 10.09 300 *e*P **Pn 17 05 31.8 +2.3**
CTKT Corum 10.16 303 *i P* **Pn 17 05 32.0 +1.5**
BOYT Boyabat 10.46 307 *i P* **Pn 17 05 39.8 +5.2**
KAMT Kaman 10.47 295 *e*P **Pn 17 05 37.6 +2.8**
BR131 Keskin Array S 10.64 296 *e*P **Pn 17 05 38.2 +1.2**
comp=Z,13nm,0.8s
BR131 Keskin Array S 10.64 296 *e*P **Pn 17 05 38.2 +1.2**
comp=Z,13nm,0.8s
BRTR Keskin Array B 10.64 296 Pn **Pn 17 05 38.3 +1.3**
comp=Z,0.6nm,0.3s,baz=114,slow=14,SNR=32
BRTR Pg Pn 17 06 20.7 +44
comp=Z,0.2nm,0.3s,baz=121,slow=17,SNR=2.4
BRTR Lg 17 08 49.0
comp=Z,0.0nm,0.3s,baz=122,slow=19,SNR=2.3
ERMK Ermenek 10.66 279 *i P* **Pn 17 05 39.6 +2.3**
ELDT Eldivan 11.06 300 *i P* **Pn 17 05 47.9 +5.2**
EIL Elat 11.06 241 *e*P **Pn 17 05 43.9 +1.1**
comp=Z,786nm,1.0s
EIL Elat 11.06 241 *e*P **Pn 17 05 43.9 +1.1**
comp=Z,786nm,1.0s
KONT Konya--Tatoy 11.20 286 *e*P **Pn 17 05 51.5 +6.7**
ANN Anapa 11.27 327 *e*P **Pn 17 05 48.4 +2.7**
ANN *e*S **Sn 17 07 56.4 +4.7**
ANN pmax pmax
comp=Z,30nm,1.0s
ANN MLR MLR
comp=N,2µm,16.0s
ANN MLR MLR
comp=E,776nm,16.0s
ANN MLR MLR
comp=Z,390nm,16.0s
ANN Anapa 11.27 327 *e*P **Pn 17 05 48.4 +2.7**
comp=Z,30nm,1.0s
ANTO Ankara 11.30 296 *e*P **Pn 17 05 48.9 +2.8**
ANTO Ankara 11.30 296 ⇓*i*P **Pn 17 05 51.1 +5.0**
ANTO Ankara 11.30 296 *e*P **Pn 17 05 50.2 +4.1**
ANTO pmax pmax
comp=Z,89nm,1.2s
ANTO Ankara 11.30 296 *e*P **Pn 17 05 50.1 +4.0**
comp=Z,89nm,1.2s
LOD Lodumlu 11.33 296 *e*P **Pn 17 05 52.3 +5.8**
BALT Daday 11.52 305 *i P* **Pn 17 05 52.0 +2.9**
KIZT Kizilcal 11.73 290 *e*P **Pn 17 05 56.0 +4.0**
SGKT Sivrigoynuk 12.06 298 *i P* **Pn 17 05 57.1 +0.6**
ESKT Eskisehir 12.65 292 *i P* **Pn 17 06 06.9 +2.3**
TKTP Tekketepe 12.82 285 *i P* **Pn 17 06 10.7 +3.9**
SIM Simferopol' 13.01 319 *e*P **Pn 17 06 11.0 +1.6**
SIM *e*S **Sn 17 08 39.0 +4.9**
SIM pmax pmax
comp=Z,15nm,1.0s
SIM Simferopol' **13.01 319** *e*P **Pn 17 06 11.0 +1.6**
comp=Z,15nm,1.0s
BANOM Banah 13.08 135 ⇓P **Pn 17 06 08.7 -1.7**
SNR=33
GDZ Gediz 13.61 290 *i P* **Pn 17 06 18.6 +0.9**
DNZL Cakiroluk 13.79 284 *i P* **Pn 17 06 26.7 +6.6**
ASHO Ashiyiah 13.92 139 ⇓P **Pn 17 06 19.5 -2.4**
SNR=26
BALB Balikesir 14.93 291 *e*P **Pn 17 06 38.0 +2.4**
ARQ Araqi 15.26 141 ⇓P **Pn 17 06 36.9 -3.2**
SNR=19
KARP Karpathos 15.36 275 *e*P **Pn 17 06 44.4 +3.1**
HOQ Hoqain 15.48 138 ⇑P **Pn 17 06 39.4 -3.6**
VRHR Novokhopersk 15.79 350 *e*P **Pn 17 06 47.5 +0.5**
VRHR pmax pmax
comp=Z,70nm,1.4s
VRHR pmax pmax
comp=N,120nm,1.2s
VRHR pmax pmax
comp=E,30nm,1.6s
VRHR Novokhopersk 15.79 350 *e*P **Pn 17 06 47.5 +0.5**
comp=E,120nm,1.2s
BIDO Bidbid 15.99 136 ⇓P **Pn 17 06 47.0 -2.6**
SNR=33
TIRR Tirgusor 16.09 309 ⇑*i*P **Pn 17 06 54.7 +3.8**
TIRR Tirgusor 16.09 309 ⇓P **Pn 17 06 57.1 +6.2**
TIRR Tirgusor 16.09 309 *e*P **Pn 17 06 50.9 0.0**
BSY Bisya 16.10 140 ⇑P **Pn 17 06 46.6 -4.4**
SNR=11
PRK Paraskevi 16.10 289 *e*P **Pn 17 06 53.3 +2.3**
BSYO Bisya 16.13 140 P **Pn 17 06 46.6 -4.8**
SNR=11
PRD Provadia 16.24 303 *e*P **Pn 17 06 55.6 +2.8**
EDRB Edirne 16.27 298 *e*P **Pn 17 06 54.5 +1.4**
SMDO Samad 16.31 137 ⇑P **Pn 17 06 51.4 -2.3**
VRSR Storozhevoye 16.35 345 *e*P **Pn 17 06 54.4 +0.3**
VRSR pmax pmax
comp=Z,10.0nm,1.7s
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,7.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,16.0s
VRSR pmax pmax
comp=N,10.0nm,18.0s
VRSR pmax pmax
comp=E,9.0nm,16.0s
VRSR Storozhevoye 16.35 345 *e*P **Pn 17 06 54.4 +0.3**
comp=E,10.0nm,18.0s
WSAR Wadi Sarin 16.50 135 Pn **Pn 17 06 44.4 -12**
comp=E,0.4nm,0.3s,baz=340,slow=14,SNR=5.9
WSAR Sn **Sn 17 09 50.0 -9.2**
comp=E,0.3nm,0.3s,baz=24,slow=16,SNR=3.7
WSAR LR LR 17 14 52.5
comp=E,739nm,19.0s,baz=111,slow=43
ALN Alexandroupoli 16.55 295 *e*P **Pn 17 07 01.2 +4.5**
APE Apeiranthos 16.58 281 *e*P **Pn 17 06 59.7 +2.6**
APE Apeiranthos 16.58 281 ⇑*i*P **Pn 17 07 00.0 +2.9**
CFR Carcaliu 16.61 311 ⇑*i*P **Pn 17 07 00.3 +2.8**
CFR Carcaliu 16.61 311 ⇑P **Pn 17 07 00.3 +2.9**
NPS Neapolis 16.64 275 *e*P **Pn 17 06 56.8 -1.1**
VOR Voronezh 16.83 345 P **Pn 17 06 59.5 -0.8**
VOR pmax pmax
comp=Z,90nm,1.7s
VOR pmax pmax
comp=N,210nm,1.5s
VOR Voronezh 16.83 345 P **Pn 17 06 59.5 -0.8**
comp=N,210nm,1.5s
JMDO Jabal Madar 16.89 138 ⇓P **Pn 17 06 57.7 -3.3**
SNR=12
RDO Rodhopi 16.97 295 *e*P **Pn 17 07 04.8 +2.7**
AB31 Akbulak array 17.02 33 *e*P **Pn 17 07 02.1 -0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
AB31 Akbulak array 17.02 33 *e*P **Pn 17 07 02.1 -0.6**
comp=Z,6.0nm,0.7s
AKTK Aktyubinsk 17.17 27 P **Pn 17 07 02.3 -2.3**
AKTK Aktyubinsk 17.17 27 P **Pn 17 07 04.6 +0.1**
comp=Z,6.0nm,0.9s
AKTO Aktyubinsk 17.17 27 P **Pn 17 07 02.3 -2.3**
comp=Z,0.3nm,0.3s,baz=213,slow=9.9,SNR=19
AKTO Aktyubinsk 17.17 27 P **Pn 17 07 04.6 +0.1**
AKTO pmax pmax
comp=Z,6.0nm,0.9s
ORR Orenburg 17.17 19 ⇓*e*P **Pn 17 07 03.0 -1.6**
ORR pmax pmax
comp=Z,40nm,0.9s
ORR Orenburg 17.17 19 *e*P **Pn 17 07 03.0 -1.6**
comp=Z,40nm,0.9s
KIS Kishinev 17.17 317 *e*P **Pn 17 07 04.0 -0.6**
KIS *e* 17 10 12.0
KIS pmax pmax
comp=Z,300nm,3.0s
KIS MLR MLR
comp=Z,700nm,15.0s
KIS MLR MLR
comp=N,400nm,16.0s
KIS MLR MLR
comp=E,600nm,15.0s
KIS MLR MLR
comp=Z,900nm,17.0s
KIS Kishinev 17.17 317 *e*P **Pn 17 07 04.0 -0.6**
comp=Z,700nm,15.0s
KDZ Kurdzhali 17.18 297 *e*P **Pn 17 07 08.0 +3.4**
WBK Wadi Bani Khal 17.18 136 ⇓P **Pn 17 07 02.4 -2.3**
SNR=14
IDI Anoyia 17.23 275 P **Pn 17 07 06.9 +1.6**
comp=Z,2.4nm,0.3s,baz=78,slow=11,SNR=32
VAM Vamos 17.77 276 *e*P **Pn 17 07 13.3 +1.2**
VRI Vrincioaia 17.81 311 ⇑*i*P **Pn 17 07 14.7 +2.2**
VRI Vrincioaia 17.81 311 ⇑P **Pn 17 07 14.7 +2.2**
ATH Athens Observa 18.02 284 *e*P **Pn 17 07 18.2 +3.1**
MLR Muntele Rosu 18.12 309 P **Pn 17 07 17.7 +1.4**
comp=Z,0.5nm,0.3s,baz=112,slow=5.0,SNR=13
MLR LR LR 17 15 46.8
comp=Z,357nm,19.3s,baz=123,slow=42
MLR Muntele Rosu 18.12 309 ⇓*i*P pP 17 07 27.9 +8.4
PAIG Paliouri 18.17 290 *e*P **Pn 17 07 18.3 +1.3**
NAIG Nisos Aigina 18.20 283 *e*P **Pn 17 07 18.5 +1.2**
NVR Nevrokopi 18.25 295 *e*P **Pn 17 07 18.7 +0.8**
MGER Gerania Oros 18.38 284 *e*P **Pn 17 07 21.5 +2.0**
MMB Musomiste 18.40 296 *e*P **Pn 17 07 20.0 +0.3**
PLG Polygyros 18.41 292 *e*P **Pn 17 07 21.2 +1.4**
NEO Neokhori 18.46 288 *e*P **Pn 17 07 22.1 +1.6**
SOH Sokhos 18.54 293 *e*P **Pn 17 07 23.3 +1.8**
LKR Lokris 18.60 286 *e*P **Pn 17 07 20.9 -1.3**
VOIR 18.67 308 ⇓*i*P **Pn 17 07 25.4 +2.3**
VOIR 18.67 308 ⇓P **Pn 17 07 25.4 +2.4**
VLI Veliai 18.67 280 *e*P **Pn 17 07 23.0 -0.1**
THE Thessaloniki 18.80 292 *e*P **Pn 17 07 25.4 +0.8**
WHFO Wadi Hawf 18.93 157 ⇑P **Pn 17 07 21.8 -4.3**
SNR=17
KKB Krupnik 18.93 296 *e*P **Pn 17 07 27.0 +0.8**
KNT Kendrikon 18.93 294 *e*P **Pn 17 07 26.8 +0.6**
VTS Vitosha 19.00 298 *e*P **Pn 17 07 27.0 0.0**
VTS Vitosha 19.00 298 *e*P **Pn 17 07 27.8 +0.8**
VTS Vitosha 19.00 298 ⇑*i*P **Pn 17 07 28.8 +1.8**
VTS Vitosha 19.00 298 ⇑P **Pn 17 07 28.8 +1.8**
LIT Litokhoron 19.10 291 *e*P **Pn 17 07 28.3 +0.1**
ABTO Aybut 19.31 159 ⇑P **Pn 17 07 27.1 -3.7**
SNR=9.4
AKASG Malin Array Be 19.36 326 P **Pn 17 07 29.7 -1.6**
comp=Z,2.6nm,0.3s,baz=132,slow=12,SNR=31
AKBB Malin Array Si 19.36 326 *e*P **Pn 17 07 29.1 -2.2**
ITM Ithomi 19.45 282 *e*P **Pn 17 07 31.4 -1.1**
RBK Rabkut 19.45 156 ⇑P **Pn 17 07 28.6 -3.9**
SNR=12
EVR Evrytania 19.54 287 *e*P **Pn 17 07 32.6 -0.9**
BURAR Bucovina Array 19.57 314 ⇑*i*P **Pn 17 07 35.0 +1.1**
BURAR Bucovina Array 19.57 314 ⇑P **Pn 17 07 35.0 +1.2**
KZN Kozani 19.67 291 *e*P **Pn 17 07 33.3 -1.8**
RLS Riolos of Patr 19.80 284 *e*P **Pn 17 07 35.7 -0.9**
FNA Florina 20.02 292 *e*P **P 17 07 38.4 +0.9**
SKO Skopje 20.15 296 *e*P **P 17 07 40.4 +1.5**
KKAR Karatay Array 20.30 61 *i P* **P 17 07 42.2 +1.6**
KKAR pmax pmax
comp=Z,26nm,0.9s
LKD Levkas 20.44 286 *e*P **P 17 07 41.5 -0.5**
DRP Derazinda 20.47 94 P **P 17 07 43.3 +0.9**
VLS Valsamata 20.49 285 *e*P **P 17 07 41.3 -1.3**
OBN Obninsk 20.56 344 P **P 17 07 42.3 -1.0**
comp=Z,994nm,0.8s,SNR=9.4
OBN Obninsk 20.56 344 *c i*P **P 17 07 42.0 -1.3**
OBN *i* *PP 17 07 52.8
OBN *e**SP sP 17 07 59.5 +12
OBN pmax pmax
comp=Z,188nm,1.2s
OBN MLR MLR
comp=Z,700nm,17.0s,MS4.1
OBN Obninsk 20.56 344 *e*P **P 17 07 41.7 -1.7**
comp=Z,124nm,0.8s
OBN Obninsk 20.56 344 *i P* **P 17 07 42.0 -1.3**
comp=Z,188nm,1.2s
DRGR 20.71 310 ⇑*i*P **P 17 07 46.7 +1.7**
DRGR 20.71 310 ⇑P **P 17 07 46.7 +1.7**
IGT Igoumenitsa 20.71 289 *e*P **P 17 07 44.2 -0.8**
PECR Pechory 20.74 357 *e*P **P 17 07 44.4 -0.9**
PECR *e*S **S 17 11 34.0 -2.8**
PECR pmax pmax
comp=Z,800nm,1.6s
PECR smax
comp=E,600nm,5.0s
PECR smax
comp=N,300nm,3.0s
PECR Pechory 20.74 357 *e*P **P 17 07 44.4 -0.9**
comp=N,800nm,1.6s
SBDP Sheikh Budin 20.80 92 P **P 17 07 45.6 -0.4**
MOS Moscow 20.93 347 *e*P **P 17 07 46.8 -0.5**
MOS *e* 17 08 00.9
MOS *e* 17 08 15.3
MOS *e*S **S 17 11 37.0 -3.5**
MOS pmax pmax
comp=Z,96nm,0.9s
MOS Moscow 20.93 347 *e*P **P 17 07 46.8 -0.5**
comp=Z,96nm,0.9s
BZS Buzias 20.98 306 ⇓*i*P **P 17 07 47.8 -0.1**
BZS Buzias 20.98 306 ⇓P **P 17 07 47.8 -0.1**
DHBB Dhamar BB 21.01 184 *e*P **P 17 07 51.5 +3.2**
GRUS Gruza 21.08 301 *i P* **P 17 07 46.7 -2.3**
KEK Kerkira 21.13 289 *e*P **P 17 07 48.5 -1.1**
LVV L'vov 21.40 318 *c i*P **P 17 07 51.9 -0.5**
LVV *e*S **S 17 11 52.8 +3.0**
LVV L'vov 21.40 318 *i P* **P 17 07 51.9 -0.5**
THW Thamme Wali 21.43 90 P **P 17 07 53.3 +0.5**
DIVS Divcibare 21.64 301 *i P* **P 17 07 55.4 +0.4**
DIVS Divcibare 21.64 301 *e*P **P 17 07 55.1 +0.1**
LBOS 21.67 182 *e*P **P 17 07 56.5 +1.2**
BBLS Bajina Basta - 21.99 300 *i P* **P 17 07 56.5 -2.2**
BBLS Bajina Basta - 21.99 300 P **P 17 07 56.5 -2.3**
KWP Kalwaria 22.03 317 *e*P **P 17 07 59.1 -0.1**
KWP pmax pmax
comp=Z,48nm,0.5s,mb5.2
KWP Kalwaria 22.03 317 *e*P **P 17 07 59.1 -0.1**
comp=Z,48nm,0.5s,mb5.2

KWP Kalwaria 22.03 317 *e*P **P 17 07 59.1 -0.1**
comp=Z,48nm,0.5s,mb5.2
CHCP Chirah Chowk 22.47 87 P **P 17 08 05.1 +1.2**
ARU Arti 22.49 18 P **P 17 08 03.9 -0.2**
comp=Z,193nm,1.1s,mb5.4,SNR=11
ARU Arti 22.49 18 ⇑*i*P **P 17 08 03.1 -1.0**
ARU *e*PPP 17 08 35.3
ARU *e*S **S 17 12 06.8 -4.3**
ARU *e*SSS 17 12 50.5
ARU pmax pmax
comp=Z,35nm,1.0s,mb4.7
ARU MLR MLR
comp=Z,200nm,16.0s,MS3.6
ARU MLR MLR
comp=N,100nm,17.0s,MS3.6
ARU MLR MLR
comp=E,200nm,18.0s,MS3.6
ARU Arti 22.49 18 *e*P **P 17 08 02.6 -1.4**
comp=E,27nm,0.8s,mb4.7
ARU Arti 22.49 18 *e*P **P 17 08 02.6 -1.5**
comp=E,27nm,0.8s,mb4.7
MNK Minsk 22.71 332 *e*P **P 17 08 03.0 -3.5**
STHS Stebnicka Huta 22.75 315 *e*P **P 17 08 08.4 +1.5**
STHS *e*pP 17 08 17.5
KECS Kecovo 22.78 312 *e*P **P 17 08 09.4 +2.2**
KECS *e* 17 08 15.5
PSZ Piszkesteto 22.92 310⇑*e*pP pP 17 08 08.7 -2.8
PSZ Piszkesteto 22.92 310 *e*P **P 17 08 08.5 -0.1**
PSZ pmax pmax
comp=Z,50nm,0.8s,mb5.0
PSZ Piszkesteto 22.92 310 *e*P **P 17 08 08.5 -0.1**
comp=Z,50nm,0.8s,mb5.0
PSZ Piszkesteto 22.92 310 *e*P **P 17 08 08.5 -0.1**
comp=Z,50nm,0.8s,mb5.0
AAK Ala-Archa 23.09 64 *i*P **P 17 08 09.6 -0.9**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
AAK MLR MLR
comp=Z,500nm,21.0s,MS3.9
AAK Ala-Archa 23.09 64 *e*P **P 17 08 09.1 -1.4**
comp=Z,18nm,1.1s,mb4.4
AAK Ala-Archa 23.09 64 *e*P **P 17 08 09.1 -1.4**
comp=Z,18nm,1.1s,mb4.4
PKSM Moragy 23.13 306⇓*i*P **P 17 08 11.3 +0.4**
PKSM Moragy 23.13 306⇓P **P 17 08 11.3 +0.4**
FRU Bishkek 23.21 63 *e*P **P 17 08 12.5 +0.8**
NIE Niedzica 23.29 314 *e*P **P 17 08 13.5 +0.9**
BUD Budapest 23.30 309⇓*e*pP pP 17 08 14.3 -1.3
TIP Timpagrande 23.48 287 *e*P **P 17 08 13.0 -1.5**
TIP Timpagrande 23.48 287 *e*P **P 17 08 13.0 -1.5**
ZRNK Zerenda 23.72 36 P **P 17 08 16.6 -0.2**
ZRNK pmax pmax
comp=Z,19nm,1.1s,mb4.4
ZRNK Zerenda 23.72 36 *e*P **P 17 08 16.3 -0.5**
comp=Z,16nm,0.8s,mb4.5
ZRNK Zerenda 23.72 36 *e*P **P 17 08 16.3 -0.5**
comp=Z,16nm,0.8s,mb4.5
ORI Oriolo Calabro 23.72 290 P **P 17 08 16.1 -0.7**
GRI Girifalco 23.75 287 P **P 17 08 16.7 -0.4**
VYHS Vyhne 23.79 311 *e*P **P 17 08 17.8 +0.3**
VYHS MLR MLR
comp=Z,100nm,26.9s,MS3.2
SRO1 Iza 23.90 309 *e*P **P 17 08 19.3 +0.8**
BHJ Bhuj 23.91 115 *e*P **P 17 08 20.4 +1.8**
BHJ AMb AMB 17 08 27.7
comp=Z,120nm,1.5s,mb5.1
TKM2 Tokmak 2 23.94 63 P **P 17 08 20.0 +1.2**
TKM2 pmax pmax
comp=Z,14nm,1.0s,mb4.3
OJC Ojcow 23.96 316 *e*P **P 17 08 19.1 +0.1**
OJC *e*S **S 17 12 30.7 -4.8**
OJC L 17 19 33.6
comp=Z,2.2nm,20.6s
OJC Ojcow 23.96 316 *e*P **P 17 08 19.1 +0.1**
OJC *e*S **S 17 12 30.7 -4.8**
KSH Kashi 24.00 72 *e*P **P 17 08 16.5 -2.9**
KSH *e*AP 17 08 28.4
KSH XP sP 17 08 34.6 +11
KSH *e*PP 17 08 49.8
KSH *e*PPP 17 09 00.8
KSH PCP PcP 17 12 01.9 +0.7
KSH S **S 17 12 24.4 -12**
KSH *e*SCP ScP 17 15 34.9 -4.8
KSH SCS ScS 17 19 20.7 -6.0
KSH LR LR
comp=N,920nm,9.1s
KSH LR LR
comp=E,2μm,11.8s
KSH LR LR
comp=Z,1μm,12.3s,MS4.6
KOLL Kolacno 24.09 311 *e*P **P 17 08 20.7 +0.5**
ATD Arta Tunnel 24.16 188 P **P 17 08 22.6 +1.7**
comp=Z,1.9nm,0.3s,mb4.0,baz=259,slow=23,SNR=2.6
ATD LR LR 17 18 43.9
comp=Z,232nm,18.2s,MS3.7,baz=183,slow=39
ATD Arta Tunnel 24.16 188 P **P 17 08 22.5 +1.7**
CUC Castrocucco 24.21 289 P **P 17 08 21.3 0.0**
SUW Suwalki 24.33 326 *e*P **P 17 08 21.4 -1.0**
SLCN Sala Consilina 24.35 290 P **P 17 08 22.7 +0.1**
BRVK Borovoye 24.40 37 P **P 17 08 23.9 +0.8**
comp=Z,101nm,0.9s,mb5.2,SNR=6.4
BRVK Borovoye 24.40 37 *e*P **P 17 08 22.7 -0.4**
BRVK pmax pmax
comp=Z,16nm,1.0s,mb4.4
BRVK Borovoye 24.40 37 *e*P **P 17 08 22.7 -0.4**
comp=Z,16nm,1.0s,mb4.4
BRVK Borovoye 24.40 37 *e*P **P 17 08 22.7 -0.4**
comp=Z,16nm,1.0s,mb4.4
MGR Morigerati 24.41 290 P **P 17 08 22.9 -0.2**
BVA0 Borovoye Array 24.43 37 *e*P **P 17 08 22.6 -0.8**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s
RGNG Rignano Grg 24.45 294 P **P 17 08 24.2 +0.7**
SISC Sisak 24.47 303 *i*P **P 17 08 28.5 +4.9**
MRLC Muro Lucano 24.48 291 P **P 17 08 24.0 +0.3**
VOSK Vostochnaya 24.56 38 P **P 17 08 24.1 -0.4**
VOSK pmax pmax
comp=Z,17nm,1.0s,mb4.5
SMOL Smolenice 24.67 310 *e*P **P 17 08 25.6 +0.1**
OKC Ostrava-Krasne 24.75 314 *e*P **P 17 08 25.0 -1.2**
OKC *e*S **S 17 13 01.1 +13**
OKC AMS AMS 17 20 50.0
comp=Z,300nm,13.8s
OKC Ostrava-Krasne 24.75 314 *e*P **P 17 08 25.0 -1.2**
OKC *e*S **S 17 13 01.1 +13**
ZST Bratislava 24.76 309 *e*P **P 17 08 26.6 +0.2**
comp=Z,0.1nm,0.8s
ZST LR LR
comp=Z,300nm,13.4s
RAC Raciborz 24.82 314 *e*P **P 17 08 25.0 -1.9**
CSSN Cassano Irpino 24.83 292 P **P 17 08 28.5 +1.5**
comp=Z,30nm,0.7s,mb4.9
CHKZ Chkalovo 24.93 36 P **P 17 08 27.5 -0.4**
CHKZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
CHKZ Chkalovo 24.93 36 *e*P **P 17 08 27.4 -0.5**
comp=Z,12nm,0.9s,mb4.4
CHKZ Chkalovo 24.93 36 *e*P **P 17 08 27.4 -0.5**
comp=Z,12nm,0.9s,mb4.4
SOP Sopron 24.94 308⇑*e*pP pP 17 08 28.4 -2.6
SOKR Solikamsk 24.97 13 *i*P **P 17 08 26.2 -2.0**
SOKR pmax pmax
comp=Z,30nm,0.8s,mb4.9
SOKR MLR MLR
comp=Z,410nm,18.0s,MS4.0
MORC Moravsky Berou 25.08 313⇑*i*P **P 17 08 29.5 +0.3**
MORC Moravsky Berou 25.08 313 *e*P **P 17 08 28.7 -0.6**
comp=Z,16nm,0.6s,mb4.7
MORC Moravsky Berou 25.08 313 *e*P **P 17 08 28.7 -0.5**
comp=Z,16nm,0.6s,mb4.7
BOJS Bojanci 25.24 302 *e*P **P 17 08 31.1 +0.4**
BOJS *e* 17 08 36.1
CII Carovilli 25.41 293 P **P 17 08 33.3 +1.0**
comp=Z,90nm,0.8s,mb5.3
MIDA Miranda 25.45 293 P **P 17 08 33.9 +1.3**
CONA Conrad Observa 25.46 308⇑*i*P **P 17 08 32.5 -0.2**
comp=Z,125nm,1.2s,mb5.3,SNR=42
VRAC Vranov 25.47 312 P **P 17 08 33.1 +0.3**
comp=Z,37nm,0.8s,mb5.0,baz=112,slow=9.5,SNR=33
VRAC LR LR 17 21 14.8
comp=Z,262nm,18.3s,MS3.8,baz=111,slow=43
VRAC Vranov 25.47 312⇑*i*P **P 17 08 33.5 +0.7**
VRAC Vranov 25.47 312⇑P **P 17 08 33.5 +0.7**
ARSA Arzberg 25.49 307⇓*i*P **P 17 08 33.2 +0.2**
comp=Z,77nm,1.1s,mb5.1,SNR=34

RNI2 Rionero Sannit 25.53 293 P **P 17 08 34.2 +0.9**
PERS Pernice 25.59 305 *e*P **P 17 08 34.0 +0.1**
SDI San Donato 25.78 293 P **P 17 08 35.7 +0.1**
SDI pmax pmax
comp=Z,37nm,0.7s,mb5.0
SDI San Donato 25.78 293 P **P 17 08 35.7 +0.1**
comp=Z,37nm,0.7s,mb5.0
LJU Ljubljana 25.85 303 *i*P **P 17 08 36.9 +0.7**
OBKA Obir 25.94 304⇓*i*P **P 17 08 37.4 +0.4**
comp=Z,85nm,1.2s,mb5.1,SNR=11
DPC Dobruska-Polom 26.03 314 *e*P **P 17 08 37.5 -0.3**
DPC AMS AMS 17 21 30.0
comp=Z,400nm,13.0s
AJM Ajmer 26.08 102 *e*P **P 17 08 38.6 +0.3**
AJM AMb AMB 17 08 44.4
comp=Z,25nm,1.4s,mb4.5
AQU L'Aquila 26.13 295⇓*i*P **P 17 08 39.8 +1.1**
AQU L'Aquila 26.13 295 *e*P **P 17 08 38.6 -0.1**
comp=Z,84nm,0.9s,mb5.3
AQU L'Aquila 26.13 295 *e*P **P 17 08 38.6 -0.1**
comp=Z,84nm,0.9s,mb5.3
TREC Trest 26.14 311 *e*P **P 17 08 39.2 +0.3**
VSU Vasula 26.17 337 *e*P **P 17 08 38.5 -0.6**
KSP Ksiaz 26.24 315 *e*P **P 17 08 40.3 +0.5**
KSP Ksiaz 26.24 315 *e*P **P 17 08 39.8 0.0**
KSP *e* pP 17 08 42.3 -0.5
KSP *e*pP pP 17 08 49.6 +6.8
KSP LR LR
comp=Z,700nm,20.2s,MS4.2
UPC Upice 26.27 314 *e*P **P 17 08 39.7 -0.3**
VOY Vojsko 26.28 303 *e*P **P 17 08 40.2 +0.1**
VOY *e* 17 09 06.8
VOY *e* 17 09 15.5
SMLA Simla 26.33 91 *e*P **P 17 08 39.3 -1.2**
SMLA AMb AMB 17 08 43.0
comp=Z,48nm,0.5s,mb5.3
FIAM Fiamignano 26.33 295 P **P 17 08 41.6 +1.0**
CING Cingoli 26.36 297 P **P 17 08 41.1 +0.2**
CERT Cerreto 26.41 294 P **P 17 08 41.4 +0.1**
MOA Molln 26.47 307⇓*i*P **P 17 08 41.8 -0.1**
comp=Z,81nm,1.4s,mb5.1,SNR=22
ARV Arcevia 26.56 297 P **P 17 08 43.1 +0.4**
comp=Z,68nm,1.2s,mb5.0
ROBS Robic 26.59 304 *e*P **P 17 08 42.5 -0.4**
ROBS *i* 17 08 48.1
FSSB Fossombrone 26.70 298 P **P 17 08 44.6 +0.7**
comp=Z,34nm,0.7s,mb5.3
PTCC Patocco-Chiusa 26.73 304 P **P 17 08 44.6 +0.4**
comp=Z,24nm,0.6s,mb4.9
GMNA Gemona 26.78 304 P **P 17 08 46.1 +1.5**
comp=Z,131nm,0.8s,mb5.5
MURB Monte Urbino 26.84 297 P **P 17 08 47.0 +1.8**
KBA Koelnbreinsper 26.88 305⇓*i*P **P 17 08 45.8 +0.2**
comp=Z,94nm,1.1s,mb5.2,SNR=13
KBA Koelnbreinsper 26.88 305⇓*i*P **P 17 08 45.8 +0.3**
KBA pmax pmax
comp=Z,94nm,1.1s,mb5.2
PRU Pruhonice 26.96 312 *e*P **P 17 08 45.3 -0.9**
PRU AMS AMS 17 22 20.0
comp=Z,400nm,15.4s
RSM Repubblica di 26.96 298 P **P 17 08 47.9 +1.6**
RSM pmax pmax
comp=Z,79nm,0.8s,mb5.3
RSM Repubblica di 26.96 298 P **P 17 08 47.9 +1.6**
comp=Z,79nm,0.8s,mb5.3
BADI Badiali 27.07 297 P **P 17 08 49.1 +1.9**
GEC2 GERESS Array S 27.11 309 *e*P **P 17 08 47.4 -0.2**
comp=Z,20nm,1.1s,mb4.6
GEC2 GERESS Array S 27.11 309 *e*P **P 17 08 47.4 -0.2**
GEC2 pmax pmax
comp=Z,20nm,1.1s,mb4.6
GERES GERESS Array B 27.11 309 P **P 17 08 47.2 -0.4**
comp=Z,5.7nm,0.7s,mb4.2,baz=111,slow=9.3,SNR=37
GERES LR LR 17 21 16.9
comp=Z,268nm,21.3s,MS3.8,baz=114,slow=40
PVCC Panska Ves 27.13 313 *e*P **P 17 08 47.4 -0.4**
PVCC AMS AMS 17 22 20.0
comp=Z,400nm,11.6s
NDI New Delhi 27.22 96 *e*P **P 17 08 48.0 -0.6**
KHC Kasperske Hory 27.28 310 *e*P **P 17 08 48.5 -0.6**
KHC *e*S **S 17 13 23.6 -4.8**
KHC AMS AMS 17 22 10.0
comp=Z,400nm,19.0s
KHC Kasperske Hory 27.28 310 *e*P **P 17 08 48.5 -0.6**
KHC *e*S **S 17 13 23.6 -4.8**
BRG Berggiesshubel 27.63 313 *e*P **P 17 08 52.8 +0.6**
comp=Z,16nm,1.9s,mb4.3
BRG *e* pP 17 08 55.5 +0.1
comp=Z,6.0nm,1.1s
BRG
comp=N,166nm,12.0s
BRG
comp=E,175nm,13.9s
BRG
comp=Z,184nm,13.8s
BRG Berggiesshubel 27.63 313 *e*P **P 17 08 51.7 -0.6**
comp=Z,10.0nm,1.1s,mb4.4
WET Wettzell 27.72 309 *e*P **P 17 08 52.4 -0.7**
comp=Z,28nm,1.2s,mb4.8
WET Wettzell 27.72 309 *e*P **P 17 08 52.4 -0.7**
WET pmax pmax
comp=Z,28nm,1.2s,mb4.8
KURK Kurchatov 27.87 47 P **P 17 08 55.3 +0.8**
comp=Z,75nm,1.0s,mb5.3,SNR=6.6
KURK Kurchatov 27.87 47 *e*P **P 17 08 54.5 0.0**
KURK Kurchatov 27.87 47 *e*P **P 17 08 54.1 -0.3**
comp=Z,21nm,1.3s,mb4.6
KURK Kurchatov 27.87 47 *e*P **P 17 08 54.1 -0.4**
comp=Z,21nm,1.3s,mb4.6
BRES Bressanone 27.88 304 P **P 17 08 55.3 +0.8**
WTTA Wattenberg 28.06 305⇑*i*P **P 17 08 55.6 -0.5**
comp=Z,61nm,1.4s,mb5.0,SNR=14
WTTA Wattenberg 28.06 305⇑*i*P **P 17 08 55.6 -0.5**
WTTA pmax pmax
comp=Z,61nm,1.4s,mb5.0
WATA Walderalm 28.11 305⇑*i*P **P 17 08 56.0 -0.6**
comp=Z,28nm,1.0s,mb4.8,SNR=11
WATA Walderalm 28.11 305⇑*i*P **P 17 08 56.0 -0.6**
WATA pmax pmax
comp=Z,29nm,1.0s,mb4.9
NKC Novy Kostel 28.31 312 *e*P **P 17 08 58.2 -0.2**
SQTA Sankt Quirin 28.34 305⇑*i*P **P 17 08 58.0 -0.6**
comp=Z,10nm,0.8s,mb4.5,SNR=26
SQTA Sankt Quirin 28.34 305⇑*i*P **P 17 08 58.0 -0.6**
SQTA pmax pmax
comp=Z,11nm,0.8s,mb4.5
CLL Collm 28.34 314 *e*P **P 17 08 58.0 -0.6**
comp=Z,5.0nm,1.0s,mb4.1
CLL *i* Pmax pP 17 09 00.8 -0.8
comp=Z,13nm,1.0s
CLL Lm 17 22 00.0
comp=N,400nm,18.4s
CLL Lm 17 22 00.0
comp=E,300nm,21.3s
CLL Collm 28.34 314 *e*P **P 17 08 58.0 -0.6**
comp=E,5.0nm,1.0s,mb4.1
CLL *i* pP 17 09 00.8 -0.8
CLL LR LR
comp=Z,400nm,15.9s,MS4.1
MAIM 28.37 298 P **P 17 08 58.1 -0.8**
MOTA Moosalm 28.43 305⇓*i*P **P 17 08 58.5 -0.9**
comp=Z,25nm,1.0s,mb4.8,SNR=14
MOTA Moosalm 28.43 305⇓*i*P **P 17 08 58.5 -0.9**
MOTA pmax pmax
comp=Z,25nm,1.0s,mb4.8
MANZ Manzenberg 28.45 311 *e*P **P 17 09 00.9 +1.4**
comp=Z,10.0nm,0.9s,mb4.5
SARO Sassorosso 28.46 298 P **P 17 08 59.3 -0.4**
VLC Villacollemand 28.47 298 *e*P **P 17 08 59.3 -0.4**
comp=Z,61nm,0.9s,mb5.2
WERD Werda 28.47 312 *e*P **P 17 09 02.5 +2.8**
comp=Z,11nm,1.6s,mb4.2
VALM 28.58 299 P **P 17 09 01.6 +0.8**
BACM 28.70 299 P **P 17 09 02.7 +0.9**
GRAM 28.73 299 P **P 17 09 03.7 +1.7**
FINES FINESS Array B 28.78 340 P **P 17 09 01.6 -0.9**
comp=Z,11nm,0.5s,mb4.9,baz=143,slow=10,SNR=71
FINES LR LR 17 21 38.9
comp=Z,330nm,19.9s,MS3.9,baz=152,slow=39
JOF Joensuu 28.81 346 *e*p **P 17 09 01.5 -1.3**
comp=Z,8.0nm,0.7s,mb4.6
CODM 28.87 299 P **P 17 09 03.2 -0.1**
GRA1 Grafenberg Arr 28.91 310 *e*P **P 17 09 03.7 0.0**
comp=Z,50nm,1.0s,mb5.2
GRA1 *e*pP pP 17 09 07.4 +0.7

GRA1 LR LR
comp=Z,200nm,21.3s,MS3.7
GRA1 Grafenberg Arr 28.91 310 *e*P **P 17 09 03.7 0.0**
comp=Z,50nm,1.0s,mb5.2
GRA1 *e*pP pP 17 09 07.4 +0.7
GRF Grafenberg Arr 28.91 310 *e*P **P 17 09 03.7 0.0**
comp=Z,50nm,1.0s,mb5.2
GRF *e*pP pP 17 09 07.4 +0.7
GRF *e*L 17 22 23.4
comp=Z,219nm,21.3s
GRF Grafenberg Arr 28.91 310 *e*P **P 17 09 03.7 0.0**
GRF pmax pmax
comp=Z,50nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,200nm,21.3s,MS3.7
BSD Bornholm Skovb 28.91 322 *i*P **P 17 09 02.0 -1.7**
comp=Z,11nm,0.7s,mb4.7
BSD
comp=Z,240nm,19.0s
MOX Moxa 28.95 312 *e*P **P 17 09 05.2 +1.2**
comp=Z,5.0nm,0.8s,mb4.3
MOX Moxa 28.95 312 *e*P **P 17 09 05.4 +1.4**
comp=Z,12nm,1.1s,mb4.5
MOX
comp=Z,300nm,17.0s
MOX Moxa 28.95 312 *e*P **P 17 09 05.4 +1.4**
MOX pmax pmax
comp=Z,12nm,1.1s,mb4.5
MOX MLR MLR
comp=Z,300nm,17.0s,MS4.0
DAVOX Davos 29.15 304 P **P 17 09 05.6 -0.2**
comp=Z,12nm,0.5s,mb4.9,baz=110,slow=6.3,SNR=27
VSL Villasalto 29.18 289 *e*P **P 17 09 06.1 0.0**
comp=Z,43nm,0.8s,mb5.2
VSL Villasalto 29.18 289 *e*P **P 17 09 06.1 0.0**
comp=Z,43nm,0.8s,mb5.2
MK31 Makanchi Array 29.23 56 P **P 17 09 06.5 0.0**
MK31 pmax pmax
comp=Z,11nm,0.9s,mb4.6
MKAR Makanchi Array 29.23 56 P **P 17 09 06.5 0.0**
comp=Z,15nm,1.1s,mb4.6,baz=253,slow=6.2,SNR=33
MKAR ScP ScP 17 15 51.8 -3.4
comp=Z,1.6nm,0.9s,baz=276,slow=3.5,SNR=6.7
DAVA Damuels 29.24 305⇑*i*P **P 17 09 05.9 -0.7**
comp=Z,47nm,1.0s,mb5.2,SNR=28
KAF Kangasniemi 29.27 341 *e*p **P 17 09 05.1 -1.7**
comp=Z,16nm,0.6s,mb4.9,baz=144,slow=9.5
KAF Kangasniemi 29.27 341 *e*P **P 17 09 05.1 -1.7**
KAF pmax pmax
comp=Z,16nm,0.6s,mb4.9
CORF Corte 29.27 294 *e*P **P 17 09 07.3 +0.4**
PGF Pioggiola 29.39 295 *e*P **P 17 09 07.3 -0.6**
comp=Z,92nm,0.7s,mb5.3
PGF Pioggiola 29.39 295 *e*P **P 17 09 07.3 -0.6**
PGF pmax pmax
comp=Z,46nm,0.7s,mb5.3
PGF Pioggiola 29.39 295 *e*P **P 17 09 07.3 -0.6**
comp=Z,46nm,0.7s,mb5.3
PCP Pian Castagno 29.81 299 P **P 17 09 10.5 -1.2**
BHPL Bhopal 29.87 106 *e*P **P 17 09 12.0 -0.1**
BHPL AMb AMB 17 09 13.6
comp=Z,22nm,0.9s,mb4.9
UBBA Unterbreizbach 29.98 312 *e*P **P 17 09 14.6 +1.5**
comp=Z,4.0nm,0.6s,mb4.3
FIN Finale Ligure 30.03 298 P **P 17 09 12.8 -0.8**
RORO 30.13 298 P **P 17 09 14.6 +0.1**
ROB Roburent 30.28 298 P **P 17 09 16.2 +0.4**
ORX Oropa 30.31 301 P **P 17 09 15.9 -0.2**
MONE Monesi 30.35 298 P **P 17 09 15.4 -1.0**
NEGI Negi 30.38 297 P **P 17 09 16.4 -0.3**
BFO Black Forest 30.45 306 *e*P **P 17 09 17.5 +0.1**
comp=Z,8.0nm,1.0s,mb4.4
BFO Black Forest 30.45 306 *e*P **P 17 09 17.5 +0.1**
BFO pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
SAOF Saorge 30.49 298 *e*P **P 17 09 17.7 0.0**
SBF Sospel 30.57 297 *e*P **P 17 09 18.2 -0.2**
comp=Z,211nm,0.7s,mb5.8
SBF Sospel 30.57 297 *e*P **P 17 09 18.2 -0.2**
SBF pmax pmax
comp=Z,106nm,0.7s,mb5.8
SBF Sospel 30.57 297 *e*P **P 17 09 18.2 -0.2**
comp=Z,106nm,0.7s,mb5.8
AUTN L'Aution 30.58 298 *e*P **P 17 09 18.8 +0.3**
FELD Feldberg im Sc 30.59 305 *e*P **P 17 09 18.6 0.0**
ENR Entracque 30.60 298 P **P 17 09 18.5 -0.1**
REVF Revere 30.62 297 *e*P **P 17 09 18.6 -0.2**
LUCF Luceram 30.64 298 *e*P **P 17 09 19.0 0.0**
STV Sta Anna Valdi 30.67 298 P **P 17 09 18.8 -0.5**
MVIF Mont Vial 30.78 298 *e*P **P 17 09 20.2 0.0**
TNS Taunus Mts 30.78 310 *e*P **P 17 09 19.8 -0.4**
comp=Z,34nm,1.0s,mb5.1
TNS Taunus Mts 30.78 310 *e*P **P 17 09 19.8 -0.4**
TNS pmax pmax
comp=Z,34nm,1.0s,mb5.1
PZZ Prazzo 30.84 299 P **P 17 09 19.6 -1.2**
BBS Basel-Blauen 30.86 305 *e*P **P 17 09 20.0 -0.9**
FENE Fenestrelle 30.90 300 P **P 17 09 19.8 -1.5**
SURF Saint Ours 31.05 299 *e*P **P 17 09 22.5 -0.1**
MBDF Montbardon 31.09 299 *e*P **P 17 09 22.6 -0.4**
comp=Z,70nm,0.7s,mb5.3
MBDF Montbardon 31.09 299 *e*P **P 17 09 22.6 -0.4**
MBDF pmax pmax
comp=Z,35nm,0.7s,mb5.3
MBDF Montbardon 31.09 299 *e*P **P 17 09 22.6 -0.4**
comp=Z,35nm,0.7s,mb5.3
RRL Cesana Torinese 31.09 300 P **P 17 09 23.1 +0.1**
WLS Welschbruch 31.11 306 *e*P **P 17 09 20.5 -2.6**
FRF La Foret Royal 31.13 297 *e*P **P 17 09 22.7 -0.7**
comp=Z,52nm,0.8s,mb5.1
FRF La Foret Royal 31.13 297 *e*P **P 17 09 22.7 -0.7**
FRF pmax pmax
comp=Z,26nm,0.8s,mb5.1
FRF La Foret Royal 31.13 297 *e*P **P 17 09 22.7 -0.7**
comp=Z,26nm,0.8s,mb5.1
LPG La Plagne 31.16 301 *e*P **P 17 09 23.0 -0.5**
comp=Z,24nm,0.5s,mb5.0
LPG La Plagne 31.16 301 *e*P **P 17 09 23.0 -0.5**
LPG pmax pmax
comp=Z,12nm,0.5s,mb5.0
LPG La Plagne 31.16 301 *e*P **P 17 09 23.0 -0.5**
comp=Z,12nm,0.5s,mb5.0
CDF Champ du Feu 31.16 306 *e*P **P 17 09 22.5 -1.1**
comp=Z,5.1nm,0.6s,mb4.2
CDF Champ du Feu 31.16 306 *e*P **P 17 09 22.5 -1.1**
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
CDF Champ du Feu 31.16 306 *e*P **P 17 09 22.5 -1.1**
comp=Z,2.5nm,0.6s,mb4.2
MOF Molkenrain 31.16 305 *e*P **P 17 09 23.6 0.0**
LPL La Plagne 31.17 301 *e*P **P 17 09 23.1 -0.6**
comp=Z,30nm,0.7s,mb4.9
LPL La Plagne 31.17 301 *e*P **P 17 09 23.1 -0.6**
LPL pmax pmax
comp=Z,15nm,0.7s,mb4.9
LPL La Plagne 31.17 301 *e*P **P 17 09 23.1 -0.6**
comp=Z,15nm,0.7s,mb4.9
BNI Bardonecchia 31.18 300 *e*P **P 17 09 22.8 -0.9**
BNI pmax pmax
comp=Z,43nm,0.8s,mb5.3
BNI Bardonecchia 31.18 300 *e*P **P 17 09 22.8 -0.9**
comp=Z,43nm,0.8s,mb5.3
BNI Bardonecchia 31.18 300 *e*P **P 17 09 22.8 -0.9**
comp=Z,43nm,0.8s,mb5.3
ECH Echery 31.20 306 *e*P **P 17 09 22.7 -1.3**
LMR La Mourre 31.23 296 *e*P **P 17 09 23.3 -0.9**
comp=Z,15nm,0.6s,mb4.7
LMR La Mourre 31.23 296 *e*P **P 17 09 23.3 -0.9**
LMR pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
LMR La Mourre 31.23 296 *e*P **P 17 09 23.3 -0.9**
comp=Z,7.4nm,0.6s,mb4.7
OG01 Vacheresse 31.28 302 *e*P **P 17 09 23.8 -0.8**
LOMF Lomont 31.30 304 *e*P **P 17 09 23.8 -1.0**
HINF Hinteralfeld 31.35 305 *e*P **P 17 09 24.0 -1.2**
comp=Z,9.8nm,0.6s,mb4.5
HINF Hinteralfeld 31.35 305 *e*P **P 17 09 24.0 -1.2**
HINF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
HINF Hinteralfeld 31.35 305 *e*P **P 17 09 24.0 -1.2**
comp=Z,4.9nm,0.6s,mb4.5
RUP Ruppelstein 31.54 309 *e*P **P 17 09 25.2 -1.7**
TAVF Tavernes 31.56 297 *e*P **P 17 09 26.9 -0.2**
OG25 Le Caire 31.57 298 *e*P **P 17 09 25.9 -1.3**
GDM Grand'Maison 31.58 300 *e*P **P 17 09 26.5 -0.8**
HAU Haudompre 31.71 305 *e*P **P 17 09 28.1 -0.3**

comp=Z,49nm,1.0s,mb5.0
HAU eR
comp=Z,372nm,20.0s
HAU Haudompre 31.71 305 eP **P 17 09 28.1 -0.3**
HAU pmax pmax
comp=Z,25nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,370nm,20.0s,MS4.1
HAU Haudompre 31.71 305 eP **P 17 09 28.1 -0.3**
comp=Z,24nm,1.0s,mb5.0
HAU LR LR
comp=Z,370nm,20.0s,MS4.1
CABF La Chapelle 31.72 303 eP **P 17 09 27.9 -0.6**
comp=Z,156nm,1.0s,mb5.5
CABF La Chapelle 31.72 303 eP **P 17 09 27.9 -0.6**
CABF pmax pmax
comp=Z,78nm,1.0s,mb5.5
CABF La Chapelle 31.72 303 eP **P 17 09 27.9 -0.6**
comp=Z,78nm,1.0s,mb5.5
ORIF Oris-en-Rattie 31.73 299 eP **P 17 09 27.0 -1.6**
comp=Z,44nm,0.7s,mb5.1
ORIF eR
comp=Z,265nm,17.8s
ORIF Oris-en-Rattie 31.73 299 eP **P 17 09 27.0 -1.6**
ORIF pmax pmax
comp=Z,22nm,0.7s,mb5.1
ORIF Oris-en-Rattie 31.73 299 eP **P 17 09 27.0 -1.6**
comp=Z,22nm,0.7s,mb5.1
IBBN Ibbenburen 31.74 314 eP **P 17 09 29.4 +0.7**
comp=Z,53nm,1.3s,mb5.2
BUG Bochum--Univer 31.80 312 eP **P 17 09 29.7 +0.5**
comp=Z,12nm,0.9s,mb4.7
VILF Villemus 31.82 297 eP **P 17 09 29.2 -0.2**
PUYF Puyloubier 31.82 297 eP **P 17 09 29.1 -0.3**
GRN Grenoble 31.85 300 eP **P 17 09 28.2 -1.4**
SMRF Simiane la Rot 31.92 298 eP **P 17 09 29.6 -0.7**
comp=Z,29nm,0.7s,mb4.9
SMRF Simiane la Rot 31.92 298 eP **P 17 09 29.6 -0.7**
comp=Z,14nm,0.7s,mb4.9
NVS Novosibirsk 31.97 41 iP **P 17 09 29.2 -1.5**
NVS e 17 10 35.6
NVS e 17 19 58.1
NVS pmax pmax
comp=Z,13nm,1.0s,mb4.7
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,8.0nm,1.0s
THEF They Montfort 31.98 306 eP **P 17 09 29.2 -1.6**
WLF Walferdange 32.11 308 eP **P 17 09 31.2 -0.7**
comp=Z,29nm,1.0s,mb5.1
WLF Walferdange 32.11 308 eP **P 17 09 30.4 -1.5**
WLF pmax pmax
comp=Z,36nm,1.0s,mb5.2
WLF Walferdange 32.11 308 eP **P 17 09 30.4 -1.6**
comp=Z,36nm,1.0s,mb5.2
WLF Walferdange 32.11 308 eP **P 17 09 30.4 -1.5**
comp=Z,36nm,1.0s,mb5.2
OCF Saint Nazaire 32.13 299 eP **P 17 09 31.4 -0.7**
OG26 St.-Nazaire-De 32.13 299 eP **P 17 09 31.4 -0.7**
HFS Hagfors 32.16 330 P **P 17 09 31.0 -1.4**
comp=Z,19nm,0.7s,mb5.0,baz=123,slow=10,SNR=76
HFS LR LR 17 23 42.8
comp=Z,579nm,20.5s,MS4.2,baz=125,slow=38
PRAF Pradon 32.21 297 eP **P 17 09 32.5 -0.3**
WTSB Winterswijk 32.22 313 eP **P 17 09 33.5 +0.6**
comp=Z,48nm,1.2s,mb5.2
MUD Monsted U'grnd 32.41 322 eP **P 17 09 34.7 +0.1**
comp=Z,11nm,0.9s,mb4.7
HGN Heimansgroeve 32.47 310 eP **P 17 09 35.3 +0.2**
comp=Z,19nm,1.6s,mb4.7
HGN ex x 17 18 32.4
HGN ex x 17 19 41.0
ZAL Zalesovo 32.52 44 LR LR 17 25 56.5
comp=Z,102nm,20.9s,MS3.5,baz=221,slow=42
VIVF Saint-Julien-I 32.59 299 eP **P 17 09 34.8 -1.3**
comp=Z,56nm,0.8s,mb5.2
VIVF Saint-Julien-I 32.59 299 eP **P 17 09 34.8 -1.3**
VIVF pmax pmax
comp=Z,28nm,0.8s,mb5.2
VIVF Saint-Julien-I 32.59 299 eP **P 17 09 34.8 -1.3**
comp=Z,28nm,0.8s,mb5.2
MEZF Maizieres J'vi 32.64 306 eP **P 17 09 34.4 -2.2**
comp=Z,66nm,1.1s,mb5.2
MEZF Maizieres J'vi 32.64 306 eP **P 17 09 34.4 -2.2**
comp=Z,33nm,1.1s,mb5.2
KOLN Koldanda 32.76 93 eP **P 17 09 37.0 -0.6**
WMQ Urumqi 32.79 63 P **P 17 09 38.7 +0.8**
WMQ XP sP 17 09 55.5 +13
WMQ PP PP 17 10 49.4 -2.6
WMQ PPP 17 11 04.6
WMQ S **S 17 14 51.6 -3.3**
WMQ XS sS 17 15 11.5 +12
WMQ SS SS 17 16 49.9 -26
WMQ SCS ScS 17 20 00.7 -6.2
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,150nm,4.0s
WMQ LR LR
comp=N,90nm,15.0s,MS3.8
WMQ LR LR
comp=E,140nm,17.0s,MS3.8
WMQ LR LR
comp=Z,90nm,16.0s,MS3.6
GIVF Givet 33.03 309 eP **P 17 09 39.4 -0.6**
LASF Ste Croix 33.16 298 eP **P 17 09 40.1 -1.0**
comp=Z,48nm,0.8s,mb5.2
LASF Ste Croix 33.16 298 eP **P 17 09 40.1 -1.0**
comp=Z,24nm,0.8s,mb5.2
SMF Signal de Mont 33.26 302 eP **P 17 09 40.8 -1.2**
comp=Z,67nm,0.9s,mb5.2
SMF Signal de Mont 33.26 302 eP **P 17 09 40.8 -1.2**
SMF pmax pmax
comp=Z,33nm,0.9s,mb5.3
SMF Signal de Mont 33.26 302 eP **P 17 09 40.8 -1.2**
comp=Z,33nm,0.9s,mb5.2
LOR Lormes 33.30 304 eP **P 17 09 40.7 -1.6**
comp=Z,17nm,0.6s,mb4.9
LOR eR
comp=Z,479nm,18.2s
LOR Lormes 33.30 304 eP **P 17 09 40.7 -1.6**
LOR pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LOR MLR MLR
comp=Z,480nm,18.3s,MS4.2
LOR Lormes 33.30 304 eP **P 17 09 40.7 -1.6**
comp=Z,8.6nm,0.6s,mb4.9
LOR LR LR
comp=Z,480nm,18.3s,MS4.2
COLF Collangettes 33.30 300 eP **P 17 09 41.5 -0.9**
PLDF La Plantade 33.37 301 eP **P 17 09 42.3 -0.7**
BAIF Baives 33.42 309 eP **P 17 09 42.8 -0.6**
comp=Z,61nm,1.1s,mb5.2
BAIF Baives 33.42 309 eP **P 17 09 42.8 -0.6**
BAIF pmax pmax
comp=Z,31nm,1.1s,mb5.2
BAIF Baives 33.42 309 eP **P 17 09 42.8 -0.6**
comp=Z,31nm,1.1s,mb5.2
GKN Gorkha 33.51 92 eP **P 17 09 44.5 +0.3**
comp=Z,44nm,0.7s,mb5.5
SSF Saint Saulge 33.52 303 eP **P 17 09 42.9 -1.4**
comp=Z,36nm,1.0s,mb5.2
SSF Saint Saulge 33.52 303 eP **P 17 09 42.9 -1.4**
SSF pmax pmax
comp=Z,18nm,1.0s,mb5.0
SSF Saint Saulge 33.52 303 eP **P 17 09 42.9 -1.4**
comp=Z,18nm,1.0s,mb5.0
AVF Avril sur Loir 33.61 303 eP **P 17 09 43.7 -1.3**
comp=Z,67nm,1.1s,mb5.2
AVF Avril sur Loir 33.61 303 eP **P 17 09 43.7 -1.3**
AVF pmax pmax
comp=Z,33nm,1.1s,mb5.2
AVF Avril sur Loir 33.61 303 eP **P 17 09 43.7 -1.3**
comp=Z,33nm,1.1s,mb5.2
LBL Lubilhac 33.61 300 eP **P 17 09 44.5 -0.6**
KONO Kongsberg 33.65 327 eP **P 17 09 44.2 -1.3**
NB2 NORSAR Subarra 33.69 330 P **P 17 09 43.8 -1.9**
comp=Z,6.1nm,0.7s,mb4.6,baz=125,slow=8.6
NB2 NORSAR Subarra 33.69 330 P **P 17 09 43.8 -1.9**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
NOA NORSAR Array B 33.69 330 P **P 17 09 44.0 -1.7**
comp=Z,5.8nm,0.7s,mb4.6,baz=125,slow=8.7,SNR=30
NOA LR LR 17 24 39.8
comp=Z,432nm,20.3s,MS4.2,baz=125,slow=38

NAO01 NORSAR Array S 33.72 329 eP **P 17 09 44.5 -1.5**
comp=Z,6.7nm,0.7s,mb4.7
NAO01 NORSAR Array S 33.72 329 eP **P 17 09 44.5 -1.5**
comp=Z,6.7nm,0.7s,mb4.7
AGO Saint Agoulin 33.72 301 eP **P 17 09 45.0 -1.0**
PYM Petit Puy Mans 33.79 301 eP **P 17 09 45.9 -0.8**
BGF Bois d'Agland 33.94 302 eP **P 17 09 46.6 -1.3**
comp=Z,42nm,1.1s,mb5.0
BGF Bois d'Agland 33.94 302 eP **P 17 09 46.6 -1.3**
BGF pmax pmax
comp=Z,21nm,1.1s,mb5.0
BGF Bois d'Agland 33.94 302 eP **P 17 09 46.6 -1.3**
comp=Z,21nm,1.1s,mb5.0
DMN Daman 34.05 92 eP **P 17 09 49.5 +0.6**
comp=Z,65nm,0.9s,mb5.5
FRNF Fournols 34.10 300 eP **P 17 09 49.3 0.0**
KKN Kakani 34.12 92 eP **P 17 09 49.7 +0.2**
comp=Z,23nm,0.7s,mb5.2
KKN Kakani 34.12 92 eP **P 17 09 49.7 +0.2**
KKN pmax pmax
comp=Z,23nm,0.7s,mb5.2
BLSP Bilaspur 34.16 103 eP **P 17 09 49.9 +0.1**
BLSP AMb AMB 17 09 55.4
comp=Z,42nm,1.2s,mb5.2
VERF Verneugheol 34.16 301 eP **P 17 09 49.4 -0.4**
ETOS Mallorca 34.20 290 P **P 17 09 50.4 +0.2**
comp=Z,36nm,0.8s,mb5.4
ETOS Mallorca 34.20 290 P **P 17 09 50.4 +0.2**
comp=Z,36nm,0.8s,mb5.4
PKI Pulchoki 34.31 92 eP **P 17 09 51.5 +0.3**
comp=Z,29nm,0.7s,mb5.3
PKI Pulchoki 34.31 92 eP **P 17 09 51.5 +0.3**
PKI pmax pmax
comp=Z,29nm,0.7s,mb5.3
MTLF Montolieu 34.36 297 eP **P 17 09 50.4 -1.2**
comp=Z,9.9nm,0.8s,mb4.5
MTLF Montolieu 34.36 297 eP **P 17 09 50.4 -1.2**
MTLF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MTLF Montolieu 34.36 297 eP **P 17 09 50.4 -1.2**
comp=Z,4.9nm,0.8s,mb4.5
TCF Toulx Ste Croi 34.37 302 eP **P 17 09 50.8 -0.8**
comp=Z,71nm,1.1s,mb5.2
TCF Toulx Ste Croi 34.37 302 eP **P 17 09 50.8 -0.8**
TCF pmax pmax
comp=Z,36nm,1.1s,mb5.2
TCF Toulx Ste Croi 34.37 302 eP **P 17 09 50.8 -0.8**
comp=Z,36nm,1.1s,mb5.2
CAF Calviac 34.44 299 eP **P 17 09 51.4 -0.9**
comp=Z,32nm,0.9s,mb4.9
CAF Calviac 34.44 299 eP **P 17 09 51.4 -0.9**
CAF pmax pmax
comp=Z,16nm,0.9s,mb5.0
CAF Calviac 34.44 299 eP **P 17 09 51.4 -0.9**
comp=Z,16nm,0.9s,mb4.9
GUN Gumba 34.56 91 eP **P 17 09 53.9 +0.6**
comp=Z,115nm,0.9s,mb5.8
RJF Les Rejaudoux 34.83 300 eP **P 17 09 55.2 -0.5**
comp=Z,58nm,0.8s,mb5.3
RJF eR
comp=Z,344nm,18.8s
RJF Les Rejaudoux 34.83 300 eP **P 17 09 55.2 -0.5**
RJF pmax pmax
comp=Z,29nm,0.8s,mb5.3
RJF MLR MLR
comp=Z,340nm,18.8s,MS4.1
RJF Les Rejaudoux 34.83 300 eP **P 17 09 55.2 -0.5**
comp=Z,29nm,0.8s,mb5.3
RJF LR LR
comp=Z,340nm,18.8s,MS4.1
JIRN Jiri 34.91 92 eP **P 17 09 57.0 +0.7**
comp=Z,52nm,0.8s,mb5.5
LFF La Frestale 35.38 299 eP **P 17 09 59.5 -0.9**
comp=Z,53nm,0.6s,mb5.3
LFF La Frestale 35.38 299 eP **P 17 09 59.5 -0.9**
LFF pmax pmax
comp=Z,26nm,0.6s,mb5.3
LFF La Frestale 35.38 299 eP **P 17 09 59.5 -0.9**
comp=Z,26nm,0.6s,mb5.3
NSS Namsos 35.44 335 eP **P 17 09 59.0 -1.9**
MOR8 Moi Rana 35.73 339 eP **P 17 10 02.0 -1.3**
MOR8 AMb AMB 17 10 03.5
comp=Z,52nm,0.8s,mb5.5
EPF Esparros 35.75 296 eP **P 17 10 01.2 -2.4**
comp=Z,11nm,0.7s,mb4.6
EPF Esparros 35.75 296 eP **P 17 10 01.2 -2.4**
EPF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
EPF Esparros 35.75 296 eP **P 17 10 01.2 -2.4**
comp=Z,5.6nm,0.7s,mb4.6
ARCES ARCESS Array B 35.79 348 P **P 17 10 03.4 -0.5**
comp=Z,16nm,1.1s,mb4.8,baz=150,slow=8.9,SNR=31
ARCES PP PP 17 11 24.0 -1.2
comp=Z,6.0nm,0.8s,baz=150,slow=10,SNR=5.6
ARCES LR LR 17 26 21.5
comp=Z,204nm,20.8s,MS3.9,baz=17,slow=39
ARCES ARCESS Array B 35.79 348 P **P 17 10 03.4 -0.5**
ARCES 17 11 24.0
ARCES ARCESS Array B 35.79 348 PP PP 17 11 24.0 -1.2
ARE0 ARCESS Array S 35.79 348 eP **P 17 10 04.1 +0.2**
ARE0 ARCESS Array S 35.79 348 eP **P 17 10 04.1 +0.2**
EGRA Graus 35.83 295 P **P 17 10 03.8 -0.5**
comp=Z,12nm,0.7s,mb4.9
EGRA Graus 35.83 295 P **P 17 10 03.8 -0.4**
comp=Z,12nm,0.7s,mb4.9
ERTA Horta de San J 35.94 293 P **P 17 10 04.9 -0.3**
comp=Z,30nm,1.3s,mb5.1
ERTA Horta de San J 35.94 293 P **P 17 10 04.9 -0.3**
comp=Z,30nm,1.3s,mb5.1
MFF Saint Martin d 36.01 302 eP **P 17 10 04.2 -1.5**
comp=Z,44nm,0.7s,mb5.2
MFF Saint Martin d 36.01 302 eP **P 17 10 04.2 -1.5**
MFF pmax pmax
comp=Z,22nm,0.7s,mb5.2
MFF Saint Martin d 36.01 302 eP **P 17 10 04.2 -1.5**
comp=Z,22nm,0.7s,mb5.2
LDF La Druitiere 36.07 306 eP **P 17 10 04.4 -1.9**
FLN La Foliniere 36.31 306 eP **P 17 10 06.6 -1.8**
comp=Z,46nm,0.8s,mb5.1
FLN eR
comp=Z,394nm,19.8s
FLN La Foliniere 36.31 306 eP **P 17 10 06.6 -1.8**
FLN pmax pmax
comp=Z,23nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,390nm,19.8s,MS4.2
FLN La Foliniere 36.31 306 eP **P 17 10 06.6 -1.8**
comp=Z,23nm,0.8s,mb5.2
FLN LR LR
comp=Z,390nm,19.8s,MS4.2
BOK Bokaro 36.34 98 eP **P 17 10 08.2 -0.4**
BOK AMb AMB 17 10 10.4
comp=Z,21nm,1.2s,mb4.9
ETSF Etsaut 36.42 296 eP **P 17 10 08.0 -1.3**
comp=Z,16nm,0.8s,mb4.7
ETSF Etsaut 36.42 296 eP **P 17 10 08.0 -1.3**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ETSF Etsaut 36.42 296 eP **P 17 10 08.0 -1.3**
comp=Z,8.0nm,0.8s,mb4.7
GRR Gorron 36.54 305 eP **P 17 10 08.7 -1.7**
comp=Z,94nm,1.0s,mb5.3
GRR Gorron 36.54 305 eP **P 17 10 08.7 -1.7**
GRR pmax pmax
comp=Z,47nm,1.0s,mb5.3
GRR Gorron 36.54 305 eP **P 17 10 08.7 -1.7**
comp=Z,47nm,1.0s,mb5.3
EMOS Mosqueruela 36.62 292 P **P 17 10 11.4 +0.4**
comp=Z,49nm,0.8s,mb5.4
EMOS Mosqueruela 36.62 292 P **P 17 10 11.4 +0.4**
comp=Z,49nm,0.8s,mb5.4
EBEN Beniarda 36.69 289 P **P 17 10 12.2 +0.6**
comp=Z,72nm,0.9s,mb5.5
EBEN Beniarda 36.69 289 P **P 17 10 12.2 +0.6**
comp=Z,72nm,0.9s,mb5.5
SJPF Ste Jean 36.89 296 eP **P 17 10 11.9 -1.4**
comp=Z,24nm,0.9s,mb4.7
SJPF Ste Jean 36.89 296 eP **P 17 10 11.9 -1.4**
SJPF pmax pmax
comp=Z,12nm,0.9s,mb4.7
SJPF Ste Jean 36.89 296 eP **P 17 10 11.9 -1.4**
comp=Z,12nm,0.9s,mb4.7
ECHE Chera 37.11 291 P **P 17 10 16.0 +0.8**
ECHE pmax pmax
comp=Z,13nm,0.6s,mb4.9
ECHE Chera 37.11 291 P **P 17 10 16.0 +0.8**
comp=Z,13nm,0.6s,mb5.0

ECHE Chera 37.11 291 P **P 17 10 16.0 +0.8**
comp=Z,13nm,0.6s,mb5.0
TRO Tromso 37.15 345 eP **P 17 10 14.2 -1.4**
KMBO Kilima Mbogo 37.47 195 LR LR 17 25 58.7
comp=Z,155nm,19.8s,MS3.8,baz=88,slow=36
VIS Vishakhapatnam 37.52 108 eP **P 17 10 18.0 -0.6**
VIS AMb AMB 17 10 19.4
comp=Z,24nm,0.8s,mb5.0
SGMF Saint Gilles 37.67 305 eP **P 17 10 17.9 -2.0**
ETOB Tobarra 37.72 289 P **P 17 10 20.9 +0.6**
comp=Z,34nm,0.9s,mb5.1
ETOB Tobarra 37.72 289 P **P 17 10 20.9 +0.6**
comp=Z,34nm,0.9s,mb5.1
QUIF Quistinic 38.08 304 eP **P 17 10 21.5 -1.9**
comp=Z,28nm,0.5s,mb5.0
QUIF Quistinic 38.08 304 eP **P 17 10 21.5 -1.9**
QUIF pmax pmax
comp=Z,14nm,0.5s,mb5.0
QUIF Quistinic 38.08 304 eP **P 17 10 21.5 -1.9**
comp=Z,14nm,0.5s,mb5.0
ROSF Rostrenen 38.15 305 eP **P 17 10 22.3 -1.7**
comp=Z,19nm,0.6s,mb4.7
ROSF Rostrenen 38.15 305 eP **P 17 10 22.3 -1.7**
ROSF pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
ROSF Rostrenen 38.15 305 eP **P 17 10 22.3 -1.7**
comp=Z,9.7nm,0.6s,mb4.7
LSA Lhasa 38.19 86 eP **P 17 10 25.2 +0.9**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
LSA Lhasa 38.19 86 eP **P 17 10 25.2 +0.9**
comp=Z,9.1nm,0.8s,mb4.6
LSA Lhasa 38.19 86 eP **P 17 10 25.2 +0.9**
comp=Z,9.1nm,0.8s,mb4.6
EHUE Huescar 38.69 288 P **P 17 10 28.7 +0.2**
EHUE pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
EHUE Huescar 38.69 288 P **P 17 10 28.7 +0.2**
comp=Z,4.8nm,0.6s,mb4.4
EHUE Huescar 38.69 288 P **P 17 10 28.7 +0.2**
comp=Z,4.8nm,0.6s,mb4.4
EKA Eskdalemuir Ar 38.73 316 P **P 17 10 27.5 -1.3**
comp=Z,7.4nm,0.8s,mb4.5,baz=105,slow=8.4,SNR=23
ESK Eskdalemuir 38.75 316 eP **P 17 10 27.6 -1.4**
ESK pmax pmax
comp=Z,11nm,0.9s,mb4.6
ESK Eskdalemuir 38.75 316 eP **P 17 10 27.6 -1.5**
comp=Z,11nm,0.9s,mb4.6
ESK Eskdalemuir 38.75 316 eP **P 17 10 27.6 -1.4**
comp=Z,11nm,0.9s,mb4.6
EQES Quesada 39.06 288 P **P 17 10 31.7 0.0**
comp=Z,35nm,0.9s,mb5.1
EQES Quesada 39.06 288 P **P 17 10 31.7 +0.1**
comp=Z,35nm,0.9s,mb5.1
EBER Berja 39.12 287 P **P 17 10 32.1 0.0**
EBER Berja 39.12 287 P **P 17 10 32.2 +0.1**
GUD Guadarrama 39.36 293 P **P 17 10 33.6 -0.5**
GUD pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
GUD Guadarrama 39.36 293 P **P 17 10 33.6 -0.5**
comp=Z,7.3nm,0.8s,mb4.5
GUD Guadarrama 39.36 293 P **P 17 10 33.6 -0.5**
comp=Z,7.3nm,0.8s,mb4.5
ESDC Sonseca Array 39.38 291 P **P 17 10 33.6 -0.7**
comp=Z,12nm,0.8s,mb4.7,baz=64,slow=8.8,SNR=29
ESDC Sonseca Array 39.38 291 P **P 17 10 33.0 -1.3**
comp=Z,9.2nm,0.7s,mb4.6
ESDC Sonseca Array 39.38 291 P **P 17 10 33.0 -1.3**
comp=Z,9.2nm,0.7s,mb4.6
ESLA Sonseca Array 39.38 291 eP **P 17 10 33.3 -1.0**
comp=Z,2.8nm,0.8s,mb4.0
ESLA Sonseca Array 39.38 291 eP **P 17 10 33.3 -1.0**
comp=Z,2.8nm,0.8s,mb4.0
ECOG Cogollos-Vega 39.56 288 P **P 17 10 34.8 -1.0**
ECOG pmax pmax
comp=Z,11nm,0.7s,mb4.7
ECOG Cogollos-Vega 39.56 288 P **P 17 10 34.8 -1.0**
comp=Z,11nm,0.7s,mb4.7
EGUA Guajares 39.66 287 P **P 17 10 36.4 -0.3**
EGUA pmax pmax
comp=Z,1.0nm,0.8s
EGUA Guajares 39.66 287 P **P 17 10 36.4 -0.2**
comp=Z,0.9nm,0.8s
EGUA Guajares 39.66 287 P **P 17 10 36.4 -0.3**
comp=Z,0.9nm,0.8s
EARI Arriondas 39.77 297 P **P 17 10 35.5 -2.0**
EARI Arriondas 39.77 297 P **P 17 10 35.5 -2.0**
ERON Agron 39.81 287 P **P 17 10 38.0 +0.1**
comp=Z,8.3nm,0.7s,mb4.6
ERON Agron 39.81 287 P **P 17 10 38.0 +0.1**
comp=Z,8.3nm,0.7s,mb4.6
ELOJ Sierra Loja 40.05 287 P **P 17 10 39.7 -0.1**
ELOJ pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
ELOJ Sierra Loja 40.05 287 P **P 17 10 39.7 -0.1**
comp=Z,4.7nm,0.5s,mb4.5
ELOJ Sierra Loja 40.05 287 P **P 17 10 39.7 -0.1**
comp=Z,4.7nm,0.5s,mb4.5
EADA Adamuz 40.15 289 P **P 17 10 40.7 0.0**
comp=Z,14nm,0.8s,mb4.7
EADA Adamuz 40.15 289 P **P 17 10 40.7 0.0**
comp=Z,14nm,0.8s,mb4.7
DLF Lyons Farm 40.44 313 eP **P 17 10 41.2 -1.9**
DCN Croghan 40.89 313 eP **P 17 10 45.3 -1.5**
PBRG Braganca 41.10 295 eP **P 17 10 48.3 -0.2**
comp=Z,10nm,1.7s,mb4.2
EMIN Mina Concepcio 41.85 289 P **P 17 10 54.4 -0.4**
comp=Z,6.8nm,0.5s,mb4.5
EMIN Mina Concepcio 41.85 289 P **P 17 10 54.3 -0.4**
comp=Z,6.8nm,0.5s,mb4.5
EBAD Badajoz 41.88 291 P **P 17 10 53.8 -1.2**
comp=Z,12nm,0.7s,mb4.7
EBAD Badajoz 41.88 291 P **P 17 10 53.8 -1.2**
comp=Z,12nm,0.7s,mb4.7
PVRL Vila Real 41.91 294 eP **P 17 10 54.8 -0.4**
comp=Z,15nm,1.0s,mb4.6
MTE Manteigas 41.94 293 eP **P 17 10 55.2 -0.3**
comp=Z,26nm,1.1s,mb4.8
MTE eS S 17 16 51.5 -22
PCBR Castelo Branco 42.01 292 eP **P 17 10 55.0 -1.0**
comp=Z,34nm,1.1s,mb4.9
PCAB Cabril 42.06 295 eP **P 17 10 56.3 -0.1**
comp=Z,33nm,1.9s,mb4.6
GTA Gaotai 42.31 68 eP **P 17 10 58.9 +0.5**
GTA AP pP 17 11 09.6 +8.0
GTA XP sP 17 11 14.4 +12
GTA PP PP 17 12 41.2 +4.8
GTA SCP ScP 17 16 35.5 -7.2
GTA PCS PcS 17 16 40.0 -3.9
GTA S **S 17 17 19.5 +0.2**
GTA XS sS 17 17 37.0 +13
GTA SS SS 17 20 21.3 -6.4
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,80nm,3.8s
GTA LR LR
comp=N,130nm,14.8s,MS4.2
GTA LR LR
comp=E,210nm,14.4s,MS4.2
GTA LR LR
comp=Z,170nm,16.0s,MS4.0
PBEJ Beja 42.70 290 eP **P 17 11 00.5 -1.2**
comp=Z,30nm,2.1s,mb4.7
PTOM Tomar 42.76 292 eP **P 17 11 02.2 +0.1**
comp=Z,70nm,1.1s,mb5.3
ZAK Zakamensk 43.31 52 eP **P 17 11 06.6 0.0**
ZAK e 17 12 51.7
ZAK pmax pmax
comp=Z,9.0nm,1.6s,mb4.2
ZAK pmax pmax
comp=Z,15nm,1.9s,mb4.4
PTEO Sao Teotonio 43.48 289 eP **P 17 11 08.5 +0.5**
comp=Z,34nm,1.2s,mb5.0
SONM Songino Array 45.58 55 P **P 17 11 24.5 -0.2**
comp=Z,1.6nm,0.5s,mb4.2,baz=276,slow=8.8,SNR=12
SONM ScP ScP 17 16 53.6 -2.5
comp=Z,0.8nm,0.8s,baz=298,slow=3.2,SNR=4.2
KBS Kingsbay 45.62 351 eP **P 17 11 24.3 -0.8**
KBS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KBS Kingsbay 45.62 351 eP **P 17 11 24.2 -0.8**
comp=Z,7.8nm,0.8s,mb4.7
KBS Kingsbay 45.62 351 eP **P 17 11 24.2 -0.9**
comp=Z,7.8nm,0.8s,mb4.7
TORD Torodi Ar. Bea 45.67 252 P **P 17 11 25.9 +0.4**
comp=Z,9.7nm,0.8s,mb4.8,baz=48,slow=9.5,SNR=46

ULN	**Ulaanbaatar**	**46.02**	**55**	*e*P	**P**	**17 11 28.5**	**+0.3**
ULN				pmax	pmax		
comp=Z,14nm,1.0s,mb4.8							
ULN	**Ulaanbaatar**	**46.02**	**55**	*e*P	**P**	**17 11 28.5**	**+0.3**
comp=Z,14nm,1.0s,mb4.9							
ULN	**Ulaanbaatar**	**46.02**	**55**	*e*P	**P**	**17 11 28.5**	**+0.3**
comp=Z,14nm,1.0s,mb4.9							
LZH	**Lanzhou**	**46.25**	**72**	*e*P	**P**	**17 11 31.0**	**+1.0**
LZH				AP	pP	17 11 41.7	+8.6
LZH				XP	sP	17 11 47.4	+13
LZH				*e*S	**S**	**17 18 14.0**	**-2.6**
LZH				XS	sS	17 18 35.0	+13
LZH				*e*SS	SS	17 21 32.0	-10
LZH				AMB	AMB		
comp=Z,90nm,4.2s							
LZH				LR	LR		
comp=E,390nm,12.0s							
LZH				LR	LR		
comp=Z,520nm,14.5s,MS4.6							
CD2	**Chengdu**	**47.91**	**78**	P	**P**	**17 11 42.2**	**-0.8**
CD2				PCP	PcP	17 13 11.2	-0.2
CD2				PP	PP	17 13 33.3	-1.6
CD2				SCP	ScP	17 17 01.5	-4.3
CD2				PCS	PcS	17 17 06.2	-0.8
CD2				S	**S**	**17 18 35.6**	**-4.8**
CD2				SCS	ScS	17 21 30.2	-6.3
CD2				SS	SS	17 21 58.5	-10
CD2				AMB	AMB		
comp=Z,90nm,5.2s							
CD2				LR	LR		
comp=N,410nm,18.0s							
CD2				LR	LR		
comp=Z,240nm,16.8s,MS4.2							
CHG	**Chiang Mai**	**49.37**	**95**	⇓P	**P**	**17 11 54.0**	**-0.2**
comp=Z,36nm,1.0s,mb5.3							
CHTO	**Chiang Mai**	**49.37**	**95**	*e*P	**P**	**17 11 53.8**	**-0.4**
CHTO				pmax	pmax		
comp=Z,27nm,0.8s,mb5.3							
CHTO	**Chiang Mai**	**49.37**	**95**	*e*P	**P**	**17 11 53.8**	**-0.4**
comp=Z,27nm,0.8s,mb5.3							
CHTO	**Chiang Mai**	**49.37**	**95**	*e*P	**P**	**17 11 53.8**	**-0.4**
comp=Z,27nm,0.8s,mb5.3							
KMI	**Kunming**	**49.45**	**86**	P	**P**	**17 11 54.0**	**-0.8**
KMI				AP	pP	17 12 06.4	+8.5
KMI				XP	sP	17 12 11.4	+12
KMI				PP	PP	17 13 48.9	0.0
KMI				S	**S**	**17 18 57.2**	**-4.8**
KMI				SS	SS	17 22 25.5	-8.2
KMI				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.8							
KMI				AMB	AMB		
comp=Z,120nm,3.9s							
KMI				LR	LR		
comp=N,190nm,20.9s,MS4.3							
KMI				LR	LR		
comp=E,250nm,19.1s,MS4.3							
KMI				LR	LR		
comp=Z,250nm,21.9s,MS4.2							
SCO	**Scoresbysund**	**49.55**	**336**	*i*P	**P**	**17 11 56.0**	**+0.4**
comp=Z,4.0nm,0.7s,mb4.6							
SCO	**Scoresbysund**	**49.55**	**336**	*e*P	**P**	**17 11 56.0**	**+0.4**
SCO				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.6							
SCO	**Scoresbysund**	**49.55**	**336**	*e*P	**P**	**17 11 56.0**	**+0.4**
comp=Z,4.0nm,0.7s,mb4.6							
DAG	**Danmarks Havn**	**49.87**	**344**	⇑*i*P	**P**	**17 11 56.8**	**-1.2**
comp=Z,5.0nm,0.9s,mb4.5							
DAG	**Danmarks Havn**	**49.87**	**344**	⇑*i*P	**P**	**17 11 56.8**	**-1.2**
DAG				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.5							
EFAM	**Famara**	**50.06**	**280**	P	**P**	**17 12 00.0**	**+0.5**
comp=Z,40nm,0.8s,mb5.5							
HHC	**Hu-ho-hao-te**	**50.67**	**63**	⇑*e*P	**P**	**17 12 03.5**	**-0.6**
HHC				AP	pP	17 12 16.0	+8.7
HHC				XP	sP	17 12 21.3	+13
HHC				PCP	PcP	17 13 21.8	+0.4
HHC				PP	PP	17 14 00.2	+0.2
HHC				SCP	ScP	17 17 10.8	-6.8
HHC				PCS	PcS	17 17 16.8	-2.0
HHC				S	**S**	**17 19 13.3**	**-5.8**
HHC				PS		17 19 28.1	
HHC				SCS	ScS	17 21 47.7	-7.4
HHC				SS	SS	17 22 46.5	-6.8
HHC				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
HHC				AMB	AMB		
comp=Z,70nm,4.2s							
HHC				LR	LR		
comp=N,100nm,14.3s,MS4.3							
HHC				LR	LR		
comp=E,210nm,17.8s,MS4.3							
HHC				LR	LR		
comp=Z,90nm,19.0s,MS3.8							
XAN	**Xi'an**	**50.85**	**72**	P	**P**	**17 12 05.0**	**-0.4**
NST	**Nakhon Sawan**	**51.99**	**98**	P	**P**	**17 12 14.0**	**0.0**
GYA	**Guiyang**	**52.04**	**82**	⇓*i*P	**P**	**17 12 13.4**	**-1.0**
GYA				AP	pP	17 12 25.9	+8.4
GYA				XP	sP	17 12 31.2	+12
GYA				PCP	PcP	17 13 26.6	+0.1
GYA				PP	PP	17 14 12.4	-0.1
GYA				SCP	ScP	17 17 17.7	-5.8
GYA				S	**S**	**17 19 30.8**	**-7.2**
GYA				AMB	AMB		
comp=Z,110nm,4.0s							
GYA				LR	LR		
comp=N,370nm,17.4s,MS4.6							
GYA				LR	LR		
comp=E,340nm,17.6s,MS4.6							
GYA				LR	LR		
comp=Z,410nm,17.9s,MS4.5							
KKTK	**Khon Kaen**	**53.81**	**95**	⇑P	**P**	**17 12 27.6**	**+0.2**
HIA	**Hailar**	**54.00**	**51**	*o*/*i*P	**P**	**17 12 28.7**	**-0.1**
TIXI	**Tiksi**	**54.40**	**23**	*e*P	**P**	**17 12 28.9**	**-2.8**
TIXI				*e*S	**S**	**17 20 03.3**	**-6.7**
TIXI				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
DBIC	**Dimbokro**	**54.73**	**251**	P	**P**	**17 12 34.9**	**+0.8**
comp=Z,13nm,0.6s,mb5.2,baz=25,slow=7.6,SNR=28							
DBIC				LR	LR	17 39 10.1	
comp=Z,178nm,20.7s,MS4.1,baz=55,slow=40							
DBIC	**Dimbokro**	**54.73**	**251**	P	**P**	**17 12 34.9**	**+0.8**
DBIC				pmax	pmax		
comp=Z,13nm,0.6s							
DBIC				MLR	MLR		
comp=Z,178nm,20.7s							
DBIC	**Dimbokro**	**54.73**	**251**	*e*P	**P**	**17 12 34.7**	**+0.6**
comp=Z,45nm,1.4s,mb5.3							
SUMG	**Summit**	**54.80**	**338**	*e*P	**P**	**17 12 34.7**	**+0.1**
comp=Z,17nm,0.8s,mb5.1							
SUMG	**Summit**	**54.80**	**338**	*e*P	**P**	**17 12 34.7**	**+0.1**
comp=Z,17nm,0.8s,mb5.1							
YAK	**Yakutsk**	**56.37**	**34**	*e*P	**P**	**17 12 45.2**	**-0.7**
YAK				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.7							
YAK				MLR	MLR		
comp=Z,200nm,19.0s,MS4.2							
WHN	**Wuhan**	**56.44**	**74**	*e*P	**P**	**17 12 47.4**	**+1.0**
QIZ	**Qiongzhong**	**58.13**	**89**	⇑P	**P**	**17 12 58.2**	**-0.1**
QIZ				S	**S**	**17 20 57.1**	**-2.4**
KULM	**Kulim**	**58.48**	**108**	*e*P	**P**	**17 12 58.1**	**-2.7**
PSI	**Prapat**	**58.73**	**111**	P	**P**	**17 13 01.2**	**-1.4**
comp=Z,2.8nm,0.5s,mb4.6,baz=289,slow=8.0,SNR=6.8							
PSI	**Prapat**	**58.73**	**111**	P	**P**	**17 13 01.2**	**-1.4**
NJ2	**Nanjing**	**59.30**	**71**	*e*P	**P**	**17 13 09.6**	**+3.1**
NJ2				AP	pP	17 13 20.5	+11
NJ2				XP	sP	17 13 28.4	+17
NJ2				PCP	PcP	17 13 53.1	-1.5
NJ2				S	**S**	**17 21 13.0**	**-1.8**
NJ2				XS	sS	17 21 35.0	+15
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0							
NJ2				AMB	AMB		
comp=Z,240nm,4.5s							
NJ2				LR	LR		
comp=N,1μm,18.4s,MS5.1							
NJ2				LR	LR		
comp=E,920nm,23.2s,MS5.1							
NJ2				LR	LR		
comp=Z,280nm,23.6s,MS4.3							
CN2	**Changchun**	**59.45**	**56**	*e*P	**P**	**17 13 08.5**	**+0.9**
TSUM	**Tsumeb**	**60.83**	**211**	*e*P	**P**	**17 13 18.9**	**+1.9**
comp=Z,6.6nm,1.0s,mb4.7							
TSUM	**Tsumeb**	**60.83**	**211**	*e*P	**P**	**17 13 18.9**	**+1.9**
comp=Z,6.6nm,1.0s,mb4.7							
KLR	**Kul'dur**	**61.46**	**48**	*e*P	**P**	**17 13 17.3**	**-4.0**
SSE	**Sheshan**	**61.51**	**71**	*e*P	**P**	**17 13 19.6**	**-2.0**
SSE				AMB	AMB		
comp=Z,140nm,3.9s							
MDJ	**Mudanjiang**	**61.90**	**54**	P	**P**	**17 13 22.7**	**-1.5**
MDJ				AP	pP	17 13 34.6	+7.2
MDJ				PP	PP	17 15 38.5	-1.9
MDJ				S	**S**	**17 21 38.8**	**-9.2**
MDJ				SS	SS	17 25 45.9	-4.2
MDJ				AMB	AMB		
comp=Z,30nm,5.0s							
MDJ				LR	LR		
comp=N,200nm,16.7s,MS4.4							
MDJ				LR	LR		
comp=E,110nm,14.2s,MS4.4							
MDJ				LR	LR		
comp=Z,90nm,13.8s,MS4.1							
KS15	**Wonju Array Si**	**63.71**	**61**	*e*P	**P**	**17 13 35.6**	**-0.7**
BOSA	**Boshof**	**66.83**	**200**	P	**P**	**17 13 57.7**	**+1.2**
comp=Z,9.7nm,0.9s,mb4.8,baz=26,slow=6.8,SNR=15							
BOSA	**Boshof**	**66.83**	**200**	P	**P**	**17 13 57.7**	**+1.2**
BILL	**Bilibino**	**67.49**	**21**	P	**P**	**17 14 01.0**	**+0.3**
BILL				*e*		17 14 18.0	
BILL				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.5							
BILL	**Bilibino**	**67.49**	**21**	*e*P	**P**	**17 13 59.5**	**-1.2**
comp=Z,4.2nm,0.8s,mb4.5							
MJAR	**Matsushiro Arr**	**71.41**	**58**	P	**P**	**17 14 22.9**	**-2.1**
comp=Z,2.3nm,1.1s,mb4.0,baz=318,slow=5.0,SNR=5.0							
SCHQ	**Schefferville**	**73.15**	**326**	P	**P**	**17 14 33.9**	**-1.5**
comp=Z,3.8nm,0.7s,mb4.5,baz=52,slow=6.5,SNR=12							
SCHQ	**Schefferville**	**73.15**	**326**	*e*P	**P**	**17 14 33.3**	**-2.0**
comp=Z,5.2nm,0.7s,mb4.6							
COLA	**College**	**79.24**	**6**	*e*P	**P**	**17 15 09.4**	**-0.6**
COLA				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.7							
COLA	**College**	**79.24**	**6**	*e*P	**P**	**17 15 09.4**	**-0.6**
comp=Z,8.6nm,0.9s,mb4.7							
DAWY	**Dawson**	**80.55**	**2**	*e*P	**P**	**17 15 15.8**	**-1.3**
YKA	**Yellowknife Ar**	**80.99**	**351**	P	**P**	**17 15 17.9**	**-1.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=46,slow=8.1,SNR=6.3							
YKA				LR	LR	17 55 00.0	
comp=Z,79nm,19.9s,MS4.1,baz=0,slow=38							
YKA	**Yellowknife Ar**	**80.99**	**351**	*i*P	**P**	**17 15 18.1**	**-1.3**
YKA				pmax	pmax		
comp=Z,1.0nm,0.6s							
SVW2	**Sparrevohn**	**82.02**	**10**	*e*P	**P**	**17 15 24.1**	**-0.8**
SML	**Sawmill**	**82.22**	**7**	*e*P	**P**	**17 15 24.3**	**-1.6**
KDAK	**Kodiak Island**	**85.64**	**10**	P	**P**	**17 15 43.2**	**-0.2**
comp=Z,16nm,1.0s,mb5.2,baz=35,slow=5.7,SNR=14							
KDAK	**Kodiak Island**	**85.64**	**10**	*e*P	**P**	**17 15 43.0**	**-0.5**
comp=Z,17nm,0.9s,mb5.3							
ULM	**Lac du Bonnet**	**88.11**	**337**	P	**P**	**17 15 55.6**	**+0.2**
comp=Z,3.3nm,0.9s,mb4.6,baz=72,slow=3.5,SNR=5.1							
ULM				LR	LR	17 54 54.8	
comp=Z,93nm,20.2s,MS4.2,baz=13,slow=35							
KAKA	**Kakadu**	**94.42**	**102**	*e*P	**P**	**17 16 19.5**	**-5.2**
comp=Z,9.8nm,0.6s,mb5.4							
PDAR	**Pinedale Array**	**98.86**	**342**	LR	LR	18 02 20.6	
comp=Z,125nm,19.9s,MS4.4,baz=51,slow=36							
VNDA	**Vanda**	**130.03**	**165**	PKP	PKPdf	17 22 11.6	-3.0
comp=Z,0.7nm,0.7s,baz=137,slow=1.7,SNR=6.3							
VNDA				SKPbc		17 25 33.9	
comp=Z,1.5nm,0.7s,baz=296,slow=4.5,SNR=13							
PLCA	**Paso Flores**	**130.84**	**244**	SKPbc	SKPbc	17 25 39.0	-1.2
comp=Z,2.5nm,0.8s,baz=49,slow=5.1,SNR=5.1							

*ISCJB **06** 17:07:41.6±0.9, 183S±02×175.7W±02, h200km, mb4.2/6, Error ellipse: s-maj=31.7km s-min=9.1km az=95.5*
*NEIC **06** 17:07:43.0±1.5, 1843S×17582W, h186km±18km, mb4.5/5, Error ellipse: s-maj=27.8km s-min=14.3km az=134.0*
*IDC **06** 17:07:43.8±2.4, 1846S×175.78W, h190km±26km, mb4.2/4, mb1 4.2/5, mb1mx3.8/14, mbtmp4.7/5, Error ellipse: s-maj=34.9km s-min=19.3km az=134.0*

ISC 06 17:07:42.7±0.9, **183S**±02×**1756W**±02, **h200**km, **n17**, σ0**96**/16, **mb4.2/6**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.71**	**40**	P	**Pn**	**17 09 09.9**	**+3.7**
3.7nm,0.3s,baz=344,slow=23,SNR=8.0							
AFI				S	**Sn**	**17 10 11.6**	**-0.6**
8.8nm,0.3s,baz=234,slow=23,SNR=11							
AFI	**Afiamalu**	**5.71**	**40**	*e*P	**Pn**	**17 09 09.3**	**+3.1**
AFI				S	**Sn**	**17 10 11.6**	**-0.6**
URZ	**Urewera**	**20.86**	**196**	P	**P**	**17 12 09.5**	**+0.3**
7.2nm,0.3s,baz=259,slow=3.0,SNR=15							
CTA	**Charters Tower**	**36.04**	**261**	*e*P	**P**	**17 14 25.9**	**+1.0**
4.5nm,0.4s,mb4.3							
CTA	**Charters Tower**	**36.04**	**261**	P	**P**	**17 14 26.2**	**+1.4**
8.6nm,0.6s,mb4.4,baz=97,slow=10,SNR=23							
CTAO	**Charters Tower**	**36.04**	**261**	*e*P	**P**	**17 14 25.8**	**+0.9**
6.1nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**40.81**	**242**	P	**P**	**17 15 02.2**	**-2.4**
1.4nm,0.6s,mb3.6,baz=72,slow=9.8,SNR=6.5							
STKA	**Stephens Creek**	**40.81**	**242**	*e*P	**P**	**17 15 01.9**	**-2.6**
WRAB	**Tennant Creek**	**47.20**	**260**	*e*P	**P**	**17 15 55.3**	**0.0**
9.9nm,0.3s,mb4.6							
WRA	**Warramunga Arr**	**47.21**	**260**	P	**P**	**17 15 55.5**	**+0.1**
5.9nm,0.4s,mb4.3,baz=98,slow=5.8,SNR=285							
AS31	**Alice Springs**	**47.27**	**254**	*e*P	**P**	**17 15 55.6**	**-0.3**
ASAR	**Alice Springs**	**47.28**	**254**	P	**P**	**17 15 55.9**	**0.0**
8.3nm,0.6s,mb4.2,baz=86,slow=8.2,SNR=143							
ASAR				PcP	PcP	17 17 24.5	+0.8
1.2nm,0.7s,baz=103,slow=4.1,SNR=7.1							
ASPA	**Alice Springs**	**47.28**	**254**	*e*P	**P**	**17 15 55.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**55.62**	**260**	*e*P	**P**	**17 16 58.4**	**+0.7**
3.0nm,0.5s,mb4.1							
ARCES	**ARCESS Array B**	**127.18**	**351**	PKP	PKPdf	17 26 24.2	+1.1
1.6nm,0.9s,baz=355,slow=2.9,SNR=4.9							
BRTR	**Keskin Array B**	**146.97**	**316**	PKPbc	PKPbc	17 27 04.4	+2.8
0.6nm,0.6s,baz=129,slow=4.9,SNR=4.4							
GERES	**GERESS Array B**	**148.65**	**348**	PKPbc	PKPbc	17 27 08.6	+2.6
0.3nm,0.6s,baz=338,slow=1.4,SNR=4.0							

IDC 06 17:12:04.5±39.0, **2944S**×**17180W**, **h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.8**/12, **mbtmp3.8**/3, **Error ellipse: s-maj=753.7km s-min=186.4km az=95.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.93**	**254**	P	P	17 19 39.2	-1.0
1.1nm,0.9s,baz=90,slow=8.1,SNR=3.1							
ASAR	**Alice Springs**	**48.55**	**263**	P	P	17 20 49.9	+0.5
0.6nm,0.5s,baz=100,slow=6.3,SNR=18							
WRA	**Warramunga Arr**	**49.48**	**268**	P	P	17 20 57.2	+0.7
0.7nm,0.5s,baz=110,slow=7.2,SNR=13							

*NEIC **06** 17:18:34.3, 1626N×9790W, h10km, MD4.0(MEX), After MEX.*

MEX 06 17:18:34.2±0.4, **1624N**×**9793W**, **h14**km±9km, **MD4.0**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.42**	**54**	*i*P	Pn	17 18 56.1	-3.5
VHO				*i*S	Sn	17 19 13.3	-4.7
OXX	**Oaxaca**	**1.43**	**54**	*e*P	Pn	17 18 56.0	-3.7
OXX				*i*S	Sn	17 19 14.0	-4.3
OXX	**Oaxaca**	**1.43**	**54**	*e*P	Pn	17 18 56.0	-3.7
OXX				*i*S	Sn	17 19 14.5	-3.8
UTMO	**Huajuapan**	**1.59**	**4**	*e*P	Pn	17 18 58.7	-3.3
UTMO				*i*S	Sn	17 19 17.7	-4.6
HUIG	**Huatulco**	**1.81**	**105**	*e*P	Pn	17 19 02.6	-2.5
HUIG				*i*S	Sn	17 19 23.1	-4.8
HUIG	**Huatulco**	**1.81**	**105**	*e*P	Pn	17 19 02.6	-2.5
HUIG				*i*S	Sn	17 19 21.3	-6.5
ACX	**Acapulco**	**2.01**	**288**	*e*P	Pn	17 19 06.5	-1.2
ACX				*i*S	Sn	17 19 32.5	-0.1
MEIG	**Mezcala**	**2.33**	**316**	*e*P	Pn	17 19 08.9	-3.3
MEIG				*i*S	Sn	17 19 36.4	-4.2
PLIG	**Platanillo**	**2.62**	**325**	*e*P	Pn	17 19 14.0	-2.1
PLIG				*i*S	Sn	17 19 42.9	-4.7
PPM	**Popocatepetl**	**2.89**	**347**	*i*P	Pn	17 19 18.3	-1.6
PPM				*e*P		17 19 20.0	
PPM				*i*S	Sn	17 19 52.7	-1.8
PPM	**Popocatepetl**	**2.89**	**347**	*i*P	Pn	17 19 21.4	+1.6
PPM				*i*S	Sn	17 19 52.7	-1.8
CMIG	**Matias Romero**	**3.04**	**73**	*i*P	Pn	17 19 18.1	-3.8
CMIG				*i*S	Sn	17 19 54.5	-3.6
CMIG	**Matias Romero**	**3.04**	**73**	*i*P	Pn	17 19 18.1	-3.8
CMIG				*i*S	Sn	17 19 55.3	-2.8

*CSEM **06** 17:41:41.2, 3666N×2688E, h125km, MD3.3, After ISK*
*ISK **06** 17:41:41.2, 3666N×2688E, h125km, MD3.3*
*HLW **06** 17:42:36.7, 3657N×2683E, h33km, Mb3.9*
*IDC **06** 17:42:39.5±1.5, 3639N×2691E, h129km±15km, mb3.7/1, mb1 3.4/3, mb1mx3.0/21, mbtmp3.8/3, Error ellipse: s-maj=28.6km s-min=12.6km az=166.0*
*ISCJB **06** 17:42:39.4±0.3, 3644N±003×2686E±004, h125km, mb3.9/1, Error ellipse: s-maj=5.2km s-min=3.4km az=103.1*
*ATH **06** 17:42:41.5, 3673N×2666E, h40km±2km, MD3.5/7*
*NEIC **06** 17:42:41.5, 3673N×2666E, h41km, MD3.5(ATH), After ATH.*

ISC 06 17:42:39.7±0.4, **3648N**±004×**2686E**±004, **h131**km±5km, **n40**, σ0**96**/55, **mb3.9**/1, **1C-9D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.63**	**67**	PG	**Pn**	**17 43 00.6**	**+0.9**
DAT				SG	**Sn**	**17 43 14.9**	**0.0**
BODT	**Bodrum**	**0.68**	**32**	PG	**Pn**	**17 43 00.3**	**+0.2**
BODT				SG	**Sn**	**17 43 14.3**	**-1.2**
BDRM	**Kayabasi**	**0.75**	**39**	*i*P	**Pn**	**17 43 00.5**	**-0.1**
BDRM				*i*S	**Sn**	**17 43 15.7**	**-0.7**
KARP	**Karpathos**	**0.97**	**165**	*e*P	**Pn**	**17 43 04.0**	**+1.6**
ARG	**Arkhangelos**	**1.06**	**104**	*e*P	**Pn**	**17 43 04.8**	**+1.5**
ARG				*e*S	**Sn**	**17 43 21.4**	**+0.2**
MLSB	**Milas**	**1.10**	**42**	PG	**Pn**	**17 43 03.9**	**+0.3**
MLSB				SG	**Sn**	**17 43 20.0**	**-1.8**
SANT	**Santorini**	**1.13**	**265**	*e*Pn	**Pn**	**17 43 04.5**	**+0.5**
SANT	**Santorini**	**1.13**	**265**	*e*Pn	**Pn**	**17 43 04.5**	**+0.5**
APE	**Apeiranthos**	**1.22**	**299**	*e*PB	**Pn**	**17 43 05.0**	**+0.2**
SMG	**Samos**	**1.22**	**359**	⇓*i*PB	**Pn**	**17 43 04.4**	**-0.5**
YER	**Yerkesik**	**1.32**	**60**	PN	**Pn**	**17 43 07.0**	**+1.1**
AYDN	**Tasoluk**	**1.43**	**35**	*i*P	**Pn**	**17 43 07.5**	**+0.3**
AYDN				*i*S	**Sn**	**17 43 27.1**	**-0.9**
DALT	**Dalyan (Mudla)**	**1.46**	**78**	PN	**Pn**	**17 43 08.9**	**+1.4**
NPS	**Neapolis**	**1.58**	**220**	*e*P	**Pn**	**17 43 09.7**	**+0.9**
NPS				*e*S	**Sn**	**17 43 30.9**	**-0.1**
FETY	**Fethiye**	**1.80**	**85**	PN	**Pn**	**17 43 12.4**	**+1.1**
XRY	**Khrisi**	**1.86**	**211**	*e*P	**Pn**	**17 43 14.5**	**+2.4**
IDI	**Anoyia**	**1.99**	**234**	P	**Pn**	**17 43 14.4**	**+0.7**
2.6nm,0.3s,baz=35,slow=15,SNR=40							
IDI				S	**Sn**	**17 43 39.1**	**-0.5**
33nm,0.3s,baz=306,slow=23,SNR=41							
DNZL	**Cakiroluk**	**2.12**	**55**	*i*P	**Pn**	**17 43 15.7**	**+0.4**
DNZL				*i*S	**Sn**	**17 43 41.1**	**-1.4**
DENT	**Denizli**	**2.15**	**53**	*e*PN	**Pn**	**17 43 16.0**	**+0.4**
VAM	**Vamos**	**2.41**	**244**	*e*P	**Pn**	**17 43 19.5**	**+0.7**
VAM				*e*S	**Sn**	**17 43 48.2**	**-0.6**
ELL	**Elmali**	**2.47**	**83**	*e*PN	**Pn**	**17 43 20.8**	**+1.2**
PRK	**Paraskevi**	**2.80**	**351**	*e*PB	**Pn**	**17 43 22.7**	**-1.0**
VLI	**Veliai**	**3.16**	**275**	*e*P	**Pn**	**17 43 28.1**	**-0.4**
VLI				*e*S	**Sn**	**17 44 02.6**	**-3.5**
ITM	**Ithomi**	**4.02**	**281**	⇓*i*P	**Pn**	**17 43 40.2**	**+0.5**
SLUM		**5.16**	**196**	⇓P	**Pn**	**17 43 52.5**	**-2.5**
SLUM				S	**Sn**	**17 44 48.8**	**-4.8**
BR131	**Keskin Array S**	**6.25**	**57**	*e*P	**Pn**	**17 44 10.5**	**+0.9**
0.5nm,0.3s							
BR131	**Keskin Array S**	**6.25**	**57**	*e*P	**Pn**	**17 44 10.5**	**+0.9**
0.5nm,0.3s							
BRTR	**Keskin Array B**	**6.25**	**57**	P	**Pn**	**17 44 10.4**	**+0.8**
0.1nm,0.3s,baz=224,slow=14,SNR=6.0							
BRTR				S	**Sn**	**17 45 23.3**	**+3.6**
0.1nm,0.3s,baz=224,slow=24,SNR=2.9							
SWA1		**7.26**	**188**	⇓P	**Pn**	**17 44 22.4**	**-0.8**
SWA2		**7.32**	**190**	⇓P	**Pn**	**17 44 23.4**	**-0.5**
SWA2				S	**Sn**	**17 45 40.8**	**-4.7**
MMAI	**Mount Meron Ar**	**7.84**	**114**	P	**Pn**	**17 44 30.3**	**-0.7**
5.8nm,0.3s,baz=316,slow=12,SNR=34							
MMAI				S	**Sn**	**17 45 54.7**	**-3.4**
3.1nm,0.3s,baz=307,slow=24,SNR=6.9							
AMAG	**Maghara**	**7.87**	**136**	P	**Pn**	**17 44 30.7**	**-0.8**
HRSH	**Kfar Ka'horesh**	**7.94**	**132**	⇑P	**Pn**	**17 44 32.0**	**-0.4**
RSH		**7.94**	**132**	P	**Pn**	**17 44 32.0**	**-0.3**
GLL	**Jalalah**	**8.00**	**148**	⇓P	**Pn**	**17 44 32.7**	**-0.5**
SUZ		**8.30**	**141**	⇓P	**Pn**	**17 44 36.9**	**-0.3**
HNKL	**Nakhl**	**8.85**	**136**	⇓P	**Pn**	**17 44 43.8**	**-0.7**
HFRF	**Wahat Farafira**	**9.39**	**172**	⇓P	**Pn**	**17 44 51.9**	**+1.1**
GERES	**GERESS Array B**	**15.66**	**326**	P	**Pn**	**17 46 13.5**	**+0.3**
baz=146,slow=14,SNR=4.2							
TORD	**Torodi Ar. Bea**	**32.39**	**231**	P	**P**	**17 48 56.8**	**-0.1**
0.8nm,0.3s,mb3.9,baz=34,slow=8.7,SNR=15							

IDC 06 17:54:07.6±1.9, **004S**×**12555E**, **h0**km, **mb3.5**/4, **mb1 3.7**/4, **mb1mx3.5**/16, **mbtmp3.6**/4, **Error ellipse: s-maj=261.3km s-min=22.0km az=64.0, Southern Moluccas Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.58**	**157**	P	P	17 58 59.4	+0.6
0.4nm,0.4s,baz=335,slow=9.8,SNR=11							
ASAR	**Alice Springs**	**24.85**	**162**	P	P	17 59 32.4	+0.7
0.5nm,0.4s,baz=344,slow=7.5,SNR=27							
STKA	**Stephens Creek**	**35

MAN 06 18:30:07.5, 1456N×11991E, h5km, mb1.5, ML3.4, MS3.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.89**	**158**	*eP*	Pg	18 30 24.9	+0.4
LUBP				*eS*	Sg	18 30 38.3	+2.4
SCZP	**Santa Cruz**	**1.21**	**0**	*eP*	Pg	18 30 30.0	-0.6
PCPH	**Palayan**	**1.52**	**49⇑**	*eP*	Pn	18 30 33.7	-1.6
POLP	**Polilio Island**	**1.97**	**85**	*eP*	Pn	18 30 42.5	+1.0
POLP				*eS*	Sn	18 31 08.2	+1.6
BALP	**Baler**	**1.99**	**54**	*eP*	Pn	18 30 42.1	+0.3
BALP				*eS*	Sn	18 31 08.5	+1.4
BOAC	**Boac**	**2.17**	**120**	*eP*	Pn	18 30 44.3	0.0
BUSP	**Coron**	**2.56**	**174**	*eP*	Pn	18 30 53.2	+3.6
CAUP	**Cauayan**	**3.00**	**38**	*eP*	Pn	18 30 56.4	+0.7
ENPP	**El Nido**	**3.37**	**188**	*eP*	Pn	18 30 59.9	-0.8

MAN 06 18:56:27.5, 1044N×12531E, h13km, mb2.8, ML4.2, MS3.4, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.54**	**236**	*eP*	Pg	18 56 38.6	+0.5
MSLP				*eS*	Sg	18 56 47.7	+2.4
SCPH	**Surigao**	**0.68**	**165⇑**	*eP*	Pg	18 56 39.8	-0.9
PLP	**Palo**	**0.79**	**335**	*eP*	Pg	18 56 43.3	+0.5
PLP				*i* S	Sg	18 56 55.5	+2.3
OCLP	**Ormoc**	**0.92**	**311**	*eP*	Pg	18 56 46.0	+0.7
OCLP				*eS*	Sg	18 57 01.7	+4.3
BUTP	**Butuan**	**1.49**	**168**	*eP*	Pn	18 56 53.6	-0.3
BUKP	**Musuan**	**2.56**	**186**	*eP*	Pn	18 57 09.7	+1.0
GUIM	**Jordan**	**2.69**	**274**	*eP*	Pn	18 57 07.8	-2.7

MAN 06 19:10:42.0, 1031N×12535E, h31km, mb1.9, ML3.6, MS3.5, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.51**	**250**	*eP*	Pb	19 10 53.6	+1.0
MSLP				*eS*	Sb	19 11 02.4	+2.5
SCPH	**Surigao**	**0.55**	**165⇑**	*eP*	Pb	19 10 54.6	+1.4
SCPH				*i* S	Sb	19 11 02.7	+1.8
PLP	**Palo**	**0.92**	**337**	*eP*	Pn	19 10 58.3	-0.5
PLP				*i* S	Sn	19 11 10.7	-0.2
OCLP	**Ormoc**	**1.03**	**315**	*eP*	Pn	19 11 01.1	+0.8
OCLP				*eS*	Sn	19 11 15.8	+2.1
BESP	**Borongan**	**1.28**	**4**	*eP*	Pn	19 11 04.1	+0.4

PRE 06 19:21:16.4±1.3, 2115S×3301E, h5km, ML4.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.32**	**191**	*eP*	Pn	19 22 49.9	-0.2
POGA				*eS*	Sn	19 23 59.7	-3.0
POGA				AML	AML	19 24 50.3	
	comp=Z,38nm,0.5s						
KSR	**Koster**	**7.30**	**229**	*eP*	Pn	19 23 05.1	+1.4
KSR				*eS*	Sn	19 24 24.4	-2.5
KSR				AML	AML	19 26 20.7	
	comp=Z,22nm,0.2s						
LBTB	**Lobatse**	**7.83**	**239**	*eP*	Pn	19 23 12.9	+2.0
LBTB				*eS*	Sn	19 24 36.0	-3.9
LBTB				AML	AML	19 25 46.2	
	comp=Z,25nm,0.6s						
BOSA	**Boshof**	**10.23**	**222**	*eP*	Pn	19 23 45.0	+1.2
BOSA				*eS*	Sn	19 25 33.8	-5.0
BOSA				AML	AML	19 26 55.8	
	comp=Z,9.6nm,0.6s						

*THR **06** 19:45:36.1±0.4, 3561N×4586E, h14km±5km, ML3.5*
*ISCJB **06** 19:45:37.3±0.4, 3562N±003×4589E±004, h10km, Error ellipse: s-maj=5.9km s-min=3.6km az=91.7*
*TEH **06** 19:45:37.5, 3560N×4555E, h10km, Mn3.7*
*CSEM **06** 19:45:38.3±0.2, 3568N×4597E, h21km±1km, ML3.7, Error ellipse: s-maj=2.1km s-min=1.4km az=74.0*
*KISR **06** 19:45:41.2±1.0, 3530N×4683E, h10km±999km, ML3.0*

ISC 06 19:45:39.0±0.4, 3565N±003×4592E±004, h10km, n27, σ1§25/38, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLY	**Sulaymaniyah**	**0.35**	**263**	*ex*	x	19 45 49.0	
SLY				*ex*	x	19 45 55.0	
IDHR	**Dehrash**	**1.02**	**158**	*e*Pg	**Pg**	**19 45 57.7**	**-0.8**
SNGE	**Sanandaj**	**1.29**	**115**	*e*PG	**Pg**	**19 46 00.5**	**-3.2**
SNGE				*e*SG	**Sg**	**19 46 18.7**	**-1.7**
SNGE				AML	AML	19 46 24.3	
	comp=E,2μm,0.4s						
SNGE				AML	AML	19 46 24.5	
	comp=N,1μm,0.7s						
SNGE	**Sanandaj**	**1.29**	**115**	*e*Pg	**Pg**	**19 46 00.5**	**-3.2**
	SNR=90						
SNGE				*e*Sg	**Sg**	**19 46 18.7**	**-1.7**
	SNR=90						
IGHG	**Ghaleghazi**	**1.42**	**158**	*e*Pn	**Pn**	**19 46 05.2**	**+0.4**
IGHG				*e*Sn	**Sn**	**19 46 25.1**	**+1.6**
IAZR	**Azarshahr**	**2.03**	**1**	*e*Pn	**Pn**	**19 46 12.5**	**-0.7**
IAZR				*e*Sn	**Sn**	**19 46 38.1**	**-0.5**
MSL	**Mosul**	**2.39**	**286**	*ex*	x	19 46 14.0	
MSL				*ex*	x	19 46 41.0	
ITBZ	**Tabriz**	**2.59**	**4**	*e*Pn	**Pn**	**19 46 21.2**	**+0.3**
ITBZ				*e*Sn	**Sn**	**19 46 52.3**	**-0.1**
BHD	**Baghdad**	**2.69**	**209**	*ex*	x	19 46 18.0	
BHD				*ex*	x	19 46 50.0	
IMRD	**Marand**	**3.07**	**357**	*e*Pn	**Pn**	**19 46 27.2**	**-0.3**
TVAN	**Van**	**3.51**	**326**	*i* P	**Pn**	**19 46 37.0**	**+3.5**
TVAN				*i* S	**Sg**	**19 47 29.5**	**-2.2**
GRMI	**Germi**	**3.53**	**26**	*e*PN	**Pn**	**19 46 33.5**	**-0.4**
GRMI				*e*SG	**Sg**	**19 47 27.5**	**-4.8**
GRMI				AML	AML	19 47 30.8	
	comp=N,42nm,0.1s						
GRMI	**Germi**	**3.53**	**26**	*e*Pn	**Pn**	**19 46 33.5**	**-0.3**
	SNR=52						
GRMI				*e*Sg	**Sg**	**19 47 27.5**	**-4.8**
	comp=N,46nm,0.4s,SNR=90						
ASAO	**Ashtian**	**3.54**	**107**	*e*PN	**Pn**	**19 46 33.6**	**-0.4**
ASAO				AML	AML	19 47 41.3	
	comp=E,46nm,0.4s						
CHTH	**Charan**	**4.24**	**85**	*e*PN	**Pn**	**19 46 43.3**	**-0.3**
BEST	**Besiri**	**4.36**	**302**	*i* P	**Pn**	**19 46 45.8**	**+0.6**
BEST				*i* S	**Sn**	**19 47 36.9**	**+0.9**
MARD	**Mardin**	**4.47**	**293**	*i* P	**Pn**	**19 46 47.8**	**+1.0**
MARD				*i* S	**Sg**	**19 48 03.1**	**+0.7**
IVRN	**Varamin**	**4.79**	**96**	*e*Pn	**Pn**	**19 46 53.0**	**+1.8**
DAMV	**Damavand**	**4.93**	**88**	*e*PN	**Pn**	**19 46 52.9**	**-0.1**
IPIR	**Pirpir**	**5.07**	**124**	*e*Pn	**Pn**	**19 46 55.1**	**+0.1**
IKLH	**Kalahroud**	**5.22**	**115**	*e*Pn	**Pn**	**19 46 58.5**	**+1.5**
MIB	**Mutribah**	**5.95**	**168**	*e*Pn	**Pn**	**19 47 07.8**	**+0.8**
MIB				*e*S	**Sn**	**19 48 12.5**	**-2.7**
IZEF	**Zefreh**	**5.97**	**116**	*e*Pn	**Pn**	**19 47 08.7**	**+1.3**
ISHM	**Shahmirzad**	**6.00**	**86**	*e*Pn	**Pn**	**19 47 09.1**	**+1.4**
UMR	**Umm Al-Rimmam**	**6.26**	**166**	*e*P	**Pn**	**19 47 11.5**	**+0.1**
UMR				*e*S	**Sn**	**19 48 18.9**	**-4.1**
UMR				AML	AML	19 48 22.2	
	comp=Z,9.6nm,0.4s						
NAY	**Al-Naaiem**	**6.47**	**170**	*e*P	**Pn**	**19 47 14.8**	**+0.4**
NAY				*e*S	**Sn**	**19 48 25.5**	**-2.8**
NAY				AML	AML	19 48 30.6	
	comp=Z,2.8nm,0.5s						
GZT	**Gaziantep**	**6.95**	**287**	*i* P	**Pb**	**19 47 36.4**	**-3.3**
GZT				*i* S	**Sg**	**19 49 17.1**	**-4.8**

IDC 06 20:01:09.4±30.0, 104N×2781W, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.7/22, mbtmp4.1/4, Error ellipse: s-maj=748.9km s-min=66.7km az=21.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**23.56**	**76**	P	P	20 06 21.7	0.0
	8.4nm,1.1s,baz=226,slow=14,SNR=5.6						
TORD	**Torodi Ar. Bea**	**31.60**	**66**	P	P	20 07 34.4	+0.6
	1.9nm,0.5s,baz=254,slow=9.5,SNR=18						
BRTR	**Keskin Array B**	**67.67**	**47**	P	P	20 12 09.0	+0.7
	0.9nm,0.6s,baz=245,slow=5.4,SNR=5.6						
AKASG	**Malin Array Be**	**68.91**	**35**	P	P	20 12 16.0	-0.1
	0.5nm,0.4s,baz=244,slow=5.8,SNR=6.5						

*NEIC **06** 20:17:33.3, 3527S×7100W, h110km, MG3.5(GUC), After GUC.*

GUC 06 20:17:33.3±0.8, 3527S×7100W, h110km±5km, MD3.6, ML3.5, 6C-9D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.33**	**325**	*i* S	Sn	20 18 01.2	+0.2
TALC	**Talca**	**0.53**	**256⇑**	*i* P	Pn	20 17 50.1	-0.2
TALC				*i* S	Sn	20 18 03.4	+0.4
TALC				AML	AML	20 18 05.0	
	comp=N,5μm,0.1s						
TALC	**Talca**	**0.53**	**256⇑**	*i* P	Pn	20 17 50.1	-0.2
TALC				*i* S	Sn	20 18 03.4	+0.4
SFDO	**San Fernando**	**0.66**	**359⇓**	*i* P	Pn	20 17 51.2	0.0
SFDO				*i* S	Sn	20 18 05.2	+0.5
CICH	**Cipreses**	**1.06**	**27⇑**	*i* P	Pn	20 17 55.3	+0.2
CACH	**El Canelo**	**1.20**	**16⇑**	*i* P	Pn	20 17 56.8	+0.2
CACH				*i* S	Sn	20 18 15.5	+1.3
LNV	**Longovilo**	**1.35**	**346⇑**	*i* P	Pn	20 17 59.1	+0.8
LNV				*i* S	Sn	20 18 17.6	+0.2
CHCH	**Chadas Angostu**	**1.37**	**12⇓**	*i* P	Pn	20 17 58.9	+0.4
CCHI	**Chillan**	**1.59**	**213⇓**	*i* P	Pn	20 18 01.6	+0.5
CCHI				*e*S	Sn	20 18 23.0	+0.7
CCHI				AML	AML	20 18 24.7	
	comp=N,374nm,0.3s						
CCHI	**Chillan**	**1.59**	**213⇓**	*i* P	Pn	20 18 01.6	+0.5
CCHI				*e*S	Sn	20 18 23.0	+0.7
TACH	**Talagante**	**1.62**	**2⇓**	*i* P	Pn	20 18 01.9	+0.4
TACH				*i* S	Sn	20 18 23.2	+0.3
PCH	**Pirque**	**1.70**	**14⇑**	*i* P	Pn	20 18 03.2	+0.8
PCH				*i* S	Sn	20 18 26.4	+1.8
ANTU	**Antumapu**	**1.73**	**10**	AML	AML	20 18 30.5	
	comp=N,355nm,0.3s						
LCCH	**Las Cruces**	**1.85**	**345**	*e*P	Pn	20 18 05.0	+0.6
LCCH				*i* S	Sn	20 18 28.1	0.0
CLCH	**Cerro Calan**	**1.91**	**12**	AML	AML	20 18 38.4	
	comp=N,368nm,0.3s						
FCH	**Farellones**	**2.03**	**17⇓**	*i* P	Pn	20 18 07.4	+0.8
FCH				*i* S	Sn	20 18 34.2	+2.2
FCH				AML	AML	20 18 39.1	
	comp=N,200nm,0.1s						
PEL	**Peldehue**	**2.14**	**7⇓**	*i* P	Pn	20 18 08.6	+0.5
PEL				*i* S	Sn	20 18 35.6	+1.0
PEL				AML	AML	20 18 42.3	
	comp=E,583nm,0.4s						
PEL	**Peldehue**	**2.14**	**7⇓**	*i* P	Pn	20 18 08.6	+0.5
PEL				*i* S	Sn	20 18 35.6	+1.0
ROCH	**El Roble**	**2.29**	**360**	*i* S	Sn	20 18 39.6	+1.4
JACH	**Jahuel**	**2.61**	**8⇓**	*i* P	Pn	20 18 14.3	+0.3
JACH				*i* S	Sn	20 18 46.2	+0.8

*IDC **06** 20:25:11.8±1.1, 080S×13364E, h0km, mb4.1/4, mb1 4.4/6, mb1mx4.1/16, mbtmp4.2/6, ML4.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/30, Error ellipse: s-maj=53.5km s-min=21.1km az=73.0*
*ISCJB **06** 20:25:13.9±0.7, 075S±007×1338E±01, h33km, mb4.2/11, MS2.7/1, Error ellipse: s-maj=20.0km s-min=8.6km az=147.7*
*NEIC **06** 20:25:16.2±0.5, 074S×13370E, h35km, mb4.3/9, Error ellipse: s-maj=15.9km s-min=7.4km az=72.0*

ISC 06 20:25:11.7±8.6, 07S±01×1338E±02, h6km±54km, n26, σ0§98/23, mb4.2/11, MS2.7/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.00**	**186**	*e*P	**Pn**	**20 28 03.6**	**+0.3**
	18nm,0.4s						
KKM	**Kota Kinabalu**	**18.80**	**291**	*e*P	**Pn**	**20 29 31.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.06**	**204**	*e*P	**Pn**	**20 29 34.9**	**-0.5**
	9.5nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.06**	**204**	P	**Pn**	**20 29 35.0**	**-0.4**
	0.6nm,0.3s,baz=34,slow=15,SNR=17						
WRAB	**Tennant Creek**	**19.11**	**178**	*e*P	**Pn**	**20 29 35.3**	**-0.8**
	10.0nm,0.4s						
WRA	**Warramunga Arr**	**19.12**	**178**	P	**Pn**	**20 29 35.5**	**-0.7**
	2.1nm,0.3s,baz=359,slow=12,SNR=158						
CTA	**Charters Tower**	**22.79**	**148**	P	**P**	**20 30 16.9**	**+1.9**
	5.9nm,0.7s,mb4.1,baz=325,slow=12,SNR=6.7						
CTAO	**Charters Tower**	**22.79**	**148**	*e*P	**P**	**20 30 16.5**	**+1.5**
	9.0nm,0.8s,mb4.2						
AS31	**Alice Springs**	**22.82**	**180**	*e*P	**P**	**20 30 15.5**	**+0.2**
ASAR	**Alice Springs**	**22.82**	**180**	P	**P**	**20 30 15.3**	**0.0**
	3.0nm,0.4s,mb4.1,baz=4.2,slow=11,SNR=53						
ASPA	**Alice Springs**	**22.82**	**180**	*e*P	**P**	**20 30 15.5**	**+0.2**
KSM	**Kuching**	**23.60**	**275**	*e*P	**P**	**20 30 24.1**	**+0.6**
MBWA	**Marble Bar**	**24.54**	**213**	*e*P	**P**	**20 30 33.6**	**+1.6**
	16nm,1.2s,mb4.4						
JOW	**Kunigami**	**27.90**	**349**	LR	LR	20 40 51.9	
	comp=Z,21nm,19.5s,MS2.7,baz=25,slow=34						
STKA	**Stephens Creek**	**31.86**	**167**	*e*P	**P**	**20 31 34.3**	**-3.2**
	0.6nm,0.5s,mb3.7						
STKA	**Stephens Creek**	**31.86**	**167**	P	**P**	**20 31 35.0**	**-2.5**
	0.7nm,0.5s,mb3.8,baz=332,slow=12,SNR=7.1						
STKA	**Stephens Creek**	**31.86**	**167**	*e*P	**P**	**20 31 34.1**	**-3.5**
MAJO	**Matsushiro**	**37.29**	**6**	P	**P**	**20 32 24.7**	**+0.2**
	7.8nm,1.2s,mb4.4						
LSA	**Lhasa**	**50.67**	**310**	P	**P**	**20 34 12.6**	**+0.7**
	2.3nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**65.25**	**324**	P	**P**	**20 35 55.3**	**+1.1**
	2.4nm,0.7s,mb4.3,baz=114,slow=8.1,SNR=25						
KURK	**Kurchatov**	**69.30**	**326**	*e*P	**P**	**20 36 20.1**	**+0.2**
	5.8nm,1.4s,mb4.3						
ZRNK	**Zerenda**	**75.65**	**326**	P	**P**	**20 36 55.3**	**-2.4**
	1.7nm,0.9s,mb4.0						
VNDA	**Vanda**	**78.23**	**174**	P	**P**	**20 37 12.0**	**-0.3**
	1.3nm,0.8s,mb3.9,baz=311,slow=5.0,SNR=10						
ARU	**Arti**	**82.46**	**327**	P	**P**	**20 37 34.1**	**-0.9**
	2.4nm,0.8s,mb4.2						
CPUP	**Villa Florida**	**151.05**	**159**	PKPbc	PKPbc	20 45 07.6	+2.0
	2.3nm,0.7s,baz=201,slow=3.2,SNR=9.4						
LPAZ	**La Paz**	**152.54**	**129**	PKPbc	PKPbc	20 45 12.2	+3.2
	1.1nm,0.8s,baz=101,slow=2.6,SNR=6.5						

MAN 06 20:29:53.5, 789N×12496E, h25km, mb2.2, ML3.8, MS0.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.10**	**97**	*e*P	Pb	20 29 59.1	+0.9
BUKP				*e*S	Sb	20 30 06.1	+4.8
CGP	**Cagayan de Oro**	**0.62**	**335**	*e*P	Pb	20 30 06.2	+0.5
CGP				*e*S	Sb	20 30 16.9	+3.0
MATI	**Mati**	**1.59**	**126**	*e*P	Pn	20 30 20.3	+0.2
MATI				*e*S	Sn	20 30 40.4	+0.6
PGP	**Puerto Galera**	**6.83**	**325⇑**	*e*P	Pn	20 31 38.6	+6.6
LUBP	**Lubang**	**7.42**	**322**	*e*P	Pn	20 31 39.8	-0.4

*ISCJB **06** 20:41:09.3±0.4, 5958S±007×262W±0.1, h10km, mb4.2/20, MS3.9/4, Error ellipse: s-maj=13.1km s-min=7.1km az=94.3*
*IDC **06** 20:41:16.4±5.5, 5982S×2648W, h57km±49km, mb3.9/9, mb1 4.0/10, mb1mx3.9/17, mbtmp4.2/10, ML4.5/1, MS3.8/4, Ms1 3.8/4, ms1mx3.2/16, Error ellipse: s-maj=28.0km s-min=17.8km az=21.0*
*BJI **06** 20:41:22.2, 5960S×2630W, h108km, mB4.3*
*NEIC **06** 20:41:22.3±3.5, 5956S×2629W, h108km±31km, mb4.3/16, Error ellipse: s-maj=14.6km s-min=9.6km az=221.0*

ISC 06 20:41:11.0±0.4, 5959S±007×262W±01, h10km, n49, σ1§00/36, mb4.2/20, MS3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.34**	**154**	*e*P	**Pn**	**20 44 20.2**	**-0.1**
VNA1				*e*		20 44 21.1	
VNA1				*e*		20 44 24.1	
VNA1				*e*		20 46 32.6	
VNA1				*e*		20 46 37.9	
VNA1				*e*		20 46 40.8	
VNA3	**Neumayer Olymp**	**13.49**	**157**	*e*P	**Pn**	**20 44 21.4**	**-1.0**
VNA3				*e*		20 44 22.1	
VNA3				*e*		20 44 22.8	
VNA3				*e*		20 44 24.0	
VNA3				*e*		20 46 37.3	
VNA3				*e*		20 46 44.3	
VNA2	**Neumayer--Watz**	**13.73**	**153**	*e*P	**Pn**	**20 44 24.7**	**-1.0**
	baz=306,slow=15						
VNA2				*e*		20 44 25.3	
VNA2				*e*		20 44 25.8	
VNA2				*e*		20 44 26.6	
VNA2				*e*		20 44 29.2	
VNA2				*e*		20 46 40.8	
VNA2				*e*		20 46 46.0	
VNA2				*e*		20 46 48.1	
SNAA	**Sanae**	**15.32**	**152**	P	**Pn**	**20 44 46.4**	**-0.8**
	1.9nm,0.3s,baz=317,slow=13,SNR=190						
SNAA				S	**Sn**	**20 47 20.2**	**-17**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=4.7						
SNAA	**Sanae**	**15.32**	**152**	*e*P	**Pn**	**20 44 34.5**	**-13**
SNAA				*e*		20 44 35.5	
SNAA				*e*		20 44 37.3	
SNAA				*e*		20 44 41.3	
SNAA				*e*		20 47 08.0	
SNAA				*e*		20 47 12.0	
SNAA				*e*		20 47 18.5	
PMSA	**Palmer Station**	**18.19**	**237**	P	**Pn**	**20 45 30.9**	**+7.4**
MAIT	**Maitri**	**19.05**	**141**	*e*P	**Pn**	**20 45 35.4**	**+1.4**
EFI	**East Falkland**	**19.49**	**280**	*e*P	**Pn**	**20 45 40.1**	**+0.8**
	47nm,1.1s						
USHA	**Ushuaia**	**23.05**	**263**	P	**P**	**20 46 17.4**	**+1.0**
	15nm,0.8s,mb4.5,baz=104,slow=14,SNR=16						
QSPA	**South Pole Qui**	**30.65**	**180**	*e*P	**P**	**20 47 25.7**	**+0.3**
	2.2nm,0.7s,mb4.1						
TRQA	**Tornquist**	**31.32**	**297**	*e*P	**P**	**20 47 31.6**	**+0.3**
	5.7nm,0.8s,mb4.5						
PLCA	**Paso Flores**	**33.27**	**284**	P	**P**	**20 47 47.6**	**-0.9**
	3.4nm,0.8s,mb4.3,baz=169,slow=5.3,SNR=9.9						
PLCA	**Paso Flores**	**33.27**	**284**	*e*P	**P**	**20 47 48.0**	**-0.5**
	3.6nm,0.7s,mb4.4						
MAW	**Mawson**	**37.02**	**140**	P	**P**	**20 48 20.9**	**+0.1**
	20nm,1.5s,mb4.7						
CFAA	**Coronel Fontan**	**39.52**	**296**	P	**P**	**20 48 41.4**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=148,slow=9.1,SNR=9.2						
CPUP	**Villa Florida**	**39.59**	**313**	P	**P**	**20 48 41.5**	**-0.9**
	0.6nm,0.4s,mb3.7,baz=159,slow=7.4,SNR=3.7						
CPUP				LR	LR	21 04 51.9	
	comp=Z,65nm,18.7s,MS3.5,baz=342,slow=36						
CPUP	**Villa Florida**	**39.59**	**313**	P	**P**	**20 48 43.0**	**+0.5**
SBA	**Scott Base**	**42.57**	**184**	*e*P	**P**	**20 49 08.6**	**+1.6**
	3.0nm,0.7s,mb4.1						
VNDA	**Vanda**	**43.05**	**183**	P	**P**	**20 49 11.4**	**+0.6**
	3.6nm,0.7s,mb4.2,baz=186,slow=6.2,SNR=40						
VNDA	**Vanda**	**43.05**	**183**	*e*P	**P**	**20 49 11.3**	**+0.5**
	2.8nm,0.8s,mb4.0						
VNDA				*e*PcP	PcP	20 51 05.8	+4.9
BOSA	**Boshof**	**46.46**	**72**	P	**P**	**20 49 39.8**	**+1.8**
	1.3nm,0.8s,mb3.9,baz=330,slow=2.0,SNR=3.5						
BOSA				LR	LR	21 04 55.8	
	comp=Z,181nm,18.4s,MS4.1,baz=139,slow=30						
BOSA	**Boshof**	**46.46**	**72**	*e*P	**P**	**20 49 38.3**	**+0.2**
	5.3nm,1.1s,mb4.4						
BDFB	**Brasilia**	**46.71**	**331**	LR	LR	21 05 35.2	
	comp=Z,105nm,21.4s,MS3.8,baz=212,slow=31						
LVC	**Limon Verde**	**47.58**	**302**	*e*P	**P**	**20 49 46.4**	**-0.4**
	4.2nm,0.6s,mb4.7						
LBTB	**Lobatse**	**49.65**	**69**	P	**P**	**20 50 03.3**	**+0.6**
	1.3nm,0.8s,mb4.0,baz=228,slow=8.4,SNR=4.3						
LBTB	**Lobatse**	**49.65**	**69**	*e*P	**P**	**20 50 03.4**	**+0.7**
	3.0nm,0.9s,mb4.3						
TSUM	**Tsumeb**	**51.06**	**57**	P	**P**	**20 50 13.3**	**-0.1**
	1.6nm,0.9s,mb4.0						
LPAZ	**La Paz**	**52.88**	**306**	P	**P**	**20 50 27.8**	**+0.8**
	1.6nm,0.5s,mb4.2,baz=94,slow=6.6,SNR=7.0						
LPAZ	**La Paz**	**52.88**	**306**	*e*P	**P**	**20 50 27.0**	**0.0**
	4.3nm,0.9s,mb4.4						
SAML	**Samuel**	**57.69**	**315**	*e*P	**P**	**20 50 59.9**	**-1.7**
	3.3nm,0.7s,mb4.5						
OTAV	**Otavalo**	**72.07**	**304**	P	**P**	**20 52 37.1**	**+1.8**
	2.5nm,0.9s,mb4.1						
ROSC	**El Rosal**	**74.58**	**310**	LR	LR	21 27 52.2	
	comp=Z,89nm,18.4s,MS4.1,baz=18,slow=38						
TORD	**Torodi Ar. Bea**	**75.92**	**28**	P	**P**	**20 52 58.0**	**+0.2**
	2.5nm,0.5s,mb4.4,baz=198,slow=6.3,SNR=29						
SDV	**Santo Domingo**	**76.89**	**315**	P	**P**	**20 53 01.7**	**-1.6**
	3.2nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**88.31**	**170**	P	**P**	**20 53 59.4**	**-3.4**
	2.1nm,0.7s,mb4.5,baz=13,slow=18,SNR=6.0						
STKA	**Stephens Creek**	**88.31**	**170**	*e*P	**P**	**20 53 59.7**	**-3.1**
ASAR	**Alice Springs**	**95.45**	**162**	P	**P**	**20 54 34.8**	**-1.1**
	1.0nm,0.6s,mb4.4,baz=182,slow=4.0,SNR=20						
NOA	**NORSAR Array B**	**123.74**	**21**	PKP	PKPdf	21 00 06.6	-2.4
	0.4nm,0.8s,baz=205,slow=1.7,SNR=3.4						
NOA	**NORSAR Array B**	**123.74**	**21**	PKP	PKPdf	21 00 06.5	-2.4
FINES	**FINESS Array B**	**127.27**	**29**	PKP	PKPdf	21 00 12.2	-3.5
	0.5nm,0.6s,baz=226,slow=29,SNR=6.4						
ARCES	**ARCESS Array B**	**134.03**	**23**	PKP	PKPdf	21 00 26.5	-2.0
	2.6nm,0.9s,baz=225,slow=0.9,SNR=8.9						
ARCES	**ARCESS Array B**	**134.03**	**23**	PKP	PKPdf	21 00 26.5	-2.0
CD2	**Chengdu**	**136.13**	**108**	*e*PKP	PKPdf	21 00 30.2	-2.2
ZAL	**Zalesovo**	**143.33**	**68**	PKP	PKPdf	21 00 40.4	-5.1
	0.6nm,0.3s,baz=237,slow=4.6,SNR=3.0						
ZAL	**Zalesovo**	**143.33**	**68**	PKP	PKPdf	21 00 40.4	-5.1
INK	**Inuvik**	**148.82**	**317**	PKPbc	PKPbc	21 00 54.2	-4.5
	2.2nm,0.7s,baz=136,slow=2.3,SNR=5.4						
INK	**Inuvik**	**148.82**	**317**	PKPbc	PKPbc	21 00 54.2	-4.5
SONM	**Songino Array**	**150.25**	**92**	PKPbc	PKPbc	21 01 00.7	-1.5
	4.6nm,0.7s,baz=211,slow

*ISCJB **06** 21:12:17.3±0.5, 3652N×005×7099E×009, h209km±9km, mb3.2/4, Error ellipse: s-maj=13.6km s-min=6.3km az=122.6*
*NNC **06** 21:12:23.2±4.5, 3696N×7048E, h168km±39km, mb3.2, mpv4.1, Error ellipse: s-maj=43.4km s-min=37.5km az=98.0*

ISC 06 21:12:18.3±0.5, 3650N±006×7097E±009, h204km±9km, n38, σ1°07/45, mb3.2/4, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.78**	**164**	⇑P	**Pn**	**21 13 06.3**	**+0.8**
CHCP	**Chirah Chowk**	**3.40**	**146**	P	**Pn**	**21 13 13.6**	**+0.8**
THW	**Thamme Wali**	**3.75**	**170**	⇑P	**Pn**	**21 13 17.6**	**+0.5**
SBDP	**Sheikh Budin**	**4.19**	**182**	P	**Pn**	**21 13 22.5**	**0.0**
SARP	**Sargodha**	**4.78**	**162**	P	**Pn**	**21 13 29.8**	**-0.1**
DLH	**Dalhousie**	**5.71**	**132**	*e*P	**Pn**	**21 13 42.0**	**+0.2**
DLH				*e*x	x	21 14 49.0	
KK31	**Karatay Array**	**6.61**	**357**	⇑P	**Pn**	**21 13 51.7**	**-1.7**
	3.8nm,0.2s,baz=182,slow=12,SNR=69						
KK31				⇓S	**Sn**	**21 15 02.1**	**-6.8**
	baz=189,slow=26						
AAK	**Ala-Archa**	**6.70**	**23**	*e*Pn	**Pn**	**21 13 51.7**	**-3.0**
SDNR	**Sundarnagar**	**7.04**	**133**	*e*P	**Pn**	**21 13 58.4**	**-0.7**
SDNR				*e*S	**Sn**	**21 15 12.4**	**-6.8**
SMLA	**Simla**	**7.43**	**134**	*i* P	**Pn**	**21 14 05.3**	**+1.2**
SMLA				*i* S	**Sn**	**21 15 21.5**	**-6.8**
	458nm,0.4s						
KLP	**Kalpa**	**7.81**	**127**	*e*P	**Pn**	**21 14 08.9**	**-0.2**
KLP				*e*S	**Sn**	**21 15 32.0**	**-5.3**
KLP				AML	AML	21 15 37.8	
	comp=N,94nm,0.8s						
KLP				AML	AML	21 15 37.9	
	comp=E,92nm,0.4s						
JOSI	**Joshimath**	**9.30**	**127**	*e*P	**Pn**	**21 14 23.2**	**-5.1**
JOSI				*e*S	**Sn**	**21 15 59.8**	**-13**
JOSI				AML	AML	21 16 04.3	
	comp=N,53nm,0.7s						
JOSI				AML	AML	21 16 06.7	
	comp=E,54nm,0.4s						
KUDL	**Kundal**	**9.54**	**149**	*e*P	**Pn**	**21 14 30.2**	**-1.3**
KUDL				*e*S	**Sn**	**21 16 09.3**	**-9.2**
SONA	**Sohna**	**9.71**	**146**	*e*P	**Pn**	**21 14 33.6**	**-0.1**
SONA				*e*S	**Sn**	**21 16 12.8**	**-9.5**
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**21 15 20.2**	**+0.8**
	comp=E,0.1nm,0.3s,baz=200,slow=8.9,SNR=5.6						
KOLN	**Koldanda**	**13.78**	**126**	*e*P	**Pn**	**21 15 25.0**	**-0.3**
	comp=E,4.2nm,0.2s						
GKN	**Gorkha**	**14.32**	**122**	*e*P	**Pn**	**21 15 31.4**	**-0.6**
	comp=E,17nm,0.5s						
DMN	**Daman**	**14.89**	**123**	*e*P	**Pn**	**21 15 37.4**	**-1.6**
KKN	**Kakani**	**14.90**	**122**	*e*P	**Pn**	**21 15 39.0**	**0.0**
	comp=E,25nm,0.6s						
AB31	**Akbulak array**	**15.07**	**331**	⇓P	**Pn**	**21 15 41.7**	**+0.5**
	comp=E,1.4nm,0.5s,baz=146,slow=12,SNR=23						
PKI	**Pulchoki**	**15.12**	**122**	*e*P	**Pn**	**21 15 40.5**	**-1.3**
	comp=E,27nm,0.7s						
GUN	**Gumba**	**15.24**	**120**	*e*P	**Pn**	**21 15 45.5**	**+2.3**
JIRN	**Jiri**	**15.61**	**120**	*e*P	**Pn**	**21 15 47.8**	**+0.1**
	comp=E,22nm,0.5s						
VOSK	**Vostochnaya**	**16.22**	**0**	⇑P	**P**	**21 15 55.2**	**+0.8**
ZRNK	**Zerenda**	**16.51**	**356**	⇓P	**P**	**21 15 58.2**	**+0.7**
ZRNK	**Zerenda**	**16.51**	**356**	*e*P	**P**	**21 15 57.5**	**-0.1**
	comp=E,1.4nm,0.5s						
BVA0	**Borovoye Array**	**16.53**	**359**	P	**P**	**21 15 59.9**	**+2.2**
	baz=0.0,slow=0.1,SNR=7.3						
BRVK	**Borovoye**	**16.57**	**359**	*e*P	**P**	**21 15 56.3**	**-1.9**
	comp=E,0.7nm,0.5s						
AKTK	**Aktyubinsk**	**16.77**	**330**	P	**P**	**21 16 01.1**	**+0.7**
AKTO	**Aktyubinsk**	**16.77**	**330**	⇑P	**P**	**21 16 00.9**	**+0.5**
AKTO	**Aktyubinsk**	**16.77**	**330**	P	**P**	**21 16 01.1**	**+0.7**
	comp=E,0.5nm,0.3s,baz=145,slow=9.8,SNR=16						
LSA	**Lhasa**	**18.20**	**106**	*e*P	**P**	**21 16 18.2**	**+2.2**
	comp=E,3.7nm,0.8s						
ZAL	**Zalesovo**	**19.91**	**25**	P	**P**	**21 16 34.7**	**+0.3**
	comp=E,1.0nm,0.3s,baz=235,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**21 19 42.8**	**+0.3**
	comp=E,1.1nm,0.6s,mb3.5,baz=111,slow=6.6,SNR=5.6						
NB2	**NORSAR Subarra**	**44.37**	**323**	P	**P**	**21 20 08.3**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.2,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**21 20 08.1**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.4,baz=96,slow=7.8,SNR=8.0						
TORD	**Torodi Ar. Bea**	**65.69**	**269**	P	**P**	**21 22 39.5**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.2,baz=51,slow=5.8,SNR=8.0						
WRA	**Warramunga Arr**	**82.01**	**122**	P	**P**	**21 24 15.1**	**-0.5**
	comp=Z,0.1nm,0.4s,mb2.8,baz=322,slow=4.8,SNR=3.1						

MAN 06 21:16:53.0, 877N×12642E, h25km, mb2.5, ML4.0, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.58**	**186**	⇑*i*P	Pb	21 17 03.7	-0.9
BIPH				*i* S	Sb	21 17 12.1	-0.3
BUTP	**Butuan**	**0.82**	**284**	*e*P	Pb	21 17 08.8	+0.3
BUTP				*e*S	Sb	21 17 20.7	+1.6
SCPH	**Surigao**	**1.37**	**318**	⇓*e*P	Pn	21 17 16.1	-0.4
BUKP	**Musuan**	**1.61**	**237**	*e*P	Pn	21 17 20.7	+0.9
BUKP				*e*S	Sn	21 17 44.1	+4.4
CGP	**Cagayan de Oro**	**1.74**	**260**	*e*P	Pn	21 17 21.9	+0.3
CGP				*e*S	Sn	21 17 43.3	+0.4
MATI	**Mati**	**1.81**	**185**	*e*P	Pn	21 17 23.3	+0.7
MSLP	**Maasin**	**2.06**	**312**	*e*P	Pn	21 17 25.9	0.0

*BJI **06** 21:18:16.5, 3230S×5725E, h25km, mB5.4, mb4.9, Ms4.8, Msz4.4*
*ISCJB **06** 21:18:18.0±0.3, 3173S×007×5784E±008, h10km, mb4.5/41, MS3.7/9, Error ellipse: s-maj=10.4km s-min=9.1km az=61.3*
*MOS **06** 21:18:18.0±1.0, 3174S×5778E, h10km, mb4.8/16, Error ellipse: s-maj=17.7km s-min=12.0km az=93.1*
*IDC **06** 21:18:18.3±0.5, 3158S×5792E, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.1/28, mbtmp4.1/20, ML4.3/1, MS3.6/7, Ms1 3.7/7, ms1mx3.2/23, Error ellipse: s-maj=19.5km s-min=14.0km az=42.0*
*NEIC **06** 21:18:19.6±0.3, 3169S×5786E, h10km, mb4.7/24, Error ellipse: s-maj=8.9km s-min=8.3km az=221.0*

ISC 06 21:18:19.9±0.3, 3169S±007×5785E±008, h10km, (h17km±2.4km: pP-P), n94, σ1°06/82, mb4.5/41, MS3.7/9, 1C-2D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.23**	**321**	Pn	**Pn**	**21 22 08.6**	**+0.7**
	1.1nm,0.3s,baz=145,slow=7.6,SNR=11						
OPO				Sn	**Sn**	**21 24 58.3**	**-10**
	0.8nm,0.3s,baz=38,slow=19,SNR=6.4						
OPO				T		21 37 13.0	
	1.0nm,0.3s,baz=205,slow=19,SNR=2.4						
OPO	**Ambohidratompo**	**16.23**	**321**	Pn	**Pn**	**21 22 08.6**	**+0.7**
OPO				Sn	**Sn**	**21 24 58.3**	**-10**
BOSA	**Boshof**	**28.30**	**268**	LR	LR	21 33 33.1	
	comp=Z,71nm,18.6s,MS3.3,baz=354,slow=32						
BOSA	**Boshof**	**28.30**	**268**	P	**P**	**21 24 12.9**	**-0.6**
BOSA				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.0						
BOSA	**Boshof**	**28.30**	**268**	P	**P**	**21 24 12.9**	**-0.6**
	comp=Z,5.2nm,1.2s,mb4.0						
MATP	**Matopo**	**28.57**	**286**	LR	LR	21 35 34.6	
	comp=Z,87nm,18.4s,MS3.4,baz=113,slow=36						
LBTB	**Lobatse**	**29.08**	**275**	P	**P**	**21 24 22.0**	**+1.5**
	comp=Z,1.1nm,0.8s,mb3.6,baz=169,slow=10,SNR=2.4						
LBTB				LR	LR	21 33 36.8	
	comp=Z,99nm,20.2s,MS3.4,baz=308,slow=32						
LBTB	**Lobatse**	**29.08**	**275**	*e*P	**P**	**21 24 19.9**	**-0.6**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
LBTB	**Lobatse**	**29.08**	**275**	*e*P	**P**	**21 24 19.9**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.0						
LSZ	**Lusaka**	**31.59**	**294**	P	**P**	**21 24 43.2**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.0,baz=141,slow=12,SNR=4.7						
MAW	**Mawson**	**36.08**	**177**	P	**P**	**21 25 22.7**	**+1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=343,slow=9.0,SNR=2.5						
MAW	**Mawson**	**36.08**	**177**	P	**P**	**21 25 19.8**	**-1.8**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAW	**Mawson**	**36.08**	**177**	P	**P**	**21 25 19.8**	**-1.8**
	comp=Z,6.9nm,0.9s,mb4.6						
KMBO	**Kilima Mbogo**	**36.09**	**323**	LR	LR	21 38 07.3	
	comp=Z,99nm,18.3s,MS3.6,baz=274,slow=33						
TSUM	**Tsumeb**	**38.22**	**279**	P	**P**	**21 25 40.5**	**+0.6**
	comp=Z,1.8nm,0.8s,mb3.9,baz=114,slow=11,SNR=4.7						
TSUM	**Tsumeb**	**38.22**	**279**	*e*P	**P**	**21 25 40.3**	**+0.4**
	comp=Z,1.9nm,0.8s,mb3.9						
SYO	**Syowa Base**	**38.80**	**190**	⇑*e*P	**P**	**21 25 51.2**	**+6.5**
SYO	**Syowa Base**	**38.80**	**190**	⇓*e*PcP	PcP	21 27 55.0	-1.0
SNAA	**Sanae**	**51.10**	**201**	P	**P**	**21 27 22.5**	**-0.1**
	comp=Z,1.0nm,0.9s,mb3.7,baz=88,slow=6.0,SNR=11						
SNAA	**Sanae**	**51.10**	**201**	*e*P	**P**	**21 27 11.4**	**-11**
SNAA				*e*	pP	21 27 15.7	-10
SNAA				*e*		21 27 19.4	
VNA2	**Neumayer--Watz**	**52.34**	**202**	*e*P	**P**	**21 27 27.2**	**-4.6**
VNA2				*e*		21 27 32.1	
VNA2				*e*		21 27 35.6	
VNA2				*e*		21 27 38.2	
VNA1	**Neumayer--Stat**	**52.56**	**203**	*e*P	**P**	**21 27 29.7**	**-3.8**
VNA1				*e*	pP	21 27 33.6	-3.1
VNA1				*e*		21 27 35.4	
VNA3	**Neumayer Olymp**	**53.13**	**202**	*e*P	**P**	**21 27 32.6**	**-5.1**
VNA3				*e*	pP	21 27 36.9	-4.0
VNA3				*e*		21 27 40.5	
QSPA	**South Pole Qui**	**58.48**	**180**	*e*P	**P**	**21 28 16.6**	**+0.5**
	comp=Z,7.8nm,0.9s,mb4.7						
KSM	**Kuching**	**59.60**	**67**	P	**P**	**21 28 21.4**	**-2.5**
VNDA	**Vanda**	**62.27**	**166**	P	**P**	**21 28 42.6**	**+0.6**
	comp=Z,1.4nm,1.0s,mb4.0,baz=269,slow=6.8,SNR=9.4						
VNDA				LR	LR	21 51 26.3	
	comp=Z,190nm,19.9s,MS4.3,baz=349,slow=32						
VNDA	**Vanda**	**62.27**	**166**	*e*P	**P**	**21 28 42.5**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
VNDA	**Vanda**	**62.27**	**166**	*e*P	**P**	**21 28 42.5**	**+0.4**
	comp=Z,4.2nm,1.1s,mb4.5						
KOLN	**Koldanda**	**64.01**	**25**	*e*P	**P**	**21 28 52.4**	**-1.2**
	comp=Z,24nm,1.2s,mb5.1						
DMN	**Daman**	**64.43**	**27**	*e*P	**P**	**21 28 56.7**	**+0.4**
	comp=Z,16nm,0.8s,mb5.1						
GKN	**Gorkha**	**64.61**	**26**	*e*P	**P**	**21 28 57.7**	**+0.2**
	comp=Z,19nm,0.8s,mb5.2						
KKN	**Kakani**	**64.66**	**27**	*e*P	**P**	**21 28 58.0**	**+0.2**
	comp=Z,20nm,1.0s,mb5.1						
KKN	**Kakani**	**64.66**	**27**	*e*P	**P**	**21 28 58.0**	**+0.2**
KKN				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
JIRN	**Jiri**	**64.90**	**28**	*e*P	**P**	**21 29 00.8**	**+1.4**
GUN	**Gumba**	**65.00**	**27**	*e*P	**P**	**21 29 00.9**	**+0.8**
ASPA	**Alice Springs**	**66.60**	**104**	*e*P	**P**	**21 29 11.4**	**+1.0**
ASAR	**Alice Springs**	**66.61**	**104**	P	**P**	**21 29 10.7**	**+0.3**
	comp=Z,6.4nm,0.8s,mb4.7,baz=243,slow=6.0,SNR=61						
AS31	**Alice Springs**	**66.61**	**104**	*e*P	**P**	**21 29 11.4**	**+1.0**
MMAI	**Mount Meron Ar**	**67.76**	**340**	P	**P**	**21 29 18.5**	**+0.8**
	comp=Z,1.1nm,0.5s,mb4.2,baz=134,slow=8.2,SNR=3.8						
WRA	**Warramunga Arr**	**68.62**	**101**	P	**P**	**21 29 24.0**	**+0.9**
	comp=Z,8.2nm,0.8s,mb4.7,baz=242,slow=5.4,SNR=31						
WRAB	**Tennant Creek**	**68.63**	**101**	*e*P	**P**	**21 29 23.9**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,67nm,1.8s,mb5.3						
WRAB	**Tennant Creek**	**68.63**	**101**	*e*P	**P**	**21 29 23.9**	**+0.7**
	comp=Z,67nm,1.8s,mb5.3						
LSA	**Lhasa**	**68.76**	**31**	P	**P**	**21 29 26.0**	**+2.0**
LSA	**Lhasa**	**68.76**	**31**	*e*P	**P**	**21 29 24.3**	**+0.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
LSA	**Lhasa**	**68.76**	**31**	*e*P	**P**	**21 29 24.3**	**+0.3**
	comp=Z,7.9nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**69.28**	**115**	*e*P	**P**	**21 29 26.2**	**-1.0**
	comp=Z,3.8nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**69.28**	**115**	P	**P**	**21 29 26.6**	**-0.6**
	comp=Z,4.8nm,0.6s,mb4.6,baz=279,slow=6.3,SNR=16						
TORD	**Torodi Ar. Bea**	**69.86**	**300**	P	**P**	**21 29 31.2**	**+0.4**
	comp=Z,2.5nm,0.9s,mb4.1,baz=128,slow=4.2,SNR=11						
DBIC	**Dimbokro**	**70.85**	**291**	P	**P**	**21 29 36.9**	**+0.1**
	comp=Z,2.6nm,1.0s,mb4.1,baz=162,slow=9.7,SNR=1.9						
DBIC	**Dimbokro**	**70.85**	**291**	P	**P**	**21 29 36.9**	**0.0**
QIZ	**Qiongzhong**	**70.90**	**52**	P	**P**	**21 29 35.9**	**-1.2**
	comp=Z,36nm,1.2s,mb5.2						
KMI	**Kunming**	**70.92**	**43**	P	**P**	**21 29 40.3**	**+3.0**
KMI				AP	pP	21 29 46.6	+6.0
KMI				XP	sP	21 29 49.1	+7.3
KMI				PP	PP	21 32 22.5	+8.1
KMI				S	S	21 38 56.2	+3.3
KMI				SS	SS	21 43 33.5	+8.0
KMI				AMB	AMB		
	comp=Z,90nm,3.1s						
KMI				LR	LR		
	comp=Z,40nm,20.8s,MS3.7						
MALT	**Malatya**	**71.96**	**344**	P	**P**	**21 29 45.0**	**+1.5**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MALT	**Malatya**	**71.96**	**344**	P	**P**	**21 29 45.0**	**+1.4**
	comp=Z,3.3nm,0.9s,mb4.3						
GNI	**Garni**	**72.50**	**349**	P	**P**	**21 29 48.4**	**+1.6**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GNI	**Garni**	**72.50**	**349**	P	**P**	**21 29 48.4**	**+1.6**
	comp=Z,5.0nm,0.8s,mb4.5						
BR131	**Keskin Array S**	**74.52**	**341**	*e*P	**P**	**21 29 58.4**	**-0.3**
	comp=Z,3.0nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**74.52**	**341**	P	**P**	**21 29 57.8**	**-0.9**
	comp=Z,2.5nm,1.0s,mb4.1,baz=157,slow=6.7,SNR=10						
AAK	**Ala-Archa**	**75.52**	**13**	*e*P	**P**	**21 30 03.7**	**-0.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**75.52**	**13**	*e*P	**P**	**21 30 03.7**	**-0.8**
	comp=Z,4.2nm,1.1s,mb4.3						
CD2	**Chengdu**	**75.96**	**40**	*e*P	**P**	**21 30 07.2**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GTA	**Gaotai**	**80.76**	**32**	*e*P	**P**	**21 30 34.6**	**+1.1**
GTA				AP	pP	21 30 39.2	+2.4
GTA				XP	sP	21 30 42.2	+4.2
MKAR	**Makanchi Array**	**81.17**	**17**	P	**P**	**21 30 35.6**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.1,baz=192,slow=9.4,SNR=16						
AKTK	**Aktyubinsk**	**81.76**	**0**	P	**P**	**21 30 37.7**	**-1.1**
AKTO	**Aktyubinsk**	**81.76**	**0**	P	**P**	**21 30 37.7**	**-1.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=153,slow=9.4,SNR=5.9						
KURK	**Kurchatov**	**84.07**	**13**	*e*P	**P**	**21 30 51.0**	**+0.2**
KURK				*e*		21 30 59.3	
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
KURK	**Kurchatov**	**84.07**	**13**	*e*P	**P**	**21 30 51.0**	**+0.2**
	comp=Z,10.0nm,1.0s,mb4.9						
KURK				*e*		21 30 59.3	
ZRNK	**Zerenda**	**84.84**	**7**	*e*P	**P**	**21 30 53.4**	**-1.3**
ZRNK				*e*		21 31 02.4	
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
ZRNK	**Zerenda**	**84.84**	**7**	*e*P	**P**	**21 30 53.4**	**-1.3**
	comp=Z,10nm,1.1s,mb4.9						
ZRNK				*e*		21 31 02.4	
BRVK	**Borovoye**	**85.08**	**7**	*e*P	**P**	**21 30 55.4**	**-0.5**
BRVK				*e*		21 31 03.2	
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
BRVK	**Borovoye**	**85.08**	**7**	*e*P	**P**	**21 30 55.4**	**-0.5**
	comp=Z,9.0nm,1.1s,mb4.8						
BRVK				*e*		21 31 03.2	
NJ2	**Nanjing**	**85.71**	**48**	*e*P	**P**	**21 30 56.5**	**-2.5**
NJ2				AP	pP	21 31 06.8	+4.4
NJ2				XP	sP	21 31 10.8	+7.3
NJ2				S		21 41 25.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.3						
NJ2				LR	LR		
	comp=N,230nm,22.0s						
NJ2				LR	LR		
	comp=E,40nm,28.0s						
NJ2				LR	LR		
	comp=Z,120nm,21.5s,MS4.3						
CHKZ	**Chkalovo**	**85.73**	**8**	*e*P	**P**	**21 30 59.5**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
CHKZ	**Chkalovo**	**85.73**	**8**	*e*P	**P**	**21 30 59.5**	**+0.4**
	comp=Z,9.5nm,1.1s,mb4.9						
AKASG	**Malin Array Be**	**85.84**	**342**	P	**P**	**21 30 57.2**	**-2.5**
	comp=Z,1.3nm,0.8s,mb4.2,baz=176,slow=4.1,SNR=5.7						
SSE	**Sheshan**	**86.59**	**50**	*e*P	**P**	**21 31 03.9**	**+0.5**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,150nm,4.2s						
ARU	**Arti**	**87.77**	**0**	⇓*i*P	**P**	**21 31 09.3**	**+0.2**
ARU				*e*		21 34 38.8	
ARU				*e*PPP		21 36 33.2	
ARU				*e*S		21 41 35.6	
ARU				*e*SP		21 42 56.0	
ARU				*e*SS	SS	21 47 46.9	+8.8
ARU				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.7						
ARU	**Arti**	**87.77**	**0**	*e*P	**P**	**21 31 09.2**	**+0.1**
	comp=Z,3.8nm,1.0s,mb4.6						
OBN	**Obninsk**	**88.36**	**348**	P	**P**	**21 31 13.0**	**+1.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
ZAL	**Zalesovo**	**88.41**	**16**	P	**P**	**21 31 10.7**	**-1.4**
	comp=Z,1.0nm,0.8s,mb4.1,baz=253,slow=4.4,SNR=8.9						
GERES	**GERESS Array B**	**89.33**	**333**	P	**P**	**21 31 14.9**	**-1.6**
	comp=Z,0.4nm,0.7s,mb3.8,baz=151,slow=3.0,SNR=4.4						
GERES				LR	LR	22 16 46.3	
	comp=Z,34nm,18.9s,MS3.8,baz=235,slow=39						
SONM	**Songino Array**	**90.34**	**30**	P	**P**	**21 31 20.1**	**-1.2**
	comp=Z,1.0nm,0.8s,mb4.2,baz=212,slow=5.3,SNR=5.4						
ULN	**Ulaanbaatar**	**90.65**	**31**	P	**P**	**21 31 22.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**90.65**	**31**	P	**P**	**21 31 22.5**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.3						
NOA	**NORSAR Array B**	**99.89**	**339**	LR	LR	22 14 19.5	
	comp=Z,22nm,20.4s,MS3.6,baz=195,slow=34						
MDJ	**Mudanjiang**	**100.08**	**44**	P	Pdif	21 32 06.6	+1.0
MDJ				AMB	AMB		
	comp=Z,40nm,5.5s						
SML	**Sawmill**	**145.42**	**22**	*e*PKIKP	PKPdf	21 37 57.9	-0.2
ELN	**Prospectdale**	**145.62**	**291**	*e*PKPdf	PKPdf	21 37 58.1	-0.4
DAWY	**Dawson**	**145.84**	**13**	*e*PKPdf	PKPdf	21 37 58.8	0.0
KDAK	**Kodiak Island**	**146.63**	**30**	PKPbc	PKPbc	21 38 00.9	-0.8
	comp=Z,4.3nm,0.9s,baz=100,slow=4.8,SNR=2.8						
YKA	**Yellowknife Ar**	**148.80**	**353**	PKPbc	PKPbc	21 38 07.0	-0.5
	comp=Z,5.6nm,0.7s,baz=0.7,slow=2.5,SNR=24						
WVT	**Waverly**	**151.27**	**288**	*e*PKIKP	PKPdf	21 38 11.9	+4.3
ULM	**Lac du Bonnet**	**153.07**	**321**	PKPbc	PKPbc	21 38 17.4	-0.2
	comp=Z,4.8nm,0.7s,baz=28,slow=3.1,SNR=6.7						
ULM	**Lac du Bonnet**	**153.07**	**321**	PKPbc	PKPbc	21 38 17.4	-0.2

*NEIC **06** 21:35:41.3, 1702N×9981W, h41km, MD3.9(MEX), After MEX.*

MEX 06 21:35:41.4±0.7, 1703N×9981W, h40km±11km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**212**	*i* P	Pn	21 35 47.5	-1.1
ACX				*i* S	Sn	21 35 51.5	-2.0
CAIG	**El Cayaco**	**0.44**	**272**	*i* P	Pn	21 35 49.6	-1.7
CAIG				*i* S	Sn	21 35 56.6	-1.6
MEIG	**Mezcala**	**0.91**	**12**	*i* P	Pn	21 35 55.6	-2.1
MEIG				*i* S	Sn	21 36 07.0	-2.6
PLIG	**Platanillo**	**1.39**	**12**	*i* P	Pn	21 36 02.9	-1.4
PLIG				*i* S	Sn	21 36 20.2	-1.1
PLIG	**Platanillo**	**1.39**	**12**	*i* P	Pn	21 36 02.9	-1.4
PLIG				*i* S	Sn	21 36 21.1	-0.2
UTMO	**Huajuapan**	**2.08**	**67**	*e*P	Pn	21 36 12.5	-1.2
UTMO				*i* S	Sn	21 36 37.0	-1.3
PPM	**Popocatepetl**	**2.32**	**29**	*e*P	Pn	21 36 15.8	-1.2
PPM				*e*P		21 36 19.0	
PPM				*i* S	Sn	21 36 44.2	-0.1
OXX	**Oaxaca**	**2.95**	**89**	*e*P	Pn	21 36 30.0	+4.2
OXX	**Oaxaca**	**2.95**	**89**	*e*P	Pn	21 36 35.0	+9.2

*IDC **06** 22:02:34.2±3.5, 2092N×12082E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=327.8km s-min=25.3km az=61.0*
*ISCJB **06** 22:02:35.9±1.0, 203N±02×1197E±03, h10km, mb3.5/4, Error ellipse: s-maj=49.4km s-min=9.9km az=102.8*
*MAN **06** 22:02:57.6, 1875N×12050E, h40km, mb2.7, ML4.1, MS0.8*

ISC 06 22:02:37.5±1.0, 203N±02×1197E±03, h10km, n8, σ0°94/10, mb3.5/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.85**	**148**	*e*P	**Pn**	**22 03 17.6**	**-5.4**
APYP				*e*S	**Sn**	**22 03 57.1**	**-0.3**
SGCP	**Mt. Cagua**	**3.05**	**132**	*e*P	**Pn**	**22 03 23.6**	**-2.1**
SGCP				*e*S	**Pg**	**22 03 37.5**	**+1.6**
CVP	**Callao Caves**	**3.30**	**141**	*e*P	**Pn**	**22 03 29.0**	**-0.1**
BALP	**Baler**	**4.89**	**158**	*e*P	**Pn**	**22 03 46.3**	**-4.7**
MKAR	**Makanchi Array**	**40.26**	**320**	P	**P

2.9nm,0.1s
PTEO Sao Teotonio 2.40 300 *e*Pn Pn 22 14 57.1 -0.9
PTEO *e*Sn Sn 22 15 24.1 -2.2
EBAD Badajoz 2.49 344 ⇓Pn Pn 22 14 58.2 -1.1
0.9nm,0.1s,SNR=18
EBAD Sn Sn 22 15 26.3 -2.3
1.8nm,0.1s
EBAD Badajoz 2.49 344 P Pn 22 14 58.2 -1.0
0.9nm,0.1s,SNR=18
EBAD S Sn 22 15 26.3 -2.3
1.8nm,0.1s
MOE Montemor 2.79 321 *e*Sn Sn 22 15 34.0 -2.0
EQES Quesada 2.83 59 Sn Sn 22 15 33.5 -3.4
0.6nm,0.1s,SNR=7.9
EQES Quesada 2.83 59 S Sn 22 15 33.5 -3.4
0.6nm,0.1s,SNR=7.9
PLOU Loures 3.48 317 *e*Sn Sn 22 15 51.5 -1.5
PCBR Castelo Branco 3.63 343 *e*Pn Pn 22 15 14.3 -0.6
PCBR *e*Sn Sn 22 15 53.1 -3.6
PCBR
1.1nm,0.2s
PCBR Castelo Branco 3.63 343 *e*Pn Pn 22 15 14.3 -0.6
PCBR *e*Sn Sn 22 15 53.1 -3.6
ESDC Sonseca Array 3.71 27 Pn Pn 22 15 15.1 -1.0
1.3nm,0.1s,baz=211,slow=13,SNR=4.1
ESDC Sn Sn 22 15 54.5 -4.4
0.5nm,0.1s,baz=210,slow=24,SNR=5.8
ESDC Sonseca Array 3.71 27 P Pn 22 15 15.1 -1.0
1.3nm,0.1s,SNR=4.1
PTOM Tomar 3.72 332 *e*Pn Pn 22 15 15.7 -0.4
PTOM *e*Sn Sn 22 15 56.7 -2.2
ETOB Tobarra 4.29 57 Pn Pn 22 15 22.1 -1.9
0.1nm,0.1s,SNR=7.9
ETOB Sn Sn 22 16 08.7 -4.2
1.0nm,0.1s,SNR=7.3
ETOB Tobarra 4.29 57 P Pn 22 15 22.1 -1.9
0.1nm,0.1s,SNR=7.9
ECAL Calabor 5.59 355 Pn Pn 22 15 41.1 -0.8
0.2nm,0.1s,SNR=7.9
ECAL Calabor 5.59 355 P Pn 22 15 41.1 -0.7
0.2nm,0.1s,SNR=7.9

IDC 06 22:27:55.5±1.7, 111S×12214E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/16, mbtmp3.2/3, Error ellipse: s-maj=210.4km s-min=28.1km az=60.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.20**	**148**	P	P	22 32 54.1	+0.8
	0.4nm,0.5s,baz=324,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**25.16**	**154**	P	P	22 33 22.4	+0.1
	0.6nm,0.5s,baz=336,slow=7.0,SNR=7.9						
MKAR	**Makanchi Array**	**59.11**	**329**	P	P	22 37 57.9	+0.1
	0.1nm,0.5s,baz=124,slow=6.7,SNR=3.3						

MAN 06 22:28:48.5, 879N×12614E, h30km, mb2.8, ML4.2, MS2.2, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.54**	**289**	*e*P	Pb	22 29 00.3	+0.7
BUTP				*e*S	Sb	22 29 11.2	+4.0
BIPH	**Bislig**	**0.64**	**160**	⇑*i*P	Pb	22 28 59.4	-1.7
BIPH				*i* S	Sb	22 29 09.0	-0.7
SCPH	**Surigao**	**1.18**	**327**	⇑*e*P	Pn	22 29 09.3	+0.4
SCPH				*e*S	Sn	22 29 23.8	-0.1
BUKP	**Musuan**	**1.40**	**230**	*e*P	Pn	22 29 12.5	+0.6
BUKP				*e*S	Sn	22 29 33.2	+3.8
CGP	**Cagayan de Oro**	**1.47**	**257**	*e*P	Pn	22 29 12.4	-0.5
CGP				*e*S	Sn	22 29 31.6	+0.5
MATI	**Mati**	**1.83**	**176**	*e*P	Pn	22 29 18.0	+0.1
MSLP	**Maasin**	**1.84**	**317**	*e*P	Pn	22 29 21.6	+3.6

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*ISCJB **06** 23:01:51.7±0.3, 1.17N±004×97.12E±004, h28km, mb4.7/69, MS4.5/23, Error ellipse: s-maj=6.7km s-min=5.3km az=94.0*
*BJI **06** 23:01:52.0, 101N×9723E, h40km, mB5.1, mb5.0, Ms4.7, Msz4.5*
*IDC **06** 23:01:52.9±0.6, 1.19N×9706E, h24km±3km, mb4.2/15, mb1 4.3/16, mb1mx4.2/20, mbtmp4.3/16, ML4.1/1, MS4.0/5, Ms1 4.0/5, ms1mx3.6/15, Error ellipse: s-maj=21.5km s-min=13.2km az=57.0*
*NEIC **06** 23:01:53.8±0.2, 1.17N×97.11E, h30km, mb4.8/29, Error ellipse: s-maj=7.5km s-min=4.8km az=52.0*
*MOS **06** 23:01:54.3±1.2, 130N×97.18E, h48km, mb5.0/26, MS4.5/5, Error ellipse: s-maj=11.9km s-min=6.1km az=100.9*
ISC 06 23:01:54.2±0.3, 119N±004×9714E±004, h30km, h30km±1.0km: pP-P, n142, σ1§10/152, mb4.7/69, MS4.5/23, 6C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.40**	**48**		**Pn**	**23 02 31.2**	**-0.1**
	41nm,0.3s,baz=223,slow=5.8,SNR=112						
PSI				LR	LR	23 03 21.7	
	comp=Z,2μm,21.4s,baz=306,slow=37						
IPM	**Ipoh**	**5.07**	**50**	P	**Pn**	**23 03 09.6**	**+1.4**
KULM	**Kulim**	**5.37**	**41**	*e*Pn	**Pn**	**23 03 12.2**	**0.0**
KGM	**Kluang**	**6.23**	**82**	P	**Pn**	**23 03 25.7**	**+1.7**
CHTO	**Chiang Mai**	**17.60**	**6**	*e*P	**Pn**	**23 05 55.5**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CHTO	**Chiang Mai**	**17.60**	**6**	*e*P	**Pn**	**23 05 55.5**	**-1.7**
	comp=Z,5.5nm,0.6s						
KKM	**Kota Kinabalu**	**19.63**	**75**	P	**Pn**	**23 06 19.1**	**-2.7**
KKM	**Kota Kinabalu**	**19.63**	**75**	*e*P	**Pn**	**23 06 20.7**	**-1.1**
TSM	**Tawau**	**20.93**	**81**	P	**P**	**23 06 35.5**	**+1.1**
QIZ	**Qiongzhong**	**21.66**	**34**	P	**P**	**23 06 43.0**	**+0.8**
QIZ				S	**S**	**23 10 41.6**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
QIZ				LR	LR		
	comp=N,600nm,15.5s,MS4.3						
QIZ				LR	LR		
	comp=E,740nm,15.1s,MS4.3						
QIZ				LR	LR		
	comp=Z,590nm,12.6s,MS4.2						
HYB	**Hyderabad**	**24.37**	**312**	*i* P	**P**	**23 07 19.0**	**+9.4**
HYB				*e*S	**S**	**23 11 28.5**	**+1.3**
HYB	**Hyderabad**	**24.37**	**312**	*e*P	**P**	**23 07 19.0**	**+9.4**
KMI	**Kunming**	**24.40**	**12**	P	**P**	**23 07 11.0**	**+1.2**
KMI				AP		23 07 17.5	
KMI				XP	sP	23 07 22.5	+0.4
KMI				PP		23 07 47.8	
KMI				PPP		23 07 57.8	
KMI				S	**S**	**23 11 27.2**	**-0.4**
KMI				XS	sS	23 11 42.4	+0.5
KMI				SS		23 12 25.8	
KMI				SSS		23 12 42.2	
KMI				AMB	AMB		
	comp=Z,60nm,1.2s,mb4.9						
KMI				AMB	AMB		
	comp=Z,280nm,3.5s						
KMI				LR	LR		
	comp=N,2μm,14.8s,MS4.7						
KMI				LR	LR		
	comp=E,840nm,14.4s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,15.1s,MS4.7						
SHL	**Shillong**	**24.76**	**349**	*e*P	**P**	**23 07 12.0**	**-1.1**
SHL				*ex*	x	23 11 34.0	
GYA	**Guiyang**	**26.74**	**19**	⇑*i*P	**P**	**23 07 30.4**	**-0.6**
GYA				AP	pP	23 07 39.9	+0.2
GYA				XP	sP	23 07 43.7	+0.3
GYA				PP		23 08 14.8	
GYA				S	**S**	**23 12 03.5**	**-1.3**
GYA				XS	sS	23 12 16.6	-2.6
GYA				SS		23 13 12.8	
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,3.8s						
GYA				LR	LR		
	comp=N,1μm,12.9s,MS4.7						
GYA				LR	LR		
	comp=E,490nm,12.6s,MS4.7						
GYA				LR	LR		
	comp=Z,2μm,15.0s,MS4.7						
JIRN	**Jiri**	**28.33**	**339**	*e*P	**P**	**23 07 46.6**	**+1.3**
	comp=Z,87nm,1.0s,mb5.3						
PKI	**Pulchoki**	**28.54**	**338**	*e*P	**P**	**23 07 48.6**	**+1.5**
GUN	**Gumba**	**28.67**	**339**	*e*P	**P**	**23 07 49.8**	**+1.5**
	comp=Z,70nm,0.8s,mb5.5						
DMN	**Daman**	**28.69**	**337**	*e*P	**P**	**23 07 49.3**	**+0.9**
KKN	**Kakani**	**28.79**	**338**	*e*P	**P**	**23 07 49.6**	**+0.3**
	comp=Z,60nm,1.0s,mb5.3						
KKN	**Kakani**	**28.79**	**338**	*e*P	**P**	**23 07 49.6**	**+0.3**
KKN				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.3						
LSA	**Lhasa**	**28.92**	**349**	P	**P**	**23 07 52.0**	**+1.5**
LSA	**Lhasa**	**28.92**	**349**	*e*P	**P**	**23 07 52.2**	**+1.7**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
LSA	**Lhasa**	**28.92**	**349**	*e*P	**P**	**23 07 52.2**	**+1.7**
	comp=Z,12nm,0.8s,mb4.7						
GKN	**Gorkha**	**29.22**	**337**	*e*P	**P**	**23 07 54.2**	**+1.0**
	comp=Z,32nm,0.7s,mb5.2						
KOLN	**Koldanda**	**29.44**	**335**	*e*P	**P**	**23 07 55.2**	**+0.1**
	comp=Z,55nm,0.9s,mb5.3						
CD2	**Chengdu**	**30.21**	**11**	P	**P**	**23 07 59.2**	**-2.8**
CD2				AP	pP	23 08 08.8	-1.9
CD2				XP	sP	23 08 12.8	-1.6
CD2				PP	PP	23 08 59.1	-11
CD2				S	**S**	**23 12 56.4**	**-3.1**
CD2				XS	sS	23 13 12.4	-1.5
CD2				SS	SS	23 14 37.1	-32
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
CD2				AMB	AMB		
	comp=Z,110nm,4.3s						
CD2				LR	LR		
	comp=N,1μm,14.4s						
CD2				LR	LR		
	comp=Z,1μm,15.0s,MS4.6						
MBWA	**Marble Bar**	**31.33**	**136**	*e*P	**P**	**23 08 11.8**	**0.0**
	comp=Z,65nm,1.7s,mb5.2						
WHN	**Wuhan**	**33.45**	**28**	*e*P	**P**	**23 08 30.7**	**+0.3**
XAN	**Xi'an**	**34.49**	**17**	P	**P**	**23 08 38.3**	**-1.1**
XAN				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
XAN				LR	LR		
	comp=N,470nm,13.2s,MS4.5						
XAN				LR	LR		
	comp=E,380nm,14.1s,MS4.5						
XAN				LR	LR		
	comp=Z,740nm,15.0s,MS4.5						
LZH	**Lanzhou**	**35.27**	**9**	*e*P	**P**	**23 08 45.8**	**-0.4**
LZH				AP	pP	23 08 53.5	-1.5
LZH				XP	sP	23 08 57.1	-1.5
LZH				PP	PP	23 10 06.0	-0.5
LZH				S	**S**	**23 14 18.0**	**-0.1**
LZH				XS	sS	23 14 34.0	+1.4
LZH				*e*SS	SS	23 16 35.0	-17
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,180nm,4.3s						
LZH				LR	LR		
	comp=E,1μm,14.4s						
LZH				LR	LR		
	comp=Z,2μm,15.6s,MS5.0						
NJ2	**Nanjing**	**36.90**	**32**	*e*P	**P**	**23 09 01.9**	**+1.8**
NJ2				AP	pP	23 09 11.0	+2.0
NJ2				XP	sP	23 09 14.5	+1.9
NJ2				PP	PP	23 10 25.9	+1.5
NJ2				S	**S**	**23 14 45.0**	**+2.0**
NJ2				XS	sS	23 15 02.0	+4.4
NJ2				AMB	AMB		
	comp=Z,100nm,1.5s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,60nm,10.0s						
NJ2				LR	LR		
	comp=N,1μm,18.0s						
NJ2				LR	LR		
	comp=E,250nm,28.0s						
NJ2				LR	LR		
	comp=Z,440nm,16.0s,MS4.3						
SSE	**Sheshan**	**37.45**	**35**	*e*P	**P**	**23 09 03.5**	**-1.3**
SSE				AP	pP	23 09 13.2	-0.5
SSE				XP	sP	23 09 16.6	-0.7
SSE				PP	PP	23 10 29.6	-0.9
SSE				PCP	PcP	23 11 22.1	-0.8
SSE				S	**S**	**23 14 50.8**	**-0.6**
SSE				XS	sS	23 15 05.9	-0.1
SSE				SCS	ScS	23 19 13.6	-2.6
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,100nm,4.1s						
SSE				LR	LR		
	comp=N,410nm,17.5s,MS4.3						
SSE				LR	LR		
	comp=E,130nm,17.5s,MS4.3						
SSE				LR	LR		
	comp=Z,490nm,12.6s,MS4.5						
KAKA	**Kakadu**	**37.66**	**113**	*e*P	**P**	**23 09 05.2**	**-1.3**
	comp=Z,9.9nm,0.6s,mb4.7						
GTA	**Gaotai**	**38.12**	**3**	⇑P	**P**	**23 09 10.6**	**+0.2**
GTA				AP	pP	23 09 18.2	-1.1
GTA				XP	sP	23 09 21.5	-1.4
GTA				PP	PP	23 10 43.3	+5.5
GTA				S	**S**	**23 15 02.7**	**+1.3**
GTA				XS	sS	23 15 19.8	+3.7
GTA				SS	SS	23 17 43.9	-4.7
GTA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GTA				AMB	AMB		
	comp=Z,110nm,5.7s						
GTA				LR	LR		
	comp=N,410nm,12.5s,MS4.5						
GTA				LR	LR		
	comp=E,330nm,13.7s,MS4.5						
GTA				LR	LR		
	comp=Z,430nm,13.3s,MS4.4						
HHC	**Hu-ho-hao-te**	**41.58**	**17**	*e*P	**P**	**23 09 41.1**	**+1.9**
HHC				AP	pP	23 09 50.5	+2.4
HHC				XP	sP	23 09 55.0	+3.2
HHC				PCP	PcP	23 11 37.8	+1.8
HHC				SCP	ScP	23 15 24.4	+0.5
HHC				PCS	PcS	23 15 27.9	+0.5
HHC				S	**S**	**23 15 56.5**	**+3.2**
HHC				SS	SS	23 18 57.2	-1.6
HHC				SCS	ScS	23 19 40.0	-0.4
HHC				AMB	AMB		
	comp=Z,130nm,4.9s						
HHC				LR	LR		
	comp=N,630nm,14.5s						
HHC				LR	LR		
	comp=E,700nm,21.0s						
HHC				LR	LR		
	comp=Z,510nm,13.9s,MS4.5						
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**23 09 43.3**	**0.0**
	comp=Z,6.2nm,0.5s,mb4.5,baz=301,slow=9.1,SNR=37						
WRA	**Warramunga Arr**	**42.08**	**122**	*i* P	**P**	**23 09 43.2**	**-0.1**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WRAB	**Tennant Creek**	**42.09**	**122**	*e*P	**P**	**23 09 43.1**	**-0.2**
WRAB				*e**PP	pP	23 09 52.8	+0.5
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**42.09**	**122**	*e*P	**P**	**23 09 43.1**	**-0.2**
	comp=Z,8.9nm,0.6s,mb4.6						
WRAB				*e*pP	pP	23 09 52.8	+0.5
WB2	**Warramunga Arr**	**42.09**	**122**	*e*P	**P**	**23 09 43.3**	**-0.1**
BJT	**Baijiatuau**	**42.35**	**22**	*e*P	**P**	**23 09 46.5**	**+1.1**
BJT				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	**Baijiatuau**	**42.35**	**22**	*e*P	**P**	**23 09 46.5**	**+1.0**
	comp=Z,13nm,0.6s,mb4.7						
WMQ	**Urumqi**	**43.27**	**350**	P	**P**	**23 09 53.8**	**+0.9**
WMQ				AP	pP	23 10 02.2	+0.3
WMQ				PP	PP	23 11 36.7	+3.0
WMQ				PPP		23 12 13.7	
WMQ				S	**S**	**23 16 19.1**	**+0.9**
WMQ				SCS	ScS	23 19 48.8	-2.0
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,120nm,4.5s						
WMQ				LR	LR		
	comp=N,100nm,24.0s,MS4.0						
WMQ				LR	LR		
	comp=E,180nm,23.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,110nm,26.0s,MS3.6						
FORT	**Forrest**	**43.31**	**140**	⇑*i*P	**P**	**23 09 55.3**	**+2.1**
	comp=Z,17nm,0.5s,mb5.0						
ASPA	**Alice Springs**	**43.44**	**127**	*e*P	**P**	**23 09 54.7**	**+0.4**
AS31	**Alice Springs**	**43.44**	**127**	*e*P	**P**	**23 09 54.7**	**+0.4**
ASAR	**Alice Springs**	**43.44**	**127**	P	**P**	**23 09 55.0**	**+0.7**
	comp=Z,3.8nm,0.6s,mb4.3,baz=297,slow=8.0,SNR=34						
ULHL	**Ulahol**	**44.98**	**338**	P	**P**	**23 10 07.4**	**+0.8**
	SNR=6.9						
UCH	**Uchtor**	**45.63**	**336**	P	**P**	**23 10 13.4**	**+1.6**
	SNR=17						
TKM2	**Tokmak 2**	**45.80**	**338**	P	**P**	**23 10 14.2**	**+1.1**
	SNR=9.0						
KBK	**Karagaybulak**	**45.83**	**337**	P	**P**	**23 10 15.5**	**+2.2**
	SNR=5.5						
KS15	**Wonju Array Si**	**45.86**	**35**	*e*P	**P**	**23 10 14.0**	**+0.4**
AAK	**Ala-Archa**	**45.98**	**337**	*e*P	**P**	**23 10 14.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**45.98**	**337**	*e*P	**P**	**23 10 14.8**	**+0.3**
	comp=Z,13nm,1.3s,mb4.7						
FRU	**Bishkek**	**46.10**	**337**	*e*P	**P**	**23 10 16.5**	**+1.0**
EKS2	**Erkin-Say**	**46.29**	**336**	P	**P**	**23 10 18.6**	**+1.6**
	SNR=7.1						
USP	**Ospenovka**	**46.52**	**337**	P	**P**	**23 10 19.7**	**+0.9**
	SNR=24						
SNY	**Shenyang**	**46.94**	**27**	⇑P	**P**	**23 10 21.8**	**-0.2**
SNY				S	**S**	**23 17 17.0**	**+5.8**
SNY				SS	SS	23 20 35.2	-2.9
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
SNY				AMB	AMB		
	comp=Z,120nm,5.1s						
SNY				LR	LR		
	comp=N,380nm,15.6s,MS4.6						
SNY				LR	LR		
	comp=E,380nm,15.6s,MS4.6						
SNY				LR	LR		
	comp=Z,460nm,14.4s,MS4.6						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**23 10 23.8**	**+0.1**
	comp=Z,5.1nm,0.5s,mb4.7,baz=190,slow=8.8,SNR=30						
SONM				PcP	PcP	23 11 55.4	+0.4
	comp=Z,2.6nm,0.6s,baz=190,slow=4.2,SNR=5.8						
SONM				pPcP		23 12 03.2	
	comp=Z,1.5nm,0.4s,baz=206,slow=3.0,SNR=5.6						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**23 10 23.8**	**+0.1**
SONM						23 11 55.4	
MK31	**Makanchi Array**	**47.23**	**346**	P	**P**	**23 10 24.4**	**0.0**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**47.23**	**346**	P	**P**	**23 10 24.7**	**+0.3**
	comp=Z,7.4nm,0.5s,mb4.9,baz=160,slow=8.9,SNR=170						
MKAR	**Makanchi Array**	**47.23**	**346**	P	**P**	**23 10 24.7**	**+0.3**
ULN	**Ulaanbaatar**	**47.28**	**9**	*e*P	**P**	**23 10 24.7**	**0.0**
ULN				*e*		23 11 56.0	
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**47.28**	**9**	*e*P	**P**	**23 10 24.7**	**0.0**
	comp=Z,8.6nm,0.9s,mb4.7						
ULN				*e*PcP	PcP	23 11 56.0	+0.5
KK31	**Karatay Array**	**48.04**	**334**	*i* P	**P**	**23 10 30.8**	**+0.2**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
KKAR	**Karatay Array**	**48.04**	**334**	*i* P	**P**	**23 10 30.8**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
ZAK	**Zakamensk**	**49.29**	**5**	*e*P	**P**	**23 10 39.0**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.5						
CN2	**Changchun**	**49.34**	**27**	*e*P	**P**	**23 10 40.0**	**-0.6**
CN2				*e*AP	pP	23 10 50.0	+0.3
CN2				*e*S	**S**	**23 17 44.1**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=E,300nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=Z,400nm,17.0s,MS4.5						
TLY	**Talaya**	**50.61**	**5**	*e*P	**P**	**23 10 50.6**	**+0.4**
TLY				*e*		23 17 52.3	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TLY				MLR	MLR		
	comp=Z,260nm,15.0s,MS4.4						
TLY	**Talaya**	**50.61**	**5**	*e*P	**P**	**23 10 51.2**	**+0.9**
	comp=Z,4.6nm,0.7s,mb4.5						
HIA	**Hailar**	**51.67**	**19**	*e*P	**P**	**23 10 58.0**	**-0.2**
HIA	**Hailar**	**51.67**	**19**	*e*P	**P**	**23 10 58.1**	**-0.1**
	comp=Z,13nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**51.74**	**42**	P	**P**	**23 10 58.5**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.2,baz=224,slow=6.2,SNR=6.0						
KURK	**Kurchatov**	**51.78**	**345**	*e*P	**P**	**23 10 59.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
KURK	**Kurchatov**	**51.78**	**345**	*e*P	**P**	**23 10 59.1**	**+0.1**
	comp=Z,15nm,1.0s,mb4.9						
MDJ	**Mudanjiang**	**51.90**	**29**	P	**P**	**23 11 00.0**	**+0.1**
MDJ				AP	pP	23 11 09.0	-0.1
MDJ				XP	sP	23 11 12.8	+0.1
MDJ				PP	PP	23 12 58.4	+0.4
MDJ				S	**S**	**23 18 18.3**	**-2.5**
MDJ				AMB	AMB		
	comp=Z,60nm,6.2s						
MDJ				LR	LR		
	comp=N,220nm,15.3s,MS4.4						
MDJ				LR	LR		
	comp=E,200nm,15.6s,MS4.4						
MDJ				LR	LR		
	comp=Z,350nm,16.0s,MS4.5						
CIT	**Chita**	**52.49**	**13**	*e*P	**P**	**23 11 05.2**	**+0.9**
CIT				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
STKA	**Stephens Creek**	**53.40**	**132**	*e*P	**P**	**23 11 10.4**	**-0.6**
	comp=Z,4.2nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**53.40**	**132**	P	**P**	**23 11 10.3**	**-0.6**
	comp=Z,4.5nm,0.6s,mb4.6,baz=299,slow=6.9,SNR=15						
STKA				LR	LR	23 35 41.9	
	comp=Z,312nm,19.2s,MS4.4,baz=115,slow=38						
ZAL	**Zalesovo**	**53.55**	**351**	P	**P**	**23 11 11.3**	**-0.8**
	comp=Z,1.1nm,0.5s,mb5.0,baz=310,slow=5.0,SNR=41						
ZAL	**Zalesovo**	**53.55**	**351**	P	**P**	**23 11 11.3**	**-0.8**
NVS	**Novosibirsk**	**54.67**	**350**	⇑*i*P	**P**	**23 11 18.5**	**-1.8**
NVS				*e*S	**S**	**23 18 55.3**	**-3.1**
NVS				pmax	pmax		
	comp=N,10.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
NVS				smax			
	comp=N,9.0nm,1.5s						
NVS				smax			
	comp=E,6.0nm,1.4s						
VOSK	**Vostochnaya**	**55.79**	**341**	P	**P**	**23 11 27.7**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BVA0	**Borovoye Array**	**56.24**	**341**	*i* P	**P**	**23 11 30.8**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
KLR	**Kul'dur**	**56.29**	**27**	*e*P	**P**	**23 11 29.0**	**-2.9**
KLR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.3						
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,600nm,13.0s,MS4.9						
BRVK	**Borovoye**	**56.30**	**341**	*e*P	**P**	**23 11 31.0**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
BRVK	**Borovoye**	**56.30**	**341**	*e*P	**P**	**23 11 31.0**	**-1.0**
	comp=Z,4.8nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**56.64**	**340**	*e*P	**P**	**23 11 33.6**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
ZRNK	**Zerenda**	**56.64**	**340**	*e*P	**P**	**23 11 33.6**	**-0.8**
	comp=Z,3.4nm,0.5s,mb4.6						
CHKZ	**Chkalovo**	**56.72**	**341**	*e*P	**P**	**23 11 34.8**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**56.72**	**341**	*e*P	**P**	**23 11 34.8**	**-0.2**
	comp=Z,16nm,0.8s,mb5.1						
HABR	**Khabarovsk**	**57.29**	**29**	*e*P	**P**	**23 11 36.2**	**-2.8**
HAB

AB31	**Akbulak array**	57.49	332	*i* P		**P**	23 11 39.8	-0.7
AB31				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.8							
AKTO	**Aktyubinsk**	59.21	332	P		**P**	23 11 51.4	-1.0
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.9							
YSS	**Yuzh-Sakhalins**	60.39	34	*e*P		**P**	23 12 01.0	+0.5
YSS				pmax	pmax			
	comp=Z,34nm,1.6s,mb5.1							
ORR	**Orenburg**	61.54	331	*i* P		**P**	23 12 07.7	-0.7
ORR				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.8							
ARU	**Arti**	63.17	337⇑	*i*P		**P**	23 12 18.2	-1.0
ARU				*e*			23 14 35.5	
ARU				*e*PPP			23 16 07.2	
ARU				*e*S		**S**	23 20 49.5	+0.9
ARU				*e*SS		SS	23 24 58.3	+3.5
ARU				pmax	pmax			
	comp=Z,10.0nm,1.2s,mb4.8							
ARU	**Arti**	63.17	337	*e*P		**P**	23 12 18.3	-0.9
	comp=Z,8.9nm,1.1s,mb4.8							
KIV	**Kislovodsk**	64.27	319	*e*P		**P**	23 12 26.1	-0.4
KIV				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
KIV	**Kislovodsk**	64.27	319	*e*P		**P**	23 12 26.1	-0.5
	comp=Z,8.5nm,0.8s,mb4.8							
MALT	**Malatya**	65.09	312	*e*P		**P**	23 12 33.1	+1.2
MALT				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.4							
MALT	**Malatya**	65.09	312	*e*P		**P**	23 12 33.1	+1.2
	comp=Z,3.6nm,1.1s,mb4.3							
YAK	**Yakutsk**	65.44	16	*e*P		**P**	23 12 31.3	-2.9
YAK				pmax	pmax			
	comp=Z,18nm,1.0s,mb5.1							
YAK				pmax	pmax			
	comp=N,8.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.3s							
YAK				MLR	MLR			
	comp=Z,270nm,18.0s,MS4.5							
YAK				MLR	MLR			
	comp=N,139nm,16.0s,MS4.5							
YAK				MLR	MLR			
	comp=E,186nm,18.0s,MS4.5							
ANN	**Anapa**	68.06	318	*e*P		**P**	23 12 54.3	+3.4
ANN				*e**PP		pP	23 13 04.3	+4.0
ANN				*e*S		S	23 21 56.5	+8.1
ANN				pmax	pmax			
	comp=Z,28nm,1.1s,mb5.2							
BR131	**Keskin Array S**	69.07	312	*e*P		**P**	23 12 56.8	-0.4
	comp=Z,1.7nm,0.7s,mb4.1							
BRTR	**Keskin Array B**	69.07	312	P		**P**	23 12 56.0	-1.1
	comp=Z,1.0nm,0.8s,mb3.8,baz=126,slow=7.4,SNR=6.1							
BRTR				pP	pP		23 13 04.5	-2.0
	comp=Z,1.5nm,0.6s,baz=130,slow=6.9,SNR=8.5							
OBN	**Obninsk**	72.59	328	P		**P**	23 13 16.0	-2.6
OBN				*e*			23 13 28.3	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s,MS4.2							
TIXI	**Tiksi**	73.20	10	*e*P		**P**	23 13 18.6	-3.6
TIXI				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
TIXI				MLR	MLR			
	comp=Z,307nm,15.0s,MS4.7							
TIRR	**Tirgusor**	74.09	316⇓	*i*P		**P**	23 13 25.8	-1.6
BOSA	**Boshof**	74.72	240	P		**P**	23 13 31.4	+0.3
	comp=Z,1.5nm,1.0s,mb3.9,baz=71,slow=4.1,SNR=3.1							
BOSA				pP	pP		23 13 39.3	-1.3
	comp=Z,1.1nm,0.6s,baz=46,slow=2.9,SNR=2.0							
BOSA				LR	LR		23 42 31.2	
	comp=Z,130nm,18.5s,MS4.3,baz=152,slow=33							
BOSA	**Boshof**	74.72	240	P		**P**	23 13 31.4	+0.4
BOSA				*PP		pP	23 13 39.3	-1.2
AKASG	**Malin Array Be**	75.23	322	P		**P**	23 13 32.7	-1.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=101,slow=4.0,SNR=7.1							
AKASG				pP	pP		23 13 40.1	-3.3
	comp=Z,1.3nm,0.5s,baz=91,slow=4.5,SNR=3.8							
AKASG	**Malin Array Be**	75.23	322	P		**P**	23 13 32.7	-1.2
AKASG				pP	pP		23 13 40.1	-3.3
MLR	**Muntele Rosu**	76.03	317⇓	*i*P		**P**	23 13 38.1	-0.5
BURAR	**Bucovina Array**	76.99	319⇓	*i*P		**P**	23 13 45.0	+1.0
FINES	**FINESS Array B**	79.98	333	P		**P**	23 13 59.6	-0.8
	comp=Z,1.9nm,0.9s,mb4.0,baz=104,slow=8.0,SNR=9.8							
FINES				pP	pP		23 14 07.9	-2.1
	comp=Z,1.5nm,0.8s,baz=117,slow=6.6,SNR=2.8							
BILL	**Bilibino**	81.19	21	*e*P		**P**	23 14 06.4	-0.6
BILL				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.4							
BILL	**Bilibino**	81.19	21	*e*P		**P**	23 14 06.4	-0.6
	comp=Z,2.5nm,0.4s,mb4.5							
ARCES	**ARCESS Array B**	82.52	340	P		**P**	23 14 13.2	-0.8
	comp=Z,1.6nm,0.5s,mb4.3,baz=90,slow=5.2,SNR=19							
ARCES				pP	pP		23 14 22.1	-1.5
	comp=Z,0.8nm,0.4s,baz=120,slow=4.8,SNR=2.5							
ARCES				LR	LR		23 55 18.4	
	comp=Z,91nm,19.0s,MS4.2,baz=342,slow=39							
ARCES	**ARCESS Array B**	82.52	340	P		**P**	23 14 13.2	-0.8
ARCES				*PP		pP	23 14 22.1	-1.5
GERES	**GERESS Array B**	84.78	319	P		**P**	23 14 25.4	-0.1
	comp=Z,1.4nm,0.8s,mb4.1,baz=95,slow=5.6,SNR=10							
GERES				pP	pP		23 14 33.1	-2.1
	comp=Z,1.4nm,0.8s,baz=107,slow=4.6,SNR=6.5							
GERES				LR	LR		23 57 35.4	
	comp=Z,52nm,20.1s,MS3.9,baz=345,slow=39							
CLL	**Collm**	85.40	321	*e*P		**P**	23 14 29.0	+0.3
VNDA	**Vanda**	85.83	169	P		**P**	23 14 31.1	+0.4
	comp=Z,0.4nm,0.9s,mb3.7,baz=305,slow=2.1,SNR=4.2							
VNDA				pP	pP		23 14 38.0	-2.4
	comp=Z,0.6nm,0.6s,baz=318,slow=8.1,SNR=4.1							
GRA1	**Grafenberg Arr**	86.45	320	*e*P		**P**	23 14 32.9	-0.9
	comp=Z,2.0nm,0.8s,mb4.4							
GRF	**Grafenberg Arr**	86.45	320	*e*P		**P**	23 14 32.9	-0.9
	comp=Z,2.0nm,0.8s,mb4.4							
GRF	**Grafenberg Arr**	86.45	320	*e*P		**P**	23 14 32.9	-0.9
GRF				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.4							
NB2	**NORSAR Subarra**	86.98	331	P		**P**	23 14 35.7	-0.8
	comp=Z,0.7nm,0.6s,mb4.1,baz=94,slow=5.1							
NB2	**NORSAR Subarra**	86.98	331	P		**P**	23 14 35.7	-0.8
NB2				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.2							
NOA	**NORSAR Array B**	86.98	331	P		**P**	23 14 35.9	-0.5
	comp=Z,1.7nm,0.8s,mb4.3,baz=94,slow=4.9,SNR=7.5							
NOA	**NORSAR Array B**	86.98	331	P		**P**	23 14 35.9	-0.5
LPG	**La Plagne**	89.43	315	*e*P		**P**	23 14 46.7	-1.4
	comp=Z,7.8nm,1.1s,mb4.7							
LPG	**La Plagne**	89.43	315	*e*P		**P**	23 14 46.7	-1.4
LPG				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.7							
LPG	**La Plagne**	89.43	315	*e*P		**P**	23 14 46.7	-1.4
	comp=Z,3.9nm,1.1s,mb4.7							
MNV	**Mina**	128.91	36	*e*PKIKP	PKPdf		23 21 02.8	+4.0
PDAR	**Pinedale Array**	130.07	26	PKP	PKPdf		23 21 02.1	+1.1
	comp=Z,0.9nm,0.9s,baz=183,slow=2.5,SNR=3.4							
FWV	**Forest Hill**	141.38	357	*e*PKPdf	PKPdf		23 21 12.6	-9.4
JCT	**Junction City**	144.61	26	*e*PKIKP	PKPdf		23 21 27.9	+0.2
CPUP	**Villa Florida**	144.96	222	PKP	PKPdf		23 21 29.1	+0.8
	comp=Z,0.9nm,0.4s,baz=58,slow=2.6,SNR=7.1							
CPUP				pPKP	pPKPdf		23 21 35.9	-2.4
	comp=Z,3.6nm,0.6s,baz=98,slow=2.5,SNR=12							
CPUP	**Villa Florida**	144.96	222	*e*PKPdf	PKPdf		23 21 29.0	+0.6
LRAL	**Lakeview Retre**	145.74	6	*e*PKPbc	PKPbc		23 21 30.1	0.0

*IDC **06** 23:10:30.3±1.0, 2277S×17632W, h0km, mb4.4/5, mb1 4.6/7, mb1mx4.4/14, mbtmp4.5/7, ML3.7/2, Error ellipse: s-maj=31.6km s-min=24.8km az=121.0*
*ISCJB **06** 23:10:33.0±0.7, 2277S±006×1762W±0.1, h33km, mb4.7/8, Error ellipse: s-maj=15.7km s-min=8.9km az=13.5*
*NEIC **06** 23:10:35.6±1.4, 2278S×17620W, h39km±13km, mb4.7/4, Error ellipse: s-maj=13.9km s-min=9.3km az=118.0*

ISC 06 23:10:33.5±0.6, 2268S±006×1759W±01, h35km, n34, σ0§95/28, mb4.7/8, 1C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	6.79	195	Sn		**Sn**	23 13 25.3	-1.2
	82nm,0.3s,baz=198,slow=20,SNR=3.4							
AFI	**Afiamalu**	9.57	25	Pn		**Pn**	23 12 53.6	+4.9
	5.3nm,0.3s,baz=250,slow=8.8,SNR=3.0							
AFI				Sn		**Sn**	23 14 33.7	-1.2
	6.0nm,0.3s,baz=234,slow=14,SNR=2.7							
RAR	**Rarotonga**	15.05	87	Sn		**Sn**	23 16 42.5	-6.4
	2.3nm,0.3s,baz=201,slow=8.6,SNR=3.8							
URZ	**Urewera**	16.64	200	Pn		**Pn**	23 14 23.6	-0.3
	1.8nm,0.3s,baz=318,slow=6.7,SNR=6.7							
URZ				Sn		**Sn**	23 17 07.0	-21
	1.4nm,0.3s,baz=307,slow=23,SNR=6.9							
HNR	**Honiara**	26.62	296	P		**P**	23 16 09.0	+0.4
CTA	**Charters Tower**	35.26	267	*e*P		**P**	23 17 26.4	+1.7
	7.2nm,0.3s,mb5.1							
CTAO	**Charters Tower**	35.26	267	*e*P		**P**	23 17 26.5	+1.8
	10nm,0.5s,mb5.0							
TAU	**Tasmania Unive**	36.52	228	*e*P		**P**	23 17 34.5	-0.9
STKA	**Stephens Creek**	38.66	247⇑	*i*P		**P**	23 17 51.1	-2.5
	2.3nm,0.4s,mb4.3							
STKA	**Stephens Creek**	38.66	247	P		**P**	23 17 51.3	-2.2
	2.5nm,0.4s,mb4.3,baz=97,slow=8.9,SNR=15							
AS31	**Alice Springs**	45.95	258	*e*P		**P**	23 18 53.2	+0.3
ASAR	**Alice Springs**	45.95	258	P		**P**	23 18 52.7	-0.2
	3.2nm,0.6s,mb4.5,baz=99,slow=7.5,SNR=34							
ASPA	**Alice Springs**	45.95	258	*e*P		**P**	23 18 53.2	+0.3
WB2	**Warramunga Arr**	46.24	264	*e*P		**P**	23 18 54.7	-0.5
WRAB	**Tennant Creek**	46.25	264	*e*P		**P**	23 18 55.2	-0.1
	11nm,0.3s,mb5.3							
WRA	**Warramunga Arr**	46.26	264	P		**P**	23 18 55.4	0.0
	3.3nm,0.3s,mb4.7,baz=90,slow=5.9,SNR=49							
FORT	**Forrest**	50.25	248	*e*P		**P**	23 19 25.6	-0.6
	18nm,0.6s,mb5.3							
VNDA	**Vanda**	55.93	186	P		**P**	23 20 09.4	+1.5
	0.6nm,0.6s,mb3.8,baz=36,slow=5.7,SNR=6.1							
VNDA	**Vanda**	55.93	186	*e*P		**P**	23 20 09.0	+1.0
	0.9nm,0.6s,mb4.0							
NWAO	**Narrogin (SRO)**	59.15	244	*e*P		**P**	23 20 30.6	-0.1
QSPA	**South Pole Qui**	67.40	180	*e*P		**P**	23 21 26.9	+1.7
MAJO	**Matsushiro**	73.11	323	*e*P		**P**	23 22 00.8	+0.6
MAW	**Mawson**	80.17	199	P		**P**	23 22 40.5	+0.4
	4.0nm,0.8s,mb4.4,baz=136,slow=5.6,SNR=5.3							
SNAA	**Sanae**	85.78	178	*e*		**P**	23 22 57.1	-12
SNAA				*e*			23 22 59.6	
VNA3	**Neumayer Olymp**	85.84	176	*e*		**P**	23 23 09.4	0.0
VNA3				*e*			23 23 10.8	
VNA3				*e*			23 23 39.2	
VNA2	**Neumayer--Watz**	86.30	176	*e*		**P**	23 23 12.4	+0.7
VNA2				*e*			23 23 14.3	
VNA2				*e*			23 23 16.2	
VNA2				*e*			23 23 17.8	
VNA2				*e*			23 23 42.2	
BRVK	**Borovoye**	122.05	319	*e*PKPdf	PKPdf		23 29 25.4	+1.2
ZRNK	**Zerenda**	122.83	319	*e*PKPdf	PKPdf		23 29 26.8	+1.1
ARCES	**ARCESS Array B**	131.40	350	PKP	PKPdf		23 29 43.4	+1.3
	1.0nm,0.7s,baz=13,slow=1.6,SNR=6.3							
AKASG	**Malin Array Be**	145.85	331	PKPbc	PKPbc		23 30 10.7	+1.7
	1.1nm,0.3s,baz=41,slow=3.8,SNR=7.8							
BRTR	**Keskin Array B**	149.73	311	PKPbc	PKPbc		23 30 20.5	+1.0
	0.6nm,0.5s,baz=138,slow=4.6,SNR=4.7							
CLL	**Collm**	150.60	349	*i* PKPbc	PKPbc		23 30 24.1	+2.5
	comp=Z,7.0nm,1.1s							
CLL				*es*PKPab			23 30 47.0	
GERES	**GERESS Array B**	152.80	346	PKPbc	PKPbc		23 30 28.9	+2.3
	comp=Z,0.4nm,0.5s,baz=352,slow=4.0,SNR=4.1							
TORD	**Torodi Ar. Bea**	170.25	166	PKPab	PKPab		23 31 56.0	+2.3
	comp=Z,1.1nm,0.9s,baz=176,slow=4.2,SNR=8.3							

*ISCJB **06** 23:15:38.7±0.5, 1795N±004×10160W±003, h46km±6km, mb4.0/9, MS3.4/3, Error ellipse: s-maj=6.4km s-min=4.7km az=52.7*
*NEIC **06** 23:15:41.1, 1792N×10160W, h42km, mb4.0/3, MD4.4(MEX), After MEX.*
*MEX **06** 23:15:41.1±0.6, 1792N×10159W, h41km±8km, MD4.4*
*IDC **06** 23:15:48.0±2.9, 1877N×10086W, h65km±9km, mb3.8/7, mb1 4.0/8, mb1mx3.7/21, mbtmp4.1/8, MS3.4/3, Ms1 3.4/3, ms1mx2.9/24, Error ellipse: s-maj=71.4km s-min=15.6km az=28.0*

ISC 06 23:15:39.9±0.5, 1792N±004×10159W±003, h42km±6km, h66km±1.7km: pP-P, n42, σ1§18/64, mb4.0/9, MS3.4/3, 1C-1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	0.34	159⇓	*i*P		**Pn**	23 15 48.1	-0.6
ZIIG				*i* S		**Sn**	23 15 54.4	-0.5
CAIG	**El Cayaco**	1.53	124	*i* P		**Pn**	23 16 05.0	+0.2
CAIG				*i* S		**Sn**	23 16 22.3	-1.2
MOIG	**Morelia**	1.79	12	*e*P		**Pn**	23 16 08.1	-0.1
MOIG				*i* S		**Sn**	23 16 29.8	0.0
MRX	**Morelia**	1.81	12	*i* P		**Pn**	23 16 08.0	-0.6
MRX				*i* S		**Sn**	23 16 29.5	-0.9
MEIG	**Mezcala**	1.87	90	*e*P		**Pn**	23 16 08.7	-0.8
MEIG				*i* S		**Sn**	23 16 31.2	-0.7
ACX	**Acapulco**	1.91	123	*i* P		**Pn**	23 16 10.0	0.0
ACX				*i* S		**Sn**	23 16 35.0	+2.2
ACX	**Acapulco**	1.91	123	*i* P		**Pn**	23 16 10.0	0.0
ACX				*e*P			23 16 13.4	
ACX				*i* S		**Sn**	23 16 35.0	+2.2
ACX				*i* S		**Sn**	23 16 37.8	+5.0
PLIG	**Platanillo**	2.04	76	*i* P		**Pn**	23 16 11.6	-0.2
PLIG				*i* S		**Sn**	23 16 35.6	-0.3
IIZ	**Mezontepec**	2.56	60	*i* P		**Pn**	23 16 19.3	+0.4
IIZ	**Mezontepec**	2.56	60	*i* P		**Pn**	23 16 13.7	-5.1
YAIG	**Yautepec**	2.57	68	*i* P		**Pn**	23 16 18.7	-0.3
YAIG				*i* S		**Sn**	23 16 49.2	+0.1
UNM	**Universidad Na**	2.68	58	*e*P		**Pn**	23 16 20.3	-0.3
UNM				*i* P			23 16 20.9	
UNM				*e*P			23 16 25.0	
UNM				*i* P			23 16 26.6	
UNM				*i* S		**Sn**	23 16 51.9	+0.1
UNM				*i* S		**Sn**	23 16 53.3	+1.5
UNM	**Universidad Na**	2.68	58	*e*P		**Pn**	23 16 20.3	-0.3
UNM				*e*P			23 16 25.0	
UNM				*i* P			23 16 25.9	
UNM				*i* P			23 16 26.6	
UNM				*i* S		**Sn**	23 16 53.3	+1.5
UNM				*i* S		**Sn**	23 17 01.2	+9.4
CIVM	**Cilcuayo**	2.73	64	*e*P		**Pn**	23 16 20.8	-0.4
PTVM	**Pico Tres Padr**	2.87	54	*i* P		**Pn**	23 16 23.1	-0.2
PTVM				*i* S		**Sn**	23 16 55.9	-0.7
PTVM	**Pico Tres Padr**	2.87	54⇑	*i*P		**Pn**	23 16 16.7	-6.5
PTVM				*i* P			23 16 19.9	
PTVM				*i* S		**Sn**	23 17 05.3	+8.7
SFJM	**Santa Fe**	2.90	332	*e*P		**Pn**	23 16 21.5	-2.0
PPM	**Popocatepetl**	3.03	67	*i* P		**Pn**	23 16 25.3	-0.1
PPM				*i* P			23 16 25.7	
PPM				*i* P			23 16 26.0	
PPM				*i* P			23 16 27.1	
PPM				*i* S		**Sn**	23 17 01.5	+1.1
UTMO	**Huajuapan**	3.61	91	*i* P		**Pn**	23 16 33.8	+0.5
UTMO				*i* S		**Sn**	23 17 16.0	+1.4
CJM	**Chamela**	3.63	296	*e*P		**Pn**	23 16 34.3	+0.7
CJM				*i* S		**Sn**	23 17 15.3	+0.1
VHO	**Vista Hermosa**	4.71	100	*e*P		**Pn**	23 16 49.5	+1.1
VHO				*i* S		**Sn**	23 17 46.6	+4.8
OXX	**Oaxaca**	4.72	99	*e*P		**Pn**	23 16 49.5	+1.0
OXX				*e*P			23 16 50.0	
CMIG	**Matias Romero**	6.45	96	P		**Pn**	23 17 12.9	+0.6
	1.4nm,0.3s,baz=257,slow=10,SNR=23							
CMIG				S		**Sn**	23 18 19.6	-5.1
	1.5nm,0.3s,baz=32,slow=19,SNR=2.4							
CMIG	**Matias Romero**	6.45	96	*i* P		**Pn**	23 17 12.8	+0.5
CMIG				P			23 17 12.9	
CMIG				S		**Sn**	23 18 19.6	-5.1
CMIG				*i* S		**Sn**	23 18 23.8	-0.9
LNIG	**Linares**	7.22	16	*e*P		**Pn**	23 17 24.3	+1.4
LNIG				*i* S		**Sn**	23 18 44.5	+1.0
MVCO	**Mesa Verde**	20.15	344	P		**P**	23 20 12.6	+1.9
PLAL	**Pickwick Lake**	20.82	33	*e*P		**P**	23 20 15.7	-2.1
	7.2nm,0.8s							
PLAL				*e*			23 20 30.5	
CCM	**Cathedral Cave**	22.01	22	*e*P		**P**	23 20 28.3	-2.3
	2.4nm,0.6s,mb3.8							
ISCO	**Idaho Springs**	22.08	352	*e*P		**P**	23 20 32.4	+1.1
	4.6nm,0.7s,mb4.0							
SWET	**Sewanee**	22.15	36	*e*P		**P**	23 20 29.0	-3.0
ARUT	**Antelope Range**	22.35	335	*e*PKPdf		**P**	23 20 37.0	+2.8
NVAR	**Mina Array Bea**	25.11	328	P		**P**	23 21 03.2	+2.5
	4.1nm,0.7s,mb4.1,baz=148,slow=8.6,SNR=25							
NVAR				pP		pP	23 21 19.4	+7.4
	2.4nm,0.7s,baz=154,slow=11,SNR=4.2							
PDAR	**Pinedale Array**	25.68	346	P		**P**	23 21 06.0	+0.1
	2.7nm,0.8s,mb3.8,baz=146,slow=8.3,SNR=19							
PDAR	**Pinedale Array**	25.68	346	P		**P**	23 21 06.0	+0.1
SDV	**Santo Domingo**	31.38	103	LR		LR	23 34 46.1	
	comp=Z,64nm,18.9s,MS3.3,baz=49,slow=37							
ULM	**Lac du Bonnet**	32.58	7	P		**P**	23 22 04.4	-2.8
	3.2nm,0.7s,mb4.3,baz=192,slow=7.1,SNR=4.4							
SADO	**Sadowa**	32.70	30	P		**P**	23 22 04.3	-4.0
	2.1nm,0.8s,mb4.1,baz=247,slow=13,SNR=3.1							
SADO				LR	LR		23 38 11.7	
	comp=Z,47nm,18.8s,MS3.2,baz=132,slow=42							
SCHQ	**Schefferville**	45.41	28	P		**P**	23 23 52.4	-2.1
	0.5nm,0.3s,mb3.8,baz=228,slow=14,SNR=3.4							
YKA	**Yellowknife Ar**	45.45	352	LR		LR	23 44 24.1	
	comp=Z,57nm,18.8s,MS3.5,baz=225,slow=38							
NB2	**NORSAR Subarra**	84.97	27	P		**P**	23 28 08.6	-2.2
	comp=Z,0.7nm,0.6s,mb4.0,baz=301,slow=5.1							
NOA	**NORSAR Array B**	84.97	27	P		**P**	23 28 11.1	+0.3
	comp=Z,0.4nm,0.7s,mb3.6,baz=304,slow=4.8,SNR=3.4							
NOA				pP	pP		23 28 28.6	+5.2
	comp=Z,0.5nm,0.5s,baz=301,slow=4.8,SNR=3.5							
ARCES	**ARCESS Array B**	85.16	16	P		**P**	23 28 12.5	+0.8
	comp=Z,1.5nm,0.6s,mb4.3,baz=321,slow=5.2,SNR=9.2							
ARCES				pP	pP		23 28 30.4	+6.0
	comp=Z,1.9nm,0.7s,baz=305,slow=4.3,SNR=3.4							

*LDG **06** 23:26:55.3±0.3, 4825N×861E, h5km, Md2.0/1, Ml2.0/6, Error ellipse: s-maj=5.3km s-min=2.9km az=110.0*
*ISCJB **06** 23:26:56.4±1.9, 4822N±008×84E±0.1, h5km, Error ellipse: s-maj=12.7km s-min=9.8km az=128.9*
*STR **06** 23:26:58.5±2.0, 4828N×840E, h5km±1km, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 06 23:26:56.2±2.7, 482N±01×85E±01, h9km±40km, n7, σ0§70/12, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BFO	**Black Forest**	0.15	304	*e*Pg		**Pg**	23 26 59.4	-0.1
WLS	**Welschbruch**	0.80	283	Pg		**Pg**	23 27 11.1	-0.4
WLS				Sg		**Sg**	23 27 21.9	0.0
CDF	**Champ du Feu**	0.85	282	*e*Pg		**Pg**	23 27 12.5	0.0
CDF				*e*Sg		**Sg**	23 27 23.3	-0.2
	3.9nm,0.2s							
ECH	**Echery**	0.91	269	Pg		**Pg**	23 27 16.3	+2.6
ECH				Sg		**Sg**	23 27 25.6	0.0
HINF	**Hinteralfeld**	1.20	250	*e*Pg		**Pg**	23 27 18.8	-0.4
HINF				*e*Sg		**Sg**	23 27 34.3	-0.4
	1.6nm,0.2s							
HAU	**Haudompre**	1.48	262	*e*Pg		**Pg**	23 27 23.8	-0.7
HAU				*e*Sg		**Sg**	23 27 44.3	+0.7
	2.7nm,0.2s							
RFYF	**Reffroy**	2.06	282	*e*Sg		**Sg**	23 28 02.3	-0.2
	1.7nm,0.2s							

*NEIC **06** 23:36:01.7, 3895S×175.12E, h247km, MG3.7(WEL), After WEL.*

WEL 06 23:36:04.0±0.5, 3896S×17524E, h228km±3km, ML3.7/14, Error ellipse: s-maj=7.1km s-min=4.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	0.34	165	PN		Pn	23 36 33.6	-0.3
PKVZ				SN		S	23 36 55.3	-1.9
WPVZ	**Whakapapa**	0.34	135	PN		Pn	23 36 33.9	0.0
WPVZ	**Whakapapa**	0.34	135	P		Pn	23 36 33.9	0.0
FWVZ	**Far West T-bar**	0.38	140	PN		Pn	23 36 34.1	+0.1
FWVZ				SN		S	23 36 57.2	-0.2
FWVZ	**Far West T-bar**	0.38	140	*e*P		Pn	23 36 34.1	+0.1
TRVZ	**Turoa**	0.42	144	PN		Pn	23 36 34.3	+0.2
TRVZ				SN		S	23 36 57.4	-0.2
MTVZ	**Mangateitei**	0.46	157	PN		Pn	23 36 34.1	-0.1
MTVZ				SN		S	23 36 56.4	-1.4
WNVZ	**Wahianoa**	0.46	143	PN		Pn	23 36 34.5	+0.3
WNVZ	**Wahianoa**	0.46	143	P		Pn	23 36 34.5	+0.3
MOVZ	**Moawhango**	0.60	138	PN		Pn	23 36 34.6	-0.1
MOVZ	**Moawhango**	0.60	138	P		Pn	23 36 34.6	-0.1
WAZ	**Wanganui**	0.82	194	PN		Pn	23 36 35.4	-0.2
WAZ				SN		S

QZH				Smax				
	comp=N,670nm,1.0s							
QZH				Smax				
	comp=E,280nm,0.8s							
JOW	**Kunigami**	**5.75**	**67**	Pn	**Pn**	**00 03 56.0**	**+5.1**	
	comp=E,3.5nm,0.3s,baz=238,slow=4.3,SNR=8.7							
JOW				LR	LR	00 06 04.3		
	comp=E,74nm,19.0s,baz=187,slow=35							
NJ2	**Nanjing**	**7.96**	**338**	*e*P	**Pn**	**00 04 20.9**	**-0.3**	
NJ2				AP		00 04 24.9		
NJ2				S	**Sn**	**00 05 51.1**	**+0.1**	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s							
NJ2				AMB	AMB			
	comp=Z,200nm,3.6s							
NJ2				LR	LR			
	comp=N,1μm,16.8s							
NJ2				LR	LR			
	comp=E,1μm,12.1s							
NJ2				LR	LR			
	comp=Z,250nm,10.1s							
MAJO	**Matsushiro**	**18.02**	**45**	P	**Pn**	**00 06 37.0**	**+1.0**	
MJAR	**Matsushiro Arr**	**18.03**	**45**	P	**Pn**	**00 06 43.3**	**+7.3**	
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=2.6							
MJAR				LR	LR	00 14 13.7		
	comp=Z,109nm,18.9s,baz=135,slow=38							
CN2	**Changchun**	**19.24**	**7**	*e*P	**Pn**	**00 06 50.5**	**-0.2**	
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s							
MDJ	**Mudanjiang**	**20.74**	**15**	P	**P**	**00 07 07.3**	**+1.2**	
GTA	**Gaotai**	**24.00**	**313**	*e*P	**P**	**00 07 43.2**	**+3.1**	
GTA				AP		00 07 48.9		
GTA				XP	sP	00 07 51.7	+5.6	
GTA				AMB	AMB			
	comp=Z,110nm,6.1s							
GTA				LR	LR			
	comp=N,230nm,16.0s,MS3.8							
GTA				LR	LR			
	comp=E,170nm,16.7s,MS3.8							
GTA				LR	LR			
	comp=Z,140nm,14.1s,MS3.6							
ASAJ	**Asahikawa**	**25.47**	**35**	LR	LR	00 18 12.5		
	comp=Z,84nm,18.5s,MS3.3,baz=227,slow=37							
SONM	**Songino Array**	**26.34**	**335**	P	**P**	**00 08 01.2**	**-0.2**	
	comp=Z,2.9nm,0.9s,mb3.8,baz=134,slow=8.5,SNR=4.6							
SONM				LR	LR	00 18 42.8		
	comp=Z,72nm,19.9s,MS3.2,baz=90,slow=37							
MKAR	**Makanchi Array**	**38.73**	**315**	P	**P**	**00 09 48.9**	**-0.7**	
	comp=Z,0.6nm,0.6s,mb3.5,baz=100,slow=9.1,SNR=7.4							
MA2	**Magadan**	**40.12**	**22**	P	**P**	**00 10 02.4**	**+1.2**	
ZAL	**Zalesovo**	**40.42**	**326**	P	**P**	**00 10 01.9**	**-1.7**	
	comp=Z,0.6nm,0.4s,mb3.6,baz=57,slow=4.5,SNR=3.9							
ZAL				LR	LR	00 28 39.4		
	comp=Z,78nm,18.5s,MS3.6,baz=163,slow=39							
FITZ	**Fitzroy Crossi**	**42.65**	**175**	P	**P**	**00 10 20.9**	**-1.1**	
	comp=Z,2.7nm,1.0s,mb3.9,baz=180,slow=20,SNR=4.6							
WRA	**Warramunga Arr**	**45.87**	**164**	P	**P**	**00 10 47.9**	**+0.1**	
	comp=Z,3.3nm,0.8s,mb4.3,baz=347,slow=8.7,SNR=6.0							
WB2	**Warramunga Arr**	**45.87**	**164**	*e*P	**P**	**00 10 45.2**	**-2.5**	
CHKZ	**Chkalovo**	**48.01**	**321**	*e*P	**P**	**00 11 03.1**	**-1.4**	
	comp=Z,2.3nm,0.7s,mb4.3							
BRVK	**Borovoye**	**48.04**	**320**	*e*P	**P**	**00 11 07.2**	**+2.5**	
	comp=Z,0.8nm,0.5s,mb4.0							
ZRNK	**Zerenda**	**48.76**	**320**	*e*P	**P**	**00 11 09.2**	**-1.1**	
	comp=Z,2.2nm,0.8s,mb4.2							
ASAR	**Alice Springs**	**49.35**	**166**	P	**P**	**00 11 15.0**	**+0.2**	
	comp=Z,1.8nm,0.5s,mb4.3,baz=340,slow=6.9,SNR=8.3							
FINES	**FINESS Array B**	**71.55**	**330**	LR	LR	00 45 59.7		
	comp=Z,35nm,19.5s,MS3.6,baz=90,slow=37							
NOA	**NORSAR Array B**	**78.28**	**332**	LR	LR	00 51 22.2		
	comp=Z,37nm,20.3s,MS3.7,baz=250,slow=38							

*ISCJB **07** 00:03:18.9±0.8,3822N±002×2650E±004,h4km±5km,*
Error ellipse: s-maj=6.0km s-min=4.0km az=164.1
*CSEM **07** 00:03:18.9±0.1,3826N×2653E,h10km,MD3.1,Error*
ellipse: s-maj=2.3km s-min=1.8km az=95.0
*ISK **07** 00:03:18.9,3816N×2657E,h14km,MD3.1*
*ATH **07** 00:03:18.2,3824N×2699E,h42km,MD3.3/3*
ISC 07 00:03:19.3±0.7,3821N±003×2649E±005,h8km±4km,n21,
σ1º07/32,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**29**	*i* P	**Pg**	**00 03 22.6**	**-0.2**
URLA				*i* S	**Sg**	**00 03 25.5**	**+0.3**
BLCB	**Balcova**	**0.47**	**68**	*i* PG	**Pg**	**00 03 27.6**	**-0.8**
BLCB				*i* SG	**Sg**	**00 03 34.2**	**-0.3**
SMG	**Samos**	**0.57**	**151**	*e*P	**Pg**	**00 03 30.2**	**-0.2**
SMG				*e*S	**Sg**	**00 03 39.0**	**+1.1**
IZM	**Izmir**	**0.63**	**73**	*i* PG	**Pg**	**00 03 31.0**	**-0.6**
IZM				*i* SG	**Sg**	**00 03 40.3**	**+0.5**
KDAG	**Bornova**	**0.64**	**73**	*i* P	**Pg**	**00 03 30.9**	**-0.8**
KDAG				*i* S	**Sg**	**00 03 40.4**	**+0.4**
PRK	**Paraskevi**	**1.05**	**351**	*e*P	**Pg**	**00 03 39.2**	**-0.2**
PRK				*e*S	**Sg**	**00 03 54.4**	**+1.4**
AYVA	**Ayvalik**	**1.10**	**8**	*i* P	**Pg**	**00 03 38.6**	**-1.9**
AYVA				*i* S	**Sg**	**00 03 56.4**	**+1.6**
AYDN	**Tasoluk**	**1.23**	**116**	*i* P	**Pb**	**00 03 41.8**	**-1.0**
AYDN				*i* S	**Sb**	**00 04 00.0**	**+1.3**
AKS	**Akhisar**	**1.23**	**57**	PN	**Pn**	**00 03 41.4**	**-1.4**
AKS				SN	**Sn**	**00 03 58.8**	**-0.8**
BODT	**Bodrum**	**1.32**	**150**	PN	**Pn**	**00 03 42.2**	**-1.9**
MLSB	**Milas**	**1.37**	**132**	PN	**Pn**	**00 03 42.8**	**-1.9**
BDRM	**Kayabasi**	**1.37**	**146**	*i* P	**Pn**	**00 03 46.1**	**+1.3**
BDRM				*i* S	**Sb**	**00 04 03.8**	**+0.8**
APE	**Apeiranthos**	**1.37**	**214**	*e*PN	**Pn**	**00 03 44.8**	**0.0**
APE	**Apeiranthos**	**1.37**	**214**	*e*P	**Pn**	**00 03 46.3**	**+1.5**
EZN	**Ezine**	**1.61**	**355**	*e*PN	**Pn**	**00 03 48.6**	**+0.5**
YER	**Yerkesik**	**1.78**	**127**	*e*PN	**Pn**	**00 03 49.3**	**-1.1**
BALB	**Balikesir**	**1.79**	**37**	*e*PN	**Pn**	**00 03 49.9**	**-0.6**
CANB	**Canakkale**	**1.85**	**14**	*e*PN	**Pn**	**00 03 51.9**	**+0.5**
DNZL	**Cakiroluk**	**2.09**	**104**	*i* P	**Pn**	**00 03 58.4**	**+3.8**
DNZL				*i* S	**Sn**	**00 04 23.1**	**+2.4**
DST	**Dursunbey**	**2.17**	**50**	*e*PN	**Pn**	**00 03 55.7**	**0.0**
MFT	**Murefte**	**2.64**	**13**	*e*PN	**Pn**	**00 04 02.9**	**+0.7**

KRSC 07 00:05:07.7±1.6,5461N×16194E,h19km±1km,ML3.9,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.13**	**246**	*i* P		00 05 12.6	
MKZ				*i* S		00 05 15.7	
TUMR	**Tumrok**	**1.23**	**304**	*e*P		00 05 29.0	
TUMR				*e*S		00 05 44.3	
KMNR	**Kamenistaya**	**1.51**	**320**	*e*P		00 05 33.7	
KMNR				*e*S		00 05 53.5	
ZLN	**Zelenaya**	**1.55**	**336**	*e*P		00 05 34.8	
ZLN				*i* S		00 05 55.1	
KII	**Karymskiy**	**1.57**	**249**	*e*P		00 05 33.9	
KII				*e*S		00 05 53.8	
LGNR	**Loginova**	**1.64**	**335**	*e*P		00 05 36.5	
LGNR				*e*S		00 05 58.3	
CIRR	**Tsirk**	**1.66**	**336**	*i* P		00 05 36.8	
CIRR				*e*S		00 05 57.7	
KPT	**Kopyto**	**1.68**	**325**	*e*P		00 05 36.9	
KBTR	**Krutoberegovo**	**1.68**	**17**	*e*P		00 05 36.7	
KBTR				*e*S		00 06 00.7	
KBG	**Krutoberegovo**	**1.71**	**14**	*e*P		00 05 35.5	
KBG				*e*S		00 05 56.2	
KBG				Smax			
	420nm,1.0s						
KRSR	**Krestovskiy**	**1.79**	**335**	*e*P		00 05 38.2	
KLY	**Klyuchi**	**1.86**	**337**	*e*P		00 05 39.0	
KLY				*e*S		00 06 01.2	
KOZ	**Kozyrevsk**	**1.87**	**322**	*e*P		00 05 40.1	
KOZ				*e*S		00 06 04.5	
SPN	**Mys Shipunski**	**1.89**	**218**	*e*P		00 05 38.7	
SPN				*e*S		00 06 00.6	
SMKR	**Semkarok**	**2.00**	**352**	*e*P		00 05 41.7	
BDR	**Baidarnaya**	**2.01**	**348**	*e*P		00 05 42.4	
BDR				*e*S		00 06 07.8	
SRKR	**Sorokina**	**2.10**	**348**	*e*P		00 05 43.4	
NLC	**Nalytchevo**	**2.11**	**228**	*e*P		00 05 42.4	
NLC				*e*S		00 06 07.6	
SRDR	**Sredinnyy**	**2.13**	**324**	*e*P		00 05 43.0	
SRDR				*e*S		00 06 11.0	
SDLR	**Sedlovina**	**2.25**	**235**	*e*P		00 05 44.7	
SDLR				*e*S		00 06 11.4	
ESO	**Esso**	**2.27**	**307**	*e*P		00 05 45.0	
ESO				*e*S		00 06 11.9	
ESO				Smax			
	100nm,1.1s						
SMAR	**Somma**	**2.29**	**235**	*e*P		00 05 45.5	
SMAR				*e*S		00 06 13.3	
UGLR	**Uglovaya**	**2.32**	**234**	*e*P		00 05 46.0	
UGLR				*e*S		00 06 14.6	
AVH	**Avacha**	**2.32**	**236**	*e*P		00 05 46.5	
AVH				*e*S		00 06 15.6	
KOK	**Koryaka**	**2.36**	**237**	*e*P		00 05 46.4	
PET	**Petropavlovsk**	**2.51**	**232**	*e*P		00 05 50.3	
PET				*e*S		00 06 18.0	
GNL	**Ganaly**	**2.52**	**250**	*e*P		00 05 48.4	
KRMR	**Karymshinskiy**	**2.88**	**233**	*e*P		00 05 54.9	
RUS	**Russkaya**	**2.99**	**225**	*e*P		00 05 54.9	
RUS				*e*S		00 06 29.5	
GRL	**Gorelyy**	**3.09**	**230**	*e*P		00 05 58.3	
GRL				*e*S		00 06 33.7	
APC	**Apacha**	**3.30**	**241**	*e*P		00 06 00.4	
APC				Smax			
	30nm,1.1s						
MIPR	**Malaya Ipel'ka**	**3.88**	**235**	P		00 06 10.1	
PAU	**Pauzhetka**	**4.42**	**227**	*e*P		00 06 18.6	

*ISCJB **07** 00:40:53.0±0.3,4935N±001×684E±003,h0km,Error*
ellipse: s-maj=2.4km s-min=1.9km az=177.6
*BGR **07** 00:40:54.4±0.5,4934N×687E,h1km,ML2.0/2,Error*
ellipse: s-maj=6.7km s-min=4.4km az=35.0
*CSEM **07** 00:40:54.6±0.1,4938N×689E,h1km,ML2.8/11,Error*
ellipse: s-maj=1.1km s-min=0.9km az=117.0
*NEIC **07** 00:40:55.0,4938N×685E,h1km,ML2.3(STR),*
ML2.8(LDG),After LDG.
*LDG **07** 00:40:55.0±0.1,4938N×685E,h1km,Md3.0/1,Ml2.8/12,*
Error ellipse: s-maj=2.0km s-min=1.5km az=97.0,
Suspected Mining induced.
*BNS **07** 00:40:56.1±0.8,4943N×677E,h1km,ML1.7*
ISC 07 00:40:54.1±0.3,4936N±001×686E±003,h0km,n51,
σ0º70/90,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**21**	Pg	**Pg**	**00 41 01.1**	**+0.1**
WLF	**Walferdange**	**0.55**	**303**	*e*Pg	**Pg**	**00 41 05.6**	**+1.0**
	SNR=3.8						
WLF				*e*Sg	**Sg**	**00 41 12.1**	**+0.3**
WLF	**Walferdange**	**0.55**	**303**	P	**Pg**	**00 41 05.7**	**+1.0**
WLF				S	**Sg**	**00 41 12.1**	**+0.3**
	comp=N,14nm,0.0s						
WLF	**Walferdange**	**0.55**	**303**	*e*P	**Pg**	**00 41 06.2**	**+1.6**
WLF				*e*S	**Sg**	**00 41 12.1**	**+0.4**
ABH	**Alteburg**	**0.69**	**41**	Pg	**Pg**	**00 41 07.1**	**-0.1**
LANF	**Langenberg**	**0.73**	**121**	Pg	**Pg**	**00 41 08.1**	**+0.1**
BGG	**Burgeitz**	**0.90**	**20**	*e*Pg	**Pg**	**00 41 12.2**	**+0.9**
HILG	**Hillesheim**	**0.94**	**353**	*e*Sg	**Sg**	**00 41 24.4**	**+0.2**
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**00 41 14.1**	**-1.1**
CDF				*e*Sg	**Sg**	**00 41 26.4**	**+0.5**
	comp=N,20nm,0.3s						
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pg	**Pg**	**00 41 12.7**	**-0.4**
CDF				*e*Pn	**Pn**	**00 41 14.1**	**-1.1**
CDF				*e*Sg	**Sg**	**00 41 26.4**	**+0.5**
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**00 41 14.1**	**-1.1**
CDF				*e*Sg	**Sg**	**00 41 26.4**	**+0.5**
	comp=N,10nm,0.3s						
WLS	**Welschbruch**	**1.00**	**161**	Pg	**Pg**	**00 41 14.0**	**+0.7**
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**00 41 16.6**	**+0.2**
ECH				Sg	**Sg**	**00 41 32.4**	**+0.9**
RFYF	**Reffroy**	**1.17**	**232**	*e*Pg	**Pg**	**00 41 17.4**	**+0.9**
	baz=43						
RFYF				*e*Sg	**Sg**	**00 41 33.0**	**+1.3**
	comp=N,26nm,0.3s						
RFYF	**Reffroy**	**1.17**	**232**	*e*Pg	**Pg**	**00 41 17.4**	**+0.9**
RFYF				*e*Sg	**Sg**	**00 41 33.0**	**+1.3**
	comp=N,13nm,0.3s						
STB	**Steinbach**	**1.23**	**359**	*e*Pg	**Pg**	**00 41 17.5**	**-0.2**
STB				*e*Sg	**Sg**	**00 41 34.2**	**+0.6**
	comp=N,17nm,0.9s						
THEF	**They Montfort**	**1.27**	**207**	Pg	**Pg**	**00 41 18.7**	**+0.2**
THEF				Sg	**Sg**	**00 41 35.7**	**+0.7**
TOD	**Tromm**	**1.29**	**78**	Pg	**Pg**	**00 41 18.3**	**-0.5**
TOD				Sg	**Sg**	**00 41 35.8**	**+0.2**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**00 41 19.2**	**-0.4**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**00 41 19.8**	**0.0**
	SNR=5.8						
TNS				*e*Sg	**Sg**	**00 41 37.4**	**+0.3**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**00 41 19.8**	**0.0**
TNS				*e*Sg	**Sg**	**00 41 38.1**	**+0.9**
MEM	**Membach**	**1.36**	**337**	P	**Pg**	**00 41 20.7**	**+0.5**
MEM				S	**Sg**	**00 41 38.7**	**+0.9**
	comp=N,11nm,0.0s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**00 41 22.0**	**+1.1**
HAU				*e*Sg	**Sg**	**00 41 38.8**	**-0.3**
	comp=N,35nm,0.3s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**00 41 22.0**	**+1.1**
HAU				*e*Sg	**Sg**	**00 41 38.8**	**-0.3**
	comp=N,18nm,0.3s						
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	**Pg**	**00 41 20.8**	**-0.4**
	SNR=9.2						
BFO				*e*Sg	**Sg**	**00 41 38.5**	**-1.1**
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	**Pg**	**00 41 20.6**	**-0.7**
BFO				*e*Sg	**Sg**	**00 41 40.1**	**+0.5**
BCLA	**Clavier**	**1.46**	**317**	P	**Pn**	**00 41 21.4**	**-0.2**
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**00 41 22.5**	**+0.2**
	baz=47						
MEZF				*e*Sg	**Sg**	**00 41 42.0**	**+0.7**
	comp=N,14nm,0.4s						
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**00 41 22.5**	**+0.2**
MEZF				*e*Sg	**Sg**	**00 41 42.0**	**+0.7**
	comp=N,7.2nm,0.4s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**00 41 23.0**	**-0.1**
GIVF				*e*Sg	**Sg**	**00 41 42.6**	**-0.1**
	comp=N,55nm,0.8s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**00 41 23.0**	**-0.1**
GIVF				*e*Sg	**Sg**	**00 41 42.6**	**-0.1**
	comp=N,27nm,0.8s						
HGN	**Heimansgroeve**	**1.52**	**337**	*e*Pg	**Pg**	**00 41 22.8**	**-0.4**
	comp=N,11nm,0.6s						
HGN				*e*Sg	**Sg**	**00 41 42.4**	**-0.6**
MOF	**Molkenrain**	**1.52**	**173**	Pg	**Pg**	**00 41 23.4**	**+0.1**
MOF				Sg	**Sg**	**00 41 43.8**	**+0.8**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**00 41 23.7**	**0.0**
HINF				*e*Sg	**Sg**	**00 41 43.4**	**-0.4**
	comp=N,46nm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**00 41 23.7**	**0.0**
HINF				*e*Sg	**Sg**	**00 41 43.4**	**-0.4**
	comp=N,23nm,0.3s						
DOU	**Dourbes**	**1.64**	**297**	P	**Pn**	**00 41 24.6**	**+0.5**
HOBG	**Hohbusch**	**1.65**	**10**	*e*Sg	**Sg**	**00 41 45.0**	**-2.1**
FELD	**Feldberg im Sc**	**1.67**	**153**	Pg	**Pg**	**00 41 25.7**	**-0.4**
FELD				Sg	**Sg**	**00 41 47.9**	**+0.1**
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pg	**Pg**	**00 41 26.1**	**0.0**
	baz=48						
SFTF				*e*Sg	**Sg**	**00 41 47.3**	**-0.5**
	comp=N,14nm,0.4s						
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pg	**Pg**	**00 41 26.1**	**0.0**
SFTF				*e*Sg	**Sg**	**00 41 47.3**	**-0.5**
	comp=N,6.8nm,0.4s						
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	**00 41 29.6**	**-0.1**
BAIF				*e*Sg	**Sg**	**00 41 53.4**	**-0.3**
	comp=N,6.5nm,0.4s						
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	**00 41 29.6**	**-0.1**
BAIF				*e*Sg	**Sg**	**00 41 53.4**	**-0.3**
	comp=N,3.2nm,0.4s						
CABF	**La Chapelle**	**2.80**	**191**	*e*Sg	**Sg**	**00 42 23.8**	**-0.3**
	comp=N,25nm,1.0s						
CABF	**La Chapelle**	**2.80**	**191**	*e*Sg	**Sg**	**00 42 23.8**	**-0.3**
	comp=N,12nm,1.0s						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**00 41 40.0**	**-1.4**
	baz=43						
LOR				*e*Sn	**Sn**	**00 42 14.1**	**-2.9**
LOR				*e*Sg	**Sg**	**00 42 26.5**	**-0.7**
	comp=N,7.2nm,0.4s						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**00 41 40.0**	**-1.4**
LOR				*e*Sn	**Sn**	**00 42 14.1**	**-2.9**
LOR				*e*Sg	**Sg**	**00 42 26.5**	**-0.7**
	comp=N,3.6nm,0.4s						
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**00 41 47.4**	**-0.8**
SMF				*e*Sg	**Sg**	**00 42 41.9**	**-1.1**
	comp=N,4.6nm,0.3s						
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**00 41 47.4**	**-0.8**
SMF				*e*Sg	**Sg**	**00 42 41.9**	**-1.1**
	comp=N,2.3nm,0.3s						
CLL	**Collm**	**4.39**	**61**	*e*(Sg)	**Sg**	**00 43 22.0**	**+6.9**
KHC	**Kasperske Hory**	**4.41**	**90**	*e*PN	**Pn**	**00 42 02.0**	**-0.2**
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**00 42 04.0**	**+0.2**
	SNR=5.4						

*LDG **07** 00:45:53.4±0.1,4295N×024E,h11km,Md1.9/2,Ml1.6/6,*
Error ellipse: s-maj=2.8km s-min=1.2km az=163.0
MDD 07 00:45:54.0±0.3,4297N×027E,h10km±1km,mbLg1.3/7,1C,
Error ellipse: s-maj=2.5km s-min=2.3km az=178.0,
PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.08**	**39**	*e*Pg	Pg	00 45 56.4	0.0
EPF				*e*Sg	Sg	00 45 58.3	+0.2
	132nm,0.2s						
EPF	**Esparros**	**0.08**	**39**	Pg	Pg	00 45 56.4	0.0
EPF				Lg		00 45 58.3	
	66nm,0.2s						
LABF	**Labassere**	**0.16**	**300**	Pg	Pg	00 45 57.3	-0.3
LABF				Lg		00 45 59.9	
RESF	**Ens**	**0.17**	**162**	Pg	Pg	00 45 57.7	0.0
RESF				Lg		00 46 00.4	
VIEF	**Viey**	**0.20**	**245**	Pg	Pg	00 45 57.9	-0.3
VIEF				Lg		00 46 00.8	
EBIE	**Bielsa**	**0.29**	**198**	⇑Pg	Pg	00 45 59.8	-0.1
	1.6nm,0.1s,SNR=18						
EBIE				Lg		00 46 03.7	
	3.2nm,0.1s,SNR=35						
MELF	**Melles**	**0.37**	**104**	Pg	Pg	00 46 01.1	-0.2
MELF				Lg		00 46 05.7	
ETSF	**Etsaut**	**0.61**	**264**	*e*Pg	Pg	00 46 05.1	-0.8
ETSF				*e*Sg	Sg	00 46 12.9	-1.0
	8.4nm,0.2s						
ETSF	**Etsaut**	**0.61**	**264**	Pg	Pg	00 46 05.1	-0.8
ETSF				Lg		00 46 12.9	
	4.2nm,0.2s						
SALF	**Salau**	**0.71**	**107**	Pg	Pg	00 46 07.6	-0.1
SALF				Lg		00 46 16.2	
SJPF	**Ste Jean**	**1.10**	**278**	*e*Pg	Pg	00 46 13.4	-1.8
SJPF				*e*Sg	Sg	00 46 28.1	-1.5
	1.5nm,0.3s						
SJPF	**Ste Jean**	**1.10**	**278**	Pg	Pg	00 46 13.4	-1.8
SJPF				Lg		00 46 28.1	
	0.8nm,0.3s						
EALK	**Alkurruntz**	**1.32**	**282**	Pg	Pg	00 46 19.3	-0.1
	0.1nm,0.1s,SNR=7.9						
EALK				Lg		00 46 36.3	
	64nm,1.8s,SNR=7.9						
ELIZ	**Elizondo**	**1.33**	**279**	Pg	Pg	00 46 20.8	+1.2
	0.1nm,0.1s,SNR=7.9						
ELIZ				Lg		00 46 37.3	
	1.5nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.36**	**204**	Lg		00 46 38.4	
	17nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**1.40**	**138**	Lg		00 46 40.2	
	0.2nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.48**	**75**	*e*Pn	Pn	00 46 18.6	-2.0
MTLF	**Montolieu**	**1.48**	**75**	*e*Pg	Pg	00 46 21.4	-0.9
MTLF				*e*Sg	Sg	00 46 40.3	-1.2
	1.5nm,0.3s						
MTLF	**Montolieu**	**1.48**	**75**	Lg		00 46 40.3	
	0.8nm,0.3s						
EPOB	**Poblet**	**1.72**	**159**	Lg		00 46 48.7	
	0.3nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**10**	*e*Pn	Pn	00 46 25.6	-2.2
LFF				*e*Sg	Sg	00 46 57.2	-1.1
	1.8nm,0.3s						
LFF	**La Frestale**	**2.00**	**10**	Lg		00 46 57.2	
	0.9nm,0.3s						
ERTA	**Horta de San J**	**2.01**	**179**	Lg		00 46 57.7	
	0.2nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.35**	**33**	*e*Pn	Pn	00 46 30.6	-2.0
CAF				*e*Sn	Sn	00 46 57.9	-3.6
CAF				*e*Sg	Sg	00 47 08.0	-1.5
	0.7nm,0.3s						
CAF	**Calviac**	**2.35**	**33**	Pn	Pn	00 46 30.6	-2.0
CAF				Sn	Sn	00 46 57.9	-3.6
CAF				Lg		00 47 08.0	
	0.3nm,0.3s						
RJF	**Les Rejaudoux**	**2.50**	**21**	*e*Sg	Sg	00 47 13.1	-1.4
	1.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**21**	Lg		00 47 13.1	
	0.8nm,0.2s						
LASF	**Ste Croix**	**2.84**	**66**	*e*Sg	Sg	00 47 23.4	-1.7
	0.2nm,0.2s						
LASF	**Ste Croix**	**2.84**	**66**	Lg		00 47 23.4	
	0.1nm,0.2s						

*ISCJB **07** 00:56:27.0±0.5,3697N±003×2802E±003,h9km±4km,*
Error ellipse: s-maj=4.5km s-min=3.8km az=11.1
*CSEM **07** 00:56:26.5±0.1,3698N×2802E,h10km,MD3.0,Error*
ellipse: s-maj=1.7km s-min=1.3km az=19.0
*ISK **07** 00:56:26.6,3699N×2802E,h8km,MD3.0*
*ATH **07** 00:56:26.1,3697N×2807E,h23km,MD3.3/3*
ISC 07 00:56:27.4±0.4,3697N±003×2802E±003,h11km±4km,n18,
σ0º79/30,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.27**	**51**	*i* PG	**Pg**	**00 56 32.3**	**-0.5**
YER				*i* SG	**Sg**	**00 56 36.4**	**-0.1**
MLSB	**Milas**	**0.38**	**329**	*i* PG	**Pg**	**00 56 34.5**	**-0.4**
MLSB				*i* SG	**Sg**	**

TELN	**Telica**	**1.10 340**	*e*P	Pn	01 24 54.7 -1.1
CRIN	**San Cristobal**	**1.27 332**⇑	*e*P	Pn	01 24 59.2 +1.1
CRIN			*e*S	Sn	01 25 15.2 +0.8
LIM1	**Limonal**	**1.45 126**⇑	*e*P	Pn	01 25 00.3 -0.2
LIM1			*e*S	Sn	01 25 20.3 +1.6
LCBS	**La Ceiba**	**3.23 310**	*e*P	x	01 25 51.0
LCBS			*e*S	x	01 26 26.8
LFRS	**El Faro**	**3.27 309**⇑	*e*P	x	01 25 51.6
LFRS			*e*S	x	01 26 28.4
LBRS	**Las Brisas**	**3.33 311**	*e*P	x	01 25 52.5
LBRS			*e*S	x	01 26 28.8
SBLS	**San Blas**	**3.84 306**	*e*P	x	01 26 00.4
SBLS			*e*S	x	01 26 43.7

*THR **07** 01:46:47.9±0.6, 2637N×5336E, h18km±8km, ML3.3*
*CSEM **07** 01:46:47.9, 2637N×5336E, h18km, ML3.3, After THR*
*ISCJB **07** 01:46:50.2±1.3, 2659N±009×5352E±006, h10km, mb3.4/5, Error ellipse: s-maj=13.1km s-min=7.4km az=39.0*
*IDC **07** 01:46:54.7±3.0, 2723N×5373E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/19, mbtmp3.5/5, Error ellipse: s-maj=62.7km s-min=34.3km az=152.0*

ISC 07 01:46:51.7±1.3, 2657N±009×5350E±007, h10km, n11, σ0§93/15, mb3.4/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.77**	**345**	*e*PG	**Pg**	**01 47 23.5**	**-2.1**
GHIR				*e*SG	**Sg**	**01 47 49.2**	**+0.7**
GHIR				AML	AML	01 47 56.3	
	comp=E,253nm,0.5s						
GHIR				AML	AML	01 47 59.9	
	comp=N,210nm,0.5s						
GHIR	**Ghir-Karzin**	**1.77**	**345**	*e*Pg	**Pg**	**01 47 23.5**	**-2.1**
	SNR=91						
GHIR				*e*Sg	**Sg**	**01 47 49.2**	**+0.6**
	comp=N,210nm,0.5s,SNR=91						
BNDS	**Bandar-Abbas**	**2.52**	**70**	*e*PN	**Pn**	**01 47 32.9**	**+0.2**
BNDS				*e*SG	**Sg**	**01 48 12.8**	**0.0**
BNDS				AML	AML	01 48 18.1	
	comp=N,90nm,0.3s						
BNDS				AML	AML	01 48 21.7	
	comp=E,124nm,0.3s						
BNDS	**Bandar-Abbas**	**2.52**	**70**	*e*Pn	**Pn**	**01 47 32.9**	**+0.2**
	SNR=52						
BNDS				*e*Sg	**Sg**	**01 48 12.8**	**+0.1**
	comp=E,124nm,0.3s,SNR=91						
KRBR	**Kerman**	**4.45**	**39**	*e*PN	**Pn**	**01 48 00.1**	**+0.9**
KRBR				AML	AML	01 48 55.2	
	comp=E,29nm,0.2s						
KRBR				AML	AML	01 48 57.5	
	comp=N,25nm,0.5s						
NASN	**Na'in**	**6.24**	**355**	*e*PN	**Pn**	**01 48 23.9**	**+0.2**
BRTR	**Keskin Array B**	**21.12**	**313**	P	**P**	**01 51 38.1**	**+1.5**
	comp=N,0.7nm,0.7s,mb3.1,baz=130,slow=13,SNR=5.8						
MKAR	**Makanchi Array**	**30.40**	**41**	P	**P**	**01 53 03.0**	**-0.9**
	comp=N,0.2nm,0.4s,mb3.2,baz=237,slow=9.8,SNR=2.8						
FINES	**FINESS Array B**	**39.45**	**340**	P	**P**	**01 54 21.9**	**-0.1**
	comp=N,0.5nm,0.4s,mb3.6,baz=152,slow=8.6,SNR=5.6						
ARCES	**ARCESS Array B**	**46.01**	**347**	P	**P**	**01 55 14.6**	**-0.6**
	comp=N,1.0nm,0.8s,mb3.8,baz=140,slow=9.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**50.21**	**265**	P	**P**	**01 55 54.7**	**+6.9**
	comp=N,0.2nm,0.5s,mb3.4,baz=73,slow=7.0,SNR=4.5						

NEIC 07 01:49:36.4, 5167N×17944W, h112km, MG3.3(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.84**	**250**	P	Pn	01 49 55.6	-0.5
AMKA				S	Sn	01 50 10.3	-0.8
ATKA	**Atka Island**	**3.29**	**79**	P	Pn	01 50 25.2	-1.1
SPIA	**Saint Paul Isl**	**7.69**	**41**	*e*Pn	Pn	01 51 25.5	-0.2
SPIA				*e*Sn	Sn	01 52 50.8	-0.4
DAWY	**Dawson**	**24.17**	**44**	*e*P	P	01 54 42.1	-0.1

*ISCJB **07** 01:51:56.3±0.5, 3906N±002×2335E±003, h10km±3km, Error ellipse: s-maj=4.1km s-min=3.4km az=164.3*
*ATH **07** 01:51:56.3, 3907N×2338E, h21km±1km, MD3.4/11, ML3.3*
*NEIC **07** 01:51:56.3, 3907N×2338E, h21km, ML3.3(ATH), After ATH.*
*THE **07** 01:51:57.1, 3905N×2332E, h6km, ML3.0*
*CSEM **07** 01:51:57.1±0.1, 3907N×2334E, h15km, ML3.0, Error ellipse: s-maj=1.5km s-min=1.2km az=83.0*
*SOF **07** 01:51:58.5, 3921N×2350E, h18km, MD3.0*

ISC 07 01:51:56.8±0.5, 3905N±002×2335E±003, h9km±3km, n45, σ0§95/61, 4C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.34**	**339**	*e*Pg	**Pg**	**01 52 03.9**	**+0.4**
XOR				*e*Sg	**Sg**	**01 52 08.4**	**+0.4**
AOS	**Alonnisos**	**0.43**	**74**	*e*Pg	**Pg**	**01 52 05.4**	**+0.1**
AOS				*e*Sg	**Sg**	**01 52 11.9**	**+0.9**
LKR	**Lokris**	**0.48**	**214**⇑	*i*PN	**Pg**	**01 52 06.4**	**+0.2**
AGG	**Agios Georgios**	**0.79**	**268**	*e*Pg	**Pg**	**01 52 11.3**	**-0.8**
AGG				*e*Sg	**Sg**	**01 52 22.2**	**-0.1**
AGG	**Agios Georgios**	**0.79**	**268**	*e*Pg	**Pg**	**01 52 11.3**	**-0.8**
AGG				*e*Sg	**Sg**	**01 52 22.2**	**-0.2**
PAIG	**Paliouri**	**0.91**	**16**	*e*Pg	**Pg**	**01 52 14.8**	**+0.4**
PAIG				*e*Sg	**Sg**	**01 52 28.2**	**+1.9**
MGER	**Gerania Oros**	**1.06**	**184**	*e*PN	**Pn**	**01 52 16.5**	**-1.3**
PTL	**Penteli**	**1.08**	**158**	*e*PN	**Pn**	**01 52 16.8**	**-1.2**
ATH	**Athens Observa**	**1.11**	**165**⇓	*i*PN	**Pn**	**01 52 18.3**	**-0.2**
ATH				*e*SN	**Sn**	**01 52 33.4**	**-0.5**
EVR	**Evrytania**	**1.21**	**264**	*e*PN	**Pn**	**01 52 19.7**	**-0.1**
EVR				*e*SN	**Sn**	**01 52 36.4**	**+0.2**
LIT	**Litokhoron**	**1.24**	**328**	*e*Pg	**Pg**	**01 52 19.9**	**-0.7**
LIT				*e*Sg	**Sg**	**01 52 38.2**	**+1.4**
KVR	**Kavouri**	**1.26**	**165**	*e*PN	**Pn**	**01 52 21.2**	**+0.6**
NAIG	**Nisos Aigina**	**1.29**	**175**	*e*PN	**Pn**	**01 52 21.0**	**0.0**
PLG	**Polygyros**	**1.33**	**3**	*e*PN	**Pn**	**01 52 21.0**	**-0.4**
PLG				*e*SN	**Sn**	**01 52 37.9**	**-1.3**
OUR	**Ouranopolis**	**1.37**	**21**	*e*Pg	**Pg**	**01 52 21.8**	**-1.4**
OUR				*e*Sg	**Sg**	**01 52 41.5**	**+0.5**
THE	**Thessaloniki**	**1.61**	**350**	*e*Pg	**Pg**	**01 52 24.8**	**-2.9**
THE				*e*Sg	**Sg**	**01 52 46.5**	**-2.0**
KZN	**Kozani**	**1.75**	**316**	*e*PN	**Pn**	**01 52 27.9**	**+0.7**
SOH	**Sokhos**	**1.77**	**0**	*e*Pb	**Pb**	**01 52 27.8**	**-1.6**
RLS	**Riolos of Patr**	**1.77**	**237**	*e*PN	**Pn**	**01 52 28.8**	**+1.2**
MEV	**Metsovon**	**1.80**	**295**	*e*Pb	**Pb**	**01 52 28.6**	**-1.2**
MEV	**Metsovon**	**1.80**	**295**	*e*Pb	**Pb**	**01 52 28.6**	**-1.2**
JAN	**Janina**	**2.03**	**288**	*e*PN	**Pn**	**01 52 31.5**	**+0.4**
GRG	**Griva**	**2.04**	**339**	*e*Pn	**Pn**	**01 52 31.1**	**-0.2**
GRG				*e*Sn	**Sn**	**01 52 56.8**	**0.0**
KNT	**Kendrikon**	**2.14**	**351**	*e*Pn	**Pn**	**01 52 33.1**	**+0.5**
KNT				*e*Sn	**Sn**	**01 52 59.5**	**+0.3**
ITM	**Ithomi**	**2.18**	**211**	*e*PN	**Pn**	**01 52 34.6**	**+1.5**
PRK	**Paraskevi**	**2.28**	**84**	*e*PN	**Pn**	**01 52 34.6**	**0.0**
FNA	**Florina**	**2.30**	**319**	*e*Pn	**Pn**	**01 52 35.4**	**+0.5**
NVR	**Nevrokopi**	**2.33**	**10**	*e*PB	**Pb**	**01 52 35.5**	**-3.5**
VAY	**Valandovo**	**2.35**	**346**	*e*Pn	**Pn**	**01 52 35.4**	**0.0**
VAY	**Valandovo**	**2.35**	**346**	*i*Pn	**Pn**	**01 52 35.7**	**+0.3**
VAY				*e*Sn	**Sn**	**01 52 59.5**	**-4.8**
VAY	**Valandovo**	**2.35**	**346**	*e*Pn	**Pn**	**01 52 35.4**	**-0.1**
VAY				*e*Sn	**Sn**	**01 52 59.5**	**-4.9**
VLI	**Veliai**	**2.35**	**188**	*e*PN	**Pn**	**01 52 35.6**	**+0.1**
BIA	**Bitola**	**2.51**	**322**	*i*Pn	**Pn**	**01 52 38.2**	**+0.5**
BIA				*e*Sn	**Sn**	**01 53 09.1**	**+0.8**
MMB	**Musomiste**	**2.55**	**6**	*i*P	**Pn**	**01 52 38.0**	**-0.3**
APE	**Apeiranthos**	**2.62**	**138**	*e*Pn	**Pn**	**01 52 39.6**	**+0.3**
RDO	**Rodhopi**	**2.69**	**38**	*e*PN	**Pn**	**01 52 39.9**	**-0.2**
KKB	**Krupnik**	**2.82**	**356**	*i*P	**Pn**	**01 52 42.2**	**+0.2**
RZN	**Rozhen**	**2.84**	**21**	*i*P	**Pn**	**01 52 42.6**	**+0.4**
KDZ	**Kurdzhali**	**3.04**	**31**	*i*P	**Pn**	**01 52 44.2**	**-0.8**
SMG	**Samos**	**3.05**	**115**	*e*PN	**Pn**	**01 52 45.6**	**+0.4**
VTS	**Vitosha**	**3.54**	**358**	*i*P	**Pn**	**01 52 53.0**	**+1.1**
VOIR		**6.51**	**11**⇓	*i*P	**Pn**	**01 53 33.8**	**+1.1**
MLR	**Muntele Rosu**	**6.72**	**16**⇑	*i*P	**Pn**	**01 53 37.9**	**+2.3**
MLR				S	rx	01 53 40.6	
PLOR	**Plostina**	**7.22**	**19**⇑	*i*P	**Pn**	**01 53 40.7**	**-1.8**
VRI	**Vrincioaia**	**7.26**	**19**⇑	*i*P	**Pn**	**01 53 41.8**	**-1.1**
VRI				S	rx	01 53 45.9	

*NEIC **07** 02:11:52.8±1.5, 5193N×731E, h10km, ML2.9(LDG), Error ellipse: s-maj=18.8km s-min=6.6km az=184.0*
*ISCJB **07** 02:11:56.2±0.3, 5157N±002×707E±003, h0km, Error ellipse: s-maj=2.8km s-min=2.5km az=129.6*
*CSEM **07** 02:11:57.6±0.1, 5167N×705E, h1km, ML2.9/6, Error ellipse: s-maj=1.4km s-min=1.0km az=64.0*
*BUG **07** 02:11:57.8, 5162N×700E, h1km, ML1.6*
*BNS **07** 02:11:57.4±0.8, 5167N×703E, h1km, ML2.2*
*LDG **07** 02:11:57.8±0.2, 5167N×704E, h1km, Ml2.9/7, Error ellipse: s-maj=3.4km s-min=2.3km az=38.0, Suspected Mining induced.*
*BGR **07** 02:11:58.1±0.5, 5157N×704E, h1km, ML2.3/7, Error ellipse: s-maj=7.8km s-min=5.6km az=118.0*
*STR **07** 02:12:02.0±0.6, 5146N×7.15E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 07 02:11:57.1±0.3, 5162N±002×704E±003, h0km, n55, σ1§10/96, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hinxe**	**0.11**	**268**	Pg	**Pg**	**02 12 00.1**	**+1.0**
BZER				Sg	**Sg**	**02 12 02.2**	**+1.7**
BUG	**Bochum--Univer**	**0.23**	**142**⇓	*i*Pg	**Pg**	**02 12 03.5**	**+2.0**
BUG				*e*Sg	**Sg**	**02 12 07.3**	**+2.8**
	SNR=54						
LAUG	**Laupendahl**	**0.28**	**193**	*e*Pg	**Pg**	**02 12 03.6**	**+1.2**
WTSB	**Winterswijk**	**0.37**	**336**	*e*Pg	**Pg**	**02 12 05.1**	**+0.8**
WTSB				*e*Sg	**Sg**	**02 12 10.2**	**+1.1**
WTSB	**Winterswijk**	**0.37**	**336**	*e*Pg	**Pg**	**02 12 05.1**	**+0.8**
WTSB				*e*Sg	**Sg**	**02 12 10.2**	**+1.1**
BNS	**Bensberg**	**0.67**	**173**	*e*Pg	**Pg**	**02 12 10.4**	**+0.6**
HOBG	**Hohbusch**	**0.67**	**164**	*e*Pg	**Pg**	**02 12 11.5**	**+1.7**
HOBG				*e*Sg	**Sg**	**02 12 21.2**	**+2.6**
IBBN	**Ibbenburen**	**0.81**	**33**	*e*Pg	**Pg**	**02 12 13.1**	**+0.4**
	SNR=1.7						
IBBN				*e*Sg	**Sg**	**02 12 26.4**	**+3.2**
	SNR=2.2						
STB	**Steinbach**	**1.04**	**187**	*e*Pg	**Pg**	**02 12 18.1**	**+1.1**
STB				*e*Sg	**Sg**	**02 12 32.6**	**+2.1**
	57nm,0.3s						
KLL	**Kalltalsperre**	**1.08**	**205**	*e*Pg	**Pg**	**02 12 18.1**	**+0.3**
KLL				*e*Sg	**Sg**	**02 12 34.2**	**+2.3**
HGN	**Heimansgroeve**	**1.11**	**219**	*e*Pn	**Pn**	**02 12 18.8**	**-1.1**
HGN				*e*Pg	**Pg**	**02 12 19.5**	**+1.1**
	32nm,0.2s						
HGN				*e*Sg	**Sg**	**02 12 34.6**	**+1.9**
BEBN	**Eben Emael**	**1.19**	**227**	P	**Pg**	**02 12 20.4**	**+0.4**
BEBN	**Eben Emael**	**1.19**	**227**	P	**Pg**	**02 12 20.3**	**+0.3**
MEM	**Membach**	**1.21**	**213**	P	**Pg**	**02 12 20.4**	**+0.1**
MEM				S	**Sg**	**02 12 36.9**	**+1.0**
	comp=N,47nm,0.0s						
BGG	**Burgeitz**	**1.43**	**172**	*e*Pg	**Pg**	**02 12 23.7**	**-0.8**
BCLA	**Clavier**	**1.63**	**223**	P	**Pn**	**02 12 26.5**	**-0.6**
BCLA				S	**Sn**	**02 12 50.6**	**+1.9**
	comp=E,20nm,0.0s						
BCLA	**Clavier**	**1.63**	**223**	P	**Pn**	**02 12 26.4**	**-0.6**
BCLA				S	**Sn**	**02 12 50.6**	**+1.9**
TNS	**Taunus Mts**	**1.66**	**147**	*e*Pn	**Pn**	**02 12 27.7**	**+0.3**
	SNR=1.0						
TNS				*e*Pg	**Pg**	**02 12 28.8**	**-0.1**
	SNR=3.7						
TNS				*e*Sg	**Sg**	**02 12 49.6**	**-0.9**
	SNR=2.7						
ABH	**Alteburg**	**1.77**	**169**	Pn	**Pn**	**02 12 29.4**	**+0.4**
ABH				Sg	**Sg**	**02 12 54.4**	**+0.3**
RUP	**Ruppelstein**	**1.93**	**180**	Pn	**Pn**	**02 12 30.5**	**-0.6**
RUP				Sg	**Sg**	**02 13 00.1**	**+1.1**
UBBA	**Unterbreizbach**	**2.03**	**112**	*e*Pg	**Pg**	**02 12 35.6**	**-0.4**
	SNR=1.5						
UBBA				*e*Sg	**Sg**	**02 13 01.5**	**-0.7**
	SNR=3.0						
WLF	**Walferdange**	**2.04**	**196**	*e*Pg	**Pg**	**02 12 35.2**	**-1.1**
	SNR=1.0						
WLF				*e*Sg	**Sg**	**02 12 59.3**	**-3.4**
	SNR=3.1						
GIVF	**Givet**	**2.07**	**224**	*e*Pg	**Pg**	**02 12 36.7**	**-0.1**
GIVF				*e*Sg	**Sg**	**02 13 03.5**	**-0.2**
	comp=E,22nm,0.2s						
GIVF	**Givet**	**2.07**	**224**	*e*Pn	**Pn**	**02 12 32.2**	**-0.9**
GIVF				*e*Pg	**Pg**	**02 12 36.7**	**-0.1**
GIVF				*e*Sg	**Sg**	**02 13 03.5**	**-0.2**
GIVF	**Givet**	**2.07**	**224**	*e*Pg	**Pg**	**02 12 36.7**	**-0.1**
GIVF				*e*Sg	**Sg**	**02 13 03.5**	**-0.2**
	comp=E,11nm,0.2s						
CLZ	**Clausthal**	**2.08**	**83**	*e*Pg	**Pg**	**02 12 37.3**	**+0.3**
	SNR=1.8						
CLZ				*e*Sg	**Sg**	**02 13 04.2**	**+0.2**
	SNR=3.1						
DOU	**Dourbes**	**2.18**	**226**	P	**Pn**	**02 12 34.1**	**-0.4**
TOD	**Tromm**	**2.31**	**150**	Pn	**Pn**	**02 12 36.8**	**+0.4**
TOD				Sg	**Sg**	**02 13 11.8**	**+0.4**
BAIF	**Baives**	**2.38**	**230**	*e*Pg	**Pg**	**02 12 42.5**	**-0.3**
BAIF				*e*Sg	**Sg**	**02 13 13.3**	**-0.4**
	comp=E,9.9nm,0.3s						
BAIF	**Baives**	**2.38**	**230**	*e*Pn	**Pn**	**02 12 36.4**	**-1.0**
BAIF				*e*Pg	**Pg**	**02 12 42.5**	**-0.3**
BAIF				*e*Sg	**Sg**	**02 13 13.3**	**-0.4**
BAIF	**Baives**	**2.38**	**230**	*e*Pg	**Pg**	**02 12 42.5**	**-0.3**
BAIF				*e*Sg	**Sg**	**02 13 13.3**	**-0.4**
	comp=E,4.9nm,0.3s						
MOX	**Moxa**	**3.04**	**107**	*e*Pn	**Pn**	**02 12 46.5**	**0.0**
	SNR=0.5						
MOX				*e*Sg	**Sg**	**02 13 31.2**	**-3.7**
	SNR=2.2						
CDF	**Champ du Feu**	**3.22**	**177**	*e*Pn	**Pn**	**02 12 48.6**	**-0.3**
CDF				*e*Sg	**Sg**	**02 13 40.2**	**-0.3**
	comp=E,6.0nm,0.4s						
CDF	**Champ du Feu**	**3.22**	**177**	*e*Pn	**Pn**	**02 12 48.6**	**-0.3**
CDF				*e*Sg	**Sg**	**02 13 40.2**	**-0.3**
	comp=E,3.0nm,0.4s						
MEZF	**Maizieres J'vi**	**3.38**	**203**	*e*Pn	**Pn**	**02 12 50.2**	**-0.9**
	baz=25						
MEZF				*e*Sg	**Sg**	**02 13 45.0**	**-0.6**
	comp=E,6.3nm,0.4s						
MEZF	**Maizieres J'vi**	**3.38**	**203**	*e*Pn	**Pn**	**02 12 50.2**	**-0.9**
MEZF				*e*Sg	**Sg**	**02 13 45.0**	**-0.6**
	comp=E,3.2nm,0.4s						
BFO	**Black Forest**	**3.40**	**165**	*e*Pn	**Pn**	**02 12 51.4**	**0.0**
	SNR=2.3						
WERD	**Werda**	**3.53**	**107**	*e*Sg	**Sg**	**02 13 49.1**	**-1.2**
	SNR=2.3						
SFTF	**Sexfontaines**	**3.66**	**201**	*e*Pn	**Pn**	**02 12 54.0**	**-0.9**
	baz=22						
SFTF	**Sexfontaines**	**3.66**	**201**	*e*Pg	**Pg**	**02 13 06.0**	**-1.2**
	baz=18						
SFTF				*e*Sg	**Sg**	**02 13 53.6**	**-1.1**
	comp=E,5.6nm,0.4s						
SFTF	**Sexfontaines**	**3.66**	**201**	*e*Pn	**Pn**	**02 12 54.0**	**-0.9**
SFTF				*e*Pg	**Pg**	**02 13 06.0**	**-1.2**
SFTF				*e*Sg	**Sg**	**02 13 53.6**	**-1.1**
SFTF	**Sexfontaines**	**3.66**	**201**	*e*Pg	**Pg**	**02 13 06.0**	**-1.2**
SFTF				*e*Sg	**Sg**	**02 13 53.6**	**-1.1**
	comp=E,2.8nm,0.4s						
CLL	**Collm**	**3.74**	**93**	*e*Pg	**Pg**	**02 13 21.0**	**+12**
CLL				*e*Sg	**Sg**	**02 13 57.0**	**-0.3**
HINF	**Hinteralfeld**	**3.81**	**182**	*e*Pn	**Pn**	**02 12 56.1**	**-1.0**
BRG	**Berggiesshubel**	**4.40**	**97**	SG	**Sg**	**02 14 22.4**	**+3.9**
	comp=E,1.0nm,0.5s						
LOR	**Lormes**	**4.83**	**207**	*e*Pn	**Pn**	**02 13 10.0**	**-1.0**
	baz=31						
CABF	**La Chapelle**	**5.06**	**187**	*e*Pn	**Pn**	**02 13 13.7**	**-0.4**
SSF	**Saint Saulge**	**5.12**	**208**	*e*Pn	**Pn**	**02 13 13.8**	**-1.2**
AVF	**Avril sur Loir**	**5.41**	**208**	*e*Pn	**Pn**	**02 13 17.5**	**-1.5**
SMF	**Signal de Mont**	**5.41**	**204**	*e*Pn	**Pn**	**02 13 17.8**	**-1.2**
LDF	**La Druitiere**	**5.52**	**239**	*e*Pn	**Pn**	**02 13 19.0**	**-1.5**
FLN	**La Foliniere**	**5.62**	**242**	*e*Pn	**Pn**	**02 13 20.9**	**-0.9**
	baz=59						
BGF	**Bois d'Agland**	**5.77**	**210**	*e*Pn	**Pn**	**02 13 22.7**	**-1.2**
GRR	**Gorron**	**6.04**	**241**	*e*Pn	**Pn**	**02 13 26.2**	**-1.4**
GRR				*e*Sn	**Sn**	**02 14 31.8**	**-5.6**
	comp=E,10nm,0.4s						
GRR	**Gorron**	**6.04**	**241**	*e*Pn	**Pn**	**02 13 26.2**	**-1.4**
GRR				*e*Sn	**Sn**	**02 14 31.8**	**-5.6**
	comp=E,5.1nm,0.4s						

NEIC 07 02:15:11.0, 4538N×11260W, h12km, ML3.5(BUT), After BUT., Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMT	**Dillon**	**0.02**	**172**	*e*Pg	Pg	02 15 13.5	+0.5
DLMT				*e*Sg	Sg	02 15 15.7	+1.3
MCMT	**McKenzie Canyo**	**0.58**	**198**	*e*Pg	Pg	02 15 22.6	+0.3
BOZ	**Bozeman (W)**	**0.73**	**68**	*e*Pg	Pg	02 15 24.9	-0.3
QLMT	**Earthquake Lak**	**0.99**	**123**	*e*Pg	Pg	02 15 29.9	-0.2
YMR	**Madison River**	**1.36**	**121**	*e*Pn	Pn	02 15 37.3	+1.5
YMR				*e*Sg	Sg	02 15 55.4	+0.6
HRY	**Holter Researc**	**1.44**	**22**	*e*Pn	Pn	02 15 37.7	+0.8
YFT	**Old Faithful**	**1.56**	**126**	*e*Pn	Pn	02 15 40.6	+2.0
YFT				*e*Sn	Sn	02 16 01.6	+2.8
CHMT	**Chamberlain Mo**	**1.60**	**344**	*e*Pn	Pn	02 15 40.3	+1.2
MSO	**Missoula**	**1.72**	**328**	*e*Pn	Pn	02 15 41.9	+1.1
MSO				*e*Pg	Pg	02 15 44.0	0.0
MSO				*e*Sn	Sn	02 16 04.2	+1.4
LKWY	**Lake**	**1.76**	**117**	*e*Pn	Pn	02 15 44.5	+3.1
LKWY				*e*Sg	Sg	02 16 08.8	+1.2
FLWY	**Flagg Ranch**	**1.88**	**133**	*e*Pn	Pn	02 15 45.2	+2.2
FLWY				*e*Sn	Sn	02 16 09.8	+3.2
FLWY				*e*Sg	Sg	02 16 13.4	+2.1
IMW	**Indian Meadow**	**1.90**	**141**	*e*Pn	Pn	02 15 45.3	+2.1
IMW				*e*Pg	Pg	02 15 49.2	+1.8
IMW				*e*Sn	Sn	02 16 11.1	+4.0
DCID1	**Drake Creek**	**2.05**	**150**	*e*Pn	Pn	02 15 48.0	+2.7
DCID1				*e*Pg	Pg	02 15 52.2	+1.8
DCID1				*e*Sg	Sg	02 16 18.8	+1.8
GCMT	**Greycliff**	**2.10**	**78**	*e*Pn	Pn	02 15 47.4	+1.4
GCMT				*e*Sg	Sg	02 16 17.2	-1.3
MOOW	**Moose Ponds**	**2.10**	**140**	*e*Pn	Pn	02 15 48.2	+2.1
MOOW				*e*Sn	Sn	02 16 16.1	+3.9
TPAW	**Teton Pass**	**2.23**	**147**	*e*Pn	Pn	02 15 51.0	+3.2
TPAW				*e*Pg	Pg	02 15 56.1	+2.4
TPAW				*e*Sg	Sg	02 16 23.8	+1.2
HLID	**Hailey**	**2.23**	**216**	*e*Pn	Pn	02 15 49.7	+1.9
HLID				*e*Pg	Pg	02 15 54.2	+0.4
HLID				*e*Sn	Sn	02 16 20.3	+4.9
LOHW	**Long Hollow**	**2.27**	**140**	*e*Pn	Pn	02 15 51.5	+3.1
LOHW				*e*Sn	Sn	02 16 19.6	+3.3
REDW	**Red Top Meadow**	**2.38**	**148**	*e*Pn	Pn	02 15 53.4	+3.6
REDW				*e*Sg	Sg	02 16 28.9	+1.5
AHID	**Auburn Hatcher**	**2.83**	**157**	*e*Pn	Pn	02 16 00.1	+4.1
EGMT	**Eagleton**	**3.29**	**35**	*e*Pn	Pn	02 16 03.5	+1.1
EGMT				*e*Sg	Sg	02 16 55.3	-1.4
HVU	**Hansel Valley**	**3.60**	**182**	*e*Pn	Pn	02 16 13.0	+6.3
HVU				*e*Sg	Sg	02 17 03.8	-2.9
WALA	**Waterton Lakes**	**3.79**	**347**	*e*Pn	Pn	02 16 10.7	+1.5
WALA				*e*Pg	Pg	02 16 20.1	-3.5
WALA				*e*Sg	Sg	02 17 09.3	-3.3
HWUT	**Hardware Ranch**	**3.85**	**168**	*e*Pn	Pn	02 16 12.4	+2.4
HWUT				*e*Sg	Sg	02 17 12.5	-2.0
SPUT	**South Promonto**	**4.07**	**178**	*e*Pn	Pn	02 16 21.2	+8.1
SPUT				*e*Sg	Sg	02 17 15.8	-5.9
NEW	**Newport**	**4.24**	**315**	*e*Pn	Pn	02 16 16.6	+1.2
NEW				*e*Pg	Pg	02 16 31.0	-1.2
NEW				*e*Sg	Sg	02 17 22.9	-4.2
BGU	**Big Grassy Mou**	**4.46**	**184**	*e*Pn	Pn	02 16 21.3	+2.8
BGU				*e*Pg	Pg	02 16 33.6	-2.9
BGU				*e*Sg	Sg	02 17 29.3	-5.0
LAO	**LASA Array**	**4.63**	**71**	*e*Pn	Pn	02 16 22.2	+1.4
LAO				*e*Pg	Pg	02 16 35.6	-4.1
LAO				*e*Sg	Sg	02 17 34.9	-4.8
NOQ	**North Oquirrh**	**4.74**	**176**	*e*Pn	Pn	02 16 34.9	+13
ELK	**Elko**	**5.02**	**204**	*e*Pn	Pn	02 16 34.0	+7.9
	7.6nm,0.6s						
ELK				*e*Sg	Sg	02 17 43.1	-9.1
DAU	**Daniels Canyon**	**5.06**	**168**	*e*Pn	Pn	02 16 32.6	+5.9
DAU				*e*Pg	Pg	02 16 41.6	-6.3
DAU				*e*Sg	Sg	02 17 51.0	-2.6
DUG	**Dugway**	**5.18**	**182**	*e*Pn	Pn	02 16 32.9	+4.5
	8.9nm,0.6s						
DUG				*e*Pg	Pg	02 16 44.6	-5.7
DUG				*e*Sg	Sg	02 17 57.3	-0.2
WVOR	**Wild Horse Val**	**5.26**	**238**	*e*Pn	Pn	02 16 33.5	+4.0
	9.3nm,0.3s						
WVOR				*e*Pg	Pg	02 16 49.7	-2.1
RWWY	**Rawlins**	**5.38**	**131**	*e*Pn	Pn	02 16 34.3	+3.1
	21nm,0.6s						
RWWY				*e*Pg	Pg	02 16 49.9	-4.2
NLU	**North Lily Min**	**5.44**	**176**	*e*Pn	Pn	02 16

2.4nm,0.3s,baz=330,slow=13,SNR=96
LPAZ La Paz 10.23 148 *e*P **Pn** **02 28 23.9 -1.6**
LPAZ pmax pmax
comp=Z,2.0nm,0.3s
LPAZ La Paz 10.23 148 *e*Pn **Pn** **02 28 23.9 -1.6**
comp=Z,1.7nm,0.3s
SAML Samuel 10.48 98⇑ *i*Pn **Pn** **02 28 28.6 -0.1**
comp=Z,3.2nm,1.9s
ROSC El Rosal 12.35 357 P **Pn** **02 28 54.7 +2.0**
comp=Z,14nm,0.3s,baz=128,slow=5.4,SNR=50
ROSC LR LR 02 34 19.5
comp=Z,154nm,21.8s,baz=193,slow=40
SIV San Ignacio 14.91 125 P **Pn** **02 29 25.1 +0.5**
comp=Z,4.2nm,0.3s,baz=305,slow=12,SNR=386
LVC Limon Verde 15.65 163 P **Pn** **02 29 33.1 -0.7**
comp=Z,12nm,0.3s,baz=340,slow=6.7,SNR=93
LVC S **S** **02 32 28.9 +1.4**
comp=Z,1.5nm,0.3s,baz=149,slow=21,SNR=15
LVC Limon Verde 15.65 163 *e*Pn **Pn** **02 29 33.3 -0.4**
comp=Z,190nm,1.0s
LVC *e*S **S** **02 32 27.5 +0.1**
SDV Santo Domingo 16.62 11 P **Pn** **02 29 45.1 -0.3**
comp=Z,9.2nm,0.3s,baz=220,slow=10.0,SNR=22
SDV S **S** **02 32 49.6 +1.2**
baz=256,slow=18,SNR=3.8
SDV Santo Domingo 16.62 11 *e*P **Pn** **02 29 44.6 -0.8**
comp=Z,7.1nm,0.5s
PAYG Puerto Ayora 17.91 292⇑ *e*P **Pn** **02 29 59.1 -1.6**
comp=Z,224nm,0.9s
PCRV Puerto La Cruz 19.79 27 P **P** **02 30 20.2 +1.2**
comp=Z,2.1nm,0.3s,baz=197,slow=8.0,SNR=6.8
JTS JuntasAbangare 20.99 328 *e*P **P** **02 30 32.8 +1.1**
JTS pmax pmax
comp=Z,376nm,1.6s
JTS JuntasAbangare 20.99 328 *e*P **P** **02 30 32.8 +1.1**
comp=Z,376nm,1.6s
CPUP Villa Florida 24.30 142 P **P** **02 31 01.7 -1.4**
comp=Z,18nm,0.5s,mb4.8,baz=305,slow=8.9,SNR=37
CPUP Villa Florida 24.30 142 *e*P **P** **02 31 01.3 -1.8**
CPUP pmax pmax
comp=Z,104nm,0.6s
CPUP Villa Florida 24.30 142 *e*P **P** **02 31 01.3 -1.9**
comp=Z,104nm,0.6s,mb5.5
CFAA Coronel Fontan 24.46 169 P **P** **02 31 04.8 +0.2**
comp=Z,0.8nm,0.3s,mb3.7,baz=341,slow=9.7,SNR=26
CFAA PcP PcP 02 34 38.7 +0.7
comp=Z,1.1nm,0.8s,baz=328,slow=4.2,SNR=3.9
MVM Montagne Vaucl 25.37 30 *e*P pP 02 31 52.0 +0.9
FDF Fort de France 25.39 29 *e*P pP 02 31 52.2 +0.8
CRM Caravelle 25.53 30 *e*P pP 02 31 52.9 +0.3
BBL Barber's Block 25.93 28 *e*P pP 02 31 58.3 +2.0
TBG Guadaloupe-3 26.14 27 *e*P pP 02 31 57.8 -0.4
HMG Houelmont 26.23 27 *e*P pP 02 32 00.1 +1.1
SCG Saint Claude 26.27 27 *e*P pP 02 32 00.5 +1.1
LZG Guadaloupe-1 26.33 27 *e*P pP 02 32 01.3 +1.3
BDFB Brasilia 26.37 110 P **P** **02 31 23.1 +1.3**
comp=Z,47nm,0.7s,mb5.2,baz=282,slow=9.9,SNR=74
BDFB pP pP 02 32 02.0 +1.8
comp=Z,45nm,0.8s,baz=270,slow=10,SNR=7.4
SJG San Juan 26.57 16 P **P** **02 31 24.0 +0.4**
comp=Z,22nm,0.4s,mb5.1,baz=214,slow=6.8,SNR=7.8
SJG pP pP 02 32 02.6 +0.5
comp=Z,99nm,0.6s,baz=165,slow=6.7,SNR=7.4
SJG San Juan 26.57 16 P **P** **02 31 24.0 +0.4**
SJG pmax pmax
comp=Z,22nm,0.4s
SJG pmax pmax
comp=Z,99nm,0.6s
SJG San Juan 26.57 16 *e*P **P** **02 31 23.7 +0.2**
comp=Z,28nm,0.4s,mb5.2
SJG *e*pP pP 02 32 02.9 +0.8
SEG Port Louis 26.68 27 *e*P pP 02 32 03.2 0.0
CPB Codrington 27.64 25 *e* pP 02 32 13.6 +1.8
HLGC Holguin 28.37 355 *e*P pP 02 32 20.2 +1.8
TEIG Tepich 31.12 333 *e*P **P** **02 32 03.7 -0.1**
comp=Z,22nm,0.8s,mb4.9
SOR Soroa 31.52 343 *e*P **P** **02 32 08.7 +1.4**
TRQA Tornquist 32.16 162 *e*P **P** **02 32 12.4 -0.5**
comp=Z,7.1nm,0.6s,mb4.6
TRQA *e*pP pP 02 32 51.4 -0.7
TRQA *e*PcP PcP 02 34 57.2 +0.1
PLCA Paso Flores 33.15 176 P **P** **02 32 21.6 +0.1**
comp=Z,27nm,0.9s,mb5.0,baz=345,slow=9.3,SNR=33
PLCA PcP PcP 02 35 00.6 +0.8
comp=Z,8.3nm,0.7s,baz=335,slow=4.1,SNR=6.3
PLCA Paso Flores 33.15 176 *e*P **P** **02 32 21.4 -0.1**
PLCA *e* 02 35 00.3
PLCA pmax pmax
comp=Z,32nm,0.9s
PLCA Paso Flores 33.15 176 *e*P **P** **02 32 21.4 -0.1**
comp=Z,32nm,0.9s,mb5.0
PLCA *e*pP pP 02 33 01.8 +1.0
PLCA *e*PcP PcP 02 35 00.3 +0.4
CAM4 Nova Friburgo 33.36 120 *e*P **P** **02 32 23.1 -0.3**
CAM4 *i* 02 32 27.3
CAM4 *i* 02 32 29.3
CAM4 *i* 02 32 36.8
CAM4 *i* 02 32 53.2
RCBR Riachuelo 37.55 90 *e*P **P** **02 32 59.7 +0.7**
comp=Z,22nm,0.8s,mb4.8
LRAL Lakeview Retre 42.31 343 *e*P **P** **02 33 37.7 -0.5**
comp=Z,44nm,0.8s,mb5.1
LRAL *e*pP pP 02 34 19.0 -0.1
LRAL *e*PcP PcP 02 35 27.7 -0.4
HKT Hockley 42.94 331 *e*P **P** **02 33 43.3 0.0**
HKT *e* 02 35 30.6
HKT pmax pmax
comp=Z,29nm,1.6s,mb4.7
HKT Hockley 42.94 331 *e*P **P** **02 33 43.3 0.0**
comp=Z,29nm,1.6s,mb4.7
HKT *e*PcP PcP 02 35 30.6 +0.3
HKT *e*ScP ScP 02 39 03.2 0.0
NATX Nacogdoches 43.94 334 *e*P **P** **02 33 50.5 -0.8**
comp=Z,76nm,1.3s,mb5.2
CPCT Cooper Cave 43.98 347 *e*P **P** **02 33 51.2 -0.4**
CPCT *e*pP pP 02 34 31.6 -1.2
CPCT *e*PcP PcP 02 35 32.8 -1.0
CPCT *e*ScP ScP 02 39 06.6 -0.8
SWET Sewanee 44.09 346 *e*P **P** **02 33 51.4 -1.1**
PLAL Pickwick Lake 44.44 343 *e*P **P** **02 33 53.4 -1.9**
comp=Z,52nm,1.1s,mb5.1
PLAL *e*pP pP 02 34 35.2 -1.3
PLAL *e*PcP PcP 02 35 34.4 -1.0
PLAL *e*ScP ScP 02 39 07.0 -2.2
BLA Blacksburg 44.98 352 *e*P **P** **02 34 00.0 +0.5**
BLA *e**PP pP 02 34 40.8 0.0
BLA *e* 02 35 37.0
BLA pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
BLA Blacksburg 44.98 352 *e*P **P** **02 34 00.0 +0.6**
comp=Z,2.3nm,0.7s,mb3.9
BLA *e*pP pP 02 34 40.8 0.0
BLA *e*PcP PcP 02 35 37.0 -0.3
ELN Prospectdale 45.04 352 *e*P **P** **02 34 00.7 +0.7**
ELN *e*pP pP 02 34 40.6 -0.7
ELN *e*PcP PcP 02 35 37.5 0.0
JCT Junction City 45.37 328 *e*P **P** **02 34 02.5 -0.1**
JCT *e* 02 35 38.4
JCT pmax pmax
comp=Z,15nm,0.7s,mb4.7
JCT Junction City 45.37 328 *e*P **P** **02 34 02.5 -0.1**
comp=Z,15nm,0.7s,mb4.7
JCT *e*PcP PcP 02 35 38.4 -0.2
JCT *e*ScP ScP 02 39 11.7 -1.4
FWV Forest Hill 45.40 352 *e*P **P** **02 34 03.1 +0.4**
FWV *e*pP pP 02 34 44.2 +0.1
WVT Waverly 45.45 344 *e*P **P** **02 34 01.0 -2.2**
WVT *e**PP pP 02 34 41.8 -2.8
WVT pmax pmax
comp=Z,18nm,0.6s,mb4.9
WVT Waverly 45.45 344 *e*P **P** **02 34 01.0 -2.2**
comp=Z,18nm,0.6s,mb4.9
WVT *e*pP pP 02 34 41.8 -2.8
WVT *e*ScP ScP 02 39 11.8 -1.7
UALR University of 45.65 338 *e*P **P** **02 34 03.4 -1.4**
comp=Z,28nm,1.1s,mb4.8
UALR *e*PcP PcP 02 35 39.2 -0.3
CBN Corbin 45.66 356 *e*P **P** **02 34 05.0 +0.2**
comp=Z,26nm,0.7s,mb5.0
MIAR Mount Ida 45.91 337 *e*P **P** **02 34 05.5 -1.3**
MIAR *e* 02 35 40.3
MIAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MIAR Mount Ida 45.91 337 *e*P **P** **02 34 05.5 -1.3**
comp=Z,5.4nm,0.7s,mb4.3
MIAR *e*pP pP 02 34 47.9 -0.4
MIAR *e*PcP PcP 02 35 40.3 -0.2
MIAR *e*ScP ScP 02 39 14.7 -0.7
LTX Lajitas 46.68 323 *e*P **P** **02 34 13.2 +0.4**
LTX *e* 02 35 43.4
LTX pmax pmax
comp=Z,14nm,0.5s,mb4.8
LTX Lajitas 46.68 323 *e*P **P** **02 34 13.2 +0.4**
comp=Z,14nm,0.5s,mb4.8
LTX *e*pP pP 02 34 54.5 +0.1
LTX *e*PcP PcP 02 35 43.4 +0.2
WCI Wyandotte Cave 47.05 346 *e*P **P** **02 34 14.1 -1.5**
WCI *e**PP pP 02 34 54.6 -2.7
WCI pmax pmax
comp=Z,16nm,0.5s,mb4.9
WCI Wyandotte Cave 47.05 346 *e*P **P** **02 34 14.1 -1.5**
comp=Z,16nm,0.5s,mb4.9
WCI *e*pP pP 02 34 54.5 -2.7
WCI *e*ScP ScP 02 39 18.7 -1.4
USIN University of 47.13 345 *e*P **P** **02 34 14.4 -1.8**
comp=Z,15nm,0.4s,mb5.0
MCWV Mont Chateau 47.32 354 *e*P **P** **02 34 17.7 0.0**
comp=Z,71nm,0.8s,mb5.3
MCWV *e*pP pP 02 34 59.9 +0.5
USHA Ushuaia 47.33 176 P **P** **02 34 17.3 -0.5**
comp=Z,13nm,0.7s,mb4.7,baz=298,slow=5.9,SNR=10.0
USHA pP pP 02 35 00.3 +0.8
comp=Z,26nm,0.7s,baz=3.9,slow=5.3,SNR=7.0
FVM French Village 47.93 342 *e*P **P** **02 34 20.8 -1.6**
FVM *e**PP pP 02 35 01.7 -2.5
FVM *e* 02 35 47.2
FVM pmax pmax
comp=Z,29nm,0.6s,mb5.1
FVM French Village 47.93 342 *e*P **P** **02 34 20.8 -1.6**
comp=Z,29nm,0.6s,mb5.1
FVM *e*pP pP 02 35 01.7 -2.5
FVM *e*PcP PcP 02 35 47.1 -0.5
FVM *e*ScP ScP 02 39 22.4 -1.4
BLO Bloomington 48.00 347 *e*P **P** **02 34 21.3 -1.6**
BLO *e**PP pP 02 35 01.8 -3.0
BLO pmax pmax
comp=Z,22nm,0.4s,mb5.1
BLO Bloomington 48.00 347 *e*P **P** **02 34 21.3 -1.6**
comp=Z,22nm,0.4s,mb5.1
BLO *e*pP pP 02 35 01.8 -3.0
BLO *e*ScP ScP 02 39 22.8 -1.3
SSPA Standing Stone 48.11 356 *e*P **P** **02 34 24.2 +0.4**
comp=Z,31nm,1.1s,mb4.8
CCM Cathedral Cave 48.25 341 *e*P **P** **02 34 22.7 -2.1**
CCM *e* 02 35 48.6
CCM pmax pmax
comp=Z,11nm,0.6s,mb4.7
CCM Cathedral Cave 48.25 341 *e*P **P** **02 34 22.7 -2.1**
comp=Z,11nm,0.6s,mb4.7
CCM *e*PcP PcP 02 35 48.5 -0.2
CCM *e*ScP ScP 02 39 24.0 -1.2
WMOK Wichita Mounta 48.30 332 *e*P **P** **02 34 24.6 -0.6**
WMOK *e**PP pP 02 35 05.0 -2.1
WMOK *e* 02 35 48.8
WMOK pmax pmax
comp=Z,19nm,1.0s,mb4.7
WMOK Wichita Mounta 48.30 332 *e*P **P** **02 34 24.6 -0.6**
comp=Z,19nm,1.0s,mb4.7
WMOK *e*pP pP 02 35 05.0 -2.1
WMOK *e*PcP PcP 02 35 48.8 -0.2
WMOK *e*ScP ScP 02 39 24.9 -0.5
ACSO Alum Creek Sta 48.32 350 *e*P **P** **02 34 24.2 -1.2**
ACSO *e*PcP PcP 02 35 47.2 -1.8
ALLY Alegheny Colle 49.33 354 *e*P **P** **02 34 32.4 -0.6**
MNTX Cornudas Mount 49.41 324 *e*P **P** **02 34 33.2 -0.5**
comp=Z,47nm,1.4s,mb4.9
MNTX *e*pP pP 02 35 14.2 -1.5
CPRX Cap Rock 49.53 326 *e*P **P** **02 34 35.1 +0.5**
BINY Binghamton 49.56 358 *e*P **P** **02 34 35.1 +0.3**
comp=Z,30nm,0.9s,mb4.9
BINY *e*pP pP 02 35 15.5 -1.4
WES Weston 49.75 2 *e*P **P** **02 34 36.1 -0.1**
WES pmax pmax
comp=Z,15nm,0.9s,mb4.6
WES Weston 49.75 2 *e*P **P** **02 34 36.0 -0.2**
comp=Z,15nm,0.9s,mb4.6
WES *e*pP pP 02 35 18.5 +0.2
ERPA Erie 49.77 354 *e*P **P** **02 34 35.9 -0.5**
comp=Z,32nm,0.4s,mb5.3
AMTX Amarillo 49.82 330 *e*P **P** **02 34 36.5 -0.3**
comp=Z,28nm,0.5s,mb5.2
AMTX *e*pP pP 02 35 19.1 +0.2
HRV Harvard--Oak R 49.86 2 *e*P **P** **02 34 36.9 -0.2**
HRV pmax pmax
comp=Z,27nm,1.0s,mb4.8
HRV Harvard--Oak R 49.86 2 *e*P **P** **02 34 36.9 -0.2**
comp=Z,27nm,1.0s,mb4.8
NCB Newcomb 51.29 359 *e*P **P** **02 34 47.7 -0.1**
comp=Z,6.7nm,0.7s,mb4.4
BNM Barren Site 51.91 325 *e*P **P** **02 34 52.6 +0.2**
BNM *e*pP pP 02 35 35.5 +0.7
BNM *e*PP PP 02 36 50.1 -2.1
Y22C IRIS PASSCAL I 52.02 325 ⇑P **P** **02 34 53.6 +0.5**
baz=52
LPM Los Pinos Moun 52.03 325 *e*P **P** **02 34 53.4 +0.1**
CBKS Cedar Bluff 52.10 334 *e*P **P** **02 34 53.6 -0.2**
CBKS pmax pmax
comp=Z,14nm,0.3s,mb5.1
CBKS Cedar Bluff 52.10 334 *e*P **P** **02 34 53.6 -0.2**
comp=Z,14nm,0.3s,mb5.1
LENM Lemitar 52.12 325 *e*P **P** **02 34 53.8 0.0**
LENM *e*PP PP 02 36 50.9 -3.2
FRNY Flat Rock 52.15 0 *e*P **P** **02 34 54.2 0.0**
FRNY *e*pP pP 02 35 36.0 -0.7
FRNY *e*PP PP 02 36 49.8 -4.6
SCIA State Center 52.38 342 *e*P **P** **02 34 54.5 -1.3**
LAZ Ladron 52.38 325 *e*P **P** **02 34 56.3 +0.4**
ANMO Albuquerque 52.40 326 *e*P **P** **02 34 56.1 +0.2**
ANMO *e**PP pP 02 35 37.2 -1.3
ANMO pmax pmax
comp=Z,30nm,1.0s
ANMO Albuquerque 52.40 326 *e*P **P** **02 34 56.1 +0.2**
comp=Z,30nm,1.0s,mb4.9
ANMO *e*pP pP 02 35 37.2 -1.3
TUC Tucson 53.13 320 *e*P **P** **02 35 01.1 -0.2**
TUC pmax pmax
comp=Z,21nm,0.9s,mb4.9
TUC Tucson 53.13 320 *e*P **P** **02 35 01.1 -0.2**
comp=Z,20nm,0.9s,mb4.9
TUC *e*pP pP 02 35 43.3 -0.7
116A Eloy 53.88 320 ⇓P **P** **02 35 07.1 +0.4**
baz=54
115A Sonoran Desert 54.31 320 ⇓P **P** **02 35 10.3 +0.4**
baz=54,SNR=10
ECSD EROS,Sioux Fal 55.12 340 *e*P **P** **02 35 13.8 -1.9**
ECSD *e*pP pP 02 35 55.8 -2.9
ECSD *e*ScP ScP 02 39 54.1 -0.8
MVCO Mesa Verde 55.17 326 *e*P **P** **02 35 16.2 +0.1**
MVCO *e*PcP PcP 02 36 14.5 -0.3
Z14A Wintersburg 55.19 320 ⇓P **P** **02 35 16.5 +0.3**
baz=55,SNR=5.3
X15A Humboldt 55.48 321 P **P** **02 35 18.9 +0.7**
baz=56,SNR=26
Y14A Wickenburg 55.60 320 ⇓P **P** **02 35 19.5 +0.4**
baz=56,SNR=27
ISCO Idaho Springs 55.61 330 *e*P **P** **02 35 19.4 +0.2**
ISCO *e* 02 36 16.9
ISCO pmax pmax
comp=Z,19nm,0.8s,mb5.0
ISCO Idaho Springs 55.61 330 *e*P **P** **02 35 19.4 +0.2**
comp=Z,19nm,0.8s,mb5.0
ISCO *e*pP pP 02 36 01.7 -0.5
ISCO *e*PcP PcP 02 36 16.9 +0.5
WUAZ Wupatki 55.64 323 *e*P **P** **02 35 19.8 +0.4**
comp=Z,54nm,0.8s,mb5.4
WUAZ *e*pP pP 02 36 01.7 -0.7
SMCO Snowmass 55.81 329 *e*P **P** **02 35 21.5 +0.9**
comp=Z,9.4nm,0.3s,mb5.1
X14A Yava 55.87 321 P **P** **02 35 21.8 +0.7**
baz=56,SNR=32
PV01 Paradox Valley 55.88 327 *e*P **P** **02 35 21.4 +0.3**
PV01 *e*pP pP 02 36 04.1 -0.1
W15A Williams 55.96 322 ⇓P **P** **02 35 22.5 +0.9**
baz=56,SNR=10
Y13A Salome 56.04 320 ⇓P **P** **02 35 22.7 +0.5**
baz=56,SNR=14
GLA Glamis 56.22 318 ⇓P **P** **02 35 23.8 +0.3**
baz=56,SNR=8.7
PV10 Paradox Valley 56.31 327 *e*P **P** **02 35 23.8 -0.3**
Y12C Blythe 56.45 319 ⇑P **P** **02 35 25.6 +0.4**
baz=57,SNR=15
W14A Seligman 56.48 321 ⇑P **P** **02 35 26.2 +0.9**
baz=57,SNR=26
X13A Yucca 56.54 320 P **P** **02 35 26.2 +0.4**
baz=57,SNR=18
BC3 Big Chuckw Mtn 57.00 319 ⇑P **P** **02 35 29.5 +0.5**
baz=57,SNR=30
EYMN Ely 57.46 346 *e*P **P** **02 35 29.9 -2.4**
comp=Z,29nm,0.9s,mb5.1
EYMN *e*pP pP 02 36 12.2 -3.4
EYMN *e*ScP ScP 02 40 04.2 -1.1
PFO Pinyon Flat Ob 57.64 318 *e*P **P** **02 35 33.8 +0.4**
PFO pmax pmax
comp=Z,52nm,1.2s,mb5.2
PFO Pinyon Flat Ob 57.64 318 *e*P **P** **02 35 33.8 +0.4**
comp=Z,52nm,1.2s,mb5.2
PFO Pinyon Flat Ob 57.64 318 ⇑P **P** **02 35 34.1 +0.6**
baz=58,SNR=21
SRU San Rafael 57.65 326 *e*P **P** **02 35 33.4 -0.1**
SRU pmax pmax
comp=Z,17nm,0.6s,mb5.0
SRU San Rafael 57.65 326 *e*P **P** **02 35 33.4 -0.1**
comp=Z,17nm,0.6s,mb5.0
SRU *e*pP pP 02 36 16.3 -0.6
109C Camp Elliot, M 57.65 317 ⇓P **P** **02 35 33.6 +0.1**
baz=58
W12A Cal Nev Ari 57.65 320 ⇓P **P** **02 35 33.8 +0.3**
baz=58
RWWY Rawlins 57.83 331 *e*P **P** **02 35 35.1 +0.3**
comp=Z,79nm,1.3s,mb5.4
RWWY *e*PcP PcP 02 36 24.8 -0.4
RWWY *e*ScP ScP 02 40 06.8 -0.1
MSU Marysvale 58.15 325 *e*P **P** **02 35 37.3 +0.3**
MSU *e*pP pP 02 36 20.3 -0.1
MSU *e*PcP PcP 02 36 27.0 +0.6
TMUT Trail Mountain 58.15 326 *e*P **P** **02 35 36.8 -0.2**
TMUT *e*pP pP 02 36 20.2 -0.2
CCUT Cedar City 58.19 323 *e*P **P** **02 35 38.1 +0.8**
CCUT *e*pP pP 02 36 19.8 -1.0
RSSD Black Hills 58.30 335 *e*P **P** **02 35 37.8 -0.3**
RSSD *e**PP pP 02 36 21.8 +0.3
RSSD pmax pmax
comp=Z,47nm,1.3s,mb5.2
RSSD Black Hills 58.30 335 *e*P **P** **02 35 37.8 -0.2**
comp=Z,47nm,1.3s,mb5.2
RSSD *e*pP pP 02 36 21.8 +0.3
ARUT Antelope Range 58.40 323 *e*P **P** **02 35 39.2 +0.5**
TUQ Turquoise Mtn. 58.41 320 ⇓P **P** **02 35 39.1 +0.3**
baz=58,SNR=22
MPU Maple Canyon 58.89 327 *e*P **P** **02 35 42.2 +0.1**
comp=Z,7.8nm,0.7s,mb4.7
GSC Goldstone 58.89 319 ⇓P **P** **02 35 42.6 +0.5**
baz=59,SNR=22
FMP Fort Macarthur 58.93 317 ⇑P **P** **02 35 42.8 +0.4**
baz=59
DAU Daniels Canyon 58.97 327 *e*P **P** **02 35 42.9 +0.2**
DAU *e* pP 02 36 29.8 +3.6
NLU North Lily Min 59.09 326 *e*P **P** **02 35 43.7 +0.1**
NLU *e*pP pP 02 36 27.1 +0.1
SNCC San Nicolas Is 59.51 316 ⇓P **P** **02 35 46.3 0.0**
baz=60
NOQ North Oquirrh 59.60 327 *e*P **P** **02 35 46.9 -0.1**
DUG Dugway 59.67 326 *e*P **P** **02 35 47.7 +0.3**
DUG *e**PP pP 02 36 31.4 +0.3
DUG pmax pmax
comp=Z,50nm,0.9s,mb5.3
DUG Dugway 59.67 326 *e*P **P** **02 35 47.7 +0.2**
comp=Z,50nm,0.9s,mb5.3
DUG *e*pP pP 02 36 31.4 +0.4
OSI Osito Adit 59.75 317 ⇑P **P** **02 35 47.9 -0.1**
baz=60
BW06 Boulder Array 59.79 330 *e*P **P** **02 35 47.6 -0.7**
comp=Z,59nm,1.5s,mb5.2
BW06 *e*pP pP 02 36 31.9 -0.1
PDAR Pinedale Array 59.79 330 P **P** **02 35 47.7 -0.6**
comp=Z,4.9nm,0.6s,mb4.5,baz=126,slow=7.7,SNR=38
PDAR pP pP 02 36 31.2 -0.8
comp=Z,7.5nm,0.5s,baz=152,slow=6.7,SNR=8.4
HWUT Hardware Ranch 59.98 328 *e*P **P** **02 35 49.0 -0.6**
comp=Z,40nm,0.9s,mb5.2
HWUT *e* pP 02 36 33.0 -0.3
DAC Darwin (Calif) 59.99 320 *e*P **P** **02 35 49.7 0.0**
DAC pmax pmax
comp=Z,28nm,1.2s,mb5.0
DAC Darwin (Calif) 59.99 320 *e*P **P** **02 35 49.7 0.0**
comp=Z,28nm,1.2s,mb5.0
ISA Isabella 60.20 319 ⇓P **P** **02 35 51.4 +0.4**
baz=60,SNR=6.3
SPUT South Promonto 60.24 327 *e*P **P** **02 35 50.9 -0.4**
BGU Big Grassy Mou 60.29 326 *e*P **P** **02 35 51.3 -0.4**
BGU *e*PcP PcP 02 36 34.5 -0.4
P12A McGill 60.37 324 ⇑P **P** **02 35 52.9 +0.7**
baz=60,SNR=16
CWC Cottonwood Cre 60.40 320 P **P** **02 35 53.2 +0.7**
baz=60,SNR=10.0
S09A Goldfield 60.64 321 ⇓P **P** **02 35 54.4 +0.4**
baz=61,SNR=7.2
RKT Rikitea 60.70 248 *e*P **P** **02 35 54.8 +0.3**
comp=Z,97nm,1.2s,mb5.5
ULM Lac du Bonnet 60.72 344 P **P** **02 35 52.9 -1.7**
comp=Z,20nm,0.6s,mb5.1,baz=155,slow=6.5,SNR=52
ULM pP pP 02 36 36.0 -2.4
comp=Z,24nm,0.7s,baz=161,slow=5.6,SNR=9.3
ULM Lac du Bonnet 60.72 344 P **P** **02 35 52.9 -1.7**
ULM pP pP 02 36 36.0 -2.4
HVU Hansel Valley 60.74 327 *e*P **P** **02 35 54.6 -0.1**
HVU pmax pmax
comp=Z,37nm,1.4s,mb5.0
HVU Hansel Valley 60.74 327 *e*P **P** **02 35 54.6 -0.2**
comp=Z,38nm,1.4s,mb5.0
O12A Currie 60.81 325 P **P** **02 35 55.7 +0.5**
baz=61,SNR=23
TPH Tonopah 60.86 322 *e*P **P** **02 35 56.1 +0.5**
TPH pmax pmax
comp=Z,30nm,1.1s,mb5.0
TPH Tonopah 60.86 322 *e*P **P** **02 35 56.1 +0.5**
comp=Z,30nm,1.1s,mb5.0
TIN Tinemaha 60.87 320 ⇑P **P** **02 35 56.2 +0.6**
baz=61,SNR=5.2
REDW Red Top Meadow 60.87 330 *e*P **P** **02 35 55.5 -0.1**
comp=Z,44nm,1.2s,mb5.2
N13A West Wendover 60.89 326 ⇑P **P** **02 35 56.0 +0.2**
baz=61,SNR=6.3
LOHW Long Hollow 60.93 330 *e*P **P** **02 35 55.7 -0.4**
comp=Z,13nm,0.8s,mb4.8
LOHW *e*PcP PcP 02 36 37.1 -0.4
TPAW Teton Pass 61.02 330 *e*P **P** **02 35 55.9 -0.7**
comp=Z,7.6nm,0.6s,mb4.7
MOOW Moose Ponds 61.10 330 *e*P **P** **02 35 56.8 -0.4**
comp=Z,53nm,1.5s,mb5.1
S08C White Mtn Res 61.10 320 ⇓P **P** **02 35 58.0 +0.8**
baz=61,SNR=32
HELL Mitchell Peak 61.15 319 ⇓P **P** **02 35 57.8 +0.3**
baz=61,SNR=26
DCID1 Drake Creek 61.21 330 *e*P **P** **02 35 57.9 0.0**
M13A Montello 61.21 326 ⇓P **P** **02 35 57.5 -0.4**
baz=61,SNR=9.0
V05C Boulder Hill, 61.26 318 ⇓P **P** **02 35 58.8 +0.6**
baz=61
MTUM Tungsten Hills 61.26 320 *e*P **P** **02 35 58.3 0.0**
IMW Indian Meadow 61.31 330 *e*P **P** **02 35 58.4 -0.2**
comp=Z,20nm,0.6s,mb5.1
IMW *e*PcP PcP 02 36 39.1 0.0
Q09A Carvers 61.31 322 ⇑P **P** **02 35 59.2 +0.7**
baz=62
FLWY Flagg Ranch 61.32 330 *e*P **P** **02 35 58.5 -0.1**
comp=Z,21nm,0.7s,mb5.1
N12A Wells--Clov Va 61.36 325 ⇑P **P** **02 35 58.9 0.0**
baz=62
ELK Elko 61.40 325 *e*P **P** **02 35 58.7 -0.5**
ELK *e* pP 02 36 38.5 -4.6
ELK pmax pmax
comp=Z,14nm,0.8s
ELK Elko 61.40 325 *e*P **P** **02 35 58.7 -0.4**
comp=Z,14nm,0.8s,mb4.9
ELK *e*PcP PcP 02 36 38.5 -1.0
LKWY Lake 61.53 331 *e*P **P** **02 36 00.3 +0.2**
LKWY pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LKWY Lake 61.53 331 *e*P **P** **02 36 00.2 +0.2**
comp=Z,9.6nm,0.7s,mb4.7
R08A Mina 61.58 321 ⇑P **P** **02 36 01.1 +0.7**
baz=62,SNR=7.2
MLAC Mammoth Lakes 61.60 320 ⇑P **P** **02 36 01.3 +0.8**

baz=62
MNV Mina 61.66 321 *e*P P **02 36 01.0 +0.1**
MNV *e**PP pP 02 36 44.3 -0.5
MNV pmax pmax
comp=Z,25nm,1.1s,mb5.0
MNV Mina 61.66 321 *e*P P **02 36 01.0 +0.1**
comp=Z,25nm,1.1s,mb5.0
MNV *e*pP pP 02 36 44.2 -0.6
YFT Old Faithful 61.66 331 *e*P P **02 36 02.3 +1.4**
M12A Wells 61.67 326 ⇓P P **02 36 00.7 -0.2**
baz=62,SNR=11
PKD Parkfield 61.73 318 ⇓P P **02 36 01.1 -0.3**
baz=62,SNR=5.1
N11A Elko Archery C 61.74 325 ⇑P P **02 36 01.4 0.0**
baz=62
P09A Austin 61.74 323 ⇑P P **02 36 02.0 +0.5**
baz=62,SNR=8.3
NVAR Mina Array Bea 61.75 321 P P **02 36 02.0 +0.5**
comp=Z,8.9nm,0.8s,mb4.7,baz=135,slow=7.4,SNR=45
V04C Ramage Ranch, 61.77 317 ⇑P P **02 36 01.9 +0.3**
baz=62
Q08A Gabbs 61.79 322 ⇓P P **02 36 01.7 0.0**
baz=62,SNR=16
YMR Madison River 61.88 331 *e*P P **02 36 02.9 +0.5**
comp=Z,24nm,0.6s,mb5.2
YMR *e*PcP PcP 02 36 41.6 +0.2
R07C Lee Vining 62.01 321 ⇑P P **02 36 04.2 +1.0**
baz=62
GCMT Greycliff 62.10 332 *e*P P **02 36 03.7 -0.1**
GCMT *e*pP pP 02 36 48.0 +0.1
U04C Hernandez Rese 62.12 318 ⇑P P **02 36 04.1 +0.2**
baz=62,SNR=8.9
O09A Fish Creek Ran 62.16 323 ⇓P P **02 36 04.6 +0.4**
baz=62,SNR=15
QLMT Earthquake Lak 62.23 331 *e*P P **02 36 05.3 +0.6**
QLMT *e*pP pP 02 36 49.6 +0.9
V03C Hunter Liggett 62.24 317 ⇑P P **02 36 05.5 +0.8**
baz=62
BMN Battle Mountai 62.35 324 *e*P P **02 36 05.3 -0.2**
BMN *e**PP pP 02 36 49.5 0.0
BMN pmax pmax
comp=Z,20nm,1.0s,mb4.9
BMN Battle Mountai 62.35 324 *e*P P **02 36 05.3 -0.2**
comp=Z,20nm,1.0s,mb4.9
BMN *e*pP pP 02 36 49.5 +0.1
P08A Dixie Valley 62.39 322 ⇓P P **02 36 06.4 +0.7**
baz=62,SNR=7.0
S05C Merced 62.40 319 ⇓P P **02 36 06.0 +0.2**
baz=62
S06C San Francisco 62.40 320 ⇑P P **02 36 06.2 +0.4**
baz=62
SCHQ Schefferville 62.42 4 P P **02 36 05.7 -0.3**
comp=Z,22nm,0.6s,mb5.1,baz=189,slow=5.1,SNR=74
SCHQ Schefferville 62.42 4 *e*P P **02 36 05.5 -0.5**
comp=Z,49nm,0.9s,mb5.3
SCHQ *e*PcP PcP 02 36 41.9 -1.7
SCHQ *e*pP pP 02 36 49.0 -1.0
R06C Coleville 62.52 321 ⇑P P **02 36 07.6 +1.0**
baz=63
HAST Hastings Reser 62.65 318 ⇓P P **02 36 07.7 +0.2**
baz=63,SNR=11
M10A I.L. Ranch, Tu 62.65 325 ⇓P P **02 36 07.4 0.0**
baz=63
N09A Rock Creek Ran 62.79 324 ⇓P P **02 36 07.9 -0.4**
baz=63
P07A Fallon 62.79 322 ⇓P P **02 36 09.0 +0.6**
baz=63
PACP Pacheco Peak 62.82 318 ⇓P P **02 36 09.1 +0.5**
baz=63,SNR=7.2
CMB Columbia Colle 62.83 320 *e*P P **02 36 07.9 -0.8**
CMB pmax pmax
comp=Z,16nm,1.1s,mb4.8
CMB Columbia Colle 62.83 320 *e*P P **02 36 07.9 -0.7**
comp=Z,16nm,1.1s,mb4.8
CMB Columbia Colle 62.83 320 ⇑P P **02 36 08.5 -0.1**
baz=63
HLID Hailey 62.85 328 *e*P P **02 36 08.9 +0.1**
comp=Z,9.8nm,0.8s,mb4.7
HLID *e*PcP PcP 02 36 45.3 0.0
HLID *e*pP pP 02 36 52.8 -0.1
BOZ Bozeman (W) 62.92 331 *e*P P **02 36 08.9 -0.4**
BOZ pmax pmax
comp=Z,36nm,1.2s,mb5.1
BOZ Bozeman (W) 62.92 331 *e*P P **02 36 08.8 -0.4**
comp=Z,36nm,1.2s,mb5.1
BOZ *e*pP pP 02 36 53.3 0.0
MCMT McKenzie Canyo 62.93 330 *e*P P **02 36 09.7 +0.4**
MCMT *e*PcP PcP 02 36 46.1 +0.4
MCMT *e*pP pP 02 36 53.4 0.0
R05C Kirkwood Meado 63.03 321 ⇑P P **02 36 10.7 +0.7**
baz=63,SNR=9.7
M09A Marrel Ranch, 63.11 324 ⇑P P **02 36 10.7 +0.2**
baz=63
S04C Ingram Canyon, 63.13 319 ⇓P P **02 36 11.0 +0.3**
baz=63
O07A Toulon 63.17 322 ⇓P P **02 36 10.7 -0.2**
baz=63,SNR=12
WCN Washoe City 63.18 321 ⇑P P **02 36 11.9 +0.9**
baz=63
DLMT Dillon 63.18 330 *e*P P **02 36 10.5 -0.5**
comp=Z,27nm,1.1s,mb5.0
DLMT *e*PcP PcP 02 36 46.1 -0.6
DLMT *e*pP pP 02 36 55.2 +0.1
PAHR Pah Rah Range 63.20 322 *e*P P **02 36 11.5 +0.4**
comp=Z,128nm,1.6s,mb5.5
PAHR *e*pP pP 02 36 55.5 +0.3
R04C Big Horse Ranc 63.32 320 ⇑P P **02 36 12.7 +0.9**
baz=63,SNR=5.2
BNLO Ben Lomond 63.48 318 ⇓P P **02 36 13.3 +0.4**
baz=64
LAVA Lava Cap Winer 63.48 320 ⇑P P **02 36 13.0 +0.1**
baz=64,SNR=7.9
WENL Wente Brothers 63.48 319 ⇑P P **02 36 13.8 +0.9**
baz=64
P06A Stead Airport, 63.50 321 ⇓P P **02 36 13.8 +0.8**
baz=64
L09A Wilkinson Ranc 63.62 325 ⇓P P **02 36 14.1 +0.2**
baz=64
M08A Happy Creek Ra 63.67 324 ⇓P P **02 36 14.0 -0.2**
baz=64,SNR=15
P05C Yuba Gap, Truc 63.71 321 P P **02 36 15.2 +0.7**
baz=64,SNR=8.7
BDM Black Diamond 63.74 319 ⇓P P **02 36 15.5 +0.8**
baz=64
O06A Flanigan 63.74 322 ⇑P P **02 36 14.8 +0.2**
baz=64,SNR=15
HRY Holter Researc 63.79 332 *e*P P **02 36 14.8 -0.2**
EGMT Eagleton 63.83 334 *e*P P **02 36 14.8 -0.4**
comp=Z,35nm,1.0s,mb5.1
EGMT *e*PcP PcP 02 36 48.7 -0.7
EGMT *e*pP pP 02 36 59.5 +0.1
Q04C Lincoln 63.93 320 ⇓P P **02 36 16.8 +0.9**
baz=64
M07A Soldier Meadow 64.10 323 ⇑P P **02 36 16.6 -0.3**
baz=64,SNR=8.7
Q03C Winters 64.22 319 ⇑P P **02 36 18.9 +1.1**
baz=64
OHCM Honcut 64.28 320 *e*P P **02 36 18.2 0.0**
OHCM *e*pP pP 02 37 02.0 -0.4
O05C Quincy 64.30 321 ⇓P P **02 36 18.8 +0.5**
baz=64,SNR=7.9
CVS Carmenet Viney 64.34 319 ⇓P P **02 36 18.8 +0.2**
baz=64
SUTB Sutter Buttes 64.42 320 ⇑P P **02 36 19.1 +0.1**
baz=64
ORV Oroville 64.42 321 ⇑P P **02 36 19.6 +0.6**
baz=65
WVOR Wild Horse Val 64.44 325 *e*P P **02 36 19.1 -0.1**
WVOR pmax pmax
comp=Z,32nm,1.3s,mb5.0
WVOR Wild Horse Val 64.44 325 *e*P P **02 36 19.1 -0.1**
comp=Z,32nm,1.3s,mb5.0
WVOR *e*pP pP 02 37 03.0 -0.5
MCCM Marconi Confer 64.51 319 ⇑P P **02 36 19.9 +0.3**
baz=65
ELFS Eagle Lake Fie 64.57 322 ⇓P P **02 36 20.7 +0.7**
baz=65
O04C Chester 64.61 321 ⇑P P **02 36 20.7 +0.4**
baz=65
CHMT Chamberlain Mo 64.61 331 *e*P P **02 36 20.2 -0.1**
MNRC McLaughlin Nat 64.64 319 ⇑P P **02 36 20.8 +0.4**
baz=65
M06C Likely Place G 64.76 323 ⇓P P **02 36 21.3 +0.1**
baz=65,SNR=7.0
MSO Missoula 64.88 331 *e*P P **02 36 21.8 -0.3**
comp=Z,33nm,1.1s,mb5.1
MSO *e*pP pP 02 37 06.3 -0.1

O03C Acorn Hollow, 65.01 321 ⇓P P **02 36 22.7 -0.2**
baz=65
LBCM Butte Creek Ri 65.08 322 P P **02 36 23.3 0.0**
MOD Modoc 65.08 323 *e*P P **02 36 23.1 -0.3**
comp=Z,55nm,1.5s,mb5.2
HOPS Hopland 65.11 319 ⇑P P **02 36 24.0 +0.5**
baz=65
HATC Hat Creek Radi 65.13 322 ⇓P P **02 36 23.7 0.0**
baz=65,SNR=8.5
GASB Alder Springs 65.25 320 ⇑P P **02 36 25.1 +0.7**
baz=65
M05C Lookout 65.26 322 P P **02 36 24.7 +0.2**
baz=65,SNR=30
CCAN Las Canadas 65.54 54 P P **02 36 27.9 +1.6**
comp=Z,6.4nm,1.0s,mb4.4
P01C Double 8 Ranch 65.54 320 ⇓P P **02 36 27.0 +0.7**
baz=66
O02C Red Bluff 65.59 321 ⇑P P **02 36 26.9 +0.3**
baz=66
K06A Valley Falls 65.60 324 ⇓P P **02 36 27.1 +0.4**
baz=66
WDC Whiskeytown Da 65.66 321 *e*P P **02 36 25.1 -2.0**
WDC pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
WDC Whiskeytown Da 65.66 321 *e*P P **02 36 25.1 -2.0**
comp=Z,6.5nm,0.5s,mb4.7
WDC *e*pP pP 02 37 09.9 -1.6
WDC Whiskeytown Da 65.66 321 ⇓P P **02 36 25.3 -1.8**
baz=66
M03C McCloud 65.80 322 ⇓P P **02 36 27.3 -0.7**
baz=66
J06A Christmas Vall 65.82 324 ⇓P P **02 36 28.1 0.0**
baz=66
M04C Macdoel 65.93 322 ⇑P P **02 36 28.8 +0.1**
baz=66
BSMT Bassoo Peak 66.01 331 P P **02 36 29.8 +0.5**
O01C Eel River Cons 66.22 320 ⇓P P **02 36 31.2 +0.5**
baz=66
I06A Prineville 66.28 325 ⇑P P **02 36 31.8 +0.8**
baz=66
N02C Big Bar 66.28 321 ⇓P P **02 36 31.2 +0.1**
baz=66
M02C Callahan 66.32 322 ⇓P P **02 36 30.5 -0.8**
baz=66
K04A Chilquin 66.35 323 ⇑P P **02 36 31.4 0.0**
baz=66
FFC Flin Flon 66.43 343 *e*P P **02 36 30.9 -1.0**
FFC pmax pmax
comp=Z,53nm,1.4s,mb5.2
FFC Flin Flon 66.43 343 *e*P P **02 36 30.9 -1.1**
comp=Z,53nm,1.4s,mb5.2
YBH Yreka Blue Hor 66.43 322 *e*P P **02 36 30.3 -1.7**
YBH *e* 02 36 59.2
YBH pmax pmax
comp=Z,7.0nm,0.8s
YBH Yreka Blue Hor 66.43 322 *e*P P **02 36 30.3 -1.7**
comp=Z,6.9nm,0.8s,mb4.5
YBH *e*PcP PcP 02 36 59.2 -0.9
YBH *e*pP pP 02 37 15.2 -1.3
YBH Yreka Blue Hor 66.43 322 ⇑P P **02 36 30.7 -1.3**
baz=67
WALA Waterton Lakes 66.46 332 *e*P P **02 36 31.7 -0.5**
comp=Z,38nm,0.8s,mb5.3
WALA *e*PcP PcP 02 37 00.1 -0.2
WALA *e*pP pP 02 37 15.7 -1.0
KHMM Horse Mountain 66.58 321 *e*P P **02 36 33.5 +0.6**
KHMM *e*pP pP 02 37 17.8 +0.4
JCC Jacoby Creek 66.73 320 ⇑P P **02 36 34.3 +0.4**
baz=67
I05A Bend 67.01 325 ⇑P P **02 36 36.2 +0.6**
baz=67
HUMO Hull Mountain 67.09 323 *e*P P **02 36 34.8 -1.3**
comp=Z,6.2nm,0.9s,mb4.4
L02A Cave Junction 67.22 322 ⇓P P **02 36 36.8 -0.1**
baz=67
M01C Crescent City 67.36 321 ⇑P P **02 36 38.3 +0.4**
baz=68
NEW Newport 67.44 330 *e*P P **02 36 37.1 -1.2**
NEW pmax pmax
comp=Z,15nm,1.1s
NEW Newport 67.44 330 *e*P P **02 36 37.1 -1.2**
comp=Z,15nm,1.1s,mb4.7
HAWA Hanford 67.44 327 *e*P P **02 36 38.2 -0.1**
comp=Z,2.2nm,1.4s,mb3.8
K02A Glendale 67.50 322 ⇑P P **02 36 38.5 -0.2**
baz=68,SNR=16
OD2 Odessa Site #2 67.66 329 P P **02 36 40.1 +0.5**
CFTV Fuerteventura 67.66 55 P P **02 36 39.0 -0.6**
comp=Z,6.2nm,0.8s,mb4.4
G05A Wamic 67.70 326 ⇑P P **02 36 40.8 +0.8**
baz=68
BROR Big Rock Looko 67.76 324 P P **02 36 39.9 -0.5**
H04A Detroit Lake 67.85 325 ⇑P P **02 36 40.4 -0.5**
baz=68
J02A Umpqua 67.89 323 ⇓P P **02 36 41.4 +0.2**
baz=68
I03A Eugene 68.07 324 ⇑P P **02 36 42.1 -0.2**
baz=68,SNR=6.2
FCC Fort Churchill 68.12 349 *e*P P **02 36 41.4 -1.2**
FCC *e* 02 37 06.1
FCC pmax pmax
comp=Z,46nm,1.1s,mb5.1
FCC Fort Churchill 68.12 349 *e*P P **02 36 41.4 -1.1**
comp=Z,46nm,1.1s,mb5.1
FCC *e*PcP PcP 02 37 06.1 -1.0
F05A White Salmon 68.17 326 ⇓P P **02 36 43.2 +0.3**
baz=68
G04A Mulino 68.33 325 ⇓P P **02 36 43.8 -0.1**
baz=68
H03A Soap Creek Ran 68.49 324 ⇓P P **02 36 45.2 +0.4**
baz=69,SNR=7.2
F04A Amboy 68.73 326 ⇑P P **02 36 46.3 -0.1**
baz=69
E05A Randle 68.75 327 ⇑P P **02 36 46.3 -0.1**
baz=69
EDM Edmonton 69.24 336 *e*P P **02 36 48.3 -1.2**
D05A Enumclaw 69.26 327 ⇑P P **02 36 49.5 -0.1**
baz=69,SNR=11
E04A Onalaska 69.30 326 ⇓P P **02 36 50.0 +0.1**
baz=70
PNT Penticton 69.37 330 P P **02 36 50.6 +0.3**
F03A Seaside 69.37 325 ⇓P P **02 36 50.7 +0.4**
baz=70
B05A Bryant 69.97 328 ⇓P P **02 36 53.3 -0.7**
baz=70,SNR=12
DBIC Dimbokro 70.08 80 P P **02 36 54.9 +0.3**
comp=Z,12nm,0.4s,mb5.0,baz=232,slow=6.7,SNR=61
DBIC pP pP 02 37 41.5 +1.9
comp=Z,107nm,0.9s,baz=239,slow=5.7,SNR=21
DBIC Dimbokro 70.08 80 P P **02 36 54.9 +0.3**
DBIC pmax pmax
comp=Z,12nm,0.4s
DBIC pmax pmax
comp=Z,107nm,0.9s
DBIC Dimbokro 70.08 80 *e*P P **02 36 54.6 0.0**
comp=Z,14nm,0.4s,mb5.0
D03A Wishkah Elem. 70.19 326 ⇑P P **02 36 54.8 -0.5**
baz=70
MBW Mount Baker 70.19 328 P P **02 36 55.0 -0.3**
A05A Maple Falls 70.42 328 ⇓P P **02 36 56.3 -0.4**
baz=71
A04A Legoe Bay, Lum 70.58 328 ⇑P P **02 36 57.8 +0.2**
baz=71
B04A Port Angeles 70.60 327 ⇑P P **02 36 58.0 +0.2**
baz=71
PGC Sidney 70.93 328 *e*P P **02 36 59.7 0.0**
comp=Z,126nm,1.6s,mb5.4
C03A Quillayute Air 71.11 327 ⇓P P **02 37 01.8 +1.0**
baz=71
PMOR Pomariorio Ree 72.89 257 *e*P P **02 37 12.1 +0.7**
comp=Z,72nm,0.8s,mb5.4
PMOR *e*pP pP 02 37 55.9 -0.9
comp=Z,35nm,1.0s
PAE Paea 74.36 254 *e*P P **02 37 20.6 +0.6**
comp=Z,50nm,0.9s,mb5.2
PPT Papeete 74.36 254 *e*P P **02 37 20.8 +0.8**
comp=Z,56nm,1.5s,mb5.1
PPT *e*pP pP 02 38 02.8 -2.7
comp=Z,32nm,1.3s
PPT Papeete 74.36 254 P P **02 37 20.7 +0.8**
comp=Z,8.7nm,0.3s,mb5.0,baz=54,slow=18,SNR=3.3
PPT LR LR 03 02 56.7
comp=Z,64nm,20.4s,baz=123,slow=30
VNA3 Neumayer Olymp 74.68 162 ⇓*i*P P **02 37 22.0 +0.2**
VNA3 *e* 02 37 23.1
VNA3 *e* 02 37 29.0
VNA3 *e* 02 37 32.5
VNA3 *e* 02 37 35.0
VNA3 *e* pP 02 38 06.8 -0.6
VNA3 *e* pP 02 38 09.7 +2.3
VNA3 *e* 02 38 14.8
VNA3 *e* 02 38 26.7
VNA3 *e* 02 40 11.8
VNA1 Neumayer--Stat 74.89 162 ⇓*i*P P **02 37 23.7 +0.7**
VNA1 *e* 02 37 24.5
VNA1 *e* 02 37 30.9
VNA1 *e* 02 37 37.0
VNA1 *e* pP 02 38 08.1 -0.5
VNA1 *e* pP 02 38 11.2 +2.6
VNA1 *e* 02 38 18.6
VNA1 *e* 02 38 25.8
VNA2 Neumayer--Watz 75.25 162 ⇓*i*P P **02 37 25.2 +0.1**
baz=275,slow=6.0
VNA2 *e* 02 37 26.0
VNA2 *e* 02 37 32.1
VNA2 *e* 02 37 35.6
VNA2 *e* 02 37 38.2
VNA2 *e* pP 02 38 10.4 -0.3
VNA2 *e* pP 02 38 13.0 +2.3
VNA2 *e* 02 38 20.0
VNA2 *e* 02 38 29.2
VNA2 *e* 02 40 17.3
PTEO Sao Teotonio 75.27 48 *e*P P **02 37 25.7 +0.5**
comp=Z,50nm,1.4s,mb5.0
PTEO *e*pP pP 02 38 13.6 +2.8
PLOU Loures 75.46 47 *e*P P **02 37 26.0 -0.3**
comp=Z,47nm,1.1s,mb5.0
PLOU *e*pP pP 02 38 14.4 +2.5
MOE Montemor 75.90 47 *e*P P **02 37 30.0 +1.2**
PBEJ Beja 76.08 48 *e*P P **02 37 30.0 +0.2**
comp=Z,21nm,1.3s,mb4.6
PBEJ *e*pP pP 02 38 16.5 +1.0
EVO Evora 76.15 47 *e*P P **02 37 30.4 +0.2**
comp=Z,34nm,0.9s,mb4.7
EVO *e*pP pP 02 38 16.0 +0.1
SFJD Kangerlussuaq 76.21 9 *i*P P **02 37 29.2 -1.3**
comp=Z,31nm,0.6s,mb5.1
SFJD Kangerlussuaq 76.21 9 *i*P P **02 37 29.2 -1.3**
SFJD pmax pmax
comp=Z,31nm,0.6s,mb5.1
PTOM Tomar 76.27 46 *e*P P **02 37 30.6 -0.2**
comp=Z,20nm,1.6s,mb4.5
PTOM *e*pP pP 02 38 16.9 +0.3
YKA Yellowknife Ar 76.58 342 P P **02 37 31.6 -1.0**
comp=Z,16nm,0.5s,mb4.9,baz=142,slow=6.0,SNR=178
YKA pP pP 02 38 16.0 -2.3
comp=Z,21nm,0.7s,baz=139,slow=5.8,SNR=12
YKW3 Yellowknife Ar 76.64 342 *e*P P **02 37 31.4 -1.5**
PTO Porto 76.71 45 *e*P P **02 37 33.9 +0.6**
MDT Midelt 76.83 54 P P **02 37 35.4 +1.4**
comp=Z,10nm,0.9s,mb4.5,baz=263,slow=5.5,SNR=26
MDT pP pP 02 38 21.0 +1.2
comp=Z,28nm,1.0s,baz=274,slow=5.8,SNR=15
SNAA Sanae 76.88 162 ⇓*i*P P **02 37 22.3 -12**
SNAA *e* 02 37 23.1
SNAA *e* 02 37 29.4
SNAA *e* 02 37 32.5
SNAA *e* 02 37 35.5
SNAA *e* pP 02 38 06.8 -13
SNAA *e* pP 02 38 09.1 -11
SNAA *e* 02 38 25.9
EBAD Badajoz 76.96 47 P P **02 37 35.7 +1.0**
comp=Z,88nm,2.4s,mb5.0
PCBR Castelo Branco 77.02 46 *e*P P **02 37 34.5 -0.5**
comp=Z,20nm,1.1s,mb4.7
PCBR *e*pP pP 02 38 21.3 +0.4
EZAM Zamans 77.03 44 P P **02 37 35.1 0.0**
EZAM pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
EZAM Zamans 77.03 44 P P **02 37 35.1 0.0**
comp=Z,6.0nm,0.6s,mb4.4
PVIS Viseu 77.04 45 *e*P P **02 37 35.5 +0.3**
comp=Z,28nm,1.7s,mb4.6
PVIS *e*pP pP 02 38 22.4 +1.4
ESPR Espera 77.17 50 P P **02 37 36.6 +0.7**
comp=Z,29nm,1.0s,mb4.9
MTE Manteigas 77.17 46 *e*P P **02 37 36.2 +0.3**
comp=Z,17nm,0.8s,mb4.7
MTE *i*pP pP 02 38 21.3 -0.4
PVRL Vila Real 77.38 45 *e*P P **02 37 37.1 +0.1**
comp=Z,24nm,1.9s,mb4.5
TORD Torodi Ar. Bea 77.62 75 P P **02 37 38.2 -0.2**
comp=Z,16nm,0.7s,mb4.8,baz=229,slow=3.0,SNR=189
TORD pP pP 02 38 24.6 +0.3
comp=Z,73nm,1.0s,baz=272,slow=4.8,SNR=22
EMIJ Mijas 77.89 50 P P **02 37 40.9 +1.0**
comp=Z,22nm,0.7s,mb4.9
PBRG Braganca 78.25 45 *e*P P **02 37 42.1 +0.2**
comp=Z,14nm,2.2s,mb4.2
PBRG *e*pP pP 02 38 28.2 +0.4
ELOJ Sierra Loja 78.55 50 P P **02 37 45.1 +1.6**
ELOJ pmax pmax
comp=Z,29nm,1.0s,mb4.9
ELOJ Sierra Loja 78.55 50 P P **02 37 45.1 +1.6**
comp=Z,29nm,1.0s,mb4.9
EADA Adamuz 78.56 49 P P **02 37 44.2 +0.6**
comp=Z,45nm,1.3s,mb4.9
ERON Agron 78.77 50 P P **02 37 45.9 +1.2**
comp=Z,19nm,0.7s,mb4.8
EGUA Guajares 78.90 50 P P **02 37 46.5 +1.1**
EGUA pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
EGUA Guajares 78.90 50 P P **02 37 46.5 +1.1**
comp=Z,1.9nm,0.8s,mb3.8
EBAN Banos Encina 79.15 49 P P **02 37 47.6 +0.8**
EBAN pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
EBAN Banos Encina 79.15 49 P P **02 37 47.6 +0.8**
comp=Z,7.9nm,0.8s,mb4.4
EBER Berja 79.43 50 P P **02 37 49.7 +1.4**
comp=Z,52nm,1.1s,mb5.1
ESDC Sonseca Array 79.50 47 P P **02 37 49.2 +0.5**
comp=Z,8.7nm,0.8s,mb4.4,baz=255,slow=6.2,SNR=32
ESDC pP pP 02 38 35.0 +0.2
comp=Z,5.0nm,0.8s,baz=254,slow=5.7,SNR=5.9
ESDC Sonseca Array 79.50 47 P P **02 37 49.4 +0.7**
comp=Z,9.8nm,0.5s,mb4.7
ESLA Sonseca Array 79.50 47 *e*P P **02 37 49.3 +0.6**
comp=Z,22nm,1.6s,mb4.5
EQES Quesada 79.57 49 P P **02 37 50.0 +0.9**
comp=Z,27nm,0.8s,mb4.9
GUD Guadarrama 79.68 46 P P **02 37 50.5 +0.9**
GUD pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
GUD Guadarrama 79.68 46 P P **02 37 50.5 +0.8**
comp=Z,7.3nm,0.8s,mb4.4
DLBC Dease Lake 79.76 334 *e*P P **02 37 49.9 -0.2**
EARI Arriondas 79.84 44 P P **02 37 50.8 +0.3**
comp=Z,82nm,1.5s,mb5.1
EVIA Vianos 80.25 49 P P **02 37 54.3 +1.6**
EVIA pmax pmax
comp=Z,51nm,0.8s,mb5.2
EVIA Vianos 80.25 49 P P **02 37 54.3 +1.6**
comp=Z,51nm,0.8s,mb5.2
ETOB Tobarra 80.97 49 P P **02 37 57.4 +0.9**
comp=Z,39nm,1.1s,mb5.0
ETOR Torete 81.25 47 P P **02 37 58.8 +0.8**
ETOR pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
ETOR Torete 81.25 47 P P **02 37 58.8 +0.8**
comp=Z,2.4nm,0.7s,mb3.9
MAIT Maitri 81.40 160 *e*P P **02 37 59.6 +0.8**
NVL N'lazarevskaya 81.43 160 *d i*P P **02 37 58.9 0.0**
NVL pmax pmax
comp=Z,84nm,1.5s,mb5.2
NVL pmax pmax
comp=N,14nm,1.4s
NVL pmax pmax
comp=E,19nm,1.4s
NVL pmax pmax
comp=Z,37nm,1.0s,mb5.0
ECHE Chera 81.68 48 P P **02 38 01.4 +1.2**
ECHE pmax pmax
comp=Z,19nm,1.0s,mb4.7
ECHE Chera 81.68 48 P P **02 38 01.4 +1.1**
comp=Z,19nm,1.0s,mb4.7
BORG Borgarnes 81.85 20 *e*P P **02 38 01.8 +0.7**
comp=Z,100nm,1.0s,mb5.4
EBEN Beniarda 81.98 49 P P **02 38 03.0 +1.2**
comp=Z,81nm,1.0s,mb5.3
EANR 'Ain N'Sour 82.25 52 P P **02 38 05.8 +2.6**
ETRT Tiaret 82.26 53 P P **02 38 05.5 +2.2**

EMOS Mosqueruela 82.27 48 P P 02 38 04.0 +0.7
comp=Z,34nm,1.0s,mb4.9
DCN Croghan 82.33 34⇑ *i*P P 02 38 03.4 -0.2
SJPF Ste Jean 82.54 45 *e*P P 02 38 05.3 +0.6
comp=Z,30nm,0.9s,mb4.7
SJPF *e*pP pP 02 38 52.0 +0.9
SJPF Ste Jean 82.54 45 *e*P P 02 38 05.3 +0.6
SJPF pmax pmax
comp=Z,15nm,0.9s,mb4.7
SJPF Ste Jean 82.54 45 *e*P P 02 38 05.3 +0.6
comp=Z,15nm,0.9s,mb4.7
SJPF *e*pP pP 02 38 52.0 +0.9
QSPA South Pole Qui 82.55 180⇓ *i*P P 02 38 05.0 +0.2
comp=Z,104nm,1.1s,mb5.5
ESAC San Caprasio 82.66 46 P P 02 38 05.9 +0.6
comp=Z,31nm,0.5s,mb5.3
DLF Lyons Farm 82.73 34⇑ *i*P P 02 38 05.5 -0.2
QUIF Quistinic 82.77 40 *e*P P 02 38 05.3 -0.6
comp=Z,76nm,1.3s,mb5.0
QUIF Quistinic 82.77 40 *e*P P 02 38 05.3 -0.6
QUIF pmax pmax
comp=Z,38nm,1.3s,mb5.0
QUIF Quistinic 82.77 40 *e*P P 02 38 05.3 -0.6
comp=Z,38nm,1.3s,mb5.0
ROSF Rostrenen 82.85 39 *e*P P 02 38 05.9 -0.4
comp=Z,48nm,1.1s,mb4.8
ROSF *e*pP pP 02 38 52.1 -0.6
ROSF Rostrenen 82.85 39 *e*P P 02 38 05.9 -0.4
ROSF pmax pmax
comp=Z,24nm,1.1s,mb4.8
ROSF Rostrenen 82.85 39 *e*P P 02 38 05.9 -0.4
comp=Z,24nm,1.1s,mb4.8
ROSF *e*pP pP 02 38 52.1 -0.6
ETSF Etsaut 82.94 45 *e*P P 02 38 07.4 +0.6
comp=Z,16nm,0.8s,mb4.5
ETSF Etsaut 82.94 45 *e*P P 02 38 07.4 +0.6
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
ETSF Etsaut 82.94 45 *e*P P 02 38 07.4 +0.6
comp=Z,8.3nm,0.8s,mb4.5
ERTA Horta de San J 83.02 47 P P 02 38 08.2 +1.0
comp=Z,59nm,0.9s,mb5.3
EBR Ebro Roquetas 83.10 47 *e*P P 02 38 08.6 +1.0
REYF Montagne du Re 83.11 45 *e*P P 02 38 08.5 +0.9
RES Resolute Bay 83.13 354 *e*P P 02 38 07.0 -0.7
RES pmax pmax
comp=Z,47nm,1.5s,mb5.0
RES Resolute Bay 83.13 354 *e*P P 02 38 07.0 -0.8
comp=Z,47nm,1.5s,mb5.0
SUMG Summit 83.14 10 *e*P P 02 38 08.0 +0.2
comp=Z,134nm,0.8s,mb5.7
SGMF Saint Gilles 83.27 40 *e*P P 02 38 08.0 -0.5
comp=Z,61nm,1.2s,mb4.9
SGMF Saint Gilles 83.27 40 *e*P P 02 38 08.0 -0.5
SGMF pmax pmax
comp=Z,31nm,1.2s,mb4.9
SGMF Saint Gilles 83.27 40 *e*P P 02 38 08.0 -0.5
comp=Z,31nm,1.2s,mb4.9
EGRA Graus 83.36 46 P P 02 38 09.4 +0.6
comp=Z,16nm,0.7s,mb4.9
EBIE Bielsa 83.37 45 P P 02 38 10.1 +1.1
comp=Z,72nm,1.5s,mb5.2
LABF Labassere 83.43 45 *e*P P 02 38 10.0 +0.7
RESF Ens 83.54 45 *e*P P 02 38 10.9 +1.0
EPF Esparros 83.61 45 *e*P P 02 38 10.7 +0.5
EPF *e*pP pP 02 38 57.6 +0.9
EPOB Poblet 83.67 47 P P 02 38 10.7 +0.2
comp=Z,44nm,1.2s,mb5.1
EMHD Djebel Mahouad 83.77 52 P P 02 38 12.5 +1.5
SALF Salau 84.13 46 *e*P P 02 38 13.7 +0.9
MFF Saint Martin d 84.31 42 *e*P P 02 38 13.5 -0.2
comp=Z,100nm,1.1s,mb5.2
MFF Saint Martin d 84.31 42 *e*P P 02 38 13.5 -0.2
MFF pmax pmax
comp=Z,50nm,1.1s,mb5.2
MFF Saint Martin d 84.31 42 *e*P P 02 38 13.5 -0.2
comp=Z,50nm,1.1s,mb5.2
GRR Gorron 84.39 40 *e*P P 02 38 13.5 -0.6
comp=Z,58nm,0.8s,mb5.0
GRR *e*pP pP 02 38 59.8 -0.9
GRR Gorron 84.39 40 *e*P P 02 38 13.5 -0.6
GRR pmax pmax
comp=Z,29nm,0.8s,mb5.1
GRR Gorron 84.39 40 *e*P P 02 38 13.5 -0.6
comp=Z,29nm,0.8s,mb5.1
GRR *e*pP pP 02 38 59.8 -0.9
LFF La Frestale 84.42 43 *e*P P 02 38 14.2 -0.1
comp=Z,45nm,0.6s,mb5.0
LFF La Frestale 84.42 43 *e*P P 02 38 14.2 -0.1
LFF pmax pmax
comp=Z,22nm,0.6s,mb5.1
LFF La Frestale 84.42 43 *e*P P 02 38 14.2 -0.1
comp=Z,22nm,0.6s,mb5.1
ETOS Mallorca 84.53 49 P P 02 38 15.8 +0.9
comp=Z,18nm,1.0s,mb4.8
FLN La Foliniere 84.74 40 *e*P P 02 38 15.5 -0.4
comp=Z,87nm,0.9s,mb5.2
FLN *e*pP pP 02 39 01.9 -0.6
FLN La Foliniere 84.74 40 *e*P P 02 38 15.5 -0.4
FLN pmax pmax
comp=Z,43nm,0.9s,mb5.2
FLN La Foliniere 84.74 40 *e*P P 02 38 15.5 -0.4
comp=Z,44nm,0.9s,mb5.2
FLN *e*pP pP 02 39 01.9 -0.6
LDF La Druitiere 84.92 40 *e*P P 02 38 16.3 -0.5
comp=Z,83nm,1.0s,mb5.1
LDF La Druitiere 84.92 40 *e*P P 02 38 16.3 -0.5
LDF pmax pmax
comp=Z,42nm,1.0s,mb5.1
LDF La Druitiere 84.92 40 *e*P P 02 38 16.3 -0.5
comp=Z,42nm,1.0s,mb5.1
MTLF Montolieu 85.01 45 *e*P P 02 38 16.7 -0.6
RJF Les Rejaudoux 85.05 43 *e*P P 02 38 17.1 -0.3
comp=Z,73nm,1.1s,mb5.0
RJF Les Rejaudoux 85.05 43 *e*P P 02 38 17.1 -0.3
RJF pmax pmax
comp=Z,37nm,1.1s,mb5.0
RJF Les Rejaudoux 85.05 43 *e*P P 02 38 17.1 -0.3
comp=Z,36nm,1.1s,mb5.0
SCO Scoresbysund 85.22 15 *i* P P 02 38 18.3 0.0
comp=Z,16nm,0.7s,mb4.8
SCO Scoresbysund 85.22 15 *i* P P 02 38 18.3 0.0
SCO pmax pmax
comp=Z,16nm,0.7s,mb4.9
ESK Eskdalemuir 85.28 33 *e*P P 02 38 17.7 -0.9
ESK pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
ESK Eskdalemuir 85.28 33 *e*P P 02 38 17.7 -0.9
comp=Z,10nm,1.0s,mb4.5
CAF Calviac 85.33 44 *e*P P 02 38 18.3 -0.5
comp=Z,16nm,0.6s,mb4.6
CAF Calviac 85.33 44 *e*P P 02 38 18.3 -0.5
CAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
CAF Calviac 85.33 44 *e*P P 02 38 18.3 -0.5
comp=Z,8.0nm,0.6s,mb4.6
TCF Toulx Ste Croi 85.79 42 *e*P P 02 38 20.3 -0.8
comp=Z,23nm,1.1s,mb4.5
TCF *e*pP pP 02 39 07.1 -0.7
TCF Toulx Ste Croi 85.79 42 *e*P P 02 38 20.3 -0.8
TCF pmax pmax
comp=Z,12nm,1.1s,mb4.5
TCF Toulx Ste Croi 85.79 42 *e*P P 02 38 20.3 -0.8
comp=Z,12nm,1.1s,mb4.5
TCF *e*pP pP 02 39 07.1 -0.7
PYM Petit Puy Mans 86.18 43 *e*P P 02 38 22.5 -0.5
LBL Lubilhac 86.21 44 *e*P P 02 38 23.6 +0.4
BGF Bois d'Agland 86.28 42 *e*P P 02 38 22.8 -0.7
comp=Z,21nm,0.8s,mb4.6
BGF *e*pP pP 02 39 09.7 -0.6
BGF Bois d'Agland 86.28 42 *e*P P 02 38 22.8 -0.7
BGF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
BGF Bois d'Agland 86.28 42 *e*P P 02 38 22.8 -0.7
comp=Z,10nm,0.8s,mb4.6
BGF *e*pP pP 02 39 09.7 -0.6
HYF Humbligny 86.33 42 *e*P P 02 38 23.3 -0.4
INK Inuvik 86.34 341 *e*P P 02 38 22.7 -1.1
INK pmax pmax
comp=Z,43nm,0.9s
INK Inuvik 86.34 341 *e*P P 02 38 22.7 -1.0
comp=Z,43nm,0.9s,mb5.2
INK *e*pP pP 02 39 08.9 -1.7
AGO Saint Agoulin 86.34 43 *e*P P 02 38 22.9 -0.9
LASF Ste Croix 86.35 45 *e*P P 02 38 23.2 -0.6
comp=Z,21nm,1.0s,mb4.5

DAWY Dawson 86.45 336 *e*P P 02 38 23.2 -1.1
DAWY *e*pP pP 02 39 09.0 -2.1
PLDF La Plantade 86.65 43 *e*P P 02 38 24.9 -0.4
AVF Avril sur Loir 86.68 42 *e*P P 02 38 24.3 -1.1
comp=Z,12nm,0.8s,mb4.5
AVF *e*pP pP 02 39 11.3 -1.0
AVF Avril sur Loir 86.68 42 *e*P P 02 38 24.3 -1.1
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
AVF Avril sur Loir 86.68 42 *e*P P 02 38 24.3 -1.1
comp=Z,6.1nm,0.8s,mb4.5
AVF *e*pP pP 02 39 11.3 -1.0
SSF Saint Saulge 86.85 42 *e*P P 02 38 25.0 -1.2
comp=Z,7.0nm,0.8s,mb4.3
SSF Saint Saulge 86.85 42 *e*P P 02 38 25.0 -1.2
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
SSF Saint Saulge 86.85 42 *e*P P 02 38 25.0 -1.2
comp=Z,3.5nm,0.8s,mb4.2
SMF Signal de Mont 86.97 42 *e*P P 02 38 25.9 -0.9
comp=Z,29nm,0.9s,mb4.8
SMF Signal de Mont 86.97 42 *e*P P 02 38 25.9 -0.9
SMF pmax pmax
comp=Z,14nm,0.9s,mb4.8
SMF Signal de Mont 86.97 42 *e*P P 02 38 25.9 -0.9
comp=Z,14nm,0.9s,mb4.8
VIVF Saint-Julien-l 87.10 44 *e*P P 02 38 27.3 -0.2
comp=Z,23nm,1.0s,mb4.7
VIVF *e*pP pP 02 39 14.2 -0.1
VIVF Saint-Julien-l 87.10 44 *e*P P 02 38 27.3 -0.2
VIVF pmax pmax
comp=Z,11nm,1.0s,mb4.6
VIVF Saint-Julien-l 87.10 44 *e*P P 02 38 27.3 -0.2
comp=Z,11nm,1.0s,mb4.7
VIVF *e*pP pP 02 39 14.2 -0.1
LOR Lormes 87.13 42 *e*P P 02 38 26.5 -1.1
comp=Z,13nm,0.7s,mb4.5
LOR *e*pP pP 02 39 13.5 -1.0
LOR Lormes 87.13 42 *e*P P 02 38 26.5 -1.1
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
LOR Lormes 87.13 42 *e*P P 02 38 26.5 -1.1
comp=Z,6.3nm,0.7s,mb4.5
LOR *e*pP pP 02 39 13.5 -1.0
SMRF Simiane la Rot 87.53 45 *e*P P 02 38 29.6 +0.1
comp=Z,15nm,0.9s,mb4.5
SMRF Simiane la Rot 87.53 45 *e*P P 02 38 29.6 +0.1
comp=Z,15nm,0.9s,mb4.8
ORIF Oris-en-Rattie 87.95 44 *e*P P 02 38 31.7 +0.2
comp=Z,35nm,0.7s,mb5.0
ORIF Oris-en-Rattie 87.95 44 *e*P P 02 38 31.7 +0.2
ORIF pmax pmax
comp=Z,17nm,0.7s,mb5.0
ORIF Oris-en-Rattie 87.95 44 *e*P P 02 38 31.7 +0.2
comp=Z,18nm,0.7s,mb5.0
BAIF Baives 88.04 39 *e*P P 02 38 31.0 -0.9
comp=Z,14nm,0.8s,mb4.5
BAIF *e*pP pP 02 39 17.7 -1.2
BAIF Baives 88.04 39 *e*P P 02 38 31.0 -0.9
BAIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
BAIF Baives 88.04 39 *e*P P 02 38 31.0 -0.9
comp=Z,7.0nm,0.8s,mb4.5
BAIF *e*pP pP 02 39 17.7 -1.2
LMR La Mourre 88.06 46 *e*P P 02 38 31.5 -0.5
comp=Z,22nm,0.8s,mb4.7
LMR *e*pP pP 02 39 18.6 -0.4
LMR La Mourre 88.06 46 *e*P P 02 38 31.5 -0.5
LMR pmax pmax
comp=Z,11nm,0.8s,mb4.7
LMR La Mourre 88.06 46 *e*P P 02 38 31.5 -0.5
comp=Z,11nm,0.8s,mb4.7
LMR *e*pP pP 02 39 18.6 -0.4
SNF Seneffe 88.20 39 E 02 38 30.7
SNF Seneffe 88.20 39 P P 02 38 31.9 -0.8
comp=Z,5.7nm,0.9s,mb4.4
FRF La Foret Royal 88.20 46 *e*P P 02 38 32.2 -0.5
comp=Z,48nm,1.1s,mb4.9
FRF La Foret Royal 88.20 46 *e*P P 02 38 32.2 -0.5
FRF pmax pmax
comp=Z,24nm,1.1s,mb4.9
FRF La Foret Royal 88.20 46 *e*P P 02 38 32.2 -0.5
comp=Z,24nm,1.1s,mb4.9
MEZF Maizieres J'vi 88.21 41 *e*P P 02 38 31.9 -0.8
comp=Z,17nm,0.8s,mb4.6
MEZF Maizieres J'vi 88.21 41 *e*P P 02 38 31.9 -0.8
comp=Z,17nm,0.8s,mb4.9
DOU Dourbes 88.29 39 P P 02 38 32.5 -0.6
comp=Z,11nm,0.8s,mb4.8
DOU AP pP 02 39 18.9 -1.3
GIVF Givet 88.44 39 *e*P P 02 38 33.2 -0.6
comp=Z,75nm,0.8s,mb5.3
GIVF Givet 88.44 39 *e*P P 02 38 33.2 -0.6
GIVF pmax pmax
comp=Z,38nm,0.8s,mb5.3
GIVF Givet 88.44 39 *e*P P 02 38 33.2 -0.6
comp=Z,38nm,0.8s,mb5.3
CABF La Chapelle 88.47 43 *e*P P 02 38 33.4 -0.5
comp=Z,35nm,1.0s,mb4.8
CABF La Chapelle 88.47 43 *e*P P 02 38 33.4 -0.5
CABF pmax pmax
comp=Z,18nm,1.0s,mb4.9
CABF La Chapelle 88.47 43 *e*P P 02 38 33.4 -0.5
comp=Z,18nm,1.0s,mb4.8
MBDF Montbardon 88.53 45 *e*P P 02 38 33.8 -0.4
BNI Bardonecchia 88.54 44 *e*P P 02 38 34.4 +0.2
BNI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BNI Bardonecchia 88.54 44 *e*P P 02 38 34.4 +0.2
comp=Z,6.7nm,1.0s,mb4.5
SBA Scott Base 88.62 191 *e*P P 02 38 34.7 +0.1
SBA pmax pmax
comp=Z,48nm,1.4s,mb5.2
SBA Scott Base 88.62 191 *e*P P 02 38 34.7 +0.1
comp=Z,48nm,1.4s,mb5.2
LPL La Plagne 88.67 44 *e*P P 02 38 35.2 +0.3
comp=Z,53nm,0.9s,mb5.2
LPL La Plagne 88.67 44 *e*P P 02 38 35.2 +0.3
LPL pmax pmax
comp=Z,27nm,0.9s,mb5.2
LPL La Plagne 88.67 44 *e*P P 02 38 35.2 +0.3
comp=Z,27nm,0.9s,mb5.2
LPG La Plagne 88.68 44 *e*P P 02 38 35.4 +0.5
comp=Z,51nm,0.9s,mb5.2
LPG *e*pP pP 02 39 22.2 +0.2
LPG La Plagne 88.68 44 *e*P P 02 38 35.4 +0.5
LPG pmax pmax
comp=Z,25nm,0.9s,mb5.1
LPG La Plagne 88.68 44 *e*P P 02 38 35.4 +0.5
comp=Z,25nm,0.9s,mb5.2
LPG *e*pP pP 02 39 22.2 +0.2
TSUM Tsumeb 88.73 109 P P 02 38 35.7 +0.6
comp=Z,16nm,0.9s,mb4.9,baz=258,slow=4.0,SNR=44
TSUM Tsumeb 88.73 109 *e*P P 02 38 35.5 +0.4
comp=Z,19nm,1.0s,mb5.0
REVF Revere 88.75 46 *e*P P 02 38 34.8 -0.4
THEF They Montfort 88.75 41 *e*P P 02 38 34.7 -0.6
LUCF Luceram 88.77 46 *e*P P 02 38 34.9 -0.4
BCLA Clavier 88.81 39 P P 02 38 34.9 -0.6
comp=Z,7.0nm,1.0s,mb4.5
SBF Sospel 88.82 46 *e*P P 02 38 35.1 -0.5
comp=Z,12nm,0.7s,mb4.7
SBF Sospel 88.82 46 *e*P P 02 38 35.1 -0.5
SBF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SBF Sospel 88.82 46 *e*P P 02 38 35.1 -0.5
comp=Z,6.3nm,0.7s,mb4.7
AUTN L'Aution 88.84 45 *e*P P 02 38 36.4 +0.7
HAU Haudompre 88.94 41 *e*P P 02 38 35.4 -0.7
comp=Z,12nm,0.8s,mb4.5
HAU Haudompre 88.94 41 *e*P P 02 38 35.4 -0.7
HAU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
HAU Haudompre 88.94 41 *e*P P 02 38 35.4 -0.7
comp=Z,5.8nm,0.8s,mb4.6
LOMF Lomont 89.12 42 *e*P P 02 38 36.5 -0.5
WLF Walferdange 89.17 40 *e*P P 02 38 37.0 -0.2
comp=Z,38nm,1.0s,mb5.3
WLF Walferdange 89.17 40 P P 02 38 37.0 -0.2
comp=Z,16nm,1.0s,mb4.9
WLF AP pP 02 39 23.7 -0.6
WLF Walferdange 89.17 40 *e*P P 02 38 36.9 -0.3
WLF pmax pmax
comp=Z,34nm,1.0s,mb5.2
WLF Walferdange 89.17 40 *e*P P 02 38 36.9 -0.4
comp=Z,34nm,1.0s,mb5.2

HINF Hinteralfeld 89.23 42 *e*P P 02 38 36.5 -1.0
comp=Z,10nm,0.8s,mb4.5
HINF *e*pP pP 02 39 23.3 -1.3
HINF Hinteralfeld 89.23 42 *e*P P 02 38 36.5 -1.0
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HINF Hinteralfeld 89.23 42 *e*P P 02 38 36.5 -1.0
comp=Z,5.1nm,0.8s,mb4.5
HINF *e*pP pP 02 39 23.3 -1.3
HGN Heimansgroeve 89.28 39⇓ *i*P P 02 38 37.1 -0.6
comp=Z,26nm,0.9s,mb5.1
MEM Membach 89.29 39 P P 02 38 37.7 -0.1
comp=Z,4.8nm,1.1s,mb4.3
MEM AP pP 02 39 25.6 +0.7
MOF Molkenrain 89.42 42 *e*P P 02 38 37.5 -0.9
SML Sawmill 89.45 333 *e*P P 02 38 37.2 -1.3
SML *e*pP pP 02 39 23.7 -1.9
ECH Echery 89.52 41 *e*P P 02 38 38.2 -0.6
CDF Champ du Feu 89.63 41 *e*P P 02 38 38.5 -0.9
comp=Z,29nm,0.9s,mb4.9
CDF Champ du Feu 89.63 41 *e*P P 02 38 38.5 -0.9
CDF pmax pmax
comp=Z,15nm,0.9s,mb4.9
CDF Champ du Feu 89.63 41 *e*P P 02 38 38.5 -0.9
comp=Z,15nm,0.9s,mb4.9
WLS Welschbruch 89.68 41 *e*P P 02 38 38.8 -0.8
VNDA Vanda 89.69 190 P P 02 38 39.5 -0.1
comp=Z,7.9nm,0.8s,mb4.7,baz=124,slow=4.2,SNR=52
VNDA Vanda 89.69 190 P P 02 38 39.6 0.0
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 89.69 190 *e*P P 02 38 39.5 -0.1
comp=Z,28nm,1.3s,mb5.0
PGF Pioggiola 89.69 47 *e*P P 02 38 39.1 -0.6
PMR Palmer 89.75 332 *e*P P 02 38 38.3 -1.6
PMR pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PMR Palmer 89.75 332 *e*P P 02 38 38.2 -1.7
comp=Z,6.3nm,0.6s,mb4.7
SUR Sutherland 89.77 122 P P 02 38 40.4 +0.4
comp=Z,5.1nm,0.9s,mb4.4,baz=311,slow=2.6,SNR=5.7
SUR Sutherland 89.77 122 *e*P P 02 38 40.1 0.0
comp=Z,9.6nm,1.0s,mb4.7
DAG Danmarks Havn 89.79 11⇑ *i*P P 02 38 39.6 -0.5
comp=Z,28nm,0.7s,mb5.3
DAG Danmarks Havn 89.79 11⇑ *i*P P 02 38 39.6 -0.5
DAG pmax pmax
comp=Z,28nm,0.7s,mb5.3
SLKM Skilak Lake 89.97 331 *e*P P 02 38 40.0 -0.9
FELD Feldberg im Sc 90.00 42 *e*P P 02 38 40.4 -0.7
WTSB Winterswijk 90.07 38⇓ *i*P P 02 38 41.1 -0.3
comp=Z,45nm,0.8s,mb5.5
LANF Langenberg 90.09 41 *e*P P 02 38 41.1 -0.4
COLA College 90.16 336 *e*P P 02 38 40.9 -0.9
COLA pmax pmax
comp=Z,63nm,1.0s,mb5.5
COLA College 90.16 336 *e*P P 02 38 40.9 -0.9
comp=Z,63nm,1.0s,mb5.5
COLA *e*pP pP 02 39 27.3 -1.6
BUG Bochum--Univer 90.25 38 *e*P P 02 38 42.1 -0.1
comp=Z,44nm,1.2s,mb5.3
MCK McKinley 90.27 335 *e*P P 02 38 41.6 -0.8
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MCK McKinley 90.27 335 *e*P P 02 38 41.6 -0.7
comp=Z,8.5nm,0.9s,mb4.7
BFO Black Forest 90.31 41 *e*P P 02 38 41.5 -1.0
comp=Z,5.0nm,0.9s,mb4.4
BFO Black Forest 90.31 41 *e*P P 02 38 41.5 -1.0
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
IBBN Ibbenburen 90.72 37 *e*P P 02 38 44.2 -0.2
comp=Z,32nm,0.8s,mb5.4
TNS Taunus Mts 90.74 40 *e*P P 02 38 44.4 -0.1
comp=Z,14nm,0.9s,mb5.0
TNS Taunus Mts 90.74 40 *e*P P 02 38 44.4 -0.1
TNS pmax pmax
comp=Z,14nm,0.9s,mb5.0
STU Stuttgart 90.95 41 *e*P P 02 38 44.8 -0.7
comp=Z,21nm,1.1s,mb5.1
STU Stuttgart 90.95 41 *e*P P 02 38 44.7 -0.8
SYO Syowa Base 91.10 161⇑ *e*P P 02 38 45.6 -0.6
DAVA Damuels 91.14 43⇑ *i*P P 02 38 45.7 -0.7
comp=Z,19nm,1.1s,mb5.0
UBBA Unterbreizbach 91.82 39 *e*P P 02 38 49.2 -0.3
comp=Z,11nm,1.5s,mb4.7
MOTA Moosalm 91.98 43⇓ *i*P P 02 38 50.0 -0.2
comp=Z,11nm,1.0s,mb4.9
MOTA Moosalm 91.98 43⇓ *i*P P 02 38 50.0 -0.2
MOTA pmax pmax
comp=Z,11nm,1.0s,mb4.8
SQTA Sankt Quirin 92.03 43⇓ *i*P P 02 38 50.4 -0.1
comp=Z,16nm,1.2s,mb4.9
SQTA Sankt Quirin 92.03 43⇓ *i*P P 02 38 50.4 -0.1
SQTA pmax pmax
comp=Z,16nm,1.2s,mb4.9
FUR Furstenfeldbru 92.22 42 *e*P P 02 38 50.8 -0.6
WATA Walderalm 92.29 43⇓ *i*P P 02 38 51.3 -0.4
comp=Z,7.7nm,1.0s,mb4.7
WATA Walderalm 92.29 43⇓ *i*P P 02 38 51.3 -0.4
WATA pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MUD Monsted U'grnd 92.30 33 *i* P P 02 38 52.2 +0.4
comp=Z,26nm,1.1s,mb5.2
MUD Monsted U'grnd 92.30 33 *i* P P 02 38 52.2 +0.4
MUD pmax pmax
comp=Z,26nm,1.1s,mb5.2
WTTA Wattenberg 92.32 43⇓ *i*P P 02 38 52.0 +0.1
comp=Z,31nm,1.3s,mb5.2
WTTA Wattenberg 92.32 43⇓ *i*P P 02 38 52.0 +0.2
WTTA pmax pmax
comp=Z,31nm,1.3s,mb5.2
GRA1 Grafenberg Arr 92.41 40 *e*P P 02 38 52.3 0.0
comp=Z,21nm,1.5s,mb5.0
GRA1 *e*pP pP 02 39 39.1 -0.3
GRF Grafenberg Arr 92.41 40 *e*P P 02 38 52.3 0.0
comp=Z,21nm,1.5s,mb5.0
GRF *e*pP pP 02 39 39.1 -0.3
GRF Grafenberg Arr 92.41 40 *e*P P 02 38 52.3 0.0
GRF pmax pmax
comp=Z,21nm,1.5s,mb5.0
SVW2 Sparrevohn 92.66 331 *e*P P 02 38 51.1 -2.3
MOX Moxa 92.81 39 *e*P P 02 38 53.8 -0.3
comp=Z,12nm,1.5s,mb4.8
MANZ Manzenberg 93.03 40 *e*P P 02 38 55.3 +0.2
comp=Z,13nm,1.3s,mb4.9
KONO Kongsberg 93.07 30 *i* P P 02 38 55.1 -0.2
WERD Werda 93.22 40 *e*P P 02 38 55.8 -0.2
comp=Z,12nm,1.4s,mb4.8
NKC Novy Kostel 93.28 40 *e*P P 02 38 55.8 -0.4
NKC *e*pP pP 02 39 43.8 +0.4
TANN Tannenbergstha 93.31 40 *e*P P 02 38 56.2 -0.2
WET Wettzell 93.41 41 *e*P P 02 38 56.7 -0.1
comp=Z,12nm,1.5s,mb4.8
WET Wettzell 93.41 41 *e*P P 02 38 56.7 -0.1
WET pmax pmax
comp=Z,12nm,1.5s,mb4.8
KBA Koelnbreinsper 93.45 43⇓ *i*P P 02 38 56.9 -0.2
comp=Z,34nm,1.9s,mb5.2
KBA Koelnbreinsper 93.45 43⇓ *i*P P 02 38 56.9 -0.1
KBA pmax pmax
comp=Z,35nm,1.9s,mb5.2
CLL Collm 93.77 39 *e*P P 02 38 58.4 -0.1
comp=Z,8.0nm,1.0s,mb4.8
CLL Collm 93.77 39 *i* P P 02 38 58.7 +0.2
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
CLL Collm 93.77 39 *i* P P 02 38 58.7 +0.2
comp=Z,7.0nm,0.9s,mb4.8
CLL *e* 02 39 21.0
KHC Kasperske Hory 93.86 41 *e*P P 02 38 58.9 0.0
KHC *e*pP pP 02 39 45.7 -0.4
NAO01 NORSAR Array S 93.90 29 *e*P P 02 38 59.4 +0.3
comp=Z,2.0nm,0.6s,mb4.4
GEC2 GERESS Array S 93.91 41 *e*P P 02 38 58.4 -0.7
comp=Z,5.0nm,1.2s,mb4.5
GEC2 GERESS Array S 93.91 41 *e*P P 02 38 58.4 -0.7
GEC2 pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
GERES GERESS Array B 93.91 41 P P 02 38 57.9 -1.2
comp=Z,0.9nm,0.8s,mb4.0,baz=225,slow=3.2,SNR=9.7
GERES pP pP 02 39 44.8 -1.5
comp=Z,0.6nm,0.7s,baz=186,slow=2.5,SNR=2.5
GERES PKKPbc PKKPbc 02 56 01.2 +0.1
comp=Z,0.5nm,0.6s,baz=90,slow=1.3,SNR=6.1
NB2 NORSAR Subarra 94.08 29 P P 02 39 00.2 +0.3

comp=Z,1.3nm,0.7s,mb4.2,baz=258,slow=4.3
NB2 NORSAR Subarra 94.08 29 P **P 02 39 00.2 +0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
NOA NORSAR Array B 94.08 29 P **P 02 38 59.9 0.0**
comp=Z,11nm,0.8s,mb5.0,baz=259,slow=4.6,SNR=43
NOA pP pP 02 39 46.4 -0.7
comp=Z,2.1nm,0.8s,baz=259,slow=4.6,SNR=3.0
NOA NORSAR Array B 94.08 29 P **P 02 38 59.9 0.0**
NOA pP pP 02 39 46.4 -0.7
MOA Molln 94.17 42 ⇓*iP* **P 02 38 59.9 -0.4**
comp=Z,33nm,1.8s,mb5.2
BOSA Boshof 94.19 119 P **P 02 39 00.3 -0.1**
comp=Z,4.2nm,0.9s,mb4.6,baz=216,slow=3.3,SNR=7.8
BOSA Boshof 94.19 119 P **P 02 39 00.3 -0.1**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BOSA Boshof 94.19 119 *eP* **P 02 39 00.2 -0.3**
comp=Z,7.2nm,1.1s,mb4.7
BRG Berggiesshubel 94.30 39 *eP* **P 02 39 00.6 -0.3**
comp=Z,11nm,1.2s,mb4.9
BRG Berggiesshubel 94.30 39 *eP* **P 02 39 01.1 +0.1**
comp=Z,6.4nm,1.2s,mb4.6
BRG *e*pP pP 02 39 48.6 +0.4
comp=Z,4.9nm,1.3s
BRG Berggiesshubel 94.30 39 *eP* **P 02 39 01.1 +0.2**
BRG pmax pmax
comp=Z,6.0nm,1.3s,mb4.6
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
PRU Pruhonice 94.58 40 *eP* **P 02 39 02.4 +0.2**
PRU *e*pP pP 02 39 49.8 +0.4
PVCC Panska Ves 94.66 40 *eP* **P 02 39 02.9 +0.3**
ARSA Arzberg 94.95 43 ⇑*iP* **P 02 39 03.5 -0.4**
comp=Z,59nm,2.8s,mb5.3
TIP Timpagrande 95.05 51 *eP* **P 02 39 04.0 -0.3**
TREC Trest 95.12 41 *eP* **P 02 39 04.7 0.0**
LBTB Lobatse 95.16 116 *eP* **P 02 39 04.7 -0.2**
LBTB pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
LBTB Lobatse 95.16 116 *eP* **P 02 39 04.7 -0.2**
comp=Z,4.2nm,0.8s,mb4.7
CONA Conrad Observa 95.24 42 ⇑*iP* **P 02 39 05.1 -0.1**
comp=Z,28nm,1.9s,mb5.2
UPC Upice 95.58 40 *eP* **P 02 39 07.1 +0.4**
UPC *e*pP pP 02 39 53.8 -0.2
UPC Upice 95.58 40 *eP* **P 02 39 07.1 +0.4**
UPC *e*pP pP 02 39 53.8 -0.2
DPC Dobruska-Polom 95.76 40 *eP* **P 02 39 07.4 -0.2**
DPC *e*pP pP 02 39 53.8 -1.0
ZST Bratislava 96.09 42 *eP* **P 02 39 09.0 -0.1**
MORC Moravsky Berou 96.50 41 *eP* **P 02 39 11.3 +0.4**
MORC pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
MORC Moravsky Berou 96.50 41 *eP* **P 02 39 11.3 +0.4**
comp=Z,9.8nm,1.2s,mb5.0
KOLL Kolacno 96.98 42 *eP* **P 02 39 12.4 -0.7**
VYHS Vyhne 97.27 42 *iP* **P 02 39 14.6 +0.2**
MAW Mawson 98.92 165 P **P 02 39 21.2 -0.6**
comp=Z,17nm,1.4s,mb5.3,baz=238,slow=5.8,SNR=3.5
ARCES ARCESS Array B 100.25 21 P Pdif 02 39 26.9 -0.9
comp=Z,3.0nm,0.6s,baz=305,slow=4.3,SNR=15
ARCES PKKPbc PKKPbc 02 55 41.5 -2.3
comp=Z,1.1nm,0.6s,baz=120,slow=4.8,SNR=7.5
ARE0 ARCESS Array S 100.25 21 *eP*Pdif Pdif 02 39 26.5 -1.2
OBN Obninsk 107.70 34 ⇑*eP* Pdif 02 39 59.2 -1.6
OBN pmax pmax
comp=Z,4.0nm,0.5s
BRTR Keskin Array B 108.11 51 PKiKP PKiKP 02 44 08.8 +0.4
comp=Z,0.9nm,1.0s,baz=207,slow=4.1,SNR=4.0
BRTR PKKP PKKPbc 02 55 34.9 +14
comp=Z,0.3nm,0.4s,baz=166,slow=11,SNR=3.9
MALT Malatya 111.97 52 *eP*KIKP PKiKP 02 44 16.0 +0.3
ARU Arti 118.61 28 ⇑*iP*KIKP PKPdf 02 44 28.2 -0.2
AKTO Aktyubinsk 121.48 34 PKKPbc PKKPbc 02 54 34.3 -0.3
comp=Z,15nm,0.8s,baz=150,slow=6.6,SNR=5.1
TOO Toolangi 122.10 216 *eP* PKPdf 02 44 35.0 -0.1
comp=Z,4.4nm,0.8s
YAK Yakutsk 122.98 347 ⇑*iP*KIKP PKPdf 02 44 36.4 -0.4
ZRNK Zerenda 125.53 27 *eP*KPdf PKPdf 02 44 41.9 +0.2
ZRNK *e*pPKPdf pPKPdf 02 45 29.1 -2.0
CHKZ Chkalovo 125.73 25 *eP*KIKP PKPdf 02 44 42.1 0.0
BRVK Borovoye 126.02 26 *eP*KIKP PKPdf 02 44 42.5 -0.1
STKA Stephens Creek 128.31 219 *eP* PKPdf 02 44 45.1 -1.9
comp=Z,14nm,0.7s
STKA Stephens Creek 128.31 219 *eP* pPKPdf 02 45 33.3 -3.1
comp=Z,5.5nm,0.6s
STKA Stephens Creek 128.31 219 PKP PKPdf 02 44 45.5 -1.5
comp=Z,2.1nm,0.6s,baz=145,slow=8.4,SNR=4.4
STKA pPKP pPKPdf 02 45 33.4 -3.0
comp=Z,6.8nm,0.7s,baz=135,slow=1.3,SNR=6.0
NVS Novosibirsk 129.36 17 ⇑*iP*KIKP PKPdf 02 44 47.6 -1.4
NVS pmax pmax
comp=Z,28nm,1.5s
NVS pmax pmax
comp=E,8.0nm,1.3s
BOD Bodaibo 129.51 355 *eP*KIKP PKPdf 02 44 47.5 -1.8
BOD pmax pmax
comp=Z,6.0nm,1.5s
BOD pmax pmax
comp=Z,7.0nm,1.3s
YSS Yuzh-Sakhalins 129.91 328 ⇑*iP*KIKP PKPdf 02 44 49.7 -0.3
KURK Kurchatov 131.22 23 *eP*KPdf PKPdf 02 44 52.6 +0.1
KURK *e*SKP 02 47 59.8
CTA Charters Tower 132.06 234 *eP* PKPdf 02 44 54.9 +0.8
comp=Z,14nm,1.5s
CTA Charters Tower 132.06 234 *eP* pPKPdf 02 45 43.9 +0.4
comp=Z,6.5nm,1.2s
CTAO Charters Tower 132.06 234 *eP*KIKP PKPdf 02 44 54.7 +0.6
USP Ospenovka 134.80 33 P PKPdf 02 45 00.5 +1.2
SNR=6.7
USP Ospenovka 134.80 33 P pPKPdf 02 45 49.9 +1.2
SNR=10
AAK Ala-Archa 135.22 34 P PKPdf 02 45 02.0 +2.0
SNR=5.9
AAK Ala-Archa 135.22 34 P pPKPdf 02 45 50.2 +0.8
SNR=9.5
AAK Ala-Archa 135.22 34 *eP*KPdf PKPdf 02 45 00.1 +0.1
AAK *e*pPKPdf pPKPdf 02 45 48.5 -0.9
AAK *e*SKP 02 48 14.4
CIT Chita 135.28 354 *eP*KIKP PKPdf 02 45 00.0 -0.1
CIT *e* 02 45 45.4
KBK Karagaybulak 135.45 33 P pPKPdf 02 45 49.4 -0.6
SNR=6.0
UCH Uchtor 135.50 34 P PKPdf 02 45 03.3 +2.7
SNR=13
UCH Uchtor 135.50 34 P pPKPdf 02 45 52.3 +2.3
SNR=14
TKM2 Tokmak 2 135.62 32 P PKPdf 02 45 02.7 +1.9
SNR=7.8
TKM2 Tokmak 2 135.62 32 P pPKPdf 02 45 49.5 -0.7
SNR=7.7
MOY Mondy 135.81 5 *eP*KIKP PKPdf 02 45 02.2 +1.1
MKAR Makanchi Array 135.81 24 PKhKP 02 44 50.0
comp=Z,0.3nm,0.5s,baz=0.0,slow=2.4,SNR=4.7
MKAR PKP PKPdf 02 45 01.3 +0.2
comp=Z,8.8nm,0.8s,baz=341,slow=2.6,SNR=46
MKAR pPKP pPKPdf 02 45 48.3 -2.3
comp=Z,13nm,0.8s,baz=333,slow=1.9,SNR=15
MKAR SKPbc SKPbc 02 48 15.5 +0.8
comp=Z,1.8nm,0.8s,baz=315,slow=2.7,SNR=3.7
MKAR Makanchi Array 135.81 24 PKHKP 02 44 50.0
MKAR 02 45 01.3
MKAR 02 45 48.3
MKAR Makanchi Array 135.81 24 PKP PKPdf 02 44 50.0 -11
MKAR PKP PKPdf 02 45 01.3 +0.2
MKAR pPKP pPKPdf 02 45 48.3 -2.3
MKAR SKPbc SKPbc 02 48 15.5 +0.7
KZA Kyzart 136.01 34 P PKPdf 02 45 04.3 +2.8
SNR=7.2
KZA Kyzart 136.01 34 P pPKPdf 02 45 52.7 +1.8
SNR=8.6
ULHL Ulahol 136.43 33 P PKPdf 02 45 04.6 +2.3
SNR=17
ULHL Ulahol 136.43 33 P pPKPdf 02 45 52.7 +1.0
SNR=20
ZAK Zakamensk 137.24 3 *eP*KIKP PKPdf 02 44 58.9 -4.9
ZAK *e* 02 45 54.0
ZAK pmax pmax
comp=Z,8.0nm,1.7s
ZAK pmax pmax
comp=Z,7.0nm,1.2s
MDJ Mudanjiang 137.90 335 PKP PKPdf 02 45 04.5 -0.5
MDJ PP PP 02 47 55.9 +1.3
MDJ PP PP
comp=Z,40nm,5.5s
KSH Kashi 138.13 36 *eP*KP PKPdf 02 45 02.8 -2.6
KSH *e*PKS 02 48 36.7
KSH PP PP
comp=Z,390nm,6.5s
KSH LR LR
comp=N,240nm,4.6s
KSH LR LR
comp=E,280nm,4.7s
KSH LR LR
comp=Z,540nm,21.2s
ASAR Alice Springs 138.90 220 PKhKP 02 44 57.6
comp=Z,3.5nm,0.6s,baz=136,slow=3.3,SNR=34
ASAR PKP PKPdf 02 45 06.9 +0.1
comp=Z,10.0nm,0.7s,baz=129,slow=2.1,SNR=29
ASAR pPKP pPKPdf 02 45 55.0 -1.3
comp=Z,6.1nm,0.9s,baz=137,slow=2.2,SNR=3.9
ASAR PP PP 02 48 03.5 +2.7
comp=Z,1.5nm,1.0s,baz=138,slow=5.9,SNR=4.1
ASAR Alice Springs 138.90 220 PKHKP 02 44 57.6
ASAR 02 45 06.9
ASAR 02 48 03.5
MJAR Matsushiro Arr 139.06 320 PKhKP 02 44 56.6
comp=Z,4.5nm,0.8s,baz=56,slow=2.2,SNR=5.5
MJAR PKP PKPdf 02 45 06.7 -0.4
comp=Z,6.3nm,0.6s,baz=77,slow=1.2,SNR=10.0
MJAR pPKP pPKPdf 02 45 55.4 -1.2
comp=Z,4.6nm,0.9s,baz=85,slow=1.4,SNR=4.4
MJAR SKPbc SKPbc 02 48 24.4 +0.2
comp=Z,6.2nm,1.0s,baz=339,slow=0.8,SNR=11
MJAR Matsushiro Arr 139.06 320 PKHKP 02 44 56.6
MJAR 02 45 06.7
MAJO Matsushiro 139.06 320 *eP*KHKP 02 44 56.8
MAJO *e* 02 45 07.2
MAJO Matsushiro 139.06 320 *eP*KPpre 02 44 56.8
MAJO *e*PKPdf PKPdf 02 45 07.2 +0.1
MAJO *e*SKP 02 48 24.0
MAT Matsushiro 139.06 320 *eP*KPK PKPdf 02 45 02.9 -4.2
MAT Matsushiro 139.06 320 PKP PKPdf 02 45 03.0 -4.1
KLBR Kellerberrin 139.56 195 *eP* PKPdf 02 45 08.1 +0.1
comp=Z,165nm,1.9s
MUN Mundaring 139.57 193 *eP* PKPdf 02 45 08.5 +0.5
ULN Ulaanbaatar 139.83 359 *eP*KIKP PKPdf 02 45 07.6 -0.9
ULN *e* 02 48 05.1
SONM Songino Array 139.87 360 PKhKP 02 45 03.0
comp=Z,2.1nm,0.6s,baz=238,slow=1.4,SNR=2.7
SONM pPKP pPKPdf 02 45 57.3 -0.7
comp=Z,7.5nm,0.9s,baz=126,slow=2.0,SNR=3.5
CN2 Changchun 140.21 338 *eP*KPK PKPdf 02 45 08.8 -0.4
CN2 *e*PP PP 02 48 12.0 +3.2
WMQ Urumqi 140.37 21 PKP PKPdf 02 45 09.3 -0.2
WMQ PP PP 02 48 15.7 +5.9
WMQ PKS 02 48 43.7
WMQ PPP 02 51 20.8
WMQ SKS SKSdf 02 51 58.5 -3.1
WMQ SKKS SKKSac 02 54 40.4 -4.1
WMQ SS SS 03 06 21.1 +2.9
WRAB Tennant Creek 141.18 225 *eP*KHKP 02 45 04.6
WRAB *e* 02 45 11.3
SNY Shenyang 142.60 339 ⇑PKP PKPdf 02 45 09.4 -4.1
SNY PP PP 02 48 22.8 -0.6
SNY PP PP
comp=Z,110nm,7.6s
SMLA Simla 144.07 45 *eP* PKPdf 02 45 14.5 -1.6
KS15 Wonju Array Si 144.39 330 *eP*KPdf PKPdf 02 45 15.3 -1.3
AJM Ajmer 144.50 54 *eP* PKPdf 02 45 16.1 -0.7
KLP Kalpa 144.59 44 *eP* PKPdf 02 45 17.4 +0.4
KHET Khetri 144.68 51 *eP* PKPdf 02 45 17.3 +0.1
INCN Inchon 144.97 331 *eP*KPdf PKPdf 02 45 15.9 -1.7
KUDL Kundal 145.16 50 *eP* PKPdf 02 45 18.9 +1.0
NDI New Delhi 145.44 49 *iP* PKPdf 02 45 19.0 +0.6
NDI *ex* x 02 46 07.0
AYAN Aya Nagar 145.47 49 *eP* PKPdf 02 45 20.3 +1.8
BOM Bombay 145.56 68 AMS AMS 03 16 38.2
comp=Z,217nm,23.1s
SONA Sohna 145.56 50 *eP* PKPdf 02 45 20.0 +1.3
BISR Bishrakh 145.66 49 *eP* PKPdf 02 45 18.3 -0.5
DL2 Dalian 145.88 338 *iP*KP PKPdf 02 45 19.8 +0.6
DL2 PKP2 PKPab 02 45 22.4 +1.5
DL2 SS SS 03 07 23.1 +1.6
DL2 PP PP
comp=Z,140nm,6.8s
JOSI Joshimath 146.07 44 *eP* PKPdf 02 45 17.4 -2.1
BJT Baijiatuau 146.50 346 *eP*KPbc PKPbc 02 45 20.9 -1.1
BJT *e*pPKPdf pPKPdf 02 46 09.1 -0.6
HHC Hu-ho-hao-te 146.52 353 *eP*KP PKPdf 02 45 21.7 +1.4
HHC APKP 02 46 03.9
HHC PP PP 02 48 44.6 -2.1
HHC PKS 02 48 55.7
HHC SKS SKSdf 02 52 12.8 +1.8
HHC SKKS SKKSac 02 55 20.0 +0.3
HHC SS SS 03 07 26.2 -2.6
HHC PP PP
comp=Z,120nm,5.1s
HHC LR LR
comp=N,140nm,21.4s
HHC LR LR
comp=E,570nm,30.9s
HHC LR LR
comp=Z,70nm,22.6s
POO Poona 146.60 68 ⇓*iP* PKPdf 02 45 20.0 -0.4
comp=Z,90nm,1.0s
POO *ex* x 02 45 53.9
BTO Baotou 146.93 355 *eP*KP PKPdf 02 45 22.7 +1.7
KAKA Kakadu 147.15 232 *eP* PKPdf 02 45 21.9 +0.6
comp=Z,45nm,0.6s
KAKA Kakadu 147.15 232 *eP* pPKPdf 02 46 13.1 +2.2
comp=Z,101nm,1.0s
KAD Karad 147.20 70 *eP* PKPdf 02 45 22.6 +1.2
KAD AMb AMB 02 45 25.9
comp=Z,139nm,0.7s
GTA Gaotai 147.75 9 PKP PKPdf 02 45 23.3 +1.0
GTA APKP 02 46 12.9
GTA XPKP 02 46 26.5
GTA PP PP 02 48 54.8 +0.9
GTA PKS 02 48 55.9
GTA SKS SKSdf 02 52 11.3 -1.4
GTA SKKS SKKSac 02 55 25.2 -1.4
GTA SS SS 03 07 41.0 -1.6
GTA PP PP
comp=Z,100nm,6.5s
GTA LR LR
comp=N,80nm,15.6s
GTA LR LR
comp=E,130nm,14.4s
GTA LR LR
comp=Z,100nm,16.7s
FITZ Fitzroy Crossi 148.16 217 *eP* PKPdf 02 45 22.8 -0.2
comp=Z,129nm,0.8s
FITZ Fitzroy Crossi 148.16 217 *eP* pPKPdf 02 46 13.3 +0.8
comp=Z,56nm,0.6s
BHPL Bhopal 148.17 57 *eP* PKPdf 02 45 24.7 +1.7
BHPL AMP 02 45 28.7
comp=Z,69nm,0.5s
MBWA Marble Bar 148.57 205 *eP*KPbc PKPbc 02 45 27.4 -0.1
JBP Jabalpur 150.32 56 ⇓*ix* x 02 45 33.0
JBP *ex* x 02 45 34.6
comp=Z,163nm,1.3s
JBP *i*x x 02 46 06.6
NGP Nagpur 150.39 60 *eP* PKPdf 02 45 26.1 -0.5
KOLN Koldanda 150.56 44 *eP* PKPbc 02 45 33.2 +0.8
comp=Z,148nm,0.9s
KOLN Koldanda 150.56 44 *eP* PKPdf 02 45 27.8 +1.0
TRD Trivandrum 150.91 86 *eP* PKPdf 02 45 26.8 -0.6
GKN Gorkha 151.12 43 *eP* PKPdf 02 45 28.8 +1.1
comp=Z,56nm,1.1s
GKN Gorkha 151.12 43 *eP* PKPbc 02 45 35.0 +1.3
comp=Z,259nm,0.8s
GKN Gorkha 151.12 43 *eP* PKPdf 02 45 28.8 +1.1
HYB Hyderabad 151.21 67 *iP*KP PKPdf 02 45 29.0 +1.2
HYB *e* 02 45 35.0
HYB Hyderabad 151.21 67 *eP* PKPdf 02 45 29.0 +1.2
HYB *e* 02 45 35.0
LZH Lanzhou 151.52 4 *eP*KP PKPdf 02 45 29.5 +1.2
LZH APKP 02 46 12.1
LZH PP PP 02 49 19.3 +3.7
LZH *e*SKS SKSdf 02 52 19.3 +1.6
LZH *e*SKKS SKKSac 02 55 50.5 +3.1
LZH SS SS 03 08 27.6 +3.2
LZH PP PP
comp=Z,150nm,6.8s
KKN Kakani 151.69 42 *eP* PKPbc 02 45 36.0 +1.0
comp=Z,130nm,0.7s
KKN Kakani 151.69 42 *eP* PKPdf 02 45 29.6 +1.1
DMN Daman 151.69 43 *eP* PKPbc 02 45 36.2 +1.2
comp=Z,75nm,0.6s
DMN Daman 151.69 43 *eP* PKPdf 02 45 29.5 +1.0
PKI Pulchoki 151.92 42 *eP* PKPbc 02 45 36.3 +0.8
comp=Z,87nm,0.8s
PKI Pulchoki 151.92 42 *eP* PKPdf 02 45 29.5 +0.6
GUN Gumba 152.00 41 *eP* PKPdf 02 45 30.4 +1.4
comp=Z,5.9nm,0.4s
GUN Gumba 152.00 41 *eP* PKPbc 02 45 37.2 +1.5
comp=Z,91nm,0.8s
GUN Gumba 152.00 41 *eP* PKPdf 02 45 30.4 +1.4
JIRN Jiri 152.38 41 *eP* PKPdf 02 45 29.8 +0.2
comp=Z,1.8nm,0.2s
JIRN Jiri 152.38 41 *eP* PKPbc 02 45 37.6 +1.0
comp=Z,29nm,0.7s
JIRN Jiri 152.38 41 *eP* PKPdf 02 45 29.8 +0.2
BLSP Bilaspur 152.56 56 *ex* x 02 45 17.4
SSE Sheshan 152.77 331 *eP*KP PKPdf 02 45 32.2 +2.1
XAN Xi'an 153.54 355 PKP PKPdf 02 45 30.5 -0.8
LSA Lhasa 153.76 31 *eP*KIKP PKiKP 02 45 41.3 +1.7
LSA *e* 02 45 54.3
MDRS Chennai 153.78 76 *eP* PKPdf 02 45 32.5 +0.9
BOK Bokaro 154.61 48 *eP* PKPdf 02 45 31.9 -0.8
BOK AMb AMB 02 45 36.1
comp=Z,32nm,1.6s
VIS Vishakhapatnam 155.43 64 AMS AMS 03 26 25.0
comp=Z,61nm,18.6s
WHN Wuhan 155.93 343 *eP*KP PKPdf 02 45 35.5 +1.0
CD2 Chengdu 156.65 6 *eP*KP PKPdf 02 45 31.9 -3.6
CD2 APKP 02 46 22.2
CD2 XPKP 02 46 42.1
CD2 PP PP 02 49 43.9 -0.4
CD2 SKS SKSdf 02 52 17.1 -6.4
CD2 SKKS SKKSac 02 56 11.4 -3.6
CD2 SS SS 03 09 16.9 -3.2
CD2 PP PP
comp=Z,90nm,9.0s
CD2 LR LR
comp=E,200nm,15.6s
CD2 LR LR
comp=Z,120nm,19.2s
GYA Guiyang 161.20 359 PKP PKPdf 02 45 42.1 +1.3
GYA PKP2 PKPab 02 46 26.9 +1.5
GYA PP PP 02 50 10.6 +1.6
GYA PP PP
comp=Z,110nm,8.4s
KMI Kunming 162.20 11 PKP PKPdf 02 45 39.0 -2.8
KKM Kota Kinabalu 170.06 262 *eP*KPdf PKPdf 02 45 48.7 +0.7

SKHL 07 02:43:56.3±0.6, 5102N×13519E, h12km±1km, mb4.0/5, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRNR	**Gornyy**	**0.82**	**107**	⇑*iPg*	Pg	02 44 11.1	-1.0
GRNR				AMB	AMB	02 44 12.2	
200nm,0.3s							
GRNR				pPg		02 44 15.1	
GRNR				*e*Sg	Sg	02 44 22.1	-0.8
GRNR				A		02 44 23.2	
900nm,0.3s							
GRNR				A		02 44 23.2	
700nm,0.3s							
GRNR				A		02 44 23.2	
620nm,0.3s							
EKMR	**Ekimchan**	**2.48**	**327**	*e*Pn	Pn	02 44 35.5	-0.9
EKMR				*e*Pg	Pg	02 44 41.1	-2.7
EKMR				AMB	AMB	02 44 43.5	
30nm,0.5s							
EKMR				AMB	AMB	02 44 43.5	
18nm,0.5s							
EKMR				AMB	AMB	02 44 43.5	
42nm,0.5s							
EKMR				*e*Sn	Sn	02 45 07.6	+1.0
EKMR				*e*Sg	Sg	02 45 13.5	-2.4
EKMR				A		02 45 19.0	
140nm,0.5s							
EKMR				A		02 45 19.0	
120nm,0.5s							
EKMR				A		02 45 19.0	
5.0nm,0.5s							
KLR	**Kul'dur**	**2.85**	**232**	*i Pg*	Pg	02 44 48.2	-2.7
KLR				AMB	AMB	02 44 49.0	
40nm,1.0s							
KLR				AMB	AMB	02 44 49.0	
36nm,1.0s							
KLR				*e*Sg	Sg	02 45 25.8	-2.0
NKL	**Nikolayevsk**	**4.00**	**56**	*e*rx	rx	02 45 06.0	
NKL				*e*Pg	Pg	02 45 09.0	-4.0
NKL				AMB	AMB	02 45 10.9	
40nm,0.9s							
NKL				*e*Sg	Sg	02 46 01.0	-3.8
NKL				A		02 46 17.0	
60nm,0.8s							
NKL				A		02 46 17.0	
50nm,0.8s							
TYV	**Tymovskoe**	**4.72**	**89**	*e*rx	rx	02 45 33.0	
TYV				*e*Sg	Sg	02 46 23.9	-4.1
TYV				A		02 46 36.8	
22nm,0.8s							
BMKR	**Bomnak**	**5.33**	**316**	*e*Pg	Pg	02 45 32.4	-6.0
BMKR				AMB	AMB	02 45 36.5	
7.0nm,0.5s							
BMKR				AMB	AMB	02 45 36.5	
5.0nm,0.5s							
BMKR				AMB	AMB	02 45 36.5	
9.0nm,0.5s							
BMKR				*e*Sg	Sg	02 46 43.5	-4.0
BMKR				A		02 46 48.4	
9.0nm,0.5s							
BMKR				A		02 46 48.4	
24nm,0.5s							
ZEA	**Zeya**	**5.57**	**302**	*e*rx	rx	02 45 37.8	
ZEA				*e*Sg	Sg	02 46 48.5	-6.7
KROS	**Kirovskiy**	**6.05**	**308**	*e*Pg	Pg	02 45 46.0	-6.1
KROS				pPg		02 45 50.7	
KROS				*e*Sg	Sg	02 47 05.1	-5.4
KROS				A		02 47 10.0	
11nm,0.8s							
KROS				A		02 47 10.0	
24nm,0.8s							
KROS				A		02 47 10.0	
10.0nm,0.8s							
TEY	**Ternei**	**6.06**	**170**	*e*Sg	Sg	02 47 05.5	-5.4

ISCJB ***07*** *03:21:51.4±0.5, 3557N±004×14009E±006, h75km±4km, mb3.6/4, Error ellipse: s-maj=8.4km s-min=4.8km az=116.9*

NEIC ***07*** *03:21:51.1±5.8, 3559N×14027E, h57km±37km, MG3.2(JMA), Error ellipse: s-maj=97.9km s-min=19.1km az=72.0*

JMA ***07*** *03:21:52.0±0.2, 3565N×14009E, h67km±2km, M3.2 Broadband fault plane solution: P waves. NP1: φ±254.00000°, δ±45.00000°, λ-74.00000°. NP2:φ±52.00000°, δ47.00000°, λ-105.00000°. Principal axes: T Plg1.0000°, Azm153.0000°; N Plg11.0000°, Azm63.0000°; P Plg79.0000°, Azm248.0000°;*

IDC ***07*** *03:21:53.1±3.6, 3551N×13997E, h68km±24km, mb3.3/4, mb1 3.5/5, mb1mx3.3/20, mbtmp3.7/5, MS2.3/1, Ms1 2.3/1, ms1mx1.5/15 Error ellipse: s-maj=70.8km s-min=12.0km az=74.0*

ISC 07 03:21:52.3±0.5, 3557N±003×14009E±005, h69km±4km, n21, σ0°66/34, mb3.6/4, 3C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.18**	**150**	⇓P	**Pn**	**03 22 03.1**	**+0.4**
JCN				S	**Sn**	**03 22 11.9**	**+1.7**
TOK	**Tokyo**	**0.29**	**293**	P	**Pn**	**03 22 03.5**	**+0.2**
TOK				S	**Sn**	**03 22 12.1**	**+0.7**
BSO3	**Boso 3**	**0.84**	**156**	⇑P	**Pn**	**03 22 08.6**	**-0.2**
BSO3				S	**Sn**	**03 22 21.0**	**0.0**
JOD2	**Odawara 2**	**0.88**	**250**	⇓P	**Pn**	**03 22 09.0**	**-0.2**
JOD2				S	**Sn**	**03 22 21.0**	**-0.8**
JAG	**Ashikaga**	**1.00**	**329**	⇑P	**Pn**	**03 22 10.0**	**-0.7**
JAG				S	**Sn**	**03 22 22.8**	**-1.5**
JIM2	**Oshima 3**	**1.01**	**213**	P	**Pn**	**03 22 10.5**	**-0.4**
JIM2				S	**Sn**	**03 22 24.7**	**0.0**
JRY	**Ryogami san**	**1.06**	**295**	⇑P	**Pn**	**03 22 11.7**	**+0.1**

JRY			S		Sn	03 22 26.3	+0.4
BSO1	**Boso 1**	**1.17 141**	P		**Pn**	03 22 12.0	-0.9
BSO1			S		**Sn**	03 22 28.1	-0.2
JYN	**Shimob**	**1.27 267**	P		**Pn**	03 22 14.2	0.0
JYN			S		**Sn**	03 22 30.5	0.0
JIZS	**Izushimoda**	**1.31 230**	P		**Pn**	03 22 14.8	0.0
JIZS			S		**Sn**	03 22 31.3	-0.3
JKT	**Katashina**	**1.37 330**	P		**Pn**	03 22 14.7	-0.9
JKT			S		**Sn**	03 22 32.6	-0.4
MJAR	**Matsushiro Arr**	**1.81 303**	P		**Pn**	03 22 20.9	-0.4
	19nm,0.3s,baz=125,slow=15,SNR=149						
MAJO	**Matsushiro**	**1.81 303**	*e*Pn		**Pn**	03 22 21.6	+0.2
MAT	**Matsushiro**	**1.81 303**	P		**Pn**	03 22 21.6	+0.2
MAT			S		**Sn**	03 22 44.3	+0.9
MAT	**Matsushiro**	**1.81 303**	*e*P		**Pn**	03 22 22.0	+0.6
MAT			*e*S		Sn	03 22 46.0	+2.6
JHJ	**Hachijo jima 2**	**2.46 186**	P		**Pn**	03 22 30.4	+0.2
	50nm,0.3s,baz=272,slow=10,SNR=11						
JHJ			S		**Sn**	03 22 58.6	-0.5
	91nm,0.3s,baz=114,slow=19,SNR=13						
TGY	**Tagaytay City**	**27.45 224**	LR		LR	03 36 33.0	
	comp=Z,6.3nm,20.6s,baz=102,slow=32						
MKAR	**Makanchi Array**	**44.01 303**	P		**P**	03 29 53.8	+0.9
	0.3nm,0.4s,mb3.3,baz=76,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**55.48 187**	P		**P**	03 31 20.1	+0.1
	0.9nm,0.5s,mb4.0,baz=1.5,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**59.21 187**	P		**P**	03 31 47.1	+0.8
	0.2nm,0.4s,mb3.5,baz=15,slow=9.9,SNR=5.3						
FINES	**FINESS Array B**	**69.61 332**	P		**P**	03 32 54.2	+0.1
	0.5nm,0.6s,mb3.5,baz=64,slow=4.4,SNR=5.5						

ISCJB ***07*** *03:22:14.3±0.8, 3555N±007×14001E±0.10, h80km±5km, mb3.8/3, Error ellipse: s-maj=15.0km s-min=9.1km az=112.3*
IDC ***07*** *03:22:15.2±4.2, 3553N×14000E, h68km±28km, mb3.4/3, mb1 3.6/4, mb1mx3.3/20, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=85.3km s-min=13.2km az=75.0*
JMA ***07*** *03:22:15.3±0.3, 3566N×14008E, h65km±3km, M3.3*
JMA Felt I J1.

ISC 07 03:22:15.4±0.8, 3556N±007×14001E±010, h73km±5km, n9, σ0§44/14, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.21 131**		P	**Pn**	03 22 26.1	-0.3
JCN				S	**Sn**	03 22 34.5	+0.1
TOK	**Tokyo**	**0.24 303**		P	**Pn**	03 22 26.4	-0.2
TOK				S	**Sn**	03 22 35.1	+0.4
JOD2	**Odawara 2**	**0.81 249**		P	**Pn**	03 22 32.0	+0.3
JOD2				S	**Sn**	03 22 43.9	+0.1
BSO3	**Boso 3**	**0.86 151**		P	**Pn**	03 22 31.7	-0.6
BSO3				S	**Sn**	03 22 45.3	+0.5
MJAR	**Matsushiro Arr**	**1.76 305**		P	**Pn**	03 22 43.3	-0.6
	25nm,0.3s,baz=117,slow=15,SNR=11						
JHJ	**Hachijo jima 2**	**2.44 184**		P	**Pn**	03 22 53.6	+0.7
	59nm,0.3s,baz=236,slow=19,SNR=7.7						
JHJ				S	**Sn**	03 23 20.9	-0.8
	148nm,0.3s,baz=258,slow=23,SNR=6.5						
WRA	**Warramunga Arr**	**55.45 186**		P	**P**	03 31 42.6	+0.1
	0.6nm,0.4s,mb4.0,baz=2.3,slow=7.5,SNR=7.2						
ASAR	**Alice Springs**	**59.18 187**		P	**P**	03 32 09.2	+0.5
	0.3nm,0.4s,mb3.6,baz=16,slow=11,SNR=3.5						
FINES	**FINESS Array B**	**69.59 332**		P	**P**	03 33 16.6	-0.1
	1.2nm,1.0s,mb3.7,baz=66,slow=6.7,SNR=5.4						

IDC ***07*** *03:34:57.1±1.9, 1658N×12031E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/18, mbtmp4.1/5, MS4.0/1, Ms1 4.0/1, ms1mx2.2/21, Error ellipse: s-maj=262.9km s-min=21.9km az=63.0*
ISCJB ***07*** *03:35:03.2±1.2, 1620N±006×1195E±0.1, h52km±12km, mb4.2/10, MS4.1/1, Error ellipse: s-maj=18.5km s-min=9.7km az=163.2*
NEIC ***07*** *03:35:09.5±1.4, 1641N×120.10E, h104km±12km, mb4.3/5, Error ellipse: s-maj=64.9km s-min=8.3km az=64.0*

ISC 07 03:35:04.1±1.3, 1621N±006×1195E±01, h43km±13km, n23, σ0§88/25, mb4.2/10, MS4.1/1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.46**	**68**	*e*P	**Pn**	03 35 12.6	-2.0
SCZP	**Santa Cruz**	**0.61**	**135**	*e*P	**Pn**	03 35 16.5	+0.1
BCPH	**Baguio City Da**	**1.09**	**81⇑**	*e*P	**Pn**	03 35 22.0	-0.8
BCPH				*i* S	**Sn**	03 35 37.4	+0.7
PCPH	**Palayan**	**1.70**	**112⇑**	*e*P	**Pn**	03 35 31.6	+0.3
ABRA	**Dolores**	**1.86**	**40**	*e*P	**Pn**	03 35 32.7	-0.8
BALP	**Baler**	**2.08**	**103**	*e*P	**Pn**	03 35 38.3	+1.7
APYP	**Conner**	**2.37**	**46**	*e*P	**Pn**	03 35 40.3	-0.1
TGY	**Tagaytay City**	**2.53**	**146**	Pn	**Pn**	03 35 48.1	+5.4
	110nm,0.3s,baz=203,slow=22,SNR=5.1						
LUBP	**Lubang**	**2.57**	**163**	*e*P	**Pn**	03 35 43.6	+0.3
CVP	**Callao Caves**	**2.70**	**56**	*e*P	**Pn**	03 35 46.0	+0.9
CVP				*e*S	**Sn**	03 36 22.0	+5.5
POLP	**Polilio Island**	**2.80**	**121**	*e*P	**Pn**	03 35 46.6	+0.1
MBWA	**Marble Bar**	**37.13**	**180**	*e*P	**P**	03 42 12.2	+1.6
	6.4nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**38.78**	**157**	*e*P	**P**	03 42 23.9	-0.6
	8.8nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**38.78**	**157**	P	**P**	03 42 23.9	-0.7
	4.4nm,0.7s,mb4.3,baz=337,slow=9.3,SNR=20						
WB2	**Warramunga Arr**	**38.79**	**157**	*e*P	**P**	03 42 23.7	-0.9
ASAR	**Alice Springs**	**42.07**	**160**	P	**P**	03 42 51.9	+0.2
	3.6nm,0.6s,mb4.2,baz=341,slow=7.1,SNR=33						
MKAR	**Makanchi Array**	**43.32**	**323**	P	**P**	03 43 02.4	+0.6
	0.3nm,0.4s,mb3.4,baz=119,slow=8.8,SNR=5.2						
KURK	**Kurchatov**	**47.45**	**326**	*e*P	**P**	03 43 35.2	+0.7
	3.0nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**52.31**	**156**	P	**P**	03 44 10.1	-1.3
	1.8nm,0.5s,mb4.2,baz=332,slow=8.7,SNR=8.5						
STKA				LR	LR	04 08 00.8	
	comp=Z,177nm,21.7s,MS4.1,baz=207,slow=38						
STKA	**Stephens Creek**	**52.31**	**156**	*e*P	**P**	03 44 09.6	-1.8
CHKZ	**Chkalovo**	**53.19**	**326**	*e*P	**P**	03 44 18.2	+0.3
	1.2nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**53.78**	**325**	*e*P	**P**	03 44 22.4	+0.2
	0.9nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**84.50**	**332**	P	**P**	03 47 32.0	-0.4
	0.5nm,0.7s,mb3.8,baz=66,slow=4.9,SNR=3.7						

IDC ***07*** *03:43:35.9±0.9, 2084S×17423W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.2/13, mbtmp4.1/5, MS3.7/5, Ms1 3.7/5, ms1mx3.5/19, Error ellipse: s-maj=38.4km s-min=27.1km az=138.0*
ISCJB ***07*** *03:43:37.7±0.8, 204S±0.1×1742W±02, h33km, mb4.2/10, MS3.7/4, Error ellipse: s-maj=26.0km s-min=8.6km az=57.4*
NEIC ***07*** *03:43:37.9±0.4, 2074S×17441W, h10km, mb4.5/4, Error ellipse: s-maj=18.9km s-min=11.5km az=141.0*

ISC 07 03:43:41.2±0.7, 2044S±010×1743W±02, h35km, n37, σ1§51/18, mb4.2/10, MS3.7/4, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.92**	**21**	Pn	**Pn**	03 45 19.4	-0.7
	8.8nm,0.3s,baz=44,slow=18,SNR=8.5						
AFI				Sn	**Sn**	03 46 35.5	-2.0
	7.6nm,0.3s,baz=186,slow=19,SNR=4.3						
RAR	**Rarotonga**	**13.59**	**96**	Pn	**Pn**	03 46 40.4	-11
	2.4nm,0.3s,baz=241,slow=10.0,SNR=7.4						
RAR				Sn	**Sn**	03 48 57.1	-24
	0.5nm,0.3s,baz=45,slow=17,SNR=1.4						
RAR				LR	LR	03 50 36.4	
	comp=Z,293nm,21.4s,baz=242,slow=31						
PPT	**Papeete**	**23.52**	**87**	LR	LR	03 55 07.1	
	comp=Z,197nm,21.8s,MS3.5,baz=139,slow=29						
HNR	**Honiara**	**27.16**	**290**	LR	LR	03 58 35.4	
	comp=Z,156nm,20.3s,MS3.6,baz=179,slow=33						
CTA	**Charters Tower**	**36.97**	**263**	LR	LR	04 02 32.7	
	comp=Z,103nm,20.3s,MS3.6,baz=241,slow=31						
STKA	**Stephens Creek**	**40.96**	**245**	P	**P**	03 51 17.1	-3.3
	1.9nm,0.6s,mb3.9,baz=112,slow=8.9,SNR=3.5						
ASAR	**Alice Springs**	**47.93**	**256**	P	**P**	03 52 15.2	-0.8
	2.6nm,0.7s,mb4.4,baz=98,slow=7.8,SNR=25						
WB2	**Warramunga Arr**	**48.05**	**261**	*e*P	**P**	03 52 17.0	0.0
WRA	**Warramunga Arr**	**48.06**	**261**	P	**P**	03 52 16.8	-0.3
	2.3nm,0.7s,mb4.3,baz=96,slow=7.6,SNR=8.7						
FITZ	**Fitzroy Crossi**	**56.49**	**261**	*e*P	**P**	03 53 20.6	+0.9
	8.1nm,0.9s,mb4.8						
VNDA	**Vanda**	**58.31**	**186**	P	**P**	03 53 30.5	-2.0
	1.6nm,1.1s,mb4.0,baz=11,slow=5.6,SNR=5.8						
VNDA	**Vanda**	**58.31**	**186**	P	**P**	03 53 30.5	-2.0
MBWA	**Marble Bar**	**61.27**	**256**	*e*P	**P**	03 53 52.2	-0.7
	1.6nm,0.3s,mb4.6						
QSPA	**South Pole Qui**	**69.63**	**180**	*e*P	**P**	03 54 46.3	-0.7
	1.9nm,0.9s,mb4.0						
MJAR	**Matsushiro Arr**	**72.28**	**321**	P	**P**	03 55 05.0	+2.0
	2.2nm,0.7s,mb4.2,baz=161,slow=6.2,SNR=6.3						
NVAR	**Mina Array Bea**	**78.62**	**42**	P	**P**	03 55 41.4	+2.0
	1.2nm,0.7s,mb4.0,baz=219,slow=8.1,SNR=7.2						
TTA	**Tatalina**	**84.33**	**8**	*e*P	**P**	03 56 11.2	+1.7
ANMO	**Albuquerque**	**84.67**	**50**	*e*P	**P**	03 56 13.8	+2.5
	2.5nm,1.1s,mb4.3						
DAWY	**Dawson**	**88.48**	**15**	*e*P	**P**	03 56 32.4	+2.5
LPAZ	**La Paz**	**98.84**	**111**	LR	LR	04 33 39.4	
	comp=Z,53nm,21.3s,MS4.0,baz=308,slow=30						
MKAR	**Makanchi Array**	**113.70**	**313**	PKP	PKiKP	04 02 16.0	+0.1
	0.5nm,0.6s,baz=39,slow=2.3,SNR=4.7						
MKAR	**Makanchi Array**	**113.70**	**313**	PKP	PKiKP	04 02 16.0	+0.1
ARCES	**ARCESS Array B**	**129.44**	**351**	PKP	PKPdf	04 02 46.1	+0.1
	4.1nm,1.0s,baz=14,slow=0.5,SNR=5.7						
AKASG	**Malin Array Be**	**144.57**	**334**	PKP	PKPdf	04 03 13.7	-0.2
	2.9nm,0.5s,baz=42,slow=4.4,SNR=10						
MALT	**Malatya**	**146.63**	**309**	*e*PKPbc	PKPbc	04 03 21.2	+2.2
CLL	**Collm**	**148.66**	**351**	*i* PKPbc	PKPbc	04 03 26.2	+1.6
	comp=Z,8.0nm,1.1s						
BRG	**Berggiesshubel**	**148.94**	**350**	*e*P	PKPbc	04 03 27.1	+1.9
	comp=Z,3.2nm,0.9s						
DPC	**Dobruska-Polom**	**148.99**	**347**	*e*PKPbc	PKPbc	04 03 28.0	+2.6
BR131	**Keskin Array S**	**149.32**	**315**	*e*PKPbc	PKPbc	04 03 27.9	+1.6
BRTR	**Keskin Array B**	**149.32**	**315**	PKPbc	PKPbc	04 03 28.1	+1.8
	comp=Z,1.6nm,0.7s,baz=144,slow=3.2,SNR=10						
PRU	**Pruhonice**	**149.69**	**349**	*e*PKPbc	PKPbc	04 03 28.7	+1.6
VYHS	**Vyhne**	**150.08**	**342**	*e*PKP	PKPbc	04 03 30.2	+2.1
KOLL	**Kolacno**	**150.13**	**343**	*e*PKP	PKPbc	04 03 30.4	+2.2
GRA1	**Grafenberg Arr**	**150.48**	**353**	*e*PKP	PKPbc	04 03 31.0	+2.0
KHC	**Kasperske Hory**	**150.69**	**349**	*e*PKPbc	PKPbc	04 03 31.5	+2.0
GERES	**GERESS Array B**	**150.94**	**349**	PKPbc	PKPbc	04 03 32.1	+2.0
	comp=Z,1.3nm,0.7s,baz=18,slow=2.1,SNR=12						
CONA	**Conrad Observa**	**151.37**	**346⇑**	*i*PKiKP	PKiKP	04 03 33.2	+1.6
	comp=Z,4.0nm,0.8s						

NEIC ***07*** *03:50:31.9±2.6, 1900S×16929E, h262km±26km, mb4.1/2, Error ellipse: s-maj=64.8km s-min=29.2km az=155.0*
IDC ***07*** *03:50:31.9±4.1, 1910S×16940E, h263km±38km, mb3.9/3, mb1 4.0/4, mb1mx3.6/12, mbtmp4.5/4, Error ellipse: s-maj=85.7km s-min=34.9km az=159.0*
ISCJB ***07*** *03:50:32.5±2.4, 1873S±0.1×1687E±04, h248km±6km, mb4.2/5, Error ellipse: s-maj=63.1km s-min=14.5km az=24.1*

ISC 07 03:50:32.5±2.5, 188S±01×1689E±04, h241km±6km, n13, σ0§79/13, mb4.2/5, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.29**	**329⇓**	*i* P	**Pn**	03 51 07.7	-0.7
BKM				S	**S**	03 51 37.0	+0.3
DZM	**Mont Dzumac**	**4.02**	**215**	*e*P	**Pn**	03 51 36.9	+0.7
DZM				*e*S	**S**	03 52 21.2	-5.5
DZM	**Mont Dzumac**	**4.02**	**215**	P	**Pn**	03 51 36.9	+0.8
	4.2nm,0.3s,baz=63,slow=19,SNR=26						
DZM				S	**S**	03 52 24.9	-1.8
	3.5nm,0.3s,baz=127,slow=20,SNR=2.2						
NOUC	**Port Laguerre**	**4.13**	**216**	*e*P	**Pn**	03 51 38.0	+0.6
STKA	**Stephens Creek**	**27.85**	**237**	P	**P**	03 55 59.2	-0.6
	4.7nm,0.6s,mb4.3,baz=69,slow=7.9,SNR=11						
STKA	**Stephens Creek**	**27.85**	**237**	P	**P**	03 55 59.2	-0.6
WRAB	**Tennant Creek**	**32.62**	**262**	*e*P	**P**	03 56 40.8	-0.9
	3.1nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**32.63**	**262**	P	**P**	03 56 42.3	+0.5
	1.4nm,0.6s,mb3.6,baz=95,slow=8.2,SNR=16						
ASAR	**Alice Springs**	**32.97**	**255**	P	**P**	03 56 45.9	+1.2
	14nm,0.4s,mb4.8,baz=83,slow=8.9,SNR=184						
RKT	**Rikitea**	**52.29**	**105**	*e*LR	LR	04 00 00.0	
ULN	**Ulaanbaatar**	**86.33**	**323**	*e*P	**P**	04 02 47.0	-0.4
	1.5nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**124.56**	**345**	PKP	PKPdf	04 08 59.9	-3.2
	0.7nm,0.3s,baz=26,slow=2.0,SNR=18						
GERES	**GERESS Array B**	**143.96**	**332**	PKP	PKPdf	04 09 36.2	-2.9
	0.5nm,0.5s,baz=41,slow=4.3,SNR=6.1						

NEIC ***07*** *04:03:42.4, 3633N×1082W, h0km, MN2.5(MDD), After MDD.*
INMG ***07*** *04:03:44.4±1.2, 3617N×1074W, h10km, ML2.1, Error ellipse: s-maj=8.6km s-min=5.4km az=73.0*
CSEM ***07*** *04:03:45.8±0.8, 3610N×1025W, h10km, ML2.1, Error ellipse: s-maj=15.7km s-min=11.3km az=28.0*
IGIL ***07*** *04:03:46.2, 3614N×1067W, h31km, ML2.0*

MDD 07 04:03:43.5±2.2, 3628N×1071W, h0km, mb2.8/5, Error ellipse: s-maj=18.9km s-min=12.1km az=63.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.95**	**58**	*e*P	Pn	04 04 16.5	-1.2
MORF				*e*S	Sn	04 04 38.8	-4.1
MORF				*e*S	Sn	04 04 38.8	-4.1
MORF				AML	AML	04 04 43.6	
	comp=E,10nm,0.1s						
MORF	**Marmelete**	**1.95**	**58**	*e*P	Pn	04 04 16.5	-1.2
MORF				*e*S	Sn	04 04 38.8	-4.1
PBEJ	**Beja**	**2.87**	**52**	*e*Pn	Pn	04 04 29.0	-1.4
PBEJ				*e*Sn	Sn	04 05 02.3	-3.3
PBEJ							
	comp=E,1.7nm,0.2s						
PBEJ	**Beja**	**2.87**	**52**	*e*Pn	Pn	04 04 29.0	-1.4
PBEJ				*e*Sn	Sn	04 05 02.3	-3.3
	comp=E,1.7nm,0.2s						
EGRO	**El Granado**	**2.88**	**63**	Pn	Pn	04 04 29.6	-1.0
	comp=E,0.1nm,0.1s,SNR=8.7						
EGRO				Sn	Sn	04 05 03.0	-2.8
	comp=E,2.8nm,0.1s,SNR=6.4						
EGRO	**El Granado**	**2.88**	**63**	P	Pn	04 04 29.6	-0.9
	comp=E,0.9nm,0.1s,SNR=7.9						
EGRO				S	Sn	04 05 03.0	-2.8
	comp=E,2.8nm,0.1s,SNR=6.4						
PLOU	**Loures**	**2.88**	**25**	*e*Pn	Pn	04 04 29.6	-1.0
PLOU				*e*Sn	Sn	04 05 03.6	-2.4
PLOU							
	comp=E,5.5nm,0.2s						
PLOU	**Loures**	**2.88**	**25**	*e*Pn	Pn	04 04 29.6	-1.0
PLOU				*e*Sn	Sn	04 05 03.6	-2.4
MOE	**Montemor**	**2.92**	**39**	*e*Pn	Pn	04 04 30.4	-0.8
MOE				*e*Sn	Sn	04 05 06.3	-0.7
EMIN	**Mina Concepcio**	**3.56**	**64**	Pn	Pn	04 04 38.2	-1.7
	comp=E,0.2nm,0.1s,SNR=10						
EMIN				Sn	Sn	04 05 19.3	-3.4
	comp=E,0.4nm,0.1s						
EMIN	**Mina Concepcio**	**3.56**	**64**	P	Pn	04 04 38.2	-1.7
	comp=E,0.4nm,0.1s,SNR=10						
EMIN				S	Sn	04 05 19.3	-3.3
	comp=E,0.4nm,0.1s						
PTOM	**Tomar**	**3.80**	**28**	*e*Pn	Pn	04 04 42.5	-0.7
PTOM				*e*Sn	Sn	04 05 25.8	-2.8
PTOM							
	comp=E,3.3nm,0.1s						
PTOM	**Tomar**	**3.80**	**28**	*e*Pn	Pn	04 04 42.5	-0.7
PTOM				*e*Sn	Sn	04 05 25.8	-2.8
EBAD	**Badajoz**	**3.84**	**49**	Pn	Pn	04 04 42.1	-1.7
	comp=E,0.2nm,0.1s,SNR=11						
EBAD				Sn	Sn	04 05 27.1	-2.6
	comp=E,1.2nm,0.1s,SNR=6.9						
EBAD	**Badajoz**	**3.84**	**49**	P	Pn	04 04 42.1	-1.7
	comp=E,0.9nm,0.1s,SNR=11						
EBAD				S	Sn	04 05 27.1	-2.6
	comp=E,1.2nm,0.1s,SNR=6.9						
ESPR	**Espera**	**3.95**	**80**	Pn	Pn	04 04 43.6	-1.8
	comp=E,0.0nm,0.0s,SNR=4.6						
ESPR				Sn	Sn	04 05 28.1	-4.3
	comp=E,4.1nm,0.2s						
ESPR	**Espera**	**3.95**	**80**	P	Pn	04 04 43.6	-1.7
	comp=E,1.2nm,0.2s,SNR=4.6						
ESPR				S	Sn	04 05 28.1	-4.3
	comp=E,4.1nm,0.2s						
PCBR	**Castelo Branco**	**4.38**	**35**	*e*Sn	Sn	04 05 39.8	-3.1
PCBR							
	comp=E,1.3nm,0.2s						
PCBR	**Castelo Branco**	**4.38**	**35**	Sn	Sn	04 05 39.8	-3.1
	comp=E,0.6nm,0.2s						
MTE	**Manteigas**	**4.81**	**30**	*e*Sn	Sn	04 05 49.8	-3.7
MTE							
	comp=E,1.5nm,0.2s						
MTE	**Manteigas**	**4.81**	**30**	Sn	Sn	04 05 49.8	-3.7
	comp=E,0.8nm,0.2s						
PVIS	**Viseu**	**4.95**	**26**	*e*Sn	Sn	04 05 53.3	-3.7
PVIS							
	comp=E,1.8nm,0.1s						
PVIS	**Viseu**	**4.95**	**26**	Sn	Sn	04 05 53.3	-3.7
	comp=E,0.9nm,0.1s						
EADA	**Adamuz**	**5.25**	**67**	Pn	Pn	04 05 00.9	-2.2
	comp=E,0.0nm,0.0s,SNR=7.9						
EADA				Sn	Sn	04 05 59.5	-4.7
	comp=E,0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.25**	**67**	P	Pn	04 05 00.9	-2.2
	comp=E,0.3nm,0.2s,SNR=7.9						
EADA				S	Sn	04 05 59.5	-4.8
	comp=E,0.8nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**5.51**	**24**	*e*Sn	Sn	04 06 06.7	-4.1
PVRL							
	comp=E,2.9nm,0.2s						
PVRL	**Vila Real**	**5.51**	**24**	Sn	Sn	04 06 06.7	-4.1
	comp=E,1.4nm,0.2s						
PCAB	**Cabril**	**5.81**	**20**	*e*Sn	Sn	04 06 16.3	-2.0
ELOB	**Lobios**	**5.95**	**19**	Sn	Sn	04 06 16.8	-4.8
	comp=E,0.1nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.32**	**56**	Pn	Pn	04 05 16.4	-1.4
	comp=E,1.4nm,0.1s,baz=248,slow=14,SNR=12						
ESDC				Sn	Sn	04 06 25.5	-5.2
	comp=E,0.2nm,0.2s,baz=241,slow=23,SNR=4.0						
ESDC	**Sonseca Array**	**6.32**	**56**	P	Pn	04 05 16.4	-1.4
	comp=E,1.4nm,0.1s,SNR=12						
ESDC				S	Sn	04 06 25.5	-5.2
	comp=E,0.2nm,0.2s,SNR=4.0						
PBRG	**Braganca**	**6.33**	**28**	*e*Sn	Sn	04 06 25.7	-5.2

ISCJB ***07*** *05:35:50.3±3.3, 60S±02×1462E±03, h155km±36km, mb3.5/4, Error ellipse: s-maj=48.8km s-min=33.7km az=31.6*
NEIC ***07*** *05:35:50.4±2.5, 588S×146.18E, h138km±28km, mb4.0/1, Error ellipse: s-maj=38.2km s-min=23.0km az=114.0*
IDC ***07*** *05:35:51.8±3.8, 599S×14629E, h157km±41km, mb3.3/4, mb1 3.4/6, mb1mx3.3/14, mbtmp3.7/6, Error ellipse: s-maj=52.3km s-min=31.7km az=108.0*

ISC 07 05:35:51.3±3.2, 59S±02×1463E±03, h152km±36km, n10, σ0§47/10, mb3.5/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.56**	**166**	P	**Pn**	05 36 45.6	-0.2
	13nm,0.3s,baz=352,slow=6.0,SNR=28						
PMG				S	**Sn**	05 37 28.3	+0.2
	27nm,0.3s,baz=192,slow=23,SNR=13						
CTA	**Charters Tower**	**14.07**	**180**	P	**Pn**	05 39 10.1	+6.2
	0.6nm,0.3s,baz=10.0,slow=16,SNR=4.3						
WRAB	**Tennant Creek**	**18.13**	**219**	*e*P	**P**	05 39 52.1	+0.4
	9.3nm,1.2s						
WRA	**Warramunga Arr**	**18.14**	**219**	P	**P**	05 39 51.5	-0.3
	0.4nm,0.3s,baz=40,slow=12,SNR=30						
ASAR	**Alice Springs**	**21.29**	**213**	P	**P**	05 40 26.2	+0.4
	0.9nm,0.6s,mb3.3,baz=46,slow=8.6,SNR=12						
FITZ	**Fitzroy Crossi**	**23.52**	**237**	P	**P**	05 40 47.0	-0.5
	1.6nm,0.7s,mb3.7,baz=48,slow=17,SNR=4.0						
STKA	**Stephens Creek**	**26.19**	**189**	P	**P**	05 41 10.4	-1.2
	1.4nm,0.7s,mb3.7,baz=11,slow=10,SNR=2.9						
STKA	**Stephens Creek**	**26.19**	**189**	*e*P	**P**	05 41 12.3	+0.7
MKAR	**Makanchi Array**	**77.00**	**321**	P	**P**	05 47 27.5	+0.2
	0.5nm,0.6s,mb3.3,baz=92,slow=6.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**144.40**	**284**	PKP	PKPdf	05 55 10.9	+1.6
	0.4nm,0.3s,baz=73,slow=3.3,SNR=8.6						

ISCJB ***07*** *05:46:02.6±0.6, 4937N±002×687E±005, h0km, Error ellipse: s-maj=5.0km s-min=3.5km az=5.5*
LDG ***07*** *05:46:03.8±0.2, 4939N×687E, h1km, Md2.3/1, Ml2.6/4, Error ellipse: s-maj=4.1km s-min=2.1km az=107.0, Suspected Mining induced.*
BGR ***07*** *05:46:03.4±0.6, 4935N×682E, h1km, ML1.5/2, Error ellipse: s-maj=8.9km s-min=5.6km az=41.0*
NEIC ***07*** *05:46:03.9, 4936N×685E, h1km, ML2.0(STR), ML2.6(LDG), After STR.*
CSEM ***07*** *05:46:03.9±0.2, 4939N×685E, h1km, ML2.6/3, Error ellipse: s-maj=4.0km s-min=1.8km az=110.0*

ISC 07 05:46:03.5±0.6, 4938N±003×685E±005, h0km, n17, σ0§66/31, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.35**	**23**	Pg	**Pg**	05 46 10.7	+0.6
WLF	**Walferdange**	**0.54**	**302**	*e*Sg	**Sg**

KURK	**Kurchatov**	**46.72**	**299**	*e*P	**P**	**07 08 34.1**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
KURK	**Kurchatov**	**46.72**	**299**	*e*P	**P**	**07 08 34.1**	**+0.2**
	comp=Z,2.1nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**47.82**	**307**	*e*P	**P**	**07 08 42.0**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**47.82**	**307**	*e*P	**P**	**07 08 42.0**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**48.02**	**293**	P	**P**	**07 08 42.9**	**-1.0**
	comp=Z,0.2nm,0.4s,mb3.5,baz=51,slow=7.2,SNR=4.0						
MKAR	**Makanchi Array**	**48.02**	**293**	P	**P**	**07 08 42.9**	**-1.0**
BRVK	**Borovoye**	**48.41**	**307**	P	**P**	**07 08 46.8**	**-0.2**
BRVK				*e*		07 10 10.9	
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**48.41**	**307**	P	**P**	**07 08 46.8**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK				*e*PcP	PcP	07 10 10.9	-2.4
ZRNK	**Zerenda**	**49.00**	**307**	*e*P	**P**	**07 08 51.7**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**49.00**	**307**	*e*P	**P**	**07 08 51.7**	**+0.2**
	comp=Z,1.6nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**51.35**	**70**	P	**P**	**07 09 10.6**	**+1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=316,slow=4.1,SNR=4.9						
NOA	**NORSAR Array B**	**57.10**	**346**	P	**P**	**07 09 50.2**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=14,slow=7.2,SNR=3.3						
QSPA	**South Pole Qui**	**150.42**	**180**	*e*PKPdf	PKPdf	07 19 49.2	-1.9

*NEIC **07** 07:24:53.9, 27.30S×71.25W, h24km, ML3.9(GUC), After GUC.*

GUC 07 07:24:53.9±0.8, 27.30S×71.25W, h24km±8km, MD3.9, ML3.9, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.44**	**59**	⇓*i*P	Pb	07 25 02.6	-0.4
CDCH				*i* S	Sb	07 25 09.4	+0.2
CPCH	**Copiapo**	**0.80**	**94**	⇓*i*P	Pb	07 25 08.7	-0.5
CPCH				*i* S	Sb	07 25 19.9	+0.2
CPCH				AML	AML	07 25 22.8	
	comp=E,30μm,0.1s						
CPCH	**Copiapo**	**0.80**	**94**	⇓*i*P	Pb	07 25 08.7	-0.5
CPCH				*i* S	Sb	07 25 19.9	+0.2
CRCH	**Chaqaral**	**1.10**	**31**	*e*P	Pn	07 25 13.3	-0.6
CRCH				*i* S	Sb	07 25 27.5	-0.7
CRCH				AML	AML	07 25 29.7	
	comp=N,1μm,0.5s						
CRCH	**Chaqaral**	**1.10**	**31**	*e*P	Pn	07 25 13.3	-0.6
CRCH				*i* S	Sb	07 25 27.5	-0.7
VACH	**Vallenar**	**1.35**	**161**	*e*P	Pn	07 25 20.5	+3.3
VACH				*i* S	Sn	07 25 38.0	+3.6
LCO	**Las Campanas**	**1.77**	**164**	*e*P	Pn	07 25 24.8	+1.7
LCO				*i* S	Sn	07 25 47.4	+2.4
TLL	**Tololo Astrono**	**2.89**	**172**	*e*P	Pn	07 25 40.6	+2.3
TLL				*i* S	Sn	07 26 15.1	+2.8
TLL				AML	AML	07 26 31.0	
	comp=E,684nm,0.6s						
TLL	**Tololo Astrono**	**2.89**	**172**	*e*P	Pn	07 25 40.6	+2.3
TLL				*i* S	Sn	07 26 15.1	+2.8
LVC	**Limon Verde**	**5.13**	**25**	*e*Pn	Pn	07 26 09.8	+0.6
	comp=E,16nm,0.5s						

*ISCJB **07** 07:31:28.2±0.3, 43.25N±002×058W±002, h10km±3km, Error ellipse: s-maj=3.1km s-min=2.5km az=131.6*
*LDG **07** 07:31:30.1±0.1, 43.18N×061W, h3km, Md2.7/2, Ml2.6/8, Error ellipse: s-maj=1.5km s-min=1.1km az=166.0*
*NEIC **07** 07:31:30.2, 43.13N×062W, h5km, ML2.4(STR), ML2.6(LDG), MN2.2(MDD), After STR.*
*MDD **07** 07:31:30.5±0.3, 43.16N×062W, h10km, mbLg2.1/23, Error ellipse: s-maj=2.9km s-min=1.6km az=13.0, PRXIMO*
*STR **07** 07:31:30.2±0.2, 43.13N×062W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **07** 07:31:30.2±0.1, 43.20N×062W, h2km, ML2.6/10, Error ellipse: s-maj=1.1km s-min=0.8km az=149.0*

ISC 07 07:31:29.2±0.3, 43.21N±002×059W±002, h11km±3km, n77, σ0.83/130, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.15**	**212**	Pg	**Pg**	**07 31 32.7**	**0.0**
ATE				Sg	**Sg**	**07 31 34.2**	**-0.9**
ATE	**Arette**	**0.15**	**212**	Pg	**Pg**	**07 31 32.8**	**+0.1**
ATE				Lg		07 31 34.4	
REYF	**Montagne du Re**	**0.20**	**134**	Pg	**Pg**	**07 31 34.5**	**+0.9**
REYF				Sg	**Sg**	**07 31 37.5**	**+0.9**
REYF	**Montagne du Re**	**0.20**	**134**	Pg	**Pg**	**07 31 34.5**	**+0.9**
REYF				Lg		07 31 37.6	
ORDF	**Ordiarp**	**0.25**	**270**	Pg	**Pg**	**07 31 35.5**	**+1.1**
ORDF				Sg	**Sg**	**07 31 39.8**	**+1.9**
ORDF	**Ordiarp**	**0.25**	**270**	Pg	**Pg**	**07 31 35.5**	**+1.0**
ORDF				Lg		07 31 39.7	
ETSF	**Etsaut**	**0.32**	**175**	*e*Pg	**Pg**	**07 31 35.1**	**-0.5**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**07 31 37.9**	**-1.9**
	435nm,0.2s						
ETSF	**Etsaut**	**0.32**	**175**	*e*Pg	**Pg**	**07 31 35.1**	**-0.5**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**07 31 37.9**	**-1.9**
	217nm,0.2s						
LARF	**Larrau**	**0.34**	**239**	Pg	**Pg**	**07 31 36.0**	**0.0**
LARF				Sg	**Sg**	**07 31 40.7**	**+0.2**
LARF	**Larrau**	**0.34**	**239**	Pg	**Pg**	**07 31 36.1**	**+0.1**
LARF				Lg		07 31 40.5	
FDAF	**Les Forges d'A**	**0.39**	**177**	Pg	**Pg**	**07 31 36.4**	**-0.6**
FDAF				Lg		07 31 40.5	
SJPF	**Ste Jean**	**0.47**	**258**	*e*Pg	**Pg**	**07 31 38.6**	**+0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**07 31 44.9**	**+0.1**
	67nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**0.47**	**258**	*e*Pg	**Pg**	**07 31 38.6**	**+0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**07 31 44.9**	**+0.1**
	34nm,0.3s,SNR=1.0						
OSSF	**Osses**	**0.49**	**275**	Pg	**Pg**	**07 31 38.9**	**+0.1**
OSSF				Sg	**Sg**	**07 31 45.1**	**-0.2**
OSSF	**Osses**	**0.49**	**275**	Pg	**Pg**	**07 31 38.9**	**+0.1**
LABF	**Labassere**	**0.52**	**108**	Pg	**Pg**	**07 31 40.5**	**+1.2**
LABF				Sg	**Sg**	**07 31 47.9**	**+1.8**
LABF	**Labassere**	**0.52**	**108**	Pg	**Pg**	**07 31 40.6**	**+1.3**
LABF				Lg		07 31 48.1	
VIEF	**Viey**	**0.56**	**126**	Pg	**Pg**	**07 31 40.6**	**+0.5**
VIEF				Sg	**Sg**	**07 31 47.0**	**-0.5**
VIEF	**Viey**	**0.56**	**126**	Pg	**Pg**	**07 31 40.6**	**+0.4**
VIEF				Lg		07 31 47.6	
EALK	**Alkurruntz**	**0.67**	**271**	Pg	**Pg**	**07 31 42.0**	**-0.3**
	8.6nm,0.4s,SNR=28						
EALK				Lg		07 31 50.5	
	21nm,0.2s,SNR=16						
ELIZ	**Elizondo**	**0.69**	**266**	Pg	**Pg**	**07 31 42.7**	**+0.1**
	3.8nm,0.2s,SNR=16						
ELIZ				Lg		07 31 50.7	
	8.4nm,0.2s,SNR=7.9						
EPF	**Esparros**	**0.71**	**105**	*e*Pn	**Pn**	**07 31 45.2**	**0.0**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**07 31 52.9**	**+0.7**
	25nm,0.3s,SNR=1.0						
EPF	**Esparros**	**0.71**	**105**	Pg	**Pg**	**07 31 43.6**	**+0.7**
EPF				Lg		07 31 52.9	
	12nm,0.3s						
EPF	**Esparros**	**0.71**	**105**	*e*Pg	**Pg**	**07 31 43.6**	**+0.7**
EPF				*e*Pn	**Pn**	**07 31 45.2**	**0.0**
EPF				*e*Sg	**Sg**	**07 31 52.9**	**+0.7**
EPF	**Esparros**	**0.71**	**105**	*e*Pn	**Pn**	**07 31 45.2**	**0.0**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**07 31 52.9**	**+0.7**
	12nm,0.3s,SNR=1.0						
IUSE	**Utxeti**	**0.75**	**250**	Pg	**Pg**	**07 31 43.6**	**-0.1**
	2.0nm,0.1s,SNR=7.9						
IUSE				Lg		07 31 52.9	
	18nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.75**	**250**	Pg	**Pg**	**07 31 43.6**	**-0.1**
	2.0nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.75**	**134**	⇓Pg	**Pg**	**07 31 43.9**	**+0.1**
	7.9nm,0.1s,SNR=18						
EBIE				Lg		07 31 52.9	
	45nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.75**	**134**	Pg	**Pg**	**07 31 43.9**	**+0.1**
	7.9nm,0.1s,SNR=18						
RESF	**Ens**	**0.79**	**120**	Pg	**Pg**	**07 31 44.9**	**+0.3**
RESF				Sg	**Sg**	**07 31 54.8**	**-0.2**
RESF	**Ens**	**0.79**	**120**	Pg	**Pg**	**07 31 44.9**	**+0.3**
RESF				Lg		07 31 55.0	
EARA	**Aranguren**	**0.85**	**239**	Pg	**Pg**	**07 31 46.3**	**+0.7**
	4.9nm,0.1s,SNR=7.9						
EARA				Lg		07 31 56.7	
	18nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.05**	**108**	Pg	**Pg**	**07 31 49.9**	**+0.5**
MELF				Lg		07 32 04.1	
EGRA	**Graus**	**1.22**	**146**	Pg	**Pg**	**07 31 53.0**	**+0.3**
	2.3nm,0.1s,SNR=6.6						
EGRA				Lg		07 32 08.8	
	12nm,0.3s,SNR=5.0						
SALF	**Salau**	**1.38**	**108**	Pg	**Pg**	**07 31 56.6**	**+0.8**
SALF	**Salau**	**1.38**	**108**	Pg	**Pg**	**07 31 56.7**	**+0.9**
SALF				Lg		07 32 15.2	
ESAC	**San Caprasio**	**1.49**	**176**	Pg	**Pg**	**07 31 57.6**	**-0.3**
	54nm,0.3s,SNR=18						
ESAC				Lg		07 32 16.2	
	48nm,0.2s,SNR=8.9						
ESAC	**San Caprasio**	**1.49**	**176**	Pg	**Pg**	**07 31 57.6**	**-0.3**
	54nm,0.3s,SNR=18						
LFF	**La Frestale**	**1.98**	**29**	*e*Pg	**Pg**	**07 32 07.5**	**+0.3**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**07 32 33.5**	**+0.7**
	16nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**1.98**	**29**	*e*Pg	**Pg**	**07 32 07.5**	**+0.3**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**07 32 33.5**	**+0.7**
	8.2nm,0.3s,SNR=1.0						
EMIR	**Miracle**	**2.03**	**129**	Pg	**Pg**	**07 32 07.6**	**-0.7**
	6.1nm,0.2s,SNR=10.0						
EMIR				Lg		07 32 33.5	
	16nm,0.2s,SNR=5.0						
EMIR	**Miracle**	**2.03**	**129**	Pg	**Pg**	**07 32 07.6**	**-0.6**
	6.1nm,0.2s,SNR=10.0						
MTLF	**Montolieu**	**2.06**	**85**	*e*Pg	**Pg**	**07 32 08.1**	**-0.6**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**07 32 35.7**	**+0.3**
	3.4nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**2.06**	**85**	Pn	**Pn**	**07 32 04.2**	**+0.5**
MTLF				Pg	**Pg**	**07 32 08.1**	**-0.6**
MTLF				Lg		07 32 35.7	
	1.7nm,0.3s						
MTLF	**Montolieu**	**2.06**	**85**	*e*Pn	**Pn**	**07 32 04.2**	**+0.5**
MTLF				*e*Pg	**Pg**	**07 32 08.1**	**-0.6**
MTLF				*e*Sg	**Sg**	**07 32 35.7**	**+0.3**
MTLF	**Montolieu**	**2.06**	**85**	*e*Pg	**Pg**	**07 32 08.1**	**-0.6**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**07 32 35.7**	**+0.3**
	1.7nm,0.3s,SNR=1.0						
ELAN	**Lanestosa**	**2.08**	**272**	Pg	**Pg**	**07 32 08.4**	**-0.6**
	1.1nm,0.2s,SNR=7.9						
ELAN				Lg		07 32 33.5	
	2.0nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.08**	**272**	Pg	**Pg**	**07 32 08.4**	**-0.7**
	1.1nm,0.2s,SNR=7.9						
VALF	**Valcebollere**	**2.08**	**112**	Pg	**Pg**	**07 32 10.2**	**+0.9**
VALF				Lg		07 32 37.0	
EPOB	**Poblet**	**2.23**	**146**	Pg	**Pg**	**07 32 10.4**	**-1.7**
	1.4nm,0.1s,SNR=7.1						
EPOB				Lg		07 32 38.3	
	8.5nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**2.23**	**146**	Pg	**Pg**	**07 32 10.4**	**-1.7**
	1.4nm,0.1s,SNR=7.1						
ERTA	**Horta de San J**	**2.36**	**163**	Pg	**Pg**	**07 32 12.7**	**-1.7**
	1.5nm,0.1s,SNR=7.9						
ERTA				Lg		07 32 41.5	
	4.3nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.36**	**163**	Pg	**Pg**	**07 32 12.8**	**-1.6**
CAF	**Calviac**	**2.57**	**47**	*e*Pg	**Pg**	**07 32 18.4**	**-0.1**
CAF				*e*Sn	**Sn**	**07 32 41.7**	**-0.3**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**07 32 51.9**	**+0.1**
	2.9nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.57**	**47**	Pn	**Pn**	**07 32 11.7**	**+0.9**
CAF				Pg	**Pg**	**07 32 18.4**	**-0.1**
CAF				Sn	**Sn**	**07 32 41.7**	**-0.3**
CAF				Lg		07 32 51.9	
	1.4nm,0.2s						
CAF	**Calviac**	**2.57**	**47**	*e*Pn	**Pn**	**07 32 11.7**	**+0.9**
CAF				*e*Pg	**Pg**	**07 32 18.4**	**-0.1**
CAF				*e*Sn	**Sn**	**07 32 41.7**	**-0.3**
CAF				*e*Sg	**Sg**	**07 32 51.9**	**+0.1**
CAF	**Calviac**	**2.57**	**47**	*e*Pg	**Pg**	**07 32 18.4**	**-0.1**
CAF				*e*Sn	**Sn**	**07 32 41.7**	**-0.3**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**07 32 51.9**	**+0.1**
	1.5nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.58**	**35**	*e*Pg	**Pg**	**07 32 18.6**	**-0.2**
RJF				*e*Sn	**Sn**	**07 32 41.9**	**-0.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**07 32 52.5**	**+0.3**
	6.8nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.58**	**35**	Pn	**Pn**	**07 32 11.4**	**+0.4**
RJF				Pg	**Pg**	**07 32 18.6**	**-0.2**
RJF				Sn	**Sn**	**07 32 41.9**	**-0.4**
RJF				Lg		07 32 52.5	
	3.4nm,0.3s						
RJF	**Les Rejaudoux**	**2.58**	**35**	*e*Pn	**Pn**	**07 32 11.4**	**+0.4**
RJF				*e*Pg	**Pg**	**07 32 18.6**	**-0.2**
RJF				*e*Sn	**Sn**	**07 32 41.9**	**-0.4**
RJF				*e*Sg	**Sg**	**07 32 52.5**	**+0.3**
RJF	**Les Rejaudoux**	**2.58**	**35**	*e*Pg	**Pg**	**07 32 18.6**	**-0.2**
RJF				*e*Sn	**Sn**	**07 32 41.9**	**-0.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**07 32 52.5**	**+0.3**
	3.4nm,0.3s,SNR=1.0						
ETOR	**Torete**	**2.63**	**205**	Pn	**Pn**	**07 32 12.8**	**+1.2**
	0.3nm,0.1s,SNR=7.9						
ETOR				Pg	**Pg**	**07 32 18.3**	**-1.3**
	1.3nm,0.2s,SNR=7.9						
ETOR				Sn	**Sn**	**07 32 44.5**	**+1.0**
	0.5nm,0.1s,SNR=7.9						
ETOR				Lg		07 32 52.0	
	1.2nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.63**	**205**	Pg	**Pg**	**07 32 18.3**	**-1.3**
	1.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.63**	**205**	Pg	**Pg**	**07 32 18.3**	**-1.3**
ETOR				Sn	**Sn**	**07 32 44.5**	**+1.1**
	0.5nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.85**	**178**	Pn	**Pn**	**07 32 15.0**	**+0.4**
	3.0nm,0.7s,SNR=4.0						
EMOS				Pg	**Pg**	**07 32 21.6**	**-2.2**
	1.7nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**07 32 48.8**	**-0.1**
	1.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.85**	**178**	Pn	**Pn**	**07 32 15.0**	**+0.4**
EMOS	**Mosqueruela**	**2.85**	**178**	Pg	**Pg**	**07 32 21.6**	**-2.2**
LASF	**Ste Croix**	**3.34**	**74**	*e*Pg	**Pg**	**07 32 31.8**	**-1.5**
LASF				*e*Sg	**Sg**	**07 33 15.6**	**-1.0**
	1.9nm,0.3s						
LASF	**Ste Croix**	**3.34**	**74**	Pn	**Pn**	**07 32 22.1**	**+0.7**
LASF				Pg	**Pg**	**07 32 31.8**	**-1.5**
LASF				Lg		07 33 15.6	
	0.9nm,0.3s						
LASF	**Ste Croix**	**3.34**	**74**	*e*Pn	**Pn**	**07 32 22.1**	**+0.7**
LASF				*e*Pg	**Pg**	**07 32 31.8**	**-1.5**
LASF				*e*Sg	**Sg**	**07 33 15.6**	**-1.0**
LASF	**Ste Croix**	**3.34**	**74**	*e*Pg	**Pg**	**07 32 31.8**	**-1.5**
LASF				*e*Sg	**Sg**	**07 33 15.6**	**-1.0**
	0.9nm,0.3s						
MFF	**Saint Martin d**	**3.41**	**5**	*e*Sn	**Sn**	**07 33 01.4**	**-1.2**
MFF				*e*Sg	**Sg**	**07 33 18.3**	**-0.3**
	4.1nm,0.3s						
MFF	**Saint Martin d**	**3.41**	**5**	*e*Sn	**Sn**	**07 33 01.4**	**-1.2**
MFF				*e*Sg	**Sg**	**07 33 18.3**	**-0.3**
	2.0nm,0.3s						
TCF	**Toulx Ste Croi**	**3.67**	**32**	*e*Sg	**Sg**	**07 33 25.9**	**-1.1**
	3.3nm,0.3s						
TCF	**Toulx Ste Croi**	**3.67**	**32**	*e*Sg	**Sg**	**07 33 25.9**	**-1.1**
	1.6nm,0.3s						
BGF	**Bois d'Agland**	**4.14**	**35**	*e*Sg	**Sg**	**07 33 41.2**	**-1.1**
	12nm,0.4s						
BGF	**Bois d'Agland**	**4.14**	**35**	*e*Sg	**Sg**	**07 33 41.2**	**-1.1**
	6.2nm,0.4s						

*ISCJB **07** 08:22:48.4±0.4, 189S±006×100.48E±008, h39km, mb4.8/37, MS4.0/13, Error ellipse: s-maj=12.5km s-min=6.7km az=108.9*
*BJI **07** 08:22:48.6, 200S×100.40E, h30km, mB4.9, mb4.9, Ms4.2, Msz4.1*
*NEIC **07** 08:22:48.6±0.3, 199S×100.37E, h30km, mb4.9/11, Error ellipse: s-maj=16.6km s-min=6.3km az=57.0*
NEIC Felt [III] at Padang and [II] at Bengkulu.
*MOS **07** 08:22:50.5±1.1, 165S×100.74E, h54km, mb5.2/15, Error ellipse: s-maj=21.0km s-min=8.0km az=113.3*
*IDC **07** 08:22:52.2±3.9, 181S×100.55E, h58km±35km, mb4.2/13, mb1 4.4/14, mb1mx4.1/20, mbtmp4.5/14, MS3.9/6, Ms1 3.9/6, ms1mx3.5/14, Error ellipse: s-maj=33.2km s-min=12.6km az=52.0*

ISC 07 08:22:50.4±0.4, 197S±006×100.37E±007, h41km, h41km±5.9km: pP-P, n97, σ1.92/85, mb4.8/37, MS4.0/13, 2C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.51**	**1**	P	**Pn**	**08 23 15.0**	**+0.1**
	1μm,0.7s						
KSI	**Kapahiang**	**2.78**	**127**	P	**Pn**	**08 23 36.8**	**+4.4**
	552nm,0.8s						
KGM	**Kluang**	**4.94**	**37**	P	**Pn**	**08 24 04.0**	**+2.0**
PSI	**Prapat**	**4.96**	**343**	P	**Pn**	**08 24 02.2**	**-0.1**
	4.2nm,0.3s,baz=162,slow=11,SNR=27						
PSI				LR	LR	08 26 14.2	
	comp=Z,938nm,20.8s,baz=169,slow=42						
IPM	**Ipoh**	**6.44**	**6**	P	**Pn**	**08 24 26.0**	**+3.2**
KULM	**Kulim**	**7.22**	**2**	*e*Pn	**Pn**	**08 24 33.3**	**-0.1**
TSM	**Tawau**	**18.57**	**70**	P	**Pn**	**08 27 05.0**	**+0.7**
QIZ	**Qiongzhong**	**22.86**	**24**	P	**P**	**08 27 51.8**	**+1.7**
QIZ				S	**S**	**08 31 57.7**	**+0.9**
QIZ				LR	LR		
	comp=Z,360nm,19.1s,MS3.8						
FITZ	**Fitzroy Crossi**	**29.52**	**125**	*e*P	**P**	**08 28 51.2**	**+0.3**
	comp=Z,8.2nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**29.52**	**125**	P	**P**	**08 28 50.9**	**0.0**
	comp=Z,4.2nm,0.6s,mb4.4,baz=121,slow=19,SNR=20						
JIRN	**Jiri**	**32.47**	**336**	*e*P	**P**	**08 29 18.1**	**+1.2**
LSA	**Lhasa**	**32.70**	**345**	*e*P	**P**	**08 29 20.1**	**+1.2**
LSA				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
LSA	**Lhasa**	**32.70**	**345**	*e*P	**P**	**08 29 20.1**	**+1.1**
	comp=Z,22nm,0.9s,mb5.1						
GUN	**Gumba**	**32.82**	**336**	*e*P	**P**	**08 29 20.8**	**+0.9**
	comp=Z,17nm,0.3s,mb5.5						
CD2	**Chengdu**	**32.86**	**5**	*e*P	**P**	**08 29 21.6**	**+1.3**
CD2				AP	pP	08 29 36.5	+5.0
CD2				PP	PP	08 30 33.7	-1.3
CD2				PCP	PcP	08 32 04.4	+0.1
CD2				S	**S**	**08 34 34.6**	**-0.3**
CD2				SCP	ScP	08 35 42.1	-3.0
CD2				PCS	PcS	08 35 48.7	-0.9
CD2				SS	SS	08 36 37.6	-20
CD2				SCS	ScS	08 39 41.0	-4.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=E,340nm,14.4s						
CD2				LR	LR		
	comp=Z,390nm,16.8s,MS4.2						
DMN	**Daman**	**32.88**	**335**	*e*P	**P**	**08 29 21.0**	**+0.6**
KKN	**Kakani**	**32.96**	**335**	*e*P	**P**	**08 29 21.5**	**+0.3**
	comp=Z,14nm,0.5s,mb5.2						
KKN	**Kakani**	**32.96**	**335**	*e*P	**P**	**08 29 21.5**	**+0.3**
KKN				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
GKN	**Gorkha**	**33.42**	**334**	*e*P	**P**	**08 29 25.7**	**+0.5**
	comp=Z,14nm,0.3s,mb5.3						
KOLN	**Koldanda**	**33.69**	**333**	*e*P	**P**	**08 29 27.5**	**0.0**
XAN	**Xi'an**	**36.71**	**12**	P	**P**	**08 29 51.8**	**-1.8**
WRA	**Warramunga Arr**	**37.69**	**121**	P	**P**	**08 30 01.1**	**-0.7**
	comp=Z,3.8nm,0.4s,mb4.5,baz=301,slow=8.9,SNR=86						
WRAB	**Tennant Creek**	**37.69**	**121**	*e*P	**P**	**08 30 01.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,13nm,0.3s,mb5.1						
WRAB	**Tennant Creek**	**37.69**	**121**	*e*P	**P**	**08 30 01.7**	**-0.1**
	comp=Z,13nm,0.3s,mb5.1						
LZH	**Lanzhou**	**38.00**	**5**	*e*P	**P**	**08 30 03.5**	**-1.0**
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,70nm,5.2s						
LZH				LR	LR		
	comp=E,380nm,14.0s						
LZH				LR	LR		
	comp=Z,410nm,17.5s,MS4.3						
NJ2	**Nanjing**	**38.11**	**26**	*e*P	**P**	**08 30 02.9**	**-2.5**
NJ2				AP	pP	08 30 12.3	-4.4
NJ2				XP	sP	08 30 16.6	-4.9
NJ2				PP	PP	08 31 40.4	+7.5
NJ2				S	**S**	**08 35 50.0**	**-5.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,230nm,3.8s						
NJ2				LR	LR		
	comp=N,300nm,15.0s,MS4.3						
NJ2				LR	LR		
	comp=E,240nm,17.2s,MS4.3						
NJ2				LR	LR		
	comp=Z,200nm,12.2s,MS4.1						
SSE	**Sheshan**	**38.39**	**29**	*e*P	**P**	**08 30 04.7**	**-3.0**
SSE				AP	pP	08 30 13.7	-5.4
SSE				XP	sP	08 30 17.8	-6.1
SSE				PCP	PcP	08 32 20.3	-0.3
SSE				S	**S**	**08 35 54.4**	**-5.3**
SSE				SCS	ScS	08 40 17.6	+2.3
SSE				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,60nm,3.6s						
SSE	

FRU	**Bishkek**	**50.28**	**335**	*e*P	**P**	**08 31 43.0**	**+0.2**
FRU				*e*	pP	08 31 55.0	+0.6
FRU				pmax	pmax		
comp=Z,40nm,1.6s,mb5.2							
CHMS	**Chumysh**	**50.36**	**336**	P	**P**	**08 31 43.7**	**+0.4**
SNR=5.0							
EKS2	**Erkin-Say**	**50.50**	**335**	P	**P**	**08 31 45.7**	**+1.3**
SNR=18							
USP	**Ospenovka**	**50.69**	**336**	P	**P**	**08 31 46.2**	**+0.4**
SNR=21							
MKAR	**Makanchi Array**	**51.10**	**344**	P	**P**	**08 31 48.6**	**-0.3**
comp=Z,10nm,0.7s,mb4.9,baz=155,slow=8.3,SNR=60							
ZAK	**Zakamensk**	**52.21**	**2**	*e*P	**P**	**08 31 49.9**	**-7.3**
ZAK				pmax	pmax		
comp=Z,6.0nm,1.8s,mb4.2							
TLY	**Talaya**	**53.52**	**3**	*e*P	**P**	**08 31 59.1**	**-7.8**
TLY				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
TLY	**Talaya**	**53.52**	**3**	*e*P	**P**	**08 31 59.1**	**-7.8**
comp=Z,5.6nm,0.9s,mb4.5							
KURK	**Kurchatov**	**55.69**	**343**	*e*P	**P**	**08 32 21.9**	**-0.7**
KURK				*e*		08 33 19.4	
KURK				pmax	pmax		
comp=Z,35nm,1.3s,mb5.2							
KURK	**Kurchatov**	**55.69**	**343**	*e*P	**P**	**08 32 21.9**	**-0.6**
comp=Z,35nm,1.3s,mb5.2							
KURK				*e*PcP	PcP	08 33 19.4	-2.2
CNB	**Canberra Magne**	**56.22**	**132**	*e*P	**P**	**08 32 36.4**	**+10**
comp=Z,16nm,1.3s,mb4.9							
ZAL	**Zalesovo**	**57.20**	**349**	P	**P**	**08 32 32.1**	**-1.3**
comp=Z,16nm,0.3s,mb5.5,baz=310,slow=4.9,SNR=44							
KLR	**Kul'dur**	**57.76**	**24**	*e*P	**P**	**08 32 32.7**	**-4.6**
KLR				pmax	pmax		
comp=Z,42nm,1.8s,mb5.2							
NVS	**Novosibirsk**	**58.36**	**348**	*e*P	**P**	**08 32 38.4**	**-3.1**
HABR	**Khabarovsk**	**58.58**	**26**	*e*P	**P**	**08 32 39.2**	**-3.8**
HABR				*e*S	**S**	**08 40 38.6**	**-5.4**
BRVK	**Borovoye**	**60.35**	**340**	*e*P	**P**	**08 32 53.9**	**-1.3**
BRVK				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.7							
BRVK	**Borovoye**	**60.35**	**340**	*e*P	**P**	**08 32 53.9**	**-1.3**
comp=Z,8.3nm,1.1s,mb4.7							
ZRNK	**Zerenda**	**60.72**	**339**	*e*P	**P**	**08 32 56.6**	**-1.1**
ZRNK				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.8							
ZRNK	**Zerenda**	**60.72**	**339**	*e*P	**P**	**08 32 56.6**	**-1.1**
comp=Z,8.8nm,1.1s,mb4.8							
CHKZ	**Chkalovo**	**60.74**	**340**	*e*P	**P**	**08 32 56.7**	**-1.2**
CHKZ				pmax	pmax		
comp=Z,21nm,1.1s,mb5.2							
CHKZ	**Chkalovo**	**60.74**	**340**	*e*P	**P**	**08 32 56.7**	**-1.2**
comp=Z,21nm,1.1s,mb5.2							
KMBO	**Kilima Mbogo**	**63.10**	**270**	LR	LR	08 54 25.5	
comp=Z,82nm,21.8s,MS3.9,baz=96,slow=30							
MIR	**Mirnyy**	**64.66**	**183**	*e*P	**P**	**08 33 18.5**	**-5.5**
MIR				pmax	pmax		
comp=Z,300nm,0.9s							
YAK	**Yakutsk**	**67.62**	**14**	*i* P	**P**	**08 33 41.4**	**-1.6**
YAK				pmax	pmax		
comp=Z,30nm,1.1s,mb5.2							
YAK				MLR	MLR		
comp=Z,100nm,17.0s,MS4.1							
KIV	**Kislovodsk**	**68.76**	**319**	*e*P	**P**	**08 33 50.6**	**+0.4**
KIV				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.8							
MAW	**Mawson**	**70.40**	**194**	LR	LR	08 59 16.8	
comp=Z,183nm,19.6s,MS4.3,baz=198,slow=31							
SOC	**Sochi**	**70.58**	**318**	*e**PP	pP	08 34 11.6	-1.9
SOC				*e*PPP		08 38 22.5	
SOC				*e*S	S	08 43 10.7	-1.4
SOC				*e*SS	SS	08 47 37.9	-6.1
BRTR	**Keskin Array B**	**73.58**	**312**	P	**P**	**08 34 18.4**	**-0.8**
comp=Z,1.5nm,0.7s,mb4.0,baz=126,slow=6.3,SNR=8.1							
BRTR	**Keskin Array B**	**73.58**	**312**	*i* P	**P**	**08 34 19.0**	**-0.3**
BRTR				pmax	pmax		
comp=Z,2.0nm,0.7s							
BRTR	**Keskin Array B**	**73.58**	**312**	P	**P**	**08 34 18.4**	**-0.8**
VRSR	**Storozhevoye**	**73.95**	**325**	*e*P	**P**	**08 34 20.6**	**-0.9**
VRSR				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0							
VRSR				pmax	pmax		
comp=N,1.0nm,1.0s							
VRSR				pmax	pmax		
comp=E,2.0nm,1.0s							
BOSA	**Boshof**	**75.99**	**241**	P	**P**	**08 34 35.8**	**+2.5**
comp=E,2.3nm,0.6s,mb4.3,baz=76,slow=5.4,SNR=6.7							
BOSA				LR	LR	09 06 24.6	
comp=E,132nm,19.1s,MS4.3,baz=271,slow=34							
OBN	**Obninsk**	**76.97**	**328‖**	*e*P	**P**	**08 34 39.0**	**+0.2**
OBN				*e*		08 37 29.9	
OBN				*e*S	S	08 44 19.5	-4.5
OBN				*e*SS	SS	08 49 20.5	-0.7
OBN				pmax	pmax		
comp=Z,9.0nm,0.5s,mb5.0							
AKASG	**Malin Array Be**	**79.69**	**322**	P	**P**	**08 34 52.9**	**-0.9**
comp=Z,0.2nm,0.3s,baz=91,slow=4.2,SNR=5.3							
AKASG	**Malin Array Be**	**79.69**	**322**	*i* P	**P**	**08 34 53.9**	**+0.1**
FINES	**FINESS Array B**	**84.26**	**332**	P	**P**	**08 35 17.5**	**-0.3**
comp=Z,1.6nm,0.5s,mb4.5,baz=113,slow=5.7,SNR=16							
KAF	**Kangasniemi**	**84.33**	**333**	*e*p	**P**	**08 35 16.9**	**-1.2**
comp=Z,3.6nm,0.4s,mb4.8,baz=100,slow=4.6							
KAF	**Kangasniemi**	**84.33**	**333**	*e*P	**P**	**08 35 16.9**	**-1.2**
KAF				pmax	pmax		
comp=Z,4.0nm,0.4s,mb4.9							
ARCES	**ARCESS Array B**	**86.57**	**340**	P	**P**	**08 35 28.4**	**-0.9**
comp=Z,1.1nm,0.3s,mb4.5,baz=106,slow=4.5,SNR=24							
ARCES	**ARCESS Array B**	**86.57**	**340**	P	**P**	**08 35 28.4**	**-0.9**
BRG	**Berggiesshubel**	**89.25**	**321**	*e*(P)	pP	08 35 56.3	+1.7
comp=Z,2.5nm,0.9s							
GERES	**GERESS Array B**	**89.27**	**319**	P	**P**	**08 35 42.8**	**+0.6**
comp=Z,0.4nm,0.2s,mb4.3,baz=76,slow=5.6,SNR=3.6							
NOA	**NORSAR Array B**	**91.30**	**331**	LR	LR	09 21 27.9	
comp=Z,38nm,21.3s,MS3.8,baz=60,slow=38							
BFO	**Black Forest**	**92.82**	**318**	*e*P	**P**	**08 35 56.4**	**-2.3**
BDFB	**Brasilia**	**144.17**	**240**	PKP	PKPdf	08 42 22.8	+1.0
comp=Z,1.5nm,0.5s,baz=176,slow=13,SNR=3.4							
LTX	**Lajitas**	**144.46**	**38**	*e*PKIKP	PKPdf	08 42 22.1	-0.2
CPUP	**Villa Florida**	**144.56**	**216**	PKP	PKPdf	08 42 23.6	+1.2
comp=Z,3.0nm,0.6s,baz=140,slow=2.7,SNR=15							
CPUP	**Villa Florida**	**144.56**	**216**	*e*PKPdf	PKPdf	08 42 23.4	+1.0
MIAR	**Mount Ida**	**145.08**	**20**	*e*PKIKP	PKPdf	08 42 22.8	-0.5
WVT	**Waverly**	**145.18**	**12**	*e*PKIKP	PKPdf	08 42 22.8	-0.7
JCT	**Junction City**	**145.81**	**32**	*e*PKIKP	PKPdf	08 42 25.3	+0.7
PLAL	**Pickwick Lake**	**146.23**	**13**	*e*PKPdf	PKPdf	08 42 25.5	+0.2
OXF	**Oxford**	**146.37**	**15**	*e*PKP2	PKPab	08 42 27.1	-0.6
CPCT	**Cooper Cave**	**146.38**	**7**	*e*PKPdf	PKPdf	08 42 26.2	+0.7
SWET	**Sewanee**	**146.41**	**9**	*e*PKPdf	PKPdf	08 42 25.9	+0.3
HKT	**Hockley**	**148.21**	**27**	*e*PKP2	PKPab	08 42 32.4	-2.6

ISC 07 08:23:44.6±1.3, 1021N±004×12623E±006, h14km±7km, n23, σ0°98/32, 1C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.84**	**240‖**	*e*P	**Pg**	**08 23 59.6**	**-1.3**
SCPH				*i* S	**Sg**	**08 24 12.7**	**+0.7**
MSLP	**Maasin**	**1.35**	**267**	*e*P	**Pn**	**08 24 07.7**	**-1.4**
MSLP				*e*S	**Sn**	**08 24 25.1**	**-1.7**
BUTP	**Butuan**	**1.37**	**206**	*e*P	**Pn**	**08 24 08.3**	**-0.9**
PLP	**Palo**	**1.56**	**308**	*e*P	**Pn**	**08 24 11.4**	**-0.5**
PLP				*e*S	**Sn**	**08 24 23.2**	**-8.7**
BESP	**Borongan**	**1.59**	**331**	*e*P	**Pn**	**08 24 13.1**	**+0.8**
OCLP	**Ormoc**	**1.80**	**298**	*e*P	**Pn**	**08 24 15.4**	**+0.1**
BIPH	**Bislig**	**2.01**	**176‖**	*e*P	**Pn**	**08 24 17.0**	**-1.1**
BIPH				*e*S	**Sn**	**08 24 43.0**	**-0.1**
LLP	**Lapu-Lapu**	**2.23**	**273**	*e*P	**Pn**	**08 24 21.1**	**-0.1**
LLP				*e*S	**Sn**	**08 24 47.5**	**-1.0**
CGP	**Cagayan de Oro**	**2.31**	**221**	*e*P	**Pn**	**08 24 21.9**	**-0.3**
CGP				*e*S	**Sn**	**08 24 50.6**	**+0.2**
TBP	**Tagbilaran**	**2.39**	**258**	*e*P	**Pn**	**08 24 32.2**	**+8.8**
TBP				*e*S	**Sn**	**08 24 56.8**	**+4.4**
BUKP	**Musuan**	**2.58**	**207**	*e*P	**Pn**	**08 24 27.8**	**+1.8**
BUKP				*e*S	**Sn**	**08 24 58.4**	**+1.2**
SNPH	**Sibulan**	**3.08**	**254‖**	*e*P	**Pn**	**08 24 34.0**	**+1.3**
DAV	**Davao City (W)**	**3.18**	**192**	*e*P	**Pn**	**08 24 32.0**	**-2.2**
DCPH	**Dipolog City**	**3.27**	**241‖**	*e*P	**Pn**	**08 24 35.9**	**+0.5**
DCPH				*e*S	**Sn**	**08 25 14.3**	**+0.2**
GUIM	**Jordan**	**3.61**	**277**	*e*P	**Pn**	**08 24 40.6**	**+0.5**
PAGZ	**Pagadian**	**3.66**	**230**	*e*P	**Pn**	**08 24 42.3**	**+1.5**
RCP	**Roxas**	**3.68**	**292‖**	*e*P	**Pn**	**08 24 41.3**	**+0.2**
PVCP	**Virac**	**3.94**	**329‖**	*e*P	**Pn**	**08 24 44.5**	**0.0**
PVCP				*e*S	Px	08 24 51.5	
PVCP	**Virac**	**3.94**	**329**	*e*P	**Pn**	**08 24 45.5**	**+0.9**
OTRP	**Odiongan**	**4.65**	**298**	*e*P	**Pn**	**08 24 55.7**	**+1.2**
CUYO	**Cuyo Island**	**5.17**	**278**	*e*P	**Pn**	**08 25 02.0**	**+0.5**
LUBP	**Lubang**	**6.83**	**302**	*e*P	**Pn**	**08 25 23.7**	**-0.6**
BALP	**Baler**	**7.13**	**321**	*e*P	**Pn**	**08 25 28.2**	**-0.3**

*CSEM **07** 08:39:12.8±0.1, 43.10N×062W, h10km, ML2.1, Error ellipse: s-maj=3.6km s-min=1.2km az=6.0*
*STR **07** 08:39:12.3±0.2, 43.15N×062W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 08:39:13.6±0.1, 43.06N×066W, h2km, Md1.7/2, Error ellipse: s-maj=5.4km s-min=2.4km az=11.0*
MDD 07 08:39:13.2±0.4, 4309N×064W, h10km±3km, mbLg1.0/5, Error ellipse: s-maj=4.0km s-min=1.6km az=16.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.04**	**271**	Pg	Pg	08 39 14.8	-0.3
ATE				Sg	Sg	08 39 16.4	0.0
ATE	**Arette**	**0.04**	**271**	Pg	Pg	08 39 14.8	-0.3
ATE				Lg		08 39 16.5	
REYF	**Montagne du Re**	**0.18**	**95**	Pg	Pg	08 39 16.5	-0.6
REYF				Sg	Sg	08 39 19.4	-0.3
REYF	**Montagne du Re**	**0.18**	**95**	Pg	Pg	08 39 16.4	-0.7
REYF				Lg		08 39 19.8	
ETSF	**Etsaut**	**0.20**	**162**	*e*Pg	Pg	08 39 17.1	-0.2
ETSF				*e*Sg	Sg	08 39 20.2	+0.1
26nm,0.2s							
ETSF	**Etsaut**	**0.20**	**162**	Pg	Pg	08 39 17.1	-0.2
ETSF				Lg		08 39 20.2	
13nm,0.2s							
ETSF	**Etsaut**	**0.20**	**162**	*e*Sg	Sg	08 39 20.2	+0.1
13nm,0.2s							
ORDF	**Ordiarp**	**0.25**	**301**	Pg	Pg	08 39 18.1	-0.2
ORDF				Lg		08 39 21.8	
LARF	**Larrau**	**0.26**	**260**	Pg	Pg	08 39 18.3	-0.2
LARF				Sg	Sg	08 39 22.3	+0.3
LARF	**Larrau**	**0.26**	**260**	Pg	Pg	08 39 18.5	0.0
LARF				Lg		08 39 22.5	
SJPF	**Ste Jean**	**0.43**	**274**	*e*Pg	Pg	08 39 21.1	-0.5
SJPF				*e*Sg	Sg	08 39 27.7	+0.4
1.8nm,0.2s							
SJPF	**Ste Jean**	**0.43**	**274**	*e*Pg	Pg	08 39 21.1	-0.5
SJPF				*e*Sg	Sg	08 39 27.7	+0.4
0.9nm,0.2s							
EALK	**Alkurruntz**	**0.65**	**282**	Pg	Pg	08 39 24.7	-1.1
0.5nm,0.2s,SNR=7.9							
EALK				Lg		08 39 33.3	
0.4nm,0.0s,SNR=7.9							
IUSE	**Utxeti**	**0.68**	**259**	Pg	Pg	08 39 25.5	-0.8
0.2nm,0.1s,SNR=7.9							
IUSE				Lg		08 39 35.2	
1.1nm,0.1s,SNR=7.9							
EBIE	**Bielsa**	**0.70**	**124**	Pg	Pg	08 39 26.0	-0.7
0.2nm,0.3s,SNR=7.9							
EBIE				Lg		08 39 34.9	
4.8nm,0.1s,SNR=7.9							
EPF	**Esparros**	**0.72**	**94**	*e*Pg	Pg	08 39 27.7	+0.6
EPF				*e*Sg	Sg	08 39 37.8	+1.2
1.2nm,0.2s							
EPF	**Esparros**	**0.72**	**94**	Pg	Pg	08 39 27.7	+0.6
EPF				Lg		08 39 37.8	
0.6nm,0.2s							

*MOS **07** 09:12:35.5±1.4, 5.12N×94.13E, h33km, mb4.6/5, Error ellipse: s-maj=19.4km s-min=11.1km az=111.0*
*NEIC **07** 09:12:37.0±0.6, 5.13N×94.18E, h30km, mb4.8/9, Error ellipse: s-maj=18.4km s-min=8.2km az=48.0*
*IDC **07** 09:12:40.0±4.7, 5.33N×94.41E, h51km±42km, mb3.9/10, mb1 4.1/11, mb1mx3.8/21, mbtmp4.2/11, MS3.4/3, Ms1 3.4/3, ms1mx2.9/15, Error ellipse: s-maj=51.3km s-min=16.0km az=51.0*
*ISCJB **07** 09:12:41.1±2.2, 5.4N±0.1×94.7E±0.1, h74km±20km, mb4.3/22, Error ellipse: s-maj=23.7km s-min=9.8km az=102.4*
ISC 07 09:12:41.9±2.1, 54N±01×946E±01, h64km±19km, n40, σ0°90/39, mb4.4/22, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.06**	**121**	P	**Pn**	**09 13 56.2**	**+1.1**
3.0nm,0.3s,baz=306,slow=8.3,SNR=13							
PSI				S	**Sn**	**09 14 51.3**	**-0.9**
2.7nm,0.3s,baz=126,slow=16,SNR=3.8							
PSI				LR	LR	09 15 56.8	
comp=Z,135nm,18.5s,baz=178,slow=38							
PSI	**Prapat**	**5.06**	**121**	P	**Pn**	**09 13 56.2**	**+1.0**
PSI				S	**Sn**	**09 14 51.3**	**-0.9**
PSI	**Prapat**	**5.06**	**121**	P	**Pn**	**09 13 56.2**	**+1.1**
PSI				S	**Sn**	**09 14 51.3**	**-0.9**
PSI				LR	LR	09 15 56.8	
KULM	**Kulim**	**6.04**	**91**	*e*Pn	**Pn**	**09 14 08.8**	**+0.2**
KULM				*e*Sn	**Sn**	**09 15 15.7**	**-0.6**
CHTO	**Chiang Mai**	**13.96**	**17**	*e*P	**Pn**	**09 16 01.2**	**+4.7**
CHTO				pmax	pmax		
comp=Z,12nm,0.9s							
CHTO	**Chiang Mai**	**13.96**	**17**	*e*Pn	**Pn**	**09 16 01.2**	**+4.8**
comp=Z,12nm,0.9s							
JIRN	**Jiri**	**23.50**	**341**	*e*P	**P**	**09 17 46.9**	**+0.9**
comp=Z,30nm,0.6s,mb4.9							
PKI	**Pulchoki**	**23.68**	**339**	*e*P	**P**	**09 17 46.3**	**-1.3**
comp=Z,7.8nm,0.4s,mb4.5							
DMN	**Daman**	**23.82**	**339**	*e*P	**P**	**09 17 48.0**	**-0.9**
comp=Z,14nm,0.7s,mb4.5							
GUN	**Gumba**	**23.83**	**341**	*e*P	**P**	**09 17 49.7**	**+0.7**
comp=Z,34nm,0.8s,mb4.8							
KKN	**Kakani**	**23.92**	**339**	*e*P	**P**	**09 17 48.2**	**-1.7**
comp=Z,7.2nm,0.4s,mb4.5							
LSA	**Lhasa**	**24.35**	**353**	*e*P	**P**	**09 17 56.2**	**+2.5**
LSA				pmax	pmax		
comp=Z,7.0nm,0.4s,mb4.4							
LSA	**Lhasa**	**24.35**	**353**	*e*P	**P**	**09 17 56.1**	**+2.4**
comp=Z,6.6nm,0.4s,mb4.4							
GKN	**Gorkha**	**24.35**	**338**	*e*P	**P**	**09 17 54.1**	**+0.3**
comp=Z,12nm,0.3s,mb4.8							
KOLN	**Koldanda**	**24.54**	**336**	*e*P	**P**	**09 17 56.1**	**+0.6**
comp=Z,27nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**38.55**	**128**	P	**P**	**09 19 58.1**	**-0.2**
comp=Z,2.2nm,0.8s,mb4.0,baz=270,slow=6.1,SNR=4.4							
MKAR	**Makanchi Array**	**42.54**	**348**	P	**P**	**09 20 31.8**	**+0.5**
comp=Z,9.1nm,0.6s,mb4.7,baz=170,slow=8.2,SNR=82							
SONM	**Songino Array**	**43.43**	**12**	P	**P**	**09 20 38.1**	**-0.3**
comp=Z,2.8nm,0.6s,mb4.2,baz=190,slow=8.1,SNR=5.7							
ULN	**Ulaanbaatar**	**43.60**	**12**	*e*P	**P**	**09 20 40.0**	**+0.3**
ULN				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.8							
ULN	**Ulaanbaatar**	**43.60**	**12**	*e*P	**P**	**09 20 40.0**	**+0.3**
comp=Z,1.3nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**46.52**	**124**	P	**P**	**09 21 03.4**	**+0.5**
comp=Z,2.8nm,0.7s,mb4.3,baz=304,slow=9.3,SNR=39							
WRAB	**Tennant Creek**	**46.52**	**124**	*e*P	**P**	**09 21 03.5**	**+0.6**
WRAB				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.7							
WRAB	**Tennant Creek**	**46.52**	**124**	*e*P	**P**	**09 21 03.5**	**+0.5**
comp=Z,6.8nm,0.7s,mb4.7							
TLY	**Talaya**	**46.70**	**8**	P	**P**	**09 21 05.2**	**+0.9**
TLY				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
TLY	**Talaya**	**46.70**	**8**	P	**P**	**09 21 05.2**	**+0.9**
comp=Z,1.3nm,0.6s,mb4.0							
ASAR	**Alice Springs**	**48.04**	**129**	P	**P**	**09 21 14.9**	**+0.2**
comp=Z,1.0nm,0.5s,mb4.1,baz=298,slow=7.6,SNR=17							
NVS	**Novosibirsk**	**50.10**	**351**	*e*P	**P**	**09 21 29.2**	**-1.3**
MJAR	**Matsushiro Arr**	**50.49**	**46**	LR	LR	09 44 56.3	
comp=Z,66nm,19.3s,baz=335,slow=38							
CHKZ	**Chkalovo**	**51.91**	**342**	*e*P	**P**	**09 21 44.5**	**+0.5**
CHKZ				pmax	pmax		
comp=Z,12nm,0.8s,mb4.9							
CHKZ	**Chkalovo**	**51.91**	**342**	*e*P	**P**	**09 21 44.5**	**+0.5**
comp=Z,12nm,0.8s,mb4.9							
KMBO	**Kilima Mbogo**	**57.63**	**265**	LR	LR	09 44 36.4	
comp=Z,52nm,19.7s,baz=96,slow=33							
BRTR	**Keskin Array B**	**64.36**	**312**	P	**P**	**09 23 10.1**	**-0.9**
comp=Z,1.3nm,0.7s,mb4.1,baz=125,slow=7.4,SNR=8.5							
AKASG	**Malin Array Be**	**70.33**	**322**	P	**P**	**09 23 47.1**	**-1.6**
comp=Z,0.7nm,0.4s,mb3.9,baz=95,slow=5.0,SNR=7.4							
FINES	**FINESS Array B**	**75.06**	**332**	P	**P**	**09 24 16.1**	**-0.6**
comp=Z,0.7nm,0.4s,mb3.9,baz=101,slow=9.9,SNR=8.9							
FINES	**FINESS Array B**	**75.06**	**332**	P	**P**	**09 24 16.1**	**-0.7**
ARCES	**ARCESS Array B**	**77.69**	**340**	P	**P**	**09 24 32.0**	**+0.3**
comp=Z,0.7nm,0.4s,mb4.0,baz=96,slow=5.8,SNR=15							
GERES	**GERESS Array B**	**79.93**	**319**	P	**P**	**09 24 44.5**	**+0.6**
comp=Z,2.7nm,0.7s,mb4.3,baz=93,slow=4.7,SNR=18							
NVAR	**Mina Array Bea**	**126.75**	**32**	PKP	PKPdf	09 31 39.2	+1.1
comp=Z,0.5nm,0.5s,baz=342,slow=0.8,SNR=4.4							
NVAR	**Mina Array Bea**	**126.75**	**32**	PKP	PKPdf	09 31 39.2	+1.1
PDAR	**Pinedale Array**	**127.25**	**22**	PKP	PKPdf	09 31 40.0	+0.9
comp=Z,0.5nm,0.5s,baz=79,slow=3.2,SNR=5.2							

*BJI **07** 09:27:57.9, 21.04S×174.18W, h15km, mB5.2, mb5.0, Ms5.0, Msz4.5*
*IDC **07** 09:27:57.6±0.7, 2078S×174.17W, h0km, mb4.4/9, mb1 4.6/11, mb1mx4.5/17, mbtmp4.4/11, ML4.5/1, MS4.1/9, Ms1 4.1/9, ms1mx3.9/17, Error ellipse: s-maj=28.9km s-min=16.9km az=126.0*
*NEIC **07** 09:28:00.6±0.3, 2061S×174.39W, h15km, mb4.7/16, Error ellipse: s-maj=12.9km s-min=7.0km az=132.0*
*ISCJB **07** 09:28:02.0±0.3, 2069S±007×174.44W±008, h33km, mb4.7/32, MS4.2/12, Error ellipse: s-maj=12.6km s-min=8.8km az=85.9*
*SZGRF **07** 09:28:03.3, 1950S×17350W, h15km, Tonga Islands*
*MOS **07** 09:28:12.8±1.1, 1868S×17591W, h33km, mb5.0/14, Error ellipse: s-maj=19.5km s-min=15.4km az=52.5*
ISC 07 09:28:03.9±0.3, 2068S±007×17436W±008, h35km, (h17km±3.6km: pP-P), n141, σ0°95/71, mb4.7/32, MS4.2/12, 5C-8D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.17**	**21**	P	**Pn**	**09 29 42.3**	**-3.9**
12nm,0.3s,baz=298,slow=2.7,SNR=16							
AFI				Sn	**Sn**	**09 30 56.4**	**-10**
baz=356,slow=24,SNR=2.0							
AFI				LR	LR	09 32 16.4	
comp=Z,1μm,19.4s,baz=192,slow=36							
AFI				T		09 37 03.7	
8.7nm,0.3s,baz=246,slow=21,SNR=6.9							
AFI	**Afiamalu**	**7.17**	**21**	*e*P	**Pn**	**09 29 42.1**	**-4.0**
AFI				*e*		09 30 58.8	
AFI				pmax	pmax		
comp=Z,51nm,0.6s							
AFI	**Afiamalu**	**7.17**	**21**	*e*Pn	**Pn**	**09 29 42.1**	**-4.0**
comp=Z,51nm,0.6s							
AFI				*e*Sn	**Sn**	**09 30 58.8**	**-7.5**
RAR	**Rarotonga**	**13.64**	**95**	Pn	**Pn**	**09 31 03.9**	**-11**
comp=Z,2.5nm,0.3s,baz=126,slow=22,SNR=12							
RAR				Sn	Sn	09 33 16.1	-29
comp=Z,0.5nm,0.3s,baz=270,slow=17,SNR=2.4							
RAR				LR	LR	09 35 22.1	
comp=Z,479nm,19.8s,baz=167,slow=33							
RAR				T		09 45 05.1	
comp=Z,4.4nm,0.3s,baz=148,slow=8.3,SNR=3.8							
RAR	**Rarotonga**	**13.64**	**95**	Pn	**Pn**	**09 31 03.9**	**-11**
RAR				Sn	Sn	09 33 16.1	-29
RAR				LR	LR	09 35 22.1	
URZ	**Urewera**	**19.01**	**201**	P	**Pn**	**09 32 20.2**	**-3.3**
comp=Z,1.3nm,0.3s,baz=11,slow=4.3,SNR=9.4							
TBI	**Tubuai**	**23.23**	**101**	*e*LQ		09 37 15.7	
comp=Z,1μm,27.2s							
TBI				*e*LR	LR	09 38 12.8	
comp=Z,405nm,29.2s							
PPT	**Papeete**	**23.61**	**87**	*e*LQ		09 37 30.7	
comp=Z,1μm,26.5s							
PPT				*e*LR	LR	09 38 34.6	
comp=Z,297nm,26.2s,baz=258							
PPT	**Papeete**	**23.61**	**87**	LR	LR	09 39 21.2	
comp=Z,364nm,18.8s,MS3.9,baz=255,slow=29							
RPZ	**Rata Peaks**	**26.00**	**205**	P	**P**	**09 33 31.8**	**-1.5**
comp=Z,7.8nm,0.7s,mb4.4,baz=54,slow=2.7,SNR=5.5							
HNR	**Honiara**	**27.17**	**290**	LR	LR	09 42 35.1	
comp=Z,304nm,20.1s,MS3.9,baz=177,slow=32							
RKT	**Rikitea**	**36.55**	**101**	*e*LR	LR	09 44 22.9	
comp=Z,411nm,33.5s							
CTA	**Charters Tower**	**36.87**	**264**	P	**P**	**09 35 08.6**	**-0.2**
comp=Z,2.3nm,0.5s,mb4.2,baz=118,slow=12,SNR=5.1							
CTAO	**Charters Tower**	**36.87**	**264**	*e*P	**P**	**09 35 08.6**	**-0.2**
STKA	**Stephens Creek**	**40.79**	**245**	P	**P**	**09 35 38.5**	**-3.2**
comp=Z,1.1nm,0.6s,mb3.7,baz=106,slow=14,SNR=3.7							
STKA	**Stephens Creek**	**40.79**	**245**	P	**P**	**09 35 42.4**	**+0.6**
ASAR	**Alice Springs**	**47.80**	**256**	P	**P**	**09 36 37.2**	**-0.5**
comp=Z,2.7nm

TMUT	**Trail Mountain**	**83.87**	**44**	P	**P**	**09 40 30.8**	**+0.9**
LAZ	**Ladron**	**84.12**	**50**	*e*P	**P**	**09 40 32.1**	**+0.9**
HLID	**Hailey**	**84.27**	**39**	*e*P	**P**	**09 40 32.5**	**+0.6**
	comp=Z,4.0nm,0.9s,mb4.5						
CN2	**Changchun**	**84.55**	**321**	*e*P	**P**	**09 40 35.8**	**+2.4**
TTA	**Tatalina**	**84.58**	**8**	*e*P	**P**	**09 40 33.5**	**0.0**
TTA				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.2						
TTA	**Tatalina**	**84.58**	**8**	*e*P	**P**	**09 40 33.5**	**0.0**
	comp=Z,30nm,1.5s,mb5.2						
ANMO	**Albuquerque**	**84.88**	**50**	*e*P	**P**	**09 40 35.6**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ANMO	**Albuquerque**	**84.88**	**50**	*e*P	**P**	**09 40 35.6**	**+0.6**
	comp=Z,4.3nm,1.1s,mb4.5						
HWUT	**Hardware Ranch**	**84.90**	**42**	*e*P	**P**	**09 40 34.7**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.2						
MA2	**Magadan**	**84.90**	**343**	*e*P	**P**	**09 40 34.0**	**-1.1**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb5.0						
MA2	**Magadan**	**84.90**	**343**	*e*P	**P**	**09 40 34.0**	**-1.1**
	comp=Z,5.3nm,0.4s,mb5.0						
PV01	**Paradox Valley**	**85.01**	**46**	*e*P	**P**	**09 40 35.1**	**-0.6**
MCMT	**McKenzie Canyo**	**85.92**	**39**	*e*P	**P**	**09 40 40.6**	**+0.4**
MCK	**McKinley**	**86.45**	**11**	*e*P	**P**	**09 40 43.0**	**+0.2**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
MCK	**McKinley**	**86.45**	**11**	*e*P	**P**	**09 40 43.0**	**+0.2**
	comp=Z,6.5nm,0.8s,mb4.9						
PLCA	**Paso Flores**	**86.66**	**132**	LR	LR	10 11 08.4	
	comp=Z,134nm,19.3s,MS4.4,baz=184,slow=30						
PDAR	**Pinedale Array**	**86.78**	**42**	P	**P**	**09 40 43.5**	**-1.0**
	comp=Z,1.5nm,0.9s,mb4.2,baz=198,slow=2.0,SNR=10						
SYO	**Syowa Base**	**87.28**	**192⇑**	*e*pP	pP	09 40 51.0	-6.9
COLA	**College**	**87.69**	**11**	*c i*P	**P**	**09 40 47.8**	**-1.0**
COLA	**College**	**87.69**	**11**	*e*P	**P**	**09 40 48.3**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.8						
VNA3	**Neumayer Olymp**	**87.71**	**175**	*e*P	**P**	**09 40 49.7**	**+0.8**
VNA3				*e*		09 40 51.6	
VNA3				*e*		09 40 54.8	
VNA3				*e*	pP	09 40 58.6	-1.4
VNA3				*e*		09 41 08.0	
VNA2	**Neumayer--Watz**	**88.19**	**176**	*e*P	**P**	**09 40 51.8**	**+0.6**
VNA2				*e*		09 40 53.6	
VNA2				*e*		09 40 57.0	
VNA2				*e*		09 40 58.6	
VNA2				*e*	pP	09 41 00.3	-2.0
VNA2				*e*		09 41 09.9	
VNA1	**Neumayer--Stat**	**88.40**	**175**	*e*P	**P**	**09 40 52.3**	**+0.1**
VNA1				*e*		09 40 54.0	
VNA1				*e*		09 40 57.6	
VNA1				*e*		09 40 59.2	
DAWY	**Dawson**	**88.73**	**15**	*e*P	**P**	**09 40 54.1**	**+0.4**
BILL	**Bilibino**	**89.60**	**353⇓**	*e*P	**P**	**09 40 58.0**	**+0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
HHC	**Hu-ho-hao-te**	**91.94**	**313**	*e*P	**P**	**09 41 09.5**	**+0.8**
HHC				AP	pP	09 41 14.3	-5.5
HHC				XP	sP	09 41 16.5	-7.3
HHC				PP	PP	09 44 51.6	+3.3
HHC				SKS		09 51 39.5	
HHC				S		09 52 07.9	
HHC				SS	SS	09 58 20.3	+3.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.4						
HHC				AMB	AMB		
	comp=Z,120nm,4.3s						
HHC				LR	LR		
	comp=N,140nm,22.6s,MS4.8						
HHC				LR	LR		
	comp=E,300nm,19.6s,MS4.8						
HHC				LR	LR		
	comp=Z,80nm,21.4s,MS4.1						
KMI	**Kunming**	**92.48**	**296**	P	**P**	**09 41 12.3**	**+1.1**
KMI				AP	pP	09 41 18.2	-4.2
KMI				XP	sP	09 41 20.2	-6.2
KMI				PP	PP	09 44 57.0	+4.5
KMI				SKS		09 51 44.3	
KMI				S		09 52 13.8	
KMI				PS	PS	09 53 32.4	+4.6
KMI				SS	SS	09 58 29.2	+4.9
KMI				SSS		10 02 04.0	
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.2						
KMI				AMB	AMB		
	comp=Z,60nm,3.8s						
KMI				LR	LR		
	comp=N,120nm,22.4s,MS4.5						
KMI				LR	LR		
	comp=E,120nm,19.9s,MS4.5						
KMI				LR	LR		
	comp=Z,130nm,21.1s,MS4.3						
CD2	**Chengdu**	**93.77**	**301**	*e*P	**P**	**09 41 15.8**	**-1.4**
CD2				PP	PP	09 45 04.1	+1.4
CD2				SKS		09 51 48.4	
CD2				S		09 52 21.9	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
YKA	**Yellowknife Ar**	**95.27**	**24**	P	**P**	**09 41 23.2**	**-0.8**
	comp=Z,0.7nm,0.7s,mb4.2,baz=236,slow=4.5,SNR=5.1						
YKA				LR	LR	10 17 29.1	
	comp=Z,90nm,19.6s,MS4.2,baz=270,slow=31						
YKA	**Yellowknife Ar**	**95.27**	**24**	P	**P**	**09 41 23.2**	**-0.8**
YKA				LR	LR	10 17 29.1	
LZH	**Lanzhou**	**95.60**	**306**	*e*P	**P**	**09 41 26.0**	**+0.4**
LZH				AP	pP	09 41 30.8	-5.9
LZH				XP	sP	09 41 33.1	-7.6
LZH				PP	PP	09 45 18.8	+1.9
LZH				AMB	AMB		
	comp=Z,20nm,1.6s,mb5.3						
SONM	**Songino Array**	**98.14**	**318**	LR	LR	10 25 28.9	
	comp=Z,66nm,20.2s,MS4.1,baz=68,slow=35						
LPAZ	**La Paz**	**98.83**	**111**	LR	LR	10 16 28.2	
	comp=Z,77nm,18.4s,MS4.2,baz=70,slow=30						
MKAR	**Makanchi Array**	**113.80**	**313**	PKP	PKiKP	09 46 37.5	-1.2
	comp=Z,1.2nm,0.7s,baz=79,slow=2.6,SNR=12						
ARCES	**ARCESS Array B**	**129.67**	**351**	PKP	PKPdf	09 47 08.2	-1.0
	comp=Z,2.9nm,0.8s,baz=325,slow=1.9,SNR=10						
ARCES	**ARCESS Array B**	**129.67**	**351**	PKIKP	PKPdf	09 47 08.2	-1.0
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	**138.49**	**334⇓**	*i*PKIKP	PKPdf	09 47 26.9	+1.2
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.5						
AKASG	**Malin Array Be**	**144.75**	**334**	PKP	PKPdf	09 47 35.4	-1.5
	comp=Z,7.2nm,0.6s,baz=41,slow=4.2,SNR=54						
AKASG	**Malin Array Be**	**144.75**	**334**	*i* PKHKP	PKPdf	09 47 35.5	-1.4
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MALT	**Malatya**	**146.72**	**309⇓**	*i*P	PKPdf	09 47 43.8	+3.5
LVV	**L'vov**	**147.46**	**338**	*e*PKHKP		09 47 31.8	
STHS	**Stebnicka Huta**	**148.74**	**340**	*e*PKP	PKPbc	09 47 49.8	+2.4
BURAR	**Bucovina Array**	**148.80**	**334⇓**	*i*P	PKPbc	09 47 49.0	+1.4
CLL	**Collm**	**148.89**	**351**	*e*PKPbc	PKPbc	09 47 47.8	0.0
CLL	**Collm**	**148.89**	**351**	*i* PKPbc	PKPbc	09 47 47.7	-0.1
	comp=Z,19nm,1.2s						
CLL				*i* PKPab	PKPab	09 47 51.4	-0.4
	comp=Z,43nm,2.2s						
CLL	**Collm**	**148.89**	**351**	*i* PKHKP	PKPbc	09 47 47.7	-0.1
CLL				*i*		09 47 51.4	
CLL				pmax	pmax		
	comp=Z,2μm,1.2s						
CLL				pmax	pmax		
	comp=Z,43nm,2.2s						
UPC	**Upice**	**149.12**	**347**	*e*PKPbc	PKPbc	09 47 49.3	+0.9
BRG	**Berggiesshubel**	**149.16**	**350**	*e*PKPbc	PKPbc	09 47 48.8	+0.3
BRG	**Berggiesshubel**	**149.16**	**350**	*e*PKP	PKPbc	09 47 49.1	+0.6
	comp=Z,6.1nm,0.8s						
BRG	**Berggiesshubel**	**149.16**	**350**	*e*PKIKP	PKPbc	09 47 49.1	+0.6
BRG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DPC	**Dobruska-Polom**	**149.21**	**347**	*e*PKPbc	PKPbc	09 47 49.6	+1.0
OKC	**Ostrava-Krasne**	**149.25**	**344**	*e*PKPbc	PKPbc	09 47 49.1	+0.4
BUG	**Bochum--Univer**	**149.27**	**358**	*e*PKPbc	PKPbc	09 47 49.0	+0.2
CFR	**Carcaliu**	**149.32**	**328⇓**	*i*P	PKPbc	09 47 50.1	+1.2
PVCC	**Panska Ves**	**149.39**	**349**	*e*PKPbc	PKPbc	09 47 49.9	+0.8
BR131	**Keskin Array S**	**149.44**	**315**	*e*PKPdf	PKPdf	09 47 46.1	+1.4
BR131				*e*PKPbc	PKPbc	09 47 50.3	+1.1
BRTR	**Keskin Array B**	**149.44**	**315**	PKP	PKPdf	09 47 45.0	+0.3
	comp=Z,0.6nm,0.7s,baz=17,slow=2.0,SNR=3.2						
BRTR				PKPbc	PKPbc	09 47 49.4	+0.2
	comp=Z,3.6nm,0.7s,baz=135,slow=3.8,SNR=22						
BRTR	**Keskin Array B**	**149.44**	**315**	PKHKP	PKPdf	09 47 45.1	+0.4
BRTR						09 47 49.4	
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MOX	**Moxa**	**149.72**	**352**	*e*PKP	PKPbc	09 47 50.2	+0.3
	comp=Z,14nm,1.5s						
MOX	**Moxa**	**149.72**	**352**	*e*PKIKP	PKPbc	09 47 50.2	+0.3
MOX				pmax	pmax		
	comp=Z,14nm,1.5s						
UBBA	**Unterbreizbach**	**149.72**	**355**	*e*PKPbc	PKPbc	09 47 49.5	-0.4
KECS	**Kecovo**	**149.80**	**340**	*e*PKP	PKPbc	09 47 50.9	+0.8
WERD	**Werda**	**149.83**	**352**	*e*PKPbc	PKPbc	09 47 50.6	+0.5
PRU	**Pruhonice**	**149.91**	**349**	*e*PKPbc	PKPbc	09 47 51.0	+0.7
ANTO	**Ankara**	**149.93**	**316⇓**	*i*P	PKPbc	09 47 51.5	+1.1
NKC	**Novy Kostel**	**150.02**	**351**	*e*PKPbc	PKPbc	09 47 51.6	+1.0
VRAC	**Vranov**	**150.12**	**346⇓**	*i*P	PKPbc	09 47 52.0	+1.1
MLR	**Muntele Rosu**	**150.14**	**331⇓**	*i*P	PKPbc	09 47 51.8	+0.9
VYHS	**Vyhne**	**150.29**	**342**	*e*PKP	PKPbc	09 47 52.0	+0.7
MANZ	**Manzenberg**	**150.31**	**352**	*e*PKPbc	PKPbc	09 47 52.1	+0.8
KOLL	**Kolacno**	**150.33**	**343**	*e*PKP	PKPbc	09 47 52.0	+0.6
KOLL				*e*		09 47 52.8	
TREC	**Trest**	**150.38**	**347**	*e*PKPdf	PKPdf	09 47 46.8	+0.6
TNS	**Taunus Mts**	**150.43**	**356**	*e*PKPbc	PKPbc	09 47 52.3	+0.7
VOIR		**150.59**	**332⇑**	*i*P	PKPbc	09 47 53.8	+1.8
GIVF	**Givet**	**150.63**	**1**	*e*PKP1	PKPbc	09 47 52.3	+0.2
	comp=Z,34nm,0.9s						
BAIF	**Baives**	**150.66**	**2**	*e*PKP1	PKPbc	09 47 52.5	+0.4
	comp=Z,23nm,0.9s						
GRF	**Grafenberg Arr**	**150.71**	**353**	*e*PKPbc	PKPbc	09 47 53.1	+0.8
KHC	**Kasperske Hory**	**150.91**	**349**	*e*PKPbc	PKPbc	09 47 53.5	+0.8
WET	**Wettzell**	**151.01**	**350**	*e*PKPbc	PKPbc	09 47 54.0	+1.0
GEC2	**GERESS Array S**	**151.16**	**349**	*e*PKPbc	PKPbc	09 47 54.0	+0.7
GERES	**GERESS Array B**	**151.16**	**349**	PKPbc	PKPbc	09 47 53.6	+0.3
	comp=Z,3.9nm,0.7s,baz=13,slow=1.8,SNR=23						
GERES	**GERESS Array B**	**151.16**	**349**	PKIKP	PKPbc	09 47 53.6	+0.3
GERES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ROSF	**Rostrenen**	**151.49**	**13**	*e*PKP1	PKPbc	09 47 53.3	-0.8
	comp=Z,16nm,1.0s						
FLN	**La Foliniere**	**151.55**	**9**	*e*PKP1	PKPbc	09 47 53.9	-0.3
	comp=Z,29nm,0.8s						
FLN				*e*R			
	comp=Z,78nm,19.5s						
SGMF	**Saint Gilles**	**151.70**	**12**	*e*PKP1	PKPbc	09 47 53.9	-0.7
	comp=Z,11nm,0.8s						
LDF	**La Druitiere**	**151.76**	**8**	*e*PKP1	PKPbc	09 47 54.3	-0.4
	comp=Z,17nm,0.8s						
GRR	**Gorron**	**151.86**	**9**	*e*PKP1	PKPbc	09 47 54.7	-0.2
	comp=Z,22nm,0.7s						
BZS	**Buzias**	**151.87**	**336⇑**	*i*P	PKPbc	09 47 55.6	+0.7
QUIF	**Quistinic**	**151.91**	**13**	*e*PKP1	PKPbc	09 47 54.3	-0.7
CDF	**Champ du Feu**	**152.30**	**358**	*e*PKP1	PKPbc	09 47 56.1	+0.2
	comp=Z,15nm,1.0s						
BFO	**Black Forest**	**152.33**	**356**	*e*PKPbc	PKPbc	09 47 56.3	+0.3
PKSM	**Moragy**	**152.39**	**340⇑**	*i*P	PKPbc	09 47 56.1	0.0
LOR	**Lormes**	**153.43**	**3**	*e*PKP1	PKPbc	09 47 58.5	+0.1
	comp=Z,12nm,1.1s						
LOR				*e*R			
	comp=Z,129nm,21.8s						
SSF	**Saint Saulge**	**153.62**	**3**	*e*PKP1	PKPbc	09 47 59.0	+0.2
	comp=Z,13nm,0.9s						
MFF	**Saint Martin d**	**153.71**	**9**	*e*PKP1	PKPbc	09 47 58.9	-0.1
CABF	**La Chapelle**	**154.13**	**359**	*e*PKP1	PKPbc	09 47 59.9	0.0
	comp=Z,13nm,0.8s						

*NEIC **07** 09:44:16.0, 17.04N×94.05W, h180km, MD3.8(MEX), After MEX.*

MEX 07 09:44:15.8±1.1, 17.07N×94.08W, h180km±13km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.77**	**272**	*i* P	Pn	09 44 40.7	-1.2
CMIG				*i* S	Sn	09 44 59.6	-2.4
SCX	**San Cristobal**	**1.42**	**103**	*i* P	Pn	09 44 45.5	-1.5
CCIG	**Comitan**	**2.02**	**112**	*i* P	Pn	09 44 52.4	-0.7
CCIG				*i* S	Sn	09 45 20.5	-1.4
HUIG	**Huatulco**	**2.33**	**237**	*i* P	Pn	09 44 54.1	-2.4
HUIG				*i* S	Sn	09 45 27.1	-1.1
HUIG	**Huatulco**	**2.33**	**237**	*i* P	Pn	09 44 54.1	-2.4
HUIG				*i* S	Sn	09 45 27.3	-0.8
OXX	**Oaxaca**	**2.53**	**271**	*e*P	Pn	09 44 58.5	-0.2
OXX				*i* S	Sn	09 45 34.0	+1.9
OXX	**Oaxaca**	**2.53**	**271**	*e*P	Pn	09 44 59.0	+0.2
OXX				*i* S	Sn	09 45 34.0	+1.9
VHO	**Vista Hermosa**	**2.54**	**271**	*i* P	Pn	09 44 58.8	0.0
VHO				*i* S	Sn	09 45 31.6	-0.7
VHO	**Vista Hermosa**	**2.54**	**271**	*i* P	Pn	09 44 58.9	0.0
VHO				*i* S	Sn	09 45 33.6	+1.3

*ISCJB **07** 10:17:56.6±0.7, 43.08N±0.07×0.22W±0.04, h10km, Error ellipse: s-maj=10.1km s-min=3.7km az=14.7*
*LDG **07** 10:17:56.9±0.1, 43.09N×0.22W, h2km, Md1.7/2, Error ellipse: s-maj=4.9km s-min=1.6km az=3.0*
*STR **07** 10:17:56.5±0.3, 43.10N×0.21W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **07** 10:17:57.7±0.5, 43.00N×0.20W, h10km±3km, mbLg1.0/4, Error ellipse: s-maj=5.4km s-min=2.5km az=179.0*

ISC 07 10:17:57.0±0.6, 43.05N±0.06×0.23W±0.04, h10km, n11, σ0.69/16, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.12**	**277**	Pg	**Pg**	**10 17 59.4**	**-0.5**
REYF				Sg	**Sg**	**10 18 01.6**	**-0.3**
LABF	**Labassere**	**0.22**	**92**	Pg	**Pg**	**10 18 00.9**	**-0.6**
VIEF	**Viey**	**0.25**	**133**	Pg	**Pg**	**10 18 02.4**	**+0.3**
VIEF				Sg	**Sg**	**10 18 06.4**	**+0.9**
ETSF	**Etsaut**	**0.29**	**238**	*e*Pg	**Pg**	**10 18 02.9**	**+0.1**
ETSF				*e*Sg	**Sg**	**10 18 07.2**	**+0.5**
	4.8nm,0.2s						
ETSF	**Etsaut**	**0.29**	**238**	Pg	**Pg**	**10 18 02.9**	**+0.1**
ETSF				Lg		10 18 07.2	
	2.4nm,0.2s						
ATE	**Arette**	**0.35**	**275**	Pg	**Pg**	**10 18 03.9**	**0.0**
ATE				Sg	**Sg**	**10 18 09.0**	**+0.5**
EPF	**Esparros**	**0.42**	**93**	*e*Pg	**Pg**	**10 18 05.1**	**0.0**
EPF				*e*Sg	**Sg**	**10 18 10.8**	**+0.2**
	4.3nm,0.2s						
EPF	**Esparros**	**0.42**	**93**	Pg	**Pg**	**10 18 05.1**	**0.0**
EPF				Lg		10 18 10.8	
	2.2nm,0.2s						
EBIE	**Bielsa**	**0.46**	**143**	Pg	**Pg**	**10 18 06.1**	**+0.2**
	0.1nm,0.2s,SNR=7.9						
EBIE				Lg		10 18 11.0	
	3.4nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.95**	**280**	Pg	**Pg**	**10 18 15.8**	**+0.5**
	0.1nm,0.6s,SNR=7.9						
EALK				Lg		10 18 29.4	
	0.3nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**188**	Pg	**Pg**	**10 18 20.4**	**-2.3**
	31nm,0.5s,SNR=7.9						
ESAC				Lg		10 18 40.6	
	24nm,1.1s,SNR=7.9						

*NAO **07** 10:36:22.8±2.4, 71.08N×25.92E, h2km±16km, ML2.1*
*BER **07** 10:36:23.6±6.8, 71.13N×25.43E, h0km±57km, MD2.7, ML2.3, ML2.1(NAO)*
*CSEM **07** 10:36:23.4±0.1, 70.99N×24.98E, h1km, ML2.6, Error ellipse: s-maj=5.2km s-min=2.9km az=83.0, Mining explosion.*

HEL 07 10:36:25.6±0.3, 70.00N×25.18E, h0km, ML2.6, MD2.7(BER), ML2.3(BER), Explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**1.39**	**153**	*e*P	Pn	10 36 50.5	-1.7
KEV				*e*S	Sg	10 37 08.1	-2.2
ARA0	**ARCESS Array S**	**1.47**	**176**	*e*P	Pn	10 36 51.6	-1.7
ARA0				*e*S	Sg	10 37 10.4	-2.5
ARA0	**ARCESS Array S**	**1.47**	**176**	Pn	Pn	10 36 51.7	-1.7
	baz=354,slow=14						
ARA0				Lg		10 37 11.6	
	baz=360,slow=28						
KTK1	**Kautokeino**	**2.10**	**199**	*e*P	Pn	10 37 02.4	+0.4
KTK1				*e*S	Sn	10 37 30.3	+1.5
KTK1				AML	AML	10 37 35.1	
	comp=Z,37nm,0.4s						
KTK1	**Kautokeino**	**2.10**	**199**	*e*P	Pn	10 37 02.4	+0.4
	SNR=50						
KTK1				*e*S	Sn	10 37 30.3	+1.4
	comp=Z,37nm,0.4s,SNR=50						
KIF	**Kilpisjarvi**	**2.50**	**219**	*e*P	Pn	10 37 06.9	-0.6
KIF				*e*SB	Sb	10 37 39.6	-3.2
KIF	**Kilpisjarvi**	**2.50**	**219**	P	Pn	10 37 06.9	-0.7
KIF				Sg	Sg	10 37 39.5	-6.5
TRO	**Tromso**	**2.52**	**240**	*e*S	Sn	10 37 34.6	-4.6
SGF	**Sodankyl**	**3.60**	**172**	*e*P	Pn	10 37 22.8	+0.1
SGF				*e*SB	Sb	10 38 13.5	-0.9
SGF				MSG		10 38 21.0	
	comp=Z,14nm,0.3s						
SGF	**Sodankyl**	**3.60**	**172**	P	Pn	10 37 22.7	0.0
APA0	**Apatity Array**	**4.39**	**137**	*e*P	Pn	10 37 28.1	-5.3
APA0				*e*SB	Sb	10 38 36.7	-0.3
APA0	**Apatity Array**	**4.39**	**137**	P	Pn	10 37 28.1	-5.3
APA0				Lg		10 38 36.7	
	baz=340,slow=37						
KU4	**Liikasenvaara**	**4.92**	**159**	*e*P	Pn	10 37 40.7	-0.1
KU4				*e*S	Sn	10 38 36.2	-2.2
KU4				MSG		10 39 01.4	
	comp=Z,12nm,0.3s						
KU4	**Liikasenvaara**	**4.92**	**159**	P	Pn	10 37 40.6	-0.2
KU4				S	Sn	10 38 36.2	-2.2
	comp=Z,12nm,0.3s						
LOF	**Lofoten**	**4.99**	**240**	*e*SG	Sg	10 39 00.7	-5.1
MSF	**Maaselka**	**5.30**	**163**	*e*P	Pn	10 37 45.8	-0.2
MSF				*e*S	Sn	10 38 45.0	-2.8
MSF				MSG		10 39 08.2	
	comp=Z,5.9nm,0.3s						
MSF	**Maaselka**	**5.30**	**163**	P	Pn	10 37 45.7	-0.3
MSF				S	Sn	10 38 44.9	-2.9
	comp=Z,5.9nm,0.3s						
OUL	**Oulu**	**5.94**	**177**	*e*P	Pn	10 37 55.3	+0.5
OUL				*e*S	Sn	10 38 58.0	-5.6
MOR8	**Moi Rana**	**6.23**	**224**	*e*S	Sn	10 39 03.0	-7.7
STOK	**Stokkvaagen**	**6.44**	**229**	*e*S	Sn	10 39 13.6	-2.2
SPA0	**Spitsbergen Ar**	**7.58**	**346**	Pn	Pn	10 38 12.2	-5.1
	baz=149,slow=8.6						
SPA0				Sn	Sn	10 39 34.5	-9.3
	baz=172,slow=28						
SPA0	**Spitsbergen Ar**	**7.58**	**346**	*e*P	Pn	10 38 12.2	-5.1
SPA0				*e*		10 39 34.5	
SPA0	**Spitsbergen Ar**	**7.58**	**346**	Pn	Pn	10 38 12.2	-5.1
	SNR=1.8						
SPA0				Sn	Sn	10 39 34.5	-9.4
	SNR=3.8						
FIA0	**FINESS Array S**	**9.60**	**177**	*e*P	Pn	10 38 41.3	-3.7
NB2	**NORSAR Subarra**	**11.45**	**216**	Pn	Pn	10 39 06.9	-3.5
	baz=23,slow=11						
NB2	**NORSAR Subarra**	**11.45**	**216**	*e*P	Pn	10 39 06.9	-3.5
HFS	**Hagfors**	**11.86**	**209**	Pn	Pn	10 39 11.9	-4.1
	baz=15,slow=14						
HFS	**Hagfors**	**11.86**	**209**	*e*P	Pn	10 39 11.9	-4.1

IDC 07 10:38:06.7±2.0, 125N×9629E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=55.9km s-min=26.6km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.05**	**60**	Pn	Pn	10 38 56.3	+0.1
	1.9nm,0.3s,baz=221,slow=12,SNR=11						
WRA	**Warramunga Arr**	**42.84**	**121**	P	P	10 46 06.4	-0.1
	0.4nm,0.9s,baz=303,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**44.16**	**127**	P	P	10 46 17.8	+0.7
	0.7nm,0.9s,baz=302,slow=8.0,SNR=8.1						
MKAR	**Makanchi Array**	**46.98**	**347**	P	P	10 46 39.4	0.0
	1.8nm,0.8s,baz=163,slow=8.3,SNR=15						

*LDG **07** 10:46:51.0±0.2, 21.22S×169.04E, h10km, Mb4.9/2, Ms4.4/7, Error ellipse: s-maj=22.7km s-min=2.9km az=153.0*
*SZGRF **07** 10:46:51.9, 22.15S×169.46E, h30km, Southeast of Loyalty Islands*
*MOS **07** 10:46:52.6±1.2, 21.23S×169.45E, h28km, mb5.3/23, Error ellipse: s-maj=11.7km s-min=11.0km az=63.7*
*BJI **07** 10:46:52.1, 2086S×16982E, h23km, mB5.2, mb5.0, Ms5.0, Msz4.4*
*ISCJB **07** 10:46:52.3±0.2, 2129S±006×1694.8E±004, h27km, mb4.9/50, MS4.3/24, Error ellipse: s-maj=8.6km s-min=4.5km az=133.4*
*HRVD **07** 10:46:53.1±0.3, 2123S×16929E, h34km, MW5.2/56, Centroid moment Tensor Solution. LP body waves: s46,c53;Mantle waves: s56,c80; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.89±.27; Mθθ-1.34±.18; Mφφ-4.55±.18; Mrθ0.61±.28; Mrφ2.86±.12; Mθφ-2.53±.22; Best double couple: M0=6.59500×10^16 NP1:φs323.00000°, δ34.00000°, λ78.00000°. NP2: φs156.00000°, δ57.00000°, λ98.00000°. Principal axes: T 6.4710, Plg77.0000°, Azm92.0000°; N 0.2490, Plg7.0000°, Azm332.0000°; P -6.7200, Plg11.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 10:46:53.1±0.2, 21.19S×169.51E, mb5.0/30 Error ellipse: s-maj=11.2km s-min=6.1km az=148.0*
*IDC **07** 10:46:53.6±8.2, 21.25S×169.49E, h28km±55km, mb4.4/10, mb1 4.6/12, mb1mx4.5/14, mbtmp4.6/12, ML3.5/2, MS4.2/17, Ms1 4.2/17, ms1mx4.0/23, Error ellipse: s-maj=24.3km s-min=20.2km az=142.0*

**ISC 07 10:46:54.2±0.2, 21.31S±0.06×169.52E±0.04, h28km, h28km±1.

comp=Z,2.8nm,0.8s,mb4.2,baz=96,slow=8.6,SNR=22
AS31 Alice Springs 32.94 259 *e*P **P 10 53 26.2 +0.1**
ASAR Alice Springs 32.94 259 P **P 10 53 26.1 0.0**
comp=Z,7.9nm,0.9s,mb4.6,baz=77,slow=8.4,SNR=58
ASPA Alice Springs 32.95 259 *e*P **P 10 53 26.2 0.0**
KAKA Kakadu 36.40 277 *e*P **P 10 54 02.9 +6.9**
comp=Z,14nm,1.4s,mb4.7
TBI Tubuai 37.91 101 *e*S **S 11 00 04.9 +6.3**
comp=Z,136nm,30.2s
TBI *e*LQ 11 02 47.5
comp=Z,803nm,31.5s
TBI *e*LR LR 11 04 41.1
comp=Z,394nm,26.5s
FORT Forrest 38.24 247 *e*P **P 10 54 19.9 +8.2**
comp=Z,18nm,0.7s,mb4.9
PPT Papeete 38.67 92 *e*S **S 11 00 18.9 +8.7**
comp=Z,153nm,23.8s
PPT *e*LQ 11 03 22.8
comp=Z,934nm,28.0s
PPT *e*LR LR 11 04 51.6
comp=Z,447nm,23.5s
PPT Papeete 38.67 92 LR LR 11 07 13.2
comp=Z,261nm,21.7s,MS4.0,baz=16,slow=32
FITZ Fitzroy Crossi 41.34 267 *e*P **P 10 54 38.0 +0.6**
comp=Z,32nm,0.8s,mb5.0
FITZ Fitzroy Crossi 41.34 267 LR LR 11 12 11.0
comp=Z,1μm,18.6s,MS4.8,baz=4.9,slow=37
GUMO Guam 42.30 323 LR LR 11 10 54.5
comp=Z,169nm,20.4s,MS3.9,baz=133,slow=34
NWAO Narrogin (SRO) 47.53 244 P **P 10 55 26.3 -0.6**
comp=Z,11nm,0.9s,mb4.9,baz=257,slow=8.7,SNR=6.3
TAOE Nuku Hiva Isla 49.95 84 *e*LR LR 11 10 03.0
comp=Z,1μm,25.0s
RKT Rikitea 51.15 103 *e*LR LR 11 10 34.2
comp=Z,258nm,30.2s
VNDA Vanda 56.38 182 P **P 10 56 32.7 -0.1**
comp=Z,2.4nm,0.9s,mb4.2,baz=18,slow=7.1,SNR=5.2
VNDA LR LR 11 16 11.4
comp=Z,227nm,20.5s,MS4.2,baz=16,slow=31
VNDA Vanda 56.38 182 *e*P **P 10 56 32.4 -0.4**
VNDA *e**PP pP 10 56 39.9 -1.6
VNDA pmax pmax
comp=Z,7.0nm,1.3s
VNDA Vanda 56.38 182 *e*P **P 10 56 32.4 -0.4**
comp=Z,7.4nm,1.3s,mb4.6
VNDA *e*pP pP 10 56 39.9 -1.6
SBA Scott Base 56.60 181 *e*P **P 10 56 35.2 +0.8**
SBA pmax pmax
comp=Z,26nm,1.1s,mb5.2
SBA Scott Base 56.60 181 *e*P **P 10 56 35.2 +0.8**
comp=Z,26nm,1.1s,mb5.2
JHJ Hachijo jima 2 61.12 332 LR LR 11 20 45.2
comp=Z,53nm,18.2s,MS3.7,baz=109,slow=33
MJAR Matsushiro Arr 64.70 332 P **P 10 57 28.7 -0.8**
comp=Z,12nm,0.8s,mb5.0,baz=168,slow=7.4,SNR=32
MAJO Matsushiro 64.70 332 *e*P **P 10 57 28.8 -0.8**
MAJO pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
MAJO Matsushiro 64.70 332 *e*P **P 10 57 28.8 -0.8**
comp=Z,9.5nm,0.6s,mb5.0
MAT Matsushiro 64.70 332 P **P 10 57 28.8 -0.8**
MAT *e*S **S 11 06 11.6 +3.6**
MAT Matsushiro 64.70 332 *e*P **P 10 57 29.0 -0.6**
MAT S **S 11 06 12.0 +4.0**
MAT pmax pmax
comp=Z,16nm,1.0s,mb5.0
MAT Matsushiro 64.70 332 *e*P **P 10 57 29.0 -0.6**
comp=Z,16nm,1.0s,mb5.0
MAT S **S 11 06 12.0 +4.0**
QSPA South Pole Qui 68.75 180⇑*i*P **P 10 57 55.4 0.0**
comp=Z,31nm,1.0s,mb5.2
ASAJ Asahikawa 69.62 340 LR LR 11 23 06.9
comp=Z,337nm,21.6s,MS4.5,baz=359,slow=31
SSE Sheshan 69.75 317 *e*P **P 10 58 02.3 +0.7**
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,90nm,4.0s
QIZ Qiongzhong 70.84 300 ⇑P **P 10 58 09.2 +1.0**
QIZ S S 11 07 21.4 0.0
QIZ AMB AMB
comp=Z,190nm,8.3s
NJ2 Nanjing 71.88 316 *e*P **P 10 58 15.3 +0.8**
NJ2 AP pP 10 58 23.9 +0.4
NJ2 XP sP 10 58 26.1 -0.7
NJ2 PCP PcP 10 58 34.3 +1.1
NJ2 S S 11 07 32.0 -1.5
NJ2 XS sS 11 07 47.0 -1.3
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,220nm,4.2s
NJ2 LR LR
comp=N,390nm,18.8s,MS4.9
NJ2 LR LR
comp=E,500nm,22.2s,MS4.9
NJ2 LR LR
comp=Z,180nm,26.1s,MS4.2
YSS Yuzh-Sakhalins 72.12 341⇓*e*P **P 10 58 17.0 +1.1**
YSS pmax pmax
comp=Z,28μm,1.2s
PET Petropavlovsk 74.62 353 *e*P **P 10 58 35.7 +5.0**
PET pmax pmax
comp=Z,100nm,11.6s
PET MLR MLR
comp=Z,100nm,19.0s,MS4.1
MDJ Mudanjiang 75.06 332 P **P 10 58 33.6 +0.4**
MDJ AP pP 10 58 40.3 -1.9
MDJ XP sP 10 58 42.9 -2.7
MDJ PP PP 11 01 20.6 -0.8
MDJ S S 11 08 11.9 +2.4
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,60nm,3.6s
MDJ LR LR
comp=N,60nm,24.0s,MS3.8
MDJ LR LR
comp=E,20nm,24.0s,MS3.8
MDJ LR LR
comp=Z,80nm,23.3s,MS4.0
MDJ Mudanjiang 75.06 332 P **P 10 58 33.6 +0.4**
comp=Z,9.8nm,1.0s,mb4.7
MDJ *e*pP pP 10 58 40.6 -1.6
HABR Khabarovsk 76.00 337⇑*i*P **P 10 58 39.3 +0.7**
HABR *e*S S 11 08 19.3 -0.6
HABR pmax pmax
comp=Z,45nm,1.6s,mb5.2
CN2 Changchun 76.36 329 *e*P **P 10 58 40.5 -0.1**
CN2 *e*AP pP 10 58 50.8 +1.1
CN2 *e*S S 11 08 23.1 -0.7
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 LR LR
comp=Z,200nm,21.0s,MS4.4
MAW Mawson 76.62 202 *e*P **P 10 58 42.4 +0.3**
comp=Z,5.0nm,0.8s,mb4.5
MAW Mawson 76.62 202 P **P 10 58 42.2 +0.1**
comp=Z,4.1nm,0.7s,mb4.4,baz=134,slow=6.0,SNR=7.1
MAW LR LR 11 29 18.6
comp=Z,364nm,20.2s,MS4.7,baz=35,slow=33
MAW Mawson 76.62 202 *e*P **P 10 58 42.4 +0.3**
MAW pmax pmax
comp=Z,5.0nm,0.8s
GYA Guiyang 77.22 305⇓*i*P **P 10 58 46.4 +0.9**
GYA AP pP 10 58 56.7 +2.2
GYA XP sP 10 59 01.2 +3.3
GYA PP PP 11 01 39.9 +0.4
GYA S S 11 08 32.4 -0.8
GYA SKS 11 08 51.4
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.5s
GYA LR LR
comp=N,420nm,19.4s,MS4.9
GYA LR LR
comp=E,410nm,19.0s,MS4.9
GYA LR LR
comp=Z,370nm,19.8s,MS4.7
KLR Kul'dur 77.86 336 *e*P **P 10 58 46.0 -3.1**
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.2
KMI Kunming 79.59 302 P **P 10 59 00.1 +1.5**
KMI AP pP 10 59 08.0 +0.3
KMI XP sP 10 59 13.0 +2.0
KMI PP PP 11 02 03.0 +3.6
KMI S S 11 08 57.1 -1.5
KMI XS sS 11 09 15.0 +1.4
KMI SS SS 11 14 08.8 +1.9
KMI AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,100nm,4.1s
KMI LR LR
comp=N,110nm,19.9s,MS4.4
KMI LR LR
comp=E,130nm,17.3s,MS4.4
KMI LR LR
comp=Z,90nm,19.9s,MS4.1
XAN Xi'an 79.70 313 P **P 10 58 59.7 +0.5**
XAN AP pP 10 59 06.2 -2.1
XAN AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
CHTO Chiang Mai 79.75 295 *e*P **P 10 59 01.0 +1.5**
CHTO *e**PP pP 10 59 08.3 -0.2
CHTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHTO Chiang Mai 79.75 295 *e*P **P 10 59 01.0 +1.5**
comp=Z,8.6nm,0.8s,mb4.7
CHTO *e*pP pP 10 59 08.3 -0.2
CD2 Chengdu 81.70 308 *e*P **P 10 59 09.3 -0.6**
CD2 AP pP 10 59 17.2 -1.8
CD2 XP sP 10 59 20.4 -1.9
CD2 PP PP 11 02 18.6 +1.7
CD2 S S 11 09 19.6 -1.1
CD2 XS sS 11 09 32.7 -3.0
CD2 PS 11 10 11.6
CD2 SS SS 11 14 40.9 +2.4
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=E,190nm,14.4s
CD2 LR LR
comp=Z,140nm,18.0s,MS4.4
HHC Hu-ho-hao-te 81.96 320⇑*i*P **P 10 59 12.5 +1.2**
HHC AP pP 10 59 22.9 +2.5
HHC XP sP 10 59 26.9 +3.2
HHC PP PP 11 02 22.3 +3.3
HHC S S 11 09 23.3 -0.1
HHC SKS 11 09 25.7
HHC XS sS 11 09 41.2 +2.8
HHC PS 11 10 16.5
HHC SS SS 11 14 46.8 +4.5
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
HHC AMB AMB
comp=Z,110nm,3.6s
HHC LR LR
comp=N,120nm,20.2s,MS4.5
HHC LR LR
comp=E,190nm,21.4s,MS4.5
HHC LR LR
comp=Z,160nm,23.8s,MS4.3
SYO Syowa Base 83.03 196⇓*e*P **P 10 59 15.6 -1.2**
SYO Syowa Base 83.03 196⇑*e*PcP PcP 10 59 20.0 -1.4
LZH Lanzhou 84.31 312 *e*P **P 10 59 24.5 +1.1**
LZH AP pP 10 59 35.0 +2.5
LZH XP sP 10 59 38.9 +3.1
LZH PP PP 11 02 41.5 +3.3
LZH *e*SKS 11 09 42.1
LZH *e*S 11 09 46.8
LZH XS sS 11 10 04.2 +1.9
LZH *e*SS SS 11 15 20.2 +3.1
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,100nm,4.9s
LZH LR LR
comp=N,430nm,17.9s
LZH LR LR
comp=Z,650nm,18.7s,MS5.0
CLNS Chul'man 86.40 337 *e*P **P 10 59 33.3 -0.5**
CLNS pmax pmax
comp=Z,41nm,0.8s,mb5.7
CLNS pmax pmax
comp=N,20nm,1.0s
CLNS pmax pmax
comp=E,15nm,1.0s
HAST Hastings Reser 86.73 49 ⇑P **P 10 59 35.6 +0.2**
baz=87
NVL N'lazarevskaya 86.85 187⇓*i*P **P 10 59 35.5 -0.5**
NVL pmax pmax
comp=Z,20nm,1.5s,mb5.1
P01C Double 8 Ranch 87.04 46 ⇓P **P 10 59 37.1 +0.1**
baz=87
O01C Eel River Cons 87.06 45 ⇓P **P 10 59 37.0 0.0**
baz=87
CVS Carmenet Viney 87.07 47 ⇑P **P 10 59 36.6 -0.5**
baz=87
SNAA Sanae 87.11 182⇑*i*P **P 10 59 24.3 -13**
SNAA *e* 10 59 26.6
SNAA *e* pP 10 59 31.6 -15
SNAA *e* pP 10 59 34.4 -12
SNAA Sanae 87.11 182 *e*P **P 10 59 24.4 -13**
WENL Wente Brothers 87.19 48 ⇓P **P 10 59 38.4 +0.7**
baz=87
PACP Pacheco Peak 87.21 49 ⇓P **P 10 59 38.2 +0.4**
baz=87
PKD Parkfield 87.22 50 ⇓P **P 10 59 38.1 +0.2**
baz=87
U04C Hernandez Rese 87.26 49 ⇓P **P 10 59 38.2 +0.2**
baz=87
MNRC McLaughlin Nat 87.34 46 ⇓P **P 10 59 38.9 +0.4**
baz=87
KHMM Horse Mountain 87.50 44 *e*P **P 10 59 39.9 +0.7**
GASB Alder Springs 87.54 46 ⇓P **P 10 59 40.0 +0.6**
baz=88,SNR=5.7
VNA3 Neumayer Olymp 87.69 180⇑*i*P **P 10 59 39.2 -0.9**
VNA3 *e* 10 59 41.1
VNA3 *e* pP 10 59 46.6 -2.7
VNA3 *e* pP 10 59 49.2 -0.1
VNA3 *e* 10 59 52.7
VNA3 *e* 11 00 11.4
VNA3 *e* 11 00 25.5
N02C Big Bar 87.75 44 ⇓P **P 10 59 40.5 +0.1**
baz=88
O02C Red Bluff 87.76 45 P **P 10 59 41.1 +0.7**
baz=88,SNR=7.6
SUTB Sutter Buttes 87.96 46 ⇑P **P 10 59 40.8 -0.5**
baz=88,SNR=5.1
VNA2 Neumayer--Watz 87.99 181⇑*i*P **P 10 59 41.1 -0.4**
baz=184,slow=4.8
VNA2 *e* 10 59 42.9
VNA2 *e* pP 10 59 48.2 -2.5
VNA2 *e* pP 10 59 51.0 +0.3
VNA2 *e* 10 59 54.5
VNA2 *e* 11 00 13.1
VNA2 *e* 11 00 27.0
S05C Merced 88.05 49 ⇑P **P 10 59 41.6 -0.2**
baz=88
WDC Whiskeytown Da 88.13 45 ⇑P **P 10 59 42.2 0.0**
baz=88
O03C Acorn Hollow, 88.18 46 ⇑P **P 10 59 42.2 -0.2**
baz=88
OHCM Honcut 88.22 46 *e*P **P 10 59 42.2 -0.4**
VNA1 Neumayer--Stat 88.28 181⇑*i*P **P 10 59 42.3 -0.6**
VNA1 *e* 10 59 44.4
VNA1 *e* pP 10 59 49.8 -2.2
VNA1 *e* pP 10 59 51.7 -0.3
VNA1 *e* 10 59 55.9
ORV Oroville 88.31 46 ⇓P **P 10 59 42.8 -0.3**
baz=88
T06C Millerton Lake 88.32 49 ⇑P **P 10 59 43.0 -0.1**
baz=88
109C Camp Elliot, M 88.32 54 ⇑P **P 10 59 43.0 -0.1**
baz=88
M02C Callahan 88.33 44 P **P 10 59 44.0 +0.8**
baz=88,SNR=7.4
CMB Columbia Colle 88.34 48 *e*P **P 10 59 42.7 -0.5**
CMB pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
CMB Columbia Colle 88.34 48 *e*P **P 10 59 42.7 -0.4**
comp=Z,6.5nm,0.7s,mb5.0
CMB Columbia Colle 88.34 48 P **P 10 59 43.0 -0.2**
baz=88,SNR=6.4
LAVA Lava Cap Winer 88.44 47 ⇑P **P 10 59 43.5 -0.2**
baz=88
ISA Isabella 88.58 51 ⇑P **P 10 59 44.4 +0.1**
baz=89
YBH Yreka Blue Hor 88.60 44 *e*P **P 10 59 44.7 +0.3**
YBH pmax pmax
comp=Z,3.0nm,0.6s
YBH Yreka Blue Hor 88.60 44 *e*P **P 10 59 44.7 +0.3**
comp=Z,3.1nm,0.6s,mb4.8
YBH Yreka Blue Hor 88.60 44 ⇑P **P 10 59 44.6 +0.2**
baz=89
K02A Glendale 88.63 43 ⇑P **P 10 59 43.5 -1.0**
baz=89
S06C San Francisco 88.64 48 ⇓P **P 10 59 44.2 -0.4**
baz=89
HELL Mitchell Peak 88.66 50 ⇓P **P 10 59 44.3 -0.3**
baz=89
ULN Ulaanbaatar 88.68 323 *e*P **P 10 59 44.8 0.0**
ULN *e**PP pP 10 59 52.0 -1.9
ULN *e**SP sP 10 59 55.3 -1.9
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
ULN Ulaanbaatar 88.68 323 *e*P **P 10 59 44.8 0.0**
comp=Z,5.6nm,0.8s,mb5.0
ULN *e*pP pP 10 59 52.0 -1.9
ULN *e*sP sP 10 59 55.3 -1.9
GTA Gaotai 88.74 313 *e*P **P 10 59 45.9 +0.9**
GTA AP pP 10 59 55.3 +1.1
GTA XP sP 10 59 59.7 +2.2
GTA PP PP 11 03 18.2 +4.2
GTA PPP 11 05 17.3
GTA SKS 11 10 11.8
GTA S 11 10 30.8
GTA XS sS 11 10 46.7 +1.3
GTA PS 11 11 40.7
GTA SS SS 11 16 25.1 +3.1
GTA AMB AMB
comp=Z,70nm,6.1s
GTA LR LR
comp=N,80nm,14.8s,MS4.5
GTA LR LR
comp=E,100nm,16.3s,MS4.5
GTA LR LR
comp=Z,130nm,17.5s,MS4.4
M03C McCloud 88.75 44 ⇓P **P 10 59 45.0 -0.1**
baz=89
P05C Yuba Gap, Truc 88.79 47 ⇑P **P 10 59 45.3 0.0**
baz=89
R05C Kirkwood Meado 88.87 48 ⇑P **P 10 59 45.4 -0.3**
baz=89
HUMO Hull Mountain 88.88 43 *e*P **P 10 59 45.9 +0.2**
comp=Z,7.2nm,0.7s,mb5.1
HUMO Hull Mountain 88.88 43 ⇓P **P 10 59 45.9 +0.1**
baz=89,SNR=7.3
J02A Umpqua 88.89 42 ⇑P **P 10 59 45.6 -0.1**
baz=89
O05C Quincy 88.90 46 ⇑P **P 10 59 45.7 -0.1**
baz=89,SNR=6.0
YAK Yakutsk 88.92 342 *e*P **P 10 59 44.3 -1.6**
HATC Hat Creek Radi 88.96 45 ⇓P **P 10 59 46.2 +0.1**
baz=89
O04C Chester 88.96 46 ⇓P **P 10 59 46.3 +0.1**
baz=89
SONM Songino Array 89.03 323 P **P 10 59 46.1 -0.3**
comp=Z,4.8nm,0.9s,mb4.8,baz=149,slow=4.2,SNR=11
SONM LR LR 11 39 54.7
comp=Z,88nm,19.2s,MS4.2,baz=81,slow=36
I02A Mapleton 89.05 42 ⇓P **P 10 59 46.6 0.0**
baz=89
BILL Bilibino 89.12 359⇓*e*P **P 10 59 45.8 -1.0**
BILL pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
BILL Bilibino 89.12 359 P **P 10 59 45.3 -1.5**
comp=Z,3.1nm,0.7s,mb4.8
PFO Pinyon Flat Ob 89.13 53 ⇓P **P 10 59 46.8 -0.1**
baz=89
M04C Macdoel 89.19 44 ⇓P **P 10 59 47.1 0.0**
baz=89
CWC Cottonwood Cre 89.22 50 ⇑P **P 10 59 47.3 0.0**
baz=89
R06C Coleville 89.22 48 ⇓P **P 10 59 47.5 +0.2**
baz=89
MTUM Tungsten Hills 89.29 49 *e*P **P 10 59 47.6 -0.1**
R07C Lee Vining 89.29 48 ⇑P **P 10 59 48.0 +0.4**
baz=89
I03A Eugene 89.37 42 ⇑P **P 10 59 48.0 0.0**
baz=90
WCN Washoe City 89.37 47 ⇑P **P 10 59 48.4 +0.4**
baz=90
TIN Tinemaha 89.39 50 ⇓P **P 10 59 48.2 +0.1**
baz=90
M05C Lookout 89.43 45 ⇑P **P 10 59 48.2 -0.1**
baz=90,SNR=12
P06A Stead Airport, 89.46 47 ⇓P **P 10 59 48.6 +0.1**
baz=90
GSC Goldstone 89.62 52 ⇓P **P 10 59 49.2 -0.1**
baz=90
S08C White Mtn Res 89.64 49 P **P 10 59 49.9 +0.6**
baz=90,SNR=11
H03A Soap Creek Ran 89.73 41 ⇓P **P 10 59 49.8 +0.1**
baz=90
O06A Flanigan 89.73 46 ⇓P **P 10 59 49.6 -0.1**
baz=90,SNR=17
M06C Likely Place G 89.79 45 ⇓P **P 10 59 50.2 +0.2**
baz=90
PAHR Pah Rah Range 89.82 47 *e*P **P 10 59 50.0 -0.1**
comp=Z,14nm,1.2s,mb5.2
BC3 Big Chuckw Mtn 89.91 54 ⇑P **P 10 59 50.8 +0.3**
baz=90
R08A Mina 90.07 49 ⇓P **P 10 59 51.1 -0.2**
baz=90,SNR=5.6
MNV Mina 90.08 48 *e*P **P 10 59 51.1 -0.2**
MNV *e**PP pP 11 00 00.1 -0.4
MNV pmax pmax
comp=Z,11nm,0.7s,mb5.3
MNV Mina 90.08 48 *e*P **P 10 59 51.1 -0.3**
comp=Z,11nm,0.7s,mb5.3
MNV *e*pP pP 11 00 00.1 -0.4
P07A Fallon 90.08 47 ⇓P **P 10 59 51.3 -0.1**
baz=90
GLA Glamis 90.12 54 ⇓P **P 10 59 51.8 +0.3**
baz=90,SNR=6.0
F03A Seaside 90.21 40 ⇑P **P 10 59 52.0 0.0**
baz=90
TUQ Turquoise Mtn. 90.33 52 ⇑P **P 10 59 52.5 0.0**
baz=90
O07A Toulon 90.37 47 ⇑P **P 10 59 52.6 -0.1**
baz=90,SNR=12
H04A Detroit Lake 90.41 42 ⇓P **P 10 59 52.2 -0.7**
baz=90,SNR=7.6
S09A Goldfield 90.41 49 ⇓P **P 10 59 52.7 -0.2**
baz=90,SNR=5.3
Q08A Gabbs 90.43 48 P **P 10 59 53.1 +0.2**
baz=90,SNR=11
G04A Mulino 90.49 41 ⇑P **P 10 59 53.0 -0.3**
baz=91
E03A Lebam 90.53 39 ⇓P **P 10 59 53.3 -0.1**
baz=91
Y12C Blythe 90.65 54 ⇑P **P 10 59 54.1 +0.1**
baz=91
D03A Wishkah Elem. 90.70 39 ⇓P **P 10 59 53.9 -0.3**
baz=91
P08A Dixie Valley 90.70 47 ⇓P **P 10 59 54.3 +0.1**
baz=91
K06A Valley Falls 90.71 44 P **P 10 59 54.4 +0.1**
baz=91,SNR=14
I05A Bend 90.72 42 ⇓P **P 10 59 54.5 +0.1**
baz=91
M07A Soldier Meadow 90.75 45 P **P 10 59 54.8 +0.3**
baz=91,SNR=10
TPNV Topopah Spring 90.76 50 *e*P **P 10 59 54.4 -0.1**
TPNV pmax pmax
comp=Z,12nm,1.0s,mb5.2
TPNV Topopah Spring 90.76 50 *e*P **P 10 59 54.4 -0.1**
comp=Z,12nm,1.0s,mb5.2
OCWA Octopus Mounta 90.78 38 *e*P **P 10 59 54.9 +0.3**
comp=Z,25nm,0.6s,mb5.7
F04A Amboy 90.89 40 ⇑P **P 10 59 54.7 -0.4**
baz=91
H05A Madras 90.99 42 ⇓P **P 10 59 55.2 -0.4**
baz=91
J06A Christmas Vall 90.99 43 P **P 10 59 55.2 -0.3**
baz=91,SNR=9.8
W12A Cal Nev Ari 91.05 52 ⇓P **P 10 59 55.6 -0.2**
baz=91
I06A Prineville 91.28 43 ⇑P **P 10 59 57.0 +0.1**
baz=91,SNR=10
P09A Austin 91.29 48 ⇑P **P 10 59 56.8 -0.2**
baz=91,SNR=6.5
M08A Happy Creek Ra 91.31 46 ⇑P **P 10 59 57.1 +0.1**

baz=91,SNR=5.6
B04A Port Angeles 91.34 38 ⇊P **P 10 59 57.1 -0.1**
baz=91
F05A White Salmon 91.45 41 ⇑P **P 10 59 57.2 -0.5**
baz=92
C04A Brinnon 91.47 39 ⇊P **P 10 59 57.7 -0.1**
baz=92
X13A Yucca 91.52 53 P **P 10 59 58.1 +0.1**
baz=92,SNR=9.3
O09A Fish Creek Ran 91.53 47 ⇑P **P 10 59 58.0 0.0**
baz=92
WVOR Wild Horse Val 91.59 45 *e*P **P 10 59 58.4 0.0**
WVOR pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
WVOR Wild Horse Val 91.59 45 *e*P **P 10 59 58.4 0.0**
comp=Z,9.8nm,0.8s,mb5.2
E05A Randle 91.60 40 ⇑P **P 10 59 57.7 -0.7**
baz=92
N09A Rock Creek Ran 91.61 47 ⇊P **P 10 59 58.4 -0.1**
baz=92
BMN Battle Mountai 91.62 47 *e*P **P 10 59 58.6 +0.1**
BMN pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
BMN Battle Mountai 91.62 47 *e*P **P 10 59 58.6 +0.1**
comp=Z,3.6nm,0.6s,mb4.9
Z14A Wintersburg 91.67 55 ⇑P **P 10 59 58.9 +0.1**
baz=92
D05A Enumclaw 91.78 39 ⇊P **P 10 59 59.3 +0.1**
baz=92
Y14A Wickenburg 91.88 54 ⇊P **P 10 59 59.5 -0.2**
baz=92
COLA College 91.94 17 ⇑*e*P **P 10 59 58.2 -1.8**
COLA College 91.94 17 P **P 10 59 57.9 -2.1**
L09A Wilkinson Ranc 92.04 45 ⇊P **P 11 00 00.4 -0.1**
baz=92,SNR=6.7
ZAK Zakamensk 92.12 324 ⇑*i*P **P 11 00 00.5 -0.3**
ZAK pmax pmax
comp=Z,16nm,1.6s,mb5.1
A04A Legoe Bay, Lum 92.13 38 ⇊P **P 11 00 00.8 0.0**
baz=92
X14A Yava 92.18 54 P **P 11 00 01.6 +0.6**
baz=92,SNR=7.6
C05A Tolt Reservoir 92.20 39 ⇑P **P 11 00 01.6 +0.4**
baz=92
N10A Dunphy 92.24 47 ⇑P **P 11 00 01.6 +0.2**
baz=92
B05A Bryant 92.25 38 ⇑P **P 11 00 02.2 +0.8**
baz=92
116A Eloy 92.31 56 ⇊P **P 11 00 01.6 -0.1**
baz=92
M10A I.L. Ranch, Tu 92.57 46 ⇑P **P 11 00 03.0 +0.1**
baz=93,SNR=6.1
TLY Talaya 92.61 325 *e*P **P 11 00 02.9 -0.2**
TLY pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
TLY Talaya 92.61 325 *e*P **P 11 00 02.9 -0.2**
comp=Z,9.6nm,1.1s,mb5.1
X15A Humboldt 92.67 54 ⇑P **P 11 00 03.7 +0.3**
baz=93,SNR=8.1
P12A McGill 92.80 49 ⇊P **P 11 00 03.9 -0.1**
baz=93
W15A Williams 92.93 53 ⇊P **P 11 00 04.9 +0.4**
baz=93
ELK Elko 93.12 47 *e*P **P 11 00 05.1 -0.3**
ELK *e**PP pP 11 00 13.4 -1.2
ELK *e**SP sP 11 00 18.1 +0.2
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 93.12 47 *e*P **P 11 00 05.1 -0.3**
comp=Z,3.4nm,0.9s,mb4.8
ELK *e*pP pP 11 00 13.4 -1.2
ELK *e*sP sP 11 00 18.1 +0.2
O12A Currie 93.25 48 ⇑P **P 11 00 05.9 -0.1**
baz=93
N12A Wells--Clov Va 93.30 47 ⇑P **P 11 00 05.9 -0.4**
baz=93
M12A Wells 93.63 47 ⇊P **P 11 00 07.5 -0.2**
baz=94
WUAZ Wupatki 93.74 53 *e*P **P 11 00 08.8 +0.5**
comp=Z,4.3nm,0.9s,mb4.9
N13A West Wendover 93.88 48 ⇊P **P 11 00 08.6 -0.3**
baz=94
M13A Montello 94.11 47 ⇊P **P 11 00 10.7 +0.7**
baz=94
MSU Marysvale 94.34 50 P **P 11 00 11.5 +0.5**
HLID Hailey 94.87 45 *e*P **P 11 00 13.0 -0.5**
comp=Z,1.4nm,0.6s,mb4.6
PDAR Pinedale Array 97.82 47 P **P 11 00 27.2 +0.4**
comp=Z,0.5nm,0.6s,mb4.2,baz=233,slow=2.9,SNR=5.7
PDAR LR LR 11 36 58.6
comp=Z,52nm,18.9s,MS4.0,baz=249,slow=31
WMQ Urumqi 98.82 314 *e*P **P 11 00 31.9 +0.6**
WMQ SKS 11 11 06.0
WMQ S 11 11 52.4
WMQ AMB AMB
comp=Z,100nm,5.0s
WMQ LR LR
comp=N,110nm,36.0s
WMQ LR LR
comp=E,120nm,26.0s
WMQ LR LR
comp=Z,40nm,26.0s
MKAR Makanchi Array 103.39 315 Pdiff Pdif 11 00 51.4 -0.3
comp=Z,0.5nm,0.8s,baz=122,slow=4.6,SNR=5.5
MKAR PKKPbc PKKPbc 11 16 43.7 -1.6
comp=Z,0.4nm,0.8s,baz=357,slow=2.4,SNR=3.9
MKAR Makanchi Array 103.39 315 Pdif Pdif 11 00 51.4 -0.3
MKAR PKKPbc PKKPbc 11 16 43.7 -1.6
ARU Arti 119.06 324 ⇑*i*PKIKP PKPdf 11 05 34.5 -5.7
AKTK Aktyubinsk 119.76 317 PKP PKPdf 11 05 39.8 -1.7
AKTO Aktyubinsk 119.76 317 PKP PKPdf 11 05 39.8 -1.7
comp=Z,0.8nm,0.5s,baz=189,slow=0.3,SNR=4.8
NCB Newcomb 123.22 51 *e*PKPdf PKPdf 11 05 46.1 -2.1
DAG Danmarks Havn 124.34 2 ⇑*i*P PKPdf 11 05 47.3 -3.0
comp=Z,2.5nm,0.4s
SUMG Summit 126.34 10 *e*PKPdf PKPdf 11 05 52.4 -1.8
SCHQ Schefferville 126.41 37 PKP PKPdf 11 05 52.5 -1.7
comp=Z,5.0nm,1.1s,baz=20,slow=2.7,SNR=5.7
KEV Kevo 126.60 345 *e*p PKPdf 11 05 51.0 -3.6
comp=Z,3.7nm,0.6s
ARCES ARCESS Array B 127.13 345 PKP PKPdf 11 05 54.0 -1.7
comp=Z,6.8nm,0.5s,baz=73,slow=1.2,SNR=67
ARE0 ARCESS Array S 127.13 345 *e*PKPdf PKPdf 11 05 54.0 -1.7
BDFB Brasilia 127.99 132 PKP PKPdf 11 05 57.3 0.0
comp=Z,3.5nm,0.6s,baz=236,slow=3.3,SNR=4.7
JOF Joensuu 129.75 337 *e*p PKPdf 11 05 56.8 -3.8
comp=Z,9.9nm,0.7s
OBN Obninsk 131.36 326 ⇑*i*PKIKP PKPdf 11 06 03.3 -0.4
OBN *e* 11 08 23.3
OBN *e*PS PS 11 18 30.4 -5.6
OBN *e*SS SS 11 25 58.0 +4.9
OBN pmax pmax
comp=Z,5.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.5
KAF Kangasniemi 132.07 338 *e*p PKPdf 11 06 02.3 -2.7
comp=Z,4.0nm,0.5s
FINES FINESS Array B 132.59 337 PKP PKPdf 11 06 03.7 -2.3
comp=Z,1.8nm,0.5s,baz=54,slow=3.0,SNR=17
FINES FINESS Array B 132.59 337 *i* PKIKP PKPdf 11 06 05.3 -0.7
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 132.59 337 PKP PKPdf 11 06 03.7 -2.3
SOC Sochi 133.00 310 *i* PKIKP PKPdf 11 06 05.8 -1.0
SOC *e*PS PS 11 18 40.5 -10
SOC *e*SS SS 11 26 08.8 -4.3
SOC pmax pmax
comp=Z,22nm,1.0s
AKASG Malin Array Be 137.31 323 PKP PKPdf 11 06 12.9 -1.9
comp=Z,1.2nm,0.6s,baz=64,slow=1.8,SNR=6.1
AKASG Malin Array Be 137.31 323 *i* PKIKP PKPdf 11 06 13.3 -1.5
AKASG pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra137.50 345 PKPd PKPdf 11 06 12.0 -3.2
comp=Z,1.2nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 137.50 345 PKP PKPdf 11 06 12.9 -2.3
comp=Z,2.2nm,0.7s,baz=32,slow=2.0,SNR=9.4
KECS Kecovo 143.29 325 *e* PKPdf 11 06 22.9 -2.7
PSZ Piszkesteto 143.95 325 ⇑*e*PKP/D PKPdf 11 06 24.3 -2.5
PSZ Piszkesteto 143.95 325 *e*PKPdf PKPdf 11 06 23.9 -2.9
VYHS Vyhne 144.16 326 *e*PKP PKPdf 11 06 25.4 -1.8
DPC Dobruska-Polom 144.16 330 *e*PKP PKPdf 11 06 25.1 -2.1
UPC Upice 144.19 331 *e*PKP PKPdf 11 06 25.6 -1.6
PVCC Panska Ves 144.82 332 *e*PKP PKPdf 11 06 26.9 -1.4
BRG Berggiesshubel 144.83 333 *e*PKPbc PKPdf 11 06 26.9 -1.4
BRG Berggiesshubel 144.83 333 *i* PKP PKPdf 11 06 26.9 -1.4
comp=Z,22nm,0.8s
BRG Berggiesshubel 144.83 333 *i* PKIKP PKPdf 11 06 26.9 -1.4
BRG pmax pmax
comp=Z,22nm,0.8s
CLL Collm 144.90 334 *e*PKPbc PKPdf 11 06 26.7 -1.7
CLL Collm 144.90 334 ⇑*i*PKPdf PKPdf 11 06 26.9 -1.5
comp=Z,36nm,0.8s
CLL *i* PKiKP PKiKP 11 06 31.3 -0.9
CLL *es*PKPdf 11 06 37.0
CLL Collm 144.90 334 ⇑*i*PKIKP PKPdf 11 06 26.9 -1.5
CLL *i* 11 06 31.3
CLL *e* 11 06 37.0
CLL pmax pmax
comp=Z,36nm,0.8s
PRU Pruhonice 145.22 331 *e*PKP PKPdf 11 06 28.3 -0.7
ZST Bratislava 145.24 327 *e*PKP PKPdf 11 06 29.0 0.0
TREC Trest 145.28 330 *e*PKP PKPdf 11 06 28.5 -0.6
ESK Eskdalemuir 145.61 353 *e*PKIKP PKPdf 11 06 28.0 -1.7
GRUS Gruza 145.72 318 ⇑*i*PKP PKPdf 11 06 29.6 -0.2
WERD Werda 145.84 334 *e*PKPbc PKPbc 11 06 30.1 -0.5
SOP Sopron 145.85 327 ⇑*e*PKP/p PKPdf 11 06 30.5 +0.4
NKC Novy Kostel 145.94 333 *e*PKP PKPdf 11 06 30.3 +0.1
MOX Moxa 145.97 335 *e*PKPbc PKPbc 11 06 30.4 -0.6
IBBN Ibbenburen 145.99 340 *e*PKPbc PKPbc 11 06 30.4 -0.7
CONA Conrad Observa 146.04 328 ⇊*i*PKPab PKPab 11 06 30.9 -0.9
comp=Z,73nm,1.8s
DIVS Divcibare 146.06 319 ⇑*i*PKP PKPdf 11 06 30.9 +0.5
MANZ Manzenberg 146.27 333 *e*PKPbc PKPbc 11 06 31.7 -0.2
KHC Kasperske Hory 146.28 331 *e*PKP PKPdf 11 06 30.5 -0.3
GEC2 GERESS Array S 146.43 331 *e*PKPbc PKPbc 11 06 31.7 -0.7
GERES GERESS Array B 146.43 331 PKPbc PKPbc 11 06 32.1 -0.3
comp=Z,15nm,0.7s,baz=33,slow=3.2,SNR=42
UBBA Unterbreizbach 146.45 336 *e*PKPbc PKPbc 11 06 31.3 -1.2
BBLS Bajina Basta - 146.53 319 ⇑*i*PKP PKPdf 11 06 33.5 +2.3
WET Wettzell 146.58 332 *e*PKPbc PKPbc 11 06 31.8 -1.0
WTSB Winterswijk 146.59 341 *e*PKiKP PKPbc 11 06 31.9 -1.0
comp=Z,34nm,1.4s
GRA1 Grafenberg Arr 146.87 334 *e*PKP PKPdf 11 06 32.8 +1.0
GRF Grafenberg Arr 146.87 334 *e*PKP PKPdf 11 06 32.8 +1.0
BUG Bochum--Univer 146.89 340 *e*PKPbc PKPbc 11 06 33.2 -0.5
PERS Pernice 147.28 327 *e*PKPbc PKPbc 11 06 34.0 -0.8
TNS Taunus Mts 147.51 337 *e*PKPbc PKPbc 11 06 35.0 -0.5
KBA Koelnbreinsper 147.86 329 ⇑*i*P PKPdf 11 06 35.3 +1.8
comp=Z,11nm,1.0s
TOD Tromm 147.89 336 PKP2 PKPbc 11 06 36.0 -0.5
HGN Heimansgroeve 147.90 340 *e*PKiKP PKPbc 11 06 35.6 -0.9
comp=Z,20nm,1.6s
DLF Lyons Farm 147.93 356 *e*P PKPdf 11 06 33.0 -0.6
DCN Croghan 147.93 356 *e*P PKPdf 11 06 33.0 -0.6
BOJS Bojanci 147.95 325 *e*PKPbc PKPbc 11 06 36.5 -0.2
LJU Ljubljana 147.98 326 *e*PKPbc PKPbc 11 06 36.3 -0.5
ABH Alteburg 148.12 338 PKP PKPbc 11 06 36.6 -0.5
CEY Cerknica 148.24 326 *e*PKPbc PKPbc 11 06 36.9 -0.5
VOY Vojsko 148.31 327 *e*PKPbc PKPbc 11 06 36.4 -1.2
VOY *e* 11 06 43.7
VOY *e* 11 06 46.6
BCLA Clavier 148.40 341 PKPbc PKPbc 11 06 37.2 -0.6
RUP Ruppelstein 148.44 338 PKP2 PKPbc 11 06 37.4 -0.6
WTTA Wattenberg 148.53 331 ⇑*i*P PKPbc 11 06 37.7 -0.5
comp=Z,30nm,1.3s
MOTA Moosalm 148.71 331 ⇑*i*P PKPbc 11 06 37.9 -0.8
comp=Z,16nm,0.9s
LANF Langenberg 148.77 337 PKP PKPbc 11 06 38.2 -0.6
WLF Walferdange 148.78 339 *e*PKPbc PKPbc 11 06 38.5 -0.3
WLF Walferdange 148.78 339 PKPbc PKPbc 11 06 38.9 0.0
WLF APKP 11 06 42.5
GIVF Givet 148.83 341 ⇑*i*PKP1 PKPbc 11 06 38.3 -0.6
comp=Z,59nm,0.8s
DOU Dourbes 148.90 341 PKPbc PKPbc 11 06 38.5 -0.6
DOU APKP 11 06 43.0
BAIF Baives 149.05 341 ⇑*i*PKP1 PKPbc 11 06 39.0 -0.5
comp=Z,30nm,0.8s
BFO Black Forest 149.11 335 *e*PKPbc PKPbc 11 06 38.6 -1.1
MENF Mencas 149.16 344 PKP PKPbc 11 06 38.1 -1.7
DAVA Damuels 149.29 332 ⇑*i*P PKPbc 11 06 39.6 -0.5
comp=Z,36nm,1.4s
WLS Welschbruch 149.41 336 PKP PKPbc 11 06 39.7 -0.7
CDF Champ du Feu 149.44 336 ⇑*i*PKP1 PKPbc 11 06 39.8 -0.7
comp=Z,41nm,1.0s
FELD Feldberg im Sc 149.60 335 PKP PKPbc 11 06 39.8 -1.1
ECH Echery 149.65 336 PKP PKPbc 11 06 39.5 -1.5
BRMO Bormio 149.69 331 PKP PKPbc 11 06 40.8 -0.3
MOF Molkenrain 149.96 336 PKP PKPbc 11 06 40.8 -1.0
THEF They Montfort 150.07 338 PKP PKPbc 11 06 41.1 -0.9
HINF Hinteralfeld 150.09 336 ⇑*i*PKP1 PKPbc 11 06 41.2 -0.9
comp=Z,26nm,0.9s
HAU Haudompre 150.12 337 ⇑*i*PKP1 PKPbc 11 06 42.5 +0.4
comp=Z,51nm,0.7s
HAU *e*R
comp=Z,140nm,20.8s
BBS Basel-Blauen 150.13 335 PKIKP PKPbc 11 06 41.2 -1.0
TUE Stuetta 150.16 332 PKP PKPbc 11 06 41.9 -0.3
LOMF Lomont 150.49 336 PKP PKPbc 11 06 42.5 -0.5
SFI Santa Sofia 150.83 326 PKIKP PKPbc 11 06 44.2 +0.4
NRCA Norcia 150.85 323 PKP PKPbc 11 06 43.7 -0.2
SGO Sicignano 150.89 317 PKIKP PKPbc 11 06 43.3 -0.7
ZCCA Zocca 150.96 327 PKP PKPbc 11 06 45.0 +0.9
FNVD Fontana Vidola 151.02 327 PKP PKPbc 11 06 44.6 +0.3
MCGN Macugnaga 151.15 333 PKP PKPbc 11 06 44.5 -0.1
BDI Bagni Di Lucca 151.36 327 PKIKP PKPbc 11 06 43.5 -1.6
CABF La Chapelle 151.39 336 ⇑*i*PKP1 PKPbc 11 06 45.0 -0.1
comp=Z,40nm,0.6s
BOB Bobbio (Coli) 151.41 330 PKIKP PKPbc 11 06 43.4 -1.8
FLN La Foliniere 151.47 346 ⇑*i*PKP1 PKPbc 11 06 44.4 -0.9
comp=Z,88nm,0.7s
FLN *e*R
comp=Z,139nm,21.8s
LDF La Druitiere 151.54 345 ⇑*i*PKP1 PKPbc 11 06 44.4 -1.1
comp=Z,42nm,0.7s
LOR Lormes 151.62 339 ⇑*i*PKP1 PKPbc 11 06 45.1 -0.6
comp=Z,53nm,0.8s
LOR *e*R
comp=Z,156nm,22.8s
SOI Samo 151.68 312 PKIKP PKPbc 11 06 45.9 +0.1
GRR Gorron 151.90 346 ⇑*i*PKP1 PKPbc 11 06 45.5 -0.8
comp=Z,51nm,0.7s
SSF Saint Saulge 151.92 339 ⇑*i*PKP1 PKPbc 11 06 45.8 -0.5
comp=Z,36nm,0.8s
HYF Humbligny 152.01 341 *e*PKP1 PKPbc 11 06 46.3 -0.3
LPL La Plagne 152.03 334 ⇑*i*PKP1 PKPbc 11 06 46.6 0.0
comp=Z,28nm,0.7s
LPG La Plagne 152.04 334 ⇑*i*PKP1 PKPbc 11 06 46.7 +0.1
comp=Z,33nm,0.7s
OG05 Jujurieux 152.10 336 PKP PKPbc 11 06 46.2 -0.6
SMF Signal de Mont 152.17 339 ⇑*i*PKP1 PKPbc 11 06 46.1 -0.8
comp=Z,28nm,1.1s
AVF Avril sur Loir 152.21 339 ⇑*i*PKP1 PKPbc 11 06 45.9 -1.1
comp=Z,12nm,0.9s
SGMF Saint Gilles 152.38 349 ⇑*i*PKP1 PKPbc 11 06 46.3 -1.1
comp=Z,56nm,0.8s
ROSF Rostrenen 152.42 350 ⇑*i*PKP1 PKPbc 11 06 46.3 -1.2
comp=Z,46nm,0.9s
BNI Bardonecchia 152.43 333 *e*PKIKP PKPbc 11 06 47.2 -0.3
BNI *e* 11 06 57.5
BGF Bois d'Agland 152.58 340 ⇑*i*PKP1 PKPbc 11 06 47.2 -0.6
comp=Z,26nm,0.6s
MBDF Montbardon 152.65 333 ⇑*i*PKP1 PKPbc 11 06 47.4 -0.6
comp=Z,13nm,0.7s
QUIF Quistinic 152.81 349 ⇑*i*PKP1 PKPbc 11 06 47.1 -1.2
comp=Z,34nm,0.9s
PLDF La Plantade 152.83 338 PKP PKPbc 11 06 48.0 -0.4
ORIF Oris-en-Rattie 152.87 334 ⇑*i*PKP1 PKPbc 11 06 48.0 -0.5
comp=Z,39nm,0.7s
ORIF *e*R
comp=Z,145nm,21.5s
SAOF Saorge 152.88 331 PKP PKPbc 11 06 47.0 -1.5
AUTN L'Aution 152.93 331 PKP PKPbc 11 06 45.0 -3.6
TCF Toulx Ste Croi 153.02 340 ⇑*i*PKP1 PKPbc 11 06 48.1 -0.7
comp=Z,40nm,1.0s
SBF Sospel 153.03 331 ⇑*i*PKP1 PKPbc 11 06 47.8 -1.0
comp=Z,54nm,1.1s
PGF Pioggiola 153.26 327 ⇑*i*PKP1 PKPbc 11 06 48.8 -0.5
comp=Z,33nm,0.8s
VIVF Saint-Julien-l 153.40 335 *e*PKP1 PKPbc 11 06 48.7 -0.9
comp=Z,11nm,0.8s
MFF Saint Martin d 153.41 344 ⇑*i*PKP1 PKPbc 11 06 48.8 -0.9
comp=Z,24nm,0.8s
LBL Lubilhac 153.60 338 PKP PKPbc 11 06 49.9 -0.2
SMRF Simiane la Rot 153.76 333 ⇑*i*PKP1 PKPbc 11 06 49.5 -0.9
comp=Z,16nm,0.8s
LMR La Mourre 153.87 331 *e*PKP1 PKPbc 11 06 49.8 -0.8
comp=Z,21nm,0.9s
RJF Les Rejaudoux 154.12 340 *e*PKP1 PKPbc 11 06 50.6 -0.6
RJF *e*R
comp=Z,110nm,21.5s
LASF Ste Croix 154.37 336 *e*PKP1 PKPbc 11 06 51.4 -0.3
comp=Z,14nm,0.8s
LFF La Frestale 154.68 341 *e*PKP1 PKPbc 11 06 51.9 -0.5
ESDC Sonseca Array 160.87 345 PKPab PKPab 11 07 33.1 -0.9
comp=Z,0.8nm,0.4s,baz=50,slow=2.5,SNR=5.7
TORD Torodi Ar. Bea 165.82 237 PKP PKPdf 11 06 55.8 -0.4
comp=Z,0.9nm,0.8s,baz=30,slow=1.7,SNR=4.8

*NEIC **07** 10:50:16.3,3850S×17596E,h159km,MG4.0(WEL),After WEL.*
WEL 07 10:50:16.5±0.2,3851S×17599E,h156km±1km,ML3.9/12, 7C-1D,Error ellipse: s-maj=1.7km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	**Paeroa**	**0.25**	**60**	PN	Pn	10 50 38.2	+0.7
PATZ	**Paeroa**	**0.25**	**60**	P	Pn	10 50 38.3	+0.8
KATZ	**Kakaramea**	**0.52**	**206**	PN	Pn	10 50 38.8	+0.2
KATZ	**Kakaramea**	**0.52**	**206**	P	Pn	10 50 38.9	+0.3
KRVZ	**Karewarewa**	**0.65**	**204**	PN	Pn	10 50 39.2	0.0
KRVZ				SN	Sn	10 50 57.1	+0.4
WTVZ	**West Tongariro**	**0.69**	**207**	PN	Pn	10 50 39.6	+0.1
WTVZ				SN	Sn	10 50 57.4	+0.3
WTVZ	**West Tongariro**	**0.69**	**207**	P	Pn	10 50 39.6	+0.1
OTVZ	**Oturere**	**0.70**	**201**	PN	Pn	10 50 39.8	+0.2
OTVZ				SN	Sn	10 50 58.1	+0.8
TWVZ	**Taurewa**	**0.71**	**217**	⇑PN	Pn	10 50 39.7	+0.1
TWVZ	**Taurewa**	**0.71**	**217**	P	Pn	10 50 39.8	+0.2
NGZ	**Ngauruhoe**	**0.73**	**204**	PN	Pn	10 50 39.9	+0.1
NGZ	**Ngauruhoe**	**0.73**	**204**	P	Pn	10 50 39.9	+0.1
BKZ	**Black Stump Fm**	**0.77**	**149**	⇑PN	Pn	10 50 40.5	+0.4
BKZ				SN	Sn	10 50 57.5	-0.5
BKZ				SN	Sn	10 50 57.7	-0.4
BKZ	**Black Stump Fm**	**0.77**	**149**	P	Pn	10 50 40.5	+0.5
BKZ				S	Sn	10 50 57.7	-0.4
WPVZ	**Whakapapa**	**0.78**	**206**	PN	Pn	10 50 40.2	+0.1
WPVZ				SN	Sn	10 50 58.8	+0.6
WPVZ	**Whakapapa**	**0.78**	**206**	P	Pn	10 50 40.4	+0.3
WPVZ				S	Sn	10 50 58.8	+0.6
FWVZ	**Far West T-bar**	**0.82**	**204**	PN	Pn	10 50 40.5	+0.1
FWVZ				SN	Sn	10 50 59.3	+0.6
FWVZ	**Far West T-bar**	**0.82**	**204**	P	Pn	10 50 40.7	+0.3
TRVZ	**Turoa**	**0.86**	**203**	PN	Pn	10 50 41.1	+0.4
WNVZ	**Wahianoa**	**0.88**	**200**	⇑PN	Pn	10 50 41.0	+0.2
WNVZ	**Wahianoa**	**0.88**	**200**	P	Pn	10 50 41.1	+0.3
HIZ	**Hauiti**	**0.89**	**269**	⇓PN	Pn	10 50 40.7	-0.2
HIZ				SN	Sn	10 50 59.4	-0.1
HIZ	**Hauiti**	**0.89**	**269**	P	Pn	10 50 40.7	-0.2
URZ	**Urewera**	**0.92**	**75**	PN	Pn	10 50 41.0	-0.2
URZ				SN	Sn	10 50 58.9	-1.0
URZ	**Urewera**	**0.92**	**75**	P	Pn	10 50 41.1	0.0
MOVZ	**Moawhango**	**0.92**	**191**	⇑PN	Pn	10 50 41.0	-0.1
MOVZ	**Moawhango**	**0.92**	**191**	P	Pn	10 50 41.0	-0.1
PKVZ	**Pokaka**	**0.93**	**212**	⇑PN	Pn	10 50 41.2	0.0
MTVZ	**Mangateitei**	**0.97**	**204**	PN	Pn	10 50 41.5	0.0
VRZ	**Vera Road**	**1.14**	**237**	PN	Pn	10 50 42.8	-0.2
VRZ	**Vera Road**	**1.14**	**237**	P	Pn	10 50 42.8	-0.2
MWZ	**Matawai**	**1.22**	**83**	PN	Pn	10 50 44.0	+0.2
MWZ				SN	Sn	10 51 04.1	-0.5
MWZ	**Matawai**	**1.22**	**83**	P	Pn	10 50 44.1	+0.4
KNZ	**Kokohu**	**1.42**	**112**	PN	Pn	10 50 46.4	+0.8
KNZ				SN	Sn	10 51 07.7	-0.2
WAZ	**Wanganui**	**1.47**	**212**	PN	Pn	10 50 45.7	-0.5
WAZ	**Wanganui**	**1.47**	**212**	P	Pn	10 50 45.8	-0.4
TSZ	**Takapari Road**	**1.55**	**181**	PN	Pn	10 50 46.8	-0.2
PXZ	**Pawanui**	**1.67**	**156**	PN	Pn	10 50 48.4	+0.1
PKE	**Pukeiti**	**1.71**	**246**	PN	Pn	10 50 48.3	-0.3
PKE	**Pukeiti**	**1.71**	**246**	P	Pn	10 50 48.3	-0.3
KUZ	**Kuaotunu**	**1.77**	**353**	⇑PN	Pn	10 50 49.0	-0.3
KUZ	**Kuaotunu**	**1.77**	**353**	*e*P	Pn	10 50 49.1	-0.2
PUZ	**Puketiti**	**1.84**	**77**	PN	Pn	10 50 50.0	-0.1
PUZ	**Puketiti**	**1.84**	**77**	P	Pn	10 50 50.1	0.0
MXZ	**Matakaoa Point**	**2.06**	**64**	PN	Pn	10 50 52.5	-0.1
MXZ	**Matakaoa Point**	**2.06**	**64**	P	Pn	10 50 52.9	+0.3
MRZ	**Mangatainoka R**	**2.18**	**188**	PN	Pn	10 50 52.6	-1.3
MRZ				SN	Sn	10 51 19.5	-3.4
MRZ	**Mangatainoka R**	**2.18**	**188**	P	Pn	10 50 52.7	-1.3
MRZ				S	Sn	10 51 19.5	-3.4
BFZ	**Birch Farm**	**2.18**	**175**	PN	Pn	10 50 53.1	-1.0
TIWZ	**Tintock**	**2.27**	**182**	PN	Pn	10 50 53.9	-1.2
KIW	**Kapiti Island**	**2.50**	**199**	PN	Pn	10 50 55.8	-2.0
MTW	**Mount Morrison**	**2.68**	**188**	PN	Pn	10 50 57.9	-2.1
MTW	**Mount Morrison**	**2.68**	**188**	P	Pn	10 50 57.9	-2.1
CAW	**Cannon Point**	**2.69**	**195**	PN	Pn	10 50 58.1	-2.1
CAW	**Cannon Point**	**2.69**	**195**	P	Pn	10 50 58.2	-2.0
DUWZ	**D'Urville Isla**	**2.79**	**214**	PN	Pn	10 50 58.9	-2.5
DUWZ				SN	Sn	10 51 33.5	-2.8
MRW	**Makara Radio**	**2.90**	**200**	PN	Pn	10 51 00.2	-2.5
MRW	**Makara Radio**	**2.90**	**200**	P	Pn	10 51 00.2	-2.4
TRWZ	**Traveller**	**2.90**	**184**	PN	Pn	10 51 00.5	-2.3
PAWZ	**Paruwai Farm**	**2.91**	**188**	⇑PN	Pn	10 51 00.5	-2.3
WEL	**Wellington**	**2.93**	**198**	PN	Pn	10 51 00.6	-2.6
WEL	**Wellington**	**2.93**	**198**	P	Pn	10 51 00.7	-2.5
MSWZ	**Moikau Station**	**2.96**	**191**	PN	Pn	10 51 01.0	-2.5
MSWZ	**Moikau Station**	**2.96**	**191**	P	Pn	10 51 01.2	-2.3
SNZO	**South Karori**	**2.97**	**199**	PN	Pn	10 51 01.0	-2.7
SNZO	**South Karori**	**2.97**	**199**	P	Pn	10 51 01.0	-2.6
TCW	**Tory Channel**	**3.01**	**205**	PN	Pn	10 51 01.4	-2.7
TCW	**Tory Channel**	**3.01**	**205**	P	Pn	10 51 01.6	-2.5
TUWZ	**Tuamarina**	**3.32**	**208**	PN	Pn	10 51 04.9	-3.1
NNZ	**Nelson**	**3.37**	**216**	PN	Pn	10 51 05.5	-3.2
NNZ	**Nelson**	**3.37**	**216**	*e*P	Pn	10 51 05.8	-2.9
QRZ	**Quartz Range**	**3.54**	**228**	PN	Pn	10 51 07.1	-3.7
QRZ	**Quartz Range**	**3.54**	**228**	*e*P	Pn	10 51 07.1	-3.7
BSWZ	**Blackbirch Sta**	**3.59**	**206**	PN	Pn	10 51 08.7	-2.9
BSWZ	**Blackbirch Sta**	**3.59**	**206**	P	Pn	10 51 08.9	-2.6
THZ	**Tophouse**	**4.02**	**215**	PN	Pn	10 51 13.5	-3.6
THZ	**Tophouse**	**4.02**	**215**	*e*P	Pn	10 51 13.7	-3.4
KHZ	**Kahutara**	**4.33**	**205**	PN	Pn	10 51 17.7	-3.4
KHZ	**Kahutara**	**4.33**	**205**	*e*P	Pn	10 51 17.9	-3.2
DSZ	**Denniston Nort**	**4.56**	**223**	PN	Pn	10 51 19.5	-4.5
LTZ	**Lake Taylor**	**5.12**	**212**	*e*PN	Pn	10 51 27.5	-4.1
LTZ	**Lake Taylor**	**5.12**	**212**	*e*P	Pn	10 51 27.2	-4.4
MQZ	**McQueen's Vall**	**5.78**	**205**	SN	Sn	10 52 35.5	-10
ODZ	**Otahua Downs**	**7.66**	**210**	*e*PN	Pn	10 52 00.3	-4.8

*NEIC **07** 11:08:52.8,2778S×6931W,h93km,MG3.5(GUC),After GUC.*
GUC 07 11:08:52.8±0.7,2778S×6931W,h92km±17km,ML3.5, 5C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.01**	**294**	⇑*i*P	Pn	11 09 12.8	0.0
CPCH				*i* S	Sn	11 09 28.5	+0.7
CPCH				AML	AML	11 09 31.6	
	comp=N,6μm,0.1s						
CPCH	**Copiapo**	**1.01**	**294**	⇑*i*P	Pn	11 09 12.8	0.0
CPCH				*i* S	Sn	11 09 28.5	+0.7
CDCH	**Caldera**	**1.52**	**297**	*e*P	Pn	11 09 19.1	+0.2
CDCH				*i* S	Sn	11 09 38.9	+0.3
LCO	**Las Campanas**	**1.73**	**224**	⇑*i*P	Pn	11 09 22.6	+1.0
LCO				*i* S	Sn	11 09 45.6	+2.1
CRCH	**Chaqaral**	**1.84**	**320**	⇑*i*P	Pn	11 09 23.8	+0.8
CRCH				*i* S	Sn	11 09 46.2	+0.

ellipse: s-maj=25.5km s-min=17.3km az=54.5
*BJI **07** 11:28:42.9, 2128S×17429W, h58km, mB5.1, mb4.8, Ms5.2, Msz4.7*
*NEIC **07** 11:28:43.6±0.3, 2067S×174.10W, mb4.6/11, Error ellipse: s-maj=16.1km s-min=8.6km az=132.0*

ISC 07 11:28:42.6±0.3, 2074S±008×1740W±01, h35km, (h45km±1.2km: pP-P), n58, σ0:92/46, mb4.5/20, MS3.7/4, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.12**	**18**	Pn	**Pn**	**11 30 17.6**	**-6.6**
	8.9nm,0.3s,baz=314,slow=23,SNR=15						
AFI				Sn	**Sn**	**11 31 32.7**	**-11**
	5.5nm,0.3s,baz=329,slow=22,SNR=3.0						
AFI				T		11 37 35.5	
	1.5nm,0.3s,baz=177,slow=15,SNR=5.0						
AFI	**Afiamalu**	**7.12**	**18**	*e*P	**Pn**	**11 30 17.1**	**-7.2**
AFI				pmax	pmax		
	comp=Z,53nm,0.7s						
AFI	**Afiamalu**	**7.12**	**18**	*e*Pn	**Pn**	**11 30 17.1**	**-7.1**
	comp=Z,53nm,0.7s						
RAR	**Rarotonga**	**13.34**	**95**	Pn	**Pn**	**11 31 36.3**	**-13**
	comp=Z,0.9nm,0.3s,baz=267,slow=8.2,SNR=3.0						
URZ	**Urewera**	**19.07**	**202**	P	**Pn**	**11 33 02.0**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=336,slow=8.1,SNR=8.2						
PPT	**Papeete**	**23.32**	**86**	LR	LR	11 41 23.7	
	comp=Z,316nm,18.4s,MS3.8,baz=134,slow=33						
HNR	**Honiara**	**27.47**	**290**	LR	LR	11 43 30.2	
	comp=Z,122nm,18.6s,MS3.5,baz=179,slow=32						
STKA	**Stephens Creek**	**41.04**	**245**	P	**P**	**11 36 20.1**	**-2.4**
	comp=Z,3.5nm,0.7s,mb4.1,baz=93,slow=9.1,SNR=7.5						
ASAR	**Alice Springs**	**48.07**	**256**	P	**P**	**11 37 18.8**	**+0.2**
	comp=Z,5.9nm,0.8s,mb4.7,baz=92,slow=7.9,SNR=35						
WRAB	**Tennant Creek**	**48.23**	**261**	*e*P	**P**	**11 37 19.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**48.23**	**261**	*e*P	**P**	**11 37 19.6**	**-0.1**
	comp=Z,9.1nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**48.24**	**261**	P	**P**	**11 37 19.4**	**-0.5**
	comp=Z,2.5nm,0.9s,mb4.2,baz=96,slow=7.7,SNR=17						
SBA	**Scott Base**	**57.91**	**185**	*e*P	**P**	**11 38 32.4**	**+1.3**
SBA				*e**PP	pP	11 38 45.0	+3.3
SBA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
SBA	**Scott Base**	**57.91**	**185**	*e*P	**P**	**11 38 32.4**	**+1.4**
	comp=Z,5.7nm,1.0s,mb4.6						
SBA				*e*pP	pP	11 38 45.0	+3.3
VNDA	**Vanda**	**58.03**	**186**	P	**P**	**11 38 33.2**	**+1.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=2.2,slow=5.6,SNR=8.6						
VNDA	**Vanda**	**58.03**	**186**	*e*P	**P**	**11 38 33.0**	**+1.1**
VNDA				*e**PP	pP	11 38 45.7	+3.1
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	**58.03**	**186**	*e*P	**P**	**11 38 33.0**	**+1.1**
	comp=Z,2.1nm,0.9s,mb4.2						
VNDA				*e*pP	pP	11 38 45.7	+3.1
MBWA	**Marble Bar**	**61.41**	**257**	*e*P	**P**	**11 38 55.8**	**+0.6**
	comp=Z,7.6nm,0.7s,mb4.9						
QSPA	**South Pole Qui**	**69.33**	**180**	*e*P	**P**	**11 39 46.4**	**0.0**
	comp=Z,12nm,1.2s,mb4.7						
MJAR	**Matsushiro Arr**	**72.65**	**321**	P	**P**	**11 40 08.2**	**+1.6**
	comp=Z,2.5nm,0.7s,mb4.3,baz=162,slow=6.1,SNR=9.1						
MJAR				LR	LR	12 07 27.9	
	comp=Z,41nm,20.6s,MS3.7,baz=10.0,slow=32						
YSS	**Yuzh-Sakhalins**	**77.82**	**331**	*e*P	**P**	**11 40 37.5**	**+1.2**
MTUM	**Tungsten Hills**	**77.87**	**42**	*e*P	**P**	**11 40 36.1**	**-0.5**
NVAR	**Mina Array Bea**	**78.70**	**41**	P	**P**	**11 40 40.6**	**-0.6**
	comp=Z,3.7nm,0.8s,mb4.4,baz=228,slow=9.4,SNR=10						
MNV	**Mina**	**78.79**	**42**	*e*P	**P**	**11 40 41.6**	**-0.1**
MNV				*e**PP	pP	11 40 54.1	+1.5
MNV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
MNV	**Mina**	**78.79**	**42**	*e*P	**P**	**11 40 41.6**	**-0.1**
	comp=Z,9.9nm,1.1s,mb4.7						
MNV				*e*pP	pP	11 40 54.1	+1.4
TPNV	**Topopah Spring**	**79.11**	**44**	*e*P	**P**	**11 40 42.7**	**-0.7**
TPNV				*e**PP	pP	11 40 56.6	+2.2
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TPNV	**Topopah Spring**	**79.11**	**44**	*e*P	**P**	**11 40 42.7**	**-0.7**
	comp=Z,4.4nm,0.9s,mb4.4						
TPNV				*e*pP	pP	11 40 56.6	+2.2
MAW	**Mawson**	**82.57**	**199**	P	**P**	**11 41 03.3**	**+1.4**
	comp=Z,2.9nm,0.9s,mb4.3,baz=157,slow=7.9,SNR=4.2						
MSU	**Marysvale**	**82.64**	**44**	*e*P	**P**	**11 41 02.9**	**+0.6**
MSU				*e**PP	pP	11 41 16.4	+3.1
SRU	**San Rafael**	**84.05**	**44**	*e*P	**P**	**11 41 09.2**	**-0.3**
SRU				*e**PP	pP	11 41 22.9	+2.3
SRU				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.9						
SRU	**San Rafael**	**84.05**	**44**	*e*P	**P**	**11 41 09.2**	**-0.3**
	comp=Z,13nm,1.4s,mb4.9						
SRU				*e*pP	pP	11 41 22.9	+2.3
HLID	**Hailey**	**84.13**	**39**	*e*P	**P**	**11 41 10.1**	**+0.2**
	comp=Z,4.0nm,1.1s,mb4.5						
HLID				*e*pP	pP	11 41 22.7	+1.7
BNM	**Barren Site**	**84.18**	**50**	*e*P	**P**	**11 41 10.2**	**+0.1**
PV10	**Paradox Valley**	**84.65**	**46**	*e*P	**P**	**11 41 13.6**	**+1.1**
ANMO	**Albuquerque**	**84.69**	**50**	*e*P	**P**	**11 41 12.5**	**-0.2**
ANMO				*e**PP	pP	11 41 24.7	+0.9
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ANMO	**Albuquerque**	**84.69**	**50**	*e*P	**P**	**11 41 12.5**	**-0.2**
	comp=Z,8.9nm,1.5s,mb4.7						
ANMO				*e*pP	pP	11 41 24.7	+0.9
PDAR	**Pinedale Array**	**86.63**	**42**	P	**P**	**11 41 21.8**	**-0.6**
	comp=Z,0.8nm,0.9s,mb4.0,baz=238,slow=3.1,SNR=5.9						
SYO	**Syowa Base**	**87.28**	**192**	*e*P	**P**	**11 41 23.2**	**-2.3**
VNA3	**Neumayer Olymp**	**87.62**	**175**	*e*	**P**	**11 41 27.7**	**+0.5**
VNA3				*e*		11 41 55.9	
VNA3				*e*		11 42 05.6	
COLA	**College**	**87.69**	**11**	*e*P	**P**	**11 41 27.1**	**-0.4**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
COLA	**College**	**87.69**	**11**	*e*P	**P**	**11 41 27.1**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.4						
VNA2	**Neumayer--Watz**	**88.11**	**176**	*e*	**P**	**11 41 29.2**	**-0.3**
	baz=196,slow=3.4						
VNA2				*e*		11 41 56.8	
VNA2				*e*		11 42 07.3	
DAWY	**Dawson**	**88.71**	**14**	*e*P	**P**	**11 41 32.1**	**-0.3**
DAWY				*e*pP	pP	11 41 45.4	+1.9
KMI	**Kunming**	**92.78**	**296**	P	**P**	**11 41 52.5**	**+1.2**
KMI				AP	pP	11 42 04.4	+2.0
KMI				XP	sP	11 42 10.2	+3.8
KMI				S		11 52 50.9	
KMI				AMB	AMB		
	comp=Z,50nm,4.4s						
KMI				LR	LR		
	comp=Z,30nm,22.0s,MS3.7						
INK	**Inuvik**	**93.57**	**14**	*e*P	**P**	**11 41 53.6**	**-1.3**
CD2	**Chengdu**	**94.06**	**301**	*e*P	**P**	**11 41 56.0**	**-1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
YKA	**Yellowknife Ar**	**95.21**	**24**	P	**P**	**11 42 02.8**	**+0.4**
	comp=Z,0.9nm,0.8s,mb4.3,baz=229,slow=3.8,SNR=5.8						
MKAR	**Makanchi Array**	**114.06**	**313**	PKP	PKiKP	11 47 18.1	+0.1
	comp=Z,0.9nm,0.8s,baz=54,slow=2.1,SNR=9.0						
ZRNK	**Zerenda**	**122.48**	**320**	*e*PKIKP	PKPdf	11 47 34.0	-0.1
EKA	**Eskdalemuir Ar**	**144.78**	**9**	PKP	PKPdf	11 48 14.2	-1.5
	comp=Z,1.8nm,0.7s,baz=321,slow=3.6,SNR=7.7						
AKASG	**Malin Array Be**	**144.93**	**334**	PKP	PKPdf	11 48 15.1	-0.8
	comp=Z,4.7nm,0.7s,baz=42,slow=4.3,SNR=21						
MALT	**Malatya**	**146.99**	**309**	*e*PKP2	PKPab	11 48 23.7	+0.8
CLL	**Collm**	**148.99**	**351**	*e*PKPbc	PKPbc	11 48 26.0	-0.8
CLL				*ep*PKPbc	pPKPbc	11 48 40.0	+1.8
BR131	**Keskin Array S**	**149.69**	**315**	*e*PKPbc	PKPbc	11 48 29.4	+0.9
BRTR	**Keskin Array B**	**149.69**	**315**	PKPbc	PKPbc	11 48 29.4	+0.9
	comp=Z,1.9nm,0.8s,baz=107,slow=1.3,SNR=10.0						
ASF	**Jabal al Asfar**	**150.16**	**299**	PKPbc	PKPbc	11 48 30.8	+1.2
	comp=Z,3.4nm,0.8s,baz=142,slow=2.0,SNR=5.8						
MLR	**Muntele Rosu**	**150.34**	**331**	PKPbc	PKPbc	11 48 30.6	+0.6
	comp=Z,1.3nm,0.4s,baz=273,slow=8.5,SNR=5.1						
GERES	**GERESS Array B**	**151.28**	**349**	PKPbc	PKPbc	11 48 31.8	-0.4
	comp=Z,0.7nm,0.6s,baz=45,slow=2.1,SNR=6.9						

PRE 07 11:32:26.0±1.3, 2047S×3334E, h5km, ML4.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**7.04**	**193**	*e*P	Pn	11 34 09.3	-0.5
POGA				*e*S	Sn	11 35 26.7	-3.5
POGA				AML	AML	11 36 19.1	
	comp=Z,51nm,0.7s						
LBTB	**Lobatse**	**8.45**	**236**	*e*P	Pn	11 34 30.9	+1.8
LBTB				*e*S	Sn	11 36 00.8	-4.1
LBTB				AML	AML	11 37 14.3	
	comp=Z,50nm,0.7s						
BOSA	**Boshof**	**10.94**	**221**	*e*P	Pn	11 35 04.8	+1.6
BOSA				*e*S	Sn	11 37 00.4	-5.6
BOSA				AML	AML	11 38 34.2	
	comp=Z,26nm,0.7s						
SUR	**Sutherland**	**16.31**	**221**	*e*P	Pn	11 36 19.2	+3.6
SUR				*e*S	Sn	11 39 09.1	-7.8

*BER **07** 11:37:16.9±3.9, 6104N×2900E, h0km, ML2.4(NAO), Suspected explosion*
*NAO **07** 11:37:16.8±1.9, 6100N×2895E, ML2.4*
*IDC **07** 11:37:19.6±3.0, 6101N×2876E, h10km±12km, mb1 3.2/3, mb1mx3.0/18, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=18.2km s-min=11.2km az=138.0*

HEL 07 11:37:15.6±0.1, 6097N×2905E, h0km, ML1.8, ML2.4(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**1.51**	**290**	*e*P	Pn	11 37 42.6	-1.3
FIA0				*e*S	Sg	11 38 02.1	-2.1
FIA0	**FINESS Array S**	**1.51**	**290**	Pg	Pg	11 37 42.7	-2.0
	baz=114,slow=18						
FIA0				Lg		11 38 03.2	
	baz=104,slow=37						
FIA0				Rg		11 38 10.8	
	baz=118,slow=37						
FINES	**FINESS Array B**	**1.51**	**290**	Pg	Pg	11 37 42.7	-1.9
	2.4nm,0.3s,baz=110,slow=16,SNR=56						
FINES				Pn	Pn	11 37 43.9	-0.1
	2.4nm,0.3s,baz=114,slow=17,SNR=55						
FINES				Lg		11 38 03.2	
	4.7nm,0.3s,baz=105,slow=29,SNR=21						
FINES				Sn	Sn	11 38 05.9	+1.5
	4.7nm,0.3s,baz=108,slow=27,SNR=21						
FINES				Rg		11 38 10.5	
	19nm,0.6s,baz=114,slow=31,SNR=29						
PVF	**Pernaja**	**1.62**	**256**	*e*P	Pn	11 37 44.4	-1.1
PVF				*e*S	Sn	11 38 05.3	-1.7
KAF	**Kangasniemi**	**1.74**	**312**	*e*P	Pn	11 37 46.4	-0.7
KAF				*e*S	Sn	11 38 08.8	-1.2
JOF	**Joensuu**	**2.23**	**28**	*e*P	Pn	11 37 53.6	-0.1
JOF				*e*S	Sn	11 38 21.5	-0.5
JOF				MSG		11 38 24.3	
	comp=Z,2.6nm,0.1s						
SUF	**Sumiainen**	**2.23**	**323**	*e*PG	Pg	11 37 55.5	-2.9
SUF				MSG		11 38 27.4	
	comp=Z,5.8nm,0.1s						
KEF	**Keuruu**	**2.33**	**303**	*e*PB	Pb	11 37 56.5	-2.0
KEF				MSG		11 38 28.8	
	comp=Z,3.1nm,0.1s						
MEF	**Metsahovi**	**2.42**	**254**	*e*P	Pn	11 37 56.0	-0.4
MEF				MSG		11 38 31.6	
	comp=Z,6.7nm,0.1s						
HFS	**Hagfors**	**7.62**	**270**	*e*P	Pn	11 39 07.0	-0.8
HFS				*e*S	Sn	11 40 31.3	-3.5
HFS				*e*SG		11 41 09.3	
HFS	**Hagfors**	**7.62**	**270**	Pn	Pn	11 39 07.2	-0.6
	comp=Z,0.2nm,0.3s,baz=78,slow=21,SNR=5.5						
HFS				Sn	Sn	11 40 29.9	-4.9
	comp=Z,0.2nm,0.3s,baz=84,slow=29,SNR=3.1						
HFS				Lg		11 41 09.3	
	comp=Z,0.5nm,0.3s,baz=71,slow=32,SNR=5.8						
HFS	**Hagfors**	**7.62**	**270**	Pn	Pn	11 39 07.0	-0.8
	baz=83,slow=14						
HFS				Sn	Sn	11 40 31.3	-3.5
	baz=92,slow=28						
HFS				Lg		11 41 09.3	
	baz=79,slow=37						
NB2	**NORSAR Subarra**	**8.66**	**278**	Pn	Pn	11 39 21.4	-0.8
	baz=81,slow=14						
NB2	**NORSAR Subarra**	**8.66**	**278**	*e*P	Pn	11 39 21.4	-0.8
NOA	**NORSAR Array B**	**8.66**	**278**	Pn	Pn	11 39 20.8	-1.3
	comp=Z,0.2nm,0.3s,baz=80,slow=15,SNR=2.4						
NOA				Lg		11 41 43.5	
	comp=Z,0.3nm,0.3s,baz=135,slow=24,SNR=2.9						
ARA0	**ARCESS Array S**	**8.72**	**352**	Pn	Pn	11 39 21.9	-1.2
	baz=162,slow=16						
ARA0				Sn	Sn	11 40 56.1	-5.9
	baz=165,slow=28						
ARA0				Lg		11 41 41.5	
	baz=154,slow=37						
ARA0	**ARCESS Array S**	**8.72**	**352**	*e*P	Pn	11 39 21.9	-1.2
ARA0				*e*S	Sn	11 40 56.1	-5.9
ARA0				*e*SG		11 41 41.5	
ARCES	**ARCESS Array B**	**8.72**	**352**	Pn	Pn	11 39 22.3	-0.7
	comp=Z,0.4nm,0.3s,baz=168,slow=13,SNR=15						
ARCES				Sn	Sn	11 40 57.0	-5.1
	comp=Z,0.1nm,0.3s,baz=163,slow=25,SNR=4.1						

IDC 07 11:41:36.3±1.5, 101N×12678E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/15, mbtmp4.1/6, Error ellipse: s-maj=153.1km s-min=18.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.10**	**161**	P	P	11 46 34.1	+1.0
	3.8nm,0.3s,baz=339,slow=11,SNR=208						
ASAR	**Alice Springs**	**25.49**	**165**	P	P	11 47 07.5	+1.4
	1.4nm,0.3s,baz=345,slow=11,SNR=23						
STKA	**Stephens Creek**	**35.59**	**158**	P	P	11 48 34.2	-1.2
	0.9nm,0.3s,baz=323,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**59.81**	**326**	P	P	11 51 43.5	+0.1
	0.6nm,0.5s,baz=118,slow=8.5,SNR=9.3						
MKAR				PcP	PcP	11 52 29.9	-0.1
	1.0nm,1.1s,baz=116,slow=2.8,SNR=3.8						
AKTO	**Aktyubinsk**	**75.81**	**322**	P	P	11 53 24.7	+0.5
	2.3nm,0.8s,baz=118,slow=8.1,SNR=9.1						
VNDA	**Vanda**	**80.74**	**173**	P	P	11 53 50.4	-1.1
	0.2nm,0.3s,baz=318,slow=5.9,SNR=6.4						

KRSC 07 11:50:54.2±1.9, 6070N×16581E, h16km±3km, ML4.1, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.30**	**156**	*i* P		11 51 01.3	
TILR				*e*S		11 51 06.3	
TILR				Smax			
	72μm,0.3s						
KAMR	**Kamenskoye**	**1.77**	**6**	*i* P		11 51 25.3	
KAMR				*e*S		11 51 48.0	
KAMR				Smax			
	2μm,1.0s						
OSSR	**Ossora**	**2.01**	**225**	*i* P		11 51 27.1	
OSSR				*i* S		11 51 50.4	
EVNR	**Evensk**	**3.39**	**294**	*e*P		11 51 47.5	
SMKR	**Semkarok**	**4.71**	**211**	*e*P		11 52 06.3	
SRKR	**Sorokina**	**4.72**	**213**	*e*P		11 52 07.1	
KBG	**Krutoberegovo**	**4.75**	**201**	*e*P		11 52 07.6	
KBG				Smax			
	110nm,1.0s						
KBTR	**Krutoberegovo**	**4.77**	**201**	*e*P		11 52 07.6	
KBTR				*e*S		11 53 00.9	
KLY	**Klyuchi**	**5.16**	**214**	*e*P		11 52 11.9	
KRSR	**Krestovskiy**	**5.27**	**214**	*e*P		11 52 14.7	
LGNR	**Loginova**	**5.36**	**212**	*e*P		11 52 16.8	
ZLN	**Zelenaya**	**5.38**	**211**	*e*P		11 52 16.9	
SRDR	**Sredinnyy**	**5.43**	**219**	*e*P		11 52 15.7	
BKI	**Bering**	**5.51**	**179**	*i* P		11 52 19.6	
KPT	**Kopyto**	**5.58**	**214**	P		11 52 20.0	
KOZ	**Kozyrevsk**	**5.60**	**216**	P		11 52 18.9	
KMNR	**Kamenistaya**	**5.76**	**213**	*e*P		11 52 21.8	
MKZ	**Mys Kozlova**	**6.54**	**201**	*e*P		11 52 36.0	
BILL	**Bilibino**	**7.37**	**1**	*e*P		11 52 42.9	
MA2	**Magadan**	**7.59**	**268**	*e*P		11 52 46.0	
MA2				*e*S		11 54 10.8	
GNL	**Ganaly**	**8.21**	**215**	*e*P		11 52 55.2	
SDLR	**Sedlovina**	**8.34**	**210**	*e*P		11 52 59.8	
APC	**Apacha**	**9.12**	**215**	*e*P		11 53 07.3	

*ISCJB **07** 12:27:57.7±0.8, 2288S±006×660W±02, h239km±17km, mb3.8/1, Error ellipse: s-maj=24.4km s-min=8.8km az=18.4*
*IDC **07** 12:27:58.5±1.2, 2279S×66.12W, h240km±18km, mb3.7/1, mb1 3.6/5, mb1mx3.3/16, mbtmp4.2/5, Error ellipse: s-maj=26.5km s-min=17.6km az=113.0*

ISC 07 12:27:59.2±0.9, 2281S±008×661W±02, h240km±18km, n10, σ0:69/12, mb3.8/1, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.60**	**274**	P	**Pn**	**12 28 47.6**	**+0.9**
	40nm,0.3s,baz=95,slow=5.8,SNR=424						
LVC				S	**S**	**12 29 24.0**	**-0.2**
	24nm,0.3s,baz=246,slow=20,SNR=32						
LPAZ	**La Paz**	**6.76**	**343**	P	**Pn**	**12 29 36.9**	**+0.2**
	1.0nm,0.3s,baz=175,slow=11,SNR=31						
LPAZ				S	**S**	**12 30 54.5**	**-0.2**
	0.2nm,0.3s,baz=294,slow=17,SNR=6.9						
SIV	**San Ignacio**	**8.27**	**36**	P	**Pn**	**12 29 55.3**	**-0.5**
	1.3nm,0.3s,baz=226,slow=8.5,SNR=59						
CFAA	**Coronel Fontan**	**8.97**	**192**	P	**Pn**	**12 30 03.8**	**-0.9**
	0.1nm,0.3s,baz=13,slow=12,SNR=4.8						
CFAA				S	**S**	**12 31 40.4**	**-5.7**
	0.6nm,0.3s,baz=290,slow=18,SNR=18						
BDFB	**Brasilia**	**18.50**	**71**	P	**P**	**12 31 58.7**	**+1.0**
	0.5nm,0.3s,baz=234,slow=6.6,SNR=4.6						
VNA3	**Neumayer Olymp**	**58.01**	**161**	*e*	**P**	**12 37 27.5**	**+0.5**
VNA3				*e*		12 37 30.5	
VNA2	**Neumayer--Watz**	**58.56**	**161**	*e*	**P**	**12 37 31.1**	**+0.3**
	baz=307,slow=8.0						
VNA2				*e*		12 37 34.2	
SNAA	**Sanae**	**60.20**	**161**	*e*	**P**	**12 37 30.7**	**-11**
SNAA				*e*		12 37 33.2	
TORD	**Torodi Ar. Bea**	**75.37**	**69**	P	**P**	**12 39 15.2**	**-1.1**
	1.0nm,0.4s,mb3.8,baz=256,slow=5.7,SNR=16						
MKAR	**Makanchi Array**	**145.08**	**39**	PKPbc	PKPbc	12 47 07.5	-0.3
	0.9nm,0.6s,baz=316,slow=3.3,SNR=10						

*ISCJB **07** 12:44:48.4±0.3, 4564N±002×294E±003, h3km, Error ellipse: s-maj=2.7km s-min=2.2km az=46.5*
*LDG **07** 12:44:49.9±0.1, 4564N×294E, h3km, Md2.3/3, Ml2.4/13, Error ellipse: s-maj=1.0km s-min=0.8km az=101.0*
*CSEM **07** 12:44:50.0±0.0, 4564N×293E, h5km±1km, ML2.4/14, Error ellipse: s-maj=0.9km s-min=0.7km az=110.0*
*STR **07** 12:44:50.0±0.1, 4563N×292E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 07 12:44:49.2±0.3, 4564N±002×292E±003, h17km±6km, n38, σ0:62/68, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VERF	**Verneugheol**	**0.33**	**290**	Pg	**Pg**	**12 44 56.7**	**+0.6**
VERF				Sg	**Sg**	**12 45 01.2**	**+0.4**
FRNF	**Fournols**	**0.36**	**226**	Pg	**Pg**	**12 44 57.2**	**+0.6**
FRNF				Sg	**Sg**	**12 45 02.0**	**+0.3**
AGO	**Saint Agoulin**	**0.44**	**19**	Pg	**Pg**	**12 44 58.7**	**+0.6**
AGO				Sg	**Sg**	**12 45 04.7**	**+0.6**
LBL	**Lubilhac**	**0.47**	**151**	Pg	**Pg**	**12 44 59.1**	**+0.5**
LBL				Sg	**Sg**	**12 45 05.3**	**+0.4**
COLF	**Collangettes**	**0.55**	**102**	Pg	**Pg**	**12 45 00.7**	**+0.5**
COLF				Sg	**Sg**	**12 45 08.1**	**+0.5**
PLDF	**La Plantade**	**0.59**	**55**	Pg	**Pg**	**12 45 01.4**	**+0.6**
PLDF				Sg	**Sg**	**12 45 09.5**	**+0.7**
TCF	**Toulx Ste Croi**	**0.82**	**323**	*e*Pg	**Pg**	**12 45 05.5**	**+0.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**12 45 16.4**	**+0.4**
	21nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**0.82**	**323**	*e*Pg	**Pg**	**12 45 05.5**	**+0.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**12 45 16.4**	**+0.4**
	11nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**0.92**	**357**	*e*Pg	**Pg**	**12 45 07.6**	**+0.5**
BGF				*e*Sg	**Sg**	**12 45 19.3**	**+0.1**
	79nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**0.92**	**357**	*e*Pg	**Pg**	**12 45 07.6**	**+0.5**
BGF				*e*Sg	**Sg**	**12 45 19.3**	**+0.1**
	40nm,0.3s,SNR=1.0						
CAF	**Calviac**	**0.94**	**221**	*e*Pg	**Pg**	**12 45 07.7**	**+0.4**
	SNR=1.0						
CAF	**Calviac**	**0.94**	**221**	*e*Pn	**Pn**	**12 45 08.6**	**+1.1**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**12 45 19.4**	**-0.3**
	8.7nm,0.2s,SNR=1.0						
CAF	**Calviac**	**0.94**	**221**	*e*Pn	**Pn**	**12 45 08.6**	**+1.1**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**12 45 19.4**	**-0.3**
	4.3nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.04**	**252**	*e*Pg	**Pg**	**12 45 09.7**	**+0.3**
RJF				*e*Sg	**Sg**	**12 45 23.6**	**+0.5**
	7.8nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.04**	**252**	*e*Pg	**Pg**	**12 45 09.7**	**+0.3**
RJF				*e*Sg	**Sg**	**12 45 23.6**	**+0.5**
	3.9nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**1.19**	**14**	*e*Pg	**Pg**	**12 45 12.2**	**0.0**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**12 45 27.6**	**-0.2**
	6.4nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**1.19**	**14**	*e*Pg	**Pg**	**12 45 12.2**	**0.0**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**12 45 27.6**	**-0.2**
	3.2nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**1.19**	**32**	*e*Pn	**Pn**	**12 45 11.8**	**+0.8**
	SNR=1.0						
SMF	**Signal de Mont**	**1.19**	**32**	*e*Pg	**Pg**	**12 45 12.4**	**

Error ellipse: s-maj=5.1km s-min=3.6km az=33.6
*LDG **07** 12:46:33.2±0.1, 4564N×294E, h3km, Md2.0/3, Ml2.0/7, Error ellipse: s-maj=1.3km s-min=0.9km az=102.0*
*STR **07** 12:46:33.2±0.2, 4563N×295E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 07 12:46:32.6±0.6, 4564N±002×293E±004, h15km±12km, n13, σ0§43/24, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.43**	**19**	Pg	**Pg**	**12 46 41.7**	**+0.5**
AGO				Sg	**Sg**	**12 46 47.8**	**+0.7**
LBL	**Lubilhac**	**0.47**	**151**	Pg	**Pg**	**12 46 42.1**	**+0.2**
LBL				Sg	**Sg**	**12 46 47.8**	**-0.4**
COLF	**Collangettes**	**0.55**	**103**	Pg	**Pg**	**12 46 43.8**	**+0.3**
COLF				Sg	**Sg**	**12 46 51.1**	**+0.3**
PLDF	**La Plantade**	**0.58**	**56**	Pg	**Pg**	**12 46 44.2**	**+0.2**
PLDF				Sg	**Sg**	**12 46 52.3**	**+0.5**
TCF	**Toulx Ste Croi**	**0.82**	**322**	*e*Pg	**Pg**	**12 46 48.7**	**+0.2**
TCF				*e*Sg	**Sg**	**12 46 59.5**	**+0.3**
6.6nm,0.2s							
BGF	**Bois d'Agland**	**0.92**	**356**	*e*Pg	**Pg**	**12 46 50.8**	**+0.5**
BGF				*e*Sg	**Sg**	**12 47 02.4**	**+0.1**
28nm,0.4s							
CAF	**Calviac**	**0.94**	**221**	*e*Pg	**Pg**	**12 46 50.8**	**-0.1**
CAF	**Calviac**	**0.94**	**221**	*e*Pn	**Pn**	**12 46 51.8**	**+0.5**
CAF				*e*Sg	**Sg**	**12 47 02.6**	**-0.6**
1.9nm,0.2s							
RJF	**Les Rejaudoux**	**1.05**	**252**	*e*Sg	**Sg**	**12 47 06.7**	**+0.1**
2.3nm,0.2s							
AVF	**Avril sur Loir**	**1.18**	**14**	*e*Pg	**Pg**	**12 46 55.3**	**-0.1**
AVF				*e*Sg	**Sg**	**12 47 10.8**	**-0.1**
2.1nm,0.2s							
SMF	**Signal de Mont**	**1.19**	**32**	*e*Pg	**Pg**	**12 46 55.5**	**+0.1**
SMF				*e*Sg	**Sg**	**12 47 09.9**	**-1.0**
1.1nm,0.2s							
SSF	**Saint Saulge**	**1.47**	**16**	*e*Pg	**Pg**	**12 47 00.4**	**-0.5**
SSF				*e*Sg	**Sg**	**12 47 19.6**	**-0.5**
2.2nm,0.3s							
LOR	**Lormes**	**1.75**	**21**	*e*Pg	**Pg**	**12 47 05.4**	**-0.7**
LOR				*e*Sg	**Sg**	**12 47 28.5**	**-0.3**
1.5nm,0.2s							

*CRAAG **07** 13:17:59.8, 3508N×373W, Mb3.8*
*CSEM **07** 13:18:00.3±0.1, 3507N×368W, h5km, ML3.6/3, Error ellipse: s-maj=1.9km s-min=1.5km az=126.0*
*SFS **07** 13:18:00.0, 3504N×378W, h0km, ML3.6*
*ISCJB **07** 13:18:00.6±0.5, 3507N±002×381W±003, h14km±3km, Error ellipse: s-maj=3.7km s-min=3.0km az=73.5*
*MDD **07** 13:18:01.4±0.3, 3509N×377W, h0km, mb3.5/15, Error ellipse: s-maj=3.5km s-min=2.8km az=87.0, PRXIMO*
*CNRM **07** 13:18:02.1, 3505N×373W, h3km, MD3.7*

ISC 07 13:18:01.0±0.5, 3508N±002×381W±003, h11km±3km, n67, σ1§33/105, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**160**	P	**Pg**	**13 18 03.5**	**-0.5**
TOU				S	**Sg**	**13 18 05.5**	**-0.7**
TOU	**Touzarine**	**0.12**	**160**	*i* P	**Pg**	**13 18 03.5**	**-0.5**
MPAL	**Palemas**	**0.19**	**323**	*i* P	**Pg**	**13 18 05.5**	**+0.4**
EMEL	**Melilla**	**0.73**	**72**	P	**Pg**	**13 18 14.0**	**-1.2**
EMEL				S	**Sg**	**13 18 24.8**	**+0.1**
1μm,0.2s,SNR=5.5							
EMLI	**Melilla**	**0.74**	**72**	P	**Pg**	**13 18 14.0**	**-1.3**
903nm,0.5s,SNR=20							
EMLI				S	**Sg**	**13 18 24.8**	**-0.1**
1μm,0.2s,SNR=5.5							
MELI	**Melilla**	**0.74**	**73**	⇑P	**Pg**	**13 18 14.3**	**-1.1**
MELI				S	**Sg**	**13 18 26.8**	**+1.6**
MELI	**Melilla**	**0.74**	**73**	*i* P	**Pg**	**13 18 14.3**	**-1.2**
MELI				*e*S	**Sg**	**13 18 26.8**	**+1.6**
ZAI	**Zaio**	**0.88**	**97**	*i* P	**Pg**	**13 18 16.5**	**-1.4**
ZAI				*i* S	**Sg**	**13 18 28.5**	**-0.9**
MDAL	**Dalia**	**1.59**	**301**	*i* P	**Pn**	**13 18 31.0**	**+1.8**
RSA	**Sarsar**	**1.67**	**264**	*i* P	**Pn**	**13 18 32.0**	**+1.8**
RSA				*i* S	**Sn**	**13 18 54.0**	**+2.3**
EMIJ	**Mijas**	**1.68**	**332**	P	**Pn**	**13 18 30.6**	**+0.3**
7.3nm,0.3s,SNR=6.7							
EMIJ				S	**Sn**	**13 18 50.2**	**-1.7**
37nm,0.3s,SNR=5.2							
EMIJ	**Mijas**	**1.68**	**332**	P	**Pn**	**13 18 31.9**	**+1.6**
7.3nm,0.3s,SNR=6.7							
EMIJ				S	**Sn**	**13 18 50.2**	**-1.7**
37nm,0.3s,SNR=5.2							
MAL	**Malaga**	**1.72**	**344**	*e*P	**Pn**	**13 18 30.9**	**0.0**
MAL				*e*S	**Sn**	**13 18 51.2**	**-1.6**
EGUA	**Guajares**	**1.77**	**6**	P	**Pn**	**13 18 30.9**	**-0.6**
0.3nm,0.1s,SNR=7.9							
EGUA	**Guajares**	**1.77**	**6**	P	**Pn**	**13 18 28.5**	**-3.0**
0.3nm,0.1s,SNR=7.9							
TSY	**Tnine Yamani**	**1.80**	**280**	*i* P	**Pn**	**13 18 34.0**	**+2.1**
TSY				*i* S	**Sn**	**13 18 56.0**	**+1.3**
IFR	**Ifrane**	**1.90**	**215**	P	**Pn**	**13 18 35.0**	**+1.6**
EJIF	**Jimena Fronter**	**1.93**	**316**	P	**Pn**	**13 18 34.8**	**+1.1**
2.6nm,0.2s,SNR=5.6							
EJIF				S	**Sn**	**13 18 59.7**	**+1.7**
5.3nm,0.3s,SNR=7.9							
EJIF	**Jimena Fronter**	**1.93**	**316**	P	**Pn**	**13 18 35.5**	**+1.8**
2.6nm,0.2s,SNR=5.6							
EJIF				S	**Sn**	**13 18 59.7**	**+1.8**
5.3nm,0.3s,SNR=7.9							
ERON	**Agron**	**1.94**	**360**	S	**Sn**	**13 18 60.0**	**+1.7**
2.8nm,0.2s,SNR=4.0							
OLHC	**Oulhaca**	**1.96**	**84**	P	**Pn**	**13 18 35.0**	**+0.8**
EBER	**Berja**	**1.96**	**22**	P	**Pn**	**13 18 34.1**	**-0.1**
5.2nm,0.4s,SNR=6.8							
EBER				S	**Sn**	**13 18 59.7**	**+0.9**
32nm,0.4s,SNR=5.2							
EBER	**Berja**	**1.96**	**22**	P	**Pn**	**13 18 34.1**	**-0.1**
5.2nm,0.4s,SNR=6.8							
EBER				S	**Sn**	**13 18 59.7**	**+0.8**
32nm,0.4s,SNR=5.2							
ELOJ	**Sierra Loja**	**2.09**	**352**	P	**Pn**	**13 18 38.0**	**+2.0**
1.5nm,0.1s,SNR=6.2							
ELOJ				S	**Sn**	**13 19 01.8**	**0.0**
31nm,0.8s,SNR=7.9							
ODZI	**Dzioua**	**2.12**	**83**	P	**Pg**	**13 18 42.0**	**+0.3**
EQUE	**Quentar**	**2.15**	**8**	P	**Pn**	**13 18 36.5**	**-0.2**
1.1nm,0.2s,SNR=7.7							
EQUE				S	**Sn**	**13 19 04.3**	**+1.0**
3.4nm,0.2s,SNR=9.1							
ECOG	**Cogollos-Vega**	**2.21**	**5**	P	**Pn**	**13 18 38.5**	**+1.0**
5.6nm,0.4s,SNR=5.8							
ECOG				S	**Sn**	**13 19 05.6**	**+0.8**
21nm,0.6s,SNR=7.9							
LIJA	**Lijar**	**2.24**	**325**	*i* P	**Pn**	**13 18 42.0**	**+4.0**
CZD	**Col de Zad**	**2.28**	**207**	P	**Pn**	**13 18 40.0**	**+1.4**
CZD				S	**Sn**	**13 19 07.0**	**+0.3**
CZD	**Col de Zad**	**2.28**	**207**	*i* P	**Pn**	**13 18 40.0**	**+1.4**
ESPR	**Espera**	**2.44**	**318**	P	**Pn**	**13 18 41.5**	**+0.7**
1.4nm,0.2s,SNR=7.9							
ESPR	**Espera**	**2.44**	**318**	P	**Pn**	**13 18 41.5**	**+0.7**
1.4nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.79**	**12**	P	**Pn**	**13 18 45.2**	**-0.3**
2.0nm,0.1s,SNR=7.3							
EQES				S	**Sn**	**13 19 20.0**	**+0.9**
10.0nm,0.2s,SNR=8.2							
EQES	**Quesada**	**2.79**	**12**	P	**Pn**	**13 18 45.2**	**-0.3**
2.0nm,0.1s,SNR=7.3							
EQES				S	**Sn**	**13 19 20.0**	**+0.9**
10.0nm,0.2s,SNR=8.2							
ODJA	**Bouhanifia**	**3.00**	**84**	P	**Pg**	**13 19 02.0**	**+3.4**
ZFT	**Errachidia**	**3.07**	**189**	P	**Pn**	**13 18 50.0**	**+0.6**
ZFT				S	**Sn**	**13 19 24.0**	**-2.1**
ZFT	**Errachidia**	**3.07**	**189**	*i* P	**Pn**	**13 18 50.0**	**+0.6**
KIB	**El Ksiba**	**3.11**	**217**	P	**Pn**	**13 18 52.0**	**+2.0**
KIB				S	**Sn**	**13 19 26.0**	**-1.2**
KIB	**El Ksiba**	**3.11**	**217**	*i* P	**Pn**	**13 18 52.0**	**+2.0**
EADA	**Adamuz**	**3.15**	**349**	P	**Pn**	**13 18 50.7**	**+0.2**
0.6nm,0.1s,SNR=7.7							
EADA				S	**Sn**	**13 19 28.6**	**+0.5**
4.0nm,0.2s,SNR=4.8							
EADA	**Adamuz**	**3.15**	**349**	P	**Pn**	**13 18 50.7**	**+0.2**
0.6nm,0.1s,SNR=7.7							
EADA				S	**Sn**	**13 19 28.6**	**+0.5**
4.0nm,0.2s,SNR=4.8							
EMUR	**La Murta**	**3.45**	**36**	P	**Pn**	**13 18 54.8**	**+0.1**
SNR=7.9							
EMUR				S	**Sn**	**13 19 32.9**	**-2.6**
7.6nm,0.4s,SNR=7.9							
AVE	**Averroes**	**3.48**	**240**	P	**Pn**	**13 18 51.0**	**-4.0**
EMIN	**Mina Concepcio**	**3.54**	**320**	P	**Pn**	**13 18 56.2**	**+0.3**
0.3nm,0.1s,SNR=13							
EMIN				S	**Sn**	**13 19 35.7**	**-2.1**
1.5nm,0.2s,SNR=5.5							
EMIN	**Mina Concepcio**	**3.54**	**320**	P	**Pn**	**13 18 54.4**	**-1.6**
0.3nm,0.1s,SNR=13							
TZC	**Tazercounte**	**3.68**	**218**	P	**Pn**	**13 18 58.0**	**+0.2**
TZC				S	**Sn**	**13 19 40.0**	**-1.2**
TZC	**Tazercounte**	**3.68**	**218**	*e*P	**Pn**	**13 18 58.0**	**+0.2**
EGRO	**El Granado**	**3.85**	**311**	P	**Pn**	**13 18 58.9**	**-1.3**
1.8nm,0.1s,SNR=5.8							
EGRO				S	**Sn**	**13 19 43.1**	**-2.3**
4.7nm,0.2s							
EGRO	**El Granado**	**3.85**	**311**	P	**Pn**	**13 18 58.9**	**-1.3**
1.8nm,0.1s,SNR=5.8							
ETOB	**Tobarra**	**4.00**	**26**	P	**Pn**	**13 19 03.1**	**+1.0**
1.1nm,0.2s,SNR=7.6							
ETOB				S	**Sn**	**13 19 49.3**	**+0.3**
3.2nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**4.00**	**26**	P	**Pn**	**13 19 03.1**	**+0.9**
1.1nm,0.2s,SNR=7.6							
PBEJ	**Beja**	**4.40**	**313**	*e*Sn	**Sn**	**13 19 56.1**	**-2.8**
PBEJ							
7.3nm,0.1s							
PBEJ	**Beja**	**4.40**	**313**	*e*Sn	**Sn**	**13 19 56.1**	**-2.8**
7.3nm,0.1s							
EBAD	**Badajoz**	**4.48**	**326**	P	**Pn**	**13 19 08.0**	**-0.8**
0.4nm,0.1s,SNR=7.5							
EBAD				S	**Sn**	**13 19 59.1**	**-1.9**
5.3nm,0.2s							
ESDC	**Sonseca Array**	**4.59**	**358**	P	**Pn**	**13 19 09.9**	**-0.5**
0.4nm,0.1s,baz=179,slow=12,SNR=5.3							
PTEO	**Sao Teotonio**	**4.67**	**303**	*e*Pn	**Pn**	**13 19 10.6**	**-0.9**
PTEO				*e*Sn	**Sn**	**13 20 01.6**	**-4.1**
PTEO							
5.3nm,0.4s							
PTEO	**Sao Teotonio**	**4.67**	**303**	*e*Pn	**Pn**	**13 19 10.6**	**-0.9**
PTEO				*e*Sn	**Sn**	**13 20 01.6**	**-4.1**
5.3nm,0.4s							
MOE	**Montemor**	**5.01**	**315**	*e*Sn	**Sn**	**13 20 09.8**	**-4.3**
OUK	**Oukaimeden**	**5.15**	**223**	P	**Pn**	**13 19 21.0**	**+3.0**
OUK				S	**Sn**	**13 20 16.0**	**-1.4**
OUK	**Oukaimeden**	**5.15**	**223**	*e*P	**Pn**	**13 19 21.0**	**+3.0**
CIA	**Chichaoua**	**5.43**	**231**	P	**Pn**	**13 19 24.0**	**+2.1**
CIA				S	**Sn**	**13 20 22.0**	**-2.3**
CIA	**Chichaoua**	**5.43**	**231**	*e*P	**Pn**	**13 19 24.0**	**+2.1**
PCBR	**Castelo Branco**	**5.58**	**330**	*e*Pn	**Pn**	**13 19 23.8**	**-0.2**
PCBR				*e*Sn	**Sn**	**13 20 23.9**	**-4.2**
PCBR							
2.4nm,0.1s							
PCBR	**Castelo Branco**	**5.58**	**330**	*e*Pn	**Pn**	**13 19 23.8**	**-0.2**
PCBR				*e*Sn	**Sn**	**13 20 23.9**	**-4.2**
2.4nm,0.1s							
MTE	**Manteigas**	**6.08**	**332**	*e*Pn	**Pn**	**13 19 30.7**	**-0.2**
MTE				*e*Sn	**Sn**	**13 20 38.3**	**-2.2**
MTE							
5.0nm,0.2s							
PVRL	**Vila Real**	**6.91**	**335**	*e*Sn	**Sn**	**13 20 57.4**	**-3.5**
PBRG	**Braganca**	**7.10**	**342**	*e*Pn	**Pn**	**13 19 44.9**	**0.0**

*NIED **07** 13:29:00, 2390N×12220E, h29km, Mw3.9 Best double couple: M0=7.48000×10^14 NP1:φs=58.00000°, δ=85.00000°, λ=71.00000°. NP2:φs=314.00000°, δ=19.00000°, λ=165.00000°.*
*IDC **07** 13:29:46.6±1.1, 2407N×12229E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.9/6, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.1/28, Error ellipse: s-maj=42.8km s-min=20.6km az=62.0*
*ISCJB **07** 13:29:47.3±1.8, 240N±0.1×12223E±006, h16km±12km, mb3.7/5, MS3.2/1, Error ellipse: s-maj=17.0km s-min=9.0km az=172.6*
*JMA **07** 13:29:47.5±0.3, 2392N×12224E, h18km, M3.7*

ISC 07 13:29:48.2±2.5, 2400N±010×12229E±005, h10km±16km, n12, σ0§73/18, mb3.7/5, MS3.2/1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.80**	**55**	P	**Pb**	**13 30 04.0**	**-0.2**
YOJ				S	**Sb**	**13 30 16.2**	**+1.1**
IRIF	**Iriomote-Funau**	**1.35**	**75**	P	**Pn**	**13 30 13.0**	**-0.1**
IRIF				*e*S	**Sn**	**13 30 30.5**	**-0.6**
HATJ	**Hateruma jima**	**1.38**	**87**	P	**Pn**	**13 30 13.1**	**-0.4**
HATJ				S	**Sn**	**13 30 30.4**	**-1.4**
JKRS	**Kuro-shima**	**1.58**	**81**	P	**Pn**	**13 30 16.4**	**+0.1**
JKRS				S	**Sn**	**13 30 37.0**	**+0.2**
JIJ	**Ishigaki jima**	**1.73**	**77**	P	**Pn**	**13 30 17.8**	**-0.5**
JIJ				*e*S	**Sn**	**13 30 40.0**	**-0.3**
JTJ	**Tarama**	**2.29**	**73**	P	**Pn**	**13 30 26.3**	**+0.3**
JTJ				*e*S	**Sn**	**13 30 55.8**	**+1.6**
JOW	**Kunigami**	**6.10**	**61**	Pn	**Pn**	**13 31 18.1**	**-0.2**
0.9nm,0.3s,baz=145,slow=19,SNR=2.9							
SONM	**Songino Array**	**26.94**	**336**	P	**P**	**13 35 28.7**	**-1.0**
1.8nm,0.9s,mb3.6,baz=149,slow=8.8,SNR=7.7							
SONM				LR	LR	13 47 37.6	
comp=Z,58nm,18.3s,MS3.2,baz=275,slow=40							
MKAR	**Makanchi Array**	**39.18**	**316**	P	**P**	**13 37 15.9**	**-0.3**
1.7nm,0.7s,mb3.9,baz=102,slow=10,SNR=15							
WRA	**Warramunga Arr**	**45.22**	**164**	P	**P**	**13 38 06.2**	**+0.8**
1.1nm,0.9s,mb3.7,baz=345,slow=9.4,SNR=4.6							
ASAR	**Alice Springs**	**48.70**	**166**	P	**P**	**13 38 33.2**	**+0.6**
0.3nm,0.5s,mb3.6,baz=348,slow=6.6,SNR=4.2							
BRTR	**Keskin Array B**	**74.10**	**307**	P	**P**	**13 41 25.0**	**+0.5**
1.2nm,0.8s,mb3.9,baz=86,slow=5.9,SNR=7.4							

IDC 07 14:00:51.2±7.2, 664S×14675E, h120km±75km, mb2.7/1, mb1 3.1/3, mb1mx3.0/11, mbtmp3.4/3, Error ellipse: s-maj=98.0km s-min=52.2km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.78**	**172**	P	Pn	14 01 34.8	+0.2
11nm,0.3s,baz=1.2,slow=4.3,SNR=55							
PMG				S	Sn	14 02 08.7	+0.7
12nm,0.3s,baz=159,slow=19,SNR=19							
WRA	**Warramunga Arr**	**17.89**	**221**	P	Pn	14 04 50.9	-1.4
0.2nm,0.3s,baz=39,slow=12,SNR=6.3							
ASAR	**Alice Springs**	**20.95**	**215**	P	P	14 05 24.8	+0.3
0.4nm,0.4s,baz=53,slow=9.1,SNR=20							
ASPA	**Alice Springs**	**20.96**	**215**	*e*P	P	14 05 24.2	-0.3
TORD	**Torodi Ar. Bea**	**145.00**	**283**	PKPbc	PKPbc	14 20 14.2	+0.5
0.3nm,0.5s,baz=66,slow=3.9,SNR=5.6							

*ISCJB **07** 14:01:37.2±3.9, 105S±02×1666E±03, h63km±25km, mb4.1/6, Error ellipse: s-maj=49.8km s-min=21.8km az=111.8*
*NEIC **07** 14:01:39.0±2.6, 1050S×16671E, h69km±16km, mb4.4/2, Error ellipse: s-maj=32.5km s-min=16.4km az=55.0*
*IDC **07** 14:01:38.5±5.4, 1050S×16671E, h64km±37km, mb3.8/6, mb1 4.0/8, mb1mx3.8/15, mbtmp4.2/8, ML3.9/2, MS3.5/7, Ms1 3.5/7, ms1mx3.1/24, Error ellipse: s-maj=54.0km s-min=37.2km az=71.0*

ISC 07 14:01:38.8±3.2, 105S±02×1667E±02, h64km±20km, n13, σ0§77/11, mb4.1/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.74**	**278**	P	**Pn**	**14 03 14.2**	**-0.8**
4.9nm,0.3s,baz=74,slow=2.9,SNR=4.9							
HNR				LR	LR	14 05 46.5	
comp=Z,273nm,20.3s,baz=178,slow=37							
HNR	**Honiara**	**6.74**	**278**	*e*P	**Pn**	**14 03 15.1**	**+0.2**
DZM	**Mont Dzumac**	**11.53**	**181**	P	**Pn**	**14 04 20.7**	**+0.2**
0.3nm,0.3s,baz=356,slow=18,SNR=3.6							
DZM				LR	LR	14 07 32.5	
comp=Z,69nm,19.2s,baz=232,slow=31							
PMG	**Port Moresby**	**19.28**	**271**	LR	LR	14 12 24.5	
comp=Z,159nm,19.7s,baz=212,slow=34							
CTA	**Charters Tower**	**21.89**	**242**	*e*P	**P**	**14 06 26.9**	**+0.5**
8.8nm,0.8s,mb4.2							
CTA	**Charters Tower**	**21.89**	**242**	P	**P**	**14 06 27.4**	**+1.0**
10nm,0.8s,mb4.3,baz=66,slow=9.6,SNR=6.9							
CTA				LR	LR	14 13 42.1	
comp=Z,177nm,19.6s,baz=305,slow=33							
CTAO	**Charters Tower**	**21.89**	**242**	*e*P	**P**	**14 06 26.8**	**+0.4**
30nm,1.3s,mb4.6							
STKA	**Stephens Creek**	**31.50**	**224**	P	**P**	**14 07 53.3**	**-1.1**
1.5nm,0.8s,mb3.9,baz=59,slow=12,SNR=2.5							
STKA				LR	LR	14 19 01.5	
comp=Z,142nm,19.0s,baz=25,slow=33							
WRA	**Warramunga Arr**	**32.56**	**249**	P	**P**	**14 08 04.6**	**+0.8**
1.7nm,0.7s,mb4.1,baz=81,slow=9.0,SNR=12							
ASAR	**Alice Springs**	**33.89**	**243**	P	**P**	**14 08 14.2**	**-1.1**
2.2nm,0.9s,mb4.1,baz=67,slow=9.9,SNR=13							
FITZ	**Fitzroy Crossi**	**40.44**	**254**	P	**P**	**14 09 11.6**	**+0.8**
3.0nm,0.7s,mb4.1,baz=50,slow=20,SNR=6.8							
FITZ				LR	LR	14 24 32.1	
comp=Z,85nm,20.6s,baz=3.0,slow=34							
ASAJ	**Asahikawa**	**58.58**	**340**	LR	LR	14 30 46.4	
comp=Z,49nm,21.9s,baz=150,slow=30							
MKAR	**Makanchi Array**	**93.75**	**317**	P	**P**	**14 14 48.5**	**0.0**
0.7nm,0.7s,mb4.2,baz=110,slow=3.8,SNR=6.0							

*NNC **07** 14:02:04.8±2.4, 3914N×7028E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=18.7km s-min=14.6km az=12.0*
*ISCJB **07** 14:02:07.0±2.2, 389N±0.1×704E±02, h132km±33km, Error ellipse: s-maj=25.9km s-min=15.8km az=73.6*

ISC 07 14:02:07.9±2.5, 389N±02×703E±02, h91km±55km, n11, σ1§02/15, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.18**	**3**	⇓Pn	**Pn**	**14 03 09.5**	**+0.1**
2.0nm,0.2s,baz=175,slow=13,SNR=131							
KK31				⇑Sn	**Sn**	**14 04 01.0**	**+3.9**
5.5nm,0.3s,baz=187,slow=25,SNR=3.8							
UCH	**Uchtor**	**4.63**	**43**	P	**Pn**	**14 03 15.8**	**+0.4**
SNR=71							
AAK	**Ala-Archa**	**4.91**	**40**	P	**Pn**	**14 03 18.7**	**-0.5**
SNR=21							
KZA	**Kyzart**	**4.94**	**49**	P	**Pn**	**14 03 20.0**	**+0.2**
SNR=12							
KBK	**Karagaybulak**	**5.16**	**42**	P	**Pn**	**14 03 22.2**	**-0.4**
SNR=24							
CHMS	**Chumysh**	**5.31**	**38**	P	**Pn**	**14 03 25.7**	**+1.0**
SNR=7.5							
USP	**Ospenovka**	**5.40**	**35**	P	**Pn**	**14 03 24.7**	**-1.2**
SNR=13							
TKM2	**Tokmak 2**	**5.69**	**44**	P	**Pn**	**14 03 29.7**	**-0.1**
SNR=6.5							
TKM2	**Tokmak 2**	**5.69**	**44**	⇑Pn	**Pn**	**14 03 28.6**	**-1.2**
0.4nm,0.3s							
TKM2				⇑Sn	**Sn**	**14 04 33.4**	**-0.3**
0.9nm,0.8s							
AB31	**Akbulak array**	**12.70**	**328**	Pn	**Pn**	**14 05 05.1**	**0.0**
0.4nm,0.3s,baz=169,slow=9.7,SNR=22							
AB31				Sn	**Sn**	**14 07 23.4**	**-1.2**
3.2nm,0.7s,baz=152,slow=22,SNR=7.1							
AKTO	**Aktyubinsk**	**14.41**	**327**	⇓Pn	**Pn**	**14 05 29.1**	**+1.7**
0.1nm,1.2s							
AKTO				⇓Sn	**Sn**	**14 08 05.6**	**-0.4**
0.1nm,1.0s							

*ISCJB **07** 14:22:53.4±0.8, 2063N±004×120.18E±009, h41km±10km, mb3.9/11, MS3.1/4, Error ellipse: s-maj=14.2km s-min=6.4km az=157.1*
*NEIC **07** 14:22:53.8±0.6, 2056N×120.15E, h30km, mb4.5/1, Error ellipse: s-maj=20.1km s-min=11.5km az=84.0*
*IDC **07** 14:22:55.4±8.4, 2055N×120.12E, h45km±83km, mb3.7/10, mb1 3.9/10, mb1mx3.8/16, mbtmp3.9/10, MS3.3/4, Ms1 3.3/4, ms1mx3.0/20, Error ellipse: s-maj=43.8km s-min=16.2km az=72.0*
*BJI **07** 14:22:59.3, 2136N×11984E, h30km, mB4.5, ML3.3, Ms4.1, Msz3.9*

ISC 07 14:22:55.1±0.8, 2062N±004×1202E±01, h40km±10km, n27, σ0§91/27, mb3.9/11, MS3.1/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.92**	**160**	*e*P	**Pn**	**14 23 37.8**	**-1.2**
APYP				*e*S	**Sn**	**14 24 12.4**	**-0.4**
SGCP	**Mt. Cagua**	**2.95**	**143**	*e*P	**Pn**	**14 23 38.5**	**-0.9**
ABRA	**Dolores**	**2.99**	**170**	*e*P	**Pn**	**14 23 39.3**	**-0.7**
CVP	**Callao Caves**	**3.29**	**152**	*e*P	**Pn**	**14 23 44.0**	**-0.1**
CAUP	**Cauayan**	**3.97**	**157**	*e*P	**Pn**	**14 23 54.7**	**+1.3**
YHNB	**Yeheng**	**4.18**	**15**	*e*P	**Pn**	**14 23 55.7**	**-0.6**
YHNB				*e*S	**Sn**	**14 24 43.9**	**0.0**
BOLP	**Bolinao**	**4.22**	**183**	*e*P	**Pn**	**14 23 58.8**	**+1.9**
QZH	**Quanzhou**	**4.55**	**342**	P	**Pn**	**14 23 56.8**	**-4.6**
QZH				S	**Sn**	**14 24 44.8**	**-8.2**
QZH				Smax			
comp=N,130nm,1.1s							
QZH				Smax			
comp=E,110nm,0.4s							
BALP	**Baler**	**5.03**	**164**	*e*P	**Pn**	**14 24 09.2**	**+1.3**
CD2	**Chengdu**	**17.97**	**308**	*e*P	**Pn**	**14 27 01.0**	**-0.8**
CD2				AP	pP	14 27 08.9	-3.0
CD2				PP		14 27 16.0	
CD2				S	**S**	**14 30 17.8**	**-8.3**
CD2				AMB	AMB		
comp=Z,190nm,4.5s							
CD2				LR	LR		
comp=E,350nm,8.9s							
CD2				LR	LR		
comp=Z,250nm,9.2s							
CBIJ	**Chichi jima**	**21.12**	**68**	LR	LR	14 35 45.7	
comp=Z,59nm,18.6s,MS3.0,baz=335,slow=36							
JHJ	**Hachijo jima 2**	**21.42**	**50**	LR	LR	14 35 05.5	
comp=Z,86nm,19.6s,MS3.1,baz=121,slow=34							
MJAR	**Matsushiro Arr**	**22.35**	**41**	P	**P**	**14 27 50.5**	**+1.1**
comp=Z,2.3

DLH	**Dalhousie**	**5.84 148**	*e*P	**Pn**	**14 27 49.0**	**+0.4**
DLH			*e*x	x	14 28 55.0	
TKM2	**Tokmak 2**	**5.94 24**	P	**Pn**	**14 27 50.1**	**+0.2**
	SNR=5.2					
TKM2	**Tokmak 2**	**5.94 24**	⇓P	**Pn**	**14 27 49.7**	**-0.2**
	0.1nm,0.4s					
TKM2			⇑S	**Sn**	**14 28 55.9**	**-1.9**
	0.3nm,0.5s					
SDNR	**Sundarnagar**	**7.17 146**	*e*P	**Pn**	**14 28 05.0**	**-1.0**
SDNR			*e*x	x	14 32 41.4	
SMLA	**Simla**	**7.57 146**	⇑*i*P	**Pn**	**14 28 10.2**	**-1.0**
SMLA			*i* S	**Sn**	**14 29 30.5**	**-6.0**
	301nm,0.4s					
KLP	**Kalpa**	**7.76 139**	*e*P	**Pn**	**14 28 13.9**	**+0.2**
KLP			*e*S	**Sn**	**14 29 35.5**	**-5.5**
KLP			AML	AML	14 29 42.9	
	comp=E,64nm,0.5s					
KLP			AML	AML	14 29 43.9	
	comp=N,54nm,0.7s					
JOSI	**Joshimath**	**9.22 137**	*e*P	**Pn**	**14 28 33.8**	**+0.9**
JOSI			*e*S	**Sn**	**14 30 06.6**	**-9.2**
JOSI			AML	AML	14 30 14.9	
	comp=N,51nm,0.8s					
JOSI			AML	AML	14 30 17.4	
	comp=E,52nm,0.2s					
KHET	**Khetri**	**9.90 162**	*e*S	**Sn**	**14 30 22.8**	**-9.3**
KUDL	**Kundal**	**10.02 158**	*e*S	**Sn**	**14 30 27.6**	**-7.3**
SONA	**Sohna**	**10.11 155**	*e*S	**Sn**	**14 30 26.9**	**-10**
MKAR	**Makanchi Array**	**11.85 36**	P	**Pn**	**14 29 10.1**	**+3.1**
	comp=E,0.1nm,0.3s,baz=227,slow=13,SNR=3.8					
KOLN	**Koldanda**	**13.63 132**	*e*P	**Pn**	**14 29 28.5**	**-1.0**
	comp=E,9.8nm,0.4s					
GKN	**Gorkha**	**14.08 129**	*e*P	**Pn**	**14 29 35.0**	**-0.2**
KKN	**Kakani**	**14.63 128**	*e*P	**Pn**	**14 29 41.8**	**-0.2**
	comp=E,7.8nm,0.3s					
DMN	**Daman**	**14.65 129**	*e*P	**Pn**	**14 29 42.4**	**+0.1**
	comp=E,14nm,0.4s					
AB31	**Akbulak array**	**14.72 327**	P	**Pn**	**14 29 42.1**	**-1.0**
	comp=E,1.4nm,0.5s,baz=134,slow=11,SNR=26					
AB31			⇓S	**Sn**	**14 32 15.5**	**-12**
	comp=E,2.7nm,0.6s,baz=137,slow=23,SNR=9.9					
PKI	**Pulchoki**	**14.87 128**	*e*P	**Pn**	**14 29 45.5**	**+0.6**
	comp=E,14nm,0.3s					
GUN	**Gumba**	**14.93 126**	*e*P	**Pn**	**14 29 46.6**	**+0.9**
	comp=E,12nm,0.3s					
JIRN	**Jiri**	**15.30 126**	*e*P	**Pn**	**14 29 50.8**	**+0.6**
	comp=E,33nm,0.5s					
ZRNK	**Zerenda**	**15.57 353**	P	**Pn**	**14 29 53.4**	**-0.2**
	comp=E,1.9nm,0.4s					
BRVK	**Borovoye**	**15.57 356**	P	**Pn**	**14 29 52.2**	**-1.3**
	comp=E,1.1nm,0.6s					
CHKZ	**Chkalovo**	**16.17 356**	*e*P	**Pn**	**14 30 00.8**	**0.0**
	comp=E,1.5nm,0.7s					
AKTK	**Aktyubinsk**	**16.43 326**	P	**Pn**	**14 30 04.6**	**+0.6**
AKTO	**Aktyubinsk**	**16.43 326**	⇑P	**Pn**	**14 30 04.2**	**+0.3**
AKTO			⇓S	**S**	**14 33 00.9**	**-5.0**
AKTO	**Aktyubinsk**	**16.43 326**	P	**Pn**	**14 30 04.6**	**+0.6**
	comp=E,1.1nm,0.3s,baz=127,slow=11,SNR=16					
FINES	**FINESS Array B**	**37.20 325**	P	**P**	**14 33 17.6**	**+0.4**
	comp=E,0.2nm,0.4s,mb3.1,baz=103,slow=10,SNR=2.2					
ARCES	**ARCESS Array B**	**40.58 337**	P	**P**	**14 33 45.7**	**+0.5**
	comp=E,0.4nm,0.4s,mb3.4,baz=120,slow=9.6,SNR=9.1					
NOA	**NORSAR Array B**	**44.17 322**	P	**P**	**14 34 14.3**	**+0.1**
	comp=E,0.3nm,0.5s,mb3.2,baz=97,slow=7.2,SNR=3.3					
TORD	**Torodi Ar. Bea**	**66.76 269**	P	**P**	**14 36 55.1**	**-0.1**
	comp=E,0.7nm,0.5s,mb3.7,baz=46,slow=6.0,SNR=8.2					
WRA	**Warramunga Arr**	**81.69 123**	P	**P**	**14 38 20.3**	**-1.1**
	comp=E,0.2nm,0.4s,mb3.1,baz=327,slow=4.9,SNR=14					
WRA	**Warramunga Arr**	**81.69 123**	P	**P**	**14 38 20.3**	**-1.2**

*NEIC **07** 15:12:19.7, 1853N×10150W, h67km, MD4.2(MEX), After MEX.*

MEX 07 15:12:19.9±0.9, 1854N×10152W, h63km±16km, MD4.2, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.93**	**177**	*i* P	Pn	15 12 35.6	-1.5
ZIIG				*i* S	Sn	15 12 48.6	-1.3
MOIG	**Morelia**	**1.18**	**15**	*i* P	Pn	15 12 38.6	-1.7
MOIG				*i* S	Sn	15 12 53.9	-1.7
MRX	**Morelia**	**1.20**	**15**	*i* P	Pn	15 12 39.5	-1.2
MRX				*i* S	Sn	15 12 55.0	-1.2
CAIG	**El Cayaco**	**1.90**	**141**	*e*P	Pn	15 12 48.8	-1.3
CAIG				*i* S	Sn	15 13 09.7	-3.3
CAIG	**El Cayaco**	**1.90**	**141**	*e*P	Pn	15 12 48.8	-1.3
CAIG				*i* S	Sn	15 13 09.4	-3.5
MEIG	**Mezcala**	**1.91**	**108**	*i* P	Pn	15 12 48.7	-1.4
MEIG				*i* S	Sn	15 13 11.3	-1.8
PLIG	**Platanillo**	**1.92**	**94**	*i* P	Pn	15 12 49.8	-0.5
PLIG				*i* S	Sn	15 13 13.1	-0.3
PLIG	**Platanillo**	**1.92**	**94**	*i* P	Pn	15 12 49.8	-0.5
PLIG				*i* S	Sn	15 13 12.8	-0.6
ACX	**Acapulco**	**2.26**	**137**	*e*P	Pn	15 12 54.0	-0.9
ACX				*i* S	Sn	15 13 21.0	-0.6
YAIG	**Yautepec**	**2.35**	**82**	*i* P	Pn	15 12 56.4	+0.3
YAIG				*i* S	Sn	15 13 21.6	-2.3
PPM	**Popocatepetl**	**2.79**	**79**	*e*P	Pn	15 12 56.5	-5.6
PPM				*i* P		15 13 02.3	
PPM				*i* S	Sn	15 13 33.7	-1.0
PPM	**Popocatepetl**	**2.79**	**79**	*i* P	Pn	15 13 02.3	+0.2
PPM				*i* S	Sn	15 13 33.7	-1.0
UTMO	**Huajuapan**	**3.60**	**101**	*e*P	Pn	15 13 13.0	-0.2
UTMO				*i* S	Sn	15 13 53.0	-1.5
ZAIG	**Zacatecas**	**4.32**	**347**	*i* P	Pn	15 13 22.4	-0.7
ZAIG				*i* S	Sn	15 14 10.6	-1.6
OXX	**Oaxaca**	**4.79**	**107**	*e*P	Pn	15 13 30.0	+0.5
LNIG	**Linares**	**6.61**	**16**	*i* P	Pn	15 13 52.5	-1.9
LNIG				*i* S	Sn	15 15 08.4	+0.1

*KRSC **07** 15:15:52.6±0.7, 5458N×16207E, h20km±2km, ML4.6*
*MOS **07** 15:15:53.2±0.9, 5457N×16192E, h20km, mb4.3/4, Error ellipse: s-maj=17.8km s-min=8.8km az=76.8*
*ISCJB **07** 15:15:54.3±0.6, 5460N±002×16185E±006, h21km±4km, mb4.0/13, MS3.4/2, Error ellipse: s-maj=6.2km s-min=2.7km az=31.3*
*NEIC **07** 15:15:58.7±2.0, 5474N×16122E, h43km±20km, mb4.0/2, Error ellipse: s-maj=21.6km s-min=13.0km az=134.0*
*IDC **07** 15:16:02.7±7.6, 5470N×161.14E, h80km±70km, mb3.5/9, mb1 3.8/10, mb1mx3.6/20, mbtmp3.9/10, MS3.4/3, Ms1 3.4/3, ms1mx2.9/27, Error ellipse: s-maj=25.1km s-min=18.5km az=125.0*

ISC 07 15:15:54.7±0.6, 5461N±002×16186E±007, h17km±3km, n66, σ1§08/101, mb4.0/13, MS3.4/2, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.10**	**234**	P	**Pg**	**15 15 58.5**	**+0.3**
MKZ				S	**Sg**	**15 16 01.6**	**+1.0**
MKZ	**Mys Kozlova**	**0.10**	**234**	*i* P	**Pg**	**15 15 58.5**	**+0.3**
TUMR	**Tumrok**	**1.20**	**305**	*e*P	**Pn**	**15 16 13.8**	**-2.8**
TUMR				*e*S	**Sb**	**15 16 30.8**	**-1.2**
KMNR	**Kamenistaya**	**1.48**	**322**	*i* P	**Pn**	**15 16 19.2**	**-1.2**
KMNR				*e*S	**Sn**	**15 16 38.3**	**-1.0**
KII	**Karymskiy**	**1.53**	**249**	*e*P	**Pn**	**15 16 20.8**	**-0.3**
ZLN	**Zelenaya**	**1.53**	**337**	*i* P	**Pn**	**15 16 20.6**	**-0.6**
ZLN				*i* S	**Sn**	**15 16 40.8**	**+0.1**
LGNR	**Loginova**	**1.62**	**336**	*e*P	**Pn**	**15 16 22.2**	**-0.2**
LGNR				*e*S	**Sn**	**15 16 44.0**	**+1.2**
CIRR	**Tsirk**	**1.64**	**338**	*e*P	**Pn**	**15 16 22.2**	**-0.4**
CIRR				*i* S	**Sn**	**15 16 44.1**	**+0.9**
KPT	**Kopyto**	**1.65**	**326**	*e*P	**Pn**	**15 16 21.7**	**-1.1**
KBTR	**Krutoberegovo**	**1.69**	**18**	P	**Pn**	**15 16 24.2**	**+0.9**
KBTR				S	**Sn**	**15 16 46.9**	**+2.3**
KBTR	**Krutoberegovo**	**1.69**	**18**	*e*P	**Pn**	**15 16 22.5**	**-0.8**
KBTR				*e*S	**Sn**	**15 16 46.6**	**+2.0**
KBG	**Krutoberegovo**	**1.71**	**16**	*e*P	**Pn**	**15 16 23.0**	**-0.7**
KBG				Smax			
	5μm,0.8s						
KRSR	**Krestovskiy**	**1.77**	**336**	*e*P	**Pn**	**15 16 23.7**	**-0.8**
KRSR				*e*S	**Sn**	**15 16 45.9**	**-0.7**
KLY	**Klyuchi**	**1.84**	**338**	P	**Pn**	**15 16 24.3**	**-1.1**
KLY				S	**Sn**	**15 16 47.2**	**-1.0**
KLY	**Klyuchi**	**1.84**	**338**	*i* P	**Pn**	**15 16 24.3**	**-1.1**
KLY				*i* S	**Sn**	**15 16 47.3**	**-0.9**
KOZR	**Kozyr**	**1.84**	**323**	PN	**Pn**	**15 16 25.2**	**-0.2**
KOZR				S	**Sn**	**15 16 48.5**	**+0.2**
KOZ	**Kozyrevsk**	**1.84**	**323**	P	**Pn**	**15 16 25.2**	**-0.2**
KOZ				S	**Sn**	**15 16 48.5**	**+0.2**
KOZ	**Kozyrevsk**	**1.84**	**323**	*e*P	**Pn**	**15 16 25.2**	**-0.2**
KOZ				*e*S	**Sn**	**15 16 50.1**	**+1.8**
SPN	**Mys Shipunski**	**1.87**	**216**	P	**Pn**	**15 16 24.5**	**-1.3**
SPN				S	**Sn**	**15 16 46.5**	**-2.5**
SPN	**Mys Shipunski**	**1.87**	**216**	*e*P	**Pn**	**15 16 24.2**	**-1.6**
SPN				*e*S	**Sn**	**15 16 46.3**	**-2.7**
SMKR	**Semkarok**	**1.99**	**354**	*e*P	**Pn**	**15 16 27.7**	**+0.3**
SMKR				*e*S	**Sn**	**15 16 53.1**	**+1.2**
BDR	**Baidarnaya**	**2.00**	**350**	*i* P	**Pn**	**15 16 28.1**	**+0.5**
BDR				*i* S	**Sn**	**15 16 53.6**	**+1.5**
NLC	**Nalytchevo**	**2.08**	**227**	P	**Pn**	**15 16 28.3**	**-0.4**
NLC				S	**Sn**	**15 16 53.6**	**-0.5**
NLC	**Nalytchevo**	**2.08**	**227**	*e*P	**Pn**	**15 16 27.8**	**-0.9**
NLC				*i* S	**Sn**	**15 16 53.7**	**-0.4**
SRKR	**Sorokina**	**2.08**	**349**	*e*P	**Pn**	**15 16 29.0**	**+0.2**
SRKR				*e*S	**Sn**	**15 16 55.8**	**+1.5**
SRDR	**Sredinnyy**	**2.10**	**325**	*e*P	**Pn**	**15 16 28.7**	**-0.3**
SRDR				*e*S	**Sn**	**15 16 56.4**	**+1.7**
SDLR	**Sedlovina**	**2.21**	**234**	*i* P	**Pn**	**15 16 30.4**	**-0.1**
SDLR				*e*S	**Sn**	**15 16 57.5**	**0.0**
ESO	**Esso**	**2.24**	**307**	*i* P	**Pn**	**15 16 29.4**	**-1.5**
ESO				*e*S	**Sn**	**15 16 57.4**	**-0.7**
ESO				Smax			
	820nm,0.9s						
SMAR	**Somma**	**2.26**	**234**	*i* P	**Pn**	**15 16 31.2**	**0.0**
SMAR				*e*S	**Sn**	**15 16 58.9**	**+0.3**
UGLR	**Uglovaya**	**2.28**	**233**	*i* P	**Pn**	**15 16 31.6**	**+0.1**
AVH	**Avacha**	**2.29**	**235**	*i* P	**Pn**	**15 16 31.8**	**+0.2**
AVH				*e*S	**Sn**	**15 17 00.0**	**+0.6**
KOK	**Koryaka**	**2.32**	**237**	*e*P	**Pn**	**15 16 31.9**	**-0.2**
KOK				*e*S	**Sn**	**15 17 00.7**	**+0.5**
PET	**Petropavlovsk**	**2.48**	**231**	P	**Pn**	**15 16 34.1**	**-0.2**
PET				S	**Sn**	**15 17 03.9**	**-0.2**
PET	**Petropavlovsk**	**2.48**	**231**	*e*Pn	**Pn**	**15 16 33.9**	**-0.4**
PET				*e*Sn	**Sn**	**15 17 05.1**	**+1.0**
PET	**Petropavlovsk**	**2.48**	**231**	*e*P	**Pn**	**15 16 34.1**	**-0.2**
PET				*e*S	**Sn**	**15 17 04.1**	**0.0**
GNL	**Ganaly**	**2.48**	**250**	*e*P	**Pn**	**15 16 34.0**	**-0.3**
KRMR	**Karymshinskiy**	**2.85**	**233**	*e*P	**Pn**	**15 16 40.0**	**+0.7**
KRMR				*i* S	**Sn**	**15 17 14.0**	**+0.8**
RUS	**Russkaya**	**2.96**	**224**	P	**Pn**	**15 16 40.3**	**-0.6**
RUS				S	**Sn**	**15 17 15.2**	**-0.8**
RUS	**Russkaya**	**2.96**	**224**	*e*P	**Pn**	**15 16 40.1**	**-0.8**
RUS				*e*S	**Sn**	**15 17 15.4**	**-0.6**
GRL	**Gorelyy**	**3.06**	**229**	*e*P	**Pn**	**15 16 43.1**	**+0.9**
GRL				*e*S	**Sn**	**15 17 20.2**	**+1.8**
APC	**Apacha**	**3.27**	**241**	*e*P	**Pn**	**15 16 45.7**	**+0.7**
APC				*e*S	**Sn**	**15 17 24.3**	**+0.9**
APC				Smax			
	220nm,1.1s						
MIPR	**Malaya Ipel'ka**	**3.85**	**235**	*e*P	**Pn**	**15 16 53.8**	**+0.8**
PAU	**Pauzhetka**	**4.38**	**226**	*e*P	**Pn**	**15 17 02.6**	**+2.2**
PAU				Smax			
	240nm,0.9s						
SKR	**Severo-Kuril's**	**5.26**	**224**	*e*PN	**Pn**	**15 17 07.5**	**-5.0**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
ALID	**Alaid**	**5.36**	**228**	P	**Pn**	**15 17 15.3**	**+1.4**
KAMR	**Kamenskoye**	**8.19**	**14**	*e*P	**Pn**	**15 17 49.6**	**-3.0**
BILL	**Bilibino**	**13.63**	**7**	⇓*e*P	**Pn**	**15 19 13.3**	**+6.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
ASAJ	**Asahikawa**	**16.31**	**238**	P	**Pn**	**15 19 43.3**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=59,slow=12,SNR=3.5						
ASAJ				LR	LR	15 25 43.1	
	comp=Z,136nm,18.6s,baz=356,slow=36						
YAK	**Yakutsk**	**18.30**	**307**	*i* P	**Pn**	**15 20 09.0**	**+1.4**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MJAR	**Matsushiro Arr**	**24.31**	**232**	P	**P**	**15 21 10.8**	**-0.4**
	comp=Z,4.6nm,0.9s,mb3.9,baz=29,slow=9.8,SNR=14						
MJAR				LR	LR	15 30 32.5	
	comp=Z,82nm,18.5s,MS3.2,baz=5.0,slow=36						
MAJO	**Matsushiro**	**24.32**	**232**	P	**P**	**15 21 10.0**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
MAJO	**Matsushiro**	**24.32**	**232**	P	**P**	**15 21 10.0**	**-1.2**
	comp=Z,6.2nm,0.8s,mb4.1						
INK	**Inuvik**	**32.03**	**39**	*e*P	**P**	**15 22 20.6**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**32.03**	**39**	*e*P	**P**	**15 22 20.6**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.7						
MKAR	**Makanchi Array**	**48.45**	**295**	P	**P**	**15 24 33.1**	**-2.9**
	comp=Z,0.4nm,0.8s,mb3.5,baz=58,slow=9.2,SNR=5.5						
ARU	**Arti**	**52.99**	**317**	*i* P	**P**	**15 25 09.9**	**-0.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**54.26**	**72**	P	**P**	**15 25 23.3**	**+3.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=298,slow=7.8						
PDAR	**Pinedale Array**	**55.88**	**63**	P	**P**	**15 25 34.4**	**+3.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=336,slow=3.3,SNR=4.8						
FINES	**FINESS Array B**	**59.13**	**337**	P	**P**	**15 25 52.4**	**-1.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=35,slow=7.0,SNR=5.4						
OBN	**Obninsk**	**61.79**	**328**	⇑*e*P	**P**	**15 26 13.2**	**+0.8**
OBN				*e*		15 28 33.2	
OBN				*e*S	**S**	**15 34 26.1**	**-8.8**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
NB2	**NORSAR Subarra**	**62.37**	**344**	P	**P**	**15 26 13.3**	**-3.0**
	comp=Z,1.1nm,0.6s,mb4.2,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**62.37**	**344**	P	**P**	**15 26 15.1**	**-1.2**
	comp=Z,0.8nm,0.6s,mb4.0,baz=20,slow=6.7,SNR=5.9						
SCHQ	**Schefferville**	**63.81**	**29**	LR	LR	15 54 55.9	
	comp=Z,35nm,18.8s,MS3.6,baz=76,slow=36						
WRA	**Warramunga Arr**	**77.91**	**206**	P	**P**	**15 27 49.3**	**-2.2**
	comp=Z,0.4nm,0.8s,mb3.4,baz=21,slow=5.8,SNR=3.0						
ASAR	**Alice Springs**	**81.58**	**206**	P	**P**	**15 28 12.3**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.8,baz=18,slow=4.8,SNR=14						
ESDC	**Sonseca Array**	**85.30**	**349**	P	**P**	**15 28 30.2**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.5,baz=4.6,slow=5.3,SNR=7.1						

KRSC 07 15:19:02.3±1.1, 5456N×16204E, h19km±1km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.18**	**269**	*i* P		15 19 08.0	
MKZ				*i* S		15 19 11.4	
TUMR	**Tumrok**	**1.31**	**304**	*e*P		15 19 23.3	
TUMR				*e*S		15 19 40.4	
KMNR	**Kamenistaya**	**1.58**	**320**	*e*P		15 19 28.8	
KMNR				*i* S		15 19 48.8	
ZLN	**Zelenaya**	**1.62**	**335**	*e*P		15 19 30.3	
ZLN				*i* S		15 19 50.2	
LGNR	**Loginova**	**1.71**	**334**	*e*P		15 19 31.9	
LGNR				*e*S		15 19 52.9	
KBTR	**Krutoberegovo**	**1.71**	**15**	*e*P		15 19 32.1	
KBTR				*e*S		15 19 56.6	
CIRR	**Tsirk**	**1.73**	**335**	*e*P		15 19 31.7	
CIRR				*e*S		15 19 53.5	
KBG	**Krutoberegovo**	**1.74**	**12**	*e*P		15 19 34.0	
KBG				*e*S		15 19 55.8	
KBG				Smax			
	390nm,1.3s						
KPT	**Kopyto**	**1.75**	**324**	*e*P		15 19 32.8	
KRSR	**Krestovskiy**	**1.86**	**334**	*e*P		15 19 33.8	
SPN	**Mys Shipunski**	**1.89**	**220**	*e*P		15 19 33.7	
SPN				*e*S		15 19 56.2	
KLY	**Klyuchi**	**1.93**	**336**	*i* P		15 19 34.4	
KLY				*e*S		15 19 56.7	
KOZ	**Kozyrevsk**	**1.95**	**321**	*e*P		15 19 35.1	
KOZ				*e*S		15 19 59.0	
SMKR	**Semkarok**	**2.05**	**351**	*e*P		15 19 37.5	
SMKR				*e*S		15 20 03.4	
BDR	**Baidarnaya**	**2.07**	**347**	*e*P		15 19 37.7	
BDR				*e*S		15 20 04.1	
NLC	**Nalytchevo**	**2.12**	**230**	*e*P		15 19 37.1	
NLC				*e*S		15 20 02.1	
SRKR	**Sorokina**	**2.16**	**347**	*e*P		15 19 38.7	
SRDR	**Sredinnyy**	**2.20**	**324**	*e*P		15 19 38.5	
SRDR				*e*S		15 20 06.4	
SDLR	**Sedlovina**	**2.27**	**237**	*e*P		15 19 40.0	
SDLR				*e*S		15 20 07.0	
SMAR	**Somma**	**2.31**	**237**	*e*P		15 19 40.8	
SMAR				*e*S		15 20 08.4	
UGLR	**Uglovaya**	**2.34**	**236**	*e*P		15 19 41.1	
UGLR				*e*S		15 20 09.4	
AVH	**Avacha**	**2.34**	**238**	*e*P		15 19 41.7	
AVH				*e*S		15 20 09.7	
ESO	**Esso**	**2.35**	**307**	*e*P		15 19 40.2	
ESO				*e*S		15 20 07.3	
ESO				Smax			
	80nm,0.4s						
KOK	**Koryaka**	**2.38**	**239**	*e*P		15 19 41.8	
PET	**Petropavlovsk**	**2.53**	**234**	*e*P		15 19 43.6	
PET				*e*S		15 20 13.9	
GNL	**Ganaly**	**2.56**	**252**	*e*P		15 19 43.8	
KRMR	**Karymshinskiy**	**2.90**	**235**	*e*P		15 19 48.0	
RUS	**Russkaya**	**3.00**	**226**	*e*P		15 19 49.6	
RUS				*e*S		15 20 24.9	
GRL	**Gorelyy**	**3.10**	**231**	*e*P		15 19 53.0	
GRL				*e*S		15 20 29.2	
MIPR	**Malaya Ipel'ka**	**3.90**	**236**	P		15 20 03.0	

*IDC **07** 15:38:47.9±2.4, 3709S×17753E, h152km±20km, mb3.9/4, mb1 4.1/4, mb1mx3.7/11, mbtmp4.3/4, Error ellipse: s-maj=48.9km s-min=27.6km az=16.0*
*ISCJB **07** 15:38:48.6±0.7, 3741S±005×17739E±0.10, h179km±4km, mb4.1/6, Error ellipse: s-maj=12.5km s-min=7.9km az=164.7*
*NEIC **07** 15:38:48.8±0.5, 3708S×17742E, h157km±3km, mb4.3/3, Error ellipse: s-maj=9.0km s-min=6.6km az=221.0*
*WEL **07** 15:38:50.8±0.4, 37.13S×17732E, h140km±3km, ML4.6/19, Error ellipse: s-maj=2.0km s-min=1.9km az=0.0*

ISC 07 15:38:49.6±0.7, 3739S±005×17739E±009, h171km±4km, n137, σ1§36/137, mb4.1/6, 1C-4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.21**	**230**	PN	**Pn**	**15 39 10.2**	**-2.0**
WIZ	**White Island**	**0.21**	**230**	P	**Pn**	**15 39 10.5**	**-1.8**
MXZ	**Matakaoa Point**	**0.75**	**103**	PN	**Pn**	**15 39 13.9**	**-0.6**
MXZ				SN	**Sn**	**15 39 32.2**	**-1.5**
MXZ	**Matakaoa Point**	**0.75**	**103**	P	**Pn**	**15 39 13.9**	**-0.6**
MXZ				S	**Sn**	**15 39 31.8**	**-1.9**
MARZ	**Manawahe**	**0.82**	**224**	⇓PN	**Pn**	**15 39 14.7**	**-0.3**
MARZ	**Manawahe**	**0.82**	**224**	P	**Pn**	**15 39 14.7**	**-0.3**
EDRZ	**Edgecumbe**	**0.88**	**216**	PN	**Pn**	**15 39 15.6**	**+0.2**
EDRZ	**Edgecumbe**	**0.88**	**216**	P	**Pn**	**15 39 15.5**	**+0.1**
URZ	**Urewera**	**0.89**	**194**	P	**Pn**	**15 39 15.9**	**+0.4**
	126nm,0.3s,baz=290,slow=3.1,SNR=2110						
URZ				S	**Sn**	**15 39 35.3**	**-0.1**
	274nm,0.3s,baz=285,slow=2.2,SNR=23						
URZ	**Urewera**	**0.89**	**194**	PN	**Pn**	**15 39 15.9**	**+0.4**
URZ				SN	**Sn**	**15 39 34.9**	**-0.5**
URZ	**Urewera**	**0.89**	**194**	P	**Pn**	**15 39 15.9**	**+0.4**
MYRZ	**Mayor Island**	**0.92**	**277**	⇓PN	**Pn**	**15 39 13.6**	**-2.1**
MWZ	**Matawai**	**0.95**	**173**	PN	**Pn**	**15 39 16.5**	**+0.6**
MWZ	**Matawai**	**0.95**	**173**	P	**Pn**	**15 39 16.6**	**+0.7**
TGRZ	**Tauranga**	**0.96**	**249**	⇓PN	**Pn**	**15 39 14.9**	**-1.0**
TGRZ	**Tauranga**	**0.96**	**249**	P	**Pn**	**15 39 14.9**	**-1.1**
PUZ	**Puketiti**	**0.97**	**135**	⇓PN	**Pn**	**15 39 16.7**	**+0.7**
PUZ	**Puketiti**	**0.97**	**135**	P	**Pn**	**15 39 16.7**	**+0.7**
MKRZ	**Makatiti**	**1.04**	**224**	PN	**Pn**	**15 39 17.4**	**+0.8**
MKRZ	**Makatiti**	**1.04**	**224**	P	**Pn**	**15 39 17.5**	**+0.9**
TAZ	**Tarawera**	**1.09**	**220**	PN	**Pn**	**15 39 17.7**	**+0.7**
TAZ	**Tarawera**	**1.09**	**220**	P	**Pn**	**15 39 18.0**	**+1.0**
PATZ	**Paeroa**	**1.33**	**222**	PN	**Pn**	**15 39 20.2**	**+1.1**
PATZ	**Paeroa**	**1.33**	**222**	P	**Pn**	**15 39 20.4**	**+1.3**
KUZ	**Kuaotunu**	**1.48**	**295**	PN	**Pn**	**15 39 17.3**	**-3.2**
KUZ	**Kuaotunu**	**1.48**	**295**	P	**Pn**	**15 39 17.3**	**-3.2**
TOZ	**Tahuroa Road**	**1.54**	**257**	PN	**Pn**	**15 39 20.6**	**-0.4**
TOZ	**Tahuroa Road**	**1.54**	**257**	P	**Pn**	**15 39 20.7**	**-0.4**
KNZ	**Kokohu**	**1.64**	**172**	PN	**Pn**	**15 39 23.6**	**+1.5**
KNZ	**Kokohu**	**1.64**	**172**	P	**Pn**	**15 39 23.7**	**+1.6**
WHTZ	**Whakaora**	**1.70**	**221**	PN	**Pn**	**15 39 24.6**	**+1.8**
WHTZ	**Whakaora**	**1.70**	**221**	P	**Pn**	**15 39 24.1**	**+1.4**
HATZ	**Hinemaiaia**	**1.81**	**214**	PN	**Pn**	**15 39 25.2**	**+1.3**
HATZ	**Hinemaiaia**	**1.81**	**214**	P	**Pn**	**15 39 25.2**	**+1.3**
WATZ	**Wairara**	**1.85**	**224**	PN	**Pn**	**15 39 26.0**	**+1.6**
WATZ	**Wairara**	**1.85**	**224**	P	**Pn**	**15 39 26.0**	**+1.7**
BKZ	**Black Stump Fm**	**1.91**	**

JCZ	**Jackson Bay**	**9.35**	**222**	*e*PN	**Pn**	**15 40 57.3**	**-3.3**
JCZ	**Jackson Bay**	**9.35**	**222**	*e*P	**Pn**	**15 40 58.0**	**-2.6**
WKZ	**Wanaka**	**9.74**	**218**	*e*PN	**Pn**	**15 41 02.8**	**-3.0**
TUZ	**Tuapeka**	**10.33**	**212**	*e*PN	**Pn**	**15 41 12.4**	**-1.1**
STKA	**Stephens Creek**	**29.84**	**270**	P	**P**	**15 44 41.2**	**+0.6**
0.7nm,0.4s,mb3.8,baz=116,slow=10,SNR=7.7							
STKA	**Stephens Creek**	**29.84**	**270**	*e*P	**P**	**15 44 41.2**	**+0.5**
AS31	**Alice Springs**	**39.54**	**278**	*e*P	**P**	**15 46 04.9**	**+1.2**
ASAR	**Alice Springs**	**39.54**	**278**	P	**P**	**15 46 04.8**	**+1.0**
3.6nm,0.6s,mb4.2,baz=122,slow=8.3,SNR=83							
ASPA	**Alice Springs**	**39.54**	**278**	*e*P	**P**	**15 46 04.9**	**+1.1**
WRAB	**Tennant Creek**	**41.18**	**283**	*e*P	**P**	**15 46 17.9**	**+0.7**
4.9nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**41.19**	**283**	P	**P**	**15 46 17.8**	**+0.6**
1.9nm,0.4s,mb4.1,baz=121,slow=8.1,SNR=77							
FITZ	**Fitzroy Crossi**	**49.03**	**278**	*e*P	**P**	**15 47 20.3**	**+1.3**
9.8nm,1.5s,mb4.2							
FITZ	**Fitzroy Crossi**	**49.03**	**278**	P	**P**	**15 47 20.4**	**+1.4**
3.4nm,0.8s,mb4.0,baz=165,slow=9.3,SNR=6.6							
QSPA	**South Pole Qui**	**52.73**	**180**	*e*P	**P**	**15 47 52.3**	**+5.6**
4.8nm,0.7s,mb4.3							
ARCES	**ARCESS Array B**	**144.40**	**343**	PKP	PKPdf	15 58 02.6	-2.7
3.0nm,0.7s,baz=38,slow=3.1,SNR=17							
FINES	**FINESS Array B**	**150.00**	**333**	PKPbc	PKPbc	15 58 17.9	-1.8
0.9nm,0.7s,baz=44,slow=4.3,SNR=6.2							
FINES				PKPab	PKPab	15 58 24.1	-1.9
1.0nm,0.5s,baz=81,slow=4.9,SNR=5.8							
FINES	**FINESS Array B**	**150.00**	**333**	PKPbc	PKPbc	15 58 17.9	-1.8
FINES				PKPab	PKPab	15 58 24.1	-1.9
BRTR	**Keskin Array B**	**151.68**	**286**	PKPbc	PKPbc	15 58 23.9	+0.2
0.3nm,0.4s,baz=124,slow=3.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**155.55**	**190**	PKPbc	PKPdf	15 58 35.0	+12
0.1nm,0.3s,baz=151,slow=2.3,SNR=6.2							
TORD				PKPab	PKPab	15 58 52.0	+2.5
0.9nm,0.7s,baz=157,slow=3.4,SNR=5.9							

*IDC **07** 15:58:35.5±7.9, 660S×12998E, h72km±95km, mb3.8/3, mb1 4.2/6, mb1mx3.9/12, mbtmp4.2/6, ML4.3/2, Error ellipse: s-maj=57.8km s-min=49.4km az=122.0*
*ISCJB **07** 15:58:40.9±1.6, 684S±007×1299E±02, h151km±17km, mb4.0/6, Error ellipse: s-maj=25.5km s-min=9.1km az=151.7*
*NEIC **07** 15:58:40.1±2.2, 672S×12973E, h119km±22km, mb4.5/4, Error ellipse: s-maj=25.9km s-min=14.6km az=86.0*

ISC 07 15:58:44.0±1.3, 722S±006×1296E±01, h166km±11km, n18, σ1§50/27, mb4.0/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.12**	**153**	*e*P	**Pn**	**16 00 14.3**	**+1.9**
197nm,0.6s							
KAKA				*e*S	**Sn**	**16 01 20.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.49**	**199**	*e*P	**Pn**	**16 01 25.2**	**+2.0**
16nm,0.5s							
FITZ				*e*S	**Sn**	**16 03 29.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.49**	**199**	P	**Pn**	**16 01 25.0**	**+1.8**
1.9nm,0.3s,baz=27,slow=13,SNR=43							
FITZ				S	**Sn**	**16 03 29.1**	**-1.4**
4.4nm,0.3s,baz=147,slow=22,SNR=9.9							
WRAB	**Tennant Creek**	**13.44**	**161**	*e*Pn	**Pn**	**16 01 49.6**	**+1.4**
20nm,0.8s							
WRAB				*e*Sn	**Sn**	**16 04 14.5**	**-2.8**
WRA	**Warramunga Arr**	**13.45**	**161**	P	**Pn**	**16 01 48.8**	**+0.6**
1.4nm,0.3s,baz=348,slow=13,SNR=71							
WRA				S	**Sn**	**16 04 14.4**	**-3.0**
5.9nm,0.3s,baz=330,slow=25,SNR=13							
MBWA	**Marble Bar**	**16.84**	**214**	*e*Pn	**Pn**	**16 02 35.1**	**+5.1**
MBWA				Sn	**Sn**	**16 05 34.0**	**-4.6**
AS31	**Alice Springs**	**16.86**	**166**	*e*P	**Pn**	**16 02 35.0**	**+4.8**
AS31				*e*S	**S**	**16 05 37.0**	**+0.1**
ASPA	**Alice Springs**	**16.86**	**166**	*e*P	**Pn**	**16 02 35.0**	**+4.8**
ASPA				*e*S	**S**	**16 05 37.0**	**+0.1**
ASAR	**Alice Springs**	**16.86**	**166**	P	**Pn**	**16 02 35.0**	**+4.8**
0.9nm,0.3s,baz=349,slow=11,SNR=113							
ASAR				S	**S**	**16 05 36.9**	**0.0**
1.0nm,0.3s,baz=353,slow=27,SNR=7.4							
FORT	**Forrest**	**23.48**	**183**	*e*P	**P**	**16 03 45.0**	**+6.4**
18nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**26.95**	**157**	*e*P	**P**	**16 04 11.9**	**+2.0**
STKA	**Stephens Creek**	**26.95**	**157**	P	**P**	**16 04 12.0**	**+2.1**
0.7nm,0.5s,mb3.6,baz=334,slow=9.4,SNR=4.7							
MUN	**Mundaring**	**27.63**	**205**	*e*P	**P**	**16 04 20.6**	**+4.7**
MJAR	**Matsushiro Arr**	**44.27**	**10**	P	**P**	**16 06 32.6**	**-4.4**
2.8nm,0.8s,mb4.0,baz=183,slow=9.5,SNR=9.3							
ULN	**Ulaanbaatar**	**58.36**	**342**	*e*P	**P**	**16 08 20.4**	**-1.3**
1.3nm,0.6s,mb3.9							
SONM	**Songino Array**	**58.53**	**342**	P	**P**	**16 08 21.2**	**-1.7**
0.4nm,0.4s,mb3.6,baz=159,slow=7.1,SNR=4.4							
MKAR	**Makanchi Array**	**68.21**	**327**	P	**P**	**16 09 26.2**	**-0.2**
1.2nm,0.3s,mb4.1,baz=115,slow=7.4,SNR=37							
VNDA	**Vanda**	**72.28**	**173**	*e*P	**P**	**16 09 55.0**	**+3.8**

JMA 07 16:08:13.8±0.3, 2758N×12664E, h163km, M3.7, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**1.12**	**151**	P	Pn	16 09 41.0	+0.2
JAGN				S	Sn	16 09 02.0	+0.5
JKE	**Kume jima 2**	**1.26**	**174**	P	Pn	16 08 41.7	-0.3
JKE				*e*S	Sn	16 09 04.3	+0.7
JIH	**Iheya**	**1.30**	**114**	P	Pn	16 08 43.0	+0.6
JIH				S	Sn	16 09 04.3	0.0
JOW	**Kunigami**	**1.64**	**117**	P	Pn	16 08 45.8	+0.1
JOW				S	Sn	16 09 09.2	-1.1
NAH1	**Naha**	**1.66**	**145**	P	Pn	16 08 46.1	+0.1
NAH1				S	Sn	16 09 09.8	-1.0
JJT2	**Tamagusuku 2**	**1.74**	**145**	P	Pn	16 08 47.3	+0.4
JTK	**Tokunoshima**	**2.06**	**84**	P	Pn	16 08 50.4	0.0
JTK				S	Sn	16 09 17.5	-1.1
JAM	**Amami Oshima**	**2.75**	**72**	P	Pn	16 08 59.2	+0.6
JAM				*e*S	Sn	16 09 32.0	-1.2
JOGS	**Gusukube**	**3.02**	**202**	P	Pn	16 09 00.1	-1.8
JOGS				S	Sn	16 09 34.8	-4.4
JZK	**Kikaishima**	**3.04**	**75**	S	Sn	16 09 39.7	+0.1
JTJ	**Tarama**	**3.41**	**211**	S	Sn	16 09 43.0	-4.9
JIJ	**Ishigaki jima**	**3.91**	**216**	P	Pn	16 09 09.8	-3.4
JIJ				S	Sn	16 09 53.2	-6.3
IRIF	**Iriomote-Funau**	**4.16**	**220**	P	Pn	16 09 16.0	-0.4
IRIF				S	Sn	16 09 59.7	-5.5

*CSEM **07** 16:48:03.0, 3507N×378W, h0km, ML3.3, After SFS SFS **07** 16:48:03.0, 3507N×378W, h0km, ML3.3*

MDD 07 16:48:02.9±1.0, 3505N×384W, h1km±10km, mb3.3/10, Error ellipse: s-maj=7.2km s-min=3.8km az=110.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.11**	**141**	P	Pg	16 48 05.0	-0.1
TOU				S	Sg	16 48 07.0	+0.5
EMEL	**Melilla**	**0.77**	**71**	P	Pg	16 48 16.2	-1.4
230nm,0.2s,SNR=9.7							
EMEL				S	Sg	16 48 27.0	-0.6
1μm,0.3s,SNR=8.0							
MELI	**Melilla**	**0.78**	**72**	*e*P	Pg	16 48 16.8	-1.1
MELI				*e*S	Sg	16 48 28.0	0.0
ZAI	**Zaio**	**0.90**	**95**	P	Pg	16 48 19.0	-1.2
ZAI				S	Sg	16 48 33.0	+1.1
RSA	**Sarsar**	**1.64**	**265**	P	Pn	16 48 31.0	-1.9
RSA				S	Sn	16 48 51.0	-3.6
EMIJ	**Mijas**	**1.69**	**334**	P	Pn	16 48 33.1	-0.5
3.5nm,0.2s,SNR=6.1							
EMIJ				S	Sn	16 48 52.1	-3.7
11nm,0.2s,SNR=7.9							
EGUA	**Guajares**	**1.79**	**7**	P	Pn	16 48 31.8	-3.2
0.8nm,0.2s,SNR=7.9							
EGUA				S	Sn	16 48 57.2	-1.3
1.8nm,0.2s,SNR=7.9							
EJIF	**Jimena Fronter**	**1.93**	**317**	P	Pn	16 48 36.8	0.0
2.0nm,0.3s,SNR=7.9							
EJIF				S	Sn	16 48 59.9	-1.8
13nm,0.9s,SNR=7.9							
ERON	**Agron**	**1.97**	**1**	P	Pn	16 48 36.3	-1.1
SNR=7.9							
ERON				S	Sn	16 49 00.5	-2.1
2.5nm,0.1s,SNR=7.9							
EBER	**Berja**	**2.00**	**22**	P	Pn	16 48 37.9	+0.1
1.5nm,0.2s,SNR=5.3							
EBER				S	Sn	16 49 01.5	-2.0
13nm,0.3s,SNR=5.8							
EQUE	**Quentar**	**2.18**	**8**	P	Pn	16 48 39.7	-0.5
1.7nm,0.2s,SNR=4.5							
EQUE				S	Sn	16 49 05.0	-2.8
4.2nm,0.3s,SNR=7.9							
CZD	**Col de Zad**	**2.25**	**207**	P	Pn	16 48 41.0	-0.2
CZD				S	Sn	16 49 07.0	-2.5
LIJA	**Lijar**	**2.25**	**326**	*e*P	Pg	16 48 52.2	+6.2
LIJA				*e*S	Sn	16 49 13.0	+3.5
EQES	**Quesada**	**2.82**	**12**	P	Pn	16 48 46.7	-2.4
1.5nm,0.2s,SNR=4.0							
EQES				S	Sn	16 49 22.7	-1.0
7.3nm,0.3s,SNR=7.9							
ZFT	**Errachidia**	**3.04**	**188**	P	Pn	16 48 50.0	-2.1
ZFT				S	Sn	16 49 25.0	-4.1
KIB	**El Ksiba**	**3.07**	**217**	P	Pn	16 48 52.0	-0.6
KIB				S	Sn	16 49 28.0	-1.9
EADA	**Adamuz**	**3.17**	**349**	P	Pn	16 48 53.3	-0.6
0.8nm,0.2s,SNR=5.8							
EADA				S	Sn	16 49 30.5	-1.8
1.7nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.55**	**321**	P	Pn	16 48 56.7	-2.4
0.3nm,0.1s,SNR=7.9							
EMIN				S	Sn	16 49 37.5	-4.1
0.8nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**4.03**	**26**	P	Pn	16 49 05.2	-0.5
0.8nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.49**	**326**	S	Sn	16 50 00.4	-4.5
3.1nm,0.2s,SNR=7.9							

*CSEM **07** 17:00:39.8±0.0, 3917N×2788E, h2km, MD3.2, Error ellipse: s-maj=1.3km s-min=0.7km az=116.0*
*ATH **07** 17:00:39.3, 3923N×2798E, h10km±4km, MD3.4/3*
*ISCJB **07** 17:00:40.6±0.2, 3917N±002×2792E±003, h2km, Error ellipse: s-maj=3.0km s-min=2.2km az=53.8*
*ISK **07** 17:00:40.7, 3918N×2787E, h7km, MD3.2*

ISC 07 17:00:40.9±0.4, 3917N±002×2792E±003, h1km±4km, n44, σ0§89/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.31**	**196**	*i* PG	**Pg**	**17 00 46.7**	**-0.1**
AKS				*i* SG	**Sg**	**17 00 52.4**	**+1.6**
BALB	**Balikesir**	**0.47**	**356**	*i* PG	**Pg**	**17 00 49.9**	**0.0**
BALB				*i* SG	**Sg**	**17 00 57.9**	**+2.0**
BTOK	**Tokmak**	**0.59**	**8**	*i* P	**Pg**	**17 00 52.6**	**+0.3**
BTOK				*i* S	**Sg**	**17 01 00.1**	**+0.2**
DST	**Dursunbey**	**0.70**	**52**	*i* PG	**Pg**	**17 00 54.8**	**+0.5**
MANT	**Manisa**	**0.84**	**144**	*i* P	**Pg**	**17 00 56.6**	**-0.5**
MANT				*i* S	**Sg**	**17 01 07.2**	**-0.9**
KDAG	**Bornova**	**0.92**	**214**	*i* P	**Pg**	**17 00 58.6**	**-0.1**
KDAG				*i* S	**Sg**	**17 01 11.3**	**+0.7**
IZM	**Izmir**	**0.93**	**214**	*i* PG	**Pg**	**17 00 58.2**	**-0.6**
IZM				*i* SG	**Sg**	**17 01 11.8**	**+1.0**
AYVA	**Ayvalik**	**0.96**	**278**	*i* P	**Pg**	**17 00 59.5**	**+0.1**
AYVA				*i* S	**Sg**	**17 01 12.7**	**+0.8**
BLCB	**Balcova**	**1.04**	**221**	*i* PG	**Pg**	**17 01 00.4**	**-0.6**
BLCB				*i* SG	**Sg**	**17 01 15.2**	**+0.7**
CANB	**Canakkale**	**1.07**	**322**	*i* PG	**Pg**	**17 01 00.9**	**-0.6**
BNT	**Bandirma**	**1.18**	**360**	*i* PN	**Pn**	**17 01 03.5**	**-1.1**
GDZ	**Gediz**	**1.22**	**94**	*i* P	**Pg**	**17 01 04.0**	**-0.3**
GDZ				*i* S	**Sg**	**17 01 20.2**	**+0.2**
PRK	**Paraskevi**	**1.28**	**274**	*e*PB	**Pb**	**17 01 04.6**	**-1.3**
PRK				*e*SB	**Sb**	**17 01 22.4**	**-0.5**
URLA	**Izmir**	**1.32**	**232**	*i* P	**Pg**	**17 01 04.8**	**-1.4**
URLA				*i* S	**Sg**	**17 01 23.2**	**-0.1**
ULDT	**Uludag**	**1.35**	**44**	*i* P	**Pg**	**17 01 05.7**	**-1.1**
ULDT				*i* S	**Sg**	**17 01 23.1**	**-1.2**
EZN	**Ezine**	**1.40**	**298**	PN	**Pn**	**17 01 07.0**	**-0.5**
MRMT	**Marmara Adasi**	**1.45**	**350**	PN	**Pn**	**17 01 08.9**	**-1.4**
AYDN	**Tasoluk**	**1.51**	**181**	*i* P	**Pn**	**17 01 08.9**	**-0.2**
AYDN				*i* S	**Sb**	**17 01 28.2**	**-1.2**
KHL	**Karahalli**	**1.51**	**124**	*e*PN	**Pn**	**17 01 09.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.61**	**340**	PN	**Pn**	**17 01 10.2**	**-0.4**
IZI	**Iznik**	**1.67**	**45**	*e*PN	**Pn**	**17 01 11.7**	**+0.4**
MFT	**Murefte**	**1.68**	**343**	*e*PN	**Pn**	**17 01 11.0**	**-0.5**
SMG	**Samos**	**1.69**	**211**	*e*PN	**Pn**	**17 01 11.8**	**+0.2**
SMG				*e*SN	**Sn**	**17 01 36.0**	**+2.1**
ALT	**Altintas**	**1.71**	**93**	*e*PN	**Pn**	**17 01 12.5**	**+0.7**
DNZL	**Cakiroluk**	**1.73**	**149**	*i* P	**Pn**	**17 01 10.7**	**-1.4**
DNZL				*i* S	**Sn**	**17 01 32.0**	**-2.7**
DNZL	**Cakiroluk**	**1.73**	**149**	*i* P	**Pn**	**17 01 10.7**	**-1.4**
DNZL				*i* S	**Sn**	**17 01 32.0**	**-2.8**
YLV	**Yalova**	**1.78**	**38**	*e*PN	**Pn**	**17 01 12.8**	**-0.1**
MLSB	**Milas**	**1.88**	**183**	*e*PN	**Pn**	**17 01 14.8**	**+0.6**
ADVT	**Abdulvahap**	**1.88**	**48**	*e*PN	**Pn**	**17 01 14.6**	**+0.4**
CTT	**Catalca**	**2.01**	**11**	*e*PN	**Pn**	**17 01 16.1**	**+0.1**
YER	**Yerkesik**	**2.06**	**172**	*e*PN	**Pn**	**17 01 16.8**	**+0.2**
ISK	**Istanbul-Kandi**	**2.08**	**24**	*e*PN	**Pn**	**17 01 17.0**	**0.0**
BORA	**Eskisehir**	**2.08**	**69**	*i* P	**Pn**	**17 01 19.1**	**+2.1**
BORA				*i* S	**Sn**	**17 01 47.8**	**+4.3**
HRT	**Hereke**	**2.12**	**39**	*e*PN	**Pn**	**17 01 18.1**	**+0.5**
GPA	**Golpazari**	**2.15**	**58**	*e*PN	**Pn**	**17 01 18.4**	**+0.5**
BODT	**Bodrum**	**2.16**	**193**	*e*PN	**Pn**	**17 01 18.2**	**+0.1**
KLYT	**Kilyos**	**2.25**	**22**	*e*PN	**Pn**	**17 01 19.5**	**+0.3**
ESKT	**Eskisehir**	**2.30**	**80**	*i* P	**Pn**	**17 01 22.9**	**+2.9**
ESKT				*i* S	**Sn**	**17 01 54.4**	**+5.6**
SEYT	**Eskypehyr**	**2.30**	**80**	*i* S	**Sn**	**17 01 54.4**	**+5.5**
DAT	**Datca**	**2.46**	**186**	*e*PN	**Pn**	**17 01 22.1**	**0.0**
RDO	**Rodhopi**	**2.69**	**318**	*e*PN	**Pn**	**17 01 24.8**	**-0.5**
EDRB	**Edirne**	**2.82**	**342**	*e*PN	**Pn**	**17 01 26.7**	**-0.4**
MDU	**Mudurnu**	**2.85**	**62**	*e*PN	**Pn**	**17 01 28.1**	**+0.6**
KIZT	**Kizilcal**	**3.10**	**94**	*e*PN	**Pn**	**17 01 32.0**	**+1.0**

CASC 07 17:14:57.2±2.2, 819N×8293W, h3km±6km, MD4.3, 3C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.52**	**333**	*e*P	Pg	17 15 07.2	+0.1
DVD	**David**	**0.54**	**63** ⇓	*i*P	Pg	17 15 07.8	+0.3
BRU2	**Volcan**	**0.65**	**22** ⇑	*i*P	Pg	17 15 10.9	+1.3
BRU2				*e*S	Sg	17 15 21.9	+3.9
BRU	**Baru**	**0.71**	**31**	*e*P	Pg	17 15 12.3	+1.4
BRU				*e*S	Sg	17 15 22.6	+2.4
CNI	**Changuinola**	**1.29**	**19** ⇓	*i*P	Pg	17 15 20.5	-1.3
CNI				*e*S	Sg	17 15 38.9	+0.4
BUS	**Buena Vista**	**1.58**	**329** ⇑	*e*P	Pn	17 15 25.2	-0.9
BUS				*e*S	Sn	17 15 49.3	+2.2
URSC	**Urasca**	**1.83**	**333**	*e*P	Pn	17 15 29.5	-0.1
URSC				*e*S	Sn	17 15 55.4	+2.1
LCR2	**La Lucha 2**	**1.87**	**326** ⇓	*e*P	Pn	17 15 29.4	-0.6
LCR2				*e*S	Sn	17 15 55.7	+1.6
ICR	**Volcan Irazu**	**1.99**	**334**	*e*P	Pn	17 15 32.8	+1.1
ICR				*e*S	Sn	17 16 00.2	+3.2
LAJ	**Bijagual**	**2.04**	**325**	*e*P	Pn	17 15 33.3	+0.9
LAJ				*e*S	Sn	17 16 05.1	+6.9
PRS1	**Puriscal**	**2.24**	**323**	*e*P	Pn	17 15 34.3	-0.9
PRS1				*e*S	Sn	17 16 03.7	+0.3
CGA2	**Cerro Gallo 2**	**2.36**	**320**	*e*P	Pn	17 15 37.8	+1.0
CGA2				*e*S	Sn	17 16 08.0	+1.7
AZU	**Azuero**	**2.66**	**98** ⇑	*i*P	Pn	17 15 40.2	-0.8
AZU				*e*S	Sn	17 16 15.2	+1.5

*ISCJB **07** 17:20:11.9±0.7, 2068S±006×687W±0.1, h126km±11km, mb4.4/2, Error ellipse: s-maj=17.2km s-min=8.4km az=146.1*
*NEIC **07** 17:20:13.1±0.8, 2072S×6865W, h111km±12km, mb4.2/2, Error ellipse: s-maj=16.4km s-min=10.6km az=91.0*
*IDC **07** 17:20:14.4±1.5, 2075S×6851W, h115km±14km, mb4.1/3, mb1 3.8/7, mb1mx3.6/18, mbtmp4.2/7, Error ellipse: s-maj=35.5km s-min=14.3km az=110.0*

ISC 07 17:20:13.2±0.6, 2067S±005×687W±01, h114km±11km, n18, σ1§02/19, mb4.4/2, 1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.94**	**186**	P	**Pn**	**17 20 46.3**	**+0.7**
88nm,0.3s,baz=19,slow=11,SNR=820							
LVC				S	**Sn**	**17 21 11.4**	**+1.1**
129nm,0.3s,baz=270,slow=23,SNR=32							
LVC	**Limon Verde**	**1.94**	**186** ⇓	*i*Pn	**Pn**	**17 20 46.3**	**+0.7**
LVC				*e*Sn	**Sn**	**17 21 09.8**	**-0.5**
LPAZ	**La Paz**	**4.40**	**7**	P	**Pn**	**17 21 21.1**	**+3.2**
2.2nm,0.3s,baz=213,slow=7.0,SNR=53							
LPAZ	**La Paz**	**4.40**	**7**	*e*Pn	**Pn**	**17 21 20.4**	**+2.6**
ARE	**Arequipa**	**4.96**	**327**	*e*P	**Pn**	**17 21 25.0**	**-0.4**
ARE				*e*S	**Sn**	**17 22 21.0**	**-0.7**
SIV	**San Ignacio**	**8.61**	**58**	P	**Pn**	**17 22 13.9**	**-0.9**
2.5nm,0.3s,baz=254,slow=11,SNR=37							
CFAA	**Coronel Fontan**	**10.89**	**178**	P	**Pn**	**17 22 41.2**	**-4.5**
0.1nm,0.3s,baz=351,slow=13,SNR=9.6							
CPUP	**Villa Florida**	**11.85**	**121**	P	**Pn**	**17 22 58.3**	**-0.1**
0.7nm,0.3s,baz=285,slow=12,SNR=12							
CPUP	**Villa Florida**	**11.85**	**121**	*e*Pn	**Pn**	**17 22 57.5**	**-0.9**
TRQA	**Tornquist**	**18.27**	**163**	*e*P	**P**	**17 24 16.0**	**-1.9**
PLCA	**Paso Flores**	**20.06**	**184**	P	**P**	**17 24 38.2**	**+0.9**
0.3nm,0.3s,baz=359,slow=14,SNR=6.8							
PLCA	**Paso Flores**	**20.06**	**184**	*e*P	**P**	**17 24 37.1**	**-0.2**
5.5nm,0.8s							
BDFB	**Brasilia**	**20.27**	**79**	P	**P**	**17 24 39.9**	**+0.2**
3.0nm,0.5s,baz=269,slow=11,SNR=3.9							
DBIC	**Dimbokro**	**68.31**	**74**	P	**P**	**17 31 02.6**	**+0.6**
5.5nm,0.7s,mb4.5,baz=226,slow=8.4,SNR=6.0							
DBIC	**Dimbokro**	**68.31**	**74**	*e*P	**P**	**17 31 02.7**	**+0.8**
5.6nm,0.7s,mb4.5							
TORD	**Torodi Ar. Bea**	**76.89**	**70**	P	**P**	**17 31 53.5**	**+0.7**
4.3nm,0.6s,mb4.4,baz=255,slow=5.4,SNR=45							
MKAR	**Makanchi Array**	**144.85**	**35**	PKP	PKPdf	17 39 37.6	+0.9
0.8nm,0.4s,baz=347,slow=2.6,SNR=12							
MKAR				pPKP	pPKPdf	17 40 08.8	+1.2
0.6nm,0.6s,baz=319,slow=4.8,SNR=3.7							
MKAR	**Makanchi Array**	**144.85**	**35**	PKP	PKPdf	17 39 37.6	+0.9
MKAR				pPKP	pPKPdf	17 40 08.8	+1.2

*ISCJB **07** 17:57:13.6±0.5, 3861N±002×2376E±005, h13km±4km, Error ellipse: s-maj=6.1km s-min=3.2km az=169.8*
*NEIC **07** 17:57:14.2, 3860N×2369E, h30km, ML3.2(ATH), After ATH.*
*CSEM **07** 17:57:14.1±0.2, 3860N×2382E, h5km, ML3.2, Error ellipse: s-maj=6.5km s-min=3.5km az=93.0*
*ATH **07** 17:57:14.2, 3860N×2369E, h30km±2km, MD3.2/8, ML3.2*
*THE **07** 17:57:15.3, 3862N×2381E, h15km, ML3.1*

ISC 07 17:57:14.2±0.5, 3861N±002×2376E±005, h16km±4km, n19, σ0§98/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.57**	**9**	*e*Pg	**Pg**	**17 57 25.5**	**+0.1**
AOS				*e*Sg	**Sg**	**17 57 34.5**	**+1.5**
LKR	**Lokris**	**0.60**	**274**	*e*PN	**Pg**	**17 57 25.6**	**-0.4**
LKR				*e*SN	**Sg**	**17 57 33.9**	**-0.1**
ATH	**Athens Observa**	**0.64**	**183**	*e*PN	**Pg**	**17 57 26.4**	**-0.3**
ATH				*e*SN	**Sg**	**17 57 35.7**	**+0.6**
MGER	**Gerania Oros**	**0.74**	**213**	*e*PN	**Pg**	**17 57 27.5**	**-1.1**
MGER				*e*SN	**Sg**	**17 57 39.1**	**+0.8**
KVR	**Kavouri**	**0.78**	**180**	*e*PN	**Pn**	**17 57 29.5**	**-1.1**
NEO	**Neokhori**	**0.82**	**329**	*e*PN	**Pn**	**17 57 29.8**	**-1.3**
NEO				*e*SN	**Sn**	**17 57 41.8**	**-1.1**
NAIG	**Nisos Aigina**	**0.87**	**194**	*e*PN	**Pn**	**17 57 31.7**	**-0.2**
NAIG				*e*SN	**Sn**	**17 57 44.0**	**-0.3**
XOR	**Xorichti**	**0.88**	**330**	*e*Pg	**Pg**	**17 57 30.8**	**-0.4**
XOR				*e*Sg	**Sg**	**17 57 44.2**	**+1.4**
AGG	**Agios Georgios**	**1.19**	**291**	*e*Pg	**Pg**	**17 57 37.1**	**-0.2**
AGG				*e*Sg	**Sg**	**17 57 54.3**	**+1.5**
PAIG	**Paliouri**	**1.32**	**357**	*e*Pg	**Pg**	**17 57 38.5**	**-1.2**
PAIG				*e*Sg	**Sg**	**17 57 55.4**	**-1.4**
EVR	**Evrytania**	**1.56**	**282**	*e*PB	**Pn**	**17 57 40.5**	**-0.8**
OUR	**Ouranopolis**	**1.73**	**6**	*e*Pb	**Pb**	**17 57 44.5**	**-1.1**
OUR				*e*Sb	**Sb**	**17 58 06.7**	**-0.6**
OUR	**Ouranopolis**	**1.73**	**6**	*e*Pb	**Pn**	**17 57 44.5**	**+0.8**
PLG	**Polygyros**	**1.78**	**352**	*e*PB	**Pn**	**17 57 44.9**	**+0.5**
LIT	**Litokhoron**	**1.79**	**327**	*e*Pb	**Pb**	**17 57 45.2**	**-1.5**
LIT				*e*Sb	**Sb**	**17 58 07.7**	**-1.1**
VLI	**Veliai**	**2.00**	**199**	*e*PB	**Pn**	**17 57 48.0**	**+0.7**
APE	**Apeiranthos**	**2.08**	**137**	*e*Pn	**Pn**	**17 57 49.4**	**+1.0**
APE

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EQES				S	Sn	18 02 30.2	+0.5
	8.7nm,0.4s,SNR=4.8						
EQES	**Quesada**	**2.94**	**13**	P	Pn	18 01 56.3	+1.6
	1.7nm,0.3s						
EQES				S	Sn	18 02 30.2	+0.4
	8.7nm,0.4s,SNR=4.8						
KIB	**El Ksiba**	**2.96**	**218**	*e*P	Pn	18 01 55.0	+0.1
KIB				*i* S	Sn	18 02 30.0	-0.2
EADA	**Adamuz**	**3.27**	**350**	P	Pn	18 02 00.4	+1.1
	0.8nm,0.2s,SNR=5.0						
EADA				S	Sn	18 02 40.4	+2.4
	1.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.27**	**350**	P	Pn	18 02 00.4	+1.1
EADA				S	Sn	18 02 40.4	+2.4
EADA	**Adamuz**	**3.27**	**350**	P	Pn	18 02 00.4	+1.1
	0.8nm,0.2s,SNR=5.0						
EADA				S	Sn	18 02 40.4	+2.3
	1.9nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.60**	**36**	S	Sn	18 02 42.7	-3.5
	4.3nm,0.4s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.61**	**322**	P	Pn	18 02 04.4	+0.4
	0.2nm,0.1s,SNR=7.3						
EMIN				S	Sn	18 02 44.8	-1.6
	1.7nm,0.2s						
EGRO	**El Granado**	**3.90**	**313**	S	Sn	18 02 52.3	-1.0
	3.5nm,0.2s						
EGRO	**El Granado**	**3.90**	**313**	S	Sn	18 02 52.3	-1.1
	3.5nm,0.2s						
ETOB	**Tobarra**	**4.15**	**26**	P	Pn	18 02 13.0	+1.6
	1.2nm,0.2s,SNR=7.9						
ETOB				S	Sn	18 02 58.8	-0.9
	0.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.15**	**26**	P	Pn	18 02 13.0	+1.6
	1.2nm,0.2s,SNR=7.9						
ETOB				S	Sn	18 02 58.8	-0.9
	0.1nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**4.45**	**315**	*e*Sn	Sn	18 03 05.8	-1.2
EBAD	**Badajoz**	**4.56**	**328**	P	Pn	18 02 18.7	+1.7
	0.8nm,0.2s,SNR=5.0						
EBAD				S	Sn	18 03 07.6	-2.2
	4.1nm,0.2s						
EBAD	**Badajoz**	**4.56**	**328**	P	Pn	18 02 18.7	+1.7
	0.8nm,0.2s,SNR=5.0						
EBAD				S	Sn	18 03 07.6	-2.3
PTEO	**Sao Teotonio**	**4.70**	**305**	*e*Pn	Pn	18 02 19.4	+0.5
PTEO				*e*Sn	Sn	18 03 11.7	-1.5
ESDC	**Sonseca Array**	**4.73**	**359**	P	Pn	18 02 20.0	+0.7
	1.6nm,0.2s,baz=174,slow=12,SNR=6.3						
ESDC	**Sonseca Array**	**4.73**	**359**	P	Pn	18 02 20.0	+0.7
PCBR	**Castelo Branco**	**5.67**	**331**	*e*Pn	Pn	18 02 33.3	+1.1
PCBR				*e*Sn	Sn	18 03 34.9	-2.2

CSEM ***07*** *18:11:48.4±0.1,3490N×369W,h5km,MD3.3,Error ellipse: s-maj=7.4km s-min=3.4km az=116.0*
ISCJB ***07*** *18:11:49.7±0.8,3503N±003×385W±004,h15km±5km, Error ellipse: s-maj=6.2km s-min=4.9km az=117.9*
CNRM ***07*** *18:11:50.9,3503N×384W,h7km,MD3.3*
MDD ***07*** *18:11:51.1±0.6,3499N×381W,h10km±4km,mb3.3/6, Error ellipse: s-maj=8.8km s-min=6.5km az=158.0, PRXIMO*

ISC 07 18:11:50.0±0.6,3502N±003×382W±004,h13km±3km,n14, σ1§22/26,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.09**	**137**	*i* P	Pg	18 11 53.0	+0.3
TOU				*i* S	Sg	18 11 55.0	+0.3
MPAL	**Palemas**	**0.22**	**334**	*i* P	Pg	18 11 55.0	+0.2
MPAL				*i* S	Sg	18 11 58.0	0.0
EMEL	**Melilla**	**0.76**	**69**	P	Pg	18 12 03.8	-1.0
	76nm,0.1s,SNR=6.6						
EMEL				S	Sg	18 12 14.5	-0.2
	290nm,0.2s,SNR=5.7						
EMLI	**Melilla**	**0.77**	**69**	P	Pg	18 12 03.8	-1.0
	76nm,0.1s,SNR=6.6						
EMLI				S	Sg	18 12 14.5	-0.4
	290nm,0.2s,SNR=5.7						
ZAI	**Zaio**	**0.89**	**93**	*i* P	Pg	18 12 06.0	-1.1
ZAI				*i* S	Sg	18 12 21.0	+2.3
EMIJ	**Mijas**	**1.72**	**334**	P	Pn	18 12 21.8	+2.2
	1.1nm,0.2s,SNR=7.9						
EMIJ				S	Sn	18 12 41.2	-0.2
	2.8nm,0.2s,SNR=5.1						
EGUA	**Guajares**	**1.82**	**7**	P	Pn	18 12 18.5	-2.4
	0.3nm,0.1s,SNR=4.0						
EGUA				S	Sn	18 12 41.0	-2.8
	0.5nm,0.3s,SNR=4.0						
EBER	**Berja**	**2.02**	**22**	P	Pn	18 12 25.3	+1.6
	0.7nm,0.3s,SNR=4.0						
EBER				S	Sn	18 12 48.4	-0.4
	6.8nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.02**	**22**	P	Pn	18 12 25.3	+1.6
	0.7nm,0.3s,SNR=4.0						
EBER				S	Sn	18 12 48.4	-0.4
	6.8nm,0.4s,SNR=7.9						
CZD	**Col de Zad**	**2.23**	**207**	*e*P	Pn	18 12 26.0	-0.6
CZD				*i* S	Sn	18 12 54.0	0.0
EQES	**Quesada**	**2.84**	**12**	P	Pn	18 12 36.6	+1.6
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	18 13 09.9	+0.9
	4.2nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.84**	**12**	P	Pn	18 12 36.6	+1.6
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.19**	**349**	S	Sn	18 13 19.3	+1.5
	0.9nm,0.3s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.57**	**321**	P	Pn	18 12 44.7	-0.4
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	18 13 24.0	-3.2
	1.3nm,0.3s,SNR=7.9						

BJI ***07*** *18:23:39.5,307N×12312E,h572km,mB4.8,mb4.9*
MOS ***07*** *18:23:43.8±0.9,367N×12281E,h575km,mb5.0/23,Error ellipse: s-maj=11.2km s-min=5.8km az=118.0*
IDC ***07*** *18:23:44.5±1.0,361N×12276E,h566km±12km,mb4.3/25, mb1 4.3/26,mb1mx4.3/28,mbtmp5.2/26,Error ellipse: s-maj=11.6km s-min=7.3km az=73.0*
ISCJB ***07*** *18:23:44.1±0.2,360N±002×12279E±003,h578km±3km, mb4.9/101,Error ellipse: s-maj=5.1km s-min=3.6km az=149.5*
NEIC ***07*** *18:23:45.0±0.4,364N×12276E,h572km±5km,mb4.9/42, Error ellipse: s-maj=6.2km s-min=4.0km az=66.0*
HRVD ***07*** *18:23:45.0±0.9,349N×12256E,h571km±5km,MW5.3/27, Centroid moment Tensor Solution. LP body waves: s27,c32; Half duration: 1§0 Moment tensor: Scale 10¹⁷ Nm; M_{rr}-0.80±.07; $M_{\theta\theta}$-0.27±.10; $M_{\phi\phi}$1.07±.13; $M_{r\theta}$-0.06±.12; $M_{\theta\phi}$0.05±.09; $M_{\phi r}$-0.52±.11; Best double couple: $M_0$1.07300×10¹⁷ NP1:ϕ_s178.00000°,δ30.00000°, λ-96.00000° NP2:ϕ_s5.00000°,δ60.00000°,λ-86.00000°. Principal axes: T 1.2090, Plg15.0000°, Azm93.0000°; N -0.2720, Plg3.0000°, Azm183.0000°; P -0.9360, Plg75.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s.*

ISC 07 18:23:45.0±0.2,360N±002×12280E±003,h570km±2km, n261,σ1§02/278,mb4.9/100,23C-19D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**3.87**	**22**	⇓*i*P	P	18 25 07.7	+0.4
CTBH				*i* S	S	18 26 13.8	-0.6
IPIL	**Ipil**	**4.17**	**357**	*e*P	P	18 25 09.3	-0.1
PAGZ	**Pagadian**	**4.26**	**8**	*e*P	P	18 25 10.6	+0.5
DAV	**Davao City (W)**	**4.42**	**39**	*e*P	P	18 25 14.1	+2.8
DAV	**Davao City (W)**	**4.42**	**39**	*e*P	P	18 25 11.3	0.0
DAV				*e*S	S	18 26 21.1	-0.8
MATI	**Mati**	**4.78**	**46**	*e*P	P	18 25 13.3	-0.8
BUKP	**Musuan**	**4.81**	**28**	*e*P	P	18 25 14.9	+0.5
TSM	**Tawau**	**4.97**	**278**	P	P	18 25 15.9	+0.2
DCPH	**Dipolog City**	**4.98**	**6**	⇑*e*P	P	18 25 16.6	+0.9
DCPH				*e*S	S	18 26 13.7	-16
TARAI	**Tarakan**	**5.23**	**267**	P	P	18 25 17.1	-0.7
	5μm,1.1s						
PCI	**Palu**	**5.37**	**214**	P	P	18 25 17.5	-1.5
	2μm,1.1s						
BIPH	**Bislig**	**5.77**	**38**	⇓*i*P	P	18 25 21.8	-0.7
BIPH				*i* S	S	18 26 41.0	-1.2
TBP	**Tagbilaran**	**6.14**	**10**	*e*P	P	18 25 34.6	+8.8
SCPH	**Surigao**	**6.70**	**23**	⇑*e*P	P	18 25 30.2	-0.6
MSLP	**Maasin**	**6.80**	**17**	*e*P	P	18 25 31.4	-0.5
GUIM	**Jordan**	**6.98**	**358**	*e*P	P	18 25 32.9	-0.7
KKM	**Kota Kinabalu**	**7.00**	**291**	P	P	18 25 33.2	-0.5
KKM	**Kota Kinabalu**	**7.00**	**291**	*i*Pn	P	18 25 33.0	-0.6
PPR	**Puerto Princes**	**7.35**	**327**	⇓*e*P	P	18 25 37.4	+0.4
CUYO	**Cuyo Island**	**7.42**	**346**	*e*P	P	18 25 37.8	+0.2
OCLP	**Ormoc**	**7.62**	**14**	*e*P	P	18 25 40.0	+0.5
PLP	**Palo**	**7.82**	**16**	*e*P	P	18 25 41.4	0.0
ENPP	**El Nido**	**8.26**	**336**	*e*P	P	18 25 45.8	0.0
BUSP	**Coron**	**8.74**	**343**	*e*P	P	18 25 50.5	+0.1
OTRP	**Odiongan**	**8.74**	**355**	*e*P	P	18 25 52.0	+1.5
AAI	**Ambon**	**9.02**	**143**	P	P	18 25 54.8	+1.5
	211nm,1.1s						
SWI	**Sorong**	**9.54**	**118**	P	P	18 25 57.7	-0.8
	136nm,1.1s						
AUQP	**San Andres**	**9.66**	**359**	*e*P	P	18 26 01.3	+1.6
BOAC	**Boac**	**9.84**	**355**	*e*P	P	18 26 00.2	-1.3
PVCP	**Virac**	**10.02**	**8**	⇑*i*P	P	18 26 03.0	-0.3
PVCP	**Virac**	**10.02**	**8**	*e*P	P	18 26 03.0	-0.3
TGY	**Tagaytay City**	**10.60**	**350**	P	P	18 26 08.1	-1.1
	39nm,0.3s,baz=249,slow=2.0,SNR=6.9						
POLP	**Polilio Island**	**11.09**	**356**	*e*P	P	18 26 14.0	-0.2
BALP	**Baler**	**12.12**	**354**	*e*P	P	18 26 23.1	-1.6
KSM	**Kuching**	**12.66**	**261**	⇑*i*Pn	P	18 26 29.8	-0.4
KSM				*e*S	S	18 28 45.6	-0.5
BOLP	**Bolinao**	**13.01**	**348**	*e*P	P	18 26 30.5	-3.4
CAUP	**Cauayan**	**13.29**	**356**	*e*P	P	18 26 37.4	+0.6
PALP	**Palanan**	**13.38**	**358**	*e*P	P	18 26 37.4	-0.2
TLE	**Tual**	**13.52**	**133**	P	P	18 26 40.8	+1.8
	478nm,0.8s						
KMMI	**Kalianget**	**13.77**	**220**	P	P	18 26 40.6	-1.0
	323nm,0.8s						
BAKI	**Biak**	**14.12**	**109**	P	P	18 26 45.9	+0.7
	343nm,0.8s						
APYP	**Conner**	**14.26**	**354**	*e*P	P	18 26 44.6	-1.9
BJII	**Banjamegara**	**16.99**	**230**	P	P	18 27 14.0	+1.4
	281nm,0.8s						
LEM	**Lembang**	**18.36**	**236**	P	P	18 27 25.7	+0.6
	192nm,1.0s						
KAKA	**Kakadu**	**18.82**	**150**	⇑*i*P	P	18 27 29.3	0.0
	87nm,0.6s						
KAKA				*e*SCP	ScP	18 34 10.1	+1.0
JAY	**Jayapura**	**18.90**	**109**	P	P	18 27 30.8	+0.8
	255nm,0.8s						
SBJI	**Serang**	**19.25**	**240**	P	P	18 27 33.6	+0.5
	421nm,1.2s						
QIZ	**Qiongzhong**	**19.89**	**321**	P	P	18 27 40.4	+1.4
QIZ				XP	sP	18 30 04.0	+0.1
QIZ				S	S	18 30 49.2	+0.7
QIZ				AMB	AMB		
	comp=Z,30nm,1.3s						
KSI	**Kapahiang**	**21.44**	**251**	P	P	18 27 54.1	+1.1
	comp=Z,162nm,0.8s,mb5.7						
IPM	**Ipoh**	**21.74**	**273**	P	P	18 27 56.1	+0.5
FITZ	**Fitzroy Crossi**	**21.75**	**173**	*e*P	P	18 27 55.7	0.0
	comp=Z,17nm,0.9s,mb4.7						
FITZ				*e*S	S	18 31 15.2	-2.6
FITZ				*e*SCP	ScP	18 34 17.4	+1.3
FITZ	**Fitzroy Crossi**	**21.75**	**173**	P	P	18 27 55.5	-0.2
	comp=Z,9.5nm,0.8s,mb4.5,baz=0.6,slow=14,SNR=42						
FITZ				ScP	ScP	18 34 17.0	+0.8
	comp=Z,12nm,0.6s,baz=160,slow=2.1,SNR=16						
KULM	**Kulim**	**22.15**	**275**	*e*P	P	18 27 59.0	-0.2
PPI	**Padang Panjang**	**22.75**	**260**	P	P	18 28 04.1	-0.6
	comp=Z,69nm,0.9s,mb5.3						
KKTK	**Khon Kaen**	**23.36**	**304**	P	P	18 28 11.0	+0.9
JOW	**Kunigami**	**23.69**	**12**	P	P	18 28 13.6	+0.6
	comp=Z,24nm,0.5s,mb5.1,baz=207,slow=16,SNR=15						
PSI	**Prapat**	**23.85**	**269**	P	P	18 28 14.9	+0.4
	comp=Z,34nm,0.7s,mb5.1,baz=91,slow=3.9,SNR=34						
PSI				PcP	PcP	18 31 37.9	+0.9
	comp=Z,8.3nm,0.6s,baz=29,slow=1.4,SNR=5.5						
PSI				ScP	ScP	18 34 22.1	+0.3
	comp=Z,13nm,1.0s,baz=67,slow=0.5,SNR=8.1						
PSI	**Prapat**	**23.85**	**269**	P	P	18 28 14.9	+0.5
PSI						18 31 37.9	
GUMO	**Guam**	**23.94**	**64**	P	P	18 28 15.6	+0.3
	comp=Z,31nm,0.3s,mb5.4,baz=200,slow=1.8,SNR=9.5						
TSI	**Tuntungan**	**24.19**	**271**	P	P	18 28 18.1	+0.7
	comp=Z,74nm,1.3s,mb5.2						
MBWA	**Marble Bar**	**24.79**	**187**	*e*P	P	18 28 22.5	-0.2
NST	**Nakhon Sawan**	**25.33**	**300**	⇑P	P	18 28 28.2	+0.8
	comp=Z,75nm,0.9s,mb5.3						
WRAB	**Tennant Creek**	**25.99**	**155**	*c*P	P	18 28 33.1	-0.2
WRAB	**Tennant Creek**	**25.99**	**155**	*e*P	P	18 28 32.7	-0.6
	comp=Z,64nm,0.8s,mb5.3						
WRA	**Warramunga Arr**	**26.00**	**155**	P	P	18 28 32.9	-0.4
	comp=Z,44nm,1.0s,mb5.0,baz=334,slow=9.5,SNR=302						
SSE	**Sheshan**	**27.39**	**357**	*e*P	P	18 28 47.0	+1.4
SSE				XP	sP	18 31 27.1	+3.7
SSE				PCP	PcP	18 31 47.0	+1.7
SSE				S	S	18 32 47.8	+1.5
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,60nm,3.5s						
GYA	**Guiyang**	**27.49**	**327**	⇓*i*P	P	18 28 47.9	+1.5
GYA				PCP	PcP	18 31 46.7	+1.1
GYA				S	S	18 32 49.5	+1.6
GYA				SCP	ScP	18 34 33.3	+0.8
GYA				PCS	PcS	18 35 26.7	-1.4
GYA				SCS	ScS	18 38 25.3	-0.2
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,90nm,3.2s						
PMG	**Port Moresby**	**27.50**	**118**	P	P	18 28 47.2	+0.7
	comp=Z,72nm,0.8s,mb5.4,baz=324,slow=5.2,SNR=21						
PMG	**Port Moresby**	**27.50**	**118**	*e*P	P	18 28 46.7	+0.2
PMG				pmax	pmax		
	comp=Z,62nm,0.8s						
PMG	**Port Moresby**	**27.50**	**118**	*e*P	P	18 28 46.7	+0.2
	comp=Z,62nm,0.8s,mb5.3						
CHG	**Chiang Mai**	**27.80**	**305**	⇑P	P	18 28 50.1	+1.0
	comp=Z,55nm,0.7s,mb5.3						
CHTO	**Chiang Mai**	**27.80**	**305**	⇓*e*P	P	18 28 49.7	+0.6
CHTO				pmax	pmax		
	comp=Z,52nm,0.9s,mb5.2						
CHTO	**Chiang Mai**	**27.80**	**305**	⇓*e*P	P	18 28 49.7	+0.5
	comp=Z,52nm,0.9s,mb5.2						
CHTO				*e*ScP	ScP	18 34 34.4	+1.0
NJ2	**Nanjing**	**28.54**	**353**	*e*P	P	18 28 56.6	+1.0
NJ2				PCP	PcP	18 31 51.0	+2.8
NJ2				S	S	18 33 06.0	+1.8
NJ2				PCS	PcS	18 35 31.0	-0.5
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,340nm,4.0s						
KMI	**Kunming**	**28.82**	**320**	P	P	18 29 00.3	+2.3
KMI				XP	sP	18 31 38.1	+1.7
KMI				PCP	PcP	18 31 51.5	+2.6
KMI				S	S	18 33 11.8	+3.4
KMI				SCP	ScP	18 34 38.9	+2.2
KMI				PCS	PcS	18 35 33.1	+0.7
KMI				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.5						
KMI				AMB	AMB		
	comp=Z,150nm,3.5s						
AS31	**Alice Springs**	**29.18**	**159**	⇑*i*P	P	18 29 01.5	+0.4
AS31				*e*S	S	18 33 12.7	-1.4
AS31				*e*		18 34 38.4	
AS31				*e*ScS	ScS	18 38 30.6	-2.8
ASPA	**Alice Springs**	**29.18**	**159**	⇑*i*P	P	18 29 01.5	+0.4
ASPA				*e*S	S	18 33 12.7	-1.4
ASPA				*e*		18 34 38.4	
ASPA				*e*SCS	ScS	18 38 30.6	-2.8
ASAR	**Alice Springs**	**29.18**	**159**	P	P	18 29 01.6	+0.5
	comp=Z,7.5nm,0.5s,mb4.6,baz=338,slow=7.2,SNR=127						
ASAR				PcP	PcP	18 31 50.4	+0.5
	comp=Z,3.4nm,0.4s,baz=346,slow=2.6,SNR=7.5						
ASAR				ScP	ScP	18 34 38.6	+0.8
	comp=Z,12nm,0.7s,baz=338,slow=2.5,SNR=21						
ASAR	**Alice Springs**	**29.18**	**159**	P	P	18 29 01.7	+0.6
ASAR						18 31 50.4	
CBIJ	**Chichi jima**	**29.82**	**37**	P	P	18 29 06.5	-0.1
	comp=Z,280nm,0.6s,baz=122,slow=3.4,SNR=13						
CD2	**Chengdu**	**32.57**	**329**	P	P	18 29 29.4	-0.7
CD2				XP	sP	18 32 10.1	+0.3
CD2				S	S	18 34 04.7	-1.2
CD2				SCS	ScS	18 38 47.4	-3.1
CD2				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.0						
CD2				AMB	AMB		
	comp=Z,250nm,4.3s						
XAN	**Xi'an**	**32.93**	**339**	P	P	18 29 33.2	+0.1
CTA	**Charters Tower**	**32.94**	**137**	*e*P	P	18 29 34.4	+1.2
	comp=Z,8.9nm,1.1s,mb4.2						
CTA	**Charters Tower**	**32.94**	**137**	*e*P	P	18 29 34.4	+1.2
CTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CTAO	**Charters Tower**	**32.94**	**137**	*e*P	P	18 29 34.4	+1.2
KS15	**Wonju Array Si**	**34.00**	**7**	*e*P	P	18 29 41.3	-0.8
FORT	**Forrest**	**34.55**	**172**	*e*P	P	18 29 47.3	+0.6
	comp=Z,76nm,0.6s,mb5.4						
FORT				*e*PCP	PcP	18 32 06.2	+1.4
FORT				*e*S	S	18 34 34.7	-1.2
FORT				*e*SCP	ScP	18 34 57.4	+1.1
KLBR	**Kellerberrin**	**35.33**	**187**	*e*P	P	18 29 53.0	-0.1
	comp=Z,30nm,0.5s,mb5.1						
KLBR				*e*PCP	PcP	18 32 07.6	+0.4
KLBR				*e*S	S	18 34 47.4	0.0
MAJO	**Matsushiro**	**35.72**	**21**	*e*P	P	18 29 55.0	-1.4
MAJO				*e*		18 35 01.2	
MAJO				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.7						
MAJO	**Matsushiro**	**35.72**	**21**	*e*P	P	18 29 55.0	-1.4
	comp=Z,25nm,0.9s,mb4.8						
MAJO				*e*ScP	ScP	18 35 01.2	+0.6
MAT	**Matsushiro**	**35.72**	**21**	P	P	18 29 55.8	-0.6
MAT				*e*S	S	18 34 56.0	+2.6
MAT	**Matsushiro**	**35.72**	**21**	*e*P	P	18 29 56.0	-0.4
MAT				S	S	18 34 56.0	+2.6
MAT				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
MAT	**Matsushiro**	**35.72**	**21**	*e*P	P	18 29 56.0	-0.4
	comp=Z,24nm,0.9s,mb4.7						
MAT				S	S	18 34 56.0	+2.6
MJAR	**Matsushiro Arr**	**35.72**	**21**	P	P	18 29 55.9	-0.5
	comp=Z,41nm,0.9s,mb5.0,baz=193,slow=8.7,SNR=76						
MJAR	**Matsushiro Arr**	**35.72**	**21**	P	P	18 29 55.9	-0.5
MUN	**Mundaring**	**35.93**	**190**	*e*P	P	18 29 58.5	+0.3
MUN				*e*PCP	PcP	18 32 10.0	+1.0
MUN				*e*SCP	ScP	18 35 02.5	+1.1
NWAO	**Narrogin (SRO)**	**36.71**	**188**	*e*P	P	18 30 04.9	+0.4
NWAO				pmax	pmax		
	comp=Z,69nm,1.1s						
NWAO	**Narrogin (SRO)**	**36.71**	**188**	*e*P	P	18 30 04.9	+0.4
	comp=Z,69nm,1.1s,mb5.1						
BJT	**Baijiatuao**	**36.75**	**351**	*e*P	P	18 30 04.5	-0.3
BJT				pmax	pmax		
	comp=Z,6.0nm,0.3s						
BJT	**Baijiatuao**	**36.75**	**351**	*e*P	P	18 30 04.5	-0.3
	comp=Z,6.1nm,0.3s,mb4.6						
LZH	**Lanzhou**	**36.76**	**334**	⇑P	P	18 30 07.2	+2.3
LZH				AP		18 31 49.0	
LZH				PCP	PcP	18 32 13.0	+1.5
LZH				SCP	ScP	18 35 06.1	+1.6
LZH				S	S	18 35 10.0	+1.2
LZH				PCS	PcS	18 36 01.0	+0.4
LZH				XS	sS	18 38 13.0	+6.2
LZH				SS	SS	18 38 20.0	-6.5
LZH				SCS	ScS	18 39 12.7	-0.8
LZH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,210nm,4.0s						
SHL	**Shillong**	**36.86**	**309**	*e*P	P	18 30 05.7	-0.1
SHL				*ex*	x	18 35 07.0	
SNY	**Shenyang**	**38.07**	**1**	⇓P	P	18 30 16.0	+0.4
SNY				S	S	18 35 25.9	-2.2
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
SNY				AMB	AMB		
	comp=Z,120nm,5.9s						
HHC	**Hu-ho-hao-te**	**38.44**	**346**	⇑*e*P	P	18 30 21.8	+3.2
HHC				AP		18 31 57.8	
HHC				PP	PP	18 32 07.0	+1.7
HHC				XP	sP	18 32 57.8	-3.2
HHC				S	S	18 35 40.8	+7.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
HHC				AMB	AMB		
	comp=Z,60nm,5.1s						
HNR	**Honiara**	**39.21**	**110**	P	P	18 30 24.9	0.0
	comp=Z,90nm,0.5s,mb5.5,baz=274,slow=1.8,SNR=12						
STKA	**Stephens Creek**	**39.55**	**155**	*e*P	P	18 30 26.5	-1.1
	comp=Z,17nm,0.9s,mb4.6						
STKA				*e*pP		18 32 14.9	
STKA				*e*SCP	ScP	18 35 13.9	-1.3
STKA				*e*S	S	18 35 48.1	-1.7
STKA	**Stephens Creek**	**39.55**	**155**	P	P	18 30 26.4	-1.2
	comp=Z,15nm,0.7s,mb4.6,baz=326,slow=8.0,SNR=36						
STKA				PP	PP	18 32 14.9	-0.8
	comp=Z,6.9nm,0.7s,baz=319,slow=9.9,SNR=5.7						
LSA	**Lhasa**	**39.65**	**314**	P	P	18 30 30.1	+1.7
LSA	**Lhasa**	**39.65**	**314**	*e*P	P	18 30 30.4	+2.0
LSA				pmax	pmax		
	comp=Z,101nm,0.7s,mb5.5						
LSA	**Lhasa**	**39.65**	**314**	*e*P	P	18 30 30.4	+2.1
	comp=Z,101nm,0.7s,mb5.5						
CN2	**Changchun**	**40.10**	**3**	*e*P	P	18 30 35.7	+3.7
BOK	**Bokaro**	**40.89**	**303**	*e*P	P	18 30 38.1	-0.1
VIS	**Vishakhapatnam**	**41.13**	**293**	*e*P	P	18 30 40.4	+0.2
VIS				AMb	AMB	18 30 43.2	
	comp=Z,76nm,0.8s,mb5.3						
MDJ	**Mudanjiang**	**41.28**	**7**	P	P	18 30 42.3	+1.0
MDJ				AP	pP	18 32 21.7	+0.8
MDJ				PCP	PcP	18 32 27.3	+1.2
MDJ				PP	PP	18 32 33.7	+2.1
MDJ				XP	sP	18 33 25.3	+0.2
MDJ				SCP	ScP	18 35 23.0	+0.9
MDJ				S	S	18 36 19.4	+4.5

comp=Z,86nm,0.8s,mb5.3
HIA Hailar 45.57 357 *e*P **P 18 31 14.3 -0.3**
TRD Trivandrum 45.82 278 *e*P **P 18 31 16.1 -0.3**
TRD AMb AMB 18 31 18.7
comp=Z,80nm,1.0s,mb5.2
NGP Nagpur 45.95 296 *e*P **P 18 31 16.4 -1.0**
CNB Canberra Magne 46.04 149 *e*P **P 18 31 20.2 +2.1**
comp=Z,7.9nm,0.5s,mb4.5
TOO Toolangi 46.07 155 *e*P **P 18 31 21.0 +2.7**
comp=Z,2.2nm,0.4s,mb4.0
KLR Kul'dur 46.10 8 *e*P **P 18 31 15.2 -3.4**
ULN Ulaanbaatar 46.14 345 *e*P **P 18 31 19.1 +0.2**
ULN pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
ULN Ulaanbaatar 46.14 345 *e*P **P 18 31 19.1 +0.2**
comp=Z,10nm,0.8s,mb4.4
ULN *e*ScP ScP 18 35 41.7 -0.4
SONM Songino Array 46.28 345 P **P 18 31 20.3 +0.4**
comp=Z,12nm,0.7s,mb4.5,baz=160,slow=8.2,SNR=74
SONM PcP PcP 18 32 44.0 +0.6
comp=Z,6.5nm,1.0s,baz=164,slow=2.8,SNR=7.2
SONM ScP ScP 18 35 42.8 +0.2
comp=Z,2.8nm,0.6s,baz=162,slow=4.0,SNR=8.1
SONM Songino Array 46.28 345 P **P 18 31 20.3 +0.4**
SONM 18 32 44.0
YSS Yuzh-Sakhalins 46.52 19 *e*P **P 18 31 21.7 0.0**
AKL Akola 47.66 295 *e*x x 18 30 58.0
ZAK Zakamensk 49.45 344 *e*P **P 18 31 43.5 0.0**
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
NDI New Delhi 49.95 305 *e*P **P 18 31 45.0 -2.2**
POO Poona 50.09 291⇑*i*P **P 18 31 46.0 -2.3**
comp=Z,100nm,1.0s,mb5.2
POO *e*x x 18 32 23.7
TLY Talaya 50.52 345*d i*P **P 18 31 49.6 -1.8**
WMQ Urumqi 50.65 327 P **P 18 31 53.6 +1.3**
WMQ PCP PcP 18 33 00.5 +1.0
WMQ PP PP 18 34 00.0 +3.7
WMQ S **S 18 38 28.6 +3.3**
WMQ XS sS 18 41 36.7 +0.5
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,150nm,4.0s
SMLA Simla 50.91 308 *e*P **P 18 31 54.0 -0.2**
SMLA ⇓*i*P 18 31 54.2
comp=Z,359nm,0.4s
SMLA AMb AMB 18 31 55.9
comp=Z,181nm,0.9s,mb5.4
SMLA *e*S **S 18 38 28.0 -0.8**
SMLA *i* S **S 18 38 29.6 +0.8**
SDNR Sundarnagar 51.21 308 *e*P **P 18 31 58.0 +1.6**
AJM Ajmer 51.36 301 *e*P **P 18 31 57.1 -0.4**
MK31 Makanchi Array 55.48 327 P **P 18 32 26.8 +0.2**
MK31 pmax pmax
comp=Z,12nm,0.4s,mb4.5
MKAR Makanchi Array 55.48 327 P **P 18 32 26.9 +0.3**
comp=Z,31nm,0.4s,mb4.9,baz=135,slow=7.7,SNR=555
MKAR PcP PcP 18 33 17.8 -0.2
comp=Z,17nm,0.6s,baz=142,slow=4.3,SNR=12
MKAR ScP ScP 18 36 22.5 +0.1
comp=Z,11nm,0.8s,baz=138,slow=5.7,SNR=17
MKAR Makanchi Array 55.48 327 P **P 18 32 26.9 +0.3**
MKAR 18 33 17.8
MKAR Makanchi Array 55.48 327 P **P 18 32 26.9 +0.3**
MKAR PcP PcP 18 33 17.8 -0.2
MKAR ScP ScP 18 36 22.5 +0.1
ULHL Ulahol 56.54 320 P **P 18 32 35.6 +1.7**
SNR=6.4
KZA Kyzart 57.10 319 P **P 18 32 39.3 +1.6**
SNR=45
TKM2 Tokmak 2 57.29 320 P **P 18 32 39.9 +0.9**
SNR=45
PET Petropavlovsk 57.43 25 *i* P **P 18 32 41.0 +1.1**
PET pmax pmax
comp=Z,27nm,0.8s,mb4.5
PET Petropavlovsk 57.43 25 *e*P **P 18 32 40.8 +0.9**
comp=Z,12nm,0.6s,mb4.3
KBK Karagaybulak 57.58 320 P **P 18 32 42.1 +1.2**
SNR=29
UCH Uchtor 57.66 319 P **P 18 32 42.9 +1.5**
SNR=55
AAK Ala-Archa 57.86 319 P **P 18 32 43.8 +1.0**
SNR=20
AAK Ala-Archa 57.86 319 *e*P **P 18 32 42.8 -0.1**
AAK *e* 18 33 27.0
AAK pmax pmax
comp=Z,21nm,0.8s,mb4.4
AAK Ala-Archa 57.86 319 *e*P **P 18 32 42.8 0.0**
comp=Z,21nm,0.8s,mb4.4
AAK *e*PcP PcP 18 33 27.0 -0.5
CHMS Chumysh 57.87 320 P **P 18 32 43.1 +0.2**
SNR=10
FRU Bishkek 57.88 320 *e*P **P 18 32 42.0 -1.0**
USP Ospenovka 58.16 320 P **P 18 32 45.4 +0.5**
SNR=61
EKS2 Erkin-Say 58.34 319 P **P 18 32 47.2 +1.1**
SNR=41
YAK Yakutsk 58.52 4 *e*P **P 18 32 47.4 +0.1**
YAK *e* 18 33 34.3
YAK *e* 18 35 02.2
YAK *e*S **S 18 40 07.7 -0.2**
YAK *e* 18 41 36.3
YAK *e*SS SS 18 44 07.7 -5.5
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.2
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK smax
comp=N,11nm,1.5s
YAK smax
comp=E,5.0nm,1.0s
ZAL Zalesovo 58.98 335 P **P 18 32 49.0 -1.4**
comp=E,14nm,0.3s,mb4.6,baz=352,slow=4.9,SNR=47
MA2 Magadan 59.84 16*de*P **P 18 32 57.7 +1.6**
MA2 *e* 18 33 40.8
MA2 S **S 18 40 28.2 +3.7**
MA2 pmax pmax
comp=Z,50nm,0.8s,mb4.9
MA2 Magadan 59.84 16 *e*P **P 18 32 56.5 +0.4**
comp=Z,23nm,0.9s,mb4.5
NVS Novosibirsk 60.27 335 *e*P **P 18 32 56.5 -2.4**
NVS *i* *PP PcP 18 33 34.0 -3.1
NVS *i* S **S 18 40 25.0 -4.7**
NVS *i* *SS ScS 18 41 44.2 -8.2
NVS pmax pmax
comp=Z,47nm,1.1s,mb4.7
NVS pmax pmax
comp=N,20nm,0.9s
NVS pmax pmax
comp=E,12nm,0.5s
NVS smax
comp=N,23nm,1.7s
NVS smax
comp=E,74nm,2.3s
KK31 Karatay Array 60.69 318 *i* P **P 18 33 01.4 -0.3**
KK31 pmax pmax
comp=Z,30nm,0.6s,mb4.8
KKAR Karatay Array 60.69 318 *i* P **P 18 33 01.4 -0.3**
KKAR pmax pmax
comp=Z,19nm,0.7s,mb4.5
VOSK Vostochnaya 64.87 328 P **P 18 33 27.6 -0.9**
VOSK pmax pmax
comp=Z,6.0nm,0.5s,mb4.3
BVA0 Borovoye Array 65.33 328 *i* P **P 18 33 31.1 -0.3**
BVA0 pmax pmax
comp=Z,7.0nm,1.2s,mb4.0
BRVK Borovoye 65.40 328 *e*P **P 18 33 31.5 -0.4**
BRVK pmax pmax
comp=Z,32nm,1.1s,mb4.7
BRVK Borovoye 65.40 328 *e*P **P 18 33 31.4 -0.4**
comp=Z,32nm,1.1s,mb4.7
CHKZ Chkalovo 65.53 329 P **P 18 33 32.0 -0.7**
CHKZ pmax pmax
comp=Z,27nm,1.0s,mb4.7
CHKZ Chkalovo 65.53 329 *e*P **P 18 33 31.9 -0.8**
comp=Z,23nm,0.8s,mb4.8
ZRNK Zerenda 66.02 328 *e*P **P 18 33 35.1 -0.7**
ZRNK pmax pmax
comp=Z,50nm,0.7s,mb5.2
ZRNK Zerenda 66.02 328 *e*P **P 18 33 35.1 -0.7**
comp=Z,50nm,0.7s,mb5.2
AB31 Akbulak array 69.79 322 *i* P **P 18 33 58.0 -0.7**
AB31 pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
CASY Casey 70.28 185 *e*P **P 18 34 01.3 -0.2**
BILL Bilibino 70.72 16⇓*e*P **P 18 34 04.3 +0.2**
BILL *e*S S 18 42 32.0 -1.6
BILL pmax pmax
comp=Z,6.0nm,1.1s,mb4.0
ATKA Atka Island 70.85 35 *e*P **P 18 34 05.5 +0.6**
ARU Arti 72.97 328⇓*i*P **P 18 34 15.8 -1.4**
ARU *e* 18 37 07.5
ARU *e*PPP 18 38 53.6
ARU *e*S S 18 42 54.1 -4.6
ARU *e*SS SS 18 47 52.0 -3.1
ARU pmax pmax
comp=Z,32nm,0.9s,mb4.8
ARU Arti 72.97 328 *e*P **P 18 34 15.6 -1.6**
comp=Z,25nm,0.8s,mb4.7
MIR Mirnyy 73.17 192*d i*P **P 18 34 19.0 +0.7**
MIR pmax pmax
comp=Z,270nm,1.0s,mb5.6
ORR Orenburg 73.66 323⇓*i*P **P 18 34 20.6 -0.5**
ORR pmax pmax
comp=Z,80nm,1.3s,mb5.0
QRN Al-Qurain 75.03 299 *e*P **P 18 34 28.1 -0.6**
QRN AMb AMB 18 34 29.4
comp=Z,100nm,0.6s,mb5.4
KBD Kabd 75.25 299 *e*P **P 18 34 29.4 -0.6**
KBD AMb AMB 18 34 30.7
comp=Z,131nm,0.5s,mb5.6
UMR Umm Al-Rimmam 75.26 299 *e*P **P 18 34 29.4 -0.7**
UMR AMb AMB 18 34 30.8
comp=Z,77nm,0.6s,mb5.3
RDF Al-Radifah 75.36 299 *e*P **P 18 34 30.0 -0.6**
RDF AMb AMB 18 34 32.2
comp=Z,74nm,1.0s,mb5.1
MIB Mutribah 75.61 300 *e*P **P 18 34 31.2 -0.8**
MIB AMb AMB 18 34 33.4
comp=Z,152nm,0.8s,mb5.5
NAY Al-Naaiem 75.65 299 *e*P **P 18 34 31.3 -1.0**
NAY AMb AMB 18 34 33.5
comp=Z,48nm,0.6s,mb5.1
UNV Unalaska Valle 75.77 35 *e*P **P 18 34 33.6 +0.7**
BHD Baghdad 78.35 303 *e*x x 18 34 42.0
GNI Garni 78.56 310 *e*P **P 18 34 48.0 0.0**
GNI pmax pmax
comp=Z,25nm,0.8s
GNI Garni 78.56 310 *e*P **P 18 34 48.0 0.0**
comp=Z,24nm,0.8s,mb4.6
KIV Kislovodsk 80.39 314 *e*P **P 18 34 57.2 -0.5**
KIV *e* 18 38 08.7
KIV *e*S S 18 44 17.2 -0.1
KIV pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
KIV Kislovodsk 80.39 314 *e*P **P 18 34 56.9 -0.8**
comp=Z,10nm,0.8s,mb4.2
MAW Mawson 82.30 200 *e*P **P 18 35 07.7 +0.3**
comp=Z,4.5nm,0.6s,mb4.1
MAW Mawson 82.30 200 P **P 18 35 07.5 +0.1**
comp=Z,6.4nm,0.7s,mb4.2,baz=50,slow=6.9,SNR=14
MAW Mawson 82.30 200 *e*P **P 18 35 07.7 +0.3**
MAW pmax pmax
comp=Z,5.0nm,0.6s
SOC Sochi 82.52 313 *e*P **P 18 35 08.0 -0.5**
SOC *e* 18 38 12.9
SOC *e*PPP 18 40 23.1
SOC *e*S S 18 44 36.1 -2.6
SOC *e*SS SS 18 50 16.0 -0.8
SOC *e*SSS 18 53 50.6
SOC pmax pmax
comp=Z,24nm,0.8s,mb4.8
MALT Malatya 83.37 308⇑*i*P **P 18 35 14.3 +1.5**
MALT Malatya 83.37 308 *e*P **P 18 35 13.4 +0.7**
comp=Z,8.0nm,0.8s,mb4.3
VNDA Vanda 83.82 172 P **P 18 35 14.7 -0.3**
comp=Z,5.1nm,0.7s,mb4.2,baz=315,slow=6.4,SNR=38
ANN Anapa 84.19 314*c i*P **P 18 35 15.6 -1.2**
ANN *e* 18 38 40.1
ANN *e*S 18 44 46.7
ANN pmax pmax
comp=Z,45nm,0.6s,mb5.2
MOS Moscow 84.32 326 *e*P **P 18 35 16.0 -1.5**
MOS pmax pmax
comp=Z,57nm,1.4s,mb4.9
ASF Jabal al Asfar 84.64 302 P **P 18 35 20.0 +1.0**
comp=Z,32nm,0.9s,mb4.9,baz=332,slow=4.1,SNR=43
OBN Obninsk 84.91 325*c i*P **P 18 35 20.3 0.0**
OBN *e* 18 38 40.8
OBN *e*S 18 44 52.9
OBN *e*SS SS 18 50 54.7 +3.1
OBN pmax pmax
comp=Z,64nm,1.3s,mb5.0
OBN Obninsk 84.91 325 *e*P **P 18 35 19.3 -1.0**
comp=Z,17nm,0.6s,mb4.8
KMBO Kilima Mbogo 85.63 269 P **P 18 35 24.2 +0.4**
comp=Z,18nm,1.0s,mb4.7,baz=57,slow=6.6,SNR=25
KMBO Kilima Mbogo 85.63 269 *e*P **P 18 35 25.3 +1.5**
KMBO pmax pmax
comp=Z,15nm,1.0s
KMBO Kilima Mbogo 85.63 269 *e*P **P 18 35 25.3 +1.5**
comp=Z,15nm,1.0s,mb4.6
SIM Simferopol' 86.55 315*de*P **P 18 35 28.1 -0.1**
SIM pmax pmax
comp=Z,29nm,0.7s,mb5.0
BR131 Keskin Array S 87.08 309 *e*P **P 18 35 30.2 -0.4**
comp=Z,3.0nm,0.8s,mb4.0
BRTR Keskin Array B 87.08 309 P **P 18 35 29.5 -1.1**
comp=Z,3.7nm,0.8s,mb4.0,baz=117,slow=5.0,SNR=19
BRTR PP PP 18 39 04.2 -0.5
comp=Z,2.5nm,1.1s,baz=130,slow=5.3,SNR=5.4
JOF Joensuu 87.50 333 *e*p **P 18 35 30.7 -1.9**
comp=Z,31nm,0.6s,mb5.2
KEV Kevo 88.66 340 *e*p **P 18 35 35.7 -2.3**
comp=Z,4.7nm,0.8s,mb4.4
KEV Kevo 88.66 340 *e*P **P 18 35 35.7 -2.3**
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ARCES ARCESS Array B 89.21 340 P **P 18 35 38.3 -2.3**
comp=Z,6.7nm,0.6s,mb4.6,baz=85,slow=5.5,SNR=30
ARCES PKiKP PKiKP 18 40 34.3 -0.5
comp=Z,1.4nm,0.9s,baz=34,slow=3.6,SNR=4.2
ARE0 ARCESS Array S 89.21 340 *e*P **P 18 35 38.9 -1.7**
AKASG Malin Array Be 89.51 321 P **P 18 35 40.5 -1.5**
comp=Z,6.8nm,0.7s,mb4.6,baz=72,slow=4.6,SNR=25
KAF Kangasniemi 89.89 332 *e*p **P 18 35 41.7 -2.0**
comp=Z,18nm,0.6s,mb5.1,baz=79,slow=4.2
KAF Kangasniemi 89.89 332 *e*P **P 18 35 41.7 -2.0**
KAF pmax pmax
comp=Z,18nm,0.6s,mb5.1
FINES FINESS Array B 90.08 331 P **P 18 35 42.9 -1.7**
comp=Z,8.7nm,0.7s,mb4.7,baz=90,slow=6.5,SNR=46
DAWY Dawson 90.20 26 *e*P **P 18 35 45.7 +0.6**
TIRR Tirgusor 90.64 314⇑*i*P **P 18 35 46.3 -0.9**
TIRR Tirgusor 90.64 314 ⇑P **P 18 35 46.3 -0.9**
SYO Syowa Base 90.90 201⇑*e*P **P 18 35 48.0 -0.4**
MLR Muntele Rosu 92.26 316⇑*i*P **P 18 35 55.0 +0.3**
BURAR Bucovina Array 92.48 318⇑*i*P **P 18 35 55.6 0.0**
BURAR Bucovina Array 92.48 318 ⇑P **P 18 35 55.6 0.0**
QSPA South Pole Qui 93.51 180 *e*P **P 18 36 01.2 +0.8**
comp=Z,2.6nm,0.6s,mb4.5
STHS Stebnicka Huta 94.78 320 *e*P **P 18 36 06.5 +0.4**
STHS *e*pP PcP 18 36 11.1 +4.8
LSZ Lusaka 95.38 255 *e*P **P 18 36 08.4 -0.5**
LSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LSZ Lusaka 95.38 255 *e*P **P 18 36 08.4 -0.5**
comp=Z,8.0nm,0.8s,mb4.9
KECS Kecovo 95.46 319 *e*P **P 18 36 08.6 -0.6**
VYHS Vyhne 96.53 319 *e*P **P 18 36 12.9 -1.1**
MORC Moravsky Berou 97.05 321⇓*i*P **P 18 36 16.6 +0.3**
MORC Moravsky Berou 97.05 321 ⇓P **P 18 36 16.6 +0.2**
NB2 NORSAR Subarra 97.14 333 P **P 18 36 14.6 -2.1**
comp=Z,2.9nm,0.7s,mb4.6,baz=72,slow=4.4
NB2 NORSAR Subarra 97.14 333 P **P 18 36 14.6 -2.1**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
NOA NORSAR Array B 97.14 333 P **P 18 36 14.9 -1.8**
comp=Z,2.9nm,0.7s,mb4.6,baz=70,slow=4.5,SNR=18
ZST Bratislava 97.72 319 *e*P Pdif 18 36 23.1 +3.8
GERES GERESS Array B 99.72 321 P Pdif 18 36 27.1 -1.1
comp=Z,1.3nm,0.8s,baz=84,slow=4.2,SNR=9.0
YKA Yellowknife Ar 101.21 24 PKKPbc PKKPbc 18 52 41.2 -0.8
comp=Z,1.4nm,0.6s,baz=124,slow=2.7,SNR=4.8
NVAR Mina Array Bea 109.89 47 PKKPbc PKKPbc 18 52 17.3 +1.4
comp=Z,0.5nm,0.6s,baz=116,slow=5.0,SNR=4.1
TORD Torodi Ar. Bea 119.22 287 PKP PKPdf 18 41 30.1 +0.3
comp=Z,10nm,0.8s,baz=79,slow=1.5,SNR=83
TORD PP PP 18 42 53.4 -7.1
comp=Z,1.3nm,0.7s,baz=61,slow=7.0,SNR=5.7
SCHQ Schefferville 121.23 7 PKP PKPdf 18 41 33.1 -0.5
comp=Z,1.7nm,0.4s,baz=37,slow=7.2,SNR=5.3
DBIC Dimbokro 126.76 281 PKP PKPdf 18 41 45.1 +0.9
comp=Z,4.1nm,0.5s,baz=356,slow=3.7,SNR=7.3
PLCA Paso Flores 141.12 164 PKhKP 18 42 06.8
comp=Z,3.5nm,0.9s,baz=285,slow=10,SNR=4.4
PLCA SKPbc SKPbc 18 44 55.0 +0.5
comp=Z,2.6nm,0.5s,baz=327,slow=4.8,SNR=9.6
TRQA Tornquist 145.43 173 *e*PKPdf PKPdf 18 42 19.4 +1.0
CPUP Villa Florida 157.40 180 PKP PKPdf 18 42 37.6 +1.3
comp=Z,1.8nm,0.7s,baz=59,slow=0.8,SNR=6.2
CPUP PKPab PKPab 18 43 13.1 +1.5
comp=Z,4.3nm,0.7s,baz=156,slow=4.2,SNR=10
LPAZ La Paz 163.43 140 PKP PKPdf 18 42 44.4 +1.7
comp=Z,2.2nm,0.9s,baz=94,slow=1.4,SNR=8.6

IDC 07 19:20:09.6±2.1, 013N×9704E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, ML3.1/1, Error ellipse: s-maj=62.9km s-min=22.8km az=65.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.25**	**35**	Pn	Pn	19 21 01.3	-0.6
	2.1nm,0.3s,baz=207,slow=9.0,SNR=17						
WRA	**Warramunga Arr**	**41.62**	**121**	P	P	19 27 59.6	+0.2
	2.6nm,0.9s,baz=299,slow=8.6,SNR=9.4						
ASAR	**Alice Springs**	**42.90**	**126**	P	P	19 28 10.2	+0.4
	1.3nm,0.9s,baz=297,slow=7.6,SNR=15						
SONM	**Songino Array**	**48.20**	**8**	P	P	19 28 52.0	+0.1
	1.3nm,0.7s,baz=195,slow=8.4,SNR=10						
MKAR	**Makanchi Array**	**48.23**	**346**	P	P	19 28 52.0	-0.1
	0.9nm,0.7s,baz=150,slow=7.8,SNR=6.6						

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*ISCJB **07** 20:27:34.6±0.6, 3424N±005×2596E±009, h33km, Error ellipse: s-maj=10.5km s-min=5.8km az=140.6*
*NEIC **07** 20:27:35.8, 3432N×2571E, h23km, MD3.4(ATH), After ATH.*
*CSEM **07** 20:27:35.1±0.1, 3424N×2599E, h40km, ML3.2, Error ellipse: s-maj=4.2km s-min=2.7km az=64.0*
*ATH **07** 20:27:35.8, 3432N×2570E, h22km, MD3.4/4*
*HLW **07** 20:27:36.7, 34.19N×2598E, h17km, Mb3.2*
ISC 07 20:27:36.2±0.6, 3426N±005×2583E±009, h35km, n11, σ0§83/13, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.62**	**349**	*e*PN	**Pn**	**20 27 47.0**	**-1.5**
NPS	**Neapolis**	**1.02**	**350**	*e*Pn	**Pn**	**20 27 53.7**	**-0.2**
NPS				*e*SN	**Sn**	**20 28 06.7**	**-0.3**
KARP	**Karpathos**	**1.69**	**40**	*e*PN	**Pn**	**20 28 06.6**	**+3.5**
VAM	**Vamos**	**1.77**	**311**	*e*PN	**Pn**	**20 28 05.6**	**+1.4**
SLUM		**2.81**	**191**	P	**Pn**	**20 28 19.0**	**+0.4**
SLUM				S	**Sn**	**20 28 50.1**	**-1.1**
SWA2		**5.01**	**184**	P	**Pn**	**20 28 49.5**	**+0.7**
AMAG	**Maghara**	**7.20**	**118**	P	**Pn**	**20 29 18.8**	**-0.1**
HRSH	**Kfar Ka'horesh**	**7.42**	**114**	P	**Pn**	**20 29 21.8**	**-0.2**
RSH		**7.42**	**114**	P	**Pn**	**20 29 21.8**	**-0.2**
HNKL	**Nakhl**	**8.15**	**120**	P	**Pn**	**20 29 32.3**	**+0.3**
TR2		**8.93**	**129**	P	**Pn**	**20 29 42.7**	**+0.1**

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*IDC **07** 20:43:38.0±0.8, 2073S×17404W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.3/17, mbtmp4.3/9, ML4.2/1, MS3.1/2, Ms1 3.1/2, ms1mx2.9/24, Error ellipse: s-maj=31.0km s-min=20.1km az=138.0*
*ISCJB **07** 20:43:40.9±0.6, 205S±01×174.1W±0.1, h33km, mb4.3/11, MS2.9/1, Error ellipse: s-maj=19.4km s-min=13.0km az=73.6*
*NEIC **07** 20:43:40.1±0.4, 2055S×17408W, h15km, mb4.6/4, Error ellipse: s-maj=17.2km s-min=9.5km az=128.0*
ISC 07 20:43:42.9±0.6, 206S±01×1740W±01, h35km, n54, σ1§19/19, mb4.3/11, MS2.9/1, 6C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.98**	**18**	Pn	**Pn**	**20 45 20.0**	**-2.6**
	6.6nm,0.3s,baz=163,slow=17,SNR=4.8						
AFI				Sn	**Sn**	**20 46 33.8**	**-7.0**
	2.9nm,0.3s,baz=72,slow=20,SNR=2.8						
AFI				LR	LR	20 47 22.3	
	comp=Z,142nm,19.9s,baz=212,slow=32						
RAR	**Rarotonga**	**13.34**	**95**	Pn	**Pn**	**20 46 38.3**	**-11**
	1.9nm,0.3s,baz=268,slow=8.8,SNR=3.1						
URZ	**Urewera**	**19.21**	**202**	P	**Pn**	**20 48 02.7**	**-2.2**
	0.8nm,0.3s,baz=46,slow=9.0,SNR=4.4						
TBI	**Tubuai**	**22.94**	**101**	*e*LQ		20 52 56.1	
	172nm,28.2s						
TBI				*e*LR	LR	20 53 54.3	
	162nm,26.8s						
PPT	**Papeete**	**23.30**	**87**	*e*LQ		20 53 04.9	
	276nm,24.2s						
PPT				*e*LR	LR	20 54 00.6	
	124nm,27.5s						
HNR	**Honiara**	**27.43**	**290**	LR	LR	20 57 22.4	
	comp=Z,30nm,18.3s,MS2.9,baz=0.2,slow=30						
CTA	**Charters Tower**	**37.18**	**264**	P	**P**	**20 50 49.9**	**-0.7**
	4.9nm,0.8s,mb4.4,baz=79,slow=10,SNR=2.6						
CTA	**Charters Tower**	**37.18**	**264**	P	**P**	**20 50 49.9**	**-0.7**
CTAO	**Charters Tower**	**37.18**	**264**	*e*P	**P**	**20 50 51.7**	**+1.1**
	9.1nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**41.11**	**245**	P	**P**	**20 51 22.9**	**-0.6**
	1.5nm,0.4s,mb4.0,baz=91,slow=9.6,SNR=4.7						
ASAR	**Alice Springs**	**48.12**	**256**	P	**P**	**20 52 19.6**	**+0.2**
	4.6nm,0.8s,mb4.5,baz=90,slow=8.3,SNR=36						
WRA	**Warramunga Arr**	**48.27**	**261**	P	**P**	**20 52 19.8**	**-0.7**
	2.2nm,0.8s,mb4.2,baz=96,slow=6.6,SNR=14						
FITZ	**Fitzroy Crossi**	**56.70**	**261**	P	**P**	**20 53 23.9**	**+1.0**
	2.5nm,0.8s,mb4.3,baz=92,slow=6.0,SNR=7.3						
VNDA	**Vanda**	**58.19**	**186**	P	**P**	**20 53 33.1**	**-0.3**
	1.6nm,0.9s,mb4.1,baz=5.4,slow=6.2,SNR=9.2						
MBWA	**Marble Bar**	**61.46**	**257**	*e*P	**P**	**20 53 56.2**	**+0.3**
	8.0nm,0.8s,mb4.9						
QSPA	**South Pole Qui**	**69.49**	**180**	*e*P	**P**	**20 54 48.0**	**+0.2**
	4.2nm,0.7s,mb4.5						
MJAR	**Matsushiro Arr**	**72.54**	**321**	P	**P**	**20 55 09.0**	**+2.7**
	1.9nm,0.6s,mb4.2,baz=152,slow=6.1,SNR=5.9						
NVAR	**Mina Array Bea**	**78.58**	**41**	P	**P**	**20 55 41.8**	**+0.9**
	2.7nm,0.8s,mb4.2,baz=234,slow=7.7,SNR=16						
MNV	**Mina**	**78.67**	**42**	*e*P	**P**	**20 55 43.0**	**+1.6**
	4.3nm,0.9s,mb4.4						
VNA3	**Neumayer Olymp**	**87.77**	**175**	*e*	**P**	**20 56 28.2**	**-0.1**
VNA2	**Neumayer--Wätz**	**88.26**	**176**	*e*	**P**	**20 56 31.0**	**+0.4**
	baz=204,slow=3.3						
MKAR	**Makanchi Array**	**113.97**	**313**	PKP	PKiKP	21 02 19.0	+0.8
	0.7nm,0.7s,baz=46,slow=3.5,SNR=5.9						
CHKZ	**Chkalovo**	**121.31**	**321**	*e*P	PKPdf	21 02 32.4	+0.1
ZRNK	**Zerenda**	**122.37**	**320**	*e*P	PKPdf	21 02 34.4	+0.1
EKA	**Eskdalemuir Ar**	**144.63**	**9**	PKP	PKPdf	21 03 15.2	-0.6
	1.8nm,0.7s,baz=332,slow=3.7,SNR=8.3						
AKASG	**Malin Array Be**	**144.80**	**334**	PKP	PKPdf	21 03 15.7	-0.4
	3.3nm,0.7s,baz=41,slow=4.1,SNR=22						
MALT	**Malatya**	**146.90**	**309**⇑*i*P	PKPbc	PKPbc	21 03 25.3	+3.7
MALT	**Malatya**	**146.90**	**309** ⇑P	PKPbc	PKPbc	21 03 25.2	+3.7
CLL	**Collm**	**148.85**	**351**	*e*(PKiKP)	PKPbc	21 03 29.0	+2.2
	comp=Z,8.0nm,1.3s						
UPC	**Upice**	**149.10**	**347**	*e*PKPbc	PKPbc	21 03 29.6	+2.2
BRG	**Berggiesshubel**	**149.13**	**350**	*e*(P)	PKPbc	21 03 29.8	+2.3
	comp=Z,1.9nm,0.9s						
BRG				*e*		21 03 41.9	
	comp=Z,2.3nm,1.1s						
DPC	**Dobruska-Polom**	**149.19**	**347**	*e*PKPbc	PKPbc	21 03 30.2	+2.6
MORC	**Moravsky Berou**	**149.45**	**345**⇑*i*P	PKPbc	PKPbc	21 03 30.5	+2.2
MORC	**Moravsky Berou**	**149.45**	**345** ⇑P	PKPbc	PKPbc	21 03 30.5	+2.2
BRTR	**Keskin Array B**	**149.59**	**315**	PKPbc	PKPbc	21 03 31.1	+2.5
	comp=Z,2.0nm,0.8s,baz=126,slow=3.7,SNR=6.8						
TIRR	**Tirgusor**	**149.78**	**327**⇑*i*P	PKPab	PKPab	21 03 35.2	+0.7
TIRR	**Tirgusor**	**149.78**	**327** ⇑P	PKPab	PKPab	21 03 35.2	+0.7
KECS	**Kecovo**	**149.82**	**341**	*e*PKPab	PKPab	21 03 36.5	+1.8
PRU	**Pruhonice**	**149.88**	**349**	*e*PKPbc	PKPbc	21 03 31.0	+1.7
MLR	**Muntele Rosu**	**150.21**	**331**	PKPbc	PKPbc	21 03 31.8	+1.6
	comp=Z,4.1nm,0.9s,baz=321,slow=12,SNR=5.9						
MLR	**Muntele Rosu**	**150.21**	**331**⇓*i*P	PKPbc		21 03 33.5	+3.4
MLR	**Muntele Rosu**	**150.21**	**331** ⇓P	PKPbc		21 03 33.5	+3.3
VYHS	**Vyhne**	**150.29**	**343**	*e*PKP	PKPbc	21 03 31.8	+1.5
KOLL	**Kolacno**	**150.34**	**343**	*e*PKP	PKPbc	21 03 33.1	+2.7
KHC	**Kasperske Hory**	**150.88**	**350**	*e*PKPbc	PKPbc	21 03 33.9	+2.2
ZST	**Bratislava**	**151.03**	**345**	*e*PKP	PKPbc	21 03 32.0	-0.1
MMAI	**Mount Meron Ar**	**151.06**	**301**	PKPbc	PKPbc	21 03 33.4	+1.3

comp=Z,4.0nm,0.7s,baz=76,slow=4.7,SNR=4.3
SRO2 Moca 151.08 343 *e*PKP PKPbc 21 03 35.3 +3.1
GERES GERESS Array B 151.13 349 PKPbc PKPbc 21 03 33.4 +1.1
comp=Z,1.9nm,0.9s,baz=10,slow=1.5,SNR=10
BZS Buzias 151.91 336⇓*i*P PKPdf 21 03 19.0 -8.6
BZS Buzias 151.91 336 ⇓P PKPdf 21 03 18.9 -8.7
PKSM Moragy 152.41 341⇓*i*P PKPbc 21 03 37.1 +1.9
PKSM Moragy 152.41 341 ⇓P PKPbc 21 03 37.1 +1.8
TORD Torodi Ar. Bea 171.55 150 PKP PKPdf 21 03 47.3 -0.4
comp=Z,0.5nm,0.9s,baz=250,slow=4.4,SNR=3.7

*BJI **07** 20:57:26.5, 3098N×5640E, h12km, mB5.0, mb4.7, Ms4.9, Msz4.1*
*IDC **07** 20:57:28.7±0.9, 3076N×5670E, h0km, mb4.0/12, mb1 4.1/15, mb1mx4.0/25, mbtmp4.0/15, ML3.7/3, MS3.2/4, Ms1 3.3/4, ms1mx2.8/23, Error ellipse: s-maj=20.0km s-min=18.8km az=13.0*
*ISCJB **07** 20:57:29.4±0.3, 3087N±002×5677E±003, h10km, mb4.1/23, MS3.8/3, Error ellipse: s-maj=3.6km s-min=3.1km az=106.3*
*THR **07** 20:57:30.5±0.7, 3082N×5681E, h14km±6km, ML3.9*
*NEIC **07** 20:57:31.0, 3074N×5681E, h1km, mb3.9/5, MN4.4(TEH), After TEH.*
*TEH **07** 20:57:31.0, 3074N×5681E, h0km, Mn4.4*
*MOS **07** 20:57:31.8±1.5, 3072N×5679E, h33km, mb4.4/10, Error ellipse: s-maj=11.0km s-min=8.1km az=94.7*
*CSEM **07** 20:57:31.0±0.1, 3074N×5682E, h25km, mb4.2/11, Error ellipse: s-maj=1.8km s-min=1.7km az=170.0*

ISC 07 20:57:31.1±0.3,**3084N**±002×**5681E**±003,**h10**km,**n127**, σ1§**15**/196,**mb4.1**/23,**MS3.8**/3,**7C-6D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.85**	**183**	*e*PG	**Pg**	**20 57 46.3**	**-1.2**
KRBR				*e*SG	**Sg**	**20 57 58.2**	**-0.5**
KRBR				AML	AML	20 58 01.5	
	comp=N,4μm,0.2s						
KRBR				AML	AML	20 58 03.5	
	comp=E,3μm,0.2s						
KRBR	**Kerman**	**0.85**	**183**	*e*Pg	**Pg**	**20 57 46.3**	**-1.2**
	SNR=90						
KRBR				*e*Sg	**Sg**	**20 57 58.2**	**-0.4**
	SNR=90						
IBAF	**Bafgh**	**1.30**	**306**	*e*Pg	**Pg**	**20 57 53.6**	**-2.4**
IBAF				*e*Sg	**Sg**	**20 58 10.4**	**-2.5**
IBAF				*e*Sg	**Sg**	**20 58 11.0**	**-1.9**
IBAF	**Bafgh**	**1.30**	**306**	Pg	**Pg**	**20 57 53.5**	**-2.5**
IBAF				Sg	**Sg**	**20 58 10.3**	**-2.6**
IBAF				Sg	**Sg**	**20 58 10.9**	**-2.0**
IBAF	**Bafgh**	**1.30**	**306**	*e*Pg	**Pg**	**20 57 53.6**	**-2.4**
IBAF				Sg	**Sg**	**20 58 10.3**	**-2.6**
IMEH	**Mehriz**	**1.96**	**287**	*e*Pn	**Pn**	**20 58 04.8**	**+0.4**
ICHK	**Chekchek**	**2.48**	**305**	*e*Pn	**Pn**	**20 58 12.6**	**+1.1**
ICHK				*e*Sn	**Sn**	**20 58 44.2**	**+2.3**
ICHK				*e*Sn	**Sn**	**20 58 44.5**	**+2.6**
ICHK	**Chekchek**	**2.48**	**305**	Pn	**Pn**	**20 58 12.6**	**+1.1**
ICHK				Sn	**Sn**	**20 58 44.1**	**+2.2**
ICHK				Sn	**Sn**	**20 58 44.5**	**+2.6**
ICHK	**Chekchek**	**2.48**	**305**	*e*Pn	**Pn**	**20 58 12.6**	**+1.1**
ICHK				Sn	**Sn**	**20 58 44.1**	**+2.2**
BNDS	**Bandar-Abbas**	**3.47**	**189**	*e*PN	**Pn**	**20 58 26.1**	**+0.9**
BNDS				AML	AML	20 59 17.3	
	comp=E,178nm,0.6s						
BNDS				AML	AML	20 59 23.6	
	comp=N,245nm,0.5s						
ISRV	**Sarvestan**	**3.51**	**247**	*e*Pn	**Pn**	**20 58 26.2**	**+0.5**
ISRV	**Sarvestan**	**3.51**	**247**	Pn	**Pn**	**20 58 26.1**	**+0.4**
ZHSF	**Zahedan**	**3.65**	**109**	*e*PN	**Pn**	**20 58 28.4**	**+0.9**
ZHSF				AML	AML	20 59 30.3	
	comp=N,177nm,0.6s						
ZHSF				AML	AML	20 59 36.6	
	comp=E,166nm,0.9s						
SHI	**Shiraz**	**3.90**	**253**	*e*Pn	**Pn**	**20 58 30.8**	**-0.2**
NASN	**Na'in**	**3.92**	**301**	*e*Pn	**Pn**	**20 58 32.7**	**+1.3**
NASN				*e*SG	**Sg**	**20 59 32.8**	**-4.3**
NASN				AML	AML	20 59 41.8	
	comp=N,340nm,0.5s						
NASN				AML	AML	20 59 43.5	
	comp=E,245nm,0.6s						
NASN	**Na'in**	**3.92**	**301**	*e*Pn	**Pn**	**20 58 32.7**	**+1.3**
	SNR=52						
NASN				*e*Sg	**Sg**	**20 59 32.8**	**-4.3**
	SNR=90						
IMOK	**Mook**	**3.97**	**244**	*e*Pn	**Pn**	**20 58 31.9**	**-0.1**
IMOK	**Mook**	**3.97**	**244**	Pn	**Pn**	**20 58 31.8**	**-0.2**
GHIR	**Ghir-Karzin**	**4.19**	**234**	*e*PN	**Pn**	**20 58 36.0**	**+1.0**
IZEF	**Zefreh**	**4.33**	**299**	*e*Pn	**Pn**	**20 58 38.1**	**+1.2**
IZEF				*e*Sn	**Sn**	**20 59 26.9**	**-0.5**
IZEF				*e*Sn	**Sn**	**20 59 27.4**	**0.0**
IZEF	**Zefreh**	**4.33**	**299**	Pn	**Pn**	**20 58 38.0**	**+1.1**
IZEF				Sn	**Sn**	**20 59 26.8**	**-0.6**
IZEF				Sn	**Sn**	**20 59 27.4**	**0.0**
IZEF	**Zefreh**	**4.33**	**299**	Pn	**Pn**	**20 58 38.0**	**+1.1**
IZEF				Sn	**Sn**	**20 59 26.8**	**-0.6**
IKLH	**Kalahroud**	**5.08**	**301**	*e*Pn	**Pn**	**20 58 48.6**	**+1.4**
IKLH				*e*Sn	**Sn**	**20 59 45.3**	**-0.7**
IKLH				*e*Sn	**Sn**	**20 59 45.6**	**-0.4**
IKLH	**Kalahroud**	**5.08**	**301**	Pn	**Pn**	**20 58 48.5**	**+1.3**
IKLH				Sn	**Sn**	**20 59 45.2**	**-0.8**
IKLH				Sn	**Sn**	**20 59 45.5**	**-0.5**
ISFB	**Sefidab**	**5.21**	**313**	*e*Pn	**Pn**	**20 58 50.2**	**+1.1**
ISFB				*e*Sn	**Sn**	**20 59 48.2**	**-1.0**
ISFB				*e*Sn	**Sn**	**20 59 49.7**	**+0.5**
ISFB	**Sefidab**	**5.21**	**313**	Pn	**Pn**	**20 58 50.1**	**+1.0**
ISFB				Sn	**Sn**	**20 59 48.2**	**-1.0**
ISFB				Sn	**Sn**	**20 59 49.6**	**+0.4**
ISFB	**Sefidab**	**5.21**	**313**	Pn	**Pn**	**20 58 50.1**	**+1.0**
ISFB				*e*Sn	**Sn**	**20 59 48.2**	**-1.0**
IPIR	**Pirpir**	**5.36**	**292**	*e*Pn	**Pn**	**20 58 52.1**	**+1.0**
IPIR				*e*Sn	**Sn**	**20 59 51.4**	**-1.5**
IPIR				*e*Sn	**Sn**	**20 59 51.6**	**-1.3**
IPIR	**Pirpir**	**5.36**	**292**	Pn	**Pn**	**20 58 52.0**	**+0.9**
IPIR				Sn	**Sn**	**20 59 51.3**	**-1.6**
IPIR				Sn	**Sn**	**20 59 51.5**	**-1.4**
IPIR	**Pirpir**	**5.36**	**292**	Pn	**Pn**	**20 58 52.0**	**+0.9**
IPIR				Sn	**Sn**	**20 59 51.3**	**-1.6**
IMOG	**Moghan**	**5.67**	**21**	*e*Pn	**Pn**	**20 58 56.1**	**+0.8**
IMOG				*e*Sn	**Sn**	**21 00 00.0**	**-0.4**
IMOG				*e*Sn	**Sn**	**21 00 00.0**	**-0.4**
IMOG	**Moghan**	**5.67**	**21**	*e*Pn	**Pn**	**20 58 56.1**	**+0.8**
IMOG				Sn	**Sn**	**20 59 59.9**	**-0.5**
IFIR	**Firoozkooh**	**5.87**	**326**	*e*Pn	**Pn**	**20 58 59.1**	**+1.0**
IFIR				*e*Sn	**Sn**	**21 00 04.7**	**-0.8**
IFIR				*e*Sn	**Sn**	**21 00 04.8**	**-0.7**
IFIR	**Firoozkooh**	**5.87**	**326**	Pn	**Pn**	**20 58 59.1**	**+1.0**
IFIR				Sn	**Sn**	**21 00 04.6**	**-0.9**
IFIR				Sn	**Sn**	**21 00 04.8**	**-0.7**
IFIR	**Firoozkooh**	**5.87**	**326**	*e*Pn	**Pn**	**20 58 59.1**	**+1.0**
IFIR				Sn	**Sn**	**21 00 04.6**	**-0.9**
IVRN	**Varamin**	**5.95**	**316**	*e*Pn	**Pn**	**20 59 00.3**	**+1.1**
IVRN				*e*Sn	**Sn**	**21 00 06.3**	**-1.2**
IVRN				*e*Sn	**Sn**	**21 00 06.8**	**-0.7**
IKIA	**Kiasar**	**5.96**	**335**	*e*Pn	**Pn**	**20 59 00.2**	**+0.9**
IKIA				*e*Sn	**Sn**	**21 00 07.1**	**-0.5**
IKIA				*e*Sn	**Sn**	**21 00 07.4**	**-0.2**
IKRD	**Kardeh**	**6.09**	**13**	*e*Pn	**Pn**	**20 59 06.1**	**+5.0**
IKRD				*e*Sn	**Sn**	**21 00 15.7**	**+4.9**
IKRD				*e*Sn	**Sn**	**21 00 15.7**	**+4.9**
IKRD	**Kardeh**	**6.09**	**13**	Pn	**Pn**	**20 59 06.0**	**+4.9**
IKRD				Sn	**Sn**	**21 00 15.6**	**+4.8**
IGLO	**Galoogah**	**6.12**	**334**	*e*Pn	**Pn**	**20 59 03.9**	**+2.4**
IGLO				*e*Sn	**Sn**	**21 00 12.2**	**+0.7**
IGLO				*e*Sn	**Sn**	**21 00 12.4**	**+0.9**
IGLO	**Galoogah**	**6.12**	**334**	Pn	**Pn**	**20 59 03.8**	**+2.3**
IGLO				Sn	**Sn**	**21 00 12.1**	**+0.6**
IGLO				Sn	**Sn**	**21 00 12.3**	**+0.8**
IMYA	**Miamay**	**6.14**	**26**	*e*Pn	**Pn**	**20 59 02.7**	**+0.9**
IMYA				*e*Sn	**Sn**	**21 00 10.8**	**-1.3**
IMYA				*e*Sn	**Sn**	**21 00 11.5**	**-0.6**
IMYA	**Miamay**	**6.14**	**26**	Pn	**Pn**	**20 59 02.7**	**+0.9**
IMYA				Sn	**Sn**	**21 00 10.7**	**-1.4**
IMYA				Sn	**Sn**	**21 00 11.4**	**-0.7**
IMYA	**Miamay**	**6.14**	**26**	*e*Pn	**Pn**	**20 59 02.7**	**+0.9**
IMYA				Sn	**Sn**	**21 00 10.7**	**-1.4**
IDMV	**Damavand**	**6.19**	**321**	*e*Pn	**Pn**	**20 59 03.7**	**+1.2**
IDMV				*e*Sn	**Sn**	**21 00 11.9**	**-1.5**
IDMV				*e*Sn	**Sn**	**21 00 12.3**	**-1.1**
IDMV	**Damavand**	**6.19**	**321**	Pn	**Pn**	**20 59 03.6**	**+1.1**
IDMV				Sn	**Sn**	**21 00 11.8**	**-1.6**
IDMV				Sn	**Sn**	**21 00 12.3**	**-1.1**
IDMV	**Damavand**	**6.19**	**321**	Pn	**Pn**	**20 59 03.6**	**+1.1**
IDMV				Sn	**Sn**	**21 00 11.8**	**-1.6**
DAMV	**Damavand**	**6.26**	**321**	*e*PN	**Pn**	**20 59 05.2**	**+1.7**
IAFJ	**Afjeh**	**6.57**	**321**	*e*Pn	**Pn**	**20 59 09.6**	**+1.8**
IPRN	**Paran-Amol**	**6.60**	**326**	*e*Pn	**Pn**	**20 59 09.3**	**+1.2**
IPRN				*e*Sn	**Sn**	**21 00 21.4**	**-2.0**
IPRN				*e*Sn	**Sn**	**21 00 21.9**	**-1.5**
IPRN	**Paran-Amol**	**6.60**	**326**	Pn	**Pn**	**20 59 09.3**	**+1.2**
IPRN				Sn	**Sn**	**21 00 21.3**	**-2.1**
IPRN				Sn	**Sn**	**21 00 21.8**	**-1.6**
ISHV	**Shirvan**	**6.72**	**6**	*e*Pn	**Pn**	**20 59 11.1**	**+1.3**
ASAO	**Ashtian**	**6.81**	**305**	*e*Pn	**Pn**	**20 59 13.3**	**+2.3**
IRAZ	**Razeghan**	**7.35**	**310**	*e*Pn	**Pb**	**20 59 30.6**	**-8.1**
WSAR	**Wadi Sarin**	**7.74**	**167**	Pn	**Pn**	**20 59 23.9**	**+0.1**
	comp=E,0.9nm,0.3s,baz=330,slow=14,SNR=20						
WSAR				Sn	**Sn**	**21 00 50.4**	**-1.1**
	comp=E,0.7nm,0.3s,baz=278,slow=12,SNR=4.2						
WSAR	**Wadi Sarin**	**7.74**	**167**	Pn	**Pn**	**20 59 23.9**	**+0.1**
WSAR				Sn	**Sn**	**21 00 50.4**	**-1.1**
QRN	**Al-Qurain**	**8.00**	**257**	*e*P	**Pn**	**20 59 26.6**	**-0.7**
KBD	**Kabd**	**8.07**	**260**	*e*P	**Pn**	**20 59 28.2**	**-0.1**
RDF	**Al-Radifah**	**8.26**	**259**	*e*P	**Pn**	**20 59 31.1**	**+0.2**
RDF				AML	AML	21 01 01.3	
	comp=Z,9.6nm,0.4s						
NAY	**Al-Naaiem**	**8.44**	**262**	*e*P	**Pn**	**20 59 33.3**	**-0.1**
NAY				AML	AML	21 01 06.0	
	comp=Z,6.4nm,0.6s						
IGHG	**Ghaleghazi**	**9.31**	**295**	*e*Pn	**Pn**	**20 59 45.4**	**+0.1**
GNI	**Garni**	**13.51**	**317**	LR	LR	21 05 34.6	
	comp=Z,42nm,21.3s,baz=186,slow=36						
MALT	**Malatya**	**16.86**	**301**	P	**Pn**	**21 01 30.4**	**+3.3**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MALT	**Malatya**	**16.86**	**301**	P	**Pn**	**21 01 30.4**	**+3.3**
	comp=Z,6.0nm,0.9s						
ASF	**Jabal al Asfar**	**17.03**	**280**	Pn	**Pn**	**21 01 26.0**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=306,slow=10,SNR=4.2						
KIV	**Kislovodsk**	**17.21**	**323**	*e*P	**Pn**	**21 01 35.2**	**+3.7**
KIV				pmax	pmax		
	comp=Z,32nm,1.1s						
KIV	**Kislovodsk**	**17.21**	**323**	*e*P	**Pn**	**21 01 35.2**	**+3.6**
	comp=Z,32nm,1.1s						
KIV	**Kislovodsk**	**17.21**	**323**	*e*P	**Pn**	**21 01 35.2**	**+3.7**
	comp=Z,32nm,1.1s						
GOF	**Gofitskoye**	**17.84**	**327**	*e*P	**Pn**	**21 01 42.0**	**+2.7**
AAK	**Ala-Archa**	**18.39**	**45**⇓	*e*P	**Pn**	**21 01 45.0**	**-1.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK				MLR	MLR		
	comp=Z,100nm,20.0s						
AAK	**Ala-Archa**	**18.39**	**45**	*e*P	**Pn**	**21 01 45.0**	**-1.1**
	comp=Z,100nm,20.0s						
SOC	**Sochi**	**18.59**	**318**	*c i*P	**Pn**	**21 01 53.4**	**+4.9**
SOC				*e*		21 05 19.3	
SOC				pmax	pmax		
	comp=Z,34nm,1.3s						
AKTK	**Aktyubinsk**	**19.60**	**2**	P	**Pn**	**21 01 59.1**	**-1.6**
AKTK				LR	LR	21 10 55.7	
AKTK	**Aktyubinsk**	**19.60**	**2**	P	**Pn**	**21 01 59.1**	**-1.6**
AKTO	**Aktyubinsk**	**19.60**	**2**	P	**Pn**	**21 01 59.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=187,slow=12,SNR=16						
AKTO				LR	LR	21 10 55.7	
	comp=Z,115nm,18.9s,baz=0.0,slow=41						
ORR	**Orenburg**	**20.82**	**356**	*e*P	**P**	**21 02 12.8**	**+0.1**
ORR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ORR	**Orenburg**	**20.82**	**356**	*e*P	**P**	**21 02 12.8**	**+0.1**
	comp=Z,8.0nm,0.9s						
BR131	**Keskin Array S**	**20.84**	**301**	*e*P	**P**	**21 02 12.6**	**-0.3**
	comp=Z,8.3nm,1.1s						
BR131	**Keskin Array S**	**20.84**	**301**	*e*P	**P**	**21 02 12.6**	**-0.3**
	comp=Z,8.3nm,1.1s						
BRTR	**Keskin Array B**	**20.84**	**301**	P	**P**	**21 02 12.2**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=114,slow=12,SNR=7.4						
SIM	**Simferopol'**	**22.68**	**315**	*c*P	**P**	**21 02 39.3**	**+6.7**
SIM				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.4						
ATD	**Arta Tunnel**	**23.16**	**217**	LR	LR	21 12 39.4	
	comp=Z,70nm,19.4s,MS3.1,baz=11,slow=40						
ZRNK	**Zerenda**	**23.82**	**18**	*e*P	**P**	**21 02 43.9**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
ZRNK	**Zerenda**	**23.82**	**18**	*e*P	**P**	**21 02 43.9**	**-0.4**
	comp=Z,3.9nm,1.0s,mb3.8						
ZRNK	**Zerenda**	**23.82**	**18**	*e*P	**P**	**21 02 43.9**	**-0.4**
	comp=Z,3.9nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**24.28**	**20**	P	**P**	**21 02 48.5**	**0.0**
	comp=Z,7.3nm,0.6s,mb4.3,baz=201,slow=8.1,SNR=28						
MKAR	**Makanchi Array**	**25.30**	**44**	P	**P**	**21 02 58.0**	**+0.3**
	comp=Z,3.3nm,0.7s,mb4.0,baz=231,slow=9.1,SNR=22						
ARU	**Arti**	**25.61**	**2**⇓	*i*P	**P**	**21 02 59.6**	**-1.0**
ARU				*e*		21 03 34.6	
ARU				*e*PPP		21 03 48.2	
ARU				*e*S	**S**	**21 07 26.7**	**-1.9**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
ARU	**Arti**	**25.61**	**2**	*i*P	**P**	**21 02 59.6**	**-1.0**
	comp=Z,5.0nm,1.1s,mb4.0						
ARU				*e*S	**S**	**21 07 26.7**	**-1.9**
OBN	**Obninsk**	**28.22**	**335**⇓	*i*P	**P**	**21 03 24.2**	**+0.2**
OBN				*e*		21 04 13.4	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
OBN	**Obninsk**	**28.22**	**335**	*i*P	**P**	**21 03 24.2**	**+0.2**
	comp=Z,6.0nm,0.6s,mb4.4						
AKASG	**Malin Array Be**	**28.54**	**322**	*i*P	**P**	**21 03 31.6**	**+4.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VOIR		**28.70**	**309**⇑	*i*P	**P**	**21 03 34.4**	**+6.1**
VOIR		**28.70**	**309**⇑	P	**P**	**21 03 34.4**	**+6.1**
BURAR	**Bucovina Array**	**29.39**	**314**⇑	*i*P	**P**	**21 03 30.1**	**-4.3**
BURAR	**Bucovina Array**	**29.39**	**314**⇑	P	**P**	**21 03 30.1**	**-4.3**
GTA	**Gaotai**	**35.92**	**64**	*e*P	**P**	**21 04 33.0**	**+1.4**
GTA				AP	pP	21 04 39.2	+4.6
GTA				XP	sP	21 04 42.1	+6.2
JOF	**Joensuu**	**36.02**	**340**	*e*p	**P**	**21 04 28.6**	**-3.7**
	comp=Z,5.2nm,1.0s,mb4.4						
FINES	**FINESS Array B**	**36.62**	**336**	P	**P**	**21 04 37.0**	**-0.5**
	comp=Z,1.5nm,0.7s,mb3.9,baz=134,slow=9.9,SNR=11						
GERES	**GERESS Array B**	**37.08**	**312**	P	**P**	**21 04 40.5**	**-0.9**
	comp=Z,1.0nm,0.8s,mb3.7,baz=108,slow=8.6,SNR=5.1						
ZAK	**Zakamensk**	**39.55**	**47**	*e*P	**P**	**21 05 02.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
ZAK	**Zakamensk**	**39.55**	**47**	*e*P	**P**	**21 05 02.4**	**+0.2**
	comp=Z,2.0nm,1.2s,mb3.7						
CD2	**Chengdu**	**40.06**	**77**	*e*P	**P**	**21 05 07.1**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
SONM	**Songino Array**	**41.19**	**51**	P	**P**	**21 05 16.2**	**+0.5**
	comp=Z,2.0nm,1.0s,mb3.7,baz=273,slow=10.0,SNR=6.8						
ULN	**Ulaanbaatar**	**41.63**	**51**	*c i*P	**P**	**21 05 19.7**	**+0.3**
ULN	**Ulaanbaatar**	**41.63**	**51**	*e*P	**P**	**21 05 19.5**	**+0.1**
	comp=Z,2.3nm,0.9s,mb3.8						
ULN	**Ulaanbaatar**	**41.63**	**51**	*e*P	**P**	**21 05 19.5**	**+0.1**
	comp=Z,2.3nm,0.9s,mb3.8						
NB2	**NORSAR Subarra**	**42.40**	**329**	P	**P**	**21 05 23.7**	**-1.9**
	comp=Z,1.9nm,0.8s,mb3.8,baz=112,slow=8.6						
NOA	**NORSAR Array B**	**42.40**	**329**	P	**P**	**21 05 24.6**	**-1.1**
	comp=Z,1.5nm,0.9s,mb3.6,baz=115,slow=8.0,SNR=4.5						
ARCES	**ARCESS Array B**	**42.61**	**344**	P	**P**	**21 05 26.7**	**-0.7**
	comp=Z,2.2nm,0.8s,mb3.9,baz=141,slow=10,SNR=4.6						
ARCES				LR	LR	21 26 15.2	
	comp=Z,51nm,18.1s,MS3.5,baz=291,slow=40						
EKA	**Eskdalemuir Ar**	**48.35**	**319**	P	**P**	**21 06 11.7**	**-1.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=96,slow=7.1,SNR=3.7						
NJ2	**Nanjing**	**52.29**	**71**	*e*P	**P**	**21 06 43.6**	**+0.9**
NJ2				AP	pP	21 06 53.4	+7.5
NJ2				XP	sP	21 06 57.1	+10
NJ2				PCP	PcP	21 07 53.1	-0.8
NJ2				S	**S**	**21 14 04.0**	**-3.8**
NJ2				XS	sS	21 14 22.0	+8.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				LR	LR		
	comp=N,640nm,20.0s,MS4.8						
NJ2				LR	LR		
	comp=E,330nm,16.7s,MS4.8						
NJ2				LR	LR		
	comp=Z,240nm,24.0s						
TORD	**Torodi Ar. Bea**	**53.52**	**264**	P	**P**	**21 06 50.5**	**-1.3**
	comp=Z,4.1nm,0.7s,mb4.5,baz=57,slow=6.9,SNR=27						
SSE	**Sheshan**	**54.47**	**72**	*e*P	**P**	**21 06 55.8**	**-2.9**
SSE				AMB	AMB		
	comp=Z,80nm,5.0s						
YAK	**Yakutsk**	**55.30**	**33**⇓	*e*P	**P**	**21 07 04.0**	**-0.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
YAK	**Yakutsk**	**55.30**	**33**	*e*P	**P**	**21 07 04.0**	**-0.8**
	comp=Z,7.0nm,0.5s,mb5.0						
TIXI	**Tiksi**	**55.41**	**21**⇓	*e*P	**P**	**21 07 04.5**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb4.2						
TIXI	**Tiksi**	**55.41**	**21**	*e*P	**P**	**21 07 04.5**	**-1.0**
	comp=Z,5.0nm,1.8s,mb4.2						
VLA	**Vladivostok**	**59.37**	**55**	*i* P	**P**	**21 07 34.2**	**+0.7**
VLA				pmax	pmax		
	comp=Z,75nm,1.0s						
VLA	**Vladivostok**	**59.37**	**55**	*i* P	**P**	**21 07 34.2**	**+0.7**
	comp=Z,75nm,1.0s						
BILL	**Bilibino**	**68.61**	**22**⇓	*e*P	**P**	**21 08 34.0**	**-0.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
BILL	**Bilibino**	**68.61**	**22**	*e*P	**P**	**21 08 34.0**	**-0.2**
	comp=Z,3.0nm,1.2s,mb4.1						
YKA	**Yellowknife Ar**	**86.74**	**356**	P	**P**	**21 10 14.5**	**-0.8**
	comp=Z,1.4nm,0.7s,mb4.3,baz=359,slow=6.0,SNR=5.7						
YKA	**Yellowknife Ar**	**86.74**	**356**	*i* P	**P**	**21 10 14.5**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**86.74**	**356**	*i* P	**P**	**21 10 14.5**	**-0.8**
	comp=Z,1.0nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**91.58**	**117**	P	**P**	**21 10 37.1**	**-1.0**
	comp=Z,1.0nm,0.8s,mb4.2,baz=310,slow=3.1,SNR=6.3						
ASAR	**Alice Springs**	**91.58**	**117**	P	**P**	**21 10 37.1**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*MOS **07** 20:58:21.6±1.6, 4711N×14551E, h384km, mb3.6/2, Error ellipse: s-maj=42.7km s-min=28.2km az=97.1*
*IDC **07** 20:58:22.4±2.8, 4707N×14550E, h371km±23km, mb3.0/6, mb1 3.1/7, mb1mx2.9/19, mbtmp3.7/7, Error ellipse: s-maj=47.6km s-min=17.7km az=73.0*
*NEIC **07** 20:58:23.1±1.7, 4712N×14561E, h382km±12km, mb4.2/1, Error ellipse: s-maj=38.7km s-min=21.3km az=81.0*
*JMA **07** 20:58:24.6±0.4, 4655N×14508E, h402km, M3.7*
*ISCJB **07** 20:58:25.2±0.9, 4651N±008×1450E±02, h396km±6km, mb3.2/7, Error ellipse: s-maj=16.5km s-min=12.0km az=3.1*

ISC 07 20:58:27.7±0.9,**4637N**±008×**1449E**±01,**h387**km±6km,**n28**, σ1§**02**/38,**mb3.2**/7,**1C**,**Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.59**	**292**⇑	*i*PN	**Pn**	**20 59 16.8**	**-3.3**
YSS				pmax	pmax		
	comp=Z,100nm,0.4s						
YSS	**Yuzh-Sakhalins**	**1.59**	**292**	*e*P	**Pn**	**20 59 17.0**	**-3.1**
JSE	**Soyaes**	**2.15**	**230**	P	**Pn**	**20 59 23.6**	**+0.2**
JWK2	**Keihoku**	**2.35**	**245**	P	**Pn**	**20 59 24.7**	**-0.1**
JWK2				*e*S	**S**	**21 00 11.5**	**+0.6**
JRA	**Rausu**	**2.43**	**176**	P	**Pn**	**20 59 26.1**	**+0.7**
JTKR	**Abashiri--Toko**	**2.50**	**197**	P	**Pn**	**20 59 26.6**	**+0.7**
JTKR				*e*S	**S**	**21 00 16.2**	**+3.3**
ASAJ	**Asahikawa**	**2.78**	**217**	P	**Pn**	**20 59 28.6**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=355,slow=3.4,SNR=11						
ASAJ	**Asahikawa**	**2.78**	**217**	PN	**Pn**	**20 59 28.6**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NEM2	**Nemuro 2**	**3.06**	**168**	P	**Pn**	**20 59 28.8**	**-1.6**
NEM2				*e*S	**S**	**21 00 20.9**	**-0.1**
JAR	**Ashorobuto**	**3.17**	**195**	P	**Pn**	**20 59 32.0**	**+0.6**
JAK	**Akkeshi**	**3.37**	**183**	P	**Pn**	**20 59 32.5**	**-0.6**
JAK				*e*S	**S**	**21 00 25.9**	**-0.1**
JCH	**Churui**	**3.91**	**197**	P	**Pn**	**20 59 37.6**	**-0.5**
JCH				*e*S	**S**	**21 00 34.6**

0.7nm,0.4s,SNR=7.9
ESAC San Caprasio 1.26 148 Pg Pg 21 14 39.9 +1.2
1.7nm,0.8s,SNR=7.9
ESAC Lg 21 14 57.7
1.9nm,0.1s,SNR=7.9
EPF Esparros 1.27 79 *e*Pg Pg 21 14 38.3 -0.6
EPF *e*Sg Sg 21 14 56.1 +0.7
3.7nm,0.3s
EPF Esparros 1.27 79 Pg Pg 21 14 38.3 -0.6
EPF Lg 21 14 56.1
1.9nm,0.3s
EGRA Graus 1.38 115 Pg Pg 21 14 42.2 +1.3
0.0nm,0.3s,SNR=4.0
EGRA Lg 21 15 01.7
1.4nm,0.3s,SNR=7.9

NNC 07 21:24:34.0±9.8, 3765N×7159E, h267km±109km, mb1.8, mpv2.9, 5C-1D, Error ellipse: s-maj=100.9km s-min=59.9km az=18.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.51**	**352**	⇓P	Pn	21 25 54.6	-1.8
	1.1nm,0.3s,baz=178,slow=12,SNR=110						
KK31				⇑S	S	21 27 03.9	+1.5
	1.6nm,0.5s,baz=187,slow=26,SNR=9.8						
TKM2	**Tokmak 2**	**6.09**	**29**	⇑P	Pn	21 26 05.3	+1.8
	0.3nm,0.6s						
TKM2				⇑S	S	21 27 14.9	-0.5
	0.1nm,0.7s						
AB31	**Akbulak array**	**14.33**	**328**	⇑P	Pn	21 27 46.4	+1.0
	0.2nm,0.4s,baz=146,slow=13,SNR=8.2						
AB31				⇑S	S	21 30 22.4	-1.3
	0.7nm,0.8s,baz=0.0,slow=0.1,SNR=25						

IDC 07 21:25:08.9±5.4, 5229N×17400E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/22, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=135.1km s-min=34.7km az=173.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**19.78**	**61**	P	Pn	21 29 40.5	-1.7
	0.5nm,0.3s,baz=276,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**55.89**	**304**	P	P	21 34 47.7	-0.7
	0.5nm,0.4s,baz=56,slow=5.7,SNR=7.2						
ARCES	**ARCESS Array B**	**56.32**	**347**	P	P	21 34 50.6	-0.9
	2.3nm,0.9s,baz=33,slow=7.8,SNR=6.5						
BVAR	**Borovoye Array**	**57.21**	**316**	P	P	21 34 58.0	+0.2
	1.2nm,0.4s,baz=65,slow=7.1,SNR=8.1						
FINES	**FINESS Array B**	**63.77**	**343**	P	P	21 35 41.6	-1.0
	0.7nm,0.7s,baz=38,slow=7.0,SNR=3.8						
AKTO	**Aktyubinsk**	**64.24**	**320**	P	P	21 35 45.3	-0.4
	1.5nm,0.6s,baz=50,slow=6.4,SNR=8.3						
NOA	**NORSAR Array B**	**66.18**	**351**	P	P	21 35 58.0	-0.4
	0.5nm,0.5s,baz=12,slow=6.3,SNR=3.9						
BRTR	**Keskin Array B**	**82.09**	**330**	P	P	21 37 31.4	+0.1
	0.6nm,0.6s,baz=46,slow=3.8,SNR=3.9						

*IDC **07** 21:31:48.8±1.5, 3130N×5619E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=30.1km s-min=25.5km az=146.0*
*ISCJB **07** 21:31:49.7±0.4, 3137N±004×5627E±005, h10km, mb4.0/11, Error ellipse: s-maj=6.2km s-min=4.9km az=109.9*
*CSEM **07** 21:31:50.7±0.1, 3138N×5627E, h18km, ML3.7, Error ellipse: s-maj=1.9km s-min=1.7km az=52.0*
*THR **07** 21:31:50.0±0.6, 3138N×5627E, h14km±5km, ML3.7*
*TEH **07** 21:31:52.1, 3121N×5625E, h22km, Mn4.0*
*NEIC **07** 21:31:52.1, 3121N×5625E, h22km, MN4.0(TEH), After TEH.*

ISC 07 21:31:51.2±0.4, 3132N±003×5618E±004, h10km, n60, σ1°34/80, mb4.0/11, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.59**	**298**	*e*Pg	**Pg**	**21 32 01.4**	**-1.3**
IMEH	**Mehriz**	**1.34**	**274**	*e*Pn	**Pn**	**21 32 16.1**	**+0.1**
IMEH				*e*Lg		21 32 36.6	
IMEH	**Mehriz**	**1.34**	**274**	Pn	**Pn**	**21 32 16.0**	**0.0**
IMEH				Lg		21 32 36.6	
KRBR	**Kerman**	**1.42**	**159**	*e*PG	**Pg**	**21 32 16.7**	**-1.8**
KRBR				AML	AML	21 32 43.0	
	comp=N,932nm,0.7s						
KRBR				AML	AML	21 32 46.6	
	comp=E,1μm,0.5s						
ICHK	**Chekchek**	**1.77**	**302**	*e*Pn	**Pn**	**21 32 22.8**	**+0.9**
NASN	**Na'in**	**3.22**	**298**	*e*PN	**Pn**	**21 32 43.1**	**+1.3**
NASN				*e*SG	**Sg**	**21 33 31.7**	**-3.0**
NASN				AML	AML	21 33 36.6	
	comp=E,140nm,0.4s						
NASN				AML	AML	21 33 40.0	
	comp=N,219nm,0.4s						
NASN	**Na'in**	**3.22**	**298**	*e*Pn	**Pn**	**21 32 43.1**	**+1.3**
	SNR=52						
NASN				*e*Sg	**Sg**	**21 33 31.7**	**-3.0**
	SNR=90						
IZEF	**Zefreh**	**3.63**	**297**	*e*Pn	**Pn**	**21 32 49.2**	**+1.8**
IZEF				*e*Sn	**Sn**	**21 33 29.4**	**-0.9**
IZEF				*e*Sn	**Sn**	**21 33 29.6**	**-0.7**
IZEF	**Zefreh**	**3.63**	**297**	Pn	**Pn**	**21 32 49.2**	**+1.8**
IZEF				Sn	**Sn**	**21 33 29.3**	**-1.0**
IZEF				Sn	**Sn**	**21 33 29.6**	**-0.7**
IZEF	**Zefreh**	**3.63**	**297**	*e*Pn	**Pn**	**21 32 49.2**	**+1.8**
IZEF				Sn	**Sn**	**21 33 29.3**	**-1.0**
BNDS	**Bandar-Abbas**	**3.90**	**180**	*e*PN	**Pn**	**21 32 52.8**	**+1.6**
BNDS				AML	AML	21 34 05.5	
BNDS				AML	AML	21 34 14.8	
	comp=E,75nm,0.6s						
GHIR	**Ghir-Karzin**	**4.10**	**223**	*e*PN	**Pn**	**21 32 55.9**	**+1.9**
GHIR				*e*SG	**Sg**	**21 34 00.4**	**-2.5**
GHIR				AML	AML	21 34 15.5	
	comp=E,92nm,0.5s						
GHIR	**Ghir-Karzin**	**4.10**	**223**	*e*Pn	**Pn**	**21 32 55.8**	**+1.9**
	SNR=52						
ZHSF	**Zahedan**	**4.31**	**112**	*e*PN	**Pn**	**21 32 56.9**	**0.0**
IKLH	**Kalahroud**	**4.38**	**298**	*e*Pn	**Pn**	**21 33 00.5**	**+2.8**
ISFB	**Sefidab**	**4.49**	**313**	*e*Pn	**Pn**	**21 33 00.0**	**+0.7**
ISFB				*e*Sn	**Sn**	**21 33 49.6**	**-2.0**
ISFB				*e*Sn	**Sn**	**21 33 50.1**	**-1.5**
ISFB	**Sefidab**	**4.49**	**313**	Pn	**Pn**	**21 33 00.0**	**+0.7**
ISFB				Sn	**Sn**	**21 33 49.6**	**-2.0**
ISFB				Sn	**Sn**	**21 33 50.0**	**-1.6**
ISFB	**Sefidab**	**4.49**	**313**	*e*Pn	**Pn**	**21 33 00.0**	**+0.7**
ISFB				*e*Sn	**Sn**	**21 33 49.6**	**-2.0**
IPIR	**Pirpir**	**4.70**	**288**	*e*Pn	**Pn**	**21 33 05.0**	**+2.9**
IFIR	**Firoozkooh**	**5.18**	**327**	*e*Pn	**Pn**	**21 33 09.4**	**+0.7**
IVRN	**Varamin**	**5.24**	**316**	*e*Pn	**Pn**	**21 33 10.5**	**+1.0**
IVRN	**Varamin**	**5.24**	**316**	Pn	**Pn**	**21 33 10.4**	**+0.9**
IKIA	**Kiasar**	**5.30**	**338**	*e*Pn	**Pn**	**21 33 10.6**	**+0.2**
IKIA				*e*Sn	**Sn**	**21 34 09.1**	**-2.4**
IKIA				*e*Sn	**Sn**	**21 34 09.6**	**-1.9**
IKIA	**Kiasar**	**5.30**	**338**	Pn	**Pn**	**21 33 10.5**	**+0.1**
IKIA				Sn	**Sn**	**21 34 09.0**	**-2.5**
IKIA				Sn	**Sn**	**21 34 09.6**	**-1.9**
IKIA	**Kiasar**	**5.30**	**338**	Pn	**Pn**	**21 33 10.5**	**+0.1**
IKIA				*e*Sn	**Sn**	**21 34 09.1**	**-2.4**
IMOG	**Moghan**	**5.45**	**28**	*e*Pn	**Pn**	**21 33 11.8**	**-0.7**
IMOG	**Moghan**	**5.45**	**28**	Pn	**Pn**	**21 33 11.7**	**-0.8**
IGLO	**Galoogah**	**5.46**	**337**	*e*Pn	**Pn**	**21 33 14.4**	**+1.9**
IGLO				*e*Sn	**Sn**	**21 34 14.5**	**-0.9**
IGLO				*e*Sn	**Sn**	**21 34 15.0**	**-0.4**
IDMV	**Damavand**	**5.48**	**322**	*e*Pn	**Pn**	**21 33 13.6**	**+0.7**
DAMV	**Damavand**	**5.56**	**322**	*e*Pn	**Pn**	**21 33 14.8**	**+0.9**
IKRD	**Kardeh**	**5.78**	**19**	*e*Pn	**Pn**	**21 33 21.2**	**+4.3**
IAFJ	**Afjeh**	**5.87**	**322**	*e*Pn	**Pn**	**21 33 19.8**	**+1.7**
IAFJ	**Afjeh**	**5.87**	**322**	Pn	**Pn**	**21 33 19.7**	**+1.6**
IPRN	**Paran-Amol**	**5.91**	**327**	*e*Pn	**Pn**	**21 33 19.8**	**+1.1**
IPRN	**Paran-Amol**	**5.91**	**327**	Pn	**Pn**	**21 33 19.7**	**+1.0**
IMYA	**Miamay**	**5.98**	**32**	*e*Pn	**Pn**	**21 33 19.3**	**-0.4**
IMYA	**Miamay**	**5.98**	**32**	Pn	**Pn**	**21 33 19.2**	**-0.5**
ISHV	**Shirvan**	**6.33**	**11**	*e*Pn	**Pn**	**21 33 26.1**	**+1.6**
ISHV	**Shirvan**	**6.33**	**11**	Pn	**Pn**	**21 33 26.0**	**+1.5**
IEMG	**Emamqoli**	**6.41**	**18**	*e*Pn	**Pn**	**21 33 25.0**	**-0.6**
IEMG	**Emamqoli**	**6.41**	**18**	Pn	**Pn**	**21 33 24.9**	**-0.7**
IRAZ	**Razeghan**	**6.63**	**310**	*e*Pn	**Pn**	**21 33 40.8**	**+12**
WSAR	**Wadi Sarin**	**8.34**	**164**	Pn	**Pn**	**21 33 51.9**	**-0.1**
	comp=E,0.9nm,0.3s,baz=351,slow=12,SNR=12						
WSAR	**Wadi Sarin**	**8.34**	**164**	Pn	**Pn**	**21 33 51.9**	**-0.1**
AKTK	**Aktyubinsk**	**19.15**	**4**	P	**Pn**	**21 36 14.1**	**-1.3**
AKTO	**Aktyubinsk**	**19.15**	**4**	P	**Pn**	**21 36 14.1**	**-1.3**
	comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=7.4						
BRTR	**Keskin Array B**	**20.14**	**301**	P	**P**	**21 36 26.2**	**+0.8**
	comp=E,2.1nm,0.9s,baz=116,slow=14,SNR=9.9						
BVAR	**Borovoye Array**	**24.02**	**21**	P	**P**	**21 37 05.4**	**-0.8**
	comp=E,1.2nm,0.7s,mb3.5,baz=210,slow=8.3,SNR=4.7						
MKAR	**Makanchi Array**	**25.33**	**45**	P	**P**	**21 37 17.0**	**-1.1**
	comp=E,0.6nm,0.7s,mb3.2,baz=230,slow=7.6,SNR=7.5						
GERES	**GERESS Array B**	**36.36**	**311**	P	**P**	**21 38 54.4**	**-1.0**
	comp=E,0.6nm,0.6s,mb3.7,baz=107,slow=7.3,SNR=7.8						
PGF	**Pioggiola**	**38.89**	**300**	*e*P	**P**	**21 39 05.6**	**-11**
	comp=E,47nm,1.5s,mb4.7						
SBF	**Sospel**	**40.06**	**302**	*e*P	**P**	**21 39 16.3**	**-10**
LPG	**La Plagne**	**40.61**	**305**	*e*P	**P**	**21 39 21.6**	**-10**
	comp=E,3.9nm,0.7s,mb3.8						
LPL	**La Plagne**	**40.62**	**305**	*e*P	**P**	**21 39 21.2**	**-10**
CABF	**La Chapelle**	**41.13**	**306**	*e*P	**P**	**21 39 28.0**	**-7.4**
	comp=E,22nm,1.2s,mb4.3						
SMF	**Signal de Mont**	**42.68**	**306**	*e*P	**P**	**21 39 40.2**	**-7.9**
	comp=E,8.2nm,0.8s,mb4.2						
LOR	**Lormes**	**42.69**	**307**	*e*P	**P**	**21 39 40.3**	**-7.9**
	comp=E,5.4nm,0.8s,mb4.0						
SSF	**Saint Saulge**	**42.93**	**307**	*e*P	**P**	**21 39 41.0**	**-9.1**
	comp=E,13nm,1.2s,mb4.3						
TCF	**Toulx Ste Croi**	**43.80**	**306**	*e*P	**P**	**21 39 48.5**	**-8.6**
	comp=E,11nm,1.1s,mb4.2						
TORD	**Torodi Ar. Bea**	**53.05**	**263**	P	**P**	**21 41 06.8**	**-1.6**
	comp=E,0.4nm,0.6s,mb3.5,baz=58,slow=6.6,SNR=2.5						

*IDC **07** 21:33:23.4±1.3, 1394N×12029E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=169.1km s-min=21.0km az=67.0*
*ISCJB **07** 21:33:36.9±0.6, 1412N±005×1206E±01, h132km±6km, mb3.5/4, Error ellipse: s-maj=18.5km s-min=8.4km az=9.4*

ISC 07 21:33:38.0±0.6, 1413N±005×1206E±01, h126km±6km, n15, σ1°23/18, mb3.7/4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.29**	**95**	⇓*i*P	**Pn**	**21 33 53.0**	**-2.5**
TGY				*i* S	**Sn**	**21 33 59.5**	**-9.3**
LUBP	**Lubang**	**0.55**	**225**	*e*P	**Pn**	**21 33 56.8**	**-0.1**
LUBP				*e*S	**Sn**	**21 34 10.2**	**-0.9**
PGP	**Puerto Galera**	**0.69**	**154**	*e*P	**Pn**	**21 34 00.0**	**+2.2**
POLP	**Polilio Island**	**1.39**	**64**	*e*P	**Pn**	**21 34 03.1**	**-1.5**
SCZP	**Santa Cruz**	**1.79**	**337**	*e*P	**Pn**	**21 34 08.7**	**-0.4**
BALP	**Baler**	**1.84**	**29**	*e*P	**Pn**	**21 34 12.1**	**+2.3**
BUSP	**Coron**	**2.16**	**192**	*e*P	**Pn**	**21 34 14.2**	**+0.6**
BUSP				*e*S	**Sn**	**21 34 40.6**	**-0.4**
BOLP	**Bolinao**	**2.35**	**343**	*e*P	**Pn**	**21 34 16.4**	**+0.4**
CAUP	**Cauayan**	**3.02**	**22**	*e*P	**Pn**	**21 34 27.5**	**+2.8**
ENPP	**El Nido**	**3.14**	**202**	*e*P	**Pn**	**21 34 27.2**	**+1.0**
CUYO	**Cuyo Island**	**3.28**	**174**	*e*P	**Pn**	**21 34 29.4**	**+1.3**
SONM	**Songino Array**	**35.63**	**343**	P	**P**	**21 40 23.7**	**+0.1**
	0.4nm,0.5s,mb3.6,baz=164,slow=8.7,SNR=4.4						
WRA	**Warramunga Arr**	**36.44**	**158**	P	**P**	**21 40 29.2**	**-1.2**
	0.8nm,0.5s,mb3.9,baz=337,slow=9.5,SNR=20						
ASAR	**Alice Springs**	**39.74**	**161**	P	**P**	**21 40 57.8**	**-0.4**
	1.7nm,0.4s,mb4.2,baz=335,slow=8.6,SNR=28						
MKAR	**Makanchi Array**	**45.66**	**323**	P	**P**	**21 41 45.3**	**-0.5**
	0.2nm,0.4s,mb3.2,baz=110,slow=7.8,SNR=5.5						

*CSEM **07** 22:09:33.6, 2349S×17946W, h33km, mb5.5*
*BJI **07** 22:10:18.5, 2440S×17980W, h477km, mB4.9, mb4.6*
*ISCJB **07** 22:10:18.4±0.8, 2441S±005×17976W±007, h489km±9km, mb4.6/30, Error ellipse: s-maj=10.1km s-min=8.2km az=3.7*
*NEIC **07** 22:10:18.6±1.0, 2436S×17979W, h477km±12km, mb4.6/18, Error ellipse: s-maj=9.8km s-min=7.9km az=114.0*
*MOS **07** 22:10:19.3±2.4, 2437S×17985W, h490km, mb4.7/7, Error ellipse: s-maj=12.2km s-min=11.6km az=63.2*
*IDC **07** 22:10:20.4±1.6, 2441S×17984W, h501km±15km, mb4.0/11, mb1 4.1/14, mb1mx4.0/19, mbtmp4.9/14, Error ellipse: s-maj=18.5km s-min=12.9km az=58.0*

ISC 07 22:10:19.0±0.7, 2447S±005×17964W±007, h489km±8km, n145, σ0°92/86, mb4.6/30, 24C-15D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.00**	**163**	P	**P**	**22 11 49.7**	**+4.4**
	143nm,0.3s,baz=81,slow=21,SNR=20						
RAO				S	**S**	**22 12 55.8**	**0.0**
	76nm,0.3s,baz=77,slow=18,SNR=2.9						
RAO	**Raoul Island**	**5.00**	**163**	*e*Pn	**P**	**22 11 48.4**	**+3.1**
RAO				*e*Sn	**S**	**22 12 54.6**	**-1.2**
AFI	**Afiamalu**	**12.86**	**37**	S	**S**	**22 15 18.9**	**-6.0**
	3.4nm,0.3s,baz=45,slow=19,SNR=3.7						
AFI	**Afiamalu**	**12.86**	**37**	P	**P**	**22 13 06.0**	**-0.6**
DZM	**Mont Dzumac**	**13.02**	**278**	*e*P	**P**	**22 13 08.2**	**-0.1**
DZM	**Mont Dzumac**	**13.02**	**278**	P	**P**	**22 13 09.4**	**+1.1**
	1.2nm,0.3s,baz=89,slow=16,SNR=15						
NOUC	**Port Laguerre**	**13.14**	**278**	*e*P	**P**	**22 13 11.5**	**+1.9**
URZ	**Urewera**	**14.02**	**191**	P	**P**	**22 13 20.4**	**+1.4**
	1.2nm,0.3s,baz=349,slow=8.3,SNR=9.0						
URZ				S	**S**	**22 15 47.4**	**-0.1**
	3.0nm,0.3s,baz=286,slow=18,SNR=17						
URZ	**Urewera**	**14.02**	**191**	*e*PN	**P**	**22 13 18.0**	**-1.0**
SNZO	**South Karori**	**17.44**	**194**	*e*P	**P**	**22 13 54.6**	**-0.1**
	28nm,0.6s						
THZ	**Tophouse**	**18.33**	**198**	*e*PN	**P**	**22 14 01.9**	**-0.9**
KHZ	**Kahutara**	**18.77**	**196**	PN	**P**	**22 14 06.2**	**-0.7**
RPZ	**Rata Peaks**	**20.66**	**199**	P	**P**	**22 14 23.5**	**-0.6**
	18nm,0.5s,baz=350,slow=2.6,SNR=17						
HNR	**Honiara**	**24.55**	**304**	P	**P**	**22 14 58.8**	**-0.2**
ARMA	**Armidale**	**26.14**	**251**	*e*P	**P**	**22 15 14.6**	**+1.5**
TBI	**Tubuai**	**27.58**	**94**	*e*LR	LR	22 21 57.9	
	116nm,27.8s						
PPT	**Papeete**	**28.85**	**82**	*e*LR	LR	22 22 20.5	
	180nm,27.2s						
CNB	**Canberra Magne**	**28.86**	**241**	*e*P	**P**	**22 15 38.4**	**+1.5**
	18nm,1.3s,mb4.3						
CTA	**Charters Tower**	**31.82**	**271**	⇓*i*P	**P**	**22 16 02.8**	**+0.3**
	26nm,0.4s,mb5.0						
CTA	**Charters Tower**	**31.82**	**271**	P	**P**	**22 16 02.9**	**+0.4**
	27nm,0.4s,mb5.1,baz=96,slow=11,SNR=49						
CTA	**Charters Tower**	**31.82**	**271**	⇓*i*P	**P**	**22 16 02.8**	**+0.3**
CTA				pmax	pmax		
	comp=Z,26nm,0.4s						
CTAO	**Charters Tower**	**31.82**	**271**	*e*P	**P**	**22 16 02.9**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,29nm,0.4s,mb5.1						
CTAO	**Charters Tower**	**31.82**	**271**	*e*P	**P**	**22 16 02.9**	**+0.4**
	comp=Z,29nm,0.4s,mb5.1						
TOO	**Toolangi**	**32.42**	**238**	⇓*i*P	**P**	**22 16 08.1**	**+0.4**
	comp=Z,6.2nm,0.6s,mb4.2						
TOO	**Toolangi**	**32.42**	**238**	⇓*i*P	**P**	**22 16 08.1**	**+0.4**
TOO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
TAU	**Tasmania Unive**	**32.79**	**228**	*e*P	**P**	**22 16 11.2**	**+0.4**
TAU				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.7						
TAU	**Tasmania Unive**	**32.79**	**228**	*e*P	**P**	**22 16 11.2**	**+0.3**
	comp=Z,16nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**34.82**	**249**	⇓*i*P	**P**	**22 16 26.0**	**-2.0**
	comp=Z,11nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**34.82**	**249**	P	**P**	**22 16 26.2**	**-1.8**
	comp=Z,14nm,0.7s,mb4.5,baz=92,slow=9.2,SNR=32						
STKA				PcP	PcP	22 18 46.8	-0.8
	comp=Z,1.7nm,0.5s,baz=52,slow=7.3,SNR=2.9						
PMG	**Port Moresby**	**35.00**	**290**	P	**P**	**22 16 28.2**	**-1.2**
	comp=Z,23nm,0.9s,mb4.6,baz=89,slow=3.7,SNR=4.9						
PMG	**Port Moresby**	**35.00**	**290**	*e*P	**P**	**22 16 28.9**	**-0.5**
AS31	**Alice Springs**	**42.27**	**261**	*e*P	**P**	**22 17 28.5**	**-0.1**
ASAR	**Alice Springs**	**42.27**	**261**	P	**P**	**22 17 28.3**	**-0.3**
	comp=Z,14nm,0.8s,mb4.5,baz=95,slow=8.2,SNR=78						
ASAR				PcP	PcP	22 19 11.2	-0.1
	comp=Z,2.1nm,0.8s,baz=111,slow=3.3,SNR=5.8						
ASAR				ScP	ScP	22 22 15.4	+0.5
	comp=Z,0.8nm,1.0s,baz=107,slow=4.5,SNR=4.5						
ASAR				S	**S**	**22 23 09.4**	**-3.8**
	comp=Z,1.4nm,0.7s,baz=103,slow=16,SNR=5.9						
ASAR	**Alice Springs**	**42.27**	**261**	P	**P**	**22 17 28.3**	**-0.3**
ASAR						22 19 11.3	
ASAR				S	**S**	**22 23 09.4**	**-3.8**
ASPA	**Alice Springs**	**42.28**	**261**	*e*P	**P**	**22 17 28.5**	**-0.1**
WRAB	**Tennant Creek**	**42.70**	**267**	*e*P	**P**	**22 17 31.0**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**42.70**	**267**	*e*P	**P**	**22 17 31.0**	**-0.9**
	comp=Z,53nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**42.70**	**267**	P	**P**	**22 17 31.1**	**-0.9**
	comp=Z,17nm,0.5s,mb4.8,baz=103,slow=8.0,SNR=152						
FORT	**Forrest**	**46.43**	**250**	*e*P	**P**	**22 17 59.8**	**-1.0**
	comp=Z,59nm,0.6s,mb5.2						
KAKA	**Kakadu**	**46.69**	**276**	⇓*i*P	**P**	**22 18 01.5**	**-1.3**
	comp=Z,23nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**51.12**	**266**	⇑*i*P	**P**	**22 18 35.8**	**+0.1**
	comp=Z,44nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**51.12**	**266**	P	**P**	**22 18 36.0**	**+0.3**
	comp=Z,27nm,0.8s,mb4.6,baz=127,slow=10,SNR=36						
SBA	**Scott Base**	**53.83**	**184**	*e*P	**P**	**22 18 56.9**	**+1.7**
SBA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.0						
SBA	**Scott Base**	**53.83**	**184**	*e*P	**P**	**22 18 56.9**	**+1.8**
	comp=Z,5.7nm,0.7s,mb4.0						
VNDA	**Vanda**	**53.84**	**185**	P	**P**	**22 18 56.3**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=2.0,slow=5.0,SNR=14						
VNDA	**Vanda**	**53.84**	**185**	*e*P	**P**	**22 18 56.6**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**53.84**	**185**	*e*P	**P**	**22 18 56.6**	**+1.4**
	comp=Z,1.4nm,0.7s						
KLBR	**Kellerberrin**	**55.08**	**248**	*e*P	**P**	**22 19 03.1**	**-0.9**
	comp=Z,16nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**55.30**	**246**	P	**P**	**22 19 05.1**	**-0.5**
	comp=Z,15nm,1.1s,mb4.2,baz=112,slow=1.9,SNR=5.2						
NWAO	**Narrogin (SRO)**	**55.30**	**246**	*e*P	**P**	**22 19 05.3**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**55.30**	**246**	*e*P	**P**	**22 19 05.3**	**-0.2**
	comp=Z,3.0nm,0.6s,mb3.8						
MBWA	**Marble Bar**	**55.60**	**260**	*e*P	**P**	**22 19 06.9**	**-0.7**
	comp=Z,17nm,0.7s,mb4.5						
MUN	**Mundaring**	**56.31**	**247**	*e*P	**P**	**22 19 12.6**	**+0.1**
CASY	**Casey**	**59.75**	**206**	*e*P	**P**	**22 19 35.3**	**-0.6**
	comp=Z,4.8nm,0.5s,mb4.2						
QSPA	**South Pole Qui**	**65.61**	**180**	⇓*i*P	**P**	**22 20 15.3**	**+1.4**
	comp=Z,9.0nm,0.8s,mb4.5						
KSM	**Kuching**	**72.53**	**280**	*e*P	**P**	**22 20 55.0**	**-0.6**
MJAR	**Matsushiro Arr**	**72.55**	**325**	P	**P**	**22 20 55.2**	**-0.5**
	comp=Z,5.9nm,0.9s,mb4.1,baz=156,slow=5.8,SNR=11						
MJAR	**Matsushiro Arr**	**72.55**	**325**	P	**P**	**22 20 55.2**	**-0.5**
MAJO	**Matsushiro**	**72.56**	**325**	P	**P**	**22 20 55.6**	**-0.1**
MAW	**Mawson**	**77.33**	**200**	P	**P**	**22 21 23.2**	**+0.7**
	comp=Z,8.8nm,0.6s,mb4.5,baz=133,slow=7.6,SNR=31						
YSS	**Yuzh-Sakhalins**	**78.79**	**335**	*i* P	**P**	**22 21 31.1**	**+0.7**
YSS				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.6						
SSE	**Sheshan**	**79.12**	**311**	*e*P	**P**	**22 21 32.9**	**+0.8**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,140nm,3.5s						
PET	**Petropavlovsk**	**79.45**	**347**	*i* P	**P**	**22 21 33.1**	**-0.8**
PET				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.5						
NJ2	**Nanjing**	**81.28**	**311**	*e*P	**P**	**22 21 44.8**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,310nm,3.8s						
SYO	**Syowa Base**	**82.54**	**193**	⇓*e*P	**P**	**22 21 48.0**	**-1.9**
SYO	**Syowa Base**	**82.54**	**193**	⇑*e*PcP	PcP	22 21 52.0	-1.6
MDJ	**Mudanjiang**	**82.92**	**326**	*e*P	**P**	**22 21 52.4**	**+0.5**
HABR	**Khabarovsk**	**83.17**	**332**	*e*P	**P**	**22 21 57.4**	**+4.3**
SNAA	**Sanae**	**84.09**	**179**	*e*P	**P**	**22 21 44.7**	**-13**
SNAA				*e*		22 21 47.0	
VNA3	**Neumayer Olymp**	**84.29**	**177**	*e*P	**P**	**22 21 58.5**	**-0.1**
VNA3				*e*		22 22 00.9	
VNA3				*e*		22 22 05.6	
CN2	**Changchun**	**84.54**	**323**	*e*P	**P**	**22 22 00.1**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
VNA2	**Neumayer--Watz**	**84.71**	**177**	*e*P	**P**	**22 22 00.8**	**+0.1**
	baz=193,slow=3.5						
VNA2				*e*		22 22 03.2	

BURAR	**Bucovina Array**	**149.63 326**	⇑P	PKPbc	PKPbc	22 29 14.0	+1.2
OJC	**Ojcow**	**150.19 335**	*e*PKP	PKPbc	PKPbc	22 29 13.8	-0.3
STHS	**Stebnicka Huta**	**150.22 332**	*e*PKP	PKPbc	PKPbc	22 29 14.2	0.0
STHS			*e*			22 29 20.2	
MLR	**Muntele Rosu**	**150.57 322**	PKPbc	PKPbc	PKPbc	22 29 14.3	-0.7
	comp=Z,2.9nm,0.7s,baz=32,slow=7.0,SNR=4.1						
MLR	**Muntele Rosu**	**150.57 322**	⇓*i*P	PKPbc	PKPbc	22 29 14.4	-0.6
MLR	**Muntele Rosu**	**150.57 322**	⇓P	PKPbc	PKPbc	22 29 14.3	-0.6
NIE	**Niedzica**	**150.61 333**	*e*PKP	PKPbc	PKPbc	22 29 15.4	+0.3
KSP	**Ksiaz**	**150.94 339**	*e*PKP	PKPbc	PKPbc	22 29 15.9	+0.1
KSP	**Ksiaz**	**150.94 339**	*e*PKP	PKPbc	PKPbc	22 29 15.6	-0.2
OKC	**Ostrava-Krasne**	**151.13 336**	⇑*e*PKPB	PKPbc	PKPbc	22 29 16.4	+0.1
OKC			*e*PKPAB	PKPab	PKPab	22 29 26.7	+0.4
KECS	**Kecovo**	**151.26 332**	*e*	PKPab	PKPab	22 29 21.8	-5.0
UPC	**Upice**	**151.32 339**	⇑*e*PKPB	PKPbc	PKPbc	22 29 16.8	+0.1
UPC			*e*PKPAB	PKPab	PKPab	22 29 27.7	+0.7
DPC	**Dobruska-Polom**	**151.35 338**	⇑*e*PKPB	PKPbc	PKPbc	22 29 17.1	+0.3
DPC			*e*PKPAB	PKPab	PKPab	22 29 27.6	+0.4
MORC	**Moravsky Berou**	**151.41 336**	⇑*i*P	PKPbc	PKPbc	22 29 17.3	+0.4
MORC	**Moravsky Berou**	**151.41 336**	⇑P	PKPbc	PKPbc	22 29 17.3	+0.4
CLL	**Collm**	**151.50 343**	⇓*i*PKPbc	PKPbc	PKPbc	22 29 16.6	-0.5
	comp=Z,14nm,0.8s						
CLL			*i* PKPab	PKPab	PKPab	22 29 26.9	-0.9
CLL	**Collm**	**151.50 343**	⇓*i*PKIKP	PKPbc	PKPbc	22 29 16.6	-0.5
CLL			*i*			22 29 26.9	
CLL			pmax	pmax			
	comp=Z,14nm,0.8s						
BRG	**Berggiesshubel**	**151.63 342**	*i* PKP	PKPbc	PKPbc	22 29 17.1	-0.3
	comp=Z,5.1nm,0.9s						
BRG			*e*			22 29 28.2	
	comp=Z,3.4nm,1.1s						
BRG	**Berggiesshubel**	**151.63 342**	*i* PKIKP	PKPbc	PKPbc	22 29 17.1	-0.3
BRG			*e*			22 29 28.2	
BRG			pmax	pmax			
	comp=Z,5.0nm,0.9s						
PVCC	**Panska Ves**	**151.75 341**	⇑*e*PKPB	PKPbc	PKPbc	22 29 17.5	-0.2
PVCC			*e*PKPAB	PKPab	PKPab	22 29 29.0	+0.1
VYHS	**Vyhne**	**151.94 333**	*e*PKP	PKPbc	PKPbc	22 29 17.1	-1.0
KOLL	**Kolacno**	**152.05 334**	*e*PKP	PKPbc	PKPbc	22 29 18.4	+0.1
PRU	**Pruhonice**	**152.24 340**	⇑*e*PKPB	PKPbc	PKPbc	22 29 18.8	0.0
PRU			*e*PKPAB	PKPab	PKPab	22 29 31.2	+0.3
TREC	**Trest**	**152.53 338**	⇑*e*PKPB	PKPbc	PKPbc	22 29 19.3	-0.1
TREC			*e*PKPAB	PKPab	PKPab	22 29 32.3	+0.1
NKC	**Novy Kostel**	**152.62 343**	⇑*e*PKPB	PKPbc	PKPbc	22 29 19.7	+0.1
NKC			*e*PKPAB	PKPab	PKPab	22 29 32.5	-0.1
BZS	**Buzias**	**152.81 326**	⇑*i*P	PKPbc	PKPbc	22 29 19.7	-0.3
BZS	**Buzias**	**152.81 326**	⇑P	PKPbc	PKPbc	22 29 19.7	-0.3
ZST	**Bratislava**	**152.87 335**	*e*PKP	PKPdf	PKPdf	22 29 08.3	-4.2
KHC	**Kasperske Hory**	**153.29 340**	⇑*e*PKPB	PKPbc	PKPbc	22 29 21.2	+0.2
KHC			*e*PKPAB	PKPab	PKPab	22 29 35.6	+0.2
GERES	**GERESS Array B**	**153.50 340**	PKPbc	PKPbc	PKPbc	22 29 20.9	-0.6
	comp=Z,1.1nm,0.8s,baz=96,slow=2.7,SNR=7.7						
GERES			PKPab	PKPab	PKPab	22 29 36.1	-0.2
	comp=Z,0.8nm,0.7s,baz=35,slow=4.9,SNR=5.8						
VTS	**Vitosha**	**153.88 319**	⇓*i*P	PKPab	PKPab	22 29 38.9	+1.0
VTS	**Vitosha**	**153.88 319**	⇓P	PKPab	PKPab	22 29 38.9	+1.0
TORD	**Torodi Ar. Bea**	**168.67 187**	PKP	PKPdf	PKPdf	22 29 28.9	-0.3
	comp=Z,1.7nm,1.1s,baz=118,slow=0.5,SNR=5.6						
TORD			PKPab	PKPab	PKPab	22 30 42.9	+0.2
	comp=Z,1.7nm,0.7s,baz=174,slow=3.9,SNR=10						

*NEIC **07** 22:32:08.3±0.9, 2031S×174.16W, h35km, mb4.0/2, Error ellipse: s-maj=38.7km s-min=16.4km az=126.0*
*ISCJB **07** 22:32:09.4±4.6, 198S±03×174.6W±04, h47km±41km, mb4.0/5, Error ellipse: s-maj=72.3km s-min=20.9km az=84.5*
*IDC **07** 22:32:11.8±8.9, 1985S×174.55W, h58km±66km, mb3.7/3, mb1 4.2/4, mb1mx3.8/15, mbtmp4.2/4, ML3.1/1, Error ellipse: s-maj=116.6km s-min=21.6km az=144.0*

ISC 07 22:32:11.0±4.1, 199S±03×174.5W±04, h44km±38km, n9, σ0.58/8, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.53**	**24**	P	**Pn**	**22 33 44.2**	**-0.4**
	23nm,0.3s,baz=85,slow=3.2,SNR=5.7						
AFI				S	**Sn**	**22 34 58.1**	**+0.4**
	0.5nm,0.3s,baz=78,slow=21,SNR=2.6						
TAU	**Tasmania Unive**	**39.35**	**226**	*e*P	**P**	**22 39 36.5**	**+0.5**
	1.0nm,0.3s,mb4.0						
ASAR	**Alice Springs**	**47.83**	**256**	P	**P**	**22 40 43.5**	**-0.7**
	2.7nm,0.9s,mb4.3,baz=92,slow=8.3,SNR=19						
WRA	**Warramunga Arr**	**47.92**	**261**	P	**P**	**22 40 45.1**	**+0.2**
	1.3nm,0.9s,mb4.0,baz=97,slow=7.5,SNR=6.5						
VNDA	**Vanda**	**58.79**	**186**	*e*P	**P**	**22 41 58.9**	**-5.8**
	0.7nm,0.8s,mb3.7						
NWAO	**Narrogin (SRO)**	**61.54**	**243**	P	**P**	**22 42 23.9**	**+0.3**
NVAR	**Mina Array Bea**	**78.39**	**42**	P	**P**	**22 44 06.7**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=229,slow=12,SNR=6.9						
AKASG	**Malin Array Be**	**144.02**	**334**	PKP	PKPdf	22 51 39.5	-2.2
	0.7nm,0.5s,baz=36,slow=4.2,SNR=3.8						
GERES	**GERESS Array B**	**150.40**	**349**	PKPbc	PKPbc	22 51 55.8	-1.8
	0.4nm,0.8s,baz=354,slow=2.0,SNR=3.2						

NNC 07 22:40:05.8±2.5, 3955N×7464E, h0km, mb3.3, mpv2.8, 4C, Error ellipse: s-maj=20.8km s-min=12.0km az=162.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**3.44**	**12**	⇑Pn	Pn	22 41 01.4	+0.7
	0.3nm,0.6s						
TKM2				⇑Sn	Sn	22 41 43.5	+1.3
	0.7nm,0.6s						
KK31	**Karatay Array**	**4.71**	**320**	Pn	Pn	22 41 20.9	+2.7
	6.8nm,0.7s,baz=139,slow=9.8,SNR=69						
KK31				⇑Sn	Sn	22 42 20.4	+6.9
	6.6nm,0.5s,baz=136,slow=22,SNR=9.9						
AB31	**Akbulak array**	**14.27**	**318**	Pn	Pn	22 43 26.7	-2.4
	0.5nm,0.6s,baz=128,slow=12,SNR=4.6						
AB31				⇑Sn	Sn	22 46 07.4	-0.8
	0.7nm,0.7s						

*ATH **07** 22:44:50.2, 3973N×1952E, h9km±2km, MD3.6/3*
*NEIC **07** 22:44:50.2, 3973N×1952E, h9km, MD3.6(ATH), After ATH.*
*THE **07** 22:44:51.7, 3977N×1957E, h10km, ML3.4*
*ISCJB **07** 22:44:51.3±0.6, 3982N±003×1956E±004, h10km, Error ellipse: s-maj=4.6km s-min=3.6km az=134.9*
*CSEM **07** 22:44:51.1±0.2, 3988N×1964E, h2km, MD3.6, Error ellipse: s-maj=4.8km s-min=2.2km az=88.0*
*TIR **07** 22:44:53.2, 3993N×1982E, h13km*

ISC 07 22:44:52.1±0.6, 3981N±003×1956E±004, h10km, n26, σ1.9/40/44, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.21**	**118**	*e*PG	**Pg**	**22 44 54.5**	**-1.9**
SRN	**Sarande**	**0.35**	**78**	*i* Pg	**Pg**	**22 44 57.0**	**-1.9**
SRN				*i* Sg	**Sg**	**22 45 02.0**	**-1.6**
TPE	**Tepelena**	**0.60**	**35**	*i* Pg	**Pg**	**22 45 01.4**	**-2.2**
TPE				*i* Sg	**Sg**	**22 45 08.8**	**-2.6**
IGT	**Igoumenitsa**	**0.66**	**115**	*e*Pg	**Pg**	**22 45 03.0**	**-1.9**
IGT				*e*Sg	**Sg**	**22 45 13.0**	**-0.4**
LSK	**Leskovik**	**0.87**	**67**	*i* Pg	**Pg**	**22 45 06.3**	**-2.5**
LSK				*i* Sg	**Sg**	**22 45 19.9**	**-0.2**
MEV	**Metsovon**	**1.29**	**91**	*e*Pg	**Pg**	**22 45 15.6**	**-1.1**
MEV				*e*Sg	**Sg**	**22 45 34.9**	**+1.4**
LKD	**Levkas**	**1.39**	**142**	*e*Pg	**Pg**	**22 45 17.8**	**-1.0**
LKD				*e*Sg	**Sg**	**22 45 36.8**	**0.0**
TIR	**Tirane**	**1.55**	**9**	*e*Pg	**Pg**	**22 45 20.6**	**-1.3**
TIR				*e*Sg	**Sg**	**22 45 42.5**	**+0.5**
TIR	**Tirane**	**1.55**	**9**	*e*Pg	**Pg**	**22 45 20.5**	**-1.4**
TIR				*e*Sg	**Sg**	**22 45 42.5**	**+0.5**
FNA	**Florina**	**1.70**	**54**	*e*Pb	**Pb**	**22 45 22.6**	**-0.7**
FNA				*e*Sb	**Sb**	**22 45 46.3**	**+1.5**
KZN	**Kozani**	**1.77**	**73**	*e*PN	**Pn**	**22 45 24.0**	**+1.3**
KZN				*e*SN	**Sn**	**22 45 48.4**	**+3.1**
BIA	**Bitola**	**1.81**	**48**	*e*Pb	**Pb**	**22 45 23.5**	**-1.8**
BIA				*e*Sb	**Sb**	**22 45 49.7**	**+1.7**
BIA	**Bitola**	**1.81**	**48**	*e*Pn	**Pn**	**22 45 23.5**	**+0.2**
BIA				*e*Sn	**Sn**	**22 45 49.6**	**+3.3**
VLS	**Valsamata**	**1.82**	**153**	*e*PN	**Pn**	**22 45 23.2**	**-0.2**
VLS				*e*SN	**Sn**	**22 45 46.7**	**+0.2**
EVR	**Evrytania**	**1.96**	**116**	*e*PG	**Pg**	**22 45 26.6**	**-3.0**
EVR				*e*SN	**Sn**	**22 45 52.0**	**+2.0**
LIT	**Litokhoron**	**2.27**	**82**	*e*Pn	**Pn**	**22 45 30.3**	**+0.7**
LIT				*e*Sn	**Sn**	**22 46 00.4**	**+2.8**
AGG	**Agios Georgios**	**2.29**	**109**	*e*Pn	**Pn**	**22 45 31.0**	**+1.1**
AGG				*e*Sn	**Sn**	**22 45 58.9**	**+0.9**
KKS	**Kukesi**	**2.35**	**16**	*i* Pn	**Pn**	**22 45 31.6**	**+0.8**
SG1	**Sgolgore (BA)**	**2.43**	**296**	*e*Pn	**Pn**	**22 45 33.0**	**+1.2**
GRG	**Griva**	**2.45**	**61**	*e*Pn	**Pn**	**22 45 32.3**	**+0.1**
GRG				*e*Sn	**Sn**	**22 46 03.9**	**+1.7**
VAY	**Valandovo**	**2.75**	**56**	*e*Pn	**Pn**	**22 45 36.0**	**-0.1**
KNT	**Kendrikon**	**2.88**	**61**	*e*Pn	**Pn**	**22 45 37.7**	**-0.3**
SOH	**Sokhos**	**3.07**	**70**	*e*Pn	**Pn**	**22 45 41.0**	**+0.3**
ITM	**Ithomi**	**3.22**	**144**	*e*PN	**Pn**	**22 45 43.1**	**+0.5**
SGO	**Sicignano**	**3.34**	**284**	Pg	**Pn**	**22 45 46.4**	**+2.0**
NVLJ	**Novalja**	**5.89**	**325**	*i* (Pn)	**Pn**	**22 46 18.9**	**-0.5**
NVLJ				*i* Sn	**Sn**	**22 47 23.2**	**-3.7**

IDC 07 23:01:11.2±8.4, 2255N×14426E, h137km±75km, mb3.3/4, mb1 3.4/5, mb1mx3.2/18, mbtmp3.7/5, Error ellipse: s-maj=109.7km s-min=19.4km az=80.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.90**	**341**	P	Pn	23 04 34.6	-0.2
	0.3nm,0.3s,baz=165,slow=10.0,SNR=5.1						
WRA	**Warramunga Arr**	**43.33**	**194**	P	P	23 08 59.5	0.0
	0.3nm,0.3s,baz=15,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**47.03**	**193**	P	P	23 09 29.0	+0.3
	0.2nm,0.4s,baz=9.1,slow=8.2,SNR=4.4						
MKAR	**Makanchi Array**	**54.86**	**312**	P	P	23 10 27.3	+0.1
	0.9nm,0.5s,baz=87,slow=8.7,SNR=12						
FINES	**FINESS Array B**	**82.84**	**335**	P	P	23 13 19.9	-0.3
	0.8nm,0.6s,baz=60,slow=5.0,SNR=6.4						

*STR **07** 23:28:25.8±0.4, 4654N×036W, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 07 23:28:24.1±0.1, 4660N×023W, h15km, Md2.1/1, Ml2.0/13, Error ellipse: s-maj=2.3km s-min=1.5km az=37.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.06**	**89**	*e*Pg	Pg	23 28 27.2	+0.2
MFF				*e*Sg	Sg	23 28 28.8	0.0
	37nm,0.2s						
LCHF	**La Chataignera**	**0.36**	**281**	Pg	Pg	23 28 31.7	+0.3
LCHF				Sg	Sg	23 28 36.4	0.0
CHIF	**Chize**	**0.48**	**195**	Pg	Pg	23 28 33.9	+0.2
CHIF				Sg	Sg	23 28 39.6	-0.6
TCF	**Toulx Ste Croi**	**1.72**	**100**	*e*Pg	Pg	23 28 56.6	-0.5
TCF				*e*Sg	Sg	23 29 17.6	-1.8
	3.8nm,0.3s						
RJF	**Les Rejaudoux**	**1.78**	**136**	*e*Pg	Pg	23 28 57.1	-1.2
RJF				*e*Sg	Sg	23 29 19.2	-2.2
	3.2nm,0.3s						
LFF	**La Prestale**	**1.79**	**157**	*e*Pg	Pg	23 28 57.2	-1.4
LFF				*e*Sg	Sg	23 29 21.1	-0.8
	2.9nm,0.4s						
GRR	**Gorron**	**1.84**	**347**	*e*Sg	Sg	23 29 21.7	-1.6
	1.1nm,0.2s						
LDF	**La Druitiere**	**2.00**	**2**	*e*Sg	Sg	23 29 27.5	-0.8
	2.2nm,0.3s						
BGF	**Bois d'Agland**	**2.12**	**90**	*e*Pg	Pg	23 29 04.1	-0.7
BGF				*e*Sg	Sg	23 29 30.3	-2.1
	5.4nm,0.3s						
FLN	**La Foliniere**	**2.17**	**356**	*e*Sg	Sg	23 29 31.9	-2.0
	2.0nm,0.3s						
SGMF	**Saint Gilles**	**2.29**	**317**	*e*Sg	Sg	23 29 35.7	-1.9
	0.4nm,0.2s						
CAF	**Calviac**	**2.32**	**135**	*e*Pg	Pg	23 29 07.1	-1.5
CAF				*e*Sg	Sg	23 29 37.1	-1.6
	1.4nm,0.3s						
QUIF	**Quistinic**	**2.39**	**304**	*e*Sg	Sg	23 29 38.6	-2.4
	1.2nm,0.3s						
AVF	**Avril sur Loir**	**2.47**	**84**	*e*Sg	Sg	23 29 41.1	-2.5
	0.7nm,0.3s						
ROSF	**Rostrenen**	**2.70**	**311**	*e*Sg	Sg	23 29 48.5	-2.3
	1.3nm,0.4s						

*IDC **07** 23:34:34.9±1.2, 573N×7767W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, ML4.0/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/20, Error ellipse: s-maj=33.0km s-min=23.1km az=72.0*
*ISCJB **07** 23:34:39.0±1.3, 574N±008×7752W±007, h35km±14km, mb3.9/8, MS3.1/2, Error ellipse: s-maj=13.4km s-min=10.2km az=114.1*
*NEIC **07** 23:34:42.3±0.9, 573N×7758W, h52km±10km, mb3.9/3, Error ellipse: s-maj=11.5km s-min=10.3km az=201.0*

ISC 07 23:34:42.3±0.9, 574N±007×7757W±007, h48km±11km, n22, σ1.9/05/20, mb3.9/8, MS3.1/2, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.34**	**105**	Pn	**Pn**	**23 35 34.9**	**+2.8**
	5.8nm,0.3s,baz=281,slow=17,SNR=12						
ROSC				LR	LR	23 36 45.2	
	comp=Z,139nm,20.6s,baz=196,slow=38						
OTAV	**Otavalo**	**5.54**	**189**	*e*Pn	**Pn**	**23 36 02.0**	**-0.1**
	8.3nm,0.8s						
SDV	**Santo Domingo**	**7.56**	**65**	Pn	**Pn**	**23 36 28.4**	**-1.4**
	2.0nm,0.3s,baz=288,slow=12,SNR=36						
SDV				Sn	**Sn**	**23 37 56.6**	**+2.4**
	0.8nm,0.3s,baz=74,slow=22,SNR=2.3						
SDV				LR	LR	23 39 32.5	
	comp=Z,290nm,19.9s,baz=230,slow=39						
SDV	**Santo Domingo**	**7.56**	**65**	*e*Pn	**Pn**	**23 36 28.4**	**-1.5**
	46nm,0.9s						
SDV				*e*Sn	**Sn**	**23 37 52.5**	**-1.7**
JTS	**JuntasAbangare**	**8.59**	**302**	*e*Pn	**Pn**	**23 36 44.2**	**+0.2**
PCRV	**Puerto La Cruz**	**13.54**	**70**	LR	LR	23 43 43.2	
	comp=Z,108nm,21.4s,baz=148,slow=40						
PAYG	**Puerto Ayora**	**14.21**	**244**	Pn	**Pn**	**23 38 00.9**	**+0.2**
CMIG	**Matias Romero**	**20.35**	**305**	LR	LR	23 47 29.6	
	comp=Z,48nm,21.7s,MS2.8,baz=325,slow=38						
SAML	**Samuel**	**20.46**	**135**	*e*P	**P**	**23 39 14.2**	**-1.6**
	4.7nm,0.6s						
LPAZ	**La Paz**	**23.80**	**157**	P	**P**	**23 39 51.4**	**+0.8**
	0.9nm,0.5s,mb3.4,baz=324,slow=12,SNR=6.9						
LPAZ	**La Paz**	**23.80**	**157**	*e*P	**P**	**23 39 51.4**	**+0.8**
	0.8nm,0.5s,mb3.4						
SIV	**San Ignacio**	**27.07**	**143**	P	**P**	**23 40 19.4**	**-0.9**
	3.0nm,0.8s,mb3.9,baz=329,slow=12,SNR=19						
LVC	**Limon Verde**	**29.42**	**164**	*e*P	**P**	**23 40 41.0**	**-0.3**
	1.9nm,0.6s,mb4.0						
BDFB	**Brasilia**	**36.17**	**126**	LR	LR	23 57 07.8	
	comp=Z,59nm,18.3s,MS3.4,baz=51,slow=37						
TRQA	**Tornquist**	**45.92**	**163**	P	**P**	**23 43 00.4**	**+0.2**
YKA	**Yellowknife Ar**	**62.82**	**342**	P	**P**	**23 45 01.6**	**-1.4**
	0.4nm,0.5s,mb3.8,baz=122,slow=8.1,SNR=3.8						
DBIC	**Dimbokro**	**72.23**	**85**	P	**P**	**23 46 02.9**	**+0.5**
	5.5nm,0.9s,mb4.5,baz=247,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**78.29**	**78**	P	**P**	**23 46 37.6**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=282,slow=6.0,SNR=22						
NOA	**NORSAR Array B**	**84.43**	**29**	P	**P**	**23 47 10.2**	**+0.5**
	0.6nm,0.8s,mb3.8,baz=275,slow=5.0,SNR=3.5						
NOA	**NORSAR Array B**	**84.43**	**29**	P	**P**	**23 47 10.2**	**+0.5**
GERES	**GERESS Array B**	**86.56**	**41**	P	**P**	**23 47 21.2**	**+0.9**
	0.4nm,0.8s,mb3.7,baz=270,slow=4.7,SNR=5.1						
ASAR	**Alice Springs**	**144.86**	**236**	PKP	PKPdf	23 54 14.3	+0.4
	0.5nm,0.5s,baz=122,slow=3.7,SNR=6.3						

*IDC **08** 00:17:18.9±2.6, 497N×12387E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=289.2km s-min=29.4km az=65.0*
*NEIC **08** 00:17:23.5±0.7, 589N×12499E, h35km, mb4.2/3, Error ellipse: s-maj=19.8km s-min=16.0km az=70.0*

ISC 08 00:17:23.9±0.9, 59N±01×1250E±02, h35km, n14, σ0.48/14, mb4.0/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.28**	**26**	*e*P	**Pn**	**00 17 45.1**	**-0.1**
DAV				*e*S	**Sn**	**00 18 12.1**	**+11**
ASAR	**Alice Springs**	**30.66**	**164**	P	**P**	**00 23 29.1**	**-5.8**
	0.2nm,0.3s,mb3.4,baz=331,slow=6.9,SNR=3.2						
ASAR	**Alice Springs**	**30.66**	**164**	P	**P**	**00 23 29.1**	**-5.8**
CTAO	**Charters Tower**	**33.23**	**142**	P	**P**	**00 23 57.7**	**+0.2**
MKAR	**Makanchi Array**	**54.79**	**325**	P	**P**	**00 26 51.1**	**+0.9**
	0.6nm,0.7s,mb3.8,baz=126,slow=8.2,SNR=6.5						
MKAR				PcP	PcP	00 27 55.8	+3.5
	1.0nm,0.8s,baz=123,slow=4.5,SNR=4.7						
FUNA	**Funafuti**	**55.90**	**104**	*e*P	**P**	**00 27 05.0**	**+6.9**
BVAR	**Borovoye Array**	**64.56**	**327**	P	**P**	**00 27 57.8**	**+0.3**
	2.3nm,0.9s,mb4.2,baz=113,slow=6.9,SNR=15						
BRVK	**Borovoye**	**64.64**	**327**	*e*P	**P**	**00 27 57.6**	**-0.3**
	2.6nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**64.73**	**328**	*e*P	**P**	**00 27 58.5**	**-0.1**
	1.0nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**65.29**	**326**	*e*P	**P**	**00 28 02.4**	**+0.2**
	3.8nm,0.9s,mb4.4						
KIV	**Kislovodsk**	**80.40**	**313**	P	**P**	**00 29 31.2**	**-0.5**
BR131	**Keskin Array S**	**87.32**	**309**	*e*P	**P**	**00 30 06.0**	**-1.0**
	2.3nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**87.32**	**309**	P	**P**	**00 30 06.8**	**-0.2**
	1.3nm,0.9s,mb4.2,baz=112,slow=5.5,SNR=6.5						
TORD	**Torodi Ar. Bea**	**120.60**	**289**	PKP	PKPdf	00 36 13.9	+2.0
	0.7nm,0.8s,baz=47,slow=2.6,SNR=4.1						

*ISCJB **08** 00:35:50.6±1.0, 43N±01×1258E±04, h150km, mb3.9/8, Error ellipse: s-maj=58.7km s-min=12.8km az=150.3*
*NEIC **08** 00:35:51.5±5.9, 430N×12575E, h144km±54km, mb3.9/2, Error ellipse: s-maj=46.2km s-min=13.9km az=71.0*
*IDC **08** 00:35:53.1±4.3, 431N×12581E, h158km±34km, mb3.7/6, mb1 3.8/6, mb1mx3.5/16, mbtmp4.1/6, Error ellipse: s-maj=121.7km s-min=17.5km az=71.0*

ISC 08 00:35:51.9±1.0, 44N±01×1260E±04, h150km, n12, σ0.57/12, mb3.9/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.32**	**181**	P	**P**	**00 40 36.7**	**-0.5**
	5.3nm,0.3s,mb4.4,baz=8.5,slow=10,SNR=60						
MBWA	**Marble Bar**	**26.08**	**193**	*e*P	**P**	**00 41 10.8**	**-0.6**
	3.9nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**28.91**	**165**	P	**P**	**00 41 37.5**	**+0.8**
	0.5nm,0.4s,mb3.6,baz=346,slow=7.7,SNR=10						
MKAR	**Makanchi Array**	**56.60**	**325**	P	**P**	**00 45 19.4**	**+0.4**
	0.7nm,0.4s,mb3.9,baz=121,slow=7.9,SNR=16						
MKAR				PcP	PcP	00 46 14.5	+0.9
	1.0nm,0.6s,baz=126,slow=4.3,SNR=8.3						
MKAR				ScP	ScP	00 49 57.6	-1.2
	0.2nm,0.8s,baz=118,slow=3.5,SNR=4.8						
AAK	**Ala-Archa**	**59.37**	**318**	P	**P**	**00 45 38.2**	**0.0**
BRVK	**Borovoye**	**66.45**	**327**	*e*P	**P**	**00 46 25.1**	**+0.1**
	0.7nm,0.7s,mb3.6						
CHKZ	**Chkalovo**	**66.54**	**328**	*e*P	**P**	**00 46 25.5**	**-0.1**
ARU	**Arti**	**73.99**	**328**	*e*P	**P**	**00 47 11.6**	**+0.7**
VNDA	**Vanda**	**84.14**	**173**	P	**P**	**00 48 06.3**	**+0.3**
	0.9nm,0.8s,mb3.5,baz=309,slow=3.9,SNR=6.7						
KMBO	**Kilima Mbogo**	**88.78**	**269**	P	**P**	**00 48 29.2**	**+0.6**
ARCES	**ARCESS Array B**	**89.60**	**340**	P	**P**	**00 48 31.5**	**-0.9**
	4.7nm,1.1s,mb4.3,baz=68,slow=5.1,SNR=3.8						
FINES	**FINESS Array B**	**90.92**	**332**	P	**P**	**00 48 37.7**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=98,slow=5.8,SNR=4.9						

*NEIC **08** 00:40:39.4, 29.10S×70.06W, h99km, MG3.5(GUC), After GUC.*

GUC 08 00:40:39.0±0.9, 2911S×7002W, h99km±11km, ML3.5, 7C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.60**	**279**	⇑*i*P	Pn	00 40 56.4	+1.0
LCO				*i* S	Sn	00 41 09.2	+1.5
TLL	**Tololo Astrono**	**1.26**	**213**	⇑*i*P	Pn	00 41 03.6	+1.3
TLL				*i* S	Sn	00 41 21.8	+1.9
TLL				AML	AML	00 41 22.9	
	comp=E,812nm,0.4s						
TLL	**Tololo Astrono**	**1.26**	**213**	⇑*i*P	Pn	00 41 03.6	+1.3
TLL				*i* S	Sn	00 41 21.8	+1.9
LSCH	**La Serena**	**1.33**	**233**	⇑*i*P	Pn	00 41 03.7	+0.6
LSCH				*i* S	Sn	00 41 21.9	+0.6
LSCH				AML	AML	00 41 27.8	
	comp=E,304nm,0.3s						
LSCH	**La Serena**	**1.33**	**233**	⇑*i*P	Pn	00 41 03.7	+0.6
LSCH				*i* S	Sn	00 41 21.9	+0.6
CPCH	**Copiapo**	**1.77**	**350**	*i* P	P

Error ellipse: s-maj=12.6km s-min=6.6km az=14.0

SVSA 08 00:53:43.6±1.0,3869N×2959W,h10km,MD3.4,ML2.4, Error ellipse: s-maj=12.6km s-min=6.6km az=14.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.63**	**99**	*e*S	Sg	00 54 01.8	-2.2
PTCA	42nm,0.1s						
PCED	**Cedros**	**0.70**	**95**	*e*P	Pg	00 53 54.6	-2.5
PCED				*e*S	Sg	00 54 03.0	-3.2
PCED	77nm,0.1s						
PCED	**Cedros**	**0.70**	**95**	*e*P	Pg	00 53 54.6	-2.5
PCED				*e*S	Sg	00 54 03.0	-3.2
CALA	**Caldeira**	**0.70**	**98**	*e*P	Pg	00 53 54.7	-2.5
CALA				*e*S	Sg	00 54 03.5	-2.9
HOR	**Horta**	**0.77**	**102**	*e*P	Pg	00 53 55.5	-2.9
HOR				*e*S	Sg	00 54 04.6	-3.9
PICO	**Pico**	**0.93**	**101**	*e*P	Pg	00 53 58.4	-3.1
PICO				*e*S	Sg	00 54 09.0	-4.7
PBOI	**Pico dos Bois**	**0.98**	**104**	*e*S	Sg	00 54 10.4	-5.0
PBOI	28nm,0.1s						
PTEI	**Pico do Teixo**	**0.98**	**101**	*e*S	Sg	00 54 10.7	-4.7
PTEI	30nm,0.2s						
ROSA	**Rosais**	**1.06**	**88**	*e*P	Pg	00 54 00.0	-3.9
ROSA				*e*S	Sg	00 54 11.7	-5.9
PAMA	**Santo Amaro**	**1.10**	**90**	*e*S	Sg	00 54 13.1	-6.1
PAMA	53nm,0.1s						
PMAN	**Manadas**	**1.18**	**92**	*e*P	Pb	00 54 01.5	-4.5
PMAN				*e*S	Sb	00 54 14.4	-6.9
PMAN	42nm,0.2s						
PMAN	**Manadas**	**1.18**	**92**	*e*P	Pb	00 54 01.5	-4.5
PMAN				*e*S	Sb	00 54 14.4	-6.9
PID	**Ribeirinha**	**1.18**	**102**	*e*S	Sb	00 54 14.6	-6.8
PGRA	**Graciosa**	**1.30**	**74**	*e*rx		00 54 15.3	
PSBA	**Serra de Santa**	**1.77**	**87**	*e*P	Pn	00 54 09.8	-4.5
PSBA				*e*S	Sn	00 54 29.6	-7.3
PSBA	23nm,0.4s						

PRE 08 00:58:19.8±1.2,2191S×3318E,h5km,ML4.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**5.62**	**194**	*e*P	Pn	00 59 43.5	-0.5
POGA				*e*S	Sn	01 00 46.3	-2.6
POGA				AML	AML	01 01 32.5	
	comp=Z,30nm,0.7s						
ERPM	**east rand prop**	**6.24**	**225**	*e*S	Sn	01 01 02.7	-1.5
ERPM				AML	AML	01 01 57.8	
	comp=Z,38nm,0.5s						
KSR	**Koster**	**6.96**	**234**	*e*P	Pn	01 00 03.9	+1.5
KSR				*e*S	Sn	01 01 19.3	-2.7
KSR				AML	AML	01 02 15.9	
	comp=Z,12nm,0.9s						
SWZ	**Schweizer**	**8.87**	**232**	*e*P	Pn	01 00 30.1	+1.6
SWZ				*e*S	Sn	01 02 04.4	-4.4
SWZ				AML	AML	01 03 25.2	
	comp=Z,12nm,0.6s						
BOSA	**Boshof**	**9.79**	**225**	*e*P	Pn	01 00 43.0	+1.7
BOSA				*e*S	Sn	01 02 26.5	-5.1
BOSA				AML	AML	01 03 57.5	
	comp=Z,9.3nm,0.7s						

CASC 08 01:26:01.7±2.2,1152N×8623W,h76km±12km,MD3.5, ML2.7,6C-4D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.43**	**21**	*e*P	Pn	01 26 14.6	+0.2
APON				*e*S	Sn	01 26 24.9	+1.2
TICN	**Ticuantepe**	**0.51**	**359⇓**	*e*P	Pn	01 26 15.5	+0.4
TICN				*e*S	Sn	01 26 26.3	+1.3
TISN	**Laguna Tiscapa**	**0.62**	**356⇑**	*e*P	Pn	01 26 16.4	+0.2
MGAN	**Managua**	**0.63**	**358**	*e*P	Pn	01 26 16.2	0.0
MGAN				*e*S	Sn	01 26 27.6	+0.7
	comp=E,149nm,0.3s						
XAVN	**Gruta Xavier**	**0.64**	**351⇑**	*e*P	Pn	01 26 16.6	+0.2
XAVN				*e*S	Sn	01 26 27.7	+0.6
	comp=Z,267nm,0.3s						
APYN	**Apoyeque**	**0.72**	**350⇑**	*e*P	Pn	01 26 17.2	0.0
APYN				*e*S	Sn	01 26 30.1	+1.3
COPN	**Copaltepe**	**0.75**	**332⇓**	*e*P	Pn	01 26 17.4	-0.2
COPN				*e*S	Sn	01 26 29.4	+0.1
MOMJ	**Momotombo**	**0.94**	**341⇑**	*e*P	Pn	01 26 19.9	+0.2
MOMJ				*e*S	Sn	01 26 33.5	+0.4
MIRN	**Miramar**	**1.03**	**333⇑**	*i*P	Pn	01 26 21.2	+0.3
MIRN				*e*S	Sn	01 26 36.2	+1.1
	comp=Z,239nm,0.3s						
CNGN	**Cerro Negro**	**1.08**	**335⇓**	*e*P	Pn	01 26 21.7	+0.2
CNGN				*e*S	Sn	01 26 37.5	+1.2
	comp=Z,76nm,0.1s						
LEON	**Leon**	**1.11**	**324**	*e*P	Pn	01 26 21.9	+0.1
LEON				*e*S	Sn	01 26 37.4	+0.6
TELN	**Telica**	**1.23**	**331**	*e*P	Pn	01 26 22.0	-1.4
LIM1	**Limonal**	**1.25**	**130⇑**	*e*P	Pn	01 26 22.6	-1.0
LIM1				*i*P		01 26 22.6	
LIM1				*e*S	Sn	01 26 40.9	+0.8
CRIN	**San Cristobal**	**1.43**	**326⇓**	*e*P	Pn	01 26 26.1	+0.2
CRIN				*e*S	Sn	01 26 46.0	+2.0
VCR	**Vista de Mar**	**1.50**	**157**	*e*P	Pn	01 26 27.8	+0.9
CGA2	**Cerro Gallo 2**	**2.28**	**131**	*e*P	Pn	01 26 39.0	+1.8
CGA2				*e*S	Sn	01 27 07.5	+3.1
PRS1	**Puriscal**	**2.42**	**129**	*e*P	Pn	01 26 41.2	+2.1
LAJ	**Bijagual**	**2.64**	**128**	*e*P	Pn	01 26 41.4	-0.6
LCR2	**La Lucha 2**	**2.81**	**129**	*e*P	Pn	01 26 45.4	+1.1
LCR2				*e*S	Sn	01 27 19.9	+2.8
URSC	**Urasca**	**2.93**	**125**	*e*P	Pn	01 26 46.0	+0.1

*IDC **08** 02:41:09.6±0.8, 668S×1526E, h0km, mb4.5/8, mb1 4.5/10, mb1mx4.4/14, mbtmp4.4/10, ML3.6/2, MS3.4/7, Ms1 3.4/7, ms1mx2.9/21, Error ellipse: s-maj=27.4km s-min=17.9km az=106.0*

*BJI **08** 02:41:10.9, 732S×153.12E, h60km, mB5.1, mb4.7, Ms4.9, Msz4.5*

*ISCJB **08** 02:41:14.2±0.4, 668S±006×15246E±007, h33km, mb4.8/37, MS3.9/12, Error ellipse: s-maj=10.6km s-min=6.2km az=70.8*

*MOS **08** 02:41:14.4±0.9, 658S×15239E, h33km, mb5.0/17, Error ellipse: s-maj=13.7km s-min=9.1km az=81.6*

*NEIC **08** 02:41:18.4±1.8, 677S×15237E, h61km±16km, mb4.8/19, Error ellipse: s-maj=11.7km s-min=10.4km az=81.0*

ISC 08 02:41:13.6±2.4,676S±008×15265E±008,h22km±17km, h60km±3.0km:pP-P,n97,σ1°14/96,mb4.8/37,MS3.9/12, 5C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.04**	**244**	Pn	**Pn**	**02 42 40.5**	**-1.0**
	4.9nm,0.3s,baz=40,slow=9.2,SNR=8.8						
PMG				Sn	**Sn**	**02 43 49.6**	**-0.4**
	7.9nm,0.3s,baz=99,slow=18,SNR=9.7						
PMG				LR	LR	02 45 02.3	
	comp=Z,250nm,20.9s,baz=182,slow=38						
PMG	**Port Moresby**	**6.04**	**244**	*e*P	**Pn**	**02 42 40.5**	**-1.0**
PMG				*e*		02 43 49.0	
PMG				pmax	pmax		
	comp=Z,40nm,0.6s						
PMG	**Port Moresby**	**6.04**	**244**	*e*Pn	**Pn**	**02 42 40.5**	**-1.1**
	comp=Z,40nm,0.6s						
PMG				*e*Sn	**Sn**	**02 43 49.0**	**-1.0**
CTA	**Charters Tower**	**14.63**	**204**	Pn	**Pn**	**02 44 40.9**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=52,slow=18,SNR=4.0						
CTA				LR	LR	02 48 10.7	
	comp=Z,81nm,21.2s,baz=40,slow=29						
CTAO	**Charters Tower**	**14.63**	**204**	*e*P	**Pn**	**02 44 40.9**	**+1.7**
DZM	**Mont Dzumac**	**20.23**	**140**	P	**P**	**02 45 52.3**	**+5.2**
	comp=Z,24nm,1.0s,baz=340,slow=12,SNR=6.6						
DZM				LR	LR	02 52 44.8	
	comp=Z,371nm,18.3s,MS3.8,baz=14,slow=34						
GUMO	**Guam**	**21.64**	**339**	P	**P**	**02 45 59.7**	**-2.6**
	comp=Z,80nm,0.7s,mb5.2,baz=192,slow=5.9,SNR=4.9						
WRAB	**Tennant Creek**	**22.07**	**232⇑**	*e*P	**P**	**02 46 09.3**	**+2.4**
WRAB	**Tennant Creek**	**22.07**	**232**	*e*P	**P**	**02 46 05.9**	**-1.0**
	comp=Z,23nm,0.8s,mb4.7						
AS31	**Alice Springs**	**24.64**	**225**	*e*P	**P**	**02 46 33.4**	**+1.0**
ASAR	**Alice Springs**	**24.64**	**225**	P	**P**	**02 46 33.1**	**+0.7**
	comp=Z,10nm,0.7s,mb4.5,baz=58,slow=8.8,SNR=68						
ASPA	**Alice Springs**	**24.64**	**225**	*e*P	**P**	**02 46 33.4**	**+1.0**
STKA	**Stephens Creek**	**27.04**	**201**	*e*P	**P**	**02 46 52.1**	**-2.1**
	comp=Z,5.8nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**27.04**	**201**	P	**P**	**02 46 52.4**	**-1.8**
	comp=Z,9.3nm,1.0s,mb4.3,baz=25,slow=13,SNR=9.2						
STKA				LR	LR	02 55 21.0	
	comp=Z,73nm,21.8s,MS3.2,baz=28,slow=31						
FITZ	**Fitzroy Crossi**	**28.64**	**244**	*e*P	**P**	**02 47 05.8**	**-2.6**
	comp=Z,18nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**28.64**	**244**	P	**P**	**02 47 07.9**	**-0.5**
	comp=Z,4.7nm,0.7s,mb4.3,baz=50,slow=9.1,SNR=11						
FITZ				LR	LR	02 58 19.2	
	comp=Z,44nm,21.1s,MS3.0,baz=186,slow=36						
KS15	**Wonju Array Si**	**49.68**	**334**	*e*P	**P**	**02 50 04.4**	**+0.7**
NJ2	**Nanjing**	**50.27**	**322**	*e*P	**P**	**02 50 11.3**	**+3.1**
NJ2				AP	pP	02 50 26.5	+11
NJ2				XP	sP	02 50 32.3	+14
NJ2				PCP	PcP	02 51 28.2	+1.3
NJ2				S	**S**	**02 57 18.0**	**-1.4**
NJ2				XS	sS	02 57 46.0	+15
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,300nm,4.0s						
NJ2				LR	LR		
	comp=N,800nm,23.4s,MS4.7						
NJ2				LR	LR		
	comp=E,350nm,24.3s,MS4.7						
NJ2				LR	LR		
	comp=Z,330nm,24.3s,MS4.3						
ASAJ	**Asahikawa**	**51.44**	**351**	LR	LR	03 09 39.5	
	comp=Z,31nm,19.1s,MS3.4,baz=168,slow=33						
KULM	**Kulim**	**53.26**	**282**	*e*P	**P**	**02 50 29.2**	**-1.3**
MDJ	**Mudanjiang**	**55.19**	**340**	P	**P**	**02 50 47.0**	**+2.4**
MDJ				AP	pP	02 51 02.7	+11
MDJ				XP	sP	02 51 09.5	+15
MDJ				PCP	PcP	02 51 46.5	+1.0
MDJ				PP	PP	02 52 47.2	-0.8
MDJ				SCP	ScP	02 55 38.3	-4.5
MDJ				S	**S**	**02 58 27.5**	**+0.9**
MDJ				XS	sS	02 58 58.5	+20
MDJ				SS	SS	03 02 14.5	+3.8
MDJ				AMB	AMB		
	comp=Z,40nm,4.7s						
CN2	**Changchun**	**56.01**	**336**	*e*P	**P**	**02 50 53.5**	**+3.0**
HABR	**Khabarovsk**	**57.13**	**346**	*e*P	**P**	**02 50 55.8**	**-2.6**
HABR				S	**S**	**02 58 43.2**	**-9.1**
KMI	**Kunming**	**57.96**	**305**	P	**P**	**02 51 06.1**	**+1.8**
KMI				AP	pP	02 51 24.0	+13
KMI				XP	sP	02 51 31.6	+18
KMI				S	**S**	**02 58 58.4**	**-4.9**
KMI				XS	sS	02 59 31.1	+16
KMI				SS	SS	03 02 51.9	-2.5
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,50nm,3.1s						
KMI				LR	LR		
	comp=N,90nm,14.4s,MS4.1						
KMI				LR	LR		
	comp=E,80nm,16.0s,MS4.1						
KMI				LR	LR		
	comp=Z,60nm,19.7s,MS3.7						
KLR	**Kul'dur**	**58.67**	**344**	*e*P	**P**	**02 51 05.0**	**-4.2**
CD2	**Chengdu**	**59.90**	**312**	*e*P	**P**	**02 51 15.9**	**-1.8**
CD2				AP	pP	02 51 32.0	+7.2
CD2				XP	sP	02 51 38.9	+11
CD2				PP	PP	02 53 30.2	+0.3
CD2				S	**S**	**02 59 20.9**	**-7.5**
CD2				SS	SS	03 03 27.9	+3.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				LR	LR		
	comp=N,160nm,12.0s						
CD2				LR	LR		
	comp=Z,130nm,10.8s,MS4.3						
HHC	**Hu-ho-hao-te**	**60.54**	**325**	*e*P	**P**	**02 51 23.1**	**+1.0**
HHC				AP	pP	02 51 42.5	+13
HHC				PCP	PcP	02 52 03.8	-2.7
HHC				PP	PP	02 53 41.6	+6.0
HHC				SCP	ScP	02 55 57.2	-9.3
HHC				PCS	PcS	02 56 05.4	-3.7
HHC				S	**S**	**02 59 37.5**	**+0.8**
HHC				PS		03 00 04.9	
HHC				SCS	ScS	03 01 03.7	-7.9
HHC				SS	SS	03 03 41.5	+6.6
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,100nm,4.7s						
HHC				LR	LR		
	comp=N,140nm,20.2s,MS4.9						
HHC				LR	LR		
	comp=E,830nm,17.6s,MS4.9						
HHC				LR	LR		
	comp=Z,110nm,19.0s,MS4.0						
SMY	**Shemya**	**62.01**	**15**	*e*P	**P**	**02 51 33.1**	**+1.1**
SMY				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2						
SMY	**Shemya**	**62.01**	**15**	*e*P	**P**	**02 51 33.0**	**+1.0**
	comp=Z,16nm,0.8s,mb5.2						
LZH	**Lanzhou**	**62.53**	**317**	*e*P	**P**	**02 51 34.7**	**-0.8**
LZH				AP	pP	02 51 54.8	+12
LZH				XP	sP	02 52 01.2	+16
LZH				PP	PP	02 53 55.3	+2.2
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,60nm,8.2s						
LZH				LR	LR		
	comp=N,350nm,17.2s						
LZH				LR	LR		
	comp=Z,410nm,18.9s,MS4.6						
HIA	**Hailar**	**62.75**	**336**	*d*P	**P**	**02 51 36.3**	**-0.7**
HIA	**Hailar**	**62.75**	**336**	*e*P	**P**	**02 51 36.0**	**-1.0**
	comp=Z,4.7nm,0.4s,mb5.0						
MA2	**Magadan**	**66.13**	**359**	*c*eP	**P**	**02 51 59.3**	**+0.2**
MA2				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.5						
MA2	**Magadan**	**66.13**	**359**	*e*P	**P**	**02 51 59.0**	**-0.2**
	comp=Z,20nm,0.8s,mb5.2						
GTA	**Gaotai**	**66.99**	**318**	*e*P	**P**	**02 52 05.1**	**+0.5**
GTA				AP	pP	02 52 23.3	+12
GTA				XP	sP	02 52 31.5	+17
CIT	**Chita**	**67.39**	**335**	*e*P	**P**	**02 52 07.1**	**-0.1**
CIT				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.0						
ULN	**Ulaanbaatar**	**67.57**	**329**	*d*P	**P**	**02 52 08.4**	**+0.1**
ULN	**Ulaanbaatar**	**67.57**	**329**	*e*P	**P**	**02 52 08.3**	**0.0**
	comp=Z,11nm,1.0s,mb4.8						
SONM	**Songino Array**	**67.89**	**328**	P	**P**	**02 52 10.4**	**+0.1**
	comp=Z,8.9nm,0.9s,mb4.8,baz=135,slow=5.9,SNR=14						
YAK	**Yakutsk**	**70.85**	**349**	*i*P	**P**	**02 52 29.4**	**+0.8**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
VNDA	**Vanda**	**70.89**	**178**	P	**P**	**02 52 29.7**	**+0.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=306,slow=6.8,SNR=7.6						
VNDA	**Vanda**	**70.89**	**178**	*e*P	**P**	**02 52 26.9**	**-2.0**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VNDA	**Vanda**	**70.89**	**178**	*e*P	**P**	**02 52 26.9**	**-2.0**
	comp=Z,3.4nm,1.2s,mb4.2						
ZAK	**Zakamensk**	**71.08**	**329**	*i*P	**P**	**02 52 30.1**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
TLY	**Talaya**	**71.69**	**330**	*e*P	**P**	**02 52 34.0**	**+0.3**
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
JIRN	**Jiri**	**72.67**	**302**	*e*P	**P**	**02 52 39.8**	**+0.3**
MOY	**Mondy**	**73.00**	**329**	*e*P	**P**	**02 52 42.1**	**+0.6**
MOY				pmax	pmax		
	comp=Z,25nm,1.9s,mb4.8						
GUN	**Gumba**	**73.00**	**302**	*e*P	**P**	**02 52 41.9**	**+0.4**
PKI	**Pulchoki**	**73.30**	**301**	*e*P	**P**	**02 52 43.5**	**+0.2**
KKN	**Kakani**	**73.48**	**301**	*e*P	**P**	**02 52 44.9**	**+0.6**
DMN	**Daman**	**73.57**	**301**	*e*P	**P**	**02 52 45.2**	**+0.3**
	comp=Z,35nm,1.0s,mb5.2						
GKN	**Gorkha**	**74.08**	**302**	*e*P	**P**	**02 52 47.8**	**-0.1**
KOLN	**Koldanda**	**74.90**	**301**	*e*P	**P**	**02 52 52.1**	**-0.5**
	comp=Z,15nm,0.8s,mb5.0						
BILL	**Bilibino**	**75.24**	**5**	*d i*P	**P**	**02 52 55.3**	**+0.7**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BILL				MLR	MLR		
	comp=Z,100nm,26.0s,MS4.0						
BILL	**Bilibino**	**75.24**	**5**	*e*P	**P**	**02 52 55.2**	**+0.6**
	comp=Z,14nm,1.3s,mb4.7						
WMQ	**Urumqi**	**77.07**	**318**	P	**P**	**02 53 05.6**	**+0.6**
WMQ				AP	pP	02 53 23.9	+12
WMQ				S	S	03 02 45.5	-7.0
WMQ				SKS		03 03 05.9	
WMQ				SCS	ScS	03 03 11.5	-9.4
WMQ				XS	sS	03 03 21.6	+17
WMQ				AMB	AMB		
	comp=Z,90nm,5.4s						
WMQ				LR	LR		
	comp=N,50nm,27.0s,MS3.8						
WMQ				LR	LR		
	comp=E,30nm,25.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,20nm,15.0s						
TIXI	**Tiksi**	**79.80**	**353⇑**	*e*P	**P**	**02 53 19.1**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
PMR	**Palmer**	**81.52**	**24**	*e*P	**P**	**02 53 29.2**	**-0.1**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
PMR	**Palmer**	**81.52**	**24**	*e*P	**P**	**02 53 29.2**	**-0.1**
	comp=Z,5.7nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**81.69**	**319**	P	**P**	**02 53 29.6**	**-0.6**
	comp=Z,4.2nm,0.9s,mb4.4,baz=101,slow=6.3,SNR=31						
MKAR	**Makanchi Array**	**81.69**	**319⇑**	*e*P	**P**	**02 53 29.8**	**-0.4**
SML	**Sawmill**	**81.96**	**24**	*e*P	**P**	**02 53 30.3**	**-1.3**
MCK	**McKinley**	**82.72**	**22**	*e*P	**P**	**02 53 35.5**	**-0.1**
MCK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
MCK	**McKinley**	**82.72**	**22**	*e*P	**P**	**02 53 35.5**	**0.0**
	comp=Z,12nm,1.0s,mb4.9						
COLA	**College**	**83.71**	**22**	*c i*P	**P**	**02 53 40.8**	**+0.1**
COLA	**College**	**83.71**	**22**	*e*P	**P**	**02 53 40.0**	**-0.7**
	comp=Z,10nm,0.8s,mb5.0						
ULHL	**Ulahol**	**84.55**	**314**	P	**P**	**02 53 45.7**	**+0.7**
	SNR=8.9						
TKM2	**Tokmak 2**	**85.17**	**314**	P	**P**	**02 53 48.2**	**+0.2**
	SNR=14						
KZA	**Kyzart**	**85.22**	**313**	P	**P**	**02 53 49.8**	**+1.5**
	SNR=32						
KBK	**Karagaybulak**	**85.57**	**314**	P	**P**	**02 53 51.0**	**+1.0**
	SNR=8.2						
UCH	**Uchtor**	**85.79**	**313**	P	**P**	**02 53 52.4**	**+1.2**
	SNR=26						
CHMS	**Chumysh**	**85.79**	**314**	P	**P**	**02 53 51.5**	**+0.3**
	SNR=8.6						
FRU	**Bishkek**	**85.85**	**314**	*e*P	**P**	**02 53 51.0**	**-0.5**
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb5.3						
AAK	**Ala-Archa**	**85.89**	**314**	P	**P**	**02 53 52.7**	**+1.0**
	SNR=10						
AAK	**Ala-Archa**	**85.89**	**314**	*e*P	**P**	**02 53 51.2**	**-0.5**
AAK				pmax	pmax		
	comp=Z,38nm,1.5s,mb5.4						
AAK	**Ala-Archa**	**85.89**	**314**	*e*P	**P**	**02 53 51.2**	**-0.5**
	comp=Z,38nm,1.5s,mb5.4						
USP	**Ospenovka**	**86.03**	**314**	P	**P**	**02 53 52.7**	**+0.4**
	SNR=14						
EKS2	**Erkin-Say**	**86.42**	**314**	P	**P**	**02 53 55.1**	**+0.9**
	SNR=14						
DAWY	**Dawson**	**86.62**	**24**	*e*P	**P**	**02 53 56.8**	**+1.5**
INK	**Inuvik**	**90.33**	**21**	*e*P	**P**	**02 54 12.7**	**-0.1**
INK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
INK	**Inuvik**	**90.33**	**21**	*e*P	**P**	**02 54 12.7**	**-0.1**
	comp=Z,4.6nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**90.69**	**324**	*e*P	**P**	**02 54 12.6**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**90.69**	**324**	*e*P	**P**	**02 54 12.6**	**-2.0**
	comp=Z,2.3nm,0.9s,mb4.5						
BRVK	**Borovoye**	**90.77**	**323**	*e*P	**P**	**02 54 13.3**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**90.77**	**323**	*e*P	**P**	**02 54 13.2**	**-1.7**
	comp=Z,2.4nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**91.52**	**323**	*e*P	**P**	**02 54 17.0**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**91.52**	**323**	*e*P	**P**	**02 54 17.0**	**-1.4**
	comp=Z,1.4nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**93.41**	**52**	P	**P**	**02 54 25.4**	**-1.7**
	comp=Z,0.5nm,0.9s,mb3.9,baz=267,slow=7.7,SNR=2.2						
YKA	**Yellowknife Ar**	**97.22**	**28**	LR	LR	03 35 13.3	
	comp=Z,38nm,18.2s,MS3.9,baz=155,slow=33						
ARU	**Arti**	**97.84**	**326**	*i* P	**P**	**02 54 45.0**	**-2.3**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.8						
SOC	**Sochi**	**111.19**	**314**	*i* PKIKP	PKiKP	02 59 39.4	-6.1
AKASG	**Malin Array Be**	**115.98**	**324**	*i* PKIKP	PKPdf	03 00 01.2	+6.6
KHC	**Kasperske Hory**	**125.52**	**328**	*e*PKPdf	PKPdf	03 00 13.0	+0.1
KHC	**Kasperske Hory**	**125.52**	**328**	*i* PKIKP	PKPdf	03 00 13.5	+0.6
GERES	**GERESS Array B**	**125.62**	**328**	PKP	PKPdf	03 00 13.6	+0.4
	comp=Z,0.7nm,0.7s,baz=90,slow=2.7,SNR=9.1						
BDFB	**Brasilia**	**149.77**	**138**	PKPbc	PKPbc	03 01 02.5	+0.8
	comp=Z,1.2nm,0.5s,baz=170,slow=18,SNR=2.5						
TORD	**Torodi Ar. Bea**	**150.71**	**285**	PKPbc	PKPbc	03 01 04.6	+0.7
	comp=Z,2.2nm,0.8s,baz=108,slow=2.9,SNR=13						
TORD				PKPab	PKPab	03 01 13.3	+2.4
	comp=Z,2.0nm,0.8s,baz=101,slow=2.0,SNR=7.4						

*MDD **08** 03:08:03.7±1.1, 3629N×246E, h0km, mb2.8/6, Error ellipse: s-maj=15.9km s-min=6.5km az=29.0, PRXIMO*

*ISCJB **08** 03:08:06.1±1.1, 3667N±006×241E±006, h10km, Error ellipse: s-maj=9.1km s-min=7.2km az=148.8*

*NEIC **08** 03:08:06.6, 3663N×257E, h0km, MG3.1(MDD), After MDD.*

*CSEM **08** 03:08:06.3±0.4, 3668N×243E, h10km, mb3.1/5, Error ellipse: s-maj=10.3km s-min=6.3km az=5.0*

*CRAAG **08** 03:08:07.1, 3638N×273E, Ml2.5*

ISC 08 03:08:04.0±1.1,365N±01×258E±008,h7km±17km,n16, σ1°32/28,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.45**	**137**	P	**Pg**	**03 08 10.5**	**-2.2**
ABA	**Alger-Bouzarea**	**0.46**	**53**	P	**Pg**	**03 08 17.0**	**+4.1**
ADJB

EQES	**Quesada**	**4.69**	**287**	P	**Pn**	**03 09 16.2**	**+1.0**
	0.1nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**03 10 09.8**	**0.0**
	0.7nm,0.4s,SNR=7.9						
EQES	**Quesada**	**4.69**	**287**	P	**Pn**	**03 09 16.2**	**+1.0**
	0.1nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**03 10 09.8**	**0.0**
	0.7nm,0.4s,SNR=7.9						

JMA 08 03:56:05.9±0.3,4568N×14347E,h330km±3km,M3.7,
10C-4D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.95**	**221**	⇑P	Pn	03 56 49.2	-0.1
JSE				*e*S	S	03 57 23.5	-0.5
JWK2	**Keihoku**	**1.16**	**252**	⇑P	Pn	03 56 50.5	+0.3
JWK2				*e*S	S	03 57 24.6	-1.0
JRR	**Rishiri**	**1.61**	**251**	P	Pn	03 56 52.6	-0.1
JMP	**Maruseppu**	**1.68**	**183**	⇑P	Pn	03 56 53.5	+0.4
JTKR	**Abashiri--Toko**	**1.74**	**170**	⇑P	Pn	03 56 54.1	+0.6
JTKR				*e*S	S	03 57 31.9	+0.3
JKK2	**Kamakawa 2**	**1.88**	**196**	⇑P	Pn	03 56 55.1	+0.6
JYG	**Yagishiri**	**1.92**	**230**	P	Pn	03 56 54.8	+0.1
JAR	**Ashorobuto**	**2.39**	**175**	⇑P	Pn	03 56 59.2	+0.8
JAR				*e*S	S	03 57 40.1	-0.3
JAK	**Akkeshi**	**2.82**	**161**	P	Pn	03 57 02.4	+0.3
JAK				*e*S	S	03 57 45.0	-2.2
NEM2	**Nemuro 2**	**2.83**	**144**	P	Pn	03 57 01.6	-0.6
NEM2				*e*S	S	03 57 43.4	-3.9
JCH	**Churui**	**3.07**	**181**	P	Pn	03 57 03.7	-0.7
JCH				*e*S	S	03 57 47.0	-4.3
JEW	**Eniwo**	**3.19**	**208**	P	Pn	03 57 06.5	+1.0
JEW				*e*S	S	03 57 52.2	-1.2
JNBK	**Urakawa-nobuka**	**3.44**	**189**	P	Pn	03 57 07.7	-0.3
JKB	**Kayabe**	**4.18**	**206**	P	Pn	03 57 15.0	-0.6
JKB				*e*S	S	03 58 07.6	-4.1
JOSM	**Okushiri--Mats**	**4.61**	**220**	P	Pn	03 57 20.4	+0.1
JOT	**Ohata**	**4.64**	**203**	P	Pn	03 57 19.8	-0.8
JOT				*e*S	S	03 58 16.3	-4.5
S05C	**Merced**	**68.26**	**59**	⇓P	P	04 06 34.8	+3.1
	baz=1.5,SNR=6.4						
S05C				⇓S		04 06 53.9	
	baz=1.5						
U04C	**Hernandez Rese**	**68.64**	**60**	⇑P	P	04 06 26.1	-8.0
	baz=0.8						
PKD	**Parkfield**	**69.06**	**60**	⇓P	P	04 06 20.2	-16
	baz=0.5,SNR=8.7						
PKD				⇑S		04 06 28.3	
	baz=0.5						
V04C	**Ramage Ranch,**	**69.06**	**60**	P	P	04 06 25.8	-11
	baz=0.8,SNR=12						
V04C				⇑S		04 06 38.1	
	baz=0.8						
HELL	**Mitchell Peak**	**69.48**	**58**	⇑P	P	04 06 28.2	-11
	baz=1.1,SNR=8.3						
HELL				⇓S		04 06 42.0	
	baz=1.1						

*IDC **08** 04:23:17.8±0.7,250N×9683E,h0km,mb4.4/13,*
mb1 4.5/14,mb1mx4.3/21,mbtmp4.4/14,ML3.4/1,MS3.9/6,
Ms1 3.8/6,ms1mx3.5/17,Error ellipse: s-maj=35.1km
s-min=14.7km az=43.0
*BJI **08** 04:23:19.9,237N×9675E,h37km,mB4.8,mb4.8,Ms4.3,*
Msz4.0
*ISCJB **08** 04:23:20.8±0.4,243N±006×9683E±005,h37km,mb4.7/52,*
MS3.9/15,Error ellipse: s-maj=8.4km s-min=6.3km
az=62.6
*NEIC **08** 04:23:21.8±0.4,247N×9682E,h30km,mb4.8/22,Error*
ellipse: s-maj=10.4km s-min=6.3km az=43.0
*MOS **08** 04:23:22.8±0.9,268N×9694E,h46km,mb5.0/18,Error*
ellipse: s-maj=13.6km s-min=6.6km az=110.0

ISC 08 04:23:23.6±0.4,249N±005×9687E±005,h41km,
h41km±3.1km:pP-P,n117,σ1°09/121,mb4.7/52,MS3.9/15,
5C-5D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**1.97**	**59**	⇑*e*P	**Pn**	**04 23 57.6**	**+3.1**
TSI				*e*S	**Sn**	**04 24 21.8**	**+3.8**
TSI	**Tuntungan**	**1.97**	**59**	*e*P	**Pn**	**04 23 45.0**	**-10**
TSI				*e*S	**Sn**	**04 24 22.0**	**+4.0**
TSI	**Tuntungan**	**1.97**	**59**	*e*P	**Pn**	**04 23 56.5**	**+2.0**
TSI				*e*S	**Sn**	**04 24 20.8**	**+2.8**
PSI	**Prapat**	**2.08**	**81**	Pn	**Pn**	**04 23 56.4**	**+0.4**
	12nm,0.3s,baz=279,slow=6.8,SNR=50						
PSI				LR	LR	04 24 57.8	
	comp=Z,2μm,20.3s,baz=320,slow=48						
PSI	**Prapat**	**2.08**	**81**	Pn	**Pn**	**04 23 56.4**	**+0.4**
PSI				LR	LR	04 24 57.8	
BSI	**Banda Aceh**	**3.37**	**332**	P	**Pn**	**04 24 13.0**	**-0.8**
	272nm,1.2s						
KULM	**Kulim**	**4.69**	**53**	*e*Pn	**Pn**	**04 24 32.1**	**+0.2**
CHTO	**Chiang Mai**	**16.35**	**7**	P	**Pn**	**04 27 08.9**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**16.35**	**7**	P	**Pn**	**04 27 08.9**	**-1.2**
	comp=Z,11nm,0.9s						
KKM	**Kota Kinabalu**	**19.61**	**79**	*e*P	**Pn**	**04 27 48.1**	**-1.9**
TARAI	**Tarakan**	**20.70**	**87**	P	**P**	**04 27 59.8**	**-0.3**
	comp=Z,267nm,0.6s						
QIZ	**Qiongzhong**	**20.78**	**37**	P	**P**	**04 28 02.0**	**+1.0**
QIZ				*e*S	**S**	**04 31 49.8**	**-0.8**
QIZ				LR	LR		
	comp=Z,400nm,14.8s,MS3.9						
KMI	**Kunming**	**23.21**	**14**	P	**P**	**04 28 27.3**	**+0.4**
KMI				AP		04 28 38.4	
KMI				XP	sP	04 28 44.3	+1.8
KMI				PP		04 28 58.0	
KMI				PPP		04 29 11.2	
KMI				S	**S**	**04 32 35.3**	**-0.3**
KMI				XS	sS	04 32 53.0	-1.1
KMI				SS		04 33 21.0	
KMI				SSS		04 33 39.1	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.1						
KMI				AMB	AMB		
	comp=Z,60nm,3.3s						
KMI				LR	LR		
	comp=N,270nm,16.8s,MS3.8						
KMI				LR	LR		
	comp=E,160nm,21.4s,MS3.8						
KMI				LR	LR		
	comp=Z,340nm,18.3s,MS3.8						
HYB	**Hyderabad**	**23.31**	**311**	*i* P	**P**	**04 28 32.0**	**+4.0**
HYB	**Hyderabad**	**23.31**	**311**	*e*P	**P**	**04 28 32.0**	**+4.0**
GYA	**Guiyang**	**25.62**	**21**	⇑*i*P	**P**	**04 28 48.4**	**-0.7**
GYA				AP	pP	04 28 57.8	-2.5
GYA				XP	sP	04 29 01.6	-3.7
GYA				PP		04 29 27.8	
GYA				S	**S**	**04 33 10.3**	**-4.1**
GYA				XS	sS	04 33 25.8	-7.4
GYA				SCP	ScP	04 35 56.3	+1.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,90nm,3.8s						
GYA				LR	LR		
	comp=N,680nm,12.8s,MS4.5						
GYA				LR	LR		
	comp=E,840nm,15.4s,MS4.5						
GYA				LR	LR		
	comp=Z,760nm,14.8s,MS4.3						
JIRN	**Jiri**	**27.03**	**339**	*e*P	**P**	**04 29 02.7**	**+0.9**
	comp=Z,71nm,0.9s,mb5.2						
PKI	**Pulchoki**	**27.24**	**337**	*e*P	**P**	**04 29 03.9**	**+0.2**
	comp=Z,26nm,1.0s,mb4.7						
PKI	**Pulchoki**	**27.24**	**337**	*e*P	**P**	**04 29 03.9**	**+0.2**
PKI				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.7						
GUN	**Gumba**	**27.37**	**338**	*e*P	**P**	**04 29 05.4**	**+0.5**
	comp=Z,67nm,0.8s,mb5.2						
DMN	**Daman**	**27.40**	**337**	*e*P	**P**	**04 29 06.0**	**+0.9**
	comp=Z,27nm,0.9s,mb4.8						
KKN	**Kakani**	**27.49**	**337**	*e*P	**P**	**04 29 06.1**	**+0.2**
	comp=Z,60nm,1.0s,mb5.1						
KKN	**Kakani**	**27.49**	**337**	*e*P	**P**	**04 29 06.1**	**+0.2**
KKN				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
LSA	**Lhasa**	**27.60**	**349**	*e*P	**P**	**04 29 06.3**	**-0.6**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
LSA	**Lhasa**	**27.60**	**349**	*e*P	**P**	**04 29 06.3**	**-0.6**
	comp=Z,3.2nm,0.4s,mb4.3						
GKN	**Gorkha**	**27.93**	**336**	*e*P	**P**	**04 29 10.3**	**+0.4**
	comp=Z,58nm,0.9s,mb5.2						
KOLN	**Koldanda**	**28.16**	**334**	*e*P	**P**	**04 29 12.3**	**+0.4**
	comp=Z,41nm,0.8s,mb5.1						
CD2	**Chengdu**	**29.01**	**12**	*e*P	**P**	**04 29 19.4**	**-0.1**
CD2				AP	pP	04 29 31.2	+0.4
CD2				XP	sP	04 29 36.7	+1.0
CD2				PP	PP	04 30 15.0	-10
CD2				S	**S**	**04 34 07.4**	**-0.4**
CD2				XS	sS	04 34 27.5	+0.9
CD2				SS	SS	04 35 39.9	-32
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,350nm,14.4s						
CD2				LR	LR		
	comp=Z,360nm,20.4s						
XAN	**Xi'an**	**33.35**	**18**	P	**P**	**04 29 54.3**	**-3.4**
LZH	**Lanzhou**	**34.05**	**10**	*e*P	**P**	**04 30 02.5**	**-1.3**
LZH				AP	pP	04 30 13.4	-1.7
LZH				XP	sP	04 30 17.9	-2.2
LZH				PP	PP	04 31 18.5	-2.8
LZH				*e*S	**S**	**04 35 26.1**	**-0.3**
LZH				XS	sS	04 35 43.6	-1.8
LZH				*e*SS	SS	04 37 35.4	-19
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,80nm,5.9s						
LZH				LR	LR		
	comp=E,570nm,13.6s						
LZH				LR	LR		
	comp=Z,930nm,17.5s,MS4.6						
FITZ	**Fitzroy Crossi**	**34.96**	**127**	P	**P**	**04 30 11.6**	**0.0**
	comp=Z,3.9nm,0.8s,mb4.4,baz=11,slow=13,SNR=7.7						
NJ2	**Nanjing**	**35.96**	**33**	*e*P	**P**	**04 30 22.4**	**+2.2**
NJ2				AP	pP	04 30 32.1	+0.5
NJ2				XP	sP	04 30 36.2	-0.4
NJ2				PP	PP	04 31 44.8	+2.4
NJ2				S	**S**	**04 35 59.0**	**+3.2**
NJ2				XS	sS	04 36 15.0	+0.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,190nm,4.3s						
NJ2				LR	LR		
	comp=N,450nm,14.5s,MS4.4						
NJ2				LR	LR		
	comp=E,370nm,18.9s,MS4.4						
NJ2				LR	LR		
	comp=Z,210nm,13.9s,MS4.1						
SSE	**Sheshan**	**36.57**	**36**	P	**P**	**04 30 27.5**	**+2.1**
SSE				XP	sP	04 30 43.5	+1.7
SSE				PP	PP	04 31 52.3	+3.2
SSE				S	**S**	**04 36 09.9**	**+4.8**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,130nm,3.4s						
SSE				LR	LR		
	comp=N,50nm,19.7s,MS3.6						
SSE				LR	LR		
	comp=E,80nm,19.9s,MS3.6						
SSE				LR	LR		
	comp=Z,130nm,20.4s,MS3.7						
GTA	**Gaotai**	**36.85**	**4**	*e*P	**P**	**04 30 27.0**	**-0.8**
GTA				AP	pP	04 30 38.9	-0.3
GTA				XP	sP	04 30 43.9	-0.3
GTA				PP	PP	04 31 51.8	-0.4
GTA				S	**S**	**04 36 06.1**	**-3.3**
GTA				XS	sS	04 36 24.0	-4.4
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,80nm,5.7s						
GTA				LR	LR		
	comp=N,80nm,13.3s,MS4.0						
GTA				LR	LR		
	comp=E,140nm,14.1s,MS4.0						
GTA				LR	LR		
	comp=Z,120nm,13.3s,MS3.9						
NWAO	**Narrogin (SRO)**	**40.15**	**153**	LR	LR	04 47 08.8	
	comp=Z,120nm,19.2s,MS3.8,baz=335,slow=36						
BJT	**Baijiatuan**	**41.26**	**23**	*e*P	**P**	**04 31 04.3**	**-0.4**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuan**	**41.26**	**23**	*e*P	**P**	**04 31 04.3**	**-0.3**
	comp=Z,10nm,0.6s,mb4.6						
WMQ	**Urumqi**	**41.96**	**350**	*e*P	**P**	**04 31 11.2**	**+0.8**
WMQ				LR	LR		
	comp=N,40nm,23.0s,MS3.5						
WMQ				LR	LR		
	comp=E,70nm,26.0s,MS3.5						
WMQ				LR	LR		
	comp=Z,60nm,23.0s,MS3.4						
WRAB	**Tennant Creek**	**43.01**	**123**	*e*P	**P**	**04 31 19.8**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**43.01**	**123**	*e*P	**P**	**04 31 19.8**	**+0.9**
	comp=Z,17nm,0.8s,mb4.8						
ULHL	**Ulahol**	**43.68**	**338**	P	**P**	**04 31 25.4**	**+1.0**
	SNR=21						
KZA	**Kyzart**	**43.92**	**337**	P	**P**	**04 31 27.7**	**+1.4**
	SNR=7.3						
UCH	**Uchtor**	**44.34**	**336**	P	**P**	**04 31 31.1**	**+1.4**
	SNR=22						
ASAR	**Alice Springs**	**44.44**	**128**	P	**P**	**04 31 30.9**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.2,baz=301,slow=7.7,SNR=24						
TKM2	**Tokmak 2**	**44.51**	**338**	P	**P**	**04 31 31.9**	**+1.0**
	SNR=16						
KBK	**Karagaybulak**	**44.53**	**337**	P	**P**	**04 31 32.7**	**+1.5**
	SNR=24						
AAK	**Ala-Archa**	**44.69**	**336**	⇓*e*P	**P**	**04 31 34.1**	**+1.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,28.0s,MS3.6						
AAK	**Ala-Archa**	**44.69**	**336**	*e*P	**P**	**04 31 33.2**	**+0.8**
	comp=Z,17nm,1.3s,mb4.7						
FRU	**Bishkek**	**44.81**	**337**	*e*P	**P**	**04 31 34.0**	**+0.6**
CHMS	**Chumysh**	**44.90**	**337**	P	**P**	**04 31 35.0**	**+0.9**
	SNR=6.2						
EKS2	**Erkin-Say**	**45.01**	**336**	P	**P**	**04 31 36.6**	**+1.7**
	SNR=11						
USP	**Ospenovka**	**45.22**	**337**	P	**P**	**04 31 37.3**	**+0.6**
	SNR=31						
SONM	**Songino Array**	**45.92**	**9**	P	**P**	**04 31 41.2**	**-0.9**
	comp=Z,3.8nm,0.8s,mb4.4,baz=196,slow=7.2,SNR=4.1						
MK31	**Makanchi Array**	**45.92**	**346**	P	**P**	**04 31 41.5**	**-0.7**
MK31				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**45.92**	**346**	P	**P**	**04 31 41.4**	**-0.7**
	comp=Z,18nm,0.8s,mb5.0,baz=157,slow=7.9,SNR=96						
MKAR	**Makanchi Array**	**45.92**	**346**	⇑*e*P	**P**	**04 31 42.0**	**-0.1**
MKAR	**Makanchi Array**	**45.92**	**346**	P	**P**	**04 31 41.4**	**-0.7**
ULN	**Ulaanbaatar**	**46.05**	**10**	⇓*e*P	**P**	**04 31 42.9**	**-0.3**
ULN	**Ulaanbaatar**	**46.05**	**10**	*e*P	**P**	**04 31 42.1**	**-1.1**
	comp=Z,1.5nm,0.5s,mb4.2						
ZAK	**Zakamensk**	**48.03**	**6**	*e*P	**P**	**04 31 57.8**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.3						
CN2	**Changchun**	**48.32**	**28**	*e*P	**P**	**04 32 03.2**	**+2.3**
TLY	**Talaya**	**49.35**	**6**	*i* P	**P**	**04 32 08.8**	**0.0**
KURK	**Kurchatov**	**50.47**	**345**	*e*P	**P**	**04 32 15.4**	**-1.9**
KURK				*e*		04 33 35.9	
KURK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
KURK	**Kurchatov**	**50.47**	**345**	*e*P	**P**	**04 32 15.4**	**-1.9**
	comp=Z,13nm,1.0s,mb4.9						
KURK				*e*PcP	PcP	04 33 35.9	+1.0
HIA	**Hailar**	**50.54**	**19**	*e*P	**P**	**04 32 16.2**	**-1.6**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HIA	**Hailar**	**50.54**	**19**	*e*P	**P**	**04 32 16.2**	**-1.6**
	comp=Z,5.3nm,0.4s,mb4.8						
MDJ	**Mudanjiang**	**50.92**	**30**	P	**P**	**04 32 21.6**	**+1.0**
MDJ				AP	pP	04 32 30.8	-1.7
MDJ				XP	sP	04 32 36.2	-1.1
MDJ				PCP	PcP	04 33 40.4	+3.8
MDJ				PP	PP	04 34 21.8	+4.6
MDJ				SCP	ScP	04 37 30.7	+1.2
MDJ				PCS	PcS	04 37 34.6	+0.4
MDJ				S	**S**	**04 39 38.7**	**+4.4**
MDJ				XS	sS	04 39 54.9	+1.0
MDJ				AMB	AMB		
	comp=Z,40nm,4.7s						
MDJ				LR	LR		
	comp=N,20nm,23.2s,MS3.2						
MDJ				LR	LR		
	comp=E,20nm,23.9s,MS3.2						
MDJ				LR	LR		
	comp=Z,50nm,15.7s						
MJAR	**Matsushiro Arr**	**50.98**	**43**	LR	LR	04 53 50.0	
	comp=Z,74nm,19.5s,MS3.7,baz=205,slow=36						
PMG	**Port Moresby**	**51.48**	**104**	⇑*e*P	**P**	**04 32 26.3**	**+1.5**
PMG	**Port Moresby**	**51.48**	**104**	P	**P**	**04 32 24.7**	**-0.1**
	comp=Z,22nm,0.7s,mb5.2						
NVS	**Novosibirsk**	**53.36**	**350**	*i* P	**P**	**04 32 36.6**	**-2.2**
KRAR	**Krasnoyarsk**	**53.46**	**357**	⇑*e*P	**P**	**04 32 38.2**	**-1.3**
STKA	**Stephens Creek**	**54.47**	**133**	P	**P**	**04 32 46.4**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=319,slow=10						
STKA	**Stephens Creek**	**54.47**	**133**	P	**P**	**04 32 46.4**	**-0.4**
VOSK	**Vostochnaya**	**54.48**	**341**	P	**P**	**04 32 46.0**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**55.34**	**340**	*e*P	**P**	**04 32 51.8**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**55.34**	**340**	*e*P	**P**	**04 32 51.8**	**-1.3**
	comp=Z,5.2nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**55.41**	**341**	*e*P	**P**	**04 32 53.0**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**55.41**	**341**	*e*P	**P**	**04 32 53.0**	**-0.6**
	comp=Z,7.0nm,0.8s,mb4.7						
AB31	**Akbulak array**	**56.23**	**332**	P	**P**	**04 32 59.2**	**-0.3**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KMBO	**Kilima Mbogo**	**59.71**	**267**	LR	LR	04 54 44.1	
	comp=Z,82nm,18.3s,MS3.9,baz=95,slow=32						
GNI	**Garni**	**60.14**	**316**	*i* P	**P**	**04 33 27.3**	**+0.4**
ARU	**Arti**	**61.88**	**337**	⇓*i*P	**P**	**04 33 37.9**	**-0.7**
ARU				*e*		04 35 49.9	
ARU				*e*S	**S**	**04 42 00.2**	**+0.8**
ARU				*e*SS	SS	04 45 58.8	-3.0
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
KIV	**Kislovodsk**	**63.12**	**319**	*i* P	**P**	**04 33 48.6**	**+1.6**
KIV				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
YAK	**Yakutsk**	**64.29**	**16**	*e*P	**P**	**04 33 53.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.4s						
SOC	**Sochi**	**64.95**	**318**	*e*P	**P**	**04 33 58.7**	**-0.3**
SOC				*e*		04 34 36.2	
SOC				*e*		04 36 19.3	
SOC				*e*PPP		04 37 51.8	
SOC				*e*S	**S**	**04 42 36.8**	**-0.8**
SOC				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
ANN	**Anapa**	**66.92**	**318**	*e*P	**P**	**04 34 07.3**	**-4.3**
ANN				*e*PP	pP	04 34 35.5	+12
ANN				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
BRTR	**Keskin Array B**	**68.00**	**312**	P	**P**	**04 34 19.1**	**+0.6**
	comp=Z,1.0nm,0.8s,mb3.9,baz=113,slow=8.2,SNR=5.2						
CASY	**Casey**	**69.31**	**174**	*e*P	**P**	**04 34 24.4**	**-2.2**
MA2	**Magadan**	**70.33**	**26**	*i* P	pP	04 34 43.1	-2.1
MATP	**Matopo**	**70.70**	**247**	LR	LR	04 59 22.6	
	comp=Z,90nm,19.5s,MS4.0,baz=126,slow=31						
OBN	**Obninsk**	**71.36**	**328**	⇓*i*P	**P**	**04 34 39.2**	**+0.1**
OBN				*e*	pP	04 34 54.0	+2.6
OBN				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
TIXI	**Tiksi**	**71.99**	**10**	⇓*e*P	**P**	**04 34 41.4**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.4						
AKASG	**Malin Array Be**	**74.04**	**322**	P	**P**	**04 34 55.1**	**0.0**
	comp=Z,4.6nm,0.6s,mb4.6,baz=91,slow=4.8,SNR=21						
MLR	**Muntele Rosu**	**74.91**	**316**	P	**P**	**04 35 01.4**	**+1.3**
	comp=Z,5.3nm,0.9s,mb4.5,baz=94,slow=4.0,SNR=5.5						
BOSA	**Boshof**	**75.13**	**240**	LR	LR	05 05 10.5	
	comp=Z,97nm,19.4s,MS4.1,baz=272,slow=34						
JOF	**Joensuu**	**76.85**	**335**	*e*p	**P**	**04 35 09.8**	**-1.4**
	comp=Z,0.4nm,0.4s,mb3.7						
SUW	**Suwalki**	**78.44**	**325**	P	**P**	**04 35 18.4**	**-1.6**
SUW				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.3						
SUW	**Suwalki**	**78.44**	**325**	P	**P**	**04 35 18.4**	**-1.7**
	comp=Z,36nm,0.9s,mb5.3						
FINES	**FINESS Array B**	**78.71**	**332**	P	**P**	**04 35 21.4**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.4,baz=103,slow=8.2,SNR=16						
FINES	**FINESS Array B**	**78.71**	**332**	*i* P	**P**	**04 35 21.8**	**+0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KAF	**Kangasniemi**	**78.79**	**333**	*e*p	**P**	**04 35 20.5**	**-1.5**
	comp=Z,0.9nm,0.4s,mb4.0,baz=102,slow=5.0						
KAF	**Kangasniemi**	**78.79**	**333**	*e*P	**P**	**04 35 20.5**	**-1.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KEV	**Kevo**	**80.78**	**341**	*e*p	**P**	**04 35 31.3**	**-1.5**
	comp=Z,0.6nm,0.3s,mb4.0						
KEV	**Kevo**	**80.78**	**341**	*e*P	**P**	**04 35 31.3**	**-1.5**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ARCES	**ARCESS Array B**	**81.22**	**340**	P	**P**	**04 35 35.5**	**+0.5**
	comp=Z,4.1nm,0.9s,mb4.4,baz=76,slow=5.1,SNR=15						
GERES	**GERESS Array B**	**83.63**	**319**	P	**P**	**04 35 49.1**	**+1.4**
	comp=Z,2.5nm,1.0s,mb4.3,baz=100,slow=5.5,SNR=14						
KHC	**Kasperske Hory**	**83.73**	**319**	*i* P	**P**	**04 35 48.5**	**+0.3**
HFS	**Hagfors**	**84.45**	**330**	P	**P**	**04 35 51.9**	**0.0**
	comp=Z,3.9nm,0.9s,mb4.5,baz=104,slow=9.3,SNR=6.7						
NB2	**NORSAR Subarra**	**85.73**	**331**	P	**P**	**04 35 58.5**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.2,baz=93,slow=5.3						
NB2	**NORSAR Subarra**	**85.73**	**331**	P	**P**	**04 35 58.5**	**+0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**85.73**	**331**	P	**P**	**04 35 57.9**	**-0.3**
	comp=Z,2.4nm,0.9s,mb4.5,baz=92,slow=5.1,SNR=8.1						
GAMB	**Gambell**	**88.42**	**26**	*e*P	**P**	**04 36 11.4**	**+0.1**
NVAR	**Mina Array Bea**	**127.94**	**35**	PKP	PKPdf	04

STKA	**Stephens Creek**	**37.06 133**	*e*P		**P**	**04 51 33.7**	**-0.8**
	4.8nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**37.06 133**	P		**P**	**04 51 33.7**	**-0.8**
	5.5nm,0.5s,mb4.7,baz=317,slow=7.5,SNR=22						
CASY	**Casey**	**57.67 180**	*e*P		**P**	**04 54 14.9**	**0.0**
	32nm,0.7s,mb5.5						
VNDA	**Vanda**	**73.86 170**	P		**P**	**04 55 59.7**	**+0.5**
	0.7nm,0.8s,mb3.6,baz=311,slow=6.2,SNR=6.2						
VNDA	**Vanda**	**73.86 170**	P		**P**	**04 55 59.7**	**+0.5**
BRTR	**Keskin Array B**	**85.43 311**	P		**P**	**04 57 02.4**	**+0.3**
	0.5nm,0.8s,mb3.7,baz=106,slow=8.2,SNR=4.5						
ARCES	**ARCESS Array B**	**96.17 339**	LR		LR	05 46 07.8	
	comp=Z,30nm,18.6s,MS3.8,baz=147,slow=39						
CPUP	**Villa Florida**	**143.40 198**	PKP		PKPdf	05 03 58.7	-0.3
	0.7nm,0.5s,baz=147,slow=8.6,SNR=4.5						
CPUP	**Villa Florida**	**143.40 198**	PKP		PKPdf	05 03 58.7	-0.3
BDFB	**Brasilia**	**147.92 222**	PKPbc		PKPbc	05 04 10.0	+0.3
	0.8nm,0.6s,baz=135,slow=5.7,SNR=3.0						

KRSC 08 04:54:52.1±0.7, 5459N×16198E, h15km±1km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.15**	**257**	*i* P		04 54 57.1	
MKZ				*i* S		04 54 59.9	
TUMR	**Tumrok**	**1.27**	**304**	*e*P		04 55 14.2	
TUMR				*e*S		04 55 28.9	
KMNR	**Kamenistaya**	**1.54**	**320**	*i* P		04 55 18.8	
KMNR				*e*S		04 55 38.4	
ZLN	**Zelenaya**	**1.58**	**335**	*i* P		04 55 20.3	
ZLN				*i* S		04 55 40.9	
KII	**Karymskiy**	**1.58**	**251**	*e*P		04 55 19.4	
LGNR	**Loginova**	**1.67**	**334**	*i* P		04 55 21.8	
LGNR				*i* S		04 55 43.7	
CIRR	**Tsirk**	**1.68**	**336**	*i* P		04 55 21.9	
CIRR				*i* S		04 55 43.9	
KBTR	**Krutoberegovo**	**1.69**	**16**	*e*P		04 55 21.8	
KBTR				*e*S		04 55 44.1	
KPT	**Kopyto**	**1.71**	**325**	*e*P		04 55 21.6	
KPT				*e*S		04 55 44.0	
KBG	**Krutoberegovo**	**1.72**	**14**	*e*P		04 55 23.5	
KBG				Smax			
	570nm,0.9s						
KRSR	**Krestovskiy**	**1.82**	**334**	*e*P		04 55 23.2	
KRSR				*e*S		04 55 46.0	
KLY	**Klyuchi**	**1.89**	**337**	*i* P		04 55 24.0	
KLY				*i* S		04 55 47.5	
SPN	**Mys Shipunski**	**1.89**	**219**	*e*P		04 55 23.8	
SPN				*e*S		04 55 46.2	
KOZ	**Kozyrevsk**	**1.90**	**322**	*e*P		04 55 24.8	
KOZ				*e*S		04 55 49.5	
SMKR	**Semkarok**	**2.02**	**352**	*e*P		04 55 27.0	
SMKR				*e*S		04 55 52.9	
NLC	**Nalytchevo**	**2.11**	**229**	*e*P		04 55 27.3	
NLC				*e*S		04 55 53.1	
SRKR	**Sorokina**	**2.12**	**348**	*e*P		04 55 28.4	
SRDR	**Sredinnyy**	**2.16**	**324**	*e*P		04 55 27.8	
SRDR				*e*S		04 55 54.4	
SDLR	**Sedlovina**	**2.25**	**236**	*e*P		04 55 29.9	
SDLR				*i* S		04 55 57.4	
SMAR	**Somma**	**2.30**	**236**	*i* P		04 55 30.7	
SMAR				*i* S		04 55 58.9	
ESO	**Esso**	**2.31**	**307**	*e*P		04 55 29.1	
ESO				*e*S		04 55 57.9	
ESO				Smax			
	150nm,0.6s						
UGLR	**Uglovaya**	**2.32**	**235**	*e*P		04 55 31.0	
UGLR				*e*S		04 55 58.9	
AVH	**Avacha**	**2.33**	**237**	*e*P		04 55 31.3	
AVH				*e*S		04 55 59.1	
KOK	**Koryaka**	**2.37**	**238**	*e*P		04 55 31.7	
BKI	**Bering**	**2.39**	**73**	*e*S		04 56 00.4	
PET	**Petropavlovsk**	**2.52**	**233**	*e*P		04 55 33.8	
PET				*e*S		04 56 04.3	
GNL	**Ganaly**	**2.54**	**251**	*e*P		04 55 33.8	
KRMR	**Karymshinskiy**	**2.89**	**234**	*e*P		04 55 39.4	
RUS	**Russkaya**	**2.99**	**225**	*e*P		04 55 39.4	
RUS				*e*S		04 56 15.1	
GRL	**Gorelyy**	**3.10**	**230**	*e*P		04 55 42.7	
GRL				*e*S		04 56 18.9	
APC	**Apacha**	**3.31**	**242**	P		04 55 45.3	
APC				Smax			
	20nm,0.9s						

*NEIC **08** 04:57:27.6, 6498N×13086W, h1km, mb3.9/4, MW3.9(PGC), After PGC.*

PGC 08 04:57:27.6, 6498N×13086W, h1km, ML4.2/4, Mw3.9/6, 196km southwest of Norman Wells, Nt Mackenzie Mountains, Northwest Territories, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**3.51**	**344**	Pn	Pn	04 58 22.5	-0.8
INK				Pg	Pg	04 58 34.5	-0.4
INK				Sn	Sn	04 59 02.6	-2.8
INK				Sg	Sg	04 59 16.5	-3.9
INK				Trac		04 59 30.1	
	comp=Z,202nm,0.7s						
INK	**Inuvik**	**3.51**	**344**	*e*Pn	Pn	04 58 22.5	-0.8
INK				*e*Pg	Pg	04 58 34.1	-0.8
INK				*e*Sn	Sn	04 59 02.6	-2.8
INK				*e*Sg	Sg	04 59 18.3	-2.1
DAWY	**Dawson**	**3.80**	**260**	Pn	Pn	04 58 26.8	-0.5
DAWY				Sn	Sn	04 59 08.6	-3.9
DAWY				Sg	Sg	04 59 25.9	-3.7
DAWY				Trac		04 59 36.1	
	comp=Z,143nm,0.7s						
DAWY	**Dawson**	**3.80**	**260**	P	Pn	04 58 26.6	-0.7
WHY	**Whitehorse**	**4.71**	**205**	Pn	Pn	04 58 38.8	-0.9
WHY				Pg	Pg	04 58 52.4	-5.4
WHY				Sg	Sg	04 59 52.9	-5.9
WHY				Trac		04 59 59.3	
	comp=Z,169nm,0.8s						
WHY	**Whitehorse**	**4.71**	**205**	P	Pn	04 58 39.0	-0.7
WHY				S	Sn	04 59 37.8	+2.8
HYT	**Haines Junctio**	**5.16**	**219**	Pn	Pn	04 58 45.0	-0.9
HYT				Sg	Sg	05 00 08.3	-4.9
HYT				Trac		05 00 22.8	
	comp=Z,193nm,1.1s						
HYT	**Haines Junctio**	**5.16**	**219**	Pn	Pn	04 58 45.0	-0.9
HYT				*e*Sg	Sg	05 00 08.3	-4.9
SKAG	**Skagway**	**5.92**	**203**	P	Pn	04 58 55.8	-0.5
PLBC	**Pleasant Camp**	**6.11**	**207**	*e*Pn	Pn	04 58 58.5	-0.4
PLBC				*e*Sg	Sg	05 00 35.7	-8.0
DLBC	**Dease Lake**	**6.57**	**176**	⇑Pn	Pn	04 59 04.4	-1.0
DLBC				Sg	Sg	05 00 49.2	-10
DLBC				Trac		05 01 06.3	
	comp=Z,66nm,0.8s						
DLBC	**Dease Lake**	**6.57**	**176**	P	Pn	04 59 04.4	-0.9
BESE	**Bessie Mountai**	**6.69**	**198**	P	Pn	04 59 06.2	-0.8
FNBB	**Fort Nelson**	**7.14**	**145**	Pn	Pn	04 59 11.5	-1.6
FNBB				Sn	Sn	05 00 26.2	-8.6
FNBB				Sg	Sg	05 01 08.7	-8.1
FNBB				Trac		05 01 38.2	
	comp=Z,19nm,0.8s						
FNBB	**Fort Nelson**	**7.14**	**145**	*e*Pn	Pn	04 59 11.5	-1.6
FNBB				*e*Sn	Sn	05 00 26.2	-8.6
FNBB				*e*Sg	Sg	05 01 08.7	-8.1
YKW3	**Yellowknife Ar**	**7.59**	**101**	Pn	Pn	04 59 16.9	-2.4
YKW3				Pn	Pn	04 59 17.5	-1.8
YKW3				Sn	Sn	05 00 38.5	-7.5
YKW3				Sn	Sn	05 00 39.0	-7.0
YKW3				Sg	Sg	05 01 24.4	-6.9
YKW3				Trac		05 01 33.8	
	comp=Z,26nm,0.6s						
YKW3				Trac		05 01 36.0	
	comp=Z,18nm,0.5s						
YKW3	**Yellowknife Ar**	**7.59**	**101**	*e*Pn	Pn	04 59 18.9	-0.5
YKW3				*e*Sn	Sn	05 00 38.5	-7.5
YKW3				*e*Sg	Sg	05 01 24.4	-6.9
MCK	**McKinley**	**7.94**	**269**	*e*Pn	Pn	04 59 23.2	-0.9
EYAK	**Cordova Ski Ar**	**8.14**	**244**	*e*Pn	Pn	04 59 26.1	-0.7
COLD	**Coldfoot**	**8.16**	**295**	P	Pn	04 59 24.4	-2.8
SML	**Sawmill**	**8.45**	**256**	P	Pn	04 59 28.8	-2.4
TRF	**Thorofare Moun**	**8.60**	**269**	P	Pn	04 59 30.9	-2.2
IM3	**Indian Mountai**	**9.55**	**286**	P	Pn	04 59 43.4	-2.9
CRAG	**Craig**	**9.60**	**188**	*e*Pn	Pn	04 59 46.8	-0.1
BMBC	**Bull Mountain**	**9.93**	**150**	P	Pn	04 59 49.1	-2.3
BMBC				Sg	Sn	05 02 37.3	+54
BMBC				Trac		05 02 59.6	
	comp=Z,16nm,0.9s						
BMBC	**Bull Mountain**	**9.93**	**150**	*e*P	Pn	04 59 49.1	-2.3
BMBC				*e*Sg	Sn	05 02 37.3	+54
RES	**Resolute Bay**	**15.42**	**36**	P	Pn	05 01 02.9	-3.4
RES				Sn	Sn	05 03 45.8	-12
RES				Trac		05 03 52.0	
	comp=Z,9.0nm,0.8s						
RES	**Resolute Bay**	**15.42**	**36**	*e*Pn	Pn	05 01 04.8	-1.5
RES				*e*Sn	Sn	05 03 45.8	-12
FFC	**Flin Flon**	**17.59**	**112**	*e*Pn	Pn	05 01 33.2	-0.8
CHMT	**Chamberlain Mo**	**20.48**	**144**	*e*P	P	05 02 05.7	-1.0
HRY	**Holter Researc**	**21.03**	**141**	*e*P	P	05 02 13.3	+0.6
DLMT	**Dillon**	**22.09**	**144**	*e*P	P	05 02 24.0	-0.1
	5.3nm,1.0s						
HLID	**Hailey**	**23.36**	**149**	*e*P	P	05 02 37.5	0.0
	0.8nm,0.7s						
MOOW	**Moose Ponds**	**24.07**	**142**	*e*P	P	05 02 45.0	+0.7
	1.9nm,0.8s						
ANMO	**Albuquerque**	**33.45**	**142**	*e*P	P	05 04 09.9	+1.8
	1.3nm,0.8s						

*PRE **08** 06:17:21.0±1.7, 2063S×3265E, h5km, ML5.4*
*ISCJB **08** 06:17:23.8±0.2, 2135S±004×3315E±004, h11km, mb4.7/43, MS4.1/15, Error ellipse: s-maj=7.2km s-min=4.2km az=87.2*
*MOS **08** 06:17:24.3±1.3, 2128S×3338E, h10km, mb4.9/17, Error ellipse: s-maj=13.8km s-min=8.5km az=84.0*
*IDC **08** 06:17:24.1±0.6, 2129S×3336E, h0km, mb4.3/15, mb1 4.5/19, mb1mx4.4/26, mbtmp4.3/19, ML4.5/5, MS4.0/16, Ms1 4.0/16, ms1mx3.9/21, Error ellipse: s-maj=18.0km s-min=15.7km az=82.0*
*BJI **08** 06:17:25.3, 2140S×3340E, h9km, mB5.4, mb5.2, Ms5.1, Msz4.5*
*HRVD **08** 06:17:25.3±0.6, 2161S×3359E, h20km±1km, MW4.8/35, Centroid moment Tensor Solution. LP body waves: s11,c11;Mantle waves: s35,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.75±.23; $M_{\theta\theta}$0.83±.14; $M_{\phi\phi}$0.92±.15; $M_{r\theta}$-0.26±.27; $M_{r\phi}$-0.96±.10; $M_{\theta\phi}$-0.59±.31; Best double couple: $M_0$1.90600×10^{16} NP1:ϕ_s120.00000°, δ44.00000°, λ-116.00000°. NP2: ϕ_s333.00000°, δ52.00000°, λ-67.00000°. Principal axes: T 1.8580, Plg4.0000°, Azm48.0000°; N 0.0940, Plg17.0000°, Azm139.0000°; P -1.9540, Plg72.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 06:17:25.3±0.3, 2135S×3342E, mb4.9/29 Error ellipse: s-maj=9.3km s-min=6.8km az=144.0*
*SZGRF **08** 06:17:28.9, 2094S×3436E, h33km, mb4.7, Mozambique*

ISC 08 06:17:25.8±0.2, 2135S±004×3318E±004, h12km, h12km±1.3km: pP-P, n202, σ1§26/127, mb4.7/43, MS4.1/15, 44C-37D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.47**	**281**	Pn	**Pn**	**06 18 35.4**	**+2.0**
	25nm,0.3s,baz=97,slow=14,SNR=132						
MATP				Sn	**Sn**	**06 19 24.5**	**-0.9**
	45nm,0.3s,baz=116,slow=17,SNR=4.4						
MATP				Lg		06 19 45.2	
	515nm,0.3s,baz=177,slow=19,SNR=20						
MATP				LR	LR	06 20 27.7	
	comp=Z,1μm,19.7s,baz=104,slow=40						
MATP	**Matopo**	**4.47**	**281**	Pn	**Pn**	**06 18 35.4**	**+2.0**
MATP				Sn	**Sn**	**06 19 24.5**	**-0.9**
MATP				Lg		06 19 45.2	
MATP				LR	LR	06 20 27.7	
POGA	**Pongola**	**6.17**	**193**	*e*P	**Pn**	**06 19 01.1**	**+4.4**
POGA				*e*S	**Sn**	**06 20 15.8**	**+8.7**
POGA				AML	AML	06 20 52.4	
	comp=Z,436nm,0.6s						
SLR	**Silverton**	**6.27**	**225**	*e*P	**Pn**	**06 18 58.8**	**+0.7**
SLR				*e*S	**Sn**	**06 20 08.0**	**-1.7**
SLR				AML	AML	06 20 51.7	
	comp=Z,839nm,0.8s						
ERPM	**east rand prop**	**6.65**	**222**	*e*P	**Pn**	**06 19 03.6**	**+0.2**
ERPM				*e*S	**Sn**	**06 20 18.5**	**-0.6**
ERPM				AML	AML	06 21 05.2	
	comp=Z,640nm,0.7s						
KSR	**Koster**	**7.30**	**231**	*e*P	**Pn**	**06 19 11.7**	**-0.6**
KSR				*e*S	**Sn**	**06 20 32.3**	**-2.8**
KSR				AML	AML	06 21 29.1	
	comp=Z,420nm,0.6s						
LSZ	**Lusaka**	**7.68**	**321**	Pn	**Pn**	**06 19 16.7**	**-0.7**
	comp=Z,14nm,0.3s,baz=145,slow=14,SNR=160						
LSZ				Sn	**Sn**	**06 20 40.0**	**-4.3**
	comp=Z,46nm,0.3s,baz=229,slow=22,SNR=8.9						
LSZ				Lg		06 21 24.5	
	comp=Z,132nm,0.3s,baz=233,slow=22,SNR=13						
LSZ				LR	LR	06 22 36.1	
	comp=Z,225nm,20.9s,baz=331,slow=40						
LSZ	**Lusaka**	**7.68**	**321**	*e*P	**Pn**	**06 19 17.0**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,284nm,0.8s						
LSZ	**Lusaka**	**7.68**	**321**	*e*Pn	**Pn**	**06 19 17.0**	**-0.5**
	comp=Z,284nm,0.8s						
LSZ				*e*Sn	**Sn**	**06 20 38.6**	**-5.7**
LBTB	**Lobatse**	**7.88**	**241**	Pn	**Pn**	**06 19 21.9**	**+1.8**
	comp=Z,8.1nm,0.3s,baz=66,slow=13,SNR=78						
LBTB				Sn	**Sn**	**06 20 45.1**	**-4.1**
	comp=Z,6.6nm,0.3s,baz=99,slow=19,SNR=4.2						
LBTB				Lg		06 21 32.6	
	comp=Z,17nm,0.3s,baz=166,slow=18,SNR=7.5						
LBTB				LR	LR	06 22 43.8	
	comp=Z,1μm,21.8s,baz=73,slow=40						
LBTB	**Lobatse**	**7.88**	**241**	*e*Pn	**Pn**	**06 19 21.5**	**+1.4**
LBTB				*e*Sn	**Sn**	**06 20 44.8**	**-4.4**
SWZ	**Schweizer**	**9.22**	**229**	*e*P	**Pn**	**06 19 38.2**	**-0.4**
SWZ				*e*S	**Sn**	**06 21 17.8**	**-4.4**
SWZ				AML	AML	06 22 37.2	
	comp=Z,273nm,0.7s						
BOSA	**Boshof**	**10.20**	**223**	*e*P	**Pn**	**06 19 51.9**	**-0.1**
BOSA				*e*S	**Sn**	**06 21 43.1**	**-3.1**
BOSA				AML	AML	06 22 51.6	
	comp=Z,193nm,0.8s						
BOSA	**Boshof**	**10.20**	**223**	Pn	**Pn**	**06 19 51.9**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=52,slow=13,SNR=70						
BOSA				Sn	**Sn**	**06 21 43.0**	**-3.2**
	comp=Z,4.5nm,0.3s,baz=75,slow=15,SNR=3.6						
BOSA				Lg		06 22 46.0	
	comp=Z,5.7nm,0.3s,baz=313,slow=19,SNR=5.0						
BOSA				LR	LR	06 24 06.4	
	comp=Z,2μm,19.9s,baz=45,slow=39						
BOSA	**Boshof**	**10.20**	**223**	*e*Pn	**Pn**	**06 19 51.6**	**-0.4**
	comp=Z,5.4nm,0.3s						
BOSA				*e*Sn	**Sn**	**06 21 39.4**	**-6.8**
OPO	**Ambohidratompo**	**13.46**	**81**	Pn	**Pn**	**06 20 32.2**	**-4.3**
	comp=Z,0.6nm,0.3s,baz=269,slow=16,SNR=4.8						
OPO				Sn	**Sn**	**06 22 52.5**	**-14**
	comp=Z,1.6nm,0.3s,baz=336,slow=20,SNR=4.0						
TSUM	**Tsumeb**	**14.79**	**276**	Pn	**Pn**	**06 20 53.8**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=103,slow=11,SNR=30						
TSUM				Sn	**Sn**	**06 23 31.1**	**-7.5**
	comp=Z,1.7nm,0.3s,baz=272,slow=5.6,SNR=7.5						
TSUM				Lg		06 25 11.1	
	comp=Z,5.2nm,0.3s,baz=26,slow=16,SNR=6.1						
TSUM				LR	LR	06 26 50.3	
	comp=Z,387nm,18.9s,baz=55,slow=38						
TSUM	**Tsumeb**	**14.79**	**276**	*e*Pn	**Pn**	**06 20 53.0**	**-1.8**
	comp=Z,30nm,0.8s						
TSUM				*e*Sn	**Sn**	**06 23 27.5**	**-11**
SUR	**Sutherland**	**15.56**	**223**	*e*P	**Pn**	**06 21 06.1**	**+1.1**
SUR				*e*S	**Sn**	**06 23 50.9**	**-6.4**
SUR	**Sutherland**	**15.56**	**223**	Pn	**Pn**	**06 21 03.1**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=54,slow=10,SNR=28						
SUR				Sn	**Sn**	**06 23 49.2**	**-8.2**
	comp=Z,1.6nm,0.3s,baz=350,slow=18,SNR=7.6						
SUR				Lg		06 25 34.7	
	comp=Z,3.7nm,0.3s,baz=315,slow=20,SNR=6.3						
SUR				LR	LR	06 27 01.9	
	comp=Z,1μm,19.7s,baz=65,slow=37						
SUR	**Sutherland**	**15.56**	**223**	*e*P	**Pn**	**06 21 05.4**	**+0.5**
	comp=Z,69nm,0.9s						
SUR				*e*S	**Sn**	**06 23 46.9**	**-10**
KMBO	**Kilima Mbogo**	**20.48**	**12**	P	**P**	**06 22 03.0**	**-0.5**
	comp=Z,9.1nm,1.1s,baz=181,slow=12,SNR=11						
KMBO				Lg		06 28 00.2	
	comp=Z,25nm,1.1s,baz=134,slow=22,SNR=4.8						
KMBO				LR	LR	06 29 25.7	
	comp=Z,306nm,19.7s,MS3.7,baz=103,slow=35						
KMBO	**Kilima Mbogo**	**20.48**	**12**	*i* P	**P**	**06 22 06.5**	**+3.0**
KMBO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMBO	**Kilima Mbogo**	**20.48**	**12**	*e*P	**P**	**06 22 04.7**	**+1.2**
	comp=Z,56nm,1.8s						
MBAR	**Mbarara**	**20.76**	**353**	⇑*i*P	**P**	**06 22 07.3**	**+0.9**
DGAR	**Diego Garcia**	**40.35**	**76**	*e*P	**P**	**06 25 00.3**	**-3.0**
DGAR				pmax	pmax		
	comp=Z,149nm,1.0s,mb5.7						
DGAR	**Diego Garcia**	**40.35**	**76**	*e*P	**P**	**06 25 00.3**	**-3.0**
	comp=Z,149nm,1.0s,mb5.7						
TORD	**Torodi Ar. Bea**	**46.16**	**315**	P	**P**	**06 25 51.3**	**+1.0**
	comp=Z,10nm,1.0s,mb4.7,baz=126,slow=7.1,SNR=41						
SYO	**Syowa Base**	**47.83**	**177**	⇓*e*P	**P**	**06 26 04.8**	**+1.5**
MAW	**Mawson**	**49.86**	**166**	P	**P**	**06 26 18.2**	**-0.7**
	comp=Z,6.1nm,1.0s,mb4.6,baz=338,slow=8.4,SNR=7.9						
MAW				LR	LR	06 44 02.6	
	comp=Z,97nm,18.3s,MS3.8,baz=70,slow=32						
MAW	**Mawson**	**49.86**	**166**	*e*P	**P**	**06 26 18.8**	**-0.1**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAW	**Mawson**	**49.86**	**166**	*e*P	**P**	**06 26 18.8**	**-0.1**
	comp=Z,7.0nm,1.0s,mb4.7						
SNAA	**Sanae**	**54.42**	**193**	⇓*i*P	**P**	**06 26 41.6**	**-11**
SNAA				*e*	pP	06 26 43.4	-13
SNAA				*e*	pP	06 26 44.8	-12
SNAA				*e*		06 26 53.2	
SNAA				*e*		06 27 16.3	
SNAA				*e*		06 27 44.3	
SNAA	**Sanae**	**54.42**	**193**	*e*P	**P**	**06 26 43.5**	**-9.3**
	comp=Z,9.2nm,1.5s,mb4.5						
VNA2	**Neumayer--Watz**	**54.93**	**195**	⇓*i*P	**P**	**06 26 57.7**	**+1.2**
	baz=42,slow=5.0						
VNA2				*e*	pP	06 26 59.8	-0.5
VNA2				*e*	pP	06 27 01.1	+0.8
VNA2				*e*		06 27 09.7	
VNA2				*e*		06 27 31.6	
VNA2				*e*		06 27 58.6	
VNA1	**Neumayer--Stat**	**54.96**	**196**	⇓*i*P	**P**	**06 26 57.7**	**+1.0**
VNA1				*e*	pP	06 27 00.6	+0.1
VNA1				*e*	pP	06 27 01.6	+1.1
VNA1				*e*		06 27 10.5	
VNA1				*e*		06 27 32.5	
VNA1				*e*		06 27 58.6	
VNA3	**Neumayer Olymp**	**55.70**	**195**	⇓*i*P	**P**	**06 27 02.9**	**+0.8**
VNA3				*e*	pP	06 27 05.5	-0.3
VNA3				*e*	pP	06 27 06.7	+0.9
VNA3				*e*		06 27 14.6	
VNA3				*e*		06 27 37.6	
VNA3				*e*		06 28 02.7	
APE	**Apeiranthos**	**58.55**	**353**	*e*P	**P**	**06 27 22.8**	**+0.6**
BRTR	**Keskin Array B**	**60.75**	**0**	P	**P**	**06 27 38.0**	**+0.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=186,slow=9.9,SNR=5.9						
GNI	**Garni**	**62.12**	**10**	*d i*P	**P**	**06 27 47.6**	**+1.0**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GNI				MLR	MLR		
	comp=Z,100nm,18.0s						
KIV	**Kislovodsk**	**65.56**	**8**	⇑*i*P	**P**	**06 28 10.8**	**+1.5**
KIV				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.0						
PSI	**Prapat**	**68.59**	**78**	P	**P**	**06 28 28.6**	**0.0**
	comp=Z,1.9nm,0.3s,mb4.5,baz=222,slow=6.0,SNR=5.0						
QSPA	**South Pole Qui**	**68.81**	**180**	*e*P	**P**	**06 28 29.9**	**0.0**
	comp=Z,13nm,1.2s,mb4.7						
KOLN	**Koldanda**	**68.98**	**47**	*e*P	**P**	**06 28 29.2**	**-1.8**
	comp=Z,26nm,1.0s,mb5.1						
GKN	**Gorkha**	**69.84**	**47**	*e*P	**P**	**06 28 34.5**	**-1.8**
	comp=Z,38nm,1.0s,mb5.3						
ESDC	**Sonseca Array**	**69.92**	**330**	P	**P**	**06 28 37.7**	**+1.0**
	comp=Z,5.1nm,1.0s,mb4.4,baz=142,slow=5.8,SNR=11						
DMN	**Daman**	**69.92**	**48**	*e*P	**P**	**06 28 35.4**	**-1.4**
	comp=Z,35nm,1.1s,mb5.2						
PKI	**Pulchoki**	**70.11**	**48**	*e*P	**P**	**06 28 36.1**	**-1.8**
	comp=Z,40nm,1.2s,mb5.2						
PKI	**Pulchoki**	**70.11**	**48**	*e*P	**P**	**06 28 36.1**	**-1.8**
PKI				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.2						
KKN	**Kakani**	**70.15**	**48**	*e*P	**P**	**06 28 36.7**	**-1.5**
	comp=Z,28nm,1.0s,mb5.1						
KKN	**Kakani**	**70.15**	**48**	*e*P	**P**	**06 28 36.7**	**-1.5**
KKN				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
GUN	**Gumba**	**70.64**	**48**	*e*P	**P**	**06 28 39.9**	**-1.3**
	comp=Z,58nm,1.1s,mb5.4						
JIRN	**Jiri**	**70.70**	**49**	*e*P	**P**	**06 28 40.3**	**-1.3**
	comp=Z,38nm,1.0s,mb5.3						
AKASG	**Malin Array Be**	**71.81**	**357**	P	**P**	**06 28 47.6**	**-0.7**
	comp=Z,0.2nm,0.2s,mb3.7,baz=189,slow=6.6,SNR=6.3						
AKASG	**Malin Array Be**	**71.81**	**357**	*i* P	**P**	**06 28 48.2**	**-0.1**
GERES	**GERESS Array B**	**72.01**	**347**	P	**P**	**06 28 49.9**	**+0.4**
	comp=Z,1.2nm,0.7s,mb3.9,baz=162,slow=5.6,SNR=9.7						
GERES				LR	LR	07 03 30.2	
	comp=Z,61nm,18.8s,MS3.9,baz=263,slow=38						
GERES	**GERESS Array B**	**72.01**	**347**	P	**P**	**06 28 49.9**	**+0.4**
GERES				LR	LR	07 03 30.2	
GRA1	**Grafenberg Arr**	**73.36**	**345**	*e*P	**P**	**06 28 59.0**	**+1.5**
	comp=Z,8.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**73.36**	**345**	*e*P	**P**	**06 28 59.0**	**+1.5**
	comp=Z,8.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**73.36**	**345**	*e*P	**P**	**06 28 59.0**	**+1.5**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**73.36**	**345**	*e*P	**P**	**06 28 59.0**	**+1.5**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5		

MKAR pmax pmax
comp=Z,1.0nm,0.7s
TRQA Tornquist 81.03 233 P **P** **06 29 42.8 +2.3**
comp=Z,10nm,1.2s,mb4.6
CPUP Villa Florida 81.25 245 LR LR 06 59 25.9
comp=Z,173nm,21.9s,MS4.4,baz=121,slow=31
CHKZ Chkalovo 81.40 21 *e*P **P** **06 29 41.5 -1.0**
CHKZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CHKZ Chkalovo 81.40 21 *e*P **P** **06 29 41.5 -1.1**
comp=Z,6.1nm,0.9s,mb4.5
KMI Kunming 81.81 59 P **P** **06 29 46.1 +1.4**
KMI AP pP 06 29 51.8 +3.1
KMI XP sP 06 29 54.2 +4.1
KMI PP PP 06 32 58.2 +6.4
KMI S S 06 40 02.6 +4.8
KMI XS sS 06 40 09.3 +5.0
KMI SS SS 06 45 19.8 +4.0
KMI AMB AMB
comp=Z,60nm,4.3s
KMI LR LR
comp=Z,30nm,25.2s,MS3.5
WMQ Urumqi 81.83 37 *e*P **P** **06 29 46.5 +1.7**
KURK Kurchatov 82.15 27 *e*P **P** **06 29 46.2 -0.3**
KURK pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
KURK Kurchatov 82.15 27 *e*P **P** **06 29 46.2 -0.3**
comp=Z,4.6nm,0.3s,mb4.9
FINES FINESS Array B 82.70 357 P **P** **06 29 49.2 -0.1**
comp=Z,0.7nm,0.6s,mb3.9,baz=134,slow=11,SNR=5.9
FINES LR LR 07 07 27.8
comp=Z,55nm,18.5s,MS4.0,baz=150,slow=36
FINES FINESS Array B 82.70 357⇑*e*P **P** **06 29 50.5 +1.1**
KONO Kongsberg 82.98 348⇑*e*P **P** **06 29 50.5 -0.4**
NB2 NORSAR Subarra 83.99 349 P **P** **06 29 56.3 +0.3**
comp=Z,16nm,1.7s,mb4.9,baz=162,slow=5.1
NB2 NORSAR Subarra 83.99 349 P **P** **06 29 56.3 +0.3**
NB2 pmax pmax
comp=Z,16nm,1.7s,mb4.9
NOA NORSAR Array B 83.99 349 P **P** **06 29 56.6 +0.6**
comp=Z,1.9nm,0.8s,mb4.2,baz=152,slow=4.8,SNR=4.3
NOA LR LR 07 11 13.8
comp=Z,23nm,19.3s,MS3.6,baz=205,slow=38
CD2 Chengdu 85.33 54 *e*P **P** **06 30 01.7 -1.1**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
GTA Gaotai 86.70 45 *e*P **P** **06 30 09.2 -0.3**
GTA AP pP 06 30 12.8 -0.7
GTA XP sP 06 30 15.5 +0.6
NVS Novosibirsk 87.07 26 *i*P **P** **06 30 09.0 -2.4**
ZAL Zalesovo 87.11 28 P **P** **06 30 11.7 +0.1**
comp=Z,1.0nm,0.4s,mb4.4,baz=128,slow=5.7,SNR=3.0
ZAL LR LR 07 09 14.3
comp=Z,102nm,20.7s,MS4.2,baz=251,slow=36
LZH Lanzhou 87.83 50 *e*P **P** **06 30 14.5 -0.5**
LZH AP pP 06 30 17.8 -1.2
LZH PP PP 06 33 43.7 +2.9
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,60nm,9.2s
LZH LR LR
comp=N,210nm,18.5s
LZH LR LR
comp=Z,300nm,19.7s,MS4.7
ARCES ARCESS Array B 90.79 357 LR LR 07 15 47.6
comp=Z,47nm,19.1s,MS3.9,baz=34,slow=39
ASAR Alice Springs 90.83 116 P **P** **06 30 29.4 +0.2**
comp=Z,3.1nm,0.9s,mb4.7,baz=242,slow=4.0,SNR=17
SAML Samuel 92.65 259 *e*P **P** **06 30 39.2 +1.6**
comp=Z,2.0nm,1.0s,mb4.5
WRAB Tennant Creek 92.71 112 *e*P **P** **06 30 37.9 +0.1**
WRAB pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
WRAB Tennant Creek 92.71 112 *e*P **P** **06 30 37.9 +0.1**
comp=Z,7.6nm,1.0s,mb5.1
LPAZ La Paz 94.29 251 P **P** **06 30 47.8 +2.7**
LPAZ pmax pmax
comp=Z,6.0nm,0.6s
LPAZ La Paz 94.29 251 P **P** **06 30 47.8 +2.7**
comp=Z,5.6nm,0.6s,mb5.2
HHC Hu-ho-hao-te 95.36 48 *e*P **P** **06 30 51.1 +1.1**
HHC AP pP 06 30 56.0 +2.1
HHC XP sP 06 30 58.1 +2.8
HHC PP PP 06 34 44.5 +4.2
HHC SKS 06 41 25.3
HHC S 06 42 04.0
HHC XS sS 06 42 12.3 -0.1
HHC PS PS 06 43 32.0 +7.6
HHC SS SS 06 48 38.6 +5.8
HHC AMB AMB
comp=Z,50nm,6.2s
HHC LR LR
comp=N,110nm,16.6s,MS5.0
HHC LR LR
comp=E,540nm,21.4s,MS5.0
HHC LR LR
comp=Z,140nm,17.6s,MS4.5
NJ2 Nanjing 97.55 59 *e*P **P** **06 31 01.3 +1.4**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.3
SSE Sheshan 99.10 60 P **P** **06 31 08.3 +1.4**
SSE AMB AMB
comp=Z,10.0nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,70nm,3.3s
YAK Yakutsk 111.65 30 *i*PKIKP PKiKP 06 35 57.2 -3.1
TIXI Tiksi 111.87 20⇑*i*PKIKP PKiKP 06 35 55.4 -5.3
YKA Yellowknife Ar 133.37 340 PKP PKPdf 06 36 41.8 0.0
comp=Z,1.2nm,0.7s,baz=40,slow=2.2,SNR=5.7
YKA Yellowknife Ar 133.37 340 PKIKP PKPdf 06 36 41.8 0.0
YKA pmax pmax
comp=Z,1.0nm,0.7s
SMCO Snowmass 141.63 307 *e*PKPdf PKPdf 06 36 55.7 -1.4
PDAR Pinedale Array 142.30 313 PKP PKPdf 06 36 57.8 -0.4
comp=Z,0.9nm,0.9s,baz=57,slow=5.5,SNR=5.9
LPM Los Pinos Moun 142.43 299 *e*PKPbc PKPdf 06 37 06.0 +7.5
BNM Barren Site 142.45 299 *e*PKPdf PKPdf 06 36 56.0 -2.5
Y22C IRIS PASSCAL I 142.70 299⇑P PKPdf 06 37 02.0 +3.1
baz=143
SRU San Rafael 144.28 308 *e*PKIKP PKPdf 06 37 01.7 0.0
TMUT Trail Mountain 144.72 309 *e*PKPdf PKPdf 06 37 03.6 +1.1
HVU Hansel Valley 144.88 313 *e*PKIKP PKPdf 06 37 04.0 +1.2
HLID Hailey 145.15 317 *e*PKPab PKPab 06 37 05.0 +2.2
BGU Big Grassy Mou 145.41 312 *e*PKPbc PKPbc 06 37 04.9 +1.3
DUG Dugway 145.55 311 *e*PKIKP PKPdf 06 37 06.0 +2.1
MSU Marysvale 145.70 308 *e*PKP2 PKPab 06 37 07.0 +2.1
WUAZ Wupatki 145.98 302 *e*PKPab PKPab 06 37 07.7 +1.8
M13A Montello 146.00 313 P PKPbc 06 37 07.9 +2.4
baz=146,SNR=18
A05A Maple Falls 146.10 330⇓P PKPdf 06 37 05.8 +0.9
baz=146
TUC Tucson 146.19 296 *e*PKP2 PKPab 06 37 08.1 +1.4
N13A West Wendover 146.25 313⇑P PKPbc 06 37 08.4 +2.2
baz=146
M12A Wells 146.49 314⇓P PKPbc 06 37 09.2 +2.3
baz=147
HAWA Hanford 146.58 325 *e*PKPab PKPab 06 37 09.3 +1.1
A04A Legoe Bay, Lum 146.58 331⇓P PKPbc 06 37 09.3 +2.1
baz=147
B05A Bryant 146.63 329⇑P PKPbc 06 37 08.4 +1.1
baz=147
W15A Williams 146.78 302⇑P PKPbc 06 37 10.2 +2.4
baz=147,SNR=5.8
N12A Wells--Clov Va 146.82 313⇑P PKPbc 06 37 09.4 +1.5
baz=147,SNR=6.0
C05A Tolt Reservoir 146.83 328⇑P PKPbc 06 37 08.3 +0.4
baz=147
O12A Currie 146.87 312⇓P PKPbc 06 37 09.7 +1.7
baz=147,SNR=7.5
116A Eloy 146.91 297⇓P PKPbc 06 37 10.4 +2.3
baz=147
CCUT Cedar City 146.91 307 *e*PKPab PKPab 06 37 11.1 +1.6
X15A Humboldt 146.93 301⇓P PKPbc 06 37 10.4 +2.2
baz=147,SNR=9.6
M11A Holland Ranch, 147.06 315⇑P PKPbc 06 37 10.6 +2.0
baz=147
N11A Elko Archery C 147.31 314⇑P PKPbc 06 37 11.0 +1.7
baz=148
115A Sonoran Desert 147.32 298⇑P PKPbc 06 37 11.2 +1.9
baz=148
P12A McGill 147.32 311⇑P PKPbc 06 37 10.5 +1.2
baz=148,SNR=5.8
D05A Enumclaw 147.32 328⇑P PKPbc 06 37 09.9 +0.6
baz=147
W14A Seligman 147.41 302⇓P PKPbc 06 37 11.2 +1.6
baz=148
B04A Port Angeles 147.42 330⇑P PKPbc 06 37 10.9 +1.3
baz=148
X14A Yava 147.45 301⇑P PKPbc 06 37 11.1 +1.5
baz=148
M10A I.L. Ranch, Tu 147.51 315⇓P PKPbc 06 37 11.4 +1.6
baz=148
E05A Randle 147.63 327⇓P PKPbc 06 37 11.0 +0.8
baz=148
Y14A Wickenburg 147.67 300⇓P PKPbc 06 37 11.6 +1.4
baz=148
L09A Wilkinson Ranc 148.00 317⇓P PKPbc 06 37 10.6 -0.5
baz=148,SNR=5.5
X13A Yucca 148.17 302⇑P PKPbc 06 37 11.3 -0.3
baz=148,SNR=7.4
D03A Wishkah Elem. 148.23 329⇓P PKPbc 06 37 10.9 -0.8
baz=148
G05A Wamic 148.28 325⇑P PKPbc 06 37 12.7 +0.9
baz=148
Y13A Salome 148.37 300⇑P PKPbc 06 37 13.4 +1.3
baz=149
WVOR Wild Horse Val 148.39 318 *e*PKP2 PKPab 06 37 13.8 -1.6
I06A Prineville 148.47 322⇓P PKPbc 06 37 14.0 +1.6
baz=149,SNR=5.8
E03A Lebam 148.54 329⇓P PKPbc 06 37 14.2 +1.6
baz=149
O09A Fish Creek Ran 148.59 313⇓P PKPbc 06 37 14.4 +1.8
baz=149
H05A Madras 148.60 324⇑P PKPbc 06 37 14.7 +1.9
baz=149
M08A Happy Creek Ra 148.75 316⇓P PKPbc 06 37 15.3 +2.2
baz=149,SNR=5.2
P09A Austin 148.84 312⇑P PKPbc 06 37 14.4 +1.1
baz=149
J06A Christmas Vall 148.84 321⇓P PKPbc 06 37 15.3 +2.0
baz=149,SNR=18
G04A Mulino 148.91 326⇓P PKPbc 06 37 14.7 +1.2
baz=149
I05A Bend 148.94 323⇑P PKPbc 06 37 15.1 +1.5
baz=149
Y12C Blythe 148.94 300⇑P PKPbc 06 37 15.2 +1.6
baz=149,SNR=6.0
F03A Seaside 148.97 328⇓P PKPbc 06 37 15.1 +1.5
baz=149
K06A Valley Falls 149.17 320⇑P PKPbc 06 37 16.3 +2.1
baz=149
M07A Soldier Meadow 149.28 317⇑P PKPbc 06 37 15.7 +1.2
baz=149
GLA Glamis 149.37 299⇓P PKPbc 06 37 16.8 +2.1
baz=150
TUQ Turquoise Mtn. 149.56 304⇓P PKPbc 06 37 16.0 +0.9
baz=150
S09A Goldfield 149.69 309⇓P PKPbc 06 37 17.6 +2.2
baz=150,SNR=8.1
H03A Soap Creek Ran 149.70 326⇑P PKPbc 06 37 17.3 +1.9
baz=150
Q08A Gabbs 149.70 312⇓P PKPbc 06 37 17.0 +1.6
baz=150
BC3 Big Chuckw Mtn 149.72 301⇑P PKPbc 06 37 17.6 +2.0
baz=150
NVAR Mina Array Bea 150.15 311 PKPbc PKPbc 06 37 14.8 -1.7
comp=Z,3.2nm,0.8s,baz=88,slow=3.0,SNR=11
O06A Flanigan 150.36 315⇓P PKPbc 06 37 18.8 +1.8
baz=150
S08C White Mtn Res 150.46 309⇑P PKPbc 06 37 20.2 +2.9
baz=151,SNR=7.1
L04A Klamath Falls 150.52 320⇑P PKPbc 06 37 19.8 +2.3
baz=151
DAC Darwin (Calif) 150.53 307 *e*PKIKP PKPbc 06 37 20.5 +3.0
PFO Pinyon Flat Ob 150.53 301⇑P PKPbc 06 37 20.8 +3.3
baz=151
M05C Lookout 150.54 318⇑P PKPbc 06 37 19.2 +1.7
baz=151
M04C Macdoel 150.72 320⇓P PKPbc 06 37 18.5 +0.5
baz=151
MTUM Tungsten Hills 150.81 309 *e*PKPdf PKPdf 06 37 14.6 +2.1
R07C Lee Vining 150.83 311⇓P PKPbc 06 37 20.2 +2.0
baz=151
R06C Coleville 150.91 312⇑P PKPbc 06 37 19.8 +1.5
baz=151
HATC Hat Creek Radi 151.04 318⇑P PKPbc 06 37 20.2 +1.6
baz=151
O04C Chester 151.09 317⇑P PKPbc 06 37 19.8 +1.1
baz=151
M03C McCloud 151.19 319⇑P PKPbc 06 37 20.2 +1.2
baz=151
R05C Kirkwood Meado 151.26 313⇑P PKPbc 06 37 20.3 +1.2
baz=151
YBH Yreka Blue Hor 151.27 321⇑P PKPbc 06 37 20.6 +1.4
baz=151
P05C Yuba Gap, Truc 151.31 314⇓P PKPbc 06 37 20.3 +1.0
baz=152
KCC Kaiser Creek 151.36 310⇓P PKPbc 06 37 21.4 +2.0
baz=152
ISA Isabella 151.42 306⇑P PKPbc 06 37 21.7 +2.1
baz=152
HELL Mitchell Peak 151.42 308⇓P PKPbc 06 37 20.5 +0.9
baz=152
ORV Oroville 151.77 316⇑P PKPbc 06 37 22.4 +2.0
baz=152
S05C Merced 152.07 311⇑P PKPbc 06 37 22.0 +1.0
baz=152
SUTB Sutter Buttes 152.13 315⇑P PKPbc 06 37 22.3 +1.2
baz=152
N02C Big Bar 152.18 320⇓P PKPbc 06 37 22.9 +1.6
baz=152
PTRM Twissleman Ran 152.72 307 *e*PKPbc PKPbc 06 37 23.8 +1.3

CASC 08 06:22:57.4±1.6, 1008N×8419W, h80km±3km, MD3.8, ML4.0, 11C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POA2	**Poas 2**	**0.11**	**325**	⇑*i*P	Pn	06 23 09.4	+0.5
POA2				*e*S	Sn	06 23 18.5	+1.2
PRS1	**Puriscal**	**0.16**	**231**	⇑*i*P	Pn	06 23 09.8	+0.8
SJS	**Escuela Geolog**	**0.19**	**138**	⇑*e*P	Pn	06 23 09.6	+0.4
SJS				*e*S	Sn	06 23 19.7	+1.9
LAJ	**Bijagual**	**0.23**	**164**	⇓*e*P	Pn	06 23 12.0	+2.8
CGA2	**Cerro Gallo 2**	**0.28**	**256**	⇑*e*P	Pn	06 23 09.8	+0.3
CGA2				*e*S	Sn	06 23 19.6	+1.1
OCM	**Ochomogo**	**0.29**	**130**	⇑*i*P	Pn	06 23 09.8	+0.2
OCM				*e*S	Sn	06 23 19.7	+1.1
OCM				AML	AML	06 23 23.4	
	comp=N,5μm,0.1s						
IRZ2	**Volcan Irazu 2**	**0.31**	**112**	⇑*i*P	Pn	06 23 10.2	+0.5
IRZ2				*e*S	Sn	06 23 21.5	+2.8
ICR	**Volcan Irazu**	**0.36**	**106**	⇓*e*P	Pn	06 23 11.0	+0.9
LCR2	**La Lucha 2**	**0.39**	**152**	⇑*i*P	Pn	06 23 10.4	+0.2
EPA	**Esparza**	**0.41**	**257**	⇓*i*P	Pn	06 23 10.4	0.0
EPA				*e*S	Sn	06 23 20.9	+0.8
URSC	**Urasca**	**0.47**	**122**	⇑*i*P	Pn	06 23 11.2	+0.3
URSC				*e*S	Sn	06 23 22.9	+2.1
FORC	**Fortuna**	**0.61**	**309**	⇓*i*P	Pn	06 23 12.3	+0.1
FORC				*i*S	Sn	06 23 23.9	+0.9
VACR	**Volcan Arenal**	**0.62**	**309**	⇓*i*P	Pn	06 23 12.6	+0.4
VACR				*e*S	Sn	06 23 24.5	+1.4
BUS	**Buena Vista**	**0.67**	**141**	⇑*i*P	Pn	06 23 13.2	+0.4
BUS				*e*S	Sn	06 23 25.4	+1.3
JTS	**JuntasAbangare**	**0.78**	**285**	⇓*i*P	Pn	06 23 13.9	0.0
JTS				*e*S	Sn	06 23 28.5	+2.3
JTS				AML	AML	06 23 30.1	
	comp=N,2μm,0.1s						
LIM1	**Limonal**	**1.22**	**300**	*i*P	Pn	06 23 19.1	0.0
VCR	**Vista de Mar**	**1.42**	**272**	⇓*e*P	Pn	06 23 21.9	+0.2
VCR				*e*S	Sn	06 23 40.7	+0.7
CTCR	**Cotoan**	**1.84**	**130**	⇑*i*P	Pn	06 23 27.5	+0.4
CTCR				*e*S	Sn	06 23 50.6	+0.9
BRU	**Baru**	**2.04**	**128**	*e*P	Pn	06 23 30.5	+0.7
BRU				*e*S	Sn	06 23 57.3	+2.7
DVD	**David**	**2.37**	**134**	*e*P	Pn	06 23 34.5	+0.3

*ISCJB **08** 06:43:30.5±1.8, 668S×009×1297E±02, h144km±17km, mb4.3/14, Error ellipse: s-maj=36.0km s-min=8.1km az=138.0*
*NEIC **08** 06:43:31.9±2.1, 671S×1296 2E, h139km±21km, mb4.8/13, Error ellipse: s-maj=29.7km s-min=11.7km az=60.0*
*IDC **08** 06:43:38.0±7.0, 669S×130.16E, h202km±70km, mb3.9/3, mb1 4.0/4, mb1mx3.7/11, mbtmp4.5/4, Error ellipse: s-maj=162.0km s-min=18.0km az=70.0*
ISC 08 06:43:34.7±1.2, 689S±009×1297E±02, h172km±11km, n23, σ1°01/29, mb4.3/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.37**	**155**	*e*P	Pn	06 45 06.4	-0.1
	60nm,0.5s						
KAKA				*e*S	Sn	06 46 16.5	-2.2
FITZ	**Fitzroy Crossi**	**11.83**	**199**	*e*P	Pn	06 46 18.2	+0.1
	4.4nm,0.2s						
FITZ				*e*S	Sn	06 48 21.9	-7.4
WRAB	**Tennant Creek**	**13.72**	**161**	*e*Pn	Pn	06 46 41.3	-0.9
	28nm,0.4s						
AS31	**Alice Springs**	**17.15**	**167**	*e*P	Pn	06 47 26.6	+2.4
AS31				*e*S	S	06 50 32.1	-0.7
ASAR	**Alice Springs**	**17.16**	**167**	P	Pn	06 47 25.9	+1.7
	2.8nm,0.3s,baz=344,slow=10.0,SNR=87						
ASAR				S	S	06 50 32.4	-0.5
	1.0nm,0.3s,baz=352,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**17.16**	**167**	P	Pn	06 47 25.9	+1.7
ASAR				S	S	06 50 32.4	-0.5
ASPA	**Alice Springs**	**17.16**	**167**	*e*P	Pn	06 47 26.6	+2.4
ASPA				*e*S	S	06 50 32.1	-0.7
STKA	**Stephens Creek**	**27.22**	**157**	P	P	06 49 03.0	+0.5
	2.3nm,0.4s,mb4.1,baz=332,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**27.22**	**157**	*e*P	P	06 49 02.8	+0.4
JIRN	**Jiri**	**54.31**	**311**	*e*P	P	06 52 43.2	+0.1
	4.6nm,0.3s,mb4.7						
GUN	**Gumba**	**54.67**	**311**	*e*P	P	06 52 46.2	+0.4
	12nm,0.5s,mb4.9						
PKI	**Pulchoki**	**54.85**	**311**	*e*P	P	06 52 45.9	-1.1
KKN	**Kakani**	**55.06**	**311**	*e*P	P	06 52 48.3	-0.2
	5.2nm,0.3s,mb4.7						
DMN	**Daman**	**55.09**	**311**	*e*P	P	06 52 47.7	-1.1
	13nm,0.4s,mb5.0						
GKN	**Gorkha**	**55.66**	**311**	*e*P	P	06 52 52.9	+0.1
	8.4nm,0.3s,mb5.0						
KOLN	**Koldanda**	**56.32**	**310**	*e*P	P	06 52 57.0	-0.5
	8.0nm,0.6s,mb4.7						
ULN	**Ulaanbaatar**	**58.08**	**342**	*e*P	P	06 53 09.9	+0.1
	1.8nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**67.98**	**327**	P	P	06 54 15.4	+0.3
	8.4nm,0.5s,mb4.7,baz=116,slow=8.0,SNR=78						
AAK	**Ala-Archa**	**70.28**	**320**	*e*P	P	06 54 29.8	+0.6
	1.5nm,0.5s,mb4.0						
KURK	**Kurchatov**	**72.28**	**329**	*e*P	P	06 54 40.9	-0.4
	2.0nm,0.4s,mb4.2						
VNDA	**Vanda**	**72.59**	**173**	P	P	06 54 45.0	+1.9
	0.8nm,0.8s,mb3.5,baz=322,slow=8.8,SNR=6.1						
BRVK	**Borovoye**	**77.90**	**328**	*e*P	P	06 55 13.0	-0.4
	1.1nm,0.6s,mb3.7						
ZRNK	**Zerenda**	**78.53**	**327**	*e*P	P	06 55 16.4	-0.4
	0.7nm,0.6s,mb3.5						
ZRNK				*e*	pP	06 55 53.5	-5.3

*ATH **08** 07:15:27.5, 3531N×2459E, h160km±4km*
*ISCJB **08** 07:15:30.0±1.5, 3530N±0.10×246E±02, h140km±14km, Error ellipse: s-maj=32.9km s-min=11.9km az=136.7*
*CSEM **08** 07:15:30.8±0.6, 3477N×2311E, h12km, MD3.2, Error ellipse: s-maj=22.2km s-min=9.5km az=85.0*
*NEIC **08** 07:15:31.2, 3625N×2496E, h12km, MD3.2(ATH), After ATH.*
*HLW **08** 07:15:33.6, 3464N×2252E, h33km, Mb3.4*
ISC 08 07:15:30.3±1.5, 3532N±009×246E±02, h143km±13km, n7, σ1°43/11, 3C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.36**	**284**	*e*P	Pn	07 15 50.5	+0.4
VAM				*e*S	Sn	07 16 06.0	+0.8
NPS	**Neapolis**	**0.81**	**94**	*e*P	Pn	07 15 52.0	-0.7
KYTH	**Kithira**	**1.61**	**307**	*e*P	Pn	07 16 00.0	-0.4
VLI	**Veliai**	**1.96**	**316**	*e*P	Pn	07 16 03.0	-1.4
SLUM		**3.85**	**173**	⇑P	Pn	07 16 30.5	+2.2
SLUM				S	Sn	07 17 12.5	-0.8
SWA2		**6.10**	**173**	⇑P	Pn	07 16 59.5	+1.3
SWA2				S	Sn	07 18 01.7	-5.2
SWA1		**6.11**	**171**	⇑P	Pn	07 17 00.5	+2.2
SWA1				S	Sn	07 18 04.4	-2.7

*ISCJB **08** 07:29:03.5±0.5, 5027N×004×1882E±003, h0km, Error ellipse: s-maj=5.7km s-min=2.7km az=25.6*
*WAR **08** 07:29:04.9, 5024N×1893E, ML2.7, Mining Induced*
*CSEM **08** 07:29:04.8±0.3, 5025N×1887E, h0km±2km, ML3.1/4, Error ellipse: s-maj=13.4km s-min=4.0km az=20.0*
*PRU **08** 07:29:05.7, 5020N×1884E, h0km*
*IPEC **08** 07:29:05.7±0.1, 4998N×1902E, h0km, ML2.2/3, Error ellipse: s-maj=6.5km s-min=0.7km az=158.0*
*VIE **08** 07:29:12.0±0.7, 5007N×1831E, h0km, mb1.5/2, ML2.6/3, Error ellipse: s-maj=4.3km s-min=3.9km az=156.0 27 km N of Ostrava Suspected Mining induced.*
ISC 08 07:29:05.2±0.5, 5020N±003×1884E±003, h0km, n20, σ1°25/34, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.57**	**231**	*e*PG	Pg	07 29 17.4	+1.2
OKC				*e*SG	Sg	07 29 25.7	+2.1
	62nm,0.8s						
OKC	**Ostrava-Krasne**	**0.57**	**231**	*e*Pg	Pg	07 29 17.5	+1.3
OJC	**Ojcow**	**0.62**	**88**	*e*Pg	Pg	07 29 15.8	-1.2
OJC				*e*Sg	Sg	07 29 23.9	-1.1
OJC	**Ojcow**	**0.62**	**88**	*e*Pg	Pg	07 29 15.7	-1.3
OJC				*e*Sg	Sg	07 29 23.6	-1.4
MORC	**Moravsky Berou**	**0.94**	**244**	*e*Pg	Pg	07 29 23.6	+0.4
MORC				*e*Sg	Sg	07 29 36.5	+1.2
	34nm,0.3s						
NIE	**Niedzica**	**1.23**	**129**	*e*Pg	Pg	07 29 28.3	-0.5
NIE				*e*Sg	Sg	07 29 45.1	+0.3
KOLL	**Kolacno**	**1.65**	**190**	*e*PN	Pn	07 29 37.6	+2.3
KOLL				*e*SN	Sn	07 29 58.2	+1.0
VRAC	**Vranov**	**1.71**	**239**	*e*Pn	Pn	07 29 36.9	+0.7
VRAC				*e*Sg	Sg	07 29 58.9	-1.2
	27nm,0.4s						
STHS	**Stebnicka Huta**	**1.74**	**116**	*e*PN	Pn	07 29 37.5	+0.8
STHS				*e*SN	Sn	07 30 00.0	+0.4
KSP	**Ksiaz**	**1.75**	**293**	*e*Pn	Pn	07 29 38.2	+1.4
KSP				*e*Sn	Sn	07 30 01.6	+1.9
KSP	**Ksiaz**	**1.75**	**293**	*e*Pg	Pg	07 29 38.0	-0.7
KSP				*e*Sg	Sg	07 30 00.6	-0.8
KSP				e		07 30 01.5	
KSP	**Ksiaz**	**1.75**	**293**	*e*Pg	Pg	07 29 38.0	-0.7
KSP				*e*Sg	Sg	07 30 00.6	-0.8
UPC	**Upice**	**1.84**	**281**	*e*SG	Sg	07 30 03.5	-0.7
KRUC	**Moravsky**	**1.95**	**235**	*e*Pn	Pn	07 29 40.6	+1.0
KRUC				*e*Sg	Sg	07 30 06.3	-1.7
	12nm,0.3s						
KECS	**Kecovo**	**2.03**	**147**	*e*PN	Pn	07 29 40.1	-0.5
KECS				*e*SN	Sn	07 30 04.5	-2.1
PRU	**Pruhonice**	**2.78**	**267**	*e*SG	Sg	07 30 32.4	-2.0
	16nm,0.9s						
BRG	**Berggiesshubel**	**3.20**	**284**	SG	Sg	07 30 47.5	-0.3
	5.0nm,0.5s						
KHC	**Kasperske Hory**	**3.58**	**255**	*e*SG	Sg	07 30 58.3	-1.9
	10nm,0.5s						
MOA	**Molln**	**3.82**	**234**	⇓*i*Sg	Sg	07 31 06.4	-1.4
	comp=Z,5.8nm,0.5s						
CLL	**Collm**	**3.87**	**289**	*e*Pg	Pg	07 30 21.0	+1.6
CLL				*i*Sg	Sg	07 31 09.6	+0.1
	comp=Z,10.0nm,0.6s						

*ISCJB **08** 07:37:24.1±1.4, 204S±0.1×1783W±0.1, h531km±21km, mb4.3/12, Error ellipse: s-maj=19.6km s-min=12.8km az=122.5*
*IDC **08** 07:37:26.3±4.0, 2042S×17830W, h545km±44km, mb3.6/7, mb1 3.7/9, mb1mx3.6/15, mbtmp4.5/9, Error ellipse: s-maj=24.5km s-min=19.3km az=61.0*
*NEIC **08** 07:37:27.2±2.5, 2040S×17836W, h557km±27km, mb4.5/9, Error ellipse: s-maj=20.9km s-min=15.6km az=47.0*
ISC 08 07:37:24.4±1.3, 204S±01×17821W±010, h521km±19km, n29, σ0°85/22, mb4.3/12, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.92**	**45**	S	S	07 41 14.0	-0.4
	1.3nm,0.3s,baz=240,slow=23,SNR=3.8						
DZM	**Mont Dzumac**	**14.40**	**261**	P	P	07 40 29.7	+1.8
	0.3nm,0.3s,baz=84,slow=18,SNR=3.9						
URZ	**Urewera**	**18.25**	**192**	P	P	07 41 04.6	-1.3
	0.7nm,0.3s,baz=328,slow=6.4,SNR=5.7						

CTA	**Charters Tower**	**33.30 264**	*e*P		**P**	**07 43 19.1**	**+0.6**
	21nm,0.4s,mb5.0						
CTA	**Charters Tower**	**33.30 264**	P		**P**	**07 43 19.3**	**+0.8**
	24nm,0.4s,mb5.1,baz=94,slow=10,SNR=46						
CTAO	**Charters Tower**	**33.30 264**	*e*P		**P**	**07 43 19.3**	**+0.8**
	26nm,0.4s,mb5.1						
PMG	**Port Moresby**	**35.13 283**	P		**P**	**07 43 34.2**	**+0.3**
	26nm,0.8s,mb4.8,baz=132,slow=4.7,SNR=4.3						
STKA	**Stephens Creek**	**37.65 244**	*e*P		**P**	**07 43 52.6**	**-2.1**
	4.2nm,1.5s,mb3.8						
STKA	**Stephens Creek**	**37.65 244**	P		**P**	**07 43 52.7**	**-2.0**
	1.9nm,0.3s,mb4.0,baz=64,slow=9.0,SNR=5.1						
AS31	**Alice Springs**	**44.34 257**	*e*P		**P**	**07 44 47.9**	**0.0**
ASAR	**Alice Springs**	**44.34 257**	P		**P**	**07 44 47.8**	**-0.1**
	16nm,0.6s,mb4.8,baz=97,slow=7.6,SNR=255						
ASAR			PcP		PcP	07 46 19.9	-0.8
	1.4nm,0.8s,baz=88,slow=5.3,SNR=4.2						
ASPA	**Alice Springs**	**44.35 257**	*e*P		**P**	**07 44 47.9**	**0.0**
WRAB	**Tennant Creek**	**44.41 262**	*e*P		**P**	**07 44 47.7**	**-0.7**
	11nm,0.3s,mb4.8						
KAKA	**Kakadu**	**47.77 271**	⇓*i*P		**P**	**07 45 13.6**	**-0.4**
	12nm,0.2s,mb5.1						
FITZ	**Fitzroy Crossi**	**52.84 262**	*e*P		**P**	**07 45 51.2**	**+0.1**
	8.8nm,1.0s,mb4.0						
MBWA	**Marble Bar**	**57.68 257**	*e*P		**P**	**07 46 23.9**	**-0.8**
	6.6nm,0.4s,mb4.2						
SBA	**Scott Base**	**57.95 184**	*e*P		**P**	**07 46 28.2**	**+1.6**
	2.6nm,0.5s,mb3.7						
VNDA	**Vanda**	**57.98 185**	P		**P**	**07 46 27.3**	**+0.4**
	1.3nm,0.7s,mb3.3,baz=348,slow=6.5,SNR=13						
VNDA	**Vanda**	**57.98 185**	*e*P		**P**	**07 46 27.1**	**+0.2**
	1.0nm,0.6s,mb3.2						
QSPA	**South Pole Qui**	**69.66 180**	*e*P		**P**	**07 47 41.5**	**+0.2**
	8.1nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**81.09 43**	P		**P**	**07 48 45.2**	**+0.2**
	0.2nm,0.5s,baz=69,slow=21,SNR=3.7						
PDAR	**Pinedale Array**	**89.03 43**	P		**P**	**07 49 24.1**	**+0.5**
	0.6nm,0.6s,mb3.6,baz=260,slow=3.3,SNR=4.2						
BVAR	**Borovoye Array**	**118.88 320**	PKP		PKPdf	07 55 11.4	-2.0
	0.5nm,0.4s,baz=18,slow=0.5,SNR=5.2						
AKASG	**Malin Array Be**	**142.84 331**	PKhKP			07 55 53.9	
	4.4nm,0.5s,baz=44,slow=4.2,SNR=46						
MALT	**Malatya**	**143.72 308**	*e*PKPdf		PKPdf	07 55 59.0	-0.8
BRTR	**Keskin Array B**	**146.63 312**	PKPbc		PKPbc	07 56 06.7	-0.7
	1.5nm,0.6s,baz=134,slow=3.6,SNR=6.8						
CLL	**Collm**	**147.93 347**	⇓*i*PKPbc		PKPbc	07 56 10.0	-0.8
	comp=Z,7.0nm,0.8s						
CLL			*i* PKPab		PKPab	07 56 14.6	-0.7
GERES	**GERESS Array B**	**150.06 344**	PKP		PKPdf	07 56 09.5	-0.8
	comp=Z,0.2nm,0.3s,baz=147,slow=36,SNR=2.2						
GERES			PKPbc		PKPbc	07 56 15.1	-0.9
	comp=Z,0.7nm,0.5s,baz=54,slow=3.4,SNR=6.1						
GERES			PKPab		PKPab	07 56 24.0	-0.1
	comp=Z,0.4nm,0.3s,baz=20,slow=4.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**172.78 179**	PKPab		PKPab	07 58 02.9	-0.4
	comp=Z,0.9nm,1.0s,baz=207,slow=3.0,SNR=3.6						

*IDC **08** 07:40:38.9±2.2, 1545N×9469W, h41^{km}±20^{km}, mb4.1/14, mb1 4.3/15, mb1mx4.1/24, mbtmp4.4/15, ML4.5/1, MS3.4/9, Ms1 3.4/9, ms1mx3.2/20, Error ellipse: s-maj=29.1km s-min=10.9km az=68.0*
*ISCJB **08** 07:40:39.8±0.4, 1548N±004×9459W±003, h57^{km}±6^{km}, mb4.3/15, MS3.3/8, Error ellipse: s-maj=7.8km s-min=3.2km az=50.6*
*NEIC **08** 07:40:41.0, 1544N×9460W, h19^{km}, mb4.2/1, MD4.7(MEX), After MEX.*
*MEX **08** 07:40:41.2±0.8, 1546N×9461W, h16^{km}±40^{km}, MD4.6*
*CASC **08** 07:40:41.9±2.3, 1528N×9454W, h34^{km}±490^{km}, MD4.6, mb4.2(NEIC)*
ISC 08 07:40:41.9±0.4, 1555N±004×9457W±003, h58^{km}±5^{km}, n73, σ1°24/81, mb4.3/15, MS3.3/8, 8C-1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.50**	**279**	*i* P	**Pn**	**07 41 03.7**	**-2.8**
HUIG				*i* S	**Sn**	**07 41 20.3**	**-4.7**
CMIG	**Matias Romero**	**1.56**	**349**	P	**Pn**	**07 41 06.0**	**-1.4**
	baz=160,slow=12						
CMIG				S	**Sn**	**07 41 25.2**	**-1.4**
	913nm,0.3s,baz=188,slow=15,SNR=52						
CMIG	**Matias Romero**	**1.56**	**349**	*i* P	**Pn**	**07 41 05.7**	**-1.7**
CMIG				*e*S	**Sn**	**07 41 25.7**	**-0.9**
SCX	**San Cristobal**	**2.20**	**57**	*i* P	**Pn**	**07 41 15.0**	**-1.1**
SCX				*i* S	**Sn**	**07 41 45.0**	**+2.9**
CCIG	**Comitan**	**2.45**	**72**	*e*P	**Pn**	**07 41 18.9**	**-0.6**
CCIG				*e*S	**Sn**	**07 41 47.5**	**-0.7**
TUIG	**Tuzandepetl**	**2.48**	**3**	*i* P	**Pn**	**07 41 19.5**	**-0.3**
OXX	**Oaxaca**	**2.57**	**307**	*i* P	**Pn**	**07 41 22.0**	**+0.9**
OXX				*i* S	**Sn**	**07 41 51.0**	**-0.1**
VHO	**Vista Hermosa**	**2.57**	**306**	*i* P	**Pn**	**07 41 20.8**	**-0.3**
VHO				*e*S	**Sn**	**07 41 49.8**	**-1.4**
VHO	**Vista Hermosa**	**2.57**	**306**	*i* P	**Pn**	**07 41 21.6**	**+0.5**
VHO				*e*S	**Sn**	**07 41 50.7**	**-0.5**
EVV	**El Vigia**	**2.99**	**346**	*i* P	**Pn**	**07 41 25.5**	**-1.3**
JAT	**Jato**	**3.09**	**113**	⇓*e*P	**Pn**	**07 41 27.9**	**-0.3**
TP2	**Tecpan 2**	**3.51**	**102**	⇑*e*P	**Pn**	**07 41 33.9**	**0.0**
TP2				*e*S	**Sn**	**07 42 15.4**	**+1.3**
FUG	**Fuego 3**	**3.76**	**106**	*e*P	**Pn**	**07 41 38.0**	**+0.6**
UTMO	**Huajuapan**	**3.84**	**307**	*e*P	**Pn**	**07 41 38.7**	**+0.3**
UTMO				*i* S	**Sn**	**07 42 22.7**	**+0.4**
SCIG		**4.69**	**43**	⇑*i*P	**Pn**	**07 41 48.7**	**-1.4**
SCIG				*i* S	**Sn**	**07 42 43.4**	**+0.1**
RBDL	**Robledal**	**4.93**	**106**	*e*P	x	07 41 59.5	
RBDL				*e*S	x	07 42 57.6	
SBLS	**San Blas**	**5.08**	**109**	⇑*e*P	x	07 42 02.1	
SBLS				*e*S	x	07 42 58.5	
PPM	**Popocatepetl**	**5.22**	**313**	*e*P	**Pn**	**07 42 00.0**	**+2.6**
PPM				*i* P		07 42 00.4	
PPM				*e*S	**Sn**	**07 42 59.4**	**+3.2**
PPM	**Popocatepetl**	**5.22**	**313**	*i* P	**Pn**	**07 42 00.9**	**+3.5**
PPM				*e*S	**Sn**	**07 43 00.8**	**+4.6**
ACX	**Acapulco**	**5.30**	**285**	*i* P	**Pn**	**07 41 56.5**	**-2.0**
MEIG	**Mezcala**	**5.39**	**297**	*i* P	**Pn**	**07 42 00.4**	**+0.8**
MEIG				*e*S	**Sn**	**07 42 59.1**	**-1.2**
BOQS	**Boqueron**	**5.43**	**109**	*e*P	x	07 42 09.9	
BOQS				*e*S	x	07 43 12.2	
PLIG	**Platanillo**	**5.50**	**302**	*i* P	**Pn**	**07 42 02.5**	**+1.3**
PLIG				*e*S	**Sn**	**07 43 02.6**	**-0.5**
PLIG	**Platanillo**	**5.50**	**302**	*i* P	**Pn**	**07 42 03.1**	**+1.9**
PLIG				*e*S	**Sn**	**07 43 00.0**	**-3.2**
LFRS	**El Faro**	**5.66**	**109**	*e*P	x	07 42 10.6	
LFRS				*e*S	x	07 43 13.1	
UNM	**Universidad Na**	**5.79**	**311**	*e*P	**Pn**	**07 42 07.0**	**+1.9**
CNCH	**Conchagua**	**6.91**	**108**	*e*P	x	07 42 29.1	
MOIG	**Morelia**	**7.53**	**304**	*i* P	**Pn**	**07 42 31.9**	**+2.9**
MOIG				*e*S	**Sn**	**07 43 54.0**	**+1.0**
MOIG	**Morelia**	**7.53**	**304**	*i* P	**Pn**	**07 42 32.2**	**+3.2**
CRIN	**San Cristobal**	**7.82**	**110**	*e*P	**Pn**	**07 42 35.2**	**+2.2**
CNGN	**Cerro Negro**	**8.22**	**111**	⇑*e*P	**Pn**	**07 42 39.4**	**+1.0**
MIRN	**Miramar**	**8.23**	**111**	*e*P	**Pn**	**07 42 38.3**	**-0.2**
MOMJ	**Momotombo**	**8.39**	**111**	*e*P	**Pn**	**07 42 40.1**	**-0.7**
COPN	**Copaltepe**	**8.44**	**112**	*e*P	**Pn**	**07 42 42.0**	**+0.6**
APYN	**Apoyeque**	**8.63**	**111**	*e*P	**Pn**	**07 42 44.1**	**0.0**
MGAN	**Managua**	**8.76**	**112**	*e*P	**Pn**	**07 42 45.8**	**-0.1**
APON	**Apoyo**	**9.01**	**113**	*e*P	**Pn**	**07 42 50.0**	**+0.7**
SFJM	**Santa Fe**	**9.44**	**303**	*i* P	**Pn**	**07 42 58.0**	**+2.9**
VCR	**Vista de Mar**	**10.24**	**121**	*e*P	**Pn**	**07 43 05.3**	**-0.8**
JTS	**JuntasAbangare**	**10.73**	**118**	P	**Pn**	**07 43 12.1**	**-0.7**
	3.4nm,0.3s,baz=317,slow=16,SNR=18						
PRS1	**Puriscal**	**11.43**	**118**	*e*P	**Pn**	**07 43 22.6**	**+0.3**
LCR2	**La Lucha 2**	**11.81**	**118**	*e*P	**Pn**	**07 43 27.2**	**-0.3**
URSC	**Urasca**	**11.96**	**117**	*e*P	**Pn**	**07 43 30.1**	**+0.6**
BUS	**Buena Vista**	**12.11**	**118**	*e*P	**Pn**	**07 43 30.8**	**-0.8**
SOR	**Soroa**	**13.08**	**55**	*e*P	**Pn**	**07 43 41.4**	**-3.4**
LPIG	**La Paz**	**17.07**	**302**	LR	LR	07 50 54.4	
	comp=Z,96nm,19.4s,baz=203,slow=36						
ANMO	**Albuquerque**	**22.08**	**333**	P	**P**	**07 45 35.1**	**+3.1**
	1.2nm,0.7s,mb3.5,baz=160,slow=12,SNR=9.1						
ROSC	**El Rosal**	**22.55**	**116**	P	**P**	**07 45 38.7**	**+1.7**
	18nm,0.7s,mb4.6,baz=90,slow=0.5,SNR=11						
ROSC				S	**S**	**07 49 42.5**	**+2.1**
	2.7nm,0.4s,baz=287,slow=19,SNR=2.6						
ROSC				LR	LR	07 53 16.9	
	comp=Z,62nm,21.0s,MS3.0,baz=334,slow=34						
ROSC	**El Rosal**	**22.55**	**116**	P	**P**	**07 45 38.7**	**+1.7**
ROSC				S	**S**	**07 49 42.5**	**+2.1**
116A	**Eloy**	**23.00**	**320**	⇑P	**P**	**07 45 47.1**	**+5.3**
	baz=23						
115A	**Sonoran Desert**	**23.42**	**320**	⇑P	**P**	**07 45 51.3**	**+5.4**
	baz=24						

SDV	**Santo Domingo**	**24.30**	**103**	P	**P**	**07 45 53.5**	**-0.4**
	6.4nm,0.8s,mb4.1,baz=276,slow=3.1,SNR=9.2						
SDV				LR	LR	07 54 12.6	
	comp=Z,84nm,19.4s,MS3.2,baz=32,slow=33						
Z14A	**Wintersburg**	**24.31**	**320**	⇑P	**P**	**07 45 58.2**	**+4.3**
	baz=24						
Y14A	**Wickenburg**	**24.74**	**321**	⇑P	**P**	**07 46 01.9**	**+4.1**
	baz=25,SNR=7.9						
SJG	**San Juan**	**27.31**	**81**	P	**P**	**07 46 21.9**	**+0.8**
	6.0nm,0.3s,mb4.6,baz=334,slow=18,SNR=3.0						
ATAH	**Atahualpa**	**27.54**	**143**	P	**P**	**07 46 24.1**	**+0.9**
	5.6nm,0.6s,mb4.3,baz=315,slow=16,SNR=3.1						
PCRV	**Puerto La Cruz**	**29.65**	**97**	LR	LR	08 00 10.9	
	comp=Z,62nm,19.3s,MS3.2,baz=290,slow=39						
NVAR	**Mina Array Bea**	**30.92**	**322**	pP	pP	07 47 04.4	-3.1
	4.9nm,0.8s,baz=133,slow=9.9,SNR=3.6						
ULM	**Lac du Bonnet**	**34.63**	**359**	LR	LR	08 04 08.2	
	comp=Z,35nm,21.3s,MS3.1,baz=273,slow=41						
YBH	**Yreka Blue Hor**	**35.63**	**323**	LR	LR	08 02 51.9	
	comp=Z,78nm,21.9s,MS3.4,baz=152,slow=37						
LPAZ	**La Paz**	**41.01**	**139**	P	**P**	**07 48 18.5**	**-0.8**
	1.6nm,0.6s,mb3.8,baz=327,slow=5.4,SNR=12						
SCHQ	**Schefferville**	**44.70**	**23**	LR	LR	08 08 25.3	
	comp=Z,58nm,21.3s,MS3.5,baz=52,slow=37						
LVC	**Limon Verde**	**45.49**	**146**	P	**P**	**07 48 54.1**	**-1.3**
	2.9nm,0.7s,mb4.2,baz=328,slow=5.2,SNR=3.9						
SIV	**San Ignacio**	**45.56**	**132**	P	**P**	**07 48 54.3**	**-1.7**
	6.6nm,0.8s,mb4.6,baz=309,slow=8.8,SNR=46						
YKA	**Yellowknife Ar**	**48.98**	**348**	P	**P**	**07 49 21.7**	**-0.8**
	0.9nm,0.6s,mb4.0,baz=157,slow=6.7,SNR=3.9						
CPUP	**Villa Florida**	**55.17**	**139**	P	**P**	**07 50 05.8**	**-2.7**
	2.6nm,0.8s,mb4.3,baz=333,slow=7.3,SNR=7.2						
BDFB	**Brasilia**	**55.44**	**122**	P	**P**	**07 50 09.2**	**-1.3**
	6.5nm,0.8s,mb4.7,baz=290,slow=7.3,SNR=12						
PLCA	**Paso Flores**	**60.27**	**159**	P	**P**	**07 50 43.5**	**-0.8**
	5.0nm,0.9s,mb4.5,baz=350,slow=11,SNR=6.4						
NB2	**NORSAR Subarra**	**83.97**	**28**	P	**P**	**07 53 05.7**	**-0.1**
	comp=Z,1.9nm,1.1s,mb4.1,baz=291,slow=5.1						
NOA	**NORSAR Array B**	**83.97**	**28**	P	**P**	**07 53 04.7**	**-1.1**
	comp=Z,1.7nm,0.9s,mb4.2,baz=296,slow=5.1,SNR=5.2						
NOA				LR	LR	08 27 57.6	
	comp=Z,21nm,21.5s,MS3.5,baz=240,slow=34						
ARCES	**ARCESS Array B**	**85.44**	**18**	P	**P**	**07 53 13.5**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.3,baz=296,slow=3.9,SNR=7.2						
ARCES	**ARCESS Array B**	**85.44**	**18**	P	**P**	**07 53 13.5**	**+0.3**
GERES	**GERESS Array B**	**89.98**	**39**	P	**P**	**07 53 36.3**	**+1.3**
	comp=Z,0.5nm,0.2s,mb4.4,baz=320,slow=3.5,SNR=5.1						
GERES				LR	LR	08 37 18.6	
	comp=Z,34nm,20.9s,MS3.8,baz=277,slow=38						

*ISCJB **08** 07:46:14.3±0.4, 44.11N±002×7.18E±003, h6^{km}±7^{km}, Error ellipse: s-maj=3.9km s-min=3.0km az=134.8*
*CSEM **08** 07:46:14.7±0.1, 44.11N×724E, h10^{km}, ML2.5/6, Error ellipse: s-maj=1.8km s-min=1.1km az=65.0*
*LDG **08** 07:46:15.0±0.1, 44.11N×723E, h2^{km}, Md2.7/1, Ml2.6/6, Error ellipse: s-maj=2.4km s-min=1.7km az=60.0*
*NEIC **08** 07:46:15.2, 4409N×722E, h5^{km}, ML2.4(STR), ML2.6(LDG), After STR.*
*STR **08** 07:46:15.2±0.2, 4409N×722E, h5^{km}±1^{km}, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 08 07:46:14.8±0.4, 4410N±002×722E±004, h11^{km}±5^{km}, n36, σ0°77/63, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.18**	**123**	Pg	**Pg**	**07 46 18.9**	**+0.2**
AUTN				Sg	**Sg**	**07 46 22.6**	**+1.1**
MVIF	**Mont Vial**	**0.20**	**193**	Pg	**Pg**	**07 46 19.2**	**+0.1**
MVIF				Sg	**Sg**	**07 46 22.6**	**+0.5**
LUCF	**Luceram**	**0.22**	**155**	Pg	**Pg**	**07 46 19.7**	**+0.2**
LUCF				Sg	**Sg**	**07 46 22.8**	**+0.2**
SAOF	**Saorge**	**0.27**	**114**	Pg	**Pg**	**07 46 20.9**	**+0.7**
SAOF				Sg	**Sg**	**07 46 23.9**	**0.0**
SBF	**Sospel**	**0.28**	**146**	*e*Pg	**Pg**	**07 46 19.5**	**-1.0**
SBF				*e*Sg	**Sg**	**07 46 23.4**	**-0.9**
	256nm,0.5s						
SBF	**Sospel**	**0.28**	**146**	*e*Pg	**Pg**	**07 46 19.5**	**-1.0**
SBF				*e*Sg	**Sg**	**07 46 23.4**	**-0.9**
	128nm,0.5s						
SURF	**Saint Ours**	**0.48**	**323**	Pg	**Pg**	**07 46 24.3**	**+0.1**
SURF				Sg	**Sg**	**07 46 31.4**	**+0.8**
FRF	**La Foret Royal**	**0.68**	**218**	*e*Pg	**Pg**	**07 46 27.0**	**-0.9**
FRF				*e*Sg	**Sg**	**07 46 36.2**	**-0.5**
	10nm,0.2s						
FRF	**La Foret Royal**	**0.68**	**218**	*e*Pg	**Pg**	**07 46 27.0**	**-0.9**
FRF				*e*Sg	**Sg**	**07 46 36.2**	**-0.5**
	5.2nm,0.2s						
MBDF	**Montbardon**	**0.71**	**333**	*e*Pg	**Pg**	**07 46 28.2**	**-0.3**
MBDF				*e*Sg	**Sg**	**07 46 38.2**	**+0.5**
	19nm,0.2s						
MBDF	**Montbardon**	**0.71**	**333**	*e*Pg	**Pg**	**07 46 28.2**	**-0.3**
MBDF				*e*Sg	**Sg**	**07 46 38.2**	**+0.5**
	9.7nm,0.2s						
OG25	**Le Caire**	**0.87**	**289**	Pg	**Pg**	**07 46 30.9**	**-0.6**
LMR	**La Mourre**	**0.92**	**214**	*e*Pg	**Pg**	**07 46 31.7**	**-0.8**
LMR				*e*Sg	**Sg**	**07 46 43.4**	**-1.1**
	44nm,0.3s						
LMR	**La Mourre**	**0.92**	**214**	*e*Pg	**Pg**	**07 46 31.7**	**-0.8**
LMR				*e*Sg	**Sg**	**07 46 43.4**	**-1.1**
	22nm,0.3s						
STOF	**St-Etienne Org**	**0.95**	**265**	Pg	**Pg**	**07 46 35.8**	**+2.8**
TAVF	**Tavernes**	**0.97**	**241**	Pg	**Pg**	**07 46 34.2**	**+0.8**
BNI	**Bardonecchia**	**1.03**	**338**	Pn	**Pn**	**07 46 36.2**	**+1.1**
BNI	**Bardonecchia**	**1.03**	**338**	Pn	**Pn**	**07 46 36.2**	**+1.1**
VILF	**Villemus**	**1.11**	**258**	Pg	**Pg**	**07 46 36.8**	**+0.7**
SMRF	**Simiane la Rot**	**1.19**	**265**	*e*P	**Pn**	**07 46 38.3**	**+1.0**
SMRF				*e*Sg	**Sg**	**07 46 53.2**	**+0.1**
	13nm,0.2s						
SMRF	**Simiane la Rot**	**1.19**	**265**	*e*Pg	**Pg**	**07 46 37.0**	**-0.7**
SMRF				*e*Sg	**Sg**	**07 46 53.2**	**+0.1**
SMRF	**Simiane la Rot**	**1.19**	**265**	*e*P	**Pn**	**07 46 38.3**	**+1.0**
SMRF				*e*Sg	**Sg**	**07 46 53.2**	**+0.1**
	6.6nm,0.2s						
PUYF	**Puyloubier**	**1.23**	**243**	Pg	**Pg**	**07 46 38.2**	**-0.3**
PUYF				Sg	**Sg**	**07 46 55.8**	**+1.3**
ORIF	**Oris-en-Rattie**	**1.26**	**311**	*e*Pg	**Pg**	**07 46 38.2**	**-0.8**
ORIF				*e*Sg	**Sg**	**07 46 55.6**	**+0.2**
	10nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.26**	**311**	*e*Pg	**Pg**	**07 46 38.2**	**-0.8**
ORIF				*e*Sg	**Sg**	**07 46 55.6**	**+0.2**
	5.2nm,0.4s						
LPG	**La Plagne**	**1.44**	**347**	*e*Pg	**Pg**	**07 46 41.7**	**-0.7**
LPG				*e*Sg	**Sg**	**07 47 00.8**	**-0.3**
	15nm,0.5s						
LPG	**La Plagne**	**1.44**	**347**	*e*Pg	**Pg**	**07 46 41.7**	**-0.7**
LPG				*e*Sg	**Sg**	**07 47 00.8**	**-0.3**
	7.7nm,0.5s						
LPL	**La Plagne**	**1.46**	**346**	*e*Pg	**Pg**	**07 46 42.2**	**-0.6**
LPL				*e*Sg	**Sg**	**07 47 01.4**	**-0.4**
	21nm,0.6s						
LPL	**La Plagne**	**1.46**	**346**	*e*Pg	**Pg**	**07 46 42.2**	**-0.6**
LPL				*e*Sg	**Sg**	**07 47 01.4**	**-0.4**
	11nm,0.6s						
GELF	**Grande-Etoile**	**1.48**	**242**	Pg	**Pg**	**07 46 43.2**	**0.0**
GELF				Sg	**Sg**	**07 47 02.5**	**+0.1**
VIVF	**Saint-Julien-l**	**1.97**	**294**	*e*Pn	**Pn**	**07 46 47.5**	**-0.6**
VIVF	**Saint-Julien-l**	**1.97**	**294**	*e*P	**Pn**	**07 46 49.4**	**+1.3**
VIVF	**Saint-Julien-l**	**1.97**	**294**	*e*Pg	**Pg**	**07 46 51.6**	**-1.0**
VIVF				*e*Sn	**Sn**	**07 47 11.8**	**-1.0**
	4.4nm,0.2s						
VIVF	**Saint-Julien-l**	**1.97**	**294**	*e*P	**Pn**	**07 46 49.4**	**+1.3**
VIVF				*e*Pg	**Pg**	**07 46 51.6**	**-1.0**
VIVF	**Saint-Julien-l**	**1.97**	**294**	*e*P	**Pn**	**07 46 49.4**	**+1.3**
VIVF	**Saint-Julien-l**	**1.97**	**294**	*e*Pg	**Pg**	**07 46 51.6**	**-1.0**
VIVF				*e*Sn	**Sn**	**07 47 11.8**	**-1.0**
	2.2nm,0.2s						

*CSEM **08** 07:53:56.8±0.0, 39.14N×266W, h5^{km}, ML3.2/29, Error ellipse: s-maj=0.9km s-min=0.7km az=119.0*
*LDG **08** 07:53:57.9±0.1, 39.05N×267W, h10^{km}, Ml3.4/4, Error ellipse: s-maj=2.4km s-min=2.0km az=139.0*
*NEIC **08** 07:53:57.2, 39.11N×265W, h4^{km}, ML3.4(LDG), MN3.1(MDD), After MDD.*
*INMG **08** 07:53:57.2±1.5, 39.13N×265W, h7^{km}±2^{km}, ML2.9, Error ellipse: s-maj=1.5km s-min=1.0km az=106.0*
*SFS **08** 07:53:58.0, 3909N×263W, h0^{km}, ML2.8*
MDD 08 07:53:57.8±0.3, 3910N×264W, h11^{km}, mbLg3.1/29, 4C-3D, Error ellipse: s-maj=2.5km s-min=2.0km az=111.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVIA	**Vianos**	**0.47**	**167**	⇑Pg	**Pg**	07 54 06.2	-0.8
	146nm,0.3s,SNR=18						
ETOB	**Tobarra**	**0.97**	**118**	⇓Pg	**Pg**	07 54 15.4	-1.0
	45nm,0.1s,SNR=18						
ETOB				Lg		07 54 28.1	
	292nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**0.97**	**118**	Pg	**Pg**	07 54 15.4	-1.0
	45nm,0.1s,SNR=18						
ESDC	**Sonseca Array**	**1.18**	**300**	⇓Pg	**Pg**	07 54 18.6	-1.7
	388nm,0.1s,baz=117,slow=18,SNR=18						
ESDC				Lg		07 54 34.5	
	118nm,0.3s,baz=112,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**1.18**	**300**	Pg	**Pg**	07 54 18.6	-1.8
	388nm,0.1s,SNR=18						
ESLA	**Sonseca Array**	**1.18**	**300**	*e*Pg	**Pg**	07 54 19.1	-1.2
ESLA				*e*Sg	**Sg**	07 54 33.9	-1.8
ESLA	**Sonseca Array**	**1.18**	**300**	*e*Pg	**Pg**	07 54 19.1	-1.3
ESLA				*e*Sg	**Sg**	07 54 33.9	-1.7
EHUE	**Huescar**	**1.28**	**178**	Pg	**Pg**	07 54 21.1	-1.3
	44nm,0.2s,SNR=71						
EHUE				Lg		07 54 37.9	
	135nm,0.1s,SNR=29						
EBAN	**Banos Encina**	**1.29**	**224**	Pn	**Pn**	07 54 20.2	-1.6
	124nm,0.2s,SNR=152						
EBAN				Pg	**Pg**	07 54 21.4	-1.2
	120nm,0.1s,SNR=7.9						
EBAN				Lg		07 54 38.1	
	119nm,0.1s,SNR=17						
EQES	**Quesada**	**1.33**	**195**	Pn	**Pn**	07 54 21.0	-1.4
	2.6nm,0.1s,SNR=7.9						
EQES				Pg	**Pg**	07 54 22.2	-1.2
	1.7nm,0.4s,SNR=5.5						
EQES				Lg		07 54 39.7	
	107nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.33**	**195**	Pn	**Pn**	07 54 21.0	-1.4
	2.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.33**	**195**	Pg	**Pg**	07 54 22.2	-1.2
	1.7nm,0.4s,SNR=5.5						
ECHE	**Chera**	**1.39**	**69**	Pn	**Pn**	07 54 21.2	-2.0
	8.8nm,0.2s,SNR=4.0						
ECHE				Pg	**Pg**	07 54 22.2	-2.2
	13nm,0.1s,SNR=7.9						
ECHE				Lg		07 54 41.2	
	82nm,0.2s,SNR=26						
EMUR	**La Murta**	**1.67**	**138**	Pn	**Pn**	07 54 25.8	-1.1
	5.1nm,0.5s,SNR=4.0						
EMUR				Pg	**Pg**	07 54 28.0	-1.8
	100nm,0.3s,SNR=89						
EMUR				Lg		07 54 49.7	
	252nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**1.67**	**138**	Pn	**Pn**	07 54 25.8	-1.1
	5.1nm,0.5s,SNR=4.0						
EMUR	**La Murta**	**1.67**	**138**	Pg	**Pg**	07 54 28.0	-1.8
	100nm,0.3s,SNR=89						
EADA	**Adamuz**	**1.78**	**239**	⇑Pn	**Pn**	07 54 27.0	-1.5
	2.5nm,0.1s,SNR=18						
EADA				Pg	**Pg**	07 54 29.7	-2.2
	15nm,0.4s,SNR=40						
EADA				Sn	**Sn**	07 54 49.0	-2.0
	26nm,0.2s,SNR=7.9						
EADA				Lg		07 54 52.3	

0.3nm,0.2s,SNR=7.9
EGUA Pg Pg 07 54 42.8 -0.5
3.8nm,0.3s,SNR=7.9
EGUA Sn Sn 07 55 05.1 -0.7
0.7nm,0.2s,SNR=7.9
EGUA Lg 07 55 14.2
2.7nm,0.3s,SNR=7.9
EGUA Guajares 2.37 198 Pg Pg 07 54 42.8 -0.5
3.8nm,0.3s,SNR=7.9
EGUA Sn Sn 07 55 05.1 -0.7
0.7nm,0.2s,SNR=7.9
ERTA Horta de San J 2.94 50 Pn Pn 07 54 43.9 -0.6
0.7nm,0.1s,SNR=7.9
ERTA Pg Pg 07 54 52.4 -1.8
0.9nm,0.1s,SNR=7.9
ERTA Sn Sn 07 55 17.8 -2.1
4.9nm,0.1s,SNR=7.9
ERTA Lg 07 55 29.8
40nm,0.3s,SNR=7.9
ERTA Horta de San J 2.94 50 Pn Pn 07 54 43.9 -0.6
0.7nm,0.1s,SNR=7.9
ERTA Horta de San J 2.94 50 Pg Pg 07 54 52.4 -1.8
0.9nm,0.1s,SNR=7.9
ERTA Sn Sn 07 55 17.8 -2.1
4.9nm,0.1s,SNR=7.9
EBR Ebro Roquetas 2.96 53 *eS** Sb 07 55 29.5 +2.7
EMIJ Mijas 3.04 214 Pn Pn 07 54 46.4 +0.5
1.3nm,0.1s,SNR=7.9
EMIJ Pg Pg 07 54 53.4 -2.6
0.1nm,0.1s,SNR=7.9
EMIJ Sn Sn 07 55 21.3 -0.9
11nm,0.3s,SNR=4.8
EMIJ Lg 07 55 35.3
16nm,0.3s,SNR=7.9
EMIJ Mijas 3.04 214 Pn Pn 07 54 46.3 +0.5
1.3nm,0.1s,SNR=7.9
EMIJ Mijas 3.04 214 Pg Pg 07 54 53.4 -2.6
0.1nm,0.1s,SNR=7.9
EMIJ Sn Sn 07 55 21.3 -0.9
11nm,0.3s,SNR=4.8
LIJA Lijar 3.09 226 Pg Pg 07 54 57.1 +0.1
LIJA Lg 07 55 35.0
ESAC San Caprasio 3.10 32 Pn Pn 07 54 45.7 -1.0
SNR=4.0
ESAC Pg Pg 07 54 53.1 -4.2
50nm,0.3s,SNR=7.9
ESAC Lg 07 55 35.5
85nm,0.3s,SNR=7.9
ESAC San Caprasio 3.10 32 Pn Pn 07 54 45.6 -1.0
ESAC Pg Pg 07 54 53.1 -4.1
ESAC Lg 07 55 35.5
ESAC San Caprasio 3.10 32 Pn Pn 07 54 45.7 -1.0
SNR=4.0
ESAC San Caprasio 3.10 32 Pg Pg 07 54 53.1 -4.1
50nm,0.3s,SNR=7.9
EIBI Ibiza 3.10 90 Pn Pn 07 54 44.9 -1.8
3.3nm,0.2s,SNR=7.9
EIBI Sn Sn 07 55 21.3 -2.5
0.6nm,0.3s,SNR=7.9
EIBI Lg 07 55 31.6
17nm,0.3s,SNR=7.9
EIBI Ibiza 3.10 90 Pn Pn 07 54 44.9 -1.8
3.3nm,0.2s,SNR=7.9
EIBI Sn Sn 07 55 21.3 -2.5
0.6nm,0.3s,SNR=7.9
ESPR Espera 3.38 230 Pn Pn 07 54 50.6 +0.1
7.7nm,0.3s,SNR=4.0
ESPR Sn Sn 07 55 29.5 -1.0
5.5nm,0.4s,SNR=7.9
ESPR Lg 07 55 44.7
16nm,0.2s,SNR=7.9
ESPR Espera 3.38 230 Pn Pn 07 54 50.6 +0.1
ESPR Sn Sn 07 55 29.5 -1.0
ESPR Lg 07 55 46.4
ESPR Espera 3.38 230 Pn Pn 07 54 50.6 +0.2
7.7nm,0.3s,SNR=4.0
ESPR Sn Sn 07 55 29.5 -1.0
5.5nm,0.4s,SNR=7.9
EBAD Badajoz 3.43 266 Pn Pn 07 54 49.4 -1.8
0.6nm,0.2s,SNR=7.9
EBAD Pg Pg 07 55 00.2 -3.2
1.3nm,0.3s,SNR=4.0
EBAD Sn Sn 07 55 29.0 -2.7
9.0nm,0.4s,SNR=6.6
EBAD Lg 07 55 45.4
86nm,0.2s,SNR=7.9
EBAD Badajoz 3.43 266 Pn Pn 07 54 49.4 -1.7
0.6nm,0.2s,SNR=7.9
EBAD Badajoz 3.43 266 Pg Pg 07 55 00.2 -3.2
1.3nm,0.3s,SNR=4.0
EBAD Sn Sn 07 55 29.0 -2.7
9.0nm,0.4s,SNR=6.6
EMIN Mina Concepcio 3.43 249 Pn Pn 07 54 49.6 -1.6
2.0nm,0.2s,SNR=7.9
EMIN Sn Sn 07 55 29.5 -2.4
8.4nm,0.3s,SNR=7.9
EMIN Lg 07 55 46.0
46nm,0.4s,SNR=7.9
EMIN Mina Concepcio 3.43 249 Pn Pn 07 54 49.6 -1.6
2.0nm,0.2s,SNR=7.9
EMIN Sn Sn 07 55 29.5 -2.4
8.4nm,0.3s,SNR=7.9
EJIF Jimena Fronter 3.46 221 Pg Pg 07 55 00.1 -4.1
1.9nm,0.3s,SNR=4.0
EJIF Lg 07 55 45.4
4.6nm,0.6s,SNR=7.9
EPOB Poblet 3.63 50 Pn Pn 07 54 53.1 -0.9
0.3nm,0.1s,SNR=7.9
EPOB Pg Pg 07 55 03.2 -4.1
0.4nm,0.1s,SNR=7.9
EPOB Sn Sn 07 55 33.5 -3.3
8.8nm,0.2s,SNR=6.3
EPOB Lg 07 55 50.4
7.9nm,0.2s,SNR=7.9
EPOB Poblet 3.63 50 Pn Pn 07 54 53.1 -0.9
0.3nm,0.1s,SNR=7.9
EPOB Poblet 3.63 50 Pg Pg 07 55 03.2 -4.2
0.4nm,0.1s,SNR=7.9
EPOB Sn Sn 07 55 33.5 -3.3
8.8nm,0.2s,SNR=6.3
EARA Aranguren 3.76 12 Pg Pg 07 55 05.1 -4.7
1.6nm,0.1s,SNR=7.9
EARA Lg 07 55 56.9
21nm,0.2s,SNR=7.9
PCBR Castelo Branco 3.81 283 *e*Pn Pn 07 54 55.3 -1.2
PCBR Castelo Branco 3.81 283 *e*Pg Pg 07 55 06.0 -4.9
PCBR *e*Sn Sn 07 55 38.9 -2.4
PCBR *e*Sg Sg 07 55 56.3 -4.0
PCBR
23nm,0.4s
PCBR Castelo Branco 3.81 283 Pn Pn 07 54 55.3 -1.2
PCBR Pg Pg 07 55 06.0 -4.9
PCBR Sn Sn 07 55 38.9 -2.4
PCBR Lg 07 55 56.3
11nm,0.4s
PCBR Castelo Branco 3.81 283 *e*Pg Pg 07 55 06.0 -4.9
PCBR *e*Sn Sn 07 55 38.9 -2.4
PCBR *e*Sg Sg 07 55 56.3 -4.0
23nm,0.4s
EGRA Graus 3.83 35 Pg Pg 07 55 06.4 -4.7
1.6nm,0.4s,SNR=7.9
EGRA Lg 07 55 58.4
5.1nm,0.3s,SNR=7.9
IPRE Itoiz 3.83 14 Pg Pg 07 55 06.8 -4.4
1.5nm,0.3s,SNR=4.0
IPRE Lg 07 55 58.9
4.7nm,0.3s,SNR=4.7
IUSE Utxeti 3.94 12 Pg Pg 07 55 08.9 -4.3
2.9nm,0.2s,SNR=7.9
IUSE Lg 07 56 02.1
5.2nm,0.2s,SNR=7.9
IUSE Utxeti 3.94 12 Pg Pg 07 55 08.9 -4.3
2.9nm,0.2s,SNR=7.9
MTE Manteigas 4.00 291 *e*Pn Pn 07 54 58.2 -0.8
MTE *e*Sg Sg 07 56 02.4 -3.7
MTE
24nm,0.5s
MTE Manteigas 4.00 291 *e*Pn Pn 07 54 58.2 -0.8
MTE *e*Sg Sg 07 56 02.4 -3.7
24nm,0.5s
ETSF Etsaut 4.11 22 *e*Pg Pg 07 55 14.5 -2.1
ETSF *e*Sn Sn 07 55 46.6 -2.1
ETSF *e*Sg Sg 07 56 07.1 -2.7
8.9nm,0.3s
ETSF Etsaut 4.11 22 Pn Pn 07 55 00.1 -0.5
ETSF Pg Pg 07 55 14.5 -2.1
ETSF Sn Sn 07 55 46.6 -2.1
ETSF Lg 07 56 07.1
4.4nm,0.3s
ETSF Etsaut 4.11 22 *e*Pn Pn 07 55 00.1 -0.5
ETSF *e*Pg Pg 07 55 14.5 -2.1
ETSF *e*Sn Sn 07 55 46.6 -2.1
ETSF *e*Sg Sg 07 56 07.1 -2.7
ETSF Etsaut 4.11 22 *e*Pg Pg 07 55 14.5 -2.1
ETSF *e*Sn Sn 07 55 46.6 -2.1
ETSF *e*Sg Sg 07 56 07.1 -2.7
4.4nm,0.3s
EGRO El Granado 4.11 249 Pn Pn 07 54 58.7 -1.9
1.0nm,0.2s,SNR=7.9
EGRO Pg Pg 07 55 13.2 -3.4
5.1nm,0.3s,SNR=4.7
EGRO Sn Sn 07 55 45.5 -3.2
6.3nm,0.3s,SNR=7.9
EGRO Lg 07 56 09.0
38nm,0.3s,SNR=7.9
EGRO El Granado 4.11 249 Pn Pn 07 54 58.7 -1.9
1.0nm,0.2s,SNR=7.9
EGRO El Granado 4.11 249 Pg Pg 07 55 13.2 -3.4
5.1nm,0.3s,SNR=4.7
EGRO Sn Sn 07 55 45.5 -3.2
6.3nm,0.3s,SNR=7.9
PBRG Braganca 4.13 312 *e*Pn Pn 07 54 59.8 -1.1
PBRG Braganca 4.13 312 *e*Pg Pg 07 55 13.6 -3.4
PBRG *e*Sg Sg 07 56 05.3 -5.3
PBRG
18nm,0.4s
PBRG Braganca 4.13 312 Pn Pn 07 54 59.8 -1.1
PBRG Pg Pg 07 55 13.6 -3.4
PBRG Lg 07 56 05.3
9.0nm,0.4s
PBRG Braganca 4.13 312 *e*Pg Pg 07 55 13.6 -3.4
PBRG *e*Sg Sg 07 56 05.3 -5.3
18nm,0.4s
ELIZ Elizondo 4.15 11 Pn Pn 07 55 01.4 +0.3
0.3nm,0.2s,SNR=7.9
ELIZ Pg Pg 07 55 14.8 -2.5
1.8nm,0.3s,SNR=9.3
ELIZ Sn Sn 07 55 45.1 -4.5
4.9nm,0.8s,SNR=7.9
ELIZ Lg 07 56 08.7
5.3nm,0.3s,SNR=7.7
SJPF Ste Jean 4.15 14 *e*Pg Pg 07 55 15.8 -1.5
SJPF *e*Sn Sn 07 55 47.4 -2.3
SJPF *e*Sg Sg 07 56 09.1 -2.0
25nm,0.6s
SJPF Ste Jean 4.15 14 Pn Pn 07 55 00.4 -0.7
SJPF Pg Pg 07 55 15.8 -1.5
SJPF Sn Sn 07 55 47.4 -2.3
SJPF Lg 07 56 09.1
13nm,0.6s
SJPF Ste Jean 4.15 14 *e*Pn Pn 07 55 00.4 -0.7
SJPF *e*Pg Pg 07 55 15.8 -1.5
SJPF *e*Sn Sn 07 55 47.4 -2.3
SJPF *e*Sg Sg 07 56 09.1 -2.0
SJPF Ste Jean 4.15 14 *e*Pg Pg 07 55 15.8 -1.5
SJPF *e*Sn Sn 07 55 47.4 -2.3
SJPF *e*Sg Sg 07 56 09.1 -2.0
13nm,0.6s
EBIE Bielsa 4.16 30 Pg Pg 07 55 15.2 -2.3
0.1nm,0.2s,SNR=7.9
EBIE Sn Sn 07 55 46.5 -3.4
4.4nm,0.4s,SNR=7.7
EBIE Bielsa 4.16 30 Pg Pg 07 55 15.2 -2.3
0.1nm,0.2s,SNR=7.9
EBIE Sn Sn 07 55 46.5 -3.4
4.4nm,0.4s,SNR=7.7
EALK Alkurruntz 4.21 11 Pn Pn 07 55 02.6 +0.7
1.3nm,0.2s,SNR=7.9
EALK Pg Pg 07 55 14.3 -4.1
1.6nm,0.3s,SNR=7.9
EALK Sn Sn 07 55 47.6 -3.5
14nm,0.5s,SNR=7.9
EALK Lg 07 56 11.1
39nm,0.4s,SNR=4.9
ECAL Calabor 4.22 314 Pn Pn 07 55 00.5 -1.5
0.5nm,0.1s,SNR=7.9
ECAL Pg Pg 07 55 14.0 -4.6
3.7nm,0.2s,SNR=7.9
ECAL Sn Sn 07 55 47.4 -4.0
6.3nm,0.4s,SNR=7.9
ECAL Lg 07 56 11.4
39nm,0.4s,SNR=9.8
ECAL Calabor 4.22 314 Pn Pn 07 55 00.5 -1.6
0.5nm,0.1s,SNR=7.9
ECAL Calabor 4.22 314 Pg Pg 07 55 14.0 -4.6
3.7nm,0.2s,SNR=7.9
ECAL Sn Sn 07 55 47.4 -3.9
6.3nm,0.4s,SNR=7.9
PBEJ Beja 4.23 257 *e*Sg Sg 07 56 09.5 -4.2
PBEJ
18nm,0.4s
PBEJ Beja 4.23 257 *e*Sg Sg 07 56 09.5 -4.2
18nm,0.4s
EVO Evora 4.23 264 *e*Pn Pn 07 55 01.2 -1.0
EVO *e*Sn Sn 07 55 47.4 -4.2
EVO *e*Sg Sg 07 56 09.5 -4.2
66nm,0.4s
EMIR Miracle 4.24 47 Pn Pn 07 55 00.9 -1.5
0.2nm,0.4s,SNR=7.9
EMIR Pg Pg 07 55 14.8 -4.3
15nm,0.5s,SNR=5.0
EMIR Sn Sn 07 55 48.4 -3.5
33nm,5.2s,SNR=7.9
EMIR Lg 07 56 12.2
38nm,0.4s,SNR=7.9
EMIR Miracle 4.24 47 Pn Pn 07 55 00.9 -1.5
0.2nm,0.4s,SNR=7.9
EMIR Miracle 4.24 47 Pg Pg 07 55 14.8 -4.3
15nm,0.5s,SNR=5.0
EMIR Sn Sn 07 55 48.4 -3.5
33nm,5.2s,SNR=7.9
ETOS Mallorca 4.28 79 Pn Pn 07 55 02.5 -0.4
0.5nm,0.1s,SNR=7.9
ETOS Sn Sn 07 55 49.8 -3.0
25nm,1.9s,SNR=7.9
ETOS Mallorca 4.28 79 Pn Pn 07 55 02.5 -0.3
0.5nm,0.1s,SNR=7.9
ETOS Sn Sn 07 55 49.8 -3.0
25nm,1.9s,SNR=7.9
PVIS Viseu 4.35 293 *e*Pn Pn 07 55 02.3 -1.5
PVIS *e*Sg Sg 07 56 13.0 -4.5
PVIS
10.0nm,0.4s
PVIS Viseu 4.35 293 *e*Pn Pn 07 55 02.3 -1.5
PVIS *e*Sg Sg 07 56 13.0 -4.5
10.0nm,0.4s
PVRL Vila Real 4.45 301 *e*Sn Sn 07 55 54.5 -2.6
MOE Montemor 4.50 264 *e*Sn Sn 07 55 54.5 -3.6
MOE *e*Sg Sg 07 56 18.1 -4.0
PTOM Tomar 4.50 278 *e*Sg Sg 07 56 16.6 -5.7
EPF Esparros 4.53 29 *e*Pg Pg 07 55 21.1 -3.5
EPF *e*Sn Sn 07 55 55.1 -3.9
EPF *e*Sg Sg 07 56 21.1 -2.2
5.5nm,0.2s
EPF Esparros 4.53 29 Pn Pn 07 55 05.8 -0.5
EPF Pg Pg 07 55 21.1 -3.5
EPF Sn Sn 07 55 55.1 -3.9
EPF Lg 07 56 21.1
2.8nm,0.2s
EPF Esparros 4.53 29 *e*Pn Pn 07 55 05.8 -0.5
EPF *e*Pg Pg 07 55 21.1 -3.5
EPF *e*Sn Sn 07 55 55.1 -3.9
EPF *e*Sg Sg 07 56 21.1 -2.2
EPF Esparros 4.53 29 *e*Pg Pg 07 55 21.1 -3.5
EPF *e*Sn Sn 07 55 55.1 -3.9
EPF *e*Sg Sg 07 56 21.1 -2.2
2.8nm,0.2s
EARI Arriondas 4.62 336 Pn Pn 07 55 06.8 -0.8
2.2nm,0.4s,SNR=7.9
EARI Pg Pg 07 55 23.9 -2.4
0.4nm,0.1s,SNR=7.9
EARI Sn Sn 07 55 57.3 -4.0
7.0nm,0.3s,SNR=4.7
EARI Lg 07 56 21.9
5.6nm,0.3s,SNR=8.4
EARI Arriondas 4.62 336 Pn Pn 07 55 06.8 -0.8
2.2nm,0.4s,SNR=7.9
EARI Sn Sn 07 55 57.3 -4.0
7.0nm,0.3s,SNR=4.7
ERUA La Rua 4.75 315 Pn Pn 07 55 07.7 -1.6
0.3nm,0.4s,SNR=7.9
ERUA Pg Pg 07 55 23.2 -5.5
5.0nm,0.4s,SNR=7.9
ERUA Sn Sn 07 56 00.7 -3.6
1.8nm,0.8s,SNR=7.9
ERUA Lg 07 56 28.3
11nm,0.4s,SNR=7.9
PCAB Cabril 4.87 304 *e*Pn Pn 07 55 09.7 -1.3
PCAB *e*Sn Sn 07 56 04.0 -3.3
PCAB *e*Sg Sg 07 56 29.0 -5.1
PCAB
10nm,0.3s
PCAB Cabril 4.87 304 Pn Pn 07 55 09.7 -1.3
PCAB Sn Sn 07 56 04.0 -3.3
PCAB Lg 07 56 29.0
5.2nm,0.3s
ELOB Lobios 4.97 306 Pn Pn 07 55 10.9 -1.5
1.1nm,0.3s,SNR=7.9
ELOB Pg Pg 07 55 27.8 -5.2
0.5nm,0.2s,SNR=7.9
ELOB Sn Sn 07 56 06.2 -3.7
7.9nm,0.4s,SNR=4.9
ELOB Lg 07 56 34.7
17nm,0.4s,SNR=5.5
ELOB Lobios 4.97 306 Pn Pn 07 55 10.9 -1.5
ELOB Lobios 4.97 306 Pg Pg 07 55 27.8 -5.2
PTEO Sao Teotonio 5.03 254 *e*Sg Sg 07 56 35.1 -4.1
PTEO
19nm,0.6s
PTEO Sao Teotonio 5.03 254 Lg 07 56 35.1
9.6nm,0.6s
EPON Pontenova 5.42 323 Sn Sn 07 56 16.5 -4.5
7.4nm,0.3s,SNR=4.0
EPON Lg 07 56 46.7
15nm,0.3s,SNR=6.0
MTLF Montolieu 5.60 39 *e*Pn Pn 07 55 24.6 +3.5
MTLF *e*Pg Pg 07 55 42.0 -3.1
EMAZ Mazaricos 6.14 311 Lg 07 57 12.6
3.8nm,0.3s,SNR=7.9
LASF Ste Croix 6.96 42 *e*Pn Pn 07 55 39.0 -0.7

NNC 08 07:56:29.3±4.3, 3692N×7079E, h180km±68km, mb2.6, mpv3.4, 4C-1D, Error ellipse: s-maj=41.4km s-min=23.4km az=25.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.18**	**358**	⇓P	Pn	07 57 58.6	0.0
	5.8nm,0.3s,baz=178,slow=13,SNR=185						
KK31				⇑S	Sn	07 59 09.6	+0.6
	1.9nm,0.4s,baz=179,slow=17,SNR=6.8						
TKM2	**Tokmak 2**	**7.04**	**30**	⇑P	Pn	07 58 09.4	-0.5
	0.4nm,0.7s						
TKM2				⇑S	Sn	07 59 30.5	+1.1
	0.3nm,0.8s						
AB31	**Akbulak array**	**14.63**	**331**	P	Pn	07 59 49.4	+1.6
	0.6nm,0.4s,baz=144,slow=12,SNR=24						
AB31				⇑S	Sn	08 02 28.9	-2.0
	1.3nm,0.8s,baz=156,slow=22,SNR=4.0						

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*HLW **08** 08:09:55.9, 3124N×3531E, h16km, Mb2.6*
*GII **08** 08:09:55.7±0.7, 3109N×3511E, h0km±7km, ML2.4/5*
*ISCJB **08** 08:09:56.5±0.6, 3109N±005×3509E±005, h4km±8km, Error ellipse: s-maj=10.5km s-min=5.1km az=111.7*

ISC 08 08:09:56.9±0.6, 3109N±005×3509E±005, h4km±7km, n18, σ0°73/23, 4C-1D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.27**	**251**	Pg	**Pg**	**08 10 01.7**	**-0.5**
MZDA	**Masada**	**0.32**	**47**	Pg	**Pg**	**08 10 02.5**	**-0.7**
MZDA				Sg	**Sg**	**08 10 07.8**	**+0.4**
RTMM	**Retamin**	**0.35**	**264**	Pg	**Pg**	**08 10 05.1**	**+1.6**
SVTA	**Shivta**	**0.43**	**249**	Pg	**Pg**	**08 10 05.1**	**-0.1**
DRGI	**Dragot**	**0.57**	**27**	Pg	**Pg**	**08 10 07.2**	**-0.6**
KZIT	**Kziot**	**0.62**	**253**	Pg	**Pg**	**08 10 08.9**	**+0.1**
MKRJ	**Makawir**	**0.66**	**45**	Pg	**Pg**	**08 10 09.5**	**-0.1**
MKRJ				Sg	**Sg**	**08 10 20.1**	**+1.9**
PRNI	**Paran**	**0.74**	**186**	Pg	**Pg**	**08 10 11.1**	**+0.1**
HMDT	**Nahal Hemdat**	**1.22**	**18**	Pg	**Pg**	**08 10 19.5**	**-0.9**
MBH	**Mount Berech**	**1.30**	**187**	Pn	**Pn**	**08 10 21.1**	**-0.6**
MBH				Sn	**Sn**	**08 10 40.8**	**+1.3**
AQBJ	**Aqaba**	**1.35**	**181**	Pn	**Pn**	**08 10 22.1**	**-0.4**
HNKL	**Nakhl**	**1.50**	**220⇑**	*e*P	**Pn**	**08 10 24.2**	**-0.3**
HNKL				S	**Sn**	**08 10 45.1**	**+0.6**
AMAG	**Maghara**	**1.68**	**255**	⇓P	**Pn**	**08 10 26.7**	**-0.3**
AMAG				S	**Sn**	**08 10 49.1**	**+0.2**
SUZ		**2.31**	**238⇑**	*i*P	**Pn**	**08 10 35.5**	**-0.2**
SUZ		**2.31**	**238**	P	**Pn**	**08 10 35.5**	**-0.2**
	1μm,1.1s						
HDHB	**Dhahab**	**2.39**	**190**	P	**Pn**	**08 10 35.7**	**-1.1**
HKAT	**Jabal Katrina**	**2.73**	**201**	⇑P	**Pn**	**08 10 41.5**	**+0.1**
TR2		**2.94**	**204⇑**	*e*P	**Pn**	**08 10 44.2**	**-0.2**

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*ISCJB **08** 08:16:09.2±1.5, 4215S±03×8866E±02, h10km, mb4.5/2, Error ellipse: s-maj=41.1km s-min=25.4km az=153.6*
*NEIC **08** 08:16:11.2±1.0, 4204S×8862E, h10km, mb4.6/2, Error ellipse: s-maj=36.5km s-min=24.8km az=178.0*

ISC 08 08:16:11.3±1.5, 422S±03×886E±02, h10km, n7, σ0°51/6, mb4.5/2, 3C, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.92**	**94**	P	**P**	**08 24 10.1**	**-0.1**
QSPA	**South Pole Qui**	**48.00**	**180**	*e*P	**P**	**08 24 51.0**	**+0.6**
	8.2nm,1.1s,mb4.7						
SNAA	**Sanae**	**51.08**	**204⇑**	*i*	**P**	**08 25 01.7**	**-12**
SNAA				*e*		08 25 08.0	
SNAA				*e*		08 25 11.6	
VNA1	**Neumayer--Stat**	**53.08**	**204⇑**	*i*	**P**	**08 25 28.3**	**-0.5**
VNA1				*e*		08 25 35.2	
VNA1				*e*		08 25 38.3	
VNA3	**Neumayer Olymp**	**53.28**	**204⇑**	*i*	**P**	**08 25 30.1**	**-0.1**
VNA3				*e*		08 25 36.4	
VNA3				*e*		08 25 40.2	
TSUM	**Tsumeb**	**63.45**	**268**	P	**P**	**08 26 41.5**	**+0.2**
	3.4nm,1.1s,mb4.4						
INK	**Inuvik**	**145.66**	**26**	*e*PKPdf	PKPdf	08 35 48.5	-1.4

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*HLW **08** 08:21:35.7, 2797N×36.11E, h20km, Mb2.1*
*GII **08** 08:21:36.0±0.2, 2998N×3478E, h0km±1km, ML2.1/2*
*ISCJB **08** 08:21:37.2±0.7, 2998N±004×3481E±006, h10km, Error ellipse: s-maj=8.0km s-min=4.6km az=39.8*

ISC 08 08:21:37.4±0.7, 2998N±004×3480E±006, h10km, n9, σ0°85/13, 1C-3D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMTI	**Karmit**	**0.14**	**332**	Pg	**Pg**	**08 21 39.7**	**-0.9**
KMTI				T		08 22 17.6	
HRFI	**Mount Harif**	**0.21**	**75**	Pg	**Pg**	**08 21 41.0**	**-0.8**
HRFI				Sg	**Sg**	**08 21 45.4**	**+0.6**
MBH	**Mount Berech**	**0.21**	**152**	Pg	**Pg**	**08 21 41.4**	**-0.4**
EIL	**Elat**	**0.34**	**157**	Pg	**Pg**	**08 21 43.5**	**-0.6**
EIL				Sg	**Sg**	**08 21 48.7**	**+0.1**
PRNI	**Paran**	**0.41**	**26**	Pg	**Pg**	**08 21 45.0**	**-0.4**
PRNI				Sg	**Sg**	**08 21 52.1**	**+1.3**
HDHB	**Dhahab**	**1.27**	**187**	⇓P	**Pn**	**08 22 00.7**	**-0.4**
HKAT	**Jabal Katrina**	**1.62**	**206**	⇑P	**Pn**	**08 22 06.2**	**+0.2**
HKAT				S	**Sn**	**08 22 29.3**	**+2.4**
TR2		**1.85**	**211⇓**	*e*P	**Pn**	**08 22 09.0**	**-0.2**
TR1		**2.10**	**201**	⇓P	**Pn**	**08 22 06.3**	**-6.4**

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*NEIC **08** 08:40:14.6, 1724N×9666W, h75km, MD4.2(MEX), After MEX.*

MEX 08 08:40:14.4±0.8, 1723N×9667W, h77km±5km, MD4.3, 8C-2D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.15**	**201**	*i* P	Pn	08 40 24.5	-1.2
OXX				*i* S	Sn	08 40 32.5	-1.4
VHO	**Vista Hermosa**	**0.17**	**203⇓**	*i*P	Pn	08 40 24.5	-1.2
VHO				*i* S	Sn	08 40 32.5	-1.5
UTMO	**Huajuapan**	**1.24**	**299⇑**	*i*P	Pn	08 40 35.4	-0.8
UTMO				*e*S	Sn	08 40 51.2	-1.4
TPIG	**Tehuac#an**	**1.36**	**331⇓**	*e*P	Pn	08 40 36.8	-0.9
TPIG				*e*S	Sn	08 40 54.3	-1.0
HUIG	**Huatulco**	**1.55**	**160⇑**	*e*P	Pn	08 40 39.6	-0.5
HUIG				*e*S	Sn	08 40 59.0	-0.7
PNIG	**Pinotepa**	**1.63**	**240⇑**	*e*P	Pn	08 40 39.1	-2.2

PNIG				*i* S		Sn	08 40 60.0	-1.6
PNIG	**Pinotepa**	**1.63**	**240**⇑	*e*P		Pn	08 40 39.1	-2.2
PNIG				*e*S		Sn	08 41 02.2	+0.6
CMIG	**Matias Romero**	**1.71**	**94**⇑	*e*P		Pn	08 40 40.8	-1.6
CMIG				*e*S		Sn	08 41 01.8	-1.7
EVV	**El Vigia**	**1.75**	**46**	*e*P		Pn	08 40 41.0	-1.9
EVV				*i* S		Sn	08 41 04.0	-0.5
EVV	**El Vigia**	**1.75**	**46**	*e*P		Pn	08 40 39.0	-3.9
TUIG	**Tuzandepetl**	**2.28**	**69**⇑	*i*P		Pn	08 40 48.8	-1.2
TUIG				*e*S		Sn	08 41 14.9	-2.3
PPM	**Popocatepetl**	**2.61**	**315**	*e*P		Pn	08 40 54.0	-0.4
PPM				*e*P			08 40 55.9	
PPM				*e*S		Sn	08 41 24.7	-0.4
PPM	**Popocatepetl**	**2.61**	**315**	*e*P		Pn	08 40 55.9	+1.5
PPM				*e*S		Sn	08 41 19.8	-5.3
YAIG	**Yautepec**	**2.80**	**306**	*e*P		Pn	08 40 56.0	-1.0
YAIG				*e*S		Sn	08 41 28.5	-1.3
YAIG	**Yautepec**	**2.80**	**306**	*e*S		Sn	08 41 27.6	-2.2
MEIG	**Mezcala**	**2.90**	**284**⇑	*e*P		Pn	08 40 58.4	0.0
MEIG				*i* S		Sn	08 41 29.1	-3.0
PLIG	**Platanillo**	**2.94**	**294**⇑	*i*P		Pn	08 40 59.1	+0.3
PLIG				*e*S		Sn	08 41 30.6	-2.4
ACX	**Acapulco**	**3.13**	**264**	*i*P		Pn	08 40 59.0	-2.4
ACX				*i* S		Sn	08 41 39.0	+1.3
ACX	**Acapulco**	**3.13**	**264**	*i*P		Pn	08 40 59.0	-2.4
ACX				*i* S		Sn	08 41 31.0	-6.7
UNM	**Universidad Na**	**3.17**	**312**	*e*P		Pn	08 41 02.0	0.0
UNM	**Universidad Na**	**3.17**	**312**	*e*P		Pn	08 41 12.0	+10
SCX	**San Cristobal**	**3.89**	**97**	*i*P		Pn	08 41 12.0	+0.3
SCX				*i* S		Sn	08 41 54.0	-2.2
CCIG	**Comitan**	**4.44**	**102**	*e*P		Pn	08 41 19.3	0.0
CCIG				*i* S		Sn	08 42 08.1	-1.6

GUC 08 09:38:20.1±0.8, 3448S×7016W, h2km±3km, MD3.5, ML2.0, 2C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.51**	**315**⇑	*i*P	Pg	09 38 30.6	+0.7
CACH				*i* S	Sg	09 38 37.9	+1.3
CHCH	**Chadas Angostu**	**0.68**	**323**⇓	*i*P	Pg	09 38 33.8	+0.7
CHCH				*i* S	Sg	09 38 44.2	+2.2
SFDO	**San Fernando**	**0.72**	**259**⇑	*i*P	Pg	09 38 34.7	+0.9
SFDO				*i* S	Sg	09 38 45.5	+2.4
SJCH	**San Jose de Ma**	**0.85**	**349**	*e*P	Pg	09 38 36.0	-0.4
SJCH				*i* S	Sg	09 38 48.5	+1.1
SJCH				AML	AML	09 38 50.3	
	comp=E,70nm,0.3s						
PCH	**Pirque**	**0.90**	**341**⇓	*i*P	Pg	09 38 37.7	+0.3
PCH				*i* S	Sg	09 38 51.2	+2.1
ANTU	**Antumapu**	**0.99**	**336**⇓	*i*P	Pg	09 38 39.3	+0.3
ANTU				*i* S	Sg	09 38 53.9	+2.0
ANTU				AML	AML	09 38 54.4	
	comp=N,175nm,0.4s						
TACH	**Talagante**	**1.05**	**322**⇓	*i*P	Pg	09 38 40.1	-0.1
TACH				*i* S	Sg	09 38 55.1	+1.4
FCH	**Farellones**	**1.15**	**355**⇓	*i*P	Pg	09 38 41.8	-0.4
LNV	**Longovilo**	**1.16**	**296**	*e*P	Pg	09 38 42.2	-0.1
LNV				*i* S	Sg	09 38 58.2	+0.8

ISCJB ***08*** *09:40:18.9±0.6, 2151S±004×3327E±006, h10km, mb4.0/7, MS3.8/3, Error ellipse: s-maj=8.7km s-min=5.3km az=64.4*
PRE ***08*** *09:40:18.5±1.4, 2142S×3345E, h5km, ML5.0*
NEIC ***08*** *09:40:19.8±1.7, 2142S×3339E, h10km, Error ellipse: s-maj=28.6km s-min=12.7km az=110.0*
IDC ***08*** *09:40:20.4±0.8, 2122S×3331E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/23, mbtmp4.1/10, ML4.3/3, MS3.6/6, Ms1 3.6/6, ms1mx3.3/21, Error ellipse: s-maj=22.1km s-min=21.7km az=9.0*

ISC 08 09:40:21.0±0.6, 2150S±004×3331E±006, h10km, (h7km±.5km:pP-P), n34, σ1$43/49, mb4.0/7, MS3.8/3, 3D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.62**	**282**	Pn	**Pn**	**09 41 31.4**	**+0.6**
	10nm,0.3s,baz=96,slow=13,SNR=68						
MATP				Sn	**Sn**	**09 42 24.4**	**-0.1**
	19nm,0.3s,baz=16,slow=18,SNR=15						
MATP				Lg		09 42 40.7	
	163nm,0.3s,baz=190,slow=22,SNR=33						
MATP	**Matopo**	**4.62**	**282**	Pn	**Pn**	**09 41 31.4**	**+0.6**
MATP				Sn	**Sn**	**09 42 24.4**	**-0.1**
MATP				Lg		09 42 40.7	
BFT	**Belfast (SA)**	**5.13**	**215**	*e*P	**Pn**	**09 41 39.1**	**+1.1**
BFT				*e*S	**Sn**	**09 42 37.0**	**-0.3**
BFT				AML	AML	09 43 13.5	
	comp=Z,519nm,0.7s						
POGA	**Pongola**	**6.05**	**194**	*e*P	**Pn**	**09 41 49.9**	**-0.6**
POGA				*e*S	**Sn**	**09 42 57.9**	**-1.8**
POGA				AML	AML	09 43 50.8	
	comp=Z,223nm,0.6s						
SLR	**Silverton**	**6.25**	**227**	*e*S	**Sn**	**09 43 04.4**	**-0.3**
SLR				AML	AML	09 43 52.1	
	comp=Z,439nm,0.6s						
KSR	**Koster**	**7.30**	**232**	*e*P	**Pn**	**09 42 09.3**	**+1.6**
KSR				*e*S	**Sn**	**09 43 29.7**	**-0.9**
KSR				AML	AML	09 44 23.5	
	comp=Z,136nm,0.6s						
LSZ	**Lusaka**	**7.86**	**321**	Pn	**Pn**	**09 42 13.1**	**-2.3**
	comp=Z,11nm,0.3s,baz=145,slow=14,SNR=84						
LSZ				Sn	**Sn**	**09 43 35.2**	**-9.3**
	comp=Z,4.5nm,0.3s,baz=144,slow=9.6,SNR=2.6						
LSZ				Lg		09 44 18.5	
	comp=Z,21nm,0.3s,baz=224,slow=17,SNR=6.9						
LBTB	**Lobatse**	**7.91**	**242**	Pn	**Pn**	**09 42 17.5**	**+1.5**
	comp=Z,2.6nm,0.3s,baz=68,slow=13,SNR=33						
LBTB				Sn	**Sn**	**09 43 47.3**	**+1.8**
	comp=Z,11nm,0.3s,baz=194,slow=13,SNR=6.9						
LBTB				Lg		09 44 27.4	
	comp=Z,24nm,0.3s,baz=330,slow=22,SNR=11						
LBTB				LR	LR	09 45 39.8	
	comp=Z,186nm,21.7s,baz=76,slow=40						
LBTB	**Lobatse**	**7.91**	**242**	Pn	**Pn**	**09 42 17.5**	**+1.5**
LBTB				Sn	**Sn**	**09 43 47.3**	**+1.8**
LBTB				Lg		09 44 27.4	
SWZ	**Schweizer**	**9.21**	**231**	*e*P	**Pn**	**09 42 36.1**	**+2.2**
SWZ				*e*S	**Sn**	**09 44 16.1**	**-1.6**
SWZ				AML	AML	09 45 24.3	
	comp=Z,114nm,0.6s						
BOSA	**Boshof**	**10.17**	**224**	*e*P	**Pn**	**09 42 48.0**	**+0.9**
BOSA				*e*S	**Sn**	**09 44 37.7**	**-3.4**
BOSA				AML	AML	09 45 49.5	
	comp=Z,106nm,0.7s						
BOSA	**Boshof**	**10.17**	**224**	Pn	**Pn**	**09 42 47.4**	**+0.4**
	comp=Z,2.3nm,0.3s,baz=51,slow=13,SNR=28						
BOSA				Sn	**Sn**	**09 44 37.8**	**-3.3**
	comp=Z,1.1nm,0.3s,baz=1.3,slow=12,SNR=5.1						
BOSA				Lg		09 45 43.6	
	comp=Z,8.5nm,0.3s,baz=290,slow=5.1,SNR=9.9						
BOSA				LR	LR	09 47 01.9	
	comp=Z,278nm,21.3s,baz=39,slow=39						
BOSA	**Boshof**	**10.17**	**224**	Pn	**Pn**	**09 42 47.4**	**+0.4**
BOSA				Sn	**Sn**	**09 44 37.8**	**-3.3**
BOSA				Lg		09 45 43.6	
OPO	**Ambohidratompo**	**13.37**	**80**	Sn	**Sn**	**09 45 50.2**	**-9.2**
	comp=Z,0.9nm,0.3s,baz=335,slow=11,SNR=4.1						
TSUM	**Tsumeb**	**14.92**	**276**	Pn	**Pn**	**09 43 48.6**	**-3.4**
	comp=Z,1.8nm,0.3s,baz=103,slow=11,SNR=18						
TSUM				Sn	**Sn**	**09 46 29.5**	**-7.8**
	comp=Z,0.3nm,0.3s,baz=43,slow=21,SNR=5.1						
TSUM				Lg		09 48 03.2	
	comp=Z,1.1nm,0.3s,baz=216,slow=19,SNR=3.0						
TSUM	**Tsumeb**	**14.92**	**276**	Pn	**Pn**	**09 43 48.6**	**-3.4**
TSUM				Sn	**Sn**	**09 46 29.5**	**-7.8**
TSUM				Lg		09 48 03.2	
SUR	**Sutherland**	**15.53**	**223**	*e*P	**Pn**	**09 44 02.2**	**+2.2**
SUR				*e*S	**Sn**	**09 46 46.0**	**-6.2**
SUR	**Sutherland**	**15.53**	**223**	Pn	**Pn**	**09 43 59.5**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=64,slow=13,SNR=21						
SUR				Sn	**Sn**	**09 46 47.5**	**-4.6**
	comp=Z,0.5nm,0.3s,baz=354,slow=14,SNR=3.6						
SUR				Lg		09 48 31.1	
	comp=Z,1.6nm,0.3s,baz=329,slow=18,SNR=5.7						
SUR				LR	LR	09 49 57.5	
	comp=Z,267nm,19.8s,baz=55,slow=37						
SUR	**Sutherland**	**15.53**	**223**	Pn	**Pn**	**09 43 59.5**	**-0.6**
SUR				Sn	**Sn**	**09 46 47.5**	**-4.6**
SUR				Lg		09 48 31.1	
KMBO	**Kilima Mbogo**	**20.61**	**11**	P	**P**	**09 44 59.3**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=56,slow=21,SNR=2.8						
KMBO				Lg		09 50 54.8	
	comp=Z,4.0nm,1.0s,baz=238,slow=21,SNR=3.9						
KMBO				LR	LR	09 52 22.2	
	comp=Z,89nm,19.8s,MS3.1,baz=89,slow=36						
KMBO	**Kilima Mbogo**	**20.61**	**11**	P	**P**	**09 44 59.3**	**-1.0**
KMBO				Lg		09 50 54.8	
TORD	**Torodi Ar. Bea**	**46.35**	**315**	P	**P**	**09 48 47.4**	**+0.1**
	comp=Z,3.0nm,1.0s,mb4.2,baz=131,slow=7.3,SNR=13						
SNAA	**Sanae**	**54.30**	**193**⇓	*i*	**P**	**09 49 39.0**	**-8.4**
SNAA				*e*	pP	09 49 41.3	-9.3
VNA2	**Neumayer--Watz**	**54.82**	**195**	*e*	**P**	**09 49 55.6**	**+4.4**
	baz=40,slow=6.5						
VNA2				*e*	pP	09 49 57.6	+3.2
VNA2				*e*		11 54 01.6	
VNA1	**Neumayer--Stat**	**54.85**	**196**⇓	*i*	**P**	**09 49 56.2**	**+4.8**
VNA1				*e*	pP	09 49 58.3	+3.7
VNA3	**Neumayer Olymp**	**55.59**	**196**⇓	*i*	**P**	**09 50 00.6**	**+3.8**
VNA3				*e*	pP	09 50 02.2	+2.2
VNA3				*e*		11 54 03.0	
BRTR	**Keskin Array B**	**60.90**	**0**	P	**P**	**09 50 35.2**	**+1.3**
	comp=Z,0.5nm,0.7s,mb3.8,baz=169,slow=8.2,SNR=3.0						
BDFB	**Brasilia**	**76.53**	**258**	P	**P**	**09 52 14.2**	**+2.8**
	comp=Z,3.1nm,0.8s,mb4.3,baz=182,slow=3.1,SNR=3.9						
BDFB				LR	LR	10 23 07.9	
	comp=Z,102nm,19.8s,MS4.1,baz=239,slow=34						
VNDA	**Vanda**	**76.74**	**170**	P	**P**	**09 52 16.4**	**+3.8**
	comp=Z,1.9nm,0.9s,mb4.0,baz=273,slow=4.7,SNR=7.2						
BVAR	**Borovoye Array**	**80.88**	**22**	P	**P**	**09 52 34.4**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=218,slow=9.4,SNR=6.1						
MKAR	**Makanchi Array**	**81.07**	**32**	P	**P**	**09 52 34.9**	**-1.5**
	comp=Z,0.5nm,0.9s,mb3.4,baz=193,slow=5.0,SNR=4.0						
CPUP	**Villa Florida**	**81.29**	**245**	LR	LR	10 25 57.4	
	comp=Z,81nm,20.5s,MS4.1,baz=11,slow=34						
ASAR	**Alice Springs**	**90.67**	**116**	P	**P**	**09 53 25.1**	**+1.2**
	comp=Z,1.2nm,0.8s,mb4.2,baz=251,slow=3.5,SNR=7.9						
NVAR	**Mina Array Bea**	**150.34**	**311**	PKPbc	PKPbc	10 00 11.3	-1.3
	comp=Z,0.6nm,0.7s,baz=126,slow=1.2,SNR=2.8						

CASC 08 09:59:40.8±1.6, 1297N×8919W, h12km±44km, MD3.5, 7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.66**	**11**⇓	*i*P	x	10 00 00.7	
LFRS				*e*S	x	10 00 09.9	
LCBS	**La Ceiba**	**0.71**	**17**⇓	*e*P	x	10 00 01.1	
LCBS				*e*S	x	10 00 11.3	
SNVI	**San Vicente**	**0.72**	**28**⇓	*i*P	x	10 00 00.7	
SNVI				*e*S	x	10 00 11.3	
BOQS	**Boqueron**	**0.76**	**353**⇓	*i*P	x	10 00 00.7	
BOQS				*e*S	x	10 00 12.7	
LFU	**La Fuente**	**0.77**	**5**⇓	*e*P	x	10 00 02.5	
LFU				*e*S	x	10 00 13.6	
SBLS	**San Blas**	**0.96**	**334**⇓	*e*P	x	10 00 06.0	
SBLS				*e*S	x	10 00 20.5	
RTR	**El Retiro**	**1.02**	**334**	*e*P	x	10 00 07.1	
RTR				*e*S	x	10 00 21.6	
RBDL	**Robledal**	**1.23**	**337**⇓	*e*P	x	10 00 09.6	
RBDL				*e*S	x	10 00 26.1	
TP2	**Tecpan 2**	**2.53**	**316**	*e*P	Pn	10 00 22.3	+0.6

JMA 08 10:32:13.2±0.2, 3008N×13958E, h469km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.75**	**142**	P	P	10 33 28.2	+0.8
CBIJ				*e*S	S	10 34 26.4	-1.5
JIM2	**Oshima 3**	**4.63**	**358**	P	P	10 33 36.2	+1.2
BSO1	**Boso 1**	**4.71**	**14**	P	P	10 33 35.9	+0.1
BSO1				*e*S	S	10 34 43.9	+0.8
BSO3	**Boso 3**	**4.77**	**9**	P	P	10 33 37.9	+1.5
BSO3				*e*S	S	10 34 44.1	-0.1
BSO4	**Boso 4**	**4.94**	**7**	P	P	10 33 40.1	+2.2
JYN	**Shimob**	**5.47**	**351**	P	P	10 33 44.1	+1.1
JHU	**Hanno**	**5.76**	**358**	P	P	10 33 46.1	+0.3
JRY	**Ryogami san**	**5.95**	**355**	P	P	10 33 48.6	+1.0
JYT	**Yasato**	**6.15**	**5**	P	P	10 33 50.5	+0.8
JWT	**Wachi**	**6.27**	**327**	P	P	10 33 51.1	+0.2
JAG	**Ashikaga**	**6.33**	**359**	P	P	10 33 51.8	+0.3
JAG				*e*S	S	10 35 07.8	-4.1
JNG	**Nsakai**	**6.43**	**349**	P	P	10 33 53.2	+0.7
MAT	**Matsushiro**	**6.55**	**350**	P	P	10 33 54.8	+1.1

NEIC ***08*** *11:01:46.9, 1847N×6839W, h137km, MD3.7(RSPR), After RSPR.*

RSPR 08 11:01:46.9, 1847N×6839W, h137km±3km, MD3.7/10, MD3.7/10, 7C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.27**	**103**⇑	*e*P	Pn	11 02 13.1	0.0
CRPR	**Cabo Rojo, PR**	**1.30**	**111**⇑	*e*P	Pn	11 02 12.6	-0.7
CRPR				*e*S	Sn	11 02 33.7	+0.2
MGP	**Maguayo**	**1.32**	**110**⇑	*e*P	Pn	11 02 13.1	-0.4
MGP				*e*S	Sn	11 02 33.8	+0.1
LRS	**Lares**	**1.48**	**97**⇓	*e*P	Pn	11 02 15.2	0.0
LRS				*e*S	Sn	11 02 37.0	+0.2
AOPR	**Arecibo Observ**	**1.56**	**94**⇓	*e*P	Pn	11 02 15.4	-0.7
AOPR				*e*S	Sn	11 02 38.8	+0.4
OBIP	**Obispado Ponce**	**1.75**	**104**⇓	*e*P	Pn	11 02 18.1	-0.1
OBIP				*e*S	Sn	11 02 43.3	+1.1
CPD	**Cerro la Pandu**	**2.39**	**100**⇑	*e*P	Pn	11 02 26.7	+0.7
CPD				*e*S	Sn	11 02 56.0	-0.1
CBYP	**Canovanas**	**2.42**	**94**⇑	*e*P	Pn	11 02 26.6	+0.3
CBYP				*e*S	Sn	11 02 56.7	+0.1
HUMP	**Col San Antoni**	**2.44**	**97**⇑	*e*P	Pn	11 02 26.4	-0.1
HUMP				*e*S	Sn	11 02 57.2	+0.1
MTP	**Monte Pirata**	**2.72**	**97**⇑	*e*P	Pn	11 02 30.4	+0.3
MTP				*e*S	Sn	11 03 04.7	+1.3

CASC 08 11:07:39.8±2.6, 1398N×9123W, h69km±23km, MD3.8, ML4.1, 2C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.52**	**310**⇓	*e*P	Pn	11 07 53.8	+1.0
FUG	**Fuego 3**	**0.59**	**39**⇓	*e*P	Pn	11 07 54.5	+1.0
TP2	**Tecpan 2**	**0.82**	**14**⇓	*e*P	Pn	11 07 56.9	+0.8
TP2				*e*S	Sn	11 08 09.7	+1.6
TP2				AML	AML	11 08 11.8	
	comp=E,5μm,0.4s						
RBDL	**Robledal**	**1.50**	**85**⇓	*e*P	x	11 08 13.8	
RBDL				*e*S	x	11 08 35.1	
RTR	**El Retiro**	**1.54**	**93**⇑	*e*P	x	11 08 15.0	
RTR				*e*S	x	11 08 36.4	
SBLS	**San Blas**	**1.56**	**95**⇑	*e*P	x	11 08 15.0	
SBLS				*e*S	x	11 08 36.1	
SNET	**Serv Nac Est T**	**1.96**	**98**	*e*P	x	11 08 10.2	
LFRS	**El Faro**	**2.13**	**99**⇓	*e*P	x	11 08 23.1	
LFRS				*e*S	x	11 08 48.8	
LCBS	**La Ceiba**	**2.21**	**98**	*e*P	x	11 08 24.2	
LCBS				*e*S	x	11 08 51.4	

NNC ***08*** *11:34:52.3±4.1, 4015N×7746E, h0km, mb5.0, mpv5.1, Error ellipse: s-maj=37.3km s-min=24.8km az=117.0*
ISCJB ***08*** *11:34:55.9±0.1, 4011N±002×7760E±003, h11km, mb4.7/102, MS4.1/35, Error ellipse: s-maj=3.0km s-min=2.3km az=151.1*
MOS ***08*** *11:34:55.9±2.0, 4037N×7773E, h10km, mb5.0/59, MS4.1/21, Error ellipse: s-maj=7.0km s-min=3.8km az=120.2*
NEIC ***08*** *11:34:57.9±0.2, 4016N×7767E, h10km, mb4.9/66, MS4.2/2, Error ellipse: s-maj=6.9km s-min=4.4km az=223.0*
HRVD ***08*** *11:34:57.8±0.5, 4053N×7764E, h30km±1km, MW4.8/51, Centroid moment Tensor Solution. LP body waves: s16,c18;Mantle waves: s51,c65; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.12±.20; $M_{\theta\theta}$-2.06±.12; $M_{\phi\phi}$-0.05±.11; $M_{r\theta}$0.93±.12; $M_{\theta\phi}$0.23±.08; $M_{\phi r}$0.53±.14; Best double couple: M_o2.35600×10^16 NP1:ϕ_s290.00000°, δ35.00000°, λ113.00000°. NP2: ϕ_s82.00000°, δ58.00000°, λ74.00000°. Principal axes: T 2.4470, Plg72.0000°, Azm313.0000°; N -0.1780, Plg13.0000°, Azm90.0000°; P -2.2650, Plg12.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***08*** *11:34:57.9, 4038N×78.11E, h6km, mb5.1, MS4.3, Southern Xinjiang, China*
BJI ***08*** *11:34:57.1, 4058N×7768E, h10km, mB4.9, mb4.6, ML4.9, Ms4.4, Msz4.2*
IDC ***08*** *11:34:58.9±2.4, 4041N×7745E, h40km±22km, mb4.1/17, mb1 4.1/21, mb1mx4.1/24, mbtmp4.2/21, ML3.7/4, MS4.0/14, Ms1 4.0/14, ms1mx4.0/20, Error ellipse: s-maj=17.1km s-min=13.7km az=9.0*

ISC 08 11:34:57.8±0.1, 4017N±002×7762E±003, h12km, h12km±2.1km:pP-P, n351, σ1$27/371, mb4.7/102, MS4.1/35, 32C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.43**	**243**	⇓PG	**Pg**	**11 35 24.3**	**-0.9**
KSH				SG	**Sg**	**11 35 43.4**	**-0.4**
KSH				Smax			
	comp=N,33μm,0.6s						
KSH				Smax			
	comp=E,41μm,0.6s						
ULHL	**Ulahol**	**2.32**	**334**	P	**Pn**	**11 35 30.6**	**-5.2**
	SNR=336						
KZA	**Kyzart**	**2.61**	**318**	P	**Pn**	**11 35 35.5**	**-4.3**
	SNR=834						
KNDC	**Almaty**	**3.08**	**351**	⇓Pn	**Pn**	**11 35 45.3**	**-0.9**
	comp=E,6μm,0.7s						
KNDC				⇓Sn	**Sn**	**11 36 19.9**	**-3.2**
	comp=E,8μm,1.4s						
UCH	**Uchtor**	**3.11**	**312**	P	**Pn**	**11 35 42.9**	**-3.8**
	SNR=165						
AAA	**Alma-Ata**	**3.14**	**351**	*e*PN	**Pn**	**11 35 47.3**	**+0.3**
AAA				*i* S	**Sn**	**11 36 20.3**	**-4.1**
AAA				pmax	pmax		
	comp=E,7.0nm,0.8s						
AAA				smax			
	comp=E,4.0nm,0.5s						
TKM2	**Tokmak 2**	**3.14**	**332**	P	**Pn**	**11 35 42.6**	**-4.4**
	SNR=233						
TKM2	**Tokmak 2**	**3.14**	**332**	⇑Pn	**Pn**	**11 35 46.0**	**-1.1**
	comp=E,1μm,1.1s						
TKM2				⇓Sn	**Sn**	**11 36 23.0**	**-1.4**
	comp=E,197nm,0.7s						
TKM2	**Tokmak 2**	**3.14**	**332**	PN	**Pn**	**11 35 45.9**	**-1.1**
TKM2						11 36 22.9	
TKM2				pmax	pmax		
	comp=E,7μm,1.1s						
TKM2				smax			
	comp=E,1μm,0.7s						
KBK	**Karagaybulak**	**3.19**	**322**	P	**Pn**	**11 35 44.0**	**-3.8**
	SNR=238						
AAK	**Ala-Archa**	**3.40**	**317**	P	**Pn**	**11 35 47.2**	**-3.5**
	SNR=12						
AAK	**Ala-Archa**	**3.40**	**317**	*e*Pn	**Pn**	**11 35 45.8**	**-4.9**
AAK				Sn	**Sn**	**11 36 27.7**	**-3.2**
FRU	**Bishkek**	**3.48**	**321**	*e*PN	**Pn**	**11 35 48.5**	**-3.3**
FRU				*i*		11 35 57.0	
FRU				*e*		11 36 30.0	
FRU				pmax	pmax		
	comp=Z,5μm,2.0s						
FRU				smax			
	comp=N,11μm,2.8s						
CHMS	**Chumysh**	**3.55**	**324**	P	**Pn**	**11 35 48.5**	**-4.2**
	SNR=36						
EKS2	**Erkin-Say**	**3.81**	**312**	P	**Pn**	**11 35 53.2**	**-3.1**
	SNR=87						
USP	**Ospenovka**	**3.87**	**324**	P	**Pn**	**11 35 57.0**	**-0.1**
	SNR=43						
KK31	**Karatay Array**	**6.08**	**301**	Pn	**Pn**	**11 36 23.1**	**-4.4**
	comp=N,7.5nm,0.5s,baz=121,slow=12,SNR=151						
KK31				⇑Pg	**Pg**	**11 36 43.1**	**-11**
	comp=N,102nm,0.7s,baz=117,slow=15,SNR=31						
KK31				⇓Lg		11 37 55.9	
	comp=N,212nm,0.7s,baz=113,slow=28						
KK31	**Karatay Array**	**6.08**	**301**	*i* PN	**Pn**	**11 36 23.0**	**-4.4**
KK31				*i*		11 36 43.1	
KK31				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KK31				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KK31				pmax	pmax		
	comp=Z,66nm,0.5s						
KKAR	**Karatay Array**	**6.08**	**301**	*e*PN	**Pn**	**11 36 23.0**	**-4.4**
KKAR				pmax	pmax		
	comp=Z,4μm,0.4s						
CHCP	**Chirah Chowk**	**7.38**	**210**	⇑P	**Pn**	**11 36 48.5**	**+3.2**
CHCP				S	**Sn**	**11 38 13.0**	**+4.1**
MK31	**Makanchi Array**	**7.44**	**26**	P	**Pn**	**11 36 41.6**	**-4.5**
MK31				pmax	pmax		
	comp=Z,40nm,0.6s						
MKAR	**Makanchi Array**	**7.44**	**26**	Pn	**Pn**	**11 36 42.2**	**-3.9**
	comp=Z,1.1nm,0.3s,baz=195,slow=15,SNR=16						
MKAR				Lg		11 38 44.3	
	comp=Z,5.6nm,0.3s,baz=205,slow=24,SNR=4.1						
MK05	**Makanchi Array**	**7.44**	**26**	⇓Pn	**Pn**	**11 36 41.6**	**-4.5**
	comp=Z,111nm,0.9s						
MK05				⇑Lg		11 38 49.1	
	comp=Z,98nm,0.9s						
CEP	**Cherat**	**7.81**	**218**	P	**Pn**	**11 36 53.2**	**+1.9**
PONG	**Pong**	**8.31**	**190**	*ex*	x	11 37 00.0	
PONG				*e*S	**Sn**	**11 38 32.0**	**0.0**
WMQ	**Urumqi**	**8.34**	**61**	P	**Pn**	**11 36 58.0**	**-0.5**
WMQ				S	**Sn**	**11 38 33.0**	**+0.3**
WMQ				XS		11 38 38.0	
WMQ				LG1		11 39 18.6	
WMQ				LG2		11 39 26.1	
WMQ				AMB	AMB		
	comp=Z,110nm,1.6s						
WMQ				AMB	AMB		
	comp=Z,320nm,3.0s						
WMQ				Smax			
	comp=N,260nm,1.0s						
WMQ				Smax			
	comp=E,170nm,1.5s						
WMQ				LR	LR		
	comp=N,990nm,18.0s						
WMQ				LR	LR		
	comp=E,240nm,15.0s						
WMQ

GKN Gorkha 13.45 152 *e*P **Pn 11 38 07.6 -0.9**
comp=N,124nm,0.5s
BVA0 Borovoye Array 13.77 341 *i* P **Pn 11 38 09.1 -3.8**
BVA0 pmax pmax
comp=Z,12nm,1.2s
BVAR Borovoye Array 13.77 341 Pn **Pn 11 38 05.0 -7.9**
comp=Z,0.4nm,0.3s,baz=152,slow=13,SNR=11
BVAR Lg 11 41 52.6
comp=Z,0.9nm,0.3s,baz=152,slow=27,SNR=3.9
BRVK Borovoye 13.83 341 *e*P **Pn 11 38 07.0 -6.6**
AJM Ajmer 13.88 191 *e*P **Pn 11 38 12.6 -1.8**
AJM *i* x x 11 40 42.0
KKN Kakani 13.88 151 *e*P **Pn 11 38 12.9 -1.5**
comp=Z,135nm,0.7s
KKN Kakani 13.88 151 *e*P **Pn 11 38 12.9 -1.5**
KKN pmax pmax
comp=Z,135nm,0.7s
DMN Daman 13.98 151 *e*P **Pn 11 38 14.7 -1.0**
comp=Z,88nm,0.5s
GUN Gumba 14.01 148 *e*P **Pn 11 38 15.8 -0.3**
comp=Z,197nm,0.8s
ZRNK Zerenda 14.07 338 ⇑P **Pn 11 38 12.5 -4.4**
comp=Z,20nm,0.9s
ZRNK Zerenda 14.07 338 *e*Pn **Pn 11 38 12.8 -4.2**
ZRNK *e*Sn **Sn 11 40 42.8 -10**
PKI Pulchoki 14.13 150 *e*P **Pn 11 38 17.1 -0.6**
comp=Z,95nm,0.5s
PKI Pulchoki 14.13 150 *e*P **Pn 11 38 17.1 -0.6**
PKI pmax pmax
comp=Z,95nm,0.5s
CHKZ Chkalovo 14.32 343 ⇑P **Pn 11 38 15.4 -4.9**
comp=Z,17nm,0.8s
CHKZ Chkalovo 14.32 343 *e*Pn **Pn 11 38 15.7 -4.6**
JIRN Jiri 14.36 148 *e*P **Pn 11 38 20.3 -0.5**
comp=Z,139nm,0.5s
ZAL Zalesovo 14.60 17 Pn **Pn 11 38 18.9 -5.2**
comp=Z,0.8nm,0.3s,baz=279,slow=5.8,SNR=1.8
ZAL LR LR 11 44 37.6
comp=Z,802nm,19.7s,baz=265,slow=40
NVS Novosibirsk 15.15 13 *e*P **Pn 11 38 25.7 -5.9**
NVS *e*S **Sn 11 41 10.2 -9.1**
AB31 Akbulak array 15.47 312 P **Pn 11 38 27.6 -8.2**
comp=Z,8.6nm,0.7s,baz=124,slow=14,SNR=65
AB31 Akbulak array 15.47 312 *i* P **Pn 11 38 27.6 -8.2**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
JBP Jabalpur 17.07 173 *e*P **Pn 11 38 55.0 -1.3**
JBP *e*x x 11 38 57.7
comp=Z,50nm,1.3s
JBP *i* x x 11 42 00.6
GTA Gaotai 17.07 85 P **Pn 11 38 54.9 -1.4**
GTA AP pP 11 38 58.1 -3.4
GTA XP sP 11 39 00.2 -2.8
GTA PP 11 39 09.2
GTA S **Sn 11 42 06.0 -0.1**
GTA XS sS 11 42 12.1 -9.0
GTA SS 11 42 28.1
GTA LG1 11 43 50.6
GTA LG2 11 44 17.6
GTA AMB AMB
comp=Z,150nm,4.2s
GTA LR LR
comp=N,460nm,12.9s
GTA LR LR
comp=E,760nm,15.6s
GTA LR LR
comp=Z,720nm,14.8s
AKTK Aktyubinsk 17.14 313 Pn **Pn 11 38 49.9 -7.2**
AKTO Aktyubinsk 17.14 313 ⇑P **Pn 11 38 48.6 -8.5**
comp=Z,2.5nm,1.4s
AKTO Aktyubinsk 17.14 313 Pn **Pn 11 38 49.9 -7.2**
comp=Z,0.2nm,0.3s,baz=113,slow=13,SNR=9.8
AKTO LR LR 11 44 52.5
comp=Z,241nm,19.8s,baz=0.0,slow=35
BLSP Bilaspur 18.39 167 *e*P **Pn 11 39 09.3 -3.4**
BLSP AMb AMB 11 39 16.8
comp=Z,58nm,0.8s
KRAR Krasnoyarsk 18.77 27 ⇑*i*P **Pn 11 39 16.0 -1.2**
SHL Shillong 18.82 136 *e*P **Pn 11 39 15.7 -2.2**
SHL *e*x x 11 43 18.0
NGP Nagpur 19.00 176 ⇑*e*P **Pn 11 39 17.7 -2.3**
NGP *e*x x 11 39 19.6
comp=Z,59nm,1.4s
NGP *e*x x 11 42 46.2
AKL Akola 19.41 182 *e*x x 11 38 48.4
AKL AMb AMB 11 39 05.0
comp=Z,74nm,1.6s
ORR Orenburg 19.51 314 ⇓*i*P **Pn 11 39 18.9 -7.3**
ORR pmax pmax
comp=Z,50nm,1.4s
ORR MLR MLR
comp=Z,700nm,19.0s
CAL Calcutta 19.79 149 *i* x x 11 43 21.1
CAL *e*x x 11 46 49.2
MOY Mondy 19.82 47 *e*P **Pn 11 39 25.5 -4.3**
MOY pmax pmax
comp=Z,36nm,3.6s
ARU Arti 20.51 329 *e*P **P 11 39 32.3 -3.4**
ARU *e*PPP 11 39 56.0
ARU *e*S **S 11 43 19.5 -5.5**
ARU MLR MLR
comp=Z,500nm,16.0s,MS4.0
ARU MLR MLR
comp=N,400nm,18.0s,MS4.0
ARU MLR MLR
comp=E,400nm,16.0s,MS4.0
ARU Arti 20.51 329 *e*P **P 11 39 34.5 -1.3**
comp=E,26nm,0.9s
ZAK Zakamensk 20.65 52 *e*P **P 11 39 34.4 -2.8**
ZAK pmax pmax
comp=Z,45nm,1.6s
LZH Lanzhou 21.00 93 *e*P **P 11 39 42.0 +0.9**
LZH AP 11 39 46.1
LZH XP sP 11 39 48.9 +2.8
LZH PP 11 40 05.2
LZH *e*S **S 11 43 31.3 -3.5**
LZH SS 11 44 03.5
LZH AMB AMB
comp=Z,30nm,1.3s,mb4.5
LZH AMB AMB
comp=Z,120nm,4.7s
LZH LR LR
comp=E,500nm,11.2s
LZH LR LR
comp=Z,1μm,13.6s,MS4.4
TLY Talaya 21.33 49 *e*P **P 11 39 51.0 +6.4**
TLY *e* 11 40 01.5
TLY *e*S **S 11 43 38.2 -3.0**
TLY *e*SS 11 44 11.3
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb3.8
TLY MLR MLR
comp=Z,361nm,17.0s,MS3.8
TLY Talaya 21.33 49 *e*P **P 11 39 44.8 +0.2**
comp=Z,3.8nm,0.8s,mb3.8
LATR Latur 21.70 183 *e*x x 11 39 54.5
POO Poona 21.81 190 *e*P **P 11 39 48.5 -1.3**
POO *i* x x 11 40 17.0
POO *e*PPP 11 40 30.5
POO AMb AMB 11 40 36.8
comp=Z,74nm,0.8s,mb5.2
POO *i* S **S 11 43 55.0 +4.3**
POO *i* x x 11 44 37.0
POO *i* x x 11 45 22.5
IRK Irkutsk 21.90 48 *e*P **P 11 39 50.1 -0.7**
IRK pmax pmax
comp=Z,41nm,2.0s,mb4.5
SONM Songino Array 21.98 60 P **P 11 39 50.4 -1.2**
comp=Z,3.5nm,0.8s,mb3.8,baz=290,slow=8.8,SNR=7.0
SONM LR LR 11 49 13.9
comp=Z,526nm,18.4s,MS4.0,baz=84,slow=39
ULN Ulaanbaatar 22.42 60 ⇑*i*P **P 11 39 59.8 +3.5**
ULN Ulaanbaatar 22.42 60 *e*P **P 11 40 00.3 +4.0**
comp=Z,38nm,0.9s,mb4.8
HYB Hyderabad 22.69 178 *i* P **P 11 39 59.5 +0.3**
HYB *e*S **S 11 44 08.0 +0.3**
HYB Hyderabad 22.69 178 *e*P **P 11 39 59.5 +0.3**
HYB S **S 11 44 01.0 -6.7**
KAD Karad 22.98 188 *e*P **P 11 39 58.6 -3.6**
KAD AMb AMB 11 40 09.3
comp=Z,51nm,1.1s,mb4.9
CD2 Chengdu 23.12 105 *e*P **P 11 40 05.5 +1.7**
CD2 AP 11 40 09.7
CD2 XP sP 11 40 12.5 +3.7
CD2 PP 11 40 37.1
CD2 S **S 11 44 13.5 -1.2**
CD2 XS sS 11 44 21.1 +0.4
CD2 SS 11 44 58.3
CD2 AMB AMB
comp=Z,30nm,1.3s,mb4.6
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,470nm,4.9s
CD2 LR LR
comp=Z,350nm,8.7s
WSAR Wadi Sarin 23.29 229 P **P 11 40 04.8 -0.6**
comp=Z,5.7nm,0.6s,mb4.2,baz=20,slow=9.9,SNR=9.8
WSAR LR LR 11 51 00.8
comp=Z,145nm,18.8s,MS3.5,baz=40,slow=41
SOKR Solikamsk 23.42 333 ⇑*i*P **P 11 40 07.8 +1.0**
SOKR pmax pmax
comp=Z,40nm,1.3s,mb4.7
SOKR MLR MLR
comp=Z,730nm,15.0s,MS4.3
GNI Garni 25.05 281 LR LR 11 51 54.0
comp=Z,178nm,18.3s,MS3.6,baz=249,slow=41
GNI Garni 25.05 281 *c i*P **P 11 40 21.0 -0.9**
GNI pmax pmax
comp=Z,13nm,1.3s
GNI MLR MLR
comp=Z,200nm,18.0s
GNI Garni 25.05 281 *e*P **P 11 40 23.3 +1.4**
comp=Z,61nm,1.1s,mb5.0
XAN Xi'an 25.62 94 P **P 11 40 27.0 -0.1**
XAN AP pP 11 40 36.9 +6.2
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb4.2
HHC Hu-ho-hao-te 25.73 77 *e*P **P 11 40 30.0 +1.9**
HHC AP pP 11 40 34.3 +2.6
HHC XP sP 11 40 37.0 +3.8
HHC PP 11 41 10.4
HHC PCP PcP 11 44 00.2 +2.2
HHC S **S 11 44 55.4 -1.3**
HHC XS sS 11 45 04.3 +1.6
HHC SS 11 45 59.0
HHC SCP ScP 11 47 38.3 +1.1
HHC PCS PcS 11 47 40.1 +1.5
HHC SCS ScS 11 51 26.2 -0.3
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb4.6
HHC AMB AMB
comp=Z,100nm,3.5s
HHC LR LR
comp=N,350nm,20.8s
HHC LR LR
comp=E,350nm,14.9s
HHC LR LR
comp=Z,370nm,12.5s
GOF Gofitskoye 25.79 292 *e*P **P 11 40 31.4 +2.8**
GOF pmax pmax
comp=Z,30nm,0.7s,mb4.9
KMI Kunming 25.82 118 P **P 11 40 33.5 +4.6**
KMI AP pP 11 40 40.3 +7.8
KMI XP sP 11 40 42.1 +8.1
KMI PP 11 41 17.5
KMI PPP 11 41 26.2
KMI S **S 11 45 07.1 +9.0**
KMI XS sS 11 45 14.4 +10
KMI SS 11 46 09.1
KMI SSS 11 46 26.9
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
KMI AMB AMB
comp=Z,110nm,4.0s
KMI LR LR
comp=N,210nm,15.1s,MS4.1
KMI LR LR
comp=E,330nm,14.0s,MS4.1
KMI LR LR
comp=Z,370nm,14.0s,MS4.1
KIV Kislovodsk 26.09 290 *e*P **P 11 40 30.5 -0.8**
KIV *e* 11 44 01.9
KIV *e*S **S 11 45 00.8 -1.5**
KIV pmax pmax
comp=Z,25nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,467nm,15.0s,MS4.1
KIV Kislovodsk 26.09 290 P **P 11 40 33.5 +2.2**
comp=Z,21nm,0.7s,mb4.8
CIT Chita 27.30 52 *e*P **P 11 40 45.9 +3.6**
CIT *e* 11 44 04.0
CIT pmax pmax
comp=Z,34nm,1.5s,mb4.7
CHTO Chiang Mai 28.11 133 *e*P **P 11 40 53.9 +4.5**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
CHTO Chiang Mai 28.11 133 *e*P **P 11 40 53.9 +4.5**
comp=Z,5.4nm,0.8s,mb4.2
SOC Sochi 28.26 289 *e*P **P 11 40 46.7 -4.2**
SOC *e*S **S 11 45 34.1 -2.5**
SOC pmax pmax
comp=Z,49nm,1.1s,mb5.0
SOC MLR MLR
comp=Z,305nm,17.0s,MS4.0
VOR Voronezh 28.77 307 P **P 11 40 54.0 -1.4**
VOR pmax pmax
comp=Z,80nm,1.6s,mb5.2
VOR pmax pmax
comp=Z,30nm,1.1s,mb4.9
MALT Malatya 30.25 279 *e*P **P 11 41 07.2 -1.2**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
MALT Malatya 30.25 279 *e*P **P 11 41 07.2 -1.3**
comp=Z,6.2nm,0.9s,mb4.3
OBN Obninsk 30.92 313 ⇑*e*P **P 11 41 14.5 +0.1**
OBN pmax pmax
comp=Z,57nm,1.5s,mb5.2
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.0
WHN Wuhan 31.27 96 *e*P **P 11 41 19.0 +1.5**
TMCR Tamitsa 33.24 329 *e*P **P 11 41 35.2 +0.4**
TMCR pmax pmax
comp=Z,20nm,0.7s,mb5.2
TMCR pmax pmax
comp=N,70nm,1.0s
TMCR pmax pmax
comp=E,40nm,1.1s
BR131 Keskin Array S 33.46 284 *e*P **P 11 41 37.9 +1.2**
comp=E,5.0nm,0.6s,mb4.6
BRTR Keskin Array B 33.46 284 P **P 11 41 33.0 -3.6**
comp=E,7.2nm,0.7s,mb4.7,baz=90,slow=7.4,SNR=12
NJ2 Nanjing 34.04 91 *e*P **P 11 41 42.5 +0.8**
NJ2 AP pP 11 41 47.0 +1.6
NJ2 XP sP 11 41 50.6 +3.7
NJ2 PP PP 11 42 54.2 -4.6
NJ2 PPP 11 43 13.5
NJ2 S **S 11 47 08.0 +1.1**
NJ2 XS sS 11 47 18.0 +5.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,240nm,4.4s
NJ2 LR LR
comp=N,620nm,23.7s
NJ2 LR LR
comp=E,940nm,18.0s
NJ2 LR LR
comp=Z,540nm,23.4s,MS4.2
QIZ Qiongzhong 34.77 118 P **P 11 41 54.4 +6.4**
QIZ S **S 11 47 26.2 +8.0**
QIZ LR LR
comp=Z,220nm,18.9s,MS3.9
AKASG Malin Array Be 34.97 304 P **P 11 41 45.0 -4.8**
comp=Z,0.7nm,0.4s,mb4.0,baz=74,slow=8.6,SNR=12
AKASG PcP PcP 11 44 22.4 +0.3
comp=Z,0.3nm,0.3s,baz=78,slow=3.3,SNR=6.3
CN2 Changchun 35.35 68 *e*P **P 11 41 56.2 +3.2**
CN2 *e*XP sP 11 42 01.5 +3.3
CN2 *e*S **S 11 47 29.2 +2.1**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CN2 LR LR
comp=N,600nm,16.0s,MS4.5
CN2 LR LR
comp=E,400nm,16.0s,MS4.5
CN2 LR LR
comp=Z,400nm,16.0s,MS4.3
SSE Sheshan 36.25 91 P **P 11 42 02.7 +1.9**
SSE XP sP 11 42 07.1 +1.1
SSE PP PP 11 43 25.1 +1.9
SSE PCP PcP 11 44 26.7 +0.9
SSE S **S 11 47 44.7 +3.8**
SSE XS sS 11 47 49.8 +2.8
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,140nm,3.3s
SSE LR LR
comp=N,80nm,16.2s,MS3.8
SSE LR LR
comp=E,100nm,16.4s,MS3.8
SSE LR LR
comp=Z,150nm,17.7s,MS3.8
APA Apatity 36.47 333 ⇓*i*P **P 11 42 02.4 -0.3**
APA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
APA MLR MLR
comp=Z,1μm,10.0s,MS5.0
PLOR Plostina 37.17 296 ⇑*i*P **P 11 42 12.0 +3.4**
FINES FINESS Array B 37.58 322 LR LR 11 57 50.0
comp=Z,319nm,19.8s,MS4.1,baz=118,slow=37
FINES FINESS Array B 37.58 322 *i* P **P 11 42 12.6 +0.5**
FINES pmax pmax
comp=Z,11nm,0.6s
MLR Muntele Rosu 37.72 296 ⇑*i*P **P 11 42 15.3 +2.0**
MLR Muntele Rosu 37.72 296 ⇑P **P 11 42 15.3 +2.0**
BURAR Bucovina Array 37.87 299 ⇑*i*P **P 11 42 15.3 +0.8**
BURAR Bucovina Array 37.87 299 ⇑P **P 11 42 15.3 +0.8**
YAK Yakutsk 37.93 37 *e*P **P 11 42 17.0 +1.9**
YAK pmax pmax
comp=Z,33nm,0.9s,mb5.1
YAK Yakutsk 37.93 37 *e*P **P 11 42 17.0 +2.0**
comp=Z,33nm,0.9s,mb5.1
MDJ Mudanjiang 38.11 66 P **P 11 42 18.4 +1.9**
MDJ AP pP 11 42 21.1 +0.8
MDJ XP sP 11 42 23.2 +1.4
MDJ PP PP 11 43 45.2 +1.6
MDJ PCP PcP 11 44 33.9 +2.5
MDJ S **S 11 48 10.1 +0.9**
MDJ SCP ScP 11 48 21.4 +2.5
MDJ SCS ScS 11 52 31.2 +2.8
MDJ AMB AMB
comp=Z,10.0nm,2.1s,mb4.2
MDJ AMB AMB
comp=Z,90nm,3.5s
MDJ LR LR
comp=N,150nm,26.4s,MS3.7
MDJ LR LR
comp=E,50nm,27.0s,MS3.7
MDJ LR LR
comp=Z,210nm,16.1s
VOIR 38.35 296 ⇓*i*P **P 11 42 08.6 -10**
LVV L'vov 38.36 303 *e*P **P 11 42 19.4 +0.7**
SUW Suwalki 38.58 310 *e*P **P 11 42 21.3 +0.8**
SUW pmax pmax
comp=Z,52nm,1.0s,mb5.2
SUW Suwalki 38.58 310 *e*P **P 11 42 21.3 +0.8**
comp=Z,52nm,1.0s,mb5.2
KLR Kul'dur 38.78 58 *e*P **P 11 42 17.0 -5.2**
KLR *e* 11 44 29.1
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.0
KWP Kalwaria 39.23 303 *e*P **P 11 42 21.9 -4.1**
KWP pmax pmax
comp=Z,58nm,1.1s,mb5.2
KWP Kalwaria 39.23 303 *e*P **P 11 42 21.9 -4.1**
comp=Z,58nm,1.1s,mb5.2
ARCES ARCESS Array B 39.91 334 P **P 11 42 26.8 -4.9**
comp=Z,2.0nm,0.7s,mb4.0,baz=104,slow=9.0,SNR=16
ARCES LR LR 11 59 19.2
comp=Z,490nm,18.6s,MS4.4,baz=284,slow=37
ARCES ARCESS Array B 39.91 334 P **P 11 42 26.8 -4.9**
ARE0 ARCESS Array S 39.91 334 *e*P **P 11 42 30.5 -1.2**
STHS Stebnicka Huta 40.21 303 *e*P **P 11 42 36.0 +1.9**
STHS Stebnicka Huta 40.21 303 *e*P **P 11 42 36.1 +2.0**
VTS Vitosha 40.31 292 ⇑*i*P **P 11 42 35.2 +0.3**
VTS Vitosha 40.31 292 ⇑P **P 11 42 35.2 +0.2**
TIXI Tiksi 40.41 22 *e*P **P 11 42 32.2 -3.6**
BZS Buzias 40.67 297 ⇑*i*P **P 11 42 39.3 +1.3**
BZS Buzias 40.67 297 ⇑P **P 11 42 39.3 +1.4**
NIE Niedzica 40.81 303 *e*P **P 11 42 42.3 +3.2**
KECS Kecovo 40.85 301 *e*P **P 11 42 42.0 +2.5**
OJC Ojcow 41.01 304 *e*P **P 11 42 41.6 +0.9**
PSZ Piszkesteto 41.35 301 *e*P **P 11 42 40.4 -3.1**
PSZ pmax pmax
comp=Z,26nm,1.6s,mb4.6
PSZ Piszkesteto 41.35 301 *e*P **P 11 42 40.4 -3.1**
comp=Z,26nm,1.6s,mb4.6
PSI Prapat 41.91 147 P **P 11 42 48.9 +0.7**
comp=Z,2.2nm,0.6s,mb3.9,baz=355,slow=9.1,SNR=4.6
VYHS Vyhne 41.93 302 *e*P **P 11 42 51.0 +2.7**
OKC Ostrava-Krasne 42.12 304 AMS AMS 12 01 10.0
comp=Z,200nm,15.9s
KOLL Kolacno 42.20 302 *e*P **P 11 42 53.5 +3.0**
GVD Gavdhos 42.27 280 *e*P **P 11 42 50.4 -0.6**
comp=Z,46nm,0.5s,mb5.4
MORC Moravsky Berou 42.52 304 ⇑*i*P **P 11 42 53.4 +0.3**
MORC Moravsky Berou 42.52 304 *e*P **P 11 42 54.4 +1.3**
comp=Z,7.5nm,0.8s,mb4.5
DPC Dobruska-Polom 43.19 305 *e*P **P 11 42 55.0 -3.5**
DPC *e*pP pP 11 43 00.0 -2.3
DPC AMS AMS 12 01 40.0
comp=Z,400nm,14.7s
UPC Upice 43.35 305 *e*P **P 11 42 55.8 -4.0**
UPC *e*pP pP 11 43 01.2 -2.4
TREC Trest 43.93 303 AMS AMS 12 02 00.0
comp=Z,300nm,16.8s
CONA Conrad Observa 44.00 301 ⇑*i*P **P 11 43 02.1 -2.9**
comp=Z,19nm,1.0s,mb4.8
PVCC Panska Ves 44.25 305 AMS AMS 12 02 10.0
comp=Z,300nm,13.3s
PRU Pruhonice 44.38 305 *e*P **P 11 43 09.8 +1.7**
PRU AMS AMS 12 02 20.0
comp=Z,300nm,20.4s
ARSA Arzberg 44.38 301 ⇓*i*P **P 11 43 09.2 +1.0**
comp=Z,5.1nm,0.7s,mb4.3
BRG Berggiesshubel 44.57 306 *e*P **P 11 43 12.1 +2.5**
comp=Z,4.8nm,0.8s,mb4.4
BRG
comp=N,153nm,14.1s
BRG
comp=E,154nm,18.0s
BRG
comp=Z,222nm,19.4s
BRG Berggiesshubel 44.57 306 *e*P **P 11 43 12.1 +2.5**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
BRG MLR MLR
comp=N,153nm,14.1s,MS4.2
BRG MLR MLR
comp=E,154nm,18.0s,MS4.2
BRG MLR MLR
comp=Z,222nm,19.4s,MS4.1
NB2 NORSAR Subarra 44.72 321 P **P 11 43 05.5 -5.3**
comp=Z,22nm,1.1s,mb4.9,baz=87,slow=8.6
NOA NORSAR Array B 44.72 321 P **P 11 43 05.0 -5.7**
comp=Z,1.9nm,0.8s,mb4.0,baz=87,slow=7.9,SNR=6.6
NOA LR LR 12 02 20.3
comp=Z,359nm,18.1s,MS4.3,baz=80,slow=37
NAO01 NORSAR Array S 44.89 320 *e*P **P 11 43 12.1 0.0**
comp=Z,20nm,1.1s,mb4.8
CLL Collm 45.06 307 ⇑*i*P **P 11 43 15.5 +2.0**
comp=Z,13nm,0.9s,mb4.8
CLL Collm 45.06 307 ⇑*i*P **P 11 43 15.5 +2.0**
CLL pmax pmax
comp=Z,13nm,0.9s,mb4.8
CLL MLR MLR
comp=Z,300nm,14.6s,MS4.4
GERES GERESS Array B 45.17 303 P **P 11 43 10.7 -3.7**
comp=Z,1.3nm,0.6s,mb3.9,baz=76,slow=7.4,SNR=8.2
GERES LR LR 12 03 13.7
comp=Z,190nm,19.7s,MS4.0,baz=170,slow=38
KHC Kasperske Hory 45.19 304 *e*P **P 11 43 15.8 +1.3**
KHC AMS AMS 12 02 50.0
comp=Z,300nm,20.4s
KHC Kasperske Hory 45.19 304 ⇑*e*P **P 11 43 13.5 -1.0**
KHC *i* *PP pP 11 43 16.0 -2.3
KHC *i* *SP sP 11 43 17.0 -2.8
KONO Kongsberg 45.64 319 *c i*P **P 11 43 18.5 +0.4**
NKC Novy Kostel 45.64 305 *e*P **P 11 43 20.2 +2.1**
NKC AMS AMS 12 03 10.0
comp=Z,400nm,14.5s
TIP Timpagrande 46.03 289 *e*P **P 11 43 21.8 +0.6**
MOX Moxa 46.06 306 *e*P **P 11 43 23.5 +2.1**

MOX
comp=Z,200nm,20.0s
KBS Kingsbay 46.26 346 *eP* **P 11 43 21.9 -1.1**
GRA1 Grafenberg Arr 46.54 305 *eP* **P 11 43 26.5 +1.3**
comp=Z,16nm,1.0s,mb4.9
GRA1 *e*pP pP 11 43 28.1 -0.9
GRF Grafenberg Arr 46.54 305 *eP* **P 11 43 26.5 +1.3**
comp=Z,16nm,1.0s,mb4.9
GRF *e*pP pP 11 43 28.1 -0.9
GRF *e*L 12 03 50.9
comp=Z,314nm,19.6s
GRF Grafenberg Arr 46.54 305 *eP* **P 11 43 26.5 +1.3**
GRF *e**PP pP 11 43 28.1 -0.9
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.9
GRF MLR MLR
comp=Z,300nm,19.6s,MS4.2
GRF Grafenberg Arr 46.54 305 *eP* **P 11 43 26.5 +1.3**
comp=Z,16nm,1.0s,mb4.9
GRF *e*pP pP 11 43 28.1 -0.9
MJAR Matsushiro Arr 46.85 74 P **P 11 43 26.4 -1.3**
comp=Z,2.6nm,0.8s,mb4.2,baz=287,slow=9.0,SNR=2.9
MJAR PcP PcP 11 45 01.9 +1.4
comp=Z,2.1nm,0.8s,baz=276,slow=4.3,SNR=4.1
MJAR LR LR 12 04 18.3
comp=Z,151nm,19.2s,MS4.0,baz=245,slow=38
MJAR Matsushiro Arr 46.85 74 P **P 11 43 26.4 -1.3**
MJAR PcP PcP 11 45 01.9 +1.4
VLC Villacollemand 48.74 298 *eP* **P 11 43 42.6 +0.3**
comp=Z,17nm,0.7s,mb5.2
CDF Champ du Feu 49.39 304 *eP* **P 11 43 47.4 +0.1**
comp=Z,28nm,1.2s,mb4.9
CDF Champ du Feu 49.39 304 *eP* **P 11 43 47.4 +0.1**
CDF pmax pmax
comp=Z,14nm,1.2s,mb4.9
CDF Champ du Feu 49.39 304 *eP* **P 11 43 47.4 +0.1**
comp=Z,14nm,1.2s,mb4.9
WLF Walferdange 49.71 306 *eP* **P 11 43 49.4 -0.3**
WLF pmax pmax
comp=Z,16nm,0.6s,mb5.2
WLF Walferdange 49.71 306 *eP* **P 11 43 49.4 -0.3**
comp=Z,16nm,0.6s,mb5.2
HINF Hinteralfeld 49.85 304 *eP* **P 11 43 50.8 0.0**
comp=Z,32nm,1.1s,mb5.0
HINF Hinteralfeld 49.85 304 *eP* **P 11 43 50.8 0.0**
HINF pmax pmax
comp=Z,16nm,1.1s,mb5.0
HINF Hinteralfeld 49.85 304 *eP* **P 11 43 50.8 0.0**
comp=Z,16nm,1.1s,mb5.0
HAU Haudompre 50.11 304 *eP* **P 11 43 52.7 -0.1**
HAU *e*R
comp=Z,193nm,17.8s
HAU Haudompre 50.11 304 *eP* **P 11 43 52.7 -0.1**
HAU LR LR
comp=Z,190nm,17.8s,MS4.2
PGF Pioggiola 50.26 297 *eP* **P 11 43 53.8 -0.1**
comp=Z,25nm,0.9s,mb4.9
PGF Pioggiola 50.26 297 *eP* **P 11 43 53.8 -0.1**
PGF pmax pmax
comp=Z,13nm,0.9s,mb5.0
PGF Pioggiola 50.26 297 *eP* **P 11 43 53.8 -0.1**
comp=Z,13nm,0.9s,mb5.0
GIVF Givet 50.39 307 *eP* **P 11 43 55.3 +0.4**
LPG La Plagne 50.70 301 *eP* **P 11 43 58.0 +0.8**
comp=Z,14nm,0.8s,mb4.7
LPG La Plagne 50.70 301 *eP* **P 11 43 58.0 +0.8**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPG La Plagne 50.70 301 *eP* **P 11 43 58.0 +0.8**
comp=Z,7.2nm,0.8s,mb4.7
LPL La Plagne 50.70 301 *eP* **P 11 43 57.5 +0.2**
comp=Z,14nm,0.7s,mb4.7
LPL La Plagne 50.70 301 *eP* **P 11 43 57.5 +0.2**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LPL La Plagne 50.70 301 *eP* **P 11 43 57.5 +0.2**
comp=Z,6.9nm,0.7s,mb4.7
CABF La Chapelle 50.74 302 *eP* **P 11 43 57.5 -0.1**
comp=Z,20nm,1.0s,mb4.7
CABF La Chapelle 50.74 302 *eP* **P 11 43 57.5 -0.1**
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CABF La Chapelle 50.74 302 *eP* **P 11 43 57.5 -0.1**
comp=Z,9.9nm,1.0s,mb4.7
MEZF Maizieres J'vi 50.76 305 *eP* **P 11 43 58.2 +0.5**
BAIF Baives 50.78 307 *eP* **P 11 43 58.3 +0.5**
SBF Sospel 50.83 299 *eP* **P 11 43 58.1 -0.1**
comp=Z,42nm,1.0s,mb5.0
SBF Sospel 50.83 299 *eP* **P 11 43 58.1 -0.1**
SBF pmax pmax
comp=Z,21nm,1.0s,mb5.0
SBF Sospel 50.83 299 *eP* **P 11 43 58.1 -0.1**
comp=Z,21nm,1.0s,mb5.0
BNI Bardonecchia 50.91 300 *eP* **P 11 43 58.6 -0.2**
BNI pmax pmax
comp=Z,23nm,1.4s,mb4.9
BNI Bardonecchia 50.91 300 *eP* **P 11 43 58.6 -0.2**
comp=Z,23nm,1.4s,mb4.9
MBDF Montbardon 50.96 300 *eP* **P 11 43 58.9 -0.3**
comp=Z,21nm,0.9s,mb4.8
MBDF Montbardon 50.96 300 *eP* **P 11 43 58.9 -0.3**
MBDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MBDF Montbardon 50.96 300 *eP* **P 11 43 58.9 -0.3**
comp=Z,10nm,0.9s,mb4.8
FRF La Foret Royal 51.48 299 *eP* **P 11 44 03.1 0.0**
ORIF Oris-en-Rattie 51.48 300 *eP* **P 11 44 02.9 -0.2**
comp=Z,12nm,0.7s,mb4.7
ORIF *e*R
comp=Z,385nm,21.0s
ORIF Oris-en-Rattie 51.48 300 *eP* **P 11 44 02.9 -0.2**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ORIF Oris-en-Rattie 51.48 300 *eP* **P 11 44 02.9 -0.2**
comp=Z,6.2nm,0.7s,mb4.7
LMR La Mourre 51.66 298 *eP* **P 11 44 04.5 +0.1**
comp=Z,33nm,1.1s,mb4.9
LMR La Mourre 51.66 298 *eP* **P 11 44 04.5 +0.1**
LMR pmax pmax
comp=Z,16nm,1.1s,mb4.9
LMR La Mourre 51.66 298 *eP* **P 11 44 04.5 +0.1**
comp=Z,16nm,1.1s,mb4.9
LOR Lormes 51.94 304 *eP* **P 11 44 05.9 -0.6**
comp=Z,8.8nm,0.7s,mb4.5
LOR *e*R
comp=Z,170nm,17.8s
LOR Lormes 51.94 304 *eP* **P 11 44 05.9 -0.6**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LOR MLR MLR
comp=Z,170nm,17.8s,MS4.1
LOR Lormes 51.94 304 *eP* **P 11 44 05.9 -0.6**
comp=Z,4.4nm,0.7s,mb4.5
LOR LR LR
comp=Z,170nm,17.8s,MS4.1
SMRF Simiane la Rot 52.04 299 *eP* **P 11 44 07.6 +0.4**
comp=Z,14nm,0.9s,mb4.6
SMRF Simiane la Rot 52.04 299 *eP* **P 11 44 07.6 +0.4**
comp=Z,14nm,0.9s,mb4.9
SMF Signal de Mont 52.18 303 *eP* **P 11 44 08.0 -0.3**
comp=Z,31nm,1.0s,mb4.9
SMF Signal de Mont 52.18 303 *eP* **P 11 44 08.0 -0.3**
SMF pmax pmax
comp=Z,16nm,1.0s,mb4.9
SMF Signal de Mont 52.18 303 *eP* **P 11 44 08.0 -0.3**
comp=Z,16nm,1.0s,mb4.9
SSF Saint Saulge 52.24 304 *eP* **P 11 44 08.4 -0.4**
comp=Z,22nm,1.1s,mb4.7
SSF Saint Saulge 52.24 304 *eP* **P 11 44 08.4 -0.4**
SSF pmax pmax
comp=Z,11nm,1.1s,mb4.7
SSF Saint Saulge 52.24 304 *eP* **P 11 44 08.4 -0.4**
comp=Z,11nm,1.1s,mb4.7
VIVF Saint-Julien-l 52.30 301 *eP* **P 11 44 09.4 +0.2**
comp=Z,12nm,0.7s,mb4.6
VIVF Saint-Julien-l 52.30 301 *eP* **P 11 44 09.4 +0.2**
VIVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
VIVF Saint-Julien-l 52.30 301 *eP* **P 11 44 09.4 +0.2**
comp=Z,6.2nm,0.7s,mb4.7
AVF Avril sur Loir 52.44 303 *eP* **P 11 44 10.0 -0.2**
comp=Z,31nm,0.8s,mb5.0
AVF Avril sur Loir 52.44 303 *eP* **P 11 44 10.0 -0.2**
AVF pmax pmax
comp=Z,16nm,0.8s,mb5.0
AVF Avril sur Loir 52.44 303 *eP* **P 11 44 10.0 -0.2**
comp=Z,16nm,0.8s,mb5.0
DAG Danmarks Havn 52.70 343 ⇑*iP* **P 11 44 07.3 -4.9**
comp=Z,7.7nm,0.5s,mb4.9
BGF Bois d'Agland 52.85 303 *eP* **P 11 44 13.2 -0.1**
BILL Bilibino 52.98 28 ⇑*iP* **P 11 44 15.3 +1.1**
BILL *i* pP 11 44 17.2 -0.8
BILL pmax pmax
comp=Z,21nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,300nm,18.0s,MS4.4
BILL Bilibino 52.98 28 *eP* **P 11 44 14.8 +0.5**
comp=Z,20nm,1.0s,mb5.0
LASF Ste Croix 53.14 300 *eP* **P 11 44 15.8 +0.4**
comp=Z,22nm,1.1s,mb4.7
ESK Eskdalemuir 53.34 315 *eP* **P 11 44 16.6 -0.3**
TCF Toulx Ste Croi 53.36 303 *eP* **P 11 44 17.1 +0.1**
comp=Z,24nm,1.1s,mb4.8
TCF Toulx Ste Croi 53.36 303 *eP* **P 11 44 17.1 +0.1**
TCF pmax pmax
comp=Z,12nm,1.1s,mb4.7
TCF Toulx Ste Croi 53.36 303 *eP* **P 11 44 17.1 +0.1**
comp=Z,12nm,1.1s,mb4.7
LDF La Druitiere 53.95 307 *eP* **P 11 44 21.0 -0.3**
comp=Z,14nm,0.9s,mb4.6
LDF La Druitiere 53.95 307 *eP* **P 11 44 21.0 -0.3**
LDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LDF La Druitiere 53.95 307 *eP* **P 11 44 21.0 -0.3**
comp=Z,6.8nm,0.9s,mb4.6
CAF Calviac 53.98 302 *eP* **P 11 44 22.0 +0.4**
comp=Z,16nm,1.0s,mb4.6
CAF Calviac 53.98 302 *eP* **P 11 44 22.0 +0.4**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CAF Calviac 53.98 302 *eP* **P 11 44 22.0 +0.4**
comp=Z,8.2nm,1.0s,mb4.6
FLN La Foliniere 54.10 307 *eP* **P 11 44 21.8 -0.7**
FLN *e*R
comp=Z,185nm,19.8s
FLN La Foliniere 54.10 307 *eP* **P 11 44 21.8 -0.7**
FLN LR LR
comp=Z,190nm,19.8s,MS4.2
RJF Les Rejaudoux 54.19 302 *eP* **P 11 44 23.7 +0.6**
RJF *e*R
comp=Z,214nm,20.5s
RJF Les Rejaudoux 54.19 302 *eP* **P 11 44 23.7 +0.6**
RJF LR LR
comp=Z,210nm,20.5s,MS4.2
GRR Gorron 54.48 307 *eP* **P 11 44 25.6 +0.4**
comp=Z,29nm,1.0s,mb4.9
GRR Gorron 54.48 307 *eP* **P 11 44 25.6 +0.4**
GRR pmax pmax
comp=Z,15nm,1.0s,mb4.9
GRR Gorron 54.48 307 *eP* **P 11 44 25.6 +0.4**
comp=Z,15nm,1.0s,mb4.9
MTLF Montolieu 54.52 300 *eP* **P 11 44 25.8 +0.2**
MFF Saint Martin d 54.73 304 *eP* **P 11 44 26.6 -0.5**
LFF La Frestale 54.84 302 *eP* **P 11 44 28.3 +0.5**
KMBO Kilima Mbogo 55.17 232 P **P 11 44 27.2 -3.0**
comp=Z,3.1nm,1.1s,mb4.2,baz=74,slow=7.4,SNR=3.4
KMBO LR LR 12 10 37.1
comp=Z,78nm,18.6s,MS3.8,baz=83,slow=39
KMBO Kilima Mbogo 55.17 232 P **P 11 44 27.2 -3.0**
KMBO pmax pmax
comp=Z,3.0nm,1.1s
KMBO MLR MLR
comp=Z,78nm,18.6s
KMBO Kilima Mbogo 55.17 232 *eP* **P 11 44 33.2 +3.0**
comp=Z,2.0nm,0.7s,mb4.3
SGMF Saint Gilles 55.57 307 *eP* **P 11 44 32.8 -0.3**
comp=Z,17nm,0.9s,mb4.8
SGMF Saint Gilles 55.57 307 *eP* **P 11 44 32.8 -0.3**
SGMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SGMF Saint Gilles 55.57 307 *eP* **P 11 44 32.8 -0.3**
comp=Z,8.4nm,0.9s,mb4.8
ROSF Rostrenen 55.98 307 *eP* **P 11 44 35.7 -0.3**
comp=Z,29nm,1.0s,mb5.0
ROSF Rostrenen 55.98 307 *eP* **P 11 44 35.7 -0.3**
ROSF pmax pmax
comp=Z,14nm,1.0s,mb5.0
ROSF Rostrenen 55.98 307 *eP* **P 11 44 35.7 -0.3**
comp=Z,14nm,1.0s,mb5.0
QUIF Quistinic 56.08 307 *eP* **P 11 44 37.2 +0.4**
comp=Z,41nm,1.3s,mb5.0
QUIF Quistinic 56.08 307 *eP* **P 11 44 37.2 +0.4**
QUIF pmax pmax
comp=Z,20nm,1.3s,mb5.0
QUIF Quistinic 56.08 307 *eP* **P 11 44 37.2 +0.4**
comp=Z,20nm,1.3s,mb5.0
ETSF Etsaut 56.55 300 *eP* **P 11 44 40.8 +0.7**
comp=Z,16nm,1.0s,mb4.7
ETSF Etsaut 56.55 300 *eP* **P 11 44 40.8 +0.7**
ETSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ETSF Etsaut 56.55 300 *eP* **P 11 44 40.8 +0.7**
comp=Z,7.9nm,1.0s,mb4.7
SJPF Ste Jean 56.90 301 *eP* **P 11 44 41.5 -1.1**
comp=Z,17nm,1.0s,mb4.8
SJPF Ste Jean 56.90 301 *eP* **P 11 44 41.5 -1.1**
SJPF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SJPF Ste Jean 56.90 301 *eP* **P 11 44 41.5 -1.1**
comp=Z,8.6nm,1.0s,mb4.7
SUMG Summit 59.25 342 *eP* **P 11 44 59.7 +0.6**
comp=Z,15nm,0.8s,mb5.1
ESDC Sonseca Array 60.32 299 P **P 11 45 01.6 -4.8**
comp=Z,0.2nm,0.3s,baz=19,slow=8.3,SNR=3.4
ESLA Sonseca Array 60.32 299 *eP* **P 11 45 06.7 +0.3**
comp=Z,7.7nm,1.4s,mb4.5
GAMB Gambell 62.91 28 *eP* **P 11 45 27.3 +3.4**
TNA Tin City 63.11 25 *eP* **P 11 45 25.8 +0.5**
comp=Z,21nm,1.1s,mb5.2
EVO Evora 63.62 299 *eP* **P 11 45 28.0 -0.6**
comp=Z,8.5nm,0.9s,mb4.5
SFJD Kangerlussuaq 66.14 340 *eP* **P 11 45 45.3 +0.2**
INK Inuvik 69.35 12 *eP* **P 11 46 05.4 +0.1**
INK pmax pmax
comp=Z,20nm,0.9s
INK Inuvik 69.35 12 *eP* **P 11 46 05.4 +0.1**
comp=Z,20nm,0.9s,mb5.0
COLA College 69.41 19 *dP* **P 11 46 05.5 -0.2**
COLA College 69.41 19 *eP* **P 11 46 06.1 +0.4**
comp=Z,4.3nm,0.9s,mb4.4
MCK McKinley 70.06 20 *eP* **P 11 46 09.6 -0.1**
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MCK McKinley 70.06 20 *eP* **P 11 46 09.6 -0.1**
comp=Z,4.9nm,1.0s,mb4.4
SVW2 Sparrevohn 70.21 24 *eP* **P 11 46 12.2 +1.6**
TORD Torodi Ar. Bea 70.93 271 P **P 11 46 11.0 -3.9**
comp=Z,12nm,0.6s,mb5.1,baz=46,slow=5.4,SNR=140
PMR Palmer 71.75 22 *eP* **P 11 46 19.8 -0.1**
PMR pmax pmax
comp=Z,35nm,1.2s,mb5.2
PMR Palmer 71.75 22 *eP* **P 11 46 19.8 -0.1**
comp=Z,35nm,1.2s,mb5.2
LSZ Lusaka 71.78 231 *eP* **P 11 46 23.1 +3.0**
LSZ pmax pmax
comp=Z,16nm,0.9s,mb5.0
LSZ Lusaka 71.78 231 *eP* **P 11 46 23.1 +3.0**
comp=Z,16nm,0.9s,mb4.9
SML Sawmill 71.79 21 *eP* **P 11 46 17.6 -2.6**
DAWY Dawson 72.06 16 *eP* **P 11 46 21.5 -0.3**
SLKM Skilak Lake 72.31 23 *eP* **P 11 46 23.1 -0.2**
SKAG Skagway 77.05 17 *eP* **P 11 46 51.9 +1.1**
comp=Z,48nm,1.9s,mb5.1
YKW3 Yellowknife Ar 77.14 6 *eP* **P 11 46 50.9 -0.4**
YKA Yellowknife Ar 77.21 6 P **P 11 46 46.7 -5.0**
comp=Z,4.5nm,0.7s,mb4.5,baz=341,slow=5.2,SNR=3.8
YKA LR LR 12 24 54.8
comp=Z,61nm,18.7s,MS4.0,baz=90,slow=39
YKA Yellowknife Ar 77.21 6 P **P 11 46 46.7 -5.0**
DLBC Dease Lake 79.08 14 *eP* **P 11 47 02.4 +0.4**
SIT Sitka 79.23 18 P **P 11 47 03.3 +0.4**
SIT pmax pmax
comp=Z,15nm,0.8s,mb5.0
SIT Sitka 79.23 18 P **P 11 47 03.3 +0.4**
comp=Z,15nm,0.8s,mb5.0
WRAB Tennant Creek 79.77 127 *eP* **P 11 47 08.9 +3.1**
WRAB pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
WRAB Tennant Creek 79.77 127 *eP* **P 11 47 08.8 +3.1**
comp=Z,6.7nm,0.6s,mb4.8
DBIC Dimbokro 79.99 270 P **P 11 47 03.1 -3.9**
comp=Z,14nm,0.9s,mb4.9,baz=65,slow=18,SNR=2.9
DBIC Dimbokro 79.99 270 P **P 11 47 03.1 -3.9**
DBIC pmax pmax
comp=Z,15nm,0.9s
DBIC Dimbokro 79.99 270 *eP* **P 11 47 07.6 +0.6**
comp=Z,9.9nm,0.7s,mb4.8
SCHQ Schefferville 80.60 340 P **P 11 47 05.8 -4.4**
comp=Z,3.3nm,0.8s,mb4.3,baz=30,slow=16,SNR=2.0
PMG Port Moresby 80.80 111 LR LR 12 27 24.8
comp=Z,115nm,18.2s,MS4.3,baz=208,slow=39
TSUM Tsumeb 81.28 236 *eP* **P 11 47 16.7 +2.9**
comp=Z,17nm,0.9s,mb5.0
ASAR Alice Springs 82.33 130 P **P 11 47 17.6 -1.9**
comp=Z,5.0nm,0.9s,mb4.4,baz=324,slow=5.1,SNR=18
BOSA Boshof 83.96 224 P **P 11 47 25.3 -2.5**
comp=Z,4.4nm,1.0s,mb4.5,baz=72,slow=3.2,SNR=1.9
BOSA Boshof 83.96 224 P **P 11 47 25.3 -2.5**
BOSA pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
BOSA Boshof 83.96 224 *eP* **P 11 47 29.3 +1.5**
comp=Z,8.7nm,1.1s,mb4.8
FFC Flin Flon 85.47 360 *eP* **P 11 47 35.3 -0.2**
FFC pmax pmax
comp=Z,11nm,0.9s,mb5.0
FFC Flin Flon 85.47 360 *eP* **P 11 47 35.3 -0.2**
comp=Z,11nm,0.9s,mb5.0
EDM Edmonton 86.50 7 *eP* **P 11 47 40.8 +0.2**
ULM Lac du Bonnet 89.78 356 LR LR 12 32 06.9
comp=Z,163nm,18.1s,MS4.5,baz=40,slow=38
WALA Waterton Lakes 90.57 8 *eP* **P 11 48 00.2 +0.3**
comp=Z,14nm,1.3s,mb5.1
NEW Newport 90.98 10 *eP* **P 11 48 02.5 +0.7**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 90.98 10 *eP* **P 11 48 02.5 +0.8**
comp=Z,3.9nm,0.8s,mb4.8
BSMT Bassoo Peak 91.67 8 *eP* **P 11 48 05.9 +0.9**
CHMT Chamberlain Mo 92.75 7 *eP* **P 11 48 10.4 +0.4**
HRY Holter Researc 93.09 6 *eP* **P 11 48 12.4 +0.9**
BOZ Bozeman (W) 94.16 6 *eP* **P 11 48 16.1 -0.4**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
BOZ Bozeman (W) 94.16 6 *eP* **P 11 48 16.1 -0.4**
comp=Z,3.4nm,0.8s,mb4.8
ECSD EROS,Sioux Fal 96.31 356 *eP* **P 11 48 26.6 +0.3**
CPUP Villa Florida 140.29 276 PKP PKPdf 11 54 24.4 -2.2
comp=Z,3.3nm,0.7s,baz=45,slow=2.1,SNR=8.6
CPUP Villa Florida 140.29 276 PKIKP PKPdf 11 54 24.4 -2.2
CPUP pmax pmax
comp=Z,3.0nm,0.7s
CPUP Villa Florida 140.29 276 *e*PKPdf PKPdf 11 54 27.3 +0.7
LVC Limon Verde 146.75 292 *e*PKPab PKPab 11 54 42.1 +1.2

IDC 08 11:36:13.3±3.1, 533S×14920E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/11, mbtmp3.7/3, ML2.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/13, Error ellipse: s-maj=128.1km s-min=35.5km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.53**	**206**	Pn	Pn	11 37 23.3	+0.2
	2.9nm,0.3s,baz=37,slow=10,SNR=9.8						
PMG				Sn	Sn	11 38 17.3	+0.9
	8.3nm,0.3s,baz=99,slow=19,SNR=5.7						
PMG				LR	LR	11 39 08.0	
	comp=Z,145nm,21.4s,baz=34,slow=39						
ASAR	**Alice Springs**	**23.44**	**217**	P	P	11 41 24.2	-0.1
	0.6nm,0.6s,baz=54,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**27.35**	**194**	P	P	11 42 00.5	+0.5
	2.0nm,0.9s,baz=24,slow=10.0,SNR=3.1						
STKA				LR	LR	11 51 59.6	
	comp=Z,107nm,21.8s,baz=25,slow=35						
TORD	**Torodi Ar. Bea**	**147.03**	**286**	PKPbc	PKPbc	11 55 58.5	+0.5
	2.0nm,0.6s,baz=60,slow=2.5,SNR=9.6						

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*BER **08** 12:23:48.4±1.7, 5754N×564W, h9km±4km, ML2.6, ML2.9(BGS)*
*NEIC **08** 12:23:48.1, 5753N×564W, h8km, ML2.9(BGS), After BGS.*
NEIC Felt [IV] at Shieldaig. Also felt at Achnasheen, Gairloch, Lochcarron, Loch Torridon and Stromeferry.
BGS 08 12:23:48.1±0.9, 5753N×564W, h8km±58km, ML2.9, 5C-7D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAC	**Achnashellach**	**0.19**	**99**	⇑*iP*	Pg	12 23 52.4	+0.4
KPL	**Plockton**	**0.19**	**182**	P	Pg	12 23 52.4	+0.3
KPL				S	Sg	12 23 55.2	+0.5
KPL				AML	AML	12 23 55.3	
	5μm,0.1s						
KPL				AML	AML	12 23 55.4	
	8μm,0.2s						
KPL	**Plockton**	**0.19**	**182**	⇓*iP*	Pg	12 23 52.4	+0.3
KPL				*e*S	Sg	12 23 55.2	+0.5
KPL				AML	AML	12 23 55.3	
	comp=N,5μm,0.1s						
KPL				AML	AML	12 23 55.4	
	comp=E,8μm,0.2s						
KPL	**Plockton**	**0.19**	**182**	⇓*iP*	Pg	12 23 52.4	+0.3
KPL				*e*S	Sg	12 23 55.2	+0.5
KPL				AML	AML	12 23 55.3	
	comp=N,5μm,0.1s						
KPL				AML	AML	12 23 55.4	
	comp=E,8μm,0.2s						
KPL	**Plockton**	**0.19**	**182**	⇓*iP*	Pg	12 23 52.4	+0.3
KPL				*e*S	Sg	12 23 55.2	+0.5
KPL				AML	AML	12 23 55.3	
	comp=N,5μm,0.1s						
KPL				AML	AML	12 23 55.4	
	comp=E,8μm,0.2s						
RRR	**Rubha Reidh**	**0.34**	**345**	*eP*	Pg	12 23 54.8	0.0
RRR				*e*S	Sg	12 23 59.4	+0.2
KSK	**Scoval**	**0.58**	**264**	⇑*iP*	Pg	12 23 59.4	+0.1
REB	**Eisghbrachaidh**	**0.62**	**18**	⇓*iP*	Pg	12 23 59.7	-0.4
KAR1	**Arisaig**	**0.62**	**189**	⇓*iP*	Pg	12 23 59.5	-0.6
RRH	**Rhenigidale**	**0.68**	**305**	⇑*iP*	Pg	12 24 00.6	-0.7
RSC	**Scourie**	**0.86**	**17**	⇓*iP*	Pg	12 24 03.7	-0.9
MVH1	**Achvaich**	**0.88**	**63**	*eP*	Pg	12 24 04.2	-0.8
RTO	**Tolsta**	**0.90**	**341**	⇑*iP*	Pg	12 24 04.5	-0.9
OTO	**Tongue**	**1.17**	**34**	*eP*	Pb	12 24 09.0	-1.6
MCD	**Coleburn Disti**	**1.29**	**87**	*eP*	Pn	12 24 10.5	-1.8
MCD				*e*Pg	Pg	12 24 11.8	-1.1
MCD				*e*S	Sb	12 24 27.8	-1.5
ORE	**Reay**	**1.43**	**44**	⇑*eP*	Pn	12 24 11.8	-2.5
ORE				*e*S	Sn	12 24 31.4	-1.8
ORE				AML	AML	12 24 33.6	
	comp=N,171nm,0.2s						
ORE				AML	AML	12 24 34.2	
	comp=E,171nm,0.2s						
ORE	**Reay**	**1.43**	**44**	P	Pn	12 24 11.8	-2.5
ORE				S	Sn	12 24 31.4	-1.8
MLA1	**Latheron**	**1.44**	**56**	*eP*	Pn	12 24 11.4	-3.1
MLA1				*e*Pg	Pg	12 24 13.8	-1.9
MME1	**Meikle Cairn**	**1.46**	**97**	*eP*	Pn	12 24 12.7	-2.0
MME1				*e*Pg	Pg	12 24 14.7	-1.5
EAB	**Aberfoyle**	**1.52**	**151**	*eP*	Pn	12 24 14.7	-0.9
OBR	**Brabster**	**1.71**	**49**	*eP*	Pn	12 24 15.3	-2.8
PGBU	**Glenifferbraes**	**1.84**	**159**	*eP*	Pn	12 24 19.3	-0.6
PGBU				AML	AML	12 24 47.7	
	comp=E,86nm,0.4s						
PGBU				AML	AML	12 24 52.1	
	comp=N,72nm,0.4s						
EDI	**Edinburgh**	**2.10**	**139**	*eP*	Pn	12 24 24.8	+1.2
EDI				AML	AML	12 24 56.9	
	comp=E,74nm,0.3s						
EDI				AML	AML	12 24 59.4	
	comp=N,54nm,0.3s						
GMK	**Mull of Kintyr**	**2.19**	**179**	*eP*	Pn	12 24 22.7	-2.0
ESK	**Eskdalemuir**	**2.60**	**148**	*e*Pn	Pn	12 24 29.1	-1.2
ESK				*e*Sn	Sn	12 24 57.3	-4.8
GAL1	**Galloway**	**2.72**	**169**	*eP*	Pn	12 24 30.6	-1.4
GAL1				AML	AML	12 25 15.0	
	comp=N,48nm,0.6s						
GAL1				AML	AML	12 25 15.7	
	comp=E,91nm,0.3s						
BHH	**Howats Hill**	**2.79**	**150**	*eP*	Pn	12 24 32.1	-0.9
BHH				AML	AML	12 25 15.2	

comp=N,19nm,0.4s
BHH AML AML 12 25 15.9
comp=E,28nm,0.4s
BHH Howats Hill 2.79 150 *e*P Pn 12 24 32.1 -0.9
BHH AML AML 12 25 15.2
comp=N,19nm,0.4s
BHH AML AML 12 25 15.9
comp=E,28nm,0.4s
KMY Karmoy 5.97 69 *e*S Sn 12 26 18.9 -6.5
KMY AML AML 12 26 19.9
comp=N,1.8nm,0.3s

NIED ***08*** *12:52:00, 2340N×12290E, h26km, Mw4.2 Best double couple: M0=2.10000×10^15 NP1:φ=161.00000°, δ=89.00000°, λ=4.00000°. NP2:φ=71.00000°, δ=86.00000°, λ=179.00000°.*
IDC ***08*** *12:52:08.7±1.4, 2351N×12309E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.9/20, mbtmp4.0/6, ML4.0/2, MS3.3/2, Ms1 3.4/2, ms1mx2.4/20, Error ellipse: s-maj=33.1km s-min=27.0km az=56.0*
ISCJB ***08*** *12:52:12.6±0.7, 2332N±005×12300E±007, h54km±8km, mb3.9/5, MS3.4/1, Error ellipse: s-maj=11.6km s-min=6.3km az=74.0*
JMA ***08*** *12:52:12.6±0.2, 2337N×12291E, h61km, M4.4*
MAN ***08*** *12:53:28.9, 1770N×12139E, h5km, MS4.2*
ISC 08 12:52:13.8±0.7, 2338N±005×12295E±007, h39km±10km, n26, σ0§96/36, mb3.9/5, MS3.4/1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.03**	**49**	P	**Pn**	**12 52 31.8**	**+0.1**
HATJ				*e*S	**Sn**	**12 52 45.6**	**+0.7**
YOJ	**Yonaguni jima**	**1.08**	**3**	P	**Pn**	**12 52 32.0**	**-0.4**
YOJ				S	**Sn**	**12 52 46.9**	**+0.8**
IRIF	**Iriomote-Funau**	**1.19**	**37**	P	**Pn**	**12 52 34.0**	**+0.1**
IRIF				*e*S	**Sn**	**12 52 49.6**	**+0.8**
JKRS	**Kuro-shima**	**1.29**	**48**	P	**Pn**	**12 52 35.7**	**+0.4**
JKRS				*e*S	**Sn**	**12 52 52.2**	**+0.9**
JIJ	**Ishigaki jima**	**1.47**	**48**	P	**Pn**	**12 52 37.5**	**-0.2**
JIJ				S	**Sn**	**12 52 55.5**	**-0.1**
JTJ	**Tarama**	**2.03**	**51**	P	**Pn**	**12 52 45.7**	**+0.2**
JTJ				S	**Sn**	**12 53 10.4**	**+0.8**
JMJ	**Miyako jima 2**	**2.57**	**56**	P	**Pn**	**12 52 53.3**	**+0.4**
JMJ				*e*S	**Sn**	**12 53 23.4**	**+0.5**
JOGS	**Gusukube**	**2.63**	**58**	P	**Pn**	**12 52 54.0**	**+0.3**
JOGS				*e*S	**Sn**	**12 53 25.3**	**+1.0**
JKE	**Kume jima 2**	**4.55**	**49**	P	**Pn**	**12 53 18.9**	**-1.2**
JKE				*e*S	**Sn**	**12 54 10.6**	**-1.2**
JAGN	**Aguni-jima**	**5.04**	**50**	P	**Pn**	**12 53 25.5**	**-1.2**
JAGN				*e*S	**Sn**	**12 54 22.3**	**-1.3**
CVP	**Callao Caves**	**5.75**	**191**	*e*P	**Pn**	**12 53 35.3**	**-1.2**
JIH	**Iheya**	**5.82**	**50**	P	**Pn**	**12 53 36.1**	**-1.4**
JOW	**Kunigami**	**5.92**	**53**	Pn	**Pn**	**12 53 33.5**	**-5.4**
	7.4nm,0.3s,baz=154,slow=29,SNR=7.4						
JOW				Sn	**Sn**	**12 54 37.9**	**-7.7**
	4.4nm,0.3s,baz=148,slow=30,SNR=2.1						
JOW	**Kunigami**	**5.92**	**53**	P	**Pn**	**12 53 34.5**	**-4.4**
BOLP	**Bolinao**	**7.53**	**203**	*e*P	**Pn**	**12 54 02.1**	**+1.2**
BALP	**Baler**	**7.71**	**190**	*e*P	**Pn**	**12 54 03.3**	**-0.1**
JAM	**Amami Oshima**	**7.81**	**49**	P	**Pn**	**12 54 01.7**	**-3.1**
JHJ	**Hachijo jima 2**	**17.70**	**53**	Pn	**Pn**	**12 56 18.9**	**+1.7**
	16nm,0.3s,baz=55,slow=19,SNR=3.4						
JHJ				LR	LR	13 01 46.1	
	comp=Z,108nm,21.5s,baz=290,slow=33						
MAT	**Matsushiro**	**18.59**	**42**	P	**Pn**	**12 56 28.2**	**+0.2**
MJAR	**Matsushiro Arr**	**18.59**	**42**	P	**Pn**	**12 56 27.3**	**-0.7**
	0.9nm,0.3s,baz=224,slow=9.9,SNR=15						
ASAJ	**Asahikawa**	**26.23**	**33**	P	**P**	**12 57 42.6**	**-2.3**
	2.6nm,0.5s,mb4.0,baz=252,slow=17,SNR=5.2						
MKAR	**Makanchi Array**	**40.04**	**316**	P	**P**	**12 59 45.3**	**+0.3**
	1.9nm,0.6s,mb4.0,baz=105,slow=10,SNR=23						
ZAL	**Zalesovo**	**41.81**	**327**	P	**P**	**12 59 59.0**	**-0.5**
	0.9nm,0.3s,mb3.9,baz=186,slow=19,SNR=3.1						
ASAR	**Alice Springs**	**47.96**	**166**	P	**P**	**13 00 50.0**	**+1.5**
	0.4nm,0.8s,mb3.5,baz=354,slow=14,SNR=5.1						
BVAR	**Borovoye Array**	**49.32**	**321**	P	**P**	**13 00 59.6**	**+0.7**
	0.4nm,0.3s,mb3.9,baz=110,slow=6.9,SNR=3.7						
NOA	**NORSAR Array B**	**79.69**	**333**	LR	LR	13 43 54.7	
	comp=Z,16nm,18.1s,MS3.4,baz=60,slow=39						

ISCJB ***08*** *13:29:03.8±0.5, 4238N±003×4585E±003, h10km, Error ellipse: s-maj=4.6km s-min=3.1km az=3.2*
MOS ***08*** *13:29:03.8±1.6, 4233N×4592E, h11km, mb3.8/17, Error ellipse: s-maj=14.0km s-min=9.1km az=45.0*
CSEM ***08*** *13:29:03.8, 4233N×4592E, h11km, mb3.8, After OBN*
TIF ***08*** *13:29:04.1, 4234N×4585E, h22km±2km*
ISC 08 13:29:04.1±0.6, 4235N±003×4588E±003, h10km, n17, σ1§30/30, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.77**	**62**	*i* PG	**Pg**	**13 29 19.0**	**+0.1**
UNCR				*i* S	**Sg**	**13 29 30.7**	**+1.7**
UNCR				pmax	pmax		
	comp=Z,36nm,0.2s						
UNCR	**Uncukul**	**0.77**	**62**	*i* Pg	**Pg**	**13 29 19.0**	**+0.1**
	comp=Z,36nm,0.2s						
UNCR				*i* Sg	**Sg**	**13 29 30.7**	**+1.7**
DBC	**Dubki**	**0.97**	**46**	*i* PG	**Pg**	**13 29 20.0**	**-2.8**
DBC				*i* S	**Sg**	**13 29 34.2**	**-1.2**
DGRG	**David-gareji**	**0.98**	**203**	S	**Sg**	**13 29 44.0**	**+8.4**
TBLG	**Delisi**	**1.05**	**234**	Pg	**Pg**	**13 29 23.9**	**-0.4**
TBLG				Sg	**Sg**	**13 29 37.3**	**-0.7**
SNJR	**Sundja**	**1.06**	**313**	*i* Pg	**Pg**	**13 29 25.7**	**+1.1**
SNJR				*i* Sg	**Sg**	**13 29 40.5**	**+2.1**
VLKR	**Vladikavkaz**	**1.12**	**309**	*e*Pg	**Pg**	**13 29 25.9**	**+0.2**
VLKR				*e*Sg	**Sg**	**13 29 40.8**	**+0.5**
LACR	**Lac**	**1.26**	**293**	*i* Pg	**Pg**	**13 29 25.3**	**-3.0**
URKR	**Urkarakh**	**1.32**	**98**	*e*Pg	**Pg**	**13 29 29.0**	**-0.4**
URKR				*e*Sg	**Sg**	**13 29 50.5**	**+4.0**
GOR	**Gori**	**1.36**	**255**	S	**Sb**	**13 29 46.8**	**-0.5**
BTKR	**Batakoyurt**	**1.42**	**317**	*i* Pg	**Pg**	**13 29 31.7**	**+0.4**
BTKR				*i* Sg	**Sg**	**13 29 50.8**	**+1.1**
ARNR	**Ardon**	**1.44**	**306**	*e*Pg	**Pg**	**13 29 30.4**	**-1.4**
ARNR				*i* Sg	**Sg**	**13 29 48.5**	**-2.1**
KORR	**Kora**	**1.52**	**299**	*i* Pg	**Pg**	**13 29 30.5**	**-2.8**
KMSR	**Komsomolskaya**	**1.55**	**312**	*e*Pg	**Pg**	**13 29 33.0**	**-0.8**
KMSR				*i* Sg	**Sg**	**13 29 53.0**	**-0.9**
ONI	**Oni**	**1.81**	**278**	P	**Pn**	**13 29 36.1**	**+0.8**
ONI				S	**Sn**	**13 29 59.8**	**+1.5**
PRTR	**Priterechnaya**	**1.82**	**321**	*e*Pn	**Pn**	**13 29 38.5**	**+3.0**
PRTR				*i* Sg	**Sg**	**13 30 02.6**	**-0.1**
AKH	**Akhalkalaki**	**2.01**	**243**	P	**Pn**	**13 29 38.8**	**+0.7**
AKH				S	**Sn**	**13 30 04.3**	**+1.0**

JMA 08 13:30:35.3±0.3, 3103N×14127E, h0km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.42**	**330**	*e*S	Sn	13 31 47.6	+1.3
JAG	**Ashikaga**	**5.59**	**345**	P	Pn	13 32 01.9	+2.2
JAG				*e*S	Sn	13 33 07.2	+2.6
JHO	**Hitachi**	**5.60**	**354**	P	Pn	13 32 01.9	+2.1
JHO				*e*S	Sn	13 33 05.4	+0.6
JFK	**Kawauchi**	**6.33**	**357**	P	Pn	13 32 11.1	+1.3
JFK				*e*S	Sn	13 33 20.9	-1.9

NEIC ***08*** *14:02:56.0, 3956S×17432E, h158km, MG3.9(WEL), After WEL.*
WEL 08 14:02:57.6±0.3, 3963S×17438E, h143km±2km, ML3.7/12, 1D, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.34**	**2**	PN	Pn	14 03 17.3	-0.1
NEZ	**North Egmont**	**0.42**	**328**	PN	Pn	14 03 17.8	+0.1
NEZ				SN	Sn	14 03 33.7	+0.8
NEZ	**North Egmont**	**0.42**	**328**	P	Pn	14 03 17.9	+0.2
NRZ	**Ngariki Road**	**0.45**	**310**	PN	Pn	14 03 17.6	-0.2
NRZ	**Ngariki Road**	**0.45**	**310**	P	Pn	14 03 17.4	-0.4
WAZ	**Wanganui**	**0.49**	**106**	PN	Pn	14 03 18.5	+0.5
WAZ				SN	Sn	14 03 33.8	+0.3
WAZ	**Wanganui**	**0.49**	**106**	P	Pn	14 03 18.7	+0.7
WAZ				S	Sn	14 03 35.3	+1.8
PKE	**Pukeiti**	**0.53**	**325**	PN	Pn	14 03 18.2	0.0
PKE	**Pukeiti**	**0.53**	**325**	P	Pn	14 03 17.9	-0.3
NWEZ	**Newall Road**	**0.53**	**312**	PN	Pn	14 03 18.0	-0.2
NWEZ	**Newall Road**	**0.53**	**312**	P	Pn	14 03 18.1	-0.1
VRZ	**Vera Road**	**0.58**	**31**	⇓PN	Pn	14 03 17.9	-0.6
VRZ				SN	Sn	14 03 33.9	-0.5
VRZ	**Vera Road**	**0.58**	**31**	P	Pn	14 03 17.9	-0.6
PKVZ	**Pokaka**	**0.82**	**66**	PN	Pn	14 03 19.9	-0.3
MTVZ	**Mangateitei**	**0.88**	**74**	PN	Pn	14 03 20.6	0.0
TRVZ	**Turoa**	**0.96**	**71**	PN	Pn	14 03 21.3	0.0
FWVZ	**Far West T-bar**	**0.98**	**68**	PN	Pn	14 03 21.4	-0.1
FWVZ	**Far West T-bar**	**0.98**	**68**	P	Pn	14 03 21.5	0.0
WNVZ	**Wahianoa**	**0.99**	**73**	PN	Pn	14 03 21.7	+0.2
WNVZ	**Wahianoa**	**0.99**	**73**	P	Pn	14 03 21.8	+0.2
TWVZ	**Taurewa**	**0.99**	**56**	PN	Pn	14 03 21.1	-0.4
TWVZ	**Taurewa**	**0.99**	**56**	P	Pn	14 03 21.3	-0.3
WPVZ	**Whakapapa**	**1.00**	**65**	PN	Pn	14 03 21.6	0.0
NGZ	**Ngauruhoe**	**1.05**	**65**	PN	Pn	14 03 21.9	-0.1
NGZ	**Ngauruhoe**	**1.05**	**65**	P	Pn	14 03 22.0	-0.1
WTVZ	**West Tongariro**	**1.07**	**62**	PN	Pn	14 03 22.1	-0.2
WTVZ				SN	Sn	14 03 41.5	+0.5
MOVZ	**Moawhango**	**1.09**	**79**	PN	Pn	14 03 22.0	-0.4
MOVZ				SN	Sn	14 03 40.4	-0.9
MOVZ	**Moawhango**	**1.09**	**79**	P	Pn	14 03 22.2	-0.2
KRVZ	**Karewarewa**	**1.11**	**62**	PN	Pn	14 03 22.7	0.0
HIZ	**Hauiti**	**1.17**	**19**	PN	Pn	14 03 22.2	-1.0
HIZ				SN	Sn	14 03 40.7	-2.1
HIZ	**Hauiti**	**1.17**	**19**	P	Pn	14 03 22.3	-0.9
HIZ				S	Sn	14 03 41.1	-1.7
DUWZ	**D'Urville Isla**	**1.23**	**196**	PN	Pn	14 03 23.6	-0.1
DUWZ				SN	Sn	14 03 43.0	-0.7
TSZ	**Takapari Road**	**1.29**	**110**	PN	Pn	14 03 24.7	+0.3
TSZ				SN	Sn	14 03 44.2	-0.7
TSZ	**Takapari Road**	**1.29**	**110**	*e*P	Pn	14 03 24.9	+0.5
KIW	**Kapiti Island**	**1.30**	**162**	PN	Pn	14 03 24.7	+0.2
KIW	**Kapiti Island**	**1.30**	**162**	P	Pn	14 03 24.9	+0.4
RATZ	**Rangitukua**	**1.32**	**55**	PN	Pn	14 03 24.8	+0.1
RATZ	**Rangitukua**	**1.32**	**55**	P	Pn	14 03 24.9	+0.2
MRZ	**Mangatainoka R**	**1.39**	**139**	PN	Pn	14 03 25.7	+0.3
MRZ				SN	Sn	14 03 45.5	-1.1
MRZ	**Mangatainoka R**	**1.39**	**139**	P	Pn	14 03 25.8	+0.4
CAW	**Cannon Point**	**1.57**	**161**	PN	Pn	14 03 27.5	+0.1
CAW	**Cannon Point**	**1.57**	**161**	P	Pn	14 03 27.6	+0.3
TCW	**Tory Channel**	**1.59**	**183**	PN	Pn	14 03 27.5	0.0
TCW				SN	Sn	14 03 48.2	-2.1
TCW	**Tory Channel**	**1.59**	**183**	P	Pn	14 03 27.7	+0.2
MRW	**Makara Radio**	**1.62**	**171**	PN	Pn	14 03 28.1	+0.2
MRW				SN	Sn	14 03 49.1	-1.9
MRW	**Makara Radio**	**1.62**	**171**	P	Pn	14 03 28.1	+0.2
TIWZ	**Tintock**	**1.63**	**135**	PN	Pn	14 03 28.1	+0.1
WEL	**Wellington**	**1.68**	**170**	PN	Pn	14 03 28.6	0.0
WEL	**Wellington**	**1.68**	**170**	P	Pn	14 03 28.6	0.0
SNZO	**South Karori**	**1.70**	**172**	PN	Pn	14 03 28.6	-0.2
SNZO	**South Karori**	**1.70**	**172**	P	Pn	14 03 28.8	0.0
BKZ	**Black Stump Fm**	**1.70**	**75**	PN	Pn	14 03 28.1	-0.7
BKZ	**Black Stump Fm**	**1.70**	**75**	*e*P	Pn	14 03 28.3	-0.5
MTW	**Mount Morrison**	**1.75**	**151**	PN	Pn	14 03 29.3	-0.1
MTW	**Mount Morrison**	**1.75**	**151**	P	Pn	14 03 29.4	0.0
NNZ	**Nelson**	**1.76**	**205**	PN	Pn	14 03 28.9	-0.6
NNZ				SN	Sn	14 03 52.1	-1.8
NNZ	**Nelson**	**1.76**	**205**	P	Pn	14 03 29.0	-0.5
BHW	**Baring Head**	**1.82**	**168**	PN	Pn	14 03 29.9	-0.2
BHW	**Baring Head**	**1.82**	**168**	P	Pn	14 03 30.1	0.0
TUWZ	**Tuamarina**	**1.83**	**190**	PN	Pn	14 03 29.6	-0.7
QRZ	**Quartz Range**	**1.85**	**229**	PN	Pn	14 03 29.3	-1.2
QRZ	**Quartz Range**	**1.85**	**229**	P	Pn	14 03 29.5	-1.0
MSWZ	**Moikau Station**	**1.91**	**160**	PN	Pn	14 03 31.0	-0.2
MSWZ				SN	Sn	14 03 54.4	-2.4
MSWZ	**Moikau Station**	**1.91**	**160**	P	Pn	14 03 31.1	0.0
PXZ	**Pawanui**	**1.96**	**103**	PN	Pn	14 03 31.3	-0.2
TRWZ	**Traveller**	**2.03**	**151**	SN	Sn	14 03 57.4	-2.1
BSWZ	**Blackbirch Sta**	**2.12**	**190**	PN	Pn	14 03 33.5	-0.1
BSWZ	**Blackbirch Sta**	**2.12**	**190**	P	Pn	14 03 33.7	0.0
THZ	**Tophouse**	**2.41**	**207**	PN	Pn	14 03 36.0	-1.2
THZ	**Tophouse**	**2.41**	**207**	P	Pn	14 03 36.2	-1.0
KHZ	**Kahutara**	**2.86**	**193**	PN	Pn	14 03 41.9	-1.0
KHZ				SN	Sn	14 04 13.5	-4.2
KHZ	**Kahutara**	**2.86**	**193**	P	Pn	14 03 42.0	-0.8
DSZ	**Denniston Nort**	**2.88**	**222**	PN	Pn	14 03 41.5	-1.7
DSZ				SN	Sn	14 04 15.1	-3.2
DSZ	**Denniston Nort**	**2.88**	**222**	*e*P	Pn	14 03 41.7	-1.5
LTZ	**Lake Taylor**	**3.53**	**206**	*e*P	Pn	14 03 49.4	-2.1
CRLZ	**Canterbury Las**	**4.16**	**198**	PN	Pn	14 03 56.0	-3.7
CRLZ	**Canterbury Las**	**4.16**	**198**	*e*P	Pn	14 03 56.4	-3.3
MQZ	**McQueen's Vall**	**4.28**	**197**	PN	Pn	14 03 57.7	-3.6
MQZ	**McQueen's Vall**	**4.28**	**197**	P	Pn	14 03 57.9	-3.4
WVZ	**Waitaha Valley**	**4.40**	**217**	SN	Sn	14 04 48.1	-5.7
ODZ	**Otahua Downs**	**6.08**	**206**	PN	Pn	14 04 22.0	-3.2
ODZ	**Otahua Downs**	**6.08**	**206**	*e*P	Pn	14 04 22.0	-3.2

ISCJB ***08*** *14:15:23.6±0.3, 3696N±002×568W±002, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=40.4*
LDG ***08*** *14:15:24.6±0.2, 3678N×575W, h2km, Md3.7/1, Ml3.4/2, Error ellipse: s-maj=3.9km s-min=2.1km az=19.0*
MDD ***08*** *14:15:24.2±0.2, 3674N×581W, h10km, mbLg3.0/21, Error ellipse: s-maj=2.9km s-min=1.5km az=46.0, PRXIMO I BORNOS*
MDD EMS: III ARCOS DE LA FRONTERA.
NEIC ***08*** *14:15:24.3, 3676N×580W, h10km, MN3.1(MDD), After MDD.*
NEIC Felt [III] at Arcos de la Frontera, Spain.
CSEM ***08*** *14:15:25.0±0.1, 3680N×575W, h10km, ML3.3/12, Error ellipse: s-maj=1.4km s-min=1.1km az=176.0*
INMG ***08*** *14:15:25.8±1.3, 3682N×577W, h18km±2km, ML3.0, Error ellipse: s-maj=2.7km s-min=1.6km az=16.0*
SFS ***08*** *14:15:25.0, 3676N×580W, h10km, ML3.0*
CNRM ***08*** *14:15:27.3, 3676N×595W, h30km, MD3.5*
ISC 08 14:15:24.4±0.3, 3687N±002×570W±002, h11km±2km, n111, σ1§02/198, 1C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.13**	**269**	⇓Pg	**Pg**	**14 15 27.0**	**-0.5**
	274nm,0.2s,SNR=18						
ESPR				Lg		14 15 28.7	
	9μm,0.3s,SNR=7.9						
ESPR	**Espera**	**0.13**	**269**	Pg	**Pg**	**14 15 27.1**	**-0.4**
ESPR				Lg		14 15 31.9	
ESPR	**Espera**	**0.13**	**269**	Pg	**Pg**	**14 15 27.0**	**-0.5**
	274nm,0.2s,SNR=18						
LIJA	**Lijar**	**0.24**	**81**	Pg	**Pg**	**14 15 30.4**	**+1.1**
LIJA				Lg		14 15 37.7	
LIJA	**Lijar**	**0.24**	**81**	*e*P	**Pg**	**14 15 30.5**	**+1.1**
LIJA				*e*S	**Sg**	**14 15 37.7**	**+5.0**
SCRT	**Cerro San Cris**	**0.45**	**239**	*i* P	**Pg**	**14 15 33.4**	**+0.2**
SCRT				*e*S	**Sg**	**14 15 44.0**	**+4.8**
EJIF	**Jimena Fronter**	**0.46**	**156**	⇓Pg	**Pg**	**14 15 31.4**	**-1.9**
	43nm,0.4s,SNR=18						
EJIF				Lg		14 15 37.6	
	189nm,0.3s,SNR=5.0						
EJIF	**Jimena Fronter**	**0.46**	**156**	⇓Pg	**Pg**	**14 15 31.4**	**-1.9**
EJIF				Pg	**Pg**	**14 15 31.7**	**-1.7**
EJIF				Lg		14 15 37.6	
EJIF				Lg		14 15 38.0	
EJIF	**Jimena Fronter**	**0.46**	**156**	Pg	**Pg**	**14 15 31.7**	**-1.7**
EJIF				Lg		14 15 37.6	
	189nm,0.3s,SNR=5.0						
MOMI	**Momias**	**0.54**	**182**	*e*P	**Pg**	**14 15 34.5**	**-0.4**
MOMI				*e*S	**Sg**	**14 15 46.8**	**+4.7**
REAL	**Reales**	**0.55**	**134**	⇓Pg	**Pg**	**14 15 35.1**	**-0.1**
REAL	**Reales**	**0.55**	**134**	*i* P	**Pg**	**14 15 35.1**	**-0.1**
SFS	**San Fernando**	**0.57**	**225**	*e*Pg	**Pg**	**14 15 35.5**	**-0.1**
SFS	**San Fernando**	**0.57**	**225**	*e*Pg	**Pg**	**14 15 35.5**	**-0.1**
SFS	**San Fernando**	**0.57**	**225**	*e*P	**Pg**	**14 15 36.0**	**+0.4**
SFS				*e*S	**Sg**	**14 15 47.0**	**+3.9**
CNIL	**Conil**	**0.58**	**210**	*i* P	**Pg**	**14 15 36.0**	**+0.4**
CNIL				*e*S	**Sg**	**14 15 48.4**	**+5.2**
EMIJ	**Mijas**	**0.80**	**112**	Pg	**Pg**	**14 15 39.0**	**-0.9**
	45nm,0.3s,SNR=63						
EMIJ				Lg		14 15 52.5	
	635nm,0.4s,SNR=17						
EMIJ	**Mijas**	**0.80**	**112**	Pg	**Pg**	**14 15 39.0**	**-0.9**
EMIJ				Pg	**Pg**	**14 15 40.1**	**+0.2**
EMIJ				Lg		14 15 52.5	
EMIJ	**Mijas**	**0.80**	**112**	Pg	**Pg**	**14 15 40.1**	**+0.2**
MDAL	**Dalia**	**0.98**	**170**	*i* P	**Pg**	**14 15 43.5**	**+0.1**
MDAL				*i* S	**Sg**	**14 15 55.0**	**-1.2**
EMAL	**Malaga-Limoner**	**1.02**	**96**	Pg	**Pg**	**14 15 43.7**	**-0.4**
	27nm,0.3s,SNR=7.9						
EMAL				Lg		14 16 00.4	
	94nm,0.4s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.02**	**96**	Pg	**Pg**	**14 15 43.7**	**-0.4**
EMAL				Lg		14 16 00.3	
MAL	**Malaga**	**1.04**	**97**	*i* P	**Pb**	**14 15 45.5**	**+1.1**
EMIN	**Mina Concepcio**	**1.19**	**319**	Pg	**Pg**	**14 15 46.3**	**-0.8**
	9.7nm,0.2s,SNR=139						
EMIN				Lg		14 16 04.1	
	60nm,0.2s,SNR=6.1						
EMIN	**Mina Concepcio**	**1.19**	**319**	Pg	**Pg**	**14 15 46.3**	**-0.9**
	9.7nm,0.2s,SNR=139						
ELOJ	**Sierra Loja**	**1.27**	**77**	Pg	**Pg**	**14 15 49.5**	**+0.7**
	22nm,0.2s,SNR=14						
ELOJ				Lg		14 16 07.6	
	67nm,0.4s,SNR=5.0						
ELOJ	**Sierra Loja**	**1.27**	**77**	Pg	**Pg**	**14 15 49.5**	**+0.7**
ELOJ				Lg		14 16 07.6	
ELOJ				Lg		14 16 08.0	
ERIP	**Rio Piedras**	**1.34**	**292**	⇑Pg	**Pg**	**14 15 48.0**	**-2.2**
	SNR=18						
ERIP				Lg		14 16 06.7	
	185nm,0.2s,SNR=7.9						
TSY	**Tnine Yamani**	**1.51**	**188**	*e*P	**Pn**	**14 15 49.5**	**-1.8**
TSY				*e*S	**Sn**	**14 16 06.0**	**-5.0**
ERON	**Agron**	**1.52**	**84**	Pg	**Pg**	**14 15 54.2**	**+0.5**
	7.2nm,0.2s,SNR=6.7						
ERON				Lg		14 16 18.9	
	56nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**1.57**	**295**	Pn	**Pn**	**14 15 51.2**	**-1.0**
	2.6nm,0.1s,SNR=7.9						
EGRO				Pg	**Pg**	**14 15 53.2**	**-1.3**
	25nm,0.2s,SNR=43						
EGRO				Lg		14 16 14.5	
	141nm,0.3s,SNR=5.0						
EGRO	**El Granado**	**1.57**	**295**	Pn	**Pn**	**14 15 51.2**	**-1.0**
EGRO				Pn	**Pn**	**14 15 51.4**	**-0.8**
EGRO				Pg	**Pg**	**14 15 53.2**	**-1.3**
EGRO				Pg	**Pg**	**14 15 53.4**	**-1.2**
EGRO				Lg		14 16 14.5	
EGRO	**El Granado**	**1.57**	**295**	Pn	**Pn**	**14 15 51.4**	**-0.8**
EGRO	**El Granado**	**1.57**	**295**	Pg	**Pg**	**14 15 53.2**	**-1.4**
	25nm,0.2s,SNR=43						
EADA	**Adamuz**	**1.57**	**34**	Pn	**Pn**	**14 15 52.5**	**+0.3**
	3.8nm,0.4s,SNR=7.9						
EADA				Pg	**Pg**	**14 15 55.0**	**+0.5**
	44nm,0.3s,SNR=41						
EADA				Lg		14 16 17.7	
	119nm,0.5s,SNR=7.8						
EADA	**Adamuz**	**1.57**	**34**	Pn	**Pn**	**14 15 52.4**	**+0.2**
EADA				Pg	**Pg**	**14 15 55.0**	**+0.5**
EADA				Lg		14 16 17.7	
EADA	**Adamuz**	**1.57**	**34**	Pn	**Pn**	**14 15 52.5**	**+0.3**
	3.8nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**1.57**	**34**	Pg	**Pg**	**14 15 55.0**	**+0.4**
	44nm,0.3s,SNR=41						
EGUA	**Guajares**	**1.71**	**91**	Pn	**Pn**	**14 15 54.7**	**+0.6**
	0.8nm,0.3s,SNR=4.0						
EGUA				Pg	**Pg**	**14 15 57.1**	**-0.1**
	2.8nm,0.3s,SNR=7.9						
EGUA				Lg		14 16 20.6	
	7.2nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.75**	**76**	Pn	**Pn**	**14 15 55.5**	**+0.8**
	5.8nm,0.4s,SNR=7.9						
ECOG				Pg	**Pg**	**14 15 58.6**	**+0.6**
	15nm,0.3s,SNR=7.9						
ECOG				Lg		14 16 24.3	
	54nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**1.84**	**79**	Pn	**Pn**	**14 15 56.0**	**+0.1**
	1.1nm,0.2s,SNR=7.9						
EQUE				Pg	**Pg**	**14 16 00.0**	**+0.4**
	20nm,0.4s,SNR=7.9						
EQUE				Lg		14 16 26.1	
	67nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**2.00**	**49**	Pn	**Pn**	**14 15 58.5**	**+0.5**
	3.3nm,0.2s,SNR=7.9						
EBAN				Pg	**Pg**	**14 16 02.7**	**0.0**
	8.6nm,0.2s,SNR=7.9						
EBAN				Sn	**Sn**	**14 16 25.0**	**+2.1**
	10nm,0.2s,SNR=7.9						
EBAN				Lg		14 16 32.1	
	19nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**2.00**	**49**	Pg	**Pg**	**14 16 02.7**	**0.0**
	8.6nm,0.2s,SNR=7.9						
EBAN				Sn	**Sn**	**14 16 25.0**	**+2.1**
	10nm,0.2s

21nm,0.4s,baz=206,slow=28,SNR=7.9
ESDC Sonseca Array 3.11 25 Pn **Pn 14 16 14.6 +1.2**
9.0nm,0.4s,SNR=12
ESDC Sonseca Array 3.11 25 Pg **Pg 14 16 23.3 -0.8**
2.1nm,0.2s,SNR=7.9
ESDC Sn **Sn 14 16 50.7 +0.1**
4.1nm,0.2s,SNR=7.9
PCBR Castelo Branco 3.28 335 *e*Pn **Pn 14 16 15.5 -0.1**
PCBR *e*Sn **Sn 14 16 53.8 -0.8**
PCBR *e*Sg **Sg 14 17 08.8 -0.9**
PCBR
38nm,0.5s
PCBR Castelo Branco 3.28 335 *e*Pn **Pn 14 16 15.5 -0.1**
PCBR *e*Sn **Sn 14 16 53.8 -0.8**
PCBR *e*Sg **Sg 14 17 08.8 -0.9**
38nm,0.5s
PLOU Loures 3.39 307 *e*Sg **Sg 14 17 13.9 +0.5**
PTOM Tomar 3.48 323 *e*Pn **Pn 14 16 18.6 +0.2**
PTOM *e*Sn **Sn 14 16 59.3 -0.2**
PTOM *e*Sg **Sg 14 17 16.8 +0.8**
PTOM
46nm,0.5s
PTOM Tomar 3.48 323 *e*Pn **Pn 14 16 18.6 +0.2**
PTOM *e*Sn **Sn 14 16 59.3 -0.2**
PTOM *e*Sg **Sg 14 17 16.8 +0.8**
46nm,0.5s
EMUR La Murta 3.68 73 Lg 14 17 21.6
394nm,0.4s,SNR=7.9
ETOB Tobarra 3.74 60 Pn **Pn 14 16 22.6 +0.6**
3.1nm,0.2s,SNR=7.6
ETOB Sn **Sn 14 17 07.5 +1.6**
4.2nm,0.3s,SNR=7.9
ETOB Lg 14 17 27.6
112nm,1.3s,SNR=5.0
ETOB Tobarra 3.74 60 Pn **Pn 14 16 22.6 +0.6**
ETOB Sn **Sn 14 17 05.5 -0.4**
ETOB Sn **Sn 14 17 07.5 +1.6**
ETOB Lg 14 17 27.6
ETOB Tobarra 3.74 60 Pn **Pn 14 16 22.6 +0.7**
3.1nm,0.2s,SNR=7.6
ETOB Sn **Sn 14 17 05.5 -0.4**
MTE Manteigas 3.81 338 *e*Pn **Pn 14 16 23.8 +0.9**
MTE *e*Sn **Sn 14 17 07.7 0.0**
MTE
48nm,0.5s
CZD Col de Zad 3.87 172 Pn **Pn 14 16 22.0 -1.7**
CZD Sn **Sn 14 17 04.0 -5.1**
CZD Col de Zad 3.87 172 *e*P **Pn 14 16 22.0 -1.7**
GUD Guadarrama 3.96 17 Pn **Pn 14 16 26.3 +1.4**
2.8nm,0.2s,SNR=6.3
GUD Pg **Pg 14 16 39.0 -1.1**
3.9nm,0.3s,SNR=7.9
GUD Sn **Sn 14 17 11.7 +0.4**
8.0nm,0.5s,SNR=7.9
GUD Lg 14 17 30.7
19nm,0.4s,SNR=7.4
ECHE Chera 4.61 52 Pn **Pn 14 16 33.8 -0.2**
1.5nm,0.2s,SNR=7.9
ECHE Sn **Sn 14 17 23.9 -3.5**
0.8nm,0.3s,SNR=4.0
ECHE Lg 14 17 54.5
9.8nm,0.7s,SNR=7.9
ECHE Chera 4.61 52 Pn **Pn 14 16 33.8 -0.1**
1.5nm,0.2s,SNR=7.9
ECHE Sn **Sn 14 17 23.9 -3.5**
0.8nm,0.3s,SNR=4.0
EBEN Beniarda 4.71 65 Pn **Pn 14 16 35.9 +0.6**
2.4nm,0.4s,SNR=7.9
EBEN Sn **Sn 14 17 29.0 -0.8**
7.0nm,0.7s,SNR=7.9
EBEN Beniarda 4.71 65 Pn **Pn 14 16 35.9 +0.6**
2.4nm,0.4s,SNR=7.9
EBEN Sn **Sn 14 17 29.0 -0.8**
7.0nm,0.7s,SNR=7.9
ETOR Torete 4.86 35 Pn **Pn 14 16 38.5 +1.1**
6.2nm,0.4s,SNR=19
ETOR Sn **Sn 14 17 32.4 -1.2**
2.0nm,0.4s,SNR=7.9
ETOR Lg 14 18 02.7
5.4nm,0.5s,SNR=5.8
ETOR Torete 4.86 35 Pn **Pn 14 16 38.5 +1.1**
6.2nm,0.4s,SNR=19
ETOR Sn **Sn 14 17 32.4 -1.3**
2.0nm,0.4s,SNR=7.9
PBRG Braganca 4.99 351 *e*Pn **Pn 14 16 39.7 +0.5**
PBRG *e*Sn **Sn 14 17 36.0 -0.9**
PBRG *e*Sg **Sg 14 18 01.2 -3.5**
PBRG
17nm,0.7s
PBRG Braganca 4.99 351 Pn **Pn 14 16 39.7 +0.5**
PBRG Sn **Sn 14 17 36.0 -0.9**
PBRG Lg 14 18 01.2
8.6nm,0.7s
ECAL Calabor 5.13 351 Pn **Pn 14 16 42.4 +1.4**
1.5nm,0.3s,SNR=7.9
ECAL Sn **Sn 14 17 38.3 -1.9**
11nm,0.4s,SNR=7.9
ECAL Lg 14 18 10.9
38nm,0.5s,SNR=7.9
ECAL Calabor 5.13 351 Pn **Pn 14 16 42.4 +1.3**
1.5nm,0.3s,SNR=7.9
ECAL Sn **Sn 14 17 38.3 -1.9**
11nm,0.4s,SNR=7.9
ELOB Lobios 5.32 341 Pn **Pn 14 16 43.6 0.0**
1.5nm,0.3s,SNR=7.9
ELOB Sn **Sn 14 17 41.8 -3.0**
1.6nm,0.2s,SNR=7.9
ELOB Lg 14 18 15.4
33nm,0.8s,SNR=7.9
ELOB Lobios 5.32 341 Pn **Pn 14 16 43.6 0.0**
ELOB Sn **Sn 14 17 41.8 -3.0**
ELOB Lg 14 18 14.5
ELOB Lg 14 18 15.4
ELOB Lobios 5.32 341 Pn **Pn 14 16 43.7 +0.1**
1.5nm,0.3s,SNR=7.9
ELOB Sn **Sn 14 17 41.8 -3.0**
1.6nm,0.2s,SNR=7.9
EMOS Mosqueruela 5.38 48 Pn **Pn 14 16 44.5 0.0**
3.4nm,0.5s,SNR=7.9
EMOS Lg 14 18 19.8
4.2nm,0.5s,SNR=7.9
EMOS Mosqueruela 5.38 48 Pn **Pn 14 16 44.5 0.0**
EMOS Sn **Sn 14 17 45.4 -1.0**
EMOS Lg 14 18 19.8
EMOS Mosqueruela 5.38 48 Pn **Pn 14 16 44.5 0.0**
3.4nm,0.5s,SNR=7.9
EMOS Sn **Sn 14 17 45.4 -1.0**
EARI Arriondas 6.43 3 Pn **Pn 14 17 00.1 +1.0**
5.3nm,0.8s,SNR=7.9
EARI Lg 14 18 52.6
2.3nm,0.4s,SNR=7.9
EARI Arriondas 6.43 3 Pn **Pn 14 17 00.1 +1.0**
EARI Sn **Sn 14 18 12.1 -0.4**
EARI Lg 14 18 52.6
EARI Arriondas 6.43 3 Pn **Pn 14 17 00.1 +1.1**
EARI Sn **Sn 14 18 12.1 -0.3**
EALK Alkurruntz 7.11 26 Pn **Pn 14 17 09.5 +1.2**
7.3nm,0.4s,SNR=9.0
EALK Sn **Sn 14 18 25.8 -3.2**
6.1nm,0.4s,SNR=4.0
EALK Alkurruntz 7.11 26 Pn **Pn 14 17 09.5 +1.2**
EALK Sn **Sn 14 18 25.8 -3.2**
EALK Sn **Sn 14 18 28.6 -0.5**
SJPF Ste Jean 7.12 27 *e*Pn **Pn 14 17 09.6 +1.2**
SJPF *e*Sg **Sg 14 19 10.1 -2.7**
2.5nm,0.4s
SJPF Ste Jean 7.12 27 *e*Pn **Pn 14 17 09.6 +1.2**
SJPF *e*Sg **Sg 14 19 10.1 -2.7**
1.2nm,0.4s
ETSF Etsaut 7.20 32 *e*Pn **Pn 14 17 10.5 +1.0**
EBIE Bielsa 7.34 36 ⇓Pn **Pn 14 17 13.2 +1.7**
12nm,0.4s,SNR=18
EBIE Bielsa 7.34 36 Pn **Pn 14 17 13.2 +1.7**
EBIE Sn **Sn 14 18 33.2 -1.6**
EBIE Bielsa 7.34 36 Pn **Pn 14 17 13.2 +1.7**
EBIE Sn **Sn 14 18 33.2 -1.6**
EPF Esparros 7.70 35 *e*Pn **Pn 14 17 17.4 +1.0**
CAF Calviac 9.96 34 *e*Pn **Pn 14 17 47.7 +0.3**
QUIF Quistinic 11.20 9 *e*Pn **Pn 14 18 03.2 -1.1**
ROSF Rostrenen 11.60 8 *e*Pn **Pn 14 18 09.3 -0.5**

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*ISCJB **08** 14:18:33.3±3.3, 1741S±006×1673E±0.1, h18km±25km, mb4.4/13, MS3.3/2, Error ellipse: s-maj=18.5km s-min=8.6km az=142.0*

*IDC **08** 14:18:35.3±2.5, 1754S×16706E, h0km, mb4.2/5, mb1 4.3/7, mb1mx4.2/13, mbtmp4.3/7, ML4.5/2, MS3.2/4, Ms1 3.2/4, ms1mx3.0/16, Error ellipse: s-maj=52.2km s-min=23.4km az=66.0*

*NEIC **08** 14:18:37.0±1.9, 1746S×16739E, h38km±17km, mb4.7/9, Error ellipse: s-maj=21.1km s-min=13.9km az=60.0*

ISC 08 14:18:36.7±3.4, 1743S±006×1674E±01, h31km±26km, n25, σ1§26/29, mb4.4/13, MS3.3/2, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.83**	**107**	⇑	*i*	P	**Pn**	**14 18 41.0**	**-11**
DZM	**Mont Dzumac**	**4.71**	**191**		*e*	P	**Pn**	**14 19 45.2**	**-0.4**
DZM					*e*	S	**Sn**	**14 20 40.0**	**+0.9**
DZM	**Mont Dzumac**	**4.71**	**191**	Pn			**Pn**	**14 19 45.1**	**-0.5**
	8.9nm,0.3s,baz=25,slow=17,SNR=68								
DZM				Sn			**Sn**	**14 20 40.2**	**+1.0**
	4.8nm,0.3s,baz=136,slow=22,SNR=4.2								
DZM				LR			LR	14 20 53.6	
	comp=Z,119nm,19.4s,baz=22,slow=30								
NOUC	**Port Laguerre**	**4.77**	**192**		*e*	P	**Pn**	**14 19 46.1**	**-0.2**
HNR	**Honiara**	**10.76**	**317**	Pn			**Pn**	**14 21 09.7**	**+1.1**
	8.9nm,0.3s,baz=252,slow=0.4,SNR=11								
HNR				Sn			**Sn**	**14 23 09.6**	**+1.8**
	2.0nm,0.3s,baz=88,slow=22,SNR=4.1								
HNR				LR			LR	14 24 47.3	
	comp=Z,130nm,20.2s,baz=180,slow=35								
HNR	**Honiara**	**10.76**	**317**	*e*Pn			**Pn**	**14 21 08.2**	**-0.3**
HNR					*e*Sn		**Sn**	**14 23 06.1**	**-1.7**
HNR				Sn			**Sn**	**14 23 09.6**	**+1.8**
RAO	**Raoul Island**	**17.87**	**134**	Pn			**Pn**	**14 22 43.4**	**+0.4**
CTAO	**Charters Tower**	**20.20**	**259**	P			**P**	**14 23 09.4**	**+0.5**
	12nm,1.0s								
URZ	**Urewera**	**22.43**	**160**	LR			LR	14 30 53.2	
	comp=Z,133nm,20.3s,MS3.4,baz=44,slow=33								
STKA	**Stephens Creek**	**27.43**	**234**	P			**P**	**14 24 18.4**	**-1.2**
	3.6nm,0.9s,mb3.9,baz=82,slow=9.0,SNR=3.9								
STKA				LR			LR	14 33 24.9	
	comp=Z,85nm,20.7s,MS3.3,baz=190,slow=33								
WRAB	**Tennant Creek**	**31.39**	**260**	*e*P			**P**	**14 24 54.7**	**-0.1**
	12nm,1.1s,mb4.7								
ASAR	**Alice Springs**	**31.93**	**253**	P			**P**	**14 25 00.2**	**+0.7**
	6.4nm,0.6s,mb4.6,baz=79,slow=8.6,SNR=131								
FITZ	**Fitzroy Crossi**	**39.72**	**262**	P			**P**	**14 26 07.9**	**+1.7**
	2.4nm,0.7s,mb4.1,baz=100,slow=13,SNR=3.7								
MBWA	**Marble Bar**	**45.02**	**257**	P			**P**	**14 26 47.1**	**-2.3**
	11nm,1.0s,mb4.6								
NWAO	**Narrogin (SRO)**	**47.52**	**241**	P			**P**	**14 27 07.5**	**-1.5**
	22nm,1.3s,mb5.0								
KSM	**Kuching**	**59.28**	**282**	P			**P**	**14 28 34.9**	**-0.4**
VNDA	**Vanda**	**60.18**	**181**	P			**P**	**14 28 44.4**	**+2.8**
	0.5nm,0.8s,mb3.6,baz=5.8,slow=9.0,SNR=2.9								
MAJO	**Matsushiro**	**60.35**	**333**	P			**P**	**14 28 40.3**	**-2.4**
	9.7nm,1.1s,mb4.8								
SBA	**Scott Base**	**60.46**	**180**	*e*P			**P**	**14 28 39.7**	**-3.7**
	2.7nm,0.9s,mb4.3								
CASY	**Casey**	**61.10**	**203**	*e*P			**P**	**14 28 47.9**	**+0.1**
	8.5nm,1.3s,mb4.7								
YSS	**Yuzh-Sakhalins**	**67.82**	**342**	P			**P**	**14 29 32.4**	**+0.7**
	40nm,1.4s,mb5.3								
QSPA	**South Pole Qui**	**72.62**	**180**	*e*P			**P**	**14 29 56.2**	**-4.9**
	6.9nm,1.4s,mb4.4								
BJT	**Baijiatuau**	**74.43**	**322**	P			**P**	**14 30 15.8**	**+4.0**
MKAR	**Makanchi Array**	**99.23**	**316**	P			**P**	**14 32 16.4**	**+1.1**
	0.2nm,0.7s,mb3.8,baz=104,slow=6.1,SNR=2.5								
MKAR	**Makanchi Array**	**99.23**	**316**	P			**P**	**14 32 16.4**	**+1.1**

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*NEIC **08** 14:19:24.8, 2609S×7048W, h56km±8km, ML3.5, 4C, GUC.*
NEIC Felt [IV] at Chanaral, [III] at Diego de Almagro and [II] at El Salvador.

GUC 08 14:19:24.8±0.8, 2609S×7048W, h56km±8km, ML3.5, 4C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.28**	**206**	⇑	*i*	P	Pn	14 19 34.8	+0.4
CRCH					*i*	S	Sn	14 19 41.5	+0.3
CRCH						AML	AML	14 19 42.5	
	comp=E,3μm,0.2s								
CRCH	**Chaqaral**	**0.28**	**206**	⇑	*i*	P	Pn	14 19 34.8	+0.4
CRCH					*i*	S	Sn	14 19 41.5	+0.3
CDCH	**Caldera**	**1.03**	**198**		*i*	P	Pn	14 19 43.5	+0.5
CDCH					*i*	S	Sn	14 19 57.1	+0.5
CDCH						AML	AML	14 19 59.2	
	comp=N,969nm,0.2s								
CDCH	**Caldera**	**1.03**	**198**		*i*	P	Pn	14 19 43.5	+0.5
CDCH					*i*	S	Sn	14 19 57.1	+0.5
CPCH	**Copiapo**	**1.27**	**175**	⇑	*i*	P	Pn	14 19 47.0	+0.8
CPCH					*i*	S	Sn	14 20 03.1	+0.8
CPCH						AML	AML	14 20 05.5	
	comp=N,20μm,0.1s								
CPCH	**Copiapo**	**1.27**	**175**	⇑	*i*	P	Pn	14 19 47.0	+0.8
CPCH					*i*	S	Sn	14 20 03.1	+0.8
CPN1	**Cerro Paranal**	**1.46**	**3**		*e*	P	Pn	14 19 50.1	+1.3
CPN1					*e*	S	Sn	14 20 08.8	+1.9
CPN1						AML	AML	14 20 13.6	
	comp=E,623nm,0.2s								
CEN1	**Los Morros**	**2.70**	**5**		*e*	P	Pn	14 20 03.6	-2.1
CEN1						AML	AML	14 20 45.2	
	comp=E,85nm,0.4s								
LVC	**Limon Verde**	**3.75**	**23**		*e*	Pn	Pn	14 20 21.7	+1.6
LVC					*e*	Sn	Sn	14 21 08.9	+6.1

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*CSEM **08** 14:38:35.7±0.0, 3862N×2373E, h8km, mb4.2/8, Ms3.0, Error ellipse: s-maj=1.4km s-min=0.9km az=76.0*

*IDC **08** 14:38:35.3±0.8, 3859N×2365E, h0km, mb4.1/10, mb1 4.2/15, mb1mx4.1/26, mbtmp4.1/15, ML3.7/4, MS3.3/11, Ms1 3.3/11, ms1mx3.1/27, Error ellipse: s-maj=17.3km s-min=13.6km az=125.0*

*BJI **08** 14:38:35.3, 3860N×2380E, h18km, mB4.9, mb4.5, Ms4.5, Msz4.2*

*NEIC **08** 14:38:35.3, 3863N×2379E, h18km, mb4.1/22, MD4.0(ATH), ML4.1(THE), After ATH.*

*ATH **08** 14:38:35.3, 3863N×2378E, h18km±1km, MD4.1/23, ML4.1*

*MOS **08** 14:38:35.7±0.8, 3865N×2377E, h10km, mb4.4/10, Error ellipse: s-maj=5.6km s-min=3.0km az=106.7*

*ISCJB **08** 14:38:36.3±0.4, 3861N±002×2378E±002, h15km±4km, mb4.2/22, MS3.5/10, Error ellipse: s-maj=2.9km s-min=2.3km az=91.6*

*THE **08** 14:38:36.9, 3861N×2373E, h10km, ML4.0*

*SKO **08** 14:38:41.4, 3901N×2357E, h0km*

*SOF **08** 14:38:53.5, 40.12N×2422E, h2km, MD3.8*

ISC 08 14:38:36.2±0.4, 3861N±002×2379E±002, h3km±3km, n282, σ0§99/306, mb4.2/22, MS3.5/10, 15C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.56**	**174**	*e*PN			**Pg**	**14 38 47.0**	**+0.1**
AOS	**Alonnisos**	**0.57**	**8**	*e*Pg			**Pg**	**14 38 47.4**	**+0.4**
AOS				*e*Sg			**Sg**	**14 38 56.8**	**+2.4**
AOS	**Alonnisos**	**0.57**	**8**	P			**Pg**	**14 38 47.5**	**+0.4**
AOS	**Alonnisos**	**0.57**	**8**	P			**Pg**	**14 38 47.5**	**+0.5**
LKR	**Lokris**	**0.62**	**274**	*e*PB			**Pg**	**14 38 47.0**	**-1.0**
LKR				*e*SN			**Sg**	**14 38 56.0**	**0.0**
ATH	**Athens Observa**	**0.64**	**185**	*e*PN			**Pg**	**14 38 48.1**	**-0.3**
ATH				*e*SN			**Sg**	**14 38 57.6**	**+0.9**
MGER	**Gerania Oros**	**0.75**	**214**	*e*PB			**Pg**	**14 38 49.3**	**-1.2**
KVR	**Kavouri**	**0.78**	**181**	*e*PB			**Pg**	**14 38 50.0**	**-1.1**
KVR	**Kavouri**	**0.78**	**181**	*e*Pn			**Pg**	**14 38 50.5**	**-0.6**
NEO	**Neokhori**	**0.82**	**328**	*e*PN			**Pg**	**14 38 51.5**	**-0.5**
NEO				*e*SN			**Sg**	**14 39 02.3**	**-0.3**
NAIG	**Nisos Aigina**	**0.88**	**195**	*e*PB			**Pg**	**14 38 52.0**	**-1.0**
XOR	**Xorichti**	**0.89**	**329**	*e*Pg			**Pg**	**14 38 52.6**	**-0.6**
XOR				*e*Sg			**Sg**	**14 39 05.0**	**+0.3**
XOR	**Xorichti**	**0.89**	**329**	P			**Pg**	**14 38 52.9**	**-0.3**
XOR	**Xorichti**	**0.89**	**329**	P			**Pg**	**14 38 52.9**	**-0.3**
AGG	**Agios Georgios**	**1.21**	**290**	*e*Pg			**Pg**	**14 38 57.7**	**-1.7**
AGG				*e*Sg			**Sg**	**14 39 15.3**	**+0.3**
AGG	**Agios Georgios**	**1.21**	**290**	P			**Pg**	**14 38 59.0**	**-0.3**
AGG				S			**Sg**	**14 39 16.7**	**+1.6**
AGG	**Agios Georgios**	**1.21**	**290**	P			**Pg**	**14 38 59.0**	**-0.3**
AGG				S			**Sg**	**14 39 16.7**	**+1.7**
EVR	**Evrytania**	**1.57**	**282**	*e*PN			**Pn**	**14 39 04.7**	**-0.3**
LIA	**Limnos Island**	**1.69**	**40**	*e*PN			**Pn**	**14 39 05.7**	**-0.8**
OUR	**Ouranopolis**	**1.73**	**5**	*e*Pb			**Pn**	**14 39 06.3**	**-0.8**
OUR	**Ouranopolis**	**1.73**	**5**	P			**Pn**	**14 39 06.4**	**-0.7**
OUR	**Ouranopolis**	**1.73**	**5**	P			**Pn**	**14 39 06.4**	**-0.7**
PLG	**Polygyros**	**1.78**	**352**	*e*PN			**Pn**	**14 39 06.9**	**-0.9**
PLG				*e*SN			**Sn**	**14 39 28.9**	**-2.1**
CHOS	**Chios island**	**1.79**	**96**	*e*Pb			**Pb**	**14 39 08.1**	**-1.6**
CHOS				*e*Sb			**Sb**	**14 39 31.2**	**-1.3**
LIT	**Litokhoron**	**1.80**	**326**	*e*Pb			**Pn**	**14 39 07.0**	**-1.1**
LIT				*e*Sb			**Sn**	**14 39 29.6**	**-1.8**
LIT	**Litokhoron**	**1.80**	**326**	P			**Pn**	**14 39 07.1**	**-0.9**
LIT				S			**Sn**	**14 39 31.8**	**+0.5**
LIT	**Litokhoron**	**1.80**	**326**	P			**Pn**	**14 39 07.1**	**-0.9**
LIT				S			**Sn**	**14 39 31.8**	**+0.5**
RLS	**Riolos of Patr**	**1.90**	**254**	*e*PN			**Pn**	**14 39 09.1**	**-0.4**
RLS				*e*SN			**Sn**	**14 39 34.3**	**+0.3**
VLI	**Veliai**	**2.00**	**200**	*e*PB			**Pn**	**14 39 10.0**	**-0.9**
PRK	**Paraskevi**	**2.04**	**71**	*e*PN			**Pn**	**14 39 11.5**	**+0.1**
ITM	**Ithomi**	**2.05**	**226**	*e*PN			**Pn**	**14 39 11.5**	**0.0**
APE	**Apeiranthos**	**2.07**	**137**	*e*Pn			**Pn**	**14 39 11.2**	**-0.6**
APE				*e*Sn			**Sn**	**14 39 37.9**	**0.0**
APE	**Apeiranthos**	**2.07**	**137**	*e*PB			**Pn**	**14 39 11.3**	**-0.4**
APE	**Apeiranthos**	**2.07**	**137**	P			**Pn**	**14 39 12.7**	**+1.0**
APE				S			**Sb**	**14 39 40.7**	**+0.4**
APE	**Apeiranthos**	**2.07**	**137**	P			**Pn**	**14 39 12.7**	**+1.0**
APE				S			**Sb**	**14 39 40.7**	**+0.3**
THE	**Thessaloniki**	**2.12**	**343**	*e*Pn			**Pn**	**14 39 11.5**	**-1.0**
THE				*e*Sn			**Sn**	**14 39 37.9**	**-1.4**
THE	**Thessaloniki**	**2.12**	**343**	P			**Pn**	**14 39 11.4**	**-1.1**
THE				S			**Sn**	**14 39 39.8**	**+0.5**
THE	**Thessaloniki**	**2.12**	**343**	P			**Pn**	**14 39 11.4**	**-1.0**
THE				S			**Sn**	**14 39 39.8**	**+0.5**
BOZC	**Bozcaada**	**2.15**	**54**	*i*	P		**Pn**	**14 39 10.7**	**-2.1**
URLA	**Izmir**	**2.22**	**96**	*i*	P		**Pn**	**14 39 13.1**	**-0.8**
SOH	**Sokhos**	**2.24**	**352**	*e*Pn			**Pn**	**14 39 13.6**	**-0.5**
SOH	**Sokhos**	**2.24**	**352**	P			**Pn**	**14 39 13.8**	**-0.3**
KZN	**Kozani**	**2.30**	**318**	*e*PN			**Pn**	**14 39 14.9**	**-0.1**
AYVA	**Ayvalik**	**2.37**	**72**	*i*	P		**Pn**	**14 39 16.0**	**+0.1**
KYTH	**Kithira**	**2.40**	**195**	*e*PN			**Pn**	**14 39 15.5**	**-0.8**
LKD	**Levkas**	**2.46**	**273**	P			**Pn**	**14 39 17.3**	**+0.2**
LKD				S			**Sn**	**14 39 49.3**	**+1.7**
LKD	**Levkas**	**2.46**	**273**	P			**Pn**	**14 39 17.3**	**+0.2**
JAN	**Janina**	**2.51**	**296**	*e*PB			**Pn**	**14 39 18.3**	**+0.5**
THR3	**Thira Island,**	**2.54**	**149**	*e*Pn			**Pn**	**14 39 18.1**	**-0.2**
THR3	**Thira Island,**	**2.54**	**149**	P			**Pn**	**14 39 19.0**	**+0.7**
THR3	**Thira Island,**	**2.54**	**149**	P			**Pn**	**14 39 19.0**	**+0.7**
VLS	**Valsamata**	**2.55**	**261**	*e*PB			**Pn**	**14 39 19.0**	**+0.7**
SMG	**Samos**	**2.57**	**110**	*e*PB			**Pn**	**14 39 18.8**	**+0.2**
GRG	**Griva**	**2.58**	**336**	*e*Pn			**Pn**	**14 39 17.9**	**-0.9**
GRG				*e*Sn			**Sn**	**14 39 49.4**	**-1.2**
GRG	**Griva**	**2.58**	**336**	P			**Pn**	**14 39 18.1**	**-0.6**
GRG				S			**Sn**	**14 39 50.6**	**0.0**
GRG	**Griva**	**2.58**	**336**	P			**Pn**	**14 39 18.1**	**-0.6**
GRG				S			**Sn**	**14 39 50.6**	**0.0**
SANT	**Santorini**	**2.60**	**149**	*e*Pn			**Pn**	**14 39 18.6**	**-0.5**
SANT				*e*Pg			**Pg**	**14 39 28.2**	**+2.2**
SANT	**Santorini**	**2.60**	**149**	*e*Pn			**Pn**	**14 39 18.6**	**-0.5**
KNT	**Kendrikon**	**2.64**	**345**	*e*Pn			**Pn**	**14 39 19.5**	**-0.1**
KNT				*e*Sn			**Sn**	**14 39 51.0**	**-1.2**
KNT	**Kendrikon**	**2.64**	**345**	P			**Pn**	**14 39 19.7**	**+0.1**
KNT				S			**Sn**	**14 39 52.5**	**+0.4**
KNT	**Kendrikon**	**2.64**	**345**	P			**Pn**	**14 39 19.7**	**+0.1**
KNT				S			**Sn**	**14 39 52.5**	**+0.4**
KDAG	**Bornova**	**2.74**	**93**	*i*	P		**Pn**	**14 39 19.6**	**-1.4**
NVR	**Nevrokopi**	**2.74**	**1**	*e*PN			**Pn**	**14 39 20.2**	**-0.8**
IGT	**Igoumenitsa**	**2.84**	**290**	P			**Pn**	**14 39 23.2**	**+0.8**
IGT				S			**Sn**	**14 39 58.3**	**+1.2**
IGT	**Igoumenitsa**	**2.84**	**290**	P			**Pn**	**14 39 23.2**	**+0.8**
IGT				S			**Sn**	**14 39 58.2**	**+1.1**
FNA	**Florina**	**2.86**	**320**	*e*Pn			**Pn**	**14 39 22.2**	**-0.4**
FNA	**Florina**	**2.86**	**320**	P			**Pn**	**14 39 22.9**	**+0.3**
FNA	**Florina**	**2.86**	**320**	P			**Pn**	**14 39 22.9**	**+0.3**
VAY	**Valandovo**	**2.87**	**341**	*e*Pn			**Pn**	**14 39 22.3**	**-0.6**
VAY	**Valandovo**	**2.87**	**341**	*i*	Pn		**Pn**	**14 39 22.3**	**-0.5**
VAY	**Valandovo**	**2.87**	**341**	P			**Pn**	**14 39 21.8**	**-0.9**
VAY	**Valandovo**	**2.87**	**341**	P			**Pn**	**14 39 21.8**	**-0.9**
VAY	**Valandovo**	**2.87**	**341**	*i*	Pn		**Pn**	**14 39 22.2**	**-0.5**
RDO	**Rodhopi**	**2.87**	**27**	*e*PN			**Pn**	**14 39 21.5**	**-1.3**
ALN	**Alexandroupoli**	**2.88**	**37**	*e*Pn			**Pn**	**14 39 22.2**	**-0.7**
ALN				*e*Sn			**Sn**	**14 39 58.8**	**+0.9**
ALN	**Alexandroupoli**	**2.88**	**37**	P			**Pn**	**14 39 23.1**	**+0.3**
ALN				S			**Sn**	**14 39 58.8**	**+0.9**
ALN	**Alexandroupoli**	**2.88**	**37**	P			**Pn**	**14 39 23.1**	**+0.3**
ALN				S			**Sn**	**14 39 58.8**	**+0.9**
MMB	**Musomiste**	**2.98**	**359**	*i*	P		**Pn**	**14 39 23.0**	**-1.3**
BIA	**Bitola**	**3.06**	**323**	*e*Pn			**Pn**	**14 39 25.0**	**-0.4**
RZN	**Rozhen**	**3.16**	**13**	*i*	P		**Pn**	**14 39 27.0**	**+0.3**
KARN	**Karanos**	**3.20**	**178**	*e*Pn			**Pn**	**14 39 27.1**	**-0.3**
VAM	**Vamos**	**3.21**	**174**	*e*PN			**Pn**	**14 39 27.8**	**+0.3**
BDRM	**Kayabasi**	**3.28**	**117**	*i*	P		**Pn**	**14 39 27.6**	**-0.8**
AYDZ	**Kurdzhali**	**3.29**	**22**	*i*	Pg		**Pn**	**14 39 27.0**	**-1.5**
KDZ				*i*	P			14 39 27.0	
KEK	**Kerkira**	**3.29**	**291**	*e*PN			**Pn**	**14 39 29.0**	**+0.5**
KKB	**Krupnik**	**3.30**	**351**	*i*	P		**Pn**	**14 39 27.4**	**-1.3**
OHR	**Ohrid**	**3.40**	**318**	*e*Pn			**Pn**	**14 39 29.8**	**-0.2**
OHR	**Ohrid**	**3.40**	**318**	*e*Pn			**Pn**	**14 39 30.6**	**+0.6**
OHR	**Ohrid**	**3.40**	**318**	P			**Pn**	**14 39 30.8**	**+0.8**
OHR	**Ohrid**	**3.40**	**318**	*e*Pn			**Pn**	**14 39 30.6**	**+0.6**
IDI	**Anoyia**	**3.43**	**165**	Pn			**Pn**	**14 39 30.8**	**+0.3**
	6.4nm,0.3s,baz=342,slow=12,SNR=33								
IDI				LR			LR	14 40 56.3	
	comp=Z,676nm,20.9s,baz=270,slow=41								
NPS	**Neapolis**	**3.65**	**156**	*e*PN			**Pn**	**14 39 32.7**	**-0.7**
GVD	**Gavdhos**	**3.77**	**176**	*e*P			**Pn**	**14 39 38.9**	**+3.8**
SKO	**Skopje**	**3.81**	**333**	*e*Pn			**Pn**	**14 39 35.2**	**-0.4**
VTS	**Vitosha**	**4.00**	**354**	*i*	P		**Pn**	**14 39 39.0**	**+0.6**
VTS	**Vitosha**	**4.00**	**354**	*e*Pn			**Pn**	**14 39 38.5**	**+0.2**
VTS	**Vitosha**	**4.00**	**

BRTR	**Keskin Array B**	**7.74**	**79**	Pn	**Pn**	**14 40 31.6 +1.9**
	comp=Z,0.6nm,0.3s,baz=261,slow=12,SNR=16					
BRTR	**Keskin Array B**	**7.74**	**79**	*i* P	**Pn**	**14 40 33.2 +3.5**
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.5s					
BRTR	**Keskin Array B**	**7.74**	**79**	Pn	**Pn**	**14 40 31.5 +1.8**
BRTR	**Keskin Array B**	**7.74**	**79**	*i* P	**Pn**	**14 40 33.2 +3.5**
	comp=Z,2.0nm,0.5s					
DRGR		**8.22**	**355**	⇑*i*P	**Pn**	**14 40 37.2 +1.0**
DRGR		**8.22**	**355**	⇑P	**Pn**	**14 40 37.2 +0.9**
BURAR	**Bucovina Array**	**9.06**	**6**	⇑*i*P	**Pn**	**14 40 48.3 +0.5**
BURAR	**Bucovina Array**	**9.06**	**6**	⇑P	**Pn**	**14 40 48.2 +0.4**
BURAR	**Bucovina Array**	**9.06**	**6**	⇑P	**Pn**	**14 40 48.2 +0.4**
PSZ	**Piszkesteto**	**9.73**	**344**	*e*Pn	**Pn**	**14 40 57.4 +0.5**
KECS	**Kecovo**	**10.16**	**347**	*e*	**Pn**	**14 41 05.6 +2.8**
VOY	**Vojsko**	**10.42**	**319**	Pn	**Pn**	**14 41 00.8 -5.6**
VOY				*e*		14 42 58.1
VOY				*e*		14 44 32.7
VYHS	**Vyhne**	**10.51**	**342**	*e*PN	**Pn**	**14 41 08.2 +0.5**
PGF	**Pioggiola**	**11.91**	**294**	*e*P	**Pn**	**14 41 28.4 +1.6**
	comp=Z,36nm,1.0s					
PGF	**Pioggiola**	**11.91**	**294**	*e*P	**Pn**	**14 41 28.4 +1.6**
PGF				pmax	pmax	
	comp=Z,18nm,1.0s					
PGF	**Pioggiola**	**11.91**	**294**	*e*P	**Pn**	**14 41 28.4 +1.6**
	comp=Z,18nm,1.0s					
ANN	**Anapa**	**11.92**	**54**	*e*P	**Pn**	**14 41 35.5 +8.5**
ANN				pmax	pmax	
	comp=Z,31nm,1.2s					
OKC	**Ostrava-Krasne**	**11.93**	**342**	AMS	AMS	14 47 00.0
	comp=Z,400nm,10.2s					
TREC	**Trest**	**12.23**	**334**	AMS	AMS	14 48 00.0
	comp=Z,200nm,13.9s					
ASF	**Jabal al Asfar**	**12.47**	**117**	LR	LR	14 47 13.7
	comp=Z,54nm,21.4s,baz=78,slow=41					
GERES	**GERESS Array B**	**12.55**	**328**	Pn	**Pn**	**14 41 34.8 -0.8**
	comp=Z,0.1nm,0.3s,baz=149,slow=16,SNR=8.0					
GERES				LR	LR	14 46 56.4
	comp=Z,34nm,18.1s,baz=115,slow=40					
KHC	**Kasperske Hory**	**12.83**	**328**	*e*P	**Pn**	**14 41 40.2 +0.8**
KHC				AMS	AMS	14 47 10.0
	comp=Z,300nm,12.1s					
KHC	**Kasperske Hory**	**12.83**	**328**	*c i*P	**Pn**	**14 41 39.8 +0.4**
EIL	**Elat**	**12.84**	**131**	*e*Pn	**Pn**	**14 41 42.1 +2.6**
EIL	**Elat**	**12.84**	**131**	*e*Pn	**Pn**	**14 41 42.1 +2.6**
DPC	**Dobruska-Polom**	**12.88**	**338**	AMS	AMS	14 47 30.0
	comp=Z,200nm,13.2s					
SOC	**Sochi**	**13.00**	**62**	*e*P	**Pn**	**14 41 53.1 +11**
SOC				pmax	pmax	
	comp=Z,63nm,1.3s					
SOC				MLR	MLR	
	comp=Z,34nm,7.0s					
DAVOX	**Davos**	**13.07**	**313**	LR	LR	14 47 28.5
	comp=Z,55nm,18.2s,baz=247,slow=41					
PRU	**Pruhonice**	**13.15**	**333**	AMS	AMS	14 48 30.0
	comp=Z,200nm,10.8s					
MBDF	**Montbardon**	**14.10**	**301**	*e*P	**Pn**	**14 41 57.2 +0.5**
	comp=Z,12nm,0.7s					
MBDF	**Montbardon**	**14.10**	**301**	*e*P	**Pn**	**14 41 57.2 +0.5**
MBDF				pmax	pmax	
	comp=Z,6.0nm,0.7s					
MBDF	**Montbardon**	**14.10**	**301**	*e*P	**Pn**	**14 41 57.2 +0.5**
	comp=Z,6.1nm,0.7s					
NKC	**Novy Kostel**	**14.15**	**329**	AMS	AMS	14 48 00.0
	comp=Z,300nm,11.3s					
BNI	**Bardonecchia**	**14.28**	**302**	P	**Pn**	**14 42 02.9 +3.8**
BNI				pmax	pmax	
	comp=Z,10.0nm,1.1s					
BNI	**Bardonecchia**	**14.28**	**302**	Pn	**Pn**	**14 42 02.9 +3.8**
	comp=Z,9.6nm,1.1s					
LPG	**La Plagne**	**14.39**	**304**	*e*P	**Pn**	**14 42 01.5 +0.8**
	comp=Z,23nm,0.7s					
LPG	**La Plagne**	**14.39**	**304**	*e*P	**Pn**	**14 42 01.5 +0.8**
LPG				pmax	pmax	
	comp=Z,11nm,0.7s					
LPG	**La Plagne**	**14.39**	**304**	*e*P	**Pn**	**14 42 01.5 +0.8**
	comp=Z,11nm,0.7s					
LPL	**La Plagne**	**14.41**	**304**	*e*P	**Pn**	**14 42 02.0 +1.0**
	comp=Z,8.8nm,0.5s					
LPL	**La Plagne**	**14.41**	**304**	*e*P	**Pn**	**14 42 02.0 +1.0**
LPL				pmax	pmax	
	comp=Z,4.0nm,0.4s					
LPL	**La Plagne**	**14.41**	**304**	*e*P	**Pn**	**14 42 02.0 +1.0**
	comp=Z,4.4nm,0.5s					
SMRF	**Simiane la Rot**	**14.69**	**297**	*e*P	**Pn**	**14 42 05.2 +0.4**
ORIF	**Oris-en-Rattie**	**14.76**	**301**	*e*P	**Pn**	**14 42 06.1 +0.3**
	comp=Z,11nm,0.9s					
ORIF				*e*R		
	comp=Z,177nm,19.1s					
ORIF	**Oris-en-Rattie**	**14.76**	**301**	*e*P	**Pn**	**14 42 06.1 +0.3**
ORIF				pmax	pmax	
	comp=Z,6.0nm,0.9s					
ORIF	**Oris-en-Rattie**	**14.76**	**301**	*e*P	**Pn**	**14 42 06.1 +0.3**
	comp=Z,5.5nm,0.9s					
CLL	**Collm**	**14.79**	**333**	⇓*i*PP		14 42 14.6
	comp=Z,12nm,0.9s					
CLL				*i* sPP		14 42 17.5
CLL	**Collm**	**14.79**	**333**	⇓*i*P		14 42 14.6
CLL				pmax	pmax	
	comp=Z,12nm,0.9s					
KIV	**Kislovodsk**	**15.17**	**63**	*e*P	**Pn**	**14 42 11.9 +0.6**
KIV				pmax	pmax	
	comp=Z,4.0nm,0.7s					
KIV	**Kislovodsk**	**15.17**	**63**	*e*P	**Pn**	**14 42 11.9 +0.6**
	comp=Z,4.0nm,0.7s					
CABF	**La Chapelle**	**15.27**	**307**	*e*P	**Pn**	**14 42 12.4 -0.2**
	comp=Z,14nm,0.7s					
CABF	**La Chapelle**	**15.27**	**307**	*e*P	**Pn**	**14 42 12.4 -0.2**
CABF				pmax	pmax	
	comp=Z,7.0nm,0.7s					
CABF	**La Chapelle**	**15.27**	**307**	*e*P	**Pn**	**14 42 12.4 -0.2**
	comp=Z,7.2nm,0.7s					
HINF	**Hinteralfeld**	**15.37**	**312**	*e*P	**Pn**	**14 42 14.0 +0.1**
SUW	**Suwalki**	**15.41**	**359**	*e*P	**Pn**	**14 42 16.7 +2.2**
SUW				pmax	pmax	
	comp=Z,43nm,0.9s					
SUW	**Suwalki**	**15.41**	**359**	*e*Pn	**Pn**	**14 42 16.7 +2.2**
	comp=Z,43nm,0.9s					
SUW	**Suwalki**	**15.41**	**359**	*e*P	**Pn**	**14 42 16.7 +2.2**
	comp=Z,43nm,0.9s					
CDF	**Champ du Feu**	**15.45**	**315**	*e*P	**Pn**	**14 42 15.6 +0.7**
VIVF	**Saint-Julien-l**	**15.56**	**300**	*e*P	**Pn**	**14 42 16.5 +0.1**
	comp=Z,8.9nm,0.8s					
VIVF	**Saint-Julien-l**	**15.56**	**300**	*e*P	**Pn**	**14 42 16.5 +0.1**
VIVF				pmax	pmax	
	comp=Z,4.0nm,0.8s					
VIVF	**Saint-Julien-l**	**15.56**	**300**	*e*P	**Pn**	**14 42 16.5 +0.1**
	comp=Z,4.4nm,0.8s					
HAU	**Haudompre**	**15.76**	**312**	*e*P	**Pn**	**14 42 19.1 +0.1**
HAU				*e*R		
	comp=Z,96nm,17.0s					
LASF	**Ste Croix**	**15.92**	**296**	*e*P	**Pn**	**14 42 20.8 -0.3**
GNI	**Garni**	**16.28**	**78**	*e*P	**Pn**	**14 42 26.2 +0.5**
GNI				pmax	pmax	
	comp=Z,7.0nm,1.2s					
GNI	**Garni**	**16.28**	**78**	*e*P	**Pn**	**14 42 26.2 +0.5**
	comp=Z,7.0nm,1.2s					
SMF	**Signal de Mont**	**16.70**	**305**	*e*P	**Pn**	**14 42 31.2 +0.1**
LOR	**Lormes**	**16.93**	**307**	*e*P	**Pn**	**14 42 33.6 -0.4**
	comp=Z,6.5nm,0.6s					
LOR				*e*R		
	comp=Z,134nm,18.8s					
LOR	**Lormes**	**16.93**	**307**	*e*P	**Pn**	**14 42 33.6 -0.4**
LOR				pmax	pmax	
	comp=Z,3.0nm,0.6s					
LOR	**Lormes**	**16.93**	**307**	*e*P	**Pn**	**14 42 33.6 -0.4**
	comp=Z,3.2nm,0.6s					
AVF	**Avril sur Loir**	**17.07**	**305**	*e*P	**Pn**	**14 42 35.6 -0.1**
	comp=Z,34nm,1.2s					
AVF	**Avril sur Loir**	**17.07**	**305**	*e*P	**Pn**	**14 42 35.6 -0.1**
AVF				pmax	pmax	
	comp=Z,17nm,1.2s					
AVF	**Avril sur Loir**	**17.07**	**305**	*e*P	**Pn**	**14 42 35.6 -0.1**
	comp=Z,17nm,1.2s					
SSF	**Saint Saulge**	**17.07**	**306**	*e*P	**Pn**	**14 42 36.2 +0.4**
	comp=Z,14nm,0.8s					
SSF	**Saint Saulge**	**17.07**	**306**	*e*P	**Pn**	**14 42 36.2 +0.4**
SSF				pmax	pmax	
	comp=Z,7.0nm,0.8s					
SSF	**Saint Saulge**	**17.07**	**306**	*e*P	**Pn**	**14 42 36.2 +0.4**
	comp=Z,6.9nm,0.8s					
BGF	**Bois d'Agland**	**17.31**	**304**	*e*P	**Pn**	**14 42 39.0 +0.2**
CAF	**Calviac**	**17.37**	**298**	*e*P	**Pn**	**14 42 39.6 +0.1**
TCF	**Toulx Ste Croi**	**17.64**	**303**	*e*P	**Pn**	**14 42 43.1 +0.2**
	comp=Z,10nm,0.9s					
TCF	**Toulx Ste Croi**	**17.64**	**303**	*e*P	**Pn**	**14 42 43.1 +0.2**
TCF				pmax	pmax	
	comp=Z,5.0nm,0.9s					
TCF	**Toulx Ste Croi**	**17.64**	**303**	*e*P	**Pn**	**14 42 43.1 +0.2**
	comp=Z,5.2nm,0.9s					
BAIF	**Baives**	**18.03**	**316**	*e*P	**Pn**	**14 42 48.0 +0.3**
	comp=Z,8.9nm,0.6s					
BAIF	**Baives**	**18.03**	**316**	*e*P	**Pn**	**14 42 48.0 +0.3**
BAIF				pmax	pmax	
	comp=Z,4.0nm,0.6s					
BAIF	**Baives**	**18.03**	**316**	*e*P	**Pn**	**14 42 48.0 +0.3**
	comp=Z,4.4nm,0.6s					
MFF	**Saint Martin d**	**19.29**	**302**	*e*P	**Pn**	**14 43 02.2 -0.8**
CART	**Cartagena**	**19.52**	**275**	P	**Pn**	**14 43 03.7 -2.1**
	comp=Z,20nm,0.7s					
LDF	**La Druitiere**	**19.91**	**308**	*e*P	**Pn**	**14 43 09.4 -1.0**
	comp=Z,7.6nm,0.6s					
LDF	**La Druitiere**	**19.91**	**308**	*e*P	**Pn**	**14 43 09.4 -1.0**
LDF				pmax	pmax	
	comp=Z,4.0nm,0.6s					
LDF	**La Druitiere**	**19.91**	**308**	*e*P	**Pn**	**14 43 09.4 -1.0**
	comp=Z,3.8nm,0.6s					
VSU	**Vasula**	**19.96**	**5**	*i* P	**Pn**	**14 43 11.0 0.0**
FLN	**La Foliniere**	**20.19**	**308**	*e*P	**P**	**14 43 12.1 +0.2**
	comp=Z,26nm,0.8s					
FLN				*e*R		
	comp=Z,74nm,18.8s					
FLN	**La Foliniere**	**20.19**	**308**	*e*P	**P**	**14 43 12.1 +0.2**
FLN				pmax	pmax	
	comp=Z,13nm,0.8s					
FLN				MLR	MLR	
	comp=Z,70nm,18.8s,MS3.0					
FLN	**La Foliniere**	**20.19**	**308**	*e*P	**P**	**14 43 12.1 +0.2**
	comp=Z,13nm,0.8s					
FLN				LR	LR	
	comp=Z,70nm,18.8s,MS3.0					
GRR	**Gorron**	**20.30**	**307**	*e*P	**P**	**14 43 12.4 -0.6**
	comp=Z,14nm,0.5s					
GRR	**Gorron**	**20.30**	**307**	*e*P	**P**	**14 43 12.4 -0.6**
GRR				pmax	pmax	
	comp=Z,7.0nm,0.5s					
GRR	**Gorron**	**20.30**	**307**	*e*P	**P**	**14 43 12.4 -0.6**
	comp=Z,7.2nm,0.5s					
SGMF	**Saint Gilles**	**21.33**	**305**	*e*P	**P**	**14 43 24.5 +0.3**
	comp=Z,13nm,0.7s,mb4.1					
SGMF	**Saint Gilles**	**21.33**	**305**	*e*P	**P**	**14 43 24.5 +0.3**
SGMF				pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.1					
SGMF	**Saint Gilles**	**21.33**	**305**	*e*P	**P**	**14 43 24.5 +0.3**
	comp=Z,6.6nm,0.7s,mb4.1					
ESDC	**Sonseca Array**	**21.52**	**282**	P	**P**	**14 43 25.1 -1.2**
	comp=Z,1.3nm,0.4s,mb3.7,baz=75,slow=10,SNR=7.6					
ESLA	**Sonseca Array**	**21.52**	**282**	P	**P**	**14 43 24.6 -1.7**
	comp=Z,4.2nm,1.1s,mb3.8					
ESLA	**Sonseca Array**	**21.52**	**282**	P	**P**	**14 43 24.6 -1.7**
	comp=Z,4.2nm,1.1s,mb3.8					
ROSF	**Rostrenen**	**21.81**	**305**	*e*P	**P**	**14 43 30.5 +1.1**
	comp=Z,12nm,0.6s,mb4.2					
ROSF	**Rostrenen**	**21.81**	**305**	*e*P	**P**	**14 43 30.5 +1.1**
ROSF				pmax	pmax	
	comp=Z,6.0nm,0.6s,mb4.2					
ROSF	**Rostrenen**	**21.81**	**305**	*e*P	**P**	**14 43 30.5 +1.1**
	comp=Z,6.0nm,0.6s,mb4.2					
HFS	**Hagfors**	**22.47**	**347**	P	**P**	**14 43 35.0 -1.4**
	comp=Z,5.7nm,0.7s,mb4.1,baz=153,slow=10.0,SNR=14					
HFS				LR	LR	14 52 54.5
	comp=Z,67nm,21.6s,MS3.0,baz=151,slow=38					
FINES	**FINESS Array B**	**22.91**		P	**P**	**14 43 40.9 -0.1**
	comp=Z,4.0nm,0.9s,mb3.9,baz=184,slow=7.6,SNR=8.6					
FINES				LR	LR	14 53 26.2
	comp=Z,155nm,20.7s,MS3.4,baz=356,slow=39					
FINES	**FINESS Array B**	**22.91**	**3**	P	**P**	**14 43 40.9 -0.1**
FINES				LR	LR	14 53 26.2
NAO01	**NORSAR Array S**	**23.68**	**344**	P	**P**	**14 43 45.1 -4.0**
	comp=Z,22nm,1.2s,mb4.5					
MDT	**Midelt**	**23.72**	**265**	P	**P**	**14 43 48.5 -0.9**
	comp=Z,4.5nm,0.9s,mb3.9,baz=91,slow=12,SNR=12					
NB2	**NORSAR Subarra**	**23.79**	**345**	P	**P**	**14 43 48.9 -1.2**
	comp=Z,25nm,1.4s,mb4.5,baz=146,slow=11					
NB2	**NORSAR Subarra**	**23.79**	**345**	P	**P**	**14 43 48.9 -1.2**
NB2				pmax	pmax	
	comp=Z,25nm,1.4s,mb4.5					
NOA	**NORSAR Array B**	**23.79**	**345**	P	**P**	**14 43 49.4 -0.7**
	comp=Z,4.6nm,0.8s,mb4.0,baz=148,slow=9.9,SNR=5.1					
ESK	**Eskdalemuir**	**24.64**	**322**	*e*P	**P**	**14 43 56.4 -1.4**
ESK				pmax	pmax	
	comp=Z,35nm,1.4s,mb4.7					
ESK	**Eskdalemuir**	**24.64**	**322**	*e*P	**P**	**14 43 56.4 -1.5**
	comp=Z,34nm,1.4s,mb4.7					
ESK	**Eskdalemuir**	**24.64**	**322**	*e*P	**P**	**14 43 56.4 -1.4**
	comp=Z,35nm,1.4s,mb4.7					
AKTO	**Aktyubinsk**	**26.88**	**53**	LR	LR	14 55 43.4
	comp=Z,47nm,19.7s,MS3.0,baz=0.0,slow=38					
ARU	**Arti**	**29.05**	**41**	⇓*i*P	**P**	**14 44 39.1 +1.6**
ARU				*e*		14 45 29.2
ARU				*e*PPP		14 45 39.4
ARU				*e*S	**S**	**14 49 34.2 +4.6**
ARU				*e*SS	SS	14 50 59.8 -33
ARU				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.2					
ARU	**Arti**	**29.05**	**41**	*e*P	**P**	**14 44 38.3 +0.8**
	comp=Z,5.3nm,1.0s,mb4.2					
ARU	**Arti**	**29.05**	**41**	*i* P	**P**	**14 44 39.1 +1.6**
	comp=Z,5.0nm,1.0s,mb4.2					
ARCES	**ARCESS Array B**	**31.00**	**1**	LR	LR	14 58 16.3
	comp=Z,181nm,18.9s,MS3.8,baz=112,slow=38					
TORD	**Torodi Ar. Bea**	**32.05**	**224**	P	**P**	**14 45 03.0 -1.0**
	comp=Z,4.7nm,0.8s,mb4.4,baz=33,slow=9.3,SNR=14					
CHKZ	**Chkalovo**	**35.08**	**49**	P	**P**	**14 45 32.7 +2.3**
CHKZ				pmax	pmax	
	comp=Z,2.0nm,0.9s,mb4.0					
CHKZ	**Chkalovo**	**35.08**	**49**	P	**P**	**14 45 32.7 +2.3**
	comp=Z,2.3nm,0.9s,mb4.1					
CHKZ	**Chkalovo**	**35.08**	**49**	P	**P**	**14 45 32.7 +2.3**
	comp=Z,2.0nm,0.9s,mb4.0					
KURK	**Kurchatov**	**39.96**	**54**	*e*P	**P**	**14 46 13.6 +1.8**
	comp=Z,2.5nm,1.2s,mb3.8					
KURK	**Kurchatov**	**39.96**	**54**	*e*P	**P**	**14 46 13.2 +1.5**
DBIC	**Dimbokro**	**41.00**	**227**	P	**P**	**14 46 18.6 -1.7**
	comp=Z,3.9nm,0.8s,mb4.1,baz=11,slow=16,SNR=3.7					
MKAR	**Makanchi Array**	**42.88**	**59**	P	**P**	**14 46 36.7 +0.9**
	comp=Z,0.8nm,0.6s,mb3.6,baz=272,slow=6.9,SNR=13					
MKAR	**Makanchi Array**	**42.88**	**59**	P	**P**	**14 46 36.7 +0.9**
WMQ	**Urumqi**	**47.30**	**62**	P	**P**	**14 47 14.0 +3.1**
WMQ				AMB	AMB	
	comp=Z,80nm,5.0s					
WMQ				LR	LR	
	comp=Z,20nm,24.0s,MS3.0					
SONM	**Songino Array**	**58.19**	**52**	P	**P**	**14 48 31.8 +0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=294,slow=11,SNR=7.4					
ULN	**Ulaanbaatar**	**58.58**	**52**	*e*P	**P**	**14 48 34.3 +0.1**
ULN				pmax	pmax	
	comp=Z,3.0nm,1.1s,mb4.2					
ULN	**Ulaanbaatar**	**58.58**	**52**	*e*P	**P**	**14 48 34.2 +0.1**
	comp=Z,3.3nm,1.1s,mb4.3					
ULN	**Ulaanbaatar**	**58.58**	**52**	*e*P	**P**	**14 48 34.3 +0.1**
	comp=Z,3.0nm,1.1s,mb4.2					
SCHQ	**Schefferville**	**59.87**	**318**	P	**P**	**14 48 42.2 -0.9**
	comp=Z,3.4nm,0.5s,mb4.6,baz=55,slow=3.8,SNR=12					
SCHQ	**Schefferville**	**59.87**	**318**	P	**P**	**14 48 42.2 -0.9**
LZH	**Lanzhou**	**61.71**	**65**	*e*P	**P**	**14 48 56.5 +0.9**
LZH				AP	pP	14 49 00.2 +3.8
LZH				XP	sP	14 49 01.5 +4.5
LZH				PP	PP	14 51 14.7 +3.4
LZH				AMB	AMB	
	comp=Z,10.0nm,1.5s,mb4.7					
LZH				AMB	AMB	
	comp=Z,40nm,7.3s					
LZH				LR	LR	
	comp=E,190nm,16.2s					
LZH				LR	LR	
	comp=Z,290nm,18.8s,MS4.5					
CD2	**Chengdu**	**64.22**	**70**	*e*P	**P**	**14 49 11.0 -1.4**
CD2				AMB	AMB	
	comp=Z,10.0nm,0.9s,mb4.8					
HHC	**Hu-ho-hao-te**	**64.67**	**57**	*e*P	**P**	**14 49 15.4 +0.2**
HHC				AP	pP	14 49 20.1 +3.8
HHC				XP	sP	14 49 22.4 +5.8
HHC				PCP	PcP	14 49 49.3 +0.3
HHC				PP	PP	14 51 39.8 +2.5
HHC				SCP		14 53 50.0
HHC				PCS		14 53 51.7
HHC				S	**S**	**14 57 52.6 -3.4**
HHC				XS	sS	14 58 00.8 +3.1
HHC				PS		14 58 14.6
HHC				SCS	ScS	14 59 05.5 -5.2
HHC				SS	SS	15 02 04.4 -2.2
HHC				AMB	AMB	
	comp=Z,140nm,6.8s					
HHC				LR	LR	
	comp=N,110nm,30.0s					
HHC				LR	LR	
	comp=E,500nm,24.6s					
HHC				LR	LR	
	comp=Z,50nm,28.5s,MS3.5					
KMI	**Kunming**	**66.52**	**76**	P	**P**	**14 49 29.5 +2.3**
BOSA	**Boshof**	**66.89**	**179**	LR	LR	15 22 50.5
	comp=Z,54nm,19.7s,MS3.8,baz=176,slow=40					
MDJ	**Mudanjiang**	**73.59**	**46**	P	**P**	**14 50 10.0 -0.6**
MDJ				AMB	AMB	
	comp=Z,10.0nm,2.1s,mb4.4					
MDJ				AMB	AMB	
	comp=Z,50nm,4.2s					
SSE	**Sheshan**	**76.54**	**61**	P	**P**	**14 50 26.8 -0.9**
SSE				AMB	AMB	
	comp=Z,380nm,3.9s					
PDAR	**Pinedale Array**	**88.60**	**328**	LR	LR	15 31 59.9
	comp=Z,42nm,21.0s,MS3.8,baz=274,slow=36					
ASAR	**Alice Springs**	**119.68**	**98**	PKP	PKPdf	14 57 25.8 -1.8
	comp=Z,0.6nm,0.8s,baz=331,slow=1.6,SNR=5.9					
ASAR	**Alice Springs**	**119.68**	**98**	PKIKP	PKPdf	14 57 25.8 -1.7
ASAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					

ISCJB ***08*** *14:39:10.8±0.6,5458N±002×16194E±007,h25km±4km, Error ellipse: s-maj=6.6km s-min=2.8km az=34.6*
MOS ***08*** *14:39:10.6±0.5,5455N×16183E,h20km,mb4.3/1, Error ellipse: s-maj=22.8km s-min=10.8km az=72.5*
KRSC ***08*** *14:39:10.0±0.7,5458N×16198E,h22km±2km,ML4.2*
ISC 08 14:39:11.4±0.6,5459N±002×16194E±007,h22km±4km, n46,σ1$00/82,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.13**	**255**	P	**Pb**	**14 39 15.4**	**-0.5**
MKZ				S	**Sb**	**14 39 19.0**	**+0.1**
MKZ	**Mys Kozlova**	**0.13**	**255**	*i* P	**Pb**	**14 39 15.4**	**-0.5**
TUMR	**Tumrok**	**1.25**	**305**	*e*P	**Pn**	**14 39 31.0**	**-2.5**
TUMR				*e*S	**Sn**	**14 39 47.0**	**-2.6**
KMNR	**Kamenistaya**	**1.52**	**321**	*e*P	**Pn**	**14 39 36.1**	**-1.2**
KMNR				*e*S	**Sn**	**14 39 55.0**	**-1.4**
KII	**Karymskiy**	**1.56**	**250**	P	**Pn**	**14 39 36.9**	**-0.9**
KII				S	**Sn**	**14 39 55.8**	**-1.5**
KII	**Karymskiy**	**1.56**	**250**	*e*P	**Pn**	**14 39 36.8**	**-1.0**
KII				*e*S	**Sn**	**14 39 55.7**	**-1.6**
ZLN	**Zelenaya**	**1.57**	**336**	*e*P	**Pn**	**14 39 37.6**	**-0.4**
ZLN				*i* S	**Sn**	**14 39 57.6**	**0.0**
LGNR	**Loginova**	**1.66**	**335**	*e*P	**Pn**	**14 39 39.1**	**-0.1**
LGNR				*i* S	**Sn**	**14 40 00.5**	**+0.7**
CIRR	**Tsirk**	**1.67**	**337**	*i* P	**Pn**	**14 39 39.5**	**+0.1**
CIRR				*e*S	**Sn**	**14 40 00.6**	**+0.5**
KPT	**Kopyto**	**1.69**	**325**	*e*P	**Pn**	**14 39 39.3**	**-0.3**
KPT				*e*S	**Sn**	**14 40 00.7**	**+0.1**
KBTR	**Krutoberegovo**	**1.70**	**17**	P	**Pn**	**14 39 41.1**	**+1.4**
KBTR				S	**Sn**	**14 40 04.1**	**+3.3**
KBTR	**Krutoberegovo**	**1.70**	**17**	*e*P	**Pn**	**14 39 39.5**	**-0.2**
KBTR				*e*S	**Sn**	**14 40 04.2**	**+3.4**
KBG	**Krutoberegovo**	**1.73**	**14**	*e*P	**Pn**	**14 39 40.6**	**+0.5**
KBG				*e*S	**Sn**	**14 40 01.1**	**-0.3**
KBG				Smax			
	970nm,0.7s						
KRSR	**Krestovskiy**	**1.81**	**335**	*e*P	**Pn**	**14 39 40.5**	**-0.7**
KRSR				*e*S	**Sn**	**14 40 02.9**	**-0.6**
SPN	**Mys Shipunski**	**1.88**	**218**	P	**Pn**	**14 39 41.1**	**-1.1**
SPN				S	**Sn**	**14 40 03.5**	**-1.6**
SPN	**Mys Shipunski**	**1.88**	**218**	*e*P	**Pn**	**14 39 41.1**	**-1.1**
SPN				*e*S	**Sn**	**14 40 02.3**	**-2.8**
KLY	**Klyuchi**	**1.88**	**338**	P	**Pn**	**14 39 41.4**	**-0.8**
KLY				S	**Sn**	**14 40 04.2**	**-1.0**
KLY	**Klyuchi**	**1.88**	**338**	*e*P	**Pn**	**14 39 41.4**	**-0.8**
KLY				*i* S	**Sn**	**14 40 04.3**	**-0.9**
KOZR	**Kozyr**	**1.89**	**323**	PN	**Pn**	**14 39 42.7**	**+0.4**
KOZR				S	**Sn**	**14 40 06.6**	**+1.2**
KOZ	**Kozyrevsk**	**1.89**	**322**	P	**Pn**	**14 39 42.7**	**+0.4**
KOZ				S	**Sn**	**14 40 06.6**	**+1.2**
KOZ	**Kozyrevsk**	**1.89**	**322**	*e*P	**Pn**	**14 39 42.7**	**+0.4**
KOZ				*e*S	**Sn**	**14 40 06.6**	**+1.2**
SMKR	**Semkarok**	**2.02**	**353**	*e*P	**Pn**	**14 39 44.6**	**+0.5**
BDR	**Baidarnaya**	**2.03**	**348**	*e*P	**Pn**	**14 39 44.4**	**+0.2**
BDR				*e*S	**Sn**	**14 40 10.7**	**+1.9**
NLC	**Nalytchevo**	**2.09**	**228**	P	**Pn**	**14 39 44.7**	**-0.4**
NLC				S	**Sn**	**14 40 09.8**	**-0.7**
NLC	**Nalytchevo**	**2.09**	**228**	*e*P	**Pn**	**14 39 44.7**	**-0.4**
NLC				*e*S	**Sn**	**14 40 09.8**	**-0.7**
SRKR	**Sorokina**	**2.12**	**348**	*e*P	**Pn**	**14 39 45.9**	**+0.5**
SRDR	**Sredinnyy**	**2.15**	**325**	*e*P	**Pn**	**14 39 45.7**	**-0.1**
SRDR				*e*S	**Sn**	**14 40 12.7**	**+0.9**
SDLR	**Sedlovina**	**2.23**	**235**	*e*P	**Pn**	**14 39 47.2**	**+0.1**
SDLR				*e*S	**Sn**	**14 40 14.7**	**+0.7**
SMAR	**Somma**	**2.28**	**236**	*e*P	**Pn**	**14 39 48.1**	**+0.4**

couple: M♃1.29700×10^17 NP1:ϕ♃324.00000°, δ55.00000°, λ-42.00000°. NP2:ϕ♄81.00000°, δ57.00000°, λ-137.00000°. Principal axes: T 1.2430, Plg1.0000°, Azm202.0000°; N 0.1080, Plg38.0000°, Azm112.0000°; P -1.3510, Plg52.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s.

*IDC **08** 14:59:35.2±0.7,2043S×17796W,h551km±7km,mb4.5/13, mb1 4.5/14,mb1mx4.4/16,mbtmp5.3/14 Error ellipse: s-maj=11.3km s-min=10.5km az=164.0*

ISC 08 14:59:35.3±0.1,2052S±003×17794W±004,h552km, h552km±2.8km:pP-P,n571,σ0°89/337,mb4.9/88,92C-101D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.70**	**180**	P	**P**	**15 01 38.8**	**-1.2**
	407nm,0.3s,baz=349,slow=2.2,SNR=12						
RAO				S	**S**	**15 03 12.7**	**-10**
	119nm,0.3s,baz=87,slow=22,SNR=4.1						
RAO	**Raoul Island**	**8.70**	**180**	P	**P**	**15 01 38.8**	**-1.2**
RAO				S	**S**	**15 03 12.7**	**-10**
RAO				pmax	pmax		
	comp=Z,407nm,0.3s						
RAO				smax			
	comp=N,119nm,0.3s						
RAO	**Raoul Island**	**8.70**	**180**	*e*P	**P**	**15 01 38.3**	**-1.6**
	comp=N,640nm,0.3s						
RAO				*e*S	**S**	**15 03 12.1**	**-10**
AFI	**Afiamalu**	**8.82**	**43**	P	**P**	**15 01 35.9**	**-5.3**
	comp=N,54nm,0.3s,baz=19,slow=1.5,SNR=66						
AFI				S	**S**	**15 03 12.3**	**-12**
	comp=N,62nm,0.3s,baz=28,slow=24,SNR=13						
AFI	**Afiamalu**	**8.82**	**43**	P	**P**	**15 01 35.9**	**-5.4**
AFI				S	**S**	**15 03 12.3**	**-12**
AFI				pmax	pmax		
	comp=Z,54nm,0.3s						
AFI				smax			
	comp=N,62nm,0.3s						
AFI	**Afiamalu**	**8.82**	**43**	⇑*i*P	**P**	**15 01 35.5**	**-5.8**
	comp=N,766nm,0.8s						
AFI				*e*S	**S**	**15 03 11.4**	**-13**
FUNA	**Funafuti**	**12.24**	**347**	*e*P	**P**	**15 02 12.1**	**-4.1**
DZM	**Mont Dzumac**	**14.63**	**261**	*e*P	**P**	**15 02 41.1**	**+0.2**
DZM	**Mont Dzumac**	**14.63**	**261**	P	**P**	**15 02 41.0**	**+0.1**
	comp=N,2.2nm,0.3s,baz=78,slow=18,SNR=39						
NOUC	**Port Laguerre**	**14.77**	**261**	*e*P	**P**	**15 02 40.2**	**-2.1**
OUZ	**Omahuta**	**16.43**	**205**	PN	**P**	**15 02 59.8**	**+1.2**
OUZ	**Omahuta**	**16.43**	**205**	*e*P	**P**	**15 02 59.4**	**+0.7**
WCZ	**Waipu Caves**	**16.79**	**202**	PN	**P**	**15 03 03.1**	**+1.2**
WCZ	**Waipu Caves**	**16.79**	**202**	P	**P**	**15 03 03.1**	**+1.2**
KUZ	**Kuaotunu**	**17.09**	**198**	PN	**P**	**15 03 05.5**	**+0.8**
KUZ	**Kuaotunu**	**17.09**	**198**	*e*P	**P**	**15 03 03.1**	**-1.6**
MTAZ	**Motutapu**	**17.37**	**200**	PN	**P**	**15 03 09.3**	**+2.0**
MTAZ	**Motutapu**	**17.37**	**200**	P	**P**	**15 03 09.2**	**+2.0**
KAAZ	**Kauri Point**	**17.47**	**200**	PN	**P**	**15 03 10.2**	**+2.0**
KAAZ	**Kauri Point**	**17.47**	**200**	P	**P**	**15 03 10.3**	**+2.2**
OTAZ	**Otara**	**17.52**	**199**	PN	**P**	**15 03 10.1**	**+1.5**
OTAZ	**Otara**	**17.52**	**199**	P	**P**	**15 03 10.3**	**+1.7**
WTAZ	**Waiatarua**	**17.61**	**200**	PN	**P**	**15 03 10.3**	**+0.9**
WTAZ	**Waiatarua**	**17.61**	**200**	P	**P**	**15 03 11.0**	**+1.6**
PUZ	**Puketiti**	**17.80**	**190**	PN	**P**	**15 03 10.2**	**-1.0**
PUZ				*e*SN	**S**	**15 06 05.8**	**-1.1**
PUZ	**Puketiti**	**17.80**	**190**	*e*P	**P**	**15 03 10.5**	**-0.7**
TGRZ	**Tauranga**	**17.88**	**195**	PN	**P**	**15 03 12.8**	**+0.9**
TGRZ	**Tauranga**	**17.88**	**195**	*e*P	**P**	**15 03 12.9**	**+1.0**
MWZ	**Matawai**	**18.18**	**191**	PN	**P**	**15 03 13.5**	**-1.2**
MWZ	**Matawai**	**18.18**	**191**	*e*P	**P**	**15 03 13.6**	**-1.1**
URZ	**Urewera**	**18.19**	**193**	P	**P**	**15 03 11.6**	**-3.2**
	comp=N,37nm,0.3s,baz=2.9,slow=3.3,SNR=131						
URZ				S	**S**	**15 06 08.6**	**-4.7**
	comp=N,0.7nm,0.3s,baz=237,slow=23,SNR=4.5						
URZ	**Urewera**	**18.19**	**193**	*e*PN	**P**	**15 03 11.5**	**-3.3**
URZ	**Urewera**	**18.19**	**193**	*e*P	**P**	**15 03 12.1**	**-2.6**
TAZ	**Tarawera**	**18.30**	**194**	*e*PN	**P**	**15 03 15.8**	**+0.1**
TAZ	**Tarawera**	**18.30**	**194**	P	**P**	**15 03 16.4**	**+0.7**
PATZ	**Paeroa**	**18.50**	**194**	PN	**P**	**15 03 17.0**	**-0.5**
PATZ	**Paeroa**	**18.50**	**194**	P	**P**	**15 03 17.9**	**+0.4**
HIZ	**Hauiti**	**18.98**	**198**	PN	**P**	**15 03 23.7**	**+1.7**
HIZ	**Hauiti**	**18.98**	**198**	*e*P	**P**	**15 03 24.9**	**+2.9**
BKZ	**Black Stump Fm**	**19.19**	**193**	*e*PN	**P**	**15 03 20.7**	**-3.2**
BKZ	**Black Stump Fm**	**19.19**	**193**	*e*P	**P**	**15 03 21.2**	**-2.7**
BFZ	**Birch Farm**	**20.70**	**193**	PN	**P**	**15 03 36.5**	**-1.1**
BFZ	**Birch Farm**	**20.70**	**193**	*e*P	**P**	**15 03 36.3**	**-1.2**
MRZ	**Mangatainoka R**	**20.83**	**194**	PN	**P**	**15 03 36.2**	**-2.5**
MRZ	**Mangatainoka R**	**20.83**	**194**	P	**P**	**15 03 36.4**	**-2.3**
KIW	**Kapiti Island**	**21.17**	**195**	P	**P**	**15 03 40.2**	**-1.6**
SNZO	**South Karori**	**21.65**	**195**	*e*P	**P**	**15 03 45.4**	**-0.7**
	comp=N,95nm,0.7s,mb5.5						
QRZ	**Quartz Range**	**21.81**	**200**	PN	**P**	**15 03 47.6**	**0.0**
QRZ	**Quartz Range**	**21.81**	**200**	P	**P**	**15 03 47.9**	**+0.4**
NNZ	**Nelson**	**21.91**	**198**	*e*PN	**P**	**15 03 47.3**	**-1.2**
NNZ	**Nelson**	**21.91**	**198**	*e*P	**P**	**15 03 47.0**	**-1.4**
TUWZ	**Tuamarina**	**21.95**	**196**	PN	**P**	**15 03 46.8**	**-2.0**
THZ	**Tophouse**	**22.55**	**198**	PN	**P**	**15 03 52.8**	**-1.4**
THZ	**Tophouse**	**22.55**	**198**	*e*P	**P**	**15 03 52.8**	**-1.3**
DSZ	**Denniston Nort**	**22.88**	**200**	PN	**P**	**15 03 56.2**	**-0.8**
DSZ	**Denniston Nort**	**22.88**	**200**	*e*P	**P**	**15 03 56.8**	**-0.2**
KHZ	**Kahutara**	**22.98**	**196**	PN	**P**	**15 03 56.9**	**-1.1**
KHZ	**Kahutara**	**22.98**	**196**	*e*P	**P**	**15 03 57.0**	**-1.0**
LTZ	**Lake Taylor**	**23.68**	**198**	PN	**P**	**15 04 02.3**	**-1.9**
LTZ	**Lake Taylor**	**23.68**	**198**	*e*P	**P**	**15 04 02.5**	**-1.6**
HNR	**Honiara**	**24.00**	**294**	P	**P**	**15 04 06.0**	**-1.0**
	comp=N,18nm,0.6s,mb4.9,baz=104,slow=1.3,SNR=3.0						
HNR	**Honiara**	**24.00**	**294**	P	**P**	**15 04 06.0**	**-1.0**
HNR				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
HNR	**Honiara**	**24.00**	**294**	*e*P	**P**	**15 04 04.9**	**-2.1**
	comp=Z,45nm,0.8s,mb5.2						
WVZ	**Waitaha Valley**	**24.41**	**200**	PN	**P**	**15 04 09.5**	**-1.2**
WVZ	**Waitaha Valley**	**24.41**	**200**	*e*P	**P**	**15 04 09.4**	**-1.3**
RPZ	**Rata Peaks**	**24.89**	**199**	P	**P**	**15 04 14.2**	**-0.7**
	comp=Z,26nm,0.5s,mb5.1,baz=344,slow=2.6,SNR=28						
TBI	**Tubuai**	**26.55**	**101**	*e*LR	LR	15 10 52.6	
	comp=Z,224nm,33.8s						
PPT	**Papeete**	**26.96**	**89**	*e*LR	LR	15 11 00.3	
	comp=Z,731nm,26.2s						
PPT	**Papeete**	**26.96**	**89**	P	**P**	**15 04 33.0**	**-0.1**
	comp=Z,23nm,0.5s,mb5.1,baz=227,slow=9.3,SNR=4.3						
ARMA	**Armidale**	**29.11**	**244**	*e*P	**P**	**15 04 53.4**	**+1.6**
CNB	**Canberra Magne**	**32.26**	**236**	⇓*i*P	**P**	**15 05 20.3**	**+1.5**
	comp=Z,26nm,1.0s,mb4.7						
CTAO	**Charters Tower**	**33.54**	**264**	⇓*i*P	**P**	**15 05 30.2**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,179nm,0.7s,mb5.7						
CTAO	**Charters Tower**	**33.54**	**264**	⇓*i*P	**P**	**15 05 30.2**	**+0.6**
	comp=Z,179nm,0.7s,mb5.7						
PMG	**Port Moresby**	**35.40**	**283**	P	**P**	**15 05 45.5**	**+0.3**
	comp=Z,235nm,0.9s,mb5.7,baz=74,slow=5.4,SNR=44						
PMG	**Port Moresby**	**35.40**	**283**	P	**P**	**15 05 45.5**	**+0.3**
PMG				pmax	pmax		
	comp=Z,235nm,0.9s						
PMG	**Port Moresby**	**35.40**	**283**	⇓*i*P	**P**	**15 05 45.2**	**+0.1**
	comp=Z,371nm,1.0s,mb5.9						
TOO	**Toolangi**	**35.93**	**234**	⇓*i*P	**P**	**15 05 50.6**	**+1.0**
	comp=Z,12nm,0.5s,mb4.7						
TOO				*e*S	**S**	**15 10 49.5**	**+0.7**
TOO	**Toolangi**	**35.93**	**234**	⇓*i*P	**P**	**15 05 50.6**	**+1.0**
TOO				*e*S	**S**	**15 10 49.5**	**+0.7**
TOO				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.7						
TAU	**Tasmania Unive**	**36.65**	**225**	*e*P	**P**	**15 05 56.5**	**+1.0**
TAU				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.6						
TAU	**Tasmania Unive**	**36.65**	**225**	*e*P	**P**	**15 05 56.5**	**+1.0**
	comp=Z,14nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**37.83**	**244**	⇓*i*P	**P**	**15 06 04.3**	**-0.8**
	comp=Z,8.1nm,0.5s,mb4.5						
STKA				*e*S	**S**	**15 11 15.6**	**-1.4**
STKA	**Stephens Creek**	**37.83**	**244**	P	**P**	**15 06 04.3**	**-0.8**
	comp=Z,8.1nm,0.4s,mb4.6,baz=97,slow=10,SNR=40						
STKA				PcP	PcP	15 08 06.8	-0.1
	comp=Z,12nm,1.1s,baz=86,slow=3.4,SNR=3.8						
AS31	**Alice Springs**	**44.56**	**257**	⇓*i*P	**P**	**15 06 58.7**	**+0.3**
AS31				*e*PcP	PcP	15 08 30.3	+0.9
AS31				*e*S	**S**	**15 12 54.0**	**-0.1**
AS31				*e*ScS	ScS	15 15 58.0	+3.2
ASAR	**Alice Springs**	**44.56**	**257**	P	**P**	**15 06 58.9**	**+0.5**
	comp=Z,176nm,0.9s,mb5.6,baz=101,slow=7.8,SNR=930						
ASAR				PcP	PcP	15 08 30.1	+0.7
	comp=Z,19nm,0.9s,baz=111,slow=3.5,SNR=8.9						
ASAR				S	**S**	**15 12 54.0**	**-0.1**
	comp=Z,52nm,1.0s,baz=94,slow=15,SNR=56						
ASPA	**Alice Springs**	**44.57**	**257**	⇓*i*P	**P**	**15 06 58.7**	**+0.2**
ASPA				*e*PCP	PcP	15 08 30.3	+0.9
ASPA				*e*S	**S**	**15 12 54.0**	**-0.2**
ASPA				*e*SCS	ScS	15 15 58.0	+3.2
WRAB	**Tennant Creek**	**44.64**	**262**	*d i*P	**P**	**15 06 58.9**	**-0.1**
WRAB	**Tennant Creek**	**44.64**	**262**	⇓*i*P	**P**	**15 06 58.8**	**-0.2**
	comp=Z,420nm,1.0s,mb5.9						
KAKA	**Kakadu**	**48.03**	**271**	*e*P	**P**	**15 07 24.4**	**-0.2**
	comp=Z,164nm,0.5s,mb5.8						
FORT	**Forrest**	**49.34**	**247**	⇓*i*P	**P**	**15 07 34.2**	**-0.1**
	comp=Z,85nm,0.7s,mb5.4						
FORT				*e*S	**S**	**15 14 13.3**	**+13**
GUMO	**Guam**	**49.85**	**310**	P	**P**	**15 07 38.4**	**+0.2**
	comp=Z,241nm,0.9s,mb5.6,baz=181,slow=7.7,SNR=12						
SBA	**Scott Base**	**57.86**	**184**	*e*P	**P**	**15 08 37.5**	**+3.0**
VNDA	**Vanda**	**57.90**	**185**	P	**P**	**15 08 36.4**	**+1.5**
	comp=Z,1.8nm,0.6s,baz=12,slow=7.6,SNR=22						
VNDA				PcP	PcP	15 09 20.4	+0.8
	comp=Z,2.6nm,0.9s,baz=9.6,slow=2.0,SNR=6.7						
VNDA				ScP	ScP	15 12 29.6	+3.0
	comp=Z,3.0nm,1.1s,baz=21,slow=5.6,SNR=3.7						
MBWA	**Marble Bar**	**57.90**	**257**	*e*P	**P**	**15 08 35.1**	**+0.3**
	comp=Z,91nm,0.8s,mb5.1						
MBWA				*e*PcP	PcP	15 09 20.3	+0.7
KLBR	**Kellerberrin**	**58.09**	**245**	⇓*i*P	**P**	**15 08 36.4**	**+0.2**
	comp=Z,97nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**58.41**	**243**	*e*P	**P**	**15 08 38.7**	**+0.4**
NWAO				pmax	pmax		
	comp=Z,46nm,1.1s						
NWAO	**Narrogin (SRO)**	**58.41**	**243**	*e*P	**P**	**15 08 38.7**	**+0.4**
	comp=Z,46nm,1.1s,mb4.6						
MUN	**Mundaring**	**59.37**	**244**	*e*P	**P**	**15 08 45.7**	**+1.0**
DAV	**Davao City (W)**	**61.89**	**290**	P	**P**	**15 09 00.3**	**-1.0**
	comp=Z,391nm,0.9s,mb5.8						
CASY	**Casey**	**63.97**	**205**	*e*P	**P**	**15 09 14.9**	**+0.2**
TSM	**Tawau**	**67.59**	**284**	P	**P**	**15 09 38.8**	**+1.5**
TGY	**Tagaytay City**	**69.21**	**295**	P	**P**	**15 09 47.7**	**+0.6**
	comp=Z,160nm,0.4s,baz=293,slow=3.7,SNR=4.9						
QSPA	**South Pole Qui**	**69.55**	**180**	*e*P	**P**	**15 09 50.3**	**+1.3**
	comp=Z,8.6nm,0.7s,mb4.4						
KKM	**Kota Kinabalu**	**69.81**	**285**	P	**P**	**15 09 51.6**	**+1.0**
KKM	**Kota Kinabalu**	**69.81**	**285**	*e*P	**P**	**15 09 51.4**	**+0.7**
JOW	**Kunigami**	**70.22**	**310**	P	**P**	**15 09 54.0**	**+1.0**
	comp=Z,56nm,0.5s,mb5.4,baz=147,slow=9.4,SNR=11						
MJAR	**Matsushiro Arr**	**70.25**	**324**	P	**P**	**15 09 52.2**	**-1.0**
	comp=Z,81nm,0.7s,mb5.4,baz=157,slow=5.8,SNR=143						
MAJO	**Matsushiro**	**70.26**	**324**	*e*P	**P**	**15 09 52.5**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,71nm,0.6s,mb5.4						
MAJO	**Matsushiro**	**70.26**	**324**	*e*P	**P**	**15 09 52.5**	**-0.8**
	comp=Z,71nm,0.6s,mb5.4						
MAT	**Matsushiro**	**70.26**	**324**	P	**P**	**15 09 52.2**	**-1.0**
MAT				S	S	15 18 20.8	-0.6
MAT	**Matsushiro**	**70.26**	**324**	*e*P	**P**	**15 09 52.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,78nm,0.9s,mb5.2						
MAT	**Matsushiro**	**70.26**	**324**	*e*P	**P**	**15 09 52.0**	**-1.2**
	comp=Z,78nm,0.9s,mb5.2						
SMY	**Shemya**	**73.26**	**355**	*e*P	**P**	**15 10 08.4**	**-2.3**
SMY				pmax	pmax		
	comp=Z,33nm,0.5s,mb5.0						
SMY	**Shemya**	**73.26**	**355**	*e*P	**P**	**15 10 08.4**	**-2.3**
	comp=Z,33nm,0.5s,mb5.0						
NACB	**Ninganchiao**	**73.73**	**304**	*e*P	**P**	**15 10 12.4**	**-1.0**
YHNB	**Yeheng**	**74.16**	**304**	*e*P	**P**	**15 10 15.3**	**-0.5**
SKR	**Severo-Kuril's**	**74.49**	**343**	*e*P	**P**	**15 10 11.0**	**-6.7**
SKR				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.0						
YSS	**Yuzh-Sakhalins**	**75.93**	**333**	*e*P	**P**	**15 10 25.8**	**+0.1**
YSS				pmax	pmax		
	comp=Z,134nm,0.9s,mb5.4						
YSS	**Yuzh-Sakhalins**	**75.93**	**333**	*e*P	**P**	**15 10 25.8**	**+0.1**
	comp=Z,134nm,0.9s,mb5.4						
PET	**Petropavlovsk**	**76.00**	**346**	*e*P	**P**	**15 10 24.0**	**-2.0**
PET				*e*		15 19 20.4	
PET				*e*		15 19 42.5	
PET				pmax	pmax		
	comp=Z,37nm,1.6s,mb4.6						
PET	**Petropavlovsk**	**76.00**	**346**	*e*P	**P**	**15 10 23.2**	**-2.8**
	comp=Z,74nm,1.3s,mb5.0						
QZH	**Quanzhou**	**76.47**	**303**	⇑*i*P	**P**	**15 10 29.5**	**+0.9**
QZH				AMB	AMB		
	comp=Z,250nm,0.9s,mb5.6						
KS15	**Wonju Array Si**	**76.95**	**319**	*e*P	**P**	**15 10 31.6**	**+0.4**
HAST	**Hastings Reser**	**77.71**	**43**	⇓P	**P**	**15 10 35.4**	**0.0**
	baz=78						
SSE	**Sheshan**	**77.74**	**310**	P	**P**	**15 10 35.1**	**-0.4**
SSE				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
SSE				AMB	AMB		
	comp=Z,570nm,3.7s						
INCN	**Inchon**	**77.76**	**318**	*e*P	**P**	**15 10 36.0**	**+0.3**
	comp=Z,73nm,0.9s,mb5.0						
PKD	**Parkfield**	**78.10**	**44**	⇓P	**P**	**15 10 37.7**	**+0.2**
	baz=78						
VLA	**Vladivostok**	**78.33**	**325**	⇑*i*P	**P**	**15 10 37.1**	**-1.6**
VLA				pmax	pmax		
	comp=Z,85nm,1.3s,mb4.9						
S04C	**Ingram Canyon,**	**78.52**	**43**	⇓P	**P**	**15 10 40.6**	**+0.9**
	baz=79						
O01C	**Eel River Cons**	**78.62**	**39**	⇑P	**P**	**15 10 40.8**	**+0.5**
	baz=79						
MNRC	**McLaughlin Nat**	**78.66**	**41**	⇓P	**P**	**15 10 41.0**	**+0.5**
	baz=79						
GASB	**Alder Springs**	**78.97**	**40**	⇓P	**P**	**15 10 42.8**	**+0.6**
	baz=79						
S05C	**Merced**	**79.07**	**43**	⇓P	**P**	**15 10 43.2**	**+0.5**
	baz=79						
O02C	**Red Bluff**	**79.26**	**40**	⇓P	**P**	**15 10 44.2**	**+0.6**
	baz=80						
ISA	**Isabella**	**79.31**	**46**	⇑P	**P**	**15 10 44.1**	**+0.2**
	baz=80						
N02C	**Big Bar**	**79.35**	**39**	⇓P	**P**	**15 10 44.2**	**+0.1**
	baz=80						
CMB	**Columbia Colle**	**79.44**	**43**	*e*P	**P**	**15 10 44.4**	**-0.2**
CMB				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
CMB	**Columbia Colle**	**79.44**	**43**	*e*P	**P**	**15 10 44.4**	**-0.2**
	comp=Z,11nm,1.0s,mb4.1						
CMB	**Columbia Colle**	**79.44**	**43**	⇑P	**P**	**15 10 44.6**	**0.0**
	baz=80						
HELL	**Mitchell Peak**	**79.53**	**44**	⇑P	**P**	**15 10 44.7**	**-0.4**
	baz=80						
OHCM	**Honcut**	**79.53**	**41**	*e*P	**P**	**15 10 44.7**	**-0.4**
PFO	**Pinyon Flat Ob**	**79.55**	**48**	⇓P	**P**	**15 10 45.1**	**0.0**
	baz=80						
O03C	**Acorn Hollow,**	**79.60**	**40**	⇑P	**P**	**15 10 46.1**	**+0.6**
	baz=80						
LAVA	**Lava Cap Winer**	**79.65**	**42**	⇓P	**P**	**15 10 45.3**	**-0.4**
	baz=80						
WDC	**Whiskeytown Da**	**79.65**	**40**	⇑P	**P**	**15 10 45.9**	**+0.2**
	baz=80						
ORV	**Oroville**	**79.66**	**41**	⇑P	**P**	**15 10 45.4**	**-0.3**
	baz=80						
NJ2	**Nanjing**	**79.93**	**310**	*e*P	**P**	**15 10 48.2**	**+1.0**
NJ2				AP	pP	15 12 45.0	+0.4
NJ2				XP	sP	15 13 40.0	-1.0
NJ2				PP	PP	15 13 59.0	+0.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,570nm,3.6s						
M02C	**Callahan**	**79.97**	**39**	⇑P	**P**	**15 10 47.5**	**+0.1**
	baz=80						
CWC	**Cottonwood Cre**	**80.01**	**45**	⇓P	**P**	**15 10 47.9**	**+0.3**
	baz=80						
R05C	**Kirkwood Meado**	**80.03**	**42**	⇓P	**P**	**15 10 47.9**	**+0.2**
	baz=80						
P05C	**Yuba Gap, Truc**	**80.05**	**42**	⇓P	**P**	**15 10 48.0**	**+0.2**
	baz=80						
KGM	**Kluang**	**80.17**	**276**	P	**P**	**15 10 49.8**	**+1.4**
GSC	**Goldstone**	**80.23**	**47**	⇑P	**P**	**15 10 48.6**	**-0.1**
	baz=80						
DAC	**Darwin (Calif)**	**80.25**	**45**	*e*PP	PP	15 13 59.5	-1.9
O05C	**Quincy**	**80.26**	**41**	⇑P	**P**	**15 10 48.9**	**0.0**
	baz=80						
TIN	**Tinemaha**	**80.27**	**45**	⇓P	**P**	**15 10 49.3**	**+0.3**
	baz=80						
YBH	**Yreka Blue Hor**	**80.27**	**39**	*e*P	**P**	**15 10 49.3**	**+0.4**
YBH				*e*pP	pP	15 12 48.5	+2.0
YBH	**Yreka Blue Hor**	**80.27**	**39**	⇑P	**P**	**15 10 49.4**	**+0.4**
	baz=80						
BC3	**Big Chuckw Mtn**	**80.28**	**49**	⇑P	**P**	**15 10 49.6**	**+0.6**
	baz=80						
WAKR	**Walker**	**80.32**	**43**	*e*P	**P**	**15 10 49.8**	**+0.6**
R06C	**Coleville**	**80.32**	**43**	⇓P	**P**	**15 10 49.4**	**+0.2**
	baz=80						
R07C	**Lee Vining**	**80.33**	**43**	⇓P	**P**	**15 10 49.3**	**+0.1**
	baz=80						
M03C	**McCloud**	**80.33**	**39**	⇑P	**P**	**15 10 49.0**	**-0.2**
	baz=80						
O04C	**Chester**	**80.37**	**40**	⇓P	**P**	**15 10 49.1**	**-0.4**
	baz=81						
GLA	**Glamis**	**80.40**	**49**	*e*P	**P**	**15 10 50.4**	**+0.8**
GLA	**Glamis**	**80.40**	**49**	⇓P	**P**	**15 10 49.0**	**-0.6**
	baz=81,SNR=5.9						
HATC	**Hat Creek Radi**	**80.45**	**40**	⇑P	**P**	**15 10 49.9**	**0.0**
	baz=81						
K02A	**Glendale**	**80.47**	**37**	⇑P	**P**	**15 10 49.6**	**-0.4**
	baz=81						
HABR	**Khabarovsk**	**80.49**	**330**	⇓*i*P	**P**	**15 10 50.4**	**+0.3**
HABR				*e*S	S	15 20 10.7	-0.7
HABR				pmax	pmax		
	comp=Z,115nm,1.0s,mb5.2						
S08C	**White Mtn Res**	**80.56**	**44**	⇓P	**P**	**15 10 50.8**	**+0.3**
	baz=81						
MDJ	**Mudanjiang**	**80.56**	**325**	P	**P**	**15 10 51.2**	**+0.7**
MDJ				AP	pP	15 12 48.2	0.0
MDJ				XP	sP	15 13 44.9	+0.4
MDJ				PP	PP	15 14 04.3	+0.3
MDJ				S	S	15 20 10.5	-1.7
MDJ				SS	SS	15 25 39.3	-1.2
MDJ				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,160nm,4.5s						
WCN	**Washoe City**	**80.59**	**42**	⇓P	**P**	**15 10 50.8**	**+0.2**
	baz=81						
HUMO	**Hull Mountain**	**80.67**	**38**	⇑P	**P**	**15 10 51.5**	**+0.4**
	baz=81						
J02A	**Umpqua**	**80.81**	**37**	⇑P	**P**	**15 10 51.7**	**0.0**
	baz=81						
M04C	**Macdoel**	**80.81**	**39**	⇑P	**P**	**15 10 51.9**	**+0.2**
	baz=81						
TUQ	**Turquoise Mtn.**	**80.91**	**47**	⇑P	**P**	**15 10 52.1**	**-0.2**
	baz=81						
QIZ	**Qiongzhong**	**80.91**	**294**	⇑P	**P**	**15 10 53.6**	**+1.3**
M05C	**Lookout**	**80.96**	**40**	⇑P	**P**	**15 10 52.4**	**-0.2**
	baz=81						
Y12C	**Blythe**	**80.98**	**49**	⇓P	**P**	**15 10 52.9**	**+0.2**
	baz=81						
NVAR	**Mina Array Bea**	**81.00**	**43**	P	**P**	**15 10 52.6**	**-0.1**
	comp=Z,5.3nm,0.9s,mb4.0,baz=218,slow=7.0,SNR=23						
L04A	**Klamath Falls**	**81.02**	**39**	⇓P	**P**	**15 10 53.1**	**+0.3**
	baz=81						
O06A	**Flanigan**	**81.05**	**41**	⇑P	**P**	**15 10 52.9**	**-0.1**
	baz=81,SNR=6.3						
I02A	**Mapleton**	**81.06**	**36**	⇓P	**P**	**15 10 53.2**	**+0.2**
	baz=81						
R08A	**Mina**	**81.08**	**43**	⇓P	**P**	**15 10 53.3**	**+0.2**
	baz=81						
MNV	**Mina**	**81.10**	**43**	*e*P	**P**	**15 10 53.3**	**+0.1**
MNV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
MNV	**Mina**	**81.10**	**43**	*e*P	**P**	**15 10 53.3**	**+0.1**
	comp=Z,11nm,1.1s,mb4.2						
MNV				*e*pP	pP	15 12 52.0	+0.8
M06C	**Likely Place G**	**81.27**	**40**	⇓P	**P**	**15 10 54.4**	**+0.3**
	baz=82						
S09A	**Goldfield**	**81.30**	**44**	⇓P	**P**	**15 10 54.4**	**+0.2**
	baz=82						
Q08A	**Gabbs**	**81.49**	**43**	⇑P	**P**	**15 10 55.3**	**+0.1**
	baz=82						
TPH	**Tonopah**	**81.50**	**44**	*e*P	**P**	**15 10 55.9**	**+0.6**
TPH				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.4						
TPH	**Tonopah**	**81.50**	**44**	*e*P	**P**	**15 10 55.9**	**+0.6**
	comp=Z,18nm,1.2s,mb4.4						
Y13A	**Salome**	**81.50**	**49**	⇓P	**P**	**15 10 55.8**	**+0.5**
	baz=82						
TPNV	**Topopah Spring**	**81.52**	**45

baz=84
TIA Tai'an 83.33 312 *e*P **P 15 11 04.2 -0.3**
L09A Wilkinson Ranc 83.46 41 ⇓P **P 15 11 05.0 -0.1**
baz=84
UBT Ubonrachathani 83.58 289 ⇑P **P 15 11 07.6 +1.9**
D04A Dobbs Creek Ra 83.60 34 ⇓P **P 15 11 06.3 +0.5**
baz=84
P12A McGill 83.78 44 ⇓P **P 15 11 06.9 +0.2**
baz=84
E05A Randle 83.81 35 ⇑P **P 15 11 06.4 -0.5**
baz=84
MA2 Magadan 83.81 345 *e*P **P 15 11 05.1 -1.8**
MA2 pmax pmax
comp=Z,72nm,1.3s,mb5.0
MA2 Magadan 83.81 345 *e*P **P 15 11 05.1 -1.8**
comp=Z,72nm,1.3s,mb5.0
KULM Kulim 83.83 278 ⇓*i*P **P 15 11 07.9 +1.0**
D05A Enumclaw 84.08 35 ⇓P **P 15 11 07.9 -0.4**
baz=84
GAMB Gambell 84.16 3 *e*P **P 15 11 07.2 -1.5**
ELK Elko 84.26 43 *e*P **P 15 11 08.8 -0.3**
M11A Holland Ranch, 84.29 42 ⇑P **P 15 11 09.3 +0.1**
baz=84
O12A Currie 84.31 43 ⇑P **P 15 11 09.6 +0.2**
baz=84
N12A Wells--Clov Va 84.44 43 ⇑P **P 15 11 09.9 -0.1**
baz=85
SNG Songkhla 84.54 280 P **P 15 11 12.0 +1.5**
comp=Z,356nm,0.9s,mb5.0
PSI Prapat 84.55 275 P **P 15 11 11.0 +0.5**
comp=Z,55nm,1.0s,mb5.1,baz=140,slow=2.9,SNR=28
C05A Tolt Reservoir 84.55 34 ⇑P **P 15 11 10.6 +0.1**
baz=85
B05A Bryant 84.69 34 ⇑P **P 15 11 11.3 +0.1**
baz=85
M12A Wells 84.83 42 ⇑P **P 15 11 11.9 0.0**
baz=85
TTA Tatalina 84.95 10 *e*P **P 15 11 10.5 -2.0**
TTA *e*pP pP 15 13 11.6 -0.2
N13A West Wendover 84.98 43 ⇑P **P 15 11 12.6 0.0**
baz=85
PMR Palmer 85.02 13 *e*P **P 15 11 10.9 -1.9**
PMR pmax pmax
comp=Z,13nm,0.6s,mb4.6
PMR Palmer 85.02 13 *e*P **P 15 11 10.9 -1.9**
comp=Z,13nm,0.6s,mb4.7
TSI Tuntungan 85.13 276 *e*P **P 15 11 10.3 -3.0**
M13A Montello 85.27 43 ⇓P **P 15 11 13.8 -0.3**
baz=86,SNR=5.4
DIV Divide 85.39 15 *e*P **P 15 11 13.2 -1.4**
comp=Z,88nm,1.0s,mb5.2
DUG Dugway 85.53 44 *e*pP pP 15 13 14.4 -0.4
TMUT Trail Mountain 86.13 46 *e*P **P 15 11 19.1 +0.9**
TNA Tin City 86.15 4 *e*P **P 15 11 16.8 -1.4**
comp=Z,9.6nm,0.9s,mb4.4
HLID Hailey 86.31 41 *e*P **P 15 11 18.9 -0.1**
comp=Z,4.9nm,0.2s,mb4.8
HLID *e*pP pP 15 13 20.4 +1.5
HLID *e*PP PP 15 14 49.0 -1.2
SRU San Rafael 86.50 46 *e*P **P 15 11 19.3 -0.6**
SRU pmax pmax
comp=Z,13nm,1.1s,mb4.5
SRU San Rafael 86.50 46 *e*P **P 15 11 19.3 -0.6**
comp=Z,13nm,1.1s,mb4.5
SRU *e*pP pP 15 13 21.7 +1.9
LAZ Ladron 86.63 51 *e*P **P 15 11 20.8 +0.3**
GYA Guiyang 86.70 300 ⇑*i*P **P 15 11 21.4 +0.6**
GYA AP pP 15 13 20.1 -0.7
GYA XP sP 15 14 13.6 -3.0
GYA PP PP 15 14 55.3 +2.0
GYA SKS 15 20 55.4
GYA S 15 21 12.2
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,110nm,4.2s
MNTX Cornudas Mount 86.72 55 *e*P **P 15 11 21.5 +0.6**
comp=Z,12nm,1.1s,mb4.4
MNTX *e*pP pP 15 13 19.7 -1.2
SYO Syowa Base 86.72 193 ⇑*e*P **P 15 11 20.0 -0.9**
SYO Syowa Base 86.72 193 ⇓*e*PcP PcP 15 11 21.7 -0.8
MCK McKinley 86.98 12 *e*P **P 15 11 20.0 -2.1**
MCK pmax pmax
comp=Z,16nm,1.0s,mb4.6
MCK McKinley 86.98 12 *e*P **P 15 11 20.0 -2.1**
comp=Z,16nm,1.0s,mb4.6
SKAG Skagway 86.98 20 *e*P **P 15 11 21.6 -0.5**
comp=Z,5.3nm,0.5s,mb4.4
LTX Lajitas 87.02 57 *e*P **P 15 11 23.3 +1.0**
LTX *e**PP pP 15 13 19.2 -3.3
NEW Newport 87.36 36 P **P 15 11 22.1 -1.8**
NEW pmax pmax
comp=Z,3.0nm,0.5s
NEW Newport 87.36 36 P **P 15 11 22.1 -1.8**
comp=Z,2.5nm,0.5s,mb4.1
ANMO Albuquerque 87.37 51 *e*P **P 15 11 23.5 -0.5**
ANMO *e**PP pP 15 13 22.6 -1.6
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 87.37 51 *e*P **P 15 11 23.5 -0.5**
comp=Z,8.2nm,1.1s,mb4.3
ANMO *e*pP pP 15 13 22.6 -1.6
GDL2 Guadalupe Moun 87.72 54 *e*pP pP 15 13 23.6 -2.4
MCMT McKenzie Canyo 87.93 40 *e*P **P 15 11 26.6 0.0**
SNAA Sanae 87.99 178 *e*P **P 15 11 13.5 -13**
SNAA *e* 15 11 15.1
SNAA *e* pP 15 13 16.5 -11
SNAA *e* 15 13 24.3
SNAA Sanae 87.99 178 *e*P **P 15 11 13.8 -13**
SNAA *e*pP pP 15 13 10.2 -17
DLBC Dease Lake 88.05 23 *e*P **P 15 11 27.1 -0.1**
NST Nakhon Sawan 88.09 287 P **P 15 11 29.0 +1.7**
comp=Z,58nm,1.2s,mb5.2
VNA3 Neumayer Olymp 88.12 176 *e*P **P 15 11 27.3 -0.2**
VNA3 *e* 15 11 28.1
VNA3 *e* pP 15 13 29.1 +1.1
VNA3 *e* 15 13 38.7
XAN Xi'an 88.18 307 P **P 15 11 28.5 +0.7**
XAN AMB AMB
comp=Z,100nm,1.1s,mb5.5
COLA College 88.21 12 *e*P **P 15 11 25.7 -2.2**
COLA pmax pmax
comp=Z,30nm,0.9s,mb5.0
COLA College 88.21 12 *e*P **P 15 11 25.7 -2.2**
comp=Z,30nm,0.9s,mb5.0
DLMT Dillon 88.36 40 *e*P **P 15 11 28.8 +0.2**
comp=Z,17nm,1.2s,mb4.7
REDW Red Top Meadow 88.41 42 *e*P **P 15 11 29.2 +0.4**
comp=Z,7.8nm,0.4s,mb4.8
TPAW Teton Pass 88.41 42 *e*P **P 15 11 29.5 +0.6**
comp=Z,6.3nm,0.3s,mb4.8
VNA2 Neumayer--Watz 88.56 177 *e*P **P 15 11 29.7 +0.2**
baz=200,slow=3.6
VNA2 *e* 15 11 30.5
VNA2 *e* pP 15 13 31.8 +1.7
IMW Indian Meadow 88.63 42 *e*P **P 15 11 30.2 +0.4**
comp=Z,6.9nm,0.4s,mb4.8
LRM Limekiln Ridge 88.69 40 *e*P **P 15 11 30.5 +0.4**
LRM *e*PP PP 15 15 06.0 -3.0
LOHW Long Hollow 88.69 42 *e*P **P 15 11 30.3 +0.1**
comp=Z,6.5nm,0.6s,mb4.6
MAIT Maitri 88.70 183 *e*P **P 15 11 30.1 -0.1**
NVL N'lazarevskaya 88.70 183 ⇑*i*P **P 15 11 29.6 -0.6**
NVL pmax pmax
comp=Z,32nm,1.7s,mb4.9
HIA Hailar 88.74 325 *d i*P **P 15 11 29.6 -0.8**
VNA1 Neumayer--Stat 88.79 177 *e*P **P 15 11 31.2 +0.6**
VNA1 *e* 15 11 32.2
VNA1 *e* pP 15 13 33.7 +2.4
CHMT Chamberlain Mo 88.80 38 *e*P **P 15 11 30.2 -0.4**
QLMT Earthquake Lak 88.80 41 *e*P **P 15 11 31.4 +0.8**
FLWY Flagg Ranch 88.87 42 *e*P **P 15 11 31.4 +0.4**
comp=Z,17nm,1.0s,mb4.8
BW06 Boulder Array 88.94 43 *e*P **P 15 11 30.8 -0.5**
comp=Z,7.2nm,1.0s,mb4.5
PDAR Pinedale Array 88.94 43 P **P 15 11 30.9 -0.3**
comp=Z,4.6nm,0.9s,mb4.3,baz=222,slow=2.0,SNR=26
SMCO Snowmass 88.95 47 *e*P **P 15 11 31.5 +0.1**
comp=Z,8.0nm,1.2s,mb4.4
BILL Bilibino 89.06 354 *d i*P **P 15 11 30.0 -1.8**
BILL pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
BILL Bilibino 89.06 354 *e*P **P 15 11 30.0 -1.8**
comp=Z,8.6nm,0.8s,mb4.6
BOZ Bozeman (W) 89.09 40 *e*P **P 15 11 32.0 0.0**
BOZ pmax pmax
comp=Z,21nm,1.4s,mb4.8
BOZ Bozeman (W) 89.09 40 *e*P **P 15 11 32.0 0.0**
comp=Z,21nm,1.4s,mb4.8
HHC Hu-ho-hao-te 89.40 314 ⇑P **P 15 11 34.5 +1.1**
HHC AP pP 15 13 34.0 -0.2
HHC XP sP 15 14 26.9 -2.8
HHC PP PP 15 15 17.4 +2.9
HHC SKS 15 21 12.7
HHC S 15 21 37.4
HHC XS sS 15 25 09.4 -3.2
HHC SS SS 15 27 55.0 +6.2
HHC AMB AMB
comp=Z,40nm,0.8s,mb5.3
HHC AMB AMB
comp=Z,100nm,4.2s
KMI Kunming 89.40 297 P **P 15 11 35.3 +1.9**
KMI AP pP 15 13 38.2 +3.9
KMI PP PP 15 15 20.2 +5.7
KMI S 15 21 32.8
KMI XS sS 15 25 12.2 -0.4
KMI SS SS 15 27 51.4 +2.6
KMI AMB AMB
comp=Z,200nm,3.1s
DAWY Dawson 89.46 16 *e*P **P 15 11 32.5 -1.2**
WALA Waterton Lakes 89.57 36 *e*P **P 15 11 32.9 -1.3**
comp=Z,18nm,1.7s,mb4.6
CHG Chiang Mai 90.30 290 P **P 15 11 39.1 +1.5**
comp=Z,68nm,1.2s,mb5.4
CHTO Chiang Mai 90.30 290 *e*P **P 15 11 38.9 +1.3**
CHTO *e* 15 15 22.8
CHTO pmax pmax
comp=Z,136nm,1.4s,mb5.6
CHTO Chiang Mai 90.30 290 *e*P **P 15 11 38.9 +1.3**
comp=Z,136nm,1.4s,mb5.6
CHTO *e*pP pP 15 13 42.5 +3.9
CHTO *e*PP PP 15 15 22.8 +1.2
CD2 Chengdu 90.84 303 *e*P **P 15 11 40.5 +0.4**
CD2 AP pP 15 13 40.0 -1.1
CD2 XP sP 15 14 33.4 -3.1
CD2 PP PP 15 15 29.1 +3.3
CD2 SKS 15 21 20.4
CD2 S 15 21 50.1
CD2 PS 15 24 17.4
CD2 SS SS 15 28 14.0 +4.7
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,40nm,9.2s
PHWY Pilot Hill 90.95 46 *e*PP PP 15 15 20.0 -6.6
YAK Yakutsk 92.15 338 *e*P **P 15 11 43.9 -2.2**
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK Yakutsk 92.15 338 *e*P **P 15 11 43.8 -2.3**
comp=E,37nm,0.8s,mb5.5
LZH Lanzhou 92.82 307 P **P 15 11 54.0 +4.8**
LZH XP sP 15 14 46.7 +1.0
LZH PP PP 15 15 47.5 +6.4
LZH S 15 22 10.2
LZH SS SS 15 28 44.1 +6.7
LZH AMB AMB
comp=Z,40nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,150nm,9.6s
CIT Chita 93.54 325 *e*P **P 15 11 51.5 -1.0**
CIT *e* 15 15 50.5
CIT pmax pmax
comp=Z,41nm,2.0s,mb5.2
INK Inuvik 94.28 15 *e*P **P 15 11 54.0 -1.8**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 94.28 15 *e*P **P 15 11 54.0 -1.9**
comp=Z,10nm,1.1s,mb4.9
ULN Ulaanbaatar 95.41 319 *e*P **P 15 12 00.1 -0.9**
ULN pmax pmax
comp=Z,28nm,1.5s,mb5.2
ULN Ulaanbaatar 95.41 319 *e*P **P 15 12 00.1 -0.9**
comp=Z,28nm,1.5s,mb5.2
SONM Songino Array 95.80 319 P **P 15 12 01.9 -0.8**
comp=Z,1.7nm,0.6s,mb4.5,baz=120,slow=5.3,SNR=6.0
SONM PP PP 15 16 02.2 -1.7
comp=Z,2.5nm,1.0s,baz=145,slow=5.4,SNR=5.3
GTA Gaotai 97.02 309 *e*P **P 15 12 08.8 +0.6**
GTA AP pP 15 14 12.6 +2.8
GTA XP sP 15 15 04.5 -0.5
GTA PP PP 15 16 13.2 +0.1
GTA SKS 15 21 55.2
GTA S 15 22 41.2
GTA SS SS 15 29 35.3 -0.9
GTA AMB AMB
comp=Z,10.0nm,1.5s,mb4.8
GTA AMB AMB
comp=Z,110nm,4.6s
ZAK Zakamensk 98.68 321 *e*P Pdif 15 12 14.2 -1.3
ZAK pmax pmax
comp=Z,7.0nm,1.9s,mb4.7
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.6
TIXI Tiksi 98.78 345 ⇑*i*P Pdif 15 12 13.8 -2.2
TIXI pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
TLY Talaya 98.94 322 *e*P Pdif 15 12 16.1 -0.6
TLY pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
MK31 Makanchi Array 111.25 313 PKIKP PKiKP 15 17 04.7 -1.9
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 111.25 313 Pdiff Pdif 15 13 12.8 +1.4
comp=Z,0.6nm,0.6s,baz=91,slow=5.9,SNR=8.7
MKAR PKIKP PKiKP 15 17 05.2 -1.4
comp=Z,3.7nm,0.6s,baz=79,slow=0.9,SNR=37
NVS Novosibirsk 111.55 322 *i* PKIKP PKiKP 15 17 03.9 -3.3
NVS pmax pmax
comp=Z,7.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,1.0s
KURK Kurchatov 114.04 317 *e*PKIKP PKiKP 15 17 10.0 -1.9
VOSK Vostochnaya 118.79 320 PKIKP PKPdf 15 17 19.0 -2.1
VOSK pmax pmax
comp=Z,15nm,0.9s
CHKZ Chkalovo 118.94 321 *e*PKIKP PKPdf 15 17 19.3 -2.1
BDFB Brasilia 119.10 122 PKP PKPdf 15 17 21.3 -0.4
comp=Z,1.6nm,0.4s,baz=43,slow=5.3,SNR=3.6
BVA0 Borovoye Array 119.13 320 *i* PKIKP PKPdf 15 17 19.7 -2.0
BVA0 pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 119.13 320 PKP PKPdf 15 17 20.5 -1.2
comp=Z,9.9nm,0.5s,baz=95,slow=1.6,SNR=71
BRVK Borovoye 119.19 320 *e*PKIKP PKPdf 15 17 20.3 -1.5
ZRNK Zerenda 119.97 320 *e*PKIKP PKPdf 15 17 21.7 -1.6
OPO Ambohidratompo121.13 232 PKP PKPdf 15 17 26.0 +0.4
comp=Z,6.7nm,0.9s,baz=143,slow=2.0,SNR=5.2
DAG Danmarks Havn 122.75 6 ⇓*i*P PKPdf 15 17 26.0 -2.7
comp=Z,19nm,0.2s
SUMG Summit 123.16 14 *e*PKPdf PKPdf 15 17 28.4 -1.0
SUR Sutherland 124.42 199 *e*PKPdf PKPdf 15 17 32.8 +0.9
ARU Arti 125.25 325 *e*PKIKP PKPdf 15 17 31.9 -1.5
ARU *e* 15 19 25.9
ARU Arti 125.25 325 *e*PKPdf PKPdf 15 17 31.9 -1.5
ARU *e*PP PP 15 19 25.9 -6.5
BOSA Boshof 126.26 205 PKP PKPdf 15 17 36.5 +1.1
comp=Z,5.3nm,0.8s,baz=178,slow=4.7,SNR=9.8
AKTK Aktyubinsk 127.11 318 PKP PKPdf 15 17 36.3 -0.7
AKTO Aktyubinsk 127.11 318 PKP PKPdf 15 17 36.3 -0.7
comp=Z,11nm,0.9s,baz=86,slow=2.4,SNR=36
KEV Kevo 128.50 349 *epkp* 15 17 30.3
ORR Orenburg 128.80 320 ⇓*i*PKIKP PKPdf 15 17 39.2 -1.0
ORR pmax pmax
comp=Z,30nm,1.2s
ARCES ARCESS Array B 128.95 350 PKP PKPdf 15 17 39.6 -0.9
comp=Z,6.5nm,0.8s,baz=28,slow=1.4,SNR=15
JOF Joensuu 133.16 342 *epkp* 15 17 34.6
KAF Kangasniemi 135.18 344 *epkp* 15 17 33.5
FINES FINESS Array B 135.81 344 PKhKP 15 17 40.4
comp=Z,0.5nm,0.3s,baz=44,slow=4.5,SNR=6.8
FINES PKP PKPdf 15 17 50.8 -2.6
comp=Z,1.5nm,0.4s,baz=110,slow=4.0,SNR=14
FINES FINESS Array B 135.81 344 PKIKP PKPdf 15 17 50.8 -2.6
OBN Obninsk 136.80 332 *c i*PKIKP PKPdf 15 17 54.3 -0.9
OBN pmax pmax
comp=Z,40nm,1.7s
TSUM Tsumeb 137.70 202 *e*PKPdf PKPdf 15 17 58.2 +1.3
GNI Garni 138.76 308 *i*PKIKP PKPdf 15 17 59.0 +0.2
KIV Kislovodsk 139.00 314 *e*PKIKP PKPdf 15 17 58.4 -0.9
KIV pmax pmax
comp=Z,11nm,1.0s
NB2 NORSAR Subarra139.00 353 PKPa 15 17 49.2
comp=Z,7.9nm,0.9s,baz=18,slow=3.1
NOA NORSAR Array B 139.00 353 PKhKP 15 17 49.1
comp=Z,5.6nm,0.9s,baz=13,slow=2.4,SNR=13
NOA NORSAR Array B 139.00 353 *i* PKHKP 15 17 49.1
NOA pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 139.38 242 PKhKP 15 17 53.8
comp=Z,2.7nm,0.9s,baz=66,slow=4.0,SNR=5.5
KMBO Kilima Mbogo 139.38 242 *e*PKPdf PKPdf 15 18 02.9 +2.9
KARS Kars 139.83 309 *e*P PKPdf 15 18 09.8 +9.0
HAKT HAKKARI 140.18 304 *i*P PKPdf 15 17 54.9 -6.5
CUKT Cukurca 140.33 304 *e*P PKPdf 15 17 54.8 -6.9
EZM Erzurum 141.31 309 *e*P PKPdf 15 17 58.5 -4.9
ANN Anapa 142.07 318 *i* PKHKP 15 18 00.6
ANN pmax pmax
comp=Z,42nm,1.3s
EZC Erzincan 142.49 309 *e*P PKiKP 15 18 10.2 +1.3
MARD Mardin 142.50 305 *i*P PKPdf 15 18 01.7 -3.9
SUW Suwalki 142.88 339 *e*PKP PKPdf 15 18 02.8 -3.4
AKASG Malin Array Be 143.06 331 PKhKP 15 18 02.5
comp=Z,52nm,0.6s,baz=43,slow=4.2,SNR=288
AKASG pPKP pPKPdf 15 20 16.1 +0.3
comp=Z,0.8nm,0.4s,baz=39,slow=3.6,SNR=2.7
AKASG Malin Array Be 143.06 331 *i* PKHKP 15 18 02.6
AKASG pmax pmax
comp=Z,52nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ELZG Elazig 143.51 308 *i*P PKPdf 15 18 07.0 -0.3
MUD Monsted U'grnd 143.72 353 ⇓*i*P PKPdf 15 18 05.1 -2.6
comp=Z,109nm,0.9s
URFA Urfa 143.96 306 *e*P PKPdf 15 18 07.8 -0.3
MYA Malataya 143.98 308 *e*P PKPdf 15 18 08.6 +0.5
MALT Malatya 143.98 308 *e*P PKPdf 15 18 07.9 -0.2
MALT Malatya 143.98 308 ⇓*i*P PKPdf 15 18 08.1 0.0
MALT Malatya 143.98 308 *e*PKPdf PKPdf 15 18 08.2 0.0
COP Copenhagen 144.03 350 ⇓*i*P PKPdf 15 18 06.2 -2.0
comp=Z,65nm,0.9s
SIM Simferopol' 144.04 320 *d i*PKIKP PKPdf 15 18 07.8 -0.4
SIM pmax pmax
comp=Z,149nm,0.8s
BSD Bornholm Skovb 144.12 347 ⇓*i*P PKPdf 15 18 06.2 -2.2
comp=Z,133nm,0.9s
ATAB Bozova 144.35 306 *i*P PKPdf 15 18 08.9 +0.1
SVSK Karacayir 144.45 311 *e*P PKPdf 15 18 09.7 +0.8
GZT Gaziantep 144.94 306 *i*P PKPdf 15 18 10.0 +0.2
ESK Eskdalemuir 145.03 5 *e*PKIKP PKPdf 15 18 09.4 -0.5
WAR Warsaw 145.07 340 *e*PKP PKPdf 15 18 11.4 +1.4
BOYT Boyabat 145.27 314 *i*P PKPdf 15 18 10.1 -0.2
GKP Gorka Klasztor 145.28 344 *e*PKP PKPdf 15 18 10.8 +0.4
CTKT Corum 145.71 313 *i*P PKPdf 15 18 12.8 +1.7
LVV L'vov 145.94 334 *e*PKIKP PKPdf 15 18 12.4 +0.9
COBT Iskenderun 146.20 306 *i*P PKPdf 15 18 14.1 +2.2
CDAG Cicekdag 146.42 312 *i*P PKPdf 15 18 13.9 +1.6
AVNT Avonos 146.43 310 *i*P PKPdf 15 18 14.0 +1.7
KWP Kalwaria 146.62 335 *e*PKP PKPdf 15 18 14.8 +2.2
KWP *e* 15 18 17.9
ELDT Eldivan 146.69 314 *i*P PKPdf 15 18 15.1 +2.4
RUE Ruedersdorf 146.82 347 *e*PKPdf PKPdf 15 18 12.2 -0.7
BR131 Keskin Array S 146.89 312 *e*PKPbc PKPbc 15 18 15.7 -0.3
BRTR Keskin Array B 146.89 312 PKPbc PKPbc 15 18 16.1 +0.1
comp=Z,20nm,0.7s,baz=128,slow=3.5,SNR=71
BRTR pPKPbc pPKPbc 15 20 22.7 -0.2
comp=Z,0.4nm,0.4s,baz=284,slow=30,SNR=1.4
BURAR Bucovina Array 147.10 331 ⇓*i*P PKPdf 15 18 16.3 +2.9
OJC Ojcow 147.20 339 *e*PKP PKPdf 15 18 15.8 +2.2
CFR Carcaliu 147.33 325 ⇑*i*P PKPdf 15 18 16.8 +3.0
CFR Carcaliu 147.33 325 ⇑P PKPdf 15 18 16.8 +3.0
STHS Stebnicka Huta 147.35 337 *e*PKP PKPbc 15 18 17.5 +0.3
STHS *e* 15 18 21.4
ANTO Ankara 147.41 313 ⇓*i*P PKPdf 15 18 17.3 +3.4
ANTO Ankara 147.41 313 *e*PKPbc PKPbc 15 18 17.5 +0.2
RCY Rachaya 147.41 300 *e*P PKPdf 15 18 18.2 +4.3
BHL Bhannes 147.44 301 *e*P PKPdf 15 18 17.6 +3.6
SGKT Sivrigoynuk 147.57 315 *i*P PKPdf 15 18 13.3 -0.9
VRI Vrincioaia 147.61 327 ⇑*i*P PKPdf 15 18 17.1 +2.8
VRI Vrincioaia 147.61 327 ⇓*i*P PKPdf 15 18 17.5 +3.2
VRI Vrincioaia 147.61 327 ⇑P PKPdf 15 18 17.1 +2.8
VRI ⇓P 15 18 17.5
PLOR Plostina 147.66 327 ⇑*i*P PKPdf 15 18 17.4 +3.1
NIE Niedzica 147.69 337 *e*PKP PKPbc 15 18 18.5 +0.4
KSP Ksiaz 147.72 343 *e*PKP PKPdf 15 18 18.1 +3.7
KSP *e* 15 18 22.3
KSP Ksiaz 147.72 343 *e*PKIKP PKPdf 15 18 14.1 -0.3
MEST Erdemli 147.77 307 *i*P PKPdf 15 18 17.7 +3.2
RAC Raciborz 147.84 340 *e*PKP PKPdf 15 18 18.4 +3.8
IBBN Ibbenburen 147.96 353 *e*PKPbc PKPbc 15 18 18.1 -0.6
IBBN *e*PKPab PKPab 15 18 22.5 -1.0
OKC Ostrava-Krasne 148.07 340 ⇑*e*PKPB PKPbc 15 18 19.0 0.0
OKC *e*PKPAB PKPab 15 18 24.2 +0.3
CLL Collm 148.09 347 *e*PKPdf PKPdf 15 18 14.1 -0.9
CLL *e*PKPbc PKPbc 15 18 18.4 -0.7
CLL Collm 148.09 347 *i* PKPdf PKPdf 15 18 14.6 -0.4
comp=Z,22nm,1.5s
CLL ⇓*i*PKPbc PKPbc 15 18 18.3 -0.8
comp=Z,123nm,0.9s
CLL *i* PKPab PKPab 15 18 23.2 -0.8
comp=Z,28nm,0.9s
CLL *ex* x 15 18 45.0
CLL *i* x x 15 18 54.1
CLL *e*pPKPbc pPKPbc 15 20 26.0 -0.6
CLL *e*PP PP 15 21 47.0 -6.0
CLL Collm 148.09 347 ⇓*i*PKHKP PKPdf 15 18 14.6 -0.4
CLL *i* 15 18 23.2
CLL pmax pmax
comp=Z,22nm,1.5s
CLL pmax pmax
comp=Z,123nm,0.9s
CLL pmax pmax
comp=Z,28nm,0.9s
UPC Upice 148.10 343 *e*PKPDF PKPdf 15 18 14.8 -0.3
UPC ⇑*e*PKPB PKPbc 15 18 19.1 0.0
UPC *e*PKPAB PKPab 15 18 24.2 +0.2
DPC Dobruska-Polom 148.16 343 *e*PKPDF PKPdf 15 18 15.1 -0.1
DPC ⇑*e*PKPB PKPbc 15 18 19.4 +0.2
DPC *e*PKPAB PKPab 15 18 24.2 -0.1
HENT Hendek 148.21 316 *i*P PKPdf 15 18 16.7 +1.5
PSN Preselentsi 148.25 323 *e*P PKPbc 15 18 19.5 0.0
MLR Muntele Rosu 148.27 327 ⇑*i*P PKPdf 15 18 18.5 +3.2
MLR Muntele Rosu 148.27 327 P PKPbc 15 18 19.2 -0.3
BRG Berggiesshubel 148.29 346 *e*PKPdf PKPdf 15 18 14.6 -0.8
BRG *e*PKPbc PKPbc 15 18 18.8 -0.8
BRG *e*PKPab PKPab 15 18 23.8 -1.0
BRG Berggiesshubel 148.29 346 *i* PKP PKPdf 15 18 15.1 -0.3
comp=Z,9.9nm,1.2s
BRG *i* 15 18 19.4
comp=Z,41nm,1.0s
BRG *i* 15 18 24.1
comp=Z,23nm,0.9s
BRG *e*pPKP pPKPdf 15 20 29.9 +5.1
comp=Z,3.2nm,0.9s
BRG SS 15 41 38.0
BRG Berggiesshubel 148.29 346 *i* PKHKP PKPdf 15 18 15.1 -0.3
BRG *i* 15 18 24.0
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG pmax pmax
comp=Z,41nm,1.0s
BRG pmax pmax
comp=Z,23nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,1.0s
MORC Moravsky Berou 148.31 341 ⇓*i*P PKPdf 15 18 18.4 +3.0
MORC Moravsky Berou 148.31 341 *e*PKPdf PKPdf 15 18 14.4 -1.0
MORC *e*PKPbc PKPbc 15 18 19.3 -0.3
MORC *e*PKPab PKPab 15 18 24.4 -0.5
WTSB Winterswijk 148.40 354 *e*PKiKP PKiKP 15 18 18.8 -2.1
comp=Z,116nm,1.0s
KECS Kecovo 148.41 336 *e*PKP PKPbc 15 18 19.6 -0.2
KECS *e* 15 18 25.0
GTTG Gvttingen 148.42 351 *e*PKPdf PKPdf 15 18 15.4 -0.2
GTTG *e*PKPbc PKPbc 15 18 19.5 -0.4
PVCC Panska Ves 148.46 345 *e*PKPDF PKPdf 15 18 15.3 -0.3
PVCC ⇑*e*PKPB PKPbc 15 18 20.1 +0.1
PVCC *e*PKPAB PKPab 15 18 27.4 +1.9
SNX Sinaia 148.58 327 ⇓*i*P PKPbc 15 18 20.0 -0.3

SNX	**Sinaia**	**148.58 327**	⇓P	PKPbc	15 18 20.1	-0.2
ERMK	**Ermenek**	**148.68 307**	*i* P	PKPdf	15 18 15.9	0.0
VOIR		**148.75 328**	⇓*i*P	PKPbc	15 18 20.7	0.0
VOIR		**148.75 328**	⇓P	PKPbc	15 18 20.7	0.0
DRGR		**148.85 332**	⇓*i*P	PKPbc	15 18 20.2	-0.7
BUG	**Bochum--Univer**	**148.87 354**	*e*PKPbc	PKPbc	15 18 20.3	-0.7
ESKT	**Eskisehir**	**148.90 314**	*i* P	PKPdf	15 18 14.8	-1.5
PRA	**Prague**	**148.92 344**	⇑PKPB	PKPbc	15 18 20.0	-1.1
PRU	**Pruhonice**	**148.97 344**	*e*PKPDF	PKPdf	15 18 15.9	-0.5
PRU		⇑*e*PKPB	PKPbc	15 18 20.7	-0.5
PRU		*e*PKPAB	PKPab	15 18 27.2	-0.4
BORA	**Eskisehir**	**148.98 315**	*i* P	PKPdf	15 18 20.7	+4.3
VYHS	**Vyhne**	**149.00 338**	*e*PKP	PKPdf	15 18 15.8	-0.7
VYHS		*e*		15 18 20.8	
VYHS		*e*		15 18 27.8	
MOX	**Moxa**	**149.00 348**	*e*PKPdf	PKPdf	15 18 15.6	-0.9
MOX		*e*PKPbc	PKPbc	15 18 20.7	-0.6
MOX		*e*PKPab	PKPab	15 18 26.6	-1.1
MOX	**Moxa**	**149.00 348**	*e*PKP	PKPdf	15 18 15.8	-0.7
MOX		*e*		15 18 20.6	
comp=Z,90nm,1.4s						
VRAC	**Vranov**	**149.01 341**	⇓*i*P	PKPdf	15 18 20.8	+4.3
VRAC	**Vranov**	**149.01 341**	P	PKPbc	15 18 21.4	+0.1
WERD	**Werda**	**149.05 347**	*e*PKPdf	PKPdf	15 18 15.8	-0.8
WERD		*e*PKPbc	PKPbc	15 18 20.6	-0.8
WERD		*e*PKPab	PKPab	15 18 26.9	-1.1
WERD		*ep*PKPbc	pPKPbc	15 20 29.0	-0.2
KOLL	**Kolacno**	**149.07 339**	*e*PKP	PKPbc	15 18 21.7	+0.2
PSZ	**Piszkesteto**	**149.10 336**	⇓*e*PKP/F		15 18 00.0	
PSZ	**Piszkesteto**	**149.10 336**	PKHKP	PKPbc	15 18 20.9	-0.6
UBBA	**Unterbreizbach**	**149.12 350**	*e*PKPdf	PKPdf	15 18 16.0	-0.7
UBBA		*e*PKPbc	PKPbc	15 18 20.7	-0.9
NKC	**Novy Kostel**	**149.22 347**	*e*PKPDF	PKPdf	15 18 16.6	-0.3
NKC		⇑*e*PKPB	PKPbc	15 18 21.5	-0.3
NKC		*e*PKPAB	PKPab	15 18 28.2	-0.5
TREC	**Trest**	**149.35 343**	*e*PKPDF	PKPdf	15 18 16.5	-0.6
TREC		⇑*e*PKPB	PKPbc	15 18 22.1	0.0
TREC		*e*PKPAB	PKPab	15 18 28.8	-0.4
SMOL	**Smolenice**	**149.45 340**	*e*PKP	PKPbc	15 18 22.8	+0.4
SMOL		*e*		15 18 29.7	
MANZ	**Manzenberg**	**149.53 347**	*e*PKPdf	PKPdf	15 18 16.9	-0.4
MANZ		*e*PKPbc	PKPbc	15 18 22.1	-0.5
MANZ		*e*PKPab	PKPab	15 18 29.1	-0.8
BEBN	**Eben Emael**	**149.65 355**	PKPbc	PKPbc	15 18 21.6	-1.3
HGN	**Heimansgroeve**	**149.66 355**	*e*PKIKP	PKIKP	15 18 22.2	-1.4
comp=Z,45nm,1.2s						
ULDT	**Uludag**	**149.71 316**	*i* P	PKPdf	15 18 16.7	-1.0
UCC	**Uccle**	**149.73 357**	PKPbc	PKPbc	15 18 22.3	-0.7
MEM	**Membach**	**149.81 355**	PKPbc	PKPbc	15 18 22.8	-0.4
ZST	**Bratislava**	**149.84 340**	*e*PKP	PKPdf	15 18 17.0	-0.8
ZST		*e*		15 18 23.2	
ZST		*e*		15 18 29.7	
TNS	**Taunus Mts**	**149.93 352**	*e*PKPdf	PKPdf	15 18 17.5	-0.5
TNS		*e*PKPbc	PKPbc	15 18 22.9	-0.6
TNS		*e*PKPab	PKPab	15 18 30.3	-1.3
TNS	**Taunus Mts**	**149.93 352**	*e*PKIKP	PKPdf	15 18 17.6	-0.4
TKTP	**Tekketepe**	**149.96 312**	*i* P	PKPbc	15 18 22.4	-1.2
GRF	**Grafenberg Arr**	**149.99 348**	*e*PKPdf	PKPdf	15 18 17.8	-0.3
GRF		*e*PKP	PKPbc	15 18 23.1	-0.6
GRF		*e*PKPab	PKPab	15 18 30.9	-1.0
KHC	**Kasperske Hory**	**150.00 345**	*e*PKPDF	PKPdf	15 18 17.7	-0.4
KHC		⇑*e*PKPB	PKPbc	15 18 23.5	-0.2
KHC		*e*PKPAB	PKPab	15 18 31.6	-0.3
SNF	**Seneffe**	**150.02 357**	PKPbc	PKPbc	15 18 22.9	-0.8
SNF		PKPab	PKPab	15 18 31.1	-0.9
MENF	**Mencas**	**150.02 360**	PKP	PKPbc	15 18 22.4	-1.3
GDZ	**Gediz**	**150.03 314**	*i* P	PKPbc	15 18 23.1	-0.6
BCLA	**Clavier**	**150.05 356**	PKPbc	PKPbc	15 18 23.3	-0.5
BCLA		PKPab	PKPab	15 18 30.4	-1.7
WET	**Wettzell**	**150.15 346**	*e*PKPdf	PKPdf	15 18 17.8	-0.5
WET		*e*PKPbc	PKPbc	15 18 23.4	-0.6
WET		*e*PKPab	PKPab	15 18 31.9	-0.6
WET		*ep*PKPbc	pPKPbc	15 20 29.7	-2.4
GEC2	**GERESS Array S**	**150.23 344**	*e*PKPdf	PKPdf	15 18 17.9	-0.5
GEC2		*e*PKPbc	PKPbc	15 18 23.6	-0.6
GEC2		*e*PKPab	PKPab	15 18 32.2	-0.7
GEC2		*ep*PKPbc	pPKPbc	15 20 31.9	-0.4
GERES	**GERESS Array B**	**150.23 344**	PKP	PKPdf	15 18 17.9	-0.5
comp=Z,3.5nm,1.0s,baz=90,slow=1.3,SNR=19						
GERES		PKPbc	PKPbc	15 18 23.8	-0.4
comp=Z,22nm,0.9s,baz=48,slow=2.0,SNR=75						
GERES		pPKPbc	pPKPbc	15 20 31.3	-1.0
comp=Z,0.3nm,0.2s,baz=330,slow=15,SNR=1.5						
BZS	**Buzias**	**150.24 332**	⇓*i*P	PKPbc	15 18 22.8	-1.4
GIVF	**Givet**	**150.40 356**	*e*PKIKP	PKPdf	15 18 18.0	-0.7
DOU	**Dourbes**	**150.42 357**	PKPbc	PKPbc	15 18 23.7	-1.0
SOP	**Sopron**	**150.46 340**	⇓*e*PKP/F	PKPbc	15 18 24.2	-0.6
CONA	**Conrad Observa**	**150.46 341**	⇑*i*PKPdf	PKPdf	15 18 18.5	-0.3
comp=Z,8.3nm,1.3s						
CONA		⇓*i*PKiKP	PKiKP	15 18 24.3	-0.9
comp=Z,68nm,1.4s						
BAIF	**Baives**	**150.47 357**	*e*PKIKP	PKPdf	15 18 18.0	-0.8
BTOK	**Tokmak**	**150.63 316**	*i* P	PKPbc	15 18 24.1	-1.0
WLF	**Walferdange**	**150.74 355**	*e*PKPdf	PKPdf	15 18 19.4	+0.2
WLF		*e*PKPbc	PKPbc	15 18 25.2	-0.2
WLF		*e*PKPab	PKPab	15 18 34.5	-0.5
WLF	**Walferdange**	**150.74 355**	PKPbc	PKPbc	15 18 25.4	0.0
WLF	**Walferdange**	**150.74 355**	*e*PKPdf	PKPbc	15 18 24.7	-0.7
PKSM	**Moragy**	**150.99 336**	⇓*i*P	PKPbc	15 18 25.0	-1.0
MOA	**Molln**	**151.00 343**	⇓*i*	PKPbc	15 18 24.9	-1.1
comp=Z,30nm,1.8s						
MOA	**Molln**	**151.00 343**	⇑*i*	PKPab	15 18 36.0	-0.1
comp=Z,32nm,1.2s						
MOA	**Molln**	**151.00 343**	⇑*i*PKPdf	PKPdf	15 18 18.4	-1.2
comp=Z,7.2nm,1.4s						
MOA		⇓*i*PKPbc	PKPbc	15 18 24.9	-1.1
comp=Z,30nm,1.8s						
MOA		⇑*i*PKPab	PKPab	15 18 36.0	-0.1
comp=Z,32nm,1.2s						
DNZL	**Cakiroluk**	**151.01 312**	*i* P	PKPbc	15 18 25.9	-0.1
KDZ	**Kurdzhali**	**151.11 322**	*e*P	PKPbc	15 18 25.5	-0.7
ARSA	**Arzberg**	**151.17 341**	⇑*i*	PKPbc	15 18 24.7	-1.7
comp=Z,10nm,0.9s						
ARSA	**Arzberg**	**151.17 341**	⇑*i*PKPdf	PKPdf	15 18 19.3	-0.6
comp=Z,3.9nm,1.2s						
ARSA		⇑*i*PKPbc	PKPbc	15 18 24.7	-1.7
comp=Z,10nm,0.9s						
LANF	**Langenberg**	**151.23 352**	PKP	PKPdf	15 18 19.8	-0.2
STU	**Stuttgart**	**151.23 350**	*e*PKPdf	PKPdf	15 18 19.6	-0.4
STU		*e*PKPab	PKPab	15 18 36.2	-0.9
BEO	**Belgrade**	**151.37 332**	*e*PKP	PKPbc	15 18 27.2	+0.4
FUR	**Furstenfeldbru**	**151.43 347**	*e*PKPab	PKPab	15 18 37.1	-0.8
SVIS	**Svilajnac**	**151.44 330**	⇓*i*PKP	PKPbc	15 18 26.2	-0.7
VTS	**Vitosha**	**151.70 326**	*e*P	PKPbc	15 18 27.0	-0.6
VTS	**Vitosha**	**151.70 326**	⇓*i*P	PKPbc	15 18 26.8	-0.8
FLN	**La Foliniere**	**151.75 4**	*e*PKIKP	PKPdf	15 18 19.7	-1.0
comp=Z,46nm,1.1s						
BFO	**Black Forest**	**151.80 351**	*e*PKPdf	PKPdf	15 18 20.1	-0.7
BFO		*e*PKPbc	PKPbc	15 18 26.7	-1.1
BFO		*e*PKPab	PKPab	15 38.1	-1.4
BFO		*ep*PKPbc	pPKPbc	15 20 36.4	+0.3
BFO	**Black Forest**	**151.80 351**	*e*PKPbc	PKPbc	15 18 26.2	-1.6
BFO		*e*PKPab	PKPab	15 18 38.2	-1.3
WLS	**Welschbruch**	**151.84 353**	PKP	PKPdf	15 18 20.2	-0.7
PERS	**Pernice**	**151.85 341**	*e*PKPdf	PKPdf	15 18 18.6	-2.3
PERS		*i* PKPbc	PKPbc	15 18 26.4	-1.5
PERS		*e*PKPab	PKPab	15 18 37.2	-2.5
CDF	**Champ du Feu**	**151.85 353**	*e*PKIKP	PKPdf	15 18 20.1	-0.8
KDAG	**Bornova**	**151.87 315**	*i* P	PKPbc	15 18 27.3	-0.6
LDF	**La Druitiere**	**151.94 3**	*e*PKIKP	PKPdf	15 18 20.0	-1.0
comp=Z,28nm,1.1s						
MEZF	**Maizieres J'vi**	**151.98 356**	*e*PKIKP	PKPdf	15 18 20.9	-0.2
GRUS	**Gruza**	**151.98 330**	⇑*i*PKP	PKPdf	15 18 20.1	-0.9
ECH	**Echery**	**152.06 353**	PKP	PKPdf	15 18 20.2	-1.0
GRR	**Gorron**	**152.10 4**	*e*PKIKP	PKPdf	15 18 20.4	-0.8
MMB	**Musomiste**	**152.11 324**	*e*P	PKPbc	15 18 27.0	-1.5
DIVS	**Divcibare**	**152.15 332**	⇑*i*PKP	PKPdf	15 18 20.7	-0.6
THEF	**They Montfort**	**152.18 354**	PKP	PKPdf	15 18 19.3	-2.1
WTTA	**Wattenberg**	**152.21 346**	⇑*i*	PKPbc	15 18 28.3	-0.3
comp=Z,31nm,0.8s						
WTTA	**Wattenberg**	**152.21 346**	⇑*i*	PKPab	15 18 40.9	-0.3
comp=Z,32nm,1.0s						
WTTA	**Wattenberg**	**152.21 346**	⇑*i*PKPdf	PKPdf	15 18 20.8	-0.6
comp=Z,15nm,1.2s						
WTTA		⇑*i*PKiKP	PKiKP	15 18 28.3	-0.5
comp=Z,31nm,0.8s						
WTTA		⇑*i*PKPab	PKPab	15 18 40.9	-0.3
comp=Z,32nm,1.0s						
MOTA	**Moosalm**	**152.25 347**	⇑*i*	PKPbc	15 18 28.2	-0.6
comp=Z,20nm,1.1s						
MOTA	**Moosalm**	**152.25 347**	⇑*i*	PKPab	15 18 40.8	-0.6
comp=Z,22nm,1.1s						
MOTA	**Moosalm**	**152.25 347**	⇑*i*PKPdf	PKPdf	15 18 20.7	-0.7
comp=Z,12nm,1.2s						
MOTA		⇑*i*PKiKP	PKiKP	15 18 28.2	-0.7
comp=Z,20nm,1.1s						
MOTA		⇑*i*PKPab	PKPab	15 18 40.8	-0.6
comp=Z,22nm,1.1s						
SQTA	**Sankt Quirin**	**152.34 346**	⇑*i*	PKPbc	15 18 28.5	-0.5
comp=Z,15nm,1.0s						
SQTA	**Sankt Quirin**	**152.34 346**	⇓*i*	PKPab	15 18 41.1	-0.7
comp=Z,11nm,1.0s						
SQTA	**Sankt Quirin**	**152.34 346**	⇑*i*PKPdf	PKPdf	15 18 21.0	-0.6
comp=Z,11nm,1.1s						
SQTA		⇑*i*PKiKP	PKiKP	15 18 28.5	-0.6
comp=Z,15nm,1.0s						
SQTA		⇓*i*PKPab	PKPab	15 18 41.1	-0.7
comp=Z,11nm,1.0s						
QUIF	**Quistinic**	**152.34 8**	*e*PKIKP	PKPdf	15 18 20.5	-1.1
comp=Z,50nm,1.3s						
HAU	**Haudompre**	**152.36 354**	*e*PKIKP	PKPdf	15 18 21.0	-0.6
MOF	**Molkenrain**	**152.42 353**	PKP	PKPdf	15 18 21.3	-0.4
HINF	**Hinteralfeld**	**152.49 353**	*e*PKIKP	PKPdf	15 18 21.0	-0.8
DAVA	**Damuels**	**152.55 348**	⇓*i*	PKPbc	15 18 28.8	-0.6
comp=Z,32nm,1.3s						
DAVA	**Damuels**	**152.55 348**	⇑*i*PKPdf	PKPdf	15 18 21.6	-0.3
comp=Z,7.0nm,1.1s						
DAVA		⇓*i*PKiKP	PKiKP	15 18 28.8	-0.7
comp=Z,32nm,1.3s						
LJU	**Ljubljana**	**152.56 341**	*e*PKPdf	PKPdf	15 18 21.3	-0.6
LJU		*e*PKPbc	PKPbc	15 18 28.9	-0.5
LJU		*e*PKPab	PKPab	15 18 41.5	-1.2
LJU		*ep*PKPbc	pPKPbc	15 20 35.0	-2.8
BOJS	**Bojanci**	**152.81 339**	*e*PKPdf	PKPdf	15 18 22.0	-0.2
BOJS		*e*PKPbc	PKPbc	15 18 29.3	-0.7
BOJS		*e*PKPab	PKPab	15 18 39.9	-3.9
BOJS		*ep*PKPbc	pPKPbc	15 20 37.1	-1.3
LOMF	**Lomont**	**152.95 353**	PKP	PKPdf	15 18 22.4	-0.1
LOR	**Lormes**	**153.28 357**	*e*PKIKP	PKPdf	15 18 22.4	-0.5
comp=Z,12nm,0.9s						
SSF	**Saint Saulge**	**153.50 358**	*e*PKIKP	PKPdf	15 18 22.7	-0.6
comp=Z,16nm,1.0s						
CABF	**La Chapelle**	**153.77 354**	*e*PKIKP	PKPdf	15 18 23.5	-0.1
AVF	**Avril sur Loir**	**153.77 358**	*e*PKIKP	PKPdf	15 18 22.7	-0.9
MFF	**Saint Martin d**	**153.92 3**	*e*PKIKP	PKPdf	15 18 23.0	-0.8
BGF	**Bois d'Agland**	**154.02 359**	*e*PKIKP	PKPdf	15 18 23.5	-0.5
comp=Z,19nm,1.0s						
TCF	**Toulx Ste Croi**	**154.30 360**	*e*PKIKP	PKPdf	15 18 23.7	-0.7
comp=Z,40nm,1.2s						
LPL	**La Plagne**	**154.77 352**	*e*PKIKP	PKPdf	15 18 25.1	+0.1
LPG	**La Plagne**	**154.79 352**	*e*PKIKP	PKPdf	15 18 25.1	+0.1
comp=Z,11nm,1.0s						
BNI	**Bardonecchia**	**155.24 352**	*e*PKIKP	PKPdf	15 18 25.6	0.0
BNI		*e*		15 18 34.5	
BNI		*e*		15 18 53.8	
RJF	**Les Rejaudoux**	**155.28 1**	*e*PKIKP	PKPdf	15 18 25.1	-0.6
comp=Z,47nm,1.3s						
ORIF	**Oris-en-Rattie**	**155.46 353**	*e*PKIKP	PKPdf	15 18 25.6	-0.3
comp=Z,15nm,1.1s						
MBDF	**Montbardon**	**155.54 352**	*e*PKIKP	PKPdf	15 18 25.7	-0.3
comp=Z,37nm,1.5s						
VIVF	**Saint-Julien-l**	**155.63 355**	*e*PKIKP	PKPdf	15 18 25.9	-0.3
comp=Z,17nm,1.2s						
CAF	**Calviac**	**155.66 360**	*e*PKIKP	PKPdf	15 18 25.8	-0.4
SBF	**Sospel**	**156.29 350**	*e*PKIKP	PKPdf	15 18 26.1	-0.9
SMRF	**Simiane la Rot**	**156.43 354**	*e*PKIKP	PKPdf	15 18 25.7	-1.5
LASF	**Ste Croix**	**156.46 357**	*e*PKIKP	PKPdf	15 18 27.0	-0.2
comp=Z,36nm,1.3s						
FRF	**La Foret Royal**	**156.71 352**	*e*PKIKP	PKPdf	15 18 26.7	-0.8
MTLF	**Montolieu**	**157.24 360**	*e*PKIKP	PKPdf	15 18 27.8	-0.4
comp=Z,38nm,1.5s						
PGF	**Pioggiola**	**157.27 347**	*e*PKIKP	PKPdf	15 18 27.5	-0.8
comp=Z,45nm,1.2s						
EPF	**Esparros**	**157.51 3**	*e*PKIKP	PKPdf	15 18 28.4	-0.1
comp=Z,25nm,1.1s						
ETSF	**Etsaut**	**157.58 5**	*e*PKIKP	PKPdf	15 18 28.1	-0.5
comp=Z,19nm,1.1s						
EVO	**Evora**	**160.05 24**	*e*PKIKP	PKPdf	15 18 30.3	-1.2
ESDC	**Sonseca Array**	**160.22 14**	PKPab	PKPab	15 19 14.5	-1.4
comp=Z,1.0nm,0.6s,baz=342,slow=3.6,SNR=8.4						
TORD	**Torodi Ar. Bea**	**172.66 177**	PKP	PKPdf	15 18 40.6	-0.5
comp=Z,9.0nm,1.0s,baz=329,slow=1.3,SNR=24						
TORD		PKPab	PKPab	15 20 11.7	+0.9
comp=Z,1.5nm,0.8s,baz=170,slow=3.7,SNR=4.8						
TORD		*p*PKP	pPKPdf	15 20 51.7	+0.2
comp=Z,1.9nm,1.1s,baz=349,slow=4.5,SNR=4.2						

NNC ***08*** *15:14:40.2±5.7, 40.16N×7051E, h0km, mb3.8, mpv3.2, Error ellipse: s-maj=56.1km s-min=37.4km az=16.0*
ISC 08 15:14:47.6±4.0, 404N±03×706E±02, h35km, n12, σ1§20/13, 5C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**2.71**	**359**	Pn	**Pn**	**15 15 30.6**	**+1.9**
8.7nm,0.5s,baz=178,slow=11,SNR=47							
KK31				Lg		15 16 15.6	
26nm,0.3s,baz=185,slow=23,SNR=14							
EKS2	**Erkin-Say**	**3.32**	**46**	P	**Pn**	**15 15 37.1**	**+0.1**
SNR=6.1							
UCH	**Uchtor**	**3.50**	**57**	P	**Pn**	**15 15 38.8**	**-0.8**
SNR=8.8							
AAK	**Ala-Archa**	**3.71**	**52**	P	**Pn**	**15 15 43.2**	**+0.8**
SNR=15							
KZA	**Kyzart**	**3.92**	**63**	P	**Pn**	**15 15 44.5**	**-0.9**
SNR=14							
KBK	**Karagaybulak**	**4.00**	**54**	P	**Pn**	**15 15 46.8**	**+0.4**
SNR=11							
CHMS	**Chumysh**	**4.09**	**49**	P	**Pn**	**15 15 47.5**	**-0.1**
SNR=5.3							
USP	**Ospenovka**	**4.12**	**44**	P	**Pn**	**15 15 48.0**	**0.0**
SNR=7.7							
TKM2	**Tokmak 2**	**4.55**	**55**	P	**Pn**	**15 15 53.2**	**-0.6**
SNR=25							
TKM2	**Tokmak 2**	**4.55**	**55**	⇑Pn	**Pn**	**15 15 53.2**	**-0.7**
1.3nm,0.6s							
TKM2				⇑Lg		15 17 05.5	
1.8nm,0.7s							
AB31	**Akbulak array**	**11.62**	**323**	⇑Pn	**Pn**	**15 17 33.3**	**+2.5**
13nm,1.1s,baz=119,slow=3.9,SNR=34							
AB31				⇑Sn	**Sn**	**15 19 37.0**	**-2.3**
1.5nm,0.5s							
AKTO	**Aktyubinsk**	**13.34**	**323**	⇑Pn	**Pn**	**15 17 52.8**	**-1.6**
0.7nm,1.2s							

ISCJB ***08*** *16:00:22.3±0.4, 3145S×003×6883W×006, h111km±4km, mb4.0/12, Error ellipse: s-maj=7.8km s-min=4.8km az=178.4*
GUC ***08*** *16:00:22.4±0.3, 3146S×69.15W, h152km±12km, MD3.7, ML4.2*
IDC ***08*** *16:00:22.4±1.1, 3134S×6891W, h99km±6km, mb3.9/7, mb1 3.9/10, mb1mx3.8/15, mbtmp4.1/10, Error ellipse: s-maj=26.0km s-min=15.3km az=87.0*
NEIC ***08*** *16:00:22.4, 3146S×69.15W, h152km, mb4.0/8, After GUC.*
NEIC Felt [III] in San Juan.
BJI ***08*** *16:00:27.4, 3150S×69.10W, h151km, mB4.2*
ISC 08 16:00:23.4±0.4, 3145S±003×6883W±005, h106km±4km, n48, σ1§04/51, mb4.0/12, 5C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.53**	**107**	P	**Pn**	**16 00 40.5**	**+0.5**
78nm,0.3s,baz=278,slow=7.5,SNR=5533							
CFAA				S	**Sn**	**16 00 53.2**	**+0.8**
234nm,0.3s,baz=202,slow=23,SNR=84							
CFAA	**Coronel Fontan**	**0.53**	**107**	P	**Pn**	**16 00 40.5**	**+0.5**
CFAA				S	**Sn**	**16 00 53.2**	**+0.8**
TLL	**Tololo Astrono**	**2.13**	**306**	⇑*i*P	**Pn**	**16 00 57.9**	**+0.2**
TLL				*i* S	**Sn**	**16 01 24.6**	**+0.5**
TLL				AML	AML	16 01 27.0	
comp=E,2μm,0.6s							
TLL	**Tololo Astrono**	**2.13**	**306**	⇑*i*P	**Pn**	**16 00 57.9**	**+0.2**
TLL				*i* S	**Sn**	**16 01 24.6**	**+0.5**
FCH	**Farellones**	**2.25**	**213**	⇓*i*P	**Pn**	**16 00 59.9**	**+0.6**
FCH				*i* S	**Sn**	**16 01 28.4**	**+1.6**
CLCH	**Cerro Calan**	**2.42**	**216**	AML	AML	16 01 33.2	
comp=E,2μm,0.5s							
ANTU	**Antumapu**	**2.61**	**215**	⇓*i*P	**Pn**	**16 01 03.6**	**-0.4**
ANTU				*i* S	**Sn**	**16 01 34.6**	**-0.7**
ANTU				AML	AML	16 01 35.6	
comp=E,667nm,0.3s							
ANTU	**Antumapu**	**2.61**	**215**	⇓*i*P	**Pn**	**16 01 03.6**	**-0.4**
ANTU				*i* S	**Sn**	**16 01 34.6**	**-0.7**
CHCH	**Chadas Angostu**	**2.92**	**211**	⇑*i*P	**Pn**	**16 01 07.6**	**-0.5**
CHCH				*i* S	**Sn**	**16 01 41.8**	**-0.8**
LCO	**Las Campanas**	**2.92**	**326**	⇑*i*P	**Pn**	**16 01 08.3**	**+0.2**
LCO				*i* S	**Sn**	**16 01 43.2**	**+0.5**
CACH	**El Canelo**	**3.05**	**209**	⇓*i*P	**Pn**	**16 01 09.9**	**0.0**
CACH				*i* S	**Sn**	**16 01 46.2**	**+0.4**
CDCH	**Caldera**	**4.70**	**338**	⇓*i*P	**Pn**	**16 01 31.4**	**-0.6**
CDCH				*i* S	**Sn**	**16 02 24.0**	**-1.3**
TRQA	**Tornquist**	**8.67**	**141**	*e*Pn	**Pn**	**16 02 24.5**	**-1.4**
comp=E,37nm,0.6s							
LVC	**Limon Verde**	**8.80**	**359**	P	**Pn**	**16 02 25.8**	**-1.8**
comp=E,1.3nm,0.3s,baz=207,slow=9.9,SNR=19							
LVC				S	**Sn**	**16 04 00.0**	**-5.0**
comp=E,0.5nm,0.3s,baz=101,slow=20,SNR=1.9							
LVC	**Limon Verde**	**8.80**	**359**	*e*Pn	**Pn**	**16 02 23.8**	**-3.9**
comp=E,6.6nm,0.6s							
PLCA	**Paso Flores**	**9.37**	**188**	P	**Pn**	**16 02 33.0**	**-2.3**
comp=E,0.1nm,0.3s,baz=150,slow=9.0,SNR=3.3							
PLCA	**Paso Flores**	**9.37**	**188**	Pn	**Pn**	**16 02 29.3**	**-6.1**
CPUP	**Villa Florida**	**11.29**	**66**	P	**Pn**	**16 02 59.0**	**-2.4**
comp=E,1.0nm,0.3s,baz=225,slow=13,SNR=6.7							
CPUP	**Villa Florida**	**11.29**	**66**	*e*Pn	**Pn**	**16 02 58.5**	**-2.8**
comp=E,24nm,0.5s							
LPAZ	**La Paz**	**15.11**	**3**	P	**Pn**	**16 03 53.6**	**+2.5**
comp=E,0.2nm,0.3s,baz=188,slow=8.6,SNR=16							
LPAZ	**La Paz**	**15.11**	**3**	*e*Pn	**Pn**	**16 03 52.9**	**+1.8**
comp=E,2.3nm,0.7s							
SIV	**San Ignacio**	**16.93**	**26**	P	**Pn**	**16 04 13.6**	**-0.1**
comp=E,0.1nm,0.3s,baz=220,slow=17,SNR=4.8							
SAML	**Samuel**	**23.00**	**14**	P	**P**	**16 05 19.1**	**+0.2**
comp=E,2.0nm,0.9s,mb3.5							
USHA	**Ushuaia**	**23.38**	**179**	P	**P**	**16 05 22.4**	**0.0**
comp=E,19nm,0.9s,mb4.4,baz=313,slow=8.3,SNR=6.1							
VNA3	**Neumayer Olymp**	**50.73**	**159**	*e*	**P**	**16 09 12.5**	**+0.2**
VNA3				*e*		16 09 14.7	
VNA3				*e*		16 09 17.0	
VNA2	**Neumayer--Watz**	**51.34**	**158**	*e*	**P**	**16 09 17.0**	**+0.2**
baz=287,slow=9.0							
VNA2				*e*		16 09 18.6	
VNA2				*e*		16 09 25.3	
SNAA	**Sanae**	**52.95**	**159**	*e*	**P**	**16 09 15.4**	**-13**
SNAA				*e*		16 09 16.7	
SNAA				*e*		16 09 17.5	
SNAA				*e*		16 09 23.9	
TEIG	**Tepich**	**54.66**	**337**	*e*P	**P**	**16 09 41.6**	**+0.4**
comp=E,3.2nm,0.6s,mb4.5							
VNDA	**Vanda**	**67.11**	**191**	P	**P**	**16 11 05.6**	**+0.1**
comp=E,0.6nm,0.7s,mb3.5,baz=161,slow=5.2,SNR=5.2							
VNDA	**Vanda**	**67.11**	**191**	*e*P	**P**	**16 11 04.4**	**-1.1**
comp=E,0.8nm,0.8s,mb3.6							
SYO	**Syowa Base**	**67.23**	**158**	⇑*e*P	**P**	**16 11 05.0**	**-1.3**
DBIC	**Dimbokro**	**71.78**	**70**	P	**P**	**16 11 35.1**	**+0.9**
comp=E,1.5nm,0.5s,mb4.1,baz=204,slow=10.0,SNR=2.9							
SUR	**Sutherland**	**73.67**	**118**	*e*P	**P**	**16 11 47.2**	**+1.8**
comp=E,2.4nm,0.5s,mb4.2							
ANMO	**Albuquerque**	**74.93**	**329**	P	**P**	**16 11 53.7**	**+1.0**
BOSA	**Boshof**	**78.82**	**117**	P	**P**	**16 12 15.3**	**+0.7**
comp=E,1.6nm,0.7s,mb3.9,baz=248,slow=6.1,SN

SJG San Juan 19.30 315 *e*Pn **Pn 16 33 37.0 -3.3**
comp=N,57nm,0.9s
SJG *e* 16 33 53.0
BDFB Brasilia 20.59 169 P **P 16 33 53.4 +0.1**
comp=N,28nm,0.6s,baz=350,slow=12,SNR=35
BDFB S **S 16 37 47.4 +3.9**
comp=N,13nm,0.7s,baz=205,slow=20,SNR=2.1
BDFB Lg 16 39 47.2
comp=N,122nm,0.7s,baz=230,slow=26,SNR=4.2
BDFB LR LR 16 41 35.1
comp=N,2μm,19.2s,MS4.4,baz=168,slow=36
BDFB Brasilia 20.59 169 P **P 16 33 53.4 +0.1**
BDFB S **S 16 37 47.4 +3.9**
ROSC El Rosal 22.40 271 P **P 16 34 11.7 -1.1**
comp=N,23nm,0.6s,mb4.8,baz=94,slow=11,SNR=20
ROSC S **S 16 38 18.6 -0.5**
comp=N,44nm,0.8s,baz=81,slow=24,SNR=2.0
ROSC Lg 16 40 45.8
comp=N,334nm,1.0s,baz=76,slow=17,SNR=4.7
ROSC LR LR 16 42 00.6
comp=N,2μm,18.5s,MS4.6,baz=90,slow=35
SIV San Ignacio 22.52 204 P **P 16 34 14.0 0.0**
comp=N,28nm,1.0s,mb4.6,baz=40,slow=9.8,SNR=66
SIV S **S 16 38 18.7 -2.6**
comp=N,27nm,0.5s,baz=11,slow=15,SNR=3.4
SIV Lg 16 40 52.0
comp=N,56nm,0.6s,baz=133,slow=22,SNR=3.2
LPAZ La Paz 26.37 217 P **P 16 34 51.6 +1.0**
LPAZ S **S 16 39 26.4 +2.7**
comp=N,27nm,0.7s,mb4.9,baz=20,slow=8.2,SNR=67
LPAZ Lg 16 43 01.8
comp=N,17nm,1.1s,baz=32,slow=12,SNR=2.4
LPAZ LR LR 16 45 34.8
comp=N,206nm,1.0s,baz=280,slow=4.7,SNR=7.8
LPAZ LR LR 16 45 34.8
comp=N,2μm,19.1s,MS4.6,baz=39,slow=37
LPAZ La Paz 26.37 217 P **P 16 34 51.6 +1.0**
LPAZ S **S 16 39 26.4 +2.7**
LPAZ pmax pmax
comp=Z,27nm,0.7s
LPAZ smax
comp=N,17nm,1.1s
LPAZ MLR MLR
comp=Z,2μm,19.2s
LPAZ La Paz 26.37 217 *e*P **P 16 34 51.5 +0.9**
comp=Z,34nm,0.8s,mb4.9
LPAZ *e*PcP PcP 16 38 16.9 +0.7
LPAZ *e*Lg 16 40 33.4
OTAV Otavalo 26.94 261 *e*P **P 16 34 55.2 -0.6**
ARE Arequipa 28.64 222 *e*P **P 16 35 11.0 0.0**
ATAH Atahualpa 28.94 246 P **P 16 35 14.3 +0.7**
comp=Z,10nm,0.7s,mb4.7,baz=80,slow=6.2,SNR=5.6
ATAH S **S 16 40 04.9 +0.6**
comp=Z,10nm,0.8s,baz=124,slow=16,SNR=2.0
ATAH Lg 16 44 20.7
comp=Z,60nm,0.9s,baz=327,slow=13,SNR=3.5
ATAH LR LR 16 45 59.4
comp=Z,1μm,20.1s,MS4.6,baz=110,slow=35
BBSR BB Station 30.02 338 P **P 16 35 18.4 -4.8**
comp=Z,72nm,1.3s,mb5.2
CPUP Villa Florida 31.32 189 P **P 16 35 34.1 -0.6**
comp=Z,2.6nm,0.4s,mb4.5,baz=6.9,slow=7.8,SNR=10
CPUP S **S 16 40 43.2 +1.6**
comp=Z,2.0nm,0.7s,baz=319,slow=17,SNR=1.5
CPUP Lg 16 45 47.5
comp=Z,4.1nm,0.7s,baz=274,slow=19,SNR=2.4
CPUP Villa Florida 31.32 189 P **P 16 35 34.2 -0.5**
CPUP S **S 16 40 43.2 +1.6**
CPUP pmax pmax
comp=Z,3.0nm,0.4s
CPUP smax
comp=N,2.0nm,0.7s
CPUP Villa Florida 31.32 189 *e*P **P 16 35 34.0 -0.7**
comp=N,32nm,0.7s,mb5.3
LVC Limon Verde 31.88 211 LR LR 16 48 53.2
comp=N,1μm,21.4s,MS4.5,baz=16,slow=37
LVC Limon Verde 31.88 211 *e*P **P 16 35 39.2 -0.5**
JTS JuntasAbangare 33.27 282 LR LR 16 48 41.0
comp=N,528nm,21.2s,MS4.2,baz=104,slow=35
JTS JuntasAbangare 33.27 282 P **P 16 35 49.2 -2.5**
TEIG Tepich 38.63 297 *e*P **P 16 36 36.0 -1.7**
comp=N,41nm,1.3s,mb5.0
CFAA Coronel Fontan 39.36 202 LR LR 16 52 33.7
comp=N,132nm,18.9s,MS3.8,baz=226,slow=36
JSC Jenkinsville 40.11 321 *e*P **P 16 36 49.1 -1.0**
JSC *e* 16 38 26.6
MVL Millersville 41.49 331 *e*P **P 16 37 02.2 +0.7**
ELN Prospectdale 41.78 325 *e*P **P 16 37 03.9 +0.1**
SSPA Standing Stone 42.73 331 *e*P **P 16 37 11.4 -0.2**
CPCT Cooper Cave 42.93 320 *e*P **P 16 37 13.6 +0.4**
LRAL Lakeview Retre 43.20 315 *e*P **P 16 37 15.3 -0.1**
comp=N,31nm,1.1s,mb5.0
TRQA Tornquist 43.59 192 P **P 16 37 14.2 -4.3**
comp=N,6.7nm,0.9s,mb4.4
SWET Sewanee 43.71 318 *e*P **P 16 37 19.3 -0.2**
CMIG Matias Romero 43.90 290 LR LR 16 56 17.0
comp=N,630nm,20.5s,MS4.5,baz=114,slow=37
FRNY Flat Rock 44.26 338 *e*P **P 16 37 25.1 +1.2**
PLAL Pickwick Lake 45.02 317 *e*P **P 16 37 29.4 -0.6**
comp=N,33nm,1.0s,mb5.1
ACSO Alum Creek Sta 45.11 326 *e*P **P 16 37 29.6 -1.0**
comp=N,30nm,1.2s,mb5.0
WVT Waverly 45.50 318 *e*P **P 16 37 28.6 -5.2**
WVT pmax pmax
comp=Z,20nm,1.1s,mb4.9
WVT Waverly 45.50 318 *e*P **P 16 37 28.6 -5.1**
comp=Z,20nm,1.1s,mb4.9
DBIC Dimbokro 46.79 85 P **P 16 37 42.7 -1.2**
comp=Z,12nm,0.8s,mb4.9,baz=253,slow=7.0,SNR=9.9
DBIC S **S 16 44 38.6 +4.6**
comp=Z,2.6nm,0.8s,baz=261,slow=11,SNR=2.4
DBIC LR LR 16 53 03.0
comp=Z,274nm,20.7s,MS4.2,baz=249,slow=30
DBIC Dimbokro 46.79 85 *e*P **P 16 37 42.7 -1.2**
DBIC pmax pmax
comp=Z,16nm,0.8s
DBIC Dimbokro 46.79 85 *e*P **P 16 37 42.7 -1.3**
comp=Z,16nm,0.8s,mb5.0
HBAR Harrisburg 47.11 316 P **P 16 37 46.2 -0.2**
SIUC Southern Illin 47.31 319 *e*P **P 16 37 47.8 -0.2**
comp=Z,81nm,1.1s,mb5.6
UALR University of 47.91 314 *e*P **P 16 37 51.8 -0.8**
comp=Z,50nm,1.3s,mb5.4
FVM French Village 48.26 319 *e*P **P 16 37 54.1 -1.2**
FVM pmax pmax
comp=Z,31nm,1.1s,mb5.2
FVM French Village 48.26 319 *e*P **P 16 37 54.1 -1.2**
comp=Z,31nm,1.1s,mb5.2
NATX Nacogdoches 48.27 309 *e*P **P 16 37 55.0 -0.4**
comp=Z,120nm,1.6s,mb5.7
PLCA Paso Flores 48.38 199 P **P 16 37 55.4 -0.9**
comp=Z,8.4nm,0.8s,mb4.8,baz=31,slow=10,SNR=12
PLCA S **S 16 44 59.0 +2.4**
comp=Z,2.4nm,1.0s,baz=55,slow=10,SNR=3.3
PLCA LR LR 16 59 35.6
comp=Z,779nm,18.7s,MS4.7,baz=13,slow=38
PLCA Paso Flores 48.38 199 P **P 16 37 55.4 -0.9**
PLCA S **S 16 44 59.1 +2.5**
PLCA pmax pmax
comp=Z,8.0nm,0.8s
PLCA smax
comp=N,2.0nm,1.0s
PLCA MLR MLR
comp=Z,779nm,18.7s
PLCA Paso Flores 48.38 199 *e*P **P 16 37 55.0 -1.3**
comp=Z,9.1nm,0.8s,mb4.9
HKT Hockley 48.47 306 *e*P **P 16 37 56.9 -0.1**
HKT pmax pmax
comp=Z,45nm,1.4s,mb5.3
HKT Hockley 48.47 306 *e*P **P 16 37 56.9 -0.1**
comp=Z,45nm,1.4s,mb5.3
CCM Cathedral Cave 48.84 318 *e*P **P 16 37 57.0 -2.8**
CCM pmax pmax
comp=Z,51nm,1.2s,mb5.4
CCM Cathedral Cave 48.84 318 *e*P **P 16 37 57.0 -2.8**
comp=Z,51nm,1.2s,mb5.4
SCHQ Schefferville 51.41 349 P **P 16 38 17.2 -2.1**
comp=Z,9.0nm,0.5s,mb4.9,baz=155,slow=5.7,SNR=26
SCHQ LR LR 16 59 49.7
comp=Z,116nm,19.1s,MS3.9,baz=142,slow=36
SCHQ Schefferville 51.41 349 *e*P **P 16 38 18.3 -1.1**
comp=Z,39nm,1.1s,mb5.2
JCT Junction City 51.86 305 *e*P **P 16 38 22.3 -0.4**
JCT pmax pmax
comp=Z,43nm,1.1s,mb5.3
JCT Junction City 51.86 305 *e*P **P 16 38 22.3 -0.4**
comp=Z,43nm,1.1s,mb5.3
EVO Evora 52.08 44 *e*P **P 16 38 24.4 +0.1**
comp=Z,6.5nm,0.4s,mb4.6
EVO *e*R
comp=Z,351nm,19.8s
SFS San Fernando 52.40 47 P **P 16 38 25.2 -1.5**
SFS pmax pmax
comp=Z,227nm,1.1s
SFS San Fernando 52.40 47 P **P 16 38 25.2 -1.5**
comp=Z,227nm,1.1s
TORD Torodi Ar. Bea 53.46 77 P **P 16 38 32.7 -1.8**
comp=Z,1.7nm,0.6s,mb4.2,baz=262,slow=7.3,SNR=13
TORD S **S 16 46 11.3 +4.3**
comp=Z,0.2nm,0.4s,baz=133,slow=35,SNR=2.6
LTX Lajitas 54.70 303 *e*P **P 16 38 43.5 -0.1**
LTX pmax pmax
comp=Z,31nm,1.5s,mb5.1
LTX Lajitas 54.70 303 *e*P **P 16 38 43.5 -0.2**
comp=Z,31nm,1.5s,mb5.1
CBKS Cedar Bluff 55.03 315 *e*P **P 16 38 44.3 -1.7**
CBKS pmax pmax
comp=Z,97nm,1.2s,mb5.7
CBKS Cedar Bluff 55.03 315 *e*P **P 16 38 44.2 -1.7**
comp=Z,97nm,1.2s,mb5.7
ESDC Sonseca Array 55.40 44 P **P 16 38 47.9 -0.8**
comp=Z,0.6nm,0.3s,mb4.1,baz=249,slow=7.7,SNR=10
ESDC S **S 16 46 32.1 -1.1**
comp=Z,0.3nm,0.3s,baz=277,slow=38,SNR=2.7
ESLA Sonseca Array 55.40 44 *e*P **P 16 38 48.8 +0.2**
comp=Z,2.5nm,1.0s,mb4.2
GDL2 Guadalupe Moun 56.11 306 *e*P **P 16 38 53.8 0.0**
MNTX Cornudas Mount 56.79 305 *e*P **P 16 38 56.6 -1.9**
comp=Z,30nm,1.2s,mb5.2
ULM Lac du Bonnet 58.48 328 P **P 16 39 07.8 -2.6**
comp=Z,7.1nm,0.8s,mb4.8,baz=114,slow=6.5,SNR=9.6
BNM Barren Site 58.51 307 *e*P **P 16 39 11.0 +0.3**
LPM Los Pinos Moun 58.56 308 *e*P **P 16 39 11.3 +0.2**
ANMO Albuquerque 58.62 308 *e*P **P 16 39 12.0 +0.6**
ANMO pmax pmax
comp=Z,27nm,1.5s
ANMO Albuquerque 58.62 308 *e*P **P 16 39 12.0 +0.6**
comp=Z,27nm,1.5s,mb5.1
SJPF Ste Jean 58.75 41 *e*P **P 16 39 13.5 +1.1**
comp=Z,13nm,0.8s,mb4.7
SJPF Ste Jean 58.75 41 *e*P **P 16 39 13.5 +1.1**
SJPF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SJPF Ste Jean 58.75 41 *e*P **P 16 39 13.5 +1.1**
comp=Z,6.3nm,0.8s,mb4.7
LENM Lemitar 58.78 307 *e*P **P 16 39 11.5 -1.2**
LAZ Ladron 58.98 308 *e*P **P 16 39 12.3 -1.7**
ETSF Etsaut 59.10 42 *e*P **P 16 39 15.5 +0.7**
comp=Z,6.7nm,0.7s,mb4.5
ETSF Etsaut 59.10 42 *e*P **P 16 39 15.5 +0.7**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ETSF Etsaut 59.10 42 *e*P **P 16 39 15.5 +0.7**
comp=Z,3.3nm,0.7s,mb4.5
LPIG La Paz 59.36 295 LR LR 17 05 56.7
comp=Z,203nm,18.8s,MS4.3,baz=99,slow=37
ISCO Idaho Springs 59.60 314 *e*P **P 16 39 19.0 +0.7**
ISCO pmax pmax
comp=Z,53nm,1.6s,mb5.3
ISCO Idaho Springs 59.60 314 *e*P **P 16 39 18.9 +0.7**
comp=Z,53nm,1.6s,mb5.3
EPF Esparros 59.76 42 *e*P **P 16 39 20.5 +1.2**
PHWY Pilot Hill 60.05 316 *e*P **P 16 39 21.5 +0.2**
SMCO Snowmass 60.37 313 *e*P **P 16 39 23.6 0.0**
comp=Z,28nm,1.2s,mb5.2
TUC Tucson 61.38 304 *e*P **P 16 39 30.8 +0.4**
TUC pmax pmax
comp=Z,12nm,1.5s,mb4.8
TUC Tucson 61.38 304 *e*P **P 16 39 30.8 +0.3**
comp=Z,12nm,1.5s,mb4.8
FLN La Foliniere 61.77 36 *e*P **P 16 39 33.4 +0.4**
comp=Z,6.9nm,0.6s,mb4.7
FLN *e*R
comp=Z,189nm,18.0s
FLN La Foliniere 61.77 36 *e*P **P 16 39 33.4 +0.4**
FLN pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
FLN MLR MLR
comp=Z,190nm,18.0s,MS4.3
FLN La Foliniere 61.77 36 *e*P **P 16 39 33.4 +0.4**
comp=Z,3.5nm,0.6s,mb4.7
FLN LR LR
comp=Z,190nm,18.0s,MS4.3
LDF La Druitiere 61.90 36 *e*P **P 16 39 32.6 -1.3**
comp=Z,14nm,0.8s,mb4.8
LDF La Druitiere 61.90 36 *e*P **P 16 39 32.6 -1.3**
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LDF La Druitiere 61.90 36 *e*P **P 16 39 32.6 -1.3**
comp=Z,6.8nm,0.8s,mb4.8
116A Eloy 62.19 304 ⇑P **P 16 39 36.2 +0.3**
baz=62
LASF Ste Croix 62.52 42 *e*P **P 16 39 39.1 +1.0**
comp=Z,21nm,1.1s,mb4.9
115A Sonoran Desert 62.66 304 ⇓P **P 16 39 39.5 +0.5**
baz=63
LAO LASA Array 62.68 321 *e*P **P 16 39 36.8 -2.3**
FCC Fort Churchill 62.98 337 *e*P **P 16 39 39.0 -2.1**
FCC pmax pmax
comp=Z,18nm,1.1s,mb5.1
FCC Fort Churchill 62.98 337 *e*P **P 16 39 39.0 -2.1**
comp=Z,18nm,1.1s,mb5.1
X15A Humboldt 63.07 306 ⇑P **P 16 39 42.4 +0.6**
baz=63,SNR=6.3
AVF Avril sur Loir 63.24 39 *e*P **P 16 39 43.6 +0.7**
W15A Williams 63.26 307 ⇑P **P 16 39 44.4 +1.4**
baz=63
VIVF Saint-Julien-l 63.35 42 *e*P **P 16 39 43.7 +0.1**
comp=Z,12nm,1.0s,mb4.7
VIVF Saint-Julien-l 63.35 42 *e*P **P 16 39 43.7 +0.1**
VIVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
VIVF Saint-Julien-l 63.35 42 *e*P **P 16 39 43.7 +0.1**
comp=Z,6.2nm,1.0s,mb4.7
Z14A Wintersburg 63.39 305 ⇑P **P 16 39 44.2 +0.3**
baz=63
PDAR Pinedale Array 63.42 316 P **P 16 39 42.0 -2.1**
comp=Z,2.4nm,0.5s,mb4.6,baz=111,slow=8.1,SNR=5.3
PDAR LR LR 17 10 48.1
comp=Z,120nm,19.3s,MS4.1,baz=352,slow=40
SMF Signal de Mont 63.49 39 *e*P **P 16 39 45.3 +0.8**
comp=Z,8.1nm,0.7s,mb4.6
SMF Signal de Mont 63.49 39 *e*P **P 16 39 45.3 +0.8**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
SMF Signal de Mont 63.49 39 *e*P **P 16 39 45.3 +0.8**
comp=Z,4.1nm,0.7s,mb4.7
Y14A Wickenburg 63.56 306 ⇓P **P 16 39 45.5 +0.5**
baz=64
X14A Yava 63.59 306 ⇓P **P 16 39 46.0 +0.8**
baz=64,SNR=6.7
ESK Eskdalemuir 63.67 29 *e*P **P 16 39 45.3 -0.4**
ESK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ESK Eskdalemuir 63.67 29 *e*P **P 16 39 45.2 -0.5**
comp=Z,7.4nm,1.1s,mb4.6
LOR Lorres 63.75 39 *e*P **P 16 39 47.0 +0.8**
comp=Z,2.6nm,0.4s,mb4.3
LOR *e*R
comp=Z,183nm,17.8s
BORG Borgarnes 63.76 14 P **P 16 39 47.7 +1.4**
DAU Daniels Canyon 63.89 313 *e*P **P 16 39 48.1 +0.9**
W14A Seligman 63.91 307 ⇑P **P 16 39 48.5 +1.2**
baz=64,SNR=9.5
MSU Marysvale 64.04 311 *e*P **P 16 39 49.2 +1.1**
LMR La Mourre 64.06 44 *e*P **P 16 39 49.1 +0.8**
comp=Z,7.3nm,0.6s,mb4.6
LMR La Mourre 64.06 44 *e*P **P 16 39 49.1 +0.8**
LMR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LMR La Mourre 64.06 44 *e*P **P 16 39 49.1 +0.8**
comp=Z,3.7nm,0.6s,mb4.6
FFC Flin Flon 64.07 330 *e*P **P 16 39 47.4 -1.0**
FFC pmax pmax
comp=Z,14nm,1.3s,mb4.8
FFC Flin Flon 64.07 330 *e*P **P 16 39 47.4 -1.0**
comp=Z,14nm,1.3s,mb4.8
Y13A Salome 64.21 305 ⇑P **P 16 39 49.5 +0.3**
baz=64
X13A Yucca 64.38 306 ⇑P **P 16 39 50.7 +0.3**
baz=64
HWUT Hardware Ranch 64.47 314 *e*P **P 16 39 50.2 -0.8**
comp=Z,20nm,1.3s,mb5.0
FLWY Flagg Ranch 64.64 317 *e*P **P 16 39 51.3 -0.8**
comp=Z,144nm,1.7s,mb5.7
CCUT Cedar City 64.69 309 *e*P **P 16 39 53.2 +0.8**
MBDF Montbardon 64.70 42 *e*P **P 16 39 53.7 +1.2**
comp=Z,16nm,1.1s,mb4.7
MBDF Montbardon 64.70 42 *e*P **P 16 39 53.7 +1.2**
MBDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MBDF Montbardon 64.70 42 *e*P **P 16 39 53.7 +1.2**
comp=Z,8.1nm,1.1s,mb4.7
Y12C Blythe 64.76 305 ⇑P **P 16 39 53.4 +0.5**
baz=65
YFT Old Faithful 64.86 317 *e*P **P 16 39 55.6 +2.1**
GLA Glamis 64.87 304 *e*P **P 16 39 53.8 +0.2**
GLA Glamis 64.87 304 ⇓P **P 16 39 54.2 +0.6**
baz=65
CABF La Chapelle 64.91 40 *e*P **P 16 39 54.6 +0.7**
LPL La Plagne 64.95 41 *e*P **P 16 39 54.8 +0.7**
comp=Z,6.3nm,0.7s,mb4.5
LPL La Plagne 64.95 41 *e*P **P 16 39 54.8 +0.7**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LPL La Plagne 64.95 41 *e*P **P 16 39 54.8 +0.7**
comp=Z,3.2nm,0.7s,mb4.5
LPG La Plagne 64.95 42 *e*P **P 16 39 54.8 +0.7**
DUG Dugway 64.97 312 *e*P **P 16 39 54.7 +0.5**
DUG pmax pmax
comp=Z,60nm,1.4s,mb5.4
DUG Dugway 64.97 312 *e*P **P 16 39 54.7 +0.5**
comp=Z,60nm,1.4s,mb5.4
YMR Madison River 65.02 318 *e*P **P 16 39 54.5 0.0**
comp=Z,44nm,1.1s,mb5.4
BAIF Baives 65.09 36 *e*P **P 16 39 56.0 +1.0**
BGU Big Grassy Mou 65.33 313 *e*P **P 16 39 56.6 0.0**
QLMT Earthquake Lak 65.38 318 *e*P **P 16 39 56.4 -0.6**
HVU Hansel Valley 65.38 314 *e*P **P 16 39 56.4 -0.5**
HVU pmax pmax
comp=Z,47nm,1.5s,mb5.3
HVU Hansel Valley 65.38 314 *e*P **P 16 39 56.4 -0.5**
comp=Z,47nm,1.5s,mb5.3
BC3 Big Chuckw Mtn 65.50 305 ⇑P **P 16 39 58.0 +0.3**
baz=66,SNR=6.4
BOZ Bozeman (W) 65.78 318 *e*P **P 16 39 58.7 -0.8**
BOZ pmax pmax
comp=Z,69nm,1.5s,mb5.5
BOZ Bozeman (W) 65.78 318 *e*P **P 16 39 58.7 -0.8**
comp=Z,68nm,1.5s,mb5.5
SHPR Sheep Range 65.85 308 *e*P **P 16 40 01.6 +1.7**
TUQ Turquoise Mtn. 66.23 307 ⇓P **P 16 40 03.2 +0.8**
baz=66,SNR=6.5
M13A Montello 66.27 313 ⇓P **P 16 40 02.3 -0.3**
baz=66
CDF Champ du Feu 66.31 39 *e*P **P 16 40 03.8 +0.9**
PFO Pinyon Flat Ob 66.31 305 ⇓P **P 16 40 03.7 +0.8**
baz=66
DLMT Dillon 66.34 318 *e*P **P 16 40 02.3 -0.8**
P12A McGill 66.34 311 ⇓P **P 16 40 03.7 +0.6**
baz=66,SNR=6.7
LRM Limekiln Ridge 66.39 318 *e*P **P 16 40 04.3 +0.9**
O12A Currie 66.42 312 P **P 16 40 04.4 +0.8**
baz=66,SNR=12
N12A Wells--Clov Va 66.78 313 ⇑P **P 16 40 06.2 +0.3**
baz=67,SNR=7.0
TPNV Topopah Spring 66.80 308 *e*P **P 16 40 06.5 +0.5**
TPNV pmax pmax
comp=Z,31nm,1.2s,mb5.2
TPNV Topopah Spring 66.80 308 *e*P **P 16 40 06.5 +0.5**
comp=Z,31nm,1.2s,mb5.2
M12A Wells 66.83 313 P **P 16 40 06.6 +0.4**
baz=67,SNR=5.3
ELK Elko 66.90 312 *e*P **P 16 40 06.9 +0.2**
ELK pmax pmax
comp=Z,14nm,1.6s
ELK Elko 66.90 312 *e*P **P 16 40 06.8 +0.2**
comp=Z,14nm,1.6s,mb4.8
GSC Goldstone 66.91 306 *e*P **P 16 40 07.1 +0.4**
GSC Goldstone 66.91 306 ⇓P **P 16 40 07.5 +0.8**
baz=67,SNR=6.3
BFO Black Forest 66.94 39 P **P 16 40 08.6 +1.7**
HLID Hailey 67.05 316 *e*P **P 16 40 07.7 +0.1**
comp=Z,37nm,1.5s,mb5.2
CHMT Chamberlain Mo 67.26 319 *e*P **P 16 40 08.2 -0.7**
N11A Elko Archery C 67.29 312 ⇓P **P 16 40 09.4 +0.3**
baz=67
M11A Holland Ranch, 67.47 313 ⇓P **P 16 40 10.7 +0.4**
baz=68,SNR=8.9
S09A Goldfield 67.72 309 P **P 16 40 12.6 +0.7**
baz=68,SNR=15
DAC Darwin (Calif) 67.73 307 *e*P **P 16 40 12.2 +0.3**
DAC pmax pmax
comp=Z,26nm,1.4s,mb5.1
DAC Darwin (Calif) 67.73 307 *e*P **P 16 40 12.2 +0.3**
comp=Z,26nm,1.4s,mb5.1
DAC *e* 16 40 27.7
TPH Tonopah 67.79 309 *e*P **P 16 40 13.6 +1.3**
TPH pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
TPH Tonopah 67.79 309 *e*P **P 16 40 13.6 +1.3**
comp=Z,7.5nm,0.8s,mb4.8
N10A Dunphy 67.83 312 ⇓P **P 16 40 12.5 0.0**
baz=68
Q09A Carvers 67.92 310 ⇑P **P 16 40 13.5 +0.4**
baz=68
P09A Austin 68.04 311 ⇓P **P 16 40 14.4 +0.6**
baz=68
CWC Cottonwood Cre 68.14 307 ⇑P **P 16 40 15.5 +0.9**
baz=68
O09A Fish Creek Ran 68.21 311 ⇑P **P 16 40 15.5 +0.6**
baz=68,SNR=22
SUMG Summit 68.28 4 *e*P **P 16 40 14.5 -0.8**
comp=Z,20nm,0.9s,mb5.2
BMN Battle Mountai 68.29 312 *e*P **P 16 40 15.5 0.0**
ISA Isabella 68.32 306 *e*P **P 16 40 16.7 +1.1**
ISA Isabella 68.32 306 ⇓P **P 16 40 16.6 +1.0**
baz=68
WALA Waterton Lakes 68.36 321 *e*P **P 16 40 13.8 -2.0**
comp=Z,14nm,1.4s,mb4.8
Q08A Gabbs 68.49 310 ⇓P **P 16 40 16.8 +0.1**
baz=68
R08A Mina 68.53 309 ⇑P **P 16 40 17.3 +0.4**
baz=68
BSMT Bassoo Peak 68.54 320 *e*P **P 16 40 15.6 -1.4**
MNV Mina 68.58 309 *e*P **P 16 40 17.5 +0.2**
MNV pmax pmax
comp=Z,37nm,1.4s,mb5.1
MNV Mina 68.58 309 *e*P **P 16 40 17.5 +0.2**
comp=Z,37nm,1.4s,mb5.1
N09A Rock Creek Ran 68.61 312 ⇑P **P 16 40 17.8 +0.4**
baz=69,SNR=8.0
M09A Marrel Ranch, 68.68 313 ⇓P **P 16 40 18.4 +0.5**
baz=69
NVAR Mina Array Bea 68.69 309 P **P 16 40 17.3 -0.7**
comp=Z,11nm,1.1s,mb4.7,baz=106,slow=6.4,SNR=31
SNCC San Nicolas Is 68.78 304 ⇓P **P 16 40 19.2 +0.7**
baz=69
HELL Mitchell Peak 68.93 307 ⇑P **P 16 40 20.1 +0.6**
baz=69,SNR=9.9
L09A Wilkinson Ranc 68.98 313 ⇓P **P 16 40 20.1 +0.4**
baz=69,SNR=12
GRA1 Grafenberg Arr 69.19 38 *e*P **P 16 40 23.1 +2.1**
GRF Grafenberg Arr 69.19 38 *e*P **P 16 40 23.1 +2.1**
M08A Happy Creek Ra 69.37 313 ⇑P **P 16 40 22.5 +0.4**
baz=69,SNR=9.6
EDM Edmonton 69.43 326 *e*P **P 16 40 20.7 -1.9**
O07A Toulon 69.47 311 ⇑P **P 16 40 22.4 -0.4**
baz=70
WAKR Walker 69.58 309 *e*P **P 16 40 22.4 -1.1**
S06C San Francisco 69.79 309 ⇓P **P 16 40 25.4 +0.6**
baz=70
M07A Soldier Meadow 69.94 312 ⇑P **P 16 40 26.0 +0.4**
baz=70,SNR=12
WCN Washoe City 69.97 310 ⇑P **P 16 40 26.5 +0.6**
baz=70
S05C Merced 70.08 308 ⇓P **P 16 40 27.2 +0.7**
baz=70
R05C Kirkwood Meado 70.11 309 ⇓P **P 16 40 27.2 +0.4**
baz=70,SNR=6.5
NEW Newport 70.16 320 *e*P **P 16 40 25.8 -1.2**
NEW pmax pmax
comp=Z,45nm,1.6s
NEW Newport 70.16 320 *e*P **P 16 40 25.8 -1.2**
comp=Z,45nm,1.6s,mb5.2
O06A Flanigan 70.19 311 ⇓P **P 16 40 27.5 +0.3**
baz=70,SNR=7.4
CMB Columbia Colle 70.24 309 *e*P **P 16 40 28.0 +0.5**
CMB pmax pmax
comp=Z,25nm,1.5s,mb4.9
CMB Columbia Colle 70.24 309 *e*P **P 16 40 27.9 +0.5**

comp=Z,25nm,1.5s,mb4.9
CMB Columbia Colle 70.24 309 ⇓P P 16 40 27.8 +0.3
baz=70
GERES GERESS Array B 70.49 40 P P 16 40 26.1 -3.0
comp=Z,0.6nm,0.7s,baz=230,slow=8.2,SNR=6.0
GERES LR LR 17 08 14.2
comp=Z,152nm,19.1s,MS4.3,baz=247,slow=33
KHC Kasperske Hory 70.49 39 P P 16 40 29.2 +0.1
MOA Molln 70.59 41⇑ *i*P P 16 40 28.7 -1.0
comp=Z,4.1nm,0.6s,mb4.5
P05C Yuba Gap, Truc 70.62 310 ⇓P P 16 40 30.5 +0.6
baz=71,SNR=6.8
LAVA Lava Cap Winer 70.63 309 ⇑P P 16 40 30.2 +0.3
baz=71
R04C Big Horse Ranc 70.70 309 ⇑P P 16 40 30.8 +0.5
baz=71
CLL Collm 70.76 37 *i* P P 16 40 30.1 -0.6
comp=Z,9.0nm,1.0s,mb4.7
CLL *i* x x 16 40 45.4
CLL Lm 17 04 00.0
comp=Z,200nm,18.3s
CLL Collm 70.76 37 *i* P P 16 40 30.1 -0.6
CLL *i* 16 40 45.4
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CLL MLR MLR
comp=Z,200nm,18.3s,MS4.4
M06C Likely Place G 70.87 312 ⇑P P 16 40 31.7 +0.3
baz=71
S04C Ingram Canyon, 70.89 308 ⇓P P 16 40 31.1 -0.4
baz=71
O05C Quincy 70.98 311 ⇓P P 16 40 32.9 +0.8
baz=71
K06A Valley Falls 71.01 314 ⇑P P 16 40 32.8 +0.5
baz=71,SNR=9.8
J06A Christmas Vall 71.03 314 ⇓P P 16 40 32.5 +0.2
baz=71,SNR=11
O04C Chester 71.17 311 ⇓P P 16 40 33.5 +0.4
baz=71
BRG Berggiesshubel 71.20 38 *e*P P 16 40 33.6 +0.2
comp=Z,4.4nm,1.3s,mb4.2
BRG
comp=N,64nm,22.8s
BRG
comp=E,132nm,28.1s
BRG
comp=Z,123nm,25.7s
BRG Berggiesshubel 71.20 38 P P 16 40 34.3 +0.9
I06A Prineville 71.21 315 ⇑P P 16 40 33.9 +0.4
baz=71
ARSA Arzberg 71.27 42⇑ *i*P P 16 40 32.4 -1.4
comp=Z,3.9nm,0.8s,mb4.4
OHCM Honcut 71.30 310 *e*P P 16 40 34.6 +0.6
ORV Oroville 71.35 310 ⇑P P 16 40 34.7 +0.4
baz=71
BDM Black Diamond 71.38 308 ⇓P P 16 40 34.5 +0.1
baz=71
M05C Lookout 71.40 312 ⇓P P 16 40 35.0 +0.4
baz=71,SNR=13
HATC Hat Creek Radi 71.53 311 ⇓P P 16 40 35.9 +0.5
baz=72
CONA Conrad Observa 71.65 41⇑ *i*P P 16 40 35.3 -0.8
comp=Z,6.9nm,1.0s,mb4.5
M04C Macdoel 71.98 312 ⇓P P 16 40 38.5 +0.4
baz=72
L04A Klamath Falls 72.08 313 ⇑P P 16 40 39.3 +0.6
baz=72
KRUC Moravsky 72.27 40 P P 16 40 41.9 +2.1
TSUM Tsumeb 72.29 112 *e*P P 16 40 39.3 -0.7
comp=Z,2.0nm,0.8s,mb4.1
VRAC Vranov 72.45 40 LR LR 17 08 32.1
comp=Z,137nm,19.7s,MS4.2,baz=251,slow=33
VRAC Vranov 72.45 40 P P 16 40 43.1 +2.2
DPC Dobruska-Polom 72.53 39 P P 16 40 43.5 +2.2
YBH Yreka Blue Hor 72.61 312 ⇑P P 16 40 41.3 -0.6
baz=73
H04A Detroit Lake 72.75 315 ⇓P P 16 40 42.7 0.0
baz=73
NB2 NORSAR Subarra 73.07 27 P P 16 40 43.6 -1.0
comp=Z,0.8nm,0.5s,mb3.9,baz=246,slow=6.5
NB2 NORSAR Subarra 73.07 27 P P 16 40 43.6 -1.0
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
NB2 NORSAR Subarra 73.07 27 P P 16 40 43.6 -1.0
comp=Z,0.8nm,0.5s,mb3.9
NOA NORSAR Array B 73.07 27 P P 16 40 43.6 -0.9
comp=Z,2.8nm,0.9s,mb4.2,baz=248,slow=6.2,SNR=5.6
NOA LR LR 17 06 22.2
comp=Z,98nm,20.6s,MS4.1,baz=270,slow=31
MORC Moravsky Berou 73.16 39 *e*P P 16 40 44.5 -0.6
MORC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MORC Moravsky Berou 73.16 39 *e*P P 16 40 44.5 -0.6
comp=Z,9.5nm,1.1s,mb4.6
YKA Yellowknife Ar 73.48 334 P P 16 40 43.8 -3.2
comp=Z,2.3nm,0.7s,mb4.2,baz=108,slow=6.3,SNR=8.1
YKA Yellowknife Ar 73.48 334 *i* P P 16 40 44.9 -2.1
YKA pmax pmax
comp=Z,2.0nm,0.7s
OKC Ostrava-Krasne 73.55 39 P P 16 40 49.3 +1.9
VYHS Vyhne 73.72 41 *e*P P 16 40 47.4 -1.0
HFS Hagfors 73.90 28 LR LR 17 06 50.1
comp=Z,168nm,21.1s,MS4.3,baz=262,slow=31
DAG Danmarks Havn 74.23 8⇓ *i*P P 16 40 50.6 -0.8
comp=Z,3.4nm,0.9s,mb4.3
DAG Danmarks Havn 74.23 8⇓ *e*P P 16 40 50.6 -0.8
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
DAG Danmarks Havn 74.23 8⇓ *e*P P 16 40 50.6 -0.8
comp=Z,3.4nm,0.9s,mb4.3
KECS Kecovo 74.79 41 *e*P P 16 40 54.9 +0.2
IDI Anoyia 76.46 55 LR LR 17 13 57.2
comp=Z,98nm,20.9s,MS4.1,baz=268,slow=35
SUR Sutherland 78.01 124 *e*P P 16 41 12.8 -0.2
comp=Z,7.2nm,0.8s,mb4.7
MLR Muntele Rosu 78.09 45 LR LR 17 14 12.9
comp=Z,197nm,19.4s,MS4.5,baz=285,slow=35
MLR Muntele Rosu 78.09 45 P P 16 41 14.6 +1.3
DLBC Dease Lake 79.81 328 *e*P P 16 41 22.2 -0.5
VSU Vasula 80.02 32⇑ *i*P P 16 41 23.4 -0.5
FINES FINESS Array B 80.10 28 P P 16 41 21.8 -2.5
comp=Z,1.1nm,0.5s,mb4.0,baz=251,slow=3.4,SNR=8.4
FINES LR LR 17 10 42.6
comp=Z,143nm,18.5s,MS4.3,baz=208,slow=31
LBTB Lobatse 80.67 116 *e*P P 16 41 26.9 -0.5
LBTB pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LBTB Lobatse 80.67 116 *e*P P 16 41 26.9 -0.5
comp=Z,3.8nm,0.9s,mb4.3
VNA3 Neumayer Olymp 80.70 167 *e*P P 16 41 26.2 -1.4
VNA3 *e* pP 16 41 29.5 -1.4
VNA3 *e* pP 16 41 30.4 -0.5
VNA3 *e* 16 41 35.1
VNA3 *e* 16 41 40.3
AKASG Malin Array Be 80.71 40 P P 16 41 25.6 -2.0
comp=Z,0.2nm,0.2s,baz=259,slow=5.0,SNR=6.7
AKASG Malin Array Be 80.71 40 *i* P P 16 41 27.7 +0.1
BOSA Boshof 80.99 120 P P 16 41 28.1 -1.0
comp=Z,6.3nm,0.7s,mb4.7,baz=286,slow=4.3,SNR=18
BOSA LR LR 17 12 42.9
comp=Z,216nm,19.3s,MS4.5,baz=282,slow=32
BOSA Boshof 80.99 120 *e*P P 16 41 28.5 -0.6
BOSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BOSA Boshof 80.99 120 *e*P P 16 41 28.5 -0.6
comp=Z,7.0nm,0.7s,mb4.7
ARCES ARCESS Array B 81.18 20 P P 16 41 30.1 -0.1
comp=Z,1.0nm,0.6s,mb3.9,baz=255,slow=4.8,SNR=6.9
ARCES LR LR 17 09 26.4
comp=Z,244nm,20.9s,MS4.5,baz=258,slow=30
LSZ Lusaka 81.66 106 *e*P P 16 41 33.5 +0.8
LSZ pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
LSZ Lusaka 81.66 106 *e*P P 16 41 33.5 +0.8
comp=Z,1.2nm,0.5s,mb4.1
INK Inuvik 82.55 338 *e*P P 16 41 34.2 -3.2
INK pmax pmax
comp=Z,16nm,1.1s
INK Inuvik 82.55 338 *e*P P 16 41 34.2 -3.1
comp=Z,16nm,1.1s,mb5.0
SNAA Sanae 82.58 166 *e*P P 16 41 23.0 -14
SNAA *e* pP 16 41 25.6 -15
SNAA *e* pP 16 41 27.1 -14
SNAA *e* 16 41 30.2
SNAA *e* 16 41 32.5
SNAA *e* 16 41 40.2

BRTR Keskin Array B 83.54 51 P P 16 41 41.7 -0.8
comp=Z,2.0nm,1.0s,mb4.2,baz=223,slow=7.2,SNR=8.3
BRTR Keskin Array B 83.54 51 *i* P P 16 41 44.2 +1.7
BRTR pmax pmax
comp=Z,2.0nm,1.0s
DAWY Dawson 84.71 334 *e*P P 16 41 47.5 -0.9
EIL Elat 84.91 61 P P 16 41 48.9 -0.5
comp=Z,125nm,1.1s
OBN Obninsk 85.25 35 *e*P P 16 41 50.3 -0.9
OBN pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
OBN Obninsk 85.25 35⇑ *i*P P 16 41 50.4 -0.8
COLA College 88.31 335 *e*P P 16 42 05.5 -0.6
MCK McKinley 88.94 334 P P 16 42 07.5 -1.5
MCK pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
MCK McKinley 88.94 334 P P 16 42 07.5 -1.5
comp=Z,6.7nm,1.3s,mb4.8
KMBO Kilima Mbogo 89.19 91 LR LR 17 20 57.9
comp=Z,134nm,19.0s,MS4.4,baz=89,slow=35
PPT Papeete 98.77 253 LR LR 17 20 12.0
comp=Z,165nm,21.8s,MS4.5,baz=342,slow=31
WMQ Urumqi 119.50 33 PKP PKPdf 16 48 05.2 +1.1
WMQ PP PP 16 49 31.6 +5.7
WMQ SKS SKSdf 16 55 14.7 -1.5
WMQ S Sdif 16 57 16.7 -0.3
WMQ PS PS 16 59 17.2 +2.7
WMQ SS SS 17 05 52.9 +3.9
WMQ LR LR
comp=N,90nm,26.0s,MS4.5
WMQ LR LR
comp=E,140nm,27.0s,MS4.5
WMQ LR LR
comp=Z,140nm,24.0s,MS4.5
MDJ Mudanjiang 130.87 359 PKP PKPdf 16 48 24.0 -1.9
MDJ PKS 16 52 00.7
MDJ SKS SKSdf 16 55 36.0 -1.4
MDJ SS SS 17 08 13.3 +1.4
MDJ PP PP
comp=Z,30nm,4.4s
MDJ LR LR
comp=N,40nm,33.4s,MS4.0
MDJ LR LR
comp=E,40nm,34.4s,MS4.0
MDJ LR LR
comp=Z,40nm,35.5s,MS3.9
CN2 Changchun 131.64 3 *e*PKP PKPdf 16 48 22.6 -4.7
HHC Hu-ho-hao-te 132.17 17 *e*PKP PKPdf 16 48 27.8 -0.5
HHC PP PP 16 50 53.4 +3.2
HHC PKS 16 52 02.7
HHC SKS SKSdf 16 55 37.6 -2.2
HHC SKKS SKKSac 16 57 44.3 -2.3
HHC SS SS 17 08 29.8 +2.1
HHC PP PP
comp=Z,110nm,5.5s
HHC LR LR
comp=N,100nm,20.2s,MS5.0
HHC LR LR
comp=E,340nm,25.0s,MS5.0
HHC LR LR
comp=Z,120nm,20.2s,MS4.6
LZH Lanzhou 133.45 27 *e*PKP PKPdf 16 48 28.7 -2.1
LZH XPKP 16 48 33.4
LZH *e*PP PP 16 51 01.2 +2.7
LZH PKS 16 52 03.2
LZH SKS SKSdf 16 55 35.8 -6.3
LZH SKKS SKKSac 16 57 49.3 -5.2
LZH *e*SS SS 17 08 41.2 -2.1
LZH PP PP
comp=Z,200nm,8.9s
LZH LR LR
comp=E,270nm,18.5s
LZH LR LR
comp=Z,440nm,20.3s,MS5.2
CD2 Chengdu 137.59 32 *e*PKP PKPdf 16 48 35.1 -3.4
CD2 PP PP 16 51 24.5 0.0
CD2 PKS 16 52 09.8
CD2 SKS SKSdf 16 55 40.4 -8.8
CD2 PP PP
comp=Z,100nm,10.2s
CD2 LR LR
comp=E,200nm,14.4s
CD2 LR LR
comp=Z,190nm,12.0s,MS5.0
KMI Kunming 141.40 39 PKP PKPdf 16 48 43.6 -1.8
NJ2 Nanjing 142.37 13 *e*PKP PKPdf 16 48 44.6 -2.5
NJ2 PP PP 16 52 02.0 +8.1
NJ2 PKS 16 52 18.0
NJ2 SKS SKSdf 16 55 49.0 -8.1
NJ2 PP PP
comp=Z,490nm,5.9s
NJ2 LR LR
comp=Z,590nm,24.1s,MS5.3
SSE Sheshan 143.77 10 PKP PKPdf 16 48 49.7 +0.1
SSE PP PP 16 52 05.7 +3.4
SSE SS SS 17 10 48.5 +3.4
SSE PP PP
comp=Z,220nm,3.7s
SSE LR LR
comp=N,40nm,24.1s,MS4.2
SSE LR LR
comp=E,30nm,24.5s,MS4.2
SSE LR LR
comp=Z,60nm,20.9s,MS4.3
NWAO Narrogin (SRO) 150.15 161 *e*PKIKP PKPdf 16 49 03.4 +3.1
STKA Stephens Creek 150.19 203 PKPbc PKPbc 16 49 02.3 -3.1
comp=Z,6.0nm,0.7s,baz=170,slow=3.6,SNR=11
STKA Stephens Creek 150.19 203 *e*PKPbc PKPbc 16 49 02.4 -3.1
ASAR Alice Springs 160.37 196 PKPab PKPab 16 49 53.4 -1.5
comp=Z,2.6nm,0.8s,baz=151,slow=3.5,SNR=13
ASAR Alice Springs 160.37 196 PKP2 PKPab 16 49 53.4 -1.5
ASAR pmax pmax
comp=Z,3.0nm,0.8s

*NEIC **08** 16:40:19.3±0.9,3076S×179.12W,h293km±11km,mb4.9/1,*
Error ellipse: s-maj=28.8km s-min=10.0km az=107.0
*ISCJB **08** 16:40:24.8±1.3,314S±0.1×1789W±03,h390km±15km,*
mb3.7/3,Error ellipse: s-maj=45.3km s-min=12.4km
az=30.4
*IDC **08** 16:40:52.6±29.0,3042S×17894E,h563km±283km,*
mb2.6/2,mb1 2.7/2,mb1mx2.6/8,mbtmp3.7/2,Error ellipse:
s-maj=230.6km s-min=164.1km az=132.0
ISC 08 16:40:29.8±1.2,3150S±009×1797W±03,h365km±14km,
n82,σ1§41/80,mb3.5/3,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.28**	**195**	*e*PN	**Pn**	**16 42 03.8**	**-0.4**
MXZ				SN	**S**	**16 43 21.9**	**+0.9**
MXZ	**Matakaoa Point**	**6.28**	**195**	P	**Pn**	**16 42 07.6**	**+3.4**
WIZ	**White Island**	**6.55**	**203**	*e*PN	**Pn**	**16 42 09.5**	**+2.2**
WIZ	**White Island**	**6.55**	**203**	P	**Pn**	**16 42 11.8**	**+4.5**
PUZ	**Puketiti**	**6.78**	**194**	PN	**Pn**	**16 42 09.1**	**-0.8**
PUZ				SN	**S**	**16 43 31.8**	**+0.4**
PUZ	**Puketiti**	**6.78**	**194**	*e*P	**Pn**	**16 42 09.4**	**-0.5**
PUZ				S	**S**	**16 43 32.1**	**+0.7**
MWZ	**Matawai**	**7.20**	**198**	PN	**Pn**	**16 42 13.9**	**-0.9**
MWZ				SN	**S**	**16 43 42.5**	**+2.2**
MWZ	**Matawai**	**7.20**	**198**	*e*P	**Pn**	**16 42 14.1**	**-0.7**
MWZ				S	**S**	**16 43 41.6**	**+1.3**
URZ	**Urewera**	**7.25**	**201**	PN	**Pn**	**16 42 13.3**	**-2.0**
URZ	**Urewera**	**7.25**	**201**	*e*P	**Pn**	**16 42 14.1**	**-1.2**
TAZ	**Tarawera**	**7.42**	**204**	P	**Pn**	**16 42 24.3**	**+7.0**
PATZ	**Paeroa**	**7.64**	**205**	*e*PN	**Pn**	**16 42 23.1**	**+3.2**
PATZ	**Paeroa**	**7.64**	**205**	P	**Pn**	**16 42 24.8**	**+4.9**
KNZ	**Kokohu**	**7.81**	**196**	*e*PN	**Pn**	**16 42 23.8**	**+1.9**
KNZ	**Kokohu**	**7.81**	**196**	*e*P	**Pn**	**16 42 24.9**	**+3.0**
BKZ	**Black Stump Fm**	**8.27**	**201**	*e*PN	**Pn**	**16 42 25.5**	**-1.7**
BKZ	**Black Stump Fm**	**8.27**	**201**	*e*P	**Pn**	**16 42 26.2**	**-1.1**
WPVZ	**Whakapapa**	**8.63**	**206**	P	**Pn**	**16 42 35.0**	**+3.6**
FWVZ	**Far West T-bar**	**8.67**	**206**	*e*P	**Pn**	**16 42 34.2**	**+2.3**
WNVZ	**Wahianoa**	**8.72**	**205**	*e*PN	**Pn**	**16 42 34.3**	**+1.8**
WNVZ	**Wahianoa**	**8.72**	**205**	P	**Pn**	**16 42 34.5**	**+2.0**
MOVZ	**Moawhango**	**8.73**	**204**	*e*PN	**Pn**	**16 42 32.7**	**+0.1**
MOVZ	**Moawhango**	**8.73**	**204**	P	**Pn**	**16 42 33.4**	**+0.7**
VRZ	**Vera Road**	**8.87**	**209**	*e*PN	**Pn**	**16 42 37.4**	**+3.1**
VRZ	**Vera Road**	**8.87**	**209**	P	**Pn**	**16 42 37.7**	**+3.4**
PXZ	**Pawanui**	**8.97**	**197**	*e*PN	**Pn**	**16 42 33.2**	**-2.3**
PXZ				SN	**S**	**16 44 17.3**	**-1.1**
TSZ	**Takapari Road**	**9.25**	**201**	*e*PN	**Pn**	**16 42 36.3**	**-2.5**
TSZ	**Takapari Road**	**9.25**	**201**	*e*P	**Pn**	**16 42 36.6**	**-2.2**
WAZ	**Wanganui**	**9.32**	**206**	*e*P	**Pn**	**16 42 39.6**	**0.0**

BFZ Birch Farm 9.74 199 *e*P Pn 16 42 44.1 -0.5
MRZ Mangatainoka R 9.92 202 *e*PN Pn 16 42 43.6 -3.1
MRZ *e*SN **S 16 44 37.0 -2.1**
MRZ Mangatainoka R 9.92 202 *e*P Pn 16 42 44.0 -2.7
KIW Kapiti Island 10.32 204 *e*PN Pn 16 42 50.7 -0.8
KIW Kapiti Island 10.32 204 P Pn 16 42 51.2 -0.2
MTW Mount Morrison 10.40 201 *e*PN Pn 16 42 52.9 +0.6
MTW Mount Morrison 10.40 201 P Pn 16 42 53.5 +1.2
CAW Cannon Point 10.49 202 *e*PN Pn 16 42 49.9 -3.5
CAW Cannon Point 10.49 202 P Pn 16 42 50.6 -2.8
TRWZ Traveller 10.56 199 *e*PN Pn 16 42 54.9 +0.6
PAWZ Paruwai Farm 10.62 201 P Pn 16 42 55.8 +0.8
DUWZ D'Urville Isla 10.63 207 *e*PN Pn 16 42 56.7 +1.6
MSWZ Moikau Station 10.71 201 *e*PN Pn 16 42 56.3 +0.3
MSWZ Moikau Station 10.71 201 P Pn 16 42 56.7 +0.7
MRW Makara Radio 10.72 204 *e*PN Pn 16 42 55.3 -0.9
MRW Makara Radio 10.72 204 P Pn 16 42 55.5 -0.6
WEL Wellington 10.75 203 *e*PN Pn 16 42 55.3 -1.2
WEL Wellington 10.75 203 P Pn 16 42 56.2 -0.3
SNZO South Karori 10.79 203 *e*PN Pn 16 42 54.4 -2.5
SNZO South Karori 10.79 203 *e*Pn Pn 16 42 55.9 -1.1
SNZO *e*Sn **S 16 44 52.1 -6.0**
TCW Tory Channel 10.85 205 *e*PN Pn 16 42 55.2 -2.5
TCW Tory Channel 10.85 205 P Pn 16 42 56.7 -1.0
TUWZ Tuamarina 11.17 206 *e*PN Pn 16 42 58.9 -2.5
NNZ Nelson 11.20 208 *e*SN S 16 45 05.8 -1.4
NNZ Nelson 11.20 208 *e*P Pn 16 43 01.2 -0.6
QRZ Quartz Range 11.24 212 *e*PN Pn 16 43 03.0 +0.7
QRZ Quartz Range 11.24 212 *e*P Pn 16 43 03.6 +1.3
BSWZ Blackbirch Sta 11.44 205 *e*PN Pn 16 43 05.6 +1.0
THZ Tophouse 11.85 208 *e*PN Pn 16 43 08.3 -1.2
THZ Tophouse 11.85 208 *e*P Pn 16 43 10.0 +0.5
KHZ Kahutara 12.17 205 *e*PN Pn 16 43 12.2 -1.0
KHZ Kahutara 12.17 205 *e*P P 16 43 13.5 +0.9
LTZ Lake Taylor 12.96 207 *e*PN Pn 16 43 23.1 +0.5
LTZ Lake Taylor 12.96 207 *e*P P 16 43 22.7 +1.4
CRLZ Canterbury Las 13.51 205 SN S 16 45 56.6 +2.2
MQZ McQueen's Vall 13.62 204 SN S 16 45 56.0 -0.6
WVZ Waitaha Valley 13.84 211 *e*PN Pn 16 43 34.6 +1.8
ODZ Otahua Downs 15.50 207 *e*P P 16 43 55.9 +6.8
HNR Honiara 29.01 315 P P 16 45 51.6 -5.7
41nm,1.0s,mb4.6
STKA Stephens Creek 32.86 259 P P 16 46 32.0 +1.3
1.5nm,0.6s,mb3.4,baz=90,slow=14,SNR=3.1
STKA Stephens Creek 32.86 259 P P 16 46 31.2 +0.5
ASAR Alice Springs 41.65 269 P P 16 47 43.2 -0.6
0.4nm,0.7s,mb2.6,baz=108,slow=7.6,SNR=11
WRAB Tennant Creek 42.74 274 *e*P P 16 47 51.5 -0.9
MKAR Makanchi Array 117.39 310 PKP PKPdf 16 58 31.1 -1.2
0.3nm,0.5s,baz=132,slow=2.1,SNR=4.1
ARCES ARCESS Array B 139.35 347 PKhKP 16 59 04.7
1.6nm,0.8s,baz=42,slow=2.0,SNR=5.1
JOF Joensuu 142.90 337 *e*pkp PKPdf 16 59 13.6 -6.6
0.4nm,0.3s
KAF Kangasniemi 145.09 339 *e*pkp PKPdf 16 59 21.2 -2.8
2.1nm,0.4s
FINES FINESS Array B 145.67 338 PKP PKPdf 16 59 23.9 -1.1
4.1nm,0.4s,baz=64,slow=4.5,SNR=48
NB2 NORSAR Subarra149.60 350 PKPa PKPbc 16 59 34.6 -1.9
comp=Z,1.2nm,0.6s,baz=20,slow=2,8
NB2 NORSAR Subarra149.60 350 ⇑PKPab PKPab 16 59 34.6 -8.4
NOA NORSAR Array B149.60 350 PKPbc PKPbc 16 59 34.7 -1.8
comp=Z,1.4nm,0.6s,baz=16,slow=4.2,SNR=6.8
HFS Hagfors 150.01 347 PKPbc PKPbc 16 59 35.5 -2.0
comp=Z,2.6nm,0.7s,baz=46,slow=4.2,SNR=12
AKASG Malin Array Be 151.28 320 PKPbc PKPbc 16 59 38.0 -2.4
comp=Z,1.1nm,0.4s,baz=49,slow=3.4,SNR=7.4

IDC 08 16:48:01.2±2.2,1814S×6895W,h138km±9km,mb4.1/2,
mb1 4.0/5,mb1mx3.6/18,mbtmp4.4/5,Error ellipse:
s-maj=60.7km s-min=9.5km az=102.0,Chile-Bolivia
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.00**	**23**	P	Pn	16 48 36.8	+1.2
	42nm,0.3s,baz=191,slow=10,SNR=921						
LPAZ				S	Sn	16 49 03.3	+1.4
	14nm,0.3s,baz=63,slow=20,SNR=7.6						
LVC	**Limon Verde**	**4.45**	**180**	P	Pn	16 49 09.0	+1.9
	9.4nm,0.3s,baz=22,slow=11,SNR=158						
LVC				S	Sn	16 49 58.8	+0.5
	4.0nm,0.3s,baz=336,slow=13,SNR=3.6						
SIV	**San Ignacio**	**7.83**	**75**	P	Pn	16 49 52.8	+0.5
	6.6nm,0.3s,baz=269,slow=14,SNR=28						
CFAA	**Coronel Fontan**	**13.42**	**177**	P	Pn	16 51 04.3	-1.8
	0.1nm,0.3s,baz=355,slow=12,SNR=3.0						
DBIC	**Dimbokro**	**67.85**	**75**	P	P	16 58 45.4	+0.8
	4.8nm,0.7s,baz=220,slow=4.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**76.29**	**71**	P	P	16 59 35.3	+0.6
	2.2nm,0.8s,baz=258,slow=5.3,SNR=21						

*CSEM **08** 16:53:43.7±0.1,3711N×2903E,h2km,MD3.0,Error*
ellipse: s-maj=2.0km s-min=1.7km az=128.0
*ISCJB **08** 16:53:44.5±0.5,3710N±003×2905E±004,h2km,Error*
ellipse: s-maj=5.1km s-min=3.8km az=72.0
*ISK **08** 16:53:44.3,3712N×2903E,h7km,MD3.0*
*ATH **08** 16:53:57.6,3678N×2646E,h10km,MD3.0/3*
ISC 08 16:53:45.1±0.6,3710N±003×2904E±004,h8km±5km,n19,
σ1§08/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.46**	**225**	*i* PG	**Pg**	**16 53 53.3**	**-0.8**
DALT				*i* SG	**Sg**	**16 54 01.3**	**+1.2**
FETY	**Fethiye**	**0.46**	**176**	*i* PG	**Pg**	**16 53 54.1**	**0.0**
DNZL	**Cakiroluk**	**0.59**	**1**	*i* P	**Pg**	**16 53 55.7**	**-0.8**
DNZL				*i* S	**Sg**	**16 54 05.9**	**+1.7**
YER	**Yerkesik**	**0.61**	**274**	*i* PG	**Pg**	**16 53 55.9**	**-0.9**
YER				*i* SG	**Sg**	**16 54 05.4**	**+0.7**
DENT	**Denizli**	**0.65**	**360**	*i* PG	**Pg**	**16 53 56.9**	**-0.8**
ELL	**Elmali**	**0.78**	**116**	PG	**Pg**	**16 54 00.3**	**+0.2**
MLSB	**Milas**	**1.03**	**281**	PG	**Pg**	**16 54 03.5**	**-1.4**
AYDN	**Tasoluk**	**1.08**	**302**	*i* P	**Pg**	**16 54 04.5**	**-1.4**
AYDN				*i* S	**Sg**	**16 54 21.6**	**+1.7**
ARG	**Arkhangelos**	**1.15**	**220**	*e*PB	**Sg**	**16 54 25.1**	**+3.0**
DAT	**Datca**	**1.23**	**253**	PN	**Pn**	**16 54 08.8**	**+0.2**
BDRM	**Kayabasi**	**1.28**	**269**	*i* P	**Pn**	**16 54 09.2**	**0.0**
BDRM				*i* S	**Sb**	**16 54 26.7**	**+0.8**
KHL	**Karahalli**	**1.28**	**17**	*e*PN	**Pn**	**16 54 09.3**	**0.0**
BODT	**Bodrum**	**1.38**	**269**	*e*PN	**Pn**	**16 54 10.9**	**+0.2**
TKTP	**Tekketepe**	**1.39**	**47**	*i* P	**Pn**	**16 54 11.8**	**+1.1**
TKTP				*i* S	**Sb**	**16 54 34.3**	**+5.2**
MANT	**Manisa**	**1.44**	**345**	*i* P	**Pn**	**16 54 11.4**	**-0.1**
MANT				*i* S	**Sn**	**16 54 30.8**	**+0.2**
SMG	**Samos**	**1.86**	**290**	*e*PB	**Pb**	**16 54 16.1**	**-3.2**
AKS	**Akhisar**	**2.02**	**332**	*e*PN	**Pn**	**16 54 18.5**	**-1.0**
KARP	**Karpathos**	**2.17**	**225**	*e*PB	**Pb**	**16 54 23.0**	**-1.6**
KIZT	**Kizilcal**	**2.86**	**51**	*e*PN	**Pn**	**16 54 32.2**	**+1.1**

MAN 08 17:19:35.2,703N×12676E,h120km,mb2.6,ML4.1,MS2.7,
1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.21**	**341⇓**	*e*P	Pn	17 20 01.1	+1.8
BIPH				*e*S	Sn	17 20 20.5	+2.9
SCPH	**Surigao**	**3.01**	**335**	*e*P	Pn	17 20 22.4	+0.9
SCPH				*e*S	Sn	17 20 47.7	-10
MSLP	**Maasin**	**3.61**	**329**	*e*P	Sn	17 21 07.5	-4.0

*LDG **08** 17:56:04.2±0.1,4398N×757E,h11km,Md2.4/1,Ml2.3/7,*
Error ellipse: s-maj=2.1km s-min=1.3km az=75.0
*ROM **08** 17:56:05.3±0.4,4406N×757E,h10km,Md2.2/4,Ml1.5/2,*
Error ellipse: s-maj=7.0km s-min=1.5km az=19.0
STR 08 17:56:05.3±0.2,4397N×752E,h5km±1km,Ml2.3,1D,Error
ellipse: s-maj=0.0km s-min=0.0km az=1.0,Near south
coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.03**	**57**	Pg	Pg	17 56 06.6	+0.3
SAOF				Sg	Sg	17 56 07.8	+0.7
AUTN	**L'Aution**	**0.07**	**291**	Pg	Pg	17 56 07.6	+0.7
AUTN				Sg	Sg	17 56 09.3	+1.3
SBF	**Sospel**	**0.12**	**210**	*e*Pg	Pg	17 56 08.0	+0.2
SBF				*e*Sg	Sg	17 56 10.2	+0.7
	479nm,0.3s						

LUCF	**Luceram**	**0.15 238**	Sg	Sg	17 56 11.2	+0.9
REVF	**Revere**	**0.26 206**	Pg	Pg	17 56 10.5	+0.2
REVF			Sg	Sg	17 56 14.8	+1.2
MVIF	**Mont Vial**	**0.28 255**	Pg	Pg	17 56 10.7	0.0
STV	**Sta Anna Valdi**	**0.31 333**	Pg	Pg	17 56 11.1	-0.2
STV			Sg	Sg	17 56 15.3	0.0
FIN	**Finale Ligure**	**0.55 64**	Pg	Pg	17 56 15.1	-0.8
FIN			Sg	Sg	17 56 22.0	-1.0
	7.0nm,0.1s					
DOI	**San Damiano**	**0.57 340**	⇓*i*Pg	Pg	17 56 15.8	-0.4
DOI			Sg	Sg	17 56 23.1	-0.5
	32nm,0.3s					
QLNO	**Quiliano**	**0.69 59**	Pg	Pg	17 56 17.7	-0.9
	19nm,0.4s					
SURF	**Saint Ours**	**0.72 315**	Pg	Pg	17 56 18.8	-0.3
SURF			Sg	Sg	17 56 28.4	-0.1
FRF	**La Foret Royal**	**0.75 237**	*e*Pg	Pg	17 56 19.2	-0.6
FRF			*e*Sg	Sg	17 56 29.4	-0.1
	12nm,0.2s					
MBDF	**Montbardon**	**0.93 325**	*e*Pg	Pg	17 56 22.2	-0.9
MBDF			*e*Sg	Sg	17 56 34.8	-0.3
	3.4nm,0.2s					
LMR	**La Mourre**	**0.97 229**	*e*Pg	Pg	17 56 23.0	-0.9
LMR			*e*Sg	Sg	17 56 35.7	-0.8
	14nm,0.2s					
OG25	**Le Caire**	**1.11 292**	Pg	Pg	17 56 25.9	-0.8
OG25			Sg	Sg	17 56 42.8	+1.7
SMRF	**Simiane la Rot**	**1.40 271**	*e*Pg	Pg	17 56 30.8	-1.4
SMRF			*e*Sg	Sg	17 56 50.0	-0.4
	30nm,0.3s					
ORIF	**Oris-en-Rattie**	**1.51 309**	*e*Pg	Pg	17 56 32.6	-1.6
ORIF			*e*Sg	Sg	17 56 52.8	-1.0
	7.3nm,0.4s					
LPG	**La Plagne**	**1.62 341**	*e*Sg	Sg	17 56 55.9	-1.6
	0.9nm,0.2s					
LPL	**La Plagne**	**1.65 340**	*e*Sg	Sg	17 56 56.3	-1.9
	2.2nm,0.3s					
PGF	**Pioggiola**	**1.79 142**	*e*Pn	Pn	17 56 33.2	-3.6
PGF			*e*Sn	Sn	17 56 53.5	-6.3
VIVF	**Saint-Julien-l**	**2.22 294**	*e*Pn	Pn	17 56 40.0	-2.8
VIVF	**Saint-Julien-l**	**2.22 294**	*e*P	Pn	17 56 42.2	-0.6
VIVF			*e*Sn	Sn	17 57 06.8	-3.9
	2.0nm,0.3s					

CASC 08 18:02:18.3±1.5, 831N×8288W, h0km±4km, MD4.0, 3C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.44**	**73⇑**	*e*P	Pg	18 02 27.8	+1.0
DVD				*e*S	Sg	18 02 35.4	+2.9
CTCR	**Cotoan**	**0.60**	**11⇑**	*i*P	Pg	18 02 31.5	+1.7
CTCR				*e*S	Sg	18 02 41.7	+4.2
CNI	**Changuinola**	**1.16**	**18**	*e*P	Pg	18 02 40.4	-0.2
BUS	**Buena Vista**	**1.52**	**325**	*e*P	Pn	18 02 46.0	-0.7
URSC	**Urasca**	**1.76**	**330**	*e*P	Pn	18 02 49.7	-0.4
URSC				*e*S	Sn	18 03 14.4	+1.2
LCR2	**La Lucha 2**	**1.81**	**322**	*e*P	Pn	18 02 50.7	0.0
LCR2				*e*S	Sn	18 03 17.6	+3.2
PRS1	**Puriscal**	**2.19**	**320**	*e*P	Pn	18 02 56.5	+0.5
PRS1				*e*S	Sn	18 03 25.2	+1.5
PTP	**Ponta Puerca**	**19.46**	**58⇑**	*i*P		18 02 21.3	

*NEIC **08** 18:12:01.4, 3728S×17971E, h12km, ML4.1(WEL), After WEL.*
WEL 08 18:12:00.2±0.2, 3738S×17976E, h5km, ML3.9/6, Error ellipse: s-maj=2.2km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.17**	**260**	P*	Pb	18 12 22.0	-0.9
MXZ				S*	Sb	18 12 37.7	-0.5
MXZ	**Matakaoa Point**	**1.17**	**260**	P	Pg	18 12 22.0	-0.6
MXZ				S	Sg	18 12 37.8	+0.1
PUZ	**Puketiti**	**1.38**	**239**	PN	Pn	18 12 25.5	-0.5
PUZ				S*	Sb	18 12 44.2	0.0
PUZ	**Puketiti**	**1.38**	**239**	P	Pn	18 12 25.5	-0.5
PUZ				S	Sb	18 12 44.3	0.0
MWZ	**Matawai**	**2.01**	**241**	PN	Pn	18 12 33.8	-0.9
MWZ	**Matawai**	**2.01**	**241**	*e*P	Pn	18 12 33.9	-0.8
URZ	**Urewera**	**2.27**	**246**	PN	Pn	18 12 37.8	-0.5
URZ	**Urewera**	**2.27**	**246**	P	Pn	18 12 38.4	+0.1
KNZ	**Kokohu**	**2.32**	**224**	PN	Pn	18 12 37.8	-1.2
KNZ	**Kokohu**	**2.32**	**224**	P	Pn	18 12 37.8	-1.2
TAZ	**Tarawera**	**2.71**	**251**	*e*PN	Pn	18 12 44.0	-0.4
TAZ	**Tarawera**	**2.71**	**251**	P	Pn	18 12 45.0	+0.6
PATZ	**Paeroa**	**2.94**	**249**	PN	Pn	18 12 47.5	0.0
BKZ	**Black Stump Fm**	**3.13**	**234**	PN	Pn	18 12 49.1	-1.0
BKZ				SN	Sn	18 13 25.4	-2.5
BKZ	**Black Stump Fm**	**3.13**	**234**	P	Pn	18 12 49.3	-0.8
KUZ	**Kuaotunu**	**3.29**	**280**	PN	Pn	18 12 50.3	-2.0
KUZ	**Kuaotunu**	**3.29**	**280**	*e*P	Pn	18 12 50.3	-2.0
PXZ	**Pawanui**	**3.49**	**220**	PN	Pn	18 12 52.0	-3.0
PXZ				SN	Sn	18 13 33.4	-3.3
TSZ	**Takapari Road**	**4.00**	**227**	*e*PN	Pn	18 12 59.0	-3.1
TSZ	**Takapari Road**	**4.00**	**227**	P	Pn	18 12 59.6	-2.5
BFZ	**Birch Farm**	**4.29**	**219**	PN	Pn	18 13 02.5	-3.5
BFZ				SN	Sn	18 13 51.5	-4.9
BFZ	**Birch Farm**	**4.29**	**219**	P	Pn	18 13 02.5	-3.5
VRZ	**Vera Road**	**4.30**	**245**	P	Pn	18 13 07.7	+1.4
WAZ	**Wanganui**	**4.43**	**236**	P	Pn	18 13 08.5	+0.5
TIWZ	**Tintock**	**4.54**	**220**	PN	Pn	18 13 06.3	-3.2
WCZ	**Waipu Caves**	**4.58**	**287**	PN	Pn	18 13 08.5	-1.6
WCZ	**Waipu Caves**	**4.58**	**287**	P	Pn	18 13 09.1	-1.0
MRZ	**Mangatainoka R**	**4.62**	**223**	PN	Pn	18 13 07.2	-3.5
MRZ	**Mangatainoka R**	**4.62**	**223**	*e*P	Pn	18 13 07.6	-3.0
MTW	**Mount Morrison**	**5.02**	**220**	*e*PN	Pn	18 13 11.7	-4.4
KIW	**Kapiti Island**	**5.13**	**226**	*e*PN	Pn	18 13 14.1	-3.5
KIW	**Kapiti Island**	**5.13**	**226**	P	Pn	18 13 14.4	-3.2
CAW	**Cannon Point**	**5.21**	**223**	PN	Pn	18 13 14.7	-4.0
CAW	**Cannon Point**	**5.21**	**223**	P	Pn	18 13 14.8	-3.9
PAWZ	**Paruwai Farm**	**5.22**	**219**	PN	Pn	18 13 14.0	-4.8
OUZ	**Omahuta**	**5.42**	**292**	PN	Pn	18 13 20.4	-1.2
OUZ	**Omahuta**	**5.42**	**292**	*e*P	Pn	18 13 20.5	-1.1
MRW	**Makara Radio**	**5.49**	**224**	*e*PN	Pn	18 13 18.6	-4.0
MRW	**Makara Radio**	**5.49**	**224**	P	Pn	18 13 19.1	-3.5
TCW	**Tory Channel**	**5.72**	**226**	*e*PN	Pn	18 13 21.1	-4.6
TCW	**Tory Channel**	**5.72**	**226**	P	Pn	18 13 22.1	-3.7
TUWZ	**Tuamarina**	**6.05**	**226**	*e*PN	Pn	18 13 25.3	-5.0
QRZ	**Quartz Range**	**6.59**	**236**	*e*PN	Pn	18 13 33.6	-4.1
QRZ	**Quartz Range**	**6.59**	**236**	*e*P	Pn	18 13 33.9	-3.8
THZ	**Tophouse**	**6.87**	**228**	*e*PN	Pn	18 13 37.0	-4.6
THZ	**Tophouse**	**6.87**	**228**	*e*P	Pn	18 13 37.4	-4.1
DSZ	**Dennistoun Nort**	**7.53**	**232**	SN	Sn	18 15 08.2	-8.2
LTZ	**Lake Taylor**	**7.88**	**224**	*e*PN	Pn	18 13 51.0	-4.4
LTZ	**Lake Taylor**	**7.88**	**224**	*e*P	Pn	18 13 51.6	-3.8
MQZ	**McQueen's Vall**	**8.32**	**218**	SN	Sn	18 15 24.0	-12
WVZ	**Waitaha Valley**	**8.94**	**228**	SN	Sn	18 15 40.1	-11

*ISCJB **08** 18:43:56.7±0.6, 5145N×003×1598E×003, h0km, Error ellipse: s-maj=4.6km s-min=2.5km az=33.6*
*NEIC **08** 18:43:56.4±0.8, 5158N×1609E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=9.2km s-min=6.2km az=45.0*
*WAR **08** 18:43:57.9, 5154N×1602E, ML2.6, Mining Induced*
*IPEC **08** 18:43:57.1±0.3, 5155N×1610E, h0km±1km, ML1.9/3, Error ellipse: s-maj=2.0km s-min=0.8km az=21.0*
*CSEM **08** 18:43:58.2±0.2, 5150N×1603E, h0km, ML3.0/7, Error ellipse: s-maj=4.0km s-min=2.2km az=17.0*
*PRU **08** 18:43:58.6, 5148N×1599E, h0km*
*VIE **08** 18:43:59.0±0.4, 5136N×1608E, h0km, mb2.1/4, ML2.7/4, Error ellipse: s-maj=2.5km s-min=2.3km az=168.0 71 km WNW of Breslau Suspected Mining induced.*
ISC 08 18:43:56.9±0.6, 5153N×003×1601E×003, h0km, n37, σ0.9 86/71, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**166**	*e*Pg	**Pg**	**18 44 11.1**	**+0.5**
KSP				*e*Sg	**Sg**	**18 44 20.8**	**+1.0**
KSP	**Ksiaz**	**0.71**	**166**	*e*Pg	**Pg**	**18 44 11.0**	**+0.4**
KSP				*e*		18 44 13.1	
KSP				*e*Sg	**Sg**	**18 44 20.8**	**+1.0**
KSP	**Ksiaz**	**0.71**	**166**	*e*Pg	**Pg**	**18 44 11.0**	**+0.4**
KSP				*e*		18 44 13.1	
KSP				*e*Sg	**Sg**	**18 44 20.8**	**+1.0**
KSP	**Ksiaz**	**0.71**	**166**	*e*Pg	**Pg**	**18 44 10.9**	**+0.3**
KSP				*e*Sg	**Sg**	**18 44 20.8**	**+1.0**
UPC	**Upice**	**1.03**	**180**	*e*PG	**Pg**	**18 44 16.4**	**-0.2**
UPC	**Upice**	**1.03**	**180**	*e*Pg	**Pg**	**18 44 16.8**	**+0.2**
DPC	**Dobruska-Polom**	**1.20**	**171**	*e*PG	**Pg**	**18 44 19.8**	**-0.1**
DPC				*e*SG	**Sg**	**18 44 35.3**	**-0.2**
	32nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**223**	*e*Pn	**Pn**	**18 44 23.2**	**+0.1**
PVCC				*e*Sg	**Sg**	**18 44 42.1**	**+1.6**
BRG	**Berggiesshubel**	**1.46**	**244**	PN	**Pn**	**18 44 24.4**	**-0.1**
BRG				PG	**Pg**	**18 44 25.0**	**+0.1**
BRG				SG	**Sg**	**18 44 44.7**	**+0.9**
	40nm,0.6s						
BRG	**Berggiesshubel**	**1.46**	**244**	*e*Pn	**Pn**	**18 44 24.9**	**+0.4**
BRG				*e*Sg	**Sg**	**18 44 44.4**	**+0.6**
PRU	**Pruhonice**	**1.81**	**212**	*e*PN	**Pn**	**18 44 28.7**	**-0.5**
PRU				*e*PG	**Pg**	**18 44 30.7**	**-0.8**
PRU				*e*SG	**Sg**	**18 44 54.5**	**-0.5**
	24nm,0.3s						
CLL	**Collm**	**1.90**	**264**	*e*Pg	**Pg**	**18 44 32.0**	**-1.3**
CLL				*i* Sg	**Sg**	**18 44 57.5**	**-0.4**
	comp=Z,23nm,0.5s						
CLL	**Collm**	**1.90**	**264**	*e*Pn	**Pg**	**18 44 33.6**	**+0.3**
CLL				*i* Sg	**Sg**	**18 44 57.5**	**-0.4**
MORC	**Moravsky Berou**	**2.01**	**150**	*e*P	**Pn**	**18 44 30.8**	**-1.3**
MORC				*e*Pg	**Pg**	**18 44 36.2**	**+0.8**
MORC	**Moravsky Berou**	**2.01**	**150**	*e*P	**Pn**	**18 44 30.8**	**-1.2**
MORC	**Moravsky Berou**	**2.01**	**150**	*e*Pn	**Pn**	**18 44 31.4**	**-0.6**
MORC	**Moravsky Berou**	**2.01**	**150**	*e*Pg	**Pg**	**18 44 36.2**	**+0.8**
MORC				*e*Sg	**Sg**	**18 45 00.1**	**-1.4**
	comp=Z,9.6nm,0.3s						
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*PG	**Pg**	**18 44 37.7**	**-0.8**
OKC				*e*SG	**Sg**	**18 45 07.3**	**+0.6**
	comp=Z,19nm,0.6s						
VRAC	**Vranov**	**2.26**	**170**	*e*Pn	**Pn**	**18 44 35.7**	**+0.2**
VRAC				*e*Sg	**Sg**	**18 45 07.7**	**-1.8**
	comp=Z,9.0nm,0.3s						
TREC	**Trest**	**2.27**	**189**	*e*Pn	**Pn**	**18 44 36.5**	**+0.9**
TREC				*e*Sg	**Sg**	**18 45 09.3**	**-0.4**
KRUC	**Moravsky**	**2.49**	**174**	*e*Pn	**Pn**	**18 44 39.2**	**+0.6**
KRUC				*e*Sg	**Sg**	**18 45 16.2**	**-0.6**
	comp=Z,3.5nm,0.1s						
NKC	**Novy Kostel**	**2.61**	**241**	*e*PN	**Pn**	**18 44 40.6**	**+0.4**
NKC				*e*PG	**Pg**	**18 44 46.6**	**-0.2**
NKC				*e*SG	**Sg**	**18 45 22.4**	**+1.8**
	comp=Z,31nm,0.5s						
NKC	**Novy Kostel**	**2.61**	**241**	*e*Pg	**Pg**	**18 44 46.6**	**-0.2**
NKC				*e*Sg	**Sg**	**18 45 20.1**	**-0.5**
OJC	**Ojcow**	**2.73**	**117**	*e*Pg	**Pg**	**18 44 48.6**	**-0.7**
OJC				*e*Sg	**Sg**	**18 45 24.6**	**-0.2**
OJC				*e*		18 45 25.2	
OJC	**Ojcow**	**2.73**	**117**	*e*Pg	**Pg**	**18 44 48.6**	**-0.7**
OJC				*e*Sg	**Sg**	**18 45 24.6**	**-0.2**
KHC	**Kasperske Hory**	**2.87**	**214**	*e*PN	**Pn**	**18 44 44.3**	**+0.5**
KHC				*e*PG	**Pg**	**18 44 50.8**	**-1.0**
KHC				*e*SN	**Sn**	**18 45 18.6**	**-0.4**
KHC				*e*SG	**Sg**	**18 45 29.2**	**+0.2**
	comp=Z,7.4nm,0.3s						
KHC	**Kasperske Hory**	**2.87**	**214**	*e*Pn	**Pn**	**18 44 44.2**	**+0.4**
JAVC	**Velka Javorina**	**2.88**	**158**	*e*Pn	**Pn**	**18 44 45.1**	**+1.1**
MOX	**Moxa**	**2.91**	**254**	*e*PN	**Pn**	**18 44 45.1**	**+0.7**
MOX				*e*PG	**Pg**	**18 44 52.4**	**-0.3**
MOX				*e*SG	**Sg**	**18 45 30.9**	**+0.5**
GEC2	**GERESS Array S**	**3.08**	**210**	*e*Pn	**Pn**	**18 44 47.6**	**+0.9**
GEC2				*e*Sg	**Sg**	**18 45 33.3**	**-2.4**
WET	**Wettzell**	**3.12**	**221**	*e*Pn	**Pn**	**18 44 47.7**	**+0.4**
WET				*e*Sg	**Sg**	**18 45 36.5**	**-0.7**
KOLL	**Kolacno**	**3.33**	**152**	*e*SG	**Sg**	**18 45 47.2**	**+3.2**
VYHS	**Vyhne**	**3.55**	**148**	*e*SG	**Sg**	**18 45 51.5**	**+0.7**
CONA	**Conrad Observa**	**3.61**	**182⇑**	*i*Pn	**Pn**	**18 44 54.1**	**+0.1**
CONA				⇓*i*Sg	**Sg**	**18 45 52.5**	**-0.4**
	comp=Z,7.7nm,0.4s						
BSD	**Bornholm Skovb**	**3.65**	**350**	*i* P	**Pn**	**18 44 53.0**	**-1.5**
BSD				*i* S	**Sn**	**18 45 32.7**	**-5.5**
BSD				*i*		18 45 35.1	
MOA	**Molln**	**3.86**	**198⇑**	*i*Pn	**Pn**	**18 44 57.9**	**+0.5**
MOA				⇓*i*Sg	**Sg**	**18 46 01.6**	**+0.8**
	comp=Z,4.4nm,0.4s						
STHS	**Stebnicka Huta**	**3.96**	**120**	*e*SG	**Sg**	**18 46 07.5**	**+3.5**

*IDC **08** 18:57:56.1±3.1, 3069S×7349W, h0km, mb4.4/3, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, ML3.9/5, Error ellipse: s-maj=68.5km s-min=29.6km az=94.0*
*ISCJB **08** 18:58:01.4±0.8, 3086S±004×7307W±007, h33km, mb4.2/4, Error ellipse: s-maj=8.9km s-min=6.3km az=158.7*
*NEIC **08** 18:58:03.7, 3088S×7284W, h34km, mb3.8/2, ML3.8(GUC), After GUC.*
*GUC **08** 18:58:03.7±0.9, 3088S×7284W, h34km±9km, MD4.0, ML3.8*
ISC 08 18:58:03.4±0.8, 3079S±004×7296W±008, h35km, n21, σ1.9 09/32, mb4.2/4, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**1.52**	**84⇑**	*i*P	**Pn**	**18 58 28.1**	**0.0**
OVCH				*i* S	**Sn**	**18 58 47.5**	**+0.7**
OVCH				AML	AML	18 58 50.7	
	comp=N,1μm,0.3s						
OVCH	**Ovalle**	**1.52**	**84⇑**	*i*P	**Pn**	**18 58 28.1**	**0.0**
OVCH				*i* S	**Sn**	**18 58 47.5**	**+0.7**
CMCH	**Combarbala**	**1.73**	**103⇓**	*i*P	**Pn**	**18 58 31.0**	**+0.1**
CMCH				*i* S	**Sn**	**18 58 52.2**	**+0.5**
CMCH				AML	AML	18 58 55.4	
	comp=E,2μm,0.8s						
CMCH	**Combarbala**	**1.73**	**103⇓**	*i*P	**Pn**	**18 58 31.0**	**+0.1**
CMCH				*i* S	**Sn**	**18 58 52.2**	**+0.5**
PEL	**Peldehue**	**3.04**	**141**	*e*P	**Pn**	**18 58 48.8**	**-0.2**
PEL				*i* S	**Sn**	**18 59 23.1**	**-1.2**
PEL				AML	AML	18 59 29.5	
	comp=E,362nm,0.3s						
PEL	**Peldehue**	**3.04**	**141**	*e*P	**Pn**	**18 58 48.8**	**-0.2**
PEL				*i* S	**Sn**	**18 59 23.1**	**-1.2**
ANTU	**Antumapu**	**3.41**	**145**	*i* S	**Sn**	**18 59 32.6**	**-0.6**
ANTU				AML	AML	18 59 39.8	
	comp=N,176nm,0.3s						
CHCH	**Chadas Angostu**	**3.70**	**149⇑**	*i*P	**Pn**	**18 58 58.4**	**+0.4**
CHCH				*i* S	**Sn**	**18 59 39.1**	**-1.2**
LMEL	**Las Melosas**	**3.84**	**143⇓**	*i*P	**Pn**	**18 59 01.0**	**+0.9**
LMEL				*i* S	**Sn**	**18 59 43.7**	**-0.3**
LMEL				AML	AML	18 59 46.4	
	comp=N,231nm,0.2s						
LMEL	**Las Melosas**	**3.84**	**143⇓**	*i*P	**Pn**	**18 59 01.0**	**+0.9**
LMEL				*i* S	**Sn**	**18 59 43.7**	**-0.3**
CACH	**El Canelo**	**3.87**	**150⇑**	*i*P	**Pn**	**18 59 01.5**	**+1.0**
CFAA	**Coronel Fontan**	**4.13**	**103**	Pn	**Pn**	**18 59 07.4**	**+3.5**
	comp=N,0.9nm,0.3s,baz=302,slow=12,SNR=46						
CFAA				Sn	**Sn**	**18 59 55.5**	**+4.6**
	comp=N,1.3nm,0.3s,baz=201,slow=16,SNR=6.1						
LVC	**Limon Verde**	**8.91**	**25**	Pn	**Pn**	**19 00 07.8**	**-1.7**
	comp=N,0.4nm,0.3s,baz=341,slow=19,SNR=12						
LVC				Sn	**Sn**	**19 01 46.4**	**-2.3**
	comp=N,0.2nm,0.3s,baz=252,slow=20,SNR=3.9						
PLCA	**Paso Flores**	**10.12**	**170**	Pn	**Pn**	**19 00 25.1**	**-1.1**
	comp=N,0.5nm,0.3s,baz=334,slow=11,SNR=11						
LPAZ	**La Paz**	**15.09**	**18**	Pn	**Pn**	**19 01 32.4**	**-1.6**
	comp=N,0.1nm,0.3s,baz=200,slow=15,SNR=2.2						
LPAZ	**La Paz**	**15.09**	**18**	*e*P	**Pn**	**19 01 36.0**	**+2.0**
	comp=N,2.0nm,0.9s						
SIV	**San Ignacio**	**18.30**	**39**	P	**Pn**	**19 02 14.5**	**0.0**
	comp=N,0.3nm,0.3s,baz=226,slow=10,SNR=10.0						
BDFB	**Brasilia**	**27.35**	**62**	P	**P**	**19 03 46.1**	**+1.0**
	comp=N,1.7nm,0.4s,mb3.9,baz=230,slow=16,SNR=2.1						
QSPA	**South Pole Qui**	**59.44**	**180**	*e*P	**P**	**19 08 03.1**	**+0.5**
	comp=N,1.8nm,0.9s,mb4.1						
DBIC	**Dimbokro**	**74.93**	**73**	P	**P**	**19 09 40.5**	**-0.2**
	comp=N,8.6nm,1.1s,mb4.6,baz=212,slow=9.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**83.87**	**71**	P	**P**	**19 10 31.5**	**+2.0**
	comp=N,0.7nm,0.5s,mb4.0,baz=247,slow=2.8,SNR=12						

*INMG **08** 19:06:27.5±1.6, 4048N×564W, h2km±4km, ML1.9, Error ellipse: s-maj=2.6km s-min=2.1km az=67.0*
MDD 08 19:06:28.6±0.5, 4045N×564W, h11km, mbLg2.0/18, Error ellipse: s-maj=3.7km s-min=3.3km az=21.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUD	**Guadarrama**	**1.15**	**80**	Pg	Pg	19 06 48.6	-2.1
	3.5nm,0.2s,SNR=27						
GUD				Lg		19 07 04.5	
	7.2nm,0.2s,SNR=12						
MTE	**Manteigas**	**1.46**	**269**	*e*P	Pn	19 06 54.5	-0.2
MTE				*e*S	Sn	19 07 12.3	-1.5
MTE							
	11nm,0.3s						
ESDC	**Sonseca Array**	**1.50**	**120**	Pg	Pg	19 06 54.8	-2.6
	18nm,0.2s,baz=301,slow=16,SNR=62						
ESDC				Lg		19 07 14.9	
	11nm,0.3s,baz=293,slow=27,SNR=7.9						
PCBR	**Castelo Branco**	**1.53**	**247**	*e*Pn	Pn	19 06 54.7	-1.1
PCBR	**Castelo Branco**	**1.53**	**247**	*e*Pg	Pg	19 06 56.2	-1.8
PCBR				*e*Sg	Sg	19 07 16.7	-1.2
PCBR							
	12nm,0.2s						
PCBR	**Castelo Branco**	**1.53**	**247**	Pn	Pn	19 06 54.7	-1.1
PCBR				Pg	Pg	19 06 56.2	-1.8
PCBR				Lg		19 07 16.7	
	6.2nm,0.2s						
PBRG	**Braganca**	**1.59**	**329**	*e*Pn	Pn	19 06 56.0	-0.6
PBRG				*e*Sn	Sn	19 07 15.3	-1.9
PBRG							
	11nm,0.3s						
ECAL	**Calabor**	**1.71**	**331**	Pg	Pg	19 06 58.4	-3.0
	8.7nm,0.3s,SNR=18						
ECAL				Lg		19 07 21.6	
	16nm,0.4s,SNR=5.8						
PVIS	**Viseu**	**1.74**	**280**	*e*Pg	Pg	19 06 59.6	-2.3
PVIS				*e*Sg	Sg	19 07 22.4	-2.1
PVIS							
	9.3nm,0.2s						
PVRL	**Vila Real**	**1.78**	**298**	*e*Pg	Pg	19 07 00.0	-2.7
PVRL				*e*Sg	Sg	19 07 22.9	-2.9
PVRL							
	7.4nm,0.2s						
EBAD	**Badajoz**	**2.00**	**213**	Pn	Pn	19 07 01.5	-0.7
	0.3nm,0.1s,SNR=7.3						
EBAD				Pg	Pg	19 07 03.8	-3.0
	3.0nm,0.3s,SNR=7.9						
EBAD				Lg		19 07 29.6	
	7.6nm,0.2s,SNR=6.6						
PCAB	**Cabril**	**2.20**	**306**	*e*Pg	Pg	19 07 08.1	-2.7
PCAB				*e*Sg	Sg	19 07 36.6	-2.8
PCAB							
	5.9nm,0.3s						
ERUA	**La Rua**	**2.25**	**330**	Pg	Pg	19 07 07.6	-4.0
	1.5nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**2.28**	**250**	*e*Pg	Pg	19 07 09.8	-2.6
PTOM				*e*Sg	Sg	19 07 39.2	-2.8
PTOM							
	12nm,0.4s						
ELOB	**Lobios**	**2.31**	**309**	Pn	Pn	19 07 05.5	-1.0
	0.3nm,0.1s,SNR=7.3						
ELOB				Lg		19 07 40.1	
	2.3nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**2.42**	**160**	Pn	Pn	19 07 06.7	-1.3
	0.4nm,0.3s,SNR=4.0						
EADA				Pg	Pg	19 07 11.7	-3.2
	1.9nm,0.2s,SNR=7.9						
EADA				Sn	Sn	19 07 35.7	-1.9
	2.4nm,0.3s,SNR=4.0						
EADA				Lg		19 07 43.0	
	4.9nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.75**	**81**	Pn	Pn	19 07 11.7	-0.9
	0.9nm,0.3s,SNR=7.9						
ETOR				Pg	Pg	19 07 17.5	-3.8
	1.2nm,0.4s,SNR=7.9						
ETOR				Lg		19 07 54.5	
	2.8nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.79**	**197**	Pn	Pn	19 07 12.8	-0.3
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		19 07 54.2	
	2.3nm,0.2s,SNR=7.9						
MOE	**Montemor**	**2.84**	**228**	*e*Sg	Sg	19 07 56.2	-3.8
EARI	**Arriondas**	**2.87**	**6**	Pn	Pn	19 07 12.9	-1.3
	1.2nm,0.5s,SNR=7.9						
EARI				Pg	Pg	19 07 20.5	-3.0
	1.9nm,0.4s,SNR=7.9						
EARI				Sn	Sn	19 07 46.5	-2.2
	1.0nm,0.3s,SNR=7.9						
EARI				Lg		19 07 58.2	
	4.8nm,0.6s,SNR=7.9						
PBEJ	**Beja**	**2.97**	**216**	*e*Sg	Sg	19 08 00.5	-3.6
EPON	**Pontenova**	**3.09**	**339**	Pg	Pg	19 07 23.0	-4.8
	1.8nm,0.4s,SNR=7.9						
EPON				Sn	Sn	19 07 51.4	-2.8
	1.8nm,0.3s,SNR=7.9						
EPON				Lg		19 08 04.9	
	5.4nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**3.23**	**30**	Pg	Pg	19 07 27.5	-3.1
	0.7nm,0.2s,SNR=7.9						
ELAN				Lg		19 08 09.9

PMAN	Manadas	0.41	88	*e*rx		19 19 02.1	
TUQ	Turquoise Mtn.	67.12	298	⇑S	S	19 38 02.4	-32
	baz=1.4						
GLA	Glamis	67.61	295	⇓S	S	19 38 16.5	-24
	baz=2.1						
BC3	Big Chuckw Mtn	67.73	296	⇑S	S	19 37 58.1	-44
	baz=1.3						

CSEM ***08*** *19:46:05.7±0.1, 4188N×1593E, h30km, ML4.1/4, Error ellipse: s-maj=2.1km s-min=1.3km az=65.0*
ISCJB ***08*** *19:46:06.1±0.4, 4190N±002×1590E±004, h26km±3km, Error ellipse: s-maj=5.4km s-min=3.7km az=130.5*
NEIC ***08*** *19:46:06.4, 4181N×1590E, h29km, ML2.8(ROM), After ROM.*
ROM ***08*** *19:46:06.4±0.2, 4181N×1590E, h29km±1km, Md2.9/6, Ml2.8/26, Error ellipse: s-maj=2.8km s-min=2.0km az=81.0*

ISC 08 19:46:06.8±0.4, 4186N±002×1588E±004, h25km±3km, n48, σ0.978/63, 5C-4D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	San Giovanni R	0.15	222	⇑*i*Pg	Pb	19 46 12.0	+0.2
SGRT				Sg	Sb	19 46 15.3	+0.1
	3μm,0.2s						
MSAG	Monte S. Angel	0.15	170	⇑*i*Pg	Pb	19 46 11.9	0.0
MSAG				Sg	Sb	19 46 15.5	+0.1
	9μm,0.1s						
FGMS	Monte Sant'Ang	0.17	159	⇓*i*Pg	Pb	19 46 12.2	+0.1
MS1	Monte Sant'Ang	0.17	162	*e*Sg	Sb	19 46 15.4	-0.2
RGNG	Rignano Grg	0.29	229	⇑*i*Pg	Pb	19 46 13.4	-0.2
RGNG				Sg	Sb	19 46 17.8	-0.4
FG2	Serracapriola	0.54	264	⇑*i*Pg	Pb	19 46 17.6	0.0
FG5	Orsara di Pugl	0.74	218	Pg	Pb	19 46 20.8	-0.2
FG5				Sg	Sb	19 46 30.7	+0.1
	307nm,0.4s						
CIGN	Sant'Elia a Pi	0.76	254	Pg	Pb	19 46 21.1	-0.1
	108nm,0.5s						
FG4	Candela	0.78	200	Pg	Pb	19 46 20.9	-0.7
SGTA	Sant Agata di	0.82	208	Pg	Pb	19 46 22.0	-0.4
SGTA				Sg	Sb	19 46 32.5	-0.6
	1μm,0.5s						
CDT	Castel del Mon	0.84	159	*e*Pg	Pb	19 46 21.7	-0.9
CDT				*e*Sg	Sb	19 46 33.3	-0.2
FRES	Fresagrandinar	0.91	277	Pg	Pb	19 46 24.1	+0.3
	342nm,0.6s						
CAFE	Carife	0.96	210	Pg	Pn	19 46 24.5	-0.1
CAFE				Sg	Sb	19 46 37.9	+0.8
	442nm,0.5s						
SACR	S. Croce Del S	0.99	242	Pg	Pn	19 46 24.5	-0.5
	63nm,0.3s						
TRIV	Trivento	0.99	265	Pg	Pn	19 46 25.8	+0.7
BSSO	Busso	1.01	252	Pg	Pn	19 46 26.0	+0.7
	77nm,0.7s						
PSB1	Pescosannita	1.02	232	Pg	Pn	19 46 25.3	-0.2
	75nm,0.5s						
SNAL	S. Angelo Dei	1.06	208	Pg	Pn	19 46 25.3	-0.7
SNAL				Sg	Sb	19 46 40.5	+0.6
	318nm,0.3s						
BAI	Bari	1.07	135	*e*Pg	Pn	19 46 26.8	+0.7
BAI				*e*Sg	Sb	19 46 41.2	+1.1
AMUR	Altamura	1.10	150	Pg	Pn	19 46 25.3	-1.3
	236nm,0.2s						
MRLC	Muro Lucano	1.14	195	Pg	Pn	19 46 25.6	-1.5
	253nm,0.4s						
CII	Carovilli	1.18	264	Pg	Pn	19 46 28.4	+0.7
	29nm,0.3s						
SG1	Sgolgore (BA)	1.19	149	*e*Pg	Pn	19 46 27.8	+0.1
SG1				*e*Sg	Sn	19 46 44.0	+0.9
MCRV	Calabrutti - M	1.20	206	Pg	Pn	19 46 27.0	-1.0
	288nm,0.5s						
MIDA	Miranda	1.23	260	Pg	Pn	19 46 28.2	-0.1
	60nm,0.3s						
RNI2	Rionero Sannit	1.30	263	Pg	Pn	19 46 30.1	+0.9
PTRP	Pietrapertosa	1.35	174	Pg	Pn	19 46 31.7	+1.8
	110nm,3.6s						
SGO	Sicignano	1.37	198	Pg	Pn	19 46 29.6	-0.6
	32nm,0.2s						
MOCO	Biccari - m.te	1.38	250	Pg	Pn	19 46 20.6	-10
	380nm,0.7s						
NOCI	Noci	1.40	140	Pg	Pn	19 46 29.6	-1.0
	305nm,0.3s						
CDRU	Civita di Ruta	1.44	198	Pg	Pn	19 46 29.9	-1.3
	84nm,0.2s						
INTR	Introdacqua	1.48	276	Pg	Pn	19 46 31.4	-0.3
	133nm,0.4s						
SLCN	Sala Consilina	1.48	187	Pg	Pn	19 46 32.2	+0.4
	166nm,0.4s						
PE1	Pezze di Greco	1.57	132	*e*Pg	Pn	19 46 35.3	+2.3
CMPR	Campora	1.60	196	Pg	Pn	19 46 32.4	-1.0
	62nm,0.4s						
SCHR	S. Chirico Rap	1.67	175	Pg	Pn	19 46 34.2	-0.2
	42nm,0.2s						
VVLD	Villa Vallelon	1.68	271	Pg	Pn	19 46 34.7	+0.2
	82nm,0.6s						
MGR	Morigerati	1.74	188	Pg	Pn	19 46 35.1	-0.2
	58nm,0.5s						
TERO	Teramo	1.85	295	Pg	Pn	19 46 37.8	+1.0
CUC	Castrocucco	1.87	181	Pg	Pn	19 46 37.0	-0.1
	61nm,0.4s						
LNSS	Leonessa	2.23	290	Pg	Pn	19 46 43.9	+1.8
	83nm,0.6s						
NRCA	Norcia	2.26	296	Pg	Pn	19 46 43.6	+1.1
	5.0nm,0.2s						
ARV	Arcevia	2.71	308	Pg	Pn	19 46 49.1	+0.4
NVLJ	Novalja	2.80	345	*i* Pn	Pn	19 46 49.8	-0.1
NVLJ				*i* Sn	Sn	19 47 22.4	-0.4
NVLJ	Novalja	2.80	345	*i* Pn	Pn	19 46 49.8	-0.1
NVLJ				*i* Sn	Sn	19 47 22.3	-0.5
BOJS	Bojanci	3.67	353	*i* Pn	Pn	19 47 02.8	+1.0
BOJS				*i* Sn	Sn	19 47 43.8	-0.4
OBKA	Obir	4.74	349	⇓*i*Pn	Pn	19 47 17.0	+0.4
OBKA				⇓*i*Sn	Sn	19 48 09.8	-0.9
MOA	Molln	6.09	350	⇑*i*Pn	Pn	19 47 35.2	+0.1
MOA				⇓*i*Sn	Sn	19 48 42.2	-1.9

MAN 08 20:19:18.8, 1802N×12127E, h6km, mb2.0, ML3.7, MS1.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	Callao Caves	0.61	121	⇓*e*P	Pg	20 19 30.5	-0.1
CVP				*i* S	Sg	20 19 39.0	+0.4
ABRA	Dolores	0.64	235	*e*P	Pg	20 19 31.0	-0.2
ABRA				*e*S	Sg	20 19 39.2	-0.4
SGCP	Mt. Cagua	0.77	73	*e*P	Pg	20 19 34.3	+0.6
CAUP	Cauayan	1.19	154	*e*P	Pg	20 19 41.4	-0.3
PALP	Palanan	1.46	131	*e*P	Pn	20 19 45.3	-0.3

ISCJB ***08*** *20:38:49.3±0.6, 3822N±003×2678E±004, h8km±4km, Error ellipse: s-maj=5.2km s-min=4.3km az=114.2*
ISK ***08*** *20:38:49.2, 3823N×2682E, h10km, MD3.1*
ATH ***08*** *20:38:49.5, 3822N×2681E, h36km±3km, MD3.2/3*
CSEM ***08*** *20:38:49.0±0.1, 3826N×2680E, h12km, MD3.1, Error ellipse: s-maj=2.2km s-min=2.1km az=112.0*

ISC 08 20:38:50.1±0.5, 3825N±002×2680E±004, h12km±3km, n24, σ0.977/36, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.19	304	*i* P	Pg	20 38 54.1	-0.1
URLA				*i* S	Sg	20 38 57.7	+0.6
BLCB	Balcova	0.23	55	*i* PG	Pg	20 38 54.6	-0.4
BLCB				*i* SG	Sg	20 38 57.5	-0.8
IZM	Izmir	0.39	68	*i* PG	Pg	20 38 57.8	-0.1
IZM				*i* SG	Sg	20 39 03.4	+0.3
KDAG	Bornova	0.40	68	*i* P	Pg	20 38 57.8	-0.2
KDAG				*i* S	Sg	20 39 03.5	+0.2
SMG	Samos	0.54	177	⇑*i*PN	Pg	20 39 00.8	+0.1
SMG				*e*SN	Sg	20 39 08.9	+1.0
AKS	Akhisar	1.01	51	*i* PG	Pg	20 39 08.8	-0.8
AYDN	Tasoluk	1.04	124	*i* P	Pb	20 39 09.8	-0.1
AYDN				*i* S	Sb	20 39 22.8	-0.7
AYVA	Ayvalik	1.06	355	*i* P	Pb	20 39 08.8	-1.5
AYVA				*i* S	Sb	20 39 24.6	+0.5
PRK	Paraskevi	1.07	338	*e*PN	Pn	20 39 10.2	-0.7
PRK				*e*SN	Sn	20 39 25.2	-0.6
MLSB	Milas	1.23	141	PN	Pn	20 39 12.9	-0.2
BODT	Bodrum	1.26	161	PN	Pn	20 39 12.5	-0.9
BDRM	Kayabasi	1.29	156	*i* P	Pn	20 39 13.2	-0.7
BDRM				*i* S	Sb	20 39 31.6	+0.8
MANT	Manisa	1.40	80	*i* P	Pn	20 39 16.2	+0.7
MANT				*i* S	Sn	20 39 33.5	-0.4
APE	Apeiranthos	1.55	221	PN	Pn	20 39 17.4	-0.1
APE	Apeiranthos	1.55	221	*e*Pn	Pn	20 39 16.4	-1.1
BALB	Balikesir	1.62	31	*e*PN	Pn	20 39 18.7	+0.2
YER	Yerkesik	1.62	133	*e*PN	Pn	20 39 18.0	-0.5
DAT	Datca	1.64	158	*e*PN	Pn	20 39 18.0	-0.7
CANB	Canakkale	1.77	7	*e*PN	Pn	20 39 21.3	+0.8
BTOK	Tokmak	1.79	32	*i* P	Pn	20 39 22.9	+2.2
DENT	Denizli	1.83	105	*e*PN	Pn	20 39 21.9	+0.5
DNZL	Cakiroluk	1.86	107	*i* P	Pn	20 39 25.5	+3.7
DNZL				*i* S	Sn	20 39 51.3	+6.0
DST	Dursunbey	1.96	46	*e*PN	Pn	20 39 23.8	+0.6
ULDT	Uludag	2.62	43	*i* P	Pn	20 39 33.3	+1.2
ULDT				*i* S	Sn	20 40 09.1	+5.2

CASC 08 20:55:44.8±2.0, 1056N×8548W, h2km±3km, MD3.6, ML3.1, 8C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIN3	Volcan Rincon	0.25	24	⇓*i*P	Pg	20 55 50.7	+1.1
RIN3				*e*S	Sg	20 55 55.3	+2.5
LIM1	Limonal	0.26	58	⇑*e*P	Pg	20 55 51.1	+1.3
LIM1				*e*S	Sg	20 55 55.7	+2.5
VCR	Vista de Mar	0.46	199	*e*P	Pg	20 55 54.3	+0.7
VCR				*e*S	Sg	20 56 01.2	+1.7
VACR	Volcan Arenal	0.80	96	*i* P	Pg	20 56 01.1	+1.0
SSNN	San Juan del S	0.81	333	*e*P	Pg	20 56 01.0	+0.7
SSNN				*e*S	Sg	20 56 12.2	+1.4
MADN	Villa Maderas	0.84	357	⇑*e*P	Pg	20 56 01.9	+0.9
CAO	Cobano	0.93	156	⇓*i*P	Pg	20 56 02.5	-0.2
CAO				*e*S	Sg	20 56 16.4	+1.7
CONN	Concepcion	1.01	352	*e*P	Pg	20 56 04.1	0.0
CONN				⇑*i*P		20 56 04.2	
EPA	Esparza	1.04	123	⇑*i*P	Pg	20 56 04.8	0.0
EPA				*e*S	Sg	20 56 21.4	+3.1
CGA2	Cerro Gallo 2	1.14	118	*e*P	Pg	20 56 06.2	-0.4
CGA2				*e*S	Sg	20 56 22.4	+1.1
POA2	Poas 2	1.27	107	⇓*i*P	Pg	20 56 09.0	-0.2
POA2				⇑*e*P		20 56 09.0	
PRS1	Puriscal	1.29	116	⇑*e*P	Pg	20 56 08.7	-0.8
PRS1				*e*S	Sg	20 56 27.4	+1.3
APON	Apoyo	1.46	337	*e*P	Pn	20 56 11.0	-1.2
LAJ	Bijagual	1.51	117	⇓*e*P	Pn	20 56 07.7	-5.1
OCM	Ochomogo	1.64	114	*e*S	Sn	20 56 37.4	+1.2
OCM				AML	AML	20 56 43.2	
	comp=E,255nm,0.1s						
IRZ2	Volcan Irazu 2	1.67	111	⇓*i*P	Pn	20 56 15.6	+0.6
LCR2	La Lucha 2	1.67	119	⇑*e*P	Pn	20 56 14.6	-0.4
LCR2				*e*S	Sn	20 56 37.6	+0.6
URSC	Urasca	1.82	113	⇑*e*P	Pn	20 56 17.8	+0.6
URSC				*e*S	Sn	20 56 43.4	+2.5
APYN	Apoyeque	1.87	333	*e*P	Pn	20 56 18.2	+0.5
COPN	Copaltepe	1.94	326	*e*P	Pn	20 56 18.1	-0.7
COPN				*e*S	Sn	20 56 45.0	+1.3
BUS	Buena Vista	1.97	120	⇓*e*P	Pn	20 56 19.8	+0.6
CNGN	Cerro Negro	2.27	328	*e*P	Pn	20 56 23.3	+0.1
CNGN				*e*S	Sn	20 56 53.0	+1.3
LEON	Leon	2.30	323	*e*P	Pn	20 56 23.5	-0.2

NIED ***08*** *21:07:00, 3540N×14070E, h38km, Mw4.3 Best double couple: M=3.45000×10^15 NP1:φs=22.00000°, δ61.00000°, λ-116.00000°. NP2:φs=246.00000°, δ38.00000°, λ-53.00000°.*
IDC ***08*** *21:07:15.2±0.9, 3541N×14063E, h0km, mb4.1/12, mb1 4.1/16, mb1mx4.0/25, mbtmp4.2/16, ML4.2/4, MS3.5/4, Ms1 3.6/4, ms1mx3.0/21, Error ellipse: s-maj=29.7km s-min=16.0km az=72.0*
ISCJB ***08*** *21:07:19.1±0.4, 3535N±003×14067E±005, h47km±3km, mb4.2/29, MS3.6/4, Error ellipse: s-maj=7.3km s-min=5.4km az=172.7*
JMA ***08*** *21:07:19.0±0.1, 3539N×14067E, h48km±2km, M4.2 Broadband fault plane solution: P waves. NP1: φs=260.00000°, δ28.00000°, λ-67.00000°. NP2:φs=54.00000°, δ65.00000°, λ-102.00000°. Principal axes: T Plg19.0000°, Azm153.0000°; N Plg11.0000°, Azm59.0000°; P Plg68.0000°, Azm302.0000°;*
JMA Felt II J1.
NEIC ***08*** *21:07:21.3±2.1, 3545N×14059E, h42km±14km, mb4.3/11 Error ellipse: s-maj=22.9km s-min=18.0km az=54.0*
NEIC Recorded [2 JMA] in Chiba Prefecture.
BJI ***08*** *21:07:21.3, 3550N×14060E, h41km, mB4.7, mb4.4, Ms3.7, Msz3.4*
MOS ***08*** *21:07:30.4±1.1, 3634N×13996E, h79km, mb4.5/12, Error ellipse: s-maj=14.1km s-min=8.2km az=123.0*

ISC 08 21:07:19.7±0.5, 3534N±003×14070E±005, h36km±4km, n72, σ0.999/78, mb4.2/29, MS3.6/4, 10C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	Katsuura	0.37	239	P	Pn	21 07 28.9	+0.3
KTR				S	Sn	21 07 35.7	+1.0
CHOJ	Chosi	0.38	20	⇑P	Pn	21 07 28.1	-0.6
CHOJ				S	Sn	21 07 35.4	+0.5
JCN	Nagara	0.41	281	⇑P	Pn	21 07 29.3	+0.2
JCN				S	Sn	21 07 36.9	+1.2
BSO4	Boso 4	0.46	220	⇓P	Pn	21 07 30.4	+0.6
BSO3	Boso 3	0.56	196	⇑P	Pn	21 07 31.4	+0.3
BSO2	Boso 2	0.59	176	*e*S	Sn	21 07 42.5	+2.5
BSO1	Boso 1	0.72	162	⇑P	Pn	21 07 33.0	-0.4
JYT	Yasato	0.97	335	⇑P	Pn	21 07 35.7	-1.1
JIM2	Oshima 3	1.21	239	P	Pn	21 07 39.2	-0.9
JIM2				S	Sn	21 07 53.1	-2.2
JAG	Ashikaga	1.48	317	P	Pn	21 07 43.7	-0.1
JHJ	Hachijo jima 2	2.34	199	Pn	Pn	21 07 55.2	-0.4
	75nm,0.3s,baz=27,slow=5.3,SNR=25						
JHJ				Sn	Sn	21 08 21.4	-1.8
	370nm,0.3s,baz=41,slow=23,SNR=21						
MJAR	Matsushiro Arr	2.35	301	Pn	Pn	21 07 55.4	-0.3
	22nm,0.3s,baz=97,slow=19,SNR=121						
MJAR				Sn	Sn	21 08 23.3	-0.1
	26nm,0.3s,baz=171,slow=28,SNR=7.0						
MJAR	Matsushiro Arr	2.35	301	Pn	Pn	21 07 55.4	-0.3
MJAR				Sn	Sn	21 08 23.3	-0.1
MAJO	Matsushiro	2.35	301	*e*P	Pn	21 07 56.0	+0.2
MAT	Matsushiro	2.35	301	P	Pn	21 07 56.1	+0.3
MAT				*e*S	Sn	21 08 23.8	+0.4
MAT	Matsushiro	2.35	301	*e*P	Pn	21 07 56.0	+0.2
MAT				S	Sn	21 08 24.0	+0.6
CBIJ	Chichi jima	8.32	171	Pn	Pn	21 09 16.6	-1.1
	20nm,0.3s,baz=310,slow=21,SNR=10						
ASAJ	Asahikawa	8.88	9	Pn	Pn	21 09 24.4	-1.0
	3.2nm,0.3s,baz=205,slow=13,SNR=25						
ASAJ	Asahikawa	8.88	9	P	Pn	21 09 24.5	-1.0
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YSS	Yuzh-Sakhalins	11.70	7	*e*P	Pn	21 10 05.0	+0.9
CN2	Changchun	14.47	310	*e*P	Pn	21 10 48.0	+6.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SSE	Sheshan	16.87	261	P	Pn	21 11 18.2	+5.3
SSE				AMB	AMB		
	comp=Z,300nm,0.6s						
SSE				AMB	AMB		
	comp=Z,250nm,3.4s						
NJ2	Nanjing	18.47	266	*e*P	Pn	21 11 38.1	+5.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,320nm,5.8s						
NJ2				LR	LR		
	comp=N,420nm,23.0s						
NJ2				LR	LR		
	comp=E,440nm,20.3s						
NJ2				LR	LR		
	comp=Z,150nm,16.8s						
YAK	Yakutsk	27.60	349	⇑*e*P	P	21 13 01.9	-1.6
YAK				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
ULN	Ulaanbaatar	27.87	307	*e*P	P	21 13 05.8	-0.1
ULN	Ulaanbaatar	27.87	307	*e*P	P	21 13 04.3	-1.5
	comp=Z,1.7nm,0.8s,mb3.7						
SONM	Songino Array	28.29	307	P	P	21 13 08.6	-1.0
	comp=Z,1.0nm,0.7s,mb3.6,baz=112,slow=10,SNR=3.1						
SONM				LR	LR	21 24 50.8	
	comp=Z,119nm,20.5s,MS3.5,baz=83,slow=37						
ZAK	Zakamensk	30.90	311	*e*P	P	21 13 30.4	-2.3
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.9						
CD2	Chengdu	31.14	272	*e*P	P	21 13 34.7	-0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GTA	Gaotai	32.55	290	*e*P	P	21 13 47.4	+0.2
BILL	Bilibino	35.81	16	*e*P	P	21 14 18.7	+3.2
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI	Tiksi	36.90	354	⇑*e*P	P	21 14 23.8	-1.0
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
LSA	Lhasa	41.81	277	*e*P	P	21 15 06.1	+0.4
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
LSA	Lhasa	41.81	277	*e*P	P	21 15 06.1	+0.4
	comp=Z,1.6nm,0.6s,mb3.8						
ZAL	Zalesovo	42.66	314	P	P	21 15 12.2	-0.5
	comp=Z,1.5nm,0.4s,mb4.0,baz=16,slow=11,SNR=7.0						
NVS	Novosibirsk	43.61	315	*e*P	P	21 15 20.4	+0.1
MKAR	Makanchi Array	44.55	303	P	P	21 15 28.2	+0.4
	comp=Z,1.7nm,0.6s,mb4.0,baz=86,slow=9.7,SNR=23						
KURK	Kurchatov	46.54	309	*e*P	P	21 15 43.2	-0.4
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
KURK	Kurchatov	46.54	309	*e*P	P	21 15 43.2	-0.4
	comp=Z,14nm,0.8s,mb4.9						
KURK				*e*	pP	21 15 54.5	+0.2
AAK	Ala-Archa	50.80	299	⇑*e*P	P	21 16 17.2	+0.9
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
AAK	Ala-Archa	50.80	299	*e*P	P	21 16 15.8	-0.5
	comp=Z,2.6nm,0.8s,mb4.2						
CHKZ	Chkalovo	51.06	314	*e*P	P	21 16 19.5	+1.2
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CHKZ	Chkalovo	51.06	314	*e*P	P	21 16 19.4	+1.2
	comp=Z,4.5nm,0.9s,mb4.4						
ZRNK	Zerenda	52.13	313	*e*P	P	21 16 26.8	+0.5
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	Zerenda	52.13	313	*e*P	P	21 16 26.8	+0.5
	comp=Z,4.1nm,0.8s,mb4.4						
ARU	Arti	57.25	319	⇑*i*P	P	21 17 03.4	0.0
ARU				*e*		21 17 56.5	
ARU				*e*		21 19 09.4	
ARU				*e*PPP		21 20 27.1	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ARU	Arti	57.25	319	*e*P	P	21 17 03.2	-0.2
	comp=Z,7.4nm,0.8s,mb4.8						
ASAR	Alice Springs	59.04	187	P	P	21 17 17.5	+1.6
	comp=Z,0.6nm,0.5s,mb3.9,baz=15,slow=15,SNR=12						
AKTK	Aktyubinsk	59.38	313	P	P	21 17 18.4	+0.1
AKTO	Aktyubinsk	59.38	313	P	P	21 17 18.4	+0.1
	comp=Z,1.7nm,0.7s,mb4.2,baz=49,slow=9.3,SNR=6.9						
KEV	Kevo	64.82	339	*e*p	P	21 17 55.9	+1.2
	comp=Z,0.3nm,0.3s,mb3.8						
ARCES	ARCESS Array B	65.38	340	P	P	21 17 57.4	-0.9
	comp=Z,3.4nm,0.9s,mb4.3,baz=28,slow=5.5,SNR=3.6						
JOF	Joensuu	67.18	332	*e*p	P	21 18 08.5	-1.4
	comp=Z,0.6nm,0.3s,mb4.1						
KAF	Kangasniemi	69.55	333	*e*p	P	21 18 20.6	-4.1
	comp=Z,1.3nm,0.7s,mb4.0						
KAF	Kangasniemi	69.55	333	*e*P	P	21 18 20.6	-4.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
FINES	FINESS Array B	70.04	332	P	P	21 18 27.7	0.0
	comp=Z,0.6nm,0.3s,mb4.0,baz=65,slow=5.1,SNR=12						
FINES				LR	LR	21 50 17.3	
	comp=Z,33nm,21.8s,MS3.5,baz=345,slow=37						
FINES	FINESS Array B	70.04	332	*i* P	P	21 18 28.6	+0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KIV	Kislovodsk	71.58	311	⇓*e*P	P	21 18 38.3	+1.2
KIV				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
KIV	Kislovodsk	71.58	311	*e*P	P	21 18 38.0	+0.9
	comp=Z,6.0nm,0.8s,mb4.6						
GNI	Garni	72.25	307	*e*P	P	21 18 39.8	-1.3
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
AKASG	Malin Array Be	75.28	322	P	P	21 18 59.0	+0.1
	comp=Z,0.9nm,0.4s,mb4.1,baz=48,slow=5.7,SNR=11						
HFS	Hagfors	75.39	336	P	P	21 19 00.2	+0.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=72,slow=14,SNR=3.8						
NB2	NORSAR Subarra	75.52	337	P	P	21 19 00.6	+0.3
	comp=Z,1.0nm,0.6s,mb3.9,baz=42,slow=5.9						
NOA	NORSAR Array B	75.52	337	P	P	21 19 00.5	+0.2
	comp=Z,2.0nm,0.8s,mb4.1,baz=40,slow=5.8,SNR=7.0						
NOA				LR	LR	21 54 58.9	
	comp=Z,39nm,19.5s,MS3.7,baz=15,slow=38						
BRTR	Keskin Array B	79.54	311	P	P	21 19 23.0	+0.3
	comp=Z,0.6nm,0.5s,mb3.8,baz=134,slow=2.7,SNR=5.1						
BRTR	Keskin Array B	79.54	311	⇑*e*P	P	21 19 24.6	+1.9
ASF	Jabal al Asfar	81.97	304	P	P	21 19 38.4	+2.7
	comp=Z,0.6nm,0.4s,mb3.9,baz=5.8,slow=2.7,SNR=3.9						
CLL	Collm	82.27	330	*e*P	P	21 19 38.0	+0.7
SMCO	Snowmass	83.06	46	*e*P	P	21 19 41.0	-0.3
	comp=Z,3.9nm,0.9s,mb4.4						
GERES	GERESS Array B	83.84	328	LR	LR	22 01 36.0	
	comp=Z,23nm,18.8s,MS3.6,baz=16,slow=39						
TORD	Torodi Ar. Bea	118.10	314	PKP	PKPdf	21 26 03.9	+1.2
	comp=Z,0.2nm,0.6s,baz=56,slow=0.8,SNR=7.2						
LPAZ	La Paz	148.03	61	PKPbc	PKPbc	21 27 05.1	+3.9
	comp=Z,0.8nm,0.9s,baz=255,slow=3.6,SNR=4.3						

IDC ***08*** *21:14:04.9±1.1, 3501N×2338E, h0km, mb3.6/5, mb1 3.6/10, mb1mx3.5/28, mbtmp3.5/10, ML3.8/5,

GERES	GERESS Array B	15.67 336	Pn	Pn	21 17 45.0	-3.0	
	0.1nm,0.3s,baz=161,slow=14,SNR=3.4						
KHC	Kasperske Hory	15.95 336	eP	Pn	21 17 55.1	+3.4	
AKASG	Malin Array Be	16.35 13	Pn	Pn	21 17 52.8	-4.0	
	0.4nm,0.3s,baz=204,slow=9.8,SNR=2.6						
HFS	Hagfors	26.02 349	P	P	21 19 37.5	-3.0	
	0.9nm,0.5s,mb3.6,baz=163,slow=12,SNR=4.9						
EKA	Eskdalemuir Ar	27.43 326	P	P	21 19 53.0	-0.2	
	0.3nm,0.4s,mb3.1,baz=125,slow=8.6,SNR=4.2						
TORD	Torodi Ar. Bea	29.23 228	P	P	21 20 09.7	+0.5	
	0.2nm,0.5s,mb3.1,baz=40,slow=9.5,SNR=2.8						
MKAR	Makanchi Array	45.13 56	P	P	21 22 21.7	-2.3	
	1.0nm,0.5s,mb3.9,baz=271,slow=7.8,SNR=24						
MATP	Matopo	55.24 174	P	P	21 23 40.2	-0.4	
	0.6nm,0.7s,mb3.8,baz=66,slow=19,SNR=2.7						

*CSEM **08** 21:20:59.9±0.1, 39.16N×29.40E, h15km, MD2.8, Error ellipse: s-maj=2.0km s-min=1.7km az=5.0*

ISK 08 21:21:00.5, 3912N×2942E, h23km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.06	122	iP	Pb	21 21 03.2	-1.3
GDZ				iS	Sb	21 21 06.0	-1.4
ALT	Altintas	0.54	96	PG	Pb	21 21 11.7	+0.4
ALT				SG	Sb	21 21 19.7	+1.0
KHL	Karahalli	0.80	174	PG	Pb	21 21 16.9	+1.2
MANT	Manisa	0.92	227	iP	Pb	21 21 17.4	-0.3
MANT				iS	Sb	21 21 29.4	-0.1
ULDT	Uludag	1.05	348	iP	Pn	21 21 17.6	-2.1
BORA	Eskisehir	1.10	46	iP	Pn	21 21 20.5	0.0
BORA				iS	Sb	21 21 36.0	+1.2
ESKT	Eskisehir	1.18	70	iP	Pn	21 21 22.0	+0.4
ESKT				iS	Sn	21 21 40.0	+3.1
SEYT	Eskypehyr	1.18	70	iP	Pn	21 21 22.0	+0.4
SEYT				iS	Sn	21 21 40.0	+3.1
IZI	Iznik	1.22	2	ePN	Pn	21 21 22.6	+0.5
BTOK	Tokmak	1.25	301	iP	Pn	21 21 22.6	0.0
BTOK				iS	Sn	21 21 37.3	-1.4
AKS	Akhisar	1.27	260	PN	Pn	21 21 23.7	+0.8
AKS				SN	Sn	21 21 40.2	+0.9
TKTP	Tekketepe	1.29	146	iP	Pn	21 21 26.4	+3.3
TKTP				iS	Sn	21 21 47.6	+8.1
BALB	Balikesir	1.30	294	ePN	Pn	21 21 23.9	+0.6
ADVT	Abdulvahap	1.34	10	PN	Pn	21 21 24.6	+0.9
ADVT				SN	Sn	21 21 42.2	+1.4
KCT	Karacabey	1.41	325	ePN	Pn	21 21 24.5	-0.2
YLV	Yalova	1.45	359	ePN	Pn	21 21 25.7	+0.4
BNT	Bandirma	1.69	317	ePN	Pn	21 21 29.5	+0.9
HRT	Hereke	1.71	6	ePN	Pn	21 21 29.7	+0.8

KRSC 08 21:33:34.7±1.3, 5467N×16427E, h40km±23km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.12	61	eP		21 33 53.6	
BKI				iS		21 34 07.1	
BKI				Smax			
	940nm,0.4s						
MKZ	Mys Kozlova	1.48	267	iP		21 33 59.6	
MKZ				eS		21 34 16.8	
KBTR	Krutoberegovo	1.75	332	iP		21 34 01.6	
KBTR				eS		21 34 21.8	
KBG	Krutoberegovo	1.82	331	eP		21 34 03.5	
KBG				iS		21 34 24.3	
KBG				Smax			
	450nm,0.7s						
ZLN	Zelenaya	2.40	306	eP		21 34 13.6	
ZLN				eS		21 34 42.1	
CIRR	Tsirk	2.48	307	eP		21 34 14.5	
CIRR				eS		21 34 42.9	
LGNR	Loginova	2.49	306	eP		21 34 14.5	
LGNR				eS		21 34 44.6	
SMKR	Semkarok	2.49	321	eP		21 34 13.4	
SMKR				eS		21 34 43.3	
KMNR	Kamenistaya	2.55	297	eP		21 34 15.3	
KMNR				eS		21 34 43.8	
BDR	Baidarnaya	2.58	319	eP		21 34 15.0	
BDR				eS		21 34 45.7	
KRSR	Krestovskiy	2.62	308	eP		21 34 15.5	
KRSR				eS		21 34 45.7	
KLY	Klyuchi	2.64	310	eP		21 34 13.8	
KLY				eS		21 34 44.8	
KPT	Kopyto	2.65	301	eP		21 34 17.1	
KPT				eS		21 34 49.6	
SRKR	Sorokina	2.65	320	eP		21 34 15.9	
SRKR				eS		21 34 46.0	
KOZ	Kozyrevsk	2.87	301	eS		21 34 50.9	
SPN	Mys Shipunski	2.97	240	eP		21 34 20.2	
SPN				eS		21 34 52.6	
SRDR	Sredinnyy	3.07	304	eP		21 34 22.8	
SRDR				eS		21 34 58.1	
NLC	Nalytchevo	3.28	245	eP		21 34 24.8	
NLC				eS		21 35 00.6	
ESO	Esso	3.42	294	eP		21 34 27.0	
ESO				eS		21 35 06.0	
SDLR	Sedlovina	3.47	249	eP		21 34 28.1	
SDLR				eS		21 35 07.1	
SMAR	Somma	3.52	249	eP		21 34 29.1	
SMAR				eS		21 35 07.0	
UGLR	Uglovaya	3.54	248	eP		21 34 29.7	
UGLR				eS		21 35 08.5	
AVH	Avacha	3.56	249	eP		21 34 29.8	
AVH				eS		21 35 10.0	
KOK	Koryaka	3.60	250	eP		21 34 30.4	
PET	Petropavlovsk	3.71	246	eS		21 35 12.5	
GNL	Ganaly	3.84	258	iP		21 34 34.0	
KRMR	Karymshinskiy	4.08	246	eP		21 34 38.0	
RUS	Russkaya	4.10	239	eP		21 34 36.4	
RUS				eS		21 35 21.8	
GRL	Gorelyy	4.26	243	P		21 34 39.9	
MIPR	Malaya Ipel'ka	5.09	245	P		21 34 49.2	

*NEIC **08** 21:34:18.0±1.4, 22.41S×69.61W, h10km, mb4.1/1, Error ellipse: s-maj=17.8km s-min=14.8km az=109.0*
*ISCJB **08** 21:34:20.3±1.9, 22.59S±0.10×69.5W±0.1, h34km±21km, mb4.3/1, Error ellipse: s-maj=21.5km s-min=16.6km az=169.9*
*IDC **08** 21:34:20.0±5.3, 22.54S×69.49W, h18km±28km, mb4.3/1, mb1 3.8/5, mb1mx3.7/17, mbtmp3.9/5, ML3.9/4, Error ellipse: s-maj=39.5km s-min=23.7km az=95.0*

ISC 08 21:34:21.3±3.3, 2255S±010×695W±02, h19km±17km, n9, σ1°02/9, mb4.3/1, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.50	97	Pg	Pg	21 34 30.6	-0.9
	154nm,0.3s,baz=279,slow=12,SNR=136						
LVC				Lg		21 34 39.2	
	444nm,0.3s,baz=162,slow=20,SNR=90						
LVC	Limon Verde	0.50	97	Pg	Pg	21 34 30.6	-0.9
LVC				eS	Sg	21 34 39.0	+0.6
LVC				Lg		21 34 39.2	
LPAZ	La Paz	6.35	12	Pn	Pn	21 35 55.4	+1.5
	1.1nm,0.3s,baz=188,slow=9.8,SNR=22						
CFAA	Coronel Fontan	9.08	173	Pn	Pn	21 36 31.3	-0.1
	0.2nm,0.3s,baz=352,slow=14,SNR=9.1						
SIV	San Ignacio	10.25	52	Pn	Pn	21 36 45.7	-1.6
	1.1nm,0.3s,baz=244,slow=15,SNR=24						
CPUP	Villa Florida	11.67	111	Pn	Pn	21 37 07.8	+1.1
	0.3nm,0.3s,baz=315,slow=17,SNR=2.5						
TRQA	Tornquist	16.74	159	P	Pn	21 38 19.4	+4.8
	22nm,1.5s						
TORD	Torodi Ar. Bea	78.18	70	P	P	21 46 18.8	-0.6
	2.0nm,0.5s,mb4.3,baz=255,slow=5.5,SNR=38						
MKAR	Makanchi Array	146.77	36	PKPbc	PKPbc	21 54 00.1	-1.9
	1.1nm,0.7s,baz=333,slow=2.7,SNR=11						

*NEIC **08** 21:42:55.9, 40.30S×173.51E, h175km, MG4.0(WEL), After WEL.*

WEL 08 21:42:55.9±0.3, 4029S×17352E, h174km±3km, ML3.9/14, 3C, Error ellipse: s-maj=2.0km s-min=1.0km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.59	149	⇑PN	Pn	21 43 20.7	+0.3
DUWZ				SN	Sn	21 43 39.0	-0.3
QRZ	Quartz Range	0.93	234	PN	Pn	21 43 22.3	-0.2
QRZ				SN	Sn	21 43 41.1	-1.8
QRZ	Quartz Range	0.93	234	P	Pn	21 43 22.3	-0.2
QRZ				S	Sn	21 43 40.9	-2.0
NNZ	Nelson	0.93	187	PN	Pn	21 43 22.4	-0.1
NNZ	Nelson	0.93	187	P	Pn	21 43 22.4	-0.1
NRZ	Ngariki Road	1.00	18	PN	Pn	21 43 23.2	+0.2
NRZ	Ngariki Road	1.00	18	P	Pn	21 43 23.3	+0.3
NWEZ	Newall Road	1.05	15	PN	Pn	21 43 23.4	0.0
NWEZ	Newall Road	1.05	15	P	Pn	21 43 23.5	+0.1
TCW	Tory Channel	1.08	148	PN	Pn	21 43 24.1	+0.5
TCW				SN	Sn	21 43 43.7	-1.3
TCW	Tory Channel	1.08	148	P	Pn	21 43 24.2	+0.5
TCW				S	Sn	21 43 43.6	-1.4
NEZ	North Egmont	1.11	24	PN	Pn	21 43 23.7	-0.2
NEZ	North Egmont	1.11	24	P	Pn	21 43 24.0	+0.1
PKE	Pukeiti	1.15	18	PN	Pn	21 43 24.1	-0.1
PKE	Pukeiti	1.15	18	P	Pn	21 43 24.3	+0.1
TUWZ	Tuamarina	1.18	164	PN	Pn	21 43 24.4	-0.1
KIW	Kapiti Island	1.20	119	PN	Pn	21 43 24.7	+0.1
RAEZ	Rainy Point	1.21	34	PN	Pn	21 43 24.9	+0.2
RAEZ	Rainy Point	1.21	34	P	Pn	21 43 24.9	+0.2
WAZ	Wanganui	1.25	65	PN	Pn	21 43 25.5	+0.5
WAZ	Wanganui	1.25	65	P	Pn	21 43 25.6	+0.6
MRW	Makara Radio	1.29	137	PN	Pn	21 43 25.6	+0.2
MRW	Makara Radio	1.29	137	P	Pn	21 43 25.7	+0.3
SNZO	South Karori	1.36	139	PN	Pn	21 43 26.0	0.0
SNZO	South Karori	1.36	139	P	Pn	21 43 26.0	0.0
CAW	Cannon Point	1.43	125	PN	Pn	21 43 26.8	+0.1
CAW	Cannon Point	1.43	125	P	Pn	21 43 26.8	+0.1
BSWZ	Blackbirch Sta	1.45	169	PN	Pn	21 43 26.9	0.0
BSWZ	Blackbirch Sta	1.45	169	P	Pn	21 43 27.1	+0.3
VRZ	Vera Road	1.51	40	PN	Pn	21 43 26.9	-0.5
VRZ	Vera Road	1.51	40	P	Pn	21 43 26.9	-0.5
BHW	Baring Head	1.51	138	PN	Pn	21 43 27.3	-0.2
BHW	Baring Head	1.51	138	P	Pn	21 43 27.4	-0.1
THZ	Tophouse	1.54	197	⇑PN	Pn	21 43 27.5	-0.3
THZ	Tophouse	1.54	197	P	Pn	21 43 27.5	-0.3
CMWZ	Cape Campbell	1.55	160	PN	Pn	21 43 28.3	+0.5
CMWZ	Cape Campbell	1.55	160	P	Pn	21 43 28.4	+0.6
MRZ	Mangatainoka R	1.61	104	PN	Pn	21 43 28.4	-0.1
MRZ	Mangatainoka R	1.61	104	P	Pn	21 43 28.4	-0.1
MSWZ	Moikau Station	1.73	131	PN	Pn	21 43 29.3	-0.3
MSWZ				SN	Sn	21 43 53.6	-2.0
MSWZ	Moikau Station	1.73	131	P	Pn	21 43 29.6	0.0
PKVZ	Pokaka	1.73	55	PN	Pn	21 43 29.3	-0.4
MTW	Mount Morrison	1.74	121	PN	Pn	21 43 29.7	-0.1
MTW	Mount Morrison	1.74	121	P	Pn	21 43 29.7	0.0
MTVZ	Mangateitei	1.75	60	PN	Pn	21 43 29.5	-0.4
PAWZ	Paruwai Farm	1.81	128	PN	Pn	21 43 30.3	-0.2
PAWZ	Paruwai Farm	1.81	128	P	Pn	21 43 30.4	-0.1
TRVZ	Turoa	1.85	58	PN	Pn	21 43 30.0	-0.9
TIWZ	Tintock	1.86	106	PN	Pn	21 43 31.1	0.0
WNVZ	Wahianoa	1.87	60	PN	Pn	21 43 30.7	-0.3
WNVZ	Wahianoa	1.87	60	P	Pn	21 43 30.8	-0.3
DRZ	Dome Shelter	1.87	58	ePN	Pn	21 43 31.1	-0.1
DRZ	Dome Shelter	1.87	58	P	Pn	21 43 31.3	+0.1
FWVZ	Far West T-bar	1.88	57	PN	Pn	21 43 30.7	-0.5
FWVZ	Far West T-bar	1.88	57	P	Pn	21 43 30.8	-0.4
TSZ	Takapari Road	1.88	84	PN	Pn	21 43 31.1	-0.2
TSZ	Takapari Road	1.88	84	P	Pn	21 43 31.1	-0.2
WPVZ	Whakapapa	1.90	56	PN	Pn	21 43 31.0	-0.4
WPVZ	Whakapapa	1.90	56	P	Pn	21 43 31.0	-0.5
TWVZ	Taurewa	1.92	51	PN	Pn	21 43 30.8	-0.8
TWVZ	Taurewa	1.92	51	P	Pn	21 43 30.9	-0.7
MOVZ	Moawhango	1.93	63	PN	Pn	21 43 30.8	-1.0
MOVZ	Moawhango	1.93	63	P	Pn	21 43 31.0	-0.8
DSZ	Denniston Nort	1.95	221	⇑PN	Pn	21 43 31.3	-0.6
DSZ				SN	Sn	21 43 56.6	-3.3
DSZ	Denniston Nort	1.95	221	P	Pn	21 43 31.4	-0.6
NGZ	Ngauruhoe	1.95	56	PN	Pn	21 43 31.5	-0.5
TRWZ	Traveller	1.98	125	PN	Pn	21 43 32.1	-0.2
WTVZ	West Tongariro	1.98	54	PN	Pn	21 43 31.7	-0.6
WTVZ	West Tongariro	1.98	54	P	Pn	21 43 31.3	-1.0
KRVZ	Karewarewa	2.02	55	PN	Pn	21 43 32.2	-0.6
HIZ	Hauiti	2.05	31	PN	Pn	21 43 32.3	-0.9
HIZ	Hauiti	2.05	31	P	Pn	21 43 32.3	-0.8
BFZ	Birch Farm	2.11	101	PN	Pn	21 43 33.6	-0.2
BFZ				SN	Sn	21 44 00.4	-2.7
KHZ	Kahutara	2.12	180	PN	Pn	21 43 33.4	-0.5
KHZ	Kahutara	2.12	180	P	Pn	21 43 33.5	-0.4
RATZ	Rangitukua	2.25	51	PN	Pn	21 43 35.0	-0.3
RATZ	Rangitukua	2.25	51	P	Pn	21 43 35.1	-0.2
WATZ	Wairara	2.33	48	PN	Pn	21 43 35.8	-0.4
BKZ	Black Stump Fm	2.55	65	PN	Pn	21 43 37.6	-1.2
PXZ	Pawanui	2.57	85	PN	Pn	21 43 38.6	-0.4
LTZ	Lake Taylor	2.66	200	PN	Pn	21 43 39.1	-1.0
LTZ				SN	Sn	21 44 10.4	-4.0
LTZ	Lake Taylor	2.66	200	eP	Pn	21 43 39.1	-1.0
URZ	Urewera	3.45	55	PN	Pn	21 43 47.4	-2.4
URZ	Urewera	3.45	55	P	Pn	21 43 47.6	-2.2
KNZ	Kokohu	3.45	70	PN	Pn	21 43 48.2	-1.6
KNZ	Kokohu	3.45	70	eP	Pn	21 43 48.4	-1.4
MQZ	McQueen's Vall	3.47	190	PN	Pn	21 43 47.6	-2.5
MQZ	McQueen's Vall	3.47	190	P	Pn	21 43 47.9	-2.2
WVZ	Waitaha Valley	3.48	216	PN	Pn	21 43 48.2	-1.9
WVZ	Waitaha Valley	3.48	216	eP	Pn	21 43 48.4	-1.8
MWZ	Matawai	3.67	59	PN	Pn	21 43 50.5	-2.1
MWZ	Matawai	3.67	59	P	Pn	21 43 50.7	-1.9
RPZ	Rata Peaks	3.88	207	PN	Pn	21 43 53.3	-2.0
RPZ				SN	Sn	21 44 35.0	-6.7
RPZ	Rata Peaks	3.88	207	eP	Pn	21 43 53.5	-1.8
PUZ	Puketiti	4.29	60	PN	Pn	21 43 57.9	-2.6
PUZ				SN	Sn	21 44 45.8	-5.4
PUZ	Puketiti	4.29	60	eP	Pn	21 43 58.0	-2.6
JCZ	Jackson Bay	5.18	222	PN	Pn	21 44 09.3	-2.7
JCZ				SN	Sn	21 45 05.2	-6.5
JCZ	Jackson Bay	5.18	222	eP	Pn	21 44 09.4	-2.6
ODZ	Otahua Downs	5.20	203	PN	Pn	21 44 10.0	-2.3
ODZ				SN	Sn	21 45 04.7	-7.5
ODZ	Otahua Downs	5.20	203	eP	Pn	21 44 10.1	-2.2

*ISCJB **08** 21:43:25.0±0.6, 43.10N±003×001E±003, h0km, Error ellipse: s-maj=4.6km s-min=3.6km az=170.0*
*LDG **08** 21:43:26.4±0.1, 43.03N×002E, h5km, Md2.1/2, Ml1.5/3, Error ellipse: s-maj=1.5km s-min=1.2km az=176.0*
*MDD **08** 21:43:26.8±0.3, 43.01N×001E, h0km, mbLg1.0/3, Error ellipse: s-maj=2.5km s-min=1.9km az=140.0, PRXIMO*
*STR **08** 21:43:26.8±0.1, 43.01N×003E, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 08 21:43:25.9±0.7, 4305N±003×002E±004, h11km±6km, n25, σ0°37/25, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.04	89	Pg	Pg	21 43 28.1	+0.2
LABF				Sg	Sg	21 43 29.2	-0.1
LABF	Labassere	0.04	89	Pg	Pg	21 43 28.1	+0.3
LABF				Lg		21 43 29.2	
VIEF	Viey	0.16	180	Pg	Pg	21 43 29.4	-0.1
VIEF				Sg	Sg	21 43 31.5	-0.5
VIEF	Viey	0.16	180	Pg	Pg	21 43 29.5	0.0
VIEF				Lg		21 43 31.6	
EPF	Esparros	0.23	94	ePg	Pg	21 43 31.0	+0.3
EPF				eSg	Sg	21 43 34.5	+0.6
	6.6nm,0.2s						
EPF	Esparros	0.23	94	Pg	Pg	21 43 31.0	+0.3
EPF				Lg		21 43 34.5	
	3.3nm,0.2s						
RESF	Ens	0.33	136	Pg	Pg	21 43 32.5	0.0
RESF				Sg	Sg	21 43 37.0	0.0
RESF	Ens	0.33	136	Pg	Pg	21 43 32.5	0.0
RESF				Lg		21 43 37.1	
EBIE	Bielsa	0.37	166	⇑Pg	Pg	21 43 33.1	-0.1
	2.1nm,0.1s,SNR=18						
EBIE				Lg		21 43 37.7	
	9.5nm,0.1s,SNR=11						
ETSF	Etsaut	0.45	251	ePg	Pg	21 43 35.2	+0.5
ETSF				eSg	Sg	21 43 40.0	-0.7
	1.8nm,0.2s						
ETSF	Etsaut	0.45	251	Pg	Pg	21 43 35.2	+0.5
ETSF				Lg		21 43 40.0	
	0.9nm,0.2s						
MELF	Melles	0.57	108	Lg		21 43 44.5	
EGRA	Graus	0.88	166	Pg	Pg	21 43 43.0	+0.2
	0.3nm,0.2s,SNR=7.9						
SJPF	Ste Jean	0.92	275	eSg	Sg	21 43 55.8	+0.3
	0.8nm,0.3s						
SJPF	Ste Jean	0.92	275	Lg		21 43 55.8	
	0.4nm,0.3s						
CSOR	Sort	1.06	129	Pg	Pg	21 43 46.1	-0.1
CSOR				Lg		21 43 59.6	
	0.9nm,0.5s						
CORG	Organya	1.26	130	Lg		21 44 06.3	
CAVN	Les Avellanes	1.28	155	Pg	Pg	21 43 50.2	-0.3
CAVN				Lg		21 44 07.4	
	2.2nm,0.1s						
ESAC	San Caprasio	1.37	196	Pg	Pg	21 43 53.0	+0.7
	2.5nm,0.4s,SNR=4.0						
MTLF	Montolieu	1.63	79	ePg	Pg	21 43 56.9	-0.3
MTLF				eSg	Sg	21 44 18.0	-0.4
	0.7nm,0.2s						
MTLF	Montolieu	1.63	79	Pg	Pg	21 43 56.9	-0.3
MTLF				Lg		21 44 18.0	
	0.3nm,0.2s						
EPOB	Poblet	1.87	155	Lg		21 44 25.0	
	0.2nm,0.2s,SNR=7.9						
LFF	La Frestale	1.96	15	eSg	Sg	21 44 28.7	-0.2
	1.4nm,0.3s						
LFF	La Frestale	1.96	15	Lg		21 44 28.7	
	0.7nm,0.3s						
ERTA	Horta de San J	2.10	174	Lg		21 44 31.9	
	0.3nm,0.2s,SNR=4.0						

WEL 08 22:34:41.1±0.2, 3706S×17648E, h300km±2km, ML3.7/7, Error ellipse: s-maj=3.4km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.29	158	PN	Pn	22 35 23.1	0.0
URZ				SN	S	22 35 55.9	-0.4
MWZ	Matawai	1.52	147	PN	Pn	22 35 24.6	+0.3
MWZ				SN	S	22 35 58.2	-0.6
PUZ	Puketiti	1.73	126	PN	Pn	22 35 25.9	+0.1
PUZ				SN	S	22 36 00.3	-1.2
KNZ	Kokohu	2.17	155	SN	S	22 36 06.9	-0.8
MOVZ	Moawhango	2.41	194	PN	Pn	22 35 31.8	+0.5
TSZ	Takapari Road	3.02	188	PN	Pn	22 35 37.1	+0.1
MRZ	Mangatainoka R	3.66	191	PN	Pn	22 35 42.9	-0.7
MRZ				SN	S	22 36 31.9	-1.8
KIW	Kapiti Island	3.99	197	PN	Pn	22 35 46.7	-0.5
MRW	Makara Radio	4.39	198	PN	Pn	22 35 50.5	-1.1
TCW	Tory Channel	4.49	202	PN	Pn	22 35 52.0	-0.7
NNZ	Nelson	4.80	209	PN	Pn	22 35 55.1	-1.2
NNZ				SN	S	22 36 54.4	-2.2
THZ	Tophouse	5.45	209	PN	Pn	22 36 02.5	-1.3

*NIED **08** 22:42:00, 24.60N×123.10E, h11km, Mw3.6 Best double couple: M0:3.03000×10^14 NP1:φs:284.00000°, δ70.00000°, λ-77.00000°. NP2:φs:71.00000°, δ23.00000°, λ-121.00000°.*
*ISCJB **08** 22:42:53.3±0.3, 24.62N±006×123.06E±003, h104km±3km, mb3.9/12, Error ellipse: s-maj=9.3km s-min=4.4km az=172.8*
*NEIC **08** 22:42:54.0±0.8, 24.64N×123.14E, h96km±7km, mb4.5/3, MW3.6(NIED), Error ellipse: s-maj=12.1km s-min=10.2km az=55.0*
*IDC **08** 22:42:54.1±4.1, 24.69N×123.19E, h100km±41km, mb3.5/9, mb1 3.6/10, mb1mx3.5/21, mbtmp3.9/10, Error ellipse: s-maj=31.7km s-min=14.0km az=69.0*
*JMA **08** 22:42:55.5±0.1, 24.65N×123.08E, h88km±1km, M3.6*

ISC 08 22:42:54.4±0.3, 2462N±005×123.06E±003, h98km±3km, n32, σ0°92/47, mb3.9/12, 1C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.17	195	P	Pn	22 43 08.2	0.0
YOJ				S	Sn	22 43 17.8	-0.7
IRIF	Iriomote-Funau	0.68	115	P	Pn	22 43 11.5	+0.2
IRIF				S	Sn	22 43 23.5	-0.6
HATJ	Hateruma jima	0.89	129	P	Pn	22 43 13.9	+0.5
HATJ				S	Sn	22 43 27.3	-0.3
JKRS	Kuro-shima	0.95	114	P	Pn	22 43 14.8	+0.8
JKRS				S	Sn	22 43 29.0	+0.2
JIJ	Ishigaki jima	1.02	104	P	Pn	22 43 15.1	+0.3
JIJ				S	Sn	22 43 29.5	-0.8
NACB	Ninganchiao	1.41	252	⇑iPn	Pn	22 43 19.0	-0.3
NACB				eSn	Sn	22 43 35.5	-2.7
TATO	Taipei	1.47	284	ePn	Pn	22 43 21.1	+1.0
TATO				eSn	Sn	22 43 40.3	+0.8
JTJ	Tarama	1.50	89	P	Pn	22 43 21.2	+0.8
JTJ				eS	Sn	22 43 39.9	-0.3
YHNB	Yeheng	1.53	272	ePn	Pn	22 43 22.0	+1.2
YHNB				eSn	Sn	22 43 40.8	-0.1
JMJ	Miyako jima 2	2.04	84	P	Pn	22 43 28.2	+0.8
JMJ				eS	Sn	22 43 52.5	-0.1
JOGS	Gusukube	2.14	86	P	Pn	22 43 29.8	+1.1
JOGS				eS	Sn	22 43 55.3	+0.4
JKE	Kume jima 2	3.77	62	P	Pn	22 43 51.1	+0.7
JKE				eS	Sn	22 44 34.9	+1.1
JAGN	Aguni-jima	4.26	62	P	Pn	22 43 57.5	+0.6
JAGN				eS	Sn	22 44 45.8	+0.3
JOW	Kunigami	5.20	64	P	Pn	22 44 07.6	-2.1
	5.9nm,0.3s,baz=212,slow=15,SNR=23						
JOW				S	Sn	22 45 05.7	-2.6
	6.2nm,0.3s,baz=110,slow=25,SNR=6.4						
JOW	Kunigami	5.20	64	P	Pn	22 44 09.2	-0.5
JOW				eS	Sn	22 45 06.0	-2.3
JTK	Tokunoshima	6.16	58	P	Pn	22 44 21.9	-0.9
JAM	Amami Oshima	6.97	56	P	Pn	22 44 32.4	-1.4
ULN	Ulaanbaatar	26.44	335	eP	P	22 48 23.7	+1.8
SONM	Songino Array	26.67	335	P	P	22 48 24.1	+0.1
	0.9nm,0.6s,mb3.5,baz=156,slow=9.2,SNR=4.3						
MKAR	Makanchi Array	39.23	315	P	P	22 50 13.2	+0.2
	0.3nm,0.3s,mb3.5,baz=101,slow=9.9,SNR=14						
FITZ	Fitzroy Crossi	42.54	176	P	P	22 50 39.8

109C	**Camp Elliot, M**	**1.03**	**195**	⇑P	**Pb**	**22 46 13.2**	**-0.2**
	baz=1.1,SNR=144						
109C				⇓S	**Sb**	**22 46 26.8**	**+0.3**
	baz=1.1						
BC3	**Big Chuckw Mtn**	**1.13**	**101**	⇓S	**Sb**	**22 46 29.9**	**+0.3**
	baz=1.1						
FMP	**Fort Macarthur**	**1.26**	**263**	⇑P	**Pn**	**22 46 16.3**	**-0.5**
	baz=1.3,SNR=10.0						
FMP				⇑S	**Sb**	**22 46 33.3**	**0.0**
	baz=1.3						
GSC	**Goldstone**	**1.42**	**359**	⇑P	**Pn**	**22 46 18.3**	**-0.6**
	baz=1.4,SNR=217						
GSC				⇓S	**Sn**	**22 46 35.6**	**-1.5**
	baz=1.4						
TUQ	**Turquoise Mtn.**	**1.70**	**24**	⇓P	**Pn**	**22 46 22.1**	**-0.7**
	baz=1.7,SNR=193						
TUQ				⇑S	**Sn**	**22 46 42.5**	**-1.7**
	baz=1.7						
OSI	**Osito Adit**	**1.76**	**295**	⇓P	**Pn**	**22 46 23.5**	**-0.2**
	baz=1.7,SNR=22						
OSI				⇓S	**Sn**	**22 46 45.4**	**-0.2**
	baz=1.7						
GLA	**Glamis**	**1.84**	**116**	⇓P	**Pn**	**22 46 23.8**	**-0.9**
	baz=1.9,SNR=23						
Y12C	**Blythe**	**1.89**	**93**	⇑P	**Pn**	**22 46 24.3**	**-1.2**
	baz=1.9,SNR=13						
W12A	**Cal Nev Ari**	**2.12**	**48**	⇓P	**Pn**	**22 46 27.8**	**-0.8**
	baz=2.1						
ISA	**Isabella**	**2.25**	**322**	⇓P	**Pn**	**22 46 30.0**	**-0.5**
	baz=2.2,SNR=6.7						
SNCC	**San Nicolas Is**	**2.37**	**255**	⇑P	**Pn**	**22 46 31.6**	**-0.4**
	baz=2.4,SNR=5.7						
Y13A	**Salome**	**2.46**	**91**	⇑P	**Pn**	**22 46 32.4**	**-0.9**
	baz=2.5,SNR=7.0						
DAC	**Darwin (Calif)**	**2.48**	**345**	*e*Pn	**Pn**	**22 46 33.3**	**-0.3**
DAC				*e*Sn	**Sn**	**22 47 02.4**	**-0.9**
SBC	**Santa Barbara**	**2.49**	**284**	⇓P	**Pn**	**22 46 33.8**	**+0.1**
	baz=2.5						
X13A	**Yucca**	**2.55**	**73**	⇑P	**Pn**	**22 46 33.9**	**-0.6**
	baz=2.5,SNR=76						
CWC	**Cottonwood Cre**	**2.76**	**338**	⇓P	**Pn**	**22 46 37.3**	**-0.1**
	baz=2.7						
TPNV	**Topopah Spring**	**3.09**	**8**	*e*Pn	**Pn**	**22 46 42.4**	**+0.4**
TPNV				*e*Pg	**Pg**	**22 46 52.6**	**-0.7**
TPNV				*e*Sn	**Sn**	**22 47 17.8**	**-0.6**
Y14A	**Wickenburg**	**3.15**	**88**	⇓P	**Pn**	**22 46 42.3**	**-0.5**
	baz=3.1,SNR=18						
V05C	**Boulder Hill,**	**3.24**	**309**	⇑P	**Pn**	**22 46 44.2**	**+0.2**
	baz=3.2						
Z14A	**Wintersburg**	**3.24**	**98**	⇓P	**Pn**	**22 46 43.1**	**-1.0**
	baz=3.3						
X14A	**Yava**	**3.28**	**79**	⇑P	**Pn**	**22 46 44.1**	**-0.4**
	baz=3.3,SNR=29						
W14A	**Seligman**	**3.33**	**66**	P	**Pn**	**22 46 45.2**	**0.0**
	baz=3.3,SNR=48						
HELL	**Mitchell Peak**	**3.33**	**327**	⇑P	**Pn**	**22 46 45.7**	**+0.4**
	baz=3.3,SNR=54						
TIN	**Tinemaha**	**3.38**	**340**	⇑P	**Pn**	**22 46 46.4**	**+0.6**
	baz=3.3						
PKD	**Parkfield**	**3.71**	**305**	⇓P	**Pn**	**22 46 50.0**	**-0.4**
	baz=3.7,SNR=10						
PKD				⇑S	**Sn**	**22 47 33.1**	**-0.6**
	baz=3.7						
MTUM	**Tungsten Hills**	**3.75**	**338**	*e*Pn	**Pn**	**22 46 51.8**	**+0.7**
MTUM				*e*Pg	**Pg**	**22 47 02.7**	**-3.2**
MTUM				*e*Sn	**Sn**	**22 47 36.7**	**+2.0**
MTUM				*e*Sg	**Sg**	**22 47 52.6**	**-2.0**
S08C	**White Mtn Res**	**3.78**	**343**	P	**Pn**	**22 46 52.5**	**+1.1**
	baz=3.8,SNR=17						
X15A	**Humboldt**	**3.82**	**80**	⇓P	**Pn**	**22 46 51.8**	**-0.2**
	baz=3.8,SNR=15						
S09A	**Goldfield**	**3.84**	**355**	⇓P	**Pn**	**22 46 53.3**	**+1.0**
	baz=3.8,SNR=13						
S09A				⇑S	**Sn**	**22 47 36.8**	**-0.2**
	baz=3.8						
115A	**Sonoran Desert**	**3.99**	**106**	⇓P	**Pn**	**22 46 54.7**	**+0.3**
	baz=4.0,SNR=8.3						
115A				⇓S	**Sn**	**22 47 40.0**	**-0.8**
	baz=4.0						
MLAC	**Mammoth Lakes**	**4.09**	**337**	⇓P	**Pn**	**22 46 57.3**	**+1.6**
	baz=4.1						
U04C	**Hernandez Rese**	**4.10**	**308**	⇓P	**Pn**	**22 46 55.5**	**-0.3**
	baz=4.1						
U04C				⇑S	**Sn**	**22 47 45.3**	**+1.9**
	baz=4.1						
TPH	**Tonopah**	**4.20**	**355**	*e*Pn	**Pn**	**22 46 58.5**	**+1.3**
TPH				*e*Sn	**Sn**	**22 47 45.5**	**-0.3**
V03C	**Hunter Liggett**	**4.23**	**301**	⇓P	**Pn**	**22 46 56.6**	**-1.1**
	baz=4.2,SNR=22						
LRV	**Little Rabbit**	**4.29**	**307**	*e*Pn	**Pn**	**22 46 58.2**	**-0.3**
CCUT	**Cedar City**	**4.60**	**36**	*e*Pn	**Pn**	**22 47 03.6**	**+0.9**
CCUT				*e*Sn	**Sn**	**22 48 00.8**	**+5.2**
HAST	**Hastings Reser**	**4.64**	**304**	⇑P	**Pn**	**22 47 02.3**	**-0.9**
	baz=4.6,SNR=14						
MNV	**Mina**	**4.67**	**347**	*e*Pn	**Pn**	**22 47 04.8**	**+1.2**
MNV				*e*Sn	**Sn**	**22 47 56.2**	**-1.2**
ARUT	**Antelope Range**	**4.75**	**34**	*e*Pn	**Pn**	**22 47 05.7**	**+0.9**
ARUT				*e*Sn	**Sn**	**22 48 00.1**	**+0.8**
PACP	**Pacheco Peak**	**4.82**	**312**	⇓P	**Pn**	**22 47 05.1**	**-0.6**
	baz=4.8						
Q09A	**Carvers**	**4.95**	**356**	⇓S	**Sn**	**22 48 05.4**	**+1.2**
	baz=4.9						
CMB	**Columbia Colle**	**5.07**	**326**	*e*Pn	**Pn**	**22 47 09.4**	**+0.3**
	12nm,0.6s						
CMB				*e*Sn	**Sn**	**22 48 05.6**	**-1.6**
CMB	**Columbia Colle**	**5.07**	**326**	⇓P	**Pn**	**22 47 09.7**	**+0.6**
	baz=5.0						
P12A	**McGill**	**5.78**	**15**	⇓P	**Pn**	**22 47 20.5**	**+1.7**
	baz=5.8						
LAVA	**Lava Cap Winer**	**5.82**	**328**	⇓P	**Pn**	**22 47 21.0**	**+1.6**
	baz=5.8						
MVU	**Marysvale**	**5.91**	**37**	*e*Pn	**Pn**	**22 47 23.9**	**+3.2**
	21nm,0.5s						
MSU	**Marysvale**	**5.93**	**38**	*e*Pn	**Pn**	**22 47 20.6**	**-0.4**
MSU				*e*Sn	**Sn**	**22 48 30.4**	**+1.9**
O12A	**Currie**	**6.58**	**14**	⇑P	**Pn**	**22 47 30.3**	**+0.4**
	baz=6.6						
O06A	**Flanigan**	**6.72**	**340**	⇓P	**Pn**	**22 47 35.3**	**+3.5**
	baz=6.7						
ORV	**Oroville**	**6.81**	**328**	⇓P	**Pn**	**22 47 34.4**	**+1.4**
	baz=6.8						
ELK	**Elko**	**6.96**	**10**	*e*Pn	**Pn**	**22 47 36.4**	**+1.3**
	7.8nm,0.6s						
ELK				*e*Sn	**Sn**	**22 48 53.6**	**-0.1**
N09A	**Rock Creek Ran**	**6.98**	**355**	⇑S	**Sn**	**22 48 53.4**	**-0.8**
	baz=7.0						
DUG	**Dugway**	**7.05**	**26**	*e*Pn	**Pn**	**22 47 36.5**	**+0.1**
	7.8nm,0.9s						

ISCJB ***08*** *22:48:45.4±3.4, 68S±0.1×1553E±0.1, h55km±29km, mb4.5/17, MS3.4/2, Error ellipse: s-maj=20.9km s-min=14.0km az=75.9*
NEIC ***08*** *22:48:49.2±2.3, 687S×1550E, h73km±19km, mb4.7/10, Error ellipse: s-maj=17.8km s-min=10.6km az=58.0*
IDC ***08*** *22:48:50.1±4.7, 683S×1549E, h85km±40km, mb3.8/6, mb1 3.9/9, mb1mx3.9/14, mbtmp4.2/9, MS3.4/4, Ms1 3.4/4, ms1mx3.0/22, Error ellipse: s-maj=33.1km s-min=21.3km az=65.0*
ISC 08 22:48:47.6±2.6, 68S±01×1553E±01, h60km±23km, n35, σ1§16/28, mb4.5/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.27**	**120**		LR	LR	22 52 15.1	
	comp=Z,455nm,19.1s,baz=358,slow=37							
PMG	**Port Moresby**	**8.47**	**252**		P	**Pn**	**22 50 45.7**	**-1.9**
	3.9nm,0.3s,baz=73,slow=4.3,SNR=7.9							
PMG	**Port Moresby**	**8.47**	**252**	*e*Pn		**Pn**	**22 50 46.5**	**-1.1**
	17nm,0.6s							
PMG				*e*Sn		**Sn**	**22 52 23.8**	**+2.1**
CTA	**Charters Tower**	**15.85**	**213**		P	**Pn**	**22 52 25.3**	**-1.5**
	0.2nm,0.3s,baz=37,slow=15,SNR=2.8							
CTA					LR	LR	22 57 21.4	
	comp=Z,162nm,19.5s,baz=27,slow=33							
CTAO	**Charters Tower**	**15.85**	**213**	*e*P		**Pn**	**22 52 25.1**	**-1.7**
DZM	**Mont Dzumac**	**18.58**	**146**		P	**Pn**	**22 53 02.3**	**+1.8**
	0.3nm,0.3s,baz=330,slow=20,SNR=3.0							
GUMO	**Guam**	**22.78**	**333**		LR	LR	23 00 21.1	
	comp=Z,39nm,22.0s,baz=69,slow=31							
WRAB	**Tennant Creek**	**24.16**	**235**	*e*P		**P**	**22 53 57.7**	**-0.3**
	6.4nm,0.7s,mb4.2							
ASAR	**Alice Springs**	**26.52**	**229**		P	**P**	**22 54 18.0**	**-1.5**
	0.5nm,0.4s,mb3.4,baz=58,slow=9.3,SNR=8.3							
STKA	**Stephens Creek**	**28.02**	**205**		P	**P**	**22 54 31.6**	**-1.3**
	1.3nm,0.5s,mb3.8,baz=1.9,slow=12,SNR=3.7							
TAU	**Tasmania Unive**	**36.62**	**190**		P	**P**	**22 55 49.4**	**+1.3**
MBWA	**Marble Bar**	**37.23**	**244**		P	**P**	**22 55 55.0**	**+1.8**
KKM	**Kota Kinabalu**	**41.06**	**287**		P	**P**	**22 56 26.9**	**+1.8**
QIZ	**Qiongzhong**	**51.65**	**301**	*e*P		**P**	**22 57 49.2**	**+1.0**
SONM	**Songino Array**	**69.37**	**327**		P	**P**	**22 59 47.8**	**-1.1**
	1.0nm,0.7s,mb3.9,baz=137,slow=5.3,SNR=5.7							
VNDA	**Vanda**	**70.74**	**178**		P	**P**	**22 59 56.9**	**-0.4**
	1.0nm,0.8s,mb3.8,baz=318,slow=7.7,SNR=7.1							
LSA	**Lhasa**	**71.44**	**304**	*e*P		**P**	**23 00 02.8**	**+1.2**
	2.3nm,0.3s,mb4.6							
JIRN	**Jiri**	**74.97**	**301**	*e*P		**P**	**23 00 22.0**	**-0.3**
	7.8nm,0.4s,mb5.0							
GUN	**Gumba**	**75.30**	**301**	*e*P		**P**	**23 00 24.0**	**-0.3**
	26nm,0.7s,mb5.3							
PKI	**Pulchoki**	**75.61**	**301**	*e*P		**P**	**23 00 25.5**	**-0.5**
KKN	**Kakani**	**75.78**	**301**	*e*P		**P**	**23 00 26.8**	**-0.2**
	16nm,0.7s,mb5.1							
DMN	**Daman**	**75.88**	**301**	*e*P		**P**	**23 00 27.3**	**-0.3**
	23nm,0.7s,mb5.2							
GKN	**Gorkha**	**76.39**	**301**	*e*P		**P**	**23 00 29.1**	**-1.3**
	26nm,0.9s,mb5.2							
KOLN	**Koldanda**	**77.21**	**300**	*e*P		**P**	**23 00 34.5**	**-0.6**
	14nm,1.0s,mb4.8							
MKAR	**Makanchi Array**	**83.49**	**319**		P	**P**	**23 01 07.4**	**-1.4**
	1.3nm,0.8s,mb4.0,baz=103,slow=5.5,SNR=7.7							
KURK	**Kurchatov**	**86.89**	**322**	*e*P		**P**	**23 01 27.4**	**+1.6**
	0.8nm,0.3s,mb4.4							
YBH	**Yreka Blue Hor**	**88.54**	**48**		LR	LR	23 33 38.7	
	comp=Z,49nm,19.4s,baz=317,slow=30							
INK	**Inuvik**	**89.45**	**21**	*e*P		**P**	**23 01 38.0**	**+0.1**
	1.3nm,0.5s,mb4.5							
BRVK	**Borovoye**	**92.42**	**323**	*e*P		**P**	**23 01 52.7**	**+0.9**
	0.4nm,0.4s,mb4.1							
YKA	**Yellowknife Ar**	**96.04**	**28**		P	**P**	**23 02 08.1**	**-0.2**
	2.0nm,0.8s,mb4.6,baz=269,slow=4.7,SNR=9.4							
BOSA	**Boshof**	**120.37**	**231**	*e*PKPdf		PKPdf	23 07 33.4	+1.4
CPUP	**Villa Florida**	**134.29**	**137**	PKP		PKPdf	23 07 59.8	+1.3
	1.1nm,0.7s,baz=283,slow=5.1,SNR=4.5							
BDFB	**Brasilia**	**147.87**	**134**	PKPbc		PKPbc	23 08 26.4	+0.6
	7.1nm,0.7s,baz=204,slow=4.2,SNR=12							
MDT	**Midelt**	**148.11**	**327**	PKPbc		PKPbc	23 08 26.6	+0.2
	0.7nm,0.5s,baz=357,slow=4.7,SNR=4.4							
TORD	**Torodi Ar. Bea**	**153.29**	**286**	PKPbc		PKPbc	23 08 38.6	-0.1
	2.0nm,0.7s,baz=90,slow=2.3,SNR=16							
TORD				PKPab		PKPab	23 08 47.2	-3.6
	2.5nm,0.8s,baz=58,slow=2.9,SNR=7.0							

LDG ***08*** *22:49:18.4±0.1, 4272N×0.10E, h10km, Md1.5/2, Ml1.3/2, Error ellipse: s-maj=3.1km s-min=2.1km az=27.0*
STR ***08*** *22:49:18.2±0.0, 4301N×025E, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 08 22:49:18.5±0.3, 4268N×012E, h0km, mbLg1.1/2, 1C, Error ellipse: s-maj=3.1km s-min=1.9km az=27.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EBIE	**Bielsa**	**0.02**	**80**	⇑Pg		Pg	22 49 18.9	0.0
	14nm,0.1s,SNR=18							
EBIE				Lg			22 49 19.3	
	44nm,0.1s,SNR=7.9							
RESF	**Ens**	**0.21**	**53**	Pg		Pg	22 49 22.5	+0.1
RESF				Sg		Sg	22 49 25.7	+0.6
RESF	**Ens**	**0.21**	**53**	Pg		Pg	22 49 22.5	0.0
RESF				Lg			22 49 25.6	
VIEF	**Viey**	**0.21**	**342**	Pg		Pg	22 49 22.4	-0.1
VIEF				Sg		Sg	22 49 25.5	+0.2
VIEF	**Viey**	**0.21**	**342**	Pg		Pg	22 49 22.4	-0.1
VIEF				Lg			22 49 25.5	
EPF	**Esparros**	**0.39**	**25**	*e*Pg		Pg	22 49 25.9	0.0
EPF				*e*Sg		Sg	22 49 30.9	0.0
	5.3nm,0.3s							
EPF	**Esparros**	**0.39**	**25**	Pg		Pg	22 49 25.9	0.0
EPF				Lg			22 49 30.9	
	2.7nm,0.3s							
ETSF	**Etsaut**	**0.54**	**294**	*e*Pg		Pg	22 49 28.4	-0.4
ETSF				*e*Sg		Sg	22 49 35.3	-0.6
	2.6nm,0.3s							
ETSF	**Etsaut**	**0.54**	**294**	Pg		Pg	22 49 28.4	-0.4
ETSF				Lg			22 49 35.3	
	1.3nm,0.3s							
CSOR	**Sort**	**0.81**	**112**	Pg		Pg	22 49 33.7	-0.4
CSOR				Lg			22 49 45.1	
CAVN	**Les Avellanes**	**0.93**	**149**	Pg		Pg	22 49 37.2	+0.9
CAVN				Lg			22 49 50.5	
	2.7nm,0.4s							
CORG	**Organya**	**1.00**	**117**	Pg		Pg	22 49 37.1	-0.5
SJPF	**Ste Jean**	**1.07**	**294**	*e*Sg		Sg	22 49 52.0	-1.0
	0.5nm,0.2s							
SJPF	**Ste Jean**	**1.07**	**294**	Lg			22 49 52.0	
	0.2nm,0.2s							
ELIZ	**Elizondo**	**1.30**	**292**	Pg		Pg	22 49 45.2	+1.9
	SNR=7.9							
ELIZ				Lg			22 49 59.5	
	SNR=7.9							
EALK	**Alkurruntz**	**1.31**	**295**	Pg		Pg	22 49 44.8	+1.3
	0.6nm,0.5s,SNR=7.9							
EALK				Lg			22 50 01.2	
	0.8nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**1.51**	**151**	Pg		Pg	22 49 46.0	-1.5
	0.2nm,0.2s,SNR=7.9							
EPOB				Lg			22 50 06.2	
	0.1nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**1.68**	**66**	*e*Sg		Sg	22 50 11.3	-1.1
	0.6nm,0.2s							
MTLF	**Montolieu**	**1.68**	**66**	Lg			22 50 11.3	
	0.3nm,0.2s							

ISCJB ***08*** *22:54:40.2±1.2, 2683N×008×1012E±0.1, h10km, mb3.3/3, Error ellipse: s-maj=20.8km s-min=6.9km az=122.9*
BJI ***08*** *22:54:42.0, 2693N×1010E, h16km, mB4.3, mb4.4, ML3.3, Ms3.6, Msz3.5*
IDC ***08*** *22:54:51.3±10.0, 2827N×10102E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=179.5km s-min=75.2km az=151.0*
ISC 08 22:54:42.1±1.2, 2682N±008×1012E±01, h10km, n7, σ0§93/9, mb3.3/3, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.20**	**140**		PG	**Pg**	**22 55 23.5**	**-0.8**
KMI					SG	**Sg**	**22 55 53.3**	**+0.5**
KMI					Smax			
	comp=N,330nm,0.8s							
KMI					Smax			
	comp=E,270nm,0.9s							
KMI					LR	LR		
	comp=N,800nm,5.2s							
KMI					LR	LR		
	comp=E,640nm,5.3s							
KMI					LR	LR		
	comp=Z,290nm,8.8s							
CD2	**Chengdu**	**4.66**	**28**		P	**Pn**	**22 55 52.7**	**+0.2**
CD2					PG	**Pg**	**22 56 01.9**	**-10**
CD2					Smax			
	comp=N,150nm,0.9s							
CD2					Smax			
	comp=E,170nm,1.8s							
CD2					LR	LR		
	comp=E,350nm,6.5s							
CD2					LR	LR		
	comp=Z,250nm,7.2s							
LZH	**Lanzhou**	**9.52**	**13**	*e*P		**Pn**	**22 56 59.5**	**+0.4**
LZH					AP		22 57 02.7	
LZH					XP		22 57 05.6	
LZH					PP		22 57 07.5	
LZH					AMB	AMB		
	comp=Z,10.0nm,1.0s							
LZH					AMB	AMB		
	comp=Z,40nm,4.3s							
LZH					LR	LR		
	comp=E,270nm,7.8s							
LZH					LR	LR		
	comp=Z,390nm,11.2s							
NJ2	**Nanjing**	**16.26**	**67**	*e*P		**Pn**	**22 58 30.1**	**-0.4**
NJ2					AMB	AMB		
	comp=Z,10.0nm,0.6s							
SONM	**Songino Array**	**21.38**	**10**		P	**P**	**22 59 25.3**	**-4.3**
	comp=Z,0.1nm,0.3s,mb2.6,baz=193,slow=11,SNR=6.0							
MKAR	**Makanchi Array**	**24.90**	**328**		P	**P**	**23 00 03.8**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.3,baz=131,slow=9.2,SNR=7.5							
FINES	**FINESS Array B**	**59.74**	**327**		P	**P**	**23 04 48.7**	**+1.7**
	comp=Z,1.7nm,0.9s,mb4.1,baz=93,slow=5.8,SNR=3.8							

CRAAG ***08*** *23:00:21.3, 4043N×5300E, Mb4.6*
BJI ***08*** *23:00:22.8, 4032N×5268E, h56km, mB5.1, mb5.1, Ms4.4, Msz4.1*
NEIC ***08*** *23:00:25.0±0.1, 4038N×5302E, h35km, mb4.6/60, Error ellipse: s-maj=3.2km s-min=2.6km az=225.0*
MOS ***08*** *23:00:24.5±0.8, 4039N×5304E, h48km, mb4.7/39, Error ellipse: s-maj=5.1km s-min=3.5km az=37.6*
ISCJB ***08*** *23:00:25.5±0.1, 4029N±002×5303E±002, h64km, mb4.5/100, Error ellipse: s-maj=3.0km s-min=2.0km az=6.0*
SZGRF ***08*** *23:00:25.4, 3976N×5530E, h33km, mb4.6, Turkmenistan*
CSEM ***08*** *23:00:25.3±0.0, 4031N×5304E, h62km, mb4.6/63, ML4.6/7, Ms3.2, Error ellipse: s-maj=1.3km s-min=1.0km az=10.0*
IDC ***08*** *23:00:26.9±0.5, 4022N×5297E, h64km±3km, mb4.0/23, mb1 4.2/29, mb1mx4.1/34, mbtmp4.4/29, MS3.2/8, Ms1 3.2/8, ms1mx2.9/31, Error ellipse: s-maj=12.2km s-min=7.4km az=170.0*
TEH ***08*** *23:00:29.4, 4014N×5306E, h31km, Mn5.1*
NNC ***08*** *23:00:35.3±3.3, 4078N×5411E, h34km±45km, mb4.6, Error ellipse: s-maj=30.6km s-min=19.0km az=92.0*
ISC 08 23:00:27.4±0.1, 4031N±002×5302E±002, h66km, h66km±1.0km: pP-P, n476, σ1§01/518, mb4.5/100, 34C-14D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IGLO	**Galoogah**	**4.01**	**175**	*e*Pn		**Pn**	**23 01 22.4**	**-3.9**
IGLO				*e*Sn		**Sn**	**23 02 02.8**	**-9.3**
IGLO	**Galoogah**	**4.01**	**175**	Pn		**Pn**	**23 01 22.4**	**-3.9**
IGLO				Sn		**Sn**	**23 02 02.7**	**-9.4**
IPRN	**Paran-Amol**	**4.11**	**189**	*e*Pn		**Pn**	**23 01 25.1**	**-2.5**
IPRN	**Paran-Amol**	**4.11**	**189**	Pn		**Pn**	**23 01 25.0**	**-2.6**
IGZV	**Gazvin**	**4.49**	**210**	*e*Pn		**Pn**	**23 01 30.8**	**-2.1**
IGZV	**Gazvin**	**4.49**	**210**	Pn		**Pn**	**23 01 30.7**	**-2.2**
ISHM	**Shahmirzad**	**4.50**	**177**	*e*Pn		**Pn**	**23 01 32.9**	**-0.1**
IAFJ	**Afjeh**	**4.56**	**193**	*e*Pn		**Pn**	**23 01 32.5**	**-1.4**
IAFJ				*e*Sn		**Sn**	**23 02 21.8**	**-3.8**
IAFJ	**Afjeh**	**4.56**	**193**	Pn		**Pn**	**23 01 32.4**	**-1.5**
IAFJ				Sn		**Sn**	**23 02 21.8**	**-3.8**
IFIR	**Firoozkooh**	**4.67**	**183**	*e*Pn		**Pn**	**23 01 34.9**	**-0.3**
IFIR	**Firoozkooh**	**4.67**	**183**	Pn		**Pn**	**23 01 34.8**	**-0.4**
TEH	**Tehran**	**4.75**	**196**	*e*Pn		**Pn**	**23 01 34.6**	**-1.7**
TEH				*e*Sn		**Sn**	**23 02 24.4**	**-5.6**
TEH	**Tehran**	**4.75**	**196**	Pn		**Pn**	**23 01 34.5**	**-1.8**
TEH				Sn		**Sn**	**23 02 24.4**	**-5.6**
IDMV	**Damavand**	**4.79**	**190**	*e*Pn		**Pn**	**23 01 36.4**	**-0.5**
IDMV				*e*Sn		**Sn**	**23 02 27.1**	**-4.0**
IDMV	**Damavand**	**4.79**	**190**	Pn		**Pn**	**23 01 36.3**	**-0.6**
IDMV				Sn		**Sn**	**23 02 27.0**	**-4.1**
IANJ	**Anjiloo**	**4.89**	**171**	*e*Pn		**Pn**	**23 01 38.8**	**+0.5**
ILAS	**Lasjerd**	**4.92**	**181**	*e*Pn		**Pn**	**23 01 38.8**	**+0.1**
ILAS				*e*Sn		**Sn**	**23 02 30.3**	**-4.0**
ILAS	**Lasjerd**	**4.92**	**181**	Pn		**Pn**	**23 01 38.8**	**+0.1**
ILAS				Sn		**Sn**	**23 02 30.2**	**-4.1**
IMHD	**Mahdasht**	**4.98**	**203**	*e*Pn		**Pn**	**23 01 38.1**	**-1.4**
IVRN	**Varamin**	**5.40**	**191**	*e*Pn		**Pn**	**23 01 44.6**	**-0.7**
IVRN	**Varamin**	**5.40**	**191**	Pn		**Pn**	**23 01 44.5**	**-0.8**
IRAZ	**Razeghan**	**5.47**	**208**	*e*Pn			23 02 00.0	
DGRG	**David-gareji**	**5.91**	**284**		P	**Pn**	**23 01 52.3**	**+0.1**
DGRG					S	**Sn**	**23 02 56.9**	**-1.6**
DGRG	**David-gareji**	**5.91**	**284**	*e*P		**Pn**	**23 01 52.3**	**+0.1**
DGRG				*e*S		**Sn**	**23 02 56.9**	**-1.6**
GNI	**Garni**	**6.34**	**271**		P	**Pn**	**23 01 58.7**	**+0.6**
	5.2nm,0.3s,baz=17,slow=1.2,SNR=44							
GNI					S	**Sn**	**23 03 09.4**	**+0.4**
	15nm,0.3s,baz=294,slow=16,SNR=6.4							
GNI	**Garni**	**6.34**	**271**	*e*P		**Pn**	**23 01 58.9**	**+0.8**
GNI				*e*			23 03 09.8	
GNI					pmax	pmax		
	comp=Z,103nm,0.6s							
GNI	**Garni**	**6.34**	**271**	*e*Pn		**Pn**	**23 01 58.9**	**+0.8**
	comp=Z,102nm,0.6s							
GNI				*e*Sn		**Sn**	**23 03 09.8**	**+0.8**
GNI	**Garni**	**6.34**	**271**	*e*P		**Pn**	**23 01 58.9**	**+0.8**
	comp=Z,103nm,0.6s							
GNI				*e*S		**Sn**	**23 03 09.8**	**+0.7**
MTA	**Mtatsminda**	**6.38**	**285**		P	**Pn**	**23 01 57.3**	**-1.3**
MTA					S	**Sn**	**23 03 04.9**	**-5.1**
MTA	**Mtatsminda**	**6.38**	**285**	*e*P		**Pn**	**23 01 57.3**	**-1.3**
MTA				*e*S		**Sn**	**23 03 04.9**	**-5.1**
TBLG	**Delisi**	**6.42**	**285**		P	**Pn**	**23 01 58.4**	**-0.9**
TBLG					S	**Sn**	**23 03 06.7**	**-4.4**
MHI	**Mashhad**	**6.46**	**126**	*e*Pn		**Pn**	**23 02 00.4**	**+0.7**
MHI	**Mashhad**	**6.46**	**126**	Pn		**Pn**	**23 02 00.3**	**+0.6**
IMOG	**Moghan**	**6.51**	**128**	*e*Pn		**Pn**	**23 02 00.1**	**-0.3**
IMYA	**Miamay**	**6.83**	**123**	*e*Pn		**Pn

comp=Z,3.9nm,0.9s
ORR Orenburg 11.37 5 *i* P **Pn 23 03 05.2 -1.7**
ORR *i* 23 05 04.5
ORR pmax pmax
comp=Z,30nm,0.9s
ORR Orenburg 11.37 5 *i* P **Pn 23 03 05.2 -1.7**
comp=Z,30nm,0.9s
MALT Malatya 11.48 265 *e*P **Pn 23 03 09.8 +1.4**
MALT pmax pmax
comp=Z,5.0nm,0.8s
MALT Malatya 11.48 265 *e*Pn **Pn 23 03 09.8 +1.4**
comp=Z,5.5nm,0.8s
MALT Malatya 11.48 265 *e*P **Pn 23 03 09.8 +1.4**
comp=Z,5.0nm,0.8s
GZT Gaziantep 12.41 261 *i* P **Pn 23 03 19.6 -1.4**
KK31 Karatay Array 13.37 72 Pn **Pn 23 03 31.6 -2.5**
comp=Z,38nm,0.8s,baz=261,slow=16,SNR=211
KK31 ⇑Sn **Sn 23 05 49.7 -11**
comp=Z,21nm,0.5s,baz=257,slow=24,SNR=6.8
KK31 Karatay Array 13.37 72 Pn **Pn 23 03 31.5 -2.5**
comp=Z,38nm,0.8s,SNR=211
KK31 Sn **Sn 23 05 49.7 -11**
comp=Z,21nm,0.5s,SNR=6.8
KKAR Karatay Array 13.37 72 *i* P **Pn 23 03 31.5 -2.5**
KKAR pmax pmax
comp=Z,1.0nm,0.2s
VRHR Novokhopersk 13.39 327 *e*P **Pn 23 03 32.8 -1.5**
VRHR *e*S **Sn 23 05 52.7 -8.7**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR smax
comp=N,80nm,0.6s
VRHR smax
comp=E,20nm,0.4s
VRHR smax
comp=Z,10.0nm,0.4s
VRHR Novokhopersk 13.39 327 *e*P **Pn 23 03 32.8 -1.5**
comp=Z,20nm,0.9s
BOYT Boyabat 13.76 281 *i* P **Pn 23 03 37.8 -1.5**
CTKT Corum 13.89 277 *i* P **Pn 23 03 41.7 +0.7**
AVNT Avonos 14.10 270 *i* P **Pn 23 03 46.1 +2.3**
CDAG Cicekdag 14.32 273 *i* P **Pn 23 03 48.2 +1.6**
VRSR Storozhevoye 14.54 323 *e*P **Pn 23 03 46.1 -3.3**
VRSR *e*S **Sn 23 06 19.7 -10**
VRSR pmax pmax
comp=Z,2.0nm,1.0s
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,4.0nm,0.8s
VRSR smax
comp=N,20nm,0.9s
VRSR smax
comp=E,9.0nm,0.8s
VRSR smax
comp=Z,7.0nm,0.8s
VRSR pmax pmax
comp=N,20nm,18.0s
VRSR pmax pmax
comp=Z,4.0nm,18.0s
VRSR pmax pmax
comp=E,30nm,16.0s
SIM Simferopol' 14.66 295 *e*P **Pn 23 03 50.0 -1.1**
SIM S **Sn 23 06 26.0 -6.3**
SIM pmax pmax
comp=Z,10.0nm,0.6s
SIM Simferopol' 14.66 295 *e*P **Pn 23 03 50.0 -1.1**
comp=Z,10.0nm,0.6s
BR131 Keskin Array S 14.87 274 *e*Pn **Pn 23 03 53.7 0.0**
comp=Z,8.7nm,0.7s
BRTR Keskin Array B 14.87 274 P **Pn 23 03 53.8 0.0**
comp=Z,0.3nm,0.3s,baz=94,slow=11,SNR=38
ELDT Eldivan 14.93 277 *i* P **Pn 23 03 54.7 +0.1**
ASF Jabal al Asfar 15.32 243 P **Pn 23 04 00.9 +1.3**
comp=Z,1.9nm,0.3s,baz=284,slow=7.5,SNR=20
ANTO Ankara 15.49 275 *e*P **Pn 23 04 03.1 +1.3**
ANTO pmax pmax
comp=Z,37nm,1.1s
ANTO Ankara 15.49 275 *e*Pn **Pn 23 04 03.1 +1.4**
comp=Z,37nm,1.1s
ANTO *e* 23 04 20.2
ANTO Ankara 15.49 275 *e*P **Pn 23 04 03.1 +1.3**
comp=Z,37nm,1.1s
EKS2 Erkin-Say 15.73 75 P **Pn 23 04 04.3 -0.6**
SNR=24
MMAI Mount Meron Ar 15.89 248 P **Pn 23 04 07.4 +0.6**
comp=Z,0.4nm,0.3s,baz=61,slow=12,SNR=8.8
SGKT Sivrigoynuk 15.96 278 *i* P **Pn 23 04 07.3 -0.5**
ERMK Ermenek 16.16 263 *i* P **Pn 23 04 09.2 -1.0**
AAK Ala-Archa 16.26 75 P **Pn 23 04 12.1 +0.6**
SNR=14
AAK Ala-Archa 16.26 75 *e*P **Pn 23 04 09.8 -1.7**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 16.26 75 *e*Pn **Pn 23 04 09.8 -1.7**
comp=Z,7.5nm,0.8s
AAK Ala-Archa 16.26 75 *e*P **Pn 23 04 09.8 -1.7**
comp=Z,8.0nm,0.8s
UCH Uchtor 16.27 76 P **Pn 23 04 11.8 +0.2**
SNR=17
USP Ospenovka 16.29 73 P **Pn 23 04 10.9 -0.9**
SNR=16
FRU Bishkek 16.35 74 *e*P **Pn 23 04 12.5 -0.2**
FRU pmax pmax
comp=Z,130nm,1.8s
FRU Bishkek 16.35 74 *e*P **Pn 23 04 12.5 -0.2**
comp=Z,130nm,1.8s
CHMS Chumysh 16.46 74 P **Pn 23 04 14.1 +0.1**
SNR=22
ARU Arti 16.54 11 ⇑*i*P **Pn 23 04 11.5 -3.5**
ARU *e*S **S 23 07 09.9 -16**
ARU pmax pmax
comp=Z,31nm,0.8s
ARU MLR MLR
comp=Z,200nm,20.0s
ARU MLR MLR
comp=N,100nm,18.5s
ARU MLR MLR
comp=E,30nm,22.0s
ARU Arti 16.54 11 *e*Pn **Pn 23 04 12.0 -2.9**
comp=E,3.4nm,2.1s
ARU *e*Sn **Sn 23 07 07.3 -10**
ARU Arti 16.54 11 *e*Pn **Pn 23 04 12.0 -3.0**
comp=E,3.4nm,2.1s
ARU *e*Sn **Sn 23 07 07.3 -10**
KBK Karagaybulak 16.59 75 P **Pn 23 04 16.8 +1.1**
SNR=33
ZRNK Zerenda 16.69 35 ⇑Pn **Pn 23 04 16.2 -0.8**
comp=E,42nm,0.7s
ZRNK ⇑Sn **Sn 23 07 10.9 -11**
comp=E,56nm,1.3s
ZRNK Zerenda 16.69 35 *e*P **Pn 23 04 16.2 -0.7**
ZRNK *e* 23 07 11.3
ZRNK pmax pmax
comp=Z,60nm,0.7s
ZRNK Zerenda 16.69 35 *e*Pn **Pn 23 04 16.2 -0.7**
comp=Z,60nm,0.7s
ZRNK *e* 23 04 27.0
ZRNK *e*Sn **Sn 23 07 11.3 -10**
HENT Hendek 16.82 279 *i* P **Pn 23 04 17.0 -1.4**
KZA Kyzart 16.82 77 P **Pn 23 04 20.3 +1.8**
SNR=6.4
TKM2 Tokmak 2 17.08 74 P **Pn 23 04 21.4 -0.2**
SNR=46
TKM2 Tokmak 2 17.08 74 ⇓Pn **Pn 23 04 21.1 -0.5**
comp=Z,18nm,1.4s
TKM2 ⇑Sn **Sn 23 07 18.5 -12**
comp=Z,4.6nm,0.9s
BORA Eskisehir 17.27 276 *i* P **Pn 23 04 23.4 -0.6**
BRVK Borovoye 17.34 37 *e*P **Pn 23 04 23.9 -1.0**
BRVK *e* 23 07 28.0
BRVK pmax pmax
comp=Z,67nm,1.0s
BRVK Borovoye 17.34 37 *e*Pn **Pn 23 04 23.9 -1.0**
comp=Z,66nm,1.0s
BRVK *e*Sn **Sn 23 07 28.0 -9.2**
BRVK Borovoye 17.34 37 *e*P **Pn 23 04 23.9 -1.0**
comp=Z,67nm,1.0s
BVA0 Borovoye Array 17.37 37 ⇓Pn **Pn 23 04 24.5 -0.8**
comp=Z,14nm,0.8s,baz=225,slow=16,SNR=159
BVA0 ⇓Sn **Sn 23 07 24.6 -13**
comp=Z,5.1nm,0.7s,baz=229,slow=22,SNR=9.9
BVA0 Borovoye Array 17.37 37 *i* P **Pn 23 04 24.4 -0.9**
BVA0 *e* 23 07 24.5
BVA0 pmax pmax
comp=Z,11nm,0.7s
BVA0 Borovoye Array 17.37 37 *i* P **Pn 23 04 24.4 -0.9**
comp=Z,11nm,0.7s
BVAR Borovoye Array 17.37 37 P **Pn 23 04 24.5 -0.8**
comp=Z,6.9nm,0.3s,baz=224,slow=14,SNR=94
BVAR S **S 23 07 27.3 -16**
comp=Z,4.7nm,0.3s,baz=218,slow=25,SNR=9.4
BVAR Borovoye Array 17.37 37 Pn **Pn 23 04 24.5 -0.8**
comp=Z,14nm,0.8s,SNR=159
BVAR Sn **Sn 23 07 24.6 -13**
comp=Z,5.1nm,0.7s,SNR=9.9
VOSK Vostochnaya 17.46 39 ⇑Pn **Pn 23 04 25.2 -1.1**
comp=Z,26nm,0.7s
VOSK ⇓Sn **Sn 23 07 26.7 -13**
comp=Z,34nm,0.8s
VOSK Vostochnaya 17.46 39 P **Pn 23 04 25.2 -1.1**
VOSK 23 07 26.6
VOSK pmax pmax
comp=Z,15nm,0.6s
VOSK smax
comp=Z,27nm,0.8s
ULHL Ulahol 17.55 76 P **Pn 23 04 31.3 +3.7**
SNR=18
KSH Kashi 17.62 85 *e*P **Pn 23 04 28.3 -0.1**
KSH *e*AP pP 23 04 35.3 -6.9
KSH *e*PP 23 04 42.5
KSH AMB AMB
comp=Z,20nm,0.4s
KSH AMB AMB
comp=Z,390nm,2.8s
KSH LR LR
comp=N,590nm,3.1s
KSH LR LR
comp=E,660nm,3.6s
KSH LR LR
comp=Z,470nm,13.4s
WSAR Wadi Sarin 17.67 163 P **Pn 23 04 28.5 -0.4**
comp=Z,1.3nm,0.3s,baz=350,slow=9.5,SNR=15
WSAR Wadi Sarin 17.67 163 P **Pn 23 04 28.5 -0.4**
TKTP Tekketepe 17.74 270 *i* P **Pn 23 04 30.4 +0.6**
EIL Elat 18.18 240 *e*P **Pn 23 04 35.2 0.0**
comp=Z,398nm,1.2s
EIL *e*S **S 23 07 56.1 -2.3**
EIL Elat 18.18 240 *e*P **Pn 23 04 35.2 0.0**
comp=Z,398nm,1.2s
ULDT Uludag 18.23 277 *i* P **Pn 23 04 34.1 -1.7**
OBN Obninsk 18.42 329 *e*P **Pn 23 04 37.6 -0.4**
OBN *i* S **S 23 08 01.5 -2.3**
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN Obninsk 18.42 329 *e*P **Pn 23 04 37.5 -0.5**
comp=Z,26nm,0.6s
OBN *e*S **S 23 07 59.2 -4.7**
OBN Obninsk 18.42 329 *e*P **Pn 23 04 37.6 -0.4**
comp=Z,8.0nm,0.6s
OBN *e*S **S 23 07 59.2 -4.6**
MOS Moscow 18.49 332 *e*P **Pn 23 04 50.1 +11**
MOS pmax pmax
comp=Z,41nm,1.3s
TIRR Tirgusor 18.62 291 *e*P **Pn 23 04 39.5 -0.9**
PSN Preselentsi 18.75 289 *e*P **Pn 23 04 41.0 -0.9**
DNZL Cakiroluk 18.80 270 *i* P **Pn 23 04 40.8 -1.8**
CFR Carcaliu 18.88 293 ⇑*i*P **Pn 23 04 41.8 -1.8**
CFR Carcaliu 18.88 293 ⇑P **Pn 23 04 41.8 -1.8**
MANT Manisa 18.98 272 *i* P **Pn 23 04 44.2 -0.6**
BTOK Tokmak 19.13 276 *i* P **Pn 23 04 46.7 +0.1**
SOKR Solikamsk 19.43 6 *e*P **Pn 23 04 51.5 +1.5**
SOKR 23 08 12.5
SOKR pmax pmax
comp=Z,30nm,1.1s
AKASG Malin Array Be 19.57 310 P **Pn 23 04 48.9 -2.8**
comp=Z,6.8nm,0.3s,baz=112,slow=9.8,SNR=31
AKASG S **S 23 08 23.2 -3.9**
comp=Z,0.7nm,0.3s,baz=114,slow=24,SNR=4.3
AKASG Malin Array Be 19.57 310 P **Pn 23 04 48.9 -2.8**
AKASG S **S 23 08 23.2 -3.9**
AYDN Tasoluk 19.70 270 *i* P **Pn 23 04 51.9 -1.4**
VRI Vrincioaia 19.94 295 ⇓*i*P **Pn 23 04 54.2 -1.9**
VRI Vrincioaia 19.94 295 ⇓P **Pn 23 04 54.2 -1.9**
KDAG Bornova 19.99 273 *i* P **Pn 23 04 54.1 -2.5**
PLOR Plostina 20.00 295 ⇑*i*P **Pn 23 04 55.3 -1.4**
AYVA Ayvalik 20.23 276 *i* P **P 23 04 60.0 +2.9**
MLR Muntele Rosu 20.45 294 P **P 23 05 00.4 +1.0**
comp=Z,13nm,0.5s,baz=60,slow=2.8,SNR=35
MLR LR LR 23 15 57.7
comp=Z,21nm,18.3s,baz=308,slow=46
MLR Muntele Rosu 20.45 294 ⇓*i*P **P 23 05 00.7 +1.3**
MLR Muntele Rosu 20.45 294 ⇓P **P 23 05 00.7 +1.3**
ALN Alexandroupoli 20.46 280 *e*P **P 23 04 60.0 +0.4**
URLA Izmir 20.51 273 *i* P **P 23 04 59.6 -0.4**
PRK Paraskevi 20.56 276 *e*P **P 23 05 00.0 -0.6**
KURK Kurchatov 20.64 51 ⇑Pn **P 23 05 02.4 +1.0**
comp=Z,29nm,0.8s
KURK ⇓Sn **S 23 08 43.8 -4.6**
comp=Z,21nm,1.0s
KURK Kurchatov 20.64 51 P **P 23 05 02.4 +1.0**
KURK 23 08 43.7
KURK pmax pmax
comp=Z,23nm,0.8s
KURK smax
comp=Z,13nm,0.8s
KURK Kurchatov 20.64 51 *e*P **P 23 05 02.0 +0.6**
comp=Z,1μm,0.5s
KURK *e*S **S 23 08 44.5 -3.9**
KURK Kurchatov 20.64 51 *e*P **P 23 05 02.0 +0.6**
comp=Z,1μm,0.5s
KURK S **S 23 08 43.7 -4.7**
comp=Z,13nm,0.8s
RDO Rodhopi 20.82 281 *e*P **P 23 05 03.5 +0.2**
KDZ Kurdzhali 20.85 283 *e*P **P 23 05 04.5 +0.8**
VOIR 21.07 293 ⇑*i*P **P 23 05 06.6 +0.5**
VOIR 21.07 293 ⇑P **P 23 05 06.6 +0.5**
BURAR Bucovina Array 21.23 299 ⇑*i*P **P 23 05 07.2 -0.5**
BURAR Bucovina Array 21.23 299 ⇑P **P 23 05 07.2 -0.6**
APE Apeiranthos 21.67 270 ⇑*i*P **P 23 05 12.1 -0.4**
APE Apeiranthos 21.67 270 ⇑P **P 23 05 12.2 -0.3**
APE Apeiranthos 21.67 270 P **P 23 05 12.2 -0.3**
MK31 Makanchi Array 22.10 63 P **P 23 05 17.4 +0.3**
MK31 pmax pmax
comp=Z,32nm,0.9s,mb4.7
MK31 Makanchi Array 22.10 63 P **P 23 05 17.4 +0.3**
comp=Z,32nm,0.9s,mb4.7
MKAR Makanchi Array 22.10 63 P **P 23 05 16.9 -0.1**
comp=Z,14nm,0.6s,mb4.5,baz=253,slow=11,SNR=95
MKAR pP 23 05 32.4
comp=Z,22nm,0.8s,baz=258,slow=9.6,SNR=10
MKAR S **S 23 09 21.6 +4.7**
comp=Z,6.0nm,0.7s,baz=264,slow=24,SNR=6.9
MKAR Makanchi Array 22.10 63 P **P 23 05 16.9 -0.2**
MKAR *PP 23 05 32.4
MKAR Makanchi Array 22.10 63 P **P 23 05 16.9 -0.1**
MKAR pP 23 05 32.4
MKAR S **S 23 09 21.6 +4.7**
MK02 Makanchi Array 22.11 63 ⇑Pn **P 23 05 17.3 +0.2**
comp=Z,29nm,0.8s,mb4.6
MK02 ⇓Sn **S 23 09 20.1 +3.0**
comp=Z,11nm,0.8s
MMB Musomiste 22.12 283 *e*P **P 23 05 17.0 -0.3**
NPS Neapolis 22.20 266 *e*P **P 23 05 19.0 +0.9**
XRY Khrisi 22.28 265 *e*P **P 23 05 17.5 -1.4**
LAST Lasithi 22.34 266 *e*P **P 23 05 20.4 +0.8**
VTS Vitosha 22.41 286 *e*P **P 23 05 20.2 -0.1**
LVV L'vov 22.45 305 *e*P **P 23 05 21.8 +1.0**
IDI Anoyia 22.74 266 P **P 23 05 22.9 -0.9**
comp=Z,20nm,0.6s,mb4.7,baz=38,slow=8.1,SNR=17
IDI LR LR 23 16 34.5
comp=Z,28nm,21.0s,baz=84,slow=43
DRGR 22.81 297 ⇑*i*P **P 23 05 24.1 -0.5**
DRGR 22.81 297 ⇑P **P 23 05 24.1 -0.5**
SIVA Sivas 22.90 266 *e*P **P 23 05 25.2 -0.3**
VAY Valandovo 23.02 282 *e*P **P 23 05 25.9 -0.9**
VAY Valandovo 23.02 282 *e*P **P 23 05 25.8 -0.9**
VAM Vamos 23.22 267 *e*P **P 23 05 27.5 -1.2**
KWP Kalwaria 23.25 304 *e*P **P 23 05 28.9 -0.1**
KWP pmax pmax
comp=Z,27nm,0.6s,mb4.8
KWP Kalwaria 23.25 304 *e*P **P 23 05 28.9 0.0**
comp=Z,27nm,0.6s,mb4.8
KWP Kalwaria 23.25 304 *e*P **P 23 05 28.9 -0.1**
comp=Z,27nm,0.6s,mb4.8
STIP Stip 23.25 284 *e*P **P 23 05 28.8 -0.3**
STIP Stip 23.25 284 *e*P **P 23 05 28.7 -0.3**
KARN Karanos 23.44 267 *e*P **P 23 05 30.2 -0.5**
BZS Buzias 23.49 293 ⇑*i*P **P 23 05 29.7 -1.5**
BZS Buzias 23.49 293 ⇑P **P 23 05 29.7 -1.5**
GVD Gavdhos 23.52 266 *e*P **P 23 05 30.5 -0.9**
GVD Gavdhos 23.52 266 *e*P **P 23 05 30.5 -0.9**
AGG Agios Georgios 23.61 277 *e*P **P 23 05 32.3 0.0**
KYTH Kithira 23.82 270 *e*P **P 23 05 33.0 -1.2**
FNA Florina 23.99 281 *e*P **P 23 05 36.3 +0.6**
BIA Bitola 23.99 282 *e*P **P 23 05 35.3 -0.4**
EVR Evrytania 24.03 277 *e*P **P 23 05 37.0 +0.9**
STHS Stebnicka Huta 24.14 303 *e*P **P 23 05 37.4 +0.3**
STHS *e* 23 05 56.6
GRUS Gruza 24.15 289 *i* P **P 23 05 37.5 +0.3**
SUW Suwalki 24.26 314 *e*P **P 23 05 38.3 +0.1**
SUW pmax pmax
comp=Z,35nm,0.8s,mb4.7
SUW Suwalki 24.26 314 *e*P **P 23 05 38.3 +0.1**
comp=Z,35nm,0.8s,mb4.7
SUW Suwalki 24.26 314 *e*P **P 23 05 38.3 +0.1**
comp=Z,35nm,0.8s,mb4.7
OHR Ohrid 24.37 282 *e*P **P 23 05 39.0 -0.2**
OHR Ohrid 24.37 282 *e*P **P 23 05 38.9 -0.3**
KECS Kecovo 24.49 300 *e*P **P 23 05 41.9 +1.6**
KECS *e*sP sP 23 05 57.8 -5.9
KECS Kecovo 24.49 300 *e*P **P 23 05 41.9 +1.6**
KECS *e* 23 05 57.9
JAN Janina 24.59 279 *e*P **P 23 05 42.0 +0.8**
DIVS Divcibare 24.66 290 *i* P **P 23 05 42.8 +0.9**
DIVS Divcibare 24.66 290 *e*P **P 23 05 42.9 +1.1**
LSK Leskovik 24.68 280 *e*Pn **P 23 05 42.3 +0.2**
NIE Niedzica 24.74 303 *e*P **P 23 05 44.0 +1.4**
FGSL Fruska Gora 24.76 292 P **P 23 05 42.9 +0.1**
NVS Novosibirsk 24.79 44 ⇓*i*P **P 23 05 42.6 -0.4**
NVS *i* *PP 23 05 57.3
NVS *e*S **S 23 10 04.8 +4.1**
NVS *e*SS 23 11 21.0
NVS pmax pmax
comp=Z,30nm,1.3s,mb4.6
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,14nm,1.2s
NVS smax
comp=N,38nm,1.9s
NVS smax
comp=E,18nm,1.4s
NVS Novosibirsk 24.79 44 *i* P **P 23 05 42.6 -0.4**
comp=E,19nm,1.4s,mb4.3
PSZ Piszkesteto 24.82 299 *e*P **P 23 05 43.8 +0.5**
LKD Levkas 24.95 277 *e*P **P 23 05 44.1 -0.4**
IGT Igoumenitsa 25.01 279 *e*P **P 23 05 45.0 0.0**
VLS Valsamata 25.13 276 *e*P **P 23 05 45.5 -0.7**
SRN Sarande 25.19 280 *e*Pn **P 23 05 46.9 +0.3**
OJC Ojcow 25.20 304 *e*P **P 23 05 47.1 +0.3**
ZAL Zalesovo 25.30 47 P **P 23 05 47.4 -0.3**
comp=E,8.5nm,0.7s,mb4.3,baz=214,slow=10,SNR=48
ZAL pP pP 23 06 03.7 +0.3
comp=E,4.5nm,0.7s,baz=188,slow=10.0,SNR=10
ZAL LR LR 23 18 01.8
comp=E,132nm,19.0s,baz=222,slow=42
ZAL Zalesovo 25.30 47 P **P 23 05 47.4 -0.3**
ZAL *PP pP 23 06 03.7 +0.3
ZAL Zalesovo 25.30 47 P **P 23 05 47.4 -0.3**
ZAL pP pP 23 06 03.7 +0.3
ZAL LR LR 23 18 01.8
KEK Kerkira 25.37 280 *e*P **P 23 05 48.5 +0.2**
TMCR Tamitsa 25.46 345 *e*P **P 23 05 48.8 -0.3**
TMCR pmax pmax
comp=Z,30nm,0.4s,mb5.1
TMCR pmax pmax
comp=N,20nm,0.3s
TMCR pmax pmax
comp=E,20nm,0.5s
TMCR Tamitsa 25.46 345 *e*P **P 23 05 48.8 -0.3**
comp=E,20nm,0.3s,mb5.0
PKSM Moragy 25.59 295 ⇑*i*P **P 23 05 50.8 +0.6**
VYHS Vyhne 25.59 300 *e*P **P 23 05 51.2 +0.9**
VYHS *e*sP sP 23 06 06.7 -7.0
WMQ Urumqi 25.87 71 P **P 23 05 53.6 +0.8**
WMQ AMB AMB
comp=Z,40nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,120nm,3.4s
KOLL Kolacno 25.88 300 *e*P **P 23 05 54.1 +1.2**
KOLL *e*sP sP 23 06 09.2 -7.2
OKC Ostrava-Krasne 26.20 303 *e*P **P 23 05 59.0 +3.2**
OKC *e*pP pP 23 06 11.4 -0.1
MORC Moravsky Berou 26.58 303 *e*P **P 23 05 59.9 +0.7**
MORC *e* pP 23 06 15.1 +0.2
MORC pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
MORC Moravsky Berou 26.58 303 *e*P **P 23 05 59.9 +0.7**
comp=Z,10.0nm,0.8s,mb4.4
MORC *e* pP 23 06 15.1 +0.2
MORC Moravsky Berou 26.58 303 *e*P **P 23 05 59.9 +0.7**
comp=Z,10.0nm,0.8s,mb4.4
ZST Bratislava 26.71 299 *e*P **P 23 06 01.8 +1.4**
ZST *e*sP sP 23 06 16.7 -7.2
FINES FINESS Array B 26.79 331 P **P 23 06 00.7 -0.4**
comp=Z,1.8nm,0.6s,mb3.8,baz=136,slow=11,SNR=18
FINES pP pP 23 06 16.9 0.0
comp=Z,8.3nm,0.7s,baz=126,slow=9.7,SNR=13
VRAC Vranov 27.14 302 P **P 23 06 04.5 +0.2**
comp=Z,1.6nm,0.6s,mb3.7,baz=114,slow=10.0,SNR=3.4
VRAC pP pP 23 06 19.9 -0.1
comp=Z,3.8nm,0.8s,baz=99,slow=9.3,SNR=5.0
DPC Dobruska-Polom 27.43 304 *e*P **P 23 06 07.8 +1.0**
DPC *e*pP pP 23 06 23.1 +0.5
UPC Upice 27.64 304 *e*P **P 23 06 09.5 +0.7**
UPC *e*pP pP 23 06 24.3 -0.3
TIP Timpagrande 27.79 280 *e*P **P 23 06 08.9 -1.2**
TIP Timpagrande 27.79 280 *e*P **P 23 06 08.9 -1.1**
TREC Trest 27.86 301 *e*P **P 23 06 11.5 +0.8**
TREC *e*pP pP 23 06 27.7 +1.2
KOLN Koldanda 28.11 107 *e*P **P 23 06 13.9 +0.9**
comp=Z,33nm,1.1s,mb4.8
PRU Pruhonice 28.53 303 *e*P **P 23 06 17.3 +0.7**
PRU *e*pP pP 23 06 32.0 -0.5
PVCC Panska Ves 28.56 304 *e*P **P 23 06 18.2 +1.2**
PVCC *e*pP pP 23 06 33.3 +0.5
GKN Gorkha 28.75 105 *e*P **P 23 06 19.4 +0.8**
comp=Z,30nm,0.7s,mb5.0
BRG Berggiesshubel 29.00 305 *e*P pP 23 06 37.4 +0.8
BRG Berggiesshubel 29.00 305 *e*P **P 23 06 21.8 +1.0**
comp=Z,2.4nm,0.7s,mb3.9
BRG *e* pP 23 06 37.8 +1.1
comp=Z,3.7nm,0.9s
BRG *e* 23 06 45.2
comp=Z,3.5nm,0.8s
GERES GERESS Array B 29.00 300 P **P 23 06 21.0 +0.1**
comp=Z,1.5nm,0.6s,mb3.8,baz=92,slow=8.8,SNR=17
GERES pP pP 23 06 35.6 -1.1
comp=Z,1.3nm,0.5s,baz=96,slow=8.2,SNR=9.0
KHC Kasperske Hory 29.10 301 *e*P **P 23 06 22.1 +0.4**
KHC *e*pP pP 23 06 37.1 -0.5
BSD Bornholm Skovb 29.18 313 *i* P **P 23 06 20.7 -1.7**
BSD *i* 23 06 44.4
BSD *e*S PP 23 07 20.4 -8.8
DMN Daman 29.31 106 *e*P **P 23 06 24.6 +1.0**
comp=Z,16nm,0.8s,mb4.7
PKI Pulchoki 29.55 105 *e*P **P 23 06 26.5 +0.8**
WET Wettzell 29.56 301 *e*P pP 23 06 41.6 0.0
CLL Collm 29.63 305 *i* sP sP 23 06 42.8 -7.2
comp=Z,6.0nm,0.8s
CLL Collm 29.63 305 *e*P pP 23 06 43.2 +0.9
GUN Gumba 29.71 104 *e*P **P 23 06 28.0 +0.8**
NKC Novy Kostel 29.89 303 *e*P **P 23 06 29.8 +1.1**
NKC *e*pP pP 23 06 44.9 +0.3
TANN Tannenbergstha 29.89 303 *e*P pP 23 06 45.4 +0.8
WERD Werda 30.00 303 *e*P pP 23 06 46.0 +0.5
VAE Valguarnera 30.02 277 P **P 23 06 31.3 +1.4**
comp=Z,5.9nm,0.7s,mb4.3,baz=51,slow=7.2,SNR=3.9
VAE Valguarnera 30.02 277 P **P 23 06 31.2 +1.3**
ATD Arta Tunnel 30.04 200 P **P 23 06 29.2 -0.8**
comp=Z,5.0nm,0.8s,mb4.2,baz=286,slow=22,SNR=5.0
ATD Arta Tunnel 30.04 200 P **P 23 06 29.2 -0.9**
JIRN Jiri 30.08 104 *e*P **P 23 06 31.6 +1.2**
comp=Z,20nm,0.6s,mb4.9
KRAR Krasnoyarsk 30.36 45 *e*P **P 23 06 32.1 -0.8**
KRAR pmax pmax
comp=Z,28nm,0.5s,mb5.2
KRAR Krasnoyarsk 30.36 45 *e*P **P 23 06 32.1 -0.8**

comp=Z,28nm,0.5s,mb5.2
WTTA Wattenberg 30.39 297⇑ *i*P P 23 06 33.2 0.0
comp=Z,8.2nm,0.6s,mb4.5
WTTA Wattenberg 30.39 297⇑ *i*P P 23 06 33.2 +0.1
WTTA pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
MOX Moxa 30.45 304 *e*P pP 23 06 50.1 +0.6
MOX Moxa 30.45 304 *e*P **P 23 06 34.7 +1.1**
MOX *e* pP 23 06 50.2 +0.7
comp=Z,14nm,0.9s
MOX Moxa 30.45 304 *e*P **P 23 06 34.7 +1.1**
MOX *e* pP 23 06 50.2 +0.7
MOX pmax pmax
comp=Z,14nm,0.9s,mb4.6
MOX Moxa 30.45 304 *e*P **P 23 06 34.7 +1.1**
comp=Z,14nm,0.9s,mb4.6
MOX *e* pP 23 06 50.2 +0.7
GRA1 Grafenberg Arr 30.66 302 *e*P pP 23 06 51.8 +0.4
comp=Z,9.0nm,1.1s
GRF Grafenberg Arr 30.66 302 *e*P pP 23 06 51.8 +0.4
comp=Z,9.0nm,1.1s
SQTA Sankt Quirin 30.68 297⇑ *i*P **P 23 06 35.5 -0.2**
comp=Z,1.6nm,0.9s,mb3.7
SQTA Sankt Quirin 30.68 297⇑ *i*P **P 23 06 35.5 -0.2**
SQTA pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
MOTA Moosalm 30.75 297⇑ *i*P **P 23 06 35.7 -0.6**
comp=Z,3.0nm,1.1s,mb3.9
MOTA Moosalm 30.75 297⇑ *i*P **P 23 06 35.7 -0.6**
MOTA pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
MOTA Moosalm 30.75 297⇑ *i*P **P 23 06 35.7 -0.6**
comp=Z,3.0nm,1.1s,mb3.9
HFS Hagfors 31.36 322 P **P 23 06 41.3 -0.4**
comp=Z,2.3nm,0.7s,mb4.0,baz=112,slow=8.5,SNR=16
HFS pP pP 23 06 57.1 -0.5
comp=Z,2.7nm,0.4s,baz=109,slow=8.6,SNR=5.2
DAVA Damuels 31.58 297⇑ *i*P **P 23 06 43.2 -0.4**
comp=Z,7.4nm,0.9s,mb4.4
DAVOX Davos 31.62 296 P **P 23 06 44.0 0.0**
comp=Z,1.3nm,0.4s,mb4.0,baz=129,slow=5.7,SNR=4.3
DAVOX pP pP 23 06 59.2 -0.7
comp=Z,5.6nm,0.8s,baz=131,slow=14,SNR=5.7
DAVOX LR LR 23 21 33.4
comp=Z,43nm,18.5s,baz=92,slow=40
DAVOX Davos 31.62 296 P **P 23 06 44.0 +0.1**
DAVOX pP pP 23 06 59.2 -0.6
STU Stuttgart 31.98 300 *e*P pP 23 07 03.4 +0.3
STU Stuttgart 31.98 300 P **P 23 06 46.9 -0.3**
STU pmax pmax
comp=Z,18nm,0.9s,mb4.8
STU Stuttgart 31.98 300 P **P 23 06 46.9 -0.2**
comp=Z,18nm,0.9s,mb4.8
STU Stuttgart 31.98 300 P **P 23 06 46.9 -0.3**
comp=Z,18nm,0.9s,mb4.8
TNS Taunus Mts 32.46 303 *e*P pP 23 07 08.4 +1.1
KEV Kevo 32.51 343 *e*P **P 23 06 51.9 +0.1**
KEV pmax pmax
comp=Z,8.0nm,0.4s,mb4.9
KEV Kevo 32.51 343 *e*P **P 23 06 51.9 +0.2**
comp=Z,8.0nm,0.4s,mb4.9
KEV Kevo 32.51 343 *e*P **P 23 06 51.9 +0.1**
comp=Z,8.0nm,0.4s,mb4.9
BFO Black Forest 32.57 299 *e*P pP 23 07 09.1 +0.8
ARCES ARCESS Array B 32.67 342 P **P 23 06 53.1 -0.1**
comp=Z,1.2nm,0.4s,mb4.0,baz=143,slow=10.0,SNR=18
ARCES LR LR 23 23 48.2
comp=Z,27nm,20.6s,baz=269,slow=43
LSA Lhasa 32.75 97 *e*P **P 23 06 56.1 +2.2**
LSA pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
LSA Lhasa 32.75 97 *e*P **P 23 06 56.1 +2.2**
comp=Z,3.5nm,0.5s,mb4.5
LSA Lhasa 32.75 97 *e*P **P 23 06 56.1 +2.2**
comp=Z,4.0nm,0.5s,mb4.5
PGF Pioggiola 32.81 289 *e*P **P 23 06 54.6 +0.2**
comp=Z,39nm,1.2s,mb4.8
PGF Pioggiola 32.81 289 *e*P **P 23 06 54.6 +0.2**
PGF pmax pmax
comp=Z,20nm,1.2s,mb4.8
PGF Pioggiola 32.81 289 *e*P **P 23 06 54.6 +0.2**
comp=Z,20nm,1.2s,mb4.8
NB2 NORSAR Subarra 32.82 323 P **P 23 06 53.5 -1.0**
comp=Z,4.5nm,0.6s,mb4.5,baz=110,slow=8.6
NB2 NORSAR Subarra 32.82 323 P **P 23 06 53.5 -1.0**
NB2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
NOA NORSAR Array B 32.82 323 P **P 23 06 54.3 -0.2**
comp=Z,1.3nm,0.7s,mb3.9,baz=113,slow=8.4,SNR=4.9
NOA pP pP 23 07 10.2 -0.3
comp=Z,3.1nm,0.6s,baz=113,slow=8.4,SNR=8.7
NOA LR LR 23 20 54.2
comp=Z,17nm,21.2s,baz=90,slow=37
NOA NORSAR Array B 32.82 323 P **P 23 06 54.3 -0.2**
NOA pP pP 23 07 10.2 -0.3
IBBN Ibbenburen 32.95 307 *e*P pP 23 07 13.4 +1.8
CDF Champ du Feu 33.27 300 *e*P **P 23 06 58.1 -0.3**
comp=Z,2.8nm,0.6s,mb4.0
CDF *e*pP pP 23 07 12.8 -1.6
CDF Champ du Feu 33.27 300 *e*P **P 23 06 58.1 -0.3**
CDF *e**PP pP 23 07 12.8 -1.6
CDF pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
CDF Champ du Feu 33.27 300 *e*P **P 23 06 58.1 -0.3**
comp=Z,1.4nm,0.6s,mb4.0
CDF *e*pP pP 23 07 12.8 -1.6
SBF Sospel 33.69 291 *e*P **P 23 07 02.6 +0.6**
comp=Z,20nm,0.8s,mb4.7
SBF Sospel 33.69 291 *e*P **P 23 07 02.6 +0.6**
SBF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
SBF Sospel 33.69 291 *e*P **P 23 07 02.6 +0.6**
comp=Z,9.9nm,0.8s,mb4.7
LPG La Plagne 33.91 294 *e*P **P 23 07 04.3 +0.3**
comp=Z,6.1nm,0.6s,mb4.3
LPG La Plagne 33.91 294 *e*P **P 23 07 04.3 +0.3**
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
LPG La Plagne 33.91 294 *e*P **P 23 07 04.3 +0.3**
comp=Z,3.0nm,0.6s,mb4.3
HAU Haudompre 33.92 299 *e*P **P 23 07 03.8 -0.2**
comp=Z,12nm,0.7s,mb4.5
HAU *e*pP pP 23 07 19.3 -0.7
HAU Haudompre 33.92 299 *e*P **P 23 07 03.8 -0.2**
HAU *e**PP pP 23 07 19.3 -0.7
HAU pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
HAU Haudompre 33.92 299 *e*P **P 23 07 03.8 -0.2**
comp=Z,5.9nm,0.7s,mb4.5
HAU *e*pP pP 23 07 19.3 -0.7
LPL La Plagne 33.93 294 *e*P **P 23 07 04.3 +0.2**
comp=Z,5.3nm,0.5s,mb4.3
LPL La Plagne 33.93 294 *e*P **P 23 07 04.3 +0.2**
LPL pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
LPL La Plagne 33.93 294 *e*P **P 23 07 04.3 +0.2**
comp=Z,2.7nm,0.5s,mb4.3
WLF Walferdange 33.95 302 *e*P **P 23 07 05.5 +1.2**
WLF *e* pP 23 07 20.1 -0.2
WLF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
WLF Walferdange 33.95 302 *e*P **P 23 07 05.5 +1.1**
comp=Z,6.9nm,0.8s,mb4.5
WLF *e* pP 23 07 20.1 -0.2
WLF Walferdange 33.95 302 *e*P **P 23 07 05.5 +1.2**
comp=Z,7.0nm,0.8s,mb4.5
MBDF Montbardon 34.02 293 *e*P **P 23 07 05.1 +0.2**
comp=Z,11nm,0.6s,mb4.6
MBDF Montbardon 34.02 293 *e*P **P 23 07 05.1 +0.2**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
MBDF Montbardon 34.02 293 *e*P **P 23 07 05.1 +0.2**
comp=Z,5.6nm,0.6s,mb4.6
CABF La Chapelle 34.23 296 *e*P **P 23 07 06.9 +0.2**
FRF La Foret Royal 34.31 291 *e*P **P 23 07 07.6 +0.2**
comp=Z,31nm,0.7s,mb5.0
FRF La Foret Royal 34.31 291 *e*P **P 23 07 07.6 +0.2**
FRF pmax pmax
comp=Z,15nm,0.7s,mb4.9
FRF La Foret Royal 34.31 291 *e*P **P 23 07 07.6 +0.2**
comp=Z,15nm,0.7s,mb5.0
LMR La Mourre 34.45 291 *e*P **P 23 07 08.5 -0.1**
MOY Mondy 34.61 55 *e*P **P 23 07 11.9 +1.8**
MEZF Maizieres J'vi 34.74 300 *e*P **P 23 07 11.6 +0.4**
GIVF Givet 34.79 303 *e*P **P 23 07 12.2 +0.6**
BAIF Baives 35.19 303 *e*P **P 23 07 15.8 +0.8**
comp=Z,6.4nm,0.7s,mb4.2
BAIF *e*pP pP 23 07 31.2 +0.1
BAIF Baives 35.19 303 *e*P **P 23 07 15.8 +0.8**
BAIF *e**PP pP 23 07 31.2 +0.1
BAIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
BAIF Baives 35.19 303 *e*P **P 23 07 15.8 +0.8**
comp=Z,3.2nm,0.7s,mb4.3
BAIF *e*pP pP 23 07 31.2 +0.1
VIVF Saint-Julien-l 35.47 294 *e*P **P 23 07 17.3 -0.1**
CMAH Djebel Manchou 35.59 279 P **P 23 07 19.5 +1.0**
GTA Gaotai 35.61 76 *e*P **P 23 07 20.3 +1.7**
GTA AP pP 23 07 37.0 +2.3
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
LOR Lormes 35.67 298 *e*P **P 23 07 18.8 -0.3**
comp=Z,6.0nm,0.7s,mb4.4
LOR *e*pP pP 23 07 34.2 -1.0
LOR Lormes 35.67 298 *e*P **P 23 07 18.8 -0.3**
LOR *e**PP pP 23 07 34.2 -1.0
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LOR Lormes 35.67 298 *e*P **P 23 07 18.8 -0.3**
comp=Z,3.0nm,0.7s,mb4.4
LOR *e*pP pP 23 07 34.2 -1.0
ABSA Djebel Ababsia 35.67 278 P **P 23 07 21.5 +2.4**
SMF Signal de Mont 35.76 297 *e*P **P 23 07 19.9 0.0**
SSF Saint Saulge 35.93 298 *e*P **P 23 07 21.1 -0.3**
AVF Avril sur Loir 36.07 297 *e*P **P 23 07 22.8 +0.2**
comp=Z,24nm,0.9s,mb4.8
AVF *e*pP pP 23 07 38.3 -0.4
AVF Avril sur Loir 36.07 297 *e*P **P 23 07 22.8 +0.2**
AVF *e**PP pP 23 07 38.3 -0.4
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.8
AVF Avril sur Loir 36.07 297 *e*P **P 23 07 22.8 +0.2**
comp=Z,12nm,0.9s,mb4.8
AVF *e*pP pP 23 07 38.3 -0.4
ZAK Zakamensk 36.10 57⇓ *i*P **P 23 07 24.4 +1.6**
ZAK *e* pP 23 07 41.3 +2.4
ZAK *e* 23 08 47.2
ZAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ZAK Zakamensk 36.10 57 *i*P **P 23 07 24.4 +1.6**
comp=Z,8.0nm,1.1s,mb4.6
LASF Ste Croix 36.19 293 *e*P **P 23 07 23.7 +0.1**
comp=Z,7.5nm,0.9s,mb4.3
LASF Ste Croix 36.19 293 *e*P **P 23 07 23.7 +0.1**
comp=Z,3.8nm,0.9s,mb4.3
CKFL Kef-Lekhel 36.20 279 P **P 23 07 24.5 +0.8**
TLY Talaya 36.26 54 *e*P **P 23 07 25.4 +1.2**
TLY pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TLY Talaya 36.26 54 *e*P **P 23 07 25.4 +1.2**
comp=Z,4.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 36.93 297 *e*P **P 23 07 29.6 -0.3**
comp=Z,18nm,1.1s,mb4.6
TCF Toulx Ste Croi 36.93 297 *e*P **P 23 07 29.6 -0.3**
TCF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
TCF Toulx Ste Croi 36.93 297 *e*P **P 23 07 29.6 -0.3**
comp=Z,8.8nm,1.1s,mb4.6
CKHR Kef el Ahmar 37.25 279 P **P 23 07 34.0 +1.4**
SET Setif 37.27 279 P **P 23 07 35.0 +2.3**
CAF Calviac 37.28 294 *e*P **P 23 07 33.5 +0.7**
comp=Z,6.7nm,0.8s,mb4.3
CAF Calviac 37.28 294 *e*P **P 23 07 33.5 +0.7**
CAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CAF Calviac 37.28 294 *e*P **P 23 07 33.5 +0.7**
comp=Z,3.3nm,0.8s,mb4.3
MTLF Montolieu 37.51 292 *e*P **P 23 07 35.0 +0.2**
comp=Z,4.9nm,0.8s,mb4.1
MTLF Montolieu 37.51 292 *e*P **P 23 07 35.0 +0.2**
MTLF pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
MTLF Montolieu 37.51 292 *e*P **P 23 07 35.0 +0.2**
comp=Z,2.5nm,0.8s,mb4.1
LDF La Druitiere 38.15 301 *e*P **P 23 07 40.3 +0.1**
comp=Z,5.8nm,0.6s,mb4.3
LDF La Druitiere 38.15 301 *e*P **P 23 07 40.3 +0.1**
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
LDF La Druitiere 38.15 301 *e*P **P 23 07 40.3 +0.1**
comp=Z,2.9nm,0.6s,mb4.3
LFF La Frestale 38.20 295 *e*P **P 23 07 41.3 +0.7**
FLN La Foliniere 38.36 301 *e*P **P 23 07 41.8 -0.2**
FLN *e*pP pP 23 07 57.5 -0.7
SONM Songino Array 38.41 60 P **P 23 07 42.9 +0.5**
comp=Z,2.0nm,0.7s,mb4.1,baz=274,slow=9.6,SNR=13
SONM pP pP 23 07 58.5 -0.1
comp=Z,2.1nm,0.8s,baz=282,slow=9.6,SNR=8.1
MFF Saint Martin d 38.48 298 *e*P **P 23 07 42.6 -0.4**
MFF *e*pP pP 23 07 58.4 -0.8
GRR Gorron 38.66 300 *e*P **P 23 07 44.2 -0.3**
EPOB Poblet 38.83 289 P **P 23 07 45.7 -0.2**
comp=Z,9.3nm,0.8s,mb4.7
EPOB Poblet 38.83 289 P **P 23 07 45.7 -0.2**
comp=Z,9.3nm,0.8s,mb4.7
ULN Ulaanbaatar 38.85 60⇑ *e*P **P 23 07 46.1 +0.1**
ULN *e**PP pP 23 08 04.3 +2.0
ULN Ulaanbaatar 38.85 60 *e*P **P 23 07 47.3 +1.3**
comp=Z,14nm,0.9s,mb4.8
ULN Ulaanbaatar 38.85 60 *e*P **P 23 07 46.1 +0.1**
EKA Eskdalemuir Ar 39.46 312 P **P 23 07 51.1 0.0**
comp=Z,1.3nm,0.5s,mb4.0,baz=100,slow=8.4,SNR=14
EKA pP pP 23 08 04.8 -2.6
comp=Z,4.8nm,0.4s,baz=97,slow=8.8,SNR=13
EKA Eskdalemuir Ar 39.46 312 P **P 23 07 51.2 0.0**
EKA pP pP 23 08 04.8 -2.6
ESK Eskdalemuir 39.49 312 *e*P **P 23 07 51.5 +0.1**
ESK *e* pP 23 08 06.6 -1.1
ESK pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
ESK Eskdalemuir 39.49 312 *e*P **P 23 07 51.5 +0.1**
comp=Z,6.1nm,0.7s,mb4.5
ESK *e* pP 23 08 06.6 -1.1
ESK Eskdalemuir 39.49 312 *e*P **P 23 07 51.5 +0.1**
comp=Z,6.0nm,0.7s,mb4.5
ETSF Etsaut 39.59 292 *e*P **P 23 07 52.2 0.0**
comp=Z,18nm,1.1s,mb4.5
ETSF Etsaut 39.59 292 *e*P **P 23 07 52.2 0.0**
ETSF pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
ETSF Etsaut 39.59 292 *e*P **P 23 07 52.2 0.0**
comp=Z,9.1nm,1.1s,mb4.5
LZH Lanzhou 39.72 79 ⇓P **P 23 07 54.5 +1.2**
LZH AP pP 23 08 12.6 +3.0
SGMF Saint Gilles 39.80 301 *e*P **P 23 07 54.3 +0.3**
comp=Z,11nm,0.6s,mb4.6
SGMF Saint Gilles 39.80 301 *e*P **P 23 07 54.3 +0.3**
SGMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
SGMF Saint Gilles 39.80 301 *e*P **P 23 07 54.3 +0.3**
comp=Z,5.6nm,0.6s,mb4.6
EMOS Mosqueruela 40.24 288 P **P 23 07 58.3 +0.7**
comp=Z,4.5nm,0.8s,mb4.3
EMOS Mosqueruela 40.24 288 P **P 23 07 58.3 +0.7**
comp=Z,4.5nm,0.8s,mb4.3
ROSF Rostrenen 40.26 301 *e*P **P 23 07 58.0 +0.2**
comp=Z,5.6nm,0.6s,mb4.3
ROSF *e*pP pP 23 08 13.0 -1.1
ROSF Rostrenen 40.26 301 *e*P **P 23 07 58.0 +0.2**
ROSF *e**PP pP 23 08 13.0 -1.1
ROSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ROSF Rostrenen 40.26 301 *e*P **P 23 07 58.0 +0.2**
comp=Z,2.8nm,0.6s,mb4.3
ROSF *e*pP pP 23 08 13.0 -1.1
QUIF Quistinic 40.27 300 *e*P **P 23 07 57.9 +0.1**
comp=Z,28nm,1.0s,mb4.8
QUIF Quistinic 40.27 300 *e*P **P 23 07 57.9 +0.1**
QUIF pmax pmax
comp=Z,14nm,1.0s,mb4.8
QUIF Quistinic 40.27 300 *e*P **P 23 07 57.9 +0.1**
comp=Z,14nm,1.0s,mb4.8
CD2 Chengdu 41.81 87 *e*P **P 23 08 09.6 -0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
BOD Bodaibo 42.02 44 *e*P pP 23 08 25.7 -3.0
BOD pmax pmax
comp=Z,27nm,0.8s,mb5.0
CIT Chita 42.35 53 *e*P **P 23 08 14.6 -0.3**
CIT *e* pP 23 08 33.0 +1.7
EHUE Huescar 42.65 285 P **P 23 08 18.0 +0.6**
EHUE pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
EHUE Huescar 42.65 285 P **P 23 08 18.0 +0.6**
comp=Z,6.3nm,0.8s,mb4.4
EHUE Huescar 42.65 285 P **P 23 08 18.0 +0.6**
comp=Z,6.0nm,0.8s,mb4.4
BTO Baotou 42.70 70 P **P 23 08 19.0 +1.2**
BTO AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
GUD Guadarrama 42.82 290 P **P 23 08 18.5 -0.2**
GUD pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
GUD Guadarrama 42.82 290 P **P 23 08 18.5 -0.2**
comp=Z,2.3nm,0.5s,mb4.2
GUD Guadarrama 42.82 290 P **P 23 08 18.5 -0.2**
comp=Z,2.0nm,0.5s,mb4.1
ESDC Sonseca Array 43.00 288 P **P 23 08 19.5 -0.6**
comp=Z,2.5nm,0.5s,mb4.2,baz=60,slow=8.2,SNR=18
ESDC pP pP 23 08 35.1 -1.5
comp=Z,1.2nm,0.4s,baz=61,slow=8.2,SNR=6.1
ESDC Sonseca Array 43.00 288 P **P 23 08 19.9 -0.2**
comp=Z,3.7nm,0.5s,mb4.4
ESDC Sonseca Array 43.00 288 P **P 23 08 19.9 -0.3**
comp=Z,3.7nm,0.5s,mb4.4
EQES Quesada 43.01 285 P **P 23 08 20.5 +0.3**
comp=Z,6.8nm,0.6s,mb4.5
EQES Quesada 43.01 285 P **P 23 08 20.5 +0.3**
comp=Z,6.8nm,0.6s,mb4.5
EBER Berja 43.21 284 P **P 23 08 22.6 +0.7**
comp=Z,12nm,0.6s,mb4.8
EBER Berja 43.21 284 P **P 23 08 22.6 +0.7**
comp=Z,12nm,0.6s,mb4.8
ECOG Cogollos-Vega 43.57 285 P **P 23 08 24.7 -0.1**
ECOG pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
ECOG Cogollos-Vega 43.57 285 P **P 23 08 24.7 -0.1**
comp=Z,3.7nm,0.7s,mb4.2
ECOG Cogollos-Vega 43.57 285 P **P 23 08 24.7 -0.1**
comp=Z,4.0nm,0.7s,mb4.3
KMI Kunming 43.93 95 P **P 23 08 28.6 +1.0**
KMI AP pP 23 08 46.5 +2.4
EADA Adamuz 43.98 287 P **P 23 08 28.1 0.0**
comp=Z,6.3nm,1.0s,mb4.3
XAN Xi'an 44.35 80 P **P 23 08 31.3 +0.3**
XAN AMB AMB
comp=Z,20nm,0.9s,mb4.8
EMIJ Mijas 44.74 285 P **P 23 08 33.1 -0.9**
comp=Z,5.2nm,0.6s,mb4.4
PCAB Cabril 45.23 293 *e*P **P 23 08 37.3 -0.7**
comp=Z,32nm,1.8s,mb4.8
MTE Manteigas 45.33 291 *e*P **P 23 08 38.3 -0.5**
comp=Z,6.6nm,0.9s,mb4.4
ESPR Espera 45.42 285 P **P 23 08 38.7 -0.7**
comp=Z,7.6nm,0.6s,mb4.6
PVIS Viseu 45.47 291 *e*P **P 23 08 39.6 -0.3**
comp=Z,8.7nm,0.8s,mb4.5
PCBR Castelo Branco 45.48 290 *e*P **P 23 08 39.4 -0.6**
comp=Z,16nm,2.6s,mb4.3
EBAD Badajoz 45.54 288 P **P 23 08 40.1 -0.4**
comp=Z,5.4nm,0.6s,mb4.5
EMIN Mina Concepcio 45.67 287 P **P 23 08 41.6 +0.1**
comp=Z,5.9nm,1.0s,mb4.3
MDT Midelt 46.19 280 P **P 23 08 46.3 +0.7**
comp=Z,2.6nm,0.8s,mb4.0,baz=73,slow=9.7,SNR=5.2
MDT pP pP 23 09 02.1 -0.1
comp=Z,3.1nm,0.8s,baz=54,slow=8.2,SNR=4.3
GYA Guiyang 46.22 90⇑ *i*P **P 23 08 46.4 +0.6**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
HIA Hailar 46.78 56 *e*P **P 23 08 51.2 +1.0**
comp=Z,6.6nm,0.7s,mb4.5
HIA Hailar 46.78 56 *e*P **P 23 08 51.3 +1.1**
TIXI Tiksi 47.90 24⇑ *e*P **P 23 08 59.2 +0.3**
TIXI pmax pmax
comp=Z,13nm,1.2s,mb4.6
TIXI Tiksi 47.90 24 *e*P **P 23 08 59.2 +0.3**
comp=Z,13nm,1.2s,mb4.6
YAK Yakutsk 49.35 37 *i*P **P 23 09 10.1 +0.1**
YAK pmax pmax
comp=Z,14nm,0.6s,mb5.1
YAK Yakutsk 49.35 37 P **P 23 09 09.7 -0.3**
YAK Yakutsk 49.35 37 *i*P **P 23 09 10.1 +0.1**
comp=Z,14nm,0.6s,mb5.1
CN2 Changchun 52.29 61⇓ *i*P **P 23 09 32.7 +0.6**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
TORD Torodi Ar. Bea 52.33 254 P **P 23 09 31.6 -0.8**
comp=Z,3.1nm,0.7s,mb4.5,baz=51,slow=6.4,SNR=17
NJ2 Nanjing 52.69 77 *e*P **P 23 09 35.9 +0.8**
NJ2 AP pP 23 09 47.0 -5.0
NJ2 XP sP 23 09 52.8 -6.6
NJ2 PCP PcP 23 10 44.8 +0.7
NJ2 S **S 23 16 57.0 -0.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 LR LR
comp=N,620nm,21.0s
NJ2 LR LR
comp=E,570nm,25.1s
NJ2 LR LR
comp=Z,250nm,22.0s
KLR Kul'dur 54.23 52 *e*P **P 23 09 42.4 -3.9**
SSE Sheshan 54.89 77 P **P 23 09 48.3 -2.8**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.4
PSI Prapat 55.75 120 P **P 23 09 56.0 -1.3**
comp=Z,1.6nm,0.3s,mb4.5,baz=295,slow=6.7,SNR=3.7
PSI Prapat 55.75 120 P **P 23 09 56.0 -1.4**
YHNB Yeheng 58.39 83 *e*P **P 23 10 16.8 +0.8**
LSZ Lusaka 59.93 208 *e*P **P 23 10 27.2 +0.6**
LSZ pmax pmax
comp=Z,14nm,1.3s,mb4.8
LSZ Lusaka 59.93 208 *e*P **P 23 10 27.2 +0.6**
comp=Z,14nm,1.3s,mb4.8
LSZ Lusaka 59.93 208 *e*P **P 23 10 27.2 +0.6**
comp=Z,14nm,1.3s,mb4.8
BILL Bilibino 61.09 23 *e*P **P 23 10 35.1 +0.6**
BILL *e**PP pP 23 10 53.4 +1.7
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BILL Bilibino 61.09 23 *e*P **P 23 10 35.1 +0.6**
comp=Z,9.0nm,1.0s,mb4.8
DBIC Dimbokro 61.43 253 P **P 23 10 36.0 -0.8**
comp=Z,5.5nm,0.6s,mb4.8,baz=24,slow=7.8,SNR=8.6
DBIC pP pP 23 10 53.9 -0.2
comp=Z,4.7nm,0.8s,baz=9.2,slow=7.6,SNR=3.1
DBIC LR LR 23 42 17.4
comp=Z,57nm,18.3s,baz=225,slow=41
DBIC Dimbokro 61.43 253 P **P 23 10 36.0 -0.8**
DBIC *PP pP 23 10 53.9 -0.2
MAJO Matsushiro 64.30 63 P **P 23 10 55.8 0.0**
MJAR Matsushiro Arr 64.30 63 P **P 23 10 55.1 -0.7**
comp=Z,2.1nm,0.8s,mb4.0,baz=312,slow=6.7,SNR=5.4
MJAR pP pP 23 11 13.2 -0.1
comp=Z,2.8nm,0.9s,baz=302,slow=5.4,SNR=4.0
LBTB Lobatse 69.83 206 *e*P **P 23 11 31.3 +0.4**
LBTB *e* pP 23 11 48.9 +0.4
LBTB pmax pmax
comp=Z,13nm,0.6s,mb4.9
LBTB Lobatse 69.83 206 *e*P **P 23 11 31.3 +0.4**
comp=Z,13nm,0.6s,mb4.9
LBTB *e* pP 23 11 48.9 +0.4
LBTB Lobatse 69.83 206 *e*P **P 23 11 31.3 +0.4**
comp=Z,13nm,0.6s,mb4.9
BOSA Boshof 73.27 205 P **P 23 11 51.2 -0.4**
comp=Z,2.8nm,0.8s,mb4.2,baz=62,slow=7.2,SNR=6.9
BOSA pP pP 23 12 08.7 -0.6
comp=Z,4.4nm,0.8s,baz=47,slow=6.5,SNR=5.8
BOSA Boshof 73.27 205 P **P 23 11 51.2 -0.4**
BOSA pP pP 23 12 08.7 -0.6
BOSA Boshof 73.27 205 PcP PcP 23 12 08.7 +1.0
DAWY Dawson 75.50 6 *e*P **P 23 12 01.1 -3.4**
YKA Yellowknife Ar 77.06 354 P **P 23 12 12.7 -0.6**
comp=Z,0.8nm,0.7s,mb3.5,baz=4.2,slow=7.6,SNR=5.4
YKA pP pP 23 12 31.2 0.0
comp=Z,1.0nm,0.6s,baz=9.5,slow=5.7,SNR=4.7
YKA Yellowknife Ar 77.06 354 P **P 23 12 12.7 -0.6**
YKA pP pP 23 12 31.2 0.0
SDV Santo Domingo 108.65 300 *e*PKiKP PKiKP 23 18 49.5 +0.8

*IDC **08** 23:13:34.0₀2.1, 1283N×5166E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.7/7, ML4.0/2, MS3.4/8, Ms1 3.5/8,*

ms1mx3.3/20, Error ellipse: s-maj=51.8km s-min=21.1km az=140.0
*ISCJB **08** 23:13:37.2±0.6, 1315N×007×51.14E±005, h10km, mb4.0/12, MS3.4/8, Error ellipse: s-maj=9.9km s-min=6.7km az=149.6*
*NEIC **08** 23:13:37.2±0.9, 1303N×5157E, h10km, mb4.3/7, Error ellipse: s-maj=25.2km s-min=10.1km az=107.0*
*CSEM **08** 23:13:39.3±0.2, 1313N×5107E, h20km, mb4.3/4, Error ellipse: s-maj=6.8km s-min=5.7km az=23.0*
*DHMR **08** 23:13:41.3±1.2, 1348N×5091E, h10km±150km, ML4.3*
ISC 08 23:13:39.0±0.7, 1313N±007×5118E±006, h10km, n45, σ1§12/43, **mb4.0**/12, **MS3.4**/8, **2D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.47**	**303**	⇓*i*P	**Pn**	**23 14 17.0**	**-2.3**
MUKL				*i* S	**Sn**	**23 14 46.0**	**-3.5**
MUKL				AML	AML	23 14 47.2	
	comp=N,3μm,0.6s						
BDHA	**Al Bayda'**	**5.52**	**279**	*e*P	**Pn**	**23 15 01.4**	**+0.2**
BDHA				*i* S	**Sn**	**23 16 04.0**	**-0.7**
LBOS		**5.81**	**278**	*i* P	**Pn**	**23 15 06.6**	**+1.4**
LBOS				*i* S	**Sn**	**23 16 11.5**	**-0.4**
TRBA	**At Turbah**	**6.88**	**272**	⇓*e*P	**Pn**	**23 15 20.2**	**+0.4**
ATD	**Arta Tunnel**	**8.29**	**260**	Pn	**Pn**	**23 15 39.5**	**+0.2**
	comp=N,13nm,0.3s,baz=103,slow=7.7,SNR=184						
ATD				Sn	**Sn**	**23 17 16.9**	**+3.9**
	comp=N,1.5nm,0.3s,baz=107,slow=22,SNR=5.3						
ATD	**Arta Tunnel**	**8.29**	**260**	Pn	**Pn**	**23 15 39.5**	**+0.2**
ATD				Sn	**Sn**	**23 17 16.9**	**+3.9**
KMBO	**Kilima Mbogo**	**19.79**	**225**	P	**Pn**	**23 18 09.7**	**-1.2**
	comp=N,0.1nm,0.3s,baz=52,slow=19,SNR=2.5						
KMBO	**Kilima Mbogo**	**19.79**	**225**	*e*P	**Pn**	**23 18 12.1**	**+1.3**
	comp=N,1.5nm,0.6s						
KMBO	**Kilima Mbogo**	**19.79**	**225**	*e*P	**Pn**	**23 18 12.1**	**+1.3**
	comp=N,1.5nm,0.6s						
EIL	**Elat**	**22.29**	**320**	P	**P**	**23 18 37.2**	**+0.8**
EIL	**Elat**	**22.29**	**320**	P	**P**	**23 18 37.2**	**+0.8**
ASF	**Jabal al Asfar**	**23.04**	**328**	P	**P**	**23 18 48.0**	**+3.7**
	comp=N,3.8nm,0.9s,mb3.8,baz=1.6,slow=4.6,SNR=4.5						
GNI	**Garni**	**27.50**	**349**	LR	LR	23 32 25.8	
	comp=N,153nm,21.5s,MS3.5,baz=339,slow=41						
GNI	**Garni**	**27.50**	**349**	*e*P	**P**	**23 19 26.4**	**+0.9**
	comp=N,3.8nm,0.8s,mb4.1						
GNI	**Garni**	**27.50**	**349**	*e*P	**P**	**23 19 26.4**	**+0.9**
	comp=N,3.8nm,0.8s,mb4.1						
MALT	**Malatya**	**27.52**	**338**	P	**P**	**23 19 27.0**	**+1.3**
MALT	**Malatya**	**27.52**	**338**	P	**P**	**23 19 27.0**	**+1.3**
KIV	**Kislovodsk**	**31.57**	**348**	*e*P	**P**	**23 20 01.8**	**+0.2**
	comp=N,2.5nm,0.3s,mb4.5						
KIV	**Kislovodsk**	**31.57**	**348**	*e*P	**P**	**23 20 01.8**	**+0.2**
	comp=N,2.5nm,0.3s,mb4.5						
AKTK	**Aktyubinsk**	**37.62**	**7**	P	**P**	**23 20 53.9**	**0.0**
AKTK				LR	LR	23 37 28.9	
AKTK	**Aktyubinsk**	**37.62**	**7**	P	**P**	**23 20 53.8**	**0.0**
AKTO	**Aktyubinsk**	**37.62**	**7**	P	**P**	**23 20 53.9**	**0.0**
	comp=N,0.6nm,0.6s,mb3.5,baz=172,slow=5.2,SNR=4.0						
AKTO				LR	LR	23 37 29.0	
	comp=N,40nm,21.1s,MS3.2,baz=0.0,slow=38						
MLR	**Muntele Rosu**	**38.71**	**331**	LR	LR	23 39 14.4	
	comp=N,65nm,18.1s,MS3.5,baz=136,slow=39						
MKAR	**Makanchi Array**	**42.52**	**32**	P	**P**	**23 21 31.4**	**-3.1**
	comp=N,0.8nm,0.7s,mb3.6,baz=213,slow=8.3,SNR=9.4						
BVAR	**Borovoye Array**	**42.64**	**17**	P	**P**	**23 21 31.6**	**-4.0**
	comp=N,0.4nm,0.6s,mb3.4,baz=203,slow=7.9,SNR=3.1						
PSZ	**Piszkesteto**	**43.36**	**329**	P	**P**	**23 21 42.1**	**+0.8**
PSZ	**Piszkesteto**	**43.36**	**329**	P	**P**	**23 21 42.1**	**+0.8**
OBN	**Obninsk**	**43.42**	**348**	*e*P	**P**	**23 21 40.9**	**-0.9**
	comp=N,3.8nm,0.4s,mb4.5						
OBN	**Obninsk**	**43.42**	**348**	*e*P	**P**	**23 21 40.9**	**-0.9**
	comp=N,3.8nm,0.4s,mb4.5						
ARU	**Arti**	**43.58**	**6**	P	**P**	**23 21 41.3**	**-1.8**
LBTB	**Lobatse**	**45.39**	**213**	*e*P	**P**	**23 21 58.4**	**+0.8**
LBTB	**Lobatse**	**45.39**	**213**	*e*P	**P**	**23 21 58.3**	**+0.7**
MORC	**Moravsky Berou**	**45.76**	**330**	P	**P**	**23 22 01.4**	**+0.9**
	comp=N,0.7nm,0.5s,mb3.9						
MORC	**Moravsky Berou**	**45.76**	**330**	P	**P**	**23 22 01.4**	**+0.9**
	comp=N,0.7nm,0.5s,mb3.9						
TSUM	**Tsumeb**	**46.12**	**227**	P	**P**	**23 22 02.3**	**-1.1**
TSUM	**Tsumeb**	**46.12**	**227**	P	**P**	**23 22 02.3**	**-1.1**
GERES	**GERESS Array B**	**47.14**	**327**	LR	LR	23 43 31.0	
	comp=N,25nm,18.3s,MS3.2,baz=253,slow=38						
TORD	**Torodi Ar. Bea**	**48.12**	**276**	P	**P**	**23 22 19.1**	**+0.1**
	comp=N,1.1nm,0.7s,mb4.0,baz=83,slow=7.1,SNR=8.1						
BOSA	**Boshof**	**48.48**	**211**	LR	LR	23 46 15.2	
	comp=N,59nm,18.6s,MS3.6,baz=284,slow=40						
BOSA	**Boshof**	**48.48**	**211**	*e*P	**P**	**23 22 20.0**	**-1.7**
	comp=N,1.3nm,0.6s,mb4.1						
STU	**Stuttgart**	**49.58**	**324**	*e*P	**P**	**23 22 30.5**	**+0.3**
	comp=N,5.6nm,0.4s,mb5.0						
FINES	**FINESS Array B**	**51.55**	**345**	LR	LR	23 46 59.4	
	comp=N,46nm,18.1s,MS3.5,baz=117,slow=39						
ESDC	**Sonseca Array**	**55.02**	**309**	P	**P**	**23 23 11.3**	**+0.7**
	comp=N,0.6nm,0.7s,mb3.8,baz=74,slow=5.7,SNR=3.6						
NOA	**NORSAR Array B**	**55.90**	**338**	LR	LR	23 51 35.2	
	comp=N,21nm,20.8s,MS3.2,baz=135,slow=40						
ARCES	**ARCESS Array B**	**58.66**	**350**	LR	LR	23 51 55.6	
	comp=N,53nm,20.4s,MS3.6,baz=194,slow=39						

WEL 08 23:27:46.8±0.3, 3839S×17575E, h191km±3km, ML3.5/16, Error ellipse: s-maj=4.5km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**0.88**	**190**	PN	Pn	23 28 15.0	+0.2
FWVZ				SN	Sn	23 28 36.9	+0.6
BKZ	**Black Stump Fm**	**0.97**	**143**	PN	Pn	23 28 15.6	+0.3
BKZ				SN	Sn	23 28 37.7	+0.2
MOVZ	**Moawhango**	**1.01**	**180**	PN	Pn	23 28 15.5	-0.2
MOVZ				SN	Sn	23 28 37.1	-0.9
URZ	**Urewera**	**1.08**	**83**	PN	Pn	23 28 16.0	-0.1
URZ				SN	Sn	23 28 38.5	-0.3
MWZ	**Matawai**	**1.40**	**88**	PN	Pn	23 28 18.9	+0.1
MWZ				SN	Sn	23 28 43.8	+0.3
KNZ	**Kokohu**	**1.63**	**113**	PN	Pn	23 28 21.3	+0.5
TSZ	**Takapari Road**	**1.67**	**174**	PN	Pn	23 28 20.8	-0.5
TSZ				SN	Sn	23 28 47.4	-0.6
PUZ	**Puketiti**	**2.00**	**82**	PN	Pn	23 28 24.6	0.0
PUZ				SN	Sn	23 28 53.2	-0.8
MRZ	**Mangatainoka R**	**2.27**	**183**	PN	Pn	23 28 26.1	-1.4
MRZ				SN	Sn	23 28 56.0	-3.2
TIWZ	**Tintock**	**2.38**	**178**	PN	Pn	23 28 27.5	-1.3
KIW	**Kapiti Island**	**2.55**	**194**	PN	Pn	23 28 28.5	-2.2
CAW	**Cannon Point**	**2.76**	**191**	PN	Pn	23 28 30.9	-2.2
MTW	**Mount Morrison**	**2.77**	**184**	PN	Pn	23 28 30.8	-2.4
DUWZ	**D'Urville Isla**	**2.79**	**210**	PN	Pn	23 28 30.5	-3.0
MRW	**Makara Radio**	**2.95**	**196**	PN	Pn	23 28 32.7	-2.6
PAWZ	**Paruwai Farm**	**3.00**	**185**	SN	Sn	23 29 10.0	-4.2
TRWZ	**Traveller**	**3.00**	**181**	PN	Pn	23 28 33.6	-2.4
SNZO	**South Karori**	**3.02**	**195**	PN	Pn	23 28 33.3	-2.9
TCW	**Tory Channel**	**3.04**	**201**	PN	Pn	23 28 33.7	-2.7
TUWZ	**Tuamarina**	**3.34**	**204**	PN	Pn	23 28 36.9	-3.1
NNZ	**Nelson**	**3.36**	**212**	PN	Pn	23 28 36.4	-3.9
NNZ				SN	Sn	23 29 17.4	-4.7
QRZ	**Quartz Range**	**3.48**	**225**	PN	Pn	23 28 38.9	-2.8
QRZ				SN	Sn	23 29 19.2	-5.5
BSWZ	**Blackbirch Sta**	**3.62**	**203**	PN	Pn	23 28 40.2	-3.3
THZ	**Tophouse**	**4.01**	**212**	PN	Pn	23 28 43.7	-4.7
KHZ	**Kahutara**	**4.36**	**202**	PN	Pn	23 28 49.2	-3.6
DSZ	**Denniston Nort**	**4.52**	**221**	SN	Sn	23 29 40.4	-7.7
LTZ	**Lake Taylor**	**5.12**	**210**	SN	Sn	23 29 53.1	-9.1
MQZ	**McQueen's Vall**	**5.80**	**203**	SN	Sn	23 30 07.7	-10

*IDC **08** 23:29:31.9±1.1, 3144S×17909W, h146km±10km, mb4.3/2, mb1 4.2/4, mb1mx3.8/12, mbtmp4.5/4, Error ellipse: s-maj=31.2km s-min=12.0km az=119.0*
*NEIC **08** 23:29:32.9±1.3, 3141S×17907W, h155km±13km, mb4.5/8, Error ellipse: s-maj=22.5km s-min=16.7km az=111.0*
*ISCJB **08** 23:29:33.5±0.9, 3168S±004×1795W±0.1, h150km, mb4.5/8, Error ellipse: s-maj=17.3km s-min=5.2km az=10.5*
ISC 08 23:29:35.7±0.9, 3177S±004×1796W±01, h150km, n63, σ1§34/68, **mb4.5**/8, **2D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.89**	**30**	P	**Pn**	**23 30 13.5**	**-8.0**
	43nm,0.3s,baz=50,slow=20,SNR=3.7						
RAO				S	**Sn**	**23 30 42.6**	**-14**
	577nm,0.3s,baz=100,slow=22,SNR=13						
RAO	**Raoul Island**	**2.89**	**30**	P	**Pn**	**23 30 13.5**	**-8.0**
RAO				*e*Sn	**Sn**	**23 30 42.5**	**-14**
RAO				S	**Sn**	**23 30 42.6**	**-14**
MXZ	**Matakaoa Point**	**6.04**	**196**	*e*PN	**Pn**	**23 31 04.2**	**+1.3**
MXZ	**Matakaoa Point**	**6.04**	**196**	*e*P	**Pn**	**23 31 04.4**	**+1.5**
PUZ	**Puketiti**	**6.54**	**195**	PN	**Pn**	**23 31 09.6**	**+0.1**
PUZ				SN	**Sn**	**23 32 27.2**	**+4.2**
PUZ	**Puketiti**	**6.54**	**195**	P	**Pn**	**23 31 09.6**	**+0.1**
PUZ				S	**Sn**	**23 32 27.2**	**+4.2**
MWZ	**Matawai**	**6.97**	**199**	*e*PN	**Pn**	**23 31 15.9**	**+0.6**
MWZ				SN	**Sn**	**23 32 39.6**	**+6.2**
URZ	**Urewera**	**7.03**	**202**	P	**Pn**	**23 31 16.5**	**+0.5**
	1.4nm,0.3s,baz=24,slow=4.7,SNR=11						
URZ				S	**Sn**	**23 32 42.2**	**+7.5**
	11nm,0.3s,baz=214,slow=19,SNR=8.8						
URZ	**Urewera**	**7.03**	**202**	*e*PN	**Pn**	**23 31 16.1**	**+0.1**
URZ				SN	**Sn**	**23 32 40.4**	**+5.7**
URZ	**Urewera**	**7.03**	**202**	*e*P	**Pn**	**23 31 17.1**	**+1.1**
KNZ	**Kokohu**	**7.58**	**196**	*e*PN	**Pn**	**23 31 24.7**	**+1.3**
BKZ	**Black Stump Fm**	**8.05**	**202**	*e*PN	**Pn**	**23 31 28.9**	**-0.7**
BKZ				SN	**Sn**	**23 33 03.3**	**+3.9**
BFZ	**Birch Farm**	**9.52**	**200**	SN	**Sn**	**23 33 35.0**	**+0.5**
MRZ	**Mangatainoka R**	**9.70**	**202**	*e*PN	**Pn**	**23 31 50.6**	**-1.0**
MRZ				SN	**Sn**	**23 33 40.1**	**+1.1**
MRZ	**Mangatainoka R**	**9.70**	**202**	*e*P	**Pn**	**23 31 50.6**	**-1.0**
MRZ				S	**Sn**	**23 33 40.1**	**+1.0**
TIWZ	**Tintock**	**9.71**	**201**	*e*PN	**Pn**	**23 31 54.1**	**+2.4**
TIWZ				SN	**Sn**	**23 33 41.5**	**+2.2**
KIW	**Kapiti Island**	**10.11**	**205**	*e*PN	**Pn**	**23 31 56.7**	**-0.3**
KIW	**Kapiti Island**	**10.11**	**205**	P	**Pn**	**23 31 55.5**	**-1.5**
MTW	**Mount Morrison**	**10.18**	**202**	*e*PN	**Pn**	**23 31 57.9**	**-0.1**
CAW	**Cannon Point**	**10.27**	**203**	*e*PN	**Pn**	**23 31 55.9**	**-3.3**
CAW	**Cannon Point**	**10.27**	**203**	P	**Pn**	**23 31 58.9**	**-0.3**
PAWZ	**Paruwai Farm**	**10.40**	**201**	SN	**Sn**	**23 33 56.9**	**+0.9**
MSWZ	**Moikau Station**	**10.49**	**202**	SN	**Sn**	**23 33 56.0**	**-2.0**
MRW	**Makara Radio**	**10.51**	**204**	SN	**Sn**	**23 33 58.5**	**0.0**
SNZO	**South Karori**	**10.57**	**204**	*e*Pn	**Pn**	**23 32 04.1**	**+0.9**
TCW	**Tory Channel**	**10.64**	**206**	*e*PN	**Pn**	**23 32 03.7**	**-0.4**
TCW	**Tory Channel**	**10.64**	**206**	P	**Pn**	**23 32 04.6**	**+0.5**
TUWZ	**Tuamarina**	**10.96**	**207**	*e*PN	**Pn**	**23 32 05.2**	**-3.0**
NNZ	**Nelson**	**11.00**	**209**	*e*PN	**Pn**	**23 32 07.0**	**-1.7**
NNZ				SN	**Sn**	**23 34 12.0**	**+1.6**
THZ	**Tophouse**	**11.65**	**209**	*e*PN	**Pn**	**23 32 14.2**	**-3.1**
THZ				SN	**Sn**	**23 34 26.4**	**+0.4**
THZ	**Tophouse**	**11.65**	**209**	*e*P	**Pn**	**23 32 16.3**	**-1.0**
KHZ	**Kahutara**	**11.96**	**205**	*e*PN	**Pn**	**23 32 19.3**	**-2.0**
KHZ				SN	**Sn**	**23 34 31.7**	**-1.8**
KHZ	**Kahutara**	**11.96**	**205**	*e*P	**Pn**	**23 32 20.3**	**-1.1**
DSZ	**Denniston Nort**	**12.12**	**212**	SN	**Sn**	**23 34 36.5**	**-0.8**
LTZ	**Lake Taylor**	**12.76**	**208**	*e*PN	**Pn**	**23 32 30.4**	**-1.3**
LTZ				SN	**Sn**	**23 34 48.9**	**-3.8**
MQZ	**McQueen's Vall**	**13.40**	**205**	*e*PN	**Pn**	**23 32 37.8**	**-2.2**
ODZ	**Otahua Downs**	**15.30**	**207**	*e*PN	**Pn**	**23 33 01.6**	**-2.1**
CTA	**Charters Tower**	**32.72**	**282**	*e*P	**P**	**23 35 57.1**	**+3.2**
	6.5nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**32.72**	**282**	*e*P	**P**	**23 35 56.1**	**+2.2**
	6.2nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**32.87**	**259**	⇓*i*P	**P**	**23 35 56.1**	**+0.9**
	5.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**32.87**	**259**	P	**P**	**23 35 56.3**	**+1.1**
	7.8nm,0.9s,mb4.5,baz=104,slow=8.5,SNR=10.0						
PMG	**Port Moresby**	**38.02**	**299**	P	**P**	**23 36 36.3**	**-2.8**
AS31	**Alice Springs**	**41.71**	**269**	*e*P	**P**	**23 37 10.5**	**+0.9**
ASAR	**Alice Springs**	**41.71**	**269**	P	**P**	**23 37 10.4**	**+0.8**
	7.0nm,0.5s,mb4.6,baz=106,slow=7.7,SNR=72						
ASAR				PcP	PcP	23 39 01.4	-1.9
	0.9nm,0.4s,baz=115,slow=4.1,SNR=5.1						
ASPA	**Alice Springs**	**41.71**	**269**	*e*P	**P**	**23 37 10.5**	**+0.9**
WB2	**Warramunga Arr**	**42.81**	**274**	⇓*i*P	**P**	**23 37 18.9**	**+0.4**
WRAB	**Tennant Creek**	**42.82**	**274**	*e*P	**P**	**23 37 19.0**	**+0.4**
	27nm,0.7s,mb5.0						
SBA	**Scott Base**	**46.58**	**184**	*e*P	**P**	**23 37 52.8**	**+4.4**
	3.8nm,0.8s,mb4.1						
KAKA	**Kakadu**	**47.86**	**282**	*e*P	**P**	**23 37 57.6**	**-0.7**
	9.6nm,0.7s,mb4.5						
MBWA	**Marble Bar**	**54.75**	**265**	*e*P	**P**	**23 38 49.3**	**-0.2**
QSPA	**South Pole Qui**	**58.35**	**180**	*e*P	**P**	**23 39 17.1**	**+2.1**
	12nm,0.7s,mb4.8						
MAW	**Mawson**	**70.56**	**201**	*e*P	**P**	**23 40 34.4**	**+0.2**
	1.4nm,0.6s,mb3.9						
JOF	**Joensuu**	**143.16**	**337**	*e*pkp	PKPdf	23 48 43.0	-8.8
KAF	**Kangasniemi**	**145.35**	**339**	*e*pkp	PKPdf	23 48 49.9	-5.7
FINES	**FINESS Array B**	**145.93**	**338**	PKPbc	PKPbc	23 48 52.3	-5.2
	14nm,0.7s,baz=62,slow=3.7,SNR=72						
NB2	**NORSAR Subarra**	**149.87**	**350**	PKPa	PKPbc	23 49 02.9	-5.1
	comp=Z,4.9nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.87**	**350**	PKPbc	PKPbc	23 49 03.2	-4.8
	comp=Z,4.2nm,0.5s,baz=14,slow=4.1,SNR=22						
NOA	**NORSAR Array B**	**149.87**	**350**	PKPbc	PKPbc	23 49 03.2	-4.8
AKASG	**Malin Array Be**	**151.52**	**320**	PKPbc	PKPbc	23 49 07.1	-4.8
BRTR	**Keskin Array B**	**152.01**	**296**	PKPbc	PKPbc	23 49 09.7	-3.3
	comp=Z,0.8nm,0.4s,baz=137,slow=4.3,SNR=13						
CLL	**Collm**	**158.38**	**338**	*e*PKPab	PKPab	23 49 46.0	-4.2
TORD	**Torodi Ar. Bea**	**161.43**	**184**	PKP	PKPdf	23 49 16.8	-1.6
	comp=Z,2.4nm,1.1s,baz=302,slow=0.0,SNR=15						
TORD				PKPab	PKPab	23 50 02.7	-0.8
	comp=Z,1.5nm,0.9s,baz=158,slow=4.4,SNR=14						

*INMG **09** 00:03:55.0±1.0, 3657N×720W, h31km, ML1.3, Error ellipse: s-maj=6.7km s-min=3.8km az=17.0*
MDD 09 00:03:54.6±1.8, 3663N×726W, h73km±25km, mb2.5/1, 1C, Error ellipse: s-maj=16.8km s-min=10.7km az=7.0, PRXIMO SOLUCIN POBRE, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.92**	**349**	⇑P	Pn	00 04 11.2	-1.1
	2.1nm,0.1s,SNR=18						
EGRO				S	Sn	00 04 24.1	-1.3
	5.9nm,0.1s,SNR=15						
ESPR	**Espera**	**1.16**	**77**	P	Pn	00 04 15.2	+0.1
	0.7nm,0.2s,SNR=4.0						
ESPR				S	Sn	00 04 27.1	-3.5
	3.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.23**	**22**	P	Pn	00 04 16.0	-0.1
	0.4nm,0.1s,SNR=7.8						
EMIN				S	Sn	00 04 31.9	-0.4
	2.4nm,0.2s,SNR=10						
PBEJ	**Beja**	**1.48**	**341**	*e*Pn	Pn	00 04 19.1	-0.2
PBEJ				*e*Sn	Sn	00 04 37.2	-0.8
PBEJ							
	1.8nm,0.1s						
PTEO	**Sao Teotonio**	**1.49**	**309**	*e*Pn	Pn	00 04 18.9	-0.5
PTEO				*e*Sn	Sn	00 04 37.2	-1.0
PTEO							
	1.4nm,0.1s						
EBAD	**Badajoz**	**2.14**	**5**	P	Pn	00 04 26.2	-1.9
	0.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	00 04 52.2	-1.5
	0.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.64**	**53**	S	Sn	00 05 02.4	-3.3
	0.2nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.21**	**357**	*e*Pn	Pn	00 04 42.6	-0.1
PCBR				*e*Sn	Sn	00 05 17.7	-2.1
PCBR							
	0.9nm,0.2s						

IDC 09 00:21:53.9±3.4, 1856S×17616W, h0km, mb4.1/4, mb1 4.4/4, mb1mx4.1/14, mbtmp4.1/4, Error ellipse: s-maj=276.9km s-min=26.1km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.62**	**260**	P	P	00 30 25.1	+1.4
	5.4nm,1.0s,baz=95,slow=8.0,SNR=17						
ASAR	**Alice Springs**	**46.67**	**255**	P	P	00 30 23.7	-0.5
	4.3nm,1.0s,baz=85,slow=8.6,SNR=21						
NVAR	**Mina Array Bea**	**78.43**	**43**	P	P	00 33 58.0	+1.5
	0.8nm,0.6s,baz=217,slow=8.9,SNR=5.0						
ANMO	**Albuquerque**	**84.84**	**51**	P	P	00 34 29.6	-0.7
	1.5nm,0.9s,baz=227,slow=7.5,SNR=4.3						
AKASG	**Malin Array Be**	**142.11**	**334**	PKP	PKPdf	00 41 27.4	-0.5
	0.3nm,0.3s,baz=37,slow=3.6,SNR=6.4						

MOS 09 00:27:01.6±1.2, 4310N×4600E, h13km, mb3.9/1, 1C-6D, Error ellipse: s-maj=28.0km s-min=9.8km az=10.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.87**	**268**	⇑*i*PG	Pg	00 27 17.8	-0.6
SNJR				*i* S	Sg	00 27 28.1	-1.7
BTKR	**Batakoyurt**	**1.10**	**285**	⇓*i*PG	Pg	00 27 22.5	-0.3
BTKR				*i* S	Sb	00 27 36.3	-0.4
TRKR	**Terskaya**	**1.12**	**305**	*e*PG	Pg	00 27 20.2	-2.9
TRKR				*e*S	Sb	00 27 34.9	-2.3
ARNR	**Ardon**	**1.26**	**275**	⇓*i*PG	Pg	00 27 25.1	-0.8
ARNR				*e*S	Sb	00 27 40.6	-0.8
KMSR	**Komsomolskaya**	**1.28**	**283**	⇓*i*PG	Pg	00 27 25.6	-0.6
KMSR				*e*S	Sb	00 27 41.5	-0.3
LACR	**Lac**	**1.28**	**258**	⇓*i*PG	Pg	00 27 25.1	-1.1
LACR				*e*S	Sb	00 27 40.8	-1.1
PRTR	**Priterechnaya**	**1.41**	**298**	⇓*i*PG	Pg	00 27 28.5	-0.2
PRTR				*i* S	Sn	00 27 46.5	+1.1
KORR	**Kora**	**1.42**	**270**	⇓*i*PG	Pg	00 27 27.5	-1.3
KORR				*e*S	Sn	00 27 45.0	-0.5
ZEI	**Tsey**	**1.58**	**259**	*e*PG	Pg	00 27 30.1	-1.8
ZEI				*e*S	Sn	00 27 49.4	-0.1
DIGR	**Digorskoe uzhe**	**1.79**	**264**	*e*PN	Pn	00 27 31.7	-0.4
KIV	**Kislovodsk**	**2.56**	**291**	*e*PN	Pn	00 27 45.5	+2.8
KIV				*e*		00 28 16.0	
KIV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KIV				smax			
	comp=N,8.0nm,0.3s						

*BJI **09** 00:41:44.6, 6665×14834E, h64km, mB5.1, mb4.8, Ms4.5, Msz4.1*
*ISCJB **09** 00:41:46.7±1.5, 629S±006×14755E±0.10, h47km±13km, mb4.4/16, MS3.8/9, Error ellipse: s-maj=15.9km s-min=9.8km az=9.2*
*MOS **09** 00:41:49.2±0.8, 636S×14728E, h64km, mb4.6/4, Error ellipse: s-maj=24.4km s-min=11.6km az=88.3*
*NEIC **09** 00:41:49.9±1.8, 637S×14752E, h65km±15km, mb4.5/7, Error ellipse: s-maj=13.8km s-min=10.2km az=61.0*
*IDC **09** 00:41:49.8±2.4, 638S×14750E, h61km±21km, mb4.1/9, mb1 4.2/10, mb1mx4.2/14, mbtmp4.4/10, ML3.4/1, MS3.7/11, Ms1 3.7/11, ms1mx3.5/20, Error ellipse: s-maj=24.3km s-min=13.4km az=104.0*
ISC 09 00:41:51.0±1.3, 641S±006×14752E±009, h72km±12km, n47, σ0§98/44, **mb4.3**/16, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.00**	**187**	P	**Pn**	**00 42 35.6**	**-0.6**
	37nm,0.3s,baz=349,slow=5.4,SNR=120						
PMG				S	**Sn**	**00 43 11.2**	**+0.2**
	166nm,0.3s,baz=178,slow=20,SNR=9.6						
PMG				LR	LR	00 43 47.8	
	comp=Z,1μm,20.7s,baz=19,slow=39						
PMG	**Port Moresby**	**3.00**	**187**	*e*Pn	**Pn**	**00 42 35.4**	**-0.8**
PMG				*e*Sn	**Sn**	**00 43 12.2**	**+1.2**
HNR	**Honiara**	**12.66**	**104**	LR	LR	00 49 13.2	
	comp=Z,191nm,21.3s,baz=359,slow=35						
CTAO	**Charters Tower**	**13.65**	**185**	*e*P	**Pn**	**00 45 02.9**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CTAO	**Charters Tower**	**13.65**	**185**	*e*Pn	**Pn**	**00 45 02.9**	**+1.6**
	comp=Z,5.4nm,0.6s						
KAKA	**Kakadu**	**16.13**	**246**	*e*P	**Pn**	**00 45 32.4**	**-0.8**
	comp=Z,109nm,1.5s						
WRAB	**Tennant Creek**	**18.56**	**222**	*e*P	**Pn**	**00 46 02.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**18.56**	**222**	*e*P	**Pn**	**00 46 02.1**	**-0.8**
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**18.56**	**222**	*e*P	**Pn**	**00 46 01.6**	**-1.4**
GUMO	**Guam**	**20.05**	**352**	LR	LR	00 53 07.0	
	comp=Z,67nm,20.7s,baz=178,slow=34						
AS31	**

GERES GERESS Array B 122.54 326 PKP PKPdf 01 00 38.4 +0.2
comp=Z,0.4nm,0.5s,baz=90,slow=1.3,SNR=4.7
TORD Torodi Ar. Bea 145.70 284 PKPbc PKPbc 01 01 23.6 +2.0
comp=Z,3.6nm,0.3s,baz=77,slow=3.4,SNR=251

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*ISCJB **09** 01:06:44.2±0.6, 795S±009×11050E±0.10, h10km, mb3.7/1, Error ellipse: s-maj=17.8km s-min=7.1km az=91.2*
*NEIC **09** 01:06:44.8±8.8, 799S×110.19E, h12km±55km, mb4.1/2, Error ellipse: s-maj=38.0km s-min=10.4km az=76.0*
NEIC Felt [III] at Bantul.
ISC 09 01:06:45.7±0.7, 797S±009×1104E±01, h10km, n11, σ0§90/11, mb3.7/1, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**0.93**	**313**	⇓*i*P	**Pg**	**01 07 03.1**	**-0.6**
BJII				*i* S	**Sg**	**01 07 16.8**	**+1.0**
KKM	**Kota Kinabalu**	**15.09**	**23**	*e*Pn	**Pn**	**01 10 18.9**	**0.0**
MBWA	**Marble Bar**	**15.91**	**146**	*e*Pn	**Pn**	**01 10 30.1**	**+0.4**
	28nm,1.1s						
NWAO	**Narrogin (SRO)**	**25.63**	**167**	P	**P**	**01 12 14.9**	**-0.4**
WRAB	**Tennant Creek**	**26.06**	**120**	*e*P	**P**	**01 12 21.2**	**+1.9**
	1.3nm,0.5s,mb3.7						
QIZ	**Qiongzhong**	**26.84**	**359**	*e*P	**P**	**01 12 25.5**	**-0.8**
CTAO	**Charters Tower**	**36.72**	**113**	*e*P	**P**	**01 13 53.5**	**+0.4**
STKA	**Stephens Creek**	**37.51**	**134**	*e*P	**P**	**01 14 00.1**	**+0.4**
ENH	**Enshi**	**38.03**	**359**	P	**P**	**01 14 03.7**	**-0.5**
TAU	**Tasmania Unive**	**47.53**	**143**	P	**P**	**01 15 19.4**	**-1.8**
DIV	**Divide**	**103.61**	**29**	*e*Pdif	Pdif	01 20 46.3	-0.9

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*IDC **09** 01:26:20.2±38.0, 49.14N×14348E, h0km, mb3.9/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.9/3, Error ellipse: s-maj=822.7km s-min=80.4km az=146.0*
*ISCJB **09** 01:26:26.6±0.6, 4978N±002×14189E±006, h10km±5km, mb3.9/3, Error ellipse: s-maj=6.7km s-min=3.7km az=158.2*
*SKHL **09** 01:26:26.7±1.5, 4977N×14191E, h10km, mb4.0/6, Ms3.4/1*
ISC 09 01:26:28.8±0.6, 4976N±003×14200E±007, h11km±5km, n12, σ1§02/23, mb3.9/3, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.68**	**177**	*e*Pg	**Pg**	**01 26 40.7**	**-1.2**
UGL				AMB	AMB	01 26 43.2	
	180nm,0.4s						
UGL				AMB	AMB	01 26 43.2	
	270nm,0.4s						
UGL				*e*Sg	**Sg**	**01 26 50.5**	**-0.3**
UGL				A		01 26 52.0	
	850nm,0.5s						
UGL				A		01 26 52.0	
	770nm,0.5s						
UGL				A		01 26 52.0	
	660nm,0.5s						
TYV	**Tymovskoe**	**1.19**	**20**	*e*Pg	**Pg**	**01 26 50.0**	**-1.5**
TYV				AMB	AMB	01 26 51.0	
	98nm,0.7s						
TYV				AMB	AMB	01 26 51.0	
	369nm,0.7s						
TYV				AMB	AMB	01 26 51.0	
	500nm,0.6s						
TYV				*e*Sg	**Sg**	**01 27 07.0**	**0.0**
TYV				A		01 27 10.0	
	209nm,0.8s						
TYV				A		01 27 10.0	
	800nm,2.0s						
TYV				AMS	AMS	01 27 23.0	
	2μm,7.0s						
TYV				AMS	AMS	01 27 23.0	
	2μm,7.0s						
YSS	**Yuzh-Sakhalins**	**2.85**	**170**	*e*Pn	**Pn**	**01 27 14.1**	**0.0**
YSS				*i* Pg	**Pg**	**01 27 23.3**	**0.0**
YSS				AMB	AMB	01 27 23.4	
	7.0nm,0.5s						
YSS				*e*Sn	**Sn**	**01 27 48.2**	**-0.2**
YSS				*e*Sg	**Sg**	**01 28 02.0**	**+1.8**
YSS				A		01 28 02.1	
	110nm,0.9s						
YSS				A		01 28 02.1	
	90nm,0.9s						
NKL	**Nikolayevsk**	**3.50**	**347**	*e*Pg	**Pg**	**01 27 35.7**	**-0.1**
NKL				AMB	AMB	01 27 35.8	
	45nm,1.0s						
NKL				AMB	AMB	01 27 35.8	
	40nm,0.6s						
NKL				*e*Sn	**Sn**	**01 28 00.0**	**-4.5**
NKL				*e*Sg	**Sg**	**01 28 23.0**	**+1.9**
NKL				A		01 28 28.3	
	100nm,0.9s						
NKL				A		01 28 28.3	
	110nm,0.7s						
GRNR	**Gornyy**	**3.72**	**288**	*e*Pg	**Pg**	**01 27 39.2**	**-0.9**
GRNR				AMB	AMB	01 27 40.8	
	68nm,0.9s						
GRNR				*e*Sg	**Sg**	**01 28 28.4**	**+0.1**
GRNR				A		01 28 29.2	
	500nm,0.9s						
GRNR				A		01 28 29.2	
	770nm,0.9s						
GRNR				A		01 28 29.2	
	240nm,0.9s						
TEY	**Ternei**	**5.98**	**220**	*e*rx	rx	01 29 32.0	
TEY				*e*Sg	**Sg**	**01 29 46.0**	**+5.4**
EKMR	**Ekimchan**	**6.56**	**304**	*e*P	**Pn**	**01 28 05.5**	**+0.3**
EKMR				*e*Pg	**Pg**	**01 28 35.0**	**+0.6**
EKMR				AMB	AMB	01 28 44.9	
	3.0nm,0.6s						
EKMR				AMB	AMB	01 28 44.9	
	4.0nm,0.6s						
EKMR				*e*S	**Sn**	**01 29 17.0**	**-3.0**
EKMR				*e*Sg	**Sg**	**01 29 59.4**	**0.0**
EKMR				A		01 29 59.5	
	42nm,0.5s						
EKMR				A		01 29 59.5	
	8.0nm,0.5s						
EKMR				A		01 29 59.5	
	13nm,0.5s						
YAK	**Yakutsk**	**14.07**	**336**	*e*P	**Pn**	**01 29 53.8**	**+5.7**
MKAR	**Makanchi Array**	**38.94**	**289**	P	**P**	**01 33 56.8**	**+2.2**
	1.3nm,0.7s,mb3.8,baz=64,slow=8.4,SNR=15						
MKAR	**Makanchi Array**	**38.94**	**289**	P	**P**	**01 33 56.8**	**+2.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**57.91**	**329**	P	**P**	**01 36 20.6**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=46,slow=11,SNR=5.5						
AKASG	**Malin Array Be**	**64.68**	**320**	P	**P**	**01 37 06.5**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=38,slow=7.2,SNR=7.4						

MOS 09 01:26:55.7±1.5, 7402N×13742E, h33km, mb4.1/1, 1D, Error ellipse: s-maj=99.9km s-min=30.8km az=86.0, New Siberian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**3.48**	**231**	*e*P	Pn	01 27 47.3	-0.2
BILL	**Bilibino**	**11.02**	**108**	⇓*e*P	Pn	01 29 33.1	+2.1
BILL				*e*S	Sn	01 31 35.2	+2.2
BILL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KBS	**Kingsbay**	**24.27**	**337**	*e*P	P	01 32 11.0	+1.3

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*ISCJB **09** 02:12:15.8±0.5, 112S±0.1×1186E±0.1, h33km, mb4.6/9, MS3.6/1, Error ellipse: s-maj=21.5km s-min=5.7km az=91.8*
*IDC **09** 02:12:15.5±3.1, 1040S×11938E, h0km, mb4.3/2, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, ML3.7/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/17, Error ellipse: s-maj=247.5km s-min=26.1km az=50.0*
*NEIC **09** 02:12:18.6±0.5, 11.16S×11862E, h40km, mb4.8/8, Error ellipse: s-maj=21.3km s-min=8.1km az=50.0*
ISC 09 02:12:16.7±0.5, 114S±01×1188E±01, h35km, n20, σ1§02/24, mb4.6/9, MS3.5/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**9.76**	**175**	*e*Pn	**Pn**	**02 14 33.8**	**-0.7**
	20nm,0.3s						
MBWA				*e*Sn	**Sn**	**02 16 12.5**	**-10**
WRA	**Warramunga Arr**	**17.23**	**122**	P	**Pn**	**02 16 17.5**	**+3.1**
	0.2nm,0.3s,baz=298,slow=14,SNR=8.0						
WRAB	**Tennant Creek**	**17.23**	**121**	*e*P	**Pn**	**02 16 18.9**	**+4.3**
	3.4nm,0.7s						
WB2	**Warramunga Arr**	**17.23**	**121**	*e*P	**Pn**	**02 16 18.5**	**+3.9**
WB2				*e*S	**S**	**02 19 24.4**	**-8.9**
ASPA	**Alice Springs**	**18.88**	**132**	*e*P	**Pn**	**02 16 40.8**	**+6.1**
ASPA				*e*S	**S**	**02 20 06.2**	**0.0**
AS31	**Alice Springs**	**18.88**	**132**	*e*P	**Pn**	**02 16 40.8**	**+6.1**
AS31				*e*S	**S**	**02 20 06.2**	**-0.1**
ASAR	**Alice Springs**	**18.88**	**132**	P	**Pn**	**02 16 40.9**	**+6.2**
	0.4nm,0.3s,baz=308,slow=11,SNR=17						
ASAR				S	**S**	**02 20 04.8**	**-1.4**
	0.2nm,0.3s,baz=307,slow=23,SNR=6.1						
KLBR	**Kellerberrin**	**20.13**	**183**	*e*P	**P**	**02 16 50.7**	**+3.1**
	14nm,0.7s						
MUN	**Mundaring**	**20.63**	**186**	*e*P	**P**	**02 16 57.2**	**+4.2**
PMG	**Port Moresby**	**27.99**	**89**	LR	LR	02 30 19.2	
	comp=Z,143nm,20.1s,MS3.5,baz=19,slow=40						
JIRN	**Jiri**	**50.03**	**321**	*e*P	**P**	**02 21 07.7**	**0.0**
	27nm,0.8s,mb5.3						
GUN	**Gumba**	**50.40**	**321**	*e*P	**P**	**02 21 10.4**	**-0.1**
	23nm,0.7s,mb5.3						
DMN	**Daman**	**50.67**	**321**	*e*P	**P**	**02 21 11.9**	**-0.6**
	22nm,0.9s,mb5.1						
KOLN	**Koldanda**	**51.73**	**319**	*e*P	**P**	**02 21 20.1**	**-0.4**
	16nm,0.8s,mb5.0						
MKAR	**Makanchi Array**	**66.47**	**334**	P	**P**	**02 23 03.1**	**+0.6**
	2.4nm,0.7s,mb4.3,baz=139,slow=7.7,SNR=25						
AAK	**Ala-Archa**	**67.31**	**326**	*e*P	**P**	**02 23 07.8**	**-0.1**
	1.2nm,0.5s,mb4.2						
KURK	**Kurchatov**	**71.03**	**334**	*e*P	**P**	**02 23 30.8**	**-0.2**
	4.2nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**71.18**	**340**	P	**P**	**02 23 31.3**	**-0.6**
	1.2nm,0.4s,mb4.2,baz=77,slow=2.8,SNR=3.2						
ZAL	**Zalesovo**	**71.18**	**340**	P	**P**	**02 23 31.3**	**-0.6**
ZRNK	**Zerenda**	**76.87**	**332**	*e*P	**P**	**02 24 05.5**	**+0.4**
	1.1nm,0.6s,mb4.0						

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*IDC **09** 02:20:55.8±1.0, 029S×13772E, h0km, mb4.3/4, mb1 4.6/5, mb1mx4.3/13, mbtmp4.5/5, ML4.7/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/16, Error ellipse: s-maj=50.3km s-min=21.9km az=74.0*
*ISCJB **09** 02:20:58.7±1.2, 03S±0.1×1377E±04, h33km, mb4.2/6, MS3.4/4, Error ellipse: s-maj=51.8km s-min=12.7km az=158.3*
*NEIC **09** 02:21:06.1±4.7, 040S×13763E, h84km±41km, mb4.3/4, Error ellipse: s-maj=30.0km s-min=14.3km az=57.0*
ISC 09 02:21:01.3±1.1, 04S±01×1375E±03, h35km, n18, σ0§73/12, mb4.2/6, MS3.4/4, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**19.69**	**189**	*e*P	**Pn**	**02 25 28.4**	**-0.6**
	93nm,1.3s						
WRAB				*e*S	S	02 28 25.5	-42
WB2	**Warramunga Arr**	**19.70**	**189**	⇓*i*P	**Pn**	**02 25 29.0**	**-0.1**
WRA	**Warramunga Arr**	**19.70**	**189**	P	**Pn**	**02 25 28.9**	**-0.3**
	2.3nm,0.3s,baz=4.0,slow=10,SNR=92						
FITZ	**Fitzroy Crossi**	**21.14**	**213**	LR	LR	02 35 28.6	
	comp=Z,83nm,19.3s,MS3.1,baz=86,slow=41						
CTA	**Charters Tower**	**21.39**	**157**	P	**P**	**02 25 46.5**	**+0.7**
	22nm,0.9s,mb4.5,baz=331,slow=13,SNR=13						
CTA				LR	LR	02 34 11.8	
	comp=Z,121nm,20.1s,MS3.3,baz=227,slow=37						
CTAO	**Charters Tower**	**21.39**	**157**	*e*P	**P**	**02 25 46.3**	**+0.5**
	18nm,0.8s,mb4.5						
AS31	**Alice Springs**	**23.42**	**188**	*e*P	**P**	**02 26 08.1**	**+0.7**
ASAR	**Alice Springs**	**23.42**	**188**	P	**P**	**02 26 08.1**	**+0.7**
	5.7nm,0.5s,mb4.3,baz=22,slow=10,SNR=22						
ASPA	**Alice Springs**	**23.42**	**188**	*e*P	**P**	**02 26 08.1**	**+0.7**
STKA	**Stephens Creek**	**31.58**	**173**	P	**P**	**02 27 18.8**	**-1.7**
	1.9nm,0.6s,mb4.1,baz=359,slow=10,SNR=4.0						
DZM	**Mont Dzumac**	**35.50**	**129**	LR	LR	02 42 39.0	
	comp=Z,93nm,18.3s,MS3.6,baz=210,slow=37						
SONM	**Songino Array**	**55.10**	**335**	LR	LR	02 55 02.6	
	comp=Z,55nm,19.9s,MS3.6,baz=202,slow=37						
MKAR	**Makanchi Array**	**67.21**	**322**	P	**P**	**02 31 52.6**	**+0.7**
	2.6nm,0.7s,mb4.4,baz=117,slow=7.7,SNR=26						
KURK	**Kurchatov**	**71.12**	**325**	*e*P	**P**	**02 32 15.8**	**-0.4**
	1.8nm,0.7s,mb4.1						
BRVK	**Borovoye**	**76.79**	**325**	*e*P	**P**	**02 32 48.8**	**-0.5**
	1.1nm,0.7s,mb3.9						
LPAZ	**La Paz**	**149.77**	**124**	PKPbc	PKPbc	02 40 47.4	-0.1
	0.5nm,0.5s,baz=180,slow=3.0,SNR=3.6						
LPAZ				PKPab	PKPab	02 40 55.0	+2.2
	0.5nm,0.5s,baz=221,slow=2.1,SNR=6.8						
CPUP	**Villa Florida**	**149.85**	**153**	PKPbc	PKPbc	02 40 47.9	+0.3
	0.3nm,0.4s,baz=207,slow=2.3,SNR=3.1						
SIV	**San Ignacio**	**155.49**	**132**	PKPab	PKPab	02 41 17.1	+0.2
	0.4nm,0.8s,baz=237,slow=7.3,SNR=3.6						

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*NEIC **09** 02:22:53.5±1.8, 686S×12976E, h83km±17km, mb4.6/9, Error ellipse: s-maj=18.5km s-min=8.4km az=51.0*
*ISCJB **09** 02:22:58.7±1.9, 7.14S±009×1297E±0.1, h157km±20km, mb4.4/12, Error ellipse: s-maj=24.9km s-min=12.2km az=126.5*
*IDC **09** 02:22:58.7±3.4, 7.12S×12954E, h130km±28km, mb4.2/4, mb1 4.3/7, mb1mx3.9/15, mbtmp4.6/7, Error ellipse: s-maj=48.7km s-min=17.1km az=60.0*
ISC 09 02:22:56.6±2.5, 70S±01×1297E±01, h112km±27km, n30, σ0§94/29, mb4.5/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.28**	**155**	*e*P	**Pn**	**02 24 29.7**	**+3.0**
	63nm,0.3s						
KAKA				*e*S	**Sn**	**02 25 35.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.75**	**199**	P	**Pn**	**02 25 39.3**	**-1.2**
	2.3nm,0.3s,baz=30,slow=11,SNR=79						
FITZ				S	**Sn**	**02 27 40.3**	**-10**
	3.9nm,0.3s,baz=113,slow=17,SNR=7.7						
WRAB	**Tennant Creek**	**13.63**	**161**	*e*Pn	**Pn**	**02 26 04.1**	**-1.0**
WRA	**Warramunga Arr**	**13.63**	**161**	P	**Pn**	**02 26 04.6**	**-0.6**
	3.3nm,0.3s,baz=348,slow=13,SNR=17						
WB2	**Warramunga Arr**	**13.64**	**161**	*e*P	**Pn**	**02 26 04.4**	**-0.8**
AS31	**Alice Springs**	**17.06**	**167**	*e*P	**Pn**	**02 26 49.1**	**+1.0**
ASAR	**Alice Springs**	**17.06**	**167**	P	**Pn**	**02 26 49.1**	**+1.0**
	3.6nm,0.3s,baz=340,slow=9.3,SNR=29						
ASAR				S	**S**	**02 29 48.5**	**-10**
	1.1nm,0.3s,baz=350,slow=26,SNR=7.6						
ASAR				ScP	ScP	02 34 47.3	-4.0
	baz=330,slow=2.2,SNR=6.7						
ASAR	**Alice Springs**	**17.06**	**167**	P	**Pn**	**02 26 49.1**	**+1.0**
ASAR				S	**S**	**02 29 48.5**	**-10**
ASPA	**Alice Springs**	**17.06**	**167**	*e*P	**Pn**	**02 26 49.1**	**+0.9**
MBWA	**Marble Bar**	**17.10**	**213**	*e*P	**Pn**	**02 26 49.0**	**+0.4**
	26nm,1.4s						
FORT	**Forrest**	**23.72**	**184**	*e*P	**P**	**02 28 00.1**	**+1.9**
	26nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**27.13**	**157**	*e*P	**P**	**02 28 27.9**	**-1.1**
	2.8nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**27.13**	**157**	P	**P**	**02 28 27.9**	**-1.1**
	3.8nm,0.5s,mb4.2,baz=344,slow=7.4,SNR=5.1						
STKA	**Stephens Creek**	**27.13**	**157**	*e*P	**P**	**02 28 28.7**	**-0.3**
PSI	**Prapat**	**32.26**	**287**	P	**P**	**02 29 13.9**	**-0.4**
	6.5nm,0.8s,mb4.4,baz=113,slow=8.5,SNR=6.4						
JIRN	**Jiri**	**54.38**	**311**	*e*P	**P**	**02 32 12.0**	**+0.2**
GUN	**Gumba**	**54.75**	**311**	*e*P	**P**	**02 32 14.6**	**+0.2**
	8.8nm,0.4s,mb5.2						
GKN	**Gorkha**	**55.73**	**311**	*e*P	**P**	**02 32 21.3**	**-0.1**
	7.5nm,0.3s,mb5.2						
KOLN	**Koldanda**	**56.39**	**310**	*e*P	**P**	**02 32 26.1**	**-0.1**
	9.5nm,0.5s,mb5.1						
ULN	**Ulaanbaatar**	**58.17**	**342**	*e*P	**P**	**02 32 39.5**	**+0.8**
	2.1nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**02 33 44.3**	**+0.2**
	5.7nm,0.5s,mb4.7,baz=124,slow=7.5,SNR=52						
ZAL	**Zalesovo**	**71.45**	**334**	P	**P**	**02 34 04.2**	**-0.7**
	1.5nm,0.4s,mb4.2,baz=180,slow=0.6,SNR=6.4						
KURK	**Kurchatov**	**72.37**	**329**	*e*P	**P**	**02 34 09.8**	**-0.5**
	7.8nm,1.1s,mb4.5						
BRVK	**Borovoye**	**77.98**	**328**	*e*P	**P**	**02 34 42.1**	**-0.4**
	1.5nm,0.9s,mb3.7						
ZRNK	**Zerenda**	**78.61**	**327**	*e*P	**P**	**02 34 45.4**	**-0.5**
	1.5nm,0.6s,mb4.0						
GERES	**GERESS Array B**	**112.24**	**320**	PKiKP	PKiKP	02 41 18.4	-0.6
	0.2nm,0.4s,baz=111,slow=1.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**128.55**	**281**	PKP	PKPdf	02 41 51.2	+0.9
	0.4nm,0.6s,baz=107,slow=2.1,SNR=8.0						
CPUP	**Villa Florida**	**146.18**	**169**	PKPbc	PKPbc	02 42 25.0	+1.2
	0.8nm,0.5s,baz=200,slow=3.5,SNR=4.0						
LPAZ	**La Paz**	**150.89**	**143**	PKPbc	PKPbc	02 42 38.9	+3.0
	0.8nm,0.4s,baz=28,slow=3.2,SNR=9.9						
LPAZ	**La Paz**	**150.89**	**143**	PKPbc	PKPbc	02 42 38.9	+3.0

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*ISCJB **09** 02:28:58.0±0.5, 2438S±003×6707W±006, h158km±6km, mb4.0/15, Error ellipse: s-maj=8.8km s-min=5.2km az=19.0*
*NEIC **09** 02:28:59.0±0.5, 2431S×6707W, h154km±6km, mb4.2/15, Error ellipse: s-maj=8.7km s-min=6.3km az=105.0*
*IDC **09** 02:28:59.4±1.1, 2424S×6698W, h158km±12km, mb3.8/6, mb1 4.0/12, mb1mx3.9/19, mbtmp4.4/12, Error ellipse: s-maj=15.9km s-min=13.9km az=73.0*
*GUC **09** 02:29:00.9±0.7, 2443S×6744W, h180km, ML4.8*
ISC 09 02:28:58.9±0.5, 2438S±003×6706W±006, h151km±6km, n43, σ1§12/53, mb4.0/15, 6C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.44**	**316**	P	**Pn**	**02 29 41.4**	**+2.0**
	126nm,0.3s,baz=141,slow=6.1,SNR=851						
LVC				S	**Sn**	**02 30 11.5**	**+0.9**
	326nm,0.3s,baz=13,slow=22,SNR=52						
CEN1	**Los Morros**	**3.04**	**288**	⇓*i*P	**Pn**	**02 29 48.8**	**+2.0**
CEN1				*i* S	**Sn**	**02 30 24.4**	**+0.6**
CEN1				AML	AML	02 30 25.4	
	comp=N,1μm,0.8s						
CPN1	**Cerro Paranal**	**3.06**	**265**	⇑*i*P	**Pn**	**02 29 48.2**	**+1.2**
CPN1				*i* S	**Sn**	**02 30 24.1**	**-0.1**
CPN1				AML	AML	02 30 25.6	
	comp=E,1μm,0.6s						
CRCH	**Chaqaral**	**3.77**	**238**	⇓*i*P	**Pn**	**02 29 56.7**	**+0.5**
CRCH				*i* S	**Sn**	**02 30 39.6**	**-1.1**
CRCH				AML	AML	02 30 40.8	
	comp=N,2μm,0.7s						
CRCH	**Chaqaral**	**3.77**	**238**	⇓*i*P	**Pn**	**02 29 56.7**	**+0.5**
CRCH				*i* S	**Sn**	**02 30 39.6**	**-1.1**
CPCH	**Copiapo**	**4.20**	**224**	*i* P	**Pn**	**02 30 01.7**	**-0.1**
CPCH				*i* S	**Sn**	**02 30 50.5**	**-0.1**
CDCH	**Caldera**	**4.33**	**231**	⇑*i*P	**Pn**	**02 30 02.9**	**-0.7**
CDCH				*i* S	**Sn**	**02 30 51.1**	**-2.7**
LCO	**Las Campanas**	**5.65**	**214**	*i* P	**Pn**	**02 30 20.5**	**-0.4**
LCO				*i* S	**Sn**	**02 31 24.1**	**-0.9**
TLL	**Tololo Astrono**	**6.66**	**209**	*i* S	**Sn**	**02 31 48.9**	**-0.4**
CFAA	**Coronel Fontan**	**7.28**	**188**	P	**Pn**	**02 30 43.4**	**+0.8**
	comp=N,0.2nm,0.3s,baz=4.1,slow=12,SNR=18						
CFAA				S	**Sn**	**02 32 01.6**	**-2.4**
	comp=N,0.3nm,0.3s,baz=125,slow=16,SNR=6.5						
LPAZ	**La Paz**	**8.11**	**353**	P	**Pn**	**02 30 54.5**	**+0.8**
	comp=N,5.1nm,0.3s,baz=157,slow=8.8,SNR=113						
LPAZ				S	**Sn**	**02 32 21.3**	**-2.7**
	comp=N,0.5nm,0.3s,baz=143,slow=20,SNR=5.5						
ARE	**Arequipa**	**8.90**	**331**	*e*P	**Pn**	**02 31 12.0**	**+7.7**
ARE				*e*S	**Sn**	**02 32 35.0**	**-8.1**
CPUP	**Villa Florida**	**9.02**	**105**	P	**Pn**	**02 31 07.1**	**+1.3**
	comp=N,0.4nm,0.3s,baz=262,slow=11,SNR=15						
SIV	**San Ignacio**	**10.06**	**35**	P	**Pn**	**02 31 18.2**	**-1.4**
	comp=N,1.7nm,0.3s,baz=219,slow=14,SNR=66						
SIV				S	**Sn**	**02 32 57.9**	**-13**
	comp=N,0.1nm,0.3s,baz=228,slow=16,SNR=7.1						
TRQA	**Tornquist**	**14.31**	**164**	*e*P	**Pn**	**02 32 16.6**	**+2.0**
	comp=N,16nm,1.0s						
SAML	**Samuel**	**15.78**	**14**	*e*P	**Pn**	**02 32 30.5**	**-2.3**
	comp=N,6.4nm,0.6s						
PLCA	**Paso Flores**	**16.57**	**189**	P	**Pn**	**02 32 43.4**	**+0.9**
	comp=N,0.2nm,0.3s,baz=3.4,slow=11,SNR=11						
PLCA	**Paso Flores**	**16.57**	**189**	*e*P	**Pn**	**02 32 43.5**	**+1.0**
	comp=N,12nm,0.6s						
BDFB	**Brasília**	**19.88**	**68**	P	**P**	**02 33 18.4**	**0.0**
	comp=N,5.3nm,0.3s,baz=248,slow=10,SNR=93						
CAM4	**Nova Friburgo**	**22.57**	**90**	⇑*i*P	**P**	**02 33 44.9**	**-1.7**
CAM4				*i*		02 33 51.2	
CAM4				*i*		02 33 56.8	
CAM4				*i*		02 33 59.3	
CAM4				*i*		02 34 11.4	
RCBR	**Riachuelo**	**35.14**	**63**	*e*P	**P**	**02 35 37.3**	**-0.6**
	comp=N,19nm,1.0s,mb4.7						
VNA3	**Neumayer Olymp**	**56.82**	**161**	⇑*i*	**P**	**02 38 28.0**	**+0.6**
VNA3				*e*		02 38 30.3	
VNA3				*e*		02 38 33.5	
VNA2	**Neumayer--Watz**	**57.38**	**160**	⇑*i*	**P**	**02 38 32.1**	**+0.7**
	baz=287,slow=7.0						
VNA2				*e*		02 38 33.6	
VNA2				*e*		02 38 37.8	
VNA2				*e*		02 38 42.6	
SNAA	**Sanae**	**59.02**	**161**	⇑*i*	**P**	**02 38 30.2**	**-13**
SNAA				*e*		02 38 31.9	
SNAA				*e*		02 38 35.5	
QSPA	**South Pole Qui**	**65.83**	**180**	*e*P	**P**	**02 39 28.5**	**+0.5**
	comp=N,5.5nm,0.5s,mb4.6						
DBIC	**Dimbokro**	**67.97**	**71**	P	**P**	**02 39 39.7**	**-1.8**
	comp=N,2.9nm,0.7s,mb4.1,baz=211,slow=9.5,SNR=6.4						
DBIC	**Dimbokro**	**67.97**	**71**	*e*P	**P**	**02 39 40.1**	**-1.4**
	comp=N,3.1nm,0.7s,mb4.2						
ANMO	**Albuquerque**	**69.83**	**326**	*e*P	**P**	**02 39 52.7**	**-0.3**
	comp=N,2.0nm,0.9s,mb3.9						
VNDA	**Vanda**	**74.32**	**190**	P	**P**	**02 40 20.8**	**+1.1**
	comp=N,1.5nm,0.9s,mb3.7,baz=117,slow=3.7,SNR=8.8						
VNDA	**Vanda**	**74.32**	**190**	*e*P	**P**	**02 40 20.2**	**+0.5**
	comp=N,1.8nm,0.9s,mb3.8						
SUR	**Sutherland**	**75.68**	**119**	*e*P	**P**	**02 40 28.5**	**+1.1**
	comp=N,3.3nm,0.7s,mb4.1						
TORD	**Torodi Ar. Bea**	**76.75**	**69**	P	**P**	**02 40 32.8**	**-0.7**
	comp=N,5.6nm,0.8s,mb4.2,baz=252,slow=5.1,SNR=63						
ELK	**Elko**	**78.75**	**325**	*e*P	**P**	**02 40 44.1**	**-0.5**
	comp=N,1.5nm,0.9s,mb3.6						
MOOW	**Moose Ponds**	**78.75**	**329**	*e

EMIN S Sn 03 16 45.6 -3.6
1.2nm,0.1s,SNR=7.9
EGRO El Granado 3.21 314 P Pn 03 16 17.9 -0.5
1.2nm,0.0s,SNR=7.9
EGRO S Sn 03 16 52.3 -3.2
3.5nm,0.1s,SNR=7.9
PBEJ Beja 3.77 316 *e*Sn Sn 03 17 05.9 -3.4
EBAD Badajoz 3.93 331 P Pn 03 16 27.7 -0.6
1.2nm,0.1s,SNR=7.9
EBAD S Sn 03 17 09.6 -3.7
2.4nm,0.1s,SNR=7.9
PTEO Sao Teotonio 4.01 305 *e*Pn Pn 03 16 29.0 -0.3
PTEO *e*Sn Sn 03 17 11.8 -3.3
PTEO
1.3nm,0.2s
PCBR Castelo Branco 5.05 334 *e*Pn Pn 03 16 43.0 -0.7
PCBR *e*Sn Sn 03 17 35.8 -5.2
PVIS Viseu 5.98 335 *e*Sn Sn 03 18 00.7 -3.0
IPRE Itoiz 7.87 18 Lg 03 19 00.7
SNR=7.9

*ISCJB **09** 03:31:29.0±0.5, 4260N±003×026E±004, h0km, Error ellipse: s-maj=4.5km s-min=3.3km az=83.5*
*LDG **09** 03:31:29.9±0.1, 4263N×026E, h2km, Md2.2/2, Ml1.8/3, Error ellipse: s-maj=1.7km s-min=1.1km az=33.0*
*STR **09** 03:31:29.9±0.5, 4299N×036E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **09** 03:31:30.3±0.2, 4263N×024E, h0km, mbLg1.1/6, Error ellipse: s-maj=2.0km s-min=1.4km az=34.0, PRXIMO*
ISC 09 03:31:29.4±0.5, 4264N±003×026E±004, h16km±8km, n24, σ0§53/29, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBIE	**Bielsa**	**0.10**	**300**	⇓Pg	**Pg**	**03 31 31.8**	**-0.9**
	0.5nm,0.1s,SNR=18						
EBIE				Lg		03 31 33.8	
	3.7nm,0.1s,SNR=7.9						
RESF	**Ens**	**0.18**	**19**	Pg	**Pg**	**03 31 33.8**	**0.0**
RESF				Sg	**Sg**	**03 31 37.1**	**+0.3**
RESF	**Ens**	**0.18**	**19**	Pg	**Pg**	**03 31 33.9**	**+0.1**
RESF				Lg		03 31 37.2	
VIEF	**Viey**	**0.30**	**325**	Pg	**Pg**	**03 31 35.7**	**-0.1**
VIEF				Sg	**Sg**	**03 31 39.5**	**-0.6**
VIEF	**Viey**	**0.30**	**325**	Pg	**Pg**	**03 31 35.8**	**0.0**
VIEF				Lg		03 31 40.5	
EPF	**Esparros**	**0.40**	**8**	*e*Pg	**Pg**	**03 31 38.0**	**+0.5**
EPF				*e*Sg	**Sg**	**03 31 43.5**	**+0.6**
	6.9nm,0.2s						
EPF	**Esparros**	**0.40**	**8**	Pg	**Pg**	**03 31 38.0**	**+0.5**
EPF				Lg		03 31 43.5	
	3.5nm,0.2s						
MELF	**Melles**	**0.44**	**57**	Pg	**Pg**	**03 31 38.7**	**+0.6**
MELF				Lg		03 31 44.9	
EGRA	**Graus**	**0.44**	**175**	Pg	**Pg**	**03 31 38.2**	**0.0**
	0.3nm,0.1s,SNR=8.1						
EGRA				Lg		03 31 45.6	
	2.0nm,0.2s,SNR=8.4						
ETSF	**Etsaut**	**0.66**	**294**	*e*Pg	**Pg**	**03 31 42.5**	**+0.2**
ETSF				*e*Sg	**Sg**	**03 31 51.6**	**+0.6**
	1.8nm,0.2s						
ETSF	**Étsaut**	**0.66**	**294**	Pg	**Pg**	**03 31 42.5**	**+0.2**
ETSF				Lg		03 31 51.6	
	0.9nm,0.2s						
CSOR	**Sort**	**0.70**	**112**	Pg	**Pg**	**03 31 42.5**	**-0.5**
CSOR				Lg		03 31 52.2	
	0.9nm,0.3s						
SALF	**Salau**	**0.70**	**79**	Pg	**Pg**	**03 31 43.0**	**0.0**
SALF				Lg		03 31 52.1	
CAVN	**Les Avellanes**	**0.84**	**154**	Pg	**Pg**	**03 31 45.7**	**+0.1**
CAVN				Lg		03 31 58.6	
	2.7nm,0.5s						
CORG	**Organya**	**0.88**	**117**	Pg	**Pg**	**03 31 46.2**	**-0.3**
CORG				Lg		03 31 58.0	
EMIR	**Miracle**	**1.18**	**127**	Pg	**Pg**	**03 31 53.6**	**+1.4**
	0.8nm,0.2s,SNR=7.9						
EMIR				Lg		03 32 11.2	
	1.2nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**1.19**	**294**	*e*Pg	**Pg**	**03 31 52.3**	**-0.1**
SJPF				*e*Sg	**Sg**	**03 32 08.0**	**+0.1**
	2.8nm,0.3s						
SJPF	**Ste Jean**	**1.19**	**294**	Pg	**Pg**	**03 31 52.3**	**-0.1**
SJPF				Lg		03 32 08.0	
	1.4nm,0.3s						
EPOB	**Poblet**	**1.42**	**154**	Pg	**Pg**	**03 31 56.0**	**-0.7**
	1.0nm,0.2s,SNR=7.1						
EPOB				Lg		03 32 15.4	
	2.2nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**1.60**	**63**	*e*Pg	**Pg**	**03 31 59.9**	**-0.2**
MTLF				*e*Sg	**Sg**	**03 32 20.9**	**-0.1**
	1.3nm,0.3s						
MTLF	**Montolieu**	**1.60**	**63**	Pg	**Pg**	**03 31 59.9**	**-0.2**
MTLF				Lg		03 32 20.9	
	0.6nm,0.3s						
ERTA	**Horta de San J**	**1.68**	**178**	Pn	**Pn**	**03 31 58.1**	**0.0**
	0.2nm,0.1s,SNR=4.0						
ERTA				Lg		03 32 23.8	
	1.4nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.33**	**8**	*e*Sg	**Sg**	**03 32 43.2**	**-1.1**
	1.7nm,0.2s						
LFF	**La Frestale**	**2.33**	**8**	Lg		03 32 43.2	
	0.9nm,0.2s						

*NIED **09** 03:36:00, 3640N×14100E, h41km, Mw3.6 Best double couple: M0:2.85000×10^14 NP1:φs=15.00000°, δ77.00000°, λ82.00000°. NP2:φs=229.00000°, δ15.00000°, λ123.00000°.*
*ISCJB **09** 03:36:39.2±1.9, 3641N±007×141.1E±0.1, h32km±6km, Error ellipse: s-maj=18.3km s-min=7.5km az=67.5*
*JMA **09** 03:36:39.7±0.1, 3639N×14102E, h47km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=232.00000°, δ15.00000°, λ112.00000°. NP2: φs=29.00000°, δ76.00000°, λ84.00000°. Principal axes: T Plg58.0000°, Azm292.0000°; N Plg5.0000°, Azm31.0000°; P Plg31.0000°, Azm124.0000°;*
JMA Felt I J1.
ISC 09 03:36:39.1±2.0, 3641N±007×1411E±01, h29km±6km, n8, σ0§87/15, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.47**	**295**	⇓P	**Pb**	**03 36 49.6**	**+0.6**
JHO				S	**Sb**	**03 36 56.5**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.73**	**341**	⇓P	**Pb**	**03 36 53.2**	**-0.1**
ONAJ				S	**Sb**	**03 37 02.4**	**-0.5**
JYT	**Yasato**	**0.75**	**256**	⇓P	**Pb**	**03 36 53.1**	**-0.5**
JYT				S	**Sb**	**03 37 02.4**	**-1.1**
JFK	**Kawauchi**	**0.97**	**350**	⇓P	**Pn**	**03 36 56.4**	**-0.4**
JFK				S	**Sn**	**03 37 08.3**	**-1.3**
JFT	**Otama**	**1.26**	**331**	⇓P	**Pn**	**03 37 01.8**	**+1.0**
JFT				S	**Sn**	**03 37 17.3**	**+0.5**
JAG	**Ashikaga**	**1.32**	**271**	⇓P	**Pn**	**03 37 01.4**	**-0.2**
JAG				S	**Sn**	**03 37 16.6**	**-1.7**
JKT	**Katashina**	**1.53**	**284**	⇓P	**Pn**	**03 37 05.0**	**+0.6**
MAT	**Matsushiro**	**2.33**	**274**	P	**Pn**	**03 37 16.4**	**+0.9**
MAT				S	**Sn**	**03 37 44.4**	**+1.2**

*CSEM **09** 04:12:38.9±0.1, 3677N×5539E, h10km, ML3.5, Error ellipse: s-maj=4.0km s-min=1.1km az=128.0*
*THR **09** 04:12:39.4±0.4, 3676N×5538E, h15km, ML3.5*
*ISCJB **09** 04:12:41.0±0.8, 3752N±006×5489E±006, h10km, Error ellipse: s-maj=9.8km s-min=6.2km az=116.8*
ISC 09 04:12:42.4±0.8, 3741N±007×5493E±007, h10km, n8, σ1§01/12, 3C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.95**	**74**	*e*PG	**Pg**	**04 12 59.2**	**-1.6**
MRVT				*e*Sg	**Sg**	**04 13 14.2**	**+1.0**
MRVT	**Maraveh tapeh**	**0.95**	**74**	*e*Pg	**Pg**	**04 12 59.2**	**-1.5**
	SNR=91						
MRVT				*e*Sg	**Sg**	**04 13 14.1**	**+1.0**
	SNR=91						
DAMV	**Damavand**	**2.97**	**234**	*e*PN	**Pn**	**04 13 28.3**	**-1.3**
DAMV				AML	AML	04 14 13.6	
	comp=E,153nm,0.4s						
DAMV				AML	AML	04 14 18.1	
	comp=N,111nm,0.7s						
CHTH	**Charan**	**3.41**	**245**	*e*PN	**Pn**	**04 13 36.0**	**+0.4**
THKV	**Tehran--Karaj**	**3.58**	**247**	*e*PN	**Pn**	**04 13 38.8**	**+0.8**
THKV				AML	AML	04 14 38.8	
	comp=N,80nm,0.4s						
NASN	**Na'in**	**4.92**	**201**	*e*PN	**Pn**	**04 13 49.3**	**-7.1**
AB31	**Akbulak array**	**12.39**	**15**	⇑Pn	**Pn**	**04 15 39.7**	**+0.9**
	comp=N,0.3nm,0.5s,baz=195,slow=13						
AB31				⇑Sn	**Sn**	**04 17 55.6**	**-1.3**
	comp=N,0.4nm,0.3s,baz=188,slow=24,SNR=9.4						
AKTO	**Aktyubinsk**	**13.21**	**9**	⇑Pn	**Pn**	**04 15 51.0**	**+1.0**
AKTO				⇓Sn	**Sn**	**04 18 16.9**	**0.0**

*ISCJB **09** 04:20:58.7±0.4, 625N±004×8258W±003, h10km, mb4.2/29, MS3.9/12, Error ellipse: s-maj=6.0km s-min=4.3km az=34.1*
*IDC **09** 04:20:58.0±0.9, 620N×8254W, h0km, mb4.0/11, mb1 4.3/13, mb1mx4.1/21, mbtmp4.1/13, ML4.8/2, MS3.7/15, Ms1 3.7/15, ms1mx3.6/20, Error ellipse: s-maj=33.2km s-min=14.9km az=54.0*
*CASC **09** 04:20:59.8±2.2, 6.11N×8267W, h35km±45km, MD4.3, MW4.2, mb4.4(NEIC)*
*NEIC **09** 04:21:01.2±0.5, 607N×8260W, h18km±2km, mb4.4/21, Error ellipse: s-maj=9.4km s-min=5.2km az=214.0*
*BJI **09** 04:21:01.1, 6.10N×8260W, h18km, mB5.3, Ms4.9, Msz4.5*
*HRVD **09** 04:21:01.2±0.4, 6.19N×8252W, h21km±2km, MW4.7/47, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s47,c60; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.21±.13; Mθθ-0.24±.09; Mφφ0.03±.13; Mrθ0.13±.18; Mrφ1.56±.09; Mθφ0.19±.18; Best double couple: M0:1.58700×10^16 NP1:φs88.00000°, δ82.00000°, λ7.00000°. NP2: φs357.00000°, δ84.00000°, λ172.00000°. Principal axes: T 1.5010, Plg10.0000°, Azm312.0000°; N 0.1710, Plg80.0000°, Azm138.0000°; P -1.6720, Plg1.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 04:21:00.8±0.4, 627N±004×8258W±003, h10km, (h22km±9km:pP-P), n103, σ1§26/86, mb4.2/29, MS3.9/12, 6C-7D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**2.15**	**3**	⇓*i*P	**Pn**	**04 21 34.5**	**-2.2**
BRU	**Baru**	**2.52**	**0**	⇑*e*P	**Pn**	**04 21 40.5**	**-1.3**
AZU	**Azuero**	**2.74**	**56**	⇓*i*P	**Pn**	**04 21 43.5**	**-1.2**
AZU				*e*S	**Sn**	**04 22 16.9**	**-1.0**
CNI	**Changuinola**	**3.12**	**1**	⇑*i*P	**Pn**	**04 21 49.6**	**-0.5**
CNI				*e*S	**Sn**	**04 22 28.4**	**+1.0**
LCR2	**La Lucha 2**	**3.73**	**338**	⇑*i*P	**Pn**	**04 21 56.6**	**-1.8**
URSC	**Urasca**	**3.73**	**341**	⇑*i*P	**Pn**	**04 21 57.1**	**-1.3**
ZANG	**Zanguenga, Cho**	**3.78**	**45**	⇓*i*P	**Pn**	**04 21 59.0**	**-0.1**
PINA	**Piqa, Costa Ab**	**3.87**	**40**	*e*P	**Pn**	**04 22 00.3**	**0.0**
ICR	**Volcan Irazu**	**3.89**	**341**	⇑*i*P	**Pn**	**04 22 00.1**	**-0.5**
SJS	**Escuela Geolog**	**3.93**	**338**	⇓*i*P	**Pn**	**04 22 00.3**	**-0.8**
UPA	**Univ. de Panam**	**4.04**	**48**	⇓*e*P	**Pn**	**04 22 04.0**	**+1.3**
UPA				*e*S	**Sn**	**04 22 51.4**	**+1.4**
PRS1	**Puriscal**	**4.07**	**335**	⇑*i*P	**Pn**	**04 22 00.0**	**-3.0**
CGA2	**Cerro Gallo 2**	**4.16**	**333**	⇓*e*P	**Pn**	**04 22 02.6**	**-1.8**
ACLA	**Agua Clara, Si**	**4.18**	**43**	⇓*e*P	**Pn**	**04 22 03.9**	**-0.8**
JTS	**JuntasAbangare**	**4.63**	**330**	Pn	**Pn**	**04 22 08.4**	**-2.4**
	76nm,0.3s,baz=112,slow=10,SNR=271						
JTS				Sn	**Sn**	**04 23 02.7**	**-2.0**
	30nm,0.3s,baz=261,slow=22,SNR=7.2						
JTS				LR	LR	04 23 54.6	
	comp=Z,2μm,19.9s,baz=155,slow=38						
JTS	**JuntasAbangare**	**4.63**	**330**	*e*Pn	**Pn**	**04 22 08.3**	**-2.5**
JTS				*e*Sn	**Sn**	**04 23 02.3**	**-2.3**
VCR	**Vista de Mar**	**4.88**	**322**	*e*P	**Pn**	**04 22 11.5**	**-2.7**
LIM1	**Limonal**	**5.13**	**329**	*e*P	**Pn**	**04 22 16.2**	**-1.5**
TICN	**Ticuantepe**	**6.77**	**328**	*e*P	**Pn**	**04 22 39.0**	**-1.1**
MGAN	**Managua**	**6.87**	**328**	*e*P	**Pn**	**04 22 41.3**	**-0.2**
APYN	**Apoyeque**	**7.00**	**328**	*e*P	**Pn**	**04 22 43.1**	**-0.2**
COPN	**Copaltepe**	**7.08**	**326**	*e*P	**Pn**	**04 22 44.2**	**-0.2**
OTAV	**Otavalo**	**7.27**	**145**	*e*Pn	**Pn**	**04 22 44.6**	**-2.4**
OTAV				*e*Sn	**Sn**	**04 23 56.6**	**-13**
LEON	**Leon**	**7.44**	**325**	*e*P	**Pn**	**04 22 48.7**	**-0.7**
ROSC	**El Rosal**	**8.33**	**99**	Pn	**Pn**	**04 23 05.8**	**+4.3**
	4.9nm,0.3s,baz=148,slow=3.6,SNR=9.8						
ROSC				LR	LR	04 25 38.6	
	comp=Z,218nm,18.2s,baz=266,slow=34						
CNCH	**Conchagua**	**8.68**	**324**	*e*P	x	04 23 13.3	
LCBS	**La Ceiba**	**9.67**	**320**	*e*P	x	04 23 24.6	
LFRS	**El Faro**	**9.70**	**319**	*e*P	x	04 23 28.1	
LBRS	**Las Brisas**	**9.78**	**320**	*e*P	x	04 23 29.4	
LFU	**La Fuente**	**9.83**	**320**	*e*P	x	04 23 30.6	
BOQS	**Boqueron**	**9.93**	**319**	*e*P	x	04 23 31.7	
SBLS	**San Blas**	**10.23**	**318**	*e*P	x	04 23 36.7	
SNJE	**San Jose**	**10.24**	**318**	*e*P	x	04 23 36.3	
RBDL	**Robledal**	**10.47**	**319**	*e*P	x	04 23 40.2	
SDV	**Santo Domingo**	**12.12**	**77**	Pn	**Pn**	**04 23 56.1**	**+2.6**
	0.8nm,0.3s,baz=272,slow=9.3,SNR=19						
SDV				Sn	**Sn**	**04 26 08.0**	**-0.7**
	0.8nm,0.3s,baz=297,slow=21,SNR=4.4						
SDV				PcP	PcP	04 29 34.3	-3.4
	0.4nm,0.3s,baz=225,slow=1.4,SNR=3.9						
SDV	**Santo Domingo**	**12.12**	**77**	*e*Pn	**Pn**	**04 23 55.3**	**+1.8**
SDV				*e*Sn	**Sn**	**04 26 08.5**	**-0.2**
ATAH	**Atahualpa**	**13.83**	**162**	LR	LR	04 29 05.9	
	comp=Z,280nm,21.3s,baz=137,slow=35						
CMIG	**Matias Romero**	**16.14**	**313**	Pn	**Pn**	**04 24 49.2**	**+1.6**
	1.8nm,0.3s,baz=97,slow=9.4,SNR=18						
CMIG				LR	LR	04 30 08.7	
	comp=Z,282nm,20.2s,baz=123,slow=34						
SJG	**San Juan**	**19.88**	**52**	P	**Pn**	**04 25 32.9**	**-0.8**
	1.3nm,0.3s,baz=253,slow=7.4,SNR=7.0						
SJG				LR	LR	04 32 37.0	
	comp=Z,155nm,20.7s,baz=271,slow=35						
SJG	**San Juan**	**19.88**	**52**	*e*P	**Pn**	**04 25 34.8**	**+1.0**
	32nm,1.0s						
CPD	**Cerro la Pandu**	**20.02**	**53**	*e*P	**P**	**04 25 35.2**	**+1.5**
HUMP	**Col San Antoni**	**20.14**	**53**	*e*P	**P**	**04 25 36.2**	**+1.3**
CBYP	**Canovanas**	**20.20**	**52**	*e*Pn	**P**	**04 25 38.5**	**+2.9**
MTP	**Monte Pirata**	**20.34**	**53**	*e*P	**P**	**04 25 38.4**	**+1.3**
SAML	**Samuel**	**24.54**	**128**	*e*P	**P**	**04 26 18.1**	**-2.4**
	17nm,0.8s,mb4.6						
LPAZ	**La Paz**	**26.59**	**148**	P	**P**	**04 26 37.9**	**-1.2**
	1.5nm,0.7s,mb3.7,baz=329,slow=12,SNR=7.5						
LPAZ	**La Paz**	**26.59**	**148**	*e*P	**P**	**04 26 38.3**	**-0.8**
	3.4nm,1.0s,mb3.8						
HKT	**Hockley**	**26.66**	**334**	*e*P	**P**	**04 26 40.5**	**+0.8**
	1.7nm,0.5s,mb3.8						
MNTX	**Cornudas Mount**	**33.08**	**323**	*e*P	**P**	**04 27 37.1**	**+0.5**
	4.6nm,0.9s,mb4.4						
ANMO	**Albuquerque**	**36.04**	**326**	P	**P**	**04 28 03.0**	**+0.7**
	3.1nm,1.0s,mb4.2,baz=142,slow=10,SNR=8.0						
ANMO	**Albuquerque**	**36.04**	**326**	*e*P	**P**	**04 28 04.0**	**+1.7**
	6.2nm,1.2s,mb4.4						
ANMO				*e*pP	pP	04 28 09.8	+4.4
ANMO				*e*sP	sP	04 28 12.9	+6.3
TUC	**Tucson**	**36.91**	**318**	*e*P	**P**	**04 28 11.1**	**+1.4**
MVCO	**Mesa Verde**	**38.82**	**326**	*e*P	**P**	**04 28 26.1**	**+0.4**
SMCO	**Snowmass**	**39.47**	**330**	*e*P	**P**	**04 28 32.1**	**+0.9**
	3.6nm,0.9s,mb4.1						
CFAA	**Coronel Fontan**	**40.08**	**161**	P	**P**	**04 28 35.3**	**-0.9**
	0.1nm,0.6s,baz=164,slow=18,SNR=4.1						
GLA	**Glamis**	**40.09**	**316**	*e*P	**P**	**04 28 37.5**	**+1.1**
BDFB	**Brasilia**	**40.57**	**123**	P	**P**	**04 28 38.7**	**-1.6**
	4.2nm,0.8s,mb4.1,baz=288,slow=10,SNR=8.2						
BDFB				LR	LR	04 46 08.0	
	comp=Z,161nm,18.3s,MS3.9,baz=301,slow=37						
CPUP	**Villa Florida**	**40.62**	**144**	LR	LR	04 47 11.4	
	comp=Z,125nm,18.6s,MS3.8,baz=159,slow=39						
SRU	**San Rafael**	**41.29**	**326**	*e*P	**P**	**04 28 47.5**	**+1.2**
RWWY	**Rawlins**	**41.52**	**332**	*e*P	**P**	**04 28 49.9**	**+1.7**
	9.1nm,1.0s,mb4.4						
ARUT	**Antelope Range**	**42.07**	**323**	*e*P	**P**	**04 28 52.5**	**-0.2**
SHPR	**Sheep Range**	**42.34**	**320**	*e*P	**P**	**04 28 56.7**	**+1.8**
TCUT	**Toone Canyon**	**43.19**	**328**	*e*sP	pP	04 29 10.9	+6.0
TPNV	**Topopah Spring**	**43.30**	**320**	P	**P**	**04 29 04.5**	**+1.8**
	2.8nm,0.9s,mb4.0						
TPNV				*e*pP	pP	04 29 10.5	+4.6
TPNV				*e*sP	sP	04 29 14.8	+7.7
BW06	**Boulder Array**	**43.47**	**331**	*e*P	**P**	**04 29 05.8**	**+1.8**
	6.8nm,1.3s,mb4.2						
PDAR	**Pinedale Array**	**43.47**	**331**	P	**P**	**04 29 03.8**	**-0.3**
	0.7nm,0.7s,mb3.5,baz=134,slow=8.5,SNR=5.0						
PDAR				LR	LR	04 49 14.3	
	comp=Z,76nm,20.3s,MS3.6,baz=290,slow=39						
HWUT	**Hardware Ranch**	**43.62**	**328**	*e*P	**P**	**04 29 06.0**	**+0.8**
	7.6nm,0.9s,mb4.4						
HWUT				*e*pP	pP	04 29 12.1	+3.7
REDW	**Red Top Meadow**	**44.54**	**330**	*e*P	**P**	**04 29 13.3**	**+0.7**
	6.9nm,1.0s,mb4.4						
REDW				*e*pP	pP	04 29 18.8	+3.0
LOHW	**Long Hollow**	**44.60**	**331**	*e*P	**P**	**04 29 13.7**	**+0.6**
	1.8nm,0.5s,mb4.2						
TPAW	**Teton Pass**	**44.68**	**331**	*e*P	**P**	**04 29 15.6**	**+1.9**
	7.6nm,0.9s,mb4.5						
MOOW	**Moose Ponds**	**44.77**	**331**	*e*P	**P**	**04 29 15.2**	**+0.7**
	4.2nm,1.0s,mb4.2						
FLWY	**Flagg Ranch**	**45.00**	**331**	*e*P	**P**	**04 29 17.0**	**+0.7**
	8.4nm,0.8s,mb4.6						
ELK	**Elko**	**45.05**	**325**	*e*P	**P**	**04 29 17.6**	**+0.8**
	2.0nm,0.7s,mb4.1						
ULM	**Lac du Bonnet**	**45.23**	**348**	P	**P**	**04 29 17.1**	**-1.1**
	1.6nm,0.7s,mb4.0,baz=173,slow=9.7,SNR=3.6						
MNV	**Mina**	**45.40**	**320**	*e*P	**P**	**04 29 21.3**	**+1.8**
	6.2nm,1.1s,mb4.3						
NVAR	**Mina Array Bea**	**45.49**	**320**	P	**P**	**04 29 20.3**	**+0.1**
	2.5nm,0.9s,mb4.0,baz=125,slow=8.1,SNR=5.7						
GCMT	**Greycliff**	**45.83**	**334**	*e*P	**P**	**04 29 23.1**	**+0.2**
BMN	**Battle Mountai**	**46.02**	**323**	*e*P	**P**	**04 29 25.1**	**+0.7**
	2.0nm,0.6s,mb4.2						
BMN				*e*pP	pP	04 29 31.4	+3.9
HLID	**Hailey**	**46.49**	**328**	*e*P	**P**	**04 29 28.9**	**+0.8**
	3.0nm,1.0s,mb4.2						
MCMT	**McKenzie Canyo**	**46.59**	**330**	*e*P	**P**	**04 29 30.0**	**+1.1**
MCMT				*e*pP	pP	04 29 37.4	+5.3
SCHQ	**Schefferville**	**50.05**	**12**	P	**P**	**04 29 55.6**	**+0.1**
	5.2nm,1.0s,mb4.5,baz=214,slow=10,SNR=4.4						
SCHQ				LR	LR	04 50 23.6	
	comp=Z,50nm,20.2s,MS3.5,baz=176,slow=35						
WALA	**Waterton Lakes**	**50.19**	**334**	*e*pP	pP	04 30 02.4	+2.6
EDM	**Edmonton**	**53.11**	**337**	*e*P	**P**	**04 30 16.9**	**-1.5**
EDM				*e*pP	pP	04 30 23.2	+1.5
RKT	**Rikitea**	**58.93**	**238**	*e*LR	LR	04 48 50.7	
YKA	**Yellowknife Ar**	**60.83**	**344**	P	**P**	**04 31 11.6**	**-1.5**
	0.7nm,0.7s,mb3.9,baz=137,slow=6.9,SNR=3.9						
YKA				LR	LR	04 59 52.2	
	comp=Z,43nm,18.5s,MS3.6,baz=75,slow=38						
PPT	**Papeete**	**70.25**	**249**	*e*LR	LR	04 54 06.5	
	85nm,24.0s						
DAWY	**Dawson**	**70.32**	**337**	*e*P	**P**	**04 32 14.6**	**+0.1**
INK	**Inuvik**	**70.51**	**342**	*e*P	**P**	**04 32 15.6**	**0.0**
	3.2nm,0.7s,mb4.4						
TBI	**Tubuai**	**71.58**	**243**	*e*LR	LR	04 54 42.9	
	113nm,32.5s						
DBIC	**Dimbokro**	**77.14**	**85**	LR	LR	05 08 44.9	
	comp=Z,50nm,18.7s,MS3.9,baz=288,slow=37						
TORD	**Torodi Ar. Bea**	**83.04**	**78**	P	**P**	**04 33 26.5**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=289,slow=4.8,SNR=7.8						
NOA	**NORSAR Array B**	**86.40**	**29**	P	**P**	**04 33 41.9**	**-1.4**
	0.8nm,0.8s,mb4.0,baz=176,slow=16,SNR=2.6						
NOA				LR	LR	05 11 10.6	
	comp=Z,17nm,19.4s,MS3.5,baz=320,slow=35						
NOA	**NORSAR Array B**	**86.40**	**29**	P	**P**	**04 33 41.9**	**-1.4**
NOA				LR	LR	05 11 10.6	
CLL	**Collm**	**88.63**	**39**	*e*P	**P**	**04 33 55.0**	**+0.9**
CLL				*e*sP	pP	04 34 03.0	+5.6
GERES	**GERESS Array B**	**89.44**	**41**	P	**P**	**04 33 56.1**	**-1.8**
	0.2nm,0.4s,mb3.8,baz=204,slow=38,SNR=2.3						
GERES				LR	LR	05 08 16.1	
	comp=Z,42nm,18.4s,MS3.9,baz=263,slow=32						
ARCES	**ARCESS Array B**	**90.40**	**20**	LR	LR	05 15 08.7	
	comp=Z,34nm,18.7s,MS3.8,baz=170,slow=36						
FINES	**FINESS Array B**	**93.30**	**27**	LR	LR	05 09 06.1	
	comp=Z,40nm,20.6s,MS3.9,baz=359,slow=31						
CN2	**Changchun**	**124.09**	**336**	*e*PKP	PKPdf	04 39 57.3	-2.1
HHC	**Hu-ho-hao-te**	**131.34**	**346**	*e*PKP	PKPdf	04 40 10.3	-3.0
HHC				XPKP		04 40 24.7	
HHC				PKS		04 43 45.1	
HHC				SKS	SKSdf	04 47 16.5	-8.3
HHC				SKKS	SKKSac	04 49 20.2	-7.9
HHC				SS	SS	05 00 01.0	-3.2
HHC				PP	PP		
	comp=Z,90nm,5.4s						
HHC				LR	LR		
	comp=N,210nm,21.4s,MS5.1						
HHC				LR	LR		
	comp=E,340nm,23.8s,MS5.1						
HHC				LR	LR		
	comp=Z,110nm,22.6s,MS4.5						
SSE	**Sheshan**	**136.44**	**330**	PKP	PKPdf	04 40 19.8	-3.0
LZH	**Lanzhou**	**137.44**	**352**	*e*PKP	PKPdf	04 40 21.5	-3.2
LZH				XPKP		04 40 30.7	
LZH				LR	LR		
	comp=E,140nm,18.4s						
LZH				LR	LR		
	comp=Z,250nm,20.5s,MS4.9						
CD2	**Chengdu**	**142.53**	**351**	*e*PKP	PKPdf	04 40 32.2	-1.7
KMI	**Kunming**	**148.37**	**351**	PKP	PKPdf	04 40 46.0	+2.1

*ISCJB **09** 05:10:41.9±0.8, 4281N±003×141W±004, h5km±15km, Error ellipse: s-maj=5.9km s-min=5.0km az=169.3*
*LDG **09** 05:10:41.0±0.3, 4278N×149W, h2km, Md2.0/2, Ml2.3/1, Error ellipse: s-maj=4.3km s-min=2.7km az=49.0*
*STR **09** 05:10:41.6±0.4, 4282N×147W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **09** 05:10:42.9±0.1, 4281N×136W, h0km, mbLg1.5/12, Error ellipse: s-ma

EPF Lg 05 11 25.5
3.4nm,0.3s
EGRA Graus 1.43 115 Pg **Pg 05 11 10.0 +0.1**
3.9nm,0.4s,SNR=5.2
EGRA Lg 05 11 25.5
3.4nm,0.7s,SNR=4.0
ELAN Lanestosa 1.53 286 Pg **Pg 05 11 12.8 +0.8**
0.6nm,0.1s,SNR=7.9
ELAN Lg 05 11 34.6
2.7nm,0.4s,SNR=7.9

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*ISCJB **09** 05:12:27.3±0.6, 349S×007×28.1E±0.1, h10km, mb4.0/7, MS3.1/3, Error ellipse: s-maj=14.8km s-min=10.1km az=22.2.*
*IDC **09** 05:12:28.1±0.9, 346S×2808E, h0km, mb3.9/7, mb1 3.9/11, mb1mx3.8/24, mbtmp3.9/11, ML3.3/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/26, Error ellipse: s-maj=25.9km s-min=17.7km az=96.0*
*NEIC **09** 05:12:29.4±0.6, 349S×2812E, h10km, mb3.5/2, Error ellipse: s-maj=16.4km s-min=9.9km az=106.0*
ISC 09 05:12:29.7±0.6, 349S±007×281E±01, h10km, n19, σ0°81/26, mb4.0/7, MS3.1/3, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.43**	**76**	Pn	**Pn**	**05 14 45.4**	**-0.2**
	0.3nm,0.3s,baz=233,slow=19,SNR=3.5						
KMBO				Sn	**Sn**	**05 16 19.4**	**-12**
	0.3nm,0.3s,baz=247,slow=21,SNR=2.9						
KMBO				Lg		05 17 22.8	
	0.9nm,0.3s,baz=335,slow=22,SNR=12						
KMBO	**Kilima Mbogo**	**9.43**	**76**	Pn	**Pn**	**05 14 45.4**	**-0.2**
KMBO				Sn	**Sn**	**05 16 19.4**	**-12**
KMBO				Lg		05 17 22.8	
LSZ	**Lusaka**	**11.71**	**180**	Pn	**Pn**	**05 15 16.0**	**-0.8**
	1.4nm,0.3s,baz=359,slow=12,SNR=7.0						
LSZ				Sn	**Sn**	**05 17 17.0**	**-11**
	0.6nm,0.3s,baz=90,slow=21,SNR=3.7						
LSZ				Lg		05 18 34.2	
	1.2nm,0.3s,baz=114,slow=22,SNR=3.2						
LSZ				LR	LR	05 20 01.3	
	comp=Z,134nm,19.6s,baz=1.8,slow=39						
MATP	**Matopo**	**16.84**	**179**	Pn	**Pn**	**05 16 25.0**	**-0.5**
	0.3nm,0.3s,baz=357,slow=15,SNR=5.4						
MATP				Sn	**Sn**	**05 19 20.6**	**-12**
	0.3nm,0.3s,baz=56,slow=15,SNR=2.5						
MATP				Lg		05 21 17.5	
	0.2nm,0.3s,baz=94,slow=22,SNR=6.6						
MATP	**Matopo**	**16.84**	**179**	Pn	**Pn**	**05 16 25.0**	**-0.5**
MATP				Sn	**Sn**	**05 19 20.6**	**-12**
MATP				Lg		05 21 17.5	
TSUM	**Tsumeb**	**18.70**	**213**	Pn	**Pn**	**05 16 47.9**	**-0.6**
	0.1nm,0.3s,baz=21,slow=14,SNR=2.3						
TSUM				Sn	**Sn**	**05 20 02.7**	**-15**
	0.5nm,0.3s,baz=123,slow=3.5,SNR=2.8						
TSUM				Lg		05 22 16.5	
	0.4nm,0.3s,baz=257,slow=20,SNR=3.6						
TSUM	**Tsumeb**	**18.70**	**213**	*e*P	**Pn**	**05 16 47.7**	**-0.8**
	1.3nm,0.6s						
TSUM				Pn	**Pn**	**05 16 47.9**	**-0.6**
TSUM				Sn	**Sn**	**05 20 02.7**	**-15**
TSUM				Lg		05 22 16.5	
ATD	**Arta Tunnel**	**20.92**	**44**	LR	LR	05 25 44.3	
	comp=Z,76nm,19.3s,MS3.1,baz=91,slow=38						
LBTB	**Lobatse**	**21.54**	**186**	P	**P**	**05 17 19.3**	**+0.3**
	1.7nm,0.6s,mb3.6,baz=6.6,slow=13,SNR=3.8						
LBTB				Lg		05 23 43.2	
	3.3nm,0.8s,baz=112,slow=16,SNR=2.9						
LBTB				LR	LR	05 24 58.3	
	comp=Z,101nm,19.1s,MS3.2,baz=236,slow=35						
LBTB	**Lobatse**	**21.54**	**186**	*e*P	**P**	**05 17 19.8**	**+0.8**
	3.3nm,0.9s,mb3.8						
LBTB				Lg		05 23 43.2	
LBTB				LR	LR	05 24 58.3	
BOSA	**Boshof**	**25.13**	**186**	P	**P**	**05 17 56.5**	**+1.7**
	1.1nm,0.6s,mb3.6,baz=28,slow=9.1,SNR=3.6						
BOSA				LR	LR	05 29 08.2	
	comp=Z,56nm,19.0s,MS3.1,baz=273,slow=40						
TORD	**Torodi Ar. Bea**	**31.00**	**303**	P	**P**	**05 18 47.1**	**-0.1**
	4.6nm,0.8s,mb4.3,baz=117,slow=8.4,SNR=9.0						
DBIC	**Dimbokro**	**34.42**	**287**	P	**P**	**05 19 17.4**	**+0.2**
	1.8nm,0.4s,mb4.3,baz=183,slow=3.8,SNR=4.8						
BRTR	**Keskin Array B**	**43.30**	**6**	P	**P**	**05 20 30.2**	**-1.3**
	1.3nm,0.8s,mb3.7,baz=168,slow=6.3,SNR=5.5						
NB2	**NORSAR Subarra**	**65.67**	**351**	P	**P**	**05 23 14.7**	**+0.6**
	comp=Z,1.0nm,0.7s,mb4.0,baz=163,slow=6.2						
NOA	**NORSAR Array B**	**65.67**	**351**	P	**P**	**05 23 14.7**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.2,baz=163,slow=6.1,SNR=4.2						
MKAR	**Makanchi Array**	**69.06**	**37**	P	**P**	**05 23 36.4**	**+0.7**
	comp=Z,1.9nm,1.0s,mb4.0,baz=240,slow=5.3,SNR=9.1						
VNA2	**Neumayer--Watz**	**71.08**	**192**	*e*	**P**	**05 23 54.2**	**+6.2**
	baz=16,slow=8.7						
VNA3	**Neumayer Olymp**	**71.80**	**192**	*e*	**P**	**05 23 58.0**	**+5.6**

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*ISCJB **09** 05:22:52.9±0.9, 3734N±005×723E±0.1, h192km±13km, mb3.5/6, Error ellipse: s-maj=18.1km s-min=7.8km az=151.6*
*IDC **09** 05:22:52.5±6.1, 37.19N×7241E, h186km±51km, mb3.4/6, mb1 3.4/9, mb1mx3.2/22, mbtmp3.8/9, Error ellipse: s-maj=47.9km s-min=27.6km az=143.0*
*NEIC **09** 05:22:54.7±3.9, 37.39N×7232E, h190km±25km, mb3.8/3, Error ellipse: s-maj=43.7km s-min=22.4km az=170.0*
*NNC **09** 05:23:01.7±8.3, 3803N×7216E, h234km±86km, mb2.1, mpv3.5, Error ellipse: s-maj=84.1km s-min=43.3km az=8.0*
ISC 09 05:22:53.8±0.9, 3735N±005×723E±01, h187km±13km, n29, σ0°83/34, mb3.6/6, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**5.16**	**18**	P	**Pn**	**05 24 10.9**	**+1.0**
	SNR=33						
KZA	**Kyzart**	**5.24**	**25**	P	**Pn**	**05 24 11.5**	**+0.5**
	SNR=10.0						
EKS2	**Erkin-Say**	**5.43**	**12**	P	**Pn**	**05 24 13.8**	**+0.5**
	SNR=31						
AAK	**Ala-Archa**	**5.54**	**17**	P	**Pn**	**05 24 15.9**	**+1.1**
	SNR=30						
AAK	**Ala-Archa**	**5.54**	**17**	*e*Pn	**Pn**	**05 24 14.6**	**-0.3**
	28nm,0.5s						
AAK				*e*Sn	**Sn**	**05 25 16.6**	**-2.1**
ULHL	**Ulahol**	**5.75**	**31**	P	**Pn**	**05 24 18.4**	**+0.8**
	SNR=7.1						
KK31	**Karatay Array**	**5.91**	**347**	⇓P	**Pn**	**05 24 19.1**	**-0.6**
	6.0nm,0.4s,baz=155,slow=11,SNR=123						
KK31				S	**Sn**	**05 25 22.0**	**-5.4**
	8.9nm,0.4s,baz=165,slow=22,SNR=10						
CHMS	**Chumysh**	**5.95**	**18**	P	**Pn**	**05 24 20.4**	**+0.3**
	SNR=9.8						
TKM2	**Tokmak 2**	**6.11**	**23**	P	**Pn**	**05 24 23.2**	**+0.9**
	SNR=17						
TKM2	**Tokmak 2**	**6.11**	**23**	⇑P	**Pn**	**05 24 22.9**	**+0.6**
	1.6nm,0.8s						
TKM2				⇑S	**Sn**	**05 25 31.1**	**-0.9**
	0.8nm,0.8s						
USP	**Ospenovka**	**6.15**	**15**	P	**Pn**	**05 24 22.7**	**0.0**
	SNR=6.9						
SDNR	**Sundarnagar**	**6.99**	**145**	*e*P	**Pn**	**05 24 34.2**	**+0.5**
SDNR				*e*S	**Sn**	**05 25 51.6**	**-1.1**
MKAR	**Makanchi Array**	**11.99**	**35**	P	**Pn**	**05 25 39.0**	**+0.1**
	0.1nm,0.3s,baz=222,slow=11,SNR=3.4						
KURK	**Kurchatov**	**14.11**	**17**	*e*P	**Pn**	**05 26 07.4**	**+1.9**
	3.0nm,0.9s						
AB31	**Akbulak array**	**14.90**	**327**	⇑P	**Pn**	**05 26 14.8**	**-0.5**
	1.2nm,0.6s,baz=143,slow=13,SNR=22						
AB31				⇑S	**Sn**	**05 28 48.8**	**-13**
	0.5nm,0.5s,baz=275,slow=43,SNR=5.0						
BVAR	**Borovoye Array**	**15.74**	**356**	P	**Pn**	**05 26 24.7**	**-0.8**
	0.2nm,0.3s,baz=185,slow=16,SNR=9.3						
ZRNK	**Zerenda**	**15.78**	**353**	*e*P	**Pn**	**05 26 26.4**	**+0.4**
	1.3nm,0.5s						
AKTK	**Aktyubinsk**	**16.61**	**326**	P	**Pn**	**05 26 35.8**	**-0.2**
AKTO	**Aktyubinsk**	**16.61**	**326**	⇓P	**Pn**	**05 26 35.7**	**-0.3**
	0.1nm,1.1s						
AKTO	**Aktyubinsk**	**16.61**	**326**	P	**Pn**	**05 26 35.8**	**-0.2**
	0.3nm,0.3s,baz=124,slow=13,SNR=9.7						
BRTR	**Keskin Array B**	**30.19**	**287**	P	**P**	**05 28 48.0**	**+1.6**
	0.4nm,0.4s,mb3.5,baz=93,slow=5.2,SNR=2.9						
BRTR	**Keskin Array B**	**30.19**	**287**	P	**P**	**05 28 48.0**	**+1.6**
FINES	**FINESS Array B**	**37.38**	**325**	P	**P**	**05 29 48.2**	**-0.3**
	1.1nm,0.9s,mb3.5,baz=116,slow=13,SNR=3.4						
ARCES	**ARCESS Array B**	**40.77**	**337**	P	**P**	**05 30 16.4**	**-0.2**
	3.0nm,1.0s,mb3.9,baz=116,slow=8.9,SNR=8.2						
NB2	**NORSAR Subarra**	**44.35**	**322**	P	**P**	**05 30 44.5**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.5,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.35**	**322**	P	**P**	**05 30 44.7**	**-0.6**
	comp=Z,1.5nm,0.8s,mb3.7,baz=93,slow=7.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**66.79**	**269**	P	**P**	**05 33 24.4**	**-0.7**
	comp=Z,1.0nm,0.4s,mb4.0,baz=48,slow=5.5,SNR=43						
YKA	**Yellowknife Ar**	**80.35**	**3**	P	**P**	**05 34 43.7**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.4,baz=350,slow=5.4,SNR=7.5						
YKA	**Yellowknife Ar**	**80.35**	**3**	P	**P**	**05 34 43.7**	**-0.4**

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*ISCJB **09** 05:36:14.2±1.1, 187S±0.1×1692E±0.1, h246km±6km, mb4.5/9, Error ellipse: s-maj=21.7km s-min=17.4km az=18.8*
*NEIC **09** 05:36:14.7±0.9, 1888S×16941E, h250km, mb4.6/6, Error ellipse: s-maj=26.3km s-min=14.7km az=148.0*
*IDC **09** 05:36:16.1±3.2, 1898S×16938E, h261km±29km, mb4.1/6, mb1 4.2/7, mb1mx3.9/14, mbtmp4.7/7, Error ellipse: s-maj=42.6km s-min=24.9km az=164.0*
ISC 09 05:36:14.5±1.1, 188S±01×1693E±01, h238km±6km, n25, σ0°67/25, mb4.5/9, 1C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.49**	**316**	⇓*i*P	**Pn**	**05 36 51.7**	**+0.1**
BKM				S	**S**	**05 37 20.1**	**-0.6**
DZM	**Mont Dzumac**	**4.26**	**219**	*e*P	**Pn**	**05 37 21.3**	**+0.4**
DZM				*e*S	**S**	**05 38 27.5**	**+14**
DZM	**Mont Dzumac**	**4.26**	**219**	P	**Pn**	**05 37 21.5**	**+0.7**
	12nm,0.3s,baz=64,slow=16,SNR=86						
NOUC	**Port Laguerre**	**4.37**	**220**	*e*P	**Pn**	**05 37 22.8**	**+0.6**
CTA	**Charters Tower**	**21.79**	**263**	⇓*i*P	**P**	**05 40 48.7**	**+1.2**
	9.8nm,1.0s,mb4.3						
CTA	**Charters Tower**	**21.79**	**263**	P	**P**	**05 40 48.0**	**+0.5**
	11nm,0.6s,mb4.5,baz=78,slow=12,SNR=9.6						
CTAO	**Charters Tower**	**21.79**	**263**	*e*P	**P**	**05 40 48.3**	**+0.8**
	29nm,1.2s,mb4.7						
PMG	**Port Moresby**	**23.39**	**290**	P	**P**	**05 41 03.4**	**+1.3**
	26nm,0.8s,mb4.8,baz=95,slow=6.7,SNR=7.1						
PMG	**Port Moresby**	**23.39**	**290**	*e*P	**P**	**05 41 03.4**	**+1.3**
	28nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**28.17**	**237**	⇓*i*P	**P**	**05 41 43.9**	**-1.0**
	5.6nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**28.17**	**237**	P	**P**	**05 41 44.2**	**-0.7**
	6.5nm,0.6s,mb4.4,baz=61,slow=8.2,SNR=16						
STKA	**Stephens Creek**	**28.17**	**237**	*e*P	**P**	**05 41 43.7**	**-1.2**
WB2	**Warramunga Arr**	**32.98**	**262**	⇓*i*P	**P**	**05 42 26.4**	**-0.7**
WRAB	**Tennant Creek**	**32.98**	**262**	*e*P	**P**	**05 42 26.1**	**-1.0**
	10nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**32.99**	**262**	P	**P**	**05 42 26.5**	**-0.6**
	5.4nm,0.4s,mb4.4,baz=97,slow=6.8,SNR=222						
AS31	**Alice Springs**	**33.32**	**255**	⇓*i*P	**P**	**05 42 30.2**	**+0.2**
ASAR	**Alice Springs**	**33.32**	**255**	P	**P**	**05 42 30.2**	**+0.2**
	46nm,0.5s,mb5.2,baz=83,slow=8.8,SNR=592						
ASPA	**Alice Springs**	**33.33**	**255**	⇓*i*P	**P**	**05 42 30.2**	**+0.2**
KAKA	**Kakadu**	**35.96**	**274**	*e*P	**P**	**05 42 52.6**	**+0.1**
	11nm,0.9s,mb4.4						
MBWA	**Marble Bar**	**46.53**	**258**	*e*P	**P**	**05 44 18.7**	**+0.5**
	14nm,0.4s,mb4.6						
NVAR	**Mina Array Bea**	**88.42**	**48**	P	**P**	**05 48 40.4**	**+0.8**
	0.3nm,0.4s,mb3.5,baz=210,slow=6.8,SNR=4.9						
VNA3	**Neumayer Olymp**	**90.23**	**180**	*e*	**P**	**05 48 47.3**	**-0.8**
VNA3				*e*		05 48 48.8	
VNA2	**Neumayer--Watz**	**90.53**	**181**	*e*	**P**	**05 48 49.0**	**-0.4**
	baz=193,slow=4.8						
VNA2				*e*		05 48 51.0	
ARCES	**ARCESS Array B**	**124.62**	**345**	PKP	PKPdf	05 54 43.0	-2.5
	4.8nm,1.0s,baz=70,slow=3.0,SNR=4.8						
GERES	**GERESS Array B**	**144.10**	**332**	PKP	PKPdf	05 55 19.7	-2.0
	0.3nm,0.3s,baz=23,slow=5.3,SNR=3.4						

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*ORF **09** 05:57:26.0, 1927S×17831W, h30km, mb6.4*
*MOS **09** 05:58:25.4±0.9, 1737S×17876W, h537km, mb5.3/47, Error ellipse: s-maj=8.4km s-min=6.3km az=58.1*
*ISCJB **09** 05:58:26.7±0.1, 1759S±002×17876W±003, h564km, mb5.3/134, Error ellipse: s-maj=4.0km s-min=2.4km az=81.3*
*IDC **09** 05:58:27.1±0.4, 1759S×17872W, h556km±4km, mb5.0/24, mb1 5.0/27, mb1mx5.0/27, mbtmp5.9/27, Error ellipse: s-maj=8.5km s-min=7.4km az=127.0*
*NEIC **09** 05:58:27.8±0.1, 1753S×17875W, mb5.3/90, MW6.1, Error ellipse: s-maj=4.3km s-min=2.3km az=118.0, Moment Tensor Solution. s47 Moment tensor: Scale 1018Nm; Mrr=0.41; Mθθ0.84; Mφφ-0.44; Mrθ0.57; Mφθ 1.16; Mφr-1.24; Best double couple: M0 1.90000×1018 NP1:φs20.00000°, δ69.00000°, λ-147.00000°. NP2:φs277.00000°, δ59.00000°, λ-24.00000°. Principal axes: T 1.5400, Plg6.0000°, Azm146.0000°; N 0.6200, Plg52.0000°, Azm48.0000°; P -2.1700, Plg38.0000°, Azm241.0000°;*
*BJI **09** 05:58:27.1, 1694S×178.18W, h564km, mB5.3, mb5.1*
*HRVD **09** 05:58:27.8±0.1, 1736S×17862W, h586km, MW6.1/113, Centroid moment Tensor Solution. LP body waves: s113,c255;Mantle waves: s73,c98; Half duration: 2s7 Moment tensor: Scale 1018Nm; Mrr-0.34±.01; Mθθ0.65±.02; Mφφ-0.31±.02; Mrθ0.62±.02; Mφθ 1.17±.02; Mφr-1.22±.02; Best double couple: M0 1.79400×1018 NP1:φs273.00000°, δ58.00000°, λ-22.00000°. NP2: φs15.00000°, δ71.00000°, λ-146.00000°. Principal axes: T 1.4560, Plg9.0000°, Azm142.0000°; N 0.6740, Plg51.0000°, Azm41.0000°; P -2.1310, Plg37.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
ISC 09 05:58:28.1±0.1, 1759S±002×17873W±003, h566km, h566km±.7km:pP-P, n1052, σ0°88/584, mb5.3/133, 208C-164D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**62**	P	**P**	**06 00 18.4**	**-4.1**
	267nm,0.3s,baz=232,slow=3.1,SNR=104						
AFI				S	**S**	**06 01 49.8**	**-6.7**
	47nm,0.3s,baz=8.0,slow=18,SNR=2.5						
AFI	**Afiamalu**	**7.63**	**62**	*e*P	**P**	**06 00 18.4**	**-4.2**
AFI				*e*		06 01 49.5	
AFI				smax			
	comp=N,4μm,1.0s						
AFI	**Afiamalu**	**7.63**	**62**	*e*Pn	**P**	**06 00 18.4**	**-4.2**
	comp=N,4μm,1.0s						
AFI				*e*Sn	**S**	**06 01 49.5**	**-7.0**
FUNA	**Funafuti**	**9.24**	**347**	*e*Pn	**P**	**06 00 35.6**	**-2.9**
FUNA				*e*Sn	**S**	**06 02 10.5**	**-15**
RAO	**Raoul Island**	**11.63**	**176**	P	**P**	**06 01 02.0**	**-0.8**
	comp=N,539nm,0.3s,baz=13,slow=1.3,SNR=18						
RAO				S	**S**	**06 03 10.2**	**+0.3**
	comp=N,194nm,0.3s,baz=81,slow=23,SNR=5.7						
RAO	**Raoul Island**	**11.63**	**176**	P	**P**	**06 01 02.0**	**-0.8**
RAO				S	**S**	**06 03 10.2**	**+0.2**
RAO				pmax	pmax		
	comp=Z,539nm,0.3s						
RAO				smax			
	comp=N,194nm,0.3s						
RAO	**Raoul Island**	**11.63**	**176**	*e*Pn	**P**	**06 01 02.1**	**-0.7**
	comp=N,1μm,0.3s						
BKM	**Butte a Klehm**	**12.42**	**268**	⇓*i*P	**P**	**06 01 11.0**	**0.0**
BKM				S	**S**	**06 03 30.9**	**+6.0**
DZM	**Mont Dzumac**	**14.65**	**250**	*e*P	**P**	**06 01 31.7**	**-1.9**
DZM				*e*S	**S**	**06 04 05.3**	**-1.0**
DZM	**Mont Dzumac**	**14.65**	**250**	P	**P**	**06 01 33.1**	**-0.5**
	comp=N,34nm,0.3s,baz=77,slow=15,SNR=120						
RAR	**Rarotonga**	**18.23**	**104**	P	**P**	**06 02 06.0**	**-1.3**
	comp=N,3.4nm,0.3s,baz=261,slow=7.7,SNR=21						
OUZ	**Omahuta**	**18.84**	**200**	PN	**P**	**06 02 15.4**	**+2.6**
OUZ				*e*SN	**S**	**06 05 28.0**	**+13**
OUZ	**Omahuta**	**18.84**	**200**	*e*P	**P**	**06 02 13.4**	**+0.6**
WCZ	**Waipu Caves**	**19.28**	**197**	PN	**P**	**06 02 19.2**	**+2.4**
WCZ	**Waipu Caves**	**19.28**	**197**	*e*P	**P**	**06 02 18.2**	**+1.4**
MTAZ	**Motutapu**	**19.93**	**195**	PN	**P**	**06 02 25.0**	**+2.3**
MTAZ	**Motutapu**	**19.93**	**195**	*e*P	**P**	**06 02 24.9**	**+2.2**
KAAZ	**Kauri Point**	**20.02**	**196**	P	**P**	**06 02 26.3**	**+2.9**
MXZ	**Matakaoa Point**	**20.07**	**187**	PN	**P**	**06 02 22.2**	**-1.7**
MXZ	**Matakaoa Point**	**20.07**	**187**	P	**P**	**06 02 23.0**	**-0.9**
OTAZ	**Otara**	**20.08**	**195**	PN	**P**	**06 02 26.3**	**+2.3**
OTAZ	**Otara**	**20.08**	**195**	P	**P**	**06 02 26.5**	**+2.5**
WTAZ	**Waiatarua**	**20.15**	**196**	P	**P**	**06 02 27.0**	**+2.3**
PUZ	**Puketiti**	**20.57**	**187**	PN	**P**	**06 02 26.8**	**-1.7**
PUZ				*e*SN	**S**	**06 05 40.7**	**-2.1**
PUZ	**Puketiti**	**20.57**	**187**	P	**P**	**06 02 27.3**	**-1.2**
URZ	**Urewera**	**20.91**	**189**	P	**P**	**06 02 29.6**	**-1.9**
	comp=N,281nm,0.6s,baz=354,slow=2.3,SNR=82						
URZ				S	**S**	**06 05 45.2**	**-3.0**
	comp=N,159nm,0.9s,baz=209,slow=23,SNR=5.8						
URZ	**Urewera**	**20.91**	**189**	PN	**P**	**06 02 28.6**	**-2.9**
URZ	**Urewera**	**20.91**	**189**	P	**P**	**06 02 29.6**	**-1.9**
MWZ	**Matawai**	**20.92**	**188**	PN	**P**	**06 02 30.0**	**-1.6**
MWZ				*e*SN	**S**	**06 05 43.4**	**-5.0**
MWZ	**Matawai**	**20.92**	**188**	P	**P**	**06 02 30.0**	**-1.6**
TAZ	**Tarawera**	**20.98**	**191**	P	**P**	**06 02 32.4**	**+0.2**
PATZ	**Paeroa**	**21.17**	**191**	*e*PN	**P**	**06 02 33.7**	**-0.1**
PATZ	**Paeroa**	**21.17**	**191**	P	**P**	**06 02 34.4**	**+0.5**
HIZ	**Hauiti**	**21.59**	**194**	*e*PN	**P**	**06 02 39.3**	**+1.8**
HIZ	**Hauiti**	**21.59**	**194**	*e*P	**P**	**06 02 40.7**	**+3.1**
RATZ	**Rangitukua**	**21.73**	**192**	P	**P**	**06 02 38.9**	**0.0**
BKZ	**Black Stump Fm**	**21.89**	**190**	PN	**P**	**06 02 38.1**	**-2.2**
BKZ				*e*SN	**S**	**06 05 60.0**	**-3.8**
BKZ	**Black Stump Fm**	**21.89**	**190**	P	**P**	**06 02 38.8**	**-1.6**
HNR	**Honiara**	**22.25**	**289**	P	**P**	**06 02 43.3**	**-0.2**
	comp=N,512nm,0.8s,mb6.2,baz=129,slow=1.0,SNR=7.9						
HNR	**Honiara**	**22.25**	**289**	*e*P	**P**	**06 02 44.6**	**+1.1**
HNR				pmax	pmax		
	comp=Z,546nm,0.9s,mb6.2						
HNR	**Honiara**	**22.25**	**289**	*e*P	**P**	**06 02 44.5**	**+1.0**
	comp=Z,546nm,0.9s,mb6.2						
TSZ	**Takapari Road**	**22.86**	**191**	*e*PN	**P**	**06 02 47.1**	**-1.8**
TSZ	**Takapari Road**	**22.86**	**191**	*e*P	**P**	**06 02 48.3**	**-0.6**
BFZ	**Birch Farm**	**23.41**	**190**	*e*PN	**P**	**06 02 52.1**	**-1.8**
BFZ	**Birch Farm**	**23.41**	**190**	*e*P	**P**	**06 02 52.9**	**-1.0**
MRZ	**Mangatainoka R**	**23.51**	**191**	PN	**P**	**06 02 52.6**	**-2.1**
MRZ				*e*SN	**S**	**06 06 25.3**	**-3.9**
MRZ	**Mangatainoka R**	**23.51**	**191**	*e*P	**P**	**06 02 52.9**	**-1.8**
KIW	**Kapiti Island**	**23.83**	**192**	PN	**P**	**06 02 56.7**	**-0.9**
KIW	**Kapiti Island**	**23.83**	**192**	P	**P**	**06 02 56.7**	**-0.8**
CAW	**Cannon Point**	**24.04**	**192**	PN	**P**	**06 02 58.2**	**-1.2**
CAW	**Cannon Point**	**24.04**	**192**	P	**P**	**06 02 58.3**	**-1.1**
TCW	**Tory Channel**	**24.30**	**193**	PN	**P**	**06 03 00.8**	**-0.9**
TCW	**Tory Channel**	**24.30**	**193**	P	**P**	**06 03 01.0**	**-0.7**
SNZO	**South Karori**	**24.30**	**192**	PN	**P**	**06 03 00.9**	**-0.8**
SNZO	**South Karori**	**24.30**	**192**	P	**P**	**06 03 01.1**	**-0.6**
QRZ	**Quartz Range**	**24.35**	**196**	*e*PN	**P**	**06 03 02.8**	**+0.7**
NNZ	**Nelson**	**24.50**	**194**	PN	**P**	**06 03 03.1**	**-0.4**
NNZ				*e*SN	**S**	**06 06 42.2**	**-2.5**
NNZ	**Nelson**	**24.50**	**194**	*e*P	**P**	**06 03 03.6**	**+0.1**
THZ	**Tophouse**	**25.13**	**195**	PN	**P**	**06 03 07.9**	**-1.2**
THZ	**Tophouse**	**25.13**	**195**	*e*P	**P**	**06 03 08.6**	**-0.5**
DSZ	**Denniston Nort**	**25.40**	**197**	PN	**P**	**06 03 11.1**	**-0.4**
DSZ	**Denniston Nort**	**25.40**	**197**	*e*P	**P**	**06 03 11.3**	**-0.2**
KHZ	**Kahutara**	**25.61**	**193**	PN	**P**	**06 03 11.8**	**-1.5**
KHZ				*e*SN	**S**	**06 06 58.5**	**-3.5**
KHZ	**Kahutara**	**25.61**	**193**	*e*P	**P**	**06 03 11.9**	**-1.4**
LTZ	**Lake Taylor**	**26.25**	**195**	PN	**P**	**06 03 17.6**	**-1.3**
LTZ	**Lake Taylor**	**26.25**	**195**	*e*P	**P**	**06 03 17.6**	**-1.3**
WVZ	**Waitaha Valley**	**26.93**	**197**	PN	**P**	**06 03 23.9**	**-1.0**
WVZ	**Waitaha Valley**	**26.93**	**197**	*e*P	**P**	**06 03 24.1**	**-0.8**
MQZ	**McQueen's Vall**	**27.03**	**194**	PN	**P**	**06 03 25.7**	**-0.1**
MQZ	**McQueen's Vall**	**27.03**	**194**	*e*P	**P**	**06 03 25.5**	**-0.3**
RPZ	**Rata Peaks**	**27.44**	**196**	P	**P**	**06 03 28.6**	**-0.7**
	comp=Z,134nm,0.6s,mb5.8,baz=288,slow=1.0,SNR=78						
RPZ	**Rata Peaks**	**27.44**	**196**	PN	**P**	**06 03 28.0**	**-1.3**
RPZ	**Rata Peaks**	**27.44**	**196**	*e*P	**P**	**06 03 27.9**	**-1.4**
FOZ	**Fox Glacier**	**27.68**	**198**	PN	**P**	**06 03 30.3**	**-1.1**
FOZ	**Fox Glacier**	**27.68**	**198**	P	**P**	**06 03 30.4**	**-1.1**
PAE	**Paea**	**27.77**	**95**	*e*P	**P**	**06 03 31.8**	**-0.4**
	comp=Z,337nm,0.8s,mb6.0						
PPT	**Papeete**	**27.78**	**94**	*e*P	**P**	**06 03 32.1**	**-0.2**
	comp=Z,201nm,0.9s,mb5.8						
PPT	**Papeete**	**27.78**	**94**	P	**P**	**06 03 31.9**	**-0.4**
	comp=Z,202nm,0.7s,mb5.8,baz=280,slow=2.1,SNR=15						
TBI	**Tubuai**	**27.98**	**107**	*e*P	**P**	**06 03 33.9**	**-0.1**
	comp=Z,471nm,0.8s,mb6.2						
TVO	**Taravao**	**28.07**	**95**	*e*P	**P**	**06 03 34.6**	**-0.2**
	comp=Z,387nm,0.7s,mb6.1						
LBZ	**Lake Benmore**	**28.30**	**197**	PN	**P**	**06 03 35.1**	**-1.7**
LBZ	**Lake Benmore**	**28.30**	**197**	*e*P	**P**	**06 03 35.5**	**-1.3**
JCZ	**Jackson Bay**	**28.43**	**199**	*e*PN	**P**	**06 03 37.6**	**-0.4**

STKA ScP ScP 06 09 56.0 +0.8
comp=Z,49nm,0.9s,baz=30,slow=4.7,SNR=5.0
STKA Stephens Creek 38.52 241 eScP ScP 06 09 55.0 -0.1
STKA eScS ScS 06 14 08.6 +0.9
WAKE Wake Island 39.36 338 eP **P** **06 05 08.1 -1.3**
comp=Z,434nm,0.8s,mb6.0
HON Honolulu 43.69 29 eP **P** **06 05 42.0 -1.5**
KIP Kipapa 43.77 28 P **P** **06 05 43.1 -1.0**
KIP pmax pmax
comp=Z,230nm,1.2s,mb5.6
KIP Kipapa 43.77 28 eP **P** **06 05 42.9 -1.2**
comp=Z,227nm,1.2s,mb5.6
HKL Haleakala 43.98 31 eP **P** **06 05 45.6 -0.2**
WB2 Warramunga Arr 44.38 259⇓iP **P** **06 05 48.4 -0.5**
WB2 eSCP ScP 06 10 21.8 +3.2
WB2 eS **S** **06 11 39.6 -3.1**
WB2 eSCS ScS 06 14 46.4 +2.3
WRAB Tennant Creek 44.38 259 P **P** **06 05 48.0 -0.9**
comp=Z,4µm,0.9s
WRAB Tennant Creek 44.38 259⇑iP **P** **06 05 48.4 -0.5**
WRAB eS **S** **06 11 37.9 -4.8**
WRAB pmax pmax
comp=Z,1µm,1.0s,mb6.3
WRAB Tennant Creek 44.38 259⇑iP **P** **06 05 48.4 -0.5**
comp=Z,1µm,1.0s,mb6.3
WRAB eScP ScP 06 10 20.1 +1.5
WRAB eS **S** **06 11 37.9 -4.8**
AS31 Alice Springs 44.59 254⇓iP **P** **06 05 50.8 +0.4**
AS31 eScP ScP 06 10 22.5 +3.0
AS31 eS **S** **06 11 43.9 -1.6**
AS31 eScS ScS 06 14 47.1 +1.7
ASAR Alice Springs 44.59 254 P **P** **06 05 50.8 +0.4**
comp=Z,2µm,0.7s,baz=88,slow=8.2,SNR=9470
ASAR ScP ScP 06 10 21.8 +2.3
comp=Z,37nm,0.9s,baz=93,slow=4.0,SNR=8.1
ASAR S **S** **06 11 44.0 -1.6**
comp=Z,18nm,0.9s,baz=81,slow=16,SNR=6.6
ASPA Alice Springs 44.59 254⇓iP **P** **06 05 50.8 +0.3**
ASPA eSCP ScP 06 10 22.5 +3.0
ASPA eS **S** **06 11 43.9 -1.7**
ASPA eSCS ScS 06 14 47.1 +1.7
KAKA Kakadu 47.29 269⇓iP **P** **06 06 10.9 0.0**
comp=Z,324nm,0.4s,mb6.2
KAKA eSCP ScP 06 10 32.4 +1.6
KAKA eS **S** **06 12 23.1 -0.1**
FORT Forrest 49.87 244⇓iP **P** **06 06 29.8 -0.2**
comp=Z,1µm,0.6s,mb6.4
FORT eS **S** **06 12 59.5 +1.1**
FITZ Fitzroy Crossi 52.78 260 P **P** **06 06 51.6 +0.5**
comp=Z,71nm,0.4s,mb5.4,baz=122,slow=4.1,SNR=419
DRV Dumont d'Urvil 55.86 199 P **P** **06 07 22.0 +9.3**
DRV S **S** **06 14 26.0 +8.3**
DRV SS SS 06 18 34.0 +19
DRV L 06 21 00.0
MBWA Marble Bar 57.86 256⇓iP **P** **06 07 26.3 0.0**
comp=Z,420nm,0.8s,mb5.7
KLBR Kellerberrin 58.70 243⇓iP **P** **06 07 31.6 -0.3**
comp=Z,925nm,0.8s,mb6.1
KLBR e 06 09 50.9
KLBR eS **S** **06 15 01.8 +8.0**
NWAO Narrogin (SRO) 59.09 242 P **P** **06 07 34.7 +0.1**
comp=Z,132nm,0.7s,mb5.3,baz=106,slow=5.5,SNR=93
NWAO Narrogin (SRO) 59.09 242 P **P** **06 07 34.7 +0.1**
NWAO pmax pmax
comp=Z,132nm,0.7s
NWAO Narrogin (SRO) 59.09 242⇓iP **P** **06 07 34.4 -0.1**
comp=Z,456nm,1.3s,mb5.5
NWAO epP pP 06 09 26.9 +2.1
MUN Mundaring 60.00 243⇓iP **P** **06 07 40.7 +0.1**
SBA Scott Base 60.71 183⇓iP **P** **06 07 47.2 +1.9**
SBA pmax pmax
comp=Z,7.0nm,0.9s
SBA Scott Base 60.71 183⇓iP **P** **06 07 47.2 +1.9**
comp=Z,6.7nm,0.9s
SBA epP pP 06 09 40.5 +4.1
VNDA Vanda 60.73 185 P **P** **06 07 46.5 +1.1**
comp=Z,38nm,0.9s,mb4.7,baz=357,slow=7.4,SNR=175
VNDA ScP ScP 06 11 30.9 +1.3
comp=Z,14nm,0.8s,baz=352,slow=4.6,SNR=6.1
VNDA Vanda 60.73 185⇑iP **P** **06 07 46.4 +1.0**
VNDA e*PP pP 06 09 39.4 +2.9
VNDA pmax pmax
comp=Z,66nm,1.1s
VNDA Vanda 60.73 185⇑iP **P** **06 07 46.4 +0.9**
comp=Z,66nm,1.1s,mb4.9
VNDA epP pP 06 09 39.4 +3.0
VNDA eScP ScP 06 11 30.5 +1.0
BUKP Musuan 61.02 290 eP **P** **06 07 48.6 +1.3**
KAPI Kappang 61.37 274 P **P** **06 07 49.6 0.0**
comp=Z,1µm,1.1s,mb6.1,SNR=15
SCPH Surigao 61.45 292 eP **P** **06 07 50.6 +0.4**
MSLP Maasin 62.16 292 eP **P** **06 07 55.1 +0.4**
TBP Tagbilaran 62.86 291 eP **P** **06 08 03.3 +4.0**
JHJ Hachijo jima 2 64.14 322 P **P** **06 08 07.1 -0.3**
comp=Z,173nm,0.4s,mb5.8,baz=165,slow=9.7,SNR=6.5
PVCP Virac 64.32 295 eP **P** **06 08 09.7 +1.1**
TSM Tawau 66.20 283 P **P** **06 08 21.0 +0.7**
CASY Casey 66.29 205⇓iP **P** **06 08 21.1 +0.2**
CASY epP pP 06 10 20.3 +5.6
CASY eS S 06 16 26.8 +0.4
BUSP Coron 67.09 292 eP **P** **06 08 25.8 0.0**
TGY Tagaytay City 67.34 294 P **P** **06 08 28.2 +0.8**
comp=Z,256nm,0.4s,baz=164,slow=13,SNR=5.6
ENPP El Nido 67.45 290 eP **P** **06 08 29.0 +1.0**
MJAR Matsushiro Arr 67.47 323 P **P** **06 08 27.1 -1.0**
comp=Z,44nm,0.6s,mb5.2,baz=159,slow=6.2,SNR=82
MAJO Matsushiro 67.48 323 P **P** **06 08 26.8 -1.4**
MAJO pmax pmax
comp=Z,70nm,0.8s,mb5.2
MAJO Matsushiro 67.48 323⇑iP **P** **06 08 27.3 -0.9**
comp=Z,70nm,0.8s,mb5.2
MAT Matsushiro 67.48 323 P **P** **06 08 27.3 -0.9**
MAT S S 06 16 39.0 -1.2
MAT Matsushiro 67.48 323 eP **P** **06 08 27.0 -1.2**
MAT eS S 06 16 40.0 -0.2
MAT pmax pmax
comp=Z,42nm,0.7s,mb5.1
MAT Matsushiro 67.48 323 eP **P** **06 08 27.0 -1.2**
comp=Z,42nm,0.7s,mb5.1
MAT eS S 06 16 40.0 -0.2
LUBP Lubang 67.78 293 eP **P** **06 08 28.9 -1.1**
JOW Kunigami 67.79 310 P **P** **06 08 30.1 0.0**
comp=Z,14nm,0.4s,mb4.8,baz=128,slow=11,SNR=6.5
CAUP Cauayan 67.85 297 eP **P** **06 08 31.7 +1.2**
BATP Bataraza 67.95 287 eP **P** **06 08 31.8 +0.7**
CVP Callao Caves 68.20 298 eP **P** **06 08 33.6 +1.0**
comp=Z,14µm,1.0s
KKM Kota Kinabalu 68.37 284 P **P** **06 08 34.2 +0.6**
KKM Kota Kinabalu 68.37 284⇓iP **P** **06 08 34.1 +0.5**
APYP Conner 68.77 298 eP **P** **06 08 37.0 +1.0**
ATKA Atka Island 69.61 3 eP **P** **06 08 38.4 -2.6**
BJII Banjamegara 70.29 268⇓iP **P** **06 08 58.7 +14**
SMY Shemya 70.30 355 P **P** **06 08 42.9 -2.3**
SMY pmax pmax
comp=Z,200nm,0.9s,mb5.7
SMY Shemya 70.30 355 eP **P** **06 08 42.7 -2.5**
comp=Z,109nm,0.5s,mb5.6
SMY LR LR
comp=Z,300nm,19.0s
ASAJ Asahikawa 70.86 332 P **P** **06 08 48.7 +0.3**
comp=Z,76nm,0.7s,mb5.3,baz=210,slow=7.3,SNR=35
ASAJ Asahikawa 70.86 332 P **P** **06 08 48.7 +0.3**
ASAJ pmax pmax
comp=Z,76nm,0.7s
NACB Ninganchiao 71.49 304 eP **P** **06 08 51.8 -0.3**
SKR Severo-Kuril's 71.49 343 eP **P** **06 08 46.2 -5.9**
SKR e 06 13 33.0
SKR eS S 06 17 22.0 -4.1
SKR e 06 18 04.0
SKR pmax pmax
comp=N,50nm,0.7s
SKR pmax pmax
comp=Z,90nm,0.7s,mb5.4
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=E,2µm,4.0s
SKR pmax pmax
comp=Z,2µm,4.0s
SKR smax
comp=N,3µm,14.0s
SKR smax
comp=E,4µm,14.0s
SKR smax
comp=Z,3µm,14.0s
YHNB Yeheng 71.91 304 eP **P** **06 08 54.5 0.0**
UNV Unalaska Valle 71.92 8 eP **P** **06 08 51.9 -2.7**
comp=Z,268nm,0.8s,mb5.7
KSM Kuching 72.34 277⇓iP **P** **06 08 58.0 +0.9**
KSM epP pP 06 10 56.4 +2.7
QSPA South Pole Qui 72.46 180⇓iP **P** **06 08 58.6 +0.9**
comp=Z,209nm,1.0s,mb5.5
PET Petropavlovsk 73.00 346αiP **P** **06 08 59.1 -1.7**
PET e 06 11 50.1
PET iS S 06 17 41.1 -1.7
PET e 06 18 11.6
PET pmax pmax
comp=Z,67nm,0.8s,mb5.1
PET pmax pmax
comp=Z,100nm,15.5s
PET pmax pmax
comp=Z,200nm,20.6s
PET smax
comp=N,700nm,21.8s
PET smax
comp=E,2µm,20.7s
PET pmax pmax
comp=E,2µm,36.2s
PET Petropavlovsk 73.00 346 eP **P** **06 08 58.9 -1.9**
comp=E,32nm,0.5s,mb5.0
YSS Yuzh-Sakhalins 73.00 334⇑eP **P** **06 09 00.0 -0.8**
YSS e*PP pP 06 10 57.0 -0.7
YSS e 06 11 46.0
YSS iS S 06 17 44.0 +1.2
YSS e 06 18 19.0
YSS eSSS 06 25 56.0
YSS pmax pmax
comp=Z,900nm,6.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.2
YSS smax
comp=N,3µm,14.0s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS Yuzh-Sakhalins 73.00 334 eP **P** **06 09 00.5 -0.3**
comp=Z,53nm,0.8s,mb5.0
MIR Mirnyy 73.33 205diP **P** **06 09 04.0 +1.3**
MIR pmax pmax
comp=Z,2µm,1.0s
KS15 Wonju Array Si 74.28 318 eP **P** **06 09 08.8 +0.7**
SSE Sheshan 75.31 310 P **P** **06 09 13.5 -0.3**
SSE AP pP 06 11 10.4 -1.3
SSE PP PP 06 12 11.5 -1.3
SSE S S 06 18 10.2 +2.3
SSE SS SS 06 23 14.8 +1.1
SSE AMB AMB
comp=Z,30nm,0.6s,mb4.9
SSE AMB AMB
comp=Z,360nm,4.8s
VLA Vladivostok 75.52 325 iP **P** **06 09 13.5 -1.5**
SNCC San Nicolas Is 75.80 48⇓P **P** **06 09 17.0 +0.5**
baz=76
V03C Hunter Liggett 76.13 45⇑P **P** **06 09 19.1 +0.7**
baz=76,SNR=6.9
BNLO Ben Lomond 76.14 43⇑P **P** **06 09 18.6 +0.2**
baz=76
V04C Ramage Ranch, 76.17 45⇑P **P** **06 09 19.1 +0.6**
baz=76,SNR=13
JRSC Jasper Ridge 76.25 43⇓P **P** **06 09 19.3 +0.3**
baz=76
MCCM Marconi Confer 76.27 42⇓P **P** **06 09 19.5 +0.4**
baz=76
SBC Santa Barbara 76.31 47⇓P **P** **06 09 20.1 +0.7**
baz=76
SAO San Andreas Ge 76.41 44 eP **P** **06 09 19.9 0.0**
SAO pmax pmax
comp=Z,93nm,1.0s,mb5.2
SAO San Andreas Ge 76.41 44⇑iP **P** **06 09 19.9 0.0**
comp=Z,93nm,1.0s,mb5.2
SAO epP pP 06 11 19.9 +1.6
PKD Parkfield 76.56 45⇓P **P** **06 09 21.1 +0.3**
baz=77,SNR=8.2
PTRM Twissleman Ran 76.62 46 eP **P** **06 09 21.7 +0.6**
PTRM epP pP 06 11 20.9 +1.4
U04C Hernandez Rese 76.63 45⇓P **P** **06 09 22.0 +0.9**
baz=77,SNR=19
HOPS Hopland 76.64 41⇑iP **P** **06 09 21.1 0.0**
comp=Z,110nm,1.3s,mb5.1
HOPS Hopland 76.64 41⇑P **P** **06 09 21.3 +0.1**
baz=77
CVS Carmenet Viney 76.65 42⇓P **P** **06 09 20.8 -0.4**
baz=77
PACP Pacheco Peak 76.65 44⇓P **P** **06 09 21.7 +0.5**
baz=77,SNR=21
NSHM Saint Helena R 76.66 42 eP **P** **06 09 20.9 -0.3**
WENL Wente Brothers 76.69 43⇑P **P** **06 09 21.5 +0.1**
baz=77,SNR=5.9
P01C Double 8 Ranch 76.75 41⇑P **P** **06 09 22.1 +0.3**
baz=77
BDM Black Diamond 76.81 43⇓P **P** **06 09 22.4 +0.3**
baz=77
O01C Eel River Cons 76.85 40⇓P **P** **06 09 22.9 +0.6**
baz=77,SNR=6.0
KIPM Iron Peak 76.86 41 eP **P** **06 09 23.1 +0.7**
S04C Ingram Canyon, 76.90 43 P **P** **06 09 22.9 +0.3**
baz=77,SNR=16
FMP Fort Macarthur 76.92 48⇓P **P** **06 09 23.0 +0.3**
baz=77
V05C Boulder Hill, 76.95 46⇑P **P** **06 09 23.7 +0.8**
baz=77
MNRC McLaughlin Nat 76.97 42⇓P **P** **06 09 23.5 +0.5**
baz=77,SNR=17
T05C Eagle Field, D 77.00 44⇑P **P** **06 09 23.8 +0.7**
baz=77,SNR=8.3
OSI Osito Adit 77.09 47⇓P **P** **06 09 23.6 0.0**
baz=77
Q03C Winters 77.10 42⇓P **P** **06 09 24.2 +0.5**
baz=77,SNR=8.8
JCC Jacoby Creek 77.13 39⇓P **P** **06 09 24.0 +0.1**
baz=77
GASB Alder Springs 77.24 41⇑P **P** **06 09 25.1 +0.7**
baz=77,SNR=13
109C Camp Elliot, M 77.34 49 P **P** **06 09 25.0 0.0**
baz=78,SNR=10
KHMM Horse Mountain 77.34 40 eP **P** **06 09 25.8 +0.8**
S05C Merced 77.48 44⇑P **P** **06 09 25.4 -0.3**
baz=78,SNR=15
NJ2 Nanjing 77.51 310 eP **P** **06 09 26.9 +1.0**
NJ2 PCP PcP 06 09 35.3 +1.8
NJ2 AP pP 06 11 26.0 +1.3
NJ2 XP sP 06 12 20.0 -2.6
NJ2 PP PP 06 12 31.0 0.0
NJ2 PPP 06 14 24.0
NJ2 S S 06 18 35.0 +3.7
NJ2 AMB AMB
comp=Z,70nm,1.1s,mb4.9
NJ2 AMB AMB
comp=Z,590nm,5.0s
O02C Red Bluff 77.51 41⇓P **P** **06 09 26.3 +0.4**
baz=78,SNR=16
N02C Big Bar 77.57 40⇑P **P** **06 09 26.1 -0.2**
baz=78,SNR=7.7
R04C Big Horse Ranc 77.58 43⇑P **P** **06 09 25.7 -0.6**
baz=78,SNR=6.9
SUTB Sutter Buttes 77.59 42⇑P **P** **06 09 25.4 -0.9**
baz=78,SNR=12
HABR Khabarovsk 77.59 331⇑iP **P** **06 09 26.6 +0.3**
HABR eS S 06 18 31.2 -1.0
HABR pmax pmax
comp=Z,164nm,1.4s,mb5.2
Q04C Lincoln 77.63 42⇓P **P** **06 09 26.1 -0.4**
baz=78
M01C Crescent City 77.70 39⇓P **P** **06 09 26.8 -0.1**
baz=78
T06C Millerton Lake 77.70 45⇑P **P** **06 09 26.8 -0.2**
baz=78,SNR=7.3
GZH Guangzhou 77.71 299 P **P** **06 09 28.2 +1.2**
GZH S S 06 18 31.9 -1.5
MDJ Mudanjiang 77.76 325 P **P** **06 09 27.4 +0.2**
MDJ AP pP 06 11 25.8 -0.3
MDJ XP sP 06 12 23.8 -0.2
MDJ PP PP 06 12 33.2 +0.2
MDJ S S 06 18 35.6 +1.7
MDJ SCS ScS 06 18 55.4 +1.0
MDJ XS sS 06 22 06.3 +0.5
MDJ SS SS 06 23 52.3 +2.1
MDJ AMB AMB
comp=Z,90nm,0.8s,mb5.2
MDJ AMB AMB
comp=Z,310nm,3.5s
MDJ Mudanjiang 77.76 325 eP **P** **06 09 27.4 +0.1**
comp=Z,99nm,1.0s,mb5.1
MDJ epP pP 06 11 28.9 +2.8
ISA Isabella 77.82 46⇓P **P** **06 09 27.8 +0.3**
baz=78,SNR=30
CMB Columbia Colle 77.82 43⇑iP **P** **06 09 27.3 -0.3**
CMB e*PP pP 06 11 26.9 +0.4
CMB pmax pmax
comp=Z,91nm,1.1s,mb5.0
CMB Columbia Colle 77.82 43⇑iP **P** **06 09 27.3 -0.3**
comp=Z,91nm,1.1s,mb5.0
CMB epP pP 06 11 26.9 +0.5
CMB Columbia Colle 77.82 43 P **P** **06 09 27.5 -0.1**
baz=78,SNR=36
OHCM Honcut 77.84 42 eP **P** **06 09 26.5 -1.2**
OHCM epP pP 06 11 27.1 +0.5
O03C Acorn Hollow, 77.88 41⇑P **P** **06 09 27.6 -0.3**
baz=78,SNR=13
WDC Whiskeytown Da 77.90 40 P **P** **06 09 27.8 -0.2**
WDC pmax pmax
comp=Z,96nm,1.3s,mb5.0
WDC Whiskeytown Da 77.90 40⇑iP **P** **06 09 27.8 -0.2**
comp=Z,96nm,1.3s,mb5.0
WDC epP pP 06 11 27.6 +0.7
WDC Whiskeytown Da 77.90 40 P **P** **06 09 27.9 -0.1**
baz=78,SNR=26
ORV Oroville 77.96 42 P **P** **06 09 28.2 -0.1**
baz=78,SNR=29
LAVA Lava Cap Winer 77.99 43 P **P** **06 09 28.3 -0.2**
baz=78,SNR=16
S06C San Francisco 78.09 44⇓P **P** **06 09 28.9 -0.1**
baz=78
KCC Kaiser Creek 78.14 45⇑P **P** **06 09 29.4 +0.1**
baz=78
KDAK Kodiak Island 78.17 14 P **P** **06 09 28.4 -1.1**
comp=Z,986nm,0.8s,mb6.2,SNR=12
KDAK Kodiak Island 78.17 14 P **P** **06 09 28.0 -1.5**
comp=Z,77nm,0.6s,mb5.2,baz=207,slow=3.5,SNR=26
KDAK Kodiak Island 78.17 14 eP **P** **06 09 27.9 -1.6**
comp=Z,502nm,1.4s,mb5.7
PFO Pinyon Flat Ob 78.18 49 P **P** **06 09 29.0 -0.5**
comp=Z,162nm,0.9s,mb5.4,SNR=12
PFO Pinyon Flat Ob 78.18 49⇑iP **P** **06 09 29.5 0.0**
PFO e*PP pP 06 11 29.6 +1.0
PFO pmax pmax
comp=Z,41nm,1.1s,mb4.7
PFO Pinyon Flat Ob 78.18 49⇑iP **P** **06 09 29.5 0.0**
comp=Z,41nm,1.1s,mb4.7
PFO epP pP 06 11 29.6 +1.0
PFO Pinyon Flat Ob 78.18 49⇑P **P** **06 09 29.7 +0.2**
baz=78,SNR=17
M02C Callahan 78.19 40⇑P **P** **06 09 30.1 +0.6**
baz=78,SNR=17
L02A Cave Junction 78.19 39⇓P **P** **06 09 29.9 +0.3**
baz=78,SNR=6.1
P05C Yuba Gap, Truc 78.38 42 P **P** **06 09 30.9 +0.4**
baz=78,SNR=34
R05C Kirkwood Meado 78.39 43 P **P** **06 09 30.9 +0.3**
baz=78,SNR=37
YBH Yreka Blue Hor 78.47 39⇑iP **P** **06 09 31.3 +0.2**
YBH e*PP pP 06 11 30.7 +0.5
YBH pmax pmax
comp=Z,72nm,1.0s
YBH Yreka Blue Hor 78.47 39⇑iP **P** **06 09 31.3 +0.2**
comp=Z,72nm,1.0s,mb5.0
YBH epP pP 06 11 30.7 +0.4
YBH Yreka Blue Hor 78.47 39 P **P** **06 09 31.5 +0.5**
baz=79,SNR=38
CWC Cottonwood Cre 78.50 46⇑P **P** **06 09 31.4 +0.2**
baz=79
LPIG La Paz 78.54 60 iP **P** **06 09 32.5 +1.1**
O05C Quincy 78.56 42 P **P** **06 09 31.8 +0.2**
baz=79,SNR=22
M03C McCloud 78.56 40 P **P** **06 09 31.7 +0.2**
baz=79,SNR=27
MLAC Mammoth Lakes 78.62 44⇑P **P** **06 09 32.5 +0.6**
baz=79,SNR=18
K02A Glendale 78.63 38⇓P **P** **06 09 31.7 -0.2**
baz=79,SNR=8.8
O04C Chester 78.65 41⇑P **P** **06 09 32.0 0.0**
baz=79,SNR=30
MTUM Tungsten Hills 78.66 45 eP **P** **06 09 32.7 +0.7**
MTUM epP pP 06 11 32.2 +0.9
R06C Coleville 78.70 43⇓P **P** **06 09 32.6 +0.3**
baz=79,SNR=32
HATC Hat Creek Radi 78.71 41⇑P **P** **06 09 32.3 0.0**
baz=79,SNR=27
LHEM Herd Peak 78.71 40 P **P** **06 09 32.3 -0.1**
TIN Tinemaha 78.72 45⇑P **P** **06 09 32.7 +0.3**
baz=79,SNR=8.4
R07C Lee Vining 78.73 44⇓P **P** **06 09 32.8 +0.3**
baz=79
DAC Darwin (Calif) 78.75 46⇑iP **P** **06 09 32.7 +0.2**
DAC e*PP pP 06 11 32.4 +0.6
DAC pmax pmax
comp=Z,29nm,0.8s,mb4.7
DAC Darwin (Calif) 78.75 46⇑iP **P** **06 09 32.7 +0.2**
comp=Z,29nm,0.8s,mb4.7
DAC epP pP 06 11 32.4 +0.5
GSC Goldstone 78.79 47 P **P** **06 09 33.0 +0.3**
baz=79,SNR=30
HUMO Hull Mountain 78.84 38 eP **P** **06 09 32.3 -0.7**
comp=Z,53nm,1.0s,mb4.8
HUMO epP pP 06 11 33.2 +0.8
HUMO Hull Mountain 78.84 38 P **P** **06 09 33.4 +0.3**
baz=79,SNR=19
BC3 Big Chuckw Mtn 78.92 49 P **P** **06 09 34.1 +0.6**
baz=79,SNR=24
WCN Washoe City 78.93 43⇑P **P** **06 09 33.8 +0.3**
baz=79,SNR=37
J02A Umpqua 78.94 38⇑P **P** **06 09 33.6 0.0**
baz=79,SNR=11
S08C White Mtn Res 79.00 45⇓P **P** **06 09 34.6 +0.7**
baz=79,SNR=108
M04C Macdoel 79.03 40⇓P **P** **06 09 34.2 +0.2**
baz=79,SNR=12
ELFS Eagle Lake Fie 79.05 41⇓P **P** **06 09 34.4 +0.3**
baz=79
P06A Stead Airport, 79.05 42⇓P **P** **06 09 34.2 +0.1**
baz=79,SNR=18
QIZ Qiongzhong 79.05 294⇑P **P** **06 09 35.8 +1.7**
QIZ AP pP 06 11 34.3 +0.8
QIZ XP sP 06 12 32.4 +1.1
QIZ S S 06 18 51.1 +3.7
QIZ SCS ScS 06 19 05.6 +0.7
QIZ AMB AMB
comp=Z,50nm,1.6s,mb4.6
QIZ AMB AMB
comp=Z,710nm,9.1s
BUOR Burton Butte 79.07 39 P **P** **06 09 34.4 +0.2**
GLA Glamis 79.08 50⇑iP **P** **06 09 35.0 +0.7**
GLA e*PP pP 06 11 34.9 +1.2
GLA Glamis 79.08 50⇑P **P** **06 09 35.1 +0.8**
baz=79,SNR=38
KGM Kluang 79.14 276 P **P** **06 09 35.8 +1.2**
DL2 Dalian 79.15 317 P **P** **06 09 34.7 0.0**
DL2 PP PP 06 12 41.0 -3.5
DL2 S S 06 18 51.8 +3.3
DL2 SS SS 06 24 08.6 -2.4
DL2 AMB AMB
comp=Z,30nm,0.8s,mb4.7
DL2 AMB AMB
comp=Z,100nm,4.7s
I02A Mapleton 79.17 37⇑P **P** **06 09 34.8 0.0**
baz=79,SNR=6.6
M05C Lookout 79.21 40⇓P **P** **06 09 35.0 +0.1**
baz=79,SNR=43
L04A Klamath Falls 79.22 39⇓P **P** **06 09 35.0 0.0**
baz=79,SNR=18
J03A Ideyld Park 79.30 38⇓P **P** **06 09 35.6 +0.1**
baz=80
Q07A Schurz 79.35 43⇑P **P** **06 09 36.1 +0.4**
baz=80,SNR=8.2
O06A Flanigan 79.36 42⇑P **P** **06 09 35.8 +0.1**
baz=80,SNR=92
HOG Hogback Mounta 79.38 39 P **P** **06 09 35.9 +0.1**
PAHR Pah Rah Range 79.39 42⇑iP **P** **06 09 35.9 0.0**
comp=Z,81nm,1.0s,mb5.0
PAHR epP pP 06 11 36.2 +0.7
NVAR Mina Array Bea 79.41 44 P **P** **06 09 36.3 +0.3**
comp=Z,43nm,0.7s,mb4.9,baz=230,slow=10.0,SNR=182
NVAR pP pP 06 11 34.1 -1.5
comp=Z,26nm,1.2s,baz=218,slow=5.9,SNR=4.3
NVAR PKKPbc PKKPbc 06 28 23.1 +3.4
comp=Z,0.4nm,0.5s,baz=56,slow=5.3,SNR=4.2
NVAR PKPPKP 06 36 23.1

comp=Z,0.6nm,0.8s,baz=358,slow=3.3,SNR=5.0
I03A Eugene 79.47 37 ⇓P P 06 09 36.0 -0.3
baz=80,SNR=6.1
TUQ Turquoise Mtn. 79.48 48 ⇓P P 06 09 36.6 +0.2
baz=80,SNR=22
H02A Toledo 79.49 36 ⇓P P 06 09 34.9 -1.6
baz=80
R08A Mina 79.49 44 ⇑P P 06 09 36.6 +0.1
baz=80,SNR=16
MNV Mina 79.51 44⇑*i*P P 06 09 36.5 0.0
MNV *e**PP pP 06 11 37.0 +0.9
MNV pmax pmax
comp=Z,107nm,1.2s,mb5.0
MNV Mina 79.51 44⇑*i*P P 06 09 36.5 -0.1
comp=Z,108nm,1.2s,mb5.0
MNV *e*pP pP 06 11 37.0 +0.8
M06C Likely Place G 79.53 41 P P 06 09 37.0 +0.3
baz=80,SNR=45
SNY Shenyang 79.55 320 ⇑P P 06 09 36.8 0.0
SNY AP pP 06 11 37.2 +0.8
SNY XP sP 06 12 33.0 -1.1
SNY S S 06 18 56.2 +3.7
SNY SS SS 06 24 19.9 +3.1
SNY AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
SNY AMB AMB
comp=Z,410nm,4.3s
K04A Chilquin 79.58 39 ⇑P P 06 09 37.0 +0.1
baz=80,SNR=6.4
P07A Fallon 79.62 43 ⇓P P 06 09 37.5 +0.3
baz=80
MPOR Mary's Peak 79.64 37 P P 06 09 37.3 0.0
Y12C Blythe 79.65 50 ⇓P P 06 09 37.8 +0.5
baz=80,SNR=21
KLR Kul'dur 79.69 330 *e*P P 06 09 33.9 -3.6
KLR *e* pP 06 11 32.5 -4.6
KLR *i* S S 06 18 53.0 -0.9
KLR *e*SS SS 06 24 13.0 -5.8
KLR pmax pmax
comp=E,28nm,1.4s
KLR pmax pmax
comp=Z,67nm,1.4s,mb4.8
KLR pmax pmax
comp=Z,1μm,11.0s
KLR smax
comp=N,2μm,14.0s
KLR smax
comp=E,2μm,14.0s
S09A Goldfield 79.76 45 P P 06 09 37.8 0.0
baz=80,SNR=46
COR Corvallis 79.83 37 P P 06 09 38.7 +0.5
COR pmax pmax
comp=Z,63nm,1.1s,mb4.9
COR Corvallis 79.83 37 *e*P P 06 09 38.2 0.0
comp=Z,63nm,1.1s,mb4.9
Q08A Gabbs 79.89 44 P P 06 09 38.5 0.0
baz=80,SNR=59
H03A Soap Creek Ran 79.89 37 ⇓P P 06 09 38.6 +0.1
baz=80,SNR=16
TPH Tonopah 79.94 45 P P 06 09 39.1 +0.3
TPH pmax pmax
comp=Z,110nm,1.2s,mb5.1
TPH Tonopah 79.94 45⇑*i*P P 06 09 38.9 +0.1
comp=Z,114nm,1.2s,mb5.1
TPH *e*pP pP 06 11 40.0 +1.5
O07A Toulon 79.97 42 P P 06 09 39.1 +0.2
baz=80,SNR=85
TPNV Topopah Spring 80.02 46 P P 06 09 39.4 +0.2
TPNV pmax pmax
comp=Z,49nm,0.9s,mb4.8
TPNV Topopah Spring 80.02 46⇑*i*P P 06 09 39.4 +0.2
comp=Z,49nm,0.9s,mb4.8
TPNV *e*pP pP 06 11 40.3 +1.3
MOD Modoc 80.04 40⇑*i*P P 06 09 39.4 0.0
comp=Z,66nm,0.6s,mb5.1
MOD *e*pP pP 06 11 40.0 +0.9
IRO Indian Ridge 80.08 38 P P 06 09 39.3 -0.3
BROR Big Rock Looko 80.12 37 P P 06 09 39.5 -0.3
W12A Cal Nev Ari 80.16 48 P P 06 09 40.5 +0.6
baz=80,SNR=28
Y13A Salome 80.18 50 ⇑P P 06 09 40.8 +0.7
baz=80,SNR=39
P08A Dixie Valley 80.23 43 ⇓P P 06 09 40.7 +0.4
baz=80,SNR=7.5
N07B Gerlach 80.25 42 P P 06 09 40.6 +0.2
baz=80,SNR=46
FRIS Frissel Point 80.30 38 P P 06 09 40.5 -0.2
Q09A Carvers 80.37 44 ⇓P P 06 09 41.3 +0.2
baz=80,SNR=13
M07A Soldier Meadow 80.46 41 P P 06 09 41.9 +0.3
baz=81,SNR=111
F03A Seaside 80.50 36 ⇓P P 06 09 41.6 -0.1
baz=81,SNR=5.3
O08A Rochester Mine 80.50 42 ⇑P P 06 09 41.8 +0.1
baz=81
H04A Detroit Lake 80.52 37 ⇑P P 06 09 41.2 -0.6
baz=81,SNR=31
X13A Yucca 80.56 49 ⇓P P 06 09 42.4 +0.4
baz=81,SNR=59
K06A Valley Falls 80.58 39 ⇓P P 06 09 42.2 +0.1
baz=81,SNR=37
BKCOR Black Crater 80.58 38 P P 06 09 42.1 -0.1
SVW2 Sparrevohn 80.59 11 *e*P P 06 09 40.1 -2.1
Z14A Wintersburg 80.61 51 P P 06 09 43.2 +0.9
baz=81,SNR=33
G04A Mulino 80.67 37 ⇑P P 06 09 42.1 -0.5
baz=81
I05A Bend 80.75 38 ⇓P P 06 09 43.0 -0.1
baz=81,SNR=19
W13A Hualapai Mount 80.76 49 ⇑P P 06 09 43.7 +0.6
baz=81,SNR=42
P09A Austin 80.77 44 ⇓P P 06 09 43.3 +0.2
baz=81,SNR=6.6
MA2 Magadan 80.81 345*c i*P P 06 09 41.1 -2.2
MA2 *i* S S 06 19 01.3 -4.1
MA2 *e*SP 06 19 54.9
MA2 pmax pmax
comp=Z,110nm,1.3s,mb5.1
MA2 Magadan 80.81 345 *e*P P 06 09 41.6 -1.8
comp=Z,114nm,1.5s,mb5.1
115A Sonoran Desert 80.84 52 ⇓P P 06 09 44.2 +0.7
baz=81,SNR=31
Y14A Wickenburg 80.85 50 P P 06 09 44.0 +0.4
baz=81,SNR=50
E03A Lebam 80.87 35 ⇓P P 06 09 43.3 -0.3
baz=81,SNR=16
J06A Christmas Vall 80.89 39 P P 06 09 43.5 -0.2
baz=81,SNR=48
M08A Happy Creek Ra 80.99 41 P P 06 09 44.7 +0.5
baz=81,SNR=70
H05A Madras 81.06 38 ⇑P P 06 09 44.2 -0.4
baz=81,SNR=9.7
O09A Fish Creek Ran 81.06 43 P P 06 09 44.9 +0.2
baz=81,SNR=61
D03A Wishkah Elem. 81.11 34 ⇓P P 06 09 45.0 +0.1
baz=81,SNR=5.4
F04A Amboy 81.13 36 P P 06 09 44.5 -0.5
baz=81,SNR=18
SLKM Skilak Lake 81.16 14 *e*P P 06 09 43.2 -1.9
SLKM *e*pP pP 06 11 47.2 +1.8
116A Eloy 81.17 52 ⇓P P 06 09 46.0 +0.8
baz=81,SNR=58
X14A Yava 81.18 50 P P 06 09 46.2 +1.0
baz=81,SNR=81
BMN Battle Mountai 81.18 43⇑*i*P P 06 09 45.3 +0.1
BMN *e**PP pP 06 11 45.9 +0.4
BMN pmax pmax
comp=Z,129nm,1.1s,mb5.3
BMN Battle Mountai 81.18 43⇑*i*P P 06 09 45.3 +0.1
comp=Z,129nm,1.1s,mb5.3
BMN *e*pP pP 06 11 45.9 +0.4
CJM Chamela 81.19 66 *i* P P 06 09 46.5 +1.2
C03A Quillayute Air 81.19 33 ⇓P P 06 09 45.7 +0.4
baz=81
N09A Rock Creek Ran 81.21 42 P P 06 09 45.7 +0.3
baz=81,SNR=60
LVP Lakeview Peak 81.22 36 P P 06 09 45.2 -0.2
I06A Prineville 81.25 39 ⇓P P 06 09 45.8 +0.2
baz=81,SNR=115
OOW Octopus West 81.26 34 P P 06 09 45.9 +0.2
OCWA Octopus Mounta 81.28 34⇑*i*P P 06 09 45.8 +0.1
comp=Z,184nm,1.2s,mb5.4
OCWA *e*pP pP 06 11 47.7 +1.7
GAMB Gambell 81.29 3⇑*i*P P 06 09 44.6 -1.2
G05A Wamic 81.35 37 ⇓P P 06 09 45.5 -0.6
baz=82,SNR=6.5

E04A Onalaska 81.36 35 ⇓P P 06 09 46.7 +0.5
baz=82
W14A Seligman 81.39 49 P P 06 09 47.3 +1.0
baz=82,SNR=74
M09A Marrel Ranch, 81.56 42 ⇑P P 06 09 47.7 +0.5
baz=82,SNR=38
D04A Dobbs Creek Ra 81.63 35 ⇓P P 06 09 47.8 +0.3
baz=82
F05A White Salmon 81.64 36 ⇓P P 06 09 47.2 -0.4
baz=82,SNR=12
X15A Humboldt 81.66 50 ⇓P P 06 09 48.5 +0.8
baz=82,SNR=103
L09A Wilkinson Ranc 81.74 41 P P 06 09 48.4 +0.3
baz=82,SNR=76
TUC Tucson 81.75 52⇑*i*P P 06 09 49.2 +1.1
TUC *e**PP pP 06 11 49.7 +1.1
TUC pmax pmax
comp=Z,74nm,1.0s,mb5.1
TUC Tucson 81.75 52⇑*i*P P 06 09 49.2 +1.0
comp=Z,74nm,1.0s,mb5.1
TUC *e*pP pP 06 11 49.7 +1.1
N10A Dunphy 81.80 43 ⇓P P 06 09 48.7 +0.3
baz=82,SNR=11
HDW Hoodsport 81.82 34 P P 06 09 48.3 -0.2
B04A Port Angeles 81.83 34 ⇓P P 06 09 48.3 -0.3
baz=82
E05A Randle 81.87 36 ⇑P P 06 09 48.0 -0.7
baz=82,SNR=22
C04A Brinnon 81.91 34 ⇑P P 06 09 48.6 -0.3
baz=82,SNR=13
W15A Williams 81.96 49 P P 06 09 50.4 +1.1
baz=82,SNR=19
IPM Ipoh 82.08 277 P P 06 09 51.1 +1.2
D05A Enumclaw 82.12 35 ⇑P P 06 09 49.9 -0.1
baz=82,SNR=34
M10A I.L. Ranch, Tu 82.19 42 ⇓P P 06 09 50.8 +0.4
baz=82,SNR=77
P12A McGill 82.21 45 ⇓P P 06 09 50.8 +0.4
baz=82,SNR=49
PGC Sidney 82.22 33⇑*i*P P 06 09 49.6 -0.9
comp=Z,180nm,1.1s,mb5.4
PGC *e*pP pP 06 11 50.9 -0.2
TTA Tatalina 82.22 10 *e*P P 06 09 49.1 -1.4
EYAK Cordova Ski Ar 82.28 16 *e*P P 06 09 48.9 -2.0
CCUT Cedar City 82.32 47⇑*i*P P 06 09 51.7 +0.7
CCUT *e*pP pP 06 11 54.3 +2.6
N11A Elko Archery C 82.35 43 ⇑P P 06 09 51.4 +0.2
baz=82,SNR=24
CRAG Craig 82.36 24⇑*i*P P 06 09 50.6 -0.6
CRAG *e*pP pP 06 11 52.6 +0.7
PMR Palmer 82.37 14 P P 06 09 49.3 -2.0
PMR pmax pmax
comp=Z,44nm,0.6s,mb5.1
PMR Palmer 82.37 14 *e*P P 06 09 49.2 -2.1
comp=Z,44nm,0.5s,mb5.1
PMR LR LR
comp=Z,300nm,18.0s
ARUT Antelope Range 82.38 47 *e*P P 06 09 51.6 +0.2
ARUT *e*pP pP 06 11 55.5 +3.4
C05A Tolt Reservoir 82.58 35 ⇑P P 06 09 51.7 -0.7
baz=83,SNR=30
M11A Holland Ranch, 82.63 42 ⇓P P 06 09 53.0 +0.4
baz=83,SNR=70
ELK Elko 82.64 43⇑*i*P P 06 09 52.7 +0.1
ELK *e**PP pP 06 11 53.8 +0.4
ELK pmax pmax
comp=Z,73nm,1.0s
ELK Elko 82.64 43⇑*i*P P 06 09 52.6 0.0
comp=Z,73nm,1.0s,mb5.2
ELK *e*pP pP 06 11 53.8 +0.3
A04A Legoe Bay, Lum 82.65 34 ⇓P P 06 09 52.4 -0.2
baz=83,SNR=26
KULM Kulim 82.69 278⇓*i*P P 06 09 53.9 +1.0
KULM *e*PP PP 06 13 12.3 -0.8
B05A Bryant 82.70 34 ⇓P P 06 09 52.4 -0.5
baz=83,SNR=42
SIT Sitka 82.70 22⇑*i*P P 06 09 51.7 -1.2
SIT *e**PP pP 06 11 53.5 -0.3
SIT pmax pmax
comp=Z,104nm,1.3s,mb5.2
SIT Sitka 82.70 22⇑*i*P P 06 09 51.7 -1.3
comp=Z,104nm,1.3s,mb5.2
SIT *e*pP pP 06 11 53.5 -0.3
O12A Currie 82.72 44 ⇑P P 06 09 53.2 +0.1
baz=83,SNR=46
SML Sawmill 82.74 14 P P 06 09 45.4 -7.8
EBG Ellensburg 82.74 36 P P 06 09 53.0 -0.2
DIV Divide 82.78 15 *e*P P 06 09 51.3 -2.0
comp=Z,466nm,1.7s,mb5.7
DIV *e*pP pP 06 11 53.6 -0.5
CMW Cultus Mountai 82.78 34 P P 06 09 53.2 -0.2
N12A Wells--Clov Va 82.82 43 ⇓P P 06 09 53.8 +0.3
baz=83,SNR=71
HAWA Hanford 83.03 37⇑*i*P P 06 09 54.2 -0.4
comp=Z,9.4nm,1.1s
HAWA *e*pP pP 06 11 56.3 +0.7
A05A Maple Falls 83.14 34 ⇓P P 06 09 54.1 -1.1
baz=83,SNR=8.1
M12A Wells 83.19 43 ⇑P P 06 09 55.5 +0.1
baz=83,SNR=70
TNA Tin City 83.30 5⇑*i*P P 06 09 54.7 -1.2
comp=Z,97nm,1.2s,mb5.2
SNG Songkhla 83.32 280 P P 06 09 58.0 +2.0
comp=Z,640nm,1.0s,mb6.1
BJT Baijiatuau 83.34 315 *e*P P 06 09 56.7 +0.5
BJT pmax pmax
comp=Z,130nm,1.3s
BJT Baijiatuau 83.34 315 *e*P P 06 09 56.6 +0.5
comp=Z,130nm,1.3s,mb5.3
N13A West Wendover 83.37 44 ⇓P P 06 09 56.4 +0.1
baz=84,SNR=26
PSI Prapat 83.56 275 P P 06 09 57.2 0.0
comp=Z,144nm,0.8s,mb5.5,baz=100,slow=1.9,SNR=59
PSI Prapat 83.56 275 P P 06 09 57.2 0.0
MSU Marysvale 83.60 46 *e*P P 06 09 58.3 +0.9
MSU *e*pP pP 06 11 60.0 +1.3
M13A Montello 83.65 43 ⇑P P 06 09 57.7 +0.1
baz=84,SNR=86
DUG Dugway 83.97 45 *e*P P 06 09 59.0 -0.3
DUG pmax pmax
comp=Z,27nm,1.1s,mb4.7
DUG Dugway 83.97 45 *e*P P 06 09 59.0 -0.2
comp=Z,27nm,1.1s,mb4.7
DUG *e*pP pP 06 12 01.4 +0.9
DUG *e*sP sP 06 12 59.6 +1.8
MAW Mawson 84.05 200⇓*i*P P 06 10 00.1 +0.4
comp=Z,84nm,0.6s,mb5.5
MAW *e*SKSpB 06 19 28.6
MAW Mawson 84.05 200 P P 06 10 00.1 +0.5
comp=Z,103nm,0.6s,mb5.5,baz=128,slow=6.1,SNR=235
MAW Mawson 84.05 200 P P 06 10 00.1 +0.4
MAW pmax pmax
comp=Z,110nm,0.7s
TSI Tuntungan 84.11 276 *i* P P 06 09 56.9 -3.0
BGU Big Grassy Mou 84.18 44 *e*P P 06 09 59.7 -0.6
BGU *e*pP pP 06 12 01.4 -0.3
KKTK Khon Kaen 84.30 289 ⇑P P 06 10 03.0 +2.1
comp=Z,617nm,0.9s,mb6.1
MCK McKinley 84.30 13 *e*P P 06 09 58.6 -2.3
MCK *e*pP pP 06 12 18.5 +16
NLU North Lily Min 84.35 45⇑*i*P P 06 10 01.2 +0.1
NLU *e*pP pP 06 12 03.8 +1.2
SKAG Skagway 84.51 21⇑*i*P P 06 10 01.2 -0.7
SKAG *e*pP pP 06 12 04.0 +0.5
ZAIG Zacatecas 84.55 64 *i* P P 06 10 03.8 +1.7
HLID Hailey 84.59 41⇑*i*P P 06 10 02.5 +0.2
comp=Z,50nm,1.0s,mb5.0
HLID *e*pP pP 06 12 04.3 +0.4
GYA Guiyang 84.62 300⇓*i*P P 06 10 03.5 +1.1
GYA AP pP 06 12 06.6 +2.6
GYA XP sP 06 13 04.3 +3.1
GYA PP PP 06 13 29.8 +1.2
GYA SKS 06 19 35.4
GYA S 06 19 46.6
GYA AMB AMB
comp=Z,70nm,1.3s,mb5.0
GYA AMB AMB
comp=Z,700nm,7.8s
TMUT Trail Mountain 84.63 46⇑*i*P P 06 10 03.4 +0.9
TMUT *e*pP pP 06 12 05.6 +1.5
MOIG Morelia 84.64 68 *i* P P 06 10 03.6 +1.1
NOQ North Oquirrh 84.65 45 *e*P P 06 10 02.3 -0.3
comp=Z,34nm,1.1s,mb4.8
NOQ *e*pP pP 06 12 05.8 +1.7
MPU Maple Canyon 84.68 45 *e*P P 06 10 02.8 +0.1

comp=Z,28nm,1.1s,mb4.7
SPUT South Promonto 84.75 44⇑*i*P P 06 10 03.0 -0.1
SPUT *e*pP pP 06 12 05.2 +0.5
HVU Hansel Valley 84.76 43⇑*i*P P 06 10 03.1 0.0
HVU pmax pmax
comp=Z,27nm,0.8s,mb4.8
HVU Hansel Valley 84.76 43⇑*i*P P 06 10 03.0 -0.1
comp=Z,27nm,0.8s,mb4.8
HVU *e*pP pP 06 12 05.7 +1.0
MENT Mentasta 84.83 15 *e*P P 06 10 01.9 -1.5
CTU Camp Tracy 84.92 45⇑*i*P P 06 10 03.7 -0.2
comp=Z,16nm,0.8s,mb4.6
CTU *e*pP pP 06 12 06.6 +1.0
SRU San Rafael 85.02 46 P P 06 10 04.4 0.0
SRU pmax pmax
comp=Z,32nm,0.8s,mb4.9
SRU San Rafael 85.02 46⇑*i*P P 06 10 04.4 0.0
comp=Z,32nm,0.8s,mb4.9
SRU *e*pP pP 06 12 06.7 +0.6
DAU Daniels Canyon 85.12 45 *e*P P 06 10 05.1 +0.2
DAU *e**PP pP 06 12 07.1 +0.5
TCUT Toone Canyon 85.35 44⇑*i*P P 06 10 06.3 +0.3
TCUT *e*pP pP 06 12 08.0 +0.2
Y22C IRIS PASSCAL I 85.43 52 ⇑P P 06 10 06.9 +0.6
baz=86
NEW Newport 85.44 36⇑*i*P P 06 10 05.2 -1.2
NEW *e**PP pP 06 12 06.8 -1.5
NEW pmax pmax
comp=Z,26nm,0.6s
NEW Newport 85.44 36⇑*i*P P 06 10 05.2 -1.2
comp=Z,26nm,0.6s,mb4.9
NEW *e*pP pP 06 12 06.8 -1.5
HWUT Hardware Ranch 85.47 44⇑*i*P P 06 10 06.2 -0.4
comp=Z,17nm,0.7s,mb4.7
HWUT *e*pP pP 06 12 08.7 +0.2
COLA College 85.53 13⇑*i*P P 06 10 04.2 -2.7
COLA pmax pmax
comp=Z,115nm,1.2s,mb5.4
COLA College 85.53 13⇑*i*P P 06 10 04.2 -2.7
comp=Z,115nm,1.2s,mb5.4
COLA *e*pP pP 06 12 08.0 -0.8
MVCO Mesa Verde 85.60 49 *e*P P 06 10 07.2 +0.1
MVCO *e*pP pP 06 12 10.0 +0.8
MNTX Cornudas Mount 85.64 55⇑*i*P P 06 10 07.8 +0.5
comp=Z,36nm,1.0s,mb5.0
MNTX *e*pP pP 06 12 10.4 +1.0
DLBC Dease Lake 85.66 23⇑*i*P P 06 10 06.7 -0.8
DLBC *e*pP pP 06 12 09.8 +0.3
XAN Xi'an 85.83 307 P P 06 10 09.4 +1.1
XAN S 06 19 57.2
XAN AMB AMB
comp=Z,150nm,1.3s,mb5.5
XAN AMB AMB
comp=Z,460nm,8.2s
NNT Nongplab 85.88 284 P P 06 10 11.0 +2.5
HIA Hailar 85.94 325*c i*P P 06 10 08.1 -0.7
HIA Hailar 85.94 325 *e*P P 06 10 07.3 -1.4
comp=Z,29nm,1.1s,mb4.8
LTX Lajitas 86.08 58⇑*i*P P 06 10 10.9 +1.4
LTX pmax pmax
comp=Z,123nm,1.1s,mb5.5
LTX Lajitas 86.08 58⇑*i*P P 06 10 10.9 +1.4
comp=Z,123nm,1.1s,mb5.5
LTX *e*pP pP 06 12 14.4 +2.8
BILL Bilibino 86.09 354*c i*P P 06 10 07.7 -1.8
BILL *e*PPP 06 15 34.7
BILL *i* S 06 19 39.8
BILL pmax pmax
comp=Z,88nm,1.2s,mb5.3
BILL Bilibino 86.09 354⇑*i*P P 06 10 07.6 -1.9
comp=Z,19nm,0.5s,mb5.0
ANMO Albuquerque 86.14 52⇑*i*P P 06 10 09.9 +0.2
ANMO *e**PP pP 06 12 12.7 +0.8
ANMO pmax pmax
comp=Z,48nm,1.1s
ANMO Albuquerque 86.14 52⇑*i*P P 06 10 09.9 +0.2
comp=Z,48nm,1.1s,mb5.0
ANMO *e*pP pP 06 12 12.7 +0.8
ANMO *e*sP sP 06 13 08.9 0.0
MCMT McKenzie Canyo 86.20 41 *e*P P 06 10 09.9 -0.1
MCMT *e*pP pP 06 12 12.6 +0.4
AHID Auburn Hatcher 86.32 43⇑*i*P P 06 10 10.4 -0.2
comp=Z,23nm,0.7s,mb4.9
AHID *e*pP pP 06 12 13.3 +0.5
NST Nakhon Sawan 86.51 288 P P 06 10 13.1 +1.6
MSO Missoula 86.53 38⇑*i*P P 06 10 10.2 -1.4
comp=Z,6.6nm,0.5s,mb4.5
MSO *e*pP pP 06 12 13.2 -0.7
MSO *e*PP PP 06 13 39.8 -3.9
BSMT Bassoo Peak 86.55 37 P P 06 10 11.0 -0.7
DLMT Dillon 86.61 40⇑*i*P P 06 10 11.9 0.0
comp=Z,38nm,0.7s,mb5.1
DLMT *e*pP pP 06 12 14.8 +0.5
DCID1 Drake Creek 86.66 42⇑*i*P P 06 10 12.4 +0.2
DCID1 *e*pP pP 06 12 15.1 +0.6
TPAW Teton Pass 86.76 42⇑*i*P P 06 10 12.9 +0.2
comp=Z,98nm,1.2s,mb5.3
TPAW *e*pP pP 06 12 15.6 +0.5
TPAW *e*PP PP 06 13 44.4 -1.2
REDW Red Top Meadow 86.76 43⇑*i*P P 06 10 12.8 +0.2
comp=Z,125nm,1.1s,mb5.5
REDW *e*pP pP 06 12 15.6 +0.5
HHC Hu-ho-hao-te 86.84 315⇑*e*P P 06 10 13.3 +0.3
HHC AP pP 06 12 12.0 -3.5
HHC PP PP 06 13 48.1 +1.9
HHC SKS 06 19 47.7
HHC S 06 20 04.9
HHC SS SS 06 26 06.4 +3.3
HHC AMB AMB
comp=Z,50nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,520nm,3.5s
DAWY Dawson 86.87 16⇑*i*P P 06 10 11.6 -1.6
DAWY *e*pP pP 06 12 14.9 -0.7
DAWY *e*sP sP 06 13 12.2 -0.4
IMW Indian Meadow 86.96 42⇑*i*P P 06 10 13.9 +0.4
comp=Z,120nm,1.0s,mb5.5
IMW *e*pP pP 06 12 16.7 +0.7
IMW *e*sP sP 06 13 15.5 +2.5
CHMT Chamberlain Mo 86.98 39 *e*P P 06 10 13.0 -0.7
CHMT *e*pP pP 06 12 15.9 -0.2
MOOW Moose Ponds 87.01 42⇑*i*P P 06 10 13.8 -0.1
comp=Z,41nm,1.1s,mb5.0
MOOW *e*pP pP 06 12 15.9 -0.5
LOHW Long Hollow 87.04 42⇑*i*P P 06 10 14.0 0.0
comp=Z,42nm,0.6s,mb5.2
LOHW *e*pP pP 06 12 16.7 +0.2
LOHW *e*PP PP 06 13 45.2 -2.6
QLMT Earthquake Lak 87.08 41 *e*P P 06 10 14.7 +0.5
QLMT *e*pP pP 06 12 17.6 +0.9
FLWY Flagg Ranch 87.19 42⇑*i*P P 06 10 15.1 +0.4
comp=Z,109nm,1.0s,mb5.4
FLWY *e*pP pP 06 12 18.1 +0.8
FLWY *e*sP sP 06 13 17.1 +2.9
YFT Old Faithful 87.28 42⇑*i*P P 06 10 16.6 +1.5
YFT *e*pP pP 06 12 19.0 +1.3
YMR Madison River 87.30 41⇑*i*P P 06 10 15.9 +0.7
comp=Z,125nm,1.1s,mb5.5
YMR *e*pP pP 06 12 18.9 +1.1
YMR *e*sP sP 06 13 18.6 +3.9
BW06 Boulder Array 87.33 44⇑*i*P P 06 10 14.8 -0.5
comp=Z,37nm,0.6s,mb5.2
BW06 *e*pP pP 06 12 18.0 0.0
PDAR Pinedale Array 87.33 44 P P 06 10 14.9 -0.4
comp=Z,34nm,0.5s,mb5.2,baz=213,slow=3.2,SNR=316
PDAR pP pP 06 12 16.1 -1.8
comp=Z,18nm,1.1s,baz=211,slow=2.6,SNR=11
PDAR PKKPbc PKKPbc 06 28 03.5 +1.9
comp=Z,1.2nm,0.8s,baz=103,slow=3.2,SNR=8.9
PDAR SKKPbc 06 30 48.6
comp=Z,1.0nm,0.8s,baz=66,slow=3.6,SNR=5.8
PDAR PKPPKP 06 36 03.0
comp=Z,0.4nm,0.6s,baz=106,slow=5.3,SNR=4.2
BOZ Bozeman (W) 87.35 40⇑*i*P P 06 10 15.1 -0.3
BOZ *e**PP pP 06 12 18.2 +0.2
BOZ pmax pmax
comp=Z,64nm,1.3s,mb5.1
BOZ Bozeman (W) 87.35 40⇑*i*P P 06 10 15.1 -0.3
comp=Z,64nm,1.3s,mb5.1
BOZ *e*pP pP 06 12 18.2 +0.2
BOZ *e*sP sP 06 13 17.1 +2.2
KMI Kunming 87.42 297 P P 06 10 17.2 +1.5
KMI AP pP 06 12 20.8 +2.4
KMI XP sP 06 13 16.0 +0.7

KMI PP PP 06 13 52.5 +1.7
KMI SKS 06 19 50.5
KMI S 06 20 12.9
KMI SP SP 06 21 21.8 +6.5
KMI PS PS 06 22 34.4 -1.8
KMI XS sS 06 23 49.7 +1.7
KMI SS SS 06 26 18.8 +7.3
KMI AMB AMB
comp=Z,80nm,1.3s,mb5.2
KMI AMB AMB
comp=Z,760nm,7.5s
SMCO Snowmass 87.53 48 *eP* **P 06 10 16.5 +0.3**
comp=Z,21nm,0.6s,mb5.0
SMCO *ep*P pP 06 12 19.4 +0.5
LKWY Lake 87.61 42⇑*iP* **P 06 10 18.2 +1.6**
LKWY *e**PP pP 06 12 20.7 +1.4
LKWY pmax pmax
comp=Z,86nm,1.1s,mb5.4
LKWY Lake 87.61 42⇑*iP* **P 06 10 18.2 +1.5**
comp=Z,86nm,1.1s,mb5.4
LKWY *ep*P pP 06 12 20.7 +1.4
WALA Waterton Lakes 87.67 37⇑*iP* **P 06 10 16.2 -0.6**
comp=Z,56nm,1.1s,mb5.2
WALA *ep*P pP 06 12 19.9 +0.3
WALA *es*P sP 06 13 17.6 +1.1
HRY Holter Researc 87.73 39 *eP* **P 06 10 16.7 -0.5**
HRY *ep*P pP 06 12 20.2 +0.3
OXX Oaxaca 87.75 71 *eP* **P 06 10 21.0 +3.7**
BTO Baotou 87.79 314 *eP* **P 06 10 17.6 +0.1**
RWWY Rawlins 88.43 45⇑*iP* **P 06 10 20.2 -0.2**
comp=Z,49nm,0.9s,mb5.2
RWWY *ep*P pP 06 12 23.5 +0.1
CHG Chiang Mai 88.61 290⇓*iP* **P 06 10 22.4 +1.1**
comp=Z,72nm,1.1s,mb5.4
CHTO Chiang Mai 88.61 290 P **P 06 10 22.6 +1.3**
CHTO pP pP 06 12 26.9 +2.6
CHTO SKSac SKSac 06 19 59.6 +2.8
CHTO ScS ScS 06 20 25.3 +1.5
CHTO Chiang Mai 88.61 290⇓*iP* **P 06 10 22.5 +1.2**
CHTO pmax pmax
comp=Z,105nm,1.3s,mb5.5
CHTO Chiang Mai 88.61 290⇓*iP* **P 06 10 22.5 +1.2**
comp=Z,106nm,1.3s,mb5.5
CHTO *ep*P pP 06 12 29.2 +4.9
GCMT Greycliff 88.63 41 *eP* **P 06 10 21.5 +0.1**
GCMT *ep*P pP 06 12 24.7 +0.2
CD2 Chengdu 88.64 303 *eP* **P 06 10 20.0 -1.5**
CD2 PP PP 06 14 00.7 +0.2
CD2 SKS 06 19 57.0
CD2 S 06 20 19.5
CD2 SS SS 06 26 30.5 +1.4
CD2 AMB AMB
comp=Z,40nm,1.3s,mb5.1
CD2 AMB AMB
comp=Z,580nm,7.4s
ISCO Idaho Springs 88.74 48⇑*iP* **P 06 10 22.2 +0.3**
ISCO pmax pmax
comp=Z,31nm,1.2s,mb5.0
ISCO Idaho Springs 88.74 48⇑*iP* **P 06 10 22.2 +0.3**
comp=Z,31nm,1.2s,mb5.0
ISCO *ep*P pP 06 12 26.2 +1.2
YAK Yakutsk 89.17 338 *eP* **P 06 10 22.2 -1.7**
YAK *e* 06 13 59.5
YAK *es*S SKSac 06 19 56.5 -3.5
YAK *e**SS 06 20 27.2
YAK pmax pmax
comp=Z,12nm,0.8s,mb4.8
YAK pmax pmax
comp=N,6.0nm,1.7s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,12nm,1.3s,mb4.6
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.6s
YAK smax
comp=N,34nm,1.4s
YAK smax
comp=Z,4.0nm,0.8s
YAK smax
comp=E,17nm,1.4s
YAK Yakutsk 89.17 338 *eP* **P 06 10 21.7 -2.2**
SYO Syowa Base 89.39 193⇑*iP* **P 06 10 23.8 -1.1**
SYO Syowa Base 89.39 193⇓*iP* **P 06 10 25.8 +0.9**
PHWY Pilot Hill 89.46 46⇑*iP* **P 06 10 25.3 0.0**
PHWY *ep*P pP 06 12 28.1 -0.4
PHWY *e*PP PP 06 14 04.8 -2.0
EGMT Eagleton 89.59 39⇑*iP* **P 06 10 25.1 -0.8**
comp=E,27nm,1.3s,mb4.9
EGMT *ep*P pP 06 12 29.1 -0.1
EGMT *es*P sP 06 13 28.5 +2.8
JCT Junction City 89.62 58⇑*iP* **P 06 10 25.7 -0.3**
JCT pmax pmax
comp=Z,28nm,0.7s,mb5.2
JCT Junction City 89.62 58⇑*iP* **P 06 10 25.7 -0.3**
comp=Z,28nm,0.7s,mb5.2
JCT *ep*P pP 06 12 30.0 +0.7
AMTX Amarillo 89.73 53⇑*iP* **P 06 10 26.1 -0.4**
comp=Z,60nm,1.1s,mb5.3
AMTX *ep*P pP 06 12 29.7 -0.1
EDM Edmonton 90.06 33 *eP* **P 06 10 26.7 -1.3**
EDM *ep*P pP 06 12 31.0 -0.4
LZH Lanzhou 90.46 308⇓*iP* **P 06 10 31.2 +1.3**
LZH AP pP 06 12 35.4 +2.1
LZH XP sP 06 13 30.7 +0.8
LZH PP PP 06 14 18.5 +3.8
LZH PPP 06 16 20.3
LZH SKS 06 20 08.6
LZH S 06 20 36.7
LZH PS PS 06 23 10.5 +3.1
LZH XS sS 06 24 16.3 -1.4
LZH SS SS 06 26 58.2 +3.2
LZH AMB AMB
comp=Z,90nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,910nm,9.5s
CIT Chita 90.73 325 *eP* **P 06 10 30.9 -0.2**
CIT *e* 06 14 13.1
CIT *e* 06 20 09.2
CIT *e* 06 20 43.6
CIT pmax pmax
comp=Z,90nm,1.3s,mb5.5
VNA3 Neumayer Olymp 91.07 176⇓*iP* **P 06 10 32.4 -0.3**
VNA3 *e* 06 10 33.6
VNA3 *e* 06 10 35.0
VNA3 *e* 06 10 51.1
VNA3 *e* 06 10 58.3
VNA3 *e* 06 11 01.9
VNA3 *e* 06 11 08.0
VNA3 *e* 06 12 29.7
VNA3 *e* 06 12 41.8
VNA3 *e* 06 12 49.5
VNA3 *e* 06 13 25.6
VNA3 *e* 06 20 37.7
VNA3 *e* 06 20 41.5
VNA3 *e* 06 21 01.1
LAO LASA Array 91.17 41⇑*iP* **P 06 10 33.6 +0.4**
comp=Z,108nm,1.1s,mb5.7
LAO *ep*P pP 06 12 37.4 +0.8
VNA2 Neumayer--Watz 91.51 177⇓*iP* **P 06 10 34.6 -0.1**
baz=191,slow=2.9
VNA2 *e* 06 10 35.7
VNA2 *e* 06 10 36.5
VNA2 *e* 06 10 38.9
VNA2 *e* 06 10 48.2
VNA2 *e* 06 10 53.4
VNA2 *e* 06 11 06.7
VNA2 *e* 06 12 29.7
VNA2 *e* pP 06 12 42.5 +4.3
VNA2 *e* 06 12 51.3
VNA2 *e* 06 12 56.2
VNA2 *e* 06 13 13.5
VNA2 *e* 06 13 27.1
VNA2 *e* 06 18 19.8
VNA2 *e* 06 20 37.1
VNA2 *e* 06 20 41.3
VNA2 *e* 06 20 46.3
VNA2 *e* 06 20 50.7
VNA2 *e* 06 21 01.7
MAIT Maitri 91.56 183 *eP* **P 06 10 33.8 -1.2**
NVL N'lazarevskaya 91.56 183*d iP* **P 06 10 33.9 -1.1**
NVL *i* S 06 20 40.5
NVL *e* 06 23 25.5
NVL pmax pmax
comp=Z,89nm,1.5s,mb5.6
NVL MLR MLR
comp=Z,660nm,15.8s
INK Inuvik 91.66 15 P **P 06 10 33.2 -2.2**
comp=Z,24nm,0.7s,mb5.4,baz=228,slow=4.2,SNR=12
INK pP pP 06 12 36.3 -2.6
comp=Z,3.9nm,1.1s,baz=151,slow=6.1,SNR=2.3
INK Inuvik 91.66 15 P **P 06 10 33.2 -2.2**
INK *PP pP 06 12 36.3 -2.6
INK pmax pmax
comp=Z,24nm,0.7s
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 91.66 15⇑*iP* **P 06 10 33.0 -2.4**
comp=Z,68nm,1.1s,mb5.6
VNA1 Neumayer--Stat 91.74 177⇓*iP* **P 06 10 35.9 +0.2**
VNA1 *e* 06 11 04.1
PLCA Paso Flores 91.77 134 P **P 06 10 37.3 +1.4**
comp=Z,8.0nm,1.1s,mb4.7,baz=256,slow=4.0,SNR=6.3
PLCA pP pP 06 12 38.8 -0.6
comp=Z,11nm,1.2s,baz=288,slow=3.2,SNR=4.0
PLCA Paso Flores 91.77 134 P **P 06 10 37.3 +1.4**
PLCA *PP pP 06 12 38.8 -0.6
PLCA pmax pmax
comp=Z,8.0nm,1.1s
PLCA pmax pmax
comp=Z,11nm,1.3s
PLCA Paso Flores 91.77 134 *eP* **P 06 10 37.7 +1.8**
comp=Z,74nm,2.2s,mb5.3
PLCA *ep*P pP 06 12 42.0 +2.6
CBKS Cedar Bluff 92.59 50 P **P 06 10 40.9 +1.2**
CBKS pmax pmax
comp=Z,55nm,1.2s,mb5.5
CBKS Cedar Bluff 92.59 50 *eP* **P 06 10 40.3 +0.6**
comp=Z,55nm,1.3s,mb5.4
HKT Hockley 92.68 60 P **P 06 10 40.7 +0.6**
HKT pP pP 06 12 43.3 -0.4
HKT SKSac SKSac 06 20 21.4 +1.8
HKT ScS ScS 06 21 03.8 +6.1
HKT Hockley 92.68 60⇑*iP* **P 06 10 40.8 +0.7**
HKT *e**PP pP 06 12 44.5 +0.8
HKT pmax pmax
comp=Z,11nm,1.1s,mb4.8
HKT Hockley 92.68 60⇑*iP* **P 06 10 40.8 +0.7**
comp=Z,11nm,1.1s,mb4.8
HKT *ep*P pP 06 12 44.5 +0.8
ULN Ulaanbaatar 92.72 320⇑*iP* **P 06 10 39.5 -0.8**
ULN *e* 06 14 29.1
ULN pmax pmax
comp=Z,39nm,1.2s,mb5.3
ULN Ulaanbaatar 92.72 320⇑*iP* **P 06 10 39.5 -0.8**
comp=Z,39nm,1.2s,mb5.3
ULN *ep*P pP 06 12 47.1 +3.3
ULN *e*PP PP 06 14 29.1 -3.1
SONM Songino Array 93.12 319 P **P 06 10 41.7 -0.4**
comp=Z,6.8nm,0.9s,mb4.7,baz=128,slow=4.5,SNR=23
SONM pP pP 06 12 45.1 -0.6
comp=Z,4.2nm,1.1s,baz=151,slow=6.3,SNR=3.0
YKA Yellowknife Ar 94.17 25 P **P 06 10 45.1 -1.8**
comp=Z,6.3nm,0.6s,mb4.9,baz=244,slow=4.5,SNR=58
YKA pP pP 06 12 48.9 -1.7
comp=Z,6.7nm,1.2s,baz=242,slow=4.0,SNR=4.3
YKA PP PP 06 14 37.5 -5.8
comp=Z,2.5nm,1.0s,baz=241,slow=7.6,SNR=4.9
YKA PKKPbc PKKPbc 06 27 43.1 -1.5
comp=Z,0.6nm,0.5s,baz=43,slow=2.1,SNR=10
YKA Yellowknife Ar 94.17 25 P **P 06 10 45.1 -1.8**
YKA *PP pP 06 12 48.9 -1.7
YKA 06 27 43.2
YKA Yellowknife Ar 94.17 25 P **P 06 10 45.1 -1.8**
YKA pP pP 06 12 48.9 -1.7
YKA PP PP 06 14 37.5 -5.8
YKA PKKPbc PKKPbc 06 27 43.1 -1.5
YKW3 Yellowknife Ar 94.20 25⇑*iP* **P 06 10 45.1 -1.9**
YKW3 *ep*P pP 06 12 51.6 +0.9
NATX Nacogdoches 94.21 58 *eP* **P 06 10 48.3 +1.3**
comp=Z,19nm,0.6s,mb5.4
NATX *ep*P pP 06 12 51.6 +0.8
GTA Gaotai 94.60 310 *eP* **P 06 10 49.3 +0.5**
GTA AP pP 06 12 57.5 +4.9
GTA XP sP 06 13 50.0 +0.9
GTA PP PP 06 14 50.9 +4.3
GTA PPP 06 16 58.7
GTA SKS 06 20 32.0
GTA S 06 21 13.8
GTA PS PS 06 23 48.6 -1.2
GTA SS SS 06 27 58.4 +4.9
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,180nm,8.0s
TIXI Tiksi 95.78 345 *eP* **P 06 10 49.8 -4.3**
TIXI *e**PP pP 06 12 51.8 -6.2
TIXI *e* 06 21 18.5
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
TLY Talaya 96.19 322 *eP* **P 06 10 55.1 -0.9**
TLY *e* 06 13 51.1
TLY *eS* 06 21 28.3
TLY *e*PS SP 06 22 59.9 +8.2
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
SHL Shillong 96.88 295 *eP* **P 06 11 00.0 +0.9**
SHL *eS* 06 20 40.0
NNA Nana 97.48 105 *eP* **P 06 11 03.3 +1.6**
ULM Lac du Bonnet 98.87 40 P Pdif 06 11 07.1 -0.8
comp=Z,3.1nm,0.6s,baz=237,slow=4.9,SNR=5.4
FVM French Village 99.31 53 *eP* Pdif 06 11 09.8 -0.1
FVM pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
FVM French Village 99.31 53 *e*Pdif Pdif 06 11 09.8 -0.1
comp=Z,2.9nm,0.5s
FVM *ep*P pP 06 13 14.6 +0.4
BOK Bokaro 101.69 291 *eP* Pdif 06 11 18.0 -2.5
FCC Fort Churchill 102.12 32 *eP* Pdif 06 11 21.9 -0.5
LPAZ La Paz 103.80 112 Pdiff Pdif 06 11 34.2 +4.4
comp=Z,1.2nm,0.8s,baz=24,slow=1.8,SNR=6.3
LPAZ La Paz 103.80 112 Pdif Pdif 06 11 34.2 +4.4
MDRS Chennai 104.20 279 *eP* Pdif 06 11 32.6 +0.9
BLSP Bilaspur 104.66 289 *eP* Pdif 06 11 32.5 -1.2
TRD Trivandrum 106.11 274 *eP* Pdif 06 11 39.4 -0.8
HYB Hyderabad 106.85 283 *i* PKP PKiKP 06 15 50.0 +0.3
HYB *e*PP PP 06 16 22.0 +4.5
HYB Hyderabad 106.85 283 *eP* PKiKP 06 15 50.0 +0.3
HYB *e* 06 16 15.0
MKAR Makanchi Array 108.70 314 Pdiff Pdif 06 11 52.8 +1.1
comp=Z,1.0nm,0.7s,baz=81,slow=7.4,SNR=8.0
MKAR PKiKP PKiKP 06 15 52.7 -0.5
comp=Z,2.8nm,0.5s,baz=163,slow=0.5,SNR=40
MKAR PKKPbc PKKPbc 06 27 02.9 -0.3
comp=Z,1.4nm,0.9s,baz=270,slow=3.6,SNR=5.3
MKAR SKKPbc 06 29 53.2
comp=Z,1.9nm,1.1s,baz=285,slow=2.4,SNR=4.8
MKAR Makanchi Array 108.70 314 Pdif Pdif 06 11 52.8 +1.1
MKAR PKPdf PKiKP 06 15 52.7 -0.5
MKAR PKKPbc PKKPbc 06 27 02.9 -0.3
MKAR SKKPbc 06 29 53.2
BHPL Bhopal 109.14 289 *eP* Pdif 06 11 51.3 -2.3
SIV San Ignacio 110.09 115 PKKPbc PKKPbc 06 26 58.5 -0.4
comp=Z,1.8nm,0.6s,baz=92,slow=4.8,SNR=12
NDI New Delhi 110.30 295 *ex* x 06 16 36.0
KURK Kurchatov 111.39 318 *e*PKP PKiKP 06 15 56.2 -2.1
KURK *e*SKPdf SKPdf 06 18 40.0 -0.3
POO Poona 111.46 283 *eP* PKiKP 06 15 55.0 -3.4
ULHL Ulahol 112.64 309 P PKiKP 06 16 01.2 +0.5
SNR=9.3
TKM2 Tokmak 2 113.15 310 P PKiKP 06 16 01.0 -0.6
SNR=7.5
KZA Kyzart 113.37 309 P PKiKP 06 16 02.8 +0.7
SNR=6.9
UCH Uchtor 113.92 309 P PKiKP 06 16 03.5 +0.4
SNR=13
AAK Ala-Archa 113.95 309⇑*iP* PKIKP PKiKP 06 16 01.9 -1.3
AAK Ala-Archa 113.95 309 *e*PKPdf PKiKP 06 16 01.5 -1.7
USP Ospenovka 113.97 310 P PKiKP 06 16 02.8 -0.4
SNR=6.1
EKS2 Erkin-Say 114.48 309 P PKiKP 06 16 04.3 +0.1
SNR=8.1
CHKZ Chkalovo 116.21 322 *e*PKPdf PKPdf 06 16 06.2 -1.3
CHKZ *e*SKPdf SKPdf 06 18 49.5 -0.1
BVAR Borovoye Array 116.41 321 PKP PKPdf 06 16 06.6 -1.3
comp=Z,4.8nm,0.3s,baz=120,slow=2.4,SNR=25
BRVK Borovoye 116.47 321 *e*PKIKP PKPdf 06 16 06.8 -1.2
SCHQ Schefferville 116.80 37 PKP PKPdf 06 16 08.7 0.0
comp=Z,1.1nm,0.6s,baz=278,slow=16,SNR=4.1
KK31 Karatay Array 116.88 310 *i* PKIKP PKPdf 06 16 07.9 -0.9
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 116.88 310 *i* PKIKP PKPdf 06 16 07.9 -0.9
KKAR pmax pmax
comp=Z,2.0nm,0.6s
DAG Danmarks Havn 119.92 5⇓*iP* PKPdf 06 16 12.2 -2.5
comp=Z,12nm,1.2s
DAG Danmarks Havn 119.92 5⇓*eP* PKPdf 06 16 12.2 -2.5
SFJD Kangerlussuaq 120.50 21 *e*PKIKP PKPdf 06 16 13.7 -2.1
SFJD *e* 06 17 48.0
BDFB Brasilia 121.26 121 PKP PKPdf 06 16 17.8 +0.6
comp=Z,1.7nm,0.4s,baz=194,slow=6.7,SNR=6.9
BDFB pPKP pPKPdf 06 18 28.0 -0.9
comp=Z,1.4nm,0.5s,baz=108,slow=3.2,SNR=2.2
CAM4 Nova Friburgo 121.55 131 *eP* PKPdf 06 16 16.3 -1.5
CAM4 *i* 06 16 18.1
CAM4 *i* 06 16 27.7
CAM4 *i* 06 16 31.6
CAM4 *i* 06 16 42.1
SOKR Solikamsk 122.24 330 *e*PKIKP PKPdf 06 16 18.1 -1.0
SOKR pmax pmax
comp=Z,40nm,1.0s
ARU Arti 122.42 326 *i* PKIKP PKPdf 06 16 17.8 -1.7
ARU Arti 122.42 326 *e*PKPdf PKPdf 06 16 18.6 -0.9
AB31 Akbulak array 123.50 318 *i* PKIKP PKPdf 06 16 20.7 -0.8
AB31 pmax pmax
comp=Z,31nm,1.3s
AKTK Aktyubinsk 124.44 320 PKP PKPdf 06 16 22.9 -0.4
AKTO Aktyubinsk 124.44 320 PKP PKPdf 06 16 22.9 -0.4
comp=Z,14nm,1.1s,baz=85,slow=2.0,SNR=29
AKTO Aktyubinsk 124.44 320 PKIKP PKPdf 06 16 21.9 -1.4
AKTO pmax pmax
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 125.95 350 PKhKP 06 16 16.6
comp=Z,3.4nm,0.9s,baz=316,slow=3.3,SNR=4.0
ARCES PKP PKPdf 06 16 25.0 -1.2
comp=Z,4.5nm,0.5s,baz=28,slow=0.9,SNR=24
ARCES pPKP pPKPdf 06 18 35.4 -2.5
comp=Z,3.6nm,0.7s,baz=49,slow=2.9,SNR=2.2
ORR Orenburg 126.07 322⇓*i* PKIKP PKPdf 06 16 25.9 -0.6
ORR pmax pmax
comp=Z,30nm,0.9s
WSAR Wadi Sarin 126.24 286 PKP PKPdf 06 16 27.6 +0.9
comp=Z,10nm,0.9s,baz=113,slow=6.4,SNR=9.8
JMDO Jabal Madar 126.64 285⇑P PKPdf 06 16 28.1 +0.6
BIDO Bidbid 126.72 287⇑P PKPdf 06 16 28.0 +0.3
SNR=5.3
SMDO Samad 126.75 286⇓P PKPdf 06 16 28.8 +1.0
SNR=7.9
SUR Sutherland 126.90 201 *e*PKPdf PKPdf 06 16 29.1 +1.1
SUR *e* 06 18 54.5
HOQ Hoqain 127.47 287⇓P PKPdf 06 16 28.8 -0.3
SNR=5.9
BSY Bisya 127.50 285⇓P PKPdf 06 16 29.6 +0.4
SNR=14
BOSA Boshof 128.54 207 PKP PKPdf 06 16 31.9 +0.8
comp=Z,20nm,1.1s,baz=129,slow=2.6,SNR=17
BOSA pPKP pPKPdf 06 18 42.2 -0.6
comp=Z,6.4nm,1.0s,baz=170,slow=4.4,SNR=3.3
BOSA Boshof 128.54 207 *e*PKPdf PKPdf 06 16 32.0 +0.8
BOSA *e*PP PP 06 18 45.9 +0.4
ASHO Ashiyiah 128.69 288 P PKPdf 06 16 32.0 +0.5
SNR=7.9
RBK Rabkut 129.68 278⇑P PKPdf 06 16 31.6 -1.7
JOF Joensuu 130.17 343 *e*pkp PKPdf 06 16 30.2 -4.0
ABTO Aybut 130.51 278⇓P PKPdf 06 16 32.8 -2.1
LBTB Lobatse 131.47 210 *e*PKIKP PKPdf 06 16 37.5 +0.8
LBTB *e* 06 19 04.3
LBTB Lobatse 131.47 210 *e*PKPdf PKPdf 06 16 37.5 +0.8
LBTB *e*PP PP 06 19 04.3 +0.1
LBTB *e*SKP 06 19 12.6
KAF Kangasniemi 132.18 344 *e*pkp PKPdf 06 16 32.1 -6.0
FINES FINESS Array B 132.81 344 PKhKP 06 16 24.1
comp=Z,1.2nm,0.7s,baz=43,slow=3.6,SNR=6.5
FINES PKP PKPdf 06 16 38.6 -0.6
comp=Z,2.5nm,0.4s,baz=66,slow=4.7,SNR=16
FINES SKPbc SKPbc 06 19 14.8 +0.7
comp=Z,19nm,0.7s,baz=64,slow=4.4,SNR=26
FINES SKKPbc 06 28 35.3
comp=Z,1.4nm,0.8s,baz=215,slow=2.3,SNR=4.4
FINES FINESS Array B 132.81 344 PKHKP 06 16 24.1
FINES 06 16 38.7
FINES 06 19 14.9
FINES *e* 06 28 35.3
MOS Moscow 133.02 333 *e*PKIKP PKPdf 06 16 34.6 -5.0
MOS *e* 06 19 14.5
OBN Obninsk 133.88 333 *i* PKIKP PKPdf 06 16 40.7 -0.5
OBN *i* 06 19 18.4
OBN *e* 06 22 59.6
OBN pmax pmax
comp=Z,38nm,1.2s
NB2 NORSAR Subarra 136.03 353 PKPd 06 16 33.5
comp=Z,2.9nm,0.8s,baz=14,slow=1.8
NOA NORSAR Array B 136.03 353 PKhKP 06 16 33.8
comp=Z,2.0nm,0.8s,baz=34,slow=2.1,SNR=5.7
NOA PKP PKPdf 06 16 45.5 +0.3
comp=Z,1.4nm,0.6s,baz=18,slow=4.2,SNR=7.3
NOA SKPbc SKPbc 06 19 24.7 +0.4
comp=Z,7.1nm,0.9s,baz=6.3,slow=4.0,SNR=10
NOA NORSAR Array B 136.03 353 PKHKP 06 16 33.8
NOA 06 16 45.5
GNI Garni 136.35 310 *e*PKIKP PKPdf 06 16 46.5 +0.7
KIV Kislovodsk 136.42 316 *i* PKIKP PKPdf 06 16 45.4 -0.6
KIV *e* 06 19 35.1
KIV *e* 06 22 41.2
KIV *eSS* SS 06 36 52.8 +0.1
KIV pmax pmax
comp=Z,35nm,1.4s
KIV Kislovodsk 136.42 316 *e*PKPdf PKPdf 06 16 45.7 -0.2
KIV *e*SKP 06 19 27.6
KONO Kongsberg 137.57 354⇑*iP* PKIKP PKPdf 06 16 48.8 +0.7
LSZ Lusaka 137.92 221 *e*PKPdf PKPdf 06 16 49.9 +1.1
LSZ *e*SKP 06 19 32.4
LSZ *e*PP PP 06 19 44.3 0.0
SOC Sochi 138.53 317*c iP* PKIKP PKPdf 06 16 50.9 +1.1
SOC *e* 06 19 49.3
SOC *e* 06 31 17.7
SOC pmax pmax
comp=Z,42nm,1.5s
ANN Anapa 139.40 320 *i* PKIKP PKPdf 06 16 50.7 -0.7
ANN pmax pmax
comp=Z,16nm,0.8s
SUW Suwalki 139.89 340 *e*PKP PKPdf 06 16 48.1 -4.2
KMBO Kilima Mbogo 139.98 246 PKhKP 06 16 46.4
comp=Z,7.4nm,0.8s,baz=126,slow=3.8,SNR=16
KMBO SKPbc SKPbc 06 19 38.5 +3.1
comp=Z,23nm,1.1s,baz=48,slow=4.3,SNR=12
KMBO Kilima Mbogo 139.98 246 *e*PKHKP 06 16 47.7
KMBO *e* 06 16 54.2
KMBO Kilima Mbogo 139.98 246 *e*PKPpre 06 16 47.7
KMBO *e*PKPdf PKPdf 06 16 54.2 +1.7
KMBO *e*SKP 06 19 37.4
TSUM Tsumeb 140.08 204 *e*PKPpre 06 16 47.5
TSUM *e*PKPdf PKPdf 06 16 54.1 +1.4
TSUM *e*SKP 06 19 38.7
TSUM *e*SKPab 06 19 50.3
AKASG Malin Array Be 140.14 332 SKPbc SKPbc 06 19 36.2 +0.4
comp=Z,20nm,0.8s,baz=38,slow=3.4,SNR=13
AKASG SKKPbc 06 28 06.8
comp=Z,2.3nm,0.6s,baz=231,slow=4.5,SNR=16
ELZG Elazig 141.11 310 *i* P PKPdf 06 16 50.3 -4.2
BSD Bornholm Skovb 141.12 348 *i* P PKPdf 06 16 47.2 -7.3
comp=Z,16nm,0.8s
BSD *i* 06 17 30.7
EAB Aberfoyle 141.24 5 *eP* PKPdf 06 16 48.2 -6.5
SIM Simferopol' 141.31 322 *e*PKHKP PKPdf 06 16 48.0 -6.9
SIM pmax pmax
comp=Z,30nm,6.8s
SIM pmax pmax
comp=Z,34nm,0.8s
MALT Malatya 141.58 310 *eP* PKPdf 06 16 48.8 -6.5
MALT Malatya 141.58 310⇓*iP* PKPdf 06 16 51.8 -3.5
MALT Malatya 141.58 310 *e*PKPdf PKPdf 06 16 51.7 -3.7
MALT *e*SKPbc SKPbc 06 19 41.5 +1.9
EDI Edinburgh 141.59 4 *eP* PKPdf 06 16 50.4 -5.0
EAU Auchinoon 141.65 4 *eP* PKPdf 06 16 49.1 -6.3
GMK Mull of Kintyr 141.95 6 *eP* PKPdf 06 16 50.2 -5.8
SVSK Karacayir 141.96 313 *eP* PKPdf 06 16 51.6 -4.4
GKP Gorka Klasztor 142.28 344 *e*PKP PKPdf 06 16 52.5 -4.1

ECK Cauldkaine Hil 142.33 4 *eP* PKPdf 06 16 53.8 -2.9
ECK AMb AMB 06 17 00.3
comp=Z,17nm,2.3s
JHLN ⇑P 06 58 05.9
JHLN ⇑P 18 40 30.8
JHLN ⇑P 11 05 00.8
JHLN ⇑P 11 05 01.0
JHLN Al Jahlan 142.49 306 ⇓P PKPdf 06 16 55.6 -1.3
GAL1 Galloway 142.51 6⇑*eP* PKPdf 06 16 51.9 -5.1
GZT Gaziantep 142.57 309 *i P* PKPdf 06 16 54.7 -2.4
BOYT Boyabat 142.68 317 *i P* PKPdf 06 16 55.2 -2.0
BBO1 Bothel 142.77 4 *eP* PKPdf 06 16 53.4 -4.0
GAZ Gaziantep 142.90 309 *eP* PKPdf 06 16 55.9 -1.8
CKE Keswick 142.92 4 *eP* PKPdf 06 16 52.9 -4.8
KIS Kishinev 142.93 328 *e*PKHKP PKPdf 06 16 54.0 -3.7
XDE Dent Fell 142.98 5 *eP* PKPdf 06 16 53.6 -4.2
XDE AMb AMB 06 16 56.6
comp=Z,78nm,1.4s
LVV L'vov 143.00 335 *e*PKHKP PKPdf 06 16 54.5 -3.3
GMM Mts of Mourne 143.00 7⇑*eP* PKPdf 06 16 53.5 -4.4
GIM North Isle of 143.11 6 *eP* PKPdf 06 16 54.1 -3.9
CTKT Corum 143.14 316 *i P* PKPdf 06 16 56.9 -1.2
BNN Bunyan 143.22 312 *eP* PKPdf 06 16 57.3 -0.9
WIM Isle of Man 143.23 6⇑*eP* PKPdf 06 16 54.8 -3.4
WIM AMb AMB 06 16 56.8
comp=Z,76nm,1.6s
YOZ Yozgat 143.24 314 *eP* PKPdf 06 16 57.2 -1.0
CORM Corum 143.46 315 *eP* PKPdf 06 16 57.9 -0.8
DRWC ⇑P 06 58 10.3
DRWC ⇑P 18 40 32.8
DRWC ⇑P 11 05 02.6
DRWC ⇑P 11 05 02.6
DRWC Darouich 143.51 308 ⇓P PKPdf 06 16 58.3 -0.4
BALT Daday 143.61 318 *i P* PKPdf 06 16 58.0 -0.9
KWP Kalwaria 143.66 336 *e*PKP PKPdf 06 16 57.6 -1.4
KWP *e* 06 19 25.1
DCN Croghan 143.71 9⇑*iP* PKPdf 06 16 56.6 -2.5
KOZT Kozan 143.80 310 *eP* PKPdf 06 16 58.6 -0.7
RUE Ruedersdorf 143.82 347 *e*PKPdf PKPdf 06 16 57.4 -1.9
RABH ⇑P 11 05 10.4
RABH ⇑P 11 05 10.7
RABH Abou Rabah 143.85 305 ⇓P PKPdf 06 17 00.1 +0.8
DLF Lyons Farm 143.85 8⇑*iP* PKPdf 06 16 57.2 -2.1
ROOS ⇑P 06 58 18.1
ROOS ⇑P 18 40 40.7
ROOS ⇑P 11 05 11.4
ROOS ⇑P 11 05 11.4
ROOS tl_alroos 143.87 304 ⇓P PKPdf 06 16 60.0 +0.6
BTCH ⇑P 06 58 14.7
BTCH ⇑P 18 40 33.5
BTCH ⇑P 11 05 04.0
BTCH ⇑P 11 05 05.7
BTCH Batrach 143.88 308 ⇓P PKPdf 06 16 58.9 -0.5
CDAG Cicekdag 143.90 314 *i P* PKPdf 06 16 58.7 -0.7
KFRA ⇑P 06 58 16.5
KFRA ⇑P 11 05 07.8
KFRA ⇑P 11 05 08.3
KFRA Kufra 143.91 306 ⇓P PKPdf 06 16 59.5 0.0
DSB Dublin 143.92 8 *e*PKPdf PKPdf 06 16 57.0 -2.5
CANT Cankiri 143.93 316 *eP* PKPdf 06 16 60.0 +0.5
AVNT Avonos 143.95 313 *i P* PKPdf 06 17 01.1 +1.6
WCB1 Church Bay 144.00 6 *eP* PKPdf 06 16 56.9 -2.7
WCB1 AMb AMB 06 16 59.5
comp=Z,114nm,1.6s
WME Myndd Eilian 144.01 6 *eP* PKPdf 06 16 57.5 -2.1
WME AMb AMB 06 16 59.6
comp=Z,43nm,1.5s
LHO Holmfirth 144.04 3⇑*eP* PKPdf 06 16 57.5 -2.2
CEYT Ceyhan 144.04 309 *eP* PKPdf 06 17 00.1 +0.4
HTY Hatay 144.09 308 *eP* PKPdf 06 17 00.1 +0.3
WLF1 Llynfaes 144.10 6⇑*eP* PKPdf 06 16 57.8 -2.0
WLF1 AMb AMB 06 17 00.7
comp=Z,186nm,1.2s
WRDH ⇑P 06 58 16.1
WRDH ⇑P 18 40 37.6
WRDH ⇓P 11 05 07.3
WRDH ⇑P 11 05 07.3
WRDH Warideh 144.10 307 ⇓P PKPdf 06 16 59.9 +0.1
ELDT Eldivan 144.11 316 *i P* PKPdf 06 16 59.9 +0.1
YRC Rhoscolyn 144.12 6 *eP* PKPdf 06 16 57.7 -2.1
YRC AMb AMB 06 16 58.7
comp=Z,151nm,0.7s
WPM1 Penmaenmawr 144.18 5⇑*eP* PKPdf 06 16 58.1 -1.8
BURAR Bucovina Array 144.20 332 ⇓*iP* PKPdf 06 17 00.1 +0.2
BURAR Bucovina Array 144.20 332 ⇓P PKPdf 06 17 00.1 +0.2
ZALF ⇑P 06 58 23.0
ZALF ⇑P 18 40 45.6
ZALF ⇑P 11 05 15.3
ZALF ⇑P 11 05 15.7
ZALF Zalf 144.20 302 ⇓P PKPdf 06 17 00.6 +0.7
SAFT Safranbolu 144.21 318 *eP* PKPdf 06 17 00.0 0.0
OJC Ojcow 144.22 340 *e*PKPdf PKPdf 06 16 59.1 -0.9
OJC *e*SS SS 06 38 23.8 +1.2
SLNF ⇑P 06 58 18.0
SLNF ⇑P 18 40 38.2
SLNF ⇑P 11 05 07.3
SLNF ⇑P 11 05 08.1
SLNF Slenfeh 144.22 307 ⇑P PKPdf 06 17 00.6 +0.7
YLL Llanberis 144.27 6⇑*eP* PKPdf 06 16 58.4 -1.6
ARNB ⇑P 06 58 18.3
ARNB ⇑P 18 40 37.7
ARNB ⇑P 11 05 07.5
ARNB ⇑P 11 05 07.5
ARNB Al Arnab 144.31 308 ⇓P PKPdf 06 17 00.5 +0.4
BIDA ⇑P 06 58 19.0
BIDA ⇑P 18 40 40.1
BIDA ⇑P 11 05 09.8
BIDA ⇑P 11 05 10.0
BIDA Albida 144.35 306 ⇓P PKPdf 06 17 00.8 +0.6
KBI1 Birley Grange 144.35 3⇑*eP* PKPdf 06 16 58.4 -1.8
BR131 Keskin Array S 144.35 315 *e*PKPdf PKPdf 06 17 00.4 +0.2
BR131 *e*SKPbc SKPbc 06 19 46.9 +0.7
BRTR Keskin Array B 144.35 315 PKP PKPdf 06 17 00.3 +0.1
comp=Z,42nm,0.9s,baz=116,slow=2.9,SNR=122
BRTR pPKP pPKPdf 06 19 10.4 -1.7
comp=Z,12nm,1.0s,baz=54,slow=7.3,SNR=3.3
BRTR SKPbc SKPbc 06 19 47.7 +1.5
comp=Z,11nm,0.8s,baz=121,slow=2.4,SNR=4.9
BRTR SKKPbc 06 27 53.2
comp=Z,5.4nm,0.7s,baz=234,slow=5.4,SNR=20
BRTR Keskin Array B 144.35 315 *i* PKIKP PKPdf 06 17 00.3 +0.1
BRTR pmax pmax
comp=Z,42nm,0.9s
STHS Stebnicka Huta 144.39 337 *e*PKP PKPdf 06 17 00.5 +0.2
STHS *e* 06 19 18.4
YRE Yr Eifl 144.41 6⇑*eP* PKPdf 06 16 58.6 -1.7
YRE AMb AMB 06 17 01.0
comp=Z,164nm,1.6s
KARA Karaisali 144.45 310 *eP* PKPdf 06 16 57.3 -3.1
KAMT Kaman 144.47 314 *eP* PKPdf 06 17 00.5 +0.1
CFR Carcaliu 144.51 327 ⇓*iP* PKPdf 06 17 00.6 +0.1
CFR Carcaliu 144.51 327 ⇓P PKPdf 06 17 00.6 +0.1
VAL Valentia 144.54 12 *eP* PKPdf 06 16 56.3 -4.2
KWE Weaver Farm 144.57 3⇑*eP* PKPdf 06 16 59.9 -0.7
SBD1 Bryn Du 144.59 5⇑*eP* PKPdf 06 16 59.7 -0.9
SBD1 AMb AMB 06 17 01.9
comp=Z,209nm,1.4s
NIE Niedzica 144.72 338 *e*PKP PKPdf 06 17 01.4 +0.6
KSP Ksiaz 144.72 343 *e*PKP PKPdf 06 17 01.3 +0.5
KSP *e* 06 19 48.6
KSP Ksiaz 144.72 343 *e*PKIKP PKPdf 06 17 01.0 +0.2
KSP *e*SS SS 06 38 28.5 +0.2
KSP Ksiaz 144.72 343 *e*PKP PKPdf 06 17 01.0 +0.2
KSP *ep*PKP pPKPdf 06 19 14.1 +1.4
KSP *e*SS SS 06 38 28.5 +0.2
KSP *e* 06 41 59.0
SALA ⇑P 06 58 27.0
SALA ⇑P 18 40 48.6
SALA ⇑P 11 05 18.4
SALA ⇑P 11 05 18.5
SALA Sala 144.74 302 ⇓P PKPdf 06 17 02.0 +1.1
VRI Vrincioaia 144.75 329 ⇓*iP* PKPdf 06 17 01.6 +0.7
VRI Vrincioaia 144.75 329 P PKPdf 06 17 02.0 +1.1
ASF Jabal al Asfar 144.76 301 PKP PKPdf 06 17 01.8 +0.9
comp=Z,76nm,1.0s,baz=323,slow=0.8,SNR=45
ASF SKPbc SKPbc 06 19 49.7 +2.6
comp=Z,9.7nm,0.8s,baz=304,slow=3.5,SNR=4.7
ABA1 Baconsthorpe 144.78 0 *eP* PKPdf 06 17 00.4 -0.6
TOTH ⇑P 06 58 26.4
TOTH ⇑P 18 40 46.7
TOTH ⇑P 11 05 16.3
TOTH ⇑P 11 05 16.8
TOTH TOTAH 144.79 303 ⇓P PKPdf 06 17 02.4 +1.5
PLOR Plostina 144.81 329⇑*iP* PKPdf 06 17 01.8 +0.8
TIRR Tirgusor 144.84 325⇑*iP* PKPdf 06 17 02.0 +1.0
TIRR Tirgusor 144.84 325 *e*PKPdf PKPdf 06 17 01.2 +0.1
ANTO Ankara 144.84 316 *eP* PKPdf 06 16 60.0 -1.1
ANTO Ankara 144.84 316 ⇓*iP* PKPdf 06 17 02.3 +1.3
ANTO Ankara 144.84 316 *e*PKPdf PKPdf 06 17 01.2 +0.2
ANTO *ep*PKPdf pPKPdf 06 19 14.0 +1.1
ANTO *e*SKPbc SKPbc 06 19 47.7 +0.4
RAC Raciborz 144.85 341 *e*PKP PKPdf 06 17 01.3 +0.3
SGKT Sivrigoynuk 144.97 317 *i P* PKPdf 06 17 01.0 -0.2
HLM1 Long Mynd 145.00 4⇑*eP* PKPdf 06 17 01.0 -0.3
HLM1 AMb AMB 06 17 03.4
comp=Z,144nm,1.1s
MERS Mersin 145.00 310 *eP* PKPdf 06 17 02.0 +0.7
AEU East Anglia Un 145.05 0 *eP* PKPdf 06 17 01.4 0.0
OKC Ostrava-Krasne 145.08 341 *e*PKP PKPdf 06 17 01.9 +0.5
OKC *ep*PKP pPKPdf 06 19 16.0 +2.6
SSP1 Stoney Pound 145.08 5⇑*eP* PKPdf 06 17 01.3 -0.2
SSP1 AMb AMB 06 17 03.7
comp=Z,190nm,1.2s
CLL Collm 145.09 347 *e*PKPbc PKPbc 06 17 01.7 -0.7
comp=Z,101nm,0.7s
CLL *e*PKiKP PKiKP 06 17 05.4 -0.2
CLL *ep*PKPbc 06 19 16.2
CLL *e*SKPbc SKPbc 06 19 49.4 +1.5
CLL Collm 145.09 347⇑*iPKPbc PKPbc 06 17 01.8 -0.6
comp=Z,99nm,0.7s
CLL *i* PKiKP PKiKP 06 17 04.4 -1.2
CLL *ep*PKiKP 06 19 16.0
CLL *i* SKPbc SKPbc 06 19 49.0 +1.1
comp=Z,64nm,1.2s
UPC Upice 145.10 344 *e*PKP PKPdf 06 17 01.9 +0.4
UPC *ep*PKP pPKPdf 06 19 15.6 +2.2
BRBR ⇑P 06 58 29.3
BRBR ⇑P 18 40 48.2
BRBR ⇑P 11 05 17.6
BRBR ⇑P 11 05 17.9
BRBR Barbar 145.16 304 ⇓P PKPdf 06 17 03.7 +2.1
DPC Dobruska-Polom 145.16 343 *e*PKP PKPdf 06 17 02.0 +0.4
DPC *ep*PKP pPKPdf 06 19 14.3 +0.8
BHL Bhannes 145.24 305 *eP* PKPdf 06 17 02.3 +0.6
RCY Rachaya 145.24 304 *eP* PKPdf 06 17 03.3 +1.6
BRG Berggiesshubel 145.29 346 *i* PKP PKPdf 06 17 01.2 -0.6
comp=Z,36nm,0.9s
BRG Berggiesshubel 145.29 346 *i* PKP PKPdf 06 17 05.9 +4.1
comp=Z,27nm,0.8s
BRG *i* 06 19 08.0
BRG *i* 06 19 17.2
comp=Z,49nm,1.9s
BRG *i* 06 20 10.0
BRG *e* 06 26 25.0
BRG SS SS 06 38 33.0 -1.7
BRG
comp=N,105nm,22.4s
BRG
comp=E,125nm,32.5s
BRG
comp=Z,136nm,18.6s
BRG Berggiesshubel 145.29 346 *i* PKIKP PKPdf 06 17 01.2 -0.6
BRG *i* 06 17 05.9
BRG *i* 06 19 08.0
BRG SS SS 06 38 33.0 -1.7
BRG pmax pmax
comp=Z,36nm,0.9s
BRG pmax pmax
comp=Z,27nm,0.8s
BRG pmax pmax
comp=Z,49nm,1.9s
BRG MLR MLR
comp=N,105nm,22.4s
BRG MLR MLR
comp=E,125nm,32.5s
BRG MLR MLR
comp=Z,136nm,18.6s
BRG smax
comp=N,2.0nm,0.5s
BRG Berggiesshubel 145.29 346 *i* PKP PKPdf 06 17 01.2 -0.6
BRG *i* PKP PKPab 06 17 05.9 +1.7
BRG *i* 06 19 08.0
BRG *i* 06 19 17.2
BRG *i* 06 20 10.0
BRG *e* 06 26 25.0
BRG SS SS 06 38 33.0 -1.7
BRG LR LR
comp=Z,140nm,18.6s
MORC Moravsky Berou 145.32 341 ⇓*iP* PKPdf 06 17 02.7 +0.8
MORC Moravsky Berou 145.32 341 *e*PKIKP PKPdf 06 17 01.7 -0.1
MORC *e* 06 17 02.8
MORC Moravsky Berou 145.32 341 *e*PKPdf PKPdf 06 17 01.7 -0.2
MORC *e*PKPbc PKPbc 06 17 02.8 -0.3
MORC *ep*PKPdf pPKPdf 06 19 14.5 +0.7
MORC *e*SKPbc SKPbc 06 19 49.0 +0.6
APAE Packway 145.37 360 *eP* PKPdf 06 17 02.8 +0.9
TCHB ⇑P 06 58 31.3
TCHB ⇑P 18 40 51.0
TCHB ⇑P 11 05 21.1
TCHB ⇑P 11 05 21.2
TCHB Talchebab 145.37 302 ⇓P PKPdf 06 17 03.9 +2.0
HTR Trewern Hill 145.41 5⇑*eP* PKPdf 06 17 02.1 +0.2
HTR AMb AMB 06 17 05.3
comp=Z,11nm,0.5s
MLR Muntele Rosu 145.41 329 PKPbc PKPbc 06 17 02.0 -1.4
comp=Z,48nm,0.8s,baz=34,slow=2.9,SNR=40
MLR SKPbc SKPbc 06 19 50.9 +2.3
comp=Z,14nm,1.0s,baz=224,slow=7.1,SNR=3.2
MLR SKKPbc 06 27 47.2
comp=Z,23nm,1.1s,baz=28,slow=2.5,SNR=17
MLR Muntele Rosu 145.41 329 ⇓*iP* PKPdf 06 17 02.4 +0.4
MLR Muntele Rosu 145.41 329 P PKPdf 06 17 02.3 +0.3
WTSB Winterswijk 145.43 354⇑*e*PKIKP PKiKP 06 17 02.2 -4.1
comp=Z,120nm,0.8s
KECS Kecovo 145.44 337 *e*PKP PKPdf 06 17 03.3 +1.2
KECS *e* 06 19 16.5
PVCC Panska Ves 145.46 345 *e*PKP PKPdf 06 17 02.6 +0.5
PVCC *ep*PKP pPKPdf 06 19 14.8 +0.8
PSN Preselentsi 145.47 325 *eP* PKPdf 06 17 04.5 +2.4
MCH1 Michaelchurch 145.51 5⇑*eP* PKPdf 06 17 02.3 +0.2
MDU Mudurnu 145.57 318 *eP* PKPdf 06 17 03.9 +1.6
SSW Stow on the Wo 145.62 3⇑*eP* PKPdf 06 17 03.1 +0.8
IKL Isikli 145.87 309 *eP* PKPdf 06 17 04.2 +1.4
HGH Gray Hill 145.88 5⇑*eP* PKPdf 06 17 03.2 +0.4
HGH AMb AMB 06 17 06.8
comp=Z,193nm,1.5s
VOIR 145.88 330⇑*iP* PKPbc 06 17 05.9 +1.2
VOIR 145.88 330 ⇑P PKPbc 06 17 05.9 +1.3
SKP1 Kophill 145.91 2⇑*eP* PKPdf 06 17 03.4 +0.6
DRGR 145.93 333 ⇓*iP* PKPdf 06 17 04.9 +2.0
DRGR 145.93 333 P PKPdf 06 17 03.1 +0.2
KIZT Kizilcal 145.95 315 *eP* PKPdf 06 17 02.4 -0.5
PRU Pruhonice 145.97 345 *e*PKP PKPdf 06 17 04.3 +1.4
PRU *ep*PKP pPKPdf 06 19 15.3 +0.4
MOX Moxa 146.00 348 *e*PKP PKPdf 06 17 03.3 +0.3
comp=Z,112nm,1.5s
MOX *e* 06 19 18.7
MOX Moxa 146.00 348 *e*PKIKP PKPdf 06 17 03.3 +0.3
MOX pmax pmax
comp=Z,112nm,1.5s
VYHS Vyhne 146.02 339 *e*PKP PKPdf 06 17 03.2 +0.2
VYHS *e* 06 19 17.2
VRAC Vranov 146.02 342⇑*iP* PKPdf 06 17 04.4 +1.4
VRAC Vranov 146.02 342 P PKPdf 06 17 03.7 +0.6
SWN1 Swindon 146.07 3⇑*eP* PKPdf 06 17 04.3 +1.2
KONT Konya--Tatoy 146.07 313 *eP* PKPdf 06 17 05.1 +2.0
KOLL Kolacno 146.09 339 *e*PKP PKPdf 06 17 04.2 +1.0
KOLL Kolacno 146.09 339 *e*PKP PKPdf 06 17 04.3 +1.1
PSZ Piszkesteto 146.13 337 ⇓*i*PKP/F PKPbc 06 17 05.5 +0.1
PSZ *e* 06 19 22.0
PSZ Piszkesteto 146.13 337 ⇓*iP* PKPdf 06 17 03.7 +0.5
PSZ Piszkesteto 146.13 337 *e*PKPdf PKPdf 06 17 03.0 -0.2
PSZ *e*PKPbc PKPbc 06 17 04.5 -0.9
PSZ *ep*PKPdf pPKPdf 06 19 16.6 +1.4
NKC Novy Kostel 146.22 347 *e*PKP PKPdf 06 17 03.8 +0.4
NKC *ep*PKP pPKPdf 06 19 16.9 +1.6
GPA Golpazari 146.24 318 *eP* PKPdf 06 17 05.4 +1.9
ERMK Ermenek 146.27 311 *i P* PKPdf 06 16 58.5 -4.9
ESKT Eskisehir 146.31 317 *i P* PKPdf 06 17 03.3 -0.2
HRT Hereke 146.35 319 *eP* PKPdf 06 17 03.5 -0.1
HRT Hereke 146.35 319 *eP* PKPdf 06 17 05.9 +2.3
TREC Trest 146.35 343 *e*PKP PKPdf 06 17 04.1 +0.5
TREC *ep*PKP pPKPdf 06 19 16.6 +1.0
HEX Exmoor 146.36 6 *eP* PKPdf 06 17 04.9 +1.3
BORA Eskisehir 146.38 317 *i P* PKPdf 06 17 03.0 -0.6
SWK Warminster 146.41 4⇑*eP* PKPdf 06 17 05.2 +1.5
SMOL Smolenice 146.47 340 *e*PKP PKPbc 06 17 07.2 +0.9
SMOL Smolenice 146.47 340 *e*PKP PKPbc 06 17 07.3 +1.0
ADVT Abdulvahap 146.53 319 *eP* PKPdf 06 17 03.3 -0.6
CSS Prodhromos 146.65 308 *e*PKPbc PKPbc 06 17 06.7 -0.1
YLV Yalova 146.68 319 *eP* PKPdf 06 17 02.6 -1.5
BEBN Eben Emael 146.69 355 PKPbc PKPbc 06 17 09.1 +2.2
HGN Heimansgroeve 146.70 355⇑*e*PKiKP PKiKP 06 17 04.6 -4.3
comp=Z,37nm,1.0s
HGN *ex* x 06 19 14.1
HGN *eP*P PP 06 20 15.1 -20
HGN *ex* x 06 22 09.3
HGN *ex* x 06 23 38.3
UCC Uccle 146.78 356 PKP PKPdf 06 17 06.5 +2.2
SRO Srobarova 146.78 339 *e*PKP PKPbc 06 17 07.8 +0.7
BUD Budapest 146.81 338 ⇓*i*PKP/F PKPbc 06 17 07.3 +0.1
MEM Membach 146.85 354 E PKPdf 06 17 04.0 -0.5
MEM PKP PKPdf 06 17 06.7 +2.3
MEM PKPab PKPab 06 17 10.2 -0.2
ZST Bratislava 146.85 341 *e*PKP PKPbc 06 17 07.9 +0.6
ZST *e* 06 19 18.9
SRO1 Iza 146.85 339 *e*PKP PKPbc 06 17 07.9 +0.6
CSA1 St Austell 146.95 7 *eP* PKPdf 06 17 06.5 +1.9
SZH Strazhica 146.97 326 *eP* PKPbc 06 17 08.1 +0.5
GRA1 Grafenberg Arr 146.99 348 *e*PKPdf PKPdf 06 17 04.3 -0.4
GRA1 *ep*PKPdf pPKPdf 06 19 20.2 +3.5
GRF Grafenberg Arr 146.99 348 *e*PKPbc PKPbc 06 17 04.3 -3.4
GRF *ep*PKPbc pPKPbc 06 19 20.2 +2.9
KHC Kasperske Hory 147.00 345 *e*PKP PKPdf 06 17 04.7 0.0
KHC *ex* x 06 17 07.6
KHC *ep*PKP pPKPdf 06 19 19.6 +2.9
EIL Elat 147.01 298 *e*PKPdf PKPdf 06 17 05.2 +0.5
EIL *e*PKPbc PKPbc 06 17 07.9 +0.1
ALT Altintas 147.04 316 *eP* PKPbc 06 17 07.8 0.0
CCA1 Carnmenellis 147.07 8 *eP* PKPdf 06 17 06.2 +1.4
ULDT Uludag 147.07 319 *i P* PKPdf 06 17 04.8 0.0
SNF Seneffe 147.08 356 PKP PKPdf 06 17 07.7 +2.9
SNF PKPbc PKPbc 06 17 09.9 +2.0
SNF PKPab PKPab 06 17 11.8 +0.5
SNF E 06 19 24.6
BCLA Clavier 147.09 355 PKP PKPdf 06 17 07.3 +2.5
BCLA PKPbc PKPbc 06 17 10.3 +2.4
BCLA PKPab PKPab 06 17 12.0 +0.5
BCLA E 06 19 19.6
CRQ2 Rosemanowes 2 147.10 8 *eP* PKPdf 06 17 07.0 +2.2
MENF Mencas 147.11 359 PKP PKPdf 06 17 07.3 +2.5
JMB Yambol 147.15 324 *eP* PKPdf 06 17 07.0 +2.1
JMB Yambol 147.15 324 *eP* PKPdf 06 17 07.2 +2.2
CMA1 Manaccan 147.18 8 *eP* PKPdf 06 17 07.3 +2.4
CGH1 Goonhilly 147.21 8 *eP* PKPdf 06 17 07.5 +2.5
GERES GERESS Array B 147.23 345 PKP PKPdf 06 17 04.5 -0.5
comp=Z,18nm,0.6s,baz=90,slow=1.0,SNR=58
GERES PKPbc PKPbc 06 17 08.2 -0.1
comp=Z,17nm,0.6s,baz=222,slow=1.6,SNR=79
GERES pPKPbc pPKPbc 06 19 17.3 -0.7
comp=Z,3.2nm,0.9s,baz=143,slow=3.4,SNR=2.4
GERES SKKPbc 06 27 40.2
comp=Z,0.4nm,0.3s,baz=220,slow=3.5,SNR=3.7
BZS Buzias 147.32 333 ⇓*iP* PKPdf 06 17 05.5 +0.3
BZS Buzias 147.32 333 P PKPdf 06 17 05.5 +0.3
PVL Pavlikeni 147.32 326 *eP* PKPbc 06 17 09.0 +0.5
ABH Alteburg 147.40 352 PKP PKPdf 06 17 05.5 +0.2
TKTP Tekketepe 147.43 315 *i P* PKPdf 06 17 05.6 +0.2
GDZ Gediz 147.44 317 *i P* PKPdf 06 17 04.3 -1.1
GIVF Givet 147.45 356 *e*PKIKP PKPdf 06 17 05.7 +0.3
DOU Dourbes 147.47 356 PKP PKPdf 06 17 08.6 +3.1
DOU PKPbc PKPbc 06 17 10.2 +1.3
DOU PKPab PKPab 06 17 11.5 -1.4
DOU E 06 19 20.6
CONA Conrad Observa 147.47 342⇑*iPKPdf PKPdf 06 17 04.8 -0.6
comp=Z,36nm,1.9s,SNR=30
CONA ⇓*iPKiKP PKiKP 06 17 09.5 -1.0
comp=Z,173nm,1.6s
CONA Conrad Observa 147.47 342 P pPKPdf 06 19 22.0 +4.5
comp=Z,298nm,4.4s
SOP Sopron 147.48 341⇑*iPKP/F PKPdf 06 17 09.2 +3.7
SOP *e* 06 19 25.0
TOD Tromm 147.49 351 PKIKP PKPdf 06 17 05.5 0.0
BAIF Baives 147.53 356 *e*PKIKP PKPdf 06 17 05.8 +0.3
RUP Ruppelstein 147.63 353 PKIKP PKPdf 06 17 05.1 -0.6
BNT Bandirma 147.70 320 *eP* PKPdf 06 17 08.9 +3.0
WLF Walferdange 147.77 354 PKP PKPbc 06 17 10.2 +0.5
WLF PKPab PKPab 06 17 14.0 -0.2
WLF E 06 17 18.8
WLF E 06 19 22.3
WLF Walferdange 147.77 354 *e*PKIKP PKPdf 06 17 05.9 0.0
WLF *e* 06 17 13.7
WLF Walferdange 147.77 354 *e*PKPdf PKPdf 06 17 05.9 -0.1
WLF *e*PKPbc PKPbc 06 17 09.9 +0.2
WLF *e*PKPab PKPab 06 17 13.7 -0.5
WLF *ep*PKPdf pPKPdf 06 19 21.4 +3.4
MFT Murefte 147.82 321 *eP* PKPdf 06 17 08.2 +2.2
MOA Molln 148.00 343⇑*iPKPdf PKPdf 06 17 05.8 -0.5
MOA ⇓*iPKiKP PKiKP 06 17 10.3 -1.3
comp=Z,272nm,3.1s
MOA Molln 148.00 343⇑*iP* PKPdf 06 17 05.8 -0.5
MOA *i* 06 17 10.3
MOA *i* 06 19 20.8
PKSM Moragy 148.03 337⇑*iP* PKPdf 06 17 06.2 -0.2
PKSM Moragy 148.03 337 P PKPdf 06 17 06.2 -0.2
ARSA Arzberg 148.18 341 ⇓*i*PKPdf PKPdf 06 17 06.4 -0.2
comp=Z,25nm,2.3s,SNR=12
ARSA ⇑*iPKPbc PKPbc 06 17 10.3 -0.5
comp=Z,82nm,1.7s
ARSA Arzberg 148.18 341 ⇓*iP* PKPdf 06 17 06.4 -0.2
ARSA *i* 06 17 10.3
ARSA *i* 06 19 20.1
STU Stuttgart 148.24 350 *e*PKHKP PKPbc 06 17 10.4 -0.5
LANF Langenberg 148.25 352 PKP PKPdf 06 17 07.4 +0.7
JLP Les Platons 148.31 4⇑*eP* PKPdf 06 17 10.3 +3.5
JVM Valle D.L. Mar 148.33 4⇑*eP* PKPdf 06 17 10.5 +3.6
KDZ Kurdzhali 148.34 324 *eP* PKPbc 06 17 11.5 +0.4
ELL Elmali 148.36 313 *eP* PKPbc 06 17 11.5 +0.3
JSA Saint Aubin 148.36 4⇑*eP* PKPdf 06 17 10.4 +3.5
JRS Jersey 148.36 4⇑*eP* PKPdf 06 17 10.6 +3.7
PGB Panagyurishte 148.40 327 *eP* PKPbc 06 17 11.5 +0.2
CANB Canakkale 148.43 320 *eP* PKPdf 06 17 10.6 +3.6
BEO Belgrade 148.45 333⇑*iPKP PKPdf 06 17 10.7 +3.7
DENT Denizli 148.45 315 *eP* PKPbc 06 17 12.2 +0.9
DNZL Cakiroluk 148.47 315 *i P* PKPbc 06 17 11.8 +0.3
ALN Alexandroupoli 148.48 323 *eP* PKPdf 06 17 10.8 +3.7
SVIS Svilajnac 148.53 332 ⇓*iPKP PKPbc 06 17 11.5 -0.1
RDO Rodhopi 148.61 323 *eP* PKPdf 06 17 07.0 -0.3
AKS Akhisar 148.63 318 *eP* PKPbc 06 17 11.6 -0.3
RZN Rozhen 148.70 325 P PKPbc 06 17 11.5 -0.5
BFO Black Forest 148.81 351 *e*PKPdf PKPdf 06 17 07.4 -0.3
BFO *e*PKPbc PKPbc 06 17 12.2 -0.1
BFO *e*PKPab PKPab 06 17 17.4 -1.1
PERS Pernice 148.86 341 *e*PKPbc PKPbc 06 17 11.6 -0.8
PERS *e* 06 19 25.3
VTS Vitosha 148.86 328 P PKPdf 06 17 11.5 +3.8
VTS Vitosha 148.86 328 *eP* PKPbc 06 17 12.3 -0.1
VTS Vitosha 148.86 328 ⇓*iP* PKPbc 06 17 12.7 +0.3
VTS Vitosha 148.86 328 ⇓P PKPbc 06 17 12.7 +0.3
WLS Welschbruch 148.86 352 PKP PKPdf 06 17 08.5 +0.8
CDF Champ du Feu 148.88 352 *e*PKIKP PKPdf 06 17 07.8 +0.1
FLN La Foliniere 148.88 2 *e*PKIKP PKPdf 06 17 07.6 -0.1
FLN *eR* 06 17 13.1
comp=Z,203nm,21.5s
FLN La Foliniere 148.88 2 *e*PKPdf PKPdf 06 17 07.6 -0.1
FLN LR LR
comp=Z,200nm,21.5s
FETY Fethiye 148.99 313 *eP* PKPbc 06 17 12.4 -0.3
LDF La Druitiere 149.06 2 *e*PKIKP PKPdf 06 17 08.2 +0.2
GRUS Gruza 149.07 332 *i* PKP PKPbc 06 17 12.7 -0.2
ECH Echery 149.08 352 PKP PKPdf 06 17 07.9 -0.1
ROSF Rostrenen 149.11 6 *e*PKIKP PKPdf 06 17 07.9 -0.2
OBKA Obir 149.14 342⇑*iPKPdf PKPdf 06 17 06.5 -1.6
comp=Z,49nm,2.2s,SNR=8.2
OBKA ⇑*iPKPbc PKPbc 06 17 12.2 -0.9
comp=Z,55nm,1.4s
WTTA Wattenberg 149.21 346 ⇓*i*PKPdf PKPdf 06 17 08.1 -0.2
comp=Z,71nm,1.9s,SNR=19
WTTA ⇑*iPKiKP PKiKP 06 17 13.3 -0.8
comp=Z,142nm,1.5s
WTTA Wattenberg 149.21 346 ⇓*iP* PKPdf 06 17 08.1 -0.2
WTTA *i* 06 17 13.3
WTTA *i* 06 19 23.8

DIVS	**Divcibare**	**149.23 333**	*i* PKP	PKPbc	06 17 13.3	0.0
DIVS	**Divcibare**	**149.23 333**	*e*P	PKPbc	06 17 13.1	-0.2
DALT	**Dalyan (Mudla)**	**149.23 314**	*e*P	PKPbc	06 17 13.6	+0.3
GRR	**Gorron**	**149.24 3**	*e*PKIKP	PKPdf	06 17 08.7	+0.4
MOTA	**Moosalm**	**149.25 347**⇑	*i*PKPdf	PKPdf	06 17 08.3	0.0
	comp=Z,18nm,1.3s,SNR=10.0					
MOTA		⇓	*i*PKiKP	PKiKP	06 17 13.2	-0.9
	comp=Z,159nm,1.7s					
MOTA	**Moosalm**	**149.25 347**⇑	*i*P	PKPdf	06 17 08.3	0.0
MOTA			*i*		06 17 13.2	
MOTA			*i*		06 19 27.5	
IZM	**Izmir**	**149.26 318**	*e*P	PKPbc	06 17 13.1	-0.2
SGMF	**Saint Gilles**	**149.26 5**	*e*PKIKP	PKPdf	06 17 08.1	-0.2
	comp=Z,46nm,1.2s					
YER	**Yerkesik**	**149.28 315**	*e*P	PKPbc	06 17 13.9	+0.5
FELD	**Feldberg im Sc**	**149.30 351**	PKP	PKPdf	06 17 08.7	+0.3
MMB	**Musomiste**	**149.31 326**	*i* P	PKPbc	06 17 13.0	-0.5
SQTA	**Sankt Quirin**	**149.34 347**⇑	*i*PKPdf	PKPdf	06 17 08.8	+0.3
	comp=Z,19nm,1.3s,SNR=13					
SQTA		⇓	*i*PKiKP	PKiKP	06 17 13.7	-0.6
	comp=Z,50nm,1.2s					
PRK	**Paraskevi**	**149.38 320**	*e*P	PKPbc	06 17 13.5	-0.2
MOF	**Molkenrain**	**149.44 352**	PKP	PKPdf	06 17 08.7	+0.1
KKB	**Krupnik**	**149.45 327**	P	PKPbc	06 17 13.5	-0.3
CRES	**Cresnjev**	**149.47 340**	*i* PKP	PKPbc	06 17 13.7	-0.2
HINF	**Hinteralfeld**	**149.51 353**	*e*PKIKP	PKPdf	06 17 08.6	-0.1
MLSB	**Milas**	**149.54 315**	*e*P	PKPbc	06 17 14.0	0.0
SEST	**Monte Rota**	**149.55 345**	PKP	PKPbc	06 17 14.0	-0.1
DAVA	**Damuels**	**149.55 348**⇑	*i*PKPdf	PKPdf	06 17 08.9	+0.1
	comp=Z,36nm,1.9s,SNR=12					
DAVA		⇓	*i*PKiKP	PKiKP	06 17 14.4	-0.4
	comp=Z,96nm,1.3s					
DAVA	**Damuels**	**149.55 348**⇑	*i*P	PKPdf	06 17 08.9	+0.1
DAVA			*i*		06 17 14.4	
DAVA			*i*		06 19 25.1	
LJU	**Ljubljana**	**149.57 342**	*e*PKPbc	PKPbc	06 17 13.3	-0.8
PTCC	**Patocco-Chiusa**	**149.57 343**	PKP	PKPdf	06 17 08.6	-0.2
CADS	**Cadrg**	**149.63 343**	*e*PKPdf	PKPdf	06 17 07.8	-1.6
CADS			*e*PKPbc	PKPbc	06 17 13.0	-1.2
BBLS	**Bajina Basta -**	**149.66 334**	*i* PKP	PKPbc	06 17 15.2	+0.8
LOS	**Limnos**	**149.66 322**	*e*P	PKPbc	06 17 14.3	0.0
URLA	**Izmir**	**149.71 318**	*i* P	PKPdf	06 17 05.2	-3.8
BRES	**Bressanone**	**149.71 346**	PKP	PKPdf	06 17 09.2	+0.2
GMNA	**Gemona**	**149.73 343**	PKP	PKPdf	06 17 09.6	+0.5
VOY	**Vojsko**	**149.76 342**	*e*PKPdf	PKPdf	06 17 07.7	-1.4
VOY			*e*PKPbc	PKPbc	06 17 13.8	-0.8
VOY			*e*		06 17 55.6	
VOY			*e*		06 19 27.9	
VOY			*e*		06 19 32.2	
BBS	**Basel-Blauen**	**149.77 352**	PKIKP	PKPdf	06 17 09.4	+0.3
BOJS	**Bojanci**	**149.82 340**	*e*PKPbc	PKPbc	06 17 14.5	-0.2
BOJS			*e*		06 19 28.1	
ARG	**Arkhangelos**	**149.87 313**	*e*P	PKPdf	06 17 12.0	+2.7
LOMF	**Lomont**	**149.97 352**	PKP	PKPdf	06 17 08.3	-1.1
BODT	**Bodrum**	**149.98 315**	*e*P	PKPbc	06 17 14.5	-0.6
DAT	**Datca**	**149.98 315**	*e*P	PKPbc	06 17 14.3	-0.7
CHOS	**Chios island**	**150.03 319**	*e*P	PKPbc	06 17 14.8	-0.4
STIP	**Stip**	**150.04 328**	*i* PKP	PKPbc	06 17 14.7	-0.5
APPI	**Appiano**	**150.04 346**	PKP	PKPdf	06 17 07.7	-1.8
KNT	**Kendrikon**	**150.05 326**	*e*P	PKPdf	06 17 13.7	+4.2
TRI	**Trieste**	**150.10 342**	PKHKP	PKPdf	06 17 14.2	+4.6
PLE	**Pljevlja**	**150.10 333**⇓	*i*PKP	PKPbc	06 17 15.3	0.0
VAY	**Valandovo**	**150.11 327**⇓	*i*PKP	PKPdf	06 17 13.8	+4.1
SKO	**Skopje**	**150.21 329**	*e*P	PKPbc	06 17 16.0	+0.4
SKO	**Skopje**	**150.21 329**⇓	*i*PKP	PKPbc	06 17 16.1	+0.5
BRMO	**Bormio**	**150.23 347**	PKP	PKPdf	06 17 10.0	+0.2
IVA	**Berane**	**150.24 332**⇓	*i*PKP	PKPbc	06 17 15.7	0.0
ASCN	**Ascension**	**150.30 147**	*e*PKPdf	PKPdf	06 17 10.8	+0.8
ASCN			*e*PKPbc	PKPbc	06 17 16.3	+0.4
LOR	**Lormes**	**150.33 356**	*e*PKIKP	PKPdf	06 17 10.0	0.0
	comp=Z,24nm,1.1s					
LOR			*e*R			
	comp=Z,199nm,23.0s					
LOR	**Lormes**	**150.33 356**	*e*PKPdf	PKPdf	06 17 10.0	0.0
LOR			LR	LR		
	comp=Z,200nm,23.0s					
CTI	**Castel Tesino**	**150.34 345**	PKIKP	PKPdf	06 17 09.7	-0.3
UPM	**Unac-Piva**	**150.41 333**⇓	*i*PKP	PKPbc	06 17 15.6	-0.4
PVY	**Plav**	**150.43 331**⇓	*i*PKP	PKPbc	06 17 15.9	-0.2
TUE	**Stuetta**	**150.44 349**	PKP	PKPdf	06 17 10.9	+0.7
SSF	**Saint Saulge**	**150.56 357**	*e*PKIKP	PKPdf	06 17 10.6	+0.3
NKY	**Niksic**	**150.69 333**⇓	*i*PKP	PKPbc	06 17 16.6	-0.1
CABF	**La Chapelle**	**150.79 353**	*e*PKIKP	PKPdf	06 17 11.0	+0.3
	comp=Z,72nm,1.4s					
BRY	**Bratogost**	**150.81 333**⇓	*i*PKP	PKPbc	06 17 16.5	-0.5
AVF	**Avril sur Loir**	**150.84 357**	*e*PKIKP	PKPdf	06 17 11.1	+0.3
TTG	**Podgorica**	**150.88 332**⇓	*i*PKP	PKPbc	06 17 16.8	-0.4
KARP	**Karpathos**	**150.88 313**	*e*P	PKPbc	06 17 16.8	-0.4
SMF	**Signal de Mont**	**150.95 356**	*e*PKIKP	PKPdf	06 17 11.1	+0.2
BIA	**Bitola**	**150.97 328**	*i* PKP	PKPdf	06 17 16.2	+5.2
LIT	**Litokhoron**	**151.02 325**	*e*P	PKPbc	06 17 16.6	-0.8
MFF	**Saint Martin d**	**151.05 2**	*e*PKIKP	PKPdf	06 17 10.1	-1.0
BGF	**Bois d'Agland**	**151.09 358**	*e*PKIKP	PKPdf	06 17 11.8	+0.6
BUM	**Brajici-Budva**	**151.14 332**⇓	*i*PKP	PKPbc	06 17 17.6	-0.2
OHR	**Ohrid**	**151.17 328**	*e*P	PKPdf	06 17 16.6	+5.3
OHR	**Ohrid**	**151.17 328**⇓	*i*PKP	PKPdf	06 17 16.7	+5.4
OHR			*i* X		06 19 31.0	
MCGN	**Macugnaga**	**151.17 350**	PKP	PKPdf	06 17 11.6	+0.3
HCY	**Herceg Novi**	**151.20 333**⇓	*i*PKP	PKPbc	06 17 17.1	-0.8
ULC	**Ulcinj**	**151.25 331**⇓	*i*PKP	PKPbc	06 17 17.5	-0.5
TCF	**Toulx Ste Croi**	**151.38 359**	*e*PKIKP	PKPdf	06 17 11.4	-0.2
	comp=Z,31nm,1.3s					
AGO	**Saint Agoulin**	**151.58 357**	PKP	PKPdf	06 17 12.5	+0.6
SANT	**Santorini**	**151.60 316**	*e*PKPbc	PKPbc	06 17 17.6	-1.2
SANT			*e*PKPab	PKPab	06 17 29.7	-0.4
PLDF	**La Plantade**	**151.64 357**	PKP	PKPdf	06 17 11.6	-0.4
LPL	**La Plagne**	**151.79 352**	*e*PKIKP	PKPdf	06 17 12.5	+0.3
LPG	**La Plagne**	**151.81 352**	*e*PKIKP	PKPdf	06 17 12.7	+0.5
AGG	**Agios Georgios**	**151.86 324**	*e*P	PKPbc	06 17 18.5	-0.9
MEV	**Metsovon**	**151.92 326**	*e*P	PKPbc	06 17 20.0	+0.5
BOB	**Bobbio (Coli)**	**152.05 348**	PKIKP	PKPbc	06 17 18.8	-1.0
ZCCA	**Zocca**	**152.10 345**	PKP	PKPdf	06 17 13.9	+1.2
GSCL	**Gusciola**	**152.20 346**	PKP	PKPbc	06 17 21.2	+1.1
EVR	**Evrytania**	**152.22 324**	*e*P	PKPdf	06 17 18.7	+5.9
FNVD	**Fontana Vidola**	**152.24 345**	PKP	PKPdf	06 17 13.2	+0.3
BNI	**Bardonecchia**	**152.25 352**	*e*PKIKP	PKPdf	06 17 12.2	+0.3
BNI			*e*		06 17 32.4	
BNI	**Bardonecchia**	**152.25 352**	*e*PKPdf	PKPdf	06 17 13.2	+0.3
BNI			*e*PKPbc	PKPbc	06 17 20.4	+0.2
BNI			*e*PKPab	PKPab	06 17 32.4	-0.5
BNI			*ep*PKPdf	pPKPdf	06 19 30.1	+5.0
FRNF	**Fournols**	**152.27 358**	PKP	PKPbc	06 17 20.6	+0.4
RJF	**Les Rejaudoux**	**152.37 360**	*e*PKIKP	PKPdf	06 17 12.9	-0.2
RJF			*e*R			
	comp=Z,305nm,23.0s					
RJF	**Les Rejaudoux**	**152.37 360**	*e*PKPdf	PKPdf	06 17 12.9	-0.2
RJF			LR	LR		
	comp=Z,300nm,23.0s					
CING	**Cingoli**	**152.38 341**	PKP	PKPdf	06 17 13.4	+0.3
ORIF	**Oris-en-Rattie**	**152.49 353**	*e*PKIKP	PKPdf	06 17 13.2	0.0
ORIF			*e*R			
	comp=Z,242nm,20.4s					
BADI	**Badiali**	**152.55 343**	PKP	PKPab	06 17 34.5	+0.3
MBDF	**Montbardon**	**152.56 351**	*e*PKIKP	PKPdf	06 17 13.8	+0.5
VIVF	**Saint-Julien-l**	**152.67 355**	*e*PKIKP	PKPdf	06 17 13.6	+0.1
	comp=Z,48nm,1.5s					
DOI	**San Damiano**	**152.71 351**	PKIKP	PKPbc	06 17 19.8	-1.4
LFF	**La Frestale**	**152.73 1**	*e*PKIKP	PKPdf	06 17 13.4	-0.2
CAF	**Calviac**	**152.74 359**	*e*PKIKP	PKPdf	06 17 13.4	-0.2
	comp=Z,28nm,1.3s					
SURF	**Saint Ours**	**152.79 351**	PKP	PKPdf	06 17 14.8	+1.1
NRCA	**Norcia**	**152.90 341**	PKP	PKPdf	06 17 14.1	+0.3
VAM	**Vamos**	**152.99 316**	*e*P	PKPdf	06 17 17.0	+3.1
VLI	**Velias**	**153.01 319**	*e*P	PKPbc	06 17 21.0	-0.9
SAOF	**Saorge**	**153.16 350**	PKP	PKPdf	06 17 14.3	+0.1
AUTN	**L'Aution**	**153.17 350**	PKP	PKPdf	06 17 14.6	+0.4
EMAZ	**Mazaricos**	**153.27 17**	PKP	PKPab	06 17 36.4	-0.9
SBF	**Sospel**	**153.30 350**	*e*PKIKP	PKPdf	06 17 14.6	+0.2
MVIF	**Mont Vial**	**153.31 351**	PKP	PKPdf	06 17 14.6	+0.2
ITM	**Ithomi**	**153.33 321**	*e*P	PKPbc	06 17 24.0	+1.5
EPON	**Pontenova**	**153.37 14**	PKP	PKPab	06 17 37.8	+0.1
STOF	**St-Etienne Org**	**153.39 353**	PKP	PKPdf	06 17 15.7	+1.2
VLS	**Valsamata**	**153.42 324**	*e*P	PKPdf	06 17 22.0	+7.4
STS	**Santiago**	**153.44 16**	PKP2	PKPab	06 17 37.5	-0.5
SMRF	**Simiane la Rot**	**153.45 353**	*e*PKIKP	PKPdf	06 17 14.9	+0.3
	comp=Z,34nm,1.3s					
LASF	**Ste Croix**	**153.51 356**	*e*PKIKP	PKPdf	06 17 14.5	-0.2
	comp=Z,23nm,1.1s					
VILF	**Villemus**	**153.56 353**	PKP	PKPdf	06 17 15.7	+1.0
PRAF	**Pradon**	**153.66 354**	PKP	PKPdf	06 17 15.9	+1.0
FRF	**La Foret Royal**	**153.72 351**	*e*PKIKP	PKPdf	06 17 15.1	+0.1
TAVF	**Tavernes**	**153.75 352**	PKP	PKPdf	06 17 14.3	-0.7
EARI	**Arriondas**	**153.79 11**	PKP	PKPab	06 17 38.5	-1.0
TREF	**Trevaresse**	**153.82 353**	PKP	PKPdf	06 17 16.5	+1.4
LMR	**La Mourre**	**153.96 351**	*e*PKIKP	PKPdf	06 17 15.2	-0.1
GELF	**Grande-Etoile**	**154.05 353**	PKP	PKPdf	06 17 16.5	+1.1
ELAN	**Lanestosa**	**154.13 8**	PKP	PKPab	06 17 38.5	-2.5
ERUA	**La Rua**	**154.26 14**	PKP2	PKPab	06 17 41.1	-0.4
PGF	**Pioggiola**	**154.27 347**	*e*PKIKP	PKPdf	06 17 15.8	+0.1
	comp=Z,113nm,1.4s					
MTLF	**Montolieu**	**154.32 358**	*e*PKIKP	PKPdf	06 17 15.0	-0.8
EALK	**Alkurruntz**	**154.35 5**	PKP	PKPab	06 17 36.9	-5.0
SJPF	**Ste Jean**	**154.47 4**	*e*PKIKP	PKPdf	06 17 15.5	-0.5
ELOB	**Lobios**	**154.52 16**	PKP	PKPab	06 17 38.1	-4.6
PCAB	**Cabril**	**154.68 16**	*e*PKPbc	PKPdf	06 17 17.3	+1.0
PCAB			*i* -		06 17 26.6	
PCAB	**Cabril**	**154.68 16**	*e*PKPab	PKPab	06 17 42.7	-0.6
ECAL	**Calabor**	**154.78 14**	PKP	PKPab	06 17 43.2	-0.6
PBRG	**Braganca**	**154.91 14**	*e*PKPab	PKPab	06 17 43.7	-0.6
EBIE	**Bielsa**	**154.97 2**	PKP	PKPab	06 17 41.8	-2.8
PVRL	**Vila Real**	**155.16 16**	*e*PKPab	PKPab	06 17 45.0	-0.4
PVIS	**Viseu**	**155.64 17**	*e*PKPbc	PKPdf	06 17 18.5	+0.9
PVIS	**Viseu**	**155.64 17**	*e*PKPab	PKPab	06 17 47.1	-0.3
MTE	**Manteigas**	**156.03 17**	*e*PKPab	PKPab	06 17 48.7	-0.4
MTE	**Manteigas**	**156.03 17**	*e*PKPab	PKPab	06 17 48.3	-0.8
PTOM	**Tomar**	**156.50 19**	*e*PKPab	PKPab	06 17 50.5	-0.7
GUD	**Guadarrama**	**156.56 10**	PKP2	PKPab	06 17 50.8	-0.6
PCBR	**Castelo Branco**	**156.57 17**	*e*PKPbc	PKPdf	06 17 18.4	-0.4
PCBR	**Castelo Branco**	**156.57 17**	*e*PKPab	PKPab	06 17 50.7	-0.8
PLOU	**Loures**	**156.92 21**	*e*PKPab	PKPab	06 17 52.6	-0.4
MOE	**Montemor**	**157.51 20**	*e*PKPab	PKPab	06 17 54.9	-0.7
ESDC	**Sonseca Array**	**157.53 11**	PKPab	PKPab	06 17 54.8	-0.8
	comp=Z,2.6nm,0.5s,baz=339,slow=4.1,SNR=13					
ESDC			pPKPab	pPKPab	06 19 59.1	-1.4
	comp=Z,0.2nm,0.3s,baz=316,slow=5.4,SNR=1.6					
ESDC	**Sonseca Array**	**157.53 11**	PKP	PKPab	06 17 54.9	-0.8
EVO	**Evora**	**157.62 19**	*e*PKIKP	PKPdf	06 17 19.7	-0.4
	comp=Z,20nm,1.1s					
EVO			*e*R			
	comp=Z,231nm,22.8s					
EBAD	**Badajoz**	**157.71 17**	PKP	PKPab	06 17 56.6	+0.2
PBEJ	**Beja**	**158.12 20**	*e*PKPab	PKPab	06 17 57.7	-0.5
EGRO	**El Granado**	**158.69 19**	PKP	PKPab	06 18 00.3	-0.4
EMIN	**Mina Concepcio**	**158.72 18**	PKP	PKPab	06 18 00.6	-0.3
EADA	**Adamuz**	**158.87 13**	PKP	PKPab	06 18 01.9	+0.4
EHUE	**Huescar**	**159.57 9**	PKP2	PKPab	06 18 04.3	-0.2
ESPR	**Espera**	**159.79 17**	PKP	PKPab	06 18 05.7	+0.2
ECOG	**Cogollos-Vega**	**159.93 11**	PKP2	PKPab	06 18 05.1	-1.0
ELOJ	**Sierra Loja**	**159.94 13**	PKP2	PKPab	06 18 08.0	+1.8
EJIF	**Jimena Fronter**	**160.29 16**	PKP2	PKPab	06 18 06.2	-1.5
EMIJ	**Mijas**	**160.36 15**	PKP	PKPab	06 18 09.4	+1.4
DBIC	**Dimbokro**	**167.60 150**	PKP	PKPdf	06 17 29.3	-0.4
	comp=Z,12nm,1.1s,baz=193,slow=3.5,SNR=5.1					
DBIC			PKPab	PKPab	06 18 42.6	+2.7
	comp=Z,5.8nm,0.8s,baz=196,slow=5.8,SNR=3.4					
DBIC	**Dimbokro**	**167.60 150**	*e*PKPdf	PKPdf	06 17 29.9	+0.2
DBIC			*e*PKPab	PKPab	06 18 41.5	+1.6
TORD	**Torodi Ar. Bea**	**175.56 185**	PKP	PKPdf	06 17 32.4	-1.0
	comp=Z,11nm,1.0s,baz=359,slow=0.8,SNR=36					
TORD			PKPab	PKPab	06 19 14.8	-0.4
	comp=Z,7.1nm,0.7s,baz=179,slow=3.6,SNR=12					
TORD			pPKP	pPKPdf	06 19 44.3	-2.3
	comp=Z,3.8nm,1.0s,baz=333,slow=0.3,SNR=1.8					
TORD			pPKPab	pPKPab	06 21 18.5	-1.1
	comp=Z,2.8nm,1.2s,baz=220,slow=3.8,SNR=1.5					

KRSC ***09*** *07:25:17.8±1.4, 60.75N×165.82E, h5km±3km, ML4.6*
ISCJB ***09*** *07:25:18.2±0.1, 60.78N±0.002×165.44E±0.04, h5km, mb4.5/53, MS4.1/18, Error ellipse: s-maj=3.6km s-min=2.4km az=111.7*
MOS ***09*** *07:25:19.3±1.2, 60.78N×165.38E, h13km, mb4.8/16, Error ellipse: s-maj=12.1km s-min=7.0km az=85.4*
IDC ***09*** *07:25:20.2±0.8, 61.08N×165.56E, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.3/21, mbtmp4.1/16, MS3.8/8, Ms1 3.8/8, ms1mx3.5/23, Error ellipse: s-maj=25.2km s-min=14.8km az=169.0*
NEIC ***09*** *07:25:21.2±0.3, 60.91N×165.35E, h10km, mb4.6/25, Error ellipse: s-maj=10.4km s-min=3.8km az=178.0*
BJI ***09*** *07:25:21.8, 61.03N×164.36E, h10km, mB4.8, mb4.7, Ms4.6, Msz4.3*

ISC 09 07:25:19.9±0.1, 60.83N±0.002×165.42E±0.04, h5km, (h17km±1.5km:pP-P), n209, a0°91/224, mb4.5/53, MS4.1/18, 42C-25D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.51**	**142**	*i* P	**Pg**	**07 25 25.7**	**-4.1**
TILR				*e*S	**Sg**	**07 25 31.3**	**-5.2**
TILR				Smax			
	112µm,1.2s						
KAMR	**Kamenskoye**	**1.67**	**13**	*i* P	**Pn**	**07 25 49.7**	**-0.1**
KAMR				*i* S	**Sn**	**07 26 12.6**	**+0.9**
KAMR				Smax			
	10µm,1.3s						
OSSR	**Ossora**	**1.98**	**218**	*i* P	**Pn**	**07 25 52.2**	**-1.9**
EVNR	**Evensk**	**3.15**	**293**	*i* P	**Pn**	**07 26 11.9**	**+1.6**
SMKR	**Semkarok**	**4.74**	**207**	*i* P	**Pn**	**07 26 31.6**	**-0.4**
SRKR	**Sorokina**	**4.74**	**210**	*e*P	**Pn**	**07 26 31.5**	**-0.5**
KBG	**Krutoberegovo**	**4.81**	**198**	*e*P	**Pn**	**07 26 31.8**	**-1.2**
KBG				*e*S	**Sn**	**07 27 27.6**	**-1.4**
KBG				Smax			
	460nm,0.9s						
BDR	**Baidarnaya**	**4.81**	**209**	*e*P	**Pn**	**07 26 32.9**	**-0.1**
KBTR	**Krutoberegovo**	**4.83**	**197**	P	**Pn**	**07 26 31.4**	**-1.9**
KBTR				S	**Sn**	**07 27 25.7**	**-4.0**
KBTR	**Krutoberegovo**	**4.83**	**197**	*e*P	**Pn**	**07 26 32.2**	**-1.1**
KLY	**Klyuchi**	**5.17**	**211**	P	**Pn**	**07 26 37.1**	**-0.9**
KLY	**Klyuchi**	**5.17**	**211**	*e*P	**Pn**	**07 26 37.2**	**-0.8**
KRSR	**Krestovskiy**	**5.28**	**211**	*e*P	**Pn**	**07 26 40.3**	**+0.8**
CIRR	**Tsirk**	**5.33**	**209**	P	**Pn**	**07 26 40.4**	**+0.3**
LGNR	**Loginova**	**5.37**	**210**	*e*P	**Pn**	**07 26 40.4**	**-0.3**
ZLN	**Zelenaya**	**5.40**	**209**	P	**Pn**	**07 26 41.2**	**0.0**
KPT	**Kopyto**	**5.59**	**211**	*e*P	**Pn**	**07 26 44.6**	**+0.8**
BKI	**Bering**	**5.65**	**177**	*e*P	**Pn**	**07 26 43.5**	**-1.1**
BKI				Smax			
	70nm,1.2s						
KMNR	**Kamenistaya**	**5.78**	**210**	*e*P	**Pn**	**07 26 46.6**	**+0.3**
ESO	**Esso**	**6.06**	**219**	*e*P	**Pn**	**07 26 52.4**	**+2.3**
ESO				Smax			
	170nm,1.3s						
TUMR	**Tumrok**	**6.23**	**209**	*e*P	**Pn**	**07 26 54.3**	**+1.8**
MKZ	**Mys Kozlova**	**6.60**	**199**	*e*P	**Pn**	**07 26 57.9**	**+0.3**
MKZ				*e*S	**Sn**	**07 28 11.0**	**-2.1**
BILL	**Bilibino**	**7.24**	**3**	*de*PN	**Pn**	**07 27 07.3**	**+0.9**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,1µm,15.0s						
BILL	**Bilibino**	**7.24**	**3**	*e*Pn	**Pn**	**07 27 07.0**	**+0.5**
	comp=Z,28nm,0.8s						
BILL	**Bilibino**	**7.24**	**3**	*e*P	**Pn**	**07 27 08.0**	**+1.6**
MA2	**Magadan**	**7.41**	**267**	*d i*PN	**Pn**	**07 27 08.2**	**-0.5**
MA2				pmax	pmax		
	comp=Z,70nm,0.7s						
MA2				pmax	pmax		
	comp=N,10.0nm,0.6s						
MA2				pmax	pmax		
	comp=E,40nm,0.6s						
MA2				MLR	MLR		
	comp=Z,2µm,9.5s						
MA2	**Magadan**	**7.41**	**267**	*e*Pn	**Pn**	**07 27 08.9**	**+0.2**
MA2				*e*Sn	**Sn**	**07 28 34.0**	**+0.9**
MA2	**Magadan**	**7.41**	**267**	*i* P	**Pn**	**07 27 10.4**	**+1.7**
MA2				*e*S	**Sn**	**07 28 34.2**	**+1.1**
GNL	**Ganaly**	**8.22**	**213**	*e*P	**Pn**	**07 27 21.5**	**+1.7**
SPN	**Mys Shipunski**	**8.29**	**203**	P	**Pn**	**07 27 20.0**	**-0.8**
SPN				S	**Sn**	**07 28 48.3**	**-6.6**
SPN	**Mys Shipunski**	**8.29**	**203**	*i* P	**Pn**	**07 27 21.3**	**+0.5**
SPN				*e*S	**Sn**	**07 28 50.1**	**-4.8**
NLC	**Nalytchevo**	**8.36**	**206**	P	**Pn**	**07 27 20.2**	**-1.6**
NLC	**Nalytchevo**	**8.36**	**206**	*e*P	**Pn**	**07 27 22.4**	**+0.6**
SDLR	**Sedlovina**	**8.37**	**208**	*e*P	**Pn**	**07 27 22.9**	**+1.1**
SMAR	**Somma**	**8.40**	**208**	*e*P	**Pn**	**07 27 24.3**	**+2.0**
KOK	**Koryaka**	**8.41**	**209**	*e*P	**Pn**	**07 27 25.1**	**+2.6**
AVH	**Avacha**	**8.41**	**209**	*e*P	**Pn**	**07 27 24.3**	**+1.8**
UGLR	**Uglovaya**	**8.44**	**208**	*e*P	**Pn**	**07 27 23.3**	**+0.4**
APC	**Apacha**	**9.12**	**213**	*i* P	**Pn**	**07 27 33.4**	**+1.2**
SMY	**Shemya**	**9.41**	**146**	*e*PN	**Pn**	**07 27 45.9**	**+10**
YAK	**Yakutsk**	**17.00**	**290**	*e*P	**Pn**	**07 29 20.2**	**+1.8**
YAK				pmax	pmax		
	comp=E,18nm,1.1s						
YAK				pmax	pmax		
	comp=Z,39nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				MLR	MLR		
	comp=E,468nm,14.0s						
YAK				MLR	MLR		
	comp=Z,502nm,14.0s						
YAK				MLR	MLR		
	comp=N,265nm,10.0s						
YAK	**Yakutsk**	**17.00**	**290**	*e*Pn	**Pn**	**07 29 18.5**	**0.0**
	comp=N,46nm,0.6s						
TIXI	**Tiksi**	**17.91**	**322**	*e*P	**Pn**	**07 29 27.5**	**-2.2**
TIXI				*e*S	**Sn**	**07 32 42.7**	**-6.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,334nm,13.0s						
TTA	**Tatalina**	**18.11**	**67**	*e*P	**Pn**	**07 29 33.3**	**+1.0**
YSS	**Yuzh-Sakhalins**	**19.13**	**234**	P	**Pn**	**07 29 48.0**	**+3.4**
YSS				MLR	MLR		
	comp=N,400nm,14.0s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
YSS				MLR	MLR		
	comp=E,600nm,16.0s						
MCK	**McKinley**	**21.07**	**62**	*e*P	**P**	**07 30 05.5**	**+0.5**
MCK				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.6						
MCK	**McKinley**	**21.07**	**62**	*e*P	**P**	**07 30 05.5**	**+0.5**
	comp=Z,30nm,0.9s,mb4.6						
HABR	**Khabarovsk**	**21.25**	**248**	*e*P	**P**	**07 30 06.7**	**-0.2**
HABR				*e*S	**S**	**07 34 04.0**	**+0.6**
COLA	**College**	**21.30**	**59**	*e*P	**P**	**07 30 07.1**	**-0.3**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
COLA	**College**	**21.30**	**59**	*e*P	**P**	**07 30 07.1**	**-0.3**
	comp=Z,10.0nm,0.9s,mb4.2						
KDAK	**Kodiak Island**	**21.38**	**79**	LR	LR	07 38 44.3	
	comp=Z,310nm,20.0s,MS3.7,baz=109,slow=38						
SML	**Sawmill**	**21.86**	**67**	*e*P	**P**	**07 30 11.3**	**-2.1**
DAWY	**Dawson**	**25.05**	**59**	*e*P	**P**	**07 30 44.3**	**-0.7**
INK	**Inuvik**	**26.18**	**48**	P	**P**	**07 30 53.9**	**-1.4**
	comp=Z,12nm,0.9s,mb4.4,baz=285,slow=14,SNR=27						
INK				LR	LR	07 42 19.2	
	comp=Z,249nm,18.3s,MS3.8,baz=18,slow=39						
INK	**Inuvik**	**26.18**	**48**	P	**P**	**07 30 53.9**	**-1.4**
INK				pmax	pmax		
	comp=Z,12nm,0.9s						
INK				MLR	MLR		
	comp=Z

NJ2 XS sS 07 39 35.0 +5.2
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
NJ2 AMB AMB
comp=Z,200nm,10.8s
NJ2 LR LR
comp=N,1μm,22.2s,MS4.9
NJ2 LR LR
comp=E,1μm,23.4s,MS4.9
NJ2 LR LR
comp=Z,340nm,18.6s,MS4.2
EDM Edmonton 42.14 62 *e*P **P 07 33 13.2 0.0**
D05A Enumclaw 42.48 75 ⇓P **P 07 33 15.7 -0.3**
baz=42
J02A Umpqua 44.54 79 ⇓P **P 07 33 32.2 -0.4**
baz=44
WALA Waterton Lakes 44.86 67 *e*P **P 07 33 35.4 +0.3**
comp=Z,11nm,1.0s,mb4.6
WALA *ep*P pP 07 33 41.4 +4.8
GTA Gaotai 44.93 272 *e*P **P 07 33 35.0 -0.7**
GTA AP pP 07 33 38.4 +1.2
GTA XP sP 07 33 40.7 +2.8
GTA PP PP 07 35 20.4 -0.1
GTA S **S 07 40 09.8 -4.4**
GTA AMB AMB
comp=Z,50nm,4.6s
GTA LR LR
comp=N,260nm,14.1s,MS4.5
GTA LR LR
comp=E,280nm,10.3s,MS4.5
GTA LR LR
comp=Z,420nm,13.7s,MS4.5
BSMT Bassoo Peak 45.34 69 *e*P **P 07 33 39.9 +0.9**
BSMT *ep*P pP 07 33 47.5 +7.0
LZH Lanzhou 45.56 266 *e*P **P 07 33 41.3 +0.6**
LZH AP pP 07 33 44.5 +2.2
LZH XP sP 07 33 46.1 +3.2
LZH PP PP 07 35 28.6 +1.3
LZH AMB AMB
comp=Z,20nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,60nm,7.8s
LZH LR LR
comp=E,220nm,16.2s
LZH LR LR
comp=Z,310nm,18.7s,MS4.3
YBH Yreka Blue Hor 46.20 80 ⇓P **P 07 33 45.5 -0.2**
baz=46
L04A Klamath Falls 46.26 79 ⇓P **P 07 33 45.9 -0.3**
baz=46
J06A Christmas Vall 46.27 77 ⇓P **P 07 33 45.9 -0.4**
baz=46
MSO Missoula 46.49 69 *e*P **P 07 33 48.0 0.0**
comp=Z,3.5nm,1.0s,mb4.2
K06A Valley Falls 46.56 77 ⇑P **P 07 33 48.3 -0.3**
baz=46
M04C Macdoel 46.58 80 ⇓P **P 07 33 48.2 -0.5**
baz=46
CHMT Chamberlain Mo 46.74 69 *e*P **P 07 33 50.3 +0.3**
ARCES ARCESS Array B 46.82 342 LR LR 07 52 39.7
comp=Z,101nm,21.2s,MS3.8,baz=168,slow=35
M05C Lookout 47.23 79 ⇑P **P 07 33 53.7 -0.2**
baz=47
WMQ Urumqi 47.40 286 *e*P **P 07 33 53.0 -2.1**
WMQ AMB AMB
comp=Z,90nm,5.0s
WMQ LR LR
comp=N,290nm,13.0s,MS4.5
WMQ LR LR
comp=E,250nm,15.0s,MS4.5
WMQ LR LR
comp=Z,180nm,18.0s,MS4.1
CHKZ Chkalovo 47.44 306 *e*P **P 07 33 54.9 -0.6**
CHKZ *p*max *p*max
comp=Z,13nm,0.9s,mb4.9
CHKZ Chkalovo 47.44 306 *e*P **P 07 33 54.9 -0.6**
comp=Z,13nm,0.9s,mb4.9
EGMT Eagleton 47.48 65 *e*P **P 07 33 55.2 -0.6**
comp=Z,7.4nm,0.9s,mb4.6
HRY Holter Researc 47.54 68 *e*P **P 07 33 56.3 +0.1**
MKAR Makanchi Array 47.65 293 P **P 07 33 55.8 -1.2**
comp=Z,1.2nm,0.7s,mb4.0,baz=45,slow=7.0,SNR=11
BVAR Borovoye Array 48.02 306 P **P 07 33 59.8 -0.2**
comp=Z,15nm,0.7s,mb5.1,baz=52,slow=7.7,SNR=69
BRVK Borovoye 48.04 306 *e*P **P 07 34 00.0 -0.1**
O04C Chester 48.06 80 ⇑P **P 07 34 00.2 -0.1**
baz=48,SNR=5.5
M07A Soldier Meadow 48.16 78 ⇑P **P 07 34 01.0 -0.1**
baz=48
DLMT Dillon 48.21 69 *e*P **P 07 34 01.4 0.0**
comp=Z,4.6nm,0.9s,mb4.5
L09A Wilkinson Ranc 48.39 76 ⇓P **P 07 34 02.6 -0.2**
baz=48
O05C Quincy 48.42 80 ⇑P **P 07 34 02.3 -0.8**
baz=48
BOZ Bozeman (W) 48.43 69 *e*P **P 07 34 03.7 +0.5**
BOZ *p*max *p*max
comp=Z,3.0nm,0.9s,mb4.3
BOZ Bozeman (W) 48.43 69 *e*P **P 07 34 03.7 +0.5**
comp=Z,2.6nm,0.9s,mb4.3
ORV Oroville 48.46 81 ⇓P **P 07 34 02.3 -1.1**
baz=48
M08A Happy Creek Ra 48.49 77 ⇑P **P 07 34 03.1 -0.5**
baz=48
MCMT McKenzie Canyo 48.50 70 *e*P **P 07 34 04.0 +0.3**
MNRC McLaughlin Nat 48.53 83 ⇑P **P 07 34 03.8 -0.1**
baz=48
SUTB Sutter Buttes 48.57 82 ⇓P **P 07 34 03.9 -0.3**
baz=48
ZRNK Zerenda 48.62 307 *e*P **P 07 34 04.5 -0.1**
ZRNK *p*max *p*max
comp=Z,10.0nm,0.8s,mb4.9
ZRNK Zerenda 48.62 307 *e*P **P 07 34 04.5 -0.1**
comp=Z,9.9nm,0.8s,mb4.9
N07B Gerlach 48.73 78 ⇑P **P 07 34 04.7 -0.8**
baz=49
HLID Hailey 48.74 72 *e*P **P 07 34 05.5 0.0**
comp=Z,2.1nm,0.8s,mb4.2
O06A Flanigan 48.80 79 ⇑P **P 07 34 05.9 0.0**
baz=49
CVS Carmenet Viney 48.94 83 ⇑P **P 07 34 06.5 -0.6**
baz=49
M09A Marrel Ranch, 48.96 76 ⇓P **P 07 34 06.6 -0.6**
baz=49
P05C Yuba Gap, Truc 49.09 81 ⇑P **P 07 34 07.7 -0.5**
baz=49
GCMT Greycliff 49.21 67 *e*P **P 07 34 09.8 +0.7**
O07A Toulon 49.25 79 ⇑P **P 07 34 09.4 0.0**
baz=49
M10A I.L. Ranch, Tu 49.31 76 ⇓P **P 07 34 09.6 -0.3**
baz=49
N09A Rock Creek Ran 49.37 77 ⇓P **P 07 34 10.3 0.0**
baz=49
LAVA Lava Cap Winer 49.45 81 ⇑P **P 07 34 10.7 -0.3**
baz=49
WCN Washoe City 49.50 80 ⇓P **P 07 34 11.1 -0.2**
baz=49
ARU Arti 49.76 316 ⇑*i*P **P 07 34 12.8 -0.5**
ARU *e* 07 36 09.6
ARU *e*S **S 07 41 23.7 +0.7**
ARU *p*max *p*max
comp=Z,8.0nm,0.9s,mb4.8
CD2 Chengdu 49.80 262 *e*P **P 07 34 12.9 -0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
R05C Kirkwood Meado 49.81 81 ⇑P **P 07 34 13.4 -0.3**
baz=50
LKWY Lake 49.82 69 *e*P **P 07 34 16.1 +2.3**
O09A Fish Creek Ran 50.05 77 ⇑P **P 07 34 15.9 +0.4**
baz=50
FLWY Flagg Ranch 50.06 69 *e*P **P 07 34 16.8 +1.2**
IMW Indian Meadow 50.09 69 *e*P **P 07 34 17.0 +1.2**
comp=Z,5.4nm,0.8s,mb4.6
S04C Ingram Canyon, 50.15 83 ⇑P **P 07 34 15.5 -0.8**
baz=50
M12A Wells 50.16 74 ⇑P **P 07 34 15.9 -0.5**
baz=50
CMB Columbia Colle 50.19 82 ⇓P **P 07 34 16.2 -0.4**
baz=50
DCID1 Drake Creek 50.21 70 *e*P **P 07 34 18.2 +1.4**
R06C Coleville 50.26 80 ⇑P **P 07 34 17.1 0.0**
baz=50
TPAW Teton Pass 50.40 70 *e*P **P 07 34 18.8 +0.6**
comp=Z,5.7nm,0.9s,mb4.6
LOHW Long Hollow 50.47 69 *e*P **P 07 34 19.2 +0.6**
comp=Z,6.5nm,0.9s,mb4.7
ELK Elko 50.53 75 *e*P **P 07 34 20.1 +0.9**

N12A Wells--Clov Va 50.54 75 ⇑P **P 07 34 19.1 -0.2**
baz=50
P09A Austin 50.56 78 ⇑P **P 07 34 19.3 -0.1**
baz=50
Q08A Gabbs 50.73 79 ⇑P **P 07 34 20.6 0.0**
baz=51,SNR=6.1
NVAR Mina Array Bea 50.88 80 P **P 07 34 20.8 -1.1**
comp=Z,2.2nm,0.9s,mb4.1,baz=309,slow=6.0,SNR=11
O12A Currie 51.14 75 ⇑P **P 07 34 23.3 -0.5**
baz=51
HWUT Hardware Ranch 51.58 72 *e*P **P 07 34 27.6 +0.5**
BW06 Boulder Array 51.60 69 *e*P **P 07 34 27.4 +0.2**
comp=Z,6.7nm,0.9s,mb4.6
PDAR Pinedale Array 51.60 69 P **P 07 34 27.0 -0.2**
comp=Z,5.9nm,0.9s,mb4.5,baz=332,slow=4.1,SNR=36
ULM Lac du Bonnet 51.62 54 P **P 07 34 26.6 -0.8**
comp=Z,3.1nm,0.8s,mb4.3,baz=339,slow=6.0,SNR=4.3
S08C White Mtn Res 51.69 80 ⇓P **P 07 34 27.8 -0.1**
baz=52
P12A McGill 51.69 76 ⇑P **P 07 34 27.0 -0.9**
baz=52
HELL Mitchell Peak 51.92 81 ⇓P **P 07 34 29.3 -0.3**
baz=52
S09A Goldfield 51.97 79 ⇑P **P 07 34 29.5 -0.5**
baz=52
GYA Guiyang 52.11 256 P **P 07 34 30.5 -0.5**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NLU North Lily Min 52.65 73 *e*P **P 07 34 35.8 +0.8**
MSU Marysvale 53.74 75 *e*P **P 07 34 43.6 +0.5**
SRU San Rafael 54.04 73 *e*P **P 07 34 45.9 +0.6**
SRU *p*max *p*max
comp=Z,10.0nm,1.1s,mb4.7
SRU San Rafael 54.04 73 *e*P **P 07 34 45.9 +0.6**
comp=Z,9.9nm,1.1s,mb4.7
GSC Goldstone 54.10 81 *e*P **P 07 34 46.1 +0.4**
GSC Goldstone 54.10 81 P **P 07 34 45.9 +0.3**
baz=54,SNR=6.8
FINES FINESS Array B 54.13 337 P **P 07 34 44.7 -1.2**
comp=Z,1.4nm,0.9s,mb3.9,baz=0.0,slow=9.5,SNR=3.8
FINES FINESS Array B 54.13 337 P **P 07 34 44.7 -1.2**
MWC Mount Wilson 54.36 83 *e*P **P 07 34 49.0 +1.4**
AAK Ala-Archa 54.37 295 *e*P **P 07 34 46.8 -0.9**
AAK *p*max *p*max
comp=Z,4.0nm,0.8s,mb4.4
AAK Ala-Archa 54.37 295 *e*P **P 07 34 46.8 -0.9**
comp=Z,3.8nm,0.8s,mb4.4
TUQ Turquoise Mtn. 54.42 80 ⇓P **P 07 34 48.4 +0.4**
baz=54
AKTO Aktyubinsk 54.79 312 LR LR 07 58 29.4
comp=Z,82nm,21.7s,MS3.8,baz=0.0,slow=36
W12A Cal Nev Ari 55.04 79 ⇑P **P 07 34 52.6 +0.1**
baz=55
KMI Kunming 55.12 259 P **P 07 34 54.3 +1.2**
KMI AP pP 07 34 58.9 +4.2
KMI XP sP 07 35 01.3 +6.0
KMI PP PP 07 36 58.4 +2.1
KMI S **S 07 42 35.2 -1.2**
KMI XS sS 07 42 43.6 +4.6
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
KMI AMB AMB
comp=Z,80nm,4.0s
KMI LR LR
comp=N,170nm,17.4s,MS4.4
KMI LR LR
comp=E,240nm,18.2s,MS4.4
KMI LR LR
comp=Z,130nm,19.9s,MS4.0
PFO Pinyon Flat Ob 55.64 82 ⇑P **P 07 34 56.9 0.0**
baz=56
W13A Hualapai Mount 55.67 78 ⇑P **P 07 34 56.9 -0.1**
baz=56
109C Camp Elliot, M 55.91 83 ⇑P **P 07 34 58.4 -0.3**
baz=56
W14A Seligman 55.97 78 ⇓P **P 07 34 59.4 +0.2**
baz=56,SNR=9.0
BC3 Big Chuckw Mtn 56.09 81 ⇑P **P 07 35 00.4 +0.3**
baz=56
X13A Yucca 56.11 79 ⇑P **P 07 34 59.8 -0.4**
baz=56
W15A Williams 56.38 77 ⇓P **P 07 35 02.8 +0.6**
baz=56
Y12C Blythe 56.46 80 ⇑P **P 07 35 02.7 0.0**
baz=56
X14A Yava 56.66 78 ⇓P **P 07 35 04.7 +0.5**
baz=56,SNR=5.3
Y13A Salome 56.74 79 ⇑P **P 07 35 04.8 +0.1**
baz=57
NB2 NORSAR Subarra 56.84 345 P **P 07 35 04.7 -0.7**
comp=Z,0.8nm,0.6s,mb3.9,baz=28,slow=7.9
NB2 NORSAR Subarra 56.84 345 P **P 07 35 04.7 -0.7**
NB2 *p*max *p*max
comp=Z,1.0nm,0.6s,mb4.0
NOA NORSAR Array B 56.84 345 P **P 07 35 05.2 -0.2**
comp=Z,1.7nm,0.6s,mb4.3,baz=14,slow=7.3,SNR=5.7
GLA Glamis 56.88 81 ⇑P **P 07 35 05.8 +0.1**
baz=57,SNR=6.8
X15A Humboldt 56.95 78 ⇑P **P 07 35 06.5 +0.3**
baz=57,SNR=7.7
Y14A Wickenburg 57.04 79 ⇓P **P 07 35 06.8 0.0**
baz=57
SCHQ Schefferville 57.48 33 P **P 07 35 08.2 -1.8**
comp=Z,3.5nm,1.0s,mb4.3,baz=31,slow=11,SNR=3.9
SCHQ LR LR 08 00 40.4
comp=Z,104nm,19.9s,MS3.9,baz=279,slow=37
Z14A Wintersburg 57.53 79 ⇑P **P 07 35 10.4 +0.1**
baz=57
115A Sonoran Desert 58.42 79 P **P 07 35 17.4 +0.9**
baz=58,SNR=6.2
116A Eloy 58.79 78 ⇑P **P 07 35 19.2 +0.1**
baz=59
ANMO Albuquerque 59.31 73 ⇓*e*P **P 07 35 23.9 +1.2**
ANMO Albuquerque 59.31 73 *e*P **P 07 35 24.4 +1.7**
GUN Gumba 61.01 276 *e*P **P 07 35 33.3 -1.1**
comp=Z,38nm,0.9s,mb5.5
JIRN Jiri 61.07 275 *e*P **P 07 35 35.6 +0.8**
GKN Gorkha 61.54 277 *e*P **P 07 35 36.7 -1.2**
KOLN Koldanda 62.24 278 *e*P **P 07 35 41.6 -1.0**
comp=Z,14nm,0.9s,mb5.1
MNTX Cornudas Mount 62.51 74 *e*P **P 07 35 45.0 +0.5**
comp=Z,5.4nm,1.1s,mb4.6
AKASG Malin Array Be 63.38 331 P **P 07 35 49.6 -0.7**
comp=Z,0.3nm,0.3s,mb3.9,baz=25,slow=6.5,SNR=7.5
MAK Makhachkala 64.93 314 *e*P **P 07 35 59.5 -1.0**
LTX Lajitas 65.29 74 *e*P **P 07 36 03.6 +0.8**
LTX *p*max *p*max
comp=Z,5.0nm,1.0s,mb4.5
LTX Lajitas 65.29 74 *e*P **P 07 36 03.6 +0.8**
comp=Z,5.2nm,1.0s,mb4.5
KIV Kislovodsk 65.69 318 ⇑*e*P **P 07 36 06.3 +0.9**
KIV *p*max *p*max
comp=Z,9.0nm,0.8s,mb4.8
CLL Collm 66.04 341 *e*P **P 07 36 07.0 -0.6**
JCT Junction City 66.12 70 *e*P **P 07 36 07.0 -1.2**
SOC Sochi 66.97 320 *e*P **P 07 36 12.6 -1.0**
SOC *e* 07 36 48.0
SOC *e* 07 38 36.6
SOC *e*PPP 07 40 24.2
SOC *e*S S 07 45 07.3 -0.1
SOC *p*max *p*max
comp=Z,12nm,0.8s,mb5.0
SOC MLR MLR
comp=Z,183nm,19.0s,MS4.3
KHC Kasperske Hory 68.06 340 ⇑*e*P **P 07 36 22.7 +2.2**
GERES GERESS Array B 68.31 340 P **P 07 36 22.0 -0.1**
comp=Z,0.2nm,0.3s,mb3.7,baz=46,slow=5.8,SNR=3.5
GNI Garni 68.39 315 ⇑*e*P **P 07 36 23.7 +1.2**
GNI *p*max *p*max
comp=Z,9.0nm,1.3s
BRTR Keskin Array B 72.35 323 P **P 07 36 47.2 +0.5**
comp=Z,2.0nm,0.9s,mb4.1,baz=55,slow=4.7,SNR=7.2
ASAR Alice Springs 88.00 209 P **P 07 38 14.8 +3.7**
comp=Z,0.3nm,0.6s,mb3.7,baz=10.0,slow=5.5,SNR=4.3

*IDC **09** 08:16:39.4±1.1,3859N×2375E,h0km,mb3.7/6,mb1 3.8/9, mb1mx3.7/23,mbtmp3.7/9,ML3.4/3,MS2.8/4,Ms1 2.8/4, ms1mx2.6/29,Error ellipse: s-maj=25.0km s-min=16.8km az=100.0*
*NEIC **09** 08:16:39.8,3860N×2376E,h24km,ML3.8(THE), ML3.8(ATH),After ATH.*
*ATH **09** 08:16:39.8,3860N×2376E,h24km±1km,MD4.0/22,ML3.8*
*ISCJB **09** 08:16:39.3±0.5,3859N±002×2374E±002,h8km±4km, mb3.6/6,MS2.9/2,Error ellipse: s-maj=3.3km s-min=2.8km az=113.2*
*THE **09** 08:16:40.7,3865N×2377E,h1km,ML3.6*
*CSEM **09** 08:16:40.1±0.1,3864N×2379E,h8km,ML3.8,Error ellipse: s-maj=1.5km s-min=1.2km az=73.0*
ISC 09 08:16:40.4±0.5,3860N±002×2374E±002,h9km±3km,n95, σ1§23/121,mb3.6/6,MS2.9/2,5C-3D,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.56**	**169**	*e*PN	**Pg**		**Pg**	**08 16 51.0**	**-0.3**
LKR	**Lokris**	**0.58**	**275**	*e*PB	**Pg**		**Pb**	**08 16 51.0**	**-1.7**
LKR				*e*SN	**Sg**		**Sg**	**08 17 00.2**	**+1.0**
AOS	**Alonnisos**	**0.58**	**11**	*e*Pg	**Pg**		**Pg**	**08 16 51.5**	**-0.2**
AOS	**Alonnisos**	**0.58**	**11**	P	**Pg**		**Pg**	**08 16 51.4**	**-0.2**
AOS	**Alonnisos**	**0.58**	**11**	P	**Pg**		**Pg**	**08 16 51.4**	**-0.2**
ATH	**Athens Observa**	**0.63**	**181**	*e*PB	**Pb**		**Pb**	**08 16 51.9**	**-1.6**
ATH				*e*SN	**Sg**		**Sg**	**08 17 00.9**	**+0.1**
MGER	**Gerania Oros**	**0.72**	**211**	*e*PN	**Pn**		**Pn**	**08 16 53.5**	**-3.2**
KVR	**Kavouri**	**0.77**	**178**	*e*PN	**Pn**		**Pn**	**08 16 55.0**	**-2.5**
NEO	**Neokhori**	**0.81**	**331**	*e*PN	**Pn**		**Pn**	**08 16 56.0**	**-2.0**
NEO				*e*SN	**Sn**		**Sn**	**08 17 07.8**	**-2.3**
NAIG	**Nisos Aigina**	**0.86**	**193**	*e*PN	**Pn**		**Pn**	**08 16 57.0**	**-1.7**
XOR	**Xorichti**	**0.87**	**331**	*e*Pg	**Pg**		**Pg**	**08 16 56.3**	**-0.9**
XOR				*e*Sg	**Sg**		**Sg**	**08 17 08.4**	**-0.2**
XOR	**Xorichti**	**0.87**	**331**	P	**Pg**		**Pg**	**08 16 58.2**	**+1.0**
XOR	**Xorichti**	**0.87**	**331**	P	**Pg**		**Pg**	**08 16 58.2**	**+1.0**
AGG	**Agios Georgios**	**1.18**	**291**	*e*Pg	**Pg**		**Pg**	**08 17 01.8**	**-1.2**
AGG				*e*Sg	**Sg**		**Sg**	**08 17 20.2**	**+2.0**
AGG	**Agios Georgios**	**1.18**	**291**	P	**Pb**		**Pb**	**08 17 03.7**	**+0.8**
EVR	**Evrytania**	**1.54**	**282**	*e*PN	**Pn**		**Pn**	**08 17 08.8**	**+0.8**
LIA	**Limnos Island**	**1.71**	**41**	*e*PN	**Pn**		**Pn**	**08 17 09.7**	**-0.7**
LIA				*e*SN	**Sn**		**Sn**	**08 17 32.4**	**0.0**
OUR	**Ouranopolis**	**1.74**	**6**	*e*Pb	**Pb**		**Pb**	**08 17 10.2**	**-2.3**
OUR	**Ouranopolis**	**1.74**	**6**	P	**Pn**		**Pn**	**08 17 10.2**	**-0.5**
LIT	**Litokhoron**	**1.78**	**328**	*e*Pb	**Pb**		**Pb**	**08 17 11.1**	**-2.1**
LIT	**Litokhoron**	**1.78**	**328**	P	**Pn**		**Pn**	**08 17 11.2**	**-0.2**
LIT				S	**Sn**		**Sn**	**08 17 34.5**	**+0.4**
LIT	**Litokhoron**	**1.78**	**328**	P	**Pn**		**Pn**	**08 17 11.2**	**-0.1**
LIT				S	**Sn**		**Sn**	**08 17 34.5**	**+0.4**
PLG	**Polygyros**	**1.79**	**353**	⇑*i*PN	**Pn**		**Pn**	**08 17 10.9**	**-0.5**
PLG				*e*SN	**Sn**		**Sn**	**08 17 33.6**	**-0.6**
CHOS	**Chios island**	**1.83**	**96**	*e*Pb	**Pb**		**Pb**	**08 17 12.1**	**-2.0**
RLS	**Riolos of Patr**	**1.86**	**254**	*e*PN	**Pn**		**Pn**	**08 17 13.6**	**+1.1**
RLS				*e*SN	**Sn**		**Sn**	**08 17 36.3**	**+0.2**
VLI	**Veliai**	**1.98**	**199**	*e*PB	**Pb**		**Pb**	**08 17 13.6**	**-3.0**
VLI				*e*SN	**Sn**		**Sn**	**08 17 39.2**	**+0.2**
ITM	**Ithomi**	**2.02**	**226**	⇓*i*PN	**Pn**		**Pn**	**08 17 15.4**	**+0.9**
ITM				*e*SN	**Sn**		**Sn**	**08 17 40.0**	**+0.2**
PRK	**Paraskevi**	**2.08**	**71**	*e*PN	**Pn**		**Pn**	**08 17 15.7**	**+0.2**
PRK				*e*SN	**Sn**		**Sn**	**08 17 40.1**	**-1.4**
APE	**Apeiranthos**	**2.09**	**137**	*e*Pn	**Pn**		**Pn**	**08 17 15.2**	**-0.3**
APE				*e*Sn	**Sn**		**Sn**	**08 17 44.7**	**+3.0**
APE	**Apeiranthos**	**2.09**	**137**	P	**Pn**		**Pn**	**08 17 15.8**	**+0.2**
APE				S	**Sn**		**Sn**	**08 17 42.7**	**+1.1**
APE	**Apeiranthos**	**2.09**	**137**	P	**Pn**		**Pn**	**08 17 15.8**	**+0.3**
APE				S	**Sn**		**Sn**	**08 17 42.7**	**+1.1**
THE	**Thessaloniki**	**2.11**	**344**	*e*Pn	**Pn**		**Pn**	**08 17 15.5**	**-0.4**
THE	**Thessaloniki**	**2.11**	**344**	P	**Pn**		**Pn**	**08 17 15.6**	**-0.3**
THE	**Thessaloniki**	**2.11**	**344**	P	**Pn**		**Pn**	**08 17 15.6**	**-0.3**
BOZC	**Bozcaada**	**2.19**	**55**	*i* P	**Pn**		**Pn**	**08 17 16.5**	**-0.4**
SOH	**Sokhos**	**2.24**	**353**	*e*Pn	**Pn**		**Pn**	**08 17 17.7**	**+0.1**
SOH				*e*Sn	**Sn**		**Sn**	**08 17 45.9**	**+0.6**
SOH	**Sokhos**	**2.24**	**353**	P	**Pn**		**Pn**	**08 17 17.8**	**+0.2**
SOH				S	**Sn**		**Sn**	**08 17 45.4**	**+0.1**
SOH	**Sokhos**	**2.24**	**353**	P	**Pn**		**Pn**	**08 17 17.8**	**+0.2**
SOH				S	**Sn**		**Sn**	**08 17 45.4**	**+0.1**
URLA	**Izmir**	**2.26**	**95**	*i* P	**Pn**		**Pn**	**08 17 18.2**	**+0.3**
MEV	**Metsovon**	**2.28**	**302**	*e*Pn	**Pn**		**Pn**	**08 17 19.1**	**+1.0**
MEV	**Metsovon**	**2.28**	**302**	P	**Pn**		**Pn**	**08 17 19.7**	**+1.5**
MEV	**Metsovon**	**2.28**	**302**	P	**Pn**		**Pn**	**08 17 19.7**	**+1.5**
KZN	**Kozani**	**2.28**	**319**	*e*PB	**Pb**		**Pb**	**08 17 18.9**	**-2.9**
KZN				*e*SN	**Sn**		**Sn**	**08 17 46.5**	**0.0**
KYTH	**Kithira**	**2.38**	**194**	*e*PN	**Pn**		**Pn**	**08 17 19.0**	**-0.6**
AYVA	**Ayvalik**	**2.41**	**72**	*i* P	**Pn**		**Pn**	**08 17 28.6**	**+8.6**
JAN	**Janina**	**2.48**	**296**	*e*PN	**Pn**		**Pn**	**08 17 21.0**	**+0.1**
VLS	**Valsamata**	**2.51**	**261**	*e*PB	**Pb**		**Pb**	**08 17 22.3**	**-3.3**
GRG	**Griva**	**2.57**	**337**	*e*Pn	**Pn**		**Pn**	**08 17 22.1**	**-0.1**
GRG				*e*Sn	**Sn**		**Sn**	**08 17 54.0**	**+0.5**
GRG	**Griva**	**2.57**	**337**	P	**Pn**		**Pn**	**08 17 22.1**	**-0.1**
GRG				S	**Sn**		**Sn**	**08 17 54.2**	**+0.8**
GRG	**Griva**	**2.57**	**337**	P	**Pn**		**Pn**	**08 17 22.0**	**-0.1**
GRG				S	**Sn**		**Sn**	**08 17 54.2**	**+0.7**
SMG	**Samos**	**2.60**	**109**	⇓*i*PN	**Pn**		**Pn**	**08 17 22.8**	**+0.2**
KNT	**Kendrikon**	**2.64**	**346**	*e*Pn	**Pn**		**Pn**	**08 17 23.7**	**+0.6**
KNT	**Kendrikon**	**2.64**	**346**	P	**Pn**		**Pn**	**08 17 23.6**	**+0.5**
KNT	**Kendrikon**	**2.64**	**346**	P	**Pn**		**Pn**	**08 17 23.6**	**+0.5**
NVR	**Nevrokopi**	**2.75**	**2**	⇑*i*PN	**Pn**		**Pn**	**08 17 24.2**	**-0.4**
KDAG	**Bornova**	**2.78**	**93**	*i* P	**Pn**		**Pn**	**08 17 26.5**	**+1.5**
FNA	**Florina**	**2.84**	**321**	*e*Pn	**Pn**		**Pn**	**08 17 26.8**	**+0.9**
FNA	**Florina**	**2.84**	**321**	P	**Pn**		**Pn**	**08 17 26.9**	**+1.0**
FNA	**Florina**	**2.84**	**321**	P	**Pn**		**Pn**	**08 17 26.9**	**+1.0**
VAY	**Valandovo**	**2.86**	**342**	*i* Pn	**Pn**		**Pn**	**08 17 21.7**	**-4.5**
VAY	**Valandovo**	**2.86**	**342**	*i* Pn	**Pn**		**Pn**	**08 17 21.6**	**-4.6**
RDO	**Rodhopi**	**2.90**	**28**	⇑*i*PN	**Pn**		**Pn**	**08 17 25.7**	**-1.0**
ALN	**Alexandroupoli**	**2.90**	**37**	*e*Pn	**Pn**		**Pn**	**08 17 25.8**	**-1.0**
ALN	**Alexandroupoli**	**2.90**	**37**	P	**Pn**		**Pn**	**08 17 26.6**	**-0.1**
ALN	**Alexandroupoli**	**2.90**	**37**	P	**Pn**		**Pn**	**08 17 26.6**	**-0.2**
BIA	**Bitola**	**3.05**	**323**	*i* Pn	**Pn**		**Pn**	**08 17 31.4**	**+2.6**
BIA	**Bitola**	**3.05**	**323**	*i* Pn	**Pn**		**Pn**	**08 17 31.3**	**+2.6**
KEK	**Kerkira**	**3.25**	**291**	*e*PN	**Pn**		**Pn**	**08 17 33.2**	**+1.6**
BDRM	**Kayabasi**	**3.31**	**116**	*i* P	**Pn**		**Pn**	**08 17 31.2**	**-1.2**
OHR	**Ohrid**	**3.38**	**319**	*i* Pn	**Pn**		**Pn**	**08 17 31.6**	**-1.6**
OHR				*i* Sn	**Sn**		**Sn**	**08 18 13.4**	**0.0**
AYDN	**Tasoluk**	**3.40**	**105**	*i* P	**Pn**		**Pn**	**08 17 34.6**	**+1.0**
IDI	**Anoyia**	**3.43**	**164**	Pn	**Pn**		**Pn**	**08 17 33.8**	**-0.2**
	3.8nm,0.3s,baz=346,slow=10,SNR=15								
IDI				Sn	**Sn**		**Sn**	**08 18 14.7**	**-0.1**
	7.0nm,0.3s,baz=295,slow=16,SNR=5.6								
IDI				LR	LR		LR	08 18 59.8	
	comp=Z,183nm,21.6s,baz=58,slow=41								
IDI	**Anoyia**	**3.43**	**164**	Pn	**Pn**		**Pn**	**08 17 33.8**	**-0.2**
IDI				Sn	**Sn**		**Sn**	**08 18 14.7**	**-0.1**
BTOK	**Tokmak**	**3.53**	**70**	*i* P	**Pg**		**Pg**	**08 17 48.1**	**0.0**
MANT	**Manisa**	**3.78**	**90**	*i* P	**Pg**		**Pg**	**08 17 54.8**	**+1.9**
SKO	**Skopje**	**3.80**	**333**	*i* Pn	**Pn**		**Pn**	**08 17 37.3**	**-1.7**
DNZL	**Cakiroluk**	**4.29**	**101**	*i* P	**Pn**		**Pn**	**08 17 47.6**	**+1.9**
TKTP	**Tekketepe**	**5.21**	**94**	*i* P	**Pn**		**Pn**	**08 18 01.2**	**+2.7**
TIP	**Timpagrande**	**5.47**	**278**	*e*Pn	**Pn**		**Pn**	**08 18 03.4**	**+1.3**
TIP				*e*Sn	**Sn**		**Sn**	**08 19 01.5**	**-3.6**
TIP	**Timpagrande**	**5.47**	**278**	*e*Pn	**Pn**		**Pn**	**08 18 03.3**	**+1.2**
TIP				*e*Sn	**Sn**		**Sn**	**08 19 01.5**	**-3.7**
DIVS	**Divcibare**	**6.17**	**334**	*i* Pn	**Pn**		**Pn**	**08 18 14.2**	**+2.5**
DIVS	**Divcibare**	**6.17**	**334**	Pn	**Pn**		**Pn**	**08 18 14.1**	**+2.4**
VOIR		**6.90**	**8**	⇑*i*P	**Pn**		**Pn**	**08 18 22.5**	**+0.8**
MLR	**Muntele Rosu**	**7.08**	**13**	Pn	**Pn**		**Pn**	**08 18 25.0**	**+0.9**
	0.3nm,0.3s,baz=219,slow=6.2,SNR=4.6								
MLR	**Muntele Rosu**	**7.08**	**13**	⇓*i*P	**Pn**		**Pn**	**08 18 25.6**	**+1.5**
VRI	**Vrincioaia**	**7.59**	**16**	⇑*i*P	**Pn**		**Pn**	**08 18 34.1**	**+2.9**
BRTR	**Keskin Array B**	**7.78**	**79**	Pn	**Pn**		**Pn**	**08 18 35.8**	**+2.0**
	0.2nm,0.3s,baz=258,slow=11,SNR=5.6								
GERES	**GERESS Array B**	**12.54**	**328**	LR	LR			08 25 00.9	
	comp=Z,14nm,19.1s,baz=269,slow=40								
ESDC	**Sonseca Array**	**21.48**	**282**	P	**P**		**P**	**08 21 31.4**	**+2.1**
	0.4nm,0.3s,mb3.2,baz=82,slow=12,SNR=5.2								
HFS	**Hagfors**	**22.47**	**347**	P	**P**		**P**	**08 21 39.4**	**-0.4**
	2.7nm,0.7s,mb3.8,baz=172,slow=12,SNR=5.4								
FINES	**FINESS Array B**	**22.91**	**3**	P	**P**		**P**	**08 21 44.9**	**+0.3**
	1.2nm,0.9s,mb3.3,baz=162,slow=14,SNR=3.6								
FINES				LR	LR	

ellipse: s-maj=14.5km s-min=6.9km az=48.0

ISC 09 08:29:16.6±0.7,271N±008×9562E±009,h35km, (h18km±4.3km:pP-P),n31,σ0°99/32,mb4.6/19,MS4.0/1,2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**3.04**	**75**	⇓*eP*	**Pn**	**08 30 03.9**	**+1.7**
TSI				*eS*	**Sn**	**08 30 49.3**	**+12**
TSI	**Tuntungan**	**3.04**	**75**	*eP*	**Pn**	**08 30 05.8**	**+3.6**
PSI	**Prapat**	**3.30**	**88**	Pn	**Pn**	**08 30 06.3**	**+0.5**
	5.9nm,0.3s,baz=283,slow=6.0,SNR=37						
PSI				LR	LR	08 30 59.8	
	comp=Z,351nm,21.5s,baz=277,slow=33						
KULM	**Kulim**	**5.63**	**63**	*e*Pn	**Pn**	**08 30 37.9**	**+0.1**
CHTO	**Chiang Mai**	**16.33**	**11**	*eP*	**Pn**	**08 33 04.1**	**+0.9**
	10nm,0.9s						
KKM	**Kota Kinabalu**	**20.80**	**80**	*eP*	**P**	**08 33 55.5**	**+0.7**
KMI	**Kunming**	**23.32**	**16**	P	**P**	**08 34 22.3**	**+0.7**
KMI				AP		08 34 28.5	
KMI				XP	sP	08 34 30.8	-4.6
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,80nm,4.0s						
KMI				LR	LR		
	comp=N,360nm,13.9s,MS4.0						
KMI				LR	LR		
	comp=E,200nm,16.5s,MS4.0						
KMI				LR	LR		
	comp=Z,380nm,14.8s,MS4.0						
GYA	**Guiyang**	**25.88**	**23**	⇓*iP*	**P**	**08 34 44.9**	**-0.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
JIRN	**Jiri**	**26.40**	**341**	*eP*	**P**	**08 34 50.5**	**+0.7**
	comp=Z,19nm,0.7s,mb4.8						
DMN	**Daman**	**26.72**	**339**	*eP*	**P**	**08 34 54.5**	**+1.8**
GUN	**Gumba**	**26.73**	**341**	*eP*	**P**	**08 34 52.9**	**+0.1**
KKN	**Kakani**	**26.83**	**339**	*eP*	**P**	**08 34 54.2**	**+0.6**
LSA	**Lhasa**	**27.18**	**351**	*eP*	**P**	**08 34 57.7**	**+1.0**
	comp=Z,8.0nm,0.6s,mb4.4						
GKN	**Gorkha**	**27.25**	**338**	*eP*	**P**	**08 34 57.7**	**+0.3**
	comp=Z,41nm,0.9s,mb5.0						
KOLN	**Koldanda**	**27.44**	**336**	*eP*	**P**	**08 35 00.9**	**+1.8**
	comp=Z,35nm,0.9s,mb4.9						
CD2	**Chengdu**	**29.08**	**14**	*eP*	**P**	**08 35 12.4**	**-1.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.3						
XAN	**Xi'an**	**33.55**	**20**	P	**P**	**08 35 51.3**	**-1.8**
XAN				AP	pP	08 35 58.5	-4.7
XAN				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
LZH	**Lanzhou**	**34.07**	**12**	*eP*	**P**	**08 35 56.5**	**-1.1**
LZH				AP	pP	08 36 02.3	-5.4
LZH				XP	sP	08 36 06.5	-5.4
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
FITZ	**Fitzroy Crossi**	**36.09**	**126**	P	**P**	**08 36 13.1**	**-1.8**
	comp=Z,1.8nm,0.7s,mb4.1,baz=0.0,slow=1.0,SNR=4.6						
GTA	**Gaotai**	**36.73**	**5**	*eP*	**P**	**08 36 19.5**	**-0.9**
GTA				AP	pP	08 36 24.9	-5.7
GTA				XP	sP	08 36 28.5	-6.3
NWAO	**Narrogin (SRO)**	**40.92**	**152**	P	**P**	**08 36 56.8**	**+1.2**
	comp=Z,5.5nm,0.9s,mb4.2,baz=135,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**44.17**	**122**	P	**P**	**08 37 21.8**	**-0.1**
	comp=Z,3.4nm,0.9s,mb4.0,baz=301,slow=9.7,SNR=24						
WB2	**Warramunga Arr**	**44.18**	**122**	*eP*	**P**	**08 37 21.9**	**-0.1**
MKAR	**Makanchi Array**	**45.42**	**347**	P	**P**	**08 37 31.5**	**-0.4**
	comp=Z,11nm,0.7s,mb4.8,baz=163,slow=7.9,SNR=89						
MKAR	**Makanchi Array**	**45.42**	**347**	P	**P**	**08 37 31.5**	**-0.4**
ASAR	**Alice Springs**	**45.56**	**127**	P	**P**	**08 37 33.0**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=300,slow=8.0,SNR=30						
SONM	**Songino Array**	**45.91**	**10**	P	**P**	**08 37 34.8**	**-0.9**
	comp=Z,2.9nm,0.8s,mb4.3,baz=196,slow=9.1,SNR=10						
SONM				PcP	PcP	08 39 12.8	+0.4
	comp=Z,1.8nm,0.7s,baz=210,slow=4.3,SNR=4.5						
ULN	**Ulaanbaatar**	**46.05**	**11**	*eP*	**P**	**08 37 35.6**	**-1.3**
	comp=Z,3.8nm,0.9s,mb4.3						
ULN				*e*PcP	PcP	08 39 13.2	+0.3
KURK	**Kurchatov**	**49.95**	**346**	*eP*	**P**	**08 38 06.5**	**-0.5**
	comp=Z,6.4nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**54.71**	**341**	*eP*	**P**	**08 38 41.5**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**54.81**	**342**	*eP*	**P**	**08 38 42.6**	**-0.5**
	comp=Z,10nm,0.7s,mb5.0						

*BJI **09** 08:41:26.8,1602N×124.11E,h30km,mB4.8,mb4.7,Ms4.0, Msz3.6*
*IDC **09** 08:41:27.0±1.1,1632N×12388E,h0km,mb4.2/8, mb1 4.3/10,mb1mx4.1/19,mbtmp4.3/10,ML3.9/1,MS3.4/2, Ms1 3.4/2,ms1mx2.6/18,Error ellipse: s-maj=30.8km s-min=20.0km az=101.0*
*NEIC **09** 08:41:28.4±0.6,1630N×12388E,h10km,mb4.6/5,Error ellipse: s-maj=17.2km s-min=10.8km az=100.0*
*MOS **09** 08:41:30.0±0.8,1629N×12374E,h33km,mb4.9/11,Error ellipse: s-maj=18.4km s-min=9.9km az=110.8*
*ISCJB **09** 08:41:31.4±0.9,1635N±004×12382E±006,h42km±8km, mb4.5/20,MS3.9/3,Error ellipse: s-maj=9.7km s-min=6.0km az=147.1*
*MAN **09** 08:41:31.5,1635N×12385E,h33km,mb4.0,ML5.0,MS5.0*

ISC 09 08:41:32.0±1.6,1636N±003×12387E±004,h33km±12km, n58,σ1°14/70,mb4.5/20,MS3.9/3,10C-5D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**1.55**	**297**	⇓*iP*	**Pn**	**08 41 55.8**	**-1.5**
PALP				*eS*	**Sn**	**08 42 07.4**	**-8.9**
PALP	**Palanan**	**1.55**	**297**	*eP*	**Pn**	**08 41 56.0**	**-1.3**
CAUP	**Cauayan**	**2.04**	**287**	*eP*	**Pn**	**08 42 04.1**	**+0.1**
BALP	**Baler**	**2.29**	**255**	*eP*	**Pn**	**08 42 04.9**	**-2.5**
CVP	**Callao Caves**	**2.37**	**305**	⇑*iP*	**Pn**	**08 42 07.0**	**-1.6**
CVP				*i* S	**Sn**	**08 42 28.0**	**-8.5**
POLP	**Polilio Island**	**2.46**	**229**	*eP*	**Pn**	**08 42 08.8**	**-1.1**
PVCP	**Virac**	**2.76**	**174**	⇓*iP*	**Pn**	**08 42 13.5**	**-0.4**
PVCP				*eS*	**Sn**	**08 42 36.1**	**-10**
PVCP	**Virac**	**2.76**	**174**	*eP*	**Pn**	**08 42 13.8**	**-0.1**
PCPH	**Palayan**	**2.78**	**254**	*eP*	**Pn**	**08 42 12.0**	**-2.2**
PCPH				*eS*	**Sn**	**08 42 43.2**	**-3.3**
GQP	**Guinayangan**	**2.79**	**210**	⇑*iP*	**Pn**	**08 42 15.4**	**+1.0**
GQP				*eS*	**Sn**	**08 42 47.1**	**+0.2**
APYP	**Conner**	**2.92**	**301**	*eP*	**Pn**	**08 42 16.5**	**+0.4**
BCPH	**Baguio City Da**	**3.15**	**271**	⇑*iP*	**Pn**	**08 42 19.9**	**+0.6**
BCPH				*i* S	**Sn**	**08 42 56.0**	**+0.3**
LQP	**Lukban**	**3.17**	**226**	⇓*eP*	**Pn**	**08 42 24.5**	**+5.0**
TGY	**Tagaytay City**	**3.61**	**232**	Pn	**Pn**	**08 42 22.3**	**-3.3**
	71nm,0.3s,baz=51,slow=3.5,SNR=9.9						
TGY				Sn	**Sn**	**08 43 08.5**	**+1.5**
	135nm,0.3s,baz=312,slow=23,SNR=14						
PIP	**Pasuquin**	**3.67**	**303**	⇑*iP*	**Pn**	**08 42 28.0**	**+1.7**
PIP				*eS*	**Sn**	**08 43 08.9**	**+0.4**
BOLP	**Bolinao**	**3.79**	**271**	*eP*	**Pn**	**08 42 29.7**	**+1.6**
OTRP	**Odiongan**	**4.35**	**204**	*eP*	**Pn**	**08 42 37.0**	**+1.2**
PLP	**Palo**	**5.27**	**168**	*eP*	**Pn**	**08 42 50.2**	**+1.8**
PLP				*eS*	**Sn**	**08 43 45.8**	**-2.2**
JOW	**Kunigami**	**11.20**	**21**	Pn	**Pn**	**08 44 07.8**	**-1.9**
	1.8nm,0.3s,baz=171,slow=7.7,SNR=6.0						
JOW				LR	LR	08 47 40.4	
	comp=Z,140nm,20.5s,baz=164,slow=33						
SSE	**Sheshan**	**14.88**	**351**	P	**Pn**	**08 45 03.4**	**+3.5**
SSE				S	**Sn**	**08 47 41.8**	**-1.7**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE				AMB	AMB		
	comp=Z,120nm,4.1s						
SSE				LR	LR		
	comp=N,50nm,20.1s						
SSE				LR	LR		
	comp=E,40nm,20.1s						
SSE				LR	LR		
	comp=Z,90nm,19.2s						
NJ2	**Nanjing**	**16.28**	**345**	*eP*	**Pn**	**08 45 19.3**	**+1.2**
NJ2				PP		08 45 34.0	
NJ2				XS	sS	08 48 30.0	-13
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,170nm,5.8s						
NJ2				LR	LR		
	comp=N,2μm,30.7s						
NJ2				LR	LR		
	comp=E,920nm,32.0s						
NJ2				LR	LR		
	comp=Z,190nm,13.0s						
XAN	**Xi'an**	**22.15**	**325**	P	**P**	**08 46 25.4**	**+0.5**
CD2	**Chengdu**	**23.38**	**312**	*eP*	**P**	**08 46 38.4**	**+0.5**
CD2				AP		08 46 42.6	
CD2				XP	sP	08 46 45.4	-5.5
CD2				PP		08 47 10.0	
CD2				S	**S**	**08 50 47.2**	**-1.1**
CD2				SS		08 51 34.1	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CD2				LR	LR		
	comp=N,80nm,8.2s						
CD2				LR	LR		
	comp=Z,90nm,9.2s						
MJAR	**Matsushiro Arr**	**23.80**	**30**	P	**P**	**08 46 41.8**	**0.0**
	comp=Z,2.6nm,0.8s,mb3.7,baz=198,slow=8.4,SNR=6.1						
VLA	**Vladivostok**	**27.54**	**13**	⇑*eP*	**P**	**08 47 24.6**	**+8.9**
ULN	**Ulaanbaatar**	**34.34**	**340**	*c iP*	**P**	**08 48 16.2**	**+0.7**
SONM	**Songino Array**	**34.53**	**339**	P	**P**	**08 48 17.8**	**+0.6**
	comp=Z,2.6nm,0.4s,mb4.5,baz=158,slow=9.0,SNR=17						
WB2	**Warramunga Arr**	**37.51**	**164**	*eP*	**P**	**08 48 42.5**	**-0.2**
TLY	**Talaya**	**38.75**	**340**	*c iP*	**P**	**08 48 53.5**	**+0.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
ASPA	**Alice Springs**	**40.97**	**166**	*eP*	pP	08 49 23.2	+1.9
ASAR	**Alice Springs**	**40.97**	**166**	P	**P**	**08 49 12.1**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.4,baz=350,slow=7.3,SNR=7.3						
YAK	**Yakutsk**	**45.81**	**4**	⇑*eP*	**P**	**08 49 57.8**	**+7.2**
MKAR	**Makanchi Array**	**45.83**	**321**	P	**P**	**08 49 51.9**	**+1.1**
	comp=Z,7.2nm,0.9s,mb4.6,baz=112,slow=9.4,SNR=44						
MKAR	**Makanchi Array**	**45.83**	**321**	⇑*iP*	**P**	**08 49 51.9**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AAK	**Ala-Archa**	**49.45**	**313**	⇓*eP*	**P**	**08 50 17.7**	**-1.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
NVS	**Novosibirsk**	**49.48**	**330**	*i P*	**P**	**08 50 18.2**	**-0.9**
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.3s						
KURK	**Kurchatov**	**49.78**	**324**	*eP*	**P**	**08 50 22.3**	**+0.9**
KURK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
KURK	**Kurchatov**	**49.78**	**324**	*eP*	**P**	**08 50 22.2**	**+0.9**
	comp=Z,15nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**50.88**	**160**	*eP*	pP	08 50 39.7	+0.1
	comp=Z,4.4nm,0.8s						
TIXI	**Tiksi**	**55.36**	**2**	*eP*	**P**	**08 51 01.5**	**-1.2**
TIXI				*eS*	**S**	**08 58 57.2**	**+12**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
BVAR	**Borovoye Array**	**55.38**	**324**	P	**P**	**08 51 04.0**	**+1.1**
	comp=Z,2.0nm,0.5s,mb4.4,baz=116,slow=10,SNR=14						
BRVK	**Borovoye**	**55.45**	**324**	*eP*	**P**	**08 51 04.1**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**55.45**	**324**	*eP*	**P**	**08 51 04.1**	**+0.8**
	comp=Z,5.2nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**55.48**	**325**	*eP*	**P**	**08 51 04.4**	**+0.8**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**55.48**	**325**	*eP*	**P**	**08 51 04.4**	**+0.8**
	comp=Z,3.6nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**56.14**	**323**	*eP*	**P**	**08 51 08.9**	**+0.6**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**56.14**	**323**	*eP*	**P**	**08 51 08.9**	**+0.7**
	comp=Z,10nm,1.0s,mb4.8						
BILL	**Bilibino**	**58.27**	**17**	*c iP*	**P**	**08 51 23.7**	**+0.4**
BILL				*eS*	**S**	**08 59 27.5**	**+4.3**
BILL				*e*SS	SS	09 03 16.2	+1.0
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.1						
ARU	**Arti**	**62.90**	**325**	⇓*iP*	**P**	**08 51 54.3**	**-0.6**
ARU				*e*		08 54 09.2	
ARU				*eS*	**S**	**09 00 11.1**	**-11**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**72.55**	**312**	*eP*	**P**	**08 52 55.9**	**+0.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
SOC	**Sochi**	**74.73**	**311**	*eP*	**P**	**08 53 08.3**	**-0.2**
SOC				*e*		08 55 49.6	
SOC				*e**SS	sS	09 03 18.1	+19
SOC				*e*SS	SS	09 07 31.3	+0.9
SOC				MLR	MLR		
	comp=Z,70nm,16.0s,MS4.0						
OBN	**Obninsk**	**75.22**	**324**	*eP*	**P**	**08 53 11.3**	**0.0**
OBN				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**77.71**	**339**	P	**P**	**08 53 25.8**	**+0.4**
	comp=Z,4.1nm,0.7s,mb4.5,baz=64,slow=5.5,SNR=8.6						
ARCES	**ARCESS Array B**	**77.71**	**339**	P	**P**	**08 53 25.8**	**+0.3**
FINES	**FINESS Array B**	**79.46**	**331**	P	**P**	**08 53 34.8**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=59,slow=7.4,SNR=7.3						
NB2	**NORSAR Subarra**	**86.30**	**333**	P	**P**	**08 54 09.6**	**-0.9**
	comp=Z,0.8nm,0.7s,mb4.1,baz=58,slow=5.3						
NB2	**NORSAR Subarra**	**86.30**	**333**	P	**P**	**08 54 09.6**	**-0.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**86.30**	**333**	P	**P**	**08 54 08.9**	**-1.6**
	comp=Z,2.1nm,0.9s,mb4.4,baz=61,slow=5.1,SNR=4.1						
NOA				LR	LR	09 35 11.8	
	comp=Z,26nm,21.0s,MS3.6,baz=30,slow=37						

ISC 09 09:07:27.0±0.7,4899N±003×203E±01,h11km±8km,n6, σ1°03/12,1D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.43**	**359**	*e*Pg	**Pg**	**09 07 34.7**	**-0.8**
NIE				*e*Sg	**Sg**	**09 07 40.6**	**-0.6**
KECS	**Kecovo**	**0.52**	**168**	*e*PG	**Pg**	**09 07 36.3**	**-0.8**
KECS				*e*SG	**Sg**	**09 07 43.7**	**-0.3**
STHS	**Stebnicka Huta**	**0.74**	**54**	*e*PN	**Pn**	**09 07 43.4**	**0.0**
STHS				*e*SN	**Sg**	**09 07 56.1**	**+5.1**
VYHS	**Vyhne**	**1.10**	**244**	*e*PN	**Pn**	**09 07 48.1**	**-0.3**
VYHS				*e*SN	**Sn**	**09 08 02.1**	**-1.5**
PSZ	**Piszkesteto**	**1.11**	**195**	⇓*e*Pg	**Pg**	**09 07 48.7**	**+0.4**
PSZ				*e*Sg	**Sg**	**09 08 04.8**	**+2.0**
OJC	**Ojcow**	**1.28**	**345**	*eP*	**Pn**	**09 07 51.1**	**+0.3**
OJC				*eS*	**Sb**	**09 08 09.6**	**+2.1**

JMA 09 09:26:55.7±0.1,3642N×14066E,h53km±1km,M3.6,1C-4D Broadband fault plane solution: P waves. NP1: ϕ_s211.00000°,δ24.00000°,λ95.00000°. NP2:ϕ_p25.00000°, δ66.00000°,λ88.00000°. Principal axes: T Plg69.0000°, Azm291.0000°; N Plg2.0000°, Azm26.0000°; P Plg21.0000°, Azm117.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.20**	**339**	⇑P	Pn	09 27 04.4	0.0
JHO				S	Sn	09 27 10.3	-0.3
JYT	**Yasato**	**0.42**	**243**	⇓P	Pn	09 27 06.5	+0.2
JYT				S	Sn	09 27 13.7	-0.2
ONAJ	**Iwakimizuishiy**	**0.69**	**9**	P	Pn	09 27 08.8	-0.6
JSB	**Shiboa**	**0.81**	**313**	⇓P	Pn	09 27 11.2	+0.2
JSB				S	Sn	09 27 22.7	+0.6
JFK	**Kawauchi**	**0.96**	**10**	P	Pn	09 27 12.1	-0.9
JAG	**Ashikaga**	**0.97**	**271**	⇓P	Pn	09 27 13.5	+0.4
JAG				S	Sn	09 27 25.9	-0.1
JFT	**Otama**	**1.13**	**347**	P	Pn	09 27 15.2	0.0
JFT				S	Sn	09 27 29.8	+0.2
JKT	**Katashina**	**1.19**	**287**	P	Pn	09 27 16.6	+0.6
JKT				S	Sn	09 27 32.4	+1.3
JFY	**Yanaizu**	**1.25**	**322**	⇓P	Pn	09 27 17.2	+0.4
MAT	**Matsushiro**	**1.98**	**274**	P	Pn	09 27 28.2	+1.4
MAT				S	Sn	09 27 52.6	+2.2

*ISCJB **09** 09:30:52.0±0.9,2835N±005×8760E±006,h10km Error ellipse: s-maj=9.1km s-min=5.0km az=80.2*
*NDI **09** 09:30:54.6±2.5,2845N×8800E,h11km,12km,ML3.6*

ISC 09 09:30:55.3±1.1,2835N±005×8760E±007,h10km,n15, σ1°62/22,1D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**1.36**	**138**	*e*PG	**Pg**	**09 31 27.0**	**+5.6**
GTK				*e*SG	**Sg**	**09 31 36.0**	**-3.1**
SHL	**Shillong**	**4.73**	**125**	*i* PN	**Pn**	**09 32 03.0**	**-3.6**
SHL				*e*SN	**Sn**	**09 32 52.0**	**-9.5**
BOK	**Bokaro**	**4.79**	**199**	*eP*	**Pn**	**09 32 10.8**	**+3.3**
BOK				*eS*	**Sn**	**09 33 03.1**	**-0.1**
BOK				AML	AML	09 33 06.9	
	comp=N,108nm,0.0s						
BOK				AML	AML	09 33 07.0	
	comp=E,99nm,0.3s						
PTH	**Pithoragarh**	**6.58**	**282**	*ex*	**Sn**	**09 33 51.5**	**+4.4**
PTH				*ex*	x	09 33 55.4	
BLSP	**Bilaspur**	**7.93**	**220**	*eP*	**Pn**	**09 32 53.2**	**+2.6**
BLSP				*eS*	**Sn**	**09 34 20.7**	**+0.3**
BLSP				AML	AML	09 34 24.6	
	comp=N,53nm,0.2s						
BLSP				AML	AML	09 34 24.8	
	comp=E,73nm,0.1s						
JBP	**Jabalpur**	**8.59**	**235**	⇓*iP*	**Pn**	**09 33 05.5**	**+5.8**
JBP				*i* S	**Sn**	**09 34 40.5**	**+3.9**
KLP	**Kalpa**	**8.71**	**294**	*eS*	**Sn**	**09 34 38.3**	**-1.1**
KLP				AML	AML	09 34 57.1	
	comp=N,24nm,0.4s						
KLP				AML	AML	09 34 57.1	
	comp=E,21nm,0.7s						
NDI	**New Delhi**	**9.14**	**275**	*eS*	**Sn**	**09 34 49.0**	**-1.1**
SONA	**Sohna**	**9.27**	**272**	*eS*	**Sn**	**09 34 53.2**	**0.0**
SMLA	**Simla**	**9.48**	**289**	*i* P	**Pn**	**09 33 13.4**	**+1.5**
SMLA				*eP*		09 33 14.3	
SMLA				AMb	AMB	09 33 15.9	
	comp=Z,22nm,0.0s						
SMLA				*eS*	**Sn**	**09 34 57.7**	**-0.8**
KHET	**Khetri**	**10.40**	**271**	*eS*	**Sn**	**09 35 18.7**	**-2.5**
BHPL	**Bhopal**	**10.48**	**243**	*eP*	**Pn**	**09 33 28.4**	**+2.8**
BHPL				*eS*	**Sn**	**09 35 21.7**	**-1.3**
CHCP	**Chirah Chowk**	**13.38**	**297**	P	**Pn**	**09 34 06.8**	**+1.6**
THW	**Thamme Wali**	**14.36**	**292**	P	**Pn**	**09 34 17.9**	**-0.7**
CEP	**Cherat**	**14.50**	**296**	P	**Pn**	**09 34 21.1**	**+0.6**

*MOS **09** 09:31:03.5±0.9,2532S×17967E,h484km,mb4.8/13,Error ellipse: s-maj=12.2km s-min=11.4km az=169.7*
*BJI **09** 09:31:03.8,2520S×17926E,h469km,mB4.8,mb4.6*
*ISCJB **09** 09:31:04.9±0.1,2545S±003×17965E±004,h500km, mb4.7/39,Error ellipse: s-maj=5.4km s-min=3.5km az=75.2*
*IDC **09** 09:31:04.2±1.1,2533S×17973E,h484km±11km,mb4.3/11, mb1 4.4/13,mb1mx4.4/15,mbtmp5.1/13,Error ellipse: s-maj=13.0km s-min=11.1km az=50.0*
*NEIC **09** 09:31:05.3±0.2,2548S×17973E,mb4.6/22,Error ellipse: s-maj=7.1km s-min=5.4km az=122.0*

ISC 09 09:31:05.9±0.1,2554S±003×17973E±004,h503km, h503km±3.0km:pP-P,n233,σ0°80/216,mb4.7/39,45C-55D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.25**	**151**	P	**P**	**09 32 25.8**	**-0.7**
	609nm,0.3s,baz=275,slow=21,SNR=20						
RAO	**Raoul Island**	**4.25**	**151**	*e*Pn	**P**	**09 32 25.2**	**-1.2**
RAO				Sn	**S**	**09 33 32.7**	**+0.5**
DZM	**Mont Dzumac**	**12.64**	**283**	*eP*	**P**	**09 33 51.0**	**-0.1**
DZM	**Mont Dzumac**	**12.64**	**283**	P	**P**	**09 33 52.2**	**+1.0**
	3.8nm,0.3s,baz=94,slow=15,SNR=31						
NOUC	**Port Laguerre**	**12.76**	**283**	*eP*	**P**	**09 33 53.2**	**+0.9**
URZ	**Urewera**	**12.87**	**189**	P	**P**	**09 33 51.3**	**-2.3**
	3.1nm,0.3s,baz=102,slow=2.1,SNR=18						
URZ				S	**S**	**09 36 12.9**	**+1.0**
	1.7nm,0.3s,baz=248,slow=20,SNR=9.5						
URZ	**Urewera**	**12.87**	**189**	PN	**P**	**09 33 51.3**	**-2.3**
URZ	**Urewera**	**12.87**	**189**	*eP*	**P**	**09 33 52.4**	**-1.2**
MWZ	**Matawai**	**12.89**	**188**	*e*PN	**P**	**09 33 53.4**	**-0.4**
MWZ	**Matawai**	**12.89**	**188**	*eP*	**P**	**09 33 54.9**	**+1.1**
BKZ	**Black Stump Fm**	**13.86**	**191**	*e*PN	**P**	**09 34 01.3**	**-2.6**
BKZ	**Black Stump Fm**	**13.86**	**191**	*eP*	**P**	**09 34 02.8**	**-1.2**
AFI	**Afiamalu**	**14.06**	**36**	P	**P**	**09 33 59.7**	**-6.4**
	6.7nm,0.3s,baz=21,slow=8.6,SNR=12						
AFI				S	**S**	**09 36 19.3**	**-15**
	10nm,0.3s,baz=95,slow=20,SNR=7.3						
AFI	**Afiamalu**	**14.06**	**36**	*e*Pn	**P**	**09 33 57.6**	**-8.5**
MRZ	**Mangatainoka R**	**15.47**	**192**	*e*PN	**P**	**09 34 17.1**	**-3.8**
MRZ				*e*SN	**S**	**09 36 56.8**	**-4.8**
MRZ	**Mangatainoka R**	**15.47**	**192**	*eP*	**P**	**09 34 17.4**	**-3.5**
CAW	**Cannon Point**	**16.00**	**193**	*e*PN	**P**	**09 34 25.7**	**-0.7**
CAW	**Cannon Point**	**16.00**	**193**	P	**P**	**09 34 25.7**	**-0.7**
SNZO	**South Karori**	**16.27**	**194**	*eP*	**P**	**09 34 28.6**	**-0.6**
SNZO				*eS*	**S**	**09 37 14.3**	**-2.4**
QRZ	**Quartz Range**	**16.38**	**200**	PN	**P**	**09 34 31.0**	**+0.7**
NNZ	**Nelson**	**16.50**	**197**	PN	**P**	**09 34 30.2**	**-1.4**
NNZ	**Nelson**	**16.50**	**197**	*eP*	**P**	**09 34 30.2**	**-1.4**
THZ	**Tophouse**	**17.14**	**198**	PN	**P**	**09 34 37.2**	**-0.9**
THZ	**Tophouse**	**17.14**	**198**	*eP*	**P**	**09 34 37.3**	**-0.8**
DSZ	**Denniston Nort**	**17.44**	**200**	PN	**P**	**09 34 40.9**	**-0.1**
DSZ	**Denniston Nort**	**17.44**	**200**	*eP*	**P**	**09 34 41.2**	**+0.3**
KHZ	**Kahutara**	**17.59**	**195**	PN	**P**	**09 34 41.3**	**-1.0**
KHZ	**Kahutara**	**17.59**	**195**	P	**P**	**09 34 41.3**	**-1.0**
LTZ	**

GUMO	Guam	51.63	315	P	P	09 39 23.5	-1.8
	comp=Z,47nm,0.7s,mb4.9,baz=187,slow=18,SNR=2.7						
GUMO	Guam	51.63	315	P	P	09 39 23.5	-1.8
VNDA	Vanda	52.73	185	P	P	09 39 34.5	+1.3
	comp=Z,1.0nm,0.5s,baz=7.4,slow=8.3,SNR=15						
KLBR	Kellerberrin	54.14	248	eP	P	09 39 42.9	-0.3
	comp=Z,23nm,0.7s,mb4.6						
MUN	Mundaring	55.37	248	eP	P	09 39 52.0	+0.2
CASY	Casey	58.53	206	⇓iP	P	09 40 13.4	-0.2
QSPA	South Pole Qui	64.55	180	eP	P	09 40 54.6	+1.6
	comp=Z,6.8nm,0.6s,mb4.5						
MIR	Mirnyy	65.56	206	eP	P	09 40 59.5	+0.2
MIR				pmax	pmax		
	comp=Z,250nm,0.7s						
KSM	Kuching	72.15	281	eP	P	09 41 39.2	+0.1
KSM				epP	pP	09 43 28.0	+2.9
MJAR	Matsushiro Arr	73.11	326	P	P	09 41 43.4	-1.3
	comp=Z,14nm,0.9s,mb4.5,baz=161,slow=5.4,SNR=23						
MAJO	Matsushiro	73.11	326	eP	P	09 41 43.1	-1.6
MAT	Matsushiro	73.11	326	P	P	09 41 43.5	-1.2
MAT	Matsushiro	73.11	326	eP	P	09 41 44.0	-0.7
MAT				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
MAT	Matsushiro	73.11	326	eP	P	09 41 44.0	-0.7
	comp=Z,11nm,0.9s,mb4.4						
MAW	Mawson	76.13	201	eP	P	09 42 02.3	+0.6
	comp=Z,3.0nm,0.6s,mb4.0						
MAW	Mawson	76.13	201	P	P	09 42 02.6	+0.9
	comp=Z,6.1nm,0.9s,mb4.2,baz=126,slow=7.6,SNR=12						
MAW	Mawson	76.13	201	eP	P	09 42 02.3	+0.6
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KS15	Wonju Array Si	79.36	320	eP	P	09 42 18.5	-0.6
SSE	Sheshan	79.39	312	P	P	09 42 19.9	+0.6
SSE				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
SSE				AMB	AMB		
	comp=Z,140nm,4.1s						
YSS	Yuzh-Sakhalins	79.51	335	⇑eP	P	09 42 19.5	-0.4
YSS				pmax	pmax		
	comp=Z,30nm,1.7s,mb4.5						
SYO	Syowa Base	81.36	194	⇓eP	P	09 42 28.8	-0.8
SYO	Syowa Base	81.36	194	⇑ePcP	PcP	09 42 32.1	-2.0
NJ2	Nanjing	81.55	311	eP	P	09 42 29.1	-1.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
PKD	Parkfield	83.17	45	⇑P	P	09 42 38.8	+0.1
	baz=83						
VNA3	Neumayer Olymp	83.26	177	eP	P	09 42 39.4	+0.2
VNA3				e		09 42 41.6	
VNA3				e		09 42 42.6	
VNA3				e		09 42 59.1	
PACP	Pacheco Peak	83.36	44	⇓P	P	09 42 39.7	0.0
	baz=84						
CVS	Carmenet Viney	83.48	42	⇓P	P	09 42 39.7	-0.6
	baz=84						
MDJ	Mudanjiang	83.49	327	P	P	09 42 41.2	+0.8
MDJ				S	S	09 52 22.4	+2.5
MDJ				AMB	AMB		
	comp=Z,50nm,3.1s						
109C	Camp Elliot, M	83.60	49	⇑P	P	09 42 40.2	-0.8
	baz=84						
S04C	Ingram Canyon,	83.64	43	⇑P	P	09 42 41.6	+0.4
	baz=84						
VNA2	Neumayer--Watz	83.67	178	eP	P	09 42 41.4	+0.1
	baz=186,slow=4.7						
VNA2				e		09 42 42.9	
VNA2				e		09 42 44.5	
VNA2				e		09 42 58.6	
T05C	Eagle Field, D	83.68	44	⇑P	P	09 42 41.8	+0.5
	baz=84						
MNRC	McLaughlin Nat	83.83	42	⇑P	P	09 42 41.9	-0.2
	baz=84						
VNA1	Neumayer--Stat	83.91	177	eP	P	09 42 43.7	+1.2
VNA1				e		09 42 47.1	
GASB	Alder Springs	84.16	41	⇓P	P	09 42 44.4	+0.7
	baz=84,SNR=6.0						
S05C	Merced	84.17	44	⇑P	P	09 42 43.1	-0.6
	baz=84						
ISA	Isabella	84.33	46	eP	P	09 42 45.1	+0.6
ISA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
ISA	Isabella	84.33	46	eP	P	09 42 45.1	+0.6
	comp=Z,14nm,0.9s,mb4.5						
ISA	Isabella	84.33	46	⇑P	P	09 42 44.6	+0.1
	baz=84						
T06C	Millerton Lake	84.35	44	⇑P	P	09 42 44.5	-0.1
	baz=84						
KHMM	Horse Mountain	84.37	39	P	P	09 42 45.7	+1.0
SUTB	Sutter Buttes	84.45	42	⇓P	P	09 42 44.4	-0.7
	baz=85						
O02C	Red Bluff	84.46	40	⇓P	P	09 42 45.6	+0.4
	baz=85,SNR=7.3						
PFO	Pinyon Flat Ob	84.47	49	⇓P	P	09 42 45.3	+0.1
	baz=85						
CMB	Columbia Colle	84.56	43	P	P	09 42 43.3	-2.3
CMB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
CMB	Columbia Colle	84.56	43	P	P	09 42 43.3	-2.3
	comp=Z,4.8nm,0.9s,mb4.1						
CMB	Columbia Colle	84.56	43	⇓P	P	09 42 45.6	-0.1
	baz=85						
SNY	Shenyang	84.77	321	⇑P	P	09 42 46.4	-0.3
LAVA	Lava Cap Winer	84.79	43	⇑P	P	09 42 46.7	-0.1
	baz=85						
O03C	Acorn Hollow,	84.80	41	⇓P	P	09 42 46.5	-0.3
	baz=85						
ORV	Oroville	84.83	42	⇓P	P	09 42 46.5	-0.5
	baz=85						
WDC	Whiskeytown Da	84.86	40	⇓P	P	09 42 46.9	-0.2
	baz=85						
CN2	Changchun	85.06	324	eP	P	09 42 50.5	+2.4
R05C	Kirkwood Meado	85.16	43	⇑P	P	09 42 48.7	+0.1
	baz=85						
BC3	Big Chuckw Mtn	85.18	49	⇓P	P	09 42 48.8	+0.2
	baz=85						
M02C	Callahan	85.21	40	⇑P	P	09 42 49.4	+0.6
	baz=85						
P05C	Yuba Gap, Truc	85.21	42	⇑P	P	09 42 48.7	-0.1
	baz=85						
GSC	Goldstone	85.22	47	eP	P	09 42 49.2	+0.3
GSC	Goldstone	85.22	47	⇑P	P	09 42 49.2	+0.4
	baz=85						
GLA	Glamis	85.27	50	eP	P	09 42 50.2	+1.1
GLA				e*PP	pP	09 44 40.5	+0.9
GLA	Glamis	85.27	50	⇓P	P	09 42 49.7	+0.6
	baz=85,SNR=6.1						
O05C	Quincy	85.43	42	⇑P	P	09 42 50.1	+0.2
	baz=86						
YBH	Yreka Blue Hor	85.51	39	⇓P	P	09 42 51.0	+0.8
	baz=86						
M03C	McCloud	85.55	40	⇓P	P	09 42 50.2	-0.2
	baz=86						
O04C	Chester	85.56	41	⇑P	P	09 42 50.2	-0.3
	baz=86						
S08C	White Mtn Res	85.63	45	⇓P	P	09 42 51.1	+0.3
	baz=86						
HATC	Hat Creek Radi	85.65	41	⇓P	P	09 42 50.7	-0.3
	baz=86						
WCN	Washoe City	85.73	43	⇑P	P	09 42 51.2	-0.2
	baz=86						
K02A	Glendale	85.74	38	⇑P	P	09 42 51.3	-0.1
	baz=86						
Y12C	Blythe	85.87	50	⇑P	P	09 42 52.5	+0.5
	baz=86						
TUQ	Turquoise Mtn.	85.88	48	⇓P	P	09 42 52.1	+0.1
	baz=86						
HUMO	Hull Mountain	85.93	39	⇑P	P	09 42 52.9	+0.6
	baz=86						
NVAR	Mina Array Bea	86.10	44	P	P	09 42 53.1	0.0
	comp=Z,3.3nm,0.7s,mb4.0,baz=230,slow=11,SNR=24						
MNV	Mina	86.19	44	eP	P	09 42 53.3	-0.2
MNV				e*PP	pP	09 44 43.3	-1.1
MNV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
MNV	Mina	86.19	44	eP	P	09 42 53.3	-0.2
	comp=Z,6.3nm,0.9s,mb4.2						
MNV				epP	pP	09 44 43.2	-1.1
O06A	Flanigan	86.21	42	⇑P	P	09 42 53.3	-0.3
	baz=86						
S09A	Goldfield	86.36	45	⇓P	P	09 42 53.9	-0.4
	baz=86						
J03A	Ideyld Park	86.42	38	⇑P	P	09 42 55.1	+0.4
	baz=87						
M06C	Likely Place G	86.47	41	⇑P	P	09 42 55.1	+0.2
	baz=87						
W12A	Cal Nev Ari	86.51	48	⇓P	P	09 42 55.0	-0.1
	baz=87						
TPNV	Topopah Spring	86.54	46	eP	P	09 42 55.1	-0.1
TPNV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
TPNV	Topopah Spring	86.54	46	eP	P	09 42 55.1	-0.1
	comp=Z,6.4nm,0.8s,mb4.4						
TPH	Tonopah	86.57	45	eP	P	09 42 55.6	+0.3
TPH				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
TPH	Tonopah	86.57	45	eP	P	09 42 55.6	+0.3
	comp=Z,9.3nm,0.8s,mb4.6						
Q08A	Gabbs	86.59	44	P	P	09 42 55.1	-0.3
	baz=87,SNR=8.1						
Z14A	Wintersburg	86.74	51	⇓P	P	09 42 56.7	+0.5
	baz=87						
O07A	Toulon	86.79	42	⇑P	P	09 42 55.9	-0.4
	baz=87,SNR=8.2						
X13A	Yucca	86.81	49	⇓P	P	09 42 56.4	-0.1
	baz=87						
115A	Sonoran Desert	86.89	52	⇑P	P	09 42 57.1	+0.3
	baz=87						
SHPR	Sheep Range	87.00	47	eP	P	09 42 57.9	+0.6
Y14A	Wickenburg	87.03	50	⇓P	P	09 42 57.9	+0.4
	baz=87						
Q09A	Carvers	87.04	44	⇓P	P	09 42 57.4	-0.2
	baz=87						
W13A	Hualapai Mount	87.06	49	⇑P	P	09 42 58.0	+0.4
	baz=87						
N07B	Gerlach	87.11	42	⇑P	P	09 42 57.4	-0.4
	baz=87						
116A	Eloy	87.19	52	⇓P	P	09 42 58.6	+0.4
	baz=87,SNR=7.0						
PLCA	Paso Flores	87.30	134	P	P	09 42 59.9	+1.1
	comp=Z,3.2nm,0.9s,mb4.1,baz=252,slow=3.9,SNR=5.5						
M07A	Soldier Meadow	87.36	41	⇑P	P	09 42 59.0	-0.1
	baz=88						
GYA	Guiyang	87.37	301	P	P	09 42 59.5	+0.4
GYA				PP	PP	09 46 35.0	+2.5
GYA				SKS		09 52 37.5	
GYA				S		09 52 56.1	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GYA				AMB	AMB		
	comp=Z,140nm,4.5s						
X14A	Yava	87.39	50	P	P	09 42 59.8	+0.6
	baz=88,SNR=5.2						
P09A	Austin	87.49	44	⇑P	P	09 42 59.9	+0.2
	baz=88						
K06A	Valley Falls	87.60	40	⇑P	P	09 43 00.2	0.0
	baz=88,SNR=5.8						
W14A	Seligman	87.67	49	⇓P	P	09 43 01.0	+0.5
	baz=88						
TUC	Tucson	87.71	53	eP	P	09 43 01.7	+1.0
TUC				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.6						
TUC	Tucson	87.71	53	eP	P	09 43 01.7	+1.0
	comp=Z,16nm,1.4s,mb4.6						
O09A	Fish Creek Ran	87.83	43	⇓P	P	09 43 01.2	0.0
	baz=88						
X15A	Humboldt	87.85	50	P	P	09 43 02.1	+0.7
	baz=88,SNR=6.0						
M08A	Happy Creek Ra	87.87	42	⇓P	P	09 43 01.5	+0.1
	baz=88,SNR=5.0						
I05A	Bend	87.87	38	⇓P	P	09 43 01.5	+0.1
	baz=88						
J06A	Christmas Vall	87.93	39	⇓P	P	09 43 01.4	-0.3
	baz=88,SNR=9.7						
N09A	Rock Creek Ran	88.03	42	⇑P	P	09 43 02.2	+0.1
	baz=88						
MA2	Magadan	88.10	346	⇓eP	P	09 43 01.2	-1.3
MA2				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.0						
I06A	Prineville	88.33	39	⇓P	P	09 43 03.8	+0.2
	baz=88,SNR=14						
F04A	Amboy	88.37	36	⇓P	P	09 43 03.3	-0.5
	baz=89						
M09A	Marrel Ranch,	88.41	42	⇓P	P	09 43 04.1	+0.2
	baz=89						
L09A	Wilkinson Ranc	88.64	41	⇓P	P	09 43 04.8	-0.2
	baz=89,SNR=6.2						
M10A	I.L. Ranch, Tu	89.02	42	⇑P	P	09 43 06.9	+0.1
	baz=89,SNR=6.6						
N11A	Elko Archery C	89.11	43	⇓P	P	09 43 06.9	-0.3
	baz=89						
E05A	Randle	89.13	36	⇓P	P	09 43 06.6	-0.7
	baz=89						
C04A	Brinnon	89.24	35	⇓P	P	09 43 08.0	+0.2
	baz=89						
D05A	Enumclaw	89.41	35	⇓P	P	09 43 08.7	+0.1
	baz=90						
O12A	Currie	89.41	44	⇓P	P	09 43 09.0	+0.4
	baz=90						
M11A	Holland Ranch,	89.43	43	⇑P	P	09 43 08.7	0.0
	baz=90,SNR=5.2						
XAN	Xi'an	89.56	308	P	P	09 43 09.4	+0.1
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
N12A	Wells--Clov Va	89.56	44	⇑P	P	09 43 09.4	+0.1
	baz=90						
C05A	Tolt Reservoir	89.88	35	⇑P	P	09 43 10.9	+0.1
	baz=90						
M12A	Wells	89.96	43	⇑P	P	09 43 11.0	-0.2
	baz=90						
A04A	Legoe Bay, Lum	90.02	34	⇓P	P	09 43 11.6	+0.1
	baz=90						
CHTO	Chiang Mai	90.02	291	eP	P	09 43 13.0	+1.6
CHTO				e*PP	pP	09 45 07.0	+3.7
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
CHTO	Chiang Mai	90.02	291	eP	P	09 43 13.0	+1.6
	comp=Z,13nm,1.0s,mb4.7						
CHTO				epP	pP	09 45 07.0	+3.7
B05A	Bryant	90.04	35	⇑P	P	09 43 11.6	+0.1
	baz=90						
MVU	Marysvale	90.06	47	eP	P	09 43 24.0	+12
N13A	West Wendover	90.08	44	⇓P	P	09 43 11.4	-0.3
	baz=90						
MSU	Marysvale	90.09	47	eP	P	09 43 12.5	+0.8
M13A	Montello	90.39	43	P	P	09 43 13.1	0.0
	baz=91,SNR=12						
TMUT	Trail Mountain	91.15	46	eP	P	09 43 17.4	+0.8
MNTX	Cornudas Mount	91.35	55	eP	P	09 43 17.5	-0.1
	comp=Z,2.1nm,0.9s,mb4.1						
SRU	San Rafael	91.50	47	eP	P	09 43 18.2	0.0
SRU				e*PP	pP	09 45 10.1	-0.1
SRU				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
SRU	San Rafael	91.50	47	eP	P	09 43 18.2	0.0
	comp=Z,12nm,1.2s,mb4.7						
SRU				epP	pP	09 45 10.1	-0.1
LTX	Lajitas	91.50	58	eP	P	09 43 18.8	+0.5
LTX				e*PP	pP	09 45 11.5	+1.2
LTX				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
LTX	Lajitas	91.50	58	eP	P	09 43 18.8	+0.5
	comp=Z,8.0nm,1.0s,mb4.6						
LTX				epP	pP	09 45 11.5	+1.2
CTU	Camp Tracy	91.55	45	eP	P	09 43 18.6	+0.1
TCUT	Toone Canyon	91.99	45	eP	P	09 43 21.4	+0.8
ANMO	Albuquerque	92.16	52	eP	P	09 43 21.0	-0.3
ANMO				e*PP	pP	09 45 13.0	-0.3
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	Albuquerque	92.16	52	eP	P	09 43 21.0	-0.2
	comp=Z,2.2nm,0.9s,mb4.1						
ANMO				epP	pP	09 45 12.9	-0.4
PBA	Port Blair	92.27	282	eP	x	09 45 09.2	
PBA				eS	x	09 45 30.3	
PBA				ex	x	09 45 33.8	
	comp=E,711nm,0.5s						
PBA				ex	x	09 45 34.2	
	comp=N,619nm,0.8s						
COLA	College	93.56	13	⇑eP	P	09 43 26.3	-1.4
BILL	Bilibino	93.83	355	⇑eP	P	09 43 27.0	-2.0
BILL				e*PP	pP	09 45 21.2	+0.1
BILL				e		09 47 26.6	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
PDAR	Pinedale Array	94.04	44	P	P	09 43 29.1	-0.8
	comp=Z,0.7nm,0.7s,mb3.8,baz=340,slow=2.2,SNR=6.1						
LZH	Lanzhou	94.19	308	⇓P	P	09 43 31.2	+0.6
LZH				PP	PP	09 47 29.6	+4.0
LZH				AMB	AMB		
	comp=Z,50nm,8.8s						
YAK	Yakutsk	96.01	339	⇓eP	P	09 43 36.8	-2.0
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.2						
ULN	Ulaanbaatar	97.81	320	⇑eP	P	09 43 45.4	-1.5
GTA	Gaotai	98.54	310	eP	Pdif	09 43 50.6	+0.5
GTA				AP	pP	09 45 41.5	-1.2
MKAR	Makanchi Array	113.07	312	PKiKP	PKiKP	09 48 44.0	-1.7
	comp=Z,0.9nm,0.8s,baz=62,slow=5.9,SNR=4.7						
MKAR	Makanchi Array	113.07	312	PKPdf	PKiKP	09 48 44.0	-1.7
KURK	Kurchatov	116.21	316	⇓iPKIKP	PKPdf	09 48 50.4	-1.3
ARU	Arti	128.04	323	iPKIKP	PKPdf	09 49 12.7	-1.7
ARCES	ARCESS Array B	133.44	348	PKP	PKPdf	09 49 23.5	-1.0
	comp=Z,4.0nm,0.8s,baz=0.0,slow=1.3,SNR=6.1						
ARCES				SKPbc	SKPbc	09 52 04.7	-1.0
	comp=Z,9.1nm,0.9s,baz=20,slow=3.9,SNR=7.5						
ARCES	ARCESS Array B	133.44	348	PKP	PKPdf	09 49 23.5	-1.0
ARCES				SKPbc	SKPbc	09 52 04.7	-1.0
FINES	FINESS Array B	139.91	341	PKhKP		09 49 27.2	
	comp=Z,1.1nm,0.6s,baz=37,slow=4.8,SNR=5.3						
FINES				PKP	PKPdf	09 49 36.4	-0.2
	comp=Z,0.7nm,0.6s,baz=48,slow=2.8,SNR=3.7						
FINES				SKP		09 52 24.9	
	comp=Z,6.4nm,0.8s,baz=85,slow=4.0,SNR=16						
FINES	FINESS Array B	139.91	341	PKP	PKPdf	09 49 36.4	-0.2
FINES				SKP		09 52 24.9	
KIV	Kislovodsk	140.72	309	⇓iPKIKP	PKPdf	09 49 38.2	+0.2
NB2	NORSAR Subarra	143.66	351	PKPa	PKPdf	09 49 39.7	-3.5
	comp=Z,16nm,0.8s,baz=16,slow=3.2						
NOA	NORSAR Array B	143.66	351	PKP	PKPdf	09 49 39.9	-3.2
	comp=Z,12nm,0.8s,baz=16,slow=4.9,SNR=33						
ANN	Anapa	144.09	312	iPKIKP	PKPdf	09 49 42.0	-1.9
ANN				pmax	pmax		
	comp=Z,48nm,1.0s						
MALT	Malatya	145.02	301	ePKIKP	PKPdf	09 49 45.0	-0.5
AKASG	Malin Array Be	146.20	326	PKPbc	PKPbc	09 49 47.9	-1.7
	comp=Z,6.0nm,0.6s,baz=42,slow=4.3,SNR=22						
BR131	Keskin Array S	148.34	305	ePKPbc	PKPbc	09 49 54.9	-0.3
BR131				ePKPab	PKPab	09 50 00.4	+0.1
BRTR	Keskin Array B	148.34	305	PKPbc	PKPbc	09 49 54.8	-0.4
	comp=Z,3.7nm,0.8s,baz=134,slow=3.9,SNR=14						
OJC	Ojcow	150.89	333	ePKPdf	PKPbc	09 50 00.7	-0.6
CLL	Collm	152.34	342	⇑iPKPbc	PKPbc	09 50 03.9	-0.6
	comp=Z,11nm,1.1s						
CLL				⇑iPKPab	PKPab	09 50 15.7	-1.3
	comp=Z,9.0nm,1.0s						
CLL	Collm	152.34	342	⇑iPKIKP	PKPbc	09 50 03.9	-0.6
CLL				i		09 50 15.7	
CLL				pmax	pmax		
	comp=Z,1μm,1.1s						
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRG	Berggiesshubel	152.45	340	PKP	PKPbc	09 50 04.2	-0.5
	comp=Z,3.1nm,0.8s						
BRG				e		09 50 16.4	
	comp=Z,4.2nm,0.8s						
BRG	Berggiesshubel	152.45	340	PKIKP	PKPbc	09 50 04.2	-0.6
BRG				e		09 50 16.4	
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GERES	GERESS Array B	154.30	338	PKPab	PKPab	09 50 24.3	-1.1
	comp=Z,1.1nm,0.7s,baz=41,slow=2.6,SNR=7.0						
TORD	Torodi Ar. Bea	167.53	189	PKPab	PKPab	09 51 23.6	+0.3
	comp=Z,1.0nm,0.7s,baz=182,slow=3.5,SNR=7.7						

*NEIC **09** 09:36:15.1, 1509N×97.19W, h25km, MD3.9(MEX), After MEX.*

MEX 09 09:36:14.9±1.0, 1506N×9718W, h26km±24km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.25	56	iP	Pn	09 36 34.1	-2.6
HUIG				iS	Sn	09 36 49.1	-3.7
VHO	Vista Hermosa	2.04	12	iP	Pn	09 36 45.7	-1.9
VHO				iS	Sn	09 37 09.6	-2.7
OXX	Oaxaca	2.05	12	iP	Pn	09 36 46.5	-1.3
OXX				iS	Sn	09 37 10.5	-2.0
OXX	Oaxaca	2.05	12	iP	Pn	09 36 46.5	-1.3
OXX				iS	Sn	09 37 11.0	-1.5
UTMO	Huajuapan	2.81	348	iP	Pn	09 36 57.0	-1.2
UTMO				iS	Sn	09 37 26.9	-4.4
CMIG	Matias Romero	2.99	47	iP	Pn	09 36 58.0	-2.6
CMIG				iS	Sn	09 37 33.6	-2.1
ACX	Acapulco	3.18	305	eP	Pn	09 37 00.0	-3.3
ACX				iS	Sn	09 37 31.0	-9.4
PPM	Popocatepetl	4.21	341	iP	Pn	09 37 17.6	+0.2
PPM				iS	Sn	09 38 01.8	-4.0

*NEIC **09** 09:42:15.8, 1804N×98.12W, h54km, MD4.0(MEX), After MEX.*

MEX 09 09:42:15.8±0.9, 1804N×9812W, h54km±9km, MD4.0, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTMO	Huajuapan	0.36	125	iP	Pn	09 42 24.8	-1.0
UTMO				iS	Sn	09 42 31.8	-1.2
TPIG	Tehuac#an	0.81	62	iP	Pn	09 42 29.4	-1.7
TPIG				iS	Sn	09 42 40.7	-1.6
PPM	Popocatepetl	1.13	335	iP	Pn	09 42 34.4	-0.9
PPM				iP		09 42 34.5	
PPM				iS	Sn	09 42 49.0	-0.9
PPM				iS	Sn	09 42 50.0	+0.1
PPM	Popocatepetl	1.13	335	iP	Pn	09 42 34.5	-0.9
PPM				iS	Sn	09 42 49.0	-0.9
PPM				iS	Sn	09 42 50.0	+0.1
YAIG	Yautepec	1.22	312	iP	Pn	09 42 34.9	-1.6
YAIG				iS	Sn	09 42 49.7	-2.3
PLIG	Platanillo	1.36	285	iP	Pn	09 42 37.2	-1.3
PLIG				iS	Sn	09 42 53.2	-2.3
MEIG	Mezcala	1.44	266	iP	Pn	09 42 38.0	-1.5
MEIG				iS	Sn	09 42 55.5	-1.7
VHO	Vista Hermosa	1.63	126	eP	Pn	09 42 42.0	-0.2
VHO				iS	Sn	09 42 58.4	-3.7
OXX	Oaxaca	1.64	125	eP	Pn	09 42 42.0	-0.2
OXX				iS	Sn	09 42 58.0	-4.1
ACX	Acapulco	2.08	236	iP	Pn	09 42 44.5	-3.7
ACX				iS	Sn	09 43 16.0	+3.1
CMIG	Matias Romero	3.23	106	iP	Pn	09 43 03.1	-0.9
CMIG				iS	Sn	09 43 38.5	-2.6

NEIC 09 09:44:27.5, 2949S×7119W, h43km, MG3.8(GUC), 3C, After GUC., Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.64	42	eP	Pn	09 44 40.1	-0.2
LCO				iS	Sn	09 44 50.2	+0.9
TLL	Tololo Astrono	0.75	154	iP	Pn	09 44 43.8	+2.2
TLL				iS	Sn	09 44 55.5	+3.6
VACH	Vallenar	0.99	23	⇑iP	Pn	09 44 45.9

cutoff=40s.

NEIC ***09*** *10:40:41.8±0.5, 1798S×17850W, h576km±5km, mb5.4/85, MW5.5 Error ellipse: s-maj=5.9km s-min=3.2km az=148.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17} Nm; M_{rr}0.52; $M_{\theta\theta}$1.55; $M_{\phi\phi}$-2.07; $M_{r\theta}$1.09; $M_{\theta\phi}$-0.08; $M_{\phi r}$-0.58; Best double couple: $M_0$2.20000×10^{17} NP1: ϕ_s140.00000°, δ77.00000°, λ34.00000°. NP2:ϕ_s42.00000°, δ57.00000°, λ164.00000°. Principal axes: T 2.2800, Plg33.0000°, Azm6.0000°; N -0.0800, Plg54.0000°, Azm159.0000°; P -2.2000, Plg13.0000°, Azm267.0000°;*

IDC ***09*** *10:40:41.6±0.8, 1806S×17848W, h574km±9km, mb4.7/17, mb1 4.8/20, mb1mx4.8/21, mbtmp5.6/20 Error ellipse: s-maj=10.1km s-min=7.5km az=134.0*

SZGRF ***09*** *10:40:43.7, 1731S×17753W, h33km, Fiji Islands region*

ISC 09 10:40:42.0±0.6, 1798S±004×17850W±003, h572km±7km, h562km±4.4km: pP-P, n710, σ0s73/471, mb5.3/117, 167C-96D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**59**	P		**P**	**P**	**10 42 35.8**	**-1.0**
	26nm,0.3s,baz=245,slow=1.2,SNR=32								
AFI				S			**S**	**10 44 10.3**	**-0.6**
	6.2nm,0.3s,baz=173,slow=22,SNR=3.2								
AFI	**Afiamalu**	**7.63**	**59**	*e*P			**P**	**10 42 35.7**	**-1.0**
AFI								10 44 07.6	
AFI					smax				
	comp=N,430nm,0.8s								
AFI	**Afiamalu**	**7.63**	**59**	*e*Pn			**P**	**10 42 35.7**	**-1.0**
	comp=N,431nm,0.8s								
AFI					Sn		**S**	**10 44 07.6**	**-3.3**
RAO	**Raoul Island**	**11.23**	**177**	P			**P**	**10 43 10.9**	**-1.8**
	comp=N,60nm,0.3s,baz=3.2,slow=18,SNR=4.8								
RAO					S		**S**	**10 45 16.9**	**+0.4**
	comp=N,39nm,0.3s,baz=76,slow=22,SNR=3.2								
RAO	**Raoul Island**	**11.23**	**177**	P			**P**	**10 43 10.9**	**-1.7**
RAO					S		**S**	**10 45 16.9**	**+0.4**
BKM	**Butte a Klehm**	**12.63**	**269**	⇓*i*P			**P**	**10 43 28.4**	**+1.5**
DZM	**Mont Dzumac**	**14.72**	**251**	*e*P			**P**	**10 43 46.9**	**-1.3**
DZM				*e*S			**S**	**10 46 20.7**	**-0.4**
DZM	**Mont Dzumac**	**14.72**	**251**	P			**P**	**10 43 49.1**	**+0.9**
	comp=N,14nm,0.3s,baz=85,slow=14,SNR=59								
DZM					S		**S**	**10 46 23.8**	**+2.7**
	comp=N,0.3nm,0.3s,baz=323,slow=22,SNR=5.3								
RAR	**Rarotonga**	**17.94**	**103**	P			**P**	**10 44 16.5**	**-1.6**
	comp=N,2.0nm,0.3s,baz=254,slow=7.4,SNR=2.7								
URZ	**Urewera**	**20.57**	**190**	P			**P**	**10 44 39.3**	**-2.7**
	comp=N,34nm,0.8s,baz=24,slow=3.9,SNR=22								
URZ					S		**S**	**10 47 52.4**	**-3.6**
	comp=N,26nm,0.8s,baz=210,slow=17,SNR=6.2								
HNR	**Honiara**	**22.57**	**289**	P			**P**	**10 44 59.6**	**-0.3**
	comp=N,451nm,0.7s,mb6.2,baz=85,slow=2.0,SNR=12								
HNR	**Honiara**	**22.57**	**289**	*e*P			**P**	**10 45 00.4**	**+0.4**
HNR					pmax		pmax		
	comp=Z,370nm,0.8s,mb6.1								
HNR	**Honiara**	**22.57**	**289**	*e*P			**P**	**10 45 00.4**	**+0.5**
	comp=Z,371nm,0.8s,mb6.1								
RPZ	**Rata Peaks**	**27.13**	**197**	P			**P**	**10 45 39.6**	**-0.5**
	comp=Z,9.9nm,0.7s,mb4.6,baz=13,slow=22,SNR=6.2								
PAE	**Paea**	**27.53**	**94**	*e*P			**P**	**10 45 53.9**	**+10**
	comp=Z,93nm,0.8s,mb5.5								
PPT	**Papeete**	**27.54**	**94**	*e*P			**P**	**10 45 54.2**	**+10**
	comp=Z,112nm,1.5s,mb5.3								
TVO	**Taravao**	**27.83**	**94**	*e*P			**P**	**10 45 56.6**	**+10**
	comp=Z,130nm,0.8s,mb5.6								
ARMA	**Armidale**	**29.83**	**240**	⇓*i*P			**P**	**10 46 05.0**	**+1.4**
ARMA				*e*S			**S**	**10 50 21.9**	**+1.1**
RIV	**Riverview**	**31.37**	**234**	*e*P			**P**	**10 46 17.7**	**+0.9**
CNB	**Canberra Magne**	**33.31**	**232**	⇓*i*P			**P**	**10 46 34.5**	**+1.3**
	comp=Z,252nm,0.6s,mb6.0								
CNB				*e*S			**S**	**10 51 14.9**	**+1.0**
CNB				*e*SCP			ScP	10 51 50.0	+1.6
CTA	**Charters Tower**	**33.34**	**261**	⇓*i*P			**P**	**10 46 34.1**	**+0.6**
	comp=Z,264nm,0.7s,mb6.0								
CTA				*e*SCP			ScP	10 51 49.5	+0.9
CTA	**Charters Tower**	**33.34**	**261**	⇓*i*P			**P**	**10 46 34.1**	**+0.6**
CTA					pmax		pmax		
	comp=Z,264nm,0.7s								
CTAO	**Charters Tower**	**33.34**	**261**	*e*P			**P**	**10 46 34.0**	**+0.5**
CTAO					pmax		pmax		
	comp=Z,320nm,0.8s,mb6.0								
CTAO	**Charters Tower**	**33.34**	**261**	*e*P			**P**	**10 46 33.6**	**+0.1**
	comp=Z,316nm,0.8s,mb6.0								
PMG	**Port Moresby**	**34.38**	**280**	P			**P**	**10 46 43.8**	**+1.7**
	comp=Z,1μm,0.8s,baz=76,slow=5.9,SNR=249								
PMG	**Port Moresby**	**34.38**	**280**	*d*P			**P**	**10 46 43.7**	**+1.5**
PMG				*i*	*PP			10 48 22.7	
PMG	**Port Moresby**	**34.38**	**280**	*e*P			**P**	**10 46 43.8**	**+1.6**
	comp=Z,1μm,0.8s								
TOO	**Toolangi**	**37.05**	**231**	⇓*i*P			**P**	**10 47 05.1**	**+0.9**
	comp=Z,212nm,1.1s,mb5.6								
TOO				*e*S			**S**	**10 52 09.6**	**-0.3**
TOO	**Toolangi**	**37.05**	**231**	⇓*i*P			**P**	**10 47 05.1**	**+0.9**
TOO				*e*S			**S**	**10 52 09.6**	**-0.3**
TOO					pmax		pmax		
	comp=Z,212nm,1.1s,mb5.6								
TAU	**Tasmania Unive**	**38.12**	**222**	P			**P**	**10 47 13.7**	**+0.8**
	comp=Z,334nm,1.0s,mb5.8,SNR=7.9								
STKA	**Stephens Creek**	**38.52**	**241**	⇓*i*P			**P**	**10 47 15.2**	**-0.9**
	comp=Z,348nm,0.9s,mb5.9								
STKA				*e*SCP			ScP	10 52 07.0	-0.8
STKA				*e*S			**S**	**10 52 28.4**	**-3.0**
STKA	**Stephens Creek**	**38.52**	**241**	P			**P**	**10 47 15.3**	**-0.8**
	comp=Z,346nm,0.9s,mb5.9,baz=90,slow=9.1,SNR=438								
STKA					ScP		ScP	10 52 06.9	-0.9
	comp=Z,15nm,0.9s,baz=78,slow=5.7,SNR=3.8								
HON	**Honolulu**	**43.92**	**28**	*e*P			**P**	**10 47 58.9**	**+0.1**
HON	**Honolulu**	**43.92**	**28**	*e*P			**P**	**10 47 58.3**	**-0.5**
KIP	**Kipapa**	**44.01**	**28**	*e*P			**P**	**10 47 59.0**	**-0.4**
KIP					pmax		pmax		
	comp=Z,370nm,1.0s,mb5.9								
KIP	**Kipapa**	**44.01**	**28**	*e*P			**P**	**10 47 59.0**	**-0.5**
	comp=Z,367nm,1.0s,mb5.9								
HKL	**Haleakala**	**44.21**	**31**	*e*P			**P**	**10 48 01.5**	**+0.5**
HKL	**Haleakala**	**44.21**	**31**	*e*P			**P**	**10 48 01.3**	**+0.4**
MAUI	**Maui**	**44.26**	**31**	*c i*P			**P**	**10 48 00.7**	**-0.7**
WB2	**Warramunga Arr**	**44.52**	**260**	⇓*i*P			**P**	**10 48 03.1**	**-0.3**
WB2				*e*S			**S**	**10 53 53.3**	**-4.4**
WB2				*e*SCS			ScS	10 56 57.9	+0.2
WRAB	**Tennant Creek**	**44.52**	**260**	P			**P**	**10 48 03.0**	**-0.4**
	comp=Z,3μm,0.7s								
WRAB	**Tennant Creek**	**44.52**	**260**	*d i*P			**P**	**10 48 03.0**	**-0.4**
WRAB				*i*	*PP		pP	10 49 44.2	-1.3
WRAB	**Tennant Creek**	**44.52**	**260**	⇓*i*P			**P**	**10 48 03.0**	**-0.4**
	comp=Z,468nm,0.8s,mb6.1								
AS31	**Alice Springs**	**44.68**	**254**	⇓*i*P			**P**	**10 48 05.0**	**+0.4**
AS31				*e*S			**S**	**10 53 57.8**	**-2.2**
AS31				*e*ScS			ScS	10 56 58.2	-0.5
ASAR	**Alice Springs**	**44.68**	**254**	P			**P**	**10 48 05.1**	**+0.5**
	comp=Z,1μm,0.7s,baz=87,slow=8.5								
ASAR					PcP		PcP	10 49 34.4	-0.2
	comp=Z,38nm,0.7s,baz=106,slow=4.1,SNR=7.6								
ASAR					ScP		ScP	10 52 33.1	+0.5
	comp=Z,13nm,0.9s,baz=90,slow=3.9,SNR=6.6								
ASAR					S		**S**	**10 53 58.0**	**-1.9**
	comp=Z,18nm,1.0s,baz=87,slow=16,SNR=17								
ASAR	**Alice Springs**	**44.68**	**254**	P			**P**	**10 48 05.1**	**+0.5**
ASAR								10 49 34.4	
ASAR					S		**S**	**10 53 58.1**	**-1.9**
ASPA	**Alice Springs**	**44.69**	**254**	⇓*i*P			**P**	**10 48 05.0**	**+0.3**
ASPA				*e*S			**S**	**10 53 57.8**	**-2.2**
ASPA				*e*SCS			ScS	10 56 58.2	-0.6
KAKA	**Kakadu**	**47.49**	**269**	⇓*i*P			**P**	**10 48 25.8**	**-0.1**
	comp=Z,553nm,0.5s,mb6.3								
FORT	**Forrest**	**49.90**	**245**	⇓*i*P			**P**	**10 48 43.3**	**-0.3**
	comp=Z,476nm,0.7s,mb6.0								
FORT				*e*PCP			PcP	10 49 53.2	-0.2
FORT				*e*S			**S**	**10 55 07.7**	**-4.1**
MBWA	**Marble Bar**	**57.97**	**256**	⇓*i*P			**P**	**10 49 40.0**	**-0.4**
	comp=Z,197nm,0.7s,mb5.3								
KLBR	**Kellerberrin**	**58.72**	**244**	⇓*i*P			**P**	**10 49 44.9**	**-0.5**
	comp=Z,284nm,0.6s,mb5.6								
NWAO	**Narrogin (SRO)**	**59.10**	**242**	P			**P**	**10 49 47.8**	**-0.2**
NWAO					pmax		pmax		
	comp=Z,84nm,0.8s								
NWAO	**Narrogin (SRO)**	**59.10**	**242**	*e*P			**P**	**10 49 47.4**	**-0.6**
	comp=Z,84nm,0.8s,mb4.9								
MUN	**Mundaring**	**60.01**	**243**	*e*P			**P**	**10 49 53.7**	**-0.3**
VNDA	**Vanda**	**60.37**	**185**	P			**P**	**10 49 56.6**	**+0.2**
	comp=Z,4.1nm,0.8s,baz358,slow=7.4,SNR=20								
BUTP	**Butuan**	**61.32**	**291**	*e*P			**P**	**10 50 03.3**	**+0.6**
BUKP	**Musuan**	**61.34**	**290**	*e*P			**P**	**10 50 03.9**	**+1.1**
KAPI	**Kappang**	**61.61**	**274**	P			**P**	**10 50 03.0**	**-1.5**
	comp=Z,656nm,0.6s,mb6.0,SNR=15								
SCPH	**Surigao**	**61.79**	**292**	*e*P			**P**	**10 50 05.8**	**+0.1**
CTBH	**Cotabato--PC H**	**61.80**	**289**	*e*P			**P**	**10 50 06.2**	**+0.4**
CGP	**Cagayan de Oro**	**61.92**	**290**	*e*P			**P**	**10 50 06.6**	**+0.1**
MSLP	**Maasin**	**62.50**	**292**	*e*P			**P**	**10 50 10.6**	**+0.3**
PAGZ	**Pagadian**	**62.84**	**289**	*e*P			**P**	**10 50 13.1**	**+0.6**
PLP	**Palo**	**62.85**	**293**	*e*P			**P**	**10 50 11.8**	**-0.7**
PVCP	**Virac**	**64.68**	**295**	*e*P			**P**	**10 50 24.7**	**+0.6**
CASY	**Casey**	**66.03**	**205**	*e*P			**P**	**10 50 32.0**	**-0.6**
CUYO	**Cuyo Island**	**66.21**	**291**	*e*P			**P**	**10 50 33.8**	**0.0**
TSM	**Tawau**	**66.49**	**283**	P			**P**	**10 50 36.4**	**+0.9**
BOAC	**Boac**	**66.62**	**294**	*e*P			**P**	**10 50 35.8**	**-0.4**
BUSP	**Coron**	**67.43**	**292**	*e*P			**P**	**10 50 41.5**	**+0.3**
ENPP	**El Nido**	**67.78**	**291**	*e*P			**P**	**10 50 44.0**	**+0.6**
BALP	**Baler**	**67.87**	**296**	*e*P			**P**	**10 50 44.0**	**+0.1**
MJAR	**Matsushiro Arr**	**67.91**	**323**	P			**P**	**10 50 43.5**	**-0.7**
	comp=Z,45nm,0.6s,mb5.1,baz=154,slow=5.8,SNR=122								
MAJO	**Matsushiro**	**67.91**	**323**	*e*P			**P**	**10 50 43.5**	**-0.7**
MAJO					pmax		pmax		
	comp=Z,68nm,0.8s,mb5.1								
MAJO	**Matsushiro**	**67.91**	**323**	*e*P			**P**	**10 50 43.5**	**-0.6**
	comp=Z,68nm,0.8s,mb5.1								
MAT	**Matsushiro**	**67.91**	**323**	P			**P**	**10 50 43.5**	**-0.7**
MAT	**Matsushiro**	**67.91**	**323**	*e*P			**P**	**10 50 44.0**	**-0.2**
MAT					pmax		pmax		
	comp=Z,37nm,0.8s,mb4.9								
MAT	**Matsushiro**	**67.91**	**323**	*e*P			**P**	**10 50 44.0**	**-0.2**
	comp=Z,37nm,0.8s,mb4.9								
LUBP	**Lubang**	**68.13**	**293**	*e*P			**P**	**10 50 43.6**	**-1.9**
CAUP	**Cauayan**	**68.22**	**297**	*e*P			**P**	**10 50 47.2**	**+1.1**
BATP	**Bataraza**	**68.27**	**287**	*e*P			**P**	**10 50 46.9**	**+0.6**
KKM	**Kota Kinabalu**	**68.67**	**284**	P			**P**	**10 50 49.5**	**+0.8**
KKM	**Kota Kinabalu**	**68.67**	**284**	*e*P			**P**	**10 50 49.0**	**+0.3**
ATKA	**Atka Island**	**69.98**	**3**	*e*P			**P**	**10 50 54.5**	**-2.1**
SMY	**Shemya**	**70.70**	**355**	*e*P			**P**	**10 50 59.3**	**-1.5**
SMY					pmax		pmax		
	comp=Z,119nm,0.7s,mb5.5								
SMY	**Shemya**	**70.70**	**355**	*e*P			**P**	**10 50 59.3**	**-1.5**
	comp=Z,118nm,0.7s,mb5.5								
NACB	**Ninganchiao**	**71.88**	**304**	*e*P			**P**	**10 51 06.9**	**-0.8**
QSPA	**South Pole Qui**	**72.07**	**180**	⇓*i*P			**P**	**10 51 08.8**	**0.0**
	comp=Z,53nm,1.1s,mb5.0								
YHNB	**Yeheng**	**72.30**	**304**	*e*P			**P**	**10 51 10.1**	**0.0**
KSM	**Kuching**	**72.60**	**277**	*e*P			**P**	**10 51 12.7**	**+0.8**
MIR	**Mirnyy**	**73.06**	**205**	*d i*P			**P**	**10 51 14.5**	**0.0**
MIR					pmax		pmax		
	comp=Z,400nm,1.2s,mb5.8								
PET	**Petropavlovsk**	**73.42**	**346**	⇑*i*P			**P**	**10 51 15.2**	**-1.4**
PET				*e*S			S	10 59 56.8	-3.5
PET				*e*				11 00 20.8	
PET				*e*				11 00 35.6	
PET				*e*SS			SS	11 04 59.5	+0.9
PET					pmax		pmax		
	comp=Z,37nm,0.6s,mb5.1								
PET					smax				
	comp=N,100nm,12.5s								
PET					smax				
	comp=E,300nm,16.9s								
PET	**Petropavlovsk**	**73.42**	**346**	*e*P			**P**	**10 51 15.0**	**-1.5**
	comp=E,16nm,0.5s,mb4.8								
YSS	**Yuzh-Sakhalins**	**73.44**	**333**	*e*P			**P**	**10 51 16.9**	**+0.2**
YSS				*e*				11 00 00.0	
QZH	**Quanzhou**	**74.64**	**303**	⇓*i*P			**P**	**10 51 23.9**	**+0.5**
QZH					AMB		AMB		
	comp=Z,250nm,0.8s,mb5.8								
KS15	**Wonju Array Si**	**74.71**	**318**	*e*P			**P**	**10 51 24.4**	**+0.6**
SPIA	**Saint Paul Isl**	**75.19**	**5**	*e*P			**P**	**10 51 25.1**	**-1.4**
SSE	**Sheshan**	**75.72**	**310**	P			**P**	**10 51 29.6**	**+0.2**
SSE					AP		pP	10 53 29.9	+1.3
SSE					XP		sP	10 54 29.9	+2.6
SSE					S		S	11 00 26.3	+1.1
SSE					SS		SS	11 05 35.7	+2.7
SSE					AMB		AMB		
	comp=Z,50nm,0.7s,mb5.0								
SSE					AMB		AMB		
	comp=Z,190nm,3.9s								
SNCC	**San Nicolas Is**	**75.90**	**48**	⇑P			**P**	**10 51 31.0**	**+0.5**
	baz=76								
VLA	**Vladivostok**	**75.95**	**325**	⇓*e*P			**P**	**10 51 29.9**	**-0.8**
VLA					pmax		pmax		
	comp=Z,73nm,1.7s,mb4.8								
V03C	**Hunter Liggett**	**76.25**	**45**	⇓P			**P**	**10 51 33.1**	**+0.8**
	baz=76,SNR=7.6								
BNLO	**Ben Lomond**	**76.28**	**43**	⇑P			**P**	**10 51 32.6**	**+0.1**
	baz=76,SNR=9.8								
V04C	**Ramage Ranch,**	**76.29**	**45**	⇑P			**P**	**10 51 33.2**	**+0.6**
	baz=76,SNR=12								
JRSC	**Jasper Ridge**	**76.39**	**43**	⇑P			**P**	**10 51 33.2**	**+0.1**
	baz=77,SNR=11								
MCCM	**Marconi Confer**	**76.41**	**42**	*e*P			**P**	**10 51 33.1**	**-0.1**
MCCM	**Marconi Confer**	**76.41**	**42**	⇓P			**P**	**10 51 33.2**	**0.0**
	baz=77								
SBC	**Santa Barbara**	**76.42**	**47**	⇓P			**P**	**10 51 33.7**	**+0.4**
	baz=77								
SAO	**San Andreas Ge**	**76.54**	**44**	*e*P			**P**	**10 51 34.0**	**+0.1**
SAO					pmax		pmax		
	comp=Z,172nm,0.8s,mb5.5								
SAO	**San Andreas Ge**	**76.54**	**44**	*e*P			**P**	**10 51 34.0**	**0.0**
	comp=Z,172nm,0.8s,mb5.5								
PKD	**Parkfield**	**76.68**	**45**	⇑P			**P**	**10 51 34.9**	**+0.2**
	baz=77,SNR=16								
PTRM	**Twissleman Ran**	**76.74**	**45**	*e*P			**P**	**10 51 35.4**	**+0.3**
PACP	**Pacheco Peak**	**76.78**	**44**	⇑P			**P**	**10 51 36.0**	**+0.7**
	baz=77,SNR=33								
HOPS	**Hopland**	**76.79**	**41**	*e*P			**P**	**10 51 35.5**	**+0.2**
	comp=Z,142nm,1.3s,mb5.2								
HOPS	**Hopland**	**76.79**	**41**	⇑P			**P**	**10 51 35.5**	**+0.2**
	baz=77,SNR=7.0								
CVS	**Carmenet Viney**	**76.80**	**42**	⇓P			**P**	**10 51 35.3**	**-0.1**
	baz=77,SNR=13								
NSHM	**Saint Helena R**	**76.80**	**42**	*e*P			**P**	**10 51 35.2**	**-0.2**
WENL	**Wente Brothers**	**76.83**	**43**	⇑P			**P**	**10 51 35.9**	**+0.4**
	baz=77,SNR=13								
P01C	**Double 8 Ranch**	**76.90**	**41**	⇓P			**P**	**10 51 36.1**	**+0.1**
	baz=77,SNR=6.6								
BDM	**Black Diamond**	**76.95**	**43**	⇓P			**P**	**10 51 36.3**	**+0.2**
	baz=77,SNR=6.9								
O01C	**Eel River Cons**	**77.01**	**40**	⇑P			**P**	**10 51 37.1**	**+0.6**
	baz=77,SNR=9.9								
FMP	**Fort Macarthur**	**77.02**	**48**	⇑P			**P**	**10 51 36.8**	**+0.3**
	baz=77								
KIPM	**Iron Peak**	**77.02**	**40**	*e*P			**P**	**10 51 36.9**	**+0.3**
S04C	**Ingram Canyon,**	**77.03**	**43**	⇑P			**P**	**10 51 36.9**	**+0.2**
	baz=77,SNR=38								
V05C	**Boulder Hill,**	**77.07**	**45**	⇓P			**P**	**10 51 37.7**	**+0.9**
	baz=77,SNR=6.4								
MNRC	**McLaughlin Nat**	**77.12**	**42**	P			**P**	**10 51 37.9**	**+0.8**
	baz=77,SNR=26								
T05C	**Eagle Field, D**	**77.13**	**44**	⇓P			**P**	**10 51 38.0**	**+0.8**
	baz=77,SNR=15								
U05C	**Westside ANR,**	**77.18**	**45**	⇑P			**P**	**10 51 38.0**	**+0.6**
	baz=77								
OSI	**Osito Adit**	**77.20**	**47**	⇑P			**P**	**10 51 37.5**	**0.0**
	baz=77								
Q03C	**Winters**	**77.25**	**42**	⇓P			**P**	**10 51 38.6**	**+0.9**
	baz=77,SNR=13								
JCC	**Jacoby Creek**	**77.29**	**39**	⇓P			**P**	**10 51 38.4**	**+0.3**
	baz=78								
GASB	**Alder Springs**	**77.40**	**41**	⇑P			**P**	**10 51 39.7**	**+1.1**
	baz=78,SNR=25								
109C	**Camp Elliot, M**	**77.43**	**49**	⇓P			**P**	**10 51 38.8**	**0.0**
	baz=78,SNR=13								
KHMM	**Horse Mountain**	**77.51**	**39**	*e*P			**P**	**10 51 39.6**	**+0.4**
S05C	**Merced**	**77.61**	**44**	⇑P			**P**	**10 51 39.7**	**-0.1**
	baz=78,SNR=14								
O02C	**Red Bluff**	**77.67**	**40**	⇓P			**P**	**10 51 40.8**	**+0.7**
	baz=78,SNR=35								
R04C	**Big Horse Ranc**	**77.72**	**43**	⇓P			**P**	**10 51 39.8**	**-0.6**
	baz=78,SNR=8.0								
N02C	**Big Bar**	**77.73**	**40**	⇓P			**P**	**10 51 40.4**	**0.0**
	baz=78,SNR=13								
SUTB	**Sutter Buttes**	**77.73**	**42**	⇑P			**P**	**10 51 39.8**	**-0.6**
	baz=78,SNR=21								
Q04C	**Lincoln**	**77.77**	**42**	⇑P			**P**	**10 51 40.4**	**-0.2**
	baz=78,SNR=18								
T06C	**Millerton Lake**	**77.83**	**44**	⇓P			**P**	**10 51 40.7**	**-0.2**
	baz=78,SNR=12								
M01C	**Crescent City**	**77.87**	**38**	⇓P			**P**	**10 51 41.6**	**+0.5**
	baz=78								
NJ2	**Nanjing**	**77.91**	**310**	*e*P			**P**	**10 51 41.9**	**+0.5**
NJ2					PCP		PcP	10 51 49.9	+1.3
NJ2					PP		PP	10 54 49.0	+1.2
NJ2					PPP			10 56 47.0	
NJ2					AMB		AMB		
	comp=Z,250nm,4.0s								
ISA	**Isabella**	**77.93**	**46**	*e*P			**P**	**10 51 41.7**	**+0.2**
ISA					pmax		pmax		
	comp=Z,234nm,1.6s,mb5.4								
ISA	**Isabella**	**77.93**	**46**	*e*P			**P**	**10 51 41.7**	**+0.2**
	comp=Z,234nm,1.6s,mb5.4								
ISA	**Isabella**	**77.93**	**46**	⇓P			**P**	**10 51 41.7**	**+0.3**
	baz=78,SNR=52								
CMB	**Columbia Colle**	**77.95**	**43**	P			**P**	**10 51 41.5**	**0.0**
	baz=78,SNR=70								
OHCM	**Honcut**	**77.99**	**42**	*e*P			**P**	**10 51 41.3**	**-0.5**
HABR	**Khabarovsk**	**78.03**	**330**	*e*P			**P**	**10 51 42.0**	**0.0**
HABR				*e*S			S	11 00 51.9	+2.3
O03C	**Acorn Hollow,**	**78.03**	**41**	⇓P			**P**	**10 51 41.9**	**-0.1**
	baz=78,SNR=27								
WDC	**Whiskeytown Da**	**78.06**	**40**	*e*P			**P**	**10 51 42.2**	**+0.1**
WDC					pmax		pmax		
	comp=Z,133nm,1.3s,mb5.2								
WDC	**Whiskeytown Da**	**78.06**	**40**	*e*P			**P**	**10 51 42.2**	**+0.1**
	comp=Z,133nm,1.3s,mb5.2								
WDC	**Whiskeytown Da**	**78.06**	**40**	⇓P			**P**	**10 51 42.2**	**0.0**
	baz=78,SNR=32								
ORV	**Oroville**	**78.11**	**42**	P			**P**	**10 51 42.1**	**-0.3**
	baz=78,SNR=51								
LAVA	**Lava Cap Winer**	**78.13**	**43**	⇓P			**P**	**10 51 42.3**	**-0.2**
	baz=78,SNR=28								
MDJ	**Mudanjiang**	**78.19**	**325**	P			**P**	**10 51 43.4**	**+0.5**
MDJ					AP		pP	10 53 43.4	+0.3
MDJ					XP		sP	10 54 41.5	0.0
MDJ					PP		PP	10 54 51.7	+1.6
MDJ					S		S	11 00 52.9	+1.6
MDJ					SCS		ScS	11 01 04.1	-6.6
MDJ					SS		SS	11 06 12.2	+2.4
MDJ					AMB		AMB		
	comp=Z,60nm,1.0s,mb5.0								
MDJ					AMB		AMB		
	comp=Z,100nm,3.9s								
MDJ	**Mudanjiang**	**78.19**	**325**	*e*P			**P**	**10 51 42.8**	**-0.1**
	comp=Z,48nm,0.8s,mb5.0								
S06C	**San Francisco**	**78.22**	**44**	⇑P			**P**	**10 51 42.8**	**-0.3**
	baz=78,SNR=7.2								
KCC	**Kaiser Creek**	**78.26**	**44**	⇑P			**P**	**10 51 43.3**	**0.0**
	baz=78								
PFO	**Pinyon Flat Ob**	**78.27**	**49**	P			**P**	**10 51 43.0**	**-0.3**
	comp=Z,317nm,0.9s,mb5.8,SNR=12								
PFO	**Pinyon Flat Ob**	**78.27**	**49**	*e*P			**P**	**10 51 43.2**	**-0.1**
PFO					pmax		pmax		
	comp=Z,53nm,0.9s,mb5.0								
PFO	**Pinyon Flat Ob**	**78.27**	**49**	*e*P			**P**	**10 51 43.2**	**-0.1**
	comp=Z,53nm,0.9s,mb5.0								
PFO	**Pinyon Flat Ob**	**78.27**	**49**	P			**P**	**10 51 43.5**	**+0.2**
	baz=78,SNR=21								
M02C	**Callahan**	**78.35**	**39**	⇓P			**P**	**10 51 44.4**	**+0.7**
	baz=78,SNR=41								
L02A	**Cave Junction**	**78.36**	**38**	⇓P			**P**	**10 51 44.0**	**+0.3**
	baz=79,SNR=13								
KEBM	**Edson Butte**	**78.37**	**37**	*e*P			**P**	**10 51 44.1**	**+0.3**
**

I03A	Eugene	79.65	37	⇑P	P	10 51 50.5	-0.1
	baz=80,SNR=12						
H02A	Toledo	79.67	36	⇑P	P	10 51 51.0	+0.3
	baz=80						
M06C	Likely Place G	79.69	41	P	P	10 51 51.3	+0.5
	baz=80,SNR=100						
Y12C	Blythe	79.74	50	⇑P	P	10 51 51.5	+0.4
	baz=80,SNR=32						
K04A	Chilquin	79.74	39	⇓P	P	10 51 51.2	+0.1
	baz=80,SNR=7.5						
P07A	Fallon	79.76	43	⇓P	P	10 51 51.3	+0.2
	baz=80,SNR=7.0						
EUO	Eugene	79.81	37	P	P	10 51 51.3	-0.1
MPOR	Mary's Peak	79.82	37	P	P	10 51 51.9	+0.4
S09A	Goldfield	79.88	45	⇑P	P	10 51 51.6	-0.2
	baz=80,SNR=50						
SNY	Shenyang	79.98	320	⇑P	P	10 51 52.6	+0.3
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
COR	Corvallis	80.01	37	eP	P	10 51 52.5	0.0
COR				pmax	pmax		
	comp=Z,45nm,0.7s,mb4.9						
COR	Corvallis	80.01	37	eP	P	10 51 52.5	+0.1
	comp=Z,45nm,0.7s,mb4.9						
Q08A	Gabbs	80.02	44	⇑P	P	10 51 52.6	+0.1
	baz=80,SNR=157						
CN2	Changchun	80.02	322	⇓P	P	10 51 52.4	-0.1
CN2				eAP	pP	10 53 54.0	+0.5
CN2				eS	S	11 01 12.4	+2.2
CN2				AMB	AMB		
	comp=Z,50nm,1.1s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
TPH	Tonopah	80.07	45	eP	P	10 51 52.7	-0.1
TPH				pmax	pmax		
	comp=Z,113nm,1.0s,mb5.2						
TPH	Tonopah	80.07	45	eP	P	10 51 52.7	0.0
	comp=Z,112nm,1.0s,mb5.2						
H03A	Soap Creek Ran	80.07	36	⇑P	P	10 51 52.9	+0.1
	baz=80,SNR=36						
O07A	Toulon	80.11	42	P	P	10 51 53.3	+0.3
	baz=80,SNR=99						
HBO	Huckleberry Mo	80.13	38	P	P	10 51 53.1	0.0
KLR	Kul'dur	80.13	329	eP	P	10 51 49.2	-3.9
TPNV	Topopah Spring	80.14	46	⇑iP	P	10 51 53.2	+0.1
TPNV				pmax	pmax		
	comp=Z,89nm,0.9s,mb5.1						
TPNV	Topopah Spring	80.14	46	⇑iP	P	10 51 53.2	+0.1
	comp=Z,89nm,0.9s,mb5.1						
MOD	Modoc	80.20	40	⇑iP	P	10 51 53.6	+0.1
	comp=Z,168nm,0.7s,mb5.5						
NEE	Needles	80.21	49	⇓P	P	10 51 54.1	+0.6
	baz=80						
W12A	Cal Nev Ari	80.26	48	⇑P	P	10 51 54.2	+0.4
	baz=80,SNR=29						
IRO	Indian Ridge	80.26	38	P	P	10 51 53.7	-0.1
Y13A	Salome	80.27	50	⇓P	P	10 51 54.6	+0.8
	baz=80,SNR=68						
BROR	Big Rock Looko	80.30	37	P	P	10 51 53.7	-0.3
P08A	Dixie Valley	80.37	43	⇓P	P	10 51 54.8	+0.4
	baz=81,SNR=21						
N07B	Gerlach	80.40	42	⇑P	P	10 51 54.6	+0.1
	baz=81,SNR=62						
Q09A	Carvers	80.50	44	⇓P	P	10 51 55.3	+0.3
	baz=81,SNR=34						
WHN	Wuhan	80.58	306	⇑P	P	10 51 56.0	+0.6
M07A	Soldier Meadow	80.61	41	P	P	10 51 56.1	+0.5
	baz=81,SNR=145						
O08A	Rochester Mine	80.64	42	⇑P	P	10 51 56.0	+0.3
	baz=81,SNR=5.7						
X13A	Yucca	80.65	49	⇓P	P	10 51 56.2	+0.4
	baz=81,SNR=65						
SSOR	Sweet Springs	80.65	37	P	P	10 51 55.5	-0.3
F03A	Seaside	80.69	35	⇑P	P	10 51 55.9	-0.1
	baz=81,SNR=8.5						
Z14A	Wintersburg	80.69	51	⇑P	P	10 51 56.7	+0.7
	baz=81,SNR=66						
H04A	Detroit Lake	80.70	37	⇓P	P	10 51 55.5	-0.5
	baz=81,SNR=74						
K06A	Valley Falls	80.74	39	P	P	10 51 56.6	+0.3
	baz=81,SNR=140						
BKCOR	Black Crater	80.76	38	P	P	10 51 56.4	+0.1
G04A	Mulino	80.85	36	⇓P	P	10 51 56.5	-0.4
	baz=81,SNR=12						
W13A	Hualapai Mount	80.85	49	⇓P	P	10 51 57.4	+0.5
	baz=81,SNR=43						
P09A	Austin	80.90	43	⇑P	P	10 51 57.2	+0.1
	baz=81,SNR=87						
115A	Sonoran Desert	80.91	51	⇓P	P	10 51 57.7	+0.6
	baz=81,SNR=42						
I05A	Bend	80.92	38	⇓P	P	10 51 57.2	0.0
	baz=81,SNR=39						
SVW2	Sparrevohn	80.93	11	eP	P	10 51 54.9	-2.3
Y14A	Wickenburg	80.93	50	⇓P	P	10 51 57.5	+0.3
	baz=81,SNR=70						
J06A	Christmas Vall	81.06	39	⇓P	P	10 51 57.6	-0.4
	baz=81,SNR=140						
E03A	Lebam	81.07	35	⇓P	P	10 51 57.9	-0.1
	baz=81,SNR=28						
M08A	Happy Creek Ra	81.14	41	⇑P	P	10 51 58.9	+0.6
	baz=81,SNR=85						
O09A	Fish Creek Ran	81.20	43	⇑P	P	10 51 58.8	+0.2
	baz=81,SNR=85						
H05A	Madras	81.23	37	⇓P	P	10 51 58.7	-0.1
	baz=81,SNR=46						
MA2	Magadan	81.24	345	c iP	P	10 51 55.0	-3.8
MA2				pmax	pmax		
	comp=Z,48nm,1.3s,mb4.8						
116A	Eloy	81.24	52	⇓P	P	10 51 59.6	+0.8
	baz=81,SNR=49						
X14A	Yava	81.27	50	⇑P	P	10 51 59.7	+0.7
	baz=81,SNR=127						
TDH	Tom, Dick, Har	81.29	37	P	P	10 51 58.9	-0.2
D03A	Wishkah Elem.	81.31	34	⇑P	P	10 51 59.4	+0.2
	baz=82,SNR=12						
F04A	Amboy	81.32	36	P	P	10 51 58.9	-0.4
	baz=82,SNR=26						
BMN	Battle Mountai	81.32	43	⇑eP	P	10 51 59.2	0.0
BMN				pmax	pmax		
	comp=Z,150nm,0.9s,mb5.4						
BMN	Battle Mountai	81.32	43	⇑eP	P	10 51 59.2	-0.1
	comp=Z,149nm,0.9s,mb5.4						
N09A	Rock Creek Ran	81.36	42	⇑P	P	10 51 59.8	+0.4
	baz=82,SNR=80						
C03A	Quillayute Air	81.40	33	⇑P	P	10 51 59.9	+0.3
	baz=82						
I06A	Prineville	81.42	38	P	P	10 52 00.3	+0.6
	baz=82,SNR=191						
OOW	Octopus West	81.47	34	P	P	10 52 00.5	+0.5
OCWA	Octopus Mounta	81.48	34	eP	P	10 52 00.3	+0.2
	comp=Z,196nm,0.7s,mb5.7						
SLKM	Skilak Lake	81.48	14	eP	P	10 51 58.5	-1.6
W14A	Seligman	81.49	49	P	P	10 52 01.1	+1.0
	baz=82,SNR=123						
VFP	Flag Point	81.49	37	P	P	10 51 60.0	-0.1
G05A	Wamic	81.53	37	⇓P	P	10 52 00.2	-0.1
	baz=82,SNR=20						
E04A	Onalaska	81.55	35	⇑P	P	10 52 00.8	+0.4
	baz=82,SNR=7.3						
OTR	Olympics--Tyee	81.60	33	P	P	10 52 01.1	+0.4
GAMB	Gambell	81.66	3	⇑eP	P	10 52 00.0	-1.0
M09A	Marrel Ranch,	81.71	42	⇑P	P	10 52 01.7	+0.5
	baz=82,SNR=81						
X15A	Humboldt	81.75	50	⇓P	P	10 52 02.4	+0.9
	baz=82,SNR=164						
TUC	Tucson	81.82	52	⇑eP	P	10 52 02.7	+0.9
TUC				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.4						
TUC	Tucson	81.82	52	⇑eP	P	10 52 02.7	+0.9
	comp=Z,141nm,1.2s,mb5.4						
D04A	Dobbs Creek Ra	81.82	35	⇑P	P	10 52 02.2	+0.4
	baz=82,SNR=6.2						
F05A	White Salmon	81.83	36	⇓P	P	10 52 01.5	-0.3
	baz=82,SNR=31						
L09A	Wilkinson Ranc	81.89	41	⇓P	P	10 52 02.4	+0.2
	baz=82,SNR=120						
N10A	Dunphy	81.93	43	⇓P	P	10 52 02.8	+0.4
	baz=82,SNR=51						
HDW	Hoodsport	82.02	34	P	P	10 52 03.0	+0.2
B04A	Port Angeles	82.03	34	⇑P	P	10 52 02.8	-0.1
	baz=82,SNR=9.9						
W15A	Williams	82.06	49	⇑P	P	10 52 03.9	+0.9
	baz=82,SNR=23						
E05A	Randle	82.06	36	P	P	10 52 02.6	-0.4
	baz=82,SNR=52						
C04A	Brinnon	82.10	34	P	P	10 52 03.3	+0.1
	baz=82,SNR=36						
LON	Longmire	82.15	35	P	P	10 52 02.7	-0.8
D05A	Enumclaw	82.31	35	P	P	10 52 04.5	+0.2
	baz=82,SNR=49						
FMW	Mount Fremont	82.33	35	P	P	10 52 04.3	-0.1
P12A	McGill	82.33	44	P	P	10 52 04.7	+0.3
	baz=82,SNR=68						
M10A	I.L. Ranch, Tu	82.34	42	⇑P	P	10 52 04.9	+0.5
	baz=82,SNR=136						
IPM	Ipoh	82.34	277	P	P	10 52 05.4	+1.0
PGC	Sidney	82.42	33	⇑eP	P	10 52 04.0	-0.9
	comp=Z,250nm,0.9s,mb5.7						
CCUT	Cedar City	82.43	47	⇑iP	P	10 52 05.4	+0.5
CCUT				ePP	PP	10 55 23.4	-1.1
N11A	Elko Archery C	82.48	43	⇓P	P	10 52 05.3	+0.1
	baz=83,SNR=18						
ARUT	Antelope Range	82.49	46	eP	P	10 52 05.5	+0.3
TTA	Tatalina	82.56	10	eP	P	10 52 04.5	-1.0
RMW	Rattlesnake Mo	82.58	35	P	P	10 52 05.4	-0.2
EYAK	Cordova Ski Ar	82.60	16	⇑iP	P	10 52 03.9	-1.8
CRAG	Craig	82.62	24	eP	P	10 52 05.1	-0.7
SNB	Saturna Island	82.64	33	P	P	10 52 05.8	-0.1
PMR	Palmer	82.69	14	eP	P	10 52 04.1	-2.1
PMR				pmax	pmax		
	comp=Z,55nm,0.4s,mb5.4						
PMR	Palmer	82.69	14	eP	P	10 52 04.1	-2.1
	comp=Z,55nm,0.4s,mb5.4						
M11A	Holland Ranch,	82.77	42	⇓P	P	10 52 07.2	+0.6
	baz=83,SNR=64						
ELK	Elko	82.77	43	⇑eP	P	10 52 06.5	-0.1
ELK				pmax	pmax		
	comp=Z,100nm,1.0s						
ELK	Elko	82.77	43	⇑iP	P	10 52 06.5	-0.1
	comp=Z,104nm,1.0s,mb5.3						
ELK				PP	PP	10 55 25.7	-1.5
C05A	Tolt Reservoir	82.78	35	⇑P	P	10 52 06.0	-0.6
	baz=83,SNR=58						
O12A	Currie	82.85	44	⇑P	P	10 52 07.1	+0.2
	baz=83,SNR=97						
A04A	Legoe Bay, Lum	82.85	34	⇓P	P	10 52 06.9	-0.1
	baz=83,SNR=56						
B05A	Bryant	82.90	34	⇓P	P	10 52 06.9	-0.3
	baz=83,SNR=16						
KULM	Kulim	82.95	278	⇓iP	P	10 52 08.1	+0.6
KULM				ePP	PP	10 55 26.1	-2.6
N12A	Wells--Clov Va	82.96	43	P	P	10 52 07.9	+0.4
	baz=83,SNR=122						
SIT	Sitka	82.98	22	eP	P	10 52 06.6	-1.0
SIT				pmax	pmax		
	comp=Z,89nm,1.1s,mb5.2						
SIT	Sitka	82.98	22	eP	P	10 52 06.6	-1.0
	comp=Z,89nm,1.1s,mb5.2						
SML	Sawmill	83.06	14	eP	P	10 52 02.1	-6.0
DIV	Divide	83.09	15	eP	P	10 52 06.6	-1.6
	comp=Z,345nm,0.7s,mb6.0						
HAWA	Hanford	83.22	37	⇑iP	P	10 52 08.5	-0.3
	comp=Z,13nm,0.9s,mb4.5						
H2OWA	Water	83.28	37	P	P	10 52 09.0	-0.1
M12A	Wells	83.33	43	⇓P	P	10 52 09.6	+0.2
	baz=84,SNR=118						
A05A	Maple Falls	83.35	34	P	P	10 52 08.7	-0.8
	baz=84,SNR=14						
N13A	West Wendover	83.50	43	⇑P	P	10 52 10.4	+0.2
	baz=84,SNR=87						
SNG	Songkhla	83.59	280	P	P	10 52 12.0	+1.3
	comp=Z,534nm,1.0s,mb6.0						
MSU	Marysvale	83.71	46	eP	P	10 52 11.9	+0.6
MSU				e		10 55 33.2	
EPH	Ephrata	83.73	36	P	P	10 52 10.8	-0.6
MAW	Mawson	83.76	200	⇓iP	P	10 52 10.8	-0.7
	comp=Z,16nm,0.8s,mb4.6						
MAW	Mawson	83.76	200	P	P	10 52 10.9	-0.6
	comp=Z,21nm,0.7s,mb4.8,baz=131,slow=5.4,SNR=35						
MAW	Mawson	83.76	200	P	P	10 52 10.9	-0.6
MAW				pmax	pmax		
	comp=Z,21nm,0.7s						
BJT	Baijiatuau	83.77	315	eP	P	10 52 11.4	-0.1
BJT				pmax	pmax		
	comp=Z,32nm,0.9s						
BJT	Baijiatuau	83.77	315	eP	P	10 52 11.4	-0.2
	comp=Z,32nm,0.9s,mb4.8						
M13A	Montello	83.78	43	P	P	10 52 11.8	+0.1
	baz=84,SNR=120						
DUG	Dugway	84.09	45	P	P	10 52 12.9	-0.3
DUG				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
DUG	Dugway	84.09	45	eP	P	10 52 12.6	-0.6
	comp=Z,15nm,0.8s,mb4.6						
BGU	Big Grassy Mou	84.31	44	eP	P	10 52 13.7	-0.5
TSI	Tuntungan	84.36	276	iP	P	10 52 11.3	-3.1
NLU	North Lily Min	84.47	45	eP	P	10 52 14.9	-0.1
NLU				ePP	PP	10 55 39.6	-1.3
MCK	McKinley	84.63	13	P	P	10 52 13.7	-2.1
MCK				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.2						
MCK	McKinley	84.63	13	⇑eP	P	10 52 13.6	-2.2
	comp=Z,58nm,0.9s,mb5.2						
HLID	Hailey	84.74	41	⇑iP	P	10 52 16.5	+0.2
	comp=Z,77nm,0.8s,mb5.4						
HLID				ePP	PP	10 55 41.1	-1.9
TMUT	Trail Mountain	84.75	46	⇑eP	P	10 52 16.9	+0.6
NOQ	North Oquirrh	84.78	44	eP	P	10 52 16.2	-0.3
	comp=Z,38nm,0.9s,mb5.0						
NOQ				ePP	PP	10 55 40.5	-2.9
SKAG	Skagway	84.80	21	eP	P	10 52 16.1	-0.5
	comp=Z,190nm,1.6s,mb5.5						
SKAG				LR	LR		
	comp=Z,100nm,17.0s						
MPU	Maple Canyon	84.80	45	eP	P	10 52 15.9	-0.7
	comp=Z,35nm,0.9s,mb5.0						
MPU				ePP	PP	10 55 40.0	-3.5
SPUT	South Promonto	84.88	44	eP	P	10 52 16.8	-0.2
HVU	Hansel Valley	84.90	43	⇑eP	P	10 52 17.0	-0.1
HVU				e		10 55 42.7	
HVU				pmax	pmax		
	comp=Z,145nm,1.4s,mb5.4						
HVU	Hansel Valley	84.90	43	⇑eP	P	10 52 17.0	-0.1
	comp=Z,145nm,1.4s,mb5.4						
HVU				ePP	PP	10 55 42.7	-1.6
GYA	Guiyang	84.99	300	⇓iP	P	10 52 18.0	+0.5
GYA				AP	pP	10 54 16.9	-3.5
GYA				XP	sP	10 55 10.3	-7.9
GYA				PP	PP	10 55 46.2	+1.1
GYA				SKS		11 01 48.7	
GYA				S		11 02 06.1	
GYA				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.1						
GYA				AMB	AMB		
	comp=Z,310nm,5.2s						
CTU	Camp Tracy	85.05	45	eP	P	10 52 17.6	-0.2
	comp=Z,36nm,0.9s,mb5.0						
CTU				ePP	PP	10 55 42.9	-2.6
SRU	San Rafael	85.13	46	P	P	10 52 18.3	+0.1
SRU				pmax	pmax		
	comp=Z,72nm,0.8s,mb5.3						
SRU	San Rafael	85.13	46	eP	P	10 52 18.2	0.0
	comp=Z,72nm,0.8s,mb5.3						
MENT	Mentasta	85.14	15	eP	P	10 52 16.8	-1.5
DAU	Daniels Canyon	85.24	45	eP	P	10 52 18.8	+0.1
DAU				e		10 55 46.1	
TCUT	Toone Canyon	85.48	44	eP	P	10 52 19.9	0.0
TCUT				ePP	PP	10 55 47.6	-1.3
HWUT	Hardware Ranch	85.61	44	eP	P	10 52 19.9	-0.5
	comp=Z,26nm,0.7s,mb5.0						
HWUT				ePP	PP	10 55 47.5	-2.4
NEW	Newport	85.62	36	P	P	10 52 19.7	-0.9
NEW				pmax	pmax		
	comp=Z,54nm,0.8s						
NEW	Newport	85.62	36	⇑iP	P	10 52 19.3	-1.3
	comp=Z,54nm,0.8s,mb5.2						
MNTX	Cornudas Mount	85.69	55	eP	P	10 52 21.1	+0.3
	comp=Z,71nm,1.0s,mb5.2						
MVCO	Mesa Verde	85.69	49	eP	P	10 52 20.4	-0.5
MVCO				ePP	PP	10 55 49.2	-1.5
COLA	College	85.86	13	c iP	P	10 52 19.3	-2.4
COLA	College	85.86	13	⇑iP	P	10 52 19.2	-2.5
	comp=Z,122nm,1.0s,mb5.5						
DLBC	Dease Lake	85.93	23	⇑iP	P	10 52 21.2	-0.8
LTX	Lajitas	86.11	58	P	P	10 52 24.3	+1.4
LTX				pmax	pmax		
	comp=Z,170nm,1.0s,mb5.6						
LTX	Lajitas	86.11	58	⇑iP	P	10 52 24.1	+1.2
	comp=Z,169nm,0.9s,mb5.7						
ANMO	Albuquerque	86.21	52	P	P	10 52 23.6	+0.2
	comp=Z,46nm,1.0s,mb5.1,baz=235,slow=4.6,SNR=93						
ANMO	Albuquerque	86.21	52	P	P	10 52 23.6	+0.2
ANMO				pmax	pmax		
	comp=Z,64nm,1.0s						
ANMO	Albuquerque	86.21	52	⇑iP	P	10 52 23.3	-0.1
	comp=Z,64nm,1.1s,mb5.2						
XAN	Xi'an	86.23	307	P	P	10 52 24.0	+0.6
XAN				S		11 02 13.8	
XAN				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.5						
XAN				AMB	AMB		
	comp=Z,120nm,7.3s						
MCMT	McKenzie Canyo	86.35	41	eP	P	10 52 23.6	-0.4
AHID	Auburn Hatcher	86.46	43	eP	P	10 52 24.3	-0.2
	comp=Z,68nm,1.0s,mb5.2						
USHA	Ushuaia	86.49	147	P	P	10 52 23.3	-1.4
	comp=Z,12nm,0.9s,mb4.5,baz=354,slow=9.2,SNR=2.0						
BILL	Bilibino	86.49	354	c iP	P	10 52 22.5	-2.2
BILL				e		10 55 52.9	
BILL				ePPP		10 57 54.1	
BILL				eS		11 01 53.0	
BILL				eSS	SS	11 08 11.4	+0.1
BILL				pmax	pmax		
	comp=Z,55nm,1.7s,mb4.9						
BILL	Bilibino	86.49	354	eP	P	10 52 22.7	-2.0
	comp=Z,26nm,0.9s,mb4.9						
MSO	Missoula	86.70	38	eP	P	10 52 24.4	-1.3
	comp=Z,18nm,0.5s,mb5.1						
MSO				ePP	PP	10 55 54.7	-3.8
DLMT	Dillon	86.77	40	⇑iP	P	10 52 25.9	-0.1
	comp=Z,109nm,0.8s,mb5.6						
DLMT				ePP	PP	10 55 57.5	-1.7
DCID1	Drake Creek	86.80	42	eP	P	10 52 26.4	+0.3
DCID1				ePP	PP	10 55 57.1	-2.3
NST	Nakhon Sawan	86.83	287	P	P	10 52 28.1	+1.8
TPAW	Teton Pass	86.90	42	⇑eP	P	10 52 26.5	0.0
	comp=Z,95nm,0.9s,mb5.5						
TPAW				ePP	PP	10 55 57.0	-3.2
REDW	Red Top Meadow	86.90	42	⇑iP	P	10 52 26.6	0.0
	comp=Z,188nm,1.1s,mb5.7						
REDW				ePP	PP	10 55 58.5	-1.7
IMW	Indian Meadow	87.10	42	⇑iP	P	10 52 27.7	+0.2
	comp=Z,144nm,0.8s,mb5.8						
IMW				ePP	PP	10 55 59.5	-2.3
CHMT	Chamberlain Mo	87.15	39	eP	P	10 52 27.0	-0.7
MOOW	Moose Ponds	87.15	42	eP	P	10 52 27.6	-0.2
	comp=Z,55nm,1.0s,mb5.2						
MOOW				ePP	PP	10 55 59.3	-2.9
LOHW	Long Hollow	87.18	42	⇑iP	P	10 52 27.9	0.0
	comp=Z,66nm,0.7s,mb5.5						
LOHW				ePP	PP	10 55 59.4	-3.0
DAWY	Dawson	87.18	16	eP	P	10 52 26.4	-1.5
DAWY				ePP	PP	10 55 54.6	-7.8
QLMT	Earthquake Lak	87.23	41	eP	P	10 52 28.8	+0.6
HHC	Hu-ho-hao-te	87.26	314	⇑eP	P	10 52 29.2	+0.9
HHC				AP	pP	10 54 28.3	-3.8
HHC				XP	sP	10 55 21.5	-8.1
HHC				PP	PP	10 56 06.2	+3.2
HHC				SKS		11 02 04.5	
HHC				S		11 02 23.3	
HHC				XS	sS	11 05 53.2	-8.1
HHC				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
HHC				AMB	AMB		
	comp=Z,90nm,4.2s						
FLWY	Flagg Ranch	87.34	42	⇑iP	P	10 52 29.0	+0.4
	comp=Z,161nm,0.9s,mb5.8						
FLWY				ePP	PP	10 56 01.0	-2.7
YFT	Old Faithful	87.43	42	eP	P	10 52 30.4	+1.4
YMR	Madison River	87.45	41	⇑iP	P	10 52 29.9	+0.7
	comp=Z,135nm,0.9s,mb5.7						
PDAR	Pinedale Array	87.47	43	P	P	10 52 28.8	-0.4
	comp=Z,54nm,0.6s,mb5.5,baz=218,slow=3.1,SNR=494						
PDAR				PP	PP	10 56 02.4	-2.3
	comp=Z,6.9nm,0.9s,baz=243,slow=6.5,SNR=15						
BOZ	Bozeman (W)	87.50	40	P	P	10 52 29.4	0.0
BOZ				pmax	pmax		
	comp=Z,66nm,1.1s,mb5.3						
BOZ	Bozeman (W)	87.50	40	⇑iP	P	10 52 29.2	-0.2
	comp=Z,66nm,1.2s,mb5.2						
LKWY	Lake	87.76	42	P	P	10 52 32.1	+1.5
LKWY				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.5						
LKWY	Lake	87.76	42	eP	P	10 52 32.0	+1.4
	comp=Z,117nm,1.1s,mb5.5						
KMI	Kunming	87.78	297	P	P	10 52 32.3	+1.6
KMI				AP	pP	10 54 33.0	-1.7
KMI				PP	PP	10 56 03.8	-3.4
KMI				PPP		10 58 11.2	
KMI				SKS		11 02 05.1	
KMI				S		11 02 25.4	
KMI				PS		11 04 49.7	
KMI				XS	sS	11 06 05.1	-1.5
KMI				SS	SS	11 08 30.5	+0.7
KMI				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,120nm,6.2s						
WALA	Waterton Lakes	87.85	36	eP	P	10 52 30.2	-0.9
	comp=Z,58nm,0.8s,mb5.4						
HRY	Holter Researc	87.90	39	eP	P	10 52 30.8	-0.5
RWWY	Rawlins	88.55	45	⇑eP	P	10 52 34.0	-0.3
	comp=Z,113nm,1.0s,mb5.7						
RWWY				e		10 56 10.7	
GCMT	Greycliff	88.78	41	eP	P	10 52 35.4	0.0
CHG	Chiang Mai	88.94	290	P	P	10 52 37.1	+1.0
	comp=Z,60nm,1.0s,mb5.4						
CHTO	Chiang Mai	88.94	290	⇓eP	P	10 52 37.0	+0.9
CHTO				e		10 56 22.4	
CHTO				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.3						
CHTO	Chiang Mai	88.94	290	⇓eP	P	10 52 37.0	+0.9
	comp=Z,45nm,0.8s,mb5.3						
CHTO				e		10 56 22.4	
CD2	Chengdu	89.03	303	eP	P	10 52 35.8	-0.7
CD2				AP	pP	10 54 40.8	-0.1
CD2				XP	sP	10 55 36.6	-1.6
CD2				PP	PP	10 56 18.8	+1.9
CD2				SKS		11 02 11.0	
CD2				S		11 02 35.6	
CD2				XS	sS	11 06 16.6	-2.2
CD2				SS	SS	11 08 51.3	+3.6
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
CD2				AMB	AMB		
	comp=Z,90nm,5.9s						
SYO	Syowa Base	89.06	193	⇑eP	P	10 52 34.5	-2.2
CMIG	Matias Romero	89.34	72	P	P	10 52 38.4	+0.4
	com

CIT e 10 56 31.5
CIT e 11 02 53.1
CIT pmax pmax
comp=Z,24nm,1.9s,mb4.8
LAO LASA Array 91.33 41⇑ *eP* **P 10 52 47.4 +0.3**
comp=Z,115nm,0.8s,mb5.9
VNA1 Neumayer--Stat 91.34 177 *eP* **P 10 52 47.0 -0.2**
VNA1 e 10 52 48.5
VNA1 e 10 52 51.0
PLCA Paso Flores 91.35 134 P **P 10 52 47.4 +0.1**
comp=Z,3.2nm,1.0s,baz=184,slow=4.6,SNR=3.6
INK Inuvik 91.98 15 *eP* **P 10 52 47.8 -2.3**
INK pmax pmax
comp=Z,54nm,0.9s
INK Inuvik 91.98 15 *eP* **P 10 52 47.8 -2.4**
comp=Z,54nm,0.8s,mb5.6
CBKS Cedar Bluff 92.67 50 P **P 10 52 53.4 +0.1**
CBKS pmax pmax
comp=Z,89nm,1.2s,mb5.7
CBKS Cedar Bluff 92.67 50 *eP* **P 10 52 52.8 -0.6**
comp=Z,89nm,1.2s,mb5.7
HKT Hockley 92.69 60 P **P 10 52 53.5 +0.1**
HKT pmax pmax
comp=Z,38nm,1.5s,mb5.2
HKT Hockley 92.69 60 *eP* **P 10 52 53.4 0.0**
comp=Z,38nm,1.5s,mb5.2
ULN Ulaanbaatar 93.15 319 *ceP* **P 10 52 55.2 -0.3**
ULN Ulaanbaatar 93.15 319 *eP* **P 10 52 54.1 -1.4**
comp=Z,15nm,1.0s,mb5.0
SONM Songino Array 93.55 319 P **P 10 52 57.2 -0.1**
comp=Z,6.6nm,0.6s,mb4.6,baz=132,slow=4.4,SNR=12
SONM PP PP 10 56 49.2 -2.8
comp=Z,2.2nm,0.8s,baz=126,slow=7.5,SNR=3.7
NATX Nacogdoches 94.23 58 *eP* **P 10 53 00.5 +0.1**
YKA Yellowknife Ar 94.44 25 P **P 10 52 59.6 -1.8**
comp=Z,14nm,0.7s,mb5.2,baz=237,slow=4.6,SNR=117
YKA PP PP 10 56 50.8 -7.9
comp=Z,1.4nm,0.7s,baz=241,slow=6.9,SNR=3.9
YKA PKKP PKKPbc 11 09 50.8 -6.3
comp=Z,0.2nm,0.4s,baz=34,slow=2.5,SNR=4.4
YKA Yellowknife Ar 94.44 25 P **P 10 52 59.6 -1.7**
YKA PP PP 10 56 50.8 -8.0
YKA PKKP PKKPbc 11 09 50.9 -6.3
YKW3 Yellowknife Ar 94.47 25 *eP* **P 10 52 59.5 -2.0**
GTA Gaotai 95.01 310 *eP* **P 10 53 04.4 +0.4**
GTA XP sP 10 56 07.3 +1.3
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
TIXI Tiksi 96.20 345 *eP* **P 10 53 04.7 -4.6**
TIXI *e*S 11 02 44.3
TIXI *e*SSS 11 14 17.2
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
ZAK Zakamensk 96.39 321 *eP* **P 10 53 08.7 -1.5**
ZAK *e* 10 57 17.3
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.5
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.8
TLY Talaya 96.63 322 *eP* **P 10 53 10.0 -1.2**
TLY *e* 10 57 22.9
TLY *e*S 11 03 36.1
TLY *e* 11 05 14.1
TLY pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
ULM Lac du Bonnet 99.02 40 P Pdif 10 53 21.9 0.0
comp=Z,3.9nm,0.9s,baz=250,slow=4.1,SNR=5.0
ULM PKKP PKKPbc 11 09 41.8 -3.1
comp=Z,1.0nm,0.4s,baz=261,slow=4.8,SNR=3.3
FCC Fort Churchill 102.33 32 *eP* Pdif 10 53 34.7 -1.9
FCC pmax pmax
comp=Z,7.0nm,0.6s
FCC Fort Churchill 102.33 32 *eP*Pdif Pdif 10 53 34.7 -1.9
comp=Z,6.8nm,0.6s
LPAZ La Paz 103.45 112 Pdiff Pdif 10 53 43.0 +1.5
comp=Z,0.6nm,0.6s,baz=262,slow=7.1,SNR=2.8
LPAZ PKKP PKKPbc 11 09 32.9 +0.6
comp=Z,1.0nm,0.6s,baz=82,slow=2.2,SNR=5.1
MKAR Makanchi Array 109.12 314 Pdiff Pdif 10 54 04.9 -1.9
comp=Z,0.4nm,0.4s,baz=96,slow=11,SNR=7.2
MKAR PKiKP PKiKP 10 58 05.3 -1.9
comp=Z,2.7nm,0.5s,baz=167,slow=0.6,SNR=26
POO Poona 111.76 283 *ex* x 10 58 48.0
KURK Kurchatov 111.82 318*c i*PKIKP PKiKP 10 58 10.1 -2.2
AAK Ala-Archa 114.36 309⇑*i*PKIKP PKiKP 10 58 14.7 -2.5
SCHQ Schefferville 116.97 37 PKP PKPdf 10 58 19.3 -2.9
comp=Z,2.6nm,0.8s,baz=40,slow=3.6,SNR=3.4
SCHQ Schefferville 116.97 37 PKP PKPdf 10 58 19.3 -2.9
ZRNK Zerenda 117.68 321 *e*PKIKP PKPdf 10 58 21.2 -2.4
ARU Arti 122.86 326 *i* PKIKP PKPdf 10 58 31.0 -2.5
ARU *e* 11 00 16.9
ARU Arti 122.86 326 *e*PKPdf PKPdf 10 58 31.7 -1.9
ARCES ARCESS Array B 126.37 350 PKP PKPdf 10 58 38.2 -2.0
comp=Z,11nm,0.9s,baz=38,slow=2.2,SNR=9.6
BOSA Boshof 128.29 207 PKP PKPdf 10 58 44.1 +0.2
comp=Z,5.7nm,0.8s,baz=124,slow=1.2,SNR=12
BOSA Boshof 128.29 207 PKIKP PKPdf 10 58 45.0 +1.1
BOSA Boshof 128.29 207 *e*PKPdf PKPdf 10 58 43.9 0.0
BOSA *e*SKP 11 01 11.2
JOF Joensuu 130.60 343 *e*pkp 10 58 40.8
KAF Kangasniemi 132.61 344 *e*pkp 10 58 43.9
FINES FINESS Array B 133.23 344 PKhKP 10 58 45.6
comp=Z,0.7nm,0.5s,baz=96,slow=1.9,SNR=5.8
FINES PKP PKPdf 10 58 51.7 -1.5
comp=Z,1.3nm,0.4s,baz=123,slow=3.6,SNR=11
FINES SKPbc SKPbc 11 01 26.9 -1.4
comp=Z,6.3nm,1.0s,baz=48,slow=2.8,SNR=8.6
FINES FINESS Array B 133.23 344 PKP PKPdf 10 58 51.7 -1.5
FINES SKPbc SKPbc 11 01 26.9 -1.4
NB2 NORSAR Subarra136.44 353 PKPa 10 58 45.7
comp=Z,1.4nm,0.8s,baz=16,slow=3.2
NOA NORSAR Array B 136.44 353 PKhKP 10 58 50.2
comp=Z,1.4nm,0.7s,baz=22,slow=3.9,SNR=6.6
NOA PKP PKPdf 10 58 57.7 -1.5
comp=Z,2.1nm,0.8s,baz=13,slow=4.0,SNR=5.9
NOA SKPbc SKPbc 11 01 37.0 -1.2
comp=Z,4.8nm,0.9s,baz=15,slow=4.5,SNR=6.7
NOA SKPab 11 01 43.8
comp=Z,1.1nm,0.7s,baz=6.8,slow=6.7,SNR=3.3
NOA NORSAR Array B 136.44 353 PKP PKPdf 10 58 57.7 -1.5
NOA SKPbc SKPbc 11 01 37.0 -1.3
NOA SKPab 11 01 43.8
GNI Garni 136.76 310*c i*PKIKP PKPdf 10 59 01.5 +1.7
KIV Kislovodsk 136.84 316 *i* PKIKP PKPdf 10 58 59.8 -0.2
LSZ Lusaka 137.76 220 PKHKP 10 58 55.4
TSUM Tsumeb 139.81 204 *e*PKPpre 10 58 59.4
KMBO Kilima Mbogo 140.02 245 PKhKP 10 58 59.2
comp=Z,3.4nm,0.6s,baz=85,slow=4.1,SNR=11
KMBO PKP PKPdf 10 59 06.8 +1.1
comp=Z,4.2nm,0.7s,baz=88,slow=1.9,SNR=4.4
KMBO Kilima Mbogo 140.02 245 *e*PKPpre 10 59 00.3
KMBO PKP PKPdf 10 59 06.8 +1.1
AKASG Malin Array Be 140.58 332 PKhKP 10 58 59.1
comp=Z,1.2nm,0.3s,baz=43,slow=4.3,SNR=12
AKASG PKP PKPdf 10 59 03.9 -2.9
comp=Z,2.8nm,0.5s,baz=45,slow=3.9,SNR=8.8
AKASG SKPbc SKPbc 11 01 48.0 -1.7
comp=Z,0.3nm,0.3s,baz=41,slow=3.8,SNR=4.7
AKASG SKPab 11 02 01.6
comp=Z,2.8nm,0.8s,baz=40,slow=4.7,SNR=7.3
AKASG Malin Array Be 140.58 332 *i* PKHKP 10 58 59.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG pmax pmax
comp=N,3.0nm,0.8s
AKASG Malin Array Be 140.58 332 PKP PKPdf 10 59 03.9 -2.9
AKASG SKPbc SKPbc 11 01 48.0 -1.7
AKASG SKPab 11 02 01.6
MALT Malatya 141.99 310⇑ *i* P PKPdf 10 59 06.1 -3.2
MALT Malatya 141.99 310 *e*PKPpre 10 59 05.5
ESY Stoneypath 142.00 4 *eP* PKPdf 10 59 03.8 -5.5
ESY AMb AMB 10 59 10.8
comp=Z,28nm,1.1s
EAU Auchinoon 142.02 5⇑ *eP* PKPdf 10 59 04.1 -5.3
EAU AMb AMB 10 59 08.8
comp=Z,53nm,1.4s
GMK Mull of Kintyr 142.31 7 *eP* PKPdf 10 59 04.7 -5.2
SVSK Karacayir 142.38 313 *eP* PKPdf 10 59 07.5 -2.4
GCL Cushendall 142.51 7⇑ *eP* PKPdf 10 59 05.3 -4.9
ESK Eskdalemuir 142.56 4 *eP* PKPdf 10 59 04.8 -5.5
ESK Eskdalemuir 142.56 4 PKHKP 10 59 05.6
ESK Eskdalemuir 142.56 4 *e*PKPpre 10 59 05.2
BWH Wardlaw 142.66 5 *eP* PKPdf 10 59 05.1 -5.4

GAL1 Galloway 142.88 6⇑ *eP* PKPdf 10 59 06.6 -4.3
GZT Gaziantep 142.98 309 *i* P PKPdf 10 59 09.0 -2.0
BOYT Boyabat 143.11 316 *i* P PKPdf 10 59 09.8 -1.5
BBO1 Bothel 143.13 5 *eP* PKPdf 10 59 07.3 -4.0
BYBT Boyabat 143.17 317 *eP* PKPdf 10 59 10.0 -1.4
CKE Keswick 143.29 4⇑ *eP* PKPdf 10 59 08.3 -3.3
GAZ Gaziantep 143.31 309 *eP* PKPdf 10 59 10.3 -1.3
XDE Dent Fell 143.34 5⇑ *eP* PKPdf 10 59 08.3 -3.4
XDE AMb AMB 10 59 09.5
comp=Z,115nm,1.2s
GMM Mts of Mourne 143.36 7⇑ *eP* PKPdf 10 59 08.2 -3.5
CDU1 Dunnerdale 143.53 5⇑ *eP* PKPdf 10 59 08.9 -3.1
CTKT Corum 143.57 315 *i* P PKPdf 10 59 11.5 -0.5
WIM Isle of Man 143.59 6⇑ *eP* PKPdf 10 59 09.3 -2.8
BNN Bunyan 143.63 312 *eP* PKPdf 10 59 11.3 -0.9
CORM Corum 143.88 315 *eP* PKPdf 10 59 12.5 -0.1
BALT Daday 144.04 318 *i* P PKPdf 10 59 12.5 -0.3
DCN Croghan 144.05 9 *eP* PKPdf 10 59 10.0 -2.9
DLF Lyons Farm 144.21 8 *eP* PKPdf 10 59 10.7 -2.5
KOZT Kozan 144.21 310 *eP* PKPdf 10 59 11.7 -1.5
RUE Ruedersdorf 144.25 347 *e*PKPbc PKPdf 10 59 12.1 -1.1
COBT Iskenderun 144.26 308 *i* P PKPdf 10 59 13.2 0.0
DSB Dublin 144.28 8 *e*PKPdf PKPdf 10 59 11.3 -1.9
CDAG Cicekdag 144.32 314 *i* P PKPdf 10 59 13.1 -0.3
WCB1 Church Bay 144.36 6⇑ *eP* PKPdf 10 59 11.7 -1.7
WCB1 AMb AMB 10 59 13.0
comp=Z,148nm,1.2s
WME Myndd Eilian 144.37 6⇑ *eP* PKPdf 10 59 11.7 -1.7
LHO Holmfirth 144.41 3⇑ *eP* PKPdf 10 59 12.0 -1.5
WLF1 Llynfaes 144.47 6⇑ *eP* PKPdf 10 59 12.2 -1.4
WLF1 AMb AMB 10 59 13.4
comp=Z,204nm,1.2s
YRC Rhoscolyn 144.49 6⇑ *eP* PKPdf 10 59 12.2 -1.4
WPM1 Penmaenmawr 144.54 6⇑ *eP* PKPdf 10 59 12.4 -1.4
BURAR Bucovina Array 144.63 332⇑ *i*P PKPdf 10 59 14.3 +0.4
BURAR Bucovina Array 144.63 332⇑ PKPdf 10 59 14.3 +0.4
YLL Llanberis 144.63 6⇑ *eP* PKPdf 10 59 12.7 -1.2
SAFT Safranbolu 144.64 318 *eP* PKPdf 10 59 14.1 +0.2
OJC Ojcow 144.65 340 *e*PKPdf PKPdf 10 59 13.4 -0.5
KBI1 Birley Grange 144.72 3⇑ *eP* PKPdf 10 59 12.9 -1.2
YRE Yr Eifl 144.77 6⇑ *eP* PKPdf 10 59 12.9 -1.2
BR131 Keskin Array S 144.77 315 *e*PKPdf PKPdf 10 59 13.5 -0.6
BRTR Keskin Array B 144.77 315 PKP PKPdf 10 59 14.1 0.0
comp=Z,17nm,0.5s,baz=130,slow=4.0,SNR=101
STHS Stebnicka Huta 144.82 337 *e*PKP PKPdf 10 59 13.9 -0.3
KAMT Kaman 144.89 314 *eP* PKPdf 10 59 14.2 -0.1
KRTS Karatas 144.90 309 *eP* PKPdf 10 59 14.3 0.0
KWE Weaver Farm 144.94 4⇑ *eP* PKPdf 10 59 13.9 -0.5
CFR Carcaliu 144.95 326⇓ *i*P PKPdf 10 59 14.5 +0.1
CFR Carcaliu 144.95 326⇓ PKPdf 10 59 14.5 0.0
SBD1 Bryn Du 144.95 5⇑ *eP* PKPdf 10 59 14.0 -0.5
ASF Jabal al Asfar 145.14 301 PKPbc PKPbc 10 59 16.4 +0.6
comp=Z,31nm,0.8s,baz=348,slow=4.8,SNR=34
ASF Jabal al Asfar 145.14 301 PKP2 PKPab 10 59 16.4 -0.5
ASF pmax pmax
comp=Z,31nm,0.8s
KSP Ksiaz 145.15 344 *e*PKP PKPdf 10 59 15.3 +0.5
KSP Ksiaz 145.15 344 *e*PKP PKPdf 10 59 15.5 +0.7
ABA1 Baconsthorpe 145.16 0 *eP* PKPdf 10 59 14.4 -0.4
VRI Vrincioaia 145.19 329⇑ *i*P PKPdf 10 59 15.6 +0.8
VRI Vrincioaia 145.19 329⇑ PKPdf 10 59 15.6 +0.7
PLOR Plostina 145.24 329⇑ *i*P PKPdf 10 59 15.6 +0.7
ANTO Ankara 145.27 315 *eP* PKPdf 10 59 15.4 +0.4
ANTO Ankara 145.27 315⇑ *i*P PKPdf 10 59 16.3 +1.3
ANTO Ankara 145.27 315 *e*PKPdf PKPdf 10 59 15.7 +0.7
TIRR Tirgusor 145.28 325⇑ *i*P PKPdf 10 59 15.8 +0.8
TIRR Tirgusor 145.28 325⇑ PKPdf 10 59 15.8 +0.8
LOD Lodumlu 145.28 315 *eP* PKPdf 10 59 16.1 +1.1
HLM1 Long Mynd 145.37 5⇑ *eP* PKPdf 10 59 15.0 -0.1
SGKT Sivrigoynuk 145.39 317 *i* P PKPdf 10 59 15.8 +0.6
IBBN Ibbenburen 145.40 353 *e*PKPbc PKPbc 10 59 15.4 -1.1
MERS Mersin 145.41 310 *eP* PKPdf 10 59 15.9 +0.7
AEU East Anglia Un 145.43 0 *eP* PKPdf 10 59 15.3 0.0
SSP1 Stoney Pound 145.45 5⇑ *eP* PKPdf 10 59 15.3 0.0
SSP1 AMb AMB 10 59 16.7
comp=Z,158nm,1.1s
CLL Collm 145.51 347 *e*PKPbc PKPbc 10 59 15.9 -0.9
CLL Collm 145.51 347⇑ *i*PKPbc PKPbc 10 59 16.1 -0.7
comp=Z,70nm,1.1s
CLL Collm 145.51 347⇑ *i*PKIKP PKPdf 10 59 16.1 +0.7
CLL pmax pmax
comp=Z,70nm,1.1s
UPC Upice 145.53 344 *e*PKP PKPdf 10 59 16.2 +0.8
BRG Berggiesshubel 145.72 346 *e*PKPbc PKPbc 10 59 16.0 -1.4
BRG Berggiesshubel 145.72 346 *i* PKP PKPdf 10 59 16.8 +1.1
comp=Z,13nm,0.8s
BRG Berggiesshubel 145.72 346 *i* PKP2 PKPab 10 59 16.8 -2.4
BRG pmax pmax
comp=Z,13nm,0.8s
MORC Moravsky Berou 145.75 341⇑ *i*P PKPdf 10 59 17.1 +1.3
MORC Moravsky Berou 145.75 341 *e*PKPbc PKPbc 10 59 16.7 -0.8
HTR Trewern Hill 145.77 5 *eP* PKPdf 10 59 15.9 +0.1
MEST Erdemli 145.80 309 *i* P PKPdf 10 59 17.2 +1.3
WTSB Winterswijk 145.83 354⇑ *e*PKiKP PKiKP 10 59 16.4 -3.9
comp=Z,74nm,1.1s
GTTG Gyttingen 145.84 351 *e*PKPbc PKPbc 10 59 17.0 -0.8
MLR Muntele Rosu 145.85 329 PKPbc PKPbc 10 59 17.2 -0.6
comp=Z,11nm,0.5s,baz=346,slow=2.5,SNR=15
MLR Muntele Rosu 145.85 329⇑ *i*P PKPbc 10 59 18.6 +0.8
MLR Muntele Rosu 145.85 329⇑ PKPbc 10 59 18.6 +0.8
HAE Alders End 145.87 4⇑ *eP* PKPdf 10 59 16.4 +0.4
HAE AMb AMB 10 59 19.3
comp=Z,188nm,1.2s
MCH1 Michaelchurch 145.87 5⇑ *eP* PKPdf 10 59 16.4 +0.4
MCH1 *eP* 10 59 16.4
KECS Kecovo 145.88 337 *e*PKP PKPdf 10 59 17.5 +1.5
PVCC Panska Ves 145.89 345⇑ *e*PKPB PKPbc 10 59 17.4 -0.5
PVCC *e*PKPAB PKPab 10 59 19.3 -0.5
HENT Hendek 146.00 318 *i* P PKPdf 10 59 15.7 -0.5
HGH Gray Hill 146.25 5⇑ *eP* PKPdf 10 59 17.3 +0.6
HGH AMb AMB 10 59 18.6
comp=Z,118nm,1.6s
IKL Isikli 146.28 309 *eP* PKPdf 10 59 18.4 +1.7
BUG Bochum--Univer 146.30 353 *e*PKPbc PKPbc 10 59 17.7 -1.4
VOIR 146.32 330⇑ *i*P PKPbc 10 59 18.8 -0.3
VOIR 146.32 330⇑ PKPbc 10 59 18.8 -0.3
DRGR 146.36 333⇑ *i*P PKPbc 10 59 19.0 -0.2
DRGR 146.36 333⇑ PKPbc 10 59 19.0 -0.2
KIZT Kizilcal 146.37 315 *eP* PKPbc 10 59 18.8 -0.5
PRU Pruhonice 146.39 345⇑ *e*PKPB PKPbc 10 59 18.5 -0.8
MOX Moxa 146.42 348 *e*PKPbc PKPbc 10 59 18.3 -1.1
MOX *e*PKPab PKPab 10 59 21.0 -1.0
MOX Moxa 146.42 348 *e*PKP PKPdf 10 59 18.5 +1.6
comp=Z,25nm,1.3s
MOX Moxa 146.42 348 *e*PKIKP PKPdf 10 59 18.5 +1.6
MOX pmax pmax
comp=Z,25nm,1.3s
SWN1 Swindon 146.44 4 *eP* PKPdf 10 59 17.9 +1.0
VYHS Vyhne 146.45 339 *i* PKP PKPbc 10 59 19.2 -0.3
VYHS *e* 11 01 43.0
WERD Werda 146.47 347 *e*PKPbc PKPbc 10 59 18.7 -0.8
KOLL Kolacno 146.53 340 *e*PKP PKPbc 10 59 19.3 -0.4
UBBA Unterbreizbach 146.54 350 *e*PKPbc PKPbc 10 59 18.4 -1.3
PSZ Piszkesteto 146.57 337 *e*PKIKP PKPdf 10 59 18.6 +1.4
NKC Novy Kostel 146.65 347⇑ *e*PKPB 10 59 19.5
NKC *e*PKPAB PKPab 10 59 21.6 -1.3
ERMK Ermenek 146.68 310 *i* P PKPdf 10 59 15.5 -1.8
ESKT Eskisehir 146.73 316 *i* P PKPdf 10 59 19.3 +1.8
MANZ Manzenberg 146.95 347 *e*PKPbc PKPbc 10 59 20.1 -0.7
CSS Prodhromos 147.05 307 *e*PKPdf PKPdf 10 59 19.1 +1.2
CSS *e*PKPbc PKPbc 10 59 20.7 -0.4
BEBN Eben Emael 147.09 355 PKPab PKPab 10 59 23.4 -1.3
HGN Heimansgroeve 147.10 355⇑ *e*PKiKP PKiKP 10 59 20.1 -2.9
comp=Z,32nm,0.9s
UCC Uccle 147.18 357 PKPbc PKPbc 10 59 20.5 -0.9
MEM Membach 147.25 355 PKPbc PKPbc 10 59 20.6 -1.0
TNS Taunus Mts 147.35 352 *e*PKPbc PKPbc 10 59 20.7 -1.2
TNS *e*PKPab PKPab 10 59 24.7 -1.1
EIL Elat 147.37 297 *e*PKPbc PKPbc 10 59 21.7 -0.2
CPZ Penzance 147.40 8 *eP* PKPdf 10 59 20.3 +1.8
GRF Grafenberg Arr 147.41 348 *e*PKPbc PKPbc 10 59 21.6 -0.4
GRF *e*PKPab PKPab 10 59 25.3 -0.7
GRF Grafenberg Arr 147.41 348 *e*PKP2 PKPab 10 59 25.3 -0.7
GRF Grafenberg Arr 147.41 348 *e*PKP2 PKPbc 10 59 21.6 -0.4
KHC Kasperske Hory 147.42 345 *e*PKPDF PKPdf 10 59 17.9 -0.7
KHC ⇑*e*PKPB 10 59 21.5
KHC *e*PKPAB PKPab 10 59 25.4 -0.6
SNF Seneffe 147.47 357 PKPbc PKPbc 10 59 21.4 -0.8
SNF PKPab PKPab 10 59 25.1 -1.2
BCLA Clavier 147.50 355 PKPab PKPab 10 59 25.0 -1.4
ULDT Uludag 147.50 319 *i* P PKPbc 10 59 21.9 -0.3

WET Wettzell 147.58 346 *e*PKPbc PKPbc 10 59 21.8 -0.6
WET *e*PKPab PKPab 10 59 25.8 -0.9
WET Wettzell 147.58 346 *e*PKP2 PKPab 10 59 25.8 -0.9
GEC2 GERESS Array S 147.66 345 *e*PKPbc PKPbc 10 59 21.7 -0.9
GEC2 *e*PKPab PKPab 10 59 26.1 -0.9
GERES GERESS Array B 147.66 345 PKP PKPdf 10 59 18.2 -0.7
comp=Z,11nm,0.6s,baz=101,slow=1.5,SNR=24
GERES PKPbc PKPbc 10 59 21.4 -1.3
comp=Z,12nm,0.7s,baz=22,slow=3.2,SNR=74
BZS Buzias 147.76 333⇑ *i*P PKPbc 10 59 22.4 -0.5
BZS Buzias 147.76 333⇑ PKPbc 10 59 22.4 -0.5
ABH Altenburg 147.81 353 PKP PKPbc 10 59 22.4 -0.6
ISP Isparta 147.82 314 *eP* PKPdf 10 59 21.1 +1.8
ISP Isparta 147.82 314 *e*PKPbc PKPbc 10 59 21.4 -1.6
GIVF Givet 147.84 356 *e*PKIKP PKPdf 10 59 18.2 -1.1
TKTP Tekketepe 147.85 314 *i* P PKPbc 10 59 22.2 -0.9
DOU Dourbes 147.87 356 PKPbc PKPbc 10 59 22.4 -0.8
DOU PKPab PKPab 10 59 26.5 -1.3
CONA Conrad Observa 147.90 342⇑ *i*PKiKP PKiKP 10 59 23.1 -1.5
comp=Z,33nm,1.4s
TOD Tromm 147.91 351 PKHKP PKPbc 10 59 22.4 -0.9
BAIF Baives 147.93 357 *e*PKIKP PKPdf 10 59 18.3 -1.1
RUP Ruppelstein 148.04 353 PKP2 PKPbc 10 59 23.0 -0.6
WLF Walferdange 148.17 354 *e*PKPbc PKPbc 10 59 23.4 -0.5
WLF *e*PKPab PKPab 10 59 28.3 -0.8
WLF Walferdange 148.17 354 PKPbc PKPbc 10 59 23.8 -0.2
WLF PKPab PKPab 10 59 28.4 -0.7
WLF Walferdange 148.17 354 PKP2 PKPbc 10 59 23.9 0.0
WLF Walferdange 148.17 354 *e*PKPbc PKPbc 10 59 23.7 -0.2
BTOK Tokmak 148.41 319 *i* P PKPbc 10 59 24.0 -0.5
MOA Molln 148.43 343⇑ *i*P PKPbc 10 59 23.8 -0.8
comp=Z,39nm,1.8s
PKSM Moragy 148.47 337⇑ *i*P PKPbc 10 59 23.9 -0.8
PKSM Moragy 148.47 337⇑ PKPbc 10 59 23.9 -0.7
STU Stuttgart 148.66 350 *e*PKPbc PKPbc 10 59 24.7 -0.4
STU *e*PKPab PKPab 10 59 29.9 -1.2
LANF Langenberg 148.66 352 PKP PKPbc 10 59 24.5 -0.6
JVM Valle D.L. Mar 148.70 5⇑ *eP* PKPbc 10 59 24.2 -1.0
JSA Saint Aubin 148.73 5⇑ *eP* PKPbc 10 59 24.2 -1.1
JRS Jersey 148.73 5⇑ *eP* PKPbc 10 59 23.9 -1.5
FUR Furstenfeldbru 148.85 347 *e*PKPbc PKPbc 10 59 25.0 -0.6
FUR *e*PKPab PKPab 10 59 31.1 -0.8
DNZL Cakiroluk 148.90 315 *i* P PKPbc 10 59 25.5 -0.2
BFO Black Forest 149.22 351 *e*PKPbc PKPbc 10 59 25.4 -1.1
BFO *e*PKPab PKPab 10 59 32.2 -1.2
WLS Welschbruch 149.27 352 PKP PKPbc 10 59 25.8 -0.8
PERS Pernice 149.29 341 *i* PKPbc PKPbc 10 59 25.5 -1.1
VTS Vitosha 149.30 328⇑ *i*P PKPbc 10 59 26.6 -0.1
VTS Vitosha 149.30 328⇑ PKPbc 10 59 26.6 0.0
LDF La Druitiere 149.44 2 *e*PKIKP PKPdf 10 59 20.6 -1.2
comp=Z,17nm,1.0s
ECH Echery 149.49 353 PKP PKPbc 10 59 25.8 -1.3
GRR Gorron 149.61 3 *e*PKIKP PKPdf 10 59 20.8 -1.3
comp=Z,13nm,0.6s
THEF They Montfort 149.61 354 PKP PKPbc 10 59 26.7 -0.7
WTTA Wattenberg 149.63 346⇓ *i*P PKPbc 10 59 26.9 -0.6
comp=Z,38nm,1.1s
DIVS Divcibare 149.66 333 *i* PKP PKPbc 10 59 27.2 -0.4
MOTA Moosalm 149.67 347⇑ *i*P PKPbc 10 59 26.8 -0.8
comp=Z,14nm,0.9s
KDAG Bornova 149.68 317 *i* P PKPbc 10 59 26.8 -0.8
IZM Izmir 149.69 317 *eP* PKPbc 10 59 26.5 -1.1
AYDN Tasoluk 149.69 316 *i* P PKPbc 10 59 28.0 +0.4
YER Yerkesik 149.71 314 *eP* PKPbc 10 59 27.2 -0.5
FELD Feldberg im Sc 149.71 351 PKP PKPbc 10 59 26.7 -1.0
SQTA Sankt Quirin 149.76 347⇑ *i*P PKPbc 10 59 27.1 -0.7
comp=Z,15nm,0.9s
SQTA Sankt Quirin 149.76 347⇑ *i*P PKPbc 10 59 27.1 -0.7
MOF Molkenrain 149.85 352 PKP PKPbc 10 59 26.7 -1.3
QUIF Quistinic 149.90 6 *e*PKIKP PKPdf 10 59 21.2 -1.3
comp=Z,16nm,0.9s
MLSB Milas 149.96 315 *eP* PKPbc 10 59 27.7 -0.5
DAVA Damuels 149.97 349⇓ *i*P PKPbc 10 59 27.6 -0.7
comp=Z,34nm,1.1s
LJU Ljubljana 150.00 342 *i* PKPbc PKPbc 10 59 27.9 -0.4
PTCC Patocco-Chiusa 150.00 343 PKP PKPbc 10 59 27.3 -1.0
BBLS Bajina Basta - 150.10 333 *i* PKP PKPbc 10 59 28.2 -0.3
BRES Bressanone 150.14 346 PKP PKPbc 10 59 27.7 -1.0
VOJS Vojsko 150.20 342 *i* PKPbc PKPbc 10 59 27.5 -1.3
VOJS *e*PKPab PKPab 10 59 35.8 -1.7
BOJS Bojanci 150.26 340 *e*PKPdf PKPbc 10 59 28.5 -0.4
BOJS *i* PKPab PKPab 10 59 36.8 -1.0
BDRM Kayabasi 150.31 315 *i* P PKPdf 10 59 25.4 +2.2
LOMF Lomont 150.38 353 PKP PKPbc 10 59 28.4 -0.8
LOR Lormes 150.73 357 *e*PKIKP PKPdf 10 59 22.8 -1.0
SSF Saint Saulge 150.95 357 *e*PKIKP PKPdf 10 59 23.3 -0.9
MFF Saint Martin d 151.43 2 *e*PKIKP PKPdf 10 59 23.8 -1.1
comp=Z,10nm,0.8s
TCF Toulx Ste Croi 151.77 359 *e*PKIKP PKPdf 10 59 24.1 -1.3
AGO Saint Agoulin 151.98 358 PKP PKPbc 10 59 32.7 -0.1
PLDF La Plantade 152.03 357 PKP PKPbc 10 59 32.4 -0.5
LPL La Plagne 152.20 352 *e*PKIKP PKPdf 10 59 25.1 -0.9
LPG La Plagne 152.22 352 *e*PKIKP PKPdf 10 59 25.0 -1.0
BNI Bardonecchia 152.66 352 PKIKP PKPdf 10 59 27.6 +0.9
BNI Bardonecchia 152.66 352 *e*PKPbc PKPbc 10 59 34.3 0.0
LBL Lubilhac 152.79 357 PKP PKPbc 10 59 34.3 -0.3
CAF Calviac 153.13 359 *e*PKIKP PKPdf 10 59 26.1 -1.3
SBF Sospel 153.72 359 *e*PKIKP PKPdf 10 59 27.0 -1.2
PCAB Cabril 154.98 17 *e*PKPab PKPab 10 59 57.5 -0.4
PBRG Braganca 155.23 15 *e*PKPab PKPab 10 59 58.3 -0.6
PVRL Vila Real 155.47 17 *e*PKPab PKPab 10 59 58.6 -1.4
PVIS Viseu 155.94 18 *e*PKPab PKPab 11 00 01.4 -0.6
MTE Manteigas 156.34 17 *e*PKPab PKPab 11 00 03.0 -0.7
PTOM Tomar 156.79 20 *e*PKPab PKPab 11 00 04.9 -0.8
PCBR Castelo Branco 156.87 18 *e*PKPdf PKPdf 10 59 32.9 +0.5
PCBR Castelo Branco 156.87 18 *e*PKPab PKPab 11 00 05.0 -1.0
PLOU Loures 157.20 22 *e*PKPab PKPab 11 00 06.5 -1.0
MOE Montemor 157.80 21 *e*PKPab PKPab 11 00 09.4 -0.7
ESDC Sonseca Array 157.87 11 PKPab PKPab 11 00 09.6 -0.8
comp=Z,12nm,0.8s,baz=347,slow=4.3,SNR=24
EVO Evora 157.91 20 *e*PKIKP PKPdf 10 59 32.2 -1.4
comp=Z,19nm,1.0s
PBEJ Beja 158.41 20 *e*PKPab PKPab 11 00 11.8 -0.9
PTEO Sao Teotonio 158.54 23 *e*PKPab PKPab 11 00 12.2 -1.1
DBIC Dimbokro 167.16 150 PKP PKPdf 10 59 41.6 -1.0
comp=Z,2.7nm,0.9s,baz=124,slow=3.6,SNR=2.1
TORD Torodi Ar. Bea 175.19 182 PKP PKPdf 10 59 45.6 -0.9
comp=Z,1.8nm,0.9s,baz=345,slow=1.2,SNR=7.6
TORD PKPab PKPab 11 01 26.4 -0.5
comp=Z,2.1nm,1.1s,baz=138,slow=3.6,SNR=5.0

SKO ***09*** *11:11:41.1, 3971N×1978E, h82km*
ATH ***09*** *11:11:47.9, 40.16N×1978E, h16km±2km, MD3.8/8*
NEIC ***09*** *11:11:47.9, 40.16N×1978E, h16km, MD3.1(PDG), MD3.8(ATH), After ATH.*
ISCJB ***09*** *11:11:48.5±0.5, 40.14N±002×1986E±004, h14km±3km, mb3.5/5, Error ellipse: s-maj=5.3km s-min=3.3km az=163.3*
CSEM ***09*** *11:11:49.4±0.1, 4009N×1984E, h2km, MD3.8, Error ellipse: s-maj=2.0km s-min=1.3km az=58.0*
PDG ***09*** *11:11:51.0±0.5, 4035N×1981E, h11km±3km*
IDC ***09*** *11:11:52.8±2.0, 4081N×2043E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.6/23, mbtmp3.7/8, ML3.6/3, Error ellipse: s-maj=32.9km s-min=26.1km az=19.0*

ISC 09 11:11:48.7±0.5,**4017N**±002×**1982E**±004,**h4**km±4km,**n48,** σ1§**15**/70,**mb3.5**/5,**1D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.19**	**49**	*e*Pg	**Pg**	**11 11 52.8**	**+0.3**
TPE				*i* Sg	**Sg**

OHR *e*Sg **Sg** **11 12 32.2 +4.9**
LCI Lecce 1.32 278 Pn **Pn** **11 12 15.1 +1.2**
BIA Bitola 1.43 53 *i* Pg **Pg** **11 12 15.2 -0.9**
BIA *e*Sg **Sg** **11 12 37.5 +2.9**
BIA Bitola 1.43 53 *i* Pg **Pg** **11 12 15.1 -1.0**
BIA *e*Sg **Sg** **11 12 37.4 +2.9**
KZN Kozani 1.50 84 *e*PN **Pn** **11 12 17.0 +0.7**
KZN *e*SN **Sn** **11 12 38.1 +1.8**
ULC Ulcinj 1.84 347 *e*Pn **Pn** **11 12 21.5 +0.4**
ULC *e*Sn **Sn** **11 12 44.6 -0.3**
EVR Evrytania 1.98 128 *e*PN **Pn** **11 12 24.0 +1.0**
EVR *e*SN **Sn** **11 12 49.7 +1.5**
VLS Valsamata 2.08 163 *e*PB **Pb** **11 12 23.9 -3.0**
SKO Skopje 2.18 34 *i* Pg **Pg** **11 12 29.1 -1.4**
BUM Brajici-Budva 2.24 342 *e*Pn **Pn** **11 12 26.6 0.0**
BUM *e*Sn **Sn** **11 12 54.3 -0.3**
BUM Brajici-Budva 2.24 342 *e*Pn **Pn** **11 12 26.5 -0.1**
BUM *e*Sn **Sn** **11 12 54.3 -0.3**
TTG Podgorica 2.30 350 *e*Pn **Pn** **11 12 27.7 +0.4**
TTG *e*Sn **Sn** **11 12 55.9 -0.2**
STIP Stip 2.35 49 *i* Pg **Pg** **11 12 31.1 -2.7**
VAY Valandovo 2.38 60 *i* Pg **Pg** **11 12 29.8 -4.6**
PVY Plav 2.43 3 *e*Pn **Pn** **11 12 29.7 +0.6**
PVY *e*Sn **Sn** **11 12 58.8 -0.4**
RLS Riolos of Patr 2.46 148 *e*PB **Pb** **11 12 29.6 -4.0**
HCY Herceg Novi 2.49 337 *e*Pn **Pn** **11 12 29.8 -0.1**
HCY *e*Sn **Sn** **11 13 00.5 -0.1**
TIP Timpagrande 2.56 248 Pn **Pn** **11 12 30.8 -0.2**
IVA Berane 2.70 1 *e*Pn **Pn** **11 12 33.7 +0.8**
IVA *e*Sn **Sn** **11 13 05.0 -1.0**
NKY Niksic 2.71 347 *e*Pn **Pn** **11 12 33.7 +0.7**
NKY *e*Sn **Sn** **11 13 06.4 +0.1**
PLG Polygyros 2.78 85 *e*PN **Pn** **11 12 34.6 +0.6**
BRY Bratogost 2.89 341 jj Pn **Pn** **11 12 35.2 -0.4**
BRY *e*Sn **Sn** **11 13 10.3 -0.4**
KKB Krupnik 3.00 54 *e*P **Pn** **11 12 39.5 +2.6**
UPM Unac-Piva 3.11 348 *e*Pn **Pn** **11 12 39.2 +0.7**
UPM *e*Sn **Sn** **11 13 15.0 -1.0**
PLE Pljevlja 3.17 354 *e*Pn **Pn** **11 12 40.4 +1.0**
PLE *e*Sn **Sn** **11 13 17.2 -0.5**
SLCN Sala Consilina 3.21 275 Pn **Pn** **11 12 41.1 +1.2**
MGR Morigerati 3.27 271 Pn **Pn** **11 12 43.1 +2.4**
MMB Musomiste 3.28 63 P **Pn** **11 12 42.0 +1.1**
ITM Ithomi 3.41 150 *e*PN **Pn** **11 12 42.8 +0.2**
VTS Vitosha 3.52 45 *e*P **Pn** **11 12 48.0 +3.9**
DIVS Divcibare 3.93 2 *i* Pn **Pb** **11 12 59.0 +0.5**
VAE Valguarnera 5.01 239 Pn **Pb** **11 13 20.7 +3.8**
comp=N,8.4nm,0.3s,baz=124,slow=4.6,SNR=6.5
NRCA Norcia 5.70 300 Pn **Pn** **11 13 15.6 +1.6**
GERES GERESS Array B 9.71 335 Pn **Pn** **11 14 08.8 -0.4**
comp=N,0.2nm,0.3s,baz=160,slow=12,SNR=3.8
HFS Hagfors 20.35 351 P **P** **11 16 26.0 0.0**
comp=N,0.1nm,0.3s,baz=175,slow=6.9,SNR=4.3
NOA NORSAR Array B 21.56 349 P **P** **11 16 37.6 -1.5**
comp=N,0.4nm,0.5s,mb3.1,baz=159,slow=10,SNR=3.3
FINES FINESS Array B 21.65 8 P **P** **11 16 38.5 -1.5**
comp=N,0.9nm,0.6s,mb3.4,baz=179,slow=12,SNR=5.4
AKTO Aktyubinsk 28.47 56 P **P** **11 17 42.9 -1.9**
comp=N,0.4nm,0.3s,mb3.5,baz=59,slow=5.9,SNR=2.7
ARCES ARCESS Array B 29.58 4 P **P** **11 17 53.6 -1.0**
comp=N,2.7nm,1.0s,mb3.9,baz=211,slow=12,SNR=3.1
MKAR Makanchi Array 44.75 60 P **P** **11 20 00.9 -2.2**
comp=N,0.5nm,0.5s,mb3.6,baz=295,slow=7.1,SNR=3.8

*IDC **09** 11:16:08.8±1.4,3289S×17872W,h0km,mb4.5/3,*
mb1 4.7/4,mb1mx4.2/14,mbtmp4.5/4,ML4.2/1,MS3.4/2,
Ms1 3.4/2,ms1mx3.0/17,Error ellipse: s-maj=36.4km
s-min=30.8km az=127.0
*NEIC **09** 11:16:16.5±4.7,3269S×17872W,h59km±36km,mb4.6/3,*
Error ellipse: s-maj=48.6km s-min=21.1km az=220.0
*ISCJB **09** 11:16:18.9±1.6,3370S±009×1785W±02,h129km±15km,*
mb4.3/5,Error ellipse: s-maj=32.1km s-min=11.1km
az=35.2
ISC 09 11:16:19.6±1.7,3363S±010×1786W±02,h112km±15km,
n40,σ1°34/44,mb4.5/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.69**	**212**	PN	**Pn**	**11 17 29.1**	**+1.0**
MXZ				*e*SN	**Sn**	**11 18 25.9**	**+4.4**
MXZ	**Matakaoa Point**	**4.69**	**212**	*e*P	**Pn**	**11 17 29.5**	**+1.4**
MXZ				S	**Sn**	**11 18 25.9**	**+4.4**
PUZ	**Puketiti**	**5.14**	**209**	PN	**Pn**	**11 17 35.0**	**+0.8**
PUZ				SN	**Sn**	**11 18 39.2**	**+6.8**
PUZ	**Puketiti**	**5.14**	**209**	*e*P	**Pn**	**11 17 35.1**	**+0.9**
WIZ	**White Island**	**5.21**	**221**	P	**Pn**	**11 17 41.3**	**+6.1**
MWZ	**Matawai**	**5.67**	**213**	PN	**Pn**	**11 17 41.3**	**-0.2**
MWZ				SN	**Sn**	**11 18 52.0**	**+6.8**
MWZ	**Matawai**	**5.67**	**213**	*e*P	**Pn**	**11 17 43.0**	**+1.6**
MWZ				S	**Sn**	**11 18 52.0**	**+6.7**
URZ	**Urewera**	**5.81**	**216**	Pn	**Pn**	**11 17 43.1**	**-0.2**
URZ				Sn	**Sn**	**11 18 55.2**	**+6.6**
URZ	**Urewera**	**5.81**	**216**	PN	**Pn**	**11 17 42.9**	**-0.4**
URZ				SN	**Sn**	**11 18 53.7**	**+5.1**
URZ	**Urewera**	**5.81**	**216**	*e*P	**Pn**	**11 17 43.2**	**-0.1**
KNZ	**Kokohu**	**6.18**	**208**	*e*PN	**Pn**	**11 17 48.7**	**+0.3**
KNZ				*e*SN	**Sn**	**11 19 00.5**	**+2.9**
WCZ	**Waipu Caves**	**6.29**	**246**	PN	**Pn**	**11 17 50.4**	**+0.7**
WCZ	**Waipu Caves**	**6.29**	**246**	*e*P	**Pn**	**11 17 50.4**	**+0.7**
OUZ	**Omahuta**	**6.68**	**254**	PN	**Pn**	**11 17 54.4**	**-0.7**
OUZ	**Omahuta**	**6.68**	**254**	*e*P	**Pn**	**11 17 54.5**	**-0.6**
BKZ	**Black Stump Fm**	**6.82**	**214**	*e*PN	**Pn**	**11 17 55.7**	**-1.3**
BKZ				*e*SN	**Sn**	**11 19 15.8**	**+2.6**
BKZ	**Black Stump Fm**	**6.82**	**214**	*e*P	**Pn**	**11 17 53.1**	**-3.9**
MRZ	**Mangatainoka R**	**8.44**	**212**	*e*PN	**Pn**	**11 18 16.5**	**-2.4**
MRZ				*e*SN	**Sn**	**11 19 52.8**	**+0.4**
SNZO	**South Karori**	**9.35**	**213**	*e*SN	**Sn**	**11 20 14.2**	**-0.4**
TCW	**Tory Channel**	**9.48**	**215**	*e*SN	**Sn**	**11 20 16.1**	**-1.5**
NNZ	**Nelson**	**9.93**	**218**	*e*PN	**Pn**	**11 18 36.3**	**-2.8**
NNZ				*e*SN	**Sn**	**11 20 27.8**	**-0.7**
THZ	**Tophouse**	**10.57**	**217**	*e*PN	**Pn**	**11 18 44.5**	**-3.2**
THZ	**Tophouse**	**10.57**	**217**	*e*P	**Pn**	**11 18 45.3**	**-2.5**
KHZ	**Kahutara**	**10.76**	**213**	*e*PN	**Pn**	**11 18 47.1**	**-3.2**
KHZ	**Kahutara**	**10.76**	**213**	*e*P	**Pn**	**11 18 47.8**	**-2.5**
LTZ	**Lake Taylor**	**11.64**	**216**	SN	**Sn**	**11 21 06.4**	**-3.7**
MQZ	**McQueen's Vall**	**12.18**	**212**	*e*SN	**Sn**	**11 21 17.1**	**-6.0**
DZM	**Mont Dzumac**	**17.54**	**307**	LR	LR	11 25 22.8	
comp=Z,117nm,19.6s,baz=198,slow=33							
STKA	**Stephens Creek**	**33.42**	**262**	LR	LR	11 33 40.4	
comp=Z,72nm,18.4s,baz=34,slow=32							
CTA	**Charters Tower**	**34.00**	**284**	P	**P**	**11 22 53.1**	**+0.7**
4.4nm,0.5s,mb4.5,baz=115,slow=9.3,SNR=9.6							
CTAO	**Charters Tower**	**34.00**	**284**	*e*P	**P**	**11 22 53.0**	**+0.5**
6.3nm,0.8s,mb4.5							
ASAR	**Alice Springs**	**42.57**	**271**	P	**P**	**11 24 05.0**	**+0.7**
3.2nm,0.7s,mb4.2,baz=110,slow=7.5,SNR=48							
WRAB	**Tennant Creek**	**43.85**	**276**	*e*P	**P**	**11 24 14.5**	**-0.1**
6.1nm,0.5s,mb4.6							
WRA	**Warramunga Arr**	**43.85**	**276**	P	**P**	**11 24 14.7**	**+0.1**
3.2nm,0.3s,mb4.5,baz=116,slow=7.6,SNR=113							
QSPA	**South Pole Qui**	**56.49**	**180**	*e*P	**P**	**11 25 59.6**	**+10**
3.4nm,0.6s,mb4.5							
QSPA				*e*		11 26 05.8	
KAF	**Kangasniemi**	**147.40**	**338**	*e*p	PKPdf	11 35 47.0	-0.6
FINES	**FINESS Array B**	**147.98**	**338**	PKPbc	PKPbc	11 35 52.1	+0.3
1.1nm,0.4s,baz=59,slow=3.9,SNR=13							
NB2	**NORSAR Subarra**	**151.85**	**350**	PKPa	PKPbc	11 36 02.2	+1.0
comp=Z,1.6nm,0.6s,baz=16,slow=2.6							
NOA	**NORSAR Array B**	**151.85**	**350**	PKPbc	PKPbc	11 36 02.5	+1.4
comp=Z,1.7nm,0.6s,baz=14,slow=4.1,SNR=9.3							
TORD	**Torodi Ar. Bea**	**159.61**	**181**	PKPab	PKPab	11 36 52.1	+8.3
comp=Z,0.4nm,0.4s,baz=162,slow=3.8,SNR=6.5							

*NEIC **09** 11:59:00.8,3858N×2371E,h26km,ML3.3(ATH),After*
ATH.
*ATH **09** 11:59:00.8,3858N×2370E,h27km±1km,MD3.3/8,ML3.3*
*THE **09** 11:59:00.2,3852N×2369E,h1km,ML2.9*
*CSEM **09** 11:59:00.8,3858N×2371E,h26km,MD3.3/9,After ATH*
*ISCJB **09** 11:59:01.8±0.5,3857N±003×2373E±006,h21km±8km,*
Error ellipse: s-maj=8.1km s-min=4.0km az=159.4
ISC 09 11:59:01.6±0.5,3858N±002×2371E±006,h12km±6km,n17,
σ0°73/24,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.56**	**278**	*e*PN	**Pg**	**11 59 11.8**	**-0.7**
LKR				*e*SN	**Sg**	**11 59 20.6**	**+0.8**
ATH	**Athens Observa**	**0.60**	**179**	*e*PN	**Pg**	**11 59 13.0**	**-0.3**
ATH				*e*SN	**Sg**	**11 59 21.7**	**+0.4**
AOS	**Alonnisos**	**0.61**	**13**	*e*Pg	**Pg**	**11 59 12.6**	**-0.8**
AOS				*e*Sg	**Sg**	**11 59 22.5**	**+1.0**
MGER	**Gerania Oros**	**0.69**	**211**	*e*PN	**Pg**	**11 59 14.5**	**-0.4**
KVR	**Kavouri**	**0.75**	**176**	*e*PN	**Pg**	**11 59 16.0**	**-0.1**
KVR				*e*SN	**Sg**	**11 59 26.5**	**+0.6**
NEO	**Neokhori**	**0.82**	**333**	*e*PN	**Pg**	**11 59 16.8**	**-0.6**
NEO				*e*SN	**Sg**	**11 59 28.6**	**+0.4**
NAIG	**Nisos Aigina**	**0.83**	**192**	*e*PN	**Pg**	**11 59 17.5**	**-0.2**
XOR	**Xorichti**	**0.88**	**333**	*e*Pg	**Pg**	**11 59 18.6**	**0.0**
XOR				*e*Sg	**Sg**	**11 59 31.3**	**+1.1**
AGG	**Agios Georgios**	**1.16**	**293**	*e*Pg	**Pg**	**11 59 21.8**	**-2.2**
AGG				*e*Sg	**Sg**	**11 59 39.0**	**0.0**
OUR	**Ouranopolis**	**1.77**	**7**	*e*Pb	**Pn**	**11 59 31.5**	**-0.5**
LIT	**Litokhoron**	**1.79**	**329**	*e*Pb	**Pn**	**11 59 31.9**	**-0.4**
PLG	**Polygyros**	**1.81**	**354**	*e*PB	**Pn**	**11 59 32.0**	**-0.5**
VLI	**Veliai**	**1.95**	**198**	*e*PB	**Pn**	**11 59 34.5**	**-0.1**
VLI	**Veliai**	**1.95**	**198**	*e*Pn	**Pn**	**11 59 35.6**	**+1.0**
ITM	**Ithomi**	**1.98**	**226**	*e*Pb	**Pn**	**11 59 36.0**	**+1.1**
APE	**Apeiranthos**	**2.09**	**136**	*e*PN	**Pn**	**11 59 36.2**	**-0.2**
KNT	**Kendrikon**	**2.66**	**347**	*e*Pn	**Pn**	**11 59 45.0**	**+0.8**

*ISCJB **09** 12:05:37.9±0.5,4495N±006×1424E±0.1,h283km±4km,*
mb3.4/5,Error ellipse: s-maj=11.8km s-min=9.9km
az=155.1
*IDC **09** 12:05:38.6±0.7,4518N×1428E,h269km±13km,mb3.2/5,*
mb1 3.4/6,mb1mx3.1/18,mbtmp3.7/6,Error ellipse:
s-maj=38.9km s-min=21.4km az=174.0
*JMA **09** 12:05:38.4±0.2,4504N×1423E,h279km±2km,M3.4*
ISC 09 12:05:38.7±0.5,4494N±006×1423E±01,h279km±4km,n27,
σ0°96/38,mb3.4/5,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.19**	**85**	P	**Pn**	**12 06 14.0**	**-0.3**
JSE				*e*S	**S**	**12 06 41.9**	**-0.5**
JWK2	**Keihoku**	**0.48**	**322**	P	**Pn**	**12 06 14.5**	**-0.3**
JWK2				*e*S	**S**	**12 06 42.3**	**-1.1**
JSS	**Shosan**	**0.64**	**212**	P	**Pn**	**12 06 15.6**	**+0.4**
JRR	**Rishiri**	**0.74**	**286**	P	**Pn**	**12 06 15.4**	**-0.2**
JYG	**Yagishiri**	**0.82**	**231**	P	**Pn**	**12 06 16.2**	**+0.3**
ASAJ	**Asahikawa**	**0.85**	**166**	P	**Pn**	**12 06 16.8**	**+0.8**
62nm,0.3s,baz=333,slow=4.7,SNR=294							
ASAJ				S	**S**	**12 06 46.2**	**+0.6**
baz=253,slow=19,SNR=3.2							
ASAJ	**Asahikawa**	**0.85**	**166**	P	**Pn**	**12 06 16.5**	**+0.4**
ASAJ				*e*S	**S**	**12 06 46.4**	**+0.8**
JKK2	**Kamakawa 2**	**1.11**	**164**	P	**Pn**	**12 06 18.0**	**+0.7**
JKK2				*e*S	**S**	**12 06 48.9**	**+1.0**
JMP	**Maruseppu**	**1.20**	**141**	P	**Pn**	**12 06 18.0**	**+0.2**
JMP				*e*S	**S**	**12 06 48.9**	**+0.1**
JAB	**Ashibetsu**	**1.44**	**183**	P	**Pn**	**12 06 19.9**	**+0.6**
JTKR	**Abashiri--Toko**	**1.50**	**130**	P	**Pn**	**12 06 20.1**	**+0.4**
JTKR				*e*S	**S**	**12 06 52.3**	**+0.1**
JFR	**Furan**	**1.79**	**174**	P	**Pn**	**12 06 22.1**	**+0.2**
JAR	**Ashorobuto**	**1.95**	**147**	P	**Pn**	**12 06 23.7**	**+0.6**
JAR				*e*S	**S**	**12 06 59.2**	**+0.8**
JSK	**Shakotan**	**2.07**	**221**	P	**Pn**	**12 06 24.7**	**+0.6**
JEW	**Eniwo**	**2.19**	**197**	P	**Pn**	**12 06 26.3**	**+1.1**
JRA	**Rausu**	**2.25**	**116**	P	**Pn**	**12 06 26.4**	**+0.7**
JCH	**Churui**	**2.45**	**162**	P	**Pn**	**12 06 26.5**	**-1.0**
JCH				*e*S	**S**	**12 07 02.9**	**-3.4**
JAK	**Akkeshi**	**2.59**	**138**	*e*S	**S**	**12 07 06.4**	**-2.5**
JNBK	**Urakawa-nobuka**	**2.68**	**173**	P	**Pn**	**12 06 30.2**	**+0.5**
JNBK				*e*S	**S**	**12 07 09.4**	**-0.9**
NEM2	**Nemuro 2**	**2.93**	**121**	*e*S	**S**	**12 07 11.1**	**-3.7**
JKB	**Kayabe**	**3.19**	**198**	P	**Pn**	**12 06 34.7**	**-0.3**
JKB				*e*S	**S**	**12 07 17.8**	**-2.0**
MJAR	**Matsushiro Arr**	**8.95**	**202**	P	**Pn**	**12 07 44.9**	**+1.0**
0.3nm,0.3s,baz=10,slow=13,SNR=5.2							
SONM	**Songino Array**	**24.81**	**290**	P	**P**	**12 10 35.8**	**0.0**
0.5nm,0.4s,mb3.3,baz=94,slow=11,SNR=4.2							
YKA	**Yellowknife Ar**	**56.71**	**33**	P	**P**	**12 14 51.7**	**-1.8**
0.5nm,0.7s,mb3.0,baz=307,slow=7.1,SNR=5.6							
FINES	**FINESS Array B**	**62.19**	**331**	P	**P**	**12 15 29.0**	**-1.8**
2.4nm,1.1s,mb3.8,baz=46,slow=8.0,SNR=2.8							
NVAR	**Mina Array Bea**	**69.83**	**56**	P	**P**	**12 16 21.0**	**+1.7**
0.5nm,0.7s,mb3.4,baz=283,slow=5.3,SNR=3.5							
PDAR	**Pinedale Array**	**71.72**	**47**	P	**P**	**12 16 31.1**	**+0.4**
1.0nm,0.7s,mb3.6,baz=325,slow=1.8,SNR=7.7							

*ISCJB **09** 12:07:10.4±0.9,6103N±005×2900E±009,h0km,Error*
ellipse: s-maj=8.4km s-min=5.3km az=103.9
*CSEM **09** 12:07:10.9±0.7,6092N×2906E,h1km,ML2.7,Error*
ellipse: s-maj=15.9km s-min=8.5km az=136.0,Mining
explosion.
*IDC **09** 12:07:12.9±1.9,6097N×2896E,h0km,mb1 3.4/3,*
mb1mx3.1/19,mbtmp3.3/3,ML3.4/3,Error ellipse:
s-maj=17.6km s-min=10.4km az=147.0
*HEL **09** 12:07:12.0±0.4,6097N×2903E,h0km,ML2.1,*
ML2.7(NAO),Explosion
*BER **09** 12:07:12.3±2.9,6096N×2901E,h0km,ML2.7(NAO),*
Suspected explosion
*NAO **09** 12:07:12.8±1.8,6098N×2893E,ML2.7*
ISC 09 12:07:11.7±0.9,6102N±005×2894E±009,h0km,n25,
σ1°22/46,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**1.45**	**288**	*e*P	**Pn**	**12 07 38.4**	**-0.7**
FIA0				*e*S	**Sg**	**12 07 58.0**	**-0.3**
FIA0	**FINESS Array S**	**1.45**	**288**	Pg	**Pg**	**12 07 38.6**	**-0.8**
baz=110,slow=16							
FIA0				Lg		12 07 59.3	
baz=101,slow=37							
FIA0				Rg		12 08 06.7	
baz=119,slow=37							
FIA0	**FINESS Array S**	**1.45**	**288**	Pg	**Pg**	**12 07 38.6**	**-0.8**
SNR=153							
FIA0				S	**Sg**	**12 07 57.9**	**-0.3**
FINES	**FINESS Array B**	**1.45**	**288**	Pg	**Pg**	**12 07 38.6**	**-0.8**
4.5nm,0.3s,baz=112,slow=16,SNR=102							
FINES				Lg		12 07 59.5	
1.8nm,0.3s,baz=104,slow=27,SNR=4.4							
PVF	**Pernaja**	**1.58**	**254**	*e*P	**Pn**	**12 07 40.1**	**-0.8**
PVF				*e*S	**Sn**	**12 08 01.1**	**-1.0**
PVF	**Pernaja**	**1.58**	**254**	P	**Pn**	**12 07 40.1**	**-0.8**
PVF				S	**Sn**	**12 08 01.1**	**-1.0**
KAF	**Kangasniemi**	**1.67**	**312**	*e*P	**Pn**	**12 07 42.2**	**0.0**
KAF				*e*S	**Sn**	**12 08 04.6**	**+0.3**
KAF	**Kangasniemi**	**1.67**	**312**	P	**Pn**	**12 07 42.1**	**-0.1**
KAF				S	**Sn**	**12 08 04.6**	**+0.3**
SUF	**Sumiainen**	**2.16**	**324**	*e*P	**Pn**	**12 07 51.4**	**+2.5**
SUF				*e*SG	**Sg**	**12 08 20.5**	**-0.5**
SUF	**Sumiainen**	**2.16**	**324**	P	**Pn**	**12 07 51.3**	**+2.4**
SUF				Sg	**Sg**	**12 08 20.5**	**-0.5**
JOF	**Joensuu**	**2.21**	**29**	*e*P	**Pn**	**12 07 49.5**	**-0.2**
JOF				*e*S	**Sn**	**12 08 17.3**	**-0.4**
JOF				MSG		12 08 20.2	
comp=Z,7.5nm,0.2s							
JOF	**Joensuu**	**2.21**	**29**	P	**Pn**	**12 07 49.4**	**-0.2**
JOF				S	**Sn**	**12 08 17.2**	**-0.5**
comp=Z,7.5nm,0.2s							
KEF	**Keuruu**	**2.26**	**302**	*e*P	**Pn**	**12 07 52.2**	**+1.9**
KEF				*e*S	**Sn**	**12 08 21.1**	**+2.3**
KEF				MSG		12 08 25.4	
comp=Z,8.4nm,0.2s							
MEF	**Metsahovi**	**2.38**	**252**	*e*P	**Pn**	**12 07 52.5**	**+0.6**
MEF				*e*S	**Sn**	**12 08 23.6**	**+1.9**
MEF				MSG		12 08 27.6	
comp=Z,8.9nm,0.1s							
MEF	**Metsahovi**	**2.38**	**252**	P	**Pn**	**12 07 52.4**	**+0.5**
KJN	**Kajaani**	**3.13**	**350**	*e*P	**Pn**	**12 08 04.6**	**+2.4**
KJN				MSG		12 08 47.5	
comp=Z,8.4nm,0.2s							
HFS	**Hagfors**	**7.56**	**270**	*e*P	**Pn**	**12 09 02.8**	**-0.3**
HFS				*e*S	**Sn**	**12 10 26.0**	**-3.5**
HFS				*e*SG	**Sg**	**12 11 04.9**	**-10**
HFS	**Hagfors**	**7.56**	**270**	Pn	**Pn**	**12 09 02.9**	**-0.2**
comp=Z,0.5nm,0.3s,baz=82,slow=16,SNR=14							
HFS				Sn	**Sn**	**12 10 26.7**	**-2.8**
comp=Z,0.4nm,0.3s,baz=80,slow=26,SNR=4.0							
HFS				Lg		12 11 07.3	
comp=Z,0.8nm,0.3s,baz=76,slow=31,SNR=7.1							
HFS	**Hagfors**	**7.56**	**270**	Pn	**Pn**	**12 09 02.8**	**-0.3**
baz=90,slow=14							
HFS				Sn	**Sn**	**12 10 26.0**	**-3.5**
baz=85,slow=28							
HFS				Lg		12 11 04.9	
baz=75,slow=37							
NB2	**NORSAR Subarra**	**8.60**	**278**	*e*P	**Pn**	**12 09 17.2**	**-0.2**
NB2				*e*SG	**Sg**	**12 11 39.9**	**-8.0**
NB2	**NORSAR Subarra**	**8.60**	**278**	Pn	**Pn**	**12 09 17.2**	**-0.2**
baz=85,slow=14							
NB2				Lg		12 11 39.9	
baz=91,slow=28							
NOA	**NORSAR Array B**	**8.60**	**278**	Pn	**Pn**	**12 09 17.0**	**-0.4**
comp=Z,0.4nm,0.3s,baz=83,slow=16,SNR=2.7							
NOA				Sn	**Sn**	**12 10 50.7**	**-4.4**
comp=Z,0.3nm,0.3s,baz=83,slow=19,SNR=2.5							
NOA				Lg		12 11 43.1	
comp=Z,0.5nm,0.3s,baz=88,slow=15,SNR=4.6							
ARA0	**ARCESS Array S**	**8.67**	**352**	Pn	**Pn**	**12 09 17.9**	**-0.5**
baz=164,slow=14							
ARA0				Sn	**Sn**	**12 10 51.1**	**-5.7**
baz=169,slow=28							
ARA0	**ARCESS Array S**	**8.67**	**352**	*e*P	**Pn**	**12 09 17.9**	**-0.5**
ARA0				*e*S	**Sn**	**12 10 51.1**	**-5.7**
ARCES	**ARCESS Array B**	**8.67**	**352**	Pn	**Pn**	**12 09 17.6**	**-0.8**
comp=Z,0.8nm,0.3s,baz=170,slow=13,SNR=16							
ARCES				Sn	**Sn**	**12 10 52.8**	**-4.1**
comp=Z,0.3nm,0.3s,baz=164,slow=23,SNR=3.9							

*ISCJB **09** 12:22:55.7±3.4,0.10N±006×9691E±006,h5km±21km,*
mb4.4/26,MS3.8/3,Error ellipse: s-maj=11.4km
s-min=9.0km az=56.5
*IDC **09** 12:22:56.4±0.6,003N×9690E,h0km,mb4.4/17,*
mb1 4.4/18,mb1mx4.3/22,mbtmp4.4/18,ML4.1/1,MS3.2/2,
Ms1 3.2/2,ms1mx2.6/18,Error ellipse: s-maj=20.7km
s-min=15.5km az=59.0
*BJI **09** 12:22:59.6,0.10N×9690E,h20km,mB4.7,mb4.6,Ms3.9,*
Msz3.4
*NEIC **09** 12:22:59.7±3.9,0.10N×9693E,h20km±27km,mb4.5/7,*
Error ellipse: s-maj=12.2km s-min=6.7km az=57.0
*MOS **09** 12:23:00.0±1.0,0.15N×9689E,h33km,mb4.7/7,Error*
ellipse: s-maj=15.4km s-min=9.7km az=93.9
ISC 09 12:22:59.7±4.0,010N±006×9694E±007,h18km±25km,n66,
σ0°97/62,mb4.4/26,MS3.8/3,1D,Off west coast of
northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.34**	**36**	Pn	**Pn**	**12 23 50.0**	**-1.0**
20nm,0.3s,baz=256,slow=6.1,SNR=57							
PSI				Sn	**Sn**	**12 24 30.5**	**+0.4**
10nm,0.3s,baz=323,slow=17,SNR=4.4							
PSI				LR	LR	12 24 50.0	
comp=Z,188nm,18.9s,baz=210,slow=34							
PSI	**Prapat**	**3.34**	**36**	P	**Pn**	**12 23 50.0**	**-1.0**
PSI						12 24 30.5	
PSI	**Prapat**	**3.34**	**36**	Pn	**Pn**	**12 23 50.0**	**-1.0**
PSI				Sn	**Sn**	**12 24 30.5**	**+0.4**
PSI				LR	LR	12 24 50.0	
TSI	**Tuntungan**	**3.75**	**26**	jj *e*P	**Pn**	**12 23 51.2**	**-5.4**
TSI				*e*S	**Sn**	**12 24 35.2**	**-5.1**
TSI	**Tuntungan**	**3.75**	**26**	*e*P	**Pn**	**12 23 49.1**	**-7.5**
IPM	**Ipoh**	**5.97**	**43**	P	**Pn**	**12 24 27.8**	**+0.7**
KULM	**Kulim**	**6.35**	**36**	*e*P	**Pn**	**12 24 31.7**	**-0.6**
KGM	**Kluang**	**6.66**	**73**	P	**Pn**	**12 24 36.6**	**+0.1**
CHTO	**Chiang Mai**	**18.70**	**6**	*e*P	**Pn**	**12 27 17.2**	**-0.3**
CHTO				pmax	pmax		
comp=Z,7.0nm,0.6s							
CHTO	**Chiang Mai**	**18.70**	**6**	*e*P	**Pn**	**12 27 17.2**	**-0.3**
comp=Z,6.8nm,0.6s							
KKM	**Kota Kinabalu**	**20.13**	**73**	P	**P**	**12 27 24.6**	**-8.1**
KKM	**Kota Kinabalu**	**20.13**	**73**	*e*P	**P**	**12 27 33.1**	**+0.5**
TSM	**Tawau**	**21.32**	**78**	P	**P**	**12 27 35.4**	**-10**
KMI	**Kunming**	**25.50**	**12**	P	**P**	**12 28 30.1**	**+3.2**
KMI				AMB	AMB		
comp=Z,80nm,3.9s							
KMI				LR	LR		
comp=N,210nm,13.7s,MS3.9							
KMI				LR	LR		
comp=E,120nm,12.6s,MS3.9							
KMI				LR	LR		
comp=Z,160nm,14.7s,MS3.7							
CD2	**Chengdu**	**31.32**	**11**	*e*P	**P**	**12 29 20.7**	**+1.8**
CD2				AP	pP	12 29 26.5	+2.0
CD2				XP	sP	12 29 29.6	+2.8
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
CD2				AMB	AMB		
comp=Z,40nm,6.0s							
CD2				LR	LR		
comp=N,60nm,8.9s							
CD2				LR	LR		
comp=Z,40nm,9.2s							
XAN	**Xi'an**	**35.59**	**17**	P	**P**	**12 30 01.0**

KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ARCES ARCESS Array B 83.48 340 P P 12 35 26.2 0.0
comp=Z,2.1nm,0.4s,mb4.5,baz=104,slow=4.7,SNR=18
VNDA Vanda 84.80 169 P P 12 35 32.5 -0.5
comp=Z,0.6nm,0.8s,mb3.8,baz=266,slow=3.2,SNR=3.6
VNDA Vanda 84.80 169 P **P 12 35 32.5 -0.5**
VNDA *eP* 12 35 32.6
GERES GERESS Array B 85.47 319 P **P 12 35 35.9 -0.3**
comp=Z,1.5nm,0.8s,mb4.2,baz=122,slow=5.0,SNR=9.3
SBA Scott Base 85.90 169 *eP* **P 12 35 38.6 +0.1**
NB2 NORSAR Subarra 87.83 331 P **P 12 35 47.3 -0.6**
comp=Z,0.2nm,0.6s,mb3.5,baz=94,slow=5.6
NOA NORSAR Array B 87.83 331 P **P 12 35 47.1 -0.7**
comp=Z,1.6nm,0.7s,mb4.3,baz=95,slow=4.9,SNR=6.0
QSPA South Pole Qui 90.05 180 *eP* **P 12 35 58.5 +0.2**
PMSA Palmer Station 114.00 189 *eP* PKiKP 12 41 37.5 -0.1
NVAR Mina Array Bea 129.82 36 PKP PKPdf 12 42 08.7 +0.8
comp=Z,0.7nm,0.8s,baz=292,slow=1.6,SNR=3.5
CPUP Villa Florida 144.02 222 PKP PKPdf 12 42 32.9 -1.2
comp=Z,3.9nm,0.5s,baz=106,slow=2.6,SNR=13
CFAA Coronel Fontan 145.66 203 PKPbc PKPbc 12 42 38.0 +0.7
comp=Z,0.5nm,0.5s,baz=163,slow=3.3,SNR=7.5
JCT Junction City 145.68 26 *e*PKPdf PKPdf 12 42 38.1 +1.1
JCT *e* 12 42 49.3
SIV San Ignacio 153.16 233 PKPbc PKPbc 12 42 56.6 +0.3
comp=Z,1.3nm,0.8s,baz=239,slow=9.1,SNR=5.8

*ISCJB **09** 12:29:34.3±0.6, 687N×006×7299W±007, h176km±5km, mb3.8/5, Error ellipse: s-maj=14.2km s-min=6.6km az=77.7*
*FUNV **09** 12:29:34.1, 670N×713.19W, h165km, MW3.7*
*NEIC **09** 12:29:35.2±0.8, 669N×7292W, h173km±8km, mb3.7/1, Error ellipse: s-maj=25.4km s-min=12.0km az=129.0*
*IDC **09** 12:29:35.1±0.7, 672N×7289W, h170km±7km, mb3.6/4, mb1 3.7/6, mb1mx3.4/21, mbtmp4.1/6, Error ellipse: s-maj=26.1km s-min=7.8km az=132.0*
ISC 09 12:29:35.5±0.6, 689N±006×7301W±008, h169km±5km, n20, σ0§68/26, mb3.8/5, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**35**	⇑*iP*	**Pn**	**12 30 04.0**	**+0.3**
CAPV				*eS*	**Sn**	**12 30 25.4**	**+0.2**
ROSC	**El Rosal**	**2.41**	**213**	P	**Pn**	**12 30 15.8**	**-0.6**
ROSC	54nm,0.3s,baz=348,slow=4.8,SNR=202			S	**Sn**	**12 30 48.0**	**-0.1**
VIGV	**El Vigia**	**2.54**	**40**	*eP*	**Pn**	**12 30 18.5**	**+0.5**
VIGV	252nm,0.3s,baz=262,slow=23,SNR=20			*eS*	**Sn**	**12 30 51.5**	**+0.6**
SOCV	**Socops**	**2.55**	**57**	⇓*eP*	**Pn**	**12 30 18.8**	**+0.7**
SOCV				*eS*	**Sn**	**12 30 51.0**	**-0.1**
SDV	**Santo Domingo**	**3.08**	**50**	P	**Pn**	**12 30 25.5**	**+0.9**
SDV	17nm,0.3s,baz=246,slow=2.5,SNR=90			S	**Sn**	**12 31 03.4**	**+0.7**
SDV	**Santo Domingo**	**3.08**	**50**	*eP*	**Pn**	**12 30 25.3**	**+0.7**
SDV				P		12 30 25.5	
SDV				S	**Sn**	**12 31 03.4**	**+0.7**
ELOV	**Elorza**	**3.51**	**88**	*eP*	**Pn**	**12 30 30.1**	**+0.2**
VIRV	**Villa del Rosa**	**3.64**	**9**	⇓*eP*	**Pn**	**12 30 30.8**	**-0.9**
VIRV				*eS*	**Sn**	**12 31 14.4**	**-0.9**
QARV	**Quebrada Arrib**	**4.12**	**37**	⇓*eP*	**Pn**	**12 30 38.3**	**+0.6**
QARV				*eS*	**Sn**	**12 31 25.5**	**-0.8**
CURV	**Curarigua**	**4.33**	**44**	*eP*	**Pn**	**12 30 40.7**	**+0.2**
CURV				*eS*	**Sn**	**12 31 30.8**	**-0.4**
SIQV	**Siquisique**	**4.90**	**40**	*eP*	**Pn**	**12 30 47.7**	**-0.2**
BAUV	**El Baul**	**5.33**	**67**	*eS*	**Sn**	**12 31 51.7**	**-3.0**
SCHQ	**Schefferville**	**48.06**	**5**	P	**P**	**12 37 59.0**	**+1.2**
YKA	2.4nm,0.5s,mb4.1,baz=217,slow=11,SNR=6.2 **Yellowknife Ar**	**63.24**	**340**	P	**P**	**12 39 46.1**	**+0.2**
YKA	1.0nm,0.6s,mb3.9,baz=133,slow=6.7,SNR=18			pP	pP	12 40 27.8	+2.3
DBIC	**Dimbokro**	**67.62**	**86**	P	**P**	**12 40 13.6**	**-0.4**
INK	3.2nm,0.8s,mb4.1,baz=276,slow=8.4,SNR=5.4 **Inuvik**	**73.00**	**340**	*eP*	**P**	**12 40 46.6**	**-0.1**
TORD	1.6nm,1.0s,mb3.7 **Torodi Ar. Bea**	**73.62**	**78**	P	**P**	**12 40 49.9**	**-0.4**
ASAR	0.2nm,0.4s,mb3.2,baz=286,slow=6.5,SNR=5.0 **Alice Springs**	**149.24**	**234**	PKPbc	PKPbc	12 49 04.0	-0.1
WB2	1.1nm,0.7s,baz=101,slow=1.1,SNR=5.6 **Warramunga Arr**	**150.45**	**241**	*eP*	PKPbc	12 49 07.2	+0.2
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPbc	12 49 07.1	+0.1
WRA	1.3nm,0.5s,baz=108,slow=2.5,SNR=45			pPKPbc	pPKPbc	12 49 50.0	-1.1
	0.5nm,0.5s,baz=108,slow=2.6,SNR=2.7						

CASC 09 12:52:24.1±2.7, 785N×8291W, h15km±19km, MD4.0, ML3.1, 1C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.74**	**38**	⇓*eP*	Pg	12 52 37.4	-1.2
DVD				*eS*	Sg	12 52 48.2	-0.3
CNI	**Changuinola**	**1.61**	**14**	⇓*eP*	Pn	12 52 51.1	-0.9
BUS	**Buena Vista**	**1.89**	**334**	*eP*	Pn	12 52 55.4	-0.5
BUS				*eS*	Sn	12 53 20.7	+1.3
LCR2	**La Lucha 2**	**2.17**	**330**	*eP*	Pn	12 53 01.0	+1.3
LCR2				*eS*	Sn	12 53 26.6	+0.2
OCM	**Ochomogo**	**2.28**	**333**	*i P*	Pn	12 53 02.8	+1.6
OCM				*eS*	Sn	12 53 30.2	+1.1
OCM				AML	AML	12 53 35.2	
	comp=N,131nm,0.3s						
PRS1	**Puriscal**	**2.53**	**327**	*eP*	Pn	12 53 05.2	+0.5
PRS1				*eS*	Sn	12 53 35.6	+0.4
PTP	**Ponta Puerca**	**19.74**	**57**	⇑*iP*		12 52 31.1	
PTP				*eS*		12 52 38.5	

*BJI **09** 13:10:57.4, 260N×9498E, h31km, mB4.7, mb4.7, Ms3.8, Msz3.7*
*IDC **09** 13:10:57.9±1.6, 268N×9548E, h0km, mb4.1/5, mb1 4.1/6, mb1mx3.8/21, mbtmp4.0/6, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.0/21, Error ellipse: s-maj=48.3km s-min=18.9km az=48.0*
*ISCJB **09** 13:10:59.1±0.8, 263N±010×9542E±007, h25km, mb4.3/12, MS3.8/2, Error ellipse: s-maj=15.6km s-min=8.1km az=53.4*
*NEIC **09** 13:11:01.1±0.6, 266N×9546E, mb4.4/4, Error ellipse: s-maj=14.5km s-min=6.9km az=218.0*
ISC 09 13:11:01.7±0.8, 266N±010×9543E±007, h26km, h26km±1.3km: pP-P, n22, σ0§78/25, mb4.3/12, MS3.8/2, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**3.24**	**75**	⇓*eP*	Pn	13 12 12.4	+22
TSI				*eS*	**Sn**	**13 12 37.9**	**+9.4**
TSI	**Tuntungan**	**3.24**	**75**	*eP*	**Pn**	**13 11 53.3**	**+2.5**
PSI	**Prapat**	**3.49**	**88**	Pn	**Pn**	**13 11 53.9**	**-0.4**
PSI	3.1nm,0.3s,baz=288,slow=6.1,SNR=28			Sn	**Sn**	**13 12 34.2**	**-0.5**
PSI	4.0nm,0.3s,baz=32,slow=19,SNR=4.7			LR	LR	13 13 32.5	
PSI	**Prapat**	**3.49**	**88**	Pn	**Pn**	**13 11 53.9**	**-0.4**
PSI				Sn	**Sn**	**13 12 34.2**	**-0.5**
PSI				LR	LR	13 13 32.5	
KULM	**Kulim**	**5.83**	**63**	*eP*	**Pn**	**13 12 25.2**	**-1.1**
KKM	**Kota Kinabalu**	**20.99**	**80**	*eP*	**P**	**13 15 43.3**	**+0.3**
KMI	**Kunming**	**23.42**	**17**	P	**P**	**13 16 08.5**	**-0.3**
KMI				AMB	AMB		
	comp=Z,160nm,4.2s						
KMI				LR	LR		
	comp=N,280nm,13.0s						
KMI				LR	LR		
	comp=E,160nm,18.2s						
KMI				LR	LR		
	comp=Z,280nm,14.3s,MS3.9						
GYA	**Guiyang**	**26.00**	**23**	P	**P**	**13 16 32.0**	**-0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
LSA	**Lhasa**	**27.20**	**352**	*eP*	**P**	**13 16 43.8**	**+0.6**
CD2	**Chengdu**	**29.18**	**15**	*eP*	**P**	**13 17 01.9**	**+1.1**
CD2				AP	pP	13 17 09.1	+0.5
CD2				XP	sP	13 17 12.5	+0.6
CD2				PP	PP	13 17 56.9	-10
CD2				S	**S**	**13 21 52.9**	**+1.3**
CD2				XS	sS	13 22 05.4	+0.9
CD2				SS	SS	13 23 24.9	-31
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,70nm,12.0s						
CD2				LR	LR		
	comp=Z,90nm,11.2s,MS3.6						
XAN	**Xi'an**	**33.66**	**20**	P	**P**	**13 17 38.6**	**-1.7**
XAN				AP	pP	13 17 47.6	-0.5
XAN				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
BJT	**Baijiatuan**	**41.67**	**24**	*eP*	**P**	**13 18 48.5**	**+0.6**
WRA	**Warramunga Arr**	**44.30**	**122**	P	**P**	**13 19 09.2**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.8,baz=299,slow=9.7,SNR=15						
WRAB	**Tennant Creek**	**44.31**	**122**	*eP*	**P**	**13 19 09.2**	**-0.1**
MKAR	**Makanchi Array**	**45.42**	**347**	P	**P**	**13 19 18.6**	**+0.4**
	comp=Z,6.1nm,0.8s,mb4.5,baz=164,slow=8.3,SNR=43						
ASAR	**Alice Springs**	**45.68**	**127**	P	**P**	**13 19 20.6**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=299,slow=7.8,SNR=14						
SONM	**Songino Array**	**45.99**	**10**	P	**P**	**13 19 22.5**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=194,slow=8.9,SNR=15						
SONM				PcP	PcP	13 20 59.6	+0.6
	comp=Z,0.7nm,0.8s,baz=181,slow=4.4,SNR=3.9						
KURK	**Kurchatov**	**49.95**	**346**	*eP*	**P**	**13 19 53.5**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.5						
KURK				*e*pP	pP	13 20 00.6	-0.8
BVAR	**Borovoye Array**	**54.31**	**342**	P	**P**	**13 20 25.6**	**-0.1**
	comp=Z,2.5nm,0.8s,mb4.2,baz=142,slow=7.4,SNR=15						
BRVK	**Borovoye**	**54.37**	**342**	P	**P**	**13 20 25.3**	**-0.9**
	comp=Z,2.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**54.69**	**341**	*eP*	**P**	**13 20 28.2**	**-0.2**
	comp=Z,2.5nm,1.0s,mb4.2						
ZRNK				*e*pP	pP	13 20 35.5	-1.2
CHKZ	**Chkalovo**	**54.80**	**342**	*eP*	**P**	**13 20 28.9**	**-0.3**
	comp=Z,7.1nm,0.8s,mb4.8						
CHKZ				*e*pP	pP	13 20 36.2	-1.3

IDC 09 13:12:08.4±9.1, 2131S×6804W, h159km±63km, mb3.7/2, mb1 3.7/3, mb1mx3.4/14, mbtmp3.9/3, Error ellipse: s-maj=89.1km s-min=47.9km az=32.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.99**	**359**	P	Pn	13 13 22.5	+0.7
	0.9nm,0.3s,baz=191,slow=5.0,SNR=14						
LPAZ				S	Sn	13 14 20.8	+1.7
	0.1nm,0.3s,baz=72,slow=16,SNR=1.5						
TORD	**Torodi Ar. Bea**	**76.53**	**70**	P	P	13 23 41.5	+0.6
	0.4nm,0.4s,baz=258,slow=5.6,SNR=6.8						
YKA	**Yellowknife Ar**	**91.28**	**340**	P	P	13 24 55.1	-0.5
	1.0nm,0.6s,baz=133,slow=4.6,SNR=14						

*ISCJB **09** 13:35:22.3±0.9, 609N±02×1656E±02, h10km, mb4.0/10, MS3.3/1, Error ellipse: s-maj=23.0km s-min=16.8km az=172.2*
*MOS **09** 13:35:22.1±1.6, 6070N×16554E, h10km, mb4.2/2, Error ellipse: s-maj=32.9km s-min=17.8km az=105.1*
*IDC **09** 13:35:22.3±1.1, 6078N×16565E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, MS3.3/1, Ms1 3.3/1, ms1mx2.6/20, Error ellipse: s-maj=32.6km s-min=26.9km az=7.0*
*NEIC **09** 13:35:23.8±0.8, 6094N×16576E, h10km, mb4.3/3, Error ellipse: s-maj=18.8km s-min=16.3km az=113.0*
ISC 09 13:35:23.5±0.9, 609N±01×1657E±02, h10km, n17, σ0§84/16, mb4.0/10, MS3.3/1, 1C-1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**7.16**	**2**	*de*PN	**Pn**	**13 37 15.2**	**+7.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BILL	**Bilibino**	**7.16**	**2**	P	**Pn**	**13 37 06.6**	**-1.6**
	comp=Z,3.5nm,0.5s						
MA2	**Magadan**	**7.57**	**266**	*c iP*N	**Pn**	**13 37 14.3**	**+0.5**
MA2				pmax	pmax		
	comp=E,8.0nm,0.3s						
MA2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
SONM	**Songino Array**	**35.65**	**276**	P	**P**	**13 42 23.2**	**+1.6**
	comp=Z,0.7nm,0.9s,mb3.6,baz=48,slow=8.6,SNR=3.9						
KURK	**Kurchatov**	**46.44**	**299**	P	**P**	**13 43 50.3**	**-0.1**
	comp=Z,4.4nm,0.4s,mb4.7						
ARCES	**ARCESS Array B**	**46.79**	**342**	LR	LR	14 09 45.0	
	comp=Z,31nm,18.1s,MS3.3,baz=337,slow=44						
CHKZ	**Chkalovo**	**47.52**	**307**	*eP*	**P**	**13 43 59.0**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**47.52**	**307**	*eP*	**P**	**13 43 59.0**	**+0.2**
	comp=Z,2.5nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**47.76**	**293**	P	**P**	**13 44 00.2**	**-0.5**
	comp=Z,0.9nm,0.6s,mb4.0,baz=44,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**47.76**	**293**	P	**P**	**13 44 00.2**	**-0.5**
BVAR	**Borovoye Array**	**48.10**	**306**	P	**P**	**13 44 03.1**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.2,baz=55,slow=7.8,SNR=8.8						
ZRNK	**Zerenda**	**48.70**	**307**	P	**P**	**13 44 07.7**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**48.70**	**307**	P	**P**	**13 44 07.7**	**-0.3**
	comp=Z,1.4nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**51.43**	**70**	P	**P**	**13 44 30.1**	**+1.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=316,slow=5.3,SNR=7.1						
NOA	**NORSAR Array B**	**56.81**	**346**	P	**P**	**13 45 08.0**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=14,slow=7.3,SNR=2.3						
WRA	**Warramunga Arr**	**84.46**	**210**	P	**P**	**13 47 55.5**	**-0.9**
	comp=Z,0.7nm,0.8s,mb3.8,baz=11,slow=5.5,SNR=6.8						
ASAR	**Alice Springs**	**88.14**	**209**	P	**P**	**13 48 13.5**	**-1.0**
	comp=Z,0.2nm,0.6s,mb3.5,baz=15,slow=4.3,SNR=3.7						

*GUC **09** 13:39:40.8±0.9, 3089S×7206W, h19km±6km, MD4.2, ML4.3*
*ISCJB **09** 13:39:42.4±0.8, 3083S±004×692W±0.1, h55km±20km, mb4.7/1, Error ellipse: s-maj=16.1km s-min=6.7km az=18.2*
*NEIC **09** 13:39:43.6±0.7, 3082S×6942W, h50km±13km, mb4.7/1, Error ellipse: s-maj=13.0km s-min=7.9km az=91.0*
*IDC **09** 13:39:48.3±3.9, 3087S×6889W, h79km±35km, mb1 3.5/3, mb1mx3.3/17, mbtmp3.5/3, Error ellipse: s-maj=72.7km s-min=33.3km az=112.0*
ISC 09 13:39:44.5±0.7, 3085S±004×693W±01, h62km±18km, n20, σ1§01/30, mb4.7/1, 6C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.49**	**296**	⇓*iP*	**Pn**	**13 40 04.3**	**-4.8**
TLL				*i S*	**Sn**	**13 40 20.9**	**-6.7**
TLL				AML	AML	13 40 22.7	
	comp=E,4μm,0.2s						
TLL	**Tololo Astrono**	**1.49**	**296**	⇓*iP*	**Pn**	**13 40 04.3**	**-4.8**
TLL				*i S*	**Sn**	**13 40 20.9**	**-6.7**
LCO	**Las Campanas**	**2.21**	**325**	⇑*iP*	**Pn**	**13 40 18.3**	**-0.6**
LCO				*i S*	**Sn**	**13 40 46.6**	**+1.5**
CLCH	**Cerro Calan**	**2.77**	**203**	⇑*iP*	**Pn**	**13 40 25.9**	**-0.5**
CLCH				*i S*	**Sn**	**13 41 00.1**	**+1.5**
CLCH				AML	AML	13 41 10.6	
	comp=N,1μm,0.5s						
CLCH	**Cerro Calan**	**2.77**	**203**	⇑*iP*	**Pn**	**13 40 25.9**	**-0.5**
CLCH				*i S*	**Sn**	**13 41 00.1**	**+1.5**
ANTU	**Antumapu**	**2.96**	**203**	*eP*	**Pn**	**13 40 27.6**	**-1.3**
ANTU				*i S*	**Sn**	**13 41 03.1**	**-0.1**
ANTU				AML	AML	13 41 04.0	
	comp=E,964nm,0.4s						
ANTU	**Antumapu**	**2.96**	**203**	*eP*	**Pn**	**13 40 27.6**	**-1.3**
ANTU				*i S*	**Sn**	**13 41 03.1**	**-0.1**
LMEL	**Las Melosas**	**3.10**	**195**	⇑*iP*	**Pn**	**13 40 30.7**	**-0.2**
LMEL				*i S*	**Sn**	**13 41 11.2**	**+4.5**
LMEL				AML	AML	13 41 15.0	
	comp=N,628nm,0.2s						
LMEL	**Las Melosas**	**3.10**	**195**	⇑*iP*	**Pn**	**13 40 30.7**	**-0.2**
LMEL				*i S*	**Sn**	**13 41 11.2**	**+4.5**
CHCH	**Chadas Angostu**	**3.30**	**201**	⇑*iP*	**Pn**	**13 40 32.2**	**-1.4**
CHCH				*i S*	**Sn**	**13 41 11.5**	**-0.1**
CACH	**El Canelo**	**3.45**	**199**	⇓*iP*	**Pn**	**13 40 35.1**	**-0.6**
CACH				*i S*	**Sn**	**13 41 16.4**	**+1.0**
LVC	**Limon Verde**	**8.21**	**2**	*eP*	**Pn**	**13 41 41.1**	**+0.3**
	comp=N,8.0nm,0.8s						
TRQA	**Tornquist**	**9.37**	**142**	*eP*	**Pn**	**13 41 57.5**	**+0.8**
	comp=N,17nm,0.7s						
PLCA	**Paso Flores**	**9.92**	**186**	P	**Pn**	**13 42 08.2**	**+4.0**
	comp=N,0.1nm,0.3s,baz=11,slow=16,SNR=3.0						
PLCA				Lg		13 44 59.8	
	comp=N,0.1nm,0.3s,baz=231,slow=12,SNR=2.3						
CPUP	**Villa Florida**	**11.41**	**70**	P	**Pn**	**13 42 24.4**	**-0.1**
	comp=N,0.8nm,0.3s,baz=231,slow=10,SNR=5.4						
CPUP	**Villa Florida**	**11.41**	**70**	P	**Pn**	**13 42 24.4**	**-0.1**
LPAZ	**La Paz**	**14.53**	**4**	P	**Pn**	**13 43 10.6**	**+4.0**
	comp=N,0.1nm,0.3s,baz=203,slow=7.7,SNR=3.0						
LPAZ	**La Paz**	**14.53**	**4**	P	**Pn**	**13 43 09.8**	**+3.3**
	comp=N,2.1nm,0.7s						
QSPA	**South Pole Qui**	**59.38**	**180**	*eP*	**P**	**13 49 40.3**	**-0.1**
	comp=N,2.9nm,0.4s,mb4.7						
QSPA				*e*PcP	PcP	13 50 16.2	-11
MKAR	**Makanchi Array**	**152.91**	**46**	PKPbc	PKPbc	13 59 35.6	+1.1
	comp=N,0.8nm,0.7s,baz=279,slow=2.4,SNR=8.1						

*BJI **09** 14:08:34.3, 5320N×16140W, h33km, mB5.1, mb4.5, Ms4.2, Msz4.0*
NEIC 09 14:08:38.3, 5325N×16136W, h34km, ML3.5(AEIC), After AEIC., South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**2.02**	**324**	P	Pn	14 09 08.7	-1.2
FALS				S	Sn	14 09 33.6	-0.4
SDPT	**Sand Point**	**2.17**	**14**	P	Pn	14 09 10.4	-1.6
SDPT				S	Sn	14 09 35.9	-1.8
AKUT	**Akutan**	**2.77**	**291**	P	Pn	14 09 19.6	-0.7
AKLV	**Akutan Long Va**	**2.88**	**290**	P	Pn	14 09 21.6	-0.2
UNV	**Unalaska Valle**	**3.12**	**283**	P	Pn	14 09 24.2	-0.9
MDJ	**Mudanjiang**	**44.52**	**288**	P	P	14 16 42.9	-3.7
MDJ				AMB	AMB		
	comp=Z,120nm,3.5s						
CN2	**Changchun**	**47.38**	**290**	*eP*	P	14 17 05.8	-3.3
WMQ	**Urumqi**	**66.67**	**313**	*eP*	P	14 19 23.8	-1.8
WMQ				AMB	AMB		
	comp=Z,110nm,5.0s						

*IDC **09** 14:12:42.6±1.0, 1316N×8889W, h0km, mb4.1/8, mb1 4.3/11, mb1mx4.1/22, mbtmp4.1/11, ML3.8/3, MS3.5/5, Ms1 3.5/5, ms1mx3.1/23, Error ellipse: s-maj=39.2km s-min=14.0km az=48.0*
*BJI **09** 14:12:43.9, 1260N×8940W, h54km, Ms4.8, Msz4.7*
*CASC **09** 14:12:45.4±3.4, 1282N×8928W, h135km±66km, MD4.4, ML3.3, mb4.4(NEIC)*
*ISCJB **09** 14:12:46.5±0.9, 127N±0.1×8935W±007, h62km±7km, mb4.3/21, Error ellipse: s-maj=19.9km s-min=5.7km az=67.3*
*NEIC **09** 14:12:47.0±1.4, 1262N×8936W, h55km±14km, mb4.4/17, Error ellipse: s-maj=23.5km s-min=8.3km az=224.0*
ISC 09 14:12:48.3±0.8, 1263N±010×8929W±008, h65km±6km, n56, σ1§35/46, mb4.2/21, 4C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBS	**La Ceiba**	**1.06**	**17**	⇑*eP*	x	14 13 15.4	
LCBS				*eS*	x	14 13 32.1	
BOQS	**Boqueron**	**1.10**	**1**	⇓*eP*	x	14 13 15.6	
BOQS				*eS*	x	14 13 33.2	
LBRS	**Las Brisas**	**1.13**	**12**	*eP*	x	14 13 16.7	
LBRS				*eS*	x	14 13 37.6	
SBLS	**San Blas**	**1.24**	**345**	*eP*	x	14 13 16.9	
SBLS				*eS*	x	14 13 37.1	
SNJE	**San Jose**	**1.27**	**346**	⇑*eP*	x	14 13 17.2	
SNJE				*eS*	x	14 13 38.5	
BLLM	**Bellamira**	**1.31**	**52**	*eP*	x	14 13 20.2	
BLLM				*eS*	x	14 13 40.1	
MTO2	**Montecristo 2**	**1.76**	**358**	⇑*eP*	x	14 13 25.3	
MTO2				*eS*	x	14 13 50.4	
CRIN	**San Cristobal**	**2.19**	**88**	*eP*	**Pn**	**14 13 22.8**	**+0.4**
FUG	**Fuego 3**	**2.35**	**320**	*eP*	**Pn**	**14 13 22.0**	**-2.6**
LEON	**Leon**	**2.35**	**95**	*eP*	**Pn**	**14 13 24.0**	**-0.6**
MIRN	**Miramar**	**2.53**	**94**	*eP*	**Pn**	**14 13 26.6**	**-0.4**
COPN	**Copaltepe**	**2.68**	**99**	*eP*	**Pn**	**14 13 28.9**	**-0.1**
COPN				*eS*	**Sn**	**14 14 02.5**	**+2.2**
COPN				*i*		14 14 07.4	
	comp=Z,158nm,0.5s						
MOMJ	**Momotombo**	**2.70**	**94**	*eP*	**Pn**	**14 13 28.8**	**-0.5**
TP2	**Tecpan 2**	**2.72**	**322**	*eP*	**Pn**	**14 13 27.0**	**-2.6**
TP2				*eS*	**Sn**	**14 14 02.9**	**+1.5**
JTS	**JuntasAbangare**	**4.85**	**118**	Pn	**Pn**	**14 13 58.1**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=307,slow=14,SNR=7.5						
JTS				Sn	**Sn**	**14 14 50.9**	**-2.6**
	baz=311,slow=19,SNR=2.5						
JTS				LR	LR	14 16 11.0	
	comp=Z,338nm,20.3s,baz=50,slow=43						
JTS	**JuntasAbangare**	**4.85**	**118**	*e*Pn	**Pn**	**14 13 58.3**	**-0.4**
CMIG	**Matias Romero**	**6.99**	**310**	Pn	**Pn**	**14 14 25.1**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=88,slow=8.5,SNR=9.9						
CMIG				Sn	**Sn**	**14 15 47.0**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=279,slow=19,SNR=1.9						
CTCR	**Cotoan**	**7.41**	**119**	⇑*iP*	**Pn**	**14 14 36.1**	**+2.3**
TEIG	**Tepich**	**7.62**	**7**	*e*Pn	**Pn**	**14 14 38.2**	**+1.7**
	comp=Z,9.8nm,0.7s						
SDV	**Santo Domingo**	**18.70**	**100**	P	**Pn**	**14 17 01.3**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=293,slow=10,SNR=4.6						
SDV	**Santo Domingo**	**18.70**	**100**	P	**Pn**	**14 17 02.5**	**+0.1**
	comp=Z,5.0nm,0.6s						
JCT	**Junction City**	**20.25**	**333**	*eP*	**P**	**14 17 17.3**	**-0.9**
	comp=Z,12nm,0.8s						
LRAL	**Lakeview Retre**	**20.42**	**6**	*eP*	**P**	**14 17 21.1**	**+1.1**
	comp=Z,6.0nm,0.8s						
LTX	**Lajitas**	**21.32**	**323**	*eP*	**P**	**14 17 31.0**	**+1.3**
	comp=Z,34nm,1.4s,mb4.5						
OXF	**Oxford**	**21.78**	**360**	*eP*	**P**	**14 17 35.2**	**+0.6**
	comp=Z,24nm,0.8s,mb4.6						
UALR	**University of**	**22.22**	**353**	*eP*	**P**	**14 17 39.0**	**-0.3**
	comp=Z,28nm,1.0s,mb4.5						
LPIG	**La Paz**	**22.94**	**303**	LR	LR	14 27 50.0	
	comp=Z,221nm,

comp=Z,16nm,21.4s,baz=5.0,slow=33
TORD Torodi Ar. Bea 88.12 77 P **P 14 25 32.4 +0.6**
comp=Z,0.4nm,0.5s,mb3.7,baz=288,slow=5.7,SNR=4.6
HHC Hu-ho-hao-te 123.39 341 *e*PKP PKPdf 14 31 34.5 -3.4
HHC PP PP 14 33 20.4 +0.9
HHC PKS 14 35 10.0
HHC LR LR
comp=N,80nm,23.8s
HHC LR LR
comp=E,90nm,29.7s
HHC LR LR
comp=Z,110nm,21.4s
WMQ Urumqi 123.76 3 *e*PKP PKPdf 14 31 37.0 -1.6
SSE Sheshan 127.59 327 PKP PKPdf 14 31 42.7 -3.2
LZH Lanzhou 129.98 346 *e*PKP PKPdf 14 31 50.3 -0.2
LZH LR LR
comp=N,130nm,18.7s
LZH LR LR
comp=Z,230nm,20.4s
CD2 Chengdu 134.93 344 *e*PKP PKPdf 14 31 54.6 -5.2

NNC 09 14:41:14.9±3.3, 3911N×6916E, h0km, mb3.1, mpv2.6, 4C-2D, Error ellipse: s-maj=31.5km s-min=17.2km az=2.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.12**	**14**	⇑Pn	Pn	14 42 21.7	+2.6
	0.5nm,0.3s,baz=200,slow=14,SNR=38						
KK31				⇓Pg	Pg	14 42 31.4	-2.6
	0.6nm,0.2s,baz=195,slow=16,SNR=11						
KK31				⇑Lg		14 43 24.2	
	4.9nm,0.5s,baz=204,slow=28,SNR=9.0						
TKM2 **Tokmak 2** **6.18** **50** ⇓Pn Pn 14 42 47.1 -0.4
0.1nm,0.3s
TKM2 ⇑Sn Sn 14 44 00.4 +1.5
0.3nm,0.7s
AB31 **Akbulak array** **12.10** **330** Pn Pn 14 44 10.6 +2.0
0.3nm,0.3s,baz=155,slow=12,SNR=11
AB31 ⇑Sn Sn 14 46 23.4 -0.9
0.5nm,0.5s,baz=148,slow=23,SNR=4.0

*ISK **09** 15:01:21.6, 3973N×4069E, h5km, MD3.5*
*CSEM **09** 15:01:21.6±0.3, 3972N×4071E, h0km±1km, MD3.5, Error ellipse: s-maj=3.0km s-min=2.0km az=142.0*
*ISCJB **09** 15:01:23.0±0.4, 3975N±003×4068E±004, h5km, Error ellipse: s-maj=4.4km s-min=3.9km az=73.9*
ISC 09 15:01:23.7±0.4, 3973N±003×4070E±004, h5km, n18, σ1§14/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.54**	**71**	*i*PG	**Pg**	**15 01 32.9**	**-1.1**
ERZM	**Erzurum**	**0.54**	**71**	*i*P	**Pg**	**15 01 32.6**	**-1.4**
ERZM				*i*S	**Sg**	**15 01 41.0**	**-0.1**
BNGL	**BINGOL**	**0.85**	**156**	*i*P	**Pg**	**15 01 37.8**	**-2.2**
BNGL				*i*S	**Sg**	**15 01 52.0**	**+1.0**
BTMT	**Batman**	**1.65**	**158**	PN	**Pn**	**15 01 53.3**	**0.0**
BTMT				SN	**Sn**	**15 02 16.5**	**+1.6**
ARTV	**Artvin**	**1.73**	**32**	*i*P	**Pn**	**15 01 53.5**	**-0.9**
ARTV				*i*S	**Sn**	**15 02 18.6**	**+1.7**
ELZG	**Elazig**	**1.81**	**228**	*i*P	**Pn**	**15 01 54.9**	**-0.7**
ELZG				*i*S	**Sn**	**15 02 19.9**	**+0.9**
BCA	**Borcka**	**1.85**	**22**	PN	**Pn**	**15 01 55.1**	**-1.0**
BCA				SN	**Sn**	**15 02 21.3**	**+1.5**
BEST	**Besiri**	**1.89**	**166**	*i*P	**Pn**	**15 01 57.1**	**+0.6**
BEST				*i*S	**Sn**	**15 02 23.9**	**+3.2**
KARS	**Kars**	**2.03**	**64**	PN	**Pn**	**15 01 58.5**	**-0.1**
GRSN	**GIRESUNGRSN**	**2.21**	**303**	*i*P	**Pn**	**15 02 02.0**	**+1.1**
GRSN				*i*S	**Sg**	**15 02 34.1**	**-0.5**
MYA	**Malataya**	**2.26**	**232**	PN	**Pn**	**15 02 01.5**	**-0.1**
MALT	**Malatya**	**2.27**	**232**	PN	**Pn**	**15 02 01.3**	**-0.4**
MARD	**Mardin**	**2.41**	**179**	*i*P	**Pn**	**15 02 02.1**	**-1.6**
MARD				*i*S	**Sg**	**15 02 38.2**	**-2.9**
MARD	**Mardin**	**2.41**	**179**	*i*P	**Pn**	**15 02 02.1**	**-1.7**
MARD				*i*S	**Sg**	**15 02 38.2**	**-3.0**
CLDR	**Caldiran**	**2.56**	**102**	*e*PN	**Pn**	**15 02 06.0**	**+0.2**
URFA	**Urfa**	**2.72**	**213**	*e*PN	**Pn**	**15 02 07.5**	**-0.5**
SVSK	**Karacayir**	**2.86**	**275**	*e*PN	**Pn**	**15 02 10.5**	**+0.6**
CUKT	**Cukurca**	**3.37**	**136**	*e*PN	**Pn**	**15 02 18.0**	**+1.1**

CASC 09 15:11:51.3±4.8, 1258N×8961W, h0km±43km, MD4.0, 6C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	**Boqueron**	**1.20**	**16**	⇑*i*P	x	15 12 25.5	
BOQS				*e*S	x	15 12 43.4	
LCBS	**La Ceiba**	**1.24**	**30**	⇑*e*P	x	15 12 24.6	
LCBS				*e*S	x	15 12 44.6	
SBLS	**San Blas**	**1.25**	**360**	⇑*e*P	x	15 12 26.1	
SBLS				*e*S	x	15 12 43.5	
LFU	**La Fuente**	**1.26**	**23**	⇓*e*P	x	15 12 25.9	
LFU				*e*S	x	15 12 44.3	
SNVI	**San Vicente**	**1.28**	**36**	*e*P	x	15 12 25.2	
SNVI				*e*S	x	15 12 42.2	
SNJE	**San Jose**	**1.28**	**0**	⇑*e*P	x	15 12 26.4	
SNJE				*e*S	x	15 12 47.8	
RTR	**El Retiro**	**1.31**	**359**	⇑*e*P	x	15 12 27.1	
RTR				*e*S	x	15 12 46.8	
RBDL	**Robledal**	**1.53**	**357**	⇓*e*P	x	15 12 30.4	
RBDL				*e*S	x	15 12 55.1	
TP2	**Tecpan 2**	**2.58**	**328**	⇑*e*P	Pn	15 12 35.9	+1.5
TP2				*e*S	Sn	15 13 09.3	+2.8

*CSEM **09** 15:37:04.3, 3666N×538E, h0km, ML3.5, After ALG*
CRAAG 09 15:37:04.3, 3666N×538E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.41**	**106**	P	Pg	15 37 13.5	+1.2
SET	**Setif**	**0.46**	**178**	P	Pg	15 37 15.0	+1.8
CKHR	**Kef el Ahmar**	**0.65**	**171**	P	Pg	15 37 17.5	+0.7
CASM	**Ain Smara**	**0.98**	**114**	P	Pg	15 37 24.0	+0.9
CTEI	**Djebel Teioual**	**1.02**	**126**	P	Pg	15 37 30.0	+6.1
CKFL	**Kef-Lekhel**	**1.11**	**103**	P	Pg	15 37 27.0	+1.4
CMER	**Merouana**	**1.12**	**158**	P	Pg	15 37 29.0	+3.2
CAEH	**'Ain El Ouahch**	**1.18**	**84**	P	Pg	15 37 26.0	-1.0
CMAH	**Djebel Manchou**	**1.64**	**91**	P	Pn	15 37 36.0	+1.6
ABSA	**Djebel Ababsia**	**1.73**	**102**	P	Pn	15 37 37.0	+1.3

MAN 09 15:46:52.4, 1093N×12516E, h42km, mb2.2, ML3.8, MS2.3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.29**	**322**	*e*P	Pn	15 47 02.6	+1.8
PLP				*e*S	Sn	15 47 09.5	+2.9
BESP	**Borongan**	**0.72**	**22**	*e*P	Pn	15 47 09.2	+3.0
MSLP	**Maasin**	**0.85**	**201**	*e*P	Pn	15 47 09.6	+1.6
SCPH	**Surigao**	**1.19**	**164**	*e*P	Pn	15 47 13.2	+0.6

*IDC **09** 15:53:02.6±1.0, 5308N×16931W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/23, mbtmp3.9/9, ML4.1/1, Error ellipse: s-maj=36.1km s-min=19.8km az=149.0*
*ISCJB **09** 15:53:12.9±0.5, 5311N±0.1×16896W±0.10, h92km±4km, mb3.7/8, Error ellipse: s-maj=19.9km s-min=6.8km az=134.6*
*NEIC **09** 15:53:15.6, 5300N×16876W, h77km, MG3.8(AEIC), After AEIC.*
ISC 09 15:53:13.7±0.5, 531N±01×1689W±01, h89km±4km, n19, σ1§07/24, mb3.7/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.12**	**168**	P	**Pn**	**15 53 26.2**	**-0.1**
NIKO				S	**Sn**	**15 53 35.3**	**-0.4**
OKCE	**Okmok Cone E**	**0.55**	**52**	P	**Pn**	**15 53 29.1**	**+0.2**
OKCE				S	**Sn**	**15 53 40.2**	**+0.2**
OKCD	**Okmok Cone D**	**0.58**	**54**	P	**Pn**	**15 53 29.4**	**+0.4**
UNV	**Unalaska Valle**	**1.62**	**61**	P	**Pn**	**15 53 41.2**	**+0.3**
UNV				S	**Sn**	**15 54 01.2**	**-0.4**
AKUT	**Akutan**	**2.14**	**59**	P	**Pn**	**15 53 48.5**	**+0.9**
ATKA	**Atka Island**	**3.35**	**257**	*e*Pn	**Pn**	**15 54 05.3**	**+1.5**
ATKA				*e*Sn	**Sn**	**15 54 41.3**	**-1.3**
SPIA	**Saint Paul Isl**	**4.17**	**350**	P	**Pn**	**15 54 16.8**	**+1.8**
AMKA	**Amchitka**	**7.45**	**261**	P	**Pn**	**15 54 59.9**	**+0.2**
KDAK	**Kodiak Island**	**10.38**	**57**	Pn	**Pn**	**15 55 37.2**	**-2.4**
	1.3nm,0.3s,baz=150,slow=18,SNR=6.1						
KDAK				Sn	**Sn**	**15 57 27.4**	**-6.7**
	0.6nm,0.3s,baz=198,slow=20,SNR=2.5						
SLKM	**Skilak Lake**	**12.61**	**47**	*e*Pn	**Pn**	**15 56 07.7**	**-2.0**
SKAG	**Skagway**	**19.54**	**58**	*e*P	**Pn**	**15 57 35.0**	**-1.2**
DLBC	**Dease Lake**	**22.27**	**61**	P	**P**	**15 58 05.2**	**+1.8**
	1.7nm,0.5s,mb3.7,baz=182,slow=20,SNR=4.4						
INK	**Inuvik**	**22.59**	**34**	P	**P**	**15 58 05.9**	**-0.9**
	2.4nm,0.4s,mb3.9,baz=226,slow=10,SNR=11						
YKA	**Yellowknife Ar**	**29.55**	**50**	P	**P**	**15 59 10.4**	**+0.5**
	0.3nm,0.5s,mb3.2,baz=273,slow=8.1,SNR=3.7						
NVAR	**Mina Array Bea**	**37.40**	**92**	P	**P**	**16 00 19.9**	**+2.0**
	1.5nm,0.7s,mb4.0,baz=302,slow=7.3,SNR=12						
PDAR	**Pinedale Array**	**39.99**	**80**	P	**P**	**16 00 39.6**	**+0.1**
	1.2nm,0.8s,mb3.8,baz=319,slow=4.3,SNR=5.6						
FINES	**FINESS Array B**	**65.19**	**352**	P	**P**	**16 03 44.9**	**-0.6**
	0.5nm,0.4s,mb3.7,baz=20,slow=6.3,SNR=5.4						
WRA	**Warramunga Arr**	**87.68**	**232**	P	**P**	**16 05 51.7**	**-0.6**
	0.5nm,0.8s,mb3.6,baz=36,slow=5.9,SNR=6.8						
ASAR	**Alice Springs**	**91.08**	**230**	P	**P**	**16 06 08.0**	**-0.2**
	0.3nm,0.6s,mb3.6,baz=30,slow=4.7,SNR=9.6						

*IDC **09** 16:01:35.1±0.7, 1524S×17304W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.2/17, mbtmp4.1/8, MS3.7/9, Ms1 3.7/9, ms1mx3.4/24, Error ellipse: s-maj=38.3km s-min=16.7km az=130.0*
*BJI **09** 16:01:36.7, 1520S×17310W, h10km, mB5.2, mb4.9, Ms4.8, Ms24.3*
*NEIC **09** 16:01:36.8±0.3, 1517S×17307W, h10km, mb4.7/10, Error ellipse: s-maj=20.0km s-min=8.0km az=133.0*
*ISCJB **09** 16:01:38.7±0.4, 1532S±0.10×1730W±0.1, h33km, mb4.5/21, MS3.9/12, Error ellipse: s-maj=18.2km s-min=9.0km az=89.5*
*SZGRF **09** 16:01:40.1, 1586S×17296W, h45km, Samoa Islands region*
ISC 09 16:01:40.7±0.4, 153S±01×1729W±01, h35km, n63, σ1§25/41, mb4.5/21, MS3.9/12, 2C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.76**	**38**	Pn	**Pn**	**16 02 06.3**	**-2.4**
	415nm,0.3s,baz=88,slow=0.7,SNR=1251						
AFI				Sn	**Sn**	**16 02 24.4**	**-5.6**
	1μm,0.3s,baz=60,slow=22,SNR=20						
AFI	**Afiamalu**	**1.76**	**38**	*e*Pn	**Pn**	**16 02 06.4**	**-2.4**
AFI				*e*Sn	**Sn**	**16 02 21.8**	**-8.2**
RAR	**Rarotonga**	**13.76**	**117**	LR	LR	16 09 03.2	
	comp=Z,98nm,19.8s,baz=225,slow=32						
PPT	**Papeete**	**22.47**	**99**	*e*LR	LR	16 11 54.3	
	150nm,27.8s						
PPT	**Papeete**	**22.47**	**99**	LR	LR	16 12 48.8	
	comp=Z,173nm,20.6s,MS3.5,baz=310,slow=30						
TBI	**Tubuai**	**23.48**	**114**	*e*LR	LR	16 12 26.8	
	180nm,28.0s						
URZ	**Urewera**	**24.50**	**199**	P	**P**	**16 06 54.6**	**-2.0**
	8.4nm,0.3s,mb4.7,baz=143,slow=0.7,SNR=15						
HNR	**Honiara**	**27.16**	**279**	LR	LR	16 16 40.8	
	comp=Z,109nm,18.8s,MS3.4,baz=92,slow=34						
CTA	**Charters Tower**	**39.15**	**257**	LR	LR	16 21 26.2	
	comp=Z,34nm,20.6s,MS3.2,baz=48,slow=30						
WB2	**Warramunga Arr**	**50.33**	**257**	*e*P	**P**	**16 10 34.0**	**0.0**
WRA	**Warramunga Arr**	**50.35**	**257**	P	**P**	**16 10 33.1**	**-1.0**
	0.4nm,0.5s,mb3.7,baz=97,slow=6.0,SNR=15						
AS31	**Alice Springs**	**50.61**	**252**	*e*P	**P**	**16 10 35.5**	**-0.6**
ASAR	**Alice Springs**	**50.61**	**252**	P	**P**	**16 10 34.4**	**-1.7**
	1.1nm,0.6s,mb4.0,baz=88,slow=7.9,SNR=26						
ASPA	**Alice Springs**	**50.61**	**252**	*e*P	**P**	**16 10 35.5**	**-0.6**
SBA	**Scott Base**	**63.37**	**185**	*e*P	**P**	**16 12 08.4**	**+2.0**
	4.5nm,1.1s,mb4.5						
VNDA	**Vanda**	**63.51**	**186**	P	**P**	**16 12 08.7**	**+1.4**
	0.9nm,0.8s,mb3.9,baz=11,slow=4.4,SNR=5.7						
VNDA	**Vanda**	**63.51**	**186**	*e*P	**P**	**16 12 08.1**	**+0.8**
	1.2nm,0.9s,mb3.9						
MJAR	**Matsushiro Arr**	**69.20**	**320**	LR	LR	16 37 17.5	
	comp=Z,116nm,19.1s,MS4.1,baz=50,slow=31						
CASY	**Casey**	**70.69**	**205**	*e*P	**P**	**16 12 48.7**	**-4.2**
	5.5nm,0.7s,mb4.6						
CMB	**Columbia Colle**	**72.37**	**41**	P	**P**	**16 13 02.9**	**-0.2**
	3.5nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**73.94**	**42**	P	**P**	**16 13 13.3**	**+1.1**
	0.9nm,0.6s,mb3.9,baz=221,slow=7.0,SNR=7.6						
SSE	**Sheshan**	**78.30**	**307**	P	**P**	**16 13 38.5**	**+1.4**
SSE				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,100nm,4.0s						
MDJ	**Mudanjiang**	**79.26**	**322**	P	**P**	**16 13 43.5**	**+1.1**
MDJ				S	S	16 23 37.8	-2.3
MDJ				SS	SS	16 28 50.0	+2.9
MDJ				AMB	AMB		
	comp=Z,50nm,3.6s						
MDJ				LR	LR		
	comp=N,20nm,21.8s,MS3.6						
MDJ				LR	LR		
	comp=E,20nm,21.8s,MS3.6						
MDJ				LR	LR		
	comp=Z,50nm,23.9s,MS3.8						
ANMO	**Albuquerque**	**80.37**	**50**	P	**P**	**16 13 48.8**	**+0.4**
	comp=Z,6.3nm,1.5s,mb4.3						
NJ2	**Nanjing**	**80.51**	**307**	*e*P	**P**	**16 13 52.0**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
MCMT	**McKenzie Canyo**	**80.88**	**39**	*e*P	**P**	**16 13 51.8**	**+0.7**
MCK	**McKinley**	**80.95**	**11**	*e*P	**P**	**16 13 50.4**	**-1.1**
	comp=Z,7.7nm,0.8s,mb4.7						
CN2	**Changchun**	**81.34**	**320**	*e*P	**P**	**16 13 56.6**	**+3.0**
SNY	**Shenyang**	**81.55**	**317**	P	**P**	**16 13 57.2**	**+2.5**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
CHMT	**Chamberlain Mo**	**81.76**	**37**	*e*P	**P**	**16 13 56.0**	**+0.2**
PDAR	**Pinedale Array**	**81.87**	**42**	P	**P**	**16 13 56.3**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=270,slow=1.5,SNR=8.1						
PDAR				LR	LR	16 45 59.5	
	comp=Z,52nm,18.4s,MS3.9,baz=60,slow=32						
COLA	**College**	**82.19**	**11**	*e*P	**P**	**16 13 57.1**	**-0.9**
	comp=Z,16nm,0.8s,mb5.0						
HRY	**Holter Researc**	**82.48**	**37**	*e*P	**P**	**16 14 00.1**	**+0.5**
WALA	**Waterton Lakes**	**82.56**	**35**	*e*P	**P**	**16 13 59.9**	**-0.1**
	comp=Z,7.8nm,1.5s,mb4.5						
DAWY	**Dawson**	**83.22**	**14**	*e*P	**P**	**16 14 02.5**	**-0.9**
GCMT	**Greycliff**	**83.30**	**39**	*e*P	**P**	**16 14 04.8**	**+0.9**
EDM	**Edmonton**	**85.16**	**31**	P	**P**	**16 14 12.3**	**-1.0**
LAO	**LASA Array**	**85.83**	**39**	*e*P	**P**	**16 14 17.7**	**+1.1**
	comp=Z,19nm,1.1s,mb5.2						
INK	**Inuvik**	**88.07**	**14**	P	**P**	**16 14 26.9**	**-0.6**
	comp=Z,3.8nm,0.9s,mb4.6,baz=209,slow=5.5,SNR=11						
INK				LR	LR	16 47 44.5	
	comp=Z,58nm,20.2s,MS4.0,baz=146,slow=32						
INK	**Inuvik**	**88.07**	**14**	*e*P	**P**	**16 14 26.3**	**-1.1**
	comp=Z,4.7nm,0.9s,mb4.7						
HHC	**Hu-ho-hao-te**	**89.33**	**313**	⇑*e*P	**P**	**16 14 35.1**	**+1.7**
HHC				PP	PP	16 18 08.8	+4.4
HHC				SKS		16 24 59.4	
HHC				S		16 25 19.6	
HHC				SS	SS	16 31 18.7	+3.0
HHC				AMB	AMB		
	comp=Z,130nm,5.8s						
HHC				LR	LR		
	comp=N,160nm,19.0s,MS4.6						
HHC				LR	LR		
	comp=E,210nm,22.6s,MS4.6						
HHC				LR	LR		
	comp=Z,60nm,16.7s						
YKA	**Yellowknife Ar**	**89.83**	**23**	P	**P**	**16 14 34.6**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.5,baz=236,slow=4.3,SNR=16						
YKA				LR	LR	16 47 25.4	
	comp=Z,63nm,19.1s,MS4.1,baz=285,slow=31						
KMI	**Kunming**	**91.44**	**296**	P	**P**	**16 14 48.3**	**+5.1**
KMI				S		16 25 42.7	
KMI				SS	SS	16 31 47.4	+1.2
KMI				AMB	AMB		
	comp=Z,90nm,3.5s						
KMI				LR	LR		
	comp=Z,30nm,17.8s,MS3.8						
CD2	**Chengdu**	**92.19**	**301**	*e*P	**P**	**16 14 45.2**	**-1.5**
CD2				XP	sP	16 14 52.5	-9.4
CD2				PP	PP	16 18 27.4	+0.3
CD2				SKS		16 25 15.9	
CD2				S		16 25 43.9	
CD2				SS	SS	16 31 56.0	-1.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
SYO	**Syowa Base**	**92.78**	**191**	⇑*e*P	**P**	**16 14 49.3**	**-0.1**
LZH	**Lanzhou**	**93.57**	**306**	*e*P	**P**	**16 14 49.5**	**-3.6**
LZH				AP	pP	16 15 03.1	-1.1
LZH				XP	sP	16 15 08.9	+0.7
LZH				PP	PP	16 18 38.5	+0.6
LZH				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,50nm,9.3s						
LZH				LR	LR		
	comp=E,180nm,18.2s						
LZH				LR	LR		
	comp=Z,270nm,19.7s,MS4.7						
SONM	**Songino Array**	**95.11**	**318**	LR	LR	16 51 48.2	
	comp=Z,55nm,19.4s,MS4.0,baz=84,slow=32						
DPC	**Dobruska-Polom**	**144.27**	**350**	*e*PKP	PKPdf	16 21 11.1	-1.8
MOX	**Moxa**	**144.58**	**355**	*e*PKPbc	PKPdf	16 21 10.8	-2.6
PRU	**Pruhonice**	**144.90**	**352**	*e*PKP	PKPdf	16 21 13.5	-0.5
KECS	**Kecovo**	**145.14**	**344**	*e*PKP	PKPdf	16 21 13.5	-0.9
TNS	**Taunus Mts**	**145.17**	**359**	*e*PKPbc	PKPbc	16 21 13.9	-0.2
VYHS	**Vyhne**	**145.54**	**346**	*e*PKP	PKPdf	16 21 15.0	-0.1
GRF	**Grafenberg Arr**	**145.55**	**355**	*e*PKP	PKPdf	16 21 15.9	+0.8
KOLL	**Kolacno**	**145.56**	**347**	*e*PKP	PKPdf	16 21 15.6	+0.5
WLF	**Walferdange**	**145.74**	**1**	*e*PKPbc	PKPbc	16 21 16.2	+0.3
KHC	**Kasperske Hory**	**145.87**	**352**	*e*PKP	PKPdf	16 21 16.3	+0.6
WET	**Wettzell**	**145.94**	**353**	*e*PKPbc	PKPbc	16 21 16.4	-0.1
GEC2	**GERESS Array S**	**146.13**	**352**	*e*PKPbc	PKPbc	16 21 16.9	-0.2
GERES	**GERESS Array B**	**146.13**	**352**	PKPbc	PKPbc	16 21 17.1	0.0
	comp=Z,2.5nm,0.8s,baz=33,slow=3.2,SNR=18						
BR131	**Keskin Array S**	**146.40**	**322**	*e*PKPdf	PKPdf	16 21 18.1	+1.5
BRTR	**Keskin Array B**	**146.40**	**322**	PKPbc	PKPbc	16 21 18.5	+0.6
	comp=Z,3.5nm,0.8s,baz=124,slow=2.0,SNR=20						
BFO	**Black Forest**	**147.07**	**359**	*e*PKPbc	PKPbc	16 21 19.3	-0.5

*NEIC **09** 16:06:59.0, 1847N×6829W, h180km, MD3.7(RSPR), After RSPR.*
RSPR 09 16:06:59.0, 1847N×6829W, h181km±2km, MD3.8/10, MD3.8/10, 23C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.19**	**104**	⇑*e*P	Pn	16 07 28.6	+0.4
LSP	**Las Mesas**	**1.19**	**104**	*e*S	Sn	16 07 51.0	+0.2
LSP	**Las Mesas**	**1.19**	**104**	⇑*e*P	Pn	16 07 27.9	-0.3
LSP	**Las Mesas**	**1.19**	**104**	*e*S	Sn	16 07 48.1	-2.7
LSP	**Las Mesas**	**1.19**	**104**	⇑*e*P	Pn	16 07 27.9	-0.3
LSP				*e*S	Sn	16 07 48.1	-2.7
CRPR	**Cabo Rojo, PR**	**1.22**	**112**	⇑*e*P	Pn	16 07 28.1	-0.4
CRPR	**Cabo Rojo, PR**	**1.22**	**112**	*e*S	Sn	16 07 51.2	-0.1
CRPR	**Cabo Rojo, PR**	**1.22**	**112**	⇑*e*P	Pn	16 07 27.1	-1.3
CRPR	**Cabo Rojo, PR**	**1.22**	**112**	⇑*e*P	Pn	16 07 27.1	-1.3
CRPR				*e*S	Sn	16 07 51.2	-0.1
MGP	**Maguayo**	**1.23**	**112**	⇓*e*P	Pn	16 07 29.0	+0.4
MGP	**Maguayo**	**1.23**	**112**	⇑*e*P	Pn	16 07 28.1	-0.5
MGP	**Maguayo**	**1.23**	**112**	⇑*e*P	Pn	16 07 28.1	-0.5
MGP				⇓*e*P		16 07 29.0	
LRS	**Lares**	**1.39**	**97**	⇑*e*P	Pn	16 07 30.2	+0.2
LRS				*e*S	Sn	16 07 54.8	+0.9
AOPR	**Arecibo Observ**	**1.47**	**95**	⇑*e*P	Pn	16 07 30.8	+0.1
AOPR	**Arecibo Observ**	**1.47**	**95**	*e*S	Sn	16 07 55.9	+0.6
AOPR	**Arecibo Observ**	**1.47**	**95**	⇓*e*P	Pn	16 07 30.5	-0.3
AOPR	**Arecibo Observ**	**1.47**	**95**	*e*S	Sn	16 07 54.5	-0.7
AOPR	**Arecibo Observ**	**1.47**	**95**	⇓*e*P	Pn	16 07 30.5	-0.3
AOPR				⇑*e*P		16 07 30.5	
AOPR				*e*S	Sn	16 07 54.5	-0.7
CELP	**Cerrillos**	**1.68**	**103**	⇑*i*P	Pn	16 07 33.0	+0.2
CELP				*e*S	Sn	16 07 59.8	+1.0
CELP	**Cerrillos**	**1.68**	**103**	⇑*i*P	Pn	16 07 33.0	+0.2
CPD	**Cerro la Pandu**	**2.30**	**100**	⇑*e*P	Pn	16 07 40.0	+0.5
CPD	**Cerro la Pandu**	**2.30**	**100**	*e*S	Sn	16 08 12.1	+1.3
CPD	**Cerro la Pandu**	**2.30**	**100**	⇑*e*P	Pn	16 07 39.9	+0.5
CPD	**Cerro la Pandu**	**2.30**	**100**	*e*S	Sn	16 08 10.9	+0.1
CPD	**Cerro la Pandu**	**2.30**	**100**	⇑*e*P	Pn	16 07 39.9	+0.5
CPD				*e*S	Sn	16 08 10.9	+0.1
CBYP	**Canovanas**	**2.32**	**95**	⇑*e*P	Pn	16 07 39.9	+0.2
CBYP	**Canovanas**	**2.32**	**95**	*e*S	Sn	16 08 11.5	+0.2
CBYP	**Canovanas**	**2.32**	**95**	⇑*e*P	Pn	16 07 39.6	-0.2
CBYP	**Canovanas**	**2.32**	**95**	*e*S	Sn	16 08 11.0	-0.2
CBYP	**Canovanas**	**2.32**	**95**	⇑*e*P	Pn	16 07 39.6	-0.2
CBYP				*e*S	Sn	16 08 11.0	-0.2
HUMP	**Col San Antoni**	**2.34**	**98**	*e*S	Sn	16 08 12.0	+0.3
HUMP	**Col San Antoni**	**2.34**	**98**	⇑*e*P	Pn	16 07 40.0	0.0
HUMP	**Col San Antoni**	**2.34**	**98**	*e*S	Sn	16 08 11.9	+0.2
HUMP	**Col San Antoni**	**2.34**	**98**	⇑*e*P	Pn	16 07 40.0	0.0
HUMP				*e*S	Sn	16 08 11.9	+0.2
MTP	**Monte Pirata**	**2.63**	**98**	⇑*e*P	Pn	16 07 44.7	+1.5
MTP	**Monte Pirata**	**2.63**	**98**	*e*S	Sn	16 08 19.1	+1.6
MTP	**Monte Pirata**	**2.63**	**98**	⇑*e*P	Pn	16 07 44.2	+1.0
MTP	**Monte Pirata**	**2.63**	**98**	⇑*e*P	Pn	16 07 44.2	+1.0
MTP				*e*S	Sn	16 08 19.1	+1.6

**NNC 09 16:42:21.2±4.8, 3714N×7118E, h0km, mb3.5, mpv3.2, 4C-2D, Error ellipse: s-maj=42.5km s-min=35.6km az=89.0, Afghanistan-

*CSEM **09** 16:48:04.5, 3378N×2663E, h10km, MD3.8/3, After ATH*
ATH 09 16:48:04.5, 3378N×2663E, h10km, MD3.8/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**1.34**	**325**	*e*PB	Pb	16 48 29.7	0.0
NPS	**Neapolis**	**1.70**	**331**	*e*PN	Pn	16 48 36.0	+1.8
KARP	**Karpathos**	**1.82**	**14**	*e*PN	Pn	16 48 38.0	+2.2

IDC 09 16:54:52.6±9.4, 1474S×17073E, h639km±40km, mb3.2/3, mb1 3.3/4, mb1mx3.0/13, mbtmp4.3/4, Error ellipse: s-maj=128.0km s-min=56.7km az=63.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.35**	**209**	P	P	16 56 56.2	-0.2
	0.7nm,0.3s,baz=298,slow=20,SNR=6.3						
DZM				S	S	16 58 37.4	-0.5
	0.1nm,0.3s,baz=255,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**31.59**	**232**	P	P	17 00 25.8	+0.1
	2.8nm,0.3s,baz=52,slow=7.6,SNR=14						
WRA	**Warramunga Arr**	**35.07**	**256**	P	P	17 00 54.7	0.0
	1.4nm,0.5s,baz=87,slow=8.6,SNR=44						
ASAR	**Alice Springs**	**35.81**	**250**	P	P	17 01 01.6	+0.9
	3.0nm,0.6s,baz=76,slow=9.5,SNR=66						
ASAR				ScP	ScP	17 05 56.0	-0.3
	0.2nm,0.6s,baz=95,slow=4.4,SNR=4.1						

IDC 09 17:23:14.7±3.3, 4940S×12538E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/10, mbtmp3.9/3, Error ellipse: s-maj=128.3km s-min=28.1km az=97.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.32**	**41**	P	P	17 28 03.4	+0.3
	3.6nm,0.8s,baz=187,slow=12,SNR=8.2						
ASAR	**Alice Springs**	**26.55**	**18**	P	P	17 28 54.0	-0.2
	1.8nm,0.8s,baz=189,slow=9.5,SNR=15						
VNDA	**Vanda**	**31.43**	**166**	P	P	17 29 37.1	-0.5
	0.9nm,0.9s,baz=304,slow=7.6,SNR=4.1						

*BJI **09** 17:33:45.1, 099N×9940E, h175km, mB4.7, mb4.2*
*ISCJB **09** 17:33:49.3±0.7, 160N±006×9962E±006, h175km±5km, mb4.2/24, Error ellipse: s-maj=11.2km s-min=8.6km az=98.4*
*NEIC **09** 17:33:50.8±0.7, 161N×9974E, h176km±6km, mb4.2/17, Error ellipse: s-maj=8.8km s-min=6.5km az=63.0*
*IDC **09** 17:33:50.4±0.8, 167N×9973E, h171km±6km, mb3.7/10, mb1 3.8/10, mb1mx3.5/20, mbtmp4.2/10, Error ellipse: s-maj=18.1km s-min=13.5km az=56.0*
ISC 09 17:33:50.8±0.7, 163N±006×9966E±006, h169km±5km, n48, σ1$09/49, mb4.2/24, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.38**	**328**	P	**Pn**	**17 34 20.4**	**-0.3**
	40nm,0.3s,baz=142,slow=9.2,SNR=125						
PSI				S	**Sn**	**17 34 42.5**	**-1.1**
	15nm,0.3s,baz=248,slow=23,SNR=36						
PSI	**Prapat**	**1.38**	**328**	P	**Pn**	**17 34 20.4**	**-0.2**
PSI				S	**Sn**	**17 34 42.5**	**-1.1**
TSI	**Tuntungan**	**2.16**	**330**	||*e*P	**Pn**	**17 34 23.6**	**-5.3**
TSI	**Tuntungan**	**2.16**	**330**	*e*P	**Pn**	**17 34 19.4**	**-9.5**
IPM	**Ipoh**	**3.14**	**26**	P	**Pn**	**17 34 42.6**	**+1.9**
KGM	**Kluang**	**3.67**	**84**	P	**Pn**	**17 34 48.2**	**+0.9**
KULM	**Kulim**	**3.77**	**15**	||*e*P	**Pn**	**17 34 49.2**	**+0.6**
KULM				*e*Sn	**Sn**	**17 35 30.7**	**-2.9**
KKM	**Kota Kinabalu**	**17.08**	**75**	P	**Pn**	**17 37 41.7**	**+2.1**
CHTO	**Chiang Mai**	**17.09**	**358**	*e*P	**Pn**	**17 37 39.0**	**-0.7**
	3.3nm,0.7s						
PALK	**Pallekele**	**19.71**	**287**	*e*P	**P**	**17 38 09.3**	**+2.2**
	6.6nm,0.6s						
KMI	**Kunming**	**23.55**	**7**	P	**P**	**17 38 51.4**	**+5.7**
JIRN	**Jiri**	**28.92**	**335**	*e*P	**P**	**17 39 34.4**	**+0.4**
	30nm,0.8s,mb5.1						
GUN	**Gumba**	**29.28**	**334**	*e*P	**P**	**17 39 37.6**	**+0.5**
	26nm,0.4s,mb5.3						
DMN	**Daman**	**29.36**	**333**	*e*P	**P**	**17 39 38.1**	**+0.3**
	3.9nm,0.3s,mb4.6						
CD2	**Chengdu**	**29.38**	**7**	*e*P	**P**	**17 39 39.8**	**+1.8**
KKN	**Kakani**	**29.43**	**333**	*e*P	**P**	**17 39 38.6**	**+0.1**
	16nm,0.4s,mb5.1						
GKN	**Gorkha**	**29.91**	**333**	*e*P	**P**	**17 39 42.7**	**0.0**
	8.0nm,0.3s,mb4.9						
KOLN	**Koldanda**	**30.20**	**331**	*e*P	**P**	**17 39 45.5**	**+0.2**
	18nm,0.5s,mb5.0						
WRA	**Warramunga Arr**	**40.20**	**124**	P	**P**	**17 41 10.4**	**-0.2**
	3.0nm,0.3s,mb4.3,baz=303,slow=9.0,SNR=66						
WB2	**Warramunga Arr**	**40.21**	**124**	*e*P	**P**	**17 41 09.9**	**-0.8**
HHC	**Hu-ho-hao-te**	**40.50**	**14**	⇑P	**P**	**17 41 15.8**	**+2.7**
HHC				AP	pP	17 41 56.7	+7.1
HHC				PP	PP	17 42 55.7	+5.8
HHC				PCP	PcP	17 43 14.6	+2.3
HHC				SCP	ScP	17 46 44.7	-0.9
HHC				PCS	PcS	17 47 04.4	+1.3
HHC				S	**S**	**17 47 10.7**	**+1.5**
HHC				XS	sS	17 48 21.8	+8.7
HHC				SCS	ScS	17 50 58.2	-2.2
HHC				AMB	AMB		
	comp=Z,100nm,4.0s						
HHC				LR	LR		
	comp=N,70nm,16.1s						
HHC				LR	LR		
	comp=E,90nm,11.9s						
HHC				LR	LR		
	comp=Z,70nm,11.9s						
ASPA	**Alice Springs**	**41.72**	**129**	*e*P	**P**	**17 41 21.7**	**-1.3**
AS31	**Alice Springs**	**41.72**	**129**	*e*P	**P**	**17 41 21.7**	**-1.3**
ASAR	**Alice Springs**	**41.72**	**129**	P	**P**	**17 41 21.8**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.4,baz=300,slow=7.4,SNR=14						
ASAR				PcP	PcP	17 43 15.9	-0.3
	comp=Z,0.8nm,0.7s,baz=309,slow=3.0,SNR=9.9						
ASAR				ScP	ScP	17 46 47.6	-2.8
	comp=Z,0.3nm,0.6s,baz=303,slow=4.5,SNR=6.5						
WMQ	**Urumqi**	**43.34**	**347**	P	**P**	**17 41 36.4**	**+0.3**
WMQ				S	**S**	**17 47 49.2**	**-1.7**
WMQ				XS	sS	17 48 58.7	+3.3
WMQ				SCS	ScS	17 51 12.4	-5.5
SONM	**Songino Array**	**46.40**	**6**	P	**P**	**17 42 00.3**	**+0.1**
	comp=Z,2.8nm,0.5s,mb4.2,baz=189,slow=9.8,SNR=33						
SONM				ScP	ScP	17 47 06.4	-3.2
	comp=Z,0.4nm,0.5s,baz=188,slow=8.6,SNR=3.5						
ULN	**Ulaanbaatar**	**46.50**	**7**	*e*P	**P**	**17 42 01.0**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**46.63**	**334**	*e*P	**P**	**17 42 01.8**	**-0.2**
	comp=Z,2.7nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**47.47**	**344**	P	**P**	**17 42 08.2**	**-0.4**
	comp=Z,8.7nm,0.7s,mb4.5,baz=154,slow=9.0,SNR=86						
TLY	**Talaya**	**49.99**	**3**	*e*P	**P**	**17 42 28.2**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.2						
MDJ	**Mudanjiang**	**50.33**	**28**	P	**P**	**17 42 30.1**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,40nm,3.2s						
KURK	**Kurchatov**	**52.06**	**343**	*e*P	**P**	**17 42 41.9**	**-1.2**
	comp=Z,4.6nm,1.0s,mb4.1						
OPO	**Ambohidratompo**	**55.34**	**246**	P	**P**	**17 43 09.3**	**+2.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=68,slow=11,SNR=4.3						
BRVK	**Borovoye**	**56.76**	**339**	*e*P	**P**	**17 43 15.5**	**-1.5**
	comp=Z,1.8nm,0.6s,mb4.1						
KMBO	**Kilima Mbogo**	**62.46**	**268**	P	**P**	**17 43 55.7**	**-0.3**
	comp=Z,5.4nm,1.6s,mb4.1						
BRTR	**Keskin Array B**	**70.66**	**312**	P	**P**	**17 44 46.9**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=132,slow=7.1,SNR=4.7						
LSZ	**Lusaka**	**72.59**	**254**	P	**P**	**17 44 59.2**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.0,baz=67,slow=6.1,SNR=5.8						
LSZ	**Lusaka**	**72.59**	**254**	*e*P	**P**	**17 44 60.0**	**+0.4**
	comp=Z,1.8nm,0.7s,mb3.9						
LBTB	**Lobatse**	**76.28**	**244**	*e*P	**P**	**17 45 21.1**	**+0.3**
	comp=Z,2.7nm,0.6s,mb4.0						
BOSA	**Boshof**	**77.13**	**240**	P	**P**	**17 45 25.9**	**+0.4**
	comp=Z,2.0nm,0.6s,mb3.9,baz=96,slow=5.3,SNR=8.7						
BOSA	**Boshof**	**77.13**	**240**	*e*P	**P**	**17 45 25.8**	**+0.2**
	comp=Z,2.4nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**80.77**	**332**	P	**P**	**17 45 44.0**	**-1.4**
	comp=Z,0.9nm,0.5s,mb3.6,baz=98,slow=3.9,SNR=8.1						
ARCES	**ARCESS Array B**	**82.97**	**340**	P	**P**	**17 45 55.8**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=104,slow=5.1,SNR=6.5						
TSUM	**Tsumeb**	**83.05**	**251**	*e*P	**P**	**17 45 58.0**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.0						
BDFB	**Brasilia**	**145.22**	**245**	PKPbc	PKPbc	17 53 08.6	+0.3
	comp=Z,1.9nm,0.4s,baz=165,slow=4.5,SNR=3.2						
CPUP	**Villa Florida**	**146.94**	**220**	PKPbc	PKPbc	17 53 13.6	+0.3
	comp=Z,0.3nm,0.3s,baz=197,slow=2.7,SNR=3.2						
CFAA	**Coronel Fontan**	**148.07**	**200**	PKPbc	PKPbc	17 53 16.0	-0.3
	comp=Z,0.5nm,0.6s,baz=169,slow=3.2,SNR=9.6						
CFAA	**Coronel Fontan**	**148.07**	**200**	PKPbc	PKPbc	17 53 16.0	-0.3

*CASC **09** 17:50:14.1±2.1, 690N×7754W, h0km±7km, MW4.5, mb4.6(NEIC)*
*ISCJB **09** 17:50:15.5±0.8, 678N±005×7763W±005, h46km±8km, mb4.3/21, MS4.0/8, Error ellipse: s-maj=8.6km s-min=7.8km az=22.8*
*BJI **09** 17:50:17.1, 680N×7770W, h46km, mB5.1, Ms5.0, Msz4.5*
*NEIC **09** 17:50:17.1±1.1, 675N×7766W, h46km±10km, mb4.6/14, Error ellipse: s-maj=11.4km s-min=8.8km az=70.0*
*IDC **09** 17:50:17.4±2.1, 673N×7765W, h45km±20km, mb3.9/12, mb1 4.1/17, mb1mx4.0/24, mbtmp4.2/17, ML3.9/3, MS3.9/8, Ms1 3.8/8, ms1mx3.5/20, Error ellipse: s-maj=21.0km s-min=14.5km az=61.0*
ISC 09 17:50:17.5±0.7, 679N±005×7765W±005, h45km±7km, n54, σ1$07/45, mb4.3/21, MS4.0/8, 1C-1D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPA	**Univ. de Panam**	**2.87**	**320**	||*e*P	**Pn**	**17 51 00.5**	**-0.2**
UPA				*e*S	**Sn**	**17 51 38.0**	**+4.1**
TOLC	**Tolima**	**3.17**	**133**	*e*P	**Pn**	**17 51 04.7**	**-0.2**
ROSC	**El Rosal**	**3.82**	**120**	P	**Pn**	**17 51 15.7**	**+1.9**
	8.6nm,0.3s,baz=93,slow=7.9,SNR=12						
ROSC				S	**Sn**	**17 52 05.2**	**+7.8**
	17nm,0.3s,baz=82,slow=22,SNR=4.3						
ROSC	**El Rosal**	**3.82**	**120**	*e*P	**Pn**	**17 51 16.3**	**+2.6**
OCAC	**Ocana**	**4.53**	**71**	*e*P	**Pn**	**17 51 22.8**	**-0.7**
OCAC				*e*S	**Sn**	**17 52 15.4**	**+0.5**
RUSC	**La Rusia**	**4.63**	**100**	*e*P	**Pn**	**17 51 25.7**	**+0.9**
OTAV	**Otavalo**	**6.55**	**187**	*e*Pn	**Pn**	**17 51 51.3**	**0.0**
	16nm,0.8s						
SDV	**Santo Domingo**	**7.26**	**73**	P	**Pn**	**17 52 01.0**	**+0.1**
	6.5nm,0.3s,baz=252,slow=7.8,SNR=17						
SDV				S	**Sn**	**17 53 21.2**	**-0.8**
	26nm,0.3s,baz=55,slow=16,SNR=6.5						
SDV				LR	LR	17 55 21.9	
	comp=Z,1μm,18.0s,baz=236,slow=42						
SDV	**Santo Domingo**	**7.26**	**73**	*e*Pn	**Pn**	**17 52 00.6**	**-0.4**
	7.3nm,0.5s						
JTS	**JuntasAbangare**	**8.02**	**296**	P	**Pn**	**17 52 11.7**	**+0.4**
	0.6nm,0.3s,baz=308,slow=14,SNR=4.4						
JTS	**JuntasAbangare**	**8.02**	**296**	*e*Pn	**Pn**	**17 52 11.2**	**-0.2**
PCRV	**Puerto La Cruz**	**13.30**	**74**	P	**Pn**	**17 53 22.5**	**-1.1**
	0.7nm,0.3s,baz=104,slow=4.2,SNR=2.2						
PCRV				LR	LR	17 59 12.5	
	comp=Z,334nm,19.6s,baz=274,slow=40						
SJG	**San Juan**	**15.89**	**44**	P	**Pn**	**17 53 58.5**	**+0.6**
	4.7nm,0.3s,baz=2.3,slow=19,SNR=4.0						
SJG	**San Juan**	**15.89**	**44**	Pn	**Pn**	**17 53 59.1**	**+1.1**
	28nm,0.9s						
CPD	**Cerro la Pandu**	**16.00**	**45**	*e*Pn	**Pn**	**17 53 55.1**	**-4.2**
CMIG	**Matias Romero**	**19.71**	**303**	LR	LR	18 02 49.2	
	comp=Z,11nm,20.7s,baz=176,slow=38						
SAML	**Samuel**	**21.27**	**137**	*e*P	**P**	**17 54 58.2**	**-1.7**
	23nm,1.1s,mb4.4						
LPAZ	**La Paz**	**24.79**	**158**	P	**P**	**17 55 36.2**	**+1.1**
	1.2nm,0.7s,mb3.5,baz=327,slow=15,SNR=4.3						
LPAZ	**La Paz**	**24.79**	**158**	*e*Pn	**P**	**17 55 35.2**	**+0.2**
	3.8nm,0.9s,mb3.9						
LRAL	**Lakeview Retre**	**27.52**	**343**	*e*P	**P**	**17 55 57.0**	**-2.8**
	42nm,0.8s,mb5.1						
SIV	**San Ignacio**	**27.96**	**144**	P	**P**	**17 56 02.7**	**-1.0**
	10.0nm,0.9s,mb4.4,baz=326,slow=10,SNR=45						
LVC	**Limon Verde**	**30.44**	**164**	P	**P**	**17 56 25.2**	**-0.5**
	5.7nm,1.0s,mb4.3						
LPIG	**La Paz**	**35.73**	**302**	LR	LR	18 15 04.2	
	comp=Z,67nm,18.2s,MS3.4,baz=48,slow=42						
BDFB	**Brasilia**	**36.85**	**127**	P	**P**	**17 57 21.4**	**0.0**
	1.5nm,0.4s,mb4.2,baz=280,slow=15,SNR=3.5						
BDFB				LR	LR	18 13 24.5	
	comp=Z,410nm,21.0s,MS4.2,baz=135,slow=38						
CPUP	**Villa Florida**	**38.37**	**150**	P	**P**	**17 57 32.1**	**-2.1**
	2.2nm,0.6s,mb4.1,baz=307,slow=9.4,SNR=9.6						
CPUP	**Villa Florida**	**38.37**	**150**	*e*P	**P**	**17 57 31.2**	**-3.1**
	12nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**45.55**	**327**	LR	LR	18 20 55.9	
	comp=Z,43nm,21.3s,MS3.4,baz=133,slow=40						
ULM	**Lac du Bonnet**	**45.93**	**344**	LR	LR	18 20 19.9	
	comp=Z,73nm,18.5s,MS3.7,baz=348,slow=39						
TRQA	**Tornquist**	**46.94**	**163**	P	**P**	**17 58 44.3**	**+0.6**
	12nm,1.1s,mb4.7						
PLCA	**Paso Flores**	**47.73**	**173**	P	**P**	**17 58 50.2**	**+0.4**
	3.3nm,0.9s,mb4.4,baz=358,slow=13,SNR=6.9						
PLCA	**Paso Flores**	**47.73**	**173**	*e*P	**P**	**17 58 50.6**	**+0.7**
	13nm,1.3s,mb4.8						
NVAR	**Mina Array Bea**	**48.36**	**317**	P	**P**	**17 58 56.4**	**+1.7**
	0.9nm,0.8s,mb3.8,baz=127,slow=8.4,SNR=6.2						
SCHQ	**Schefferville**	**48.69**	**8**	P	**P**	**17 58 52.7**	**-4.5**
	31nm,1.5s,mb5.1						
FCC	**Fort Churchill**	**53.37**	**349**	*e*P	**P**	**17 59 33.6**	**+1.2**
	7.9nm,1.4s,mb4.5						
YKA	**Yellowknife Ar**	**61.81**	**342**	P	**P**	**18 00 29.8**	**-1.9**
	0.9nm,0.7s,mb4.0,baz=129,slow=7.0,SNR=9.3						
SUMG	**Summit**	**69.89**	**12**	*e*P	**P**	**18 01 23.5**	**-0.2**
	5.8nm,0.6s,mb4.7						
INK	**Inuvik**	**71.57**	**341**	*e*P	**P**	**18 01 32.3**	**-1.6**
	14nm,1.6s,mb4.6						
DBIC	**Dimbokro**	**72.22**	**85**	P	**P**	**18 01 38.9**	**+1.1**
	2.6nm,0.8s,mb4.2,baz=285,slow=12,SNR=4.1						
DBIC				LR	LR	18 34 33.6	
	comp=Z,78nm,19.1s,MS4.0,baz=167,slow=37						
DBIC	**Dimbokro**	**72.22**	**85**	*e*P	**P**	**18 01 37.9**	**+0.1**
	14nm,1.2s,mb4.8						
ESDC	**Sonseca Array**	**73.15**	**51**	P	**P**	**18 01 44.4**	**+1.1**
	0.9nm,0.6s,mb3.9,baz=280,slow=5.4,SNR=7.3						
ESLA	**Sonseca Array**	**73.15**	**51**	*e*P	**P**	**18 01 44.0**	**+0.7**
	1.0nm,0.8s,mb3.8						
PPT	**Papeete**	**75.01**	**250**	LR	LR	18 26 10.7	
	comp=Z,218nm,19.1s,MS4.5,baz=70,slow=29						
TORD	**Torodi Ar. Bea**	**78.15**	**78**	P	**P**	**18 02 12.5**	**+0.6**
	3.6nm,1.2s,mb4.2,baz=245,slow=3.9,SNR=8.3						
NOA	**NORSAR Array B**	**83.56**	**29**	P	**P**	**18 02 41.3**	**+0.5**
	0.4nm,0.7s,mb3.7,baz=286,slow=7.3,SNR=3.4						
CLL	**Collm**	**85.17**	**39**	*e*P	**P**	**18 02 42.0**	**-6.9**
GERES	**GERESS Array B**	**85.83**	**41**	P	**P**	**18 02 52.7**	**+0.4**
	1.1nm,0.9s,mb4.1,baz=262,slow=2.7,SNR=8.3						
MDJ	**Mudanjiang**	**123.26**	**337**	PKP	PKPdf	18 09 07.6	-1.7
SONM	**Songino Array**	**125.50**	**357**	PKP	PKPdf	18 09 15.3	+1.6
	0.4nm,0.8s,baz=18,slow=5.2,SNR=3.7						
WMQ	**Urumqi**	**127.91**	**13**	*e*PKP	PKPdf	18 09 17.2	-1.0
WMQ				LR	LR		
	comp=N,60nm,25.0s,MS4.2						
WMQ				LR	LR		
	comp=E,30nm,25.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,40nm,25.0s,MS4.0						
HHC	**Hu-ho-hao-te**	**131.85**	**351**	⇑*e*PKP	PKPdf	18 09 25.6	-0.1
HHC				XPKP		18 09 40.0	
HHC				PP	PP	18 11 49.5	+3.0
HHC				PKS		18 13 00.5	
HHC				SKS	SKSdf	18 16 31.7	-1.7
HHC				SKKS	SKKSac	18 18 36.5	-2.6
HHC				SS	SS	18 29 18.6	-0.3
HHC				PP	PP		
	comp=Z,50nm,4.1s						
HHC				LR	LR		
	comp=N,190nm,21.4s,MS4.9						
HHC				LR	LR		
	comp=E,140nm,21.4s,MS4.9						
HHC				LR	LR		
	comp=Z,90nm,20.2s,MS4.5						
NJ2	**Nanjing**	**138.29**	**339**	*e*PKP	PKPdf	18 09 38.8	+1.1
CD2	**Chengdu**	**142.50**	**358**	*e*PKP	PKPdf	18 09 42.9	-2.4
ASAR	**Alice Springs**	**145.36**	**238**	PKPbc	PKPbc	18 09 49.9	-0.4
	comp=Z,2.3nm,1.0s,baz=111,slow=3.8,SNR=11						
KMI	**Kunming**	**148.28**	**359**	PKP	PKPdf	18 09 52.6	-2.6

*NEIC **09** 18:00:26.0±1.3, 1952S×7033W, h72km±12km, mb4.4/1, Error ellipse: s-maj=17.7km s-min=9.0km az=88.0*
*ISCJB **09** 18:00:27.3±1.6, 1947S±006×703W±0.1, h97km±16km, mb3.9/7, Error ellipse: s-maj=19.4km s-min=9.5km az=15.7*
*IDC **09** 18:00:28.7±2.6, 1944S×7024W, h94km±22km, mb3.7/6, mb1 3.9/9, mb1mx3.8/18, mbtmp4.1/9, MS3.4/7, Ms1 3.4/7, ms1mx3.2/21, Error ellipse: s-maj=26.1km s-min=20.4km az=93.0*
ISC 09 18:00:28.7±1.5, 1946S±006×703W±01, h94km±14km, n28, σ1$32/28, mb3.9/7, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.40**	**158**	P	**Pn**	**18 01 15.4**	**-4.1**
	7.1nm,0.3s,baz=329,slow=9.0,SNR=30						
LVC				S	**Sn**	**18 02 04.1**	**+5.2**
	34nm,0.3s,baz=200,slow=18,SNR=5.8						
LVC	**Limon Verde**	**3.40**	**158**	*e*P	**Pn**	**18 01 15.1**	**-4.5**
LVC				S	**Sn**	**18 02 04.1**	**+5.2**
LPAZ	**La Paz**	**3.76**	**33**	P	**Pn**	**18 01 25.2**	**+0.6**
	3.4nm,0.3s,baz=205,slow=8.2,SNR=65						
LPAZ				S	**Sn**	**18 02 14.8**	**+7.0**
	baz=248,slow=8.3,SNR=2.2						
LPAZ				LR	LR	18 02 33.4	
	comp=Z,226nm,20.0s,baz=224,slow=34						
LPAZ	**La Paz**	**3.76**	**33**	*e*P	**Pn**	**18 01 24.4**	**-0.1**
LPAZ				S	**Sn**	**18 02 14.8**	**+7.0**
LPAZ				LR	LR	18 02 33.4	
SIV	**San Ignacio**	**9.44**	**70**	P	**Pn**	**18 02 40.0**	**-1.7**
	3.0nm,0.3s,baz=262,slow=11,SNR=47						
SIV				S	**Sn**	**18 04 34.2**	**+8.3**
	baz=148,slow=23,SNR=3.2						
CFAA	**Coronel Fontan**	**12.24**	**172**	P	**Pn**	**18 03 20.6**	**+1.0**
	0.1nm,0.3s,baz=321,slow=14,SNR=2.6						
CFAA				S	**Sn**	**18 05 45.7**	**+12**
	0.0nm,0.3s,baz=359,slow=11,SNR=2.0						
CFAA				LR	LR	18 08 07.2	
	comp=Z,23nm,21.0s,baz=70,slow=37						
SAML	**Samuel**	**12.51**	**34**	*e*P	**Pn**	**18 03 20.9**	**-2.3**
	8.8nm,0.9s						
SAML				*e*S	**Sn**	**18 05 42.4**	**+1.8**
CPUP	**Villa Florida**	**13.76**	**122**	P	**Pn**	**18 03 40.3**	**+0.7**
	0.8nm,0.3s,baz=290,slow=12,SNR=19						
CPUP				LR	LR	18 10 09.8	
	comp=Z,139nm,18.4s,baz=68,slow=42						
CPUP	**Villa Florida**	**13.76**	**122**	*e*P	**Pn**	**18 03 38.8**	**-0.9**
CPUP				LR	LR	18 10 09.8	
ATAH	**Atahualpa**	**14.67**	**326**	LR	LR	18 09 25.0	
	comp=Z,109nm,20.9s,baz=180,slow=37						
TRQA	**Tornquist**	**19.90**	**160**	*e*P	**P**	**18 04 51.4**	**-3.6**
OTAV	**Otavalo**	**21.14**	**337**	*e*P	**P**	**18 05 07.0**	**+1.0**
PLCA	**Paso Flores**	**21.21**	**181**	P	**P**	**18 05 06.4**	**-0.3**
	1.1nm,0.6s,mb3.4,baz=359,slow=13,SNR=4.3						
PLCA	**Paso Flores**	**21.21**	**181**	*e*P	**P**	**18 05 04.9**	**-1.7**
BDFB	**Brasilia**	**21.57**	**83**	P	**P**	**18 05 11.3**	**+0.8**
	2.6nm,0.5s,mb3.8,baz=263,slow=9.1,SNR=4.2						
SDV	**Santo Domingo**	**28.16**	**359**	LR	LR	18 18 29.1	
	comp=Z,115nm,21.4s,baz=211,slow=38						
PCRV	**Puerto La Cruz**	**29.97**	**11**	LR	LR	18 19 34.2	
	comp=Z,302nm,19.2s,baz=190,slow=38						
MTP	**Monte Pirata**	**37.60**	**7**	*e*P	**P**	**18 07 30.9**	**-3.2**
VNA3	**Neumayer Olymp**	**62.42**	**161**	*e*	**P**	**18 10 42.5**	**+0.9**
DBIC	**Dimbokro**	**69.42**	**75**	P	**P**	**18 11 25.3**	**-1.2**
	4.3nm,0.9s,mb4.3,baz=145,slow=5.6,SNR=4.9						
QSPA	**South Pole Qui**	**70.72**	**180**	*e*P	**P**	**18 11 35.3**	**+0.8**
	2.3nm,0.4s,mb4.4						
PDAR	**Pinedale Array**	**71.70**	**331**	P	**P**	**18 11 40.9**	**+0.5**
	0.5nm,0.8s,mb3.4,baz=101,slow=4.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.91**	**71**	P	**P**	**18 12 17.2**	**+1.0**
	3.7nm,0.6s,mb4.3,baz=250,slow=5.3,SNR=42						
BOSA	**Boshof**	**85.55**	**119**	LR	LR	18 48 53.5	
	comp=Z,143nm,18.5s,baz=104,slow=34						
YKA	**Yellowknife Ar**	**88.84**	**341**	P	**P**	**18 13 10.6**	**-1.5**
	1.1nm,0.7s,mb4.0,baz=135,slow=5.2,SNR=8.3						
ASAR	**Alice Springs**	**131.07**	**210**	PKP	PKPdf	18 19 30.1	+0.8
	0.3nm,0.4s,baz=114,slow=1.7,SNR=13						
MKAR	**Makanchi Array**	**144.69**	**33**	PKP	PKPdf	18 19 54.4	+0.1
	4.3nm,0.7s,baz=322,slow=3.5,SNR=42						
SONM	**Songino Array**	**151.56**	**5**	PKPbc	PKPbc	18 20 12.5	+0.7
	0.9nm,0.5s,baz=322,slow=1.3,SNR=10						
SONM				PKPab	PKPab	18 20 21.6	+1.0
	0.7nm,0.8s,baz=315,slow=1.5,SNR=3.8						

*CSEM **09** 18:01:22.0±0.1, 3767N×4373E, h2km, mb4.2/11, Ms3.3, Error ellipse: s-maj=2.3km s-min=1.8km az=114.0*
*ISK **09** 18:01:22.0, 3766N×4383E, h11km, MD4.1, ML4.3*
*BJI **09** 18:

comp=Z,29nm,0.7s
GOF Gofitskoye 7.43 356 *e*P **Pn 18 03 17.2 +4.1**
comp=Z,29nm,0.7s
BHL Bhannes 7.58 243 *e*Pn **Pn 18 03 17.9 +2.9**
RCY Rachaya 7.69 240 *e*Pn **Pn 18 03 14.2 -2.4**
ASF Jabal al Asfar 7.85 228 Pn **Pn 18 03 18.8 0.0**
comp=Z,2.4nm,0.3s,baz=292,slow=9.5,SNR=25
ASF Lg 18 05 34.4
comp=Z,1.4nm,0.3s,baz=89,slow=21,SNR=5.2
KAMT Kaman 8.08 285 *e*PN **Pn 18 03 22.5 +0.6**
BRTR Keskin Array B 8.20 288 Pn **Pn 18 03 24.3 +0.7**
comp=Z,0.2nm,0.3s,baz=122,slow=11,SNR=10
BRTR Lg 18 05 51.4
comp=Z,0.1nm,0.3s,baz=262,slow=33,SNR=2.8
MMAI Mount Meron Ar 8.25 239 Pn **Pn 18 03 24.9 +0.7**
comp=Z,1.6nm,0.3s,baz=59,slow=17,SNR=10.0
MMAI Lg 18 05 52.6
comp=Z,1.4nm,0.3s,baz=85,slow=18,SNR=3.7
ISP Isparta 10.51 275 *e*P **Pn 18 03 59.7 +4.4**
VRSR Storozhevoye 13.96 348 *e*P **Pn 18 04 43.1 +0.7**
VRSR pmax pmax
comp=Z,3.0nm,1.2s
VRSR pmax pmax
comp=N,6.0nm,1.1s
VRSR pmax pmax
comp=E,2.0nm,0.9s
VRSR Storozhevoye 13.96 348 *e*P **Pn 18 04 43.1 +0.7**
comp=E,6.0nm,1.1s
VOR Voronezh 14.46 349 P **Pn 18 04 49.0 -0.2**
VOR pmax pmax
comp=N,70nm,1.4s
VOR pmax pmax
comp=Z,50nm,1.4s
MLR Muntele Rosu 15.46 306 Pn **Pn 18 05 03.2 +0.6**
comp=Z,0.4nm,0.3s,baz=288,slow=20,SNR=2.3
ORR Orenburg 15.99 26 *e*P **Pn 18 05 09.5 0.0**
ORR pmax pmax
comp=Z,20nm,1.2s
ORR Orenburg 15.99 26 *e*P **Pn 18 05 09.5 0.0**
comp=Z,20nm,1.2s
AKTK Aktyubinsk 16.35 34 Pn **Pn 18 05 12.3 -1.8**
AKTK LR LR 18 13 08.1
AKTO Aktyubinsk 16.35 34 Pn **Pn 18 05 12.3 -1.8**
comp=Z,0.1nm,0.3s,baz=231,slow=12,SNR=9.7
AKTO LR LR 18 13 08.1
comp=Z,75nm,19.0s,baz=0.0,slow=43
AKASG Malin Array Be 16.68 326 Pn **Pn 18 05 18.4 0.0**
comp=Z,0.3nm,0.3s,baz=132,slow=12,SNR=10
OBN Obninsk 18.16 347 *e*P **Pn 18 05 36.8 +0.1**
OBN pmax pmax
comp=Z,46nm,1.6s
OBN MLR MLR
comp=Z,200nm,15.0s
OBN Obninsk 18.16 347 *e*P **Pn 18 05 36.8 +0.1**
comp=Z,200nm,15.0s
WSAR Wadi Sarin 19.20 134 P **Pn 18 05 45.7 -3.7**
comp=Z,0.8nm,0.3s,baz=315,slow=10,SNR=12
WSAR LR LR 18 14 39.6
comp=Z,88nm,18.1s,baz=112,slow=42
KWP Kalwaria 19.32 315 *e*P **Pn 18 05 51.6 +0.7**
KWP pmax pmax
comp=Z,14nm,0.9s
KWP Kalwaria 19.32 315 *e*P **Pn 18 05 51.6 +0.7**
comp=Z,14nm,0.9s
KWP Kalwaria 19.32 315 *e*P **Pn 18 05 51.6 +0.7**
comp=Z,14nm,0.9s
STHS Stebnicka Huta 20.05 313 *e*P pP 18 06 06.3 +5.7
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 20.05 313 *e*P pP 18 06 06.3 +5.7
comp=Z,4.0nm,1.0s
PSZ Piszkesteto 20.24 308⇓ *e*P **P 18 06 00.7 +0.8**
PKSM Moragy 20.50 303⇑ *e*P **P 18 06 03.2 +0.5**
BUD Budapest 20.64 306 *e*P **P 18 06 08.6 +4.4**
VYHS Vyhne 21.11 309 *e*P **P 18 06 10.2 +0.9**
VYHS *e* 18 06 14.7
VYHS pmax pmax
comp=Z,10.0nm,1.4s,mb4.0
VYHS Vyhne 21.11 309 *e*P **P 18 06 10.2 +0.9**
comp=Z,9.7nm,1.4s,mb3.9
VYHS *e* 18 06 14.7
TIP Timpagrande 21.20 283 *e*P **P 18 06 10.8 +0.5**
TIP Timpagrande 21.20 283 *e*P **P 18 06 10.8 +0.5**
ARU Arti 21.25 23⇓ *i*P **P 18 06 10.6 -0.1**
ARU *e* 18 06 28.6
ARU *e*S **S 18 10 03.2 -3.6**
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
ARU MLR MLR
comp=Z,200nm,17.0s,MS3.6
ARU MLR MLR
comp=N,100nm,19.0s,MS3.4
ARU MLR MLR
comp=E,90nm,16.0s,MS3.4
ARU Arti 21.25 23 *e*P **P 18 06 11.3 +0.6**
comp=E,13nm,1.0s,mb4.2
ARU *e*S **S 18 10 03.2 -3.6**
comp=E,100nm,19.0s
KOLL Kolacno 21.41 309 *e*P **P 18 06 16.0 +3.5**
SOP Sopron 22.29 305⇓ *e*P **P 18 06 23.9 +2.0**
VRAC Vranov 22.79 309 P **P 18 06 27.7 +0.5**
comp=E,5.3nm,0.5s,mb4.3,baz=82,slow=12,SNR=6.5
VRAC LR LR 18 17 14.8
comp=E,138nm,18.0s,MS3.4,baz=112,slow=42
ZRNK Zerenda 23.27 41 *e*P **P 18 06 31.8 -0.5**
ZRNK pmax pmax
comp=Z,9.0nm,1.2s,mb4.1
ZRNK Zerenda 23.27 41 *e*P **P 18 06 31.8 -0.4**
comp=Z,9.2nm,1.2s,mb4.1
ZRNK Zerenda 23.27 41 *e*P **P 18 06 31.8 -0.5**
comp=Z,9.0nm,1.2s,mb4.1
DPC Dobruska-Polom 23.33 312 *e*P **P 18 06 31.4 -1.6**
TREC Trest 23.46 309 *e*P **P 18 06 34.5 +0.2**
UPC Upice 23.58 312 *e*P **P 18 06 35.6 +0.1**
VSU Vasula 23.61 337 *e*P **P 18 06 35.5 -0.3**
AAK Ala-Archa 23.93 68⇑ *e*P **P 18 06 43.9 +5.1**
AAK pmax pmax
comp=Z,8.0nm,2.2s,mb3.8
AAK MLR MLR
comp=Z,100nm,18.0s,MS3.3
AAK Ala-Archa 23.93 68 *e*P **P 18 06 43.9 +5.1**
comp=Z,100nm,18.0s
BRVK Borovoye 23.99 41 *e*P **P 18 06 41.0 +1.8**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
BRVK Borovoye 23.99 41 *e*P **P 18 06 41.0 +1.7**
comp=Z,3.9nm,0.8s,mb3.9
BRVK Borovoye 23.99 41 *e*P **P 18 06 41.0 +1.8**
comp=Z,4.0nm,0.8s,mb3.9
BVAR Borovoye Array 24.03 42 P **P 18 06 40.0 +0.4**
comp=Z,2.2nm,0.7s,mb3.7,baz=238,slow=8.3,SNR=9.0
PRU Pruhonice 24.27 310 *e*P **P 18 06 43.5 +1.7**
PRU AMS AMS 18 17 50.0
comp=Z,200nm,21.0s
PRU Pruhonice 24.27 310 *e*P **P 18 06 43.5 +1.7**
comp=Z,200nm,21.0s
GERES GERESS Array B 24.45 307 P **P 18 06 42.5 -0.9**
comp=Z,1.7nm,0.7s,mb3.6,baz=107,slow=8.5,SNR=12
GERES LR LR 18 18 16.7
comp=Z,110nm,18.1s,MS3.4,baz=110,slow=41
CHKZ Chkalovo 24.47 40 *e*P **P 18 06 42.8 -0.8**
CHKZ pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
CHKZ Chkalovo 24.47 40 *e*P **P 18 06 42.8 -0.8**
comp=Z,3.1nm,0.8s,mb3.8
CHKZ Chkalovo 24.47 40 *e*P **P 18 06 42.8 -0.8**
comp=Z,3.0nm,0.8s,mb3.8
KHC Kasperske Hory 24.61 307 *e*P **P 18 06 44.6 -0.3**
BRG Berggiesshubel 24.93 312 *e*P **P 18 06 48.0 +0.1**
comp=Z,2.7nm,1.0s,mb3.7
BRG
comp=N,68nm,16.7s
BRG
comp=E,168nm,17.2s
BRG
comp=Z,76nm,14.7s
BRG Berggiesshubel 24.93 312 *e*P **P 18 06 48.0 +0.1**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb3.8
BRG MLR MLR
comp=N,68nm,16.7s,MS3.6
BRG MLR MLR
comp=E,168nm,17.3s,MS3.6
BRG MLR MLR
comp=Z,76nm,14.7s,MS3.3
BRG Berggiesshubel 24.93 312 *e*P **P 18 06 49.1 +1.2**

WET Wettzell 25.05 307 *e*P **P 18 06 47.3 -1.6**
NKC Novy Kostel 25.63 309 *e*P **P 18 06 55.7 +1.5**
CLL Collm 25.64 312 *e*(sP) pP 18 06 56.0 -1.3
CLL Lm 18 19 00.0
comp=Z,200nm,18.2s
CLL Collm 25.64 312 *e*P **P 18 06 47.0 -7.3**
MANZ Manzenberg 25.77 309 *e*P **P 18 06 57.7 +2.3**
ATD Arta Tunnel 26.01 182 LR LR 18 17 43.3
comp=Z,69nm,19.1s,MS3.2,baz=36,slow=38
GRA1 Grafenberg Arr 26.24 308 *e*P **P 18 06 59.9 +0.2**
comp=Z,6.0nm,0.9s,mb4.1
GRF Grafenberg Arr 26.24 308 *e*P **P 18 06 59.9 +0.2**
comp=Z,6.0nm,0.9s,mb4.1
GRF *e*L 18 18 36.6
comp=Z,91nm,20.0s
GRF Grafenberg Arr 26.24 308 *e*P **P 18 06 59.9 +0.2**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
GRF MLR MLR
comp=Z,100nm,20.0s,MS3.4
GRF Grafenberg Arr 26.24 308 *e*P **P 18 06 59.9 +0.2**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
GRF MLR MLR
comp=Z,100nm,20.0s,MS3.4
FINES FINESS Array B 26.27 341 P **P 18 06 57.3 -2.7**
comp=Z,1.7nm,0.9s,mb3.6,baz=146,slow=10,SNR=6.4
FINES LR LR 18 18 54.6
comp=Z,54nm,20.1s,MS3.1,baz=350,slow=40
DAVOX Davos 26.54 301 LR LR 18 19 25.5
comp=Z,99nm,18.8s,MS3.4,baz=82,slow=41
KURK Kurchatov 27.92 51 *e*P **P 18 07 16.9 +2.1**
HFS Hagfors 29.51 329 P **P 18 07 27.6 -1.4**
comp=Z,1.0nm,0.7s,mb3.6,baz=130,slow=13,SNR=4.1
HFS LR LR 18 19 42.6
comp=Z,96nm,19.6s,MS3.4,baz=128,slow=37
MKAR Makanchi Array 29.70 60 P **P 18 07 30.1 -0.6**
comp=Z,0.8nm,0.7s,mb3.6,baz=262,slow=6.7,SNR=7.9
NOA NORSAR Array B 31.04 329 LR LR 18 21 41.9
comp=Z,48nm,21.1s,MS3.1,baz=115,slow=39
NVS Novosibirsk 31.73 44 *e*P **P 18 07 49.6 +1.1**
ARCES ARCESS Array B 33.45 348 LR LR 18 23 14.7
comp=Z,91nm,18.3s,MS3.5,baz=339,slow=39
TORD Torodi Ar. Bea 44.65 248 P **P 18 09 35.2 -2.2**
comp=Z,0.5nm,0.9s,mb3.4,baz=50,slow=10,SNR=3.3
SONM Songino Array 45.95 56 LR LR 18 31 51.4
comp=Z,76nm,18.0s,MS3.7,baz=25,slow=40
ULN Ulaanbaatar 46.37 56 *e*P **P 18 09 54.5 +3.5**
TIXI Tiksi 53.25 23⇑ *e*P **P 18 10 45.9 +2.6**
TIXI pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
TIXI MLR MLR
comp=Z,200nm,17.0s,MS4.2
TIXI Tiksi 53.25 23 *e*P **P 18 10 45.9 +2.6**
comp=Z,200nm,17.0s
YAK Yakutsk 55.74 35 *i*P **P 18 11 04.0 +2.6**
SNY Shenyang 59.40 59⇑ P **P 18 11 30.8 +3.6**
SNY AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
MDJ Mudanjiang 62.16 54 P **P 18 11 46.2 +0.2**
MDJ S **S 18 20 11.9 +0.6**
MDJ AMB AMB
comp=Z,100nm,3.2s
SSE Sheshan 62.55 71 P **P 18 11 50.2 +1.6**
SSE AMB AMB
comp=Z,210nm,4.5s
BOSA Boshof 68.15 198 P **P 18 12 23.0 -1.9**
comp=Z,1.6nm,0.7s,mb4.2,baz=189,slow=1.3,SNR=4.1
BOSA Boshof 68.15 198 P **P 18 12 23.0 -1.9**
BOSA pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MJAR Matsushiro Art 71.88 58 LR LR 18 49 20.5
comp=Z,52nm,20.4s,MS3.8,baz=25,slow=40
VNDA Vanda 132.44 165 PKP PKPdf 18 20 37.2 -2.0
comp=Z,0.4nm,0.3s,baz=277,slow=9.8,SNR=6.5

*CASC **09** 18:44:35.5±2.3, 1494N×9443W, h24km, MD4.8, mb4.6(NEIC)*
*ISCJB **09** 18:44:41.2±0.3, 1485N±004×9390W±003, h10km, mb4.5/39, MS3.9/10, Error ellipse: s-maj=5.4km s-min=3.1km az=50.1*
*IDC **09** 18:44:41.3±1.2, 1507N×9342W, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.4/23, mbtmp4.4/15, ML4.6/1, MS3.8/12, Ms1 3.8/12, ms1mx3.6/22, Error ellipse: s-maj=45.1km s-min=15.1km az=51.0*
*MEX **09** 18:44:43.6±1.4, 1466N×9395W, h20km±51km, MD4.9*
*NEIC **09** 18:44:44.2, 1469N×9394W, h24km, mb4.6/33, MD4.9(MEX), After MEX.*
ISC 09 18:44:45.9±1.4, 1480N±004×9383W±003, h35km±10km, n113, σ1§49/129, mb4.5/39, MS3.9/10, 3C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**2.17**	**102**	*e*P	**Pn**	**18 45 19.1**	**-0.5**
CCIG	**Comitan**	**2.20**	**48**	*i*P	**Pn**	**18 45 20.3**	**+0.4**
CCIG				*i*S	**Sn**	**18 45 47.0**	**+1.2**
SCX	**San Cristobal**	**2.24**	**31**	*i*P	**Pn**	**18 45 21.0**	**+0.5**
SCX				*i*S	**Sn**	**18 45 47.5**	**+0.6**
SCX	**San Cristobal**	**2.24**	**31**	*i*P	**Pn**	**18 45 21.5**	**+1.0**
SCX				*i*S	**Sn**	**18 45 47.5**	**+0.6**
HUIG	**Huatulco**	**2.40**	**294**	*i*P	**Pn**	**18 45 19.0**	**-3.7**
HUIG				*i*S	**Sn**	**18 45 46.8**	**-4.1**
CMIG	**Matias Romero**	**2.49**	**336**	Pn	**Pn**	**18 45 21.9**	**-2.0**
CMIG	138nm,0.3s,baz=145,slow=10,SNR=502			Sn	**Sn**	**18 45 49.8**	**-3.4**
CMIG	448nm,0.3s,baz=136,slow=18,SNR=22			LR	LR	18 46 39.5	
CMIG	**Matias Romero**	**2.49**	**336**	*i*P	**Pn**	**18 45 21.3**	**-2.6**
CMIG				*i*S	**Sn**	**18 45 50.7**	**-2.5**
CMIG	**Matias Romero**	**2.49**	**336**	*i*P	**Pn**	**18 45 21.3**	**-2.6**
CMIG				Pn	**Pn**	**18 45 21.9**	**-2.0**
CMIG				Sn	**Sn**	**18 45 49.8**	**-3.4**
CMIG				*i*S	**Sn**	**18 45 50.7**	**-2.5**
CMIG				LR	LR	18 46 39.5	
TP2	**Tecpan 2**	**2.71**	**90**	*e*P	**Pn**	**18 45 27.0**	**0.0**
FUG	**Fuego 3**	**2.91**	**97**	*e*P	**Pn**	**18 45 28.6**	**-1.1**
TUIG	**Tuzandepetl**	**3.27**	**350**	*i*P	**Pn**	**18 45 33.6**	**-0.9**
TUIG				*i*S	**Sn**	**18 46 10.9**	**-1.3**
OXX	**Oaxaca**	**3.59**	**310**	*e*P	**Pn**	**18 45 37.8**	**-1.2**
OXX				*i*S	**Sn**	**18 46 16.4**	**-3.8**
OXX	**Oaxaca**	**3.59**	**310**	*e*P	**Pn**	**18 45 38.9**	**-0.2**
OXX				*i*S	**Sn**	**18 46 16.0**	**-4.3**
VHO	**Vista Hermosa**	**3.59**	**309**	*i*P	**Pn**	**18 45 39.1**	**+0.1**
VHO				*i*S	**Sn**	**18 46 16.3**	**-4.0**
VHO	**Vista Hermosa**	**3.59**	**309**	*i*P	**Pn**	**18 45 38.9**	**-0.2**
VHO				*i*S	**Sn**	**18 46 16.3**	**-4.0**
EVV	**El Vigia**	**3.92**	**338**	*e*P	**Pn**	**18 45 41.2**	**-2.4**
EVV				*i*S	**Sn**	**18 46 28.0**	**-0.3**
EVV	**El Vigia**	**3.92**	**338**	*e*P	**Pn**	**18 45 44.0**	**+0.5**
EVV				*i*S	**Sn**	**18 46 28.0**	**-0.3**
RTR	**El Retiro**	**4.15**	**102**	*e*P	x	18 45 58.7	
RTR				*e*S	x	18 46 53.1	
SBLS	**San Blas**	**4.19**	**103**⇑	*e*P	x	18 45 59.1	
SBLS				*e*S	x	18 46 55.8	
SNJE	**San Jose**	**4.20**	**102**	*e*P	x	18 45 60.0	
SNJE				*e*S	x	18 46 56.1	
BOQS	**Boqueron**	**4.53**	**103**⇓	*e*P	x	18 46 04.5	
BOQS				*e*S	x	18 47 01.8	
LFRS	**El Faro**	**4.77**	**104**	*e*P	x	18 46 07.2	
LFRS				*e*S	x	18 47 10.4	
SCIG		**4.85**	**31**	*i*P	**Pn**	**18 45 56.3**	**-0.1**
SCIG				*i*S	**Sn**	**18 46 52.4**	**+1.0**
UTMO	**Huajuapan**	**4.86**	**309**	*e*P	**Pn**	**18 45 54.0**	**-2.5**
UTMO				*i*S	**Sn**	**18 46 49.6**	**-2.0**
LVIG	**Laguna Verde**	**5.49**	**334**	*i*P	**Pn**	**18 46 00.7**	**-4.4**
LVIG				*i*S	**Sn**	**18 47 00.2**	**-6.7**
LVIG	**Laguna Verde**	**5.49**	**334**	*i*P	**Pn**	**18 46 01.9**	**-3.2**
LVIG				*i*S	**Sn**	**18 47 01.3**	**-5.7**
VSM	**San Miguel**	**5.56**	**104**⇑	*e*P	x	18 46 17.9	
VSM				*e*S	x	18 47 29.6	
ACX	**Acapulco**	**6.21**	**290**	*e*P	**Pn**	**18 46 13.9**	**-1.2**
PPM	**Popocatepetl**	**6.25**	**313**	*e*P	**Pn**	**18 46 17.4**	**+1.8**
PPM				*i*S	**Sn**	**18 47 23.3**	**-2.5**
MEIG	**Mezcala**	**6.37**	**300**	*i*P	**Pn**	**18 46 17.6**	**+0.4**
MEIG				*i*S	**Sn**	**18 47 27.0**	**-1.7**
YAIG	**Yautepec**	**6.44**	**310**	*i*S	**Sn**	**18 47 27.5**	**-2.9**
PLIG	**Platanillo**	**6.51**	**304**	*e*P	**Pn**	**18 46 19.9**	**+0.8**
PLIG				*i*S	**Sn**	**18 47 32.7**	**+0.6**
PLIG	**Platanillo**	**6.51**	**304**	*e*P	**Pn**	**18 46 19.9**	**+0.8**
PLIG				*i*S	**Sn**	**18 47 24.8**	**-7.3**
MOIG	**Morelia**	**8.54**	**306**	*e*P	**Pn**	**18 46 50.1**	**+3.1**
JTS	**JuntasAbangare**	**9.75**	**116**	Pn	**Pn**	**18 47 07.3**	**+3.6**
JTS	3.2nm,0.3s,baz=306,slow=19,SNR=12			Sn	**Sn**	**18 48 57.4**	**+5.5**
JTS	baz=217,slow=18,SNR=2.4						
JTS	**JuntasAbangare**	**9.75**	**116**	*e*P	**Pn**	**18 47 01.8**	**-1.9**
JTS	50nm,0.9s			Pn	**Pn**	**18 47 07.3**	**+3.6**
JTS				Sn	**Sn**	**18 48 57.4**	**+5.5**
SFJM	**Santa Fe**	**10.44**	**304**	*e*P	**Pn**	**18 47 17.0**	**+3.9**
LNIG	**Linares**	**11.36**	**333**	*i*P	**Pn**	**18 47 25.8**	**+0.2**
LNIG				*i*S	**Sn**	**18 49 33.3**	**+2.1**
SOR	**Soroa**	**12.96**	**51**	*e*P	**Pn**	**18 47 45.9**	**-1.6**
MGV	**Manicaragua**	**15.01**	**59**	*e*P	**Pn**	**18 48 13.6**	**-1.7**
HKT	**Hockley**	**15.19**	**353**	*e*P	**Pn**	**18 48 20.7**	**+3.0**
CCCC	**Cccc**	**16.54**	**65**	*e*P	**Pn**	**18 48 39.5**	**+4.4**
JCT	**Junction City**	**16.55**	**342**	*e*P	**Pn**	**18 48 36.3**	**+1.2**
LMGC	**Las Mercedes**	**16.88**	**70**	*e*P	**Pn**	**18 48 39.0**	**-0.3**
LTX	**Lajitas**	**17.08**	**329**	*e*P	**Pn**	**18 48 43.2**	**+1.3**
LPIG	**La Paz**	**18.07**	**303**	LR	LR	18 56 04.3	
MIAR	**Mount Ida**	**19.66**	**1**	*e*P	**Pn**	**18 49 11.3**	**-2.0**
MNTX	**Cornudas Mount**	**19.86**	**330**	*e*P	**Pn**	**18 49 14.3**	**-1.3**
UALR	**University of**	**19.93**	**4**	*e*P	**Pn**	**18 49 13.8**	**-2.7**
UALR				*e*S	**Sn**	**18 52 49.7**	**-10**
OXF	**Oxford**	**20.03**	**11**	*e*P	**P**	**18 49 18.2**	**+2.6**
AMTX	**Amarillo**	**21.21**	**342**	*e*P	**P**	**18 49 28.6**	**+0.1**
ROSC	**El Rosal**	**21.58**	**115**	P	**P**	**18 49 35.5**	**+3.0**
BNM	**Barren Site**	**22.47**	**331**	*e*P	**P**	**18 49 45.2**	**+3.3**
LPM	**Los Pinos Moun**	**22.61**	**331**	*e*P	**P**	**18 49 44.5**	**+1.1**
LENM	**Lemitar**	**22.65**	**331**	*e*P	**P**	**18 49 47.0**	**+3.1**
LAZ	**Ladron**	**22.92**	**331**	*e*P	**P**	**18 49 48.0**	**+1.3**
ANMO	**Albuquerque**	**23.06**	**333**	P	**P**	**18 49 49.2**	**+1.0**
ANMO	**Albuquerque**	**23.06**	**333**	*e*P	**P**	**18 49 48.9**	**+0.6**
TUC	**Tucson**	**23.30**	**321**	*e*P	**P**	**18 49 52.0**	**+1.3**
SDV	**Santo Domingo**	**23.44**	**102**	P	**P**	**18 49 50.5**	**-1.6**
MVCO	**Mesa Verde**	**25.86**	**332**	*e*P	**P**	**18 50 16.2**	**+2.1**
ATAH	**Atahualpa**	**26.52**	**144**	P	**P**	**18 50 23.2**	**+3.1**
SMCO	**Snowmass**	**26.90**	**337**	*e*P	**P**	**18 50 25.6**	**+2.1**
ISCO	**Idaho Springs**	**26.96**	**340**	*e*P	**P**	**18 50 24.7**	**+0.6**
TMUT	**Trail Mountain**	**28.79**	**331**	*e*P	**P**	**18 50 43.1**	**+2.7**
PCRV	**Puerto La Cruz**	**28.85**	**96**	LR	LR	19 02 07.5	
DAC	**Darwin (Calif)**	**30.13**	**320**	*e*P	**P**	**18 50 53.8**	**+1.5**
HWUT	**Hardware Ranch**	**30.82**	**334**	*e*P	**P**	**18 50 55.6**	**-2.7**
PDAR	**Pinedale Array**	**30.98**	**337**	P	**P**	**18 50 59.6**	**-0.2**
PDAR				LR	LR	19 06 11.0	
MNV	**Mina**	**31.86**	**322**	*e*P	**P**	**18 51 09.7**	**+2.1**
ELK	**Elko**	**31.87**	**328**	*e*P	**P**	**18 51 10.0**	**+2.3**
NVAR	**Mina Array Bea**	**31.95**	**322**	P	**P**	**18 51 10.5**	**+2.2**
REDW	**Red Top Meadow**	**31.98**	**336**	*e*P	**P**	**18 51 09.6**	**+1.0**
LOHW	**Long Hollow**	**32.10**	**337**	*e*P	**P**	**18 51 10.4**	**+0.7**
LAO	**LASA Array**	**33.44**	**344**	*e*P	**P**	**18 51 21.9**	**+0.5**
QLMT	**Earthquake Lak**	**33.45**	**337**	*e*P	**P**	**18 51 23.3**	**+1.9**
HLID	**Hailey**	**33.64**	**333**	*e*P	**P**	**18 51 24.9**	**+1.8**
GCMT	**Greycliff**	**33.65**	**340**	*e*P	**P**	**18 51 23.4**	**+0.2**
BOZ	**Bozeman (W)**	**34.22**	**338**	*e*P	**P**	**18 51 28.7**	**+0.6**
DLMT	**Dillon**	**34.34**	**336**	*e*P	**P**	**18 51 29.8**	**+0.6**
WVOR	**Wild Horse Val**	**34.85**	**327**	*e*P	**P**	**18 51 35.6**	**+2.0**
HRY	**Holter Researc**	**35.20**	**338**	*e*P	**P**	**18 51 37.4**	**+0.8**
MOD	**Modoc**	**35.39**	**325**	*e*P	**P**	**18 51 40.1**	**+1.9**
ULM	**Lac du Bonnet**	**35.39**	**358**	P	**P**	**18 51 34.9**	**-3.4**
ULM				LR	LR	19 06 41.0	
EGMT	**Eagleton**	**35.66**	**342**	*e*P	**P**	**18 51 40.6**	**+0.1**
CHMT	**Chamberlain Mo**	**35.89**	**337**	*e*P	**P**	**18 51 42.5**	**0.0**
LPAZ	**La Paz**	**39.98**	**140**	LR	LR	19 08 13.1	
EDM	**Edmonton**	**41.32**	**342**	*e*P	**P**	**18 52 27.4**	**-0.7**
FCC	**Fort Churchill**	**43.89**	**360**	*e*P	**P**	**18 52 46.5**	**-2.4**
SIV	**San Ignacio**	**44.53**	**132**	P	**P**	**18 52 53.2**	**-0.9**
SCHQ	**Schefferville**	**45.11**	**22**	LR	LR	19 13 24.9	
YKA	**Yellowknife Ar**	**49.86**	**348**	P	**P**	**18 53 34.6**	**-1.0**
YKA				LR	LR	19 18 00.5	
YKW3	**Yellowknife Ar**	**49.92**	**348**	*e*P	**P**	**18 53 34.9**	**-1.1**
DLBC	**Dease Lake**	**51.21**	**337**	*e*P	**P**	**18 53 46.9**	**+1.1**
RKT	**Rikitea**	**55.15**	**228**	*e*LR	LR	19 10 16.7	
INK	**Inuvik**	**59.18**	**344**	*e*P	**P**	**18 54 42.3**	**-1.0**
RES	**Resolute Bay**	**59.89**	**360**	*e*P	**P**	**18 54 46.4**	**-1.7**
MCK	**McKinley**	**61.74**	**336**	*e*P	**P**	**18 55 01.2**	**+0.4**
SUMG	**Summit**	**65.94**	**16**	*e*P	**P**	**18 55 27.1**	**-1.3**
TBI	**Tubuai**	**66.31**	**236**	*e*LR	LR	19 15 26.3	
DAG	**Danmarks Havn**	**72.30**	**14**⇑	*i*P	**P**	**18 56 06.2**	**-1.6**
BILL	**Bilibino**	**80.06**	**338**	*e*P	**P**	**18 56 51.1**	**-0.8**
NB2	**NORSAR Subarra**	**84.29**	**28**	P	**P**	**18 57 13.7**	**-0.3**
NOA	**NORSAR Array B**	**84.29**	**28**	P	**P**	**18 57 14.1**	**+0.1**
NOA				LR	LR	19 32 53.5	
ARCES	**ARCESS Array B**	**85.93**	**18**	P	**P**	**18 57 21.3**	**-1.0**
ARCES				LR	LR	19 36 14.9	
BRG	**Berggiesshubel**	**89.46**	**37**	*e*(P)	**P**	**18 57 39.1**	**-0.1**
GERES	**GERESS Array B**	**90.11**	**39**	P	**P**	**18 57 41.9**	**-0.4**
GERES				LR	LR	19 34 53.1	
FINES	**FINESS Array B**	**90.52**	**25**	P	**P**	**18 57 43.0**	**-1.2**
FINES				LR	LR	19 41 03.3	
FINES	**FINESS Array B**	**90.52**	**25**	P	**P**	**18 57 43.0**	**-1.2**
FINES				LR	LR	19 41 03.3	
TORD	**Torodi Ar. Bea**	**91.91**	**76**	P	**P**	**18 57 49.1**	**-1.5**
AKASG	**Malin Array Be**	**98.02**	**33**	P	**P**	**18 58 16.2**	**-2.3**
ASAR	**Alice Springs**	**134.25**	**251**	PKP	PKPdf	19 04 00.7	+0.8

*IDC **09** 19:00:24.4±0.9, 2078S×17421W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.2/12, mbtmp4.2/6, MS3.8/9, Ms1 3.9/9, ms1mx3.5/22, Error ellipse: s-maj=36.5km s-min=25.8km az=118.0*

*NEIC **09** 19:00:25.3±0.7, 2070S×174.17W, h10km, mb4.3/2, Error ellipse: s-maj=26.0km s-min=14.2km az=119.0*
*ISCJB **09** 19:00:26.5±0.7, 205S±0.1×1742W±02, h33km, mb4.2/9, MS4.0/7, Error ellipse: s-maj=23.6km s-min=13.9km az=65.4*

ISC 09 19:00:28.7±0.7, **206S**±01×**1741W**±02, **h35**km, **n43**, σ1§**22**/16, **mb4.2**/9, **MS4.0**/7, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.03**	**19**	Pn	**Pn**	**19 02 07.2**	**-1.9**
	6.1nm,0.3s,baz=197,slow=20,SNR=4.3						
AFI				Sn	**Sn**	**19 03 18.9**	**-8.8**
	4.1nm,0.3s,baz=162,slow=21,SNR=2.9						
RAO	**Raoul Island**	**9.27**	**201**	LR	LR	19 05 33.6	
	comp=Z,122nm,18.8s,baz=17,slow=34						
RAR	**Rarotonga**	**13.41**	**95**	LR	LR	19 06 54.3	
	comp=Z,447nm,20.9s,baz=290,slow=29						
TBI	**Tubuai**	**23.00**	**101**	*e*LR	LR	19 10 25.7	
	400nm,31.2s						
PPT	**Papeete**	**23.37**	**87**	*e*LQ		19 09 36.5	
	364nm,26.0s						
PPT				*e*LR	LR	19 10 39.4	
	396nm,27.0s						
PPT	**Papeete**	**23.37**	**87**	LR	LR	19 13 03.8	
	comp=Z,232nm,19.1s,MS3.6,baz=267,slow=32						
RPZ	**Rata Peaks**	**26.15**	**205**	P	**P**	**19 05 56.4**	**-3.2**
	14nm,1.0s,mb4.4,baz=27,slow=2.3,SNR=3.7						
HNR	**Honiara**	**27.37**	**290**	LR	LR	19 15 13.2	
	comp=Z,176nm,21.8s,MS3.6,baz=179,slow=32						
RKT	**Rikitea**	**36.33**	**101**	*e*LR	LR	19 16 38.4	
	302nm,28.5s						
STKA	**Stephens Creek**	**41.03**	**245**	*e*P	**P**	**19 08 06.2**	**-2.4**
	2.0nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**41.03**	**245**	P	**P**	**19 08 06.8**	**-1.7**
	2.7nm,0.7s,mb4.0,baz=74,slow=11,SNR=7.0						
STKA				LR	LR	19 23 15.2	
	comp=Z,118nm,20.4s,MS3.7,baz=206,slow=34						
ASAR	**Alice Springs**	**48.04**	**256**	P	**P**	**19 09 04.7**	**+0.2**
	5.3nm,0.9s,mb4.6,baz=88,slow=8.4,SNR=35						
WB2	**Warramunga Arr**	**48.19**	**261**	*e*P	**P**	**19 09 05.7**	**+0.1**
WRAB	**Tennant Creek**	**48.19**	**261**	*e*P	**P**	**19 09 05.6**	**0.0**
VNDA	**Vanda**	**58.15**	**186**	P	**P**	**19 10 18.9**	**0.0**
	1.1nm,0.7s,mb4.0,baz=354,slow=6.4,SNR=8.6						
MBWA	**Marble Bar**	**61.38**	**257**	*e*P	**P**	**19 10 41.8**	**+0.7**
QSPA	**South Pole Qui**	**69.45**	**180**	*e*P	**P**	**19 11 33.4**	**+0.1**
	4.4nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	**72.52**	**321**	P	**P**	**19 11 54.4**	**+2.4**
	2.8nm,0.7s,mb4.3,baz=165,slow=6.4,SNR=8.5						
LPIG	**La Paz**	**76.36**	**58**	LR	LR	19 39 19.4	
	comp=Z,160nm,18.3s,MS4.4,baz=239,slow=30						
NVAR	**Mina Array Bea**	**78.65**	**41**	P	**P**	**19 12 28.5**	**+1.5**
	1.3nm,0.8s,mb3.9,baz=236,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	**78.65**	**41**	P	**P**	**19 12 28.5**	**+1.5**
MAW	**Mawson**	**82.67**	**199**	P	**P**	**19 12 48.6**	**+0.1**
	0.8nm,0.3s,mb4.2,baz=145,slow=5.4,SNR=3.6						
CMIG	**Matias Romero**	**86.25**	**70**	LR	LR	19 44 00.5	
	comp=Z,63nm,21.9s,MS4.0,baz=191,slow=30						
PLCA	**Paso Flores**	**86.52**	**132**	LR	LR	19 45 43.4	
	comp=Z,101nm,18.5s,MS4.2,baz=84,slow=31						
PDAR	**Pinedale Array**	**86.58**	**42**	P	**P**	**19 13 15.4**	**+7.1**
	0.2nm,0.5s,mb3.6,baz=201,slow=4.8,SNR=2.6						
LPAZ	**La Paz**	**98.63**	**111**	LR	LR	19 50 00.6	
	comp=Z,81nm,21.8s,MS4.2,baz=28,slow=30						
FINES	**FINESS Array B**	**136.84**	**346**	PKP	PKPdf	19 19 49.6	+2.1
	6.0nm,1.3s,baz=8.5,slow=3.9,SNR=4.2						
AKASG	**Malin Array Be**	**144.80**	**334**	PKP	PKPdf	19 20 01.5	-0.3
	3.3nm,0.5s,baz=40,slow=4.1,SNR=26						
CLL	**Collm**	**148.87**	**351**	*e*PKPbc	PKPbc	19 20 14.0	+1.4
	comp=Z,8.0nm,1.2s						
CLL				*es*PKPab		19 20 25.0	
	comp=Z,15nm,1.5s						
CLL	**Collm**	**148.87**	**351**	*e*P	PKPbc	19 20 14.0	+1.4
CLL				*e*		19 20 25.0	
UPC	**Upice**	**149.12**	**347**	*e*PKPbc	PKPbc	19 20 14.4	+1.2
BRG	**Berggiesshubel**	**149.15**	**350**	*e*P	PKPbc	19 20 15.6	+2.3
	comp=Z,2.6nm,1.0s						
BRG				*e*		19 20 26.5	
	comp=Z,3.8nm,1.0s						
DPC	**Dobruska-Polom**	**149.20**	**347**	*e*PKPbc	PKPbc	19 20 15.3	+1.9
PVCC	**Panska Ves**	**149.37**	**349**	*e*PKPbc	PKPbc	19 20 16.1	+2.2
PVCC				*ep*PKP	pPKPdf	19 20 25.7	+4.8
BR131	**Keskin Array S**	**149.57**	**315**	*e*PKPbc	PKPbc	19 20 16.7	+2.4
BRTR	**Keskin Array B**	**149.57**	**315**	PKPbc	PKPbc	19 20 16.3	+2.0
	comp=Z,1.8nm,0.7s,baz=135,slow=3.0,SNR=11						
MOX	**Moxa**	**149.70**	**353**	*e*P	PKPbc	19 20 16.5	+1.8
PRU	**Pruhonice**	**149.90**	**349**	*e*PKPab	PKPab	19 20 20.0	-0.8
PRU				*ep*PKP	pPKPdf	19 20 27.8	+6.0
NKC	**Novy Kostel**	**149.99**	**352**	*e*PKPbc	PKPbc	19 20 18.5	+3.1
VYHS	**Vyhne**	**150.30**	**343**	*e*PKP	PKPbc	19 20 17.8	+1.7
VYHS				*e*		19 20 29.0	
KHC	**Kasperske Hory**	**150.89**	**350**	*e*PKPbc	PKPbc	19 20 19.1	+1.6
KHC				*e*PKPab	PKPab	19 20 28.6	+3.7
KHC	**Kasperske Hory**	**150.89**	**350**	*e*P	PKPbc	19 20 19.1	+1.6
KHC				*e*	PKPab	19 20 28.6	+3.7
GERES	**GERESS Array B**	**151.15**	**349**	PKPbc	PKPbc	19 20 19.6	+1.5
	comp=Z,0.8nm,0.8s,baz=29,slow=3.0,SNR=7.0						

DHMR 09 19:28:59.3±3.0, **1142N**×**4041E**±**h12**km±295km, **ML3.9**, **3D**, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FURI	**Furi**	**3.03**	**214**	*e*PN	Pn	19 29 59.4	+12
FURI				*e*SN	Sn	19 30 40.6	+17
TRBA	**At Turbah**	**4.04**	**63**	⇓*i*P	Pn	19 30 03.3	+2.3
TRBA				*i* S	Sn	19 30 53.8	+5.5
TRBA				AML	AML	19 31 03.8	
	comp=N,407nm,0.7s						
TRBA	**At Turbah**	**4.04**	**63**	⇓*i*P	Pn	19 30 03.3	+2.3
TRBA				*i* S	Sn	19 30 53.8	+5.6
	comp=N,203nm,0.7s						
DHBB	**Dhamar BB**	**4.98**	**51**	*i* P	Pn	19 30 14.8	+0.9
DHBB				*i* S	Sn	19 31 12.6	+1.1
LBOS		**5.31**	**62**	⇓*i*P	Pn	19 30 18.6	+0.1
LBOS				*i* S	Sn	19 31 21.4	+1.9

*ISCJB **09** 19:46:56.0±0.6, 3855N×002×2378E±005, h16km±6km, Error ellipse: s-maj=6.3km s-min=3.7km az=167.1*
*NEIC **09** 19:46:56.2, 3859N×2377E, h24km, ML3.3(ATH), After ATH.*
*ATH **09** 19:46:56.2, 3859N×2377E, h24km±1km, MD3.4/15, ML3.3*
*CSEM **09** 19:46:56.2, 3859N×2377E, h24km, MD3.4/15, After ATH*
*THE **09** 19:46:57.7, 3862N×2371E, h9km, ML2.7*

ISC 09 19:46:56.3±0.6, **3857N**±002×**2377E**±004, **h14**km±4km, **n26**, σ1§**19**/38, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.53**	**172**	*e*PN	**Pg**	**19 47 07.4**	**+0.7**
PTL	**Penteli**	**0.53**	**172**	*e*Pn	**Pg**	**19 47 07.9**	**+1.2**
ATH	**Athens Observa**	**0.60**	**184**	*e*PB	**Pb**	**19 47 07.7**	**-0.8**
ATH				*e*SN	**Sg**	**19 47 17.5**	**+1.5**
AOS	**Alonnisos**	**0.61**	**8**	*e*Pg	**Pg**	**19 47 08.2**	**-0.1**
AOS				*e*Sg	**Sg**	**19 47 17.1**	**+0.9**
LKR	**Lokris**	**0.61**	**278**	*e*PB	**Pb**	**19 47 07.5**	**-1.2**
LKR				*e*SN	**Sg**	**19 47 16.7**	**+0.4**
MGER	**Gerania Oros**	**0.71**	**215**	*e*PN	**Pn**	**19 47 10.0**	**-1.8**
KVR	**Kavouri**	**0.74**	**180**	*e*PN	**Pn**	**19 47 11.2**	**-1.1**
NAIG	**Nisos Aigina**	**0.84**	**195**	*e*PN	**Pn**	**19 47 13.0**	**-0.6**
NEO	**Neokhori**	**0.85**	**330**	*e*PN	**Pn**	**19 47 12.1**	**-1.7**
NEO				*e*SN	**Sn**	**19 47 24.6**	**-1.4**
XOR	**Xorichti**	**0.91**	**331**	*e*Pg	**Pg**	**19 47 13.3**	**-0.7**
XOR				*e*Sg	**Sg**	**19 47 26.4**	**+0.4**
AGG	**Agios Georgios**	**1.21**	**292**	*e*Pg	**Pg**	**19 47 18.7**	**-1.0**
AGG				*e*Sg	**Sg**	**19 47 35.8**	**+0.3**
EVR	**Evrytania**	**1.57**	**283**	*e*PN	**Pn**	**19 47 25.1**	**+1.4**
LIA	**Limnos Island**	**1.72**	**39**	*e*PN	**Pn**	**19 47 26.8**	**+1.0**
OUR	**Ouranopolis**	**1.77**	**5**	*e*Pb	**Pb**	**19 47 27.1**	**-1.4**
OUR				*e*Sb	**Sb**	**19 47 49.5**	**-1.1**
PLG	**Polygyros**	**1.82**	**352**	*e*PN	**Pn**	**19 47 27.6**	**+0.5**
LIT	**Litokhoron**	**1.82**	**327**	*e*Pb	**Pb**	**19 47 27.6**	**-1.8**
LIT				*e*Sb	**Sb**	**19 47 50.7**	**-1.4**
RLS	**Riolos of Patr**	**1.88**	**255**	*e*PN	**Pn**	**19 47 29.2**	**+1.2**
VLI	**Veliai**	**1.96**	**200**	*e*PB	**Pb**	**19 47 29.8**	**-2.0**
ITM	**Ithomi**	**2.01**	**227**	*e*PN	**Pn**	**19 47 31.5**	**+1.7**
APE	**Apeiranthos**	**2.05**	**136**	*e*PN	**Pn**	**19 47 31.6**	**+1.3**
PRK	**Paraskevi**	**2.07**	**70**	*e*PB	**Pb**	**19 47 31.1**	**-2.5**
THE	**Thessaloniki**	**2.15**	**343**	*e*Pn	**Pn**	**19 47 32.1**	**+0.4**
SOH	**Sokhos**	**2.27**	**352**	*e*Pn	**Pn**	**19 47 34.1**	**+0.8**
SOH				*e*Sn	**Sn**	**19 48 03.2**	**+2.1**
MEV	**Metsovon**	**2.32**	**302**	*e*Pn	**Pn**	**19 47 34.7**	**+0.7**
MEV				*e*Sn	**Sn**	**19 48 02.5**	**+0.3**
GRG	**Griva**	**2.61**	**337**	*e*Pn	**Pn**	**19 47 38.9**	**+0.9**
GRG				*e*Sn	**Sn**	**19 48 10.2**	**+0.8**
KNT	**Kendrikon**	**2.67**	**346**	*e*Pn	**Pn**	**19 47 40.2**	**+1.3**
KNT				*e*Sn	**Sn**	**19 48 11.8**	**+0.8**

HLW 09 19:59:57.7, 3423N×**2728E, h33**km, **Mb3.9, 3C-6D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLUM		**3.24**	**213**	⇓P	Pn	20 00 46.2	0.0
SLUM				S	Sn	20 01 21.4	-2.2
SWA1		**5.13**	**196**	⇓P	Pn	20 01 12.2	+0.1
SWA1				S	Sn	20 02 07.2	-3.0
SWA2		**5.21**	**198**	⇑P	Pn	20 01 13.2	0.0
SWA2				S	Sn	20 02 09.0	-3.2
SWA2		**5.21**	**198**	P	Pn	20 01 13.2	-0.1
SWA2				S	Sn	20 02 09.0	-3.2
GLL	**Jalalah**	**5.97**	**140**	⇓P	Pn	20 01 24.3	+0.5
AWBH		**6.05**	**166**	P	Pn	20 01 25.5	+0.7
AMAG	**Maghara**	**6.16**	**124**	⇓P	Pn	20 01 26.6	+0.3
AMAG				S	Sn	20 02 32.0	-3.5
SUZ		**6.43**	**131**	⇑P	Pn	20 01 30.6	+0.5
HFRF	**Wahat Farafira**	**7.11**	**173**	⇓P	Pn	20 01 40.4	+1.0
HNKL	**Nakhl**	**7.12**	**125**	⇑P	Pn	20 01 40.5	+1.0
HNKL				S	Sn	20 02 55.2	-4.0
HKAT	**Jabal Katrina**	**8.08**	**133**	⇓P	Pn	20 01 53.4	+0.7
HKAT	**Jabal Katrina**	**8.08**	**133**	P	Pn	20 01 53.3	+0.6

*SKO **09** 20:22:06.1, 3950N×1899E, h61km*
*ATH **09** 20:22:09.9, 3968N×1974E, h10km, MD3.4/3*
*ISCJB **09** 20:22:10.2±0.8, 3974N±004×1966E±006, h10km, Error ellipse: s-maj=6.5km s-min=5.0km az=155.8*
*THE **09** 20:22:10.9, 3979N×1972E, h10km*
*CSEM **09** 20:22:10.8±0.2, 3981N×1980E, h10km, MD3.4, Error ellipse: s-maj=4.1km s-min=3.9km az=91.0*

ISC 09 20:22:10.7±0.8, **3974N**±004×**1965E**±006, **h10**km, **n17**, σ1§**22**/28, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.12**	**101**	*e*PG	**Pg**	**20 22 12.0**	**-1.5**
SRN	**Sarande**	**0.31**	**62**	*e*Pg	**Pg**	**20 22 14.5**	**-2.3**
SRN				*e*Sg	**Sg**	**20 22 20.4**	**-0.5**
IGT	**Igoumenitsa**	**0.57**	**111**	*e*Pg	**Pg**	**20 22 20.4**	**-1.3**
IGT				*e*Sg	**Sg**	**20 22 29.4**	**+0.3**
JAN	**Janina**	**0.93**	**95**	*e*PB	**Pg**	**20 22 26.0**	**-2.6**
MEV	**Metsovon**	**1.22**	**87**	*e*Pg	**Pg**	**20 22 32.1**	**-2.0**
MEV				*e*Sg	**Sg**	**20 22 49.6**	**-0.3**
LKD	**Levkas**	**1.29**	**143**	*e*Pg	**Pg**	**20 22 35.2**	**-0.2**
LKD				*e*Sg	**Sg**	**20 22 55.0**	**+2.9**
OHR	**Ohrid**	**1.63**	**32**	*i* Pn	**Pn**	**20 22 38.5**	**-0.9**
OHR				*e*Sn	**Sn**	**20 23 01.3**	**+0.8**
OHR	**Ohrid**	**1.63**	**32**	*i* Pn	**Pn**	**20 22 38.5**	**-0.9**
OHR				*e*Sn	**Sn**	**20 23 01.2**	**+0.8**
FNA	**Florina**	**1.69**	**51**	*e*Pg	**Pn**	**20 22 39.7**	**-0.5**
FNA				*e*Sg	**Sn**	**20 23 03.1**	**+1.3**
VLS	**Valsamata**	**1.72**	**154**	*e*PB	**Pn**	**20 22 41.0**	**+0.3**
BIA	**Bitola**	**1.81**	**44**	*i* Pn	**Pn**	**20 22 41.9**	**0.0**
BIA				*e*Sn	**Sn**	**20 23 07.9**	**+2.1**
BIA	**Bitola**	**1.81**	**44**	*i* Pn	**Pn**	**20 22 41.9**	**0.0**
BIA				*e*Sn	**Sn**	**20 23 06.9**	**+2.0**
PE1	**Pezze di Greco**	**2.01**	**303**	*e*Pn	**Pn**	**20 22 45.1**	**+0.5**
AGG	**Agios Georgios**	**2.20**	**108**	*e*Pn	**Pn**	**20 22 48.1**	**+0.9**
AGG				*e*Sn	**Sn**	**20 23 16.4**	**+1.9**
LIT	**Litokhoron**	**2.22**	**80**	*e*Pn	**Pn**	**20 22 48.4**	**+0.9**
GRG	**Griva**	**2.43**	**59**	*e*Pn	**Pn**	**20 22 50.1**	**-0.3**
GRG				*e*Sn	**Sn**	**20 23 21.2**	**+1.0**
KNT	**Kendrikon**	**2.86**	**59**	*e*Pn	**Pn**	**20 22 56.1**	**-0.2**

*NIED **09** 20:22:00, 3740N×14080E, h89km, Mw3.6 Best double couple: M0=2.86000×10^14 NP1:φs=184.00000°, δ58.00000°, λ125.00000°. NP2:φs=310.00000°, δ46.00000°, λ47.00000°.*
*IDC **09** 20:22:52.0±2.5, 3740N×14128E, h76km±22km, mb3.3/3, mb1 3.6/6, mb1mx3.3/21, mbtmp3.8/6, Error ellipse: s-maj=22.0km s-min=15.5km az=80.0*
*ISCJB **09** 20:22:53.3±0.6, 3739N±004×14085E±007, h95km±4km, mb3.6/3, Error ellipse: s-maj=9.0km s-min=5.5km az=31.6*
*JMA **09** 20:22:54.9±0.1, 3742N×14075E, h87km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs=293.00000°, δ47.00000°, λ35.00000°. NP2: φs=177.00000°, δ66.00000°, λ131.00000°. Principal axes: T Plg51.0000°, Azm135.0000°; N Plg37.0000°, Azm337.0000°; P Plg11.0000°, Azm239.0000°;*
JMA Felt I J1.

ISC 09 20:22:54.4±0.6, **3740N**±003×**14084E**±007, **h89**km±4km, **n20**, σ0§**76**/34, **mb3.6**/3, **8C-3D**, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.04**	**139**	⇑P	**Pn**	**20 23 07.3**	**+0.4**
JFK				S	**Sn**	**20 23 16.5**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.30**	**186**	⇑P	**Pn**	**20 23 08.2**	**+0.5**
ONAJ				S	**Sn**	**20 23 18.2**	**+0.6**
JFT	**Otama**	**0.42**	**287**	⇑P	**Pn**	**20 23 08.2**	**-0.2**
JFT				S	**Sn**	**20 23 18.4**	**-0.5**
JMM	**Marumori**	**0.47**	**356**	⇑P	**Pn**	**20 23 08.9**	**+0.1**
JMM				S	**Sn**	**20 23 19.2**	**-0.3**
JFY	**Yanaizu**	**0.90**	**271**	⇑P	**Pn**	**20 23 12.6**	**-0.3**
JFY				S	**Sn**	**20 23 25.6**	**-1.2**
JOU	**Okura**	**0.97**	**352**	⇑P	**Pn**	**20 23 14.2**	**+0.5**
JOU				S	**Sn**	**20 23 28.9**	**+0.7**
JYS	**Shiratake**	**1.02**	**323**	⇑P	**Pn**	**20 23 14.5**	**+0.2**
JYS				S	**Sn**	**20 23 29.4**	**+0.2**
JIO	**Ouri**	**1.13**	**21**	⇓P	**Pn**	**20 23 15.6**	**+0.1**
JIO				S	**Sn**	**20 23 30.7**	**-0.7**
JNS	**Sasagawa**	**1.28**	**290**	⇑P	**Pn**	**20 23 16.9**	**-0.4**
JNS				S	**Sn**	**20 23 33.3**	**-1.3**
JKT	**Katashina**	**1.42**	**244**	⇓P	**Pn**	**20 23 19.8**	**+0.7**
JAG	**Ashikaga**	**1.48**	**229**	⇓P	**Pn**	**20 23 20.2**	**+0.4**
JAG				S	**Sn**	**20 23 38.9**	**-0.1**
JYK	**Kaneyama**	**1.56**	**346**	P	**Pn**	**20 23 21.3**	**+0.4**
JYK				S	**Sn**	**20 23 41.6**	**+0.7**
JMK	**Ichinoseki**	**1.58**	**11**	P	**Pn**	**20 23 21.3**	**+0.2**
MJAR	**Matsushiro Arr**	**2.27**	**249**	P	**Pn**	**20 23 30.5**	**+0.4**
	17nm,0.3s,baz=62,slow=11,SNR=188						
MJAR				S	**Sn**	**20 24 03.4**	**+5.9**
	6.2nm,0.3s,baz=29,slow=25,SNR=6.8						
MAT	**Matsushiro**	**2.27**	**249**	P	**Pn**	**20 23 31.0**	**+0.8**
MAT				S	**Sn**	**20 24 00.7**	**+3.1**
JHJ	**Hachijo jima 2**	**4.36**	**192**	P	**Pn**	**20 23 58.2**	**0.0**
	26nm,0.3s,baz=25,slow=17,SNR=4.2						
JHJ				S	**Sn**	**20 24 46.3**	**-1.5**
	33nm,0.3s,baz=62,slow=23,SNR=7.9						
ASAJ	**Asahikawa**	**6.84**	**11**	P	**Pn**	**20 24 29.5**	**-2.5**
	1.3nm,0.3s,baz=202,slow=9.6,SNR=10						
SONM	**Songino Array**	**27.20**	**304**	P	**P**	**20 28 30.0**	**+0.3**
	0.5nm,0.6s,mb3.2,baz=108,slow=8.8,SNR=6.5						
WRA	**Warramunga Arr**	**57.36**	**187**	P	**P**	**20 32 33.4**	**+0.1**
	0.4nm,0.4s,mb3.9,baz=4.9,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**61.09**	**187**	P	**P**	**20 32 58.8**	**-0.2**
	0.6nm,0.8s,mb3.7,baz=3.1,slow=5.2,SNR=4.9						

*CSEM **09** 20:25:35.4±0.6, 4045N×5159E, h10km, mb3.4, Error ellipse: s-maj=23.5km s-min=8.7km az=2.0*
*IDC **09** 20:25:37.7±2.7, 4072N×5169E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.3/20, mbtmp3.5/5, ML3.9/2, Error ellipse: s-maj=36.9km s-min=25.3km az=146.0*
*NEIC **09** 20:25:40.6±2.8, 4091N×5165E, h10km, mb3.1/2, Error ellipse: s-maj=47.0km s-min=16.2km az=181.0*
*MOS **09** 20:25:45.4±1.4, 4135N×5163E, h33km, mb3.4/1, Error ellipse: s-maj=33.0km s-min=18.1km az=66.0*
*ISCJB **09** 20:25:46.5±2.6, 413N±0.1×517E±0.1, h53km±27km, mb3.0/2, Error ellipse: s-maj=22.7km s-min=13.6km az=111.7*

ISC 09 20:25:46.0±2.7, **412N**±01×**517E**±01, **h40**km±28km, **n14**, σ0§**97**/20, **mb3.0**/2, **2C-2D**, **Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AB31	**Akbulak array**	**9.97**	**33**	⇑Pn	**Pn**	**20 28 07.2**	**+0.6**
	0.1nm,0.3s,baz=212,slow=12,SNR=6.7						
AB31				⇑Sn	**Sn**	**20 29 52.1**	**-5.1**
	2.5nm,0.5s,baz=227,slow=26,SNR=7.3						
AKTK	**Aktyubinsk**	**10.27**	**23**	Pn	**Pn**	**20 28 09.6**	**-1.1**
AKTK				Sn	**Sn**	**20 30 04.7**	**+0.1**
AKTK	**Aktyubinsk**	**10.27**	**23**	Pn	**Pn**	**20 28 09.6**	**-1.1**
AKTK				S	**Sn**	**20 30 04.7**	**+0.1**
AKTO	**Aktyubinsk**	**10.27**	**23**	⇓Pn	**Pn**	**20 28 12.1**	**+1.3**
AKTO				⇓Sn	**Sn**	**20 30 03.3**	**-1.2**
	0.1nm,0.8s						
AKTO	**Aktyubinsk**	**10.27**	**23**	Pn	**Pn**	**20 28 09.6**	**-1.1**
	0.5nm,0.3s,baz=210,slow=11,SNR=7.3						
AKTO				Sn	**Sn**	**20 30 04.7**	**+0.1**
	1.7nm,0.3s,baz=6.1,slow=23,SNR=18						
BRVK	**Borovoye**	**17.32**	**40**	P	**Pn**	**20 29 46.5**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**17.32**	**40**	P	**Pn**	**20 29 46.5**	**+1.9**
	comp=Z,0.6nm,0.7s						
BRVK	**Borovoye**	**17.32**	**40**	P	**Pn**	**20 29 46.5**	**+1.9**
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**17.35**	**41**	P	**Pn**	**20 29 45.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=226,slow=10,SNR=14						
BVAR				S	**S**	**20 32 50.7**	**-14**
	comp=Z,0.3nm,0.3s,baz=238,slow=27,SNR=7.8						
AKASG	**Malin Array Be**	**18.23**	**309**	P	**Pn**	**20 29 55.6**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=114,slow=11,SNR=3.5						
KURK	**Kurchatov**	**20.94**	**54**	*e*P	**P**	**20 30 25.2**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**20.94**	**54**	*e*P	**P**	**20 30 25.2**	**+0.1**
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**22.66**	**65**	P	**P**	**20 30 41.9**	**-1.7**
	comp=Z,0.2nm,0.6s,mb2.8,baz=254,slow=9.9,SNR=3.0						
FINES	**FINESS Array B**	**25.54**	**331**	P	**P**	**20 31 11.1**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.2,baz=134,slow=11,SNR=4.1						

*ISK **09** 20:53:05.6, 3967N×3899E, h6km, MD3.7*
*CSEM **09** 20:53:05.5±0.1, 3967N×3898E, h5km, MD3.7, Error ellipse: s-maj=1.9km s-min=1.6km az=151.0*
*ISCJB **09** 20:53:06.1±0.4, 3969N±003×3900E±004, h6km, Error ellipse: s-maj=4.9km s-min=4.1km az=53.3*

ISC 09 20:53:07.0±0.4, **3966N**±003×**3899E**±004, **h6**km, **n27**, σ0§**99**/38, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.64**	**82**	*e*PG	**Pg**	**20 53 10.8**	**-8.5**
EZC				*e*SG	**Sg**	**20 53 16.6**	**-11**
ELZG	**Elazig**	**1.16**	**180**	*i* P	**Pg**	**20 53 27.7**	**-1.6**
ELZG				*i* S	**Sg**	**20 53 45.8**	**+1.4**
GRSN	**GIRESUNGRSN**	**1.38**	**336**	*i* P	**Pn**	**20 53 28.3**	**-4.5**
GRSN				*i* S	**Sb**	**20 53 44.8**	**-6.2**
MYA	**Malataya**	**1.41**	**199**	PN	**Pn**	**20 53 32.4**	**-0.8**
MYA				SN	**Sn**	**20 53 52.4**	**+0.4**
MALT	**Malatya**	**1.42**	**198**	PN	**Pn**	**20 53 31.9**	**-1.4**
MALT				SN	**Sn**	**20 53 52.3**	**0.0**
SVSK	**Karacayir**	**1.56**	**280**	PN	**Pn**	**20 53 33.6**	**-1.7**
BNGL	**BINGOL**	**1.82**	**112**	*i* P	**Pn**	**20 53 40.3**	**+1.5**
BNGL				*i* S	**Sg**	**20 54 07.2**	**+1.7**
EZM	**Erzurum**	**1.84**	**82**	PN	**Pn**	**20 53 38.4**	**-0.8**
ERZM	**Erzurum**	**1.84**	**82**	*i* P	**Pn**	**20 53 39.4**	**+0.2**
ERZM				*i* S	**Sn**	**20 54 07.7**	**+4.9**
TOKT	**Tokat**	**1.99**	**290**	PN	**Pn**	**20 53 40.9**	**-0.3**
URFA	**Urfa**	**2.22**	**184**	PN	**Pn**	**20 53 44.5**	**+0.1**
ATAB	**Bozova**	**2.26**	**194**	*i* P	**Pn**	**20 53 48.5**	**+3.6**
ATAB				*i* S	**Pg**	**20 53 53.7**	**+3.4**
BTMT	**Batman**	**2.44**	**126**	*e*PN	**Pn**	**20 53 46.2**	**-1.1**
BEST	**Besiri**	**2.51**	**134**	*i* P	**Pn**	**20 53 51.9**	**+3.5**
BEST				*i* S	**Sg**	**20 54 27.3**	**-0.3**
BNN	**Bunyan**	**2.57**	**253**	*e*PN	**Pn**	**20 53 49.1**	**-0.1**
KVT	**Kavak**	**2.66**	**303**	*e*PN	**Pn**	**20 53 50.7**	**+0.3**
BCA	**Borcka**	**2.68**	**48**	*e*PN	**Pn**	**20 53 50.5**	**-0.2**
ARTV	**Artvin**	**2.71**	**55**	*i* P	**Pn**

comp=Z,37nm,0.4s
RDF eS Sn 21 11 16.1 -0.9
ISAD Sadrabad 4.23 104 ePn Pn 21 10 27.2 +0.1
ISHM Shahmirzad 4.61 52 ePn Pn 21 10 32.4 +0.1
ISHM eSn Sn 21 11 25.3 -1.1
IANJ Anjiloo 4.85 58 ePn Pn 21 10 35.0 -0.7
IANJ eSn Sn 21 11 30.7 -1.8
IKIA Kiasar 5.10 50 eSn Sn 21 11 37.8 -0.7
ISRV Sarvestan 5.14 134 ePn Pn 21 10 38.3 -1.3
IMEH Mehriz 5.14 107 ePn Pn 21 10 38.9 -0.8
IMOK Mook 5.16 139 ePn Pn 21 10 40.8 +0.9
IMOK eSn Sn 21 11 34.2 -5.8

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*NEIC **09** 21:31:00.4, 3581S×7140W, h123km, MG3.8(GUC), After GUC.*
GUC 09 21:31:00.4±0.7, 3581S×7140W, h123km±3km, MD3.5, ML3.8, 17C-6D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.17**	**258**	⇑iP	Pn	21 31 17.1	-0.1
LNCH				*i* S	Sn	21 31 29.9	-0.1
LNCH				AML	AML	21 31 30.6	
	comp=N,5μm,0.3s						
LNCH	**Linares**	**0.17**	**258**	⇑iP	Pn	21 31 17.1	-0.1
LNCH				*i* S	Sn	21 31 29.9	-0.1
TALC	**Talca**	**0.46**	**335**	⇑iP	Pn	21 31 18.9	+0.4
TALC				*i* S	Sn	21 31 32.1	+0.1
TALC				AML	AML	21 31 33.9	
	comp=E,5μm,0.0s						
TALC	**Talca**	**0.46**	**335**	⇑iP	Pn	21 31 18.9	+0.4
TALC				*i* S	Sn	21 31 32.1	+0.1
NICH	**Los Niches**	**0.82**	**10**	⇓iP	Pn	21 31 21.4	+0.4
NICH				*i* S	Sn	21 31 36.9	+0.3
CCHI	**Chillan**	**0.96**	**215**	⇑iP	Pn	21 31 22.8	+0.5
CCHI				*i* S	Sn	21 31 39.2	+0.3
CCHI				AML	AML	21 31 40.0	
	comp=N,2μm,0.6s						
CCHI				AML	AML	21 31 40.2	
	comp=N,1μm,0.6s						
CCHI	**Chillan**	**0.96**	**215**	⇑iP	Pn	21 31 22.8	+0.5
CCHI				*i* S	Sn	21 31 39.2	+0.3
SFDO	**San Fernando**	**1.24**	**15**	⇑iP	Pn	21 31 25.3	+0.2
SFDO				*i* S	Sn	21 31 44.1	+0.2
CICH	**Cipreses**	**1.69**	**29**	⇓iP	Pn	21 31 30.7	+0.4
CICH				*i* S	Sn	21 31 54.3	+1.3
CACH	**El Canelo**	**1.81**	**21**	⇓iP	Pn	21 31 32.3	+0.6
CACH				*i* S	Sn	21 31 56.6	+0.9
LNV	**Longovilo**	**1.85**	**360**	⇓iP	Pn	21 31 33.0	+0.9
LNV				*i* S	Sn	21 31 57.1	+0.7
CHCH	**Chadas Angostu**	**1.97**	**18**	⇓iP	Pn	21 31 34.1	+0.5
CHCH				*i* S	Sn	21 31 59.9	+0.8
TACH	**Talagante**	**2.19**	**10**	⇑iP	Pn	21 31 36.5	+0.2
TACH				*i* S	Sn	21 32 03.4	-0.4
PCH	**Pirque**	**2.31**	**19**	⇑iP	Pn	21 31 38.3	+0.5
PCH				*i* S	Sn	21 32 07.7	+1.2
ANTU	**Antumapu**	**2.33**	**16**	⇑iP	Pn	21 31 38.8	+0.7
ANTU				*i* S	Sn	21 32 07.9	+0.9
ANTU				AML	AML	21 32 11.8	
	comp=E,651nm,0.2s						
ANTU	**Antumapu**	**2.33**	**16**	⇑iP	Pn	21 31 38.8	+0.7
ANTU				*i* S	Sn	21 32 07.9	+0.9
SJCH	**San Jose de Ma**	**2.33**	**22**	⇑iP	Pn	21 31 38.5	+0.3
SJCH				*i* S	Sn	21 32 08.0	+0.9
SJCH				AML	AML	21 32 10.1	
	comp=E,359nm,0.4s						
SJCH	**San Jose de Ma**	**2.33**	**22**	⇑iP	Pn	21 31 38.5	+0.3
SJCH				*i* S	Sn	21 32 08.0	+0.9
LCCH	**Las Cruces**	**2.33**	**357**	⇑iP	Pn	21 31 38.4	+0.2
LCCH				*i* S	Sn	21 32 07.0	-0.1
SAN	**Santiago**	**2.43**	**15**	*i* S	Sn	21 32 10.0	+0.7
SAN				AML	AML	21 32 12.2	
	comp=E,644nm,0.5s						
STL	**Santa Lucia**	**2.45**	**15**	*i* S	Sn	21 32 10.4	+0.6
STL				AML	AML	21 32 11.1	
	comp=N,262nm,0.2s						
DSCH	**Colegio Aleman**	**2.50**	**16**	*i* S	Sn	21 32 11.7	+0.7
CLCH	**Cerro Calan**	**2.51**	**17**	⇑iP	Pn	21 31 41.3	+0.8
CLCH				*i* S	Sn	21 32 12.3	+1.1
PEL	**Peldehue**	**2.73**	**13**	⇑iP	Pn	21 31 43.5	+0.3
PEL				*i* S	Sn	21 32 16.6	+0.5
ROCH	**El Roble**	**2.85**	**7**	⇓iP	Pn	21 31 45.6	+0.7
ROCH				*i* S	Sn	21 32 20.5	+1.5
JACH	**Jahuel**	**3.19**	**12**	⇑iP	Pn	21 31 49.2	-0.1
JACH				*i* S	Sn	21 32 27.2	+0.2

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*ISCJB **09** 21:33:39.8±0.4, 4332N±002×1875E±003, h11km±4km, Error ellipse: s-maj=4.2km s-min=2.4km az=61.8*
*CSEM **09** 21:33:39.7±0.1, 4337N×1869E, h2km, ML3.2, Error ellipse: s-maj=1.4km s-min=1.1km az=73.0*
*PRU **09** 21:33:39.6, 4324N×1880E, h0km*
*PDG **09** 21:33:41.1±0.4, 4325N×1877E, h12km±1km*
*NEIC **09** 21:33:41.1, 4325N×1877E, h12km, ML3.1(PDG), ML3.2(ROM), After PDG.*
*ROM **09** 21:33:44.6±0.5, 4306N×1848E, h10km, Ml3.2/24, Error ellipse: s-maj=8.9km s-min=3.9km az=32.0*
ISC 09 21:33:40.4±0.5, 4333N±002×1872E±003, h3km±4km, n98, σ1§04/129, 11C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.19**	**132**	⇑iPg	Pg	21 33 44.3	+0.3
UPM				eSg	Sg	21 33 46.7	+0.3
BRY	**Bratogost**	**0.45**	**197**	⇓iPg	Pg	21 33 47.9	-1.1
BRY				eSg	Sg	21 33 54.6	-0.2
PLE	**Pljevlja**	**0.49**	**90**	⇓iPg	Pg	21 33 50.2	+0.4
PLE				eSg	Sg	21 33 57.1	+0.9
NKY	**Niksic**	**0.55**	**158**	⇓iPg	Pg	21 33 49.9	-1.1
NKY				eSg	Sg	21 33 57.6	-0.6
TREB	**Trebinje**	**0.67**	**204**	P	Pg	21 33 51.8	-1.4
BBLS	**Bajina Basta -**	**0.74**	**43**	*i* Pg	Pg	21 33 55.6	+1.1
BBLS				Sg	Sg	21 34 08.6	+4.5
STON	**Ston**	**0.88**	**239**	⇓iPg	Pg	21 33 55.0	-2.2
STON				*i* Sg	Sg	21 34 09.2	+0.7
SJES	**Sjenica**	**0.89**	**93**	Pg	Pg	21 33 57.7	+0.2
SJES				Sg	Sg	21 34 10.4	+1.3
HCY	**Herceg Novi**	**0.90**	**191**	⇑iPg	Pg	21 33 56.1	-1.4
HCY				eSg	Sg	21 34 09.6	+0.5
IVA	**Berane**	**0.98**	**117**	⇓iPg	Pg	21 33 58.4	-0.7
IVA				eSg	Sg	21 34 11.9	+0.2
TTG	**Podgorica**	**0.98**	**156**	⇑iPg	Pg	21 33 57.1	-2.1
TTG				eSg	Sg	21 34 11.4	-0.6
BUM	**Brajici-Budva**	**1.03**	**173**	⇓iPg	Pg	21 33 58.6	-1.6
BUM				eSg	Sg	21 34 13.7	+0.1
PVY	**Plav**	**1.18**	**128**	⇓iPg	Pg	21 34 01.9	-1.0
PVY				eSg	Sg	21 34 18.9	+0.7
DIVS	**Divcibare**	**1.20**	**50**	*i* Pg	Pg	21 34 03.5	0.0
DIVS				Sg	Sg	21 34 20.8	+1.8
ULC	**Ulcinj**	**1.42**	**164**	⇓iPg	Pg	21 34 06.1	-1.5
ULC				eSg	Sg	21 34 26.5	+0.6
KKS	**Kukesi**	**1.77**	**135**	ePn	Pn	21 34 13.5	+1.6
BLY	**Banja Luka**	**1.80**	**323**	P	Pn	21 34 13.6	+1.2
SVIS	**Svilajnac**	**2.05**	**61**	⇓iPn	Pn	21 34 18.9	+3.0
TIR	**Tirane**	**2.15**	**156**	Pn	Pn	21 34 19.2	+2.0
	220nm,0.7s						
RHK3	**Tenkes**	**2.58**	**353**	⇑*i*P	Pn	21 34 23.1	0.0
FGMS	**Monte Sant'Ang**	**2.61**	**233**	Pn	Pn	21 34 22.8	-0.7
	84nm,0.5s						
MS1	**Monte Sant'Ang**	**2.62**	**233**	ePn	Pn	21 34 22.7	-0.9
MSAG	**Monte S. Angel**	**2.63**	**233**	Pn	Pn	21 34 22.9	-0.9
PE1	**Pezze di Greco**	**2.70**	**201**	ePn	Pn	21 34 26.4	+1.7
SGRT	**San Giovanni R**	**2.70**	**235**	Pn	Pn	21 34 23.8	-1.0
NOCI	**Noci**	**2.82**	**206**	Pn	Pn	21 34 25.2	-1.2
RGNG	**Rignano Grg**	**2.85**	**236**	Pn	Pn	21 34 25.7	-1.0
PKSM	**Moragy**	**2.88**	**359**	⇑iP	Pn	21 34 26.4	-0.9
PKSM	**Moragy**	**2.88**	**359**	ePn	Pn	21 34 26.8	-0.5
PKSM	**Moragy**	**2.88**	**359**	ePg	Pg	21 34 35.9	+0.2
AMUR	**Altamura**	**2.89**	**214**	Pn	Pn	21 34 26.3	-1.0
	100nm,0.4s						
CDT	**Castel del Mon**	**2.89**	**220**	ePn	Pn	21 34 26.5	-0.8
SG1	**Sgolgore (BA)**	**2.91**	**212**	ePn	Pn	21 34 26.6	-1.1
NVLJ	**Novalja**	**3.04**	**295**	*i* Pn	Pn	21 34 30.0	+0.6
NVLJ				*i* Sn	Sn	21 35 14.1	+7.7
BZS	**Buzias**	**3.09**	**41**	⇑iP	Pn	21 34 30.5	+0.4
FG4	**Candela**	**3.23**	**228**	Pn	Pn	21 34 32.3	+0.2
	59nm,0.3s						
PKS9	**Tamasi**	**3.27**	**355**	⇓iP	Pn	21 34 32.5	-0.1
FG5	**Orsara di Pugl**	**3.28**	**233**	Pn	Pn	21 34 32.9	+0.3
	20nm,0.2s						
CIGN	**Sant'Elia a Pi**	**3.28**	**241**	Pn	Pn	21 34 32.7	0.0
	118nm,1.4s						
BOJS	**Bojanci**	**3.30**	**312**	*i* Pn	Pn	21 34 33.5	+0.4
SGTA	**Sant Agata di**	**3.32**	**230**	Pn	Pn	21 34 33.5	+0.3
	61nm,0.6s						
PKS6	**Bocsa**	**3.33**	**10**	*e*S	Sn	21 35 12.3	-1.1
	2.9nm,0.3s						
GCIS	**Gornji Cirnik**	**3.37**	**320**	*i* Pn	Pn	21 34 34.3	+0.4
PTRP	**Pietrapertosa**	**3.44**	**216**	Pn	Pn	21 34 35.3	+0.5
	1μm,11.0s						
CAFE	**Carife**	**3.46**	**230**	Pn	Pn	21 34 36.0	+0.8
	51nm,0.6s						
GOLS	**Golise**	**3.47**	**322**	*i* Pn	Pn	21 34 35.8	+0.4
MRLC	**Muro Lucano**	**3.52**	**224**	Pn	Pn	21 34 35.9	-0.1
	69nm,0.9s						
BSSO	**Busso**	**3.54**	**241**	Pn	Pn	21 34 37.1	+0.9
	52nm,0.7s						
SACR	**S. Croce Del S**	**3.54**	**238**	Pn	Pn	21 34 37.0	+0.7
	44nm,0.9s						
PKS8	**Sarbogard**	**3.55**	**360**	⇓*i*P	Pn	21 34 36.0	-0.4
PKS8				*e*S	Sn	21 35 15.8	-3.1
	0.3nm,0.3s						
CII	**Carovilli**	**3.64**	**245**	Pn	Pn	21 34 38.7	+1.1
	30nm,0.4s						
MCRV	**Calabrutti - M**	**3.67**	**227**	Pn	Pn	21 34 37.6	-0.4
	31nm,0.5s						
SCHR	**S. Chirico Rap**	**3.70**	**213**	Pn	Pn	21 34 37.8	-0.7
	33nm,1.0s						
MIDA	**Miranda**	**3.71**	**244**	Pn	Pn	21 34 38.9	+0.3
	55nm,0.7s						
SLCN	**Sala Consilina**	**3.73**	**219**	Pn	Pn	21 34 38.6	-0.3
	49nm,0.4s						
PKS7	**Kunszentmiklos**	**3.73**	**5**	⇓*e*P	Pn	21 34 38.7	-0.2
PKS7				*e*S	Sn	21 35 21.0	-2.4
	1.2nm,0.3s						
SGO	**Sicignano**	**3.76**	**224**	Pn	Pn	21 34 38.9	-0.4
	11nm,0.3s						
INTR	**Introdacqua**	**3.79**	**251**	Pn	Pn	21 34 39.8	+0.1
	109nm,0.8s						
CDRU	**Civita di Ruta**	**3.81**	**223**	Pn	Pn	21 34 40.1	+0.1
	30nm,0.8s						
VAGA	**Valle Agricola**	**3.83**	**242**	Pn	Pn	21 34 41.1	+0.8
	121nm,0.7s						
GROS	**Grobnik**	**3.88**	**325**	*i* Pn	Pn	21 34 41.0	+0.1
CEY	**Cerknica**	**3.90**	**310**	ePn	Pn	21 34 42.2	+1.0
CMPR	**Campora**	**3.94**	**221**	Pn	Pn	21 34 41.2	-0.6
	41nm,0.6s						
MGR	**Morigerati**	**3.97**	**218**	Pn	Pn	21 34 41.9	-0.3
	35nm,0.8s						
SDI	**San Donato**	**3.97**	**248**	Pn	Pn	21 34 43.3	+1.1
	15nm,0.4s						
CAMP	**Campotosto**	**3.98**	**260**	Pn	Pn	21 34 43.4	+1.1
	33nm,0.5s						
CUC	**Castrocucco**	**3.98**	**214**	Pn	Pn	21 34 42.5	+0.2
	50nm,0.7s						
CING	**Cingoli**	**4.03**	**273**	Pn	Pn	21 34 44.3	+1.3
	37nm,0.5s						
VVLD	**Villa Vallelon**	**4.04**	**251**	Pn	Pn	21 34 44.1	+1.0
	87nm,0.7s						
RFI	**Roccamonfina**	**4.05**	**242**	Pn	Pn	21 34 44.5	+1.2
	9.0nm,0.8s						
PKSG		**4.07**	**357**	*e*S	Sn	21 35 33.0	+1.2
	0.2nm,0.4s						
NRCA	**Norcia**	**4.14**	**265**	Pn	Pn	21 34 45.3	+0.8
	17nm,0.6s						
SNTG	**Esanatoglia**	**4.22**	**271**	Pn	Pn	21 34 46.7	+1.1
	16nm,0.6s						
LNSS	**Leonessa**	**4.23**	**262**	Pn	Pn	21 34 46.9	+1.1
	123nm,0.6s						
FIAM	**Fiamignano**	**4.26**	**258**	Pn	Pn	21 34 48.0	+1.9
	38nm,0.5s						
FSSB	**Fossombrone**	**4.34**	**277**	Pn	Pn	21 34 48.1	+0.9
	11nm,0.3s						
OBKA	**Obir**	**4.35**	**318**	⇑*i*Sn	Sn	21 35 38.1	-0.5
OBKA	**Obir**	**4.35**	**318**	*i* Pn	Pn	21 34 48.3	+1.0
	SNR=7.1						
OBKA				⇑*i*Sn	Sn	21 35 38.1	-0.5
OBKA	**Obir**	**4.35**	**318**	Pn	Pn	21 34 48.3	+0.9
	7.0nm,1.0s						
VOY	**Vojsko**	**4.38**	**310**	ePn	Pn	21 34 48.8	+1.0
VOY				*e*		21 35 02.8	
VOY				*e*Sn	Sn	21 35 40.0	+0.7
TIP	**Timpagrande**	**4.40**	**200**	ePn	Pn	21 34 46.9	-1.2
DRGR		**4.47**	**38**	⇑iP	Pg	21 35 04.0	-2.1
ARSA	**Arzberg**	**4.53**	**331**	⇑iPn	Pn	21 34 49.7	-0.1
	SNR=21						
ARSA				⇓*i*Sn	Sn	21 35 40.8	-2.1
ARSA	**Arzberg**	**4.53**	**331**	Pn	Pn	21 34 49.7	-0.1
	21nm,1.0s						
ARSA				Sn	Sn	21 35 40.8	-2.2
CADS	**Cadrg**	**4.58**	**311**	ePn	Pn	21 34 50.9	+0.3
SOP	**Sopron**	**4.61**	**342**	*e*	Pn	21 34 55.1	+4.1
SOP				ePn	Pn	21 34 45.5	-5.5
PSZ	**Piszkesteto**	**4.67**	**10**	ePn	Pn	21 34 51.1	-0.6
PSZ				*e*		21 35 41.0	
PSZ	**Piszkesteto**	**4.67**	**10**	ePn	Pn	21 34 50.9	-0.9
PSZ	**Piszkesteto**	**4.67**	**10**	ePn	Pn	21 34 50.9	-0.8
PSZ				eSn	Sn	21 35 41.0	-5.4
ZST	**Bratislava**	**5.00**	**347**	ePN	Pn	21 34 56.5	+0.2
ZST				eSN	Sn	21 35 50.5	-4.1
CONA	**Conrad Observa**	**5.02**	**337**	⇑iPn	Pn	21 34 56.9	+0.3
CONA				⇓iSn	Sn	21 35 53.4	-1.7
VYHS	**Vyhne**	**5.17**	**1**	ePN	Pn	21 34 57.8	-0.9
VYHS				eSN	Sn	21 35 57.9	-0.9
KOLL	**Kolacno**	**5.26**	**358**	ePN	Pn	21 35 01.9	+2.0
KOLL				eSN	Sn	21 36 00.0	-1.0
KECS	**Kecovo**	**5.30**	**13**	ePN	Pn	21 35 01.5	+1.0
KECS				eSN	Sn	21 35 58.6	-3.5
MOA	**Molln**	**5.50**	**327**	⇓iPn	Pn	21 35 03.5	+0.4
MOA				⇓iSn	Sn	21 36 05.8	-1.2
STHS	**Stebnicka Huta**	**6.34**	**15**	eSN	Sn	21 36 26.5	-1.1
KHC	**Kasperske Hory**	**6.81**	**330**	ePN	Pn	21 35 23.3	+2.1
KHC				x	x	21 35 40.5	
KHC				eSN	Sn	21 36 36.5	-2.8
KHC				*e*x	x	21 36 53.0	
KHC	**Kasperske Hory**	**6.81**	**330**	ePn	Pn	21 35 23.3	+2.1
KHC				*e*		21 35 40.5	
KHC				*e*Sn	Sn	21 36 36.5	-2.8
KHC				*e*		21 36 53.0	

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*THE **09** 21:36:35.2, 4334N×1818E, h15km*
*ISCJB **09** 21:36:35.1±0.3, 4336N±001×1868E±002, h5km±2km, mb3.6/4, Error ellipse: s-maj=2.0km s-min=1.8km az=153.9*
*NEIC **09** 21:36:36.5, 4329N×1878E, h15km, ML3.7(PDG), ML3.8(ROM), After PDG.*
*PDG **09** 21:36:36.5±0.8, 4329N×1878E, h15km±2km*
*ROM **09** 21:36:36.1±0.4, 4324N×1883E, h10km, Ml3.8/43, Error ellipse: s-maj=6.9km s-min=2.4km az=111.0*
*LDG **09** 21:36:36.1±0.1, 4330N×1876E, h10km, Ml3.9/12, Error ellipse: s-maj=3.4km s-min=2.5km az=40.0*
*CSEM **09** 21:36:36.9±0.1, 4331N×1884E, h12km, ML4.0/6, Error ellipse: s-maj=1.5km s-min=1.2km az=67.0*
*PRU **09** 21:36:38.6, 4355N×1911E, h0km*
*IDC **09** 21:36:39.2±3.5, 4328N×1857E, h30km±29km, mb3.5/4, mb1 3.5/12, mb1mx3.4/25, mbtmp3.5/12, ML3.4/8, MS2.5/1, Ms1 2.5/1, ms1mx1.9/21, Error ellipse: s-maj=15.4km s-min=11.7km az=55.0*
*SZGRF **09** 21:36:40.5, 4321N×1813E, h10km, mb3.8, Northwestern Balkan Peninsula*
ISC 09 21:36:36.5±0.3, 4334N±001×1872E±002, h5km±2km, n244, σ1§12/327, mb3.6/4, 32C-30D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.20**	**133**	⇑iPg	Pg	21 36 40.1	-0.2
UPM				eSg	Sg	21 36 43.2	+0.2
BRY	**Bratogost**	**0.45**	**196**	⇓iPg	Pg	21 36 43.6	-1.6
BRY				eSg	Sg	21 36 51.0	-0.2
PLE	**Pljevlja**	**0.49**	**91**	⇓iPg	Pg	21 36 46.0	0.0
PLE				eSg	Sg	21 36 52.8	+0.4
NKY	**Niksic**	**0.56**	**158**	⇓iPg	Pg	21 36 45.7	-1.7
NKY				eSg	Sg	21 36 54.2	-0.4
BBLS	**Bajina Basta -**	**0.73**	**43**	*i* Pg	Pg	21 36 51.4	+0.8
BBLS				Sg	Sg	21 37 02.9	+2.8
BBLS	**Bajina Basta -**	**0.73**	**43**	Pg	Pg	21 36 51.3	+0.7
BBLS				Sg	Sg	21 37 02.8	+2.7
STON	**Ston**	**0.88**	**238**	⇓iPg	Pg	21 36 50.8	-2.5
STON				*i* Sg	Sg	21 37 05.1	+0.4
SJES	**Sjenica**	**0.90**	**94**	Pg	Pg	21 36 53.7	0.0
SJES				Sg	Sg	21 37 06.6	+1.2
HCY	**Herceg Novi**	**0.90**	**190**	⇑iPg	Pg	21 36 51.9	-1.9
HCY				eSg	Sg	21 37 06.1	+0.6
IVA	**Berane**	**0.98**	**118**	⇑iPg	Pg	21 36 54.4	-1.0
IVA				eSg	Sg	21 37 08.4	+0.3
TTG	**Podgorica**	**0.99**	**156**	⇑iPg	Pg	21 36 52.7	-2.8
TTG				eSg	Sg	21 37 08.4	0.0
BUM	**Brajici-Budva**	**1.04**	**173**	⇓iPg	Pg	21 36 54.2	-2.3
BUM				eSg	Sg	21 37 10.6	+0.5
PVY	**Plav**	**1.18**	**128**	⇓iPg	Pg	21 36 57.8	-1.4
PVY				eSg	Sg	21 37 15.4	+0.8
DIVS	**Divcibare**	**1.20**	**50**	*i* Pg	Pg	21 36 59.3	-0.2
DIVS				Sg	Sg	21 37 18.0	+3.0
ULC	**Ulcinj**	**1.43**	**164**	⇓iPg	Pg	21 37 01.9	-2.0
ULC				eSg	Sg	21 37 22.6	+0.2
BLY	**Banja Luka**	**1.79**	**322**	P	Pn	21 37 08.4	+0.3
BLY				S	Sn	21 37 34.8	+3.6
BEO	**Belgrade**	**1.94**	**40**	⇑iPn	Pn	21 37 09.1	-1.1
BEO				Sn	Sn	21 37 34.2	-0.7
FGSL	**Fruska Gora**	**1.98**	**23**	Pn	Pn	21 37 09.8	-0.9
SVIS	**Svilajnac**	**2.05**	**61**	⇑iPn	Pn	21 37 10.5	-1.2
SVIS				Sn	Sn	21 37 35.2	-2.4
SVIS	**Svilajnac**	**2.05**	**61**	Pn	Pn	21 37 10.5	-1.2
SVIS				Sn	Sn	21 37 35.2	-2.4
TIR	**Tirane**	**2.16**	**156**	Pn	Pn	21 37 15.0	+1.8
SKO	**Skopje**	**2.43**	**123**	*i* Pn	Pn	21 37 17.4	+0.6
RHK3	**Tenkes**	**2.57**	**353**	⇑*e*P	Pn	21 37 18.2	-0.6
FGMS	**Monte Sant'Ang**	**2.61**	**232**	Pn	Pn	21 37 18.5	-0.9
	220nm,0.4s						
BAI	**Bari**	**2.61**	**212**	⇑*i*Pn	Pn	21 37 18.1	-1.3
MS1	**Monte Sant'Ang**	**2.62**	**232**	⇑iPn	Pn	21 37 18.5	-1.0
MSAG	**Monte S. Angel**	**2.63**	**233**	Pn	Pn	21 37 18.7	-1.0
	452nm,0.4s						
SGRT	**San Giovanni R**	**2.71**	**235**	Pn	Pn	21 37 19.6	-1.1
	285nm,0.7s						
PE1	**Pezze di Greco**	**2.71**	**201**	⇑iPn	Pn	21 37 19.2	-1.5
OHR	**Ohrid**	**2.71**	**144**	*i* Pn	Pn	21 37 23.7	+3.0
OHR				*i* Sn	Sn	21 37 58.9	+5.1
SISC	**Sisak**	**2.71**	**323**	ePn	Pn	21 37 21.6	+0.8
SISC				Sn	Sg	21 38 03.1	-0.6
NOCI	**Noci**	**2.83**	**206**	Pn	Pn	21 37 20.8	-1.5
	195nm,0.4s						
RGNG	**Rignano Grg**	**2.85**	**235**	Pn	Pn	21 37 21.5	-1.1
PKSM	**Moragy**	**2.88**	**359**	⇑P	Pn	21 37 22.2	-0.8
PKSM	**Moragy**	**2.88**	**359**	⇑iPn	Pn	21 37 22.2	-0.8
PKSM				eSn	Sn	21 37 56.8	-1.2
AMUR	**Altamura**	**2.89**	**214**	Pn	Pn	21 37 22.0	-1.2
AMUR				Sn	Sn	21 37 56.2	-2.2
	249nm,0.5s						
CDT	**Castel del Mon**	**2.89**	**220**	⇑iPn	Pn	21 37 22.1	-1.1
SG1	**Sgolgore (BA)**	**2.92**	**212**	⇑iPn	Pn	21 37 22.5	-1.1
BIA	**Bitola**	**3.02**	**139**	*i* Pn	Pn	21 37 25.8	+0.8
BIA				*i* Sn	Sn	21 38 05.5	+3.9
BIA	**Bitola**	**3.02**	**139**	*i* Pn	Pn	21 37 25.7	+0.7
LCI	**Lecce**	**3.03**	**189**	Pn	Pn	21 37 23.8	-1.4
	44nm,0.3s						
NVLJ	**Novalja**	**3.04**	**295**	*i* Pn	Pn	21 37 26.2	+1.0
NVLJ				*i* Sn	Sn	21 38 09.6	+7.7
NVLJ	**Novalja**	**3.04**	**295**	*i* Pn	Pn	21 37 26.1	+0.9
STIP	**Stip**	**3.05**	**121**	*i* Pn	Pn	21 37 26.8	+1.4
BZS	**Buzias**	**3.08**	**41**	⇑iP	Pg	21 37 35.2	-0.4
BZS	**Buzias**	**3.08**	**41**	⇑P	Pg	21 37 35.2	-0.4
FNA	**Florina**	**3.23**	**141**	ePn	Pn	21 37 29.5	+1.6
FG4	**Candela**	**3.24**	**228**	Pn	Pn	21 37 28.1	+0.1
	247nm,0.5s						
PKS9	**Tamasi**	**3.27**	**355**	⇓iP	Pn	21 37 28.3	0.0
FG5	**Orsara di Pugl**	**3.28**	**232**	Pn	Pn	21 37 28.6	+0.1
	185nm,0.6s						
CIGN	**Sant'Elia a Pi**	**3.28**	**240**	Pn	Pn	21 37 28.4	-0.2
	227nm,1.2s						
BOJS	**Bojanci**	**3.29**	**312**	ePn	Pn	21 37 29.0	+0.2
PKS6	**Bocsa**	**3.32**	**10**	⇓eP	Pn	21 37 28.7	-0.4
SGTA	**Sant Agata di**	**3.32**	**230**	Pn	Pn	21 37 28.9	-0.2
	223nm,0.6s						
VTS	**Vitosha**	**3.38**	**101**	*i* P	Pn	21 37 30.0	+0.1
CRES	**Cresnjev**	**3.41**	**318**	*i* Pn	Pn	21 37 30.5	+0.2
PTRP	**Pietrapertosa**	**3.44**	**216**	Pn	Pn	21 37 30.4	-0.3
	104nm,3.5s						
TRIV	**Trivento**	**3.45**	**244**	Pn	Pn	21 37 31.3	+0.4
	208nm,0.6s						
CAFE	**Carife**	**3.46**	**229**	Pn	Pn	21 37 31.4	+0.3
	182nm,0.8s						
VAY	**Valandovo**	**3.50**	**124**	*i* Pn	Pn	21 37 29.7	-1.8
VAY				*i* Sn	Sg	21 38 23.9	-5.0
MRLC	**Muro Lucano**	**3.52**	**224**	Pn	Pn	21 37 31.4	-0.5
	118nm,0.6s						
BSSO	**Busso

PKSG *e*S **Sn** **21 38 27.4 +0.2**
1.4nm,0.4s
PGB Panagyurishte 4.08 99 *e*P **Pn** **21 37 45.1 +5.6**
MMB Musomiste 4.10 114 *i* P **Pn** **21 37 44.0 +4.2**
NRCA Norcia 4.13 265 Pn **Pn** **21 37 41.2 +0.9**
26nm,0.3s
BUD Budapest 4.15 3⇑*e*Pn **Pn** **21 37 40.0 -0.5**
ARV Arcevia 4.21 274 Pn **Pn** **21 37 41.9 +0.6**
36nm,0.6s
ARVD Arcevia 4.21 274 Pn **Pn** **21 37 41.8 +0.5**
79um,20.0s
SNTG Esanatoglia 4.22 271 Pn **Pn** **21 37 42.0 +0.6**
23nm,0.2s
FIAM Fiamignano 4.26 257 Pn **Pn** **21 37 43.6 +1.6**
160nm,0.7s
LIT Litokhoron 4.29 138 *e*Pn **Pn** **21 37 44.2 +1.8**
LIT *e*Sn **Sn** **21 38 37.1 +4.1**
FSSB Fossombrone 4.33 277 Pn **Pn** **21 37 43.5 +0.5**
46nm,0.3s
OBKA Obir 4.34 318 ⇓*i*Pn **Pn** **21 37 43.4 +0.3**
SNR=44
OBKA ⇓*i*Sn **Sn** **21 38 34.2 +0.2**
OBKA Obir 4.34 318 Pn **Pn** **21 37 43.4 +0.3**
44nm,4.0s
OBKA Sn **Sn** **21 38 34.2 +0.2**
VOY Vojsko 4.37 310 *e*Pn **Pn** **21 37 43.7 +0.2**
VOY *e* 21 37 44.3
VOY *e*Sn **Sg** **21 39 03.2 +6.4**
TIP Timpagrande 4.41 200 *e*P **Pn** **21 37 42.5 -1.6**
TIP Timpagrande 4.41 200 *e*P **Pn** **21 37 42.5 -1.6**
GIUL Giuliano Di Ro 4.41 248 Pn **Pn** **21 37 44.3 +0.2**
69nm,0.6s
SRO2 Moca 4.43 357 *e*SN **Sn** **21 38 37.3 +0.9**
CERT Cerreto 4.45 254 Pn **Pn** **21 37 45.7 +1.1**
130nm,0.7s
DRGR 4.47 38⇑*i*P **Pg** **21 38 00.4 -1.7**
DRGR 4.47 38⇑P **Pg** **21 38 00.4 -1.7**
PENC Penc 4.47 5⇑*e*P **Pn** **21 37 44.8 -0.1**
SRO Srobarova 4.49 357 *e*PN **Pn** **21 37 45.3 +0.2**
ARSA Arzberg 4.51 331 *i* Pn **Pn** **21 37 45.5 0.0**
SNR=33
ARSA ⇑*i*Sn **Sn** **21 38 37.2 -1.2**
ARSA Arzberg 4.51 331 Pn **Pn** **21 37 45.5 0.0**
32nm,8.0s
ARSA Sn **Sn** **21 38 37.2 -1.2**
MURB Monte Urbino 4.52 271 Pn **Pn** **21 37 46.5 +0.9**
364nm,0.4s
MNS Montasola 4.54 260 Pn **Pn** **21 37 46.8 +1.0**
118nm,0.6s
SERS Sersale 4.56 200 Pn **Pn** **21 37 45.3 -0.9**
29nm,0.7s
CADS Cadrg 4.57 311 *i* Pn **Pn** **21 37 45.6 -0.8**
CADS *e*Sn **Sg** **21 39 02.9 -0.5**
CADS
comp=Z,124nm,0.9s
RSM Repubblica di 4.59 280 Pn **Pn** **21 37 48.0 +1.5**
comp=Z,52nm,0.7s
SOP Sopron 4.60 342⇑*e*Pn **Pn** **21 37 46.8 +0.1**
SOP *e*Sn **Sn** **21 38 37.0 -3.6**
PSZ Piszkesteto 4.66 10⇑*e*Pn **Pn** **21 37 36.6 -11**
PSZ *e*Sn **Sn** **21 38 38.7 -3.2**
PSZ Piszkesteto 4.66 10 *e*P **Pn** **21 37 46.2 -1.3**
PSZ Piszkesteto 4.66 10⇑*e*Pn **Pn** **21 37 46.6 -0.9**
PSZ *e*Sn **Sn** **21 38 38.7 -3.2**
BADI Badiali 4.72 274 Pn **Pn** **21 37 49.9 +1.6**
comp=Z,151nm,0.7s
LKD Levkas 4.85 162 *e*Pn **Pn** **21 37 49.3 -0.8**
PTCC Patocco-Chiusa 4.89 311 Pn **Pn** **21 37 51.2 +0.5**
comp=Z,31nm,0.6s
CRE Caprese Michel 4.93 276 Pn **Pn** **21 37 53.3 +2.1**
comp=Z,27nm,0.4s
ZST Bratislava 4.99 347 *e*PN **Pn** **21 37 52.7 +0.7**
ZST *e*SN **Sn** **21 38 46.5 -3.6**
VOIR 5.00 63⇓*i*P **Pn** **21 37 57.8 +5.6**
VOIR 5.00 63 ⇓P **Pn** **21 37 57.9 +5.6**
SACS San Casciano d 5.01 267 Pn **Pn** **21 37 52.9 +0.6**
comp=Z,69nm,0.7s
CONA Conrad Observa 5.01 337⇓*i*Pn **Pn** **21 37 52.4 +0.1**
SNR=15
CONA ⇑*i*Sn **Sn** **21 38 49.4 -1.2**
SFI Santa Sofia 5.02 279 Pn **Pn** **21 37 54.1 +1.6**
comp=Z,40nm,0.4s
AGG Agios Georgios 5.10 146 *e*Pn **Pn** **21 37 55.0 +1.4**
AGG *e*Sn **Sn** **21 38 57.0 +4.2**
TOLF Tolfa 5.11 258 Pn **Pn** **21 37 54.7 +1.0**
comp=Z,43nm,0.6s
VYHS Vyhne 5.16 1 *e*PN **Pn** **21 37 53.7 -0.7**
VYHS *e*SN **Sn** **21 38 54.2 -0.1**
XOR Xorichti 5.20 138 *e*Pn **Pn** **21 37 56.5 +1.6**
XOR *e*Sn **Sn** **21 39 00.7 +5.3**
VMG Vicchio 5.24 279 Pn **Pn** **21 37 57.2 +1.7**
comp=Z,91nm,0.7s
KOLL Kolacno 5.25 358 *e*PN **Pn** **21 37 54.9 -0.7**
KOLL *e*SN **Sn** **21 38 53.4 -3.1**
KECS Kecovo 5.29 13 *e*PN **Pn** **21 37 55.8 -0.4**
KECS *e*SN **Sn** **21 38 55.0 -2.6**
FVI Forni Avoltri 5.32 310 Pn **Pn** **21 37 57.1 +0.4**
comp=Z,17nm,0.7s
CSNT Castellina Chi 5.41 274 Pn **Pn** **21 37 58.9 +1.1**
comp=Z,42nm,0.7s
MOA Molln 5.49 327⇓*i*Sn **Sn** **21 39 01.3 -1.0**
MOA Molln 5.49 327⇓*i*Pn **Pn** **21 37 58.8 0.0**
SNR=27
MOA ⇓*i*Sn **Sn** **21 39 01.3 -1.0**
MOA Molln 5.49 327 Pn **Pn** **21 37 58.8 -0.1**
comp=Z,26nm,7.0s
FNVD Fontana Vidola 5.56 281 Pn **Pn** **21 38 02.2 +2.3**
comp=Z,39nm,1.0s
MLR Muntele Rosu 5.61 65 Pn **Pn** **21 38 03.0 +2.4**
comp=Z,0.3nm,0.3s,baz=286,slow=19,SNR=3.9
MLR Lg 21 39 42.6
comp=Z,0.5nm,0.3s,baz=143,slow=15,SNR=2.9
SOI Samo 5.63 202 Pn **Pn** **21 38 00.2 -0.7**
comp=Z,19nm,0.7s
CTI Castel Tesino 5.72 301 Pn **Pn** **21 38 01.9 -0.2**
comp=Z,25nm,0.2s
PZZT Monte Pizzetto 5.75 281 Pn **Pn** **21 38 03.9 +1.5**
comp=Z,42nm,0.6s
BDI Bagni Di Lucca 5.93 280 Pn **Pn** **21 38 05.4 +0.4**
comp=Z,50nm,1.1s
GSCL Gusciola 5.96 283 Pn **Pn** **21 38 07.5 +2.0**
comp=Z,17nm,0.8s
PII Pisa 5.97 277 Pn **Pn** **21 38 06.4 +0.9**
comp=Z,20nm,0.2s
BRES Bressanone 5.98 307 Pn **Pn** **21 38 06.2 +0.5**
comp=Z,5μm,11.0s
MAIM 6.00 278 P **Pn** **21 38 06.2 +0.3**
SARO Sassorosso 6.08 281 P **Pn** **21 38 07.7 +0.7**
VLC Villacollemand 6.09 281 Pn **Pn** **21 38 07.8 +0.6**
comp=Z,25nm,1.1s
VRAC Vranov 6.15 347 Pn **Pn** **21 38 09.0 +1.0**
comp=Z,0.5nm,0.3s,baz=192,slow=14,SNR=3.8
VRAC Sn **Sn** **21 39 17.6 -1.2**
comp=Z,1.0nm,0.3s,baz=220,slow=16,SNR=4.6
APPI Appiano 6.17 303 Pn **Pn** **21 38 08.9 +0.6**
comp=Z,29nm,0.9s
BURAR Bucovina Array 6.26 45⇑*i*P **Pn** **21 38 11.9 +2.4**
BURAR Bucovina Array 6.26 45⇑P **Pn** **21 38 11.9 +2.5**
BACM 6.33 282 P **Pn** **21 38 11.4 +1.0**
STHS Stebnicka Huta 6.33 15 *e*PN **Pn** **21 38 11.9 +1.5**
STHS *e*SN **Sn** **21 39 22.1 -1.0**
STHS Stebnicka Huta 6.33 15 *e*Pn **Pn** **21 38 11.9 +1.5**
STHS *e*Sn **Sn** **21 39 22.2 -0.9**
WTTA Wattenberg 6.35 311⇓*i*Sn **Sn** **21 39 24.0 +0.4**
WTTA Wattenberg 6.35 311⇓*i*Pn **Pn** **21 38 11.7 +0.9**
SNR=14
WTTA ⇓*i*Sn **Sn** **21 39 24.0 +0.4**
WTTA Wattenberg 6.35 311 Pn **Pn** **21 38 11.7 +1.0**
comp=Z,13nm,5.0s
GRAM 6.35 283 P **Pn** **21 38 12.4 +1.6**
WATA Walderalm 6.43 311⇑*i*Sn **Sn** **21 39 26.0 +0.5**
WATA Walderalm 6.43 311⇓*i*Pn **Pn** **21 38 12.0 +0.2**
SNR=12
WATA ⇑*i*Sn **Sn** **21 39 26.0 +0.5**
WATA Walderalm 6.43 311 Pn **Pn** **21 38 12.0 +0.2**
comp=Z,11nm,8.0s
MORC Moravsky Berou 6.49 353 *e*Pn **Pn** **21 38 12.8 +0.1**
CODM 6.50 282 P **Pn** **21 38 14.4 +1.7**
GEC2 GERESS Array S 6.52 329 *e*Pn **Pn** **21 38 14.1 +1.1**
GEC2 *e*Sn **Sn** **21 39 25.0 -2.8**
GERES GERESS Array B 6.52 329 Pn **Pn** **21 38 13.4 +0.4**
comp=Z,1.6nm,0.3s,baz=156,slow=14,SNR=24
GERES Sn **Sn** **21 39 25.0 -2.8**
comp=Z,1.5nm,0.3s,baz=146,slow=26,SNR=5.1
SQTA Sankt Quirin 6.57 309⇓*i*Pn **Pn** **21 38 13.7 0.0**
SNR=17
SQTA ⇑*i*Sn **Sn** **21 39 30.0 +1.0**
SQTA Sankt Quirin 6.57 309⇓*i*Pn **Pn** **21 38 13.7 0.0**
SQTA *i* Sn **Sn** **21 39 30.0 +1.0**
MOTA Moosalm 6.69 309⇓*i*Sn **Sn** **21 39 33.0 +0.9**
MOTA Moosalm 6.69 309⇓*i*Pn **Pn** **21 38 16.2 +0.7**
SNR=15
MOTA ⇓*i*Sn **Sn** **21 39 33.0 +0.9**
MOTA Moosalm 6.69 309 Pn **Pn** **21 38 16.2 +0.7**
comp=Z,15nm,1.0s
SC2M Scurtabr 6.72 282 P **Pn** **21 38 16.8 +1.0**
KHC Kasperske Hory 6.80 330 *e*PN **Pn** **21 38 17.4 +0.5**
KHC x x 21 38 29.0
KHC *e*SN **Sn** **21 39 32.1 -2.6**
KHC Kasperske Hory 6.80 330 *e*Pn **Pn** **21 38 17.4 +0.5**
KHC *e* 21 38 29.0
KHC *e*Sn **Sn** **21 39 32.1 -2.6**
WET Wettzell 7.08 327 *e*Pn **Pn** **21 38 22.3 +1.6**
DAVOX Davos 7.14 302 Pn **Pn** **21 38 22.4 +0.8**
comp=Z,2.9nm,0.3s,baz=112,slow=7.8,SNR=15
DAVOX LR LR 21 41 48.8
comp=Z,42nm,21.5s,baz=90,slow=44
PGF Pioggiola 7.17 267 *e*Pn **Pn** **21 38 22.0 -0.1**
SNR=1.0
PGF *e*Sn **Sn** **21 39 36.3 -7.6**
comp=Z,47nm,1.5s
PGF Pioggiola 7.17 267 *e*Pn **Pn** **21 38 22.0 -0.1**
SNR=1.0
PGF *e*Sn **Sn** **21 39 36.3 -7.6**
comp=Z,24nm,1.5s
DPC Dobruska-Polom 7.21 348 *e*PN **Pn** **21 38 22.4 -0.1**
PRU Pruhonice 7.25 338 *e*SN **Sn** **21 39 44.1 -1.6**
DAVA Damuels 7.37 305⇓*i*Pn **Pn** **21 38 24.9 +0.1**
DAVA ⇓*i*Sn **Sn** **21 39 49.4 +0.6**
RORO 7.75 279 P **Pn** **21 38 30.3 +0.3**
MANZ Manzenberg 8.05 328 *e*PN **Pn** **21 38 34.6 +0.5**
GRA1 Grafenberg Arr 8.19 324 *e*PN **Pn** **21 38 36.0 0.0**
GRF Grafenberg Arr 8.19 324 *e*PN **Pn** **21 38 36.0 0.0**
SBF Sospel 8.21 278 *e*PN **Pn** **21 38 35.4 -0.8**
SNR=1.0
SBF *e*Sn **Sn** **21 40 01.7 -7.6**
comp=Z,12nm,0.4s,SNR=1.0
TANN Tannenbergstha 8.27 331 *e*Pn **Pn** **21 38 38.1 +1.0**
TANN *e*Sn **Sn** **21 40 07.1 -3.9**
WERD Werda 8.36 331 *e*Pn **Pn** **21 38 39.0 +0.7**
MBDF Montbardon 8.72 283 *e*Pn **Pn** **21 38 42.4 -0.8**
SNR=1.0
MBDF *e*Sn **Sn** **21 40 13.6 -8.3**
comp=Z,16nm,0.6s
MOX Moxa 8.77 329 *e*Pn **Pn** **21 38 45.0 +1.0**
MOX Moxa 8.77 329 *e*PN **Pn** **21 38 44.9 +0.9**
FRF La Foret Royal 8.79 276 *e*Pn **Pn** **21 38 43.4 -0.8**
SNR=1.0
FRF *e*Sn **Sn** **21 40 16.0 -7.5**
comp=Z,3.5nm,0.3s,SNR=1.0
LPG La Plagne 8.83 288 *e*Pn **Pn** **21 38 44.9 +0.1**
SNR=1.0
LPG *e*Sn **Sn** **21 40 16.6 -8.1**
comp=Z,22nm,0.7s
LPL La Plagne 8.85 288 *e*Pn **Pn** **21 38 45.9 +0.9**
SNR=1.0
LPL *e*Sn **Sn** **21 40 17.1 -8.0**
comp=Z,29nm,0.8s
LMR La Mourre 8.90 274 *e*Pn **Pn** **21 38 44.9 -0.8**
SNR=1.0
LMR La Mourre 8.90 274 *e*Sn **Sn** **21 40 18.1 -8.2**
comp=Z,26nm,0.3s,SNR=1.0
ORIF Oris-en-Rattie 9.37 284 *e*Pn **Pn** **21 38 52.9 +0.8**
SNR=1.0
ORIF *e*Sn **Sn** **21 40 29.3 -8.6**
comp=Z,13nm,0.6s
HINF Hinteralfeld 9.45 302 *e*Pn **Pn** **21 38 51.4 -1.8**
SNR=1.0
HINF *e*Sn **Sn** **21 40 31.6 -8.2**
comp=Z,6.8nm,0.5s
HINF Hinteralfeld 9.45 302 *e*Pn **Pn** **21 38 51.4 -1.8**
SNR=1.0
HINF *e*Sn **Sn** **21 40 31.6 -8.2**
comp=Z,3.4nm,0.5s
CDF Champ du Feu 9.45 306 *e*Pn **Pn** **21 38 51.6 -1.7**
SNR=1.0
CABF La Chapelle 9.53 294 *e*Pn **Pn** **21 38 53.0 -1.4**
SNR=1.0
SMRF Simiane la Rot 9.55 278 *e*Pn **Pn** **21 38 53.6 -1.0**
HAU Haudompre 9.83 303 *e*Pn **Pn** **21 38 57.5 -1.0**
SNR=1.0
HAU *e*Sn **Sn** **21 40 42.5 -6.8**
comp=Z,12nm,0.7s
HAU Haudompre 9.83 303 *e*Pn **Pn** **21 38 57.5 -1.0**
SNR=1.0
HAU *e*Sn **Sn** **21 40 42.5 -6.8**
comp=Z,5.8nm,0.7s
VIVF Saint-Julien-l 10.22 283 *e*Pn **Pn** **21 39 01.0 -2.8**
SNR=1.0
LASF Ste Croix 10.79 279 *e*Pn **Pn** **21 39 09.0 -2.6**
SMF Signal de Mont 11.04 293 *e*Pn **Pn** **21 39 13.6 -1.5**
SNR=1.0
SMF *e*Sn **Sn** **21 41 09.5 -9.4**
comp=Z,14nm,0.8s
SMF Signal de Mont 11.04 293 *e*Pn **Pn** **21 39 13.6 -1.5**
SNR=1.0
SMF *e*Sn **Sn** **21 41 09.5 -9.4**
comp=Z,6.8nm,0.8s
LOR Lormes 11.18 296 *e*Pn **Pn** **21 39 15.3 -1.6**
baz=118,SNR=1.0
LOR *e*Sn **Sn** **21 41 12.9 -9.3**
comp=Z,4.7nm,0.4s
LOR Lormes 11.18 296 *e*Pn **Pn** **21 39 15.3 -1.6**
SNR=1.0
LOR *e*Sn **Sn** **21 41 12.9 -9.3**
comp=Z,2.3nm,0.4s
AVF Avril sur Loir 11.40 293 *e*Pn **Pn** **21 39 18.2 -1.8**
SNR=1.0
MTLF Montolieu 12.02 276 *e*Pn **Pn** **21 39 26.5 -1.9**
HFS Hagfors 17.10 351 P **Pn** **21 40 37.2 +1.0**
comp=Z,0.1nm,0.3s,baz=154,slow=7.7,SNR=3.7
NB2 NORSAR Subarra 18.30 348 P **Pn** **21 40 50.6 -0.5**
comp=Z,0.8nm,0.6s,baz=159,slow=9.3
NOA NORSAR Array B 18.30 348 P **Pn** **21 40 50.7 -0.4**
comp=Z,0.2nm,0.3s,baz=148,slow=9.5,SNR=2.6
NOA NORSAR Array B 18.30 348 P **Pn** **21 40 50.7 -0.4**
EKA Eskdalemuir Ar 18.54 318 P **Pn** **21 40 54.5 +0.5**
comp=Z,0.1nm,0.3s,baz=114,slow=14,SNR=3.0
EKA Eskdalemuir Ar 18.54 318 P **Pn** **21 40 54.5 +0.4**
FINES FINESS Array B 18.66 11 P **Pn** **21 40 56.5 +1.0**
comp=Z,0.1nm,0.3s,baz=179,slow=11,SNR=6.1
TORD Torodi Ar. Bea 33.47 211 P **P** **21 43 16.4 -0.1**
comp=Z,0.3nm,0.5s,mb3.5,baz=16,slow=9.1,SNR=12
DBIC Dimbokro 42.00 216 P **P** **21 44 24.9 -3.7**
comp=Z,4.8nm,1.0s,mb4.1,baz=213,slow=10,SNR=2.2
MKAR Makanchi Array 43.95 62 P **P** **21 44 43.9 -0.5**
comp=Z,0.4nm,0.7s,mb3.2,baz=284,slow=7.5,SNR=3.9
MKAR Makanchi Array 43.95 62 P **P** **21 44 43.9 -0.5**
SONM Songino Array 58.32 52 P **P** **21 46 31.8 -0.6**
comp=Z,0.2nm,0.5s,mb3.4,baz=292,slow=7.6,SNR=3.8

*ISCJB **09** 21:43:45.9±0.7, 4791N±003×7.16E±007, h16km, Error ellipse: s-maj=6.7km s-min=4.4km az=51.8*
*LDG **09** 21:43:45.8±0.1, 4790N×7.12E, h15km±1km, Md2.1/2, Ml1.8/4, Error ellipse: s-maj=2.3km s-min=1.6km az=129.0*
*STR **09** 21:43:46.5±0.2, 4793N×7.10E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 09 21:43:45.5±1.1, 4789N±003×709E±006, h16km±7km, n11, σ0:49/21, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.05**	**143**	Pg	**Pg**	**Pg**	**21 43 49.1**	**+0.6**
MOF				Sg		**Sg**	**21 43 50.2**	**-0.3**
HINF	**Hinteralfeld**	**0.17**	**245**	*e*Pg	**Pg**	**Pg**	**21 43 50.3**	**+0.4**
HINF				*e*Sg	**Sg**	**Sg**	**21 43 52.6**	**-0.3**
	13nm,0.3s							
ECH	**Echery**	**0.33**	**8**	Pg	**Pg**	**Pg**	**21 43 52.6**	**+0.2**
ECH				Sg	**Sg**	**Sg**	**21 43 56.4**	**-0.7**
HAU	**Haudompre**	**0.51**	**283**	*e*Pg	**Pg**	**Pg**	**21 43 56.4**	**+0.7**
HAU				*e*Sg	**Sg**	**Sg**	**21 44 03.3**	**+0.7**
	5.8nm,0.3s							
CDF	**Champ du Feu**	**0.54**	**13**	*e*Pg	**Pg**	**Pg**	**21 43 56.5**	**+0.3**
CDF	**Champ du Feu**	**0.54**	**13**	*e*Pn	**Pg**	**Pg**	**21 43 56.9**	**+0.7**
CDF				*e*Sg	**Sg**	**Sg**	**21 44 03.0**	**-0.4**
	5.1nm,0.5s							
THEF	**They Montfort**	**0.81**	**295**	Pg	**Pg**	**Pg**	**21 44 01.9**	**+0.5**
THEF				Sg	**Sg**	**Sg**	**21 44 12.4**	**+0.3**
SFTF	**Sexfontaines**	**1.41**	**284**	*e*Pg	**Pg**	**Pg**	**21 44 12.6**	**-0.1**
	baz=102							
SFTF				*e*Sg	**Sg**	**Sg**	**21 44 31.3**	**+0.2**
	5.2nm,0.4s							
CABF	**La Chapelle**	**1.45**	**208**	*e*Pg	**Pg**	**Pg**	**21 44 13.4**	**-0.1**
CABF				*e*Sg	**Sg**	**Sg**	**21 44 32.5**	**+0.2**
	0.7nm,0.2s							
MEZF	**Maizieres J'vi**	**1.49**	**295**	*e*Pg	**Pg**	**Pg**	**21 44 14.0**	**-0.3**
MEZF				*e*Sg	**Sg**	**Sg**	**21 44 33.4**	**-0.3**
	0.9nm,0.2s,baz=109							
LOR	**Lormes**	**2.27**	**255**	*e*Pg	**Pg**	**Pg**	**21 44 28.3**	**-0.8**
	baz=76							
LOR				*e*Sg	**Sg**	**Sg**	**21 44 57.7**	**-0.9**
	0.7nm,0.2s,baz=77							

*CSEM **09** 21:49:11.7±0.3, 3756N×4391E, h40km, MD3.5, Error ellipse: s-maj=7.1km s-min=3.2km az=115.0*
*ISCJB **09** 21:49:14.0±1.0, 3761N±004×437E±0.1, h22km±6km, Error ellipse: s-maj=17.1km s-min=6.5km az=13.2*
*ISK **09** 21:49:14.0, 3760N×4370E, h28km, MD3.5*
ISC 09 21:49:14.2±1.1, 3764N±004×438E±01, h15km±5km, n13, σ0:78/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.10**	**213**	*i* P	**Pg**	**Pg**	**21 49 17.0**	**-0.6**
HAKT				*i* S	**Sg**	**Sg**	**21 49 19.6**	**0.0**
CUKT	**Cukurca**	**0.41**	**199**	*i* PG	**Pg**	**Pg**	**21 49 22.4**	**-0.2**
CUKT				*i* SG	**Sg**	**Sg**	**21 49 29.3**	**+1.1**
VANT	**Van**	**0.86**	**339**	PG	**Pg**	**Pg**	**21 49 30.7**	**-0.2**
VANT				SG	**Sg**	**Sg**	**21 49 42.8**	**+0.6**
TVAN	**Van**	**0.93**	**342**	*i* P	**Pb**	**Pb**	**21 49 30.2**	**-1.9**
TVAN				*i* S	**Sb**	**Sb**	**21 49 45.1**	**+0.8**
CLDR	**Caldiran**	**1.50**	**4**	PN	**Pn**	**Pn**	**21 49 40.7**	**+0.1**
BTMT	**Batman**	**1.89**	**288**	*e*PN	**Pn**	**Pn**	**21 49 47.2**	**+1.3**
MARD	**Mardin**	**2.40**	**263**	*i* P	**Pn**	**Pn**	**21 49 59.4**	**+6.4**
MARD				*i* S	**Sn**	**Sn**	**21 50 26.8**	**+4.6**
GNI	**Garni**	**2.62**	**16**	*e*PN	**Pn**	**Pn**	**21 49 56.6**	**+0.7**
DIY	**Diyarbakir**	**2.82**	**276**	*e*PN	**Pn**	**Pn**	**21 49 57.7**	**-1.0**
EZM	**Erzurum**	**2.94**	**321**	*e*PN	**Pn**	**Pn**	**21 50 00.2**	**-0.2**
URFA	**Urfa**	**3.94**	**269**	*e*PN	**Pn**	**Pn**	**21 50 13.4**	**-0.7**
MALT	**Malatya**	**4.28**	**281**	*e*PN	**Pn**	**Pn**	**21 50 18.8**	**+0.1**
MYA	**Malataya**	**4.28**	**281**	*e*PN	**Pn**	**Pn**	**21 50 18.8**	**0.0**

*NEIC **09** 22:52:29.4, 3271S×7192W, h15km, ML3.5(GUC), After GUC.*
GUC 09 22:52:29.4±0.8, 3271S×7192W, h15km±5km, MD3.8, ML3.5, 13C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.40**	**144**	⇓*i*P	Pg	Pg	22 52 37.5	+0.1
IHA				*i* S	Sg	Sg	22 52 42.9	+0.1
ROCH	**El Roble**	**0.81**	**109**	⇑*i*P	Pg	Pg	22 52 44.1	-1.0
LCCH	**Las Cruces**	**0.82**	**159**	⇑*i*P	Pg	Pg	22 52 44.4	-1.0
LCCH				*i* S	Sg	Sg	22 52 55.0	-1.2
JACH	**Jahuel**	**1.12**	**89**	⇑*i*P	Pb	Pb	22 52 48.7	-1.7
JACH				*i* S	Sb	Sb	22 53 04.2	-0.5
PEL	**Peldehue**	**1.12**	**113**	⇑*i*P	Pb	Pb	22 52 49.2	-1.3
PEL				*i* S	Sb	Sb	22 53 06.0	+1.0
PEL				AML	AML	AML	22 53 06.8	
	comp=E,4μm,0.3s							
PEL	**Peldehue**	**1.12**	**113**	⇑*i*P	Pb	Pb	22 52 49.2	-1.3
PEL				S	Sb	Sb	22 53 06.0	+1.0
TACH	**Talagante**	**1.25**	**139**	⇓*i*P	Pn	Pn	22 52 51.0	-1.4
LNV	**Longovilo**	**1.32**	**161**	⇑*i*P	Pn	Pn	22 52 52.0	-1.3
LNV				*i* S	Sb	Sb	22 53 08.6	-1.9
DSCH	**Colegio Aleman**	**1.33**	**122**	*e*P	Pn	Pn	22 52 52.6	-0.8
DSCH				*i* S	Sn	Sn	22 53 09.8	-0.9
CLCH	**Cerro Calan**	**1.35**	**121**	⇓*i*P	Pn	Pn	22 52 53.2	-0.4
CLCH				*i* S	Sn	Sn	22 53 10.8	-0.5
CLCH				AML	AML	AML	22 53 18.4	
	comp=N,1μm,0.6s							
CLCH	**Cerro Calan**	**1.35**	**121**	⇓*i*P	Pn	Pn	22 52 53.2	-0.4
CLCH				*i* S	Sn	Sn	22 53 10.8	-0.5
ANTU	**Antumapu**	**1.38**	**129**	*e*P	Pn	Pn	22 52 53.3	-0.8
ANTU				*i* S	Sn	Sn	22 53 11.0	-1.0
ANTU				AML	AML	AML	22 53 14.7	
	comp=N,980nm,0.4s							
ANTU	**Antumapu**	**1.38**	**129**	*e*P	Pn	Pn	22 52 53.3	-0.8
ANTU				*i* S	Sn	Sn	22 53 11.0	-1.0
FSR	**Penalolen**	**1.40**	**124**	⇑*i*P	Pn	Pn	22 52 53.8	-0.6
FSR				*i* S	Sn	Sn	22 53 11.8	-0.7
FSR				AML	AML	AML	22 53 17.3	
	comp=N,908nm,0.5s							
FSR	**Penalolen**	**1.40**	**124**	⇑*i*P	Pn	Pn	22 52 53.8	-0.6
FSR				*i* S	Sn	Sn	22 53 11.8	-0.7
PCH	**Pirque**	**1.49**	**128**	*e*P	Pn	Pn	22 52 55.0	-0.6
CHCH	**Chadas Angostu**	**1.62**	**140**	⇑*i*P	Pn	Pn	22 52 57.3	-0.1
CHCH				*i* S	Sn	Sn	22 53 18.2	+0.2
CMCH	**Combarbala**	**1.71**	**27**	⇑*i*P	Pn	Pn	22 52 58.5	-0.2
CMCH				*i* S	Sn	Sn	22 53 20.6	+0.3
CMCH				AML	AML	AML	22 53 26.8	
	comp=N,1μm,0.6s							
CMCH	**Combarbala**	**1.71**	**27**	⇑*i*P	Pn	Pn	22 52 58.5	-0.2
CMCH				*i* S	Sn	Sn	22 53 20.6	+0.3
CACH	**El Canelo**	**1.79**	**142**	⇑*i*P	Pn	Pn	22 53 00.8	+1.0
CACH				*i* S	Sn	Sn	22 53 24.6	+2.4
CICH	**Cipreses**	**2.04**	**143**	⇑*i*P	Pn	Pn	22 53 04.0	+0.8

*NEIC **09** 22:53:33.8±1.1, 7.18S×12324E, h580km±17km, mb4.8/5, Error ellipse: s-maj=16.3km s-min=8.4km az=71.0*
NEIC Felt [III] at Denpasar and Sumbawabesar, Indonesia.
*ISCJB **09** 22:53:34.4±1.2, 724S±009×1232E±02, h615km±23km, mb4.3/9, Error ellipse: s-maj=24.5km s-min=12.3km az=147.3*
*IDC **09** 22:53:34.3±1.7, 7.17S×12335E, h589km±24km, mb3.6/6, mb1 3.7/9, mb1mx3.5/17, mbtmp4.6/9, Error ellipse: s-maj=30.7km s-min=11.2km az=78.0*
ISC 09 22:53:34.2±1.5, 720S±010×1232E±02, h585km±25km, n20, σ0:56/20, mb4.3/9, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.09**	**168**	P	**P**	**P**	**22 56 03.5**	**0.0**
	2.4nm,0.3s,baz=7.7,slow=10,SNR=57							
MBWA	**Marble Bar**	**14.28**	**193**	*e*P	**P**	**P**	**22 56 35.5**	**-0.4**
	21nm,0.7s							
KKM	**Kota Kinabalu**	**14.90**	**332**	*e*P	**P**	**P**	**22 56 42.5**	**+0.5**
WRA	**Warramunga Arr**	**16.63**	**141**	P	**P**	**P**	**22 56 58.1**	**+0.2**
	2.9nm,0.3s,baz=316,slow=11,SNR=61							
WRA	**Warramunga Arr**	**16.63**	**141**	P	**P**	**P**	**22 56 58.1**	**+0.2**
WRAB	**Tennant Creek**	**16.63**	**141**	*e*P	**P**	**P**	**22 56 57.9**	**0.0**
	21nm,0.6s							
WB2	**Warramunga Arr**	**16.64**	**141**	*e*P	**P**	**P**	**22 56 57.9**	**0.0**
ASAR	**Alice Springs**	**19.32**	**149**	P	**P**	**P**	**22 57 22.8**	**+0.5**
	1.9nm,0.3s,baz=327,slow=8.5,SNR=77							
ASAR				ScP	ScP	ScP	23 03 55.6	-1.1
	0.2nm,0.3s,baz=323,slow=1.3,SNR=10							
FORT	**Forrest**	**23.89**	**170**	*e*P	**P**	**P**	**22 58 03.2**	**0.0**
	26nm,0.8s,mb4.9							
KLBR	**Kellerberrin**	**24.80**	**191**	*e*P	**P**	**P**	**22 58 11.2**	**-0.1**
	9.4nm,0.3s,mb4.9							
MUN	**Mundaring**	**25.51**	**194**	*e*P	**P**	**P**	**22 58 17.3**	**-0.2**
NWAO	**Narrogin (SRO)**	**26.20**	**191**	P	**P**	**P**	**22 58 23.8**	**+0.2**
	9.8nm,0.4s,mb4.8,baz=30,slow=7.2,SNR=12							
STKA	**Stephens Creek**	**29.94**	**148**	⇑*i*P	**P**	**P**	**22 58 54.7**	**-1.3

ISC 09 23:03:46.0±0.9, 4461N±003×704E±007, h15km±8km, n10, σ0§32/17, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.21**	**231**	Pg	**Pg**	**23 03 51.2**	**+0.4**
SURF				Sg	**Sg**	**23 03 54.1**	**0.0**
OG22	**Abries**	**0.22**	**342**	Pg	**Pg**	**23 03 51.1**	**+0.1**
OG22				Sg	**Sg**	**23 03 54.3**	**-0.1**
MBDF	**Montbardon**	**0.23**	**301**	*e*Pg	**Pg**	**23 03 51.5**	**+0.4**
MBDF				*e*Sg	**Sg**	**23 03 54.7**	**+0.2**
	11nm,0.2s						
SBF	**Sospel**	**0.80**	**159**	*e*Pg	**Pg**	**23 04 01.5**	**-0.1**
SBF				*e*Sg	**Sg**	**23 04 12.3**	**+0.2**
	1.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.88**	**291**	*e*Pg	**Pg**	**23 04 03.6**	**+0.5**
ORIF				*e*Sg	**Sg**	**23 04 14.3**	**-0.4**
	1.2nm,0.2s						
LPG	**La Plagne**	**0.91**	**347**	*e*Sg	**Sg**	**23 04 15.0**	**-0.5**
	0.9nm,0.3s						
FRF	**La Foret Royal**	**1.09**	**195**	*e*Pg	**Pg**	**23 04 06.9**	**-0.1**
FRF				*e*Sg	**Sg**	**23 04 21.1**	**-0.2**
	1.1nm,0.2s						
SMRF	**Simiane la Rot**	**1.23**	**239**	*e*Sg	**Sg**	**23 04 25.9**	**+0.1**
	0.6nm,0.3s						
LMR	**La Mourre**	**1.33**	**197**	*e*Pn	**Pn**	**23 04 10.4**	**+0.4**
LMR	**La Mourre**	**1.33**	**197**	*e*Pg	**Pg**	**23 04 11.4**	**-0.3**
LMR				*e*Sg	**Sg**	**23 04 28.6**	**-0.5**
	1.1nm,0.2s						

*ISCJB **09** 23:09:07.2±2.4, 1954S±008×703W±02, h75km±18km, mb3.6/3, Error ellipse: s-maj=36.3km s-min=12.4km az=11.9*
*NEIC **09** 23:09:07.8±2.3, 1955S×7038W, h66km±20km, Error ellipse: s-maj=32.1km s-min=14.2km az=103.0*
*IDC **09** 23:09:08.6±3.6, 1957S×7029W, h75km±25km, mb3.4/3, mb1 3.7/7, mb1mx3.5/19, mbtmp3.9/7, Error ellipse: s-maj=46.1km s-min=15.8km az=98.0*

ISC 09 23:09:08.7±2.3, 1954S±008×703W±02, h69km±18km, n12, σ1§07/12, mb3.6/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.33**	**157**	P	**Pn**	**23 09 56.8**	**-1.5**
	7.3nm,0.3s,baz=329,slow=11,SNR=5.3						
LVC				S	**Sn**	**23 10 36.6**	**-0.1**
	14nm,0.3s,baz=65,slow=19,SNR=4.2						
LVC	**Limon Verde**	**3.33**	**157**	*e*Pn	**Pn**	**23 09 57.0**	**-1.4**
LVC				*e*Sn	**Sn**	**23 10 38.6**	**+1.8**
LPAZ	**La Paz**	**3.86**	**33**	P	**Pn**	**23 10 07.0**	**+1.5**
	2.0nm,0.3s,baz=214,slow=7.3,SNR=26						
LPAZ	**La Paz**	**3.86**	**33**	*e*Pn	**Pn**	**23 10 06.6**	**+1.1**
SIV	**San Ignacio**	**9.51**	**70**	P	**Pn**	**23 11 21.2**	**-1.6**
	1.5nm,0.3s,baz=268,slow=10,SNR=15						
CPUP	**Villa Florida**	**13.75**	**122**	P	**Pn**	**23 12 20.9**	**+0.5**
	0.2nm,0.3s,baz=290,slow=12,SNR=6.5						
CPUP	**Villa Florida**	**13.75**	**122**	P	**Pn**	**23 12 20.9**	**+0.5**
PLCA	**Paso Flores**	**21.12**	**180**	P	**P**	**23 13 48.0**	**+0.3**
	0.6nm,0.5s,mb3.2,baz=349,slow=11,SNR=2.4						
BDFB	**Brasilia**	**21.63**	**83**	P	**P**	**23 13 53.8**	**+0.7**
	1.5nm,0.4s,mb3.6,baz=237,slow=5.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**77.98**	**71**	P	**P**	**23 20 58.7**	**-0.7**
	1.3nm,0.6s,mb3.9,baz=251,slow=5.3,SNR=23						
MKAR	**Makanchi Array**	**144.79**	**33**	PKP	PKPdf	23 28 36.2	-1.4
	1.4nm,0.7s,baz=328,slow=3.2,SNR=12						
MKAR	**Makanchi Array**	**144.79**	**33**	PKP	PKPdf	23 28 36.2	-1.4

*LDG **09** 23:13:11.7±0.2, 4332N×1885E, h10km, Ml3.5/5, Error ellipse: s-maj=6.0km s-min=3.5km az=46.0*
*ISCJB **09** 23:13:11.2±0.2, 4336N±001×1866E±002, h1km, Error ellipse: s-maj=2.2km s-min=1.8km az=133.4*
*PRU **09** 23:13:12.2, 4335N×1877E, h0km*
*PDG **09** 23:13:12.1±0.4, 4332N×1869E, h1km±2km*
*NEIC **09** 23:13:12.1, 4332N×1869E, h1km, ML3.1(ROM), ML3.1(PDG), ML3.5(LDG), After PDG.*
*CSEM **09** 23:13:12.0±0.1, 4340N×1865E, h2km, ML3.5, Error ellipse: s-maj=1.5km s-min=1.2km az=82.0*
*ROM **09** 23:13:16.1±0.6, 4314N×1853E, h10km, Ml3.1/18, Error ellipse: s-maj=10.0km s-min=4.9km az=44.0*

ISC 09 23:13:12.4±0.2, 4335N±001×1868E±002, h1km, n96, σ1§22/137, 18C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.22**	**131**	↑*i*Pg	**Pg**	**23 13 16.4**	**-0.2**
UPM				*e*Sg	**Sg**	**23 13 18.8**	**-0.7**
BRY	**Bratogost**	**0.46**	**193**	↑*i*Pg	**Pg**	**23 13 19.9**	**-1.3**
BRY				*e*Sg	**Sg**	**23 13 26.5**	**-0.6**
PLE	**Pljevlja**	**0.52**	**92**	↑*i*Pg	**Pg**	**23 13 22.3**	**0.0**
PLE				*e*Sg	**Sg**	**23 13 29.3**	**+0.2**
NKY	**Niksic**	**0.58**	**156**	↑*i*Pg	**Pg**	**23 13 22.0**	**-1.6**
NKY				*e*Sg	**Sg**	**23 13 30.8**	**-0.4**
TREB	**Trebinje**	**0.68**	**201**	P	**Pg**	**23 13 23.8**	**-1.6**
BBLS	**Bajina Basta -**	**0.74**	**45**	*i* Pg	**Pg**	**23 13 27.6**	**+1.0**
BBLS				Sg	**Sg**	**23 13 38.4**	**+2.2**
STON	**Ston**	**0.86**	**237**	*i* Pg	**Pg**	**23 13 27.1**	**-1.9**
STON				*i* Sg	**Sg**	**23 13 40.9**	**+0.7**
STON	**Ston**	**0.86**	**237**	*i* Pg	**Pg**	**23 13 27.0**	**-1.9**
STON				*i* Sg	**Sg**	**23 13 40.8**	**+0.7**
HCY	**Herceg Novi**	**0.91**	**189**	↑*i*Pg	**Pg**	**23 13 28.3**	**-1.5**
HCY				*e*Sg	**Sg**	**23 13 41.9**	**+0.2**
HCY	**Herceg Novi**	**0.91**	**189**	↑*i*Pg	**Pg**	**23 13 28.3**	**-1.6**
HCY				*e*Sg	**Sg**	**23 13 41.8**	**+0.1**
SJES	**Sjenica**	**0.92**	**95**	Pn	**Pn**	**23 13 29.9**	**-2.5**
SJES				Sg	**Sg**	**23 13 42.8**	**+0.7**
IVA	**Berane**	**1.01**	**118**	↓*i*Pg	**Pg**	**23 13 30.6**	**-1.2**
IVA				*e*Sg	**Sg**	**23 13 45.4**	**+0.5**
TTG	**Podgorica**	**1.01**	**155**	↓*i*Pg	**Pg**	**23 13 29.1**	**-2.7**
TTG				*e*Sg	**Sg**	**23 13 44.9**	**0.0**
BUM	**Brajici-Budva**	**1.06**	**171**	↓*i*Pg	**Pg**	**23 13 30.0**	**-2.7**
BUM				*e*Sg	**Sg**	**23 13 46.9**	**+0.5**
DIVS	**Divcibare**	**1.21**	**51**	*i* Pg	**Pg**	**23 13 35.5**	**-0.1**
DIVS				Sg	**Sg**	**23 13 54.3**	**+3.0**
PVY	**Plav**	**1.21**	**128**	↑*i*Pg	**Pg**	**23 13 34.0**	**-1.6**
PVY				*e*Sg	**Sg**	**23 13 52.6**	**+1.3**
BCI	**Bajram Curri**	**1.42**	**133**	*e*Pn	**Pn**	**23 13 38.1**	**-1.1**
BCI				*e*Sn	**Sn**	**23 14 00.3**	**+1.9**
ULC	**Ulcinj**	**1.45**	**163**	↑*i*Pg	**Pg**	**23 13 38.0**	**-2.2**
ULC				*e*Sg	**Sg**	**23 14 00.2**	**+1.4**
ULC	**Ulcinj**	**1.45**	**163**	↑*i*Pg	**Pg**	**23 13 38.0**	**-2.1**
ULC				*e*Sg	**Sg**	**23 14 00.2**	**+1.3**
BLY	**Banja Luka**	**1.77**	**323**	P	**Pn**	**23 13 44.2**	**+0.1**
BLY				S	**Sn**	**23 14 09.0**	**+1.8**
BEO	**Belgrade**	**1.95**	**40**	↓*i*Pn	**Pn**	**23 13 49.5**	**+3.0**
BEO				Sn	**Sn**	**23 14 13.7**	**+2.0**
TIR	**Tirane**	**2.18**	**156**	Pn	**Pn**	**23 13 51.8**	**+2.0**
	235nm,0.5s						
RHK3	**Tenkes**	**2.56**	**353**	↓*i*P	**Pn**	**23 13 54.5**	**-0.4**
PE1	**Pezze di Greco**	**2.71**	**201**	*e*Pn	**Pn**	**23 13 59.1**	**+2.1**
OHR	**Ohrid**	**2.73**	**144**	*e*Pn	**Pn**	**23 14 01.0**	**+3.7**
OHR				*e*Sn	**Sn**	**23 14 34.9**	**+3.9**
NOCI	**Noci**	**2.83**	**206**	Pn	**Pn**	**23 13 57.3**	**-1.3**
NOCI				Sn	**Sn**	**23 14 31.0**	**-2.3**
RGNG	**Rignano Grg**	**2.83**	**235**	Pn	**Pn**	**23 13 57.7**	**-1.0**
PKSM	**Moragy**	**2.86**	**359**	↑*i*Pn	**Pn**	**23 13 58.4**	**-0.7**
PKSM				*e*Sn	**Sn**	**23 14 33.8**	**-0.4**
CDT	**Castel del Mon**	**2.89**	**219**	*e*Pn	**Pn**	**23 13 58.8**	**-0.6**
NVLJ	**Novalja**	**3.01**	**295**	*i* Pn	**Pn**	**23 14 01.8**	**+0.7**
NVLJ				*i* Sn	**Sn**	**23 14 42.8**	**+5.1**
STIP	**Stip**	**3.07**	**121**	*e*Pn	**Pn**	**23 14 05.7**	**+3.7**
FG4	**Candela**	**3.23**	**228**	Pn	**Pn**	**23 14 04.4**	**+0.2**
	48nm,0.4s						
FG5	**Orsara di Pugl**	**3.27**	**232**	Pn	**Pn**	**23 14 05.4**	**+0.7**
	49nm,0.6s						
BOJS	**Bojanci**	**3.27**	**312**	*i* Pn	**Pn**	**23 14 05.3**	**+0.6**
SGTA	**Sant Agata di**	**3.31**	**229**	Pn	**Pn**	**23 14 06.7**	**+1.4**
	64nm,0.6s						
GCIS	**Gornji Cirnik**	**3.33**	**320**	*i* Pn	**Pn**	**23 14 06.1**	**+0.6**
CRES	**Cresnjev**	**3.38**	**318**	*i* Pn	**Pn**	**23 14 07.1**	**+0.8**
PTRP	**Pietrapertosa**	**3.44**	**216**	Pn	**Pn**	**23 14 07.5**	**+0.5**
	270nm,4.9s						
GOLS	**Golise**	**3.44**	**322**	*i* Pn	**Pn**	**23 14 07.6**	**+0.5**
MRLC	**Muro Lucano**	**3.52**	**224**	Pn	**Pn**	**23 14 08.0**	**-0.1**
	30nm,0.5s						
PKS8	**Sarbogard**	**3.53**	**360**	↑*e*P	**Pn**	**23 14 07.6**	**-0.7**
PKS8				*e*S	**Sn**	**23 14 47.1**	**-3.6**
	0.2nm,0.3s						
SACR	**S. Croce Del S**	**3.53**	**238**	Pn	**Pn**	**23 14 09.0**	**+0.7**
	28nm,0.7s						
DOBS	**Dobrina**	**3.62**	**322**	↑*i*Pn	**Pn**	**23 14 10.0**	**+0.5**
CII	**Carovilli**	**3.62**	**245**	Pn	**Pn**	**23 14 11.1**	**+1.6**
	26nm,0.6s						
MCRV	**Calabrutti - M**	**3.66**	**227**	Pn	**Pn**	**23 14 09.5**	**-0.6**
	25nm,0.4s						
MIDA	**Miranda**	**3.69**	**244**	Pn	**Pn**	**23 14 11.6**	**+1.1**
	47nm,0.8s						
PKS7	**Kunszentmiklos**	**3.71**	**5**	↑*e*P	**Pn**	**23 14 10.3**	**-0.5**
PKS7				*e*S	**Sn**	**23 14 53.6**	**-1.6**
	0.8nm,0.2s						
SLCN	**Sala Consilina**	**3.73**	**219**	Pn	**Pn**	**23 14 10.6**	**-0.5**
	37nm,0.4s						
SGO	**Sicignano**	**3.75**	**223**	Pn	**Pn**	**23 14 10.9**	**-0.5**
	7.0nm,0.3s						
CDRU	**Civita di Ruta**	**3.81**	**223**	Pn	**Pn**	**23 14 12.2**	**+0.1**
	12nm,0.3s						
CEY	**Cerknica**	**3.87**	**310**	*i* Pn	**Pn**	**23 14 13.3**	**+0.4**
FAGN	**Fagnano**	**3.90**	**256**	Pn	**Pn**	**23 14 15.5**	**+2.1**
	93nm,0.5s						
CMPR	**Campora**	**3.94**	**221**	Pn	**Pn**	**23 14 13.2**	**-0.8**
	19nm,0.4s						
SDI	**San Donato**	**3.96**	**247**	Pn	**Pn**	**23 14 15.2**	**+1.1**
	20nm,0.5s						
MGR	**Morigerati**	**3.97**	**217**	Pn	**Pn**	**23 14 14.5**	**+0.1**
	20nm,0.5s						
CUC	**Castrocucco**	**3.98**	**214**	Pn	**Pn**	**23 14 14.7**	**+0.2**
	30nm,0.6s						
AQU	**L'Aquila**	**4.01**	**257**	*e*Pn	**Sn**	**23 15 03.0**	**+0.5**
VVLD	**Villa Vallelon**	**4.01**	**250**	Pn	**Pn**	**23 14 16.2**	**+1.2**
	63nm,0.7s						
PKSG		**4.05**	**357**	↑*e*P	**Pn**	**23 14 14.9**	**-0.5**
PKSG				*e*S	**Sn**	**23 15 03.4**	**0.0**
	0.5nm,0.6s						
NRCA	**Norcia**	**4.11**	**265**	Pn	**Pn**	**23 14 17.6**	**+1.3**
	9.0nm,0.4s						
BUD	**Budapest**	**4.14**	**3**	*i* Pn	**Pn**	**23 14 15.8**	**-0.9**
ARV	**Arcevia**	**4.18**	**274**	Pn	**Pn**	**23 14 18.2**	**+0.9**
	5.0nm,0.4s						
SNTG	**Esanatoglia**	**4.19**	**271**	Pn	**Pn**	**23 14 18.4**	**+1.0**
	9.0nm,0.4s						
LNSS	**Leonessa**	**4.21**	**262**	Pn	**Pn**	**23 14 19.1**	**+1.5**
	103nm,0.4s						
FIAM	**Fiamignano**	**4.23**	**257**	Pn	**Pn**	**23 14 20.0**	**+2.0**
	37nm,0.7s						
FSSB	**Fossombrone**	**4.31**	**277**	Pn	**Pn**	**23 14 20.2**	**+1.2**
	12nm,0.2s						
OBKA	**Obir**	**4.31**	**319**	↓↓*i*Sn	**Sn**	**23 15 08.2**	**-1.7**
OBKA	**Obir**	**4.31**	**319**	↑↑*i*Pn	**Pn**	**23 14 19.6**	**+0.5**
	SNR=21						
OBKA				↓↓*i*Sn	**Sn**	**23 15 08.2**	**-1.7**
OBKA	**Obir**	**4.31**	**319**	↑↑*i*Pn	**Pn**	**23 14 19.6**	**+0.5**
OBKA				*i* Sn	**Sn**	**23 15 08.2**	**-1.7**
OBKA	**Obir**	**4.31**	**319**	Pn	**Pn**	**23 14 19.6**	**+0.5**
	21nm,2.0s						
VOY	**Vojsko**	**4.34**	**310**	*e*Pn	**Pn**	**23 14 20.6**	**+1.1**
VOY				*e*		23 14 32.2	
VOY				*e*Sn	**Sn**	**23 15 19.5**	**+8.8**
CERT	**Cerreto**	**4.43**	**254**	Pn	**Pn**	**23 14 22.1**	**+1.4**
	29nm,0.7s						
ARSA	**Arzberg**	**4.49**	**331**	↓↓*i*Sn	**Sn**	**23 15 12.1**	**-2.3**
ARSA	**Arzberg**	**4.49**	**331**	↓↓*i*Pn	**Pn**	**23 14 21.7**	**+0.2**
	SNR=24						
ARSA				↓↓*i*Sn	**Sn**	**23 15 12.1**	**-2.3**
ARSA	**Arzberg**	**4.49**	**331**	Pn	**Pn**	**23 14 21.7**	**+0.2**
	24nm,2.0s						
MNS	**Montasola**	**4.51**	**260**	Pn	**Pn**	**23 14 23.3**	**+1.5**
	29nm,0.7s						
SOP	**Sopron**	**4.58**	**342**	↑*e*Pn	**Pn**	**23 14 22.0**	**-0.8**
PSZ	**Piszkesteto**	**4.65**	**10**	*i* Pn	**Pn**	**23 14 23.2**	**-0.5**
PSZ				*e*Sn	**Sn**	**23 15 14.7**	**-3.5**
CONA	**Conrad Observa**	**4.99**	**338**	↓↓*i*Pn	**Pn**	**23 14 28.4**	**+0.1**
CONA				↓↓*i*Sn	**Sn**	**23 15 23.5**	**-3.1**
VYHS	**Vyhne**	**5.15**	**1**	*e*PN	**Pn**	**23 14 30.3**	**-0.2**
VYHS				*e*SN	**Sn**	**23 15 28.0**	**-2.5**
KOLL	**Kolacno**	**5.24**	**358**	*e*PN	**Pn**	**23 14 32.8**	**+1.1**
KOLL				*e*SN	**Sn**	**23 15 27.9**	**-4.8**
MOA	**Molln**	**5.46**	**327**	↓↓*i*Sn	**Sn**	**23 15 36.7**	**-1.6**
MOA	**Molln**	**5.46**	**327**	↑↑*i*Pn	**Pn**	**23 14 35.0**	**+0.1**
	SNR=11						
MOA				↓↓*i*Sn	**Sn**	**23 15 36.7**	**-1.6**
MOA	**Molln**	**5.46**	**327**	Pn	**Pn**	**23 14 35.0**	**+0.1**
	10.0nm,6.0s						
KHC	**Kasperske Hory**	**6.78**	**330**	*e*PN	**Pn**	**23 14 54.3**	**+1.4**
KHC				*e*SN	**Sn**	**23 16 07.1**	**-3.6**
KHC	**Kasperske Hory**	**6.78**	**330**	*e*P	**Sn**	**23 16 08.5**	**-2.2**
PGF	**Pioggiola**	**7.15**	**267**	*e*Pn	**Pn**	**23 14 57.6**	**-0.4**
SBF	**Sospel**	**8.18**	**277**	*e*Pn	**Pn**	**23 15 11.6**	**-0.6**
SBF				*e*Sn	**Sn**	**23 16 37.9**	**-7.3**
	9.4nm,0.7s						
MBDF	**Montbardon**	**8.69**	**283**	*e*Pn	**Pn**	**23 15 17.8**	**-1.4**
MBDF				*e*Sn	**Sn**	**23 16 50.6**	**-7.2**
	3.8nm,0.6s						
FRF	**La Foret Royal**	**8.76**	**276**	*e*Pn	**Pn**	**23 15 18.9**	**-1.2**
LPG	**La Plagne**	**8.80**	**288**	*e*Pn	**Pn**	**23 15 20.8**	**+0.1**
LPG				*e*Sn	**Sn**	**23 16 53.2**	**-7.4**
	8.3nm,0.8s						
LPL	**La Plagne**	**8.82**	**288**	*e*Sn	**Sn**	**23 16 54.7**	**-6.3**
	6.4nm,0.6s						
LMR	**La Mourre**	**8.87**	**274**	*e*Pn	**Pn**	**23 15 20.9**	**-0.8**
ORIF	**Oris-en-Rattie**	**9.34**	**284**	*e*Pn	**Pn**	**23 15 28.7**	**+0.6**
ORIF				*e*Sn	**Sn**	**23 17 05.3**	**-8.4**
	5.1nm,0.7s						
CDF	**Champ du Feu**	**9.43**	**306**	*e*Pn	**Pn**	**23 15 27.9**	**-1.4**
CABF	**La Chapelle**	**9.50**	**294**	*e*Pn	**Pn**	**23 15 29.3**	**-1.0**

*IDC **09** 23:17:23.5±0.3, 4750S×3238E, h0km, mb5.1/38, mb1 5.2/38, mb1mx5.2/38, mbtmp5.1/38, MS5.5/20, Ms1 5.5/20, ms1mx5.4/21, Error ellipse: s-maj=13.1km s-min=9.0km az=82.0*
*ISCJB **09** 23:17:25.0±0.2, 4766S±004×3277E±008, h10km, mb5.5/127, MS5.5/49, Error ellipse: s-maj=7.7km s-min=5.0km az=152.7*
*MOS **09** 23:17:25.1±1.0, 4758S×3271E, h10km, mb5.9/47, MS5.5/29, Error ellipse: s-maj=20.6km s-min=5.8km az=96.9*
*HRVD **09** 23:17:27.9±0.1, 47.18S×3237E, h17km, MW5.8/98, Centroid moment Tensor Solution. LP body waves: s92,c172; Mantle waves: s98,c285; Half duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}0.99±.05; $M_{\theta\theta}$3.91±.05; $M_{\phi\phi}$-4.90±.05; $M_{r\theta}$0.96±.13; $M_{\theta\phi}$3.05±.04; $M_{\phi r}$-1.02±.13; Best double couple: $M_0$5.52000×10^{17} NP1:ϕ_s28.00000°, δ76.00000°, λ-179.00000°. NP2:ϕ_s298.00000°, δ89.00000°, λ-14.00000°. Principal axes: T 4.9610, Plg9.0000°, Azm344.0000°; N 1.1190, Plg76.0000°, Azm115.0000°; P -6.0780, Plg10.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **09** 23:17:27.8, 4780S×3260E, h22km, mB5.9, mb5.2, Ms5.9, Msz5.5*
*NEIC **09** 23:17:27.9±0.1, 4775S×3261E, mb5.6/79, MS5.8/9, MW5.9, Error ellipse: s-maj=8.3km s-min=5.6km az=77.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73; $M_{\theta\theta}$8.18; $M_{\phi\phi}$-8.90; $M_{r\theta}$1.09; $M_{\theta\phi}$4.79; $M_{\phi r}$-0.68; Best double couple: $M_0$9.90000×10^{17} NP1: ϕ_s120.00000°, δ89.00000°, λ8.00000°. NP2:ϕ_s30.00000°, δ82.00000°, λ179.00000°. Principal axes: T 9.5000, Plg6.0000°, Azm346.0000°; N 0.7000, Plg82.0000°, Azm125.0000°; P -10.2000, Plg5.0000°, Azm255.0000°;*
*CRAAG **09** 23:17:28.9, 4753S×3302E, Mb5.7*
*SZGRF **09** 23:17:34.1, 46.15S×33.13E, h24km, mb5.8, MS5.5, Prince Edward Islands, South Africa, region*

ISC 09 23:17:26.0±0.2, 4761S±003×3264E±007, h10km, (h20km±2.1km:pP-P), n612, σ1§05/392, mb5.5/128, MS5.5/49, 101C-54D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.67**	**325**	Pn	**Pn**	**23 21 23.9**	**-8.3**
	1μm,1.3s,SNR=21						
SUR	**Sutherland**	**17.67**	**325**	P	**Pn**	**23 21 24.4**	**-7.8**
	4.3nm,0.3s,baz=142,slow=12,SNR=35						
SUR				S	Sn	23 24 23.9	-25
	4.8nm,0.3s,baz=117,slow=16,SNR=4.0						
SUR				LR	LR	23 27 23.0	
	comp=Z,14μm,18.7s,baz=155,slow=34						
SUR	**Sutherland**	**17.67**	**325**	*e*Pn	**Pn**	**23 21 23.6**	**-8.6**
SUR				*e*Sn	Sn	23 24 22.8	-26
BOSA	**Boshof**	**19.82**	**341**	P	**Pn**	**23 21 50.9**	**-7.4**
	1.2nm,0.3s,baz=166,slow=11,SNR=80						
BOSA				S	Sn	23 25 12.0	-29
	2.8nm,0.3s,baz=250,slow=18,SNR=3.7						
BOSA				LR	LR	23 28 06.9	
	comp=Z,18μm,18.6s,baz=151,slow=33						
BOSA	**Boshof**	**19.82**	**341**	*e*P	**Pn**	**23 21 50.9**	**-7.3**
BOSA				pmax	pmax		
	comp=Z,4μm,2.6s						
BOSA	**Boshof**	**19.82**	**341**	*e*P	**Pn**	**23 21 50.9**	**-7.3**
	comp=Z,4μm,2.6s						
BOSA				*e*Sn	Sn	23 25 14.7	-26
LBTB	**Lobatse**	**23.23**	**344**	P	**P**	**23 22 26.9**	**-6.4**
	comp=Z,125nm,1.1s,mb5.3,baz=179,slow=10,SNR=70						
LBTB				S	**S**	**23 26 31.4**	**-14**
	comp=Z,48nm,0.8s,baz=278,slow=21,SNR=8.6						
LBTB				LR	LR	23 30 01.4	
	comp=Z,15μm,21.2s,MS5.4,baz=206,slow=33						
LBTB	**Lobatse**	**23.23**	**344**	*e*P	**P**	**23 22 27.0**	**-6.4**
LBTB				*e*S	**S**	**23 26 32.7**	**-12**
LBTB				pmax	pmax		
	comp=Z,290nm,1.1s,mb5.6						
LBTB	**Lobatse**	**23.23**	**344**	*e*P	**P**	**23 22 27.0**	**-6.4**
	comp=Z,290nm,1.1s,mb5.6						
LBTB				*e*S	**S**	**23 26 32.7**	**-12**
NVL	**N'lazarevskaya**	**25.27**	**196**	*c i*P	**P**	**23 22 52.3**	**0.0**
NVL				*e*		23 23 30.4	
NVL				*i* S	**S**	**23 27 17.2**	**-0.8**
NVL				*e*SS		23 28 27.5	
NVL				pmax	pmax		
	comp=Z,150nm,1.3s,mb5.4						
NVL				MLR	MLR		
	comp=Z,6μm,13.3s,MS5.3						
MAW	**Mawson**	**25.29**	**153**	↑*i*P	**P**	**23 22 55.0**	**+2.4**
	comp=Z,86nm,1.0s,mb5.2						
MAW	**Mawson**	**25.29**	**153**	P	**P**	**23 22 53.4**	**+0.9**
	comp=Z,56nm,0.9s,mb5.1,baz=303,slow=9.1,SNR=62						
MAW				LR	LR	23 30 25.8	
	comp=Z,7μm,20.5s,MS5.2,baz=312,slow=31						
MAW	**Mawson**	**25.29**	**153**	P	**P**	**23 22 53.4**	**+0.8**
MAW				pmax	pmax		
	comp=Z,56nm,0.9s						
MAW				MLR	MLR		
	comp=Z,7μm,20.5s						
MAIT	**Maitri**	**25.29**	**196**	*e*P	**P**	**23 22 52.8**	**+0.2**
MATP	**Matopo**	**27.33**	**352**	P	**P**	**23 23 07.4**	**-3.5**
	comp=Z,58nm,1.0s,mb5.0,baz=177,slow=9.4,SNR=66						
MATP				LR	LR	23 32 33.3	
	comp=Z,13μm,18.2s,MS5.5,baz=165,slow=34						
MATP	**Matopo**	**27.33**	**352**	P	**P**	**23 23 07.4**	**-3.5**
MATP				LR	LR	23 32 33.3	
SNAA	**Sanae**	**29.21**	**202**	P	**P**	**23 23 27.5**	**-0.2**
	comp=Z,6.5nm,0.8s,mb4.4,baz=72,slow=6.9,SNR=72						
SNAA	**Sanae**	**29.21**	**202**	↑*i*P	**P**	**23 23 14.9**	**-13**
SNAA				*e*		23 23 19.9	
SNAA				*e*		23 26 20.0	
SNAA				*e*		23 33 41.3	
SNAA				*e*		23 33 44.5	
SNAA				*e*		23 33 52.3	
SNAA				*e*		23 34 00.1	
SNAA				*e*		23 34 05.5	
VNA1	**Neumayer--Stat**	**30.15**	**206**	↑*i*P	**P**	**23 23 37.3**	**+1.2**
VNA1				*e*	pP	23 23 41.0	+1.8
VNA1				*e*		23 26 36.6	
VNA1				*e*		23 34 03.9	
VNA1				*e*		23 34 16.5	
VNA1				*e*		23 34 23.5	
VNA3	**Neumayer Olymp**	**30.84**	**205**	↑*i*P	**P**	**23 23 42.3**	**+0.1**
VNA3				*e*	pP	23 23 44.4	-0.8
VNA3				*e*		23 23 49.0	
VNA3				*e*		23 26 37.7	
VNA3				*e*		23 34 11.2	
VNA3				*e*		23 34 13.9	
VNA3				*e*		23 34 23.1	
TSUM	**Tsumeb**	**30.88**	**331**	P	**P**	**23 23 38.7**	**-3.8**
TSUM	**Tsumeb**	**30.88**	**331**	P	**P**	**23 23 38.9**	**-3.6**
	comp=Z,58nm,1.1s,mb5.3,baz=150,slow=9.7,SNR=56						
TSUM				LR	LR	23 35 06.2	
	comp=Z,23μm,18.0s,MS5.9,baz=155,slow=35						
TSUM	**Tsumeb**	**30.88**	**331**	*e*P	**P**	**23 23 37.7**	**-4.8**
	comp=Z,96nm,1.5s,mb5.4						
OPO	**Ambohidratompo**	**31.31**	**27**	P	**P**	**23 23 44.2**	**-2.1**
	comp=Z,15nm,0.9s,mb4.8,baz=186,slow=7.1,SNR=14						
LSZ	**Lusaka**	**32.45**	**352**	P	**P**	**23 23 53.0**	**-3.4**
	comp=Z,146nm,1.1s,mb5.7,baz=177,slow=9.3,SNR=108						
LSZ				LR	LR	23 35 38.2	
	comp=

PLCA Paso Flores 68.82 233 P **P** **23 28 29.2 -1.2**
comp=Z,16nm,0.9s,mb4.9,baz=134,slow=6.4,SNR=33
PLCA LR LR 23 56 22.1
comp=Z,2µm,18.6s,MS5.3,baz=130,slow=34
PLCA Paso Flores 68.82 233 P **P** **23 28 29.1 -1.4**
PLCA pmax pmax
comp=Z,30nm,1.0s
CPUP Villa Florida 71.02 252 P **P** **23 28 42.3 -1.7**
comp=Z,11nm,0.7s,mb4.9,baz=110,slow=5.7,SNR=31
BDFB Brasilia 72.35 266 P **P** **23 28 50.2 -1.8**
comp=Z,8.8nm,0.8s,mb4.7,baz=117,slow=4.0,SNR=12
BDFB LR LR 23 54 37.3
comp=Z,6µm,18.7s,MS5.9,baz=136,slow=31
CFAA Coronel Fontan 74.03 241 P **P** **23 29 00.3 -1.7**
comp=Z,1.4nm,0.9s,baz=135,slow=3.2,SNR=19
WSAR Wadi Sarin 74.30 25 P **P** **23 29 03.2 -0.3**
comp=Z,18nm,1.0s,mb5.0,baz=208,slow=4.9,SNR=12
WSAR Wadi Sarin 74.30 25 P **P** **23 29 03.2 -0.3**
KAD Karad 74.57 41 *eP* **P** **23 29 05.8 +0.7**
BOM Bombay 75.38 39 *ex* x 23 28 47.7
BOM AMb AMB 23 28 51.3
comp=Z,74nm,1.6s,mb5.4
POO Poona 75.50 40 *eP* **P** **23 29 09.0 -1.4**
TOO Toolangi 76.22 131⇑*iP* **P** **23 29 15.9 +1.4**
comp=Z,22nm,1.3s,mb4.9
TOO Toolangi 76.22 131 *iP* **P** **23 29 15.9 +1.4**
TOO pmax pmax
comp=Z,22nm,1.3s,mb4.9
PSI Prapat 76.34 70 P **P** **23 29 15.5 +0.2**
comp=Z,42nm,1.1s,mb5.3,baz=196,slow=7.8
TSI Tuntungan 76.65 69 *eP* **P** **23 29 16.7 -0.3**
HYB Hyderabad 76.68 45 *iP* **P** **23 29 20.0 +2.8**
HYB *eS* S 23 39 06.0 +2.1
HYB Hyderabad 76.68 45 *eP* **P** **23 29 17.0 -0.2**
HYB *eS* S 23 39 04.0 +0.1
EIL Elat 76.95 2 *eP* **P** **23 29 17.6 -1.0**
comp=Z,6µm,2.5s
EIL *ep*P pP 23 29 25.2 +3.2
STKA Stephens Creek 78.47 125⇑*iP* **P** **23 29 25.6 -1.5**
comp=Z,44nm,0.9s,mb5.4
STKA Stephens Creek 78.47 125 P **P** **23 29 26.0 -1.2**
comp=Z,34nm,0.7s,mb5.4,baz=232,slow=4.1,SNR=46
STKA LR LR 23 59 09.9
comp=Z,2µm,18.5s,MS5.5,baz=213,slow=32
FITZ Fitzroy Crossi 78.83 104 P **P** **23 29 28.9 -0.2**
comp=Z,37nm,1.2s,mb5.2,baz=200,slow=5.6,SNR=5.2
VIS Vishakhapatnam 79.29 49 *eP* **P** **23 29 32.4 +0.7**
KULM Kulim 79.35 70 *eP* **P** **23 29 30.4 -1.5**
ASF Jabal al Asfar 79.51 4 P **P** **23 29 32.7 -0.2**
comp=Z,14nm,1.1s,mb4.8,baz=77,slow=1.5,SNR=20
ASF LR LR 00 02 20.6
comp=Z,2µm,18.8s,MS5.4,baz=275,slow=34
CNB Canberra Magne 79.93 132⇑*iP* **P** **23 29 36.3 +1.2**
comp=Z,33nm,1.2s,mb5.1
ASPA Alice Springs 80.05 114 *eP* **P** **23 29 36.0 +0.2**
ASAR Alice Springs 80.06 114 P **P** **23 29 35.7 -0.1**
comp=Z,21nm,0.8s,mb5.1,baz=215,slow=5.2,SNR=45
AS31 Alice Springs 80.06 114 *eP* **P** **23 29 36.0 +0.2**
NGP Nagpur 80.13 43 *eP* **P** **23 29 36.4 +0.2**
NGP AMb AMB 23 29 45.3
comp=Z,25nm,0.5s,mb5.4
NGP *eS* S 23 39 41.9 +1.0
NGP *ex* x 00 02 07.4
comp=Z,2µm,17.7s
MMAI Mount Meron Ar 80.30 2 P **P** **23 29 34.9 -2.2**
comp=Z,11nm,0.9s,mb4.8,baz=191,slow=3.8,SNR=8.1
LVC Limon Verde 81.01 246 *eP* **P** **23 29 40.7 -0.3**
comp=Z,25nm,0.9s,mb5.2
BHL Bhannes 81.19 3 *eP* **P** **23 29 42.2 +0.3**
BHPL Bhopal 81.21 41 *eP* **P** **23 29 41.1 -0.9**
BHPL AMb AMB 23 29 43.2
comp=Z,42nm,1.1s,mb5.3
RPZ Rata Peaks 81.95 151 LR LR 00 04 10.0
comp=Z,2µm,19.1s,MS5.6,baz=221,slow=34
JBP Jabalpur 82.30 43⇑*iP* **P** **23 29 48.4 +0.6**
JBP *i* x x 23 40 08.4
KSM Kuching 82.78 80 *eP* **P** **23 29 51.5 +1.2**
IDI Anoyia 82.82 354 P **P** **23 29 49.6 -0.9**
comp=Z,14nm,1.0s,mb5.0,baz=172,slow=13,SNR=3.3
AJM Ajmer 82.87 37 *eP* **P** **23 29 49.4 -1.4**
AJM AMb AMB 23 29 55.8
comp=Z,38nm,1.8s,mb5.1
WRA Warramunga Arr 83.08 112 P **P** **23 29 50.3 -1.5**
comp=Z,20nm,1.0s,mb5.1,baz=216,slow=4.2,SNR=35
WB2 Warramunga Arr 83.08 112⇑*iP* **P** **23 29 51.2 -0.6**
WRAB Tennant Creek 83.09 112 P **P** **23 29 51.0 -0.9**
comp=Z,207nm,1.0s,mb6.1,SNR=9.8
WRAB Tennant Creek 83.09 112 *eP* **P** **23 29 51.4 -0.5**
WRAB *e**PP pP 23 30 00.1 +4.9
WRAB pmax pmax
comp=Z,117nm,1.2s,mb5.8
WRAB Tennant Creek 83.09 112 *eP* **P** **23 29 51.4 -0.5**
comp=Z,117nm,1.2s,mb5.8
WRAB *ep*P pP 23 30 00.1 +4.9
ISP Isparta 85.10 358 P **P** **23 30 01.8 -0.3**
ISP pmax pmax
comp=Z,130nm,1.6s,mb5.8
ISP Isparta 85.10 358⇑*eP* **P** **23 29 58.9 -3.2**
LPAZ La Paz 85.19 251 P **P** **23 30 01.9 -0.6**
comp=Z,1.6nm,0.7s,baz=152,slow=5.1,SNR=7.6
LPAZ LR LR 00 04 58.0
comp=Z,4µm,18.6s,MS5.8,baz=125,slow=34
LPAZ La Paz 85.19 251 P **P** **23 30 01.9 -0.6**
LPAZ LR LR 00 04 58.0
BOK Bokaro 85.67 47 *eP* **P** **23 30 04.2 -0.7**
MALT Malatya 85.70 5⇑*iP* **P** **23 30 05.1 0.0**
MALT Malatya 85.70 5 P **P** **23 30 04.3 -0.8**
MALT pmax pmax
comp=Z,44nm,1.3s,mb5.5
MALT Malatya 85.70 5⇑P **P** **23 30 05.1 0.0**
NDI New Delhi 85.88 38 *eP* **P** **23 30 05.0 -1.0**
HVZN Vizzini 85.92 346 P **P** **23 30 07.5 +1.3**
VAE Valguarnera 86.26 346 P **P** **23 30 07.7 -0.2**
comp=Z,15nm,1.0s,mb5.2,baz=7.1,slow=4.7,SNR=9.4
ABSA Djebel Ababsia 86.49 340 P **P** **23 30 10.5 +1.5**
CASM Ain Smara 86.71 339 P **P** **23 30 12.0 +1.9**
CKHR Kef el Ahmar 86.72 338 P **P** **23 30 13.5 +3.4**
MDT Midelt 86.77 329 P **P** **23 30 08.8 -1.6**
comp=Z,5.6nm,1.0s,mb4.8,baz=151,slow=5.5,SNR=13
CSLB Castelbuono 86.77 345 P **P** **23 30 12.4 +2.0**
comp=Z,110nm,1.3s,mb5.9
CKFL Kef-Lekhel 86.79 339 P **P** **23 30 12.0 +1.5**
SCLL Scilla 86.81 347 P **P** **23 30 12.7 +2.1**
comp=Z,74nm,1.4s,mb5.7
CMAH Djebel Manchou 86.84 340 P **P** **23 30 11.0 +0.3**
EOSO Osorio 86.91 319 P **P** **23 30 12.2 +1.2**
comp=Z,298nm,1.9s,mb6.2
SET Setif 86.92 338 P **P** **23 30 13.0 +1.9**
EFAM Famara 86.94 321 P **P** **23 30 12.5 +1.4**
comp=Z,629nm,2.7s,mb6.4
BR131 Keskin Array S 86.96 1 *eP* **P** **23 30 09.4 -1.9**
comp=Z,22nm,1.1s,mb5.3
BRTR Keskin Array B 86.96 1 P **P** **23 30 09.2 -2.1**
comp=Z,12nm,1.0s,mb5.1,baz=176,slow=7.4,SNR=41
ANTO Ankara 87.10 0⇑*iP* **P** **23 30 11.8 -0.2**
ANTO Ankara 87.10 0 P **P** **23 30 12.0 0.0**
ANTO pmax pmax
comp=Z,63nm,1.4s,mb5.7
ANTO Ankara 87.10 0⇑P **P** **23 30 11.8 -0.2**
DFRA Djebel Bou Aff 87.13 339 P **P** **23 30 12.5 +0.4**
KAKA Kakadu 87.22 106 *eP* **P** **23 30 11.0 -1.5**
comp=Z,42nm,1.1s,mb5.6
ETRT Tiaret 87.27 335 P **P** **23 30 14.5 +1.7**
SAML Samuel 87.36 260 *eP* **P** **23 30 11.2 -2.0**
comp=Z,33nm,1.8s,mb5.3
TIP Timpagrande 87.56 348 *eP* **P** **23 30 15.5 +1.3**
EMHD Djebel Mahouad 87.56 336 P **P** **23 30 16.2 +2.0**
EGOM La Gomera 87.73 318 P **P** **23 30 15.9 +0.9**
comp=Z,66nm,1.2s,mb5.7
EANR `Ain N'Sour 87.85 335 P **P** **23 30 17.0 +1.4**
ECHA Ech Chlef 87.96 335 P **P** **23 30 17.3 +1.2**
SMLA Simla 88.00 37 *eP* **P** **23 30 17.4 +1.0**
GNI Garni 88.04 9 P **P** **23 30 15.8 -0.6**
comp=Z,4.5nm,0.6s,mb4.9,baz=169,slow=7.9
GNI Garni 88.04 9⇓*eP* **P** **23 30 15.3 -1.2**
GNI pmax pmax
comp=Z,148nm,2.5s
GNI MLR MLR
comp=Z,2µm,20.0s
EBNR Beni Rached 88.04 335 P **P** **23 30 17.8 +1.3**
ABKT Ailbek 88.15 20 P **P** **23 30 15.6 -1.4**
comp=Z,225nm,1.4s,mb6.2,SNR=25
VAN Vannovskaya 88.16 20 *eP* **P** **23 30 15.8 -1.3**
VAN *eS* S 23 40 59.4
CUC Castrocucco 88.50 347 P **P** **23 30 18.6 -0.1**

CHTO Chiang Mai 88.77 60 *eP* **P** **23 30 18.8 -1.1**
CHTO *e**PP pP 23 30 26.4 +3.1
CHTO *e* 23 33 47.8
CHTO pmax pmax
comp=Z,20nm,1.1s,mb5.4
CHTO Chiang Mai 88.77 60 *eP* **P** **23 30 18.8 -1.1**
comp=Z,20nm,1.1s,mb5.4
CHTO *ep*P pP 23 30 26.4 +3.1
CHTO *e*PP PP 23 33 47.8 -1.0
BIA Bitola 88.82 351 *iP* **P** **23 30 19.2 -0.9**
BIA *i* X PP 23 33 48.5 -0.7
URZ Urewera 88.82 153 P **P** **23 30 18.8 -1.4**
comp=Z,4.7nm,0.5s,mb5.1,baz=291,slow=21,SNR=7.7
URZ LR LR 00 05 31.9
comp=Z,1µm,21.6s,MS5.4,baz=23,slow=32
URZ Urewera 88.82 153 P **P** **23 30 18.8 -1.4**
URZ LR LR 00 05 31.9
OHR Ohrid 88.96 351 *iP* **P** **23 30 21.3 +0.5**
OHR *i* X PP 23 33 47.3 -3.0
VAY Valandovo 89.00 352 *iP* **P** **23 30 19.7 -1.3**
VAY *i* X PP 23 33 48.4 -2.3
KDZ Kurdzhali 89.11 355 *eP* **P** **23 30 20.1 -1.4**
AKH Akhalkalaki 89.16 8 P **P** **23 30 22.8 +1.1**
VSL Villasalto 89.17 342 P **P** **23 30 22.6 +0.8**
MMB Musomiste 89.17 353 *eP* **P** **23 30 20.0 -1.8**
RZN Rozhen 89.19 354 *eP* **P** **23 30 22.0 +0.1**
DGRG David-gareji 89.39 10 P **P** **23 30 24.2 +1.3**
STIP Stip 89.40 352 *iP* **P** **23 30 23.2 +0.2**
STIP *i* X PP 23 33 53.2 -0.7
KKB Krupnik 89.50 353 *eP* **P** **23 30 23.0 -0.3**
DIM Dimitrovgrad 89.50 355 *eP* **P** **23 30 24.0 +0.6**
MTA Mtatsminda 89.57 9 P **P** **23 30 23.0 -0.7**
TBLG Delisi 89.60 9 P **P** **23 30 23.2 -0.6**
PLD Plovdiv 89.61 354 *eP* **P** **23 30 22.1 -1.8**
FG4 Candela 89.66 347 P **P** **23 30 25.3 +1.2**
FG4 pmax pmax
comp=Z,332nm,1.7s,mb6.4
FG4 Candela 89.66 347 P **P** **23 30 25.3 +1.2**
comp=Z,332nm,1.7s,mb6.4
SKO Skopje 89.75 352 *iP* **P** **23 30 25.9 +1.3**
SKO *i* X PP 23 33 55.5 -1.1
GOR Gori 89.79 9 P **P** **23 30 26.1 +1.4**
PSB1 Pescosannita 89.86 347 P **P** **23 30 25.1 +0.1**
DGI Dorgali Grotta 89.91 343 P **P** **23 30 25.6 +0.3**
EBER Berja 89.93 332⇑P **P** **23 30 26.0 +0.6**
comp=Z,574nm,2.4s,mb6.5
RFI Roccamonfina 90.06 346 P **P** **23 30 27.9 +1.9**
comp=Z,46nm,2.3s,mb5.4
PGB Panagyurishte 90.09 354 *eP* **P** **23 30 25.0 -1.1**
CTA Charters Tower 90.19 121 P **P** **23 30 26.3 -0.3**
comp=Z,15nm,1.2s,mb5.2,baz=239,slow=5.9,SNR=3.2
SHL Shillong 90.20 51 *eP* **P** **23 30 27.0 +0.4**
SHL AMb AMB 23 30 39.3
comp=Z,196nm,1.7s,mb6.2
SHL *e*SKS 23 41 04.0
VTS Vitosha 90.20 353 *eP* **P** **23 30 26.0 -0.7**
EMIJ Mijas 90.23 331 P **P** **23 30 25.9 -0.9**
comp=Z,263nm,3.2s
EMUR La Murta 90.29 334⇑P **P** **23 30 28.0 +0.9**
comp=Z,128nm,1.4s,mb6.1
ONI Oni 90.31 8 P **P** **23 30 27.9 +0.8**
ERON Agron 90.33 332 P **P** **23 30 29.0 +1.8**
comp=Z,12nm,1.0s,mb5.2
EJIF Jimena Fronter 90.36 330 P **P** **23 30 28.4 +1.0**
CII Carovilli 90.42 346 P **P** **23 30 29.2 +1.5**
comp=Z,1µm,3.6s
ECOG Cogollos-Vega 90.49 332 P **P** **23 30 28.8 +0.8**
ECOG pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
ECOG Cogollos-Vega 90.49 332 P **P** **23 30 28.8 +0.8**
comp=Z,6.5nm,0.9s,mb5.0
ZEI Tsey 90.55 8 *eP* **P** **23 30 30.0 +1.7**
ZEI pmax pmax
comp=Z,28nm,1.0s,mb5.5
EHUE Huescar 90.68 333 P **P** **23 30 29.8 +0.9**
EHUE pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
EHUE Huescar 90.68 333 P **P** **23 30 29.8 +0.9**
comp=Z,8.5nm,1.3s,mb4.9
CERT Cerreto 90.86 345 P **P** **23 30 29.6 -0.1**
ESPR Espera 90.87 330 P **P** **23 30 30.5 +0.7**
comp=Z,499nm,4.4s
SOC Sochi 91.02 5*c iP* **P** **23 30 30.3 -0.2**
SOC *e* 23 34 03.8
SOC *e*S 23 40 57.0
SOC *e*PS PS 23 42 33.9 -3.0
SOC *e*SS SS 23 47 34.1 +2.7
SOC pmax pmax
comp=Z,110nm,1.7s,mb5.9
SOC MLR MLR
comp=Z,687nm,16.0s,MS5.2
MAK Makhachkala 91.14 11*c iP* **P** **23 30 32.3 +1.3**
MAK *i* 23 30 32.5
MAK *i* 23 34 06.6
MAK *i* S 23 41 02.7
MAK *i* 23 41 27.1
MAK pmax pmax
comp=Z,163nm,1.6s,mb6.1
MAK pmax pmax
comp=N,221nm,1.5s
MAK pmax pmax
comp=E,166nm,1.6s
MAK pmax pmax
comp=Z,771nm,3.1s
MAK smax
comp=N,2µm,9.2s
MAK smax
comp=E,901nm,7.3s
MAK MLR MLR
comp=N,2µm,21.0s
MAK MLR MLR
comp=Z,2µm,21.0s,MS5.6
MAK MLR MLR
comp=E,793nm,13.0s
AQU L'Aquila 91.18 346 *eP* **P** **23 30 31.4 +0.2**
AQU *e**PP pP 23 30 36.8 +2.2
AQU *e* 23 34 07.9
AQU pmax pmax
comp=Z,81nm,1.4s,mb5.9
AQU L'Aquila 91.18 346 *eP* **P** **23 30 31.4 +0.2**
comp=Z,81nm,1.4s,mb5.9
AQU *ep*P pP 23 30 36.8 +2.2
AQU *e*PP PP 23 34 07.9 -0.1
KIV Kislovodsk 91.61 7 P **P** **23 30 32.9 -0.3**
comp=Z,308nm,1.3s,mb6.5,SNR=11
KIV Kislovodsk 91.61 7 *eP* **P** **23 30 31.3 -1.9**
KIV *e* 23 34 08.8
KIV *i* S 23 41 09.6
KIV *i* PS PS 23 42 45.8 +2.4
KIV pmax pmax
comp=Z,93nm,1.2s,mb6.0
KIV Kislovodsk 91.61 7 *e*Pr 23 30 31.3
EADA Adamuz 91.63 332⇑P **P** **23 30 33.7 +0.4**
comp=Z,235nm,2.3s,mb6.1
TIRR Tirgusor 91.76 357 P **P** **23 30 33.3 -0.6**
TIRR Tirgusor 91.76 357 *eP* **P** **23 30 33.2 -0.6**
ECHE Chera 91.83 335 P **P** **23 30 35.1 +0.9**
ECHE pmax pmax
comp=Z,17nm,1.0s,mb5.3
ECHE Chera 91.83 335 P **P** **23 30 35.1 +0.9**
comp=Z,17nm,1.0s,mb5.3
BBLS Bajina Basta - 91.84 350 *iP* **P** **23 30 35.3 +1.1**
EMIN Mina Concepcio 91.96 330 P **P** **23 30 35.5 +0.7**
comp=Z,269nm,3.2s
DIVS Divcibare 92.00 351 *iP* **P** **23 30 35.9 +0.9**
EGRO El Granado 92.03 329 P **P** **23 30 36.3 +1.1**
comp=Z,262nm,2.6s,mb6.1
SVIS Svilajnac 92.07 352⇓*iP* **P** **23 30 34.5 -0.8**
ANN Anapa 92.12 3 *eP* **P** **23 30 34.1 -1.5**
ANN *e* 23 34 15.2
ANN pmax pmax
comp=Z,62nm,1.3s,mb5.8
ANN MLR MLR
comp=N,617nm,17.0s,MS5.2
ANN MLR MLR
comp=E,474nm,17.0s,MS5.2
ANN MLR MLR
comp=Z,155nm,17.0s,MS4.5
PGF Pioggiola 92.18 343 *eP* **P** **23 30 35.7 -0.1**
comp=Z,194nm,1.8s,mb5.8
PGF Pioggiola 92.18 343 *eP* **P** **23 30 35.7 -0.1**
PGF pmax pmax
comp=Z,97nm,1.8s,mb5.8
PGF Pioggiola 92.18 343 *eP* **P** **23 30 35.7 -0.1**

comp=Z,97nm,1.8s,mb5.8
MURB Monte Urbino 92.22 345 P **P** **23 30 36.2 +0.2**
ARV Arcevia 92.37 346 P **P** **23 30 36.2 -0.5**
comp=Z,55nm,1.6s,mb5.6
GRFL Gerfalco 92.38 344 P **P** **23 30 37.7 +1.0**
comp=Z,39nm,1.2s,mb5.6
EMOS Mosqueruela 92.40 335 P **P** **23 30 38.3 +1.4**
comp=Z,104nm,1.6s,mb5.9
CFR Carcaliu 92.49 357⇑*iP* **P** **23 30 37.8 +0.5**
PBEJ Beja 92.60 329 *eP* **P** **23 30 38.9 +1.1**
comp=Z,26nm,1.6s,mb5.4
CSNT Castellina Chi 92.64 345 P **P** **23 30 38.1 +0.2**
ERTA Horta de San J 92.73 336 P **P** **23 30 39.2 +0.8**
comp=Z,447nm,3.3s
GOF Gofitskoye 92.73 7 *eP* **P** **23 30 34.0 -4.4**
ESDC Sonseca Array 92.81 333 P **P** **23 30 36.1 -2.7**
comp=Z,7.5nm,1.1s,mb5.0,baz=154,slow=4.8,SNR=14
ESDC Sonseca Array 92.81 333 P **P** **23 30 39.4 +0.7**
comp=Z,58nm,2.6s,mb5.5
ESLA Sonseca Array 92.81 333 *eP* **P** **23 30 39.0 +0.3**
comp=Z,35nm,1.9s,mb5.5
EPOB Poblet 92.90 337 P **P** **23 30 39.6 +0.5**
comp=Z,331nm,3.7s
VOIR 92.90 355⇑*iP* **P** **23 30 37.8 -1.4**
VOIR 92.90 355⇑P **P** **23 30 37.9 -1.3**
MLR Muntele Rosu 92.90 355 P **P** **23 30 38.1 -1.0**
comp=Z,46nm,1.3s,mb5.8,baz=118,slow=3.1,SNR=23
MLR PP PP 23 34 21.0 -0.6
comp=Z,2.9nm,0.9s,baz=117,slow=7.1,SNR=4.2
MLR LR LR 00 13 16.7
comp=Z,2µm,21.8s,MS5.5,baz=54,slow=36
MLR Muntele Rosu 92.90 355⇑*iP* **P** **23 30 38.9 -0.3**
MLR Muntele Rosu 92.90 355 P **P** **23 30 38.1 -1.1**
MLR 23 34 21.0
MLR pmax pmax
comp=Z,47nm,1.3s
MLR pmax pmax
comp=Z,3.0nm,0.9s
MLR MLR MLR
comp=Z,2µm,21.8s
MLR Muntele Rosu 92.90 355 P **P** **23 30 38.7 -0.5**
EBAD Badajoz 92.96 330⇑P **P** **23 30 40.4 +1.0**
comp=Z,169nm,2.4s,mb6.0
EVO Evora 93.11 329 *eP* **P** **23 30 40.1 0.0**
comp=Z,70nm,1.4s,mb5.6
EVO *e*R
comp=Z,2µm,18.2s
LSA Lhasa 93.18 48 P **P** **23 30 40.1 -0.3**
PLOR Plostina 93.22 356⇑*iP* **P** **23 30 39.9 -0.8**
VRI Vrincioaia 93.24 356⇑*iP* **P** **23 30 39.3 -1.4**
VRI Vrincioaia 93.24 356 P **P** **23 30 39.7 -1.0**
BZS Buzias 93.34 352⇓*iP* **P** **23 30 38.9 -2.3**
BZS Buzias 93.34 352 P **P** **23 30 40.8 -0.4**
LMR La Mourre 93.45 341 *eP* **P** **23 30 41.5 -0.2**
comp=Z,151nm,1.6s,mb5.9
LMR La Mourre 93.45 341 *eP* **P** **23 30 41.5 -0.2**
LMR pmax pmax
comp=Z,76nm,1.6s,mb5.9
LMR La Mourre 93.45 341 *eP* **P** **23 30 41.5 -0.2**
comp=Z,76nm,1.6s,mb5.9
EJON La Jonquera 93.46 338 P **P** **23 30 41.9 +0.2**
comp=Z,72nm,1.6s,mb5.8
GSCL Gusciola 93.61 344 P **P** **23 30 43.3 +0.9**
comp=Z,24nm,1.2s,mb5.5
FRF La Foret Royal 93.64 341 *eP* **P** **23 30 42.2 -0.4**
comp=Z,130nm,1.6s,mb5.8
FRF La Foret Royal 93.64 341 *eP* **P** **23 30 42.2 -0.4**
FRF pmax pmax
comp=Z,65nm,1.6s,mb5.8
FRF La Foret Royal 93.64 341 *eP* **P** **23 30 42.2 -0.4**
comp=Z,65nm,1.6s,mb5.8
ESAC San Caprasio 93.66 336 P **P** **23 30 42.5 -0.2**
comp=Z,41nm,1.3s,mb5.7
SBF Sospel 93.76 342 *eP* **P** **23 30 42.9 -0.2**
comp=Z,119nm,1.5s,mb5.8
SBF Sospel 93.76 342 *eP* **P** **23 30 42.9 -0.2**
SBF pmax pmax
comp=Z,59nm,1.5s,mb5.8
SBF Sospel 93.76 342 *eP* **P** **23 30 42.9 -0.2**
comp=Z,60nm,1.5s,mb5.8
SISC Sisak 93.79 349 iP 23 30 43.6
EGRA Graus 93.89 337 P **P** **23 30 43.2 -0.5**
comp=Z,56nm,1.7s,mb5.7
BOJS Bojanci 93.98 348 *eP* **P** **23 30 45.0 +0.9**
BOJS *e* 23 30 51.0
BOJS *e*PP PP 23 34 27.6 -2.4
BOJS *e*S 23 41 23.5
BOJS *e* 23 43 08.5
BOJS *e*SS SS 23 48 19.6 +5.8
PCBR Castelo Branco 94.10 330 *eP* **P** **23 30 44.8 +0.1**
BOB Bobbio (Coli) 94.23 344 P **P** **23 30 46.5 +1.2**
BOB pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
BOB Bobbio (Coli) 94.23 344 P **P** **23 30 46.5 +1.2**
comp=Z,8.2nm,0.8s,mb5.2
PKSM Moragy 94.24 350⇑*iP* **P** **23 30 49.8 +4.5**
PKSM Moragy 94.24 350⇑P **P** **23 30 45.6 +0.3**
PKSM Moragy 94.24 350 P **P** **23 30 46.0 +0.7**
SMRF Simiane la Rot 94.27 341 *eP* **P** **23 30 46.0 +0.5**
CEY Cerknica 94.33 347 *eP* **P** **23 30 46.6 +0.9**
EBIE Bielsa 94.39 337 P **P** **23 30 46.7 +0.7**
comp=Z,18nm,1.4s,mb5.3
TRI Trieste 94.40 347 P **P** **23 30 46.0 -0.1**
DRGR 94.42 353 P **P** **23 30 46.2 +0.1**
MTLF Montolieu 94.47 338 *eP* **P** **23 30 46.3 -0.1**
IAS Iasi 94.52 357 P **P** **23 30 46.4 -0.2**
DOBS Dobrina 94.58 348 *iP* **P** **23 30 46.3 -0.6**
LJU Ljubljana 94.61 347 *eP* **P** **23 30 47.5 +0.5**
LJU *e*PP PP 23 34 33.5 -1.4
LJU *e*S 23 41 27.2
LJU *e* 23 43 14.3
MTE Manteigas 94.62 330 *eP* **P** **23 30 46.1 -1.0**
MTE Manteigas 94.62 330 *e*PP PP 23 34 32.1 -2.9
MTE *e*SKS 23 41 23.5
EPF Esparros 94.66 337 *eP* **P** **23 30 47.1 -0.2**
comp=Z,97nm,1.6s,mb5.7
EPF Esparros 94.66 337 *eP* **P** **23 30 47.1 -0.2**
EPF pmax pmax
comp=Z,49nm,1.6s,mb5.7
EPF Esparros 94.66 337 *eP* **P** **23 30 47.1 -0.2**
comp=Z,49nm,1.6s,mb5.7
VOY Vojsko 94.69 347 *eP* **P** **23 30 47.9 +0.5**
VOY *e* 23 30 55.2
VOY *e* 23 31 00.4
MBDF Montbardon 94.73 342 *eP* **P** **23 30 47.2 -0.4**
LASF Ste Croix 94.76 340 *eP* **P** **23 30 47.4 -0.3**
comp=Z,41nm,1.5s,mb5.3
ETSF Etsaut 94.78 336 *eP* **P** **23 30 47.6 -0.2**
comp=Z,116nm,1.6s,mb5.8
ETSF Etsaut 94.78 336 *eP* **P** **23 30 47.6 -0.2**
ETSF pmax pmax
comp=Z,58nm,1.6s,mb5.8
ETSF Etsaut 94.78 336 *eP* **P** **23 30 47.6 -0.2**
comp=Z,58nm,1.6s,mb5.8
ROBS Robic 94.96 347 *eP* **P** **23 30 49.1 +0.5**
ROBS *e*PP PP 23 34 36.1 -1.5
ROBS *e*S 23 41 29.9
BNI Bardonecchia 95.06 342 P **P** **23 30 49.3 +0.2**
BNI pmax pmax
comp=Z,38nm,1.2s,mb5.7
BNI Bardonecchia 95.06 342 *eP* **P** **23 30 49.1 0.0**
comp=Z,38nm,1.3s,mb5.7
BURAR Bucovina Array 95.06 355⇑P **P** **23 30 49.8 +0.7**
OBKA Obir 95.06 348⇑*iP* **P** **23 30 47.4 -1.7**
comp=Z,32nm,1.5s,mb5.5
CTI Castel Tesino 95.07 345 P **P** **23 30 50.6 +1.5**
ORIF Oris-en-Rattie 95.10 341 *eP* **P** **23 30 48.7 -0.6**
comp=Z,18nm,1.0s,mb5.2
ORIF *e*R
comp=Z,9µm,22.2s
ORIF Oris-en-Rattie 95.10 341 *eP* **P** **23 30 48.7 -0.6**
ORIF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
ORIF Oris-en-Rattie 95.10 341 *eP* **P** **23 30 48.7 -0.6**
comp=Z,8.8nm,1.0s,mb5.8
PERS Pernice 95.10 348 *eP* **P** **23 30 49.9 +0.7**
PTCC Patocco-Chiusa 95.14 347 P **P** **23 30 50.2 +0.7**
comp=Z,22nm,1.3s,mb5.4
SJPF Ste Jean 95.16 336 *eP* **P** **23 30 49.1 -0.5**
comp=Z,78nm,1.5s,mb5.6
SJPF Ste Jean 95.16 336 *eP* **P** **23 30 49.1 -0.5**
SJPF pmax pmax
comp=Z,39nm,1.5s,mb5.6
SJPF Ste Jean 95.16 336 *eP* **P** **23 30 49.1 -0.5**
comp=Z,39nm,1.5s,mb5.6

VIVF	**Saint-Julien-I**	**95.31 340**	*e*P		**P**	**23 30 49.8**	**-0.4**
	comp=Z,76nm,1.9s,mb5.5						
VIVF	**Saint-Julien-I**	**95.31 340**	*e*P		**P**	**23 30 49.8**	**-0.4**
VIVF			pmax		pmax		
	comp=Z,38nm,1.9s,mb5.5						
VIVF	**Saint-Julien-I**	**95.31 340**	*e*P		**P**	**23 30 49.8**	**-0.4**
	comp=Z,38nm,1.9s,mb5.5						
EALK	**Alkurruntz**	**95.34 336**	P		**P**	**23 30 50.5**	**+0.1**
	comp=Z,3.8nm,1.6s,mb4.6						
BUD	**Budapest**	**95.45 351⇑**	*e*P		**P**	**23 30 51.1**	**+0.2**
LPG	**La Plagne**	**95.47 342**	*e*P		**P**	**23 30 50.6**	**-0.3**
LPL	**La Plagne**	**95.49 342**	*e*P		**P**	**23 30 50.7**	**-0.3**
QIZ	**Qiongzhong**	**95.56 68**	P		**P**	**23 30 54.9**	**+3.5**
QIZ			SKS			23 41 28.4	
QIZ			S			23 42 08.7	
QIZ			XS	sS		23 42 19.2	+5.4
QIZ			SS	SS		23 48 34.3	-2.0
QIZ			LR	LR			
	comp=N,930nm,25.5s,MS5.4						
QIZ			LR	LR			
	comp=E,1μm,26.0s,MS5.4						
QIZ			LR	LR			
	comp=Z,3μm,30.1s,MS5.5						
PBRG	**Braganca**	**95.62 332**	*e*P		**P**	**23 30 53.9**	**+2.3**
ARSA	**Arzberg**	**95.65 348⇑**	*i*P		**P**	**23 30 52.1**	**+0.3**
	comp=Z,23nm,1.4s,mb5.4,SNR=16						
SEST	**Monte Rota**	**95.66 346**	P		**P**	**23 30 53.4**	**+1.6**
PSZ	**Piszkesteto**	**95.79 351⇑**	*e*P		**P**	**23 30 52.3**	**-0.1**
PSZ	**Piszkesteto**	**95.79 351**	P		**P**	**23 30 51.3**	**-1.1**
PSZ			pmax		pmax		
	comp=Z,62nm,1.8s,mb5.7						
PSZ	**Piszkesteto**	**95.79 351**	P		**P**	**23 30 52.6**	**+0.2**
KMI	**Kunming**	**95.86 59**	P		**P**	**23 30 56.1**	**+3.4**
KMI			AP		pP	23 31 00.8	+4.7
KMI			XP		sP	23 31 03.3	+6.0
KMI			PP		PP	23 34 47.5	+2.8
KMI			PPP			23 36 56.3	
KMI			SKS			23 41 28.1	
KMI			S			23 42 11.1	
KMI			XS		sS	23 42 20.4	+4.0
KMI			SP		SP	23 43 28.0	-1.0
KMI			SS		SS	23 48 41.3	+0.7
KMI			SSS			23 52 31.6	
KMI			AMB		AMB		
	comp=Z,110nm,5.6s						
KMI			LR		LR		
	comp=N,1μm,19.7s,MS5.4						
KMI			LR		LR		
	comp=E,640nm,21.3s,MS5.4						
KMI			LR		LR		
	comp=Z,2μm,29.3s						
SOP	**Sopron**	**95.94 349⇓**	*e*P		**P**	**23 30 52.9**	**-0.2**
CAF	**Calviac**	**95.99 339**	*e*P		**P**	**23 30 52.8**	**-0.5**
DAVOX	**Davos**	**96.09 344**	P		**P**	**23 30 53.1**	**-0.6**
	comp=Z,3.4nm,0.9s,mb4.8,baz=231,slow=10,SNR=5.0						
WTTA	**Wattenberg**	**96.25 346**	*i*P		**P**	**23 30 51.0**	**-3.5**
	comp=Z,28nm,1.5s,mb5.5,SNR=7.4						
WTTA	**Wattenberg**	**96.25 346**	*i*P		**P**	**23 30 54.7**	**+0.2**
	comp=Z,28nm,1.5s,mb5.5,SNR=7.4						
WTTA	**Wattenberg**	**96.25 346**	*i*P		**P**	**23 30 51.0**	**-3.5**
WTTA			pmax		pmax		
	comp=Z,28nm,1.5s,mb5.5						
CONA	**Conrad Observa**	**96.27 349⇑**	*i*P		**P**	**23 30 54.3**	**-0.3**
	comp=Z,18nm,1.5s,mb5.3,SNR=12						
KECS	**Kecovo**	**96.29 352**	*i* P		**P**	**23 30 54.4**	**-0.3**
KECS			pmax		pmax		
	comp=Z,6.0nm,1.5s,mb4.8						
KECS	**Kecovo**	**96.29 352**	*i* P		**P**	**23 30 54.4**	**-0.3**
	comp=Z,5.9nm,1.5s,mb4.8						
KECS			*e*PP		PP	23 34 46.4	-1.6
LFF	**La Frestale**	**96.33 338**	*e*P		**P**	**23 30 53.9**	**-1.0**
ZST	**Bratislava**	**96.38 350**	*e*P		**P**	**23 30 55.4**	**+0.3**
	comp=Z,44nm,1.8s,mb5.6						
ZST			LR		LR		
	comp=Z,400nm,17.8s,MS5.0						
MOA	**Molln**	**96.41 348⇑**	*i*P		**P**	**23 30 55.2**	**-0.1**
	comp=Z,30nm,1.6s,mb5.5						
VYHS	**Vyhne**	**96.47 351**	*e*P		**P**	**23 30 54.5**	**-1.0**
VYHS			*e*			23 31 01.4	
VYHS			*e*PP		PP	23 34 46.4	-3.0
VYHS	**Vyhne**	**96.47 351**	*e*P		**P**	**23 30 54.5**	**-1.0**
VYHS			*e*			23 31 01.4	
VYHS			*e*			23 34 46.4	
VYHS			pmax		pmax		
	comp=Z,19nm,1.8s,mb5.2						
VYHS			MLR		MLR		
	comp=Z,700nm,21.2s,MS5.1						
VYHS	**Vyhne**	**96.47 351**	*e*P		**P**	**23 30 54.5**	**-1.0**
	comp=Z,19nm,1.8s,mb5.2						
VYHS			*e*			23 31 01.4	
VYHS			*e*PP		PP	23 34 46.4	-3.0
VYHS			LR		LR		
	comp=Z,700nm,21.2s,MS5.1						
RJF	**Les Rejaudoux**	**96.48 338**	*e*P		**P**	**23 30 54.9**	**-0.7**
RJF			*e*R				
	comp=Z,4μm,22.2s						
RJF	**Les Rejaudoux**	**96.48 338**	*e*P		**P**	**23 30 54.9**	**-0.7**
RJF			LR		LR		
	comp=Z,4μm,22.3s,MS5.9						
KOLL	**Kolacno**	**96.60 351**	*e*P		**P**	**23 30 55.6**	**-0.5**
KOLL			*e*			23 31 03.1	
KOLL			*e*PP		PP	23 34 47.3	-3.1
CABF	**La Chapelle**	**96.67 342**	*e*P		**P**	**23 30 55.9**	**-0.5**
	comp=Z,79nm,1.6s,mb5.6						
CABF	**La Chapelle**	**96.67 342**	*e*P		**P**	**23 30 55.9**	**-0.5**
CABF			pmax		pmax		
	comp=Z,39nm,1.6s,mb5.6						
CABF	**La Chapelle**	**96.67 342**	*e*P		**P**	**23 30 55.9**	**-0.5**
	comp=Z,39nm,1.6s,mb5.6						
STHS	**Stebnicka Huta**	**97.15 353**	*e*P		**P**	**23 30 58.3**	**-0.3**
STHS			pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.9						
STHS	**Stebnicka Huta**	**97.15 353**	*e*P		**P**	**23 30 58.3**	**-0.3**
	comp=Z,4.9nm,1.1s,mb4.8						
STHS			*e*			23 31 10.9	
FUR	**Furstenfeldbru**	**97.19 346**	*e*P		**P**	**23 30 59.6**	**+0.9**
FUR			*e*PP		PP	23 34 50.5	-4.4
SMF	**Signal de Mont**	**97.19 340**	*e*P		**P**	**23 30 58.1**	**-0.7**
	comp=Z,38nm,1.4s,mb5.3						
SMF	**Signal de Mont**	**97.19 340**	*e*P		**P**	**23 30 58.1**	**-0.7**
SMF			pmax		pmax		
	comp=Z,19nm,1.4s,mb5.3						
SMF	**Signal de Mont**	**97.19 340**	*e*P		**P**	**23 30 58.1**	**-0.7**
	comp=Z,19nm,1.4s,mb5.3						
TCF	**Toulx Ste Croi**	**97.23 339**	*e*P		**P**	**23 30 58.2**	**-0.8**
	comp=Z,80nm,1.9s,mb5.5						
TCF	**Toulx Ste Croi**	**97.23 339**	*e*P		**P**	**23 30 58.2**	**-0.8**
TCF			pmax		pmax		
	comp=Z,40nm,1.9s,mb5.5						
TCF	**Toulx Ste Croi**	**97.23 339**	*e*P		**P**	**23 30 58.2**	**-0.8**
	comp=Z,40nm,1.9s,mb5.5						
NIE	**Niedzica**	**97.23 352**	*e*P		**P**	**23 31 00.3**	**+1.3**
KWP	**Kalwaria**	**97.24 354**	*e*P		**P**	**23 30 59.4**	**+0.4**
KWP			*e*PP		PP	23 34 56.4	+1.1
KWP			*e*SKSac		SKSac	23 41 40.7	+4.4
KWP			L			00 16 32.7	
	comp=Z,1.6nm,21.8s						
KWP	**Kalwaria**	**97.24 354**	*e*P		**P**	**23 30 59.4**	**+0.4**
KWP			*e*PP		PP	23 34 56.4	+1.1
KWP			*e*SKSac		SKSac	23 41 40.7	+4.4
FRU	**Bishkek**	**97.40 30**	*e*P		**P**	**23 31 00.0**	**+0.3**
FRU			*e*			23 34 53.5	
FRU			*e*			23 41 42.0	
FRU			pmax		pmax		
	comp=Z,160nm,3.1s						
AVF	**Avril sur Loir**	**97.44 340**	*e*P		**P**	**23 30 58.9**	**-1.0**
	comp=Z,34nm,1.5s,mb5.3						
AVF	**Avril sur Loir**	**97.44 340**	*e*P		**P**	**23 30 58.9**	**-1.0**
AVF			pmax		pmax		
	comp=Z,17nm,1.5s,mb5.2						
AVF	**Avril sur Loir**	**97.44 340**	*e*P		**P**	**23 30 58.9**	**-1.0**
	comp=Z,17nm,1.5s,mb5.2						
GERES	**GERESS Array B**	**97.47 348**	P		**P**	**23 30 59.1**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=162,slow=5.6,SNR=9.9						
GERES			PP		PP	23 34 54.2	-2.9
	comp=Z,2.2nm,1.0s,baz=187,slow=8.1,SNR=5.4						
GERES			LR		LR	00 18 32.3	
	comp=Z,1μm,18.6s,MS5.4,baz=162,slow=38						
GERES	**GERESS Array B**	**97.47 348**	P		**P**	**23 30 59.1**	**-0.9**
GERES						23 34 54.2	
VRAC	**Vranov**	**97.53 349**	P		**P**	**23 30 59.6**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.6,baz=187,slow=6.8,SNR=5.9						
SSF	**Saint Saulge**	**97.66 340**	*e*P		**P**	**23 31 00.0**	**-0.9**
TREC	**Trest**	**97.66 349**	AMS		AMS	00 21 50.0	
	comp=Z,3μm,15.8s						
HINF	**Hinteralfeld**	**97.66 343**	*e*P		**P**	**23 31 00.2**	**-0.7**
	comp=Z,47nm,1.6s,mb5.5						
HINF	**Hinteralfeld**	**97.66 343**	*e*P		**P**	**23 31 00.2**	**-0.7**
HINF			pmax		pmax		
	comp=Z,23nm,1.6s,mb5.5						
HINF	**Hinteralfeld**	**97.66 343**	*e*P		**P**	**23 31 00.2**	**-0.7**
	comp=Z,23nm,1.6s,mb5.5						
KHC	**Kasperske Hory**	**97.76 347**	*e*P		**P**	**23 31 01.2**	**-0.2**
KHC			*e*PP		PP	23 34 55.3	-4.0
KHC			*e*SKS			23 41 40.6	
KHC			*e*SP		SP	23 43 51.2	+1.4
KHC			AMS		AMS	00 22 40.0	
	comp=Z,2μm,14.9s						
LOR	**Lormes**	**97.77 341**	*e*P		**P**	**23 31 00.7**	**-0.7**
LOR			*e*R				
	comp=Z,4μm,19.8s						
LOR	**Lormes**	**97.77 341**	*e*P		**P**	**23 31 00.7**	**-0.7**
LOR			LR		LR		
	comp=Z,4μm,19.8s,MS5.9						
BFO	**Black Forest**	**97.87 344**	*e*PP		PP	23 34 56.3	-3.8
OKC	**Ostrava-Krasne**	**97.87 351**	*e*P		**P**	**23 31 01.8**	**0.0**
OKC			*e*SP		SP	23 43 51.1	+0.2
OKC			AMS		AMS	00 20 30.0	
	comp=Z,3μm,16.2s						
OKC	**Ostrava-Krasne**	**97.87 351**	*e*P		**P**	**23 31 01.8**	**0.0**
OKC			*e*			23 43 51.1	
WET	**Wettzell**	**97.88 347**	*e*P		**P**	**23 31 02.2**	**+0.3**
	comp=Z,36nm,1.7s,mb5.6						
WET			*e*PP		PP	23 34 56.4	-3.8
WET	**Wettzell**	**97.88 347**	*e*P		**P**	**23 31 02.2**	**+0.3**
WET			*e*			23 34 56.4	
WET			pmax		pmax		
	comp=Z,36nm,1.7s,mb5.6						
HAU	**Haudompre**	**97.94 343**	*e*P		**P**	**23 31 01.3**	**-0.9**
	comp=Z,15nm,1.0s,mb5.2						
HAU			*e*R				
	comp=Z,4μm,20.8s						
HAU	**Haudompre**	**97.94 343**	*e*P		**P**	**23 31 01.3**	**-0.9**
HAU			pmax		pmax		
	comp=Z,7.0nm,1.0s,mb5.2						
HAU			MLR		MLR		
	comp=Z,4μm,20.8s,MS5.9						
HAU	**Haudompre**	**97.94 343**	*e*P		**P**	**23 31 01.3**	**-0.9**
	comp=Z,7.4nm,1.0s,mb5.2						
HAU			LR		LR		
	comp=Z,4μm,20.8s,MS5.9						
AKASG	**Malin Array Be**	**97.97 358**	P		**P**	**23 31 00.7**	**-1.7**
	comp=Z,0.2nm,0.2s,baz=197,slow=6.0,SNR=5.5						
AKASG			PP		PP	23 34 54.2	-6.8
	comp=Z,0.2nm,0.3s,baz=187,slow=6.5,SNR=2.4						
AKASG	**Malin Array Be**	**97.97 358**	P		**P**	**23 31 00.7**	**-1.7**
AKASG			PP		PP	23 34 54.2	-6.8
OJC	**Ojcow**	**98.08 352**	*e*P		**P**	**23 31 02.6**	**-0.2**
OJC			L			00 18 02.3	
	comp=Z,7.7nm,19.6s						
OJC			*e*PP		PP	23 35 03.1	+1.4
OJC			*e*SKSac		SKSac	23 41 41.2	+0.6
OJC			*e*SP		SP	23 43 55.8	+2.6
OJC	**Ojcow**	**98.08 352**	*e*P		**P**	**23 31 02.6**	**-0.2**
OJC			*e*PP		PP	23 35 03.1	+1.4
OJC			*e*SKSac		SKSac	23 41 41.2	+0.6
OJC			*e*SP		SP	23 43 55.8	+2.6
OJC			LR		LR		
	comp=Z,8μm,19.6s,MS6.2						
MFF	**Saint Martin d**	**98.11 338**	*e*P		**P**	**23 31 01.8**	**-1.1**
STU	**Stuttgart**	**98.13 345**	*e*P		**P**	**23 31 03.5**	**+0.5**
STU			*e*PP		PP	23 34 58.3	-3.8
CDF	**Champ du Feu**	**98.15 343**	*e*P		**P**	**23 31 02.2**	**-0.9**
	comp=Z,37nm,1.5s,mb5.4						
CDF	**Champ du Feu**	**98.15 343**	*e*P		**P**	**23 31 02.2**	**-0.9**
CDF			pmax		pmax		
	comp=Z,18nm,1.5s,mb5.4						
CDF	**Champ du Feu**	**98.15 343**	*e*P		**P**	**23 31 02.2**	**-0.9**
	comp=Z,18nm,1.5s,mb5.4						
PRU	**Pruhonice**	**98.47 348**	*e*P		**P**	**23 31 04.1**	**-0.4**
PRU			*e*x		x	23 34 52.6	
PRU			*e*SKS			23 41 44.6	
PRU			*e*SP		SP	23 43 56.8	-0.6
PRU			AMS		AMS	00 22 30.0	
	comp=Z,2μm,16.1s						
DPC	**Dobruska-Polom**	**98.59 350**	*e*P		**P**	**23 31 02.2**	**-2.9**
DPC			*e*PP		PP	23 34 59.7	-5.9
DPC			*e*SKS			23 41 42.3	
DPC			*e*SP		SP	23 43 55.8	-2.9
DPC			AMS		AMS	00 20 30.0	
	comp=Z,1μm,15.7s						
GRA1	**Grafenberg Arr**	**98.67 346**	*e*P		**P**	**23 31 05.2**	**-0.2**
	comp=Z,57nm,1.8s,mb5.8						
GRA1			*e*pP		pP	23 31 12.1	+3.3
GRA1			*e*PP		PP	23 35 02.2	-4.1
GRA1			*e*SKSac		SKSac	23 41 49.4	+5.8
GRA1			*e*SP		SP	23 44 03.0	+3.3
GRA1			*e*SS		SS	23 49 12.2	-8.1
GRF	**Grafenberg Arr**	**98.67 346**	*e*P		**P**	**23 31 05.2**	**-0.2**
	comp=Z,57nm,1.8s,mb5.8						
GRF			*e*L			00 15 14.0	
	comp=Z,2μm,19.9s						
GRF			*e*pP		pP	23 31 12.1	+3.3
GRF			*e*PP		PP	23 35 02.2	-4.1
GRF			*e*SKSac		SKSac	23 41 49.4	+5.8
GRF			*e*SP		SP	23 44 03.0	+3.3
GRF			*e*SS		SS	23 49 12.2	-8.1
GRF	**Grafenberg Arr**	**98.67 346**	*e*P		**P**	**23 31 05.2**	**-0.2**
GRF			*e**PP		pP	23 31 12.1	+3.3
GRF			*e*			23 35 02.2	
GRF			*e*			23 41 49.4	
GRF			*e*SP		SP	23 44 03.0	+3.3
GRF			pmax		pmax		
	comp=Z,57nm,1.8s,mb5.8						
GRF			MLR		MLR		
	comp=Z,2μm,19.9s,MS5.5						
GRF	**Grafenberg Arr**	**98.67 346**	*e*P		**P**	**23 31 05.2**	**-0.2**
	comp=Z,57nm,1.8s,mb5.8						
GRF			*e*pP		pP	23 31 12.1	+3.3
GRF			*e*PP		PP	23 35 02.2	-4.1
GRF			*e*SKS			23 41 49.4	
GRF			*e*SP		SP	23 44 03.0	+3.3
GRF			*e*SS		SS	23 49 12.2	-8.1
GRF			LR		LR		
	comp=Z,2μm,19.9s,MS5.5						
MEZF	**Maizieres J'vi**	**98.68 342**	*e*P		**P**	**23 31 03.3**	**-2.2**
UPC	**Upice**	**98.78 349**	*e*P		**P**	**23 31 06.9**	**+1.0**
UPC			*e*PP		PP	23 35 03.0	-4.1
MANZ	**Manzenberg**	**98.82 347**	*e*P		**P**	**23 31 06.7**	**+0.6**
	comp=Z,22nm,1.5s,mb5.5						
MANZ			*e*PP		PP	23 35 03.5	-3.9
PVCC	**Panska Ves**	**98.99 348**	*e*P		**P**	**23 31 07.5**	**+0.6**
PVCC			*e*PP		PP	23 35 01.3	-7.4
PVCC			*e*SKS			23 41 47.1	
PVCC			AMS		AMS	00 21 10.0	
	comp=Z,2μm,18.1s						
NKC	**Novy Kostel**	**99.01 347**	*e*P		**P**	**23 31 07.3**	**+0.4**
NKC			*e*pP		pP	23 31 14.6	+4.3
NKC			*e*PP		PP	23 35 00.2	-8.6
NKC			*e*SKS			23 41 47.9	
NKC			AMS		AMS	00 20 30.0	
	comp=Z,3μm,16.4s						
NKC	**Novy Kostel**	**99.01 347**	*e*P		**P**	**23 31 07.3**	**+0.4**
NKC			*e*			23 31 14.6	
NKC			*e*			23 41 47.9	
NKC			MLR		MLR		
	comp=Z,3μm,16.4s,MS5.9						
NKC	**Novy Kostel**	**99.01 347**	*e*P		**P**	**23 31 07.3**	**+0.4**
NKC			*e*			23 31 14.6	
NKC			*e*PP		PP	23 35 00.2	-8.6
NKC			*e*SKS			23 41 47.9	
PMG	**Port Moresby**	**99.06 115⇑**	*e*P		**P**	**23 31 03.0**	**-4.2**
KSP	**Ksiaz**	**99.08 350**	*e*P		**P**	**23 31 08.2**	**+1.0**
KSP			*e*PP		PP	23 35 06.9	-2.5
KSP			*e*SKSac		SKSac	23 41 52.8	+7.2
KSP			*e*SP		SP	23 44 10.8	+6.8
KSP			*e*PS		PS	23 44 11.1	+5.8
KSP			*e*SS		SS	23 49 23.9	-2.0
KSP			L			00 17 17.4	
	comp=Z,3.7nm,21.6s						
KSP	**Ksiaz**	**99.08 350**	*e*P		**P**	**23 31 08.0**	**+0.8**
KSP			*e*PP		PP	23 35 05.5	-3.9
KSP			*e*SKS			23 41 46.5	
KSP			*e*SP		SP	23 44 03.5	-0.5
KSP			*e*SS		SS	23 49 21.0	-4.9
KSP			LR		LR		
	comp=Z,4μm,21.6s,MS5.9						
WERD	**Werda**	**99.24 347**	*e*P		**P**	**23 31 08.7**	**+0.7**
	comp=Z,45nm,1.7s,mb5.7						
WERD			*e*PP		PP	23 35 06.8	-3.8
BRG	**Berggiesshubel**	**99.41 348**	*e*P		**P**	**23 31 09.2**	**+0.5**
BRG			*e*PP		PP	23 35 07.4	-4.5
BRG	**Berggiesshubel**	**99.41 348**	P		**P**	**23 31 10.0**	**+1.3**
BRG			PP		PP	23 35 06.0	-5.9
BRG			SKS			23 41 49.0	
BRG			S			23 42 55.0	
BRG			SP		SP	23 43 59.0	-8.6
BRG			SS		SS	23 49 09.0	-22
BRG							
	comp=N,163nm,18.6s						
BRG							
	comp=E,77nm,14.4s						
BRG							
	comp=Z,165nm,16.2s						
BRG	**Berggiesshubel**	**99.41 348**	P		**P**	**23 31 10.0**	**+1.3**
BRG						23 41 49.0	
BRG			MLR		MLR		
	comp=N,163nm,18.6s,MS4.7						
BRG			MLR		MLR		
	comp=E,77nm,14.4s,MS4.7						
BRG			MLR		MLR		
	comp=Z,165nm,16.2s,MS4.6						
BRG	**Berggiesshubel**	**99.41 348**	P		**P**	**23 31 10.0**	**+1.3**
BRG			PP		PP	23 35 06.0	-5.9
BRG			SKS			23 41 49.0	
BRG			S			23 42 55.0	
BRG			SP		SP	23 43 59.0	-8.6
BRG			SS		SS	23 49 09.0	-22
BRG			LR		LR		
	comp=Z,170nm,16.2s,MS4.6						
MOX	**Moxa**	**99.53 347**	*e*P		**P**	**23 31 09.5**	**+0.2**
	comp=Z,49nm,2.2s,mb5.5						
MOX			*e*PP		PP	23 35 08.8	-4.1
MOX	**Moxa**	**99.53 347**	*e*P		**P**	**23 31 09.7**	**+0.4**
	comp=Z,25nm,1.9s,mb5.3						
MOX			*e*			23 35 08.6	
MOX							
	comp=Z,1μm,19.0s						
MOX	**Moxa**	**99.53 347**	*e*P		**P**	**23 31 09.7**	**+0.4**
MOX			*e*			23 35 08.6	
MOX			pmax		pmax		
	comp=Z,25nm,1.9s,mb5.3						
MOX			MLR		MLR		
	comp=Z,1μm,19.0s,MS5.5						
WLF	**Walferdange**	**99.56 343**	*e*PP		PP	23 35 09.8	-3.3
TNS	**Taunus Mts**	**99.66 345**	*e*P		Pdif	23 31 10.0	+0.1
	comp=Z,40nm,2.1s						
TNS			*e*PP		PP	23 35 09.7	-4.1
TNS	**Taunus Mts**	**99.66 345**	*e*P		Pdif	23 31 10.0	+0.1
TNS			*e*			23 35 09.7	
TNS			pmax		pmax		
	comp=Z,40nm,2.1s,mb5.5						
UBBA	**Unterbreizbach**	**99.97 346**	*e*P		Pdif	23 31 11.6	+0.4
	comp=Z,12nm,1.5s						
UBBA			*e*PP		PP	23 35 12.0	-4.1
WAR	**Warsaw**	**99.97 353**	*e*P		Pdif	23 31 06.8	-4.4
WAR			*e*PP		PP	23 35 14.0	-2.2
WAR			*e*SKSac		SKSac	23 41 53.3	+3.3
WAR			*e*PS		PS	23 44 18.1	+3.2
WAR			L			00 14 49.6	
	comp=Z,1.7nm,24.1s						
WAR	**Warsaw**	**99.97 353**	*e*P		Pdif	23 31 06.8	-4.4
WAR			*e*PP		PP	23 35 14.0	-2.2
WAR			*e*SKSac		SKSac	23 41 53.3	+3.3
WAR			*e*PS		PS	23 44 18.1	+3.2
CLL	**Collm**	**99.97 348**	*e*Pdiff		Pdif	23 31 12.1	+0.9
	comp=Z,122nm,2.8s						
CLL			*e*LR		LR	00 04 42.9	
CLL			*e*L			00 19 52.4	
	comp=Z,3μm,18.0s						
CLL			*e*PP		PP	23 35 13.3	-2.9
CLL			*e*PPPP			23 39 06.3	
CLL			*e*SKSac		SKSac	23 41 52.6	+2.6
CLL			*e*SKKSac		SKKSac	23 42 27.7	+4.5
CLL			*e*PS		PS	23 44 18.1	+3.2
CLL			*e*PPS			23 44 57.3	
CLL			*e*SS		SS	23 49 37.6	-0.8
CLL	**Collm**	**99.97 348⇑**	*i*P		Pdif	23 31 11.8	+0.6
	comp=Z,118nm,2.7s						
CLL			*i* (PP)			23 35 12.3	
	comp=Z,333nm,3.3s						
CLL			*i* x		x	23 35 25.6	
CLL			*e*PPPP			23 39 06.0	
CLL			*e*SKSac		SKSac	23 41 52.0	+2.0
CLL			*e*SKKSac		SKKSac	23 42 18.0	-5.2
CLL			*e*PS		PS	23 44 17.0	+2.1
CLL			*e*PPS			23 44 57.0	
CLL			*e*SS		SS	23 49 40.0	+1.6
CLL	**Collm**	**99.97 348⇑**	*i*P		Pdif	23 31 11.8	+0.6
CLL			*i*			23 35 12.3	
CLL			*e*			23 41 52.0	
CLL			pmax		pmax		
	comp=Z,118nm,2.7s,mb5.8						
CLL			pmax		pmax		
	comp=Z,333nm,3.3s						
CLL			MLR		MLR		
	comp=Z,3μm,15.9s,MS5.9						
CLL	**Collm**	**99.97 348⇑**	*i*P		Pdif	23 31 11.8	+0.6
	comp=Z,118nm,2.7s						
CLL			*i* PP		PP	23 35 12.3	-3.9
CLL			*e*SKS			23 41 52.0	
CLL			LR		LR		
	comp=Z,3μm,15.9s,MS5.9						
FLN	**La Foliniere**	**100.20 338**	*e*P		Pdif	23 31 13.0	+0.8
	comp=Z,55nm,1.4s						
FLN			*e*R				
	comp=Z,4μm,18.8s						
FLN	**La Foliniere**	**100.20 338**	*e*P		Pdif	23 31 13.0	+0.8
FLN			pmax		pmax		
	comp=Z,28nm,1.4s						
FLN			MLR		MLR		
	comp=Z,4μm,18.8s,MS6.0						
FLN	**La Foliniere**	**100.20 338**	*e*P		Pdif	23 31 13.0	+0.8
	comp=Z,28nm,1.4s						
FLN			LR		LR		
	comp=Z,4μm,18.8s,MS6.0						
SGMF	**Saint Gilles**	**100.26 337**	*e*P		Pdif	23 31 13.5	+1.0
BAIF	**Baives**	**100.34 342**	*e*P		Pdif	23 31 12.4	-0.5
	comp=Z,49nm,1.6s						
BAIF	**Baives**	**100.34 342**	*e*P		Pdif	23 31 12.4	-0.5
BAIF			pmax		pmax		
	comp=Z,25nm,1.6s						
BAIF	**Baives**	**100.34 342**	*e*P		Pdif	23 31 12.4	-0.5
	comp=Z,25nm,1.6s						
GTTG	**Gvttingen**	**100.67 346**	*e*PP		PP	23 35 17.4	-4.1
RUE	**Ruedersdorf**	**101.00 348**	*e*PP		PP	23 35 20.8	-3.2
BUG	**Bochum--Univer**	**101.05 344**	*e*PP		PP	23 35 20.

comp=Z,1μm,24.5s
TBI Tubuai 109.35 178 eS Sdif 23 43 49.9 -14
comp=Z,146nm,26.8s
TBI eSS SS 23 51 50.8 +3.9
comp=Z,219nm,25.2s
TBI eLQ 00 02 46.0
comp=Z,1μm,33.5s
TBI eLR LR 00 08 10.2
comp=Z,4μm,26.0s
NB2 NORSAR Subarra109.67 349 PP PP 23 36 20.6 -7.6
comp=Z,129nm,2.5s,baz=165,slow=7.4
NB2 NORSAR Subarra109.67 349 PP PP 23 36 20.6 -7.6
baz=165,slow=7.4
NOA NORSAR Array B109.67 349 PP PP 23 36 22.3 -5.9
comp=Z,2.5nm,1.0s,baz=170,slow=7.0,SNR=3.3
BER Bergen 109.90 346 ePP PP 23 36 28.9 -1.0
BER e 23 46 00.7
BER AMS AMS 00 25 05.5
comp=Z,827nm,20.1s,MS5.3
NJ2 Nanjing 110.54 65 ePKP PKiKP 23 35 53.6 -5.1
NJ2 XPKP 23 36 08.1
NJ2 PP PP 23 36 34.9 +0.4
NJ2 PPP 23 38 55.0
NJ2 PP PP
comp=Z,200nm,5.4s
NJ2 LR LR
comp=N,2μm,26.2s,MS5.7
NJ2 LR LR
comp=E,2μm,29.4s,MS5.7
NJ2 LR LR
comp=Z,500nm,33.9s,MS4.9
MOL Molde 111.64 348 AMS AMS 00 26 26.6
comp=Z,3μm,20.2s,MS5.8
HHC Hu-ho-hao-te 112.40 54 ePKP PKiKP 23 35 59.3 -2.9
HHC XPKP 23 36 13.7
HHC PP PP 23 36 52.4 +4.6
HHC PKS 23 39 34.8
HHC SKS SKSdf 23 43 06.6 -7.8
HHC SKKS SKKSac 23 43 41.4 -9.0
HHC SS SS 23 52 31.8 +4.0
HHC PP PP
comp=Z,190nm,4.4s
HHC LR LR
comp=N,700nm,15.6s,MS5.5
HHC LR LR
comp=E,950nm,17.7s,MS5.5
HHC LR LR
comp=Z,930nm,17.7s,MS5.4
SONM Songino Array 114.62 45 PKP PKiKP 23 36 05.9 -0.5
comp=Z,0.2nm,0.4s,baz=152,slow=6.5,SNR=2.8
SONM PKKPbc PKKPbc 23 46 42.1 -2.2
comp=Z,1.0nm,0.7s,baz=55,slow=1.1,SNR=8.2
ULN Ulaanbaatar 114.96 46⇑ ePKIKP PKiKP 23 36 02.7 -4.4
ZAK Zakamensk 114.96 42 ePKIKP PKiKP 23 36 08.3 +1.2
ZAK pmax pmax
comp=Z,6.0nm,2.1s
PPT Papeete 115.09 178 eSS SS 23 53 01.6 -1.7
comp=Z,282nm,26.0s
PPT eLR LR 00 10 48.6
comp=Z,5μm,24.5s
TRO Tromso 117.36 355 ePP PP 23 37 23.0 +0.2
TRO e 23 47 05.8
comp=Z,725nm,20.2s
TRO eSS SS 23 53 34.4 +1.4
TRO AMS AMS 00 30 14.1
comp=Z,725nm,20.2s,MS5.3
JMIC Jan Mayen 121.92 345 ePKPd PKPdf 23 36 20.3 -0.2
JMIC ePP PP 23 37 54.8 +0.7
JMIC e 23 47 49.7
JMIC AMS AMS 00 33 41.0
comp=Z,931nm,17.9s,MS5.5
CN2 Changchun 122.13 59 ePKP PKPdf 23 36 17.5 -3.4
CN2 XPKP 23 36 31.0
CN2 ePP PP 23 37 58.0 +2.4
CN2 eSS SS 23 54 33.5 -0.9
CN2 PP PP
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,600nm,18.0s,MS5.4
CN2 LR LR
comp=E,500nm,18.0s,MS5.4
CN2 LR LR
comp=Z,700nm,21.0s,MS5.3
HIA Hailar 122.27 51⇑ ePKIKP PKPdf 23 36 17.5 -3.7
TAOE Nuku Hiva Isla 123.42 189 eSS SS 23 54 51.5 +0.7
comp=Z,811nm,27.2s
TAOE eLR LR 00 14 39.1
comp=Z,4μm,23.0s
MDJ Mudanjiang 125.02 60 PKP PKPdf 23 36 27.2 +0.8
MDJ PP PP 23 38 18.0 +2.9
MDJ PKS 23 40 00.8
MDJ PPP 23 40 58.2
MDJ SS SS 23 55 07.8 -3.2
MDJ PP PP
comp=Z,290nm,5.4s
MDJ LR LR
comp=N,270nm,25.3s,MS5.2
MDJ LR LR
comp=E,640nm,24.0s,MS5.2
MDJ LR LR
comp=Z,910nm,28.6s,MS5.3
MJAR Matsushiro Arr 125.64 73 PKP PKPdf 23 36 28.2 +0.6
comp=Z,0.5nm,0.3s,baz=238,slow=2.2,SNR=4.6
KBS Kingsbay 126.87 355 ePP PP 23 38 28.4 +1.1
KBS AMS AMS 00 32 53.6
comp=Z,391nm,20.1s,MS5.1
DAG Danmarks Havn 128.25 347⇑ iP PKPdf 23 36 28.9 -3.7
comp=Z,17nm,1.2s
DAG
comp=Z,750nm,23.0s
DAG Danmarks Havn 128.25 347⇑ eP PKPdf 23 36 28.9 -3.7
DAG LR LR
comp=Z,760nm,23.0s,MS5.3
SUMG Summit 129.50 338 ePKPdf PKPdf 23 36 33.7 -1.3
SUMG ePP PP 23 38 45.4 +0.8
HABR Khabarovsk 130.27 58 eP Pdif 23 33 21.9 -4.0
SCHQ Schefferville 131.68 310 PKP PKPdf 23 36 36.5 -2.6
comp=Z,1.8nm,0.6s,baz=36,slow=0.9,SNR=6.3
SCHQ Schefferville 131.68 310 ePKPdf PKPdf 23 36 36.5 -2.7
ACSO Alum Creek Sta 134.24 286 PKPdf PKPdf 23 36 41.9 -2.1
OXF Oxford 135.38 275 ePKIKP PKPdf 23 36 43.9 -2.2
TIXI Tiksi 136.19 27 ePKHKP 23 36 38.4
TIXI eSSS 00 02 25.7
TIXI pmax pmax
comp=Z,3.0nm,0.9s
TIXI pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 136.19 27⇑ ePKP PKPdf 23 36 45.6 -2.0
HKT Hockley 136.98 265 ePKIKP PKPdf 23 36 50.1 +1.1
CCM Cathedral Cave 138.57 278 ePKIKP PKPdf 23 36 51.6 -0.4
JCT Junction City 139.98 262 ePKIKP PKPdf 23 36 52.6 -1.9
LTX Lajitas 141.82 257 ePKHKP PKPdf 23 36 52.5 -5.4
MA2 Magadan 142.77 48 i PKIKP PKPdf 23 36 58.9 -0.6
MA2 eSS SS 23 58 43.1 -2.2
MA2 eSSS 00 04 09.0
MA2 pmax pmax
comp=Z,10.0nm,0.9s
MA2 Magadan 142.77 48⇑ ePKP PKPdf 23 36 59.0 -0.5
AMTX Amarillo 143.89 266 ePKPdf PKPdf 23 36 59.6 -1.9
MNTX Cornudas Mount 144.47 259 ePKPdf PKPdf 23 36 58.1 -4.4
CBKS Cedar Bluff 144.68 273 ePKIKP PKPdf 23 37 02.0 -0.9
RES Resolute Bay 145.03 338 ePKPdf PKPdf 23 37 00.7 -2.8
RES epPKPdf pPKPdf 23 37 09.5 +2.6
PET Petropavlovsk 145.80 60 PKP2 PKPbc 23 37 03.7 -1.6
PET Petropavlovsk 145.80 60 ePKPr PKPbc 23 37 04.4 -0.9
ULM Lac du Bonnet 146.62 294 PKPbc PKPbc 23 37 03.3 -4.5
comp=Z,11nm,0.8s,baz=108,slow=1.7,SNR=16
BNM Barren Site 146.79 261 ePKPdf PKPdf 23 37 06.9 +0.4
LPM Los Pinos Moun 146.88 261 ePKPdf PKPdf 23 37 06.9 +0.2
Y22C IRIS PASSCAL I 146.94 261 ⇓P PKPdf 23 37 06.0 -0.7
baz=147
LENM Lemitar 147.03 261 ePKPdf PKPdf 23 37 07.6 +0.7
FCC Fort Churchill 147.06 310 PKIKP PKPdf 23 37 05.7 -1.3
FCC Fort Churchill 147.06 310 ePKPdf PKPdf 23 37 05.5 -1.4
ANMO Albuquerque 147.14 262 c i PKP2 PKPbc 23 37 07.7 -1.6
ANMO Albuquerque 147.14 262 ePKPdf PKPdf 23 37 06.3 -0.8
LAZ Ladron 147.28 261 ePKPdf PKPdf 23 37 07.8 +0.4
TUC Tucson 148.41 254 ePKIKP PKPdf 23 37 09.0 -0.2
BILL Bilibino 149.08 32⇑ i PKP2 PKPbc 23 37 12.6 -1.8
BILL i SS SS 23 59 57.4 +0.3
BILL pmax pmax
comp=Z,133nm,1.6s
BILL MLR MLR
comp=Z,1μm,24.0s,MS5.6
BILL Bilibino 149.08 32 ePKPbc PKPbc 23 37 12.6 -1.8

ISCO Idaho Springs 149.13 271 ePKIKP PKPdf 23 37 09.2 -1.2
116A Eloy 149.16 254 P PKPdf 23 37 10.3 -0.1
baz=149,SNR=7.7
115A Sonoran Desert 149.60 253 ⇑P PKPdf 23 37 10.3 -0.8
baz=150
SMCO Snowmass 149.75 269 ePKPdf PKPdf 23 37 10.9 -0.5
PV01 Paradox Valley 150.31 266 ePKPdf PKPdf 23 37 12.2 0.0
PV01 ePKPbc PKPbc 23 37 17.5 +0.1
Z14A Wintersburg 150.48 254 ⇑P PKPdf 23 37 11.8 -0.7
baz=150,SNR=11
X15A Humboldt 150.71 256 P PKPdf 23 37 12.2 -0.6
baz=151,SNR=20
PV10 Paradox Valley 150.75 266 ePKPdf PKPdf 23 37 12.1 -0.8
Y14A Wickenburg 150.88 255 ⇓P PKPdf 23 37 12.0 -1.1
baz=151,SNR=13
RWWY Rawlins 151.07 273 ePKPdf PKPdf 23 37 12.3 -1.1
FFC Flin Flon 151.10 301 ePKIKP PKPdf 23 37 12.6 -0.9
X14A Yava 151.13 256 ⇑P PKPdf 23 37 13.3 -0.2
baz=151,SNR=18
W15A Williams 151.15 257 ⇓P PKPdf 23 37 12.9 -0.7
baz=151
Y13A Salome 151.33 253 ⇓P PKPdf 23 37 13.4 -0.4
baz=151
GLA Glamis 151.50 251 ⇑P PKPdf 23 37 13.8 -0.3
baz=152
W14A Seligman 151.70 257 ⇓P PKPdf 23 37 14.0 -0.3
baz=152,SNR=29
Y12C Blythe 151.74 253 ⇑P PKPdf 23 37 13.5 -0.9
baz=152,SNR=5.7
SRU San Rafael 152.12 266 ePKPdf PKPdf 23 37 14.0 -1.0
SRU ePKPbc PKPbc 23 37 20.2 -1.4
HKL Haleakala 152.21 162 PKIKP PKPdf 23 37 16.4 +1.3
LAO LASA Array 152.24 284 ePKPdf PKPdf 23 37 14.6 -0.5
BC3 Big Chuckw Mtn 152.28 251 ⇑P PKPdf 23 37 14.6 -0.6
baz=152
TMUT Trail Mountain 152.67 266 ePKPdf PKPdf 23 37 15.4 -0.4
TMUT ePKPbc PKPbc 23 37 22.1 -0.8
109C Camp Elliot, M 152.84 248 ⇓P PKPdf 23 37 15.6 -0.4
baz=153
PFO Pinyon Flat Ob 152.89 250 ePKIKP PKPdf 23 37 15.8 -0.3
PFO Pinyon Flat Ob 152.89 250 ⇑P PKPdf 23 37 15.7 -0.4
baz=153
W12A Cal Nev Ari 152.93 255 ⇓P PKPdf 23 37 15.4 -0.7
baz=153
MSU Marysvale 152.93 263 ePKIKP PKPdf 23 37 15.8 -0.4
PDAR Pinedale Array 153.11 274 PKP PKPdf 23 37 13.8 -2.6
comp=Z,3.9nm,0.8s,baz=106,slow=3.2,SNR=11
PDAR PKPbc PKPbc 23 37 21.4 -2.4
comp=Z,12nm,1.1s,baz=112,slow=4.0,SNR=24
CCUT Cedar City 153.22 260 ePKPdf PKPdf 23 37 16.4 -0.2
DAU Daniels Canyon 153.24 268 ePKIKP PKPdf 23 37 18.0 +1.4
MPU Maple Canyon 153.31 267 ePKPdf PKPdf 23 37 16.9 +0.1
NLU North Lily Min 153.58 266 ePKPdf PKPdf 23 37 16.8 -0.3
TCUT Toone Canyon 153.66 269 ePKPdf PKPdf 23 37 17.3 0.0
TUQ Turquoise Mtn. 153.69 254 ⇑P PKPdf 23 37 16.5 -0.8
baz=154
CTU Camp Tracy 153.70 268 ePKPdf PKPdf 23 37 16.6 -0.7
HWUT Hardware Ranch 153.98 270 ePKPdf PKPdf 23 37 17.0 -0.7
FMP Fort Macarthur 154.12 248 ⇑P PKPdf 23 37 17.0 -0.9
baz=154
LOHW Long Hollow 154.14 275 ePKPdf PKPdf 23 37 17.2 -0.7
AHID Auburn Hatcher 154.15 273 PKPdf PKPdf 23 37 16.5 -1.5
GSC Goldstone 154.18 253 ⇓P PKPdf 23 37 17.4 -0.5
baz=154
REDW Red Top Meadow 154.21 274 ePKPdf PKPdf 23 37 19.2 +1.2
GCMT Greycliff 154.25 280 ePKPdf PKPdf 23 37 17.0 -1.1
MOOW Moose Ponds 154.28 275 ePKPdf PKPdf 23 37 16.6 -1.5
TPAW Teton Pass 154.33 274 ePKPdf PKPdf 23 37 17.7 -0.5
IMW Indian Meadow 154.47 275 ePKPdf PKPdf 23 37 18.1 -0.3
SNCC San Nicolas Is 154.58 246 ⇓P PKPdf 23 37 18.2 -0.4
baz=154
YFT Old Faithful 154.59 276 ePKPdf PKPdf 23 37 19.6 +1.1
EGMT Eagleton 154.90 285 ePKPdf PKPdf 23 37 17.1 -1.9
OSI Osito Adit 154.98 249 ⇑P PKPdf 23 37 18.4 -0.7
baz=155
QLMT Earthquake Lak 155.12 277 ePKPdf PKPdf 23 37 17.9 -1.4
DAC Darwin (Calif) 155.28 254 ePKIKP PKPdf 23 37 18.2 -1.3
N13A West Wendover 155.44 266 ⇓P PKPdf 23 37 18.7 -1.0
baz=156
ISA Isabella 155.48 251 ⇓P PKPdf 23 37 19.0 -0.8
baz=156
BOZ Bozeman (W) 155.51 279 ePKIKP PKPdf 23 37 20.0 +0.2
M13A Montello 155.63 267 ⇑P PKPdf 23 37 18.7 -1.3
baz=156
CWC Cottonwood Cre 155.69 253 ⇓P PKPdf 23 37 19.4 -0.6
baz=156
S09A Goldfield 155.87 257 ⇓P PKPdf 23 37 19.8 -0.5
baz=156,SNR=9.6
HRY Holter Researc 155.95 281 ePKPdf PKPdf 23 37 18.9 -1.5
N12A Wells--Clov Va 156.00 266 ⇓P PKPdf 23 37 19.2 -1.3
baz=156
DLMT Dillon 156.07 278 ePKPdf PKPdf 23 37 19.3 -1.2
MCMT McKenzie Canyo 156.07 276 ePKPdf PKPdf 23 37 19.2 -1.4
TIN Tinemaha 156.15 254 ⇑P PKPdf 23 37 20.1 -0.6
baz=156
M12A Wells 156.16 267 ⇑P PKPdf 23 37 19.4 -1.3
baz=156
S08C White Mtn Res 156.37 255 ⇑P PKPdf 23 37 20.7 -0.2
baz=156
YKA Yellowknife Ar 156.40 321 PKP PKPdf 23 37 16.7 -4.2
comp=Z,1.7nm,0.8s,baz=48,slow=1.8,SNR=6.5
Q09A Carvers 156.44 259 ⇓P PKPdf 23 37 20.5 -0.5
baz=156
N11A Elko Archery C 156.46 265 ⇑P PKPdf 23 37 20.1 -1.0
baz=156
V05C Boulder Hill, 156.52 250 ⇑P PKPdf 23 37 21.4 +0.2
baz=156
HLID Hailey 156.69 272 ePKPdf PKPdf 23 37 20.1 -1.3
M11A Holland Ranch, 156.76 266 ⇓P PKPdf 23 37 20.7 -0.7
baz=157
P09A Austin 156.78 261 ⇑P PKPdf 23 37 20.5 -1.0
baz=157
R08A Mina 156.80 257 ⇑P PKPdf 23 37 21.3 -0.2
baz=157
MNV Mina 156.87 257 ePKIKP PKPdf 23 37 20.8 -0.8
MLAC Mammoth Lakes 156.88 255 ⇓P PKPdf 23 37 22.3 +0.7
baz=157
N10A Dunphy 156.93 264 ⇑P PKPdf 23 37 20.5 -1.2
baz=157
CHMT Chamberlain Mo 156.94 281 ePKPdf PKPdf 23 37 21.3 -0.4
U05C Westside ANR, 156.95 251 ⇑P PKPdf 23 37 21.6 -0.1
baz=157
Q08A Gabbs 156.95 259 ⇑P PKPdf 23 37 21.7 -0.1
baz=157
NVAR Mina Array Bea 156.97 257 PKP PKPdf 23 37 21.2 -0.5
comp=Z,2.7nm,0.9s,baz=154,slow=3.3,SNR=13
V04C Ramage Ranch, 156.99 248 ⇓P PKPdf 23 37 21.4 -0.4
baz=157
KCC Kaiser Creek 157.02 254 ⇑P PKPdf 23 37 21.7 -0.1
baz=157
T06C Milleton Lake 157.09 253 ⇑P PKPdf 23 37 20.9 -0.9
baz=157
O09A Fish Creek Ran 157.12 262 ⇓P PKPdf 23 37 20.6 -1.3
baz=157
R07C Lee Vining 157.28 256 ⇑P PKPdf 23 37 21.9 -0.2
baz=157
M10A I.L. Ranch, Tu 157.31 266 ⇓P PKPdf 23 37 20.9 -1.2
baz=157
U04C Hernandez Rese 157.38 250 ⇓P PKPdf 23 37 22.7 +0.4
baz=157
P08A Dixie Valley 157.48 260 ⇓P PKPdf 23 37 21.9 -0.4
baz=158
Q07A Schurz 157.58 258 ⇓P PKPdf 23 37 22.0 -0.5
baz=158
T05C Eagle Field, D 157.64 251 ⇑P PKPdf 23 37 21.8 -0.8
baz=158
N09A Rock Creek Ran 157.67 263 ⇑P PKPdf 23 37 21.4 -1.2
baz=158
S06C San Francisco 157.68 254 ⇓P PKPdf 23 37 21.9 -0.7
baz=158
S05C Merced 157.69 253 ⇑P PKPdf 23 37 21.7 -1.0
baz=158
EDM Edmonton 157.76 297 PKIKP PKPdf 23 37 18.6 -4.1
EDM Edmonton 157.76 297 ePKPdf PKPdf 23 37 18.5 -4.2
WALA Waterton Lakes 157.81 286 ePKPdf PKPdf 23 37 20.9 -1.9
O08A Rochester Mine 157.83 261 ⇑P PKPdf 23 37 22.1 -0.7
baz=158
M09A Marrel Ranch, 157.88 265 ⇓P PKPdf 23 37 21.7 -1.2
baz=158
O07A Toulon 158.25 260 ⇓P PKPdf 23 37 22.5 -0.8
baz=158
L09A Wilkinson Ranc 158.29 266 ⇑P PKPdf 23 37 22.4 -0.9
baz=158
R05C Kirkwood Meado 158.29 256 ⇑P PKPdf 23 37 23.0 -0.4
baz=158
WCN Washoe City 158.40 258 ⇓P PKPdf 23 37 23.2 -0.3
baz=158
S04C Ingram Canyon, 158.42 252 ⇑P PKPdf 23 37 22.9 -0.7
baz=158
M08A Happy Creek Ra 158.52 264 ⇑P PKPdf 23 37 23.3 -0.3
baz=158,SNR=5.4
R04C Big Horse Ranc 158.60 254 ⇓P PKPdf 23 37 23.1 -0.6
baz=159
P06A Stead Airport, 158.69 258 ⇓P PKPdf 23 37 22.9 -1.0
baz=159
LAVA Lava Cap Winer 158.75 255 ⇑P PKPdf 23 37 22.8 -1.1
baz=159
O06A Flanigan 158.88 259 ⇑P PKPdf 23 37 22.7 -1.4
baz=159
P05C Yuba Gap, Truc 158.96 257 ⇑P PKPdf 23 37 23.4 -0.7
baz=159
M07A Soldier Meadow 159.02 263 ⇑P PKPdf 23 37 23.4 -0.9
baz=159
Q04C Lincoln 159.21 255 ⇓P PKPdf 23 37 23.8 -0.6
baz=159
O05C Quincy 159.50 258 ⇓P PKPdf 23 37 23.6 -1.2
baz=160
Q03C Winters 159.51 253 ⇓P PKPdf 23 37 23.8 -1.0
baz=160
ELFS Eagle Lake Fie 159.71 260 ⇑P PKPdf 23 37 22.6 -2.4
baz=160
O04C Chester 159.80 259 ⇓P PKPdf 23 37 23.8 -1.4
baz=160
M06C Likely Place G 159.81 261 ⇓P PKPdf 23 37 23.8 -1.4
baz=160
HATC Hat Creek Radi 160.29 259 ⇓P PKPdf 23 37 23.8 -1.9
baz=160
J06A Christmas Vall 160.46 267 ⇓P PKPdf 23 37 24.1 -1.8
baz=160
I06A Prineville 160.75 269 ⇓P PKPdf 23 37 24.8 -1.4
baz=161
M03C McCloud 160.94 260 ⇓P PKPdf 23 37 23.7 -2.8
baz=161
M04C Macdoel 160.99 262 ⇑P PKPdf 23 37 24.9 -1.6
baz=161
L04A Klamath Falls 161.19 263 ⇑P PKPdf 23 37 25.1 -1.6
baz=161
K04A Chilquin 161.27 264 ⇓P PKPdf 23 37 24.9 -1.9
baz=161
M02C Callahan 161.48 259 ⇑P PKPdf 23 37 24.9 -2.1
baz=162
N02C Big Bar 161.51 257 ⇓P PKPdf 23 37 25.6 -1.4
baz=162
I05A Bend 161.54 269 ⇓P PKPdf 23 37 25.1 -2.0
baz=162
YBH Yreka Blue Hor 161.55 261 ⇓P PKPdf 23 37 24.8 -2.2
baz=162
H05A Madras 161.68 270 ⇑P PKPdf 23 37 25.2 -2.0
baz=162
G05A Wamic 161.92 272 ⇑P PKPdf 23 37 25.0 -2.4
baz=162
HUMO Hull Mountain 162.09 263 ePKPdf PKPdf 23 37 25.7 -1.9
HUMO Hull Mountain 162.09 263 ⇑P PKPdf 23 37 25.5 -2.1
baz=162
F05A White Salmon 162.19 274 ⇑P PKPdf 23 37 25.1 -2.6
baz=162
H04A Detroit Lake 162.34 270 ⇓P PKPdf 23 37 24.8 -3.1
baz=162
E05A Randle 162.55 276 ⇓P PKPdf 23 37 24.6 -3.5
baz=163
G04A Mulino 162.69 271 ⇓P PKPdf 23 37 25.2 -3.0
baz=163
C05A Tolt Reservoir 162.72 280 ⇓P PKPdf 23 37 23.8 -4.5
baz=163
DAWY Dawson 162.93 348 ePKPdf PKPdf 23 37 24.4 -4.0
H03A Soap Creek Ran 163.08 269 ⇑P PKPdf 23 37 26.1 -2.4
baz=163
A04A Legoe Bay, Lum 163.53 283 ⇑P PKPdf 23 37 25.4 -3.6
baz=164
B04A Port Angeles 163.98 280 ⇓P PKPdf 23 37 27.4 -2.1
baz=164
DLBC Dease Lake 165.01 323 ePKPdf PKPdf 23 37 27.8 -2.5

*BJI **09** 23:18:03.5, 607S×149.16E, h59km, mb4.9*
*MOS **09** 23:18:04.7±0.8, 597S×14875E, h51km, mb4.8/8, Error ellipse: s-maj=20.4km s-min=9.0km az=84.9*
*ISCJB **09** 23:18:05.8±1.5, 601S±005×14877E±009, h64km±13km, mb4.5/19, Error ellipse: s-maj=15.5km s-min=8.1km az=36.6*
*NEIC **09** 23:18:05.4±0.3, 601S×14888E, mb4.7/12, Error ellipse: s-maj=10.6km s-min=5.4km az=102.0*
*IDC **09** 23:18:06.1±0.8, 600S×14878E, h56km±6km, mb4.3/8, mb1 4.5/11, mb1mx4.4/15, mbtmp4.7/11, MS3.6/6, Ms1 3.6/6, ms1mx3.4/19, Error ellipse: s-maj=21.1km s-min=8.8km az=106.0*

ISC 09 23:18:07.2±1.2, 603S±005×14882E±010, h65km±10km, h52km±3.2km; pP-P, n70, σ0=89/58, mb4.4/19, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.74**	**206**	P	**Pn**	**23 19 02.5**	**+0.1**
	95nm,0.3s,baz=40,slow=5.7,SNR=211						
PMG				S	**Sn**	**23 19 45.8**	**+0.7**
	120nm,0.3s,baz=164,slow=19,SNR=11						
PMG				LR	LR	23 20 34.9	
	comp=Z,924nm,19.7s,baz=21,slow=40						
PMG	**Port Moresby**	**3.74**	**206**	P	**Pn**	**23 19 02.5**	**+0.1**
PMG				S	**Sn**	**23 19 45.8**	**+0.7**
HNR	**Honiara**	**11.53**	**108**	LR	LR	23 24 38.8	
	comp=Z,174nm,21.8s,baz=191,slow=34						
CTA	**Charters Tower**	**14.19**	**190**	*eP*	**Pn**	**23 21 24.4**	**-0.4**
	14nm,0.9s						
CTA	**Charters Tower**	**14.19**	**190**	P	**Pn**	**23 21 24.9**	**0.0**
	1.1nm,0.3s,baz=17,slow=14,SNR=13						
CTA				LR	LR	23 25 32.5	
	comp=Z,58nm,19.1s,baz=30,slow=31						
CTA	**Charters Tower**	**14.19**	**190**	*eP*	**Pn**	**23 21 24.4**	**-0.4**
CTA				pmax	pmax		
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**14.19**	**190**	*eP*	**Pn**	**23 21 25.0**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,26nm,1.0s						
CTAO	**Charters Tower**	**14.19**	**190**	*e*Pn	**Pn**	**23 21 25.0**	**+0.1**
	comp=Z,26nm,1.0s						
KAKA	**Kakadu**	**17.47**	**246**	*eP*	**Pn**	**23 22 05.3**	**-1.0**
	comp=Z,23nm,0.4s						
WRAB	**Tennant Creek**	**19.72**	**224**	*eP*	**Pn**	**23 22 32.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,82nm,0.6s						
WRAB	**Tennant Creek**	**19.72**	**224**	*eP*	**Pn**	**23 22 32.5**	**-0.9**
	comp=Z,82nm,0.6s						
WB2	**Warramunga Arr**	**19.73**	**224**	*eP*	**Pn**	**23 22 31.7**	**-1.7**
WB2				*eS*	**S**	**23 26 05.3**	**-4.9**
GUMO	**Guam**	**19.88**	**349**	P	**Pn**	**23 22 34.3**	**-1.0**
	comp=Z,10.0nm,0.3s,baz=157,slow=9.8,SNR=6.3						
GUMO				LR	LR	23 29 43.5	
	comp=Z,76nm,18.0s,baz=145,slow=35						
GUMO	**Guam**	**19.88**	**349**	P	**Pn**	**23 22 34.3**	**-1.0**
GUMO				LR	LR	23 29 43.5	
AS31	**Alice Springs**	**22.66**	**218**	*eP*	**P**	**23 23 03.6**	**+0.8**
AS31				*eS*	**S**	**23 27 05.6**	**-0.7**
ASAR	**Alice Springs**	**22.66**	**218**	P	**P**	**23 23 03.6**	**+0.7**
	comp=Z,18nm,0.6s,mb4.6,baz=51,slow=9.6,SNR=263						
ASAR				pP		23 23 14.7	
	comp=Z,19nm,0.6s,baz=51,slow=9.2,SNR=13						
ASAR				PcP	PcP	23 26 54.7	+1.4
	comp=Z,3.3nm,0.7s,baz=47,slow=2.1,SNR=7.3						
ASAR				S	**S**	**23 27 07.5**	**+1.2**
	comp=Z,12nm,0.8s,baz=30,slow=23,SNR=18						
ASPA	**Alice Springs**	**22.66**	**218**	*eP*	**P**	**23 23 03.6**	**+0.7**
ASPA				*eS*	**S**	**23 27 05.6**	**-0.8**
DZM	**Mont Dzumac**	**23.33**	**135**	P	**P**	**23 23 09.4**	**-0.1**
	comp=Z,8.4nm,0.6s,mb4.2,baz=358,slow=15,SNR=7.1						
DZM				LR	LR	23 30 58.7	
	comp=Z,337nm,21.4s,baz=263,slow=33						
ARMA	**Armidale**	**24.40**	**174**	*eP*	**P**	**23 23 19.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**25.61**	**240**	P	**P**	**23 23 31.1**	**+0.7**
	comp=Z,24nm,0.5s,mb4.9,baz=70,slow=8.7,SNR=132						
FITZ				pP	pP	23 23 43.0	-2.9
	comp=Z,63nm,0.7s,baz=74,slow=9.7,SNR=17						
STKA	**Stephens Creek**	**26.59**	**194**	*eP*	**P**	**23 23 39.0**	**-0.2**
	comp=Z,5.6nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**26.59**	**194**	P	**P**	**23 23 38.7**	**-0.4**
	comp=Z,5.7nm,0.8s,mb4.2,baz=330,slow=6.1,SNR=9.5						
STKA	**Stephens Creek**	**26.59**	**194**	*eP*	**P**	**23 23 38.8**	**-0.3**
KLBR	**Kellerberrin**	**38.61**	**225**	*eP*	**P**	**23 25 23.8**	**-0.1**
	comp=Z,45nm,1.4s,mb5.1						
MJAR	**Matsushiro Arr**	**43.50**	**348**	P	**P**	**23 26 04.1**	**0.0**
	comp=Z,5.5nm,0.9s,mb4.3,baz=164,slow=8.5,SNR=9.6						

MJAR pP pP 23 26 18.4 -2.0
comp=Z,11nm,0.9s,baz=164,slow=6.7,SNR=10
MAT Matsushiro 43.50 348 P **P 23 26 05.2 +1.1**
MAT Matsushiro 43.50 348 P **P 23 26 05.0 +0.9**
MAT pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
MAT Matsushiro 43.50 348 P **P 23 26 05.0 +0.9**
comp=Z,6.0nm,1.0s,mb4.3
CD2 Chengdu 56.61 313 *e*P **P 23 27 45.5 +2.2**
KLR Kul'dur 57.02 347 *e*P **P 23 27 42.8 -3.4**
HIA Hailar 60.63 339 *e*P **P 23 28 12.6 +1.4**
HIA *e**PP pP 23 28 27.5 -0.9
HIA pmax pmax
comp=Z,9.0nm,0.8s
HIA Hailar 60.63 339 *e*P **P 23 28 12.6 +1.4**
comp=Z,9.3nm,0.8s,mb4.9
HIA *e*pP pP 23 28 27.5 -0.9
PPT Papeete 61.15 107 *e*LR LR 23 46 20.2
comp=Z,230nm,26.8s
TBI Tubuai 61.69 113 *e*LR LR 23 46 39.6
comp=Z,191nm,33.1s
ULN Ulaanbaatar 65.02 330 *e*P **P 23 28 41.6 +1.2**
ULN *e**PP pP 23 28 55.7 -2.1
ULN pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
ULN Ulaanbaatar 65.02 330 *e*P **P 23 28 41.6 +1.2**
comp=Z,2.1nm,0.7s,mb4.1
ULN *e*pP pP 23 28 55.7 -2.1
SONM Songino Array 65.33 330 P **P 23 28 42.5 +0.1**
comp=Z,1.7nm,0.7s,mb4.0,baz=149,slow=7.2,SNR=9.2
SONM pP pP 23 28 57.8 -2.0
comp=Z,1.5nm,0.7s,baz=153,slow=4.4,SNR=4.6
ZAK Zakamensk 68.55 331 *e*P **P 23 29 03.3 +0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
BILL Bilibino 74.92 7 P **P 23 29 40.7 -0.4**
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
BILL Bilibino 74.92 7 P **P 23 29 40.7 -0.4**
comp=Z,4.2nm,0.8s,mb4.2
MKAR Makanchi Array 78.68 320 P **P 23 30 00.3 -1.9**
comp=Z,1.1nm,0.4s,mb4.0,baz=98,slow=8.3,SNR=26
MKAR PKKPbc PKKPbc 23 48 56.5 0.0
comp=Z,0.3nm,0.6s,baz=310,slow=2.8,SNR=3.7
MKAR Makanchi Array 78.68 320 P **P 23 30 00.3 -1.9**
MKAR PKKPbc PKKPbc 23 48 56.5 0.0
SLKM Skilak Lake 81.48 26 *e*P **P 23 30 17.2 -0.1**
KURK Kurchatov 82.33 323 *e*P **P 23 30 21.9 +0.1**
KURK pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
KURK Kurchatov 82.33 323 *e*P **P 23 30 21.9 +0.2**
comp=Z,1.5nm,0.4s,mb4.2
AAK Ala-Archa 82.66 314 P **P 23 30 23.4 -0.1**
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
AAK Ala-Archa 82.66 314 P **P 23 30 23.4 -0.1**
comp=Z,2.3nm,0.7s,mb4.1
MAW Mawson 82.92 203 P **P 23 30 24.2 -0.6**
comp=Z,2.6nm,0.6s,mb4.2,baz=107,slow=8.0,SNR=5.2
MCK McKinley 83.53 23 *e*P **P 23 30 27.5 -0.5**
MCK pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
MCK McKinley 83.53 23 *e*P **P 23 30 27.4 -0.6**
comp=Z,8.2nm,0.8s,mb4.6
QSPA South Pole Qui 83.94 180 *e*P **P 23 30 29.8 -0.3**
comp=Z,8.5nm,0.7s,mb4.7
DAWY Dawson 87.54 25 *e*P **P 23 30 48.7 +0.8**
ZRNK Zerenda 88.67 323 *e*P **P 23 30 51.9 -1.3**
YBH Yreka Blue Hor 92.83 49 LR LR 00 10 05.5
comp=Z,146nm,19.0s,baz=201,slow=34
ARU Arti 95.12 326 *e*P **P 23 31 23.2 +0.1**
ARU *e**PP pP 23 31 35.6 -5.8
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
ARU Arti 95.12 326 *e*P **P 23 31 23.2 0.0**
comp=Z,4.8nm,1.0s,mb4.9
ARU *e*pP pP 23 31 35.6 -5.8
PDAR Pinedale Array 102.60 48 PKKPbc PKKPbc 23 47 52.3 -3.7
comp=Z,2.1nm,0.9s,baz=108,slow=3.4,SNR=4.1
PLCA Paso Flores 121.09 146 PKP PKPdf 23 36 52.9 +0.6
comp=Z,3.2nm,0.6s,baz=223,slow=3.5,SNR=13
PLCA Paso Flores 121.09 146 PKP PKPdf 23 36 52.9 +0.6
GERES GERESS Array B 122.95 326 PKP PKPdf 23 36 55.8 -0.2
comp=Z,0.7nm,0.8s,baz=90,slow=1.3,SNR=4.3
EKA Eskdalemuir Ar 125.97 341 PKP PKPdf 23 37 02.6 +0.9
comp=Z,1.2nm,0.7s,baz=13,slow=2.7,SNR=4.2
CFAA Coronel Fontan 128.52 139 PKP PKPdf 23 37 07.4 +0.8
comp=Z,0.8nm,0.6s,baz=241,slow=3.7,SNR=16
LPAZ La Paz 137.24 122 PKP PKPdf 23 37 25.3 +2.3
comp=Z,2.0nm,0.6s,baz=280,slow=5.2,SNR=7.3
CPUP Villa Florida 139.03 143 PKhKP 23 37 17.5
comp=Z,0.4nm,0.3s,baz=26,slow=3.9,SNR=3.2
CPUP PKP PKPdf 23 37 27.4 +1.1
comp=Z,0.9nm,0.4s,baz=96,slow=0.8,SNR=6.6
CPUP Villa Florida 139.03 143 PKP 23 37 17.5
CPUP PKP PKPdf 23 37 27.4 +1.1
SDV Santo Domingo 140.79 83 PKP PKPdf 23 37 30.2 +0.7
comp=Z,4.7nm,0.6s,baz=149,slow=0.8,SNR=5.0
SAML Samuel 144.79 115 *e*PKPdf PKPdf 23 37 36.2 -0.4
TORD Torodi Ar. Bea 146.85 285 PKPbc PKPbc 23 37 41.3 -0.7
comp=Z,1.8nm,0.4s,baz=89,slow=2.6,SNR=84
BDFB Brasilia 152.76 142 PKP PKPdf 23 37 51.0 +1.6
comp=Z,4.4nm,0.8s,baz=35,slow=1.6,SNR=3.5
BDFB PKPbc PKPbc 23 37 57.9 +1.3
comp=Z,22nm,0.5s,baz=256,slow=1.6,SNR=32
DBIC Dimbokro 153.84 273 PKPbc PKPbc 23 38 00.3 +1.4
comp=Z,1.9nm,0.6s,baz=136,slow=17,SNR=3.8

*ISCJB **09** 23:27:49.6±0.4, 4704S±007×329E±02, h10km, mb4.6/20, MS4.4/5, Error ellipse: s-maj=17.9km s-min=8.6km az=148.8*
*MOS **09** 23:27:50.6±1.5, 4708S×3281E, h10km, mb5.1/5, Error ellipse: s-maj=33.2km s-min=12.2km az=96.1*
*IDC **09** 23:27:50.1±0.6, 4706S×3293E, h0km, mb4.5/16, mb1 4.6/17, mb1mx4.5/21, mbtmp4.5/17, ML4.4/1, MS4.4/6, Ms1 4.4/6, ms1mx4.3/16, Error ellipse: s-maj=21.0km s-min=13.2km az=71.0*
*NEIC **09** 23:27:51.4±0.3, 4706S×3298E, h10km, mb5.0/6, Error ellipse: s-maj=15.3km s-min=8.1km az=74.0*

ISC 09 23:27:51.3±0.4, 4706S±007×330E±02, h10km, n55, σ1§15/36, mb4.6/20, MS4.4/5, 6C-5D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.35**	**323**	Pn		Pn	**Pn**	**23 31 49.6**	**-3.9**
374nm,1.0s,SNR=7.6									
SUR	**Sutherland**	**17.35**	**323**	P		**Pn**	**Pn**	**23 31 50.6**	**-2.9**
2.2nm,0.3s,baz=137,slow=8.3,SNR=12									
SUR				LR		LR	LR	23 36 41.9	
comp=Z,2μm,20.4s,baz=134,slow=31									
BOSA	**Boshof**	**19.38**	**339**	P		Pn	**Pn**	**23 32 17.0**	**-1.3**
0.8nm,0.3s,baz=180,slow=10,SNR=18									
BOSA				LR		LR	LR	23 38 32.6	
comp=Z,2μm,20.3s,baz=206,slow=33									
LBTB	**Lobatse**	**22.77**	**343**	P		**P**	**P**	**23 32 53.1**	**-0.7**
19nm,0.9s,mb4.5,baz=182,slow=12,SNR=8.6									
LBTB				LR		LR	LR	23 40 13.8	
comp=Z,2μm,19.7s,MS4.6,baz=178,slow=33									
LBTB	**Lobatse**	**22.77**	**343**	*e*P		**P**	**P**	**23 32 53.4**	**-0.4**
LBTB				pmax		pmax	pmax		
comp=Z,77nm,0.9s,mb5.1									
LBTB	**Lobatse**	**22.77**	**343**	*e*P		**P**	**P**	**23 32 53.4**	**-0.3**
comp=Z,78nm,0.9s,mb5.1									
LBTB				LR		LR	LR	23 40 13.8	
MAW	**Mawson**	**25.69**	**154**	⇑*i*P		**P**	**P**	**23 33 21.7**	**+0.3**
comp=Z,22nm,0.8s,mb4.7									
MAW	**Mawson**	**25.69**	**154**	P		**P**	**P**	**23 33 21.9**	**+0.5**
comp=Z,32nm,0.9s,mb4.8,baz=304,slow=11,SNR=34									
MAW				LR		LR	LR	23 39 43.8	
comp=Z,726nm,21.8s,MS4.2,baz=304,slow=28									
MAW	**Mawson**	**25.69**	**154**	⇑*i*P		**P**	**P**	**23 33 21.7**	**+0.3**
MAW				pmax		pmax	pmax		
comp=Z,22nm,0.8s									
NVL	**N'lazarevskaya**	**25.85**	**196**	*e*P		**P**	**P**	**23 33 23.3**	**+0.4**
NVL				pmax		pmax	pmax		
comp=Z,48nm,1.8s,mb4.7									
NVL				MLR		MLR	MLR		
comp=Z,4μm,16.2s,MS5.1									
MATP	**Matopo**	**26.82**	**351**	P		**P**	**P**	**23 33 32.5**	**+0.9**
comp=Z,10nm,0.7s,mb4.5,baz=183,slow=10,SNR=10									
MATP				LR		LR	LR	23 43 29.1	
comp=Z,251nm,18.6s,MS3.8,baz=122,slow=35									
TSUM	**Tsumeb**	**30.51**	**330**	P		**P**	**P**	**23 34 04.2**	**-0.3**
comp=Z,11nm,0.8s,mb4.7,baz=149,slow=8.3,SNR=9.5									
TSUM				LR		LR	LR	23 46 28.0	
comp=Z,538nm,18.2s,MS4.2,baz=116,slow=37									
LSZ	**Lusaka**	**31.94**	**351**	P		**P**	**P**	**23 34 17.3**	**+0.1**
comp=Z,8.0nm,0.9s,mb4.5,baz=164,slow=11,SNR=4.8									
QSPA	**South Pole Qui**	**43.16**	**180**	*e*P		**P**	**P**	**23 35 49.8**	**-2.3**
comp=Z,24nm,0.8s,mb5.0									
CASY	**Casey**	**43.37**	**145**	*e*P		**P**	**P**	**23 35 50.3**	**-3.5**
comp=Z,33nm,1.6s,mb4.8									
KMBO	**Kilima Mbogo**	**45.90**	**6**	P		**P**	**P**	**23 36 16.3**	**+2.3**
comp=Z,4.5nm,1.0s,mb4.3,baz=182,slow=3.8,SNR=4.6									
KMBO	**Kilima Mbogo**	**45.90**	**6**	*e*P		**P**	**P**	**23 36 18.7**	**+4.8**
VNDA	**Vanda**	**51.76**	**168**	P		**P**	**P**	**23 36 57.5**	**-1.5**
comp=Z,10nm,0.8s,mb4.8,baz=244,slow=8.0,SNR=51									
SBA	**Scott Base**	**52.19**	**169**	*e*P		**P**	**P**	**23 37 01.8**	**-0.4**
SBA				pmax		pmax	pmax		
comp=Z,22nm,1.1s,mb5.0									
SBA	**Scott Base**	**52.19**	**169**	*e*P		**P**	**P**	**23 37 01.8**	**-0.4**
comp=Z,22nm,1.1s,mb5.0									
DBIC	**Dimbokro**	**63.11**	**317**	P		**P**	**P**	**23 38 18.2**	**-0.7**
comp=Z,3.8nm,0.7s,mb4.6,baz=128,slow=9.8,SNR=4.1									
DBIC	**Dimbokro**	**63.11**	**317**	*e*P		**P**	**P**	**23 38 17.4**	**-1.6**
DBIC				pmax		pmax	pmax		
comp=Z,11nm,0.9s									
DBIC	**Dimbokro**	**63.11**	**317**	*e*P		**P**	**P**	**23 38 17.4**	**-1.6**
comp=Z,11nm,0.9s,mb5.0									
TORD	**Torodi Ar. Bea**	**66.15**	**326**	P		**P**	**P**	**23 38 38.4**	**-0.4**
comp=Z,3.5nm,0.8s,mb4.5,baz=169,slow=6.6,SNR=6.2									
PLCA	**Paso Flores**	**69.33**	**232**	P		**P**	**P**	**23 38 59.6**	**+0.7**
comp=Z,2.5nm,0.9s,mb4.2,baz=157,slow=7.2,SNR=3.4									
CPUP	**Villa Florida**	**71.40**	**251**	P		**P**	**P**	**23 39 12.0**	**+0.4**
comp=Z,3.3nm,0.7s,mb4.4,baz=122,slow=5.5,SNR=6.7									
CPUP	**Villa Florida**	**71.40**	**251**	P		**P**	**P**	**23 39 12.0**	**+0.4**
CFAA	**Coronel Fontan**	**74.49**	**240**	P		**P**	**P**	**23 39 31.3**	**+1.4**
comp=Z,0.3nm,0.7s,baz=94,slow=7.2,SNR=3.8									
PSI	**Prapat**	**75.96**	**70**	P		**P**	**P**	**23 39 39.0**	**+0.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=161,slow=15,SNR=4.3									
PSI	**Prapat**	**75.96**	**70**	P		**P**	**P**	**23 39 39.0**	**+0.6**
STKA	**Stephens Creek**	**78.60**	**125**	*e*P		**P**	**P**	**23 39 52.2**	**-1.0**
comp=Z,7.0nm,0.8s,mb4.6									
STKA	**Stephens Creek**	**78.60**	**125**	P		**P**	**P**	**23 39 52.7**	**-0.5**
comp=Z,4.9nm,0.8s,mb4.5,baz=238,slow=5.3,SNR=9.5									
STKA	**Stephens Creek**	**78.60**	**125**	*e*P		**P**	**P**	**23 39 52.0**	**-1.2**
STKA				*e*PcP		PcP	PcP	23 40 01.6	-0.6
ASAR	**Alice Springs**	**80.08**	**114**	P		**P**	**P**	**23 40 02.4**	**+1.1**
comp=Z,4.5nm,0.9s,mb4.4,baz=223,slow=4.3,SNR=20									
LPAZ	**La Paz**	**85.57**	**251**	P		**P**	**P**	**23 40 31.6**	**+1.8**
comp=Z,0.5nm,0.6s,mb3.9,baz=203,slow=13,SNR=2.4									
BRTR	**Keskin Array B**	**86.41**	**1**	P		**P**	**P**	**23 40 35.0**	**+1.1**
comp=Z,0.8nm,0.8s,mb4.0,baz=182,slow=8.7,SNR=5.1									
RES	**Resolute Bay**	**144.59**	**339**	*e*PKIKP		PKPdf		23 47 26.5	-1.5
ECSD	**EROS,Sioux Fal**	**144.93**	**283**	*e*PKPdf		PKPdf		23 47 28.3	-0.3
FCC	**Fort Churchill**	**146.88**	**310**	*e*PKP2		PKPab		23 47 31.2	-3.9
BNM	**Barren Site**	**147.08**	**262**	*e*PKPdf		PKPdf		23 47 32.4	+0.1
ANMO	**Albuquerque**	**147.43**	**263**	*e*PKIKP		PKPdf		23 47 32.9	0.0
BILL	**Bilibino**	**148.50**	**32**	PKIKP		PKPdf		23 47 33.1	-1.5
BILL	**Bilibino**	**148.50**	**32**	PKPdf		PKPdf		23 47 33.1	-1.5
ISCO	**Idaho Springs**	**149.34**	**272**	PKIKP		PKPdf		23 47 36.8	+0.8
SMCO	**Snowmass**	**149.97**	**270**	*e*PKPab		PKPab		23 47 49.0	+1.4
Z14A	**Wintersburg**	**150.84**	**254**	⇑P		PKPbc		23 47 45.9	+2.0
baz=151									
X15A	**Humboldt**	**151.05**	**257**	⇑P		PKPbc		23 47 46.8	+2.4
baz=151									
Y14A	**Wickenburg**	**151.23**	**255**	⇓P		PKPbc		23 47 47.4	+2.6
baz=151									
X14A	**Yava**	**151.47**	**256**	⇓P		PKPbc		23 47 48.3	+2.8
baz=152									
GLA	**Glamis**	**151.87**	**252**	⇓P		PKPbc		23 47 47.2	+0.8
baz=152									
W14A	**Seligman**	**152.03**	**257**	⇓P		PKPbc		23 47 48.8	+2.1
baz=152									
Y12C	**Blythe**	**152.11**	**253**	⇓P		PKPbc		23 47 48.1	+1.2
baz=152									
X13A	**Yucca**	**152.16**	**255**	⇑P		PKPbc		23 47 48.1	+1.0
baz=152									
W13A	**Hualapai Mount**	**152.51**	**256**	⇑P		PKPbc		23 47 47.7	-0.1
baz=153									
MSU	**Marysvale**	**153.20**	**264**	*e*PKIKP		PKPdf		23 47 41.8	-0.1

*ISCJB **09** 23:44:51.0±2.3, 265S±03×1793E±05, h540km±32km, mb4.1/6, Error ellipse: s-maj=80.5km s-min=28.0km az=120.3*
*NEIC **09** 23:44:51.4±0.9, 2647S×17935E, h533km±10km, mb4.3/3, Error ellipse: s-maj=21.6km s-min=13.8km az=191.0*
*IDC **09** 23:44:52.0±1.9, 2654S×17928E, h529km±24km, mb3.3/3, mb1 3.4/5, mb1mx3.2/13, mbtmp4.3/5, Error ellipse: s-maj=47.2km s-min=24.4km az=176.0*

ISC 09 23:44:52.5±1.8, 266S±03×1792E±04, h522km±26km, n18, σ0§42/12, mb4.1/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.68**	**136**	P		P	**P**	**23 46 10.1**	**+0.2**
342nm,0.3s,baz=74,slow=22,SNR=42									
RAO	**Raoul Island**	**3.68**	**136**	*e*P		**P**	**P**	**23 46 10.1**	**+0.2**
RAO				*e*S		**S**	**P**	**23 47 12.9**	**-0.1**
URZ	**Urewera**	**11.74**	**188**	P		**P**	**P**	**23 47 28.1**	**-0.1**
1.5nm,0.3s,baz=50,slow=2.7,SNR=7.7									
DZM	**Mont Dzumac**	**12.45**	**289**	P		**P**	**P**	**23 47 35.4**	**-0.2**
0.3nm,0.3s,baz=121,slow=18,SNR=3.8									
CTAO	**Charters Tower**	**30.85**	**275**	*e*P		**P**	**P**	**23 50 26.5**	**+0.8**
2.1nm,0.4s,mb4.0									
STKA	**Stephens Creek**	**33.09**	**252**	P		**P**	**P**	**23 50 44.5**	**-0.2**
0.7nm,0.4s,mb3.6,baz=168,slow=14,SNR=3.3									
ASAR	**Alice Springs**	**40.92**	**264**	P		**P**	**P**	**23 51 49.8**	**+0.7**
2.8nm,0.5s,mb4.1,baz=93,slow=7.6,SNR=37									
WB2	**Warramunga Arr**	**41.54**	**269**	*e*P		**P**	**P**	**23 51 54.0**	**0.0**
WRAB	**Tennant Creek**	**41.54**	**269**	*e*P		**P**	**P**	**23 51 53.8**	**-0.2**
5.2nm,0.3s,mb4.5									
WRA	**Warramunga Arr**	**41.55**	**269**	P		**P**	**P**	**23 51 54.0**	**-0.1**
2.4nm,0.4s,mb4.1,baz=104,slow=7.9,SNR=9.4									
KAKA	**Kakadu**	**45.88**	**278**	*e*P		**P**	**P**	**23 52 26.9**	**-0.8**
8.9nm,0.9s,mb4.3									
FINES	**FINESS Array B**	**140.75**	**340**	PKhKP				00 03 13.1	
0.9nm,0.7s,baz=54,slow=4.9,SNR=7.0									
FINES				PKP		PKPdf		00 03 22.4	-0.2
1.1nm,0.8s,baz=96,slow=5.7,SNR=4.3									
FINES	**FINESS Array B**	**140.75**	**340**	PKP				00 03 13.1	
FINES				PKP		PKPdf		00 03 22.4	-0.2
NB2	**NORSAR Subarra**	**144.63**	**350**	PKPa		PKPdf		00 03 25.9	-3.5
comp=Z,2.7nm,0.8s,baz=17,slow=2.6									
NOA	**NORSAR Array B**	**144.63**	**350**	PKP		PKPdf		00 03 26.8	-2.6
comp=Z,2.0nm,0.7s,baz=22,slow=2.7,SNR=16									
AKASG	**Malin Array Be**	**146.79**	**324**	PKPbc		PKPbc		00 03 33.4	-2.4
comp=Z,0.8nm,0.4s,baz=46,slow=4.5,SNR=6.4									
AKASG	**Malin Array Be**	**146.79**	**324**	PKPbc		PKPbc		00 03 33.4	-2.4
BRTR	**Keskin Array B**	**148.52**	**303**	PKPbc		PKPbc		00 03 39.1	-1.1
comp=Z,0.5nm,0.4s,baz=119,slow=1.2,SNR=5.2									

MAN 10 00:14:13.8, 1378N×11998E, h32km, mb2.8, ML4.2, MS3.0, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.27**	**101**	*e*P		Pb		00 14 23.4	+2.3
LUBP				*e*S		Sb		00 14 28.6	+2.8
PGP	**Puerto Galera**	**0.99**	**106**	⇑*i*P		Pn		00 14 29.8	-1.7
BOAC	**Boac**	**1.84**	**100**	*e*P		Pn		00 14 43.4	+0.2
OTRP	**Odiongan**	**2.44**	**125**	*e*P		Pn		00 14 53.0	+1.6
ENPP	**El Nido**	**2.62**	**192**	*e*P		Pn		00 14 54.4	+0.6
ENPP				*e*S		Sn		00 15 21.3	-3.2
CUYO	**Cuyo Island**	**3.09**	**161**	*e*P		Pn		00 14 58.0	-2.3

JMA 10 00:21:39.4±0.2, 3721N×14212E, h32km±5km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.01**	**279**	P		Pn		00 21 57.5	+0.2
JFK				*e*S		Sn		00 22 10.0	-0.3
ONAJ	**Iwakimizuishiy**	**1.06**	**265**	P		Pn		00 21 58.5	+0.5
ONAJ				*e*S		Sn		00 22 11.9	+0.2
JMM	**Marumori**	**1.24**	**302**	P		Pn		00 22 01.1	+0.6
JIO	**Ouri**	**1.38**	**334**	P		Pn		00 22 02.9	+0.4
JFT	**Otama**	**1.45**	**283**	P		Pn		00 22 05.0	+1.6
JFT				*e*S		Sn		00 22 23.3	+1.9
JOU	**Okura**	**1.63**	**315**	P		Pn		00 22 07.3	+1.4
JOU				*e*S		Sn		00 22 28.0	+2.2
JMK	**Ichinoseki**	**1.88**	**338**	P		Pn		00 22 11.0	+1.7
JYS	**Shiratake**	**1.92**	**302**	P		Pn		00 22 12.4	+2.6
JYK	**Kaneyama**	**2.20**	**321**	P		Pn		00 22 15.8	+2.1
JAG	**Ashikaga**	**2.28**	**251**	P		Pn		00 22 16.3	+1.5
MAT	**Matsushiro**	**3.21**	**259**	P		Pn		00 22 30.3	+2.8
MAT				*e*S		Sn		00 23 11.4	+6.8

IDC 10 00:37:02.4±1.4, 2924S×17805W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/11, mbtmp3.6/2, Error ellipse: s-maj=61.9km s-min=42.2km az=179.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**9.33**	**198**	P		SN	Sn	00 41 03.5	-0.2
MWZ	**Matawai**	**9.79**	**201**	P		SN	Sn	00 41 14.6	-0.3
MRZ	**Mangataiboka R**	**12.53**	**203**	P		SN	Sn	00 42 12.3	-10
TCW	**Tory Channel**	**13.48**	**206**	P		SN	Sn	00 42 36.1	-9.3
MQZ	**McQueen's Vall**	**16.24**	**205**	P		SN	Sn	00 43 36.2	-16
ASAR	**Alice Springs**	**43.14**	**266**	P		P	P	00 45 03.9	-0.6
0.2nm,0.3s,baz=102,slow=8.3,SNR=3.8									
WRA	**Warramunga Arr**	**44.03**	**271**	P		P	P	00 45 12.9	+1.2
0.5nm,0.4s,baz=109,slow=7.8,SNR=2.2									
VNA3	**Neumayer Olymp**	**79.46**	**176**	*e*		P	P	00 49 12.0	+1.4
FINES	**FINESS Array B**	**144.05**	**340**	PKP		PKPdf		00 56 37.6	-2.3
0.6nm,0.3s,baz=55,slow=3.0,SNR=14									
NB2	**NORSAR Subarra**	**147.61**	**352**	PKPa		PKPbc		00 56 49.2	+0.5
comp=Z,0.2nm,0.5s,baz=17,slow=2.6									
NOA	**NORSAR Array B**	**147.61**	**352**	PKPbc		PKPbc		00 56 49.3	+0.6
comp=Z,0.6nm,0.6s,baz=13,slow=4.2,SNR=3.6									
AKASG	**Malin Array Be**	**150.35**	**324**	PKPbc		PKPbc		00 56 54.2	-1.5
comp=Z,0.4nm,0.3s,baz=56,slow=3.9,SNR=5.8									
BRTR	**Keskin Array B**	**152.00**	**300**	PKPbc		PKPbc		00 56 58.6	-0.8
comp=Z,0.4nm,0.4s,baz=135,slow=4.5,SNR=5.8									
TORD	**Torodi Ar. Bea**	**163.98**	**179**	PKPab		PKPab		00 58 00.9	+0.4
comp=Z,0.7nm,0.9s,baz=179,slow=3.2,SNR=8.8									

*IDC **10** 00:42:59.1±2.5, 8205S×11189E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=150.5km s-min=24.3km az=51.0*

NEIC 10 00:43:03.4±8.4, 8725S×11132E, h41km±66km, Error ellipse: s-maj=173.4km s-min=24.6km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.75**	**125**	Pn		Pn	Pn	00 46 55.1	+0.2
0.1nm,0.3s,baz=332,slow=15,SNR=4.2									
FITZ				Sn		Sn	Sn	00 49 42.2	-18
0.1nm,0.3s,baz=246,slow=14,SNR=2.5									
WRA	**Warramunga Arr**	**24.90**	**119**	P		P	P	00 48 22.4	+0.1
3.1nm,1.3s,baz=296,slow=12,SNR=3.4									
ASAR	**Alice Springs**	**26.23**	**127**	P		P	P	00 48 35.4	+1.0
0.8nm,0.4s,baz=306,slow=8.7,SNR=11									
STKA	**Stephens Creek**	**36.34**	**134**	P		P	P	00 50 03.2	-0.1
1.8nm,0.4s,baz=311,slow=8.9,SNR=7.7									
STKA	**Stephens Creek**	**36.34**	**134**	P		P	P	00 50 03.2	-0.1
MKAR	**Makanchi Array**	**61.02**	**338**	P		P	P	00 53 12.8	+0.1
0.4nm,0.5s,baz=148,slow=6.6,SNR=6.0									
MKAR	**Makanchi Array**	**61.02**	**338**	P		P	P	00 53 12.8	+0.1

*ISCJB **10** 01:44:36.3±0.5, 1538S±007×4107E±007, h10km, mb4.1/13, Error ellipse: s-maj=10.6km s-min=9.2km az=86.1*
*IDC **10** 01:44:36.5±0.6, 1538S×41.19E, h0km, mb4.1/13, mb1 4.1/18, mb1mx4.0/28, mbtmp4.1/18, ML4.2/5, MS3.6/1, Ms1 3.6/1, ms1mx2.8/21, Error ellipse: s-maj=16.6km s-min=15.1km az=134.0*
*NEIC **10** 01:44:37.9±0.5, 1542S×41.11E, h10km, mb4.5/4, Error ellipse: s-maj=10.5km s-min=8.9km az=152.0*

ISC 10 01:44:38.3±0.4, 1539S±007×4109E±007, h10km, n29, σ1§10/37, mb4.1/13, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**6.63**	**119**	Pn		**Pn**	**Pn**	**01 46 14.5**	**-1.3**
20nm,0.3s,baz=293,slow=12,SNR=129									
OPO				Sn		**Sn**	**Pn**	**01 47 23.2**	**-8.2**
15nm,0.3s,baz=289,slow=15,SNR=3.2									
LSZ	**Lusaka**	**12.45**	**269**	Pn		**Pn**	**Pn**	**01 47 35.1**	**-0.4**
0.9nm,0.3s,baz=87,slow=12,SNR=16									
LSZ				Sn		**Sn**	**Pn**	**01 49 50.1**	**-4.2**
0.8nm,0.3s,baz=64,slow=14,SNR=2.3									
LSZ				Lg				01 51 02.3	
1.1nm,0.3s,baz=30,slow=16,SNR=7.7									
LSZ				LR		LR	LR	01 52 19.9	
comp=Z,243nm,18.4s,baz=6.6,slow=37									
LSZ	**Lusaka**	**12.45**	**269**	*e*Pn		**Pn**	**Pn**	**01 47 34.

*ISCJB **10** 01:57:59.1±0.3, 3632S±006×9694W±0.10, h10km, mb4.5/30, MS4.0/13, Error ellipse: s-maj=12.2km s-min=7.8km az=117.6*
*BJI **10** 01:58:00.6, 3630S×9700W, h10km, mB5.1, Ms5.1, Msz4.7*
*NEIC **10** 01:58:00.6±0.3, 3629S×9701W, h10km, mb4.8/18, Error ellipse: s-maj=10.4km s-min=7.1km az=60.0*
ISC 10 01:58:00.6±0.3, 3634S±006×970W±01, h10km, (h25km±1.3km:pP-P), n181, σ0º64/152, mb4.5/30, MS4.0/13, 49C-35D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**21.10**	**110**	P	**P**	**02 02 48.0**	**+2.8**
	6.0nm,0.8s,mb4.0,baz=270,slow=9.9,SNR=9.5						
CFAA	**Coronel Fontan**	**24.25**	**87**	P	**P**	**02 03 16.9**	**-0.8**
	0.2nm,0.3s,baz=272,slow=9.9,SNR=17						
CFAA				LR	LR	02 11 08.5	
	comp=Z,23nm,20.6s,baz=252,slow=32						
USHA	**Ushuaia**	**26.93**	**142**	LR	LR	02 12 13.7	
	comp=Z,332nm,18.5s,MS3.9,baz=264,slow=32						
LVC	**Limon Verde**	**27.88**	**68**	P	**P**	**02 03 54.4**	**+3.9**
	2.7nm,0.8s,mb4.0,baz=304,slow=14,SNR=1.7						
LVC				LR	LR	02 12 06.9	
	comp=Z,402nm,18.0s,MS4.0,baz=227,slow=30						
LVC	**Limon Verde**	**27.88**	**68**	P	**P**	**02 03 54.4**	**+3.9**
LVC				*e*pP	pP	02 03 59.5	+5.9
LVC				LR	LR	02 12 06.8	
LPAZ	**La Paz**	**32.47**	**60**	P	**P**	**02 04 33.9**	**+2.8**
	1.3nm,0.7s,mb3.9,baz=231,slow=8.1,SNR=6.4						
LPAZ				LR	LR	02 15 27.1	
	comp=Z,78nm,20.7s,MS3.4,baz=290,slow=32						
ATAH	**Atahualpa**	**33.78**	**35**	P	**P**	**02 04 43.2**	**+0.6**
	4.3nm,0.9s,mb4.4,baz=328,slow=14,SNR=3.5						
ATAH				LR	LR	02 13 31.7	
	comp=Z,86nm,19.4s,MS3.5,baz=0.0,slow=28						
CPUP	**Villa Florida**	**35.09**	**85**	P	**P**	**02 04 53.7**	**-0.2**
	1.0nm,0.7s,mb3.8,baz=240,slow=8.1,SNR=2.7						
CPUP				LR	LR	02 15 44.4	
	comp=Z,75nm,21.8s,MS3.4,baz=232,slow=30						
SIV	**San Ignacio**	**37.76**	**67**	P	**P**	**02 05 16.9**	**+0.2**
	0.5nm,0.7s,mb3.4,baz=186,slow=9.4,SNR=3.6						
SIV				PcP	PcP	02 07 32.8	-0.7
	0.7nm,0.7s,baz=201,slow=11,SNR=2.7						
SAML	**Samuel**	**41.05**	**57**	*e*P	**P**	**02 05 38.7**	**-5.5**
SAML				*e*pP	pP	02 05 52.0	+4.7
ROSC	**El Rosal**	**46.14**	**32**	LR	LR	02 23 09.9	
	comp=Z,148nm,19.1s,MS4.0,baz=33,slow=33						
BDFB	**Brasilia**	**48.02**	**78**	P	**P**	**02 06 40.3**	**+0.4**
	1.3nm,0.6s,mb4.1,baz=300,slow=26,SNR=2.5						
BDFB				LR	LR	02 25 01.2	
	comp=Z,183nm,21.2s,MS4.0,baz=237,slow=34						
QSPA	**South Pole Qui**	**53.88**	**180**	*e*P	**P**	**02 07 24.0**	**+0.1**
	14nm,1.1s,mb4.8						
VNA3	**Neumayer Olymp**	**55.22**	**157**	⇓*i*P	**P**	**02 07 33.1**	**-0.5**
VNA3				*e*	pP	02 07 34.3	-2.5
VNA3				*e*		02 07 43.9	
VNA3				*e*		02 07 47.9	
VNA3				*e*		02 07 53.7	
VNA3				*e*		02 08 00.4	
VNA3				*e*		02 08 06.7	
VNA1	**Neumayer--Stat**	**55.79**	**156**	⇓*i*P	**P**	**02 07 37.7**	**-0.1**
VNA1				*e*	pP	02 07 39.1	-1.9
VNA1				*e*		02 07 48.2	
VNA1				*e*		02 07 52.3	
VNA1				*e*		02 07 58.2	
VNA1				*e*		02 08 04.7	
VNA1				*e*		02 08 10.4	
SBA	**Scott Base**	**56.09**	**195**	*e*P	**P**	**02 07 38.6**	**-1.3**
SBA				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
SBA	**Scott Base**	**56.09**	**195**	*e*P	**P**	**02 07 38.6**	**-1.3**
	comp=Z,17nm,1.2s,mb4.9						
VNDA	**Vanda**	**57.20**	**195**	P	**P**	**02 07 48.1**	**+0.3**
	comp=Z,4.9nm,1.1s,mb4.5,baz=112,slow=5.7,SNR=12						
VNDA				LR	LR	02 30 02.4	
	comp=Z,118nm,19.1s,MS4.0,baz=159,slow=34						
SNAA	**Sanae**	**57.24**	**158**	⇓*i*P	**P**	**02 07 34.7**	**-13**
SNAA				*e*	pP	02 07 36.0	-15
SNAA				*e*		02 07 45.5	
SNAA				*e*		02 07 49.7	
SNAA				*e*		02 07 55.0	
SNAA				*e*		02 08 00.5	
SNAA				*e*		02 08 12.4	
LTX	**Lajitas**	**65.62**	**354**	*e*P	**P**	**02 08 45.0**	**+0.2**
LTX				*e*PP	pP	02 08 53.5	+5.5
LTX				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
LTX	**Lajitas**	**65.62**	**354**	*e*P	**P**	**02 08 45.0**	**+0.2**
	comp=Z,12nm,1.3s,mb4.8						
LTX				*e*pP	pP	02 08 53.5	+5.5
HKT	**Hockley**	**65.94**	**1**	*e*P	**P**	**02 08 46.5**	**-0.3**
HKT				*e*PP	pP	02 08 53.9	+3.8
JCT	**Junction City**	**66.52**	**357**	*e*P	**P**	**02 08 50.0**	**-0.5**
JCT				*e*PP	pP	02 08 58.3	+4.5
MNTX	**Cornudas Mount**	**68.14**	**352**	*e*P	**P**	**02 08 58.6**	**-2.1**
	comp=Z,5.2nm,1.0s,mb4.5						
MNTX				*e*pP	pP	02 09 07.2	+3.2
TUC	**Tucson**	**69.50**	**348**	*e*P	**P**	**02 09 09.4**	**+0.1**
TUC				*e*PP	pP	02 09 15.7	+3.2
LRAL	**Lakeview Retre**	**69.64**	**9**	*e*P	**P**	**02 09 09.2**	**-0.9**
	comp=Z,7.6nm,0.8s,mb4.7						
LRAL				*e*pP	pP	02 09 16.2	+2.8
116A	**Eloy**	**69.91**	**347**	⇓P	**P**	**02 09 11.7**	**-0.1**
	baz=70						
115A	**Sonoran Desert**	**70.14**	**346**	⇑P	**P**	**02 09 13.4**	**+0.2**
	baz=70						
SYO	**Syowa Base**	**70.18**	**165**	⇑*e*X		02 09 07.0	
Z14A	**Wintersburg**	**70.92**	**346**	⇓P	**P**	**02 09 17.7**	**-0.3**
	baz=71						
AMTX	**Amarillo**	**70.99**	**356**	*e*P	**P**	**02 09 17.8**	**-0.6**
GLA	**Glamis**	**71.02**	**344**	⇑P	**P**	**02 09 18.2**	**-0.3**
	baz=71						
PLAL	**Pickwick Lake**	**71.44**	**8**	*e*P	**P**	**02 09 19.6**	**-1.5**
Y14A	**Wickenburg**	**71.50**	**346**	⇓P	**P**	**02 09 21.3**	**-0.2**
	baz=72,SNR=9.6						
Y13A	**Salome**	**71.54**	**345**	⇑P	**P**	**02 09 21.8**	**+0.1**
	baz=72						
Y12C	**Blythe**	**71.62**	**345**	⇑P	**P**	**02 09 22.2**	**0.0**
	baz=72						
BC3	**Big Chuckw Mtn**	**71.74**	**344**	⇑P	**P**	**02 09 22.7**	**-0.2**
	baz=72						
JSC	**Jenkinsville**	**71.77**	**14**	*e*P	**P**	**02 09 22.8**	**-0.3**
X15A	**Humboldt**	**71.89**	**347**	⇓P	**P**	**02 09 24.2**	**+0.3**
	baz=72,SNR=8.6						
SWET	**Sewanee**	**71.93**	**9**	*e*P	**P**	**02 09 23.0**	**-1.0**
SWET				*e*pP	pP	02 09 30.6	+3.3
X14A	**Yava**	**71.99**	**346**	⇑P	**P**	**02 09 24.9**	**+0.5**
	baz=72						
X13A	**Yucca**	**72.29**	**345**	⇑P	**P**	**02 09 25.6**	**-0.6**
	baz=73						
W15A	**Williams**	**72.56**	**347**	⇑P	**P**	**02 09 28.5**	**+0.6**
	baz=73						
WVT	**Waverly**	**72.60**	**8**	*e*P	**P**	**02 09 26.1**	**-2.0**
WVT				*e*PP	pP	02 09 34.0	+2.7
WVT				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
WVT	**Waverly**	**72.60**	**8**	*e*P	**P**	**02 09 26.1**	**-2.0**
	comp=Z,7.4nm,1.0s,mb4.6						
WVT				*e*pP	pP	02 09 34.0	+2.6
W14A	**Seligman**	**72.74**	**346**	P	**P**	**02 09 29.4**	**+0.5**
	baz=73,SNR=12						
W13A	**Hualapai Mount**	**72.80**	**346**	⇑P	**P**	**02 09 29.3**	**0.0**
	baz=73						
GSC	**Goldstone**	**73.62**	**343**	⇑P	**P**	**02 09 34.3**	**+0.1**
	baz=74						
MVCO	**Mesa Verde**	**73.95**	**350**	*e*P	**P**	**02 09 36.2**	**+0.2**
MVCO				*e*pP	pP	02 09 43.6	+4.3
FVM	**French Village**	**74.20**	**5**	*e*P	**P**	**02 09 36.2**	**-1.3**
FVM				*e*PP	pP	02 09 44.0	+3.2
FVM				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
FVM	**French Village**	**74.20**	**5**	*e*P	**P**	**02 09 36.2**	**-1.3**
	comp=Z,8.8nm,0.8s,mb4.7						
FVM				*e*pP	pP	02 09 44.0	+3.2
CCM	**Cathedral Cave**	**74.21**	**5**	*e*P	**P**	**02 09 36.5**	**-1.1**
CCM				*e*PP	pP	02 09 43.8	+2.9
ISA	**Isabella**	**74.37**	**342**	⇓P	**P**	**02 09 38.6**	**+0.1**
	baz=75						
SHPR	**Sheep Range**	**74.42**	**345**	*e*P	**P**	**02 09 39.0**	**+0.2**
ELN	**Prospectdale**	**74.72**	**13**	*e*P	**P**	**02 09 39.7**	**-0.9**
ELN				*e*pP	pP	02 09 47.5	+3.7
DAC	**Darwin (Calif)**	**74.74**	**343**	*e*P	**P**	**02 09 40.5**	**-0.2**
PV01	**Paradox Valley**	**74.87**	**351**	*e*P	**P**	**02 09 41.4**	**0.0**
V05C	**Boulder Hill,**	**74.94**	**341**	⇓P	**P**	**02 09 42.0**	**+0.2**
	baz=75						
CCUT	**Cedar City**	**75.07**	**347**	*e*P	**P**	**02 09 42.8**	**+0.3**
PKD	**Parkfield**	**75.18**	**340**	⇑P	**P**	**02 09 43.2**	**+0.1**
	baz=76						
MAW	**Mawson**	**75.26**	**172**	P	**P**	**02 09 42.7**	**-1.0**
	comp=Z,3.5nm,0.9s,mb4.3,baz=210,slow=9.9,SNR=5.0						
U04C	**Hernandez Rese**	**75.63**	**340**	⇑P	**P**	**02 09 46.5**	**+0.7**
	baz=76						
TIN	**Tinemaha**	**75.64**	**343**	⇓P	**P**	**02 09 46.2**	**+0.4**
	baz=76						
SMCO	**Snowmass**	**75.70**	**352**	*e*P	**P**	**02 09 46.9**	**+0.7**
	comp=Z,8.5nm,0.9s,mb4.7						
MVU	**Marysvale**	**75.79**	**348**	*e*pP	pP	02 09 58.9	+8.9
MTUM	**Tungsten Hills**	**76.00**	**342**	*e*P	**P**	**02 09 47.8**	**-0.1**
S09A	**Goldfield**	**76.03**	**344**	⇑P	**P**	**02 09 48.3**	**+0.2**
	baz=76,SNR=10						
S08C	**White Mtn Res**	**76.05**	**343**	⇑P	**P**	**02 09 48.6**	**+0.5**
	baz=76,SNR=8.8						
SRU	**San Rafael**	**76.11**	**349**	*e*P	**P**	**02 09 48.5**	**0.0**
PACP	**Pacheco Peak**	**76.38**	**340**	⇓P	**P**	**02 09 50.9**	**+0.8**
	baz=77						
TMUT	**Trail Mountain**	**76.39**	**349**	*e*P	**P**	**02 09 50.8**	**+0.7**
S05C	**Merced**	**76.44**	**341**	⇑P	**P**	**02 09 51.1**	**+0.7**
	baz=77						
R08A	**Mina**	**76.84**	**343**	⇑P	**P**	**02 09 52.9**	**+0.2**
	baz=77						
MNV	**Mina**	**76.93**	**343**	*e*P	**P**	**02 09 53.6**	**+0.4**
MNV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MNV	**Mina**	**76.93**	**343**	*e*P	**P**	**02 09 53.6**	**+0.5**
	comp=Z,8.2nm,0.8s,mb4.7						
CMB	**Columbia Colle**	**77.11**	**341**	*e*P	**P**	**02 09 54.0**	**-0.1**
CMB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CMB	**Columbia Colle**	**77.11**	**341**	*e*P	**P**	**02 09 54.0**	**-0.1**
	comp=Z,6.0nm,0.9s,mb4.5						
CMB	**Columbia Colle**	**77.11**	**341**	⇓P	**P**	**02 09 54.1**	**-0.1**
	baz=77						
P12A	**Mcfill**	**77.22**	**346**	⇓P	**P**	**02 09 54.6**	**-0.2**
	baz=78						
ACSO	**Alum Creek Sta**	**77.27**	**11**	*e*P	**P**	**02 09 54.1**	**-1.0**
Q08A	**Gabbs**	**77.28**	**343**	P	**P**	**02 09 55.2**	**+0.1**
	baz=78,SNR=5.1						
R06C	**Coleville**	**77.33**	**342**	⇑P	**P**	**02 09 56.0**	**+0.6**
	baz=78						
DAU	**Daniels Canyon**	**77.49**	**349**	*e*P	**P**	**02 09 56.9**	**+0.6**
DAU				*e*PP	pP	02 10 04.3	+4.7
R05C	**Kirkwood Meado**	**77.65**	**342**	⇓P	**P**	**02 09 57.3**	**+0.1**
	baz=78						
LAVA	**Lava Cap Winer**	**77.88**	**341**	⇑P	**P**	**02 09 58.8**	**+0.3**
	baz=78						
Q03C	**Winters**	**78.10**	**340**	⇑P	**P**	**02 10 00.4**	**+0.7**
	baz=78						
WCN	**Washoe City**	**78.14**	**342**	⇑P	**P**	**02 10 00.1**	**+0.2**
	baz=78						
P05C	**Yuba Gap, Truc**	**78.36**	**341**	⇑P	**P**	**02 10 01.4**	**+0.3**
	baz=79						
O09A	**Fish Creek Ran**	**78.37**	**344**	P	**P**	**02 10 01.2**	**0.0**
	baz=79,SNR=6.8						
N13A	**West Wendover**	**78.43**	**347**	⇓P	**P**	**02 10 01.2**	**-0.3**
	baz=79						
MNRC	**McLaughlin Nat**	**78.45**	**340**	⇓P	**P**	**02 10 01.6**	**0.0**
	baz=79						
ELK	**Elko**	**78.52**	**346**	*e*P	**P**	**02 10 01.9**	**-0.1**
ELK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ELK	**Elko**	**78.52**	**346**	*e*P	**P**	**02 10 01.9**	**-0.1**
	comp=Z,7.7nm,1.0s,mb4.6						
N12A	**Wells--Clov Va**	**78.58**	**346**	⇑P	**P**	**02 10 02.2**	**-0.2**
	baz=79,SNR=8.8						
SUTB	**Sutter Buttes**	**78.60**	**341**	⇓P	**P**	**02 10 02.4**	**0.0**
	baz=79						
BMN	**Battle Mountai**	**78.63**	**344**	*e*P	**P**	**02 10 02.7**	**+0.1**
BMN				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
BMN	**Battle Mountai**	**78.63**	**344**	*e*P	**P**	**02 10 02.7**	**+0.1**
	comp=Z,11nm,1.2s,mb4.7						
O07A	**Toulon**	**78.74**	**343**	P	**P**	**02 10 03.6**	**+0.4**
	baz=79,SNR=7.8						
N10A	**Dunphy**	**78.75**	**345**	⇑P	**P**	**02 10 04.1**	**+0.8**
	baz=79						
ORV	**Oroville**	**78.83**	**341**	⇓P	**P**	**02 10 04.0**	**+0.3**
	baz=79						
O06A	**Flanigan**	**78.97**	**342**	⇑P	**P**	**02 10 04.5**	**0.0**
	baz=79						
O05C	**Quincy**	**79.06**	**341**	⇓P	**P**	**02 10 05.2**	**+0.2**
	baz=79						
N09A	**Rock Creek Ran**	**79.09**	**344**	⇑P	**P**	**02 10 05.9**	**+0.7**
	baz=79						
M12A	**Wells**	**79.10**	**346**	⇑P	**P**	**02 10 05.4**	**+0.2**
	baz=79						
GASB	**Alder Springs**	**79.25**	**340**	⇓P	**P**	**02 10 07.0**	**+1.0**
	baz=80						
P01C	**Double 8 Ranch**	**79.25**	**340**	⇑P	**P**	**02 10 06.8**	**+0.8**
	baz=80						
M11A	**Holland Ranch,**	**79.29**	**346**	⇑P	**P**	**02 10 05.9**	**-0.4**
	baz=80						
M10A	**I.L. Ranch, Tu**	**79.53**	**345**	⇓P	**P**	**02 10 07.6**	**0.0**
	baz=80						
BW06	**Boulder Array**	**79.56**	**351**	*e*P	**P**	**02 10 07.4**	**-0.3**
	comp=Z,8.0nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**79.56**	**351**	P	**P**	**02 10 07.1**	**-0.6**
	comp=Z,8.8nm,0.8s,mb4.7,baz=160,slow=6.0,SNR=51						
PDAR				LR	LR	02 41 41.9	
	comp=Z,73nm,19.4s,MS4.0,baz=247,slow=33						
M09A	**Marrel Ranch,**	**79.62**	**344**	⇓P	**P**	**02 10 07.7**	**-0.4**
	baz=80						
ECSD	**EROS,Sioux Fal**	**79.69**	**0**	*e*P	**P**	**02 10 07.3**	**-1.2**
M08A	**Happy Creek Ra**	**79.86**	**344**	⇑P	**P**	**02 10 09.3**	**0.0**
	baz=80						
M07A	**Soldier Meadow**	**79.98**	**343**	⇑P	**P**	**02 10 10.1**	**+0.1**
	baz=80,SNR=5.0						
HATC	**Hat Creek Radi**	**80.00**	**341**	⇑P	**P**	**02 10 09.8**	**-0.4**
	baz=80						
O01C	**Eel River Cons**	**80.01**	**339**	⇑P	**P**	**02 10 10.7**	**+0.5**
	baz=80						
WDC	**Whiskeytown Da**	**80.06**	**341**	⇓P	**P**	**02 10 09.4**	**-1.0**
	baz=80						
M06C	**Likely Place G**	**80.11**	**342**	⇓P	**P**	**02 10 10.6**	**-0.1**
	baz=80						
L09A	**Wilkinson Ranc**	**80.25**	**345**	⇓P	**P**	**02 10 11.5**	**+0.1**
	baz=81,SNR=8.6						
M05C	**Lookout**	**80.43**	**342**	⇑P	**P**	**02 10 12.2**	**-0.3**
	baz=81,SNR=8.7						
TPAW	**Teton Pass**	**80.46**	**350**	*e*P	**P**	**02 10 12.8**	**+0.1**
N02C	**Big Bar**	**80.50**	**340**	⇓P	**P**	**02 10 12.8**	**0.0**
	baz=81						
LOHW	**Long Hollow**	**80.53**	**350**	*e*P	**P**	**02 10 12.4**	**-0.6**
	comp=Z,7.3nm,1.1s,mb4.5						
LOHW				*e*pP	pP	02 10 20.0	+3.7
M03C	**McCloud**	**80.60**	**341**	⇑P	**P**	**02 10 13.1**	**-0.2**
	baz=81						
IMW	**Indian Meadow**	**80.86**	**350**	*e*P	**P**	**02 10 14.9**	**+0.2**
	comp=Z,9.4nm,1.0s,mb4.7						
M02C	**Callahan**	**80.90**	**341**	⇑P	**P**	**02 10 14.9**	**-0.1**
	baz=81						
M04C	**Macdoel**	**81.00**	**341**	⇑P	**P**	**02 10 15.9**	**+0.4**
	baz=81						
FLWY	**Flagg Ranch**	**81.01**	**350**	*e*P	**P**	**02 10 15.9**	**+0.4**
HLID	**Hailey**	**81.09**	**347**	*e*P	**P**	**02 10 16.1**	**+0.2**
	comp=Z,8.9nm,0.8s,mb4.8						
YBH	**Yreka Blue Hor**	**81.19**	**341**	⇓P	**P**	**02 10 16.8**	**+0.3**
	baz=82						
L04A	**Klamath Falls**	**81.38**	**342**	⇑P	**P**	**02 10 17.4**	**-0.1**
	baz=82						
K06A	**Valley Falls**	**81.57**	**343**	⇑P	**P**	**02 10 18.6**	**+0.1**
	baz=82						
L02A	**Cave Junction**	**81.82**	**340**	⇓P	**P**	**02 10 19.3**	**-0.5**
	baz=82						
J06A	**Christmas Vall**	**81.97**	**343**	⇑P	**P**	**02 10 20.5**	**-0.1**
	baz=82,SNR=10						
HUMO	**Hull Mountain**	**82.07**	**341**	⇓P	**P**	**02 10 21.6**	**+0.5**
	baz=82						
DLMT	**Dillon**	**82.54**	**349**	*e*P	**P**	**02 10 23.8**	**+0.2**
	comp=Z,9.8nm,1.3s,mb4.7						
I06A	**Prineville**	**82.64**	**343**	⇓P	**P**	**02 10 24.6**	**+0.5**
	baz=83,SNR=6.8						
K01A	**Sixes**	**82.67**	**340**	⇑P	**P**	**02 10 25.0**	**+0.7**
	baz=83						
BOZ	**Bozeman (W)**	**82.67**	**350**	*e*P	**P**	**02 10 24.3**	**0.0**
J03A	**Ideyld Park**	**82.78**	**341**	⇓P	**P**	**02 10 27.2**	**+2.3**
	baz=83						
LRM	**Limekiln Ridge**	**82.96**	**349**	*e*P	**P**	**02 10 26.4**	**+0.6**
H04A	**Detroit Lake**	**83.81**	**342**	⇑P	**P**	**02 10 29.7**	**-0.5**
	baz=84						
H03A	**Soap Creek Ran**	**84.09**	**341**	⇑P	**P**	**02 10 31.7**	**+0.1**
	baz=84						
G05A	**Wamic**	**84.13**	**343**	⇑P	**P**	**02 10 32.0**	**+0.2**
	baz=84						
CHMT	**Chamberlain Mo**	**84.15**	**349**	*e*P	**P**	**02 10 32.5**	**+0.6**
G04A	**Mulino**	**84.38**	**342**	⇓P	**P**	**02 10 32.8**	**-0.2**
	baz=85						
F05A	**White Salmon**	**84.77**	**343**	⇓P	**P**	**02 10 35.2**	**+0.2**
	baz=85						
HAWA	**Hanford**	**84.82**	**345**	*e*P	**P**	**02 10 35.9**	**+0.7**
F04A	**Amboy**	**85.04**	**342**	⇓P	**P**	**02 10 36.2**	**-0.2**
	baz=85						
LON	**Longmire**	**85.67**	**343**	*e*P	**P**	**02 10 39.0**	**-0.5**
NEW	**Newport**	**86.12**	**347**	*e*P	**P**	**02 10 41.3**	**-0.5**
NEW				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NEW	**Newport**	**86.12**	**347**	*e*P	**P**	**02 10 41.2**	**-0.5**
	comp=Z,8.5nm,1.0s,mb4.9						
ULM	**Lac du Bonnet**	**86.22**	**1**	P	**P**	**02 10 40.6**	**-1.7**
	comp=Z,4.0nm,0.9s,mb4.7,baz=196,slow=3.8,SNR=4.3						
C05A	**Tolt Reservoir**	**86.52**	**344**	⇑P	**P**	**02 10 43.1**	**-0.7**
	baz=87						
B05A	**Bryant**	**87.15**	**343**	⇑P	**P**	**02 10 46.4**	**-0.4**
	baz=88						
STKA	**Stephens Creek**	**92.76**	**227**	LR	LR	02 45 54.7	
	comp=Z,95nm,19.9s,MS4.2,baz=205,slow=31						
SCHQ	**Schefferville**	**94.43**	**17**	LR	LR	02 51 19.7	
	comp=Z,78nm,18.7s,MS4.2,baz=34,slow=34						
BOSA	**Boshof**	**95.60**	**132**	P	**P**	**02 11 27.8**	**+1.6**
	comp=Z,2.3nm,0.9s,mb4.6,baz=256,slow=4.2,SNR=3.7						
CLL	**Collm**	**129.23**	**50**	*e*(PKPdf)	PKPdf	02 17 15.0	+5.9
FINES	**FINESS Array B**	**136.80**	**36**	PKP	PKPdf	02 17 20.4	-2.9
	comp=Z,0.8nm,0.8s,baz=284,slow=9.6,SNR=4.0						
FINES	**FINESS Array B**	**136.80**	**36**	PKP	PKPdf	02 17 20.4	-2.9
AKASG	**Malin Array Be**	**139.34**	**52**	PKP	PKPdf	02 17 27.8	-0.2
	comp=Z,0.3nm,0.4s,baz=265,slow=2.6,SNR=2.9						
OBN	**Obninsk**	**143.37**	**44**	⇓*i*PKIKP	PKPdf	02 17 31.0	-4.2
OBN				*e*		02 17 38.4	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MDJ	**Mudanjiang**	**144.03**	**298**	PKP	PKPdf	02 17 36.0	-0.4
MDJ				PP	PP		
	comp=Z,70nm,5.2s						
VOR	**Voronezh**	**145.51**	**50**	*e*PKIKP	PKPdf	02 17 37.0	-1.9
VOR				pmax	pmax		
	comp=Z,70nm,0.2s						
CN2	**Changchun**	**146.98**	**296**	*e*PKP	PKPdf	02 17 41.3	-0.1
SSE	**Sheshan**	**147.97**	**272**	PKP	PKPdf	02 17 44.3	+1.2
SSE				PP	PP	02 21 17.6	+4.0
SSE				SS	SS	02 40 19.7	+0.4
SSE				PP	PP		
	comp=Z,180nm,4.4s						
SSE				LR	LR		
	comp=N,30nm,20.8s,MS4.5						
SSE				LR	LR		
	comp=E,80nm,20.8s,MS4.5						
SSE				LR	LR		
	comp=Z,40nm,21.8s,MS4.2						
KIV	**Kislovodsk**	**148.49**	**63**	⇑*i*PKIKP	PKPdf	02 17 43.6	-0.3
GOF	**Gofitskoye**	**148.72**	**61**	*e*PKP2	PKPab	02 17 54.0	+2.2
ONI	**Oni**	**149.03**	**66**	P	PKPbc	02 17 50.4	+1.5
ONI				S		02 17 51.8	
GNI	**Garni**	**149.85**	**71**	⇑*i*PKHKP		02 17 47.4	
NJ2	**Nanjing**	**150.16**	**272**	*e*PKP	PKPdf	02 17 46.6	0.0
ARU	**Arti**	**154.00**	**32**	⇑*i*PKIKP	PKPbc	02 18 03.2	+2.8
HHC	**Hu-ho-hao-te**	**157.29**	**290**	*e*PKP	PKPdf	02 17 56.3	-0.4
HHC				PKP2	PKPab	02 18 30.2	+2.4
HHC				PKS		02 21 28.7	
HHC				SKS	SKSdf	02 24 56.8	-5.9
HHC				SKKS	SKKSac	02 28 53.9	-2.2
HHC				SS	SS	02 42 00.4	-1.2
HHC				PP	PP		
	comp=Z,110nm,6.4s						
HHC				LR	LR		
	comp=N,150nm,28.5s,MS5.0						
HHC				LR	LR		
	comp=E,340nm,29.7s,MS5.0						
HHC				LR	LR		
	comp=Z,130nm,33.3s,MS4.5						
SONM	**Songino Array**	**159.28**	**311**	PKPab	PKPab	02 18 35.0	-1.4
	comp=Z,0.4nm,0.8s,baz=90,slow=1.6,SNR=3.8						
KMI	**Kunming**	**159.74**	**242**	PKP	PKPdf	02 17 57.4	-2.3
CD2	**Chengdu**	**161.91**	**259**	*e*PKP	PKPdf	02 17 59.8	-2.2
CD2				PKP2	PKPab	02 18 48.5	+0.6
CD2				PP	PP	02 22 33.4	+1.8
CD2				SKS	SKSdf	02 24 59.6	-7.3
CD2				SKKS	SKKSac	02 29 16.3	-3.8
CD2				SS	SS	02 42 47.4	-3.1
CD2				PP	PP		
	comp=Z,90nm,8.2s						
LZH	**Lanzhou**	**163.19**	**275**	*e*PKP	PKPdf	02 18 03.5	+0.2
LZH				*e*PP	PP	02 22 42.1	+3.7

BFZ	**Birch Farm**	**1.80**	**126**	PN	Pn	02 28 38.6 +0.2
BFZ	**Birch Farm**	**1.80**	**126**	*e*P	Pn	02 28 38.6 +0.2
TUWZ	**Tuamarina**	**1.81**	**189**	PN	Pn	02 28 38.0 -0.5
QRZ	**Quartz Range**	**1.82**	**229**	PN	Pn	02 28 36.9 -1.6
QRZ	**Quartz Range**	**1.82**	**229**	P	Pn	02 28 36.9 -1.7
MSWZ	**Moikau Station**	**1.90**	**159**	PN	Pn	02 28 39.2 -0.1
MSWZ	**Moikau Station**	**1.90**	**159**	P	Pn	02 28 39.2 -0.2
PXZ	**Pawanui**	**1.99**	**102**	PN	Pn	02 28 40.5 +0.4
TRWZ	**Traveller**	**2.04**	**150**	PN	Pn	02 28 40.6 -0.1
BSWZ	**Blackbirch Sta**	**2.10**	**189**	PN	Pn	02 28 40.8 -0.4
BSWZ	**Blackbirch Sta**	**2.10**	**189**	P	Pn	02 28 40.9 -0.3
THZ	**Tophouse**	**2.38**	**207**	PN	Pn	02 28 43.0 -1.0
THZ	**Tophouse**	**2.38**	**207**	P	Pn	02 28 43.1 -1.0
URZ	**Urewera**	**2.57**	**58**	PN	Pn	02 28 44.0 -2.1
URZ	**Urewera**	**2.57**	**58**	P	Pn	02 28 44.0 -2.0
KNZ	**Kokohu**	**2.66**	**78**	PN	Pn	02 28 46.5 -0.5
KNZ	**Kokohu**	**2.66**	**78**	P	Pn	02 28 46.5 -0.6
MWZ	**Matawai**	**2.81**	**63**	PN	Pn	02 28 47.1 -1.6
MWZ	**Matawai**	**2.81**	**63**	P	Pn	02 28 47.1 -1.6
KHZ	**Kahutara**	**2.84**	**192**	PN	Pn	02 28 47.8 -1.1
KHZ	**Kahutara**	**2.84**	**192**	*e*P	Pn	02 28 47.8 -1.2
DSZ	**Denniston Nort**	**2.85**	**222**	PN	Pn	02 28 47.2 -1.9
DSZ	**Denniston Nort**	**2.85**	**222**	P	Pn	02 28 47.2 -1.9
PUZ	**Puketiti**	**3.44**	**64**	PN	Pn	02 28 53.8 -2.1
PUZ	**Puketiti**	**3.44**	**64**	*e*P	Pn	02 28 53.8 -2.1
LTZ	**Lake Taylor**	**3.50**	**206**	PN	Pn	02 28 55.0 -1.6
LTZ	**Lake Taylor**	**3.50**	**206**	*e*P	Pn	02 28 55.0 -1.6
MQZ	**McQueen's Vall**	**4.25**	**197**	*e*P	Pn	02 29 03.2 -2.4
FOZ	**Fox Glacier**	**5.24**	**220**	*e*P	Pn	02 29 13.2 -4.6
LBZ	**Lake Benmore**	**5.66**	**212**	*e*P	Pn	02 29 20.0 -3.1
ODZ	**Otahua Downs**	**6.05**	**206**	*e*P	Pn	02 29 21.9 -6.1
JCZ	**Jackson Bay**	**6.08**	**221**	*e*P	Pn	02 29 24.2 -4.2

*ISCJB **10** 02:59:42.7±0.9, 3624N±007×2666E±006, h157km±14km, Error ellipse: s-maj=12.2km s-min=8.3km az=156.0*
*CSEM **10** 02:59:42.1±0.2, 3632N×2670E, h151km±2km, MD3.3, Error ellipse: s-maj=3.2km s-min=2.5km az=148.0*
*ISK **10** 02:59:44.4, 3591N×2651E, h58km, MD3.3*
*ATH **10** 02:59:44.0, 3631N×2656E, h134km±6km*
*HLW **10** 02:59:45.6, 3608N×27.12E, h33km, Mb3.6*

ISC 10 02:59:44.0±0.9, 3623N±007×2664E±006, h143km±14km, n28, σ1°12/32, 6C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.80**	**148**	*e*P	**Pn**	**03 00 06.9**	**+0.4**
DAT	**Datca**	**0.91**	**56**	PN	**Pn**	**03 00 06.2**	**-1.1**
BODT	**Bodrum**	**0.99**	**33**	PN	**Pn**	**03 00 07.8**	**-0.2**
ARG	**Arkhangelos**	**1.20**	**90**	⇑*i*P	**Pn**	**03 00 10.8**	**+0.8**
APE	**Apeiranthos**	**1.23**	**314**	*e*PN	**Pn**	**03 00 08.9**	**-1.3**
APE				*e*SN	**Sn**	**03 00 26.4**	**-3.8**
APE	**Apeiranthos**	**1.23**	**314**	*e*P	**Pn**	**03 00 09.5**	**-0.7**
APE				*e*Sn	**Sn**	**03 00 26.4**	**-3.8**
NPS	**Neapolis**	**1.27**	**221**	*e*P	**Pn**	**03 00 10.8**	**+0.1**
MLSB	**Milas**	**1.40**	**40**	*e*PN	**Pn**	**03 00 12.1**	**+0.1**
SMG	**Samos**	**1.49**	**6**	*e*P	**Pn**	**03 00 12.1**	**-0.8**
XRY	**Khrisi**	**1.55**	**210**	*e*P	**Pn**	**03 00 14.0**	**+0.4**
YER	**Yerkesik**	**1.60**	**55**	*e*PN	**Pn**	**03 00 14.5**	**+0.4**
DALT	**Dalyan (Mudla)**	**1.70**	**71**	*e*PN	**Pn**	**03 00 15.9**	**+0.7**
FETY	**Fethiye**	**2.01**	**78**	*e*PN	**Pn**	**03 00 19.6**	**+0.8**
VAM	**Vamos**	**2.15**	**248**	*e*P	**Pn**	**03 00 20.4**	**0.0**
GVD	**Gavdhos**	**2.50**	**237**	*e*P	**Pn**	**03 00 26.0**	**+1.2**
ELL	**Elmali**	**2.69**	**78**	*e*PN	**Pn**	**03 00 28.8**	**+1.7**
VLI	**Veliai**	**3.02**	**280**	*e*P	**Pn**	**03 00 31.2**	**-0.2**
ITM	**Ithomi**	**3.91**	**285**	*e*P	**Pn**	**03 00 43.5**	**+0.7**
SLUM		**4.87**	**195**	⇑P	**Pn**	**03 00 56.4**	**+0.8**
SLUM				S	**Sn**	**03 01 47.7**	**-3.6**
SLUM		**4.87**	**195**	P	**Pn**	**03 00 56.3**	**+0.7**
SWA1		**6.99**	**187**	⇓P	**Pn**	**03 01 24.6**	**+0.7**
SWA1				S	**Sn**	**03 02 37.6**	**-4.4**
SWA2		**7.04**	**188**	⇑P	**Pn**	**03 01 24.6**	**+0.2**
SWA2		**7.04**	**188**	P	**Pn**	**03 01 24.6**	**+0.1**
KOT	**Kottamia**	**7.64**	**144**	⇑P	**Pn**	**03 01 30.6**	**-2.1**
KOT	**Kottamia**	**7.64**	**144**	P	**Pn**	**03 01 30.5**	**-2.1**
HSAF	**As Saff**	**7.78**	**147**	P	**Pn**	**03 01 32.0**	**-2.4**
AMAG	**Maghara**	**7.82**	**134**	⇑P	**Pn**	**03 01 32.8**	**-2.2**
HFRF	**Wahat Farafira**	**9.16**	**171**	⇑P	**Pn**	**03 01 54.0**	**+1.1**

*ISCJB **10** 03:09:28.9±0.6, 3787N±003×2942E±004, h6km±6km, Error ellipse: s-maj=6.4km s-min=4.8km az=96.1*
*ISK **10** 03:09:28.5, 3790N×2939E, h6km, MD3.1*
*CSEM **10** 03:09:28.2±0.1, 3790N×2938E, h5km, MD3.1, Error ellipse: s-maj=1.7km s-min=1.3km az=157.0*

ISC 10 03:09:29.4±0.5, 3787N±003×2941E±004, h9km±5km, n19, σ0°81/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.32**	**249**	PG	**Pg**	**03 09 35.2**	**-0.5**
DENT				SG	**Sg**	**03 09 40.2**	**+0.2**
DNZL	**Cakiroluk**	**0.34**	**238**	*i* P	**Pg**	**03 09 35.8**	**-0.3**
DNZL				*i* S	**Sg**	**03 09 41.0**	**+0.4**
KHL	**Karahalli**	**0.46**	**11**	PG	**Pg**	**03 09 37.3**	**-1.1**
KHL				SG	**Sg**	**03 09 44.1**	**-0.3**
TKTP	**Tekketepe**	**0.74**	**77**	*i* P	**Pg**	**03 09 44.7**	**+1.1**
TKTP				*i* S	**Sg**	**03 09 58.3**	**+5.0**
ISP	**Isparta**	**0.87**	**91**	PG	**Pg**	**03 09 46.1**	**-0.1**
MANT	**Manisa**	**0.91**	**313**	*i* P	**Pg**	**03 09 45.5**	**-1.5**
MANT				*i* S	**Sg**	**03 10 00.8**	**+1.9**
BCK	**Bucak**	**1.02**	**113**	*e*PG	**Pg**	**03 09 49.2**	**+0.2**
YER	**Yerkesik**	**1.16**	**231**	PN	**Pn**	**03 09 50.7**	**-1.1**
ELL	**Elmali**	**1.19**	**160**	*e*PN	**Pn**	**03 09 52.3**	**+0.1**
DALT	**Dalyan (Mudla)**	**1.26**	**209**	*e*PN	**Pn**	**03 09 53.4**	**+0.2**
FETY	**Fethiye**	**1.26**	**192**	*e*PN	**Pn**	**03 09 53.5**	**+0.3**
ALT	**Altintas**	**1.30**	**25**	*e*PN	**Pn**	**03 09 53.1**	**-0.7**
MLSB	**Milas**	**1.42**	**247**	*e*PN	**Pn**	**03 09 55.4**	**0.0**
AKS	**Akhisar**	**1.61**	**309**	*e*PN	**Pn**	**03 09 57.8**	**-0.2**
IZM	**Izmir**	**1.77**	**288**	*e*PN	**Pn**	**03 09 59.8**	**-0.5**
DAT	**Datca**	**1.85**	**233**	*e*PN	**Pn**	**03 10 01.6**	**+0.2**
BODT	**Bodrum**	**1.85**	**245**	*e*PN	**Pn**	**03 10 01.4**	**0.0**
BLCB	**Balcova**	**1.94**	**286**	*e*PN	**Pn**	**03 10 02.5**	**0.0**
ULDT	**Uludag**	**2.28**	**355**	*i* P	**Pn**	**03 10 09.7**	**+2.5**
ULDT				*i* S	**Sn**	**03 10 43.5**	**+8.1**

*CSEM **10** 03:15:27.3±1.2, 3891N×2912W, h1km±12km, ML1.9, Error ellipse: s-maj=23.6km s-min=6.0km az=75.0, After PDA*
*PDA **10** 03:15:27.3±1.2, 3891N×2912W, h1km±12km, MD3.1, ML1.9, Error ellipse: s-maj=23.6km s-min=6.0km az=75.0*

SVSA 10 03:15:27.3±1.2, 3891N×2912W, h1km±12km, MD3.1, ML1.9, Error ellipse: s-maj=23.6km s-min=6.0km az=75.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.41**	**142**	*e*P	Pg	03 15 39.9	+4.8
PTCA				*e*S	Sg	03 15 45.9	+5.5
PTCA	38nm,0.2s						
PTCA	**Ponta do Capel**	**0.41**	**142**	*e*P	Pg	03 15 39.9	+4.8
PTCA				*e*S	Sg	03 15 45.9	+5.5
PCED	**Cedros**	**0.43**	**130**	*e*P	Pg	03 15 35.2	-0.3
PCED				*e*S	Sg	03 15 41.1	+0.1
PCED	38nm,0.3s						
PCED	**Cedros**	**0.43**	**130**	*e*P	Pg	03 15 35.2	-0.3
PCED				*e*S	Sg	03 15 41.1	+0.1
CALA	**Caldeira**	**0.46**	**135**	*e*P	Pg	03 15 35.5	-0.6
CALA				*e*S	Sg	03 15 41.8	-0.2
PCND	**Candelaria**	**0.67**	**130**	*e*P	Pg	03 15 41.0	+0.8
PCND				*e*S	Sg	03 15 49.3	+0.4
PCND	21nm,0.2s						
PICO	**Pico**	**0.68**	**127**	*e*P	Pg	03 15 39.2	-1.0
PICO				*e*S	Sg	03 15 48.3	-0.7
ROSA	**Rosais**	**0.71**	**105**	*e*P	Pg	03 15 39.5	-1.4
ROSA				*e*S	Sg	03 15 48.5	-1.6
PTEI	**Pico do Teixo**	**0.72**	**124**	*e*S	Sg	03 15 50.8	+0.3
PTEI	19nm,0.3s						
PBOI	**Pico dos Bois**	**0.75**	**129**	*e*rx		03 15 51.5	
PMAN	**Manadas**	**0.85**	**108**	*e*S	Sg	03 15 52.0	-2.6
PMAN	12nm,0.1s						
PID	**Ribeirinha**	**0.91**	**120**	*e*P	Pg	03 15 42.0	-2.7
PID				*e*S	Sg	03 15 53.2	-3.3

*ISCJB **10** 03:17:33.4±0.4, 4934N±002×684E±003, h0km, Error ellipse: s-maj=3.1km s-min=2.7km az=167.8*
*NEIC **10** 03:17:34.8, 4936N×689E, h1km, ML2.2(STR), ML2.6(LDG), After STR.*
*LDG **10** 03:17:35.1±0.1, 4938N×692E, h1km, Md2.5/2, Ml2.6/8, Error ellipse: s-maj=1.5km s-min=1.2km az=63.0, Suspected Mining induced.*
*BGR **10** 03:17:35.5±0.5, 4938N×686E, h1km, ML1.7, Error ellipse: s-maj=7.8km s-min=5.6km az=32.0*
*CSEM **10** 03:17:35.0±0.1, 4938N×692E, h1km, ML2.5/7, Error ellipse: s-maj=1.2km s-min=1.0km az=97.0*

ISC 10 03:17:34.4±0.4, 4936N±002×686E±003, h0km, n33, σ0°88/62, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.37**	**21**	Pg	**Pg**	**03 17 41.5**	**+0.1**
RUP				Sg	**Sg**	**03 17 46.4**	**+0.2**
WLF	**Walferdange**	**0.55**	**304**	*e*Pg	**Pg**	**03 17 45.8**	**+0.8**
WLF				*e*Sg	**Sg**	**03 17 52.3**	**+0.1**
WLF	**Walferdange**	**0.55**	**304**	*e*Pg	**Pg**	**03 17 46.0**	**+1.0**
WLF	**Walferdange**	**0.55**	**304**	*e*Pg	**Pg**	**03 17 46.0**	**+1.0**
LANF	**Langenberg**	**0.73**	**121**	Pg	**Pg**	**03 17 48.3**	**-0.1**
LANF				Sg	**Sg**	**03 17 57.5**	**-0.3**
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**03 17 54.5**	**-1.0**
CDF				*e*Sg	**Sg**	**03 18 06.8**	**+0.6**
CDF	12nm,0.3s						
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pg	**Pg**	**03 17 54.0**	**+0.6**
CDF				*e*Pn	**Pn**	**03 17 54.5**	**-1.0**
CDF				*e*Sg	**Sg**	**03 18 06.8**	**+0.6**
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**03 17 54.5**	**-1.0**
CDF				*e*Sg	**Sg**	**03 18 06.8**	**+0.6**
CDF	5.8nm,0.3s						
WLS	**Welschbruch**	**1.00**	**161**	Pg	**Pg**	**03 17 54.6**	**+1.0**
ECH	**Echery**	**1.16**	**170**	Pg	**Pg**	**03 17 57.2**	**+0.5**
THEF	**They Montfort**	**1.27**	**207**	Pg	**Pg**	**03 17 59.2**	**+0.4**
THEF				Sg	**Sg**	**03 18 15.8**	**+0.5**
TNS	**Taunus Mts**	**1.34**	**49**	*e*Pg	**Pg**	**03 17 59.5**	**-0.7**
TNS				*e*Sg	**Sg**	**03 18 17.5**	**-0.1**
TNS	**Taunus Mts**	**1.34**	**49**	*e*Pg	**Pg**	**03 17 59.5**	**-0.7**
TNS				*e*Sg	**Sg**	**03 18 17.5**	**-0.1**
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**03 18 02.5**	**+1.3**
HAU				*e*Sg	**Sg**	**03 18 20.0**	**+0.7**
HAU	14nm,0.3s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**03 18 02.5**	**+1.3**
HAU				*e*Sg	**Sg**	**03 18 20.0**	**+0.7**
HAU	6.8nm,0.3s						
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	**Pg**	**03 18 02.2**	**+0.7**
BFO				*e*Sg	**Sg**	**03 18 19.9**	**-0.1**
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	**Pg**	**03 18 02.2**	**+0.6**
BFO				*e*Sg	**Sg**	**03 18 19.9**	**0.0**
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**03 18 03.6**	**+1.0**
MEZF				*e*Sg	**Sg**	**03 18 23.8**	**+2.2**
MEZF	9.3nm,0.4s						
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**03 18 03.6**	**+1.0**
MEZF				*e*Sg	**Sg**	**03 18 23.8**	**+2.2**
MEZF	4.7nm,0.4s						
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**03 18 03.8**	**+0.3**
GIVF				*e*Sg	**Sg**	**03 18 23.9**	**+0.8**
GIVF	15nm,0.5s						
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**03 18 03.8**	**+0.3**
GIVF				*e*Sg	**Sg**	**03 18 23.9**	**+0.8**
GIVF	7.4nm,0.5s						
MOF	**Molkenrain**	**1.52**	**173**	Pg	**Pg**	**03 18 03.6**	**0.0**
MOF				Sg	**Sg**	**03 18 24.0**	**+0.7**
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	**Pg**	**03 18 04.2**	**+0.2**
HINF				*e*Sg	**Sg**	**03 18 24.6**	**+0.5**
HINF	27nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**180**	*e*Pg	**Pg**	**03 18 04.2**	**+0.2**
HINF				*e*Sg	**Sg**	**03 18 24.6**	**+0.5**
HINF	14nm,0.3s						
FELD	**Feldberg im Sc**	**1.67**	**152**	Pg	**Pg**	**03 18 06.2**	**-0.2**
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	**03 18 10.3**	**+0.3**
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**03 18 19.6**	**-0.8**
CABF				*e*Sg	**Sg**	**03 19 03.7**	**-0.7**
CABF	1.7nm,0.3s						
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**03 18 19.6**	**-0.8**
CABF				*e*Sg	**Sg**	**03 19 03.7**	**-0.7**
CABF	0.9nm,0.3s						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**03 18 20.5**	**-1.3**
LOR	baz=50						
LOR				*e*Sn	**Sn**	**03 18 55.0**	**-2.3**
LOR				*e*Sg	**Sg**	**03 19 07.3**	**-0.2**
LOR	2.6nm,0.3s						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**03 18 20.5**	**-1.3**
LOR				*e*Sn	**Sn**	**03 18 55.0**	**-2.3**
LOR				*e*Sg	**Sg**	**03 19 07.3**	**-0.2**
LOR	1.3nm,0.3s						
SSF	**Saint Saulge**	**3.21**	**226**	*e*Pn	**Pn**	**03 18 24.8**	**-1.3**
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**03 18 27.6**	**-0.9**
SMF				*e*Sn	**Sn**	**03 19 07.2**	**-2.2**
SMF				*e*Sg	**Sg**	**03 19 22.4**	**-0.9**
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	**Pn**	**03 18 28.7**	**-1.2**

*ISCJB **10** 03:18:38.4±0.5, 4042N±002×125.17W±004, h2km, Error ellipse: s-maj=4.6km s-min=2.6km az=159.6*
*NEIC **10** 03:18:39.0, 4046N×125.33W, h2km, ML3.1(NCEDC), After NCEDC.*

ISC 10 03:18:39.4±0.5, 4041N±002×12517W±004, h2km, n84, σ1°29/123, 52C-38D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.96**	**65**	⇑P	**Pg**	**03 18 58.8**	**+1.0**
JCC	baz=1.0,SNR=1000						
JCC				⇓S	**Sg**	**03 19 11.8**	**+1.6**
O01C	**Eel River Cons**	**1.07**	**104**	⇑P	**Pg**	**03 19 01.0**	**+1.1**
O01C	baz=1.2,SNR=29						
O01C				⇑S	**Sg**	**03 19 16.8**	**+2.9**
KHMM	**Horse Mountain**	**1.19**	**67**	*e*Pg	**Pg**	**03 19 02.4**	**+0.1**
KHMM				*e*Sg	**Sg**	**03 19 19.1**	**+1.5**
KIPM	**Iron Peak**	**1.43**	**114**	*e*Pn	**Pn**	**03 19 05.8**	**-0.5**
KIPM				*e*Sn	**Sn**	**03 19 25.7**	**0.0**
N02C	**Big Bar**	**1.48**	**73**	⇑P	**Pn**	**03 19 06.5**	**-0.5**
N02C	baz=1.6,SNR=264						
N02C				⇑S	**Sb**	**03 19 25.9**	**-0.8**
M01C	**Crescent City**	**1.64**	**29**	⇓P	**Pn**	**03 19 07.2**	**-2.1**
M01C	baz=1.7,SNR=50						
M01C				⇓S	**Sn**	**03 19 26.6**	**-4.2**
P01C	**Double 8 Ranch**	**1.69**	**123**	P	**Pn**	**03 19 09.0**	**-1.0**
P01C	baz=1.8,SNR=88						
P01C				⇑S	**Sn**	**03 19 31.2**	**-1.0**
O02C	**Red Bluff**	**1.84**	**96**	P	**Pn**	**03 19 12.1**	**+0.2**
O02C	baz=2.0,SNR=206						
O02C				⇑S	**Sn**	**03 19 35.5**	**-0.2**
KBO	**Bosley Butte**	**1.94**	**21**	*e*Pn	**Pn**	**03 19 11.3**	**-1.9**
KBO				*e*Sn	**Sn**	**03 19 35.9**	**-2.2**
M02C	**Callahan**	**2.01**	**60**	⇑P	**Pn**	**03 19 13.4**	**-1.0**
M02C	baz=2.1,SNR=138						
M02C				⇓S	**Sn**	**03 19 38.6**	**-1.5**
WDC	**Whiskeytown Da**	**2.01**	**84**	*e*Pn	**Pn**	**03 19 14.1**	**-0.3**
WDC				*e*Sn	**Sn**	**03 19 39.9**	**-0.1**
WDC	**Whiskeytown Da**	**2.01**	**84**	⇑P	**Pn**	**03 19 14.2**	**-0.1**
WDC	baz=2.1,SNR=82						
WDC				⇓S	**Sn**	**03 19 39.1**	**-0.9**
GASB	**Alder Springs**	**2.03**	**111**	⇑P	**Pn**	**03 19 14.4**	**-0.2**
GASB	baz=2.2,SNR=116						
GASB				⇑S	**Sn**	**03 19 40.4**	**-0.1**
L02A	**Cave Junction**	**2.11**	**34**	⇑P	**Pn**	**03 19 14.2**	**-1.5**
L02A	baz=2.1,SNR=29						
L02A				⇓S	**Sn**	**03 19 39.6**	**-2.8**
HOPS	**Hopland**	**2.15**	**130**	*e*Pn	**Pn**	**03 19 15.7**	**-0.6**
HOPS	**Hopland**	**2.15**	**130**	⇑P	**Pn**	**03 19 15.9**	**-0.3**
HOPS	baz=2.3,SNR=330						
HOPS				⇑S	**Sn**	**03 19 41.9**	**-1.6**
YBH	**Yreka Blue Hor**	**2.28**	**54**	*e*Pn	**Pn**	**03 19 17.8**	**-0.3**
YBH				*e*Sn	**Sn**	**03 19 47.3**	**+0.6**
YBH	**Yreka Blue Hor**	**2.28**	**54**	⇓P	**Pn**	**03 19 17.5**	**-0.5**
YBH	baz=2.3,SNR=45						
YBH				⇓S	**Sn**	**03 19 46.2**	**-0.5**
O03C	**Acorn Hollow,**	**2.44**	**99**	⇓P	**Pn**	**03 19 20.7**	**+0.5**
O03C	baz=2.6,SNR=7.8						
O03C				⇓S	**Sn**	**03 19 49.6**	**-1.0**
M03C	**McCloud**	**2.47**	**69**	⇑P	**Pn**	**03 19 21.2**	**+0.5**
M03C	baz=2.6						
M03C				⇑S	**Sn**	**03 19 50.9**	**-0.4**
LHEM	**Herd Peak**	**2.54**	**61**	P	**Pn**	**03 19 22.2**	**+0.6**
MNRC	**McLaughlin Nat**	**2.61**	**125**	⇑P	**Pn**	**03 19 23.2**	**+0.7**
K02A	**Glendale**	**2.67**	**28**	⇑P	**Pn**	**03 19 22.3**	**-1.1**
K02A	baz=2.7						
K02A				⇑S	**Sn**	**03 19 52.2**	**-4.1**
NSHM	**Saint Helena R**	**2.74**	**133**	*e*Pn	**Pn**	**03 19 23.9**	**-0.4**
HUMO	**Hull Mountain**	**2.75**	**36**	*e*Pn	**Pn**	**03 19 23.7**	**-0.8**
HUMO	**Hull Mountain**	**2.75**	**36**	⇑P	**Pn**	**03 19 23.6**	**-0.9**
HUMO	baz=2.8,SNR=17						
HUMO				⇑S	**Sn**	**03 19 56.3**	**-2.0**
HATC	**Hat Creek Radi**	**2.86**	**81**	⇓P	**Pn**	**03 19 27.1**	**+1.1**
HATC	baz=3.0						
HATC				⇑S	**Sn**	**03 19 59.8**	**-1.0**
SUTB	**Sutter Buttes**	**2.86**	**113**	⇑P	**Pn**	**03 19 25.3**	**-0.7**
SUTB	baz=3.0						
SUTB				⇑S	**Sn**	**03 19 58.2**	**-2.7**
M04C	**Macdoel**	**2.87**	**60**	⇓P	**Pn**	**03 19 26.2**	**+0.2**
M04C	baz=2.9						
M04C				⇓S	**Sn**	**03 20 00.3**	**-0.8**
MCCM	**Marconi Confer**	**2.88**	**141**	⇑P	**Pn**	**03 19 25.8**	**-0.4**
MCCM	baz=3.0,SNR=12						
MCCM				⇑S	**Sn**	**03 20 00.2**	**-1.2**
BUOR	**Burton Butte**	**2.89**	**49**	P	**Pn**	**03 19 28.5**	**+2.2**
CVS	**Carmenet Viney**	**2.95**	**134**	⇓P	**Pn**	**03 19 26.2**	**-0.9**
CVS	baz=3.1,SNR=22						
CVS				⇓S	**Sn**	**03 20 01.7**	**-1.4**
ORV	**Oroville**	**2.95**	**106**	⇓S	**Sn**	**03 20 02.0**	**-1.1**
LAB	**Little Aspen B**	**2.99**	**51**	P	**Pn**	**03 19 30.1**	**+2.4**
Q03C	**Winters**	**3.02**	**125**	⇑P	**Pn**	**03 19 28.5**	**+0.3**
L04A	**Klamath Falls**	**3.03**	**54**	⇓P	**Pn**	**03 19 29.7**	**+1.3**
L04A	baz=3.1						
L04A				⇓S	**Sn**	**03 20 04.9**	**-0.4**
OHCM	**Honcut**	**3.04**	**110**	*e*Pn	**Pn**	**03 19 27.8**	**-0.6**
VSP	**Spence Mountai**	**3.10**	**50**	P	**Pn**	**03 19 31.2**	**+1.9**
BBOR	**Butler Butte**	**3.10**	**36**	P	**Pn**	**03 19 30.2**	**+1.0**
O04C	**Chester**	**3.12**	**90**	⇑P	**Pn**	**03 19 30.4**	**+0.8**
O04C	baz=3.2						
O04C				⇓S	**Sn**	**03 20 07.9**	**+0.5**
HOG	**Hogback Mounta**	**3.19**	**54**	P	**Pn**	**03 19 32.1**	**+1.7**
J02A	**Umpqua**	**3.19**	**22**	⇓P	**Pn**	**03 19 29.7**	**-0.8**
J02A	baz=3.2,SNR=31						
J02A				⇑S	**Sn**	**03 20 06.2**	**-2.9**
M05C	**Lookout**	**3.19**	**71**	⇑P	**Pn**	**03 19 30.0**	**-0.6**
M05C	baz=3.3						
M05C				⇑S	**Sn**	**03 20 09.4**	**+0.2**
FARB	**Farallon Islan**	**3.19**	**147**	⇑P	**Pn**	**03 19 29.5**	**-1.1**
O05C	**Quincy**	**3.29**	**97**	⇓P	**Pn**	**03 19 33.4**	**+1.5**
Q04C	**Lincoln**	**3.32**	**117**	⇑P	**Pn**	**03 19 32.3**	**-0.1**
J03A	**Ideyld Park**	**3.39**	**28**	⇑P	**Pn**	**03 19 33.3**	**+0.1**
K04A	**Chilquin**	**3.39**	**49**	⇑P	**Pn**	**03 19 33.5**	**+0.2**
M06C	**Likely Place G**	**3.65**	**76**	⇓P	**Pn**	**03 19 36.7**	**-0.1**
I02A	**Mapleton**	**3.72**	**15**	⇑P	**Pn**	**03 19 36.9**	**-1.0**
I02A	baz=3.7,SNR=18						
I02A				⇑S	**Sn**	**03 20 18.3**	**-3.9**
JRSC	**Jasper Ridge**	**3.78**	**142**	⇓P	**Pn**	**03 19 37.4**	**-1.2**
JRSC	baz=3.9,SNR=8.3						
JRSC				⇓S	**Sn**	**03 20 21.5**	**-2.0**
LAVA	**Lava Cap Winer**	**3.80**	**114**	⇑P	**Pn**	**03 19 40.1**	**+1.2**
I03A	**Eugene**	**3.82**	**21**	⇓P	**Pn**	**03 19 39.2**	**-0.1**
I03A	baz=3.8,SNR=12						
I03A				⇑S	**Sn**	**03 20 22.1**	**-2.6**
WENL	**Wente Brothers**	**3.85**	**135**	⇓P	**Pn**	**03 19 39.8**	**+0.2**
R04C	**Big Horse Ranc**	**3.92**	**122**	⇓P	**Pn**	**03 19 41.2**	**+0.6**
BNLO	**Ben Lomond**	**4.03**	**143**	⇓P	**Pn**	**03 19 40.5**	**-1.5**
BNLO	baz=4.1,SNR=13						
BNLO				⇑S	**Sn**	**03 20 26.5**	**-3.3**
HBO	**Huckleberry Mo**	**4.03**	**31**	P	**Pn**	**03 19 43.6**	**+1.5**
S04C	**Ingram Canyon,**	**4.17**	**133**	⇓P	**Pn**	**03 19 44.5**	**+0.4**
S04C	baz=4.3						
S04C				⇓S	**Sn**	**03 20 32.3**	**-1.1**
R05C	**K

BUTP			*e*S	Sg	03 21 15.4	+7.0
SCPH	**Surigao**	**0.88 351**	*e*P	Pg	03 21 25.5	+3.2
BUKP	**Musuan**	**1.17 209**	*e*P	Pg	03 21 30.0	+2.2
BUKP			*e*S	Sg	03 21 50.3	+7.3

ISCJB ***10*** *03:33:49.6±1.4, 1799S±0.10×17538W±009, h183km±15km, mb4.5/18, Error ellipse: s-maj=18.4km s-min=11.0km az=97.8*
IDC ***10*** *03:33:51.8±2.4, 1805S×17541W, h185km±23km, mb4.0/5, mb1 4.1/7, mb1mx3.8/15, mbtmp4.5/7, Error ellipse: s-maj=25.6km s-min=16.2km az=119.0*
NEIC ***10*** *03:33:53.0±1.0, 1802S×17538W, h200km±9km, mb4.4/15, Error ellipse: s-maj=11.6km s-min=6.6km az=136.0*
ISC 10 03:33:50.2±1.3, 1802S±009×17529W±009, h174km±14km, n59, σ0§87/31, mb4.5/18, 2C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.30**	**40**	P	**Pn**	**03 35 11.0**	**+3.1**
	8.1nm,0.3s,baz=98,slow=12,SNR=5.5						
AFI				S	**Sn**	**03 36 08.9**	**0.0**
	34nm,0.3s,baz=70,slow=21,SNR=12						
AFI	**Afiamalu**	**5.30**	**40**	*e*Pn	**Pn**	**03 35 12.3**	**+4.4**
	49nm,0.4s						
AFI				*e*Sn	**Sn**	**03 36 08.3**	**-0.6**
DZM	**Mont Dzumac**	**17.63**	**254**	P	**Pn**	**03 37 43.1**	**-2.0**
	0.2nm,0.3s,baz=314,slow=21,SNR=2.3						
URZ	**Urewera**	**21.23**	**197**	P	**P**	**03 38 22.8**	**+0.4**
	6.5nm,0.6s,mb4.1,baz=270,slow=1.8,SNR=5.2						
ARMA	**Armidale**	**32.48**	**241**	*e*P	**P**	**03 40 04.5**	**+0.4**
CTA	**Charters Tower**	**36.35**	**260**	*e*P	**P**	**03 40 38.0**	**+0.6**
	4.6nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**41.19**	**242**	*e*P	**P**	**03 41 16.4**	**-1.2**
	7.3nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**41.19**	**242**	P	**P**	**03 41 16.4**	**-1.2**
	3.2nm,0.4s,mb4.3,baz=95,slow=9.5,SNR=7.4						
WB2	**Warramunga Arr**	**47.52**	**259**	*e*P	**P**	**03 42 07.6**	**-0.2**
WRA	**Warramunga Arr**	**47.53**	**259**	P	**P**	**03 42 07.9**	**0.0**
	12nm,0.4s,mb4.9,baz=98,slow=6.8,SNR=350						
AS31	**Alice Springs**	**47.62**	**254**	⇓*i*P	**P**	**03 42 08.9**	**+0.4**
ASAR	**Alice Springs**	**47.62**	**254**	P	**P**	**03 42 08.9**	**+0.4**
	66nm,0.6s,mb5.4,baz=90,slow=7.9,SNR=806						
ASPA	**Alice Springs**	**47.62**	**254**	⇓*i*P	**P**	**03 42 08.9**	**+0.3**
KAKA	**Kakadu**	**50.55**	**268**	⇑*i*P	**P**	**03 42 31.2**	**+0.4**
	24nm,0.5s,mb5.1						
FORT	**Forrest**	**52.64**	**245**	*e*P	**P**	**03 42 45.8**	**-0.5**
	14nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**55.94**	**260**	*e*P	**P**	**03 43 10.4**	**+0.3**
	13nm,0.5s,mb5.0						
SBA	**Scott Base**	**60.51**	**184**	*e*P	**P**	**03 43 42.6**	**+0.8**
	1.8nm,0.8s,mb4.0						
VNDA	**Vanda**	**60.60**	**186**	P	**P**	**03 43 42.9**	**+0.5**
	1.2nm,0.8s,mb3.8,baz=18,slow=7.0,SNR=6.8						
VNDA	**Vanda**	**60.60**	**186**	*e*P	**P**	**03 43 42.1**	**-0.3**
	1.2nm,0.8s,mb3.8						
KLBR	**Kellerberrin**	**61.44**	**243**	*e*P	**P**	**03 43 47.6**	**-0.4**
	65nm,1.7s,mb5.2						
MJAR	**Matsushiro Arr**	**69.80**	**322**	P	**P**	**03 44 42.5**	**+0.9**
	6.6nm,0.6s,mb4.5,baz=159,slow=6.2,SNR=21						
MAJO	**Matsushiro**	**69.81**	**322**	*e*P	**P**	**03 44 41.7**	**0.0**
	8.8nm,0.7s,mb4.6						
QSPA	**South Pole Qui**	**72.04**	**180**	*e*P	**P**	**03 44 55.1**	**+0.1**
	10nm,1.1s,mb4.5						
KSM	**Kuching**	**75.64**	**276**	*e*P	**P**	**03 45 17.5**	**+1.4**
HWUT	**Hardware Ranch**	**83.54**	**43**	*e*P	**P**	**03 45 57.3**	**-1.3**
	5.7nm,1.3s,mb4.1						
ANMO	**Albuquerque**	**83.86**	**50**	*e*P	**P**	**03 46 01.7**	**+1.5**
	0.7nm,0.8s,mb3.4						
MCK	**McKinley**	**84.03**	**11**	*e*P	**P**	**03 46 00.0**	**-1.0**
	4.9nm,1.0s,mb4.2						
COLA	**College**	**85.26**	**11**	*e*P	**P**	**03 46 06.3**	**-1.0**
	6.4nm,0.8s,mb4.4						
VNA3	**Neumayer Olymp**	**90.42**	**175**	*e*	**P**	**03 46 30.7**	**-1.1**
MKAR	**Makanchi Array**	**111.34**	**314**	PKiKP	PKiKP	03 52 02.2	-1.1
	0.3nm,0.5s,baz=142,slow=1.4,SNR=3.9						
ARCES	**ARCESS Array B**	**126.92**	**351**	PKP	PKPdf	03 52 31.7	-1.5
	3.0nm,0.8s,baz=20,slow=2.9,SNR=7.3						
FINES	**FINESS Array B**	**134.06**	**346**	PKP	PKPdf	03 52 46.6	-0.1
	0.5nm,0.5s,baz=64,slow=4.4,SNR=9.0						
CLL	**Collm**	**146.14**	**351**	⇑*i*PKPbc	PKPbc	03 53 09.2	-0.6
	comp=Z,7.0nm,0.7s						
UPC	**Upice**	**146.35**	**347**	*e*PKP	PKPdf	03 53 10.4	+1.5
BRG	**Berggiesshubel**	**146.40**	**349**	*e*P	PKPdf	03 53 10.4	+1.4
	comp=Z,2.7nm,0.9s						
DPC	**Dobruska-Polom**	**146.43**	**347**	*e*PKP	PKPdf	03 53 10.7	+1.7
MORC	**Moravsky Berou**	**146.68**	**345**	*e*PKPbc	PKPbc	03 53 10.9	-0.5
BR131	**Keskin Array S**	**146.93**	**317**	*e*PKPbc	PKPbc	03 53 12.0	-0.1
BRTR	**Keskin Array B**	**146.93**	**317**	PKPbc	PKPbc	03 53 12.2	+0.1
	comp=Z,2.9nm,0.8s,baz=117,slow=3.1,SNR=9.3						
PRU	**Pruhonice**	**147.14**	**348**	*e*PKP	PKPab	03 53 15.1	+0.4
TREC	**Trest**	**147.61**	**347**	*e*PKP	PKPbc	03 53 13.5	-0.4
GRA1	**Grafenberg Arr**	**147.97**	**352**	*e*PKP	PKPab	03 53 18.5	+0.5
GRF	**Grafenberg Arr**	**147.97**	**352**	*e*PKP	PKPab	03 53 18.5	+0.5
GRF				LR	LR		
	comp=Z,100nm,19.6s						
BAIF	**Baives**	**148.03**	**1**	*e*PKP1	PKPbc	03 53 14.6	-0.4
	comp=Z,3.0nm,0.5s						
KHC	**Kasperske Hory**	**148.15**	**349**	*e*PKP	PKPbc	03 53 15.1	-0.2
GERES	**GERESS Array B**	**148.40**	**349**	PKPbc	PKPbc	03 53 15.8	-0.2
	comp=Z,1.0nm,0.5s,baz=7.0,slow=2.0,SNR=12						
FLN	**La Foliniere**	**149.05**	**7**	*e*PKP1	PKPbc	03 53 16.7	-0.9
GRR	**Gorron**	**149.37**	**7**	*e*PKP1	PKPbc	03 53 17.7	-0.7
CDF	**Champ du Feu**	**149.61**	**357**	*e*PKP1	PKPbc	03 53 19.1	+0.1
EIL	**Elat**	**150.10**	**298**	*e*PKPbc	PKPbc	03 53 20.8	+0.6
HINF	**Hinteralfeld**	**150.23**	**357**	*e*PKP1	PKPbc	03 53 20.2	-0.3
LOR	**Lormes**	**150.82**	**1**	*e*PKP1	PKPbc	03 53 21.4	-0.5
	comp=Z,4.6nm,0.5s						
SSF	**Saint Saulge**	**151.02**	**2**	*e*PKP1	PKPbc	03 53 21.8	-0.5
	comp=Z,7.7nm,0.9s						
MFF	**Saint Martin d**	**151.22**	**7**	*e*PKP1	PKPbc	03 53 22.0	-0.8
	comp=Z,6.1nm,0.7s						
AVF	**Avril sur Loir**	**151.29**	**2**	*e*PKP1	PKPbc	03 53 22.0	-1.0
	comp=Z,2.4nm,0.6s						
SMF	**Signal de Mont**	**151.44**	**1**	*e*PKP1	PKPbc	03 53 22.4	-0.9
CABF	**La Chapelle**	**151.46**	**358**	*e*PKP1	PKPbc	03 53 23.4	0.0
	comp=Z,6.0nm,0.6s						
BGF	**Bois d'Agland**	**151.50**	**3**	*e*PKP1	PKPbc	03 53 22.9	-0.6
	comp=Z,7.2nm,0.5s						
TCF	**Toulx Ste Croi**	**151.73**	**4**	*e*PKP1	PKPbc	03 53 23.1	-0.9

ISCJB ***10*** *03:49:51.3±0.8, 46S±0.1×1046W±02, h10km, mb4.2/19, MS4.0/14, Error ellipse: s-maj=26.3km s-min=9.7km az=116.5*
IDC ***10*** *03:49:52.9±2.0, 437S×1048W, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/16, mbtmp3.8/9, MS4.0/14, Ms1 4.0/14, ms1mx3.9/18, Error ellipse: s-maj=86.0km s-min=16.4km az=60.0*
HRVD ***10*** *03:49:53.0±0.5, 464S×1046.7W, h13km±2km, MW4.8/61, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s61,c75; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.20±.10; Mθθ0.48±.08; Mφφ-0.28±.09; Mrθ0.90±.32; Mrφ1.79±.08; Mθφ-0.66±.28; Best double couple: M0=2.1290×10^16 NP1:φs10.00000°, δ64.00000°, λ-166.00000°. NP2: φs273.00000°, δ77.00000°, λ-26.00000°. Principal axes: T 1.9730, Plg9.0000°, Azm324.0000°; N 0.3150, Plg61.0000°, Azm70.0000°; P -2.2860, Plg27.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***10*** *03:49:53.0±0.8, 465S×1045.9W, h10km, mb4.4/13 Error ellipse: s-maj=26.7km s-min=9.8km az=58.0*
ISC 10 03:49:53.0±0.8, 47S±01×1047W±02, h10km, n35, σ1§17/27, mb4.2/19, MS4.0/14, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**24.61**	**53**	LR	LR	04 02 17.4	
	comp=Z,940nm,20.7s,MS4.3,baz=174,slow=31						
OTAV	**Otavalo**	**26.63**	**80**	*e*P	**P**	**03 55 33.3**	**+1.6**
	17nm,1.4s,mb4.4						
LPIG	**La Paz**	**29.11**	**349**	LR	LR	04 04 38.0	
	comp=Z,226nm,21.3s,MS3.8,baz=198,slow=31						
ROSC	**El Rosal**	**31.73**	**73**	LR	LR	04 06 01.0	
	comp=Z,182nm,21.4s,MS3.7,baz=334,slow=31						
MNTX	**Cornudas Mount**	**36.16**	**359**	*e*P	**P**	**03 56 56.0**	**+0.5**
	4.4nm,1.3s,mb4.2						
SDV	**Santo Domingo**	**36.49**	**68**	LR	LR	04 09 21.8	
	comp=Z,300nm,21.2s,MS4.0,baz=220,slow=33						
SDV	**Santo Domingo**	**36.49**	**68**	*e*P	**P**	**03 56 58.6**	**+0.2**
	2.6nm,0.8s,mb4.2						
LPAZ	**La Paz**	**37.65**	**111**	P	**P**	**03 57 07.3**	**-1.0**
	0.2nm,0.3s,mb3.4,baz=284,slow=12,SNR=2.9						
LPAZ				LR	LR	04 10 24.8	
	comp=Z,133nm,18.8s,MS3.8,baz=250,slow=33						
LPAZ	**La Paz**	**37.65**	**111**	*e*P	**P**	**03 57 09.6**	**+1.4**
	1.2nm,0.7s,mb3.7						
LVC	**Limon Verde**	**38.89**	**121**	LR	LR	04 08 19.2	
	comp=Z,213nm,19.1s,MS4.0,baz=287,slow=29						
LAZ	**Ladron**	**38.92**	**357**	*e*P	**P**	**03 57 20.9**	**+2.0**
ANMO	**Albuquerque**	**39.44**	**358**	P	**P**	**03 57 23.8**	**+0.6**
	0.7nm,0.8s,mb3.4,baz=132,slow=2.8,SNR=3.3						
ANMO	**Albuquerque**	**39.44**	**358**	*e*P	**P**	**03 57 24.3**	**+1.1**
	2.8nm,1.2s,mb3.9						
WUAZ	**Wupatki**	**40.46**	**352**	*e*P	**P**	**03 57 34.6**	**+2.9**
	6.3nm,1.0s,mb4.3						
SAML	**Samuel**	**41.38**	**98**	*e*P	**P**	**03 57 38.4**	**-0.9**
	15nm,1.4s,mb4.4						
PV10	**Paradox Valley**	**43.01**	**355**	*e*P	**P**	**03 57 52.9**	**+0.3**
ARUT	**Antelope Range**	**43.02**	**350**	*e*P	**P**	**03 57 51.9**	**-0.7**
CFAA	**Coronel Fontan**	**43.41**	**133**	P	**P**	**03 57 56.1**	**+0.3**
	1.0nm,0.9s,mb3.5,baz=293,slow=6.1,SNR=12						
SJG	**San Juan**	**44.20**	**58**	LR	LR	04 12 48.7	
	comp=Z,169nm,21.6s,MS3.9,baz=270,slow=32						
PPT	**Papeete**	**45.77**	**250**	LR	LR	04 11 58.6	
	comp=Z,279nm,20.0s,MS4.2,baz=330,slow=29						
PLCA	**Paso Flores**	**47.19**	**144**	P	**P**	**03 58 26.2**	**+0.4**
	3.1nm,0.9s,mb4.2,baz=296,slow=9.4,SNR=5.2						
PLCA				LR	LR	04 13 34.8	
	comp=Z,388nm,18.0s,MS4.4,baz=16,slow=30						
PLCA	**Paso Flores**	**47.19**	**144**	*e*P	**P**	**03 58 26.0**	**+0.2**
	53nm,2.1s,mb5.1						
PDAR	**Pinedale Array**	**47.41**	**355**	P	**P**	**03 58 26.8**	**-0.8**
	0.4nm,0.6s,mb3.5,baz=183,slow=8.7,SNR=4.1						
PDAR				LR	LR	04 16 11.4	
	comp=Z,118nm,18.8s,MS3.9,baz=132,slow=34						
TPAW	**Teton Pass**	**48.26**	**354**	*e*P	**P**	**03 58 34.0**	**-0.1**
	2.8nm,1.0s,mb4.2						
HLID	**Hailey**	**48.80**	**351**	*e*P	**P**	**03 58 38.8**	**+0.5**
	3.4nm,1.0s,mb4.3						
YBH	**Yreka Blue Hor**	**49.02**	**342**	P	**P**	**03 58 42.4**	**+2.4**
	2.5nm,0.9s,mb4.2,baz=146,slow=3.6,SNR=3.0						
MCMT	**McKenzie Canyo**	**49.81**	**352**	*e*P	**P**	**03 58 46.5**	**+0.5**
CPUP	**Villa Florida**	**50.07**	**121**	P	**P**	**03 58 47.2**	**-0.7**
	1.5nm,0.7s,mb4.1,baz=264,slow=8.9,SNR=6.1						
CPUP				LR	LR	04 16 48.3	
	comp=Z,140nm,18.9s,MS4.0,baz=275,slow=32						
ULM	**Lac du Bonnet**	**55.22**	**7**	P	**P**	**03 59 24.4**	**-1.6**
	1.6nm,0.6s,mb4.3,baz=155,slow=9.8,SNR=3.9						
ULM				LR	LR	04 21 38.6	
	comp=Z,170nm,18.7s,MS4.2,baz=284,slow=35						
EDM	**Edmonton**	**58.13**	**354**	*e*P	**P**	**03 59 45.7**	**-1.1**
FFC	**Flin Flon**	**59.22**	**2**	*e*P	**P**	**03 59 52.9**	**-1.5**
	2.3nm,0.9s,mb4.2						
FCC	**Fort Churchill**	**63.78**	**6**	*e*P	**P**	**04 00 23.7**	**-1.6**
	8.1nm,1.3s,mb4.6						
SCHQ	**Schefferville**	**67.07**	**23**	LR	LR	04 29 00.6	
	comp=Z,122nm,19.6s,MS4.1,baz=44,slow=35						
YKA	**Yellowknife Ar**	**67.40**	**355**	P	**P**	**04 00 46.6**	**-1.9**
	1.2nm,0.8s,mb4.0,baz=167,slow=6.6,SNR=5.8						
YKA				LR	LR	04 27 36.0	
	comp=Z,111nm,19.1s,MS4.1,baz=185,slow=34						
QSPA	**South Pole Qui**	**85.39**	**180**	*e*P	**P**	**04 02 31.0**	**+0.4**
	4.0nm,1.0s,mb4.5						

ISCJB ***10*** *04:05:56.0±0.8, 82N±02×38.1W±0.1, h10km, mb4.0/9, MS3.6/3, Error ellipse: s-maj=29.8km s-min=14.5km az=115.0*
IDC ***10*** *04:05:56.2±0.9, 8.10N×3803W, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/22, mbtmp3.9/7, MS3.6/3, Ms1 3.7/3, ms1mx3.2/18, Error ellipse: s-maj=36.1km s-min=18.6km az=148.0*
NEIC ***10*** *04:05:58.3±1.0, 8.17N×38.14W, h10km, mb4.3/3, Error ellipse: s-maj=35.2km s-min=15.3km az=134.0*
ISC 10 04:05:58.2±0.8, 82N±02×380W±01, h10km, n11, σ0§77/10, mb4.0/9, MS3.6/3, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAML	**Samuel**	**30.28**	**236**	*e*P	**P**	**04 12 10.3**	**+0.8**
	13nm,1.5s,mb4.4						
SDV	**Santo Domingo**	**32.25**	**274**	*e*P	**P**	**04 12 26.6**	**-0.2**
	5.9nm,1.3s,mb4.3						
SIV	**San Ignacio**	**33.12**	**224**	P	**P**	**04 12 33.7**	**-0.8**
	1.3nm,0.9s,mb3.9,baz=219,slow=18,SNR=3.0						
ROSC	**El Rosal**	**36.21**	**267**	P	**P**	**04 12 59.7**	**-1.4**
	1.8nm,0.5s,mb4.3,baz=270,slow=22,SNR=2.0						
ROSC				LR	LR	04 26 31.0	
	comp=Z,92nm,20.0s,MS3.5,baz=27,slow=34						
LPAZ	**La Paz**	**38.45**	**231**	P	**P**	**04 13 21.6**	**+1.5**
	1.7nm,0.8s,mb3.8,baz=43,slow=8.9,SNR=7.7						
LPAZ				LR	LR	04 28 23.3	
	comp=Z,69nm,20.3s,MS3.5,baz=272,slow=35						
LPAZ	**La Paz**	**38.45**	**231**	*e*P	**P**	**04 13 21.0**	**+0.9**
	1.9nm,0.8s,mb3.9						
LPAZ				LR	LR	04 28 23.3	
TORD	**Torodi Ar. Bea**	**39.32**	**79**	P	**P**	**04 13 26.9**	**-0.5**
	1.1nm,0.6s,mb3.8,baz=272,slow=9.5,SNR=18						
ULM	**Lac du Bonnet**	**63.48**	**323**	P	**P**	**04 16 28.9**	**+0.4**
	2.1nm,0.9s,mb4.3,baz=128,slow=5.2,SNR=4.4						
NOA	**NORSAR Array B**	**64.03**	**24**	P	**P**	**04 16 32.8**	**+0.7**
	0.6nm,0.8s,mb3.7,baz=213,slow=7.5,SNR=3.4						
AKASG	**Malin Array Be**	**69.37**	**39**	P	**P**	**04 17 06.0**	**-0.1**
	0.4nm,0.3s,mb3.8,baz=270,slow=5.5,SNR=4.5						
PDAR	**Pinedale Array**	**70.95**	**312**	LR	LR	04 43 45.1	
	comp=Z,57nm,21.1s,MS3.8,baz=76,slow=32						

ISCJB ***10*** *04:07:13.8±0.4, 5015N±003×1840E±003, h0km, Error ellipse: s-maj=4.0km s-min=2.5km az=31.9*
NEIC ***10*** *04:07:14.6±0.7, 5017N×1840E, h5km, ML2.7(BRA), Error ellipse: s-maj=9.3km s-min=5.4km az=193.0*
WAR ***10*** *04:07:15.4, 5008N×1844E, ML2.5, Mining Induced*
VIE ***10*** *04:07:15.1±1.1, 5016N×1829E, h0km, Error ellipse: s-maj=9.2km s-min=7.0km az=119.0, Suspected Mining induced. 37 km N of Ostrava*
CSEM ***10*** *04:07:15.5±0.2, 5013N×1841E, h1km±1km, ML3.3/4, Error ellipse: s-maj=4.9km s-min=2.8km az=13.0*
IPEC ***10*** *04:07:15.3±0.1, 5008N×1844E, h0km, ML2.2/3, Error ellipse: s-maj=2.0km s-min=0.7km az=163.0*
PRU ***10*** *04:07:16.5, 5009N×1836E, h0km*
ISC 10 04:07:15.1±0.4, 5012N±003×1839E±003, h0km, n28, σ1§11/58, 2C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.13**	**256**	*e*Pg	**Pg**	**04 07 19.1**	**+1.5**
RAC				*e*Sg	**Sg**	**04 07 22.1**	**+2.8**
OKC	**Ostrava-Krasne**	**0.32**	**210**	*e*PG	**Pg**	**04 07 21.8**	**+0.6**
OKC				*e*SG	**Sg**	**04 07 26.5**	**+1.2**
	220nm,0.5s						
OKC	**Ostrava-Krasne**	**0.32**	**210**	*e*Pg	**Pg**	**04 07 21.4**	**+0.2**
OKC				*e*Sg	**Sg**	**04 07 26.5**	**+1.2**
MORC	**Moravsky Berou**	**0.65**	**239**	*e*Pg	**Pg**	**04 07 27.4**	**0.0**
MORC				*e*Sg	**Sg**	**04 07 36.4**	**+0.6**
MORC	**Moravsky Berou**	**0.65**	**239**	*e*Pg	**Pg**	**04 07 27.7**	**+0.3**
MORC				*e*Sg	**Sg**	**04 07 36.4**	**+0.6**
OJC	**Ojcow**	**0.91**	**83**	*e*Pg	**Pg**	**04 07 31.8**	**-0.7**
OJC				*e*Sg	**Sg**	**04 07 44.0**	**-0.3**
OJC	**Ojcow**	**0.91**	**83**	*e*Pg	**Pg**	**04 07 31.8**	**-0.7**
OJC				*e*Sg	**Sg**	**04 07 43.7**	**-0.6**
LIKS	**Likavka**	**1.16**	**156**	*e*PN	**Pn**	**04 07 38.1**	**-0.5**
LIKS				*e*SN	**Sn**	**04 07 55.9**	**+0.8**
DPC	**Dobruska-Polom**	**1.35**	**281**	*e*PG	**Pg**	**04 07 40.8**	**-0.1**
DPC				*e*SG	**Sg**	**04 07 58.6**	**+0.2**
	43nm,0.6s						
VRAC	**Vranov**	**1.42**	**236**	*e*Pg	**Pg**	**04 07 41.6**	**-0.7**
VRAC				*e*Sg	**Sg**	**04 08 00.1**	**-0.6**
	38nm,0.2s						
NIE	**Niedzica**	**1.43**	**118**	*e*Pg	**Pg**	**04 07 41.9**	**-0.5**
NIE				i		04 07 42.5	
NIE				*e*Sg	**Sg**	**04 08 01.1**	**+0.2**
NIE				i		04 08 02.0	
NIE	**Niedzica**	**1.43**	**118**	*e*Pg	**Pg**	**04 07 41.9**	**-0.5**
NIE				*e*Sg	**Sg**	**04 08 01.1**	**+0.2**
KSP	**Ksiaz**	**1.53**	**299**	*e*Pn	**Pn**	**04 07 43.1**	**-0.5**
KSP				*e*Pg	**Pg**	**04 07 45.0**	**+0.7**
KSP				*e*Sn	**Sn**	**04 08 03.3**	**-0.8**
KSP				*e*Sg	**Sg**	**04 08 05.3**	**+1.2**
KSP	**Ksiaz**	**1.53**	**299**	*e*Pg	**Pg**	**04 07 45.0**	**+0.7**
KSP				*e*Sn	**Sn**	**04 08 03.3**	**-0.8**
KSP				*e*Sg	**Sg**	**04 08 05.3**	**+1.2**
KOLL	**Kolacno**	**1.54**	**180**	*e*PN	**Pn**	**04 07 42.8**	**-0.9**
KOLL				*e*SN	**Sn**	**04 08 04.8**	**+0.4**
UPC	**Upice**	**1.58**	**285**	*e*PG	**Pg**	**04 07 44.3**	**-1.0**
VYHS	**Vyhne**	**1.65**	**170**	*e*PN	**Pn**	**04 07 44.3**	**-0.9**
VYHS				*e*SN	**Sn**	**04 08 06.7**	**-0.4**
KRUC	**Moravsky**	**1.67**	**232**	*e*Pn	**Pn**	**04 07 45.2**	**-0.4**
KRUC				*e*Sg	**Sg**	**04 08 07.5**	**-1.3**
	15nm,0.2s						
STHS	**Stebnicka Huta**	**1.98**	**110**	*e*PN	**Pg**	**04 07 52.9**	**-0.1**
STHS				*e*SN	**Sg**	**04 08 19.7**	**+1.1**
KECS	**Kecovo**	**2.13**	**139**	*e*PN	**Pn**	**04 07 54.5**	**+2.6**
KECS				*e*		04 08 17.0	
KECS	**Kecovo**	**2.13**	**139**	*e*Pn	**Pn**	**04 07 54.5**	**+2.6**
KECS				*e*		04 08 17.1	
PRU	**Pruhonice**	**2.48**	**269**	*e*PG	**Pn**	**04 08 00.1**	**+3.3**
PRU				*e*SG	**Sn**	**04 08 32.4**	**+4.6**
	9.2nm,0.4s						
CONA	**Conrad Observa**	**2.75**	**218**	⇑*i*Pn	**Pn**	**04 08 00.1**	**-0.3**
CONA				⇓*i*Sg	**Sg**	**04 08 46.8**	**+3.4**
BRG	**Berggiesshubel**	**2.94**	**287**	PG	**Pg**	**04 08 09.6**	**-1.9**
BRG				SG	**Sg**	**04 08 48.5**	**-1.0**
	2.6nm,0.5s						
KHC	**Kasperske Hory**	**3.28**	**254**	*e*PN	**Pn**	**04 08 07.2**	**-0.5**
KHC				*e*PG	**Pg**	**04 08 15.6**	**-2.4**
KHC				*e*SN	**Sn**	**04 08 48.0**	**+0.6**
KHC				*e*SG	**Sg**	**04 08 58.9**	**-1.6**
	14nm,0.4s						
MOA	**Molln**	**3.54**	**232**	⇓*i*Pn	**Pn**	**04 08 11.5**	**+0.3**
MOA				⇑*i*Sg	**Sg**	**04 09 08.4**	**-0.4**
	comp=Z,8.1nm,0.6s						
MOA	**Molln**	**3.54**	**232**	⇓*i*Pn	**Pn**	**04 08 11.5**	**+0.3**
MOA				⇓*i*Sg	**Sg**	**04 09 07.4**	**-1.3**
	8.1nm,0.6s						
CLL	**Collm**	**3.63**	**291**	*i* Pg	**Pg**	**04 08 26.9**	**+2.3**
CLL				*i* Sg	**Sg**	**04 09 13.5**	**+1.9**
	comp=Z,5.0nm,0.7s						

CSEM ***10*** *04:24:20.6±0.1, 3778N×2011E, h2km, MD3.8, Error ellipse: s-maj=4.0km s-min=2.4km az=87.0*
ISCJB ***10*** *04:24:20.1±0.8, 3790N±003×2009E±007, h10km, Error ellipse: s-maj=8.2km s-min=4.8km az=3.6*
NEIC ***10*** *04:24:21.3, 3797N×2013E, h8km, MD3.8(ATH), After ATH.*
ATH ***10*** *04:24:21.3, 3797N×2013E, h8km±5km, MD3.7/3*
THE ***10*** *04:24:23.3, 3801N×2024E, h10km*
HLW ***10*** *04:24:25.5, 3842N×2175E, h33km, Mb3.8*
ISC 10 04:24:22.7±0.8, 3797N±003×2020E±007, h10km, n25, σ1§23/33, 1C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.37**	**56**	*e*PG	**Pg**	**04 24 29.2**	**-0.8**
LKD	**Levkas**	**0.82**	**25**	*e*Pg	**Pg**	**04 24 37.0**	**-1.4**
LKD				*e*Sg	**Sg**	**04 24 49.1**	**0.0**
RLS	**Riolos of Patr**	**1.00**	**85**	*e*PG	**Pg**	**04 24 40.8**	**-1.2**
RLS				*e*SB	**Sb**	**04 24 55.8**	**+0.4**
IGT	**Igoumenitsa**	**1.56**	**4**	*e*Pg	**Pg**	**04 24 50.6**	**-2.1**
IGT				*e*Sg	**Sg**	**04 25 12.8**	**-0.2**
EVR	**Evrytania**	**1.58**	**53**	⇓*i*PB	**Pb**	**04 24 52.4**	**+0.4**
EVR				*e*SB	**Sb**	**04 25 14.2**	**+2.3**
JAN	**Janina**	**1.76**	**17**	*e*PN	**Pn**	**04 24 54.1**	**+0.9**
KEK	**Kerkira**	**1.77**	**350**	*e*PN	**Pn**	**04 24 54.3**	**+0.9**
AGG	**Agios Georgios**	**1.97**	**57**	*e*Pb	**Pb**	**04 24 57.3**	**-1.4**
AGG				*e*Sb	**Sb**	**04 25 22.7**	**-0.7**
MEV	**Metsovon**	**1.98**	**24**	*e*Pb	**Pb**	**04 24 57.7**	**-1.2**
MEV				*e*Sb	**Sb**	**04 25 23.6**	**0.0**
LKR	**Lokris**	**2.30**	**72**	*e*PB	**Pb**	**04 25 01.6**	**-2.8**
VLI	**Veliai**	**2.51**	**119**	*e*PN	**Pn**	**04 25 06.2**	**+2.6**
**X

DENT	Denizli	3.01	30	*e*PN	Pn	05 31 29.3 +0.4
KYTH	Kithira	3.51	290	*e*PN	Pn	05 31 36.2 +0.4
KHL	Karahalli	3.69	31	*e*PN	Pn	05 31 38.5 +0.2
VLI	Veliai	3.74	296	*e*PN	Pn	05 31 39.9 +1.0
SLUM		4.00	204	⇑P	Pn	05 31 43.3 +0.9
SLUM				S	Sn	05 32 26.8 -1.5
KIZT	Kizilcal	5.31	44	*e*PN	Pn	05 32 01.9 +1.4
SWA1		6.00	192	P	Pn	05 32 10.8 +0.8
SWA1				S	Sn	05 33 14.4 -3.4
SWA2		6.07	194	⇑P	Pn	05 32 11.9 +1.0
KOT	Kottamia	6.55	141	⇑P	Pn	05 32 16.8 -0.8
HSAF	As Saff	6.67	145	⇓P	Pn	05 32 18.5 -0.7
GLL	Jalalah	6.78	144	⇑P	Pn	05 32 19.8 -0.9
AMAG	Maghara	6.81	130	⇑P	Pn	05 32 20.1 -1.0
HNKL	Nakhl	7.79	130	⇑P	Pn	05 32 33.6 -0.9
HNKL				S	Sn	05 33 54.3 -7.4
HFRF	Wahat Farafira	8.05	172	⇓P	Pn	05 32 38.4 +0.3

IDC 10 05:57:05.1±2.0, 346N×12838E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=158.1km s-min=22.7km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**166**	P	P	06 02 20.9	-0.3
	1.8nm,0.7s,baz=344,slow=9.7,SNR=14						
WB2	**Warramunga Arr**	**23.99**	**166**	*e*P	P	06 02 21.2	-0.1
ASPA	**Alice Springs**	**27.50**	**169**	*e*P	P	06 02 53.7	+0.6
ASAR	**Alice Springs**	**27.50**	**169**	P	P	06 02 52.8	-0.3
	0.3nm,0.4s,baz=343,slow=7.4,SNR=9.2						
STKA	**Stephens Creek**	**37.32**	**161**	P	P	06 04 19.1	0.0
	2.1nm,0.9s,baz=350,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**58.72**	**325**	P	P	06 07 05.7	+1.2
	0.2nm,0.4s,baz=120,slow=7.8,SNR=5.9						

*ISCJB **10** 05:57:05.9±1.0, 4361N±006×7537E±006, h10km, Error ellipse: s-maj=8.0km s-min=6.1km az=171.1*
*NNC **10** 05:57:06.4±2.9, 4283N×7641E, h9km±15km, mb3.5, mpv2.6, Error ellipse: s-maj=70.5km s-min=17.4km az=1.0*
*KNET **10** 05:57:07.7±0.4, 4347N×7535E, h0km, ml1.9, Error ellipse: s-maj=3.3km s-min=2.0km az=24.0*

ISC 10 05:57:07.1±0.9, 4355N±005×7539E±005, h10km, n13, σ0§90/20, 16C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.65**	**167**	⇑P	Pg	05 57 18.9	-0.7
	21nm,0.1s,SNR=27						
TKM2				⇑S	Sg	05 57 28.3	+0.3
	52nm,0.1s						
TKM2	**Tokmak 2**	**0.65**	**167**	⇑P	Pg	05 57 18.8	-0.7
	0.3nm,0.2s						
TKM2				⇑S	Sg	05 57 28.2	+0.2
	0.7nm,0.2s						
USP	**Ospenovka**	**0.71**	**247**	⇑P	Pg	05 57 20.1	-0.7
	7.6nm,0.1s,SNR=36						
USP				⇑S	Sg	05 57 30.0	-0.1
	45nm,0.3s						
CHMS	**Chumysh**	**0.72**	**221**	⇑P	Pg	05 57 20.7	-0.4
	6.9nm,0.2s,SNR=15						
CHMS				⇑S	Sg	05 57 30.1	-0.4
	24nm,0.2s						
KBK	**Karagaybulak**	**0.95**	**200**	⇓P	Pg	05 57 25.1	-0.3
	13nm,0.3s,SNR=16						
KBK				⇓S	Sg	05 57 37.5	-0.2
	24nm,0.2s						
AAK	**Ala-Archa**	**1.13**	**216**	⇓P	Pb	05 57 28.3	-0.4
	3.7nm,0.2s,SNR=6.5						
AAK				⇓S	Sb	05 57 43.1	-0.2
	15nm,0.3s						
ULHL	**Ulahol**	**1.44**	**154**	⇑P	Pn	05 57 33.4	+0.1
	4.4nm,0.1s,SNR=22						
UCH	**Uchtor**	**1.47**	**206**	⇑P	Pn	05 57 34.4	+0.8
	3.5nm,0.2s,SNR=5.8						
KZA	**Kyzart**	**1.47**	**184**	⇑P	Pn	05 57 34.6	+0.9
	4.9nm,0.2s,SNR=13						
EKS2	**Erkin-Say**	**1.48**	**234**	⇓P	Pn	05 57 34.5	+0.8
	SNR=13						
AML	**Almayashu**	**1.89**	**222**	⇑P	Pn	05 57 42.3	+2.9
	7.2nm,0.2s,SNR=6.8						
KK31	**Karatay Array**	**3.59**	**265**	⇑Pn	Pg	05 58 13.3	-2.5
	2.0nm,0.3s,baz=75,slow=15,SNR=37						
KK31				⇑Sn	Sg	05 59 03.7	+1.3
	5.2nm,0.5s,baz=78,slow=27						
MK05	**Makanchi Array**	**5.86**	**54**	⇑Pn	Pn	05 58 33.5	-0.4
	0.6nm,0.3s,baz=237,slow=16						
MK05				⇑Lg		06 00 08.5	
	0.9nm,0.7s,baz=229,slow=24						

*IDC **10** 06:01:02.6±10.0, 2061S×17622W, h121km±89km, mb3.9/8, mb1 4.0/9, mb1mx3.9/15, mbtmp4.3/9, ML3.5/1, MS4.0/15, Ms1 4.0/15, ms1mx3.9/17, Error ellipse: s-maj=40.0km s-min=28.4km az=75.0*
*ISCJB **10** 06:01:06.6±4.9, 207S±0.1×1763W±02, h172km±43km, mb4.2/14, Error ellipse: s-maj=25.7km s-min=19.3km az=78.8*
*HRVD **10** 06:01:06.2±0.5, 2075S×17592W, h109km±4km, MW5.0/44, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s44,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.46±.33; $M_{\theta\theta}$-3.14±.26; $M_{\phi\phi}$4.60±.27; $M_{r\theta}$-1.20±.22; $M_{\theta\phi}$-0.81±.26; $M_{\phi r}$0.88±.27; Best double couple: $M_0$4.31200×10^{16} NP1:ϕ_s133.00000°, δ78.00000°, λ-154.00000°. Principal axes: T 4.8460, Plg9.0000°, Azm263.0000°; N -1.0690, Plg62.0000°, Azm155.0000°; P -3.7770, Plg27.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 06:01:06.2±3.6, 2064S×17623W, h156km±32km, mb4.5/9 Error ellipse: s-maj=16.7km s-min=14.1km az=132.0*

ISC 10 06:01:07.2±5.2, 207S±01×1763W±02, h165km±47km, n55, σ0§71/24, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.00**	**33**	LR	LR	06 05 14.9	
	comp=Z,346nm,20.9s,baz=166,slow=32						
RAO	**Raoul Island**	**8.64**	**190**	LR	LR	06 05 31.0	
	comp=Z,652nm,21.6s,baz=114,slow=31						
RAR	**Rarotonga**	**15.40**	**95**	LR	LR	06 09 23.2	
	comp=Z,363nm,19.3s,baz=171,slow=32						
DZM	**Mont Dzumac**	**16.18**	**262**	P	Pn	06 04 45.1	-0.2
	0.2nm,0.3s,baz=76,slow=18,SNR=5.6						
DZM				LR	LR	06 09 52.1	
	comp=Z,1μm,20.6s,baz=15,slow=33						
URZ	**Urewera**	**18.41**	**197**	LR	LR	06 11 04.7	
	comp=Z,1μm,21.8s,baz=187,slow=32						
TBI	**Tubuai**	**24.96**	**101**	*e*LQ		06 11 05.4	
	1μm,26.5s						
TBI				*e*LR	LR	06 12 12.8	
	983nm,29.2s,baz=273						
RPZ	**Rata Peaks**	**25.27**	**202**	LR	LR	06 15 40.4	
	comp=Z,427nm,21.5s,baz=179,slow=35						
PPT	**Papeete**	**25.38**	**87**	*e*LQ		06 11 13.4	
	327nm,23.5s						
PPT				*e*LR	LR	06 12 17.2	
	2μm,28.5s,baz=259						
PPT	**Papeete**	**25.38**	**87**	LR	LR	06 13 36.3	
	comp=Z,386nm,19.1s,baz=256,slow=30						
HNR	**Honiara**	**25.54**	**292**	LR	LR	06 14 06.0	
	comp=Z,303nm,19.1s,baz=180,slow=31						
CTA	**Charters Tower**	**35.10**	**264**	*e*P	P	06 07 45.8	+1.2
	22nm,1.0s,mb4.8						
CTA	**Charters Tower**	**35.10**	**264**	P	P	06 07 45.2	+0.6
	32nm,1.1s,mb4.9,baz=100,slow=10,SNR=6.7						
CTAO	**Charters Tower**	**35.10**	**264**	*e*P	P	06 07 45.3	+0.7
	38nm,1.0s,mb5.0						
TAOE	**Nuku Hiva Isla**	**36.75**	**77**	*e*LR	LR	06 17 32.7	
	3μm,29.0s						
PMG	**Port Moresby**	**36.99**	**282**	P	P	06 08 00.7	+0.1
	34nm,1.0s,mb4.9,baz=9.0,slow=8.9,SNR=3.8						
PMG	**Port Moresby**	**36.99**	**282**	*e*P	P	06 08 01.3	+0.7
	40nm,1.0s,mb5.0						
RKT	**Rikitea**	**38.28**	**101**	*e*LR	LR	06 18 02.7	
	820nm,32.2s,baz=275						
STKA	**Stephens Creek**	**39.18**	**245**	*e*P	P	06 08 16.3	-2.6
	3.7nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**39.18**	**245**	LR	LR	06 21 27.7	
	comp=Z,343nm,19.8s,baz=292,slow=31						

AS31	**Alice Springs**	**46.07**	**257**	*e*P	P	06 09 14.8 +0.4
ASAR	**Alice Springs**	**46.07**	**257**	P	P	06 09 14.8 +0.4
	2.3nm,0.8s,mb3.9,baz=90,slow=8.1,SNR=20					
ASPA	**Alice Springs**	**46.07**	**257**	*e*P	P	06 09 14.8 +0.3
WB2	**Warramunga Arr**	**46.19**	**262**	*e*P	P	06 09 15.6 +0.3
WRAB	**Tennant Creek**	**46.19**	**262**	*e*P	P	06 09 20.1 +4.7
	20nm,1.1s,mb4.7					
WRA	**Warramunga Arr**	**46.20**	**262**	P	P	06 09 15.2 -0.2
	3.8nm,1.0s,mb4.0,baz=95,slow=7.6,SNR=13					
VNDA	**Vanda**	**57.85**	**185**	P	P	06 10 41.7 +0.2
	0.9nm,0.9s,mb3.6,baz=9.4,slow=8.0,SNR=4.1					
VNDA				LR	LR	06 32 06.4
	comp=Z,94nm,20.5s,baz=37,slow=32					
VNDA	**Vanda**	**57.85**	**185**	P	P	06 10 41.7 +0.2
VNDA				LR	LR	06 32 06.4
CASY	**Casey**	**64.48**	**205**	*e*P	P	06 11 25.5 -0.6
	4.9nm,0.8s,mb4.4					
QSPA	**South Pole Qui**	**69.36**	**180**	*e*P	P	06 11 57.1 +0.2
	7.6nm,1.0s,mb4.4					
MJAR	**Matsushiro Arr**	**71.36**	**323**	LR	LR	06 43 53.8
	comp=Z,61nm,18.0s,baz=95,slow=36					
MAW	**Mawson**	**81.92**	**199**	P	P	06 13 09.1 +0.8
	3.2nm,0.6s,mb4.1,baz=128,slow=4.2,SNR=5.1					
MAW				LR	LR	06 46 31.7
	comp=Z,116nm,21.9s,baz=84,slow=33					
WUAZ	**Wupatki**	**83.05**	**48**	*e*P	P	06 13 14.3 +0.2
	5.6nm,1.0s,mb4.2					
MSU	**Marysvale**	**84.08**	**45**	*e*P	P	06 13 18.6 -0.7
MNTX	**Cornudas Mount**	**85.54**	**54**	*e*P	P	06 13 27.4 +0.7
	2.2nm,0.9s,mb3.9					
PDAR	**Pinedale Array**	**88.00**	**43**	P	P	06 13 38.6 +0.1
	0.4nm,0.7s,mb3.4,baz=333,slow=1.7,SNR=4.0					
PDAR				LR	LR	06 42 50.4
	comp=Z,80nm,21.8s,baz=152,slow=28					
VNA1	**Neumayer--Stat**	**88.50**	**176**	*e*	P	06 13 40.4 -0.5
VNA1				*e*		06 13 45.4
YKA	**Yellowknife Ar**	**96.02**	**24**	LR	LR	06 50 26.0
	comp=Z,67nm,20.6s,baz=0.0,slow=31					
SONM	**Songino Array**	**96.99**	**319**	P	P	06 14 18.9 -1.1
	0.4nm,0.8s,mb3.8,baz=95,slow=8.8,SNR=2.8					
SONM				LR	LR	06 55 40.4
	comp=Z,58nm,19.3s,baz=133,slow=34					
MKAR	**Makanchi Array**	**112.54**	**313**	PKiKP	PKiKP	06 19 23.7 0.0
	0.4nm,0.7s,baz=166,slow=1.0,SNR=3.5					
AKASG	**Malin Array Be**	**143.98**	**332**	PKP	PKPdf	06 20 20.5 -2.4
	0.5nm,0.4s,baz=43,slow=4.4,SNR=6.9					
EKA	**Eskdalemuir Ar**	**145.04**	**7**	PKP	PKPdf	06 20 24.2 -0.5
	5.5nm,0.9s,baz=325,slow=3.5,SNR=9.9					
STHS	**Stebnicka Huta**	**148.14**	**338**	*e*PKP	PKPbc	06 20 35.5 +2.1
STHS				*e*		06 20 43.5
BRTR	**Keskin Array B**	**148.19**	**313**	PKPbc	PKPbc	06 20 34.8 +1.3
	2.3nm,1.0s,baz=166,slow=2.5,SNR=3.9					
CLL	**Collm**	**148.61**	**349**	*i* PKPbc	PKPbc	06 20 35.8 +1.2
	comp=Z,5.0nm,0.8s					
CLL				*i* PKPab	PKPab	06 20 39.6 +0.9
	comp=Z,9.0nm,1.0s					
CLL				*i* x	x	06 20 43.7
	comp=Z,16nm,1.0s					
UPC	**Upice**	**148.73**	**345**	*e*PKPbc	PKPbc	06 20 37.2 +2.3
UPC				*e*PKPab	PKPab	06 20 41.9 +2.8
OKC	**Ostrava-Krasne**	**148.77**	**342**	*e*PKPbc	PKPbc	06 20 37.0 +2.0
DPC	**Dobruska-Polom**	**148.79**	**344**	*e*PKPbc	PKPbc	06 20 36.7 +1.6
DPC				*e*PKPab	PKPab	06 20 41.7 +2.3
BRG	**Berggiesshubel**	**148.85**	**347**	*e*P	PKPbc	06 20 36.4 +1.2
	comp=Z,3.1nm,1.0s					
BRG				*e*		06 20 42.2
	comp=Z,5.3nm,1.1s					
BRG				*e*		06 22 37.3
	comp=Z,4.4nm,1.0s					
BRG						
	comp=N,140nm,21.4s					
BRG						
	comp=E,80nm,20.9s					
BRG						
	comp=Z,97nm,11.9s					
KECS	**Kecovo**	**149.20**	**338**	*e*PKP	PKPbc	06 20 39.9 +3.8
KECS				*e*		06 20 43.6
MLR	**Muntele Rosu**	**149.27**	**329**	PKPbc	PKPbc	06 20 37.3 +1.1
	comp=Z,5.1nm,0.9s,baz=299,slow=23,SNR=3.6					
MOX	**Moxa**	**149.49**	**350**	*e*P	PKPbc	06 20 39.6 +2.8
PRU	**Pruhonice**	**149.56**	**346**	*e*PKPbc	PKPbc	06 20 38.7 +1.7
PRU				*e*PKPab	PKPab	06 20 43.5 +1.0
VYHS	**Vyhne**	**149.75**	**340**	*e*PKP	PKPbc	06 20 38.1 +0.7
VYHS				*e*		06 20 44.3
KHC	**Kasperske Hory**	**150.57**	**347**	*e*PKPbc	PKPbc	06 20 40.9 +1.5
GERES	**GERESS Array B**	**150.82**	**346**	PKPbc	PKPbc	06 20 41.3 +1.3
	comp=Z,2.6nm,0.9s,baz=66,slow=1.6,SNR=14					
GERES				PKPab	PKPab	06 20 47.2 -0.5
	comp=Z,4.1nm,1.0s,baz=18,slow=1.7,SNR=12					

*CSEM **10** 06:15:59.5±1.1, 3525N×2658E, h10km, MD3.6, Error ellipse: s-maj=41.1km s-min=16.6km az=153.0, After ATH*
*NEIC **10** 06:15:59.5, 3525N×2658E, h10km, MD3.6(ATH), After ATH.*

ATH 10 06:15:56.8, 3493N×2675E, h5km, MD3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.70**	**29**	*e*PB	Pb	06 16 10.5	-1.0
XRY	**Khrisi**	**0.87**	**267**	*e*PB	Pb	06 16 13.5	-0.9
NPS	**Neapolis**	**0.99**	**290**	*e*PG	Pg	06 16 15.4	-0.4
VAM	**Vamos**	**2.14**	**284**	*e*PG	Pg	06 16 37.0	-0.9
APE	**Apeiranthos**	**2.35**	**335**	*e*Pb	Pb	06 16 34.5	-5.2

*ISCJB **10** 06:18:41.1±0.2, 4249N±001×634W±002, h10km, mb3.8/13, MS3.0/5, Error ellipse: s-maj=2.5km s-min=1.5km az=90.8*
*CNRM **10** 06:18:42.0, 4275N×682W, h30km, MD4.6*
*MOS **10** 06:18:42.6±1.0, 4257N×637W, h18km, mb4.1/2, Error ellipse: s-maj=6.1km s-min=3.3km az=136.3*
*IGIL **10** 06:18:42.1, 4250N×630W, h8km, ML4.7*
*CSEM **10** 06:18:44.2, 4242N×647W, h10km, ML4.7*
*LDG **10** 06:18:44.8±0.1, 4250N×653W, h10km, Md4.7/2, Ml4.8/44, ms3.0/6, Error ellipse: s-maj=2.0km s-min=1.3km az=131.0*
*SFS **10** 06:18:44.0, 4243N×674W, h9km, ML3.8*
*MDD **10** 06:18:44.8±0.2, 4245N×647W, h11km, mbLg4.5/38, Error ellipse: s-maj=2.6km s-min=1.8km az=150.0, PRXIMO IV AZADINOS BENUZA LA A IV LLAMAS DE CABRERA POBLADURA DE LA SIERRA IV PONFERRADA PUENTE DE DOMINGO FLORES IV SAN CLEMENTE DE VALDUEZA SAN CRISTOBAL DE VALDUEZA E IV SAN MIGUEL DE LAS AS TROBAJO DEL CAMINO IV VILLAMEJIL VILLANUEVA DE VALDUEZA IV VILLAVERDE DE ABAJO III-IV ASTORGA LA EZA III-IV SARIEGOS VALVERDE DE LA VIRGEN III A VEIGA CACABELOS III CARBALLEDA DE VALDEORRAS III CASTROCONTRIGO LAS DULAS N III PUEBLA DE SANABRIA RIBADELADO III SAN ANDRS DEL RABANEDO TORNEROS DE LA A III VALLE DE FINOLLEDO VEGUELLINA DE RBIGO II-III LA VIRGEN DEL CAMINO MAIRE DE CASTROPONCE II-III MONTEJOS DEL CAMINO NAVA II-III SANTIBEZ VE VIDRIALES VILLAFRANCA DEL BIERZO E II-III VILLAQUILAMBRE II A A A RUA S BARALLA II BECERRE.LU, BENAVENTE CAMARZANA DE TERA CANDS. O II CARBAJALES DE ALBA COLINDRES FABERO II FOLGOSO DO COUREL FRESNEDO N LA FRESNEDA. O II LUGO MIERES MOREA AYER A O INCIO II OVIEDO PALENCIA PIEDRAS BLANCAS POBRA DE TRIVES .OU II POLA DE LENA PRUVIA RIBADESELLA SALAMANCA II SALINAS VALLADOLID VEGADEO VENTA DE OS II VERIN ZAMORA*
MDD EMS: IV-V CASTRILLO DE CABRERA MARRUBIO ODOLLO.
*NEIC **10** 06:18:44.8, 4244N×647W, h9km, ML4.3(LIS), ML4.7(CSEM), ML4.8(LDG), MN4.5(MDD), After MDD.*
NEIC Felt [V] at Castrillo de Cabrera, Marrubio and Odollo; [IV] at Astorga, Azadinos, Bembibre, Benuza, La Bana, La Baneza, Llamas de Cabrera, Pobladura de la Sierra, Ponferrada, Puente de Domingo Florez, San Clemente de Valdueza, San Cristobal de Valdueza, San Miguel de las Duenas, Sariegos, Trobajo del Camino, Valverde de la Virgen, Villamejil, Villanueva de Valdueza and Villaverde de Abajo; [III] at Cacabelos, Carballeda, Castrocontrigo, Las Medulas, La Virgen del Camino, Leon, Maire del Castroponce, Montejos del Camino, Nava, Puebla de Sanabria, Ribadelago, San Andres del Rabanedo, Santibanez de Vidriales, Torneros de la Valderia, Valdeorras, Valle de Finolledo, Veguellina de Orbigo, Veiga, Villafranca del Bierzo and Villaquilambre; [II] at Aviles, Baralla, Becerrea, Benavente, Camarzana de Tera, Candas, Carbales de Alba, Colindres, Fabero, Folgoso, Fresnedo, Gijon, Incio, La Fresneda, Lugo, Mieres, Norena, Oviedo, Palencia, Piedras Blancas, Pola de Lena, Pruvia, Ribadesella, Rua, Salamanca, Salinas, Valladolid, Vegadeo, Venta de Banos, Verin and Zamora.
*INMG **10** 06:18:45.0±1.4, 4241N×644W, h15km±3km, MD3.9, ML4.3, Error ellipse: s-maj=2.4km s-min=1.8km az=112.0*
*SZGRF **10** 06:18:46.8, 4326N×691W, h10km, mb2.9, Spain*
*IDC **10** 06:18:46.7±1.0, 4262N×548W, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.8/26, mbtmp3.9/14, ML4.2/2, MS3.2/9, Ms1 3.2/9, ms1mx2.9/33, Error ellipse: s-maj=19.4km s-min=14.1km az=87.0*
*STR **10** 06:18:51.5±0.4, 4294N×580W, h10km±1km, Ml5.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 10 06:18:42.9±0.2, 4246N±001×643W±002, h10km, n369, σ1§24/569, mb3.8/13, MS3.0/5, 10C-7D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.53**	**263**	⇑Pg	Pg	06 18 54.4	+1.1
	408nm,0.1s,SNR=18						
ERUA				Lg		06 19 00.5	
	136nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**0.57**	**204**	⇓Pg	Pg	06 18 55.4	+1.5
	491nm,0.1s,SNR=18						
ECAL				Lg		06 19 02.2	
	10μm,0.2s,SNR=7.9						
ECAL	**Calabor**	**0.57**	**204**	Pg	Pg	06 18 55.4	+1.5
	SNR=18						
PBRG	**Braganca**	**0.69**	**200**	*e*Pg	Pg	06 18 57.6	+1.2
PBRG				*e*Sg	Sg	06 19 05.5	+0.1
PBRG	**Braganca**	**0.69**	**200**	*e*Pg	Pg	06 18 57.6	+1.2
PBRG				*e*Sg	Sg	06 19 05.5	+0.1
PBRG				*e*S	Sg	06 19 06.3	+0.9
EPON	**Pontenova**	**1.02**	**329**	⇓Pg	Pg	06 19 03.9	+1.4
	3μm,0.3s,SNR=18						
EPON				Lg		06 19 17.3	
	10μm,0.4s,SNR=7.9						
EPON	**Pontenova**	**1.02**	**329**	Pg	Pg	06 19 03.9	+1.4
	3μm,0.3s,SNR=18						
EARI	**Arriondas**	**1.23**	**46**	⇑Pg	Pg	06 19 07.9	+1.4
	3μm,0.3s,SNR=18						
EARI				Lg		06 19 25.2	
	3μm,0.2s,SNR=16						
EARI	**Arriondas**	**1.23**	**46**	Pg	Pg	06 19 07.9	+1.4
	3μm,0.3s,SNR=18						
ELOB	**Lobios**	**1.35**	**245**	Pn	Pn	06 19 07.7	-0.2
	647nm,0.5s,SNR=405						
ELOB				Lg		06 19 26.5	
	2μm,0.2s,SNR=46						
ELOB	**Lobios**	**1.35**	**245**	Pn	Pn	06 19 07.6	-0.2
ELOB				Lg		06 19 26.5	
ELOB	**Lobios**	**1.35**	**245**	Pn	Pn	06 19 07.6	-0.2
	647nm,0.5s,SNR=405						
PCAB	**Cabril**	**1.41**	**238**	*e*P	Pn	06 19 08.3	-0.3
PCAB				*e*S	Sn	06 19 26.7	-0.5
PCAB							
	2μm,0.2s						
PCAB	**Cabril**	**1.41**	**238**	*e*P	Pn	06 19 08.3	-0.3
PCAB				*e*S	Sn	06 19 27.8	+0.6
PVRL	**Vila Real**	**1.53**	**220**	*e*P	Pn	06 19 09.6	-0.6
PVRL				*e*S	Sn	06 19 28.7	-1.4
PVRL							
	4μm,0.2s						
PVRL	**Vila Real**	**1.53**	**220**	*e*P	Pn	06 19 09.6	-0.6
PVRL				*e*S	Sn	06 19 31.3	+1.2
STS	**Santiago**	**1.62**	**286**	Pn	Pn	06 19 12.2	+0.6
	10nm,0.1s,SNR=7.9						
STS				Pg	Pg	06 19 14.4	+0.3
	268nm,0.1s,SNR=7.9						
STS				Lg		06 19 34.4	
	458nm,0.5s,SNR=7.9						
STS	**Santiago**	**1.62**	**286**	Pn	Pn	06 19 13.6	+2.0
STS				Pg	Pg	06 19 14.4	+0.3
STS				Lg		06 19 18.0	
STS				Lg		06 19 34.4	
STS	**Santiago**	**1.62**	**286**	P	Pn	06 19 13.6	+2.0
EZAM	**Zamans**	**1.71**	**260**	Pn	Pn	06 19 12.4	-0.3
	2.1nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**1.94**	**285**	Pn	Pn	06 19 16.2	+0.3
	25nm,0.1s,SNR=28						
EMAZ				Pg	Pg	06 19 20.3	+0.2
	128nm,0.1s,SNR=7.9						
EMAZ				Lg		06 19 45.2	
	1μm,0.2s,SNR=47						
EMAZ	**Mazaricos**	**1.94**	**285**	Pn	Pn	06 19 16.2	+0.3
	25nm,0.1s,SNR=28						
EMAZ	**Mazaricos**	**1.94**	**285**	Pg	Pg	06 19 20.3	+0.1
	128nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**2.06**	**213**	*e*Pn	Pn	06 19 17.1	-0.5
PVIS				*e*Sg	Sg	06 19 47.8	-1.4
PVIS							
	1μm,0.3s						
PVIS	**Viseu**	**2.06**	**213**	*e*P	Pn	06 19 17.0	-0.6
PVIS	**Viseu**	**2.06**	**213**	*e*Pn	Pn	06 19 17.1	-0.5
PVIS				*e*Sg	Sg	06 19 47.8	-1.4
	1μm,0.3s						
PTO	**Porto**	**2.10**	**232**	*e*Pn	Pn	06 19 17.7	-0.3
PTO	**Porto**	**2.10**	**232**	*e*Pg	Pg	06 19 23.8	+0.7
PTO				*e*Sg	Sg	06 19 48.5	-1.7
PTO							
	929nm,0.1s						
PTO	**Porto**	**2.10**	**232**	Pn	Pn	06 19 17.7	-0.3
PTO				Pg	Pg	06 19 23.8	+0.7
PTO				Lg		06 19 48.5	
	464nm,0.1s						
PTO	**Porto**	**2.10**	**232**	*e*Pg	Pg	06 19 23.8	+0.7
PTO				*e*Sg	Sg	06 19 48.5	-1.7
	929nm,0.1s						
MTE	**Manteigas**	**2.22**	**203**	*e*Pn	Pn	06 19 19.1	-0.7
MTE	**Manteigas**	**2.22**	**203**	*e*Pg	Pg	06 19 25.9	+0.4
MTE				*e*Sg	Sg	06 19 51.6	-2.8
MTE							
	2μm,0.4s						
MTE	**Manteigas**	**2.22**	**203**	Pn	Pn	06 19 19.1	-0.7
MTE				Pg	Pg	06 19 25.9	+0.4
MTE				Lg		06 19 51.6	
	1μm,0.4s						
MTE	**Manteigas**	**2.22**	**203**	*e*Pn	Pn	06 19 19.2	-0.6
MTE				*e*Sn	Sn	06 19 52.4	+5.1
MTE	**Manteigas**	**2.22**	**203**	*e*Pg	Pg	06 19 25.9	+0.4
MTE				*e*Sg	Sg	06 19 51.6	-2.8
	2μm,0.4s						
ELAN	**Lanestosa**	**2.33**	**70**	⇑Pn	Pn	06 19 23.1	+1.7
	134nm,0.3s,SNR=18						
ELAN				Pg	Pg	06 19 28.7	+1.0
	2μm,0.8s,SNR=7.9						
ELAN				Lg		06 19 59.4	
	4μm,0.4s,SNR=27						
ELAN	**Lanestosa**	**2.33**	**70**	Pn	Pn	06 19 23.1	+1.8
	134nm,0.3s,SNR=18						
ELAN	**Lanestosa**	**2.33**	**70**	Pg	Pg	06 19 28.7	+1.1
	2μm,0.8s,SNR=7.9						
GUD	**Guadarrama**	**2.49**	**136**	⇓Pn	Pn	06 19 24.2	+0.7
	35nm

PTOM	**Tomar**	**3.21**	**209**	*e*Pn	**Pn**	**06 19 33.3**	**-0.1**
PTOM				*e*Sg	**Sg**	**06 20 24.5**	**-1.6**
	2μm,0.7s						
ESDC	**Sonseca Array**	**3.35**	**145**	Pn	**Pn**	**06 19 35.6**	**+0.3**
	16nm,0.3s,baz=326,slow=12,SNR=116						
ESDC				Pg	**Pg**	**06 19 46.7**	**-0.3**
	82nm,0.3s,baz=322,slow=18,SNR=72						
ESDC				Lg		06 20 26.8	
	246nm,0.3s,baz=327,slow=26,SNR=12						
ESDC	**Sonseca Array**	**3.35**	**145**	Pn	**Pn**	**06 19 35.5**	**+0.2**
	7.4nm,0.3s,baz=325,slow=12,SNR=76						
ESDC				Pg	**Pg**	**06 19 46.0**	**-1.1**
	108nm,0.2s,baz=322,slow=18,SNR=7.9						
ESDC				Lg		06 20 27.4	
	138nm,0.3s,baz=326,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**3.35**	**145**	Pn	**Pn**	**06 19 35.5**	**+0.2**
ESDC				Pg	**Pg**	**06 19 46.0**	**-1.1**
ESDC				Lg		06 20 28.6	
ESDC				Lg		06 20 29.6	
ESDC	**Sonseca Array**	**3.35**	**145**	Pn	**Pn**	**06 19 35.5**	**+0.2**
	7.4nm,0.3s,SNR=76						
ESDC	**Sonseca Array**	**3.35**	**145**	Pg	**Pg**	**06 19 46.0**	**-1.1**
	108nm,0.2s,SNR=7.9						
ESLA	**Sonseca Array**	**3.35**	**145**	*e*Pn	**Pn**	**06 19 35.5**	**+0.2**
ESLA				*e*Sg	**Sg**	**06 20 29.0**	**-1.5**
ESLA	**Sonseca Array**	**3.35**	**145**	*e*Pn	**Pn**	**06 19 35.5**	**+0.2**
ESLA				*e*Sg	**Sg**	**06 20 29.0**	**-1.5**
EARA	**Aranguren**	**3.59**	**83**	Pn	**Pn**	**06 19 40.3**	**+1.7**
	75nm,0.3s,SNR=27						
EARA				Lg		06 20 36.5	
	408nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**3.63**	**81**	⇓Pn	**Pn**	**06 19 41.0**	**+1.9**
	SNR=18						
IUSE				Sn	**Sn**	**06 20 20.8**	**-1.2**
	SNR=7.9						
IUSE				Lg		06 20 39.6	
	170nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**3.63**	**81**	Pn	**Pn**	**06 19 41.0**	**+1.9**
	SNR=18						
ELIZ	**Elizondo**	**3.67**	**77**	Pn	**Pn**	**06 19 40.6**	**+0.9**
	44nm,0.3s,SNR=96						
ELIZ				Sn	**Sn**	**06 20 23.9**	**+0.8**
	61nm,0.2s,SNR=7.9						
ELIZ				Lg		06 20 42.5	
	218nm,0.3s,SNR=6.0						
ELIZ	**Elizondo**	**3.67**	**77**	Pn	**Pn**	**06 19 40.6**	**+0.9**
ELIZ				Sn	**Sn**	**06 20 23.9**	**+0.8**
ELIZ				Lg		06 20 40.5	
ELIZ				Lg		06 20 42.5	
ELIZ	**Elizondo**	**3.67**	**77**	Pn	**Pn**	**06 19 40.6**	**+0.9**
	44nm,0.3s,SNR=96						
ELIZ				Sn	**Sn**	**06 20 23.9**	**+0.8**
	61nm,0.2s,SNR=7.9						
ALMR	**Almeirim**	**3.68**	**207**	*e*P	**Pn**	**06 19 39.5**	**-0.3**
ALMR				*e*S	**Sn**	**06 20 19.3**	**-4.1**
ALMR				*e*S	**Sn**	**06 20 19.3**	**-4.1**
ALMR				AML	AML	06 20 46.1	
	comp=E,8μm,0.7s						
ALMR	**Almeirim**	**3.68**	**207**	*e*P	**Pn**	**06 19 39.5**	**-0.4**
ALMR				*e*S	**Sn**	**06 20 19.3**	**-4.0**
EALK	**Alkurruntz**	**3.70**	**76**	Pn	**Pn**	**06 19 42.3**	**+2.2**
	comp=E,65nm,0.4s,SNR=33						
EALK				Pg	**Pg**	**06 19 53.0**	**-0.8**
	comp=E,589nm,0.8s,SNR=7.9						
EALK				Lg		06 20 42.8	
	comp=E,1μm,0.4s,SNR=7.8						
EALK	**Alkurruntz**	**3.70**	**76**	Pn	**Pn**	**06 19 42.3**	**+2.2**
EALK				Pg	**Pg**	**06 19 53.0**	**-0.8**
EALK				Lg		06 20 41.4	
EALK				Lg		06 20 42.9	
EALK	**Alkurruntz**	**3.70**	**76**	Pg	**Pg**	**06 19 53.0**	**-0.7**
	comp=E,589nm,0.8s,SNR=7.9						
EBAD	**Badajoz**	**3.73**	**187**	Pn	**Pn**	**06 19 40.3**	**-0.2**
	comp=E,44nm,0.6s,SNR=138						
EBAD				Sn	**Sn**	**06 20 22.1**	**-2.4**
	comp=E,77nm,0.2s,SNR=7.9						
EBAD				Lg		06 20 41.6	
	comp=E,862nm,0.2s,SNR=25						
EBAD	**Badajoz**	**3.73**	**187**	Pn	**Pn**	**06 19 40.3**	**-0.2**
EBAD				Sn	**Sn**	**06 20 22.1**	**-2.4**
EBAD				Lg		06 20 40.4	
EBAD				Lg		06 20 41.6	
EBAD	**Badajoz**	**3.73**	**187**	Pn	**Pn**	**06 19 40.3**	**-0.2**
	comp=E,44nm,0.6s,SNR=138						
EBAD				Sn	**Sn**	**06 20 22.1**	**-2.3**
	comp=E,77nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**3.76**	**83**	⇓Pn	**Pn**	**06 19 42.6**	**+1.7**
	comp=E,53nm,0.4s,SNR=18						
IPRE				Pg	**Pg**	**06 19 55.4**	**+0.5**
	comp=E,77nm,0.3s,SNR=7.9						
IPRE				Lg		06 20 44.7	
	comp=E,206nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**3.76**	**83**	Pn	**Pn**	**06 19 42.6**	**+1.7**
	comp=E,53nm,0.4s,SNR=18						
OSSF	**Osses**	**3.88**	**76**	P	**Pn**	**06 19 43.7**	**+1.1**
SJPF	**Ste Jean**	**3.88**	**79**	*e*Pn	**Pn**	**06 19 44.2**	**+1.5**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**06 20 27.0**	**-1.3**
SJPF				*e*Sg	**Sg**	**06 20 47.0**	**-0.7**
	comp=E,981nm,0.5s,SNR=1.0						
SJPF	**Ste Jean**	**3.88**	**79**	*e*P	**Pn**	**06 19 44.2**	**+1.5**
SJPF				*e*		06 20 27.0	
SJPF	**Ste Jean**	**3.88**	**79**	*e*Pn	**Pn**	**06 19 44.2**	**+1.5**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**06 20 27.0**	**-1.3**
SJPF				*e*Sg	**Sg**	**06 20 47.0**	**-0.7**
	comp=E,490nm,0.5s,SNR=1.0						
EVO	**Evora**	**4.11**	**198**	*e*Pn	**Pn**	**06 19 45.6**	**-0.1**
EVO				*e*Sn	**Sn**	**06 20 33.2**	**-0.6**
EVO				*e*Sg	**Sg**	**06 20 53.6**	**-1.2**
	comp=E,1μm,0.7s						
EVO				*e*R			
	comp=E,576nm,17.8s						
ORDF	**Ordiarp**	**4.11**	**78**	P	**Pn**	**06 19 46.9**	**+1.2**
PLOU	**Loures**	**4.13**	**211**	*e*Pn	**Pn**	**06 19 45.8**	**-0.2**
PLOU				*e*Sg	**Sg**	**06 20 52.4**	**-3.1**
PLOU							
	comp=E,579nm,0.5s						
PLOU	**Loures**	**4.13**	**211**	*e*Pn	**Pn**	**06 19 45.8**	**-0.2**
PLOU				*e*Sg	**Sg**	**06 20 52.4**	**-3.1**
	comp=E,579nm,0.5s						
MOE	**Montemor**	**4.20**	**201**	*e*Pn	**Pn**	**06 19 46.4**	**-0.6**
MOE				*e*Sg	**Sg**	**06 20 53.5**	**-4.2**
ATE	**Arette**	**4.26**	**80**	P	**Pn**	**06 19 49.8**	**+2.0**
ATE				S	**Sn**	**06 20 36.5**	**-1.1**
LIS	**Lisbon**	**4.28**	**210**	*e*P	**Pn**	**06 19 47.3**	**-0.7**
LIS				*e*S	**Sn**	**06 20 33.1**	**-4.8**
LIS				*e*S	**Sn**	**06 20 33.3**	**-4.6**
LIS				AML	AML	06 21 11.3	
	comp=E,1μm,0.6s						
LIS	**Lisbon**	**4.28**	**210**	*e*P	**Pn**	**06 19 47.3**	**-0.7**
LIS				*e*S	**Sn**	**06 20 33.1**	**-4.9**
PLML	**Palmela**	**4.33**	**207**	*e*P	**Pn**	**06 19 48.7**	**-0.1**
ETSF	**Etsaut**	**4.35**	**82**	*e*Pn	**Pn**	**06 19 50.9**	**+1.9**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**06 20 38.5**	**-1.3**
ETSF				*e*Sg	**Sg**	**06 21 03.0**	**+0.4**
	comp=E,1μm,0.7s						
ETSF	**Etsaut**	**4.35**	**82**	*e*P	**Pn**	**06 19 50.9**	**+1.9**
ETSF				*e*		06 20 38.5	
ETSF	**Etsaut**	**4.35**	**82**	*e*Pn	**Pn**	**06 19 50.9**	**+1.9**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**06 20 38.5**	**-1.3**
ETSF				*e*Sg	**Sg**	**06 21 03.0**	**+0.4**
	comp=E,528nm,0.7s						
REYF	**Montagne du Re**	**4.49**	**80**	P	**Pn**	**06 19 52.9**	**+2.0**
REYF				S	**Sn**	**06 20 43.4**	**+0.3**
ESAC	**San Caprasio**	**4.49**	**97**	⇑Pn	**Pn**	**06 19 52.4**	**+1.3**
	comp=E,154nm,0.3s,SNR=18						
ESAC				Lg		06 21 08.1	
	comp=E,6μm,0.4s,SNR=6.9						
ESAC	**San Caprasio**	**4.49**	**97**	Pn	**Pn**	**06 19 52.4**	**+1.4**
	comp=E,154nm,0.3s,SNR=18						
EADA	**Adamuz**	**4.51**	**161**	Pn	**Pn**	**06 19 51.2**	**-0.1**
	comp=E,13nm,0.4s,SNR=34						
EADA				Sn	**Sn**	**06 20 39.5**	**-4.3**
	SNR=7.9						
EADA				Lg		06 21 07.4	
	comp=E,1μm,1.1s,SNR=20						
EADA	**Adamuz**	**4.51**	**161**	Pn	**Pn**	**06 19 51.2**	**-0.1**
	comp=E,13nm,0.4s,SNR=34						
PBEJ	**Beja**	**4.56**	**194**	*e*Pn	**Pn**	**06 19 51.5**	**-0.5**
PBEJ				*e*Sn	**Sn**	**06 20 41.5**	**-3.6**
PBEJ				*e*Sg	**Sg**	**06 21 06.5**	**-2.9**
PBEJ							
	comp=E,248nm,0.8s						
PBEJ	**Beja**	**4.56**	**194**	Pn	**Pn**	**06 19 51.5**	**-0.5**
PBEJ				Sn	**Sn**	**06 20 41.5**	**-3.6**
PBEJ				Lg		06 21 06.5	
	comp=E,124nm,0.8s						
PBEJ	**Beja**	**4.56**	**194**	*e*P	**Pn**	**06 19 51.6**	**-0.4**
PBEJ				*e*S	**Sn**	**06 20 41.7**	**-3.4**
EMIN	**Mina Concepcio**	**4.69**	**182**	⇓Pn	**Pn**	**06 19 53.6**	**-0.1**
	comp=E,31nm,0.5s,SNR=18						
EMIN				Lg		06 21 11.4	
	comp=E,325nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.69**	**182**	⇓Pn	**Pn**	**06 19 53.6**	**-0.1**
EMIN				Lg		06 21 11.3	
EMIN				Lg		06 21 12.0	
EMIN	**Mina Concepcio**	**4.69**	**182**	Pn	**Pn**	**06 19 53.6**	**-0.1**
	comp=E,31nm,0.5s,SNR=18						
LABF	**Labassere**	**4.82**	**81**	P	**Pn**	**06 19 57.8**	**+2.2**
EVIA	**Vianos**	**4.85**	**141**	Pn	**Pn**	**06 19 56.4**	**+0.5**
	comp=E,16nm,0.4s,SNR=5.8						
EBIE	**Bielsa**	**4.86**	**85**	⇑Pn	**Pn**	**06 19 57.8**	**+1.8**
	comp=E,77nm,0.4s,SNR=18						
EBIE				Sn	**Sn**	**06 20 51.6**	**-0.7**
	comp=E,252nm,0.5s,SNR=7.9						
EBIE				Lg		06 21 20.3	
	comp=E,645nm,0.6s,SNR=4.0						
EBIE	**Bielsa**	**4.86**	**85**	⇑Pn	**Pn**	**06 19 57.8**	**+1.8**
EBIE				Sn	**Sn**	**06 20 51.6**	**-0.7**
EBIE				Lg		06 21 18.2	
EBIE				Lg		06 21 20.3	
EBIE	**Bielsa**	**4.86**	**85**	Pn	**Pn**	**06 19 57.8**	**+1.8**
	comp=E,77nm,0.4s,SNR=18						
EBIE				Sn	**Sn**	**06 20 51.6**	**-0.7**
	comp=E,252nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**4.94**	**113**	Pn	**Pn**	**06 19 59.3**	**+2.1**
	comp=E,56nm,0.4s,SNR=163						
EMOS				Sn	**Sn**	**06 20 53.5**	**-0.9**
	comp=E,103nm,0.5s,SNR=7.9						
EMOS				Lg		06 21 22.1	
	comp=E,1μm,0.8s,SNR=12						
EMOS	**Mosqueruela**	**4.94**	**113**	Pn	**Pn**	**06 19 59.3**	**+2.1**
EMOS				Sn	**Sn**	**06 20 53.5**	**-0.9**
EMOS				Lg		06 21 22.1	
EMOS				Lg		06 21 23.1	
EMOS	**Mosqueruela**	**4.94**	**113**	Pn	**Pn**	**06 19 59.3**	**+2.1**
	comp=E,56nm,0.4s,SNR=163						
EMOS				Sn	**Sn**	**06 20 53.5**	**-0.9**
	comp=E,103nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**4.99**	**190**	Pn	**Pn**	**06 19 57.4**	**-0.4**
	comp=E,26nm,0.5s,SNR=29						
EGRO				Sn	**Sn**	**06 20 52.3**	**-3.2**
	comp=E,20nm,0.3s,SNR=7.9						
EGRO				Lg		06 21 22.2	
	comp=E,1μm,0.9s,SNR=7.9						
EGRO	**El Granado**	**4.99**	**190**	Pn	**Pn**	**06 19 57.4**	**-0.4**
EGRO				Sn	**Sn**	**06 20 52.3**	**-3.2**
EGRO				Lg		06 21 22.2	
EGRO				Lg		06 21 23.4	
EGRO	**El Granado**	**4.99**	**190**	Pn	**Pn**	**06 19 57.4**	**-0.4**
	comp=E,26nm,0.5s,SNR=29						
EGRO				Sn	**Sn**	**06 20 52.3**	**-3.2**
	comp=E,20nm,0.3s,SNR=7.9						
RESF	**Ens**	**5.00**	**84**	P	**Pn**	**06 20 00.0**	**+2.0**
EGRA	**Graus**	**5.01**	**91**	⇑Pn	**Pn**	**06 19 59.4**	**+1.3**
	comp=E,102nm,0.4s,SNR=18						
EGRA				Sn	**Sn**	**06 20 53.0**	**-2.9**
	SNR=7.9						
EGRA				Lg		06 21 22.4	
	comp=E,28nm,0.2s,SNR=5.8						
EGRA	**Graus**	**5.01**	**91**	Pn	**Pn**	**06 19 59.4**	**+1.3**
EGRA				Lg		06 21 22.4	
EGRA				Lg		06 21 23.6	
EGRA				Lg		06 21 25.8	
EPF	**Esparros**	**5.02**	**81**	*e*Pn	**Pn**	**06 20 00.0**	**+1.8**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**06 20 54.7**	**-1.5**
EPF				*e*Sg	**Sg**	**06 21 23.9**	**-0.1**
	comp=E,451nm,0.4s,SNR=1.0						
EPF	**Esparros**	**5.02**	**81**	*e*P	**Pn**	**06 20 00.0**	**+1.8**
EPF				*e*		06 20 54.7	
EPF	**Esparros**	**5.02**	**81**	*e*Pn	**Pn**	**06 20 00.0**	**+1.8**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**06 20 54.7**	**-1.5**
EPF				*e*Sg	**Sg**	**06 21 23.9**	**-0.1**
	comp=E,225nm,0.4s,SNR=1.0						
ECHE	**Chera**	**5.03**	**123**	Pn	**Pn**	**06 19 59.7**	**+1.4**
	comp=E,18nm,0.8s,SNR=11						
ECHE				Pg	**Pg**	**06 20 19.2**	**+0.1**
	comp=E,40nm,0.5s,SNR=7.9						
ECHE				Lg		06 21 23.3	
	comp=E,48nm,0.3s,SNR=10						
ECHE	**Chera**	**5.03**	**123**	Pn	**Pn**	**06 19 59.7**	**+1.4**
ECHE				Pg	**Pg**	**06 20 19.2**	**+0.1**
ECHE				Lg		06 21 23.3	
ECHE				Lg		06 21 23.6	
ECHE				Lg		06 21 25.6	
OLEF	**Ile d'Oleron**	**5.04**	**45**	P	**Pn**	**06 19 58.9**	**+0.3**
ERIP	**Rio Piedras**	**5.12**	**187**	Pn	**Pn**	**06 19 59.2**	**-0.4**
	comp=E,20nm,0.1s,SNR=7.9						
ERIP				Sn	**Sn**	**06 20 54.0**	**-4.8**
	SNR=7.9						
ERIP				Lg		06 21 24.2	
	comp=E,2μm,1.6s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.21**	**201**	*e*Pn	**Pn**	**06 20 00.3**	**-0.7**
PTEO				*e*Sg	**Sg**	**06 21 25.0**	**-5.4**
PTEO							
	comp=E,465nm,0.7s						
ERTA	**Horta de San J**	**5.28**	**104**	⇑Pn	**Pn**	**06 20 02.8**	**+1.0**
	comp=E,45nm,0.5s,SNR=18						
ERTA				Sn	**Sn**	**06 21 00.2**	**-2.5**
	SNR=7.9						
ERTA				Lg		06 21 32.8	
	comp=E,686nm,0.5s,SNR=6.7						
ERTA	**Horta de San J**	**5.28**	**104**	Pn	**Pn**	**06 20 02.9**	**+1.0**
ERTA				Lg		06 21 31.6	
ERTA				Lg		06 21 32.9	
ERTA				Lg		06 21 34.4	
ERTA	**Horta de San J**	**5.28**	**104**	Pn	**Pn**	**06 20 02.8**	**+1.0**
	comp=E,45nm,0.5s,SNR=18						
EQES	**Quesada**	**5.32**	**150**	Pn	**Pn**	**06 20 03.5**	**+1.2**
	comp=E,13nm,0.5s,SNR=12						
EQES				Sn	**Sn**	**06 21 00.9**	**-2.7**
	comp=E,51nm,1.1s,SNR=7.9						
EQES				Lg		06 21 32.8	
	comp=E,1μm,0.7s,SNR=10						
EQES	**Quesada**	**5.32**	**150**	Pn	**Pn**	**06 20 03.5**	**+1.2**
	comp=E,13nm,0.5s,SNR=12						
ETOB	**Tobarra**	**5.32**	**134**	Pn	**Pn**	**06 20 03.0**	**+0.6**
	comp=E,26nm,0.3s,SNR=66						
ETOB				Sn	**Sn**	**06 21 00.1**	**-3.7**
	comp=E,197nm,0.9s,SNR=7.9						
ETOB				Lg		06 21 31.9	
	comp=E,1μm,0.6s,SNR=9.1						
ETOB	**Tobarra**	**5.32**	**134**	Pn	**Pn**	**06 20 03.0**	**+0.6**
ETOB				Lg		06 21 31.9	
ETOB				Lg		06 21 32.3	
ETOB	**Tobarra**	**5.32**	**134**	Pn	**Pn**	**06 20 03.0**	**+0.6**
	comp=E,26nm,0.3s,SNR=66						
LRYF	**La Roche-sur-Y**	**5.40**	**39**	P	**Pn**	**06 20 03.6**	**+0.2**
MORF	**Marmelete**	**5.42**	**199**	*e*P	**Pn**	**06 20 02.9**	**-0.9**
MORF				*e*S	**Sn**	**06 20 59.6**	**-6.6**
MORF				*e*S	**Sn**	**06 20 59.7**	**-6.6**
MORF				AML	AML	06 21 39.8	
	comp=E,334nm,0.5s						
MORF	**Marmelete**	**5.42**	**199**	*e*P	**Pn**	**06 20 02.9**	**-0.9**
MORF				*e*S	**Sn**	**06 20 59.6**	**-6.7**
EBR	**Ebro Roquetas**	**5.44**	**105**	*e*Rs		06 20 01.0	
EBR				*e*Rs		06 20 04.0	
EBR				*i* Rs		06 20 26.2	
EBR				*i* Rs		06 21 03.0	
EBR				*i* Rs		06 21 32.0	
EBR				*i* Rs		06 21 37.0	
EHUE	**Huescar**	**5.49**	**146**	Lg		06 21 39.2	
	comp=E,31nm,0.2s,SNR=7.9						
MATF	**Mathat**	**5.55**	**51**	P	**Pn**	**06 20 06.0**	**+0.4**
MLS	**Moulis**	**5.56**	**82**	P	**Pn**	**06 20 07.9**	**+2.2**
ELOJ	**Sierra Loja**	**5.59**	**161**	Pn	**Pn**	**06 20 06.6**	**+0.6**
	comp=E,1.3nm,0.9s,SNR=7.9						
ELOJ				Sn	**Sn**	**06 21 07.8**	**-2.5**
	comp=E,13nm,0.4s,SNR=7.9						
ELOJ				Lg		06 21 42.0	
	comp=E,6.1nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**5.59**	**161**	Pn	**Pn**	**06 20 06.7**	**+0.6**
ELOJ				Sn	**Sn**	**06 21 07.8**	**-2.5**
	comp=E,13nm,0.4s,SNR=7.9						
ESPR	**Espera**	**5.60**	**175**	Pn	**Pn**	**06 20 06.8**	**+0.6**
	comp=E,19nm,0.6s,SNR=13						
ESPR				Sn	**Sn**	**06 21 08.0**	**-2.7**
	comp=E,48nm,0.2s,SNR=7.9						
ESPR				Lg		06 21 41.5	
	comp=E,896nm,0.8s,SNR=7.5						
ESPR	**Espera**	**5.60**	**175**	Pn	**Pn**	**06 20 06.8**	**+0.6**
ESPR				Sn	**Sn**	**06 21 08.0**	**-2.7**
ESPR				Lg		06 21 41.5	
ESPR	**Espera**	**5.60**	**175**	Pn	**Pn**	**06 20 06.8**	**+0.5**
	comp=E,19nm,0.6s,SNR=13						
ESPR				Sn	**Sn**	**06 21 07.9**	**-2.8**
LIJA	**Lijar**	**5.60**	**172**	Pn	**Pn**	**06 20 06.2**	**0.0**
LIJA				Sn	**Sn**	**06 21 08.8**	**-1.9**
ECOG	**Cogollos-Vega**	**5.62**	**156**	Pn	**Pn**	**06 20 08.0**	**+1.4**
	SNR=7.9						
ECOG				Sn	**Sn**	**06 21 09.2**	**-2.0**
	comp=E,16nm,0.3s,SNR=7.9						
ECOG				Lg		06 21 43.6	
	comp=E,8.6nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**5.62**	**156**	Pn	**Pn**	**06 20 08.0**	**+1.4**
ECOG				Sn	**Sn**	**06 21 09.2**	**-2.0**
ECOG				Lg		06 21 45.5	
ECOG	**Cogollos-Vega**	**5.62**	**156**	Pn	**Pn**	**06 20 08.0**	**+1.4**
	SNR=7.9						
ECOG				Sn	**Sn**	**06 21 09.2**	**-2.0**
	comp=E,16nm,0.3s,SNR=7.9						
SALF	**Salau**	**5.63**	**84**	P	**Pn**	**06 20 08.8**	**+2.2**
CHIF	**Chize**	**5.67**	**48**	P	**Pn**	**06 20 07.2**	**0.0**
CHIF				S	**Sn**	**06 21 08.6**	**-3.7**
EPOB	**Poblet**	**5.71**	**99**	⇑Pn	**Pn**	**06 20 08.3**	**+0.6**
	comp=E,42nm,0.4s,SNR=18						
EPOB				Pg	**Pg**	**06 20 29.9**	**-2.3**
	SNR=7.9						
EPOB				Sn	**Sn**	**06 21 11.7**	**-1.6**
	comp=E,75nm,0.8s,SNR=7.9						
EPOB				Lg		06 21 39.1	
	comp=E,524nm,0.6s,SNR=6.3						
EPOB	**Poblet**	**5.71**	**99**	Pn	**Pn**	**06 20 08.3**	**+0.6**
EPOB				Pg	**Pg**	**06 20 30.7**	**-1.5**
EPOB				Lg		06 21 39.1	
EPOB				Lg		06 21 47.5	
EPOB	**Poblet**	**5.71**	**99**	Pn	**Pn**	**06 20 08.3**	**+0.6**
	comp=E,42nm,0.4s,SNR=18						
EQUE	**Quentar**	**5.73**	**155**	Pn	**Pn**	**06 20 09.5**	**+1.5**
	SNR=7.9						
EQUE				Sn	**Sn**	**06 21 10.0**	**-3.8**
	comp=E,78nm,1.1s,SNR=7.9						
EQUE				Lg		06 21 44.7	
	comp=E,620nm,1.0s,SNR=7.9						
LFF	**La Frestale**	**5.76**	**62**	*e*Pn	**Pn**	**06 20 08.8**	**+0.4**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**06 21 10.1**	**-4.4**
	comp=E,247nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**5.76**	**62**	*e*Pn	**Pn**	**06 20 08.8**	**+0.4**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**06 21 10.1**	**-4.4**
	comp=E,123nm,0.3s,SNR=1.0						
ERON	**Agron**	**5.80**	**159**	Pn	**Pn**	**06 20 10.8**	**+1.9**
	comp=E,5.5nm,0.4s,SNR=7.5						
ERON				Lg		06 21 48.6	
	comp=E,1.1nm,0.2s,SNR=7.9						
ERON	**Agron**	**5.80**	**159**	Pn	**Pn**	**06 20 10.8**	**+1.9**
ERON				Lg		06 21 47.4	
ERON				Lg		06 21 48.6	
ERON				Lg		06 21 50.5	
SCRT	**Cerro San Cris**	**5.82**	**178**	Lg		06 21 41.0	
QUIF	**Quistinic**	**5.92**	**22**	*e*Pn	**Pn**	**06 20 10.1**	**-0.6**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**06 21 13.4**	**-5.2**
	comp=E,170nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**5.92**	**22**	*e*Pn	**Pn**	**06 20 10.1**	**-0.6**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**06 21 13.4**	**-5.2**
	comp=E,85nm,0.2s,SNR=1.0						
EMIR	**Miracle**	**5.93**	**93**	⇑Pn	**Pn**	**06 20 11.7**	**+0.9**
	comp=E,70nm,0.4s,SNR=18						
EMIR				Lg		06 21 47.3	
	comp=E,1μm,0.5s,SNR=9.2						
EMIR	**Miracle**	**5.93**	**93**	Pn	**Pn**	**06 20 11.7**	**+0.9**
EMIR				Lg		06 21 47.4	
EMIR				Lg		06 21 51.3	
EMIR				Lg		06 21 54.9	
EMIR	**Miracle**	**5.93**	**93**	Pn	**Pn**	**06 20 11.7**	**+0.9**
	comp=E,70nm,0.4s,SNR=18						
SFS	**San Fernando**	**5.99**	**178**	Lg		06 22 00.2	
EMIJ	**Mijas**	**6.03**	**167**	Pn	**Pn**	**06 20 13.3**	**+1.3**
	comp=E,39nm,0.7s,SNR=19						
EMIJ				Lg		06 21 54.4	
	comp=E,466nm,0.9s,SNR=5.4						
EMIJ	**Mijas**	**6.03**	**167**	Pn	**Pn**	**06 20 13.3**	**+1.3**
EMIJ				Lg		06 21 54.4	
EMIJ				Lg		06 21 55.9	
EBEN	**Beniarda**	**6.03**	**126**	Pn	**Pn**	**06 20 12.6**	**+0.5**
	comp=E,20nm,0.5s,SNR=15						
EBEN				Lg		06 21 54.8	
	comp=E,550nm,0.7s,SNR=7.9						
EBEN	**Beniarda**	**6.03**	**126**	Pn	**Pn**	**06 20 12.6**	**+0.5**
EBEN				Lg		06 21 54.9	
EBEN				Lg		06 21 58.6	
EBEN	**Beniarda**	**6.03**	**126**	Pn	**Pn**	**06 20 12.6**	**+0.5**
	comp=E,20nm,0.5s,SNR=15						
EGUA	**Guajares**	**6.04**	**158**	Pn	**Pn

SGMF	**Saint Gilles**	**6.40**	**24**	*e*Pn	**Pn**	**06 20 16.5**	**-0.8**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**06 21 25.8**	**-4.6**
	comp=E,79nm,0.4s						
CART	**Cartagena**	**6.40**	**138**	Pg	**Pg**	**06 20 45.6**	**0.0**
CART				Lg		06 22 06.4	
RJF	**Les Rejaudoux**	**6.41**	**61**	*e*Pn	**Pn**	**06 20 17.1**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**06 21 27.1**	**-3.4**
	comp=E,437nm,0.4s						
RJF				*e*R			
	comp=E,436nm,16.2s						
RJF	**Les Rejaudoux**	**6.41**	**61**	*e*Pn	**Pn**	**06 20 17.1**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**06 21 27.1**	**-3.4**
	comp=E,218nm,0.4s						
MTLF	**Montolieu**	**6.41**	**79**	*e*Pn	**Pn**	**06 20 18.2**	**+0.8**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**06 21 27.8**	**-2.8**
MTLF				*e*Sg	**Sg**	**06 22 07.0**	**-1.7**
	comp=E,178nm,0.6s,SNR=1.0						
MTLF	**Montolieu**	**6.41**	**79**	*e*P	**Pn**	**06 20 18.2**	**+0.8**
MTLF				*e*		06 21 27.8	
MTLF	**Montolieu**	**6.41**	**79**	*e*Pn	**Pn**	**06 20 18.2**	**+0.8**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**06 21 27.8**	**-2.8**
MTLF				*e*Sg	**Sg**	**06 22 07.0**	**-1.7**
	comp=E,89nm,0.6s,SNR=1.0						
MDAL	**Dalia**	**6.59**	**173**	*i* P	**Pn**	**06 20 21.5**	**+1.6**
LRDF	**Laroque-de-Fa**	**6.62**	**83**	P	**Pn**	**06 20 21.0**	**+0.7**
CAF	**Calviac**	**6.63**	**65**	*e*Pn	**Pn**	**06 20 20.1**	**-0.3**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**06 21 33.7**	**-2.3**
	comp=E,239nm,0.3s						
CAF	**Calviac**	**6.63**	**65**	Pn	**Pn**	**06 20 20.1**	**-0.3**
CAF				Sn	**Sn**	**06 21 33.7**	**-2.3**
	comp=E,120nm,0.3s						
FILF	**Fillols**	**6.64**	**86**	P	**Pn**	**06 20 20.3**	**-0.3**
EIBI	**Ibiza**	**6.82**	**118**	Pn	**Pn**	**06 20 23.4**	**+0.4**
	comp=E,25nm,0.5s,SNR=19						
EIBI				Sn	**Sn**	**06 21 33.9**	**-6.9**
	comp=E,187nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**6.82**	**118**	Pn	**Pn**	**06 20 23.4**	**+0.4**
EIBI				Sn	**Sn**	**06 21 33.9**	**-6.9**
EIBI				Sn	**Sn**	**06 21 36.6**	**-4.2**
EIBI	**Ibiza**	**6.82**	**118**	Pn	**Pn**	**06 20 23.4**	**+0.4**
EJON	**La Jonquera**	**6.89**	**87**	Pn	**Pn**	**06 20 25.0**	**+1.0**
	comp=E,31nm,0.7s,SNR=16						
EJON				Lg		06 22 22.2	
	comp=E,174nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**6.89**	**87**	Pn	**Pn**	**06 20 25.0**	**+1.0**
EJON				Sn	**Sn**	**06 21 37.5**	**-4.9**
EJON				Lg		06 22 22.2	
EJON				Lg		06 22 23.3	
EJON				Lg		06 22 26.4	
TSY	**Tnine Yamani**	**7.09**	**177**	*e*P	**Pn**	**06 20 28.0**	**+1.4**
GRR	**Gorron**	**7.10**	**32**	*e*Pn	**Pn**	**06 20 26.0**	**-0.9**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**06 21 40.5**	**-7.2**
	comp=E,154nm,0.4s						
GRR	**Gorron**	**7.10**	**32**	*e*Pn	**Pn**	**06 20 26.0**	**-0.9**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**06 21 40.5**	**-7.2**
	comp=E,77nm,0.4s						
FRNF	**Fournols**	**7.12**	**63**	P	**Pn**	**06 20 26.7**	**-0.4**
VERF	**Verneugheol**	**7.21**	**60**	P	**Pn**	**06 20 27.8**	**-0.5**
TCF	**Toulx Ste Croi**	**7.28**	**55**	*e*Pn	**Pn**	**06 20 28.7**	**-0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**06 21 46.2**	**-5.7**
	comp=E,226nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**7.28**	**55**	*e*Pn	**Pn**	**06 20 28.7**	**-0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**06 21 46.2**	**-5.7**
	comp=E,113nm,0.3s,SNR=1.0						
ETOS	**Mallorca**	**7.48**	**108**	Pn	**Pn**	**06 20 33.1**	**+1.1**
	comp=E,7.2nm,0.4s,SNR=11						
ETOS				Sn	**Sn**	**06 21 50.1**	**-6.7**
	comp=E,157nm,1.2s,SNR=7.9						
ETOS	**Mallorca**	**7.48**	**108**	Pn	**Pn**	**06 20 33.1**	**+1.1**
ETOS				Lg		06 22 46.9	
ETOS	**Mallorca**	**7.48**	**108**	Pn	**Pn**	**06 20 33.1**	**+1.1**
LBL	**Lubilhac**	**7.52**	**65**	P	**Pn**	**06 20 32.6**	**0.0**
PYM	**Petit Puy Mans**	**7.54**	**61**	P	**Pn**	**06 20 32.8**	**-0.1**
FLN	**La Foliniere**	**7.55**	**31**	*e*Pn	**Pn**	**06 20 32.0**	**-1.1**
	baz=213,SNR=1.0						
FLN				*e*Sn	**Sn**	**06 21 51.3**	**-7.4**
	comp=E,118nm,0.4s,SNR=1.0						
FLN				*e*R			
	comp=E,213nm,17.8s						
FLN	**La Foliniere**	**7.55**	**31**	*e*Pn	**Pn**	**06 20 32.0**	**-1.1**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**06 21 51.3**	**-7.4**
	comp=E,59nm,0.4s,SNR=1.0						
LDF	**La Druitiere**	**7.56**	**34**	*e*Pn	**Pn**	**06 20 32.3**	**-0.9**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**06 21 54.4**	**-4.5**
	comp=E,183nm,0.6s,SNR=1.0						
LDF	**La Druitiere**	**7.56**	**34**	*e*Pn	**Pn**	**06 20 32.3**	**-0.9**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**06 21 54.4**	**-4.5**
	comp=E,92nm,0.6s,SNR=1.0						
LASF	**Ste Croix**	**7.68**	**74**	*e*Pn	**Pn**	**06 20 34.6**	**-0.2**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**06 21 57.3**	**-4.5**
	comp=E,184nm,0.5s						
LASF	**Ste Croix**	**7.68**	**74**	*e*Pn	**Pn**	**06 20 34.6**	**-0.2**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**06 21 57.3**	**-4.5**
	comp=E,92nm,0.5s						
AGO	**Saint Agoulin**	**7.74**	**59**	P	**Pn**	**06 20 35.3**	**-0.4**
BGF	**Bois d'Agland**	**7.79**	**55**	*e*Pn	**Pn**	**06 20 36.1**	**-0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**06 22 00.4**	**-4.2**
	comp=E,303nm,0.3s						
BGF	**Bois d'Agland**	**7.79**	**55**	Pn	**Pn**	**06 20 36.1**	**-0.2**
BGF				Sn	**Sn**	**06 22 00.4**	**-4.2**
	comp=E,152nm,0.3s						
COLF	**Collangettes**	**7.91**	**64**	P	**Pn**	**06 20 37.6**	**-0.4**
PLDF	**La Plantade**	**8.03**	**61**	P	**Pn**	**06 20 39.0**	**-0.5**
HYF	**Humbligny**	**8.03**	**50**	*e*Pn	**Pn**	**06 20 40.3**	**+0.6**
HYF				*e*Sn	**Sn**	**06 22 05.3**	**-5.3**
AVF	**Avril sur Loir**	**8.21**	**55**	*e*Pn	**Pn**	**06 20 41.6**	**-0.4**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**06 22 07.8**	**-7.0**
	comp=E,179nm,0.6s						
AVF	**Avril sur Loir**	**8.21**	**55**	*e*Pn	**Pn**	**06 20 41.6**	**-0.4**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**06 22 07.8**	**-7.0**
	comp=E,89nm,0.6s						
VIVF	**Saint-Julien-l**	**8.40**	**70**	*e*Pn	**Pn**	**06 20 44.1**	**-0.5**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**06 22 15.6**	**-3.9**
	comp=E,164nm,0.4s						
VIVF	**Saint-Julien-l**	**8.40**	**70**	Pn	**Pn**	**06 20 44.1**	**-0.5**
VIVF				Sn	**Sn**	**06 22 15.6**	**-3.9**
	comp=E,82nm,0.4s						
SSF	**Saint Saulge**	**8.43**	**54**	*e*Pn	**Pn**	**06 20 44.7**	**-0.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**06 22 15.6**	**-4.7**
	comp=E,100nm,0.4s						
SSF	**Saint Saulge**	**8.43**	**54**	*e*Pn	**Pn**	**06 20 44.7**	**-0.4**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**06 22 15.6**	**-4.7**
	comp=E,50nm,0.4s						
SMF	**Signal de Mont**	**8.44**	**57**	*e*Pn	**Pn**	**06 20 44.9**	**-0.3**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**06 22 16.2**	**-4.4**
	comp=E,57nm,0.3s						
SMF	**Signal de Mont**	**8.44**	**57**	*e*Pn	**Pn**	**06 20 44.9**	**-0.3**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**06 22 16.2**	**-4.4**
	comp=E,28nm,0.3s						
PRAF	**Pradon**	**8.59**	**77**	P	**Pn**	**06 20 47.5**	**+0.3**
TREF	**Trevaresse**	**8.73**	**78**	P	**Pn**	**06 20 49.4**	**+0.2**
LOR	**Lormes**	**8.74**	**53**	*e*Pn	**Pn**	**06 20 49.1**	**-0.3**
	baz=236,SNR=1.0						
LOR				*e*Sn	**Sn**	**06 22 22.4**	**-5.6**
	comp=E,99nm,0.4s						
LOR				*e*R			
	comp=E,260nm,19.0s						
LOR	**Lormes**	**8.74**	**53**	*e*Pn	**Pn**	**06 20 49.1**	**-0.3**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**06 22 22.4**	**-5.6**
	comp=E,49nm,0.4s						
OCF	**Saint Nazaire**	**8.78**	**72**	P	**Pn**	**06 20 49.8**	**-0.1**
OG26	**St.-Nazaire-De**	**8.78**	**72**	P	**Pn**	**06 20 49.8**	**-0.1**
SMRF	**Simiane la Rot**	**8.90**	**76**	*e*Pn	**Pn**	**06 20 51.4**	**-0.1**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**06 22 26.2**	**-5.5**
SMRF				*e*Sg	Sn	06 23 24.4	+53
	comp=E,282nm,1.6s						
SMRF	**Simiane la Rot**	**8.90**	**76**	*e*Pn	**Pn**	**06 20 51.4**	**-0.1**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**06 22 26.2**	**-5.5**
SMRF				*e*Sg	Sn	06 23 24.4	+53
	comp=E,141nm,1.6s						
BERF	**Bertagne**	**8.94**	**80**	P	**Pn**	**06 20 53.7**	**+1.6**
VILF	**Villemus**	**8.99**	**77**	P	**Pn**	**06 20 53.3**	**+0.6**
STOF	**St-Etienne Org**	**9.14**	**76**	P	**Pn**	**06 20 53.9**	**-0.9**
TAVF	**Tavernes**	**9.22**	**79**	P	**Pn**	**06 20 56.7**	**+0.8**
OG05	**Jujurieux**	**9.25**	**63**	P	**Pn**	**06 20 56.4**	**+0.1**
ORIF	**Oris-en-Rattie**	**9.25**	**70**	*e*Pn	**Pn**	**06 20 56.6**	**+0.3**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**06 22 36.6**	**-3.8**
	comp=E,60nm,0.7s						
ORIF				*e*R			
	comp=E,289nm,17.8s						
ORIF	**Oris-en-Rattie**	**9.25**	**70**	Pn	**Pn**	**06 20 56.6**	**+0.3**
ORIF				Sn	**Sn**	**06 22 36.6**	**-3.8**
	comp=E,30nm,0.7s						
CZD	**Col de Zad**	**9.47**	**173**	Pn	**Pn**	**06 21 00.5**	**+1.1**
LMR	**La Mourre**	**9.54**	**80**	*e*Pn	**Pn**	**06 21 00.4**	**+0.1**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**06 22 42.7**	**-4.8**
	comp=E,24nm,0.6s						
LMR	**La Mourre**	**9.54**	**80**	Pn	**Pn**	**06 21 00.4**	**+0.1**
LMR				Sn	**Sn**	**06 22 42.7**	**-4.8**
	comp=E,12nm,0.6s						
FRF	**La Foret Royal**	**9.64**	**79**	*e*Pn	**Pn**	**06 21 01.8**	**+0.1**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**06 22 43.6**	**-6.5**
	comp=E,23nm,0.5s						
FRF	**La Foret Royal**	**9.64**	**79**	Pn	**Pn**	**06 21 01.8**	**+0.1**
FRF				Sn	**Sn**	**06 22 43.6**	**-6.5**
	comp=E,12nm,0.5s						
MDT	**Midelt**	**9.73**	**171**	Pn	**Pn**	**06 21 02.3**	**-0.6**
	comp=E,1.2nm,0.3s,baz=351,slow=14,SNR=157						
MDT				Sn	**Sn**	**06 22 43.6**	**-8.7**
	comp=E,3.0nm,0.3s,baz=205,slow=12,SNR=6.0						
BNI	**Bardonecchia**	**9.83**	**70**	P	**Pn**	**06 21 06.0**	**+1.7**
BNI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BNI	**Bardonecchia**	**9.83**	**70**	P	**Pn**	**06 21 06.0**	**+1.7**
	comp=Z,0.8nm,0.5s						
VAL	**Valentia**	**9.83**	**346**	*e*P	**Pn**	**06 21 03.2**	**-1.1**
VAL				*i* S	**Sn**	**06 22 53.4**	**-1.3**
MBDF	**Montbardon**	**9.84**	**72**	*e*Pn	**Pn**	**06 21 05.3**	**+0.9**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**06 22 50.8**	**-4.2**
	comp=Z,32nm,0.5s						
MBDF	**Montbardon**	**9.84**	**72**	Pn	**Pn**	**06 21 05.3**	**+0.9**
MBDF				Sn	**Sn**	**06 22 50.8**	**-4.2**
	comp=Z,16nm,0.5s						
CABF	**La Chapelle**	**9.85**	**61**	*e*Pn	**Pn**	**06 21 04.2**	**-0.4**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**06 22 49.7**	**-5.5**
	comp=Z,69nm,0.8s						
CABF	**La Chapelle**	**9.85**	**61**	*e*Pn	**Pn**	**06 21 04.2**	**-0.4**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**06 22 49.7**	**-5.5**
	comp=Z,34nm,0.8s						
SFTF	**Sexfontaines**	**9.90**	**51**	*e*Pn	**Pn**	**06 21 04.5**	**-0.8**
	baz=228						
SFTF				*e*Sn	**Sn**	**06 22 50.2**	**-6.3**
	comp=Z,51nm,0.3s						
SFTF	**Sexfontaines**	**9.90**	**51**	*e*Pn	**Pn**	**06 21 04.5**	**-0.8**
SFTF				*e*Sn	**Sn**	**06 22 50.2**	**-6.3**
	comp=Z,26nm,0.3s						
LPL	**La Plagne**	**9.96**	**68**	*e*Pn	**Pn**	**06 21 07.4**	**+1.3**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**06 22 52.2**	**-5.8**
	comp=Z,19nm,0.7s						
LPL	**La Plagne**	**9.96**	**68**	Pn	**Pn**	**06 21 07.4**	**+1.3**
LPL				Sn	**Sn**	**06 22 52.2**	**-5.8**
	comp=Z,9.5nm,0.7s						
LPG	**La Plagne**	**9.97**	**68**	*e*Pn	**Pn**	**06 21 07.7**	**+1.5**
LPG				*e*Sn	**Sn**	**06 22 54.5**	**-3.7**
	comp=Z,19nm,0.5s						
LPG	**La Plagne**	**9.97**	**68**	Pn	**Pn**	**06 21 07.7**	**+1.5**
LPG				Sn	**Sn**	**06 22 54.5**	**-3.7**
	comp=Z,9.6nm,0.5s						
MVIF	**Mont Vial**	**10.03**	**77**	P	**Pn**	**06 21 07.7**	**+0.7**
MEZF	**Maizieres J'vi**	**10.07**	**49**	*e*Pn	**Pn**	**06 21 06.9**	**-0.6**
	baz=235,SNR=1.0						
MEZF				*e*Sn	**Sn**	**06 22 51.5**	**-9.0**
	comp=Z,67nm,0.4s						
MEZF	**Maizieres J'vi**	**10.07**	**49**	*e*Pn	**Pn**	**06 21 06.9**	**-0.6**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**06 22 51.5**	**-9.0**
	comp=Z,33nm,0.4s						
DOI	**San Damiano**	**10.15**	**74**	P	**Pn**	**06 21 09.8**	**+1.2**
DOI				pmax	pmax		
	comp=Z,15nm,0.3s						
DOI	**San Damiano**	**10.15**	**74**	P	**Pn**	**06 21 09.8**	**+1.2**
	comp=Z,15nm,0.3s						
LUCF	**Luceram**	**10.16**	**77**	P	**Pn**	**06 21 09.4**	**+0.5**
STV	**Sta Anna Valdi**	**10.18**	**75**	P	**Pn**	**06 21 10.2**	**+1.2**
STV				pmax	pmax		
	comp=Z,12nm,0.6s						
STV	**Sta Anna Valdi**	**10.18**	**75**	P	**Pn**	**06 21 10.2**	**+1.2**
	comp=Z,12nm,0.6s						
SBF	**Sospel**	**10.23**	**77**	*e*Pn	**Pn**	**06 21 10.2**	**+0.5**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**06 23 00.9**	**-3.5**
	comp=Z,42nm,0.7s						
SBF	**Sospel**	**10.23**	**77**	Pn	**Pn**	**06 21 10.2**	**+0.5**
SBF				Sn	**Sn**	**06 23 00.9**	**-3.5**
	comp=Z,21nm,0.7s						
AUTN	**L'Aution**	**10.23**	**77**	P	**Pn**	**06 21 10.4**	**+0.6**
RSP	**Reno Superiore**	**10.25**	**70**	P	**Pn**	**06 21 12.6**	**+2.5**
RSP				pmax	pmax		
	comp=Z,21nm,0.5s						
RSP	**Reno Superiore**	**10.25**	**70**	P	**Pn**	**06 21 12.6**	**+2.5**
	comp=Z,20nm,0.5s						
RFYF	**Reffroy**	**10.37**	**49**	*e*Pn	**Pn**	**06 21 10.6**	**-1.1**
	baz=234						
RFYF				*e*Sn	**Sn**	**06 23 01.5**	**-6.5**
	comp=Z,56nm,0.3s						
RFYF	**Reffroy**	**10.37**	**49**	*e*Pn	**Pn**	**06 21 10.6**	**-1.1**
RFYF				*e*Sn	**Sn**	**06 23 01.5**	**-6.5**
	comp=Z,28nm,0.3s						
THEF	**They Montfort**	**10.46**	**52**	P	**Pn**	**06 21 11.9**	**-1.1**
BAIF	**Baives**	**10.57**	**40**	*e*Pn	**Pn**	**06 21 13.9**	**-0.6**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**06 23 06.5**	**-6.4**
	comp=Z,56nm,0.4s,SNR=1.0						
BAIF	**Baives**	**10.57**	**40**	*e*Pn	**Pn**	**06 21 13.9**	**-0.6**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**06 23 06.5**	**-6.4**
	comp=Z,28nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**10.57**	**54**	*e*Pn	**Pn**	**06 21 14.7**	**+0.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**06 23 06.9**	**-6.0**
	comp=Z,53nm,0.4s						
HAU				*e*R			
	comp=Z,198nm,17.0s						
HAU	**Haudompre**	**10.57**	**54**	*e*Pn	**Pn**	**06 21 14.7**	**+0.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**06 23 06.9**	**-6.0**
	comp=Z,27nm,0.4s						
DOU	**Dourbes**	**10.79**	**41**	PN	**Pn**	**06 21 16.4**	**-1.0**
DOU				SN	**Sn**	**06 23 12.0**	**-6.1**
HINF	**Hinteralfeld**	**10.80**	**56**	*e*Pn	**Pn**	**06 21 16.2**	**-1.3**
HINF				*e*Sn	**Sn**	**06 23 11.0**	**-7.4**
	comp=Z,22nm,0.4s						
HINF	**Hinteralfeld**	**10.80**	**56**	*e*Pn	**Pn**	**06 21 16.2**	**-1.3**
HINF				*e*Sn	**Sn**	**06 23 11.0**	**-7.4**
	comp=Z,11nm,0.4s						
FIN	**Finale Ligure**	**10.81**	**76**	P	**Pn**	**06 21 18.7**	**+1.1**
FIN				pmax	pmax		
	comp=Z,12nm,0.5s						
FIN	**Finale Ligure**	**10.81**	**76**	P	**Pn**	**06 21 18.7**	**+1.1**
	comp=Z,12nm,0.5s						
DLF	**Lyons Farm**	**10.84**	**360**	*e*P	**Pn**	**06 21 16.6**	**-1.6**
DLF				*e*S	**Sn**	**06 23 08.1**	**-11**
GIVF	**Givet**	**10.90**	**42**	*e*Pn	**Pn**	**06 21 18.1**	**-0.8**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**06 23 11.1**	**-10**
	comp=Z,89nm,0.5s						
GIVF	**Givet**	**10.90**	**42**	*e*Pn	**Pn**	**06 21 18.1**	**-0.8**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**06 23 11.1**	**-10**
	comp=Z,44nm,0.5s						
DCN	**Croghan**	**10.91**	**357**	*e*P	**Pn**	**06 21 18.7**	**-0.3**
DCN				*e*S	**Sn**	**06 23 11.1**	**-10**
SNF	**Seneffe**	**10.91**	**39**	PN	**Pn**	**06 21 18.7**	**-0.5**
SNF	**Seneffe**	**10.91**	**39**	Pn	**Pn**	**06 21 18.6**	**-0.5**
MOF	**Molkenrain**	**10.98**	**56**	P	**Pn**	**06 21 18.7**	**-1.4**
UCC	**Uccle**	**11.15**	**38**	PN	**Pn**	**06 21 21.7**	**-0.7**
UCC				PNPN		06 21 30.5	
UCC				SN	**Sn**	**06 23 22.0**	**-5.1**
ECH	**Echery**	**11.15**	**54**	P	**Pn**	**06 21 21.8**	**-0.6**
OUK	**Oukaimeden**	**11.29**	**186**	Pn	**Pn**	**06 21 25.0**	**+0.8**
CDF	**Champ du Feu**	**11.31**	**54**	*e*Pn	**Pn**	**06 21 22.2**	**-2.4**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**06 23 23.6**	**-7.4**
	comp=Z,26nm,0.5s						
CDF	**Champ du Feu**	**11.31**	**54**	*e*Pn	**Pn**	**06 21 22.2**	**-2.4**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**06 23 23.6**	**-7.4**
	comp=Z,13nm,0.5s						
WLF	**Walferdange**	**11.32**	**46**	*e*Pn	**Pn**	**06 21 23.5**	**-1.1**
WLF				*e*Sn	**Sn**	**06 23 20.6**	**-11**
WLF				*e*L		06 26 06.8	
	comp=Z,228nm,18.8s						
WLF	**Walferdange**	**11.32**	**46**	PN	**Pn**	**06 21 23.5**	**-1.1**
WLF				APN		06 21 27.4	
WLF				PNPN		06 21 33.2	
WLF				SN	**Sn**	**06 23 23.7**	**-7.5**
BCLA	**Clavier**	**11.34**	**41**	PN	**Pn**	**06 21 23.2**	**-1.8**
BCLA				SN	**Sn**	**06 23 24.5**	**-7.2**
WLS	**Welschbruch**	**11.36**	**54**	P	**Pn**	**06 21 23.3**	**-1.9**
PGF	**Pioggiola**	**11.39**	**84**	*e*Pn	**Pn**	**06 21 24.7**	**-1.0**
PGF				*e*Sn	**Sn**	**06 23 26.1**	**-6.9**
	comp=Z,24nm,0.8s						
PGF	**Pioggiola**	**11.39**	**84**	*e*Pn	**Pn**	**06 21 24.7**	**-1.0**
PGF				*e*Sn	**Sn**	**06 23 26.1**	**-6.9**
	comp=Z,12nm,0.8s						
DMUB	**Kingscourt**	**11.45**	**359**	*e*P	**Pn**	**06 21 19.4**	**-7.1**
DMUB				*e*S	Sn	06 23 12.9	-22
BEBN	**Eben Emael**	**11.77**	**41**	PN	**Pn**	**06 21 29.4**	**-1.4**
BEBN				PNPN		06 21 40.4	
BEBN				PGPG		06 22 32.8	
MEM	**Membach**	**11.81**	**42**	PN	**Pn**	**06 21 30.9**	**-0.5**
MEM				SN	**Sn**	**06 23 39.8**	**-3.4**
RUP	**Ruppelstein**	**11.83**	**48**	P	**Pn**	**06 21 29.9**	**-1.7**
HGN	**Heimansgroeve**	**11.87**	**41**	*e*P	**Pn**	**06 21 31.7**	**-0.5**
	comp=Z,17nm,0.8s						
HGN				*e*S	**Sn**	**06 23 38.4**	**-6.3**
BFO	**Black Forest**	**11.91**	**55**	*e*Pn	**Pn**	**06 21 32.7**	**-0.1**
BFO				*e*Sn	**Sn**	**06 23 38.1**	**-7.6**
BFO				*e*L		06 26 09.5	
	comp=Z,107nm,21.1s						
BFO	**Black Forest**	**11.91**	**55**	*e*Pn	**Pn**	**06 21 32.7**	**-0.1**
BFO				*e*Sn	**Sn**	**06 23 38.1**	**-7.6**
ABH	**Alteburg**	**12.19**	**48**	P	**Pn**	**06 21 34.4**	**-2.2**
DAVOX	**Davos**	**12.39**	**64**	Pn	**Pn**	**06 21 41.8**	**+2.4**
	comp=Z,0.9nm,0.3s,baz=252,slow=15,SNR=6.1						
DAVOX				LR	LR	06 26 56.0	
	comp=Z,155nm,19.5s,baz=262,slow=42						
TNS	**Taunus Mts**	**12.86**	**48**	*e*Pn	**Pn**	**06 21 43.5**	**-2.3**
TNS				*e*Sn	**Sn**	**06 24 00.4**	**-8.6**
TNS				*e*L		06 27 01.9	
	comp=Z,150nm,19.6s						
BUG	**Bochum--Univer**	**12.95**	**41**	*e*Pn	**Pn**	**06 21 44.7**	**-2.3**
BUG				*e*Sn	**Sn**	**06 23 57.8**	**-13**
EKA	**Eskdalemuir Ar**	**13.06**	**8**	Pn	**Pn**	**06 21 49.0**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=193,slow=13,SNR=7.3						
EKA				Sn	**Sn**	**06 24 09.8**	**-4.0**
	comp=Z,0.8nm,0.3s,baz=196,slow=24,SNR=4.9						
EKA	**Eskdalemuir Ar**	**13.06**	**8**	P	**Pn**	**06 21 49.0**	**+0.5**
EKA						06 24 09.8	
EKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
EKA				smax			
	comp=N,1.0nm,0.3s						
WTSB	**Winterswijk**	**13.07**	**39**	*e*P	**Pn**	**06 21 53.9**	**+5.3**
WTSB				*e*S	**Sn**	**06 24 08.9**	**-5.0**
WTTA	**Wattenberg**	**13.68**	**63**	P	**Pn**	**06 21 58.8**	**+1.9**
FUR	**Furstenfeldbru**	**13.69**	**59**	*e*L		06 27 26.8	
	comp=Z,95nm,21.0s						
IBBN	**Ibbenburen**	**13.74**	**39**	P	**Pn**	**06 22 03.5**	**+5.8**
GRF	**Grafenberg Arr**	**14.21**	**53**	*e*L		06 27 38.7	
	comp=Z,92nm,19.6s						
MOX	**Moxa**	**14.84**	**50**	*e*Pn	**Pn**	**06 22 11.2**	**-1.6**
MOX				*e*L		06 27 34.6	
	comp=Z,77nm,20.2s						
MOX	**Moxa**	**14.84**	**50**	*e*PN	**Pn**	**06 22 11.6**	**-1.2**
WET	**Wettzell**	**15.01**	**57**	P	**Pn**	**06 22 16.9**	**+1.8**
NKC	**Novy Kostel**	**15.15**	**53**	*e*P	**Pn**	**06 22 22.0**	**+5.1**
GEC2	**GERESS Array S**	**15.43**	**59**	*e*Pn	**Pn**	**06 22

MKAR	**Makanchi Array**	**59.99**	**52**	P	**P**	**06 28 50.0**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.8,baz=302,slow=6.5,SNR=7.5						
PDAR	**Pinedale Array**	**70.66**	**311**	P	**P**	**06 30 06.7**	**+8.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=96,slow=7.6,SNR=3.2						
SONM	**Songino Array**	**72.32**	**41**	P	**P**	**06 30 10.5**	**+1.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=309,slow=7.5,SNR=7.0						

*ISK **10** 06:32:37.7, 34.63N×26.14E, h68km, MD3.6*
*ATH **10** 06:32:43.2, 34.93N×26.52E, h4km±1km, MD3.8/7*
*ISCJB **10** 06:32:44.7±0.9, 35.05N±0.07×26.50E±0.04, h20km±8km, Error ellipse: s-maj=12.2km s-min=5.4km az=152.5*
*NEIC **10** 06:32:44.3, 35.04N×26.46E, h17km, MD3.9(ATH), After ATH.*
*CSEM **10** 06:32:44.2±0.8, 35.15N×26.65E, h6km±6km, MD3.9, Error ellipse: s-maj=8.5km s-min=5.4km az=167.0*

ISC 10 06:32:44.5±0.9, 3504N±006×2649E±004, h12km±5km, n28, σ1.9 27/38, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.67**	**256**	*e*PG	**Pg**	**06 32 56.0**	**-1.6**
KARP	**Karpathos**	**0.75**	**47**	*e*PB	**Pg**	**06 32 58.8**	**-0.2**
KARP				*e*SG	**Sg**	**06 33 09.9**	**+1.1**
NPS	**Neapolis**	**0.75**	**288**	⇑*i*Pn	**Pg**	**06 32 58.4**	**-0.7**
NPS				*e*Sn	**Sg**	**06 33 08.5**	**-0.5**
SANT	**Santorini**	**1.57**	**328**	*i* P	**Pn**	**06 33 13.6**	**+1.3**
SANT				*i* S	**Sn**	**06 33 34.4**	**+1.9**
SANT	**Santorini**	**1.57**	**328**	*e*Pn	**Pn**	**06 33 13.5**	**+1.3**
SANT				*e*Sn	**Sn**	**06 33 32.6**	**+0.1**
SANT	**Santorini**	**1.57**	**328**	*e*Pn	**Pn**	**06 33 13.5**	**+1.3**
SANT				*e*Sn	**Sn**	**06 33 32.6**	**+0.1**
SANT				*i* S	**Sn**	**06 33 34.4**	**+1.9**
NISR	**Nisiros**	**1.65**	**18**	*e*PB	**Pb**	**06 33 16.0**	**+1.1**
ARG	**Arkhangelos**	**1.78**	**48**	*e*PB	**Pb**	**06 33 17.5**	**+0.5**
DAT	**Datca**	**1.90**	**27**	*e*PN	**Pn**	**06 33 16.7**	**-0.1**
DAT				*e*SN	**Sn**	**06 33 44.7**	**+4.0**
VAM	**Vamos**	**1.91**	**282**	*e*PN	**Pn**	**06 33 19.3**	**+2.4**
GVD	**Gavdhos**	**1.98**	**265**	*e*PN	**Pn**	**06 33 20.0**	**+2.1**
GVD	**Gavdhos**	**1.98**	**265**	*e*Pn	**Pn**	**06 33 20.1**	**+2.2**
GVD	**Gavdhos**	**1.98**	**265**	*e*Pn	**Pn**	**06 33 20.1**	**+2.2**
BODT	**Bodrum**	**2.13**	**18**	*e*PN	**Pn**	**06 33 18.3**	**-1.5**
BDRM	**Kayabasi**	**2.17**	**21**	*i* P	**Pn**	**06 33 22.1**	**+1.8**
BDRM				*i* S	**Sg**	**06 33 55.7**	**+1.5**
BDRM	**Kayabasi**	**2.17**	**21**	*i* S	**Sn**	**06 33 46.0**	**-1.1**
APE	**Apeiranthos**	**2.17**	**339**	*e*PN	**Pn**	**06 33 18.1**	**-2.3**
APE				*e*SN	**Sn**	**06 33 46.1**	**-1.2**
APE	**Apeiranthos**	**2.17**	**339**	*e*Pb	**Pb**	**06 33 20.9**	**-2.8**
APE				*e*Sn	**Sn**	**06 33 46.1**	**-1.2**
DALT	**Dalyan (Mudla)**	**2.45**	**45**	*e*PN	**Pn**	**06 33 23.4**	**-0.9**
MLSB	**Milas**	**2.48**	**24**	*e*PN	**Pn**	**06 33 23.4**	**-1.3**
YER	**Yerkesik**	**2.55**	**34**	*e*PN	**Pn**	**06 33 25.7**	**+0.1**
FETY	**Fethiye**	**2.64**	**52**	*e*PN	**Pn**	**06 33 26.7**	**-0.2**
SMG	**Samos**	**2.68**	**6**	*e*Pn	**Pn**	**06 33 27.5**	**0.0**
KYTH	**Kithira**	**3.07**	**295**	*e*PG	**Pn**	**06 33 35.0**	**+2.1**
ELL	**Elmali**	**3.26**	**57**	*e*PN	**Pn**	**06 33 34.8**	**-0.6**
VLI	**Veliai**	**3.34**	**301**	*e*PB	**Pn**	**06 33 37.4**	**+0.9**
IZM	**Izmir**	**3.41**	**10**	*e*PN	**Pn**	**06 33 36.7**	**-0.8**
AKS	**Akhisar**	**3.98**	**15**	*e*PN	**Pn**	**06 33 44.8**	**-0.5**

*IDC **10** 06:42:59.2±1.0, 959S×15750E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.2/15, mbtmp4.1/9, ML4.1/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/18, Error ellipse: s-maj=31.1km s-min=21.2km az=141.0*
*ISCJB **10** 06:43:02.9±0.6, 97S±01×15758E±007, h33km, mb4.0/8, MS3.7/2, Error ellipse: s-maj=21.1km s-min=7.4km az=147.2*
*NEIC **10** 06:43:04.1±0.9, 964S×15763E, h35km, mb4.3/2, Error ellipse: s-maj=28.7km s-min=13.4km az=159.0*

ISC 10 06:43:04.7±0.6, 97S±01×15759E±007, h35km, n19, σ1.9 22/18, mb4.0/8, MS3.7/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.33**	**85**	Pn	**Pn**	**06 43 39.1**	**-1.4**
	42nm,0.3s,baz=255,slow=4.1,SNR=11						
HNR				Sn	**Sn**	**06 44 08.4**	**+0.4**
	253nm,0.3s,baz=96,slow=18,SNR=17						
HNR				LR	LR	06 44 34.9	
	comp=Z,492nm,19.7s,baz=182,slow=40						
HNR	**Honiara**	**2.33**	**85**	Pn	**Pn**	**06 43 39.1**	**-1.4**
HNR				Sn	**Sn**	**06 44 08.4**	**+0.4**
HNR				LR	LR	06 44 34.9	
DZM	**Mont Dzumac**	**14.99**	**147**	LR	LR	06 50 53.2	
	comp=Z,169nm,21.4s,baz=15,slow=31						
CTA	**Charters Tower**	**15.08**	**225**	Pn	**Pn**	**06 46 34.2**	**-0.9**
	0.5nm,0.3s,baz=60,slow=12,SNR=7.0						
CTA				LR	LR	06 51 43.5	
	comp=Z,209nm,18.4s,baz=341,slow=35						
CTA	**Charters Tower**	**15.08**	**225**	Pn	**Pn**	**06 46 34.2**	**-0.9**
CTA				LR	LR	06 51 43.5	
WRAB	**Tennant Creek**	**24.66**	**243**	*e*P	**P**	**06 48 21.9**	**-0.2**
	11nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**24.66**	**243**	*e*P	**P**	**06 48 21.8**	**-0.3**
WRA	**Warramunga Arr**	**24.67**	**243**	P	**P**	**06 48 22.6**	**+0.5**
	7.7nm,0.8s,mb4.3,baz=75,slow=9.6,SNR=39						
AS31	**Alice Springs**	**26.57**	**235**	*e*P	**P**	**06 48 42.0**	**+2.6**
ASAR	**Alice Springs**	**26.57**	**235**	P	**P**	**06 48 38.4**	**-1.0**
	2.7nm,0.5s,mb4.0,baz=66,slow=10,SNR=31						
ASPA	**Alice Springs**	**26.57**	**235**	*e*P	**P**	**06 48 42.0**	**+2.6**
STKA	**Stephens Creek**	**26.63**	**212**	*e*P	**P**	**06 48 39.0**	**-0.9**
	3.3nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**26.63**	**212**	P	**P**	**06 48 38.8**	**-1.2**
	4.6nm,0.7s,mb4.1,baz=31,slow=10,SNR=8.2						
AFI	**Afiamalu**	**30.27**	**101**	LR	LR	06 58 18.3	
	comp=Z,124nm,20.0s,MS3.5,baz=121,slow=30						
VNDA	**Vanda**	**67.89**	**179**	P	**P**	**06 54 00.0**	**+0.4**
	0.6nm,0.8s,mb3.7,baz=326,slow=7.3,SNR=2.2						
SONM	**Songino Array**	**72.95**	**327**	P	**P**	**06 54 30.0**	**-0.5**
	0.7nm,0.8s,mb3.7,baz=125,slow=5.8,SNR=4.6						
MKAR	**Makanchi Array**	**87.08**	**318**	P	**P**	**06 55 45.7**	**-1.1**
	0.7nm,0.7s,mb4.0,baz=94,slow=5.6,SNR=7.7						
NVAR	**Mina Array Bea**	**91.35**	**51**	P	**P**	**06 56 09.0**	**+2.2**
	0.2nm,0.4s,mb3.8,baz=238,slow=5.2,SNR=3.5						
YKA	**Yellowknife Ar**	**97.47**	**28**	LR	LR	07 35 09.6	
	comp=Z,38nm,21.3s,MS3.9,baz=0.0,slow=32						

WEL 10 07:39:39.8±0.2, 4039S×17672E, h21km±1km, ML3.7/30, 1D, Error ellipse: s-maj=2.5km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.37**	**17**	P*	Pb	07 39 48.4	+0.8
PXZ				*e*S*	Sb	07 39 53.9	+0.9
BFZ	**Birch Farm**	**0.47**	**231**	P*	Pb	07 39 51.1	+1.8
BFZ				*e*S*	Sb	07 39 58.4	+2.7
TSZ	**Takapari Road**	**0.67**	**299**	⇓P*	Pb	07 39 52.0	-0.7
TSZ				S*	Sb	07 40 01.2	-0.3
TIWZ	**Tintock**	**0.75**	**238**	P*	Pb	07 39 55.2	+1.1
TIWZ				S*	Sb	07 40 06.5	+2.7
MRZ	**Mangatainoka R**	**0.91**	**252**	P*	Pb	07 39 57.0	+0.2
MRZ				S*	Sb	07 40 10.0	+1.4
MTW	**Mount Morrison**	**1.21**	**230**	P*	Pb	07 40 00.9	-1.0
MOVZ	**Moawhango**	**1.23**	**322**	PN	Pn	07 40 01.6	-0.1
MOVZ				SN	Sn	07 40 16.9	-0.6
BKZ	**Black Stump Fm**	**1.23**	**352**	PN	Pn	07 40 01.3	-0.4
BKZ				SN	Sn	07 40 16.8	-0.8
TRWZ	**Traveller**	**1.28**	**217**	P*	Pb	07 40 02.0	-1.2
TUVZ	**Tukino**	**1.39**	**323**	PN	Pn	07 40 04.2	+0.4
MTVZ	**Mangateitei**	**1.39**	**316**	PN	Pn	07 40 04.4	+0.6
PAWZ	**Paruwai Farm**	**1.40**	**224**	P*	Pb	07 40 03.4	-1.7
TRVZ	**Turoa**	**1.41**	**320**	PN	Pn	07 40 04.7	+0.5
TRVZ				SN	Sn	07 40 23.8	+1.7
DRZ	**Dome Shelter**	**1.42**	**321**	PN	Pn	07 40 05.8	+1.4
FWVZ	**Far West T-bar**	**1.44**	**321**	PN	Pn	07 40 05.0	+0.4
CAW	**Cannon Point**	**1.45**	**240**	PN	Pn	07 40 04.2	-0.5
KIW	**Kapiti Island**	**1.46**	**250**	PN	Pn	07 40 04.6	-0.3
WAZ	**Wanganui**	**1.47**	**295**	PN	Pn	07 40 05.9	+0.8
NGZ	**Ngauruhoe**	**1.48**	**324**	PN	Pn	07 40 05.6	+0.4
MSWZ	**Moikau Station**	**1.52**	**227**	PN	Pn	07 40 04.9	-0.7
MSWZ				S*	Sb	07 40 24.5	-1.5
PKVZ	**Pokaka**	**1.52**	**316**	PN	Pn	07 40 06.4	+0.7
KRVZ	**Karewarewa**	**1.53**	**327**	PN	Pn	07 40 05.3	-0.6
WTVZ	**West Tongariro**	**1.54**	**325**	PN	Pn	07 40 06.7	+0.8
KNZ	**Kokohu**	**1.55**	**29**	PN	Pn	07 40 05.4	-0.7
WEL	**Wellington**	**1.73**	**238**	PN	Pn	07 40 08.0	-0.6
MRW	**Makara Radio**	**1.75**	**241**	PN	Pn	07 40 08.1	-0.7
SNZO	**South Karori**	**1.79**	**238**	PN	Pn	07 40 08.5	-0.9
VRZ	**Vera Road**	**1.97**	**309**	PN	Pn	07 40 12.4	+0.5
TCW	**Tory Channel**	**2.03**	**245**	PN	Pn	07 40 11.8	-0.9
URZ	**Urewera**	**2.15**	**8**	PN	Pn	07 40 13.3	-1.0
DUWZ	**D'Urville Isla**	**2.17**	**258**	PN	Pn	07 40 14.7	+0.1
TUWZ	**Tuamarina**	**2.35**	**243**	PN	Pn	07 40 15.6	-1.5
BSWZ	**Blackbirch Sta**	**2.53**	**237**	PN	Pn	07 40 18.2	-1.3
NNZ	**Nelson**	**2.67**	**251**	PN	Pn	07 40 20.6	-0.8
KHZ	**Kahutara**	**3.14**	**229**	PN	Pn	07 40 25.9	-2.0
THZ	**Tophouse**	**3.20**	**243**	PN	Pn	07 40 27.0	-1.7

*STR **10** 07:43:31.6±0.2, 43.13N×062W, h12km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **10** 07:43:32.0±0.5, 43.11N±006×065W±003, h11km, Error ellipse: s-maj=8.4km s-min=3.0km az=27.9*
*LDG **10** 07:43:32.0±0.1, 43.09N×066W, h15km, Md2.0/3, Error ellipse: s-maj=4.0km s-min=1.6km az=16.0*
*MDD **10** 07:43:32.7±0.3, 43.12N×064W, h11km±1km, mbLg1.3/5, Error ellipse: s-maj=3.9km s-min=1.5km az=14.0, PRXIMO*

ISC 10 07:43:32.0±0.8, 4310N±006×065W±004, h17km±6km, n23, σ0.9 38/26, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.04**	**254**	Pg	**Pg**	**07 43 34.8**	**-0.2**
ATE				Sg	**Sg**	**07 43 37.0**	**0.0**
ATE	**Arette**	**0.04**	**254**	Pg	**Pg**	**07 43 34.9**	**-0.1**
ATE				Lg		07 43 37.0	
REYF	**Montagne du Re**	**0.19**	**98**	Pg	**Pg**	**07 43 36.5**	**-0.2**
REYF				Sg	**Sg**	**07 43 39.8**	**-0.1**
REYF	**Montagne du Re**	**0.19**	**98**	Pg	**Pg**	**07 43 36.6**	**-0.1**
REYF				Lg		07 43 39.8	
ETSF	**Etsaut**	**0.21**	**161**	*e*Pg	**Pg**	**07 43 37.2**	**+0.3**
ETSF				*e*Sg	**Sg**	**07 43 40.4**	**+0.1**
	32nm,0.2s						
ETSF	**Etsaut**	**0.21**	**161**	Pg	**Pg**	**07 43 37.2**	**+0.3**
ETSF				Lg		07 43 40.4	
	16nm,0.2s						
ORDF	**Ordiarp**	**0.24**	**300**	Pg	**Pg**	**07 43 37.2**	**-0.2**
ORDF				Sg	**Sg**	**07 43 41.7**	**+0.6**
ORDF	**Ordiarp**	**0.24**	**300**	Pg	**Pg**	**07 43 37.3**	**-0.1**
ORDF				Lg		07 43 41.5	
LARF	**Larrau**	**0.25**	**257**	Pg	**Pg**	**07 43 38.0**	**+0.3**
LARF				Lg		07 43 42.1	
SJPF	**Ste Jean**	**0.42**	**273**	*e*Pg	**Pg**	**07 43 40.3**	**-0.2**
SJPF				*e*Sg	**Sg**	**07 43 45.5**	**-0.8**
	4.8nm,0.2s						
SJPF	**Ste Jean**	**0.42**	**273**	Pg	**Pg**	**07 43 40.3**	**-0.2**
SJPF				Lg		07 43 45.5	
	2.4nm,0.2s						
VIEF	**Viey**	**0.54**	**113**	Sg	**Sg**	**07 43 49.5**	**-0.5**
VIEF	**Viey**	**0.54**	**113**	Pg	**Pg**	**07 43 42.6**	**-0.2**
VIEF				Lg		07 43 49.5	
IPRE	**Itoiz**	**0.59**	**241**	Pg	**Pg**	**07 43 44.0**	**+0.3**
	SNR=7.9						
IPRE				Lg		07 43 53.2	
	0.2nm,0.0s,SNR=7.9						
EALK	**Alkurruntz**	**0.64**	**282**	Pg	**Pg**	**07 43 44.4**	**-0.2**
	SNR=7.9						
EALK				Lg		07 43 53.0	
	1.2nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.64**	**276**	Pg	**Pg**	**07 43 44.3**	**-0.4**
	0.5nm,0.2s,SNR=7.9						
ELIZ				Lg		07 43 53.6	
	1.0nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.67**	**258**	Pg	**Pg**	**07 43 46.0**	**+0.8**
	SNR=7.9						
IUSE				Lg		07 43 54.9	
	1.2nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.71**	**125**	Pg	**Pg**	**07 43 45.8**	**-0.2**
	2.6nm,0.1s,SNR=12						
EBIE				Lg		07 43 55.1	
	2.9nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.73**	**95**	*e*Pg	**Pg**	**07 43 46.3**	**0.0**
EPF				*e*Sg	**Sg**	**07 43 56.7**	**+0.7**
	1.9nm,0.2s						
EPF	**Esparros**	**0.73**	**95**	Pg	**Pg**	**07 43 46.3**	**0.0**
EPF				Lg		07 43 56.7	
	0.9nm,0.2s						
EGRA	**Graus**	**1.15**	**141**	Lg		07 44 10.1	
	0.6nm,0.2s,SNR=4.0						
ESAC	**San Caprasio**	**1.38**	**174**	Lg		07 44 17.1	
	4.5nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**2.26**	**161**	Lg		07 44 44.7	
	SNR=7.9						

MAN 10 08:16:47.5, 887N×12656E, h37km, mb2.9, ML4.3, MS3.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.71**	**196**	⇓*i*P	Pn	08 17 02.6	+1.7
BIPH				*i* S	Sn	08 17 12.3	+1.6
BUTP	**Butuan**	**0.93**	**276**	*e*P	Pn	08 17 04.5	+0.4
BUTP				*e*S	Sn	08 17 16.7	+0.5
SCPH	**Surigao**	**1.39**	**311**	*e*P	Pn	08 17 10.6	+0.2
SCPH				*e*S	Sn	08 17 28.9	+1.4
BUKP	**Musuan**	**1.78**	**237**	*e*P	Pn	08 17 19.2	+3.5
BUKP				*e*S	Sn	08 17 43.8	+6.8
CGP	**Cagayan de Oro**	**1.89**	**258**	*e*P	Pn	08 17 17.2	0.0
CGP				*e*S	Sn	08 17 41.4	+1.6

*IDC **10** 08:47:43.1±7.5, 3.13N×12869E, h175km±77km, mb3.5/7, mb1 3.7/7, mb1mx3.5/17, mbtmp4.0/7, Error ellipse: s-maj=48.4km s-min=15.7km az=82.0*
*ISCJB **10** 08:47:44.2±4.9, 32N±01×1287E±04, h203km±50km, mb3.8/7, Error ellipse: s-maj=62.9km s-min=19.3km az=168.4*
*NEIC **10** 08:47:45.5±4.9, 3.14N×12858E, h200km±51km, mb4.3/1, Error ellipse: s-maj=45.1km s-min=14.7km az=83.0*

ISC 10 08:47:45.5±4.5, 31N±01×1286E±04, h198km±46km, n11, σ0.9 76/11, mb3.8/7, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.21**	**166**	*e*P	**Pn**	**08 51 22.4**	**0.0**
	12nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.31**	**188**	P	**P**	**08 52 15.8**	**-1.0**
	2.9nm,0.9s,mb3.8,baz=9.2,slow=14,SNR=11						
WRA	**Warramunga Arr**	**23.63**	**166**	P	**P**	**08 52 39.0**	**+0.4**
	0.8nm,0.3s,mb3.8,baz=335,slow=11,SNR=16						
WB2	**Warramunga Arr**	**23.63**	**166**	*e*P	**P**	**08 52 40.0**	**+1.3**
AS31	**Alice Springs**	**27.15**	**169**	*e*P	**P**	**08 53 10.9**	**+0.6**
ASAR	**Alice Springs**	**27.15**	**169**	P	**P**	**08 53 10.2**	**-0.1**
	2.2nm,0.5s,mb4.0,baz=354,slow=7.9,SNR=50						
ASPA	**Alice Springs**	**27.15**	**169**	*e*P	**P**	**08 53 10.9**	**+0.6**
MJAR	**Matsushiro Arr**	**34.40**	**14**	P	**P**	**08 54 13.5**	**-0.4**
	2.3nm,0.7s,mb3.8,baz=176,slow=9.3,SNR=7.3						
STKA	**Stephens Creek**	**36.96**	**161**	P	**P**	**08 54 34.3**	**-1.3**
	2.9nm,0.4s,mb4.2,baz=331,slow=10.0,SNR=14						
MKAR	**Makanchi Array**	**59.10**	**325**	P	**P**	**08 57 25.6**	**+0.6**
	0.5nm,0.4s,mb3.5,baz=119,slow=8.4,SNR=5.8						
VNDA	**Vanda**	**82.62**	**173**	P	**P**	**08 59 45.9**	**-0.7**
	0.3nm,0.4s,mb3.4,baz=342,slow=5.4,SNR=5.1						

*ISCJB **10** 08:52:57.4±0.2, 4324N±001×051W±002, h10km±2km, Error ellipse: s-maj=2.6km s-min=2.1km az=124.5*
*NEIC **10** 08:52:59.4, 4305N×056W, h4km, ML2.7(STR), ML3.2(LDG), MN2.6(MDD), After STR.*
*CSEM **10** 08:52:59.9±0.1, 43.10N×054W, h2km, ML3.3/17, Error ellipse: s-maj=1.0km s-min=0.9km az=170.0*
*STR **10** 08:52:59.4±0.1, 4306N×056W, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **10** 08:53:00.0±0.2, 43.10N×054W, h0km, mbLg2.5/33, Error ellipse: s-maj=2.0km s-min=1.1km az=9.0, PRXIMO*
*LDG **10** 08:53:00.0±0.1, 4309N×054W, h5km, Md3.0/3, Ml3.2/18, Error ellipse: s-maj=1.6km s-min=1.3km az=167.0*

ISC 10 08:52:58.8±0.2, 4317N±001×053W±002, h9km±2km, n118, σ1.9 05/212, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.14**	**135**	Pg	**Pg**	**08 53 02.0**	**+0.1**
REYF	**Montagne du Re**	**0.14**	**135**	Pg	**Pg**	**08 53 02.1**	**+0.2**
REYF				Lg		08 53 03.9	
ATE	**Arette**	**0.15**	**238**	Pg	**Pg**	**08 53 02.0**	**-0.2**
ATE	**Arette**	**0.15**	**238**	Pg	**Pg**	**08 53 02.0**	**-0.1**
ATE				Lg		08 53 04.0	
ETSF	**Etsaut**	**0.27**	**185**	*e*Pg	**Pg**	**08 53 03.1**	**-1.1**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**08 53 06.6**	**-1.3**
	506nm,0.2s,SNR=1.0						
ETSF	**Etsaut**	**0.27**	**185**	*e*Pg	**Pg**	**08 53 03.1**	**-1.1**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**08 53 06.6**	**-1.3**
	253nm,0.2s,SNR=1.0						
ORDF	**Ordiarp**	**0.30**	**279**	Pg	**Pg**	**08 53 05.8**	**+0.9**
ORDF				Sg	**Sg**	**08 53 11.1**	**+2.1**
ORDF	**Ordiarp**	**0.30**	**279**	Pg	**Pg**	**08 53 05.7**	**+0.8**
ORDF				Lg		08 53 10.8	
FDAF	**Les Forges d'A**	**0.35**	**185**	Pg	**Pg**	**08 53 04.8**	**-0.9**
FDAF				Lg		08 53 08.6	
LARF	**Larrau**	**0.36**	**249**	Pg	**Pg**	**08 53 06.0**	**+0.1**
LARF				Lg		08 53 10.8	
LABF	**Labassere**	**0.45**	**105**	Pg	**Pg**	**08 53 08.5**	**+0.8**
LABF				Sg	**Sg**	**08 53 14.8**	**+1.1**
LABF	**Labassere**	**0.45**	**105**	Pg	**Pg**	**08 53 07.9**	**+0.2**
LABF				Lg		08 53 14.8	
VIEF	**Viey**	**0.49**	**125**	Pg	**Pg**	**08 53 08.3**	**-0.1**
VIEF				Lg		08 53 14.7	
SJPF	**Ste Jean**	**0.52**	**264**	*e*Pg	**Pg**	**08 53 08.9**	**+0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**08 53 16.0**	**+0.4**
	136nm,0.3s						
SJPF	**Ste Jean**	**0.52**	**264**	*e*Pg	**Pg**	**08 53 08.9**	**+0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**08 53 16.0**	**+0.4**
	68nm,0.3s						
OSSF	**Osses**	**0.55**	**280**	Pg	**Pg**	**08 53 09.9**	**+0.5**
OSSF				Sg	**Sg**	**08 53 17.1**	**+0.5**
OSSF	**Osses**	**0.55**	**280**	Pg	**Pg**	**08 53 09.6**	**+0.2**
OSSF				Lg		08 53 17.3	
EPF	**Esparros**	**0.65**	**102**	*e*Pg	**Pg**	**08 53 11.8**	**+0.4**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**08 53 20.7**	**+0.9**
	68nm,0.2s						
EPF	**Esparros**	**0.65**	**102**	*e*Pg	**Pg**	**08 53 11.8**	**+0.4**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**08 53 20.7**	**+0.9**
	34nm,0.2s						
EBIE	**Bielsa**	**0.69**	**134**	⇑Pg	**Pg**	**08 53 11.6**	**-0.5**
	22nm,0.1s,SNR=18						
EBIE				Lg		08 53 19.9	
	61nm,0.1s,SNR=5.0						
EBIE	**Bielsa**	**0.69**	**134**	Pg	**Pg**	**08 53 11.6**	**-0.5**
	22nm,0.1s,SNR=18						
IPRE	**Itoiz**	**0.71**	**240**	Pg	**Pg**	**08 53 12.6**	**+0.1**
	2.4nm,0.1s,SNR=16						
IPRE				Lg		08 53 21.5	
	42nm,0.2s,SNR=26						
IPRE	**Itoiz**	**0.71**	**240**	Pg	**Pg**	**08 53 12.6**	**+0.1**
	2.4nm,0.1s,SNR=16						
EALK	**Alkurruntz**	**0.72**	**275**	Pg	**Pg**	**08 53 13.1**	**+0.4**
	5.0nm,0.2s,SNR=9.1						
EALK				Lg		08 53 22.9	
	19nm,0.1s,SNR=4.0						
RESF	**Ens**	**0.73**	**119**	Pg	**Pg**	**08 53 12.8**	**-0.1**
RESF				Sg	**Sg**	**08 53 22.6**	**+0.2**
RESF	**Ens**	**0.73**	**119**	Pg	**Pg**	**08 53 12.7**	**-0.2**
RESF				Lg		08 53 22.8	
ELIZ	**Elizondo**	**0.73**	**270**	Pg	**Pg**	**08 53 13.0**	**0.0**
	11nm,0.2s,SNR=23						
ELIZ				Lg		08 53 22.6	
	25nm,0.1s,SNR=13						
ELIZ	**Elizondo**	**0.73**	**270**	Pg	**Pg**	**08 53 13.0**	**0.0**
ELIZ				Lg		08 53 22.6	
IUSE	**Utxeti**	**0.78**	**254**	Pg	**Pg**	**08 53 13.4**	**-0.4**
	2.1nm,0.1s,SNR=7.9						
IUSE				Lg		08 53 24.3	
	23nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.78**	**254**	Pg	**Pg**	**08 53 13.4**	**-0.5**
	2.1nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.87**	**243**	Pg	**Pg**	**08 53 15.9**	**+0.4**
	3.9nm,0.1s,SNR=7.9						
EARA				Lg		08 53 26.7	
	19nm,0.1s,SNR=7.9						
MELF	**Melles**	**0.99**	**107**	Pg	**Pg**	**08 53 17.7**	**-0.1**
MELF				Lg		08 53 31.2	
EGRA	**Graus**	**1.15**	**147**	Pg	**Pg**	**08 53 20.4**	**-0.5**
	2.2nm,0.2s,SNR=22						
EGRA				Lg		08 53 35.9	
	13nm,0.1s,SNR=11						
EGRA	**Graus**	**1.15**	**147**	Pg	**Pg**	**08 53 20.4**	**-0.5**
EGRA				Lg		08 53 37.3	
MLS	**Moulis**	**1.21**	**99**	Pn	**Pn**	**08 53 22.2**	**+0.4**
MLS				Sg	**Sg**	**08 53 38.9**	**+1.3**
MLS	**Moulis**	**1.21**	**99**	Pg	**Pg**	**08 53 23.8**	**+1.8**
MLS				Lg		08 53 39.1	
SALF	**Salau**	**1.32**	**107**	Pg

ERTA	**Horta de San J**	**2.30**	**164**	Pn	**Pn**	**08 53 36.7**	**-0.1**
ERTA				Pg	**Pg**	**08 53 41.0**	**-1.8**
ERTA				Sn	**Sn**	**08 54 04.5**	**-0.7**
ERTA				Lg		08 54 09.8	
ERTA	**Horta de San J**	**2.30**	**164**	Pn	**Pn**	**08 53 36.7**	**-0.1**
	0.2nm,0.1s,SNR=9.4						
ERTA	**Horta de San J**	**2.30**	**164**	Pg	**Pg**	**08 53 41.0**	**-1.9**
ERTA				Sn	**Sn**	**08 54 04.5**	**-0.7**
	3.6nm,0.1s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.46**	**162**	*e*S*	**Sb**	**08 54 16.0**	**+2.4**
CAF	**Calviac**	**2.57**	**46**	*e*Pg	**Pg**	**08 53 48.7**	**+0.7**
CAF				*e*Sg	**Sg**	**08 54 21.1**	**-0.2**
	27nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.57**	**46**	Pn	**Pn**	**08 53 41.8**	**+1.3**
CAF				Pg	**Pg**	**08 53 48.7**	**+0.7**
CAF				Lg		08 54 21.1	
	14nm,0.2s						
CAF	**Calviac**	**2.57**	**46**	*e*Pn	**Pn**	**08 53 41.8**	**+1.3**
CAF				*e*Pg	**Pg**	**08 53 48.7**	**+0.7**
CAF				*e*Sg	**Sg**	**08 54 21.1**	**-0.2**
CAF	**Calviac**	**2.57**	**46**	*e*Pg	**Pg**	**08 53 48.7**	**+0.7**
CAF				*e*Sg	**Sg**	**08 54 21.1**	**-0.2**
	14nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.59**	**34**	*e*Pg	**Pg**	**08 53 49.1**	**+0.6**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**08 54 23.3**	**+1.2**
	36nm,0.3s						
RJF	**Les Rejaudoux**	**2.59**	**34**	*e*Pg	**Pg**	**08 53 49.1**	**+0.6**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**08 54 23.3**	**+1.2**
	18nm,0.3s						
EJON	**La Jonquera**	**2.61**	**105**	Pg	**Pg**	**08 53 47.4**	**-1.5**
	2.2nm,1.0s,SNR=7.9						
EJON				Lg		08 54 23.3	
	3.7nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**3.31**	**73**	*e*Pg	**Pg**	**08 54 02.5**	**+0.2**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**08 54 30.9**	**+0.7**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**08 54 44.4**	**-0.7**
	16nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.31**	**73**	Pn	**Pn**	**08 53 51.7**	**+1.0**
LASF				Pg	**Pg**	**08 54 02.5**	**+0.2**
LASF				Sn	**Sn**	**08 54 30.9**	**+0.7**
LASF				Lg		08 54 44.4	
	7.8nm,0.4s						
LASF	**Ste Croix**	**3.31**	**73**	*e*Pn	**Pn**	**08 53 51.7**	**+1.0**
LASF				*e*Pg	**Pg**	**08 54 02.5**	**+0.2**
LASF				*e*Sn	**Sn**	**08 54 30.9**	**+0.7**
LASF				*e*Sg	**Sg**	**08 54 44.4**	**-0.7**
LASF	**Ste Croix**	**3.31**	**73**	*e*Pg	**Pg**	**08 54 02.5**	**+0.2**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**08 54 30.9**	**+0.7**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**08 54 44.4**	**-0.7**
	7.8nm,0.4s,SNR=1.0						
EARI	**Arriondas**	**3.43**	**274**	Pn	**Pn**	**08 53 54.2**	**+1.9**
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**08 54 33.8**	**+0.7**
	SNR=7.9						
EARI	**Arriondas**	**3.43**	**274**	Pn	**Pn**	**08 53 54.2**	**+1.9**
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**08 54 33.8**	**+0.8**
	SNR=7.9						
MFF	**Saint Martin d**	**3.45**	**4**	*e*Pg	**Pg**	**08 54 05.2**	**+0.3**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**08 54 49.4**	**-0.1**
	14nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**3.45**	**4**	Pn	**Pn**	**08 53 53.8**	**+1.2**
MFF				Pg	**Pg**	**08 54 05.2**	**+0.3**
MFF				Lg		08 54 49.4	
	7.2nm,0.3s						
MFF	**Saint Martin d**	**3.45**	**4**	*e*Pn	**Pn**	**08 53 53.8**	**+1.2**
MFF				*e*Pg	**Pg**	**08 54 05.2**	**+0.3**
MFF				*e*Sg	**Sg**	**08 54 49.4**	**-0.1**
MFF	**Saint Martin d**	**3.45**	**4**	*e*Pg	**Pg**	**08 54 05.2**	**+0.3**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**08 54 49.4**	**-0.1**
	7.2nm,0.3s,SNR=1.0						
ECHE	**Chera**	**3.59**	**185**	Pg	**Pg**	**08 54 04.4**	**-3.2**
	0.3nm,1.0s,SNR=7.9						
ECHE				Lg		08 54 51.7	
	13nm,0.9s,SNR=7.9						
TCF	**Toulx Ste Croi**	**3.68**	**31**	*e*Pg	**Pg**	**08 54 09.2**	**-0.1**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**08 54 38.0**	**-1.3**
TCF				*e*Sg	**Sg**	**08 54 56.5**	**-0.5**
	13nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.68**	**31**	*e*Pg	**Pg**	**08 54 09.2**	**-0.1**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**08 54 38.0**	**-1.3**
TCF				*e*Sg	**Sg**	**08 54 56.5**	**-0.5**
	6.6nm,0.3s,SNR=1.0						
GUD	**Guadarrama**	**3.70**	**228**	Sn	**Sn**	**08 54 37.3**	**-2.5**
	6.5nm,3.2s,SNR=7.9						
GUD				Lg		08 54 53.2	
	2.2nm,0.3s,SNR=7.9						
VIVF	**Saint-Julien-l**	**4.11**	**64**	*e*Pg	**Pg**	**08 54 16.4**	**-1.2**
VIVF				*e*Sn	**Sn**	**08 54 48.3**	**-1.7**
VIVF				*e*Sg	**Sg**	**08 55 07.3**	**-3.6**
	5.5nm,0.3s						
VIVF	**Saint-Julien-l**	**4.11**	**64**	Pn	**Pn**	**08 54 01.8**	**0.0**
VIVF				Pg	**Pg**	**08 54 16.4**	**-1.2**
VIVF				Sn	**Sn**	**08 54 48.3**	**-1.7**
VIVF				Lg		08 55 07.3	
	2.8nm,0.3s						
VIVF	**Saint-Julien-l**	**4.11**	**64**	*e*Pn	**Pn**	**08 54 01.8**	**0.0**
VIVF				*e*Pg	**Pg**	**08 54 16.4**	**-1.2**
VIVF				*e*Sn	**Sn**	**08 54 48.3**	**-1.7**
VIVF				*e*Sg	**Sg**	**08 55 07.3**	**-3.6**
VIVF	**Saint-Julien-l**	**4.11**	**64**	*e*Pg	**Pg**	**08 54 16.4**	**-1.2**
VIVF				*e*Sn	**Sn**	**08 54 48.3**	**-1.7**
VIVF				*e*Sg	**Sg**	**08 55 07.3**	**-3.6**
	2.8nm,0.3s						
BGF	**Bois d'Agland**	**4.15**	**34**	*e*Pg	**Pg**	**08 54 17.0**	**-1.4**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**08 55 11.4**	**-0.8**
	56nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.15**	**34**	*e*Pg	**Pg**	**08 54 17.0**	**-1.4**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**08 55 11.4**	**-0.8**
	28nm,0.4s,SNR=1.0						
EBEN	**Beniarda**	**4.46**	**177**	Pn	**Pn**	**08 54 07.0**	**+0.4**
	0.2nm,1.5s,SNR=7.9						
EBEN				Sn	**Sn**	**08 54 54.9**	**-3.7**
	1.2nm,1.1s,SNR=7.9						
AVF	**Avril sur Loir**	**4.55**	**36**	*e*Pg	**Pg**	**08 54 25.8**	**-0.2**
AVF				*e*Sn	**Sn**	**08 54 58.1**	**-2.7**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**08 55 25.0**	**+0.1**
	7.2nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**4.55**	**36**	Pn	**Pn**	**08 54 08.6**	**+0.8**
AVF				Pg	**Pg**	**08 54 25.8**	**-0.2**
AVF				Sn	**Sn**	**08 54 58.1**	**-2.7**
AVF				Lg		08 55 25.0	
	3.6nm,0.3s						
AVF	**Avril sur Loir**	**4.55**	**36**	*e*Pn	**Pn**	**08 54 08.6**	**+0.8**
AVF				*e*Pg	**Pg**	**08 54 25.8**	**-0.2**
AVF				*e*Sn	**Sn**	**08 54 58.1**	**-2.7**
AVF				*e*Sg	**Sg**	**08 55 25.0**	**+0.1**
AVF	**Avril sur Loir**	**4.55**	**36**	*e*Pg	**Pg**	**08 54 25.8**	**-0.2**
AVF				*e*Sn	**Sn**	**08 54 58.1**	**-2.7**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**08 55 25.0**	**+0.1**
	3.6nm,0.3s,SNR=1.0						
ETOB	**Tobarra**	**4.58**	**190**	Pn	**Pn**	**08 54 09.2**	**+1.0**
	0.0nm,1.1s,SNR=7.9						
SMF	**Signal de Mont**	**4.66**	**40**	*e*Pn	**Pn**	**08 54 10.4**	**+1.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**08 55 28.8**	**+0.3**
	9.0nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**4.66**	**40**	*e*Pn	**Pn**	**08 54 10.4**	**+1.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**08 55 28.8**	**+0.3**
	4.5nm,0.4s,SNR=1.0						
ECAL	**Calabor**	**4.75**	**257**	Pn	**Pn**	**08 54 11.6**	**+1.1**
	1.6nm,0.2s,SNR=7.1						
ECAL				Sn	**Sn**	**08 55 03.8**	**-1.9**
	SNR=7.9						
ECAL	**Calabor**	**4.75**	**257**	Pn	**Pn**	**08 54 11.6**	**+1.1**
ECAL				Sn	**Sn**	**08 55 03.8**	**-1.9**
SSF	**Saint Saulge**	**4.83**	**35**	*e*Pg	**Pg**	**08 54 30.6**	**-0.7**
SSF				*e*Sg	**Sg**	**08 55 33.1**	**-0.8**
	8.6nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**4.83**	**35**	*e*Pg	**Pg**	**08 54 30.6**	**-0.7**
SSF				*e*Sg	**Sg**	**08 55 33.1**	**-0.8**
	4.3nm,0.4s,SNR=1.0						
EPON	**Pontenova**	**4.84**	**274**	Pn	**Pn**	**08 54 13.5**	**+1.8**
	SNR=7.9						
EPON				Sn	**Sn**	**08 55 06.5**	**-1.4**
	SNR=7.9						
QUIF	**Quistinic**	**5.10**	**340**	*e*Pn	**Pn**	**08 54 16.0**	**+0.7**
	SNR=1.0						
QUIF				*e*Sg	**Sg**	**08 55 41.8**	**-0.8**
	3.2nm,0.3s						
QUIF	**Quistinic**	**5.10**	**340**	*e*Pn	**Pn**	**08 54 16.0**	**+0.7**
	SNR=1.0						
QUIF				*e*Sg	**Sg**	**08 55 41.8**	**-0.8**
	1.6nm,0.3s						
LOR	**Lormes**	**5.14**	**36**	*e*Sg	**Sg**	**08 55 42.7**	**-1.1**
	7.5nm,0.5s,SNR=1.0						
LOR	**Lormes**	**5.14**	**36**	*e*Sg	**Sg**	**08 55 42.7**	**-1.1**
	3.8nm,0.5s,SNR=1.0						
SGMF	**Saint Gilles**	**5.28**	**345**	*e*Pn	**Pn**	**08 54 19.0**	**+1.1**
	SNR=1.0						
LDF	**La Druitiere**	**5.44**	**3**	*e*Pn	**Pn**	**08 54 20.6**	**+0.6**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**08 55 20.2**	**-2.4**
	3.5nm,0.5s,SNR=1.0						
LDF				*e*Sg	**Sg**	**08 55 52.7**	**-0.7**
	6.1nm,0.4s						
LDF	**La Druitiere**	**5.44**	**3**	*e*Pn	**Pn**	**08 54 20.6**	**+0.6**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**08 55 20.2**	**-2.4**
	1.8nm,0.5s,SNR=1.0						
LDF				*e*Sg	**Sg**	**08 55 52.7**	**-0.7**
	3.0nm,0.4s						
ROSF	**Rostrenen**	**5.52**	**341**	*e*Pn	**Pn**	**08 54 21.5**	**+0.4**
FLN	**La Foliniere**	**5.60**	**0**	*e*Pg	**Pg**	**08 54 44.9**	**-1.1**
FLN				*e*Sn	**Sn**	**08 55 25.3**	**-1.3**
FLN				*e*Sg	**Sg**	**08 55 58.0**	**-0.5**
	7.5nm,0.5s						
FLN	**La Foliniere**	**5.60**	**0**	*e*Pg	**Pg**	**08 54 44.9**	**-1.1**
FLN				*e*Sn	**Sn**	**08 55 25.3**	**-1.3**
FLN				*e*Sg	**Sg**	**08 55 58.0**	**-0.5**
	3.8nm,0.5s						
ELOB	**Lobios**	**5.72**	**259**	Pn	**Pn**	**08 54 24.5**	**+0.7**
	SNR=7.9						
ELOB				Sn	**Sn**	**08 55 29.2**	**-0.4**
	SNR=7.9						
ELOB	**Lobios**	**5.72**	**259**	Pn	**Pn**	**08 54 24.5**	**+0.7**
ELOB				Sn	**Sn**	**08 55 29.2**	**-0.4**
EADA	**Adamuz**	**5.87**	**213**	Pn	**Pn**	**08 54 26.6**	**+0.7**
	0.3nm,1.1s,SNR=7.9						
EADA				Sn	**Sn**	**08 55 28.7**	**-4.4**
	0.9nm,1.1s,SNR=7.9						
HAU	**Haudompre**	**6.83**	**43**	*e*Pg	**Pg**	**08 55 08.7**	**-0.9**
	SNR=1.0						

ISC 10 09:52:44.8±1.0, 3785N±005×2865E±007, h14km±17km, n5, σ0̸95/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.32**	**108**	PG	**Pg**	**09 52 50.5**	**-0.9**
DENT				SG	**Sg**	**09 52 54.4**	**-1.3**
DNZL	**Cakiroluk**	**0.35**	**118**	*i* P	**Pg**	**09 52 51.3**	**-0.7**
DNZL				*i* S	**Sg**	**09 52 56.6**	**-0.2**
MANT	**Manisa**	**0.64**	**353**	*i* P	**Pg**	**09 52 56.4**	**-0.9**
MANT				*i* S	**Sg**	**09 53 05.8**	**0.0**
YER	**Yerkesik**	**0.78**	**202**	PG	**Pg**	**09 53 00.7**	**+0.8**
TKTP	**Tekketepe**	**1.33**	**81**	*i* P	**Pn**	**09 53 08.8**	**-0.2**
TKTP				*i* S	**Sg**	**09 53 29.5**	**+1.7**

*ISCJB **10** 09:54:37.8±0.8, 3946N±005×2569E±006, h23km±8km, Error ellipse: s-maj=9.7km s-min=5.9km az=91.0*
*ATH **10** 09:54:37.5, 3957N×2586E, h5km, MD3.5/3*
*ISK **10** 09:54:37.8, 3969N×2560E, h29km, MD2.8*
*CSEM **10** 09:54:38.0±0.1, 3950N×2580E, h20km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.0km az=44.0*

ISC 10 09:54:37.5±0.9, 3944N±005×2568E±006, h18km±5km, n13, σ1̸06/19, 1C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.49**	**36**	*i* P	**Pg**	**09 54 47.3**	**-0.1**
BOZC				*i* S	**Sg**	**09 54 55.1**	**+1.1**
PRK	**Paraskevi**	**0.50**	**113**	⇓*i* PB	**Pg**	**09 54 45.9**	**-1.6**
PRK				*e*SB	**Sg**	**09 54 52.9**	**-1.3**
LIA	**Limnos Island**	**0.60**	**320**	⇑*i* PB	**Pg**	**09 54 49.6**	**+0.3**
LIA				*e*SB	**Sg**	**09 54 57.7**	**+0.4**
EZN	**Ezine**	**0.63**	**52**	PG	**Pg**	**09 54 49.2**	**-0.7**
EZN				SG	**Sg**	**09 54 59.2**	**+0.9**
AYVA	**Ayvalik**	**0.79**	**99**	*i* P	**Pg**	**09 54 52.5**	**-0.4**
AYVA				*i* S	**Sg**	**09 55 05.0**	**+1.5**
CANB	**Canakkale**	**1.21**	**61**	*e*PN	**Pn**	**09 54 58.7**	**-0.8**
URLA	**Izmir**	**1.29**	**146**	*i* P	**Pn**	**09 55 01.4**	**+0.7**
URLA				*i* S	**Sn**	**09 55 17.7**	**+0.2**
BLCB	**Balcova**	**1.50**	**134**	*e*PN	**Pn**	**09 55 06.5**	**+3.1**
IZM	**Izmir**	**1.61**	**130**	*e*PN	**Pn**	**09 55 08.2**	**+3.1**
RKY	**Sarkoy-Tekirda**	**1.69**	**42**	*e*PN	**Pn**	**09 55 05.0**	**-1.1**
RDO	**Rodhopi**	**1.71**	**356**	*e*PB	**Pb**	**09 55 07.5**	**-0.8**
MRMT	**Marmara Adasi**	**1.87**	**51**	*e*PN	**Pn**	**09 55 08.2**	**-0.4**
BNT	**Bandirma**	**1.95**	**61**	*e*PN	**Pn**	**09 55 09.2**	**-0.4**

WEL 10 10:15:04.4±0.5, 3718S×17671E, h242km±4km, ML3.6/13, Error ellipse: s-maj=7.1km s-min=6.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.12**	**164**	PN	Pn	10 15 39.3	0.0
URZ				SN	S	10 16 06.8	+0.1
MWZ	**Matawai**	**1.32**	**151**	PN	Pn	10 15 40.8	+0.2
MXZ	**Matakaoa Point**	**1.33**	**107**	PN	Pn	10 15 40.5	-0.1
MXZ				SN	S	10 16 08.4	-0.7
PUZ	**Puketiti**	**1.52**	**126**	PN	Pn	10 15 42.2	+0.2
PUZ				SN	S	10 16 10.6	-1.1
KNZ	**Kokohu**	**1.99**	**158**	PN	Pn	10 15 46.3	+0.3
BKZ	**Black Stump Fm**	**1.99**	**185**	PN	Pn	10 15 46.2	+0.1
PXZ	**Pawanui**	**2.85**	**178**	PN	Pn	10 15 54.3	-0.4
WAZ	**Wanganui**	**2.90**	**207**	PN	Pn	10 15 55.9	+0.6
TSZ	**Takapari Road**	**2.93**	**191**	PN	Pn	10 15 55.2	-0.4
KIW	**Kapiti Island**	**3.93**	**200**	PN	Pn	10 16 05.3	-1.6
CAW	**Cannon Point**	**4.12**	**198**	PN	Pn	10 16 07.3	-2.0
DUWZ	**D'Urville Isla**	**4.22**	**210**	PN	Pn	10 16 08.4	-2.0
SNZO	**South Karori**	**4.41**	**200**	PN	Pn	10 16 10.5	-2.2
TCW	**Tory Channel**	**4.45**	**204**	PN	Pn	10 16 11.2	-1.9
QRZ	**Quartz Range**	**4.88**	**221**	PN	Pn	10 16 15.7	-2.8
KHZ	**Kahutara**	**5.77**	**204**	PN	Pn	10 16 27.3	-2.1

MAN 10 10:29:23.9, 1389N×12003E, h133km, mb2.7, ML4.2, MS3.9, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.26**	**126**	*e*P	Pn	10 29 43.0	+0.8
LUBP				*e*S	Sn	10 29 58.0	+1.8
BUSP	**Coron**	**1.88**	**175**	*e*P	Pn	10 29 57.3	+0.7
BUSP				*e*S	Sn	10 30 23.2	+1.6
SCZP	**Santa Cruz**	**1.88**	**357**	*e*P	Pn	10 29 57.9	+1.3
SCZP				*e*S	Sn	10 30 23.1	+1.5
BOLP	**Bolinao**	**2.48**	**357**	*e*P	Pn	10 30 04.4	+0.4
BOLP				*e*S	Sn	10 30 35.9	+1.1

MAN 10 10:30:40.2, 1136N×12599E, h26km, mb3.6, ML4.8, MS2.3, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.59**	**294**	*e*P	Pb	10 30 52.9	+0.8
BESP				*e*S	Sb	10 31 02.3	+2.3
PLP	**Palo**	**1.01**	**259**	*e*P	Pn	10 30 57.1	-1.7
PLP				*e*S	Sb	10 31 07.7	-4.3
OCLP	**Ormoc**	**1.39**	**257**	*e*P	Pn	10 31 05.1	+1.2
SCPH	**Surigao**	**1.64**	**197**	*e*P	Pn	10 31 07.3	-0.1
SCPH				*e*S	Sn	10 31 28.9	+1.2
MSLP	**Maasin**	**1.65**	**222**	*e*P	Pn	10 31 07.8	+0.3
MSLP				*e*S	Sn	10 31 28.4	+0.6
LLP	**Lapu-Lapu**	**2.24**	**243**	*e*P	Pn	10 31 17.5	+1.9
LLP				*e*S	Sn	10 31 44.2	+1.7
TBP	**Tagbilaran**	**2.67**	**232**	*e*P	Pn	10 31 30.6	+9.0
TBP				*e*S	Sn	10 32 00.4	+7.3
PVCP	**Virac**	**2.86**	**321**	*e*P	Pn	10 31 25.2	+1.1
CGP	**Cagayan de Oro**	**3.16**	**204**	*e*P	Pn	10 31 28.2	0.0
CGP				*e*S	Sn	10 32 01.5	-3.5
GUIM	**Jordan**	**3.42**	**258**	*e*P	Pn	10 31 32.8	+1.0
BUKP	**Musuan**	**3.58**	**195**	*e*P	Pn	10 31 35.6	+1.6
PAGZ	**Pagadian**	**4.33**	**217**	*e*P	Pn	10 31 46.3	+1.9

*NEIC **10** 10:35:40.8, 38.13S×17648E, h152km, MG4.2(WEL), After WEL.*

WEL 10 10:35:41.0±0.2, 3814S×17649E, h149km±1km, ML4.2/22, 1D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAZ	**Tarawera**	**0.10**	**170**	⇓PN	Pn	10 36 01.5	+0.5
TAZ	**Tarawera**	**0.10**	**170**	P	Pn	10 36 01.5	+0.5
LIRZ	**Lichensteins R**	**0.15**	**328**	PN	Pn	10 36 01.2	+0.2
LIRZ	**Lichensteins R**	**0.15**	**328**	P	Pn	10 36 01.3	+0.3
PATZ	**Paeroa**	**0.30**	**216**	PN	Pn	10 36 01.8	+0.4
PATZ	**Paeroa**	**0.30**	**216**	P	Pn	10 36 01.9	+0.5
TGRZ	**Tauranga**	**0.44**	**336**	PN	Pn	10 36 02.0	0.0
TGRZ				SN	Sn	10 36 18.5	+0.6
TGRZ	**Tauranga**	**0.44**	**336**	P	Pn	10 36 02.0	+0.1
TGRZ				S	Sn	10 36 18.6	+0.8
URZ	**Urewera**	**0.51**	**104**	PN	Pn	10 36 02.1	-0.2
URZ				SN	Sn	10 36 17.8	-0.5
URZ	**Urewera**	**0.51**	**104**	P	Pn	10 36 02.1	-0.1
HATZ	**Hinemaiaia**	**0.81**	**202**	PN	Pn	10 36 04.3	+0.1
HATZ	**Hinemaiaia**	**0.81**	**202**	P	Pn	10 36 04.3	+0.1
WATZ	**Wairara**	**0.82**	**226**	PN	Pn	10 36 04.5	+0.3
WATZ	**Wairara**	**0.82**	**226**	P	Pn	10 36 04.5	+0.3
WIZ	**White Island**	**0.82**	**43**	PN	Pn	10 36 03.8	-0.4
WIZ	**White Island**	**0.82**	**43**	P	Pn	10 36 03.1	-1.1
MWZ	**Matawai**	**0.84**	**104**	PN	Pn	10 36 04.6	+0.2
MWZ				SN	Sn	10 36 22.3	+0.1
MWZ	**Matawai**	**0.84**	**104**	P	Pn	10 36 04.6	+0.2
TOZ	**Tahuroa Road**	**0.88**	**297**	PN	Pn	10 36 04.8	+0.1
TOZ				SN	Sn	10 36 22.9	+0.2
TOZ	**Tahuroa Road**	**0.88**	**297**	P	Pn	10 36 04.8	+0.1
TOZ				S	Sn	10 36 23.4	+0.7
RATZ	**Rangitukua**	**0.92**	**217**	PN	Pn	10 36 05.2	+0.2
RATZ	**Rangitukua**	**0.92**	**217**	P	Pn	10 36 05.2	+0.2
RITZ	**Rihia Road**	**0.97**	**210**	PN	Pn	10 36 05.9	+0.4
RITZ	**Rihia Road**	**0.97**	**210**	P	Pn	10 36 06.0	+0.6
BKZ	**Black Stump Fm**	**1.03**	**180**	PN	Pn	10 36 06.0	+0.1
BKZ				SN	Sn	10 36 24.5	-0.3
BKZ	**Black Stump Fm**	**1.03**	**180**	P	Pn	10 36 06.0	+0.1
WTVZ	**West Tongariro**	**1.21**	**215**	PN	Pn	10 36 07.6	+0.1
WTVZ	**West Tongariro**	**1.21**	**215**	P	Pn	10 36 07.6	+0.1
TWVZ	**Taurewa**	**1.24**	**221**	PN	Pn	10 36 07.9	0.0
TWVZ	**Taurewa**	**1.24**	**221**	P	Pn	10 36 07.9	0.0
NGZ	**Ngauruhoe**	**1.25**	**213**	PN	Pn	10 36 08.0	+0.1
NGZ	**Ngauruhoe**	**1.25**	**213**	P	Pn	10 36 08.0	+0.1
KNZ	**Kokohu**	**1.28**	**134**	PN	Pn	10 36 08.7	+0.4
KNZ				SN	Sn	10 36 28.4	-0.7
KNZ	**Kokohu**	**1.28**	**134**	P	Pn	10 36 08.7	+0.5
WPVZ	**Whakapapa**	**1.30**	**214**	PN	Pn	10 36 08.6	+0.2
WPVZ	**Whakapapa**	**1.30**	**214**	P	Pn	10 36 08.6	+0.2
TUVZ	**Tukino**	**1.30**	**210**	PN	Pn	10 36 08.8	+0.3
TUVZ	**Tukino**	**1.30**	**210**	P	Pn	10 36 08.8	+0.3
FWVZ	**Far West T-bar**	**1.34**	**213**	PN	Pn	10 36 08.7	0.0
FWVZ	**Far West T-bar**	**1.34**	**213**	P	Pn	10 36 08.7	-0.1
HIZ	**Hauiti**	**1.34**	**253**	PN	Pn	10 36 08.9	+0.1
HIZ				SN	Sn	10 36 30.2	+0.1
HIZ	**Hauiti**	**1.34**	**253**	P	Pn	10 36 09.0	+0.2
DRZ	**Dome Shelter**	**1.35**	**212**	PN	Pn	10 36 09.3	+0.4
TRVZ	**Turoa**	**1.37**	**212**	PN	Pn	10 36 09.2	0.0
WNVZ	**Wahianoa**	**1.38**	**210**	PN	Pn	10 36 09.3	+0.1
WNVZ	**Wahianoa**	**1.38**	**210**	P	Pn	10 36 09.4	+0.2
MOVZ	**Moawhango**	**1.39**	**204**	PN	Pn	10 36 09.0	-0.4
MOVZ				SN	Sn	10 36 30.0	-1.0
PUZ	**Puketiti**	**1.40**	**88**	PN	Pn	10 36 09.5	+0.1
PUZ				SN	Sn	10 36 29.9	-1.2
PUZ	**Puketiti**	**1.40**	**88**	P	Pn	10 36 09.5	+0.1
PKVZ	**Pokaka**	**1.46**	**217**	PN	Pn	10 36 10.0	0.0
PKVZ				SN	Sn	10 36 31.7	-0.5
MTVZ	**Mangateitei**	**1.48**	**212**	PN	Pn	10 36 10.3	0.0
KUZ	**Kuaotunu**	**1.52**	**336**	PN	Pn	10 36 10.2	-0.4
MXZ	**Matakaoa Point**	**1.55**	**69**	PN	Pn	10 36 11.1	+0.1
MXZ				SN	Sn	10 36 33.5	-0.5
MXZ	**Matakaoa Point**	**1.55**	**69**	P	Pn	10 36 11.1	+0.1
VRZ	**Vera Road**	**1.68**	**233**	PN	Pn	10 36 12.4	0.0
VRZ	**Vera Road**	**1.68**	**233**	P	Pn	10 36 12.4	0.0
OTAZ	**Otara**	**1.72**

3.2nm,0.2s
PTEO Sao Teotonio 3.55 83 *e*P Pn 10 57 44.2 -1.1
PTEO *e*S Sn 10 58 24.0 -3.9
PLOU Loures 3.58 61 *e*Pn Pn 10 57 44.5 -1.3
PLOU *e*Sn Sn 10 58 26.0 -2.8
PLOU
9.8nm,0.1s
MORF Marmelete 3.60 87 *e*P Pn 10 57 44.6 -1.4
MORF *e*S Sn 10 58 24.3 -4.8
MORF *e*S Sn 10 58 24.3 -4.8
MORF AML AML 10 58 27.1
comp=N,9.3nm,0.2s
MORF Marmelete 3.60 87 *e*P Pn 10 57 44.6 -1.4
MORF *e*S Sn 10 58 24.3 -4.8
MOE Montemor 4.03 69 *e*Pn Pn 10 57 50.5 -1.4
MOE *e*Sn Sn 10 58 37.1 -2.6
PBEJ Beja 4.28 77 *e*Pn Pn 10 57 53.7 -1.7
PBEJ *e*Sn Sn 10 58 42.3 -3.7
PBEJ
comp=N,2.9nm,0.1s
PTOM Tomar 4.44 56 *e*Pn Pn 10 57 56.1 -1.5
PTOM *e*Sn Sn 10 58 46.6 -3.4
PTOM
comp=N,6.4nm,0.1s
EGRO El Granado 4.53 84 Pn Pn 10 57 57.8 -1.0
comp=N,1.1nm,0.1s,SNR=11
EGRO Sn Sn 10 58 48.6 -3.6
comp=N,2.4nm,0.3s,SNR=6.3
EGRO El Granado 4.53 84 P Pn 10 57 57.8 -1.0
EGRO S Sn 10 58 48.6 -3.6
EGRO El Granado 4.53 84 P Pn 10 57 57.8 -1.0
comp=N,1.1nm,0.1s,SNR=11
EGRO S Sn 10 58 48.6 -3.6
comp=N,2.4nm,0.3s,SNR=6.3
EBAD Badajoz 5.10 70 Pn Pn 10 58 06.0 -0.6
comp=N,1.3nm,0.1s,SNR=8.1
EBAD Sn Sn 10 59 01.7 -4.4
comp=N,0.8nm,0.1s,SNR=7.9
EBAD Badajoz 5.10 70 P Pn 10 58 06.0 -0.6
comp=N,1.3nm,0.1s,SNR=8.1
EBAD S Sn 10 59 01.7 -4.4
comp=N,0.8nm,0.1s,SNR=7.9
PCBR Castelo Branco 5.18 58 *e*Pn Pn 10 58 05.3 -2.4
PCBR *e*Sn Sn 10 59 04.7 -3.4
PCBR
comp=N,1.8nm,0.3s
EMIN Mina Concepcio 5.19 82 Pn Pn 10 58 07.1 -0.8
comp=N,0.3nm,0.1s,SNR=9.6
EMIN Sn Sn 10 59 03.5 -4.9
comp=N,0.6nm,0.1s,SNR=6.1
EMIN Mina Concepcio 5.19 82 P Pn 10 58 07.1 -0.8
comp=N,0.3nm,0.1s,SNR=9.6
EMIN S Sn 10 59 03.5 -4.9
comp=N,0.6nm,0.1s,SNR=6.1
PVIS Viseu 5.40 48 *e*Sn Sn 10 59 08.9 -4.7
MTE Manteigas 5.42 52 *e*Sn Sn 10 59 10.9 -3.3
MTE
comp=N,6.4nm,0.4s
MTE Manteigas 5.42 52 Sn Sn 10 59 10.9 -3.3
comp=N,3.2nm,0.4s
ESPR Espera 5.85 91 Pn Pn 10 58 16.6 -0.4
comp=N,3.4nm,0.2s,SNR=6.6
ESPR Sn Sn 10 59 20.0 -4.7
comp=N,0.5nm,0.1s,SNR=7.9
ESPR Espera 5.85 91 P Pn 10 58 16.6 -0.3
comp=N,3.4nm,0.2s,SNR=6.6
ESPR S Sn 10 59 20.0 -4.7
comp=N,0.5nm,0.1s,SNR=7.9
PVRL Vila Real 5.87 44 *e*Sn Sn 10 59 20.4 -4.7
PVRL
comp=N,4.6nm,0.1s
PVRL Vila Real 5.87 44 Sn Sn 10 59 20.4 -4.7
comp=N,2.3nm,0.1s
PCAB Cabril 6.00 40 *e*Sn Sn 10 59 23.5 -5.0
PCAB
comp=N,6.8nm,0.3s
PCAB Cabril 6.00 40 Sn Sn 10 59 23.5 -5.0
comp=N,3.4nm,0.3s
EZAM Zamans 6.02 33 Sn Sn 10 59 22.0 -7.0
comp=N,1.4nm,0.1s,SNR=7.9
ELOB Lobios 6.10 39 Pn Pn 10 58 19.5 -0.9
comp=N,0.6nm,0.1s,SNR=7.9
ELOB Sn Sn 10 59 25.1 -5.8
comp=N,2.0nm,0.1s,SNR=7.9
ELOB Lobios 6.10 39 P Pn 10 58 19.5 -0.9
comp=N,0.6nm,0.1s,SNR=7.9
ELOB S Sn 10 59 25.1 -5.8
comp=N,2.0nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.58 28 Sn Sn 10 59 33.8 -8.9
comp=N,3.5nm,0.1s,SNR=7.9
ECAL Calabor 6.86 44 Pn Pn 10 58 30.3 -0.5
comp=N,1.0nm,0.1s,SNR=5.9
ECAL Sn Sn 10 59 43.2 -6.3
comp=N,0.6nm,0.1s,SNR=7.9
ECAL Calabor 6.86 44 P Pn 10 58 30.3 -0.5
ECAL S Sn 10 59 43.1 -6.3
ECAL Calabor 6.86 44 P Pn 10 58 30.3 -0.5
comp=N,1.0nm,0.1s,SNR=5.9
ECAL S Sn 10 59 43.2 -6.3
comp=N,0.6nm,0.1s,SNR=7.9
EADA Adamuz 6.87 79 Pn Pn 10 58 29.7 -1.3
comp=N,0.8nm,0.2s,SNR=7.9
EADA Sn Sn 10 59 43.2 -6.7
comp=N,0.4nm,0.1s,SNR=7.9
EADA Adamuz 6.87 79 P Pn 10 58 29.7 -1.3
comp=N,0.8nm,0.2s,SNR=7.9
EADA S Sn 10 59 43.2 -6.7
comp=N,0.4nm,0.1s,SNR=7.9
ERUA La Rua 6.95 40 Sn Sn 10 59 45.3 -6.6
comp=N,0.9nm,0.2s,SNR=7.9
ESDC Sonseca Array 7.63 68 Pn Pn 10 58 40.8 -0.6
comp=N,1.3nm,0.1s,baz=254,slow=13,SNR=3.7
ESDC Sonseca Array 7.63 68 P Pn 10 58 40.8 -0.5
comp=N,1.3nm,0.1s,SNR=3.7
EPON Pontenova 7.65 35 Pn Pn 10 58 40.5 -1.2
comp=N,0.3nm,0.1s,SNR=7.9
EPON Sn Sn 11 00 01.1 -8.0
comp=N,0.6nm,0.1s,SNR=7.9
EPON Pontenova 7.65 35 P Pn 10 58 40.5 -1.2
comp=N,0.3nm,0.1s,SNR=7.9
EPON S Sn 11 00 01.1 -8.0
comp=N,0.6nm,0.1s,SNR=7.9

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*IDC **10** 10:58:49.5±2.9, 673S×15467E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/16, mbtmp3.9/7, ML3.2/2, MS3.7/1, Ms1 3.6/1, ms1mx2.5/18, Error ellipse: s-maj=67.1km s-min=35.0km az=105.0*
*ISCJB **10** 10:58:57.0±4.8, 68S±02×1543E±02, h52km±37km, mb3.7/5, MS3.6/1, Error ellipse: s-maj=35.1km s-min=30.2km az=34.8*
ISC 10 10:58:58.6±4.4, 68S±02×1544E±02, h55km±32km, n8, σ0°39/9, mb3.7/5, MS3.6/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.60**	**250**	Pn	**Pn**	**11 00 47.0**	**+0.3**
	1.6nm,0.3s,baz=38,slow=7.0,SNR=5.4						
PMG				Sn	**Sn**	**11 02 11.1**	**-0.3**
	0.5nm,0.3s,baz=266,slow=19,SNR=2.3						
CTA	**Charters Tower**	**15.37**	**210**	Pn	**Pn**	**11 02 31.7**	**-0.3**
	0.1nm,0.3s,baz=18,slow=16,SNR=2.1						
WB2	**Warramunga Arr**	**23.41**	**234**	*e*P	**P**	**11 04 02.9**	**+0.2**
WRA	**Warramunga Arr**	**23.42**	**234**	P	**P**	**11 04 02.6**	**-0.2**
	2.1nm,0.9s,mb3.5,baz=60,slow=10,SNR=20						
ASAR	**Alice Springs**	**25.84**	**227**	P	**P**	**11 04 25.7**	**+0.9**
	0.6nm,0.6s,mb3.3,baz=59,slow=8.7,SNR=6.4						
STKA	**Stephens Creek**	**27.64**	**204**	P	**P**	**11 04 40.6**	**-0.4**
	2.5nm,0.7s,mb4.0,baz=36,slow=13,SNR=6.9						
STKA				LR	LR	11 13 57.7	
	comp=Z,139nm,18.8s,MS3.6,baz=210,slow=33						
FITZ	**Fitzroy Crossi**	**30.17**	**246**	P	**P**	**11 05 03.6**	**+0.1**
	2.0nm,0.7s,mb4.0,baz=28,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**82.87**	**319**	P	**P**	**11 11 16.9**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=97,slow=5.2,SNR=4.8						

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*ISCJB **10** 11:08:23.2±0.2, 3484N±002×2638E±002, h10km, mb3.9/25, MS3.0/4, Error ellipse: s-maj=3.1km s-min=2.5km az=51.5*
*MOS **10** 11:08:23.0±0.9, 3472N×2635E, h22km, mb4.2/16, Error ellipse: s-maj=8.2km s-min=4.6km az=116.9*
*CSEM **10** 11:08:25.8±0.1, 3480N×2631E, h40km, mb4.1/15, Ms2.7, Error ellipse: s-maj=2.5km s-min=1.3km az=40.0*
*NEIC **10** 11:08:26.6, 35.16N×2638E, h6km, mb3.9/23, ML4.3(ATH), After ATH,*
*ATH **10** 11:08:26.5, 35.15N×2640E, h6km, MD4.2/15, ML4.3*
*IDC **10** 11:08:27.2±2.6, 3493N×2646E, h22km±17km, mb3.8/12, mb1 3.8/18, mb1mx3.7/28, mbtmp3.8/18, ML3.8/6, MS3.2/3, Ms1 3.2/3, ms1mx2.6/28, Error ellipse: s-maj=20.5km s-min=13.7km az=0.0*
*HLW **10** 11:08:29.8, 3474N×2669E, h12km, Mb3.8*
ISC 10 11:08:25.5±0.2, 3492N±002×2638E±002, h10km, n196, σ1°25/210, mb4.0/24, MS3.0/4, 13C-6D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.56**	**266**	⇑*i*PB	**Pg**	**11 08 38.7**	**+2.3**
NPS	**Neapolis**	**0.72**	**299**	*e*PB	**Pg**	**11 08 38.5**	**-0.8**
NPS	**Neapolis**	**0.72**	**299**	*e*Pb	**Pg**	**11 08 37.5**	**-1.8**
KARP	**Karpathos**	**0.90**	**45**	⇓*i*PB	**Pg**	**11 08 41.1**	**-1.6**
KARP				*e*SB	**Sg**	**11 08 51.0**	**-3.4**
IDI	**Anoyia**	**1.28**	**287**	Pg	**Pg**	**11 08 51.3**	**+1.3**
	80nm,0.3s,baz=127,slow=16,SNR=222						
IDI				Lg		11 09 10.7	
	171nm,0.3s,baz=336,slow=19,SNR=12						
SANT	**Santorini**	**1.63**	**333**	*e*Pn	**Pn**	**11 08 55.2**	**+1.0**
SANT	**Santorini**	**1.63**	**333**	*e*Pn	**Pn**	**11 08 55.2**	**+1.0**
NISR	**Nisiros**	**1.80**	**20**	*e*PG	**Pn**	**11 08 56.0**	**-0.5**
VAM	**Vamos**	**1.85**	**286**	*e*PN	**Pg**	**11 09 01.2**	**+0.2**
VAM				*e*SN	**Sg**	**11 09 25.6**	**+0.6**
GVD	**Gavdhos**	**1.89**	**268**	*e*Pn	**Pg**	**11 09 01.7**	**+0.1**
GVD	**Gavdhos**	**1.89**	**268**	*e*Pn	**Pg**	**11 09 01.7**	**+0.1**
ARG	**Arkhangelos**	**1.92**	**47**	⇓*i*PN	**Pn**	**11 08 59.6**	**+1.4**
DAT	**Datca**	**2.05**	**28**	PN	**Pn**	**11 09 00.0**	**0.0**
APE	**Apeiranthos**	**2.25**	**342**	PN	**Pn**	**11 09 02.5**	**-0.3**
APE				SN	**Sn**	**11 09 29.5**	**-1.1**
APE	**Apeiranthos**	**2.25**	**342**	*e*PN	**Pn**	**11 09 03.5**	**+0.7**
BODT	**Bodrum**	**2.27**	**19**	PN	**Pn**	**11 09 02.9**	**-0.1**
BDRM	**Kayabasi**	**2.31**	**22**	*i* P	**Pn**	**11 09 03.9**	**+0.3**
BDRM				*i* S	**Sn**	**11 09 41.7**	**+10**
BDRM	**Kayabasi**	**2.31**	**22**	*i* P	**Pn**	**11 09 03.8**	**+0.3**
BDRM				*i* S	**Sn**	**11 09 41.7**	**+10**
DALT	**Dalyan (Mudla)**	**2.60**	**44**	PN	**Pn**	**11 09 08.4**	**+0.8**
MLSB	**Milas**	**2.63**	**25**	*e*PN	**Pn**	**11 09 08.7**	**+0.8**
YER	**Yerkesik**	**2.70**	**34**	PN	**Pn**	**11 09 09.8**	**+0.9**
FETY	**Fethiye**	**2.79**	**51**	PN	**Pn**	**11 09 09.6**	**-0.5**
KSL	**Kastellorizon**	**2.89**	**64**	*e*PN	**Pn**	**11 09 14.0**	**+2.5**
AYDN	**Tasoluk**	**2.99**	**23**	*i* P	**Pn**	**11 09 14.1**	**+1.1**
AYDN				*i* S	**Sg**	**11 10 06.1**	**+4.5**
KYTH	**Kithira**	**3.04**	**297**	*e*PN	**Pn**	**11 09 16.5**	**+2.8**
VLI	**Veliai**	**3.33**	**304**	⇑*i*Pn	**Pn**	**11 09 19.6**	**+2.1**
VLI				*e*Sn	**Sn**	**11 09 57.9**	**+0.8**
ELL	**Elmali**	**3.40**	**56**	*e*PN	**Pn**	**11 09 18.3**	**-0.2**
URLA	**Izmir**	**3.44**	**3**	*i* P	**Pn**	**11 09 18.8**	**-0.3**
URLA				*i* S	**Sg**	**11 10 23.7**	**+7.8**
BLCB	**Balcova**	**3.50**	**9**	*e*PN	**Pn**	**11 09 20.0**	**+0.1**
IZM	**Izmir**	**3.54**	**11**	*e*PN	**Pn**	**11 09 20.1**	**-0.4**
DENT	**Denizli**	**3.55**	**36**	*e*PN	**Pn**	**11 09 21.5**	**+0.9**
SLUM		**3.56**	**196**	⇓P	**Pn**	**11 09 23.1**	**+2.5**
SLUM				S	**Sn**	**11 10 02.0**	**-0.7**
NAIG	**Nisos Aigina**	**3.67**	**321**	*e*PN	**Pn**	**11 09 24.5**	**+2.2**
NAIG	**Nisos Aigina**	**3.67**	**321**	*e*Pb	**Pn**	**11 09 25.5**	**+3.2**
ATH	**Athens Observa**	**3.73**	**326**	*e*PN	**Pn**	**11 09 25.0**	**+1.9**
MGER	**Gerania Oros**	**3.96**	**322**	*e*PN	**Pn**	**11 09 29.0**	**+2.7**
MGER	**Gerania Oros**	**3.96**	**322**	*e*Pb	**Pn**	**11 09 29.7**	**+3.4**
MANT	**Manisa**	**3.97**	**26**	*i* P	**Pn**	**11 09 27.9**	**+1.5**
MANT				*i* S	**Sg**	**11 10 42.2**	**+9.2**
AKS	**Akhisar**	**4.12**	**16**	*e*PN	**Pn**	**11 09 29.4**	**+1.0**
ITM	**Ithomi**	**4.26**	**303**	*e*PN	**Pn**	**11 09 33.3**	**+3.0**
ISP	**Isparta**	**4.43**	**48**	*e*PN	**Pn**	**11 09 33.3**	**+0.6**
ISP	**Isparta**	**4.43**	**48**	*e*Pn	**Pn**	**11 09 31.1**	**-1.6**
TKTP	**Tekketepe**	**4.45**	**44**	*i* P	**Pn**	**11 09 34.5**	**+1.6**
TKTP				*i* S	**Sn**	**11 10 27.4**	**+2.7**
LKR	**Lokris**	**4.61**	**325**	*e*PN	**Pn**	**11 09 37.6**	**+2.5**
GDZ	**Gediz**	**4.85**	**30**	*i* P	**Pn**	**11 09 40.7**	**+2.3**
GDZ				*i* S	**Sb**	**11 10 47.8**	**-0.9**
RLS	**Riolos of Patr**	**5.05**	**310**	⇑*i*PN	**Pn**	**11 09 43.8**	**+2.6**
ALT	**Altintas**	**5.09**	**35**	*e*PN	**Pn**	**11 09 42.4**	**+0.6**
EVR	**Evrytania**	**5.42**	**319**	*e*PN	**Pn**	**11 09 48.2**	**+1.9**
ERMK	**Ermenek**	**5.58**	**70**	*i* P	**Pn**	**11 09 47.2**	**-1.3**
ERMK				*i* S	**Sn**	**11 10 38.2**	**-15**
SWA1		**5.67**	**186**	⇓P	**Pn**	**11 09 51.7**	**+2.0**
KONT	**Konya--Tatoy**	**5.69**	**56**	*e*PN	**Pn**	**11 09 49.5**	**-0.5**
SWA2		**5.71**	**188**	⇑P	**Pn**	**11 09 52.6**	**+2.3**
KIZT	**Kizilcal**	**5.92**	**46**	*e*PN	**Pn**	**11 09 53.1**	**-0.1**
ADVT	**Abdulvahap**	**6.12**	**25**	*e*P	**Pn**	**11 09 56.0**	**+0.1**
RDO	**Rodhopi**	**6.25**	**354**	*e*PN	**Pn**	**11 09 59.0**	**+1.2**
FYM	**Al Fayyum**	**6.54**	**142**	⇑P	**Pn**	**11 10 02.9**	**+0.2**
KDZ	**Kurdzhali**	**6.76**	**354**	*e*P	**Pn**	**11 10 05.0**	**+0.2**
KOT	**Kottamia**	**6.78**	**136**	⇓P	**Pn**	**11 10 04.9**	**-0.1**
KOT				S	**Sn**	**11 11 14.5**	**-7.7**
HSAF	**As Saff**	**6.86**	**139**	⇑P	**Pn**	**11 10 05.7**	**-0.4**
HHAG	**Hagoal**	**6.92**	**134**	⇓P	**Pn**	**11 10 06.8**	**-0.1**
AWBH		**6.92**	**161**	P	**Pn**	**11 10 07.7**	**+0.8**
GLL	**Jalalah**	**6.98**	**138**	⇑P	**Pn**	**11 10 07.2**	**-0.6**
MMB	**Musomiste**	**6.98**	**343**	*e*P	**Pn**	**11 10 12.0**	**+4.3**
ANTO	**Ankara**	**7.10**	**44**	*e*P	**Pn**	**11 10 09.0**	**-0.4**
ANTO				pmax	pmax		
	comp=Z,20nm,0.7s						
ANTO	**Ankara**	**7.10**	**44**	*e*Pn	**Pn**	**11 10 08.9**	**-0.5**
	comp=Z,20nm,0.7s						
ANTO	**Ankara**	**7.10**	**44**	*e*Pn	**Pn**	**11 10 08.9**	**-0.5**
	comp=Z,20nm,0.7s						
AMAG	**Maghara**	**7.16**	**125**	⇑P	**Pn**	**11 10 10.8**	**+0.6**
KKB	**Krupnik**	**7.40**	**341**	*e*P	**Pn**	**11 10 16.0**	**+2.4**
SUZ		**7.44**	**131**	⇑P	**Pn**	**11 10 13.8**	**-0.3**
BR131	**Keskin Array S**	**7.51**	**48**	*e*Pn	**Pn**	**11 10 14.6**	**-0.4**
	comp=Z,4.4nm,0.7s						
BR131	**Keskin Array S**	**7.51**	**48**	*e*Pn	**Pn**	**11 10 14.6**	**-0.4**
	comp=Z,4.4nm,0.7s						
BRTR	**Keskin Array B**	**7.51**	**48**	Pn	**Pn**	**11 10 13.7**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=218,slow=13,SNR=9.5						
ZAF		**7.68**	**135**	⇑P	**Pn**	**11 10 17.6**	**+0.3**
MMAI	**Mount Meron Ar**	**7.73**	**102**	Pn	**Pn**	**11 10 16.4**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=301,slow=12,SNR=5.7						
MMAI				Sn	**Sn**	**11 11 47.0**	**+1.3**
	comp=Z,3.6nm,0.3s,baz=308,slow=21,SNR=4.9						
ZNM		**7.80**	**133**	⇑P	**Pn**	**11 10 18.8**	**-0.2**
VTS	**Vitosha**	**8.05**	**343**	*e*P	**Pn**	**11 10 26.0**	**+3.6**
HNKL	**Nakhl**	**8.12**	**126**	⇑P	**Pn**	**11 10 23.2**	**-0.2**
HNKL	**Nakhl**	**8.12**	**126**	P	**Pn**	**11 10 23.2**	**-0.2**
TIP	**Timpagrande**	**8.79**	**302**	*e*Pn	**Pn**	**11 10 33.6**	**+1.0**
TIP	**Timpagrande**	**8.79**	**302**	*e*Pn	**Pn**	**11 10 33.6**	**+1.1**
HKAT	**Jabal Katrina**	**9.09**	**132**	⇑P	**Pn**	**11 10 36.5**	**-0.2**
ASF	**Jabal al Asfar**	**9.20**	**104**	Pn	**Pn**	**11 10 38.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=228,slow=12,SNR=2.6						
ASF				Sn	**Sn**	**11 12 20.5**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=3.1						
HHRG	**Al Ghardaqah**	**9.84**	**139**	P	**Pn**	**11 10 47.5**	**+0.5**
MLR	**Muntele Rosu**	**10.57**	**358**	Pn	**Pn**	**11 10 59.4**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=153,slow=6.2,SNR=3.5						
MLR				LR	LR	11 15 31.3	
	comp=Z,125nm,18.6s,baz=0.2,slow=40						
ANN	**Anapa**	**13.01**	**37**	*e*P	**Pn**	**11 11 36.2**	**+5.9**
ANN				pmax	pmax		
	comp=Z,58nm,1.7s						
ANN	**Anapa**	**13.01**	**37**	*e*P	**Pn**	**11 11 36.2**	**+5.9**
	comp=Z,58nm,1.7s						
SOC	**Sochi**	**13.46**	**46**	*e*P	**Pn**	**11 11 43.2**	**+6.7**
SOC				MLR	MLR		
	comp=Z,112nm,13.0s						
GNI	**Garni**	**15.47**	**65**	LR	LR	11 19 18.8	
	comp=Z,118nm,18.9s,baz=285,slow=42						
KIV	**Kislovodsk**	**15.47**	**49**	P	**Pn**	**11 12 11.0**	**+7.3**
KIV				pmax	pmax		
	comp=Z,18nm,1.3s						
PGF	**Pioggiola**	**15.54**	**305**	*e*P	**Pn**	**11 12 04.1**	**-0.5**
AKASG	**Malin Array Be**	**15.91**	**7**	Pn	**Pn**	**11 12 09.6**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=193,slow=11,SNR=8.3						
GERES	**GERESS Array B**	**16.78**	**330**	Pn	**Pn**	**11 12 21.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=137,slow=11,SNR=2.3						
KHC	**Kasperske Hory**	**17.06**	**330**	*e*P	**Pn**	**11 12 25.5**	**+1.5**
KHC				*ex*	x	11 12 30.2	
KHC	**Kasperske Hory**	**17.06**	**330**	*e*P	**Pn**	**11 12 20.6**	**-3.4**
KHC	**Kasperske Hory**	**17.06**	**330**	*e*P	**Pn**	**11 12 30.2**	**+6.2**
DPC	**Dobruska-Polom**	**17.08**	**338**	*e*P	**Pn**	**11 12 29.5**	**+5.2**
SBF	**Sospel**	**17.12**	**307**	*e*P	**Pn**	**11 12 24.2**	**-0.6**
PRU	**Pruhonice**	**17.38**	**334**	*e*P	**Pn**	**11 12 34.2**	**+6.2**
FRF	**La Foret Royal**	**17.52**	**305**	*e*P	**Pn**	**11 12 29.0**	**-0.8**
	comp=Z,16nm,1.0s						
FRF	**La Foret Royal**	**17.52**	**305**	*e*P	**Pn**	**11 12 29.0**	**-0.8**
FRF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FRF	**La Foret Royal**	**17.52**	**305**	*e*P	**Pn**	**11 12 29.0**	**-0.8**
	comp=Z,8.2nm,1.0s						
LMR	**La Mourre**	**17.53**	**305**	*e*P	**Pn**	**11 12 29.3**	**-0.6**
	comp=Z,14nm,0.9s						
LMR	**La Mourre**	**17.53**	**305**	*e*P	**Pn**	**11 12 29.3**	**-0.6**
LMR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LMR	**La Mourre**	**17.53**	**305**	*e*P	**Pn**	**11 12 29.3**	**-0.6**
	comp=Z,6.8nm,0.9s						
MBDF	**Montbardon**	**17.93**	**309**	*e*P	**Pn**	**11 12 34.6**	**-0.2**
	comp=Z,6.7nm,0.8s						
MBDF	**Montbardon**	**17.93**	**309**	*e*P	**Pn**	**11 12 34.6**	**-0.2**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MBDF	**Montbardon**	**17.93**	**309**	*e*P	**Pn**	**11 12 34.6**	**-0.2**
	comp=Z,3.3nm,0.8s						
LPG	**La Plagne**	**18.30**	**311**	*e*P	**Pn**	**11 12 39.0**	**-0.3**
	comp=Z,11nm,0.7s						
LPG	**La Plagne**	**18.30**	**311**	*e*P	**Pn**	**11 12 39.0**	**-0.3**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LPG	**La Plagne**	**18.30**	**311**	*e*P	**Pn**	**11 12 39.0**	**-0.3**
	comp=Z,5.6nm,0.7s						
LPL	**La Plagne**	**18.32**	**311**	*e*P	**Pn**	**11 12 39.2**	**-0.4**
	comp=Z,12nm,0.8s						
LPL	**La Plagne**	**18.32**	**311**	*e*P	**Pn**	**11 12 39.2**	**-0.4**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LPL	**La Plagne**	**18.32**	**311**	*e*P	**Pn**	**11 12 39.2**	**-0.4**
	comp=Z,5.8nm,0.8s						
BRG	**Berggiesshubel**	**18.32**	**334**	*e*P	**Pn**	**11 12 46.3**	**+6.6**
	comp=Z,2.4nm,1.0s						
BRG	**Berggiesshubel**	**18.32**	**334**	*e*P	**Pn**	**11 12 46.3**	**+6.6**
BRG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CLL	**Collm**	**19.02**	**334**	*e*P	**Pn**	**11 12 45.0**	**-3.1**
CLL				*i* PP		11 12 57.5	
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**19.02**	**334**	*i* P	**Pn**	**11 12 53.0**	**+4.9**
CABF	**La Chapelle**	**19.24**	**313**	*e*P	**Pn**	**11 12 49.1**	**-1.7**
	comp=Z,12nm,0.9s						
CABF	**La Chapelle**	**19.24**	**313**	*e*P	**Pn**	**11 12 49.1**	**-1.7**
CABF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CABF	**La Chapelle**	**19.24**	**313**	*e*P	**Pn**	**11 12 49.1**	**-1.7**
	comp=Z,5.9nm,0.9s						
VIVF	**Saint-Julien-l**	**19.34**	**307**	*e*P	**Pn**	**11 12 50.5**	**-1.5**
HINF	**Hinteralfeld**	**19.45**	**317**	*e*P	**Pn**	**11 12 52.5**	**-0.8**
	comp=Z,6.0nm,0.7s						
HINF	**Hinteralfeld**	**19.45**	**317**	*e*P	**Pn**	**11 12 52.5**	**-0.8**
HINF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HINF	**Hinteralfeld**	**19.45**	**317**	*e*P	**Pn**	**11 12 52.5**	**-0.8**
	comp=Z,3.0nm,0.7s						
CDF	**Champ du Feu**	**19.56**	**319**	*e*P	**Pn**	**11 12 53.5**	**-1.1**
	comp=Z,4.9nm,0.7s						
CDF	**Champ du Feu**	**19.56**	**319**	*e*P	**Pn**	**11 12 53.5**	**-1.1**
CDF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CDF	**Champ du Feu**	**19.56**	**319**	*e*P	**Pn**	**11 12 53.5**	**-1.1**
	comp=Z,2.5nm,0.7s						
SMF	**Signal de Mont**	**20.62**	**311**	*e*P	**P**	**11 13 03.9**	**-1.0**
	comp=Z,10.0nm,0.6s						
SMF	**Signal de Mont**	**20.62**	**311**	*e*P	**P**	**11 13 03.9**	**-1.0**
SMF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SMF	**Signal de Mont**	**20.62**	**311**	*e*P	**P**	**11 13 03.9**	**-1.0**
	comp=Z,5.0nm,0.6s						
LOR	**Lormes**	**20.90**	**313**	*e*P	**P**	**11 13 06.9**	**-1.0**
	comp=Z,15nm,0.8s						
LOR				*e*R			
	comp=Z,42nm,22.8s						
LOR	**Lormes**	**20.90**	**313**	*e*P	**P**	**11 13 06.9**	**-1.0**
LOR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LOR				MLR	MLR		
	comp=Z,40nm,22.8s,MS2.7						
LOR	**Lormes**	**20.90**	**313**	*e*P	**P**	**11 13 06.9**	**-1.0**
	comp=Z,7.7nm,0.8s						
LOR				LR	LR		
	comp=Z,40nm,22.8s,MS2.7						
AVF	**Avril sur Loir**	**20.99**	**311**	*e*P	**P**	**11 13 08.1**	**-0.8**
	comp=Z,9.7nm,0.8s						
AVF	**Avril sur Loir**	**20.99**	**311**	*e*P	**P**	**11 13 08.1**	**-0.8**
AVF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AVF	**Avril sur Loir**	**20.99**	**311**	*e*P	**P**	**11 13 08.1**	**-0.8**
	comp=Z,4.8nm,0.8s						
SSF	**Saint Saulge**	**21.02**	**312**	*e*P	**P**	**11 13 08.0**	**-1.2**
	comp=Z,32nm,1.0s,mb4.3						
SSF	**Saint Saulge**	**21.02**	**312**	*e*P	**P**	**11 13 08.0**	**-1.2**
SSF				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.3						
SSF	**Saint Saulge**	**21.02**	**312**	*e*P	**P**	**11 13 08.0**	**-1.2**
	comp=Z,16nm,1.0s,mb4.3						
BGF	**Bois d'Agland**	**21.20**	**310**	*e*P	**P**	**11 13 10.4**	**-0.8**
	comp=Z,14nm,0.8s,mb4.0						
BGF	**Bois d'Agland**	**21.20**	**310**	*e*P	**P**	**11 13 10.4**	**-0.8**
BGF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
BGF	**Bois d'Agland**	**21.20**	**310**	*e*P	**P**	**11 13 10.4**	**-0.8**
	comp=Z,7.2nm,0.8s,mb4.0						
RJF	**Les Rejaudoux**	**21.58**	**306**	*e*P	**P**	**11 13 13.1**	**-2.1**
RJF

AKTK	**Aktyubinsk**	**27.69**	**46**	P	**P**	**11 14 12.9**	**-0.7**
AKTK	**Aktyubinsk**	**27.69**	**46**	P	**P**	**11 14 12.9**	**-0.7**
AKTO	**Aktyubinsk**	**27.69**	**46**	P	**P**	**11 14 12.9**	**-0.7**
	comp=Z,1.0nm,0.4s,mb3.8,baz=236,slow=8.4,SNR=5.6						
EKA	**Eskdalemuir Ar**	**28.82**	**324**	P	**P**	**11 14 23.4**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.0,baz=130,slow=10,SNR=4.3						
TORD	**Torodi Ar. Bea**	**31.11**	**232**	P	**P**	**11 14 44.9**	**+0.9**
	comp=Z,2.2nm,0.7s,mb4.1,baz=36,slow=8.4,SNR=23						
ARCES	**ARCESS Array B**	**34.67**	**359**	P	**P**	**11 15 13.0**	**-2.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=185,slow=9.1,SNR=3.8						
ARCES	**ARCESS Array B**	**34.67**	**359**	P	**P**	**11 15 13.0**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZRNK	**Zerenda**	**34.96**	**46**	*e*P	**P**	**11 15 17.3**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**34.96**	**46**	*e*P	**P**	**11 15 17.3**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**34.96**	**46**	*e*P	**P**	**11 15 17.3**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**36.07**	**45**	*e*P	**P**	**11 15 26.7**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**36.07**	**45**	*e*P	**P**	**11 15 26.7**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**36.07**	**45**	*e*P	**P**	**11 15 26.7**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.2						
KURK	**Kurchatov**	**40.56**	**51**	*e*P	**P**	**11 16 04.3**	**-0.6**
KURK	**Kurchatov**	**40.56**	**51**	*e*P	**P**	**11 16 04.2**	**-0.7**
	comp=Z,2.4nm,0.6s,mb4.0						
KURK	**Kurchatov**	**40.56**	**51**	*e*P	**P**	**11 16 04.2**	**-0.7**
	comp=Z,2.3nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**43.07**	**56**	P	**P**	**11 16 25.2**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.0,baz=280,slow=6.3,SNR=18						
MKAR	**Makanchi Array**	**43.07**	**56**	*i* P	**P**	**11 16 25.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**44.44**	**46**	P	**P**	**11 16 35.1**	**-1.4**
	comp=Z,1.1nm,0.6s,mb3.8,baz=166,slow=4.2,SNR=2.8						
ZAL	**Zalesovo**	**44.44**	**46**	P	**P**	**11 16 35.2**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**58.86**	**51**	P	**P**	**11 18 24.2**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=291,slow=6.7,SNR=4.5						
SCHQ	**Schefferville**	**64.02**	**320**	P	**P**	**11 18 59.1**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=73,slow=9.7,SNR=3.4						
YKA	**Yellowknife Ar**	**77.98**	**343**	P	**P**	**11 20 23.6**	**-0.4**
	comp=Z,0.2nm,0.7s,mb3.2,baz=36,slow=5.4,SNR=3.9						
MCWV	**Mont Chateau**	**79.34**	**311**	*e*P	**P**	**11 20 30.6**	**-0.8**
	comp=Z,1.0nm,0.5s,mb5.0						
MCWV	**Mont Chateau**	**79.34**	**311**	*e*P	**P**	**11 20 30.6**	**-0.8**
	comp=Z,1.0nm,0.5s,mb5.0						
DCID1	**Drake Creek**	**92.82**	**331**	*e*P	**P**	**11 21 38.4**	**+0.2**
DCID1	**Drake Creek**	**92.82**	**331**	*e*P	**P**	**11 21 38.4**	**+0.2**

*IDC **10** 11:14:21.4±1.1, 423S×10227E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.1/21, mbtmp4.2/13, ML3.5/1, Error ellipse: s-maj=47.2km s-min=13.5km az=52.0*
*ISCJB **10** 11:14:22.1±6.3, 413S±01×1024E±01, h11km±39km, mb4.5/20, Error ellipse: s-maj=31.3km s-min=8.6km az=95.8*
*MOS **10** 11:14:25.2±0.9, 4045×10239E, h33km, mb4.5/5, Error ellipse: s-maj=23.9km s-min=10.7km az=122.4*
*NEIC **10** 11:14:26.6±0.5, 4165×10239E, h30km, mb4.8/8, Error ellipse: s-maj=19.5km s-min=6.4km az=49.0*
NEIC Felt [II] at Bengkulu.

ISC 10 11:14:27.5±4.9, 41S±01×1024E±01, h33km±34km, n42, σ1§10/38, mb4.5/20, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.70**	**333**	Pn	**Pn**	**11 16 14.9**	**-2.3**
	0.7nm,0.3s,baz=113,slow=15,SNR=2.4						
KULM	**Kulim**	**9.49**	**349**	*e*Pn	**Pn**	**11 16 41.7**	**-0.2**
KKM	**Kota Kinabalu**	**17.06**	**54**	*e*P	**Pn**	**11 18 23.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**26.64**	**123**	P	**P**	**11 20 01.9**	**-1.2**
	2.7nm,0.6s,mb4.0,baz=314,slow=9.4,SNR=12						
WRA	**Warramunga Arr**	**34.85**	**120**	P	**P**	**11 21 15.7**	**+0.2**
	1.0nm,0.4s,mb4.1,baz=300,slow=8.8,SNR=56						
WRA				PcP	PcP	11 23 47.6	-0.5
	0.9nm,0.6s,baz=302,slow=2.1,SNR=7.9						
WRAB	**Tennant Creek**	**34.85**	**119**	*e*P	**P**	**11 21 16.1**	**+0.5**
WB2	**Warramunga Arr**	**34.86**	**120**	⇑*i*P	**P**	**11 21 15.6**	**0.0**
JIRN	**Jiri**	**35.24**	**335**	*e*P	**P**	**11 21 20.9**	**+1.9**
	12nm,0.3s,mb5.4						
GUN	**Gumba**	**35.60**	**334**	*e*P	**P**	**11 21 23.6**	**+1.6**
	50nm,0.4s,mb5.8						
DMN	**Daman**	**35.68**	**333**	*e*P	**P**	**11 21 24.0**	**+1.3**
KKN	**Kakani**	**35.76**	**333**	*e*P	**P**	**11 21 24.4**	**+1.1**
ASPA	**Alice Springs**	**36.06**	**126**	*e*P	**P**	**11 21 26.5**	**+0.5**
AS31	**Alice Springs**	**36.06**	**126**	*e*P	**P**	**11 21 26.5**	**+0.5**
ASAR	**Alice Springs**	**36.06**	**126**	P	**P**	**11 21 26.5**	**+0.5**
	1.5nm,0.7s,mb4.0,baz=295,slow=7.1,SNR=18						
ASAR				PcP	PcP	11 23 51.6	0.0
	0.5nm,0.5s,baz=310,slow=2.8,SNR=5.0						
GKN	**Gorkha**	**36.23**	**333**	*e*P	**P**	**11 21 28.5**	**+1.1**
	13nm,0.4s,mb5.2						
KOLN	**Koldanda**	**36.52**	**331**	*e*P	**P**	**11 21 31.2**	**+1.4**
	6.7nm,0.3s,mb5.0						
CTA	**Charters Tower**	**45.52**	**114**	*e*P	**P**	**11 22 44.9**	**+1.0**
	2.6nm,1.1s,mb4.1						
CTA	**Charters Tower**	**45.52**	**114**	P	**P**	**11 22 44.3**	**+0.4**
	3.1nm,0.9s,mb4.2,baz=280,slow=11,SNR=4.3						
CTA	**Charters Tower**	**45.52**	**114**	*e*P	**P**	**11 22 44.9**	**+1.0**
CTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CTAO	**Charters Tower**	**45.52**	**114**	*e*P	**P**	**11 22 44.9**	**+1.0**
STKA	**Stephens Creek**	**45.95**	**132**	*e*P	**P**	**11 22 46.4**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**45.95**	**132**	P	**P**	**11 22 46.0**	**-1.3**
	comp=Z,3.0nm,0.6s,mb4.4,baz=288,slow=9.9,SNR=8.8						
STKA	**Stephens Creek**	**45.95**	**132**	*e*P	**P**	**11 22 46.6**	**-0.7**
SONM	**Songino Array**	**51.83**	**3**	P	**P**	**11 23 33.9**	**+1.5**
	comp=Z,2.6nm,0.6s,mb4.3,baz=186,slow=8.9,SNR=23						
MJAR	**Matsushiro Ar**	**52.44**	**36**	P	**P**	**11 23 35.7**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=213,slow=7.4,SNR=7.9						
MKAR	**Makanchi Array**	**53.71**	**343**	P	**P**	**11 23 46.4**	**+0.1**
	comp=Z,4.0nm,0.4s,mb4.7,baz=152,slow=8.9,SNR=48						
ZAL	**Zalesovo**	**59.68**	**348**	P	**P**	**11 24 27.9**	**-0.7**
	comp=Z,3.5nm,0.6s,mb4.6,baz=279,slow=4.0,SNR=15						
ZAL	**Zalesovo**	**59.68**	**348**	P	**P**	**11 24 27.9**	**-0.8**
BVAR	**Borovoye Array**	**62.99**	**339**	P	**P**	**11 24 50.2**	**-0.9**
	comp=Z,2.4nm,0.5s,mb4.6,baz=141,slow=9.6,SNR=9.1						
BRVK	**Borovoye**	**63.05**	**339**	*e*P	**P**	**11 24 50.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**63.05**	**339**	*e*P	**P**	**11 24 50.7**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**63.43**	**339**	*e*P	**P**	**11 24 53.7**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**63.43**	**339**	*e*P	**P**	**11 24 53.7**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**63.43**	**338**	*e*P	**P**	**11 24 53.2**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**63.43**	**338**	*e*P	**P**	**11 24 53.2**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.4						
BRTR	**Keskin Array B**	**76.52**	**312**	P	**P**	**11 26 12.7**	**-1.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=106,slow=9.1,SNR=3.6						
TIXI	**Tiksi**	**77.55**	**8**	*e*P	**P**	**11 26 17.5**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**87.08**	**332**	P	**P**	**11 27 09.2**	**-0.7**
	comp=Z,1.2nm,0.8s,mb4.2,baz=120,slow=6.8,SNR=3.6						
DCID1	**Drake Creek**	**130.71**	**32**	*e*PKPdf	PKPdf	11 33 34.3	-0.9
WCI	**Wyandotte Cave**	**145.11**	**12**	*e*PKP2	PKPab	11 33 59.2	-1.9
MIAR	**Mount Ida**	**146.25**	**24**	*e*PKP2	PKPab	11 34 04.8	-0.6
JCT	**Junction City**	**146.40**	**36**	*e*PKPbc	PKPbc	11 34 05.8	+0.7
JCT				*e*PKPab	PKPab	11 34 07.2	+1.2

*ISCJB **10** 11:18:31.2±0.6, 3487N±002×2650E±003, h10km±4km, mb3.9/12, MS3.0/1, Error ellipse: s-maj=3.7km s-min=3.3km az=134.5*
*IDC **10** 11:18:31.5±1.1, 3475N×2653E, h0km, mb3.9/7, mb1 3.8/13, mb1mx3.7/27, mbtmp3.7/13, ML3.6/6, MS3.2/1, Ms1 3.2/1, ms1mx2.3/29, Error ellipse: s-maj=22.2km s-min=12.8km az=9.0*
*CSEM **10** 11:18:32.7±0.1, 3487N×2662E, h20km, ML4.3, Error ellipse: s-maj=2.3km s-min=1.2km az=60.0*
*NEIC **10** 11:18:33.8, 3508N×2646E, h15km, mb3.8/9, ML4.3(ATH),*
After ATH.
*ATH **10** 11:18:33.9, 3509N×2646E, h15km±1km, MD4.0/14, ML4.3*
*HLW **10** 11:18:36.2, 3484N×2664E, h17km, Mb3.7*

ISC 10 11:18:32.5±0.7, 3492N±002×2648E±003, h5km±5km, n109, σ1§14/125, mb3.9/11, MS3.0/1, 13C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.65**	**266**	⇑*i*PB	**Pg**	**11 18 46.0**	**+1.1**
XRY	**Khrisi**	**0.65**	**266**	⇑*i*Pb	**Pg**	**11 18 45.5**	**+0.6**
NPS	**Neapolis**	**0.79**	**296**	⇑*i*PN	**Pg**	**11 18 48.0**	**+0.4**
NPS				*e*SN	**Sg**	**11 18 57.3**	**-0.6**
KARP	**Karpathos**	**0.84**	**42**	*e*PN	**Pg**	**11 18 48.0**	**-0.6**
KARP				*e*SN	**Sg**	**11 18 58.4**	**-1.0**
IDI	**Anoyia**	**1.35**	**286**	Pg	**Pg**	**11 18 57.9**	**-0.6**
	52nm,0.3s,baz=96,slow=14,SNR=183						
IDI				Lg		11 19 17.7	
	62nm,0.3s,baz=328,slow=16,SNR=7.3						
SANT	**Santorini**	**1.67**	**330**	*e*Pn	**Pn**	**11 19 01.2**	**-1.2**
SANT				*e*Sn	**Sn**	**11 19 23.9**	**-0.3**
SANT	**Santorini**	**1.67**	**330**	*e*Pn	**Pn**	**11 19 01.2**	**-1.2**
SANT				*e*Sn	**Sn**	**11 19 23.9**	**-0.3**
NISR	**Nisiros**	**1.77**	**17**	*e*PN	**Pn**	**11 19 03.5**	**-0.3**
ARG	**Arkhangelos**	**1.86**	**46**	*e*PN	**Pn**	**11 19 06.9**	**+1.8**
ARG				*e*SN	**Sn**	**11 19 30.0**	**+1.0**
VAM	**Vamos**	**1.93**	**285**	*e*PN	**Pn**	**11 19 08.5**	**+2.5**
VAM	**Vamos**	**1.93**	**285**	*e*Pn	**Pn**	**11 19 09.0**	**+3.0**
GVD	**Gavdhos**	**1.97**	**268**	*e*Pn	**Pn**	**11 19 10.4**	**+3.8**
GVD	**Gavdhos**	**1.97**	**268**	*e*Pn	**Pn**	**11 19 10.4**	**+3.9**
DAT	**Datca**	**2.01**	**26**	PN	**Pn**	**11 19 06.9**	**-0.2**
DAT				SN	**Sn**	**11 19 32.9**	**+0.2**
BODT	**Bodrum**	**2.24**	**17**	PN	**Pn**	**11 19 09.6**	**-0.7**
BODT				SN	**Sn**	**11 19 37.2**	**-1.1**
APE	**Apeiranthos**	**2.28**	**341**	PN	**Pn**	**11 19 10.2**	**-0.6**
APE	**Apeiranthos**	**2.28**	**341**	*e*PN	**Pn**	**11 19 10.7**	**-0.1**
BDRM	**Kayabasi**	**2.28**	**20**	*i* P	**Pn**	**11 19 10.5**	**-0.3**
BDRM				*i* S	**Sn**	**11 19 35.6**	**-3.6**
DALT	**Dalyan (Mudla)**	**2.54**	**43**	*e*PN	**Pn**	**11 19 14.1**	**-0.3**
MLSB	**Milas**	**2.59**	**24**	*e*PN	**Pn**	**11 19 14.5**	**-0.6**
YER	**Yerkesik**	**2.65**	**33**	PN	**Pn**	**11 19 16.2**	**+0.3**
FETY	**Fethiye**	**2.72**	**50**	PN	**Pn**	**11 19 17.0**	**+0.1**
SMG	**Samos**	**2.80**	**6**	*e*PN	**Pn**	**11 19 17.6**	**-0.3**
KSL	**Kastellorizon**	**2.81**	**63**	*e*PN	**Pn**	**11 19 20.0**	**+1.9**
AYDN	**Tasoluk**	**2.96**	**22**	*i* P	**Pn**	**11 19 20.8**	**+0.6**
AYDN				*i* S	**Sn**	**11 19 54.9**	**-1.1**
KYTH	**Kithira**	**3.12**	**297**	*e*PN	**Pn**	**11 19 24.0**	**+1.7**
KYTH	**Kithira**	**3.12**	**297**	*e*Pn	**Pn**	**11 19 21.0**	**-1.3**
ELL	**Elmali**	**3.33**	**56**	*e*PN	**Pn**	**11 19 25.1**	**-0.1**
VLI	**Veliai**	**3.39**	**303**	⇓*i*PN	**Pn**	**11 19 26.7**	**+0.6**
VLI				*e*SN	**Sn**	**11 20 06.3**	**-0.4**
URLA	**Izmir**	**3.43**	**2**	*i* P	**Pn**	**11 19 23.4**	**-3.3**
URLA				*i* S	**Sn**	**11 20 08.9**	**+1.2**
DNZL	**Cakiroluk**	**3.45**	**36**	*i* P	**Pn**	**11 19 27.8**	**+0.9**
DNZL				*i* S	**Sn**	**11 20 03.8**	**-4.4**
BLCB	**Balcova**	**3.49**	**7**	*e*PN	**Pn**	**11 19 27.0**	**-0.4**
DENT	**Denizli**	**3.50**	**35**	*e*PN	**Pn**	**11 19 28.2**	**+0.6**
IZM	**Izmir**	**3.53**	**10**	*e*PN	**Pn**	**11 19 28.4**	**+0.5**
SLUM		**3.58**	**198**	⇑P	**Pn**	**11 19 29.9**	**+1.2**
SLUM				S	**Sn**	**11 20 08.3**	**-3.1**
NAIG	**Nisos Aigina**	**3.72**	**320**	*e*PN	**Pn**	**11 19 31.5**	**+0.9**
PTL	**Penteli**	**3.77**	**327**	*e*PN	**Pn**	**11 19 32.0**	**+0.8**
PTL	**Penteli**	**3.77**	**327**	*e*Pn	**Pn**	**11 19 33.0**	**+1.8**
ATH	**Athens Observa**	**3.77**	**325**	*e*PN	**Pn**	**11 19 31.9**	**+0.6**
MANT	**Manisa**	**3.93**	**24**	*i* P	**Pn**	**11 19 34.2**	**+0.7**
MANT				*i* S	**Sn**	**11 20 20.0**	**-0.1**
MGER	**Gerania Oros**	**4.01**	**321**	*e*PN	**Pn**	**11 19 35.0**	**+0.4**
AKS	**Akhisar**	**4.09**	**15**	*e*PN	**Pn**	**11 19 35.4**	**-0.3**
ITM	**Ithomi**	**4.32**	**303**	*e*Pn	**Pn**	**11 19 41.7**	**+2.8**
DST	**Dursunbey**	**4.98**	**19**	*e*PN	**Pn**	**11 19 47.2**	**-0.7**
HBRG	**Burj al 'Arab**	**5.18**	**146**	⇑P	**Pn**	**11 19 50.5**	**-0.1**
EVR	**Evrytania**	**5.47**	**318**	*e*PN	**Pn**	**11 19 57.0**	**+2.4**
ERMK	**Ermenek**	**5.50**	**70**	*i* P	**Pn**	**11 20 01.9**	**+6.8**
ERMK				*i* S	**Sn**	**11 21 00.1**	**+1.3**
SWA1		**5.68**	**187**	⇑P	**Pn**	**11 19 58.8**	**+1.2**
SWA1				S	**Sn**	**11 20 58.8**	**-5.1**
SWA2		**5.73**	**189**	⇑P	**Pn**	**11 19 59.0**	**+0.8**
KIZT	**Kizilcal**	**5.86**	**46**	*e*P	**Pn**	**11 19 59.3**	**-0.7**
FYM	**Al Fayyum**	**6.49**	**142**	⇓P	**Pn**	**11 20 08.4**	**-0.3**
KOT	**Kottamia**	**6.72**	**136**	⇓P	**Pn**	**11 20 11.2**	**-0.7**
KOT				S	**Sn**	**11 21 21.7**	**-7.1**
KOT	**Kottamia**	**6.72**	**136**	P	**Pn**	**11 20 11.1**	**-0.8**
HSAF	**As Saff**	**6.81**	**140**	⇑P	**Pn**	**11 20 12.8**	**-0.2**
AWBH		**6.90**	**162**	⇓P	**Pn**	**11 20 14.4**	**+0.1**
GLL	**Jalalah**	**6.93**	**139**	⇑P	**Pn**	**11 20 14.1**	**-0.5**
AMAG	**Maghara**	**7.09**	**125**	⇑P	**Pn**	**11 20 16.7**	**-0.2**
SUZ		**7.38**	**132**	⇑P	**Pn**	**11 20 20.6**	**-0.3**
BR131	**Keskin Array S**	**7.45**	**48**	*e*Pn	**Pn**	**11 20 22.8**	**+1.0**
	1.1nm,0.4s						
BR131	**Keskin Array S**	**7.45**	**48**	*e*Pn	**Pn**	**11 20 22.8**	**+1.0**
BRTR	**Keskin Array B**	**7.45**	**48**	Pn	**Pn**	**11 20 22.5**	**+0.7**
	0.2nm,0.3s,baz=216,slow=12,SNR=5.8						
ZAF		**7.62**	**136**	⇑P	**Pn**	**11 20 24.2**	**0.0**
MMAI	**Mount Meron Ar**	**7.65**	**102**	Pn	**Pn**	**11 20 23.7**	**-1.0**
	1.5nm,0.3s,baz=293,slow=12,SNR=5.5						
HFRF	**Wahat Farafira**	**7.91**	**168**	⇓P	**Pn**	**11 20 28.3**	**+0.2**
HNKL	**Nakhl**	**8.06**	**126**	P	**Pn**	**11 20 30.1**	**-0.1**
HKAT	**Jabal Katrina**	**9.03**	**133**	⇑P	**Pn**	**11 20 43.5**	**0.0**
ASF	**Jabal al Asfar**	**9.12**	**105**	Pn	**Pn**	**11 20 43.6**	**-1.1**
	0.3nm,0.3s,baz=325,slow=5.0,SNR=2.0						
MLR	**Muntele Rosu**	**10.57**	**358**	Pn	**Pn**	**11 21 08.5**	**+3.9**
	0.2nm,0.3s,baz=226,slow=8.3,SNR=3.0						
PGF	**Pioggiola**	**15.61**	**304**	*e*P	**Pn**	**11 22 15.6**	**+2.5**
	10nm,0.8s						
PGF	**Pioggiola**	**15.61**	**304**	*e*P	**Pn**	**11 22 15.6**	**+2.5**
	5.2nm,0.8s						
AKASG	**Malin Array Be**	**15.90**	**6**	Pn	**Pn**	**11 22 19.0**	**+2.1**
	1.0nm,0.3s,baz=193,slow=11,SNR=5.4						
GERES	**GERESS Array B**	**16.82**	**330**	Pn	**Pn**	**11 22 31.7**	**+2.9**
	0.1nm,0.3s,baz=127,slow=15,SNR=2.4						
SBF	**Sospel**	**17.19**	**307**	*e*P	**Pn**	**11 22 34.7**	**+1.3**
	13nm,0.7s						
SBF	**Sospel**	**17.19**	**307**	*e*P	**Pn**	**11 22 34.7**	**+1.3**
	6.3nm,0.7s						
FRF	**La Foret Royal**	**17.59**	**305**	*e*P	**Pn**	**11 22 38.8**	**+0.4**
MBDF	**Montbardon**	**17.99**	**309**	*e*P	**Pn**	**11 22 43.1**	**-0.2**
LPG	**La Plagne**	**18.36**	**311**	*e*P	**Pn**	**11 22 46.6**	**-1.2**
	3.9nm,0.5s						
LPG	**La Plagne**	**18.36**	**311**	*e*P	**Pn**	**11 22 46.6**	**-1.2**
	2.0nm,0.5s						
LPL	**La Plagne**	**18.38**	**311**	*e*P	**Pn**	**11 22 46.9**	**-1.2**
	2.7nm,0.3s						
LPL	**La Plagne**	**18.38**	**311**	*e*P	**Pn**	**11 22 46.9**	**-1.2**
	1.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**18.64**	**309**	*e*P	**Pn**	**11 22 50.8**	**-0.5**
CABF	**La Chapelle**	**19.30**	**313**	*e*P	**Pn**	**11 22 56.3**	**-3.0**
VIVF	**Saint-Julien-l**	**19.40**	**307**	*e*P	**Pn**	**11 22 59.1**	**-1.4**
HINF	**Hinteralfeld**	**19.50**	**317**	*e*P	**Pn**	**11 22 57.3**	**-4.4**
SMF	**Signal de Mont**	**20.68**	**311**	*e*P	**P**	**11 23 11.1**	**-2.2**
LOR	**Lormes**	**20.96**	**313**	*e*P	**P**	**11 23 13.6**	**-2.7**
	6.1nm,0.8s						
LOR	**Lormes**	**20.96**	**313**	*e*P	**P**	**11 23 13.6**	**-2.7**
	3.0nm,0.8s						
AVF	**Avril sur Loir**	**21.05**	**311**	*e*P	**P**	**11 23 14.6**	**-2.7**
	11nm,0.9s,mb3.9						
AVF	**Avril sur Loir**	**21.05**	**311**	*e*P	**P**	**11 23 14.6**	**-2.7**
	5.6nm,0.9s,mb3.9						
SSF	**Saint Saulge**	**21.07**	**312**	*e*P	**P**	**11 23 14.9**	**-2.7**
	13nm,0.8s,mb4.0						
SSF	**Saint Saulge**	**21.07**	**312**	*e*P	**P**	**11 23 14.9**	**-2.7**
	6.4nm,0.8s,mb4.0						
BAIF	**Baives**	**22.21**	**320**	*e*P	**P**	**11 23 24.0**	**-5.7**
	3.8nm,0.4s,mb3.9						
BAIF	**Baives**	**22.21**	**320**	*e*P	**P**	**11 23 24.0**	**-5.7**
	1.9nm,0.4s,mb3.9						
MFF	**Saint Martin d**	**23.18**	**308**	*e*P	**P**	**11 23 36.8**	**-3.3**
LDF	**La Druitiere**	**23.94**	**313**	*e*P	**P**	**11 23 42.6**	**-5.0**
FLN	**La Foliniere**	**24.23**	**313**	*e*P	**P**	**11 23 45.4**	**-4.8**
	10nm,0.7s,mb4.1						
FLN	**La Foliniere**	**24.23**	**313**	*e*P	**P**	**11 23 45.4**	**-4.8**
	5.2nm,0.7s,mb4.1						
MDT	**Midelt**	**25.85**	**274**	LR	LR	11 37 26.5	
	comp=Z,45nm,18.5s,MS3.0,baz=212,slow=44						
HFS	**Hagfors**	**26.56**	**346**	P	**P**	**11 24 13.2**	**+1.8**
	0.6nm,0.6s,mb3.3,baz=138,slow=13,SNR=4.3						
EKA	**Eskdalemuir Ar**	**28.86**	**324**	P	**P**	**11 24 32.0**	**+0.1**
	0.9nm,0.5s,mb3.8,baz=123,slow=10.0,SNR=6.2						
EKA	**Eskdalemuir Ar**	**28.86**	**324**	P	**P**	**11 24 32.0**	**0.0**
TORD	**Torodi Ar. Bea**	**31.18**	**232**	P	**P**	**11 24 51.8**	**-0.6**
	1.2nm,0.4s,mb4.0,baz=36,slow=7.9,SNR=19						
ARCES	**ARCESS Array B**	**34.67**	**359**	P	**P**	**11 25 22.4**	**-0.6**
	1.0nm,0.6s,mb3.9,baz=186,slow=8.5,SNR=4.0						
ARCES	**ARCESS Array B**	**34.67**	**359**	P	**P**	**11 25 22.4**	**-0.6**
MKAR	**Makanchi Array**	**43.00**	**56**	P	**P**	**11 26 32.2**	**-0.6**
	0.9nm,0.6s,mb3.7,baz=16,slow=0.5,SNR=7.1						
MKAR	**Makanchi Array**	**43.00**	**56**	P	**P**	**11 26 32.2**	**-0.6**
SONM	**Songino Array**	**58.80**	**51**	P	**P**	**11 28 32.2**	**+0.4**
	0.4nm,0.3s,mb3.9,baz=271,slow=8.0,SNR=3.6						
SCHQ	**Schefferville**	**64.07**	**320**	P	**P**	**11 29 09.3**	**+1.9**
	1.5nm,0.7s,mb4.1,baz=45,slow=2.9,SNR=4.0						
SCHQ	**Schefferville**	**64.07**	**320**	P	**P**	**11 29 09.3**	**+1.9**

*ATH **10** 11:42:58.8, 3637N×2782E, h45km±6km, MD3.2/3*
*ISCJB **10** 11:42:59.3±0.9, 3634N±004×2789E±006, h54km±9km, Error ellipse: s-maj=8.7km s-min=6.8km az=177.4*
*CSEM **10** 11:42:59.1±0.1, 3636N×2788E, h40km, MD2.8, Error ellipse: s-maj=2.8km s-min=2.1km az=70.0*
*ISK **10** 11:42:59.2, 3631N×2791E, h31km, MD2.8*

ISC 10 11:42:59.7±0.9, 3634N±004×2789E±007, h53km±10km, n12, σ0§48/21, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.23**	**122**	⇑*i*P	**Pn**	**11 43 08.4**	**-0.1**
ARG				*e*S	**Sn**	**11 43 14.5**	**-0.2**
DAT	**Datca**	**0.46**	**327**	PG	**Pn**	**11 43 10.7**	**0.0**
DAT				SG	**Sn**	**11 43 18.9**	**+0.3**
DALT	**Dalyan (Mudla)**	**0.74**	**54**	PG	**Pn**	**11 43 14.1**	**+0.1**
BDRM	**Kayabasi**	**0.81**	**334**	*i* P	**Pn**	**11 43 14.7**	**-0.2**
BDRM				*i* S	**Sn**	**11 43 26.1**	**+0.1**
BDRM	**Kayabasi**	**0.81**	**334**	*i* P	**Pn**	**11 43 14.7**	**-0.2**
BDRM				*i* S	**Sn**	**11 43 26.1**	**0.0**
YER	**Yerkesik**	**0.86**	**22**	*e*PG	**Pn**	**11 43 16.0**	**+0.5**
YER				*e*SG	**Sn**	**11 43 27.5**	**+0.3**
BODT	**Bodrum**	**0.86**	**327**	PG	**Pn**	**11 43 15.2**	**-0.4**
BODT				SG	**Sn**	**11 43 27.3**	**0.0**
KARP	**Karpathos**	**0.98**	**217**	*e*P	**Pn**	**11 43 17.4**	**+0.1**
KARP				*e*S	**Sn**	**11 43 30.5**	**+0.3**
FETY	**Fethiye**	**1.01**	**72**	*e*PG	**Pn**	**11 43 16.6**	**-0.9**
AYDN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VYHS				*e*PG	**Pg**	**12 20 12.7**	**+0.7**
VYHS				*e*		12 21 04.7	
GRA1	**Grafenberg Arr**	**3.57**	**241**	Sg	**Sg**	**12 20 59.1**	**+0.3**
GRF	**Grafenberg Arr**	**3.57**	**241**	*e*Sg	**Sg**	**12 20 59.1**	**+0.2**
CONA	**Conrad Observa**	**3.61**	**182**	⇑*i*Pn	**Pn**	**12 20 01.5**	**+0.2**
CONA				⇓*i*Sg	**Sg**	**12 20 59.4**	**-0.7**
	comp=Z,20nm,0.5s						
MOA	**Molln**	**3.86**	**198**	⇑*i*Pn	**Pn**	**12 20 05.4**	**+0.7**
MOA				⇓*i*Sg	**Sg**	**12 21 07.9**	**-0.2**
	comp=Z,26nm,0.7s						
STHS	**Stebnicka Huta**	**3.95**	**120**	*e*PN	**Pn**	**12 20 07.3**	**+1.3**
STHS				*e*PG	**Pg**	**12 20 19.3**	**-0.6**
STHS				*e*SG	**Sg**	**12 21 13.8**	**+2.7**
KECS	**Kecovo**	**4.19**	**135**	*e*PG	**Pg**	**12 20 24.2**	**-0.3**
KECS				*e*SG	**Sg**	**12 21 19.7**	**+0.8**
DAVOX	**Davos**	**6.23**	**223**	Lg		12 22 24.4	
	comp=Z,0.2nm,0.3s,baz=354,slow=16,SNR=2.1						
AKASG	**Malin Array Be**	**8.35**	**91**	Pn	**Pn**	**12 20 57.9**	**-8.6**
	comp=Z,0.5nm,0.3s,baz=280,slow=12,SNR=2.4						
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**12 21 17.7**	**+6.2**
	comp=Z,0.2nm,0.3s,baz=173,slow=19,SNR=6.6						
HFS				Sn	**Sn**	**12 22 57.0**	**+6.4**
	comp=Z,0.1nm,0.3s,baz=164,slow=33,SNR=2.6						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**12 21 45.1**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=206,slow=13,SNR=6.7						
FINES				Sn	**Sn**	**12 23 46.1**	**-9.4**
	comp=Z,0.2nm,0.3s,baz=212,slow=18,SNR=3.1						

MAN 10 12:24:21.2, 1373N×12290E, h12km, mb2.2, ML3.8, MS2.5, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.46**	**208**	*e*P	Pg	12 24 31.8	+1.5
AUQP				*e*S	Sg	12 24 41.7	+5.4
GQP	**Guinayangan**	**0.47**	**292**	⇑*i*P	Pg	12 24 30.3	-0.2
GQP				*i* S	Sg	12 24 38.6	+1.9
BOAC	**Boac**	**1.06**	**255**	*e*P	Pb	12 24 40.5	-0.9
BOAC				*e*S	Sb	12 24 57.0	+1.8
PVCP	**Virac**	**1.23**	**96**	⇓*i*P	Pn	12 24 42.3	-1.9
PVCP				*i* S	Sb	12 25 01.9	+1.7
PVCP	**Virac**	**1.23**	**96**	*e*P	Pn	12 24 42.8	-1.4
PVCP				*e*S	Sb	12 25 00.7	+0.5
POLP	**Polilio Island**	**1.36**	**317**	*e*P	Pn	12 24 45.9	-0.1
POLP				*e*S	Sb	12 25 05.7	+1.9

*ROM **10** 12:31:31.5±0.1, 4023N×2000E, h10km, Md2.9/1, Ml2.9/2, Error ellipse: s-maj=1.9km s-min=0.8km az=126.0*
*CSEM **10** 12:31:33.2±0.3, 4022N×1964E, h0km±2km, MD3.6, Error ellipse: s-maj=4.5km s-min=3.6km az=161.0*
*NEIC **10** 12:31:33.4, 40.10N×1959E, h19km, MD3.6(ATH), ML2.9(ROM), After ATH.*
*ATH **10** 12:31:33.4, 40.10N×1959E, h19km±6km, MD3.6/4*
*ISCJB **10** 12:31:33.5±0.6, 40.16N±003×1970E±004, h2km±4km, Error ellipse: s-maj=5.0km s-min=4.3km az=74.4*
*THE **10** 12:31:35.4, 40.18N×1977E, h3km, ML3.3*

ISC 10 12:31:34.1±0.6, 4015N±003×1970E±004, h2km±4km, n25, σ0.97/40, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.28**	**59**	*e*Pg	**Pg**	**12 31 39.0**	**-0.4**
TPE				*e*Sg	**Sg**	**12 31 43.6**	**+0.5**
SRN	**Sarande**	**0.36**	**139**	*e*Pg	**Pg**	**12 31 40.1**	**-0.8**
SRN				*e*Sg	**Sg**	**12 31 47.9**	**+2.3**
KEK	**Kerkira**	**0.45**	**170**	*e*PB	**Pg**	**12 31 42.2**	**-0.4**
KEK				*e*SB	**Sg**	**12 31 48.0**	**-0.4**
KEK	**Kerkira**	**0.45**	**170**	Pg	**Pg**	**12 31 42.3**	**-0.3**
KEK				*e*Sb	**Sg**	**12 31 48.0**	**-0.4**
KEK				Sg	**Sg**	**12 31 50.4**	**+2.0**
	412nm,0.5s						
LSK	**Leskovik**	**0.69**	**90**	*e*Pg	**Pg**	**12 31 46.4**	**-0.9**
LSK				*i* Sg	**Sg**	**12 31 56.0**	**-0.3**
SCTE	**Santa Cesarea**	**0.95**	**266**	Pg	**Pg**	**12 31 53.3**	**+1.1**
SCTE				Sg	**Sg**	**12 32 09.2**	**+4.7**
	352nm,0.4s						
JAN	**Janina**	**1.02**	**119**	*e*PB	**Pb**	**12 31 52.7**	**-1.7**
JAN				*e*SN	**Sn**	**12 32 08.2**	**-1.9**
LCI	**Lecce**	**1.23**	**279**	Pg	**Pg**	**12 31 57.8**	**+0.2**
	49nm,0.2s						
MEV	**Metsovon**	**1.23**	**107**	*e*Pg	**Pg**	**12 31 57.2**	**-0.5**
MEV				*e*Sg	**Sg**	**12 32 15.2**	**+1.5**
OHR	**Ohrid**	**1.27**	**41**	*e*Pn	**Pn**	**12 31 58.7**	**-0.1**
FNA	**Florina**	**1.43**	**63**	*e*Pg	**Pg**	**12 32 00.5**	**-0.9**
FNA				*e*Sg	**Sg**	**12 32 19.9**	**0.0**
BIA	**Bitola**	**1.51**	**54**	*e*Pn	**Pn**	**12 32 03.3**	**+1.2**
BIA				*e*Sn	**Sn**	**12 32 24.6**	**+2.3**
BIA	**Bitola**	**1.51**	**54**	*e*Pn	**Pn**	**12 32 03.2**	**+1.1**
BIA				*e*Sn	**Sn**	**12 32 24.6**	**+2.2**
LKD	**Levkas**	**1.62**	**153**	*e*Pb	**Pb**	**12 32 03.3**	**-1.4**
LKD				*e*Sb	**Sb**	**12 32 26.4**	**+0.9**
EVR	**Evrytania**	**2.05**	**126**	*e*PN	**Pn**	**12 32 10.3**	**+0.8**
VLS	**Valsamata**	**2.09**	**160**	*e*PB	**Pn**	**12 32 09.1**	**-1.0**
LIT	**Litokhoron**	**2.14**	**90**	*e*Pn	**Pn**	**12 32 11.2**	**+0.4**
LIT				*e*Sn	**Sn**	**12 32 37.7**	**-0.2**
GRG	**Griva**	**2.21**	**68**	*e*Pn	**Pn**	**12 32 10.7**	**-1.1**
SKO	**Skopje**	**2.25**	**35**	*e*Pn	**Pb**	**12 32 15.7**	**+0.4**
AGG	**Agios Georgios**	**2.33**	**118**	*e*Pn	**Pn**	**12 32 14.2**	**+0.9**
AGG				*e*Sn	**Sn**	**12 32 42.7**	**+0.2**
SG1	**Sgolgore (BA)**	**2.40**	**288**	*e*Pn	**Pn**	**12 32 13.9**	**-0.5**
STIP	**Stip**	**2.44**	**50**	*e*Pn	**Pg**	**12 32 20.5**	**-0.2**
VAY	**Valandovo**	**2.48**	**61**	*e*Pn	**Pb**	**12 32 18.9**	**-0.4**
VAY	**Valandovo**	**2.48**	**61**	*e*Pn	**Pb**	**12 32 18.8**	**-0.5**
XOR	**Xorichti**	**2.81**	**105**	*e*Pn	**Pn**	**12 32 20.5**	**+0.6**

KRSC 10 13:06:27.2±1.1, 4915N×15626E, h60km±25km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.78**	**345**	*e*P		13 06 56.6	
ALID				*e*S		13 07 18.1	
PAU	**Pauzhetka**	**2.35**	**8**	*i* P		13 07 04.9	
PAU				*i* S		13 07 32.4	
PAU				Smax			
	650nm,0.1s						
MIPR	**Malaya Ipel'ka**	**3.15**	**6**	*e*P		13 07 15.9	
MIPR				*e*S		13 07 51.2	
RUS	**Russkaya**	**3.58**	**23**	*e*P		13 07 21.4	
RUS				*e*S		13 08 00.3	
GRL	**Gorelyy**	**3.59**	**18**	*e*P		13 07 22.7	
GRL				*e*S		13 03.7	
APC	**Apacha**	**3.82**	**8**	*e*P		13 07 26.2	
APC				Smax			
	20nm,1.1s						
KRMR	**Karymshinskiy**	**3.87**	**17**	*e*P		13 07 27.0	
PET	**Petropavlovsk**	**4.16**	**20**	*e*P		13 07 30.8	
PET				*e*S		13 08 16.6	
UGLR	**Uglovaya**	**4.37**	**21**	*e*P		13 07 33.7	
UGLR				*e*S		13 08 23.3	
AVH	**Avacha**	**4.41**	**20**	*e*P		13 07 34.0	
AVH				*e*S		13 08 24.7	
KOK	**Koryaka**	**4.41**	**19**	*e*P		13 07 34.5	
KOK				*e*S		13 08 24.4	
SMAR	**Somma**	**4.42**	**20**	*e*P		13 07 34.5	
SDLR	**Sedlovina**	**4.45**	**21**	*e*P		13 07 33.8	
SDLR				*e*S		13 08 21.4	
NLC	**Nalytchevo**	**4.47**	**25**	*e*S		13 08 21.2	
SPN	**Mys Shipunski**	**4.61**	**30**	*e*P		13 07 36.1	
SPN				*e*S		13 08 25.4	
GNL	**Ganaly**	**4.67**	**12**	*e*P		13 07 37.9	
MKZ	**Mys Kozlova**	**6.38**	**30**	*e*P		13 07 58.8	
MKZ				*e*S		13 09 06.2	
KBTR	**Krutoberegovo**	**8.11**	**27**	*e*P		13 08 24.0	
BKI	**Bering**	**8.50**	**41**	*e*S		13 09 55.6	

*MOS **10** 13:17:23.2±0.9, 2355S×17989E, h510km, mb4.7/21, Error ellipse: s-maj=12.7km s-min=8.5km az=46.0*
*ISCJB **10** 13:17:25.8±0.7, 2383S±004×17987E±004, h544km±9km, mb4.7/64, Error ellipse: s-maj=6.7km s-min=4.7km az=85.7*
*BJI **10** 13:17:26.1, 2390S×18000E, h542km, mB4.8, mb4.3*
*NEIC **10** 13:17:26.1±0.7, 2387S×17996E, h542km±8km, mb4.7/55, Error ellipse: s-maj=7.1km s-min=5.2km az=152.0*
*IDC **10** 13:17:26.4±0.9, 2370S×17991E, h539km±8km, mb4.2/15, mb1 4.2/16, mb1mx4.2/17, mbtmp5.0/16, Error ellipse: s-maj=11.8km s-min=9.7km az=11.0*

ISC 10 13:17:27.1±0.6, 2397S±004×17997E±004, h551km±7km, h542km±5km: pP-P, n418, σ0.75/342, mb4.7/64, 104C-84D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.59**	**161**	P	**P**	**13 19 03.1**	**+1.1**
	435nm,0.3s,baz=73,slow=23,SNR=19						
RAO				S	**S**	**13 20 21.8**	**+2.2**
	100nm,0.3s,baz=89,slow=23,SNR=4.3						
RAO	**Raoul Island**	**5.59**	**161**	*e*P	**P**	**13 19 02.8**	**+0.8**
RAO				*e*S	**S**	**13 20 11.2**	**-8.4**
RAO				pmax	pmax		
	comp=Z,1μm,0.3s						
RAO	**Raoul Island**	**5.59**	**161**	*e*Pn	**P**	**13 19 02.8**	**+0.8**
	comp=Z,1μm,0.3s						
RAO				*e*S	**S**	**13 20 11.2**	**-8.5**
DZM	**Mont Dzumac**	**12.60**	**276**	P	**P**	**13 20 12.2**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=107,slow=14,SNR=17						
AFI	**Afiamalu**	**12.69**	**39**	P	**P**	**13 20 06.3**	**-6.4**
	comp=Z,6.7nm,0.3s,baz=15,slow=7.0,SNR=11						
AFI				S	**S**	**13 22 14.3**	**-15**
	comp=Z,2.9nm,0.3s,baz=27,slow=18,SNR=3.8						
AFI	**Afiamalu**	**12.69**	**39**	*e*P	**P**	**13 20 05.6**	**-7.1**
AFI				*e*S	**S**	**13 22 15.0**	**-14**
AFI				pmax	pmax		
	comp=Z,116nm,1.0s						
AFI	**Afiamalu**	**12.69**	**39**	*e*P	**P**	**13 20 05.6**	**-7.0**
	comp=Z,116nm,1.0s						
AFI				*e*S	**S**	**13 22 15.0**	**-14**
NOUC	**Port Laguerre**	**12.72**	**276**	*e*P	**P**	**13 20 12.2**	**-0.7**
WIZ	**White Island**	**13.72**	**189**	P	**P**	**13 20 23.4**	**+0.1**
PUZ	**Puketiti**	**14.13**	**186**	*e*PN	**P**	**13 20 25.6**	**-2.0**
PUZ				SN	**S**	**13 22 54.9**	**-1.3**
PUZ	**Puketiti**	**14.13**	**186**	*e*P	**P**	**13 20 26.3**	**-1.3**
URZ	**Urewera**	**14.45**	**189**	P	**P**	**13 20 29.0**	**-1.8**
	comp=Z,6.0nm,0.3s,baz=358,slow=1.5,SNR=38						
URZ				S	**S**	**13 22 59.5**	**-2.6**
	comp=Z,5.0nm,0.3s,baz=51,slow=22,SNR=15						
URZ	**Urewera**	**14.45**	**189**	PN	**P**	**13 20 29.0**	**-1.8**
URZ	**Urewera**	**14.45**	**189**	*e*P	**P**	**13 20 29.0**	**-1.8**
MWZ	**Matawai**	**14.47**	**188**	PN	**P**	**13 20 29.2**	**-1.8**
MWZ	**Matawai**	**14.47**	**188**	*e*P	**P**	**13 20 29.0**	**-2.0**
HIZ	**Hauiti**	**15.14**	**196**	PN	**P**	**13 20 38.2**	**+0.3**
HIZ	**Hauiti**	**15.14**	**196**	*e*P	**P**	**13 20 39.8**	**+1.9**
BKZ	**Black Stump Fm**	**15.44**	**190**	PN	**P**	**13 20 38.5**	**-2.5**
BKZ				SN	**S**	**13 23 18.7**	**-1.3**
BKZ	**Black Stump Fm**	**15.44**	**190**	P	**P**	**13 20 38.5**	**-2.4**
MRZ	**Mangatainoka R**	**17.05**	**191**	PN	**P**	**13 20 54.1**	**-2.0**
MRZ				SN	**S**	**13 23 45.6**	**-1.0**
MRZ	**Mangatainoka R**	**17.05**	**191**	*e*P	**P**	**13 20 54.0**	**-2.1**
CAW	**Cannon Point**	**17.58**	**192**	PN	**P**	**13 21 00.7**	**-0.3**
MRW	**Makara Radio**	**17.77**	**193**	PN	**P**	**13 21 02.3**	**-0.4**
MRW	**Makara Radio**	**17.77**	**193**	P	**P**	**13 21 02.3**	**-0.4**
TCW	**Tory Channel**	**17.84**	**194**	PN	**P**	**13 21 03.4**	**0.0**
TCW	**Tory Channel**	**17.84**	**194**	P	**P**	**13 21 03.4**	**0.0**
SNZO	**South Karori**	**17.84**	**193**	*e*P	**P**	**13 21 03.3**	**-0.1**
	comp=Z,109nm,1.0s						
SNZO				*e*S	**S**	**13 23 59.4**	**-0.1**
QRZ	**Quartz Range**	**17.93**	**199**	PN	**P**	**13 21 06.6**	**+2.4**
QRZ	**Quartz Range**	**17.93**	**199**	*e*P	**P**	**13 21 06.6**	**+2.4**
NNZ	**Nelson**	**18.06**	**196**	PN	**P**	**13 21 05.9**	**+0.5**
NNZ				SN	**S**	**13 24 01.9**	**-1.2**
NNZ	**Nelson**	**18.06**	**196**	P	**P**	**13 21 05.9**	**+0.5**
TUWZ	**Tuamarina**	**18.12**	**195**	PN	**P**	**13 21 06.5**	**+0.5**
THZ	**Tophouse**	**18.70**	**197**	PN	**P**	**13 21 12.0**	**+0.8**
THZ	**Tophouse**	**18.70**	**197**	*e*P	**P**	**13 21 12.0**	**+0.8**
DSZ	**Denniston Nort**	**18.99**	**199**	PN	**P**	**13 21 15.8**	**+1.9**
DSZ	**Denniston Nort**	**18.99**	**199**	*e*P	**P**	**13 21 15.8**	**+1.9**
KHZ	**Kahutara**	**19.16**	**195**	*e*P	**P**	**13 21 15.6**	**+0.2**
LTZ	**Lake Taylor**	**19.82**	**197**	*e*P	**P**	**13 21 21.5**	**+0.1**
WVZ	**Waitaha Valley**	**20.52**	**200**	PN	**P**	**13 21 27.9**	**+0.1**
WVZ	**Waitaha Valley**	**20.52**	**200**	*e*P	**P**	**13 21 28.5**	**+0.7**
RPZ	**Rata Peaks**	**21.02**	**198**	P	**P**	**13 21 33.4**	**+1.2**
	comp=Z,45nm,0.5s,mb5.4,baz=292,slow=1.5,SNR=17						
FOZ	**Fox Glacier**	**21.30**	**201**	PN	**P**	**13 21 34.4**	**-0.3**
FOZ	**Fox Glacier**	**21.30**	**201**	*e*P	**P**	**13 21 34.8**	**+0.1**
LBZ	**Lake Benmore**	**21.88**	**199**	*e*PN	**P**	**13 21 39.3**	**-0.7**
LBZ	**Lake Benmore**	**21.88**	**199**	*e*P	**P**	**13 21 39.5**	**-0.5**
HNR	**Honiara**	**23.97**	**304**	P	**P**	**13 21 55.7**	**-2.8**
	comp=Z,102nm,0.8s,mb5.5,baz=109,slow=2.9,SNR=5.0						
HNR	**Honiara**	**23.97**	**304**	*e*P	**P**	**13 21 56.1**	**-2.4**
HNR				pmax	pmax		
	comp=Z,57nm,0.7s,mb5.3						
HNR	**Honiara**	**23.97**	**304**	*e*P	**P**	**13 21 56.1**	**-2.4**
	comp=Z,57nm,0.7s,mb5.3						
CNB	**Canberra Magne**	**28.79**	**240**	⇓*i*P	**P**	**13 22 43.2**	**+2.3**
	comp=Z,36nm,1.0s,mb5.0						
CNB				*e*		13 23 20.8	
CTA	**Charters Tower**	**31.45**	**270**	⇓*i*P	**P**	**13 23 04.9**	**+1.1**
	comp=Z,70nm,0.3s,mb5.7						
CTA				*e*		13 23 13.4	
CTA				*e*SCP	ScP	13 28 35.4	+4.4
CTA	**Charters Tower**	**31.45**	**270**	P	**P**	**13 23 05.0**	**+1.2**
	comp=Z,96nm,0.4s,mb5.7,baz=94,slow=11,SNR=303						
CTA				ScP	ScP	13 28 35.1	+4.1
	comp=Z,4.7nm,1.0s,baz=87,slow=6.8,SNR=4.7						
CTA	**Charters Tower**	**31.45**	**270**	⇓*i*P	**P**	**13 23 04.9**	**+1.1**
CTA				pmax	pmax		
	comp=Z,70nm,0.3s						
CTAO	**Charters Tower**	**31.45**	**270**	⇓*i*P	**P**	**13 23 04.8**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,100nm,0.5s,mb5.6						
CTAO	**Charters Tower**	**31.45**	**270**	⇓*i*P	**P**	**13 23 04.8**	**+1.0**
	comp=Z,100nm,0.5s,mb5.6						
TOO	**Toolangi**	**32.38**	**237**	*e*P	**P**	**13 23 13.4**	**+1.6**
	comp=Z,12nm,0.5s,mb4.7						
TOO	**Toolangi**	**32.38**	**237**	*e*P	**P**	**13 23 13.4**	**+1.6**
TOO				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.7						
TAU	**Tasmania Unive**	**32.87**	**227**	*e*P	**P**	**13 23 15.8**	**0.0**
TAU				pmax	pmax		
	comp=Z,134nm,1.4s,mb5.3						
TAU	**Tasmania Unive**	**32.87**	**227**	*e*P	**P**	**13 23 15.8**	**0.0**
	comp=Z,134nm,1.4s,mb5.3						
PMG	**Port Moresby**	**34.49**	**289**	P	**P**	**13 23 29.2**	**-0.2**
	comp=Z,79nm,0.8s,mb5.3,baz=97,slow=4.9,SNR=25						
PMG	**Port Moresby**	**34.49**	**289**	*e*P	**P**	**13 23 29.2**	**-0.3**
PMG	**Port Moresby**	**34.49**	**289**	⇓*i*P	**P**	**13 23 29.2**	**-0.2**
	comp=Z,104nm,0.9s,mb5.4						
STKA	**Stephens Creek**	**34.67**	**248**	⇓*i*P	**P**	**13 23 30.6**	**-0.4**
	comp=Z,11nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**34.67**	**248**	P	**P**	**13 23 30.6**	**-0.3**
	comp=Z,12nm,0.5s,mb4.7,baz=90,slow=9.8,SNR=34						
AS31	**Alice Springs**	**41.99**	**261**	*e*P	**P**	**13 24 31.1**	**+0.8**
AS31				*i* ScP	ScP	13 29 14.8	+4.2
AS31				*e*S	**S**	**13 30 10.2**	**+0.7**
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**13 24 31.2**	**+0.9**
	comp=Z,35nm,0.8s,mb5.0,baz=100,slow=7.2,SNR=242						
ASAR				ScP	ScP	13 29 14.7	+4.1
	comp=Z,12nm,0.7s,baz=107,slow=4.1,SNR=34						
ASAR				S	**S**	**13 30 09.8**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=100,slow=14,SNR=4.3						
ASPA	**Alice Springs**	**42.00**	**261**	*e*P	**P**	**13 24 31.1**	**+0.8**
ASPA				*i* SCP	ScP	13 29 14.8	+4.2
ASPA				*e*S	**S**	**13 30 10.2**	**+0.6**
WB2	**Warramunga Arr**	**42.36**	**266**	⇓*i*P	**P**	**13 24 33.2**	**0.0**
WB2				*e*		13 24 42.1	
WB2				*i* SCP	ScP	13 29 16.7	+4.7
WB2				*e*S	**S**	**13 30 13.0**	**-1.8**
WRAB	**Tennant Creek**	**42.37**	**266**	⇓*e*P	**P**	**13 24 33.2**	**0.0**
WRAB	**Tennant Creek**	**42.37**	**266**	*e*P	**P**	**13 24 33.0**	**-0.3**
	comp=Z,60nm,0.4s,mb5.5						
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**13 24 33.4**	**+0.2**
	comp=Z,40nm,0.5s,mb5.2,baz=102,slow=8.1,SNR=1459						
WRA				ScP	ScP	13 29 15.9	+3.9
	comp=Z,8.7nm,0.9s,baz=102,slow=4.2,SNR=22						
WRA				S	**S**	**13 30 12.3**	**-2.6**
	comp=Z,3.4nm,1.0s,baz=100,slow=14,SNR=6.2						
FORT	**Forrest**	**46.26**	**250**	⇓*i*P	**P**	**13 25 03.6**	**+0.4**
	comp=Z,72nm,0.5s,mb5.5						
KAKA	**Kakadu**	**46.29**	**275**	*e*P	**P**	**13 25 03.1**	**-0.3**
	comp=Z,34nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**50.79**	**266**	*e*P	**P**	**13 25 37.6**	**+0.7**
	comp=Z,33nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.79**	**266**	P	**P**	**13 25 38.0**	**+1.1**
	comp=Z,13nm,0.6s,mb4.5,baz=115,slow=6.4,SNR=113						
SBA	**Scott Base**	**54.31**	**183**	*e*P	**P**	**13 26 06.1**	**+4.2**
SBA				*e*		13 26 58.7	
SBA				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.0						
SBA	**Scott Base**	**54.31**	**183**	*e*P	**P**	**13 26 06.0**	**+4.1**
	comp=Z,9.1nm,1.1s,mb4.0						
SBA				*e*PcP	PcP	13 26 58.7	+1.3
VNDA	**Vanda**	**54.31**	**185**	P	**P**	**13 26 04.8**	**+2.8**
	comp=Z,0.8nm,0.6s,baz=4.7,slow=6.4,SNR=7.4						
VNDA	**Vanda**	**54.31**	**185**	*e*P	**P**	**13 26 04.8**	**+2.9**
VNDA				*e*		13 26 58.1	
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**54.31**	**185**	*e*P	**P**	**13 26 04.8**	**+2.9**
	comp=Z,1.4nm,0.9s						
VNDA				*e*PcP	PcP	13 26 58.1	+0.7
KLBR	**Kellerberrin**	**54.94**	**247**	*e*P	**P**	**13 26 06.9**	**+0.6**
	comp=Z,11nm,0.6s,mb4.3						
NWAO	**Narrogin (SRO)**	**55.18**	**246**	P	**P**	**13 26 08.6**	**+0.6**
	comp=Z,8.4nm,0.8s,mb4.0,baz=97,slow=5.5,SNR=5.9						
NWAO	**Narrogin (SRO)**	**55.18**	**246**	*e*P	**P**	**13 26 08.6**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,87nm,1.7s						
NWAO	**Narrogin (SRO)**	**55.18**	**246**	*e*P	**P**	**13 26 08.6**	**+0.5**
	comp=Z,87nm,1.7s,mb4.7						
MBWA	**Marble Bar**	**55.33**	**260**	*e*P	**P**	**13 26 09.2**	**+0.1**
	comp=Z,32nm,0.9s,mb4.5						
MUN	**Mundaring**	**56.18**	**247**	*e*P	**P**	**13 26 15.6**	**+0.7**
MUN				*i*		13 27 53.4	
CASY	**Casey**	**60.03**	**206**	*e*P	**P**	**13 26 41.8**	**+0.8**
QSPA	**South Pole Qui**	**66.11**	**180**	⇑*i*P	**P**	**13 27 22.5**	**+2.5**
	comp=Z,18nm,0.7s,mb4.7						
KKM	**Kota Kinabalu**	**68.90**	**287**	P	**P**	**13 27 28.4**	**-8.6**
MJAR	**Matsushiro Arr**	**71.94**	**326**	P	**P**	**13 27 54.1**	**-0.9**
	comp=Z,1.9nm,0.8s,mb3.6,baz=163,slow=5.4,SNR=7.6						
KSM	**Kuching**	**72.09**	**280**	*e*P	**P**	**13 27 55.6**	**-0.2**
MAW	**Mawson**	**77.67**	**200**	*e*P	**P**	**13 28 28.7**	**+1.6**
	comp=Z,5.2nm,0.6s,mb4.0						
MAW	**Mawson**	**77.67**	**200**	P	**P**	**13 28 28.8**	**+1.8**
	comp=Z,6.6nm,0.6s,mb4.1,baz=130,slow=6.6,SNR=8.1						
MAW	**Mawson**	**77.67**	**200**	*e*P	**P**	**13 28 28.7**	**+1.6**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SSE	**Sheshan**	**78.52**	**312**	P	**P**	**13 28 32.4**	**+0.8**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
SSE				AMB	AMB		
	comp=Z,150nm,6.0s						
FARB	**Farallon Islan**	**81.44**	**42**	⇓P	**P**	**13 28 46.7**	**-0.2**
	baz=82						
V03C	**Hunter Liggett**	**81.50**	**45**	⇑P	**P**	**13 28 47.7**	**+0.5**
	baz=82						
BNLO	**Ben Lomond**	**81.60**	**43**	⇑P	**P**	**13 28 47.7**	**0.0**
	baz=82						
PKD	**Parkfield**	**81.91**	**45**	⇑P	**P**	**13 28 49.5**	**+0.2**
	baz=82						
U04C	**Hernandez Rese**	**82.01**	**44**	⇓P	**P**	**13 28 50.6**	**+0.9**
	baz=82,SNR=5.1						
FMP	**Fort Macarthur**	**82.08**	**48**	⇑P	**P**	**13 28 50.4**	**+0.2**
	baz=82						
PACP	**Pacheco Peak**	**82.08**	**44**	⇓P	**P**	**13 28 50.8**	**+0.7**
	baz=82,SNR=6.1						
WENL	**Wente Brothers**	**82.16**	**43**	⇓P	**P**	**13 28 50.8**	**+0.3**
	baz=82						
CVS	**Carmenet Viney**	**82.18**	**42**	⇓P	**P**	**13 28 50.6**	**-0.1**
	baz=82						
V05C	**Boulder Hill,**	**82.28**	**45**	⇑P	**P**	**13 28 51.9**	**+0.8**
	baz=82						
MDJ	**Mudanjiang**	**82.31**	**326**	P	**P**	**13 28 51.5**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,70nm,4.4s						
S04C	**Ingram Canyon,**	**82.35**	**43**	⇓P	**P**	**13 28 51.5**	**0.0**
	baz=82,SNR=8.0						
109C	**Camp Elliot, M**	**82.41**	**49**	⇑P	**P**	**13 28 51.7**	**-0.1**
	baz=82						
O01C	**Eel River Cons**	**82.50**	**40**	⇓P	**P**	**13 28 52.3**	**0.0**
	baz=83						
MNRC	**McLaughlin Nat**	**82.52**	**42**	⇓P	**P**	**13 28 52.6**	**+0.3**
	baz=83,SNR=5.7						
MWC	**Mount Wilson**	**82.53**	**48**	*e*P	**P**	**13 28 52.5**	**+0.1**
HABR	**Khabarovsk**	**82.56**	**332

YBH Yreka Blue Hor 84.16 39 *e*P **P 13 29 01.2 +0.7**
YBH pmax pmax
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 84.16 39 *e*P **P 13 29 01.2 +0.7**
comp=Z,12nm,1.0s,mb4.4
YBH Yreka Blue Hor 84.16 39 ⇓P **P 13 29 00.8 +0.3**
baz=84,SNR=5.2
M03C McCloud 84.21 40 ⇓P **P 13 29 00.7 0.0**
baz=84,SNR=8.2
O04C Chester 84.23 41 ⇑P **P 13 29 00.8 -0.1**
baz=84,SNR=9.7
HATC Hat Creek Radi 84.32 41 ⇓P **P 13 29 01.3 0.0**
baz=84
S08C White Mtn Res 84.36 45 P **P 13 29 02.1 +0.6**
baz=84,SNR=13
K02A Glendale 84.37 38 ⇑P **P 13 29 01.6 0.0**
baz=84
WCN Washoe City 84.43 43 ⇑P **P 13 29 02.0 +0.2**
baz=85,SNR=11
P06A Stead Airport, 84.57 42 ⇑P **P 13 29 02.6 +0.1**
baz=85
HUMO Hull Mountain 84.57 38⇑*i*P **P 13 29 02.8 +0.3**
comp=Z,17nm,1.1s,mb4.5
HUMO Hull Mountain 84.57 38 ⇑P **P 13 29 03.1 +0.5**
baz=85,SNR=9.2
SNAA Sanae 84.60 179 P **P 13 29 02.8 +0.1**
comp=Z,1.5nm,0.4s,mb3.8,baz=210,slow=8.3,SNR=104
TUQ Turquoise Mtn. 84.66 48 ⇑P **P 13 29 03.1 +0.1**
baz=85
Y12C Blythe 84.69 50 ⇓P **P 13 29 03.4 +0.3**
baz=85
M04C Macdoel 84.69 40 ⇑P **P 13 29 03.2 0.0**
baz=85
J02A Umpqua 84.71 38 ⇑P **P 13 29 03.4 +0.2**
baz=85
VNA3 Neumayer Olymp 84.81 177⇑*i*P **P 13 29 04.1 +0.4**
VNA3 *e* 13 29 04.9
VNA3 *e* 13 29 06.0
NVAR Mina Array Bea 84.82 44 P **P 13 29 03.8 0.0**
comp=Z,4.3nm,0.7s,mb4.1,baz=210,slow=6.4,SNR=32
M05C Lookout 84.84 40 ⇑P **P 13 29 03.8 0.0**
baz=85,SNR=12
R08A Mina 84.90 44 ⇑P **P 13 29 03.8 -0.3**
baz=85
O06A Flanigan 84.90 42 ⇓P **P 13 29 04.0 -0.2**
baz=85,SNR=12
PAHR Pah Rah Range 84.90 42⇑*e*P **P 13 29 03.7 -0.5**
comp=Z,19nm,1.1s,mb4.5
BBOR Butler Butte 84.91 38 P **P 13 29 04.5 +0.3**
L04A Klamath Falls 84.91 39 ⇓P **P 13 29 04.2 0.0**
baz=85,SNR=5.6
MNV Mina 84.92 44⇑*e*P **P 13 29 03.6 -0.6**
MNV pmax pmax
comp=Z,11nm,1.0s,mb4.3
MNV Mina 84.92 44⇑*e*P **P 13 29 03.6 -0.6**
comp=Z,11nm,1.0s,mb4.3
I02A Mapleton 84.98 37 ⇓P **P 13 29 04.7 +0.2**
baz=85
J03A Ideyld Park 85.06 38 ⇓P **P 13 29 05.3 +0.4**
baz=85
S09A Goldfield 85.11 45 ⇓P **P 13 29 04.7 -0.4**
baz=85
M06C Likely Place G 85.14 41 ⇓P **P 13 29 05.2 -0.1**
baz=85
Y13A Salome 85.20 50 ⇑P **P 13 29 06.4 +0.8**
baz=85,SNR=14
I03A Eugene 85.26 37 ⇑P **P 13 29 05.8 -0.1**
baz=85
K04A Chilquin 85.28 39 ⇑P **P 13 29 05.9 -0.1**
baz=85
TPNV Topopah Spring 85.30 46⇑*i*P **P 13 29 06.1 0.0**
TPNV pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
TPNV Topopah Spring 85.30 46⇑*i*P **P 13 29 06.0 0.0**
comp=Z,9.7nm,0.7s,mb4.4
W12A Cal Nev Ari 85.30 48 ⇓P **P 13 29 06.4 +0.3**
baz=85
Q08A Gabbs 85.31 44 ⇑P **P 13 29 05.8 -0.4**
baz=86,SNR=13
O07A Toulon 85.48 42 ⇓P **P 13 29 06.9 -0.1**
baz=86,SNR=11
Z14A Wintersburg 85.58 51 ⇑P **P 13 29 08.2 +0.8**
baz=86,SNR=8.2
X13A Yucca 85.63 49 ⇓P **P 13 29 07.9 +0.3**
baz=86,SNR=11
MOD Modoc 85.67 40 *e*P **P 13 29 05.1 -2.8**
H03A Soap Creek Ran 85.71 37 ⇓P **P 13 29 08.0 0.0**
baz=86
115A Sonoran Desert 85.75 52 ⇓P **P 13 29 08.9 +0.7**
baz=86
SHPR Sheep Range 85.77 47 *e*P **P 13 29 08.7 +0.4**
Y14A Wickenburg 85.86 50 ⇓P **P 13 29 08.8 +0.1**
baz=86,SNR=7.7
W13A Hualapai Mount 85.86 49 ⇓P **P 13 29 09.2 +0.4**
baz=86
M07A Soldier Meadow 86.04 41 ⇑P **P 13 29 09.6 0.0**
baz=86,SNR=7.6
116A Eloy 86.05 52 ⇓P **P 13 29 10.4 +0.8**
baz=86,SNR=7.7
P09A Austin 86.21 44 ⇑P **P 13 29 10.0 -0.4**
baz=86
X14A Yava 86.22 50 ⇑P **P 13 29 11.1 +0.7**
baz=86,SNR=10
K06A Valley Falls 86.25 40 ⇓P **P 13 29 10.7 +0.1**
baz=86,SNR=6.2
H04A Detroit Lake 86.31 37 ⇓P **P 13 29 10.3 -0.6**
baz=86,SNR=5.8
W14A Seligman 86.48 49 ⇑P **P 13 29 12.4 +0.8**
baz=87,SNR=11
I05A Bend 86.50 38 ⇓P **P 13 29 11.9 +0.1**
baz=87
O09A Fish Creek Ran 86.54 43 ⇑P **P 13 29 11.8 -0.1**
baz=87,SNR=5.6
M08A Happy Creek Ra 86.55 42 ⇓P **P 13 29 12.2 +0.2**
baz=87,SNR=5.8
J06A Christmas Vall 86.58 39 P **P 13 29 11.9 -0.2**
baz=87,SNR=19
TUC Tucson 86.58 52⇑*i*P **P 13 29 13.1 +0.9**
TUC pmax pmax
comp=Z,19nm,1.0s,mb4.7
TUC Tucson 86.58 52⇑*i*P **P 13 29 13.1 +1.0**
comp=Z,19nm,1.0s,mb4.7
MA2 Magadan 86.64 346 P **P 13 29 08.7 -3.7**
MA2 pmax pmax
comp=Z,23nm,1.1s,mb4.7
MA2 Magadan 86.64 346 P **P 13 29 08.7 -3.7**
comp=Z,23nm,1.1s,mb4.7
BMN Battle Mountai 86.67 43⇑*i*P **P 13 29 12.4 -0.2**
BMN pmax pmax
comp=Z,12nm,0.9s,mb4.5
BMN Battle Mountai 86.67 43⇑*i*P **P 13 29 12.4 -0.2**
comp=Z,12nm,0.9s,mb4.5
X15A Humboldt 86.68 50 ⇑P **P 13 29 13.3 +0.6**
baz=87,SNR=7.5
N09A Rock Creek Ran 86.73 42 ⇑P **P 13 29 12.8 0.0**
baz=87,SNR=5.1
GYA Guiyang 86.76 301 P **P 13 29 19.3 +6.3**
GYA AP pP 13 31 18.4 +5.6
GYA XP sP 13 32 11.8 +3.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,80nm,3.9s
E03A Lebam 86.77 35 ⇓P **P 13 29 13.1 +0.1**
baz=87
H05A Madras 86.83 38 ⇑P **P 13 29 13.2 -0.2**
baz=87,SNR=5.9
I06A Prineville 86.97 39 ⇑P **P 13 29 14.3 +0.3**
baz=87,SNR=20
F04A Amboy 86.98 36 ⇓P **P 13 29 13.6 -0.4**
baz=87
WVOR Wild Horse Val 86.98 41 *e*P **P 13 29 13.5 -0.5**
WVOR pmax pmax
comp=Z,13nm,0.9s,mb4.6
WVOR Wild Horse Val 86.98 41 *e*P **P 13 29 13.5 -0.5**
comp=Z,13nm,0.9s,mb4.6
W15A Williams 87.03 49 ⇑P **P 13 29 14.8 +0.5**
baz=87
D03A Wishkah Elem. 87.03 35 ⇓P **P 13 29 14.4 +0.1**
baz=87
SVW2 Sparrevohn 87.05 12 *e*P **P 13 29 12.5 -1.9**
M09A Marrel Ranch, 87.10 42 ⇑P **P 13 29 14.8 +0.2**
baz=87,SNR=9.6
C03A Quillayute Air 87.16 34 ⇓P **P 13 29 15.3 +0.5**
baz=87
OCWA Octopus Mounta 87.23 34⇑*i*P **P 13 29 15.5 +0.3**
comp=Z,23nm,1.1s,mb4.7
E04A Onalaska 87.24 36 ⇓P **P 13 29 15.5 +0.2**
baz=87
N10A Dunphy 87.28 43 ⇑P **P 13 29 15.5 0.0**
baz=87
L09A Wilkinson Ranc 87.32 41 ⇓P **P 13 29 15.7 +0.1**
baz=88,SNR=10
F05A White Salmon 87.47 37 ⇑P **P 13 29 15.9 -0.4**
baz=88
D04A Dobbs Creek Ra 87.53 35 ⇑P **P 13 29 16.4 -0.2**
baz=88
VTHM Trough 87.53 38 P **P 13 29 16.8 +0.2**
CCUT Cedar City 87.55 47 *e*P **P 13 29 16.6 -0.1**
P12A McGill 87.59 45 ⇓P **P 13 29 16.8 -0.1**
baz=88
ARUT Antelope Range 87.62 47 *e*P **P 13 29 15.5 -1.6**
E05A Randle 87.73 36 ⇓P **P 13 29 17.1 -0.4**
baz=88,SNR=11
B04A Port Angeles 87.78 34 ⇑P **P 13 29 17.7 -0.1**
baz=88
GNW Green Mountain 87.81 35 *e*P **P 13 29 17.4 -0.5**
N11A Elko Archery C 87.82 43 ⇑P **P 13 29 17.8 -0.1**
baz=88
LON Longmire 87.83 36 *e*P **P 13 29 17.8 -0.2**
WUAZ Wupatki 87.83 49⇑*i*P **P 13 29 18.4 +0.4**
comp=Z,12nm,1.1s,mb4.5
C04A Brinnon 87.83 35 ⇓P **P 13 29 17.9 -0.1**
baz=88
RCM Mount Rainier- 87.92 36 P **P 13 29 18.9 +0.4**
D05A Enumclaw 88.01 35 ⇑P **P 13 29 19.1 +0.2**
baz=88,SNR=9.5
ELK Elko 88.09 43⇑*i*P **P 13 29 19.0 -0.2**
M11A Holland Ranch, 88.13 43 ⇓P **P 13 29 19.7 +0.3**
baz=88,SNR=15
PGC Sidney 88.18 34 *e*P **P 13 29 19.3 -0.4**
PLCA Paso Flores 88.24 134 P **P 13 29 21.9 +2.0**
comp=Z,1.1nm,0.5s,mb3.9,baz=207,slow=5.5,SNR=5.9
PLCA Paso Flores 88.24 134 *e*P **P 13 29 21.7 +1.8**
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA Paso Flores 88.24 134 *e*P **P 13 29 21.6 +1.7**
comp=Z,4.0nm,1.0s,mb4.1
N12A Wells--Clov Va 88.28 43 ⇓P **P 13 29 20.0 -0.1**
baz=88,SNR=11
C05A Tolt Reservoir 88.48 35 ⇓P **P 13 29 20.4 -0.6**
baz=89,SNR=10
EBG Ellensburg 88.59 36 P **P 13 29 21.8 +0.2**
A04A Legoe Bay, Lum 88.60 34 ⇓P **P 13 29 21.6 0.0**
baz=89,SNR=11
B05A Bryant 88.62 35 ⇓P **P 13 29 21.4 -0.3**
baz=89,SNR=13
M12A Wells 88.67 43 ⇑P **P 13 29 21.8 -0.1**
baz=89,SNR=13
TTA Tatalina 88.68 11 *e*P **P 13 29 20.6 -1.4**
TBM Table Mountain 88.74 36 P **P 13 29 22.3 +0.1**
N13A West Wendover 88.80 44 ⇓P **P 13 29 22.5 0.0**
baz=89,SNR=5.1
PMR Palmer 88.82 14 *e*P **P 13 29 20.9 -1.7**
PMR pmax pmax
comp=Z,18nm,1.0s,mb4.9
PMR Palmer 88.82 14 *e*P **P 13 29 20.9 -1.7**
comp=Z,18nm,1.0s,mb4.8
HAWA Hanford 88.84 37⇑*e*P **P 13 29 22.3 -0.4**
MSU Marysvale 88.85 47 *e*P **P 13 29 23.7 +0.9**
A05A Maple Falls 89.10 34 ⇓P **P 13 29 23.0 -0.9**
baz=89
M13A Montello 89.11 43 ⇓P **P 13 29 23.8 -0.1**
baz=89
KMI Kunming 89.27 298 P **P 13 29 24.9 +0.2**
DUG Dugway 89.33 45 *e*P **P 13 29 24.6 -0.4**
DUG pmax pmax
comp=Z,14nm,1.4s,mb4.6
DUG Dugway 89.33 45 *e*P **P 13 29 24.6 -0.4**
comp=Z,14nm,1.4s,mb4.6
TMUT Trail Mountain 89.91 46⇑*i*P **P 13 29 28.5 +0.8**
SPUT South Promonto 90.16 44 *e*P **P 13 29 28.9 0.0**
HLID Hailey 90.17 41⇑*i*P **P 13 29 29.0 +0.1**
comp=Z,11nm,1.0s,mb4.6
HVU Hansel Valley 90.21 44⇑*i*P **P 13 29 29.1 0.0**
HVU pmax pmax
comp=Z,38nm,1.1s,mb5.1
HVU Hansel Valley 90.21 44⇑*i*P **P 13 29 29.1 0.0**
comp=Z,38nm,1.1s,mb5.1
SRU San Rafael 90.27 47⇑*i*P **P 13 29 29.2 -0.1**
LAZ Ladron 90.27 52 *e*P **P 13 29 29.9 +0.6**
LENM Lemitar 90.28 52 *e*P **P 13 29 30.2 +0.8**
MNTX Cornudas Mount 90.28 55⇑*i*P **P 13 29 29.7 +0.3**
comp=Z,10nm,0.9s,mb4.7
MNTX *e* 13 29 50.9
CTU Camp Tracy 90.28 45 *e*P **P 13 29 29.1 -0.3**
comp=Z,20nm,0.9s,mb4.9
HHC Hu-ho-hao-te 90.45 315 *e*P **P 13 29 30.1 -0.1**
HHC AP pP 13 31 29.8 -1.1
HHC XP sP 13 32 28.0 +1.8
HHC PP PP 13 33 16.7 +2.1
HHC SKS 13 39 09.4
HHC S 13 39 37.2
HHC PS 13 42 02.9
HHC XS sS 13 43 09.2 -5.0
HHC SS SS 13 45 58.1 +2.4
HHC AMB AMB
comp=Z,70nm,5.4s
DAU Daniels Canyon 90.46 45 *e*P **P 13 29 30.3 +0.1**
LTX Lajitas 90.49 58⇑*e*P **P 13 29 31.0 +0.6**
LTX pmax pmax
comp=Z,12nm,0.8s,mb4.8
LTX Lajitas 90.49 58⇑*e*P **P 13 29 31.0 +0.6**
comp=Z,12nm,0.8s,mb4.8
BNM Barren Site 90.52 53 *e*P **P 13 29 30.3 -0.2**
LPM Los Pinos Moun 90.59 52 *e*P **P 13 29 31.1 +0.3**
TCUT Toone Canyon 90.73 45⇑*e*P **P 13 29 31.5 0.0**
MCK McKinley 90.76 13 P **P 13 29 28.7 -2.9**
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MCK McKinley 90.76 13 P **P 13 29 28.7 -2.9**
comp=Z,2.6nm,0.9s,mb4.2
HWUT Hardware Ranch 90.89 44⇑*i*P **P 13 29 31.6 -0.6**
comp=Z,10nm,0.7s,mb4.9
PV10 Paradox Valley 90.89 48 *e*P **P 13 29 31.5 -0.7**
ANMO Albuquerque 91.02 52 *e*P **P 13 29 33.4 +0.6**
ANMO Albuquerque 91.02 52⇑*i*P **P 13 29 32.6 -0.2**
comp=Z,5.4nm,0.8s,mb4.5
PV01 Paradox Valley 91.09 48 *e*P **P 13 29 32.5 -0.7**
CD2 Chengdu 91.09 303 *e*P **P 13 29 32.3 -0.8**
CD2 AP pP 13 31 32.1 -1.9
CD2 XP sP 13 32 25.2 -4.0
CD2 PP PP 13 33 21.6 +2.0
CD2 SKS 13 39 12.4
CD2 S 13 39 42.7
CD2 XS sS 13 43 15.6 -4.8
CD2 SS SS 13 46 07.6 +2.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,9.0s
MCMT McKenzie Canyo 91.80 41 *e*P **P 13 29 36.4 0.0**
COLA College 91.99 13 *e*P **P 13 29 34.2 -3.1**
COLA College 91.99 13 *e*P **P 13 29 34.0 -3.2**
comp=Z,2.4nm,0.7s,mb4.3
REDW Red Top Meadow 92.25 43⇑*e*P **P 13 29 38.2 -0.3**
comp=Z,15nm,1.2s,mb4.9
TPAW Teton Pass 92.25 43 *e*P **P 13 29 38.8 +0.3**
comp=Z,10nm,1.2s,mb4.7
BILL Bilibino 92.29 355 *e*P **P 13 29 36.2 -2.5**
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BILL Bilibino 92.29 355 *e*P **P 13 29 35.9 -2.8**
comp=Z,1.8nm,0.7s,mb4.2
IMW Indian Meadow 92.47 43 *e*P **P 13 29 39.2 -0.3**
comp=Z,9.0nm,1.1s,mb4.7
LOHW Long Hollow 92.53 43 *e*P **P 13 29 39.0 -0.8**
comp=Z,3.0nm,0.6s,mb4.5
QLMT Earthquake Lak 92.66 42 *e*P **P 13 29 40.4 +0.1**
SMCO Snowmass 92.69 48⇑*e*P **P 13 29 40.4 -0.1**
comp=Z,6.3nm,0.8s,mb4.7
BW06 Boulder Array 92.76 44 *e*P **P 13 29 40.6 -0.2**
comp=Z,5.6nm,0.8s,mb4.7
PDAR Pinedale Array 92.76 44 P **P 13 29 40.1 -0.8**
comp=Z,3.9nm,0.7s,mb4.5,baz=230,slow=2.7,SNR=20
BOZ Bozeman (W) 92.96 41 *e*P **P 13 29 39.5 -2.2**
BOZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BOZ Bozeman (W) 92.96 41 *e*P **P 13 29 39.5 -2.3**
comp=Z,3.2nm,0.7s,mb4.5
DAWY Dawson 93.30 17 *e*P **P 13 29 41.7 -1.6**
LZH Lanzhou 93.39 308 P **P 13 29 42.5 -1.2**
LZH AP pP 13 31 42.8 -1.9
LZH XP sP 13 32 35.6 -4.3
LZH PP PP 13 33 37.2 -0.2
LZH SKS 13 39 24.9
LZH S 13 40 01.8
LZH PS 13 42 32.5
LZH XS sS 13 43 34.8 -6.9
LZH SS SS 13 46 38.7 +1.3
LZH AMB AMB
comp=Z,20nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,90nm,8.5s
WALA Waterton Lakes 93.48 37 *e*P **P 13 29 43.4 -0.7**
comp=Z,4.1nm,0.9s,mb4.5
SONM Songino Array 97.14 319 PP PP 13 34 08.1 +2.3
comp=Z,1.0nm,0.8s,baz=116,slow=6.8,SNR=6.3
JTS JuntasAbangare 98.71 83 *i* P Pdif 13 30 08.4 +0.8
YKA Yellowknife Ar 100.44 25 P Pdif 13 30 13.7 -1.5
comp=Z,0.2nm,0.5s,baz=232,slow=4.5,SNR=5.1
YKA Yellowknife Ar 100.44 25 P Pdif 13 30 13.7 -1.5
TLY Talaya 100.46 322 *i* P Pdif 13 30 13.2 -2.2
ZAL Zalesovo 112.00 321 PKiKP PKiKP 13 34 59.1 -0.8
comp=Z,0.9nm,0.3s,baz=293,slow=2.9,SNR=3.7
MKAR Makanchi Array 112.18 313 PKiKP PKiKP 13 34 59.1 -1.2
comp=Z,1.3nm,0.6s,baz=216,slow=0.8,SNR=14
MKAR SKP 13 37 43.5
comp=Z,0.2nm,0.5s,baz=71,slow=5.3,SNR=3.8
OPO Ambohidratompo117.48 232 PKP PKPdf 13 35 11.9 +1.5
comp=Z,1.1nm,0.6s,baz=70,slow=13,SNR=3.9
CHKZ Chkalovo 120.33 319⇑*e*PKIKP PKPdf 13 35 14.0 -1.9
SUR Sutherland 120.53 200 PKP PKPdf 13 35 17.6 +1.2
comp=Z,4.1nm,0.5s,baz=135,slow=5.3,SNR=10
ZRNK Zerenda 121.31 319 *e*PKIKP PKPdf 13 35 16.2 -1.6
BOSA Boshof 122.33 206 PKP PKPdf 13 35 21.5 +1.7
comp=Z,0.9nm,0.4s,baz=109,slow=0.8,SNR=8.7
SCHQ Schefferville 122.55 39 PKP PKPdf 13 35 18.0 -2.2
comp=Z,1.4nm,0.6s,baz=291,slow=8.6,SNR=4.8
KEV Kevo 131.48 348 *e*pkp PKPdf 13 35 44.3 +7.1
ARCES ARCESS Array B 131.95 348 PKP PKPdf 13 35 36.4 -1.7
comp=Z,4.2nm,0.6s,baz=20,slow=1.6,SNR=20
JOF Joensuu 135.79 340 *e*pkp PKPdf 13 35 42.8 -2.5
KMBO Kilima Mbogo 136.04 241 PKP PKPdf 13 35 48.7 +3.0
comp=Z,0.7nm,0.2s,baz=156,slow=12,SNR=2.8
KMBO SKPbc SKPbc 13 38 28.9 +2.9
comp=Z,0.7nm,0.2s,baz=78,slow=22,SNR=3.8
KAF Kangasniemi 137.90 342 *e*pkp PKPdf 13 35 44.4 -4.8
baz=22,slow=1.7
FINES FINESS Array B 138.50 341 PKhKP 13 35 38.5
comp=Z,0.9nm,0.5s,baz=58,slow=4.1,SNR=9.6
FINES PKP PKPdf 13 35 50.4 +0.1
comp=Z,1.4nm,0.4s,baz=89,slow=2.7,SNR=14
FINES SKPbc SKPbc 13 38 32.9 -0.3
comp=Z,3.8nm,0.7s,baz=99,slow=2.5,SNR=12
FINES FINESS Array B 138.50 341 PKHKP 13 35 38.5
FINES 13 35 50.4
FINES FINESS Array B 138.50 341 PKP 13 35 38.5
FINES PKP PKPdf 13 35 50.4 +0.1
FINES SKPbc SKPbc 13 38 32.9 -0.3
OBN Obninsk 138.81 329 *i* PKIKP PKPdf 13 35 50.0 -0.8
KIV Kislovodsk 139.89 310 *i* PKIKP PKPdf 13 35 56.0 +3.2
NB2 NORSAR Subarra142.15 351 PKPa 13 35 51.5
comp=Z,1.3nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B142.15 351 PKhKP 13 35 51.7
comp=Z,4.5nm,0.8s,baz=16,slow=4.7,SNR=24
NOA SKPbc SKPbc 13 38 42.3 -0.3
comp=Z,0.7nm,0.8s,baz=22,slow=4.7,SNR=6.8
NOA NORSAR Array B142.15 351 PKP 13 35 51.7
NOA SKPbc SKPbc 13 38 42.3 -0.3
NAO01 NORSAR Array S 142.38 351 *e*PKPdf 13 35 52.3
KONO Kongsberg 143.71 352 *e*PKIKP PKPdf 13 35 57.2 -2.4
AKASG Malin Array Be 145.01 327 PKP PKPdf 13 36 01.1 -0.7
comp=Z,7.9nm,0.5s,baz=43,slow=4.0,SNR=54
AKASG SKPbc SKPbc 13 38 50.1 +0.7
comp=Z,4.0nm,0.6s,baz=46,slow=2.2,SNR=14
SUW Suwalki 145.32 336 *e*PKP PKPdf 13 36 02.4 +0.1
BR131 Keskin Array S 147.60 307⇑*e*PKPab PKPbc 13 36 09.3 -0.4
BRTR Keskin Array B 147.60 307 PKPbc PKPbc 13 36 09.3 -0.4
comp=Z,2.8nm,0.6s,baz=136,slow=5.0,SNR=12
LVV L'vov 148.08 330 *e*PKP2 PKPbc 13 36 10.4 -0.6
ANTO Ankara 148.16 308⇓*i*P PKPbc 13 36 11.7 +0.5
EIL Elat 148.35 288 *e*PKPab PKPbc 13 36 12.9 +1.3
EKA Eskdalemuir Ar 148.59 3 PKPbc PKPbc 13 36 10.7 -1.5
comp=Z,5.1nm,0.5s,baz=323,slow=1.7,SNR=34
KWP Kalwaria 148.81 331 *e*PKP PKPbc 13 36 12.5 -0.3
CFR Carcaliu 148.87 320⇓*i*P PKPbc 13 36 12.8 -0.1
CFR Carcaliu 148.87 320 ⇑P PKPbc 13 36 13.0 +0.2
BURAR Bucovina Array 149.01 326⇑*i*P PKPbc 13 36 13.6 +0.4
BURAR Bucovina Array 149.01 326 ⇑P PKPbc 13 36 13.7 +0.5
CSS Prodhromos 149.09 298 *e*PKPab PKPbc 13 36 13.2 -0.2
TIRR Tirgusor 149.09 318⇓*i*P PKPbc 13 36 13.0 -0.4
OJC Ojcow 149.59 335 *e*PKPdf PKPbc 13 36 14.2 -0.4
STHS Stebnicka Huta 149.61 332 *i* PKP PKPbc 13 36 14.8 +0.1
STHS *e* 13 38 16.8
MLR Muntele Rosu 149.95 322⇓*i*P PKPbc 13 36 14.9 -0.6
MLR Muntele Rosu 149.95 322 ⇑P PKPbc 13 36 15.0 -0.5
NIE Niedzica 150.00 333 *e*PKP PKPbc 13 36 16.0 +0.4
KSP Ksiaz 150.34 339 *e*PKP PKPbc 13 36 16.4 0.0
KSP Ksiaz 150.34 339 *i* PKHKP PKPbc 13 36 16.2 -0.2
KSP Ksiaz 150.34 339 *e*PKPdf PKPbc 13 36 16.2 -0.2
OKC Ostrava-Krasne 150.53 336⇑*e*PKPB PKPbc 13 36 15.9 -0.9
OKC *e*pPKP pPKPdf 13 38 27.6 +7.6
UPC Upice 150.72 339⇑*e*PKPB PKPbc 13 36 17.2 -0.1
UPC *e*pPKP pPKPdf 13 38 26.4 +6.1
UPC Upice 150.72 339 *e*PKP PKPbc 13 36 17.2 -0.1
UPC *e* 13 38 26.4
DPC Dobruska-Polom 150.75 338⇑*e*PKPB PKPbc 13 36 17.2 -0.1
DPC *e*pPKP pPKPdf 13 38 27.5 +7.1
MORC Moravsky Berou 150.80 336⇓*i*P PKPbc 13 36 17.0 -0.4
MORC Moravsky Berou 150.80 336⇑*i*PKIKP PKPbc 13 36 17.2 -0.2
MORC Moravsky Berou 150.80 336 *e*PKPab PKPbc 13 36 17.1 -0.4
DRGR 150.83 327⇑*i*P PKPbc 13 36 16.8 -0.7
DRGR 150.83 327 ⇑P PKPbc 13 36 17.0 -0.5
CLL Collm 150.91 343 *e*PKPbc PKPbc 13 36 17.1 -0.6
comp=Z,32nm,0.8s
CLL *e*PKPab PKPab 13 36 26.0 -1.6
CLL *e*pPKPbc pPKPbc 13 38 22.8 -2.8
CLL *e*pPKPab pPKPab 13 38 27.7 -2.8
CLL Collm 150.91 343⇑*i*PKPbc PKPbc 13 36 17.1 -0.6
comp=Z,32nm,0.8s
CLL *i* PKPab PKPab 13 36 26.1 -1.5
comp=Z,7.0nm,0.7s
CLL *e*pPKPab pPKPab 13 38 28.0 -2.5
CLL Collm 150.91 343⇑*i*PKIKP PKPbc 13 36 17.1 -0.6
CLL *i* 13 36 26.1
CLL pmax pmax
comp=Z,32nm,0.8s
CLL pmax pmax
comp=Z,7.0nm,0.7s
BRG Berggiesshubel 151.04 342 *e*PKP PKPbc 13 36 17.5 -0.5
BRG Berggiesshubel 151.04 342 *e*PKP PKPdf 13 36 11.1 -0.5
comp=Z,2.4nm,1.0s
BRG *i* 13 36 17.6
comp=Z,14nm,0.5s
BRG *e*pPKP pPKPdf 13 38 28.1 +7.2
comp=Z,7.6nm,1.3s
BRG Berggiesshubel 151.04 342 *e*PKIKP PKPdf 13 36 11.1 -0.5
BRG pmax pmax
comp=Z,2.0nm,1.0s
BRG pmax pmax
comp=Z,14nm,0.5s
BRG pmax pmax
comp=Z,8.0nm,1.3s
IBBN Ibbenburen 151.09 350 *e*PKP PKPbc 13 36 17.1 -1.0
VYHS Vyhne 151.34 333 *i* PKP PKPbc 13 36 18.2 -0.5
VYHS *e* 13 38 27.9
KOLL Kolacno 151.44 334 *e*PKP PKPbc 13 36 19.0 +0.1
PRU Pruhonice 151.65 340⇑*e*PKPB PKPbc 13 36 18.2 -1.1
PRU *e*pPKP pPKPdf 13 38 30.3 +8.5
MOX Moxa 151.88 344 *e*PKP PKPbc 13 36 19.1 -0.8
TREC Trest 151.94 338 *e*PKPDF PKPbc 13 36 14.9 -5.1
BZS Buzias 152.19 326⇓*i*P PKPbc 13 36 20.1 -0.5
BZS Buzias 152.19 326 ⇑P PKPbc 13 36 20.0 -0.5
KHC Kasperske Hory 152.70 340⇑*e*PKPB PKPbc 13 36 21.1 -0.6
KHC *e*PKPAB PKPab 13 36 34.7 -0.5
KHC *e*pPKP pPKPdf 13 38 32.4 +9.0
KHC Kasperske Hory 152.70 340 *e*PKIKP PKPbc 13 36 21.1 -0.6
KHC *e* 13 36 34.7
GERES GERESS Array B 152.91 340 PKPbc PKPbc 13 36 21.4 -0.7
comp=Z,3.4nm,0.8s,baz=17,slow=1.4,SNR=14
GERES PKPab PKPab 13 36 36.4 +0.3
comp=Z,0.3nm,0.3s,baz=74,slow=3.5,SNR=2.7
PKSM Moragy 153.19 330⇑*i*P PKPbc 13 36 21.9 -0.8
PKSM Moragy 153.19 330 ⇑P PKPbc 13 36 22.0 -0.7

STU	**Stuttgart**	**154.20**	**346**	*e*PKP	PKPdf	13 36 15.4	-0.7
FLN	**La Foliniere**	**155.25**	**1**	*e*PKIKP	PKPdf	13 36 16.1	-1.5
QUIF	**Quistinic**	**155.97**	**5**	*e*PKIKP	PKPdf	13 36 15.8	-2.7
LOR	**Lormes**	**156.54**	**353**	*e*PKIKP	PKPdf	13 36 18.2	-1.1
CABF	**La Chapelle**	**156.88**	**349**	*e*PKIKP	PKPdf	13 36 18.8	-0.9
	comp=Z,7.8nm,0.8s						
SMF	**Signal de Mont**	**157.16**	**353**	*e*PKIKP	PKPdf	13 36 18.9	-1.1
TCF	**Toulx Ste Croi**	**157.66**	**356**	*e*PKIKP	PKPdf	13 36 19.5	-1.1
	comp=Z,1.5nm,0.5s						
ORIF	**Oris-en-Rattie**	**158.55**	**348**	*e*PKIKP	PKPdf	13 36 20.8	-0.9
	comp=Z,2.5nm,0.6s						
MBDF	**Montbardon**	**158.56**	**347**	*e*PKIKP	PKPdf	13 36 21.0	-0.7
	comp=Z,3.5nm,0.6s						
EPF	**Esparros**	**160.99**	**359**	*e*PKIKP	PKPdf	13 36 23.6	-0.8
DBIC	**Dimbokro**	**162.19**	**164**	PKP	PKPdf	13 36 26.4	+0.8
	comp=Z,5.2nm,0.7s,baz=25,slow=0.9,SNR=6.4						
DBIC				PKPab	PKPab	13 37 18.4	+2.0
	comp=Z,2.0nm,0.5s,baz=186,slow=11,SNR=3.7						
EVO	**Evora**	**163.97**	**23**	*e*PKIKP	PKPdf	13 36 27.7	+0.4
	comp=Z,36nm,1.3s						
ESDC	**Sonseca Array**	**163.99**	**11**	PKPab	PKPab	13 37 23.5	-0.9
	comp=Z,3.3nm,1.0s,baz=345,slow=3.7,SNR=7.8						
TORD	**Torodi Ar. Bea**	**169.11**	**189**	PKP	PKPdf	13 36 31.2	0.0
	comp=Z,2.8nm,0.9s,baz=222,slow=1.5,SNR=12						
TORD				PKPab	PKPab	13 37 48.4	+1.4
	comp=Z,2.8nm,0.8s,baz=166,slow=4.1,SNR=17						

*ISCJB **10** 13:38:37.7±0.6, 1953S±005×6671W±008, h259km±6km, mb3.8/16, Error ellipse: s-maj=11.6km s-min=8.2km az=170.0*
*IDC **10** 13:38:37.7±0.8, 1955S×6660W, h244km±8km, mb3.5/10, mb1 3.5/14, mb1mx3.5/20, mbtmp4.0/14, Error ellipse: s-maj=15.1km s-min=8.7km az=89.0*
*NEIC **10** 13:38:38.4±0.8, 1951S×6670W, h254km±9km, mb4.0/8, Error ellipse: s-maj=14.2km s-min=11.8km az=56.0*

ISC 10 13:38:38.5±0.6, 1956S±005×6674W±008, h252km±5km, n39, σ1°23/42, mb3.8/16, 2C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.51**	**338**	P	**Pn**	**13 39 38.8**	**+2.0**
	3.8nm,0.3s,baz=142,slow=7.2,SNR=128						
LPAZ				S	**S**	**13 40 24.1**	**+1.1**
	1.3nm,0.3s,baz=319,slow=21,SNR=11						
LPAZ	**La Paz**	**3.51**	**338**	*e*Pn	**Pn**	**13 39 38.6**	**+1.9**
LPAZ				*e*S	**S**	**13 40 21.6**	**-1.4**
LVC	**Limon Verde**	**3.66**	**213**	P	**Pn**	**13 39 39.2**	**+0.8**
	8.7nm,0.3s,baz=35,slow=8.4,SNR=75						
LVC				S	**S**	**13 40 25.0**	**-0.9**
	11nm,0.3s,baz=250,slow=20,SNR=26						
LVC	**Limon Verde**	**3.66**	**213**	*e*Pn	**Pn**	**13 39 39.0**	**+0.6**
LVC				*e*S	**S**	**13 40 24.2**	**-1.7**
SIV	**San Ignacio**	**6.46**	**58**	P	**Pn**	**13 40 11.4**	**-1.0**
	3.2nm,0.3s,baz=251,slow=10.0,SNR=36						
SIV				S	**S**	**13 41 16.0**	**-12**
	baz=231,slow=18,SNR=2.3						
CPUP	**Villa Florida**	**10.98**	**130**	P	**Pn**	**13 41 08.7**	**-0.6**
	0.2nm,0.3s,baz=280,slow=6.1,SNR=2.1						
CPUP	**Villa Florida**	**10.98**	**130**	Pn	**Pn**	**13 41 07.4**	**-1.9**
SAML	**Samuel**	**11.09**	**19**	Pn	**Pn**	**13 41 12.6**	**+1.9**
CFAA	**Coronel Fontan**	**12.07**	**186**	P	**Pn**	**13 41 27.4**	**+4.5**
	0.5nm,0.3s,baz=353,slow=12,SNR=34						
CFAA				S	**S**	**13 43 28.2**	**-9.2**
	0.1nm,0.3s,baz=60,slow=17,SNR=4.6						
CFAA	**Coronel Fontan**	**12.07**	**186**	P	**Pn**	**13 41 27.4**	**+4.5**
CFAA				S	**S**	**13 43 28.2**	**-9.2**
NNA	**Nana**	**12.29**	**306**	*e*Pn	**Pn**	**13 41 25.0**	**-0.6**
BDFB	**Brasilia**	**18.27**	**81**	P	**P**	**13 42 35.4**	**+1.6**
	1.7nm,0.3s,baz=265,slow=11,SNR=8.6						
PLCA	**Paso Flores**	**21.36**	**188**	P	**P**	**13 43 07.1**	**+0.7**
	3.6nm,0.7s,mb4.0,baz=10,slow=10,SNR=15						
PLCA	**Paso Flores**	**21.36**	**188**	*e*P	**P**	**13 43 06.6**	**+0.2**
	5.6nm,0.8s,mb4.2						
TEIG	**Tepich**	**44.81**	**331**	P	**P**	**13 46 26.4**	**-1.2**
	13nm,1.1s,mb4.2						
WVT	**Waverly**	**58.87**	**340**	*e*P	**P**	**13 48 09.6**	**-1.4**
	4.3nm,0.5s,mb4.3						
SNAA	**Sanae**	**63.46**	**161**	P	**P**	**13 48 42.0**	**+0.4**
	0.3nm,0.6s,mb3.1,baz=265,slow=5.4,SNR=8.9						
ANMO	**Albuquerque**	**66.04**	**325**	*e*P	**P**	**13 48 58.4**	**+0.1**
	1.7nm,0.8s,mb3.7						
DBIC	**Dimbokro**	**66.23**	**73**	P	**P**	**13 48 58.6**	**-0.9**
	1.7nm,0.5s,mb3.9,baz=126,slow=11,SNR=7.2						
DBIC	**Dimbokro**	**66.23**	**73**	*e*P	**P**	**13 48 58.6**	**-0.9**
	1.9nm,0.7s,mb3.8						
QSPA	**South Pole Qui**	**70.63**	**180**	*e*P	**P**	**13 49 27.5**	**+0.8**
PDAR	**Pinedale Array**	**73.48**	**329**	P	**P**	**13 49 44.1**	**+0.5**
	0.8nm,0.5s,mb3.6,baz=128,slow=8.7,SNR=8.4						
HWUT	**Hardware Ranch**	**73.65**	**327**	*e*P	**P**	**13 49 42.6**	**-1.9**
	1.9nm,0.6s,mb3.9						
SCHQ	**Schefferville**	**74.08**	**360**	P	**P**	**13 49 45.9**	**-1.2**
	1.2nm,0.5s,mb3.8,baz=199,slow=8.0,SNR=5.2						
ULM	**Lac du Bonnet**	**74.11**	**341**	P	**P**	**13 49 46.8**	**-0.4**
	3.0nm,0.5s,mb4.2,baz=170,slow=6.4,SNR=6.0						
TORD	**Torodi Ar. Bea**	**74.78**	**70**	P	**P**	**13 49 49.8**	**-1.2**
	1.2nm,0.4s,mb3.9,baz=254,slow=5.5,SNR=31						
NVAR	**Mina Array Bea**	**75.26**	**320**	P	**P**	**13 49 55.5**	**+1.8**
	0.7nm,0.8s,mb3.3,baz=146,slow=8.0,SNR=4.8						
HLID	**Hailey**	**76.52**	**326**	*e*P	**P**	**13 50 02.4**	**+1.6**
	1.9nm,0.6s,mb3.9						
SYO	**Syowa Base**	**77.59**	**159⇑**	*e*P	**P**	**13 50 07.0**	**+0.2**
SYO	**Syowa Base**	**77.59**	**159⇑**	*e*X	**P**	**13 50 09.0**	**+2.2**
VNDA	**Vanda**	**79.10**	**190**	*e*P	**P**	**13 50 15.9**	**+0.9**
	0.7nm,0.8s,mb3.3						
BOSA	**Boshof**	**82.55**	**118**	P	**P**	**13 50 34.1**	**+0.8**
	0.5nm,0.3s,mb3.7,baz=284,slow=4.5,SNR=3.2						
SET	**Setif**	**87.81**	**50**	P	**P**	**13 50 56.0**	**-3.2**
CKHR	**Kef el Ahmar**	**87.81**	**51**	P	**P**	**13 51 04.0**	**+4.8**
YKA	**Yellowknife Ar**	**90.05**	**340**	P	**P**	**13 51 09.5**	**-0.1**
	1.0nm,0.7s,mb3.8,baz=130,slow=4.3,SNR=10.0						
ASAR	**Alice Springs**	**132.56**	**206**	PKP	PKPdf	13 57 23.9	+1.0
	0.4nm,0.6s,baz=144,slow=1.8,SNR=7.9						
WRA	**Warramunga Arr**	**135.64**	**209**	PKP	PKPdf	13 57 30.4	+1.6
	0.4nm,0.4s,baz=164,slow=1.6,SNR=18						
SONM	**Songino Array**	**151.24**	**10**	PKPbc	PKPbc	13 58 02.9	+0.9
	2.5nm,0.5s,baz=306,slow=1.6,SNR=16						
MJAR	**Matsushiro Arr**	**152.35**	**313**	PKPbc	PKPbc	13 58 05.2	+0.7
	0.6nm,0.5s,baz=65,slow=1.6,SNR=4.0						
MJAR				PKPab	PKPab	13 58 16.3	+0.8
	0.2nm,0.3s,baz=12,slow=7.7,SNR=3.8						

*ISCJB **10** 13:52:53.4±0.5, 4307N±005×005W±003, h8km, Error ellipse: s-maj=7.5km s-min=2.5km az=13.7*
*LDG **10** 13:52:53.9±0.1, 4303N×007W, h12km, Md1.9/2, Ml1.8/2, Error ellipse: s-maj=2.8km s-min=0.9km az=1.0*
*STR **10** 13:52:53.6±0.3, 4304N×007W, h8km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **10** 13:52:54.5±0.4, 4303N×006W, h9km±5km, mbLg1.4/8, Error ellipse: s-maj=2.3km s-min=1.3km az=25.0, PRXIMO*

ISC 10 13:52:53.4±0.6, 4307N±005×005W±003, h18km±6km, n32, σ0°71/36, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.09**	**102**	Pg	**Pg**	**13 52 57.0**	**+0.1**
LABF				Sg	**Sg**	**13 52 59.0**	**-0.2**
LABF	**Labassere**	**0.09**	**102**	Pg	**Pg**	**13 52 57.0**	**+0.1**
LABF				Lg		13 52 59.0	
VIEF	**Viey**	**0.19**	**164**	Pg	**Pg**	**13 52 58.0**	**-0.1**
VIEF				Lg		13 53 00.6	
REYF	**Montagne du Re**	**0.25**	**271**	Pg	**Pg**	**13 52 58.9**	**-0.2**
REYF				Sg	**Sg**	**13 53 02.8**	**-0.2**
REYF	**Montagne du Re**	**0.25**	**271**	Pg	**Pg**	**13 52 59.0**	**-0.1**
REYF				Lg		13 53 02.8	
EPF	**Esparros**	**0.29**	**97**	*e*Pg	**Pg**	**13 53 00.0**	**+0.4**
EPF				*e*Sg	**Sg**	**13 53 04.5**	**+0.6**
	12nm,0.2s						
EPF	**Esparros**	**0.29**	**97**	Pg	**Pg**	**13 53 00.0**	**+0.4**
EPF				Lg		13 53 04.5	
	6.2nm,0.2s						
RESF	**Ens**	**0.38**	**132**	Pg	**Pg**	**13 53 01.4**	**+0.1**
RESF				Sg	**Sg**	**13 53 06.8**	**+0.2**
RESF	**Ens**	**0.38**	**132**	Pg	**Pg**	**13 53 01.4**	**+0.1**
RESF				Lg		13 53 06.8	
EBIE	**Bielsa**	**0.41**	**160**	⇑Pg	**Pg**	**13 53 01.6**	**-0.1**
	1.1nm,0.1s,SNR=18						
EBIE				Lg		13 53 07.0	
	5.1nm,0.0s,SNR=29						
ETSF	**Etsaut**	**0.41**	**246**	*e*Pg	**Pg**	**13 53 01.7**	**-0.1**
ETSF				*e*Sg	**Sg**	**13 53 06.2**	**-1.3**
	25nm,0.2s						
ETSF	**Etsaut**	**0.41**	**246**	Pg	**Pg**	**13 53 01.7**	**-0.1**
ETSF				Lg		13 53 06.2	
	12nm,0.2s						
ATE	**Arette**	**0.48**	**273**	Pg	**Pg**	**13 53 02.0**	**-1.0**
ATE				Sg	**Sg**	**13 53 10.2**	**+0.7**
ATE	**Arette**	**0.48**	**273**	Pg	**Pg**	**13 53 03.3**	**+0.3**
ATE				Lg		13 53 09.2	
MELF	**Melles**	**0.62**	**108**	Pg	**Pg**	**13 53 05.5**	**-0.1**
MELF				Lg		13 53 14.1	
LARF	**Larrau**	**0.69**	**268**	Pg	**Pg**	**13 53 07.0**	**0.0**
LARF				Lg		13 53 17.0	
SJPF	**Ste Jean**	**0.86**	**274**	*e*Pg	**Pg**	**13 53 10.2**	**0.0**
SJPF				*e*Sg	**Sg**	**13 53 21.6**	**0.0**
	2.6nm,0.3s						
SJPF	**Ste Jean**	**0.86**	**274**	Pg	**Pg**	**13 53 10.2**	**0.0**
SJPF				Lg		13 53 21.6	
	1.3nm,0.3s						
EGRA	**Graus**	**0.91**	**163**	Pg	**Pg**	**13 53 13.5**	**+2.5**
	0.2nm,0.1s,SNR=5.2						
EGRA				Lg		13 53 22.9	
	4.0nm,1.0s,SNR=7.9						
SALF	**Salau**	**0.96**	**108**	Pg	**Pg**	**13 53 11.9**	**-0.1**
SALF				Sg	**Sg**	**13 53 25.2**	**+0.6**
SALF	**Salau**	**0.96**	**108**	Pg	**Pg**	**13 53 12.0**	**0.0**
SALF				Lg		13 53 25.0	
IPRE	**Itoiz**	**1.00**	**255**	Lg		13 53 28.0	
	1.4nm,0.2s,SNR=4.0						
EALK	**Alkurruntz**	**1.08**	**279**	Pg	**Pg**	**13 53 15.9**	**+1.6**
	3.7nm,0.3s,SNR=11						
EALK				Lg		13 53 30.7	
	2.5nm,0.4s,SNR=7.9						
ELIZ	**Elizondo**	**1.09**	**276**	Lg		13 53 30.0	
	1.4nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.11**	**264**	Lg		13 53 31.5	
	0.6nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.38**	**193**	Pg	**Pg**	**13 53 19.6**	**-0.4**
	3.2nm,0.2s,SNR=4.0						
ESAC				Lg		13 53 38.3	
	4.7nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.64**	**134**	Lg		13 53 47.2	
	1.5nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.68**	**80**	*e*Pg	**Pg**	**13 53 25.5**	**-0.1**
MTLF				*e*Sg	**Sg**	**13 53 46.9**	**-0.6**
	0.9nm,0.2s						
MTLF	**Montolieu**	**1.68**	**80**	Pg	**Pg**	**13 53 25.5**	**-0.1**
MTLF				Lg		13 53 46.9	
	0.4nm,0.2s						
EPOB	**Poblet**	**1.91**	**154**	Pg	**Pg**	**13 53 28.4**	**-1.5**
	0.3nm,0.3s,SNR=4.0						
EPOB				Lg		13 53 52.4	
	0.7nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**3.01**	**69**	*e*Sg	**Sg**	**13 54 29.4**	**-0.7**
	0.7nm,0.2s						
LASF	**Ste Croix**	**3.01**	**69**	Lg		13 54 29.4	
	0.3nm,0.2s						

*MDD **10** 14:15:17.8±2.3, 37.19N×13.10W, h0km, mb4.1/8, Error ellipse: s-maj=20.1km s-min=15.3km az=66.0, PRXIMO*
*INMG **10** 14:15:19.7±0.9, 3705N×1348W, h10km, ML2.6, Error ellipse: s-maj=6.4km s-min=3.9km az=79.0*
*ISCJB **10** 14:15:20.1±1.2, 3741N±005×1275W±008, h10km, Error ellipse: s-maj=9.1km s-min=6.6km az=142.3*
*CSEM **10** 14:15:22.7±0.3, 3736N×1269W, h40km, ML2.6, Error ellipse: s-maj=6.3km s-min=3.3km az=63.0*

ISC 10 14:15:21.9±1.1, 3736N±005×1276W±007, h10km, n36, σ0°97/60, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.22**	**85**	*e*Pn	**Pn**	**14 16 12.2**	**-0.2**
PTEO				*e*Sn	**Sn**	**14 16 52.3**	**+1.5**
PTEO							
	5.9nm,0.2s						
PTEO	**Sao Teotonio**	**3.22**	**85**	*e*P	**Pn**	**14 16 12.2**	**-0.2**
PTEO				*e*S	**Sn**	**14 16 52.3**	**+1.5**
PBEJ	**Beja**	**3.94**	**79**	*e*Pn	**Pn**	**14 16 21.8**	**-0.5**
PBEJ				*e*Sn	**Sn**	**14 17 10.4**	**+1.8**
EGRO	**El Granado**	**4.20**	**86**	Pn	**Pn**	**14 16 26.0**	**+0.1**
	2.4nm,0.3s,SNR=12						
EGRO				Sn	**Sn**	**14 17 16.6**	**+1.4**
	4.4nm,0.3s,SNR=11						
EGRO	**El Granado**	**4.20**	**86**	P	**Pn**	**14 16 26.0**	**0.0**
	2.4nm,0.3s,SNR=12						
EGRO				S	**Sn**	**14 17 16.5**	**+1.4**
	4.4nm,0.3s,SNR=11						
EBAD	**Badajoz**	**4.75**	**71**	Pn	**Pn**	**14 16 34.1**	**+0.7**
	1.8nm,0.2s,SNR=5.8						
EBAD				Sn	**Sn**	**14 17 29.1**	**+0.6**
	1.6nm,0.3s						
EBAD	**Badajoz**	**4.75**	**71**	P	**Pn**	**14 16 34.1**	**+0.7**
	1.8nm,0.2s,SNR=5.8						
EBAD				S	**Sn**	**14 17 29.1**	**+0.6**
	1.6nm,0.3s						
PCBR	**Castelo Branco**	**4.82**	**57**	*e*Pn	**Pn**	**14 16 35.0**	**+0.5**
PCBR				*e*Sn	**Sn**	**14 17 31.3**	**+0.9**
PCBR							
	4.4nm,0.2s						
EMIN	**Mina Concepcio**	**4.85**	**83**	Pn	**Pn**	**14 16 34.9**	**0.0**
	1.8nm,0.3s,SNR=13						
EMIN				Sn	**Sn**	**14 17 31.5**	**+0.4**
	1.7nm,0.3s						
EMIN	**Mina Concepcio**	**4.85**	**83**	P	**Pn**	**14 16 34.9**	**0.0**
	1.8nm,0.3s,SNR=13						
EMIN				S	**Sn**	**14 17 31.5**	**+0.3**
	1.7nm,0.3s						
PVIS	**Viseu**	**5.06**	**47**	*e*Sn	**Sn**	**14 17 37.6**	**+1.4**
PVIS							
	3.9nm,0.1s						
PVIS	**Viseu**	**5.06**	**47**	Sn	**Sn**	**14 17 37.6**	**+1.4**
	1.9nm,0.1s						
MTE	**Manteigas**	**5.08**	**52**	*e*Pn	**Pn**	**14 16 38.5**	**+0.5**
MTE				*e*Sn	**Sn**	**14 17 39.1**	**+2.4**
MTE							
	17nm,0.4s						
ESPR	**Espera**	**5.54**	**93**	Pn	**Pn**	**14 16 44.3**	**-0.1**
	3.7nm,0.3s,SNR=11						
ESPR				Sn	**Sn**	**14 17 47.1**	**-1.0**
	9.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.54**	**93**	P	**Pn**	**14 16 44.3**	**0.0**
	3.7nm,0.3s,SNR=11						
ESPR				S	**Sn**	**14 17 47.1**	**-1.0**
	9.8nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.68**	**39**	*e*Sn	**Sn**	**14 17 51.0**	**-0.5**
EZAM	**Zamans**	**5.72**	**32**	Sn	**Sn**	**14 17 51.8**	**-0.6**
	7.0nm,0.6s,SNR=4.0						
ELOB	**Lobios**	**5.78**	**37**	Pn	**Pn**	**14 16 47.9**	**+0.2**
	2.7nm,0.3s,SNR=5.1						
ELOB				Sn	**Sn**	**14 17 53.5**	**-0.5**
	4.0nm,0.1s,SNR=7.1						
ELOB	**Lobios**	**5.78**	**37**	P	**Pn**	**14 16 47.9**	**+0.2**
	2.7nm,0.3s,SNR=5.1						
ELOB				S	**Sn**	**14 17 53.5**	**-0.5**
	4.0nm,0.1s,SNR=7.1						
EJIF	**Jimena Fronter**	**5.91**	**97**	Pn	**Pn**	**14 16 49.1**	**-0.3**
	0.6nm,0.2s,SNR=7.9						
EJIF				Sn	**Sn**	**14 17 55.6**	**-1.7**
	6.9nm,0.8s,SNR=7.9						
EMAZ	**Mazaricos**	**6.29**	**26**	Pn	**Pn**	**14 16 55.1**	**+0.4**
	0.8nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**14 18 02.5**	**-4.0**
	45nm,1.1s,SNR=5.0						
EMAZ	**Mazaricos**	**6.29**	**26**	P	**Pn**	**14 16 55.1**	**+0.5**
	0.8nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**6.43**	**44**	*e*Sn	**Sn**	**14 18 09.3**	**-0.6**
PBRG							
	2.6nm,0.4s						
PBRG	**Braganca**	**6.43**	**44**	Sn	**Sn**	**14 18 09.3**	**-0.6**
	1.3nm,0.4s						
ECAL	**Calabor**	**6.52**	**44**	Pn	**Pn**	**14 16 58.1**	**+0.3**
	2.6nm,0.3s,SNR=5.8						
ECAL				Sn	**Sn**	**14 18 12.5**	**+0.3**
	5.7nm,0.3s,SNR=6.9						
ECAL	**Calabor**	**6.52**	**44**	P	**Pn**	**14 16 58.1**	**+0.3**
	2.6nm,0.3s,SNR=5.8						
ECAL				S	**Sn**	**14 18 12.5**	**+0.3**
	5.7nm,0.3s,SNR=6.9						
EADA	**Adamuz**	**6.53**	**80**	Pn	**Pn**	**14 16 57.9**	**-0.1**
	0.9nm,0.3s,SNR=7.0						
EADA				Sn	**Sn**	**14 18 11.7**	**-0.9**
	6.9nm,1.0s						
EADA	**Adamuz**	**6.53**	**80**	P	**Pn**	**14 16 57.9**	**-0.1**
	0.9nm,0.3s,SNR=7.0						
EADA				S	**Sn**	**14 18 11.7**	**-0.8**
	6.9nm,1.0s						
ESDC	**Sonseca Array**	**7.27**	**69**	Pn	**Pn**	**14 17 08.4**	**+0.3**
	3.2nm,0.3s,baz=254,slow=13,SNR=7.0						
ESDC	**Sonseca Array**	**7.27**	**69**	P	**Pn**	**14 17 08.4**	**+0.2**
	3.2nm,0.3s,SNR=7.0						
EPON	**Pontenova**	**7.34**	**34**	Pn	**Pn**	**14 17 08.5**	**-0.6**
	1.2nm,0.3s,SNR=7.9						
EPON				Sn	**Sn**	**14 18 28.0**	**-4.4**
	15nm,0.8s,SNR=7.9						
EPON	**Pontenova**	**7.34**	**34**	P	**Pn**	**14 17 08.5**	**-0.5**
	1.2nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**7.46**	**61**	Pn	**Pn**	**14 17 11.0**	**+0.3**
	0.4nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**14 18 33.9**	**-1.5**
	4.2nm,0.8s,SNR=7.9						
EQES	**Quesada**	**7.71**	**84**	Pn	**Pn**	**14 17 13.9**	**-0.2**
	1.7nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**14 18 39.2**	**-2.2**
	6.6nm,0.5s,SNR=4.0						
EQES	**Quesada**	**7.71**	**84**	P	**Pn**	**14 17 13.9**	**-0.2**
	1.7nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**8.27**	**42**	S	**Sn**	**14 18 53.2**	**-2.1**
	8.3nm,0.9s,SNR=4.0						

*NEIC **10** 14:32:05.8, 3144S×69.15W, h150km, MG3.9(GUC), After GUC.*

GUC 10 14:32:05.8±0.7, 3144S×6915W, h150km, MD3.6, ML3.9, 12C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.61**	**279**	⇓*i*P	Pn	14 32 37.0	+0.5
CMCH				*i*S	Sn	14 33 00.9	+0.9
CMCH				AML	AML	14 33 03.3	
	comp=E,3μm,0.6s						
CMCH	**Combarbala**	**1.61**	**279**	⇓*i*P	Pn	14 32 37.0	+0.5
CMCH				*i*S	Sn	14 33 00.9	+0.9
JACH	**Jahuel**	**1.74**	**224**	⇓*i*P	Pn	14 32 38.6	+0.6
JACH				*i*S	Sn	14 33 03.4	+0.7
TLL	**Tololo Astrono**	**1.91**	**311**	⇑*i*P	Pn	14 32 40.9	+1.1
TLL				*i*S	Sn	14 33 07.4	+1.4
TLL				AML	AML	14 33 11.0	
	comp=N,507nm,0.6s						
TLL	**Tololo Astrono**	**1.91**	**311**	⇑*i*P	Pn	14 32 40.9	+1.1
TLL				*i*S	Sn	14 33 07.4	+1.4
OVCH	**Ovalle**	**1.95**	**295**	⇑*i*P	Pn	14 32 41.0	+0.7
OVCH				*i*S	Sn	14 33 07.0	+0.2
OVCH				AML	AML	14 33 08.5	
	comp=N,997nm,0.3s						
OVCH	**Ovalle**	**1.95**	**295**	⇑*i*P	Pn	14 32 41.0	+0.7
OVCH				*i*S	Sn	14 33 07.0	+0.2
FCH	**Farellones**	**2.12**	**207**	⇑*i*P	Pn	14 32 43.8	+1.6
FCH				*i*S	Sn	14 33 12.3	+2.0
ROCH	**El Roble**	**2.20**	**225**	⇑*i*P	Pn	14 32 43.7	+0.5
ROCH				*i*S	Sn	14 33 13.1	+1.1
CLCH	**Cerro Calan**	**2.28**	**211**	*i*P	Pn	14 32 45.8	+1.6
CLCH				*i*S	Sn	14 33 15.3	+1.5
CLCH				AML	AML	14 33 24.5	
	comp=E,400nm,0.5s						
CLCH	**Cerro Calan**	**2.28**	**211**	*i*P	Pn	14 32 45.8	+1.6
CLCH				*i*S	Sn	14 33 15.3	+1.5
PCH	**Pirque**	**2.46**	**208**	⇑*i*P	Pn	14 32 47.3	+0.9
LMEL	**Las Melosas**	**2.56**	**200**	⇑*i*P	Pn	14 32 48.6	+1.0
LMEL				*i*S	Sn	14 33 21.5	+1.6
LMEL				AML	AML	14 33 29.9	
	comp=N,200nm,0.1s						
LMEL	**Las Melosas**	**2.56**	**200**	⇑*i*P	Pn	14 32 48.6	+1.0
LMEL				*i*S	Sn	14 33 21.5	+1.6
TACH	**Talagante**	**2.68**	**214**	⇓*i*P	Pn	14 32 49.1	+0.1
TACH				*i*S	Sn	14 33 23.0	+0.5
CHCH	**Chadas Angostu**	**2.79**	**207**	⇑*i*P	Pn	14 32 51.0	+0.5
CHCH				*i*S	Sn	14 33 25.9	+0.9
LCCH	**Las Cruces**	**2.88**	**225**	⇑*i*P	Pn	14 32 51.8	+0.2
CACH	**El Canelo**	**2.94**	**204**	⇓*i*P	Pn	14 32 53.3	+1.0
CACH				*i*S	Sn	14 33 30.0	+1.7
CICH	**Cipreses**	**3.07**	**200**	⇓*i*P	Pn	14 32 54.7	+0.8
CICH				*i*S	Sn	14 33 32.5	+1.3
SFDO	**San Fernando**	**3.53**	**206**	⇑*i*P	Pn	14 33 00.4	+0.4
SFDO				*i*S	Sn	14 33 42.0	+0.1
TRQA	**Tornquist**	**8.85**	**140**	*e*Pn	Pn	14 34 07.8	-2.7
	comp=N,8.8nm,0.7s						
JTS	**JuntasAbangare**	**44.17**	**337**	*e*P	P	14 39 58.7	-0.9
	comp=N,25nm,0.6s						

*ISCJB **10** 14:43:02.6±2.0, 386N±0.1×704E±0.1, h100km, Error ellipse: s-maj=19.3km s-min=10.3km az=36.0*
*NNC **10** 14:43:04.3±5.4, 3861N×7038E, h104km±123km, mb2.9, mpv3.3, Error ellipse: s-maj=48.8km s-min=27.9

MBWA *e*Sn **Sn** **15 11 52.9 -19**
AS31 Alice Springs 16.91 166 *e*P **Pn** **15 09 09.8 +0.6**
ASAR Alice Springs 16.91 166 P **Pn** **15 09 10.2 +1.0**
comp=Z,2.7nm,0.3s,baz=330,slow=9.3,SNR=260
ASAR S **S** **15 12 11.8 -6.1**
comp=Z,2.0nm,0.3s,baz=354,slow=27,SNR=6.5
ASAR Alice Springs 16.91 166 P **Pn** **15 09 10.2 +1.0**
ASAR S **S** **15 12 11.8 -6.1**
ASPA Alice Springs 16.91 166 *e*P **Pn** **15 09 09.8 +0.6**
PMG Port Moresby 17.74 98 P **Pn** **15 09 23.7 +4.4**
comp=Z,0.5nm,0.3s,baz=155,slow=2.9,SNR=5.6
PMG Port Moresby 17.74 98 P **Pn** **15 09 23.7 +4.4**
PMG *e*pP pP 15 09 37.4 -0.6
CTA Charters Tower 20.77 130 *e*P **P** **15 09 58.5 +6.9**
comp=Z,4.0nm,0.8s
CTA Charters Tower 20.77 130 P **P** **15 09 57.0 +5.3**
comp=Z,5.1nm,0.8s,baz=304,slow=14,SNR=7.5
CTA Charters Tower 20.77 130 *e*P **P** **15 09 58.5 +6.9**
CTA pmax pmax
comp=Z,4.0nm,0.8s
CTAO Charters Tower 20.77 130 *e*P **P** **15 09 54.9 +3.3**
CTAO pmax pmax
comp=Z,8.0nm,0.9s
CTAO Charters Tower 20.77 130 *e*P **P** **15 09 54.9 +3.3**
comp=Z,7.8nm,0.9s
KSM Kuching 20.89 294 *e*P **P** **15 09 53.3 +0.4**
STKA Stephens Creek 27.04 157 *e*P **P** **15 10 50.8 -0.7**
comp=Z,2.1nm,0.4s,mb4.0
STKA Stephens Creek 27.04 157 P **P** **15 10 55.1 +3.6**
comp=Z,2.6nm,0.4s,mb4.1,baz=332,slow=12,SNR=3.8
STKA Stephens Creek 27.04 157 *e*P **P** **15 10 49.9 -1.6**
KULM Kulim 31.23 293 P **P** **15 11 27.0 -1.6**
PSI Prapat 31.97 287 P **P** **15 11 34.8 -0.3**
comp=Z,6.5nm,0.9s,mb4.4,baz=69,slow=3.4,SNR=5.2
MJAR Matsushiro Arr 44.33 10 P **P** **15 13 17.6 -1.2**
comp=Z,3.1nm,0.7s,mb4.1,baz=188,slow=9.1,SNR=12
MAJO Matsushiro 44.33 10 *e*P **P** **15 13 16.5 -2.2**
MAJO pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
MAJO Matsushiro 44.33 10 *e*P **P** **15 13 16.5 -2.2**
comp=Z,4.5nm,0.7s,mb4.3
BJT Baijiatuau 48.57 346 P **P** **15 13 51.5 -0.4**
BJT pmax pmax
comp=Z,13nm,0.9s
BJT Baijiatuau 48.57 346 P **P** **15 13 51.5 -0.4**
comp=Z,13nm,0.9s,mb4.9
JIRN Jiri 54.27 312 *e*P **P** **15 14 35.1 +0.8**
comp=Z,14nm,0.6s,mb5.1
GUN Gumba 54.63 312 *e*P **P** **15 14 37.7 +0.7**
comp=Z,25nm,0.7s,mb5.4
PKI Pulchoki 54.80 311 *e*P **P** **15 14 38.5 +0.3**
comp=Z,10nm,0.6s,mb5.0
PKI Pulchoki 54.80 311 *e*P **P** **15 14 38.5 +0.3**
PKI pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
KKN Kakani 55.01 311 *e*P **P** **15 14 40.0 +0.3**
YSS Yuzh-Sakhalins 55.25 11 P **P** **15 14 38.5 -2.9**
YSS pmax pmax
comp=Z,19nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 55.25 11 P **P** **15 14 38.5 -2.9**
comp=Z,19nm,0.9s,mb5.1
GKN Gorkha 55.61 311 *e*P **P** **15 14 44.4 +0.4**
comp=Z,14nm,0.5s,mb5.3
KOLN Koldanda 56.27 310 *e*P **P** **15 14 48.4 -0.3**
comp=Z,11nm,0.5s,mb5.2
ULN Ulaanbaatar 58.30 343 *e*P **P** **15 15 03.7 +0.8**
ULN pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
ULN Ulaanbaatar 58.30 343 *e*P **P** **15 15 03.7 +0.7**
comp=Z,1.5nm,0.6s,mb4.2
SONM Songino Array 58.47 342 P **P** **15 15 05.3 +1.2**
comp=Z,0.8nm,0.5s,mb4.0,baz=154,slow=6.2,SNR=6.0
MKAR Makanchi Array 68.08 327 P **P** **15 16 08.0 +0.5**
comp=Z,2.2nm,0.6s,mb4.1,baz=113,slow=8.8,SNR=27
YAK Yakutsk 69.06 0 P **P** **15 16 08.3 -5.3**
YAK pmax pmax
comp=Z,16nm,0.8s,mb4.9
YAK Yakutsk 69.06 0 P **P** **15 16 08.3 -5.4**
comp=Z,16nm,0.8s,mb4.9
ZAL Zalesovo 71.52 334 P **P** **15 16 28.4 -0.3**
comp=Z,1.3nm,0.5s,mb4.0,baz=3.5,slow=6.5,SNR=8.3
VNDA Vanda 72.29 173 P **P** **15 16 34.1 +0.9**
comp=Z,0.5nm,0.7s,mb3.5,baz=324,slow=7.6,SNR=7.3
VNDA Vanda 72.29 173 *e*P **P** **15 16 33.3 +0.1**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
VNDA Vanda 72.29 173 *e*P **P** **15 16 33.3 0.0**
comp=Z,0.6nm,0.7s,mb3.5
ZRNK Zerenda 78.62 328 *e*P **P** **15 17 08.6 -0.8**
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ZRNK Zerenda 78.62 328 *e*P **P** **15 17 08.6 -0.8**
comp=Z,2.5nm,0.7s,mb4.2
QSPA South Pole Qui 82.74 180 *e*P **P** **15 17 31.6 +0.2**
QSPA *e*P 15 17 31.7
TORD Torodi Ar. Bea 128.23 281 PKP PKPdf 15 24 14.0 +0.8
comp=Z,0.9nm,0.6s,baz=115,slow=1.8,SNR=8.9
DBIC Dimbokro 134.56 272 PKP PKPdf 15 24 26.0 +0.9
comp=Z,1.2nm,0.4s,baz=351,slow=23,SNR=4.6
DBIC Dimbokro 134.56 272 PKP PKPdf 15 24 26.0 +0.9
CPUP Villa Florida 146.01 169 PKPbc PKPbc 15 24 48.0 +1.3
comp=Z,1.3nm,0.5s,baz=210,slow=2.6,SNR=6.8
LPAZ La Paz 150.91 144 PKPbc PKPbc 15 25 02.8 +3.2
comp=Z,1.4nm,0.4s,baz=33,slow=4.6,SNR=17
LPAZ PKPab PKPab 15 25 11.2 +4.0
comp=Z,1.0nm,0.5s,baz=101,slow=4.6,SNR=5.0

*NEIC **10** 15:09:17.4,3699N×2106E,h6km,MD3.5(ATH),After ATH.*
*CSEM **10** 15:09:17.4,3699N×2106E,h6km,MD3.5/7,After ATH*
ATH 10 15:09:17.4,3699N×2106E,h6km±4km,MD3.5/7,1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.72**	**74**	*e*PB	Pb	15 09 31.5	-0.8
ITM				*e*SB	Sb	15 09 41.0	-1.4
RLS	**Riolos of Patr**	**1.11**	**17**	*e*PN	Pn	15 09 38.8	-0.7
RLS				*e*SB	Sb	15 09 53.9	+0.1
VLS	**Valsamata**	**1.24**	**343**	⇑*i*PG	Pg	15 09 40.5	-0.7
VLI	**Veliai**	**1.53**	**100**	*e*PG	Pg	15 09 46.1	-0.6
VLI				*e*SB	Sb	15 10 06.7	+0.9
KYTH	**Kithira**	**1.74**	**113**	*e*PN	Pn	15 09 51.0	+2.9
EVR	**Evrytania**	**2.01**	**17**	*e*PG	Pg	15 09 54.5	-1.5
EVR				*e*SN	Sn	15 10 21.5	+4.2
LKR	**Lokris**	**2.26**	**42**	*e*PB	Pb	15 09 56.5	-2.1
KEK	**Kerkira**	**2.89**	**340**	*e*PB	Pb	15 10 05.3	-4.1

IDC 10 15:26:33.9±1.6,096N×9706E,h0km,mb3.8/6,mb1 3.9/7, mb1mx3.7/21,mbtmp3.7/7,ML3.1/1,Error ellipse: s-maj=50.0km s-min=20.9km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.61**	**45**	Pn	Pn	15 27 16.6	-0.8
	3.9nm,0.3s,baz=246,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**42.02**	**122**	P	P	15 34 27.0	0.0
	0.9nm,0.8s,baz=300,slow=9.1,SNR=6.4						
ASAR	**Alice Springs**	**43.36**	**127**	P	P	15 34 38.7	+0.8
	1.0nm,1.0s,baz=297,slow=7.1,SNR=5.8						
SONM	**Songino Array**	**47.39**	**9**	P	P	15 35 09.9	+0.1
	1.4nm,0.8s,baz=186,slow=8.7,SNR=6.5						
MKAR	**Makanchi Array**	**47.44**	**346**	P	P	15 35 10.9	+0.7
	1.3nm,0.8s,baz=161,slow=7.6,SNR=12						
ZAL	**Zalesovo**	**53.77**	**351**	P	P	15 35 58.1	+0.1
	1.0nm,0.6s,baz=320,slow=5.9,SNR=6.9						
BVAR	**Borovoye Array**	**56.43**	**341**	P	P	15 36 16.1	-1.2
	0.3nm,0.4s,baz=165,slow=6.0,SNR=3.5						

*ISCJB **10** 15:32:26.4±0.4,678N±005×7296W±005,h174km±5km, mb3.9/4,Error ellipse: s-maj=10.6km s-min=4.8km az=84.5*
*FUNV **10** 15:32:26.0,663N×73.19W,h168km,MW3.7*
*NEIC **10** 15:32:27.8±0.6,670N×7303W,h169km±8km,mb3.9/2, Error ellipse: s-maj=12.2km s-min=9.0km az=138.0*
*IDC **10** 15:32:27.6±0.7,682N×7303W,h157km±11km,mb3.7/4, mb1 3.9/7,mb1mx3.4/22,mbtmp4.2/7,Error ellipse: s-maj=33.7km s-min=7.3km az=131.0*
ISC 10 15:32:27.6±0.4,679N±004×7298W±005,h166km±5km,n25, σ1°01/37,mb3.9/4,6D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**32**	⇓*i*P	Pn	15 32 56.9	+1.0
CAPV				*e*S	Sn	15 33 18.9	+1.1
ROSC	**El Rosal**	**2.35**	**215**	P	Pn	15 33 08.8	+1.1
	157nm,0.3s,baz=342,slow=1.7,SNR=418						
ROSC				S	Sn	15 33 38.7	+0.1
	170nm,0.3s,baz=94,slow=18,SNR=18						
SOCV	**Socops**	**2.57**	**55**	⇓*i*P	Pn	15 33 11.8	+1.5
SOCV				*e*S	Sn	15 33 44.0	+0.6
VIGV	**El Vigia**	**2.59**	**38**	⇓*i*P	Pn	15 33 11.4	+1.0
VIGV				*e*S	Sn	15 33 44.5	+0.7
SDV	**Santo Domingo**	**3.12**	**48**	P	Pn	15 33 18.4	+1.4
	71nm,0.3s,baz=239,slow=6.6,SNR=409						
SDV				S	Sn	15 33 55.6	+0.2
	40nm,0.3s,baz=102,slow=19,SNR=22						
SDV	**Santo Domingo**	**3.12**	**48**	*e*Pn	Pn	15 33 17.9	+0.9
SDV				P		15 33 18.4	
SDV				*e*Sn	Sn	15 33 54.7	-0.7
VIRV	**Villa del Rosa**	**3.73**	**9**	⇓*i*P	Pn	15 33 24.0	-0.7
VIRV				*i* S	Sn	15 34 08.0	-1.2
CURV	**Curarigua**	**4.38**	**43**	*e*P	Pn	15 33 33.7	+0.6
CURV				*e*S	Sn	15 34 23.5	-0.6
DABV	**Dabajuro**	**4.71**	**29**	*e*P	Pn	15 33 37.6	+0.2
DABV				*e*S	Sn	15 34 29.9	-2.1
TEPV	**Terepaima**	**4.89**	**50**	⇓*i*P	Pn	15 33 40.6	+0.8
TEPV				*e*S	Sn	15 34 35.3	-1.0
SIQV	**Siquisique**	**4.95**	**39**	*e*P	Pn	15 33 40.9	+0.4
SIQV				*e*S	Sn	15 34 36.5	-1.1
BAUV	**El Baul**	**5.34**	**66**	⇓*i*P	Pn	15 33 45.1	-0.5
BAUV				*e*S	Sn	15 34 45.3	-1.4
CAOV	**Caicara del Or**	**6.63**	**85**	*e*P	Pn	15 34 01.3	-1.4
CUPV	**Cœpira**	**7.82**	**65**	*e*P	Pn	15 34 18.3	-0.1
OTAV	**Otavalo**	**8.50**	**220**	*e*Pn	Pn	15 34 25.9	-1.6
	3.1nm,0.6s						
OTAV				*e*Sn	Sn	15 36 00.6	-1.6
PCRV	**Puerto La Cruz**	**8.91**	**67**	P	Pn	15 34 34.9	+2.0
	1.6nm,0.3s,baz=301,slow=4.3,SNR=4.8						
JTS	**JuntasAbangare**	**12.34**	**287**	*e*Pn	Pn	15 35 17.1	-0.6
SAML	**Samuel**	**18.43**	**148**	P	P	15 36 29.0	-1.3
	2.6nm,0.6s						
SAML				*e*pP		15 36 56.8	
SAML				*e*S	S	15 39 52.7	+0.7
ULM	**Lac du Bonnet**	**47.36**	**340**	P	P	15 40 44.5	-0.2
	1.9nm,0.4s,mb4.1,baz=141,slow=8.5,SNR=4.4						
SCHQ	**Schefferville**	**48.16**	**5**	P	P	15 40 51.1	+0.3
	2.7nm,0.7s,mb4.0,baz=224,slow=14,SNR=4.2						
PDAR	**Pinedale Array**	**48.18**	**324**	P	P	15 40 52.1	+1.0
	0.4nm,0.4s,mb3.5,baz=133,slow=7.6,SNR=3.9						
HLID	**Hailey**	**51.55**	**322**	P	P	15 41 17.1	+0.7
YKA	**Yellowknife Ar**	**63.34**	**340**	P	P	15 42 39.6	+0.7
	1.4nm,0.5s,mb4.0,baz=133,slow=6.6,SNR=26						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	PKPbc	15 51 57.8	+1.4
	0.4nm,0.7s,baz=113,slow=3.8,SNR=9.9						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	PKPbc	15 52 00.9	+1.5
	0.3nm,0.5s,baz=109,slow=2.4,SNR=12						

SKHL 10 15:50:30.6±1.1,4857N×14180E,h10km,mb3.5/3, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.54**	**19**	*e*Pg	Pg	15 50 41.0	-0.1
UGL				*i* Pg	Pg	15 50 41.0	-0.1
UGL				AMB	AMB	15 50 41.5	
	41nm,0.4s						
UGL				*e*Sg	Sg	15 50 48.3	+0.2
UGL				A		15 50 50.0	
	680nm,0.4s						
UGL				A		15 50 50.0	
	900nm,0.4s						
UGL				A		15 50 50.0	
	430nm,0.4s						
YSS	**Yuzh-Sakhalins**	**1.74**	**158**	*e*Pb	Pb	15 51 02.1	-0.5
YSS				*e*Pg	Pg	15 51 05.1	+1.1
YSS				AMB	AMB	15 51 05.8	
	24nm,0.4s						
YSS				*e*Sg	Sg	15 51 28.9	+2.3
YSS				A		15 51 29.0	
	70nm,0.5s						
YSS				A		15 51 29.0	
	50nm,0.5s						
TYV	**Tymovskoe**	**2.36**	**13**	*e*Pg	Pg	15 51 16.9	+1.0
TYV				AMB	AMB	15 51 17.0	
	11nm,0.7s						
TYV				*e*Sg	Sg	15 51 48.3	+1.8
TYV				A		15 51 51.0	
	10.0nm,0.3s						
TYV				A		15 51 51.0	
	11nm,0.3s						
GRNR	**Gornyy**	**4.13**	**304**	*e*Pg	Pg	15 51 52.0	+2.3
GRNR				*e*Sg	Sg	15 52 45.0	+1.8
GRNR				A		15 52 47.3	
	15nm,0.3s						
GRNR				A		15 52 47.3	
	10.0nm,0.3s						
GRNR				A		15 52 47.3	
	18nm,0.3s						
EKMR	**Ekimchan**	**7.19**	**312**	*e*Sg	Sg	15 54 30.0	+8.7

*ISCJB **10** 16:00:58.7±0.3,4088S±003×17460E±004,h58km±4km, mb4.2/4,MS3.5/1,Error ellipse: s-maj=6.4km s-min=4.5km az=104.3*
*IDC **10** 16:00:58.8±2.6,4066S×17456E,h52km±22km,mb3.9/2, mb1 4.2/4,mb1mx3.8/13,mbtmp4.1/4,ML3.8/2,MS3.5/1, Ms1 3.6/1,ms1mx2.9/17,Error ellipse: s-maj=28.6km s-min=24.0km az=133.0*
*WEL **10** 16:01:00.2±0.1,4089S×17460E,h46km±1km,ML4.7/22, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0,reported intensity MM 5.*
WEL Felt from Wanganui to Marlborough, and from Nelson to Wairarapa, maximum.
*NEIC **10** 16:01:00.3,4089S×17460E,h45km,mb4.5/2, ML4.7(WEL),After WEL.*
NEIC Felt widely in the Wellington area.
ISC 10 16:00:59.4±0.3,4088S±003×17460E±004,h53km±4km, n70,σ0°72/77,mb4.2/4,MS3.5/1,30C-18D,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.24**	**86**	⇓PN	Pn	16 01 07.9	-0.4
KIW				SN	Sn	16 01 13.8	-0.8
KIW	**Kapiti Island**	**0.24**	**86**	⇓P	Pn	16 01 07.9	-0.4
KIW				*e*S	Sn	16 01 13.8	-0.8
MRW	**Makara Radio**	**0.36**	**168**	⇑PN	Pn	16 01 09.3	0.0
MRW				SN	Sn	16 01 16.3	-0.1
MRW	**Makara Radio**	**0.36**	**168**	⇑P	Pn	16 01 09.3	0.0
MRW				*e*S	Sn	16 01 16.3	-0.1
TCW	**Tory Channel**	**0.41**	**216**	⇑PN	Pn	16 01 09.8	-0.1
TCW				SN	Sn	16 01 17.0	-0.4
TCW	**Tory Channel**	**0.41**	**216**	⇑P	Pn	16 01 09.8	-0.1
TCW				*e*S	Sn	16 01 17.0	-0.3
CAW	**Cannon Point**	**0.42**	**123**	⇑PN	Pn	16 01 10.0	+0.1
CAW				SN	Sn	16 01 17.8	+0.2
CAW	**Cannon Point**	**0.42**	**123**	⇑P	Pn	16 01 10.0	0.0
WEL	**Wellington**	**0.42**	**162**	⇑PN	Pn	16 01 10.1	+0.1
WEL				SN	Sn	16 01 17.9	+0.4
WEL	**Wellington**	**0.42**	**162**	⇑P	Pn	16 01 10.1	+0.1
WEL				*e*S	Sn	16 01 17.9	+0.3
SNZO	**South Karori**	**0.44**	**169**	⇓PN	Pn	16 01 10.1	0.0
SNZO				SN	Sn	16 01 17.9	+0.1
SNZO				SN	Sn	16 01 17.9	+0.1
SNZO	**South Karori**	**0.44**	**169**	⇓P	Pn	16 01 10.1	0.0
SNZO				*e*S	Sn	16 01 18.0	+0.2
DUWZ	**D'Urville Isla**	**0.52**	**278**	⇓PN	Pn	16 01 10.9	-0.2
DUWZ				SN	Sn	16 01 19.2	-0.3
BHW	**Baring Head**	**0.57**	**159**	⇑PN	Pn	16 01 11.8	+0.2
BHW				SN	Sn	16 01 20.8	+0.4
BHW	**Baring Head**	**0.57**	**159**	⇑P	Pn	16 01 11.8	+0.2
MSWZ	**Moikau Station**	**0.73**	**138**	⇑PN	Pn	16 01 13.7	+0.1
MSWZ	**Moikau Station**	**0.73**	**138**	⇑P	Pn	16 01 13.7	+0.1
MTW	**Mount Morrison**	**0.74**	**112**	⇑PN	Pn	16 01 13.7	0.0
MTW	**Mount Morrison**	**0.74**	**112**	⇑P	Pn	16 01 13.7	-0.1
TUWZ	**Tuamarina**	**0.74**	**222**	⇑PN	Pn	16 01 14.1	+0.3
MRZ	**Mangatainoka R**	**0.78**	**74**	⇓PN	Pn	16 01 14.4	+0.1
MRZ				SN	Sn	16 01 25.9	+0.8
MRZ	**Mangatainoka R**	**0.78**	**74**	⇓P	Pn	16 01 14.4	+0.2
PAWZ	**Paruwai Farm**	**0.80**	**129**	⇑PN	Pn	16 01 14.5	0.0
PAWZ	**Paruwai Farm**	**0.80**	**129**	⇑P	Pn	16 01 14.5	-0.1
TRWZ	**Traveller**	**0.97**	**123**	PN	Pn	16 01 16.6	-0.2
NNZ	**Nelson**	**0.98**	**250**	⇓PN	Pn	16 01 17.2	+0.3
NNZ	**Nelson**	**0.98**	**250**	⇓P	Pn	16 01 17.2	+0.2
TIWZ	**Tintock**	**0.98**	**84**	⇓PN	Pn	16 01 16.8	-0.1
BSWZ	**Blackbirch Sta**	**0.99**	**213**	⇑PN	Pn	16 01 17.8	+0.6
BSWZ	**Blackbirch Sta**	**0.99**	**213**	⇑P	Pn	16 01 17.8	+0.7
WAZ	**Wanganui**	**1.16**	**15**	⇑PN	Pn	16 01 20.4	+1.0
WAZ	**Wanganui**	**1.16**	**15**	⇑P	Pn	16 01 20.4	+1.0
BFZ	**Birch Farm**	**1.27**	**81**	PN	Pn	16 01 20.2	-0.6
TSZ	**Takapari Road**	**1.32**	**52**	⇓PN	Pn	16 01 21.4	-0.1
TSZ	**Takapari Road**	**1.32**	**52**	⇓P	Pn	16 01 21.4	-0.2
THZ	**Tophouse**	**1.55**	**235**	PN	Pn	16 01 25.1	+0.4
THZ	**Tophouse**	**1.55**	**235**	*e*P	Pn	16 01 25.1	+0.5
QRZ	**Quartz Range**	**1.57**	**271**	⇓PN	Pn	16 01 25.3	+0.4
QRZ	**Quartz Range**	**1.57**	**271**	⇑P	Pn	16 01 25.3	+0.4
RAEZ	**Rainy Point**	**1.60**	**354**	⇑PN	Pn	16 01 26.6	+1.3
RAEZ	**Rainy Point**	**1.60**	**354**	⇑P	Pn	16 01 26.6	+1.3
KHZ	**Kahutara**	**1.73**	**207**	⇑PN	Pn	16 01 27.1	+0.1
KHZ	**Kahutara**	**1.73**	**207**	⇓P	Pn	16 01 27.1	0.0
VRZ	**Vera Road**	**1.76**	**4**	⇑PN	Pn	16 01 28.5	+1.1
VRZ	**Vera Road**	**1.76**	**4**	⇑P	Pn	16 01 28.5	+1.0
BKZ	**Black Stump Fm**	**2.25**	**41**	⇓PN	Pn	16 01 33.3	-0.8
BKZ	**Black Stump Fm**	**2.25**	**41**	⇑P	Pn	16 01 33.3	-0.8
DSZ	**Denniston Nort**	**2.28**	**247**	⇓PN	Pn	16 01 34.8	+0.2
DSZ	**Denniston Nort**	**2.28**	**247**	⇓P	Pn	16 01 34.8	+0.3
HIZ	**Hauiti**	**2.37**	**5**	⇑PN	Pn	16 01 36.9	+1.1
HIZ	**Hauiti**	**2.37**	**5**	⇓P	Pn	16 01 36.9	+1.0
LTZ	**Lake Taylor**	**2.58**	**222**	PN	Pn	16 01 38.4	-0.3
MQZ	**McQueen's Vall**	**3.17**	**206**	⇑PN	Pn	16 01 44.5	-2.3
URZ	**Urewera**	**3.26**	**37**	P	Pn	16 01 45.8	-2.2
	7.5nm,0.3s,baz=231,slow=7.0,SNR=125						
URZ				S	Sn	16 02 24.8	-0.7
	50nm,0.3s,baz=84,slow=20,SNR=5.6						
RPZ	**Rata Peaks**	**3.87**	**222**	P	Pn	16 01 56.5	+0.1
	12nm,0.3s,baz=30,slow=3.9,SNR=20						
RPZ				S	Sn	16 02 36.9	-3.5
	52nm,0.3s,baz=81,slow=10,SNR=12						
VNDA	**Vanda**	**37.13**	**185**	LR	LR	16 21 23.8	
	comp=Z,68nm,19.3s,MS3.5,baz=278,slow=33						
ASAR	**Alice Springs**	**38.06**	**284**	P	P	16 08 12.1	-0.7
	1.3nm,0.5s,mb3.9,baz=122,slow=6.6,SNR=44						
WRAB	**Tennant Creek**	**40.05**	**289**	*e*P	P	16 08 28.6	-0.8
	7.5nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**40.06**	**289**	P	P	16 08 28.8	-0.7
	1.5nm,0.3s,mb4.1,baz=128,slow=8.2,SNR=48						
QSPA	**South Pole Qui**	**49.25**	**180**	*e*P	P	16 09 44.4	+1.7
	2.2nm,0.5s,mb4.4						
VNA3	**Neumayer Olymp**	**68.14**	**179**	*e*	P	16 11 54.4	+0.5
VNA3				*e*		16 11 57.9	
VNA3				*e*	pP	16 12 10.5	+1.9
DBIC	**Dimbokro**	**145.93**	**181**	PKPbc	PKPbc	16 20 33.9	+0.8
	3.0nm,0.6s,baz=234,slow=2.3,SNR=6.0						
ARCES	**ARCESS Array B**	**147.05**	**341**	PKPbc	PKPbc	16 20 33.8	-2.6
	3.5nm,0.4s,baz=72,slow=1.8,SNR=27						
JOF	**Joensuu**	**149.08**	**328**	*e*pkp	PKPdf	16 20 38.3	+0.8
BRTR	**Keskin Array B**	**150.37**	**281**	PKPbc	PKPbc	16 20 42.3	-2.6
	0.6nm,0.4s,baz=112,slow=5.6,SNR=4.8						
KAF	**Kangasniemi**	**151.49**	**329**	*e*pkp	PKPdf	16 20 43.5	+2.2
	baz=52,slow=2.2						
TORD	**Torodi Ar. Bea**	**151.68**	**195**	PKP	PKPdf	16 20 41.9	+0.3
	1.1nm,0.8s,baz=181,slow=1.5,SNR=6.0						
TORD				PKPbc	PKPbc	16 20 48.1	+0.2
	3.3nm,0.6s,baz=163,slow=3.3,SNR=28						
TORD				PKPab	PKPab	16 20 57.4	+0.6
	2.1nm,0.4s,baz=156,slow=4.0,SNR=14						
FINES	**FINESS Array B**	**151.94**	**328**	PKPbc	PKPbc	16 20 45.3	-3.2
	1.4nm,0.6s,baz=56,slow=4.5,SNR=12						
FINES				PKPab	PKPab	16 20 54.9	-3.0
	1.2nm,0.7s,baz=87,slow=4.0,SNR=5.5						
NB2	**NORSAR Subarra**	**157.39**	**339**	P	PKPab	16 21 18.6	-2.5
	comp=Z,0.2nm,0.8s,baz=42,slow=4.8						
NOA	**NORSAR Array B**	**157.39**	**339**	PKPab	PKPab	16 21 17.8	-3.3
	comp=Z,1.3nm,0.8s,baz=32,slow=3.2,SNR=5.8						

*SZGRF **10** 16:28:55.1,1980S×17754W,h33km,Fiji Islands region*
*CSEM **10** 16:29:06.8,1686S×17806W,h33km,mb5.6*
*MOS **10** 16:29:58.4±2.1,1785S×17853W,h541km,mb4.6/18, Error ellipse: s-maj=14.7km s-min=9.3km az=140.6*
*ISCJB **10** 16:29:59.8±0.8,1804S±008×17854W±006,h577km±10km, mb4.6/59,Error ellipse: s-maj=14.0km s-min=4.9km az=121.6*
*BJI **10** 16:30:00.8,1790S×17850W,h576km,mB4.6,mb4.5*
*NEIC **10** 16:30:00.8±0.7,1795S×17850W,h576km±8km,mb4.6/49, Error ellipse: s-maj=11.6km s-min=4.4km az=150.0*
*IDC **10** 16:30:00.7±1.3,1808S×17840W,h583km±14km,mb4.4/8, mb1 4.5/10,mb1mx4.2/15,mbtmp5.3/10,Error ellipse: s-maj=21.9km s-min=10.3km az=152.0*
ISC 10 16:30:02.4±1.2,1805S±008×17851W±006,h594km±14km, n353,σ0°63/264,mb4.6/59,115C-77D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.67**	**58**	P	P	16 31 55.3	-3.1
	15nm,0.3s,baz=59,slow=0.6,SNR=17						
AFI				S	S	16 33 26.1	-7.3
	14nm,0.3s,baz=116,slow=20,SNR=5.3						
AFI	**Afiamalu**	**7.67**	**58**	*e*P	P	16 31 55.0	-3.4
AFI				*e*S	S	16 33 27.0	-6.4
AFI				pmax	pmax		
	comp=Z,224nm,1.0s						
AFI	**Afiamalu**	**7.67**	**58**	*e*P	P	16 31 55.0	-3.4
	comp=Z,224nm,1.0s						
AFI				*e*S	S	16 33 27.0	-6.4
DZM	**Mont Dzumac**	**14.69**	**252**	P	P	16 33 08.2	+0.3
	comp=Z,2.0nm,0.3s,baz=78,slow=16,SNR=20						
HNR	**Honiara**	**22.59**	**289**	*e*P	P	16 34 09.2	-10
HNR				pmax	pmax		
	comp=Z,94nm,0.8s,mb5.5						
HNR	**Honiara**	**22.59**	**289**	*e*P	P	16 34 09.2	-10
	comp=Z,94nm,0.8s,mb5.5						
ARMA	**Armidale**	**29.79**	**240**	*e*P	P	16 35 23.8	+1.3
CNB	**Canberra Magne**	**33

FORT Forrest 49.86 245 eP P 16 38 01.5 -0.8
comp=Z,36nm,0.6s,mb5.0
FITZ Fitzroy Crossi 52.91 261 ⇓iP P 16 38 24.6 +0.3
comp=Z,7.4nm,0.6s,mb4.2
MBWA Marble Bar 57.95 256 eP P 16 38 58.6 -0.4
comp=Z,14nm,0.7s,mb4.2
KLBR Kellerberrin 58.68 244 eP P 16 39 03.3 -0.7
comp=Z,22nm,0.7s,mb4.4
NWAO Narrogin (SRO) 59.06 242 eP P 16 39 06.5 0.0
NWAO pmax pmax
comp=Z,8.0nm,0.8s
NWAO Narrogin (SRO) 59.06 242 eP P 16 39 06.5 0.0
comp=Z,8.2nm,0.8s,mb3.9
MUN Mundaring 59.97 243 eP P 16 39 12.7 +0.1
SBA Scott Base 60.27 184 eP P 16 39 14.9 +0.3
SBA pmax pmax
comp=Z,2.0nm,0.9s
SBA Scott Base 60.27 184 eP P 16 39 14.9 +0.4
comp=Z,2.2nm,0.9s
VNDA Vanda 60.29 185 P P 16 39 14.2 -0.6
comp=Z,0.7nm,0.9s,baz=115,slow=4.6,SNR=5.7
VNDA Vanda 60.29 185 eP P 16 39 14.5 -0.2
VNDA pmax pmax
comp=Z,4.0nm,1.6s
VNDA Vanda 60.29 185 eP P 16 39 14.5 -0.2
comp=Z,4.4nm,1.6s
MJAR Matsushiro Arr 67.96 323 P P 16 40 02.7 -0.5
comp=Z,1.2nm,0.8s,baz=165,slow=7.2,SNR=4.5
QSPA South Pole Qui 72.00 180 eP P 16 40 26.6 -0.5
comp=Z,6.7nm,0.9s,mb4.2
KSM Kuching 72.61 277 ⇓iP P 16 40 31.5 +1.0
SSE Sheshan 75.76 310 P P 16 40 47.9 -0.4
SSE AMB AMB
comp=Z,20nm,0.9s,mb4.5
SSE AMB AMB
comp=Z,150nm,5.3s
FARB Farallon Islan 76.12 42 ⇑P P 16 40 50.4 +0.1
baz=76
V03C Hunter Liggett 76.31 45 ⇓P P 16 40 51.6 +0.4
baz=76
HAST Hastings Reser 76.31 44 ⇑P P 16 40 51.8 +0.4
baz=76
BNLO Ben Lomond 76.33 43 ⇑P P 16 40 51.5 +0.1
baz=76
LRV Little Rabbit 76.69 44 P P 16 40 52.4 -1.0
PKD Parkfield 76.73 45 ⇑P P 16 40 53.8 +0.1
baz=77
U04C Hernandez Rese 76.81 45 ⇑P P 16 40 54.6 +0.6
baz=77,SNR=7.3
PACP Pacheco Peak 76.84 44 ⇓P P 16 40 54.7 +0.5
baz=77,SNR=6.3
HOPS Hopland 76.85 41 ⇑P P 16 40 54.1 -0.1
baz=77
CVS Carmenet Viney 76.85 42 ⇓P P 16 40 54.6 +0.4
baz=77
WENL Wente Brothers 76.88 43 ⇓P P 16 40 54.8 +0.3
baz=77
P01C Double 8 Ranch 76.96 41 ⇑P P 16 40 54.9 0.0
baz=77
O01C Eel River Cons 77.07 40 ⇓P P 16 40 55.7 +0.3
baz=77
S04C Ingram Canyon, 77.09 43 ⇑P P 16 40 55.9 +0.3
baz=77,SNR=5.5
V05C Boulder Hill, 77.13 45 ⇑P P 16 40 56.2 +0.4
baz=77
MNRC McLaughlin Nat 77.17 42 ⇓P P 16 40 56.5 +0.5
baz=77,SNR=5.2
Q03C Winters 77.30 42 ⇓P P 16 40 57.3 +0.6
baz=77
GASB Alder Springs 77.45 41 ⇓P P 16 40 58.5 +0.9
baz=78,SNR=5.8
109C Camp Elliot, M 77.48 49 ⇑P P 16 40 57.5 -0.2
baz=78
S05C Merced 77.66 44 ⇓P P 16 40 58.6 -0.1
baz=78
O02C Red Bluff 77.72 40 ⇑P P 16 40 59.4 +0.5
baz=78,SNR=6.2
N02C Big Bar 77.79 40 ⇑P P 16 40 59.4 +0.1
baz=78
SUTB Sutter Buttes 77.79 42 ⇑P P 16 40 58.8 -0.5
baz=78
T06C Millerton Lake 77.88 44 ⇑P P 16 40 59.7 -0.1
baz=78
NJ2 Nanjing 77.95 310 eP P 16 41 04.1 +3.9
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.5
ISA Isabella 77.98 46 eP P 16 41 00.6 +0.2
ISA pmax pmax
comp=Z,22nm,0.9s,mb4.6
ISA Isabella 77.98 46 eP P 16 41 00.6 +0.2
comp=Z,22nm,0.9s,mb4.6
ISA Isabella 77.98 46 ⇑P P 16 41 00.7 +0.4
baz=78,SNR=6.9
CMB Columbia Colle 78.01 43 ⇑iP P 16 40 59.8 -0.7
CMB pmax pmax
comp=Z,19nm,0.9s,mb4.5
CMB Columbia Colle 78.01 43 ⇑iP P 16 40 59.8 -0.7
comp=Z,19nm,0.9s,mb4.5
CMB Columbia Colle 78.01 43 ⇓P P 16 41 00.1 -0.4
baz=78,SNR=11
HABR Khabarovsk 78.09 330 eP P 16 40 58.9 -2.0
HABR eS S 16 50 13.7 +6.3
O03C Acorn Hollow, 78.09 41 ⇑P P 16 41 00.6 -0.3
baz=78
WDC Whiskeytown Da 78.11 40 ⇓P P 16 41 01.0 0.0
baz=78
ORV Oroville 78.16 41 ⇓P P 16 41 00.9 -0.4
baz=78,SNR=8.2
LAVA Lava Cap Winer 78.19 43 ⇓P P 16 41 01.0 -0.4
baz=78
MDJ Mudanjiang 78.25 325 P P 16 41 02.9 +1.1
MDJ AMB AMB
comp=Z,60nm,5.0s
PFO Pinyon Flat Ob 78.32 49 ⇑P P 16 41 02.2 0.0
baz=78
M02C Callahan 78.41 39 ⇑P P 16 41 03.2 +0.6
baz=78,SNR=8.6
L02A Cave Junction 78.42 38 ⇓P P 16 41 02.9 +0.2
baz=78
P05C Yuba Gap, Truc 78.58 42 ⇓P P 16 41 03.7 +0.2
baz=79,SNR=8.0
R05C Kirkwood Meado 78.58 43 ⇑P P 16 41 03.7 +0.1
baz=79,SNR=8.7
CWC Cottonwood Cre 78.67 46 ⇓P P 16 41 04.1 +0.1
baz=79
YBH Yreka Blue Hor 78.70 39 ⇑iP P 16 41 04.1 -0.1
YBH pmax pmax
comp=Z,25nm,1.2s
YBH Yreka Blue Hor 78.70 39 ⇑iP P 16 41 04.1 -0.1
comp=Z,25nm,1.2s,mb4.4
YBH Yreka Blue Hor 78.70 39 ⇓P P 16 41 04.5 +0.4
baz=79,SNR=14
O05C Quincy 78.76 41 ⇑P P 16 41 04.7 +0.2
baz=79,SNR=6.4
M03C McCloud 78.78 40 ⇑P P 16 41 04.5 -0.1
baz=79,SNR=8.1
MLAC Mammoth Lakes 78.81 44 ⇓P P 16 41 05.1 +0.4
baz=79
K02A Glendale 78.86 38 ⇑P P 16 41 05.1 0.0
baz=79
O04C Chester 78.86 41 ⇑P P 16 41 05.1 +0.1
baz=79,SNR=10
R06C Coleville 78.89 43 ⇑P P 16 41 05.5 +0.3
baz=79
TIN Tinemaha 78.90 45 ⇑P P 16 41 05.3 0.0
baz=79
DAC Darwin (Calif) 78.92 46⇑eP P 16 41 05.2 -0.1
DAC pmax pmax
comp=Z,19nm,1.5s,mb4.2
DAC Darwin (Calif) 78.92 46⇑eP P 16 41 05.2 -0.2
comp=Z,19nm,1.5s,mb4.2
R07C Lee Vining 78.92 44 ⇑P P 16 41 05.6 +0.3
baz=79,SNR=12
HATC Hat Creek Radi 78.92 40 ⇑P P 16 41 05.5 +0.1
baz=79,SNR=6.3
GSC Goldstone 78.95 47 ⇓P P 16 41 05.2 -0.3
baz=79,SNR=5.2
BC3 Big Chuckw Mtn 79.07 49 ⇑P P 16 41 06.5 +0.4
baz=79,SNR=5.3
HUMO Hull Mountain 79.07 38 ⇑iP P 16 41 06.2 +0.1
comp=Z,17nm,1.0s,mb4.3
HUMO Hull Mountain 79.07 38 ⇓P P 16 41 06.5 +0.4
baz=79
WCN Washoe City 79.13 42 ⇑P P 16 41 06.6 +0.2
baz=79,SNR=7.0
J02A Umpqua 79.18 37 ⇑P P 16 41 06.8 +0.1
baz=79
S08C White Mtn Res 79.18 45 ⇑P P 16 41 07.4 +0.7
baz=79,SNR=19
GLA Glamis 79.22 50 ⇓P P 16 41 07.5 +0.6
baz=79,SNR=9.6
P06A Stead Airport, 79.25 42 ⇑P P 16 41 07.3 +0.2
baz=79
M04C Macdoel 79.25 40 ⇓P P 16 41 07.2 +0.2
baz=79,SNR=5.1
ELFS Eagle Lake Fie 79.26 41 ⇓P P 16 41 07.3 +0.1
baz=79
I02A Mapleton 79.41 37 ⇑P P 16 41 08.0 +0.1
baz=80
M05C Lookout 79.42 40 ⇑P P 16 41 08.1 +0.1
baz=80,SNR=19
L04A Klamath Falls 79.45 39 ⇑P P 16 41 08.2 0.0
baz=80
J03A Ideyld Park 79.53 38 ⇓P P 16 41 08.5 0.0
baz=80
O06A Flanigan 79.56 42 ⇓P P 16 41 08.8 0.0
baz=80,SNR=24
NVAR Mina Array Bea 79.59 44 P P 16 41 09.2 +0.3
comp=Z,11nm,0.8s,mb4.2,baz=215,slow=7.1,SNR=81
PAHR Pah Rah Range 79.59 42 ⇑iP P 16 41 09.0 +0.1
comp=Z,28nm,1.3s,mb4.4
TUQ Turquoise Mtn. 79.64 47 ⇓P P 16 41 09.2 +0.1
baz=80,SNR=9.6
R08A Mina 79.68 44 ⇑P P 16 41 09.4 +0.1
baz=80,SNR=8.5
MNV Mina 79.69 44⇑eP P 16 41 09.5 +0.1
MNV pmax pmax
comp=Z,19nm,1.0s,mb4.4
MNV Mina 79.69 44⇑eP P 16 41 09.5 +0.1
comp=Z,19nm,1.0s,mb4.4
I03A Eugene 79.71 37 ⇓P P 16 41 09.2 -0.2
baz=80
H02A Toledo 79.73 36 ⇓P P 16 41 09.6 0.0
baz=80
M06C Likely Place G 79.75 41 P P 16 41 09.9 +0.2
baz=80,SNR=17
Y12C Blythe 79.79 50 ⇑P P 16 41 10.1 +0.2
baz=80
K04A Chilquin 79.80 39 ⇑P P 16 41 10.1 +0.2
baz=80
S09A Goldfield 79.94 45 ⇑P P 16 41 10.5 -0.2
baz=80,SNR=6.3
Q08A Gabbs 80.07 44 ⇓P P 16 41 11.2 -0.2
baz=80,SNR=16
CN2 Changchun 80.08 322 eP P 16 41 16.0 +4.6
H03A Soap Creek Ran 80.14 36 ⇑P P 16 41 11.8 +0.1
baz=80
O07A Toulon 80.17 42 ⇓P P 16 41 11.9 0.0
baz=80,SNR=23
HBO Huckleberry Mo 80.19 38 P P 16 41 11.9 -0.1
TPNV Topopah Spring 80.19 46⇑eP P 16 41 11.8 -0.2
TPNV pmax pmax
comp=Z,12nm,0.9s,mb4.2
TPNV Topopah Spring 80.19 46⇑eP P 16 41 11.8 -0.2
comp=Z,12nm,0.9s,mb4.2
W12A Cal Nev Ari 80.31 48 ⇓P P 16 41 12.9 +0.3
baz=80
Y13A Salome 80.32 50 ⇑P P 16 41 13.1 +0.4
baz=80
IRO Indian Ridge 80.32 37 P P 16 41 12.4 -0.2
P08A Dixie Valley 80.42 43 ⇑P P 16 41 13.6 +0.4
baz=80
N07B Gerlach 80.45 42 ⇓P P 16 41 13.4 +0.1
baz=81
FRIS Frissel Point 80.53 37 P P 16 41 13.7 0.0
Q09A Carvers 80.55 44 ⇓P P 16 41 14.1 +0.2
baz=81
M07A Soldier Meadow 80.67 41 ⇑P P 16 41 14.6 +0.2
baz=81,SNR=9.2
O08A Rochester Mine 80.70 42 ⇓P P 16 41 15.0 +0.4
baz=81
X13A Yucca 80.70 49 ⇓P P 16 41 14.8 +0.2
baz=81,SNR=8.2
Z14A Wintersburg 80.74 51 ⇑P P 16 41 15.6 +0.7
baz=81
F03A Seaside 80.75 35 ⇓P P 16 41 14.7 -0.2
baz=81
H04A Detroit Lake 80.76 37 ⇑P P 16 41 14.3 -0.6
baz=81,SNR=17
K06A Valley Falls 80.80 39 P P 16 41 15.5 +0.3
baz=81,SNR=19
G04A Mulino 80.91 36 ⇓P P 16 41 16.1 +0.4
baz=81
115A Sonoran Desert 80.96 51 ⇑P P 16 41 16.2 +0.2
baz=81
I05A Bend 80.98 38 ⇑P P 16 41 16.1 0.0
baz=81
Y14A Wickenburg 80.98 50 ⇓P P 16 41 16.4 +0.3
baz=81,SNR=7.0
J06A Christmas Vall 81.12 39 ⇑P P 16 41 16.5 -0.3
baz=81,SNR=26
E03A Lebam 81.13 35 ⇓P P 16 41 16.6 -0.2
baz=81,SNR=6.7
M08A Happy Creek Ra 81.19 41 ⇑P P 16 41 17.6 +0.4
baz=81,SNR=15
O09A Fish Creek Ran 81.26 43 ⇑P P 16 41 17.6 +0.1
baz=81,SNR=9.1
116A Eloy 81.29 52 ⇑P P 16 41 18.4 +0.7
baz=81,SNR=6.5
H05A Madras 81.30 37 ⇓P P 16 41 17.3 -0.4
baz=81,SNR=7.7
X14A Yaa 81.32 50 ⇓P P 16 41 18.3 +0.5
baz=81,SNR=19
D03A Wishkah Elem. 81.37 34 ⇓P P 16 41 18.1 +0.1
baz=82
BMN Battle Mountai 81.38 43 ⇑iP P 16 41 18.1 0.0
BMN pmax pmax
comp=Z,30nm,1.1s,mb4.6
BMN Battle Mountai 81.38 43 ⇑iP P 16 41 18.1 0.0
comp=Z,30nm,1.1s,mb4.6
F04A Amboy 81.38 36 ⇓P P 16 41 17.6 -0.5
baz=82
N09A Rock Creek Ran 81.41 42 ⇓P P 16 41 18.5 +0.2
baz=82,SNR=6.6
C03A Quillayute Air 81.46 33 ⇑P P 16 41 18.8 +0.3
baz=82
I06A Prineville 81.48 38 ⇑P P 16 41 18.9 +0.3
baz=82,SNR=24
W14A Seligman 81.54 49 ⇓P P 16 41 19.8 +0.8
baz=82,SNR=20
WVOR Wild Horse Val 81.58 40 P P 16 41 19.3 +0.2
G05A Wamic 81.59 37 ⇑P P 16 41 19.0 -0.2
baz=82
E04A Onalaska 81.61 35 ⇓P P 16 41 19.3 0.0
baz=82
OTR Olympics--Tyee 81.66 33 P P 16 41 20.1 +0.5
GAMB Gambell 81.73 3 eP P 16 41 18.6 -1.3
M09A Marrel Ranch, 81.77 42 ⇓P P 16 41 20.4 +0.3
baz=82,SNR=7.8
X15A Humboldt 81.80 50 P P 16 41 21.1 +0.8
baz=82,SNR=13
TUC Tucson 81.86 52⇑eP P 16 41 21.2 +0.6
TUC pmax pmax
comp=Z,19nm,1.1s,mb4.5
TUC Tucson 81.86 52⇑eP P 16 41 21.2 +0.6
comp=Z,19nm,1.1s,mb4.5
F05A White Salmon 81.89 36 ⇑P P 16 41 20.3 -0.4
baz=82
L09A Wilkinson Ranc 81.95 41 P P 16 41 21.4 +0.3
baz=82,SNR=16
HDW Hoodsport 82.08 34 P P 16 41 21.8 +0.2
B04A Port Angeles 82.09 34 ⇓P P 16 41 21.6 -0.1
baz=82
W15A Williams 82.11 49 ⇓P P 16 41 22.4 +0.6
baz=82,SNR=5.9
E05A Randle 82.12 36 ⇑P P 16 41 21.3 -0.6
baz=82,SNR=12
D05A Enumclaw 82.38 35 ⇓P P 16 41 23.3 +0.1
baz=82,SNR=7.1
P12A McGill 82.39 44 ⇓P P 16 41 23.5 +0.3
baz=82,SNR=13
M10A I.L. Ranch, Tu 82.40 42 ⇑P P 16 41 23.7 +0.4
baz=82,SNR=10
CCUT Cedar City 82.48 47⇑eP P 16 41 23.8 +0.1
N11A Elko Archery C 82.54 43 ⇑P P 16 41 24.0 0.0
baz=83
ARUT Antelope Range 82.54 46 eP P 16 41 24.5 +0.5
M11A Holland Ranch, 82.83 42 ⇑P P 16 41 25.9 +0.4
baz=83,SNR=10
C05A Tolt Reservoir 82.84 35 ⇑P P 16 41 24.9 -0.5
baz=83,SNR=10
WUAZ Wupatki 82.91 49 ⇑iP P 16 41 26.0 +0.2
comp=Z,24nm,1.1s,mb4.6
A04A Legoe Bay, Lum 82.91 34 ⇓P P 16 41 25.7 -0.2
baz=83,SNR=5.5
KULM Kulim 82.96 278 P P 16 41 25.2 -0.9
B05A Bryant 82.96 34 ⇓P P 16 41 25.7 -0.4
baz=83,SNR=8.2
EBG Ellensburg 82.99 36 P P 16 41 26.3 0.0
N12A Wells--Clov Va 83.01 43 ⇑P P 16 41 26.4 0.0
baz=83,SNR=18
CMW Cultus Mountai 83.05 34 P P 16 41 26.3 -0.2
HAWA Hanford 83.28 37 ⇑iP P 16 41 27.4 -0.3
comp=Z,3.0nm,1.4s,mb3.6
M12A Wells 83.38 43 ⇑P P 16 41 28.4 +0.2
baz=84,SNR=15
N13A West Wendover 83.56 43 ⇑P P 16 41 29.2 +0.2
baz=84,SNR=5.4
M13A Montello 83.84 43 P P 16 41 30.6 +0.2
baz=84,SNR=19
OD2 Odessa Site #2 84.31 36 P P 16 41 32.7 -0.1
MCK McKinley 84.70 13 eP P 16 41 32.3 -2.4
MCK pmax pmax
comp=Z,12nm,1.0s,mb4.5
MCK McKinley 84.70 13 eP P 16 41 32.3 -2.3
comp=Z,12nm,1.0s,mb4.5
HLID Hailey 84.80 41 ⇑iP P 16 41 35.2 +0.1
comp=Z,12nm,0.8s,mb4.6
TMUT Trail Mountain 84.80 46⇑eP P 16 41 35.6 +0.4
HVU Hansel Valley 84.95 43⇑eP P 16 41 35.7 -0.2
HVU pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
HVU Hansel Valley 84.95 43⇑eP P 16 41 35.7 -0.2
comp=Z,3.2nm,0.8s,mb4.0
SRU San Rafael 85.19 46 ⇑iP P 16 41 36.8 -0.2
SRU pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
SRU San Rafael 85.19 46 ⇑iP P 16 41 36.8 -0.2
comp=Z,8.2nm,0.7s,mb4.5
LAZ Ladron 85.52 52 eP P 16 41 39.1 +0.5
TCUT Toone Canyon 85.53 44 eP P 16 41 38.6 -0.1
HWUT Hardware Ranch 85.66 44 eP P 16 41 38.6 -0.6
comp=Z,3.3nm,0.7s,mb4.1
NEW Newport 85.68 36⇑eP P 16 41 37.8 -1.6
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 85.68 36⇑eP P 16 41 37.8 -1.5
comp=Z,5.1nm,0.8s,mb4.2
MNTX Cornudas Mount 85.74 55 ⇑iP P 16 41 39.9 +0.2
comp=Z,12nm,1.1s,mb4.4
PV10 Paradox Valley 85.88 48 eP P 16 41 40.3 0.0
COLA College 85.93 13 eP P 16 41 38.6 -2.0
COLA College 85.93 13 eP P 16 41 37.7 -2.9
comp=Z,9.9nm,0.8s,mb4.5
LTX Lajitas 86.15 58 ⇑iP P 16 41 42.6 +1.0
LTX pmax pmax
comp=Z,30nm,1.1s,mb4.8
LTX Lajitas 86.15 58 ⇑iP P 16 41 42.6 +1.0
comp=Z,30nm,1.1s,mb4.8
ANMO Albuquerque 86.26 52⇑eP P 16 41 41.9 -0.2
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO Albuquerque 86.26 52⇑eP P 16 41 41.9 -0.3
comp=Z,9.4nm,1.0s,mb4.4
MCMT McKenzie Canyo 86.41 41⇑eP P 16 41 42.8 0.0
BILL Bilibino 86.56 354 eP P 16 41 42.0 -1.5
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
BILL Bilibino 86.56 354 eP P 16 41 41.9 -1.7
comp=Z,3.3nm,0.7s,mb4.2
DLMT Dillon 86.83 40 ⇑iP P 16 41 44.3 -0.5
comp=Z,20nm,1.1s,mb4.8
DCID1 Drake Creek 86.86 42 P P 16 41 44.4 -0.6
TPAW Teton Pass 86.96 42 eP P 16 41 45.5 +0.1
comp=Z,14nm,1.0s,mb4.7
REDW Red Top Meadow 86.96 42⇑eP P 16 41 45.1 -0.3
comp=Z,26nm,1.0s,mb4.9
IMW Indian Meadow 87.16 42 ⇑iP P 16 41 46.6 +0.3
comp=Z,26nm,1.0s,mb4.9
CHMT Chamberlain Mo 87.21 39 eP P 16 41 45.5 -1.0
MOOW Moose Ponds 87.21 42⇑eP P 16 41 46.6 0.0
comp=Z,6.0nm,0.9s,mb4.3
LOHW Long Hollow 87.24 42⇑eP P 16 41 46.4 -0.3
comp=Z,3.1nm,0.5s,mb4.3
DAWY Dawson 87.25 16 eP P 16 41 45.4 -1.4
QLMT Earthquake Lak 87.29 41 eP P 16 41 47.6 +0.6
HHC Hu-ho-hao-te 87.30 314⇓eP P 16 41 48.2 +1.2
HHC PP PP 16 45 25.1 +2.7
HHC SKS 16 51 23.5
HHC S 16 51 42.1
HHC SS SS 16 57 47.1 +6.2
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
HHC AMB AMB
comp=Z,50nm,3.4s
FLWY Flagg Ranch 87.40 42 ⇑iP P 16 41 47.7 +0.3
comp=Z,28nm,1.0s,mb5.0
PDAR Pinedale Array 87.52 43 P P 16 41 47.6 -0.4
comp=Z,8.3nm,0.6s,mb4.6,baz=227,slow=2.8,SNR=63
KMI Kunming 87.81 297 P P 16 41 51.0 +1.6
KMI AP pP 16 43 51.9 -5.3
KMI XP sP 16 44 50.0 -6.6
KMI S 16 51 46.3
KMI XS sS 16 55 26.6 -4.1
KMI SS SS 16 57 53.1 +4.9
KMI AMB AMB
comp=Z,40nm,3.6s
WALA Waterton Lakes 87.91 36 eP P 16 41 49.0 -0.8
comp=Z,9.8nm,0.9s,mb4.5
SYO Syowa Base 88.99 193⇓eP P 16 41 53.2 -1.7
CD2 Chengdu 89.06 303 eP P 16 41 56.1 +0.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
PHWY Pilot Hill 89.63 46 eP P 16 41 57.1 -0.7
JCT Junction City 89.69 58 eP P 16 41 57.5 -0.6
JCT pmax pmax
comp=Z,12nm,1.0s,mb4.7
JCT Junction City 89.69 58 eP P 16 41 57.5 -0.6
comp=Z,12nm,1.0s,mb4.7
EGMT Eagleton 89.82 39 eP P 16 41 57.8 -0.9
comp=Z,10nm,1.6s,mb4.4
EDM Edmonton 90.33 33 eP P 16 41 59.4 -1.7
SNAA Sanae 90.46 179 eP P 16 41 46.1 -16
SNAA e 16 41 47.7
SNAA e 16 41 49.5
VNA3 Neumayer Olymp 90.60 176 eP P 16 42 01.3 -1.0
VNA3 e 16 42 04.7
LZH Lanzhou 90.90 308 ⇓P P 16 42 04.9 +1.2
LZH AP pP 16 44 06.5 -5.7
LZH XP sP 16 45 04.7 -6.6
LZH PP PP 16 45 53.2 +2.6
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,60nm,8.7s
INK Inuvik 92.05 15 ⇑iP P 16 42 06.7 -2.3
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 92.05 15 ⇑iP P 16 42 06.7 -2.3
comp=Z,12nm,1.1s,mb4.8
YKA Yellowknife Ar 94.50 25 P P 16 42 18.4 -1.7
comp=Z,1.6nm,0.6s,mb4.3,baz=242,slow=4.4,SNR=20
YKA Yellowknife Ar 94.50 25 P P 16 42 18.4 -1.7
MKAR Makanchi Array 109.17 314 PKiKP PKiKP 16 47 24.2 -1.4
comp=Z,0.6nm,0.5s,baz=90,slow=2.4,SNR=8.3
MKAR Makanchi Array 109.17 314 PKPdf PKiKP 16 47 24.2 -1.4
ARU Arti 122.92 326 iPKIKP PKPdf 16 47 50.0 -1.9
ARCES ARCESS Array B 126.44 350 PKP PKPdf 16 47 57.0 -1.7
comp=Z,2.8nm,0.7s,baz=32,slow=4.8,SNR=7.8
ARCES ARCESS Array B 126.44 350 PKP PKPdf 16 47 57.0 -1.7
FINES FINESS Array B 133.30 344 PKP PKPdf 16 48 09.7 -2.0
comp=Z,1.9nm,0.7s,baz=60,slow=3.0,SNR=11
OBN Obninsk 134.38 332 iPKIKP PKPdf 16 48 12.0 -1.7
NB2 NORSAR Subarra 136.51 353 PKPa 16 48 03.7
comp=Z,1.6nm,1.0s,baz=17,slow=2.6
NOA NORSAR Array B 136.51 353 PKhKP 16 48 08.4
comp=Z,0.8nm,0.8s,baz=11,slow=2.4,SNR=4.4
NOA PKP PKPdf 16 48 16.7 -0.9
comp=Z,0.6nm,0.6s,baz=14,slow=4.1,SNR=6.0
KIV Kislovodsk 136.89 316 iPKIKP PKPdf 16 48 14.0 -4.4
AKASG Malin Array Be 140.64 332 PKhKP 16 48 17.4
comp=Z,0.9nm,0.5s,baz=43,slow=3.7,SNR=5.6
LVV L'vov 143.50 335 ePKHKP 16 48 28.0
LVV e 16 55 07.6
BURAR Bucovina Array 144.69 332 ⇓iP PKPdf 16 48 33.3 +1.0
BURAR Bucovina Array 144.69 332 ⇓P PKPdf 16 48 33.3 +1.0
OJC Ojcow 144.71 340 ePKPdf PKPdf 16 48 32.4 +0.1
BR131 Keskin Array S 144.81 315 ePKPdf PKPdf 16 48 30.7 -1.8
BRTR Keskin Array B 144.81 315 PKP PKPdf 16 48 32.3 -0.2
comp=Z,2.3nm,0.8s,baz=128,slow=2.0,SNR=11
STHS Stebnicka Huta 144.89 337 ePKP PKPdf 16 48 32.9 +0.3

CFR	Carcaliu	145.00 326	⇑iP	PKPdf	16 48 33.8	+1.0
CFR	Carcaliu	145.00 326	⇑P	PKPdf	16 48 33.8	+1.0
NIE	Niedzica	145.22 338	ePKP	PKPdf	16 48 34.5	+1.3
KSP	Ksiaz	145.22 344	ePKIKP	PKPdf	16 48 34.2	+1.0
IBBN	Ibbenburen	145.47 353	ePKPbc	PKPbc	16 48 34.2	-0.9
OKC	Ostrava-Krasne	145.58 341	ePKP	PKPdf	16 48 34.6	+0.8
CLL	Collm	145.58 347	ePKPbc	PKPbc	16 48 34.6	-0.8
CLL	Collm	145.58 347	⇑iPKPbc	PKPbc	16 48 34.8	-0.6
	comp=Z,33nm,0.8s					
CLL	Collm	145.58 347	⇑iPKIKP	PKPdf	16 48 34.8	+1.0
CLL			pmax	pmax		
	comp=Z,33nm,0.8s					
CLL	Collm	145.58 347	⇑iPKP	PKPdf	16 48 34.8	+1.0
CLL			epPKP	pPKPdf	16 50 58.0	+6.6
UPC	Upice	145.60 344	ePKP	PKPdf	16 48 35.1	+1.3
DPC	Dobruska-Polom	145.66 343	ePKP	PKPdf	16 48 35.3	+1.4
BRG	Berggiesshubel	145.78 346	ePKPbc	PKPbc	16 48 35.7	-0.3
BRG	Berggiesshubel	145.78 346	ePKP	PKPdf	16 48 35.5	+1.4
	comp=Z,14nm,1.3s					
BRG	Berggiesshubel	145.78 346	ePKIKP	PKPdf	16 48 35.5	+1.3
BRG			pmax	pmax		
	comp=Z,14nm,1.3s					
MORC	Moravsky Berou	145.82 341	⇓iP	PKPdf	16 48 36.0	+1.8
MORC	Moravsky Berou	145.82 341	ePKPdf	PKPdf	16 48 35.0	+0.8
MLR	Muntele Rosu	145.91 329	⇑iP	PKPdf	16 48 36.6	+2.2
MLR	Muntele Rosu	145.91 329	⇑P	PKPdf	16 48 36.6	+2.3
KECS	Kecovo	145.94 337	ePKP	PKPdf	16 48 35.8	+1.4
DRGR		146.42 333	⇑iP	PKPdf	16 48 37.7	+2.5
DRGR		146.42 333	⇑P	PKPdf	16 48 37.7	+2.5
PRU	Pruhonice	146.46 345	ePKP	PKPdf	16 48 37.0	+1.7
MOX	Moxa	146.49 348	ePKPbc	PKPbc	16 48 37.4	-0.5
MOX	Moxa	146.49 348	ePKP	PKPdf	16 48 34.0	-1.3
	comp=Z,13nm,1.2s					
MOX	Moxa	146.49 348	ePKHKP	PKPdf	16 48 34.0	-1.3
MOX			pmax	pmax		
	comp=Z,13nm,1.2s					
VYHS	Vyhne	146.52 339	iPKP	PKPbc	16 48 37.7	-0.3
TANN	Tannenbergstha	146.54 347	ePKPbc	PKPbc	16 48 37.6	-0.5
KOLL	Kolacno	146.59 339	ePKP	PKPbc	16 48 37.7	-0.5
TREC	Trest	146.84 343	ePKP	PKPbc	16 48 38.3	-0.6
ZST	Bratislava	147.35 341	ePKP	PKPbc	16 48 39.5	-0.7
TNS	Taunus Mts	147.43 352	ePKPbc	PKPbc	16 48 40.1	-0.3
GRA1	Grafenberg Arr	147.48 348	ePKPbc	PKPbc	16 48 40.2	-0.3
GRF	Grafenberg Arr	147.48 348	ePKPbc	PKPbc	16 48 40.2	-0.3
KHC	Kasperske Hory	147.49 345	ePKP	PKPdf	16 48 35.9	-1.1
KHC			ex	x	16 48 40.0	
SNF	Seneffe	147.54 357	PKPbc	PKPbc	16 48 39.9	-0.8
WET	Wettzell	147.64 346	ePKPbc	PKPbc	16 48 40.2	-0.7
GEC2	GERESS Array S	147.73 345	ePKPbc	PKPbc	16 48 40.5	-0.7
GERES	GERESS Array B	147.73 345	PKPbc	PKPbc	16 48 40.7	-0.4
	comp=Z,8.6nm,0.8s,baz=29,slow=3.0,SNR=42					
BZS	Buzias	147.82 333	⇑iP	PKPbc	16 48 41.0	-0.4
BZS	Buzias	147.82 333	⇑P	PKPbc	16 48 41.0	-0.3
GIVF	Givet	147.91 356	ePKP1	PKPbc	16 48 40.6	-1.0
	comp=Z,42nm,0.9s					
DOU	Dourbes	147.94 356	PKPbc	PKPbc	16 48 41.1	-0.6
BAIF	Baives	148.00 357	ePKP1	PKPbc	16 48 41.0	-0.8
	comp=Z,18nm,0.7s					
WLF	Walferdange	148.24 354	ePKPbc	PKPbc	16 48 42.3	-0.1
WLF	Walferdange	148.24 354	PKPbc	PKPbc	16 48 42.0	-0.4
PKSM	Moragy	148.53 337	⇓iP	PKPbc	16 48 42.7	-0.5
PKSM	Moragy	148.53 337	⇓P	PKPbc	16 48 42.7	-0.4
FUR	Furstenfeldbru	148.92 347	ePKPbc	PKPbc	16 48 43.6	-0.5
BFO	Black Forest	149.29 351	ePKPbc	PKPbc	16 48 44.2	-0.8
FLN	La Foliniere	149.33 3	ePKP1	PKPbc	16 48 43.9	-1.2
	comp=Z,45nm,0.9s					
CDF	Champ du Feu	149.35 352	ePKP1	PKPbc	16 48 44.3	-0.8
	comp=Z,27nm,0.9s					
VTS	Vitosha	149.36 328	⇓iP	PKPbc	16 48 45.4	+0.2
VTS	Vitosha	149.36 328	⇓P	PKPbc	16 48 45.4	+0.3
MEZF	Maizieres J'vi	149.49 355	ePKP1	PKPbc	16 48 44.9	-0.6
LDF	La Druitiere	149.51 2	ePKP1	PKPbc	16 48 44.4	-1.1
	comp=Z,21nm,0.8s					
ROSF	Rostrenen	149.55 6	ePKP1	PKPbc	16 48 44.0	-1.6
GRR	Gorron	149.68 3	ePKP1	PKPbc	16 48 44.8	-1.1
SGMF	Saint Gilles	149.70 5	ePKP1	PKPbc	16 48 44.7	-1.3
	comp=Z,50nm,1.0s					
HAU	Haudompre	149.86 353	ePKP1	PKPbc	16 48 46.3	-0.1
	comp=Z,17nm,0.7s					
HINF	Hinteralfeld	149.99 353	ePKP1	PKPbc	16 48 45.7	-1.0
	comp=Z,14nm,0.8s					
LOR	Lormes	150.80 357	ePKP1	PKPbc	16 48 47.6	-0.9
	comp=Z,14nm,0.6s					
SSF	Saint Saulge	151.02 357	ePKP1	PKPbc	16 48 48.1	-0.9
	comp=Z,32nm,0.9s					
CABF	La Chapelle	151.27 353	ePKP1	PKPbc	16 48 49.0	-0.6
	comp=Z,37nm,1.0s					
AVF	Avril sur Loir	151.30 357	ePKP1	PKPbc	16 48 48.6	-1.0
SMF	Signal de Mont	151.42 357	ePKP1	PKPbc	16 48 48.9	-1.0
MFF	Saint Martin d	151.50 2	ePKP1	PKPbc	16 48 49.1	-1.0
	comp=Z,25nm,0.9s					
TCF	Toulx Ste Croi	151.84 359	ePKP1	PKPbc	16 48 50.0	-0.8
LPL	La Plagne	152.27 352	ePKP1	PKPbc	16 48 51.5	-0.3
LPG	La Plagne	152.28 352	ePKP1	PKPbc	16 48 51.5	-0.3
	comp=Z,6.7nm,0.8s					
RJF	Les Rejaudoux	152.83 360	ePKP1	PKPbc	16 48 52.4	-0.6
	comp=Z,16nm,0.9s					
ORIF	Oris-en-Rattie	152.96 353	ePKP1	PKPbc	16 48 52.9	-0.4
MBDF	Montbardon	153.04 352	ePKP1	PKPbc	16 48 52.9	-0.6
	comp=Z,11nm,0.8s					
VIVF	Saint-Julien-l	153.14 355	ePKP1	PKPbc	16 48 53.2	-0.5
CAF	Calviac	153.20 359	ePKP1	PKPbc	16 48 53.3	-0.5
ESDC	Sonseca Array	157.94 11	PKPab	PKPab	16 49 26.9	-2.3
	comp=Z,1.8nm,0.8s,baz=358,slow=6.0,SNR=6.6					
TORD	Torodi Ar. Bea	175.12 182	PKP	PKPdf	16 49 03.0	-1.8
	comp=Z,1.2nm,0.9s,baz=323,slow=1.5,SNR=6.0					

NEIC 10 16:51:05.0,3279S×7167W,h31km,ML4.0(GUC),8C-4D, After GUC.,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.23	175	iP	Pb	16 51 11.4	-0.2
IHA				iS	Sb	16 51 16.2	+0.1
ROCH	El Roble	0.58	108	⇑iP	Pb	16 51 16.8	0.0
ROCH				iS	Sb	16 51 25.7	+1.0
LCCH	Las Cruces	0.68	173	⇓iP	Pb	16 51 18.2	-0.3
LCCH				iS	Sb	16 51 27.6	0.0
PEL	Peldehue	0.90	113	⇑iP	Pn	16 51 21.9	+0.4
PEL				iS	Sn	16 51 34.4	+1.0
JACH	Jahuel	0.91	83	⇑iP	Pn	16 51 21.5	-0.2
JACH				iS	Sn	16 51 34.3	+0.5
TACH	Talagante	1.05	145	⇑iP	Pn	16 51 24.1	+0.5
TACH				iS	Sn	16 51 38.0	+0.7
SAN	Santiago	1.07	128	iP	Pn	16 51 23.9	0.0
SAN				iS	Sn	16 51 38.2	+0.6
DSCH	Colegio Aleman	1.10	123	⇑iP	Pn	16 51 24.4	+0.1
DSCH				iS	Sn	16 51 39.5	+1.1
FSR	Penalolen	1.18	126	iP	Pn	16 51 26.3	+1.0
FSR				iS	Sn	16 51 42.2	+2.0
LNV	Longovilo	1.18	170	⇑iP	Pn	16 51 25.4	0.0
LNV				iS	Sn	16 51 41.0	+0.7
FCH	Farellones	1.27	115	⇓iP	Pn	16 51 28.0	+1.3
FCH				iS	Sn	16 51 45.0	+2.4
SJCH	San Jose de Ma	1.39	128	iP	Pn	16 51 29.2	+1.0
SJCH				iS	Sn	16 51 47.5	+2.0
CACH	El Canelo	1.59	146	⇑iP	Pn	16 51 33.5	+2.4
CACH				iS	Sn	16 51 54.2	+3.7
CMCH	Combarbala	1.71	19	⇓iP	Pn	16 51 32.5	-0.2
CMCH				iS	Sn	16 51 54.7	+1.2
SFDO	San Fernando	1.90	163	⇓iP	Pn	16 51 36.6	+1.4
SFDO				iS	Sn	16 52 00.7	+2.6

*NIED **10** 17:33:00,37.10N×137.10E,h290km,Mw3.9 Best double couple: M0:6.85000×10^14 NP1:φ0=265.00000°,δ63.00000°, λ-34.00000°. NP2:φ0=12.00000°,δ60.00000°, λ-149.00000°.*

JMA 10 17:33:30.3±0.1,3714N×13710E,h266km±1km,M3.6, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	Suzu	0.37	34	P	Pn	17 34 04.8	+0.1
JSZ				S	S	17 34 31.1	-0.7
JTT	Ttatey	0.57	161	P	Pn	17 34 05.2	0.0
JTT				eS	S	17 34 33.0	+0.3
JHG	Hegura jima	0.72	349	P	Pn	17 34 06.2	+0.5
JHG				S	S	17 34 33.6	-0.1
JKG	Kaga	1.06	216	P	Pn	17 34 07.4	+0.1
MAT	Matsushiro	1.07	124	P	Pn	17 34 07.3	-0.1
MAT				eS	S	17 34 36.7	+0.1
JNG	Nsakai	1.09	132	P	Pn	17 34 07.7	+0.2
JSD	Sado	1.28	45	P	Pn	17 34 08.9	+0.3
JSD				S	S	17 34 38.1	-0.9
JHK	Hiroka	1.54	85	P	Pn	17 34 10.3	-0.1

*NEIC **10** 17:35:35.1,37.16S×177.45E,h143km,MG3.9(WEL),After WEL.*

WEL 10 17:35:34.8±0.2,3713S×17747E,h144km±2km,ML4.0/6, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.79	123	PN	Pn	17 35 57.2	-0.1
MXZ				SN	Sn	17 36 14.4	0.0
MXZ	Matakaoa Point	0.79	123	eP	Pn	17 35 57.2	-0.1
PUZ	Puketiti	1.13	147	PN	Pn	17 36 00.3	+0.2
PUZ				SN	Sn	17 36 19.0	-0.4
PUZ	Puketiti	1.13	147	eP	Pn	17 36 00.3	+0.2
PUZ				S	Sn	17 36 19.0	-0.4
URZ	Urewera	1.16	194	PN	Pn	17 36 00.3	-0.2
URZ				SN	Sn	17 36 20.5	+0.5
URZ	Urewera	1.16	194	P	Pn	17 36 00.3	-0.2
MWZ	Matawai	1.20	178	PN	Pn	17 36 00.8	0.0
MWZ				SN	Sn	17 36 21.0	+0.4
MWZ	Matawai	1.20	178	P	Pn	17 36 00.8	0.0
KNZ	Kokohu	1.89	175	PN	Pn	17 36 08.0	-0.2
KNZ	Kokohu	1.89	175	P	Pn	17 36 08.1	-0.2
OTAZ	Otara	2.04	274	PN	Pn	17 36 10.2	+0.1
OTAZ	Otara	2.04	274	P	Pn	17 36 10.2	+0.1
MTAZ	Motutapu	2.08	279	PN	Pn	17 36 10.4	-0.1
MTAZ	Motutapu	2.08	279	P	Pn	17 36 10.5	0.0
BKZ	Black Stump Fm	2.17	200	PN	Pn	17 36 10.6	-1.0
BKZ	Black Stump Fm	2.17	200	eP	Pn	17 36 10.7	-0.9
KAAZ	Kauri Point	2.24	277	P	Pn	17 36 10.7	-1.7
FWVZ	Far West T-bar	2.60	215	eP	Pn	17 36 16.5	-0.4
MOVZ	Moawhango	2.64	210	PN	Pn	17 36 16.0	-1.4
MOVZ	Moawhango	2.64	210	P	Pn	17 36 16.0	-1.4
PXZ	Pawanui	2.94	189	PN	Pn	17 36 18.6	-2.5
TSZ	Takapari Road	3.15	202	PN	Pn	17 36 21.7	-2.2
TSZ	Takapari Road	3.15	202	eP	Pn	17 36 21.8	-2.1
WAZ	Wanganui	3.27	216	PN	Pn	17 36 24.6	-0.8
WAZ	Wanganui	3.27	216	eP	Pn	17 36 24.6	-0.7
BFZ	Birch Farm	3.67	195	PN	Pn	17 36 27.9	-2.7
BFZ	Birch Farm	3.67	195	P	Pn	17 36 27.9	-2.7
MRZ	Mangatainoka R	3.82	202	PN	Pn	17 36 29.3	-3.2
MRZ	Mangatainoka R	3.82	202	eP	Pn	17 36 29.3	-3.2
TIWZ	Tintock	3.84	198	PN	Pn	17 36 29.2	-3.6
KIW	Kapiti Island	4.22	207	PN	Pn	17 36 34.2	-3.7
KIW	Kapiti Island	4.22	207	P	Pn	17 36 34.2	-3.6
MTW	Mount Morrison	4.30	200	PN	Pn	17 36 34.9	-4.0
MTW	Mount Morrison	4.30	200	P	Pn	17 36 34.9	-4.0
CAW	Cannon Point	4.39	204	PN	Pn	17 36 36.0	-4.0
CAW	Cannon Point	4.39	204	P	Pn	17 36 36.0	-4.0
MSWZ	Moikau Station	4.61	201	P	Pn	17 36 38.8	-4.1
TCW	Tory Channel	4.77	210	PN	Pn	17 36 40.9	-4.2
NNZ	Nelson	5.17	217	PN	Pn	17 36 46.3	-4.1
NNZ	Nelson	5.17	217	eP	Pn	17 36 46.3	-4.1
QRZ	Quartz Range	5.33	225	PN	Pn	17 36 48.1	-4.4
THZ	Tophouse	5.82	216	eP	Pn	17 36 55.0	-4.0
KHZ	Kahutara	6.08	209	eP	Pn	17 36 57.6	-5.0

*ISCJB **10** 18:04:04.7±0.9,4047N±004×2589E±008,h6km±7km, Error ellipse: s-maj=10.2km s-min=6.3km az=5.6*
*SOF **10** 18:04:04.9,4045N×2581E,h2km,MD2.8*
*NEIC **10** 18:04:05.5,4045N×2587E,h23km,MD3.6(ATH),After ATH.*
*ATH **10** 18:04:05.5,4045N×2587E,h23km±1km,MD3.6/5*
*CSEM **10** 18:04:06.3±0.1,4046N×2588E,h14km±1km,MD3.6,Error ellipse: s-maj=3.5km s-min=1.7km az=88.0*

ISC 10 18:04:05.6±0.9,4046N±004×2589E±008,h10km±7km,n11, σ0:60/15,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	Rodhopi	0.73	339	ePN	Pg	18 04 20.1	+0.4
RDO				eSN	Sg	18 04 30.4	+1.1
LIA	Limnos Island	0.78	224	ePN	Pg	18 04 21.1	+0.4
LIA				eSN	Sg	18 04 31.0	+0.1
PRK	Paraskevi	1.25	166	ePN	Pn	18 04 29.4	+0.2
PRK				eSN	Sn	18 04 46.0	-0.2
RZN	Rozhen	1.51	325	iPg	Pg	18 04 34.0	-0.6
DIM	Dimitrovgrad	1.61	351	iPg	Pg	18 04 36.3	-0.1
NVR	Nevrokopi	1.77	301	ePN	Pn	18 04 36.8	+0.4
PLG	Polygyros	1.86	268	ePB	Pn	18 04 37.3	-0.3
PLG				eSN	Sn	18 05 01.2	-0.1
PLD	Plovdiv	1.87	332	iP	Pg	18 04 41.1	-0.3
MMB	Musomiste	1.98	305	iP	Pn	18 04 39.8	+0.5
JMB	Yambol	2.07	14	iP	Pg	18 04 45.2	-0.1
VTS	Vitosha	2.92	317	iPg	Pg	18 05 00.0	-1.7

*ISCJB **10** 18:37:49.9±0.3,4936N±001×685E±003,h0km,Error ellipse: s-maj=2.8km s-min=1.9km az=1.6*
*BGR **10** 18:37:50.7±0.5,4937N×688E,h1km,ML2.0,Error ellipse: s-maj=8.9km s-min=5.6km az=32.0*
*LDG **10** 18:37:51.9±0.1,4937N×692E,h1km,Md3.0/2,Ml2.9/8, Error ellipse: s-maj=1.7km s-min=1.2km az=82.0, Suspected Mining induced.*
*STR **10** 18:37:51.2±0.3,4937N×688E,h1km±1km,Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **10** 18:37:51.2,4937N×688E,h1km,ML2.5(STR), ML2.9(LDG),After STR.*
*BNS **10** 18:37:53.1±0.9,4942N×698E,h1km,ML1.8*

ISC 10 18:37:51.0±0.3,4937N±001×687E±003,h0km,n36, σ0:74/62,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.36	20	Pg	Pg	18 37 58.1	+0.3
WLF	Walferdange	0.55	303	ePg	Pg	18 38 03.0	+1.4
WLF				eSg	Sg	18 38 08.5	-0.3
WLF	Walferdange	0.55	303	P	Pg	18 38 02.9	+1.3
WLF				S	Sg	18 38 08.6	-0.2
	comp=E,17nm,0.0s						
WLF	Walferdange	0.55	303	ePg	Pg	18 38 03.0	+1.4
ABH	Alteburg	0.68	40	Pg	Pg	18 38 03.1	-0.9
LANF	Langenberg	0.73	122	Pg	Pg	18 38 05.0	+0.1
BGG	Burgeitz	0.89	20	ePg	Pg	18 38 08.7	+0.7
BGG				eSg	Sg	18 38 19.9	+0.3
HILG	Hillesheim	0.93	352	eSg	Sg	18 38 23.0	+2.0
CDF	Champ du Feu	0.99	164	ePn	Pn	18 38 11.0	-1.2
CDF				eSg	Sg	18 38 23.4	+0.5
	comp=E,27nm,0.3s						
CDF	Champ du Feu	0.99	164	ePg	Pg	18 38 09.9	-0.1
CDF				ePn	Pn	18 38 11.0	-1.2
CDF				eSg	Sg	18 38 23.4	+0.5
WLS	Welschbruch	1.01	161	Pg	Pg	18 38 11.3	+1.0
ECH	Echery	1.17	170	Pg	Pg	18 38 14.1	+0.7
ECH				Sg	Sg	18 38 29.0	+0.4
STB	Steinbach	1.23	359	ePg	Pg	18 38 15.2	+0.7
STB				eSg	Sg	18 38 30.4	0.0
	comp=E,18nm,0.7s						
THEF	They Montfort	1.28	207	Pg	Pg	18 38 15.8	+0.2
THEF				Sg	Sg	18 38 32.4	+0.2
TOD	Tromm	1.28	79	Pg	Pg	18 38 15.3	-0.3
TOD				Sg	Sg	18 38 32.9	+0.7
KLL	Kalltalsperre	1.33	344	ePg	Pg	18 38 16.5	0.0
KLL				eSg	Sg	18 38 33.3	-0.4
TNS	Taunus Mts	1.33	50	ePg	Pg	18 38 16.3	-0.3
TNS				eSg	Sg	18 38 34.1	+0.3
TNS	Taunus Mts	1.33	50	ePg	Pg	18 38 16.3	-0.2
TNS				eSg	Sg	18 38 34.1	+0.3
HAU	Haudompre	1.41	194	ePg	Pg	18 38 19.2	+1.2
HAU				eSg	Sg	18 38 37.4	+1.2
	comp=E,41nm,0.4s						
BFO	Black Forest	1.42	137	ePg	Pg	18 38 17.9	-0.2
BFO				eSg	Sg	18 38 36.3	-0.2
BFO	Black Forest	1.42	137	ePg	Pg	18 38 17.9	-0.3
BFO				eSg	Sg	18 38 36.3	-0.2
MEZF	Maizieres J'vi	1.48	235	ePg	Pg	18 38 20.0	+0.7
	baz=52						
MEZF				eSg	Sg	18 38 39.2	+0.7
	comp=E,19nm,0.4s						
GIVF	Givet	1.52	300	ePn	Pn	18 38 19.4	0.0
HGN	Heimansgroeve	1.52	337	ePg	Pg	18 38 19.7	-0.4
	comp=E,15nm,0.9s						
HGN				eSg	Sg	18 38 39.5	-0.4
MOF	Molkenrain	1.53	173	Pg	Pg	18 38 20.3	0.0
MOF				Sg	Sg	18 38 40.7	+0.6
HINF	Hinteralfeld	1.55	180	ePg	Pg	18 38 20.8	0.0
HINF				eSg	Sg	18 38 41.3	+0.4
	comp=E,71nm,0.3s						
FELD	Feldberg im Sc	1.67	153	Pg	Pg	18 38 23.1	+0.1
BAIF	Baives	1.86	293	ePg	Pg	18 38 26.9	+0.2
BAIF				eSg	Sg	18 38 50.9	+0.1
	comp=E,13nm,0.5s						
BAIF	Baives	1.86	293	ePn	Pn	18 38 24.0	-0.1
BAIF				ePg	Pg	18 38 26.9	+0.2
BAIF				eSg	Sg	18 38 50.9	+0.1
CABF	La Chapelle	2.81	191	ePn	Pn	18 38 35.6	-1.5
CABF				eSg	Sg	18 39 21.1	-0.1
	comp=E,14nm,0.6s						
LOR	Lormes	2.91	225	ePn	Pn	18 38 37.3	-1.2
	baz=42						
LOR				eSn	Sn	18 39 12.4	-1.7
LOR				eSg	Sg	18 39 23.9	-0.5
	comp=E,7.6nm,0.4s						
SSF	Saint Saulge	3.22	226	ePn	Pn	18 38 41.6	-1.2
MOX	Moxa	3.32	66	eSg	Sg	18 39 36.4	-1.2
SMF	Signal de Mont	3.40	218	ePn	Pn	18 38 44.3	-1.0
AVF	Avril sur Loir	3.49	224	ePn	Pn	18 38 45.6	-1.0
KHC	Kasperske Hory	4.40	91	ePN	Pn	18 38 58.5	-0.5

*IDC **10** 18:47:30.9±1.7,537N×9437E,h0km,mb3.9/6,mb1 4.1/6, mb1mx3.8/20,mbtmp3.9/6,Error ellipse: s-maj=75.0km s-min=21.1km az=57.0*
*NEIC **10** 18:47:34.6±0.9,530N×94.18E,h30km,mb4.1/3,Error ellipse: s-maj=26.9km s-min=10.7km az=47.0*
*ISCJB **10** 18:47:38.5±5.3,55N±02×945E±02,h72km±44km,mb3.9/9, Error ellipse: s-maj=45.7km s-min=16.3km az=105.2*

ISC 10 18:47:39.7±4.7,55N±02×945E±02,h65km±40km,n11, σ0:58/12,mb3.9/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.17	92	ePn	Pn	18 49 08.2	+0.2
KULM				eSn	Sn	18 50 17.0	-0.1
LSA	Lhasa	24.29	353	eP	P	18 52 50.8	0.0
	2.6nm,0.5s,mb3.8						
MKAR	Makanchi Array	42.47	348	P	P	18 55 28.6	+0.3
	3.1nm,0.7s,mb4.2,baz=162,slow=8.0,SNR=30						
SONM	Songino Array	43.41	12	P	P	18 55 36.4	+0.5
	1.3nm,0.7s,mb3.8,baz=193,slow=6.1,SNR=4.4						
WRA	Warramunga Arr	46.65	124	P	P	18 56 01.4	-0.1
	0.6nm,0.6s,mb3.5,baz=301,slow=9.5,SNR=8.9						
WRAB	Tennant Creek	46.65	124	P	P	18 56 01.6	+0.1
	7.2nm,1.0s,mb4.4						
ASAR	Alice Springs	48.17	129	P	P	18 56 13.3	0.0
	0.5nm,0.6s,mb3.5,baz=299,slow=7.6,SNR=8.4						
ZAL	Zalesovo	48.94	352	P	P	18 56 19.4	+0.2
	1.6nm,0.3s,mb4.4,baz=288,slow=6.5,SNR=5.7						
ZAL	Zalesovo	48.94	352	P	P	18 56 19.4	+0.2
ZRNK	Zerenda	51.72	341	P	P	18 56 38.5	-1.8
	0.8nm,0.6s,mb3.9						
GERES	GERESS Array B	79.81	319	P	P	18 59 41.5	+0.6
	0.2nm,0.4s,mb3.3,baz=108,slow=4.3,SNR=4.5						

*ISCJB **10** 19:38:54.3±0.3,1934S±005×7003W±007,h74km, mb4.3/27,Error ellipse: s-maj=10.9km s-min=4.9km az=128.6*
*BJI **10** 19:38:55.9,1940S×7000W,h73km,mB4.9,Ms5.0,Msz4.5*
*NEIC **10** 19:38:56.0±0.3,1937S×7005W,mb4.4/21,Error ellipse: s-maj=10.7km s-min=6.1km az=58.0*
NEIC Felt [IV] at Huara; [III] at Alto Hospicio, Arica, Camina, Cuya, Iquique, Mamina, Pica and Pisagua; [II] at Pozo Almonte.
*IDC **10** 19:38:57.4±1.9,1947S×7005W,h86km±18km,mb3.9/11, mb1 4.1/15,mb1mx4.0/21,mbtmp4.3/15,MS3.3/3, Ms1 3.2/3,ms1mx2.8/29,Error ellipse: s-maj=20.7km s-min=12.6km az=92.0*

ISC 10 19:38:56.3±0.3,1938S±005×7007W±008,h76km, h76km±.9km:pP-P,n72,σ1:10/63,mb4.3/27,3C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	3.21	335	⇑iP	Pn	19 39 44.0	-0.3
ARE				iS	Sn	19 40 20.1	-1.3
LVC	Limon Verde	3.39	162	P	Pn	19 39 47.9	+1.1
	38nm,0.3s,baz=358,slow=9.2,SNR=1463						
LVC				S	Sn	19 40 25.5	-0.4
	109nm,0.3s,baz=350,slow=12,SNR=4.9						
LVC	Limon Verde	3.39	162	ePn	Pn	19 39 47.6	+0.8
LVC				e		19 40 09.3	
LPAZ	La Paz	3.59	31	P	Pn	19 39 54.0	+4.5
	5.8nm,0.3s,baz=130,slow=4.0,SNR=70						
LPAZ	La Paz	3.59	31	ePn	Pn	19 39 54.5	+5.0
SIV	San Ignacio	9.21	70	P	Pn	19 41 06.6	+0.3
	4.8nm,0.3s,baz=266,slow=10,SNR=72						
NNA	Nana	9.83	317	ePn	Pn	19 41 10.0	-4.7
CFAA	Coronel Fontan	12.28	173	P	Pn	19 41 43.8	-4.4
	0.1nm,0.3s,baz=353,slow=14,SNR=12						
CFAA				S	Sn	19 43 52.0	-11
	0.1nm,0.3s,baz=149,slow=13,SNR=3.6						
SAML	Samuel	12.33	34	ePn	Pn	19 41 45.0	-3.8
	8.7nm,0

5.4nm,0.5s,mb4.6
TPNV Topopah Spring 70.96 322 *e*P **P 19 50 06.3 +0.7**
5.5nm,1.0s,mb4.3
DAC Darwin (Calif) 71.29 321 *e*P **P 19 50 08.8 +1.2**
DUG Dugway 71.40 327 *e*P **P 19 50 09.1 +0.9**
6.1nm,1.0s,mb4.4
PDAR Pinedale Array 71.74 330 P **P 19 50 11.1 +0.7**
0.7nm,0.8s,mb3.5,baz=107,slow=9.5,SNR=5.5
HWUT Hardware Ranch 71.82 328 *e*P **P 19 50 10.9 +0.1**
3.1nm,0.8s,mb4.2
ULM Lac du Bonnet 72.98 343 P **P 19 50 16.6 -1.1**
1.9nm,0.4s,mb4.3,baz=147,slow=7.0,SNR=5.5
ELK Elko 73.07 326 *e*P **P 19 50 19.4 +1.2**
NVAR Mina Array Bea 73.16 322 P **P 19 50 19.9 +1.2**
1.3nm,0.8s,mb3.8,baz=161,slow=6.3,SNR=9.2
HLID Hailey 74.68 328 *e*P **P 19 50 29.2 +1.6**
5.9nm,1.1s,mb4.2
MCMT McKenzie Canyo 74.86 330 *e*P **P 19 50 29.5 +0.8**
TORD Torodi Ar. Bea 77.69 71 P **P 19 50 44.8 +0.1**
1.4nm,0.3s,mb4.1,baz=251,slow=5.0,SNR=27
WALA Waterton Lakes 78.50 332 *e*P **P 19 50 49.5 +0.3**
5.9nm,0.9s,mb4.3
VNDA Vanda 78.74 190 P **P 19 50 50.1 -0.4**
1.0nm,0.7s,mb3.8,baz=124,slow=5.6,SNR=7.3
VNDA Vanda 78.74 190 *e*P **P 19 50 51.2 +0.7**
1.2nm,0.8s,mb3.8
SYO Syowa Base 78.86 160⇑ *e*P **P 19 50 50.0 -1.1**
SYO Syowa Base 78.86 160⇑ *e*PcP PcP 19 50 55.0 -4.6
FCC Fort Churchill 80.34 348 *e*P **P 19 50 58.3 -0.9**
3.2nm,0.9s,mb4.2
EDM Edmonton 81.39 335 *e*P **P 19 51 03.2 -1.5**
TSUM Tsumeb 81.69 107 *e*P **P 19 51 07.7 +1.4**
1.8nm,0.7s,mb4.0
TSUM *e* 19 51 19.2
TSUM *e*pP pP 19 51 27.6 +0.9
YKA Yellowknife Ar 88.84 341 P **P 19 51 41.2 -0.7**
5.0nm,0.7s,mb4.7,baz=135,slow=4.8,SNR=57
YKA pP pP 19 52 01.9 -0.7
0.8nm,0.4s,baz=132,slow=4.7,SNR=11
YKW3 Yellowknife Ar 88.89 341 *e*P **P 19 51 41.0 -1.2**
DLBC Dease Lake 91.83 333 P **P 19 51 56.0 +0.2**
ASAR Alice Springs 131.24 210 PKP PKPdf 19 57 59.8 +0.2
0.5nm,0.6s,baz=132,slow=2.0,SNR=7.1
ZRNK Zerenda 133.96 33 *e*PKPdf PKPdf 19 58 05.1 +0.4
ZRNK *e*pPKPdf pPKPdf 19 58 25.7 -0.5
WRA Warramunga Arr 134.18 213 PKP PKPdf 19 58 05.6 +0.5
0.8nm,0.6s,baz=145,slow=1.6,SNR=16
MKAR Makanchi Array 144.51 33 PKP PKPdf 19 58 23.1 -0.8
1.6nm,0.6s,baz=321,slow=3.3,SNR=30
WMQ Urumqi 149.33 32 *e*PKP PKPdf 19 58 31.7 -0.2
CN2 Changchun 152.40 335 *e*PKP PKPdf 19 58 33.4 -3.3
HHC Hu-ho-hao-te 158.56 357 *e*PKP PKPdf 19 58 40.5 -4.4
HHC APKP 19 59 06.6
HHC XPKP 19 59 18.0
HHC PKS 20 02 12.8
HHC PP PP 20 02 59.3 -1.4
HHC PP PP
comp=Z,720nm,11.7s
HHC LR LR
comp=N,110nm,20.2s
HHC LR LR
comp=E,90nm,20.2s
HHC LR LR
comp=Z,70nm,19.0s
LZH Lanzhou 162.52 17 *e*PKP PKPdf 19 58 47.6 -1.7
LZH APKP 19 59 08.4
LZH XPKP 19 59 17.2
LZH LR LR
comp=N,120nm,18.2s
LZH LR LR
comp=Z,180nm,20.3s
NJ2 Nanjing 165.05 329 *e*PKP PKPdf 19 58 48.8 -2.8
CD2 Chengdu 167.24 25 *e*PKP PKPdf 19 58 46.9 -6.4

*ISCJB **10** 19:41:44.8±2.6, 1503N±008×9446W±004, h28km±20km, mb3.7/7, Error ellipse: s-maj=13.1km s-min=7.0km az=11.5*
*IDC **10** 19:41:44.7±3.1, 1552N×9371W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.7/5, Error ellipse: s-maj=107.7km s-min=19.6km az=45.0*
*NEIC **10** 19:41:47.2, 1495N×9449W, h45km, mb3.8/6, MD4.3(MEX), After MEX.*
*MEX **10** 19:41:47.1±1.1, 1494N×9449W, h33km±44km, MD4.3*
ISC 10 19:41:45.3±2.5, 1505N±010×**9443W**±004, **h18**km±19km, **n26**, σ1§**34**/35, **mb3.7**/7, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**2.08**	**348**	Pg	**Pn**	**19 42 19.3**	**+0.1**
	26nm,0.3s,baz=153,slow=10,SNR=30						
CMIG				Lg		19 42 45.7	
	90nm,0.3s,baz=50,slow=18,SNR=20						
CMIG	**Matias Romero**	**2.08**	**348**	*i* P	**Pn**	**19 42 19.2**	**+0.1**
CMIG				*i* S	**Sn**	**19 42 44.0**	**-0.5**
CMIG	**Matias Romero**	**2.08**	**348**	Pg	**Pn**	**19 42 19.3**	**+0.1**
CMIG				*i* S	**Sn**	**19 42 44.0**	**-0.5**
CMIG				Lg		19 42 45.7	
SCX	**San Cristobal**	**2.41**	**46**	*i* P	**Pn**	**19 42 26.0**	**+2.3**
SCX				*i* S	**Sn**	**19 42 53.0**	**+0.3**
CCIG	**Comitan**	**2.53**	**61**	*i* P	**Pn**	**19 42 25.4**	**0.0**
CCIG				*i* S	**Sn**	**19 42 54.8**	**-0.9**
TUIG	**Tuzandepetl**	**2.97**	**0**	*i* P	**Pn**	**19 42 31.9**	**+0.5**
TUIG				*i* S	**Sn**	**19 43 08.2**	**+1.7**
VHO	**Vista Hermosa**	**2.99**	**313**	*e*P	**Pn**	**19 42 31.0**	**-0.7**
VHO				*i* S	**Sn**	**19 43 06.7**	**-0.4**
VHO	**Vista Hermosa**	**2.99**	**313**	*e*P	**Pn**	**19 42 30.2**	**-1.5**
VHO				*i* S	**Sn**	**19 43 06.7**	**-0.4**
UTMO	**Huajuapan**	**4.26**	**311**	*i* P	**Pn**	**19 42 49.4**	**+0.3**
UTMO				*i* S	**Sn**	**19 43 35.7**	**-2.7**
PPM	**Popocatepetl**	**5.66**	**315**	*i* S	**Sn**	**19 44 13.4**	**+0.4**
TEIG	**Tepich**	**7.80**	**48**	*e*Pn	**Pn**	**19 43 36.3**	**-1.6**
	14nm,0.6s						
TEIG				*e*Sn	**Sn**	**19 44 48.9**	**-17**
LTX	**Lajitas**	**16.58**	**331**	*e*Pn	**Pn**	**19 45 35.6**	**-1.1**
	6.0nm,0.9s						
MIAR	**Mount Ida**	**19.43**	**2**	*e*P	**Pn**	**19 46 09.2**	**-2.6**
	3.5nm,0.7s						
AMTX	**Amarillo**	**20.80**	**343**	*e*P	**P**	**19 46 26.1**	**+0.7**
	12nm,0.6s						
WVT	**Waverly**	**21.81**	**15**	P	**P**	**19 46 34.7**	**-1.6**
	2.4nm,0.8s,mb3.7						
ANMO	**Albuquerque**	**22.58**	**334**	P	**P**	**19 46 46.9**	**+2.3**
	0.5nm,0.3s,mb3.4,baz=161,slow=15,SNR=4.5						
ANMO	**Albuquerque**	**22.58**	**334**	*e*P	**P**	**19 46 45.7**	**+1.2**
	2.5nm,0.9s,mb3.6						
PDAR	**Pinedale Array**	**30.53**	**338**	P	**P**	**19 47 58.2**	**+0.8**
	0.5nm,0.8s,mb3.4,baz=148,slow=8.7,SNR=3.8						
NVAR	**Mina Array Bea**	**31.39**	**322**	P	**P**	**19 48 08.3**	**+3.2**
	0.5nm,0.6s,mb3.5,baz=134,slow=8.7,SNR=6.5						
NVAR	**Mina Array Bea**	**31.39**	**322**	P	**P**	**19 48 08.3**	**+3.2**
MCMT	**McKenzie Canyo**	**33.53**	**336**	*e*P	**P**	**19 48 26.5**	**+2.7**
NEW	**Newport**	**38.04**	**335**	P	**P**	**19 49 04.4**	**+1.9**
	3.0nm,0.9s,mb4.0						
YKA	**Yellowknife Ar**	**49.49**	**348**	P	**P**	**19 50 33.7**	**-0.8**
	0.9nm,0.7s,mb3.9,baz=152,slow=7.2,SNR=8.5						
YKA	**Yellowknife Ar**	**49.49**	**348**	P	**P**	**19 50 33.7**	**-0.8**
NB2	**NORSAR Subarra**	**84.34**	**28**	P	**P**	**19 54 15.6**	**-0.6**
	comp=Z,0.9nm,0.7s,mb4.0,baz=290,slow=5.1						
NOA	**NORSAR Array B**	**84.34**	**28**	P	**P**	**19 54 14.9**	**-1.3**
	comp=Z,1.0nm,0.7s,mb4.1,baz=291,slow=5.1,SNR=6.5						

*SZGRF **10** 19:52:06.5, 1841N×12139E, h34km, mb5.0, Luzon, Philippine Islands*
*IDC **10** 19:52:06.4±0.4, 1887N×12004E, h0km, mb4.8/18, mb1 4.9/18, mb1mx4.9/20, mbtmp4.8/18, MS4.4/21, Ms1 4.4/21, ms1mx4.2/29, Error ellipse: s-maj=19.9km s-min=9.8km az=67.0*
*ISCJB **10** 19:52:10.2±0.1, 1907N±002×12002E±003, h31km, mb5.1/132, MS4.6/48, Error ellipse: s-maj=3.7km s-min=2.2km az=136.3*
*MOS **10** 19:52:10.4±0.8, 1905N×12006E, h33km, mb5.3/61, MS4.6/25, Error ellipse: s-maj=8.6km s-min=4.5km az=116.8*
*HRVD **10** 19:52:11.4±0.2, 1914N×12004E, h16km, MW5.2/84, Centroid moment Tensor Solution. LP body waves: s59,c93;Mantle waves: s84,c158; Half duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}~0.72±.02: $M_{\theta\theta}$0.52±.01; $M_{\phi\phi}$0.19±.02; $M_{r\theta}$0.35±.04; $M_{\theta\phi}$0.39±.01; $M_{\phi r}$0.04±.05; Best double couple: $M_0$0.83100×10^{17}*

NP1:ϕ_s44.00000°, δ35.00000°, λ-110.00000°. NP2: ϕ_s248.00000°, δ58.00000°, λ-77.00000°. Principal axes: T 0.8440, Plg12.0000°, Azm328.0000°; N -0.0260, Plg11.0000°, Azm61.0000°; P -0.8190, Plg74.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **10** 19:52:11.4±0.1, 1903N×120.12E, mb5.2/77, MS4.6/5 Error ellipse: s-maj=4.6km s-min=3.6km az=83.0*
*MAN **10** 19:52:11.2, 1892N×11994E, h19km, mb4.6, ML5.4, MS4.3*
*BJI **10** 19:52:15.9, 1969N×11975E, h31km, mB5.1, mb4.9, ML4.3, Ms4.9, Msz4.7*
ISC 10 19:52:12.1±0.1, **1908N**±002×**12005E**±003, **h33**km, **h33**km±.3km:**pP-P**, **n400**, σ1§**08**/402, **mb5.1**/132, **MS4.6**/48, **28C-33D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.56**	**156**	*e*P	**Pn**	**19 52 36.2**	**-1.4**
ABRA				*e*S	**Sn**	**19 52 55.7**	**-0.9**
APYP	**Conner**	**1.66**	**137**	*e*P	**Pn**	**19 52 38.0**	**-0.9**
APYP				*e*S	**Sn**	**19 52 59.7**	**+0.5**
SGCP	**Mt. Cagua**	**2.07**	**113**	*e*P	**Pn**	**19 52 44.8**	**+0.2**
SGCP				*e*S	**Sn**	**19 53 11.6**	**+2.4**
CVP	**Callao Caves**	**2.17**	**129⇑**	*i*P	**Pn**	**19 52 46.0**	**0.0**
BOLP	**Bolinao**	**2.69**	**183**	*e*P	**Pn**	**19 52 51.4**	**-1.6**
CAUP	**Cauayan**	**2.72**	**141**	*e*P	**Pn**	**19 52 55.5**	**+2.0**
CAUP				*e*S	**Sn**	**19 53 31.4**	**+6.2**
PALP	**Palanan**	**3.03**	**131⇑**	*i*P	**Pn**	**19 52 52.8**	**-4.9**
PALP				*e*S	**Sn**	**19 53 45.7**	**+13**
PALP	**Palanan**	**3.03**	**131**	*e*P	**Pn**	**19 52 59.2**	**+1.5**
PALP				*e*S	**Sn**	**19 53 39.1**	**+6.3**
SCZP	**Santa Cruz**	**3.29**	**182**	*e*P	**Pn**	**19 53 01.2**	**-0.1**
BALP	**Baler**	**3.63**	**156**	*e*P	**Pn**	**19 53 06.7**	**+0.7**
BALP				*e*S	**Sn**	**19 53 50.4**	**+2.7**
POLP	**Polilio Island**	**4.69**	**157**	*e*P	**Pn**	**19 53 21.0**	**+0.3**
TGY	**Tagaytay City**	**5.03**	**170**	Pn	**Pn**	**19 53 26.7**	**+1.5**
	86nm,0.3s,baz=98,slow=1.0,SNR=9.3						
TGY				Sn	**Sn**	**19 54 24.5**	**+2.4**
	16nm,0.3s,baz=279,slow=8.9,SNR=2.9						
LQP	**Lukban**	**5.14**	**164**	*e*P	**Pn**	**19 53 35.3**	**+8.5**
NACB	**Ninganchiao**	**5.27**	**16**	*e*Pn	**Pn**	**19 53 25.1**	**-3.4**
NACB				*e*Sn	**Sn**	**19 54 18.9**	**-9.2**
LUBP	**Lubang**	**5.32**	**178**	*e*P	**Pn**	**19 53 28.7**	**-0.6**
LUBP				*e*S	**Sn**	**19 54 32.0**	**+2.6**
GQP	**Guinayangan**	**5.64**	**156⇑**	*i*P	**Pn**	**19 53 33.7**	**+0.1**
GQP				*i* S	**Sn**	**19 54 22.3**	**-15**
YHNB	**Yeheng**	**5.70**	**12**	*e*Pn	**Pn**	**19 53 33.3**	**-1.1**
YHNB				*e*Sn	**Sn**	**19 54 37.1**	**-1.5**
BOAC	**Boac**	**5.85**	**163**	*e*P	**Pn**	**19 53 36.6**	**0.0**
QZH	**Quanzhou**	**5.99**	**347⇑**	*i*P	**Pn**	**19 53 34.9**	**-3.5**
QZH				S	**Sn**	**19 54 40.2**	**-5.6**
QZH				Smax			
	comp=N,430nm,0.6s						
QZH				Smax			
	comp=E,540nm,1.1s						
QZH				LR	LR		
	comp=N,10μm,12.6s						
QZH				LR	LR		
	comp=E,4μm,10.6s						
QZH				LR	LR		
	comp=Z,14μm,12.9s						
TATO	**Taipei**	**6.01**	**13**	*e*Pn	**Pn**	**19 53 38.8**	**0.0**
AUQP	**San Andres**	**6.26**	**156**	*e*P	**Pn**	**19 53 50.9**	**+8.8**
HKC	**Hong Kong**	**6.36**	**301**	P	**Pn**	**19 53 40.0**	**-3.6**
PVCP	**Virac**	**6.73**	**144**	*i*P	**Pn**	**19 53 48.3**	**-0.3**
PVCP	**Virac**	**6.73**	**144**	*e*P	**Pn**	**19 53 48.3**	**-0.3**
BUSP	**Coron**	**7.04**	**179**	*e*P	**Pn**	**19 53 51.5**	**-1.4**
BUSP				*e*S	**Sn**	**19 55 09.4**	**-2.4**
GZH	**Guangzhou**	**7.42**	**304**	P	**Pn**	**19 53 54.7**	**-3.3**
GZH				S	**Sn**	**19 55 18.1**	**-2.9**
GZH				LR	LR		
	comp=N,5μm,10.6s						
GZH				LR	LR		
	comp=E,5μm,12.1s						
GZH				LR	LR		
	comp=Z,10μm,12.1s						
ENPP	**El Nido**	**7.85**	**184**	*e*P	**Pn**	**19 54 02.0**	**-2.0**
ENPP				*e*S	**Sn**	**19 55 24.3**	**-7.4**
CUYO	**Cuyo Island**	**8.24**	**173**	*e*P	**Pn**	**19 54 09.9**	**+0.6**
GUIM	**Jordan**	**8.76**	**163**	*e*P	**Pn**	**19 54 20.1**	**+3.6**
QIZ	**Qiongzhong**	**9.65**	**271**	*e*Pn	**Pn**	**19 54 24.7**	**-3.9**
	comp=Z,73nm,0.7s						
QIZ				*e*Sn	**Sn**	**19 56 05.7**	**-10**
TBP	**Tagbilaran**	**10.04**	**158**	*e*P	**Pn**	**19 54 41.4**	**+7.4**
JOW	**Kunigami**	**10.81**	**43**	Pn	**Pn**	**19 54 42.0**	**-2.6**
	comp=Z,11nm,0.3s,baz=208,slow=12,SNR=34						
JOW				LR	LR	19 58 58.5	
	comp=Z,2μm,20.1s,baz=195,slow=38						
SSE	**Sheshan**	**12.01**	**5**	P	**Pn**	**19 55 03.0**	**+2.1**
SSE				S	**Sn**	**19 57 17.3**	**+3.7**
SSE				AMB	AMB		
	comp=Z,50nm,0.7s						
SSE				AMB	AMB		
	comp=Z,250nm,9.1s						
SSE				LR	LR		
	comp=N,970nm,14.5s						
SSE				LR	LR		
	comp=E,2μm,14.5s						
SSE				LR	LR		
	comp=Z,2μm,20.0s						
WHN	**Wuhan**	**12.52**	**337**	*e*P	**Pn**	**19 55 04.5**	**-3.5**
NJ2	**Nanjing**	**12.96**	**355**	*e*P	**Pn**	**19 55 12.1**	**-1.8**
NJ2				PP		19 55 23.1	
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,210nm,6.6s						
NJ2				LR	LR		
	comp=N,7μm,13.4s						
NJ2				LR	LR		
	comp=E,8μm,12.2s						
NJ2				LR	LR		
	comp=Z,3μm,13.4s						
KKM	**Kota Kinabalu**	**13.49**	**197**	P	**Pn**	**19 55 25.1**	**+4.0**
KKM	**Kota Kinabalu**	**13.49**	**197**	*e*Pn	**Pn**	**19 55 19.1**	**-2.0**
KKM				*e*Sn	**Sn**	**19 57 39.5**	**-10**
GYA	**Guiyang**	**14.35**	**303⇓**	*i*P	**Pn**	**19 55 28.9**	**-4.0**
GYA				AP	pP	19 55 36.4	-12
GYA				XP	sP	19 55 39.7	-13
GYA				S	**Sn**	**19 58 00.4**	**-11**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				AMB	AMB		
	comp=Z,320nm,5.1s						
GYA				LR	LR		
	comp=N,4μm,13.2s						
GYA				LR	LR		
	comp=E,2μm,13.5s						
GYA				LR	LR		
	comp=Z,4μm,12.0s						
TSM	**Tawau**	**14.85**	**188**	P	**Pn**	**19 55 41.1**	**+1.4**
UBT	**Ubonrachathani**	**14.86**	**257**	P	**Pn**	**19 55 42.5**	**+2.7**
KMI	**Kunming**	**17.12**	**294**	P	**Pn**	**19 56 08.8**	**0.0**
KMI				AP	pP	19 56 16.6	-2.2
KMI				PP		19 56 23.3	
KMI				PPP		19 56 31.5	
KMI				S	**Sn**	**19 59 17.1**	**-1.1**
KMI				AMB	AMB		
	comp=Z,20nm,2.0s						
KMI				AMB	AMB		
	comp=Z,250nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,11.8s						
KMI				LR	LR		
	comp=E,3μm,12.3s						
KMI				LR	LR		
	comp=Z,3μm,11.6s						
XAN	**Xi'an**	**17.89**	**329**	P	**Pn**	**19 56 16.5**	**-1.9**
XAN				AP	pP	19 56 24.9	-2.5
XAN				AMB	AMB		
	comp=Z,30nm,1.6s						
XAN				AMB	AMB		
	comp=Z,670nm,10.2s						
XAN				LR	LR		
	comp=N,2μm,12.2s						
XAN				LR	LR		
	comp=E,970nm,11.9s						
XAN				LR	LR		
	comp=Z,3μm,12.2s						
CD2	**Chengdu**	**18.86**	**312**	P	**Pn**	**19 56 28.9**	**-1.2**
CD2				AP	pP	19 56 36.8	-1.2
CD2				XP	sP	19 56 41.4	-0.7
CD2				PP		19 56 45.5	
CD2				PPP		19 56 54.8	
CD2				AMB	AMB		
	comp=Z,50nm,0.5s						
CD2				AMB	AMB		
	comp=Z,720nm,7.4s						
CD2				LR	LR		
	comp=N,5μm,11.6s						
CD2				LR	LR		
	comp=Z,5μm,12.4s						
INCN	**Inchon**	**19.22**	**16**	*e*P	**Pn**	**19 56 33.9**	**-0.5**
	comp=Z,106nm,1.2s						
INCN				*e*pP	pP	19 56 43.3	+1.3
NST	**Nakhon Sawan**	**19.30**	**263**	P	**Pn**	**19 56 35.0**	**-0.5**
DL2	**Dalian**	**19.80**	**4**	P	**Pn**	**19 56 40.9**	**-0.5**
DL2				AMB	AMB		
	comp=Z,50nm,1.0s						
DL2				AMB	AMB		
	comp=Z,350nm,6.2s						
DL2				LR	LR		
	comp=N,680nm,12.2s						
DL2				LR	LR		
	comp=E,760nm,14.3s						
DL2				LR	LR		
	comp=Z,980nm,12.4s						
KSM	**Kuching**	**19.93**	**210**	*e*P	**Pn**	**19 56 41.4**	**-1.6**
KSM				*e*pP	pP	19 56 50.8	+1.0
CHG	**Chiang Mai**	**19.96**	**273**	P	**Pn**	**19 56 42.2**	**-1.1**
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**19.96**	**273**	*e*P	**Pn**	**19 56 42.3**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,17nm,0.9s						
CHTO	**Chiang Mai**	**19.96**	**273**	*e*P	**Pn**	**19 56 42.3**	**-1.0**
	comp=Z,17nm,0.9s						
CHTO				*e*PcP	PcP	20 00 57.8	+0.7
CHTO				*e*pPcP		20 01 07.8	
NNT	**Nongplab**	**20.57**	**255**	P	**P**	**19 56 50.0**	**+1.9**
BJT	**Baijiatuau**	**21.13**	**352**	*e*P	**P**	**19 56 54.9**	**+0.8**
BJT				*e**PP		19 57 04.5	
BJT				pmax	pmax		
	comp=Z,482nm,1.3s						
BJT	**Baijiatuau**	**21.13**	**352**	*e*P	**P**	**19 56 54.9**	**+0.7**
	comp=Z,482nm,1.3s,mb5.7						
BJT				*e*pP		19 57 04.5	
CBIJ	**Chichi jima**	**21.85**	**65**	LR	LR	20 04 58.0	
	comp=Z,296nm,19.4s,MS3.7,baz=120,slow=35						
LZH	**Lanzhou**	**22.15**	**323**	⇑P	**P**	**19 57 05.7**	**+0.6**
LZH				PP		19 57 32.9	
LZH				AMB	AMB		
	comp=Z,80nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,470nm,4.7s						
LZH				LR	LR		
	comp=E,2μm,11.4s						
LZH				LR	LR		
	comp=Z,3μm,12.6s,MS4.9						
SNY	**Shenyang**	**22.87**	**7**	⇓P	**P**	**19 57 11.0**	**-1.7**
SNY				AP		19 57 22.5	
SNY				XP	sP	19 57 24.3	-1.3
SNY				S	**S**	**20 01 14.8**	**-5.4**
SNY				LR	LR		
	comp=N,1μm,14.9s,MS4.7						
SNY				LR	LR		
	comp=E,1μm,10.3s,MS4.7						
SNY				LR	LR		
	comp=Z,1μm,16.4s						
HHC	**Hu-ho-hao-te**	**22.88**	**343**	*e*P	**P**	**19 57 13.3**	**+0.5**
HHC				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,340nm,3.9s						
HHC				LR	LR		
	comp=N,2μm,12.7s,MS4.9						
HHC				LR	LR		
	comp=E,1μm,13.5s,MS4.9						
HHC				LR	LR		
	comp=Z,2μm,12.7s,MS4.8						
BTO	**Baotou**	**23.11**	**340**	*e*P	**P**	**19 57 14.4**	**-0.8**
BTO				AMB	AMB		
	comp=Z,50nm,1.7s,mb4.7						
BTO				LR	LR		
	comp=N,1μm,11.3s,MS4.7						
BTO				LR	LR		
	comp=E,910nm,12.3s,MS4.7						
KULM	**Kulim**	**23.36**	**237**	*e*P	**P**	**19 57 17.4**	**-0.4**
KULM				*e*pP		19 57 27.1	
IPM	**Ipoh**	**23.56**	**234**	P	**P**	**19 57 18.9**	**-0.8**
KGM	**Kluang**	**23.58**	**226**	P	**P**	**19 57 20.5**	**+0.6**
MAJO	**Matsushiro**	**23.61**	**39**	*e*P	**P**	**19 57 20.0**	**-0.2**
MAJO				*e**PP		19 57 28.1	
MAJO				pmax	pmax		
	comp=Z,157nm,1.3s,mb5.3						
MAJO	**Matsushiro**	**23.61**	**39**	*e*P	**P**	**19 57 20.0**	**-0.1**
	comp=Z,157nm,1.3s,mb5.3						
MAJO				*e*pP		19 57 28.1	
MAT	**Matsushiro**	**23.61**	**39**	P	**P**	**19 57 20.2**	**0.0**
MAT				S	**S**	**20 01 35.0**	**+2.8**
MAT	**Matsushiro**	**23.61**	**39**	*e*P	**P**	**19 57 20.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,70nm,0.4s,mb5.4						
MAT	**Matsushiro**	**23.61**	**39**	*e*P	**P**	**19 57 20.0**	**-0.2**
	comp=Z,70nm,0.4s,mb5.4						
MAT				*e*S	**S**	**20 01 41.0**	**+8.8**
MJAR	**Matsushiro Arr**	**23.61**	**39**	P	**P**	**19 57 20.0**	**-0.1**
	comp=Z,16nm,0.9s,mb4.5,baz=235,slow=8.6,SNR=12						
KAPI	**Kappang**	**23.95**	**181**	P	**P**	**19 57 23.3**	**0.0**
	comp=Z,933nm,1.6s,mb6.0,SNR=16						
GUMO	**Guam**	**24.43**	**99**	P	**P**	**19 57 27.4**	**-0.2**
	comp=Z,30nm,0.3s,mb5.1,baz=180,slow=3.5,SNR=5.5						
GUMO				LR	LR	20 07 06.6	
	comp=Z,525nm,18.2s,MS4.1,baz=291,slow=37						
CN2	**Changchun**	**25.06**	**9**	*e*P	**P**	**19 57 32.5**	**-0.9**
CN2				*e*XP	sP	19 57 46.5	-0.2
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,900nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=E,900nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=Z,1μm,15.0s,MS4.5						
VLA	**Vladivostok**	**25.97**	**20c**	*i*P	**P**	**19 57 44.7**	**+3.1**
VLA				*i* *PP	pP	19 57 53.9	+2.9
VLA				*SP	sP	19 57 59.0	+4.1
VLA				*e*S	**S**	**20 02 10.0**	**0.0**
VLA				pmax	pmax		
	comp=Z,255nm,1.7s,mb5.5						
PSI	**Prapat**	**26.24**	**234**	P	**P**	**19 57 43.7**	**-0.5**
	comp=Z,37nm,0.9s,mb4.9,baz=34,slow=5.6,SNR=25						
PSI				PcP	PcP	20 01 11.0	+0.9
	comp=Z,6.8nm,0.9s,baz=224,slow=7.0,SNR=4.6						
PSI	**Prapat**	**26.24**	**234**	P	**P**	**19 57 43.7**	**-0.5**
PSI				PcP	PcP	20 01 11.0	+0.9
MDJ	**Mudanjiang**	**26.68**	**15**	P	**P**	**19 57 48.4**	**+0.3**
MDJ				AP	pP	19 57 57.1	-0.3
MDJ				XP	sP	19 58 01.0	-0.4
MDJ				S	**S**	**20 02 23.5**	**+2.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,150nm,4.7s						
MDJ				LR	LR		
	comp=N,630nm,18.0s,MS4.4						
MDJ				LR	LR		
	comp=E,740nm,18.5s,MS4.4						
MDJ				LR	LR		
	comp=Z,920nm,15.7s,MS4.4						
MDJ	**Mudanjiang**	**26.68**	**15**	*e*P	**P**	**19 57 48.3**	**+0.2**
	comp=Z,44nm,0.9s,mb5.0						
MDJ				*e*pP	pP	19 57 58.1	+0.7
GTA	**Gaotai**	**26.75**	**323**	⇑P	**P**	**19 57 49.7**	**+0.9**
GTA				AP	pP	19 57 58.8	+0.7
GTA				XP	sP	19 58 01.8	-0.3
GTA				PP		19 58 35.2	
GTA				PCP	PcP	20 01 12.6	+1.3
GTA				S	**S**	**

comp=N,860nm,15.6s,MS4.9
GTA LR LR
comp=E,2µm,11.4s,MS4.9
GTA LR LR
comp=Z,2µm,11.8s,MS4.8
LSA Lhasa 28.29 297 P **P** **19 58 04.8 +2.3**
LSA Lhasa 28.29 297 *eP* **P** **19 58 04.5 +2.0**
LSA *e**PP pP 19 58 13.0 +1.1
LSA *e* 20 01 17.2
LSA pmax pmax
comp=Z,17nm,0.8s,mb4.7
LSA Lhasa 28.29 297 *eP* **P** **19 58 04.5 +2.1**
comp=Z,18nm,0.8s,mb4.7
LSA *e*pP pP 19 58 13.0 +1.1
LSA *e*PcP PcP 20 01 17.2 +2.1
LSA *e*pPcP 20 01 26.6
HIA Hailar 30.11 360 *eP* **P** **19 58 17.4 -1.3**
HIA pmax pmax
comp=Z,23nm,1.1s
HIA Hailar 30.11 360 *eP* **P** **19 58 17.4 -1.3**
comp=Z,23nm,1.1s,mb4.8
ULN Ulaanbaatar 30.60 343 *eP* **P** **19 58 23.4 +0.4**
ULN *e**PP pP 19 58 33.3 +0.9
ULN *e* 20 01 21.2
ULN pmax pmax
comp=Z,18nm,1.1s,mb4.8
ULN Ulaanbaatar 30.60 343 *eP* **P** **19 58 23.4 +0.5**
comp=Z,18nm,1.1s,mb4.8
ULN *e*pP pP 19 58 33.3 +0.9
ULN *e*PcP PcP 20 01 21.2 +0.3
ULN *e*pPcP 20 01 31.2
SONM Songino Array 30.76 342 P **P** **19 58 24.6 +0.2**
comp=Z,11nm,1.1s,mb4.6,baz=162,slow=8.9,SNR=19
SONM LR LR 20 10 51.1
comp=Z,1µm,21.3s,MS4.5,baz=146,slow=36
KLR Kul'dur 31.52 15 *eP* **P** **19 58 22.1 -9.0**
KLR *e* pP 19 58 32.2 -8.3
KLR *e*S **S** **20 03 34.5 -2.8**
KLR *e* 20 05 44.5
KLR MLR MLR
comp=N,700nm,13.0s
KLR MLR MLR
comp=Z,2µm,13.0s,MS5.0
JIRN Jiri 32.15 292 *eP* PcP 20 01 25.6 +0.5
comp=Z,20nm,0.7s
JIRN Jiri 32.15 292 *eP* **P** **19 58 38.0 +1.4**
comp=Z,56nm,1.0s,mb5.3
GUN Gumba 32.45 292 *eP* PcP 20 01 26.6 +0.7
comp=Z,19nm,0.6s
GUN Gumba 32.45 292 *eP* **P** **19 58 40.9 +1.6**
comp=Z,87nm,0.9s,mb5.6
PKI Pulchoki 32.82 291 *eP* PcP 20 01 26.9 0.0
comp=Z,23nm,0.6s
PKI Pulchoki 32.82 291 *eP* **P** **19 58 43.7 +1.2**
KKN Kakani 32.96 292 *eP* PcP 20 01 27.8 +0.5
KKN Kakani 32.96 292 *eP* **P** **19 58 44.4 +0.6**
comp=Z,33nm,0.8s,mb5.3
KKN Kakani 32.96 292 *eP* **P** **19 58 44.4 +0.6**
KKN pmax pmax
comp=Z,33nm,0.8s,mb5.3
DMN Daman 33.09 291 *eP* PcP 20 01 28.2 +0.5
comp=Z,18nm,0.5s
DMN Daman 33.09 291 *eP* **P** **19 58 45.7 +0.8**
comp=Z,58nm,1.0s,mb5.4
CIT Chita 33.26 353 *eP* **P** **19 58 45.3 -1.1**
CIT *e* pP 19 58 55.5 -0.3
CIT *e* 20 00 00.6
CIT pmax pmax
comp=Z,43nm,1.9s,mb5.0
YSS Yuzh-Sakhalins 33.45 29⇑ *eP* **P** **19 58 48.8 +0.8**
YSS *e* pP 19 58 58.8 +1.4
YSS *e*S **S** **20 04 08.0 +0.7**
YSS MLR MLR
comp=N,400nm,18.0s,MS4.3
YSS MLR MLR
comp=E,400nm,18.0s,MS4.3
YSS MLR MLR
comp=Z,600nm,18.0s,MS4.3
YSS Yuzh-Sakhalins 33.45 29 *eP* **P** **19 58 49.4 +1.4**
comp=Z,41nm,1.0s,mb5.3
YSS *e*pP pP 19 58 56.4 -1.0
GKN Gorkha 33.56 292 *eP* **P** **19 58 49.6 +0.7**
comp=Z,58nm,0.8s,mb5.5
KAKA Kakadu 33.87 158 *eP* **P** **19 58 50.0 -1.7**
comp=Z,20nm,0.6s,mb5.2
KAKA *e*pP pP 19 58 57.7 -3.4
KAKA *e*PCP PcP 20 01 31.1 +1.2
ZAK Zakamensk 33.97 341⇑ *eP* **P** **19 58 52.7 +0.2**
ZAK pmax pmax
comp=Z,20nm,1.6s,mb4.8
KOLN Koldanda 34.44 291 *eP* **P** **19 58 56.9 +0.3**
comp=Z,62nm,0.9s,mb5.5
TLY Talaya 35.00 342 *eP* **P** **19 59 02.1 +0.7**
TLY pmax pmax
comp=Z,15nm,1.1s,mb4.8
TLY Talaya 35.00 342 *eP* **P** **19 59 02.1 +0.7**
comp=Z,15nm,1.1s,mb4.8
WMQ Urumqi 36.63 320 P **P** **19 59 16.5 +1.1**
WMQ XP sP 19 59 26.6 -2.2
WMQ PPP 20 01 02.1
WMQ S **S** **20 04 57.7 +1.5**
WMQ SCS ScS 20 09 26.3 -2.5
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,190nm,5.0s
WMQ LR LR
comp=N,790nm,12.0s,MS5.0
WMQ LR LR
comp=E,1µm,14.0s,MS5.0
WMQ LR LR
comp=Z,690nm,25.0s
FITZ Fitzroy Crossi 37.36 171 *eP* **P** **19 59 20.7 -0.9**
comp=Z,28nm,0.8s,mb5.1
FITZ *e*pP pP 19 59 29.7 -1.4
CLNS Chul'man 37.87 4 *eP* **P** **19 59 25.5 -0.4**
CLNS *e**PP pP 19 59 32.9 -2.5
CLNS *e*PPP 20 00 54.0
CLNS *e* 20 01 47.8
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=Z,15nm,1.1s,mb4.6
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS MLR MLR
comp=Z,300nm,9.0s
CLNS MLR MLR
comp=N,400nm,12.0s,MS4.8
CLNS MLR MLR
comp=E,700nm,11.0s,MS4.8
JOSI Joshimath 38.29 295 *ex* x 19 59 25.1
JOSI AMb AMB 19 59 35.6
comp=Z,178nm,0.7s,mb5.9
PMG Port Moresby 38.93 134 P **P** **19 59 33.8 -1.0**
comp=Z,10nm,0.6s,mb4.7,baz=102,slow=4.7,SNR=10.0
PMG Port Moresby 38.93 134 P **P** **19 59 33.8 -1.1**
PMG pmax pmax
comp=Z,11nm,0.6s
PMG Port Moresby 38.93 134 *eP* **P** **19 59 32.2 -2.7**
comp=Z,12nm,0.7s,mb4.7
HYB Hyderabad 39.38 274 *i* P **P** **19 59 40.0 +1.4**
HYB Hyderabad 39.38 274 *eP* **P** **19 59 39.0 +0.4**
KLP Kalpa 39.54 297 *eP* **P** **19 59 41.0 +1.1**
KLP AMb AMB 19 59 54.8
comp=Z,54nm,1.2s,mb5.2
BHPL Bhopal 39.86 284 *eP* **P** **19 59 42.0 -0.6**
BHPL AMb AMB 19 59 53.2
comp=Z,26nm,0.2s,mb5.6
BISR Bishrakh 39.93 292 *eP* **P** **19 59 43.2 0.0**
PALK Pallekele 39.96 258 P **P** **19 59 43.7 +0.3**
comp=Z,182nm,0.7s,mb5.9,SNR=6.1
PALK Pallekele 39.96 258 *eP* **P** **19 59 43.8 +0.3**
comp=Z,2.9nm,0.8s,mb4.1
PALK *e*pP pP 19 59 53.8 +0.8
PALK *e*PcP PcP 20 01 48.8 +0.5
MBWA Marble Bar 39.99 180 *eP* **P** **19 59 40.5 -3.2**
comp=Z,18nm,0.8s,mb4.8
AYAN Aya Nagar 40.20 292 *eP* **P** **19 59 44.1 -1.3**

SONA Sohna 40.22 291 *eP* **P** **19 59 44.8 -0.8**
SONA AMb AMB 19 59 45.7
comp=Z,26nm,0.4s,mb5.3
SMLA Simla 40.41 296 *eP* **P** **19 59 47.1 0.0**
SMLA AMb AMB 19 59 48.6
comp=Z,53nm,0.9s,mb5.3
KKR Kurukshetra 40.58 294 *eP* **P** **19 59 49.8 +1.3**
WRAB Tennant Creek 41.23 159 P **P** **19 59 52.6 -1.3**
comp=Z,212nm,1.4s,mb5.6,SNR=24
WRAB Tennant Creek 41.23 159 *eP* **P** **19 59 52.6 -1.3**
WRAB *e**PP pP 20 00 01.7 -1.8
WRAB *e* 20 01 52.3
WRAB pmax pmax
comp=Z,153nm,1.2s,mb5.5
WRAB Tennant Creek 41.23 159 *eP* **P** **19 59 52.6 -1.3**
comp=Z,153nm,1.2s,mb5.5
WRAB *e*pP pP 20 00 01.7 -1.8
WRAB *e*PcP PcP 20 01 52.3 -0.1
WRA Warramunga Arr 41.24 159 P **P** **19 59 53.2 -0.8**
comp=Z,11nm,0.6s,mb4.7,baz=342,slow=8.8,SNR=103
WRA PcP PcP 20 01 52.8 +0.4
comp=Z,9.1nm,0.7s,baz=342,slow=3.3,SNR=14
WRA S **S** **20 06 01.7 -3.9**
comp=Z,4.1nm,1.0s,baz=342,slow=17,SNR=5.9
WRA Warramunga Arr 41.24 159 P **P** **19 59 53.2 -0.8**
WRA PcP PcP 20 01 52.8 +0.4
WRA S **S** **20 06 01.7 -3.9**
WB2 Warramunga Arr 41.24 159 *eP* **P** **19 59 52.4 -1.6**
WB2 *e*PCP PcP 20 01 53.3 +0.9
WB2 *e*S **S** **20 06 00.9 -4.7**
KHET Khetri 41.34 291 *eP* **P** **19 59 54.6 -0.2**
MKAR Makanchi Array 41.42 321 P **P** **19 59 56.8 +1.4**
comp=Z,6.8nm,0.6s,mb4.5,baz=116,slow=9.2,SNR=49
KRAR Krasnoyarsk 42.15 336⇓ *iP* **P** **20 00 02.7 +1.3**
KRAR pmax pmax
comp=Z,66nm,1.8s,mb5.0
KRAR MLR MLR
comp=Z,500nm,20.0s,MS4.4
AJM Ajmer 42.33 289 *eP* **P** **20 00 01.8 -1.1**
AJM AMb AMB 20 00 13.9
comp=Z,51nm,0.8s,mb5.2
KSH Kashi 42.98 308 *eP* **P** **20 00 07.4 -0.8**
KSH *e*AP pP 20 00 16.8 -1.0
KSH *e*XP sP 20 00 20.8 -0.9
KSH *e*PP PP 20 01 49.5 +1.2
KSH *e*PCP PcP 20 01 58.5 +0.3
KSH *e*PPP 20 02 22.3
KSH *e*PCS PcS 20 05 49.5 -1.1
KSH *e*SCP ScP 20 05 51.2 +4.4
KSH *e*S **S** **20 06 27.1 -4.3**
KSH *e*XS sS 20 06 44.8 -2.4
KSH *e*SS SS 20 09 33.6 -10
KSH *e*SCS ScS 20 10 03.1 -3.2
KSH AMB AMB
comp=Z,10.0nm,0.3s,mb5.0
KSH AMB AMB
comp=Z,110nm,2.2s,mb5.2
KSH LR LR
comp=N,2µm,11.1s,MS5.4
KSH LR LR
comp=E,3µm,12.7s,MS5.4
KSH LR LR
comp=Z,2µm,12.0s,MS5.3
YAK Yakutsk 43.43 7 *eP* **P** **20 00 13.1 +1.3**
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK MLR MLR
comp=Z,397nm,13.0s,MS4.5
YAK MLR MLR
comp=N,272nm,12.0s,MS4.6
YAK MLR MLR
comp=E,440nm,15.0s,MS4.6
YAK Yakutsk 43.43 7 *eP* **P** **20 00 10.5 -1.4**
comp=E,20nm,0.8s,mb4.9
KAD Karad 43.51 275 *eP* **P** **20 00 12.5 0.0**
KAD AMb AMB 20 00 31.5
comp=Z,22nm,1.8s,mb4.6
POO Poona 43.63 277 *eP* **P** **20 00 12.5 -0.9**
ZAL Zalesovo 44.05 331 LR LR 20 19 59.1
comp=Z,1µm,20.0s,MS4.8,baz=342,slow=38
AS31 Alice Springs 44.59 162 *eP* **P** **20 00 20.8 -0.3**
AS31 *e*pP pP 20 00 29.8 -0.9
AS31 *e*S **S** **20 06 53.7 -1.1**
ASPA Alice Springs 44.59 162 *eP* **P** **20 00 20.8 -0.3**
ASPA *e*pP pP 20 00 29.8 -0.9
ASPA *e*S **S** **20 06 53.7 -1.1**
ASAR Alice Springs 44.59 162 P **P** **20 00 20.4 -0.6**
comp=Z,16nm,0.6s,mb5.0,baz=341,slow=6.5,SNR=149
ASAR PcP PcP 20 02 04.2 +0.5
comp=Z,3.3nm,0.6s,baz=346,slow=3.2,SNR=4.3
ASAR S **S** **20 06 54.0 -0.8**
comp=Z,1.1nm,0.8s,baz=334,slow=12,SNR=5.0
FRU Bishkek 44.90 312 *eP* pP 20 00 34.0 +0.8
FRU *e* 20 00 45.0
AAK Ala-Archa 44.92 312 *eP* **P** **20 00 23.9 +0.1**
AAK *e**PP pP 20 00 33.2 -0.2
AAK *e* 20 02 03.6
AAK pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
AAK Ala-Archa 44.92 312 *eP* **P** **20 00 23.9 +0.2**
comp=Z,4.0nm,0.6s,mb4.4
AAK *e*pP pP 20 00 33.1 -0.3
AAK *e*PcP PcP 20 02 03.6 -1.2
PET Petropavlovsk 45.14 32 *eP* **P** **20 00 35.3 +10**
PET *e*S **S** **20 07 00.9 -1.8**
PET pmax pmax
comp=Z,61nm,1.5s,mb5.2
PET smax
comp=E,200nm,22.0s
PET MLR MLR
comp=Z,400nm,20.0s,MS4.3
PET MLR MLR
comp=N,100nm,16.0s,MS4.4
PET MLR MLR
comp=E,400nm,17.0s,MS4.4
PET Petropavlovsk 45.14 32 *eP* **P** **20 00 23.0 -2.5**
comp=E,44nm,1.0s,mb5.2
PET *e*pP pP 20 00 33.4 -1.7
NVS Novosibirsk 45.33 331⇑ *iP* **P** **20 00 25.4 -1.6**
NVS *e* 20 02 10.7
NVS pmax pmax
comp=N,35nm,1.7s
NVS pmax pmax
comp=Z,48nm,1.7s,mb5.0
NVS pmax pmax
comp=E,28nm,1.4s
KURK Kurchatov 45.44 324 P **P** **20 00 29.9 +2.0**
comp=E,333nm,0.8s,SNR=21
JASL Jaisalmer 45.67 289 *eP* **P** **20 00 29.3 -0.4**
MA2 Magadan 46.09 21 P **P** **20 00 33.1 +0.1**
MA2 *e* 20 02 02.1
MA2 *e*S **S** **20 07 16.0 -0.5**
MA2 pmax pmax
comp=Z,40nm,1.6s,mb5.1
MA2 Magadan 46.09 21 *eP* **P** **20 00 33.4 +0.4**
MA2 *e*pP pP 20 00 42.4 -0.3
CTA Charters Tower 46.64 145 *eP* **P** **20 00 37.8 +0.5**
comp=Z,15nm,0.8s,mb5.0
CTA Charters Tower 46.64 145 LR LR 20 19 01.6
comp=Z,360nm,19.4s,MS4.3,baz=24,slow=35
CTA Charters Tower 46.64 145 *eP* **P** **20 00 37.8 +0.5**
CTA pmax pmax
comp=Z,15nm,0.8s
CTAO Charters Tower 46.64 145 *eP* **P** **20 00 38.0 +0.7**
CTAO pmax pmax
comp=Z,27nm,0.9s,mb5.2
CTAO Charters Tower 46.64 145 *eP* **P** **20 00 38.0 +0.7**
comp=Z,28nm,0.9s,mb5.2
BHJ Bhuj 46.99 284 *eP* **P** **20 00 37.7 -2.4**
BHJ AMb AMB 20 00 44.7
comp=Z,127nm,1.2s,mb5.7
KK31 Karatay Array 47.87 311 *i* P **P** **20 00 48.0 +1.1**
KK31 pmax pmax
comp=Z,16nm,0.7s,mb5.2
HNR Honiara 48.48 122 LR LR 20 18 11.6
comp=Z,443nm,21.8s,MS4.4,baz=357,slow=32
FORT Forrest 50.17 171 *eP* **P** **20 01 03.4 -1.1**
comp=Z,33nm,0.5s,mb5.6
FORT *i* pP pP 20 01 13.9 -0.4
FORT *e*PCP PcP 20 02 27.5 +4.0
KLBR Kellerberrin 50.43 183⇓ *iP* **P** **20 01 05.6 -0.9**

comp=Z,20nm,0.6s,mb5.3
KLBR *i* pP pP 20 01 15.1 -1.2
MUN Mundaring 50.90 184⇓ *iP* **P** **20 01 09.1 -0.9**
MUN *i* pP pP 20 01 18.5 -1.3
BRVK Borovoye 51.11 324 P **P** **20 01 13.9 +2.3**
comp=Z,94nm,0.7s,mb5.8,SNR=8.4
BRVK Borovoye 51.11 324 *eP* **P** **20 01 13.0 +1.4**
BRVK *e**PP pP 20 01 23.1 +1.7
BRVK *e* 20 02 26.4
BRVK pmax pmax
comp=Z,32nm,1.4s,mb5.1
BRVK Borovoye 51.11 324 *eP* **P** **20 01 13.0 +1.4**
comp=Z,32nm,1.4s,mb5.1
BRVK *e*pP pP 20 01 23.1 +1.7
BRVK *e*PcP PcP 20 02 26.4 -0.6
BRVK *e*pPcP 20 02 35.3
CHKZ Chkalovo 51.16 325 *eP* **P** **20 01 12.4 +0.4**
CHKZ *e**PP pP 20 01 22.7 +0.9
CHKZ *e* 20 02 26.0
CHKZ Chkalovo 51.16 325 *eP* **P** **20 01 12.4 +0.4**
CHKZ *e*pP pP 20 01 22.7 +1.0
CHKZ *e*PcP PcP 20 02 26.0 -1.2
CHKZ *e*pPcP 20 02 35.7
NWAO Narrogin (SRO) 51.78 183 *eP* **P** **20 01 16.3 -0.3**
NWAO *e**PP pP 20 01 26.4 0.0
NWAO pmax pmax
comp=Z,32nm,0.8s
NWAO Narrogin (SRO) 51.78 183 *eP* **P** **20 01 16.3 -0.4**
comp=Z,32nm,0.8s,mb5.3
NWAO *e*pP pP 20 01 26.4 0.0
ZRNK Zerenda 51.79 323 *eP* **P** **20 01 17.7 +1.0**
ZRNK *e**PP pP 20 01 27.8 +1.3
ZRNK *e* 20 02 28.6
ZRNK pmax pmax
comp=Z,32nm,1.3s,mb5.1
ZRNK Zerenda 51.79 323 *eP* **P** **20 01 17.7 +1.0**
comp=Z,32nm,1.3s,mb5.1
ZRNK *e*pP pP 20 01 27.8 +1.3
ZRNK *e*PcP PcP 20 02 28.6 -0.9
ZRNK *e*pPcP 20 02 37.5
TIXI Tiksi 52.83 3 *eP* **P** **20 01 22.7 -1.7**
TIXI *e*S **S** **20 08 43.9 -6.8**
TIXI *e*SS SS 20 12 26.5 -3.2
TIXI pmax pmax
comp=Z,31nm,1.3s,mb5.1
STKA Stephens Creek 54.72 157 *eP* **P** **20 01 36.5 -1.7**
comp=Z,27nm,0.8s,mb5.3
STKA *e*pP pP 20 01 45.7 -2.4
STKA *e*sP sP 20 01 53.2 +1.3
STKA *e*PCP PcP 20 02 38.1 -2.5
STKA Stephens Creek 54.72 157 P **P** **20 01 36.8 -1.4**
comp=Z,28nm,0.7s,mb5.4,baz=330,slow=6.5,SNR=45
ABKT Ailbek 56.57 303 P **P** **20 01 53.4 +1.9**
comp=Z,130nm,1.0s,mb5.9,SNR=11
BILL Bilibino 56.83 19 *eP* **P** **20 01 53.2 -0.1**
BILL *e**PP pP 20 02 02.9 -0.3
BILL pmax pmax
comp=Z,11nm,0.6s,mb5.1
BILL Bilibino 56.83 19 *eP* **P** **20 01 53.2 -0.1**
comp=Z,11nm,0.6s,mb5.1
BILL *e*pP pP 20 02 02.9 -0.3
WSAR Wadi Sarin 57.06 286 LR LR 20 27 24.8
comp=Z,168nm,20.6s,MS4.1,baz=318,slow=37
AKTO Aktyubinsk 57.76 318 LR LR 20 28 37.2
comp=Z,595nm,19.5s,MS4.7,baz=295,slow=38
AKTO Aktyubinsk 57.76 318 *i* P **P** **20 02 00.2 +0.3**
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
ARU Arti 58.60 325 P **P** **20 02 06.8 +1.0**
comp=Z,104nm,0.5s,mb6.1,SNR=7.6
ARU Arti 58.60 325⇓ *iP* **P** **20 02 06.1 +0.3**
ARU *e* 20 02 54.2
ARU *e* 20 04 12.2
ARU *e*PPP 20 05 41.2
ARU *e*S **S** **20 10 10.5 +2.8**
ARU *e*SS SS 20 14 05.1 +4.5
ARU MLR MLR
comp=Z,400nm,22.0s,MS4.5
ARU MLR MLR
comp=N,100nm,16.0s
ARU MLR MLR
comp=E,300nm,21.0s
ARU Arti 58.60 325 *eP* **P** **20 02 06.1 +0.4**
comp=E,20nm,0.7s,mb5.3
ARU *e*pP pP 20 02 15.4 -0.3
ORR Orenburg 59.97 319⇓ *iP* **P** **20 02 15.9 +0.7**
ORR *i* pP 20 02 24.7 -0.5
ORR pmax pmax
comp=Z,40nm,1.9s,mb5.1
ORR MLR MLR
comp=Z,470nm,23.0s,MS4.6
CNB Canberra Magne 60.83 153 *eP* **P** **20 02 22.3 +1.1**
comp=Z,27nm,0.9s,mb5.4
CNB *e*pP pP 20 02 31.3 +0.2
DZM Mont Dzumac 61.08 130 LR LR 20 25 07.4
comp=Z,426nm,20.4s,MS4.6,baz=354,slow=32
TOO Toolangi 61.23 157⇓ *iP* **P** **20 02 24.9 +1.0**
comp=Z,28nm,1.1s,mb5.3
TOO *i* pP pP 20 02 34.4 +0.6
TOO Toolangi 61.23 157⇓ *iP* **P** **20 02 24.9 +1.0**
TOO *i* *PP pP 20 02 34.4 +0.6
TOO pmax pmax
comp=Z,28nm,1.1s,mb5.3
NIKO Nikolski 63.64 40 *eP* **P** **20 02 39.3 -0.7**
NIKO *e*pP pP 20 02 47.6 -2.3
UNV Unalaska Valle 65.08 39 *eP* **P** **20 02 48.1 -1.3**
comp=Z,135nm,1.2s,mb5.8
UMR Umm Al-Rimmam 65.82 294 *eP* **P** **20 02 54.1 -0.1**
KBD Kabd 65.90 294 *eP* **P** **20 02 54.7 +0.1**
KBD AMb AMB 20 03 05.4
comp=Z,127nm,0.7s,mb6.1
RDF Al-Radifah 66.06 294 *eP* **P** **20 02 55.7 -0.1**
RDF AMb AMB 20 03 06.4
comp=Z,84nm,0.6s,mb6.0
MIB Mutribah 66.11 295 *eP* **P** **20 02 55.8 -0.2**
MIB AMb AMB 20 02 56.5
comp=Z,38nm,0.4s,mb5.8
NAY Al-Naaiem 66.28 294 *eP* **P** **20 02 56.9 -0.2**
NAY AMb AMB 20 03 07.5
comp=Z,34nm,0.6s,mb5.6
GNI Garni 66.88 306⇓ *iP* **P** **20 03 02.7 +1.7**
GNI pmax pmax
comp=Z,26nm,1.5s
GNI Garni 66.88 306 *eP* **P** **20 03 02.7 +1.7**
comp=Z,18nm,0.8s,mb5.1
ZEI Tsey 67.26 309 *eP* **P** **20 03 04.4 +1.1**
ZEI *e**PP pP 20 03 13.3 -0.1
ZEI pmax pmax
comp=Z,18nm,0.6s,mb5.3
GOF Gofitskoye 67.67 312 *eP* **P** **20 03 09.9 +3.9**
GOF pmax pmax
comp=Z,20nm,0.8s,mb5.2
KIV Kislovodsk 68.02 311 P **P** **20 03 09.8 +1.6**
comp=Z,613nm,0.7s,SNR=6.7
KIV Kislovodsk 68.02 311κ *iP* **P** **20 03 09.3 +1.1**
KIV *i* *PP pP 20 03 19.2 +0.9
KIV *e**SP sP 20 03 24.8 +2.7
KIV *e* 20 03 33.0
KIV pmax pmax
comp=Z,45nm,0.9s,mb5.5
KIV MLR MLR
comp=Z,400nm,19.0s,MS4.7
KIV Kislovodsk 68.02 311 *eP* **P** **20 03 09.3 +1.2**
comp=Z,90nm,0.8s,mb5.8
KIV *e*pP pP 20 03 19.3 +1.1
VRHR Novokhopersk 68.17 318 *eP* **P** **20 03 09.0 -0.1**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,4.0nm,0.4s
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,4.0nm,0.4s
TMCR Tamitsa 69.53 332 *eP* **P** **20 03 17.1 -0.5**
TMCR pmax pmax
comp=N,80nm,0.7s
TMCR pmax pmax
comp=Z,70nm,0.7s,mb5.7
TMCR pmax pmax
comp=E,40nm,0.9s

VOR Voronezh 69.63 319 *e*P **P** **20 03 17.0 -1.2**
VOR *e**PP pP 20 03 26.5 -1.8
VOR pmax pmax
comp=Z,40nm,1.4s,mb5.2
VRSR Storozhevoye 69.69 319 *e*P **P** **20 03 18.5 0.0**
VRSR pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,3.0nm,0.8s
SOC Sochi 70.20 310 *e*P pP 20 03 30.9 -0.9
SOC *e* 20 05 59.2
SOC *e*S S 20 12 29.5 -1.5
SOC *e*SS SS 20 17 00.5 -0.8
SOC pmax pmax
comp=Z,39nm,0.9s,mb5.3
SOC MLR MLR
comp=Z,305nm,18.0s,MS4.6
MOS Moscow 70.21 323 *e*P **P** **20 03 20.6 -1.1**
MOS *i* pP 20 03 31.3 -0.6
TTA Tatalina 70.45 29 *e*P **P** **20 03 23.9 +0.7**
TTA *e**PP pP 20 03 32.8 -0.5
OBN Obninsk 70.87 323κ *i*P **P** **20 03 25.5 -0.3**
OBN *i* *PP pP 20 03 35.1 -0.8
OBN *e* 20 03 48.3
OBN 20 06 04.0
OBN *e*S S 20 12 39.7 +0.9
OBN *e* 20 13 12.2
OBN pmax pmax
comp=Z,31nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
OBN Obninsk 70.87 323 *e*P **P** **20 03 25.2 -0.6**
comp=Z,28nm,0.8s,mb5.2
OBN *e*pP pP 20 03 35.0 -0.9
APA Apatity 71.26 336⇓*i*P **P** **20 03 28.7 +0.6**
APA *i* pP 20 03 38.0 -0.2
APA pmax pmax
comp=Z,22nm,0.8s,mb5.1
APA MLR MLR
comp=Z,800nm,15.0s,MS5.1
ANN Anapa 71.65 312 *e*P **P** **20 03 32.4 +1.9**
ANN *e*S S 20 12 52.5 +4.7
ANN pmax pmax
comp=Z,54nm,1.3s,mb5.3
ANN MLR MLR
comp=N,311nm,20.0s,MS4.9
ANN MLR MLR
comp=E,574nm,20.0s,MS4.9
ANN MLR MLR
comp=Z,149nm,20.0s,MS4.2
MALT Malatya 72.00 305⇑*i*P **P** **20 03 34.7 +2.1**
MALT Malatya 72.00 305 *e*P **P** **20 03 33.5 +0.9**
MALT *e**PP pP 20 03 44.3 +1.6
MALT pmax pmax
comp=Z,26nm,1.2s,mb5.0
MALT Malatya 72.00 305 *e*P **P** **20 03 33.5 +1.0**
comp=Z,26nm,1.2s,mb5.0
MALT *e*pP pP 20 03 44.3 +1.6
JOF Joensuu 72.63 331 *e*p **P** **20 03 34.7 -1.7**
comp=Z,32nm,0.6s,mb5.4
KEV Kevo 73.31 339 *e*p **P** **20 03 43.8 +3.4**
comp=Z,18nm,0.6s,mb5.2
KEV Kevo 73.31 339 *e*P **P** **20 03 43.8 +3.4**
KEV pmax pmax
comp=Z,18nm,0.6s,mb5.2
MCK McKinley 73.53 28 *e*P **P** **20 03 40.4 -1.3**
MCK *e**PP pP 20 03 51.1 -0.7
MCK pmax pmax
comp=Z,25nm,1.2s,mb5.0
MCK McKinley 73.53 28 *e*P **P** **20 03 40.4 -1.3**
comp=Z,25nm,1.2s,mb5.0
MCK *e*pP pP 20 03 51.1 -0.7
COLA College 73.80 26 *e*P **P** **20 03 43.4 +0.2**
COLA *e**PP pP 20 03 52.5 -0.9
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 73.80 26 *e*P **P** **20 03 43.4 +0.2**
comp=Z,8.2nm,0.8s,mb4.7
COLA *e*pP pP 20 03 52.5 -0.9
ARCES ARCESS Array B 73.87 339 P **P** **20 03 43.7 0.0**
comp=Z,3.2nm,0.6s,mb4.4,baz=85,slow=6.9,SNR=17
ARCES LR LR 20 40 28.1
comp=Z,328nm,18.4s,MS4.7,baz=87,slow=39
ARCES ARCESS Array B 73.87 339 P **P** **20 03 43.7 0.0**
ARCES LR LR 20 40 28.1
ARE0 ARCESS Array S 73.87 339 P **P** **20 03 42.5 -1.1**
ARE0 *e*pP pP 20 03 52.9 -0.9
SIM Simferopol' 73.95 313 *e*P pP 20 03 55.0 +0.7
SIM *e*S S 20 13 18.0 +4.0
SIM pmax pmax
comp=Z,17nm,0.8s,mb5.0
SIM MLR MLR
comp=Z,300nm,22.0s,MS4.5
SML Sawmill 74.14 30 P **P** **20 03 46.1 +0.9**
ATD Arta Tunnel 74.34 277 LR LR 20 38 45.0
comp=Z,138nm,18.5s,MS4.3,baz=191,slow=38
AFI Afiamalu 74.71 111 LR LR 20 29 31.8
comp=Z,233nm,21.6s,MS4.4,baz=295,slow=30
KAF Kangasniemi 75.06 331 *e*p **P** **20 03 49.0 -1.6**
comp=Z,24nm,0.7s,mb5.2,baz=76,slow=5.4
KAF Kangasniemi 75.06 331 *e*P **P** **20 03 49.0 -1.6**
KAF pmax pmax
comp=Z,24nm,0.7s,mb5.2
FINES FINESS Array B 75.31 330 P **P** **20 03 52.0 -0.1**
comp=Z,9.0nm,0.9s,mb4.7,baz=49,slow=6.6,SNR=38
FINES LR LR 20 39 33.4
comp=Z,438nm,18.5s,MS4.8,baz=82,slow=38
BR131 Keskin Array S 75.37 307 *e*P **P** **20 03 52.1 -0.2**
comp=Z,1.4nm,0.5s,mb4.2
BR131 *e*pP pP 20 04 02.5 0.0
BRTR Keskin Array B 75.37 307 P **P** **20 03 52.6 +0.2**
comp=Z,1.2nm,0.5s,mb4.1,baz=132,slow=4.6,SNR=11
AKASG Malin Array Be 75.98 319 P **P** **20 03 55.2 -0.7**
comp=Z,4.3nm,0.7s,mb4.5,baz=65,slow=5.7,SNR=19
AKASG Malin Array Be 75.98 319 P **P** **20 03 55.2 -0.7**
EIL Elat 76.68 297 *e*P **P** **20 04 00.9 +1.1**
EIL *e*pP pP 20 04 10.4 +0.4
RAO Raoul Island 76.73 128 LR LR 20 33 37.1
comp=Z,212nm,21.7s,MS4.4,baz=141,slow=32
DAWY Dawson 77.55 26 *e*P **P** **20 04 05.1 +0.4**
DAWY *e*pP pP 20 04 14.5 -0.4
RPZ Rata Peaks 78.01 145 LR LR 20 36 38.0
comp=Z,269nm,18.7s,MS4.6,baz=289,slow=34
CFR Carcaliu 78.03 314⇑*i*P **P** **20 04 07.5 +0.1**
CFR Carcaliu 78.03 314⇑P **P** **20 04 07.5 +0.1**
URZ Urewera 78.21 138 LR LR 20 34 22.2
comp=Z,246nm,20.9s,MS4.5,baz=130,slow=32
INK Inuvik 78.33 21 *e*P **P** **20 04 07.5 -1.6**
INK *e**PP pP 20 04 17.8 -1.5
INK pmax pmax
comp=Z,25nm,1.3s
INK Inuvik 78.33 21 *e*P **P** **20 04 07.5 -1.6**
comp=Z,25nm,1.3s,mb5.0
INK *e*pP pP 20 04 17.8 -1.5
SUW Suwalki 78.72 323 *e*P **P** **20 04 11.1 -0.1**
SUW *e*pP pP 20 04 21.2 -0.2
SUW L 20 38 32.9
comp=Z,0.3nm,25.9s
SUW Suwalki 78.72 323 *e*P **P** **20 04 11.1 -0.1**
SUW *e*pP pP 20 04 21.2 -0.2
VRI Vrincioaia 78.80 315⇑*i*P **P** **20 04 12.9 +1.3**
VRI Vrincioaia 78.80 315⇑P **P** **20 04 12.9 +1.3**
PLOR Plostina 78.86 315⇓*i*P **P** **20 04 13.1 +1.2**
BURAR Bucovina Array 79.31 317⇑*i*P **P** **20 04 15.3 +0.9**
BURAR Bucovina Array 79.31 317⇑P **P** **20 04 15.3 +0.9**
MLR Muntele Rosu 79.43 314⇑*i*P **P** **20 04 16.4 +1.3**
MLR Muntele Rosu 79.43 314⇑P **P** **20 04 16.4 +1.3**
LVV L'vov 79.43 319 *e*P **P** **20 04 15.0 -0.1**
LVV *e* 20 04 20.8
LVV MLR MLR
comp=Z,300nm,20.0s,MS4.6
LVV MLR MLR
comp=N,100nm,19.0s,MS4.3
LVV MLR MLR
comp=E,100nm,20.0s,MS4.3
SNX Sinaia 79.76 314⇓*i*P **P** **20 04 18.3 +1.4**
SNX Sinaia 79.76 314⇓P **P** **20 04 18.3 +1.4**
KWP Kalwaria 80.31 319 *e*P **P** **20 04 20.4 +0.6**
KWP *e*PcP PcP 20 04 24.6 -2.3
KWP *e*pP pP 20 04 29.7 -0.4
KWP *e*S S 20 14 22.4 -0.8
KWP L 20 43 07.4
comp=Z,0.2nm,22.5s
KWP Kalwaria 80.31 319 *e*P **P** **20 04 20.4 +0.6**
KWP *e*PcP PcP 20 04 24.6 -2.3
KWP *e*pP pP 20 04 29.7 -0.4
KWP *e*S S 20 14 22.4 -0.8
STHS Stebnicka Huta 81.28 319 *e*P **P** **20 04 24.7 -0.3**
STHS *e* pP 20 04 34.8 -0.5
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 81.28 319 *e*P **P** **20 04 24.7 -0.3**
comp=Z,4.5nm,0.8s,mb4.5
STHS *e* pP 20 04 34.8 -0.5
NIE Niedzica 81.85 319 *e*P **P** **20 04 29.1 +1.1**
OJC Ojcow 81.90 320 *e*P **P** **20 04 28.5 +0.2**
OJC *e*pP pP 20 04 38.1 -0.5
OJC *e*S S 20 14 41.8 +2.1
OJC L 20 43 27.9
comp=Z,1.6nm,19.6s
KECS Kecovo 82.06 319 *e*P **P** **20 04 29.7 +0.6**
KECS *e*pP pP 20 04 39.0 -0.4
KECS Kecovo 82.06 319 *e*P **P** **20 04 29.7 +0.6**
KECS *e* pP 20 04 39.0 -0.4
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS Kecovo 82.06 319 *e*P **P** **20 04 29.7 +0.6**
comp=Z,2.8nm,0.8s,mb4.2
KECS *e* pP 20 04 39.0 -0.4
VTS Vitosha 82.19 312⇓⇓*i*P **P** **20 04 31.0 +1.2**
VTS Vitosha 82.19 312⇓⇓P **P** **20 04 31.1 +1.3**
NB2 NORSAR Subarra 82.22 332 P **P** **20 04 29.0 -1.0**
comp=Z,16nm,1.2s,mb4.8,baz=62,slow=5.1
NB2 NORSAR Subarra 82.22 332 P **P** **20 04 29.0 -1.0**
NB2 pmax pmax
comp=Z,16nm,1.2s,mb4.8
NOA NORSAR Array B 82.22 332 P **P** **20 04 29.1 -0.9**
comp=Z,5.2nm,0.7s,mb4.6,baz=64,slow=5.0,SNR=27
NOA LR LR 20 43 51.8
comp=Z,551nm,19.2s,MS4.9,baz=50,slow=38
NAO01 NORSAR Array S 82.45 332 *e*P **P** **20 04 29.9 -1.2**
comp=Z,5.8nm,0.6s,mb4.7
NAO01 *e*pP pP 20 04 40.1 -1.4
PSZ Piszkesteto 82.63 318 *e*P **P** **20 04 27.8 -4.3**
PSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
PSZ Piszkesteto 82.63 318 *e*P **P** **20 04 27.8 -4.3**
comp=Z,8.0nm,1.0s,mb4.7
OKC Ostrava-Krasne 83.03 320 *e*P **P** **20 04 34.1 -0.1**
OKC *e*pP pP 20 04 43.7 -0.8
OKC AMS AMS 20 43 50.0
comp=Z,500nm,15.1s
OKC Ostrava-Krasne 83.03 320 *e*P **P** **20 04 34.1 -0.1**
OKC *e*pP pP 20 04 43.7 -0.8
VAY Valandovo 83.05 311 *i* P **P** **20 04 33.0 -1.2**
VAY *i* X pP 20 04 43.3 -1.3
VYHS Vyhne 83.09 319 *i* P **P** **20 04 35.1 +0.6**
VYHS *e* 20 04 42.7
VYHS pmax pmax
comp=Z,18nm,1.9s,mb4.8
VYHS Vyhne 83.09 319 *i* P **P** **20 04 35.1 +0.6**
comp=Z,18nm,1.9s,mb4.8
VYHS *e* 20 04 42.7
KOLL Kolacno 83.33 319 *e*P **P** **20 04 35.4 -0.3**
MORC Moravsky Berou 83.42 320 *e*P **P** **20 04 36.6 +0.4**
MORC *e**PP pP 20 04 46.1 -0.4
MORC pmax pmax
comp=Z,22nm,1.7s,mb4.9
MORC Moravsky Berou 83.42 320 *e*P **P** **20 04 36.6 +0.5**
comp=Z,22nm,1.7s,mb4.9
MORC *e*pP pP 20 04 46.1 -0.4
KMBO Kilima Mbogo 83.55 267 P **P** **20 04 37.6 +0.7**
comp=Z,3.4nm,0.8s,mb4.5,baz=39,slow=12,SNR=4.3
SKO Skopje 83.63 312 *i* P **P** **20 04 38.0 +0.7**
SKO *i* X pP 20 04 47.2 -0.4
KSP Ksiaz 83.76 322 *e*P **P** **20 04 37.3 -0.6**
KSP *e*PcP PcP 20 04 40.0 -2.0
KSP *e*pP pP 20 04 48.0 -0.2
KSP *e*S S 20 14 59.7 +1.1
KSP L 20 44 09.0
comp=Z,0.4nm,25.8s
KSP Ksiaz 83.76 322 *e*P **P** **20 04 38.3 +0.4**
KSP *e*pP pP 20 04 47.6 -0.6
RES Resolute Bay 83.84 9 *e*P **P** **20 04 38.3 -0.1**
RES *e**PP pP 20 04 47.5 -1.2
RES pmax pmax
comp=Z,23nm,1.1s,mb5.2
RES Resolute Bay 83.84 9 *e*P **P** **20 04 38.3 -0.1**
comp=Z,23nm,1.1s,mb5.2
RES *e*pP pP 20 04 47.5 -1.2
DLBC Dease Lake 83.87 30 *e*P **P** **20 04 35.8 -2.7**
DPC Dobruska-Polom 83.93 321 *e*P **P** **20 04 39.2 +0.4**
DPC *e*pP pP 20 04 49.0 -0.1
DPC AMS AMS 20 42 40.0
comp=Z,300nm,21.0s
PKSM Moragy 84.03 317⇓*i*P **P** **20 04 40.0 +0.7**
PKSM Moragy 84.03 317⇓⇓P **P** **20 04 40.0 +0.7**
BIA Bitola 84.03 311 *i* P **P** **20 04 37.5 -1.9**
UPC Upice 84.05 321 *e*P **P** **20 04 39.6 +0.2**
UPC *e*pP pP 20 04 49.8 +0.1
VRAC Vranov 84.16 320⇑*i*P **P** **20 04 41.1 +1.1**
VRAC Vranov 84.16 320⇑P **P** **20 04 41.1 +1.1**
OHR Ohrid 84.38 311 *i* P **P** **20 04 42.2 +1.2**
OHR *i* X 20 04 47.9
RUE Ruedersdorf 84.54 324 *e*P **P** **20 04 42.3 +0.3**
comp=Z,14nm,0.5s,mb5.3
RUE *e*pP pP 20 04 52.0 -0.2
TREC Trest 84.84 320 *e*P **P** **20 04 44.0 +0.6**
TREC *e*pP pP 20 04 53.4 -0.3
BRG Berggiesshubel 85.11 322 *e*PKP **P** **20 04 45.0 +0.2**
comp=Z,7.5nm,1.0s,mb4.8
BRG *i* pP 20 04 54.3 -0.8
comp=Z,11nm,0.9s
BRG *e* 20 05 31.4
comp=Z,3.2nm,1.0s
BRG *i* 20 15 10.0
BRG SS SS 20 20 59.0 +13
BRG
comp=N,135nm,16.5s
BRG
comp=E,200nm,16.3s
BRG
comp=Z,199nm,14.8s
BRG Berggiesshubel 85.11 322 *e*P **P** **20 04 45.0 +0.2**
BRG *i* pP 20 04 54.3 -0.8
BRG *i* 20 15 10.0
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
BRG pmax pmax
comp=Z,11nm,0.9s,mb5.0
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
BRG MLR MLR
comp=N,135nm,16.5s,MS4.7
BRG MLR MLR
comp=E,200nm,16.3s,MS4.7
BRG MLR MLR
comp=Z,199nm,14.9s,MS4.6
BRG Berggiesshubel 85.11 322 *e*PKP **P** **20 04 45.0 +0.2**
comp=Z,7.5nm,1.0s,mb4.8
BRG *i* pP 20 04 54.3 -0.8
BRG *e* 20 05 31.4
BRG *i* 20 15 10.0
BRG SS SS 20 20 59.0 +13
BRG LR LR
comp=Z,200nm,14.8s,MS4.6
PRU Pruhonice 85.12 321 *e*P **P** **20 04 44.9 +0.1**
PRU *e*pP pP 20 04 54.3 -0.9
PRU AMS AMS 20 45 00.0
comp=Z,300nm,20.1s
CONA Conrad Observa 85.14 319⇓*i*P **P** **20 04 45.6 +0.7**
comp=Z,19nm,1.6s,mb5.0
CASY Casey 85.40 184⇓*i*P **P** **20 04 45.9 -0.3**
CLL Collm 85.47 323 *i* P **P** **20 04 46.5 -0.1**
comp=Z,12nm,0.7s,mb5.1
CLL *e*pP pP 20 04 56.0 -0.9
CLL *e*sP sP 20 05 01.7 +1.1
CLL *e*S 20 15 15.7
CLL *e*PS 20 16 12.8
CLL *e*SS SS 20 20 55.7 +4.5
CLL *e*SSS 20 24 22.8
CLL *e*LR LR 20 33 00.3
CLL *e*L 20 47 10.0
comp=Z,466nm,18.0s
CLL Collm 85.47 323⇓*i*P **P** **20 04 46.3 -0.3**
comp=Z,17nm,1.2s,mb5.0
CLL *i* PcP PcP 20 04 50.9 +1.4
CLL *i* pP pP 20 04 56.4 -0.5
comp=Z,18nm,0.8s
CLL *i* sP sP 20 05 01.7 +1.1
CLL *e*S 20 15 15.0
CLL *e*PS 20 16 13.0
CLL Collm 85.47 323⇓*i*P **P** **20 04 46.3 -0.3**
CLL *i* *PP pP 20 04 56.4 -0.5
CLL *e*S 20 15 15.0
CLL pmax pmax
comp=Z,17nm,1.2s,mb5.0
CLL MLR MLR
comp=Z,500nm,16.3s,MS5.0
CLL Collm 85.47 323⇓*i*P **P** **20 04 46.3 -0.3**
comp=Z,17nm,1.2s,mb5.0
CLL *i* pP pP 20 04 56.4 -0.5
CLL *e*S 20 15 15.0
CLL LR LR
comp=Z,500nm,16.3s,MS5.0
KHC Kasperske Hory 86.05 321 *e*P **P** **20 04 49.4 0.0**
KHC *e*pP pP 20 04 58.4 -1.4
GERES GERESS Array B 86.09 321 P **P** **20 04 50.0 +0.3**
comp=Z,3.0nm,0.8s,mb4.6,baz=67,slow=4.5,SNR=18
GERES LR LR 20 50 57.0
comp=Z,156nm,19.2s,MS4.4,baz=283,slow=41
GERES GERESS Array B 86.09 321 P **P** **20 04 50.0 +0.3**
GERES LR LR 20 50 57.0
PERS Pernice 86.12 318 *i* P **P** **20 04 49.7 -0.1**
PERS *e* pP 20 04 59.9 -0.3
MOA Molln 86.16 319⇑*i*P **P** **20 04 50.2 +0.2**
comp=Z,23nm,1.7s,mb5.1
CRES Cresnjev 86.23 317 *e*P **P** **20 04 50.6 +0.3**
CRES *e* pP 20 05 00.7 0.0
MOX Moxa 86.55 323 *e*P pP 20 05 00.4 -1.8
MOX
comp=Z,300nm,17.0s
VISS Visnje 86.64 317 *e*P **P** **20 04 52.2 -0.1**
VISS *i* pP 20 05 01.8 -0.9
GRA1 Grafenberg Arr 87.19 322 *e*P **P** **20 04 55.0 -0.1**
comp=Z,17nm,1.5s,mb5.0
GRA1 *e*pP pP 20 05 04.1 -1.3
GRA1 *e*sP sP 20 05 09.9 +0.8
GRF Grafenberg Arr 87.19 322 *e*P **P** **20 04 55.0 -0.1**
comp=Z,17nm,1.5s,mb5.0
GRF *e*pP pP 20 05 04.1 -1.3
GRF *e*sP sP 20 05 09.9 +0.8
GRF Grafenberg Arr 87.19 322 *e*P **P** **20 04 55.0 -0.1**
GRF *e**PP pP 20 05 04.1 -1.3
GRF *e**SP sP 20 05 09.9 +0.8
GRF pmax pmax
comp=Z,17nm,1.5s,mb5.0
GRF Grafenberg Arr 87.19 322 *e*P **P** **20 04 55.0 -0.1**
GRF *e**PP pP 20 05 04.1 -1.3
GRF *e**SP sP 20 05 09.9 +0.8
GRF pmax pmax
comp=Z,17nm,1.5s,mb5.0
SUMG Summit 87.43 354 *e*P **P** **20 04 56.7 +0.5**
comp=Z,13nm,0.9s,mb5.2
SUMG *e*pP pP 20 05 05.7 -0.9
YKW3 Yellowknife Ar 88.02 22 *e*P **P** **20 04 58.9 -0.1**
YKW3 *e*pP pP 20 05 08.6 -0.8
YKA Yellowknife Ar 88.06 22 P **P** **20 04 59.3 +0.1**
comp=Z,6.4nm,0.8s,mb4.9,baz=315,slow=4.6,SNR=59
YKA Yellowknife Ar 88.06 22 P **P** **20 04 59.3 +0.1**
SQTA Sankt Quirin 88.30 320⇓*i*P **P** **20 04 59.9 -0.5**
comp=Z,7.2nm,1.1s,mb4.8
SQTA Sankt Quirin 88.30 320⇓*i*P **P** **20 04 59.9 -0.4**
SQTA pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
CDF Champ du Feu 90.09 322 *e*P **P** **20 05 08.3 -0.4**
comp=Z,15nm,1.1s,mb4.9
CDF Champ du Feu 90.09 322 *e*P **P** **20 05 08.3 -0.4**
CDF pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
CDF Champ du Feu 90.09 322 *e*P **P** **20 05 08.3 -0.4**
comp=Z,7.4nm,1.1s,mb4.9
WLF Walferdange 90.11 324 AP pP 20 05 19.3 +0.1
HINF Hinteralfeld 90.63 322 *e*P **P** **20 05 10.5 -0.7**
DOU Dourbes 90.75 324 P **P** **20 05 11.8 0.0**
comp=Z,2.4nm,0.0s
DOU AP pP 20 05 21.1 -1.1
LPG La Plagne 91.84 320 *e*P **P** **20 05 17.2 +0.4**
comp=Z,34nm,0.8s,mb5.4
LPG La Plagne 91.84 320 *e*P **P** **20 05 17.2 +0.4**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.4
LPG La Plagne 91.84 320 *e*P **P** **20 05 17.2 +0.4**
comp=Z,17nm,0.8s,mb5.4
PGF Pioggiola 91.84 316 *e*P **P** **20 05 16.8 0.0**
comp=Z,38nm,0.8s,mb5.5
PGF Pioggiola 91.84 316 *e*P **P** **20 05 16.8 0.0**
PGF pmax pmax
comp=Z,19nm,0.8s,mb5.5
PGF Pioggiola 91.84 316 *e*P **P** **20 05 16.8 0.0**
comp=Z,19nm,0.8s,mb5.5
LPL La Plagne 91.84 320 *e*P **P** **20 05 17.1 +0.2**
comp=Z,33nm,0.8s,mb5.4
LPL La Plagne 91.84 320 *e*P **P** **20 05 17.1 +0.2**
LPL pmax pmax
comp=Z,16nm,0.8s,mb5.4
LPL La Plagne 91.84 320 *e*P **P** **20 05 17.1 +0.2**
comp=Z,16nm,0.8s,mb5.4
BNI Bardonecchia 92.10 319 *e*P **P** **20 05 17.7 -0.4**
BNI *e**PP pP 20 05 27.8 -0.7
BNI *e**SP sP 20 05 32.9 +0.7
BNI pmax pmax
comp=Z,12nm,0.8s,mb5.3
BNI Bardonecchia 92.10 319 *e*P **P** **20 05 17.6 -0.4**
comp=Z,12nm,0.8s,mb5.3
BNI *e*pP pP 20 05 27.8 -0.6
BNI *e*sP sP 20 05 32.9 +0.7
MBDF Montbardon 92.20 319 *e*P **P** **20 05 17.7 -0.8**
comp=Z,14nm,0.9s,mb5.0
MBDF Montbardon 92.20 319 *e*P **P** **20 05 17.7 -0.8**
MBDF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
MBDF Montbardon 92.20 319 *e*P **P** **20 05 17.7 -0.8**
comp=Z,7.0nm,0.9s,mb5.0
SBF Sospel 92.21 318 *e*P **P** **20 05 18.1 -0.5**
comp=Z,39nm,0.8s,mb5.5
SBF Sospel 92.21 318 *e*P **P** **20 05 18.1 -0.5**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.5
SBF Sospel 92.21 318 *e*P **P** **20 05 18.1 -0.5**
comp=Z,20nm,0.8s,mb5.5
LOR Lormes 92.65 322 *e*P **P** **20 05 19.8 -0.8**
LOR *e*R
comp=Z,214nm,21.2s
LOR Lormes 92.65 322 *e*P **P** **20 05 19.8 -0.8**
LOR LR LR
comp=Z,210nm,21.3s,MS4.6
ORIF Oris-en-Rattie 92.66 320 *e*P **P** **20 05 20.5 -0.1**
comp=Z,26nm,0.9s,mb5.3
ORIF *e*R
comp=Z,506nm,21.8s
ORIF Oris-en-Rattie 92.66 320 *e*P **P** **20 05 20.5 -0.1**
ORIF pmax pmax
comp=Z,13nm,0.9s,mb5.4
ORIF Oris-en-Rattie 92.66 320 *e*P **P** **20 05 20.5 -0.1**
comp=Z,13nm,0.9s,mb5.4
D03A Wishkah Elem. 92.73 38⇑P **P** **20 05 24.8 +3.9**
baz=92
FRF La Foret Royal 92.86 318 *e*P **P** **20 05 21.1 -0.5**
comp=Z,24nm,0.9s,mb5.3
FRF La Foret Royal 92.86 318 *e*P **P** **20 05 21.1 -0.5**
FRF pmax pmax
comp=Z,12nm,0.9s,mb5.3
FRF La Foret Royal 92.86 318 *e*P **P** **20 05 21.1 -0.5**
comp=Z,12nm,0.9s,mb5.3
SMF Signal de Mont 92.99 322 *e*P **P** **20 05 21.4 -0.8**
AVF Avril sur Loir 93.20 322 *e*P **P** **20 05 22.3 -0.8**
VIVF Saint-Julien-l 93.43 320 *e*P **P** **20 05 23.7 -0.5**
comp=Z,11nm,0.9s,mb5.0
VIVF Saint-Julien-l 93.43 320 *e*P **P** **20 05 23.7 -0.5**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
VIVF Saint-Julien-l 93.43 320 *e*P **P** **20 05 23.7 -0.5**
comp=Z,5.6nm,0.9s,mb5.0
EDM Edmonton 94.56 29 *e*P **P** **20 05 29.9 +0.5**
EDM *e**PP pP 20 05 39.0 -0.8
CAF Calviac 94.96 321 *e*P **P** **20 05 31.1 -0.1**
RJF Les Rejaudoux 95.08 322 *e*P **P** **20 05 31.8 0.0**
comp=Z,18nm,1.1s,mb5.1
RJF *e*R
comp=Z,180nm,22.0s

RJF Les Rejaudoux 95.08 322 *eP* **P 20 05 31.8 0.0**
RJF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,180nm,22.0s,MS4.5
RJF Les Rejaudoux 95.08 322 *eP* **P 20 05 31.8 0.0**
comp=Z,8.9nm,1.0s,mb5.2
RJF LR LR
comp=Z,180nm,22.0s,MS4.5
JCC Jacoby Creek 95.87 43 ⇑P **P 20 05 37.0 +1.7**
baz=96
PPT Papeete 95.94 106 *e*LR LR 20 36 45.8
comp=Z,352nm,32.8s
PPT Papeete 95.94 106 LR LR 20 44 13.3
comp=Z,130nm,20.6s,MS4.4,baz=317,slow=33
YBH Yreka Blue Hor 96.23 42 ⇓P **P 20 05 38.5 +1.5**
baz=96
M02C Callahan 96.33 42 ⇓P **P 20 05 37.1 -0.4**
baz=96
LSZ Lusaka 96.58 256 *eP* **P 20 05 38.2 -0.4**
LSZ *e**PP pP 20 05 48.6 -0.4
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
LSZ Lusaka 96.58 256 *eP* **P 20 05 38.2 -0.4**
comp=Z,4.8nm,0.8s,mb5.0
LSZ *e*pP pP 20 05 48.6 -0.5
J06A Christmas Vall 96.98 40 ⇑P **P 20 05 42.5 +2.1**
baz=97
K06A Valley Falls 97.18 40 ⇑P **P 20 05 43.0 +1.7**
baz=97
GASB Alder Springs 97.33 44 ⇑P **P 20 05 41.9 -0.1**
baz=97
TBI Tubuai 97.79 112 *e*LR LR 20 37 37.4
comp=Z,201nm,27.0s
ORV Oroville 98.18 43 ⇓P **P 20 05 46.4 +0.6**
baz=98
WVOR Wild Horse Val 98.36 40 *eP* **P 20 05 48.2 +1.6**
WVOR pmax pmax
comp=Z,4.0nm,1.1s,mb4.9
WVOR Wild Horse Val 98.36 40 *eP* **P 20 05 48.2 +1.5**
comp=Z,4.0nm,1.1s,mb4.9
VNDA Vanda 99.43 172 P **P 20 05 50.9 -0.5**
comp=Z,2.5nm,0.8s,mb4.8,baz=310,slow=6.4,SNR=16
VNDA LR LR 20 54 50.8
comp=Z,118nm,20.6s,MS4.4,baz=318,slow=38
NVAR Mina Array Bea 100.87 43 P Pdif 20 05 59.5 +1.7
comp=Z,0.6nm,0.7s,baz=289,slow=3.1,SNR=7.6
SYO Syowa Base 104.28 202⇑ *e*PP PP 20 10 30.2 -1.2
TORD Torodi Ar. Bea 111.35 293 PKiKP PKiKP 20 10 42.4 -0.4
comp=Z,1.1nm,0.9s,baz=3.6,slow=2.2,SNR=6.6
TORD PKKPbc PKKPbc 20 21 37.2 -0.6
comp=Z,0.8nm,0.5s,baz=269,slow=2.1,SNR=14
TORD PKKPab PKKPab 20 21 48.9 +1.3
comp=Z,1.2nm,1.0s,baz=256,slow=2.6,SNR=6.2
AMTX Amarillo 113.28 37 *e*Pdif Pdif 20 06 55.8 +2.8
AMTX *e* 20 07 02.6
WVT Waverly 119.08 26 *e*PKIKP PKPdf 20 10 55.2 -2.3
WVT *e* 20 11 07.0
PLAL Pickwick Lake 119.96 27 *e*PKPdf PKPdf 20 10 58.3 -0.9
PLAL *ep*PKPdf pPKPdf 20 11 08.5 -1.4
VNA3 Neumayer Olymp 120.20 197 *e*PKPdf PKPdf 20 10 58.3 -1.4
VNA3 *e* 20 11 08.2
SDV Santo Domingo 150.28 22 PKP PKPdf 20 11 55.3 +0.6
comp=Z,3.3nm,0.7s,baz=45,slow=2.9,SNR=4.8
SDV PKPbc PKPbc 20 12 01.0 +1.2
comp=Z,22nm,0.6s,baz=339,slow=1.4,SNR=30
SDV Santo Domingo 150.28 22 *e*PKPdf PKPdf 20 11 55.3 +0.7
SDV *e*PKPbc PKPbc 20 12 01.2 +1.3
SDV *ep*PKPbc pPKPbc 20 12 10.9 +0.4
PCRV Puerto La Cruz 150.56 9 PKPbc PKPbc 20 12 00.2 -0.4
comp=Z,16nm,0.6s,baz=192,slow=8.3,SNR=7.0
PCRV PKPab PKPab 20 12 09.9 +2.6
comp=Z,12nm,0.5s,baz=31,slow=4.5,SNR=7.4
ROSC El Rosal 152.32 32 PKPbc PKPbc 20 12 06.5 +1.9
comp=Z,6.5nm,0.4s,baz=90,slow=20,SNR=8.1
OTAV Otavalo 153.58 45 *e*PKPdf PKPdf 20 12 02.2 +2.6
OTAV *e*PKPbc PKPbc 20 12 09.5 +2.2
LPAZ La Paz 171.73 72 *e*PKIKP PKPdf 20 12 19.6 +2.3
LPAZ *e* 20 12 29.5
LPAZ *e* 20 13 40.4

IDC ***10*** *20:02:20.2±2.9, 1540N×9389W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=104.4km s-min=20.4km az=52.0*
ISCJB ***10*** *20:02:23.0±2.0, 151N±0.1×9452W±006, h38km±16km, mb3.6/3, Error ellipse: s-maj=21.2km s-min=8.5km az=16.5*
NEIC ***10*** *20:02:24.7, 1507N×9451W, h16km, mb4.0/1, MD4.1(MEX), After MEX.*
MEX ***10*** *20:02:24.4±1.0, 1504N×9452W, h16km±63km, MD4.1*
ISC 10 20:02:23.9±2.0, 151N±01×9450W±006, h37km±17km, n12, σ1°03/17, mb3.6/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**2.02**	**349**	Pg	**Pn**	**20 02 55.3**	**-0.3**
	27nm,0.3s,baz=156,slow=11,SNR=366						
CMIG				Lg		20 03 21.7	
	59nm,0.3s,baz=50,slow=17,SNR=24						
CMIG	**Matias Romero**	**2.02**	**349**	*i* P	**Pn**	**20 02 55.5**	**-0.1**
CMIG				*i* S	**Sn**	**20 03 18.9**	**-0.7**
CMIG	**Matias Romero**	**2.02**	**349**	Pg	**Pn**	**20 02 55.3**	**-0.2**
CMIG				*i* P		20 02 55.5	
CMIG				*i* S	**Sn**	**20 03 18.9**	**-0.7**
CMIG				Lg		20 03 21.7	
SCX	**San Cristobal**	**2.43**	**47**	*e*P	**Pn**	**20 03 02.0**	**+1.0**
SCX				*e*S	**Sn**	**20 03 31.0**	**+1.5**
CCIG	**Comitan**	**2.56**	**62**	*i* P	**Pn**	**20 03 02.3**	**-0.6**
CCIG				*i* S	**Sn**	**20 03 32.8**	**-0.1**
UTMO	**Huajuapan**	**4.18**	**311**	*e*P	**Pn**	**20 03 26.1**	**+0.9**
UTMO				*i* S	**Sn**	**20 04 12.7**	**-0.1**
TEIG	**Tepich**	**7.83**	**48**	*e*Pn	**Pn**	**20 04 13.1**	**-2.1**
	12nm,0.4s						
NVAR	**Mina Array Bea**	**31.32**	**322**	P	**P**	**20 08 43.9**	**+3.3**
	0.3nm,0.6s,mb3.3,baz=143,slow=9.1,SNR=3.4						
YKA	**Yellowknife Ar**	**49.44**	**348**	P	**P**	**20 11 09.7**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=153,slow=7.3,SNR=6.4						
YKA	**Yellowknife Ar**	**49.44**	**348**	P	**P**	**20 11 09.7**	**-0.4**
NB2	**NORSAR Subarra**	**84.34**	**28**	P	**P**	**20 14 52.0**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.9,baz=292,slow=5.3						
NOA	**NORSAR Array B**	**84.34**	**28**	P	**P**	**20 14 51.5**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.9,baz=294,slow=4.9,SNR=4.9						

FUNV 10 20:04:22.9, 670N×7318W, h167km, MW3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.45**	**37**	⇑*i*P	Pn	20 04 53.0	-0.2
CAPV				*e*S	Sn	20 05 14.2	-2.3
VIGV	**El Vigia**	**2.79**	**40**	*e*P	Pn	20 05 07.7	-0.7
VIGV				*e*S	Sn	20 05 40.8	-2.8
SOCV	**Socops**	**2.79**	**56**	*e*P	Pn	20 05 07.9	-0.5
SOCV				*e*S	Sn	20 05 40.3	-3.4
VIRV	**Villa del Rosa**	**3.86**	**11**	*e*P	Pn	20 05 19.8	-1.9
VIRV				*e*S	Sn	20 06 03.1	-4.5
CURV	**Curarigua**	**4.58**	**44**	*e*P	Pn	20 05 29.9	-1.2
CURV				*e*S	Sn	20 06 18.9	-5.5
BAUV	**El Baul**	**5.56**	**66**	*e*P	Pn	20 05 41.5	-2.4
BAUV				*e*S	Sn	20 06 40.7	-6.7
MONV	**Montecano**	**6.11**	**31**	*e*P	Pn	20 05 49.3	-1.9

IDC ***10*** *20:09:34.1±0.8, 1916N×12050E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, Error ellipse: s-maj=69.7km s-min=19.0km az=66.0*
ISCJB ***10*** *20:09:37.3±1.0, 1909N±007×11989E±007, h39km±11km, mb3.7/9, Error ellipse: s-maj=12.1km s-min=9.0km az=80.9*
MAN ***10*** *20:09:37.2, 1905N×11996E, h16km, mb2.5, ML4.0, MS7.0*
NEIC ***10*** *20:09:39.3±0.5, 1914N×12048E, h35km, mb4.0/2, Error ellipse: s-maj=42.4km s-min=10.4km az=70.0*
BJI ***10*** *20:09:40.2, 1907N×11954E, h35km, mb3.8*
ISC 10 20:09:38.5±2.2, 1911N±006×11995E±007, h32km±18km, n23, σ1°11/28, mb3.7/9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.62**	**153**	*e*P	**Pn**	**20 10 03.3**	**-1.6**
APYP	**Conner**	**1.75**	**135**	*e*P	**Pn**	**20 10 05.3**	**-1.3**
APYP				*e*S	**Sn**	**20 10 27.4**	**-0.3**
SGCP	**Mt. Cagua**	**2.17**	**113**	*e*P	**Pn**	**20 10 12.0**	**-0.4**
SGCP				*e*S	**Sn**	**20 10 37.4**	**-0.8**
CVP	**Callao Caves**	**2.26**	**128**	*i* P	**Pn**	**20 10 14.0**	**+0.3**
CVP				*i* S	**Sn**	**20 10 41.0**	**+0.5**
BOLP	**Bolinao**	**2.71**	**181**	*e*P	**Pn**	**20 10 19.9**	**+0.1**
BOLP				*e*S	**Sn**	**20 10 46.6**	**-4.9**
BCPH	**Baguio City Da**	**2.78**	**167**	⇑*i*P	**Pn**	**20 10 20.0**	**-0.8**
BCPH				*i* S	**Sn**	**20 10 54.0**	**+0.8**
CAUP	**Cauayan**	**2.79**	**140**	*e*P	**Pn**	**20 10 22.7**	**+1.7**
PALP	**Palanan**	**3.11**	**130**	*e*P	**Pn**	**20 10 27.0**	**+1.6**
PALP				*e*S	**Sn**	**20 11 07.1**	**+5.6**
BALP	**Baler**	**3.69**	**155**	*e*P	**Pn**	**20 10 34.5**	**+1.2**
LUBP	**Lubang**	**5.35**	**177**	*e*P	**Pn**	**20 10 57.9**	**+1.7**
BUSP	**Coron**	**7.07**	**178**	*e*P	**Pn**	**20 11 20.1**	**+0.4**
GZH	**Guangzhou**	**7.33**	**304**	P	**Pn**	**20 11 21.8**	**-1.5**
ENPP	**El Nido**	**7.87**	**184**	*e*P	**Pn**	**20 11 29.0**	**-1.7**
BJT	**Baijiatuau**	**21.09**	**352**	*e*P	**P**	**20 14 20.9**	**+0.6**
	4.9nm,0.6s,mb4.0						
WRAB	**Tennant Creek**	**41.29**	**159**	P	**P**	**20 17 20.2**	**-0.7**
	0.7nm,0.4s,mb3.6						
WRA	**Warramunga Arr**	**41.29**	**159**	P	**P**	**20 17 20.4**	**-0.5**
	1.3nm,0.9s,mb3.6,baz=342,slow=8.7,SNR=16						
MKAR	**Makanchi Array**	**41.34**	**321**	P	**P**	**20 17 24.1**	**+2.7**
	0.6nm,0.8s,mb3.3,baz=120,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	**44.64**	**162**	P	**P**	**20 17 48.0**	**0.0**
	0.9nm,0.7s,mb3.7,baz=344,slow=6.8,SNR=19						
STKA	**Stephens Creek**	**54.78**	**157**	P	**P**	**20 19 04.0**	**-1.1**
	2.6nm,0.7s,mb4.4,baz=337,slow=9.4,SNR=3.9						
FINES	**FINESS Array B**	**75.25**	**330**	P	**P**	**20 21 18.4**	**+0.2**
	1.2nm,0.8s,mb3.9,baz=96,slow=5.7,SNR=3.4						
AKASG	**Malin Array Be**	**75.91**	**319**	P	**P**	**20 21 25.3**	**+3.4**
	0.1nm,0.3s,mb3.2,baz=62,slow=9.1,SNR=4.5						
YKA	**Yellowknife Ar**	**88.08**	**22**	P	**P**	**20 22 25.2**	**-0.6**
	0.6nm,0.7s,mb3.9,baz=313,slow=4.5,SNR=6.7						
SDV	**Santo Domingo**	**150.29**	**21**	PKPbc	PKPbc	20 29 28.0	+1.6
	2.9nm,0.7s,baz=336,slow=5.4,SNR=4.1						

SZGRF ***10*** *20:25:14.0, 580S×2943E, h33km, mb4.9, Lake Tanganyika region*
MOS ***10*** *20:25:16.9±0.8, 480S×2938E, h10km, mb4.8/34, Error ellipse: s-maj=13.7km s-min=4.9km az=99.4*
ISCJB ***10*** *20:25:17.1±0.4, 478S±005×2942E±008, h10km, mb4.6/56, MS4.0/5, Error ellipse: s-maj=11.1km s-min=6.7km az=30.1*
IDC ***10*** *20:25:17.9±0.8, 476S×2936E, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.2/24, mbtmp4.3/16, ML2.0/1, MS3.8/8, Ms1 3.8/8, ms1mx3.5/25, Error ellipse: s-maj=23.8km s-min=15.3km az=105.0*
NEIC ***10*** *20:25:19.2±0.3, 481S×2940E, h10km, mb4.7/35, Error ellipse: s-maj=8.6km s-min=5.0km az=98.0*
ISC 10 20:25:19.3±0.4, 480S±005×2943E±006, h10km, n160, σ0°75/162, mb4.6/56, MS4.0/5, 8C-11D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**8.62**	**65**	Pn	**Pn**	**20 27 23.4**	**-0.7**
	3.1nm,0.3s,baz=232,slow=19,SNR=38						
KMBO				Sn	**Sn**	**20 28 57.5**	**-3.8**
	12nm,0.3s,baz=135,slow=23,SNR=8.8						
KMBO				Lg		20 29 46.1	
	16nm,0.3s,baz=261,slow=18,SNR=4.6						
KMBO				LR	LR	20 30 16.4	
	comp=Z,129nm,19.1s,baz=274,slow=34						
KMBO	**Kilima Mbogo**	**8.62**	**65**	*e*P	**Pn**	**20 27 23.3**	**-0.7**
KMBO				*e*		20 28 59.6	
KMBO				pmax	pmax		
	comp=Z,29nm,0.7s						
KMBO	**Kilima Mbogo**	**8.62**	**65**	*e*Pn	**Pn**	**20 27 23.3**	**-0.7**
	comp=Z,29nm,0.7s						
KMBO				*e*Sn	**Sn**	**20 28 59.6**	**-1.7**
KMBO				Lg		20 29 46.1	
KMBO				LR	LR	20 30 16.4	
LSZ	**Lusaka**	**10.48**	**187**	Pn	**Pn**	**20 27 50.5**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=357,slow=11,SNR=14						
LSZ				Sn	**Sn**	**20 29 41.9**	**-5.1**
	comp=Z,2.0nm,0.3s,baz=131,slow=15,SNR=3.0						
LSZ				Lg		20 30 46.1	
	comp=Z,3.9nm,0.3s,baz=288,slow=23,SNR=6.7						
LSZ				LR	LR	20 32 10.3	
	comp=Z,698nm,18.5s,baz=100,slow=39						
LSZ	**Lusaka**	**10.48**	**187**	*e*P	**Pn**	**20 27 50.0**	**+0.5**
LSZ				pmax	pmax		
	comp=Z,19nm,0.7s						
LSZ	**Lusaka**	**10.48**	**187**	*e*Pn	**Pn**	**20 27 50.0**	**+0.4**
	comp=Z,19nm,0.7s						
LSZ				Lg		20 30 46.1	
LSZ				LR	LR	20 32 10.3	
TSUM	**Tsumeb**	**18.40**	**218**	P	**Pn**	**20 29 35.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=24,slow=12,SNR=12						
TSUM				S	**Sn**	**20 32 45.7**	**-14**
	comp=Z,0.9nm,0.3s,baz=139,slow=20,SNR=3.1						
TSUM				Lg		20 34 48.7	
	comp=Z,0.6nm,0.3s,baz=103,slow=24,SNR=3.0						
TSUM				LR	LR	20 36 52.9	
	comp=Z,190nm,20.8s,baz=130,slow=38						
TSUM	**Tsumeb**	**18.40**	**218**	*e*Pn	**Pn**	**20 29 34.9**	**+0.5**
TSUM				*e*Sn	**Sn**	**20 32 57.0**	**-2.9**
TSUM				Lg		20 34 48.7	
TSUM				LR	LR	20 36 52.9	
LBTB	**Lobatse**	**20.43**	**190**	P	**P**	**20 29 57.9**	**+1.2**
	comp=Z,3.2nm,0.9s,baz=3.2,slow=11,SNR=4.6						
LBTB				Lg		20 36 02.5	
	comp=Z,9.0nm,0.9s,baz=104,slow=23,SNR=5.7						
LBTB				LR	LR	20 38 08.1	
	comp=Z,342nm,20.0s,MS3.7,baz=66,slow=38						
LBTB	**Lobatse**	**20.43**	**190**	*e*P	**P**	**20 29 57.4**	**+0.8**
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LBTB	**Lobatse**	**20.43**	**190**	*e*P	**P**	**20 29 57.4**	**+0.7**
	comp=Z,8.1nm,0.7s						
LBTB				Lg		20 36 02.5	
LBTB				LR	LR	20 38 08.1	
BOSA	**Boshof**	**24.01**	**189**	P	**P**	**20 30 34.7**	**+0.5**
	comp=Z,5.8nm,0.7s,mb4.1,baz=14,slow=9.2,SNR=14						
BOSA				LR	LR	20 40 07.6	
	comp=Z,277nm,19.6s,MS3.7,baz=61,slow=37						
BOSA	**Boshof**	**24.01**	**189**	*e*P	**P**	**20 30 34.0**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
BOSA	**Boshof**	**24.01**	**189**	*e*P	**P**	**20 30 34.0**	**-0.1**
	comp=Z,11nm,0.9s,mb4.3						
BOSA				LR	LR	20 40 07.6	
SUR	**Sutherland**	**28.60**	**195**	LR	LR	20 43 00.9	
	comp=Z,301nm,18.9s,MS3.9,baz=49,slow=37						
TORD	**Torodi Ar. Bea**	**32.82**	**303**	P	**P**	**20 31 52.3**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.3,baz=110,slow=6.8,SNR=25						
DBIC	**Dimbokro**	**36.08**	**288**	P	**P**	**20 32 19.6**	**-1.5**
	comp=Z,0.9nm,0.4s,mb4.0,baz=109,slow=11,SNR=5.3						
MALT	**Malatya**	**43.70**	**10**	*e*P	**P**	**20 33 24.8**	**+0.4**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
MALT	**Malatya**	**43.70**	**10**	*e*P	**P**	**20 33 24.8**	**+0.4**
	comp=Z,4.5nm,1.1s,mb4.1						
BRTR	**Keskin Array B**	**44.47**	**5**	P	**P**	**20 33 31.9**	**+1.3**
	comp=Z,5.4nm,0.8s,mb4.3,baz=182,slow=9.4,SNR=29						
BR131	**Keskin Array S**	**44.48**	**5**	*e*P	**P**	**20 33 32.1**	**+1.5**
	comp=Z,3.3nm,0.6s,mb4.2						
MMB	**Musomiste**	**46.46**	**354**	*e*P	**P**	**20 33 46.0**	**-0.3**
KKB	**Krupnik**	**46.80**	**353**	*e*P	**P**	**20 33 45.0**	**-4.0**
VTS	**Vitosha**	**47.51**	**354**	*e*P	**P**	**20 33 55.0**	**+0.5**
ANN	**Anapa**	**49.90**	**7**	*e*P	**P**	**20 34 22.8**	**+10**
ANN				pmax	pmax		
	comp=Z,65nm,1.7s,mb5.4						
MLR	**Muntele Rosu**	**50.16**	**357**	⇓*i*P	**P**	**20 34 15.9**	**+1.0**
MLR	**Muntele Rosu**	**50.16**	**357**	⇓P	**P**	**20 34 15.9**	**+1.0**
MAK	**Makhachkala**	**50.28**	**17**	*e*P	**P**	**20 34 20.5**	**+4.7**
PGF	**Pioggiola**	**50.65**	**341**	*e*P	**P**	**20 34 18.3**	**-0.3**
	comp=Z,29nm,1.2s,mb4.8						
PGF	**Pioggiola**	**50.65**	**341**	*e*P	**P**	**20 34 18.3**	**-0.3**
PGF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
PGF	**Pioggiola**	**50.65**	**341**	*e*P	**P**	**20 34 18.3**	**-0.3**
	comp=Z,14nm,1.2s,mb4.8						
BZS	**Buzias**	**50.68**	**353**	⇑*i*P	**P**	**20 34 20.0**	**+1.2**
BZS	**Buzias**	**50.68**	**353**	⇑P	**P**	**20 34 20.0**	**+1.2**
PKSM	**Moragy**	**51.69**	**350**	⇓*i*P	**P**	**20 34 27.4**	**+1.0**
PKSM	**Moragy**	**51.69**	**350**	⇓P	**P**	**20 34 27.4**	**+1.0**
DRGR		**51.71**	**354**	⇑*i*P	**P**	**20 34 28.4**	**+1.8**
DRGR		**51.71**	**354**	⇑P	**P**	**20 34 28.4**	**+1.8**
LMR	**La Mourre**	**52.20**	**339**	*e*P	**P**	**20 34 29.9**	**-0.3**
BURAR	**Bucovina Array**	**52.32**	**356**	⇓*i*P	**P**	**20 34 33.6**	**+2.5**
BURAR	**Bucovina Array**	**52.32**	**356**	⇓P	**P**	**20 34 33.6**	**+2.5**
SBF	**Sospel**	**52.34**	**340**	*e*P	**P**	**20 34 30.9**	**-0.4**
	comp=Z,20nm,0.8s,mb4.8						
SBF	**Sospel**	**52.34**	**340**	*e*P	**P**	**20 34 30.9**	**-0.4**
SBF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SBF	**Sospel**	**52.34**	**340**	*e*P	**P**	**20 34 30.9**	**-0.4**
	comp=Z,10.0nm,0.8s,mb4.8						
FRF	**La Foret Royal**	**52.35**	**339**	*e*P	**P**	**20 34 31.1**	**-0.2**
	comp=Z,6.9nm,0.7s,mb4.4						
FRF	**La Foret Royal**	**52.35**	**339**	*e*P	**P**	**20 34 31.1**	**-0.2**
FRF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
FRF	**La Foret Royal**	**52.35**	**339**	*e*P	**P**	**20 34 31.1**	**-0.2**
	comp=Z,3.5nm,0.7s,mb4.4						
SMRF	**Simiane la Rot**	**53.10**	**339**	*e*P	**P**	**20 34 36.2**	**-0.7**
	comp=Z,7.1nm,0.8s,mb4.3						
SMRF	**Simiane la Rot**	**53.10**	**339**	*e*P	**P**	**20 34 36.2**	**-0.7**
	comp=Z,7.1nm,0.8s,mb4.7						
SRO1	**Iza**	**53.26**	**351**	*e*P	**P**	**20 34 39.3**	**+1.2**
SRO1				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
ARSA	**Arzberg**	**53.27**	**348**	⇓*i*P	**P**	**20 34 39.0**	**+0.9**
	comp=Z,5.1nm,1.1s,mb4.4						
MBDF	**Montbardon**	**53.33**	**340**	*e*P	**P**	**20 34 38.6**	**0.0**
	comp=Z,16nm,0.8s,mb4.7						
MBDF	**Montbardon**	**53.33**	**340**	*e*P	**P**	**20 34 38.6**	**0.0**
MBDF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MBDF	**Montbardon**	**53.33**	**340**	*e*P	**P**	**20 34 38.6**	**0.0**
	comp=Z,8.1nm,0.8s,mb4.7						
KECS	**Kecovo**	**53.64**	**353**	*e*P	**P**	**20 34 41.6**	**+0.8**
KECS				*e*		20 36 36.7	
ORIF	**Oris-en-Rattie**	**53.81**	**339**	*e*P	**P**	**20 34 41.9**	**-0.2**
LASF	**Ste Croix**	**53.83**	**337**	*e*P	**P**	**20 34 42.1**	**-0.1**
CONA	**Conrad Observa**	**53.84**	**349**	⇓*i*P	**P**	**20 34 43.2**	**+0.8**
	comp=Z,7.2nm,1.1s,mb4.5						
MTLF	**Montolieu**	**53.87**	**336**	*e*P	**P**	**20 34 42.1**	**-0.4**
VYHS	**Vyhne**	**53.88**	**351**	*i* P	**P**	**20 34 42.5**	**-0.1**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
VYHS	**Vyhne**	**53.88**	**351**	*i* P	**P**	**20 34 42.5**	**-0.1**
	comp=Z,4.7nm,1.2s,mb4.3						
ESDC	**Sonseca Array**	**53.90**	**328**	P	**P**	**20 34 43.0**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=142,slow=7.7,SNR=13						
LPG	**La Plagne**	**54.01**	**340**	*e*P	**P**	**20 34 43.7**	**+0.1**
	comp=Z,6.4nm,0.7s,mb4.4						
LPG	**La Plagne**	**54.01**	**340**	*e*P	**P**	**20 34 43.7**	**+0.1**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LPG	**La Plagne**	**54.01**	**340**	*e*P	**P**	**20 34 43.7**	**+0.1**
	comp=Z,3.2nm,0.7s,mb4.4						
KOLL	**Kolacno**	**54.03**	**351**	*e*P	**P**	**20 34 44.1**	**+0.4**
LPL	**La Plagne**	**54.04**	**340**	*e*P	**P**	**20 34 43.6**	**-0.2**
MOA	**Molln**	**54.10**	**347**	⇓*i*P	**P**	**20 34 44.6**	**+0.4**
	comp=Z,8.1nm,0.9s,mb4.6						
VIVF	**Saint-Julien-l**	**54.19**	**338**	*e*P	**P**	**20 34 44.9**	**+0.1**
	comp=Z,11nm,0.9s,mb4.5						
VIVF	**Saint-Julien-l**	**54.19**	**338**	*e*P	**P**	**20 34 44.9**	**+0.1**
VIVF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
VIVF	**Saint-Julien-l**	**54.19**	**338**	*e*P	**P**	**20 34 44.9**	**+0.1**
	comp=Z,5.3nm,0.9s,mb4.5						
EPF	**Esparros**	**54.41**	**334**	*e*P	**P**	**20 34 46.4**	**-0.1**
	comp=Z,11nm,0.8s,mb4.5						
EPF	**Esparros**	**54.41**	**334**	*e*P	**P**	**20 34 46.4**	**-0.1**
EPF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
EPF	**Esparros**	**54.41**	**334**	*e*P	**P**	**20 34 46.4**	**-0.1**
	comp=Z,5.6nm,0.8s,mb4.5						
STHS	**Stebnicka Huta**	**54.46**	**353**	*e*P	**P**	**20 34 47.6**	**+0.7**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
STHS	**Stebnicka Huta**	**54.46**	**353**	*e*P	**P**	**20 34 47.6**	**+0.7**
	comp=Z,1.6nm,0.7s,mb4.1						
DAVA	**Damuels**	**54.66**	**344**	⇓*i*P	**P**	**20 34 48.4**	**+0.1**
	comp=Z,14nm,1.0s,mb4.9						
ETSF	**Etsaut**	**54.70**	**333**	*e*P	**P**	**20 34 48.8**	**+0.2**
	comp=Z,17nm,1.0s,mb4.7						
ETSF	**Etsaut**	**54.70**	**333**	*e*P	**P**	**20 34 48.8**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ETSF	**Etsaut**	**54.70**	**333**	*e*P	**P**	**20 34 48.8**	**+0.2**
	comp=Z,8.4nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**55.16**	**347**	P	**P**	**20 34 52.0**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.4,baz=151,slow=8.5,SNR=19						
SJPF	**Ste Jean**	**55.17**	**333**	*e*P	**P**	**20 34 52.0**	**0.0**
	comp=Z,30nm,1.0s,mb5.0						
SJPF	**Ste Jean**	**55.17**	**333**	*e*P	**P**	**20 34 52.0**	**0.0**
SJPF				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
SJPF	**Ste Jean**	**55.17**	**333**	*e*P	**P**	**20 34 52.0**	**0.0**
	comp=Z,15nm,1.0s,mb5.0						
CABF	**La Chapelle**	**55.21**	**341**	*e*P	**P**	**20 34 51.9**	**-0.4**
	comp=Z,5.6nm,0.6s,mb4.4						
CABF	**La Chapelle**	**55.21**	**341**	*e*P	**P**	**20 34 51.9**	**-0.4**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CABF	**La Chapelle**	**55.21**	**341**	*e*P	**P**	**20 34 51.9**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.5						
TREC	**Trest**	**55.23**	**

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SSF   Saint Saulge      56.49 339 eP        P        20 35 00.8 -0.7
      comp=Z,9.5nm,0.8s,mb4.6
SSF   Saint Saulge      56.49 339 eP        P        20 35 00.8 -0.7
SSF                               pmax      pmax
      comp=Z,5.0nm,0.8s,mb4.6
SSF   Saint Saulge      56.49 339 eP        P        20 35 00.8 -0.7
      comp=Z,4.8nm,0.8s,mb4.6
GRA1  Grafenberg Arr    56.53 346 eP        P        20 35 01.7  0.0
      comp=Z,10.0nm,0.8s,mb4.9
GRF   Grafenberg Arr    56.53 346 eP        P        20 35 01.7  0.0
      comp=Z,10.0nm,0.8s,mb4.9
GRF   Grafenberg Arr    56.53 346 eP        P        20 35 01.7  0.0
GRF                               pmax      pmax
      comp=Z,10.0nm,0.8s,mb4.9
GRF   Grafenberg Arr    56.53 346 eP        P        20 35 01.7  0.0
GRF                               pmax      pmax
      comp=Z,10.0nm,0.8s,mb4.9
LOR   Lormes            56.55 339 eP        P        20 35 01.2 -0.6
      comp=Z,13nm,0.7s,mb4.8
LOR   Lormes            56.55 339 eP        P        20 35 01.2 -0.6
LOR                               pmax      pmax
      comp=Z,6.0nm,0.7s,mb4.7
LOR   Lormes            56.55 339 eP        P        20 35 01.2 -0.6
      comp=Z,6.4nm,0.7s,mb4.8
MEZF  Maizieres J'vi    57.21 341 eP        P        20 35 06.7 +0.2
      comp=Z,28nm,0.8s,mb5.0
MFF   Saint Martin d    57.50 336 eP        P        20 35 08.4 -0.2
      comp=Z,13nm,0.8s,mb4.7
GIVF  Givet             58.68 342 eP        P        20 35 16.3 -0.6
      comp=Z,25nm,1.0s,mb4.9
BAIF  Baives            58.84 341 eP        P        20 35 17.4 -0.6
      comp=Z,8.6nm,0.8s,mb4.5
LDF   La Druitiere      59.11 338 eP        P        20 35 19.4 -0.5
GRR   Gorron            59.23 337 eP        P        20 35 20.2 -0.5
      comp=Z,9.5nm,0.8s,mb4.6
FLN   La Foliniere      59.39 337 eP        P        20 35 21.6 -0.2
      comp=Z,7.5nm,0.7s,mb4.6
OBN   Obninsk           60.00   5⇓eP        P        20 35 25.7 -0.3
OBN                               pmax      pmax
      comp=Z,12nm,1.4s,mb4.7
AAK   Ala-Archa         62.40  36 eP        P        20 35 43.8 +1.6
AAK                               pmax      pmax
      comp=Z,4.0nm,1.7s,mb4.3
ARU   Arti              65.51  17⇑iP         P        20 36 02.4 -0.4
ARU                               ePPP              20 40 03.2
ARU                               eS        S       20 44 37.0  -11
ARU                               eSS       SS      20 48 55.4 -5.8
ARU                               pmax      pmax
      comp=Z,7.0nm,1.0s,mb4.7
ARU   Arti              65.51  17 eP        P        20 36 02.5 -0.3
      comp=Z,9.0nm,1.1s,mb4.7
FINES FINESS Array B    66.10 358 P         P        20 36 06.5 -0.1
      comp=Z,4.5nm,0.7s,mb4.6,baz=175,slow=6.1,SNR=23
FINES FINESS Array B    66.10 358 iP        P        20 36 06.5  0.0
FINES                             pmax      pmax
      comp=Z,5.0nm,0.7s
KAF   Kangasniemi       66.77 358 ep        P        20 36 09.5 -1.3
      comp=Z,7.8nm,0.6s,mb4.9,baz=175,slow=6.2
KAF   Kangasniemi       66.77 358 eP        P        20 36 09.5 -1.3
KAF                               pmax      pmax
      comp=Z,8.0nm,0.6s,mb4.9
NB2   NORSAR Subarra    67.17 350 P         P        20 36 13.0 -0.3
      comp=Z,7.7nm,1.1s,mb4.7,baz=162,slow=5.9
NB2   NORSAR Subarra    67.17 350 P         P        20 36 13.0 -0.3
NB2                               pmax      pmax
      comp=Z,8.0nm,1.1s,mb4.7
NOA   NORSAR Array B    67.17 350 P         P        20 36 13.2 -0.1
      comp=Z,3.2nm,1.0s,mb4.3,baz=163,slow=5.8,SNR=7.1
JOF   Joensuu           67.55   1 ep        P        20 36 13.9 -1.8
      comp=Z,4.5nm,0.7s,mb4.6
CHKZ  Chkalovo          67.70  25 eP        P        20 36 16.6 -0.1
CHKZ                              pmax      pmax
      comp=Z,3.0nm,0.8s,mb4.4
CHKZ  Chkalovo          67.70  25 eP        P        20 36 16.6 -0.2
      comp=Z,2.8nm,0.8s,mb4.3
MKAR  Makanchi Array    69.33  36 P         P        20 36 27.2 +0.4
      comp=Z,5.6nm,0.7s,mb4.6,baz=241,slow=5.9,SNR=43
MKAR  Makanchi Array    69.33  36⇑eP        P        20 36 27.3 +0.4
NVS   Novosibirsk       74.18  29 eP        P        20 36 53.6 -2.5
ARCES ARCESS Array B    74.23 359 P         P        20 36 56.0 -0.3
      comp=Z,4.1nm,0.7s,mb4.4,baz=167,slow=6.0,SNR=7.2
ZAL   Zalesovo          74.47  30 P         P        20 36 57.9 +0.2
      comp=Z,2.0nm,0.8s,mb4.1,baz=232,slow=5.2,SNR=10
ZAK   Zakamensk         83.48  38 eP        P        20 37 38.5 -8.6
ZAK                               pmax      pmax
      comp=Z,5.0nm,2.0s,mb4.2
ULN   Ulaanbaatar       85.27  41 eP        P        20 37 56.0 -0.3
VNDA  Vanda             93.73 171 LR        LR       21 16 25.9
      comp=Z,79nm,20.8s,MS4.2,baz=263,slow=33
PLCA  Paso Flores       94.43 229 LR        LR       21 13 44.7
      comp=Z,102nm,19.9s,MS4.3,baz=154,slow=31
```

ISCJB ***10*** *21:07:22.2±0.5, 3365N±003×4891E±006, h10km, Error ellipse: s-maj=6.9km s-min=3.8km az=26.1*
KISR ***10*** *21:07:22.6±0.8, 3346N×4957E, h33km, ML3.4*
THR ***10*** *21:07:23.9±0.9, 3366N×4900E, h14km±7km, ML3.6*
TEH ***10*** *21:07:26.2, 3343N×4889E, h24km, Mn3.7*

ISC 10 21:07:23.6±0.5, 3367N±003×4896E±006, h10km, n11, σ1§16/17, Western Iran

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
ASAO  Ashtian           1.25  45 ePG       Pg       21 07 46.7 -0.9
ASAO                               eSG       Sg       21 08 03.3 -0.4
ASAO                               AML       AML      21 08 09.1
      comp=E,711nm,0.6s
ASAO                               AML       AML      21 08 10.7
      comp=N,805nm,0.5s
SHGR  Shooshtar-Gavs    1.56 185 ePG       Pg       21 07 52.4 -1.2
SHGR                               eSG       Sg       21 08 13.2 -0.6
SHGR                               AML       AML      21 08 19.5
      comp=E,2µm,0.6s
SHGR                               AML       AML      21 08 20.6
      comp=N,1µm,0.5s
SNGE  Sanandaj          1.95 317 ePg       Pg       21 07 59.5 -1.5
SNGE                               eSG       Sg       21 08 26.8 +0.6
SNGE                               AML       AML      21 08 33.2
      comp=N,265nm,0.6s
THKV  Tehran--Karaj     2.74  35 ePn       Pn       21 08 09.9 +2.2
THKV                               eSG       Sg       21 08 49.3 -2.4
THKV                               AML       AML      21 09 06.5
      comp=E,155nm,0.7s
CHTH  Charan            2.86  38 ePN       Pn       21 08 11.3 +2.0
NASN  Na'in             3.34 104 ePN       Pn       21 08 17.6 +1.7
BHD   Baghdad           3.85 265 ex        x        21 08 34.0
BHD                               ex        x        21 09 29.0
MIB   Mutribah          4.09 200 eP        Pn       21 08 27.0 +0.7
MIB                               AML       AML      21 09 14.5
      comp=Z,44nm,0.5s
KBD   Kabd              4.61 194 eP        Pn       21 08 33.5 +0.2
KBD                               AML       AML      21 09 24.6
      comp=Z,50nm,0.3s
KBD                               eS        Sn       21 09 26.2 -0.7
NAY   Al-Naaiem         4.64 199 eP        Pn       21 08 33.8  0.0
NAY                               eS        Sn       21 09 28.5 +0.8
RDF   Al-Radifah        4.88 195 eP        Pn       21 08 37.4 +0.3
RDF                               AML       AML      21 09 32.0
      comp=Z,18nm,0.4s
RDF                               eS        Sn       21 09 32.8 -0.7
```

ISCJB ***10*** *21:10:42.5±0.5, 4375N±003×105.18W±005, h0km, mb4.1/2, Error ellipse: s-maj=5.3km s-min=4.1km az=56.5*
IDC ***10*** *21:10:43.8±1.8, 4379N×10551W, h0km, mb3.9/2, mb1 3.9/6, mb1mx3.6/24, mbtmp3.6/6, ML3.5/4, Error ellipse: s-maj=55.4km s-min=8.2km az=149.0*
NEIC ***10*** *21:10:44.5±0.4, 4369N×105.16W, h0km, ML3.4, Error ellipse: s-maj=5.7km s-min=4.7km az=111.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.

ISC 10 21:10:44.0±0.5, 4375N±003×10512W±005, h0km, n41, σ1§07/59, mb4.1/2, Wyoming

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
PHWY  Pilot Hill        2.46 186 eP        Pn       21 11 25.2 -0.2
RWWY  Rawlins           2.57 217 eP        Pn       21 11 27.1 +0.2
RWWY                               eS        Sn       21 12 00.6 +1.8
LAO   LASA Array        3.04 346 ePn       Pn       21 11 34.4 +1.0
LAO                               eSn       Sg       21 12 21.5 -0.3
BW06  Boulder Array     3.38 255 eP        Pn       21 11 37.4 -0.7
BW06                               eS        Sn       21 12 23.0 +4.0
PDAR  Pinedale Array    3.38 255 Pn        Pn       21 11 37.2 -0.9
      4.2nm,0.3s,baz=77,slow=61
PDAR                               Lg                 21 12 21.7
      12nm,0.3s,baz=73,slow=33,SNR=10
LKWY  Lake              3.88 284 ePn       Pn       21 11 46.8 +1.9
ISCO  Idaho Springs     3.96 185 ePn       Pn       21 11 46.4 +0.3
LOHW  Long Hollow       3.98 270 ePn       Pn       21 11 46.6 +0.3
FLWY  Flagg Ranch       4.04 277 ePn       Pn       21 11 48.2 +1.0
FLWY                               eSn       Sn       21 12 36.6 +1.4
MOOW  Moose Ponds       4.07 272 ePn       Pn       21 11 48.1 +0.5
YFT   Old Faithful      4.17 282 ePn       Pn       21 11 55.0 +6.0
REDW  Red Top Meadow    4.18 267 ePn       Pn       21 11 50.1 +1.0
IMW   Indian Meadow     4.21 274 ePn       Pn       21 11 50.3 +0.9
TPAW  Teton Pass        4.24 269 ePn       Pn       21 11 50.8 +0.9
TPAW                               eSn       Sn       21 12 37.4 -2.6
YMR   Madison River     4.30 284 ePn       Pn       21 11 51.7 +1.0
DCID1 Drake Creek       4.40 270 ePn       Pn       21 11 52.6 +0.6
DCID1                              eSn       Sn       21 12 41.7 -2.3
QLMT  Earthquake Lak    4.66 286 ePn       Pn       21 11 56.9 +1.4
QLMT                               eSn       Sg       21 13 08.7 -4.9
BOZ   Bozeman (W)       5.01 295 ePn       Pn       21 12 00.1 -0.4
      11nm,0.5s
BOZ                                eSn       Sn       21 13 03.0 +3.8
HWUT  Hardware Ranch    5.21 248 ePn       Pn       21 12 02.8 -0.4
      12nm,0.5s
TCUT  Toone Canyon      5.34 243 ePn       Pn       21 12 04.3 -0.7
TCUT                               eSn       Sn       21 13 06.5 -0.7
EGMT  Eagleton          5.36 325 ePn       Pn       21 12 06.2 +0.9
      14nm,0.6s
EGMT                               eSn       Sn       21 13 13.0 +5.3
DLMT  Dillon            5.58 289 ePn       Pn       21 12 10.3 +2.0
      6.5nm,0.7s
HRY   Holter Researc    5.59 304 ePn       Pn       21 12 08.6 +0.3
HRY                                Sn        Sn       21 13 07.5 -5.8
DAU   Daniels Canyon    5.65 236 ePn       Pn       21 12 09.9 +0.6
DAU                                eSn       Sn       21 13 15.4 +0.6
CTU   Camp Tracy        5.79 240 eP        Pn       21 12 10.1 -1.1
SPUT  South Promonto    5.94 248 ePn       Pn       21 12 13.0 -0.1
SPUT                               eSn       Sn       21 13 20.4 -1.4
HVU   Hansel Valley     5.97 253 ePn       Pn       21 12 12.8 -0.8
      6.2nm,0.5s
HVU                                eSn       Sn       21 13 22.7  0.0
SRU   San Rafael        6.16 223 ePn       Pn       21 12 15.1 -1.1
      14nm,0.5s
SRU                                eSn       Sn       21 13 23.5 -3.9
ECSD  EROS,Sioux Fal    6.16  87 ePn       Pn       21 12 19.2 +2.9
PV01  Paradox Valley    6.18 206 eP        Pn       21 12 16.7 +0.2
TMUT  Trail Mountain    6.37 228 eP        Pn       21 12 19.1 -0.1
CHMT  Chamberlain Mo    6.55 302 ePn       Pn       21 12 21.8 +0.3
CHMT                               eSn       Sn       21 13 36.9  0.0
DUG   Dugway            6.74 241 ePn       Pn       21 12 23.0 -1.2
      5.6nm,0.6s
DUG                                eSn       Sn       21 13 35.3 -6.4
MSU   Marysvale         7.46 228 ePn       Pn       21 12 33.6 -0.5
CCUT  Cedar City        8.80 228 ePn       Pn       21 12 52.0 -0.6
ULM   Lac du Bonnet     9.06  41 Pn        Pn       21 12 56.2 +0.1
      1.9nm,0.3s,baz=234,slow=11,SNR=12
ULM                                Lg                 21 15 25.6
      0.3nm,0.3s,baz=135,slow=20,SNR=2.2
FFC   Flin Flon         11.18   9 ePn       Pn       21 13 24.5 -0.6
      3.5nm,0.6s
FFC                                eSn       Sn       21 15 28.4 -2.3
NVAR  Mina Array Bea    11.27 246 Pn        Pn       21 13 26.5 +0.1
      0.1nm,0.3s,baz=69,slow=13,SNR=3.7
YKA   Yellowknife Ar    19.58 347 P         Pn       21 15 12.7 -2.2
      baz=157,slow=9.1,SNR=6.3
ARCES ARCESS Array B    61.38  18 P         P        21 21 00.9 -0.8
      2.4nm,0.8s,mb4.4,baz=331,slow=7.2,SNR=7.0
FINES FINESS Array B    67.98  23 P         P        21 21 44.4 -0.5
      0.4nm,0.5s,mb3.9,baz=328,slow=4.9,SNR=5.3
```

ISCJB ***10*** *21:27:59.9±0.6, 2143S±005×6801W±009, h119km±9km, mb4.1/3, Error ellipse: s-maj=14.9km s-min=7.4km az=30.5*
NEIC ***10*** *21:28:00.9±0.7, 2143S×68.12W, h114km±9km, mb3.6/2, Error ellipse: s-maj=15.5km s-min=8.6km az=98.0*
IDC ***10*** *21:28:01.2±0.7, 2137S×68.10W, h112km±10km, mb4.0/3, mb1 3.8/7, mb1mx3.5/17, mbtmp4.2/7, Error ellipse: s-maj=23.9km s-min=9.8km az=110.0*

ISC 10 21:28:01.2±0.6, 2143S±005×6804W±009, h113km±9km, n16, σ1§01/21, mb4.1/3, 1D, Chile-Bolivia border region

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
LVC   Limon Verde       1.43 214  P         Pn       21 28 28.0 +0.6
      52nm,0.3s,baz=25,slow=9.5,SNR=449
LVC                                S         Sn       21 28 47.9 +0.7
      37nm,0.3s,baz=191,slow=19,SNR=31
LVC   Limon Verde       1.43 214⇓iPn         Pn       21 28 27.9 +0.5
LVC                                eSn       Sn       21 28 47.2  0.0
LPAZ  La Paz            5.11 359  P         Pn       21 29 16.4 +0.7
      4.1nm,0.3s,baz=176,slow=7.5,SNR=86
LPAZ                               S         Sn       21 30 13.8 +0.3
      0.3nm,0.3s,baz=114,slow=20,SNR=1.7
LPAZ  La Paz            5.11 359 ePn       Pn       21 29 16.2 +0.6
ARE   Arequipa          5.92 326 eP        Pn       21 29 26.0 -0.5
ARE                                eS        Sn       21 30 24.0 -9.1
SIV   San Ignacio       8.53  52 P         Pn       21 30 01.8 -0.1
      1.5nm,0.3s,baz=242,slow=13,SNR=35
SIV                                S         Sn       21 31 35.2 -1.1
      0.2nm,0.3s,baz=82,slow=22,SNR=3.6
CFAA  Coronel Fontan    10.14 181 P         Pn       21 30 21.4 -2.3
      0.1nm,0.3s,baz=15,slow=13,SNR=12
CFAA                               S         Sn       21 32 09.6 -5.7
      0.1nm,0.3s,baz=186,slow=10,SNR=2.2
TRQA  Tornquist         17.38 164 eP        Pn       21 31 56.4 -0.2
      4.4nm,0.8s
PLCA  Paso Flores       19.36 186 P         P        21 32 18.9 +1.0
      0.1nm,0.3s,baz=0.6,slow=12,SNR=6.9
PLCA  Paso Flores       19.36 186 eP        P        21 32 18.1 +0.2
      0.9nm,0.5s
BDFB  Brasilia          19.83  77 P         P        21 32 24.4 +1.5
      0.9nm,0.3s,baz=226,slow=11,SNR=6.5
DBIC  Dimbokro          67.94  73 P         P        21 38 48.8 +1.0
      2.8nm,0.7s,mb4.2,baz=253,slow=3.2,SNR=4.6
TORD  Torodi Ar. Bea    76.57  70 P         P        21 39 39.8 +0.6
      3.7nm,0.5s,mb4.4,baz=255,slow=5.4,SNR=122
YKA   Yellowknife Ar    91.39 340 P         P        21 40 52.4 -2.0
      0.4nm,0.5s,mb3.8,baz=135,slow=4.5,SNR=11
YKA   Yellowknife Ar    91.39 340 P         P        21 40 52.4 -2.0
MKAR  Makanchi Array    145.10  36 PKPbc     PKPbc    21 47 25.0  0.0
      1.5nm,0.8s,baz=336,slow=2.7,SNR=12
```

IDC 10 21:43:38.3±3.6, 2511N×4589W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, MS3.1/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=107.6km s-min=34.2km az=26.0, Northern Mid-Atlantic Ridge

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
ESDC  Sonseca Array     37.92  57 P         P        21 50 57.3 -0.1
      0.5nm,0.6s,baz=285,slow=9.1,SNR=4.2
ULM   Lac du Bonnet     45.75 317 LR        LR       22 09 58.3
      comp=Z,24nm,20.0s,baz=340,slow=34
TORD  Torodi Ar. Bea    46.29  96 P         P        21 52 06.0 +0.4
      0.9nm,0.7s,baz=298,slow=9.1,SNR=10
YKA   Yellowknife Ar    58.23 329 P         P        21 53 34.1 -0.2
      0.4nm,0.7s,baz=102,slow=7.1,SNR=5.2
```

ISCJB ***10*** *22:22:47.6±0.5, 1778N±004×10127W±003, h58km±4km, mb4.0/9, Error ellipse: s-maj=6.3km s-min=4.2km az=25.2*
NEIC ***10*** *22:22:47.9, 1764N×10130W, h68km, mb4.1/5, MD4.3(MEX), After MEX.*
IDC ***10*** *22:22:49.1±1.6, 1794N×10078W, h39km±8km, mb3.7/8, mb1 3.9/9, mb1mx3.7/19, mbtmp4.0/9, ML3.7/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/22, Error ellipse: s-maj=61.8km s-min=16.9km az=59.0*
MEX ***10*** *22:22:50.5±0.7, 1784N×10123W, h38km±15km, MD4.3*

ISC 10 22:22:49.0±0.4, 1780N±004×10127W±003, h51km±5km, h41km±1.5km: pP-P, n48, σ1§35/77, mb4.0/9, 3C, Near coast of Guerrero

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Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
ZIIG  Zihuatanejo       0.27 224⇑iP         Pn       22 22 56.9 -1.1
ZIIG                               i S       Sn       22 23 03.5 -0.9
MEIG  Mezcala           1.58  85 iP         Pn       22 23 13.9 -0.7
MEIG                               i S       Sn       22 23 32.0 -1.8
ACX   Acapulco          1.59 125 eP         Pn       22 23 17.4 +2.6
ACX                                i S       Sn       22 23 35.1 +0.9
PLIG  Platanillo        1.78  70 iP         Pn       22 23 16.8 -0.6
PLIG                               i S       Sn       22 23 37.9 -0.9
PLIG  Platanillo        1.78  70 iP         Pn       22 23 16.8 -0.6
PLIG                               i S       Sn       22 23 38.7 -0.2
MOIG  Morelia           1.87   2⇑iP         Pn       22 23 17.6 -1.0
MOIG                               i S       Sn       22 23 39.5 -1.5
MOIG  Morelia           1.87   2⇑iP         Pn       22 23 17.6 -1.0
MOIG                               i S       Sn       22 23 42.0 +1.0
MRX   Morelia           1.90   2 eP         Pn       22 23 19.0 +0.1
MRX                                i S       Sn       22 23 40.0 -1.6
MRX   Morelia           1.90   2 eP         Pn       22 23 19.0 +0.1
MRX                                i S       Sn       22 23 45.0 +3.4
YAIG  Yautepec          2.34  63 iP         Pn       22 23 24.5 -0.6
YAIG                               i S       Sn       22 23 51.4 -1.2
YAIG  Yautepec          2.34  63 iP         Pn       22 23 24.5 -0.6
YAIG                               i S       Sn       22 23 53.8 +1.1
IIZ   Mezontepec        2.37  54 eP         Pn       22 23 21.5 -3.9
UNM   Universidad Na    2.50  52 eP         Pn       22 23 27.0 -0.2
UNM                                i P               22 23 30.2
UNM                                eP                22 23 30.8
UNM                                i S       Sn       22 23 57.5 +1.0
UNM                                i S       Sn       22 24 00.1 +3.6
UNM   Universidad Na    2.50  52 eP         Pn       22 23 27.0 -0.2
UNM                                i S       Sn       22 23 58.0 +1.5
CIVM  Cilcuayo          2.53  59 eP         Pn       22 23 30.5 +2.9
CIVM                               i S       Sn       22 23 58.9 +1.7
PTVM  Pico Tres Padr    2.71  49 eP         Pn       22 23 30.2  0.0
PTVM                               i S       Sn       22 24 01.2 -0.5
PTVM  Pico Tres Padr    2.71  49 eP         Pn       22 23 32.2 +2.1
PPM   Popocatepetl      2.81  63 eP         Pn       22 23 31.5 +0.1
PPM                                i P               22 23 31.6
PPM                                eP                22 23 32.0
PPM                                i S       Sn       22 24 04.2 +0.2
PPM                                i S       Sn       22 24 05.1 +1.0
PPM   Popocatepetl      2.81  63 eP         Pn       22 23 31.5 +0.1
PPM                                i S       Sn       22 24 05.8 +1.7
SFJM  Santa Fe          3.15 328 iP         Pn       22 23 36.0 -0.1
SFJM                               i S       Sn       22 24 12.0 -0.5
SFJM  Santa Fe          3.15 328 iP         Pn       22 23 35.0 -1.1
SFJM                               i S       Sn       22 24 15.0 +2.5
UTMO  Huajuapan         3.30  89 eP         Pn       22 23 38.8 +0.5
UTMO                               i S       Sn       22 24 15.3 -1.0
CJM   Chamela           3.96 296 iP         Pn       22 23 49.2 +2.1
CJM                                i S       Sn       22 24 32.8 +0.6
CJM   Chamela           3.96 296 iP         Pn       22 23 45.6 -1.5
CJM                                i S       Sn       22 24 32.4 +0.2
VHO   Vista Hermosa     4.39  99 iP         Pn       22 23 54.1 +1.0
VHO                                i S       Sn       22 24 45.2 +2.2
VHO   Vista Hermosa     4.39  99 iP         Pn       22 23 54.1 +1.0
VHO                                i S       Sn       22 24 41.5 -1.5
LVIG  Laguna Verde      4.98  67 eP         Pn       22 24 00.6 -0.7
LVIG                               i S       Sn       22 24 57.9 +0.4
CMIG  Matias Romero     6.14  96 Pn         Pn       22 24 17.6 +0.6
      2.5nm,0.3s,baz=274,slow=9.2,SNR=25
CMIG                               Sn        Sn       22 25 20.5 -5.4
      2.0nm,0.3s,baz=340,slow=15,SNR=2.3
CMIG                               Lg                 22 25 41.8
      3.9nm,0.3s,baz=273,slow=20,SNR=5.0
CMIG                               LR        LR       22 26 49.9
      comp=Z,271nm,21.8s,baz=14,slow=42
LTX   Lajitas           11.69 350 ePn       Pn       22 25 35.2 +2.1
      15nm,1.3s
JCT   Junction City     12.69   6 Pn        Pn       22 25 37.2 -10
JCT                                Sn        Sn       22 27 49.3 -17
MNTX  Cornudas Mount    14.33 346 ePn       Pn       22 26 11.6 +2.7
      8.7nm,1.3s
NATX  Nacogdoches       15.13  22 ePn       Pn       22 26 20.0 +0.6
      22nm,1.3s
ANMO  Albuquerque       17.70 346 P         Pn       22 26 53.5 +1.8
      0.3nm,0.3s,baz=160,slow=10,SNR=14
MIAR  Mount Ida         18.04  21 eP         Pn       22 26 53.7 -2.2
      13nm,1.0s
WUAZ  Wupatki           19.80 335 eP         Pn       22 27 15.7 -1.3
      6.4nm,0.8s
PLAL  Pickwick Lake     20.76  32 eP         P        22 27 23.0 -2.5
      6.9nm,0.7s
WVT   Waverly           21.79  30 eP         P        22 27 33.5 -3.1
      2.4nm,0.6s,mb3.8
NVAR  Mina Array Bea    25.38 328 P         P        22 28 14.7 +3.3
      baz=144,slow=11
PDAR  Pinedale Array    25.86 346 P         P        22 28 17.6 +1.7
      2.7nm,0.9s,mb3.8,baz=151,slow=10,SNR=16
PDAR                               pP        pP       22 28 28.8  0.0
      1.3nm,0.7s,baz=151,slow=10,SNR=5.0
FWV   Forest Hill       26.66  38 eP         P        22 28 20.8 -2.2
SCHQ  Schefferville     45.38  27 P         P        22 31 00.1 -2.2
      1.9nm,0.8s,mb4.0,baz=252,slow=6.4,SNR=2.6
YKA   Yellowknife Ar    45.61 351 P         P        22 31 03.5 -0.6
      0.3nm,0.7s,mb3.3,baz=169,slow=6.9,SNR=4.2
YKA                                pP        pP       22 31 14.7 -3.2
      0.7nm,0.8s,baz=159,slow=7.4,SNR=6.4
YKA                                PcP       PcP      22 32 40.6 -1.2
      0.2nm,0.5s,baz=157,slow=3.4,SNR=4.1
LPAZ  La Paz            47.04 134 P         P        22 31 16.4 +1.0
      0.6nm,0.7s,mb3.6,baz=252,slow=6.4,SNR=3.7
CPUP  Villa Florida     61.21 135 P         P        22 32 58.0 -0.5
      1.5nm,0.6s,mb4.3,baz=294,slow=5.6,SNR=5.6
BDFB  Brasilia          62.12 119 P         P        22 33 04.6  0.0
      2.4nm,0.5s,mb4.6,baz=289,slow=8.1,SNR=5.0
NOA   NORSAR Array B    84.95  27 P         P        22 35 18.2 -0.5
      0.5nm,0.7s,mb3.8,baz=303,slow=4.8,SNR=3.8
NOA   NORSAR Array B    84.95  27 P         P        22 35 18.2 -0.5
ARCES ARCESS Array B    85.19  16 P         P        22 35 20.9 +1.0
      1.9nm,0.8s,mb4.3,baz=324,slow=5.9,SNR=6.7
ARCES                              pP        pP       22 35 32.3 -2.4
      3.2nm,0.7s,baz=350,slow=8.1,SNR=2.2
```

NIED ***10*** *22:30:00, 4610N×15280E, h35km, Mw4.6 Best double couple: M0 7.90000×10^15 NP1:φ±245.00000°, δ86.00000°, λ-101.00000°. NP2:φ±134.00000°, δ12.00000°, λ-21.00000°.*
IDC ***10*** *22:30:54.4±0.7, 4618N×15259E, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.3/22, mbtmp4.2/18, ML3.6/1, MS3.9/7, Ms1 3.9/7, ms1mx3.4/16, Error ellipse: s-maj=18.5km s-min=17.6km az=159.0*
SKHL ***10*** *22:30:55.4±0.7, 4590N×15310E, h37km±3km, mb5.1/6, ms4.1/3*
JMA ***10*** *22:30:57.3±0.8, 4613N×15281E, h30km, M4.8*
ISCJB ***10*** *22:30:58.0±0.3, 4596N±005×15255E±005, h33km, mb4.6/66, MS4.0/21, Error ellipse: s-maj=7.8km s-min=2.7km az=110.7*
BJI ***10*** *22:30:58.2, 4632N×15259E, h34km, mB4.8, mb4.6, Ms4.2, Msz4.0*
NEIC ***10*** *22:30:59.8±0.4, 4609N×15248E, mb4.8/38, MS4.1/3, Error ellipse: s-maj=9.9km s-min=5.2km az=141.0*
MOS ***10*** *22:31:00.6±1.0, 4612N×15241E, h48km, mb4.9/32, MS4.0/10, Error ellipse: s-maj=9.8km s-min=5.5km az=108.6*
SZGRF ***10*** *22:31:01.9, 4631N×15266E, h33km, mb5.0, Kuril Islands, Russia*

ISC 10 22:30:59.8±0.3, 4603N±005×15261E±006, h35km, h35km±1.3km: pP-P, n263, σ1§13/283, mb4.6/66, MS4.0/21, 22C-9D, Kuril Islands

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
KUR   Kuril'sk          3.42 258 iP         Pn       22 31 50.0 -0.6
KUR                                AMB       AMB      22 31 52.5
      130nm,0.7s
KUR                                AMB       AMB      22 31 52.5
      430nm,0.7s
KUR                                eS        Sn       22 32 31.5 +1.5
KUR                                A                  22 32 39.0
      5µm,1.8s
KUR                                A                  22 32 45.0
      2µm,0.9s
KUR                                A                  22 32 45.0
      2µm,0.9s
KUR   Kuril'sk          3.42 258⇓iPN         Pn       22 31 50.0 -0.6
KUR                                eS        Sn       22 32 31.5 +1.5
KUR                                pmax      pmax
      comp=N,130nm,0.7s
KUR                                pmax      pmax
      comp=E,130nm,0.7s
KUR                                pmax      pmax
      comp=Z,430nm,0.7s
KUR                                smax
      comp=Z,5µm,1.8s
KUR                                smax
      comp=E,5.0nm,1.8s
KUR                                smax
```

comp=N,2μm,0.9s
KUR smax
comp=E,2μm,0.9s
YUK Yuzh-Kuril'sk 5.18 250 *e*P **Pn 22 32 16.7 +1.9**
YUK AMB AMB 22 32 19.2
comp=E,290nm,0.3s
YUK *e*S **Sn 22 33 20.5 +7.1**
YUK A 22 33 28.5
comp=E,500nm,0.5s
YUK A 22 33 28.5
comp=E,420nm,0.5s
YUK A 22 33 41.0
comp=E,3μm,1.6s
YUK A 22 33 41.0
comp=E,4μm,1.2s
YUK Yuzh-Kuril'sk 5.18 250 *e*PN **Pn 22 32 16.7 +1.9**
YUK *e*S **Sn 22 33 20.5 +7.1**
YUK pmax pmax
comp=Z,290nm,0.3s
YUK smax
comp=N,500nm,0.5s
YUK smax
comp=E,420nm,0.5s
YUK smax
comp=N,4μm,1.2s
YUK smax
comp=E,3μm,1.6s
SKR Severo-Kuril's 5.21 25 *e*P **Pn 22 32 08.9 -6.2**
SKR AMB AMB 22 32 14.1
comp=E,80nm,0.5s
SKR AMB AMB 22 32 14.1
comp=E,100nm,0.5s
SKR AMB AMB 22 32 14.1
comp=E,170nm,0.5s
SKR pP 22 32 19.4
SKR *e*S **Sn 22 33 03.5 -10**
SKR A 22 33 25.5
comp=E,440nm,0.9s
SKR A 22 33 25.5
comp=E,470nm,0.9s
SKR A 22 33 25.5
comp=E,120nm,0.9s
SKR AMS AMS 22 34 30.0
comp=E,2μm,12.0s
NEM2 Nemuro 2 5.58 244 P **Pn 22 32 19.5 -0.7**
NEM2 *e*S **Sn 22 33 20.3 -2.7**
JRA Rausu 5.71 251 P **Pn 22 32 23.8 +1.8**
JRA *e*S **Sn 22 33 29.7 +3.4**
JNK Nakash 6.12 249 P **Pn 22 32 29.1 +1.4**
JAK Akkeshi 6.42 245 P **Pn 22 32 31.0 -0.8**
JAK *e*S **Sn 22 33 41.1 -2.7**
JTKR Abashiri--Toko 6.51 255 P **Pn 22 32 35.1 +2.1**
JMP Maruseppu 6.86 256 P **Pn 22 32 40.2 +2.3**
YSS Yuzh-Sakhalins 6.87 281 *e*P **Pn 22 32 41.1 +3.2**
YSS AMB AMB 22 32 42.9
comp=E,70nm,1.0s
YSS AMB AMB 22 32 42.9
comp=E,40nm,1.0s
YSS *e*sP 22 32 56.0
YSS *e*S **Sn 22 33 56.0 +1.1**
YSS A 22 33 59.2
comp=E,30nm,1.0s
YSS A 22 33 59.2
comp=E,20nm,0.8s
YSS AMS AMS 22 35 14.0
comp=E,500nm,16.0s
YSS AMS AMS 22 35 14.0
comp=E,800nm,16.0s
YSS Yuzh-Sakhalins 6.87 281 *e*PN **Pn 22 32 41.1 +3.2**
YSS S **Sn 22 33 56.0 +1.1**
YSS pmax pmax
comp=E,70nm,1.0s
YSS pmax pmax
comp=Z,40nm,1.0s
YSS smax
comp=N,30nm,1.0s
YSS smax
comp=E,20nm,0.8s
YSS MLR MLR
comp=Z,800nm,17.0s
YSS MLR MLR
comp=N,500nm,15.0s
YSS MLR MLR
comp=E,500nm,16.0s
YSS Yuzh-Sakhalins 6.87 281 *e*Pn **Pn 22 32 40.7 +2.7**
JAR Ashorobuto 6.87 250 P **Pn 22 32 39.2 +1.2**
JOB Onbets 7.01 247 P **Pn 22 32 40.4 +0.5**
JOB *e*S **Sn 22 33 58.1 -0.4**
JSE Soyaes 7.13 265 P **Pn 22 32 46.5 +5.0**
JKK2 Kamakawa 2 7.32 256 P **Pn 22 32 46.1 +1.9**
ASAJ Asahikawa 7.35 258 Pn **Pn 22 32 47.2 +2.8**
comp=E,3.6nm,0.3s,baz=97,slow=14,SNR=22
ASAJ LR LR 22 35 32.5
comp=E,461nm,19.9s,baz=354,slow=38
ASAJ Asahikawa 7.35 258 P **Pn 22 32 47.2 +2.7**
ASAJ Asahikawa 7.35 258 PN **Pn 22 32 47.3 +2.8**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ MLR MLR
comp=Z,461nm,20.0s
JCH Churui 7.46 246 P **Pn 22 32 46.3 +0.2**
JCH *e*S **Sn 22 34 07.5 -1.9**
UGL Uglegorsk 7.76 297 *e*PN **Pn 22 32 53.0 +2.8**
UGL pmax pmax
comp=Z,40nm,0.6s
UGL MLR MLR
comp=N,500nm,14.0s
UGL MLR MLR
comp=E,600nm,14.0s
UGL MLR MLR
comp=Z,900nm,14.0s
JAB Ashibetsu 7.81 255 P **Pn 22 32 53.7 +2.8**
JEM Erimo 7.91 243 P **Pn 22 32 52.7 +0.5**
JEM *e*S **Sn 22 34 19.0 -1.4**
JNBK Urakawa-nobuka 8.02 246 P **Pn 22 32 53.2 -0.5**
JNBK *e*S **Sn 22 34 20.3 -2.9**
PET Petropavlovsk 8.03 27 *e*PN **Pn 22 32 57.2 +3.4**
PET pmax pmax
comp=Z,11nm,0.5s
PET pmax pmax
comp=Z,57nm,0.9s
PET MLR MLR
comp=Z,200nm,16.0s
PET MLR MLR
comp=Z,400nm,15.0s
PET Petropavlovsk 8.03 27 *e*Pn **Pn 22 32 54.7 +0.9**
PET *e*Sn **Sn 22 34 28.5 +5.2**
JBT2 Biratori 2 8.03 250 P **Pn 22 32 54.1 +0.3**
TYV Tymovskoe 8.20 310 *e*rx rx 22 35 19.0
TYV AMS AMS 22 36 12.0
comp=Z,1μm,16.0s
TYV AMS AMS 22 36 12.0
comp=Z,500nm,20.0s
JNB Noboribetsu 9.04 251 P **Pn 22 33 08.7 +1.0**
JNB *e*S **Sn 22 34 47.6 -0.6**
JKB Kayabe 9.32 248 P **Pn 22 33 11.0 -0.6**
JKB *e*S **Sn 22 34 50.7 -4.4**
JYM2 Yakumo 2 9.64 250 P **Pn 22 33 16.0 +0.1**
OKH Okha 9.78 324 AMS AMS 22 37 54.2
comp=Z,1μm,14.0s
OKH AMS AMS 22 37 54.2
comp=Z,1μm,14.0s
OKH AMS AMS 22 37 54.2
comp=Z,1μm,14.0s
JANG Nango 9.88 239 P **Pn 22 33 15.9 -3.3**
JANG *e*S **Sn 22 35 00.4 -8.4**
JTM Tenmabayashi 9.90 242 P **Pn 22 33 17.8 -1.7**
JTM *e*S **Sn 22 35 03.2 -6.1**
JTH Tanohata 9.95 236 P **Pn 22 33 16.8 -3.4**
JTH *e*S **Sn 22 35 01.9 -8.7**
JOSM Okushiri--Mats 10.25 252 P **Pn 22 33 24.3 +0.1**
OFUJ Ofunato 10.64 233 *e*S **Sn 22 35 19.4 -8.2**
JRG Rokugo 11.02 237 *e*S **Sn 22 35 29.1 -7.8**
JIO Ouri 11.26 232 *e*S **Sn 22 35 33.7 -9.0**
JYA Atsumi 12.09 237 P **Pn 22 33 47.2 -2.3**
MA2 Magadan 13.61 356 *e*P **Pn 22 34 11.4 +1.1**
MA2 pmax pmax
comp=Z,8.0nm,0.5s
MAJO Matsushiro 14.37 234 *e*P **Pn 22 34 20.6 0.0**
MAT Matsushiro 14.37 234 P **Pn 22 34 18.3 -2.3**
MAT Matsushiro 14.37 234 P **Pn 22 34 18.0 -2.6**
MAT pmax pmax
comp=Z,4.0nm,0.5s
MAT Matsushiro 14.37 234 P **Pn 22 34 18.0 -2.6**
comp=Z,3.5nm,0.5s
MJAR Matsushiro Arr 14.37 234 Pn **Pn 22 34 18.3 -2.3**
comp=Z,0.2nm,0.3s,baz=24,slow=14,SNR=6.7
MJAR Sn **Sn 22 36 53.5 -5.2**
comp=Z,0.2nm,0.3s,baz=69,slow=29,SNR=3.1
MJAR Matsushiro Arr 14.37 234 Pn **Pn 22 34 18.3 -2.3**
MJAR Sn **Sn 22 36 53.5 -5.2**
MDJ Mudanjiang 16.25 273 P **Pn 22 34 45.5 +0.3**
MDJ S **S 22 37 43.0 -13**
MDJ PCP PcP 22 39 39.7 +1.5
MDJ SCP ScP 22 43 09.4 -0.5
MDJ PCS PcS 22 43 17.1 +3.2
MDJ AMB AMB
comp=Z,10.0nm,1.3s
MDJ AMB AMB
comp=Z,50nm,3.8s
MDJ LR LR
comp=N,170nm,10.1s
MDJ LR LR
comp=E,210nm,14.0s
MDJ LR LR
comp=Z,300nm,14.3s
CN2 Changchun 19.34 273 *e*P **Pn 22 35 22.4 -0.9**
CN2 *e*XP sP 22 35 37.4 +1.7
CN2 *e*S **S 22 38 51.2 -7.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
YAK Yakutsk 20.75 329 *e*P **P 22 35 35.3 -2.1**
YAK *e* 22 35 49.4
YAK *e**SS sS 22 39 40.4 -1.4
YAK *e*SS 22 39 55.5
YAK *e*SSS 22 40 11.1
YAK pmax pmax
comp=Z,9.0nm,0.7s
YAK pmax pmax
comp=N,7.0nm,1.6s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,15nm,0.8s
YAK MLR MLR
comp=Z,128nm,12.0s,MS3.5
YAK MLR MLR
comp=N,119nm,15.0s,MS3.5
YAK MLR MLR
comp=E,83nm,12.0s,MS3.5
YAK Yakutsk 20.75 329 *e*P **P 22 35 36.3 -1.1**
comp=E,30nm,0.8s
SNY Shenyang 21.27 269 ⇓P **P 22 35 43.3 +0.3**
SNY AP 22 35 48.9
SNY S **S 22 39 34.9 -2.5**
SNY XS sS 22 39 48.4 -3.8
SNY AMB AMB
comp=Z,10.0nm,0.5s,mb4.4
SNY AMB AMB
comp=Z,110nm,5.6s
SNY LR LR
comp=E,410nm,14.3s
SNY LR LR
comp=Z,290nm,17.0s,MS3.7
BILL Biiibino 23.17 13 *e*P **P 22 36 01.7 -1.5**
BILL pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
BILL Biiibino 23.17 13 *e*P **P 22 36 01.7 -1.5**
comp=Z,9.7nm,0.7s,mb4.3
BJT Baijiatuau 27.14 270 *e*P **P 22 36 39.4 -0.2**
BJT pmax pmax
comp=Z,10.0nm,0.7s
BJT Baijiatuau 27.14 270 *e*P **P 22 36 39.4 -0.2**
comp=Z,9.9nm,0.7s,mb4.5
TIXI Tiksi 28.06 344 *e*P **P 22 36 53.0 +5.2**
SSE Sheshan 28.52 250 P **P 22 36 51.9 0.0**
SSE AP pP 22 37 02.9 +1.0
SSE XP sP 22 37 08.0 +1.8
SSE S **S 22 41 37.6 +0.3**
SSE XS sS 22 41 56.3 +2.3
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,130nm,5.0s
SSE LR LR
comp=N,80nm,20.6s,MS3.4
SSE LR LR
comp=E,50nm,20.6s,MS3.4
SSE LR LR
comp=Z,70nm,19.0s,MS3.3
NJ2 Nanjing 29.46 254 *e*P **P 22 37 03.6 +3.4**
NJ2 AP pP 22 37 13.0 +2.7
NJ2 XP sP 22 37 16.9 +2.4
NJ2 PP PP 22 37 58.4 -8.6
NJ2 PPP 22 38 03.9
NJ2 S **S 22 41 54.0 +1.9**
NJ2 XS sS 22 42 11.0 +2.3
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,180nm,8.6s
NJ2 LR LR
comp=N,490nm,16.8s,MS4.3
NJ2 LR LR
comp=E,410nm,17.2s,MS4.3
NJ2 LR LR
comp=Z,210nm,24.0s
HHC Hu-ho-hao-te 30.01 275⇑ *e*P **P 22 37 05.9 +0.9**
HHC AP pP 22 37 15.5 +0.4
HHC XP sP 22 37 19.5 +0.1
HHC PP PP 22 38 03.4 -10
HHC PCP PcP 22 40 09.1 +2.5
HHC S **S 22 41 59.3 -1.4**
HHC XS sS 22 42 15.7 -1.6
HHC SS SS 22 43 35.6 -33
HHC SCP ScP 22 43 47.7 +1.6
HHC PCS PcS 22 43 50.9 +0.9
HHC SCS ScS 22 47 41.2 -0.3
HHC AMB AMB
comp=Z,110nm,4.6s
HHC LR LR
comp=N,180nm,13.1s,MS4.1
HHC LR LR
comp=E,220nm,14.3s,MS4.1
HHC LR LR
comp=Z,240nm,17.8s,MS3.9
ULN Ulaanbaatar 30.82 290 *e*P **P 22 37 11.8 -0.4**
SONM Songino Array 31.25 290 P **P 22 37 15.8 -0.2**
comp=Z,1.1nm,0.5s,mb4.0,baz=81,slow=9.1,SNR=2.3
SONM LR LR 22 50 43.7
comp=Z,147nm,20.3s,MS3.6,baz=65,slow=38
ZAK Zakamensk 32.68 296 *e*P **P 22 37 27.4 -1.2**
ZAK pmax pmax
comp=Z,5.0nm,2.0s,mb4.1
XAN Xi'an 35.11 266 P **P 22 37 50.2 +0.5**
XAN AP pP 22 38 00.7 +0.8
LZH Lanzhou 37.57 272⇑P **P 22 38 11.8 +1.1**
LZH AP pP 22 38 22.3 +1.4
LZH XP sP 22 38 26.2 +1.1
LZH PP PP 22 39 40.1 +3.3
LZH *e*S **S 22 43 56.8 -0.8**
LZH XS sS 22 44 14.3 -0.1
LZH SS SS 22 46 30.5 -13
LZH AMB AMB
comp=Z,30nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,110nm,5.7s
LZH LR LR
comp=E,630nm,13.7s
LZH LR LR
comp=Z,890nm,16.5s,MS4.7
GTA Gaotai 38.75 280 ⇓P **P 22 38 22.3 +1.7**
GTA AP pP 22 38 32.5 +1.7
GTA XP sP 22 38 36.5 +1.5
GTA PP PP 22 39 54.4 +4.8
GTA S **S 22 44 15.6 +0.2**
GTA XS sS 22 44 33.1 +0.8
GTA SS SS 22 46 59.1 -7.7
GTA AMB AMB
comp=Z,70nm,4.6s
GTA LR LR
comp=N,110nm,14.4s,MS4.0
GTA LR LR
comp=E,130nm,15.6s,MS4.0
GTA LR LR
comp=Z,180nm,14.8s,MS4.0
CD2 Chengdu 40.48 266 *e*P **P 22 38 35.6 +0.6**
CD2 AP pP 22 38 45.4 +0.1
CD2 XP sP 22 38 49.4 -0.1
CD2 PP PP 22 40 13.0 +4.5
CD2 S **S 22 44 41.4 0.0**
CD2 XS sS 22 44 57.7 -0.6
CD2 SS SS 22 47 35.7 -5.8
CD2 AMB AMB
comp=Z,30nm,1.3s,mb4.9
CD2 AMB AMB
comp=Z,90nm,5.2s
CD2 LR LR
comp=N,320nm,16.8s
CD2 LR LR
comp=Z,200nm,15.6s,MS4.1
DAWY Dawson 40.62 39 *e*pP pP 22 38 47.4 +0.9
GYA Guiyang 41.22 258⇑*e*P **P 22 38 41.9 +0.7**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
INK Inuvik 42.45 32 P **P 22 38 47.9 -3.2**
comp=Z,5.2nm,0.7s,mb4.3,baz=257,slow=5.4,SNR=5.2
INK Inuvik 42.45 32 P **P 22 38 47.9 -3.2**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 42.45 32 *e*P **P 22 38 51.1 -0.1**
ZAL Zalesovo 42.77 306 P **P 22 38 51.6 -2.2**
comp=Z,0.9nm,0.4s,mb3.8,baz=28,slow=7.8,SNR=2.7
ZAL LR LR 22 58 31.0
comp=Z,434nm,18.3s,MS4.4,baz=30,slow=39
KMI Kunming 44.77 260 P **P 22 39 10.9 +1.0**
KMI AP pP 22 39 19.6 -0.6
WMQ Urumqi 44.87 292 P **P 22 39 12.3 +1.7**
WMQ AMB AMB
comp=Z,50nm,3.0s
WMQ LR LR
comp=N,90nm,19.0s,MS3.7
WMQ LR LR
comp=E,20nm,21.0s,MS3.7
WMQ LR LR
comp=Z,70nm,17.0s,MS3.7
MKAR Makanchi Array 46.97 298 P **P 22 39 26.1 -1.1**
comp=Z,2.4nm,0.8s,mb4.3,baz=67,slow=6.9,SNR=26
MKAR Makanchi Array 46.97 298⇑*e*P **P 22 39 26.1 -1.1**
LSA Lhasa 49.97 273 P **P 22 39 52.7 +2.4**
LSA Lhasa 49.97 273 *e*P **P 22 39 51.5 +1.2**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LSA Lhasa 49.97 273 *e*P **P 22 39 51.5 +1.2**
comp=Z,7.2nm,0.6s,mb4.9
CHKZ Chkalovo 50.63 310 *e*P **P 22 39 53.9 -1.4**
CHKZ pmax pmax
comp=Z,12nm,0.9s,mb4.8
CHKZ Chkalovo 50.63 310 *e*P **P 22 39 53.9 -1.4**
comp=Z,12nm,0.9s,mb4.8
BVAR Borovoye Array 51.05 310 P **P 22 39 56.9 -1.6**
comp=Z,2.8nm,0.7s,mb4.3,baz=60,slow=9.4,SNR=13
RES Resolute Bay 51.63 18 *e*P **P 22 40 04.1 +1.3**
RES pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
RES Resolute Bay 51.63 18 *e*P **P 22 40 04.1 +1.3**
comp=Z,4.3nm,0.8s,mb4.4
YKA Yellowknife Ar 51.71 36 P **P 22 40 02.6 -0.8**
comp=Z,0.7nm,0.5s,mb3.8,baz=299,slow=7.2,SNR=6.9
ZRNK Zerenda 51.83 310 *e*P **P 22 40 02.9 -1.4**
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ZRNK Zerenda 51.83 310 *e*P **P 22 40 02.9 -1.3**
comp=Z,5.4nm,0.8s,mb4.5
ULHL Ulahol 52.96 295 P **P 22 40 13.2 +0.5**
SNR=16
USP Ospenovka 53.51 297 P **P 22 40 16.7 0.0**
SNR=16
KBK Karagaybulak 53.55 296 P **P 22 40 17.3 +0.3**
SNR=7.2
KZA Kyzart 53.67 296 P **P 22 40 18.8 +0.9**
SNR=7.6
AAK Ala-Archa 53.85 297 P **P 22 40 19.5 +0.3**
SNR=5.8
AAK Ala-Archa 53.85 297 *e*P **P 22 40 17.6 -1.6**
JIRN Jiri 54.66 275 *e*P **P 22 40 26.6 +1.5**
comp=Z,41nm,0.6s,mb5.6
GUN Gumba 54.72 275 *e*P **P 22 40 28.0 +2.5**
comp=Z,14nm,0.3s,mb5.5
KKN Kakani 55.21 275 *e*P **P 22 40 30.9 +1.8**
comp=Z,68nm,1.1s,mb5.6
KKN Kakani 55.21 275 *e*P **P 22 40 30.9 +1.8**
KKN pmax pmax
comp=Z,68nm,1.1s,mb5.6
PKI Pulchoki 55.26 275 *e*P **P 22 40 30.7 +1.3**
ARU Arti 55.31 316⇓*e*P **P 22 40 28.0 -1.8**
ARU *e* 22 42 38.7
ARU *e*PPP 22 43 46.6
ARU *e*S **S 22 48 04.5 -6.9**
ARU *e*SS SS 22 51 49.5 -6.5
ARU pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ARU MLR MLR
comp=Z,200nm,16.0s,MS4.3
ARU MLR MLR
comp=N,70nm,17.0s,MS4.1
ARU MLR MLR
comp=E,100nm,16.0s,MS4.1
ARU Arti 55.31 318 *e*P **P 22 40 28.1 -1.7**
comp=E,5.5nm,0.6s,mb4.8
DMN Daman 55.44 275 *e*P **P 22 40 32.3 +1.5**
comp=E,85nm,1.2s,mb5.7
GKN Gorkha 55.52 276 *e*P **P 22 40 32.7 +1.4**
comp=E,30nm,0.5s,mb5.6
KOLN Koldanda 56.39 277 *e*P **P 22 40 38.6 +1.1**
comp=E,21nm,0.5s,mb5.4
KEV Kevo 57.91 340 *e*p **P 22 40 46.6 -1.6**
comp=E,17nm,1.0s,mb5.0
KEV Kevo 57.91 340 *e*P **P 22 40 46.6 -1.6**
KEV pmax pmax
comp=Z,17nm,1.0s,mb5.0
ARCES ARCESS Array B 58.42 341 P **P 22 40 50.4 -1.5**
comp=Z,4.6nm,0.8s,mb4.5,baz=11,slow=6.8,SNR=7.3
ARCES LR LR 23 09 27.9
comp=Z,91nm,18.0s,MS3.9,baz=36,slow=40
SUMG Summit 61.44 4 *e*P **P 22 41 12.1 -0.4**
SUMG *e*pP pP 22 41 24.7 +1.4
JOF Joensuu 61.83 334 *e*p **P 22 41 12.3 -2.9**
comp=Z,3.2nm,0.5s,mb4.7
BOZ Bozeman (W) 62.47 52 *e*P **P 22 41 21.0 +1.5**
BOZ *e**PP pP 22 41 30.2 0.0
BOZ pmax pmax
comp=Z,8.0nm,1.4s,mb4.7
BOZ Bozeman (W) 62.47 52 *e*P **P 22 41 21.0 +1.5**
comp=Z,8.2nm,1.4s,mb4.7
BOZ *e*pP pP 22 41 30.2 0.0
NVAR Mina Array Bea 63.08 62 P **P 22 41 24.3 +0.7**
comp=Z,0.6nm,0.6s,mb3.9,baz=294,slow=6.8,SNR=6.6
KAF Kangasniemi 63.95 335 *e*p **P 22 41 26.8 -2.5**
comp=Z,3.6nm,0.6s,mb4.6
KAF Kangasniemi 63.95 335 *e*P **P 22 41 26.8 -2.5**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TPAW Teton Pass 64.21 53 *e*P **P 22 41 32.7 +1.7**
comp=Z,5.5nm,1.0s,mb4.5
TPAW *e*pP pP 22 41 42.5 +0.7
FINES FINESS Array B 64.55 335 P **P 22 41 31.5 -1.7**
comp=Z,3.3nm,0.5s,mb4.6,baz=39,slow=7.8,SNR=53
FINES LR LR 23 12 18.7
comp=Z,98nm,18.8s,MS4.0,baz=204,slow=39
PDAR Pinedale Array 65.45 53 P **P 22 41 38.9 -0.2**
comp=Z,0.3nm,0.5s,mb3.6,baz=190,slow=0.9,SNR=4.4
TCUT Toone Canyon 65.47 56 *e*P **P 22 41 39.1 -0.1**
TCUT *e*pP pP 22 41 51.2 +1.2
OBN Obninsk 65.71 326 *ce*P **P 22 41 39.5 -1.2**
OBN pmax pmax
comp=Z,12nm,1.2s,mb4.8
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.0
WRA Warramunga Arr 67.72 199 P **P 22 41 54.5 +0.9**
comp=Z,1.1nm,0.8s,mb3.9,baz=16,slow=6.7,SNR=5.5
NB2 NORSAR Subarra 68.80 341 P **P 22 41 58.9 -1.4**
comp=Z,9.5nm,0.7s,mb4.8,baz=27,slow=6.5
NB2 NORSAR Subarra 68.80 341 P **P 22 41 58.9 -1.4**
NB2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
NOA NORSAR Array B 68.80 341 P **P 22 41 59.3 -1.0**
comp=Z,7.9nm,0.6s,mb4.8,baz=28,slow=6.3,SNR=47
NAO01 NORSAR Array S 69.05 341 *e*P **P 22 42 00.4 -1.4**
comp=Z,3.1nm,0.8s,mb4.3

GOF	**Gofitskoye**	**70.09 315**	*e*P	**P**	**22 42 07.8**	**-0.5**
GOF			pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5					
KONO	**Kongsberg**	**70.41 341**⇑	*i*P	**P**	**22 42 09.8**	**-0.4**
KIV	**Kislovodsk**	**71.05 314**α	*i*P	**P**	**22 42 15.0**	**+0.8**
KIV			*e*	pP	22 42 25.9	+0.9
KIV					22 44 58.0	
KIV			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8					
KIV			MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1					
KIV	**Kislovodsk**	**71.05 314**	*e*P	**P**	**22 42 15.2**	**+1.0**
ASAR	**Alice Springs**	**71.42 198**	P	**P**	**22 42 17.0**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=12,slow=6.0,SNR=14					
AKASG	**Malin Array Be**	**71.95 326**	P	**P**	**22 42 18.4**	**-1.2**
	comp=Z,2.0nm,0.4s,mb4.4,baz=34,slow=6.1,SNR=15					
GNI	**Garni**	**72.73 310**	*e*P	**P**	**22 42 24.1**	**-0.1**
GNI			pmax	pmax		
	comp=Z,12nm,1.0s					
GNI	**Garni**	**72.73 310**	*e*P	**P**	**22 42 24.1**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8					
SCHQ	**Schefferville**	**74.11 22**	P	**P**	**22 42 30.2**	**-2.2**
	comp=Z,1.9nm,0.9s,mb4.0,baz=258,slow=14,SNR=3.3					
SCHQ			LR	LR	23 15 36.5	
	comp=Z,46nm,18.5s,MS3.8,baz=51,slow=36					
SCHQ	**Schefferville**	**74.11 22**	P	**P**	**22 42 30.2**	**-2.2**
SCHQ			LR	LR	23 15 36.5	
LVV	**L'vov**	**74.63 328**	*e*P	**P**	**22 42 35.4**	**0.0**
OJC	**Ojcow**	**75.78 331**	*e*P	**P**	**22 42 42.1**	**+0.1**
STHS	**Stebnicka Huta**	**75.96 330**	*i*P	**P**	**22 42 43.3**	**+0.3**
STHS			*e*		22 42 46.8	
STHS	**Stebnicka Huta**	**75.96 330**	*i*P	**P**	**22 42 43.4**	**+0.4**
STHS			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8					
STHS	**Stebnicka Huta**	**75.96 330**	*i*P	**P**	**22 42 43.4**	**+0.4**
	comp=Z,12nm,1.0s,mb4.8					
STHS			*e*		22 42 46.8	
BURAR	**Bucovina Array**	**76.00 326**⇑	*i*P	**P**	**22 42 43.2**	**0.0**
BURAR	**Bucovina Array**	**76.00 326**	⇑P	**P**	**22 42 43.2**	**0.0**
NIE	**Niedzica**	**76.29 330**	*e*Pd		22 42 45.6	
RAC	**Raciborz**	**76.44 332**	*e*P	**P**	**22 42 46.0**	**+0.3**
OKC	**Ostrava-Krasne**	**76.66 332**	*e*P	**P**	**22 42 46.0**	**-1.0**
UPC	**Upice**	**76.77 333**	*e*P	**P**	**22 42 47.7**	**+0.1**
UPC			*e*pP	pP	22 42 56.3	-2.3
DPC	**Dobruska-Polom**	**76.81 333**	*e*P	**P**	**22 42 47.8**	**0.0**
DPC			*e*pP	pP	22 42 58.0	-0.8
DPC			AMS	AMS	23 20 50.0	
	comp=Z,200nm,16.9s					
MORC	**Moravsky Berou**	**76.92 332**⇓	*i*P	**P**	**22 42 48.5**	**+0.1**
MORC	**Moravsky Berou**	**76.92 332**	⇓P	**P**	**22 42 48.5**	**+0.1**
CLL	**Collm**	**76.98 335**	*i*P	**P**	**22 42 47.9**	**-0.9**
	comp=Z,22nm,1.4s,mb4.9					
CLL			*i* x	x	22 42 52.0	
CLL			*i* pP	pP	22 42 57.7	-2.0
CLL			*i* sP	sP	22 43 03.7	-0.1
CLL	**Collm**	**76.98 335**	*i*P	**P**	**22 42 47.9**	**-0.9**
CLL			*i* *PP	pP	22 42 57.7	-2.0
CLL			pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9					
CLL	**Collm**	**76.98 335**	*i*P	**P**	**22 42 47.9**	**-0.9**
	comp=Z,22nm,1.4s,mb4.9					
CLL			*i*		22 42 52.0	
CLL			*i* pP	pP	22 42 57.7	-2.0
KECS	**Kecovo**	**77.02 330**	*i*P	**P**	**22 42 48.6**	**-0.4**
KECS			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
KECS	**Kecovo**	**77.02 330**	*i*P	**P**	**22 42 48.6**	**-0.4**
	comp=Z,4.8nm,0.9s,mb4.4					
BRG	**Berggiesshubel**	**77.08 335**	*e*P	**P**	**22 42 49.2**	**-0.1**
	comp=Z,4.2nm,1.2s,mb4.2					
BRG	**Berggiesshubel**	**77.08 335**	*e*P	**P**	**22 42 49.2**	**-0.2**
BRG			pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2					
MALT	**Malatya**	**77.39 313**⇑	*i*P	**P**	**22 42 52.2**	**+1.1**
MALT	**Malatya**	**77.39 313**	⇑P	**P**	**22 42 52.1**	**+1.1**
MLR	**Muntele Rosu**	**77.45 325**⇓	*i*P	**P**	**22 42 53.0**	**+1.6**
MLR	**Muntele Rosu**	**77.45 325**	⇓P	**P**	**22 42 53.0**	**+1.6**
VYHS	**Vyhne**	**77.59 331**	*e*P	**P**	**22 42 52.3**	**+0.1**
VYHS			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2					
VYHS	**Vyhne**	**77.59 331**	*e*P	**P**	**22 42 52.3**	**+0.1**
	comp=Z,3.4nm,1.0s,mb4.2					
VRAC	**Vranov**	**77.63 332**⇑	*i*P	**P**	**22 42 53.1**	**+0.7**
VRAC	**Vranov**	**77.63 332**	⇑P	**P**	**22 42 53.1**	**+0.7**
DRGR		**77.64 327**⇑	*i*P	**P**	**22 42 53.2**	**+0.7**
DRGR		**77.64 327**	⇑P	**P**	**22 42 53.2**	**+0.7**
KOLL	**Kolacno**	**77.66 331**	*e*P	**P**	**22 42 53.0**	**+0.4**
KOLL	**Kolacno**	**77.66 331**	*e*P	**P**	**22 42 53.1**	**+0.5**
PRU	**Pruhonice**	**77.68 334**	*e*P	**P**	**22 42 52.5**	**-0.2**
PRU			*e*pP	pP	22 43 01.2	-2.5
PRU			AMS	AMS	23 20 40.0	
	comp=Z,100nm,15.3s					
SNX	**Sinaia**	**77.74 325**⇓	*i*P	**P**	**22 42 54.9**	**+1.9**
MOX	**Moxa**	**77.97 336**	*e*P	**P**	**22 42 49.2**	**-5.1**
	comp=Z,7.0nm,1.4s,mb4.4					
MOX	**Moxa**	**77.97 336**	*e*P	**P**	**22 42 49.2**	**-5.1**
MOX			pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4					
STKA	**Stephens Creek**	**78.18 190**	LR	LR	23 13 39.5	
	comp=Z,113nm,20.7s,MS4.2,baz=204,slow=33					
BR131	**Keskin Array S**	**78.68 317**	*e*P	**P**	**22 42 58.5**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.1					
BRTR	**Keskin Array B**	**78.68 317**	P	**P**	**22 42 58.7**	**+0.5**
	comp=Z,4.6nm,1.0s,mb4.4,baz=57,slow=3.4,SNR=21					
KHC	**Kasperske Hory**	**78.74 334**	*e*P	**P**	**22 42 58.4**	**-0.2**
KHC			AMS	AMS	23 21 10.0	
	comp=Z,200nm,15.7s					
KHC	**Kasperske Hory**	**78.74 334**⇑	*e*P	**P**	**22 42 58.1**	**-0.5**
MIB	**Mutribah**	**78.74 301**	*e*P	**P**	**22 42 59.5**	**+0.9**
MIB			AMb	AMB	22 43 00.9	
	comp=Z,67nm,0.5s					
GRA1	**Grafenberg Arr**	**78.94 336**	*e*P	**P**	**22 42 59.3**	**-0.3**
	comp=Z,18nm,1.2s,mb4.9					
GRF	**Grafenberg Arr**	**78.94 336**	*e*P	**P**	**22 42 59.3**	**-0.3**
	comp=Z,18nm,1.2s,mb4.9					
GRF	**Grafenberg Arr**	**78.94 336**	*e*P	**P**	**22 42 59.3**	**-0.3**
GRF			pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9					
GRF	**Grafenberg Arr**	**78.94 336**	*e*P	**P**	**22 42 59.3**	**-0.3**
GRF			pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9					
GERES	**GERESS Array B**	**78.95 334**	P	**P**	**22 42 59.2**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=35,slow=5.2,SNR=20					
ANTO	**Ankara**	**78.97 317**⇑	*i*P	**P**	**22 43 01.6**	**+1.8**
BZS	**Buzias**	**79.04 327**⇑	*i*P	**P**	**22 43 00.4**	**+0.2**
BZS	**Buzias**	**79.04 327**	⇑P	**P**	**22 43 00.4**	**+0.2**
QRN	**Al-Qurain**	**79.17 300**	*e*P	**P**	**22 43 01.8**	**+0.9**
QRN			AMb	AMB	22 43 03.4	
	comp=Z,85nm,0.4s					
NAY	**Al-Naaiem**	**79.20 301**	*e*P	**P**	**22 43 01.9**	**+0.8**
NAY			AMb	AMB	22 43 03.4	
	comp=Z,18nm,0.7s,mb5.1					
RDF	**Al-Radifah**	**79.25 301**	*e*P	**P**	**22 43 02.5**	**+1.1**
RDF			AMb	AMB	22 43 04.0	
	comp=Z,65nm,0.5s					
MEM	**Membach**	**79.50 339**	P	**P**	**22 43 02.6**	**-0.1**
TOD	**Tromm**	**79.69 337**	*e*P	**P**	**22 43 07.9**	**+4.1**
UCC	**Uccle**	**79.72 340**	P	**P**	**22 43 03.5**	**-0.5**
BCLA	**Clavier**	**79.85 339**	P	**P**	**22 43 04.4**	**-0.2**
	comp=Z,2.8nm,0.0s					
BCLA			AP	pP	22 43 14.3	-1.3
DOU	**Dourbes**	**80.32 340**	P	**P**	**22 43 06.3**	**-0.8**
	comp=Z,1.8nm,1.0s,mb4.0					
BAIF	**Baives**	**80.45 340**	*e*P	**P**	**22 43 06.5**	**-1.3**
	comp=Z,20nm,1.2s,mb4.6					
BAIF	**Baives**	**80.45 340**	*e*P	**P**	**22 43 06.5**	**-1.3**
BAIF			pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6					
BAIF	**Baives**	**80.45 340**	*e*P	**P**	**22 43 06.5**	**-1.3**
	comp=Z,10.0nm,1.2s,mb4.6					
VTS	**Vitosha**	**80.96 325**⇑	*i*P	**P**	**22 43 11.4**	**+0.8**
VTS	**Vitosha**	**80.96 325**	⇑P	**P**	**22 43 11.4**	**+0.8**
BFO	**Black Forest**	**80.98 337**	*e*P	**P**	**22 43 10.2**	**-0.5**
CDF	**Champ du Feu**	**81.19 337**	*e*P	**P**	**22 43 11.4**	**-0.4**
CDF	**Champ du Feu**	**81.19 337**	*e*P	**P**	**22 43 11.4**	**-0.4**
CDF			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3					
CDF	**Champ du Feu**	**81.19 337**	*e*P	**P**	**22 43 11.4**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.3					
FELD	**Feldberg im Sc**	**81.48 337**	*e*P	**P**	**22 43 13.5**	**+0.1**
MEZF	**Maizieres J'vi**	**81.69 339**	*e*P	**P**	**22 43 14.3**	**-0.1**
	comp=Z,25nm,0.9s,mb4.8					
MEZF	**Maizieres J'vi**	**81.69 339**	*e*P	**P**	**22 43 14.3**	**-0.1**
	comp=Z,25nm,0.9s,mb5.2					
THEF	**They Montfort**	**81.70 338**	*e*P	**P**	**22 43 14.7**	**+0.2**
MOF	**Molkenrain**	**81.74 337**	*e*P	**P**	**22 43 14.2**	**-0.5**
HAU	**Haudompre**	**81.81 338**	*e*P	**P**	**22 43 15.1**	**0.0**
HAU			*e*R			
	comp=Z,112nm,20.5s					
HAU	**Haudompre**	**81.81 338**	*e*P	**P**	**22 43 15.1**	**0.0**
HAU			LR	LR		
	comp=Z,110nm,20.5s,MS4.2					
HINF	**Hinteralfeld**	**81.85 337**	*e*P	**P**	**22 43 14.7**	**-0.6**
LOMF	**Lomont**	**82.29 337**	*e*P	**P**	**22 43 17.7**	**+0.1**
FLN	**La Foliniere**	**82.72 342**	*e*P	**P**	**22 43 19.4**	**-0.4**
FLN			*e*R			
	comp=Z,93nm,20.0s					
FLN	**La Foliniere**	**82.72 342**	*e*P	**P**	**22 43 19.4**	**-0.4**
FLN			LR	LR		
	comp=Z,90nm,20.0s,MS4.1					
LDF	**La Druitiere**	**82.80 342**	*e*P	**P**	**22 43 19.7**	**-0.6**
LOR	**Lormes**	**83.13 339**	*e*P	**P**	**22 43 21.7**	**-0.3**
	comp=Z,16nm,1.0s,mb4.7					
LOR			*e*R			
	comp=Z,77nm,19.0s					
LOR	**Lormes**	**83.13 339**	*e*P	**P**	**22 43 21.7**	**-0.3**
LOR			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7					
LOR			MLR	MLR		
	comp=Z,80nm,19.0s,MS4.1					
LOR	**Lormes**	**83.13 339**	*e*P	**P**	**22 43 21.7**	**-0.3**
	comp=Z,8.2nm,1.0s,mb4.7					
LOR			LR	LR		
	comp=Z,80nm,19.0s,MS4.1					
GRR	**Gorron**	**83.15 343**	*e*P	**P**	**22 43 22.1**	**0.0**
CABF	**La Chapelle**	**83.17 337**	*e*P	**P**	**22 43 22.0**	**-0.2**
SSF	**Saint Saulge**	**83.41 339**	*e*P	**P**	**22 43 23.1**	**-0.3**
	comp=Z,10nm,1.0s,mb4.5					
SSF	**Saint Saulge**	**83.41 339**	*e*P	**P**	**22 43 23.1**	**-0.3**
SSF			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5					
SSF	**Saint Saulge**	**83.41 339**	*e*P	**P**	**22 43 23.1**	**-0.3**
	comp=Z,5.1nm,1.0s,mb4.5					
SGMF	**Saint Gilles**	**83.62 344**	*e*P	**P**	**22 43 24.4**	**-0.1**
ROSF	**Rostrenen**	**83.69 344**	*e*P	**P**	**22 43 24.4**	**-0.4**
AVF	**Avril-sur Loir**	**83.70 339**	*e*P	**P**	**22 43 24.6**	**-0.3**
SMF	**Signal de Mont**	**83.71 339**	*e*P	**P**	**22 43 24.9**	**-0.1**
	comp=Z,30nm,1.0s,mb5.1					
SMF	**Signal de Mont**	**83.71 339**	*e*P	**P**	**22 43 24.9**	**-0.1**
SMF			pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1					
SMF	**Signal de Mont**	**83.71 339**	*e*P	**P**	**22 43 24.9**	**-0.1**
	comp=Z,15nm,1.0s,mb5.1					
LPL	**La Plagne**	**84.00 337**	*e*P	**P**	**22 43 27.0**	**+0.6**
LPG	**La Plagne**	**84.01 337**	*e*P	**P**	**22 43 27.2**	**+0.7**
QUIF	**Quistinic**	**84.07 344**	*e*P	**P**	**22 43 26.5**	**-0.3**
PLDF	**La Plantade**	**84.40 339**	*e*P	**P**	**22 43 29.2**	**+0.7**
AGO	**Saint Agoulin**	**84.44 339**	*e*P	**P**	**22 43 30.0**	**+1.3**
TCF	**Toulx Ste Croi**	**84.45 340**	*e*P	**P**	**22 43 28.3**	**-0.4**
MFF	**Saint Martin d**	**84.69 342**	*e*P	**P**	**22 43 29.4**	**-0.6**
MBDF	**Montbardon**	**84.71 336**	*e*P	**P**	**22 43 30.1**	**0.0**
PYM	**Petit Puy Mans**	**84.76 339**	*e*P	**P**	**22 43 30.3**	**0.0**
ORIF	**Oris-en-Rattie**	**84.78 337**	*e*P	**P**	**22 43 30.9**	**+0.5**
	comp=Z,8.7nm,0.8s,mb4.6					
ORIF			*e*R			
	comp=Z,111nm,21.0s					
ORIF	**Oris-en-Rattie**	**84.78 337**	*e*P	**P**	**22 43 30.9**	**+0.5**
ORIF			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6					
ORIF	**Oris-en-Rattie**	**84.78 337**	*e*P	**P**	**22 43 30.9**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.6					
VIVF	**Saint-Julien-l**	**85.17 338**	*e*P	**P**	**22 43 32.9**	**+0.6**
	comp=Z,22nm,1.3s,mb4.8					
VIVF	**Saint-Julien-l**	**85.17 338**	*e*P	**P**	**22 43 32.9**	**+0.6**
VIVF			pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8					
VIVF	**Saint-Julien-l**	**85.17 338**	*e*P	**P**	**22 43 32.9**	**+0.6**
	comp=Z,11nm,1.3s,mb4.8					
SBF	**Sospel**	**85.32 336**	*e*P	**P**	**22 43 32.5**	**-0.6**
CAF	**Calviac**	**85.76 339**	*e*P	**P**	**22 43 35.1**	**-0.2**
	comp=Z,6.8nm,0.8s,mb4.6					
CAF	**Calviac**	**85.76 339**	*e*P	**P**	**22 43 35.1**	**-0.2**
CAF			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6					
CAF	**Calviac**	**85.76 339**	*e*P	**P**	**22 43 35.1**	**-0.2**
	comp=Z,3.4nm,0.8s,mb4.6					
PGF	**Pioggiola**	**86.05 334**	*e*P	**P**	**22 43 36.3**	**-0.4**
LFF	**La Frestale**	**86.07 340**	*e*P	**P**	**22 43 36.4**	**-0.4**
LMR	**La Mourre**	**86.07 336**	*e*P	**P**	**22 43 36.4**	**-0.4**
	comp=Z,13nm,0.9s,mb4.8					
LMR	**La Mourre**	**86.07 336**	*e*P	**P**	**22 43 36.4**	**-0.4**
LMR			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9					
LMR	**La Mourre**	**86.07 336**	*e*P	**P**	**22 43 36.4**	**-0.4**
	comp=Z,6.5nm,0.9s,mb4.9					
SJPF	**Ste Jean**	**88.25 341**	*e*P	**P**	**22 43 46.5**	**-0.9**
ETSF	**Etsaut**	**88.30 341**	*e*P	**P**	**22 43 47.0**	**-0.6**
CFAA	**Coronel Fontan**	**145.46 80**	PKPbc	PKPbc	22 50 32.6	-1.5
	comp=Z,0.3nm,0.5s,baz=216,slow=9.4,SNR=3.5					
PLCA	**Paso Flores**	**148.48 96**	PKPbc	PKPbc	22 50 42.8	+0.1
	comp=Z,3.1nm,1.0s,baz=266,slow=6.0,SNR=3.6					
PLCA	**Paso Flores**	**148.48 96**	PKP2	PKPbc	22 50 42.8	+0.2
PLCA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
CPUP	**Villa Florida**	**149.12 61**	PKPbc	PKPbc	22 50 43.5	-0.8
	comp=Z,0.5nm,0.5s,baz=299,slow=8.3,SNR=2.8					
CPUP	**Villa Florida**	**149.12 61**	PKP2	PKPbc	22 50 43.5	-0.8
CPUP			pmax	pmax		
	comp=Z,1.0nm,0.5s					
SNAA	**Sanae**	**151.76 196**	*e*PKPdf	PKPdf	22 50 34.7	-10
SNAA			*e*		22 50 38.7	
VNA3	**Neumayer Olymp**	**153.31 193**	*e*PKPdf	PKPdf	22 50 49.6	+3.1
VNA3			*e*		22 50 53.3	
VNA3			*e*		22 50 56.6	

MAN 10 22:37:27.8, 717N×12293E, h16km, mb3.8, ML4.9, MS1.6, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.71**	**330**	*e*P	Pg	22 37 42.3	+0.5
IPIL				*e*S	Sg	22 37 52.7	+1.5
PAGZ	**Pagadian**	**0.81**	**33**	*e*P	Pb	22 37 42.6	-1.0
PAGZ				*e*S	Sb	22 37 53.6	-0.7
CGP	**Cagayan de Oro**	**2.17**	**54**⇓	*e*P	Pn	22 38 03.8	+0.6
CGP				*e*S	Sn	22 38 30.9	+1.1
SNPH	**Sibulan**	**2.19**	**8**	*e*P	Pn	22 38 05.5	+2.0
SNPH				*e*S	Sn	22 38 35.5	+5.3
BUKP	**Musuan**	**2.23**	**71**	*e*P	Pn	22 38 04.7	+0.7
TBP	**Tagbilaran**	**2.67**	**20**	*e*P	Pn	22 38 19.5	+9.3
TBP				*e*S	Sn	22 38 52.8	+11
LLP	**Lapu-Lapu**	**3.29**	**18**	*e*P	Pn	22 38 19.4	+0.7
LLP				*e*S	Sn	22 38 59.6	+2.1
GUIM	**Jordan**	**3.46**	**354**	*e*P	Pn	22 38 22.8	+1.9
GUIM				*e*S	Sn	22 39 05.2	+3.7
CUYO	**Cuyo Island**	**4.12**	**333**	*e*P	Pn	22 38 31.5	+1.5
CUYO				*e*S	Sn	22 39 17.9	0.0
RCP	**Roxas**	**4.37**	**358**⇓	*e*P	Pn	22 38 40.6	+7.0
RCP				*e*S	Sn	22 39 29.7	+5.6
ENPP	**El Nido**	**5.30**	**320**	*e*P	Pn	22 38 47.6	+1.3
BUSP	**Coron**	**5.51**	**331**	*e*P	Pn	22 38 50.5	+1.3
BUSP				*e*S	Sn	22 39 52.2	0.0

*NEIC **10** 22:44:43.5, 3058S×7069W, h80km, MG3.7(GUC), After GUC.*

GUC 10 22:44:43.5±1.0, 3058S×7069W, h80km±7km, MD4.0, ML3.7, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.42**	**347**⇓	*i*P	Pn	22 44 57.7	+1.1
TLL				*i* S	Sn	22 45 08.2	+1.9
TLL				AML	AML	22 45 08.8	
	comp=E,3μm,0.4s						
OVCH	**Ovalle**	**0.44**	**266**⇑	*i*P	Pn	22 44 57.1	+0.4
OVCH				*i* S	Sn	22 45 07.3	+0.8
OVCH				AML	AML	22 45 07.6	
	comp=E,6μm,0.2s						
CMCH	**Combarbala**	**0.65**	**204**⇑	*i*P	Pn	22 44 58.6	0.0
CMCH				*i* S	Sn	22 45 10.3	+0.6
CMCH				AML	AML	22 45 12.2	
	comp=E,4μm,0.6s						
CMCH	**Combarbala**	**0.65**	**204**⇑	*i*P	Pn	22 44 58.6	0.0
CMCH				*i* S	Sn	22 45 10.3	+0.6
VACH	**Vallenar**	**2.00**	**358**⇑	*i*P	Pn	22 45 15.7	+0.4
VACH				*i* S	Sn	22 45 40.2	+0.6
JACH	**Jahuel**	**2.10**	**178**⇑	*i*P	Pn	22 45 17.7	+1.1
JACH				*i* S	Sn	22 45 42.9	+1.0
PEL	**Peldehue**	**2.55**	**180**	*i* P	Pn	22 45 23.3	+0.5
PEL				*i* S	Sn	22 45 53.6	+0.7
PEL				AML	AML	22 46 02.8	
	comp=E,292nm,0.3s						
PEL	**Peldehue**	**2.55**	**180**	*i* P	Pn	22 45 23.3	+0.5
PEL				*i* S	Sn	22 45 53.6	+0.7
TACH	**Talagante**	**3.07**	**184**⇑	*i*P	Pn	22 45 30.6	+0.9
LMEL	**Las Melosas**	**3.28**	**173**	*e*P	Pn	22 45 34.9	+2.2
LMEL				*i* S	Sn	22 46 13.8	+3.2
LMEL				AML	AML	22 46 24.8	
	comp=N,223nm,0.2s						
LMEL	**Las Melosas**	**3.28**	**173**	*e*P	Pn	22 45 34.9	+2.2
LMEL				*i* S	Sn	22 46 13.8	+3.2
CHCH	**Chadas Angostu**	**3.34**	**179**	*e*P	Pn	22 45 34.6	+1.1

*NEIC **10** 22:58:32.2, 3756S×177.11E, h137km, MG3.8(WEL), After WEL.*

WEL 10 22:58:32.8±0.2, 3759S×17716E, h134km±1km, ML3.7/10, Error ellipse: s-maj=2.0km s-min=1.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.06**	**25**	*e*PN	Pn	22 58 50.9	+0.1
URZ	**Urewera**	**0.67**	**183**	PN	Pn	22 58 53.4	+0.1
URZ				SN	Sn	22 59 09.1	+0.2
URZ	**Urewera**	**0.67**	**183**	P	Pn	22 58 53.5	+0.2
MWZ	**Matawai**	**0.80**	**159**	PN	Pn	22 58 54.5	+0.2
MWZ				SN	Sn	22 59 11.1	+0.5
MWZ	**Matawai**	**0.80**	**159**	P	Pn	22 58 54.5	+0.2
MWZ				S	Sn	22 59 11.6	+1.0
MXZ	**Matakaoa Point**	**0.92**	**89**	PN	Pn	22 58 55.3	0.0
MXZ				SN	Sn	22 59 12.0	-0.3
MXZ	**Matakaoa Point**	**0.92**	**89**	P	Pn	22 58 55.3	+0.1
MXZ				S	Sn	22 59 11.9	-0.4
PUZ	**Puketiti**	**1.00**	**119**	PN	Pn	22 58 55.9	0.0
PUZ				SN	Sn	22 59 12.8	-0.8
PUZ	**Puketiti**	**1.00**	**119**	P	Pn	22 58 56.0	0.0
KNZ	**Kokohu**	**1.49**	**164**	PN	Pn	22 59 01.1	+0.1
KNZ				SN	Sn	22 59 22.1	-0.4
KNZ	**Kokohu**	**1.49**	**164**	P	Pn	22 59 01.1	+0.1
BKZ	**Black Stump Fm**	**1.66**	**198**	PN	Pn	22 59 02.8	-0.2
BKZ				SN	Sn	22 59 26.0	0.0
BKZ	**Black Stump Fm**	**1.66**	**198**	P	Pn	22 59 02.8	-0.1
MOVZ	**Moawhango**	**2.13**	**211**	PN	Pn	22 59 07.9	-0.5
MOVZ	**Moawhango**	**2.13**	**211**	P	Pn	22 59 07.9	-0.5
WNVZ	**Wahianoa**	**2.13**	**215**	PN	Pn	22 59 08.6	+0.1
WNVZ	**Wahianoa**	**2.13**	**215**	P	Pn	22 59 08.6	+0.2
PXZ	**Pawanui**	**2.45**	**185**	PN	Pn	22 59 11.3	-1.2
MRZ	**Mangatainoka R**	**3.31**	**201**	PN	Pn	22 59 21.2	-2.3
MRZ				SN	Sn	22 59 59.6	-3.1
MRZ	**Mangatainoka R**	**3.31**	**201**	*e*P	Pn	22 59 21.2	-2.3
KIW	**Kapiti Island**	**3.71**	**207**	PN	Pn	22 59 26.1	-2.6
KIW	**Kapiti Island**	**3.71**	**207**	P	Pn	22 59 26.1	-2.6
MTW	**Mount Morrison**	**3.79**	**199**	P	Pn	22 59 27.0	-2.8
TCW	**Tory Channel**	**4.25**	**211**	PN	Pn	22 59 32.7	-3.2
TCW	**Tory Channel**	**4.25**	**211**	P	Pn	22 59 32.7	-3.2
THZ	**Tophouse**	**5.31**	**217**	*e*P	Pn	22 59 47.1	-2.9

*INMG **10** 23:35:39.3±1.1, 4335N×584W, h11km±5km, ML1.8, Error ellipse: s-maj=4.6km s-min=3.6km az=106.0*

MDD 10 23:35:39.3±0.5, 4324N×588W, h0km, mbLg1.8/5, 1D, Error ellipse: s-maj=7.9km s-min=2.6km az=160.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARI	**Arriondas**	**0.49**	**83**	⇓Pg	Pg	23 35 48.1	-0.6
	6.9nm,0.5s,SNR=18						
EARI				Lg		23 35 55.5	
	28nm,0.7s,SNR=9.2						
EPON	**Pontenova**	**0.93**	**276**	Pg	Pg	23 35 56.4	-0.7
	14nm,0.3s,SNR=41						
EPON				Lg		23 36 09.7	
	52nm,0.4s,SNR=11						
ERUA	**La Rua**	**1.26**	**228**	Pg	Pg	23 36 02.0	-1.4
	2.1nm,0.3s,SNR=7.9						
ERUA				Lg		23 36 18.6	
	7.4nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**1.45**	**206**	Pg	Pg	23 36 05.4	-1.6
	7.5nm,0.5s,SNR=8.3						
ECAL				Lg		23 36 26.2	
	14nm,0.3s,SNR=13

KKM Kota Kinabalu 19.65 75 P **Pn** **23 42 03.4 -0.3**
TSM Tawau 20.95 81 P **P** **23 42 17.3 +1.0**
QIZ Qiongzhong 21.66 34 P **P** **23 42 24.3 +0.5**
QIZ S **S** **23 46 18.8 -3.0**
QIZ AMB AMB
comp=Z,160nm,9.3s
QIZ LR LR
comp=N,340nm,15.5s,MS4.1
QIZ LR LR
comp=E,500nm,15.0s,MS4.1
QIZ LR LR
comp=Z,430nm,13.8s,MS4.0
QIZ Qiongzhong 21.66 34 *e*P **P** **23 42 23.4 -0.4**
comp=Z,16nm,0.8s,mb4.5
HYB Hyderabad 24.34 312 *i* P **P** **23 42 52.5 +1.6**
HYB Hyderabad 24.34 312 *e*P **P** **23 42 52.5 +1.6**
KMI Kunming 24.38 12 P **P** **23 42 52.1 +0.8**
KMI PP 23 43 29.8
KMI PPP 23 43 40.7
KMI PCP PcP 23 46 28.5 -1.5
KMI S **S** **23 47 11.4 +2.6**
KMI SCP ScP 23 50 04.4 -1.9
KMI PCS PcS 23 50 07.3 -2.6
KMI AMB AMB
comp=Z,60nm,1.2s,mb4.9
KMI AMB AMB
comp=Z,160nm,3.1s
KMI LR LR
comp=N,1μm,15.3s,MS4.6
KMI LR LR
comp=E,620nm,13.3s,MS4.6
KMI LR LR
comp=Z,1μm,14.2s,MS4.6
GYA Guiyang 26.72 19⇑*i*P **P** **23 43 11.9 -0.7**
GYA S **S** **23 47 46.4 +0.4**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.3
GYA AMB AMB
comp=Z,210nm,4.8s
GYA LR LR
comp=N,950nm,13.8s,MS4.5
GYA LR LR
comp=E,360nm,13.5s,MS4.5
GYA LR LR
comp=Z,1μm,14.4s,MS4.6
JIRN Jiri 28.30 339 *e*P **P** **23 43 28.2 +1.5**
PKI Pulchoki 28.51 338 *e*P **P** **23 43 29.8 +1.3**
GUN Gumba 28.64 339 *e*P **P** **23 43 31.2 +1.5**
comp=Z,91nm,0.6s,mb5.7
KKN Kakani 28.75 338 *e*P **P** **23 43 31.8 +1.1**
comp=Z,46nm,0.8s,mb5.3
KKN Kakani 28.75 338 *e*P **P** **23 43 31.8 +1.1**
KKN pmax pmax
comp=Z,46nm,0.8s,mb5.3
LSA Lhasa 28.89 349 P **P** **23 43 31.7 -0.2**
LSA Lhasa 28.89 349 *e*P **P** **23 43 31.9 0.0**
LSA pmax pmax
comp=Z,20nm,0.8s,mb4.9
LSA Lhasa 28.89 349 *e*P **P** **23 43 31.9 0.0**
comp=Z,20nm,0.8s,mb4.9
GKN Gorkha 29.19 337 *e*P **P** **23 43 35.3 +0.7**
comp=Z,80nm,0.9s,mb5.5
KOLN Koldanda 29.41 335 *e*P **P** **23 43 37.8 +1.3**
comp=Z,56nm,0.8s,mb5.4
CD2 Chengdu 30.20 11 *e*P **P** **23 43 44.9 +1.4**
CD2 AP pP 23 43 54.5 +1.7
CD2 PP PP 23 44 44.7 -7.2
CD2 S **S** **23 48 42.1 +1.5**
CD2 SS SS 23 50 22.8 -27
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,90nm,6.4s
CD2 LR LR
comp=E,250nm,14.2s
CD2 LR LR
comp=Z,180nm,11.8s,MS3.9
FITZ Fitzroy Crossi 34.01 126 P **P** **23 44 16.6 -0.3**
comp=Z,2.9nm,0.6s,mb4.4,baz=306,slow=14,SNR=7.1
FITZ LR LR 23 59 32.1
comp=Z,50nm,21.2s,MS3.2,baz=288,slow=39
XAN Xi'an 34.47 17 P **P** **23 44 19.8 -1.1**
XAN S **S** **23 49 53.4 +6.2**
XAN AMB AMB
comp=Z,20nm,0.6s,mb5.2
XAN LR LR
comp=N,170nm,15.5s,MS4.3
XAN LR LR
comp=E,360nm,15.4s,MS4.3
XAN LR LR
comp=E,660nm,15.7s,MS4.5
LZH Lanzhou 35.25 9 *e*P **P** **23 44 26.8 -0.9**
LZH XS sS 23 50 24.5 +10
LZH AMB AMB
comp=Z,20nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,100nm,5.9s
LZH LR LR
comp=E,570nm,13.4s
LZH LR LR
comp=Z,780nm,16.3s,MS4.5
NJ2 Nanjing 36.89 32 *e*P **P** **23 44 40.1 -1.6**
NJ2 PP PP 23 46 05.1 -0.9
NJ2 S **S** **23 50 23.0 -1.3**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
NJ2 AMB AMB
comp=Z,150nm,7.9s
NJ2 LR LR
comp=N,620nm,18.9s,MS4.6
NJ2 LR LR
comp=E,550nm,16.1s,MS4.6
NJ2 LR LR
comp=Z,350nm,16.8s,MS4.2
SSE Sheshan 37.45 35 P **P** **23 44 44.7 -1.7**
SSE PP PP 23 46 10.3 -1.8
SSE S **S** **23 50 31.4 -1.4**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,110nm,4.4s
SSE LR LR
comp=N,90nm,19.9s,MS3.7
SSE LR LR
comp=E,70nm,19.9s,MS3.7
SSE LR LR
comp=Z,140nm,20.6s,MS3.7
GTA Gaotai 38.09 3⇑P **P** **23 44 51.9 0.0**
GTA PP PP 23 46 23.7 +4.5
GTA S **S** **23 50 48.6 +6.0**
GTA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,150nm,5.3s
GTA LR LR
comp=N,250nm,12.9s,MS4.3
GTA LR LR
comp=E,240nm,14.1s,MS4.3
GTA LR LR
comp=Z,330nm,14.4s,MS4.3
JOW Kunigami 39.29 47 P **P** **23 45 02.3 +0.4**
comp=Z,35nm,0.6s,mb5.3,baz=235,slow=8.5,SNR=24
WRA Warramunga Arr 42.11 122 P **P** **23 45 25.0 -0.2**
comp=Z,7.0nm,0.7s,mb4.4,baz=300,slow=9.1,SNR=15
WRAB Tennant Creek 42.12 122 *i* P **P** **23 45 25.5 +0.2**
WB2 Warramunga Arr 42.12 122 *e*P **P** **23 45 25.2 -0.1**
BJT Baijiatuau 42.33 22 *e*P **P** **23 45 26.9 -0.1**
BJT pmax pmax
comp=Z,20nm,0.6s
BJT Baijiatuau 42.33 22 *e*P **P** **23 45 26.9 -0.1**
comp=Z,20nm,0.6s,mb4.9
ASPA Alice Springs 43.47 127 *e*P **P** **23 45 37.0 +0.8**
AS31 Alice Springs 43.47 127 *e*P **P** **23 45 37.0 +0.8**
ASAR Alice Springs 43.47 127 P **P** **23 45 37.0 +0.8**
comp=Z,4.7nm,0.9s,mb4.2,baz=297,slow=8.1,SNR=36
ASAR PcP PcP 23 47 25.5 +1.6
comp=Z,1.4nm,0.8s,baz=315,slow=2.6,SNR=6.3
ASAR ScP ScP 23 51 16.3 +3.4
comp=Z,0.9nm,0.9s,baz=316,slow=6.7,SNR=5.1
ASAR Alice Springs 43.47 127 P **P** **23 45 37.0 +0.8**
ASAR 23 47 25.5
ULHL Ulahol 44.95 338 P **P** **23 45 49.1 +1.0**
SNR=16
UCH Uchtor 45.60 336 P **P** **23 45 54.6 +1.4**
SNR=19
TKM2 Tokmak 2 45.77 338 P **P** **23 45 55.7 +1.1**
SNR=9.7
KBK Karagaybulak 45.79 337 P **P** **23 45 56.9 +2.1**
SNR=14
AAK Ala-Archa 45.95 337*c i*P **P** **23 45 56.2 +0.2**
AAK pmax pmax
comp=Z,9.0nm,1.9s,mb4.4
AAK Ala-Archa 45.95 337 *e*P **P** **23 45 55.2 -0.7**
comp=Z,8.4nm,0.9s,mb4.7
FRU Bishkek 46.07 337 *e*P **P** **23 45 57.5 +0.6**
EKS2 Erkin-Say 46.26 336 P **P** **23 45 60.0 +1.5**
SNR=12
USP Ospenovka 46.48 337 P **P** **23 46 01.1 +0.9**
SNR=30
SONM Songino Array 47.13 9 P **P** **23 46 05.3 +0.1**
comp=Z,14nm,0.7s,mb5.0,baz=189,slow=8.3,SNR=29
MKAR Makanchi Array 47.20 346 P **P** **23 46 06.0 +0.2**
comp=Z,12nm,0.6s,mb5.0,baz=161,slow=9.0,SNR=122
ULN Ulaanbaatar 47.26 9⇓*e*P **P** **23 46 06.4 +0.2**
ULN Ulaanbaatar 47.26 9 *e*P **P** **23 46 06.2 0.0**
comp=Z,8.5nm,0.8s,mb4.7
ZAK Zakamensk 49.26 5 *e*P **P** **23 46 21.4 -0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
TLY Talaya 50.58 5 *e*P **P** **23 46 30.2 -1.5**
TLY *e*S **S** **23 53 39.9 -4.1**
TLY pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,242nm,16.0s,MS4.3
HIA Hailar 51.65 19 *e*P **P** **23 46 39.7 0.0**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 51.65 19 *e*P **P** **23 46 39.7 0.0**
comp=Z,10nm,0.9s,mb4.8
MJAR Matsushiro Arr 51.73 42 P **P** **23 46 39.4 -1.0**
comp=Z,2.9nm,0.8s,mb4.2,baz=223,slow=6.4,SNR=14
MDJ Mudanjiang 51.89 29 P **P** **23 46 41.2 -0.3**
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,30nm,2.9s,mb4.7
STKA Stephens Creek 53.43 132 *e*P **P** **23 46 52.4 -0.5**
comp=Z,4.6nm,0.6s,mb4.6
STKA Stephens Creek 53.43 132 P **P** **23 46 52.2 -0.7**
comp=Z,8.0nm,0.6s,mb5.2,baz=312,slow=6.6,SNR=7.9
ZAL Zalesovo 53.52 351 P **P** **23 46 54.1 +0.6**
comp=Z,18nm,0.6s,mb5.2,baz=311,slow=5.5,SNR=99
ZAL S **S** **23 54 25.1 +0.7**
comp=Z,0.5nm,0.3s,baz=184,slow=19,SNR=3.7
NVS Novosibirsk 54.65 350 *e*P **P** **23 46 59.6 -2.2**
NVS *e*S **S** **23 54 37.3 -2.2**
NVS pmax pmax
comp=Z,17nm,1.0s,mb5.0
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.8s
NVS smax
comp=N,12nm,1.8s
ATD Arta Tunnel 54.80 283 LR LR 00 07 08.5
comp=N,41nm,18.9s,MS3.5,baz=3.3,slow=32
BRVK Borovoye 56.27 341 *e*P **P** **23 47 12.5 -0.9**
BRVK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BRVK Borovoye 56.27 341 *e*P **P** **23 47 12.5 -0.9**
comp=Z,9.7nm,1.0s,mb4.8
KLR Kul'dur 56.27 27 *e*P **P** **23 47 10.2 -3.3**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,36nm,1.0s,mb5.4
ZRNK Zerenda 56.61 340 *e*P **P** **23 47 14.9 -1.0**
ZRNK pmax pmax
comp=Z,11nm,0.9s,mb4.9
ZRNK Zerenda 56.61 340 *e*P **P** **23 47 14.9 -1.0**
comp=Z,11nm,0.9s,mb4.9
CHKZ Chkalovo 56.68 341⇑*i*P **P** **23 47 16.1 -0.3**
CHKZ pmax pmax
comp=Z,23nm,0.7s,mb5.3
CHKZ Chkalovo 56.68 341⇑*i*P **P** **23 47 16.1 -0.3**
comp=Z,23nm,0.7s,mb5.3
HABR Khabarovsk 57.28 29 *e*P **P** **23 47 20.5 -0.1**
HABR *e*S **S** **23 55 16.1 +1.5**
YSS Yuzh-Sakhalins 60.38 34 *e*P **P** **23 47 41.7 -0.5**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 60.38 34 *e*P **P** **23 47 42.0 -0.1**
comp=Z,23nm,1.0s,mb5.2
GNI Garni 61.23 316 LR LR 00 17 01.4
comp=Z,56nm,20.1s,MS3.7,baz=360,slow=39
GNI Garni 61.23 316 *e*P **P** **23 47 48.4 +0.5**
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 61.23 316 *e*P **P** **23 47 48.4 +0.5**
comp=Z,9.4nm,0.9s,mb4.9
ORR Orenburg 61.51 331 *i* P **P** **23 47 49.4 -0.4**
ORR pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
ARU Arti 63.13 337⇓*i*P **P** **23 47 59.6 -1.1**
ARU *e* 23 48 35.6
ARU *e* 23 50 14.8
ARU *e*PPP 23 51 48.8
ARU *e*S **S** **23 56 30.4 +0.8**
ARU *e*SS SS 00 00 38.9 +3.1
ARU pmax pmax
comp=Z,14nm,1.1s,mb5.0
ARU Arti 63.13 337⇑*i*P **P** **23 47 59.7 -1.0**
comp=Z,11nm,1.0s,mb5.0
KIV Kislovodsk 64.24 319*αe*P **P** **23 48 07.7 -0.3**
KIV pmax pmax
comp=Z,15nm,1.3s,mb4.9
KIV Kislovodsk 64.24 319 *e*P **P** **23 48 07.9 -0.1**
comp=Z,4.3nm,0.7s,mb4.6
ASF Jabal al Asfar 64.39 305 P **P** **23 48 10.4 +1.4**
comp=Z,1.3nm,0.7s,mb4.1,baz=291,slow=9.0,SNR=4.7
YAK Yakutsk 65.43 16 *e*P **P** **23 48 14.3 -1.4**
YAK pmax pmax
comp=Z,77nm,1.1s,mb5.7
YAK Yakutsk 65.43 16 *e*P **P** **23 48 14.3 -1.4**
comp=Z,77nm,1.1s,mb5.6
BR131 Keskin Array S 69.04 312 *e*P **P** **23 48 38.0 -0.6**
comp=Z,2.2nm,0.7s,mb4.2
BRTR Keskin Array B 69.04 312 P **P** **23 48 38.0 -0.6**
comp=Z,1.6nm,0.7s,mb4.0,baz=134,slow=7.2,SNR=16
LSZ Lusaka 70.04 253 LR LR 00 16 30.0
comp=Z,171nm,18.5s,MS4.3,baz=117,slow=33
PET Petropavlovsk 72.26 34 *e*P **P** **23 48 58.0 -0.2**
PET pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
PET Petropavlovsk 72.26 34 *e*P **P** **23 48 58.0 -0.3**
comp=Z,6.7nm,0.4s,mb4.9
OBN Obninsk 72.56 328⇓*e*P **P** **23 48 59.7 -0.3**
OBN pmax pmax
comp=Z,12nm,1.3s,mb4.7
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
TIXI Tiksi 73.18 10 *e*P **P** **23 49 01.1 -2.6**
TIXI *e* 23 49 16.9
TIXI pmax pmax
comp=Z,11nm,0.9s,mb4.8
LBTB Lobatse 73.82 244 LR LR 00 21 08.9
comp=Z,90nm,18.1s,MS4.1,baz=251,slow=36
BOSA Boshof 74.72 240 LR LR 00 20 48.4
comp=Z,90nm,18.3s,MS4.1,baz=288,slow=35
AKASG Malin Array Be 75.19 322 P **P** **23 49 14.6 -0.9**
comp=Z,3.4nm,0.7s,mb4.4,baz=94,slow=4.6,SNR=14
AKASG Malin Array Be 75.19 322 *i* P **P** **23 49 14.6 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
VRI Vrincioaia 75.55 317⇑*i*P **P** **23 49 17.8 +0.3**
VRI Vrincioaia 75.55 317⇑P **P** **23 49 17.8 +0.3**
PLOR Plostina 75.60 317⇑*i*P **P** **23 49 19.6 +1.9**
MLR Muntele Rosu 76.00 317 P **P** **23 49 20.0 0.0**
comp=Z,4.3nm,1.0s,mb4.3,baz=172,slow=4.1,SNR=8.3
MLR Muntele Rosu 76.00 317⇓*i*P **P** **23 49 21.0 +1.0**
MLR Muntele Rosu 76.00 317⇓P **P** **23 49 21.1 +1.0**
SNX Sinaia 76.26 316⇑*i*P **P** **23 49 21.5 0.0**
SNX Sinaia 76.26 316⇑P **P** **23 49 21.4 -0.1**
BURAR Bucovina Array 76.96 319⇓*i*P **P** **23 49 26.7 +1.2**
BURAR Bucovina Array 76.96 319⇓P **P** **23 49 26.7 +1.3**
JOF Joensuu 78.09 335 *e*p **P** **23 49 29.5 -2.3**
comp=Z,4.1nm,0.6s,mb4.5
DRGR 78.46 318⇓*i*P **P** **23 49 34.7 +0.8**
DRGR 78.46 318⇓P **P** **23 49 34.7 +0.8**
BZS Buzias 79.01 316⇓*i*P **P** **23 49 37.1 +0.3**
BZS Buzias 79.01 316⇓P **P** **23 49 37.1 +0.3**
FINES FINESS Array B 79.95 333 P **P** **23 49 41.3 -0.6**
comp=Z,2.2nm,0.6s,mb4.2,baz=113,slow=5.7,SNR=21
KAF Kangasniemi 80.03 333 *e*p **P** **23 49 40.6 -1.8**
comp=Z,5.9nm,0.6s,mb4.7,baz=103,slow=5.0
KAF Kangasniemi 80.03 333 *e*P **P** **23 49 40.6 -1.8**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PKSM Moragy 81.15 316⇓*i*P **P** **23 49 48.7 +0.3**
PKSM Moragy 81.15 316⇓P **P** **23 49 48.7 +0.3**
BILL Bilibino 81.18 21⇓*i*P **P** **23 49 47.8 -0.8**
BILL pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
KEV Kevo 82.06 341 *e*p **P** **23 49 50.4 -2.8**
comp=Z,15nm,1.0s,mb4.9
KEV Kevo 82.06 341 *e*P **P** **23 49 50.4 -2.8**
KEV pmax pmax
comp=Z,15nm,1.0s,mb4.9
MORC Moravsky Berou 82.34 320⇓*i*P **P** **23 49 55.5 +0.8**
MORC Moravsky Berou 82.34 320⇓P **P** **23 49 55.5 +0.8**
ARCES ARCESS Array B 82.49 340 P **P** **23 49 55.2 -0.2**
comp=Z,2.8nm,0.5s,mb4.5,baz=101,slow=5.3,SNR=21
ARCES LR LR 00 30 59.5
comp=Z,88nm,18.1s,MS4.2,baz=112,slow=39
ARCES ARCESS Array B 82.49 340 P **P** **23 49 55.2 -0.2**
ARCES LR LR 00 30 59.5
DPC Dobruska-Polom 83.19 320 *e*P **P** **23 49 52.1 -7.0**
GERES GERESS Array B 84.75 319 P **P** **23 50 07.0 0.0**
comp=Z,2.4nm,0.9s,mb4.3,baz=90,slow=5.3,SNR=20
KHC Kasperske Hory 84.85 319 *e*P **P** **23 50 07.1 -0.4**
VNDA Vanda 85.86 169 P **P** **23 50 11.6 -1.0**
comp=Z,0.5nm,0.7s,mb3.8,baz=319,slow=4.5,SNR=2.5
GRA1 Grafenberg Arr 86.42 320 *e*P **P** **23 50 16.0 +0.7**
comp=Z,6.0nm,0.8s,mb4.9
GRF Grafenberg Arr 86.42 320 *e*P **P** **23 50 16.0 +0.7**
comp=Z,6.0nm,0.8s,mb4.9
GRF Grafenberg Arr 86.42 320 *e*P **P** **23 50 16.0 +0.7**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
GRF Grafenberg Arr 86.42 320 *e*P **P** **23 50 16.0 +0.7**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
NB2 NORSAR Subarra 86.95 331 P **P** **23 50 17.3 -0.6**
comp=Z,1.9nm,0.9s,mb4.3,baz=97,slow=5.1
NB2 NORSAR Subarra 86.95 331 P **P** **23 50 17.3 -0.6**
NB2 pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
NOA NORSAR Array B 86.95 331 P **P** **23 50 17.3 -0.6**
comp=Z,2.2nm,0.8s,mb4.4,baz=94,slow=4.8,SNR=10
LPG La Plagne 89.40 315 *e*P **P** **23 50 26.9 -2.7**
comp=Z,12nm,1.1s,mb4.8
LPG La Plagne 89.40 315 *e*P **P** **23 50 26.9 -2.7**
LPG pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
LPG La Plagne 89.40 315 *e*P **P** **23 50 26.9 -2.7**
comp=Z,6.0nm,1.1s,mb4.8
YKA Yellowknife Ar 112.10 15 PP PP 23 56 49.5 -3.0
comp=Z,0.7nm,0.9s,baz=327,slow=7.0,SNR=6.1
SCHQ Schefferville 122.59 349 PKP PKPdf 23 56 28.4 0.0
comp=Z,1.1nm,0.6s,baz=9.3,slow=16,SNR=4.0
NVAR Mina Array Bea 128.82 36 PKP PKPdf 23 56 41.9 +1.7
comp=Z,0.5nm,0.6s,baz=238,slow=2.3,SNR=6.1
NVAR Mina Array Bea 128.82 36 PKP PKPdf 23 56 41.9 +1.7
JCT Junction City 144.60 26 *e*PKIKP PKPdf 23 57 08.6 -0.7
CPUP Villa Florida 144.96 222 PKP PKPdf 23 57 11.1 +1.1
comp=Z,3.0nm,0.8s,baz=136,slow=3.2,SNR=9.1
LRAL Lakeview Retre 145.71 6 *e*PKPdf PKPdf 23 57 11.5 +0.3
OTAV Otavalo 175.34 288 *e*P PKPdf 23 57 49.9 +7.2

ISCJB ***10*** *23:55:53.9±0.2, 5149N±001×16.10E±002, h0km, mb4.2/15, MS4.7/4, Error ellipse: s-maj=2.0km s-min=1.5km az=166.4*
CSEM ***10*** *23:55:53.9, 5159N×16.12E, h10km, ML4.6*
MOS ***10*** *23:55:54.8±0.9, 5154N×1605E, h10km, mb4.4/12, Error ellipse: s-maj=4.8km s-min=2.9km az=76.5*
LDG ***10*** *23:55:54.6±0.3, 5147N×1643E, h1km, Ml4.7/14, Error ellipse: s-maj=7.8km s-min=4.3km az=2.0, Suspected Mining induced.*
NEIC ***10*** *23:55:55.5±0.2, 5159N×16.15E, h5km, ML3.8(BRA), ML4.2(FUR), ML4.2(SZGRF), Error ellipse: s-maj=2.7km s-min=2.5km az=190.0*
IDC ***10*** *23:55:56.1±0.5, 5150N×1600E, h0km, mb4.1/10, mb1 4.0/21, mb1mx4.0/31, mbtmp3.9/21, ML3.6/11, MS4.7/3, Ms1 4.7/3, ms1mx2.8/39, Error ellipse: s-maj=8.3km s-min=5.3km az=95.0*
PRU ***10*** *23:55:57.3, 5145N×16.13E, h0km, Felt In Harrachov*
BGR ***10*** *23:55:57.6±0.7, 5147N×1606E, h1km, ML4.2, Error ellipse: s-maj=6.7km s-min=5.6km az=166.0*
NAO ***10*** *23:55:57.2, 5160N×16.10E, h33km, mb2.8*
WAR ***10*** *23:55:57.1, 5150N×16.14E, ML3.6, Mining Induced*
VIE ***10*** *23:55:58.3±0.8, 5132N×1608E, h0km, Error ellipse: s-maj=5.0km s-min=3.6km az=177.0, Suspected Mining induced. 69 km WNW of Breslau*
STR ***10*** *23:56:14.3±0.0, 5152N×16.15E, h10km±1km, Ml4.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 10 23:55:55.3±0.2, 5154N±001×1613E±002, h0km, n227, σ1$09/333, mb4.2/15, MS4.7/4, 22C-22D, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**171**	*i* Pgd		**Pg**		**23 56 09.3**	**+0.5**
KSP					i			23 56 09.6	
KSP				*e*Sg		**Sg**		**23 56 18.5**	**+0.6**
KSP				*e*L				23 56 21.5	
KSP	**Ksiaz**	**0.70**	**171**	⇓*i*P		**Pg**		**23 56 09.3**	**+0.5**
KSP				*e*				23 56 18.5	
KSP	**Ksiaz**	**0.70**	**171**	⇓*i*Pg		**Pg**		**23 56 09.3**	**+0.5**
KSP				*i*				23 56 09.6	
KSP				*e*Sg		**Sg**		**23 56 18.5**	**+0.6**
KSP				*e*				23 56 21.5	
UPC	**Upice**	**1.03**	**184**	*e*PG		**Pg**		**23 56 15.3**	**+0.2**
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*PG		**Pg**		**23 56 18.1**	**-0.1**
DPC				*e*SG		**Sg**		**23 56 32.5**	**-1.2**
	1μm,0.8s								
DPC				AMS		AMS		23 56 40.0	
	4μm,2.5s								
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*P		**Pg**		**23 56 18.1**	**-0.1**
DPC				*e*				23 56 32.5	
DPC				smax					
	comp=N,1μm,0.8s								
DPC				MLR		MLR			
	comp=Z,4μm,2.5s								
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*Pg		**Pg**		**23 56 18.1**	**-0.1**
DPC				*e*Sg		**Sg**		**23 56 32.5**	**-1.2**
PVCC	**Panska Ves**	**1.41**	**225**	P		**Pn**		**23 56 21.1**	**-1.1**
BRG	**Berggiesshubel**	**1.53**	**245**	*e*Pg		**Pg**		**23 56 24.4**	**-0.1**
BRG				*e*Sg		**Sg**		**23 56 45.3**	**+1.0**
BRG	**Berggiesshubel**	**1.53**	**245**	PN		**Pn**		**23 56 23.1**	**-0.7**
BRG				PG		**Pg**		**23 56 25.3**	**+0.7**
BRG				SG		**Sg**		**23 56 45.5**	**+1.2**
	comp=Z,663nm,0.5s								
BRG									
	comp=N,944nm,3.1s								
BRG									
	comp=E,563nm,5.7s								
BRG									
	comp=Z,1μm,3.8s								
RUE	**Ruedersdorf**	**1.73**	**304**	*e*Pn		**Pn**		**23 56 26.6**	**-0.1**
RUE				*e*Sn		**Sn**		**23 56 53.2**	**+3.8**
PRA	**Prague**	**1.82**	**217**	PG		**Pg**		**23 56 28.0**	**-2.2**
PRA				SG		**Sg**		**23 56 53.0**	**-0.8**
FBE	**Freiberg**	**1.85**	**252**	*e*Pn		**Pn**		**23 56 28.2**	**0.0**
FBE				*e*Sg		**Sg**		**23 56 55.0**	**+0.3**
PRU	**Pruhonice**	**1.85**	**214**	*e*PN		**Pn**		**23 56 27.8**	**-0.4**
PRU				*e*PG		**Pg**		**23 56 30.2**	**-0.5**
PRU				*e*SG		**Sg**		**23 56 53.3**	**-1.4**
	comp=Z,932nm,0.9s								
PRU				AMS		AMS		23 57 20.0	
	comp=Z,2μm,2.9s								
PRU	**Pruhonice**	**1.85**	**214**	*e*P		**Pn**		**23 56 27.8**	**-0.4**
PRU				*e*				23 56 53.3	
PRU				smax					
	comp=N,932nm,0.9s								
PRU				MLR		MLR			
	comp=Z,2μm,2.9s								
PRU	**Pruhonice**	**1.85**	**214**	*e*Pn		**Pn**		**23 56 27.8**	**-0.4**
PRU				*e*Pg		**Pg**		**23 56 30.2**	**-0.5**
PRU				*e*Sg		**Sg**		**23 56 53.3**	**-1.4**
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*Pn		**Pn**		**23 56 29.9**	**+1.4**
GKP				*e*Pg		**Pg**		**23 56 33.9**	**+2.9**
GKP				*e*Sn		**Sn**		**23 56 58.8**	**+6.1**

GKP			*e*Sg	Sg	23 57 02.7	+7.5
GKP	**Gorka Klasztor**	**1.86 21**	*e*P	Pn	23 56 29.9	+1.4
GKP			*e*		23 56 58.8	
RAC	**Raciborz**	**1.96 137**	*e*Pn	Pn	23 56 28.7	-1.1
RAC			*e*Pg	Pg	23 56 32.4	-0.5
RAC			*e*Sg	Sg	23 56 58.7	+0.5
CLL	**Collm**	**1.97 265**	*e*Pn	Pn	23 56 29.7	-0.2
CLL			*i* Pg	Pg	23 56 33.7	+0.6
CLL			*e*Sg	Sg	23 57 00.1	+1.5
CLL	**Collm**	**1.97 265**	*i* Pn	Pn	23 56 29.6	-0.3
CLL			*i* Pg	Pg	23 56 33.7	+0.6
CLL			*i* x	x	23 56 36.5	
CLL			*i* Sg	Sg	23 57 00.0	+1.4
	comp=Z,794nm,0.8s					
CLL	**Collm**	**1.97 265**	*i* Pn	Pn	23 56 29.6	-0.3
CLL			*i* Pg	Pg	23 56 33.7	+0.6
CLL			*i* Sg	Sg	23 57 00.0	+1.4
MORC	**Moravsky Berou**	**1.98 152**	⇓*i*P	Pn	23 56 29.7	-0.3
MORC	**Moravsky Berou**	**1.98 152**	⇓P	Pn	23 56 29.7	-0.3
OKC	**Ostrava-Krasne**	**2.13 142**	*e*PN	Pn	23 56 30.8	-1.3
OKC			*e*PG	Pg	23 56 35.9	-0.3
OKC			*e*SG	Sg	23 57 02.3	-1.5
	comp=Z,2μm,0.8s					
OKC	**Ostrava-Krasne**	**2.13 142**	*e*P	Pn	23 56 30.8	-1.3
OKC			*e*		23 57 02.3	
OKC			smax			
	comp=N,2μm,0.8s					
VRAC	**Vranov**	**2.25 172**	Pn	Pn	23 56 33.8	0.0
	comp=N,6.0nm,0.3s,baz=356,slow=14,SNR=132					
VRAC			Sn	Sn	23 57 02.9	+0.6
	comp=N,26nm,0.3s,baz=77,slow=20,SNR=13					
VRAC			Lg		23 57 06.2	
	comp=N,27nm,0.3s,baz=86,slow=19,SNR=10					
VRAC	**Vranov**	**2.25 172**	⇓*i*P	Pn	23 56 33.7	-0.1
VRAC	**Vranov**	**2.25 172**	P	Pn	23 56 33.8	0.0
VRAC					23 57 02.9	
VRAC			pmax	pmax		
	comp=Z,6.0nm,0.3s					
VRAC			smax			
	comp=N,26nm,0.3s					
VRAC	**Vranov**	**2.25 172**	⇓P	Pn	23 56 33.7	-0.1
TREC	**Trest**	**2.28 191**	*e*PN	Pn	23 56 33.9	-0.3
KRUC	**Moravsky**	**2.48 176**	P	Pn	23 56 36.3	-0.7
TANN	**Tannenbergstha**	**2.58 246**	*e*Pn	Pn	23 56 38.6	+0.4
TANN			*e*Sg	Sg	23 57 17.9	-0.1
WERD	**Werda**	**2.65 247**	*e*Sg	Sg	23 57 19.9	-0.5
OJC	**Ojcow**	**2.67 118**	*e*Pn	Pn	23 56 37.7	-1.9
OJC			*e*Pg	Pg	23 56 45.7	-0.8
OJC			*e*Sn	Sn	23 57 09.2	-3.5
OJC			*e*Sg	Sg	23 57 21.2	0.0
OJC	**Ojcow**	**2.67 118**	*e*P	Pn	23 56 37.7	-1.9
OJC			*e*		23 57 09.2	
JAVC	**Velka Javorina**	**2.86 159**	P	Pn	23 56 42.5	+0.4
VIEL	**Selb-Vielitz**	**2.89 244**	*e*Pn	Pn	23 56 43.1	+0.6
KHC	**Kasperske Hory**	**2.91 215**	*e*PN	Pn	23 56 42.6	-0.2
KHC			*e*PG	Pg	23 56 49.3	-1.8
KHC			*e*SN	Sn	23 57 17.5	-1.0
KHC			*e*SG	Sg	23 57 28.0	-0.8
	comp=N,415nm,0.7s					
KHC			AMS	AMS	23 57 40.0	
	comp=N,1μm,4.6s					
KHC	**Kasperske Hory**	**2.91 215**	*e*Pn	Pn	23 56 42.6	-0.2
KHC			*e*Pg	Pg	23 56 49.3	-1.8
KHC			*e*Sn	Sn	23 57 17.5	-1.0
KHC			*e*Sg	Sg	23 57 28.0	-0.8
MOX	**Moxa**	**2.98 254**	*e*Pn	Pn	23 56 44.0	+0.1
MOX			*e*Pg	Pg	23 56 52.6	+0.1
MOX			*e*Sg	Sg	23 57 31.6	+0.4
MOX	**Moxa**	**2.98 254**	*e*PN	Pn	23 56 43.9	+0.1
MOX			*e*PG	Pg	23 56 52.6	+0.1
MOX			*e*SG	Sg	23 57 32.5	+1.4
GEC2	**GERESS Array S**	**3.11 211**	*e*Pn	Pn	23 56 45.9	+0.2
GEC2			*e*Sg	Sg	23 57 33.9	-1.5
GEC2	**GERESS Array S**	**3.11 211**	*e*Pn	Pn	23 56 45.9	+0.3
GEC2			*e*Sg	Sg	23 57 33.9	-1.4
GERES	**GERESS Array B**	**3.11 211**	Pn	Pn	23 56 45.5	-0.1
	comp=N,5.3nm,0.3s,baz=35,slow=10,SNR=154					
GERES			Sn	Sn	23 57 22.4	-1.1
	comp=N,12nm,0.3s,baz=32,slow=28,SNR=5.2					
GERES			Lg		23 57 33.0	
	comp=N,36nm,0.3s,baz=27,slow=29,SNR=8.8					
GERES	**GERESS Array B**	**3.11 211**	P	Pn	23 56 45.5	-0.1
GERES					23 57 22.4	
WAR	**Warsaw**	**3.12 75**	*e*Pn	Pg	23 56 56.0	+1.0
WAR			*e*Sg	Sg	23 57 40.1	+4.7
LIKS	**Likavka**	**3.14 141**	*e*PN	Pn	23 56 47.2	+1.2
LIKS			*e*SG	Sg	23 57 37.0	+0.9
LIKS	**Likavka**	**3.14 141**	*e*P	Pn	23 56 47.2	+1.2
LIKS			pmax	pmax		
	comp=N,548nm,0.6s					
SMOL	**Smolenice**	**3.14 164**	*e*PN	Pn	23 56 47.7	+1.7
SMOL			*e*PG	Pg	23 56 55.1	-0.4
SMOL			*e*SG	Sg	23 57 35.9	-0.3
SMOL	**Smolenice**	**3.14 164**	*e*Pn	Pn	23 56 47.7	+1.7
SMOL			*e*Pg	Pg	23 56 55.2	-0.3
SMOL			*e*Sg	Sg	23 57 35.9	-0.3
WET	**Wettzell**	**3.17 222**	*e*Pn	Pn	23 56 46.8	+0.4
WET			*e*Sg	Sg	23 57 36.4	-0.9
WET	**Wettzell**	**3.17 222**	*e*Pn	Pn	23 56 46.8	+0.3
WET			*e*Sg	Sg	23 57 36.4	-0.9
VKA	**Vienna**	**3.28 178**	*i* Pn	Pn	23 56 49.5	+1.6
VKA			*i* Pg	Pg	23 56 58.1	0.0
VKA			*i* Sg	Sg	23 57 42.2	+1.6
KOLL	**Kolacno**	**3.30 153**	*e*PN	Pn	23 56 48.5	+0.2
KOLL			*e*		23 57 37.6	
ZST	**Bratislava**	**3.40 169**	*e*PN	Pn	23 56 50.4	+0.8
ZST			*e*PG	Pg	23 56 59.8	-0.7
ZST			*e*SG	Sg	23 57 43.2	-1.5
ZST	**Bratislava**	**3.40 169**	*e*P	Pn	23 56 50.4	+0.8
ZST			pmax	pmax		
	comp=N,195nm,0.9s					
NIE	**Niedzica**	**3.41 127**	*e*Pn	Pn	23 56 49.7	0.0
NIE			*e*Pg	Pg	23 57 00.1	-0.6
NIE			*e*Sg	Sg	23 57 44.3	-0.6
RGN	**Rugen**	**3.46 332**	*e*PN	Pn	23 56 50.1	-0.3
RGN			*e*Pn	Pg	23 57 06.5	+4.9
VYHS	**Vyhne**	**3.51 149**	*e*PN	Pn	23 56 50.6	-0.5
VYHS			*e*PG	Pg	23 57 03.0	+0.4
VYHS			*e*SG	Sg	23 57 46.1	-2.0
VYHS	**Vyhne**	**3.51 149**	*e*P	Pn	23 56 50.6	-0.5
VYHS			pmax	pmax		
	comp=N,138nm,1.2s					
CONA	**Conrad Observa**	**3.62 183**	*i* Pn	Pn	23 56 52.8	+0.3
	SNR=31					
CONA			⇑*i*Sg	Sg	23 57 49.3	-2.2
	comp=N,296nm,0.7s					
GRA1	**Grafenberg Arr**	**3.63 241**	*e*Pn	Pn	23 56 53.5	+0.8
GRA1			*e*Sg	Sg	23 57 52.3	+0.4
GRF	**Grafenberg Arr**	**3.63 241**	*e*Pn	Pn	23 56 53.5	+0.8
GRF			*e*Sg	Sg	23 57 52.3	+0.4
GRF	**Grafenberg Arr**	**3.63 241**	*e*Pn	Pn	23 56 53.5	+0.8
GRF			*e*Sg	Sg	23 57 52.3	+0.4
GRFO	**Grafenberg**	**3.63 241**	P	Pn	23 56 53.4	+0.7
BSD	**Bornholm Skovb**	**3.66 349**	*i* P	Pn	23 56 52.3	-0.8
BSD			*i* S	Sn	23 57 32.7	-4.2
SOP	**Sopron**	**3.87 176**	⇓*e*Pn	Pn	23 56 56.3	+0.3
SOP	**Sopron**	**3.87 176**	P	Pn	23 56 55.8	-0.2
MOA	**Molln**	**3.88 199**	⇓*i*Pn	Pn	23 56 56.4	+0.2
	SNR=51					
MOA			⇑*i*Sg	Sg	23 57 59.2	-0.8
	comp=N,240nm,0.7s					
STHS	**Stebnicka Huta**	**3.90 121**	*e*PN	Pn	23 56 56.9	+0.5
STHS			*e*PG	Pg	23 57 11.2	+1.2
STHS			*e*SG	Sg	23 58 01.5	+1.0
STHS	**Stebnicka Huta**	**3.90 121**	*e*P	Pn	23 56 56.9	+0.5
STHS			pmax	pmax		
	comp=N,272nm,0.7s					
HROE	**Hohe Rhon--Fla**	**3.90 257**	⇓*i*Pn	Pn	23 56 57.1	+0.7
KECS	**Kecovo**	**4.15 136**	*e*PN	Pn	23 56 59.7	-0.2
KECS			*e*PG	Pg	23 57 15.4	+0.5
KECS			*e*SG	Sg	23 58 08.1	-0.6
KECS	**Kecovo**	**4.15 136**	*e*P	Pn	23 56 59.7	-0.2
KECS			pmax	pmax		
	comp=N,68nm,0.9s					
ARSA	**Arzberg**	**4.31 185**	⇑*i*Pn	Pn	23 57 02.0	-0.1
	SNR=26					
ARSA			⇑*i*Sg	Sg	23 58 12.7	-1.1
	comp=N,218nm,0.7s					
RMOA	**Moar Alm**	**4.33 211**	*e*Pn	Pn	23 57 03.3	+0.9
PSZ	**Piszkesteto**	**4.37 145**	⇑*i*Pn	Pn	23 57 03.4	+0.5
PSZ	**Piszkesteto**	**4.37 145**	P	Pn	23 57 02.7	-0.2
BUD	**Budapest**	**4.47 154**	⇑*i*Pn	Pn	23 57 04.8	+0.5
BUD	**Budapest**	**4.47 154**	P	Pn	23 57 04.3	0.0
NORI	**Noerdlinger Ri**	**4.53 234**	⇓*i*Pn	Pn	23 57 06.0	+1.0
KWP	**Kalwaria**	**4.61 112**	*e*Pn	Pn	23 57 05.7	-0.5
KWP			*e*Pg	Pg	23 57 20.6	-3.0
FUR	**Furstenfeldbru**	**4.61 225**	P	Pn	23 57 05.5	-0.7
COP	**Copenhagen**	**4.70 334**	*i* P	Pn	23 57 06.5	-1.0
COP			*i*		23 57 15.1	
COP			*i* S	Sn	23 58 00.5	-2.2
SUW	**Suwalki**	**4.95 57**	*e*Pn	Pn	23 57 11.1	+0.2
SUW			*e*Sn	Sn	23 58 07.1	-1.7
PERS	**Pernice**	**4.95 188**	*e*Pn	Pn	23 57 12.3	+1.4
PERS			*e*Sn	Sg	23 58 33.2	-1.1
PERS						
	comp=Z,151nm,0.9s					
PERS	**Pernice**	**4.95 188**	*e*Pn	Pn	23 57 12.3	+1.4
PERS			*e*Sn	Sg	23 58 33.2	-1.1
TOD	**Tromm**	**5.05 250**	P	Pn	23 57 12.0	-0.3
GROS	**Grobnik**	**5.10 185**	*e*Pn	Pn	23 57 13.6	+0.7
OBKA	**Obir**	**5.14 192**	⇑*i*Pn	Pn	23 57 14.0	+0.5
	SNR=7.7					
OBKA			⇑*i*Sg	Sg	23 58 40.6	+0.2
	comp=Z,160nm,1.0s					
WATA	**Walderalm**	**5.15 217**	⇑*i*Pn	Pn	23 57 14.3	+0.7
	SNR=43					
WATA			⇑*i*Sg	Sg	23 58 40.2	-0.5
	comp=Z,59nm,0.6s					
WTTA	**Wattenberg**	**5.18 216**	⇓*i*Pn	Pn	23 57 14.9	+0.8
	SNR=18					
WTTA			⇑*i*Sg	Sg	23 58 43.3	+1.5
	comp=Z,107nm,0.8s					
WTTA	**Wattenberg**	**5.18 216**	⇓*i*Pn	Pn	23 57 14.9	+0.8
WTTA			*i* Sg	Sg	23 58 43.3	+1.5
IBBN	**Ibbenburen**	**5.24 282**	P	Pn	23 57 15.1	+0.3
STU	**Stuttgart**	**5.25 241**	P	Pn	23 57 13.9	-1.0
LVV	**L'vov**	**5.31 106**	*e*P	Pn	23 57 15.2	-0.7
LVV			*e*S	Sn	23 58 16.6	-1.1
MOTA	**Moosalm**	**5.32 220**	⇓*i*Pn	Pn	23 57 16.0	0.0
	SNR=46					
MOTA			⇑*i*Sg	Sg	23 58 48.1	+1.8
	comp=Z,171nm,0.8s					
SCE	**Schlegeis**	**5.35 214**	⇓*i*Pn	Pn	23 57 17.5	+1.1
SQTA	**Sankt Quirin**	**5.38 219**	⇑*i*Pn	Pn	23 57 17.8	+1.0
	SNR=30					
SQTA			⇑*i*Sg	Sg	23 58 50.7	+2.5
	comp=Z,43nm,0.6s					
DOBS	**Dobrina**	**5.41 185**	*e*Pn	Pn	23 57 18.8	+1.6
FVI	**Forni Avoltri**	**5.41 205**	P	Pn	23 57 18.3	+1.1
SEST	**Monte Rota**	**5.43 210**	P	Pn	23 57 17.0	-0.5
PTCC	**Patocco-Chiusa**	**5.45 201**	P	Pn	23 57 18.7	+0.9
BUG	**Bochum--Univer**	**5.54 272**	P	Pn	23 57 19.1	+0.2
PKSM	**Moragy**	**5.58 162**	⇓*i*P	Pn	23 57 19.7	+0.1
PKSM	**Moragy**	**5.58 162**	⇓P	Pn	23 57 19.7	+0.2
LJU	**Ljubljana**	**5.60 191**	*e*Pn	Pn	23 57 20.6	+0.8
KTD	**Kalmit**	**5.60 250**	P	Pn	23 57 21.4	+1.6
ABH	**Alteburg**	**5.70 256**	P	Pn	23 57 21.5	+0.3
VOY	**Vojsko**	**5.70 196**	*e*(Pn)	Pn	23 57 21.7	+0.5
VOY			*e*		23 57 46.8	
VOY			*e*(Sn)	Sg	23 58 55.6	-2.9
VOY			*e*		23 58 58.8	
WTSB	**Winterswijk**	**5.81 278**	*e*P	Pn	23 57 23.8	+1.1
WTSB			*e*Sg	Sg	23 58 59.5	-2.5
DAVA	**Damuels**	**5.89 226**	*i* Pn	Pn	23 57 23.8	0.0
	SNR=13					
DAVA			⇑*i*Sg	Sg	23 59 07.9	+3.3
	comp=Z,77nm,0.8s					
DAVA	**Damuels**	**5.89 226**	*i* Pn	Pn	23 57 23.8	-0.1
DAVA			*i* Sg	Sg	23 59 07.9	+3.3
LANF	**Langenberg**	**5.92 248**	P	Pn	23 57 24.3	+0.1
BFO	**Black Forest**	**5.97 241**	P	Pn	23 57 23.5	-1.4
APPI	**Appiano**	**6.00 214**	P	Pn	23 57 26.8	+1.5
RUP	**Ruppelstein**	**6.06 256**	P	Pn	23 57 26.0	-0.1
CTI	**Castel Tesino**	**6.24 210**	P	Pn	23 57 30.1	+1.5
DAVOX	**Davos**	**6.28 223**	Pn	Pn	23 57 30.0	+0.9
	comp=Z,1.9nm,0.3s,baz=20,slow=11,SNR=28					
DAVOX			Sn	Sn	23 58 41.9	+0.3
	comp=Z,1.1nm,0.3s,baz=32,slow=11,SNR=2.3					
DAVOX			Lg		23 59 10.3	
	comp=Z,1.6nm,0.3s,baz=197,slow=21,SNR=4.6					
MUD	**Monsted U'grnd**	**6.41 323**	*i* P	Pn	23 57 30.0	-0.9
MUD			*i*		23 57 37.1	
MUD			*i* S	Sn	23 58 54.2	+9.4
DRGR		**6.42 135**	⇓*i*P	Pn	23 57 30.9	-0.1
FELD	**Feldberg im Sc**	**6.42 238**	P	Pn	23 57 32.1	+1.1
HGN	**Heimansgroeve**	**6.46 267**	*e*P	Pn	23 57 32.0	+0.3
HGN			*e*Sg	Sg	23 59 22.0	-0.9
WLS	**Welschbruch**	**6.46 245**	P	Pn	23 57 32.4	+0.7
CDF	**Champ du Feu**	**6.51 245**	*e*Pg	Pg	23 57 58.5	-1.5
CDF			*e*Sg	Sg	23 59 25.2	+0.8
	comp=Z,504nm,1.2s					
CDF	**Champ du Feu**	**6.51 245**	*e*Pn	Pn	23 57 31.1	-1.2
CDF			*e*Pg	Pg	23 57 58.5	-1.5
CDF			*e*Sg	Sg	23 59 25.2	+0.8
MABI	**Malga Bissina**	**6.62 216**	P	Pn	23 57 36.4	+2.6
WLF	**Walferdange**	**6.62 257**	*e*P	Pn	23 57 34.5	+0.7
WLF			pmax	pmax		
	comp=Z,23nm,0.9s					
WLF	**Walferdange**	**6.62 257**	*e*Pn	Pn	23 57 34.5	+0.7
	comp=Z,23nm,0.9s					
WLF			*e*Sg	Sg	23 59 30.8	+2.8
ECH	**Echery**	**6.68 244**	P	Pn	23 57 35.2	+0.5
BZS	**Buzias**	**6.95 146**	⇑*i*P	Pn	23 57 39.2	+0.8
BZS	**Buzias**	**6.95 146**	⇑P	Pn	23 57 39.2	+0.8
HINF	**Hinteralfeld**	**7.08 242**	*e*Pg	Pg	23 58 10.1	-0.8
HINF			*e*Sg	Sg	23 59 40.9	-1.6
	comp=Z,302nm,1.1s					
HINF	**Hinteralfeld**	**7.08 242**	*e*Pn	Pn	23 57 38.6	-1.5
HINF			*e*Pg	Pg	23 58 10.1	-0.8
HINF			*e*Sg	Sg	23 59 40.9	-1.6
BURAR	**Bucovina Array**	**7.09 120**	⇑*i*P	Pn	23 57 40.5	+0.2
BURAR	**Bucovina Array**	**7.09 120**	⇑P	Pn	23 57 40.5	+0.2
HAU	**Haudompre**	**7.25 245**	*e*Pg	Pg	23 58 12.2	-2.0
HAU			*e*Sg	Sg	23 59 44.9	-3.3
	comp=Z,183nm,0.8s					
HAU	**Haudompre**	**7.25 245**	*e*Pn	Pn	23 57 42.8	+0.3
HAU			*e*Pg	Pg	23 58 12.2	-2.0
HAU			*e*Sg	Sg	23 59 44.9	-3.3
GIVF	**Givet**	**7.30 263**	*e*Pn	Pn	23 57 43.7	+0.5
THEF	**They Montfort**	**7.34 247**	P	Pn	23 57 43.3	-0.4
BAIF	**Baives**	**7.70 264**	*e*Pn	Pn	23 57 49.8	+1.2
MEZF	**Maizieres J'vi**	**7.75 251**	*e*Pn	Pn	23 57 49.0	-0.4
	baz=64					
MEZF			*e*Sg	Sg	00 00 05.5	+1.2
	comp=Z,192nm,1.0s					
BOB	**Bobbio (Coli)**	**8.11 216**	P	Pn	23 57 55.2	+0.9
CABF	**La Chapelle**	**8.23 237**	*e*Pg	Pg	23 58 31.4	-1.5
CABF			*e*Sg	Sg	00 00 15.9	-3.6
	comp=Z,367nm,1.3s					
AKASG	**Malin Array Be**	**8.29 91**	Pn	Pn	23 57 55.2	-1.5
	comp=Z,6.6nm,0.3s,baz=279,slow=12,SNR=30					
AKASG			Sn	Sn	23 59 25.5	-5.5
	comp=Z,3.7nm,0.3s,baz=280,slow=24,SNR=6.2					
AKASG			Lg		00 00 22.1	
	comp=Z,1.5nm,0.3s,baz=271,slow=29,SNR=6.6					
AKASG	**Malin Array Be**	**8.29 91**	P	Pn	23 57 55.2	-1.5
AKASG					23 59 25.5	
AKASG	**Malin Array Be**	**8.29 91**	Pn	Pn	23 57 55.2	-1.5
AKASG			Sn	Sn	23 59 25.5	-5.5
AKASG			Lg		00 00 22.1	
SNTG	**Esanatoglia**	**8.56 196**	P	Pn	23 58 00.8	+0.3
LPG	**La Plagne**	**8.67 229**	*e*Pn	Pn	23 58 03.0	+1.0
HFS	**Hagfors**	**8.72 352**	Pn	Pn	23 58 01.4	-1.3
	comp=Z,0.5nm,0.3s,baz=157,slow=14,SNR=24					
HFS			Sn	Sn	23 59 35.4	-6.4
	comp=Z,0.3nm,0.3s,baz=153,slow=19,SNR=2.4					
HFS			Lg		00 00 35.5	
	comp=Z,0.6nm,0.3s,baz=157,slow=30,SNR=2.3					
HFS	**Hagfors**	**8.72 352**	P	Pn	23 58 01.4	-1.3
HFS					23 59 35.4	
MLR	**Muntele Rosu**	**8.89 129**	Pn	Pn	23 58 05.9	+0.9
	comp=Z,0.1nm,0.3s,baz=287,slow=19,SNR=2.2					
MLR	**Muntele Rosu**	**8.89 129**	⇓*i*P	Pn	23 58 06.1	+1.2
MLR	**Muntele Rosu**	**8.89 129**	⇓P	Pn	23 58 06.1	+1.2
QLNO	**Quiliano**	**8.90 219**	P	Pn	23 58 07.1	+1.9
BNI	**Bardonecchia**	**9.04 228**	*e*P	Pn	23 58 07.9	+0.9
BNI			pmax	pmax		
	comp=Z,5.0nm,0.7s					
BNI	**Bardonecchia**	**9.04 228**	*e*Pn	Pn	23 58 07.9	+0.9
	comp=Z,4.7nm,0.7s					
FIN	**Finale Ligure**	**9.05 219**	P	Pn	23 58 08.5	+1.3
LOR	**Lormes**	**9.07 247**	*e*Pn	Pn	23 58 06.6	-0.8
	baz=72					
LOR	**Lormes**	**9.07 247**	*e*Pg	Px	23 58 47.3	
	baz=65					
LOR			*e*Sg	Sx	00 00 44.5	
	comp=Z,153nm,1.3s					
LOR	**Lormes**	**9.07 247**	*e*Pn	Pn	23 58 06.6	-0.8
LOR			*e*Pg	Pg	23 58 47.3	-1.6
LOR			*e*Sg	Sg	00 00 44.5	-1.9
VSU	**Vasula**	**9.23 37**	P	Pn	23 58 10.6	+1.0
MBDF	**Montbardon**	**9.24 226**	*e*Pn	Pn	23 58 10.5	+0.7
SSF	**Saint Saulge**	**9.38 246**	*e*Pn	Pn	23 58 10.7	-1.0
SSF			*e*Pg	Pn	23 58 49.4	+38
SMF	**Signal de Mont**	**9.43 244**	*e*Sg	Sx	00 00 51.8	
	comp=Z,123nm,1.2s					
IMI	**Imperia**	**9.43 219**	P	Pn	23 58 13.0	+0.6
ORIF	**Oris-en-Rattie**	**9.51 230**	*e*Pn	Pn	23 58 13.9	+0.4
AVF	**Avril sur Loir**	**9.62 245**	*e*Pn	Pn	23 58 13.6	-1.4
AVF			*e*Sg	Sn	00 00 56.6	+53
	comp=Z,96nm,1.1s					
SBF	**Sospel**	**9.65 221**	*e*Pn	Pn	23 58 15.6	+0.2
HYF	**Humbligny**	**9.77 249**	*e*Sg	Sx	00 01 06.5	
MEF	**Metsahovi**	**9.85 25**	P	Pn	23 58 18.0	-0.2
NB2	**NORSAR Subarra**	**9.91 346**	Pn	Pn	23 58 16.4	-2.5
	comp=Z,0.5nm,0.3s,baz=162,slow=14					
NB2	**NORSAR Subarra**	**9.91 346**	P	Pn	23 58 16.4	-2.5
NB2			pmax	pmax		
	comp=Z,1.0nm,0.3s					
NOA	**NORSAR Array B**	**9.91 346**	Pn	Pn	23 58 16.5	-2.4
	comp=Z,0.5nm,0.3s,baz=162,slow=12,SNR=7.3					
NOA			Sn	Sn	00 00 04.9	-5.9
	comp=Z,0.4nm,0.3s,baz=116,slow=14,SNR=3.7					
NOA			Lg		00 01 10.9	
	comp=Z,0.5nm,0.3s,baz=102,slow=14,SNR=8.4					
NOA	**NORSAR Array B**	**9.91 346**	P	Pn	23 58 16.5	-2.4
NOA					00 00 04.9	
BGF	**Bois d'Agland**	**10.04 245**	*e*Pn	Pn	23 58 19.7	-1.0
BGF			*e*Sg	Sn	00 01 11.3	+57
	comp=Z,182nm,1.2s					
VIVF	**Saint-Julien-l**	**10.15 233**	*e*Pn	Pn	23 58 22.2	0.0
FRF	**La Foret Royal**	**10.23 222**	*e*Pn	Pn	23 58 23.1	-0.2
LMR	**La Mourre**	**10.47 222**	*e*Pn	Pn	23 58 26.2	-0.4
LDF	**La Druitiere**	**10.85 261**	*e*Pn	Pn	23 58 31.2	-0.7
FLN	**La Foliniere**	**11.01 262**	*e*Pn	Pn	23 58 35.0	+0.9
LASF	**Ste Croix**	**11.12 233**	*e*Pn	Pn	23 58 34.4	-1.1
FINES	**FINESS Array B**	**11.33 25**	Pn	Pn	23 58 35.9	-2.5
	comp=Z,0.7nm,0.3s,baz=196,slow=11,SNR=40					
FINES			Sn	Sn	00 00 38.2	-7.6
	comp=Z,0.8nm,0.3s,baz=210,slow=20,SNR=7.5					
GRR	**Gorron**	**11.38 261**	*e*Pn	Pn	23 58 38.8	-0.3
RJF	**Les Rejaudoux**	**11.53 243**	*e*Sg	Sx	00 02 01.5	
	comp=Z,63nm,1.2s					
MFF	**Saint Martin d**	**11.75 252**	*e*Pn	Pn	23 58 43.0	-1.2
KAF	**Kangasniemi**	**11.96 24**	*e*p	Pn	23 58 43.8	-3.2
	comp=Z,4.7nm,0.5s					
KAF	**Kangasniemi**	**11.96 24**	*e*P	Pn	23 58 43.8	-3.2
KAF			pmax	pmax		
	comp=Z,5.0nm,0.5s					
EKA	**Eskdalemuir Ar**	**12.10 296**	Pn	Pn	23 58 45.3	-3.7
	comp=Z,0.8nm,0.3s,baz=99,slow=14,SNR=12					
EKA			Sn	Sn	00 00 54.9	-10
	comp=Z,0.2nm,0.3s,baz=100,slow=24,SNR=3.4					
LFF	**La Frestale**	**12.19 243**	*e*Sg	Sx	00 02 20.1	
	comp=Z,70nm,1.1s					
OBN	**Obninsk**	**12.72 66**κ	*i*P	Pn	23 58 54.4	-3.1
OBN			pmax	pmax		
	comp=Z,18nm,1.1s					
MOS	**Moscow**	**13.41 63**	*e*P	Pn	23 59 01.9	-5.0
MOS			pmax	pmax		
	comp=Z,52nm,1.6s					
MOS			pmax	pmax		
	comp=Z,34nm,1.5s					
JOF	**Joensuu**	**14.01 30**	*e*p	Pn	23 59 08.1	-7.0
	comp=Z,3.3nm,0.4s					
BRTR	**Keskin Array B**	**16.96 127**	Pn	Pn	23 59 53.8	-0.2
	comp=Z,0.0nm,0.3s,baz=325,slow=11,SNR=5.2					
ESDC	**Sonseca Array**	**18.32 237**	P	Pn	00 00 12.0	+1.1
	comp=Z,0.1nm,0.3s,baz=57,slow=9.8,SNR=7.6					
ARCES	**ARCESS Array B**	**18.59 10**	Pn	Pn	00 00 10.3	-3.8
	comp=Z,0.7nm,0.3s,baz=196,slow=13,SNR=20					
GOF	**Gofitskoye**	**18.97 99**	*e*P	Pn	00 00 20.7	+2.0
KEV	**Kevo**	**18.98 12**	*e*p	Pn	00 00 15.9	-3.0
	comp=Z,6.0nm,0.4s			

MXZ	Matakaoa Point	2.07 201	P	Pn	23 57 01.0	-0.4
PUZ	Puketiti	2.56 197	PN	Pn	23 57 06.0	+0.3
PUZ			SN	S	23 57 44.8	-1.5
PUZ	Puketiti	2.56 197	eP	Pn	23 57 06.0	+0.3
PUZ			S	S	23 57 44.8	-1.5
MWZ	Matawai	3.02 206	PN	Pn	23 57 10.9	+0.8
MWZ			SN	S	23 57 54.0	-0.4
MWZ	Matawai	3.02 206	eP	Pn	23 57 11.0	+0.8
MWZ			S	S	23 57 54.0	-0.4
URZ	Urewera	3.13 212	PN	Pn	23 57 10.6	-0.7
URZ	Urewera	3.13 212	P	Pn	23 57 10.8	-0.4
BKZ	Black Stump Fm	4.15 211	PN	Pn	23 57 22.7	+0.5
BKZ	Black Stump Fm	4.15 211	eP	Pn	23 57 22.9	+0.7
MRZ	Mangatainoka R	5.79 209	PN	Pn	23 57 41.0	-0.3
MRZ	Mangatainoka R	5.79 209	P	Pn	23 57 41.0	-0.3
KIW	Kapiti Island	6.23 212	PN	Pn	23 57 46.3	-0.3
KIW	Kapiti Island	6.23 212	P	Pn	23 57 46.3	-0.3
TCW	Tory Channel	6.79 213	PN	Pn	23 57 52.5	-1.0
TCW	Tory Channel	6.79 213	P	Pn	23 57 52.6	-0.9
KHZ	Kahutara	8.09 211	PN	Pn	23 58 09.3	0.0
KHZ	Kahutara	8.09 211	eP	Pn	23 58 09.3	-0.1

*ISCJB **11** 00:04:52.3±0.8, 157S±0.1×497E±0.1, h10km, mb3.8/11, Error ellipse: s-maj=24.4km s-min=8.8km az=68.5*
*IDC **11** 00:04:52.7±0.8, 1561S×4984E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/25, mbtmp3.8/10, ML4.0/1, Error ellipse: s-maj=29.9km s-min=18.2km az=134.0*
*NEIC **11** 00:04:54.3±0.6, 1561S×4974E, h10km, mb4.1/5, Error ellipse: s-maj=18.9km s-min=9.6km az=129.0*
ISC 11 00:04:54.0±0.7, 157S±01×497E±01, h10km, n20, σ0§97/19, mb3.8/11, Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	3.71 220		Pn	Pn	00 05 52.8	+1.5
	11nm,0.3s,baz=42,slow=12,SNR=337						
OPO				Pg	Pg	00 06 02.6	-2.5
	43nm,0.3s,baz=38,slow=16,SNR=50						
OPO				Sn	Sn	00 06 34.5	-0.5
	45nm,0.3s,baz=32,slow=6.4,SNR=5.4						
OPO				Lg		00 06 51.6	
	531nm,0.3s,baz=108,slow=24,SNR=28						
LSZ	Lusaka	20.72 268		P	P	00 09 35.1	+0.6
	1.9nm,0.5s,baz=84,slow=10,SNR=6.5						
LSZ	Lusaka	20.72 268		eP	P	00 09 35.2	+0.7
	2.9nm,0.7s						
LBTB	Lobatse	24.37 244		P	P	00 10 15.8	+3.7
	1.8nm,1.0s,mb3.5,baz=282,slow=20,SNR=2.4						
LBTB	Lobatse	24.37 244		eP	P	00 10 13.8	+1.6
	14nm,1.6s,mb4.1						
BOSA	Boshof	25.95 236		P	P	00 10 30.0	+3.5
	1.4nm,0.8s,mb3.5,baz=93,slow=18,SNR=2.9						
BOSA	Boshof	25.95 236		P	P	00 10 30.0	+3.5
MKAR	Makanchi Array	68.78 23		P	P	00 15 57.6	-0.6
	0.5nm,0.8s,mb3.5,baz=211,slow=5.0,SNR=2.8						
KWP	Kalwaria	69.29 342		eP	P	00 16 01.3	-0.1
	1.1nm,0.5s,mb4.0						
BRVK	Borovoye	70.76 13		P	P	00 16 11.0	+0.7
	0.7nm,0.7s,mb3.7						
MORC	Moravsky Berou	71.11 339		eP	P	00 16 12.4	-0.1
	1.5nm,1.0s,mb3.9						
GERES	GERESS Array B	71.78 336		P	P	00 16 16.4	-0.1
	0.2nm,0.5s,mb3.3,baz=155,slow=5.1,SNR=4.4						
SFS	San Fernando	73.97 316		eP	P	00 16 28.6	-0.9
	461nm,1.3s						
ZAL	Zalesovo	75.59 21		P	P	00 16 38.5	-0.4
	0.5nm,0.3s,mb3.9,baz=179,slow=15,SNR=3.6						
ASAR	Alice Springs	78.67 112		P	P	00 16 56.6	+0.4
	0.8nm,0.6s,mb3.9,baz=261,slow=5.1,SNR=15						
FINES	FINESS Array B	79.16 349		P	P	00 16 59.0	0.0
	1.2nm,0.8s,mb3.9,baz=158,slow=8.5,SNR=3.6						
HFS	Hagfors	80.97 343		P	P	00 17 08.3	-0.4
	1.5nm,0.8s,mb4.0,baz=142,slow=7.3,SNR=3.7						
YKA	Yellowknife Ar	131.98 350		PKP	PKPdf	00 24 07.6	0.0
	0.1nm,0.6s,baz=19,slow=1.9,SNR=4.9						
YKA	Yellowknife Ar	131.98 350		PKP	PKPdf	00 24 07.6	0.0
PDAR	Pinedale Array	147.70 331		PKPbc	PKPbc	00 24 39.6	+0.9
	1.4nm,0.8s,baz=62,slow=3.8,SNR=9.1						

*SZGRF **11** 00:24:25.8, 1278N×5858W, h33km, mb4.9, North Atlantic Ocean*
*MOS **11** 00:24:28.8±0.8, 1422N×5830W, h10km, mb4.9/63, Error ellipse: s-maj=6.6km s-min=4.8km az=47.1*
*BJI **11** 00:24:28.7, 1420N×5830W, h10km, mB5.2, Ms4.9, Msz4.7*
*ISCJB **11** 00:24:28.8±0.2, 1420N±003×5833W±001, h10km, mb4.7/115, MS4.1/19, Error ellipse: s-maj=4.0km s-min=2.1km az=168.8*
*LDG **11** 00:24:28.2±0.1, 1427N×5842W, h10km, Mb4.8/25, Ms3.9/8, Error ellipse: s-maj=10.2km s-min=5.3km az=116.0*
*IDC **11** 00:24:29.1±0.4, 1418N×5831W, h0km, mb4.5/25, mb1 4.7/29, mb1mx4.6/32, mbtmp4.6/29, ML4.9/2, MS3.9/12, Ms1 3.8/12, ms1mx3.7/24, Error ellipse: s-maj=11.2km s-min=8.7km az=131.0*
*NEIC **11** 00:24:30.8±0.1, 1418N×5832W, h10km, mb4.8/81, MD4.6(TRN), MD5.0(FDF), Error ellipse: s-maj=3.7km s-min=2.1km az=177.0*
NEIC Felt [II] on Martinique.
*TRN **11** 00:24:30.8, 1415N×5855W, h10km, MD4.8, M4.9(FDF), M3.7(FDF)*
TRN Felt (II) Martinique.
*HRVD **11** 00:24:30.8±0.3, 1430N×5833W, h17km±1km, MW5.0/65, Centroid moment Tensor Solution. LP body waves: s24,c28;Mantle waves: s65,c96; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.05±.14; Mθθ-2.66±.10; Mφφ3.72±.14; Mrθ-1.16±.30; Mφθ0.42±.10; Mφr1.97±.38; Best double couple: M0=3.97500×10^16 NP1:φs=48.00000°, δ52.00000°, λ-10.00000°. NP2: φs=144.00000°, δ82.00000°, λ-141.00000°. Principal axes: T 4.4280, Plg20.0000°, Azm270.0000°; N -0.8970, Plg50.0000°, Azm154.0000°; P -3.5210, Plg33.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 00:24:31.0±0.2, 1419N±003×5836W±001, h10km, (h28km±3.3km:pP-P), n411, σ0§89/425, mb4.7/115, MS4.1/19, 70C-43D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.52 225		eP	Pn	00 25 00.5	+2.3
BBSP				eS	Sn	00 25 13.7	-4.2
MVM	Montagne Vaucl	2.48 279	⇑	iP	Pn	00 25 11.0	-0.4
MVM				eS	Sn	00 25 39.8	-2.0
CRM	Caravelle	2.53 283	⇑	iP	Pn	00 25 11.5	-0.6
CRM				eS	Sn	00 25 41.1	-1.9
ZAM	Aeronautique	2.61 279	⇑	iP	Pn	00 25 12.7	-0.5
TRMF	Trois Ilets	2.63 278	⇑	iP	Pn	00 25 13.1	-0.3
BVM	Bellevue	2.67 282		iP	Pn	00 25 13.6	-0.4
FDF	Fort de France	2.75 282	⇑	iP	Pn	00 25 14.8	-0.4
FDF				eS	Sn	00 25 46.1	-2.3
BAMF	Morne Balai	2.77 283	⇑	iP	Pn	00 25 15.2	-0.1
GBMF	Grand Be	2.78 283	⇑	eP	Pn	00 25 15.4	-0.1
SVN	Savane Anatole	2.79 284	⇑	iP	Pn	00 25 15.5	-0.2
SVN				eS	Sn	00 25 47.5	-1.9
PML	Morne Lenard	2.79 282	⇑	iP	Pn	00 25 15.6	-0.1
PCM	Pelee Case Pet	2.83 283		P	Pn	00 25 15.7	-0.5
PCM				eS	Sn	00 25 47.5	-2.8
PCM	Pelee Case Pet	2.83 283	⇑	iP	Pn	00 25 15.1	-1.1
PCM				eS	Sn	00 25 47.5	-2.8
SSV	Crater Summit	2.88 253		eP	Pn	00 25 17.0	+0.1
SSV				eS	Sn	00 25 50.4	-1.1
SVV	Soufriere Volc	2.90 253		eP	Pn	00 25 18.5	+1.2
SVV				eS	Sn	00 25 54.1	+1.9
SVB	Belmont	2.95 252	⇓	iP	Pn	00 25 18.8	+0.9
SVB				eS	Sn	00 25 52.4	-0.9
FCV	Fort Charlotte	2.98 250		eP	Pn	00 25 19.5	+1.1
FCV				eS	Sn	00 25 53.5	-0.7
MDN	Morne-Daniel	3.14 291		eP	Pn	00 25 21.2	+0.8
MDN				eS	Sn	00 25 56.8	-1.2
DWS	Wesley	3.16 296		eP	Pn	00 25 22.5	+1.7
DWS				eS	Sn	00 25 58.3	-0.2
BBL	Barber's Block	3.28 294		eP	Pn	00 25 22.9	+0.4
MGG	Marie-Galante	3.33 301		eP	Pn	00 25 23.0	-0.1
MGG				eS	Sn	00 25 55.6	-7.1
DEG	La Desirade	3.35 309		eP	Pn	00 25 22.5	-0.9
DEG				eS	Sn	00 25 55.5	-7.7
SFG	Saint Francois	3.42 307		eP	Pn	00 25 24.0	-0.3
TBG	Guadaloupe-3	3.58 298		eP	Pn	00 25 26.4	-0.1
DOG	Dongo Capester	3.64 301	⇑	eP	Pn	00 25 27.7	+0.4
PHG	Guadaloupe-2	3.65 300	⇑	eP	Pn	00 25 27.9	+0.4
GRIC	Isle de Caille	3.66 239		eP	Pn	00 25 27.3	-0.4
GRIC				eS	Sn	00 26 08.0	-2.9
GRSS	Sisters	3.68 240		eP	Pn	00 25 26.6	-1.3
GRSS				eS	Sn	00 26 06.9	-4.4
HMG	Houelmont	3.68 299	⇑	eP	Pn	00 25 28.2	+0.3
SCG	Saint Claude	3.69 300	⇑	eP	Pn	00 25 28.4	+0.4
SEG	Port Louis	3.75 306	⇑	eP	Pn	00 25 28.8	0.0
GRW	Mount Saint Ca	3.79 238		eP	Pn	00 25 29.6	+0.2
LZG	Guadaloupe-1	3.82 301		eP	Pn	00 25 29.9	+0.1
BPA	Boggy Peak	4.40 311		eP	Pn	00 25 39.6	+1.7
BPA				eS	Sn	00 26 28.9	-0.3
TRN	Trinidad (W)	4.61 220		eP	Pn	00 25 41.3	+0.7
TRN				eS	Sn	00 26 28.7	-5.4
CPB	Codrington	4.78 316		eP	Pn	00 25 43.4	+0.4
TPP	Pointe-a-Pierr	4.89 218		eP	Pn	00 25 48.0	+3.4
TPP				eS	Sn	00 26 38.5	-2.7
STAT	Sint Eustatius	5.52 307		eP	Pn	00 25 55.9	+2.7
STAT				eS	Sn	00 26 55.4	-1.5
STMA	St. Maarten, A	5.96 311		eP	Pn	00 26 00.1	+1.0
STMA				eS	Sn	00 27 02.4	-5.1
PCRV	Puerto La Cruz	7.32 238		Pn	Pn	00 26 17.8	0.0
	57nm,0.3s,baz=79,slow=5.3,SNR=164						
PCRV				Sn	Sn	00 27 35.2	-5.8
	baz=36,slow=18,SNR=2.5						
MTP	Monte Pirata	7.93 300		ePn	Pn	00 26 26.2	0.0
MTP				eSn	Sn	00 27 53.8	-2.1
HUMP	Col San Antoni	8.20 300		ePn	Pn	00 26 30.0	0.0
HUMP				eSn	Sn	00 27 58.6	-4.0
CPD	Cerro la Pandu	8.20 299		eP	Pn	00 26 30.1	+0.1
CBYP	Canovanas	8.26 300		ePn	Pn	00 26 31.4	+0.5
CBYP				eSn	Sn	00 28 03.0	-1.1
SJG	San Juan	8.44 299		Pn	Pn	00 26 33.3	+0.1
	22nm,0.3s,baz=104,slow=10,SNR=45						
SJG				Sn	Sn	00 28 07.4	-1.1
	27nm,0.3s,baz=291,slow=21,SNR=8.2						
SJG	San Juan	8.44 299		P	Pn	00 26 33.3	+0.1
SJG						00 28 07.4	
SJG				pmax	pmax		
	comp=Z,22nm,0.3s						
SJG				smax			
	comp=N,27nm,0.3s						
SJG	San Juan	8.44 299		ePn	Pn	00 26 33.1	-0.1
MPR	Mayaguez	9.33 297		ePn	Pn	00 26 45.5	+0.1
SDV	Santo Domingo	13.12 248		Pn	Pn	00 27 37.4	0.0
	comp=N,2.5nm,0.3s,baz=89,slow=9.1,SNR=23						
SDV				Sn	Sn	00 30 01.5	-1.9
	comp=N,1.4nm,0.3s,baz=14,slow=15,SNR=3.2						
SDV	Santo Domingo	13.12 248		ePn	Pn	00 27 36.5	-0.9
ROSC	El Rosal	18.26 241		P	Pn	00 28 44.1	-0.3
	comp=N,2.2nm,0.3s,baz=105,slow=13,SNR=11						
ROSC				S	Sn	00 32 11.3	+3.0
	comp=N,0.7nm,0.3s,baz=106,slow=18,SNR=2.1						
MGV	Manicaragua	21.98 294		eP	P	00 29 28.8	+3.7
SAML	Samuel	23.48 192		eP	P	00 29 40.5	-0.5
	comp=N,46nm,1.0s,mb4.9						
OTAV	Otavalo	24.23 237		eP	P	00 29 47.2	-0.7
JTS	JuntasAbangare	26.26 265		LR	LR	00 39 07.2	
	comp=N,74nm,21.9s,MS3.2,baz=88,slow=33						
ATAH	Atahualpa	28.95 225		P	P	00 30 33.7	+3.3
	comp=N,15nm,0.9s,mb4.7,baz=102,slow=9.9,SNR=5.1						
SIV	San Ignacio	30.11 185		P	P	00 30 41.0	+0.3
	comp=N,1.3nm,0.6s,mb3.9,baz=359,slow=11,SNR=7.2						
ELN	Prospectdale	30.40 323		eP	P	00 30 44.1	+0.9
BDFB	Brasilia	31.36 161		P	P	00 30 50.8	-0.9
	comp=N,4.3nm,1.0s,mb4.2,baz=7.8,slow=13,SNR=5.9						
BDFB	Brasilia	31.36 161		P	P	00 30 50.8	-0.9
BDFB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MCWV	Mont Chateau	31.62 327		eP	P	00 30 56.1	+2.1
	comp=Z,19nm,1.0s,mb4.9						
LPAZ	La Paz	31.78 198		P	P	00 30 55.0	-0.4
	comp=Z,3.3nm,0.8s,mb4.2,baz=2.7,slow=10,SNR=16						
LPAZ	La Paz	31.78 198		P	P	00 30 55.1	-0.4
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	La Paz	31.78 198		eP	P	00 30 58.1	+2.7
ACSO	Alum Creek Sta	33.72 325		eP	P	00 31 13.7	+1.3
	comp=Z,4.3nm,0.5s,mb4.6						
PLAL	Pickwick Lake	33.83 313		eP	P	00 31 14.6	+1.3
	comp=Z,11nm,0.7s,mb4.9						
WVT	Waverly	34.25 315		eP	P	00 31 17.8	+0.8
WVT				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
WVT	Waverly	34.25 315		eP	P	00 31 17.8	+0.8
	comp=Z,6.4nm,0.8s,mb4.6						
OXF	Oxford	34.56 311		eP	P	00 31 20.9	+1.2
OXF				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.4						
OXF	Oxford	34.56 311		eP	P	00 31 20.9	+1.2
	comp=Z,44nm,0.8s,mb5.4						
SADO	Sadowa	35.22 334		P	P	00 31 25.5	0.0
	comp=Z,17nm,0.9s,mb5.0,baz=161,slow=9.3,SNR=8.9						
SIUC	Southern Illin	36.03 316		eP	P	00 31 34.1	+1.7
	comp=Z,12nm,0.8s,mb4.9						
NATX	Nacogdoches	37.49 304		eP	P	00 31 46.4	+1.6
	comp=Z,36nm,1.1s,mb5.1						
CCM	Cathedral Cave	37.58 315		eP	P	00 31 45.0	-0.5
CCM				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
CCM	Cathedral Cave	37.58 315		eP	P	00 31 45.0	-0.6
	comp=Z,16nm,1.0s,mb4.7						
HKT	Hockley	37.90 301		eP	P	00 31 48.5	+0.3
HKT				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
HKT	Hockley	37.90 301		eP	P	00 31 48.5	+0.2
	comp=Z,12nm,1.1s,mb4.5						
LVC	Limon Verde	38.01 196		P	P	00 31 51.1	+2.0
	comp=Z,15nm,0.6s,mb4.9,baz=353,slow=7.7,SNR=12						
LVC	Limon Verde	38.01 196		eP	P	00 31 50.6	+1.4
	comp=Z,56nm,0.8s,mb5.3						
CPUP	Villa Florida	40.29 179		P	P	00 32 06.4	-1.8
	comp=Z,1.0nm,0.5s,mb3.8,baz=333,slow=7.2,SNR=6.8						
CPUP				LR	LR	00 49 34.0	
	comp=Z,54nm,20.9s,MS3.4,baz=342,slow=37						
CPUP	Villa Florida	40.29 179		P	P	00 32 06.4	-1.8
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP				MLR	MLR		
	comp=Z,54nm,20.9s						
CPUP	Villa Florida	40.29 179		eP	P	00 32 09.1	+0.8
	comp=Z,18nm,0.8s,mb4.9						
SCHQ	Schefferville	41.09 353		P	P	00 32 15.2	+0.4
	comp=Z,17nm,0.9s,mb4.7,baz=178,slow=6.9,SNR=17						
SCHQ				LR	LR	00 49 23.1	
	comp=Z,112nm,18.0s,MS3.8,baz=310,slow=36						
SCHQ	Schefferville	41.09 353		eP	P	00 32 15.1	+0.3
	comp=Z,22nm,0.9s,mb4.8						
JCT	Junction City	41.35 300		eP	P	00 32 17.1	+0.1
JCT				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.9						
JCT	Junction City	41.35 300		eP	P	00 32 17.1	0.0
	comp=Z,34nm,1.0s,mb4.9						
ECSD	EROS,Sioux Fal	43.95 320		eP	P	00 32 38.0	-0.1
AMTX	Amarillo	44.04 306		eP	P	00 32 39.0	+0.1
	comp=Z,13nm,0.8s,mb4.7						
LTX	Lajitas	44.41 297		eP	P	00 32 41.4	-0.4
LTX				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
LTX	Lajitas	44.41 297		eP	P	00 32 41.4	-0.4
	comp=Z,6.0nm,0.9s,mb4.3						
MNTX	Cornudas Mount	46.29 300		eP	P	00 32 57.6	+0.8
	comp=Z,20nm,0.9s,mb5.0						
CFAA	Coronel Fontan	46.51 192		P	P	00 32 57.4	-1.0
	comp=Z,1.1nm,0.8s,mb3.8,baz=18,slow=6.9,SNR=14						
CFAA	Coronel Fontan	46.51 192		P	P	00 32 57.4	-1.0
ULM	Lac du Bonnet	47.10 328		P	P	00 33 02.0	-1.1
	comp=Z,8.2nm,0.7s,mb4.8,baz=124,slow=7.4,SNR=12						
BNM	Barren Site	47.81 303		eP	P	00 33 10.1	+1.5
LPM	Los Pinos Moun	47.85 304		eP	P	00 33 10.1	+1.2
ANMO	Albuquerque	47.85 304	⇑	eP	P	00 33 09.2	+0.3
ANMO	Albuquerque	47.85 304		eP	P	00 33 10.1	+1.2
	comp=Z,6.8nm,1.0s,mb4.6						
LENM	Lemitar	48.10 303		eP	P	00 33 11.3	+0.5
LAZ	Ladron	48.28 304		eP	P	00 33 14.1	+1.9
ISCO	Idaho Springs	48.51 311		eP	P	00 33 15.1	+1.1
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ISCO	Idaho Springs	48.51 311		eP	P	00 33 15.1	+1.2
	comp=Z,2.5nm,0.8s,mb4.3						
PHWY	Pilot Hill	48.88 313		eP	P	00 33 16.5	-0.3
SMCO	Snowmass	49.33 310		eP	P	00 33 21.5	+1.2
	comp=Z,4.9nm,0.8s,mb4.6						
MVCO	Mesa Verde	49.98 307		eP	P	00 33 26.9	+1.7
PV01	Paradox Valley	50.26 308		eP	P	00 33 26.7	-0.7
PTOM	Tomar	50.45 50		eP	P	00 33 29.0	+0.2
	comp=Z,21nm,1.6s,mb4.9						
PBEJ	Beja	50.46 52		eP	P	00 33 28.9	0.0
EVO	Evora	50.47 52		eP	P	00 33 27.2	-1.8
	comp=Z,16nm,1.2s,mb4.6						
EVO				eR			
	comp=Z,242nm,22.2s						
TUC	Tucson	50.92 300		eP	P	00 33 33.6	+1.3
TUC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TUC	Tucson	50.92 300		eP	P	00 33 33.6	+1.3
	comp=Z,6.6nm,0.9s,mb4.6						
PCBR	Castelo Branco	51.20 50		eP	P	00 33 35.0	+0.5
	comp=Z,17nm,1.3s,mb4.8						
MTE	Manteigas	51.30 49		eP	P	00 33 35.0	-0.2
	comp=Z,22nm,1.1s,mb5.0						
MTE				eS	S	00 40 59.1	+4.9
MTE				eLQ		00 44 28.6	
MTE				eLR	LR	00 47 06.7	
	comp=Z,132nm,20.0s						
116A	Eloy	51.72 300		⇓P	P	00 33 36.5	-1.9
	baz=52						
ESPR	Espera	51.76 54		P	P	00 33 38.6	0.0
	comp=Z,12nm,0.8s,mb4.9						
FCC	Fort Churchill	51.81 337		eP	P	00 33 38.3	-0.7
FCC				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
FCC	Fort Churchill	51.81 337		eP	P	00 33 38.3	-0.7
	comp=Z,14nm,0.8s,mb4.9						
WUAZ	Wupatki	51.91 304		eP	P	00 33 41.7	+2.0
	comp=Z,19nm,0.8s,mb5.1						
SRU	San Rafael	51.98 309		eP	P	00 33 41.7	+1.4
SRU				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
SRU	San Rafael	51.98 309		eP	P	00 33 41.7	+1.4
	comp=Z,11nm,0.8s,mb4.8						
115A	Sonoran Desert	52.18 300		⇓P	P	00 33 40.5	-1.3
	baz=52						
PDAR	Pinedale Array	52.24 313		P	P	00 33 42.9	+0.6
	comp=Z,4.6nm,0.8s,mb4.5,baz=108,slow=9.5,SNR=30						
PDAR				LR	LR	00 57 01.1	
	comp=Z,154nm,19.7s,MS4.0,baz=119,slow=37						
X15A	Humboldt	52.44 303		⇑P	P	00 33 42.5	-1.2
	baz=52,SNR=8.2						
TMUT	Trail Mountain	52.54 309		eP	P	00 33 46.1	+1.7
W15A	Williams	52.57 304		⇓P	P	00 33 43.5	-1.2
	baz=53						
DAU	Daniels Canyon	52.84 310		eP	P	00 33 48.2	+1.6
Z14A	Wintersburg	52.87 301		⇓P	P	00 33 45.3	-1.5
	baz=53						
X14A	Yava	52.97 303		⇓P	P	00 33 46.4	-1.2
	baz=53						
Y14A	Wickenburg	52.98 302		⇑P	P	00 33 47.2	-0.6
	baz=53,SNR=8.8						
DBIC	Dimbokro	53.05 92		P	P	00 33 48.2	0.0
	comp=Z,8.9nm,0.7s,mb4.8,baz=273,slow=7.7,SNR=24						
DBIC				LR	LR	00 52 51.7	
	comp=Z,88nm,19.0s,MS3.8,baz=271,slow=32						
DBIC	Dimbokro	53.05 92		eP	P	00 33 48.3	0.0
	comp=Z,21nm,0.8s,mb5.1						
MSU	Marysvale	53.11 308		eP	P	00 33 47.1	-1.6
ELOJ	Sierra Loja	53.15 54		P	P	00 33 49.5	+0.5
ELOJ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ELOJ	Sierra Loja	53.15 54		P	P	00 33 49.5	+0.5
	comp=Z,2.3nm,0.9s,mb4.1						
W14A	Seligman	53.23 303		⇓P	P	00 33 49.2	-0.3
	baz=53,SNR=6.4						
REDW	Red Top Meadow	53.32 314		eP	P	00 33 49.0	-1.2
	comp=Z,19nm,1.4s,mb4.8						
TPAW	Teton Pass	53.42 314		eP	P	00 33 51.9	+0.9
	comp=Z,8.5nm,0.8s,mb4.7						
Y13A	Salome	53.65 302		⇑P	P	00 33 51.6	-1.0
	baz=54						
X13A	Yucca	53.75 303		⇑P	P	00 33 52.7	-0.7
	baz=54						
EARI	Arriondas	53.77 46		P	P	00 33 52.1	-1.4
	comp=Z,79nm,2.6s,mb5.2						
ESDC	Sonseca Array	53.80 51		P	P	00 33 53.9	+0.2
	comp=Z,1.8nm,0.6s,mb4.2,baz=260,slow=7.6,SNR=19						
ESDC				PcP	PcP	00 34 59.7	+0.2
	comp=Z,1.4nm,0.8s,baz=275,slow=3.1,SNR=5.5						
ESDC	Sonseca Array	53.80 51		P	P	00 33 53.7	0.0
	comp=Z,1.8nm,0.6s,mb4.2						
CCUT	Cedar City	53.84 306		eP	P	00 33 55.8	+1.8
GUD	Guadarrama	53.87 50		P	P	00 33 53.3	-0.9
GUD				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
GUD	Guadarrama	53.87 50		P	P	00 33 53.3	-0.9
	comp=Z,2.3nm,0.8s,mb4.2						
SPUT	South Promonto	53.93 311		eP	P	00 33 55.4	+0.7
DUG	Dugway	53.95 310		eP	P	00 33 55.8	+1.0
DUG				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.9						
DUG	Dugway	53.95 310		eP	P	00 33 55.8	+1.0
	comp=Z,5.0nm,0.3s,mb4.9						
EBER	Berja	54.11 55		P	P	00 33 57.8	+1.8
	comp=Z,285nm,3.6s						
EQES	Quesada	54.12 53		P	P	00 33 56.5	+0.4
QLMT	Earthquake Lak	54.14 315		eP	P	00 33 58.5	+2.3
Y12C	Blythe	54.21 301		⇑P	P	00 33 57.1	+0.3
	baz=54						
BGU	Big Grassy Mou	54.27 310		eP	P	00 33 58.2	+1.1
HVU	Hansel Valley	54.28 311		eP	P	00 33 57.8	+0.6
HVU

S09A Goldfield 56.89 306 ⇓P P 00 34 16.1 0.0
baz=57
SGMF Saint Gilles 56.94 41 *eP* **P 00 34 16.0 -0.4**
ETSF Etsaut 56.98 48 *eP* **P 00 34 16.4 -0.2**
M10A I.L. Ranch, Tu 56.98 310 ⇑P P 00 34 16.9 +0.2
baz=57
Q09A Carvers 57.02 307 ⇑P P 00 34 16.9 0.0
baz=57
O09A Fish Creek Ran 57.23 309 ⇑P P 00 34 19.2 +0.8
baz=57,SNR=9.8
BMN Battle Mountai 57.30 309 *eP* **P 00 34 19.4 +0.5**
BMN pmax pmax
comp=Z,17nm,1.3s,mb4.9
BMN Battle Mountai 57.30 309 *eP* **P 00 34 19.4 +0.5**
comp=Z,18nm,1.3s,mb4.9
EBIE Bielsa 57.44 48 P **P 00 34 21.3 +1.4**
comp=Z,6.4nm,0.7s,mb4.8
N09A Rock Creek Ran 57.59 310 ⇑P P 00 34 21.4 +0.5
baz=58
Q08A Gabbs 57.60 307 ⇑P P 00 34 21.9 +0.8
baz=58
S08C White Mtn Res 57.62 306 ⇑P P 00 34 21.8 +0.7
baz=58,SNR=6.4
M09A Marrel Ranch, 57.64 310 ⇑P P 00 34 22.2 +0.9
baz=58
EPF Esparros 57.65 48 *eP* **P 00 34 21.1 -0.3**
comp=Z,16nm,1.0s,mb4.7
EPF Esparros 57.65 48 *eP* **P 00 34 21.1 -0.3**
EPF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
EPF Esparros 57.65 48 *eP* **P 00 34 21.1 -0.3**
comp=Z,7.8nm,1.0s,mb4.7
R08A Mina 57.67 307 ⇓P P 00 34 22.2 +0.7
baz=58
MNV Mina 57.72 307 *eP* **P 00 34 22.4 +0.5**
MNV pmax pmax
comp=Z,12nm,1.2s,mb4.8
MNV Mina 57.72 307 *eP* **P 00 34 22.4 +0.6**
comp=Z,12nm,1.2s,mb4.8
NVAR Mina Array Bea 57.84 307 P **P 00 34 24.1 +1.4**
comp=Z,2.7nm,0.8s,mb4.4,baz=104,slow=7.2,SNR=22
L09A Wilkinson Ranc 57.90 311 ⇑P P 00 34 23.7 +0.5
baz=58,SNR=9.6
N08A GE Springer Mi 58.04 309 ⇑P P 00 34 24.9 +0.8
baz=58
EDM Edmonton 58.04 325 *eP* **P 00 34 23.7 -0.4**
GRR Gorron 58.07 41 *eP* **P 00 34 23.2 -1.1**
comp=Z,32nm,1.1s,mb5.0
GRR Gorron 58.07 41 *eP* **P 00 34 23.2 -1.1**
GRR pmax pmax
comp=Z,16nm,1.1s,mb5.0
GRR Gorron 58.07 41 *eP* **P 00 34 23.2 -1.1**
comp=Z,16nm,1.1s,mb5.0
MFF Saint Martin d 58.09 44 *eP* **P 00 34 23.7 -0.7**
comp=Z,15nm,1.0s,mb4.7
MFF Saint Martin d 58.09 44 *eP* **P 00 34 23.7 -0.7**
MFF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MFF Saint Martin d 58.09 44 *eP* **P 00 34 23.7 -0.7**
comp=Z,7.4nm,1.0s,mb4.7
TORD Torodi Ar. Bea 58.22 83 P **P 00 34 25.1 -0.2**
comp=Z,2.9nm,1.0s,mb4.3,baz=290,slow=6.4,SNR=11
LFF La Frestale 58.32 46 *eP* **P 00 34 25.5 -0.6**
M08A Happy Creek Ra 58.33 310 ⇑P P 00 34 26.5 +0.3
baz=58
R07C Lee Vining 58.38 306 ⇑P P 00 34 27.2 +0.8
baz=58
O07A Toulon 58.51 309 ⇓P P 00 34 27.8 +0.4
baz=58,SNR=6.8
LDF La Druitiere 58.60 41 *eP* **P 00 34 27.3 -0.7**
N07B Gerlach 58.67 309 ⇑P P 00 34 29.0 +0.5
baz=59
R06C Coleville 58.74 307 ⇓P P 00 34 29.7 +0.7
baz=59
NEW Newport 58.84 318 *eP* **P 00 34 29.5 -0.2**
NEW pmax pmax
comp=Z,11nm,1.0s
NEW Newport 58.84 318 *eP* **P 00 34 29.5 -0.2**
comp=Z,11nm,1.0s,mb4.8
M07A Soldier Meadow 58.91 310 ⇑P P 00 34 30.9 +0.8
baz=59,SNR=7.9
RJF Les Rejaudoux 58.93 45 *eP* **P 00 34 29.7 -0.6**
comp=Z,15nm,1.1s,mb4.7
RJF *eR*
comp=Z,412nm,22.2s
RJF Les Rejaudoux 58.93 45 *eP* **P 00 34 29.7 -0.6**
RJF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
RJF MLR MLR
comp=Z,410nm,22.3s,MS4.5
RJF Les Rejaudoux 58.93 45 *eP* **P 00 34 29.7 -0.6**
comp=Z,7.7nm,1.1s,mb4.7
RJF LR LR
comp=Z,410nm,22.3s,MS4.5
MTLF Montolieu 59.06 48 *eP* **P 00 34 30.5 -0.7**
comp=Z,19nm,1.2s,mb4.7
MTLF Montolieu 59.06 48 *eP* **P 00 34 30.5 -0.7**
MTLF pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
MTLF Montolieu 59.06 48 *eP* **P 00 34 30.5 -0.7**
comp=Z,9.4nm,1.2s,mb4.7
O06A Flanigan 59.23 308 ⇑P P 00 34 32.8 +0.4
baz=59,SNR=7.9
CAF Calviac 59.24 46 *eP* **P 00 34 32.1 -0.4**
comp=Z,30nm,1.2s,mb4.9
CAF Calviac 59.24 46 *eP* **P 00 34 32.1 -0.4**
CAF pmax pmax
comp=Z,15nm,1.2s,mb4.9
CAF Calviac 59.24 46 *eP* **P 00 34 32.1 -0.4**
comp=Z,15nm,1.2s,mb4.9
R05C Kirkwood Meado 59.25 307 ⇓P P 00 34 33.5 +0.9
baz=59,SNR=5.5
SUMG Summit 59.53 7 *eP* **P 00 34 34.7 +0.2**
comp=Z,42nm,1.1s,mb5.4
U04C Hernandez Rese 59.58 304 ⇓P P 00 35.4 +0.5
baz=60
V04C Ramage Ranch, 59.60 303 ⇓P P 00 35.3 +0.4
baz=60
TCF Toulx Ste Croi 59.61 44 *eP* **P 00 34 34.7 -0.3**
comp=Z,47nm,1.6s,mb5.0
TCF Toulx Ste Croi 59.61 44 *eP* **P 00 34 34.7 -0.3**
TCF pmax pmax
comp=Z,24nm,1.6s,mb5.0
TCF Toulx Ste Croi 59.61 44 *eP* **P 00 34 34.7 -0.3**
comp=Z,24nm,1.6s,mb5.0
P05C Yuba Gap, Truc 59.73 307 ⇑P P 00 34 36.2 +0.4
baz=60
LAVA Lava Cap Winer 59.77 307 ⇑P P 00 34 36.7 +0.5
baz=60
M06C Likely Place G 59.86 310 ⇓P P 00 34 37.2 +0.5
baz=60
J06A Christmas Vall 59.91 312 ⇓P P 00 34 37.2 +0.1
baz=60,SNR=9.9
K06A Valley Falls 59.91 311 ⇑P P 00 34 37.4 +0.3
baz=60
I06A Prineville 60.06 313 ⇓P P 00 34 38.7 +0.5
baz=60
BGF Bois d'Agland 60.09 44 *eP* **P 00 34 38.2 -0.1**
comp=Z,7.9nm,0.7s,mb4.6
BGF Bois d'Agland 60.09 44 *eP* **P 00 34 38.2 -0.1**
BGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BGF Bois d'Agland 60.09 44 *eP* **P 00 34 38.2 -0.1**
comp=Z,4.0nm,0.7s,mb4.6
HYF Humbligny 60.09 43 *eP* **P 00 34 38.2 -0.2**
HAST Hastings Reser 60.20 304 ⇑P P 00 34 39.8 +0.7
baz=60
LASF Ste Croix 60.35 47 *eP* **P 00 34 39.7 -0.4**
comp=Z,33nm,1.4s,mb4.9
ORV Oroville 60.44 308 ⇑P P 00 34 41.2 +0.5
baz=60
AVF Avril sur Loir 60.48 44 *eP* **P 00 34 40.8 -0.2**
comp=Z,13nm,0.9s,mb4.7
AVF Avril sur Loir 60.48 44 *eP* **P 00 34 40.8 -0.2**
AVF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
AVF Avril sur Loir 60.48 44 *eP* **P 00 34 40.8 -0.2**
comp=Z,6.5nm,0.9s,mb4.7
SSF Saint Saulge 60.63 44 *eP* **P 00 34 41.7 -0.3**
comp=Z,14nm,0.8s,mb4.8
SSF Saint Saulge 60.63 44 *eP* **P 00 34 41.7 -0.3**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
SSF Saint Saulge 60.63 44 *eP* **P 00 34 41.7 -0.3**
comp=Z,6.8nm,0.8s,mb4.8
SMF Signal de Mont 60.78 44 *eP* **P 00 34 42.8 -0.3**
comp=Z,27nm,1.1s,mb5.0
SMF Signal de Mont 60.78 44 *eP* **P 00 34 42.8 -0.3**
SMF pmax pmax
comp=Z,13nm,1.1s,mb5.0
SMF Signal de Mont 60.78 44 *eP* **P 00 34 42.8 -0.3**
comp=Z,13nm,1.1s,mb5.0
LOR Lormes 60.91 44 *eP* **P 00 34 43.5 -0.4**
comp=Z,19nm,0.9s,mb4.9
LOR *eR*
comp=Z,147nm,22.8s
LOR Lormes 60.91 44 *eP* **P 00 34 43.5 -0.4**
LOR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,150nm,22.8s,MS4.1
LOR Lormes 60.91 44 *eP* **P 00 34 43.5 -0.4**
comp=Z,9.7nm,0.9s,mb4.9
LOR LR LR
comp=Z,150nm,22.8s,MS4.1
M04C Macdoel 60.95 310 ⇑P P 00 34 45.2 +1.0
baz=61,SNR=5.6
VIVF Saint-Julien-l 61.05 46 *eP* **P 00 34 44.5 -0.4**
M03C McCloud 61.09 309 ⇓P P 00 34 45.8 +0.6
baz=61
SMRF Simiane la Rot 61.56 48 *eP* **P 00 34 47.7 -0.7**
E05A Randle 61.58 315 ⇑P P 00 34 48.7 +0.2
baz=62
YBH Yreka Blue Hor 61.59 310 ⇑P P 00 34 48.4 -0.2
baz=62
BAIF Baives 61.69 41 *eP* **P 00 34 48.7 -0.5**
comp=Z,25nm,1.1s,mb4.9
BAIF Baives 61.69 41 *eP* **P 00 34 48.7 -0.5**
BAIF pmax pmax
comp=Z,12nm,1.1s,mb4.9
BAIF Baives 61.69 41 *eP* **P 00 34 48.7 -0.5**
comp=Z,12nm,1.1s,mb5.0
MEZF Maizieres J'vi 61.93 42 *eP* **P 00 34 50.6 -0.2**
comp=Z,29nm,0.9s,mb5.1
MEZF Maizieres J'vi 61.93 42 *eP* **P 00 34 50.6 -0.2**
comp=Z,29nm,0.9s,mb5.4
UCC Uccle 61.95 40 P **P 00 34 50.6 -0.3**
J03A Ideyld Park 61.96 312 ⇑P P 00 34 51.6 +0.6
baz=62
GIVF Givet 62.09 41 *eP* **P 00 34 51.5 -0.4**
LMR La Mourre 62.16 48 *eP* **P 00 34 52.0 -0.3**
YKA Yellowknife Ar 62.23 334 P **P 00 34 51.7 -1.1**
comp=Z,23nm,0.6s,mb5.5,baz=106,slow=7.6,SNR=327
YKA Yellowknife Ar 62.23 334 P **P 00 34 51.7 -1.1**
YKA pmax pmax
comp=Z,23nm,0.6s
YKA Yellowknife Ar 62.23 334 P **P 00 34 51.7 -1.1**
YKW3 Yellowknife Ar 62.26 334 *eP* **P 00 34 51.9 -1.1**
I03A Eugene 62.26 312 ⇓P P 00 34 52.5 -0.6
baz=62
FRF La Foret Royal 62.28 48 *eP* **P 00 34 52.8 -0.4**
comp=Z,23nm,1.2s,mb4.9
FRF La Foret Royal 62.28 48 *eP* **P 00 34 52.8 -0.4**
FRF pmax pmax
comp=Z,12nm,1.2s,mb4.9
FRF La Foret Royal 62.28 48 *eP* **P 00 34 52.8 -0.4**
comp=Z,12nm,1.2s,mb4.9
L02A Cave Junction 62.29 310 ⇓P P 00 34 52.9 -0.3
baz=62
CABF La Chapelle 62.30 45 *eP* **P 00 34 53.0 -0.3**
comp=Z,23nm,1.2s,mb4.9
CABF La Chapelle 62.30 45 *eP* **P 00 34 53.0 -0.3**
CABF pmax pmax
comp=Z,12nm,1.2s,mb4.9
CABF La Chapelle 62.30 45 *eP* **P 00 34 53.0 -0.3**
comp=Z,12nm,1.2s,mb4.9
H03A Soap Creek Ran 62.36 313 ⇓P P 00 34 53.7 0.0
baz=62
MBDF Montbardon 62.51 47 *eP* **P 00 34 54.7 0.0**
comp=Z,7.7nm,0.7s,mb4.6
MBDF Montbardon 62.51 47 *eP* **P 00 34 54.7 0.0**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
MBDF Montbardon 62.51 47 *eP* **P 00 34 54.7 0.0**
comp=Z,3.8nm,0.7s,mb4.6
C04A Brinnon 62.58 317 ⇑P P 00 34 54.9 -0.3
baz=63
LPL La Plagne 62.59 46 *eP* **P 00 34 56.0 +0.8**
LPG La Plagne 62.60 46 *eP* **P 00 34 55.5 +0.2**
F03A Seaside 62.71 315 ⇑P P 00 34 56.4 +0.4
baz=63
E03A Lebam 62.80 315 ⇑P P 00 34 56.7 +0.1
baz=63,SNR=5.1
WLF Walferdange 62.85 41 P **P 00 34 56.8 -0.2**
SBF Sospel 62.88 48 *eP* **P 00 34 57.0 -0.2**
MEM Membach 62.93 40 P **P 00 34 57.6 +0.1**
MEM AP pP 00 35 01.3 +0.5
D03A Wishkah Elem. 63.02 316 ⇓P P 00 34 58.6 +0.5
baz=63
CDF Champ du Feu 63.37 43 *eP* **P 00 35 00.1 -0.4**
comp=Z,12nm,0.9s,mb4.7
CDF Champ du Feu 63.37 43 *eP* **P 00 35 00.1 -0.4**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
CDF Champ du Feu 63.37 43 *eP* **P 00 35 00.1 -0.4**
comp=Z,5.8nm,0.9s,mb4.7
BUG Bochum-Univer 63.87 39 *eP* **P 00 35 03.6 -0.1**
comp=Z,5.0nm,0.7s,mb4.7
PGF Pioggiola 63.90 49 *eP* **P 00 35 03.7 -0.2**
BFO Black Forest 64.06 43 *eP* **P 00 35 03.3 -1.7**
comp=Z,13nm,1.6s,mb4.7
BFO Black Forest 64.06 43 *eP* **P 00 35 03.3 -1.7**
BFO pmax pmax
comp=Z,13nm,1.6s,mb4.7
IBBN Ibbenburen 64.32 39 *eP* **P 00 35 06.6 -0.1**
comp=Z,18nm,1.1s,mb5.0
TNS Taunus Mts 64.41 41 *eP* **P 00 35 07.0 -0.3**
comp=Z,10.0nm,0.9s,mb4.8
TNS Taunus Mts 64.41 41 *eP* **P 00 35 07.0 -0.3**
TNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
STU Stuttgart 64.69 43 *eP* **P 00 35 08.1 -1.0**
comp=Z,8.0nm,0.6s,mb4.9
DAVA Damuels 64.97 44 ⇓*iP* **P 00 35 11.2 +0.3**
comp=Z,12nm,1.1s,mb4.8
UBBA Unterbreizbach 65.47 40 *eP* **P 00 35 13.4 -0.8**
comp=Z,4.0nm,0.8s,mb4.5
MOTA Moosalm 65.80 44 ⇑*iP* **P 00 35 16.1 -0.2**
comp=Z,3.8nm,0.9s,mb4.4
MOTA Moosalm 65.80 44 ⇑*iP* **P 00 35 16.1 -0.2**
MOTA pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLZ Clausthal 65.84 39 *eP* **P 00 35 15.3 -1.3**
comp=Z,8.0nm,1.0s,mb4.7
CLZ Clausthal 65.84 39 *eP* **P 00 35 15.3 -1.3**
CLZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
SQTA Sankt Quirin 65.86 44 ⇓*iP* **P 00 35 16.7 0.0**
comp=Z,7.7nm,1.0s,mb4.7
SQTA Sankt Quirin 65.86 44 ⇓*iP* **P 00 35 16.7 0.0**
SQTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BSEG Bad Segeberg 66.11 37 *eP* **P 00 35 17.6 -0.7**
comp=Z,13nm,1.0s,mb4.9
GRA1 Grafenberg Arr 66.11 42 *eP* **P 00 35 17.9 -0.4**
comp=Z,5.0nm,0.8s,mb4.6
GRF Grafenberg Arr 66.11 42 *eP* **P 00 35 17.9 -0.4**
comp=Z,5.0nm,0.8s,mb4.6
GRF Grafenberg Arr 66.11 42 *eP* **P 00 35 17.9 -0.4**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
GRF Grafenberg Arr 66.11 42 *eP* **P 00 35 17.9 -0.4**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MANZ Manzenberg 66.72 41 *eP* **P 00 35 21.6 -0.6**
comp=Z,8.0nm,1.1s,mb4.7
NKC Novy Kostel 66.96 41 *eP* **P 00 35 23.4 -0.3**
WET Wettzell 67.14 42 *eP* **P 00 35 23.8 -1.1**
comp=Z,4.0nm,0.9s,mb4.5
WET Wettzell 67.14 42 *eP* **P 00 35 23.8 -1.1**
WET pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLL Collm 67.41 40 *eP* **P 00 35 25.5 -1.1**
comp=Z,8.0nm,1.0s,mb4.7
CLL Collm 67.41 40 ⇓*iP* **P 00 35 26.1 -0.5**
comp=Z,8.0nm,1.0s,mb4.7
CLL *i* (sP) sP 00 35 38.3 +7.2
CLL Collm 67.41 40 ⇓*iP* **P 00 35 26.1 -0.5**
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KHC Kasperske Hory 67.59 42 *eP* **P 00 35 27.2 -0.6**
GEC2 GERESS Array S 67.66 43 *eP* **P 00 35 27.4 -0.8**
comp=Z,7.0nm,1.0s,mb4.7
GEC2 GERESS Array S 67.66 43 *eP* **P 00 35 27.4 -0.8**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
GERES GERESS Array B 67.66 43 P **P 00 35 27.9 -0.3**
comp=Z,3.3nm,0.7s,mb4.5,baz=263,slow=5.2,SNR=39
GERES LR LR 00 59 08.6
comp=Z,83nm,19.2s,MS4.0,baz=266,slow=31
NB2 NORSAR Subarra 67.82 30 P **P 00 35 29.1 -0.1**
comp=Z,35nm,2.0s,mb5.0,baz=262,slow=7.4
NB2 NORSAR Subarra 67.82 30 P **P 00 35 29.1 -0.1**
NB2 pmax pmax
comp=Z,35nm,2.0s,mb5.0
NOA NORSAR Array B 67.82 30 P **P 00 35 29.2 +0.1**
comp=Z,2.1nm,0.9s,mb4.2,baz=259,slow=7.0,SNR=8.0
NOA LR LR 01 01 02.0
comp=Z,80nm,20.8s,MS3.9,baz=270,slow=32
BRG Berggiesshubel 67.96 41 *eP* **P 00 35 29.2 -0.9**
comp=Z,8.0nm,1.0s,mb4.7
BRG Berggiesshubel 67.96 41 *eP* **P 00 35 29.5 -0.6**
comp=Z,4.8nm,1.0s,mb4.5
BRG Berggiesshubel 67.96 41 *eP* **P 00 35 29.5 -0.6**
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
MOA Molln 67.97 44 ⇓*iP* **P 00 35 29.3 -0.8**
comp=Z,5.2nm,0.9s,mb4.5
PRU Pruhonice 68.28 42 *eP* **P 00 35 31.9 -0.2**
PRU *ep*P pP 00 35 39.0 +3.7
PRU AMS AMS 01 02 00.0
comp=Z,100nm,16.2s
PVCC Panska Ves 68.33 41 *eP* **P 00 35 32.1 -0.3**
PVCC *ep*P pP 00 35 42.2 +6.5
DLBC Dease Lake 68.43 328 P **P 00 35 33.6 +0.6**
comp=Z,3.9nm,0.8s,mb4.5,baz=100,slow=5.4,SNR=8.1
ARSA Arzberg 68.80 45 ⇓*iP* **P 00 35 34.4 -0.9**
comp=Z,6.5nm,1.0s,mb4.5
TREC Trest 68.86 42 *eP* **P 00 35 35.3 -0.4**
CONA Conrad Observa 69.05 44 ⇓*iP* **P 00 35 36.3 -0.6**
comp=Z,5.7nm,1.1s,mb4.4
UPC Upice 69.25 41 *eP* **P 00 35 37.9 -0.2**
UPC *ep*P pP 00 35 47.0 +5.6
DPC Dobruska-Polom 69.44 41 *eP* **P 00 35 38.3 -1.0**
DPC *ep*P pP 00 35 47.7 +5.1
VRAC Vranov 69.58 42 ⇑*iP* **P 00 35 40.1 -0.1**
MORC Moravsky Berou 70.21 42 ⇑*iP* **P 00 35 44.2 +0.2**
OKC Ostrava-Krasne 70.60 42 *eP* **P 00 35 46.0 -0.4**
KOLL Kolacno 70.76 43 *eP* **P 00 35 47.2 -0.2**
KOLL *e* 00 35 54.9
PKSM Moragy 70.93 46 ⇑*iP* **P 00 35 48.9 +0.5**
VYHS Vyhne 71.05 43 *i* P **P 00 35 49.1 0.0**
VYHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
VYHS Vyhne 71.05 43 *i* P **P 00 35 49.1 0.0**
comp=Z,3.8nm,1.1s,mb4.2
INK Inuvik 71.43 338 P **P 00 35 50.5 -0.9**
comp=Z,22nm,1.0s,mb5.0,baz=103,slow=7.1,SNR=20
INK Inuvik 71.43 338 P **P 00 35 50.5 -0.9**
INK pmax pmax
comp=Z,22nm,1.0s
OJC Ojcow 71.67 41 *eP* **P 00 35 53.5 +0.6**
KECS Kecovo 72.14 43 *eP* **P 00 35 55.7 -0.1**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 72.14 43 *eP* **P 00 35 55.7 -0.1**
comp=Z,2.1nm,1.0s,mb4.0
STHS Stebnicka Huta 72.62 42 *eP* **P 00 35 59.1 +0.5**
STHS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
STHS Stebnicka Huta 72.62 42 *eP* **P 00 35 59.1 +0.5**
comp=Z,2.2nm,1.0s,mb4.0
BZS Buzias 73.03 46 ⇓*iP* **P 00 36 02.2 +1.2**
BZS Buzias 73.03 46 ⇓P **P 00 36 02.2 +1.2**
DAWY Dawson 73.42 333 *eP* **P 00 36 03.3 -0.1**
DRGR 73.72 45 ⇓*iP* **P 00 36 04.8 -0.3**
DRGR 73.72 45 ⇓P **P 00 36 04.8 -0.3**
ARCES ARCESS Array B 74.67 21 P **P 00 36 10.0 -0.6**
comp=Z,6.8nm,0.8s,mb4.6,baz=267,slow=4.9,SNR=12
ARCES LR LR 01 03 36.6
comp=Z,75nm,20.2s,MS4.0,baz=0.2,slow=31
ARCES ARCESS Array B 74.67 21 P **P 00 36 10.0 -0.6**
ARCES LR LR 01 03 36.6
FINES FINESS Array B 75.00 30 P **P 00 36 11.8 -0.8**
comp=Z,3.1nm,0.6s,mb4.4,baz=262,slow=3.9,SNR=15
FINES LR LR 01 05 08.8
comp=Z,61nm,19.6s,MS3.9,baz=145,slow=32
BURAR Bucovina Array 75.36 44 ⇑*iP* **P 00 36 15.5 +0.9**
BURAR Bucovina Array 75.36 44 ⇑P **P 00 36 15.5 +0.9**
MLR Muntele Rosu 76.07 46 ⇑*iP* **P 00 36 19.5 +0.8**
MLR Muntele Rosu 76.07 46 ⇑P **P 00 36 19.4 +0.8**
COLA College 77.06 334 *eP* **P 00 36 24.1 -0.2**
AKASG Malin Array Be 77.65 41 *i* P **P 00 36 25.8 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 81.29 35 ⇑*iP* **P 00 36 47.0 -0.4**
OBN pmax pmax
comp=Z,36nm,1.5s,mb5.1
MOS Moscow 81.74 35 *eP* **P 00 36 47.7 -2.1**
MOS pmax pmax
comp=Z,39nm,1.2s,mb5.2
BR131 Keskin Array S 82.59 51 *eP* **P 00 36 54.1 -0.2**
comp=Z,1.4nm,0.8s,mb4.0
BRTR Keskin Array B 82.59 51 P **P 00 36 54.4 +0.1**
comp=Z,2.5nm,0.9s,mb4.2,baz=263,slow=4.4,SNR=13
BRTR Keskin Array B 82.59 51 P **P 00 36 54.4 +0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
ANN Anapa 84.19 45 *eP* pP 00 37 12.7 +6.9
ANN pmax pmax
comp=Z,31nm,1.2s,mb5.3
SOC Sochi 86.09 46 *c iP* **P 00 37 12.5 +0.5**
SOC *e*S 00 47 34.5
SOC pmax pmax
comp=Z,32nm,1.2s,mb5.4
MALT Malatya 86.55 51 ⇑*iP* **P 00 37 14.8 +0.5**
MALT Malatya 86.55 51 ⇑P **P 00 37 14.8 +0.5**
KIV Kislovodsk 88.04 45 *eP* **P 00 37 20.4 -1.1**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
GNI Garni 90.69 48 ⇑*eP* **P 00 37 34.5 +0.6**
GNI pmax pmax
comp=Z,17nm,1.7s
BOSA Boshof 91.22 119 P **P 00 37 38.6 +2.2**
comp=Z,2.2nm,0.9s,mb4.5,baz=338,slow=5.8,SNR=3.0
BOSA LR LR 01 13 21.0
comp=Z,96nm,19.1s,MS4.3,baz=191,slow=32
BILL Bilibino 91.94 345 ⇑*iP* **P 00 37 39.8 +0.1**
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb4.8
ARU Arti 92.38 30 ⇓*iP* **P 00 37 40.1 -1.6**
ARU *e* 00 41 19.4
ARU *e*S 00 48 09.9
ARU *e*SS SS 00 54 48.4 -7.5
ARU pmax pmax
comp=Z,7.0nm,1.8s,mb4.7
TIXI Tiksi 94.23 358 ⇑*eP* **P 00 37 50.0 -0.3**
AKTO Aktyubinsk 95.07 35 LR LR 01 17 44.9
comp=Z,83nm,20.5s,MS4.2,baz=0.0,slow=34
KMBO Kilima Mbogo 95.72 90 LR LR 01 17 29.5
comp=Z,100nm,18.3s,MS4.3,baz=277,slow=33
WMQ Urumqi 114.48 26 *e*PKP PKiKP 00 43 11.7 +0.5
WMQ LR LR
comp=N,50nm,23.0s,MS4.2
WMQ LR LR
comp=E,50nm,21.0s,MS4.2
WMQ LR LR
comp=Z,110nm,24.0s,MS4.4
MDJ Mudanjiang 121.03 353 PKP PKPdf 00 43 24.1 +0.3
CN2 Changchun 122.19 357 *e*PKP PKPdf 00 43 27.6 +1.6
HHC Hu-ho-hao-te 124.45 9 ⇑*e*PKP PKPdf 00 43 26.5 -3.8
HHC PP PP 00 45 15.8 -0.5
HHC PKS 00 47 01.9
HHC SKS SKSdf 00 50 37.1 -5.2
HHC SKKS SKKSac 00 52 07.8 -7.2
HHC SS SS 01 02 04.2 -4.6
HHC LR LR
comp=N,70nm,19.2s,MS4.5
HHC LR LR
comp=E,70nm,19.0s,MS4.5
HHC LR LR
comp=Z,60nm,19.0s,MS4.3
MJAR Matsushiro Arr 127.17 343 PKP PKPdf 00 43 35.0 -0.6
comp=Z,1.7nm,0.9s,baz=52,slow=2.0,SNR=5.5
MJAR PP PP 00 45 32.0 -2.3
comp=Z,1.1nm,0.8s,baz=10,slow=8.0,SNR=4.5
MJAR Matsushiro Arr 127.17 343 PKIKP PKPdf 00 43 35.0 -0.5
MJAR 00 45 32.1

MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LZH	**Lanzhou**	**127.24**	**18**	*e*PKP	PKPdf	00 43 32.5	-3.2
LZH				XPKP		00 43 40.5	
LZH				*e*PP	PP	00 45 34.1	-0.7
LZH				PP	PP		
	comp=Z,10.0nm,4.6s						
LZH				LR	LR		
	comp=E,160nm,18.7s						
LZH				LR	LR		
	comp=Z,230nm,19.5s,MS4.9						
CD2	**Chengdu**	**131.98**	**21**	*e*PKP	PKPdf	00 43 43.0	-1.7
CD2				PP	PP	00 46 07.4	+1.7
CD2				PKS		00 47 17.9	
CD2				SKS	SKSdf	00 50 52.9	-3.2
CD2				SKKS	SKKSac	00 52 58.4	-3.8
CD2				SS	SS	01 03 41.0	-1.1
CD2				PP	PP		
	comp=Z,90nm,9.0s						
CD2				LR	LR		
	comp=N,100nm,28.0s						
CD2				LR	LR		
	comp=Z,120nm,24.0s,MS4.5						
NJ2	**Nanjing**	**133.95**	**3**	*e*PKP	PKPdf	00 43 45.0	-3.4
KMI	**Kunming**	**136.80**	**25**	PKP	PKPdf	00 43 52.9	-0.8
KMI				PP	PP	00 46 37.9	+1.6
KMI				SS	SS	01 04 34.4	-5.8
KMI				LR	LR		
	comp=N,100nm,21.8s,MS4.7						
KMI				LR	LR		
	comp=E,100nm,23.1s,MS4.7						
KMI				LR	LR		
	comp=Z,180nm,23.1s,MS4.7						
PSI	**Prapat**	**151.86**	**55**	PKPbc	PKPbc	00 44 25.7	-0.3
	comp=Z,4.4nm,0.8s,baz=259,slow=4.8,SNR=6.6						
PSI	**Prapat**	**151.86**	**55**	PKIKP	PKPbc	00 44 25.7	-0.3
PSI				pmax	pmax		
	comp=Z,4.0nm,0.8s						

*IDC **11** 00:25:14.6±0.8,2683N×9702E,h0km,mb3.8/10, mb1 3.9/10,mb1mx3.8/22,mbtmp3.8/10,MS3.1/1, Ms1 3.1/1,ms1mx2.0/16,Error ellipse: s-maj=73.6km s-min=17.6km az=52.0*

*NEIC **11** 00:25:19.0±3.8,2695N×9741E,h35km,mb3.8/1,Error ellipse: s-maj=69.9km s-min=42.9km az=172.0*

*ISCJB **11** 00:25:21.1±1.1,2674N±009×9699E±006,h65km±11km, mb3.7/12,Error ellipse: s-maj=15.6km s-min=7.7km az=151.5*

*BJI **11** 00:25:22.2,2686N×9710E,h32km,mb4.3,ML3.8,Ms3.6, Msz3.8*

ISC 11 00:25:23.5±0.9,2676N±009×9696E±006,h66km±9km,n19, σ1°02/20,mb3.7/12,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.72**	**257**	*e*PN	**Pn**	**00 26 32.0**	**-0.1**
SHL				*e*SN	**Sn**	**00 27 26.2**	**+0.7**
LSA	**Lhasa**	**5.90**	**301**	P	**Pn**	**00 26 47.8**	**-0.6**
LSA	**Lhasa**	**5.90**	**301**	*e*Pn	**Pn**	**00 26 48.0**	**-0.4**
	15nm,0.6s						
CD2	**Chengdu**	**7.25**	**54**	*e*P	**Pn**	**00 27 07.0**	**+0.2**
CD2				S	**Sn**	**00 28 28.9**	**+1.2**
CD2				SG	Sn	00 29 13.0	+45
CD2				Smax			
	comp=N,160nm,1.5s						
CD2				LR	LR		
	comp=N,230nm,5.2s						
CD2				LR	LR		
	comp=Z,350nm,5.3s						
GYA	**Guiyang**	**8.69**	**90**	P	**Pn**	**00 27 25.2**	**-1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
SONM	**Songino Array**	**22.30**	**17**	LR	LR	00 40 20.9	
	comp=Z,54nm,20.8s,baz=178,slow=41						
MKAR	**Makanchi Array**	**23.12**	**334**	P	**P**	**00 30 21.1**	**-2.8**
	comp=Z,0.2nm,0.4s,mb2.8,baz=141,slow=13,SNR=9.1						
AAK	**Ala-Archa**	**24.22**	**317**	*e*P	**P**	**00 30 35.1**	**+1.1**
	comp=Z,2.1nm,0.6s,mb3.6						
BVAR	**Borovoye Array**	**32.87**	**330**	P	**P**	**00 31 49.5**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.7,baz=121,slow=10,SNR=4.1						
BRTR	**Keskin Array B**	**53.51**	**301**	P	**P**	**00 34 37.6**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=117,slow=5.9,SNR=5.8						
JOF	**Joensuu**	**55.47**	**330**	*e*p	**P**	**00 34 51.8**	**+0.4**
	comp=Z,1.2nm,0.4s,mb4.3						
AKASG	**Malin Array Be**	**55.87**	**315**	P	**P**	**00 34 52.6**	**-1.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=81,slow=6.0,SNR=3.2						
KAF	**Kangasniemi**	**57.69**	**328**	*e*p	**P**	**00 35 08.9**	**+1.7**
	baz=76,slow=5.4						
FINES	**FINESS Array B**	**57.76**	**328**	P	**P**	**00 35 08.1**	**+0.4**
	comp=Z,1.0nm,0.7s,mb4.0,baz=93,slow=7.0,SNR=16						
FINES				PcP	PcP	00 36 00.3	+0.5
	comp=Z,1.7nm,0.9s,baz=96,slow=5.7,SNR=4.2						
WRA	**Warramunga Arr**	**58.90**	**138**	P	**P**	**00 35 15.8**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=327,slow=7.5,SNR=6.5						
ASAR	**Alice Springs**	**61.55**	**141**	P	**P**	**00 35 33.8**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=325,slow=6.8,SNR=7.6						
NOA	**NORSAR Array B**	**64.94**	**328**	P	**P**	**00 35 55.1**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.7,baz=81,slow=6.4,SNR=6.6						
GERES	**GERESS Array B**	**66.08**	**314**	P	**P**	**00 36 03.9**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=64,slow=6.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**88.78**	**284**	P	**P**	**00 38 10.6**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.7,baz=68,slow=4.0,SNR=5.3						

*CSEM **11** 00:51:59.9±0.8,3890N×29.10W,h0km,ML1.8,Error ellipse: s-maj=8.3km s-min=4.8km az=63.0,After PDA*

*PDA **11** 00:51:59.9±0.8,3890N×29.10W,h0km,MD3.2,ML1.8, Error ellipse: s-maj=8.3km s-min=4.8km az=63.0*

SVSA 11 00:51:59.9±0.8,3890N×2910W,h0km,MD3.2,ML1.8, Error ellipse: s-maj=8.3km s-min=4.8km az=63.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.40**	**143**	*e*S	Sg	00 52 16.0	+3.3
PTCA							
	23nm,0.2s						
CALA	**Caldeira**	**0.45**	**136**	*e*P	Pg	00 52 08.1	-0.4
CALA				*e*S	Sg	00 52 14.4	0.0
PCND	**Candelaria**	**0.66**	**131**	*e*S	Sg	00 52 21.6	+0.4
PCND							
	21nm,0.2s						
PICO	**Pico**	**0.67**	**127**	*e*P	Pg	00 52 11.7	-1.0
PICO				*e*S	Sg	00 52 20.8	-0.5
ROSA	**Rosais**	**0.70**	**105**	*e*P	Pg	00 52 11.8	-1.5
ROSA				*e*S	Sg	00 52 21.1	-1.2
PTEI	**Pico do Teixo**	**0.71**	**125**	*e*S	Sg	00 52 22.7	-0.1
PTEI							
	16nm,0.2s						
PBOI	**Pico dos Bois**	**0.74**	**129**	*e*rx		00 52 22.7	
PMAN	**Manadas**	**0.84**	**109**	*e*P	Pg	00 52 14.2	-1.8
PMAN				*e*S	Sg	00 52 24.4	-2.4
PMAN							
	17nm,0.2s						
PMAN	**Manadas**	**0.84**	**109**	*e*P	Pg	00 52 14.2	-1.8
PMAN				*e*S	Sg	00 52 24.4	-2.4
SRBC	**Serra Branca**	**0.84**	**81**	*e*rx		00 52 21.1	
PID	**Ribeirinha**	**0.90**	**121**	*e*P	Pg	00 52 15.1	-2.0
PID				*e*S	Sg	00 52 26.1	-2.7

*IDC **11** 00:59:42.9±5.2,3272N×7612E,h0km,mb3.6/6,mb1 3.7/7, mb1mx3.4/22,mbtmp3.6/7,ML3.5/1,MS3.4/1,Ms1 3.4/1, ms1mx2.4/16,Error ellipse: s-maj=110.4km s-min=39.1km az=117.0*

*NEIC **11** 00:59:44.0±2.1,3273N×7620E,h10km,mb3.5/2,Error ellipse: s-maj=40.9km s-min=14.7km az=123.0*

*ISCJB **11** 00:59:45.8±0.5,3300N±004×7565E±009,h10km,mb3.6/5, MS3.3/1,Error ellipse: s-maj=11.8km s-min=3.7km az=132.2*

*MOS **11** 00:59:49.2±0.7,3312N×7595E,h33km,mb3.6/6,Error ellipse: s-maj=67.7km s-min=15.6km az=96.6*

*NDI **11** 00:59:51.8±3.2,3309N×7592E,h24km,20km,ML3.3*

ISC 11 00:59:47.9±0.4,3301N±004×7572E±009,h10km,n30, σ1°08/36,mb3.6/5,MS3.3/1,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.51**	**156**	*e*P	**Pg**	**00 59 56.0**	**-1.8**
DLH				*e*S	**Sg**	**01 00 04.0**	**-0.6**
PONG	**Pong**	**1.07**	**169**	*ex*	x	01 00 09.0	
PONG				*e*S	**Sg**	**01 00 28.0**	**+5.6**
BHK	**Bhakra**	**1.69**	**159**	*e*P	**Pn**	**01 00 21.0**	**+3.5**
BHK				*ex*	x	01 00 46.4	
SDNR	**Sundarnagar**	**1.84**	**145**	*ex*	x	01 00 18.8	
SDNR				*e*S	**Sn**	**01 00 43.5**	**+0.7**
SMLA	**Simla**	**2.24**	**146**	*e*P	**Pn**	**01 00 26.1**	**+1.0**
SMLA				*e*S	**Sn**	**01 00 52.0**	**-0.7**
	3μm,0.4s						
KLP	**Kalpa**	**2.60**	**124**	*e*P	**Pn**	**01 00 32.9**	**+2.9**
KLP				*e*S	**Sn**	**01 01 01.6**	**0.0**
KLP				AML	AML	01 01 08.9	
	comp=N,409nm,0.5s						
KLP				AML	AML	01 01 09.2	
	comp=E,483nm,0.3s						
NDI	**New Delhi**	**4.50**	**163**	*e*P	**Pg**	**01 01 14.0**	**-0.1**
NDI				*e*S	**Sg**	**01 02 04.0**	**-8.4**
AYAN	**Aya Nagar**	**4.67**	**165**	*e*P	**Pn**	**01 01 01.8**	**+3.3**
AYAN				*e*S	**Sn**	**01 01 52.8**	**0.0**
AYAN				AML	AML	01 02 11.5	
	comp=Z,14nm,0.5s						
SONA	**Sohna**	**4.89**	**166**	*e*P	**Pn**	**01 01 03.2**	**+1.8**
SONA				*e*S	**Sn**	**01 01 56.8**	**-1.2**
SONA				AML	AML	01 02 24.9	
	comp=N,54nm,0.6s						
SONA				AML	AML	01 02 27.1	
	comp=E,37nm,0.6s						
KHET	**Khetri**	**4.92**	**179**	*e*P	**Pn**	**01 01 06.2**	**+4.3**
KHET				*e*S	**Sn**	**01 01 58.8**	**-0.1**
KHET				AML	AML	01 02 23.2	
	comp=E,36nm,0.4s						
KHET				AML	AML	01 02 24.5	
	comp=N,29nm,0.5s						
AAK	**Ala-Archa**	**9.65**	**355**	*e*P	**Pn**	**01 02 07.9**	**+1.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**9.65**	**355**	*e*Pn	**Pn**	**01 02 07.9**	**+1.0**
	comp=Z,1.3nm,0.4s						
MKAR	**Makanchi Array**	**14.65**	**18**	Pn	**Pn**	**01 03 13.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=197,slow=13,SNR=7.3						
BVAR	**Borovoye Array**	**20.37**	**351**	P	**P**	**01 04 24.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=156,slow=10,SNR=6.7						
BVAR	**Borovoye Array**	**20.37**	**351**	P	**P**	**01 04 24.5**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**20.42**	**351**	*e*P	**P**	**01 04 24.1**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRVK	**Borovoye**	**20.42**	**351**	*e*P	**P**	**01 04 24.1**	**-1.0**
	comp=Z,1.7nm,1.0s						
CHKZ	**Chkalovo**	**20.98**	**351**	*e*P	**P**	**01 04 30.7**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**20.98**	**351**	*e*P	**P**	**01 04 30.7**	**-0.5**
	comp=Z,1.1nm,0.4s						
AKTK	**Aktyubinsk**	**21.76**	**328**	P	**P**	**01 04 40.5**	**+0.9**
AKTO	**Aktyubinsk**	**21.76**	**328**	P	**P**	**01 04 40.5**	**+0.9**
	comp=Z,1.0nm,0.5s,mb3.5,baz=138,slow=12,SNR=3.5						
AKTO	**Aktyubinsk**	**21.76**	**328**	P	**P**	**01 04 40.5**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
SONM	**Songino Array**	**27.43**	**48**	LR	LR	01 16 42.6	
	comp=Z,73nm,18.9s,MS3.3,baz=79,slow=37						
FINES	**FINESS Array B**	**42.53**	**327**	P	**P**	**01 07 43.2**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=124,slow=10,SNR=6.3						
FINES	**FINESS Array B**	**42.53**	**327**	P	**P**	**01 07 43.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**45.84**	**338**	P	**P**	**01 08 09.7**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.2,baz=108,slow=8.0,SNR=5.1						
ARCES	**ARCESS Array B**	**45.84**	**338**	P	**P**	**01 08 09.7**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**49.48**	**325**	P	**P**	**01 08 37.9**	**-0.4**
	comp=Z,0.5nm,1.0s,mb3.5,baz=101,slow=7.3,SNR=2.1						
NOA	**NORSAR Array B**	**49.48**	**325**	P	**P**	**01 08 37.9**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**69.65**	**273**	P	**P**	**01 10 56.8**	**-0.7**
	comp=Z,0.2nm,0.8s,mb3.1,baz=51,slow=4.4,SNR=4.3						

CASC 11 01:03:25.5±3.0,1413N×9189W,h60km±32km,MD3.8, 1C-2D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.31**	**53**	⇑*e*P	Pn	01 03 37.0	+1.4
TP2	**Tecpan 2**	**1.06**	**52**	⇓*e*P	Pn	01 03 44.2	-0.1
TP2				*e*S	Sn	01 04 00.4	+2.1
FUG	**Fuego 3**	**1.06**	**73**	⇓*e*P	Pn	01 03 45.1	+0.8
RTR	**El Retiro**	**2.19**	**96**	*e*P	x	01 04 25.8	
RTR				*e*S	x	01 04 53.2	
SBLS	**San Blas**	**2.22**	**97**	*e*P	x	01 04 25.8	
SBLS				*e*S	x	01 04 53.0	
SNJE	**San Jose**	**2.23**	**96**	*e*P	x	01 04 26.1	
SNJE				*e*S	x	01 04 56.0	
LFRS	**El Faro**	**2.79**	**100**	*e*P	x	01 04 34.2	
LFRS				*e*S	x	01 05 06.5	

*CSEM **11** 01:57:14.9±0.1,3520N×2737E,h10km,MD3.7,Error ellipse: s-maj=2.0km s-min=1.3km az=72.0*

*ISCJB **11** 01:57:15.9±1.5,3519N±003×2735E±004,h15km±12km, Error ellipse: s-maj=5.6km s-min=4.3km az=9.6*

*NEIC **11** 01:57:17.5,3537N×2726E,h27km,MD3.7(ATH),After ATH.*

*ATH **11** 01:57:17.5,3537N×2726E,h27km±1km,MD3.7/8*

*HLW **11** 01:57:23.3,3486N×2744E,h33km,Mb3.3*

ISC 11 01:57:16.8±0.8,3524N±002×2730E±004,h12km±6km,n42, σ0°69/52,8C-4D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.33**	**340**	⇓*i*PB	**Pg**	**01 57 23.1**	**-0.3**
KARP				*e*SB	**Sg**	**01 57 28.0**	**+0.2**
ARG	**Arkhangelos**	**1.19**	**34**	*e*PN	**Pn**	**01 57 39.0**	**-0.3**
ARG				*e*SN	**Sn**	**01 57 53.9**	**-1.4**
XRY	**Khrisi**	**1.36**	**255**	*e*PN	**Pn**	**01 57 42.5**	**+0.8**
NPS	**Neapolis**	**1.38**	**271**	*e*PN	**Pn**	**01 57 42.7**	**+0.8**
NPS				*e*SN	**Sn**	**01 57 59.8**	**-0.3**
DAT	**Datca**	**1.50**	**9**	PN	**Pn**	**01 57 43.7**	**+0.1**
DAT				SN	**Sn**	**01 58 03.3**	**+0.1**
BODT	**Bodrum**	**1.82**	**0**	PN	**Pn**	**01 57 46.9**	**-1.1**
BODT				SN	**Sn**	**01 58 12.0**	**+1.1**
BDRM	**Kayabasi**	**1.82**	**4**	*i* P	**Pn**	**01 57 46.8**	**-1.2**
BDRM				*i* S	**Sn**	**01 58 09.6**	**-1.5**
SANT	**Santorini**	**1.87**	**308**	*i* P	**Pn**	**01 57 48.6**	**-0.1**
SANT				*i* S	**Sn**	**01 58 16.2**	**+4.0**
SANT	**Santorini**	**1.87**	**308**	*e*P	**Pn**	**01 57 48.6**	**-0.1**
SANT	**Santorini**	**1.87**	**308**	*e*P	**Pn**	**01 57 48.6**	**-0.1**
SANT				*i* S	**Sg**	**01 58 16.2**	**-0.8**
DALT	**Dalyan (Mudla)**	**1.87**	**35**	PN	**Pn**	**01 57 49.2**	**+0.5**
FETY	**Fethiye**	**2.01**	**46**	PN	**Pn**	**01 57 51.1**	**+0.5**
YER	**Yerkesik**	**2.05**	**23**	PN	**Pn**	**01 57 51.8**	**+0.6**
MLSB	**Milas**	**2.09**	**11**	PN	**Pn**	**01 57 51.5**	**-0.2**
APE	**Apeiranthos**	**2.32**	**322**	PN	**Pn**	**01 57 53.8**	**-1.0**
APE	**Apeiranthos**	**2.32**	**322**	*e*PN	**Pn**	**01 57 54.5**	**-0.3**
SMG	**Samos**	**2.49**	**352**	*e*PN	**Pn**	**01 57 56.6**	**-0.6**
VAM	**Vamos**	**2.54**	**275**	*e*PB	**Pn**	**01 57 59.4**	**+1.5**
ELL	**Elmali**	**2.60**	**54**	PN	**Pn**	**01 57 58.9**	**+0.2**
DENT	**Denizli**	**2.87**	**29**	*e*PN	**Pn**	**01 58 03.1**	**+0.6**
BLCB	**Balcova**	**3.15**	**356**	*e*PN	**Pn**	**01 58 06.5**	**+0.3**
IZM	**Izmir**	**3.15**	**360**	*e*PN	**Pn**	**01 58 06.0**	**-0.3**
ANTB	**Antalya**	**3.18**	**58**	*e*PN	**Pn**	**01 58 07.4**	**+0.7**
BCK	**Bucak**	**3.46**	**49**	*e*PN	**Pn**	**01 58 11.3**	**+0.8**
KHL	**Karahalli**	**3.56**	**29**	*e*PN	**Pn**	**01 58 12.9**	**+1.0**
VLI	**Veliai**	**3.83**	**294**	*e*PN	**Pn**	**01 58 15.7**	**+0.1**
SLUM		**4.12**	**206**	⇑P	**Pn**	**01 58 20.1**	**+0.4**
SLUM				S	**Sn**	**01 59 01.4**	**-6.5**
HMAT	**Matruh**	**4.14**	**182**	⇑P	**Pn**	**01 58 19.1**	**-0.8**
DABA	**Dabaa**	**4.30**	**169**	⇓P	**Pn**	**01 58 21.6**	**-0.5**
BALB	**Balikesir**	**4.42**	**6**	*e*PN	**Pn**	**01 58 23.9**	**+0.2**
DST	**Dursunbey**	**4.48**	**13**	*e*PN	**Pn**	**01 58 25.0**	**+0.4**
KONT	**Konya--Tatoy**	**4.89**	**55**	*e*PN	**Pn**	**01 58 30.6**	**+0.4**
KIZT	**Kizilcal**	**5.16**	**44**	*e*P	**Pn**	**01 58 34.1**	**+0.2**
SWA1		**6.11**	**193**	⇑P	**Pn**	**01 58 47.2**	**+0.2**
SWA1				S	**Sn**	**01 59 48.2**	**-8.6**
SWA2		**6.18**	**195**	⇓P	**Pn**	**01 58 48.2**	**+0.3**
HHAG	**Hagoal**	**6.65**	**141**	⇑P	**Pn**	**01 58 53.9**	**-0.5**
HSAF	**As Saff**	**6.66**	**146**	⇑P	**Pn**	**01 58 54.1**	**-0.4**
AMAG	**Maghara**	**6.76**	**131**	⇑P	**Pn**	**01 58 55.9**	**0.0**
GLL	**Jalalah**	**6.77**	**145**	⇑P	**Pn**	**01 58 55.3**	**-0.7**
AWBH		**7.03**	**168**	⇑P	**Pn**	**01 58 58.4**	**-1.2**
SUZ		**7.13**	**138**	⇓P	**Pn**	**01 59 00.9**	**-0.1**
HNKL	**Nakhl**	**7.74**	**131**	P	**Pn**	**01 59 09.9**	**+0.6**

*ISCJB **11** 02:01:20.4±2.0,2217S±009×699W±02,h92km±15km, mb3.8/1,Error ellipse: s-maj=36.6km s-min=14.1km az=8.6*

*IDC **11** 02:01:21.0±3.3,2212S×6998W,h78km±20km,mb3.8/1, mb1 3.5/5,mb1mx3.3/18,mbtmp3.6/5,MS2.9/2,Ms1 3.0/2, ms1mx2.6/18,Error ellipse: s-maj=54.7km s-min=25.8km az=93.0*

*NEIC **11** 02:01:21.4±1.7,2216S×6989W,h88km±13km,mb3.5/1, Error ellipse: s-maj=29.7km s-min=12.0km az=94.0*

ISC 11 02:01:22.0±1.9,2218S±009×699W±02,h84km±16km,n11, σ0°98/10,mb3.8/1,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.97**	**117**	P	**Pn**	**02 01 41.3**	**+0.3**
	262nm,0.3s,baz=278,slow=12,SNR=1306						
LVC				S	**Sn**	**02 02 05.3**	**+10**
	649nm,0.3s,baz=127,slow=15,SNR=37						
LPAZ	**La Paz**	**6.08**	**16**	P	**Pn**	**02 02 48.5**	**-0.8**
	0.9nm,0.3s,baz=222,slow=6.9,SNR=22						
LPAZ				LR	LR	02 05 34.0	
	comp=Z,120nm,18.1s,baz=203,slow=42						
LPAZ	**La Paz**	**6.08**	**16**	P	**Pn**	**02 02 48.5**	**-0.8**
LPAZ				LR	LR	02 05 34.0	
CFAA	**Coronel Fontan**	**9.50**	**172**	P	**Pn**	**02 03 37.0**	**+1.1**
	0.1nm,0.3s,baz=348,slow=12,SNR=12						
CFAA				S	**Sn**	**02 05 35.5**	**+15**
	0.1nm,0.3s,baz=230,slow=21,SNR=8.7						
SIV	**San Ignacio**	**10.33**	**55**	P	**Pn**	**02 03 47.8**	**+0.6**
	0.4nm,0.3s,baz=248,slow=13,SNR=13						
CPUP	**Villa Florida**	**12.15**	**112**	P	**Pn**	**02 04 11.4**	**-0.5**
	0.2nm,0.3s,baz=236,slow=3.6,SNR=2.3						
TRQA	**Tornquist**	**17.22**	**159**	*e*P	**Pn**	**02 05 15.1**	**-2.0**
	2.0nm,0.7s						
PLCA	**Paso Flores**	**18.51**	**182**	LR	LR	02 12 03.3	
	comp=Z,34nm,20.2s,baz=187,slow=35						
TORD	**Torodi Ar. Bea**	**78.41**	**71**	P	**P**	**02 13 14.4**	**+0.9**
	1.5nm,0.8s,mb3.8,baz=256,slow=5.4,SNR=12						
MKAR	**Makanchi Array**	**146.69**	**36**	PKPbc	PKPbc	02 20 52.7	-1.4
	0.5nm,0.6s,baz=321,slow=3.7,SNR=4.1						
MKAR	**Makanchi Array**	**146.69**	**36**	PKPbc	PKPbc	02 20 52.7	-1.4

CASC 11 02:05:18.1±5.0,1431N×9048W,h6km±17km,MD3.8, 3C-1D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.15**	**304**	⇓*e*P	Pg	02 05 22.9	+1.8
PCG				*e*S	Sg	02 05 25.6	+2.5
FUG	**Fuego 3**	**0.37**	**291**	⇑*i*P	Pg	02 05 26.1	+0.8
TP2	**Tecpan 2**	**0.70**	**312**	⇑*e*P	Pg	02 05 32.2	+0.6
TP2				*e*S	Sg	02 05 42.6	+1.9
RBDL	**Robledal**	**0.80**	**104**	⇑*e*P	x	02 05 59.2	
RBDL				*e*S	x	02 06 10.7	
RTR	**El Retiro**	**0.91**	**117**	*e*P	x	02 06 01.4	
RTR				*e*S	x	02 06 20.8	
SNJE	**San Jose**	**0.96**	**117**	*e*P	x	02 06 02.2	
SNJE				*e*S	x	02 06 16.4	
JAT	**Jato**	**1.12**	**270**	*e*P	Pg	02 05 40.3	+0.7
SNET	**Serv Nac Est T**	**1.36**	**117**	*e*P	x	02 05 55.9	
LFRS	**El Faro**	**1.54**	**116**	*e*P	x	02 06 11.9	
LFRS				*e*S	x	02 06 33.6	

*NEIC **11** 02:35:18.2,1730N×10054W,h51km,MD4.1(MEX),After MEX.*

MEX 11 02:35:18.4±0.8,1732N×10054W,h47km±14km,MD4.1,1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.38**	**136**	⇓*i*P	Pn	02 35 26.6	-1.5
CAIG				*i* S	Sn	02 35 33.4	-1.5
ZIIG	**Zihuatanejo**	**0.93**	**288**	*i* P	Pn	02 35 33.7	-1.3
ZIIG				*i* S	Sn	02 35 44.8	-2.4
MEIG	**Mezcala**	**1.06**	**56**	*i* P	Pn	02 35 35.2	-1.7
MEIG				*i* S	Sn	02 35 48.3	-2.2
PLIG	**Platanillo**	**1.45**	**43**	*i* P	Pn	02 35 40.9	-1.3
PLIG				*i* S	Sn	02 35 59.2	-0.9
PLIG	**Platanillo**	**1.45**	**43**	*i* P	Pn	02 35 40.9	-1.3
PLIG				*i* S	Sn	02 35 59.5	-0.6
YAIG	**Yautepec**	**2.08**	**42**	*i* P	Pn	02 35 49.2	-1.5
YAIG				*i* S	Sn	02 36 13.5	-1.9
YAIG	**Yautepec**	**2.08**	**42**	*i* P	Pn	02 35 49.2	-1.5
YAIG				*i* S	Sn	02 36 15.9	+0.5
UNM	**Universidad Na**	**2.38**	**33**	*i* P	Pn	02 35 55.1	+0.2
UNM				*e*P		02 35 55.2	
UNM				*i* S	Sn	02 36 21.1	-1.7
UNM				*i* S	Sn	02 36 22.5	-0.3
UNM	**Universidad Na**	**2.38**	**33**	*i* P	Pn	02 35 55.5	+0.6
UNM				*i* S	Sn	02 36 25.0	+2.2
MOIG	**Morelia**	**2.42**	**345**	*e*P	Pn	02 35 55.6	+0.1
MOIG				*i* S	Sn	02 36 20.6	-3.3
MRX	**Morelia**	**2.45**	**346**	*e*P	Pn	02 35 57.0	+1.2
PPM	**Popocatepetl**	**2.51**	**46**	*e*P	Pn	02 35 55.0	-1.8
PPM				*i* P		02 35 55.1	
PPM				*i* S	Sn	02 36 24.5	-1.7
PPM	**Popocatepetl**	**2.51**	**46**	*i* P	Pn	02 35 55.1	-1.6
PPM				*i* S	Sn	02 36 22.6	-3.6
UTMO	**Huajuapan**	**2.66**	**79**	*e*P	Pn	02 35 58.6	-0.1
UTMO				*i* S	Sn	02 36 27.3	-2.5
VHO	**Vista Hermosa**	**3.65**	**93**	*i* P	Pn	02 36 12.8

OHR	Ohrid	2.13	19	*i* Pn	Pn	02 45 54.2	+0.6
OHR				*i* Sn	Sn	02 46 19.6	-0.2
OHR	Ohrid	2.13	19	*i* Pn	Pn	02 45 54.2	+0.5
OHR				*i* Sn	Sn	02 46 19.6	-0.2
BIA	Bitola	2.21	30	*i* Pn	Pn	02 45 54.4	-0.5
BIA				*i* Sn	Sn	02 46 22.3	+0.3
TIR	Tirane	2.24	0	Pn	Pn	02 45 55.2	0.0
	153nm,0.9s						
LIT	Litokhoron	2.26	63	*e*Pn	Pn	02 45 55.7	+0.2
LIT				*e*Sn	Sn	02 46 24.0	+0.9
TIP	Timpagrande	2.42	273	Pn	Pn	02 45 58.3	+0.6
	20nm,0.8s						
TIP	Timpagrande	2.42	273	*e*Pn	Pn	02 45 57.7	0.0
SERS	Sersale	2.47	269	Pn	Pn	02 45 59.0	+0.6
	27nm,0.6s						
XOR	Xorichti	2.60	83	*e*Pn	Pn	02 46 01.9	+1.8
GRG	Griva	2.68	46	*e*Pn	Pn	02 46 01.8	+0.4
GRG				*e*Sn	Sn	02 46 33.7	+0.1
NOCI	Noci	2.73	309	Pn	Pn	02 46 01.8	-0.2
PLAC	Placanica	2.76	257	⇑*i* Pn	Pn	02 46 02.8	+0.5
	12nm,0.7s						
ORI	Oriolo Calabro	2.81	291	Pn	Pn	02 46 03.6	+0.6
	217nm,0.4s						
SG1	Sgolgore (BA)	3.00	306	*e*Pn	Pn	02 46 05.5	-0.1
VAY	Valandovo	3.03	42	*i* Pn	Pn	02 46 05.5	-0.6
VAY				*i* Sn	Sn	02 46 39.0	-3.1
VAY	Valandovo	3.03	42	*i* Pn	Pn	02 46 05.4	-0.7
VAY				*i* Sn	Sn	02 46 39.0	-3.1
PLG	Polygyros	3.04	64	*e*Pn	Pn	02 46 05.5	-0.7
BAI	Bari	3.04	312	*e*Pn	Pn	02 46 05.4	-0.8
AMUR	Altamura	3.08	307	Pn	Pn	02 46 06.5	-0.3
KNT	Kendrikon	3.10	48	*e*Pn	Pn	02 46 07.4	+0.3
SCHR	S. Chirico Rap	3.12	292	Pn	Pn	02 46 08.7	+1.4
	35nm,0.6s						
AOS	Alonnisos	3.12	88	*e*Pn	Pn	02 46 08.2	+0.8
SOI	Samo	3.16	252	Pn	Pn	02 46 08.1	+0.2
	9.0nm,0.3s						
SOH	Sokhos	3.18	56	*e*Pn	Pn	02 46 08.3	+0.2
CUC	Castrocucco	3.25	287	Pn	Pn	02 46 10.6	+1.4
	48nm,0.5s						
SCLL	Scilla	3.36	257	Pn	Pn	02 46 10.7	+0.1
	3.0nm,0.3s						
CDT	Castel del Mon	3.39	307	*e*Pn	Pn	02 46 10.9	-0.1
OUR	Ouranopolis	3.40	68	*e*Pn	Pn	02 46 11.2	0.0
OUR	Ouranopolis	3.40	68	*e*Pn	Pn	02 46 11.2	0.0
MTTG	Motta San Giov	3.45	253	Pn	Pn	02 46 11.6	-0.3
	17nm,0.6s						
MGR	Morigerati	3.48	289	Pn	Pn	02 46 13.2	+0.9
	30nm,0.6s						
SLCN	Sala Consilina	3.50	293	Pn	Pn	02 46 14.3	+1.7
	73nm,0.6s						
CMPR	Campora	3.72	290	Pn	Pn	02 46 16.0	+0.4
	42nm,1.1s						
CDRU	Civita di Ruta	3.77	293	Pn	Pn	02 46 17.3	+1.0
	21nm,0.7s						
SGO	Sicignano	3.80	294	Pn	Pn	02 46 17.9	+1.3
	7.0nm,0.3s						
MCRV	Calabrutti - M	3.98	296	Pn	Pn	02 46 20.6	+1.5
	31nm,0.5s						
STON	Ston	4.10	337	*i* Pn	Pn	02 46 18.5	-2.3
STON				*i* Sn	Sn	02 47 03.5	-5.1
PZI	Palazzolo	4.39	244	Pn	Pn	02 46 23.0	-1.7
	96nm,0.1s						
NVLJ	Novalja	6.60	327	*i* Pn	Pn	02 46 54.0	-1.2
NVLJ				*i* Sn	Sn	02 48 03.7	-6.6
NVLJ	Novalja	6.60	327	*i* Pn	Pn	02 46 53.9	-1.3
BOJS	Bojanci	7.25	333	*e*Pn	Pn	02 47 03.1	-0.9
BOJS				*i* Sn	Sn	02 48 19.5	-6.6
CRES	Cresnjev	7.46	336	*i* Pn	Pn	02 47 05.3	-1.7
VISS	Visnje	7.65	333	*i* Pn	Pn	02 47 08.9	-0.7
CEY	Cerknica	7.75	331	*i* Pn	Pn	02 47 09.9	-1.0
CEY	Cerknica	7.75	331	*i* Pn	Pn	02 47 09.9	-1.0
PDKS	Podkum	7.82	334	*i* Pn	Pn	02 47 10.4	-1.5
GORS	Gorjuse	8.40	331	*i* Pn	Pn	02 47 18.2	-1.7
SLUM		8.76	148	⇑P	Pn	02 47 23.0	-1.9
HMAT	Matruh	9.95	141	⇑P	Pn	02 47 39.1	-1.9
SWA2		10.87	153	⇑P	Pn	02 47 52.4	-1.3
SWA1		10.94	152	⇑P	Pn	02 47 53.6	-1.1
SWA1				S	Sn	02 49 43.8	-13

IGQ 11 02:49:00.6, 238S×7988W, h12km±5km, Mb4.3, Ms4.1, 10C-7D, Error ellipse: s-maj=8.6km s-min=1.5km az=79.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	Salinas	1.13	280	P	Pb	02 49 22.5	+0.5
SALI				S	Sb	02 49 33.7	-2.9
IGUA	Igualata	1.52	55	⇑P	Pn	02 49 29.6	+2.0
IGUA				S	Sn	02 49 49.8	+2.4
ARRY	Arrayan	1.67	59	⇓P	Pn	02 49 31.2	+1.7
CUSU	Cusua	1.68	56	⇑P	Pn	02 49 31.9	+2.2
PATA	Patacocha	1.69	59	P	Pn	02 49 32.1	+2.2
JUIV	Juive	1.70	56	⇑P	Pn	02 49 32.2	+2.2
JUIV				S	Sn	02 49 54.4	+2.6
RETU	Refugio	1.70	57	P	Pn	02 49 33.1	+3.0
RETU				S	Sn	02 49 56.3	+4.5
ULBA	Ulba	1.74	58	P	Pn	02 49 32.9	+2.4
RUN5	Runtun	1.74	57	⇑P	Pn	02 49 32.9	+2.3
RUN5				S	Sn	02 49 55.2	+2.4
PISA	Pisayambo	1.99	49	⇓P	Pn	02 49 37.7	+3.7
PISA				S	Sn	02 50 04.5	+5.7
CAMI	Rancho Maria	2.18	39	⇑P	Pn	02 49 40.1	+3.5
NAS1	Nasa	2.23	39	⇑P	Pn	02 49 40.9	+3.6
TAMB	Tambo	2.26	42	⇑P	Pn	02 49 41.0	+3.3
VC1	Cotopaxi 1	2.27	41	⇑P	Pn	02 49 41.1	+3.3
MAG1	Magdalena	2.29	3	P	Pn	02 49 41.6	+3.4
TERV	Terraza Guagua	2.54	30	⇓P	Pn	02 49 44.5	+3.0
GGP	Refugio Guagua	2.54	30	⇓P	Pn	02 49 44.4	+2.8
PINO	Pino	2.55	30	⇓P	Pn	02 49 44.4	+2.8
ANTI	Antisana	2.58	42	⇑P	Pn	02 49 44.7	+2.7
YANA	Yana	2.60	30	⇓P	Pn	02 49 45.0	+2.7
YANA				S	Sn	02 50 17.6	+3.7
CAYR	Refugio Cayamb	3.03	38	⇓P	Pn	02 49 52.0	+3.7
ANGU	Angureal	3.05	38	⇑P	Pn	02 49 51.9	+3.3
CAYA	Cayambe	3.08	38	P	Pn	02 49 56.6	+7.6
COTA	Cotacachi	3.11	30	P	Pn	02 49 46.3	-3.1

IDC 11 03:00:37.9±9.3, 471S×14597E, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.9/13, mbtmp4.2/4, ML4.6/1, Error ellipse: s-maj=139.9km s-min=75.3km az=25.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.55	238	*e*P	Pn	03 04 29.1	+11
	12nm,0.4s						
WB2	Warramunga Arr	18.90	216	*e*P	Pn	03 05 01.3	+0.8
WRA	Warramunga Arr	18.91	216	P	Pn	03 05 01.3	+0.8
	1.9nm,0.3s,baz=40,slow=11,SNR=16						
ASAR	Alice Springs	22.15	211	P	P	03 05 34.5	-0.7
	2.6nm,0.6s,baz=50,slow=8.7,SNR=34						
ASPA	Alice Springs	22.15	211	*e*P	P	03 05 34.5	-0.7
FITZ	Fitzroy Crossi	23.93	235	P	P	03 05 53.8	+0.3
	3.1nm,0.5s,baz=66,slow=12						
STKA	Stephens Creek	27.34	188	P	P	03 06 24.9	+0.5
	1.2nm,0.4s,baz=12,slow=9.2,SNR=3.5						

*IDC **11** 03:02:46.5±1.3, 3876S×17848E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=43.0km s-min=23.6km az=25.0*
*ISCJB **11** 03:02:47.6±1.3, 3871S±004×1788E±0.1, h30km±9km, mb3.6/2, Error ellipse: s-maj=13.8km s-min=6.6km az=2.8*
*NEIC **11** 03:02:49.1, 3864S×17878E, h48km, ML4.2(WEL), After WEL.*
NEIC Felt at Gisborne.
*WEL **11** 03:02:51.1±0.4, 3862S×17858E, h30km±2km, ML4.1/19, Error ellipse: s-maj=4.5km s-min=1.9km az=90.0*
ISC 11 03:02:48.6±1.3, 3869S±004×17874E±009, h26km±8km, n55, σ1°13/60, mb3.6/2, 4C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	0.72	328	⇑P*	Pb	03 03 02.4	-0.2
PUZ				S*	Sb	03 03 11.1	-1.0
PUZ	Puketiti	0.72	328	P	Pb	03 03 02.4	-0.2
PUZ				S	Sb	03 03 11.1	-1.1
KNZ	Kokohu	0.90	248	⇑PN	Pn	03 03 06.0	+0.5
KNZ				SN	Sn	03 03 16.7	-0.9
KNZ	Kokohu	0.90	248	P	Pn	03 03 06.1	+0.6
KNZ				S	Sb	03 03 17.2	0.0
MWZ	Matawai	1.02	290	⇑PN	Pn	03 03 06.8	-0.3
MWZ				*e*SN	Sn	03 03 18.5	-2.1
MWZ	Matawai	1.02	290	P	Pn	03 03 06.8	-0.4
MXZ	Matakaoa Point	1.17	343	⇑PN	Pn	03 03 09.7	+0.4
MXZ				*e*SN	Sn	03 03 24.1	-0.4
MXZ	Matakaoa Point	1.17	343	P	Pn	03 03 09.7	+0.4
MXZ				S	Sn	03 03 24.6	+0.1
URZ	Urewera	1.35	288	Pn	Pn	03 03 11.6	-0.2
	28nm,0.3s,baz=144,slow=3.0,SNR=132						
URZ				Sn	Sn	03 03 28.1	-0.7
	144nm,0.3s,baz=343,slow=22,SNR=29						
URZ	Urewera	1.35	288	PN	Pn	03 03 11.5	-0.2
URZ	Urewera	1.35	288	P	Pn	03 03 11.5	-0.3
EDRZ	Edgecumbe	1.68	290	PN	Pn	03 03 16.5	+0.3
EDRZ	Edgecumbe	1.68	290	P	Pn	03 03 16.6	+0.3
WIZ	White Island	1.69	313	PN	Pn	03 03 15.9	-0.5
WIZ	White Island	1.69	313	P	Pn	03 03 16.1	-0.3
TAZ	Tarawera	1.81	284	PN	Pn	03 03 18.8	+0.7
TAZ	Tarawera	1.81	284	P	Pn	03 03 18.8	+0.7
BKZ	Black Stump Fm	1.82	254	*e*PN	Pn	03 03 17.9	-0.3
BKZ	Black Stump Fm	1.82	254	P	Pn	03 03 18.8	+0.6
PATZ	Paeroa	1.97	278	PN	Pn	03 03 21.1	+0.8
PATZ	Paeroa	1.97	278	P	Pn	03 03 21.2	+0.9
PXZ	Pawanui	1.98	227	PN	Pn	03 03 20.2	-0.3
TGRZ	Tauranga	2.18	295	*e*PN	Pn	03 03 22.5	-0.6
TGRZ	Tauranga	2.18	295	P	Pn	03 03 22.5	-0.6
MOVZ	Moawhango	2.44	252	PN	Pn	03 03 27.7	+1.0
MOVZ	Moawhango	2.44	252	P	Pn	03 03 27.7	+1.0
KRVZ	Karewarewa	2.45	259	PN	Pn	03 03 27.7	+0.8
WTVZ	West Tongariro	2.50	259	P	Pn	03 03 28.6	+1.1
NGZ	Ngauruhoe	2.50	258	P	Pn	03 03 28.6	+1.1
WNVZ	Wahianoa	2.53	254	P	Pn	03 03 28.9	+0.9
WPVZ	Whakapapa	2.55	257	P	Pn	03 03 29.2	+1.0
FWVZ	Far West T-bar	2.55	256	P	Pn	03 03 29.2	+0.9
TSZ	Takapari Road	2.55	237	P	Pn	03 03 28.0	-0.3
KUZ	Kuaotunu	3.08	308	P	Pn	03 03 34.9	-0.7
WAZ	Wanganui	3.11	249	*e*P	Pn	03 03 37.8	+1.9
MRZ	Mangatainoka R	3.14	230	P	Pn	03 03 35.9	-0.4
VRZ	Vera Road	3.14	261	P	Pn	03 03 37.4	+1.0
RAEZ	Rainy Point	3.44	259	P	Pn	03 03 42.6	+2.1
KIW	Kapiti Island	3.67	232	P	Pn	03 03 42.9	-0.7
NEZ	North Egmont	3.67	259	P	Pn	03 03 46.0	+2.4
PAWZ	Paruwai Farm	3.70	222	P	Pn	03 03 42.2	-1.9
PKE	Pukeiti	3.74	261	P	Pn	03 03 46.2	+1.5
NRZ	Ngariki Road	3.80	259	*e*P	Pn	03 03 47.2	+1.7
BSWZ	Blackbirch Sta	4.80	229	P	Pn	03 03 57.3	-1.9
NNZ	Nelson	4.83	237	*e*P	Pn	03 03 59.4	-0.3
QRZ	Quartz Range	5.24	244	*e*P	Pn	03 04 03.2	-2.1
THZ	Tophouse	5.42	234	*e*P	Pn	03 04 05.5	-2.2
KHZ	Kahutara	5.44	225	*e*P	Pn	03 04 06.5	-1.5
RPZ	Rata Peaks	7.67	227	Pn	Pn	03 04 35.7	-2.8
	1.7nm,0.3s,baz=351,slow=13,SNR=4.3						
RPZ				Sn	Sn	03 05 56.7	-7.9
	7.6nm,0.3s,baz=37,slow=21,SNR=20						
ASAR	Alice Springs	40.77	278	P	P	03 10 27.9	+0.3
	1.1nm,0.5s,mb3.7,baz=128,slow=8.4,SNR=15						
WRA	Warramunga Arr	42.52	283	P	P	03 10 41.4	-0.4
	0.6nm,0.6s,mb3.5,baz=123,slow=7.6,SNR=2.9						
ARCES	ARCESS Array B	145.95	344	PKPbc	PKPbc	03 22 26.4	+0.6
	5.8nm,1.1s,baz=22,slow=1.3,SNR=6.0						
FINES	FINESS Array B	151.64	332	PKPbc	PKPbc	03 22 41.3	+0.8
	1.1nm,0.8s,baz=46,slow=6.8,SNR=8.2						
BRTR	Keskin Array B	153.04	283	PKPbc	PKPbc	03 22 44.3	+0.6
	0.7nm,0.8s,baz=174,slow=4.2,SNR=4.4						
TORD	Torodi Ar. Bea	154.43	187	PKPab	PKPab	03 23 04.3	+3.3
	0.8nm,1.0s,baz=173,slow=4.0,SNR=4.2						

*ISCJB **11** 03:04:54.8±0.5, 3141N±005×5642E±006, h10km, mb3.4/4, Error ellipse: s-maj=7.9km s-min=6.4km az=98.5*
*IDC **11** 03:04:55.1±1.5, 3143N×5641E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/24, mbtmp3.5/7, ML3.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/17, Error ellipse: s-maj=31.3km s-min=24.8km az=140.0*
*CSEM **11** 03:04:55.7±0.1, 3137N×5641E, h16km, ML3.7, Error ellipse: s-maj=3.3km s-min=2.1km az=29.0*
*THR **11** 03:04:55.4±0.3, 3136N×5639E, h18km±2km, ML3.7*
*TEH **11** 03:04:57.6, 3156N×5622E, h12km, Mn3.9*
*NEIC **11** 03:04:57.6, 3156N×5622E, h12km, ML3.8(THR), MN3.9(TEH), After TEH.*
ISC 11 03:04:56.5±0.5, 3141N±005×5644E±006, h10km, n36, σ0°86/43, mb3.4/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	Bafgh	0.77	284	Pg	Pg	03 05 07.7	-3.6
IMEH	Mehriz	1.56	270	*e*Pn	Pn	03 05 22.4	-1.9
ICHK	Chekchek	1.92	296	*e*Pn	Pn	03 05 29.0	-0.2
ICHK				*e*Sn	Sn	03 05 48.6	-4.8
NASN	Na'in	3.38	295	*e*PN	Pn	03 05 49.5	+0.2
NASN				*e*SG	Sg	03 06 40.4	-4.6
NASN				AML	AML	03 06 46.2	
	comp=N,231nm,0.6s						
NASN				AML	AML	03 06 49.8	
	comp=E,132nm,0.6s						
NASN	Na'in	3.38	295	Pn	Pn	03 05 49.0	-0.3
NASN				Sg	Sg	03 06 40.0	-5.0
NASN	Na'in	3.38	295	*e*Pn	Pn	03 05 49.5	+0.2
	SNR=52						
NASN				*e*Sg	Sg	03 06 40.4	-4.6
	SNR=91						
IZEF	Zefreh	3.79	294	*e*Pn	Pn	03 05 55.4	+0.5
IMOK	Mook	3.99	235	*e*Pn	Pn	03 05 57.9	+0.1
BNDS	Bandar-Abbas	4.00	183	*e*PN	Pn	03 05 57.5	-0.5
BNDS	Bandar-Abbas	4.00	183	Pn	Pn	03 05 57.0	-0.9
ZHSF	Zahedan	4.15	115	*e*PN	Pn	03 06 00.3	+0.5
ZHSF				*e*SG	Sg	03 07 04.6	-5.1
ZHSF	Zahedan	4.15	115	Pn	Pn	03 06 00.0	+0.1
ZHSF				Sg	Sg	03 07 04.0	-5.8
IKLH	Kalahroud	4.53	296	*e*Pn	Pn	03 06 06.4	+1.3
IANJ	Anjiloo	4.56	333	Pn	Pn	03 06 04.5	-1.1
IPIR	Pirpir	4.88	287	*e*Pn	Pn	03 06 11.5	+1.6
ISHM	Shahmirzad	5.11	330	*e*Pn	Pn	03 06 11.3	-1.8
ISHM				*e*Sn	Sn	03 07 04.7	-7.4
IFIR	Firoozkooh	5.22	325	Pn	Pn	03 06 14.3	-0.3
IVRN	Varamin	5.33	313	*e*Pn	Pn	03 06 16.9	+0.8
IDMV	Damavand	5.55	320	*e*Pn	Pn	03 06 19.1	-0.1
IAFJ	Afjeh	5.93	320	Pn	Pn	03 06 25.2	+0.8
ASAO	Ashtian	6.23	302	*e*PN	Pn	03 06 28.9	+0.4
ASAO				AML	AML	03 08 28.0	
	comp=E,18nm,0.6s						
ASAO				AML	AML	03 08 30.0	
	comp=N,18nm,0.8s						
ASAO	Ashtian	6.23	302	Pn	Pn	03 06 28.0	-0.5
MRVT	Maraveh tapeh	6.24	357	*e*PN	Pn	03 06 29.6	+1.0
THKV	Tehran--Karaj	6.45	316	*e*PN	Pn	03 06 32.3	+0.7
THKV	Tehran--Karaj	6.45	316	Pn	Pn	03 06 32.0	+0.4
IRAZ	Razeghan	6.74	308	Pn	Pn	03 06 43.1	+7.6
WSAR	Wadi Sarin	8.37	166	Pn	Pn	03 06 58.1	+0.3
	comp=N,0.4nm,0.3s,baz=329,slow=9.4,SNR=5.0						
WSAR				LR	LR	03 11 00.9	
	comp=N,97nm,18.6s,baz=74,slow=44						
AKTK	Aktyubinsk	19.04	3	P	Pn	03 09 19.0	-0.4
AKTK				LR	LR	03 18 16.8	
AKTK	Aktyubinsk	19.04	3	P	Pn	03 09 19.0	-0.5
AKTO	Aktyubinsk	19.04	3	P	Pn	03 09 19.0	-0.4
	comp=N,0.2nm,0.3s,baz=182,slow=13,SNR=7.9						
AKTO				LR	LR	03 18 16.8	
	comp=N,58nm,18.6s,baz=0.0,slow=42						
BRTR	Keskin Array B	20.28	300	P	P	03 09 32.5	+0.3
	comp=N,0.9nm,0.8s,baz=106,slow=12,SNR=5.9						
BRTR	Keskin Array B	20.28	300	P	P	03 09 32.5	+0.3
BVAR	Borovoye Array	23.86	21	P	P	03 10 09.9	-0.1
	comp=N,0.5nm,0.6s,mb3.1,baz=185,slow=8.9,SNR=5.0						
MKAR	Makanchi Array	25.11	45	P	P	03 10 21.6	+0.2
	comp=N,0.8nm,0.7s,mb3.4,baz=221,slow=8.2,SNR=6.1						
GERES	GERESS Array B	36.47	311	P	P	03 12 00.9	-0.7
	comp=N,0.3nm,0.6s,mb3.4,baz=101,slow=6.9,SNR=4.6						
TORD	Torodi Ar. Bea	53.28	263	P	P	03 14 15.9	+0.5
	comp=N,0.4nm,0.8s,mb3.4,baz=58,slow=7.1,SNR=5.8						

*CSEM **11** 03:05:43.8±0.8, 3884N×2907W, h0km±9km, ML1.7, Error ellipse: s-maj=13.5km s-min=4.4km az=86.0, After PDA*
*PDA **11** 03:05:43.8±0.8, 3884N×2907W, h0km±9km, MD3.0, ML1.7, Error ellipse: s-maj=13.5km s-min=4.4km az=86.0*
SVSA 11 03:05:43.8±0.8, 3884N×2907W, h0km±9km, MD3.0, ML1.7, Error ellipse: s-maj=13.5km s-min=4.4km az=86.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	Ponta do Capel	0.33	140	*e*S	Sg	03 05 54.6	+0.1
PTCA							
	46nm,0.2s						
PCED	Cedros	0.36	126	*e*P	Pg	03 05 50.4	-0.3
PCED				*e*S	Sg	03 05 55.5	+0.2
PCED							
	52nm,0.2s						
PCED	Cedros	0.36	126	*e*P	Pg	03 05 50.4	-0.3
PCED				*e*S	Sg	03 05 55.5	+0.2
CALA	Caldeira	0.39	132	*e*P	Pg	03 05 51.0	-0.2
CALA				*e*S	Sg	03 05 56.5	+0.2
PCND	Candelaria	0.60	128	*e*S	Sg	03 06 03.0	-0.2
PCND							
	18nm,0.2s						
PICO	Pico	0.61	124	*e*P	Pg	03 05 54.7	-0.8
PICO				*e*S	Sg	03 06 02.9	-0.5
PTEI	Pico do Teixo	0.66	121	*e*S	Sg	03 06 03.9	-1.0
PTEI							
	18nm,0.2s						
ROSA	Rosais	0.66	100	*e*S	Sg	03 06 03.9	-1.1
PBOI	Pico dos Bois	0.68	126	*e*S	Sg	03 06 04.5	-1.1
PBOI							
	22nm,0.1s						
PMAN	Manadas	0.80	105	*e*S	Sg	03 06 07.4	-2.0
PMAN							
	17nm,0.3s						
SRBC	Serra Branca	0.83	76	*e*rx		03 05 56.2	
PID	Ribeirinha	0.84	118	*e*rx		03 06 02.6	

IDC 11 03:15:46.0±2.0, 1045S×12149E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=165.5km s-min=27.6km az=56.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.61	153	Pn	Pn	03 17 52.0	+0.1
	0.2nm,0.3s,baz=323,slow=15,SNR=11						
FITZ				Sn	Sn	03 19 21.4	-8.3
	1.9nm,0.3s,baz=189,slow=17,SNR=16						
WRA	Warramunga Arr	15.58	129	Pn	Pn	03 19 25.8	-1.1
	0.3nm,0.3s,baz=303,slow=15,SNR=4.1						
WRA				Sn	Sn	03 22 07.8	-12
	0.7nm,0.3s,baz=293,slow=21,SNR=5.2						
ASAR	Alice Springs	17.70	140	P	Pn	03 19 55.0	+1.2
	baz=317,slow=12,SNR=4.2						
ASAR				S	Sn	03 23 01.8	-10
	0.3nm,0.3s,baz=316,slow=22,SNR=7.4						
MKAR	Makanchi Array	66.86	332	P	P	03 26 39.9	+0.1
	0.6nm,0.8s,baz=127,slow=9.3,SNR=4.2						

*IDC **11** 03:21:32.7±1.1, 2107N×12034E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.5/6, Error ellipse: s-maj=44.8km s-min=23.7km az=75.0*
*ISCJB **11** 03:21:35.3±0.8, 209N±0.1×1204E±02, h33km, mb3.5/6, Error ellipse: s-maj=31.8km s-min=13.3km az=151.0*
ISC 11 03:21:37.0±0.9, 209N±01×1205E±02, h35km, n8, σ1°14/8, mb3.5/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	3.12	166	*e*P	Pn	03 22 20.8	-2.9
CVP	Callao Caves	3.44	158	*e*P	Pn	03 22 28.0	-0.1
MJAR	Matsushiro Arr	21.97	41	P	P	03 26 27.0	-0.8
	0.4nm,0.7s,mb3.0,baz=228,slow=9.5,SNR=2.9						
MKAR	Makanchi Array	40.28	319	P	P	03 29 10.3	-0.4
	0.5nm,0.6s,mb3.4,baz=108,slow=9.3,SNR=3.0						
WRA	Warramunga Arr	42.81	161	P	P	03 29 35.1	+3.7
	1.7nm,0.7s,mb3.9,baz=344,slow=9.0,SNR=5.7						
ASAR	Alice Springs	46.20	163	P	P	03 29 59.3	+0.9
	0.7nm,0.6s,mb3.8,baz=341,slow=6.5,SNR=4.6						
GERES	GERESS Array B	84.93	321	P	P	03 34 08.1	-0.3
	0.1nm,0.4s,mb3.3,baz=93,slow=4.2,SNR=3.8						
YKA	Yellowknife Ar	86.25	22	P	P	03 34 16.3	+1.4
	0.2nm,0.6s,mb3.5,baz=312,slow=4.6,SNR=4.0						

*CRAAG **11** 03:21:53.9, 3600N×260E, Ml2.6*
*ISCJB **11** 03:21:56.0±1.7, 362N±0.1×256E±009, h10km, Error ellipse: s-maj=21.1km s-min=7.6km az=47.9*
*MDD **11** 03:21:56.6±2.0, 3607N×258E, h0km, mb2.9/4, Error ellipse: s-maj=22.0km s-min=7.7km az=22.0, PRXIMO*
ISC 11 03:21:57.1±1.7, 362N±01×262E±009, h10km, n7, σ0°68/9, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	Djebel Mahouad	0.27	82	P	Pg	03 22 02.5	-0.1
ADJB	Djebel Djouab	0.66	90	P	Pg	03 22 09.3	-0.6
ABA	Alger-Bouzarea	0.72	28	P	Pg	03 22 12.1	+1.1
EIBI	Ibiza	3.03	341	Pn	Pn	03 22 45.9	+0.8
	0.5nm,0.2s,SNR=7.9						
EIBI				Sn	Sn	03 23 20.6	-0.9
	165nm,

FNA	Florina	2.33	303	*e*Pn	Pn	03 24 09.5 +0.6
KDZ	Kurdzhali	2.38	27	P	Pn	03 24 08.7 -0.7
KKB	Krupnik	2.41	344	*i* P	Pn	03 24 10.4 +0.5
APE	Apeiranthos	2.77	153	*e*PN	Pn	03 24 14.8 0.0
VLI	Veliai	2.94	196	*e*PN	Pn	03 24 17.5 +0.3
VTS	Vitosha	3.09	350	P	Pn	03 24 20.3 +1.0

IDC ***11*** *04:06:18.2±2.4, 44.17N×130.76W, h0km, mb3.4/5, mb1 3.7/9, mb1mx3.5/25, mbtmp3.4/9, ML3.5/4, MS3.5/6, Ms1 3.5/6, ms1mx3.3/18, Error ellipse: s-maj=46.3km s-min=22.5km az=41.0*

ISCJB ***11*** *04:06:25.0±1.5, 44.67N×006×1293W±02, h10km, mb3.4/3, MS3.4/3, Error ellipse: s-maj=17.5km s-min=7.4km az=156.8*

NEIC ***11*** *04:06:28.1±1.9, 44.67N×129.13W, h10km, mb3.5/3, Error ellipse: s-maj=23.1km s-min=8.2km az=81.0*

ISC 11 04:06:26.7±1.9, 4463N±006×1293W±02, h10km, n67, σ1§09/64, mb3.4/3, MS3.4/3, 12C-9D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02A	**Toledo**	3.76	87	P	Pn	04 07 23.4	-1.4
	baz=3.6,SNR=9.7						
I02A	**Mapleton**	3.96	97	⇑P	Pn	04 07 25.4	-2.0
	baz=3.8,SNR=8.3						
F03A	**Seaside**	4.23	70	⇓P	Pn	04 07 31.8	+0.5
	baz=4.1						
COR	**Corvallis**	4.26	89	P	Pn	04 07 30.9	-0.7
H03A	**Soap Creek Ran**	4.27	87	⇑P	Pn	04 07 30.8	-0.9
	baz=4.1,SNR=61						
J02A	**Umpqua**	4.30	105	⇑P	Pn	04 07 29.7	-2.5
	baz=4.2						
I03A	**Eugene**	4.35	97	⇑P	Pn	04 07 31.1	-1.7
	baz=4.2						
NLO	**Nicolai Mounta**	4.35	68	P	Pn	04 07 33.1	+0.2
E03A	**Lebam**	4.44	62	P	Pn	04 07 33.8	-0.4
	baz=4.3,SNR=8.9						
D03A	**Wishkah Elem.**	4.58	55	⇑P	Pn	04 07 35.8	-0.2
	baz=4.5,SNR=9.1						
BMW	**Boistfort Moun**	4.63	64	P	Pn	04 07 36.3	-0.4
C03A	**Quillayute Air**	4.65	43	⇓P	Pn	04 07 36.8	-0.1
	baz=4.5,SNR=18						
OCWA	**Octopus Mounta**	4.71	47	*e*Pn	Pn	04 07 37.6	-0.2
J03A	**Ideyld Park**	4.72	103	⇓P	Pn	04 07 34.7	-3.3
	baz=4.6						
RVW	**Rose Valley**	4.84	69	P	Pn	04 07 39.6	0.0
G04A	**Mulino**	4.86	81	⇑P	Pn	04 07 39.1	-0.7
	baz=4.7						
SSOR	**Sweet Springs**	4.86	85	P	Pn	04 07 39.8	0.0
BROR	**Big Rock Looko**	4.89	92	P	Pn	04 07 39.8	-0.6
F04A	**Amboy**	5.00	73	⇓P	Pn	04 07 41.7	-0.1
	baz=4.9						
HUMO	**Hull Mountain**	5.01	112	*e*Pn	Pn	04 07 40.1	-1.8
HUMO	**Hull Mountain**	5.01	112	⇑P	Pn	04 07 38.0	-3.9
	baz=4.9						
LVP	**Lakeview Peak**	5.04	71	P	Pn	04 07 42.2	-0.2
H04A	**Detroit Lake**	5.05	87	⇑P	Pn	04 07 41.7	-0.8
	baz=4.9,SNR=29						
IRO	**Indian Ridge**	5.07	95	P	Pn	04 07 42.3	-0.5
D04A	**Dobbs Creek Ra**	5.15	59	⇑P	Pn	04 07 44.1	+0.2
	baz=5.0,SNR=21						
FRIS	**Frissel Point**	5.15	92	P	Pn	04 07 43.6	-0.3
B04A	**Port Angeles**	5.26	47	⇑P	Pn	04 07 45.2	-0.2
	baz=5.2						
MEW	**McNeil Island**	5.29	59	P	Pn	04 07 46.8	+1.1
VFP	**Flag Point**	5.58	80	P	Pn	04 07 50.7	+0.9
YBH	**Yreka Blue Hor**	5.60	119	Pn	Pn	04 07 52.1	+2.0
	0.3nm,0.3s,baz=296,slow=12,SNR=5.6						
YBH	**Yreka Blue Hor**	5.60	119	*e*P	Pn	04 07 51.0	+0.9
E05A	**Randle**	5.61	67	⇑P	Pn	04 07 50.5	+0.4
	baz=5.5,SNR=34						
F05A	**White Salmon**	5.65	75	⇓P	Pn	04 07 51.3	+0.5
	baz=5.5						
PGC	**Sidney**	5.67	43	*e*Pn	Pn	04 07 50.0	-1.1
	34nm,0.7s						
G05A	**Wamic**	5.68	81	⇓P	Pn	04 07 50.9	-0.2
	baz=5.6						
D05A	**Enumclaw**	5.69	61	⇓P	Pn	04 07 52.1	+0.9
	baz=5.6,SNR=41						
RMW	**Rattlesnake Mo**	5.91	59	P	Pn	04 07 54.9	+0.6
C05A	**Tolt Reservoir**	6.09	57	⇓P	Pn	04 07 56.9	+0.2
	baz=6.0						
B05A	**Bryant**	6.14	51	⇓P	Pn	04 07 57.8	+0.4
	baz=6.0,SNR=23						
JCW	**Jim Creek**	6.20	52	P	Pn	04 07 58.9	+0.6
WDC	**Whiskeytown Da**	6.41	127	*e*Pn	Pn	04 08 03.8	+2.7
TBM	**Table Mountain**	6.56	64	P	Pn	04 08 04.4	+1.2
RPW	**Rockport**	6.57	52	P	Pn	04 08 04.1	+0.8
A05A	**Maple Falls**	6.58	46	⇑P	Pn	04 08 04.0	+0.5
	baz=6.5						
BBB	**Bella Bella**	7.60	5	LR	LR	04 10 26.2	
	comp=Z,134nm,19.1s,baz=24,slow=30						
NEW	**Newport**	9.14	62	Pn	Pn	04 08 49.2	+11
	0.4nm,0.3s,baz=242,slow=8.1,SNR=4.1						
NEW				LR	LR	04 12 11.0	
	comp=Z,459nm,20.4s,baz=226,slow=34						
NVAR	**Mina Array Bea**	10.29	123	Pn	Pn	04 08 58.4	+4.0
	0.1nm,0.3s,baz=294,slow=9.7,SNR=2.8						
NVAR	**Mina Array Bea**	10.29	123	Pn	Pn	04 08 58.4	+4.0
MCMT	**McKenzie Canyo**	11.69	83	*e*Pn	Pn	04 09 15.7	+2.3
DLBC	**Dease Lake**	13.83	358	Pn	Pn	04 09 46.9	+4.1
	0.1nm,0.3s,baz=189,slow=19,SNR=3.2						
DLBC				LR	LR	04 14 27.7	
	comp=Z,295nm,19.7s,baz=184,slow=34						
DLBC	**Dease Lake**	13.83	358	Pn	Pn	04 09 46.9	+4.1
DLBC				LR	LR	04 14 27.7	
MSU	**Marysvale**	14.17	110	*e*Pn	Pn	04 09 49.1	+7.1
PDAR	**Pinedale Array**	14.38	91	Pn	Pn	04 10 00.6	+10
	0.0nm,0.3s,baz=292,slow=7.4,SNR=3.4						
SRU	**San Rafael**	15.01	105	*e*Pn	Pn	04 10 04.5	+5.6
	9.0nm,1.0s						
PV01	**Paradox Valley**	16.82	106	*e*P	Pn	04 10 22.8	+0.5
TUC	**Tucson**	18.95	124	P	Pn	04 10 49.1	+0.7
	2.7nm,1.1s						
YKA	**Yellowknife Ar**	19.81	20	P	Pn	04 10 57.2	-1.6
	1.2nm,1.0s,baz=214,slow=11,SNR=7.1						
YKA	**Yellowknife Ar**	19.81	20	P	Pn	04 10 57.2	-1.7
ANMO	**Albuquerque**	19.96	111	P	Pn	04 11 03.2	+2.6
	0.9nm,0.9s,baz=316,slow=9.4,SNR=3.4						
ANMO	**Albuquerque**	19.96	111	*e*P	Pn	04 10 58.1	-2.5
	2.0nm,1.1s						
FFC	**Flin Flon**	20.22	50	*e*P	P	04 11 02.4	+0.7
	6.1nm,0.9s						
ULM	**Lac du Bonnet**	23.14	64	P	P	04 11 39.2	+6.0
	1.6nm,0.8s,mb3.5,baz=280,slow=8.9,SNR=3.5						
ULM				LR	LR	04 20 16.9	
	comp=Z,103nm,20.6s,MS3.3,baz=323,slow=34						
ULM	**Lac du Bonnet**	23.14	64	P	P	04 11 39.2	+6.0
ULM				LR	LR	04 20 16.9	
INK	**Inuvik**	23.84	356	LR	LR	04 20 12.7	
	comp=Z,118nm,20.9s,MS3.3,baz=175,slow=34						
SCHQ	**Schefferville**	40.34	52	LR	LR	04 29 23.0	
	comp=Z,72nm,20.1s,MS3.5,baz=24,slow=33						
BVAR	**Borovoye Array**	81.27	348	P	P	04 18 37.0	-6.0
	0.2nm,0.3s,mb3.5,baz=29,slow=3.4,SNR=3.9						
GERES	**GERESS Array B**	81.43	24	P	P	04 18 41.3	-2.5
	0.2nm,0.7s,mb3.2,baz=316,slow=4.1,SNR=3.7						

NEIC ***11*** *04:26:14.8, 32.21S×71.73W, h10km, MD3.5(GUC), After GUC.*

GUC 11 04:26:14.8±0.3, 3221S×7173W, h10km±16km, MD3.5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	0.97	142	⇓*i*P	Pg	04 26 33.1	-0.4
ROCH				*i* S	Sg	04 26 46.9	+0.8
JACH	**Jahuel**	1.07	116	⇓*i*P	Pg	04 26 34.4	-0.9
JACH				*i* S	Sg	04 26 49.2	+0.1
LCCH	**Las Cruces**	1.27	174	*e*P	Pn	04 26 37.2	-1.4
LCCH				*e*S	Sb	04 26 54.4	-0.7
TACH	**Talagante**	1.58	155	*e*P	Pn	04 26 42.6	-0.4

ISCJB ***11*** *04:56:05.6±2.0, 378N±01×719E±01, h33km, Error ellipse: s-maj=17.4km s-min=16.2km az=169.6*

NNC ***11*** *04:56:11.5±4.5, 38.36N×71.29E, h0km, mb3.5, mpv2.9, Error ellipse: s-maj=46.5km s-min=39.1km az=70.0*

ISC 11 04:56:07.0±2.1, 377N±01×719E±01, h35km, n9, σ1§17/12, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	4.63	17	P	Pn	04 57 15.9	+1.6
	SNR=13						
UCH	**Uchtor**	4.94	23	P	Pn	04 57 19.6	+0.8
	SNR=35						
KZA	**Kyzart**	5.07	30	P	Pn	04 57 20.2	-0.3
	SNR=12						
EKS2	**Erkin-Say**	5.15	16	P	Sn	04 58 19.9	+0.2
	SNR=6.6						
AAK	**Ala-Archa**	5.30	21	P	Pn	04 57 24.6	+0.9
	SNR=7.7						
KK31	**Karatay Array**	5.48	350	⇑Pn	Pn	04 57 27.8	+1.7
	2.4nm,0.3s,baz=164,slow=12,SNR=100						
KK31				⇑Sn	Sn	04 58 28.0	+0.1
	32nm,0.5s,baz=173,slow=23,SNR=38						
ULHL	**Ulahol**	5.63	35	P	Pn	04 57 27.2	-1.0
	SNR=7.5						
TKM2	**Tokmak 2**	5.92	28	⇑Pn	Pn	04 57 31.5	-0.7
	0.3nm,0.8s						
TKM2				⇓Sn	Sn	04 58 37.9	-1.0
	0.5nm,0.8s						
AB31	**Akbulak array**	14.40	327	⇑Pn	Pn	04 59 25.5	-2.7
	0.7nm,0.4s,baz=134,slow=13,SNR=23						
AB31				⇑Sn	Sn	05 01 55.7	-11
	1.9nm,0.6s,baz=157,slow=22,SNR=7.8						

ISCJB ***11*** *05:08:57.0±0.4, 4008N±002×2163E±003, h5km, Error ellipse: s-maj=3.8km s-min=3.1km az=3.3*

ATH ***11*** *05:08:57.5, 4007N×2166E, h2km, MD3.1/4*

THE ***11*** *05:08:57.3, 4009N×2162E, h1km, ML2.3*

CSEM ***11*** *05:08:57.6±0.2, 4009N×2162E, h5km, MD3.1, Error ellipse: s-maj=3.2km s-min=2.8km az=96.0*

NEIC ***11*** *05:08:57.8, 4008N×2165E, h8km, MD3.1(ATH), After ATH.*

ISC 11 05:08:57.5±0.5, 4007N±002×2164E±004, h2km±8km, n16, σ1§01/27, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	0.26	23	⇓*i*Pg	Pg	05 09 02.5	0.0
KZN				*e*Sg	Sg	05 09 07.0	+1.1
MEV	**Metsovon**	0.42	228	*e*Pg	Pg	05 09 05.2	-0.4
MEV				*e*Sg	Sg	05 09 11.0	-0.1
LIT	**Litokhoron**	0.66	87	*e*Pg	Pg	05 09 09.3	-0.8
LIT				*e*Sg	Sg	05 09 19.4	+0.8
FNA	**Florina**	0.74	345	*e*Pg	Pg	05 09 10.5	-1.2
FNA				*e*Sg	Sg	05 09 20.8	-0.6
BIA	**Bitola**	0.98	346	*i* Pg	Pg	05 09 14.6	-1.8
BIA				*i* Sg	Sg	05 09 29.9	+0.9
BIA	**Bitola**	0.98	346	*i* Pg	Pg	05 09 14.5	-1.8
BIA				*i* Sg	Sg	05 09 29.9	+0.8
GRG	**Griva**	1.06	33	*e*Pg	Pg	05 09 17.3	-0.6
IGT	**Igoumenitsa**	1.14	242	*e*Pg	Pg	05 09 18.8	-0.6
IGT				*e*Sg	Sg	05 09 35.3	+1.2
EVR	**Evrytania**	1.16	173	*e*Pn	Pn	05 09 19.1	-1.6
EVR				*e*Sb	Sb	05 09 36.0	+0.3
AGG	**Agios Georgios**	1.17	153	*e*Pg	Pg	05 09 19.7	-0.3
AGG				*e*Sg	Sg	05 09 37.5	+2.2
OHR	**Ohrid**	1.22	329	*i* Pg	Pg	05 09 20.8	-0.2
OHR				*i* Sg	Sg	05 09 38.5	+1.7
OHR	**Ohrid**	1.22	329	*i* Pg	Pg	05 09 20.8	-0.2
OHR				*i* Sg	Sg	05 09 38.4	+1.6
XOR	**Xorichti**	1.39	120	*e*Pg	Pg	05 09 23.4	-0.8
PLG	**Polygyros**	1.42	77	*e*PN	Pn	05 09 24.0	-0.3
VAY	**Valandovo**	1.44	29	*e*Pn	Pn	05 09 26.3	+1.7
KEK	**Kerkira**	1.46	257	*e*PB	Pb	05 09 25.5	+0.1

ISCJB ***11*** *05:14:33.2±1.2, 04S±02×965E±01, h29km, mb3.7/7, Error ellipse: s-maj=22.4km s-min=19.3km az=127.1*

NEIC ***11*** *05:14:35.7±1.0, 037S×9644E, mb4.0/1, Error ellipse: s-maj=20.5km s-min=18.1km az=210.0*

IDC ***11*** *05:14:36.0±1.6, 025S×9679E, h29km±5km, mb3.6/6, mb1 3.7/6, mb1mx3.5/17, mbtmp3.7/6, Error ellipse: s-maj=51.2km s-min=30.0km az=48.0*

ISC 11 05:14:35.6±1.2, 04S±02×965E±01, h31km, h31km±1.4km: pP-P, n11, σ0§75/9, mb3.7/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	3.99	37	Pn	Pn	05 15 34.5	-0.1
	1.0nm,0.3s,baz=145,slow=10,SNR=3.8						
KULM	**Kulim**	7.00	36	*e*Pn	Pn	05 16 16.5	+0.6
WRA	**Warramunga Arr**	41.78	120	P	P	05 22 21.9	-0.2
	0.8nm,0.8s,mb3.4,baz=300,slow=9.1,SNR=3.2						
MKAR	**Makanchi Array**	48.64	347	P	P	05 23 15.9	-0.6
	0.4nm,0.5s,mb3.8,baz=153,slow=8.2,SNR=5.1						
MKAR				pP	pP	05 23 25.5	-0.4
	1.2nm,0.6s,baz=155,slow=7.8,SNR=7.8						
SONM	**Songino Array**	48.82	9	P	P	05 23 18.0	+0.2
	0.1nm,0.3s,mb3.3,baz=198,slow=8.8,SNR=3.0						
SONM				pP	pP	05 23 25.2	-2.0
	1.3nm,1.0s,baz=188,slow=9.0,SNR=5.2						
ZAL	**Zalesovo**	55.03	352	P	P	05 24 04.0	-0.1
	1.7nm,0.5s,mb4.4,baz=54,slow=1.0,SNR=4.0						
ZAL				pP	pP	05 24 13.1	-0.5
	2.8nm,0.5s,baz=301,slow=8.1,SNR=5.0						
CHKZ	**Chkalovo**	58.04	342	*e*P	P	05 24 24.2	-1.3
	0.9nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	69.70	313	P	P	05 25 44.0	+1.7
	0.5nm,0.7s,mb3.5,baz=90,slow=8.6,SNR=3.1						
BRTR				pP	pP	05 25 53.8	+1.7
	0.4nm,0.7s,baz=152,slow=8.2,SNR=3.1						
AKASG	**Malm Array Be**	76.12	323	pP		05 26 29.8	-0.3
	1.0nm,0.6s,baz=94,slow=4.8,SNR=4.8						
FINES	**FINESS Array B**	81.11	333	P	P	05 26 47.7	-0.1
	1.0nm,0.9s,mb3.8,baz=114,slow=17,SNR=2.6						
FINES				pP	pP	05 26 57.4	-0.3
	0.6nm,0.6s,baz=116,slow=8.7,SNR=2.0						
ARCES	**ARCESS Array B**	83.82	340	pP	pP	05 27 11.4	-0.4
	8.2nm,1.2s,baz=85,slow=4.0,SNR=1.6						

STR ***11*** *05:18:21.5±0.1, 43.12N×074W, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***11*** *05:18:22.2±0.1, 43.11N×072W, h2km, Md2.3/3, Ml2.1/6, Error ellipse: s-maj=1.7km s-min=1.2km az=179.0*

MDD 11 05:18:22.4±0.2, 4311N×071W, h10km, mbLg1.6/17, 1C, Error ellipse: s-maj=2.5km s-min=1.2km az=16.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	0.02	153	Pg	Pg	05 18 23.8	-0.4
ATE	**Arette**	0.02	153	Pg	Pg	05 18 23.9	-0.3
ATE				Lg		05 18 25.1	
ORDF	**Ordiarp**	0.20	304	Pg	Pg	05 18 26.4	-0.1
ORDF				Lg		05 18 29.9	
LARF	**Larrau**	0.21	252	Pg	Pg	05 18 26.5	-0.3
LARF				Sg	Sg	05 18 30.1	+0.3
LARF	**Larrau**	0.21	252	Pg	Pg	05 18 26.6	-0.2
LARF				Lg		05 18 30.0	
ETSF	**Etsaut**	0.23	151	*e*Pg	Pg	05 18 27.0	-0.2
ETSF				*e*Sg	Sg	05 18 30.3	-0.2
	188nm,0.3s						
ETSF	**Etsaut**	0.23	151	Pg	Pg	05 18 27.0	-0.2
ETSF				Lg		05 18 30.3	
	94nm,0.3s						
REYF	**Montagne du Re**	0.24	98	Pg	Pg	05 18 27.0	-0.3
REYF				Lg		05 18 30.6	
FDAF	**Les Forges d'A**	0.30	159	Pg	Pg	05 18 28.1	-0.3
FDAF				Lg		05 18 32.4	
SJPF	**Ste Jean**	0.38	272	*e*Pg	Pg	05 18 29.3	-0.5
SJPF				*e*Sg	Sg	05 18 34.9	+0.1
	30nm,0.2s						
SJPF	**Ste Jean**	0.38	272	Pg	Pg	05 18 29.3	-0.5
SJPF				Lg		05 18 34.9	
	15nm,0.2s						
OSSF	**Osses**	0.43	291	Pg	Pg	05 18 30.0	-0.8
OSSF				Sg	Sg	05 18 35.3	-1.2
OSSF	**Osses**	0.43	291	Pg	Pg	05 18 30.0	-0.8
OSSF				Lg		05 18 36.3	
IPRE	**Itoiz**	0.56	238	Pg	Pg	05 18 33.2	0.0
	0.8nm,0.1s,SNR=7.9						
IPRE				Lg		05 18 41.5	
	2.2nm,0.1s,SNR=7.9						
LABF	**Labassere**	0.58	95	Pg	Pg	05 18 33.1	-0.5
LABF				Sg	Sg	05 18 41.8	+0.6
LABF	**Labassere**	0.58	95	Pg	Pg	05 18 33.3	-0.3
LABF				Lg		05 18 41.8	
VIEF	**Viey**	0.58	112	Pg	Pg	05 18 33.1	-0.6
VIEF				Sg	Sg	05 18 41.4	0.0
VIEF	**Viey**	0.58	112	Pg	Pg	05 18 33.2	-0.6
VIEF				Lg		05 18 40.8	
EALK	**Alkurruntz**	0.59	281	Pg	Pg	05 18 33.1	-0.8
	1.2nm,0.1s,SNR=7.9						
EALK				Lg		05 18 40.7	
	16nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	0.60	276	Pg	Pg	05 18 33.4	-0.6
	2.4nm,0.2s,SNR=18						
ELIZ				Lg		05 18 41.1	
	7.3nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	0.63	256	Pg	Pg	05 18 34.2	-0.4
	1.8nm,0.1s,SNR=7.9						
IUSE				Lg		05 18 42.6	
	7.9nm,0.1s,SNR=7.9						
EARA	**Aranguren**	0.72	243	Pg	Pg	05 18 35.7	-0.6
	0.6nm,0.1s,SNR=7.9						
EARA				Lg		05 18 46.0	
	1.9nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	0.76	123	⇑Pg	Pg	05 18 36.3	-0.7
	1.7nm,0.1s,SNR=18						
EBIE				Lg		05 18 46.1	
	2.0nm,0.0s,SNR=29						
EPF	**Esparros**	0.78	95	*e*Pg	Pg	05 18 36.9	-0.5
EPF				*e*Sg	Sg	05 18 47.5	0.0
	5.2nm,0.2s						
EPF	**Esparros**	0.78	95	Pg	Pg	05 18 36.9	-0.5
EPF				Lg		05 18 47.5	
	2.6nm,0.2s						
RESF	**Ens**	0.83	111	Lg		05 18 48.6	
MELF	**Melles**	1.10	102	Pg	Pg	05 18 43.4	-0.2
MELF				Lg		05 18 57.3	
EGRA	**Graus**	1.18	140	Pg	Pg	05 18 45.0	-0.1
	1.1nm,0.3s,SNR=7.9						
EGRA				Lg		05 19 01.8	
	1.8nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	1.39	172	Pg	Pg	05 18 48.9	-0.2
	8.1nm,0.3s,SNR=7.9						
ESAC				Lg		05 19 07.8	
	16nm,0.2s,SNR=7.9						
SALF	**Salau**	1.44	103	Pg	Pg	05 18 50.6	+0.6
SALF				Lg		05 19 08.3	
LFF	**La Frestale**	2.11	29	*e*Pg	Pg	05 19 02.0	-0.9
LFF				*e*Sg	Sg	05 19 29.0	-1.3
	4.2nm,0.3s						
LFF	**La Frestale**	2.11	29	Pg	Pg	05 19 02.0	-0.9
LFF				Lg		05 19 29.0	
	2.1nm,0.3s						
MTLF	**Montolieu**	2.15	83	*e*Pg	Pg	05 19 02.2	-1.5
MTLF				*e*Sg	Sg	05 19 29.3	-2.4
	3.3nm,0.3s						
MTLF	**Montolieu**	2.15	83	Pg	Pg	05 19 02.2	-1.5
MTLF				Lg		05 19 29.3	
	1.6nm,0.3s						
EPOB	**Poblet**	2.20	142	Pg	Pg	05 19 02.8	-1.7
	0.6nm,0.1s,SNR=7.9						
EPOB				Lg		05 19 31.8	
	0.2nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	2.28	160	Pg	Pg	05 19 03.1	-3.0
	0.5nm,0.2s,SNR=7.9						
ERTA				Lg		05 19 33.9	
	SNR=7.9						
CAF	**Calviac**	2.71	47	*e*Pn	Pn	05 19 04.9	-1.0
CAF				*e*Sg	Sg	05 19 46.6	-2.8
	2.1nm,0.2s						
CAF	**Calviac**	2.71	47	Pn	Pn	05 19 04.9	-1.0
CAF				Lg		05 19 46.6	
	1.1nm,0.2s						
RJF	**Les Rejaudoux**	2.72	35	*e*Pg	Pg	05 19 12.6	-2.0
RJF				*e*Sg	Sg	05 19 46.9	-2.9
	2.8nm,0.4s						
RJF	**Les Rejaudoux**	2.72	35	Pg	Pg	05 19 12.6	-2.0
RJF				Lg		05 19 46.9	
	1.4nm,0.4s						
EMOS	**Mosqueruela**	2.74	176	Pg	Pg	05 19 12.0	-3.0
	SNR=4.0						
EMOS				Lg		05 19 48.4	
	SNR=7.9						
LASF	**Ste Croix**	3.46	72	*e*Pn	Pn	05 19 15.7	-0.6
LASF				*e*Sg	Sg	05 20 11.1	-2.4
	0.5nm,0.2s						
LASF	**Ste Croix**	3.46	72	Pn	Pn	05 19 15.7	-0.6
LASF				Lg		05 20 11.1	
	0.2nm,0.2s						
MFF	**Saint Martin d**	3.52	6	*e*Pg	Pg	05 19 27.3	-2.5
MFF				*e*Sg	Sg	05 20 12.3	-3.2
	0.9nm,0.3s						
MFF	**Saint Martin d**	3.52	6	Pg	Pg	05 19 27.3	-2.5
MFF				Lg		05 20 12.3	
	0.4nm,0.3s						

BJI ***11*** *05:19:07.6, 026N×13053E, h16km, mB5.0, mb4.6, Ms4.2, Msz3.8*

IDC ***11*** *05:19:08.9±0.6, 031N×12999E, h0km, mb4.3/10, mb1 4.5/12, mb1mx4.3/19, mbtmp4.3/12, ML3.6/2, MS4.1/4, Ms1 4.1/4, ms1mx3.4/27, Error ellipse: s-maj=30.1km s-min=13.8km az=68.0*

ISCJB ***11*** *05:19:09.2±2.8, 032N±005×130.10E±008, h14km±17km, mb4.6/33, MS4.0/8, Error ellipse: s-maj=14.6km s-min=7.9km az=143.3*

NEIC ***11*** *05:19:09.9±5.5, 029N×13007E, h7km±34km, mb4.5/14, Error ellipse: s-maj=15.1km s-min=7.2km az=67.0*

MOS ***11*** *05:19:12.3±1.3, 033N×12992E, h33km, mb4.7/14, Error ellipse: s-maj=19.8km s-min=8.6km az=116.2*

ISC 11 05:19:11.7±3.4, 031N±005×13016E±009, h18km±21km, h24km±5.1km: pP-P, n80, σ1§23/66, mb4.6/33, MS4.0/8, 12C-8D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	1.60	137	P	Pn	05 19 37.8	-1.2
	2μm,1.1s						
KAKA	**Kakadu**	13.13	170	*e*P	Pn	05 22 16.0	-1.2
	16nm,0.6s						
FITZ	**Fitzroy Crossi**	18.82	193	*e*P	Pn	05 23 29.8	-1.1
	15nm,0.8s						
FITZ	**Fitzroy Crossi**	18.82

comp=Z,40nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,140nm,5.0s
SSE LR LR
comp=N,50nm,21.5s,MS3.5
SSE LR LR
comp=E,100nm,21.5s,MS3.5
SSE LR LR
comp=Z,150nm,20.0s,MS3.7
NJ2 Nanjing 33.34 342 *eP* **P 05 25 48.5 0.0**
NJ2 AP pP 05 25 58.0 +3.9
NJ2 XP sP 05 26 02.9 +6.5
NJ2 PP PP 05 27 00.2 -3.8
NJ2 PPP 05 27 19.1
NJ2 S **S 05 31 04.0 -4.3**
NJ2 XS sS 05 31 23.0 +5.5
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,90nm,5.8s
NJ2 LR LR
comp=N,430nm,23.4s,MS4.3
NJ2 LR LR
comp=E,590nm,25.4s,MS4.3
NJ2 LR LR
comp=Z,270nm,25.2s,MS3.9
STKA Stephens Creek 33.79 162 *eP* **P 05 25 51.7 -0.8**
comp=Z,7.5nm,0.9s,mb4.6
STKA Stephens Creek 33.79 162 P **P 05 25 51.6 -0.9**
comp=Z,8.0nm,0.8s,mb4.7,baz=355,slow=7.0,SNR=12
STKA Stephens Creek 33.79 162 *eP* **P 05 25 51.4 -1.1**
CHTO Chiang Mai 35.73 303 *eP* **P 05 26 10.8 +1.6**
CHTO pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CHTO Chiang Mai 35.73 303 *eP* **P 05 26 10.8 +1.5**
comp=Z,9.4nm,1.1s,mb4.6
MJAR Matsushiro Arr 36.82 11 P **P 05 26 18.6 0.0**
comp=Z,1.5nm,0.8s,mb3.9,baz=190,slow=9.4,SNR=3.8
MAJO Matsushiro 36.82 11 *eP* **P 05 26 19.5 +1.0**
MAJO pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
MAJO Matsushiro 36.82 11 *eP* **P 05 26 19.5 +0.9**
comp=Z,5.3nm,0.9s,mb4.4
XAN Xi'an 39.02 331 P **P 05 26 36.7 -0.4**
XAN AMB AMB
comp=Z,10.0nm,1.5s,mb4.3
CD2 Chengdu 39.42 323 *eP* **P 05 26 40.7 +0.3**
CD2 AP pP 05 26 44.0 -2.1
CD2 XP sP 05 26 45.8 -2.5
CD2 PP PP 05 28 15.7 +4.7
CD2 S **S 05 32 42.2 +1.0**
CD2 XS sS 05 32 49.7 -0.8
CD2 SS SS 05 35 29.7 -5.8
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 LR LR
comp=N,370nm,21.6s
CD2 LR LR
comp=Z,340nm,21.6s,MS4.2
LZH Lanzhou 43.19 328 *eP* **P 05 27 14.0 +2.6**
LZH AP pP 05 27 19.2 +2.1
LZH XP sP 05 27 22.7 +3.4
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.8
HHC Hu-ho-hao-te 43.74 340 *eP* **P 05 27 18.5 +2.6**
HHC AMB AMB
comp=Z,40nm,4.5s
ULN Ulaanbaatar 51.45 340⇑ *eP* **P 05 28 14.9 -0.8**
ULN Ulaanbaatar 51.45 340 *eP* **P 05 28 15.2 -0.5**
comp=Z,6.7nm,1.0s,mb4.5
SONM Songino Array 51.65 340 P **P 05 28 17.0 -0.2**
comp=Z,2.0nm,0.9s,mb4.1,baz=140,slow=9.5,SNR=13
SONM LR LR 05 51 11.5
comp=Z,110nm,18.3s,MS3.9,baz=84,slow=37
ZAK Zakamensk 54.89 339 *eP* **P 05 28 41.7 +0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
WMQ Urumqi 57.48 325 P **P 05 29 01.1 +1.5**
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,80nm,4.0s
WMQ LR LR
comp=N,90nm,25.0s,MS4.0
WMQ LR LR
comp=E,110nm,25.0s,MS4.0
WMQ LR LR
comp=Z,110nm,25.0s,MS3.9
MKAR Makanchi Array 62.31 325 P **P 05 29 31.2 -1.5**
comp=Z,1.8nm,0.5s,mb4.5,baz=117,slow=8.0,SNR=19
AAK Ala-Archa 65.18 318 *eP* **P 05 29 51.2 -0.5**
AAK pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
AAK Ala-Archa 65.18 318 *eP* **P 05 29 51.2 -0.5**
comp=Z,1.1nm,0.4s,mb4.2
ZAL Zalesovo 65.19 332 P **P 05 29 52.2 +0.5**
comp=Z,0.6nm,0.4s,mb4.0,baz=8.4,slow=8.1,SNR=2.6
NVS Novosibirsk 66.46 333 *eP* **P 05 29 57.3 -2.7**
TIXI Tiksi 71.23 360⇑ *iP* **P 05 30 28.6 -1.1**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRVK Borovoye 72.11 327 *eP* **P 05 30 33.7 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BRVK Borovoye 72.11 327 *eP* **P 05 30 33.7 -1.2**
comp=Z,4.6nm,1.0s,mb4.4
CHKZ Chkalovo 72.19 327 *eP* **P 05 30 36.0 +0.6**
CHKZ pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
CHKZ Chkalovo 72.19 327 *eP* **P 05 30 36.0 +0.6**
comp=Z,10nm,1.4s,mb4.6
ZRNK Zerenda 72.78 326 *eP* **P 05 30 38.6 -0.3**
ZRNK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ZRNK Zerenda 72.78 326 *eP* **P 05 30 38.6 -0.3**
comp=Z,8.3nm,0.9s,mb4.7
VNDA Vanda 79.63 173 P **P 05 31 16.8 -1.1**
comp=Z,1.7nm,0.7s,mb4.1,baz=327,slow=6.9,SNR=9.3
VNDA Vanda 79.63 173 *eP* **P 05 31 16.6 -1.3**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 79.63 173 *eP* **P 05 31 16.6 -1.3**
comp=Z,2.6nm,0.9s,mb4.2
ARU Arti 79.64 328⇓ *iP* **P 05 31 18.2 +0.3**
ARU *e* 05 34 20.1
ARU *eS* S 05 41 20.6 +1.4
ARU *eSS* SS 05 46 29.8 +2.2
ARU pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ORR Orenburg 80.72 322⇑ *iP* **P 05 31 26.5 +2.7**
ORR pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
MCK McKinley 85.69 26 *eP* **P 05 31 50.5 +1.1**
MCK pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
MCK McKinley 85.69 26 *eP* **P 05 31 50.5 +1.0**
comp=Z,3.5nm,1.1s,mb4.5
GNI Garni 86.30 310 *eP* **P 05 31 51.7 -0.7**
GNI pmax pmax
comp=Z,10.0nm,1.5s
GNI MLR MLR
comp=Z,100nm,23.0s
KIV Kislovodsk 87.97 314 *eP* **P 05 31 58.1 -2.4**
KIV pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.3
QSPA South Pole Qui 90.23 180 *eP* **P 05 32 10.2 -1.0**
comp=Z,8.3nm,1.0s,mb5.0
ANN Anapa 91.73 315 *eP* **P 05 32 08.8 -9.3**
ANN pmax pmax
comp=Z,17nm,0.9s,mb5.4
OBN Obninsk 91.81 325 *eP* **P 05 32 18.5 0.0**
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,100nm,24.0s,MS4.2
YKA Yellowknife Ar 101.14 25 P Pdif 05 33 01.8 +1.0
comp=Z,0.2nm,0.7s,baz=305,slow=5.0,SNR=3.7
YKA PP PP 05 37 10.5 +1.1
comp=Z,0.3nm,0.9s,baz=292,slow=11,SNR=3.9
YKA Yellowknife Ar 101.14 25 P Pdif 05 33 01.8 +1.0
YKA PP PP 05 37 10.6 +1.1
S04C Ingram Canyon, 104.43 51 ⇑P PKiKP 05 38 02.3 +31
baz=2.0,SNR=8.1
CMB Columbia Colle 105.05 50 ⇑P PKiKP 05 37 51.5 +19
baz=1.4
CMB ⇓S 05 38 09.2
baz=1.4
U04C Hernandez Rese 105.10 52 ⇑P PKiKP 05 38 01.6 +29
baz=1.9,SNR=6.0
S05C Merced 105.24 51 ⇑P PKiKP 05 37 48.9 +16
baz=1.2
S05C ⇑S 05 38 04.4
baz=1.2
S06C San Francisco 105.50 51 ⇓P PKiKP 05 37 43.4 +10
baz=0.9
S06C ⇓S 05 37 55.5
baz=0.9
MLAC Mammoth Lakes 106.34 51 ⇓P PKiKP 05 37 30.7 -4.4
baz=0.2,SNR=36
MLAC ⇑S 05 37 33.7
baz=0.2
R08A Mina 106.73 50 ⇑P PKiKP 05 37 46.9 +11
baz=1.1
R08A ⇓S 05 38 02.4
baz=1.1
S08C White Mtn Res 106.89 51 ⇓P PKiKP 05 37 37.1 +0.9
baz=0.5,SNR=48
S08C ⇑S 05 37 44.7
baz=0.5
S09A Goldfield 107.56 50 ⇑P PKiKP 05 37 51.6 +14
baz=1.3,SNR=44
S09A ⇓S 05 38 09.2
baz=1.3
LVC Limon Verde 151.08 141 PKPbc PKPbc 05 39 07.0 +3.5
comp=Z,3.7nm,0.5s,baz=315,slow=3.5,SNR=7.9
CPUP Villa Florida 153.14 165 PKPbc PKPbc 05 39 08.6 +0.4
comp=Z,1.3nm,0.6s,baz=228,slow=2.9,SNR=6.0
CPUP Villa Florida 153.14 165 PKPbc PKPbc 05 39 08.6 +0.4
LPAZ La Paz 155.97 132 PKPab PKPab 05 39 34.2 +2.3
comp=Z,0.7nm,0.3s,baz=242,slow=11,SNR=15

CSEM ***11*** *05:40:01.5±0.1,3561N×3092E,h25km,MD3.3,Error ellipse: s-maj=2.1km s-min=1.5km az=101.0*
ISCJB ***11*** *05:40:02.5±0.3,3560N±003×3088E±004,h33km,Error ellipse: s-maj=4.8km s-min=3.7km az=149.9*
ISK ***11*** *05:40:03.0,3561N×3093E,h32km,MD3.3*
HLW ***11*** *05:40:05.1,3553N×3091E,h21km,Mb3.5*
ISC 11 05:40:04.4±0.3,3564N±003×3089E±004,h35km,n33,σ0974/43,14C-2D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**1.36**	**325**	PN	**Pn**	**05 40 27.2**	**+0.2**
FETY	**Fethiye**	**1.77**	**305**	*e*PN	**Pn**	**05 40 32.6**	**+0.1**
FETY				*e*SN	**Sn**	**05 40 54.2**	**+0.4**
ERMK	**Ermenek**	**1.92**	**58**	*i* P	**Pn**	**05 40 27.5**	**-7.1**
ERMK				*i* S	**Sn**	**05 40 50.2**	**-7.3**
CSS	**Prodhromos**	**2.11**	**108**	*e*PN	**Pn**	**05 40 36.6**	**-0.6**
IKL	**Isikli**	**2.35**	**74**	*e*PN	**Pn**	**05 40 39.3**	**-1.2**
TKTP	**Tekketepe**	**2.44**	**349**	*i* P	**Pn**	**05 40 33.4**	**-8.4**
YER	**Yerkesik**	**2.58**	**306**	*e*PN	**Pn**	**05 40 45.2**	**+1.5**
KONT	**Konya--Tatoy**	**2.59**	**27**	*e*PN	**Pn**	**05 40 44.5**	**+0.7**
MEST	**Erdemli**	**2.80**	**69**	*i* P	**Pn**	**05 40 46.0**	**-0.8**
MEST				*i* S	**Sn**	**05 41 21.0**	**+1.7**
KDHN	**Kadinhani**	**3.04**	**18**	*i* P	**Pn**	**05 40 49.9**	**-0.2**
KDHN				*i* S	**Sn**	**05 41 25.8**	**+0.6**
KDHN	**Kadinhani**	**3.04**	**18**	*i* P	**Pn**	**05 40 49.8**	**-0.2**
KDHN				*i* S	**Sn**	**05 41 25.8**	**+0.6**
BDRM	**Kayabasi**	**3.13**	**298**	*i* P	**Pn**	**05 40 48.8**	**-2.4**
BDRM				*i* S	**Sn**	**05 41 26.8**	**-0.5**
BODT	**Bodrum**	**3.22**	**297**	*e*PN	**Pn**	**05 40 52.6**	**+0.1**
KIZT	**Kizilcal**	**3.33**	**13**	*e*PN	**Pn**	**05 40 53.7**	**-0.3**
MANT	**Manisa**	**3.41**	**327**	*i* P	**Pn**	**05 40 53.9**	**-1.2**
MANT				*i* S	**Sn**	**05 41 34.5**	**+0.3**
ESKT	**Eskisehir**	**3.88**	**360**	*i* P	**Pn**	**05 41 00.9**	**-0.6**
SEYT	**Eskypehyr**	**3.88**	**360**	*i* P	**Pn**	**05 41 00.9**	**-0.6**
DABA	**Dabaa**	**5.10**	**206**	⇓P	**Pn**	**05 41 19.0**	**+0.6**
HBRG	**Burj al 'Arab**	**5.12**	**190**	⇑P	**Pn**	**05 41 18.5**	**-0.1**
AMAG	**Maghara**	**5.34**	**158**	⇑P	**Pn**	**05 41 21.4**	**-0.3**
HMAT	**Matruh**	**5.53**	**216**	⇑P	**Pn**	**05 41 24.0**	**-0.3**
KOT	**Kottamia**	**5.75**	**172**	⇑P	**Pn**	**05 41 27.5**	**+0.3**
KOT				S	**Sn**	**05 42 27.2**	**-4.7**
HHAG	**Hagoal**	**5.76**	**169**	⇓P	**Pn**	**05 41 27.4**	**0.0**
FYM	**Al Fayyum**	**5.93**	**179**	⇑P	**Pn**	**05 41 29.8**	**+0.1**
SUZ		**6.01**	**164**	⇑P	**Pn**	**05 41 30.7**	**-0.1**
HSAF	**As Saff**	**6.03**	**174**	⇑P	**Pn**	**05 41 30.8**	**-0.3**
GLL	**Jalalah**	**6.08**	**173**	⇑P	**Pn**	**05 41 31.7**	**-0.1**
HNKL	**Nakhl**	**6.26**	**155**	⇑P	**Pn**	**05 41 34.0**	**-0.2**
SLUM		**6.29**	**231**	⇑P	**Pn**	**05 41 35.4**	**+0.8**
SLUM				S	**Sn**	**05 42 41.3**	**-4.0**
AWBH		**7.49**	**194**	⇑P	**Pn**	**05 41 50.4**	**-0.6**
TR2		**7.62**	**161**	⇑P	**Pn**	**05 41 53.1**	**+0.2**
SWA1		**7.71**	**216**	⇑P	**Pn**	**05 41 55.2**	**+1.0**
SWA1				S	**Sn**	**05 43 14.7**	**-5.7**
SWA2		**7.86**	**217**	⇑P	**Pn**	**05 41 56.8**	**+0.7**

CSEM ***11*** *05:44:58.7,2017S×17888W,h33km,mb5.6*
MOS ***11*** *05:45:58.4±0.9,2053S×17926W,h635km,mb5.2/48, Error ellipse: s-maj=8.9km s-min=7.3km az=57.5*
BJI ***11*** *05:45:59.9,2025S×17884W,h662km,mB5.2,mb5.2*
ISCJB ***11*** *05:46:00.1±0.1,2078S±003×17928W±003,h665km, mb5.1/132,Error ellipse: s-maj=4.2km s-min=2.6km az=93.6*
IDC ***11*** *05:46:00.1±0.7,2067S×17924W,h649km±8km,mb4.6/20, mb1 4.7/23,mb1mx4.6/24,mbtmp5.6/23,Error ellipse: s-maj=9.3km s-min=7.1km az=156.0*
HRVD ***11*** *05:46:01.3±0.2,2066S×17921W,h670km±1km,MW5.9/97, Centroid moment Tensor Solution. LP body waves: s97,c192; Half duration: 2s1 Moment tensor: Scale 1017 Nm; M_{rr}-3.07±.07; $M_{\theta\theta}$1.92±.10; $M_{\phi\phi}$1.15±.11; $M_{r\theta}$-4.78±.11; $M_{\theta\phi}$1.19±.10; $M_{\phi r}$-5.11±.12; Best double couple: $M_0$7.58300×1017 NP1:ϕ_s241.00000°,δ12.00000°, λ-74.00000°. NP2:ϕ_s44.00000°,δ79.00000°,λ-93.00000°. Principal axes: T 7.4020, Plg34.0000°, Azm137.0000°; N 0.3600, Plg3.0000°, Azm45.0000°; P -7.7630, Plg56.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***11*** *05:46:01.3±0.1,2066S×17926W,mb5.1/98 Error ellipse: s-maj=5.1km s-min=3.0km az=126.0*
BGS ***11*** *05:46:02.8±6.4,2064S×17932W,h663km,mb5.1(NEIC)*
SZGRF ***11*** *05:46:03.2,2022S×17664W,h689km,Fiji Islands region*
ISC 11 05:46:01.8±0.1,2075S±003×17925W±003,h667km, h667km±1.4km;pP-P,n998,σ0983/516,mb5.1/131, 111C-130D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.55**	**172**	P	**P**	**05 48 05.7**	**-2.6**
	322nm,0.3s,baz=92,slow=24,SNR=14						
RAO				S	**S**	**05 49 47.2**	**-4.6**
	38nm,0.3s,baz=81,slow=22,SNR=4.0						
RAO	**Raoul Island**	**8.55**	**172**	P	**P**	**05 48 05.7**	**-2.6**
RAO				S	**S**	**05 49 47.2**	**-4.7**
RAO				pmax	pmax		
	comp=Z,323nm,0.3s						
RAO				smax			
	comp=N,38nm,0.3s						
RAO	**Raoul Island**	**8.55**	**172**	*e*Pn	**P**	**05 48 05.9**	**-2.4**
	comp=N,1μm,0.5s						
AFI	**Afiamalu**	**9.86**	**48**	P	**P**	**05 48 15.0**	**-5.2**
	comp=N,25nm,0.3s,baz=30,slow=2.6,SNR=16						
AFI				S	**S**	**05 50 03.7**	**-10**
	comp=N,14nm,0.3s,baz=40,slow=22,SNR=7.8						
AFI	**Afiamalu**	**9.86**	**48**	*e*P	**P**	**05 48 15.2**	**-5.1**
AFI				*e*		05 50 03.9	
AFI				pmax	pmax		
	comp=Z,292nm,0.7s						
AFI	**Afiamalu**	**9.86**	**48**	*e*Pn	**P**	**05 48 15.2**	**-5.1**
	comp=Z,292nm,0.7s						
AFI				*e*Sn	**S**	**05 50 03.9**	**-10**
AFI				*e*PcP	PcP	05 53 22.4	+0.6
BKM	**Butte a Klehm**	**12.21**	**282**	⇑*iP*	**P**	**05 48 42.2**	**+0.3**
FUNA	**Funafuti**	**12.25**	**353**	*e*Pn	**P**	**05 48 40.2**	**-2.0**
DZM	**Mont Dzumac**	**13.39**	**262**	P	**P**	**05 48 53.9**	**+1.1**
	comp=Z,11nm,0.3s,baz=82,slow=16,SNR=106						
DZM				S	**S**	**05 51 11.5**	**-0.7**
	baz=303,slow=24,SNR=1.6						
NOUC	**Port Laguerre**	**13.52**	**262**	*e*P	**P**	**05 48 54.9**	**+0.9**
OUZ	**Omahuta**	**15.73**	**202**	PN	**P**	**05 49 16.9**	**+2.7**
OUZ	**Omahuta**	**15.73**	**202**	*e*P	**P**	**05 49 16.9**	**+2.7**
WCZ	**Waipu Caves**	**16.14**	**199**	⇑PN	**P**	**05 49 20.7**	**+2.7**
WCZ	**Waipu Caves**	**16.14**	**199**	*e*P	**P**	**05 49 20.6**	**+2.7**
MTAZ	**Motutapu**	**16.77**	**196**	PN	**P**	**05 49 25.9**	**+2.2**
MTAZ	**Motutapu**	**16.77**	**196**	*e*P	**P**	**05 49 25.9**	**+2.2**
MXZ	**Matakaoa Point**	**16.89**	**187**	*e*PN	**P**	**05 49 22.5**	**-2.2**
MXZ	**Matakaoa Point**	**16.89**	**187**	*e*P	**P**	**05 49 23.1**	**-1.6**
OTAZ	**Otara**	**16.92**	**196**	PN	**P**	**05 49 27.1**	**+2.1**
OTAZ	**Otara**	**16.92**	**196**	*e*P	**P**	**05 49 24.0**	**-1.0**
WTAZ	**Waiatarua**	**17.00**	**197**	P	**P**	**05 49 27.7**	**+2.0**
PUZ	**Puketiti**	**17.40**	**187**	PN	**P**	**05 49 28.3**	**-1.0**
PUZ				SN	**S**	**05 52 13.1**	**-4.3**
PUZ	**Puketiti**	**17.40**	**187**	*e*P	**P**	**05 49 29.0**	**-0.3**
PUZ				S	**S**	**05 52 13.1**	**-4.3**
URZ	**Urewera**	**17.73**	**189**	P	**P**	**05 49 29.5**	**-2.8**
	comp=Z,14nm,0.3s,baz=334,slow=2.3,SNR=66						
URZ				S	**S**	**05 52 18.9**	**-3.8**
	comp=Z,3.5nm,0.3s,baz=193,slow=20,SNR=6.8						
URZ				ScP	ScP	05 56 07.3	+1.1
	comp=Z,2.9nm,0.3s,baz=28,slow=6.2,SNR=6.6						
URZ	**Urewera**	**17.73**	**189**	PN	**P**	**05 49 29.5**	**-2.8**
URZ				SN	**S**	**05 52 16.8**	**-5.9**
URZ	**Urewera**	**17.73**	**189**	*e*P	**P**	**05 49 29.5**	**-2.8**
MWZ	**Matawai**	**17.74**	**188**	*e*P	**P**	**05 49 31.3**	**-1.2**
RAR	**Rarotonga**	**18.20**	**95**	P	**P**	**05 49 34.7**	**-1.9**
	comp=Z,8.0nm,0.3s,baz=274,slow=8.7,SNR=6.2						
RAR	**Rarotonga**	**18.20**	**95**	P	**P**	**05 49 34.7**	**-1.9**
RAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
HIZ	**Hauiti**	**18.42**	**195**	PN	**P**	**05 49 41.8**	**+3.2**
HIZ	**Hauiti**	**18.42**	**195**	*e*P	**P**	**05 49 43.0**	**+4.4**
BKZ	**Black Stump Fm**	**18.72**	**190**	*e*PN	**P**	**05 49 38.6**	**-2.6**
BKZ	**Black Stump Fm**	**18.72**	**190**	*e*P	**P**	**05 49 38.5**	**-2.7**
FWVZ	**Far West T-bar**	**18.98**	**192**	*e*PN	**P**	**05 49 44.1**	**+0.5**
FWVZ	**Far West T-bar**	**18.98**	**192**	*e*P	**P**	**05 49 44.1**	**+0.5**
PXZ	**Pawanui**	**19.50**	**189**	*e*SN	**S**	**05 52 47.6**	**-3.1**
TCW	**Tory Channel**	**21.12**	**194**	*e*PN	**P**	**05 50 02.1**	**-0.7**
TCW	**Tory Channel**	**21.12**	**194**	P	**P**	**05 50 03.2**	**+0.4**
SNZO	**South Karori**	**21.13**	**193**	*e*P	**P**	**05 50 01.2**	**-1.6**
	comp=Z,120nm,0.8s,mb5.3						
QRZ	**Quartz Range**	**21.20**	**197**	PN	**P**	**05 50 03.7**	**+0.2**
QRZ				*e*SN	**S**	**05 53 18.4**	**+0.9**
QRZ	**Quartz Range**	**21.20**	**197**	*e*P	**P**	**05 50 04.0**	**+0.6**
QRZ				S	**S**	**05 53 18.6**	**+1.1**
NNZ	**Nelson**	**21.34**	**195**	*e*PN	**P**	**05 50 03.7**	**-0.9**
NNZ	**Nelson**	**21.34**	**195**	*e*P	**P**	**05 50 04.1**	**-0.6**
THZ	**Tophouse**	**21.97**	**196**	PN	**P**	**05 50 09.1**	**-1.2**
THZ				*e*SN	**S**	**05 53 26.0**	**-3.7**
THZ	**Tophouse**	**21.97**	**196**	*e*P	**P**	**05 50 09.9**	**-0.4**
KHZ	**Kahutara**	**22.44**	**194**	PN	**P**	**05 50 12.5**	**-1.9**
KHZ	**Kahutara**	**22.44**	**194**	*e*P	**P**	**05 50 12.7**	**-1.7**
HNR	**Honiara**	**22.99**	**296**	P	**P**	**05 50 19.6**	**+0.3**
	comp=Z,128nm,0.8s,mb5.4,baz=86,slow=4.8,SNR=3.7						
HNR	**Honiara**	**22.99**	**296**	P	**P**	**05 50 19.6**	**+0.3**
HNR				pmax	pmax		
	comp=Z,128nm,0.9s,mb5.3						
LTZ	**Lake Taylor**	**23.09**	**196**	*e*PN	**P**	**05 50 18.3**	**-1.9**
LTZ	**Lake Taylor**	**23.09**	**196**	*e*P	**P**	**05 50 19.6**	**-0.6**
RPZ	**Rata Peaks**	**24.29**	**197**	P	**P**	**05 50 30.5**	**-0.2**
	comp=Z,26nm,0.7s,mb4.8,baz=354,slow=2.4,SNR=11						
RPZ				S	**S**	**05 54 06.3**	**+0.4**
	comp=Z,21nm,0.8s,baz=72,slow=20,SNR=2.5						
RPZ	**Rata Peaks**	**24.29**	**197**	P	**P**	**05 50 30.5**	**-0.2**
RPZ				S	**S**	**05 54 06.3**	**+0.4**
FOZ	**Fox Glacier**	**24.55**	**200**	*e*PN	**P**	**05 50 31.5**	**-1.5**
FOZ	**Fox Glacier**	**24.55**	**200**	*e*P	**P**	**05 50 32.5**	**-0.5**
LBZ	**Lake Benmore**	**25.15**	**198**	*e*PN	**P**	**05 50 36.1**	**-2.1**
LBZ	**Lake Benmore**	**25.15**	**198**	*e*P	**P**	**05 50 37.1**	**-1.2**
JCZ	**Jackson Bay**	**25.31**	**201**	PN	**P**	**05 50 39.4**	**-0.3**
JCZ	**Jackson Bay**	**25.31**	**201**	*e*P	**P**	**05 50 39.6**	**-0.1**
ODZ	**Otahua Downs**	**25.63**	**197**	*e*PN	**P**	**05 50 41.8**	**-0.6**
ODZ	**Otahua Downs**	**25.63**	**197**	*e*P	**P**	**05 50 46.1**	**+3.7**
EAZ	**Earnscleugh**	**26.18**	**199**	PN	**P**	**05 50 47.1**	**-0.1**
EAZ	**Earnscleugh**	**26.18**	**199**	*e*P	**P**	**05 50 47.3**	**+0.1**
MLZ	**Mavora Lakes**	**26.63**	**200**	*e*PN	**P**	**05 50 51.4**	**+0.2**
MLZ	**Mavora Lakes**	**26.63**	**200**	*e*P	**P**	**05 50 51.9**	**+0.7**
TUZ	**Tuapeka**	**26.74**	**197**	PN	**P**	**05 50 52.2**	**0.0**
TUZ	**Tuapeka**	**26.74**	**197**	*e*P	**P**	**05 50 52.2**	**0.0**
WHZ	**Wether Hill Ro**	**27.19**	**200**	PN	**P**	**05 50 56.4**	**+0.3**
WHZ	**Wether Hill Ro**	**27.19**	**200**	*e*P	**P**	**05 50 56.6**	**+0.6**
TBI	**Tubuai**	**27.71**	**101**	*e*P	**P**	**05 51 00.7**	**+0.2**
	comp=Z,157nm,0.8s,mb5.6						
ARMA	**Armidale**	**27.91**	**244**⇑	*iP*	**P**	**05 51 04.5**	**+2.3**
ARMA				*e*SCP	ScP	05 56 38.8	+5.3
PAE	**Paea**	**28.17**	**89**	*e*P	**P**	**05 51 04.5**	**0.0**
	comp=Z,125nm,0.9s,mb5.5						
PAE				*e*pP		05 52 41.0	
	comp=Z,315nm,1.3s						
PPT	**Papeete**	**28.19**	**89**	*e*P	**P**	**05 51 04.6**	**-0.1**
	comp=Z,69nm,0.8s,mb5.2						
PPT	**Papeete**	**28.19**	**89**	P	**P**	**05 51 03.5**	**-1.1**
	comp=Z,72nm,0.5s,mb5.5,baz=215,slow=1.7,SNR=9.1						
PPT	**Papeete**	**28.19**	**89**	P	**P**	**05 51 03.5**	**-1.2**
PPT				pmax	pmax		
	comp=Z,72nm,0.5s						
TVO	**Taravao**	**28.45**	**89**	*e*P	**P**	**05 51 06.8**	**-0.1**
	comp=Z,145nm,0.7s,mb5.6						
PMOR	**Pomariorio Ree**	**30.35**	**84**	*e*P	**P**	**05 51 22.6**	**-0.5**
	comp=Z,75nm,0.7s,mb5.3						
VAH	**Vaihoa**	**30.54**	**85**	*e*P	**P**	**05 51 23.9**	**-0.8**
	comp=Z,106nm,0.7s,mb5.5						
CNB	**Canberra Magne**	**31.12**	**236**	*e*P	**P**	**05 51 31.6**	**+2.0**
	comp=Z,64nm,0.6s,mb5.3						
CTA	**Charters Tower**	**32.30**	**265**⇓	*iP*	**P**	**05 51 40.5**	**+0.9**
	comp=Z,95nm,0.4s,mb5.7						
CTA				*e*S	**S**	**05 56 08.8**	**-0.4**
CTA	**Charters Tower**	**32.30**	**265**	P	**P**	**05 51 39.5**	**-0.1**
	comp=Z,111nm,0.4s,mb5.7,baz=94,slow=11,SNR=242						
CTA	**Charters Tower**	**32.30**	**265**⇓	*iP*	**P**	**05 51 40.5**	**+0.9**
CTA				*e*S	**S**	**05 56 08.8**	**-0.4**
CTA				pmax	pmax		
	comp=Z,95nm,0.4s						
CTAO	**Charters Tower**	**32.30**	**265**	*e*P	**P**	**05 51 39.2**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,169nm,0.7s,mb5.7						
CTAO	**Charters Tower**	**32.30**	**265**	*e*P	**P**	**05 51 39.2**	**-0.4**
	comp=Z,169nm,0.7s,mb5.7						
PMG	**Port Moresby**	**34.26**	**284**	P	**P**	**05 51 55.8**	**-0.1**
	comp=Z,162nm,0.7s,mb5.7,baz=82,slow=6.1,SNR=44						
PMG				ScP	ScP	05 56 57.0	+1.9
	comp=Z,14nm,1.0s,baz=275,slow=12,SNR=3.6						
PMG	**Port Moresby**	**34.26**	**284**	*e*P	**P**	**05 51 56.3**	**+0.4**
PMG				pmax	pmax		
	comp=Z,350nm,1.0s						
PMG	**Port Moresby**	**34.26**	**284**	*e*P	**P**	**05 51 56.3**	**+0.4**
	comp=Z,350nm,1.0s,mb5.8						
TOO	**Toolangi**	**34.80**	**233**	*e*P	**P**	**05 52 01.8**	**+1.4**
	comp=Z,43nm,0.6s,mb5.2						
TOO	**Toolangi**	**34.80**	**233**	*e*P	**P**	**05 52 01.8**	**+1.4**
TOO				pmax	pmax		
	comp=Z,43nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**36.62**	**244**⇓	*iP*	**P**	**05 52 14.5**	**-0.7**
	comp=Z,79nm,0.9s,mb5.2						
STKA				*e*S	**S**	**05 57 07.8**	**-5.8**
STKA				*e*SCS	ScS	06 01 14.3	+1.2
STKA	**Stephens Creek**	**36.62**	**244**	P	**P**	**05 52 14.6**	**-0.6**
	comp=Z,112nm,0.9s,mb5.4,baz=90,slow=9.9,SNR=72						
STKA				ScP	ScP	05 57 05.6	+1.8
	comp=Z,21nm,1.0s,baz=49,slow=3.3,SNR=6.8						
RKT	**Rikitea**	**41.02**	**102**	*e*P	**P**	**05 52 50.3**	**0.0**
	comp=Z,63nm,0.8s,mb5.1						
AS31	**Alice Springs**	**43.32**	**257**⇓	*iP*

WB2 eSCS ScS 06 01 58.4 +4.0
WRAB Tennant Creek 43.40 263 P **P** **05 53 08.0 -0.7**
comp=N,1µm,0.7s,SNR=40
WRAB Tennant Creek 43.40 263 eP **P** **05 53 08.7 0.0**
WRAB pmax pmax
comp=Z,319nm,1.0s,mb5.7
WRAB Tennant Creek 43.40 263 eP **P** **05 53 08.7 0.0**
comp=Z,318nm,1.0s,mb5.7
WRA Warramunga Arr 43.41 263 P **P** **05 53 09.0 +0.3**
comp=Z,104nm,0.5s,mb5.5,baz=97,slow=7.9,SNR=205
WRA S **S** **05 58 50.9 -0.3**
comp=Z,15nm,0.8s,baz=98,slow=12,SNR=16
WRA Warramunga Arr 43.41 263 P **P** **05 53 09.0 +0.3**
WRA S **S** **05 58 50.9 -0.3**
WRA pmax pmax
comp=Z,104nm,0.5s
WRA smax
comp=N,15nm,0.8s
HON Honolulu 46.69 28 eP **P** **05 53 33.2 -0.4**
KIP Kipapa 46.77 28 eP **P** **05 53 33.1 -1.1**
KIP pmax pmax
comp=Z,101nm,0.7s,mb5.3
KIP Kipapa 46.77 28 eP **P** **05 53 33.1 -1.1**
comp=Z,101nm,0.7s,mb5.3
KAKA Kakadu 46.81 272 ⇓iP **P** **05 53 34.5 0.0**
comp=Z,156nm,0.5s,mb5.6
KAKA eS **S** **05 59 40.1 +1.6**
FORT Forrest 48.12 247 eP **P** **05 53 42.4 -1.8**
comp=Z,196nm,0.5s,mb5.7
FORT eS **S** **05 59 54.2 -2.1**
GUMO Guam 49.07 311 P **P** **05 53 51.1 0.0**
comp=Z,111nm,0.5s,mb5.4,baz=179,slow=12,SNR=9.6
GUMO Guam 49.07 311 P **P** **05 53 51.1 0.0**
GUMO pmax pmax
comp=Z,111nm,0.5s,mb5.5
GUMO Guam 49.07 311 P **P** **05 53 51.1 0.0**
FITZ Fitzroy Crossi 51.83 263 ⇓iP **P** **05 54 11.6 +0.6**
comp=Z,117nm,0.6s,mb5.3
FITZ eS **S** **06 00 47.4 +1.3**
FITZ Fitzroy Crossi 51.83 263 P **P** **05 54 11.6 +0.6**
comp=Z,48nm,0.5s,mb5.0,baz=116,slow=4.0,SNR=87
FITZ S **S** **06 00 47.5 +1.4**
comp=Z,3.2nm,0.9s,baz=287,slow=19,SNR=4.0
MBWA Marble Bar 56.66 258 eP **P** **05 54 44.5 0.0**
comp=Z,146nm,0.7s,mb5.2
KLBR Kellerberrin 56.89 245 eP **P** **05 54 46.0 -0.1**
comp=Z,137nm,0.9s,mb5.1
NWAO Narrogin (SRO) 57.21 244 P **P** **05 54 49.0 +0.7**
comp=Z,41nm,0.8s,mb4.6,baz=90,slow=7.2,SNR=19
NWAO Narrogin (SRO) 57.21 244 eP **P** **05 54 49.1 +0.8**
NWAO pmax pmax
comp=Z,61nm,1.0s
NWAO Narrogin (SRO) 57.21 244 eP **P** **05 54 49.1 +0.8**
comp=Z,61nm,1.0s,mb4.7
SBA Scott Base 57.55 183 eP **P** **05 54 52.3 +1.8**
SBA e*PP pP 05 56 55.1 +1.2
SBA pmax pmax
comp=Z,78nm,1.0s,mb4.8
SBA Scott Base 57.55 183 eP **P** **05 54 52.3 +1.7**
comp=Z,78nm,1.0s,mb4.8
SBA epP pP 05 56 55.1 +1.2
SBA eScP ScP 05 58 32.6 +1.1
VNDA Vanda 57.56 185 P **P** **05 54 51.4 +0.8**
comp=Z,15nm,0.7s,mb4.2,baz=356,slow=7.5,SNR=60
VNDA ScP ScP 05 58 32.5 +1.0
comp=Z,16nm,0.9s,baz=345,slow=3.3,SNR=9.5
VNDA Vanda 57.56 185 eP **P** **05 54 51.5 +0.9**
VNDA pmax pmax
comp=Z,15nm,0.8s
VNDA Vanda 57.56 185 eP **P** **05 54 51.5 +0.9**
comp=Z,15nm,0.8s,mb4.2
MUN Mundaring 58.16 245 eP **P** **05 54 54.9 +0.2**
TBP Tagbilaran 63.57 293 eP **P** **05 55 38.4 +8.6**
TSM Tawau 66.47 285 P **P** **05 55 49.2 +1.4**
KKM Kota Kinabalu 68.69 285 P **P** **05 56 02.4 +1.1**
KKM Kota Kinabalu 68.69 285 eP **P** **05 56 02.2 +0.9**
QSPA South Pole Qui 69.32 180 ⇑iP **P** **05 56 05.6 +0.6**
comp=Z,149nm,1.2s,mb5.2
MJAR Matsushiro Arr 69.72 325 P **P** **05 56 06.4 -1.0**
comp=Z,63nm,0.7s,mb5.1,baz=157,slow=5.8,SNR=122
MJAR Matsushiro Arr 69.72 325 P **P** **05 56 06.4 -1.0**
MJAR pmax pmax
comp=Z,63nm,0.7s
MAJO Matsushiro 69.73 325 eP **P** **05 56 06.5 -0.9**
MAJO pmax pmax
comp=Z,55nm,0.6s,mb5.2
MAJO Matsushiro 69.73 325 eP **P** **05 56 06.5 -0.9**
comp=Z,55nm,0.6s,mb5.2
MAT Matsushiro 69.73 325 P **P** **05 56 06.3 -1.1**
MAT S S 06 04 22.0 -3.7
MAT Matsushiro 69.73 325 eP **P** **05 56 06.0 -1.4**
MAT eS S 06 04 23.0 -2.7
MAT pmax pmax
comp=Z,45nm,0.5s,mb5.2
MAT Matsushiro 69.73 325 eP **P** **05 56 06.0 -1.4**
comp=Z,45nm,0.5s,mb5.2
MAT eS S 06 04 23.0 -2.7
MIR Mirnyy 70.27 205 eP **P** **05 56 11.5 +0.9**
MIR pmax pmax
comp=Z,210nm,1.0s,mb5.5
KSM Kuching 72.29 279 eP **P** **05 56 23.2 +0.9**
NACB Ninganchiao 72.85 305 eP **P** **05 56 25.1 -0.5**
YHNB Yeheng 73.29 305 eP **P** **05 56 27.8 -0.2**
TATO Taipei 73.37 305 eP **P** **05 56 28.1 -0.3**
comp=Z,144nm,0.9s,mb5.4
SMY Shemya 73.40 356 eP **P** **05 56 24.4 -4.2**
SMY pmax pmax
comp=Z,179nm,0.8s,mb5.5
SMY Shemya 73.40 356 eP **P** **05 56 24.4 -4.2**
comp=Z,179nm,0.8s,mb5.5
NIKO Nikolski 73.97 7 eP **P** **05 56 29.4 -2.4**
UNV Unalaska Valle 75.10 8 eP **P** **05 56 35.5 -2.6**
comp=Z,319nm,0.6s,mb6.0
AKUT Akutan 75.48 8 eP **P** **05 56 38.7 -1.5**
comp=Z,66nm,0.4s,mb5.5
QZH Quanzhou 75.58 304 ⇑iP **P** **05 56 40.7 0.0**
QZH AP pP 05 58 53.2 -1.8
QZH XP sP 05 59 58.3 -4.1
QZH S S 06 05 33.2 +3.4
QZH XS sS 06 09 28.2 -0.8
QZH AMB AMB
comp=Z,130nm,0.7s,mb5.6
QZH AMB AMB
comp=Z,1µm,7.8s
YSS Yuzh-Sakhalins 75.60 334 κeP **P** **05 56 40.1 -0.8**
YSS e 05 56 51.1
YSS eS S 06 05 32.0 +1.9
YSS eSSS 06 14 11.0
YSS pmax pmax
comp=Z,60nm,0.9s,mb5.1
YSS pmax pmax
comp=Z,600nm,6.0s
YSS Yuzh-Sakhalins 75.60 334 eP **P** **05 56 40.8 0.0**
comp=Z,39nm,0.6s,mb5.1
PET Petropavlovsk 75.93 346 κiP **P** **05 56 40.9 -1.8**
PET eS S 06 05 31.4 -2.2
PET eSP 06 06 14.8
PET pmax pmax
comp=Z,700nm,6.3s
PET pmax pmax
comp=Z,59nm,0.6s,mb5.3
PET smax
comp=E,300nm,16.4s
PET MLR MLR
PET MLR MLR
comp=Z,100nm,19.0s
comp=Z,300nm,20.0s
PET Petropavlovsk 75.93 346 eP **P** **05 56 41.0 -1.7**
comp=Z,36nm,0.6s,mb5.1
PET epP pP 05 58 53.7 -3.4
FALS False Pass 76.51 9 eP **P** **05 56 44.1 -1.8**
SSE Sheshan 76.96 311 P **P** **05 56 47.3 -0.9**
SSE AP pP 05 59 02.1 -1.2
SSE PP PP 05 59 51.7 -2.8
SSE S S 06 05 39.8 -4.6
SSE AMB AMB
comp=Z,40nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,350nm,6.6s
SDPT Sand Point 77.47 11 eP **P** **05 56 48.9 -2.1**
comp=Z,184nm,0.5s,mb5.9
VLA Vladivostok 77.82 326 ⇓eP **P** **05 56 51.3 -1.6**
SPIA Saint Paul Isl 77.99 5 eP **P** **05 56 52.1 -1.7**
SNCC San Nicolas Is 78.28 48 ⇓P **P** **05 56 55.1 -0.2**
baz=78

FARB Farallon Islan 78.58 42 ⇓P **P** **05 56 56.9 0.0**
baz=79,SNR=6.5
V03C Hunter Liggett 78.71 45 ⇑P **P** **05 56 58.2 +0.6**
baz=79,SNR=7.5
HAST Hastings Reser 78.73 44 P **P** **05 56 58.3 +0.6**
baz=79,SNR=38
V04C Ramage Ranch, 78.73 45 ⇑P **P** **05 56 57.9 +0.2**
baz=79,SNR=5.9
CHGN Chignik 78.75 12 eP **P** **05 56 56.6 -1.2**
BNLO Ben Lomond 78.77 43 ⇑P **P** **05 56 58.0 +0.2**
baz=79,SNR=9.7
SBC Santa Barbara 78.82 47 ⇓P **P** **05 56 58.3 +0.1**
baz=79
GZH Guangzhou 78.83 300 P **P** **05 56 57.9 -0.3**
SAC San Andreas 78.88 43 eP **P** **05 56 58.0 -0.5**
JRSC Jasper Ridge 78.89 43 ⇑P **P** **05 56 58.7 +0.2**
baz=79,SNR=6.0
MCCM Marconi Confer 78.93 42 ⇓P **P** **05 56 58.7 -0.1**
baz=79
KGM Kluang 78.97 276 P **P** **05 57 00.3 +1.4**
SAO San Andreas Ge 79.02 44 eP **P** **05 56 59.4 +0.2**
SAO pmax pmax
comp=Z,49nm,0.8s,mb5.1
SAO San Andreas Ge 79.02 44 eP **P** **05 56 59.4 +0.2**
comp=Z,49nm,0.8s,mb5.1
LRV Little Rabbit 79.09 44 eP **P** **05 57 00.4 +0.8**
LRV epP pP 05 59 15.8 +0.1
PKD Parkfield 79.13 45 ⇓P **P** **05 56 59.9 +0.1**
baz=79,SNR=9.4
NJ2 Nanjing 79.14 310 eP **P** **05 57 00.6 +0.8**
NJ2 AP pP 05 59 16.0 0.0
NJ2 PP PP 06 00 16.0 +3.6
NJ2 XP sP 06 00 23.0 +0.2
NJ2 PPP 06 01 08.0
NJ2 S S 06 06 07.0 0.0
NJ2 AMB AMB
comp=Z,60nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,350nm,12.0s
PTRM Twissleman Ran 79.18 45 eP **P** **05 57 00.9 +0.9**
PTRM epP pP 05 59 09.8 -6.4
U04C Hernandez Rese 79.21 44 ⇑P **P** **05 57 01.1 +0.9**
baz=79,SNR=18
PACP Pacheco Peak 79.26 44 ⇓P **P** **05 57 00.9 +0.4**
baz=79,SNR=12
CVS Carmenet Viney 79.31 42 ⇓P **P** **05 57 00.8 +0.1**
baz=80,SNR=11
WENL Wente Brothers 79.32 43 ⇑P **P** **05 57 01.3 +0.5**
baz=80,SNR=7.4
HOPS Hopland 79.33 41 eP **P** **05 57 01.2 +0.4**
comp=Z,79nm,0.8s,mb5.3
HOPS Hopland 79.33 41 ⇑P **P** **05 57 01.1 +0.3**
baz=80,SNR=13
NSHM Saint Helena R 79.33 42 eP **P** **05 57 00.9 +0.1**
FMP Fort Macarthur 79.39 48 ⇑P **P** **05 57 01.3 +0.1**
baz=80
BDM Black Diamond 79.45 43 ⇓P **P** **05 57 01.8 +0.4**
baz=80
P01C Double 8 Ranch 79.45 41 ⇓P **P** **05 57 01.8 +0.3**
baz=80,SNR=12
V05C Boulder Hill, 79.51 45 ⇓P **P** **05 57 02.4 +0.6**
baz=80
S04C Ingram Canyon, 79.53 43 ⇑P **P** **05 57 02.2 +0.4**
baz=80,SNR=23
KIPM Iron Peak 79.58 40 eP **P** **05 57 02.8 +0.7**
O01C Eel River Cons 79.58 40 ⇑P **P** **05 57 02.9 +0.8**
baz=80,SNR=43
OSI Osito Adit 79.59 47 ⇑P **P** **05 57 02.2 0.0**
baz=80
T05C Eagle Field, D 79.60 44 ⇑P **P** **05 57 03.1 +0.9**
baz=80
U05C Westside ANR, 79.64 45 ⇑P **P** **05 57 02.8 +0.4**
baz=80
MNRC McLaughlin Nat 79.65 42 ⇑P **P** **05 57 03.2 +0.7**
baz=80,SNR=27
Q03C Winters 79.77 42 ⇓P **P** **05 57 03.9 +0.8**
baz=80,SNR=12
109C Camp Elliot, M 79.77 49 ⇑P **P** **05 57 03.1 0.0**
baz=80
JCC Jacoby Creek 79.87 39 ⇑P **P** **05 57 04.0 +0.3**
baz=80
QIZ Qiongzhong 79.89 295 PR **P** **05 57 04.6 +0.8**
QIZ PP PP 06 00 16.6 -1.9
QIZ S S 06 06 16.1 +1.4
QIZ XS sS 06 10 17.1 -0.6
QIZ AMB AMB
comp=Z,420nm,11.1s
GASB Alder Springs 79.94 41 P **P** **05 57 05.3 +1.3**
baz=80,SNR=22
MDJ Mudanjiang 80.06 326 P **P** **05 57 05.0 +0.4**
MDJ AP pP 05 59 19.2 -2.0
MDJ XP sP 06 00 27.3 -0.6
MDJ S S 06 06 17.9 +1.6
MDJ SCS ScS 06 06 30.0 -0.6
MDJ XS sS 06 10 20.1 +0.6
MDJ SS SS 06 11 47.8 +0.4
MDJ AMB AMB
comp=Z,90nm,0.9s,mb5.2
MDJ AMB AMB
comp=Z,530nm,8.6s
MDJ Mudanjiang 80.06 326 eP **P** **05 57 04.9 +0.3**
comp=Z,79nm,0.8s,mb5.2
S05C Merced 80.08 44 ⇓P **P** **05 57 04.6 -0.2**
baz=80,SNR=18
HABR Khabarovsk 80.09 331 ⇓iP **P** **05 57 05.3 +0.5**
HABR eS S 06 06 15.2 -1.5
HABR pmax pmax
comp=Z,83nm,0.9s,mb5.2
R04C Big Horse Ranc 80.22 43 ⇓P **P** **05 57 04.8 -0.7**
baz=80
O02C Red Bluff 80.22 40 ⇑P **P** **05 57 06.4 +0.9**
baz=80,SNR=50
SUTB Sutter Buttes 80.26 42 ⇑P **P** **05 57 05.2 -0.5**
baz=80,SNR=27
Q04C Lincoln 80.29 42 ⇑P **P** **05 57 05.6 -0.2**
baz=80,SNR=5.9
T06C Millerton Lake 80.29 44 ⇓P **P** **05 57 05.5 -0.3**
baz=80
N02C Big Bar 80.30 40 ⇑P **P** **05 57 06.3 +0.4**
baz=80,SNR=32
ISA Isabella 80.35 46 ⇓P **P** **05 57 06.2 +0.1**
baz=80,SNR=15
CMB Columbia Colle 80.44 43 eP **P** **05 57 06.6 0.0**
CMB pmax pmax
comp=Z,31nm,0.9s,mb4.7
CMB Columbia Colle 80.44 43 eP **P** **05 57 06.6 0.0**
comp=Z,31nm,0.9s,mb4.7
CMB Columbia Colle 80.44 43 ⇑P **P** **05 57 06.4 -0.2**
baz=81,SNR=27
M01C Crescent City 80.47 38 ⇓P **P** **05 57 07.1 +0.4**
baz=81,SNR=7.0
OHCM Honcut 80.52 42 eP **P** **05 57 06.8 -0.2**
O03C Acorn Hollow, 80.58 41 ⇑P **P** **05 57 07.1 -0.2**
baz=81,SNR=14
WDC Whiskeytown Da 80.62 40 eP **P** **05 57 07.7 +0.2**
WDC pmax pmax
comp=Z,50nm,0.8s,mb5.0
WDC Whiskeytown Da 80.62 40 eP **P** **05 57 07.7 +0.2**
comp=Z,50nm,0.8s,mb5.0
WDC epP pP 05 59 25.1 +0.8
WDC Whiskeytown Da 80.62 40 P **P** **05 57 07.8 +0.3**
baz=81,SNR=56
PFO Pinyon Flat Ob 80.62 49 P **P** **05 57 07.6 +0.1**
comp=Z,85nm,0.9s,mb5.2,SNR=6.2
PFO Pinyon Flat Ob 80.62 49 ⇑P **P** **05 57 07.5 0.0**
baz=81,SNR=9.1
ORV Oroville 80.64 42 ⇑P **P** **05 57 07.5 -0.1**
baz=81,SNR=47
LAVA Lava Cap Winer 80.64 43 P **P** **05 57 07.3 -0.3**
baz=81,SNR=33
S06C San Francisco 80.70 44 ⇑P **P** **05 57 07.7 -0.2**
baz=81
KCC Kaiser Creek 80.73 44 ⇓P **P** **05 57 08.2 +0.1**
baz=81
M02C Callahan 80.93 39 ⇑P **P** **05 57 09.9 +0.8**
baz=81,SNR=96
L02A Cave Junction 80.96 38 P **P** **05 57 09.8 +0.6**
baz=81,SNR=20
KEBM Edson Butte 80.98 38 eP **P** **05 57 10.0 +0.7**
R05C Kirkwood Meado 81.03 43 P **P** **05 57 09.9 +0.4**
baz=81,SNR=29
P05C Yuba Gap, Truc 81.04 42 ⇓P **P** **05 57 10.0 +0.3**
baz=81,SNR=42
CWC Cottonwood Cre 81.05 46 ⇑P **P** **05 57 09.6 -0.1**
baz=81,SNR=12
DL2 Dalian 81.12 317 P **P** **05 57 10.0 0.0**

DL2 AMB AMB
comp=Z,20nm,0.7s,mb4.7
MLAC Mammoth Lakes 81.22 44 ⇓P **P** **05 57 11.1 +0.6**
baz=81,SNR=6.3
YBH Yreka Blue Hor 81.22 39 P **P** **05 57 11.2 +0.6**
comp=Z,76nm,0.7s,mb5.2,baz=200,slow=0.8,SNR=185
YBH Yreka Blue Hor 81.22 39 P **P** **05 57 11.2 +0.6**
YBH pmax pmax
comp=Z,76nm,0.7s
YBH Yreka Blue Hor 81.22 39 eP **P** **05 57 11.2 +0.6**
comp=Z,66nm,0.7s,mb5.2
YBH Yreka Blue Hor 81.22 39 P **P** **05 57 11.2 +0.6**
baz=81,SNR=86
O05C Quincy 81.24 41 P **P** **05 57 11.0 +0.3**
baz=81,SNR=69
MTUM Tungsten Hills 81.24 45 eP **P** **05 57 11.2 +0.5**
MTUM ePcP PcP 05 57 14.2 -0.4
DAC Darwin (Calif) 81.28 46 eP **P** **05 57 11.0 +0.1**
DAC pmax pmax
comp=Z,28nm,0.7s,mb4.8
DAC Darwin (Calif) 81.28 46 eP **P** **05 57 11.0 +0.1**
comp=Z,28nm,0.7s,mb4.8
GSC Goldstone 81.29 47 P **P** **05 57 11.1 +0.2**
baz=81,SNR=26
M03C McCloud 81.29 40 P **P** **05 57 11.4 +0.5**
baz=81,SNR=97
TIN Tinemaha 81.29 45 ⇓P **P** **05 57 11.3 +0.4**
baz=81,SNR=14
R06C Coleville 81.33 43 ⇑P **P** **05 57 11.6 +0.5**
baz=82
R07C Lee Vining 81.34 44 ⇑P **P** **05 57 11.6 +0.4**
baz=82,SNR=15
KDAK Kodiak Island 81.34 14 P **P** **05 57 10.9 -0.3**
comp=Z,347nm,0.7s,mb5.9,SNR=14
KDAK Kodiak Island 81.34 14 P **P** **05 57 09.8 -1.4**
comp=Z,40nm,0.6s,mb5.0,baz=224,slow=2.6,SNR=22
KDAK Kodiak Island 81.34 14 eP **P** **05 57 09.8 -1.4**
comp=Z,114nm,1.1s,mb5.2
O04C Chester 81.34 41 P **P** **05 57 11.5 +0.3**
baz=82,SNR=58
BC3 Big Chuckw Mtn 81.35 49 ⇑P **P** **05 57 11.8 +0.5**
baz=82,SNR=10
K02A Glendale 81.41 38 ⇑P **P** **05 57 11.7 +0.2**
baz=82,SNR=12
HATC Hat Creek Radi 81.42 40 P **P** **05 57 12.0 +0.4**
baz=82,SNR=60
LHEM Herd Peak 81.45 39 P **P** **05 57 12.2 +0.5**
GLA Glamis 81.48 50 ⇓P **P** **05 57 12.7 +0.8**
baz=82,SNR=34
S08C White Mtn Res 81.58 45 ⇓P **P** **05 57 13.0 +0.6**
baz=82,SNR=139
WCN Washoe City 81.58 43 P **P** **05 57 12.9 +0.5**
baz=82,SNR=54
HUMO Hull Mountain 81.61 38 eP **P** **05 57 13.0 +0.5**
comp=Z,48nm,0.8s,mb5.1
HUMO Hull Mountain 81.61 38 P **P** **05 57 13.2 +0.6**
baz=82,SNR=61
SNY Shenyang 81.65 321 ⇓P **P** **05 57 12.5 -0.3**
SNY S S 06 06 33.6 +1.3
SNY AMB AMB
comp=Z,60nm,0.7s,mb5.2
WHN Wuhan 81.66 307 P **P** **05 57 13.5 +0.7**
P06A Stead Airport, 81.71 42 ⇓P **P** **05 57 13.3 +0.2**
baz=82,SNR=16
J02A Umpqua 81.73 37 ⇓P **P** **05 57 13.2 0.0**
baz=82,SNR=15
ELFS Eagle Lake Fie 81.74 41 ⇑P **P** **05 57 13.5 +0.2**
baz=82
M04C Macdoel 81.77 40 ⇓P **P** **05 57 13.6 +0.3**
baz=82,SNR=33
CN2 Changchun 81.79 323 ⇓P **P** **05 57 13.2 -0.3**
CN2 eAP pP 05 59 31.2 +0.3
CN2 eS S 06 06 33.3 -0.4
CN2 AMB AMB
comp=Z,70nm,1.3s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
BUOR Burton Butte 81.83 39 P **P** **05 57 14.0 +0.4**
M05C Lookout 81.93 40 ⇓P **P** **05 57 14.4 +0.3**
baz=82,SNR=125
BBOR Butler Butte 81.95 38 P **P** **05 57 14.4 +0.2**
TUQ Turquoise Mtn. 81.97 47 ⇓P **P** **05 57 14.5 +0.2**
baz=82,SNR=49
L04A Klamath Falls 81.97 39 P **P** **05 57 14.9 +0.5**
baz=82,SNR=50
Q07A Schurz 81.98 43 ⇑P **P** **05 57 14.6 +0.2**
baz=82
I02A Mapleton 81.98 37 ⇓P **P** **05 57 14.6 +0.2**
baz=82,SNR=10
IPM Ipoh 82.00 278 P **P** **05 57 16.4 +1.9**
NVAR Mina Array Bea 82.01 44 P **P** **05 57 14.8 +0.2**
comp=Z,29nm,0.7s,mb4.9,baz=212,slow=7.0,SNR=183
NVAR PKKP PKKPbc 06 15 41.0 +3.1
comp=Z,0.3nm,0.5s,baz=83,slow=2.8,SNR=4.7
NVAR PKPPKP 06 23 51.1
comp=Z,0.9nm,0.8s,baz=91,slow=4.3,SNR=5.3
O06A Flanigan 82.03 42 ⇑P **P** **05 57 14.8 +0.1**
baz=82,SNR=31
PAHR Pah Rah Range 82.05 42 eP **P** **05 57 14.9 +0.1**
comp=Z,63nm,0.8s,mb5.2
PAHR ePcP PcP 05 57 17.8 -0.4
Y12C Blythe 82.06 50 ⇓P **P** **05 57 15.1 +0.3**
baz=82,SNR=13
J03A Ideyld Park 82.08 38 ⇓P **P** **05 57 15.3 +0.4**
baz=82
R08A Mina 82.09 44 ⇑P **P** **05 57 15.2 +0.2**
baz=82,SNR=24
MNV Mina 82.11 44 eP **P** **05 57 15.0 -0.1**
MNV e*PP pP 05 59 31.8 -0.9
MNV pmax pmax
comp=Z,26nm,0.7s,mb4.9
MNV Mina 82.11 44 eP **P** **05 57 15.0 -0.1**
comp=Z,26nm,0.7s,mb4.9
MNV epP pP 05 59 31.8 -0.9
HOG Hogback Mounta 82.12 39 P **P** **05 57 15.6 +0.4**
KLR Kul'dur 82.15 330 ⇑iP **P** **05 57 12.0 -3.3**
KLR e 06 00 34.5
KLR pmax pmax
comp=Z,140nm,1.8s,mb5.2
M06C Likely Place G 82.24 41 P **P** **05 57 16.2 +0.5**
baz=82,SNR=96
P07A Fallon 82.27 43 ⇑P **P** **05 57 16.1 +0.3**
baz=82
I03A Eugene 82.27 37 ⇑P **P** **05 57 15.9 0.0**
baz=82,SNR=8.0
H02A Toledo 82.31 36 ⇓P **P** **05 57 16.4 +0.3**
baz=82
S09A Goldfield 82.33 45 ⇓P **P** **05 57 15.7 -0.4**
baz=82,SNR=23
K04A Chilquin 82.33 39 ⇓P **P** **05 57 16.5 +0.3**
baz=82,SNR=11
Q08A Gabbs 82.50 44 P **P** **05 57 17.0 0.0**
baz=83,SNR=60
TPNV Topopah Spring 82.56 46 eP **P** **05 57 17.2 -0.1**
TPNV pmax pmax
comp=Z,51nm,0.8s,mb5.1
TPNV Topopah Spring 82.56 46 eP **P** **05 57 17.2 -0.1**
comp=Z,51nm,0.8s,mb5.1
TIA Tai'an 82.58 313 ⇓P **P** **05 57 17.4 0.0**
Y13A Salome 82.58 50 ⇑P **P** **05 57 18.1 +0.7**
baz=83
W12A Cal Nev Ari 82.62 48 ⇓P **P** **05 57 17.8 +0.2**
baz=83,SNR=40
O07A Toulon 82.63 42 P **P** **05 57 17.8 +0.2**
baz=83,SNR=126
COR Corvallis 82.64 37 eP **P** **05 57 18.2 +0.5**
COR pmax pmax
comp=Z,57nm,0.7s,mb5.2
COR Corvallis 82.64 37 eP **P** **05 57 18.2 +0.5**
comp=Z,57nm,0.7s,mb5.2
KULM Kulim 82.65 278 eP **P** **05 57 19.0 +1.3**
H03A Soap Creek Ran 82.71 37 ⇑P **P** **05 57 18.2 +0.2**
baz=83,SNR=30
MOD Modoc 82.76 40 eP **P** **05 57 18.6 +0.3**
comp=Z,61nm,0.7s,mb5.2
P08A Dixie Valley 82.87 43 ⇓P **P** **05 57 19.2 +0.3**
baz=83,SNR=12
N07B Gerlach 82.92 42 ⇑P **P** **05 57 19.1 -0.1**
baz=83,SNR=19
Q09A Carvers 82.97 44 ⇑P **P** **05 57 19.4 0.0**
baz=83,SNR=9.5
X13A Yucca 82.98 49 ⇓P **P** **05 57 19.7 +0.3**
baz=83,SNR=37
Z14A Wintersburg 82.99 51 ⇑P **P** **05 57 20.0 +0.6**
baz=83,SNR=23
M07A Soldier Meadow 83.15 41 P **P** **05 57 20.6 +0.3**
baz=83,SNR=52

115A **Sonoran Desert** 83.18 51 ⇑P P 05 57 20.8 +0.4
baz=83,SNR=22
Y14A **Wickenburg** 83.25 50 ⇓P P 05 57 20.8 +1.0
baz=83,SNR=42
SSOR **Sweet Springs** 83.28 37 P P 05 57 21.0 +0.1
K06A **Valley Falls** 83.32 39 P P 05 57 21.4 +0.3
baz=84,SNR=55
H04A **Detroit Lake** 83.33 37 ⇓P P 05 57 20.5 -0.6
baz=84,SNR=44
F03A **Seaside** 83.34 35 ⇓P P 05 57 21.3 +0.1
baz=84,SNR=8.7
P09A **Austin** 83.39 43 ⇓P P 05 57 21.3 -0.1
baz=84,SNR=9.3
N08A **GE Springer Mi** 83.45 42 P P 05 57 21.8 +0.1
baz=84,SNR=73
G04A **Mulino** 83.49 37 ⇑P P 05 57 21.8 -0.1
baz=84,SNR=24
116A **Eloy** 83.50 52 ⇓P P 05 57 22.6 +0.6
baz=84,SNR=45
I05A **Bend** 83.53 38 P P 05 57 22.4 +0.3
baz=84,SNR=35
X14A **Yava** 83.59 50 ⇑P P 05 57 22.8 +0.4
baz=84,SNR=34
J06A **Christmas Vall** 83.64 39 P P 05 57 22.4 -0.2
baz=84,SNR=61
M08A **Happy Creek Ra** 83.67 41 ⇑P P 05 57 23.2 +0.4
baz=84,SNR=17
O09A **Fish Creek Ran** 83.70 43 P P 05 57 22.9 0.0
baz=84,SNR=13
MA2 **Magadan** 83.72 345 *de*P P 05 57 21.0 -2.0
MA2 *e**SP sP 06 00 39.9 -7.8
MA2 S SKSac 06 06 40.8 -2.9
MA2 *e* 06 07 51.7
MA2 pmax pmax
comp=Z,40nm,0.8s,mb5.0
MA2 **Magadan** 83.72 345 P P 05 57 20.0 -3.0
comp=Z,44nm,0.8s,mb5.0
E03A **Lebam** 83.73 35 ⇓P P 05 57 23.1 0.0
baz=84,SNR=35
SVW2 **Sparrevohn** 83.77 11 *e*P P 05 57 21.2 -2.1
BMN **Battle Mountai** 83.83 43 *e*P P 05 57 23.5 -0.1
BMN pmax pmax
comp=Z,21nm,0.8s,mb4.7
BMN **Battle Mountai** 83.83 43 *e*P P 05 57 23.5 0.0
comp=Z,21nm,0.8s,mb4.7
BMN *e*pP pP 05 59 42.2 +0.2
W14A **Seligman** 83.83 49 P P 05 57 24.4 +0.8
baz=84,SNR=37
F04A **Amboy** 83.97 36 ⇑P P 05 57 23.9 -0.4
baz=84,SNR=17
D03A **Wishkah Elem.** 83.98 34 ⇓P P 05 57 24.8 +0.5
baz=84,SNR=16
I06A **Prineville** 84.02 39 P P 05 57 25.0 +0.5
baz=84,SNR=97
TUC **Tucson** 84.06 52 *e*P P 05 57 25.5 +0.8
TUC pmax pmax
comp=Z,21nm,0.8s,mb4.7
TUC **Tucson** 84.06 52 *e*P P 05 57 25.5 +0.8
comp=Z,21nm,0.8s,mb4.7
TUC *e*pP pP 05 59 44.5 +1.3
X15A **Humboldt** 84.07 50 P P 05 57 25.4 +0.7
baz=84,SNR=40
WVOR **Wild Horse Val** 84.08 40 *e*P P 05 57 23.5 -1.3
WVOR pmax pmax
comp=Z,34nm,0.8s,mb4.9
WVOR **Wild Horse Val** 84.08 40 *e*P P 05 57 23.5 -1.2
comp=Z,34nm,0.8s,mb4.9
WVOR *e*pP pP 05 59 42.4 -0.9
C03A **Quillayute Air** 84.09 33 ⇑⇑P P 05 57 25.3 +0.5
baz=84,SNR=11
G05A **Wamic** 84.16 37 ⇑P P 05 57 25.1 -0.1
baz=84
OCWA **Octopus Mounta** 84.16 34 *e*P P 05 57 25.7 +0.5
comp=Z,133nm,0.7s,mb5.6
E04A **Onalaska** 84.21 35 ⇓P P 05 57 25.4 0.0
baz=84
M09A **Marrel Ranch,** 84.23 42 P P 05 57 25.9 +0.4
baz=84,SNR=22
SLKM **Skilak Lake** 84.33 14 *e*P P 05 57 24.2 -1.8
W15A **Williams** 84.39 49 ⇑P P 05 57 26.8 +0.5
baz=84
L09A **Wilkinson Ranc** 84.43 41 P P 05 57 26.6 +0.1
baz=85,SNR=42
N10A **Dunphy** 84.44 43 ⇓P P 05 57 26.6 +0.1
baz=85
GAMB **Gambell** 84.45 3 *e*P P 05 57 26.0 -0.7
F05A **White Salmon** 84.47 36 ⇑⇑P P 05 57 26.4 -0.3
baz=85
D04A **Dobbs Creek Ra** 84.49 35 ⇑P P 05 57 26.7 -0.1
baz=85
E05A **Randle** 84.71 36 P P 05 57 27.4 -0.5
baz=85,SNR=20
B04A **Port Angeles** 84.71 34 ⇑P P 05 57 27.9 0.0
baz=85,SNR=5.6
C04A **Brinnon** 84.78 34 ⇑P P 05 57 28.1 -0.1
baz=85
P12A **McGill** 84.80 44 ⇓P P 05 57 28.3 0.0
baz=85,SNR=18
CCUT **Cedar City** 84.83 47 *e*P P 05 57 29.0 +0.5
M10A **I.L. Ranch, Tu** 84.86 42 ⇓P P 05 57 28.8 +0.2
baz=85,SNR=34
ARUT **Antelope Range** 84.90 47 *e*P P 05 57 28.3 -0.5
D05A **Enumclaw** 84.97 35 P P 05 57 29.3 +0.2
baz=85,SNR=38
N11A **Elko Archery C** 84.98 43 ⇑P P 05 57 29.2 +0.1
baz=85
PGC **Sidney** 85.11 33 *e*P P 05 57 29.0 -0.7
comp=Z,93nm,0.7s,mb5.5
PGC *e*pP pP 05 59 49.3 +0.5
PGC *e*sP sP 06 00 50.6 -4.3
WUAZ **Wupatki** 85.19 49 *e*P P 05 57 30.7 +0.5
comp=Z,23nm,0.8s,mb4.8
WUAZ *e*pP pP 05 59 53.2 +4.0
BJT **Baijiatuau** 85.25 316 *e*P P 05 57 30.8 +0.4
BJT pmax pmax
comp=Z,33nm,0.6s
BJT **Baijiatuau** 85.25 316 *e*P P 05 57 30.8 +0.4
comp=Z,33nm,0.6s,mb5.1
ELK **Elko** 85.26 43 *e*P P 05 57 30.4 -0.1
ELK *e**PP pP 05 59 48.6 -1.0
ELK pmax pmax
comp=Z,20nm,1.0s
ELK **Elko** 85.26 43 *e*P P 05 57 30.4 -0.1
comp=Z,20nm,1.0s,mb4.7
ELK *e*pP pP 05 59 48.6 -1.0
M11A **Holland Ranch,** 85.28 42 P P 05 57 31.1 +0.6
baz=85,SNR=13
TTA **Tatalina** 85.40 10 *e*P P 05 57 30.1 -1.0
CRAG **Craig** 85.42 24 *e*P P 05 57 31.0 -0.2
C05A **Tolt Reservoir** 85.44 35 ⇑P P 05 57 30.8 -0.6
baz=86,SNR=37
EYAK **Cordova Ski Ar** 85.44 16 *e*P P 05 57 29.9 -1.4
N12A **Wells--Clov Va** 85.45 43 ⇓P P 05 57 31.4 0.0
baz=86,SNR=52
A04A **Legoe Bay, Lum** 85.54 34 P P 05 57 31.9 +0.1
baz=86,SNR=31
PMR **Palmer** 85.54 14 *e*P P 05 57 29.8 -2.0
PMR pmax pmax
comp=Z,21nm,0.4s,mb5.1
PMR **Palmer** 85.54 14 *e*P P 05 57 29.8 -2.0
comp=Z,21nm,0.4s,mb5.1
B05A **Bryant** 85.57 34 ⇑P P 05 57 31.5 -0.4
baz=86,SNR=36
GYA **Guiyang** 85.76 300 ⇓*i*P P 05 57 33.8 +1.0
GYA AP pP 05 59 52.3 +0.1
GYA XP sP 06 00 57.2 -1.0
GYA SKS 06 06 51.2
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.9
GYA AMB AMB
comp=Z,330nm,7.8s
M12A **Wells** 85.83 43 ⇑P P 05 57 33.2 0.0
baz=86,SNR=23
HAWA **Hanford** 85.85 37 *e*P P 05 57 33.2 0.0
comp=Z,4.9nm,0.8s,mb4.2
SML **Sawmill** 85.91 14 *e*P P 05 57 25.0 -8.6
DIV **Divide** 85.94 16 *e*P P 05 57 32.2 -1.5
comp=Z,188nm,0.8s,mb5.8
N13A **West Wendover** 85.99 44 ⇑P P 05 57 33.9 0.0
baz=86,SNR=25
A05A **Maple Falls** 86.03 34 ⇑P P 05 57 33.2 -0.9
baz=86,SNR=8.9
MSU **Marysvale** 86.12 46 *e*P P 05 57 35.2 +0.7
MSU *e*pP pP 05 59 55.0 +0.9
SYO **Syowa Base** 86.22 193 ⇓*e*P P 05 57 33.3 -1.7
SYO **Syowa Base** 86.22 193 ⇓*e*PcP PcP 05 57 37.0 +0.4

M13A **Montello** 86.28 43 P P 05 57 35.4 +0.1
baz=86,SNR=39
TNA **Tin City** 86.47 5 *e*P P 05 57 34.9 -1.3
comp=Z,18nm,0.8s,mb4.7
DUG **Dugway** 86.55 45 *e*P P 05 57 36.3 -0.3
DUG pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
DUG **Dugway** 86.55 45 *e*P P 05 57 36.3 -0.3
comp=Z,4.6nm,0.7s,mb4.2
BGU **Big Grassy Mou** 86.78 44 P P 05 57 38.4 +0.8
BGU *e*pP pP 05 59 55.9 -1.6
OD2 **Odessa Site #2** 86.89 36 P P 05 57 37.9 -0.2
NLU **North Lily Min** 86.92 45 *e*P P 05 57 38.8 +0.5
TMUT **Trail Mountain** 87.17 46 *e*P P 05 57 40.2 +0.8
TMUT *e*pP pP 06 00 02.8 +3.3
MPU **Maple Canyon** 87.24 45 *e*P P 05 57 39.9 +0.1
comp=Z,13nm,0.9s,mb4.5
HLID **Hailey** 87.28 41 *e*P P 05 57 40.4 +0.4
comp=Z,30nm,0.8s,mb5.0
HLID *e*pP pP 05 59 58.2 -1.9
SPUT **South Promonto** 87.36 44 *e*P P 05 57 40.4 0.0
SPUT *e*pP pP 05 59 59.2 -1.2
SPUT *e*pP pP 05 59 59.4 -1.0
XAN **Xi'an** 87.36 308 P P 05 57 41.0 +0.7
XAN AMB AMB
comp=Z,60nm,1.0s,mb5.2
HVU **Hansel Valley** 87.39 43 *e*P P 05 57 40.5 0.0
HVU *e**PP pP 05 59 59.6 -1.0
HVU pmax pmax
comp=Z,24nm,0.8s,mb4.9
HVU **Hansel Valley** 87.39 43 *e*P P 05 57 40.5 +0.1
comp=Z,24nm,0.8s,mb4.9
HVU *e*pP pP 05 59 59.6 -1.0
MCK **McKinley** 87.47 13 *e*P P 05 57 38.8 -2.1
MCK pmax pmax
comp=Z,52nm,0.7s,mb5.3
MCK **McKinley** 87.47 13 *e*P P 05 57 38.8 -2.1
comp=Z,52nm,0.7s,mb5.3
CTU **Camp Tracy** 87.50 45 *e*P P 05 57 41.1 +0.1
comp=Z,16nm,0.9s,mb4.7
SRU **San Rafael** 87.54 47 *e*P P 05 57 41.2 0.0
SRU pmax pmax
comp=Z,26nm,0.7s,mb5.0
SRU **San Rafael** 87.54 47 *e*P P 05 57 41.2 0.0
comp=Z,26nm,0.7s,mb5.0
SRU *e*pP pP 06 00 02.6 +1.2
SKAG **Skagway** 87.63 21 *e*P P 05 57 41.2 -0.4
comp=Z,103nm,1.4s,mb5.3
DAU **Daniels Canyon** 87.69 45 *e*P P 05 57 42.5 +0.6
DAU *e**PP pP 06 00 02.3 +0.2
LAZ **Ladron** 87.73 52 *e*P P 05 57 42.5 +0.4
LAZ *e*pP pP 06 00 02.0 -0.3
LAZ *e*sP sP 06 01 07.4 -0.7
Y22C **IRIS PASSCAL I** 87.74 52 ⇓P P 05 57 42.7 +0.6
baz=88
LENM **Lemitar** 87.75 52 *e*P P 05 57 42.4 +0.2
LENM *e*pP pP 06 00 04.4 +2.0
SNAA **Sanae** 87.79 179 S 06 07 06.6
baz=0.0,slow=20
SNAA **Sanae** 87.79 179 ⇓*i*P P 05 57 27.2 -15
SNAA *e* 05 57 28.1
SNAA *e* 05 57 30.7
SNAA *e* 05 57 33.5
SNAA *e* 05 57 45.7
MNTX **Cornudas Mount** 87.85 55 *e*P P 05 57 43.0 +0.3
comp=Z,19nm,0.8s,mb4.8
MNTX *e*pP pP 06 00 03.4 +0.5
TCUT **Toone Canyon** 87.94 44 *e*P P 05 57 43.5 +0.4
TCUT *e*pP pP 06 00 08.9 +5.5
VNA3 **Neumayer Olymp** 87.96 177 ⇑⇑*i*P P 05 57 42.2 -1.0
VNA3 *e* 05 57 43.2
VNA3 *e* 05 57 45.3
VNA3 *e* 05 57 48.0
VNA3 *e* 05 58 00.6
VNA3 *e* pP 06 00 04.2 +0.7
VNA3 *e* 06 00 09.0
MENT **Mentasta** 87.99 15 *e*P P 05 57 42.3 -1.0
BNM **Barren Site** 87.99 52 *e*P P 05 57 43.7 +0.4
BNM *e*pP pP 06 00 07.3 +3.7
MVCO **Mesa Verde** 88.04 49 *e*P P 05 57 43.5 0.0
LPM **Los Pinos Moun** 88.06 52 *e*P P 05 57 44.2 +0.6
LPM *e*pP pP 06 00 04.8 +0.9
HWUT **Hardware Ranch** 88.08 44 *e*P P 05 57 43.4 -0.3
comp=Z,20nm,0.7s,mb4.9
LTX **Lajitas** 88.18 58 *e*P P 05 57 45.3 +1.1
LTX pmax pmax
comp=Z,24nm,0.8s,mb4.9
LTX **Lajitas** 88.18 58 *e*P P 05 57 45.3 +1.1
comp=Z,24nm,0.8s,mb4.9
LTX *e*pP pP 06 00 05.8 +1.3
PV10 **Paradox Valley** 88.21 48 *e*P P 05 57 44.5 +0.2
PV10 *e*pP pP 06 00 07.4 +2.7
HIA **Hailar** 88.22 325 *e*P P 05 57 44.0 -0.4
HIA pmax pmax
comp=Z,22nm,0.8s
HIA **Hailar** 88.22 325 *e*P P 05 57 44.0 -0.4
comp=Z,22nm,0.8s,mb4.8
NEW **Newport** 88.26 36 *e*P P 05 57 43.6 -1.0
NEW pmax pmax
comp=Z,17nm,0.8s
NEW **Newport** 88.26 36 *e*P P 05 57 43.6 -0.9
comp=Z,17nm,0.8s,mb4.7
MAIT **Maitri** 88.39 184 *e*P P 05 57 44.5 -0.7
NVL **N'lazarevskaya** 88.40 184 *d*⇓P P 05 57 44.0 -1.2
NVL *e*S 06 07 21.6
NVL pmax pmax
comp=Z,54nm,1.3s,mb5.0
PV01 **Paradox Valley** 88.42 48 *e*P P 05 57 45.1 -0.2
PV01 *e*pP pP 06 00 04.8 -1.0
KMI **Kunming** 88.42 297 P P 05 57 47.0 +1.7
KMI AP pP 06 00 06.2 +0.4
KMI XP sP 06 01 09.9 -1.6
KMI PP PP 06 01 28.9 +2.6
KMI PPP 06 03 32.7
KMI SKS 06 07 13.2
KMI S 06 07 35.9
KMI PS 06 10 13.6
KMI XS sS 06 11 42.2 -4.8
KMI SS SS 06 13 49.8 +1.3
KMI SSS 06 17 31.0
KMI AMB AMB
comp=Z,50nm,0.9s,mb5.1
KMI AMB AMB
comp=Z,300nm,3.3s
ANMO **Albuquerque** 88.48 52 *e*P P 05 57 45.6 +0.1
ANMO pmax pmax
comp=Z,13nm,0.8s
ANMO **Albuquerque** 88.48 52 *e*P P 05 57 45.6 0.0
comp=Z,13nm,0.8s,mb4.6
ANMO *e*pP pP 06 00 06.0 0.0
VNA1 **Neumayer--Stat** 88.62 177 ⇓⇓*i*P P 05 57 46.2 0.0
VNA1 *e* 05 57 46.9
VNA1 *e* 05 57 49.4
VNA1 *e* 05 57 52.1
HHC **Hu-ho-hao-te** 88.69 315 *e*P P 05 57 47.2 +0.6
HHC AP pP 06 00 07.7 +0.6
HHC XP sP 06 01 07.7 -5.1
HHC PP PP 06 01 32.4 +4.0
HHC SKS 06 07 12.9
HHC S 06 07 38.0
HHC SS SS 06 13 56.1 +3.8
HHC AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
HHC AMB AMB
comp=Z,220nm,6.3s
COLA **College** 88.71 13 *d*⇓*i*P P 05 57 44.1 -2.5
COLA **College** 88.71 13 *e*P P 05 57 44.2 -2.4
comp=Z,85nm,0.8s,mb5.5
DLBC **Dease Lake** 88.74 23 *e*P P 05 57 46.3 -0.5
MCMT **McKenzie Canyo** 88.90 41 *e*P P 05 57 47.7 +0.2
MCMT *e*pP pP 06 00 07.9 -0.3
AHID **Auburn Hatcher** 88.96 43 *e*P P 05 57 47.9 +0.1
comp=Z,36nm,0.9s,mb5.1
BILL **Bilibino** 89.17 355 *d*⇓*i*P P 05 57 47.2 -1.6
BILL pmax pmax
comp=Z,40nm,1.1s,mb5.1
BILL **Bilibino** 89.17 355 *e*P P 05 57 47.2 -1.5
comp=Z,30nm,0.8s,mb5.1
CHTO **Chiang Mai** 89.23 290 *e*P P 05 57 50.7 +1.7
CHTO pmax pmax
comp=Z,45nm,0.7s,mb5.3
CHTO **Chiang Mai** 89.23 290 *e*P P 05 57 50.7 +1.6
comp=Z,45nm,0.7s,mb5.3

MSO **Missoula** 89.29 39 *e*P P 05 57 48.1 -1.3
comp=Z,6.1nm,0.7s,mb4.4
MSO *e*pP pP 06 00 08.1 -2.0
DCID1 **Drake Creek** 89.31 42 *e*P P 05 57 50.0 +0.6
DLMT **Dillon** 89.33 40 *e*P P 05 57 49.2 -0.3
comp=Z,16nm,0.8s,mb4.8
DLMT *e*pP pP 06 00 08.0 -2.3
REDW **Red Top Meadow** 89.41 43 *e*P P 05 57 50.0 +0.1
comp=Z,34nm,0.8s,mb5.1
REDW *e*pP pP 06 00 10.0 -0.7
TPAW **Teton Pass** 89.41 43 *e*P P 05 57 50.0 +0.2
comp=Z,18nm,0.8s,mb4.8
TPAW *e*pP pP 06 00 10.6 0.0
BTO **Baotou** 89.61 314 *e*P P 05 57 50.7 -0.1
IMW **Indian Meadow** 89.62 42 *e*P P 05 57 51.0 +0.1
comp=Z,26nm,0.8s,mb5.1
MOOW **Moose Ponds** 89.67 42 *e*P P 05 57 51.2 +0.1
comp=Z,8.1nm,0.9s,mb4.5
MOOW *e*pP pP 06 00 16.1 +4.2
LOHW **Long Hollow** 89.69 43 *e*P P 05 57 51.2 0.0
comp=Z,13nm,0.7s,mb4.9
CHMT **Chamberlain Mo** 89.74 39 *e*P P 05 57 50.6 -0.8
CHMT *e*pP pP 06 00 10.5 -1.8
QLMT **Earthquake Lak** 89.78 41 *e*P P 05 57 52.2 +0.7
QLMT *e*pP pP 06 00 12.7 +0.2
FLWY **Flagg Ranch** 89.86 42 *e*P P 05 57 52.3 +0.4
comp=Z,16nm,0.8s,mb4.9
FLWY *e*pP pP 06 00 12.7 -0.2
CD2 **Chengdu** 89.94 303 ⇓*i*P P 05 57 52.9 +0.6
CD2 AP pP 06 00 13.7 +0.4
CD2 XP sP 06 01 17.9 -0.8
CD2 PP PP 06 01 42.0 +3.9
CD2 SKS 06 07 21.2
CD2 S 06 07 49.4
CD2 XS sS 06 11 59.9 -1.9
CD2 SS SS 06 14 14.0 +3.9
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,60nm,5.9s
PLCA **Paso Flores** 89.95 134 P P 05 57 53.2 +0.8
comp=Z,11nm,0.9s,mb4.7,baz=229,slow=4.5,SNR=14
PLCA PKKP PKKPbc 06 15 20.2 +0.9
comp=Z,3.5nm,0.9s,baz=327,slow=1.9,SNR=4.4
PLCA **Paso Flores** 89.95 134 *e*P P 05 57 53.4 +1.0
PLCA pmax pmax
comp=Z,14nm,1.0s
PLCA **Paso Flores** 89.95 134 *e*P P 05 57 53.4 +1.0
comp=Z,14nm,1.0s,mb4.8
BW06 **Boulder Array** 89.95 44 *e*P P 05 57 51.7 -0.6
comp=Z,14nm,0.8s,mb4.8
PDAR **Pinedale Array** 89.95 44 P P 05 57 51.8 -0.6
comp=Z,17nm,0.9s,mb4.9,baz=207,slow=2.7,SNR=113
PDAR pP pP 06 00 12.8 -0.5
comp=Z,1.2nm,0.9s,baz=222,slow=1.2,SNR=2.3
PDAR PKKP PKKPbc 06 15 19.4 +0.2
comp=Z,0.4nm,0.6s,baz=83,slow=4.6,SNR=4.4
YFT **Old Faithful** 89.96 42 *e*P P 05 57 53.9 +1.5
YMR **Madison River** 89.98 42 *e*P P 05 57 53.2 +0.7
comp=Z,15nm,0.7s,mb4.9
YMR *e*pP pP 06 00 12.3 -1.2
SMCO **Snowmass** 90.01 48 *e*P P 05 57 52.8 +0.2
comp=Z,213nm,1.3s,mb5.8
DAWY **Dawson** 90.03 16 *e*P P 05 57 51.4 -1.3
BOZ **Bozeman (W)** 90.06 40 *e*P P 05 57 52.3 -0.6
BOZ pmax pmax
comp=Z,13nm,0.8s,mb4.8
BOZ **Bozeman (W)** 90.06 40 *e*P P 05 57 52.2 -0.6
comp=Z,13nm,0.8s,mb4.8
BOZ *e*pP pP 06 00 13.3 -0.6
LKWY **Lake** 90.28 42 *e*P P 05 57 55.3 +1.4
LKWY *e**PP pP 06 00 16.1 +1.2
LKWY pmax pmax
comp=Z,12nm,0.7s,mb4.8
LKWY **Lake** 90.28 42 *e*P P 05 57 55.3 +1.4
comp=Z,12nm,0.7s,mb4.8
LKWY *e*pP pP 06 00 16.1 +1.2
HRY **Holter Researc** 90.47 39 *e*P P 05 57 54.5 -0.3
HRY *e*pP pP 06 00 15.3 -0.5
WALA **Waterton Lakes** 90.48 37 *e*P P 05 57 54.1 -0.7
comp=Z,26nm,0.7s,mb5.2
RWWY **Rawlins** 90.99 45 *e*P P 05 57 56.7 -0.5
comp=Z,19nm,0.8s,mb5.0
RWWY *e*pP pP 06 00 21.8 +3.5
ISCO **Idaho Springs** 91.23 48 *e*P P 05 57 58.5 +0.2
ISCO pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ISCO **Idaho Springs** 91.23 48 *e*P P 05 57 58.5 +0.2
comp=Z,5.3nm,0.7s,mb4.5
JCT **Junction City** 91.71 58 *e*P P 05 58 00.1 -0.4
JCT pmax pmax
comp=Z,12nm,0.7s,mb4.9
JCT **Junction City** 91.71 58 *e*P P 05 58 00.1 -0.4
comp=Z,12nm,0.7s,mb4.9
YAK **Yakutsk** 91.91 338 *e*P P 05 57 59.5 -1.9
YAK *e*S 06 07 28.2
YAK *e* 06 08 08.8
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,38nm,0.9s,mb5.3
YAK smax
comp=N,5.0nm,1.4s
YAK smax
comp=E,3.0nm,1.2s
YAK **Yakutsk** 91.91 338 *e*P P 05 57 59.2 -2.2
comp=E,82nm,0.7s,mb5.8
PHWY **Pilot Hill** 91.99 46 *e*P P 05 58 01.5 -0.3
LZH **Lanzhou** 92.00 308 *e*P P 05 58 02.5 +0.7
LZH AP pP 06 00 23.7 +0.7
LZH XP sP 06 01 28.3 -0.1
LZH PP PP 06 01 58.0 +4.0
LZH SKS 06 07 32.2
LZH *e*S 06 08 05.1
LZH XS sS 06 12 17.0 -4.5
LZH SS SS 06 14 38.4 -0.7
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,140nm,4.3s
EGMT **Eagleton** 92.35 39 *e*P P 05 58 03.0 -0.4
comp=Z,9.1nm,0.8s,mb4.8
EGMT *e*pP pP 06 00 24.0 -0.7
EDM **Edmonton** 92.96 33 *e*P P 05 58 04.5 -1.7
LAO **LASA Array** 93.86 41 *e*P P 05 58 10.1 -0.2
comp=Z,16nm,0.8s,mb5.1
LAO *e*pP pP 06 00 32.1 +0.3
RSSD **Black Hills** 94.15 44 *e*P P 05 58 10.9 -0.7
RSSD pmax pmax
comp=Z,16nm,0.8s,mb5.1
RSSD **Black Hills** 94.15 44 *e*P P 05 58 10.9 -0.7
comp=Z,16nm,0.8s,mb5.1
RSSD *e*pP pP 06 00 36.7 +3.6
ULN **Ulaanbaatar** 94.79 320 ⇑⇑*e*P P 05 58 14.0 -0.5
ULN **Ulaanbaatar** 94.79 320 *e*P P 05 58 13.8 -0.7
comp=Z,6.4nm,0.7s,mb4.9
INK **Inuvik** 94.83 15 *e*P P 05 58 12.2 -2.5
INK pmax pmax
comp=Z,10.0nm,0.7s
INK **Inuvik** 94.83 15 *e*P P 05 58 12.2 -2.5
comp=Z,10nm,0.7s,mb5.1
INK *e*pP pP 06 00 39.8 +3.6
INK *e*PKPdf PKiKP 06 02 49.5 -2.3
SONM **Songino Array** 95.18 319 P P 05 58 15.4 -0.9
comp=Z,2.4nm,0.6s,mb4.5,baz=114,slow=2.7,SNR=9.9
SONM PP PP 06 02 16.7 -1.6
comp=Z,1.7nm,0.8s,baz=111,slow=8.7,SNR=5.1
SONM **Songino Array** 95.18 319 P P 05 58 15.4 -0.8
SONM 06 02 16.7
SONM pmax pmax
comp=Z,2.0nm,0.6s
GTA **Gaotai** 96.23 310 P P 05 58 21.1 +0.1
GTA AP pP 06 00 37.2 -5.5
GTA AMB AMB
comp=Z,10.0nm,1.8s,mb4.6
YKA **Yellowknife Ar** 97.23 25 P Pdif 05 58 23.1 -2.3
comp=Z,6.5nm,0.7s,baz=246,slow=4.4,SNR=89
YKA PP PP 06 02 25.5 -8.2
comp=Z,0.8nm,0.8s,baz=240,slow=7.8,SNR=3.9
YKA PKiKP PKiKP 06 02 54.9 -1.2
comp=Z,0.4nm,0.4s,baz=264,slow=1.7,SNR=7.5
YKA PKKP PKKPbc 06 14 58.8 -1.8
comp=Z,0.4nm,0.4s,baz=39,slow=2.3,SNR=10

YKA Yellowknife Ar 97.23 25 P Pdif 05 58 23.1 -2.3
YKA PP PP 06 02 25.6 -8.2
YKW3 Yellowknife Ar 97.26 25 *e*P Pdif 05 58 24.0 -1.6
ZAK Zakamensk 98.08 321 *e*P Pdif 05 58 28.8 -0.4
ZAK pmax pmax
comp=Z,7.0nm,1.9s,mb4.6
TIXI Tiksi 98.69 345⇑*i*P Pdif 05 58 28.4 -3.5
TIXI *e* 06 11 24.2
TIXI *e*SS SS 06 16 05.2 -7.1
TIXI pmax pmax
comp=Z,3.0nm,1.4s,mb4.3
ECSD EROS,Sioux Fal 98.96 47 *e*P Pdif 05 58 31.4 -1.7
ULM Lac du Bonnet 101.58 41 P Pdif 05 58 48.4 +3.7
comp=Z,1.2nm,0.6s,baz=248,slow=6.9,SNR=4.4
ULM Lac du Bonnet 101.58 41 P Pdif 05 58 48.4 +3.7
LPAZ La Paz 103.04 113 Pdiff Pdif 05 58 55.6 +4.3
comp=Z,0.6nm,0.7s,baz=15,slow=1.0,SNR=3.5
LPAZ PKiKP PKiKP 06 03 11.8 +5.2
comp=Z,0.9nm,0.7s,baz=270,slow=4.0,SNR=3.3
LPAZ PKKPbc PKKPbc 06 14 46.1 +1.7
comp=Z,1.4nm,0.7s,baz=41,slow=5.3,SNR=8.6
JIRN Jiri 103.22 295 *e*P PKiKP 06 03 06.7 -0.2
comp=Z,19nm,0.5s
GUN Gumba 103.55 295 *e*P PKiKP 06 03 08.0 +0.5
comp=Z,32nm,0.8s
PKI Pulchoki 103.86 294 *e*P PKiKP 06 03 07.6 -0.5
comp=Z,11nm,0.5s
KKN Kakani 104.03 295 *e*P PKiKP 06 03 07.7 -0.7
comp=Z,15nm,0.6s
DMN Daman 104.13 294 *e*P PKiKP 06 03 08.2 -0.4
comp=Z,9.2nm,0.5s
GKN Gorkha 104.63 295 *e*P PKiKP 06 03 09.3 -0.2
KOLN Koldanda 105.45 294 *e*P PKiKP 06 03 10.2 -0.8
comp=Z,12nm,0.7s
CPUP Villa Florida 106.78 127 PP PP 06 03 44.9 +1.1
comp=Z,0.7nm,0.7s,baz=215,slow=13,SNR=3.6
ZAL Zalesovo 109.97 321 PKiKP PKiKP 06 03 18.0 -1.5
comp=Z,4.4nm,0.5s,baz=13,slow=3.0,SNR=17
ZAL PP PP 06 04 10.3 +3.9
comp=Z,1.9nm,0.7s,baz=4.4,slow=9.6,SNR=7.5
ZAL Zalesovo 109.97 321 PKPdf PKiKP 06 03 18.0 -1.5
ZAL PP PP 06 04 10.3 +3.9
MK31 Makanchi Array 110.52 313 PKIKP PKiKP 06 03 18.9 -1.6
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 110.52 313 Pdiff Pdif 05 59 26.9 +2.4
comp=Z,1.0nm,0.5s,baz=83,slow=5.2,SNR=10
MKAR PKiKP PKiKP 06 03 19.1 -1.5
comp=Z,5.9nm,0.4s,baz=170,slow=0.5,SNR=78
MKAR Makanchi Array 110.52 313 PKIKP PKiKP 06 03 19.1 -1.4
NVS Novosibirsk 110.99 322 *e*PKIKP PKiKP 06 03 18.4 -3.0
NVS *e* 06 04 14.9
NVS *e*S SKSac 06 09 00.3 -1.3
NVS pmax pmax
comp=Z,9.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.5s
NVS smax
comp=E,96nm,2.0s
ULHL Ulahol 114.21 308 P PKiKP 06 03 27.2 -0.4
SNR=9.9
KZA Kyzart 114.92 308 P PKPdf 06 03 28.9 -0.1
SNR=8.5
KBK Karagaybulak 115.20 308 P PKPdf 06 03 29.0 -0.5
SNR=6.7
UCH Uchtor 115.48 308 P PKPdf 06 03 30.1 +0.1
SNR=15
AAK Ala-Archa 115.53 308*d i*PKIKP PKPdf 06 03 29.0 -1.1
AAK Ala-Archa 115.53 308 *e*PKPdf PKPdf 06 03 28.6 -1.5
USP Ospenovka 115.59 309 P PKPdf 06 03 29.4 -0.9
SNR=7.0
EKS2 Erkin-Say 116.06 308 P PKPdf 06 03 30.5 -0.7
SNR=6.3
VOSK Vostochnaya 118.17 320 PKIKP PKPdf 06 03 33.2 -2.0
VOSK pmax pmax
comp=Z,5.0nm,0.5s
CHKZ Chkalovo 118.35 321 *e*PKIKP PKPdf 06 03 33.5 -2.0
KKAR Karatay Array 118.49 309 *i* PKIKP PKPdf 06 03 34.5 -1.3
KKAR pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 118.58 320 *e*PKIKP PKPdf 06 03 34.4 -1.6
ZRNK Zerenda 119.36 320 *e*PKIKP PKPdf 06 03 35.6 -1.9
SCHQ Schefferville 119.59 38 PKP PKPdf 06 03 35.8 -2.2
comp=Z,6.0nm,0.5s,baz=341,slow=3.5,SNR=12
BDFB Brasília 120.00 123 PKP PKPdf 06 03 38.4 -0.3
comp=Z,0.9nm,0.3s,baz=244,slow=15,SNR=5.3
BDFB PKKPbc PKKPbc 06 13 50.5 +0.8
comp=Z,3.8nm,0.7s,baz=130,slow=7.2,SNR=6.7
OPO Ambohidratompo120.02 233 PKP PKPdf 06 03 39.8 +1.0
comp=Z,3.7nm,0.7s,baz=182,slow=4.4
SFJD Kangerlussuaq 123.61 22 *i* P PKPdf 06 03 43.1 -2.5
comp=Z,12nm,0.5s
SUMG Summit 123.67 13 *e*PKPdf PKPdf 06 03 44.8 -1.0
SUR Sutherland 123.79 200 PKP PKPdf 06 03 46.4 +0.4
comp=Z,9.5nm,0.5s,baz=349,slow=2.7,SNR=16
SOKR Solíkamsk 124.70 329*d i*PKIKP PKPdf 06 03 46.6 -1.1
SOKR pmax pmax
comp=Z,40nm,0.8s
ARU Arti 124.74 325 *i* PKIKP PKPdf 06 03 46.3 -1.5
ARU Arti 124.74 325 *e*PKPdf PKPdf 06 03 46.8 -1.0
AB31 Akbulak array 125.46 316 *i* PKIKP PKPdf 06 03 48.8 -0.4
AB31 pmax pmax
comp=Z,1.0nm,0.4s
BOSA Boshof 125.52 207 PKP PKPdf 06 03 51.0 +1.7
comp=Z,2.4nm,0.4s,baz=131,slow=4.1,SNR=14
BOSA PKKPab PKKPab 06 13 28.9 -0.3
comp=Z,3.0nm,0.5s,baz=340,slow=5.9,SNR=12
BOSA Boshof 125.52 207 PKIKP PKPdf 06 03 51.0 +1.7
BOSA pmax pmax
comp=Z,2.0nm,0.4s
BOSA pmax pmax
comp=Z,3.0nm,0.5s
AKTO Aktyubinsk 126.47 318 PKIKP PKPdf 06 03 49.7 -1.4
AKTO pmax pmax
comp=Z,3.0nm,0.8s
ORR Orenburg 128.20 320 *i* PKIKP PKPdf 06 03 52.7 -1.7
ORR pmax pmax
comp=Z,30nm,0.5s
KEV Kevo 128.49 349 *e*pkp 06 03 41.0
LBTB Lobatse 128.49 209 PKP PKPdf 06 03 56.2 +1.3
comp=Z,4.5nm,0.6s,baz=183,slow=3.2,SNR=13
LBTB SKPbc 06 04 14.6
comp=Z,5.9nm,1.0s,baz=154,slow=4.8,SNR=4.6
LBTB Lobatse 128.49 209 PKIKP PKPdf 06 03 56.2 +1.2
LBTB 06 06 14.6
LBTB pmax pmax
comp=Z,5.0nm,0.6s
LBTB pmax pmax
comp=N,6.0nm,1.0s
LBTB Lobatse 128.49 209 *e*PKPdf PKPdf 06 03 56.3 +1.3
ARCES ARCESS Array B 128.95 349 PKhKP 06 03 39.8
comp=N,1.9nm,0.4s,baz=326,slow=1.0,SNR=21
ARCES PKP PKPdf 06 03 53.9 -1.9
comp=N,29nm,0.5s,baz=32,slow=0.7,SNR=9.0
ARCES SKPbc 06 06 17.2
comp=N,36nm,0.9s,baz=20,slow=4.3,SNR=14
ARCES ARCESS Array B 128.95 349 *i* PKHKP 06 03 39.8
ARCES 06 03 53.9
ARCES 06 06 17.2
ARCES pmax pmax
comp=Z,2.0nm,0.4s
MATP Matopo 130.89 215 PKhKP 06 03 42.0
comp=Z,1.1nm,0.7s,baz=212,slow=8.5,SNR=2.6
MATP PKP PKPdf 06 04 00.9 +1.4
comp=Z,6.2nm,0.5s,baz=180,slow=1.8,SNR=17
MATP SKPbc SKPbc 06 06 26.6 +3.2
comp=Z,37nm,0.9s,baz=152,slow=3.7,SNR=32
JOF Joensuu 133.00 341 *e*pkp 06 03 46.6
BORG Borgarnes 133.65 13 SKPbc SKPbc 06 06 33.6 +0.9
comp=Z,7.0nm,0.9s,baz=100,slow=0.3,SNR=7.0
BORG Borgarnes 133.65 13 *e*PKPdf PKPdf 06 04 03.7 -1.0
KAF Kangasniemi 135.06 343 *e*pkp 06 03 52.0
LSZ Lusaka 135.19 219 PKhKP 06 03 57.7
comp=Z,1.3nm,0.4s,baz=160,slow=7.3,SNR=4.9
LSZ PKP PKPdf 06 04 11.5 +3.9
comp=Z,8.4nm,0.5s,baz=180,slow=2.5,SNR=18
LSZ SKPbc SKPbc 06 06 40.3 +2.7
comp=Z,17nm,0.9s,baz=144,slow=2.6,SNR=15
LSZ Lusaka 135.19 219 PKP 06 03 57.7
LSZ *e*PKPdf PKPdf 06 04 09.0 +1.4
FINES FINESS Array B 135.68 343 PKhKP 06 03 53.8
comp=Z,1.6nm,0.3s,baz=45,slow=4.8,SNR=35
FINES PKP PKPdf 06 04 08.8 +0.3
comp=Z,13nm,0.4s,baz=64,slow=3.2,SNR=30
FINES SKPbc SKPbc 06 06 38.5 -0.5
comp=Z,37nm,0.9s,baz=64,slow=4.4,SNR=28

FINES FINESS Array B 135.68 343 *i* PKHKP 06 03 53.8
FINES 06 04 08.8
FINES pmax pmax
comp=Z,2.0nm,0.3s
OBN Obninsk 136.41 331⇑*i*PKIKP PKPdf 06 04 08.8 -1.0
OBN pmax pmax
comp=Z,42nm,1.1s
TSUM Tsumeb 137.01 204 PKhKP 06 04 01.5
comp=Z,0.9nm,0.5s,baz=85,slow=2.6,SNR=7.1
TSUM PKP PKPdf 06 04 14.4 +3.5
comp=Z,3.6nm,0.5s,baz=106,slow=2.1,SNR=14
TSUM SKPbc SKPbc 06 06 45.1 +2.1
comp=Z,7.8nm,1.1s,baz=145,slow=4.5,SNR=6.2
TSUM Tsumeb 137.01 204 PKP 06 04 01.5
TSUM *e*PKPdf PKPdf 06 04 12.8 +1.8
VRSR Storozhevoye 137.30 325 *i* PKIKP PKPdf 06 04 13.1 +1.6
VRSR pmax pmax
comp=Z,5.0nm,0.9s
VRSR pmax pmax
comp=N,1.0nm,0.8s
VRSR pmax pmax
comp=E,1.0nm,0.8s
ZEI Tsey 137.83 311 *e*PKIKP PKPdf 06 04 10.9 -1.5
GNI Garni 137.93 307 *e*PKIKP PKPdf 06 04 14.2 +1.6
KMBO Kilima Mbogo 138.18 243 PKhKP 06 04 06.4
comp=E,2.4nm,0.7s,baz=90,slow=1.4,SNR=6.7
KMBO PKP PKPdf 06 04 16.1 +3.0
comp=E,5.2nm,0.6s,baz=64,slow=1.5,SNR=9.6
KMBO SKPbc SKPbc 06 06 49.4 +3.1
comp=E,6.5nm,1.0s,baz=358,slow=4.1,SNR=5.5
KMBO Kilima Mbogo 138.18 243 *i* PKHKP 06 04 06.4
KMBO 06 04 16.1
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 138.18 243 *e*PKPdf PKPdf 06 04 07.9 -5.2
KMBO PKP PKPdf 06 04 16.1 +3.0
KMBO SKPbc SKPbc 06 06 49.4 +3.1
KIV Kislovodsk 138.28 314*d i*PKIKP PKPdf 06 04 12.4 -0.9
KIV pmax pmax
comp=Z,8.0nm,0.9s
ATD Arta Tunnel 138.64 264 SKPbc SKPbc 06 06 51.1 +3.5
comp=Z,11nm,0.9s,baz=254,slow=22,SNR=6.8
NB2 NORSAR Subarra139.08 352 PKPa 06 04 04.8
comp=Z,4.3nm,0.5s,baz=16,slow=3.2
NOA NORSAR Array B139.08 352 PKhKP 06 04 04.8
comp=Z,13nm,0.6s,baz=16,slow=4.6,SNR=53
NOA PKP PKPdf 06 04 15.8 +1.1
comp=Z,7.9nm,0.4s,baz=14,slow=4.0,SNR=13
NOA SKPbc SKPbc 06 06 49.7 +0.9
comp=Z,20nm,0.9s,baz=18,slow=4.3,SNR=18
NOA SKKPbc 06 15 32.6
comp=Z,1.7nm,1.0s,baz=189,slow=4.2,SNR=4.1
NOA NORSAR Array B139.08 352 *i* PKHKP 06 04 04.8
NOA 06 04 15.9
NOA pmax pmax
comp=Z,13nm,0.6s
NAO01 NORSAR Array S139.31 352 *e*PKPdf 06 04 06.3
HFS Hagfors 139.59 350 SKPbc SKPbc 06 06 49.9 -0.2
comp=Z,21nm,0.9s,baz=72,slow=4.7,SNR=7.5
HFS SKKPbc 06 15 28.7
comp=Z,2.8nm,0.9s,baz=96,slow=6.1,SNR=4.2
IZAR Zarasai 140.19 338 *e*P 06 04 08.2
IZAR AMb AMB 06 04 11.2
comp=Z,1μm,0.4s
IDID Didziasalis 140.35 337 *e*P PKPdf 06 04 10.5 -6.5
IDID AMb AMB 06 04 15.7
comp=Z,2μm,0.3s
ISAL Salakas 140.37 338 *e*P PKPdf 06 04 09.9 -7.2
ISAL AMb AMB 06 04 12.0
comp=Z,766nm,0.3s
SOC Sochi 140.42 314 *e*PKHKP 06 04 01.1
SOC *e*PPP 06 10 32.2
SOC pmax pmax
comp=Z,8.0nm,0.5s
ERZM Erzurum 140.50 308 *i* P PKPdf 06 04 12.9 -4.4
WAL1 Walls 140.50 2 *e*P PKPdf 06 04 11.4 -5.9
IIGN Ignalina 140.51 337 *e*P PKPdf 06 04 10.7 -6.6
IIGN AMb AMB 06 04 14.5
comp=Z,2μm,0.5s
KONO Kongsberg 140.63 353 *e*PKHKP 06 04 10.1
LRW Lerwick 140.63 2 *e*P PKPdf 06 04 11.1 -6.4
BNGL BINGOL 140.92 307 *i* P PKPdf 06 04 13.5 -4.5
BEST Besiri 141.11 305 *i* P PKPdf 06 04 14.1 -4.3
ANN Anapa 141.42 317 *i* PKHKP 06 04 14.3
ANN pmax pmax
comp=Z,32nm,0.9s
MARD Mardin 141.63 304 *i* P PKPdf 06 04 14.8 -4.5
GRSN GIRESUNGRSN 142.41 311 *i* P PKPdf 06 04 17.1 -3.5
SUW Suwalki 142.65 338 *e*PKPd PKPdf 06 04 17.4 -3.7
AKASG Malin Array Be 142.66 330 PKhKP 06 04 17.2
comp=Z,112nm,0.4s,baz=42,slow=4.1,SNR=553
AKASG SKPbc SKPbc 06 06 58.0 +0.2
comp=Z,7.3nm,0.7s,baz=42,slow=2.5,SNR=13
AKASG SKKPbc 06 15 14.5
comp=Z,0.2nm,0.4s,baz=230,slow=3.8,SNR=4.3
AKASG Malin Array Be 142.66 330 *i* PKHKP 06 04 17.2
AKASG pmax pmax
comp=Z,113nm,0.4s
AKASG Malin Array Be 142.66 330 PKP 06 04 17.2
AKASG SKPbc SKPbc 06 06 58.0 +0.2
AKASG SKKPbc 06 15 14.5
ELZG Elazig 142.68 307 *i* P PKPdf 06 04 19.8 -1.4
MVH1 Achvaich 142.70 4 *e*P PKPdf 06 04 17.5 -3.7
KSK Scoval 142.93 7 *e*P PKPdf 06 04 18.3 -3.3
KAC Achnashellach 143.03 5 *e*P PKPdf 06 04 18.1 -3.6
MCD Coleburn Disti 143.10 4 *e*P PKPdf 06 04 18.0 -3.9
MALT Malatya 143.15 307⇓*i*P PKPdf 06 04 21.2 -0.8
MALT Malatya 143.15 307 PKIKP PKPdf 06 04 22.1 +0.1
MALT Malatya 143.15 307 *e*PKPdf PKPdf 06 04 20.9 -1.1
KPL Plockton 143.16 6 *e*P PKPdf 06 04 18.4 -3.6
MME1 Meikle Cairn 143.38 3 *e*P PKPdf 06 04 18.5 -3.9
SIM Simferopol' 143.42 319*k i*PKIKP PKPdf 06 04 21.7 -0.8
SIM *e*PPP 06 11 06.0
SIM pmax pmax
comp=Z,261nm,0.9s
KAR1 Arisaig 143.56 6 *e*P PKPdf 06 04 19.5 -3.2
MUD Monsted U'grnd 143.80 352⇓*i*P PKPdf 06 04 21.4 -1.7
comp=Z,100nm,0.6s
MUD *i* 06 05 20.5
MUD *i* 06 05 22.9
COP Copenhagen 144.03 349⇓*i*P PKPdf 06 04 22.0 -1.5
comp=Z,34nm,0.4s
COP *i* 06 07 44.8
BSD Bornholm Skovb 144.06 346⇓*i*P PKPdf 06 04 21.9 -1.7
comp=Z,108nm,0.5s
BSD *i* 06 07 44.1
BSD *i* 06 11 10.1
GZT Gaziantep 144.08 306 *i* P PKPdf 06 04 24.1 +0.5
EAB Aberfoyle 144.41 5 *e*P PKPdf 06 04 22.8 -1.4
EAB AMb AMB 06 04 25.3
comp=Z,146nm,2.6s
BOYT Boyabat 144.55 313 *i* P PKPdf 06 04 25.5 +1.1
EDI Edinburgh 144.76 4 *e*P PKPdf 06 04 23.2 -1.6
EDI AMb AMB 06 04 27.8
comp=Z,155nm,1.1s
ESY Stoneypath 144.80 3 *e*P PKPdf 06 04 23.8 -1.0
ESY AMb AMB 06 04 27.7
comp=Z,108nm,1.6s
EAU Auchinoon 144.82 4 *e*P PKPdf 06 04 24.2 -0.6
EAU AMb AMB 06 04 26.6
comp=Z,249nm,0.8s
WAR Warsaw 144.85 338 *e*PKP PKPdf 06 04 25.6 +0.7
RGN Rugen 144.93 347 *e*PKPbc PKPdf 06 04 25.0 0.0
CTKT Corum 144.96 312 *i* P PKPdf 06 04 26.0 +0.9
GMK Mull of Kintyr 145.13 6 *e*P PKPdf 06 04 25.0 -0.4
GKP Gorka Klasztor 145.15 343 *e*PKPd PKPdf 06 04 25.9 +0.5
KIS Kishinev 145.29 326*c i*PKIKP PKPdf 06 04 25.0 -0.7
KIS *e* 06 07 50.0
KIS pmax pmax
comp=Z,1μm,9.0s
KIS pmax pmax
comp=Z,700nm,14.0s
COBT Iskenderun 145.33 305 *i* P PKPdf 06 04 27.6 +1.9
GCL Cushendall 145.34 7 *e*P PKPdf 06 04 26.3 +0.6
EKA Eskdalemuir Ar 145.35 4 PKPbc PKPbc 06 04 25.8 -1.5
comp=Z,58nm,0.8s,baz=309,slow=3.1,SNR=14
EKA SKPbc SKPbc 06 07 05.0 +0.9
comp=Z,5.9nm,0.9s,baz=31,slow=1.7,SNR=3.5
EKA SKKPbc 06 15 07.5
comp=Z,3.9nm,1.2s,baz=152,slow=3.8,SNR=3.6
ESK Eskdalemuir 145.36 4 *e*P PKPdf 06 04 25.1 -0.7
ESK AMb AMB 06 04 28.1
comp=Z,61nm,2.2s
ESK Eskdalemuir 145.36 4 *e*PKPdf PKPdf 06 04 25.5 -0.3

ECK Cauldkaine Hil 145.50 4⇑*e*P PKPdf 06 04 25.2 -0.8
ECK AMb AMB 06 04 31.5
comp=Z,85nm,1.2s
LVV L'vov 145.61 333⇓*i*PKIKP PKPdf 06 04 26.8 +0.6
LVV *e* 06 08 01.2
AVNT Avonos 145.63 309 *i* P PKPdf 06 04 27.2 +1.0
CDAG Cicekdag 145.66 311 *i* P PKPdf 06 04 27.6 +1.3
GAL1 Galloway 145.69 6 *e*P PKPdf 06 04 26.4 +0.1
GCD Castle Douglas 145.76 5 *e*P PKPdf 06 04 26.6 +0.2
FKH Fakeheh 145.82 301 *e*P PKPdf 06 04 29.1 +2.5
ASF Jabal al Asfar 145.85 297 PKPbc PKPbc 06 04 29.9 +1.2
comp=Z,48nm,0.8s,baz=313,slow=1.6,SNR=37
ASF Jabal al Asfar 145.85 297 PKP2 PKPab 06 04 29.9 -1.1
ASF pmax pmax
comp=Z,49nm,0.9s
CRA Chernovtsy 145.88 330 PKP2 PKPab 06 04 39.1 +8.0
ELDT Eldivan 145.96 313 *i* P PKPdf 06 04 28.9 +2.1
BSEG Bad Segeberg 146.07 350 *e*PKPbc PKPbc 06 04 28.3 -1.0
BSEG *e*pPKPbc 06 07 05.8
BR131 Keskin Array S 146.13 311 *e*PKPdf PKPdf 06 04 27.3 +0.2
BR131 *e*PKPbc PKPbc 06 04 30.0 +0.6
BRTR Keskin Array B 146.13 311 PKP PKPdf 06 04 26.4 -0.7
comp=Z,21nm,0.5s,baz=92,slow=2.3,SNR=81
BRTR PKPbc PKPbc 06 04 29.1 -0.4
comp=Z,25nm,0.6s,baz=131,slow=3.2,SNR=81
BRTR SKP 06 07 01.0
comp=Z,2.3nm,0.9s,baz=77,slow=2.7,SNR=3.8
BRTR SKKPbc 06 15 00.8
comp=Z,1.2nm,0.7s,baz=238,slow=4.6,SNR=7.2
XDE Dent Fell 146.15 4 *e*P PKPdf 06 04 25.8 -1.3
XDE AMb AMB 06 04 29.5
comp=Z,268nm,0.5s
GMM Mts of Mourne 146.18 7 *e*P PKPdf 06 04 28.5 +1.4
GIM North Isle of 146.28 6 *e*P PKPdf 06 04 26.8 -0.5
KWP Kalwaria 146.31 334 *e*PKPd PKPdf 06 04 29.3 +1.9
CDU1 Dunnerdale 146.34 4 *e*P PKPdf 06 04 27.0 -0.4
DMUB Kingscourt 146.39 8⇑*i*P PKPbc 06 04 30.5 +0.3
WIM Isle of Man 146.41 6 *e*P PKPdf 06 04 28.6 +1.1
WIM AMb AMB 06 04 32.7
comp=Z,282nm,0.9s
BHL Bhannes 146.51 300 *e*P PKPbc 06 04 30.7 +0.2
ANTO Ankara 146.66 312⇓*i*P PKPbc 06 04 30.8 -0.1
ANTO Ankara 146.66 312 PKP2 PKPbc 06 04 30.9 0.0
ANTO Ankara 146.66 312 *e*PKPdf PKPdf 06 04 27.6 -0.4
ANTO *e*PKPbc PKPbc 06 04 30.6 -0.3
ANTO *e*PKPab PKPab 06 04 34.0 -0.3
BURAR Bucovina Array 146.69 329⇓*i*P PKPbc 06 04 31.7 +0.7
BURAR Bucovina Array 146.69 329⇑P PKPbc 06 04 31.5 +0.5
RUE Ruedersdorf 146.76 345 *e*PKPdf PKPdf 06 04 27.8 -0.3
RUE *e*PKPbc PKPbc 06 04 30.4 -0.7
CFR Carcaliu 146.80 324⇓*i*P PKPbc 06 04 31.1 -0.2
CFR Carcaliu 146.80 324⇓PKP2 PKPbc 06 04 31.5 +0.2
CFR Carcaliu 146.80 324⇓P PKPbc 06 04 31.0 -0.2
SGKT Sivrigoynuk 146.86 314 *i* P PKPbc 06 04 30.2 -1.2
DCN Croghan 146.88 9⇑*i*P PKPbc 06 04 30.5 -1.0
MEST Erdemli 146.93 306 *i* P PKPbc 06 04 31.5 0.0
OJC Ojcow 146.96 337 *e*PKPdf PKPdf 06 04 28.5 0.0
DLF Lyons Farm 147.03 8⇑*i*P PKPbc 06 04 30.7 -1.2
STHS Stebnicka Huta 147.07 335 *e*PKP PKPbc 06 04 32.6 +0.7
TIRR Tirgusor 147.09 322⇓*i*P PKPbc 06 04 31.2 -0.8
TIRR Tirgusor 147.09 322⇓*i*P PKPbc 06 04 31.3 -0.7
TIRR Tirgusor 147.09 322⇑PKP2 PKPbc 06 04 31.7 -0.3
TIRR Tirgusor 147.09 322 *e*PKPbc PKPbc 06 04 31.3 -0.7
DSB Dublin 147.10 8 *e*PKPbc PKPbc 06 04 30.8 -1.2
VRI Vrincioaia 147.13 326⇓*i*P PKPbc 06 04 31.2 -0.9
VRI Vrincioaia 147.13 326 P PKPbc 06 04 31.7 -0.4
PLOR Plostina 147.18 326⇓*i*P PKPbc 06 04 32.0 -0.2
WCB1 Church Bay 147.18 6 *e*P PKPbc 06 04 30.8 -1.4
WCB1 AMb AMB 06 04 31.9
comp=Z,100nm,0.6s
WME Myndd Eilian 147.18 6 *e*P PKPbc 06 04 30.9 -1.3
WLF1 Llynfaes 147.28 6 *e*P PKPbc 06 04 30.9 -1.6
WPM1 Penmaenmawr 147.35 5 *e*P PKPbc 06 04 31.4 -1.3
CVD Cernavoda 147.39 322⇓*i*P PKPbc 06 04 33.6 +0.8
CVD Cernavoda 147.39 322⇓P PKPbc 06 04 33.6 +0.8
NIE Niedzica 147.42 336 *e*PKP PKPdf 06 04 29.4 +0.2
NIE *e* PKPbc 06 04 32.8 -0.1
NIE Niedzica 147.42 336 *e*PKP PKPdf 06 04 29.4 +0.2
NIE *e* PKPbc 06 04 32.8 -0.1
YLL Llanberis 147.45 6 *e*P PKPbc 06 04 31.6 -1.3
PHNC Paralimni 147.50 303 P PKPbc 06 04 32.6 -0.5
comp=Z,3.0nm,0.9s
KBI1 Birley Grange 147.51 3 *e*P PKPbc 06 04 31.1 -2.0
HENT Hendek 147.52 315 *i* P PKPbc 06 04 32.3 -0.8
KSP Ksiaz 147.57 342 *e*PKPd PKPbc 06 04 32.9 -0.3
KSP Ksiaz 147.57 342 *e*PKP PKPdf 06 04 28.9 -0.6
KSP *i* PKPdf PKPbc 06 04 32.9 -0.3
KSP *e*pPKP pPKPdf 06 07 01.0 -0.2
KSP *e*PP PP 06 08 02.0 -5.2
PSN Preselentsi 147.68 321 P PKPbc 06 04 33.2 -0.3
KDHN Kadinhani 147.71 310 *i* P PKPdf 06 04 29.5 -0.2
KDHN Kadinhani 147.71 310 *i* P PKPbc 06 04 34.0 +0.4
KWE Weaver Farm 147.73 3 *e*P PKPbc 06 04 31.9 -1.8
SBD1 Bryn Du 147.76 5 *e*P PKPbc 06 04 31.7 -2.0
MLR Muntele Rosu 147.79 326 PKPbc PKPbc 06 04 32.0 -1.8
comp=Z,48nm,0.5s,baz=304,slow=2.8,SNR=116
MLR Muntele Rosu 147.79 326⇓*i*P PKPbc 06 04 32.5 -1.3
MLR Muntele Rosu 147.79 326 PKIKP PKPbc 06 04 32.0 -1.8
MLR pmax pmax
comp=Z,48nm,0.5s
MLR Muntele Rosu 147.79 326 P PKPbc 06 04 33.6 -0.1
ERMK Ermenek 147.84 306 *i* P PKPdf 06 04 29.3 -0.6
OKC Ostrava-Krasne 147.86 339⇑*e*PKPB PKPbc 06 04 33.4 -0.6
EIL Elat 147.90 293 *e*PKPdf PKPdf 06 04 30.3 +0.3
EIL *e*PKPbc PKPbc 06 04 34.4 +0.3
EIL *e*PKPab PKPab 06 04 39.5 +0.1
UPC Upice 147.95 342 *e*PKPDF PKPdf 06 04 29.7 -0.4
UPC ⇑*e*PKPB PKPbc 06 04 33.8 -0.4
UPC *e*PKPAB PKPab 06 04 39.5 0.0
UPC *e*pPKP pPKPdf 06 06 50.1 -12
DPC Dobruska-Polom 148.00 341 *e*PKPDF PKPdf 06 04 29.4 -0.8
DPC ⇑*e*PKPB PKPbc 06 04 34.0 -0.3
DPC *e*pPKP pPKPdf 06 07 04.7 +2.8
CLL Collm 148.03 345 *e*PKPdf PKPdf 06 04 29.6 -0.6
CLL *i* PKPbc PKPbc 06 04 33.2 -1.2
comp=Z,160nm,1.0s
CLL *e*pPKPbc pPKPbc 06 07 01.7 -2.0
CLL *e*SKPbc SKPbc 06 07 09.0 -1.0
CLL Collm 148.03 345 *e*(PKPdf) PKPdf 06 04 31.0 +0.8
CLL ⇓*i*PKPbc PKPbc 06 04 33.6 -0.8
comp=Z,157nm,1.0s
CLL *i* PKiKP PKiKP 06 04 36.2 +0.6
comp=Z,128nm,1.0s
CLL *e*pPKPbc pPKPbc 06 07 04.0 +0.3
CLL *e*SKPbc SKPbc 06 07 09.0 -1.0
CLL Collm 148.03 345⇓*i*PKHKP PKPbc 06 04 33.6 -0.8
CLL *i* 06 04 36.2
CLL pmax pmax
comp=Z,157nm,1.0s
CLL Collm 148.03 345⇓*i*PKP PKPbc 06 04 33.6 -0.8
CLL *i* PKP PKPbc 06 04 36.2 +1.8
CLL *e*pPKP pPKPdf 06 07 04.0 +2.0
IBBN Ibbenburen 148.04 352 *e*PKPdf PKPdf 06 04 29.5 -0.7
IBBN *e*PKPbc PKPbc 06 04 33.4 -1.0
CSS Prodhromos 148.07 303 P PKPbc 06 04 34.1 -0.4
CLZ Clausthal 148.07 349 *e*PKPdf PKPdf 06 04 29.9 -0.4
CLZ *e*PKPbc PKPbc 06 04 34.2 -0.3
MAMC Mammari 148.09 304 P PKPbc 06 04 34.6 +0.1
SNX Sinaia 148.10 326⇓*i*P PKPbc 06 04 34.6 0.0
SNX Sinaia 148.10 326⇓P PKPbc 06 04 34.6 0.0
MORC Moravsky Berou 148.11 339⇓*i*P PKPbc 06 04 34.1 -0.5
MORC Moravsky Berou 148.11 339 PKP2 PKPbc 06 04 34.6 0.0
MORC Moravsky Berou 148.11 339 *e*PKPdf PKPdf 06 04 29.4 -0.9
MORC *e*PKPbc PKPbc 06 04 34.1 -0.5
KECS Kecovo 148.11 335 *i* PKP PKPbc 06 04 34.4 -0.2
ESKT Eskisehir 148.16 313 *i* P PKPdf 06 04 30.9 +0.5
HLM1 Long Mynd 148.17 4 *e*P PKPdf 06 04 29.2 -1.2
LIKS Likavka 148.18 337 *e*PKP PKPbc 06 04 35.8 +1.0
BRG Berggiesshubel 148.20 344 *e*PKPbc PKPbc 06 04 34.0 -0.8
BRG Berggiesshubel 148.20 344 *e*PKP PKPdf 06 04 29.9 -0.5
comp=Z,6.3nm,1.1s
BRG Berggiesshubel 148.20 344 *i* PKP PKPbc 06 04 34.3 -0.5
comp=Z,32nm,1.0s
BRG Berggiesshubel 148.20 344 *i* PKP PKPab 06 04 38.7 -1.9
comp=Z,18nm,0.8s
BRG *e* 06 07 04.7
comp=Z,14nm,1.6s
BRG PP PP 06 08 05.0 -5.7
BRG *i* 06 11 25.0
BRG *e* 06 14 05.4
comp=Z,1.9nm,0.6s
BRG *e* 06 16 10.0

BRG *i* 06 18 26.0
BRG SS SS 06 26 23.0 -3.4
BRG Berggiesshubel 148.20 344 *e*PKHKP PKPdf 06 04 29.9 -0.6
BRG *i* 06 04 38.7
BRG 06 08 05.0
BRG SS SS 06 26 23.0 -3.4
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 148.20 344 *e*PKP PKPdf 06 04 29.9 -0.5
BRG *i* PKP PKPbc 06 04 34.3 -0.5
BRG *i* PKP PKPab 06 04 38.7 -1.9
BRG *e* 06 07 04.7
BRG *i* PP PP 06 08 05.0 -5.7
BRG *i* 06 11 25.0
BRG *e* 06 14 05.4
BRG *e* 06 16 10.0
BRG *i* 06 18 26.0
BRG SS SS 06 26 23.0 -3.4
SSP1 Stoney Pound 148.25 4 *e*P PKPdf 06 04 29.4 -1.2
BORA Eskisehir 148.27 314 *i* P PKPbc 06 04 33.3 -1.7
VOIR 148.29 327 ⇑*i*P PKPbc 06 04 34.5 -0.5
VOIR 148.29 327 ⇑P PKPbc 06 04 34.5 -0.5
PVCC Panska Ves 148.34 343 *e*PKPDF PKPdf 06 04 29.7 -1.0
PVCC ⇑*e*PKPB PKPbc 06 04 34.8 -0.4
PVCC *e*pPKP pPKPdf 06 07 07.3 +4.8
DRGR 148.47 331 ⇓*i*P PKPbc 06 04 34.8 -0.7
DRGR 148.47 331 P PKPbc 06 04 34.9 -0.6
SZAC Souni-Zanaja 148.48 303 P PKPbc 06 04 35.5 0.0
WTSB Winterswijk 148.49 353 *e*PKiKP PKiKP 06 04 29.8 -6.7
comp=Z,23nm,0.6s
WTSB *e*PKPpre 06 04 34.6
comp=Z,119nm,1.2s
ALFC Alevga 148.58 304 P PKPbc 06 04 35.0 -0.7
comp=Z,4.3nm,0.7s
MCH1 Michaelchurch 148.68 4 *e*P PKPbc 06 04 34.0 -2.0
VYHS Vyhne 148.74 337 *e*PKP PKPbc 06 04 35.7 -0.4
VYHS *e* 06 04 43.4
SSW Stow on the Wo 148.78 3 *e*P PKPbc 06 04 35.1 -1.1
PRA Prague 148.80 343 ⇑PKPB PKPbc 06 04 35.0 -1.3
PSZ Piszkesteto 148.80 335 ⇓*i*P PKPbc 06 04 35.7 -0.6
PSZ Piszkesteto 148.80 335 *e*PKPdf PKPdf 06 04 31.7 +0.3
PSZ *e*PKPbc PKPbc 06 04 35.9 -0.3
PSZ *e*PKPab PKPab 06 04 41.8 -1.3
VRAC Vranov 148.83 340 PKPbc PKPbc 06 04 36.2 -0.2
comp=Z,34nm,0.8s,baz=350,slow=6.1,SNR=6.2
VRAC Vranov 148.83 340 ⇓*i*P PKPbc 06 04 35.4 -0.9
VRAC Vranov 148.83 340 PHKKP PKPbc 06 04 36.3 0.0
VRAC Vranov 148.83 340 ⇓P PKPbc 06 04 35.4 -0.9
HSA Swansea 148.83 6 ⇑*e*P PKPdf 06 04 30.9 -0.6
KOLL Kolacno 148.83 337 *e*PKP PKPbc 06 04 36.2 -0.1
KOLL *e* 06 04 43.8
PRU Pruhonice 148.84 343 *e*PKPDF PKPdf 06 04 28.7 -2.8
PRU ⇑*e*PKPB PKPbc 06 04 35.7 -0.7
PRU *e*PKPAB PKPab 06 04 42.6 -0.6
PRU *e*pPKP pPKPdf 06 07 07.9 +4.6
PRU Pruhonice 148.84 343 *e*PKIKP PKPdf 06 04 28.7 -2.8
PRU *e* 06 04 42.6
BUG Bochum--Univer 148.95 352 *e*PKPdf PKPdf 06 04 30.2 -1.5
BUG *e*PKPbc PKPbc 06 04 35.7 -0.9
MOX Moxa 148.96 347 *e*PKPdf PKPdf 06 04 30.7 -1.0
MOX *e*PKPbc PKPbc 06 04 35.9 -0.8
MOX Moxa 148.96 347 *e*PKP PKPdf 06 04 30.6 -1.1
comp=Z,240nm,2.0s
TCR Colchester 148.98 360 *e*P PKPbc 06 04 35.5 -1.2
TANN Tannenbergstha 148.99 345 *e*PKPbc PKPbc 06 04 36.2 -0.5
TANN *e*pPKPbc pPKPbc 06 07 09.2 +2.8
PCED Cedros 149.02 48 *e*PKP PKPbc 06 04 37.7 +0.9
ULDT Uludag 149.02 315 *i* P PKPbc 06 04 36.2 -0.6
CALA Caldeira 149.04 49 *e*PKP PKPbc 06 04 36.4 -0.4
SKP1 Kophill 149.07 2 *e*P PKPbc 06 04 34.9 -2.0
HOR Horta 149.11 49 *e*PKP PKPbc 06 04 35.5 -1.5
UBBA Unterbreizbach 149.12 349 *e*PKPbc PKPbc 06 04 36.0 -1.0
ISP Isparta 149.14 310 ⇓*i*P PKPbc 06 04 36.2 -0.9
ISP Isparta 149.14 310 *e*PKPdf PKPdf 06 04 32.2 +0.2
ISP *e*PKPbc PKPbc 06 04 35.2 -1.9
NKC Novy Kostel 149.16 345 ⇑*e*PKPB PKPbc 06 04 36.7 -0.4
NKC *e*pPKP pPKPdf 06 07 10.4 +6.6
TREC Trest 149.19 341 ⇑*e*PKPB PKPbc 06 04 36.3 -0.9
TKTP Tekketepe 149.19 310 *i* P PKPbc 06 04 36.1 -1.1
SMOL Smolenice 149.23 338 *i* PKP PKPbc 06 04 37.4 +0.1
SMOL *e* 06 04 45.8
SZH Strazhica 149.23 323 P PKPbc 06 04 38.4 +1.1
PICO Pico 149.27 48 *e*PKP PKPbc 06 04 37.1 -0.3
SRBC Serra Branca 149.29 47 *e*PKP PKPbc 06 04 38.3 +0.9
ROSA Rosais 149.30 48 *e*PKP PKPbc 06 04 37.8 +0.3
GDZ Gediz 149.30 313 *i* P PKPbc 06 04 36.9 -0.6
PGRA Graciosa 149.33 47 *e*PKP PKPbc 06 04 37.6 +0.1
JMB Yambol 149.34 321 P PKPbc 06 04 37.7 +0.1
PMAN Manadas 149.44 48 *e*PKP PKPbc 06 04 38.8 +1.0
BUD Budapest 149.50 335 ⇓*e*PKP/F PKPbc 06 04 37.3 -0.6
PID Ribeirinha 149.51 48 *e*PKP PKPbc 06 04 38.7 +0.7
HEX Exmoor 149.54 6 ⇑*e*P PKPbc 06 04 35.9 -2.2
TSA1 Sevenoaks 149.57 1 *e*P PKPbc 06 04 37.4 -0.7
SRO1 Iza 149.57 336 *e*PKP PKPbc 06 04 37.9 -0.2
SRO1 *e* 06 04 46.6
SWK Warminster 149.57 4 *e*P PKPbc 06 04 36.3 -1.8
ZST Bratislava 149.62 338 *e*PKP PKPbc 06 04 38.1 -0.1
ZST *e* 06 04 47.0
CRAR CRAIOVA 149.70 326 ⇓*i*P PKPbc 06 04 39.1 +0.7
TFO1 Folkestone 149.70 360 *e*P PKPbc 06 04 37.5 -0.9
BEBN Eben Emael 149.77 354 PKP PKPdf 06 04 32.7 -0.3
BEBN PKPbc PKPbc 06 04 38.0 -0.6
BEBN PKPab PKPab 06 04 45.9 -1.2
HGN Heimansgroeve 149.77 353 *e*PKiKP PKiKP 06 04 32.4 -6.8
comp=Z,17nm,0.7s
HGN *e*PKPpre 06 04 37.8
comp=Z,75nm,0.8s
HGN *e*PKPab PKPab 06 04 45.8 -1.3
comp=Z,69nm,0.8s
HGN *e*PP PP 06 08 15.6 -4.1
HGN *e*PPP 06 11 25.9
BZS Buzias 149.85 330 ⇓*i*P PKPbc 06 04 38.0 -0.8
BZS Buzias 149.85 330 ⇓P PKPbc 06 04 38.4 -0.4
UCC Uccle 149.88 355 PKP PKPdf 06 04 32.1 -1.1
UCC PKPbc PKPbc 06 04 37.9 -1.0
UCC PKPab PKPab 06 04 45.9 -1.7
KHC Kasperske Hory 149.88 343 *e*PKPDF PKPdf 06 04 32.1 -1.0
KHC ⇑*e*PKPB PKPbc 06 04 38.3 -0.5
KHC *e*PKPAB PKPab 06 04 47.4 -0.2
KHC *e*pPKP pPKPdf 06 07 06.1 +1.1
KHC Kasperske Hory 149.88 343 *e*PKIKP PKPdf 06 04 32.1 -1.0
KHC *e* 06 04 47.4
PSBA Serra de Santa 149.91 47 *e*PKP PKPbc 06 04 37.8 -1.1
MEM Membach 149.92 353 PKP PKPdf 06 04 32.6 -0.6
MEM PKPbc PKPbc 06 04 38.1 -0.8
MEM PKPab PKPab 06 04 47.7 0.0
GRA1 Grafenberg Arr 149.94 346 *e*PKPdf PKPdf 06 04 32.3 -0.9
GRA1 *e*PKPbc PKPbc 06 04 38.6 -0.4
GRA1 *e*PKPab PKPab 06 04 46.7 -1.1
GRA1 *e*pPKPbc pPKPbc 06 07 12.7 +3.7
GRF Grafenberg Arr 149.94 346 *e*PKPdf PKPdf 06 04 32.3 -0.9
GRF *e*PKPbc PKPbc 06 04 38.6 -0.4
GRF *e*PKPab PKPab 06 04 46.7 -1.1
GRF *e*pPKPbc pPKPbc 06 07 12.7 +3.7
GRF Grafenberg Arr 149.94 346 *e*PKP2 PKPab 06 04 46.7 -1.1
GRF Grafenberg Arr 149.94 346 *e*PKIKP PKPdf 06 04 32.3 -0.9
GRF *e* 06 04 46.7
BTOK Tokmak 149.95 315 *i* P PKPbc 06 04 38.6 -0.4
TNS Taunus Mts 149.97 350 *e*PKPbc PKPbc 06 04 38.4 -0.6
TNS *e*PKPab PKPab 06 04 46.5 -1.4
TNS Taunus Mts 149.97 350 *e*PKP2 PKPab 06 04 46.5 -1.4
TEB Eastbourne 149.99 1 *e*P PKPbc 06 04 38.9 -0.2
WET Wettzell 150.06 344 *e*PKPbc PKPbc 06 04 38.8 -0.4
WET *e*PKPab PKPab 06 04 47.5 -0.8
WET Wettzell 150.06 344 *e*PKP2 PKPab 06 04 47.5 -0.8
GEC2 GERESS Array S 150.11 343 *e*PKPbc PKPbc 06 04 38.6 -0.8
GERES GERESS Array B 150.11 343 PKP PKPdf 06 04 32.1 -1.4
comp=Z,1.8nm,0.7s,baz=45,slow=1.5,SNR=15
GERES PKPbc PKPbc 06 04 38.2 -1.2
comp=Z,27nm,0.7s,baz=112,slow=1.4,SNR=16
DYA Yadsworthy 150.15 6 *e*P PKPbc 06 04 37.8 -1.7
SNF Seneffe 150.18 355 PKP PKPdf 06 04 31.8 -1.8
SNF PKPbc PKPbc 06 04 38.6 -1.0
SNF PKPab PKPab 06 04 47.2 -1.6
BCLA Clavier 150.18 354 PKP PKPdf 06 04 32.7 -0.9
BCLA PKPbc PKPbc 06 04 38.5 -1.0
BCLA PKPab PKPab 06 04 47.2 -1.6
DIM Dimitrovgrad 150.22 321 *i* P PKPbc 06 04 39.0 -0.6
MANT Manisa 150.22 313 *i* P PKPbc 06 04 39.3 -0.3
MENF Mencas 150.24 358 PKP PKPbc 06 04 38.7 -1.0

SOP Sopron 150.24 338 ⇓*e*PKP/F PKPbc 06 04 39.1 -0.6
CONA Conrad Observa 150.27 339 ⇑*i*PKPdf PKPdf 06 04 33.2 -0.6
comp=Z,11nm,1.1s,SNR=39
CONA ⇓*i*PKiKP PKiKP 06 04 39.5 -0.7
ABH Alteburg 150.44 351 PKP PKPbc 06 04 37.7 -2.4
TOD Tromm 150.50 349 PKIKP PKPbc 06 04 36.3 -4.0
GIVF Givet 150.53 355 *e*PKIKP PKPdf 06 04 34.0 -0.1
DOU Dourbes 150.56 355 PKP PKPdf 06 04 33.5 -0.7
DOU PKPbc PKPbc 06 04 39.6 -0.8
DOU PKPab PKPab 06 04 49.6 -0.8
ALN Alexandroupoli 150.60 319 *e*P PKPbc 06 04 39.2 -1.2
BAIF Baives 150.63 355 *e*PKIKP PKPdf 06 04 34.2 -0.1
PLD Plovdiv 150.67 322 *i* P PKPbc 06 04 40.0 -0.6
RUP Ruppelstein 150.68 352 PKIKP PKPdf 06 04 34.9 +0.5
PKSM Moragy 150.69 334 ⇓*i*P PKPbc 06 04 39.7 -1.0
PKSM Moragy 150.69 334 ⇑P PKPbc 06 04 40.2 -0.5
PGB Panagyurishte 150.69 323 *i* P PKPbc 06 04 40.7 0.0
RDO Rodhopi 150.76 320 *e*P PKPbc 06 04 40.0 -0.9
WLF Walferdange 150.83 353 PKP PKPdf 06 04 33.8 -0.8
WLF PKPbc PKPbc 06 04 40.7 -0.3
WLF E 06 04 43.6
WLF PKPab PKPab 06 04 50.3 -1.2
WLF Walferdange 150.83 353 *e*PKPdf PKPdf 06 04 34.4 -0.2
WLF *e*PKPbc PKPbc 06 04 40.8 -0.3
WLF *e*PKPab PKPab 06 04 49.5 -2.1
MOA Molln 150.84 341 ⇑*i* PKPbc 06 04 40.5 -0.6
comp=Z,17nm,0.4s
MOA Molln 150.84 341 ⇓*i* PKPab 06 04 51.9 +0.3
comp=Z,28nm,1.1s
MOA Molln 150.84 341 ⇑*i*PKPdf PKPdf 06 04 33.5 -1.1
comp=Z,3.1nm,0.9s,SNR=17
MOA ⇑*i*PKPbc PKPbc 06 04 40.5 -0.6
comp=Z,17nm,0.4s
MOA ⇓*i*PKPab PKPab 06 04 51.9 +0.3
comp=Z,28nm,1.1s
RZN Rozhen 150.92 321 P PKPbc 06 04 41.2 0.0
BEO Belgrade 150.99 330 *i* PKP PKPbc 06 04 41.9 +0.5
SVIS Svilajnac 151.02 329 ⇓*i*PKP PKPbc 06 04 40.6 -0.9
AYVA Ayvalik 151.07 315 *i* P PKPbc 06 04 38.6 -2.9
AYVA Ayvalik 151.07 315 *i* P PKPbc 06 04 38.0 -3.6
KDAG Bornova 151.15 313 *i* P PKPbc 06 04 41.1 -0.7
BOZC Bozcaada 151.19 317 *i* P PKPbc 06 04 40.3 -1.5
VTS Vitosha 151.19 324 *i* P PKPbc 06 04 41.7 -0.1
VTS Vitosha 151.19 324 ⇓*i*P PKPbc 06 04 41.3 -0.5
VTS Vitosha 151.19 324 ⇓PKIKP PKPbc 06 04 41.8 0.0
STU Stuttgart 151.24 348 *e*PKPbc PKPbc 06 04 41.3 -0.6
STU *e*PKPab PKPab 06 04 51.3 -2.0
STU Stuttgart 151.24 348 *e*PKPbc PKPbc 06 04 41.5 -0.4
STU *e*PKPab PKPab 06 04 51.4 -1.8
LANF Langenberg 151.27 350 PKP PKPbc 06 04 41.2 -0.8
FUR Furstenfeldbru 151.36 345 *e*PKPdf PKPdf 06 04 34.3 -1.1
FUR *e*PKPbc PKPbc 06 04 41.3 -0.9
FUR *e*PKPab PKPab 06 04 53.1 -0.7
PRK Paraskevi 151.38 316 *e*P PKPbc 06 04 41.5 -0.7
MMB Musomiste 151.56 322 *i* P PKPbc 06 04 41.7 -0.9
URLA Izmir 151.63 314 *i* P PKPbc 06 04 41.9 -0.9
PERS Pernice 151.64 339 *i* PKPbc PKPbc 06 04 41.6 -1.3
PERS *i* 06 04 42.4
PERS *e*PKPab PKPab 06 04 55.1 +0.1
BDRM Kayabasi 151.67 311 *i* P PKPbc 06 04 42.0 -0.9
KKB Krupnik 151.74 323 *i* P PKPbc 06 04 42.6 -0.5
DIVS Divcibare 151.75 330 ⇓*i*PKP PKPbc 06 04 42.3 -0.8
BFO Black Forest 151.82 349 *e*PKPbc PKPbc 06 04 42.5 -0.7
BFO *e*PKPab PKPab 06 04 54.6 -1.1
BFO Black Forest 151.82 349 *e*PKPdf PKPdf 06 04 33.9 -2.2
BFO *e*PKPbc PKPbc 06 04 42.4 -0.8
BFO *e*PKPbc PKPbc 06 04 42.5 -0.7
BFO *e*PKPab PKPab 06 04 54.5 -1.2
WLS Welschbruch 151.90 351 PKP PKPdf 06 04 38.6 +2.4
CDF Champ du Feu 151.91 351 *e*PKIKP PKPdf 06 04 36.2 0.0
SRS Serrai 151.94 321 *e*P PKPbc 06 04 41.5 -2.0
DOBS Dobrina 151.94 338 *e*PKPbc PKPbc 06 04 42.4 -1.1
CHOS Chios island 151.98 314 *e*P PKPbc 06 04 42.6 -0.9
GOLS Golise 152.01 338 *e*PKPbc PKPbc 06 04 42.6 -1.0
FLN La Foliniere 152.04 2 *e*PKIKP PKPdf 06 04 36.0 -0.4
comp=Z,52nm,1.0s
FLN *e*R 06 04 44.8
comp=Z,135nm,21.8s
FLN La Foliniere 152.04 2 *e*PKPdf PKPdf 06 04 36.0 -0.4
FLN LR LR 06 04 44.8
comp=Z,130nm,21.8s
WATA Walderalm 152.06 344 ⇓*i* PKPbc 06 04 42.7 -1.0
comp=Z,13nm,0.8s
WATA Walderalm 152.06 344 ⇑*i* PKPab 06 04 56.4 -0.4
comp=Z,17nm,1.0s
WATA Walderalm 152.06 344 ⇓*i*PKPdf PKPdf 06 04 36.3 -0.1
comp=Z,4.7nm,1.2s,SNR=24
WATA ⇓*i*PKPbc PKPbc 06 04 42.7 -1.0
comp=Z,13nm,0.8s
WATA ⇑*i*PKPab PKPab 06 04 56.4 -0.4
comp=Z,17nm,1.0s
MEZF Maizieres J'vi 152.10 354 *e*PKIKP PKPdf 06 04 36.4 -0.1
WTTA Wattenberg 152.11 344 ⇓*i* PKPbc 06 04 43.3 -0.6
comp=Z,49nm,0.4s
WTTA Wattenberg 152.11 344 ⇑*i* PKPab 06 04 57.0 -0.1
comp=Z,77nm,1.4s
WTTA Wattenberg 152.11 344 ⇑*i*PKPdf PKPdf 06 04 36.0 -0.5
comp=Z,10.0nm,0.9s,SNR=17
WTTA ⇓*i*PKPbc PKPbc 06 04 43.3 -0.6
comp=Z,49nm,0.4s
WTTA ⇑*i*PKPab PKPab 06 04 57.0 -0.1
comp=Z,77nm,1.4s
ECH Echery 152.12 351 PKP PKPbc 06 04 40.3 -3.6
MOTA Moosalm 152.17 345 ⇑*i* PKPbc 06 04 43.0 -1.0
comp=Z,25nm,0.9s
MOTA Moosalm 152.17 345 ⇑*i* PKPab 06 04 57.0 -0.3
comp=Z,26nm,0.9s
MOTA Moosalm 152.17 345 ⇓*i*PKPdf PKPdf 06 04 35.7 -0.9
comp=Z,11nm,1.1s,SNR=11
MOTA ⇑*i*PKPbc PKPbc 06 04 43.0 -1.0
comp=Z,25nm,0.9s
MOTA ⇑*i*PKPab PKPab 06 04 57.0 -0.3
comp=Z,26nm,0.9s
OUR Ouranopolis 152.19 320 *e*P PKPbc 06 04 42.5 -1.5
BBLS Bajina Basta - 152.20 330 *i* PKP PKPbc 06 04 44.8 +0.7
LDF La Druitiere 152.21 1 *e*PKIKP PKPdf 06 04 36.1 -0.5
comp=Z,41nm,1.1s
CRES Cresnjev 152.23 338 *i* PKPbc PKPbc 06 04 43.5 -0.7
SQTA Sankt Quirin 152.26 345 ⇓*i* PKPbc 06 04 43.3 -0.9
comp=Z,23nm,1.0s
SQTA Sankt Quirin 152.26 345 ⇑*i* PKPab 06 04 57.1 -0.5
comp=Z,28nm,1.0s
SQTA Sankt Quirin 152.26 345 ⇑*i*PKPdf PKPdf 06 04 36.0 -0.7
comp=Z,3.1nm,0.8s,SNR=10
SQTA ⇓*i*PKPbc PKPbc 06 04 43.3 -0.9
comp=Z,23nm,1.0s
SQTA ⇑*i*PKPab PKPab 06 04 57.1 -0.5
comp=Z,28nm,1.0s
SOH Sokhos 152.26 321 *e*P PKPbc 06 04 42.3 -1.9
THEF They Montfort 152.27 352 PKP PKPdf 06 04 36.5 -0.2
ROSF Rostrenen 152.29 6 *e*PKIKP PKPdf 06 04 36.5 -0.3
FELD Feldberg im Sc 152.31 349 PKP PKPdf 06 04 36.3 -0.5
LJU Ljubljana 152.36 339 *e*PKPdf PKPdf 06 04 35.5 -1.4
LJU *i*PKPbc PKPbc 06 04 43.5 -0.9
LJU *e*PKPab PKPab 06 04 57.5 -0.6
VAY Valandovo 152.39 323 *i* PKP PKPbc 06 04 42.3 -2.1
VAY *i* X 06 04 57.7
GRR Gorron 152.40 2 *e*PKIKP PKPdf 06 04 36.7 -0.2
PTCC Patocco-Chiusa 152.41 341 PKP PKPdf 06 04 36.2 -0.7
SGMF Saint Gilles 152.43 5 *e*PKIKP PKPdf 06 04 36.8 -0.2
HAU Haudompre 152.44 352 *e*PKIKP PKPdf 06 04 37.9 +0.9
comp=Z,6.5nm,0.6s
HAU *e*R 06 04 44.8
comp=Z,73nm,21.0s
HAU Haudompre 152.44 352 *e*PKPdf PKPdf 06 04 37.9 +0.9
HAU LR LR 06 04 44.8
comp=Z,70nm,21.0s
CADS Cadrg 152.45 340 *i* PKPbc PKPbc 06 04 43.7 -0.9
CADS *e*PKPab PKPab 06 04 55.1 -3.3
MOF Molkenrain 152.48 351 PKP PKPdf 06 04 38.1 +1.1
DAVA Damuels 152.51 346 ⇑*i* PKPab 06 04 58.3 -0.4
comp=Z,45nm,0.7s
DAVA Damuels 152.51 346 ⇑*i*PKPdf PKPdf 06 04 36.4 -0.6
comp=Z,11nm,1.1s,SNR=8.3
DAVA ⇑*i*PKPab PKPab 06 04 58.3 -0.4
comp=Z,45nm,0.7s
DAVA Damuels 152.51 346 P PKPbc 06 04 44.8 +0.1
comp=Z,16nm,0.5s
DAVA Damuels 152.51 346 ⇑*i*P PKPdf 06 04 36.4 -0.6
DAVA *i* 06 04 44.8
DAVA *i* 06 04 58.3
KARP Karpathos 152.55 308 *e*P PKPbc 06 04 44.0 -0.8

HINF Hinteralfeld 152.55 351 *e*PKIKP PKPdf 06 04 37.0 -0.1
comp=Z,12nm,0.9s
GMNA Gemona 152.57 341 PKP PKPdf 06 04 36.5 -0.7
SKO Skopje 152.57 325 *i* PKP PKPbc 06 04 44.6 -0.2
SKO *i* X 06 04 59.5
BOJS Bojanci 152.58 338 *e*PKPdf PKPdf 06 04 37.3 +0.1
BOJS *i* PKPbc PKPbc 06 04 44.3 -0.5
BOJS *i* PKPab PKPab 06 04 58.9 0.0
VOY Vojsko 152.58 340 *e*PKP PKPdf 06 04 39.8 +2.6
VOY *e* 06 04 52.3
VOJS Vojsko 152.58 340 *i* PKPbc PKPbc 06 04 44.5 -0.4
QUIF Quistinic 152.72 6 *e*PKIKP PKPdf 06 04 37.2 -0.2
GRG Griva 152.73 322 *e*P PKPbc 06 04 42.4 -2.8
BBS Basel-Blauen 152.79 350 PKIKP PKPdf 06 04 37.4 -0.1
APPI Appiano 152.95 344 PKP PKPbc 06 04 44.7 -1.0
DAVOX Davos 152.99 346 PKP PKPdf 06 04 37.3 -0.5
comp=Z,10nm,0.9s
DAVOX PKPbc PKPbc 06 04 45.5 -0.3
DAVOX PKPab PKPab 06 05 00.1 -0.6
comp=Z,38nm,0.6s,baz=85,slow=5.5,SNR=5.1
LOMF Lomont 153.01 351 PKP PKPdf 06 04 39.8 +2.0
LIT Litokhoron 153.23 321 *e*P PKPbc 06 04 45.1 -1.2
CTI Castel Tesino 153.23 343 PKIKP PKPdf 06 04 39.2 +1.1
XOR Xorichti 153.26 319 *e*P PKPbc 06 04 45.5 -0.8
BIA Bitola 153.29 324 *i* PKP PKPbc 06 04 44.5 -1.9
TUE Stuetta 153.40 347 PKP PKPdf 06 04 37.6 -0.7
SANT Santorini 153.40 311 *e*PKPbc PKPbc 06 04 45.2 -1.5
SANT *e*PKPab PKPab 06 05 01.4 -1.1
FNA Florina 153.42 323 *e*P PKPbc 06 04 45.7 -1.0
THR3 Thira Island, 153.43 311 *e*P PKPbc 06 04 46.0 -0.7
LOR Lormes 153.43 355 *e*PKIKP PKPdf 06 04 38.2 -0.2
comp=Z,12nm,0.9s
LOR *e*R 06 04 44.8
comp=Z,103nm,21.8s
LOR Lormes 153.43 355 *e*PKPdf PKPdf 06 04 38.2 -0.2
LOR LR LR 06 04 44.8
comp=Z,100nm,21.8s
HYF Humbligny 153.50 357 *e*PKIKP PKPdf 06 04 38.3 -0.2
OHR Ohrid 153.52 324 *i* PKP PKPbc 06 04 43.9 -3.0
OHR *i* X 06 05 02.3
MABI Malga Bissina 153.52 345 PKP PKPbc 06 04 47.3 +0.4
SSF Saint Saulge 153.66 356 *e*PKIKP PKPdf 06 04 38.5 -0.2
comp=Z,26nm,0.9s
NPS Neapolis 153.81 309 *e*P PKPdf 06 04 33.8 -5.1
CABF La Chapelle 153.84 352 *e*PKIKP PKPdf 06 04 39.2 +0.2
comp=Z,36nm,0.9s
AVF Avril sur Loir 153.94 356 *e*PKIKP PKPdf 06 04 38.6 -0.5
AGG Agios Georgios 154.00 319 *e*P PKPbc 06 04 46.9 -1.0
OG01 Vacheresse 154.03 351 PKP PKPdf 06 04 42.3 +3.1
SMF Signal de Mont 154.05 355 *e*PKIKP PKPdf 06 04 38.8 -0.5
BGF Bois d'Agland 154.20 357 *e*PKIKP PKPdf 06 04 39.3 -0.2
MFF Saint Martin d 154.21 1 *e*PKIKP PKPdf 06 04 38.9 -0.6
comp=Z,8.4nm,0.8s
EVR Evrytania 154.39 320 *e*P PKPdf 06 04 47.5 +7.8
JAN Janina 154.48 322 *e*P PKPdf 06 04 48.5 +8.7
OG05 Jujurieux 154.48 352 PKP PKPdf 06 04 41.0 +1.2
TCF Toulx Ste Croi 154.50 358 *e*PKIKP PKPdf 06 04 39.5 -0.4
comp=Z,13nm,0.8s
RSL Roselend 154.66 350 PKP PKPab 06 05 07.2 -0.7
AGO Saint Agoulin 154.69 356 PKP PKPdf 06 04 49.3 +9.2
PLDF La Plantade 154.74 355 PKP PKPdf 06 04 51.2 +11
LPL La Plagne 154.81 350 *e*PKIKP PKPdf 06 04 40.5 +0.2
LPG La Plagne 154.83 350 *e*PKIKP PKPdf 06 04 40.5 +0.2
BOB Bobbio (Coli) 154.99 345 PKP PKPdf 06 04 50.1 +10
KEK Kerkira 155.03 323 *e*P PKPdf 06 04 51.5 +11
FNVD Fontana Vidola 155.11 342 PKP PKPab 06 05 10.1 +0.2
QVD Gavdhos 155.12 309 *e*PKPab PKPab 06 05 09.8 -0.1
ARV Arcevia 155.14 339 PKP PKPab 06 05 10.0 0.0
BNI Bardonecchia 155.28 350 *e*PKIKP PKPdf 06 04 40.6 -0.3
BNI *e* 06 05 10.3
VLC Villacollemand 155.32 343 *e*PKPab PKPab 06 05 10.0 -0.8
SNTG Esanatoglia 155.35 338 PKP PKPdf 06 04 50.5 +9.5
BDI Bagni Di Lucca 155.35 343 PKP2 PKPab 06 05 10.4 -0.5
RJF Les Rejaudoux 155.50 359 *e*PKIKP PKPdf 06 04 40.9 -0.3
RJF *e*R 06 04 44.8
comp=Z,130nm,22.5s
RJF Les Rejaudoux 155.50 359 *e*PKPdf PKPdf 06 04 40.9 -0.3
RJF LR LR 06 04 44.8
comp=Z,130nm,22.5s
ORIF Oris-en-Rattie 155.53 351 *e*PKIKP PKPdf 06 04 41.1 -0.1
ORIF *e*R 06 04 44.8
comp=Z,106nm,22.0s
MBDF Montbardon 155.58 350 *e*PKIKP PKPdf 06 04 41.2 -0.1
RGNG Rignano Grg 155.66 332 PKP PKPdf 06 04 41.2 -0.2
DOI San Damiano 155.71 349 PKP2 PKPab 06 05 10.0 -2.4
VIVF Saint-Julien-l 155.74 353 *e*PKIKP PKPdf 06 04 41.1 -0.4
CAF Calviac 155.87 358 *e*PKIKP PKPdf 06 04 41.5 -0.2
OG26 St.-Nazaire-De 155.94 352 PKP PKPab 06 05 12.5 -1.0
OG25 Le Caire 156.04 351 PKP PKPab 06 05 11.8 -2.1
OG25 Le Caire 156.04 351 PKP PKPab 06 05 12.5 -1.4
GRFL Gerfalco 156.08 341 PKP PKPdf 06 04 40.4 -1.6
SBF Sospel 156.29 348 *e*PKIKP PKPdf 06 04 42.1 -0.1
comp=Z,64nm,1.1s
SMRF Simiane la Rot 156.50 351 *e*PKIKP PKPdf 06 04 42.4 -0.1
comp=Z,16nm,0.9s
VILF Villemus 156.60 351 PKP PKPab 06 05 15.8 -0.5
LASF Ste Croix 156.60 354 *e*PKIKP PKPdf 06 04 42.5 -0.1
comp=Z,25nm,1.0s
PRAF Pradon 156.72 352 PKP PKPab 06 05 16.3 -0.5
FRF La Foret Royal 156.73 349 *e*PKIKP PKPdf 06 04 42.3 -0.5
comp=Z,14nm,0.9s
TAVF Tavernes 156.77 350 PKP PKPab 06 05 16.3 -0.8
TREF Trevaresse 156.87 351 PKP PKPab 06 05 16.5 -1.0
PUYF Puyloubier 156.91 351 PKP PKPab 06 05 16.5 -1.2
LMR La Mourre 156.97 349 *e*PKIKP PKPdf 06 04 43.0 -0.1
comp=Z,18nm,1.1s
TIP Timpagrande 157.05 327 *e*PKPdf PKPdf 06 04 42.6 -0.6
GELF Grande-Etoile 157.10 351 PKP PKPab 06 05 17.7 -0.8
BERF Bertagne 157.13 351 PKP PKPab 06 05 17.7 -0.9
PGF Pioggiola 157.19 344 *e*PKIKP PKPdf 06 04 42.9 -0.5
comp=Z,25nm,1.0s
CORF Corte 157.38 344 PKP PKPab 06 05 18.7 -1.0
PCAB Cabril 157.82 18 *e*PKPdf PKPdf 06 04 43.9 -0.2
PCAB Cabril 157.82 18 *e*PKPab PKPab 06 05 20.5 -1.2
MLS Moulis 157.86 359 PKP PKPab 06 05 20.3 -1.5
OSPF L'Ospedale 157.96 343 PKP PKPab 06 05 21.4 -0.8
RESF Ens 158.01 1 PKP PKPab 06 05 22.1 -0.3
PBRG Braganca 158.08 15 *e*PKPdf PKPdf 06 04 43.5 -0.9
PBRG Braganca 158.08 15 *e*PKPab PKPab 06 05 22.5 -0.2
PVRL Vila Real 158.32 17 *e*PKPdf PKPdf 06 04 44.5 -0.2
PVRL Vila Real 158.32 17 *e*PKPab PKPab 06 05 23.1 -0.7
PVIS Viseu 158.78 18 *e*PKPdf PKPdf 06 04 44.3 -1.0
PVIS Viseu 158.78 18 *e*PKPab PKPab 06 05 24.9 -0.9
MTE Manteigas 159.18 18 *e*PKPdf PKPdf 06 04 45.7 0.0
MTE Manteigas 159.18 18 *e*PKPab PKPab 06 05 26.8 -0.7
PTOM Tomar 159.62 21 *e*PKPdf PKPdf 06 04 45.7 -0.5
PTOM Tomar 159.62 21 *e*PKPab PKPab 06 05 28.4 -1.1
PCBR Castelo Branco 159.71 19 *e*PKPdf PKPdf 06 04 46.1 -0.2
PCBR Castelo Branco 159.71 19 *e*PKPab PKPab 06 05 28.7 -1.2
EBR Ebro Roquetas 159.99 1 *e*PKPpB PKPab 06 05 30.0 -1.1
PLOU Loures 160.02 23 *e*PKPab PKPab 06 05 30.6 -0.6
MOE Montemor 160.62 22 *e*PKPab PKPab 06 05 33.3 -0.6
ESDC Sonseca Array 160.71 11 PKP PKPdf 06 04 48.2 +0.8
comp=Z,0.7nm,0.5s,baz=348,slow=2.2,SNR=12
ESDC PKPab PKPab 06 05 32.7 -1.6
comp=Z,8.9nm,0.7s,baz=347,slow=4.5,SNR=29
ESDC PP PP 06 09 17.2 -2.2
comp=Z,0.9nm,0.7s,baz=337,slow=5.2,SNR=4.7
EVO Evora 160.73 21 *e*PKIKP PKPdf 06 04 46.7 -0.7
comp=Z,34nm,1.2s
EVO *e*R 06 04 44.8
comp=Z,118nm,20.5s
PBEJ Beja 161.24 22 *e*PKPdf PKPdf 06 04 47.1 -0.8
PBEJ Beja 161.24 22 *e*PKPab PKPab 06 05 35.7 -0.9
PTEO Sao Teotonio 161.35 24 *e*PKPab PKPab 06 05 36.5 -0.6
DBIC Dimbokro 164.98 158 PKP PKPdf 06 04 51.3 -0.1
comp=Z,7.1nm,0.8s,baz=71,slow=3.2,SNR=8.0
DBIC PKPab PKPab 06 05 54.6 +1.5
comp=Z,17nm,0.9s,baz=175,slow=4.6,SNR=9.5
DBIC Dimbokro 164.98 158 PKP2 PKPab 06 05 54.6 +1.5
DBIC pmax pmax 06 05 54.6
comp=Z,17nm,1

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TORD                                PP      PP      06 10 22.3 +4.0
     comp=Z,2.7nm,1.0s,baz=170,slow=4.3,SNR=4.7
TORD Torodi Ar. Bea     172.38 187  PKP     PKPdf   06 04 55.5 -0.6
TORD                                PKPab   PKPab   06 06 24.6 -1.3
TORD                                pPKPab  pPKPab  06 08 47.1 -1.1
TORD                                PP      PP      06 10 22.3 +4.0
```

*ISCJB **11** 05:57:25.6±1.0,3626N±005×2764E±005,h11km±8km, Error ellipse: s-maj=8.5km s-min=6.9km az=70.1*
*ISK **11** 05:57:25.1,3626N×2757E,h22km,MD3.0*
*NEIC **11** 05:57:25.7,3631N×2767E,h27km,MD3.3(ATH),After ATH.*
*ATH **11** 05:57:25.7,3631N×2767E,h27km±2km,MD3.3/3*
*CSEM **11** 05:57:25.9±0.1,3630N×2765E,h10km,MD3.3,Error ellipse: s-maj=3.1km s-min=2.2km az=109.0*

ISC 11 05:57:26.4±0.8,3627N±004×2764E±007,h17km±8km,n9, σ0§57/14,Dodecanese Islands

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Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
ARG  Arkhangelos         0.39  98  ePB   Pg          05 57 34.5 +0.1
ARG                                eSB   Sg          05 57 40.6 +0.8
DAT  Datca               0.46 353  PG    Pg          05 57 34.7 -1.0
DAT                                SG    Sg          05 57 42.8 +0.9
KARP Karpathos           0.82 209  ePN   Pn          05 57 42.4 -0.8
KARP                               eSN   Sn          05 57 55.2 +0.3
BODT Bodrum              0.83 341  PG    Pg          05 57 42.1 -0.5
BODT                               SG    Sg          05 57 54.0 +0.4
DALT Dalyan (Mudla)      0.94  58  PG    Pg          05 57 43.8 -0.9
YER  Yerkesik            1.00  31  ePG   Pg          05 57 45.6 -0.2
FETY Fethiye             1.22  72  ePN   Pn          05 57 48.7 +0.1
SMG  Samos               1.57 336  ePN   Pn          05 57 53.7 +0.1
SMG                                eSN   Sn          05 58 13.7 +0.1
NPS  Neapolis            1.93 239  ePN   Pn          05 57 59.1 +0.6
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*IDC **11** 06:03:25.4±0.6,647S×13056E,h0km,mb4.4/10, mb1 4.6/13,mb1mx4.6/16,mbtmp4.5/13,ML4.7/3,MS3.8/1, Ms1 3.7/1,ms1mx2.6/21,Error ellipse: s-maj=32.6km s-min=14.3km az=78.0*
*ISCJB **11** 06:03:28.5±0.4,657S±005×13050E±0.10,h33km, mb4.7/24,Error ellipse: s-maj=14.8km s-min=5.1km az=135.6*
*MOS **11** 06:03:29.2±1.3,655S×13035E,h33km,mb4.6/15,Error ellipse: s-maj=17.7km s-min=8.8km az=117.1*
*NEIC **11** 06:03:30.1±0.3,653S×13039E,mb5.0/15,Error ellipse: s-maj=13.0km s-min=5.7km az=67.0*

ISC 11 06:03:31.2±1.5,656S±007×13058E±010,h40km±15km, n74,σ1§17/70,mb4.7/24,2D,Banda Sea

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Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
KAKA Kakadu              6.38 163 ⇓iP                Pn          06 05 06.3 +3.7
     80nm,0.2s
KAKA                               eS    Sn          06 06 13.5 -0.7
FITZ Fitzroy Crossi     12.44 202  eP    Pn          06 06 24.7 -0.9
     46nm,0.4s
FITZ                               eS    Sn          06 08 31.7 -11
FITZ Fitzroy Crossi     12.44 202  Pn    Pn          06 06 24.7 -0.9
     4.6nm,0.3s,baz=35,slow=13,SNR=97
FITZ                               Sn    Sn          06 08 31.7 -11
     7.2nm,0.3s,baz=71,slow=19,SNR=10
WRAB Tennant Creek      13.79 165  Pn    Pn          06 06 43.0 -1.0
     95nm,0.4s,SNR=15
WRAB Tennant Creek      13.79 165  eP    Pn          06 06 43.3 -0.7
WRAB                               pmax  pmax
     comp=Z,22nm,0.4s
WRAB Tennant Creek      13.79 165  ePn   Pn          06 06 43.2 -0.8
     comp=Z,22nm,0.4s
WRAB                               eSn   Sn          06 09 09.0 -6.7
WRA  Warramunga Arr     13.79 165  Pn    Pn          06 06 43.1 -1.0
     comp=Z,2.8nm,0.3s,baz=345,slow=13,SNR=23
WRA                                Sn    Sn          06 09 08.9 -6.9
     comp=Z,13nm,0.3s,baz=342,slow=22,SNR=15
WB2  Warramunga Arr     13.80 165 ⇓iP                Pn          06 06 43.2 -0.9
WB2                                eS    Sn          06 09 08.5 -7.5
PMG  Port Moresby       16.66 101  Pn    Pn          06 07 25.7 +4.0
     comp=Z,1.4nm,0.3s,baz=310,slow=5.6,SNR=5.2
PMG                                Sn    Sn          06 10 19.6 -6.0
     comp=Z,0.5nm,0.3s,baz=215,slow=18,SNR=2.9
AS31 Alice Springs      17.30 170  eP    Pn          06 07 30.0 +0.3
AS31                               eS    S           06 10 30.6 -18
ASAR Alice Springs      17.30 170  P     Pn          06 07 31.0 +1.3
     comp=Z,3.1nm,0.3s,baz=348,slow=9.2,SNR=75
ASAR                               S     S           06 10 33.0 -16
     comp=Z,3.2nm,0.3s,baz=358,slow=30,SNR=9.0
ASAR Alice Springs      17.30 170  P     Pn          06 07 31.0 +1.3
ASAR                               S     S           06 10 33.0 -16
ASAR                               pmax  pmax
     comp=Z,3.0nm,0.3s
ASAR                               smax
     comp=N,3.0nm,0.3s
ASPA Alice Springs      17.30 170  eP    Pn          06 07 30.0 +0.3
ASPA                               eS    S           06 10 30.6 -18
CTA  Charters Tower     20.31 133  eP    P           06 08 08.0 +4.3
     comp=N,8.1nm,0.8s
CTA  Charters Tower     20.31 133  P     P           06 08 08.0 +4.3
     comp=N,9.0nm,0.7s,baz=322,slow=13,SNR=8.8
CTA                                S     S           06 11 45.5 -3.6
     comp=N,2.1nm,0.6s,baz=4.8,slow=22,SNR=7.0
CTA  Charters Tower     20.31 133  P     P           06 08 08.0 +4.3
CTA                                S     S           06 11 45.5 -3.7
CTA                                pmax  pmax
     comp=Z,9.0nm,0.7s
CTA                                smax
     comp=N,2.0nm,0.6s
FORT Forrest            24.20 185  eP    P           06 08 45.2 +1.2
     comp=N,21nm,0.6s,mb4.8
FORT                               eS    S           06 13 09.3 +10
STKA Stephens Creek     27.21 159  eP    P           06 09 10.7 -0.5
     comp=N,5.3nm,0.3s,mb4.5
STKA Stephens Creek     27.21 159  P     P           06 09 10.9 -0.3
     comp=N,8.1nm,0.4s,mb4.6,baz=337,slow=8.1,SNR=30
STKA                               LR    LR          06 21 20.4
     comp=N,167nm,18.1s,baz=342,slow=39
KLBR Kellerberrin       27.64 204  eP    P           06 09 16.2 +1.2
     comp=N,34nm,1.5s,mb4.8
NWAO Narrogin (SRO)     29.02 204  P     P           06 09 28.5 +1.2
     comp=N,3.0nm,0.3s,mb4.5,baz=31,slow=9.0,SNR=3.0
NWAO Narrogin (SRO)     29.02 204  P     P           06 09 28.5 +1.2
NWAO                               pmax  pmax
     comp=Z,3.0nm,0.3s
PSI  Prapat             32.94 285  P     P           06 10 00.6 -1.3
     comp=Z,5.3nm,0.7s,mb4.6,baz=119,slow=4.0,SNR=8.2
PSI  Prapat             32.94 285  P     P           06 10 00.6 -1.3
PSI                                pmax  pmax
     comp=Z,5.0nm,0.7s,mb4.5
CHTO Chiang Mai         40.10 310  eP    P           06 11 03.6 +0.7
CHTO                               pmax  pmax
     comp=Z,5.0nm,0.6s,mb4.4
CHTO Chiang Mai         40.10 310  eP    P           06 11 03.6 +0.6
     comp=Z,4.9nm,0.6s,mb4.4
MJAR Matsushiro Arr     43.47  9  P     P           06 11 29.6 -0.9
     comp=Z,1.5nm,0.7s,mb3.8,baz=186,slow=9.8,SNR=5.1
MJAR Matsushiro Arr     43.47  9  P     P           06 11 29.6 -0.8
MJAR                               pmax  pmax
     comp=Z,2.0nm,0.7s
LSA  Lhasa              52.28 316  eP    P           06 12 38.8 +0.2
LSA                                e*PP  pP          06 12 47.8 -2.3
LSA                                pmax  pmax
     comp=Z,7.0nm,0.6s,mb4.8
LSA  Lhasa              52.28 316  eP    P           06 12 38.8 +0.2
     comp=Z,6.7nm,0.6s,mb4.8
LSA                                epP   pP          06 12 47.8 -2.3
JIRN Jiri               54.73 311  eP    P           06 12 56.8 +0.2
     comp=Z,32nm,0.6s,mb5.5
GUN  Gumba              55.10 311  eP    P           06 12 59.2 -0.1
     comp=Z,65nm,0.5s,mb5.9
PKI  Pulchoki           55.28 310  eP    P           06 13 00.4 -0.2
     comp=Z,22nm,0.6s,mb5.4
PKI  Pulchoki           55.28 310  eP    P           06 13 00.4 -0.2
PKI                                pmax  pmax
     comp=Z,22nm,0.6s,mb5.4
KKN  Kakani             55.49 310  eP    P           06 13 01.9 -0.2
     comp=Z,32nm,0.6s,mb5.5
KKN  Kakani             55.49 310  eP    P           06 13 01.9 -0.2
KKN                                pmax  pmax
     comp=Z,32nm,0.6s,mb5.5
DMN  Daman              55.53 310  eP    P           06 13 02.4  0.0
     comp=Z,19nm,0.5s,mb5.4
GKN  Gorkha             56.09 310  eP    P           06 13 06.3 -0.1
     comp=Z,49nm,0.5s,mb5.8
KOLN Koldanda           56.77 309  eP    P           06 13 11.3 +0.1
     comp=Z,28nm,0.7s,mb5.4
ULN  Ulaanbaatar        58.03 342  eP    P           06 13 21.1 +1.0
ULN                                e*PP  pP          06 13 29.2 -2.5
ULN                                pmax  pmax
     comp=Z,3.0nm,0.8s,mb4.4
ULN  Ulaanbaatar        58.03 342  eP    P           06 13 21.1 +1.0
     comp=Z,3.1nm,0.8s,mb4.4
ULN                                epP   pP          06 13 29.2 -2.5
SONM Songino Array      58.21 341  P     P           06 13 22.1 +0.8
     comp=Z,1.0nm,0.4s,mb4.2,baz=165,slow=6.4,SNR=6.2
SONM Songino Array      58.21 341  P     P           06 13 22.1 +0.7
SONM                               pmax  pmax
     comp=Z,1.0nm,0.4s
MKAR Makanchi Array     68.18 326  P     P           06 14 27.7 +0.3
     comp=Z,7.2nm,0.4s,mb5.1,baz=115,slow=8.0,SNR=104
MKAR Makanchi Array     68.18 326  P     P           06 14 27.7 +0.3
MKAR                               pmax  pmax
     comp=Z,7.0nm,0.4s
ZAL  Zalesovo           71.45 333  P     P           06 14 46.6 -0.9
     comp=Z,1.1nm,0.5s,mb4.1,baz=50,slow=4.5,SNR=7.6
ZAL  Zalesovo           71.45 333  P     P           06 14 46.6 -0.9
ZAL                                pmax  pmax
     comp=Z,1.0nm,0.5s
VNDA Vanda              72.81 173  P     P           06 14 56.1 +0.4
     comp=Z,2.0nm,0.7s,mb4.1,baz=312,slow=7.3,SNR=3.9
VNDA Vanda              72.81 173  P     P           06 14 56.1 +0.5
VNDA                               pmax  pmax
     comp=Z,2.0nm,0.7s
MAW  Mawson             75.56 201  P     P           06 15 12.6 +0.9
     comp=Z,3.6nm,0.6s,mb4.5,baz=55,slow=7.5,SNR=5.7
MAW  Mawson             75.56 201  P     P           06 15 12.6 +0.9
MAW                                pmax  pmax
     comp=Z,4.0nm,0.6s
BVAR Borovoye Array     78.00 328  P     P           06 15 24.9 -0.6
     comp=Z,0.7nm,0.4s,mb4.0,baz=138,slow=7.6,SNR=8.6
BVAR Borovoye Array     78.00 328  P     P           06 15 24.9 -0.5
BVAR                               pmax  pmax
     comp=Z,1.0nm,0.4s
TIXI Tiksi              78.06 359  eP    P           06 15 24.1 -1.7
TIXI                               pmax  pmax
     comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda            78.71 327  eP    P           06 15 28.5 -0.8
ZRNK                               pmax  pmax
     comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda            78.71 327  eP    P           06 15 28.5 -0.8
     comp=Z,1.6nm,0.6s,mb4.1
ARCES ARCESS Array B 101.37 340    P     Pdif        06 17 18.0 -0.2
     comp=Z,4.6nm,1.1s,baz=80,slow=7.5,SNR=6.0
ARCES                              PKiKP PKiKP       06 21 41.9 -0.5
     comp=Z,3.6nm,1.0s,baz=64,slow=2.8,SNR=5.3
ARCES ARCESS Array B 101.37 340    P     Pdif        06 17 18.0 -0.2
YKA  Yellowknife Ar     107.11  26 PKiKP PKiKP       06 21 52.0 -0.9
     comp=Z,0.2nm,0.5s,baz=290,slow=2.0,SNR=6.8
YKA                                PKKPbc PKKPbc     06 33 09.1 -0.5
     comp=Z,0.4nm,0.7s,baz=111,slow=3.2,SNR=6.9
YKA  Yellowknife Ar     107.11  26 PKPdf PKiKP       06 21 52.0 -0.9
YKA                                PKKPbc PKKPbc     06 33 09.1 -0.5
GERES GERESS Array B 112.45 320    PKiKP PKiKP       06 22 02.5 -0.5
     comp=Z,0.5nm,0.4s,baz=51,slow=2.3,SNR=6.0
GERES GERESS Array B 112.45 320    i PKiKP PKiKP     06 22 02.5 -0.5
GERES                              pmax  pmax
     comp=Z,1.0nm,0.4s
DAVOX Davos             115.53 319 PKP   PKPdf       06 22 08.4 -0.4
     comp=Z,0.6nm,0.3s,baz=297,slow=4.5,SNR=6.3
EKA  Eskdalemuir Ar     119.06 332 PKP   PKPdf       06 22 15.5 -0.1
     comp=Z,0.6nm,0.5s,baz=35,slow=4.0,SNR=4.8
EKA  Eskdalemuir Ar     119.06 332 PKIKP PKPdf       06 22 15.5 -0.1
EKA                                pmax  pmax
     comp=Z,1.0nm,0.5s
ULM  Lac du Bonnet      121.77  33 PKP   PKPdf       06 22 20.4 -0.5
     comp=Z,0.7nm,0.4s,baz=297,slow=4.5,SNR=3.8
TORD Torodi Ar. Bea     129.28 282 PKP   PKPdf       06 22 36.1 +0.9
     comp=Z,0.5nm,0.4s,baz=83,slow=2.2,SNR=9.8
DBIC Dimbokro           135.74 273 PKP   PKPdf       06 22 49.6 +2.2
     comp=Z,1.0nm,0.4s,baz=171,slow=7.4,SNR=5.2
DBIC Dimbokro           135.74 273 PKIKP PKPdf       06 22 49.6 +2.2
DBIC                               pmax  pmax
     comp=Z,1.0nm,0.4s
CPUP Villa Florida      146.41 167 PKPbc PKPbc       06 23 09.2 +1.4
     comp=Z,1.4nm,0.5s,baz=180,slow=3.4,SNR=9.4
CPUP Villa Florida      146.41 167 PKP2  PKPab       06 23 09.3 +0.5
CPUP                               pmax  pmax
     comp=Z,1.0nm,0.5s
LPAZ La Paz             150.71 141 PKPbc PKPbc       06 23 22.0 +3.0
     comp=Z,2.8nm,0.4s,baz=62,slow=2.6,SNR=45
LPAZ La Paz             150.71 141 PKIKP PKPbc       06 23 22.0 +3.0
LPAZ                               pmax  pmax
     comp=Z,3.0nm,0.4s
LPAZ La Paz             150.71 141 PKPbc PKPbc       06 23 22.0 +3.0
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*IDC **11** 06:53:44.5±0.8,21.10S×17459W,h0km,mb4.4/10, mb1 4.5/11,mb1mx4.4/17,mbtmp4.3/11,ML4.4/1,MS3.8/5, Ms1 3.8/5,ms1mx3.4/21,Error ellipse: s-maj=30.5km s-min=18.8km az=139.0*
*ISCJB **11** 06:53:48.1±0.4,21.16S±0.10×17467W±0.10,h33km, mb4.5/20,MS4.0/4,Error ellipse: s-maj=16.9km s-min=8.9km az=94.6*
*NEIC **11** 06:53:50.0±0.3,2108S×17466W,mb4.9/9,Error ellipse: s-maj=15.2km s-min=8.2km az=134.0*
*MOS **11** 06:53:54.7±2.4,1973S×17549W,h33km,mb4.8/6,Error ellipse: s-maj=20.7km s-min=14.4km az=52.2*

ISC 11 06:53:50.0±0.4,2111S±009×17461W±010,h35km,n74, σ0§82/46,mb4.5/20,MS4.0/4,2C-1D,Tonga Islands

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Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
AFI  Afiamalu            7.65  21  Pn    Pn          06 55 33.0 -5.8
     9.8nm,0.3s,baz=229,slow=17,SNR=10
AFI                                Sn    Sn          06 56 52.6 -12
     7.0nm,0.3s,baz=204,slow=23,SNR=3.8
AFI                                LR    LR          06 57 43.6
     comp=Z,130nm,21.9s,baz=207,slow=31
AFI  Afiamalu            7.65  21  eP    Pn          06 55 33.8 -5.1
AFI                                                  06 56 52.7
AFI  Afiamalu            7.65  21  ePn   Pn          06 55 33.8 -5.0
AFI                                eSn   Sn          06 56 37.9 -26
AFI                                Sn    Sn          06 56 52.6 -12
AFI                                LR    LR          06 57 43.6
RAR  Rarotonga          13.84  93  Pn    Pn          06 56 48.0 -16
     13nm,0.3s,baz=210,slow=4.7,SNR=7.6
DZM  Mont Dzumac        17.65 263  P     Pn          06 57 58.0 +5.0
     0.4nm,0.3s,baz=92,slow=19,SNR=9.8
URZ  Urewera            18.53 201  P     Pn          06 58 03.0 -0.9
     1.2nm,0.3s,baz=74,slow=3.7,SNR=4.5
PPT  Papeete            23.87  86  LR    LR          07 05 42.4
     comp=Z,453nm,18.1s,MS4.0,baz=299,slow=30
RPZ  Rata Peaks         25.52 205  P     P           06 59 17.9 +2.8
     8.9nm,0.5s,mb4.5,baz=360,slow=6.5,SNR=3.8
HNR  Honiara            27.11 291  LR    LR          07 08 19.4
     comp=Z,175nm,18.5s,MS3.7,baz=180,slow=32
CTA  Charters Tower     36.59 264  eP    P           07 00 53.5 +0.9
     2.8nm,0.6s,mb4.3
CTA  Charters Tower     36.59 264  eP    P           07 00 53.5 +0.9
CTA                                pmax  pmax
     comp=Z,3.0nm,0.6s
PMG  Port Moresby       38.57 282  P     P           07 01 10.7 +1.4
     comp=Z,15nm,0.9s,mb4.8,baz=9.5,slow=4.3,SNR=5.9
STKA Stephens Creek     40.40 245  eP    P           07 01 22.9 -1.7
     comp=Z,4.0nm,1.3s,mb4.0
STKA Stephens Creek     40.40 245  P     P           07 01 22.8 -1.8
     comp=Z,0.8nm,0.3s,mb3.9,baz=92,slow=14,SNR=5.4
STKA                               LR    LR          07 17 13.7
     comp=Z,198nm,20.2s,MS4.0,baz=30,slow=35
AS31 Alice Springs      47.47 257  eP    P           07 02 21.5 +0.2
ASAR Alice Springs      47.47 257  P     P           07 02 21.1 -0.3
     comp=Z,7.6nm,0.8s,mb4.7,baz=90,slow=8.3,SNR=49
ASAR                               PcP   PcP         07 03 52.4 +1.1
     comp=Z,1.0nm,0.6s,baz=112,slow=3.7,SNR=4.9
ASPA Alice Springs      47.48 257  eP    P           07 02 21.5 +0.1
WB2  Warramunga Arr     47.65 262  eP    P           07 02 22.6 -0.1
WRA  Warramunga Arr     47.66 262  P     P           07 02 22.4 -0.4
     comp=Z,4.9nm,0.9s,mb4.5,baz=100,slow=8.3,SNR=14
FORT Forrest            51.98 247  eP    P           07 02 55.1 -0.5
     comp=Z,16nm,0.7s,mb5.0
VNDA Vanda              57.62 186  P     P           07 03 36.7 +0.3
     comp=Z,2.6nm,1.0s,mb4.2,baz=28,slow=5.5,SNR=5.8
VNDA Vanda              57.62 186  P     P           07 03 36.7 +0.3
KLBR Kellerberrin       60.68 245  eP    P           07 03 57.5 -0.1
     comp=Z,17nm,1.0s,mb5.1
QSPA South Pole Qui     68.97 180  eP    P           07 04 51.7 +0.1
MJAR Matsushiro Arr     72.61 322  P     P           07 05 14.1 +0.3
     comp=Z,6.5nm,1.0s,mb4.5,baz=159,slow=5.9,SNR=10
NVAR Mina Array Bea     79.32  42  P     P           07 05 51.6 -0.4
     comp=Z,3.1nm,1.0s,mb4.2,baz=208,slow=6.9,SNR=12
MNV  Mina               79.42  42  eP    P           07 05 52.1 -0.4
MNV                                pmax  pmax
     comp=Z,7.0nm,1.3s,mb4.4
MNV  Mina               79.42  42  eP    P           07 05 52.1 -0.4
     comp=Z,7.4nm,1.3s,mb4.5
MSU  Marysvale          83.28  44  eP    P           07 06 15.1 +2.1
TMUT Trail Mountain     84.34  44  eP    P           07 06 18.0 -0.4
GAMB Gambell            84.63   1  eP    P           07 06 20.9 +1.0
SRU  San Rafael         84.69  45  eP    P           07 06 20.0 -0.2
SRU                                pmax  pmax
     comp=Z,11nm,1.5s,mb4.8
SRU  San Rafael         84.69  45  eP    P           07 06 19.9 -0.2
     comp=Z,11nm,1.5s,mb4.8
TTA  Tatalina           85.03   8  eP    P           07 06 21.5 -0.4
TTA                                pmax  pmax
     comp=Z,36nm,1.5s,mb5.3
TTA  Tatalina           85.03   8  eP    P           07 06 21.5 -0.4
     comp=Z,36nm,1.5s,mb5.3
ANMO Albuquerque        85.33  50  i P   P           07 06 23.8 +0.4
PLCA Paso Flores        86.54 132  LR    LR          07 39 36.4
     comp=Z,89nm,18.6s,MS4.2,baz=168,slow=32
MCK  McKinley           86.91  11  eP    P           07 06 30.7 -0.5
MCK                                e*PP  pP          07 06 42.2 -0.1
MCK                                pmax  pmax
     comp=Z,7.0nm,0.9s,mb4.9
MCK  McKinley           86.91  11  eP    P           07 06 30.7 -0.5
     comp=Z,7.2nm,0.9s,mb4.9
MCK                                epP   pP          07 06 42.2 -0.1
PDAR Pinedale Array     87.25  42  P     P           07 06 33.4 +0.5
     comp=Z,0.5nm,0.7s,mb3.9,baz=237,slow=6.9,SNR=3.5
COLA College            88.15  11  eP    P           07 06 36.3 -0.8
COLA                               e*PP  pP          07 06 46.5 -1.8
COLA                               pmax  pmax
     comp=Z,7.0nm,0.9s,mb4.9
COLA College            88.15  11⇓eP    P           07 06 36.4 -0.7
COLA College            88.15  11  eP    P           07 06 36.3 -0.8
     comp=Z,6.7nm,0.9s,mb4.9
COLA                               epP   pP          07 06 46.5 -1.7
DAWY Dawson             89.20  15  eP    P           07 06 41.8 -0.3
BILL Bilibino           89.99 353  i P   P           07 06 45.7 -0.1
BILL                               pmax  pmax
     comp=Z,3.0nm,0.9s,mb4.6
INK  Inuvik             94.05  14  P     P           07 07 03.4 -1.2
     comp=Z,1.4nm,0.9s,mb4.4,baz=214,slow=5.8,SNR=5.6
YKA  Yellowknife Ar     95.75  24  P     P           07 07 12.6 +0.2
     comp=Z,0.4nm,0.9s,mb3.9,baz=247,slow=3.8,SNR=4.9
BVAR Borovoye Array    121.58 320  PKP   PKPdf       07 12 39.2 -0.7
     comp=Z,0.8nm,0.6s,baz=95,slow=3.4,SNR=6.0
ZRNK Zerenda           122.42 320  ePKIKP PKPdf      07 12 41.1 -0.4
ARCES ARCESS Array B 130.05 351    PKP   PKPdf       07 12 54.6 -1.4
     comp=Z,1.6nm,0.9s,baz=69,slow=4.9,SNR=4.6
FINES FINESS Array B   137.20 346  PKP   PKPdf       07 13 09.2 -0.3
     comp=Z,1.1nm,0.9s,baz=0.0,slow=3.8,SNR=3.3
AKASG Malin Array Be   145.03 333  PKPbc PKPbc       07 13 22.8 -0.2
     comp=Z,2.1nm,0.5s,baz=39,slow=3.8,SNR=14
MALT Malatya           146.80 308  ePKIKP PKPab      07 13 30.5 +0.9
STHS Stebnicka Huta    149.06 340  ePKP  PKPab       07 13 34.6 -4.0
STHS                               e                 07 13 40.9
STHS Stebnicka Huta    149.06 340  ePKP2 PKPab       07 13 40.9 +2.3
STHS Stebnicka Huta    149.06 340  eP    PKPab       07 13 40.9 +2.3
CLL  Collm             149.27 351  i PKPab PKPab     07 13 39.2 -0.3
     comp=Z,9.0nm,0.9s
CLL                                i pPKPbc pPKPbc   07 13 45.4 -0.9
CLL  Collm             149.27 351  i PKP2 PKPab      07 13 39.2 -0.3
CLL                                pmax  pmax
     comp=Z,9.0nm,0.9s
BRG  Berggiesshubel    149.54 349  eP    PKPbc       07 13 35.6  0.0
     comp=Z,3.5nm,1.0s
BRG  Berggiesshubel    149.54 349  ePKIKP PKPbc      07 13 35.6  0.0
BRG                                pmax  pmax
     comp=Z,4.0nm,1.0s
BR131 Keskin Array S   149.57 314  ePKPbc PKPbc      07 13 36.1 +0.5
BRTR Keskin Array B    149.57 314  PKPbc PKPbc       07 13 36.0 +0.4
     comp=Z,1.7nm,0.8s,baz=126,slow=2.1,SNR=9.1
PRU  Pruhonice         150.28 348⇑ePKPB PKPbc       07 13 38.2 +0.8
VYHS Vyhne             150.62 342  ePKP  PKPbc       07 13 38.6 +0.4
VYHS                               e                 07 13 46.4
GIVF Givet             151.06   1  ePKP1 PKPdf       07 13 35.6 +2.2
GRA1 Grafenberg Arr    151.10 352  ePKP  PKPab       07 13 47.0  0.0
GRF  Grafenberg Arr    151.10 352  ePKP2 PKPab       07 13 47.0  0.0
KHC  Kasperske Hory    151.28 349 ⇑PKPB PKPbc        07 13 39.0 -0.7
KHC  Kasperske Hory    151.28 349  eP    PKPbc       07 13 39.0 -0.7
GERES GERESS Array B 151.53 348    PKPbc PKPbc       07 13 40.6 +0.3
     comp=Z,0.9nm,0.8s,baz=42,slow=4.2,SNR=6.3
FLN  La Foliniere       152.01   8  ePKP1 PKPbc       07 13 40.2 -1.2
     comp=Z,7.3nm,0.8s
LDF  La Druitiere       152.22   8  ePKP1 PKPbc       07 13 40.6 -1.3
GRR  Gorron             152.32   9  ePKP1 PKPbc       07 13 41.8 -0.3
     comp=Z,7.8nm,0.7s
BFO  Black Forest       152.74 356  ePKPab PKPab      07 13 54.4 +0.5
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ISC 11 06:59:43.9±0.6,3790N±004×2873E±005,h10km,n9, σ1§02/15,Turkey

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Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
DENT Denizli            0.28 121   PG    Pg          06 59 49.1 -0.5
DENT                               SG    Sg          06 59 53.5 +0.1
MANT Manisa             0.61 347  i P    Pg          06 59 54.8 -0.9
MANT                               i S    Sg          07 00 03.9 +0.2
KHL  Karahalli          0.76  56  ePG   Pg          06 59 57.0 -1.5
YER  Yerkesik           0.84 205   PG    Pg          06 59 59.1 -1.1
KDAG Bornova            1.26 294  i P    Pn          07 00 07.9 +0.4
KDAG Bornova            1.26 294  i P    Pn          07 00 07.9 +0.4
KDAG                               i S    Sb          07 00 23.4 -0.6
TKTP Tekketepe          1.27  83  i P    Pn          07 00 09.3 +1.7
TKTP                               i S    Sb          07 00 30.0 +5.9
BDRM Kayabasi           1.32 231  i P    Pn          07 00 08.5 +0.2
BDRM                               i S    Sb          07 00 27.0 +1.3
GDZ  Gediz              1.33  26  i P    Pn          07 00 07.5 -1.0
GDZ                                i S    Sb          07 00 27.7 +1.8
```

*NIED **11** 07:46:00,4080N×141.10E,h86km,Mw3.9 Best double couple: M0=7.76000×10^14 NP1:φs=34.00000°,δ88.00000°, λ-139.00000°. NP2:φs=302.00000°,δ49.00000°, λ-2.00000°.*
*MOS **11** 07:46:40.5±1.1,4084N×14123E,h107km,mb4.2/10,Error ellipse: s-maj=17.6km s-min=7.6km az=76.0*
*ISCJB **11** 07:46:40.5±0.3,4081N±003×14127E±006,h108km±2km, mb4.0/16,Error ellipse: s-maj=8.1km s-min=4.2km az=29.3*
*JMA **11** 07:46:41.8±0.1,4081N×141.14E,h100km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φs=287.00000°,δ43.00000°,λ-12.00000°. NP2:φs=26.00000°, δ82.00000°,λ-132.00000°. Principal axes: T Plg25.0000°, Azm147.0000°; N Plg41.0000°, Azm33.0000°; P Plg38.0000°, Azm259.0000°;*
JMA Felt I J1.
*BJI **11** 07:46:41.7,4083N×14124E,h132km,mB4.9,mb4.6*
*IDC **11** 07:46:42.9±1.3,4080N×14123E,h115km±12km,mb3.6/7, mb1 3.7/9,mb1mx3.5/21,mbtmp4.0/9,Error ellipse: s-maj=23.0km s-min=9.3km az=105.0*
*NEIC **11** 07:46:43.1±0.8,4080N×141.12E,h114km±8km,mb4.2/8, Error ellipse: s-maj=11.7km s-min=7.6km az=102.0*
NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures. Also recorded [1 JMA] in south-central Hokkaido.

ISC 11 07:46:41.6±0.3,4082N±003×14128E±006,h102km±2km, n58,σ1§00/74,mb4.0/16,9C-3D,Near east coast of eastern Honshu

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Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                   Op    ISC         h m s    ISC
JTM  Tenmabayashi       0.16 259  ⇑P     Pn          07 46 55.7 -0.2
JTM                                S     Sn          07 47 05.8 -0.7
JANG Nango              0.48 158  ⇓P     Pn          07 46 57.5 +0.1
JANG                               S     Sn          07 47 09.3 +0.1
JOT  Ohata              0.59 343  ⇑P     Pn          07 46 58.5 +0.3
JOT                                eS    Sn          07 47 11.0 +0.3
JAH  Hinai              0.80 218  ⇓P     Pn          07 46 59.6 -0.5
JAH                                eS    Sn          07 47 12.5 -1.4
JSR  Shiriuchi          0.96 318  ⇑P     Pn          07 47 01.3 -0.4
JIW  Iwasaki            0.99 257  ⇑P     Pn          07 47 01.4 -0.6
JKB  Kayabe             1.08 350  ⇑P     Pn          07 47 03.6 +0.6
JKB                                eS    Sn          07 47 19.7 +0.5
JOM  Ohasama            1.34 180  ⇑P     Pn          07 47 06.3 +0.3
JOM                                eS    Sn          07 47 24.4 -0.1
JYM2 Yakumo 2           1.47 333  ⇑P     Pn          07 47 07.7 +0.2
JOSM Okushiri--Mats     1.85 314  ⇑P     Pn          07 47 11.3 -1.0
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JMK	**Ichinoseki**	**1.86**	**181**	⇑P	**Pn**	**07 47 12.5**	**0.0**
JMK				*e*S	**Sn**	**07 47 35.7**	**-0.3**
ASAJ	**Asahikawa**	**3.44**	**16**	P	**Pn**	**07 47 34.1**	**+0.9**
9.2nm,0.3s,baz=210,slow=11,SNR=88							
ASAJ				S	**Sn**	**07 48 15.8**	**+2.8**
9.6nm,0.3s,baz=2.5,slow=25,SNR=6.3							
ASAJ	**Asahikawa**	**3.44**	**16**	P	**Pn**	**07 47 34.1**	**+0.9**
ASAJ				S	**Sn**	**07 48 15.9**	**+2.8**
ASAJ				pmax	pmax		
comp=Z,9.0nm,0.3s							
ASAJ				smax			
comp=N,10.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.67**	**45**	⇓*i*P	**Pn**	**07 47 50.8**	**+1.0**
YUK				*i* S	**Sn**	**07 48 41.1**	**-1.8**
YUK				pmax	pmax		
comp=Z,350nm,0.4s							
YUK				pmax	pmax		
comp=N,190nm,0.5s							
YUK				smax			
comp=N,2μm,0.4s							
YUK				smax			
comp=N,1μm,0.5s							
YUK				smax			
comp=E,500nm,0.3s							
MAJO	**Matsushiro**	**4.90**	**210**	*e*P	**Pn**	**07 47 53.6**	**+0.7**
MAT	**Matsushiro**	**4.90**	**210**	P	**Pn**	**07 47 53.5**	**+0.6**
MAT				S	**Sn**	**07 48 49.3**	**+0.9**
MAT	**Matsushiro**	**4.90**	**210**	*e*P	**Pn**	**07 47 54.0**	**+1.1**
MAT				*e*S	**Sn**	**07 48 49.0**	**+0.6**
MJAR	**Matsushiro Arr**	**4.90**	**210**	P	**Pn**	**07 47 54.0**	**+1.1**
comp=E,4.1nm,0.3s,baz=18,slow=15,SNR=43							
MJAR				S	**Sn**	**07 48 51.1**	**+2.7**
baz=6.0,slow=26,SNR=4.9							
MJAR	**Matsushiro Arr**	**4.90**	**210**	P	**Pn**	**07 47 54.0**	**+1.1**
MJAR				S	**Sn**	**07 48 51.1**	**+2.7**
MJAR				pmax	pmax		
comp=Z,4.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**6.23**	**9**	*e*P	**Pn**	**07 48 11.2**	**+0.3**
YSS				pmax	pmax		
comp=Z,20nm,0.4s							
YSS	**Yuzh-Sakhalins**	**6.23**	**9**	*e*Pn	**Pn**	**07 48 11.4**	**+0.5**
KUR	**Kuril'sk**	**6.54**	**45**	*e*P	**Pn**	**07 48 13.0**	**-2.1**
KUR				*e*S	**Sn**	**07 49 25.0**	**-3.2**
KUR				pmax	pmax		
comp=Z,80nm,0.4s							
KUR				smax			
comp=N,170nm,0.7s							
KUR				smax			
comp=E,100nm,0.7s							
MDJ	**Mudanjiang**	**9.40**	**298**	*e*Pn	**Pn**	**07 48 55.0**	**+1.0**
HHC	**Hu-ho-hao-te**	**22.44**	**280**	*e*P	**P**	**07 51 31.6**	**-0.4**
HHC				AP		07 51 54.3	
HHC				PP		07 52 03.2	
HHC				XP	sP	07 52 08.2	+3.7
HHC				S	**S**	**07 55 23.6**	**-7.4**
HHC				SS		07 56 12.8	
HHC				AMB	AMB		
comp=Z,60nm,4.6s							
HHC				LR	LR		
comp=N,60nm,7.9s							
HHC				LR	LR		
comp=E,40nm,6.9s							
HHC				LR	LR		
comp=Z,40nm,7.9s							
ULN	**Ulaanbaatar**	**25.32**	**298**	*e*P	**P**	**07 51 56.9**	**-1.8**
ULN				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.5							
ULN	**Ulaanbaatar**	**25.32**	**298**	*e*P	**P**	**07 51 56.9**	**-1.8**
comp=Z,1.1nm,0.5s,mb3.5							
GZH	**Guangzhou**	**29.39**	**242**	P	**P**	**07 52 34.2**	**-0.9**
CD2	**Chengdu**	**31.77**	**264**	*e*P	**P**	**07 52 54.4**	**-1.6**
CD2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.5							
KMI	**Kunming**	**35.60**	**256**	P	**P**	**07 53 30.1**	**+0.8**
KMI				AP	pP	07 53 55.1	+2.7
WMQ	**Urumqi**	**39.16**	**293**	*e*P	**P**	**07 54 00.0**	**+0.7**
WMQ				AMB	AMB		
comp=Z,90nm,5.0s							
WMQ				LR	LR		
comp=N,130nm,19.0s							
WMQ				LR	LR		
comp=E,70nm,17.0s							
WMQ				LR	LR		
comp=Z,100nm,15.0s							
ZAL	**Zalesovo**	**39.38**	**309**	P	**P**	**07 54 01.1**	**-0.1**
comp=Z,4.2nm,0.5s,mb4.5,baz=21,slow=9.7,SNR=12							
ZAL	**Zalesovo**	**39.38**	**309**	P	**P**	**07 54 01.1**	**0.0**
ZAL				pmax	pmax		
comp=Z,4.0nm,0.5s							
LSA	**Lhasa**	**41.90**	**271**	*e*P	**P**	**07 54 23.5**	**+1.6**
LSA				pmax	pmax		
comp=Z,7.0nm,0.5s,mb4.7							
LSA	**Lhasa**	**41.90**	**271**	*e*P	**P**	**07 54 23.5**	**+1.6**
comp=Z,7.3nm,0.5s,mb4.7							
MKAR	**Makanchi Array**	**42.12**	**299**	P	**P**	**07 54 22.9**	**-0.7**
comp=Z,3.0nm,0.6s,mb4.2,baz=83,slow=10,SNR=23							
MKAR	**Makanchi Array**	**42.12**	**299**	P	**P**	**07 54 22.9**	**-0.7**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
CHKZ	**Chkalovo**	**47.71**	**311**	*e*P	**P**	**07 55 06.5**	**-1.4**
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.3							
CHKZ	**Chkalovo**	**47.71**	**311**	*e*P	**P**	**07 55 06.5**	**-1.4**
comp=Z,1.7nm,0.4s,mb4.2							
AAK	**Ala-Archa**	**48.69**	**295**	*e*P	**P**	**07 55 14.8**	**-0.6**
AAK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
AAK	**Ala-Archa**	**48.69**	**295**	*e*P	**P**	**07 55 14.8**	**-0.6**
comp=Z,1.4nm,0.4s,mb4.2							
INK	**Inuvik**	**51.09**	**28**	*e*P	**P**	**07 55 35.1**	**+1.5**
INK				pmax	pmax		
comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**51.09**	**28**	*e*P	**P**	**07 55 35.1**	**+1.4**
comp=Z,1.3nm,0.6s,mb4.1							
RES	**Resolute Bay**	**58.97**	**15**	*e*P	**P**	**07 56 30.2**	**-0.1**
RES				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3							
RES	**Resolute Bay**	**58.97**	**15**	*e*P	**P**	**07 56 30.2**	**-0.1**
comp=Z,2.0nm,0.7s,mb4.3							
YKW3	**Yellowknife Ar**	**60.57**	**31**	*e*P	**P**	**07 56 42.3**	**+1.0**
YKA	**Yellowknife Ar**	**60.61**	**31**	P	**P**	**07 56 42.4**	**+0.8**
comp=Z,0.2nm,0.5s,mb3.4,baz=301,slow=6.4,SNR=7.1							
WRAB	**Tennant Creek**	**60.78**	**187**	*e*P	**P**	**07 56 41.5**	**-1.2**
WRAB				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
WRAB	**Tennant Creek**	**60.78**	**187**	*e*P	**P**	**07 56 41.5**	**-1.2**
comp=Z,1.3nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**60.79**	**187**	P	**P**	**07 56 41.9**	**-0.9**
comp=Z,0.9nm,0.4s,mb4.1,baz=7,8,slow=7.7,SNR=20							
WRA	**Warramunga Arr**	**60.79**	**187**	P	**P**	**07 56 41.9**	**-0.9**
WRA				pmax	pmax		
comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**64.52**	**187**	P	**P**	**07 57 07.2**	**-0.3**
comp=Z,0.4nm,0.4s,mb3.6,baz=4.1,slow=7.7,SNR=16							
FINES	**FINESS Array B**	**65.43**	**331**	P	**P**	**07 57 13.0**	**-0.5**
comp=Z,0.7nm,0.6s,mb3.7,baz=51,slow=8.0,SNR=10							
FINES	**FINESS Array B**	**65.43**	**331**	P	**P**	**07 57 13.0**	**-0.5**
FINES				pmax	pmax		
comp=Z,1.0nm,0.6s							
FFC	**Flin Flon**	**70.59**	**33**	*e*P	**P**	**07 57 47.0**	**+1.2**
FFC				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.8							
FFC	**Flin Flon**	**70.59**	**33**	*e*P	**P**	**07 57 47.0**	**+1.2**
comp=Z,1.1nm,0.6s,mb3.9							
FCC	**Fort Churchill**	**70.67**	**27**	*e*P	**P**	**07 57 46.9**	**+0.7**
AKASG	**Malin Array Be**	**71.26**	**322**	P	**P**	**07 57 49.0**	**-0.8**
comp=Z,0.2nm,0.3s,mb3.4,baz=40,slow=5.3,SNR=6.4							
AKASG	**Malin Array Be**	**71.26**	**322**	P	**P**	**07 57 49.0**	**-0.8**

ISCJB ***11*** *07:47:51.6±0.7,2401S±006×6676W±009,h204km±7km, mb3.7/11,Error ellipse: s-maj=13.5km s-min=8.5km az=143.5*

IDC ***11*** *07:47:51.9±0.9,2406S×6676W,h190km±9km,mb3.6/4, mb1 3.7/9,mb1mx3.5/18,mbtmp4.0/9,Error ellipse: s-maj=15.8km s-min=12.2km az=62.0*

NEIC ***11*** *07:47:52.5±0.6,2398S×6673W,h196km±6km,mb3.8/9, Error ellipse: s-maj=9.8km s-min=6.8km az=77.0*

ISC 11 07:47:52.7±0.7,2399S±006×6676W±009,h197km±7km, n24,σ0°79/23,mb3.7/11,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.41**	**304**	P	**Pn**	**07 48 36.2**	**+0.8**
90nm,0.3s,baz=128,slow=5.6,SNR=766							
LVC				S	**Sn**	**07 49 08.7**	**0.0**
26nm,0.3s,baz=240,slow=23,SNR=11							
CFAA	**Coronel Fontan**	**7.70**	**189**	P	**Pn**	**07 49 41.3**	**-0.6**
0.2nm,0.3s,baz=4.4,slow=11,SNR=73							
CFAA				S	**Sn**	**07 51 03.1**	**-5.6**
1.3nm,0.3s,baz=159,slow=18,SNR=34							
LPAZ	**La Paz**	**7.77**	**350**	P	**Pn**	**07 49 43.6**	**+0.7**
0.3nm,0.3s,baz=172,slow=9.3,SNR=16							
LPAZ				S	**Sn**	**07 51 10.6**	**0.0**
0.3nm,0.3s,baz=273,slow=22,SNR=4.6							
CPUP	**Villa Florida**	**8.85**	**107**	P	**Pn**	**07 49 57.1**	**+0.2**
0.5nm,0.3s,baz=267,slow=10,SNR=14							
SIV	**San Ignacio**	**9.58**	**35**	P	**Pn**	**07 50 05.9**	**-0.6**
0.5nm,0.3s,baz=242,slow=8.0,SNR=15							
TRQA	**Tornquist**	**14.60**	**165**	*e*Pn	**Pn**	**07 51 09.1**	**-0.9**
4.1nm,0.6s							
SAML	**Samuel**	**15.34**	**13**	*e*Pn	**Pn**	**07 51 17.3**	**-1.8**
3.1nm,0.8s							
BDFB	**Brasilia**	**19.48**	**68**	P	**P**	**07 52 05.5**	**+1.0**
0.9nm,0.3s,baz=246,slow=11,SNR=28							
SDV	**Santo Domingo**	**32.90**	**353**	P	**P**	**07 54 09.5**	**+1.4**
0.8nm,0.5s,mb3.5							
LRAL	**Lakeview Retre**	**59.90**	**340**	*e*P	**P**	**07 57 37.1**	**-0.7**
1.5nm,0.5s,mb3.9							
CCM	**Cathedral Cave**	**65.87**	**339**	*e*P	**P**	**07 58 16.2**	**-0.8**
4.4nm,0.6s,mb4.3							
QSPA	**South Pole Qui**	**66.21**	**180**	*e*P	**P**	**07 58 20.3**	**+1.1**
0.8nm,0.5s,mb3.6							
MNTX	**Cornudas Mount**	**66.57**	**325**	*e*P	**P**	**07 58 21.0**	**-0.5**
1.1nm,0.6s,mb3.7							
EYMN	**Ely**	**74.98**	**343**	*e*P	**P**	**07 59 11.4**	**-0.8**
0.7nm,0.5s,mb3.5							
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P	**P**	**07 59 20.1**	**+0.2**
0.6nm,0.5s,mb3.5,baz=252,slow=5.5,SNR=8.0							
PDAR	**Pinedale Array**	**77.25**	**329**	P	**P**	**07 59 25.9**	**+0.9**
0.4nm,0.5s,mb3.3,baz=127,slow=5.9,SNR=4.9							
TSUM	**Tsumeb**	**77.44**	**106**	*e*P	**P**	**07 59 26.9**	**+0.8**
0.6nm,0.7s,mb3.3							
ULM	**Lac du Bonnet**	**78.29**	**341**	P	**P**	**07 59 30.5**	**-0.2**
1.6nm,0.5s,mb3.9,baz=162,slow=5.3,SNR=5.3							
ULM	**Lac du Bonnet**	**78.29**	**341**	P	**P**	**07 59 30.5**	**-0.2**
YKA	**Yellowknife Ar**	**94.19**	**340**	P	**P**	**08 00 48.8**	**-0.2**
0.6nm,0.5s,mb3.9,baz=135,slow=4.6,SNR=30							
ASAR	**Alice Springs**	**128.56**	**204**	PKP	PKPdf	08 06 37.0	+1.0
0.3nm,0.5s,baz=145,slow=2.3,SNR=5.2							
WRA	**Warramunga Arr**	**131.74**	**207**	PKP	PKPdf	08 06 43.4	+1.4
0.4nm,0.4s,baz=160,slow=1.8,SNR=4.8							
ZAL	**Zalesovo**	**143.28**	**28**	PKP	PKPdf	08 07 01.8	-1.5
0.7nm,0.3s,baz=56,slow=6.5,SNR=3.1							
MKAR	**Makanchi Array**	**146.38**	**40**	PKPbc	PKPbc	08 07 10.0	-0.2
1.6nm,0.6s,baz=301,slow=3.5,SNR=11							

ISCJB ***11*** *07:51:58.1±0.3,2070N±002×120.13E±003,h10km, mb4.3/28,MS3.9/12,Error ellipse: s-maj=4.2km s-min=3.2km az=4.8*

NIED ***11*** *07:52:00,2080N×12040E,h32km,Mw4.3 Best double couple: M0:2.73000×10^15 NP1:φs135.00000°,δ77.00000°, λ108.00000°. NP2:φs259.00000°,δ23.00000°,λ37.00000°.*

MOS ***11*** *07:52:01.7±1.0,2060N×11987E,h33km,mb4.6/10,Error ellipse: s-maj=17.6km s-min=9.3km az=109.0*

JMA ***11*** *07:52:01.3±0.4,2084N×12041E,h0km,M4.8*

NEIC ***11*** *07:52:02.7±0.4,2061N×12003E,mb4.5/8,Error ellipse: s-maj=11.5km s-min=7.3km az=87.0*

BJI ***11*** *07:52:03.9,2086N×11974E,h31km,mB4.6,mb4.5,ML3.9, Ms4.4,Msz4.2*

IDC ***11*** *07:52:04.8±6.0,2056N×11998E,h47km±61km,mb3.8/15, mb1 3.9/15,mb1mx3.9/21,mbtmp4.0/15,MS3.8/9, Ms1 3.8/9,ms1mx3.2/28,Error ellipse: s-maj=26.3km s-min=14.5km az=71.0*

MAN ***11*** *07:52:05.4,1849N×11861E,h18km,mb3.2,ML4.5,MS3.8*

ISC 11 07:51:59.9±0.3,2066N±002×12015E±003,h10km, (h34km±1.1km:pP-P),n79,σ1°22/98,mb4.3/28,MS3.9/12, 3C-5D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.36**	**169**	⇑*i*P	**Pn**	**07 52 37.2**	**-1.5**
PIP				*i* S	**Sn**	**07 53 04.9**	**-2.8**
APYP	**Conner**	**2.97**	**159**	*e*P	**Pn**	**07 52 47.2**	**+0.2**
APYP				*e*S	**Sn**	**07 53 22.8**	**+0.2**
SGCP	**Mt. Cagua**	**3.00**	**143**	*e*P	**Pn**	**07 52 47.9**	**+0.5**
ABRA	**Dolores**	**3.04**	**170**	*e*P	**Pn**	**07 52 42.3**	**-5.7**
CVP	**Callao Caves**	**3.34**	**151**	⇓*e*P	**Pn**	**07 52 54.0**	**+1.9**
CVP				*e*S	**Sn**	**07 53 32.0**	**+0.2**
NACB	**Ninganchiao**	**3.75**	**21**	*e*Pn	**Pn**	**07 52 58.6**	**+0.9**
NACB				*e*Sn	**Pg**	**07 53 23.5**	**+12**
NACB				*e*Sg	**Sn**	**07 53 41.0**	**-0.9**
CAUP	**Cauayan**	**4.02**	**156**	*e*P	**Pn**	**07 53 05.2**	**+3.7**
YHNB	**Yeheng**	**4.15**	**16**	*e*Pn	**Pn**	**07 53 03.1**	**-0.2**
YHNB				*e*Sn	**Pg**	**07 53 29.4**	**+10**
TATO	**Taipei**	**4.47**	**16**	Pn	**Pn**	**07 53 08.4**	**+0.7**
QZH	**Quanzhou**	**4.50**	**342**	P	**Pn**	**07 53 04.7**	**-3.4**
QZH				S	**Sn**	**07 53 53.2**	**-7.3**
QZH				Smax			
comp=N,240nm,0.2s							
QZH				Smax			
comp=E,410nm,0.3s							
QZH				LR	LR		
comp=N,4μm,8.5s							
QZH				LR	LR		
comp=E,2μm,11.4s							
QZH				LR	LR		
comp=Z,3μm,10.5s							
YOJ	**Yonaguni jima**	**4.62**	**34**	P	**Pn**	**07 53 10.4**	**+0.7**
YOJ				*e*S	**Sn**	**07 54 02.3**	**-1.1**
HATJ	**Hateruma jima**	**4.79**	**44**	P	**Pn**	**07 53 12.7**	**+0.7**
HATJ				*e*S	**Sn**	**07 54 05.0**	**-2.5**
IRIF	**Iriomote-Funau**	**4.94**	**41**	⇑P	**Pn**	**07 53 14.4**	**+0.3**
IRIF				*e*S	**Sn**	**07 54 09.9**	**-1.3**
JKRS	**Kuro-shima**	**5.04**	**44**	P	**Pn**	**07 53 16.6**	**+1.0**
JKRS				*e*S	**Sn**	**07 54 12.3**	**-1.6**
JIJ	**Ishigaki jima**	**5.22**	**44**	P	**Pn**	**07 53 18.5**	**+0.5**
JIJ				*e*S	**Sn**	**07 54 15.3**	**-2.9**
JTJ	**Tarama**	**5.78**	**46**	P	**Pn**	**07 53 26.1**	**+0.4**
JTJ				*e*S	**Sn**	**07 54 30.4**	**-1.6**
JMJ	**Miyako jima 2**	**6.30**	**48**	*e*S	**Sn**	**07 54 44.6**	**-0.2**
JOGS	**Gusukube**	**6.34**	**49**	P	**Pn**	**07 53 36.2**	**+2.8**
JOGS				*e*S	**Sn**	**07 54 45.5**	**-0.4**
GZH	**Guangzhou**	**6.77**	**292**	P	**Pn**	**07 53 34.2**	**-5.0**
GZH				S	**Sn**	**07 54 42.7**	**-14**
GZH				Smax			
comp=N,70nm,0.9s							
GZH				Smax			
comp=E,70nm,0.8s							
JOW	**Kunigami**	**9.65**	**49**	LR	LR	07 58 34.0	
comp=E,852nm,20.6s,baz=27,slow=40							
QIZ	**Qiongzhong**	**9.83**	**262**	P	**Pn**	**07 54 16.1**	**-5.2**
QIZ				*e*S	**Sn**	**07 56 05.7**	**-6.0**
QIZ				LR	LR		
comp=N,560nm,10.3s							
QIZ				LR	LR		
comp=E,1μm,10.9s							
QIZ				LR	LR		
comp=Z,2μm,10.3s							
SSE	**Sheshan**	**10.44**	**5**	P	**Pn**	**07 54 30.8**	**+1.2**
SSE				S	**Sn**	**07 56 27.0**	**+0.4**
SSE				AMB	AMB		
comp=Z,30nm,0.7s							
SSE				AMB	AMB		
comp=Z,50nm,5.6s							
SSE				LR	LR		
comp=N,360nm,12.8s							
SSE				LR	LR		
comp=E,920nm,12.8s							
SSE				LR	LR		
comp=Z,550nm,10.8s							
NJ2	**Nanjing**	**11.41**	**354**	*e*P	**Pn**	**07 54 45.0**	**+2.2**
NJ2				AP		07 54 50.4	
NJ2				PP		07 54 54.6	
NJ2				XP		07 54 56.0	
NJ2				PPP		07 55 00.5	
NJ2				S	**Sn**	**07 56 52.0**	**+1.7**
NJ2				XS		07 57 01.0	
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s							
NJ2				AMB	AMB		
comp=Z,120nm,4.4s							
NJ2				LR	LR		
comp=N,1μm,15.0s							
NJ2				LR	LR		
comp=E,1μm,13.7s							
NJ2				LR	LR		
comp=Z,500nm,13.7s							
GYA	**Guiyang**	**13.64**	**298**	P	**Pn**	**07 55 09.1**	**-4.3**
GYA				AP		07 55 16.4	
GYA				XP		07 55 21.8	
GYA				S	**Sn**	**07 57 45.4**	**+0.4**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s							
GYA				LR	LR		
comp=N,840nm,11.7s							
GYA				LR	LR		
comp=E,1μm,12.0s							
GYA				LR	LR		
comp=Z,2μm,12.9s							
CD2	**Chengdu**	**17.93**	**308**	⇓*i*P	**Pn**	**07 56 08.2**	**-1.0**
CD2				AP	pP	07 56 16.1	+3.5
CD2				XP	sP	07 56 21.2	+7.3
CD2				PP		07 56 23.5	
CD2				S	**Sn**	**07 59 23.4**	**-5.7**
CD2				AMB	AMB		
comp=Z,20nm,1.6s							
CD2				LR	LR		
comp=N,1μm,14.4s							
CD2				LR	LR		
comp=Z,1μm,12.0s							
LZH	**Lanzhou**	**20.98**	**321**	*e*P	**P**	**07 56 44.3**	**+1.1**
LZH				AP		07 56 53.0	
LZH				XP	sP	07 56 58.7	+11
LZH				PP		07 57 09.2	
LZH				AMB	AMB		
comp=Z,40nm,1.5s							
LZH				AMB	AMB		
comp=Z,110nm,4.0s							
LZH				LR	LR		
comp=N,760nm,13.4s							
LZH				LR	LR		
comp=Z,990nm,14.3s,MS4.3							
MAT	**Matsushiro**	**22.34**	**41**	P	**P**	**07 56 59.7**	**+1.9**
MAT				S	**S**	**08 01 04.0**	**+0.5**
MAT	**Matsushiro**	**22.34**	**41**	*e*P	**P**	**07 57 00.0**	**+2.2**
MJAR	**Matsushiro Arr**	**22.34**	**41**	P	**P**	**07 57 00.5**	**+2.7**
comp=Z,5.8nm,0.8s,mb4.0,baz=238,slow=10,SNR=16							
MJAR				LR	LR	08 06 08.2	
comp=Z,116nm,19.9s,MS3.3,baz=210,slow=37							
MJAR	**Matsushiro Arr**	**22.34**	**41**	P	**P**	**07 57 00.5**	**+2.7**
MJAR				LR	LR	08 06 08.2	
GUMO	**Guam**	**24.63**	**103**	LR	LR	08 04 39.1	
comp=Z,180nm,20.8s,MS3.5,baz=258,slow=30							
GTA	**Gaotai**	**25.57**	**321**	*e*P	**P**	**07 57 29.8**	**+0.8**
GTA				AP	pP	07 57 40.1	+8.1
GTA				XP	sP	07 57 45.5	+12
GTA				PP		07 58 11.6	
GTA				S	**S**	**08 01 54.7**	**-2.0**
GTA				AMB	AMB		
comp=Z,90nm,5.3s							
GTA				LR	LR		
comp=N,410nm,11.4s,MS4.3							
GTA				LR	LR		
comp=E,390nm,13.7s,MS4.3							
GTA				LR	LR		
comp=Z,420nm,12.2s,MS4.2							
PSI	**Prapat**	**27.26**	**232**	P	**P**	**07 57 45.2**	**+1.0**
comp=Z,1.8nm,0.4s,mb3.9,baz=354,slow=9.2,SNR=4.1							
PSI				LR	LR	08 09 53.3	
comp=Z,336nm,18.2s,MS4.0,baz=347,slow=39							
SONM	**Songino Array**	**29.31**	**341**	P	**P**	**07 58 04.4**	**+2.0**
comp=Z,1.0nm,0.6s,mb3.7,baz=157,slow=9.1,SNR=3.6							
SONM				LR	LR	08 10 00.1	
comp=Z,190nm,19.4s,MS3.7,baz=2.6,slow=37							
ASAJ	**Asahikawa**	**29.93**	**33**	LR	LR	08 10 33.6	
comp=Z,154nm,18.5s,MS3.7,baz=186,slow=37							
MKAR	**Makanchi Array**	**40.29**	**319**	P	**P**	**07 59 36.7**	**-0.4**
comp=Z,1.0nm,0.6s,mb3.7,baz=119,slow=9.9,SNR=7.8							
MKAR	**Makanchi Array**	**40.29**	**319**	P	**P**	**07 59 36.7**	**-0.5**
WRAB	**Tennant Creek**	**42.67**	**160**	*i* P	**P**	**07 59 58.9**	**+2.2**
WRAB	**Tennant Creek**	**42.67**	**160**	*e*P	**P**	**07 59 55.8**	**-0.9**
comp=Z,8.3nm,0.6s,mb4.6							
WRA	**Warramunga Arr**	**42.67**	**160**	P	**P**	**07 59 56.4**	**-0.3**
comp=Z,5.1nm,0.8s,mb4.3,baz=342,slow=8.9,SNR=8.9							
WB2	**Warramunga Arr**	**42.68**	**160**	*e*P	**P**	**07 59 56.0**	**-0.7**
ZAL	**Zalesovo**	**42.74**	**330**	*e*P	**P**	**07 59 57.0**	**-0.2**
comp=Z,1.0nm,0.7s,mb3.7,baz=7.4,slow=14,SNR=6.6							
ZAL				LR	LR	08 18 41.9	
comp=Z,88nm,18.8s,MS3.7,baz=208,slow=37							
ZAL	**Zalesovo**	**42.74**	**330**	*i* P	**P**	**07 59 57.5**	**+0.3**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.7s							
ZAL	**Zalesovo**	**42.74**	**330**	P	**P**	**07 59 57.0**	**-0.2**
ZAL				LR	LR	08 18 41.9	
ASAR	**Alice Springs**	**46.05**	**162**	P	**P**	**08 00 23.9**	**+0.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=343,slow=6.9,SNR=8.8							
CTA	**Charters Tower**	**47.88**	**146**	*e*P	**P**	**08 00 43.4**	**+5.4**
comp=Z,5.5nm,0.6s,mb4.8							
CTAO	**Charters Tower**	**47.88**	**146**	*e*P	**P**	**08 00 38.4**	**+0.4**
CTAO				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9							
CTAO	**Charters Tower**	**47.88**	**146**	*e*P	**P**	**08 00 38.4**	**+0.4**
comp=Z,9.9nm,0.8s,mb4.9							
BVAR	**Borovoye Array**	**49.84**	**323**	P	**P**	**08 00 52.6**	**-0.5**
comp=Z,1.1nm,0.6s,mb4.1,baz=246,slow=40,SNR=3.6							
BRVK	**Borovoye**	**49.91**	**323**	*e*P	**P**	**08 00 52.7**	**-0.9**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.1							
BRVK	**Borovoye**	**49.91**	**323**	*e*P	**P**	**08 00 52.7**	**-0.9**
comp=Z,1.2nm,0.5s,mb4.2							
CHKZ	**Chkalovo**	**49.95**	**324**	*e*P	**P**	**08 00 52.8**	**-1.1**
CHKZ				*e*PP	pP	08 01 02.2	+5.1
CHKZ				pmax	pmax		
comp=Z,11nm,1.5s,mb4.7							
CHKZ	**Chkalovo**	**49.95**	**324**	*e*P	**P**	**08 00 52.8**	**-1.1**
comp=Z,11nm,1.5s,mb4.7							
CHKZ				*e*pP	pP	08 01 02.2	+5.2
TIXI	**Tiksi**	**51.26**	**4**	*i* P	**P**	**08 01 03.4**	**-0.4**
TIXI				pmax	pmax		
comp=Z,5.0nm,1.7s,mb4.2							
BILL	**Bilibino**	**55.31**	**19**	⇑*e*P	**P**	**08 01 35.5**	**+1.9**
BILL				pmax	pmax		
comp=Z,4.0nm,1.3s,mb4.3							
BILL				MLR	MLR		

BRG pmax pmax
comp=Z,7.0nm,1.8s,mb4.5
CLL Collm 84.28 323↓iP P 08 04 31.0 -0.9
comp=Z,9.0nm,1.1s,mb4.8
CLL epP pP 08 04 41.0 +5.8
CLL Collm 84.28 323↓iP P 08 04 31.0 -0.9
CLL e 08 04 41.0
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
GERES GERESS Array B 84.94 321 P P 08 04 35.4 +0.1
comp=Z,0.7nm,0.6s,mb4.0,baz=76,slow=7.0,SNR=5.4
YKW3 Yellowknife Ar 86.53 22 eP P 08 04 43.4 +0.3
YKW3 epP pP 08 04 53.2 +6.8
YKA Yellowknife Ar 86.58 22 P P 08 04 44.9 +1.6
comp=Z,1.3nm,0.8s,mb4.2,baz=314,slow=4.7,SNR=22

NIED ***11*** *08:00:00,2070N×12040E,h32km,Mw4.1 Best double couple: M0:1.38000×10^15 NP1:φs118.00000°,δ81.00000°, λ104.00000°. NP2:φs239.00000°,δ17.00000°,λ32.00000°.*
IDC ***11*** *08:00:26.2±0.6,2061N×12005E,h0km,mb4.3/17, mb1 4.4/18,mb1mx4.3/23,mbtmp4.3/18,ML3.7/1,MS3.5/1, Ms1 3.5/1,ms1mx2.2/21,Error ellipse: s-maj=22.7km s-min=13.0km az=71.0*
ISCJB ***11*** *08:00:28.8±1.3,2070N±003×12017E±004,h26km±9km, mb4.4/35,MS3.9/5,Error ellipse: s-maj=5.9km s-min=4.1km az=20.2*
BJI ***11*** *08:00:28.1,2088N×120.16E,h15km,mB4.6,mb4.4,ML4.0, Ms4.0,Msz4.0*
MOS ***11*** *08:00:29.9±1.0,2062N×12000E,h33km,mb4.8/14,Error ellipse: s-maj=14.3km s-min=8.0km az=109.0*
NEIC ***11*** *08:00:30.8±0.3,2064N×120.13E,h30km,mb4.6/11,Error ellipse: s-maj=9.0km s-min=6.5km az=99.0*
JMA ***11*** *08:00:33.3±0.3,2072N×12043E,h142km,M4.0*
MAN ***11*** *08:01:12.0,1810N×12197E,h11km,mb3.4,ML4.6,MS0.1*
ISC 11 08:00:30.5±1.3,2070N±003×12012E±003,h26km±9km, n99,σ1.903/112,mb4.4/35,MS3.9/5,3C-3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**3.01**	**159**	*e*P	**Pn**	**08 01 16.2**	**-0.4**
APYP				*e*S	**Sn**	**08 01 50.7**	**-1.1**
SGCP	**Mt. Cagua**	**3.04**	**143**	*e*P	**Pn**	**08 01 16.9**	**-0.1**
CVP	**Callao Caves**	**3.38**	**151**	*i* P	**Pn**	**08 01 22.0**	**+0.3**
CVP				*e*S	**Sn**	**08 02 00.0**	**-1.0**
NACB	**Ninganchiao**	**3.72**	**21**	*e*Pn	**Pn**	**08 01 25.5**	**-0.8**
CAUP	**Cauayan**	**4.06**	**156**	*e*P	**Pn**	**08 01 33.5**	**+2.5**
YHNB	**Yeheng**	**4.12**	**16**	*e*Pn	**Pn**	**08 01 31.7**	**-0.2**
BCPH	**Baguio City Da**	**4.31**	**174↓**	*e*P	**Pn**	**08 01 30.0**	**-4.5**
TATO	**Taipei**	**4.44**	**16**	*e*Pn	**Pn**	**08 01 35.6**	**-0.6**
QZH	**Quanzhou**	**4.46**	**342**	P	**Pn**	**08 01 33.4**	**-3.1**
QZH				S	**Sn**	**08 02 21.1**	**-6.4**
QZH				Smax			
	comp=N,280nm,0.9s						
QZH				Smax			
	comp=E,330nm,0.4s						
QZH				LR	LR		
	comp=N,1μm,9.5s						
QZH				LR	LR		
	comp=E,2μm,13.8s						
QZH				LR	LR		
	comp=Z,2μm,10.5s						
YOJ	**Yonaguni jima**	**4.60**	**35**	P	**Pn**	**08 01 39.8**	**+1.4**
YOJ				*e*S	**Sn**	**08 02 31.1**	**+0.1**
HATJ	**Hateruma jima**	**4.77**	**45**	P	**Pn**	**08 01 41.6**	**+0.8**
HATJ				*e*S	**Sn**	**08 02 33.8**	**-1.5**
IRIF	**Iriomote-Funau**	**4.92**	**42**	P	**Pn**	**08 01 43.3**	**+0.4**
IRIF				*e*S	**Sn**	**08 02 37.8**	**-1.2**
JKRS	**Kuro-shima**	**5.03**	**45**	P	**Pn**	**08 01 45.3**	**+0.9**
JKRS				*e*S	**Sn**	**08 02 41.2**	**-0.5**
JIJ	**Ishigaki jima**	**5.21**	**45**	P	**Pn**	**08 01 47.1**	**+0.3**
JIJ				S	**Sn**	**08 02 44.0**	**-2.0**
JTJ	**Tarama**	**5.77**	**46**	P	**Pn**	**08 01 55.0**	**+0.5**
JTJ				*e*S	**Sn**	**08 02 58.2**	**-1.6**
JOW	**Kunigami**	**9.64**	**49**	Pn	**Pn**	**08 02 46.0**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=168,slow=17,SNR=6.7						
QIZ	**Qiongzhong**	**9.82**	**262**	P	**Pn**	**08 02 48.6**	**-1.4**
QIZ				LR	LR		
	comp=E,660nm,10.8s						
QIZ				LR	LR		
	comp=Z,700nm,10.8s						
SSE	**Sheshan**	**10.40**	**5**	P	**Pn**	**08 02 57.9**	**-0.1**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s						
SSE				AMB	AMB		
	comp=Z,290nm,8.2s						
SSE				LR	LR		
	comp=N,80nm,12.8s						
SSE				LR	LR		
	comp=E,130nm,12.8s						
GYA	**Guiyang**	**13.61**	**297**	*e*P	**Pn**	**08 03 46.6**	**+4.8**
GYA				S	**Sn**	**08 06 09.6**	**-2.5**
GYA				LR	LR		
	comp=N,390nm,14.9s						
GYA				LR	LR		
	comp=E,510nm,10.5s						
GYA				LR	LR		
	comp=Z,580nm,10.8s						
JNU	**Nakatsue**	**15.64**	**36**	P	**Pn**	**08 04 09.1**	**-0.1**
CD2	**Chengdu**	**17.88**	**308**	*e*P	**Pn**	**08 04 37.3**	**-0.2**
CD2				AP	pP	08 04 45.2	+0.3
CD2				XP	sP	08 04 49.8	+1.6
CD2				PP		08 04 52.0	
CD2				S	**Sn**	**08 07 53.4**	**-2.7**
CD2				SS		08 08 17.3	
CD2				AMB	AMB		
	comp=Z,20nm,0.7s						
CD2				AMB	AMB		
	comp=Z,40nm,4.2s						
CD2				LR	LR		
	comp=E,90nm,8.2s						
CD2				LR	LR		
	comp=Z,80nm,6.8s						
JWT	**Wachi**	**19.79**	**40**	P	**Pn**	**08 05 01.1**	**+0.6**
LZH	**Lanzhou**	**20.93**	**321**	*e*P	**P**	**08 05 12.5**	**+1.2**
LZH				AP		08 05 18.4	
LZH				XP	sP	08 05 22.5	+0.9
LZH				AMB	AMB		
	comp=Z,20nm,1.2s						
LZH				AMB	AMB		
	comp=Z,70nm,4.0s						
LZH				LR	LR		
	comp=N,340nm,9.3s						
LZH				LR	LR		
	comp=Z,440nm,10.1s,MS4.1						
JGF	**Kuroka**	**21.20**	**42**	P	**P**	**08 05 15.5**	**+1.4**
MAJO	**Matsushiro**	**22.33**	**41**	*e*P	**P**	**08 05 27.0**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**22.33**	**41**	*e*P	**P**	**08 05 27.0**	**+0.8**
	comp=Z,17nm,0.8s,mb4.5						
MAT	**Matsushiro**	**22.33**	**41**	P	**P**	**08 05 28.8**	**+2.6**
MAT				S	**S**	**08 09 18.0**	**-13**
MAT	**Matsushiro**	**22.33**	**41**	P	**P**	**08 05 28.2**	**+2.0**
MAT	**Matsushiro**	**22.33**	**41**	*e*P	**P**	**08 05 29.0**	**+2.8**
MAT				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.5						
MAT	**Matsushiro**	**22.33**	**41**	*e*P	**P**	**08 05 29.0**	**+2.8**
	comp=Z,25nm,1.3s,mb4.5						
MJAR	**Matsushiro Arr**	**22.33**	**41**	P	**P**	**08 05 26.8**	**+0.6**
	comp=Z,15nm,0.7s,mb4.5,baz=241,slow=10,SNR=24						
JRY	**Ryogami san**	**22.43**	**43**	P	**P**	**08 05 29.6**	**+2.2**
GUMO	**Guam**	**24.66**	**103**	LR	LR	08 13 59.6	
	comp=Z,91nm,18.5s,MS3.3,baz=93,slow=33						
MDJ	**Mudanjiang**	**25.11**	**16**	*e*P	**P**	**08 05 54.2**	**+0.9**
	comp=Z,16nm,0.8s,mb4.6						
JOM	**Ohasama**	**26.07**	**39**	P	**P**	**08 06 00.6**	**-1.4**
PSI	**Prapat**	**27.26**	**232**	P	**P**	**08 06 11.5**	**-1.2**
	comp=Z,3.1nm,0.4s,mb4.2,baz=25,slow=7.1,SNR=5.5						
PSI	**Prapat**	**27.26**	**232**	P	**P**	**08 06 11.5**	**-1.2**
ULN	**Ulaanbaatar**	**29.09**	**342**	*i* P	**P**	**08 06 29.6**	**+0.6**
SONM	**Songino Array**	**29.26**	**341**	P	**P**	**08 06 30.7**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.7,baz=183,slow=3.0,SNR=3.9						
ASAJ	**Asahikawa**	**29.91**	**34**	P	**P**	**08 06 39.9**	**+3.7**
	comp=Z,6.4nm,0.6s,mb4.5,baz=233,slow=5.1						
HABR	**Khabarovsk**	**30.20**	**20**	*e*P	**P**	**08 06 37.9**	**-0.9**
HABR				*e*S	**S**	**08 11 36.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**38.93**	**172**	P	**P**	**08 07 52.7**	**-1.5**
	comp=Z,3.5nm,0.8s,mb4.2,baz=0.0,slow=4.0,SNR=3.9						
MKAR	**Makanchi Array**	**40.24**	**319**	P	**P**	**08 08 05.2**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.0,baz=116,slow=9.9,SNR=15						
MKAR	**Makanchi Array**	**40.24**	**319**	*i* P	**P**	**08 08 05.8**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YAK	**Yakutsk**	**41.83**	**7↑**	*e*P	**P**	**08 08 19.2**	**+1.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
YAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.8						
ZAL	**Zalesovo**	**42.69**	**330**	P	**P**	**08 08 24.6**	**-0.6**
	comp=Z,1.0nm,0.4s,mb3.9,baz=358,slow=7.5,SNR=6.3						
WRAB	**Tennant Creek**	**42.71**	**160c**	*i* P	**P**	**08 08 25.7**	**+0.3**
WRA	**Warramunga Arr**	**42.72**	**160**	P	**P**	**08 08 25.3**	**-0.1**
	comp=Z,14nm,1.0s,mb4.7,baz=342,slow=8.9,SNR=32						
WRA				PcP	PcP	08 10 17.5	+0.7
	comp=Z,1.8nm,0.6s,baz=344,slow=3.5,SNR=6.5						
WB2	**Warramunga Arr**	**42.72**	**160**	*e*P	**P**	**08 08 25.1**	**-0.4**
AAK	**Ala-Archa**	**43.92**	**310**	*i* P	**P**	**08 08 35.6**	**+0.4**
AS31	**Alice Springs**	**46.09**	**162**	*e*P	**P**	**08 08 52.3**	**-0.1**
ASAR	**Alice Springs**	**46.09**	**162**	P	**P**	**08 08 51.7**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.3,baz=345,slow=7.0,SNR=38						
ASPA	**Alice Springs**	**46.09**	**162**	*e*P	**P**	**08 08 52.3**	**-0.1**
BVAR	**Borovoye Array**	**49.80**	**323**	P	**P**	**08 09 21.5**	**+0.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=107,slow=9.5,SNR=9.7						
BVAR				PcP	PcP	08 10 41.2	-0.4
	comp=Z,1.7nm,0.6s,baz=104,slow=4.0,SNR=7.1						
BRVK	**Borovoye**	**49.87**	**323**	*e*P	**P**	**08 09 22.2**	**+0.6**
BRVK				*e*		08 09 32.3	
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**49.87**	**323**	*e*P	**P**	**08 09 22.2**	**+0.5**
	comp=Z,1.2nm,0.8s,mb4.0						
BRVK				*e*		08 09 32.3	
CHKZ	**Chkalovo**	**49.90**	**324**	*e*P	**P**	**08 09 21.8**	**-0.1**
CHKZ				*e*		08 09 39.4	
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**49.90**	**324**	*e*P	**P**	**08 09 21.8**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.3						
CHKZ				*e*		08 09 39.4	
TIXI	**Tiksi**	**51.22**	**4**	*i* P	**P**	**08 09 29.5**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BILL	**Bilibino**	**55.28**	**19**	*e*P	**P**	**08 10 02.8**	**+1.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.9						
STKA	**Stephens Creek**	**56.18**	**158**	P	**P**	**08 10 06.6**	**-1.5**
	comp=Z,3.9nm,0.7s,mb4.6,baz=346,slow=7.8,SNR=5.4						
AKTK	**Aktyubinsk**	**56.62**	**317**	P	**P**	**08 10 10.9**	**-0.3**
AKTO	**Aktyubinsk**	**56.62**	**317**	P	**P**	**08 10 10.9**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.3,baz=90,slow=8.1,SNR=8.7						
ARU	**Arti**	**57.33**	**325↓**	*i* P	**P**	**08 10 16.0**	**-0.3**
ARU				*e*		08 12 19.5	
ARU				*e*S	**S**	**08 18 11.7**	**+0.6**
ARU				*e*SS	SS	08 22 03.2	+2.6
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ARU	**Arti**	**57.33**	**325**	*e*P	**P**	**08 10 16.3**	**0.0**
	comp=Z,3.6nm,0.6s,mb4.6						
ORR	**Orenburg**	**58.80**	**319**	*e*P	**P**	**08 10 26.0**	**-0.6**
ORR				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
KIV	**Kislovodsk**	**67.04**	**310↑**	*i* P	**P**	**08 11 22.6**	**+1.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
OBN	**Obninsk**	**69.64**	**322↓**	*e*P	**P**	**08 11 37.3**	**-0.4**
OBN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
JOF	**Joensuu**	**71.26**	**331**	*e*p	**P**	**08 11 47.4**	**-0.2**
KAF	**Kangasniemi**	**73.69**	**331**	*e*p	**P**	**08 12 01.0**	**-1.1**
FINES	**FINESS Array B**	**73.96**	**330**	P	**P**	**08 12 03.3**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.1,baz=50,slow=6.9,SNR=9.4						
FINES	**FINESS Array B**	**73.96**	**330**	*i* P	**P**	**08 12 03.5**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**74.82**	**319**	P	**P**	**08 12 07.2**	**-1.5**
	comp=Z,2.4nm,0.9s,mb4.2,baz=64,slow=5.6,SNR=5.1						
DAWY	**Dawson**	**76.08**	**26**	*e*P	**P**	**08 12 17.4**	**+1.5**
DAWY				*e*	pP	08 12 25.9	+1.8
OJC	**Ojcow**	**80.71**	**320**	*e*P	**P**	**08 12 42.3**	**+0.9**
NB2	**NORSAR Subarra**	**80.84**	**332**	P	**P**	**08 12 41.5**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=61,slow=5.3						
NB2	**NORSAR Subarra**	**80.84**	**332**	P	**P**	**08 12 41.5**	**-0.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**80.84**	**332**	P	**P**	**08 12 41.8**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=64,slow=5.3,SNR=8.0						
KMBO	**Kilima Mbogo**	**83.72**	**266**	P	**P**	**08 12 58.2**	**+1.0**
	comp=Z,1.8nm,0.6s,mb4.3,baz=56,slow=9.3,SNR=6.0						
KMBO	**Kilima Mbogo**	**83.72**	**266**	P	**P**	**08 12 58.2**	**+1.0**
GERES	**GERESS Array B**	**84.90**	**320**	P	**P**	**08 13 03.7**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.2,baz=57,slow=4.9,SNR=7.4						
YKA	**Yellowknife Ar**	**86.55**	**22**	P	**P**	**08 13 12.6**	**+1.3**
	comp=Z,2.4nm,0.9s,mb4.5,baz=313,slow=4.7,SNR=30						
CDF	**Champ du Feu**	**88.87**	**322**	*e*P	**P**	**08 13 23.4**	**+0.9**
LPG	**La Plagne**	**90.66**	**320**	*e*P	**P**	**08 13 31.7**	**+0.8**
	comp=Z,11nm,0.8s,mb4.9						
LPG	**La Plagne**	**90.66**	**320**	*e*P	**P**	**08 13 31.7**	**+0.8**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
LPG	**La Plagne**	**90.66**	**320**	*e*P	**P**	**08 13 31.7**	**+0.8**
	comp=Z,5.4nm,0.8s,mb4.9						
LPL	**La Plagne**	**90.66**	**320**	*e*P	**P**	**08 13 31.8**	**+0.9**
	comp=Z,7.0nm,0.7s,mb4.8						
LPL	**La Plagne**	**90.66**	**320**	*e*P	**P**	**08 13 31.8**	**+0.9**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.9						
LPL	**La Plagne**	**90.66**	**320**	*e*P	**P**	**08 13 31.8**	**+0.9**
	comp=Z,3.5nm,0.6s,mb4.9						
PGF	**Pioggiola**	**90.72**	**316**	*e*P	**P**	**08 13 31.9**	**+0.7**
	comp=Z,7.7nm,0.7s,mb4.8						
PGF	**Pioggiola**	**90.72**	**316**	*e*P	**P**	**08 13 31.9**	**+0.7**
PGF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.9						
PGF	**Pioggiola**	**90.72**	**316**	*e*P	**P**	**08 13 31.9**	**+0.7**
	comp=Z,3.8nm,0.7s,mb4.8						
MBDF	**Montbardon**	**91.04**	**319**	*e*P	**P**	**08 13 33.3**	**+0.7**
	comp=Z,4.9nm,0.7s,mb4.7						
SBF	**Sospel**	**91.07**	**318**	*e*P	**P**	**08 13 33.5**	**+0.8**
ORIF	**Oris-en-Rattie**	**91.48**	**320**	*e*P	**P**	**08 13 35.2**	**+0.5**
FRF	**La Foret Royal**	**91.71**	**318**	*e*P	**P**	**08 13 36.0**	**+0.3**
	comp=Z,18nm,1.1s,mb5.0						
FRF	**La Foret Royal**	**91.71**	**318**	*e*P	**P**	**08 13 36.0**	**+0.3**
FRF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
FRF	**La Foret Royal**	**91.71**	**318**	*e*P	**P**	**08 13 36.0**	**+0.3**
	comp=Z,9.0nm,1.1s,mb5.0						
VIVF	**Saint-Julien-l**	**92.25**	**320**	*e*P	**P**	**08 13 38.9**	**+0.7**

NEIC ***11*** *08:08:18.5±0.5,5628S×2649W,h75km,mb4.6/3,Error ellipse: s-maj=14.8km s-min=12.9km az=75.0*
ISCJB ***11*** *08:08:22.0±4.5,5625S±01×2650W±02,h122km±45km, mb4.2/10,Error ellipse: s-maj=21.9km s-min=18.1km az=122.9*
IDC ***11*** *08:08:21.6±0.9,5629S×2667W,h101km±7km,mb3.8/7, mb1 3.9/7,mb1mx3.7/15,mbtmp4.1/7,Error ellipse: s-maj=27.8km s-min=19.7km az=77.0*
ISC 11 08:08:23.0±4.6,5635S±01×2650W±02,h117km±45km,n18, σ0.990/15,mb4.2/10,2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.43**	**158↓**	*i*PKPdf	**Pn**	**08 12 07.3**	**+0.7**
VNA1				*e*		08 12 08.0	
VNA1				*e*		08 12 10.5	
SNAA	**Sanae**	**18.37**	**156↓**	*i*PKPdf	**P**	**08 12 18.4**	**-10**
SNAA				*e*		08 12 19.2	
SNAA				*e*		08 12 21.3	
SNAA	**Sanae**	**18.37**	**156**	*e*P	**P**	**08 12 12.5**	**-16**
QSPA	**South Pole Qui**	**33.96**	**180**	*e*P	**P**	**08 14 54.2**	**-0.9**
	7.1nm,0.8s,mb4.5						
CPUP	**Villa Florida**	**37.25**	**311**	P	**P**	**08 15 22.1**	**-1.1**
	0.4nm,0.5s,mb3.6,baz=161,slow=9.1,SNR=5.1						
BDFB	**Brasilia**	**43.76**	**329**	P	**P**	**08 16 17.3**	**+0.6**
	0.9nm,0.6s,mb3.7,baz=143,slow=5.1,SNR=2.8						
VNDA	**Vanda**	**46.35**	**183**	P	**P**	**08 16 36.5**	**-0.8**
	3.3nm,0.7s,mb4.2,baz=188,slow=6.4,SNR=14						
LBTB	**Lobatse**	**48.73**	**72**	*e*P	**P**	**08 16 55.6**	**-0.1**
TSUM	**Tsumeb**	**49.49**	**60**	*e*P	**P**	**08 17 01.8**	**+0.4**
	3.5nm,1.1s,mb4.2						
LPAZ	**La Paz**	**50.81**	**305**	P	**P**	**08 17 12.0**	**+0.6**
	1.2nm,0.4s,mb4.3,baz=153,slow=7.4,SNR=8.7						
LSZ	**Lusaka**	**58.12**	**68**	*e*P	**P**	**08 18 02.5**	**-1.7**
	6.8nm,1.1s,mb4.6						
LSZ				*e*pP	pP	08 18 23.6	-8.8
DBIC	**Dimbokro**	**65.24**	**24**	P	**P**	**08 18 52.4**	**+0.5**
	2.0nm,1.0s,mb3.9,baz=172,slow=7.1,SNR=3.7						
DBIC	**Dimbokro**	**65.24**	**24**	P	**P**	**08 18 52.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.09**	**29**	P	**P**	**08 19 40.5**	**+0.1**
	2.2nm,0.5s,mb4.2,baz=201,slow=6.2,SNR=25						
TORD				pP	pP	08 20 07.7	-2.0
	1.9nm,0.7s,baz=199,slow=6.6,SNR=5.7						
ASAR	**Alice Springs**	**98.65**	**162**	P	**P**	**08 21 50.5**	**+1.8**
	0.5nm,0.6s,mb4.3,baz=181,slow=4.5,SNR=6.9						
YKA	**Yellowknife Ar**	**136.59**	**318**	PKP	PKPdf	08 27 29.9	-1.3
	0.1nm,0.3s,baz=128,slow=2.2,SNR=5.6						
YKA				pPKP	pPKPdf	08 27 56.5	-6.4
	0.1nm,0.5s,baz=128,slow=2.5,SNR=2.3						
YKA	**Yellowknife Ar**	**136.59**	**318**	PKP	PKPdf	08 27 29.9	-1.3
YKA				pPKP	pPKPdf	08 27 56.5	-6.4
SONM	**Songino Array**	**150.38**	**86**	PKPbc	PKPbc	08 27 59.7	-0.8
	0.8nm,0.7s,baz=222,slow=1.9,SNR=2.8						
SONM				pPKPbc	pPKPbc	08 28 27.0	-5.1
	1.4nm,0.6s,baz=204,slow=3.3,SNR=3.6						

IDC 11 08:12:30.3±2.3,3025N×12994E,h0km,mb3.9/2,mb1 4.0/3, mb1mx3.8/15,mbtmp3.8/3,ML3.6/1,MS3.0/1,Ms1 3.0/1, ms1mx2.2/18,Error ellipse: s-maj=134.2km s-min=28.3km az=70.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.57**	**195**	Pn	Pn	08 16 16.2	+5.1
	0.2nm,0.3s,baz=76,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	**17.36**	**166**	P	Pn	08 16 34.5	+0.6
	0.2nm,0.3s,baz=346,slow=10,SNR=5.8						
WB2	**Warramunga Arr**	**17.37**	**166**	*e*P	Pn	08 16 32.5	-1.5
ASAR	**Alice Springs**	**20.88**	**170**	P	P	08 17 14.2	+0.2
	8.0nm,1.0s,baz=349,slow=11,SNR=31						
ASPA	**Alice Springs**	**20.88**	**170**	*e*P	P	08 17 14.4	+0.4
GUMO	**Guam**	**22.17**	**42**	LR	LR	08 26 13.9	
	comp=Z,33nm,18.1s,baz=91,slow=37						
MKAR	**Makanchi Array**	**64.90**	**326**	P	P	08 23 11.6	+0.2
	0.7nm,0.7s,baz=120,slow=8.5,SNR=5.1						

ISCJB ***11*** *08:25:54.2±0.4,6685N±004×14738W±008,h10km, mb4.2/8,MS4.4/2,Error ellipse: s-maj=5.1km s-min=4.8km az=173.9*
BJI ***11*** *08:25:55.2,6674N×14827W,h7km,mB4.9,mb4.8,Ms4.6, Msz4.4*
NEIC ***11*** *08:25:58.0,6673N×14767W,h15km,mb4.2/3, ML4.2(AEIC),After AEIC.*
NEIC Felt [II] at Fairbanks.
IDC ***11*** *08:25:59.8±1.2,6704N×14561W,h0km,mb3.6/4, mb1 3.9/7,mb1mx3.6/21,mbtmp3.7/7,ML3.7/3,MS3.0/3, Ms1 2.9/3,ms1mx2.6/30,Error ellipse: s-maj=23.9km s-min=17.4km az=80.0*
ISC 11 08:25:55.7±0.4,6687N±003×14746W±008,h10km, (h14km±.6km:pP-P),n45,σ1.927/59,mb4.2/8,MS4.4/2, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLD	**Coldfoot**	**1.13**	**290**	P	**Pb**	**08 26 15.0**	**-2.3**
COLA	**College**	**2.01**	**185**	P	**Pn**	**08 26 28.7**	**-1.0**
COLA				S	**Sn**	**08 26 56.9**	**+2.0**
IL17	**Eielson Array**	**2.09**	**173**	P	**Pn**	**08 26 29.5**	**-1.2**
IL17				S	**Sn**	**08 26 58.3**	**+1.6**
IM3	**Indian Mountai**	**2.68**	**253**	P	**Pn**	**08 26 38.1**	**-0.7**
MCK	**McKinley**	**3.21**	**192**	*e*Pn	**Pn**	**08 26 45.6**	**-0.5**
MCK				*e*Sn	**Sn**	**08 27 21.7**	**-2.8**
MCK				S	**Sn**	**08 27 25.8**	**+1.3**
TRF	**Thorofare Moun**	**3.64**	**200**	P	**Pn**	**08 26 51.6**	**-0.4**
KTH	**Kantishna Hill**	**3.64**	**205**	P	**Pn**	**08 26 51.9**	**-0.1**
KTH				S	**Sn**	**08 27 38.6**	**+3.7**
PAX	**Paxson**	**4.01**	**167**	P	**Pn**	**08 26 56.2**	**-0.9**
MENT	**Mentasta**	**4.26**	**156**	*e*P	**Pn**	**08 26 59.1**	**-1.5**
DAWY	**Dawson**	**4.39**	**126**	*e*Pn	**Pn**	**08 27 00.6**	**-1.8**
DAWY				*e*Sn	**Sn**	**08 27 54.9**	**+1.4**
GCSA	**Galena City Sc**	**4.42**	**246**	P	**Pn**	**08 27 01.5**	**-1.3**
SML	**Sawmill**	**5.10**	**185**	*e*Pn	**Pn**	**08 27 07.1**	**-5.0**
PMR	**Palmer**	**5.35**	**189**	*e*P	**Pn**	**08 27 15.5**	**-0.1**
PMR				*e*Pn	**Pn**	**08 27 15.6**	**0.0**
TTA	**Tatalina**	**5.37**	**227**	*e*Pn	**Pn**	**08 27 15.1**	**-0.8**
	182nm,1.1s						
TTA				*e*Sn	**Sn**	**08 28 16.6**	**-1.1**
INK	**Inuvik**	**5.52**	**69**	Pn	**Pn**	**08 27 14.9**	**-3.0**
	2.0nm,0.3s,baz=258,slow=16,SNR=58						
INK				Pg	**Pg**	**08 27 23.0**	**-18**
	4.2nm,0.3s,baz=266,slow=14,SNR=27						
INK				Sn	**Sn**	**08 28 21.1**	**-0.4**
	9.7nm,0.3s,baz=130,slow=28,SNR=7.8						
INK				Lg		08 28 47.3	
	8.2nm,0.3s,baz=351,slow=18,SNR=4.4						
INK	**Inuvik**	**5.52**	**69**	*e*Pn	**Pn**

comp=Z,100nm,5.9s
NJ2 Nanjing 62.38 287 *e*P **P 08 36 22.8 +4.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
AKASG Malin Array Be 62.73 2 P **P 08 36 24.5 +3.6**
comp=Z,0.5nm,0.5s,mb4.0,baz=353,slow=7.0,SNR=4.1
LZH Lanzhou 64.14 301 *e*P **P 08 36 31.1 +0.9**
LZH AP pP 08 36 35.0 +1.6
LZH XP sP 08 36 37.0 +2.4
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,50nm,4.0s
KMI Kunming 74.54 298 P **P 08 37 36.3 +1.8**
KMI AP pP 08 37 40.2 +2.4
KMI XP sP 08 37 42.5 +3.5
KMI S S 08 47 09.6 -0.2
KMI XS sS 08 47 17.8 +2.5
KMI SS SS 08 51 56.2 -0.3
KMI AMB AMB
comp=Z,50nm,4.8s
KMI LR LR
comp=N,150nm,18.2s,MS4.4
KMI LR LR
comp=E,90nm,18.8s,MS4.4
KMI LR LR
comp=Z,180nm,16.5s,MS4.5

ISC 11 08:30:16.1±0.6,3786N±004×2870E±004,h8km±8km,n8, σ0°79/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.28**	**112**	PG	**Pg**	**08 30 21.6**	**-0.1**
DENT				SG	**Sg**	**08 30 25.5**	**0.0**
MANT	**Manisa**	**0.64**	**350**	*i* P	**Pg**	**08 30 27.8**	**-0.6**
MANT				*i* S	**Sg**	**08 30 36.7**	**-0.1**
AYDN	**Tasoluk**	**0.68**	**253**	*i* P	**Pg**	**08 30 29.7**	**+0.4**
AYDN				*i* S	**Sg**	**08 30 39.2**	**+1.0**
KHL	**Karahalli**	**0.79**	**54**	*e*PG	**Pg**	**08 30 30.3**	**-1.1**
YER	**Yerkesik**	**0.80**	**205**	*e*PG	**Pg**	**08 30 31.9**	**+0.4**
BDRM	**Kayabasi**	**1.28**	**232**	*i* P	**Pn**	**08 30 36.2**	**-4.1**
BDRM				*i* S	**Sb**	**08 30 55.5**	**-1.5**
TKTP	**Tekketepe**	**1.29**	**82**	*i* P	**Pn**	**08 30 41.6**	**+1.1**
TKTP				*i* S	**Sb**	**08 31 03.1**	**+5.7**
GDZ	**Gediz**	**1.37**	**26**	*i* P	**Pn**	**08 30 41.4**	**-0.1**
GDZ				*i* S	**Sb**	**08 31 00.3**	**+0.7**

*ISCJB **11** 08:57:18.0±1.3,170S±02×179.1W±0.1,h514km±20km, mb4.0/8,Error ellipse: s-maj=31.6km s-min=12.2km az=123.6*
*NEIC **11** 08:57:17.8±1.5,1683S×17921W,h490km±19km,mb4.2/2, Error ellipse: s-maj=38.7km s-min=13.9km az=154.0*
*IDC **11** 08:57:18.1±2.0,1779S×17867W,h525km±24km,mb3.5/7, mb1 3.7/9,mb1mx3.5/15,mbtmp4.4/9,Error ellipse: s-maj=50.2km s-min=13.6km az=150.0*

ISC 11 08:57:19.2±1.1,171S±02×1790W±01,h517km±18km,n42, σ0°97/19,mb4.0/8,1C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.66**	**67**	P	**P**	**08 59 12.0**	**-0.5**
	3.2nm,0.3s,baz=276,slow=22,SNR=4.5						
AFI	**Afiamalu**	**7.66**	**67**	*e*Pn	**P**	**08 59 11.3**	**-1.2**
AFI				P		08 59 12.0	
RAO	**Raoul Island**	**12.17**	**175**	*e*P	**P**	**09 00 00.8**	**+1.3**
DZM	**Mont Dzumac**	**14.57**	**248**	P	**P**	**09 00 25.3**	**+0.7**
	0.4nm,0.3s,baz=310,slow=19,SNR=7.5						
CTAO	**Charters Tower**	**33.02**	**259**	*e*P	**P**	**09 03 11.1**	**-0.1**
	18nm,1.3s,mb4.4						
STKA	**Stephens Creek**	**38.53**	**240**	P	**P**	**09 03 54.4**	**-2.6**
	3.4nm,0.5s,mb4.2,baz=93,slow=9.8,SNR=20						
STKA	**Stephens Creek**	**38.53**	**240**	⇓*i*P	**P**	**09 03 54.1**	**-2.9**
	3.6nm,0.6s,mb4.1						
STKA				*e*P		09 03 54.5	
WB2	**Warramunga Arr**	**44.20**	**259**	*e*P	**P**	**09 04 41.8**	**-0.1**
WRAB	**Tennant Creek**	**44.20**	**259**	*e*P	**P**	**09 04 41.8**	**-0.2**
WRAB				*ep*P	pP	09 06 19.3	+2.5
WRA	**Warramunga Arr**	**44.22**	**259**	P	**P**	**09 04 41.9**	**-0.1**
	2.0nm,0.5s,mb3.9,baz=97,slow=7.0,SNR=42						
AS31	**Alice Springs**	**44.46**	**253**	⇓*i*P	**P**	**09 04 43.9**	**0.0**
ASAR	**Alice Springs**	**44.46**	**253**	P	**P**	**09 04 44.0**	**0.0**
	22nm,0.6s,mb4.9,baz=90,slow=7.9,SNR=313						
ASPA	**Alice Springs**	**44.46**	**253**	⇓*i*P	**P**	**09 04 43.9**	**-0.1**
MBWA	**Marble Bar**	**57.71**	**255**	*e*P	**P**	**09 06 19.8**	**-0.4**
MJAR	**Matsushiro Arr**	**66.89**	**324**	P	**P**	**09 07 22.4**	**+2.7**
	0.8nm,0.4s,mb3.6,baz=165,slow=5.6,SNR=5.5						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	**P**	**09 08 30.6**	**+0.2**
	2.1nm,0.9s,mb3.5,baz=227,slow=10,SNR=12						
MCMT	**McKenzie Canyo**	**85.98**	**41**	*e*P	**P**	**09 09 05.3**	**+0.8**
PDAR	**Pinedale Array**	**87.15**	**44**	P	**P**	**09 09 09.8**	**-0.2**
	1.2nm,0.6s,mb3.7,baz=220,slow=2.7,SNR=9.7						
YKA	**Yellowknife Ar**	**93.82**	**25**	P	**P**	**09 09 39.9**	**-0.9**
	0.4nm,0.7s,mb3.7,baz=243,slow=4.2,SNR=6.4						
ARCES	**ARCESS Array B**	**125.39**	**350**	PKP	PKPdf	09 15 19.5	-1.6
	2.9nm,0.8s,baz=86,slow=1.7,SNR=5.0						
ARCES	**ARCESS Array B**	**125.39**	**350**	PKP	PKPdf	09 15 19.5	-1.6
BRTR	**Keskin Array B**	**143.78**	**315**	PKP	PKPdf	09 15 54.5	-0.6
	1.1nm,0.5s,baz=117,slow=1.9,SNR=7.0						
CLL	**Collm**	**144.52**	**347**	⇑*i*PKPdf	PKPdf	09 15 56.4	-0.1
	comp=Z,7.0nm,0.9s						
UPC	**Upice**	**144.52**	**343**	*e*PKP	PKPdf	09 15 57.0	+0.5
DPC	**Dobruska-Polom**	**144.58**	**343**	*e*PKP	PKPdf	09 15 57.2	+0.6
BRG	**Berggiesshubel**	**144.71**	**346**	*e*P	PKPdf	09 15 56.5	-0.3
	comp=Z,1.8nm,0.8s						
PVCC	**Panska Ves**	**144.88**	**345**	*e*PKP	PKPdf	09 15 57.9	+0.8
MMAI	**Mount Meron Ar**	**145.19**	**304**	PKPbc	PKPbc	09 15 58.8	+0.2
	comp=Z,1.4nm,0.4s,baz=73,slow=5.3,SNR=3.1						
PRU	**Pruhonice**	**145.38**	**345**	*e*PKP	PKPdf	09 15 58.8	+0.8
KHC	**Kasperske Hory**	**146.42**	**345**	*e*PKP	PKPdf	09 16 02.0	+2.3
KHC				*ex*	x	09 16 40.8	
GERES	**GERESS Array B**	**146.65**	**345**	PKPbc	PKPbc	09 16 02.6	-0.1
	comp=Z,1.8nm,0.5s,baz=21,slow=3.0,SNR=15						
BAIF	**Baives**	**146.99**	**356**	*e*PKP1	PKPbc	09 16 03.3	-0.3
	comp=Z,4.0nm,0.6s						
CDF	**Champ du Feu**	**148.32**	**352**	*e*PKP1	PKPbc	09 16 06.4	-0.6
	comp=Z,4.1nm,0.6s						
FLN	**La Foiliniere**	**148.37**	**2**	*e*PKP1	PKPbc	09 16 06.0	-1.1
	comp=Z,8.8nm,0.7s						
LDF	**La Druitiere**	**148.54**	**1**	*e*PKP1	PKPbc	09 16 06.3	-1.3
	comp=Z,4.6nm,0.4s						
GRR	**Gorron**	**148.73**	**2**	*e*PKP1	PKPbc	09 16 06.8	-1.2
	comp=Z,7.4nm,0.5s						
LOR	**Lormes**	**149.79**	**356**	*e*PKP1	PKPbc	09 16 09.7	-0.9
	comp=Z,7.1nm,0.4s						
SSF	**Saint Saulge**	**150.02**	**357**	*e*PKP1	PKPbc	09 16 10.4	-0.7
	comp=Z,4.6nm,0.4s						
CABF	**La Chapelle**	**150.24**	**353**	*e*PKP1	PKPbc	09 16 11.1	-0.5
MFF	**Saint Martin d**	**150.54**	**2**	*e*PKP1	PKPbc	09 16 11.2	-1.1
	comp=Z,3.0nm,0.5s						
LPG	**La Plagne**	**151.25**	**352**	*e*PKP1	PKPbc	09 16 13.9	0.0
	comp=Z,2.9nm,0.6s						
MBDF	**Montbardon**	**152.00**	**351**	*e*PKP1	PKPbc	09 16 15.7	+0.1
	comp=Z,4.3nm,0.6s						

*NIED **11** 08:57:00,2300N×12040E,h20km,Mw4.1 Best double couple: M0:1.42000×10^15 NP1:φs213.00000°,δ85.00000°, λ5.00000°. NP2:φs122.00000°,δ85.00000°,λ175.00000°.*
*IDC **11** 08:57:50.0±1.3,2308N×12039E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.8/21,mbtmp3.9/7,ML3.5/1,Error ellipse: s-maj=33.2km s-min=26.5km az=56.0*
*ISCJB **11** 08:57:52.1±1.8,2311N±006×12032E±003,h26km±15km, mb3.8/5,Error ellipse: s-maj=9.9km s-min=4.9km az=3.6*
*BJI **11** 08:57:52.4,2317N×12024E,h13km,mB4.5,mb4.3,ML4.1, Ms4.1,Msz4.0*
*JMA **11** 08:57:52.7±0.4,2297N×12038E,h119km,M3.7*
*NEIC **11** 08:57:53.2±0.9,2313N×12045E,h20km,MG3.7(JMA), Error ellipse: s-maj=18.0km s-min=13.9km az=142.0*

ISC 11 08:57:51.7±2.0,2309N±007×12034E±004,h10km±14km, n24,σ1°07/34,mb3.8/5,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**1.57**	**47**	*e*Pn	**Pn**	**08 58 18.6**	**-1.0**
NACB				*e*Sn	**Sn**	**08 58 39.6**	**-0.5**
YHNB	**Yeheng**	**1.83**	**31**	*e*Pn	**Pn**	**08 58 22.4**	**-0.8**
YHNB				*e*Sn	**Sn**	**08 58 42.8**	**-3.7**
TATO	**Taipei**	**2.15**	**29**	*e*Pn	**Pn**	**08 58 26.0**	**-1.5**
QZH	**Quanzhou**	**2.44**	**319**	P	**Pn**	**08 58 32.1**	**+0.6**
QZH				S	**Sn**	**08 59 00.2**	**-1.2**
QZH				Smax			
	comp=N,860nm,0.8s						
QZH				Smax			
	comp=E,980nm,0.7s						
YOJ	**Yonaguni jima**	**2.80**	**60**	P	**Pn**	**08 58 37.2**	**+0.7**
YOJ				*e*S	**Sn**	**08 59 11.7**	**+1.4**
HATJ	**Hateruma jima**	**3.32**	**73**	P	**Pn**	**08 58 43.9**	**+0.3**
HATJ				*e*S	**Sn**	**08 59 22.9**	**-0.2**
IRIF	**Iriomote-Funau**	**3.34**	**68**	P	**Pn**	**08 58 44.4**	**+0.4**
IRIF				*e*S	**Sn**	**08 59 24.8**	**+1.1**
JKRS	**Kuro-shima**	**3.55**	**71**	P	**Pn**	**08 58 47.2**	**+0.4**
JIJ	**Ishigaki jima**	**3.71**	**69**	P	**Pn**	**08 58 49.0**	**0.0**
JIJ				*e*S	**Sn**	**08 59 30.6**	**-2.1**
JTJ	**Tarama**	**4.28**	**68**	P	**Pn**	**08 58 57.1**	**+0.3**
JTJ				*e*S	**Sn**	**08 59 47.2**	**+0.4**
GZH	**Guangzhou**	**6.44**	**271**	P	**Pn**	**08 59 26.1**	**-0.5**
GZH				Smax			
	comp=N,150nm,1.1s						
GZH				Smax			
	comp=E,200nm,1.0s						
JOW	**Kunigami**	**8.10**	**61**	Pn	**Pn**	**08 59 47.6**	**-1.7**
	comp=E,1.3nm,0.3s,baz=139,slow=20,SNR=6.0						
NJ2	**Nanjing**	**9.02**	**352**	*e*P	**Pn**	**09 00 03.0**	**+1.1**
NJ2				AP		09 00 07.0	
NJ2				XP		09 00 09.5	
NJ2				S	**Sn**	**09 01 44.5**	**+0.9**
NJ2				XS		09 01 49.1	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,300nm,8.0s						
NJ2				Smax			
	comp=N,180nm,1.0s						
NJ2				Smax			
	comp=E,150nm,0.8s						
NJ2				LR	LR		
	comp=N,630nm,7.5s						
NJ2				LR	LR		
	comp=E,390nm,7.8s						
NJ2				LR	LR		
	comp=Z,240nm,8.1s						
WHN	**Wuhan**	**9.15**	**325**	*e*P	**Pn**	**09 00 07.0**	**+3.3**
GYA	**Guiyang**	**12.87**	**288**	*e*P	**Pn**	**09 00 59.7**	**+5.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,210nm,8.4s						
GYA				LR	LR		
	comp=Z,420nm,9.0s						
CD2	**Chengdu**	**16.69**	**301**	*e*P	**Pn**	**09 01 42.5**	**-3.1**
CD2				AP		09 01 50.0	
CD2				XP	sP	09 01 55.0	+2.9
CD2				PP		09 01 58.0	
CD2				S	**Sn**	**09 04 46.0**	**-5.0**
CD2				XS	sS	09 04 59.0	-7.7
CD2				SS		09 05 07.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=N,470nm,12.0s						
CD2				LR	LR		
	comp=Z,450nm,8.4s						
LZH	**Lanzhou**	**19.29**	**316**	*e*P	**Pn**	**09 02 19.0**	**+1.4**
LZH				AP	pP	09 02 24.0	+4.6
LZH				XP	sP	09 02 27.0	+6.2
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
LZH				LR	LR		
	comp=N,300nm,9.7s						
LZH				LR	LR		
	comp=Z,500nm,10.3s						
MJAR	**Matsushiro Arr**	**20.45**	**45**	P	**P**	**09 02 30.7**	**+1.5**
	comp=Z,2.4nm,1.0s,baz=231,slow=6.5,SNR=6.4						
SONM	**Songino Array**	**27.09**	**339**	P	**P**	**09 03 34.2**	**-0.2**
	comp=Z,1.2nm,0.8s,mb3.5,baz=133,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**38.60**	**317**	P	**P**	**09 05 14.7**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.5,baz=118,slow=9.8,SNR=5.1						
WRA	**Warramunga Arr**	**44.90**	**161**	P	**P**	**09 06 06.3**	**-0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=344,slow=8.6,SNR=5.1						
FINES	**FINESS Array B**	**71.99**	**330**	P	**P**	**09 09 16.6**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=68,slow=9.4,SNR=5.2						
YKA	**Yellowknife Ar**	**84.27**	**22**	P	**P**	**09 10 22.7**	**-0.9**
	comp=Z,0.8nm,0.7s,mb3.9,baz=314,slow=4.9,SNR=12						
YKA	**Yellowknife Ar**	**84.27**	**22**	P	**P**	**09 10 22.7**	**-0.9**

*NEIC **11** 09:05:54.7±2.1,3777N×7063E,h35km,mb3.5/2,Error ellipse: s-maj=31.3km s-min=21.5km az=161.0*
*ISCJB **11** 09:05:55.9±4.5,379N±03×706E±02,h65km±34km, mb3.6/1,Error ellipse: s-maj=42.6km s-min=22.2km az=153.1*

ISC 11 09:05:56.9±4.3,379N±03×706E±02,h56km±33km,n8, σ1°01/9,mb3.6/1,1C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.22**	**359**	Pn	**Pn**	**09 07 13.3**	**+1.0**
	11nm,0.8s,baz=195,slow=14,SNR=28						
KK31				⇑Lg		09 08 21.6	
	34nm,0.7s,baz=190,slow=30,SNR=7.2						
AAK	**Ala-Archa**	**5.60**	**31**	*e*Pn	**Pn**	**09 07 17.4**	**-0.2**
	6.4nm,0.6s						
AAK				*e*Sn	**Sn**	**09 08 21.2**	**+0.6**
ZRNK	**Zerenda**	**15.12**	**356**	*e*Pn	**Pn**	**09 09 24.9**	**-2.0**
BRVK	**Borovoye**	**15.19**	**359**	*e*Pn	**Pn**	**09 09 27.8**	**-0.1**
ARU	**Arti**	**20.23**	**340**	*e*P	**P**	**09 10 26.5**	**-0.8**
	0.6nm,0.4s						
ULN	**Ulaanbaatar**	**28.28**	**58**	*e*P	**P**	**09 11 44.6**	**-0.3**
TIRR	**Tirgusor**	**32.16**	**295**	*e*P	**P**	**09 12 19.1**	**-0.1**
NB2	**NORSAR Subarra**	**43.10**	**322**	P	**P**	**09 13 53.5**	**+2.0**
	comp=Z,1.1nm,0.8s,mb3.6,baz=97,slow=7.9						

*IDC **11** 09:08:54.1±0.9,3838N×6982E,h0km,mb4.0/12, mb1 4.1/14,mb1mx3.9/25,mbtmp3.9/14,ML3.4/2,MS3.2/2, Ms1 3.2/2,ms1mx2.3/37,Error ellipse: s-maj=20.8km s-min=17.4km az=6.0*
*BJI **11** 09:08:55.8,3860N×6970E,h10km,mB4.8,mb4.6,ML4.5, Ms4.4,Msz3.8*
*ISCJB **11** 09:08:55.6±1.6,3864N±004×6979E±005,h12km±10km, mb4.0/22,MS3.0/2,Error ellipse: s-maj=8.2km s-min=5.5km az=86.7*
*NEIC **11** 09:08:56.8±0.4,3859N×6971E,h10km,mb4.0/7,Error ellipse: s-maj=9.2km s-min=6.0km az=46.0*
*NNC **11** 09:08:58.6±4.1,3865N×6954E,h13km±19km,mb3.9, mpv3.8,Error ellipse: s-maj=29.1km s-min=18.0km az=178.0*
*MOS **11** 09:08:58.6±1.2,3867N×6977E,h33km,mb4.3/18,Error ellipse: s-maj=9.9km s-min=6.0km az=102.2*

ISC 11 09:08:57.5±1.5,3864N±004×6979E±005,h13km±9km,n80, σ1°24/88,mb4.0/22,MS3.0/2,7C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.49**	**7**	Pn	**Pn**	**09 10 08.3**	**+3.2**
	10.0nm,0.4s,baz=199,slow=16,SNR=27						
KK31				⇑Pg	**Pg**	**09 10 22.0**	**-1.5**
	17nm,0.6s,baz=185,slow=17,SNR=7.1						
KK31				⇑Lg		09 11 20.7	
	83nm,0.9s,baz=191,slow=28,SNR=3.8						
KK31	**Karatay Array**	**4.49**	**7**	PN	**Pn**	**09 10 08.3**	**+3.2**
KK31						09 10 22.0	
AML	**Almayashu**	**4.59**	**39**	P	**Pn**	**09 10 11.3**	**+4.8**
	SNR=10						
KSH	**Kashi**	**4.89**	**78**	*e*PG	**Pg**	**09 10 26.7**	**-4.4**
KSH				Smax			
	comp=N,310nm,1.2s						
KSH				Smax			
	comp=E,700nm,1.7s						
UCH	**Uchtor**	**5.08**	**44**	P	**Pn**	**09 10 19.3**	**+6.0**
	SNR=5.6						
AAK	**Ala-Archa**	**5.36**	**40**	⇓*e*PN	**Pn**	**09 10 20.3**	**+3.3**
AAK	**Ala-Archa**	**5.36**	**40**	*e*Pn	**Pn**	**09 10 17.6**	**+0.6**
AAK				*e*Sn	**Sn**	**09 11 19.0**	**+0.4**
KZA	**Kyzart**	**5.40**	**49**	P	**Pn**	**09 10 24.0**	**+6.3**
	SNR=6.7						
CHMS	**Chumysh**	**5.75**	**39**	P	**Pn**	**09 10 28.6**	**+6.2**
	SNR=6.3						
USP	**Ospenovka**	**5.84**	**36**	P	**Pn**	**09 10 28.5**	**+4.9**
	SNR=18						
TKM2	**Tokmak 2**	**6.14**	**44**	P	**Pn**	**09 10 33.6**	**+5.8**
	SNR=10						
TKM2	**Tokmak 2**	**6.14**	**44**	⇓Pn	**Pn**	**09 10 30.3**	**+2.6**
	comp=E,1.9nm,0.7s						
TKM2				⇓Sn	**Sn**	**09 11 46.4**	**+8.5**
	comp=E,5.9nm,1.1s						
TKM2	**Tokmak 2**	**6.14**	**44**	Pn	**Pn**	**09 10 30.3**	**+2.6**
TKM2				Sn	**Sn**	**09 11 46.4**	**+8.5**
MKAR	**Makanchi Array**	**12.27**	**44**	Pn	**Pn**	**09 11 52.2**	**+0.4**
	comp=E,0.1nm,0.3s,baz=229,slow=14,SNR=6.1						
MKAR	**Makanchi Array**	**12.27**	**44**	Pn	**Pn**	**09 11 52.2**	**+0.4**
AB31	**Akbulak array**	**12.75**	**329**	⇑Pn	**Pn**	**09 11 57.8**	**-0.6**
	comp=E,1.8nm,0.3s,baz=132,slow=22,SNR=19						
AB31				⇓Sn	**Sn**	**09 14 20.3**	**+0.1**
	comp=E,5.5nm,0.7s,baz=147,slow=22,SNR=4.5						
AB31	**Akbulak array**	**12.75**	**329**	Pn	**Pn**	**09 11 57.8**	**-0.6**
AB31				Sn	**Sn**	**09 14 20.3**	**+0.1**
ZRNK	**Zerenda**	**14.32**	**358**	*e*P	**Pn**	**09 12 19.1**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ZRNK	**Zerenda**	**14.32**	**358**	*e*Pn	**Pn**	**09 12 19.1**	**-0.8**
	comp=Z,4.2nm,0.3s						
BVAR	**Borovoye Array**	**14.39**	**1**	Pn	**Pn**	**09 12 19.7**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=175,slow=17,SNR=7.1						
BVAR				Lg		09 16 36.5	
	comp=Z,0.1nm,0.3s,baz=187,slow=23,SNR=2.3						
BRVK	**Borovoye**	**14.43**	**1**	*e*P	**Pn**	**09 12 21.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	**Borovoye**	**14.43**	**1**	*e*P	**Pn**	**09 12 21.1**	**-0.1**
	comp=Z,4.7nm,0.8s						
BRVK				*ep*P	pP	09 12 34.2	+2.3
AKTK	**Aktyubinsk**	**14.45**	**328**	Pn	**Pn**	**09 12 22.7**	**+1.1**
AKTK				Sn	**Sn**	**09 15 03.2**	**+1.5**
AKTK				Lg		09 16 37.3	
AKTO	**Aktyubinsk**	**14.45**	**328**	⇑Pn	**Pn**	**09 12 22.6**	**+1.0**
	comp=Z,0.2nm,0.8s						
AKTO	**Aktyubinsk**	**14.45**	**328**	Pn	**Pn**	**09 12 22.7**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=145,slow=17,SNR=7.1						
AKTO				Sn	**Sn**	**09 15 03.2**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=15,slow=20,SNR=2.3						
AKTO				Lg		09 16 37.3	
	comp=Z,0.1nm,0.3s,baz=193,slow=18,SNR=2.3						
CHKZ	**Chkalovo**	**15.05**	**2**	*e*P	**Pn**	**09 12 29.6**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**15.05**	**2**	*e*Pn	**Pn**	**09 12 29.6**	**-0.1**
	comp=Z,1.0nm,0.5s						
CHKZ				*ep*P	pP	09 12 42.5	+3.7
KOLN	**Koldanda**	**15.83**	**129**	*e*P	**Pn**	**09 12 40.3**	**+0.4**
GKN	**Gorkha**	**16.30**	**126**	*e*P	**Pn**	**09 12 48.2**	**+2.2**
ORR	**Orenburg**	**16.72**	**326**	*e*P	**Pn**	**09 12 51.4**	**+0.1**
ORR				pmax	pmax		
	comp=Z,50nm,1.2s						
KKN	**Kakani**	**16.86**	**125**	*e*P	**Pn**	**09 12 55.2**	**+2.1**
DMN	**Daman**	**16.88**	**126**	*e*P	**Pn**	**09 12 52.9**	**-0.4**
	comp=Z,55nm,1.1s						
PKI	**Pulchoki**	**17.09**	**126**	*e*P	**Pn**	**09 12 56.5**	**+0.5**
NVS	**Novosibirsk**	**18.59**	**25**	*e*P	**Pn**	**09 13 11.2**	**-3.2**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s						
ARU	**Arti**	**19.30**	**341**	⇑*i*P	**Pn**	**09 13 22.2**	**-0.9**
ARU				*e*S	**Sn**	**09 16 57.2**	**-2.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU				MLR	MLR		
	comp=N,80nm,15.0s						
ARU				MLR	MLR		
	comp=Z,100nm,15.0s						
ARU				MLR	MLR		
	comp=E,100nm,17.0s						
ARU	**Arti**	**19.30**	**341**	*e*P	**Pn**	**09 13 21.4**	**-1.7**
	comp=E,3.5nm,0.7s						
GNI	**Garni**	**19.40**	**282**	LR	LR	09 22 22.0	
	comp=E,44nm,18.4s,baz=141,slow=42						
GNI	**Garni**	**19.40**	**282**	*e*P	**Pn**	**09 13 22.2**	**-2.1**
GOF	**Gofitskoye**	**20.88**	**296**	*e*P	**P**	**09 13 42.3**	**+3.1**
KIV	**Kislovodsk**	**21.00**	**293**	*e*P	**P**	**09 13 41.3**	**+0.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,30nm,14.0s,MS2.8						
ZAK	**Zakamensk**	**26.38**	**53**	*e*P	**P**	**09 14 34.5**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.9						
TLY	**Talaya**	**26.93**	**50**	*e*P	**P**	**09 14 39.3**	**+1.0**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
OBN	**Obninsk**	**27.70**	**317**	*i* P	**P**	**09 14 45.3**	**0.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
BRTR	**Keskin Array B**	**27.93**	**284**	P	**P**	**09 14 46.8**	**-0.5**
	comp=Z,0.3nm,0.6s,mb3.1,baz=57,slow=10,SNR=3.2						
ULN	**Ulaanbaatar**	**28.43**	**59**	*e*P	**P**	**09 14 51.9**	**+0.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ULN	**Ulaanbaatar**	**28.43**	**59**	*e*P	**P**	**09 14 51.9**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.5						
CD2	**Chengdu**	**28.83**	**95**	*e*P	**P**	**09 14 54.9**	**-0.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**30.88**	**306**	P	**P**	**09 15 13.0**	**-0.4**
	comp=Z,2.5nm,0.8s,mb4.1,baz=80,slow=7.5,SNR=10						
AKASG	**Malin Array Be**	**30.88**	**306**	P	**P**	**09 15 13.0**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**30.88**	**306**	P	**P**	**09 15 13.0**	**-0.4**
MLR	**Muntele Rosu**	**32.93**	**296**	P	**P**	**09 15 33.5**	**+2.0**
	comp=Z,6.2nm,0.9s,mb4.5,baz=115,slow=4.0,SNR=9.2						
MLR	**Muntele Rosu**	**32.93**	**296**	P	**P**	**09 15 33.5**	**+2.0**
MLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	**FINESS Array B**	**35.18**	**325**	P	**P**	**09 15 50.6**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=114,slow=9.5,SNR=7.4						
**FINES

TIXI				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1							
YSS	**Yuzh-Sakhalins**	**52.40**	**56**⇑	*e*P	**P**	**09 18 07.4**	**-1.9**	
YSS				pmax	pmax			
	comp=Z,15nm,1.7s,mb4.7							
TORD	**Torodi Ar. Bea**	**64.84**	**267**	P	**P**	**09 19 35.1**	**-0.9**	
	comp=Z,1.0nm,0.8s,mb3.9,baz=38,slow=5.1,SNR=6.1							
INK	**Inuvik**	**71.95**	**9**	*e*P	**P**	**09 20 20.4**	**-0.1**	
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**71.95**	**9**	*e*P	**P**	**09 20 20.4**	**-0.1**	
	comp=Z,0.6nm,0.6s,mb3.7							
YKA	**Yellowknife Ar**	**79.15**	**2**	P	**P**	**09 21 00.4**	**-1.4**	
	comp=Z,1.1nm,1.1s,mb3.7,baz=351,slow=5.3,SNR=8.5							
YKA	**Yellowknife Ar**	**79.15**	**2**	P	**P**	**09 21 00.4**	**-1.4**	
YKA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
WRA	**Warramunga Arr**	**83.93**	**121**	P	**P**	**09 21 25.7**	**-1.4**	
	comp=Z,0.9nm,0.8s,mb4.0,baz=322,slow=4.8,SNR=8.6							
WRA	**Warramunga Arr**	**83.93**	**121**	P	**P**	**09 21 25.7**	**-1.4**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRAB	**Tennant Creek**	**83.93**	**121**	*e*P	**P**	**09 21 26.2**	**-0.9**	
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.6							
WRAB	**Tennant Creek**	**83.93**	**121**	*e*P	**P**	**09 21 26.2**	**-0.9**	
	comp=Z,2.7nm,0.6s,mb4.5							
WRAB				*e*pP	pP	09 21 31.1	-0.4	
ASAR	**Alice Springs**	**86.26**	**124**	P	**P**	**09 21 37.2**	**-1.6**	
	comp=Z,0.4nm,0.8s,mb3.7,baz=306,slow=4.6,SNR=6.5							

MAN 11 09:25:04.3, 1738N×12117E, h6km, MS6.5, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.48**	**8**	*e*P	Pg	09 25 14.2	+0.6
APYP				*e*S	Sg	09 25 27.5	+7.7
CVP	**Callao Caves**	**0.70**	**63**	⇓*e*P	Pg	09 25 15.5	-2.2
PIP	**Pasuquin**	**1.07**	**331**	⇓*e*P	Pg	09 25 17.0	-7.8
SGCP	**Mt. Cagua**	**1.19**	**44**	*e*P	Pg	09 25 32.4	+5.2
BOLP	**Bolinao**	**1.56**	**231**	*e*P	Pn	09 25 31.7	-0.8
BALP	**Baler**	**1.68**	**167**	*e*P	Pn	09 25 34.4	+0.2

*STR **11** 09:48:10.3±0.2, 4741N×593E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 11 09:48:10.9±0.1, 4733N×603E, h6km, Md2.0/4, Ml2.1/6, Error ellipse: s-maj=1.9km s-min=1.2km az=132.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.55**	**87**	Pg	Pg	09 48 21.9	+0.5
LOMF				Sg	Sg	09 48 30.7	+2.2
HAU	**Haudompre**	**0.71**	**18**	*e*Pg	Pg	09 48 24.8	+0.2
HAU				*e*Sg	Sg	09 48 34.6	+0.8
	7.8nm,0.2s						
CABF	**La Chapelle**	**0.72**	**177**	*e*Pg	Pg	09 48 24.5	-0.2
CABF				*e*Sg	Sg	09 48 34.4	+0.4
	4.0nm,0.2s						
HINF	**Hinteralfeld**	**0.74**	**48**	*e*Pg	Pg	09 48 24.9	-0.3
HINF				*e*Sg	Sg	09 48 34.7	-0.1
	3.4nm,0.2s						
MOF	**Molkenrain**	**0.91**	**55**	Pg	Pg	09 48 27.9	-0.5
MOF				Sg	Sg	09 48 40.8	+0.5
SFTF	**Sexfontaines**	**1.10**	**323**	*e*Pg	Pg	09 48 31.6	-0.5
	baz=140						
SFTF				*e*Sg	Sg	09 48 45.3	-1.1
	4.0nm,0.3s						
MEZF	**Maizieres J'vi**	**1.35**	**331**	*e*Sg	Sg	09 48 53.4	-0.8
	3.0nm,0.3s						
CDF	**Champ du Feu**	**1.37**	**37**	*e*Pg	Pg	09 48 36.5	-0.7
CDF				*e*Sg	Sg	09 48 54.0	-1.0
	4.0nm,0.3s						
LOR	**Lormes**	**1.48**	**268**	*e*Pg	Pg	09 48 38.5	-0.7
	baz=93						
LOR				*e*Sn	Sn	09 48 54.8	-2.8
LOR				*e*Sg	Sg	09 48 57.2	-1.2
	4.9nm,0.3s						
SMF	**Signal de Mont**	**1.65**	**246**	*e*Pg	Pg	09 48 41.6	-0.8
SMF				*e*Sg	Sg	09 49 02.5	-1.3
	1.7nm,0.2s						
SSF	**Saint Saulge**	**1.74**	**262**	*e*Pg	Pg	09 48 43.7	-0.6
SSF				*e*Sn	Sn	09 49 01.3	-2.8
AVF	**Avril sur Loir**	**1.91**	**255**	*e*Pg	Pg	09 48 46.3	-1.1

*IDC **11** 09:49:23.0±1.0, 175N×9755E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/19, mbtmp4.1/9, Error ellipse: s-maj=33.8km s-min=18.0km az=49.0*
*MOS **11** 09:49:26.5±0.8, 192N×9775E, h33km, mb4.7/8, Error ellipse: s-maj=24.8km s-min=10.7km az=114.3*
*NEIC **11** 09:49:27.6±0.4, 178N×9762E, h30km, mb4.6/5, Error ellipse: s-maj=10.2km s-min=7.4km az=40.0*
*ISCJB **11** 09:49:30.0±2.5, 20N±01×978E±01, h60km±19km, mb4.2/18, Error ellipse: s-maj=22.6km s-min=13.2km az=110.3*

ISC 11 09:49:30.1±2.9, 19N±01×978E±01, h44km±23km, n31, σ0§82/32, mb4.2/18, 3C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.45**	**54**	Pn	**Pn**	**09 49 53.8**	**0.0**
	17nm,0.3s,baz=236,slow=6.0,SNR=164						
KULM	**Kulim**	**4.41**	**41**	*i* Pn	**Pn**	**09 50 35.2**	**+0.8**
KULM				*e*Sn	**Sn**	09 51 23.1	-1.3
QIZ	**Qiongzhong**	**20.70**	**34**	*e*P	**P**	**09 54 08.3**	**+1.8**
	42nm,1.5s						
WRA	**Warramunga Arr**	**41.96**	**123**	P	**P**	**09 57 16.2**	**-0.4**
	0.7nm,0.3s,mb3.8,baz=304,slow=9.1,SNR=14						
WRA				PcP	PcP	09 59 12.2	+0.9
	0.3nm,0.4s,baz=315,slow=2.7,SNR=6.9						
WRAB	**Tennant Creek**	**41.97**	**123**	*e*P	**P**	**09 57 17.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**41.97**	**123**	*e*P	**P**	**09 57 17.1**	**+0.3**
	comp=Z,15nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**43.40**	**128**	P	**P**	**09 57 28.1**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.3,baz=298,slow=7.3,SNR=9.6						
AAK	**Ala-Archa**	**45.55**	**336**	*e*P	**P**	**09 57 46.4**	**+0.9**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.4s,mb4.1						
AAK	**Ala-Archa**	**45.55**	**336**	*e*P	**P**	**09 57 45.5**	**0.0**
SONM	**Songino Array**	**46.33**	**8**	P	**P**	**09 57 51.6**	**0.0**
	comp=Z,1.1nm,0.3s,mb4.2,baz=179,slow=7.7,SNR=8.2						
ULN	**Ulaanbaatar**	**46.45**	**9**⇑	*e*P	**P**	**09 57 51.1**	**-1.5**
MK31	**Makanchi Array**	**46.67**	**345**	P	**P**	**09 57 54.7**	**+0.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**46.67**	**345**	P	**P**	**09 57 54.9**	**+0.6**
	comp=Z,6.8nm,0.8s,mb4.7,baz=157,slow=8.2,SNR=48						
ZAL	**Zalesovo**	**52.91**	**350**	P	**P**	**09 58 42.3**	**+0.5**
	comp=Z,4.4nm,0.4s,mb4.7,baz=318,slow=4.6,SNR=15						
BVA0	**Borovoye Array**	**55.74**	**340**	*i* P	**P**	**09 59 02.0**	**-0.3**
BRVK	**Borovoye**	**55.80**	**340**	*e*P	**P**	**09 59 02.3**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**55.80**	**340**	*e*P	**P**	**09 59 02.3**	**-0.4**
	comp=Z,3.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**56.15**	**339**	*e*P	**P**	**09 59 05.0**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
ZRNK	**Zerenda**	**56.15**	**339**	*e*P	**P**	**09 59 05.0**	**-0.3**
	comp=Z,1.9nm,0.4s,mb4.5						
CHKZ	**Chkalovo**	**56.21**	**341**	*e*P	**P**	**09 59 05.7**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
CHKZ	**Chkalovo**	**56.21**	**341**	*e*P	**P**	**09 59 05.7**	**+0.1**
	comp=Z,7.6nm,0.7s,mb4.8						
AB31	**Akbulak array**	**57.13**	**331**	P	**P**	**09 59 12.5**	**+0.3**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
YSS	**Yuzh-Sakhalins**	**59.43**	**34**⇑	*e*P	**P**	**09 59 29.1**	**+0.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
ARU	**Arti**	**62.72**	**337**	*e*P	**P**	**09 59 48.7**	**-1.9**
HNR	**Honiara**	**62.97**	**102**	*e*P	**P**	**09 59 51.8**	**-0.4**
BRTR	**Keskin Array B**	**69.03**	**312**	P	**P**	**10 00 30.5**	**-0.6**
	comp=Z,0.9nm,1.0s,mb3.6,baz=110,slow=6.7,SNR=3.1						
TIXI	**Tiksi**	**72.37**	**10**	*e*P	**P**	**10 00 53.3**	**+1.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**79.60**	**332**	P	**P**	**10 01 32.0**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=108,slow=6.9,SNR=7.9						
FINES	**FINESS Array B**	**79.60**	**332**⇑	*e*P	**P**	**10 01 32.7**	**+0.1**
ARCES	**ARCESS Array B**	**82.03**	**340**	P	**P**	**10 01 45.3**	**-0.3**
	comp=Z,4.2nm,0.9s,mb4.3,baz=101,slow=5.1,SNR=8.2						
NOA	**NORSAR Array B**	**86.63**	**331**	P	**P**	**10 02 08.9**	**0.0**
	comp=Z,0.8nm,0.8s,mb4.0,baz=114,slow=6.0,SNR=2.9						

*NEIC **11** 09:50:19.0, 3953N×1385W, h0km, MG3.6(MDD), After MDD.*

MDD 11 09:50:19.0±5.3, 3953N×1385W, h0km, mb3.6/4, Error ellipse: s-maj=45.6km s-min=25.0km az=100.0, PRXIMO SIN SOLUCIN, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOB	**Lobios**	**4.98**	**60**	S	Sn	09 52 28.9	-4.4
	0.8nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**4.98**	**60**	S	Sn	09 52 28.9	-4.4
	0.8nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.01**	**46**	P	Pn	09 51 27.9	-7.6
	1.3nm,0.2s,SNR=7.9						
EMAZ				S	Sn	09 52 29.1	-5.0
	0.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.01**	**46**	P	Pn	09 51 27.9	-7.6
	1.3nm,0.2s,SNR=7.9						
EMAZ				S	Sn	09 52 29.1	-5.0
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.37**	**96**	P	Pn	09 51 39.6	-0.8
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	09 52 37.1	-5.8
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.37**	**96**	P	Pn	09 51 39.6	-0.8
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	09 52 37.1	-5.8
	1.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.38**	**110**	P	Pn	09 51 39.2	-1.2
	0.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	09 52 37.7	-5.3
	0.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.38**	**110**	P	Pn	09 51 39.2	-1.2
	0.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	09 52 37.7	-5.3
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.89**	**105**	P	Pn	09 51 46.0	-1.5
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	09 52 51.4	-4.2
	SNR=7.9						
EMIN	**Mina Concepcio**	**5.89**	**105**	P	Pn	09 51 46.0	-1.5
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	09 52 51.4	-4.2
	SNR=7.9						
ECAL	**Calabor**	**5.91**	**64**	S	Sn	09 52 52.0	-4.3
	SNR=7.9						

*CSEM **11** 10:01:16.1, 3616N×2344E, h52km, MD3.4/11, After ATH*
*NEIC **11** 10:01:16.1, 3616N×2344E, h52km, MG3.4(ATH), After ATH.*

ATH 11 10:01:16.0, 3616N×2343E, h54km±4km, MD3.4/10, ML3.4, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.34**	**291**	*e*P	Pn	10 01 26.5	+0.6
VLI	**Veliai**	**0.68**	**325**	⇓*i*P	Pn	10 01 30.3	+0.6
VLI				*e*S	Sn	10 01 40.4	+0.7
VAM	**Vamos**	**0.98**	**140**	*e*P	Pn	10 01 34.6	+1.1
VAM				*e*S	Sn	10 01 47.8	+1.4
ITM	**Ithomi**	**1.58**	**311**	*e*P	Pn	10 01 42.4	+0.8
NAIG	**Nisos Aigina**	**1.60**	**2**	*e*P	Pn	10 01 42.5	+0.7
KVR	**Kavouri**	**1.69**	**9**	*e*P	Pn	10 01 44.0	+0.9
KVR				*e*S	Sn	10 02 05.5	+1.9
ATH	**Athens Observa**	**1.82**	**7**	*e*P	Pn	10 01 45.8	+0.9
PTL	**Penteli**	**1.92**	**10**	*e*P	Pn	10 01 47.5	+1.3
PTL				*e*S	Sn	10 02 10.5	+1.3
APE	**Apeiranthos**	**1.92**	**61**	*e*P	Pn	10 01 48.0	+1.8
NPS	**Neapolis**	**1.99**	**116**	*e*P	Pn	10 01 48.6	+1.4
NPS				*e*S	Sn	10 02 11.6	+0.7
LKR	**Lokris**	**2.51**	**352**	*e*Pn	Pn	10 01 55.3	+1.0
EVR	**Evrytania**	**3.04**	**335**	*e*P	Pn	10 02 05.0	+3.4

*ISCJB **11** 10:01:25.8±0.4, 4067N±002×2305E±003, h12km±3km, Error ellipse: s-maj=3.9km s-min=3.3km az=41.3*
*ATH **11** 10:01:25.5, 4059N×2317E, h37km±2km, MD3.3/5*
*CSEM **11** 10:01:25.7±0.2, 4065N×2308E, h17km±2km, ML2.5, Error ellipse: s-maj=3.8km s-min=3.4km az=158.0*
*THE **11** 10:01:26.6, 4067N×2302E, h6km, ML2.5*
*NEIC **11** 10:01:26.8, 4066N×2306E, h1km, MD3.3(ATH), ML2.5(THE), After THE.*

ISC 11 10:01:25.9±0.4, 4066N±003×2307E±003, h15km±3km, n25, σ0§88/49, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.09**	**252**	*e*Pg	**Pg**	**10 01 28.2**	**-0.8**
THE				*e*Sg	**Sg**	**10 01 29.8**	**-1.3**
THE	**Thessaloniki**	**0.09**	**252**	P	**Pg**	**10 01 28.4**	**-0.6**
THE				S	**Sg**	**10 01 29.8**	**-1.3**
THE	**Thessaloniki**	**0.09**	**252**	*e*Pg	**Pg**	**10 01 28.2**	**-0.9**
THE				*e*Sg	**Sg**	**10 01 29.8**	**-1.3**
SOH	**Sokhos**	**0.27**	**53**	*e*Pg	**Pg**	**10 01 32.4**	**+0.6**
SOH				*e*Sg	**Sg**	**10 01 36.4**	**+0.8**
SOH	**Sokhos**	**0.27**	**53**	P	**Pg**	**10 01 32.4**	**+0.6**
SOH				S	**Sg**	**10 01 36.8**	**+1.1**
SOH	**Sokhos**	**0.27**	**53**	*e*Pg	**Pg**	**10 01 32.3**	**+0.6**
SOH				*e*Sg	**Sg**	**10 01 36.4**	**+0.8**
PLG	**Polygyros**	**0.40**	**135**	⇑*i*PB	**Pg**	**10 01 33.8**	**-0.3**
PLG				*e*SB	**Sg**	**10 01 39.0**	**-0.6**
KNT	**Kendrikon**	**0.52**	**345**	*e*Pg	**Pg**	**10 01 36.5**	**+0.3**
KNT				*e*Sg	**Sg**	**10 01 43.4**	**+0.2**
KNT	**Kendrikon**	**0.52**	**345**	P	**Pg**	**10 01 36.5**	**+0.3**
KNT				S	**Sg**	**10 01 43.5**	**+0.3**
GRG	**Griva**	**0.59**	**301**	*e*Pg	**Pg**	**10 01 36.5**	**-1.0**
GRG				*e*Sg	**Sg**	**10 01 45.2**	**-0.2**
GRG	**Griva**	**0.59**	**301**	P	**Pg**	**10 01 37.3**	**-0.2**
GRG				S	**Sg**	**10 01 46.6**	**+1.2**
LIT	**Litokhoron**	**0.71**	**219**	*e*Pg	**Pg**	**10 01 39.8**	**-0.1**
LIT				*e*Sg	**Sg**	**10 01 49.4**	**+0.1**
LIT	**Litokhoron**	**0.71**	**219**	P	**Pg**	**10 01 39.8**	**-0.1**
LIT				S	**Sg**	**10 01 50.6**	**+1.3**
LIT	**Litokhoron**	**0.71**	**219**	*e*Pg	**Pg**	**10 01 39.8**	**0.0**
LIT				*e*Sg	**Sg**	**10 01 49.3**	**0.0**
LIT				S	**Sg**	**10 01 50.6**	**+1.3**
VAY	**Valandovo**	**0.76**	**330**	*i* Pg	**Pg**	**10 01 40.6**	**-0.2**
VAY				*e*Sg	**Sg**	**10 01 50.9**	**0.0**
	comp=N,51nm,0.4s						
VAY				*e*Lg		10 01 51.8	
	comp=E,73nm,0.3s						
VAY	**Valandovo**	**0.76**	**330**	*i* Pg	**Pg**	**10 01 40.5**	**-0.3**
VAY				*e*Sg	**Sg**	**10 01 50.8**	**-0.1**
OUR	**Ouranopolis**	**0.77**	**115**	*e*Pg	**Pg**	**10 01 42.0**	**+1.1**
OUR				*e*Sg	**Sg**	**10 01 53.5**	**+2.5**
OUR	**Ouranopolis**	**0.77**	**115**	P	**Pg**	**10 01 42.0**	**+1.2**
OUR				S	**Sg**	**10 01 52.1**	**+1.2**
OUR	**Ouranopolis**	**0.77**	**115**	P	**Pg**	**10 01 42.0**	**+1.1**
OUR				S	**Sg**	**10 01 52.1**	**+1.1**
NVR	**Nevrokopi**	**0.91**	**41**	*e*PN	**Pn**	**10 01 43.7**	**-0.5**
NVR				*e*SN	**Sn**	**10 01 55.9**	**-1.2**
KZN	**Kozani**	**1.05**	**251**	*e*PN	**Pn**	**10 01 46.5**	**+0.4**
KZN				*e*SN	**Sn**	**10 02 01.3**	**+0.8**
FNA	**Florina**	**1.29**	**276**	*e*Pg	**Pg**	**10 01 50.4**	**-0.5**
FNA				*e*Sg	**Sg**	**10 02 07.7**	**0.0**
FNA	**Florina**	**1.29**	**276**	P	**Pn**	**10 01 50.6**	**+1.2**
FNA				S	**Sb**	**10 02 10.0**	**+3.6**
NEO	**Neokhori**	**1.35**	**175**	*e*PN	**Pn**	**10 01 48.6**	**-1.7**
RDO	**Rodhopi**	**1.93**	**75**	*e*PN	**Pn**	**10 01 57.3**	**-0.9**

*IDC **11** 10:01:48.5±1.1, 4023N×11094W, h0km, mb2.7/1, mb1 3.5/5, mb1mx3.4/25, mbtmp3.3/5, ML2.6/3, Error ellipse: s-maj=16.6km s-min=8.1km az=128.0*
*ISCJB **11** 10:01:50.3±0.2, 4025N±002×111.12W±002, h10km, mb2.7/1, Error ellipse: s-maj=2.5km s-min=2.3km az=99.8*
*NEIC **11** 10:01:50.0, 4025N×11107W, h10km, ML3.4(SLC), MW3.5(SLM), After SLC.*
NEIC Felt at Provo.

ISC 11 10:01:51.6±0.2, 4026N±002×11113W±002, h10km, n82, σ1§33/114, mb2.7/1, 13C-13D, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAU	**Daniels Canyon**	**0.19**	**328**	*e*Pg	**Pg**	**10 01 55.2**	**-0.4**
MPU	**Maple Canyon**	**0.46**	**239**	*e*Pg	**Pg**	**10 01 60.0**	**-0.5**
CTU	**Camp Tracy**	**0.65**	**313**	*e*Pg	**Pg**	**10 02 03.3**	**-0.8**
NLU	**North Lily Min**	**0.79**	**248**	*e*Pg	**Pg**	**10 02 06.3**	**-0.5**
NLU				*e*Sg	**Sg**	**10 02 16.0**	**-1.0**
NOQ	**North Oquirrh**	**0.86**	**298**	*e*Pg	**Pg**	**10 02 07.5**	**-0.6**
NOQ				*e*Sg	**Sg**	**10 02 18.7**	**-0.6**
TCUT	**Toone Canyon**	**0.89**	**346**	*e*Pg	**Pg**	**10 02 07.5**	**-1.2**
TCUT				*e*Sg	**Sg**	**10 02 19.7**	**-0.6**
TMUT	**Trail Mountain**	**0.96**	**184**	*e*Pg	**Pg**	**10 02 08.0**	**-2.0**
TMUT				*e*Sg	**Sg**	**10 02 21.2**	**-1.3**
SRU	**San Rafael**	**1.23**	**158**	*e*Pg	**Pg**	**10 02 12.1**	**-3.2**
SRU				*e*Sg	**Sg**	**10 02 27.5**	**-3.8**
DUG	**Dugway**	**1.29**	**268**	*e*Pg	**Pg**	**10 02 13.8**	**-2.7**
DUG				*e*Sg	**Sg**	**10 02 33.8**	**+0.6**
HWUT	**Hardware Ranch**	**1.39**	**346**	*e*Pn	**Pn**	**10 02 16.0**	**-1.0**
HWUT				*e*Sn	**Sn**	**10 02 32.1**	**-3.3**
SPUT	**South Promonto**	**1.46**	**317**	*e*Pn	**Pn**	**10 02 16.3**	**-1.6**
SPUT				*e*Sn	**Sn**	**10 02 36.0**	**-1.0**
BGU	**Big Grassy Mou**	**1.60**	**295**	*e*Pn	**Pn**	**10 02 17.7**	**-2.1**
BGU				*e*Sn	**Sn**	**10 02 40.2**	**-0.4**
MSU	**Marysvale**	**1.92**	**205**	*e*Pn	**Pn**	**10 02 23.7**	**-0.6**
MSU				*e*Sn	**Sn**	**10 02 50.6**	**+2.1**
HVU	**Hansel Valley**	**1.97**	**321**	*e*Pn	**Pn**	**10 02 23.6**	**-1.4**
HVU				*e*Sn	**Sn**	**10 02 52.1**	**+2.4**
N13A	**West Wendover**	**2.42**	**285**	P	**Pn**	**10 02 29.4**	**-1.9**
	baz=2.5,SNR=28						
PV10	**Paradox Valley**	**2.48**	**139**	*e*Pn	**Pn**	**10 02 32.3**	**+0.3**
AHID	**Auburn Hatcher**	**2.51**	**0**	*e*Pn	**Pn**	**10 02 32.6**	**+0.2**
AHID				*e*Sn	**Sn**	**10 03 06.8**	**+3.7**
M13A	**Montello**	**2.56**	**297**	⇑P	**Pn**	**10 02 31.4**	**-1.7**
	baz=2.6,SNR=28						
BW06	**Boulder Array**	**2.77**	**25**	*e*Pn	**Pn**	**10 02 36.1**	**+0.1**
BW06				*e*Sn	**Sn**	**10 03 15.1**	**+5.5**
PDAR	**Pinedale Array**	**2.77**	**25**	Pn	**Pn**	**10 02 35.0**	**-1.1**
	5.6nm,0.3s,baz=211,slow=12,SNR=106						
PDAR				Pg	**Pg**	**10 02 40.2**	**-4.5**
	16nm,0.3s,baz=192,slow=13,SNR=70						
PDAR				Lg		10 03 15.2	
	29nm,0.3s,baz=205,slow=28,SNR=17						
PV01	**Paradox Valley**	**2.90**	**136**	*e*Pn	**Pn**	**10 02 37.3**	**-0.5**
PV01				*e*Sn	**Sn**	**10 03 12.2**	**-0.6**
P12A	**McGill**	**3.02**	**256**	⇓P	**Pn**	**10 02 39.2**	**-0.2**
	baz=3.0,SNR=20						
N12A	**Wells--Clov Va**	**3.04**	**283**	⇓P	**Pn**	**10 02 39.4**	**-0.4**
	baz=3.1,SNR=25						
ARUT	**Antelope Range**	**3.05**	**217**	*e*Pn	**Pn**	**10 02 40.4**	**+0.5**
M12A	**Wells**	**3.10**	**293**	P	**Pn**	**10 02 39.6**	**-1.0**
	baz=3.1,SNR=54						
REDW	**Red Top Meadow**	**3.11**	**4**	*e*Pn	**Pn**	**10 02 39.9**	**-0.8**
REDW				*e*Sn	**Sn**	**10 03 24.1**	**+6.2**
ELK	**Elko**	**3.17**	**280**	*e*Pn	**Pn**	**10 02 42.6**	**+1.1**
ELK				*e*Sg	**Sg**	**10 03 30.8**	**-2.8**
CCUT	**Cedar City**	**3.21**	**214**	*e*Pn	**Pn**	**10 02 42.5**	**+0.3**
CCUT				*e*Sn	**Sn**	**10 03 21.1**	**+0.7**
TPAW	**Teton Pass**	**3.24**	**2**	*e*Pn	**Pn**	**10 02 41.9**	**-0.6**
TPAW				Sn	**Sn**	**10 03 28.8**	**+7.8**
RWWY	**Rawlins**	**3.29**	**63**	*e*Pn	**Pn**	**10 02 43.4**	**+0.2**
RWWY				*e*Sn	**Sn**	**10 03 24.9**	**+2.5**
DCID1	**Drake Creek**	**3.34**	**359**	*e*Pn	**Pn**	**10 02 45.4**	**+1.6**
DCID1				*e*Sn	**Sn**	**10 03 25.1**	**+1.6**
LOHW	**Long Hollow**	**3.38**	**6**	*e*Pn	**Pn**	**10 02 42.9**	**-1.4**
LOHW				*e*Sn	**Sn**	**10 03 32.8**	**+8.3**
SMCO	**Snowmass**	**3.38**	**107**	*e*Pn	**Pn**	**10 02 43.7**	**-0.6**
SMCO				*e*Sn	**Sn**	**10 03 25.3**	**+0.8**
MOOW	**Moose Ponds**	**3.50**	**5**	*e*Pn	**Pn**	**10 02 45.3**	**-0.8**
N11A	**Elko Archery C**	**3.56**	**281**	⇓P	**Pn**	**10 02 45.8**	**-1.1**
	baz=3.6						
IMW	**Indian Meadow**	**3.64**	**2**	*e*Pn	**Pn**	**10 02 47.4**	**-0.6**
MVCO	**Mesa Verde**	**3.67**	**145**	*e*Pn	**Pn**	**10 02 47.9**	**-0.5**
MVCO				*e*Sn	**Sn**	**10 03 41.0**	**+9.3**
M11A	**Holland Ranch,**	**3.73**	**290**	⇑P	**Pn**	**10 02 48.2**	**-1.0**
	baz=3.8,SNR=8.2						
FLWY	**Flagg Ranch**	**3.84**	**5**	*e*Pn	**Pn**	**10 02 50.9**	**+0.2**
HLID	**Hailey**	**4.12**	**324**	*e*Pn	**Pn**	**10 02 55.5**	**+0.9**
ISCO	**Idaho Springs**	**4.26**	**94**	*e*Pn	**Pn**	**10 02 57.6**	**+1.2**
ISCO				*e*Sn	**Sb**	**10 03 56.5**	**-1.4**
M10A	**I.L. Ranch, Tu**	**4.29**	**289**	⇓P	**Pn**	**10 02 56.9**	**-0.1**
	baz=4.3						
YMR	**Madison River**	**4.41**	**1**	*e*Pn	**Pn**	**10 03 05.7**	**+7.1**
PHWY	**Pilot H

0.2nm,0.3s,baz=233,slow=10,SNR=5.4
YKA Yellowknife Ar 22.37 356 P **P 10 06 47.9 -1.9**
0.2nm,0.6s,mb2.7,baz=172,slow=10.0,SNR=5.5

MOS 11 10:09:01.1±0.0,5463N×16920E,h113km,mb4.6/2,6C, Error ellipse: s-maj=53.8km s-min=37.3km az=116.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.45**	**260⇑**	*e*PN	Pn	10 10 34.9	+1.4
TIXI	**Tiksi**	**24.20**	**330⇑**	*e*P	P	10 14 07.7	+0.7
ULN	**Ulaanbaatar**	**38.33**	**286⇑**	*e*P	P	10 16 12.0	+1.2
LVZ	**Lovozero**	**53.22**	**340⇑**	*e*P	P	10 18 09.2	+1.5
AAK	**Ala-Archa**	**59.08**	**301⇑**	*e*P	P	10 18 50.8	+1.4
AAK				pmax	pmax		
comp=Z,2.0nm,0.5s							
KIV	**Kislovodsk**	**71.77**	**322⇑**	*e*P	P	10 20 12.5	+1.4
KIV				pmax	pmax		
comp=Z,7.0nm,0.9s							

NNC 11 10:17:27.6±3.1,3871N×6946E,h15km±12km,mb3.6, mpv3.4,6C-2D,Error ellipse: s-maj=22.1km s-min=14.9km az=176.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.46**	**10**	⇑Pn	Pn	10 18 36.7	+2.0
8.8nm,0.6s,baz=310,slow=7.0,SNR=23							
KK31				⇓Pg	Pg	10 18 49.5	-3.5
8.1nm,0.5s,baz=186,slow=13,SNR=17							
KK31				⇓Lg		10 19 48.6	
25nm,0.7s,baz=191,slow=29,SNR=7.1							
TKM2	**Tokmak 2**	**6.28**	**46**	⇑Pn	Pn	10 18 58.2	-1.4
0.4nm,0.5s							
TKM2				⇑Sn	Sn	10 20 13.8	+2.7
1.4nm,0.8s							
AB31	**Akbulak array**	**12.56**	**330**	⇑Pn	Pn	10 20 25.8	+0.1
0.9nm,0.3s,baz=148,slow=14,SNR=28							
AB31				⇑Sn	Sn	10 22 46.5	+1.1
0.7nm,0.5s,baz=157,slow=22,SNR=3.0							
AKTO	**Aktyubinsk**	**14.26**	**329**	⇑Pn	Pn	10 20 50.6	+1.7
0.1nm,0.6s							

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*ISCJB **11** 10:30:14.9±0.5,2147S±005×33.14E±005,h10km,mb3.9/8, MS3.9/2,Error ellipse: s-maj=8.2km s-min=5.6km az=111.3*
*PRE **11** 10:30:14.8±1.6,2144S×3327E,h5km,ML4.8*
*BJI **11** 10:30:14.9,2140S×3330E,h10km,mB5.4,Ms4.6,Msz4.3*
*IDC **11** 10:30:15.9±0.8,2136S×3325E,h0km,mb4.1/6, mb1 4.4/12,mb1mx4.1/26,mbtmp4.3/12,ML4.6/6,MS3.3/7, Ms1 3.3/7,ms1mx3.1/24,Error ellipse: s-maj=21.3km s-min=15.9km az=4.0*
*NEIC **11** 10:30:16.9±0.6,2138S×3325E,h10km,mb4.2/2,Error ellipse: s-maj=15.0km s-min=11.0km az=163.0*
ISC 11 10:30:16.8±0.5,2150S±005×3322E±005,h10km,n34, σ1°53/47,mb3.9/8,MS3.9/2,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.54**	**283**	Pn	**Pn**	**10 31 26.9**	**+1.4**
31nm,0.3s,baz=95,slow=14,SNR=410							
MATP				Sn	**Sn**	**10 32 17.7**	**-0.6**
62nm,0.3s,baz=242,slow=23,SNR=10.0							
MATP				Lg		10 32 36.6	
253nm,0.3s,baz=354,slow=22,SNR=16							
MATP				LR	LR	10 33 25.0	
comp=Z,397nm,19.4s,baz=102,slow=42							
MATP	**Matopo**	**4.54**	**283**	Pn	**Pn**	**10 31 26.9**	**+1.4**
MATP				Sn	**Sn**	**10 32 17.7**	**-0.6**
MATP				Lg		10 32 36.6	
POGA	**Pongola**	**6.03**	**194**	*e*P	**Pn**	**10 31 45.0**	**-0.9**
POGA				*e*S	**Sn**	**10 32 52.3**	**-2.7**
POGA				AML	AML	10 33 37.0	
comp=Z,182nm,0.5s							
ERPM	**east rand prop**	**6.56**	**223**	*e*P	**Pn**	**10 31 55.0**	**+1.7**
ERPM				*e*S	**Sn**	**10 33 07.5**	**-0.7**
ERPM				AML	AML	10 33 59.8	
comp=Z,137nm,0.7s							
KSR	**Koster**	**7.24**	**232**	*e*P	**Pn**	**10 32 04.0**	**+1.4**
KSR				*e*S	**Sn**	**10 33 22.7**	**-2.0**
KSR				AML	AML	10 34 05.1	
comp=Z,92nm,0.6s							
LSZ	**Lusaka**	**7.82**	**322**	Pn	**Pn**	**10 32 09.1**	**-1.4**
comp=Z,9.9nm,0.3s,baz=147,slow=15,SNR=39							
LSZ				Sn	**Sn**	**10 33 31.9**	**-7.1**
comp=Z,20nm,0.3s,baz=61,slow=15,SNR=9.5							
LSZ				Lg		10 34 17.8	
comp=Z,41nm,0.3s,baz=43,slow=12,SNR=20							
LSZ				LR	LR	10 35 23.2	
comp=Z,174nm,20.6s,baz=141,slow=40							
LSZ	**Lusaka**	**7.82**	**322**	*e*Pn	**Pn**	**10 32 08.9**	**-1.6**
comp=Z,26nm,0.4s							
LSZ				*e*Sn	**Sn**	**10 33 31.4**	**-7.7**
LSZ				*e*Sg	Sn	10 34 16.1	+37
LBTB	**Lobatse**	**7.83**	**242**	*e*P	**Pn**	**10 32 11.7**	**+0.9**
LBTB				*e*S	**Sn**	**10 33 36.1**	**-3.4**
LBTB				AML	AML	10 34 28.6	
comp=Z,156nm,0.6s							
LBTB	**Lobatse**	**7.83**	**242**	Pn	**Pn**	**10 32 12.8**	**+2.0**
comp=Z,9.1nm,0.3s,baz=65,slow=14,SNR=119							
LBTB				Sn	**Sn**	**10 33 40.4**	**+0.8**
comp=Z,9.1nm,0.3s,baz=359,slow=7.7,SNR=5.8							
LBTB				Lg		10 34 18.8	
comp=Z,9.9nm,0.3s,baz=146,slow=21,SNR=5.9							
LBTB				LR	LR	10 35 34.0	
comp=Z,106nm,19.8s,baz=328,slow=40							
LBTB	**Lobatse**	**7.83**	**242**	*e*Pn	**Pn**	**10 32 12.7**	**+1.9**
comp=Z,34nm,0.6s							
LBTB				*e*Sn	**Sn**	**10 33 39.4**	**-0.1**
SWZ	**Schweizer**	**9.15**	**230**	*e*P	**Pn**	**10 32 30.1**	**+1.3**
SWZ				*e*S	**Sn**	**10 34 07.8**	**-4.1**
SWZ				AML	AML	10 35 26.0	
comp=Z,80nm,0.7s							
BOSA	**Boshof**	**10.11**	**224**	Pn	**Pn**	**10 32 42.8**	**+0.7**
comp=Z,4.2nm,0.3s,baz=55,slow=12,SNR=55							
BOSA				Sn	**Sn**	**10 34 31.0**	**-4.5**
comp=Z,4.8nm,0.3s,baz=322,slow=19,SNR=6.9							
BOSA				Lg		10 35 39.5	
comp=Z,4.6nm,0.3s,baz=134,slow=14,SNR=5.1							
BOSA				LR	LR	10 36 58.4	
comp=Z,134nm,19.4s,baz=330,slow=39							
BOSA	**Boshof**	**10.11**	**224**	*e*Pn	**Pn**	**10 32 42.4**	**+0.3**
comp=Z,1.6nm,0.8s							
UPI	**Upington**	**12.82**	**235**	*e*P	**Pn**	**10 33 20.0**	**+0.9**
OPO	**Ambohidratompo**	**13.45**	**80**	Pn	**Pn**	**10 33 26.2**	**-1.4**
comp=Z,1.0nm,0.3s,baz=256,slow=13,SNR=8.7							
OPO				Sn	**Sn**	**10 35 45.3**	**-12**
comp=Z,2.3nm,0.3s,baz=295,slow=19,SNR=5.9							
TSUM	**Tsumeb**	**14.84**	**276**	Pn	**Pn**	**10 33 44.6**	**-2.1**
comp=Z,2.5nm,0.3s,baz=107,slow=12,SNR=55							
TSUM				Sn	**Sn**	**10 36 27.8**	**-3.3**
comp=Z,0.5nm,0.3s,baz=92,slow=19,SNR=4.1							
TSUM				Lg		10 38 00.6	
comp=Z,1.4nm,0.3s,baz=216,slow=21,SNR=5.5							
TSUM				LR	LR	10 39 36.7	
comp=Z,122nm,19.6s,baz=144,slow=38							
TSUM	**Tsumeb**	**14.84**	**276**	*e*Pn	**Pn**	**10 33 44.5**	**-2.1**
comp=Z,12nm,0.6s							
SUR	**Sutherland**	**15.47**	**223**	*e*P	**Pn**	**10 33 56.7**	**+1.7**
SUR				*e*S	**Sn**	**10 36 39.4**	**-7.1**
SUR	**Sutherland**	**15.47**	**223**	Pn	**Pn**	**10 33 57.0**	**+2.0**
comp=Z,3.4nm,0.3s,baz=57,slow=12,SNR=37							
SUR				Sn	**Sn**	**10 36 39.8**	**-6.7**
comp=Z,1.9nm,0.3s,baz=343,slow=19,SNR=3.8							
SUR				Lg		10 38 20.9	
baz=139,slow=19,SNR=3.3							
SUR				LR	LR	10 40 13.9	
comp=Z,122nm,20.0s,baz=96,slow=38							
SUR	**Sutherland**	**15.47**	**223**	*e*Pn	**Pn**	**10 33 56.5**	**+1.5**
comp=Z,14nm,0.6s							
TORD	**Torodi Ar. Bea**	**46.30**	**315**	P	**P**	**10 38 42.9**	**+0.3**
comp=Z,1.9nm,0.6s,mb4.2,baz=128,slow=7.2,SNR=36							
TORD				PP	PP	10 40 32.1	+1.0
comp=Z,0.9nm,0.8s,baz=140,slow=8.8,SNR=3.6							
DBIC	**Dimbokro**	**46.67**	**303**	P	**P**	**10 38 48.0**	**+2.5**
comp=Z,1.5nm,0.5s,mb4.2,baz=85,slow=9.7,SNR=4.2							
ESDC	**Sonseca Array**	**70.06**	**330**	P	**P**	**10 41 31.7**	**+2.8**
comp=Z,0.2nm,0.4s,mb3.4,baz=145,slow=4.4,SNR=4.8							
BDFB	**Brasilia**	**76.45**	**258**	P	**P**	**10 42 08.7**	**+2.0**
comp=Z,1.3nm,0.4s,mb4.2,baz=164,slow=14,SNR=3.5							
VNDA	**Vanda**	**76.75**	**170**	P	**P**	**10 42 10.0**	**+1.6**
comp=Z,1.9nm,0.8s,mb4.1,baz=256,slow=11,SNR=2.2							
ZRNK	**Zerenda**	**80.38**	**21**	*e*P	**P**	**10 42 26.6**	**-1.8**
comp=Z,0.9nm,0.6s,mb3.9							
MKAR	**Makanchi Array**	**81.11**	**32**	P	**P**	**10 42 31.2**	**-1.1**
comp=Z,0.5nm,0.8s,mb3.5,baz=243,slow=9.5,SNR=3.2							
CPUP	**Villa Florida**	**81.22**	**245**	LR	LR	11 13 22.0	
comp=Z,27nm,20.3s,MS3.6,baz=16,slow=32							
WMQ	**Urumqi**	**81.94**	**37**	*e*P	**P**	**10 42 36.0**	**-0.6**
WMQ				AMB	AMB		
comp=Z,80nm,3.0s							
CD2	**Chengdu**	**85.39**	**54**	*e*P	**P**	**10 42 53.4**	**-0.9**
ASAR	**Alice Springs**	**90.74**	**116**	P	**P**	**10 43 20.8**	**+0.8**
comp=Z,0.6nm,0.6s,mb4.1,baz=239,slow=4.1,SNR=12							
HHC	**Hu-ho-hao-te**	**95.43**	**48**	*e*P	**P**	**10 43 41.5**	**-0.1**
HHC				AP	pP	10 43 46.3	+1.4
HHC				XP	sP	10 43 48.5	+2.4
HHC				PP	PP	10 47 34.5	+2.4
HHC				SKS		10 54 15.5	
HHC				S		10 54 53.9	
HHC				XS	sS	10 55 02.8	-0.7
HHC				PS	PS	10 56 19.5	+3.1
HHC				SS	SS	11 01 27.2	+1.9
HHC				AMB	AMB		
comp=Z,40nm,3.7s							
HHC				LR	LR		
comp=N,40nm,13.1s,MS4.2							
HHC				LR	LR		
comp=E,50nm,15.5s,MS4.2							
HHC				LR	LR		
comp=Z,40nm,22.6s							
YKA	**Yellowknife Ar**	**133.53**	**340**	PKP	PKPdf	10 49 33.4	0.0
comp=Z,0.1nm,0.5s,baz=52,slow=1.9,SNR=3.6							
NVAR	**Mina Array Bea**	**150.28**	**311**	PKPbc	PKPbc	10 50 10.8	+2.6
comp=Z,0.5nm,0.8s,baz=78,slow=4.9,SNR=3.7							

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*ISCJB **11** 10:40:25.4±0.6,3212S±006×1796E±0.1,h353km±8km, mb3.9/7,Error ellipse: s-maj=16.0km s-min=7.4km az=42.3*
*NEIC **11** 10:40:25.4±0.5,3208S×17989E,h356km±6km,mb4.1/4, Error ellipse: s-maj=11.5km s-min=6.9km az=112.0*
*IDC **11** 10:40:26.5±1.3,3196S×17976E,h361km±13km,mb3.8/5, mb1 4.1/9,mb1mx3.8/16,mbtmp4.8/9,Error ellipse: s-maj=17.9km s-min=12.6km az=154.0*
ISC 11 10:40:25.7±0.7,3211S±006×1798E±01,h346km±8km,n86, σ1°00/90,mb3.9/7,1C-3D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.47**	**35**	P	**Pn**	**10 41 28.5**	**-0.7**
13nm,0.3s,baz=90,slow=20,SNR=3.0							
RAO				S	**S**	**10 42 15.0**	**-5.2**
216nm,0.3s,baz=80,slow=22,SNR=6.9							
MXZ	**Matakaoa Point**	**5.57**	**192**	PN	**Pn**	**10 41 52.5**	**+1.1**
MXZ				*e*SN	**S**	**10 42 59.9**	**-1.0**
MXZ	**Matakaoa Point**	**5.57**	**192**	*e*P	**Pn**	**10 41 55.9**	**+4.4**
MXZ				S	**S**	**10 43 01.7**	**+0.8**
WIZ	**White Island**	**5.81**	**201**	*e*PN	**Pn**	**10 41 59.0**	**+4.9**
WIZ	**White Island**	**5.81**	**201**	P	**Pn**	**10 41 59.0**	**+4.9**
PUZ	**Puketiti**	**6.08**	**191**	PN	**Pn**	**10 41 57.8**	**+0.6**
PUZ				*e*SN	**S**	**10 43 10.4**	**-1.0**
PUZ	**Puketiti**	**6.08**	**191**	*e*P	**Pn**	**10 41 58.3**	**+1.1**
PUZ				S	**S**	**10 43 11.5**	**+0.1**
MWZ	**Matawai**	**6.48**	**196**	*e*PN	**Pn**	**10 42 02.4**	**+0.5**
MWZ				*e*SN	**S**	**10 43 20.7**	**+0.8**
MWZ	**Matawai**	**6.48**	**196**	*e*P	**Pn**	**10 42 02.6**	**+0.8**
URZ	**Urewera**	**6.51**	**199**	P	**Pn**	**10 42 03.9**	**+1.7**
51nm,0.3s,baz=6.3,slow=1.5,SNR=138							
URZ				S	**S**	**10 43 21.0**	**+0.5**
27nm,0.3s,baz=84,slow=21,SNR=20							
URZ	**Urewera**	**6.51**	**199**	PN	**Pn**	**10 42 02.2**	**0.0**
URZ				*e*SN	**S**	**10 43 19.2**	**-1.4**
URZ	**Urewera**	**6.51**	**199**	*e*P	**Pn**	**10 42 02.8**	**+0.6**
TAZ	**Tarawera**	**6.67**	**203**	*e*PN	**Pn**	**10 42 08.8**	**+4.8**
TAZ	**Tarawera**	**6.67**	**203**	P	**Pn**	**10 42 09.5**	**+5.5**
PATZ	**Paeroa**	**6.89**	**204**	PN	**Pn**	**10 42 11.5**	**+4.9**
PATZ	**Paeroa**	**6.89**	**204**	P	**Pn**	**10 42 11.5**	**+4.9**
KNZ	**Kokohu**	**7.11**	**193**	PN	**Pn**	**10 42 09.2**	**+0.1**
KNZ				*e*SN	**S**	**10 43 30.8**	**-2.5**
KNZ	**Kokohu**	**7.11**	**193**	*e*P	**Pn**	**10 42 09.7**	**+0.6**
BKZ	**Black Stump Fm**	**7.53**	**200**	PN	**Pn**	**10 42 16.1**	**+2.0**
BKZ	**Black Stump Fm**	**7.53**	**200**	*e*P	**Pn**	**10 42 16.2**	**+2.0**
HIZ	**Hauiti**	**7.55**	**211**	PN	**Pn**	**10 42 20.4**	**+6.0**
HIZ	**Hauiti**	**7.55**	**211**	P	**Pn**	**10 42 20.8**	**+6.4**
FWVZ	**Far West T-bar**	**7.92**	**205**	PN	**Pn**	**10 42 21.5**	**+2.8**
FWVZ	**Far West T-bar**	**7.92**	**205**	P	**Pn**	**10 42 21.5**	**+2.8**
MOVZ	**Moawhango**	**7.98**	**203**	*e*PN	**Pn**	**10 42 21.5**	**+2.0**
MOVZ	**Moawhango**	**7.98**	**203**	P	**Pn**	**10 42 21.2**	**+1.7**
PXZ	**Pawanui**	**8.25**	**196**	*e*PN	**Pn**	**10 42 21.0**	**-1.6**
PXZ				*e*SN	**S**	**10 43 53.5**	**-4.6**
TSZ	**Takapari Road**	**8.51**	**200**	*e*PN	**Pn**	**10 42 25.6**	**-0.2**
TSZ				*e*SN	**S**	**10 44 00.2**	**-3.7**
TSZ	**Takapari Road**	**8.51**	**200**	P	**Pn**	**10 42 25.8**	**0.0**
BFZ	**Birch Farm**	**9.01**	**197**	*e*PN	**Pn**	**10 42 31.4**	**-0.4**
BFZ				*e*SN	**S**	**10 44 10.8**	**-4.0**
BFZ	**Birch Farm**	**9.01**	**197**	*e*P	**Pn**	**10 42 31.9**	**+0.1**
KIW	**Kapiti Island**	**9.57**	**203**	*e*PN	**Pn**	**10 42 37.5**	**-1.0**
KIW	**Kapiti Island**	**9.57**	**203**	P	**Pn**	**10 42 38.1**	**-0.3**
MTW	**Mount Morrison**	**9.66**	**200**	*e*PN	**Pn**	**10 42 39.7**	**+0.2**
MTW	**Mount Morrison**	**9.66**	**200**	P	**Pn**	**10 42 39.7**	**+0.2**
CAW	**Cannon Point**	**9.74**	**202**	*e*PN	**Pn**	**10 42 40.4**	**-0.1**
CAW	**Cannon Point**	**9.74**	**202**	P	**Pn**	**10 42 40.4**	**-0.1**
TRWZ	**Traveller**	**9.83**	**198**	*e*PN	**Pn**	**10 42 42.1**	**+0.6**
SNZO	**South Karori**	**10.04**	**202**	*e*P	**Pn**	**10 42 44.4**	**+0.3**
TCW	**Tory Channel**	**10.10**	**204**	*e*PN	**Pn**	**10 42 44.5**	**-0.2**
TCW	**Tory Channel**	**10.10**	**204**	P	**Pn**	**10 42 44.9**	**+0.2**
TUWZ	**Tuamarina**	**10.41**	**205**	*e*PN	**Pn**	**10 42 48.1**	**-0.3**
NNZ	**Nelson**	**10.44**	**208**	PN	**Pn**	**10 42 48.1**	**-0.7**
NNZ				*e*SN	**S**	**10 44 40.5**	**-5.8**
NNZ	**Nelson**	**10.44**	**208**	*e*P	**Pn**	**10 42 48.1**	**-0.7**
QRZ	**Quartz Range**	**10.47**	**212**	*e*PN	**Pn**	**10 42 48.6**	**-0.5**
QRZ	**Quartz Range**	**10.47**	**212**	*e*P	**Pn**	**10 42 49.3**	**+0.1**
THZ	**Tophouse**	**11.09**	**208**	PN	**Pn**	**10 42 55.4**	**-1.1**
THZ				*e*SN	**S**	**10 44 55.6**	**-5.1**
THZ	**Tophouse**	**11.09**	**208**	*e*P	**Pn**	**10 42 55.5**	**-1.1**
KHZ	**Kahutara**	**11.42**	**204**	*e*PN	**Pn**	**10 43 00.1**	**-0.4**
KHZ				*e*SN	**S**	**10 45 03.0**	**-5.0**
KHZ	**Kahutara**	**11.42**	**204**	*e*P	**Pn**	**10 42 59.8**	**-0.7**
LTZ	**Lake Taylor**	**12.20**	**207**	*e*PN	**Pn**	**10 43 09.0**	**-0.8**
LTZ				*e*SN	**S**	**10 45 18.8**	**-6.5**
LTZ	**Lake Taylor**	**12.20**	**207**	*e*P	**Pn**	**10 43 09.3**	**-0.5**
MQZ	**McQueen's Vall**	**12.87**	**204**	PN	**Pn**	**10 43 17.2**	**-0.4**
MQZ				*e*SN	**S**	**10 45 31.9**	**-6.9**
MQZ	**McQueen's Vall**	**12.87**	**204**	*e*P	**Pn**	**10 43 17.2**	**-0.4**
ODZ	**Otahua Downs**	**14.74**	**206**	*e*PN	**Pn**	**10 43 40.3**	**+0.7**
DZM	**Mont Dzumac**	**15.51**	**307**	*e*P	**P**	**10 43 47.1**	**+1.2**
DZM	**Mont Dzumac**	**15.51**	**307**	P	**P**	**10 43 47.1**	**+1.2**
0.5nm,0.3s,baz=131,slow=20,SNR=10							
AFI	**Afiamalu**	**19.70**	**25**	P	**P**	**10 44 28.7**	**-1.9**
6.8nm,0.3s,baz=35,slow=23,SNR=8.6							
CTA	**Charters Tower**	**32.27**	**284**	*e*P	**P**	**10 46 24.5**	**+1.4**
5.8nm,0.7s,mb3.9							
CTA	**Charters Tower**	**32.27**	**284**	P	**P**	**10 46 24.1**	**+1.0**
4.4nm,0.4s,mb4.1,baz=110,slow=11,SNR=8.9							
CTAO	**Charters Tower**	**32.27**	**284**	*e*P	**P**	**10 46 24.4**	**+1.3**
9.4nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**32.27**	**260⇑**	*i*P	**P**	**10 46 23.1**	**0.0**
1.7nm,0.4s,mb3.6							
STKA	**Stephens Creek**	**32.27**	**260**	P	**P**	**10 46 22.4**	**-0.7**
1.8nm,0.3s,mb3.7,baz=96,slow=12,SNR=18							
AS31	**Alice Springs**	**41.16**	**270⇓**	*i*P	**P**	**10 47 37.2**	**-0.1**
ASAR	**Alice Springs**	**41.16**	**270**	P	**P**	**10 47 37.3**	**0.0**
3.3nm,0.4s,mb3.9,baz=107,slow=7.2,SNR=138							
ASAR				S	**S**	**10 53 20.6**	**-3.4**
0.5nm,0.9s,baz=114,slow=18,SNR=3.2							
ASPA	**Alice Springs**	**41.16**	**270⇓**	*i*P	**P**	**10 47 37.2**	**-0.1**
WB2	**Warramunga Arr**	**42.30**	**275⇓**	*i*P	**P**	**10 47 46.1**	**-0.3**
WRAB	**Tennant Creek**	**42.30**	**275**	*e*P	**P**	**10 47 45.6**	**-0.8**
11nm,0.4s,mb4.3							
WRA	**Warramunga Arr**	**42.31**	**275**	P	**P**	**10 47 46.2**	**-0.3**
9.3nm,0.3s,mb4.3,baz=112,slow=7.9,SNR=297							
SNAA	**Sanae**	**76.49**	**179**	P	**P**	**10 51 38.6**	**+0.5**
0.2nm,0.4s,mb3.2,baz=145,slow=4.7,SNR=7.2							
VNA1	**Neumayer--Stat**	**77.37**	**177**	*e*	**P**	**10 51 44.3**	**+1.3**
VNA1				*e*		10 51 50.1	
VNA1				*e*		10 51 56.2	
NVAR	**Mina Array Bea**	**90.78**	**44**	P	**P**	**10 52 50.2**	**+0.1**
1.0nm,0.7s,mb3.9,baz=227,slow=7.7,SNR=9.6							
YKA	**Yellowknife Ar**	**107.81**	**26**	PKiKP	PKiKP	10 58 10.6	-1.5
0.1nm,0.3s,baz=266,slow=2.0,SNR=4.4							
MKAR	**Makanchi Array**	**117.41**	**310**	PKP	PKPdf	10 58 28.0	-2.4
0.4nm,0.6s,baz=270,slow=1.2,SNR=4.0							
MKAR	**Makanchi Array**	**117.41**	**310**	PKP	PKPdf	10 58 28.0	-2.4
ARCES	**ARCESS Array B**	**139.82**	**346**	PKhKP		10 59 04.2	
2.5nm,0.9s,baz=37,slow=1.8,SNR=6.6							
JOF	**Joensuu**	**143.26**	**336**	*e*pkp	PKPdf	10 59 13.7	-5.2
KAF	**Kangasniemi**	**145.47**	**338**	*e*pkp	PKPdf	10 59 20.7	-2.1
FINES	**FINESS Array B**	**146.04**	**338**	PKPbc	PKPbc	10 59 22.7	-2.6
9.6nm,0.5s,baz=50,slow=4.1,SNR=131							
FINES	**FINESS Array B**	**146.04**	**338**	PKPbc	PKPbc	10 59 22.7	-2.6
NB2	**NORSAR Subarra**	**150.10**	**349**	PKPa	PKPbc	10 59 33.1	-2.6
comp=Z,3.5nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**150.10**	**349**	PKPbc	PKPbc	10 59 33.6	-2.2
comp=Z,5.0nm,0.8s,baz=17,slow=4.2,SNR=16							
AKASG	**Malin Array Be**	**151.42**	**319**	PKPbc	PKPbc	10 59 36.2	-2.6
comp=Z,1.4nm,0.5s,baz=64,slow=2.1,SNR=9.7							
AKASG	**Malin Array Be**	**151.42**	**319**	PKPbc	PKPbc	10 59 36.2	-2.6
BRTR	**Keskin Array B**	**151.67**	**295**	PKPbc	PKPbc	10 59 37.7	-1.7
comp=Z,0.8nm,0.5s,baz=138,slow=3.4,SNR=6.5							
TORD	**Torodi Ar. Bea**	**161.04**	**186**	PKPab	PKPab	11 00 29.8	-0.2
comp=Z,0.5nm,0.5s,baz=190,slow=3.6,SNR=15							

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*IDC **11** 10:56:19.7±1.0,2061N×11996E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.8/18,mbtmp3.7/8,MS3.1/1,Ms1 3.1/1, ms1mx2.4/31,Error ellipse: s-maj=39.9km s-min=20.5km az=69.0*
*NEIC **11** 10:56:22.5±7.7,2061N×11998E,h18km±48km,mb3.8/2, Error ellipse: s-maj=21.4km s-min=10.6km az=66.0*
*ISCJB **11** 10:56:25.8±1.8,2075N±008×1203E±0.1,h62km±17km, mb3.6/10,Error ellipse: s-maj=16.1km s-min=13.2km az=19.0*
*JMA **11** 10:56:27.3±0.4,2066N×12056E,h143km*
ISC 11 10:56:26.8±1.7,2074N±008×1202E±01,h52km±16km,n21, σ0°81/26,mb3.6/10,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.38**	**153⇓**	*e*P	**Pn**	**10 57 25.5**	**+8.5**
YHNB	**Yeheng**	**4.06**	**15**	*e*Pn	**Pn**	**10 57 26.0**	**-0.3**
YHNB				*e*Sn	**Sn**	**10 58 12.5**	**0.0**
YOJ	**Yonaguni jima**	**4.51**	**34**	P	**Pn**	**10 57 33.4**	**+0.8**
YOJ				*e*S	**Sn**	**10 58 25.3**	**+1.5**
HATJ	**Hateruma jima**	**4.68**	**44**	P	**Pn**	**10 57 35.0**	**+0.2**
IRIF	**Iriomote-Funau**	**4.83**	**42**	P	**Pn**	**10 57 37.3**	**+0.4**
IRIF				*e*S	**Sn**	**10 58 31.4**	**-0.1**
JKRS	**Kuro-shima**	**4.94**	**44**	P	**Pn**	**10 57 38.6**	**+0.2**
JKRS				*e*S	**Sn**	**10 58 33.4**	**-0.8**
JIJ	**Ishigaki jima**	**5.12**	**44**	P	**Pn**	**10 57 40.9**	**+0.1**
JIJ				*e*S	**Sn**	**10 58 36.1**	**-2.4**
JTJ	**Tarama**	**5.67**	**46**	P	**Pn**	**10 57 48.2**	**-0.3**
JTJ				*e*S	**Sn**	**10 58 52.1**	**-0.2**
JOW	**Kunigami**	**9.55**	**49**	LR	LR	11 02 53.4	
comp=Z,94nm,18.2s,baz=284,slow=40							
MJAR	**Matsushiro Arr**	**22.24**	**41**	P	**P**	**11 01 21.2**	**+2.2**
1.3nm,0.7s,mb3.5,baz=240,slow=11,SNR=6.4							
MKAR	**Makanchi Array**	**40.27**	**319**	P	**P**	**11 03 58.6**	**+0.1**
0.6nm,0.6s,mb3.5,baz=108,slow=12,SNR=6.0							
ZAL	**Zalesovo**	**42.70**	**330**	P	**P**	**11 04 17.9**	**-0.6**
0.8nm,0.3s,mb4.0,baz=312,slow=5.6,SNR=3.4							
ZAL	**Zalesovo**	**42.70**	**330**	P	**P**	**11 04 17.9**	**-0.6**
WRA	**Warramunga Arr**	**42.73**	**160**	P	**P**	**11 04 18.4**	**-0.3**
0.5nm,0.6s,mb3.4,baz=342,slow=9.1,SNR=6.4							
ASAR	**Alice Springs**	**46.10**	**162**	P	**P**	**11 04 45.5**	**-0.2**
0.4nm,0.7s,mb3.4,baz=347,slow=7.2,SNR=5.4							
BRVK	**Borovoye**	**49.89**	**323**	*e*P	**P**	**11 05 14.4**	**-0.5**
1.0nm,1.0s,mb3.8							
ZRNK	**Zerenda**	**

17nm,0.2s,SNR=1.0
MFF Saint Martin d 1.19 144 *e*Pg Pg 11 50 12.4 +1.8
SNR=1.0
MFF *e*Sg Sg 11 50 27.8 +1.7
8.6nm,0.2s,SNR=1.0
LDF La Druitiere 1.23 33 *e*Pg Pg 11 50 12.3 +0.8
SNR=1.0
LDF *e*Sg Sg 11 50 27.5 -0.1
14nm,0.2s,SNR=1.0
LDF La Druitiere 1.23 33 *e*Pn Pn 11 50 11.7 +0.7
LDF *e*Pg Pg 11 50 12.3 +0.8
LDF *e*Sg Sg 11 50 27.5 -0.1
LDF La Druitiere 1.23 33 *e*Pg Pg 11 50 12.3 +0.8
SNR=1.0
LDF *e*Sg Sg 11 50 27.5 -0.1
6.9nm,0.2s,SNR=1.0
FLN La Foliniere 1.27 20 *e*Pg Pg 11 50 12.8 +0.5
baz=201,SNR=1.0
FLN *e*Sg Sg 11 50 29.3 +0.4
35nm,0.3s,SNR=1.0
FLN La Foliniere 1.27 20 *e*Pg Pg 11 50 12.8 +0.5
SNR=1.0
FLN *e*Sg Sg 11 50 29.3 +0.4
17nm,0.3s,SNR=1.0
QUIF Quistinic 1.41 285 *e*Pg Pg 11 50 15.1 +0.3
SNR=1.0
QUIF *e*Sg Sg 11 50 32.3 -0.8
32nm,0.2s,SNR=1.0
QUIF Quistinic 1.41 285 *e*Pn Pn 11 50 13.7 +0.3
QUIF *e*Pg Pg 11 50 15.1 +0.3
QUIF *e*Sg Sg 11 50 32.3 -0.8
QUIF Quistinic 1.41 285 *e*Pg Pg 11 50 15.1 +0.3
SNR=1.0
QUIF *e*Sg Sg 11 50 32.3 -0.8
16nm,0.2s,SNR=1.0
CHIF Chize 1.52 160 Pn Pn 11 50 17.2 +2.2
CHIF Sg Sg 11 50 39.1 +2.2
ROSF Rostrenen 1.62 299 *e*Pg Pg 11 50 18.5 -0.5
SNR=1.0
ROSF *e*Sg Sg 11 50 38.5 -1.5
12nm,0.3s,SNR=1.0
ROSF Rostrenen 1.62 299 *e*Pg Pg 11 50 18.5 -0.5
SNR=1.0
ROSF *e*Sg Sg 11 50 38.5 -1.5
6.2nm,0.3s,SNR=1.0
HYF Humbligny 2.59 95 *e*Pg Pg 11 50 38.5 +1.0
HYF *e*Sn Sn 11 50 59.9 -1.1
HYF *e*Sg Sg 11 51 10.1 -0.9
TCF Toulx Ste Croi 2.63 118 *e*Pg Pg 11 50 38.7 +0.4
SNR=1.0
TCF *e*Sg Sg 11 51 12.4 -0.1
5.4nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 2.63 118 *e*Pn Pn 11 50 31.8 +1.6
TCF *e*Pg Pg 11 50 38.7 +0.4
TCF *e*Sg Sg 11 51 12.4 -0.1
TCF Toulx Ste Croi 2.63 118 *e*Pg Pg 11 50 38.7 +0.4
SNR=1.0
TCF *e*Sg Sg 11 51 12.4 -0.1
2.7nm,0.3s,SNR=1.0
BGF Bois d'Agland 2.91 109 *e*Pn Pn 11 50 35.4 +1.3
SNR=1.0
BGF *e*Sn Sn 11 51 07.1 -1.9
SNR=1.0
BGF *e*Sg Sg 11 51 20.0 -1.4
10nm,0.2s,SNR=1.0
BGF Bois d'Agland 2.91 109 *e*Pn Pn 11 50 35.4 +1.3
SNR=1.0
BGF *e*Sn Sn 11 51 07.1 -1.9
SNR=1.0
BGF *e*Sg Sg 11 51 20.0 -1.4
5.2nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.92 140 *e*Pg Pg 11 50 43.4 -0.4
SNR=1.0
RJF *e*Sn Sn 11 51 08.9 -0.3
SNR=1.0
RJF *e*Sg Sg 11 51 20.6 -1.1
8.2nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.92 140 *e*Pg Pg 11 50 43.4 -0.4
SNR=1.0
RJF *e*Sn Sn 11 51 08.9 -0.3
SNR=1.0
RJF *e*Sg Sg 11 51 20.6 -1.1
4.1nm,0.2s,SNR=1.0
LFF La Frestale 2.94 153 *e*Sg Sg 11 51 21.9 -0.4
8.8nm,0.4s
LFF La Frestale 2.94 153 *e*Sg Sg 11 51 21.9 -0.4
4.4nm,0.4s
AVF Avril sur Loir 3.17 103 *e*Pn Pn 11 50 38.4 +0.8
SNR=1.0
AVF *e*Sg Sg 11 51 27.8 -1.7
5.7nm,0.6s,SNR=1.0
AVF Avril sur Loir 3.17 103 *e*Pn Pn 11 50 38.4 +0.8
SNR=1.0
AVF *e*Sg Sg 11 51 27.8 -1.7
2.8nm,0.6s,SNR=1.0
SSF Saint Saulge 3.21 97 *e*Pg Pg 11 50 49.5 +0.2
SSF *e*Sg Sg 11 51 29.3 -1.5
6.9nm,0.4s
SSF Saint Saulge 3.21 97 *e*Pg Pg 11 50 49.5 +0.2
SSF *e*Sg Sg 11 51 29.3 -1.5
3.5nm,0.4s
PYM Petit Puy Mans 3.39 121 Sg Sg 11 51 37.1 +0.4
LOR Lormes 3.41 93 *e*Pn Pn 11 50 42.6 +1.7
baz=276
LOR Lormes 3.41 93 *e*Pg Pg 11 50 52.4 -0.8
baz=274
LOR *e*Sg Sg 11 51 37.5 +0.1
6.1nm,0.3s,SNR=1.0
LOR Lormes 3.41 93 *e*Pn Pn 11 50 42.6 +1.7
LOR *e*Pg Pg 11 50 52.4 -0.8
LOR *e*Sg Sg 11 51 37.5 +0.1
LOR Lormes 3.41 93 *e*Pg Pg 11 50 52.4 -0.8
LOR *e*Sg Sg 11 51 37.5 +0.1
3.0nm,0.3s,SNR=1.0
CAF Calviac 3.46 139 *e*Sg Sg 11 51 38.4 -0.5
5.1nm,0.3s
CAF Calviac 3.46 139 *e*Sg Sg 11 51 38.4 -0.5
2.5nm,0.3s
SMF Signal de Mont 3.53 103 *e*Sn Sn 11 51 22.3 -2.0
SNR=1.0
PLDF La Plantade 3.65 114 Sg Sg 11 51 46.4 +1.4
SJPF Ste Jean 4.46 181 *e*Sg Sg 11 52 09.1 -1.9
1.1nm,0.4s
SJPF Ste Jean 4.46 181 *e*Sg Sg 11 52 09.1 -1.9
0.6nm,0.4s
MTLF Montolieu 4.85 150 *e*Pn Pn 11 51 00.0 -0.7
SNR=1.0

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*ISCJB **11** 11:58:07.0±0.6, 4896N±004×6860E±008, h10km, mb3.2/2, Error ellipse: s-maj=7.2km s-min=5.7km az=168.1*
*NNC **11** 11:58:07.6±1.2, 4894N×6862E, h8km±7km, mb3.4, mpv3.0, Error ellipse: s-maj=13.2km s-min=7.4km az=89.0*
*IDC **11** 11:58:08.3±1.2, 4896N×6860E, h0km, mb3.5/2, mb1 3.4/5, mb1mx3.2/22, mbtmp3.2/5, ML2.9/3, Error ellipse: s-maj=16.0km s-min=10.6km az=9.0*
*MOS **11** 11:58:10.4±1.8, 4894N×6855E, h33km, mb3.7/1, Error ellipse: s-maj=44.5km s-min=32.9km az=111.4*
ISC 11 11:58:09.5±0.6,**4899N**±004×**6863E**±008,**h10**km,**n14,**
σ0§94/21,**mb3.2/2,16C-3D,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRNK	**Zerenda**	**3.97**	**3**	⇓Pn	**Pn**	**11 59 10.4**	**0.0**
	2.3nm,0.5s						
ZRNK				⇑Pg	**Pg**	**11 59 18.5**	**-7.1**
ZRNK				⇑Sn	**Sn**	**11 59 57.7**	**+0.7**
	1.7nm,0.5s						
ZRNK				⇑Lg		12 00 11.4	
	3.4nm,0.5s						
VOSK	**Vostochnaya**	**4.02**	**21**	⇑Pn	**Pn**	**11 59 11.3**	**+0.1**
	16nm,1.6s						
VOSK				⇓Pg	**Pg**	**11 59 19.4**	**-7.1**
VOSK				⇑Sn	**Sn**	**11 59 57.3**	**-0.9**
	1.9nm,0.5s						
VOSK				⇑Lg		12 00 19.3	
	2.4nm,0.5s						
BVA0	**Borovoye Array**	**4.19**	**15**	⇑Pn	**Pn**	**11 59 14.9**	**+1.5**
BVA0				⇑Pg	**Pg**	**11 59 25.1**	**-4.6**
	0.5nm,0.4s,baz=177,slow=15,SNR=16						
BVA0				⇑Lg		12 00 22.2	
	0.5nm,0.5s,baz=186,slow=28,SNR=5.2						
BVAR	**Borovoye Array**	**4.19**	**15**	Pn	**Pn**	**11 59 13.7**	**+0.3**
	0.7nm,0.3s,baz=197,slow=10,SNR=17						
BVAR				Pg	**Pg**	**11 59 23.2**	**-6.5**
	2.7nm,0.3s,baz=188,slow=16,SNR=28						
BVAR				Lg		12 00 18.6	
	2.0nm,0.3s,baz=186,slow=26,SNR=7.4						
AB31	**Akbulak array**	**5.71**	**276**	⇑Pn	**Pn**	**11 59 33.8**	**-0.5**
	0.3nm,0.2s,baz=94,slow=8.0,SNR=23						
AB31				⇑Lg		12 01 04.1	
	2.2nm,0.5s,baz=87,slow=26,SNR=5.9						
KK31	**Karatay Array**	**6.04**	**167**	⇑Pn	**Pn**	**11 59 40.3**	**+1.5**
	0.5nm,0.4s						
KK31				⇑Sn	**Sn**	**12 00 47.9**	**0.0**
	1.8nm,0.6s,baz=351,slow=23,SNR=8.2						
KK31				⇑Lg		12 01 18.8	
	2.8nm,0.6s,baz=342,slow=25,SNR=4.5						
AKTO	**Aktyubinsk**	**7.03**	**286**	Pn	**Pn**	**11 59 51.4**	**-1.1**
	0.1nm,0.3s,baz=90,slow=18,SNR=2.9						
AKTO				Sn	**Sn**	**12 01 12.0**	**-0.4**
	0.2nm,0.3s,baz=144,slow=19,SNR=3.2						
AKTO				Lg		12 01 48.9	
	0.1nm,0.3s,baz=17,slow=20,SNR=2.5						
AKTO	**Aktyubinsk**	**7.03**	**286**	P	**Pn**	**11 59 51.4**	**-1.0**
AKTO						12 01 12.0	
TKM2	**Tokmak 2**	**7.77**	**139**	⇓Lg		12 02 14.9	
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**9.44**	**98**	Pn	**Pn**	**12 00 24.6**	**-0.9**
	0.3nm,0.3s,baz=282,slow=14,SNR=15						
MKAR				Lg		12 03 06.2	
	0.1nm,0.3s,baz=284,slow=25,SNR=4.0						
MK02	**Makanchi Array**	**9.46**	**98**	⇑Pn	**Pn**	**12 00 25.1**	**-0.7**
	0.5nm,0.6s						
MK02				⇑Lg		12 03 05.7	
	2.3nm,0.8s						
FINES	**FINESS Array B**	**26.74**	**314**	P	**P**	**12 03 51.1**	**+1.9**
	0.8nm,0.9s,mb3.3,baz=98,slow=7.9,SNR=5.3						
FINES	**FINESS Array B**	**26.74**	**314**	P	**P**	**12 03 51.1**	**+1.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**68.83**	**2**	P	**P**	**12 09 13.0**	**-1.1**
	comp=Z,0.1nm,0.3s,mb3.2,baz=357,slow=6.5,SNR=5.7						

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*ISCJB **11** 12:23:20.8±1.0, 3753N±004×2085E±007, h10km, Error ellipse: s-maj=9.4km s-min=4.3km az=111.5*
*NEIC **11** 12:23:21.0, 3759N×2092E, h17km, MD3.7(ATH), After ATH.*
*ATH **11** 12:23:21.0, 3759N×2092E, h17km±2km, MD3.7/8*
*THE **11** 12:23:21.4, 3758N×2074E, h10km*
*CSEM **11** 12:23:22.0±0.2, 3757N×2095E, h2km, MD3.7, Error ellipse: s-maj=5.4km s-min=2.3km az=56.0*
ISC 11 12:23:21.6±0.9,**3753N**±004×**2088E**±007,**h10**km,**n17,**
σ1§25/26,**1C-1D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.68**	**340**	⇓*i*PB	**Pg**	**12 23 33.1**	**-1.7**
VLS				*e*SN	**Sg**	**12 23 42.9**	**-0.8**
RLS	**Riolos of Patr**	**0.70**	**41**	⇑*i*PB	**Pg**	**12 23 32.7**	**-2.4**
RLS				*e*SN	**Sg**	**12 23 42.0**	**-2.3**
ITM	**Ithomi**	**0.91**	**113**	*e*PN	**Pn**	**12 23 38.0**	**-2.3**
ITM				*e*SN	**Sn**	**12 23 51.6**	**-1.8**
LKD	**Levkas**	**1.19**	**351**	*e*Pg	**Pg**	**12 23 41.9**	**-2.5**
LKD				*e*Sg	**Sg**	**12 23 59.4**	**-0.4**
EVR	**Evrytania**	**1.56**	**28**	*e*PN	**Pn**	**12 23 49.3**	**-0.1**
EVR				*e*SN	**Sn**	**12 24 10.2**	**+0.5**
VLI	**Veliai**	**1.83**	**116**	*e*PN	**Pn**	**12 23 54.1**	**+1.0**
VLI				*e*SN	**Sn**	**12 24 17.3**	**+0.9**
AGG	**Agios Georgios**	**1.88**	**37**	*e*Pb	**Pb**	**12 23 55.0**	**-0.9**
AGG				*e*Sb	**Sb**	**12 24 20.5**	**+1.2**
LKR	**Lokris**	**2.01**	**56**	*e*PN	**Pn**	**12 23 56.3**	**+0.8**
IGT	**Igoumenitsa**	**2.04**	**348**	*e*Pb	**Pn**	**12 23 55.4**	**-0.5**
MEV	**Metsovon**	**2.27**	**7**	*e*Pn	**Pn**	**12 24 00.2**	**+1.1**
MEV				*e*Sn	**Sn**	**12 24 28.7**	**+1.7**
KEK	**Kerkira**	**2.34**	**339**	*e*PN	**Pn**	**12 24 01.1**	**+1.1**
NEO	**Neokhori**	**2.56**	**45**	*e*PN	**Pn**	**12 24 03.2**	**+0.2**
XOR	**Xorichti**	**2.58**	**44**	*e*Pn	**Pn**	**12 24 03.6**	**+0.3**
LIT	**Litokhoron**	**2.86**	**26**	*e*Pn	**Pn**	**12 24 08.3**	**+1.2**
AOS	**Alonnisos**	**2.87**	**54**	*e*Pn	**Pn**	**12 24 08.8**	**+1.5**
FNA	**Florina**	**3.27**	**7**	*e*Pn	**Pn**	**12 24 13.6**	**+0.7**
FNA				*e*Sn	**Sn**	**12 24 52.9**	**+1.1**
KNT	**Kendrikon**	**3.95**	**23**	*e*Pn	**Pn**	**12 24 22.3**	**+0.1**

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*ISCJB **11** 12:36:06.6±1.7, 403S±006×1388E±01, h76km±17km, mb4.0/5, Error ellipse: s-maj=19.4km s-min=10.5km az=17.5*
*NEIC **11** 12:36:09.6±1.7, 408S×13882E, h91km±18km, mb4.3/5, Error ellipse: s-maj=14.2km s-min=11.2km az=121.0*
*IDC **11** 12:36:09.2±7.4, 403S×13877E, h84km±87km, mb3.7/5, mb1 4.1/9, mb1mx4.0/14, mbtmp4.3/9, ML4.2/4, Error ellipse: s-maj=62.7km s-min=24.6km az=117.0*
ISC 11 12:36:11.2±1.2,**415S**±006×**1388E**±01,**h105**km±13km,**n20,**
σ0§93/29,**mb4.0/5,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.79**	**123**	P	**Pn**	**12 38 28.9**	**-0.1**
	1.4nm,0.3s,baz=320,slow=9.9,SNR=8.3						
PMG				S	**Sn**	**12 40 12.2**	**-4.8**
	0.6nm,0.3s,baz=221,slow=20,SNR=3.3						
PMG	**Port Moresby**	**9.79**	**123**	*e*P	**Pn**	**12 38 29.1**	**+0.1**
PMG				S	**Sn**	**12 40 12.2**	**-4.8**
KAKA	**Kakadu**	**10.58**	**216**	*e*P	**Pn**	**12 38 39.1**	**-0.6**
	49nm,0.3s						
KAKA				*e*S	**Sn**	**12 40 32.0**	**-4.1**
WRAB	**Tennant Creek**	**16.28**	**195**	*e*P	**Pn**	**12 39 53.2**	**-0.3**
	37nm,0.6s						
WB2	**Warramunga Arr**	**16.29**	**195**	*e*P	**Pn**	**12 39 53.7**	**+0.1**
WB2				*e*S	**S**	**12 42 46.1**	**-14**
WRA	**Warramunga Arr**	**16.29**	**195**	P	**Pn**	**12 39 52.6**	**-1.1**
	2.8nm,0.3s,baz=15,slow=13,SNR=80						
WRA				S	**S**	**12 42 47.1**	**-13**
	1.6nm,0.3s,baz=12,slow=22,SNR=6.8						
CTA	**Charters Tower**	**17.42**	**156**	*e*P	**Pn**	**12 40 07.3**	**-0.2**
	13nm,2.0s						
CTA	**Charters Tower**	**17.42**	**156**	P	**Pn**	**12 40 07.9**	**+0.4**
	0.3nm,0.3s,baz=325,slow=9.0,SNR=4.1						
CTAO	**Charters Tower**	**17.42**	**156**	*e*P	**Pn**	**12 40 06.8**	**-0.7**
	5.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.93**	**222**	*e*P	**P**	**12 40 24.9**	**+1.2**
	14nm,0.5s						
FITZ				*e*S	**S**	**12 43 45.5**	**-7.7**
FITZ	**Fitzroy Crossi**	**18.93**	**222**	P	**P**	**12 40 25.1**	**+1.4**
	1.4nm,0.3s,baz=42,slow=12,SNR=52						
FITZ				S	**S**	**12 43 45.3**	**-7.9**
	2.5nm,0.3s,baz=158,slow=11,SNR=12						
AS31	**Alice Springs**	**19.97**	**193**	*e*P	**P**	**12 40 35.8**	**+0.8**
AS31				*e*S	**S**	**12 44 13.6**	**-0.2**
ASAR	**Alice Springs**	**19.97**	**193**	P	**P**	**12 40 36.2**	**+1.3**
	13nm,0.5s,baz=23,slow=10,SNR=174						
ASAR				S	**S**	**12 44 12.7**	**-1.1**
	4.8nm,0.8s,baz=14,slow=26,SNR=6.7						
ASPA	**Alice Springs**	**19.97**	**193**	*e*P	**P**	**12 40 35.8**	**+0.8**
ASPA				*e*S	**S**	**12 44 13.6**	**-0.2**
MBWA	**Marble Bar**	**25.09**	**226**	*e*P	**P**	**12 41 28.2**	**+2.3**
	28nm,1.1s,mb4.6						
FORT	**Forrest**	**28.36**	**200**	*e*P	pP	12 42 21.1	+2.6
	24nm,0.6s						
MJAR	**Matsushiro Arr**	**40.49**	**359**	P	**P**	**12 43 39.0**	**-0.5**
	1.3nm,1.0s,mb3.7,baz=188,slow=9.4,SNR=4.5						
SONM	**Songino Array**	**59.06**	**335**	P	**P**	**12 45 59.0**	**-1.2**
	1.7nm,0.6s,mb4.2,baz=98,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**70.99**	**323**	P	**P**	**12 47 17.2**	**-0.1**
	0.5nm,0.4s,mb3.7,baz=100,slow=7.9,SNR=3.2						
BVAR	**Borovoye Array**	**80.55**	**325**	P	**P**	**12 48 11.8**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=119,slow=7.2,SNR=5.4						

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*MOS **11** 13:17:06.7±1.1, 3645N×7079E, h186km, mb4.0/11, Error ellipse: s-maj=16.0km s-min=7.4km az=96.1*
*ISCJB **11** 13:17:07.9±0.4, 3652N±003×7106E±005, h199km±5km, mb3.9/12, Error ellipse: s-maj=6.9km s-min=3.4km az=133.3*
*BJI **11** 13:17:07.8, 3637N×7104E, h201km, mB4.6, mb4.7*
*NEIC **11** 13:17:08.9±0.4, 3646N×7097E, mb4.8/11, Error ellipse: s-maj=10.2km s-min=5.1km az=54.0*
*IDC **11** 13:17:09.2±1.0, 3640N×7093E, h198km±8km, mb3.6/9, mb1 3.7/12, mb1mx3.5/22, mbtmp4.2/12, MS3.9/1, Ms1 3.9/1, ms1mx2.5/22, Error ellipse: s-maj=17.3km s-min=14.9km az=62.0*
*NNC **11** 13:17:15.6±2.4, 3710N×7068E, h198km±20km, mb2.9, mpv3.6, Error ellipse: s-maj=26.3km s-min=15.6km az=28.0*
ISC 11 13:17:08.8±0.4,**3655N**±003×**7103E**±006,**h193**km±4km,
h196km±.9km:**pP-P,n86,**σ1§12/105,**mb3.9**/12,**9C-5D,**
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.81**	**165**	P	**Pn**	**13 17 56.8**	**+1.0**
CHCP	**Chirah Chowk**	**3.41**	**147**	⇓P	**Pn**	**13 18 04.5**	**+1.5**
THW	**Thamme Wali**	**3.79**	**171**	⇑P	**Pn**	**13 18 09.2**	**+1.6**
SBDP	**Sheikh Budin**	**4.24**	**183**	⇑P	**Pn**	**13 18 12.7**	**-0.6**
SARP	**Sargodha**	**4.81**	**163**	⇓P	**Pn**	**13 18 20.4**	**-0.1**
SARP				S	**Sn**	**13 19 13.0**	**-4.0**
DRP	**Derazinda**	**4.84**	**188**	⇑P	**Pn**	**13 18 21.1**	**+0.2**
KSH	**Kashi**	**4.90**	**51**	*e*P	**Pn**	**13 18 24.6**	**+2.9**
KSH				S	**Sn**	**13 19 20.2**	**+1.0**
KSH				Smax			
	comp=N,170nm,1.0s						
KSH				Smax			
	comp=E,130nm,0.5s						
DLH	**Dalhousie**	**5.71**	**133**	*e*P	**Pn**	**13 18 31.0**	**-1.1**
DLH				*e*S	**Sn**	**13 19 34.0**	**-3.8**
AML	**Almayashu**	**5.95**	**20**	P	**Pn**	**13 18 36.0**	**+0.8**
	SNR=43						
PONG	**Pong**	**6.13**	**137**	*e*P	**Pn**	**13 18 38.0**	**+0.4**
PONG				*e*x	x	13 19 59.0	
UCH	**Uchtor**	**6.28**	**24**	P	**Pn**	**13 18 40.5**	**+0.9**
	SNR=22						
EKS2	**Erkin-Say**	**6.47**	**18**	P	**Pn**	**13 18 42.9**	**+0.9**
	SNR=11						
KK31	**Karatay Array**	**6.56**	**357**	⇑P	**Pn**	**13 18 42.8**	**-0.4**
	comp=E,7.8nm,0.3s,baz=184,slow=12,SNR=247						
KK31				⇑S	**Sn**	**13 19 52.6**	**-5.4**
	comp=E,51nm,0.5s,baz=185,slow=22,SNR=24						
KKAR	**Karatay Array**	**6.56**	**357**	PN	**Pn**	**13 18 42.8**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK	**Ala-Archa**	**6.64**	**23**	P	**Pn**	**13 18 43.0**	**-1.3**
	SNR=7.9						
AAK	**Ala-Archa**	**6.64**	**23**	*e*PN	**Pn**	**13 18 43.8**	**-0.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
AAK	**Ala-Archa**	**6.64**	**23**	*e*Pn	**Pn**	**13 18 43.8**	**-0.4**
	comp=Z,8.0nm,0.4s						
AAK				*e*Sn	**Sn**	**13 19 58.0**	**-1.8**
KBK	**Karagaybulak**	**6.81**	**25**	P	**Pn**	**13 18 48.2**	**+1.7**
	SNR=5.1						
SDNR	**Sundarnagar**	**7.04**	**134**	*e*P	**Pn**	**13 18 49.6**	**+0.1**
SDNR				*e*S	**Sn**	**13 20 05.6**	**-3.7**
USP	**Ospenovka**	**7.22**	**21**	P	**Pn**	**13 18 51.6**	**-0.2**
	SNR=7.0						
TKM2	**Tokmak 2**	**7.28**	**28**	P	**Pn**	**13 18 58.8**	**+6.3**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.28**	**28**	⇑P	**Pn**	**13 18 53.3**	**+0.8**
	comp=Z,0.7nm,0.7s						
TKM2				⇑S	**Sn**	**13 20 12.4**	**-2.4**
	comp=Z,1.1nm,0.7s						
KLP	**Kalpa**	**7.80**	**128**	*e*P	**Pn**	**13 19 00.2**	**+0.8**
KLP				*e*S	**Sn**	**13 20 24.2**	**-3.1**
KLP				AML	AML	13 20 29.1	
	comp=N,205nm,0.5s						
KLP				AML	AML	13 20 29.5	
	comp=E,255nm,0.5s						
JOSI	**Joshimath**	**9.29**	**128**	*e*P	**Pn**	**13 19 10.8**	**-8.0**
JOSI				*e*S	**Sn**	**13 20 49.2**	**-13**
JOSI				AML	AML	13 20 57.5	
	comp=E,134nm,0.7s						
JOSI				AML	AML	13 20 59.6	
	comp=N,134nm,0.6s						
KUDL	**Kundal**	**9.56**	**150**	*e*P	**Pn**	**13 19 20.8**	**-1.6**
KUDL				*e*S	**Sn**	**13 21 00.1**	**-9.1**
SONA	**Sohna**	**9.72**	**147**	*e*P	**Pn**	**13 19 22.6**	**-1.9**
SONA				*e*S	**Sn**	**13 21 02.7**	**-10**
MK31	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**13 20 13.4**	**+4.0**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**13 20 11.7**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=219,slow=9.4,SNR=13						
MK05	**Makanchi Array**	**13.24**	**36**	⇑P	**Pn**	**13 20 13.5**	**+4.0**
	comp=Z,1.7nm,0.7s						
KOLN	**Koldanda**	**13.77**	**126**	*e*P	**Pn**	**13 20 15.5**	**-0.6**
	comp=Z,28nm,0.4s						
KOLN				*e*S	**Sn**	**13 22 41.5**	**-8.1**
GKN	**Gorkha**	**14.31**	**123**	*e*P	**Pn**	**13 20 22.5**	**-0.2**
	comp=Z,50nm,0.4s						
GKN				*e*S	**Sn**	**13 22 53.6**	**-8.9**
DMN	**Daman**	**14.88**	**123**	*e*P	**Pn**	**13 20 29.7**	**0.0**
	comp=Z,51nm,0.5s						
KKN	**Kakani**	**14.88**	**122**	*e*P	**Pn**	**13 20 30.1**	**+0.3**
	comp=Z,64nm,0.5s						
KKN	**Kakani**	**14.88**	**122**	*e*P	**Pn**	**13 20 30.1**	**+0.3**
KKN				pmax	pmax		
	comp=Z,64nm,0.5s						
AB31	**Akbulak array**	**15.05**	**331**	⇓P	**Pn**	**13 20 30.3**	**-1.5**
	comp=Z,10nm,0.7s,baz=140,slow=11,SNR=82						
AB31				S	**S**	**13 23 10.6**	**-8.5**
	comp=Z,1.8nm,0.4s,baz=158,slow=22,SNR=7.4						
AB31	**Akbulak array**	**15.05**	**331**	*e*P	**Pn**	**13 20 30.1**	**-1.8**
PKI	**Pulchoki**	**15.11**	**122**	*e*P	**Pn**	**13 20 33.7**	**+1.2**
	comp=Z,22nm,0.3s						
PKI	**Pulchoki**	**15.11**	**122**	*e*P	**Pn**	**13 20 33.7**	**+1.2**
PKI				pmax	pmax		
	comp=Z,22nm,0.3s						
GUN	**Gumba**	**15.22**	**120**	*e*P	**Pn**	**13 20 35.3**	**+1.4**
	comp=Z,31nm,0.3s						
JIRN	**Jiri**	**15.59**	**120**	*e*P	**Pn**	**13 20 39.2**	**+0.8**
JIRN				*e*S	**S**	**13 23 24.8**	**-6.6**
VOSK	**Vostochnaya**	**16.18**	**360**	⇓P	**Pn**	**13 20 44.5**	**-0.9**
	comp=Z,3.7nm,0.8s						
ZRNK	**Zerenda**	**16.47**	**356**	⇓P	**Pn**	**13 20 49.2**	**+0.3**
	comp=Z,2.3nm,0.7s						
ZRNK	**Zerenda**	**16.47**	**356**	*e*P	**Pn**	**13 20 49.4**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZRNK	**Zerenda**	**16.47**	**356**	*e*P	**Pn**	**13 20 49.4**	**+0.5**
	comp=Z,3.2nm,0.6s						
BVA0	**Borovoye Array**	**16.48**	**359**	⇑P	**Pn**	**13 20 47.2**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=178,slow=14,SNR=19						
BVA0	**Borovoye Array**	**16.48**	**359**	*i* P	**Pn**	**13 20 48.6**	**-0.6**
BVAR	**Borovoye Array**	**16.48**	**359**	P	**Pn**	**13 20 48.3**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=164,slow=10,SNR=21						
BVAR				S	**S**	**13 23 49.5**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=168,slow=23,SNR=4.7						
BVAR	**Borovoye Array**	**16.48**	**359**	P	**Pn**	**13 20 48.3**	**-0.9**
BVAR				S	**S**	**13 23 49.5**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**16.52**	**358**	*e*P	**Pn**	**13 20 49.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**16.52**	**358**	*e*P	**Pn**	**13 20 49.6**	**+0.1**
	comp=Z,3.4nm,0.6s						
AKTK	**Aktyubinsk**	**16.75**	**330**	P	**Pn**	**13 20 52.0**	**-0.4**
AKTK				S	**S**	**13 23 52.0**	**-4.2**
AKTO	**Aktyubinsk**	**16.75**	**330**	P	**Pn**	**13 20 52.0**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=138,slow=11,SNR=56						
AKTO				S	**S**	**13 23 52.0**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=121,slow=23,SNR=2.8						
AKTO	**Aktyubinsk**	**16.75**	**330**	P	**Pn**	**13 20 52.0**	**

comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 41.11 338 P **P 13 24 34.6 +0.9**
comp=Z,2.0nm,0.7s,mb3.6,baz=111,slow=8.4,SNR=13
ARCES pP pP 13 25 16.3 +1.3
comp=Z,0.9nm,0.6s,baz=119,slow=7.2,SNR=1.3
ARCES ARCESS Array B 41.11 338 P **P 13 24 34.6 +0.9**
ARCES *PP pP 13 25 16.3 +1.3
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 44.36 323 P **P 13 24 59.6 -0.2**
comp=Z,1.0nm,0.5s,mb3.4,baz=96,slow=7.9
NB2 NORSAR Subarra 44.36 323 P pP 13 25 42.4 +0.8
comp=Z,0.2nm,0.7s,baz=96,slow=8.6
NB2 NORSAR Subarra 44.36 323 P **P 13 24 59.6 -0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.4
NOA NORSAR Array B 44.36 323 P **P 13 25 00.1 +0.3**
comp=Z,1.2nm,0.6s,mb3.4,baz=97,slow=7.8,SNR=6.4
NOA pP pP 13 25 42.5 +0.9
comp=Z,1.7nm,0.8s,baz=97,slow=8.0,SNR=4.2
NOA NORSAR Array B 44.36 323 P **P 13 25 00.1 +0.3**
NOA *PP pP 13 25 42.5 +0.9
NOA pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 48.88 228 P **P 13 25 35.7 +0.8**
comp=Z,1.4nm,0.5s,mb3.5,baz=33,slow=20,SNR=5.4
KMBO Kilima Mbogo 48.88 228 P **P 13 25 35.7 +0.8**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 48.88 228 P **P 13 25 35.7 +0.8**
JOW Kunigami 49.04 84 LR LR 13 48 20.3
comp=Z,138nm,21.5s,baz=246,slow=38
TORD Torodi Ar. Bea 65.74 269 P **P 13 27 31.1 -1.7**
comp=Z,0.4nm,0.3s,mb3.5,baz=50,slow=5.9,SNR=14
INK Inuvik 73.86 9 *e*P **P 13 28 23.0 +0.7**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 73.86 9 *e*P **P 13 28 23.0 +0.8**
comp=Z,1.8nm,0.7s,mb3.8
YKA Yellowknife Ar 81.20 3 P **P 13 29 03.6 +0.7**
comp=Z,1.3nm,0.4s,mb4.0,baz=350,slow=5.4,SNR=41
YKA pP pP 13 29 51.2 +1.3
comp=Z,0.7nm,0.6s,baz=349,slow=5.9,SNR=5.3
YKA Yellowknife Ar 81.20 3 P **P 13 29 03.6 +0.7**
YKA *PP pP 13 29 51.2 +1.3
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 81.20 3 P **P 13 29 03.6 +0.7**
YKA pP pP 13 29 51.2 +1.3
WRA Warramunga Arr 82.00 122 P **P 13 29 07.0 -0.1**
comp=Z,2.6nm,0.5s,mb4.1,baz=324,slow=4.9,SNR=70
WRA Warramunga Arr 82.00 122 P **P 13 29 07.0 -0.1**
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRAB Tennant Creek 82.00 122 *e*P **P 13 29 06.8 -0.3**
WRAB pmax pmax
comp=Z,6.0nm,0.4s,mb4.6
WRAB Tennant Creek 82.00 122 *e*P **P 13 29 06.8 -0.2**
comp=Z,5.7nm,0.4s,mb4.5
WB2 Warramunga Arr 82.00 122 *e*P **P 13 29 06.9 -0.2**
ASPA Alice Springs 84.26 125 *e*P **P 13 29 18.6 -0.1**
AS31 Alice Springs 84.26 125 *e*P **P 13 29 18.6 -0.1**
ASAR Alice Springs 84.26 125 P **P 13 29 18.6 -0.1**
comp=Z,3.0nm,0.6s,mb4.2,baz=313,slow=4.8,SNR=88
ASAR Alice Springs 84.26 125 P **P 13 29 18.6 -0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.6s

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*NEIC **11** 13:46:59.0,3493N×2635E,h26^{km},MD3.5(ATH),After ATH.*
*CSEM **11** 13:46:59.0,3493N×2635E,h26^{km},MD3.6/6,After ATH*
ATH 11 13:46:59.0,3493N×2635E,h26^{km}±1^{km},MD3.6/6,1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.54**	**264**	*e*PN	Pn	13 47 10.0	-1.0
NPS	**Neapolis**	**0.69**	**299**	⇑*i*PN	Pn	13 47 12.4	-0.7
NPS				*e*SN	Sn	13 47 22.0	-0.9
KARP	**Karpathos**	**0.91**	**47**	*e*PN	Pn	13 47 16.6	+0.6
KARP				*e*SN	Sn	13 47 29.8	+1.6
VAM	**Vamos**	**1.82**	**286**	*e*PN	Pn	13 47 31.3	+2.6
ARG	**Arkhangelos**	**1.94**	**48**	*e*PB	Pb	13 47 32.2	-1.4
APE	**Apeiranthos**	**2.23**	**343**	*e*PN	Pn	13 47 36.4	+2.1
VLI	**Veliai**	**3.30**	**304**	*e*PN	Pn	13 47 52.0	+3.1

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*ISCJB **11** 14:11:09.1±0.7,7762N±005×18.1E±03,h10^{km},Error ellipse: s-maj=11.1km s-min=4.4km az=112.9*
*NAO **11** 14:11:09.1±2.2,7785N×19.11E,h11^{km}±19^{km},ML2.5*
*CSEM **11** 14:11:10.9±0.5,7775N×1859E,h10^{km},ML3.1,Error ellipse: s-maj=15.0km s-min=6.1km az=68.0*
*BER **11** 14:11:12.0±4.2,7781N×1881E,h10^{km},MD2.5,ML3.1, ML2.5(NAO)*
ISC 11 14:11:10.2±0.9,7773N±005×185E±03,h9^{km}±8^{km},n8, σ1º08/15,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.63**	**317**	P	**Pg**	**14 11 22.3**	**-0.1**
	baz=117,slow=18						
SPA0				S	**Sg**	**14 11 30.2**	**-0.6**
	baz=112,slow=37						
HSP	**Hornsund**	**0.97**	**223**	*e*Pg	**Pg**	**14 11 29.1**	**+0.2**
HSP				*e*Sg	**Sg**	**14 11 44.2**	**+2.7**
KBS	**Kingsbay**	**1.79**	**315**	Pn	**Pn**	**14 11 41.1**	**-0.2**
KBS				Lg		14 12 05.7	
KBS	**Kingsbay**	**1.79**	**315**	*e*P	**Pn**	**14 11 41.8**	**+0.4**
KBS				*e*S	**Sn**	**14 12 04.5**	**+0.2**
KBS				AML	AML	14 12 07.8	
	comp=Z,108nm,0.2s						
KBS	**Kingsbay**	**1.79**	**315**	Pn	**Pn**	**14 11 41.1**	**-0.3**
KBS				*e*S	**Sn**	**14 12 04.5**	**+0.2**
	comp=Z,108nm,0.2s,SNR=50						
HOPEN	**Hopen**	**1.91**	**127**	*e*P	**Pn**	**14 11 43.8**	**+0.9**
HOPEN				*e*		14 11 47.7	
HOPEN				*e*Sg	**Sg**	**14 12 12.6**	**+1.0**
HOPEN				AML	AML	14 12 13.2	
	comp=N,1μm,0.2s						
BJO	**Bjornoya**	**3.25**	**177**	*e*Pg	**Pg**	**14 12 11.9**	**-0.5**
BJO				*e*Sg	**Sg**	**14 12 52.2**	**-2.3**
ARA0	**ARCESS Array S**	**8.46**	**163**	Pn	**Pn**	**14 13 12.0**	**-1.0**
	baz=351,slow=11						
ARA0				Sn	**Sn**	**14 14 40.0**	**-8.6**
	baz=3.2,slow=22						

MAN 11 14:14:36.0,1035N×12518E,h7^{km},mb2.5,ML4.0,MS2.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.38**	**235**	*e*P	Pg	14 14 44.0	+0.5
MSLP				*e*S	Sg	14 14 49.8	+1.2
SCPH	**Surigao**	**0.65**	**152**	*e*P	Pg	14 14 49.2	+0.7
SCPH				*i*S	Sg	14 15 01.3	+4.5
PLP	**Palo**	**0.83**	**346**	*e*P	Pg	14 14 52.1	+0.1
PLP				*e*S	Sg	14 15 04.3	+1.5
OCLP	**Ormoc**	**0.89**	**321**	*e*P	Pg	14 14 52.9	-0.3
BESP	**Borongan**	**1.27**	**12**	*e*P	Pn	14 14 58.9	-1.3
TBP	**Tagbilaran**	**1.46**	**243**	*e*P	Pn	14 15 09.8	+7.1
BUKP	**Musuan**	**2.46**	**183**	*e*P	Pn	14 15 18.4	+1.9

IDC 11 14:24:44.9±3.7,1491S×17289W,h0^{km},mb3.8/4, mb1 4.1/4,mb1mx3.9/15,mbtmp3.8/4,Error ellipse: s-maj=241.9km s-min=17.5km az=146.0,Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.47**	**48**	Pn	Pn	14 25 11.8	-0.8
	61nm,0.3s,baz=45,slow=1.5,SNR=107						
AFI				Sn	Sn	14 25 31.9	-0.6
	85nm,0.3s,baz=195,slow=22,SNR=11						
WRA	**Warramunga Arr**	**50.43**	**256**	P	P	14 33 44.7	+0.5
	1.0nm,1.0s,baz=96,slow=7.0,SNR=7.8						
ASAR	**Alice Springs**	**50.73**	**252**	P	P	14 33 46.1	-0.3
	1.2nm,0.5s,baz=88,slow=7.4,SNR=25						
NVAR	**Mina Array Bea**	**73.64**	**42**	P	P	14 36 21.3	+1.2
	0.4nm,0.7s,baz=232,slow=10,SNR=3.5						
YKA	**Yellowknife Ar**	**89.45**	**23**	P	P	14 37 44.3	+0.6
	0.5nm,0.8s,baz=244,slow=4.6,SNR=4.4						

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*IDC **11** 15:07:49.1±1.9,2084S×17459W,h0^{km},mb4.1/4, mb1 4.4/5,mb1mx4.1/15,mbtmp4.2/5,ML2.4/1,Error ellipse: s-maj=74.8km s-min=25.0km az=145.0*
*ISCJB **11** 15:07:52.7±6.7,204S±03×1749W±03,h24^{km}±48^{km}, mb4.1/4,Error ellipse: s-maj=67.1km s-min=13.6km az=79.3*
ISC 11 15:07:54.9±7.0,205S±03×1748W±03,h28^{km}±50^{km},n9, σ0º78/8,mb4.1/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.17**	**24**	Pn	**Pn**	**15 09 38.1**	**+0.2**
	3.7nm,0.3s,baz=324,slow=23,SNR=6.5						
AFI				Sn	**Sn**	**15 10 58.0**	**-0.4**
	4.7nm,0.3s,baz=24,slow=22,SNR=2.8						
DZM	**Mont Dzumac**	**17.54**	**262**	P	**Pn**	**15 12 02.8**	**+5.5**
	0.2nm,0.3s,baz=77,slow=14,SNR=4.5						
ASAR	**Alice Springs**	**47.42**	**256**	P	**P**	**15 16 26.4**	**-0.5**
	3.5nm,0.8s,mb4.3,baz=100,slow=7.3,SNR=31						
ASPA	**Alice Springs**	**47.42**	**256**	*e*P	**P**	**15 16 26.2**	**-0.7**
WRA	**Warramunga Arr**	**47.55**	**261**	P	**P**	**15 16 28.4**	**+0.4**
	2.2nm,0.7s,mb4.3,baz=96,slow=8.4,SNR=26						
MJAR	**Matsushiro Arr**	**72.02**	**322**	P	**P**	**15 19 17.2**	**+1.0**
	3.0nm,1.0s,mb4.2,baz=164,slow=8.6,SNR=5.7						
NVAR	**Mina Array Bea**	**79.00**	**42**	P	**P**	**15 19 56.4**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=230,slow=9.3,SNR=7.7						
AKASG	**Malin Array Be**	**144.40**	**334**	PKP	PKPdf	15 27 25.4	-3.1
	0.6nm,0.4s,baz=38,slow=3.5,SNR=9.5						
BRTR	**Keskin Array B**	**149.01**	**314**	PKPbc	PKPbc	15 27 40.2	-0.1
	0.9nm,0.8s,baz=82,slow=1.9,SNR=4.7						

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*ISCJB **11** 15:29:19.5±0.2,4807N±002×764E±002,h12^{km}±2^{km}, Error ellipse: s-maj=2.6km s-min=2.0km az=12.3*
*LDG **11** 15:29:20.8±0.1,4805N×763E,h7^{km},Md2.7/3,Ml2.6/9, Error ellipse: s-maj=1.4km s-min=0.9km az=177.0*
*LEDBW **11** 15:29:20.7±0.1,48052N±0009×7648E±0007,h5^{km},ML2.1, Error ellipse: s-maj=3.6km s-min=1.4km az=38.0*
*BGR **11** 15:29:20.9±0.4,4806N×767E,h5^{km},ML2.1/2,Error ellipse: s-maj=4.4km s-min=3.3km az=151.0*
*NEIC **11** 15:29:20.0,4805N×764E,h5^{km},ML2.0(STR), ML2.2(LEDBW),ML2.6(LDG),After LEDBW.*
*ZUR **11** 15:29:20.7,4804N×765E,h10^{km},ML1.9/7*
*CSEM **11** 15:29:20.8±0.0,4805N×763E,h5^{km},ML2.6/7,Error ellipse: s-maj=1.0km s-min=0.7km az=15.0*
*STR **11** 15:29:20.5±0.1,4806N×764E,h5^{km}±1^{km},Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 11 15:29:20.1±0.2,4806N±002×763E±002,h15^{km}±3^{km},n77, σ0º70/136,6C-11D,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIBD	**Limburg**	**0.10**	**348**	*e*Pg	**Pg**	**15 29 23.3**	**-0.1**
	SNR=5.6						
LIBD				P*	**Pg**	**15 29 24.6**	**+1.3**
LIBD				S*	**Sg**	**15 29 25.3**	**-0.1**
LIBD	**Limburg**	**0.10**	**348**	⇓*i*P	**Pg**	**15 29 23.4**	**+0.1**
LIBD				S	**Sg**	**15 29 25.3**	**-0.1**
LIBD	**Limburg**	**0.10**	**348**	Pg	**Pg**	**15 29 23.1**	**-0.2**
LIBD	**Limburg**	**0.10**	**348**	⇓*i*P	**Pg**	**15 29 23.4**	**+0.1**
LIBD	**Limburg**	**0.10**	**348**	⇓*i*Pg	**Pg**	**15 29 23.4**	**0.0**
LIBD				Sg	**Sg**	**15 29 25.3**	**-0.1**
LIBD	**Limburg**	**0.10**	**348**	Px	Px	15 29 24.6	
BREM	**Bremgarten**	**0.14**	**182**	⇑*e*Pg	**Pg**	**15 29 24.2**	**+0.3**
BREM				*e*Sg	**Sg**	**15 29 26.9**	**+0.5**
FBB	**Freiburg im Br**	**0.16**	**110**	⇓*i*P*	**Pg**	**15 29 24.0**	**-0.1**
FBB				*i* S*	**Sg**	**15 29 26.1**	**-0.6**
FBB	**Freiburg im Br**	**0.16**	**110**	⇓*i*P	**Pg**	**15 29 24.0**	**-0.1**
FBB				*i* S	**Sg**	**15 29 26.1**	**-0.6**
KIZ	**Kirchzarten**	**0.21**	**117**	⇑*i*P*	**Pg**	**15 29 24.8**	**-0.1**
KIZ				*i* S*	**Sg**	**15 29 27.6**	**-0.6**
KIZ	**Kirchzarten**	**0.21**	**117**	⇑*i*P	**Pg**	**15 29 24.8**	**-0.1**
KIZ				*i* S	**Sg**	**15 29 27.6**	**-0.7**
KIZ	**Kirchzarten**	**0.21**	**117**	⇑*i*Pg	**Pg**	**15 29 24.8**	**-0.1**
KIZ				*i* Sg	**Sg**	**15 29 27.6**	**-0.6**
FELD	**Feldberg im Sc**	**0.31**	**126**	⇓*i*P*	**Pg**	**15 29 26.6**	**+0.1**
FELD				*e*S*	**Sg**	**15 29 30.7**	**-0.1**
FELD	**Feldberg im Sc**	**0.31**	**126**	⇓*i*P	**Pg**	**15 29 26.6**	**+0.1**
FELD				*e*S	**Sg**	**15 29 30.7**	**-0.1**
FELD	**Feldberg im Sc**	**0.31**	**126**	Pg	**Pg**	**15 29 26.5**	**0.0**
FELD				Sg	**Sg**	**15 29 30.7**	**-0.1**
ECH	**Echery**	**0.36**	**297**	⇓*i*P*	**Pg**	**15 29 27.7**	**+0.4**
ECH				*i* S*	**Sg**	**15 29 32.3**	**+0.1**
ECH	**Echery**	**0.36**	**297**	Pg	**Pg**	**15 29 27.6**	**+0.2**
ECH				Sg	**Sg**	**15 29 32.2**	**-0.1**
MOF	**Molkenrain**	**0.39**	**239**	Pg	**Pg**	**15 29 28.3**	**+0.3**
MOF	**Molkenrain**	**0.39**	**239**	Pg	**Pg**	**15 29 28.5**	**+0.4**
WLS	**Welschbruch**	**0.40**	**332**	Pg	**Pg**	**15 29 28.6**	**+0.4**
WLS				Sg	**Sg**	**15 29 34.0**	**+0.3**
WLS	**Welschbruch**	**0.40**	**332**	⇓*i*Pg	**Pg**	**15 29 28.7**	**+0.5**
CDF	**Champ du Feu**	**0.43**	**326**	*e*Pg	**Pg**	**15 29 29.0**	**+0.3**
CDF				*e*Sg	**Sg**	**15 29 34.7**	**+0.2**
	15nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**326**	*e*Pg	**Pg**	**15 29 29.0**	**+0.3**
CDF				*e*Sg	**Sg**	**15 29 34.7**	**+0.2**
	7.7nm,0.2s						
BFO	**Black Forest**	**0.54**	**59**	*e*Pg	**Pg**	**15 29 30.7**	**0.0**
	SNR=2.0						
BFO				*e*Sg	**Sg**	**15 29 37.5**	**-0.4**
	SNR=6.9						
HINF	**Hinteralfeld**	**0.58**	**246**	*e*Pg	**Pg**	**15 29 31.5**	**+0.1**
HINF				*e*Sg	**Sg**	**15 29 38.9**	**-0.2**
	22nm,0.2s						
HINF				*e*Sn	**Sg**	**15 29 43.2**	**+4.1**
HINF	**Hinteralfeld**	**0.58**	**246**	*e*Pg	**Pg**	**15 29 31.5**	**+0.1**
HINF				*e*Sg	**Sg**	**15 29 38.9**	**-0.2**
	11nm,0.2s						
HINF				*e*Sn	**Sg**	**15 29 43.2**	**+4.1**
BBS	**Basel-Blauen**	**0.60**	**188**	P*	**Pb**	**15 29 30.8**	**-1.4**
BBS	**Basel-Blauen**	**0.60**	**188**	Pg	**Pg**	**15 29 32.1**	**+0.3**
SULZ	**Sulz-Cheisache**	**0.62**	**148**	⇓*i*Pg	**Pg**	**15 29 32.5**	**+0.3**
	75nm,0.3s						
SULZ				*e*Sg	**Sg**	**15 29 40.7**	**+0.2**
	75nm,0.3s						
SLE	**Schleitheim**	**0.65**	**116**	⇓*i*Pg	**Pg**	**15 29 32.8**	**+0.1**
	236nm,0.3s						
BOURR	**Bourrignon**	**0.72**	**202**	⇑*i*Pg	**Pg**	**15 29 34.4**	**+0.4**
	103nm,0.3s						
BOURR	**Bourrignon**	**0.72**	**202**	⇑*i*P	**Pg**	**15 29 34.5**	**+0.5**
BALST	**Balsthal**	**0.72**	**177**	⇑*i*Pg	**Pg**	**15 29 34.5**	**+0.4**
	125nm,0.1s						
BALST	**Balsthal**	**0.72**	**177**	⇑*i*P	**Pg**	**15 29 34.4**	**+0.3**
TRULL	**Truellikon**	**0.81**	**120**	*e*Pg	**Pg**	**15 29 36.6**	**+0.7**
	79nm,0.2s						
HAU	**Haudompre**	**0.86**	**267**	*e*Pn	**Pn**	**15 29 38.3**	**+0.6**
HAU				*e*Sg	**Sg**	**15 29 48.9**	**+0.7**
	53nm,0.3s						
HAU				*e*Sn	**Sn**	**15 29 51.0**	**+1.0**
HAU	**Haudompre**	**0.86**	**267**	*e*Pg	**Pg**	**15 29 36.9**	**+0.1**
HAU				*e*Pn	**Pn**	**15 29 38.3**	**+0.6**
HAU				*e*Sg	**Sg**	**15 29 48.9**	**+0.7**
HAU				*e*Sn	**Sn**	**15 29 51.0**	**+1.0**
HAU	**Haudompre**	**0.86**	**267**	*e*Pn	**Pn**	**15 29 38.3**	**+0.6**
HAU				*e*Sg	**Sg**	**15 29 48.9**	**+0.7**
	26nm,0.3s						
HAU				*e*Sn	**Sn**	**15 29 51.0**	**+1.0**
LOMF	**Lomont**	**0.89**	**218**	Pg	**Pg**	**15 29 38.1**	**+0.8**
LOMF				Sg	**Sg**	**15 29 50.8**	**+1.8**
LOMF	**Lomont**	**0.89**	**218**	Pg	**Pg**	**15 29 38.2**	**+0.9**
STEIN	**Stein am Rhein**	**0.92**	**114**	*e*Pg	**Pg**	**15 29 38.3**	**+0.5**
	42nm,0.6s						
LANF	**Langenberg**	**0.93**	**7**	Pg	**Pg**	**15 29 38.6**	**+0.5**
LANF				Sg	**Sg**	**15 29 51.2**	**+0.8**
LANF	**Langenberg**	**0.93**	**7**	*e*Pg	**Pg**	**15 29 38.7**	**+0.6**
	SNR=1.9						
BHBD	**Braunhartsberg**	**0.94**	**78**	⇑*e*Pg	**Pg**	**15 29 38.5**	**+0.3**
BHBD				*e*Sg	**Sg**	**15 29 50.3**	**-0.2**
SISB	**Singen-Schiene**	**0.97**	**112**	Pg	**Pg**	**15 29 39.4**	**+0.6**
SISB				Sg	**Sg**	**15 29 52.2**	**+0.7**
GUT	**Gutenstein**	**0.99**	**89**	Pg	**Pg**	**15 29 39.8**	**+0.5**
GUT				Sg	**Sg**	**15 29 52.5**	**+0.1**
TUBL	**Tuebingen-Lenn**	**1.07**	**64**	Pg	**Pg**	**15 29 41.4**	**+0.6**
TUBL				Sg	**Sg**	**15 29 55.2**	**+0.3**
THEF	**They Montfort**	**1.12**	**279**	Pg	**Pg**	**15 29 41.6**	**0.0**
THEF				Sg	**Sg**	**15 29 56.6**	**+0.4**
THEF	**They Montfort**	**1.12**	**279**	P	**Pb**	**15 29 42.0**	**+1.0**
BUCH	**Bad Urach**	**1.22**	**70**	Pn	**Pn**	**15 29 41.9**	**-0.6**
BUCH				Pg	**Pg**	**15 29 43.8**	**+0.3**
BUCH				Sg	**Sg**	**15 29 59.8**	**+0.5**
BUCH	**Bad Urach**	**1.22**	**70**	Pn	**Pn**	**15 29 41.9**	**-0.6**
BUCH				Pg	**Pg**	**15 29 43.8**	**+0.3**
BUCH				Sg	**Sg**	**15 29 59.8**	**+0.5**
BUCH	**Bad Urach**	**1.22**	**70**	P	**Pg**	**15 29 43.8**	**+0.3**
BUCH				S	**Sg**	**15 29 59.8**	**+0.5**
STU	**Stuttgart**	**1.26**	**55**	*e*Sg	**Sg**	**15 30 00.2**	**-0.7**
	SNR=3.0						
RFYF	**Reffroy**	**1.55**	**293**	*e*Pg	**Pg**	**15 29 49.5**	**-0.4**
RUP	**Ruppelstein**	**1.69**	**347**	*e*Pg	**Pg**	**15 29 52.6**	**0.0**
	SNR=1.3						
UBR	**Ueberruh**	**1.71**	**102**	Sg	**Sg**	**15 30 15.3**	**+0.2**
SFTF	**Sexfontaines**	**1.75**	**276**	*e*Pg	**Pg**	**15 29 53.3**	**-0.3**
SFTF				*e*Sn	**Sn**	**15 30 11.7**	**0.0**
SFTF				*e*Sg	**Sg**	**15 30 15.5**	**-0.8**
	6.8nm,0.3s						
SFTF	**Sexfontaines**	**1.75**	**276**	*e*Pn	**Pn**	**15 29 50.3**	**+0.5**
SFTF				*e*Pg	**Pg**	**15 29 53.3**	**-0.3**
SFTF				*e*Sn	**Sn**	**15 30 11.7**	**0.0**
SFTF				*e*Sg	**Sg**	**15 30 15.5**	**-0.8**
SFTF	**Sexfontaines**	**1.75**	**276**	*e*Pg	**Pg**	**15 29 53.3**	**-0.3**
SFTF				*e*Sn	**Sn**	**15 30 11.7**	**0.0**
SFTF				*e*Sg	**Sg**	**15 30 15.5**	**-0.8**
	3.4nm,0.3s						
MEZF	**Maizieres J'vi**	**1.78**	**285**	*e*Pg	**Pg**	**15 29 54.1**	**-0.2**
	baz=109						
MEZF				*e*Sg	**Sg**	**15 30 17.3**	**-0.1**
	6.4nm,0.4s						
MEZF	**Maizieres J'vi**	**1.78**	**285**	*e*Pg	**Pg**	**15 29 54.1**	**-0.2**
MEZF				*e*Sg	**Sg**	**15 30 17.3**	**-0.1**
	3.2nm,0.4s						
CABF	**La Chapelle**	**1.79**	**217**	*e*Pg	**Pg**	**15 29 53.8**	**-0.6**
CABF				*e*Sg	**Sg**	**15 30 17.6**	**0.0**
	5.6nm,0.4s						
CABF	**La Chapelle**	**1.79**	**217**	*e*Pn	**Pn**	**15 29 50.3**	**-0.1**
CABF				*e*Pg	**Pg**	**15 29 53.8**	**-0.6**
CABF				*e*Sg	**Sg**	**15 30 17.6**	**0.0**
CABF	**La Chapelle**	**1.79**	**217**	*e*Pg	**Pg**	**15 29 53.8**	**-0.6**
CABF				*e*Sg	**Sg**	**15 30 17.6**	**0.0**
	2.8nm,0.4s						
HDH	**Heidenheim-Cha**	**1.80**	**72**	Pg	**Pg**	**15 29 54.4**	**-0.1**
SIND	**Sindeldorf**	**1.84**	**45**	Pg	**Pg**	**15 29 54.7**	**-0.7**
TNS	**Taunus Mts**	**2.23**	**14**	*e*Sg	**Sg**	**15 30 31.7**	**-0.2**
	SNR=3.0						
LOR	**Lormes**	**2.67**	**254**	*e*Pg	**Pg**	**15 30 10.4**	**-0.9**
	baz=79						
LOR				*e*Sg	**Sg**	**15 30 44.4**	**-1.5**
	5.0nm,0.2s						
LOR	**Lormes**	**2.67**	**254**	*e*Pg	**Pg**	**15 30 10.4**	**-0.9**
LOR				*e*Sg	**Sg**	**15 30 44.4**	**-1.5**
	2.5nm,0.2s						
SMF	**Signal de Mont**	**2.94**	**243**	*e*Sg	**Sg**	**15 30 52.6**	**-1.9**
	8.5nm,0.3s						
SMF	**Signal de Mont**	**2.94**	**243**	*e*Sg	**Sg**	**15 30 52.6**	**-1.9**
	4.2nm,0.3s						
SSF	**Saint Saulge**	**2.97**	**252**	*e*Pg	**Pg**	**15 30 16.1**	**-0.8**
SSF				*e*Sg	**Sg**	**15 30 52.7**	**-2.7**
	4.0nm,0.4s						
SSF	**Saint Saulge**	**2.97**	**252**	*e*Pg	**Pg**	**15 30 16.1**	**-0.8**
SSF				*e*Sg	**Sg**	**15 30 52.7**	**-2.7**
	2.0nm,0.4s						
WET	**Wettzell**	**3.65**	**71**	*e*Sg	**Sg**	**15 31 14.8**	**-2.4**
	SNR=2.6						
GEC2	**GERESS Array S**	**4.12**	**77**	*e*Sg	**Sg**	**15 31 30.1**	**-2.1**
	SNR=2.1						
BRG	**Berggiesshubel**	**4.99**	**53**	*e*Sg	**Sg**	**15 32 00.4**	**+0.2**
	SNR=2.4						
BRG	**Berggiesshubel**	**4.99**	**53**	SG	**Sg**	**15 32 00.9**	**+0.7**
	1.5nm,0.4s						

MAN 11 15:29:45.9,704N×12361E,h13^{km},mb3.4,ML4.6,MS0.7, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.66**	**74**	*i* P	Pg	15 29 58.4	-0.2
CTBH				*i* S	Sg	15 30 07.6	+0.3
PAGZ	**Pagadian**	**0.84**	**344**	*e*P	Pg	15 30 01.4	-0.6
PAGZ				*e*S	Sg	15 30 13.2	+0.2
PAGZ	**Pagadian**	**0.84**	**344**	*e*P	Pg	15 30 01.4	-0.6
PAGZ				*e*S	Sg	15 30 13.1	0.0
IPIL	**Ipil**	**1.27**	**306**	⇓*i*P	Pn	15 30 08.9	-0.5
IPIL				*e*S	Sb	15 30 24.6	-1.3
IPIL	**Ipil**	**1.27**	**306**	*e*P	Pn	15 30 08.5	-0.9
IPIL				*e*S	Sb	15 30 24.5	-1.5
IPIL	**Ipil**	**1.27**	**306**	*e*P	Pn	15 30 08.5	-0.8
BUKP	**Musuan**	**1.66**	**60**	*e*P	Pn	15 30 14.4	-0.3
BUKP	**Musuan**	**1.66**	**60**	*e*P	Pn	15 30 14.5	-0.2

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*NEIC **11** 15:54:56.5,3836S×17573E,h174^{km},MG4.0(WEL),After WEL.*
WEL 11 15:54:56.7±0.3,3838S×17573E,h173^{km}±2^{km},ML3.9/12, 2C,Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**0.89**	**189**	PN	Pn	15 55 23.3	+0.5
FWVZ				*e*SN	Sn	15 55 42.8	-0.1
FWVZ	**Far West T-bar**	**0.89**	**189**	P	Pn	15 55 23.4	+0.5
BKZ	**Black Stump Fm**	**0.99**	**143**	⇑PN	Pn	15 55 23.9	+0.3
BKZ				SN	Sn	15 55 44.3	0.0
BKZ	**Black Stump Fm**	**0.99**	**143**	P	Pn	15 55 23.9	+0.3
BKZ				S	Sn	15 55 44.3	+0.1
MOVZ	**

s-maj=46.0km s-min=14.4km az=149.0
*NEIC **11** 16:28:16.2±1.0, 1608S×17488W, h285km±9km, mb4.2/6, Error ellipse: s-maj=30.7km s-min=9.0km az=148.0*
ISC 11 16:28:15.9±1.1, 160S±03×1749W±02, h276km±14km, n31, σ0§82/22, mb4.1/11, 4C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.64**	**56**	P	**Pn**	**16 29 18.2**	**+1.3**
	25nm,0.3s,baz=143,slow=0.6,SNR=26						
AFI				S	**S**	**16 30 04.3**	**-1.1**
	60nm,0.3s,baz=4.8,slow=20,SNR=8.6						
AFI	**Afiamalu**	**3.64**	**56**	↑iPn	**Pn**	**16 29 18.3**	**+1.5**
AFI				eS	**S**	**16 30 04.5**	**-1.0**
PMG	**Port Moresby**	**37.55**	**275**	P	**P**	**16 35 05.5**	**+1.6**
	4.5nm,0.5s,mb4.1,baz=69,slow=18,SNR=6.6						
PMG	**Port Moresby**	**37.55**	**275**	eP	**P**	**16 35 05.5**	**+1.6**
	4.0nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**42.51**	**240**	eP	**P**	**16 35 43.2**	**-1.3**
	5.1nm,1.9s,mb3.4						
STKA	**Stephens Creek**	**42.51**	**240**	P	**P**	**16 35 43.0**	**-1.5**
	2.4nm,0.6s,mb3.6,baz=77,slow=9.4,SNR=9.2						
WB2	**Warramunga Arr**	**48.31**	**257**	↑iP	**P**	**16 36 29.5**	**-0.2**
WRAB	**Tennant Creek**	**48.31**	**257**	eP	**P**	**16 36 29.7**	**-0.1**
WRA	**Warramunga Arr**	**48.32**	**257**	P	**P**	**16 36 29.6**	**-0.2**
	6.5nm,0.7s,mb4.1,baz=91,slow=6.6,SNR=125						
WRA				PcP	PcP	16 37 52.2	+0.3
	0.8nm,0.5s,baz=96,slow=3.5,SNR=4.5						
AS31	**Alice Springs**	**48.57**	**252**	↑iP	**P**	**16 36 31.7**	**0.0**
ASAR	**Alice Springs**	**48.57**	**252**	P	**P**	**16 36 31.9**	**+0.1**
	54nm,0.6s,mb5.0,baz=87,slow=7.8,SNR=700						
ASPA	**Alice Springs**	**48.57**	**252**	↑iP	**P**	**16 36 31.7**	**0.0**
KAKA	**Kakadu**	**51.02**	**266**	eP	**P**	**16 36 50.3**	**+0.2**
	11nm,0.7s,mb4.3						
FORT	**Forrest**	**53.88**	**243**	eP	**P**	**16 37 10.5**	**-0.4**
	23nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**56.69**	**259**	eP	**P**	**16 37 31.7**	**+0.8**
	8.5nm,1.1s,mb4.1						
MJAR	**Matsushiro Arr**	**68.45**	**321**	P	**P**	**16 38 46.9**	**-1.4**
	1.7nm,0.9s,mb3.8,baz=151,slow=5.0,SNR=4.1						
NVAR	**Mina Array Bea**	**75.71**	**43**	P	**P**	**16 39 32.2**	**+1.1**
	0.8nm,0.8s,mb3.4,baz=225,slow=9.3,SNR=5.8						
NVAR	**Mina Array Bea**	**75.71**	**43**	P	**P**	**16 39 32.2**	**+1.1**
PDAR	**Pinedale Array**	**83.64**	**42**	P	**P**	**16 40 13.6**	**0.0**
	0.7nm,0.7s,mb3.6,baz=206,slow=2.2,SNR=5.4						
BILL	**Bilibino**	**84.88**	**353**	eP	**P**	**16 40 19.4**	**-0.4**
	1.7nm,0.3s,mb4.3						
ZRNK	**Zerenda**	**118.28**	**322**	ePKPdf	PKPdf	16 46 29.2	-1.0
ARCES	**ARCESS Array B**	**124.96**	**351**	PKP	PKPdf	16 46 42.1	-1.0
	2.3nm,0.8s,baz=330,slow=7.0,SNR=6.4						
KMBO	**Kilima Mbogo**	**144.00**	**245**	PKP	PKPdf	16 47 17.5	-1.0
	2.3nm,0.8s,baz=139,slow=7.4,SNR=4.8						
CLL	**Collm**	**144.18**	**352**	ePKPdf	PKPdf	16 47 17.0	-1.7
DPC	**Dobruska-Polom**	**144.52**	**348**	ePKP	PKPdf	16 47 19.2	-0.1
PRU	**Pruhonice**	**145.21**	**349**	ePKP	PKPdf	16 47 21.0	+0.5
VYHS	**Vyhne**	**145.66**	**344**	ePKP	PKPdf	16 47 22.5	+1.2
BR131	**Keskin Array S**	**145.66**	**319**	ePKPdf	PKPdf	16 47 22.7	+1.4
BRTR	**Keskin Array B**	**145.66**	**319**	PKPbc	PKPbc	16 47 22.6	+0.3
	3.7nm,1.0s,baz=103,slow=1.9,SNR=13						
KHC	**Kasperske Hory**	**146.21**	**350**	ePKP	PKPdf	16 47 24.8	+2.6
GERES	**GERESS Array B**	**146.46**	**350**	PKPbc	PKPbc	16 47 24.4	-0.1
	0.5nm,0.6s,baz=38,slow=6.8,SNR=6.1						

*BJI **11** 16:33:14.6, 3370N×13730E, h341km, mB4.2, mb3.9*
*JMA **11** 16:33:14.8±0.4, 3367N×13731E, h360km±5km, M3.3*
*ISCJB **11** 16:33:15.8±0.4, 3371N±006×13732E±006, h351km±2km, mb3.5/13, Error ellipse: s-maj=9.9km s-min=6.8km az=136.6*
*MOS **11** 16:33:15.5±1.4, 3371N×13735E, h350km, mb3.8/7, Error ellipse: s-maj=26.9km s-min=11.7km az=90.9*
*NEIC **11** 16:33:16.6±0.9, 3369N×13729E, h342km±7km, mb4.0/4, Error ellipse: s-maj=15.3km s-min=14.1km az=90.0*
*IDC **11** 16:33:16.6±1.0, 3375N×13733E, h344km±8km, mb3.2/10, mb1 3.4/13, mb1mx3.3/24, mbtmp4.0/13, Error ellipse: s-maj=19.1km s-min=13.4km az=84.0*
ISC 11 16:33:16.7±0.4, 3372N±006×13729E±006, h345km±2km, n51, σ1§05/68, mb3.5/13, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK04	**Tokai 4**	**0.82**	**36**	P	**Pn**	**16 34 02.1**	**+0.8**
TK04				S	**S**	**16 34 39.4**	**+2.5**
JIE	**Ise**	**0.83**	**324**	P	**Pn**	**16 34 01.6**	**+0.3**
JIE				S	**S**	**16 34 37.0**	**0.0**
JWZ	**Kozaga**	**1.33**	**262**	P	**Pn**	**16 34 02.0**	**-1.4**
JWY	**Kouya**	**1.50**	**290**	P	**Pn**	**16 34 04.7**	**+0.4**
JWY				S	**S**	**16 34 42.6**	**+0.1**
JGM	**Miyama**	**2.03**	**347**	P	**Pn**	**16 34 08.2**	**+0.5**
JIM2	**Oshima 3**	**2.03**	**60**	P	**Pn**	**16 34 07.3**	**-0.5**
JYN	**Shimob**	**2.05**	**30**	P	**Pn**	**16 34 09.5**	**+1.6**
JOD2	**Odawara 2**	**2.14**	**43**	P	**Pn**	**16 34 07.7**	**-0.8**
JOD2				eS	**S**	**16 34 51.7**	**+1.6**
JHJ	**Hachijo jima 2**	**2.17**	**105**	P	**Pn**	**16 34 08.4**	**-0.3**
	56nm,0.3s,baz=204,slow=22,SNR=18						
JHJ2	**Mitsune**	**2.20**	**105**	P	**Pn**	**16 34 08.8**	**-0.2**
JWT	**Wachi**	**2.21**	**315**	P	**Pn**	**16 34 09.4**	**+0.4**
JWT				S	**S**	**16 34 50.2**	**-0.8**
JAI	**Aioi**	**2.37**	**273**	P	**Pn**	**16 34 10.4**	**+0.1**
JAI				S	**S**	**16 34 52.9**	**-0.4**
JRY	**Ryogami san**	**2.65**	**30**	P	**Pn**	**16 34 12.6**	**0.0**
JRY				S	**S**	**16 34 58.7**	**+1.3**
JMN	**Monobe**	**2.84**	**271**	P	**Pn**	**16 34 14.6**	**+0.3**
MJAR	**Matsushiro Arr**	**2.91**	**15**	P	**Pn**	**16 34 14.8**	**-0.1**
	2.4nm,0.3s,baz=186,slow=9.6,SNR=30						
MJAR				S	**S**	**16 35 01.2**	**-0.4**
	1.1nm,0.3s,baz=192,slow=17,SNR=12						
MJAR	**Matsushiro Arr**	**2.91**	**15**	P	**Pn**	**16 34 14.8**	**-0.1**
MJAR				S	**S**	**16 35 01.2**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MAJO	**Matsushiro**	**2.92**	**15**	eP	**Pn**	**16 34 14.2**	**-0.7**
MAT	**Matsushiro**	**2.92**	**15**	P	**Pn**	**16 34 14.8**	**-0.1**
MAT				S	**S**	**16 35 00.3**	**-1.4**
MAT	**Matsushiro**	**2.92**	**15**	P	**Pn**	**16 34 14.0**	**-0.9**
MAT				S	**S**	**16 35 01.2**	**-0.5**
MAT	**Matsushiro**	**2.92**	**15**	eP	**Pn**	**16 34 15.0**	**+0.1**
MAT				eS	**S**	**16 35 00.0**	**-1.7**
BSO1	**Boso 1**	**3.19**	**72**	P	**Pn**	**16 34 14.7**	**-2.7**
BSO1				S	**S**	**16 35 01.7**	**-4.6**
JHS	**Saijyo**	**3.68**	**291**	P	**Pn**	**16 34 22.0**	**-0.2**
JHS				S	**S**	**16 35 14.9**	**0.0**
CBIJ	**Chichi jima**	**7.84**	**146**	P	**Pn**	**16 35 04.5**	**-4.2**
	comp=N,9.2nm,0.3s,baz=253,slow=20,SNR=5.0						
CBIJ				S	**S**	**16 36 28.4**	**-12**
	comp=N,22nm,0.3s,baz=265,slow=22,SNR=8.2						
ASAJ	**Asahikawa**	**11.17**	**20**	P	**Pn**	**16 35 46.6**	**-2.0**
	comp=N,1.8nm,0.3s,baz=230,slow=13,SNR=18						
ASAJ				S	**S**	**16 37 47.3**	**-6.2**
	comp=N,0.2nm,0.3s,baz=288,slow=20,SNR=3.4						
ASAJ	**Asahikawa**	**11.17**	**20**	P	**Pn**	**16 35 46.6**	**-2.0**
ASAJ				S	**S**	**16 37 47.3**	**-6.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**13.86**	**16**	eP	**Pn**	**16 36 19.9**	**-0.4**
YSS				pmax	pmax		
	comp=Z,28nm,0.4s						
YSS	**Yuzh-Sakhalins**	**13.86**	**16**	eP	**Pn**	**16 36 19.9**	**-0.4**
	comp=Z,28nm,0.4s						
WHN	**Wuhan**	**19.68**	**267**	eP	**P**	**16 37 18.5**	**-3.1**
HIA	**Hailar**	**20.27**	**325**	eP	**P**	**16 37 28.9**	**+1.5**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**20.27**	**325**	eP	**P**	**16 37 28.9**	**+1.5**
	comp=Z,9.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**21.63**	**297**	eP	**P**	**16 37 42.0**	**+2.2**
HHC				AMB	AMB		
	comp=Z,40nm,3.9s						
ULN	**Ulaanbaatar**	**26.70**	**311**	eP	**P**	**16 38 25.6**	**+0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**26.70**	**311**	eP	**P**	**16 38 25.6**	**+0.2**
	comp=Z,4.0nm,0.6s,mb3.8						
SONM	**Songino Array**	**27.11**	**311**	P	**P**	**16 38 29.4**	**+0.4**
	comp=Z,2.7nm,0.6s,mb3.6,baz=120,slow=8.5,SNR=23						
SONM	**Songino Array**	**27.11**	**311**	P	**P**	**16 38 29.4**	**+0.4**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**38.17**	**17**	P	**P**	**16 40 04.4**	**+0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb3.9						
BILL	**Bilibino**	**38.17**	**17**	P	**P**	**16 40 04.4**	**+0.4**
	comp=Z,3.8nm,0.5s,mb3.9						
MKAR	**Makanchi Array**	**43.12**	**305**	P	**P**	**16 40 43.6**	**-0.5**
	comp=Z,0.9nm,0.3s,mb3.4,baz=87,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**43.12**	**305**	P	**P**	**16 40 43.6**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KDAK	**Kodiak Island**	**51.80**	**40**	P	**P**	**16 41 50.0**	**-0.3**
	comp=Z,6.7nm,0.4s,mb4.3,baz=225,slow=7.1,SNR=5.6						
WRA	**Warramunga Arr**	**53.43**	**183**	P	**P**	**16 42 00.9**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.1,baz=360,slow=7.6,SNR=7.8						
ASAR	**Alice Springs**	**57.16**	**184**	P	**P**	**16 42 30.5**	**+2.1**
	comp=Z,0.3nm,0.6s,mb2.8,baz=4.1,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**65.89**	**339**	P	**P**	**16 43 25.9**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.7,baz=70,slow=7.8,SNR=3.0						
ARCES	**ARCESS Array B**	**65.89**	**339**	P	**P**	**16 43 25.9**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**68.34**	**28**	P	**P**	**16 43 40.6**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.4,baz=298,slow=6.2,SNR=4.6						
FINES	**FINESS Array B**	**70.15**	**332**	P	**P**	**16 43 51.7**	**-0.8**
	comp=Z,0.8nm,0.4s,mb3.8,baz=63,slow=5.6,SNR=20						
FINES	**FINESS Array B**	**70.15**	**332**	P	**P**	**16 43 51.7**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**70.15**	**332**	P	**P**	**16 43 51.7**	**-0.8**
HLID	**Hailey**	**79.09**	**45**	eP	**P**	**16 44 45.1**	**+1.6**
	comp=Z,0.5nm,0.4s,mb3.6						
NVAR	**Mina Array Bea**	**79.68**	**51**	P	**P**	**16 44 47.8**	**+1.2**
	comp=Z,0.4nm,0.6s,mb3.3,baz=295,slow=5.2,SNR=4.4						
PDAR	**Pinedale Array**	**82.39**	**43**	P	**P**	**16 45 00.7**	**-0.1**
	comp=Z,0.2nm,0.5s,mb3.2,baz=336,slow=3.3,SNR=4.2						

*LDG **11** 16:40:09.0±0.1, 4179N×155E, h5km, Ml2.2/4, Error ellipse: s-maj=1.6km s-min=1.0km az=15.0*
MDD 11 16:40:09.0±0.3, 4179N×155E, h0km, mbLg1.5/17, Error ellipse: s-maj=2.7km s-min=1.7km az=116.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIR	**Miracle**	**0.13**	**353**	Pg	Pg	16 40 11.3	-0.3
	43nm,0.3s,SNR=18						
EMIR				Lg		16 40 13.6	
	55nm,0.2s,SNR=11						
CORG	**Organya**	**0.48**	**339**	Pg	Pg	16 40 17.9	-0.3
EPOB	**Poblet**	**0.56**	**219**	Pg	Pg	16 40 19.2	-0.5
	2.6nm,0.6s,SNR=5.7						
EPOB				Lg		16 40 26.6	
	9.7nm,0.1s,SNR=22						
CGAR	**Garraf**	**0.58**	**213**	Pg	Pg	16 40 20.1	-0.1
CAVN	**Les Avellanes**	**0.60**	**280**	Pg	Pg	16 40 20.1	-0.5
CAVN				Lg		16 40 28.6	
	2.7nm,0.2s						
CFON	**Fontmartina**	**0.66**	**92**	Pg	Pg	16 40 21.2	-0.6
CSOR	**Sort**	**0.67**	**333**	Pg	Pg	16 40 21.8	0.0
CSOR				Lg		16 40 30.9	
	1.4nm,0.3s						
CBRU	**Bruguera**	**0.69**	**43**	Pg	Pg	16 40 21.8	-0.4
CBRU				Lg		16 40 31.1	
	12nm,0.1s						
VALF	**Valcebollere**	**0.71**	**29**	Lg		16 40 31.6	
CLLI	**Llivia**	**0.76**	**24**	Pg	Pg	16 40 23.4	-0.2
CLLI				Lg		16 40 33.5	
	1.4nm,0.2s						
EGRA	**Graus**	**1.01**	**294**	Pg	Pg	16 40 27.7	-0.6
	4.1nm,0.2s						
EGRA				Lg		16 40 41.4	
	3.3nm,0.2s,SNR=11						
SALF	**Salau**	**1.01**	**345**	Pg	Pg	16 40 27.6	-0.8
SALF				Lg		16 40 41.2	
EJON	**La Jonquera**	**1.20**	**56**	Pg	Pg	16 40 31.2	-0.8
	10nm,1.1s						
EJON				Lg		16 40 46.4	
	1.8nm,0.1s,SNR=4.7						
ERTA	**Horta de San J**	**1.23**	**228**	Pg	Pg	16 40 31.8	-0.8
	4.8nm,0.9s						
ERTA				Lg		16 40 48.5	
	12nm,0.3s,SNR=14						
EBIE	**Bielsa**	**1.38**	**311**	Pg	Pg	16 40 35.6	+0.2
	0.1nm,0.1s,SNR=4.0						
EBIE				Lg		16 40 53.0	
	1.0nm,0.1s,SNR=8.9						
ESAC	**San Caprasio**	**1.51**	**268**	Pg	Pg	16 40 37.2	-0.8
	1.3nm,0.1s,SNR=7.9						
ESAC				Lg		16 40 57.3	
	7.1nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.53**	**325**	ePg	Pg	16 40 37.7	-0.7
EPF				eSg	Sg	16 40 57.2	-1.1
	4.1nm,0.2s						
EPF	**Esparros**	**1.53**	**325**	Pg	Pg	16 40 37.7	-0.7
EPF				Lg		16 40 57.2	
	2.0nm,0.2s						
MTLF	**Montolieu**	**1.63**	**17**	ePg	Pg	16 40 39.3	-1.0
MTLF				eSg	Sg	16 41 00.5	-1.0
	3.1nm,0.3s						
MTLF	**Montolieu**	**1.63**	**17**	Pg	Pg	16 40 39.3	-1.0
MTLF				Lg		16 41 00.5	
	1.6nm,0.3s						
ETSF	**Etsaut**	**1.92**	**306**	ePg	Pg	16 40 45.1	-0.7
ETSF				eSg	Sg	16 41 09.5	-1.2
	4.1nm,0.3s						
ETSF	**Etsaut**	**1.92**	**306**	Pg	Pg	16 40 45.1	-0.7
ETSF				Lg		16 41 09.5	
	2.0nm,0.3s						
EMOS	**Mosqueruela**	**2.08**	**228**	Lg		16 41 15.1	
	2.5nm,0.5s,SNR=7.9						
SJPF	**Ste Jean**	**2.44**	**304**	ePg	Pg	16 40 54.2	-1.7
SJPF				eSg	Sg	16 41 25.8	-1.8
	1.8nm,0.3s						
SJPF	**Ste Jean**	**2.44**	**304**	Pg	Pg	16 40 54.2	-1.7
SJPF				Lg		16 41 25.8	
	0.9nm,0.3s						
EALK	**Alkurruntz**	**2.68**	**303**	Lg		16 41 34.8	
	2.2nm,0.3s,SNR=4.0						

*IDC **11** 16:53:40.2±2.0, 1681S×17373W, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.1/15, mbtmp4.0/6, ML2.2/1, Error ellipse: s-maj=125.1km s-min=20.1km az=145.0*
*NEIC **11** 16:53:43.0±1.1, 1662S×17389W, h15km, mb4.1/3, Error ellipse: s-maj=71.2km s-min=10.8km az=144.0*
*ISCJB **11** 16:53:44.4±6.0, 159S±07×1743W±05, h25km±39km, mb4.0/8, Error ellipse: s-maj=150.5km s-min=11.1km az=113.2*
ISC 11 16:53:46.3±6.5, 160S±07×1742W±05, h24km±42km, n14, σ0§80/15, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.12**	**50**	Pn	**Pn**	**16 54 34.2**	**+0.2**
	12nm,0.3s,baz=209,slow=13,SNR=20						
AFI				Sn	**Sn**	**16 55 09.6**	**-0.8**
	62nm,0.3s,baz=32,slow=22,SNR=14						
AFI	**Afiamalu**	**3.12**	**50**	ePn	**Pn**	**16 54 34.6**	**+0.6**
AFI				eSn	**Sn**	**16 55 09.1**	**-1.3**
STKA	**Stephens Creek**	**43.07**	**240**	P	**P**	**17 01 41.3**	**-2.9**
	1.6nm,0.8s,mb3.8,baz=77,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**43.07**	**240**	eP	**P**	**17 01 40.9**	**-3.2**
WB2	**Warramunga Arr**	**48.93**	**257**	eP	**P**	**17 02 30.7**	**+0.3**
WRA	**Warramunga Arr**	**48.94**	**257**	P	**P**	**17 02 30.8**	**+0.3**
	0.7nm,0.5s,mb3.9,baz=96,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**49.18**	**252**	P	**P**	**17 02 32.1**	**-0.1**
	4.1nm,0.5s,mb4.7,baz=87,slow=8.6,SNR=141						
ASPA	**Alice Springs**	**49.19**	**252**	eP	**P**	**17 02 32.0**	**-0.3**
NVAR	**Mina Array Bea**	**75.27**	**42**	P	**P**	**17 05 27.5**	**+0.3**
	0.6nm,0.8s,mb3.6,baz=221,slow=8.3,SNR=5.7						
ELK	**Elko**	**78.53**	**42**	eP	**P**	**17 05 46.0**	**+0.5**
	0.8nm,0.6s,mb3.8						
HLID	**Hailey**	**80.56**	**40**	eP	**P**	**17 05 57.6**	**+1.1**
	1.8nm,0.9s,mb4.0						
BW06	**Boulder Array**	**83.21**	**42**	P	**P**	**17 06 10.3**	**-0.2**
	1.0nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**83.21**	**42**	P	**P**	**17 06 10.5**	**0.0**
	0.9nm,0.7s,mb3.9,baz=226,slow=3.6,SNR=7.6						
PDAR				pP	pP	17 06 27.3	+8.9
	0.9nm,0.7s,baz=245,slow=2.0,SNR=7.2						
BRTR	**Keskin Array B**	**146.07**	**320**	PKPbc	PKPbc	17 13 25.4	+1.3
	0.4nm,0.6s,baz=48,slow=2.1,SNR=4.1						

*NEIC **11** 16:56:47.1±4.2, 3248S×17982W, h139km±33km, mb4.5/2, Error ellipse: s-maj=43.5km s-min=18.6km az=213.0*

*IDC **11** 16:56:50.7±6.6, 3287S×17989W, h173km±53km, mb3.9/2, mb1 4.0/3, mb1mx3.6/13, mbtmp4.2/3, Error ellipse: s-maj=57.4km s-min=31.1km az=39.0*
*ISCJB **11** 16:56:55.5±1.6, 3328S±009×1797E±03, h209km±19km, mb4.1/4, Error ellipse: s-maj=35.9km s-min=12.2km az=28.5*
ISC 11 16:56:58.1±1.7, 3332S±009×1794E±02, h199km±16km, n26, σ0§87/29, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.67**	**30**	S	**Sn**	**16 58 47.3**	**-16**
	72nm,0.3s,baz=156,slow=19,SNR=3.6						
PUZ	**Puketiti**	**4.83**	**191**	eSN	**Sn**	**16 59 11.9**	**+4.8**
URZ	**Urewera**	**5.26**	**200**	P	**Pn**	**16 58 17.5**	**+1.7**
	0.7nm,0.3s,baz=40,slow=6.6,SNR=14						
URZ				S	**Sn**	**16 59 22.9**	**+5.8**
	4.1nm,0.3s,baz=236,slow=20,SNR=18						
URZ	**Urewera**	**5.26**	**200**	PN	**Pn**	**16 58 17.7**	**+1.9**
URZ				SN	**Sn**	**16 59 22.1**	**+5.0**
KNZ	**Kokohu**	**5.85**	**193**	ePN	**Pn**	**16 58 23.4**	**0.0**
KNZ				SN	**Sn**	**16 59 31.4**	**+0.6**
TSZ	**Takapari Road**	**7.27**	**201**	ePN	**Pn**	**16 58 41.4**	**-0.3**
TSZ				eSN	**Sn**	**17 00 05.4**	**+1.3**
BFZ	**Birch Farm**	**7.76**	**198**	ePN	**Pn**	**16 58 47.1**	**-1.1**
BFZ				eSN	**Sn**	**17 00 16.0**	**+0.2**
MSWZ	**Moikau Station**	**8.72**	**201**	eSN	**Sn**	**17 00 38.0**	**-0.6**
TCW	**Tory Channel**	**8.87**	**206**	SN	**Sn**	**17 00 42.4**	**+0.4**
TUWZ	**Tuamarina**	**9.18**	**207**	SN	**Sn**	**17 00 48.3**	**-1.1**
NNZ	**Nelson**	**9.22**	**210**	eSN	**Sn**	**17 00 51.2**	**+0.8**
THZ	**Tophouse**	**9.87**	**210**	ePN	**Pn**	**16 59 14.1**	**-1.5**
THZ				SN	**Sn**	**17 01 05.8**	**-0.1**
KHZ	**Kahutara**	**10.19**	**205**	ePN	**Pn**	**16 59 17.5**	**-2.2**
MQZ	**McQueen's Vall**	**11.63**	**205**	SN	**Sn**	**17 01 41.8**	**-6.1**
DZM	**Mont Dzumac**	**16.01**	**311**	P	**Pn**	**17 00 32.9**	**+0.4**
	0.3nm,0.3s,baz=148,slow=15,SNR=4.8						
AS31	**Alice Springs**	**40.84**	**272**	eP	**P**	**17 04 20.8**	**+0.5**
ASAR	**Alice Springs**	**40.84**	**272**	P	**P**	**17 04 20.9**	**+0.6**
	3.4nm,0.9s,mb3.8,baz=112,slow=7.8,SNR=12						
ASPA	**Alice Springs**	**40.85**	**272**	eP	**P**	**17 04 20.8**	**+0.4**
WB2	**Warramunga Arr**	**42.10**	**277**	eP	**P**	**17 04 30.4**	**-0.1**
WRAB	**Tennant Creek**	**42.10**	**277**	eP	**P**	**17 04 30.1**	**-0.5**
	4.9nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**42.11**	**277**	P	**P**	**17 04 30.2**	**-0.4**
	3.8nm,0.5s,mb4.1,baz=114,slow=7.8,SNR=46						
QSPA	**South Pole Qui**	**56.80**	**180**	eP	**P**	**17 06 22.3**	**+0.8**
	5.2nm,0.6s,mb4.3						
SNAA	**Sanae**	**75.29**	**179**	e	**P**	**17 08 03.3**	**-16**
SNAA				e		17 08 07.2	
KAF	**Kangasniemi**	**146.47**	**337**	ep	PKPdf	17 16 09.2	-4.8
FINES	**FINESS Array B**	**147.03**	**337**	PKPbc	PKPbc	17 16 10.7	-6.6
	1.3nm,0.6s,baz=48,slow=6.2,SNR=14						
TORD	**Torodi Ar. Bea**	**159.81**	**187**	PKPab	PKPab	17 17 11.2	-2.0
	0.7nm,0.8s,baz=181,slow=2.7,SNR=3.3						

*IDC **11** 17:13:48.8±1.7, 1365N×8979W, h0km, mb4.2/6, mb1 4.3/6, mb1mx3.9/19, mbtmp4.2/6, MS3.3/5, Ms1 3.4/5, ms1mx3.0/26, Error ellipse: s-maj=48.5km s-min=31.7km az=33.0*
*ISCJB **11** 17:13:53.9±0.8, 1332N±009×9027W±007, h69km±6km, mb4.1/10, Error ellipse: s-maj=17.9km s-min=4.2km az=76.1*
*CASC **11** 17:13:54.6±3.0, 1337N×9028W, h31km±9km, MD4.3, ML3.8, mb4.2(NEIC)*
*NEIC **11** 17:13:55.7±1.1, 1334N×9027W, h73km±10km, mb4.2/5, Error ellipse: s-maj=19.2km s-min=9.2km az=48.0*
ISC 11 17:13:54.9±0.8, 1329N±008×9033W±007, h63km±7km, n45, σ1§19/42, mb4.2/10, 5C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	**Boqueron**	**1.11**	**66**	↑eP	x	17 14 19.4	
BOQS				eS	x	17 14 34.6	
PCG	**Pacaya**	**1.13**	**346**	eS	**Sn**	**17 14 26.8**	**-2.8**
FUG	**Fuego 3**	**1.25**	**337**	↓iP	**Pn**	**17 14 15.7**	**-0.7**
LCBS	**La Ceiba**	**1.36**	**74**	eP	x	17 14 22.8	
LCBS				eS	x	17 14 41.2	
TP2	**Tecpan 2**	**1.63**	**336**	↓eP	**Pn**	**17 14 21.3**	**-0.1**
TP2				eS	**Sn**	**17 14 43.1**	**+1.6**
JAT	**Jato**	**1.63**	**309**	↓eP	**Pn**	**17 14 21.6**	**+0.1**
JAT				eS	**Sn**	**17 14 36.5**	**-5.0**
VSM	**San Miguel**	**2.00**	**86**	eP	x	17 14 32.5	
VSM				eS	x	17 14 57.7	
BLLM	**Bellamira**	**2.04**	**85**	↑eP	x	17 14 33.0	
BLLM				eS	x	17 14 57.0

APYP	**Conner**	**0.69 160**	*e*P	Pg	17 26 22.6	+0.3
APYP			*e*S	Sg	17 26 35.9	+4.5
ABRA	**Dolores**	**0.91 197**	*e*P	Pg	17 26 26.7	+0.3
CAUP	**Cauayan**	**1.75 153**	*e*P	Pn	17 26 41.3	+0.7
LUBP	**Lubang**	**4.81 189**	*e*P	Pn	17 27 15.3	-7.3

IDC ***11*** *17:30:33.8±2.4, 6790N×1075E, h0km, mb1 3.1/4, mb1mx3.0/20, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=27.4km s-min=12.9km az=124.0*
NAO ***11*** *17:30:33.0±2.5, 6785N×1066E, ML2.5*
BER ***11*** *17:30:35.9±3.8, 6785N×1048E, h15km±48km, MD2.8, ML2.5, ML2.5(NAO)*
ISCJB ***11*** *17:30:36.9±0.8, 6762N±003×118E±0.1, h10km, Error ellipse: s-maj=7.2km s-min=4.3km az=46.7*
NEIC ***11*** *17:30:36.2, 6777N×1062E, h4km, MD2.7(BER), After BER.*
HEL ***11*** *17:30:37.7±0.3, 6789N×1119E, h10km, ML3.0, MD2.8(BER), ML2.5(BER)*
CSEM ***11*** *17:30:38.9±0.4, 6753N×1195E, h10km, ML2.5, Error ellipse: s-maj=8.5km s-min=4.7km az=123.0*

ISC 11 17:30:38.4±0.8, 6768N±003×116E±01, h10km, n53, σ1°26/98, 1C, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**0.87**	**58**	*e*P	**Pg**	**17 30 57.3**	**+2.1**
LOF				*e*S	**Sg**	**17 31 11.8**	**+5.2**
LOF	**Lofoten**	**0.87**	**58**	*e*	**Pg**	**17 30 57.1**	**+1.9**
LOF				*e*P		17 30 57.3	
LOF				*e*S	**Sg**	**17 31 11.8**	**+5.2**
STOK1	**Konsvik**	**1.33**	**152⇑**	*i*P	**Pn**	**17 31 03.8**	**+0.8**
STOK1	**Konsvik**	**1.33**	**152**	*i* S	**Sb**	**17 31 24.1**	**+3.5**
STOK1				AML	AML	17 31 24.9	
	comp=N,101nm,0.2s						
STOK	**Stokkvaagen**	**1.47**	**157**	*e*S	**Sn**	**17 31 25.6**	**+1.5**
STOK				AML	AML	17 31 28.6	
	comp=Z,42nm,0.3s						
STOK	**Stokkvaagen**	**1.47**	**157**	*e*P	**Pn**	**17 31 05.6**	**+0.8**
STOK				*e*S	**Sn**	**17 31 25.6**	**+1.5**
STOK	**Stokkvaagen**	**1.47**	**157**	*e*P	**Pn**	**17 31 05.6**	**+0.7**
	SNR=55						
MOR8	**Moi Rana**	**1.89**	**142**	*e*P	**Pn**	**17 31 12.7**	**+2.0**
MOR8				*e*S	**Sn**	**17 31 40.2**	**+5.6**
MOR8				AML	AML	17 31 42.2	
	comp=Z,98nm,0.3s						
MOR8	**Moi Rana**	**1.89**	**142**	*e*P	**Pn**	**17 31 12.7**	**+2.0**
MOR8				*e*S	**Sn**	**17 31 40.2**	**+5.6**
NSS	**Namsos**	**3.17**	**177**	*e*P	**Pn**	**17 31 26.8**	**-1.5**
NSS				*e*S	**Sn**	**17 32 04.0**	**-2.0**
NSS				AML	AML	17 32 07.4	
	comp=Z,21nm,0.3s						
NSS	**Namsos**	**3.17**	**177**	*e*P	**Pn**	**17 31 26.8**	**-1.5**
NSS				*e*S	**Sn**	**17 32 04.0**	**-2.0**
NSS	**Namsos**	**3.17**	**177**	*e*P	**Pn**	**17 31 26.8**	**-1.5**
	SNR=55						
NSS				*e*S	**Sn**	**17 32 04.1**	**-2.0**
	comp=Z,21nm,0.3s,SNR=55						
KIF	**Kilpisjarvi**	**3.67**	**65**	*e*P	**Pn**	**17 31 35.8**	**+0.5**
KIF				*e*S	**Sn**	**17 32 19.2**	**+0.7**
KIF				MSN		17 32 22.2	
	comp=Z,9.0nm,0.2s						
KIF	**Kilpisjarvi**	**3.67**	**65**	P	**Pn**	**17 31 35.7**	**+0.5**
KIF				S	**Sn**	**17 32 19.2**	**+0.7**
	comp=Z,9.0nm,0.2s						
KTK1	**Kautokeino**	**4.52**	**67**	*e*P	**Pn**	**17 31 48.1**	**+1.1**
KTK1				*e*S	**Sn**	**17 32 40.1**	**+0.5**
ARA0	**ARCESS Array S**	**5.43**	**64**	Pn	**Pn**	**17 31 58.6**	**-0.7**
	baz=247,slow=14						
ARA0				Sn	**Sn**	**17 33 00.3**	**-1.5**
	baz=246,slow=22						
ARA0	**ARCESS Array S**	**5.43**	**64**	*e*P	**Pn**	**17 31 58.6**	**-0.7**
ARA0				*e*S	**Sn**	**17 33 00.3**	**-1.5**
ARCES	**ARCESS Array B**	**5.43**	**64**	Pn	**Pn**	**17 31 58.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=245,slow=13,SNR=7.4						
ARCES				Sn	**Sn**	**17 33 00.9**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=257,slow=20,SNR=6.5						
SGF	**Sodankyl**	**5.73**	**85**	*e*P	**Pn**	**17 32 03.8**	**+0.3**
SGF				*e*S	**Sn**	**17 33 09.4**	**0.0**
SGF				MSN		17 33 14.0	
	comp=Z,2.9nm,0.3s						
SGF	**Sodankyl**	**5.73**	**85**	P	**Pn**	**17 32 03.7**	**+0.2**
SGF				S	**Sn**	**17 33 09.3**	**-0.1**
	comp=Z,2.9nm,0.3s						
KEV	**Kevo**	**5.99**	**63**	*e*P	**Pn**	**17 32 06.2**	**-0.9**
KEV				*e*S	**Sn**	**17 33 12.4**	**-3.3**
KEV	**Kevo**	**5.99**	**63**	P	**Pn**	**17 32 06.1**	**-1.0**
OUL	**Oulu**	**6.31**	**108**	*e*P	**Pn**	**17 32 13.3**	**+1.8**
OUL				*e*S	**Sn**	**17 33 25.2**	**+1.5**
OUL				MSN		17 33 30.0	
	comp=Z,4.5nm,0.2s						
OUL	**Oulu**	**6.31**	**108**	P	**Pn**	**17 32 13.2**	**+1.7**
OUL				S	**Sn**	**17 33 25.1**	**+1.4**
	comp=Z,4.5nm,0.2s						
VAF	**Ylistaro**	**6.57**	**130**	*e*P	**Pn**	**17 32 17.3**	**+2.3**
VAF				*e*S	**Sn**	**17 33 30.7**	**+0.8**
VAF				MSN		17 33 35.1	
	comp=Z,4.7nm,0.2s						
VAF	**Ylistaro**	**6.57**	**130**	P	**Pn**	**17 32 17.3**	**+2.3**
VAF				S	**Sn**	**17 33 30.7**	**+0.8**
	comp=Z,4.7nm,0.2s						
NB2	**NORSAR Subarra**	**6.67**	**181**	*e*P	**Pn**	**17 32 14.4**	**-2.0**
NOA	**NORSAR Array B**	**6.67**	**181**	Pn	**Pn**	**17 32 14.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=355,slow=14,SNR=2.7						
NOA				Sn	**Sn**	**17 33 27.0**	**-5.4**
	comp=Z,0.3nm,0.3s,baz=310,slow=16,SNR=2.9						
MSF	**Maaselka**	**7.12**	**96**	*e*P	**Pn**	**17 32 22.8**	**+0.3**
MSF				*e*S	**Sn**	**17 33 42.2**	**-1.3**
MSF				MSN		17 33 46.9	
	comp=Z,3.3nm,0.2s						
MSF	**Maaselka**	**7.12**	**96**	P	**Pn**	**17 32 22.8**	**+0.2**
MSF				S	**Sn**	**17 33 42.2**	**-1.3**
	comp=Z,3.3nm,0.2s						
KU4	**Liikasenvaara**	**7.17**	**92**	*e*P	**Pn**	**17 32 22.4**	**-0.8**
KU4				*e*S	**Sn**	**17 33 43.2**	**-1.4**
KU4				MSN		17 33 45.1	
	comp=Z,2.2nm,0.2s						
KU4	**Liikasenvaara**	**7.17**	**92**	P	**Pn**	**17 32 22.4**	**-0.8**
KU4				S	**Sn**	**17 33 43.2**	**-1.5**
	comp=Z,2.2nm,0.2s						
KJN	**Kajaani**	**7.52**	**111**	*e*P	**Pn**	**17 32 29.2**	**+1.1**
KJN				*e*S	**Sn**	**17 33 53.2**	**-0.2**
KJN				MSN		17 33 55.4	
	comp=Z,3.3nm,0.2s						
KJN	**Kajaani**	**7.52**	**111**	P	**Pn**	**17 32 29.1**	**+1.0**
KJN				S	**Sn**	**17 33 53.2**	**-0.2**
	comp=Z,3.3nm,0.2s						
HFS	**Hagfors**	**7.63**	**172**	*e*P	**Pn**	**17 32 27.5**	**-2.2**
HFS				*e*		17 33 51.2	
HFS	**Hagfors**	**7.63**	**172**	Pn	**Pn**	**17 32 28.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=357,slow=10,SNR=7.1						
HFS				Sn	**Sn**	**17 33 52.6**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=357,slow=27,SNR=7.2						
HFS	**Hagfors**	**7.63**	**172**	Pn	**Pn**	**17 32 27.5**	**-2.2**
	baz=353,slow=14						
HFS				Sn	**Sn**	**17 33 51.2**	**-5.0**
	baz=350,slow=28						
SUF	**Sumiainen**	**7.88**	**122**	*e*P	**Pn**	**17 32 34.6**	**+1.6**
SUF				*e*S	**Sn**	**17 34 02.7**	**+0.4**
SUF				MSN		17 34 06.8	
	comp=Z,3.5nm,0.2s						
SUF	**Sumiainen**	**7.88**	**122**	P	**Pn**	**17 32 34.5**	**+1.5**
SUF				S	**Sn**	**17 34 02.6**	**+0.3**
	comp=Z,3.5nm,0.2s						
KEF	**Keuruu**	**7.89**	**128**	*e*P	**Pn**	**17 32 34.5**	**+1.3**
KEF				*e*S	**Sn**	**17 34 03.1**	**+0.6**
KEF	**Keuruu**	**7.89**	**128**	P	**Pn**	**17 32 34.4**	**+1.2**
KEF				S	**Sn**	**17 34 03.1**	**+0.6**
RAF	**Rauma**	**8.00**	**142**	*e*P	**Pn**	**17 32 35.6**	**+1.0**
RAF				*e*S	**Sn**	**17 34 03.4**	**-1.8**
RAF				MSN		17 34 08.4	
	comp=Z,2.5nm,0.2s						
RAF	**Rauma**	**8.00**	**142**	P	**Pn**	**17 32 35.6**	**+0.9**
RAF				S	**Sn**	**17 34 03.3**	**-1.9**
	comp=Z,2.5nm,0.2s						
APA0	**Apatity Array**	**8.15**	**81**	Pn	**Pn**	**17 32 35.9**	**-0.9**
	baz=288,slow=12						
APA0				Sn	**Sn**	**17 34 04.4**	**-4.6**
	baz=287,slow=37						
APA0	**Apatity Array**	**8.15**	**81**	*e*P	**Pn**	**17 32 35.9**	**-0.9**
APA0				*e*S	**Sn**	**17 34 04.4**	**-4.6**
APA0	**Apatity Array**	**8.15**	**81**	Pn	**Pn**	**17 32 35.8**	**-1.0**
	SNR=4.2						
KAF	**Kangasniemi**	**8.38**	**125**	*e*P	**Pn**	**17 32 38.3**	**-1.5**
KAF				*e*S	**Sn**	**17 34 14.6**	**+0.2**
KAF				MSN		17 34 16.8	
	comp=Z,2.1nm,0.2s						
FIA0	**FINESS Array S**	**8.82**	**128**	Pn	**Pn**	**17 32 46.5**	**+0.6**
	baz=321,slow=12						
FIA0				Sn	**Sn**	**17 34 26.2**	**+0.9**
	baz=325,slow=22						
FIA0	**FINESS Array S**	**8.82**	**128**	*e*P	**Pn**	**17 32 47.2**	**+1.3**
FIA0				*e*S	**Sn**	**17 34 24.9**	**-0.4**
FIA0				MSN		17 34 32.1	
	comp=Z,1.3nm,0.4s						
FINES	**FINESS Array B**	**8.82**	**128**	Pn	**Pn**	**17 32 46.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=321,slow=12,SNR=7.2						
FINES				Sn	**Sn**	**17 34 24.8**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=321,slow=20,SNR=10						
FINES	**FINESS Array B**	**8.82**	**128**	Pn	**Pn**	**17 32 46.9**	**+1.1**
FINES				Sn	**Sn**	**17 34 24.8**	**-0.5**
PVF	**Pernaja**	**9.48**	**132**	*e*P	**Pn**	**17 32 55.3**	**+0.4**
PVF				*e*S	**Sn**	**17 34 40.0**	**-1.5**
PVF				MSN		17 34 45.0	
	comp=Z,2.1nm,0.3s						
JOF	**Joensuu**	**9.52**	**111**	*e*P	**Pn**	**17 32 55.3**	**-0.2**
JOF				*e*S	**Sn**	**17 34 40.2**	**-2.2**
JOF				MSN		17 34 43.4	
	comp=Z,1.2nm,0.2s						

ISCJB ***11*** *17:52:04.2±0.3, 4935N±002×687E±004, h0km, Error ellipse: s-maj=3.7km s-min=2.6km az=16.0*
LDG ***11*** *17:52:06.7±0.1, 4938N×686E, h1km, Md2.8/2, Ml2.7/9, Error ellipse: s-maj=2.1km s-min=1.3km az=91.0, Suspected Mining induced.*
CSEM ***11*** *17:52:06.3±0.1, 4937N×693E, h2km, ML2.6/9, Error ellipse: s-maj=1.6km s-min=1.0km az=104.0*
NEIC ***11*** *17:52:06.7, 4938N×686E, h1km, ML2.7(LDG), After LDG.*
BNS ***11*** *17:52:07.7±0.7, 4943N×703E, h1km, ML1.5*
BGR ***11*** *17:52:08.2±1.8, 4936N×709E, h1km, ML1.8/2, Error ellipse: s-maj=27.8km s-min=6.7km az=93.0*

ISC 11 17:52:05.3±0.3, 4936N±002×687E±004, h0km, n32, σ0°78/61, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.90**	**19**	*e*Pg	**Pg**	**17 52 23.3**	**+0.7**
BGG				*e*Sg	**Sg**	**17 52 34.0**	**-0.2**
CDF	**Champ du Feu**	**0.98**	**164**	*e*Pn	**Pn**	**17 52 25.5**	**-0.9**
CDF				*e*Sg	**Sg**	**17 52 37.7**	**+0.7**
	9.8nm,0.2s						
CDF	**Champ du Feu**	**0.98**	**164**	*e*Pg	**Pg**	**17 52 24.8**	**+0.6**
CDF				*e*Pn	**Pn**	**17 52 25.5**	**-0.9**
CDF				*e*Sg	**Sg**	**17 52 37.7**	**+0.7**
CDF	**Champ du Feu**	**0.98**	**164**	*e*Pn	**Pn**	**17 52 25.5**	**-0.9**
CDF				*e*Sg	**Sg**	**17 52 37.7**	**+0.7**
	4.9nm,0.2s						
STB	**Steinbach**	**1.24**	**359**	*e*Pg	**Pg**	**17 52 29.4**	**+0.3**
STB				*e*Sg	**Sg**	**17 52 45.9**	**+0.8**
	8.4nm,1.0s						
STB	**Steinbach**	**1.24**	**359**	Pg	**Pg**	**17 52 29.4**	**+0.4**
STB				Sg	**Sg**	**17 52 45.8**	**+0.8**
	8.4nm,1.0s						
TNS	**Taunus Mts**	**1.34**	**49**	*e*Pg	**Pg**	**17 52 30.9**	**0.0**
	SNR=3.6						
TNS				*e*Sg	**Sg**	**17 52 47.8**	**-0.4**
	SNR=4.0						
KLL	**Kalltalsperre**	**1.34**	**344**	*e*Pg	**Pg**	**17 52 30.9**	**0.0**
HAU	**Haudompre**	**1.40**	**195**	*e*Pg	**Pg**	**17 52 33.5**	**+1.4**
HAU				*e*Sg	**Sg**	**17 52 51.1**	**+0.8**
	26nm,0.5s						
HAU	**Haudompre**	**1.40**	**195**	*e*Pg	**Pg**	**17 52 33.5**	**+1.4**
HAU				*e*Sg	**Sg**	**17 52 51.1**	**+0.8**
	13nm,0.5s						
BFO	**Black Forest**	**1.41**	**136**	*e*Pg	**Pg**	**17 52 32.9**	**+0.6**
	SNR=6.7						
BFO				*e*Sg	**Sg**	**17 52 49.9**	**-0.7**
	SNR=8.0						
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**17 52 34.5**	**+0.9**
	baz=50						
MEZF				*e*Sg	**Sg**	**17 52 53.8**	**+1.0**
	10nm,0.4s						
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**17 52 34.5**	**+0.9**
MEZF				*e*Sg	**Sg**	**17 52 53.8**	**+1.0**
	5.1nm,0.4s						
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**17 52 35.0**	**+0.5**
GIVF				*e*Sg	**Sg**	**17 52 53.9**	**-0.4**
	19nm,0.5s						
GIVF	**Givet**	**1.52**	**300**	*e*Pn	**Pn**	**17 52 33.4**	**-0.4**
GIVF				*e*Pg	**Pg**	**17 52 35.0**	**+0.5**
GIVF				*e*Sg	**Sg**	**17 52 53.9**	**-0.4**
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**17 52 35.0**	**+0.5**
GIVF				*e*Sg	**Sg**	**17 52 53.9**	**-0.4**
	9.4nm,0.5s						
HINF	**Hinteralfeld**	**1.54**	**181**	*e*Pg	**Pg**	**17 52 35.4**	**+0.5**
HINF				*e*Sg	**Sg**	**17 52 55.7**	**+0.7**
	38nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**181**	*e*Pg	**Pg**	**17 52 35.4**	**+0.5**
HINF				*e*Sg	**Sg**	**17 52 55.7**	**+0.7**
	19nm,0.3s						
BAIF	**Baives**	**1.87**	**293**	*e*Pg	**Pg**	**17 52 41.4**	**+0.3**
BAIF	**Baives**	**1.87**	**293**	*e*Pn	**Pn**	**17 52 38.5**	**0.0**
BAIF				*e*Pg	**Pg**	**17 52 41.4**	**+0.3**
BAIF	**Baives**	**1.87**	**293**	*e*Pg	**Pg**	**17 52 41.4**	**+0.3**
CABF	**La Chapelle**	**2.80**	**191**	*e*Pg	**Pg**	**17 52 59.4**	**+0.4**
CABF				*e*Sg	**Sg**	**17 53 34.3**	**-1.0**
	14nm,0.9s						
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**17 52 51.0**	**-0.4**
CABF				*e*Pg	**Pg**	**17 52 59.4**	**+0.4**
CABF				*e*Sg	**Sg**	**17 53 34.3**	**-1.0**
CABF	**La Chapelle**	**2.80**	**191**	*e*Pg	**Pg**	**17 52 59.4**	**+0.4**
CABF				*e*Sg	**Sg**	**17 53 34.3**	**-1.0**
	7.1nm,0.9s						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**17 52 51.8**	**-1.0**
	baz=48						
LOR				*e*Sn	**Sn**	**17 53 26.0**	**-2.4**
SSF	**Saint Saulge**	**3.22**	**226**	*e*Pn	**Pn**	**17 52 56.4**	**-0.7**
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	**Pn**	**17 52 59.4**	**-0.1**
SMF				*e*Sn	**Sn**	**17 53 36.7**	**-3.8**
SMF				*e*Sg	**Sg**	**17 53 54.5**	**+0.1**
	3.7nm,0.4s						
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	**Pn**	**17 52 59.4**	**-0.1**
SMF				*e*Sn	**Sn**	**17 53 36.7**	**-3.8**
SMF				*e*Sg	**Sg**	**17 53 54.5**	**+0.1**
	1.9nm,0.4s						
WERD	**Werda**	**3.68**	**71**	*e*Pg	**Pg**	**17 53 14.4**	**-1.4**
	SNR=1.3						
BGF	**Bois d'Agland**	**3.90**	**226**	*e*Sg	**Sg**	**17 54 09.5**	**-1.0**
	14nm,0.5s						
BGF	**Bois d'Agland**	**3.90**	**226**	*e*Sg	**Sg**	**17 54 09.5**	**-1.0**
	6.8nm,0.5s						
GEC2	**GERESS Array S**	**4.51**	**94**	*e*Pn	**Pn**	**17 53 15.3**	**+0.3**
	SNR=3.5						

FUNV 11 18:07:29.6, 1022N×6954W, h0km, MW4.4, 2C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEPV	**Terepaima**	**0.42**	**127⇓**	*e*P	Pg	18 07 37.1	-0.5
TEPV				*e*S	Sg	18 07 43.3	+0.2
CURV	**Curarigua**	**0.47**	**244**	*e*P	Pg	18 07 38.1	-0.4
CURV				*e*S	Sg	18 07 45.0	+0.4
SIQV	**Siquisique**	**0.51**	**328**	*e*P	Pg	18 07 39.3	0.0
SIQV				*e*S	Sg	18 07 47.0	+1.2
SANV	**Sanarito**	**0.71**	**180⇑**	*i*P	Pg	18 07 42.8	-0.5
SANV				*e*S	Sg	18 07 53.3	+0.9
QARV	**Quebrada Arrib**	**0.97**	**270⇑**	*e*P	Pg	18 07 48.9	+0.6
QARV				*e*S	Sg	18 08 01.6	+0.7
JACV	**Jacura**	**1.11**	**39**	*e*P	Pg	18 07 50.2	-0.7
JACV				*e*S	Sg	18 08 06.5	+1.2
DABV	**Dabajuro**	**1.29**	**303**	*e*P	Pg	18 07 53.8	-0.5
DABV				*e*S	Sg	18 08 11.1	+0.1
TURV	**Turiamo**	**1.69**	**82**	*e*P	Pn	18 07 59.2	-1.1
TURV				*e*S	Sn	18 08 22.3	-0.3
MONV	**Montecano**	**1.78**	**346**	*i*P	Pn	18 08 00.2	-1.4
BAUV	**El Baul**	**1.94**	**131**	*e*P	Pn	18 08 04.1	+0.3
BAUV				*e*S	Sn	18 08 28.8	-0.1
VIGV	**El Vigia**	**2.26**	**233**	*e*P	Pn	18 08 08.5	+0.2
SOCV	**Socops**	**2.32**	**214**	*e*P	Pn	18 08 09.3	+0.2
INTV	**Intevep**	**2.45**	**86**	*e*P	Pn	18 08 10.5	-0.4
INTV				*e*S	Sn	18 08 40.9	-0.6
VIRV	**Villa del Rosa**	**2.84**	**276**	*e*P	Pn	18 08 15.3	-0.9
VIRV				*e*S	Sn	18 08 49.3	-1.8
ELOV	**Elorza**	**3.20**	**179**	*e*P	Pn	18 08 20.6	-0.4
BIRV	**Birongo**	**3.23**	**85**	*e*P	Pn	18 08 19.7	-1.8
MERV	**Las Mercedes**	**3.33**	**106**	*e*P	Pn	18 08 22.2	-0.8
CAPV	**Capacho**	**3.60**	**230**	*e*P	Pn	18 08 26.2	-0.5
CUPV	**Cœpira**	**3.69**	**92**	*e*P	Pn	18 08 27.2	-0.7
CAOV	**Caicara del Or**	**4.28**	**132**	*e*P	Pn	18 08 35.1	-0.9
PCRV	**Puerto La Cruz**	**4.82**	**90**	*e*P	Pn	18 08 42.4	-1.1

SZGRF ***11*** *18:14:37.9, 2326S×16734E, h33km, New Caledonia*
LDG ***11*** *18:14:44.5±0.3, 1838S×168.10E, h10km, Mb4.2/1, Error ellipse: s-maj=43.2km s-min=6.2km az=104.0*
ISCJB ***11*** *18:14:53.8±2.2, 199S±0.1×1690E±02, h121km±17km, mb4.1/7, Error ellipse: s-maj=24.9km s-min=16.6km az=160.2*
IDC ***11*** *18:14:53.3±3.5, 1974S×16905E, h105km±29km, mb3.9/6, mb1 4.1/9, mb1mx4.0/15, mbtmp4.4/9, MS2.9/1, Ms1 2.9/1, ms1mx2.7/15, Error ellipse: s-maj=28.5km s-min=23.2km az=68.0*
NEIC ***11*** *18:14:54.2±1.6, 1977S×16905E, h114km±13km, mb4.3/3, Error ellipse: s-maj=16.6km s-min=11.5km az=69.0*

ISC 11 18:14:54.3±2.1, 1978S±010×1690E±02, h109km±16km, n44, σ0°65/19, mb4.1/7, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.31**	**226**	*e*P	**Pn**	**18 15 43.8**	**-0.5**
DZM				*e*S	**Sn**	**18 16 22.3**	**-0.7**
DZM	**Mont Dzumac**	**3.31**	**226**	P	**Pn**	**18 15 43.8**	**-0.6**
	47nm,0.3s,baz=61,slow=13,SNR=760						
DZM				S	**Sn**	**18 16 23.2**	**+0.2**
	197nm,0.3s,baz=319,slow=23,SNR=20						
HNR	**Honiara**	**13.52**	**318**	P	**Pn**	**18 18 02.2**	**+0.7**
	2.9nm,0.3s,baz=279,slow=2.4,SNR=5.2						
HNR				LR	LR	18 21 24.7	
	comp=Z,51nm,20.2s,baz=360,slow=29						
HNR	**Honiara**	**13.52**	**318**	*e*P	**Pn**	**18 18 02.5**	**+1.0**
	22nm,0.6s						
HNR				LR	LR	18 21 24.7	
URZ	**Urewera**	**19.71**	**161**	P	**P**	**18 19 15.8**	**+0.7**
	2.1nm,0.3s,baz=307,slow=1.9,SNR=9.9						
PMG	**Port Moresby**	**23.50**	**293**	P	**P**	**18 19 55.0**	**+0.8**
	5.7nm,0.9s,mb3.9,baz=121,slow=5.6,SNR=6.7						
PMG	**Port Moresby**	**23.50**	**293**	*e*P	**P**	**18 19 55.0**	**+0.8**
	7.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.38**	**238**	P	**P**	**18 20 28.9**	**-0.3**
	1.4nm,0.6s,mb3.7,baz=61,slow=8.6,SNR=3.8						
STKA	**Stephens Creek**	**27.38**	**238**	*e*P	**P**	**18 20 29.3**	**+0.1**
WRAB	**Tennant Creek**	**32.57**	**264**	*e*P	**P**	**18 21 14.7**	**-0.4**
WRA	**Warramunga Arr**	**32.58**	**264**	P	**P**	**18 21 15.0**	**-0.2**
	1.1nm,0.4s,mb4.0,baz=90,slow=8.4,SNR=30						
AS31	**Alice Springs**	**32.79**	**257**	‖*i*P	**P**	**18 21 17.4**	**+0.4**
ASAR	**Alice Springs**	**32.79**	**257**	P	**P**	**18 21 17.6**	**+0.6**
	4.7nm,0.6s,mb4.5,baz=86,slow=8.9,SNR=82						
ASAR				pP	pP	18 21 37.7	-3.6
	2.6nm,0.7s,baz=82,slow=9.1,SNR=8.3						
ASPA	**Alice Springs**	**32.80**	**257**	‖*i*P	**P**	**18 21 17.4**	**+0.3**
MJAR	**Matsushiro Arr**	**63.13**	**332**	P	**P**	**18 25 08.8**	**-1.6**
	2.7nm,0.9s,mb4.2,baz=160,slow=8.6,SNR=7.2						
ULN	**Ulaanbaatar**	**87.17**	**323**	*e*P	**P**	**18 27 27.8**	**-0.3**
	1.9nm,0.8s,mb4.1						
SONM	**Songino Array**	**87.52**	**323**	P	**P**	**18 27 29.6**	**-0.2**
	1.0nm,0.7s,mb3.9,baz=151,slow=4.2,SNR=7.7						
ARCES	**ARCESS Array B**	**125.53**	**345**	PKP	PKPdf	18 33 40.2	-2.4
	0.8nm,0.3s,baz=61,slow=2.1,SNR=14						
ARCES	**ARCESS Array B**	**125.53**	**345**	PKP	PKPdf	18 33 40.2	-2.4
KHC	**Kasperske Hory**	**144.71**	**332**	*e*PKP	PKPdf	18 34 16.8	-1.3
GERES	**GERESS Array B**	**144.87**	**331**	PKP	PKPdf	18 34 17.1	-1.3
	2.4nm,0.6s,baz=35,slow=4.3,SNR=31						
GRA1	**Grafenberg Arr**	**145.29**	**334**	*e*PKPbc	PKPbc	18 34 18.5	-0.6
GRF	**Grafenberg Arr**	**145.29**	**334**	*e*PKPbc	PKPbc	18 34 18.5	-0.6
GIVF	**Givet**	**147.23**	**341**	*e*PKP1	PKPbc	18 34 23.6	-1.2
BAIF	**Baives**	**147.46**	**342**	*e*PKP1	PKPbc	18 34 24.3	-1.2
	5.2nm,0.7s						
CDF	**Champ du Feu**	**147.85**	**337**	*e*PKP1	PKPbc	18 34 25.3	-1.2
	6.4nm,0.6s						
HINF	**Hinteralfeld**	**148.51**	**337**	*e*PKP1	PKPbc	18 34 26.8	-1.4
	3.4nm,0.6s						
HAU	**Haudompre**	**148.53**	**337**	*e*PKP1	PKPbc	18 34 28.1	-0.2
	5.3nm,0.5s						
CABF	**La Chapelle**	**149.80**	**336**	*e*PKP1	PKPbc	18 34 30.5	-1.0
	9.5nm,0.7s						
FLN	**La Foliniere**	**149.87**	**346**	*e*PKP1	PKPbc	18 34 30.0	-1.6
LOR	**Lormes**	**150.03**	**340**	*e*PKP1	PKPbc	18 34 30.8	-1.2
	4.9nm,0.5s						
GRR	**Gorron**	**150.31**	**346**	*e*PKP1	PKPbc	18 34 31.5	-

GRG	**Griva**	**2.59 336**	*e*Pn	**Pn**	**19 01 25.4**	**-0.3**
GRG			*e*Sn	**Sn**	**19 01 57.2**	**-0.2**
KNT	**Kendrikon**	**2.65 345**	*e*Pn	**Pn**	**19 01 26.9**	**+0.4**
IGT	**Igoumenitsa**	**2.87 290**	*e*Pn	**Pn**	**19 01 29.9**	**+0.4**
IGT			*e*Sn	**Sn**	**19 02 03.9**	**-0.2**
FNA	**Florina**	**2.88 320**	*e*Pn	**Pn**	**19 01 30.1**	**+0.4**
FNA			*e*Sn	**Sn**	**19 02 04.5**	**+0.1**
MMB	**Musomiste**	**2.98 359**	*i* P	**Pn**	**19 01 30.7**	**-0.4**
RZN	**Rozhen**	**3.16 12**	*i* P	**Pn**	**19 01 34.0**	**+0.5**
VAM	**Vamos**	**3.21 174**	*e*PN	**Pn**	**19 01 36.0**	**+1.8**
VAM	**Vamos**	**3.21 174**	*e*Pb	**Pb**	**19 01 37.0**	**-3.7**
KKB	**Krupnik**	**3.31 350**	*i* P	**Pn**	**19 01 35.0**	**-0.6**
VTS	**Vitosha**	**4.01 354**	P	**Pn**	**19 01 47.0**	**+1.8**

ISCJB ***11*** *19:21:21.1±0.8, 605S±02×27.1W±04, h10km, mb3.9/5, Error ellipse: s-maj=39.0km s-min=12.8km az=104.9*
NEIC ***11*** *19:21:26.3±0.8, 6099S×2724W, h50km, mb4.2/1, Error ellipse: s-maj=43.5km s-min=16.4km az=48.0*
IDC ***11*** *19:21:32.0±6.8, 6028S×2741W, h72km±61km, mb3.7/4, mb1 3.8/5, mb1mx3.6/16, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=43.6km s-min=24.8km az=43.0*

ISC 11 19:21:22.8±0.8, 605S±02×271W±04, h10km, n14, σ0§83/12, mb3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.76**	**151**		*e*P	**Pn**	**19 24 33.2**	**+8.9**
VNA1					*e*		19 24 33.7	
VNA1					*e*		19 24 35.0	
VNA1					*e*		19 24 36.2	
VNA1					*e*		19 24 36.9	
VNA1					*e*		19 24 37.7	
VNA1					*e*		19 24 39.8	
VNA1					*e*		19 24 43.1	
SNAA	**Sanae**	**14.77**	**149**	P		**Pn**	**19 25 00.3**	**+8.7**
	0.2nm,0.3s,baz=323,slow=19,SNR=17							
SNAA				S		**Sn**	**19 27 34.5**	**-0.9**
	0.1nm,0.3s,baz=314,slow=18,SNR=3.5							
SNAA	**Sanae**	**14.77**	**149**	*e*P		**Pn**	**19 24 45.7**	**-5.9**
SNAA				*e*			19 24 46.5	
SNAA				*e*			19 24 48.8	
SNAA				*e*			19 24 50.4	
SNAA				*e*			19 24 52.4	
SNAA	**Sanae**	**14.77**	**149**	*e*Pn		**Pn**	**19 24 45.7**	**-5.9**
	1.3nm,0.4s							
SNAA				*e*Sn		**Sn**	**19 27 21.7**	**-14**
TRQA	**Tornquist**	**31.36**	**300**	*e*P		**P**	**19 27 44.5**	**+0.9**
CFAA	**Coronel Fontan**	**39.54**	**298**	P		**P**	**19 28 53.5**	**-0.4**
	0.3nm,0.3s,mb3.5,baz=149,slow=7.8,SNR=8.7							
CPUP	**Villa Florida**	**39.89**	**315**	P		**P**	**19 28 56.5**	**-0.3**
	0.8nm,0.3s,mb3.9,baz=148,slow=6.3,SNR=6.3							
SAML	**Samuel**	**58.02**	**317**	*e*P		**P**	**19 31 14.5**	**-1.3**
	1.1nm,0.5s,mb4.1							
TORD	**Torodi Ar. Bea**	**76.90**	**29**	P		**P**	**19 33 15.4**	**+0.2**
	0.9nm,0.5s,mb4.0,baz=198,slow=6.0,SNR=19							
ASAR	**Alice Springs**	**94.74**	**163**	P		**P**	**19 34 45.6**	**+1.1**
	0.5nm,0.7s,mb4.1,baz=183,slow=4.4,SNR=6.8							
FINES	**FINESS Array B**	**128.25**	**29**	PKP		PKPdf	19 40 27.9	-1.6
	1.3nm,1.0s,baz=198,slow=4.0,SNR=4.8							
INK	**Inuvik**	**149.15**	**316**	PKPbc		PKPbc	19 41 09.2	-2.2
	1.4nm,0.8s,baz=110,slow=2.7,SNR=4.3							
INK	**Inuvik**	**149.15**	**316**	PKPbc		PKPbc	19 41 09.5	-1.9
SONM	**Songino Array**	**150.64**	**94**	PKPbc		PKPbc	19 41 15.6	+0.6
	1.0nm,0.5s,baz=226,slow=2.9,SNR=8.2							

NIED ***11*** *20:01:00, 3320N×13140E, h130km, Mw6.4 Best double couple: M0=4.06000×10^18 NP1:φs=43.00000°, δ65.00000°, λ112.00000°. NP2:φs=180.00000°, δ33.00000°, λ51.00000°.*
BJI ***11*** *20:01:21.6, 3287N×13176E, h139km, mB6.5, mb5.9*
BGS ***11*** *20:01:22.8, 3246N×13132E, h146km, mb6.1*
CRAAG ***11*** *20:01:23.7, 3335N×13105E, Mb5.9*
JMA ***11*** *20:01:24.9±0.1, 3314N×13144E, h145km±1km, M6.2 Broadband fault plane solution: P waves. NP1: φs=190.00000°, δ19.00000°, λ53.00000°. NP2:φs=49.00000°, δ75.00000°, λ102.00000°. Principal axes: T Plg58.0000°, Azm335.0000°; N Plg11.0000°, Azm226.0000°; P Plg29.0000°, Azm130.0000°;*
ISCJB ***11*** *20:01:25.4±0.1, 3318N±002×13124E±001, h141km, mb5.9/410 Error ellipse: s-maj=2.2km s-min=1.5km az=148.3*
MOS ***11*** *20:01:25.6±1.0, 3312N×13131E, h152km, mb6.1/155, Error ellipse: s-maj=7.6km s-min=5.0km az=102.3*
IDC ***11*** *20:01:26.0±0.3, 3305N×131.11E, h139km±2km, mb5.6/28, mb1 5.7/31, mb1mx5.7/32, mbtmp6.0/31, MS5.5/15, Ms1 5.5/15, ms1mx5.0/40, Error ellipse: s-maj=8.8km s-min=6.6km az=85.0*
SZGRF ***11*** *20:01:26.4, 3346N×13245E, h139km, mb6.4, Shikoku, Japan*
NEIC ***11*** *20:01:26.4±0.1, 3313N×131.15E, h140km, mb5.9/259, ME5.8, MW6.3, MW6.3(NIED), Error ellipse: s-maj=2.8km s-min=2.3km az=174.0, Moment Tensor Solution. s69 Moment tensor: Scale 10^18Nm; Mrr3.33; Mθθ-0.29; Mφφ-3.04; Mrφ2.05; Mrθ-1.43; Mθφ0.97; Best double couple: M0=4.20000×10^18 NP1:φs=43.00000°, δ61.00000°, λ112.00000°. NP2:φs184.00000°, δ35.00000°, λ56.00000°. Principal axes: T 4.2700, Plg66.0000°, Azm354.0000°; N -0.2000, Plg19.0000°, Azm213.0000°; P -4.0700, Plg14.0000°, Azm118.0000°; Broadband fault plane solution: P waves. NP1:φs225.00000°, δ30.00000°, λ90.00000°. NP2:φs45.00000°, δ60.00000°, λ90.00000°. Principal axes: T Plg75.0000°, Azm315.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm135.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least eight people injured in Miyazaki Prefecture, Kyushu; Ehime Prefecture, Shikoku; and Hiroshima and Yamaguchi Prefectures, Honshu. Felt [V] at Hiroshima and Iwakuni, Honshu. Felt widely in southern and western Japan. Recorded [5L JMA] in Oita; [4 JMA] in Kumamoto and Miyazaki; [3 JMA] in Fukuoka, Kagoshima and Saga; [2 JMA] in Nagasaki Prefectures, Kyushu. Recorded [5L JMA] in Hiroshima; [4 JMA] in Okayama, Shimane and Yamaguchi; [3 JMA] in Hyogo and Tottori; [2 JMA] in Aichi, Gifu, Kyoto, Mie, Nara, Osaka, Shiga and Wakayama; [1 JMA] in Fukui, Nagano and Shizuoka Prefectures, Honshu. Also recorded [5L JMA] in Ehime; [4 JMA] in Kagawa and Kochi; [3 JMA] in Tokushima Prefectures, Shikoku.
HRVD ***11*** *20:01:26.3±0.1, 3315N×13134E, h144km, MW6.4/114, Centroid moment Tensor Solution. LP body waves: s110,c285;Mantle waves: s114,c433; Half duration: 3§7 Moment tensor: Scale 10^18Nm; Mrr2.85±.02; Mθθ-0.08±.02; Mφφ-2.77±.02; Mrφ2.38±.01; Mθφ-1.34±.02; Mθr1.56±.02; Best double couple: M0=4.21800×10^18 NP1:φs181.00000°, δ30.00000°, λ51.00000°. NP2: φs45.00000°, δ67.00000°, λ110.00000°. Principal axes: T 4.2580, Plg62.0000°, Azm346.0000°; N -0.0820, Plg19.0000°, Azm217.0000°; P -4.1770, Plg20.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 11 20:01:26.9±0.1, 3320N±001×13125E±001, h143km, h143km±.6km: pP-P, n1578, σ1§03/1566, mb5.9/403, 624C-166D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OIT2	**Oita 2**	**0.19**	**64**	⇑P		**Pn**	**20 01 44.7**	**-1.6**
JNU	**Nakatsue**	**0.32**	**257**	⇓P		**Pn**	**20 01 45.6**	**-1.1**
JNU					*e*S	**Sn**	**20 02 01.2**	**-0.5**
JUS	**Usuki**	**0.44**	**107**	⇑P		**Pn**	**20 01 45.0**	**-2.1**
JUS				S		**Sn**	**20 01 59.2**	**-3.3**
JKI	**Kunimi**	**0.51**	**31**	⇑P		**Pn**	**20 01 46.0**	**-1.5**
JKI					*e*S	**Sn**	**20 02 02.3**	**-0.8**
JKIT	**Kitakata**	**0.59**	**163**	⇑P		**Pn**	**20 01 45.6**	**-2.4**
JKIT					*e*S	**Sn**	**20 02 01.6**	**-2.4**
JFA	**Akaike**	**0.64**	**324**	P		**Pn**	**20 01 47.5**	**-0.7**
JFA				S		**Sn**	**20 02 05.1**	**+0.6**
JIU2	**Izumi 2**	**0.74**	**210**	P		**Pn**	**20 01 47.6**	**-1.4**
JIU2					*e*S	**Sn**	**20 02 05.5**	**-0.2**
JIU2	**Izumi 2**	**0.74**	**210**	P		**Pn**	**20 01 47.6**	**-1.4**
JFI	**Itaya**	**0.76**	**288**	P		**Pn**	**20 01 48.7**	**-0.3**
JFI				S		**Sn**	**20 02 07.3**	**+1.4**
JFI	**Itaya**	**0.76**	**288**	P		**Pn**	**20 01 48.7**	**-0.3**
JTSN	**Tsuno**	**0.97**	**167**	P		**Pn**	**20 01 48.9**	**-1.8**
JTSN	**Tsuno**	**0.97**	**167**	P		**Pn**	**20 01 48.9**	**-1.8**
JKD	**Kudamatsu**	**1.00**	**31**	⇑P		**Pn**	**20 01 49.4**	**-1.6**
JTY	**Toyota**	**1.08**	**352**	P		**Pn**	**20 01 51.2**	**-0.5**
JTY				S		**Sn**	**20 02 11.4**	**+0.9**
JTY	**Toyota**	**1.08**	**352**	P		**Pn**	**20 01 51.2**	**-0.5**
JNA	**Nagahama**	**1.09**	**70**	⇑P		**Pn**	**20 01 49.3**	**-2.5**
JUR	**Ureshino**	**1.10**	**265**	P		**Pn**	**20 01 52.0**	**+0.1**
JUR	**Ureshino**	**1.10**	**265**	P		**Pn**	**20 01 52.0**	**+0.1**
UWA2	**Uwa jima 2**	**1.15**	**89**	⇑P		**Pn**	**20 01 49.2**	**-3.2**
JHD	**Hondo**	**1.19**	**232**	⇓P		**Pn**	**20 01 52.4**	**-0.3**
JZO	**Okuchi**	**1.19**	**208**	P		**Pn**	**20 01 51.6**	**-1.1**
JZO	**Okuchi**	**1.19**	**208**	P		**Pn**	**20 01 51.6**	**-1.1**
JTZ	**Takazaki**	**1.30**	**186**	S		**Sn**	**20 02 14.3**	**0.0**
JTZ	**Takazaki**	**1.30**	**186**	⇑P		**Pn**	**20 01 51.9**	**-1.9**
JTO	**Tosashimizu**	**1.34**	**104**	⇑P		**Pn**	**20 01 50.8**	**-3.5**
JII	**Iki**	**1.40**	**296**	P		**Pn**	**20 01 55.4**	**+0.5**
JII	**Iki**	**1.40**	**296**	P		**Pn**	**20 01 55.4**	**+0.5**
JHM	**Kurahashi**	**1.42**	**48**	⇑P		**Pn**	**20 01 53.0**	**-2.1**
JHIK	**Hikimi**	**1.45**	**23**	⇓P		**Pn**	**20 01 54.3**	**-1.0**
JKU	**Kubokawa**	**1.52**	**85**	⇑P		**Pn**	**20 01 53.4**	**-2.7**
JET	**Tanbara**	**1.61**	**68**	⇑P		**Pn**	**20 01 54.9**	**-2.2**
JHT	**Toyohira**	**1.76**	**33**	⇓P		**Pn**	**20 01 57.4**	**-1.4**
JSU	**Suzuyama**	**1.81**	**202**	⇑P		**Pn**	**20 01 57.8**	**-1.6**
JSJ	**Shimokoshiki**	**1.99**	**221**	P		**Pn**	**20 02 01.0**	**-0.5**
JSJ	**Shimokoshiki**	**1.99**	**221**	P		**Pn**	**20 02 00.9**	**-0.6**
JTU	**Tsushima**	**2.03**	**311**	P		**Pn**	**20 02 02.6**	**+0.6**
JTU				S		**Sn**	**20 02 30.8**	**+1.9**
JTU	**Tsushima**	**2.03**	**311**	P		**Pn**	**20 02 02.6**	**+0.6**
JTSR	**Tashiro 2**	**2.04**	**188**	P		**Pn**	**20 02 00.0**	**-2.1**
JTSR	**Tashiro 2**	**2.04**	**188**	P		**Pn**	**20 02 00.0**	**-2.1**
JFU	**Fukue jima 2**	**2.17**	**256**	P		**Pn**	**20 02 04.1**	**+0.5**
JFU	**Fukue jima 2**	**2.17**	**256**	P		**Pn**	**20 02 04.1**	**+0.5**
JMN	**Monobe**	**2.26**	**76**	⇑P		**Pn**	**20 02 02.7**	**-2.0**
MRT2	**Murotomisaki 2**	**2.43**	**85**	⇑P		**Pn**	**20 02 03.9**	**-2.9**
JTN	**Tanegashima 3**	**2.54**	**185**	P		**Pn**	**20 02 06.1**	**-2.1**
JTN	**Tanegashima 3**	**2.54**	**185**	P		**Pn**	**20 02 06.1**	**-2.1**
JAI	**Aioi**	**2.74**	**77**	⇑P		**Pn**	**20 02 08.3**	**-2.3**
JAJ2	**Tsuna**	**3.26**	**67**	⇓P		**Pn**	**20 02 15.3**	**-2.0**
JWM	**Minabe**	**3.49**	**78**	P		**Pn**	**20 02 17.7**	**-2.6**
JKSM	**Kasumi**	**3.69**	**49**	⇑P		**Pn**	**20 02 22.0**	**-0.9**
JWZ	**Kozaga**	**3.75**	**84**	P		**Pn**	**20 02 20.7**	**-3.0**
JHE	**Heguri**	**3.96**	**67**	P		**Pn**	**20 02 24.4**	**-2.0**
JKY	**Yasaka**	**4.00**	**52**	P		**Pn**	**20 02 25.8**	**-1.2**
JWT	**Wachi**	**4.02**	**58**	⇓P		**Pn**	**20 02 25.7**	**-1.5**
JFM	**Mihama**	**4.55**	**58**	P		**Pn**	**20 02 33.5**	**-0.7**
TSUJ	**Tsu 2**	**4.55**	**69**	P		**Pn**	**20 02 32.1**	**-2.1**
TSUJ				S		**Sn**	**20 03 23.2**	**-3.4**
JEG	**Eigenji**	**4.68**	**64**	P		**Pn**	**20 02 34.7**	**-1.2**
JIE	**Ise**	**4.70**	**74**	P		**Pn**	**20 02 34.3**	**-1.8**
JAA	**Atsumi**	**5.10**	**72**	P		**Pn**	**20 02 39.8**	**-1.7**
JGM	**Miyama**	**5.16**	**60**	P		**Pn**	**20 02 41.7**	**-0.6**
JKG	**Kaga**	**5.19**	**52**	P		**Pn**	**20 02 42.0**	**-0.7**
JAO	**Obara**	**5.39**	**66**	⇓P		**Pn**	**20 02 43.7**	**-1.6**
JGF	**Kuroka**	**5.59**	**63**	P		**Pn**	**20 02 46.3**	**-1.7**
JGF				S		**Sn**	**20 03 49.3**	**-2.0**
HMMJ	**Hamamatsu 2**	**5.62**	**71**	⇓P		**Pn**	**20 02 46.3**	**-2.1**
TK04	**Tokai 4**	**5.64**	**76**	P		**Pn**	**20 02 47.7**	**-1.0**
INCN	**Inchon**	**5.71**	**320**	*e*P		**Pn**	**20 02 52.2**	**+2.7**
	13μm,1.4s							
JGN	**Niukaw**	**5.84**	**57**	P		**Pn**	**20 02 50.6**	**-0.7**
JJH	**Hakui**	**5.87**	**49**	P		**Pn**	**20 02 51.8**	**+0.1**
JNY	**Yasuok**	**5.88**	**67**	P		**Pn**	**20 02 50.0**	**-1.9**
JSG	**Sagara**	**5.95**	**74**	P		**Pn**	**20 02 51.6**	**-1.2**
JNT	**Takato**	**6.28**	**63**	⇓P		**Pn**	**20 02 55.9**	**-1.3**
JNT				S		**Sn**	**20 04 06.9**	**-1.0**
JNG	**Nsakai**	**6.48**	**58**	P		**Pn**	**20 02 59.5**	**-0.4**
JSZ	**Suzu**	**6.55**	**48**	P		**Pn**	**20 03 01.1**	**+0.2**
MAJO	**Matsushiro**	**6.62**	**58**	*e*P		**Pn**	**20 03 01.6**	**-0.2**
MAJO				pmax		pmax		
	comp=Z,1μm,0.8s							
MAJO	**Matsushiro**	**6.62**	**58**	*e*P		**Pn**	**20 03 01.6**	**-0.2**
	comp=Z,2μm,0.8s							
MAT	**Matsushiro**	**6.62**	**58**	P		**Pn**	**20 03 01.3**	**-0.5**
MAT				S		**Sn**	**20 04 14.2**	**-1.8**
MAT	**Matsushiro**	**6.62**	**58**	P		**Pn**	**20 03 01.2**	**-0.6**
MAT	**Matsushiro**	**6.62**	**58**	*e*P		**Pn**	**20 03 01.0**	**-0.8**
MAT				*e*S		**Sn**	**20 04 14.0**	**-2.0**
MAT				pmax		pmax		
	comp=Z,240nm,1.0s							
MAT	**Matsushiro**	**6.62**	**58**	*e*P		**Pn**	**20 03 01.0**	**-0.8**
	comp=Z,240nm,1.0s							
MAT				*e*S		**Sn**	**20 04 14.0**	**-2.0**
MJAR	**Matsushiro Arr**	**6.62**	**58**	P		**Pn**	**20 03 02.0**	**+0.2**
	comp=Z,47nm,0.3s,baz=243,slow=14,SNR=325							
MJAR				S		**Sn**	**20 04 21.0**	**+4.9**
	comp=Z,51nm,0.3s,baz=272,slow=39,SNR=7.0							
MJAR				LR		LR	20 05 48.4	
	comp=Z,21μm,20.0s,baz=225,slow=38							
MJAR				P3KPbc			20 40 24.4	
	comp=Z,0.2nm,0.3s,baz=301,slow=3.5,SNR=4.0							
MJAR	**Matsushiro Arr**	**6.62**	**58**	P		**Pn**	**20 03 02.0**	**+0.2**
MJAR				S		**Sn**	**20 04 21.0**	**+4.9**
MJAR				pmax		pmax		
	comp=Z,47nm,0.3s							
MJAR				smax				
	comp=N,51nm,0.3s							
MJAR				MLR		MLR		
	comp=Z,21μm,20.0s							
NJJJ	**Nii jima 2**	**6.79**	**78**	P		**Pn**	**20 03 03.1**	**-1.0**
JOD2	**Odawara 2**	**6.81**	**70**	P		**Pn**	**20 03 03.3**	**-1.0**
JOW	**Kunigami**	**6.85**	**203**	P		**Pn**	**20 03 01.5**	**-3.3**
	comp=Z,43nm,0.3s,baz=90,slow=14,SNR=90							
JOW				S		**Sn**	**20 04 13.3**	**-8.1**
	comp=Z,109nm,0.3s,baz=112,slow=20,SNR=3.6							
JJN	**Nakama**	**6.87**	**54**	P		**Pn**	**20 03 05.7**	**+0.5**
JRY	**Ryogami san**	**6.91**	**64**	⇓P		**Pn**	**20 03 05.1**	**-0.5**
JIM2	**Oshima 3**	**6.96**	**75**	P		**Pn**	**20 03 04.8**	**-1.6**
JHJ	**Hachijo jima 2**	**7.16**	**88**	P		**Pn**	**20 03 08.6**	**-0.4**
	comp=Z,2μm,0.3s,baz=233,slow=8.8,SNR=336							
JHJ				S		**Sn**	**20 04 28.6**	**-0.3**
	comp=Z,147nm,0.3s,baz=322,slow=23,SNR=3.8							
JHJ2	**Mitsune**	**7.18**	**88**	P		**Pn**	**20 03 08.5**	**-0.8**
JAG	**Ashikaga**	**7.47**	**62**	P		**Pn**	**20 03 12.9**	**-0.3**
JSD	**Sado**	**7.48**	**48**	P		**Pn**	**20 03 13.3**	**+0.1**
JHK	**Hiroka**	**7.53**	**55**	P		**Pn**	**20 03 14.0**	**0.0**
SSE	**Sheshan**	**8.79**	**259**	P		**Pn**	**20 03 32.6**	**+1.8**
SSE				S		**Sn**	**20 05 09.7**	**+1.4**
SSE				AMB		AMB		
	comp=Z,460nm,1.0s							
SSE				AMB		AMB		
	comp=Z,9μm,6.0s							
SSE				LR		LR		
	comp=N,38μm,9.8s							
SSE				LR		LR		
	comp=E,26μm,9.8s							
SSE				LR		LR		
	comp=Z,42μm,10.0s							
JYW	**Yuwa**	**9.60**	**46**	P		**Pn**	**20 03 43.5**	**+1.9**
DL2	**Dalian**	**9.65**	**309**	*i* PR		**Pn**	**20 03 45.3**	**+3.0**
DL2				XP			20 04 20.1	
DL2				AMB		AMB		
	comp=Z,460nm,1.0s							
DL2				AMB		AMB		
	comp=Z,9μm,8.6s							
VLA	**Vladivostok**	**9.92**	**3**	*d* iP		**Pn**	**20 03 48.1**	**+2.2**
VLA	**Vladivostok**	**9.92**	**3**	*i* Pr		**Pn**	**20 03 48.1**	**+2.2**
NJ2	**Nanjing**	**10.52**	**267**	*e*P		**Pn**	**20 03 56.2**	**+2.4**
NJ2				XP			20 04 35.6	
NJ2				S		**Sn**	**20 05 51.0**	**+1.0**
NJ2				AMB		AMB		
	comp=Z,200nm,0.7s							
NJ2				AMB		AMB		
	comp=Z,8μm,10.5s							
NJ2				LR		LR		
	comp=N,89μm,9.1s							
NJ2				LR		LR		
	comp=E,61μm,10.4s							
NJ2				LR		LR		
	comp=Z,21μm,15.4s							
SNY	**Shenyang**	**10.55**	**327**	⇑P		**Pn**	**20 03 58.3**	**+4.1**
SNY				AMB		AMB		
	comp=Z,890nm,1.6s							
SNY				LR		LR		
	comp=N,53μm,9.9s							
SNY				LR		LR		
	comp=E,91μm,7.5s							
SNY				LR		LR		
	comp=Z,58μm,10.2s							
CBIJ	**Chichi jima**	**11.24**	**120**	P		**Pn**	**20 04 02.8**	**-0.6**
	comp=Z,43nm,0.3s,baz=316,slow=2.1,SNR=59							
CBIJ				S		**Sn**	**20 06 06.5**	**-0.9**
	comp=Z,12nm,0.3s,baz=330,slow=22,SNR=1.4							
MDJ	**Mudanjiang**	**11.48**	**354**	P		**Pn**	**20 04 10.1**	**+3.7**
MDJ				S		**Sn**	**20 06 17.0**	**+3.9**
MDJ				AMB		AMB		
	comp=Z,1μm,1.0s							
MDJ				AMB		AMB		
	comp=Z,10μm,8.2s							
MDJ				LR		LR		
	comp=N,9μm,10.3s							
MDJ				LR		LR		
	comp=E,13μm,9.9s							
MDJ				LR		LR		
	comp=Z,13μm,13.4s							
MDJ	**Mudanjiang**	**11.48**	**354**	⇑ *i* Pn		**Pn**	**20 04 09.8**	**+3.3**
	comp=Z,2μm,1.1s							
MDJ				*i* Sn		**Sn**	**20 06 24.6**	**+11**
CN2	**Changchun**	**11.52**	**338**	⇑P		**Pn**	**20 04 10.5**	**+3.5**
CN2				*e*S		**Sn**	**20 06 15.3**	**+1.1**
CN2				AMB		AMB		
	comp=Z,90nm,1.1s							
CN2				LR		LR		
	comp=N,37μm,11.0s							
CN2				LR		LR		
	comp=E,44μm,11.0s							
CN2				LR		LR		
	comp=Z,46μm,12.0s							
TATO	**Taipei**	**11.82**	**229**	*e*P		**Pn**	**20 04 13.3**	**+2.3**
	comp=Z,8μm,2.3s							
TIA	**Tai'an**	**12.01**	**288**	P		**Pn**	**20 04 16.5**	**+3.1**
TIA				S		**Sn**	**20 06 33.3**	**+7.3**
TIA				AMB		AMB		
	comp=Z,250nm,1.2s							
TIA				LR		LR		
	comp=N,21μm,9.0s							
TIA				LR		LR		
	comp=E,35μm,12.0s							
TIA				LR		LR		
	comp=N,22μm,8.4s							
YHNB	**Yeheng**	**12.12**	**228**	*e*Pn		**Pn**	**20 04 18.2**	**+3.4**
YHNB				*e*			20 04 57.8	
YHNB				*e*Sn		**Sn**	**20 06 28.8**	**+0.2**
NACB	**Ninganchiao**	**12.35**	**226**	⇓ *i* Pn		**Pn**	**20 04 21.3**	**+3.5**
NACB				*e*			20 04 57.1	
NACB				*e*Sn		**Sn**	**20 06 42.1**	**+8.0**
ERM	**Erimo**	**12.90**	**44**	Pn		**Pn**	**20 04 23.2**	**-1.7**
	comp=N,2μm,0.6s,SNR=24							
JAB	**Ashibetsu**	**13.40**	**37**	P		**Pn**	**20 04 31.2**	**-0.2**
QZH	**Quanzhou**	**13.78**	**237**	⇑ *i* P		**Pn**	**20 04 38.4**	**+2.2**
QZH				XP			20 05 15.6	
QZH				S		**Sn**	**20 07 06.5**	**-2.1**
QZH				AMB		AMB		
	comp=Z,410nm,0.8s							
QZH				AMB		AMB		
	comp=Z,8μm,9.1s							
QZH				LR		LR		
	comp=N,39μm,9.8s							
QZH				LR		LR		
	comp=E,50μm,11.2s							
QZH				LR		LR		
	comp=Z,40μm,12.1s							
BJT	**Baijiatuau**	**13.89**	**304**	*e*P		**Pn**	**20 04 40.0**	**+2.4**
BJT				*i*			20 07 19.1	
BJT				pmax		pmax		
	comp=Z,1μm,0.8s							
BJT	**Baijiatuau**	**13.89**	**304**	*e*Pn		**Pn**	**20 04 40.0**	**+2.4**
	comp=Z,1μm,0.8s							
BJT				*i* Sn		**Sn**	**20 07 19.1**	**+7.8**
BJT				*e*PcP		PcP	20 09 50.4	+1.8
ASAJ	**Asahikawa**	**14.04**	**36**	P		**Pn**	**20 04 38.5**	**-0.9**
	comp=Z,35nm,0.3s,baz=232,slow=15,SNR=329							
ASAJ	**Asahikawa**	**14.04**	**36**	P		**Pn**	**20 04 38.5**	**-0.9**
ASAJ				pmax		pmax		
	comp=Z,35nm,0.3s							
WHN	**Wuhan**	**14.61**	**264**	P		**Pn**	**20 04 49.4**	**+2.8**
WHN				XP			20 05 25.4	
WHN				S		**Sn**	**20 07 35.0**	**+6.5**
WHN				LR		LR		
	comp=Z,68μm,11.3s							
HABR	**Khabarovsk**	**15.53**	**9**	⇑ *i* P		**Pn**	**20 05 00.9**	**+2.8**
HABR				*e*S		**S**	**20 07 55.9**	**+4.7**
HABR				pmax		pmax		
	comp=Z,2μm,0.9s							
KLR	**Kul'dur**	**16.02**	**1**	⇓ *i* P		**Pn**	**20 05 03.4**	**-0.8**
KLR				*e*S		**S**	**20 08 02.5**	**-0.2**
KLR				pmax		pmax		
	comp=N,30μm,9.0s							
KLR				pmax		pmax		
	comp=E,2μm,9.0s							
KLR				pmax		pmax		
	comp=Z,46μm,9.0s							
KLR				smax				
	comp=N,40μm,12.0s							
KLR				smax				
	comp=E,31μm,12.0s							
KLR				MLR		MLR		
	comp=Z,21μm,13.0s							
YSS	**Yuzh-Sakhalins**	**16.29**	**29**	α *i* P		**Pn**	**20 05 05.6**	**-1.9**
YSS				*e*S		**S**	**20 07 58.0**	**-11**
YSS				pmax		pmax		
	comp=E,4μm,12.0s							
YSS				pmax		pmax		
	comp=Z,10μm,12.0s							
YSS				pmax		pmax		
	comp=N,7μm,13.0s							
YSS				smax				
	comp=N,800nm,1.9s							
YSS				smax				
	comp=E,1μm,2.2s							
YSS				MLR		MLR		
	comp=Z,10μm,14.0s							
YSS				MLR		MLR		
	comp=N,14μm,13.0s							
YSS				MLR		MLR		
	comp=E,4μm,11

comp=Z,585nm,1.0s
UGL smax
comp=N,14μm,8.0s
UGL smax
comp=E,16μm,9.0s
PALP Palanan 17.93 208 *e*P Pn 20 05 29.5 +2.4
ABRA Dolores 18.15 214 *e*P P 20 05 29.7 +1.5
HIA Hailar 18.21 335 P **P 20 05 31.1 +2.3**
HIA S **S 20 08 55.1 +5.4**
HIA Hailar 18.21 335⇑*i*P Pn 20 05 30.9 +0.5
HIA *i* 20 08 54.8
HIA pmax pmax
comp=Z,3μm,1.0s
HIA Hailar 18.21 335⇑*i*Pn Pn 20 05 30.9 +0.5
comp=Z,3μm,1.0s
HIA *i* Sn **Sn 20 08 54.8 +0.1**
CAUP Cauayan 18.28 210 *e*P P 20 05 32.4 +2.8
BTO Baotou 18.50 300 *e*P P 20 05 34.1 +2.2
BTO S **S 20 08 55.2 -0.3**
BTO AMB AMB
comp=Z,580nm,1.1s
BTO LR LR
comp=N,23μm,11.3s
BTO LR LR
comp=E,18μm,10.8s
HKC Hong Kong 18.58 239⇑*i*P P 20 05 34.0 +1.1
HKC *i* S **S 20 09 00.0 +2.8**
XAN Xi'an 18.62 279 P **P 20 05 34.6 +1.3**
XAN S **S 20 08 59.4 +1.5**
XAN AMB AMB
comp=Z,650nm,1.2s
XAN AMB AMB
comp=Z,6μm,11.6s
XAN LR LR
comp=N,15μm,12.2s
XAN LR LR
comp=E,12μm,11.5s
XAN LR LR
comp=Z,21μm,10.8s
ENH Enshi 18.74 267 P **P 20 05 33.5 -1.1**
BCPH Baguio City Da 19.32 212⇓*e*P P 20 05 42.0 +1.1
BALP Baler 19.46 209 *e*P P 20 05 43.8 +1.4
BOLP Bolinao 19.63 214 *e*P P 20 05 44.2 0.0
SCZP Santa Cruz 20.15 213 *e*P P 20 05 50.7 +0.8
POLP Polilio Island 20.24 207 *e*P P 20 05 52.9 +2.1
PVCP Virac 20.56 200 *e*P P 20 05 56.9 +2.7
TGY Tagaytay City 21.20 209 P **P 20 06 01.2 +0.2**
comp=Z,359nm,0.7s,baz=224,slow=1.7,SNR=25
TGY Tagaytay City 21.20 209 P **P 20 06 01.2 +0.2**
TGY pmax pmax
comp=Z,359nm,0.7s
AUQP San Andres 21.27 204 *e*P P 20 06 06.6 +4.8
BOAC Boac 21.44 206 *e*P P 20 06 02.5 -1.1
LUBP Lubang 21.82 210 *e*P P 20 06 05.8 -1.7
GYA Guiyang 22.33 259⇑*i*P P 20 06 10.7 -2.3
GYA AP 20 06 42.4
GYA XP sP 20 07 01.8 +4.9
GYA S **S 20 10 06.3 -1.5**
GYA PCS PcS 20 13 43.3 +1.7
GYA AMB AMB
comp=Z,350nm,0.8s,mb5.8
GYA AMB AMB
comp=Z,5μm,8.7s
GYA LR LR
comp=N,15μm,13.2s
GYA LR LR
comp=E,14μm,12.8s
GYA LR LR
comp=Z,22μm,16.5s
OTRP Odiongan 22.39 204 *e*P P 20 06 14.2 +0.6
LZH Lanzhou 22.71 285 ⇑P **P 20 06 17.0 +0.6**
LZH AP 20 06 47.6
LZH XP sP 20 07 07.1 +6.2
LZH PCP PcP 20 10 06.1 +2.5
LZH *e*S **S 20 10 11.0 -2.9**
LZH SS 20 11 07.0
LZH SCP ScP 20 13 28.3 +0.4
LZH PCS PcS 20 13 44.4 +1.8
LZH SCS ScS 20 17 15.1 +1.6
LZH AMB AMB
comp=Z,800nm,1.0s,mb6.1
LZH AMB AMB
comp=Z,7μm,5.6s
CIT Chita 22.77 331 *e*P P 20 06 17.8 +0.7
CIT *e* 20 06 47.9
CIT *e* 20 10 04.0
CIT *e* 20 10 19.0
CIT *e* 20 11 12.8
CIT pmax pmax
comp=Z,3μm,2.0s,mb6.3
OCLP Ormoc 22.87 197 *e*P P 20 06 22.1 +4.2
GUMO Guam 23.13 144 P **P 20 06 19.0 -1.3**
comp=Z,1μm,1.0s,mb6.2,baz=188,slow=2.6,SNR=15
GUMO LR LR 20 14 23.2
comp=Z,20μm,18.3s,baz=76,slow=34
GUMO Guam 23.13 144 P **P 20 06 19.0 -1.3**
GUMO LR LR 20 14 23.2
ULN Ulaanbaatar 23.39 316*c* *i*P P 20 06 24.1 +1.5
ULN *i* *PP 20 06 52.8
ULN *i* *SP sP 20 07 08.7 +0.6
ULN Ulaanbaatar 23.39 316⇑*i*P P 20 06 24.2 +1.6
CD2 Chengdu 23.39 272⇑*i*P P 20 06 23.2 +0.5
CD2 AP 20 06 52.4
CD2 XP sP 20 07 06.8 -1.4
CD2 PCP PcP 20 10 06.6 +1.6
CD2 S **S 20 10 21.0 -3.9**
CD2 XS sS 20 11 11.3 -3.9
CD2 AMB AMB
comp=Z,4μm,1.0s,mb6.8
CD2 AMB AMB
comp=Z,13μm,6.5s
CD2 LR LR
comp=N,50μm,13.2s
CD2 LR LR
comp=Z,59μm,12.6s
BUSP Coron 23.40 208 *e*P P 20 06 22.5 -0.3
LLP Lapu-Lapu 23.74 198 *i*P P 20 06 27.1 +1.3
SONM Songino Array 23.76 315 P **P 20 06 26.9 +0.9**
comp=Z,2μm,1.0s,mb6.6,baz=133,slow=8.8,SNR=851
SONM PcP PcP 20 10 06.5 +0.7
comp=Z,30nm,0.6s,baz=116,slow=2.7,SNR=7.8
SONM PKiKP PKiKP 20 17 48.4 -0.4
comp=Z,1.7nm,0.7s,baz=86,slow=0.6,SNR=6.3
SONM P3KPbc 20 39 42.1
comp=Z,0.2nm,0.3s,baz=249,slow=4.0,SNR=3.2
SONM Songino Array 23.76 315 P **P 20 06 26.9 +0.9**
SONM PcP PcP 20 10 06.5 +0.7
QIZ Qiongzhong 23.78 239 ⇓P **P 20 06 27.0 +0.8**
QIZ AP 20 06 56.9
QIZ XP sP 20 07 14.7 +2.4
QIZ S **S 20 10 31.1 -0.1**
QIZ AMB AMB
comp=Z,80nm,0.9s,mb5.2
QIZ AMB AMB
comp=Z,4μm,10.6s
QIZ Qiongzhong 23.78 239 *e*P P 20 06 27.4 +1.2
comp=Z,73nm,0.9s,mb5.2
QIZ *e* 20 06 58.5
QIZ *e* 20 07 13.7
QIZ *e*S **S 20 10 30.4 -0.8**
GUIM Jordan 23.83 201 *e*P P 20 06 24.2 -2.6
NRGR Nerungri 23.89 351 *e*P P 20 06 27.1 -0.1
SCPH Surigao 23.90 194 *e*P P 20 06 28.4 +1.1
CLNS Chul'man 24.04 351⇑*i*P P 20 06 28.4 -0.2
CLNS *e* 20 06 58.4
CLNS *e* 20 10 04.8
CLNS *e*SS 20 11 33.9
CLNS pmax pmax
comp=Z,1μm,0.8s,mb6.5
CLNS pmax pmax
comp=N,1μm,0.9s
CLNS pmax pmax
comp=E,382nm,0.7s
CLNS MLR MLR
comp=Z,5μm,11.0s
CLNS MLR MLR
comp=N,5μm,12.0s
CLNS MLR MLR
comp=E,6μm,12.0s
CUYO Cuyo Island 24.15 205 *e*P P 20 06 30.4 +0.8
ENPP El Nido 24.43 209 *e*P P 20 06 33.5 +1.3
BUTP Butuan 24.66 193 *e*P P 20 06 35.9 +1.6
SKR Severo-Kuril's 25.26 39 *e*P P 20 06 34.0 -5.7
SKR *e* 20 07 18.0
SKR *e*S **S 20 10 49.0 -5.7**
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,400nm,1.0s
SKR pmax pmax
comp=Z,1μm,1.0s,mb6.4
SKR pmax pmax
comp=N,3μm,5.0s
SKR pmax pmax
comp=E,5μm,5.0s
SKR pmax pmax
comp=Z,8μm,5.0s
SKR MLR MLR
comp=N,6μm,20.0s
SKR MLR MLR
comp=E,6μm,20.0s
SKR MLR MLR
comp=Z,9μm,20.0s
BUKP Musuan 25.84 194 *e*P P 20 06 45.1 +0.2
GTA Gaotai 26.00 293⇑*i*P P 20 06 46.9 +0.5
GTA AP pP 20 07 17.3 +0.9
GTA PP 20 07 34.7
GTA XP sP 20 07 36.0 +3.0
GTA PCP PcP 20 10 12.9 +2.1
GTA S **S 20 11 04.3 -2.1**
GTA XS sS 20 12 01.3 +1.7
GTA PCS PcS 20 13 52.4 +0.7
GTA SCS ScS 20 17 25.0 -1.8
GTA AMB AMB
comp=Z,290nm,1.4s,mb5.7
GTA AMB AMB
comp=Z,7μm,10.3s
GTA LR LR
comp=N,13μm,17.5s
GTA LR LR
comp=E,20μm,16.3s
GTA LR LR
comp=Z,25μm,16.7s
KMI Kunming 26.11 260 ⇑P **P 20 06 46.6 -0.7**
KMI AP pP 20 07 18.8 +1.4
KMI PP 20 07 34.1
KMI XP sP 20 07 36.8 +2.8
KMI PPP 20 07 49.7
KMI PCP PcP 20 10 12.0 +1.0
KMI S **S 20 11 03.5 -4.6**
KMI XS sS 20 11 59.3 -2.0
KMI SSS 20 12 46.4
KMI SCP ScP 20 13 35.6 -1.7
KMI PCS PcS 20 13 51.4 -0.6
KMI AMB AMB
comp=Z,220nm,0.8s,mb5.8
KMI AMB AMB
comp=Z,3μm,11.3s
KMI LR LR
comp=N,12μm,10.3s
KMI LR LR
comp=E,12μm,13.6s
KMI LR LR
comp=Z,18μm,13.6s
PAGZ Pagadian 26.25 198 *e*P P 20 06 48.8 +0.1
IPIL Ipil 26.53 200 *e*P P 20 06 51.0 -0.1
ZAK Zakamensk 26.79 318⇑*i*P P 20 06 54.1 +0.7
ZAK *e* 20 07 28.7
ZAK pmax pmax
comp=Z,225nm,1.0s,mb5.8
IRK Irkutsk 27.23 322 *e*P P 20 06 58.1 +0.7
IRK *e* pP 20 07 29.2 +1.7
IRK pmax pmax
comp=Z,312nm,2.1s,mb5.6
TLY Talaya 27.25 321 P **P 20 06 58.7 +1.2**
comp=Z,632nm,0.7s,mb6.4,SNR=38
TLY Talaya 27.25 321*c* *i*P P 20 06 58.0 +0.5
TLY *e* pP 20 07 28.1 +0.4
TLY *e* 20 07 43.4
TLY *e*S **S 20 11 18.9 -7.2**
TLY *e* 20 13 00.3
TLY pmax pmax
comp=Z,131nm,0.9s,mb5.6
TLY MLR MLR
comp=Z,8μm,14.0s
TLY Talaya 27.25 321⇑*i*P P 20 06 58.0 +0.5
TLY *e* pP 20 07 28.1 +0.4
TLY *e* 20 07 43.4
TLY *e*S **S 20 11 18.9 -7.2**
TLY *e* 20 13 00.3
BOD Bodaibo 27.27 340 *e*P P 20 06 57.3 -0.4
BOD pmax pmax
comp=Z,232nm,1.1s,mb5.7
BATP Bataraza 27.27 210 *e*P P 20 06 58.0 +0.2
PET Petropavlovsk 27.88 36 P **P 20 07 03.6 +0.5**
PET *e* 20 10 15.4
PET *i* S **S 20 11 37.4 +1.4**
PET *e* 20 13 41.1
PET pmax pmax
comp=Z,588nm,0.7s,mb6.4
PET smax
comp=N,30nm,20.0s
PET smax
comp=Z,1μm,20.0s
PET Petropavlovsk 27.88 36 P **P 20 07 03.6 +0.5**
comp=Z,588nm,0.7s,mb6.4
PET *e* 20 10 15.4
PET *i* S **S 20 11 37.4 +1.4**
PET *e* 20 13 41.1
MOY Mondy 28.67 319 *e*P P 20 07 10.8 +0.6
MOY pmax pmax
comp=Z,243nm,2.4s,mb5.5
YAK Yakutsk 28.87 358 *e*P P 20 07 11.1 -0.8
YAK *e* 20 10 18.1
YAK *e*S **S 20 11 49.4 -2.2**
YAK *e* 20 17 32.3
YAK pmax pmax
comp=N,390nm,1.0s
YAK pmax pmax
comp=Z,89nm,1.0s,mb5.5
YAK pmax pmax
comp=E,40nm,1.1s
YAK smax
comp=N,30nm,1.2s
YAK Yakutsk 28.87 358 *e*P P 20 07 11.1 -0.8
comp=N,89nm,1.0s,mb5.5
YAK *e* 20 10 18.1
YAK *e*S **S 20 11 49.4 -2.2**
YAK *e* 20 17 32.3
MA2 Magadan 29.39 20⇑*i*P P 20 07 16.6 +0.1
MA2 *e* 20 10 17.8
MA2 *i* S **S 20 11 59.8 +0.1**
MA2 *e* 20 16 11.5
MA2 pmax pmax
comp=Z,400nm,0.9s,mb6.2
MA2 pmax pmax
comp=N,100nm,0.7s
MA2 pmax pmax
comp=E,70nm,0.7s
MA2 Magadan 29.39 20⇑*i*P P 20 07 16.6 +0.1
MA2 *e* 20 10 17.8
MA2 *i* S **S 20 11 59.8 +0.1**
MA2 *e* 20 16 11.5
KKM Kota Kinabalu 30.42 211 P **P 20 07 28.2 +2.6**
KKM Kota Kinabalu 30.42 211⇑*i*P P 20 07 25.9 +0.3
KKM *e*pP pP 20 07 55.6 -0.6
KKM *e*sP sP 20 08 11.9 -0.7
KKM *e*PcP PcP 20 10 24.1 +2.4
KKM *e*S **S 20 12 19.2 +3.3**
TSM Tawau 31.35 206 P **P 20 07 36.6 +2.8**
CHTO Chiang Mai 32.23 252⇑*i*P P 20 07 41.0 -0.5
CHTO *e**PP pP 20 08 14.4 +2.3
CHTO *e**SP sP 20 08 29.3 +0.8
CHTO *e* 20 09 02.2
CHTO *e*S **S 20 12 47.1 +3.1**
CHTO pmax pmax
comp=Z,110nm,1.1s,mb5.5
CHTO Chiang Mai 32.23 252⇑*i*P P 20 07 41.0 -0.5
comp=Z,112nm,1.1s,mb5.5
CHTO *e*pP pP 20 08 14.4 +2.3
CHTO *e*sP sP 20 08 29.2 +0.7
CHTO *e*PP PP 20 09 02.2 +5.1
CHTO *e*S **S 20 12 47.0 +3.1**
LSA Lhasa 34.24 275 P **P 20 08 00.0 +1.0**
LSA AMB AMB
comp=Z,30nm,1.1s,mb4.9
LSA AMB AMB
comp=Z,3μm,13.2s
LSA LR LR
comp=N,7μm,13.5s
LSA LR LR
comp=E,4μm,14.3s
LSA LR LR
comp=Z,8μm,14.6s
LSA Lhasa 34.24 275⇑*i*P P 20 08 00.3 +1.3
LSA *e**PP pP 20 08 33.6 +3.8
LSA *e**SP sP 20 08 47.5 +1.3
LSA *e*S **S 20 13 07.6 -7.6**
LSA pmax pmax
comp=Z,143nm,0.9s,mb5.7
LSA Lhasa 34.24 275⇑*i*P P 20 08 00.2 +1.3
comp=Z,143nm,0.9s,mb5.7
LSA *e*pP pP 20 08 33.6 +3.8
LSA *e*sP sP 20 08 47.5 +1.2
LSA *e*S **S 20 13 07.6 -7.6**
WAKE Wake Island 34.47 105 *e*P P 20 08 00.6 -0.3
comp=Z,414nm,1.1s,mb6.1
KRAR Krasnoyarsk 34.91 322*c* *i*P P 20 08 05.3 +0.6
KRAR pmax pmax
comp=Z,287nm,1.0s,mb5.9
SHL Shillong 34.98 268 *i* P **P 20 08 06.0 +0.7**
SHL AMb AMB 20 08 17.9
comp=Z,3μm,1.0s,mb6.9
SHL *e*S **S 20 13 28.0 +1.5**
SHL *e*S **S 20 13 29.0 +2.5**
WMQ Urumqi 35.33 300 ⇑P **P 20 08 08.9 +0.6**
WMQ AP pP 20 08 42.5 +3.2
WMQ XP sP 20 08 56.2 +0.6
WMQ PP PP 20 09 34.1 +2.7
WMQ PCP PcP 20 10 33.4 -2.0
WMQ S **S 20 13 30.4 -1.5**
WMQ SCP ScP 20 14 06.1 -1.6
WMQ PCS PcS 20 14 22.5 -0.1
WMQ XS sS 20 14 29.6 +3.6
WMQ AMB AMB
comp=Z,820nm,1.0s,mb6.3
WMQ AMB AMB
comp=Z,8μm,6.0s
WMQ LR LR
comp=N,8μm,10.4s
WMQ LR LR
comp=E,8μm,13.6s
WMQ LR LR
comp=Z,9μm,17.0s
SMY Shemya 36.25 44 *e*P P 20 08 17.9 +1.8
SMY pmax pmax
comp=Z,242nm,1.0s,mb5.8
SMY Shemya 36.25 44 *e*P P 20 08 17.9 +1.8
comp=Z,2μm,1.0s,mb6.8
KSM Kuching 37.18 216 *e*P P 20 08 25.3 +1.3
KSM *e*pP pP 20 08 55.0 -0.1
KSM *e*sP sP 20 09 09.9 -1.6
KSM *e*PcP PcP 20 10 43.4 +2.4
KSM *e*S **S 20 13 56.5 -3.5**
SLGI Shiliguri 37.48 272 *e*x x 20 10 41.1
TIXI Tiksi 38.54 359 *e*P P 20 08 32.4 -3.0
TIXI *e* 20 10 39.9
TIXI *e*S **S 20 14 16.0 -4.4**
TIXI *e*SS SS 20 17 16.5 +0.5
TIXI pmax pmax
comp=Z,173nm,0.8s,mb5.7
TIXI MLR MLR
comp=Z,4μm,12.0s
TIXI Tiksi 38.54 359 *e*P P 20 08 32.4 -3.0
comp=Z,173nm,0.8s,mb5.7
TIXI *e* 20 10 39.9
TIXI *e*S **S 20 14 16.0 -4.4**
TIXI *e*SS SS 20 17 16.5 +0.5
TIXI LR LR
comp=Z,4μm,12.0s
SHBG Sahibganj 38.65 270 *e*P P 20 08 36.0 -0.3
SHBG *e*x x 20 48 45.0
JIRN Jiri 39.02 274 *e*P P 20 08 40.6 +1.2
comp=Z,433nm,0.5s,mb6.4
CAL Calcutta 39.16 266 *e*P P 20 08 38.4 -2.2
CAL AMb AMB 20 08 39.2
comp=Z,1μm,0.3s
CAL *e*x x 20 09 34.0
CAL *e*S **S 20 14 29.6 -0.2**
GUN Gumba 39.19 275 *e*P P 20 08 42.3 +1.4
comp=Z,4μm,1.2s,mb6.9
MK31 Makanchi Array 39.27 305 P **P 20 08 41.8 +0.3**
MK31 pmax pmax
comp=Z,359nm,1.0s,mb6.0
MKAR Makanchi Array 39.27 305 P **P 20 08 41.7 +0.2**
comp=Z,307nm,0.9s,mb5.9,baz=92,slow=9.9,SNR=232
MKAR pP pP 20 09 09.5 -3.4
comp=Z,129nm,1.0s,baz=70,slow=10,SNR=2.7
MKAR PcP PcP 20 10 47.3 -0.1
comp=Z,168nm,0.9s,baz=80,slow=3.2,SNR=11
MKAR ScP ScP 20 14 21.6 -0.9
comp=Z,14nm,0.6s,baz=86,slow=3.8,SNR=7.5
MKAR PKiKP PKiKP 20 17 58.5 -1.0
comp=Z,2.0nm,0.5s,baz=151,slow=2.8,SNR=7.3
MKAR P3KPbc 20 38 37.4
comp=Z,1.6nm,1.1s,baz=255,slow=4.8,SNR=3.9
MKAR P4KPbc 20 46 52.9
comp=Z,0.7nm,0.6s,baz=100,slow=5.4,SNR=5.1
MKAR Makanchi Array 39.27 305 P **P 20 08 41.7 +0.2**
MKAR 20 10 47.3
MKAR pmax pmax
comp=Z,307nm,0.9s
MKAR Makanchi Array 39.27 305 P **P 20 08 41.7 +0.2**
MKAR *e* 20 10 47.3
KAPI Kappang 39.53 198 P **P 20 08 44.7 +1.0**
comp=Z,812nm,1.2s,mb6.2,SNR=5.5
PKI Pulchoki 39.70 274 *e*P P 20 08 45.8 +0.8
comp=Z,341nm,0.5s,mb6.2
PKI Pulchoki 39.70 274 *e*P P 20 08 45.8 +0.8
PKI pmax pmax
comp=Z,341nm,0.5s,mb6.2
KKN Kakani 39.73 275 *e*P P 20 08 46.2 +0.9
comp=Z,809nm,0.9s,mb6.3
KKN Kakani 39.73 275 *e*P P 20 08 46.2 +0.9
KKN pmax pmax
comp=Z,809nm,0.9s,mb6.3
NVS Novosibirsk 39.74 318 *i* P **P 20 08 44.0 -1.4**
NVS *i* 20 10 46.5
NVS pmax pmax
comp=Z,170nm,0.9s,mb5.7
NVS pmax pmax
comp=N,66nm,1.5s
NVS pmax pmax
comp=E,171nm,1.2s
KULM Kulim 39.77 232⇑*i*P P 20 08 45.8 +0.1
KULM *e*pP pP 20 09 17.5 +0.3
KULM *e*sP sP 20 09 34.0 +0.6
KULM *e*PcP PcP 20 10 49.3 +0.3
DMN Daman 39.94 275 *e*P P 20 08 47.8 +0.8
comp=E,379nm,0.9s,mb6.0
IPM Ipoh 40.13 231 P **P 20 08 49.4 +0.8**
BILL Bilibino 40.25 20*c* *i*P P 20 08 50.4 +0.8
BILL *e* 20 10 26.3
BILL *e* 20 10 50.5
BILL *i* S **S 20 14 46.5 +0.4**
BILL pmax pmax
comp=Z,743nm,0.9s,mb6.3
BILL Bilibino 40.25 20⇑*i*P P 20 08 50.4 +0.8
comp=Z,743nm,0.9s,mb6.3
BILL *e* 20 10 26.3
BILL *e* 20 10 50.5
BILL *i* S **S 20 14 46.5 +0.4**
KGM Kluang 40.59 226 P **P 20 08 53.7 +1.3**
BOK Bokaro 40.69 269 *i* P **P 20 08 53.5 +0.3**
BOK *e*P 20 08 53.9
KURK Kurchatov 41.91 311 P **P 20 09 03.4 +0.2**
comp=Z,2μm,1.1s,mb6.6
BWNR Bhubaneshwar 42.26 264 *e*x x 20 09 34.0
AAA Alma-Ata 43.15 300 *e*P P 20 09 14.0 +0.8
AAA pmax pmax
comp=Z,5μm,8.0s
PTH Pithoragarh 43.38 279 *e*P P 20 09 16.5 +1.5
PTH *e*S **S 20 15 32.1 0.0**
ULHL Ulahol 43.78 298 P **P 20 09 19.7 +1.5**
SNR=25
TKM2 Tokmak 2 44.17 299 P **P 20 09 22.6 +1.2**
SNR=641
KSH Kashi 44.38 295⇑*i*P P 20 09 24.3 +1.4
KSH *e*AP pP 20 09 58.4 +3.4
KSH *e*XP sP 20 10 16.8 +5.7
KSH *e*PCP PcP 20 11 05.3 +1.0
KSH *e*PP PP 20 11 11.3 +2.0

KSH *e*PPP 20 11 55.4
KSH *e*SCP ScP 20 14 42.2 -0.7
KSH *e*PCS PcS 20 14 58.6 +0.8
KSH *e*S **S** **20 15 44.2 -2.3**
KSH *e*XS sS 20 16 47.1 +4.9
KSH *e*SCS ScS 20 19 02.7 -3.3
KSH AMB AMB
comp=Z,70nm,0.8s,mb5.3
KSH AMB AMB
comp=Z,6μm,6.2s
KSH LR LR
comp=N,15μm,11.2s
KSH LR LR
comp=E,21μm,12.7s
KSH LR LR
comp=Z,12μm,15.0s
KZA Kyzart 44.53 298 P **P** **20 09 26.3 +2.1**
SNR=115
KBK Karagaybulak 44.68 299 P **P** **20 09 26.6 +1.2**
SNR=220
CHMS Chumysh 44.78 300 P **P** **20 09 27.1 +1.0**
SNR=173
FRU Bishkek 44.90 299⇑ *i*P **P** **20 09 27.0 -0.1**
FRU *i* 20 10 05.0
FRU *i* 20 12 04.0
FRU *i* S **S** **20 15 56.0 +1.9**
FRU *i* 20 16 52.0
FRU pmax pmax
comp=Z,1μm,1.8s,mb6.2
FRU smax
comp=E,6μm,8.0s
DDI Dehra Dun 44.92 281 *e*P **P** **20 09 24.5 -2.8**
DDI *ex* x 20 11 08.0
USP Ospenovka 44.93 300 P **P** **20 09 27.7 +0.4**
SNR=221
PMG Port Moresby 44.99 158 P **P** **20 09 26.6 -1.3**
comp=E,33nm,0.8s,mb5.0,baz=13,slow=4.7,SNR=14
PMG pP pP 20 09 59.5 -0.5
comp=E,46nm,0.9s,baz=296,slow=10,SNR=3.1
PMG Port Moresby 44.99 158 P **P** **20 09 26.6 -1.2**
PMG *PP pP 20 09 59.5 -0.5
PMG pmax pmax
comp=Z,330nm,0.8s
AAK Ala-Archa 45.01 299 P **P** **20 09 29.5 +1.5**
SNR=11
AAK Ala-Archa 45.01 299 P **P** **20 09 28.0 0.0**
comp=Z,2μm,0.6s,mb6.8
AAK Ala-Archa 45.01 299⇑ *e*P **P** **20 09 27.9 -0.1**
UCH Uchtor 45.05 299 P **P** **20 09 30.4 +2.1**
SNR=413
SDNR Sundarnagar 45.45 283 *e*P **P** **20 09 32.0 +0.5**
SDNR *ex* x 20 11 29.0
EKS2 Erkin-Say 45.53 299 P **P** **20 09 33.4 +1.3**
SNR=10
VIS Vishakhapatnam 45.54 262 *i* P **P** **20 09 29.8 -2.3**
VIS *e*P 20 09 32.1
VIS AMb AMB 20 09 38.3
comp=Z,186nm,1.0s,mb5.7
VIS *i* S **S** **20 16 01.8 -1.5**
KAKA Kakadu 45.66 178 *e*P **P** **20 09 31.2 -1.9**
comp=Z,104nm,1.2s,mb5.3
KAKA *e*pP pP 20 10 05.8 +0.5
KAKA *e* 20 11 11.5
AML Almayashu 45.67 299 P **P** **20 09 35.0 +1.8**
SNR=186
JBP Jabalpur 45.90 271⇑ *e*P **P** **20 09 35.8 +0.8**
JBP *ex* x 20 09 41.0
comp=Z,552nm,1.5s
JBP *ex* x 20 15 01.5
SPIA Saint Paul Isl 45.93 40 *e*P **P** **20 09 36.5 +1.3**
BHK Bhakra 45.93 283 *ex* **P** **20 09 40.8 +5.6**
BHK *ex* x 20 11 15.0
DLH Dalhousie 45.97 285 *e*P **P** **20 09 35.0 -0.5**
DLH *ex* x 20 11 09.0
NDI New Delhi 46.14 280 *e*P **P** **20 09 36.0 -0.9**
NDI *ex* x 20 15 02.5
PONG Pong 46.15 284 *e*P **P** **20 09 37.0 0.0**
PONG *ex* x 20 14 53.0
GAMB Gambell 46.31 31⇑ *i*P **P** **20 09 38.7 +0.5**
GAMB *e*pP pP 20 10 10.9 +0.5
GAMB *e*sP sP 20 10 24.4 -2.1
GAMB *e*PP PP 20 11 29.6 +0.5
NIKO Nikolski 46.50 46 *e*P **P** **20 09 38.0 -1.6**
NIKO *e*pP pP 20 10 12.1 +0.1
NIKO *e*sP sP 20 10 25.0 -3.0
NIKO *e*PcP PcP 20 11 14.6 +2.9
NIKO *e*S **S** **20 16 19.1 +2.0**
BVA0 Borovoye Array 47.09 314 *i* P **P** **20 09 44.3 +0.1**
BVA0 pmax pmax
comp=Z,370nm,0.7s,mb6.1
BVAR Borovoye Array 47.09 314 PKPPKP 20 40 34.0
comp=Z,0.5nm,0.5s,baz=354,slow=1.5,SNR=3.7
BVAR P4KPbc 20 47 23.4
comp=Z,1.0nm,0.6s,baz=85,slow=4.7,SNR=6.6
BRVK Borovoye 47.15 314 P **P** **20 09 45.8 +1.1**
comp=Z,4μm,0.6s
BRVK Borovoye 47.15 314⇑ *i*P **P** **20 09 44.8 +0.1**
NGP Nagpur 47.53 269⇑ *i*P **P** **20 09 46.7 -1.0**
NGP *ex* x 20 09 52.1
comp=Z,556nm,1.5s
NGP *e*S **S** **20 16 29.8 -1.9**
KK31 Karatay Array 47.84 300 *i* P **P** **20 09 51.1 +1.0**
KKAR Karatay Array 47.84 300 *i* P **P** **20 09 51.0 +0.9**
KKAR pmax pmax
comp=Z,122nm,0.5s,mb5.8
NIL Nilore 47.84 287 P **P** **20 09 52.1 +2.0**
comp=Z,314nm,0.7s,mb6.0,SNR=14
UNV Unalaska Valle 47.91 45 *e*P **P** **20 09 47.7 -2.9**
comp=Z,221nm,1.0s,mb5.7
UNV *e*pP pP 20 10 21.4 -1.7
ZRNK Zerenda 47.93 314 *e*P **P** **20 09 50.7 0.0**
ZRNK *e**PP pP 20 10 24.1 +0.9
ZRNK *e**SP sP 20 10 41.9 +2.7
ZRNK *e* 20 11 17.1
ZRNK *e* 20 11 44.4
ZRNK pmax pmax
comp=Z,190nm,0.9s,mb5.7
ZRNK Zerenda 47.93 314 *e*P **P** **20 09 50.7 0.0**
ZRNK *e*pP pP 20 10 24.1 +0.9
ZRNK *e*sP sP 20 10 41.9 +2.7
ZRNK *e* 20 11 17.1
ZRNK *e* 20 11 44.4
BHPL Bhopal 48.01 273 *e*P **P** **20 09 50.8 -0.5**
BHPL AMb AMB 20 09 57.4
comp=Z,241nm,1.3s,mb5.7
TNA Tin City 48.27 29⇑ *i*P **P** **20 09 54.2 +0.8**
comp=Z,298nm,1.0s,mb5.9
TNA *e*pP pP 20 10 26.3 +0.4
TNA *e*sP sP 20 10 40.0 -1.8
TNA *e*PP PP 20 11 49.0 +2.0
AKUT Akutan 48.34 45 *e*P **P** **20 09 53.4 -0.4**
comp=Z,300nm,1.0s,mb5.9
AJM Ajmer 49.06 278 *i* P **P** **20 09 59.0 -0.4**
AJM *e*P 20 09 59.5
AJM AMb AMB 20 10 03.4
comp=Z,262nm,0.8s,mb5.9
HYB Hyderabad 49.67 265⇑ *i*P **P** **20 10 04.5 +0.5**
comp=Z,240nm,1.0s,mb5.8
HYB *e*pP pP 20 10 35.0 -1.7
HYB *e* pP 20 10 40.0 +3.3
HYB *e*PcP PcP 20 11 24.5 +1.4
HYB *e*PP PP 20 12 01.0 +1.3
HYB *e*PPP 20 12 50.0
HYB *e*ScP ScP 20 15 04.0 -1.1
HYB *e*S **S** **20 17 00.0 -1.6**
HYB *e*PKPPKP 20 40 10.0
HYB Hyderabad 49.67 265⇑ *e*P **P** **20 10 05.0 +1.0**
HYB *e* 20 10 54.0
HYB *e* 20 11 23.0
HYB *e*S **S** **20 17 04.0 +2.4**
HYB pmax pmax
comp=Z,240nm,1.0s,mb5.8
HYB Hyderabad 49.67 265⇑ *e*P **P** **20 10 05.0 +1.0**
comp=Z,240nm,1.0s,mb5.8
HYB *e* 20 10 54.0
HYB *e* 20 11 23.0
HYB *e*S **S** **20 17 04.0 +2.4**
HYB *e*P'P' 20 40 10.0
FALS False Pass 49.69 44 *e*P **P** **20 10 03.3 -0.8**
HNR Honiara 50.43 142⇓ *e*P **P** **20 10 08.5 -1.2**
HNR *e**PP pP 20 10 42.8 +0.2
HNR *e**SP sP 20 10 59.3 +0.9
HNR pmax pmax
comp=Z,536nm,1.2s,mb6.0
HNR Honiara 50.43 142⇓ *e*P **P** **20 10 08.5 -1.2**
comp=Z,625nm,1.2s,mb6.1
HNR *e*pP pP 20 10 42.8 +0.3
HNR *e*sP sP 20 10 59.3 +0.9
LATR Latur 50.86 267 *e*P **P** **20 10 13.0 0.0**
FITZ Fitzroy Crossi 51.29 187 *e*P **P** **20 10 15.2 -0.9**
comp=Z,169nm,0.8s,mb5.7
FITZ *e*pP pP 20 10 48.0 -1.1
FITZ *e*S **S** **20 17 18.5 -5.5**
CHGN Chignik 52.43 41 *e*P **P** **20 10 23.9 -0.7**
WRAB Tennant Creek 52.91 176 P **P** **20 10 27.0 -1.1**
comp=Z,879nm,1.4s,mb6.3,SNR=24
WRAB Tennant Creek 52.91 176 *e*P **P** **20 10 26.9 -1.2**
WRAB *e**PP pP 20 11 01.3 +0.1
WRAB pmax pmax
comp=Z,620nm,1.4s,mb6.2
WRAB Tennant Creek 52.91 176 *e*P **P** **20 10 26.9 -1.2**
comp=Z,433nm,1.4s,mb6.0
WRAB *e*pP pP 20 11 01.3 +0.1
WRA Warramunga Arr 52.92 176 P **P** **20 10 27.0 -1.2**
comp=Z,69nm,0.6s,mb5.5,baz=352,slow=7.9,SNR=102
WRA pP pP 20 11 00.9 -0.4
comp=Z,110nm,0.8s,baz=353,slow=7.8,SNR=8.9
WRA S **S** **20 17 45.3 -0.9**
comp=Z,7.1nm,1.1s,baz=354,slow=14,SNR=3.7
WRA PKPPKP 20 40 26.7
comp=Z,3.3nm,1.1s,baz=248,slow=2.2,SNR=5.7
WRA P4KPbc 20 47 50.8
comp=Z,6.5nm,1.1s,baz=353,slow=5.4,SNR=14
WRA Warramunga Arr 52.92 176 P **P** **20 10 27.0 -1.2**
WRA *PP pP 20 11 00.9 -0.4
WRA S **S** **20 17 45.3 -1.0**
WRA pmax pmax
comp=Z,690nm,0.6s
WRA Warramunga Arr 52.92 176 P **P** **20 10 27.0 -1.2**
WRA pP pP 20 11 00.9 -0.4
WRA S **S** **20 17 45.3 -0.9**
WRA P'P' 20 40 26.7
WB2 Warramunga Arr 52.92 176⇓ *i*P **P** **20 10 26.8 -1.4**
WB2 *e*pP pP 20 11 00.9 -0.4
WB2 *e*S **S** **20 17 42.1 -4.2**
POO Poona 53.08 269⇓ *i*P **P** **20 10 29.0 -0.4**
comp=Z,280nm,1.0s,mb6.0
POO *ex* x 20 11 08.0
POO *i* x x 20 11 44.0
POO *i* PP PP 20 12 28.5 -2.1
POO *i* S **S** **20 17 48.0 -0.4**
POO *ex* x 20 18 14.4
TTA Tatalina 53.25 33 *e*P **P** **20 10 31.3 +0.7**
TTA pmax pmax
comp=Z,804nm,1.4s,mb6.3
TTA Tatalina 53.25 33 *e*P **P** **20 10 31.3 +0.7**
comp=Z,804nm,1.4s,mb6.3
PALK Pallekele 53.34 253 P **P** **20 10 33.6 +2.3**
comp=Z,1μm,1.0s,mb6.7,SNR=31
PALK Pallekele 53.34 253⇑ *i*P **P** **20 10 32.4 +1.1**
comp=Z,268nm,1.0s,mb5.9
PALK *e*pP pP 20 11 05.2 +0.7
PALK *e*sP sP 20 11 21.1 +0.9
KAD Karad 53.38 267 *e*P **P** **20 10 31.9 +0.3**
KAD AMb AMB 20 10 36.2
comp=Z,257nm,0.9s,mb5.9
SVW2 Sparrevohn 53.54 35 *e*P **P** **20 10 33.7 +1.0**
SVW2 *e*pP pP 20 11 08.9 +3.0
SVW2 *e*sP sP 20 11 21.2 -0.5
ARU Arti 53.72 319 P **P** **20 10 33.5 -0.6**
comp=Z,3μm,1.0s,mb6.9
ARU Arti 53.72 319⇑ *i*P **P** **20 10 33.6 -0.5**
ARU *e* pP 20 11 06.8 -0.4
ARU *e*SP 20 11 21.8
ARU *e* 20 11 37.0
ARU *e* 20 12 35.8
ARU *e*S **S** **20 17 58.3 +1.2**
ARU *e*SS sS 20 18 57.9 +3.4
ARU *e* 20 20 06.7
ARU *e*SS SS 20 21 42.6 +2.9
ARU pmax pmax
comp=Z,428nm,0.9s,mb6.2
BOM Bombay 53.78 270 *e*P **P** **20 10 34.9 +0.4**
BOM AMb AMB 20 10 41.7
comp=Z,355nm,1.9s,mb5.8
AB31 Akbulak array 54.01 310 P **P** **20 10 35.9 -0.2**
AB31 pmax pmax
comp=Z,150nm,0.6s,mb5.9
AB31 Akbulak array 54.01 310 P **P** **20 10 35.9 -0.2**
comp=Z,150nm,0.6s,mb5.9
SOKR Solikamsk 54.31 323 *c i*P **P** **20 10 37.4 -0.9**
SOKR *PP pP 20 11 11.8 +0.2
SOKR *SP sP 20 11 25.8 -1.6
SOKR S **S** **20 18 04.8 -0.2**
SOKR *SS sS 20 19 02.2 -0.3
SOKR pmax pmax
comp=Z,330nm,1.0s,mb6.0
SOKR MLR MLR
comp=Z,9μm,15.0s
BHJ Bhuj 54.50 276 *e*P **P** **20 10 40.5 +0.8**
BHJ AMb AMB 20 10 45.7
comp=Z,240nm,1.6s,mb5.7
CTA Charters Tower 54.89 163 *e*P **P** **20 10 41.7 -0.8**
comp=Z,56nm,1.1s,mb5.2
CTA *e*pP pP 20 11 16.1 +0.3
CTA *e*S **S** **20 18 08.5 -4.2**
CTA Charters Tower 54.89 163 *e*P **P** **20 10 41.7 -0.8**
CTA *e**PP pP 20 11 16.1 +0.3
CTA *e*S **S** **20 18 08.5 -4.2**
CTA pmax pmax
comp=Z,56nm,1.1s
CTAO Charters Tower 54.89 163⇓ *i*P **P** **20 10 42.1 -0.4**
CTAO *e**PP pP 20 11 15.0 -0.8
CTAO *e**SP sP 20 11 31.4 -0.2
CTAO pmax pmax
comp=Z,387nm,1.1s,mb6.0
CTAO Charters Tower 54.89 163⇓ *i*P **P** **20 10 42.1 -0.4**
comp=Z,387nm,1.1s,mb6.0
CTAO *e*pP pP 20 11 15.0 -0.8
CTAO *e*sP sP 20 11 31.4 -0.2
AKTO Aktyubinsk 55.00 312 LR LR 20 34 13.3
comp=Z,2μm,18.4s,baz=0.0,slow=36
AKTO P4KPbc 20 48 00.9
comp=Z,2.0nm,0.8s,baz=137,slow=4.1,SNR=5.0
MBWA Marble Bar 55.16 193 *e*P **P** **20 10 44.1 -0.4**
comp=Z,308nm,1.2s,mb5.9
MBWA *e*pP pP 20 11 16.9 -0.9
MBWA *e*sP sP 20 11 33.3 -0.2
MBWA *e*PcP PcP 20 11 45.7 +1.9
KDAK Kodiak Island 55.42 39 P **P** **20 10 46.6 +0.3**
comp=Z,5μm,1.2s,SNR=49
KDAK Kodiak Island 55.42 39 *e*P **P** **20 10 46.8 +0.5**
comp=Z,1μm,1.0s,mb6.5
KDAK *e*pP pP 20 11 18.6 -1.1
KDAK *e*sP sP 20 11 36.7 +1.3
TRD Trivandrum 55.66 257 *e*P **P** **20 10 48.6 +0.6**
COCO West Island 55.81 222 *e*P **P** **20 10 50.0 +1.0**
comp=Z,808nm,1.3s,mb6.4
SLKM Skilak Lake 56.22 36 P **P** **20 10 52.3 +0.3**
SLKM Skilak Lake 56.22 36 *e*P **P** **20 10 51.7 -0.3**
SLKM *e*pP pP 20 11 23.8 -1.6
MCK McKinley 56.36 32⇑ *i*P **P** **20 10 53.4 +0.4**
MCK *e**PP pP 20 11 25.7 -0.8
MCK *e**SP sP 20 11 42.6 +0.4
MCK *e* 20 13 02.7
MCK pmax pmax
comp=Z,410nm,1.2s,mb6.1
MCK McKinley 56.36 32⇑ *i*P **P** **20 10 53.4 +0.4**
comp=Z,410nm,1.2s,mb6.1
MCK *e*pP pP 20 11 25.7 -0.7
MCK *e*sP sP 20 11 42.6 +0.4
MCK *e*PP PP 20 13 02.7 +2.8
PMR Palmer 56.58 34 *e*P **P** **20 10 54.7 +0.2**
PMR pmax pmax
comp=Z,853nm,1.1s,mb6.5
PMR Palmer 56.58 34 *e*P **P** **20 10 54.7 +0.2**
comp=Z,853nm,1.1s,mb6.5
AS31 Alice Springs 56.60 177⇓ *i*P **P** **20 10 53.5 -1.2**
AS31 *e*pP pP 20 11 28.4 +0.2
AS31 *e*S **S** **20 18 34.2 -1.2**
AS31 *e* 20 20 29.2
ASAR Alice Springs 56.60 177 P **P** **20 10 53.6 -1.1**
comp=Z,19nm,0.8s,mb5.0,baz=355,slow=7.5,SNR=76
ASAR pP pP 20 11 27.6 -0.6
comp=Z,104nm,0.8s,baz=5.9,slow=8.2,SNR=12
ASAR PKiKP PKiKP 20 18 19.8 +2.6
comp=Z,1.1nm,0.9s,baz=359,slow=1.0,SNR=4.5
ASAR S **S** **20 18 32.9 -2.5**
comp=Z,8.6nm,1.0s,baz=13,slow=21,SNR=7.1
ASAR PKPPKP 20 40 14.4
comp=Z,1.1nm,0.9s,baz=165,slow=3.8,SNR=3.6
ASAR P4KPbc 20 48 07.7
comp=Z,3.7nm,0.6s,baz=356,slow=4.3,SNR=44
ASAR Alice Springs 56.60 177 P **P** **20 10 53.6 -1.1**
ASAR *PP pP 20 11 27.6 -0.6
ASAR S **S** **20 18 32.9 -2.5**
ASAR pmax pmax
comp=Z,190nm,0.8s
ASAR smax
comp=N,9.0nm,1.0s
ASPA Alice Springs 56.60 177⇓ *i*P **P** **20 10 53.5 -1.2**
ASPA *e*pP pP 20 11 28.4 +0.2
ASPA *e*S **S** **20 18 34.2 -1.2**
ASPA *e* 20 20 29.2
COLA College 56.67 30 P **P** **20 10 56.0 +0.8**
COLA pmax pmax
comp=Z,600nm,1.3s,mb6.3
COLA College 56.67 30⇑ *i*P **P** **20 10 55.9 +0.7**
ORR Orenburg 56.76 314 *c i*P **P** **20 10 53.0 -2.8**
ORR *i* *PP pP 20 11 28.6 -0.8
ORR *i* 20 11 43.5
ORR 20 13 01.6
ORR pmax pmax
comp=Z,720nm,1.1s,mb6.4
ORR MLR MLR
comp=Z,5μm,18.0s
SML Sawmill 56.92 34 *e*P **P** **20 10 50.5 -6.4**
DIV Divide 58.25 35⇑ *i*P **P** **20 11 07.2 +1.0**
comp=Z,3μm,1.0s
DIV *e*pP pP 20 11 41.3 +1.4
DIV *e* 20 11 55.8
ABKT Ailbek 58.27 297 P **P** **20 11 07.5 +1.1**
comp=Z,626nm,1.1s,mb6.3,SNR=54
MID Middleton Isla 58.34 37 *e*P **P** **20 11 08.1 +1.3**
EYAK Cordova Ski Ar 58.38 35⇑ *i*P **P** **20 11 08.0 +0.8**
EYAK *e*pP pP 20 11 40.7 -0.2
EYAK *e* 20 11 56.2
EYAK *e*PP PP 20 13 18.9 +1.0
MENT Mentasta 58.81 32 *e*P **P** **20 11 11.4 +1.2**
MNCY Minicoy 59.01 259 *ex* x 20 11 15.0
MNCY *ex* x 20 12 56.0
DAWY Dawson 60.43 30⇑ *i*P **P** **20 11 21.8 +0.6**
DAWY *e*pP pP 20 11 56.9 +1.8
DAWY *e*sP sP 20 12 11.2 +0.5
DAWY *e*PP PP 20 13 36.9 +0.9
INK Inuvik 61.48 25 P **P** **20 11 28.9 +0.6**
comp=Z,535nm,1.0s,mb6.3,baz=287,slow=6.9,SNR=294
INK pP pP 20 12 01.7 -0.6
comp=Z,145nm,1.0s,baz=198,slow=12,SNR=2.3
INK P4KPbc 20 48 28.9
comp=Z,2.1nm,1.1s,baz=254,slow=6.9,SNR=4.1
INK Inuvik 61.48 25 P **P** **20 11 28.9 +0.6**
INK pP pP 20 12 01.7 -0.6
PECR Pechory 61.60 321 *d i*P **P** **20 11 28.6 -0.5**
PECR *e* 20 12 17.6
PECR *e* 20 13 44.0
PECR *e* 20 15 14.6
PECR *e*S **S** **20 19 38.0 -1.9**
PECR *e*SS SS 20 23 42.0 -1.5
PECR pmax pmax
comp=Z,430nm,1.0s,mb6.2
PECR smax
comp=N,2μm,12.0s
PECR smax
comp=E,2μm,12.0s
PECR MLR MLR
comp=Z,8μm,14.0s
PECR MLR MLR
comp=N,2μm,13.0s
PECR MLR MLR
comp=E,5μm,15.0s
LVZ Lovozero 62.10 335 P **P** **20 11 32.6 +0.1**
comp=E,1μm,1.3s,mb6.5,SNR=11
LVZ Lovozero 62.10 335 *i* P **P** **20 11 30.3 -2.2**
LVZ *i* *PP pP 20 12 07.3 +0.8
LVZ *e*S **S** **20 19 40.0 -6.1**
LVZ *e* 20 20 20.1
LVZ pmax pmax
comp=Z,212nm,1.1s,mb5.9
LVZ pmax pmax
comp=N,49nm,0.8s
LVZ pmax pmax
comp=E,62nm,0.9s
LVZ smax
comp=N,541nm,10.4s
LVZ smax
comp=E,1μm,13.8s
LVZ Lovozero 62.10 335 *i* P **P** **20 11 30.3 -2.2**
LVZ *i* pP pP 20 12 07.3 +0.8
LVZ *e*S **S** **20 19 40.0 -6.1**
LVZ *e* 20 20 20.1
APA Apatity 62.66 335⇓ *i*P **P** **20 11 35.2 -1.0**
APA *i* pP 20 12 10.0 -0.3
APA *i* *PP pP 20 12 28.0 +18
APA *i* 20 13 54.0
APA *i* PPP 20 15 27.0
APA *i* S **S** **20 19 58.0 +4.9**
APA *i* PS 20 20 36.0
APA *i* *SS sS 20 21 10.0 +18
APA *i* SS SS 20 23 59.0 -1.1
APA *i* SSS 20 26 54.0
APA pmax pmax
comp=Z,299nm,0.9s,mb6.1
KIP Kipapa 62.89 81 *e*P **P** **20 11 37.9 +0.2**
KIP pmax pmax
comp=Z,202nm,1.5s,mb5.7
KIP Kipapa 62.89 81 *e*P **P** **20 11 37.9 +0.2**
comp=Z,203nm,1.5s,mb5.7
KBS Kingsbay 62.92 349 *e*P **P** **20 11 38.2 +0.3**
KBS AMb AMB 20 11 41.7
comp=Z,649nm,0.9s,mb6.5
KBS *e*PP PP 20 13 56.5 -1.4
KBS AMS AMS 20 39 23.4
comp=Z,2μm,21.5s
KBS Kingsbay 62.92 349 *e*P **P** **20 11 38.1 +0.2**
comp=Z,595nm,1.0s,mb6.4
WBK Wadi Bani Khal 63.63 281⇑ P **P** **20 11 44.0 +1.4**
SNR=10
FORT Forrest 63.70 183 *e*P **P** **20 11 40.2 -2.8**
comp=Z,229nm,0.7s,mb6.1
FORT *e*pP pP 20 12 15.7 -1.5
FORT *e*PKPPKP 20 40 38.6
SKAG Skagway 63.71 35⇑ *i*P **P** **20 11 44.6 +1.5**
comp=Z,687nm,1.2s,mb6.4
SKAG *e*pP pP 20 12 15.9 -1.3
SKAG *e*sP sP 20 12 32.9 +0.1
BJO Bjornoya 63.88 344 *e*P **P** **20 11 43.7 -0.6**
BIDO Bidbid 63.92 282⇑ P **P** **20 11 46.0 +1.5**
SNR=18
BJO1 Bjornoya 63.93 344 *e*P **P** **20 11 43.7 -0.9**
KEV Kevo 63.96 338 *ep* **P** **20 11 44.0 -0.7**
comp=Z,140nm,0.7s,mb5.9
KEV Kevo 63.96 338 P **P** **20 11 44.5 -0.2**
KEV pmax pmax
comp=Z,290nm,1.0s,mb6.1
MAK Makhachkala 64.08 306 *c i*P **P** **20 11 45.9 +0.4**
MAK *i* S **S** **20 20 08.4 -2.4**
MAK pmax pmax
comp=Z,330nm,1.0s,mb6.1
MAK Makhachkala 64.08 306⇑ *i*P **P** **20 11 45.9 +0.4**
MAK *i* S **S** **20 20 08.4 -2.4**
SMDO Samad 64.19 282⇑ P **P** **20 11 47.4 +1.1**
SNR=17
ALE Alert 64.33 2 P **P** **20 11 47.0 -0.2**
comp=Z,4μm,1.1s
BANOM Banah 64.34 285⇓ P **P** **20 11 48.5 +1.3**
SNR=13
NOUC Port Laguerre 64.36 144 *e*P **P** **20 11 47.5 +0.2**
DZM Mont Dzumac 64.40 144 *e*P **P** **20 11 48.0 +0.4**
JMDO Jabal Madar 64.46 281⇓ P **P** **20 11 48.8 +0.8**
SNR=12
ARCES ARCESS Array B 64.53 338 P **P** **20 11 47.7 -0.8**
comp=Z,86nm,0.7s,mb5.7,baz=62,slow=10,SNR=116
ARCES pP pP 20 12 21.8 -0.9
comp=Z,213nm,1.0s,baz=69,slow=6.6,SNR=4.9
ARCES PKPPKP 20 32 09.6
comp=Z,2.4nm,0.9s,baz=225,slow=1.0,SNR=4.3
ARCES PKPPKP 20 40 26.1
comp=Z,4.7nm,0.9s,baz=327,slow=1.5,SNR=3.9
ARCES LR LR 20 42 33.7
comp=Z,7μm,22.0s,baz=64,slow=38

ARCES P4KPbc 20 48 40.3
comp=Z,5.9nm,1.1s,baz=54,slow=6.2,SNR=3.6
ARCES ARCESS Array B 64.53 338 P P 20 11 47.7 -0.7
ARCES *PP pP 20 12 21.8 -0.9
ARCES pmax pmax
comp=Z,86nm,0.7s
ARCES MLR MLR
comp=Z,7μm,22.0s
ARCES ARCESS Array B 64.53 338 P P 20 11 47.7 -0.8
ARCES pP pP 20 12 21.8 -0.9
ARCES PKKP 20 32 09.6
ARCES P'P' 20 40 26.1
ARCES LR LR 20 42 33.7
ARE0 ARCESS Array S 64.53 338 *eP* **P 20 11 47.5 -0.9**
ARE0 *e*pP pP 20 12 21.8 -0.9
ARE0 *e*sP sP 20 12 36.6 -1.6
HOQ Hoqain 64.56 282 ⇑P **P 20 11 49.9 +1.3**
SNR=25
SIT Sitka 64.59 37 *eP* **P 20 11 50.4 +1.5**
SIT pmax pmax
comp=Z,716nm,1.4s,mb6.3
SIT Sitka 64.59 37 *eP* **P 20 11 50.4 +1.5**
comp=Z,716nm,1.4s,mb6.3
VRHR Novokhopersk 64.76 316 *eP* **P 20 11 48.7 -1.3**
VRHR *e**PP pP 20 12 20.8 -3.5
VRHR *e*S **S 20 20 21.6 +2.5**
VRHR *e*PS 20 20 59.9
VRHR pmax pmax
comp=Z,320nm,1.3s,mb6.0
VRHR pmax pmax
comp=N,80nm,0.8s
VRHR pmax pmax
comp=E,130nm,0.8s
VRHR smax
comp=N,190nm,1.2s
VRHR smax
comp=E,280nm,1.4s
BSY Bisya 65.03 282 ⇑P **P 20 11 52.6 +0.9**
SNR=21
ASHO Ashiyiah 65.09 284 ⇑P **P 20 11 52.6 +0.5**
SNR=36
MOS Moscow 65.20 322α *iP* **P 20 11 51.1 -1.7**
MOS *i* *PP pP 20 12 27.3 +0.1
MOS *i* PPP 20 15 53.7
MOS *i* S S 20 20 21.6 -2.9
MOS *i* 20 21 03.8
MOS *i* *SS sS 20 21 26.2 +2.3
MOS pmax pmax
comp=Z,331nm,1.0s,mb6.1
MOS smax
comp=N,2μm,7.2s
MOS MLR MLR
comp=N,6μm,13.0s
MOS MLR MLR
comp=E,7μm,13.0s
MOS MLR MLR
comp=Z,10μm,13.0s
JOF Joensuu 65.28 330 *ep* **P 20 11 52.5 -0.8**
comp=Z,237nm,0.8s,mb6.1
ARQ Araqi 65.32 283 ⇓P **P 20 11 54.5 +0.9**
SNR=29
STKA Stephens Creek 65.45 170 *eP* **P 20 11 51.7 -2.7**
comp=Z,80nm,1.2s,mb5.4
STKA *e*pP pP 20 12 26.2 -2.6
STKA *i* S S 20 20 24.8 -2.8
STKA *e* 20 21 37.1
STKA *e*PKPPKP 20 40 29.5
STKA Stephens Creek 65.45 170 P **P 20 11 52.0 -2.4**
comp=Z,94nm,1.0s,mb5.6,baz=345,slow=6.7,SNR=93
STKA pP pP 20 12 26.7 -2.1
comp=Z,108nm,0.8s,baz=335,slow=6.5,SNR=8.5
STKA PKPPKP 20 40 30.4
comp=Z,18nm,1.1s,baz=180,slow=2.0,SNR=7.7
STKA LR LR 20 41 02.6
comp=Z,4μm,19.6s,baz=125,slow=36
KTK1 Kautokeino 65.49 338 *eP* **P 20 11 53.9 -0.7**
KTK1 AMb AMB 20 12 00.5
comp=Z,709nm,1.7s,mb6.2
KTK1 *e*PP PP 20 14 19.1 -1.3
KTK1 Kautokeino 65.49 338 *eP* **P 20 11 53.9 -0.7**
comp=Z,709nm,1.7s,mb6.2
KLBR Kellerberrin 65.69 193 *eP* **P 20 11 54.1 -1.8**
comp=Z,141nm,1.2s,mb5.7
KLBR *e*pP pP 20 12 26.9 -3.4
POHA Pohakuloa 65.72 82 *eP* **P 20 11 57.7 +1.6**
comp=Z,108nm,0.7s,mb5.8
VOR Voronezh 65.92 317 *eP* **P 20 11 55.5 -1.9**
VOR *e*S S 20 20 33.5 +0.3
VOR pmax pmax
comp=N,100nm,1.2s
VOR pmax pmax
comp=Z,220nm,1.2s,mb5.9
VOR smax
comp=N,200nm,1.4s
OBN Obninsk 66.00 321 P **P 20 11 57.3 -0.6**
comp=N,898nm,1.1s,mb6.5,SNR=26
OBN Obninsk 66.00 321*c iP* **P 20 11 57.1 -0.8**
OBN *i* pP 20 12 30.3 -2.1
OBN *i* 20 12 46.5
OBN *i* 20 14 26.6
OBN *i* S S 20 20 32.8 -1.4
OBN *i* SS SS 20 24 54.4 +2.3
OBN pmax pmax
comp=Z,205nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,7μm,15.0s
OBN Obninsk 66.00 321⇑*iP* **P 20 11 57.1 -0.8**
comp=Z,205nm,1.2s,mb5.8
OBN *i* pP 20 12 30.3 -2.1
OBN *i* 20 12 46.5
OBN *i* 20 14 26.6
OBN *i* S S 20 20 32.8 -1.4
OBN *i* SS SS 20 24 54.4 +2.3
OBN LR LR
comp=Z,7μm,15.0s
VRSR Storozhevoye 66.13 317 *i P* **P 20 11 57.8 -0.9**
VRSR *e**PP pP 20 12 29.5 -3.7
VRSR *e*S S 20 20 31.8 -4.0
VRSR *e*SS SS 20 24 51.1 -2.9
VRSR pmax pmax
comp=N,60nm,1.0s
VRSR pmax pmax
comp=E,70nm,1.0s
VRSR pmax pmax
comp=Z,60nm,1.0s,mb5.4
VRSR smax
comp=N,20nm,3.0s
VRSR smax
comp=E,40nm,3.7s
DGRG David-gareji 66.13 305 P **P 20 11 59.5 +0.8**
DGRG S S 20 20 38.1 +2.3
ARMA Armidale 66.14 161 *eP* **P 20 11 58.0 -0.8**
ARMA *e* pP 20 12 32.0 -1.3
ARMA *i* S S 20 20 36.8 +0.9
GOF Gofitskoye 66.24 309⇑*iP* **P 20 11 58.6 -0.8**
GOF *i* pP 20 12 36.3 +2.4
GOF *i* S S 20 20 37.3 +0.2
GOF *i* 20 21 22.5
GOF pmax pmax
comp=Z,820nm,1.0s,mb6.5
GOF smax
comp=N,100nm,1.6s
GOF smax
comp=E,100nm,1.6s
CRAG Craig 66.35 38 *eP* **P 20 12 01.3 +1.2**
comp=E,270nm,1.2s,mb6.0
MUN Mundaring 66.36 194 *eP* **P 20 12 00.0 -0.2**
MUN *i* S S 20 20 36.3 -2.2
MUN *e*PKPPKP 20 40 33.0
MTA Mtatsminda 66.43 305 P **P 20 12 00.6 0.0**
MTA S S 20 20 41.4 +2.0
TBLG Delisi 66.45 305 P **P 20 12 01.4 +0.6**
TRO Tromso 66.49 339 *eP* **P 20 11 57.1 -4.0**
TRO *e*pP pP 20 12 33.1 -2.4
TRO *e*PP PP 20 14 28.3 -0.8
TRO *e* 20 21 29.6
DLBC Dease Lake 66.64 34 P **P 20 12 03.7 +1.7**
comp=E,86nm,1.0s,mb5.5,baz=286,slow=7.4,SNR=40
DLBC pP pP 20 12 37.1 +0.6
comp=E,43nm,0.9s,baz=331,slow=9.1,SNR=3.6
DLBC Dease Lake 66.64 34⇑*iP* **P 20 12 03.4 +1.4**
DLBC *e*PcP PcP 20 12 30.1 0.0
DLBC *e*pP pP 20 12 38.8 +2.3
DLBC *e*sP sP 20 12 53.1 +1.2
DLBC *e*PP PP 20 14 33.9 +3.5
KIV Kislovodsk 66.92 308 P **P 20 12 04.3 +0.6**
comp=E,5μm,1.0s
KIV Kislovodsk 66.92 308⇑*iP* **P 20 12 04.3 +0.6**
ONI Oni 66.98 307 P **P 20 12 05.0 +0.9**
ONI S S 20 20 48.6 +2.6
NWAO Narrogin (SRO) 67.08 193 LR LR 20 40 11.2
comp=E,1μm,19.2s,baz=186,slow=35
NWAO Narrogin (SRO) 67.08 193⇑*iP* **P 20 12 03.2 -1.5**
comp=E,268nm,1.3s,mb5.9
NWAO *e*pP pP 20 12 38.3 -1.0
GNI Garni 67.10 304 P **P 20 12 04.8 -0.1**
GNI Garni 67.10 304 LR LR 20 41 23.4
comp=E,2μm,18.4s,baz=248,slow=36
AMRG 67.21 307 P **P 20 12 06.7 +1.1**
AKH Akhalkalaki 67.44 306 P **P 20 12 16.7 +10**
AKH S sP 20 12 57.1 +0.1
KAF Kangasniemi 67.71 331 *ep* **P 20 12 07.6 -1.1**
comp=E,210nm,0.9s,mb5.9,baz=58,slow=5.8
CLDR Caldiran 68.11 303 P **P 20 12 11.9 +0.7**
FINES FINESS Array B 68.14 330 P **P 20 12 10.3 -1.1**
comp=E,60nm,0.5s,mb5.5,baz=74,slow=6.2,SNR=278
FINES pP pP 20 12 45.2 -0.8
comp=E,51nm,0.7s,baz=63,slow=6.4,SNR=2.2
FINES LR LR 20 42 28.0
comp=E,4μm,19.4s,baz=68,slow=36
FINES P4KPbc 20 48 58.1
comp=E,2.1nm,1.0s,baz=3.9,slow=8.4,SNR=4.5
FINES FINESS Array B 68.14 330 P **P 20 12 10.3 -1.1**
FINES pP pP 20 12 45.2 -0.8
FINES LR LR 20 42 28.0
ADE Adelaide 68.16 173 *eP* **P 20 12 11.6 0.0**
RES Resolute Bay 68.23 12⇑*iP* **P 20 12 11.9 0.0**
RES *e* 20 14 46.9
RES pmax pmax
comp=Z,300nm,0.8s,mb6.1
RES Resolute Bay 68.23 12⇑*iP* **P 20 12 11.9 -0.1**
comp=Z,82nm,0.8s,mb5.5
RES *e*PP PP 20 14 46.9 +2.6
SHAO Shalim 68.55 278 ⇓P **P 20 12 14.4 +0.5**
SNR=15
BCA Borcka 68.69 306 P **P 20 12 14.9 0.0**
DAG Danmarks Havn 68.70 353⇓*iP* **P 20 12 14.3 -0.6**
comp=Z,133nm,0.3s,mb6.2
DAG Danmarks Havn 68.70 353⇓*iP* **P 20 12 14.3 -0.6**
DAG pmax pmax
comp=Z,134nm,0.3s,mb6.2
DGAR Diego Garcia 68.84 245 P **P 20 12 18.1 +2.3**
DGAR pmax pmax
comp=Z,490nm,1.1s,mb6.2
DGAR Diego Garcia 68.84 245 *eP* **P 20 12 15.9 +0.1**
comp=Z,488nm,1.1s,mb6.2
SOC Sochi 69.02 309*c iP* **P 20 12 16.6 -0.3**
SOC *e**PP pP 20 12 37.5 -14
SOC *i* pP 20 12 51.7 +0.1
SOC *e* 20 14 50.0
SOC *e*PPP 20 16 34.7
SOC *i* S S 20 21 10.5 +0.3
SOC pmax pmax
comp=Z,294nm,1.0s,mb6.0
SOC MLR MLR
comp=Z,5μm,17.0s
SOC Sochi 69.02 309⇑*iP* **P 20 12 16.6 -0.3**
comp=Z,294nm,1.0s,mb6.0
SOC *e*pP pP 20 12 37.5 -14
SOC *i* pP 20 12 51.7 +0.1
SOC *e* 20 14 50.0
SOC *e*PPP 20 16 34.7
SOC *i* S S 20 21 10.5 +0.3
SOC LR LR
comp=Z,5μm,17.0s
CUKT Cukurca 69.15 301 P **P 20 12 17.2 -0.4**
VSU Vasula 69.32 327⇑*iP* **P 20 12 17.9 -0.8**
UMR Umm Al-Rimmam 69.53 292 *eP* **P 20 12 20.0 0.0**
UMR AMb AMB 20 12 23.6
comp=Z,1μm,0.6s,mb6.7
EZM Erzurum 69.55 305 P **P 20 12 21.4 +1.3**
MIB Mutribah 69.71 293 *eP* **P 20 12 21.1 0.0**
MIB AMb AMB 20 12 24.6
comp=Z,992nm,0.5s,mb6.8
KBD Kabd 69.72 292 *eP* **P 20 12 21.3 +0.1**
KBD AMb AMB 20 12 24.9
comp=Z,3μm,0.6s
QRN Al-Qurain 69.75 292 *eP* **P 20 12 21.2 -0.1**
QRN AMb AMB 20 12 24.7
comp=Z,617nm,0.5s,mb6.6
MOR8 Moi Rana 69.86 337 *eP* **P 20 12 19.9 -2.2**
MOR8 AMb AMB 20 12 26.2
comp=Z,498nm,1.4s,mb6.0
MOR8 Moi Rana 69.86 337 *eP* **P 20 12 19.9 -2.2**
comp=Z,498nm,1.4s,mb6.0
ANN Anapa 69.95 311*c iP* **P 20 12 21.9 -0.7**
ANN *i* 20 12 41.5
ANN *i* *PP pP 20 12 58.5 +1.1
ANN *i* 20 13 10.9
ANN *e* 20 14 58.7
ANN *e*S S 20 21 21.5 +0.4
ANN *e*SS SS 20 25 56.8 +3.9
ANN pmax pmax
comp=Z,708nm,1.2s,mb6.3
ANN Anapa 69.95 311⇑*iP* **P 20 12 21.9 -0.7**
comp=Z,708nm,1.2s,mb6.3
ANN *i* 20 12 41.5
ANN *i* pP pP 20 12 58.5 +1.1
ANN *i* 20 13 10.9
ANN *e* 20 14 58.7
ANN *e*S S 20 21 21.5 +0.4
ANN *e*SS SS 20 25 56.8 +3.9
MSL Mosul 69.95 301 *i* x x 20 12 22.5
MSL *e*x x 20 12 45.5
MSL *e*x x 20 12 57.0
MSL *e*x x 20 21 21.5
MSL *e*x x 20 22 07.0
RDF Al-Radifah 69.95 292 *eP* **P 20 12 22.8 +0.2**
RDF AMb AMB 20 12 26.1
comp=Z,945nm,0.7s,mb6.7
RBK Rabkut 69.99 278 ⇑P **P 20 12 23.2 +0.4**
SNR=19
NAY Al-Naaiem 70.04 292 *eP* **P 20 12 23.0 -0.1**
NAY AMb AMB 20 12 26.6
comp=Z,735nm,0.7s,mb6.5
WHFO Wadi Hawf 70.14 279 ⇓P **P 20 12 24.1 +0.3**
SNR=36
STOK Stokkvaagen 70.22 338 *eP* **P 20 12 23.1 -1.1**
STOK AMb AMB 20 12 27.8
comp=Z,325nm,1.6s,mb5.8
STOK Stokkvaagen 70.22 338 *eP* **P 20 12 23.1 -1.1**
comp=Z,325nm,1.6s,mb5.8
BTMT Batman 70.23 303 P **P 20 12 24.9 +0.6**
BHD Baghdad 70.38 297 *ex* x 20 12 24.5
BHD *i* x x 20 13 02.5
BHD *e*x x 20 21 24.5
BHD *e*x x 20 22 10.0
BHD *i* x x 20 22 29.0
BBB Bella Bella 70.48 40 P **P 20 12 26.6 +0.8**
comp=Z,136nm,1.1s,mb5.6,baz=282,slow=5.5,SNR=16
MNK Minsk 70.78 323 *eP* **P 20 12 26.0 -1.7**
MNK *e**PP pP 20 13 02.0 -0.5
MNK *e* 20 15 06.0
MNK *e*PPP 20 16 50.0
MNK *e*S S 20 21 28.0 -2.8
MNK *e* 20 22 14.0
MNK pmax pmax
comp=Z,870nm,1.0s,mb6.4
MNK MLR MLR
comp=Z,11μm,12.0s
ABTO Aybut 70.81 279 ⇓P **P 20 12 27.9 +0.1**
SNR=17
IDID Didziasalis 70.92 324 *eP* **P 20 12 28.0 -0.4**
IDID AMb AMB 20 12 31.5
comp=Z,4μm,1.1s
IDID *e*pP pP 20 12 57.0 -6.4
IZAR Zarasai 70.93 325 *eP* **P 20 12 28.5 -0.1**
IZAR AMb AMB 20 12 31.6
comp=Z,4μm,1.1s
ISAL Salakas 71.08 325 *eP* **P 20 12 29.1 -0.3**
ISAL AMb AMB 20 12 32.6
comp=Z,5μm,1.3s
YKW3 Yellowknife Ar 71.09 27⇑*iP* **P 20 12 29.4 -0.1**
YKW3 *e*PcP PcP 20 12 52.8 +4.0
YKW3 *e*pP pP 20 13 04.7 +0.3
YKW3 *e*sP sP 20 13 19.6 -0.1
YKA Yellowknife Ar 71.13 27 P **P 20 12 30.1 +0.3**
comp=Z,91nm,0.9s,mb5.5,baz=299,slow=5.7,SNR=106
YKA pP pP 20 13 04.4 -0.2
comp=Z,19nm,0.8s,baz=304,slow=6.2,SNR=2.5
YKA PKiKP PKiKP 20 18 35.4 -0.7
comp=Z,1.7nm,0.6s,baz=321,slow=1.5,SNR=4.5
YKA PKKPbc 20 32 23.1
comp=Z,0.7nm,0.6s,baz=134,slow=3.9,SNR=4.2
YKA PKPPKP 20 40 07.7
comp=Z,0.8nm,0.8s,baz=86,slow=2.1,SNR=3.7
YKA P4KPbc 20 49 12.1
comp=Z,0.7nm,0.8s,baz=313,slow=4.8,SNR=3.7
YKA Yellowknife Ar 71.13 27 P **P 20 12 30.1 +0.4**
YKA *e**PP pP 20 13 04.4 -0.3
YKA pmax pmax
comp=Z,91nm,0.9s
YKA Yellowknife Ar 71.13 27 P **P 20 12 30.1 +0.3**
YKA pP pP 20 13 04.5 -0.2
IIGN Ignalina 71.15 324 *eP* **P 20 12 29.5 -0.4**
IIGN AMb AMB 20 12 33.0
comp=Z,3μm,1.3s,mb6.9
DIY Diyarbakir 71.25 303 P **P 20 12 31.3 +0.9**
TOO Toolangi 71.64 168 *eP* **P 20 12 32.2 -0.6**
comp=Z,94nm,1.2s,mb5.4
TOO *e*pP pP 20 13 08.0 +0.2
TOO *e*S S 20 21 39.1 -1.6
TOO *e*PKPPKP 20 40 24.2
TOO Toolangi 71.64 168 *eP* **P 20 12 32.2 -0.6**
TOO *e**PP pP 20 13 08.0 +0.2
TOO *e*S S 20 21 39.1 -1.6
TOO pmax pmax
comp=Z,94nm,1.2s,mb5.4
NSS Namsos 71.70 337 *eP* **P 20 12 30.8 -2.4**
NSS AMb AMB 20 12 37.7
comp=Z,161nm,1.5s,mb5.5
NSS *e*PP PP 20 15 13.1 -1.0
NSS AMS AMS 20 46 21.4
comp=Z,4μm,21.1s
NSS Namsos 71.70 337 *eP* **P 20 12 30.8 -2.4**
comp=Z,161nm,1.5s,mb5.5
SIM Simferopol' 71.96 312α *iP* **P 20 12 34.9 +0.2**
SIM *e**PP pP 20 13 13.2 +3.5
SIM *i* *SP sP 20 13 26.1 +1.1
SIM *e* 20 15 19.0
SIM *i* PPP 20 17 04.0
SIM *i* S S 20 21 46.2 +1.9
SIM *i* PS 20 22 42.0
SIM pmax pmax
comp=Z,336nm,0.9s,mb6.1
SIM MLR MLR
comp=Z,4μm,20.0s
AKASG Malin Array Be 71.97 319 P **P 20 12 33.9 -0.9**
comp=Z,110nm,0.5s,mb5.8,baz=55,slow=6.2,SNR=249
AKASG pP pP 20 13 08.4 -1.4
comp=Z,83nm,0.9s,baz=55,slow=6.3,SNR=2.9
AKASG S S 20 21 42.1 -2.4
comp=Z,0.1nm,0.3s,baz=60,slow=8.8,SNR=3.1
AKASG PKPPKP 20 40 12.1
comp=Z,0.6nm,0.8s,baz=254,slow=2.9,SNR=5.4
AKASG Malin Array Be 71.97 319 P **P 20 12 33.9 -0.9**
comp=Z,110nm,0.5s,mb5.8
AKASG pP pP 20 13 08.4 -1.4
AKASG S S 20 21 42.1 -2.4
JNW Jan Mayen West 72.19 347 *eP* **P 20 12 37.0 +0.9**
JMIC Jan Mayen 72.24 347 *eP* **P 20 12 35.4 -1.0**
JMIC *e*pP pP 20 13 09.1 -2.2
JMIC *e*PP PP 20 15 15.3 -3.4
JMIC *e*SKSa 20 22 27.0
MYA Malataya 72.30 304 *eP* **P 20 12 29.8 -6.9**
MALT Malatya 72.31 304 P **P 20 12 37.1 +0.3**
MALT Malatya 72.31 304⇓*iP* **P 20 12 38.6 +1.8**
URFA Urfa 72.45 303 P **P 20 12 37.7 +0.1**
SVSK Karacayir 72.52 306 P **P 20 12 38.3 +0.3**
KVT Kavak 72.59 308 P **P 20 12 39.0 +0.5**
TOKT Tokat 72.63 307 P **P 20 12 39.2 +0.5**
BYBT Boyabat 73.24 309 P **P 20 12 42.7 +0.4**
SUW Suwalki 73.36 324 *eP* **P 20 12 42.4 -0.6**
SUW *e*pP pP 20 13 18.9 +0.8
SUW *e*sP sP 20 13 32.6 -0.8
SUW *e*S S 20 22 08.8 +8.6
SUW *e*pS 20 22 45.1
SUW *e*sS sS 20 23 00.1 -0.7
SUW L 20 49 22.0
comp=Z,13nm,16.7s
SUW Suwalki 73.36 324 *eP* **P 20 12 42.5 -0.5**
SUW *e**PP pP 20 13 18.9 +0.8
SUW *e**SP sP 20 13 32.6 -0.8
SUW *e*PS 20 22 45.1
SUW *e*SS sS 20 23 00.1 -0.7
SUW pmax pmax
comp=Z,292nm,0.9s,mb6.0
SUW Suwalki 73.36 324 *eP* **P 20 12 42.5 -0.5**
comp=Z,292nm,0.9s,mb6.0
SUW *e*pP pP 20 13 18.9 +0.8
SUW *e*sP sP 20 13 32.6 -0.8
SUW *e*S S 20 22 08.8 +8.6
SUW *e*PS 20 22 45.1
SUW *e*SS sS 20 23 00.1 -0.7
GAZ Gaziantep 73.70 304 P **P 20 12 45.8 +0.8**
YOZ Yozgat 73.78 307 P **P 20 12 45.6 +0.2**
BNN Bunyan 73.81 306 P **P 20 12 46.1 +0.5**
HFS Hagfors 73.88 332 LR LR 20 48 29.2
comp=Z,5μm,18.0s,baz=275,slow=38
TOS Tosya 73.94 309 P **P 20 12 46.9 +0.5**
CORM Corum 73.97 308 P **P 20 12 46.5 -0.1**
KIS Kishinev 74.12 316*c iP* **P 20 12 46.0 -1.4**
KIS *e**PP pP 20 13 22.0 -0.6
KIS *i* 20 13 35.0
KIS *e* 20 15 35.0
KIS *e*PPP 20 17 20.0
KIS *e*S S 20 22 04.0 -4.7
KIS *e* 20 22 48.0
KIS *e*PS 20 23 03.0
KIS pmax pmax
comp=Z,3μm,13.0s
KIS MLR MLR
comp=Z,8μm,18.0s
KIS MLR MLR
comp=N,3μm,16.0s
KIS MLR MLR
comp=E,4μm,20.0s
NB2 NORSAR Subarra 74.23 334 P **P 20 12 46.9 -1.2**
comp=Z,836nm,1.4s,mb6.3,baz=46,slow=5.9
NB2 NORSAR Subarra 74.23 334 P **P 20 12 46.9 -1.2**
NB2 pmax pmax
comp=Z,836nm,1.4s,mb6.3
NOA NORSAR Array B 74.23 334 P **P 20 12 46.7 -1.4**
comp=Z,90nm,0.6s,mb5.7,baz=47,slow=5.6,SNR=271
NOA pP pP 20 13 22.0 -1.2
comp=Z,36nm,0.8s,baz=49,slow=5.9,SNR=1.8
NOA PP PP 20 15 33.0 -2.7
comp=Z,34nm,0.9s,baz=49,slow=8.8,SNR=4.3
NOA NORSAR Array B 74.23 334 P **P 20 12 46.7 -1.4**
NOA *PP pP 20 13 22.0 -1.2
NOA 20 15 33.0
NOA pmax pmax
comp=Z,90nm,0.6s
NOA NORSAR Array B 74.23 334 P **P 20 12 46.7 -1.4**
NOA pP pP 20 13 22.0 -1.2
NOA PP PP 20 15 33.0 -2.7
SUMG Summit 74.27 357⇑*iP* **P 20 12 49.2 +1.0**
comp=Z,541nm,2.8s,mb5.8
SUMG *e*pP pP 20 13 23.6 +0.1
SUMG *e*sP sP 20 13 37.6 -1.2
SUMG *e*PP PP 20 15 36.1 +0.1
DOMB Dombas 74.33 336 *eP* **P 20 12 47.7 -0.9**
DOMB AMb AMB 20 12 52.8
comp=Z,371nm,1.4s,mb5.9
DOMB *e*pP pP 20 13 20.9 -2.9
DOMB Dombas 74.33 336 *eP* **P 20 12 47.7 -0.9**
comp=Z,371nm,1.4s,mb5.9
CANT Cankiri 74.43 308 P **P 20 12 50.0 +0.8**
NAO01 NORSAR Array S 74.48 334⇑*iP* **P 20 12 48.0 -1.5**
comp=Z,158nm,1.0s,mb5.7
NAO01 *e*pP pP 20 13 23.2 -1.5
NAO01 *e*sP sP 20 13 37.1 -2.9
MOL Molde 74.49 336 *eP* **P 20 12 49.0 -0.6**
MOL AMb AMB 20 12 55.3
comp=Z,573nm,1.2s,mb6.2
MOL Molde 74.49 336 *eP* **P 20 12 49.0 -0.6**
comp=Z,573nm,1.2s,mb6.2
KOZT Kozan 74.51 305 P **P 20 12 49.4 -0.2**
SAFT Safranbolu 74.71 309 P **P 20 12 50.7 -0.1**
IAS Iasi 74.74 317 P **P 20 12 52.1 +1.1**
CEYT Ceyhan 74.80 304 P **P 20 12 52.0 +0.6**

SCO	**Scoresbysund**	**74.83**	**351**	*i* P	**P**	**20 12 52.0**	**+0.5**
	comp=Z,308nm,0.9s,mb5.9						
SCO	**Scoresbysund**	**74.83**	**351**	*i* P	**P**	**20 12 52.0**	**+0.5**
SCO				pmax	pmax		
	comp=Z,308nm,0.9s,mb5.9						
BR131	**Keskin Array S**	**74.86**	**308**	⇑*i*P	**P**	**20 12 51.5**	**-0.1**
	comp=Z,121nm,0.6s,mb5.7						
BR131				*e*PcP	PcP	20 13 05.3	+0.4
BR131				*e*pP	pP	20 13 27.6	+0.7
BR131				*e*sP	sP	20 13 42.5	+0.3
BRTR	**Keskin Array B**	**74.86**	**308**	P	**P**	**20 12 51.6**	**0.0**
	comp=Z,344nm,1.0s,mb5.9,baz=91,slow=4.9,SNR=185						
BRTR				PKKPbc	PKKPbc	20 32 18.4	+3.4
	comp=Z,1.0nm,0.9s,baz=329,slow=1.4,SNR=4.1						
PGC	**Sidney**	**74.86**	**42**	⇑*i*P	**P**	**20 12 52.0**	**+0.4**
	comp=Z,398nm,1.0s,mb6.0						
PGC				*e*pP	pP	20 13 26.7	-0.2
PGC				*e*sP	sP	20 13 43.4	+1.1
PGC				*e*PP	PP	20 15 45.9	+4.9
OCWA	**Octopus Mounta**	**74.94**	**43**	⇑*i*P	**P**	**20 12 53.8**	**+1.6**
	comp=Z,425nm,1.1s,mb6.0						
OCWA				*e*PcP	PcP	20 13 05.0	-0.4
OCWA				*e*pP	pP	20 13 27.6	+0.2
OCWA				*e*sP	sP	20 13 41.9	-0.8
OCWA				*e*PP	PP	20 15 32.1	-10
KAMT	**Kaman**	**74.99**	**307**	P	**P**	**20 12 52.7**	**+0.3**
VGZ	**Gonzales**	**75.06**	**42**	P	**P**	**20 12 53.6**	**+0.7**
CRA	**Chernovtsy**	**75.07**	**318**	P	PcP	20 13 12.9	+7.0
OSL	**Oslo**	**75.15**	**333**	*e*P	**P**	**20 12 52.7**	**-0.6**
OSL				AMb	AMB	20 12 56.9	
	comp=Z,282nm,0.8s,mb6.0						
OSL	**Oslo**	**75.15**	**333**	*e*P	**P**	**20 12 52.7**	**-0.6**
	comp=Z,282nm,0.8s,mb6.0						
KARA	**Karaisali**	**75.15**	**305**	P	**P**	**20 12 53.4**	**+0.1**
B04A	**Port Angeles**	**75.16**	**42**	⇑P	**P**	**20 12 54.3**	**+1.0**
	baz=75,SNR=69						
B04A				⇓S	S	20 22 21.8	+1.6
	baz=75						
A04A	**Legoe Bay, Lum**	**75.23**	**41**	⇓P	**P**	**20 12 54.6**	**+0.8**
	baz=75,SNR=38						
A04A				⇑S	S	20 22 21.9	+0.8
	baz=75						
LVV	**L'vov**	**75.27**	**320**	⇑*i*P	**P**	**20 12 53.8**	**-0.2**
LVV				*e*		20 15 44.0	
LVV				*e*PPP		20 17 38.8	
LVV				*e*S	S	20 22 17.0	-4.4
LVV				*e*PS		20 23 13.2	
LVV				MLR	MLR		
	comp=Z,3μm,15.0s						
KRTS	**Karatas**	**75.28**	**304**	P	**P**	**20 12 54.8**	**+0.7**
ANTO	**Ankara**	**75.34**	**308**	P	**P**	**20 12 53.9**	**-0.5**
ANTO	**Ankara**	**75.34**	**308**	⇓*i*P	**P**	**20 12 55.3**	**+0.8**
LOD	**Lodumlu**	**75.35**	**308**	P	**P**	**20 12 54.7**	**+0.2**
A05A	**Maple Falls**	**75.42**	**41**	⇓P	**P**	**20 12 55.2**	**+0.4**
	baz=75,SNR=51						
A05A				⇑S	S	20 22 24.0	+0.9
	baz=75						
WAR	**Warsaw**	**75.44**	**323**	*e*P	**P**	**20 12 55.2**	**+0.2**
WAR				*e*PcP	PcP	20 13 03.5	-3.9
WAR				*e*pP	pP	20 13 33.1	+2.8
WAR				*e*sP	sP	20 13 46.6	+1.1
WAR				*e*S	S	20 22 32.0	+8.7
WAR				*e*pS		20 23 12.4	
WAR				*e*sS	sS	20 23 30.8	+6.5
WAR	**Warsaw**	**75.44**	**323**	*e*P	**P**	**20 12 55.2**	**+0.2**
WAR				*e*		20 13 03.5	
WAR				*e**PP	pP	20 13 33.1	+2.8
WAR				*e**SP	sP	20 13 46.6	+1.1
WAR				*e*PS		20 23 12.4	
CFR	**Carcaliu**	**75.48**	**315**	⇑*i*P	**P**	**20 12 54.7**	**-0.6**
CFR	**Carcaliu**	**75.48**	**315**	⇑P	**P**	**20 12 54.7**	**-0.5**
D03A	**Wishkah Elem.**	**75.52**	**43**	P	**P**	**20 12 57.1**	**+1.7**
	baz=75,SNR=44						
D03A				⇓S	S	20 22 26.4	+2.1
	baz=75						
TIRR	**Tirgusor**	**75.71**	**314**	⇑*i*P	**P**	**20 12 56.2**	**-0.3**
TIRR	**Tirgusor**	**75.71**	**314**	P	**P**	**20 12 56.5**	**0.0**
MERS	**Mersin**	**75.72**	**305**	P	**P**	**20 12 56.2**	**-0.3**
FKH	**Fakeheh**	**75.73**	**302**	*e*P	**P**	**20 12 57.2**	**+0.6**
KONO	**Kongsberg**	**75.76**	**334**	*e*P	**P**	**20 12 56.0**	**-0.8**
KONO				*e*pP	pP	20 13 32.4	+0.3
KONO				*e*PP	PP	20 15 46.0	-2.5
KONO				*e*SKSa		20 22 52.9	
KONO	**Kongsberg**	**75.76**	**334**	⇑*i*P	**P**	**20 12 55.3**	**-1.5**
KONO				*e**PP	pP	20 13 33.0	+0.9
KONO				*e**SP	sP	20 13 45.1	-2.3
KONO				*e*		20 15 45.4	
KONO				pmax	pmax		
	comp=Z,197nm,1.3s,mb5.6						
KONO	**Kongsberg**	**75.76**	**334**	⇑*i*P	**P**	**20 12 55.3**	**-1.5**
	comp=Z,197nm,1.3s,mb5.6						
KONO				*e*pP	pP	20 13 33.0	+0.9
KONO				*e*sP	sP	20 13 45.1	-2.3
KONO				*e*PP	PP	20 15 45.4	-3.2
MUKL	**Al Mukalla**	**75.80**	**278**	⇑*e*P	**P**	**20 12 57.5**	**+0.5**
B05A	**Bryant**	**75.83**	**41**	⇓P	**P**	**20 12 57.9**	**+0.7**
	baz=76,SNR=66						
B05A				⇑S	S	20 22 29.5	+1.9
	baz=76						
BURAR	**Bucovina Array**	**75.84**	**318**	⇑*i*P	**P**	**20 12 57.5**	**+0.2**
BURAR	**Bucovina Array**	**75.84**	**318**	⇑P	**P**	**20 12 57.2**	**-0.1**
HYA	**Hoyanger**	**75.93**	**336**	*e*P	**P**	**20 12 58.2**	**+0.4**
HYA				AMb	AMB	20 13 03.7	
	comp=Z,856nm,1.3s,mb6.2						
HYA	**Hoyanger**	**75.93**	**336**	*e*P	**P**	**20 12 58.2**	**+0.4**
	comp=Z,29μm,1.2s						
VRI	**Vrincioaia**	**75.94**	**316**	⇑*i*P	**P**	**20 12 58.1**	**+0.2**
VRI	**Vrincioaia**	**75.94**	**316**	⇑*i*P	**P**	**20 12 58.2**	**+0.3**
VRI	**Vrincioaia**	**75.94**	**316**	P	**P**	**20 12 58.5**	**+0.6**
VRI	**Vrincioaia**	**75.94**	**316**	⇑P	**P**	**20 12 58.1**	**+0.3**
VRI				⇑P		20 12 58.2	
E03A	**Lebam**	**75.95**	**43**	P	**P**	**20 12 59.2**	**+1.3**
	baz=76,SNR=55						
E03A				⇓S	S	20 22 31.3	+2.3
	baz=76						
PLOR	**Plostina**	**76.00**	**316**	⇓*i*P	**P**	**20 12 58.2**	**0.0**
MDU	**Mudurnu**	**76.07**	**309**	P	**P**	**20 12 58.8**	**+0.2**
D04A	**Dobbs Creek Ra**	**76.08**	**43**	⇑P	**P**	**20 13 00.1**	**+1.5**
	baz=76,SNR=12						
D04A				⇓S	S	20 22 34.1	+3.7
	baz=76						
KWP	**Kalwaria**	**76.08**	**321**	*e*P	**P**	**20 12 59.3**	**+0.7**
KWP				*e*pP	pP	20 13 33.5	-0.5
KWP				*e*sP	sP	20 13 48.5	-0.7
KWP				*e*PP	PP	20 15 52.5	+1.3
KWP				*e*		20 16 38.8	
KWP				*e*S	S	20 22 35.8	+5.4
KWP				*e*pS		20 23 18.4	
KWP				*e*sS	sS	20 23 38.6	+7.2
KWP				L		20 49 29.0	
	comp=Z,6.6nm,17.8s						
KWP	**Kalwaria**	**76.08**	**321**	*e*P	**P**	**20 12 59.3**	**+0.7**
KWP				*e**PP	pP	20 13 33.5	-0.5
KWP				*e**SP	sP	20 13 48.5	-0.7
KWP				*e*		20 15 52.5	
KWP				*e*S	S	20 22 35.8	+5.4
KWP				*e*PS		20 23 18.4	
KWP	**Kalwaria**	**76.08**	**321**	*e*P	**P**	**20 12 59.3**	**+0.7**
KWP				*e*pP	pP	20 13 33.5	-0.5
KWP				*e*sP	sP	20 13 48.5	-0.7
KWP				*e*PP	PP	20 15 52.5	+1.3
KWP				*e*		20 16 38.8	
KWP				*e*S	S	20 22 35.8	+5.4
KWP				*e*PS		20 23 18.4	
KWP				*e*SS	sS	20 23 38.6	+7.2
F03A	**Seaside**	**76.30**	**44**	⇑P	**P**	**20 13 00.8**	**+0.9**
	baz=76,SNR=29						
F03A				⇓S	S	20 22 35.4	+2.6
	baz=76						
C05A	**Tolt Reservoir**	**76.38**	**42**	P	**P**	**20 13 01.1**	**+0.8**
	baz=76,SNR=74						
C05A				⇑S	S	20 22 35.4	+1.8
	baz=76						
E04A	**Onalaska**	**76.41**	**43**	⇑P	**P**	**20 13 01.9**	**+1.4**
	baz=76,SNR=8.0						
E04A				⇓S	S	20 22 36.3	+2.3
	baz=76						
BHL	**Bhannes**	**76.44**	**302**	*e*P	**P**	**20 13 00.5**	**-0.2**
KIZT	**Kizilcal**	**76.46**	**308**	P	**P**	**20 13 00.7**	**-0.1**
D05A	**Enumclaw**	**76.49**	**42**	⇑P	**P**	**20 13 02.2**	**+1.3**
	baz=76,SNR=42						
D05A				⇓S	S	20 22 36.1	+1.2
	baz=76						
RCY	**Rachaya**	**76.53**	**301**	*e*P	**P**	**20 13 01.7**	**+0.5**
BSD	**Bornholm Skovb**	**76.57**	**328**	⇑*i*P	**P**	**20 13 00.2**	**-1.2**
	comp=Z,310nm,0.8s,mb6.0						
BSD				*i*		20 13 49.2	
BSD				*e*		20 15 54.2	
BSD				*i*		20 16 44.8	
BSD				*i* S	S	20 22 29.6	-6.1
BSD							
	comp=Z,4μm,17.0s						
BSD	**Bornholm Skovb**	**76.57**	**328**	⇑*i*P	**P**	**20 13 00.2**	**-1.2**
BSD				*e*		20 15 54.2	
BSD				*i* S	S	20 22 29.6	-6.1
BSD				pmax	pmax		
	comp=Z,310nm,0.8s,mb6.0						
BSD	**Bornholm Skovb**	**76.57**	**328**	⇑*i*P	**P**	**20 13 00.2**	**-1.2**
	comp=Z,310nm,0.8s,mb6.0						
BSD				*i*		20 13 49.2	
BSD				*e*		20 15 54.2	
BSD				*i*		20 16 44.8	
BSD				*i* S	S	20 22 29.6	-6.1
MLR	**Muntele Rosu**	**76.61**	**316**	LR	LR	20 50 35.3	
	comp=Z,9μm,19.4s,baz=58,slow=38						
MLR	**Muntele Rosu**	**76.61**	**316**	⇑*i*P	**P**	**20 13 01.6**	**0.0**
MLR	**Muntele Rosu**	**76.61**	**316**	P	**P**	**20 13 02.0**	**+0.4**
IKL	**Isikli**	**76.62**	**305**	P	**P**	**20 13 01.5**	**-0.1**
KONT	**Konya--Tatoy**	**76.63**	**307**	*e*P	**P**	**20 13 01.4**	**-0.4**
GKP	**Gorka Klasztor**	**76.66**	**326**	*e*P	**P**	**20 13 01.6**	**-0.3**
GKP				*e*PcP	PcP	20 13 09.7	-3.0
GKP				*e*pP	pP	20 13 35.9	-1.4
GKP				*e*sP	sP	20 13 51.5	-1.0
GKP				*e*PP	PP	20 15 57.6	+1.5
GKP				*e*		20 16 45.4	
GKP				*e*S	S	20 22 41.3	+4.6
GKP				*e*pS		20 23 16.0	
GKP				*e*sS	sS	20 23 35.9	-1.9
GKP	**Gorka Klasztor**	**76.66**	**326**	*e*P	**P**	**20 13 01.6**	**-0.3**
GKP				*e*		20 13 09.7	
GKP				*e**PP	pP	20 13 35.9	-1.4
GKP				*e**SP	sP	20 13 51.5	-1.0
GKP				*e*		20 15 57.6	
GKP				*e*S	S	20 22 41.3	+4.6
GKP				*e*PS		20 23 16.0	
GKP				*e*SS	sS	20 23 35.9	-1.9
H02A	**Toledo**	**76.73**	**45**	⇑P	**P**	**20 13 04.0**	**+1.7**
	baz=77,SNR=6.8						
H02A				⇑S	S	20 22 39.6	+2.1
	baz=77						
RUND	**Rundenannen**	**76.75**	**336**	*e*P	**P**	**20 13 02.1**	**-0.4**
RUND				AMb	AMB	20 13 06.8	
	comp=Z,1μm,1.2s,mb6.3						
RUND	**Rundenannen**	**76.75**	**336**	*e*P	**P**	**20 13 02.1**	**-0.4**
	comp=Z,1μm,1.3s,mb6.3						
ASK	**Askoy**	**76.76**	**336**	*e*P	**P**	**20 13 01.9**	**-0.6**
ASK				AMb	AMB	20 13 07.1	
	comp=Z,781nm,1.3s,mb6.2						
ASK	**Askoy**	**76.76**	**336**	*e*P	**P**	**20 13 01.9**	**-0.6**
	comp=Z,781nm,1.3s,mb6.2						
BER	**Bergen**	**76.78**	**336**	*e*P	**P**	**20 13 01.9**	**-0.7**
BER				*e*P		20 13 02.1	
BER				AMb	AMB	20 13 06.3	
	comp=Z,414nm,0.9s,mb6.1						
BER				*e*pP	pP	20 13 37.8	-0.1
BER				*e*pP	pP	20 13 38.2	+0.3
BER				*i*		20 23 37.4	
BER	**Bergen**	**76.78**	**336**	*e*P	**P**	**20 13 01.9**	**-0.7**
BER				pmax	pmax		
	comp=Z,414nm,0.9s,mb6.1						
BER	**Bergen**	**76.78**	**336**	*e*P	**P**	**20 13 01.9**	**-0.7**
	comp=Z,414nm,0.9s,mb6.1						
LON	**Longmire**	**76.84**	**42**	P	**P**	**20 13 03.5**	**+0.6**
HRT	**Hereke**	**76.88**	**310**	*e*P	**P**	**20 13 02.5**	**-0.7**
EGD	**Espegrend**	**76.90**	**336**	*e*P	**P**	**20 13 04.0**	**+0.7**
EGD				AMb	AMB	20 13 08.0	
	comp=Z,432nm,1.3s,mb5.9						
EGD	**Espegrend**	**76.90**	**336**	*e*P	**P**	**20 13 04.0**	**+0.7**
	comp=Z,432nm,1.3s,mb5.9						
SNX	**Sinaia**	**76.94**	**316**	⇓*i*P	**P**	**20 13 03.7**	**+0.3**
SNX	**Sinaia**	**76.94**	**316**	⇑P	**P**	**20 13 03.7**	**+0.2**
F04A	**Amboy**	**76.96**	**43**	⇓P	**P**	**20 13 04.3**	**+0.7**
	baz=77,SNR=58						
F04A				⇑S	S	20 22 41.2	+1.2
	baz=77						
E05A	**Randle**	**76.98**	**43**	P	**P**	**20 13 04.1**	**+0.5**
	baz=77,SNR=46						
E05A				⇓S	S	20 22 41.3	+1.1
	baz=77						
STHS	**Stebnicka Huta**	**76.98**	**321**	*e*P	**P**	**20 13 04.1**	**+0.4**
STHS				pmax	pmax		
	comp=Z,187nm,1.4s,mb5.5						
STHS	**Stebnicka Huta**	**76.98**	**321**	*e*P	**P**	**20 13 04.1**	**+0.4**
	comp=Z,187nm,1.4s,mb5.5						
PHNC	**Paralimni**	**77.02**	**303**	P	**P**	**20 13 04.7**	**+0.8**
ADVT	**Abdulvahap**	**77.04**	**310**	*e*P	**P**	**20 13 03.6**	**-0.4**
KLYT	**Kilyos**	**77.04**	**311**	*e*P	**P**	**20 13 02.8**	**-1.2**
BLS5	**Blasjo**	**77.07**	**334**	*e*P	**P**	**20 13 04.7**	**+0.5**
BLS5				AMb	AMB	20 13 08.1	
	comp=Z,361nm,1.1s,mb5.9						
BLS5	**Blasjo**	**77.07**	**334**	*e*P	**P**	**20 13 04.7**	**+0.5**
	comp=Z,361nm,1.1s,mb5.9						
MPOR	**Mary's Peak**	**77.09**	**45**	P	**P**	**20 13 05.9**	**+1.6**
ISK	**Istanbul-Kandi**	**77.13**	**311**	*e*P	**P**	**20 13 04.3**	**-0.2**
TWW	**Teanaway**	**77.15**	**42**	P	**P**	**20 13 05.9**	**+1.3**
H03A	**Soap Creek Ran**	**77.15**	**45**	⇓P	**P**	**20 13 06.1**	**+1.4**
	baz=77,SNR=64						
H03A				⇑S	S	20 22 45.1	+3.1
	baz=77						
TAU	**Tasmania Unive**	**77.15**	**168**	P	**P**	**20 13 05.5**	**+0.8**
	comp=Z,2μm,1.1s,mb6.5,SNR=9.9						
TAU	**Tasmania Unive**	**77.15**	**168**	*e*P	**P**	**20 13 05.2**	**+0.5**
TAU				*e**PP	pP	20 13 41.6	+1.5
TAU				*e*		20 16 02.9	
TAU				pmax	pmax		
	comp=Z,370nm,1.1s,mb5.9						
TAU	**Tasmania Unive**	**77.15**	**168**	*e*P	**P**	**20 13 05.2**	**+0.6**
	comp=Z,370nm,1.1s,mb5.9						
TAU				*e*pP	pP	20 13 41.6	+1.5
TAU				*e*sP	sP	20 13 54.3	-1.0
TAU				*e*PP	PP	20 16 02.9	+2.7
COR	**Corvallis**	**77.19**	**45**	⇑*i*P	**P**	**20 13 06.2**	**+1.3**
COR				*e**PP	pP	20 13 40.9	+0.6
COR				*e*		20 15 59.0	
COR				pmax	pmax		
	comp=Z,415nm,1.0s,mb6.0						
COR	**Corvallis**	**77.19**	**45**	⇑*i*P	**P**	**20 13 06.2**	**+1.3**
	comp=Z,415nm,1.0s,mb6.0						
COR				*e*pP	pP	20 13 40.9	+0.6
COR				*e*sP	sP	20 13 55.3	-0.3
COR				*e*PP	PP	20 15 59.0	-1.7
BUC1	**Bucharest**	**77.20**	**315**	P	**P**	**20 13 05.8**	**+0.9**
YLV	**Yalova**	**77.20**	**310**	*e*P	**P**	**20 13 04.4**	**-0.5**
I02A	**Mapleton**	**77.21**	**46**	⇑P	**P**	**20 13 06.3**	**+1.3**
	baz=77,SNR=13						
I02A				⇓S	S	20 22 45.4	+2.8
	baz=77						
OJC	**Ojcow**	**77.26**	**322**	*i* Pc		20 13 05.3	
OJC				*e*PcP	PcP	20 13 14.2	-1.1
OJC				*e*pP	pP	20 13 40.5	-0.2
OJC				*e*sP	sP	20 13 56.7	+0.8
OJC				*e*PP	PP	20 16 01.9	+0.8
OJC				*e*S	S	20 22 41.1	-2.1
OJC				L		20 45 47.7	
	comp=Z,28nm,18.1s						
IZI	**Iznik**	**77.26**	**310**	*e*P	**P**	**20 13 05.4**	**+0.2**
MTUR	**Matau**	**77.27**	**316**	P	**P**	**20 13 06.7**	**+1.4**
COP	**Copenhagen**	**77.28**	**329**	⇑*i*P	**P**	**20 13 04.8**	**-0.6**
	comp=Z,244nm,0.9s,mb5.8						
COP				*i*		20 16 05.5	
COP				*e*		20 16 51.4	
COP				*i* S	sS	20 23 38.0	-6.6
COP							
	comp=Z,2μm,19.0s						
COP	**Copenhagen**	**77.28**	**329**	⇑*i*P	**P**	**20 13 04.8**	**-0.6**
COP				*i*		20 16 05.5	
COP				*i* S	sS	20 23 38.0	-6.6
COP				pmax	pmax		
	comp=Z,244nm,0.9s,mb5.8						
COP				MLR	MLR		
	comp=Z,2μm,19.0s						
TBM	**Table Mountain**	**77.28**	**42**	P	**P**	**20 13 06.2**	**+0.8**
G04A	**Mulino**	**77.33**	**44**	⇓P	**P**	**20 13 06.7**	**+1.0**
	baz=77,SNR=23						
G04A				⇓S	S	20 22 45.7	+1.8
	baz=77						
WTV	**Waterville**	**77.33**	**41**	P	**P**	**20 13 06.1**	**+0.5**
EDM	**Edmonton**	**77.34**	**34**	*e*P	**P**	**20 13 06.2**	**+0.5**
EDM				*e*		20 13 16.5	
EDM				*e**PP	pP	20 13 41.3	+0.2
EDM				*e**SP	sP	20 13 56.4	0.0
EBG	**Ellensburg**	**77.45**	**42**	P	**P**	**20 13 07.3**	**+1.0**
NIE	**Niedzica**	**77.47**	**321**	*i* Pc	**P**	**20 13 07.3**	**+0.9**
K01A	**Sixes**	**77.48**	**47**	⇓P	**P**	**20 13 07.9**	**+1.4**
	baz=77,SNR=25						
K01A				⇑S	S	20 22 47.7	+2.1
	baz=77						
CTT	**Catalca**	**77.49**	**311**	*e*P	**P**	**20 13 06.3**	**-0.3**
MAMC	**Mammari**	**77.50**	**304**	P	**P**	**20 13 06.3**	**-0.3**
KEBM	**Edson Butte**	**77.53**	**47**	⇑*i*P	**P**	**20 13 08.1**	**+1.4**
KEBM				*e*pP	pP	20 13 44.0	+1.8
KEBM				*e*sP	sP	20 13 56.9	-0.5
KEBM				*e*PP	PP	20 16 07.3	+3.9
CSS	**Prodhromos**	**77.53**	**304**	P	**P**	**20 13 06.5**	**-0.3**
	comp=Z,6.5nm,1.1s						
F05A	**White Salmon**	**77.54**	**43**	⇑P	**P**	**20 13 07.6**	**+0.8**
	baz=77,SNR=14						
F05A				⇓S	S	20 22 47.2	+1.0
	baz=77						
ALT	**Altintas**	**77.54**	**309**	*e*P	**P**	**20 13 07.2**	**+0.3**
I03A	**Eugene**	**77.55**	**45**	⇓P	**P**	**20 13 08.2**	**+1.3**
	baz=77,SNR=47						
I03A				⇑S	S	20 22 48.8	+2.4
	baz=77						
RGN	**Rugen**	**77.64**	**328**	⇑*i*P	**P**	**20 13 07.1**	**-0.3**
	comp=Z,498nm,1.0s,mb6.1						
RGN				*e*pP	pP	20 13 42.7	-0.1
RGN				*e*sP	sP	20 13 56.1	-1.9
RGN				*e*PP	PP	20 16 06.2	+1.8
STAV	**Stavanger**	**77.69**	**334**	*e*P	**P**	**20 13 07.4**	**-0.3**
STAV				AMb	AMB	20 13 10.7	
	comp=Z,340nm,1.1s,mb5.9						
STAV	**Stavanger**	**77.69**	**334**	*e*P	**P**	**20 13 07.4**	**-0.3**
	comp=Z,340nm,1.1s,mb5.9						
J02A	**Umpqua**	**77.72**	**46**	P	**P**	**20 13 09.0**	**+1.2**
	baz=78,SNR=36						
J02A				⇑S	S	20 22 51.4	+3.3
	baz=78						
DRGR		**77.72**	**318**	⇑*i*P	**P**	**20 13 08.1**	**+0.3**
DRGR		**77.72**	**318**	P	**P**	**20 13 08.4**	**+0.6**
H04A	**Detroit Lake**	**77.80**	**44**	⇑P	**P**	**20 13 08.8**	**+0.5**
	baz=78,SNR=40						
H04A				⇓S	S	20 22 50.8	+1.8
	baz=78						
BROR	**Big Rock Looko**	**77.88**	**45**	P	**P**	**20 13 09.6**	**+0.9**
ISP	**Isparta**	**77.93**	**307**	P	**P**	**20 13 08.1**	**-0.8**
ISP	**Isparta**	**77.93**	**307**	⇑*i*P	**P**	**20 13 08.5**	**-0.5**
ISP				*e**PP	pP	20 13 46.9	+2.5
ALFC	**Alevga**	**77.94**	**304**	P	**P**	**20 13 08.0**	**-1.0**
	comp=Z,3.9nm,0.7s						
KECS	**Kecovo**	**77.94**	**320**	*e*P	**P**	**20 13 09.1**	**+0.1**
KECS				pmax	pmax		
	comp=Z,380nm,0.8s,mb6.1						
KECS	**Kecovo**	**77.94**	**320**	*e*P	**P**	**20 13 09.1**	**+0.1**
	comp=Z,38nm,0.8s,mb5.1						
G05A	**Wamic**	**77.98**	**44**	P	**P**	**20 13 10.4**	**+1.2**
	baz=78,SNR=16						
G05A				⇑S	S	20 22 53.9	+2.9
	baz=78						
BCK	**Bucak**	**78.08**	**307**	*e*P	**P**	**20 13 09.2**	**-0.6**
J03A	**Ideyld Park**	**78.08**	**46**	⇓P	**P**	**20 13 10.9**	**+1.1**
	baz=78						
J03A				⇑S	S	20 22 54.1	+2.0
	baz=78						
K02A	**Glendale**	**78.10**	**47**	⇑P	**P**	**20 13 11.1**	**+1.2**
	baz=78,SNR=66						
K02A				⇑S	S	20 22 54.3	+2.1
	baz=78						
MUD	**Monsted U'grnd**	**78.11**	**331**	⇑*i*P	**P**	**20 13 09.3**	**-0.7**
	comp=Z,509nm,1.2s,mb6.0						
MUD				*i*		20 13 57.4	
MUD				*e*		20 16 04.0	
MUD				*i* S	sS	20 23 55.9	+2.2
MUD							
	comp=Z,3μm,18.0s						
MUD	**Monsted U'grnd**	**78.11**	**331**	⇑*i*P	**P**	**20 13 09.3**	**-0.7**
	comp=Z,509nm,1.2s,mb6.0						
MUD				*i*		20 13 57.4	
MUD				*e*		20 16 04.0	
MUD				*i* S	sS	20 23 55.9	+2.2
EDRB	**Edirne**	**78.16**	**312**	P	**P**	**20 13 10.3**	**+0.1**
RAC	**Raciborz**	**78.16**	**323**	*e*P	**P**	**20 13 10.6**	**+0.4**
RAC				*e*PcP	PcP	20 13 18.8	-0.4
RAC				*e*PP	PP	20 16 11.6	+2.9
RAC				*e*S	S	20 22 54.6	+1.7
RAC				L		20 52 36.5	
	comp=Z,12nm,15.0s						
OD2	**Odessa Site #2**	**78.19**	**41**	P	**P**	**20 13 10.9**	**+0.5**
HBO	**Huckleberry Mo**	**78.20**	**45**	P	**P**	**20 13 11.5**	**+1.1**
M01C	**Crescent City**	**78.23**	**48**	⇑P	**P**	**20 13 11.8**	**+1.1**
	baz=78,SNR=12						
M01C				⇓S	S	20 22 56.8	+3.1
	baz=78						
BNT	**Bandirma**	**78.25**	**311**	*e*P	**P**	**20 13 10.8**	**+0.1**
PPCY	**Paphos**	**78.26**	**304**	P	**P**	**20 13 10.2**	**-0.6**
EDC	**Edincik**	**78.29**	**311**	*e*P	**P**	**20 13 10.1**	**-0.8**
MRMT	**Marmara Adasi**	**78.31**	**311**	*e*P	**P**	**20 13 11.0**	**-0.1**
KHL	**Karahalli**	**78.32**	**308**	*e*P	**P**	**20 13 10.6**	**-0.5**
LIKS	**Likavka**	**78.32**	**322**	*e*P	**P**	**20 13 12.7**	**+1.6**
LIKS				pmax	pmax		
	comp=Z,222nm,1.0s,mb5.8						
LIKS	**Likavka**	**78.32**	**322**	*e*P	**P**	**20 13 12.7**	**+1.6**
	comp=Z,222nm,1.0s,mb5.8						
HAWA	**Hanford**	**78.33**	**42**	⇑*i*P	**P**	**20 13 11.5**	**+0.4**

KSP e*SP sP 20 14 03.4 -0.2
KSP e 20 16 11.0
KSP eS S 20 22 53.5 -4.4
KSP ePS 20 23 40.5
KSP eSS sS 20 23 57.0 -2.3
KSP Ksiaz 78.63 324⇑eP P 20 13 12.8 0.0
KSP epP pP 20 13 47.8 -0.6
KSP esP sP 20 14 03.4 -0.2
KSP ePP PP 20 16 11.0 -1.6
KSP e 20 20 03.0
KSP eS S 20 22 53.5 -4.4
KSP ePS 20 23 40.5
KSP eSS sS 20 23 57.0 -2.3
KSP eSS SS 20 27 55.0 -10
I05A Bend 78.64 44 ⇓P P 20 13 13.8 +1.0
baz=78,SNR=19
I05A ⇑S S 20 22 59.6 +1.7
baz=78
BALB Balikesir 78.67 310 eP P 20 13 12.9 -0.2
MORC Moravsky Berou 78.68 323⇑iP P 20 13 13.2 +0.1
MORC Moravsky Berou 78.68 323 P P 20 13 13.5 +0.4
RUE Ruedersdorf 78.78 326⇑iP P 20 13 13.6 0.0
comp=Z,470nm,1.0s,mb6.1
RUE epP pP 20 13 49.4 +0.2
RUE esP sP 20 14 02.9 -1.6
RUE ePP PP 20 16 14.5 +0.7
VYHS Vyhne 78.80 321 eS S 20 23 00.6 +0.9
JCC Jacoby Creek 78.86 48 ⇑P P 20 13 15.5 +1.4
baz=79,SNR=32
JCC ⇑S S 20 23 04.1 +3.7
baz=79
ELL Elmali 78.92 307 P P 20 13 14.2 -0.2
DPC Dobruska-Polom 78.93 324 eP P 20 13 14.9 +0.4
DPC epP pP 20 13 52.5 +2.5
DPC esP sP 20 14 05.8 +0.6
DPC ePP PP 20 16 19.1 +4.0
DPC ex x 20 17 05.1
DPC ex x 20 20 10.4
DPC eS S 20 23 02.4 +1.3
DPC ex x 20 28 22.5
DPC ex x 20 34 18.6
DPC Dobruska-Polom 78.93 324 eP P 20 13 14.9 +0.4
DPC e*PP pP 20 13 52.5 +2.5
DPC e 20 14 05.8
DPC e 20 16 19.1
DPC eS S 20 23 02.4 +1.3
DENT Denizli 78.96 308 eP P 20 13 14.8 +0.2
KOLL Kolacno 78.98 321 eP P 20 13 15.4 +0.7
CANB Canakkale 78.98 311 P P 20 13 14.8 0.0
UPC Upice 78.98 324⇓eP P 20 13 15.1 +0.3
UPC ePP PP 20 16 16.2 +0.7
UPC ex x 20 17 03.0
UPC ex x 20 20 09.3
UPC Upice 78.98 324 eP P 20 13 15.1 +0.3
UPC e 20 16 16.2
KHMM Horse Mountain 79.02 48⇑eP P 20 13 16.6 +1.6
KHMM epP pP 20 13 51.0 +0.4
KHMM esP sP 20 14 07.6 +1.8
BZS Buzias 79.02 318⇑iP P 20 13 14.6 -0.4
BZS Buzias 79.02 318 P P 20 13 14.7 -0.3
ALN Alexandroupoli 79.13 312 eP P 20 13 15.3 -0.2
LRW Lerwick 79.13 338⇑eP P 20 13 14.8 -0.8
AKS Akhisar 79.13 309 eP P 20 13 15.2 -0.3
YBH Yreka Blue Hor 79.17 47 P P 20 13 16.9 +1.2
comp=Z,82nm,0.9s,mb5.3,baz=349,slow=1.0,SNR=72
YBH pP pP 20 13 50.3 -1.0
comp=Z,38nm,1.0s,baz=298,slow=3.9,SNR=3.0
YBH Yreka Blue Hor 79.17 47 P P 20 13 16.9 +1.2
YBH *PP pP 20 13 50.3 -1.0
YBH pmax pmax
comp=Z,82nm,1.0s
YBH Yreka Blue Hor 79.17 47 ⇑P P 20 13 17.1 +1.3
baz=79,SNR=118
YBH ⇑S S 20 23 06.8 +3.2
baz=79
WAL1 Walls 79.17 338⇑eP P 20 13 15.0 -0.8
K04A Chilquin 79.26 46 ⇓P P 20 13 17.2 +1.0
baz=79,SNR=15
K04A ⇓S S 20 23 06.9 +2.3
baz=79
M02C Callahan 79.28 47 ⇑P P 20 13 17.7 +1.4
baz=79,SNR=76
M02C ⇓S S 20 23 07.0 +2.3
baz=79
RADA Ahram - Rada'a 79.28 280 eP P 20 13 17.4 +1.0
RDO Rodhopi 79.30 312 eP P 20 13 16.5 0.0
N02C Big Bar 79.31 48 ⇓P P 20 13 17.6 +1.1
baz=79,SNR=59
N02C ⇑S S 20 23 08.0 +2.8
baz=79
BSEG Bad Segeberg 79.36 329 eP P 20 13 16.7 -0.1
comp=Z,404nm,1.0s,mb6.0
O01C Eel River Cons 79.38 49 ⇓P P 20 13 18.1 +1.2
baz=79,SNR=27
O01C ⇑S S 20 23 09.1 +3.2
baz=79
I06A Prineville 79.39 44 ⇑P P 20 13 18.0 +1.1
baz=79,SNR=60
I06A ⇓S S 20 23 06.8 +0.9
baz=79
L04A Klamath Falls 79.42 46 P P 20 13 18.2 +1.2
baz=79,SNR=81
L04A ⇓S S 20 23 08.1 +1.9
baz=79
VRAC Vranov 79.45 323 LR LR 20 53 28.6
comp=Z,5μm,18.2s,baz=47,slow=39
VRAC Vranov 79.45 323⇑iP P 20 13 17.7 +0.4
VRAC Vranov 79.45 323 P P 20 13 17.9 +0.6
SRO2 Moca 79.49 321 eP P 20 13 19.0 +1.5
SRO2 ePP PP 20 16 23.5 +3.8
SRO2 Moca 79.49 321 eP P 20 13 19.0 +1.5
SRO2 pmax pmax
comp=Z,99nm,1.0s,mb5.4
SRO Srobarova 79.50 321 eP P 20 13 18.5 +1.0
SRO e 20 16 23.6
SRO pmax pmax
comp=Z,278nm,1.3s,mb5.7
SRO Srobarova 79.50 321 eP P 20 13 18.5 +1.0
comp=Z,278nm,1.3s,mb5.7
SRO ePP PP 20 16 23.6 +3.8
SMOL Smolenice 79.53 322 eP P 20 13 18.9 +1.2
FETY Fethiye 79.54 307 eP P 20 13 16.8 -1.0
EZN Ezine 79.56 311 eP P 20 13 18.3 +0.5
SRO1 Iza 79.57 321 eP P 20 13 19.7 +1.8
SRO1 pmax pmax
comp=Z,190nm,1.0s,mb5.7
M04C Macdoel 79.67 47 ⇓P P 20 13 19.7 +1.2
baz=80,SNR=183
M04C ⇓S S 20 23 10.2 +1.3
baz=80
PVCC Panska Ves 79.68 325⇓eP P 20 13 19.0 +0.5
PVCC epP pP 20 13 56.4 +2.3
PVCC esP sP 20 14 10.0 +0.7
PVCC ePP PP 20 16 21.0 -0.3
PVCC ex x 20 17 11.5
PVCC ex x 20 20 22.7
PVCC eS S 20 23 10.9 +1.9
PVCC ex x 20 29 13.7
PVCC ex x 20 34 30.2
PVCC Panska Ves 79.68 325 eP P 20 13 19.0 +0.5
PVCC e*PP pP 20 13 56.4 +2.3
PVCC e 20 14 10.0
PVCC e 20 16 21.0
PVCC eS S 20 23 10.9 +1.9
WALA Waterton Lakes 79.70 37⇑iP P 20 13 19.4 +0.7
comp=Z,88nm,0.9s,mb5.4
WALA ePcP PcP 20 13 23.5 -2.4
WALA epP pP 20 13 53.5 -0.8
WALA esP sP 20 14 10.4 +1.0
WALA ePP PP 20 16 22.6 +1.1
BRG Berggiesshubel 79.76 325 eP P 20 13 18.9 0.0
comp=Z,122nm,1.1s,mb5.4
BRG Berggiesshubel 79.76 325 iP P 20 13 19.0 +0.1
comp=Z,59nm,0.8s,mb5.2
BRG pP pP 20 13 59.0 +4.4
BRG sP sP 20 14 03.0 -6.8
BRG PP PP 20 16 21.0 -0.9
BRG S S 20 23 12.0 +2.2
BRG SS SS 20 28 19.0 -2.6
BRG ePKKP PKKPbc 20 32 05.7 +1.3
BRG ePKPPKP 20 39 31.0
comp=Z,2.6nm,1.1s
BRG
comp=Z,2.1nm,1.5s
BRG
comp=N,4μm,15.1s
BRG
comp=E,4μm,16.4s
BRG
comp=Z,8μm,15.0s
BRG Berggiesshubel 79.76 325 iP P 20 13 19.0 +0.1
BRG *PP pP 20 13 59.0 +4.4
BRG 20 16 21.0
BRG S S 20 23 12.0 +2.2
BRG SS SS 20 28 19.0 -2.6
BRG pmax pmax
comp=Z,590nm,0.8s,mb6.3
BRG MLR MLR
comp=Z,8μm,15.0s
BRG Berggiesshubel 79.76 325 iP P 20 13 19.0 +0.1
comp=Z,59nm,0.8s,mb5.3
BRG pP pP 20 13 59.0 +4.4
BRG sP sP 20 14 03.0 -6.8
BRG PP PP 20 16 21.0 -0.9
BRG S S 20 23 12.0 +2.2
BRG SS SS 20 28 19.0 -2.6
BRG ePKKP PKKPbc 20 32 05.7 +1.3
BRG eP'P' 20 39 31.0
BRG LR LR
comp=Z,8μm,15.0s
IZM Izmir 79.76 309 eP P 20 13 18.6 -0.3
DALT Dalyan (Mudla) 79.76 307 eP P 20 13 18.4 -0.6
KIPM Iron Peak 79.78 49 eP P 20 13 20.7 +1.7
M03C McCloud 79.79 47 P P 20 13 20.1 +1.0
baz=80,SNR=92
M03C ⇑S S 20 23 11.9 +1.7
baz=80
YER Yerkesik 79.80 308 eP P 20 13 19.1 -0.1
J06A Christmas Vall 79.83 45 ⇑P P 20 13 20.0 +0.7
baz=80,SNR=146
J06A ⇓S S 20 23 13.1 +2.6
baz=80
VTS Vitosha 79.88 315⇑iP P 20 13 20.8 +1.2
VTS Vitosha 79.88 315 P P 20 13 20.0 +0.4
ZST Bratislava 79.89 322 eP P 20 13 20.5 +0.8
ZST e 20 14 07.2
ZST eS S 20 23 09.0 -2.3
ZST e 20 24 05.1
ZST Bratislava 79.89 322 eP P 20 13 20.5 +0.8
ZST eS S 20 23 09.0 -2.3
ZST pmax pmax
comp=Z,96nm,1.0s,mb5.4
ZST MLR MLR
comp=Z,2μm,15.1s
ZST Bratislava 79.89 322 eP P 20 13 20.5 +0.8
comp=Z,96nm,1.0s,mb5.4
ZST e 20 14 07.2
ZST eS S 20 23 09.0 -2.3
ZST e 20 24 05.1
ZST LR LR
comp=Z,2μm,15.1s
CLL Collm 79.92 326 eP P 20 13 19.5 -0.3
comp=Z,504nm,1.0s,mb6.1
CLL epP pP 20 13 57.0 +1.6
CLL esP sP 20 14 11.4 +0.8
CLL ePP PP 20 16 25.1 +1.8
CLL esPP 20 17 11.1
CLL esPPP 20 19 01.9
CLL esPPPP 20 20 22.6
CLL eS S 20 23 12.1 +0.6
CLL eSP 20 23 59.3
CLL esS sS 20 24 13.4 +0.3
CLL eSS SS 20 28 28.4 +4.4
CLL esSS 20 29 26.1
CLL ePKKPbc PKKPbc 20 32 05.5 +1.5
CLL eSSSS 20 34 37.2
CLL eLR LR 20 40 01.4
CLL eSKPPKPbc 20 43 20.4
CLL eL 20 49 02.9
comp=Z,5μm,20.0s
CLL Collm 79.92 326⇑iP P 20 13 19.7 -0.1
comp=Z,498nm,1.0s,mb6.1
CLL ePlp 20 13 24.0
comp=Z,4μm,10.5s
CLL i PcP PcP 20 13 27.3 +0.4
CLL epP pP 20 13 57.0 +1.6
CLL esP sP 20 14 09.0 -1.6
CLL ePP PP 20 16 28.0 +4.7
comp=Z,85nm,1.1s
CLL epPP 20 16 54.0
CLL esPP 20 17 12.0
CLL esPPP 20 19 03.0
CLL esPPPP 20 20 18.0
CLL eS S 20 23 12.0 +0.5
CLL eSP 20 23 54.0
CLL esS sS 20 24 08.0 -5.1
CLL ex x 20 24 41.0
CLL ex x 20 24 59.0
CLL eSS SS 20 28 29.0 +5.0
CLL esSS 20 29 20.0
CLL ePKKPbc PKKPbc 20 32 05.0 +1.0
CLL esSSS 20 32 43.0
CLL eSSSS 20 34 27.0
CLL ePKPPKPdf 20 40 02.0
CLL eSKPPKPbc 20 43 20.0
CLL Collm 79.92 326⇑iP P 20 13 19.7 -0.1
CLL e*PP pP 20 13 57.0 +1.6
CLL eS S 20 23 12.0 +0.5
CLL pmax pmax
comp=Z,498nm,1.0s,mb6.1
CLL MLR MLR
comp=Z,9μm,13.1s
CLL Collm 79.92 326⇑iP P 20 13 19.7 -0.1
comp=Z,498nm,1.0s,mb6.1
CLL epP pP 20 13 57.0 +1.6
CLL eS S 20 23 12.0 +0.5
CLL ePKKP PKKPbc 20 32 05.0 +1.0
CLL eP'P' 20 40 02.0
CLL LR LR
comp=Z,9μm,13.1s
PRK Paraskevi 79.92 310 eP P 20 13 20.0 +0.2
WDC Whiskeytown Da 79.93 48⇑iP P 20 13 20.3 +0.4
WDC e 20 13 24.6
WDC e*PP pP 20 13 55.1 -0.4
WDC e*SP sP 20 14 12.7 +2.0
WDC pmax pmax
comp=Z,211nm,1.3s,mb5.6
WDC Whiskeytown Da 79.93 48⇑iP P 20 13 20.3 +0.4
comp=Z,214nm,1.3s,mb5.6
WDC ePcP PcP 20 13 24.6 -2.4
WDC epP pP 20 13 55.1 -0.4
WDC esP sP 20 14 12.7 +2.0
WDC Whiskeytown Da 79.93 48 ⇑P P 20 13 20.4 +0.5
baz=80,SNR=96
WDC ⇑S S 20 23 13.4 +1.8
baz=80
O02C Red Bluff 80.00 48 ⇓P P 20 13 21.4 +1.1
baz=80,SNR=85
O02C ⇓S S 20 23 15.6 +3.2
baz=80
TREC Trest 80.02 323⇓eP P 20 13 20.7 +0.3
TREC epP pP 20 13 57.4 +1.4
TREC ex x 20 14 11.7
TREC ePP PP 20 16 27.0 +2.9
TREC ex x 20 17 14.2
TREC ex x 20 20 17.5
TREC eS S 20 23 13.4 +0.8
TREC ex x 20 29 18.7
TREC ex x 20 34 25.7
TREC Trest 80.02 323 eP P 20 13 20.7 +0.3
TREC e*PP pP 20 13 57.4 +1.4
TREC e 20 14 11.7
TREC e 20 16 27.0
TREC eS S 20 23 13.4 +0.8
K06A Valley Falls 80.03 45 ⇑P P 20 13 21.3 +0.9
baz=80,SNR=175
K06A ⇑S S 20 23 14.6 +1.9
baz=80
SVIS Svilajnac 80.04 317⇑iP P 20 13 19.7 -0.7
BORG Borgarnes 80.04 348 P P 20 13 22.4 +1.9
comp=Z,1μm,1.1s,mb6.5,SNR=11
BORG Borgarnes 80.04 348 LR LR 20 49 29.2
comp=Z,1μm,20.6s,baz=27,slow=36
BORG Borgarnes 80.04 348 eP P 20 13 22.0 +1.5
comp=Z,274nm,1.0s,mb5.8
BORG epP pP 20 13 56.4 +0.2
MLSB Milas 80.04 308 eP P 20 13 20.9 +0.5
PRA Prague 80.04 324 ⇓P P 20 13 20.0 -0.5
PRA sP sP 20 14 10.0 -1.3
PRA ex x 20 17 13.0
PRU Pruhonice 80.04 324⇓iP P 20 13 21.1 +0.6
PRU epP pP 20 13 57.8 +1.7
PRU esP sP 20 14 11.0 -0.3
PRU ePP PP 20 16 28.4 +4.1
PRU ex x 20 17 14.5
PRU ex x 20 20 18.3
PRU eS S 20 23 14.7 +1.9
PRU eSS SS 20 28 32.0 +6.1
PRU ex x 20 34 36.6
PRU Pruhonice 80.04 324⇓iP P 20 13 21.1 +0.6
PRU e*PP pP 20 13 57.8 +1.7
PRU e 20 14 11.0
PRU e 20 16 28.4
PRU eS S 20 23 14.7 +1.9
PRU eSS SS 20 28 32.0 +6.1
P01C Double 8 Ranch 80.06 49 ⇑P P 20 13 21.3 +0.7
baz=80,SNR=30
P01C ⇓S S 20 23 14.5 +1.5
baz=80
SFJD Kangerlussuaq 80.11 1⇑iP P 20 13 20.7 -0.2
comp=Z,1μm,1.1s,mb6.4
SFJD e pP 20 13 53.5 -3.0
SFJD i 20 16 22.5
SFJD i 20 19 27.5
SFJD i S S 20 23 10.9 -2.7
SFJD
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 80.11 1⇑iP P 20 13 20.7 -0.2
SFJD i 20 16 22.5
SFJD i S S 20 23 10.9 -2.7
SFJD pmax pmax
comp=Z,1μm,1.1s,mb6.4
SFJD Kangerlussuaq 80.11 1⇑iP P 20 13 20.7 -0.2
comp=Z,1μm,1.1s,mb6.4
SFJD e pP 20 13 53.5 -3.0
SFJD i 20 16 22.5
SFJD i 20 19 27.5
SFJD i S S 20 23 10.9 -2.7
BEO Belgrade 80.16 318⇓iP P 20 13 20.9 -0.2
VKA Vienna 80.26 322 iP P 20 13 22.9 +1.3
PKSM Moragy 80.31 319⇑iP P 20 13 21.9 0.0
PKSM Moragy 80.31 319 P P 20 13 22.1 +0.1
M05C Lookout 80.34 47 P P 20 13 22.9 +0.8
baz=80,SNR=115
M05C ⇑S S 20 23 17.0 +1.1
baz=80
GASB Alder Springs 80.35 49 ⇑P P 20 13 23.5 +1.4
baz=80,SNR=108
GASB ⇑S S 20 23 18.5 +2.5
baz=80
ARG Arkhangelos 80.41 307 eP P 20 13 22.8 +0.3
SMG Samos 80.42 309 eP P 20 13 22.0 -0.5
HATC Hat Creek Radi 80.46 47 ⇓P P 20 13 23.6 +0.9
baz=80,SNR=70
HATC ⇑S S 20 23 19.4 +2.2
baz=80
BODT Bodrum 80.48 308 eP P 20 13 22.5 -0.4
DAT Datca 80.49 308 eP P 20 13 22.0 -0.8
HOPS Hopland 80.51 50⇑iP P 20 13 23.5 +0.5
comp=Z,180nm,1.2s,mb5.6
HOPS ePcP PcP 20 13 27.5 -2.0
HOPS epP pP 20 13 57.2 -1.5
HOPS esP sP 20 14 14.6 +0.8
HOPS ePP PP 20 16 27.4 -0.8
HOPS Hopland 80.51 50 P P 20 13 23.6 +0.6
baz=80,SNR=16
HOPS ⇑S S 20 23 20.1 +2.4
baz=80
SRS Serrai 80.52 313 eP P 20 13 22.4 -0.6
MOD Modoc 80.53 46 eP P 20 13 23.8 +0.7
MOD epP pP 20 13 58.2 -0.6
MOD esP sP 20 14 14.9 +0.9
MOD ePP PP 20 16 28.0 -0.4
CHOS Chios island 80.55 310 eP P 20 13 23.4 +0.2
O03C Acorn Hollow, 80.58 48 ⇓P P 20 13 23.5 +0.2
baz=80,SNR=8.3
O03C ⇑S S 20 23 20.4 +2.0
baz=80
K07A Rock Creek Ran 80.69 45 P P 20 13 25.2 +1.2
baz=81,SNR=163
K07A ⇓S S 20 23 20.2 +0.6
baz=81
CONA Conrad Observa 80.71 322 iP P 20 13 24.7 +0.7
comp=Z,1μm,2.8s,mb6.1,SNR=267
OUR Ouranopolis 80.73 312 eP P 20 13 23.9 -0.3
TANN Tannenbergstha 80.77 325 eP P 20 13 24.4 +0.1
comp=Z,220nm,1.2s,mb5.7
CLZ Clausthal 80.77 327 eP P 20 13 24.6 +0.2
comp=Z,759nm,1.0s,mb6.3
SOH Sokhos 80.83 313 eP P 20 13 23.9 -0.8
M06C Likely Place G 80.84 47 ⇑P P 20 13 25.8 +1.1
baz=81,SNR=54
M06C ⇓S S 20 23 22.8 +1.7
baz=81
DIVS Divcibare 80.86 317⇑iP P 20 13 23.9 -0.9
NKC Novy Kostel 80.89 325⇓iP P 20 13 25.6 +0.6
NKC epP pP 20 14 02.2 +1.5
NKC esP sP 20 14 16.3 +0.4
NKC ePP PP 20 16 35.2 +3.8
NKC ex x 20 17 19.5
NKC ex x 20 20 25.0
NKC eS S 20 23 21.7 0.0
NKC ex x 20 29 38.6
NKC ex x 20 35 04.4
NKC Novy Kostel 80.89 325⇓iP P 20 13 25.6 +0.6
NKC e*PP pP 20 14 02.2 +1.5
NKC e 20 14 16.3
NKC e 20 16 35.2
NKC eS S 20 23 21.7 0.0
KNT Kendrikon 80.91 313 eP P 20 13 24.6 -0.5
FCC Fort Churchill 80.92 22⇑iP P 20 13 24.9 -0.2
FCC e*PP pP 20 14 00.7 -0.2
FCC e 20 16 30.8
FCC pmax pmax
comp=Z,880nm,0.9s,mb6.4
FCC Fort Churchill 80.92 22⇑iP P 20 13 24.9 -0.2
comp=Z,88nm,0.9s,mb5.4
FCC ePcP PcP 20 13 29.1 -2.1
FCC epP pP 20 14 00.7 -0.2
FCC esP sP 20 14 13.6 -2.4
FCC ePP PP 20 16 30.8 -0.8
MNRC McLaughlin Nat 80.97 49 ⇑P P 20 13 26.6 +1.2
baz=81,SNR=129
MNRC ⇑S S 20 23 25.3 +2.8
baz=81
O04C Chester 80.98 48 ⇓P P 20 13 26.5 +1.0
baz=81,SNR=49
O04C ⇑S S 20 23 24.3 +1.7
baz=81
MOX Moxa 81.01 326 iP P 20 13 25.6 -0.1
comp=Z,191nm,1.1s,mb5.6
MOX Moxa 81.01 326 eP P 20 13 25.1 -0.6
comp=Z,209nm,1.2s,mb5.6
MOX e 20 16 34.2
MOX
comp=Z,5μm,17.0s
MOX Moxa 81.01 326 eP P 20 13 25.1 -0.6
MOX e 20 16 34.2
MOX pmax pmax
comp=Z,209nm,1.2s,mb5.6
MOX MLR MLR
comp=Z,5μm,17.0s
VAY Valandovo 81.02 314⇑iP P 20 13 24.7 -0.9
VAY i X 20 14 14.4
ELFS Eagle Lake Fie 81.03 47 ⇑P P 20 13 27.0 +1.3
baz=81
ELFS ⇑S S 20 23 23.8 +0.7
baz=81
NSHM Saint Helena R 81.08 50 eP P 20 13 26.3 +0.3
NSHM epP pP 20 14 02.0 +0.3
KHC Kasperske Hory 81.08 324⇓iP P 20 13 26.4 +0.4
KHC epP pP 20 14 03.7 +2.0
KHC eXS sP 20 14 16.6 -0.3
KHC ePP PP 20 16 37.7 +4.8
KHC ex x 20 17 23.3
KHC ex x 20 20 31.8
KHC eS S 20 23 23.4 -0.2
KHC eSS SS 20 28 49.7 +8.3
KHC eSKKP 20 35 14.4
KHC Kasperske Hory 81.08 324⇓iP P 20 13 26.4 +0.4

KHC e*PP pP 20 14 03.7 +2.0
KHC e 20 14 16.6
KHC e 20 16 37.7
KHC eS S 20 23 23.4 -0.2
KHC eSS SS 20 28 49.7 +8.3
MSO Missoula 81.11 39⇑iP P 20 13 26.4 +0.2
comp=Z,164nm,1.4s,mb5.5
MSO ePcP PcP 20 13 30.4 -1.7
MSO epP pP 20 14 00.8 -1.1
MSO esP sP 20 14 16.6 -0.4
MSO ePP PP 20 16 32.0 -1.1
MCCM Marconi Confer 81.12 50 i P P 20 13 27.3 +1.1
comp=Z,232nm,1.0s,mb5.8
MCCM epP pP 20 14 02.3 +0.3
MCCM esP sP 20 14 15.6 -1.5
MCCM Marconi Confer 81.12 50 ⇓P P 20 13 26.1 -0.1
baz=81,SNR=11
MCCM ⇓S S 20 23 23.7 -0.3
baz=81
ORV Oroville 81.18 48 ⇓P P 20 13 26.5 -0.1
baz=81,SNR=118
ORV ⇑S S 20 23 25.3 +0.7
baz=81
SUTB Sutter Buttes 81.18 49 ⇑P P 20 13 26.6 +0.1
baz=81,SNR=12
SUTB ⇓S S 20 23 25.4 +0.7
baz=81
THE Thessaloniki 81.19 313 eP P 20 13 25.6 -1.0
GEC2 GERESS Array S 81.21 324 eP P 20 13 26.6 -0.1
comp=Z,132nm,1.0s,mb5.5
GERES GERESS Array B 81.21 324 P P 20 13 26.5 -0.2
comp=Z,93nm,1.0s,mb5.4,baz=44,slow=4.8,SNR=196
GERES PP PP 20 16 36.6 +2.6
comp=Z,12nm,0.9s,baz=46,slow=11,SNR=3.4
GERES PKKPbc PKKPbc 20 31 60.0 -1.1
comp=Z,3.2nm,0.7s,baz=216,slow=2.1,SNR=17
GERES PKPPKP 20 39 54.5
comp=Z,0.9nm,1.0s,baz=172,slow=4.0,SNR=4.5
GERES GERESS Array B 81.21 324 P P 20 13 26.5 -0.2
GERES 20 16 36.6
GERES pmax pmax
comp=Z,930nm,1.0s
WVOR Wild Horse Val 81.21 45⇑iP P 20 13 27.6 +0.9
WVOR ePcP PcP 20 13 31.8 -0.8
WVOR epP pP 20 14 02.2 -0.3
WVOR esP sP 20 14 18.8 +1.2
WVOR eS S 20 23 27.2 +2.3
FFC Flin Flon 81.22 28 P P 20 13 26.0 -0.7
comp=Z,1μm,1.0s,mb6.4
FFC Flin Flon 81.22 28⇑iP P 20 13 26.7 0.0
FFC e*PP pP 20 14 00.9 -1.6
FFC pmax pmax
comp=Z,1μm,1.8s,mb6.1
FFC Flin Flon 81.22 28⇑iP P 20 13 26.6 -0.1
comp=Z,16μm,1.8s
FFC ePcP PcP 20 13 30.9 -1.6
FFC epP pP 20 14 00.9 -1.6
FFC esP sP 20 14 15.2 -2.5
MLA1 Latheron 81.27 338⇑eP P 20 13 26.2 -0.8
CVS Carmenet Viney 81.27 50 ⇓P P 20 13 27.3 +0.3
baz=81,SNR=44
CVS ⇓S S 20 23 26.9 +1.3
baz=81
FARB Farallon Islan 81.30 51 ⇑P P 20 13 27.2 +0.1
baz=81
FARB ⇓S S 20 23 26.0 +0.2
baz=81
O05C Quincy 81.30 48 ⇓P P 20 13 27.6 +0.5
baz=81,SNR=43
O05C ⇓S S 20 23 26.7 +0.8
baz=81
SKO Skopje 81.31 315⇑iP P 20 13 28.3 +1.1
SKO i X 20 14 17.5
OHCM Honcut 81.31 49 eP P 20 13 27.2 0.0
OHCM epP pP 20 14 02.2 -0.8
OHCM esP sP 20 14 16.4 -1.7
ARSA Arzberg 81.32 322 i P P 20 13 27.5 +0.2
comp=Z,632nm,2.2s,mb5.8,SNR=94
BBLS Bajina Basta - 81.33 317 i P P 20 13 29.5 +2.1
GRG Griva 81.34 314 eP P 20 13 26.8 -0.5
Q03C Winters 81.39 49 ⇑P P 20 13 29.1 +1.5
baz=81,SNR=50
Q03C ⇑S S 20 23 28.9 +2.1
baz=81
WET Wettzell 81.41 324 eP P 20 13 27.9 +0.1
comp=Z,154nm,1.3s,mb5.5
CHMT Chamberlain Mo 81.42 39 eP P 20 13 27.9 +0.1
CHMT epP pP 20 14 03.2 -0.3
CHMT esP sP 20 14 17.2 -1.5
KARP Karpathos 81.44 307 eP P 20 13 27.0 -0.9
M07A Soldier Meadow 81.52 46 P P 20 13 29.7 +1.4
baz=81,SNR=220
M07A ⇑S S 20 23 29.9 +1.7
baz=81
MOA Molln 81.58 323 i P P 20 13 28.6 0.0
comp=Z,955nm,2.8s,mb5.9,SNR=85
IBBN Ibbenburen 81.61 329 eP P 20 13 28.2 -0.6
comp=Z,475nm,0.9s,mb6.1
APE Apeiranthos 81.64 309 eP P 20 13 27.1 -1.8
APE Apeiranthos 81.64 309 eP P 20 13 27.5 -1.5
APE Apeiranthos 81.64 309⇑iP P 20 13 27.9 -1.1
APE Apeiranthos 81.64 309 P P 20 13 29.1 +0.1
UBBA Unterbreizbach 81.64 327 eP P 20 13 28.8 -0.2
comp=Z,171nm,1.2s,mb5.5
IVA Berane 81.67 316⇑iP P 20 13 29.8 +0.7
Q04C Lincoln 81.67 49 ⇑P P 20 13 29.6 +0.5
baz=82,SNR=18
Q04C ⇑S S 20 23 31.1 +1.4
baz=82
PLE Pljevlja 81.67 317⇑iP P 20 13 30.4 +1.2
SAC San Andreas 81.74 50 P P 20 13 31.2 +1.7
SAC San Andreas 81.74 50 eP P 20 13 30.6 +1.1
LIT Litokhoron 81.79 313 eP P 20 13 28.9 -0.9
PVY Plav 81.79 316⇑iP P 20 13 29.8 +0.1
XOR Xorichti 81.80 312 eP P 20 13 28.5 -1.3
MCD Coleburn Disti 81.81 337⇑eP P 20 13 28.6 -1.3
MVH1 Achvaich 81.83 338⇑eP P 20 13 28.6 -1.3
GROS Grobnik 81.84 321 eP P 20 13 29.7 -0.3
GRA1 Grafenberg Arr 81.85 325 eP P 20 13 30.6 +0.6
comp=Z,4μm,7.2s
GRA1 epP pP 20 14 06.1 +0.3
GRA1 esP sP 20 14 19.6 -1.4
GRA1 ePP PP 20 16 38.7 -0.5
GRA1 epPP 20 17 09.9
GRA1 esPP 20 17 27.0
GRA1 eS S 20 23 33.0 +1.5
GRA1 epS 20 24 17.9
GRA1 eSS sS 20 24 34.9 +1.6
GRA1 eSS SS 20 29 02.5 +10
GRF Grafenberg Arr 81.85 325 eP P 20 13 30.6 +0.6
comp=Z,782nm,1.2s,mb6.2
GRF epP pP 20 14 06.1 +0.3
GRF esP sP 20 14 19.6 -1.4
GRF ePP PP 20 16 38.7 -0.5
GRF epPP 20 17 09.9
GRF esPP 20 17 27.0
GRF eS S 20 23 33.0 +1.5
GRF epS 20 24 17.9
GRF esS sS 20 24 34.9 +1.6
GRF eSS SS 20 29 02.5 +10
GRF Grafenberg Arr 81.85 325 eP P 20 13 30.6 +0.6
GRF e*PP pP 20 14 06.1 +0.3
GRF e 20 16 38.7
GRF eS S 20 23 33.0 +1.5
GRF e 20 24 17.9
GRF e*SS sS 20 24 34.9 +1.6
GRF Grafenberg Arr 81.85 325 eP P 20 13 30.6 +0.6
GRF e*PP pP 20 14 06.1 +0.3
GRF e 20 16 38.7
GRF eS S 20 23 33.0 +1.5
GRF e 20 24 17.9
GRF e*SS sS 20 24 34.9 +1.6
O06A Flanigan 81.85 47 P P 20 13 31.0 +0.9
baz=82,SNR=229
O06A ⇑S S 20 23 32.7 +1.1
baz=82
BDM Black Diamond 81.88 50 ⇑P P 20 13 30.7 +0.4
baz=82,SNR=7.1
BDM ⇑S S 20 23 33.3 +1.4
baz=82
P05C Yuba Gap, Truc 81.88 48 ⇑P P 20 13 30.8 +0.5
baz=82,SNR=28
P05C ⇑S S 20 23 32.5 +0.7
baz=82
MME1 Meikle Cairn 81.93 337⇑eP P 20 13 29.2 -1.2

PERS Pernice 81.93 321 eP P 20 13 30.4 -0.1
PERS ePP PP 20 16 41.8 +1.9
PERS e 20 17 27.7
PERS eS S 20 23 30.5 -1.9
PERS e 20 24 20.5
BIA Bitola 81.95 314 i P P 20 13 29.9 -0.7
M08A Happy Creek Ra 81.95 45 ⇑P P 20 13 31.8 +1.2
baz=82,SNR=69
M08A ⇑S S 20 23 34.9 +2.3
baz=82
JRSC Jasper Ridge 81.96 50 ⇑P P 20 13 30.9 +0.2
baz=82,SNR=14
JRSC ⇑S S 20 23 32.7 0.0
baz=82
N07B Gerlach 82.01 46 P P 20 13 32.0 +1.2
baz=82,SNR=103
N07B ⇓S S 20 23 35.2 +2.1
baz=82
SISC Sisak 82.01 320 iP P 20 13 31.4 +0.5
L09A Wilkinson Ranc 82.03 45 ⇓P P 20 13 32.3 +1.3
baz=82,SNR=118
L09A ⇑S S 20 23 35.3 +2.0
baz=82
UPM Unac-Piva 82.03 317⇑iP P 20 13 30.3 -0.7
FNA Florina 82.06 314 eP P 20 13 30.1 -1.0
SANT Santorini 82.09 308 eP P 20 13 30.0 -1.4
comp=Z,716nm,1.3s,mb6.1
SANT epP pP 20 14 07.5 +0.3
SANT esP sP 20 14 22.2 -0.1
THR1 Thera Island 82.09 308 eP P 20 13 29.9 -1.4
P06A Stead Airport, 82.10 48 ⇑P P 20 13 32.2 +0.8
baz=82,SNR=18
P06A ⇑S S 20 23 35.1 +1.0
baz=82
KZN Kozani 82.11 313 eP P 20 13 31.0 -0.4
THR3 Thira Island, 82.11 308 eP P 20 13 31.0 -0.4
FRB Frobisher Bay 82.11 9 P P 20 13 31.1 -0.3
comp=Z,596nm,1.0s,mb6.2,baz=344,slow=5.8,SNR=99
FRB pP pP 20 14 04.9 -2.4
comp=Z,110nm,0.8s,baz=18,slow=6.3,SNR=2.0
FRB PKKPbc PKKPbc 20 31 57.3 -1.7
comp=Z,10.0nm,0.8s,baz=101,slow=1.9,SNR=7.5
LAVA Lava Cap Winer 82.12 49 ⇓P P 20 13 31.9 +0.4
baz=82,SNR=74
LAVA ⇑S S 20 23 35.2 +0.9
baz=82
WENL Wente Brothers 82.14 50 ⇓P P 20 13 32.0 +0.4
baz=82,SNR=13
WENL ⇑S S 20 23 36.4 +1.9
baz=82
PTL Penteli 82.15 310 eP P 20 13 30.0 -1.6
BNLO Ben Lomond 82.17 51 ⇑P P 20 13 31.9 +0.2
baz=82,SNR=23
BNLO ⇑S S 20 23 34.8 0.0
baz=82
OHR Ohrid 82.21 314⇑iP P 20 13 30.8 -1.2
OHR i X 20 14 20.5
NKY Niksic 82.22 317⇑iP P 20 13 30.8 -1.2
WTSB Winterswijk 82.26 329⇑eP P 20 13 31.2 -1.0
comp=Z,241nm,1.1s,mb5.7
CRES Cresnjev 82.28 321 eP P 20 13 32.2 -0.1
HRY Holter Researc 82.29 38 eP P 20 13 33.1 +0.7
HRY epP pP 20 14 08.0 -0.2
HRY esP sP 20 14 24.7 +1.4
R04C Big Horse Ranc 82.29 49 ⇑P P 20 13 32.4 +0.1
baz=82
R04C ⇑S S 20 23 36.8 +0.8
baz=82
TTG Podgorica 82.31 316⇑iP P 20 13 32.4 0.0
OBKA Obir 82.31 321 i P P 20 13 32.5 +0.1
comp=Z,732nm,2.2s,mb5.9,SNR=58
KVR Kavouri 82.34 310 eP P 20 13 25.0 -7.6
PAHR Pah Rah Range 82.40 47⇑iP P 20 13 33.4 +0.5
comp=Z,255nm,1.1s,mb5.8
PAHR ePcP PcP 20 13 37.6 -0.2
PAHR epP pP 20 14 04.7 -4.1
PAHR ePP PP 20 16 42.8 -0.9
WCN Washoe City 82.41 48 ⇑P P 20 13 33.9 +0.9
baz=82,SNR=18
WCN ⇓S S 20 23 37.7 +0.5
baz=82
BRY Bratogost 82.43 317⇑iP P 20 13 31.4 -1.6
BUG Bochum--Univer 82.44 328 eP P 20 13 32.6 -0.5
comp=Z,362nm,1.0s,mb6.0
O07A Toulon 82.44 47 ⇑P P 20 13 34.4 +1.3
baz=82,SNR=164
O07A ⇑S S 20 23 38.2 +0.7
baz=82
EGMT Eagleton 82.47 36⇑iP P 20 13 33.6 +0.3
comp=Z,265nm,1.0s,mb5.8
EGMT ePcP PcP 20 13 37.6 -0.5
EGMT epP pP 20 14 08.5 -0.6
EGMT esP sP 20 14 25.7 +1.4
EGMT ePP PP 20 16 45.7 +1.4
S04C Ingram Canyon, 82.49 50 ⇑P P 20 13 33.8 +0.4
baz=82,SNR=25
S04C ⇓S S 20 23 39.3 +1.2
baz=82
N08A GE Springer Mi 82.51 46 ⇓P P 20 13 34.6 +1.1
baz=82,SNR=104
N08A ⇑S S 20 23 39.6 +1.3
baz=82
M09A Marrel Ranch, 82.53 45 ⇑P P 20 13 35.0 +1.4
baz=82,SNR=58
M09A ⇑S S 20 23 39.6 +1.2
baz=82
AGG Agios Georgios 82.54 312 eP P 20 13 32.2 -1.5
NAIG Nisos Aigina 82.56 310 eP P 20 13 31.5 -2.2
R05C Kirkwood Meado 82.57 48 ⇓P P 20 13 34.7 +0.9
baz=82,SNR=30
R05C ⇑S S 20 23 40.0 +1.1
baz=82
BOJS Bojanci 82.59 320 eP P 20 13 33.9 0.0
BOJS e pP 20 14 10.2 +0.4
BOJS e 20 14 23.9
BOJS ePP PP 20 16 47.1 +1.8
BOJS e 20 17 33.7
BOJS eS S 20 23 38.1 -1.0
BUM Brajici-Budva 82.60 316⇑iP P 20 13 33.8 -0.2
ULC Ulcinj 82.61 316⇑iP P 20 13 33.8 -0.2
VISS Visnje 82.62 321 eP P 20 13 33.8 -0.3
LJU Ljubljana 82.63 321 eP P 20 13 33.8 -0.3
LJU ePP PP 20 16 46.0 +0.4
LJU e 20 17 18.0
LJU e 20 17 31.9
LJU e 20 18 31.4
LJU e 20 19 11.4
LJU e 20 19 24.7
LJU e 20 20 59.5
LJU eS S 20 23 37.5 -1.9
LJU eSS SS 20 29 02.9 -1.5
LJU e 20 34 31.0
LJU e 20 41 38.2
LJU Ljubljana 82.63 321 eP P 20 13 33.8 -0.3
LJU e 20 16 46.0
LJU eS S 20 23 37.5 -1.9
LJU eSS SS 20 29 02.9 -1.4
NPS Neapolis 82.64 307 eP P 20 13 33.8 -0.3
HCY Herceg Novi 82.74 317⇑iP P 20 13 34.1 -0.6
MEV Metsovon 82.76 313 eP P 20 13 34.9 +0.1
DLMT Dillon 82.77 40⇑iP P 20 13 35.7 +0.9
comp=Z,390nm,0.8s,mb6.2
DLMT epP pP 20 14 10.4 -0.2
DLMT esP sP 20 14 25.0 -0.8
TNS Taunus Mts 82.77 327 eP P 20 13 34.8 0.0
comp=Z,309nm,1.0s,mb6.0
CMB Columbia Colle 82.78 49⇑iP P 20 13 35.2 +0.3
CMB e*PP pP 20 14 10.0 -0.7
CMB e*SP sP 20 14 26.3 +0.4
CMB e 20 16 47.6
CMB pmax pmax
comp=Z,234nm,1.3s,mb5.8
CMB Columbia Colle 82.78 49⇑iP P 20 13 35.2 +0.3
comp=Z,234nm,1.3s,mb5.8
CMB ePcP PcP 20 13 39.4 0.0
CMB epP pP 20 14 10.0 -0.8
CMB esP sP 20 14 26.3 +0.5
CMB ePP PP 20 16 47.6 +0.8
CMB Columbia Colle 82.78 49 ⇓P P 20 13 35.4 +0.6
baz=83,SNR=114
CMB ⇑S S 20 23 41.4 +0.5
baz=83
O08A Rochester Mine 82.79 46 ⇑P P 20 13 36.1 +1.1
baz=83,SNR=8.5

O08A ⇓S S 20 23 41.1 0.0
baz=83
XRY Khrisi 82.81 307 eP P 20 13 34.0 -1.0
PACP Pacheco Peak 82.81 50 P P 20 13 36.1 +1.1
baz=83,SNR=33
PACP ⇑S S 20 23 40.6 -0.7
baz=83
SAO San Andreas Ge 82.85 51⇑iP P 20 13 35.5 +0.3
SAO e*PP pP 20 14 11.0 -0.1
SAO e*SP sP 20 14 26.8 +0.5
SAO e 20 16 48.5
SAO pmax pmax
comp=Z,127nm,1.3s,mb5.5
SAO San Andreas Ge 82.85 51⇑iP P 20 13 35.5 +0.3
comp=Z,128nm,1.3s,mb5.5
SAO ePcP PcP 20 13 39.8 +0.1
SAO epP pP 20 14 11.0 -0.1
SAO esP sP 20 14 26.8 +0.5
SAO ePP PP 20 16 48.5 +1.1
FUR Furstenfeldbru 82.86 324 eP P 20 13 35.7 +0.4
comp=Z,702nm,1.1s,mb6.3
CADS Cadrg 82.92 322 eP P 20 13 34.4 -1.2
CADS ePP PP 20 16 49.5 +1.5
ESY Stoneypath 82.92 336⇑eP P 20 13 34.2 -1.4
ESY AMb AMB 20 13 39.5
comp=Z,404nm,1.3s,mb6.0
EVR Evrytania 82.92 312 eP P 20 13 34.5 -1.1
STON Ston 82.93 317 i P P 20 13 33.7 -2.0
HLID Hailey 82.93 42⇑iP P 20 13 36.9 +1.2
comp=Z,82nm,0.9s,mb5.5
HLID ePcP PcP 20 13 41.1 +1.0
HLID epP pP 20 14 11.6 0.0
HLID esP sP 20 14 26.2 -0.5
HLID ePP PP 20 16 47.7 -0.4
VOY Vojsko 82.97 321 eP P 20 13 34.8 -1.0
VOY e 20 13 53.4
VOY e pP 20 14 10.0 -1.7
MCMT McKenzie Canyo 82.98 40 eP P 20 13 36.8 +0.9
MCMT epP pP 20 14 12.1 +0.3
PTCC Patocco-Chiusa 83.00 322 P P 20 13 35.2 -0.8
comp=Z,176nm,1.3s,mb5.6
M10A I.L. Ranch, Tu 83.00 44 ⇑P P 20 13 37.5 +1.5
baz=83,SNR=73
M10A ⇓S S 20 23 44.5 +1.3
baz=83
HAST Hastings Reser 83.00 51 ⇑P P 20 13 36.4 +0.4
baz=83,SNR=92
HAST ⇓S S 20 23 42.6 -0.6
baz=83
TOD Tromm 83.04 326⇑eP P 20 13 36.3 +0.1
JAN Janina 83.07 313 eP P 20 13 36.2 -0.2
BOZ Bozeman (W) 83.09 39⇑iP P 20 13 37.2 +0.7
BOZ e*PP pP 20 14 12.1 -0.3
BOZ e*SP sP 20 14 28.3 +0.8
BOZ e 20 16 48.0
BOZ pmax pmax
comp=Z,103nm,1.0s,mb5.5
BOZ Bozeman (W) 83.09 39⇑iP P 20 13 37.2 +0.7
comp=Z,103nm,1.0s,mb5.5
BOZ ePcP PcP 20 13 41.5 +0.7
BOZ epP pP 20 14 12.1 -0.3
BOZ esP sP 20 14 28.2 +0.7
BOZ ePP PP 20 16 48.0 -1.5
EDI Edinburgh 83.11 336⇑eP P 20 13 35.4 -1.2
GMNA Gemona 83.15 322 P P 20 13 36.0 -0.8
comp=Z,742nm,1.0s,mb6.4
S06C San Francisco 83.21 49 ⇑P P 20 13 37.6 +0.5
baz=83,SNR=15
S06C ⇓S S 20 23 46.4 +1.1
baz=83
P08A Dixie Valley 83.21 47 ⇑P P 20 13 38.4 +1.3
baz=83,SNR=42
P08A ⇑S S 20 23 46.0 +0.7
baz=83
Q07A Schurz 83.22 48 ⇓P P 20 13 38.0 +0.8
baz=83
Q07A ⇑S S 20 23 46.5 +1.0
baz=83
S05C Merced 83.22 50 ⇑P P 20 13 37.4 +0.2
baz=83,SNR=39
S05C ⇑S S 20 23 46.2 +0.7
baz=83
EAU Auchinoon 83.26 336⇑eP P 20 13 36.1 -1.3
EAU AMb AMB 20 13 42.3
comp=Z,436nm,1.3s,mb6.0
T05C Eagle Field, D 83.27 50 ⇓P P 20 13 38.1 +0.7
baz=83
T05C ⇑S S 20 23 46.8 +0.9
baz=83
BMN Battle Mountai 83.27 46 eP P 20 13 38.7 +1.3
BMN e*PP pP 20 14 13.5 +0.2
BMN pmax pmax
comp=Z,230nm,1.2s,mb5.8
BMN Battle Mountai 83.27 46 eP P 20 13 38.7 +1.3
comp=Z,230nm,1.2s,mb5.8
BMN epP pP 20 14 13.5 +0.2
BMN esP sP 20 14 28.0 -0.4
WATA Walderalm 83.28 323⇑iP P 20 13 37.3 -0.1
comp=Z,139nm,1.1s,mb5.6,SNR=62
WATA Walderalm 83.28 323⇑iP P 20 13 37.3 -0.1
WATA pmax pmax
comp=Z,139nm,1.1s,mb5.6
EAB Aberfoyle 83.28 337 eP P 20 13 36.4 -1.1
EAB AMb AMB 20 13 42.3
comp=Z,398nm,1.3s,mb6.0
WTTA Wattenberg 83.30 323 i P P 20 13 37.2 -0.3
comp=Z,708nm,2.1s,mb6.0,SNR=69
WTTA Wattenberg 83.30 323 i P P 20 13 37.2 -0.3
WTTA pmax pmax
comp=Z,708nm,2.1s,mb6.0
NVLJ Novalja 83.41 320 i P P 20 13 37.0 -1.1
ABH Alteburg 83.42 327⇑eP P 20 13 38.0 -0.2
V03C Hunter Liggett 83.42 51 ⇑P P 20 13 39.0 +0.8
baz=83,SNR=47
V03C ⇑S S 20 23 48.3 +0.8
baz=83
STU Stuttgart 83.44 326 eP P 20 13 38.2 -0.1
comp=Z,498nm,1.0s,mb6.2
STU Stuttgart 83.44 326⇑iP P 20 13 38.0 -0.3
STU e*PP pP 20 14 14.5 +0.3
STU pmax pmax
comp=Z,424nm,0.9s,mb6.2
STU Stuttgart 83.44 326⇑iP P 20 13 38.0 -0.3
comp=Z,424nm,0.9s,mb6.2
STU ePcP PcP 20 13 41.9 -0.4
STU epP pP 20 14 14.5 +0.3
STU esP sP 20 14 27.3 -2.0
O09A Fish Creek Ran 83.45 46 ⇑P P 20 13 39.7 +1.4
baz=83,SNR=114
O09A ⇑S S 20 23 49.4 +1.6
baz=83
IGT Igoumenitsa 83.46 313 eP P 20 13 37.3 -1.1
LWH Whinny Nab 83.48 334⇑eP P 20 13 37.4 -1.1
VAM Vamos 83.49 308 eP P 20 13 37.2 -1.3
M11A Holland Ranch, 83.50 44 ⇑P P 20 13 40.4 +1.8
baz=83,SNR=103
M11A ⇑S S 20 23 50.6 +2.4
baz=83
MOTA Moosalm 83.50 324 i P P 20 13 38.3 -0.3
comp=Z,88nm,0.9s,mb5.5,SNR=122
MOTA Moosalm 83.50 324 i P P 20 13 38.3 -0.3
MOTA pmax pmax
comp=Z,88nm,0.9s,mb5.5
HGN Heimansgroeve 83.51 329⇑eP P 20 13 37.5 -1.1
comp=Z,323nm,1.0s,mb6.0
HGN ePP PP 20 16 48.5 -4.3
HGN eS S 20 23 52.6 +4.3
N10A Dunphy 83.52 45 ⇑P P 20 13 40.1 +1.4
baz=83,SNR=19
N10A ⇑S S 20 23 49.7 +1.2
baz=83
U04C Hernandez Rese 83.52 51 ⇑P P 20 13 39.6 +0.9
baz=83,SNR=70
U04C ⇓S S 20 23 48.4 0.0
baz=83
VLI Veliai 83.53 310 eP P 20 13 37.0 -1.7
SQTA Sankt Quirin 83.54 324 i P P 20 13 38.6 -0.2
comp=Z,114nm,1.2s,mb5.5,SNR=76
SQTA Sankt Quirin 83.54 324 i P P 20 13 38.6 -0.2
SQTA pmax pmax
comp=Z,114nm,1.2s,mb5.5
EKA Eskdalemuir Ar 83.58 336 PKPPKP 20 39 54.8
comp=Z,3.9nm,1.1s,baz=219,slow=6.4,SNR=4.9
KTD Kalmit 83.58 327 eP P 20 13 39.2 +0.2
R07C Lee Vining 83.58 48 ⇑P P 20 13 40.2 +1.2

baz=84,SNR=15
R07C ⇓S S 20 23 50.8 +1.7
baz=84
MEM Membach 83.59 328 P **P 20 13 38.1 -0.9**
comp=Z,206nm,1.0s,mb5.8
MEM PCP PcP 20 13 39.7 -3.3
MEM Membach 83.59 328 PP PP 20 16 51.2 -2.3
MEM E 20 17 24.4
MEM PKiKP PKiKP 20 18 52.5 -2.4
BEBN Eben Emael 83.60 329 P **P 20 13 38.1 -1.0**
comp=Z,134nm,0.9s,mb5.7
BEBN AP pP 20 14 15.4 +0.4
BEBN PP PP 20 16 52.7 -0.8
BEBN E 20 17 30.8
ESK Eskdalemuir 83.60 336 P **P 20 13 38.3 -0.8**
comp=Z,1μm,1.0s,mb6.5,SNR=29
ESK Eskdalemuir 83.60 336⇑ *e*P **P 20 13 37.8 -1.4**
ESK AMb AMB 20 13 44.0
comp=Z,331nm,1.3s,mb5.9
ESK Eskdalemuir 83.60 336 *e*P **P 20 13 39.5 +0.4**
ESK pmax pmax
comp=Z,228nm,1.2s,mb5.8
ESK Eskdalemuir 83.60 336 *e*P **P 20 13 39.5 +0.3**
comp=Z,228nm,1.2s,mb5.8
ESK *e*PcP PcP 20 13 41.9 -1.1
KEK Kerkira 83.67 314 *e*P **P 20 13 39.0 -0.5**
ECK Cauldkaine Hil 83.69 336⇑ *e*P **P 20 13 38.5 -1.0**
ECK AMb AMB 20 13 43.0
comp=Z,524nm,1.1s,mb6.2
KYTH Kithira 83.73 309 *e*P **P 20 13 38.2 -1.5**
QLMT Earthquake Lak 83.74 39 *e*P **P 20 13 40.7 +0.9**
QLMT *e*pP pP 20 14 15.9 +0.1
QLMT *e*sP sP 20 14 30.4 -0.4
LKD Levkas 83.77 313 *e*P **P 20 13 38.8 -1.1**
RUP Ruppelstein 83.77 327⇑ *e*P **P 20 13 39.9 -0.1**
Q08A Gabbs 83.81 47 ⇓P **P 20 13 41.0 +0.8**
baz=84,SNR=267
Q08A ⇑S S 20 23 51.2 -0.2
baz=84
T06C Millerton Lake 83.82 50 ⇓P **P 20 13 40.4 +0.2**
baz=84,SNR=17
T06C ⇑S S 20 23 50.7 -0.8
baz=84
NVAR Mina Array Bea 83.84 48 P **P 20 13 41.6 +1.3**
comp=Z,334nm,1.2s,mb6.0,baz=303,slow=3.4,SNR=193
NVAR pP pP 20 14 16.7 +0.4
comp=Z,26nm,0.7s,baz=312,slow=4.1,SNR=3.1
NVAR PKKPbc PKKPbc 20 31 56.2 +1.1
comp=Z,1.7nm,0.7s,baz=206,slow=3.1,SNR=8.0
NVAR PKPPKP 20 39 44.6
comp=Z,0.3nm,0.5s,baz=117,slow=4.0,SNR=3.7
NVAR Mina Array Bea 83.84 48 P **P 20 13 41.6 +1.3**
NVAR pP pP 20 14 16.7 +0.5
NVAR PKKPbc PKKPbc 20 31 56.2 +1.1
NVAR P'P' 20 39 44.6
P09A Austin 83.87 46 ⇓P **P 20 13 41.6 +1.2**
baz=84,SNR=95
P09A ⇓S S 20 23 51.1 -0.8
baz=84
KCC Kaiser Creek 83.88 49 ⇓P **P 20 13 41.1 +0.6**
baz=84,SNR=10.0
KCC ⇓S S 20 23 50.9 -1.1
baz=84
V04C Ramage Ranch, 83.89 51 ⇓P **P 20 13 41.3 +0.7**
baz=84,SNR=59
V04C ⇓S S 20 23 51.1 -1.1
baz=84
GVD Gavdhos 83.90 308 *e*P **P 20 13 40.0 -0.6**
GVD Gavdhos 83.90 308 *e*P **P 20 13 39.9 -0.7**
comp=Z,998nm,1.0s,mb6.5
GVD *e*pP pP 20 14 16.6 +0.1
GVD *e*sP sP 20 14 32.2 +0.6
GVD *e*PP PP 20 16 56.5 +0.6
GVD *e*S S 20 23 56.1 +3.9
ITM Ithomi 83.90 311 *e*P **P 20 13 40.0 -0.6**
N11A Elko Archery C 83.91 45 ⇑P **P 20 13 42.1 +1.4**
baz=84,SNR=20
N11A ⇑S S 20 23 51.7 -0.7
baz=84
PKD Parkfield 83.92 51 P **P 20 13 41.5 +0.7**
baz=84,SNR=194
PKD ⇑S S 20 23 50.9 -1.6
baz=84
MNV Mina 83.93 48 *e*P **P 20 13 42.0 +1.2**
MNV *e**PP pP 20 14 17.7 +1.0
MNV *e* 20 17 00.2
MNV pmax pmax
comp=Z,407nm,1.6s,mb5.9
MNV Mina 83.93 48 *e*P **P 20 13 42.0 +1.2**
comp=Z,406nm,1.6s,mb5.9
MNV *e*pP pP 20 14 17.6 +0.9
MNV *e*sP sP 20 14 30.8 -1.1
MNV *e*PP PP 20 17 00.2 +3.9
LANF Langenberg 83.95 326 *e*P **P 20 13 40.8 -0.1**
U05C Westside ANR, 83.96 50 ⇑P **P 20 13 42.1 +1.2**
baz=84,SNR=32
U05C ⇓S S 20 23 51.7 -1.1
baz=84
MLAC Mammoth Lakes 84.00 49 ⇑P **P 20 13 42.5 +1.4**
baz=84,SNR=33
MLAC ⇑S S 20 23 52.6 -0.7
baz=84
R08A Mina 84.01 48 ⇓P **P 20 13 42.2 +1.0**
baz=84,SNR=28
R08A ⇑S 20 23 51.6
baz=84
M12A Wells 84.02 44 ⇑P **P 20 13 42.6 +1.4**
baz=84,SNR=127
M12A ⇑S 20 23 52.2
baz=84
GCMT Greycliff 84.02 38 *e*P **P 20 13 42.1 +0.9**
GCMT *e*pP pP 20 14 18.2 +1.0
GCMT *e*sP sP 20 14 34.2 +1.9
BCLA Clavier 84.03 329 P **P 20 13 40.3 -1.0**
comp=Z,86nm,1.1s,mb5.4
BCLA PCP PcP 20 13 41.7 -3.2
BCLA AP pP 20 14 17.8 +0.6
YMR Madison River 84.09 39 *e*P **P 20 13 43.4 +1.7**
comp=Z,189nm,1.1s,mb5.7
YMR *e*pP pP 20 14 19.0 +1.4
YMR *e*sP sP 20 14 35.4 +2.7
SPAK Spaichingen-Ko 84.11 325 *e*P **P 20 13 41.4 -0.3**
CTI Castel Tesino 84.11 322 P **P 20 13 40.8 -0.9**
VLS Valsamata 84.13 312 *e*P **P 20 13 41.2 -0.6**
DAVA Damuels 84.15 324 *i*P **P 20 13 41.8 -0.1**
comp=Z,946nm,1.8s,mb6.2,SNR=224
CKE Keswick 84.15 335⇑ *e*P **P 20 13 40.7 -1.2**
BFO Black Forest 84.16 326 P **P 20 13 41.2 -0.7**
comp=Z,2μm,1.3s,mb6.7
BFO Black Forest 84.16 326 *e*P **P 20 13 41.7 -0.2**
comp=Z,652nm,1.3s,mb6.2
UCC Uccle 84.16 329 P **P 20 13 40.9 -1.0**
comp=Z,1μm,0.8s,mb6.6
UCC PCP PcP 20 13 42.2 -3.3
UCC AP pP 20 14 18.0 0.0
UCC PP PP 20 16 56.7 -1.4
UCC E 20 17 46.2
WLF Walferdange 84.21 328 P **P 20 13 42.0 -0.2**
comp=Z,239nm,1.0s,mb5.9
WLF PCP PcP 20 13 43.8 -1.9
GCD Castle Douglas 84.22 336⇑ *e*P **P 20 13 41.1 -1.1**
STR Strasbourg 84.25 326 *e*P **P 20 13 42.6 +0.2**
ELK Elko 84.25 44 ⇑*i*P **P 20 13 43.5 +1.1**
ELK *e**PP pP 20 14 18.4 0.0
ELK *e**SP sP 20 14 35.1 +1.6
ELK *e* 20 16 59.4
ELK pmax pmax
comp=Z,64nm,0.9s
ELK Elko 84.25 44 ⇑*i*P **P 20 13 43.5 +1.1**
comp=Z,64nm,0.9s,mb5.4
ELK *e*PcP PcP 20 13 47.6 +1.8
ELK *e*pP pP 20 14 18.4 0.0
ELK *e*sP sP 20 14 35.1 +1.6
ELK *e*PP PP 20 16 59.4 +0.5
Q09A Carvers 84.29 47 ⇑P **P 20 13 43.7 +1.1**
baz=84,SNR=30
Q09A ⇓S 20 23 53.6
baz=84
LCI Lecce 84.29 315 P **P 20 13 42.8 +0.2**
LCI pmax pmax
comp=Z,160nm,0.9s,mb5.8
LCI Lecce 84.29 315 P **P 20 13 42.8 +0.2**
comp=Z,160nm,0.9s,mb5.8
N12A Wells--Clov Va 84.30 44 ⇑P **P 20 13 44.1 +1.5**
baz=84,SNR=126
N12A ⇓S 20 23 54.7
baz=84
YFT Old Faithful 84.31 39 *e*P **P 20 13 45.1 +2.4**
YFT *e*pP pP 20 14 20.6 +2.0
LIENZ Alp Oberkamor 84.33 324⇑ *i*P **P 20 13 37.4 -5.4**
comp=Z,921nm,1.9s,mb6.2
LIENZ Alp Oberkamor 84.33 324⇑ *i*P **P 20 13 42.5 -0.3**
MTUM Tungsten Hills 84.34 49⇑ *i*P **P 20 13 44.0 +1.2**
MTUM *e*pP pP 20 14 19.0 +0.2
MTUM *e*sP sP 20 14 33.5 -0.4
XDE Dent Fell 84.35 335⇑ *e*P **P 20 13 41.9 -1.0**
XDE AMb AMB 20 13 47.0
comp=Z,1μm,1.2s,mb6.4
STEIN Stein am Rhein 84.37 325⇑ *i*P **P 20 13 41.7 -1.3**
comp=Z,571nm,1.6s,mb6.1
STEIN Stein am Rhein 84.37 325⇑ *i*P **P 20 13 42.1 -0.9**
GMK Mull of Kintyr 84.38 337⇑ *e*P **P 20 13 41.7 -1.3**
V05C Boulder Hill, 84.38 51 ⇓P **P 20 13 44.0 +0.9**
baz=84,SNR=18
V05C ⇑S 20 23 53.9
baz=84
CDU1 Dunnerdale 84.39 335⇑ *e*P **P 20 13 42.0 -1.1**
SNF Seneffe 84.41 329 P **P 20 13 42.0 -1.2**
comp=Z,78nm,1.1s,mb5.3
SNF PCP PcP 20 13 43.7 -2.9
SNF AP pP 20 14 18.0 -1.2
WEIN Weingarten 84.41 325⇑ *i*P **P 20 13 42.5 -0.7**
comp=Z,437nm,1.7s,mb5.9
FUORN Ofenpass 84.42 324⇑ *i*P **P 20 13 42.1 -1.1**
comp=Z,1μm,2.3s,mb6.3
FUORN Ofenpass 84.42 324⇑ *i*P **P 20 13 43.4 +0.2**
LKWY Lake 84.46 39⇑ *i*P **P 20 13 46.1 +2.6**
LKWY *e**PP pP 20 14 20.8 +1.3
LKWY *e* 20 17 01.4
LKWY pmax pmax
comp=Z,202nm,1.0s,mb5.8
LKWY Lake 84.46 39⇑ *i*P **P 20 13 46.0 +2.6**
comp=Z,152nm,1.0s,mb5.7
LKWY *e*PcP PcP 20 13 48.6 +1.8
LKWY *e*pP pP 20 14 20.8 +1.3
LKWY *e*sP sP 20 14 35.4 +0.8
LKWY *e*PP PP 20 17 01.4 +0.8
TRULL Truellikon 84.48 325⇑ *i*P **P 20 13 42.5 -1.0**
comp=Z,595nm,1.4s,mb6.1
TRULL Truellikon 84.48 325⇑ *i*P **P 20 13 42.9 -0.6**
GIVF Givet 84.48 329⇑ *i*P **P 20 13 42.5 -1.0**
comp=Z,532nm,1.2s,mb5.8
GIVF Givet 84.48 329⇑ *i*P **P 20 13 42.5 -1.0**
GIVF pmax pmax
comp=Z,266nm,1.2s,mb5.8
GIVF Givet 84.48 329⇑ *i*P **P 20 13 42.5 -1.0**
comp=Z,266nm,1.2s,mb5.8
GAL1 Galloway 84.48 336⇑ *e*P **P 20 13 42.4 -1.2**
SLE Schleitheim 84.48 325⇑ *i*P **P 20 13 42.7 -0.9**
comp=Z,874nm,2.1s,mb6.1
M13A Montello 84.48 43 ⇑P **P 20 13 44.7 +1.1**
baz=84,SNR=90
M13A ⇓S 20 23 55.6
baz=84
S08C White Mtn Res 84.50 48 P **P 20 13 45.0 +1.4**
baz=84,SNR=393
S08C ⇑S 20 23 58.2
baz=84
DAVOX Davos 84.50 324⇑ *i*P **P 20 13 42.9 -0.7**
comp=Z,471nm,1.1s,mb6.2
DAVOX Davos 84.50 324 LR LR 20 56 26.6
comp=Z,9μm,18.2s,baz=37,slow=39
DAVOX Davos 84.50 324⇑ *i*P **P 20 13 43.6 0.0**
LHO Holmfirth 84.53 334⇑ *e*P **P 20 13 42.5 -1.3**
WILA Wila 84.53 325⇑ *i*P **P 20 13 43.5 -0.3**
comp=Z,672nm,1.6s,mb6.1
WILA Wila 84.53 325⇑ *i*P **P 20 13 43.0 -0.8**
PLONS Plons 84.56 324⇑ *i*P **P 20 13 43.2 -0.7**
comp=Z,799nm,1.8s,mb6.1
PLONS Plons 84.56 324⇑ *i*P **P 20 13 43.4 -0.5**
WLS Welschbruch 84.56 326 *e*P **P 20 13 43.6 -0.4**
DOU Dourbes 84.58 329 P **P 20 13 42.9 -1.2**
comp=Z,52nm,1.1s,mb5.2
DOU PCP PcP 20 13 44.4 -2.9
FLACH Flaach 84.58 325⇑ *i*P **P 20 13 43.2 -0.9**
CDF Champ du Feu 84.60 326⇑ *i*P **P 20 13 43.5 -0.6**
comp=Z,926nm,1.2s,mb6.1
CDF *e*pP pP 20 14 22.2 +2.1
CDF Champ du Feu 84.60 326⇑ *i*P **P 20 13 43.5 -0.6**
CDF *e**PP pP 20 14 22.2 +2.1
CDF pmax pmax
comp=Z,463nm,1.2s,mb6.1
CDF Champ du Feu 84.60 326⇑ *i*P **P 20 13 43.5 -0.6**
comp=Z,463nm,1.2s,mb6.1
CDF *e*pP pP 20 14 22.2 +2.1
IMW Indian Meadow 84.62 40 *e*P **P 20 13 46.1 +1.8**
comp=Z,397nm,0.8s,mb6.2
IMW *e*pP pP 20 14 21.1 +0.8
IMW *e*sP sP 20 14 36.9 +1.5
FLWY Flagg Ranch 84.63 40⇑ *i*P **P 20 13 46.2 +1.9**
comp=Z,392nm,0.8s,mb6.2
FLWY *e*PcP PcP 20 13 48.9 +1.4
FLWY *e*pP pP 20 14 20.1 -0.2
LIBD Limburg 84.63 326 *e*P **P 20 13 44.3 0.0**
FELD Feldberg im Sc 84.64 326⇑ *e*P **P 20 13 43.9 -0.4**
KBI1 Birley Grange 84.64 334⇑ *e*P **P 20 13 42.8 -1.6**
FGMS Monte Sant'Ang 84.67 317 P **P 20 13 44.9 +0.4**
comp=Z,371nm,0.8s,mb6.2
BERNI Berninapass 84.68 324⇑ *i*P **P 20 13 43.4 -1.2**
comp=Z,914nm,1.7s,mb6.2
BERNI Berninapass 84.68 324⇑ *i*P **P 20 13 44.6 0.0**
MABI Malga Bissina 84.69 323 P **P 20 13 45.6 +1.0**
DCID1 Drake Creek 84.69 40 *e*P **P 20 13 47.4 +2.8**
DCID1 *e*pP pP 20 14 22.7 +2.0
DCID1 *e*sP sP 20 14 36.9 +1.2
ZUR Zurich 84.72 325⇑ *i*P **P 20 13 43.6 -1.2**
comp=Z,933nm,3.3s
ZUR Zurich 84.72 325⇑ *i*P **P 20 13 44.1 -0.7**
TIN Tinemaha 84.73 49 ⇓P **P 20 13 45.9 +1.1**
baz=85,SNR=26
TIN ⇑S 20 23 59.8
baz=85
BAIF Baives 84.78 329⇑ *i*P **P 20 13 43.9 -1.1**
comp=Z,180nm,1.0s,mb5.5
BAIF Baives 84.78 329⇑ *i*P **P 20 13 43.9 -1.1**
BAIF pmax pmax
comp=Z,90nm,1.0s,mb5.5
BAIF Baives 84.78 329⇑ *i*P **P 20 13 43.9 -1.1**
comp=Z,90nm,1.0s,mb5.5
GCL Cushendall 84.78 337⇑ *e*P **P 20 13 44.0 -1.0**
N13A West Wendover 84.79 44 ⇑P **P 20 13 46.1 +1.0**
baz=85,SNR=52
N13A ⇑S 20 24 00.3
baz=85
ECH Echery 84.79 326 *e*P **P 20 13 44.5 -0.6**
MOOW Moose Ponds 84.83 40⇑ *i*P **P 20 13 46.4 +1.1**
comp=Z,389nm,0.8s,mb6.2
MOOW *e*PcP PcP 20 13 50.6 +2.2
MOOW *e*pP pP 20 14 23.4 +2.1
MOOW *e*sP sP 20 14 38.3 +1.9
SULZ Sulz-Cheisache 84.83 325⇑ *i*P **P 20 13 44.7 -0.6**
comp=Z,1μm,1.9s,mb6.3
SULZ Sulz-Cheisache 84.83 325⇑ *i*P **P 20 13 44.5 -0.8**
LLS Linth-Limmern 84.88 324⇑ *i*P **P 20 13 44.5 -1.1**
comp=Z,270nm,1.0s,mb5.9
LLS Linth-Limmern 84.88 324⇑ *i*P **P 20 13 45.1 -0.5**
TPAW Teton Pass 84.89 40⇑ *i*P **P 20 13 46.9 +1.3**
comp=Z,400nm,0.8s,mb6.2
TPAW *e*PcP PcP 20 13 49.9 +1.2
TPAW *e*pP pP 20 14 21.5 -0.1
TPAW *e*sP sP 20 14 38.2 +1.5
VDL Val di Lei 84.91 324⇑ *i*P **P 20 13 44.6 -1.1**
comp=Z,518nm,1.1s,mb6.2
VDL Val di Lei 84.91 324⇑ *i*P **P 20 13 45.5 -0.2**
KWE Weaver Farm 84.95 334⇑ *e*P **P 20 13 44.8 -1.1**
S09A Goldfield 84.95 48 ⇓P **P 20 13 46.8 +0.9**
baz=85,SNR=138
S09A ⇑S 20 24 04.0
baz=85
MUO Muotathal 84.98 325⇑ *i*P **P 20 13 45.8 -0.2**
comp=Z,1μm,2.1s,mb6.3
MUO Muotathal 84.98 325⇑ *i*P **P 20 13 45.6 -0.4**
TUE Stuetta 84.98 324 P **P 20 13 45.9 -0.1**
LOHW Long Hollow 84.99 40⇑ *i*P **P 20 13 47.3 +1.2**
comp=Z,399nm,0.8s,mb6.2
LOHW *e*PcP PcP 20 13 50.1 +0.9
LOHW *e*pP pP 20 14 22.6 +0.5
LOHW *e*sP sP 20 14 39.0 +1.8
HVU Hansel Valley 85.01 42⇑ *i*P **P 20 13 47.4 +1.2**
comp=Z,27μm,0.7s
HVU *e*PcP PcP 20 13 51.1 +1.9
HVU *e*sP pP 20 14 21.5 -0.7
HVU *e*sP sP 20 14 39.0 +1.6
WIM Isle of Man 85.05 336⇑ *e*P **P 20 13 45.3 -1.1**
WIM AMb AMB 20 13 48.7
comp=Z,544nm,1.0s,mb6.2
MOF Molkenrain 85.07 326⇑ *e*P **P 20 13 46.0 -0.5**
CING Cingoli 85.11 320 P **P 20 13 47.2 +0.5**
LAO LASA Array 85.13 36⇑ *i*P **P 20 13 47.3 +0.5**
comp=Z,252nm,1.0s,mb5.9
LAO *e*PcP PcP 20 13 50.4 +0.7
LAO *e*pP pP 20 14 22.1 -0.7
LAO *e*sP sP 20 14 39.4 +1.4
LAO *e*PPP 20 17 06.2
BNALP Bannalp 85.15 325⇑ *i*P **P 20 13 45.5 -1.4**
comp=Z,517nm,1.8s,mb6.0
BNALP Bannalp 85.15 325⇑ *i*P **P 20 13 46.3 -0.6**
BBS Basel-Blauen 85.17 326⇑ *e*P **P 20 13 46.5 -0.5**
BALST Balsthal 85.17 325⇑ *i*P **P 20 13 45.6 -1.4**
comp=Z,732nm,1.4s,mb6.2
BALST Balsthal 85.17 325⇑ *i*P **P 20 13 46.1 -0.9**
CWC Cottonwood Cre 85.20 49 ⇓P **P 20 13 47.3 +0.1**
baz=85
CWC ⇓S 20 24 05.3
baz=85
HINF Hinteralfeld 85.22 326⇑ *i*P **P 20 13 46.3 -1.0**
comp=Z,479nm,1.2s,mb5.8
HINF Hinteralfeld 85.22 326⇑ *i*P **P 20 13 46.3 -1.0**
HINF pmax pmax
comp=Z,239nm,1.2s,mb5.8
HINF Hinteralfeld 85.22 326⇑ *i*P **P 20 13 46.3 -1.0**
comp=Z,239nm,1.2s,mb5.8
P12A McGill 85.26 45 ⇓P **P 20 13 48.0 +0.5**
baz=85,SNR=29
P12A ⇓S 20 24 04.7
baz=85
MENF Mencas 85.27 330 *e*P **P 20 13 46.3 -1.2**
AHID Auburn Hatcher 85.29 41⇑ *i*P **P 20 13 48.3 +0.7**
comp=Z,77nm,1.0s,mb5.4
AHID *e*PcP PcP 20 13 51.1 +0.6
AHID *e*pP pP 20 14 23.1 -0.5
AHID *e*sP sP 20 14 40.7 +1.9
AHID *e*PP PP 20 17 08.3 +1.0
HAU Haudompre 85.32 326⇑ *i*P **P 20 13 47.8 +0.1**
comp=Z,408nm,1.2s,mb5.7
HAU *e*R
comp=Z,6μm,17.0s
HAU Haudompre 85.32 326⇑ *i*P **P 20 13 47.8 +0.1**
HAU pmax pmax
comp=Z,204nm,1.2s,mb5.7
HAU MLR MLR
comp=Z,6μm,17.0s
HAU Haudompre 85.32 326⇑ *i*P **P 20 13 47.8 +0.1**
comp=Z,204nm,1.2s,mb5.7
HAU LR LR
comp=Z,6μm,17.0s
FUSIO Fusio 85.33 324⇑ *i*P **P 20 13 45.9 -1.9**
comp=Z,465nm,1.1s,mb6.1
FUSIO Fusio 85.33 324⇑ *i*P **P 20 13 47.4 -0.4**
THEF They Montfort 85.33 327⇑ *e*P **P 20 13 47.1 -0.7**
BOURR Bourrignon 85.35 326⇑ *i*P **P 20 13 46.1 -1.8**
comp=Z,1μm,3.2s
BOURR Bourrignon 85.35 326⇑ *i*P **P 20 13 47.2 -0.7**
HASLI Hasliberg 85.36 325⇑ *i*P **P 20 13 46.3 -1.7**
comp=Z,887nm,1.5s,mb6.3
HASLI Hasliberg 85.36 325⇑ *i*P **P 20 13 47.3 -0.7**
SBC Santa Barbara 85.37 52 ⇓P **P 20 13 48.5 +0.5**
baz=85,SNR=16
SBC ⇑S 20 24 05.8
baz=85
GMM Mts of Mourne 85.41 336⇑ *e*P **P 20 13 46.7 -1.5**
BGU Big Grassy Mou 85.42 43⇑ *i*P **P 20 13 49.2 +1.0**
BGU *e*PcP PcP 20 13 53.7 +2.7
BGU *e*pP pP 20 14 23.8 -0.6
BGU *e*sP sP 20 14 38.8 -0.6
ISA Isabella 85.43 50 ⇑P **P 20 13 48.0 -0.3**
baz=85,SNR=15
ISA ⇓S 20 24 05.8
baz=85
SPUT South Promonto 85.50 43⇑ *i*P **P 20 13 49.9 +1.2**
SPUT *e*PcP PcP 20 13 53.9 +2.5
SPUT *e*pP pP 20 14 24.2 -0.5
WPM1 Penmaenmawr 85.50 335 *e*P **P 20 13 47.5 -1.2**
MUGIO Muggio 85.52 324⇑ *i*P **P 20 13 47.2 -1.5**
comp=Z,553nm,2.2s,mb5.9
MUGIO Muggio 85.52 324⇑ *i*P **P 20 13 47.3 -1.4**
WME Myndd Eilian 85.53 335⇑ *e*P **P 20 13 47.8 -1.0**
WME AMb AMB 20 13 51.1
comp=Z,724nm,1.0s,mb6.4
MURB Monte Urbino 85.54 320 P **P 20 13 49.8 +1.0**
MEZF Maizieres J'vi 85.55 327⇑ *i*P **P 20 13 48.5 -0.4**
comp=Z,979nm,1.2s,mb6.1
MEZF Maizieres J'vi 85.55 327⇑ *i*P **P 20 13 48.5 -0.4**
comp=Z,979nm,1.2s,mb6.4
SBD1 Bryn Du 85.55 334⇑ *e*P **P 20 13 47.9 -1.0**
LOMF Lomont 85.57 326 *e*P **P 20 13 48.3 -0.7**
SKP1 Kophill 85.57 332⇑ *e*P **P 20 13 47.4 -1.6**
CII Carovilli 85.59 318 P **P 20 13 49.8 +0.7**
comp=Z,869nm,1.4s,mb6.3
DAC Darwin (Calif) 85.61 49⇑ *i*P **P 20 13 49.6 +0.4**
DAC *e**PP pP 20 14 24.7 -0.6
DAC *e**SP sP 20 14 41.5 +1.1
DAC pmax pmax
comp=Z,406nm,0.9s,mb6.2
DAC Darwin (Calif) 85.61 49⇑ *i*P **P 20 13 49.6 +0.4**
comp=Z,4μm,0.9s
DAC *e*PcP PcP 20 13 53.6 +1.7
DAC *e*pP pP 20 14 24.7 -0.6
DAC *e*sP sP 20 14 41.5 +1.1
WCB1 Church Bay 85.63 335⇑ *e*P **P 20 13 48.1 -1.2**
WCB1 AMb AMB 20 13 53.8
comp=Z,369nm,1.4s,mb5.9
WLF1 Llynfaes 85.65 335⇑ *e*P **P 20 13 48.4 -1.0**
WLF1 AMb AMB 20 13 51.7
comp=Z,536nm,1.0s,mb6.2
FNVD Fontana Vidola 85.67 321 P **P 20 13 50.3 +0.8**
AQU L'Aquila 85.68 319 P **P 20 13 50.4 +0.9**
AQU pmax pmax
comp=Z,520nm,1.0s,mb6.2
AQU L'Aquila 85.68 319 P **P 20 13 50.5 +1.0**
WIMIS Wimmis 85.68 325⇑ *i*P **P 20 13 47.3 -2.2**
comp=Z,944nm,2.4s,mb6.1
WIMIS Wimmis 85.68 325⇑ *i*P **P 20 13 48.7 -0.8**
HLM1 Long Mynd 85.72 334⇑ *e*P **P 20 13 48.3 -1.4**
YRC Rhoscolyn 85.75 335⇑ *e*P **P 20 13 48.3 -1.5**
YRC AMb AMB 20 13 52.5
comp=Z,512nm,1.1s,mb6.2
SSW Stow on the Wo 85.78 333⇑ *e*P **P 20 13 48.9 -1.1**
HWUT Hardware Ranch 85.80 42⇑ *i*P **P 20 13 51.0 +0.9**
comp=Z,217nm,1.2s,mb5.8
HWUT *e*PcP PcP 20 13 54.4 +1.7
HWUT *e*pP pP 20 14 25.1 -1.1
HWUT *e*sP sP 20 14 40.7 -0.6
HWUT *e*PP PP 20 17 11.5 +0.1
TIP Timpagrande 85.83 315⇑ *i*P **P 20 13 50.2 -0.1**
TIP *e*PcP PcP 20 13 53.7 +0.8
TIP *e*pP pP 20 14 26.6 +0.3
TIP *e*sP sP 20 14 40.2 -1.3
CUC Castrocucco 85.86 316 P **P 20 13 49.3 -1.1**
LKBD Leukerbad 85.88 325⇑ *i*P **P 20 13 47.3 -3.2**
comp=Z,229nm,1.1s,mb5.8
LKBD Leukerbad 85.88 325⇑ *i*P **P 20 13 49.6 -0.9**
SSP1 Stoney Pound 85.89 334⇑ *e*P **P 20 13 49.5 -1.0**
OSI Osito Adit 85.91 51 ⇑P **P 20 13 51.2 +0.6**
baz=86
OSI ⇑S 20 24 11.7
baz=86
YRE Yr Eifl 85.91 335⇑ *e*P **P 20 13 49.5 -1.2**
TORNY Torny 85.92 325⇑ *i*P **P 20 13 47.4 -3.3**
comp=Z,1μm,2.3s,mb6.2
TORNY Torny 85.92 325⇑ *i*P **P 20 13 49.9 -0.8**
MMK Mattmark 85.95 324⇑ *i*P **P 20 13 48.7 -2.2**
comp=Z,680nm,1.6s,mb6.1
MMK Mattmark 85.95 324⇑ *i*P **P 20 13 50.6 -0.3**
HAE Alders End 85.98 333⇑ *e*P **P 20 13 49.7 -1.3**
HAE AMb AMB 20 13 53.2
comp=Z,685nm,0.9s,mb6.4
DUG Dugway 86.02 44⇑ *i*P **P 20 13 52.3 +1.1**
DUG pmax pmax
comp=Z,289nm,1.5s,mb5.8
DUG Dugway 86.02 44⇑ *i*P **P 20 13 52.3 +1.1**
comp=Z,289nm,1.5s,mb5.8
BRANT Les Verrieres 86.04 326⇑ *i*P **P 20 13 49.6 -1.7**
comp=Z,596nm,2.1s,mb5.9

BRANT Les Verrieres 86.04 326⇑iP P 20 13 50.6 -0.7
TPNV Topopah Spring 86.04 48⇑iP P 20 13 51.9 +0.6
TPNV e*PP pP 20 14 26.6 -0.8
TPNV pmax pmax
comp=Z,197nm,1.3s,mb5.7
TPNV Topopah Spring 86.04 48⇑iP P 20 13 51.9 +0.6
comp=Z,193nm,1.3s,mb5.7
TPNV ePcP PcP 20 13 56.3 +2.5
TPNV epP pP 20 14 26.6 -0.8
RFI Roccamonfina 86.05 318 P P 20 13 52.5 +1.1
comp=Z,42nm,1.1s,mb5.1
SENIN Lac Senin 86.06 325⇑iP P 20 13 49.9 -1.5
comp=Z,797nm,2.3s,mb6.0
SENIN Lac Senin 86.06 325⇑iP P 20 13 50.8 -0.6
VLC Villacollemand 86.06 322⇑iP P 20 13 50.5 -0.9
comp=Z,88nm,3.3s
VLC epP pP 20 14 27.6 +0.1
VLC esP sP 20 14 42.7 +0.1
SWN1 Swindon 86.12 333⇑eP P 20 13 50.7 -1.0
NOQ North Oquirrh 86.12 43⇑iP P 20 13 52.8 +1.1
comp=Z,518nm,1.4s,mb6.1
NOQ i PcP PcP 20 13 57.0 +2.9
NOQ epP pP 20 14 28.2 +0.4
NOQ sP sP 20 14 42.9 0.0
BOB Bobbio (Coli) 86.12 323 P P 20 13 50.5 -1.2
BW06 Boulder Array 86.13 40⇑iP P 20 13 52.0 +0.3
comp=Z,157nm,1.6s,mb5.5
BW06 epP pP 20 14 27.3 -0.6
BW06 esP sP 20 14 41.8 -1.1
BW06 ePP PP 20 17 15.1 +1.1
PDAR Pinedale Array 86.13 40 P P 20 13 52.1 +0.4
comp=Z,67nm,0.9s,mb5.4,baz=297,slow=1.3,SNR=148
PDAR pP pP 20 14 26.8 -1.1
comp=Z,28nm,0.8s,baz=6.4,slow=0.8,SNR=3.1
PDAR PP PP 20 17 07.8 -6.2
comp=Z,11nm,1.0s,baz=282,slow=4.5,SNR=9.1
PDAR PKKPbc PKKPbc 20 31 49.2 -0.5
comp=Z,17nm,1.2s,baz=116,slow=3.4,SNR=23
PDAR PKPPKP 20 39 41.5
comp=Z,0.3nm,0.4s,baz=186,slow=1.5,SNR=3.9
CERT Cerreto 86.18 319 P P 20 13 51.3 -0.7
MCH1 Michaelchurch 86.19 334⇑eP P 20 13 50.3 -1.7
DIX Grande Dixence 86.20 325⇑iP P 20 13 50.3 -1.8
comp=Z,280nm,1.1s,mb5.9
DIX Grande Dixence 86.20 325⇑iP P 20 13 51.8 -0.3
SNCC San Nicolas Is 86.22 52 ⇑P P 20 13 52.7 +0.5
baz=86,SNR=14
SNCC ⇑S 20 24 15.3
baz=86
HTR Trewern Hill 86.22 334⇑eP P 20 13 50.8 -1.4
GRYON Gryon 86.23 325⇑iP P 20 13 50.6 -1.6
comp=Z,285nm,1.4s,mb5.8
GRYON Gryon 86.23 325⇑iP P 20 13 51.3 -0.9
AIGLE Aigle 86.24 325⇑iP P 20 13 50.6 -1.7
comp=Z,570nm,2.3s,mb5.9
AIGLE Aigle 86.24 325⇑iP P 20 13 51.3 -1.0
CTU Camp Tracy 86.30 43 eP P 20 13 53.7 +1.1
comp=Z,68nm,1.1s,mb5.3
CTU ePcP PcP 20 13 57.6 +2.7
CTU epP pP 20 14 28.3 -0.4
CTU esP sP 20 14 45.0 +1.2
SALAN Lac Salanfe 86.37 325⇑iP P 20 13 50.8 -2.1
comp=Z,210nm,1.2s,mb5.7
SALAN Lac Salanfe 86.37 325⇑iP P 20 13 52.1 -0.8
DSB Dublin 86.37 336⇑iP P 20 13 51.4 -1.6
comp=Z,241nm,1.0s,mb5.9
DSB PcP PcP 20 13 54.4 -0.8
OG01 Vacheresse 86.38 325 eP P 20 13 51.9 -1.0
DLF Lyons Farm 86.39 336⇑iP P 20 13 51.8 -1.2
HGH Gray Hill 86.40 333⇑eP P 20 13 51.5 -1.5
HGH AMb AMB 20 13 55.9
comp=Z,261nm,1.1s,mb5.9
GIMEL Gimel 86.43 325⇑iP P 20 13 51.3 -1.9
comp=Z,660nm,2.5s,mb5.9
GIMEL Gimel 86.43 325⇑iP P 20 13 52.5 -0.7
GRFL Gerfalco 86.45 321 P P 20 13 52.7 -0.6
comp=Z,130nm,1.2s,mb5.5
CABF La Chapelle 86.46 326⇑iP P 20 13 52.3 -1.0
comp=Z,434nm,1.2s,mb5.8
CABF La Chapelle 86.46 326⇑iP P 20 13 52.3 -1.0
CABF pmax pmax
comp=Z,217nm,1.2s,mb5.8
CABF La Chapelle 86.46 326⇑iP P 20 13 52.3 -1.0
comp=Z,217nm,1.2s,mb5.8
EMV Vieux Emosson 86.47 325⇑iP P 20 13 51.3 -2.1
comp=Z,330nm,1.4s,mb5.9
EMV Vieux Emosson 86.47 325⇑iP P 20 13 52.6 -0.8
MA9 Marino 86.48 319 P P 20 13 54.9 +1.5
comp=Z,353nm,1.2s,mb6.0
SWK Warminster 86.58 333⇑eP P 20 13 52.8 -1.1
DCN Croghan 86.60 337⇑iP P 20 13 53.1 -0.9
NLU North Lily Min 86.61 43⇑iP P 20 13 55.1 +1.1
NLU ePcP PcP 20 13 59.2 +3.0
NLU epP pP 20 14 29.8 -0.4
NLU esP sP 20 14 46.8 +1.5
GSC Goldstone 86.72 49 ⇑P P 20 13 55.0 +0.4
baz=87,SNR=73
GSC ⇑S 20 24 20.8
baz=87
FMP Fort Macarthur 86.75 51 ⇓P P 20 13 54.9 +0.2
baz=87
FMP ⇓S 20 24 19.6
baz=87
DAU Daniels Canyon 86.77 43 eP P 20 13 56.5 +1.6
DAU e*PP pP 20 14 31.5 +0.5
MPU Maple Canyon 86.82 43 eP P 20 13 56.3 +1.2
comp=Z,317nm,1.5s,mb5.9
MPU ePcP PcP 20 14 00.3 +3.2
MPU epP pP 20 14 31.4 +0.1
MPU esP sP 20 14 45.4 -0.9
RSL Roselend 86.87 325⇑eP P 20 13 54.4 -0.9
LPL La Plagne 86.94 325⇑iP P 20 13 55.1 -0.6
comp=Z,105nm,0.7s,mb5.5
LPL La Plagne 86.94 325⇑iP P 20 13 55.1 -0.6
LPL pmax pmax
comp=Z,53nm,0.7s,mb5.5
LPL La Plagne 86.94 325⇑iP P 20 13 55.1 -0.6
comp=Z,52nm,0.7s,mb5.5
LPG La Plagne 86.94 325⇑iP P 20 13 55.2 -0.5
comp=Z,240nm,1.0s,mb5.7
LPG La Plagne 86.94 325⇑iP P 20 13 55.2 -0.5
LPG pmax pmax
comp=Z,120nm,1.0s,mb5.7
LPG La Plagne 86.94 325⇑iP P 20 13 55.2 -0.5
comp=Z,120nm,1.0s,mb5.7
LOR Lormes 87.01 327⇑iP P 20 13 54.7 -1.3
comp=Z,383nm,1.5s,mb5.7
LOR eR
comp=Z,6μm,17.0s
LOR Lormes 87.01 327⇑iP P 20 13 54.7 -1.3
LOR pmax pmax
comp=Z,191nm,1.5s,mb5.7
LOR MLR MLR
comp=Z,6μm,17.0s
LOR Lormes 87.01 327⇑iP P 20 13 54.7 -1.3
comp=Z,191nm,1.5s,mb5.7
LOR LR LR
comp=Z,6μm,17.0s
ULM Lac du Bonnet 87.05 28 P P 20 13 56.1 -0.1
comp=Z,219nm,1.0s,mb5.9,baz=320,slow=5.5,SNR=87
ULM pP pP 20 14 30.6 -1.8
comp=Z,90nm,1.1s,baz=328,slow=4.0,SNR=2.8
ULM PKKPbc PKKPbc 20 31 46.0 -1.5
comp=Z,12nm,0.9s,baz=135,slow=2.1,SNR=11
ULM Lac du Bonnet 87.05 28 P P 20 13 56.1 -0.1
ULM pP pP 20 14 30.6 -1.7
ULM PKKPbc PKKPbc 20 31 46.0 -1.6
SCLL Scilla 87.05 315 P P 20 13 55.9 -0.3
comp=Z,44nm,0.8s,mb5.3
FIN Finale Ligure 87.14 323 P P 20 13 55.5 -1.2
FIN pmax pmax
comp=Z,164nm,1.2s,mb5.7
FIN Finale Ligure 87.14 323 P P 20 13 55.5 -1.2
comp=Z,164nm,1.2s,mb5.7
OG05 Jujurieux 87.17 326 eP P 20 13 56.1 -0.7
TUQ Turquoise Mtn. 87.20 49 ⇑P P 20 13 57.0 +0.1
baz=87,SNR=51
TUQ ⇑S 20 24 24.9
baz=87
ARUT Antelope Range 87.22 46 eP P 20 13 58.3 +1.3
ARUT e*PP pP 20 14 37.1 +3.9
HEX Exmoor 87.23 333⇑eP P 20 13 55.7 -1.4
BNI Bardonecchia 87.30 324⇑iP P 20 13 56.4 -1.0
comp=Z,21μm,1.1s
BNI epP PcP 20 14 00.6 +1.3
BNI epP pP 20 14 32.2 -1.5
BNI esP sP 20 14 48.4 -0.3
SSF Saint Saulge 87.32 327⇑iP P 20 13 56.2 -1.3
comp=Z,154nm,1.1s,mb5.5
SSF Saint Saulge 87.32 327⇑iP P 20 13 56.2 -1.3
SSF pmax pmax
comp=Z,77nm,1.1s,mb5.5
SSF Saint Saulge 87.32 327⇑iP P 20 13 56.2 -1.3
comp=Z,77nm,1.1s,mb5.5
FURI Furi 87.33 279 eP P 20 13 53.8 -3.8
FURI PKP PP 20 17 20.9 -2.8
FURI eS 20 24 17.6
OG22 Abries 87.34 324 eP P 20 13 57.3 -0.3
CCUT Cedar City 87.42 46⇑iP P 20 13 59.0 +1.1
CCUT ePcP PcP 20 14 02.0 +2.2
CCUT epP pP 20 14 32.5 -1.7
CCUT esP sP 20 14 51.7 +2.5
GDM Grand'Maison 87.47 325 eP P 20 13 57.6 -0.6
SMF Signal de Mont 87.48 327⇑iP P 20 13 57.0 -1.3
comp=Z,220nm,1.0s,mb5.6
SMF Signal de Mont 87.48 327⇑iP P 20 13 57.0 -1.3
SMF pmax pmax
comp=Z,110nm,1.0s,mb5.6
SMF Signal de Mont 87.48 327⇑iP P 20 13 57.0 -1.3
comp=Z,110nm,1.0s,mb5.6
MBDF Montbardon 87.49 324⇑iP P 20 13 57.0 -1.3
comp=Z,87nm,0.7s,mb5.4
MBDF Montbardon 87.49 324⇑iP P 20 13 57.0 -1.3
MBDF pmax pmax
comp=Z,44nm,0.7s,mb5.4
MBDF Montbardon 87.49 324⇑iP P 20 13 57.0 -1.3
comp=Z,44nm,0.7s,mb5.4
MSU Marysvale 87.50 45 eP P 20 14 00.1 +1.7
MSU e*PP pP 20 14 36.4 +1.8
MSU Marysvale 87.50 45 eP P 20 14 00.1 +1.8
MSU epP pP 20 14 36.4 +1.8
MSU esP sP 20 14 50.1 +0.5
TMUT Trail Mountain 87.54 44⇑iP P 20 13 59.9 +1.3
TMUT ePcP PcP 20 14 02.5 +2.1
TMUT epP pP 20 14 34.6 -0.2
TMUT esP sP 20 14 50.7 +0.8
HYF Humbligny 87.56 328⇑iP P 20 13 58.0 -0.6
STV Sta Anna Valdi 87.56 323 P P 20 13 56.4 -2.3
AVF Avril sur Loir 87.59 327⇑iP P 20 13 57.5 -1.3
comp=Z,129nm,0.9s,mb5.5
AVF Avril sur Loir 87.59 327⇑iP P 20 13 57.5 -1.3
AVF pmax pmax
comp=Z,65nm,0.9s,mb5.5
AVF Avril sur Loir 87.59 327⇑iP P 20 13 57.5 -1.3
comp=Z,64nm,0.9s,mb5.5
GRN Grenoble 87.62 325 eP P 20 13 58.6 -0.3
SAOF Saorge 87.63 323⇑eP P 20 13 57.9 -1.1
SURF Saint Ours 87.65 324 eP P 20 13 59.6 +0.5
AUTN L'Aution 87.69 323 eP P 20 13 58.0 -1.3
LDF La Druitiere 87.73 330⇑iP P 20 13 58.0 -1.5
comp=Z,37nm,0.7s,mb5.0
LDF La Druitiere 87.73 330⇑iP P 20 13 58.0 -1.5
LDF pmax pmax
comp=Z,19nm,0.7s,mb5.0
LDF La Druitiere 87.73 330⇑iP P 20 13 58.0 -1.5
comp=Z,18nm,0.7s,mb5.0
FLN La Foliniere 87.75 330⇑iP P 20 13 58.1 -1.5
comp=Z,167nm,1.3s,mb5.4
FLN eR
comp=Z,5μm,22.5s
FLN La Foliniere 87.75 330⇑iP P 20 13 58.1 -1.5
FLN pmax pmax
comp=Z,84nm,1.3s,mb5.4
FLN MLR MLR
comp=Z,5μm,22.5s
FLN La Foliniere 87.75 330⇑iP P 20 13 58.1 -1.5
comp=Z,84nm,1.3s,mb5.4
FLN LR LR
comp=Z,5μm,22.5s
SBF Sospel 87.78 323⇑iP P 20 13 58.3 -1.4
comp=Z,270nm,1.0s,mb5.7
SBF Sospel 87.78 323⇑iP P 20 13 58.3 -1.4
SBF pmax pmax
comp=Z,135nm,1.0s,mb5.7
SBF Sospel 87.78 323⇑iP P 20 13 58.3 -1.4
comp=Z,135nm,1.0s,mb5.7
ORIF Oris-en-Rattie 87.79 325⇑iP P 20 13 58.8 -0.9
comp=Z,236nm,1.3s,mb5.5
ORIF eR
comp=Z,6μm,21.2s
ORIF Oris-en-Rattie 87.79 325⇑iP P 20 13 58.8 -0.9
ORIF pmax pmax
comp=Z,118nm,1.3s,mb5.6
ORIF Oris-en-Rattie 87.79 325⇑iP P 20 13 58.8 -0.9
comp=Z,118nm,1.3s,mb5.6
LUCERM Luceram 87.81 323⇑eP P 20 13 58.4 -1.4
MNO Monte Soro 87.87 315 P P 20 14 00.8 +0.7
MNO pmax pmax
comp=Z,101nm,0.1s,mb6.6
MNO Monte Soro 87.87 315 P P 20 14 00.8 +0.7
comp=Z,101nm,0.1s,mb6.6
MVIF Mont Vial 87.90 323⇑eP P 20 13 59.2 -1.1
REVF Revere 87.90 323 eP P 20 13 59.1 -1.2
PGF Pioggiola 87.91 321⇑iP P 20 13 59.3 -1.0
comp=Z,178nm,1.2s,mb5.5
PGF Pioggiola 87.91 321⇑iP P 20 13 59.3 -1.0
PGF pmax pmax
comp=Z,89nm,1.2s,mb5.5
PGF Pioggiola 87.91 321⇑iP P 20 13 59.3 -1.0
comp=Z,89nm,1.2s,mb5.5
W12A Cal Nev Ari 87.95 48 ⇑P P 20 14 00.9 +0.4
baz=88,SNR=5.8
W12A ⇑S 20 24 32.3
baz=88
BGF Bois d'Agland 88.00 327⇑iP P 20 13 59.6 -1.1
comp=Z,196nm,1.2s,mb5.5
BGF Bois d'Agland 88.00 327⇑iP P 20 13 59.6 -1.1
BGF pmax pmax
comp=Z,98nm,1.2s,mb5.5
BGF Bois d'Agland 88.00 327⇑iP P 20 13 59.6 -1.1
comp=Z,98nm,1.2s,mb5.5
CORF Corte 88.01 321 eP P 20 14 00.0 -0.8
PFO Pinyon Flat Ob 88.01 51 P P 20 14 01.0 +0.2
comp=Z,458nm,1.6s,mb6.1,SNR=33
PFO Pinyon Flat Ob 88.01 51 ⇑P P 20 14 00.9 +0.2
baz=88,SNR=49
PFO ⇓S 20 24 31.9
baz=88
109C Camp Elliot, M 88.03 51 ⇓P P 20 14 01.1 +0.2
baz=88
109C ⇓S 20 24 31.8
baz=88
RSSD Black Hills 88.04 36⇑iP P 20 14 01.2 +0.3
RSSD e*PP pP 20 14 35.8 -1.4
RSSD e 20 17 31.3
RSSD pmax pmax
comp=Z,228nm,1.1s,mb5.9
RSSD Black Hills 88.04 36⇑iP P 20 14 01.2 +0.2
comp=Z,205nm,1.1s,mb5.9
RSSD ePcP PcP 20 14 03.5 +0.9
RSSD epP pP 20 14 35.8 -1.4
RSSD esP sP 20 14 50.6 -1.7
RSSD ePP PP 20 17 31.3 +1.9
SRU San Rafael 88.06 43⇑iP P 20 14 01.9 +0.9
SRU e*PP pP 20 14 36.9 -0.4
SRU e*SP sP 20 14 53.5 +1.1
SRU pmax pmax
comp=Z,135nm,1.0s,mb5.7
SRU San Rafael 88.06 43⇑iP P 20 14 01.9 +0.8
comp=Z,135nm,1.0s,mb5.7
SRU ePcP PcP 20 14 04.5 +1.8
SRU epP pP 20 14 36.9 -0.5
SRU esP sP 20 14 53.5 +1.1
PLDF La Plantade 88.08 326 eP P 20 14 00.7 -0.4
OG25 Le Caire 88.09 324 eP P 20 13 59.9 -1.3
OG25 Le Caire 88.09 324 eP P 20 13 59.2 -2.0
OG25 eP 20 13 59.9
RWWY Rawlins 88.14 40⇑iP P 20 14 02.1 +0.7
comp=Z,74nm,0.6s,mb5.7
RWWY ePcP PcP 20 14 04.3 +1.3
RWWY epP pP 20 14 36.6 -1.1
RWWY esP sP 20 14 51.7 -1.0
GRR Gorron 88.20 330⇑iP P 20 14 00.4 -1.3
comp=Z,90nm,0.8s,mb5.3
GRR Gorron 88.20 330⇑iP P 20 14 00.4 -1.3
GRR pmax pmax
comp=Z,45nm,0.8s,mb5.3
GRR Gorron 88.20 330⇑iP P 20 14 00.4 -1.3
comp=Z,45nm,0.8s,mb5.3
AGO Saint Agoulin 88.25 327 eP P 20 14 00.9 -1.0
OCF Saint Nazaire 88.32 325 eP P 20 14 01.5 -0.7
OG26 St.-Nazaire-De 88.32 325 eP P 20 14 01.5 -0.7
HVZN Vizzini 88.36 314 P P 20 14 02.9 +0.5
COLF Collangettes 88.39 326⇑eP P 20 14 02.1 -0.5
FRF La Foret Royal 88.39 323⇑iP P 20 14 01.1 -1.5
comp=Z,168nm,1.2s,mb5.5
FRF La Foret Royal 88.39 323⇑iP P 20 14 01.1 -1.5
FRF pmax pmax
comp=Z,84nm,1.2s,mb5.5
FRF La Foret Royal 88.39 323⇑iP P 20 14 01.1 -1.5
comp=Z,84nm,1.2s,mb5.5
SLAT Slait 88.41 288 i P P 20 14 03.5 +0.9
baz=61,slow=6.2
SLAT AMb AMB 20 14 09.4
comp=Z,108nm,2.3s,mb5.3
SLAT eS 20 24 16.5
VIVF Saint-Julien-l 88.42 325⇑iP P 20 14 01.7 -1.0
comp=Z,354nm,1.2s,mb5.8
VIVF Saint-Julien-l 88.42 325⇑iP P 20 14 01.7 -1.0
VIVF pmax pmax
comp=Z,177nm,1.2s,mb5.8
VIVF Saint-Julien-l 88.42 325⇑iP P 20 14 01.7 -1.0
comp=Z,177nm,1.2s,mb5.8
OSPF L'Ospedale 88.43 321⇑eP P 20 14 02.1 -0.7
STOF St-Etienne Org 88.44 324⇑eP P 20 14 02.2 -0.6
TCF Toulx Ste Croi 88.49 327⇑iP P 20 14 02.0 -1.0
comp=Z,98nm,0.8s,mb5.4
TCF epP pP 20 14 40.7 +1.3
TCF Toulx Ste Croi 88.49 327⇑iP P 20 14 02.0 -1.0
TCF e*PP pP 20 14 40.7 +1.3
TCF pmax pmax
comp=Z,49nm,0.8s,mb5.4
TCF Toulx Ste Croi 88.49 327⇑iP P 20 14 02.0 -1.0
comp=Z,49nm,0.8s,mb5.4
TCF epP pP 20 14 40.7 +1.3
PYM Petit Puy Mans 88.53 327 eP P 20 14 03.1 -0.1
CGW Gweek 88.55 334 eP P 20 14 01.5 -1.8
BC3 Big Chuckw Mtn 88.63 50 ⇓P P 20 14 04.1 +0.4
baz=88,SNR=42
BC3 ⇑S 20 24 38.7
baz=88
SMRF Simiane la Rot 88.63 324⇑iP P 20 14 02.8 -0.9
comp=Z,192nm,1.4s,mb5.5
SMRF Simiane la Rot 88.63 324⇑iP P 20 14 02.8 -0.9
comp=Z,192nm,1.4s,mb5.8
LMR La Mourre 88.63 323⇑iP P 20 14 02.4 -1.3
comp=Z,337nm,1.2s,mb5.9
LMR La Mourre 88.63 323⇑iP P 20 14 02.4 -1.3
LMR pmax pmax
comp=Z,169nm,1.2s,mb5.8
LMR La Mourre 88.63 323⇑iP P 20 14 02.4 -1.3
comp=Z,169nm,1.2s,mb5.8
CPZ Penzance 88.64 334 eP P 20 14 02.3 -1.4
CPZ AMb AMB 20 14 08.5
comp=Z,188nm,1.5s,mb5.8
VILF Villemus 88.65 324 eP P 20 14 03.1 -0.7
TAVF Tavernes 88.65 324 eP P 20 14 03.6 -0.2
VERF Verneugheol 88.77 327 eP P 20 14 03.5 -0.9
LBL Lubilhac 88.81 326 eP P 20 14 04.0 -0.6
PUYF Puyloubier 88.89 324 eP P 20 14 04.1 -0.8
PRAF Pradon 88.95 324 eP P 20 14 04.8 -0.4
TREF Trevaresse 88.98 324 eP P 20 14 05.7 +0.4
SGMF Saint Gilles 89.00 331⇑iP P 20 14 04.2 -1.2
comp=Z,186nm,0.9s,mb5.7
SGMF Saint Gilles 89.00 331⇑iP P 20 14 04.2 -1.2
SGMF pmax pmax
comp=Z,93nm,0.9s,mb5.7
SGMF Saint Gilles 89.00 331⇑iP P 20 14 04.2 -1.2
comp=Z,93nm,0.9s,mb5.7
FRNF Fournols 89.01 327 eP P 20 14 06.3 +0.8
BERF Bertagne 89.05 324 eP P 20 14 05.7 0.0
X13A Yucca 89.06 48 P P 20 14 06.6 +0.9
baz=89,SNR=40
X13A ⇓S 20 24 43.5
baz=89
W14A Seligman 89.12 48 ⇓P P 20 14 07.0 +1.0
baz=89,SNR=51
W14A ⇓S 20 24 43.7
baz=89
DGI Dorgali Grotta 89.15 319 P P 20 14 05.7 -0.4
Y12C Blythe 89.16 49 ⇑P P 20 14 06.8 +0.6
baz=89,SNR=28
Y12C ⇓S 20 24 42.6
baz=89
ROSF Rostrenen 89.22 332⇑iP P 20 14 05.5 -1.0
comp=Z,377nm,1.0s,mb6.0
ROSF Rostrenen 89.22 332⇑iP P 20 14 05.5 -1.0
ROSF pmax pmax
comp=Z,188nm,1.0s,mb6.0
ROSF Rostrenen 89.22 332⇑iP P 20 14 05.5 -1.0
comp=Z,188nm,1.0s,mb6.0
MFF Saint Martin d 89.29 329⇑iP P 20 14 06.0 -0.8
comp=Z,520nm,1.2s,mb6.0
MFF Saint Martin d 89.29 329⇑iP P 20 14 06.0 -0.8
MFF pmax pmax
comp=Z,260nm,1.2s,mb6.0
MFF Saint Martin d 89.29 329⇑iP P 20 14 06.0 -0.8
comp=Z,260nm,1.2s,mb6.0
PHWY Pilot Hill 89.34 39 eP P 20 14 08.0 +1.0
PHWY epP pP 20 14 42.1 -1.3
PHWY esP sP 20 14 59.6 +1.2
LASF Ste Croix 89.39 325⇑iP P 20 14 06.4 -0.8
comp=Z,368nm,1.5s,mb5.8
PV10 Paradox Valley 89.41 43 eP P 20 14 07.3 -0.1
PV10 epP pP 20 14 45.2 +1.5
GLA Glamis 89.41 50 ⇑P P 20 14 08.0 +0.6
baz=89,SNR=50
GLA ⇓S 20 24 44.1
baz=89
QUIF Quistinic 89.52 331⇑iP P 20 14 06.5 -1.4
comp=Z,153nm,1.0s,mb5.6
QUIF Quistinic 89.52 331⇑iP P 20 14 06.5 -1.4
QUIF pmax pmax
comp=Z,76nm,1.0s,mb5.6
QUIF Quistinic 89.52 331⇑iP P 20 14 06.5 -1.4
comp=Z,76nm,1.0s,mb5.6
RJF Les Rejaudoux 89.55 327⇑iP P 20 14 07.5 -0.5
comp=Z,324nm,1.1s,mb5.9
RJF eR
comp=Z,5μm,17.0s
RJF Les Rejaudoux 89.55 327⇑iP P 20 14 07.5 -0.5
RJF pmax pmax
comp=Z,162nm,1.1s,mb5.9
RJF MLR MLR
comp=Z,5μm,17.0s
RJF Les Rejaudoux 89.55 327⇑iP P 20 14 07.5 -0.5
comp=Z,162nm,1.1s,mb5.9
RJF LR LR
comp=Z,5μm,17.0s
Y13A Salome 89.56 49 ⇓P P 20 14 08.9 +0.9
baz=89,SNR=33
Y13A ⇑S 20 24 46.2
baz=89
CAF Calviac 89.59 327⇑iP P 20 14 07.7 -0.5
comp=Z,432nm,1.2s,mb6.0
CAF Calviac 89.59 327⇑iP P 20 14 07.7 -0.5
CAF pmax pmax
comp=Z,216nm,1.2s,mb6.0
CAF Calviac 89.59 327⇑iP P 20 14 07.7 -0.5
comp=Z,216nm,1.2s,mb6.0
W15A Williams 89.64 47 ⇑P P 20 14 10.0 +1.6
baz=90,SNR=42
W15A ⇓S 20 24 49.0
baz=90
X14A Yava 89.72 48 ⇓P P 20 14 10.2 +1.4
baz=90,SNR=66
X14A ⇑S 20 24 48.7
baz=90
PV01 Paradox Valley 89.85 43 eP P 20 14 11.0 +1.6
PV01 epP pP 20 14 47.4 +1.7
PV01 esP sP 20 15 03.8 +3.0
VSL Villasalto 89.85 319⇑iP P 20 14 08.3 -1.1
comp=Z,110nm,1.1s,mb5.7
VSL epP pP 20 14 47.7 +1.9
VSL esP sP 20 14 58.3 -2.5
LRYF La Roche-sur-Y 89.91 330 eP P 20 14 09.0 -0.7
MATF Mathat 89.95 328 eP P 20 14 09.9 0.0
WUAZ Wupatki 89.96 46⇑iP P 20 14 11.3 +1.4
comp=Z,102nm,1.0s,mb5.7
WUAZ epP pP 20 14 46.5 +0.2
WUAZ esP sP 20 15 00.6 -0.7
WUAZ ePP PP 20 17 44.5 -0.2
Y14A Wickenburg 90.00 48 ⇑P P 20 14 10.9 +0.8
baz=90,SNR=31
Y14A ⇓S 20 24 51.0
baz=90

SMCO Snowmass 90.02 41⇑iP P 20 14 11.8 +1.6
comp=Z,25nm,1.2s,mb5.0
SMCO epP pP 20 14 46.7 +0.1
X15A Humboldt 90.11 48 P P 20 14 12.1 +1.5
baz=90,SNR=93
X15A ⇓S 20 24 53.0
baz=90
LFF La Frestale 90.19 327⇑iP P 20 14 10.5 -0.5
comp=Z,626nm,1.2s,mb6.1
LFF La Frestale 90.19 327⇑iP P 20 14 10.5 -0.5
LFF pmax pmax
comp=Z,313nm,1.2s,mb6.1
LFF La Frestale 90.19 327⇑iP P 20 14 10.5 -0.5
comp=Z,313nm,1.2s,mb6.1
ISCO Idaho Springs 90.33 40⇑iP P 20 14 13.0 +1.4
ISCO e*PP pP 20 14 47.5 -0.5
ISCO e 20 17 47.3
ISCO pmax pmax
comp=Z,61nm,1.0s,mb5.5
ISCO Idaho Springs 90.33 40⇑iP P 20 14 13.0 +1.3
comp=Z,57nm,1.0s,mb5.5
ISCO e 20 14 17.3
ISCO epP pP 20 14 47.5 -0.5
ISCO ePP PP 20 17 47.3 -0.3
OLEF Ile d'Oleron 90.33 329 eP P 20 14 10.9 -0.7
Z14A Wintersburg 90.41 49 ⇓P P 20 14 12.8 +0.7
baz=90,SNR=12
Z14A ⇑S 20 24 54.7
baz=90
MVCO Mesa Verde 90.52 44⇑iP P 20 14 13.9 +1.4
comp=Z,370nm,1.3s,mb6.2
MVCO epP pP 20 14 49.4 +0.5
MVCO esP sP 20 15 05.4 +1.4
MVCO ePP PP 20 17 48.4 -0.7
EYMN Ely 90.61 27⇑iP P 20 14 12.8 -0.1
comp=Z,3µm,1.0s
EYMN epP pP 20 14 47.7 -1.6
EYMN esP sP 20 15 02.5 -1.9
EYMN ePP PP 20 17 49.9 0.0
MTLF Montolieu 90.72 325⇑iP P 20 14 12.4 -1.1
comp=Z,229nm,1.4s,mb5.7
MTLF Montolieu 90.72 325⇑iP P 20 14 12.4 -1.1
MTLF pmax pmax
comp=Z,115nm,1.4s,mb5.7
MTLF Montolieu 90.72 325⇑iP P 20 14 12.4 -1.1
comp=Z,115nm,1.4s,mb5.7
PPT Papeete 90.76 110 eSS SS 20 31 04.7 +1.6
comp=Z,3µm,25.8s
LRDF Laroque-de-Fa 90.88 325 eP P 20 14 13.4 -0.8
SCHQ Schefferville 90.96 10 P P 20 14 14.4 -0.1
comp=Z,196nm,1.0s,mb6.1,baz=355,slow=5.7,SNR=59
SCHQ PKKPbc PKKPbc 20 31 35.7 -2.2
comp=Z,14nm,0.7s,baz=167,slow=1.7,SNR=20
SCHQ LR LR 20 55 13.2
comp=Z,2µm,21.2s,baz=344,slow=35
EJON La Jonquera 91.07 325 P P 20 14 15.7 +0.6
comp=Z,14nm,0.9s,mb5.0
FILF Fillols 91.15 325 eP P 20 14 15.1 -0.3
CARF Carcanieres 91.25 325 eP P 20 14 14.5 -1.4
115A Sonoran Desert 91.30 49 ⇓P P 20 14 17.2 +1.0
baz=91,SNR=18
115A ⇓S 20 25 02.4
baz=91
VALF Valcebollere 91.53 325 eP P 20 14 16.5 -0.7
MLS Moulis 91.55 326 eP P 20 14 16.3 -1.0
116A Eloy 91.73 49 ⇑P P 20 14 19.1 +1.0
baz=92,SNR=17
116A ⇓S 20 25 08.2
baz=92
EPF Esparros 91.84 326⇑iP P 20 14 17.4 -1.3
comp=Z,38nm,0.9s,mb5.1
EPF Esparros 91.84 326⇑iP P 20 14 17.4 -1.3
EPF pmax pmax
comp=Z,19nm,0.9s,mb5.1
EPF Esparros 91.84 326⇑iP P 20 14 17.4 -1.3
comp=Z,19nm,0.9s,mb5.1
SDCO Great Sand Dun 91.85 42 P P 20 14 20.7 +2.0
ECSD EROS,Sioux Fal 91.86 33⇑iP P 20 14 18.8 +0.1
comp=Z,101nm,1.3s,mb5.7
ECSD epP pP 20 14 53.4 -1.7
ECSD ePP PP 20 18 01.5 +1.8
RESF Ens 92.02 326 eP P 20 14 19.5 0.0
VIEF Viey 92.10 326 eP P 20 14 19.8 -0.1
EMIR Miracle 92.14 325 P P 20 14 21.2 +1.2
comp=Z,35nm,1.0s,mb5.3
REYF Montagne du Re 92.15 327 eP P 20 14 20.3 +0.2
EBIE Bielsa 92.20 326 P P 20 14 20.8 +0.4
comp=Z,18nm,0.8s,mb5.1
ATE Arette 92.28 327 eP P 20 14 19.3 -1.4
ORDF Ordiarp 92.29 327 eP P 20 14 20.9 +0.2
ETSF Etsaut 92.36 327⇑iP P 20 14 20.9 -0.2
comp=Z,40nm,0.8s,mb5.2
ETSF Etsaut 92.36 327⇑iP P 20 14 20.9 -0.2
ETSF pmax pmax
comp=Z,20nm,0.8s,mb5.2
ETSF Etsaut 92.36 327⇑iP P 20 14 20.9 -0.2
comp=Z,20nm,0.8s,mb5.2
OSSF Osses 92.40 327 eP P 20 14 21.2 0.0
LARF Larrau 92.45 327 eP P 20 14 21.1 -0.4
TUC Tucson 92.47 48⇑iP P 20 14 22.6 +1.0
TUC e*PP pP 20 14 57.1 -0.9
TUC e*SP sP 20 15 13.6 +0.6
TUC e 20 18 05.3
TUC pmax pmax
comp=Z,56nm,1.0s,mb5.5
TUC Tucson 92.47 48⇑iP P 20 14 22.6 +1.1
comp=Z,56nm,1.0s,mb5.5
TUC epP pP 20 14 57.1 -0.9
TUC esP sP 20 15 13.6 +0.6
TUC ePP PP 20 18 05.3 +0.8
SJPF Ste Jean 92.50 327⇑iP P 20 14 22.6 +0.9
comp=Z,162nm,1.4s,mb5.5
SJPF Ste Jean 92.50 327⇑iP P 20 14 22.6 +0.9
SJPF pmax pmax
comp=Z,81nm,1.4s,mb5.6
SJPF Ste Jean 92.50 327⇑iP P 20 14 22.6 +0.9
comp=Z,81nm,1.4s,mb5.6
EGRA Graus 92.50 326 P P 20 14 21.6 -0.1
comp=Z,36nm,0.8s,mb5.5
EALK Alkurruntz 92.54 328 P P 20 14 22.5 +0.6
comp=Z,54nm,0.9s,mb5.7
EALK P 20 18 07.6
ELIZ Elizondo 92.59 327 P P 20 14 23.2 +1.1
ELIZ pmax pmax
comp=Z,91nm,1.3s,mb5.8
ELIZ Elizondo 92.59 327 P P 20 14 23.2 +1.0
comp=Z,90nm,1.3s,mb5.7
EPOB Poblet 92.78 325 P P 20 14 23.0 0.0
comp=Z,36nm,1.0s,mb5.5
CMAH Djebel Manchou 92.97 318 P P 20 14 24.0 +0.1
ETOS Mallorca 93.13 323 P P 20 14 25.5 +0.9
comp=Z,40nm,1.0s,mb5.5
CAEH 'Ain El Ouahch 93.18 318 P P 20 14 25.0 +0.2
ABSA Djebel Ababsia 93.19 318 P P 20 14 23.0 -1.9
ESAC San Caprasio 93.24 326 P P 20 14 26.2 +1.1
comp=Z,39nm,0.8s,mb5.6
LAZ Ladron 93.26 45 eP P 20 14 27.0 +1.8
LAZ epP pP 20 15 03.5 +1.9
LAZ esP sP 20 15 16.6 -0.1
ANMO Albuquerque 93.28 44 P P 20 14 26.8 +1.5
comp=Z,83nm,1.3s,mb5.7,baz=276,slow=4.6,SNR=34
ANMO pP pP 20 15 01.8 +0.1
comp=Z,22nm,1.0s,baz=305,slow=3.5,SNR=4.1
ANMO PKKPbc PKKPbc 20 31 34.8 +2.8
comp=Z,3.4nm,0.9s,baz=160,slow=3.7,SNR=6.8
ANMO Albuquerque 93.28 44 P P 20 14 26.8 +1.5
ANMO *PP pP 20 15 01.8 +0.1
ANMO 20 31 34.8
ANMO pmax pmax
comp=Z,83nm,1.3s
ANMO Albuquerque 93.28 44 P P 20 14 26.8 +1.5
ANMO pP pP 20 15 01.8 +0.1
ANMO PKKPbc PKKPbc 20 31 34.8 +2.8
ERTA Horta de San J 93.45 325 P P 20 14 25.6 -0.4
comp=Z,20nm,0.8s,mb5.3
EBR Ebro Roquetas 93.48 325 eP P 20 14 26.0 -0.2
EBR eTs 20 18 20.5
LENM Lemitar 93.53 45 eP P 20 14 27.4 +1.0
LENM epP pP 20 15 03.2 +0.4
CKFL Kef-Lekhel 93.53 318 P P 20 14 26.0 -0.4
TAOE Nuku Hiva Isla 93.62 98 eSS SS 20 31 52.3 +8.2
comp=Z,5µm,25.4s
TAOE eLR LR 20 44 16.7
comp=Z,18µm,36.3s
Y22C IRIS PASSCAL I 93.62 45 ⇓P P 20 14 27.8 +0.9
baz=94
Y22C ⇑S 20 25 25.2
baz=94
LPM Los Pinos Moun 93.63 45 eP P 20 14 28.3 +1.5
LPM epP pP 20 15 05.0 +1.7
LPM esP sP 20 15 18.3 0.0
BNM Barren Site 93.74 45 eP P 20 14 28.8 +1.4
BNM epP pP 20 15 05.7 +1.9
CASM Ain Smara 93.76 318 P P 20 14 28.0 +0.5
DFRA Djebel Bou Aff 93.89 319 P P 20 14 29.0 +0.9
CTEI Djebel Teioual 93.95 318 P P 20 14 30.0 +1.7
KMBO Kilima Mbogo 93.96 271 P P 20 14 27.3 -1.1
comp=Z,80nm,1.1s,mb5.8,baz=32,slow=6.8,SNR=38
KMBO Kilima Mbogo 93.96 271 P P 20 14 28.3 -0.1
KMBO pmax pmax
comp=Z,76nm,1.1s
KMBO Kilima Mbogo 93.96 271 P P 20 14 27.3 -1.2
EARI Arriondas 94.09 330 P P 20 14 29.2 +0.2
comp=Z,43nm,0.9s,mb5.6
TBI Tubuai 94.10 115 ePP PP 20 18 17.6 +0.4
comp=Z,523nm,28.2s
TBI Tubuai 94.10 115 eLR LR 20 44 32.6
comp=Z,8µm,36.0s
CBKS Cedar Bluff 94.14 37 eP P 20 14 29.4 +0.2
CBKS e*PP pP 20 15 05.4 -0.3
CBKS pmax pmax
comp=Z,120nm,1.1s,mb5.9
CBKS Cedar Bluff 94.14 37 eP P 20 14 29.4 +0.2
comp=Z,120nm,1.1s,mb5.9
CBKS epP pP 20 15 05.4 -0.3
CBKS esP sP 20 15 18.5 -2.1
EMOS Mosqueruela 94.30 325 P P 20 14 30.5 +0.5
comp=Z,25nm,1.0s,mb5.3
SET Setif 94.41 319 P P 20 14 32.0 +1.6
EIBI Ibiza 94.43 323 P P 20 14 30.3 -0.3
comp=Z,13nm,0.8s,mb5.1
CKHR Kef el Ahmar 94.48 319 P P 20 14 32.0 +1.2
CMER Merouana 94.55 318 P P 20 14 31.0 -0.1
SCIA State Center 94.82 32 eP P 20 14 33.2 +0.9
comp=Z,315nm,1.5s,mb6.3
SCIA epP pP 20 15 07.0 -1.8
EPON Pontenova 94.88 331 P P 20 14 32.6 0.0
comp=Z,48nm,0.9s,mb5.7
ECHE Chera 95.14 325 P P 20 14 33.4 -0.4
ECHE pmax pmax
comp=Z,12nm,1.0s,mb5.1
ECHE Chera 95.14 325 P P 20 14 33.4 -0.4
comp=Z,12nm,1.0s,mb5.1
EBEN Beniarda 95.46 324 P P 20 14 34.8 -0.5
comp=Z,14nm,0.8s,mb5.2
ERUA La Rua 95.65 330 P P 20 14 36.6 +0.5
ERUA pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
ERUA La Rua 95.65 330 P P 20 14 36.6 +0.5
comp=Z,10.0nm,0.7s,mb5.2
GUD Guadarrama 95.79 328 P P 20 14 37.1 +0.4
GUD pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
GUD Guadarrama 95.79 328 P P 20 14 37.1 +0.4
comp=Z,5.6nm,0.7s,mb5.0
STS Santiago 95.81 332 P P 20 14 36.7 -0.2
STS pmax pmax
comp=Z,25nm,0.9s,mb5.5
STS Santiago 95.81 332 P P 20 14 36.7 -0.2
comp=Z,25nm,0.9s,mb5.5
ECAL Calabor 95.85 330 P P 20 14 36.1 -0.9
comp=Z,26nm,1.2s,mb5.4
EMAZ Mazaricos 95.93 332 P P 20 14 36.9 -0.5
comp=Z,75nm,1.1s,mb5.9
PBRG Braganca 95.97 330 eP P 20 14 36.8 -0.8
comp=Z,34nm,1.5s,mb5.5
AMTX Amarillo 96.04 41 eP P 20 14 38.4 +0.5
comp=Z,52nm,1.0s,mb5.8
AMTX epP pP 20 15 15.2 +0.8
AMTX esP sP 20 15 28.7 -0.7
ETOB Tobarra 96.16 325 P P 20 14 38.7 +0.3
comp=Z,16nm,1.0s,mb5.3
MNTX Cornudas Mount 96.21 46 eP P 20 14 39.8 +1.1
comp=Z,23nm,1.1s,mb5.4
MNTX epP pP 20 15 15.3 +0.2
MNTX ePP PP 20 18 34.0 +0.5
ELOB Lobios 96.47 331 P P 20 14 39.9 +0.1
comp=Z,28nm,1.1s,mb5.5
ESDC Sonseca Array 96.48 327 P P 20 14 38.7 -1.2
comp=Z,6.1nm,0.7s,mb5.0,baz=28,slow=3.8,SNR=29
ESDC PP PP 20 18 26.5 -9.1
comp=Z,4.1nm,0.9s,baz=21,slow=6.7,SNR=3.9
ESDC PKKPbc PKKPbc 20 31 22.7 -0.9
comp=Z,1.4nm,0.6s,baz=227,slow=2.1,SNR=7.6
ESDC Sonseca Array 96.48 327 P P 20 14 39.1 -0.8
comp=Z,5.6nm,0.7s,mb5.0
ESLA Sonseca Array 96.48 327 eP P 20 14 39.1 -0.8
comp=Z,12nm,1.4s,mb5.0
EZAM Zamans 96.49 331 P P 20 14 39.2 -0.7
EZAM pmax pmax
comp=Z,36nm,1.2s,mb5.6
EZAM Zamans 96.49 331 P P 20 14 39.2 -0.7
comp=Z,36nm,1.2s,mb5.6
PCAB Cabril 96.58 331 eP P 20 14 40.3 -0.1
comp=Z,50nm,1.4s,mb5.7
EVIA Vianos 96.62 325 P P 20 14 41.6 +1.1
EVIA pmax pmax
comp=Z,24nm,0.7s,mb5.6
EVIA Vianos 96.62 325 P P 20 14 41.6 +1.1
comp=Z,24nm,0.7s,mb5.6
EMUR La Murta 96.63 324 P P 20 14 40.3 -0.3
comp=Z,27nm,0.9s,mb5.6
PVRL Vila Real 96.81 330 eP P 20 14 40.2 -1.2
comp=Z,35nm,1.9s,mb5.4
EHUE Huescar 97.31 325 P P 20 14 43.5 -0.2
EHUE pmax pmax
comp=Z,38nm,1.2s,mb5.6
EHUE Huescar 97.31 325 P P 20 14 43.5 -0.1
comp=Z,38nm,1.2s,mb5.6
PVIS Viseu 97.36 330 eP P 20 14 43.0 -0.8
comp=Z,23nm,0.9s,mb5.5
MTE Manteigas 97.47 330 eP P 20 14 43.6 -0.8
comp=Z,33nm,1.1s,mb5.6
MTE Manteigas 97.47 330 eP P 20 14 43.9 -0.5
comp=Z,51nm,1.1s,mb5.8
MTE epP pP 20 15 22.4 +1.5
MTE ePP PP 20 18 40.1 -3.1
EQES Quesada 97.56 325 P P **20 14 44.3 -0.5**
comp=Z,76nm,1.0s,mb6.1
EBAN Banos Encina 97.61 326 P P 20 14 45.1 +0.1
EBAN pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
EBAN Banos Encina 97.61 326 P P 20 14 45.1 +0.1
comp=Z,10nm,0.8s,mb5.3
SADO Sadowa 97.63 21 P P 20 14 44.5 -0.6
comp=Z,15nm,1.0s,mb5.4,baz=336,slow=6.4,SNR=6.5
SADO PKKP PKKPbc 20 31 19.8 -0.7
comp=Z,6.4nm,0.9s,baz=91,slow=3.0,SNR=3.7
SADO LR LR 21 03 14.4
comp=Z,1µm,19.5s,baz=350,slow=38
ENIJ Nijar 97.79 324 P P 20 14 45.5 -0.3
ENIJ pmax pmax
comp=Z,17nm,0.9s,mb5.5
ENIJ Nijar 97.79 324 P P 20 14 45.5 -0.3
comp=Z,17nm,0.9s,mb5.5
PCBR Castelo Branco 97.91 329 eP P 20 14 44.8 -1.5
comp=Z,23nm,1.2s,mb5.5
EADA Adamuz 97.97 326 P P 20 14 46.3 -0.3
comp=Z,80nm,1.5s,mb5.9
EBER Berja 98.19 324 P P 20 14 47.3 -0.3
comp=Z,225nm,2.2s,mb6.2
ECOG Cogollos-Vega 98.21 325 P P 20 14 47.1 -0.6
ECOG pmax pmax
comp=Z,22nm,1.4s,mb5.4
ECOG Cogollos-Vega 98.21 325 P P 20 14 47.1 -0.6
comp=Z,22nm,1.4s,mb5.4
LPIG La Paz 98.26 54 P P 20 14 50.0 +2.1
comp=Z,13nm,0.2s,mb5.9,baz=28,slow=0.4,SNR=4.5
PTOM Tomar 98.49 330 eP P 20 14 47.8 -1.1
comp=Z,30nm,1.1s,mb5.6
ERON Agron 98.53 325 P P 20 14 48.9 -0.2
comp=Z,4.8nm,0.5s,mb5.2
ELOJ Sierra Loja 98.59 325 P P 20 14 49.5 +0.1
ELOJ pmax pmax
comp=Z,14nm,0.8s,mb5.4
ELOJ Sierra Loja 98.59 325 P P 20 14 49.5 +0.1
comp=Z,14nm,0.8s,mb5.4
EBAD Badajoz 98.60 328 P P 20 14 49.9 +0.5
comp=Z,15nm,1.0s,mb5.4
SLM Saint Louis 98.81 32 eP P 20 14 50.0 -0.4
SLM epP pP 20 15 23.8 -3.1
SLM esP sP 20 15 38.9 -3.0
LTX Lajitas 98.93 46 eP P 20 14 51.4 +0.5
LTX e*PP pP 20 15 27.4 0.0
LTX e 20 18 56.4
LTX pmax pmax
comp=Z,34nm,1.3s,mb5.6
LTX Lajitas 98.93 46 eP P 20 14 51.4 +0.5
comp=Z,34nm,1.3s,mb5.6
LTX epP pP 20 15 27.4 0.0
LTX ePP PP 20 18 56.4 +2.1
LONY Lake Ozonia 99.06 18 eP P 20 14 51.3 -0.2
comp=Z,31nm,1.3s,mb5.6
EVO Evora 99.22 329 eP 20 14 51.0
comp=Z,50nm,1.4s
EVO eR
comp=Z,6µm,19.5s
EMIN Mina Concepcio 99.26 327 P Pdif 20 14 52.6 +0.3
comp=Z,17nm,1.0s
FVM French Village 99.26 32 P Pdif 20 14 54.6 +2.2
FVM pmax pmax
comp=Z,11nm,1.0s,mb5.2
FVM French Village 99.26 32 ePdif Pdif 20 14 52.9 +0.6
comp=Z,12nm,0.9s
EMIJ Mijas 99.36 325 P Pdif 20 14 52.2 -0.6
comp=Z,28nm,0.9s
PBEJ Beja 99.58 328 eP Pdif 20 14 52.5 -1.3
comp=Z,24nm,1.8s
PBEJ Beja 99.58 328 eP PP 20 18 57.6 -1.7
comp=Z,18nm,1.3s
ESPR Espera 99.62 326 P Pdif 20 14 53.4 -0.6
comp=Z,206nm,1.4s
NCB Newcomb 99.76 18 ePdif Pdif 20 14 54.9 +0.3
comp=Z,70nm,1.3s
NCB ePP PP 20 19 00.6 -0.1
DRV Dumont d'Urvil 99.77 176 Pdif Pdif 20 14 57.0 +2.4
DRV Dumont d'Urvil 99.77 176 PP PP 20 19 03.0 +2.2
DRV SKS 20 25 27.0
DRV SP SP 20 27 51.0 +6.6
DRV SS SS 20 33 17.0 +6.2
EGRO El Granado 99.81 328 P Pdif 20 14 55.0 +0.2
comp=Z,14nm,0.8s
MIV Mineville/With 99.84 18 ePdif Pdif 20 14 55.9 +0.9
SIUC Southern Illin 100.02 32 ePdif Pdif 20 14 55.7 0.0
ALLY Alegheny Colle 100.12 23 ePdif Pdif 20 14 56.9 +0.7
JCT Junction City 100.37 43 P Pdif 20 14 58.6 +1.3
JCT pmax pmax
comp=Z,43nm,1.2s
JCT Junction City 100.37 43 ePdif Pdif 20 14 58.5 +1.2
comp=Z,43nm,1.3s
JCT ePP PP 20 19 03.1 -2.2
ACSO Alum Creek Sta 100.38 26 ePdif Pdif 20 14 58.2 +0.9
comp=Z,9.7nm,0.6s
ACSO ePP PP 20 19 04.0 -1.4
ACCN Adirondack Com 100.45 18 ePdif Pdif 20 14 56.0 -1.7
MIAR Mount Ida 100.56 36 P Pdif 20 14 59.0 +0.8
MIAR pmax pmax
comp=Z,29nm,1.0s
MIAR Mount Ida 100.56 36 ePdif Pdif 20 14 58.9 +0.7
comp=Z,29nm,1.1s
MIAR ePP PP 20 18 59.4 -7.4
WCI Wyandotte Cave 100.82 29 P Pdif 20 15 01.6 +2.3
WCI pmax pmax
comp=Z,11nm,0.9s
WCI Wyandotte Cave 100.82 29 ePdif Pdif 20 15 00.1 +0.8
comp=Z,11nm,0.9s
WCI ePP PP 20 19 00.2 -8.5
BINY Binghamton 100.91 20 ePdif Pdif 20 15 02.6 +2.9
comp=Z,85nm,1.6s
SSPA Standing Stone 101.76 22 ePdif Pdif 20 15 03.9 +0.4
comp=Z,62nm,1.6s
WVT Waverly 101.95 31 P Pdif 20 15 06.5 +2.2
WVT pmax pmax
comp=Z,10.0nm,1.1s
WVT Waverly 101.95 31 ePdif Pdif 20 15 05.6 +1.3
comp=Z,10nm,1.1s
PLAL Pickwick Lake 102.80 32 ePdif Pdif 20 15 10.2 +2.1
comp=Z,6.5nm,1.0s
SWET Sewanee 103.54 31 ePdif Pdif 20 15 11.8 +0.3
RKT Rikitea 105.28 108 eSKSac SKSac 20 25 45.8 +0.2
comp=Z,2µm,28.5s
RKT eSS SS 20 34 28.8 +2.1
comp=Z,2µm,27.0s
LSZ Lusaka 109.00 264 eP Pdif 20 15 35.8 +0.1
LSZ pmax pmax
comp=Z,22nm,1.2s
LSZ Lusaka 109.00 264 ePdif Pdif 20 15 35.8 +0.1
comp=Z,22nm,1.2s
LSZ ePKiKP PKiKP 20 19 40.3 +0.9
VNDA Vanda 112.02 173 PKiKP PKiKP 20 19 44.2 -0.8
comp=Z,8.0nm,1.0s,baz=301,slow=3.0,SNR=11
VNDA PKKPbc PKKPbc 20 30 36.9 -0.2
comp=Z,12nm,1.0s,baz=219,slow=2.2,SNR=14
VNDA Vanda 112.02 173 *i* PKIKP PKiKP 20 19 44.3 -0.8
VNDA pmax pmax
comp=Z,8.0nm,1.0s
MAW Mawson 112.64 203 eP PKiKP 20 19 45.4 -0.9
comp=Z,16nm,0.7s
MAW Mawson 112.64 203 PKiKP PKiKP 20 19 45.3 -1.0
comp=Z,19nm,0.7s,baz=59,slow=3.2,SNR=18
MAW PKKPbc PKKPbc 20 30 35.0 0.0
comp=Z,7.2nm,0.7s,baz=247,slow=6.2,SNR=5.2
SBA Scott Base 112.83 172 ePKIKP PKiKP 20 19 46.3 -0.3
CMIG Matias Romero 113.36 49 PKiKP PKiKP 20 19 47.4 -0.2
comp=Z,8.3nm,1.0s,baz=318,slow=2.0,SNR=7.6
CMIG PKKPbc PKKPbc 20 30 30.3 -2.2
comp=Z,2.7nm,0.7s,baz=323,slow=16,SNR=2.9
CMIG Matias Romero 113.36 49 PKPdf PKiKP 20 19 47.4 -0.2
CMIG PKKPbc PKKPbc 20 30 30.3 -2.2
TORD Torodi Ar. Bea 113.39 305 Pdiff Pdif 20 15 53.5 -1.7
comp=Z,2.5nm,1.1s,baz=26,slow=3.1,SNR=8.0
TORD PKiKP PKiKP 20 19 47.0 -0.7
comp=Z,12nm,0.5s,baz=45,slow=1.1,SNR=88
TORD PP PP 20 20 36.9 -3.7
comp=Z,18nm,1.0s,baz=39,slow=6.3,SNR=5.8
TORD PKKPbc PKKPbc 20 30 31.5 -0.9
comp=Z,4.8nm,0.6s,baz=216,slow=3.1,SNR=25
LBTB Lobatse 115.75 256 ePKIKP PKPdf 20 19 52.6 +0.4
LBTB *e* 20 20 30.2
LBTB *e* 20 20 59.4
TSUM Tsumeb 119.75 266 ePKPdf PKPdf 20 20 00.7 +0.7
TSUM epPKPdf pPKPdf 20 20 38.8 +0.9
SYO Syowa Base 121.14 205⇑eP PKPdf 20 20 01.2 -1.4
SYO Syowa Base 121.14 205⇓eP PKPdf 20 20 03.0 +0.4
RCC Rio Carpintero 121.18 30 eP PKPdf 20 20 04.0 +1.3
DBIC Dimbokro 122.50 305 PKP PKPdf 20 20 04.2 -1.1
comp=Z,81nm,0.7s,baz=33,slow=2.2,SNR=52
DBIC PP PP 20 21 42.8 -0.8
comp=Z,22nm,1.1s,baz=48,slow=8.1,SNR=3.8
DBIC PKKPbc PKKPbc 20 30 00.1 +0.3
comp=Z,4.3nm,0.7s,baz=176,slow=2.5,SNR=8.2
SUR Sutherland 122.56 250 ePKPdf PKPdf 20 20 07.6 +2.2
QSPA South Pole Qui 122.95 180 eP PKPdf 20 20 04.7 -1.4
QSPA ePKPdf PKPdf 20 20 04.8 -1.3
QSPA epPKPdf pPKPdf 20 20 42.2 -1.9
QSPA esPKPdf 20 20 58.5
JTS JuntasAbangare 124.69 45 PKP PKPdf 20 20 09.6 +0.2
comp=Z,11nm,0.5s,baz=253,slow=1.5,SNR=10
JTS JuntasAbangare 124.69 45 PKIKP PKPdf 20 20 09.6 +0.2
JTS pmax pmax
comp=Z,11nm,0.5s
JTS JuntasAbangare 124.69 45 PKP PKPdf 20 20 09.6 +0.2
JTS ePKPdf PKPdf 20 20 10.2 +0.8
SJG San Juan 126.34 21 PKP PKPdf 20 20 13.0 +0.5
comp=Z,37nm,0.6s,baz=44,slow=4.7,SNR=16
SEG Port Louis 129.20 16 eP PKPdf 20 20 18.4 +0.4
LZG Guadaloupe-1 129.39 16 eP PKPdf 20 20 20.4 +2.0
TBG Guadaloupe-3 129.70 16 eP PKPdf 20 20 18.8 -0.1
MGG Marie-Galante 129.71 16 eP PKPdf 20 20 20.2 +1.2
BBL Barber's Block 130.05 16 eP PKPdf 20 20 20.8 +1.1
NVL N'lazarevskaya 130.59 202 *d i* PKIKP PKPdf 20 20 20.2 -0.4
NVL *i* 20 20 57.3
NVL pmax pmax
comp=Z,114nm,0.9s
NVL pmax pmax
comp=N,30nm,1.1s
NVL pmax pmax
comp=E,27nm,1.3s
MAIT Maitri 130.62 202 eP PKPdf 20 20 22.6 +1.9
FDF Fort de France 130.89 16 eP PKPdf 20 20 22.0 +0.8
CRM Caravelle 130.93 16 eP PKPdf 20 20 22.8 +1.5
MVM Montagne Vaucl 131.12 16 eP PKPdf 20 20 22.5 +0.8
SDV Santo Domingo 133.25 30 PKhKP 20 20 13.8
comp=E,11nm,0.7s,baz=334,slow=3.8,SNR=6.0
SDV PKP PKPdf 20 20 26.7 +1.0
comp=E,92nm,0.5s,baz=281,slow=1.2,SNR=27

SDV					PP	PP	20 22 54.7	+0.5
	comp=E,30nm,1.1s,baz=332,slow=2.1,SNR=4.9							
SDV					SKPbc	SKPbc	20 23 41.0	+0.4
	comp=E,20nm,0.8s,baz=282,slow=3.8,SNR=3.2							
PCRV	**Puerto La Cruz**	**134.29**	**22**		PKhKP		20 20 14.1	
	comp=E,17nm,0.9s,baz=296,slow=2.2,SNR=3.9							
PCRV					PKP	PKPdf	20 20 26.3	-1.4
	comp=E,32nm,0.6s,baz=1.3,slow=0.5,SNR=12							
PCRV					PP	PP	20 22 58.9	-1.8
	comp=E,6.1nm,0.8s,baz=350,slow=9.3,SNR=1.8							
SNAA	**Sanae**	**134.55**	**199**		PKhKP		20 20 12.6	
	comp=E,6.2nm,1.0s,baz=112,slow=3.5,SNR=16							
SNAA					PKP	PKPdf	20 20 26.9	-1.2
	comp=E,18nm,1.0s,baz=162,slow=6.8,SNR=9.3							
SNAA					SKPbc	SKPbc	20 23 43.1	-1.7
	comp=E,3.2nm,0.8s,baz=164,slow=6.1,SNR=4.4							
SNAA	**Sanae**	**134.55**	**199**	*e*	PKPdf	PKPdf	20 19 59.0	-29
SNAA				*e*			20 20 14.3	
SNAA				*e*			20 20 15.4	
SNAA				*e*			20 20 46.9	
SNAA				*e*			20 20 54.8	
SNAA				*e*			20 23 29.3	
SNAA				*e*			20 23 31.4	
SNAA				*e*			20 23 35.0	
SNAA				*e*			20 23 51.8	
SNAA	**Sanae**	**134.55**	**199**	*i*	PKHKP		20 20 12.6	
SNAA							20 20 26.9	
SNAA					pmax	pmax		
	comp=Z,6.0nm,1.0s							
ROSC	**El Rosal**	**135.06**	**38**		PKhKP		20 20 21.3	
	comp=Z,9.4nm,0.7s,baz=84,slow=18,SNR=4.8							
ROSC					PKP	PKPdf	20 20 31.1	+2.0
	comp=Z,40nm,0.7s,baz=266,slow=4.4,SNR=16							
OTAV	**Otavalo**	**136.56**	**46**	*e*	PKP	PKPdf	20 20 22.8	-9.0
OTAV				*ep*	PKPdf	pPKPdf	20 21 12.7	+2.8
VNA1	**Neumayer--Stat**	**136.58**	**198**	*e*	PKPdf		20 20 19.2	
VNA1				*e*		PKPdf	20 20 32.6	+0.7
VNA1				*e*			20 20 33.5	
VNA1				*e*			20 20 47.1	
VNA1				*e*			20 21 13.0	
VNA1				*e*			20 21 16.7	
VNA1				*e*			20 23 49.5	
VNA1				*e*			20 23 54.9	
VNA1				*e*			20 24 02.6	
ATAH	**Atahualpa**	**142.12**	**53**		PKP	PKPdf	20 20 40.6	-1.3
	comp=Z,25nm,0.7s,baz=349,slow=3.7,SNR=11							
NNA	**Nana**	**146.74**	**57**	*e*	PKPdf	PKPdf	20 20 49.7	-0.3
PMSA	**Palmer Station**	**147.03**	**168**	*e*	PKP	PKPdf	20 20 54.2	+3.7
TRIS	**Tristan da Cun**	**150.07**	**252**	*e*	PKP	PKPdf	20 21 00.7	+5.3
RCBR	**Riachuelo**	**150.26**	**334**	*e*	PKPdf	PKPdf	20 20 57.2	+1.5
RCBR				*e*	PKPbc	PKPbc	20 21 01.8	+0.8
SAML	**Samuel**	**152.43**	**32**	*e*	PKPdf	PKPdf	20 20 59.5	+0.5
SAML				*e*	PKPbc	PKPbc	20 21 06.3	+0.3
SAML				*e*	PKPab	PKPab	20 21 15.9	-0.8
SAML				*e*	PP	PP	20 24 49.8	+0.2
ARE	**Arequipa**	**153.57**	**56**	*e*	P	PKPdf	20 21 04.0	+3.4
ARE				*e*			20 21 12.0	
ARE				*e*			20 21 25.0	
LPAZ	**La Paz**	**155.71**	**51**		PKP	PKPdf	20 21 05.0	+1.4
	comp=Z,44nm,1.2s,baz=4.4,slow=5.3,SNR=38							
LPAZ	**La Paz**	**155.71**	**51**		PKIKP	PKPdf	20 21 05.0	+1.4
LPAZ					pmax	pmax		
	comp=Z,44nm,1.2s							
LVC	**Limon Verde**	**159.33**	**64**		PKP	PKPdf	20 21 09.5	+1.4
	comp=Z,16nm,1.1s,baz=310,slow=1.4,SNR=7.7							
LVC					PKPab	PKPab	20 21 48.0	+1.7
	comp=Z,39nm,1.0s,baz=296,slow=3.1,SNR=12							
LVC					PP	PP	20 25 29.0	+1.2
	comp=Z,5.0nm,0.8s,baz=302,slow=7.2,SNR=3.9							
SIV	**San Ignacio**	**159.56**	**36**		PKP	PKPdf	20 21 09.3	+0.9
	comp=Z,66nm,1.1s,baz=333,slow=1.0,SNR=62							
SIV					PKPab	PKPab	20 21 48.2	+0.9
	comp=Z,78nm,1.0s,baz=326,slow=3.3,SNR=14							
SIV					PP	PP	20 25 30.8	+1.7
	comp=Z,21nm,1.1s,baz=25,slow=11,SNR=3.9							
PLCA	**Paso Flores**	**161.05**	**120**		PKP	PKPdf	20 21 10.5	+0.5
	comp=Z,22nm,1.2s,baz=248,slow=3.1,SNR=12							
PLCA					PKPab	PKPab	20 21 54.9	+1.0
	comp=Z,50nm,1.3s,baz=262,slow=3.5,SNR=7.9							
PLCA	**Paso Flores**	**161.05**	**120**		PKIKP	PKPdf	20 21 10.5	+0.5
PLCA							20 21 54.9	
PLCA					pmax	pmax		
	comp=Z,22nm,1.2s							
BDFB	**Brasilia**	**162.51**	**358**		PKP	PKPdf	20 21 12.2	+0.7
	comp=Z,106nm,1.1s,baz=312,slow=1.0,SNR=29							
BDFB					PKPab	PKPab	20 22 00.6	+0.3
	comp=Z,193nm,1.0s,baz=332,slow=4.1,SNR=21							
BDFB					PP	PP	20 25 46.0	+1.1
	comp=Z,60nm,1.1s,baz=354,slow=9.9,SNR=6.5							
BDFB	**Brasilia**	**162.51**	**358**		PKIKP	PKPdf	20 21 12.2	+0.7
BDFB							20 22 00.6	
BDFB							20 25 46.0	
BDFB					pmax	pmax		
	comp=Z,106nm,1.1s							
MDZ	**Mendoza**	**163.14**	**94**	*e*	PKIKP	PKPdf	20 21 20.3	+8.2
CFAA	**Coronel Fontan**	**163.46**	**90**		PKP	PKPdf	20 21 11.9	-0.6
	comp=Z,4.5nm,1.1s,baz=293,slow=1.9,SNR=22							
CFAA					PKPab	PKPab	20 22 04.2	-0.2
	comp=Z,4.3nm,1.1s,baz=268,slow=4.6,SNR=11							
CFAA	**Coronel Fontan**	**163.46**	**90**		PKP	PKPdf	20 21 11.9	-0.5
CFAA					PKPab	PKPab	20 22 04.2	-0.2
TRQA	**Tornquist**	**168.19**	**118**	*e*	PKPdf	PKPdf	20 21 16.4	+0.2
TRQA				*e*	PKPab	PKPab	20 22 26.0	+0.7
CPUP	**Villa Florida**	**169.88**	**50**		PKP	PKPdf	20 21 17.6	+0.3
	comp=Z,23nm,1.0s,baz=13,slow=0.8,SNR=22							
CPUP					PKPab	PKPab	20 22 32.9	+0.1
	comp=Z,30nm,1.0s,baz=303,slow=4.3,SNR=8.7							
CPUP					PP	PP	20 26 27.0	+4.1
	comp=Z,14nm,1.0s,baz=329,slow=6.5,SNR=4.9							
CPUP	**Villa Florida**	**169.88**	**50**		PKIKP	PKPdf	20 21 17.6	+0.3
CPUP							20 22 32.9	
CPUP							20 26 27.0	
CPUP					pmax	pmax		
	comp=Z,23nm,1.0s							
LPA	**La Plata**	**172.19**	**105**	*ce*	PKP	PKPdf	20 21 17.0	-1.5

NEIC 11 20:31:36.4, 5158N×17008W, h18km, ML3.2(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.58**	**28**	P	Pn	20 32 01.2	-2.4
NIKO				S	Sn	20 32 20.8	-2.8
OKCE	**Okmok Cone E**	**2.19**	**32**	P	Pn	20 32 10.7	-1.1
OKCD	**Okmok Cone D**	**2.21**	**32**	P	Pn	20 32 11.4	-0.7
OKCD				S	Sn	20 32 37.0	-2.0
ATKA	**Atka Island**	**2.63**	**285**	P	Pn	20 32 16.5	-1.4
UNV	**Unalaska Valle**	**3.14**	**42**	P	Pn	20 32 23.5	-1.5
UNV				S	Sn	20 33 01.4	-0.6

*IDC **11** 20:32:10.4±1.2, 3049N×6961E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/23, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=32.6km s-min=27.1km az=126.0*
*ISCJB **11** 20:32:13.2±0.6, 3041N±008×6960E±006, h33km, mb3.7/9, Error ellipse: s-maj=11.6km s-min=6.7km az=24.2*
*NEIC **11** 20:32:17.3±1.0, 3072N×7048E, h35km, mb3.7/3, Error ellipse: s-maj=20.3km s-min=7.5km az=46.0*
*MOS **11** 20:32:22.9±1.8, 3118N×7029E, h66km, mb3.9/5, Error ellipse: s-maj=32.6km s-min=15.4km az=80.7*
*NDI **11** 20:32:33.5±2.1, 3052N×7012E, h33km, ML3.8, mb3.7(NEIC)*

ISC 11 20:32:15.5±0.6, 3050N±008×6956E±006, h35km, n36, σ1§03/41, mb3.7/9, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**6.44**	**79**	*ex*	**Pn**	**20 33 47.0**	**-0.8**
SDNR				*ex*	x	20 35 35.4	
KUDL	**Kundal**	**6.49**	**109**	*eP*	**Pn**	**20 34 00.7**	**+12**
KUDL				*eS*	**Sn**	**20 35 04.4**	**+3.2**
KUDL				AML	AML	20 35 37.9	
	comp=E,51nm,0.7s						
KUDL				AML	AML	20 35 41.0	
	comp=N,63nm,0.8s						
AYAN	**Aya Nagar**	**6.89**	**105**	*eP*	**Pn**	**20 34 05.0**	**+11**
SONA	**Sohna**	**6.94**	**107**	*eP*	**Pn**	**20 34 06.0**	**+11**
SONA				*eS*	**Sn**	**20 35 12.6**	**+0.4**
SONA				AML	AML	20 35 58.5	
	comp=N,128nm,0.8s						
SONA				AML	AML	20 35 59.1	
	comp=E,96nm,1.1s						
KLP	**Kalpa**	**7.53**	**80**	*ex*	**Pn**	**20 34 00.1**	**-2.6**
KLP				*eS*	**Sn**	**20 35 28.1**	**+1.3**
KLP				AML	AML	20 36 14.7	
	comp=N,186nm,0.8s						
KLP				AML	AML	20 36 17.4	
	comp=E,261nm,0.8s						
PTH	**Pithoragarh**	**9.29**	**93**	*ex*	**Sn**	**20 36 03.0**	**-7.0**
PTH				*ex*	x	20 37 04.5	
WSAR	**Wadi Sarin**	**12.13**	**236**	Pn	**Pn**	**20 35 05.0**	**-0.8**
	comp=E,0.5nm,0.3s,baz=73,slow=12,SNR=6.2						
WSAR				Sn	**Sn**	**20 37 10.8**	**-9.0**
	comp=E,0.1nm,0.3s,baz=347,slow=7.9,SNR=3.4						
WSAR	**Wadi Sarin**	**12.13**	**236**	Pn	**Pn**	**20 35 05.0**	**-0.8**
WSAR				Sn	**Sn**	**20 37 10.8**	**-9.0**
AAK	**Ala-Archa**	**12.74**	**17**	*eP*	**Pn**	**20 35 09.8**	**-4.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AAK	**Ala-Archa**	**12.74**	**17**	*ePn*	**Pn**	**20 35 09.8**	**-4.3**
	comp=Z,6.3nm,0.8s						
AAK				*e*		20 35 26.9	
DMN	**Daman**	**13.90**	**98**	*eP*	**Pn**	**20 35 22.1**	**-7.8**
KKN	**Kakani**	**14.00**	**97**	*eP*	**Pn**	**20 35 23.1**	**-8.2**
	comp=Z,16nm,0.6s						
KKN	**Kakani**	**14.00**	**97**	*eP*	**Pn**	**20 35 23.1**	**-8.2**
KKN				pmax	pmax		
	comp=Z,17nm,0.6s						
PKI	**Pulchoki**	**14.17**	**98**	*eP*	**Pn**	**20 35 25.6**	**-8.0**
GUN	**Gumba**	**14.49**	**96**	*eP*	**Pn**	**20 35 29.7**	**-8.2**
	comp=Z,22nm,0.4s						
JIRN	**Jiri**	**14.81**	**97**	*eP*	**Pn**	**20 35 33.1**	**-9.2**
	comp=Z,36nm,0.8s						
LSA	**Lhasa**	**18.70**	**87**	*eP*	**Pn**	**20 36 29.5**	**-1.8**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LSA	**Lhasa**	**18.70**	**87**	*ePn*	**Pn**	**20 36 29.5**	**-1.8**
	comp=Z,1.3nm,0.4s						
MKAR	**Makanchi Array**	**19.03**	**28**	P	**Pn**	**20 36 31.4**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=8.5						
AKTK	**Aktyubinsk**	**21.72**	**340**	P	**P**	**20 37 04.3**	**+0.8**
AKTO	**Aktyubinsk**	**21.72**	**340**	P	**P**	**20 37 04.3**	**+0.8**
	comp=Z,1.1nm,0.5s,mb3.5,baz=127,slow=10,SNR=3.8						
AKTO	**Aktyubinsk**	**21.72**	**340**	P	**P**	**20 37 04.3**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
ZRNK	**Zerenda**	**22.44**	**359**	*eP*	**P**	**20 37 11.4**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
ZRNK	**Zerenda**	**22.44**	**359**	*eP*	**P**	**20 37 11.3**	**+0.2**
	comp=Z,6.0nm,1.0s,mb4.0						
BVAR	**Borovoye Array**	**22.52**	**1**	P	**P**	**20 37 11.9**	**-0.1**
	comp=Z,2.6nm,0.9s,mb3.6,baz=168,slow=8.8,SNR=7.0						
BVAR	**Borovoye Array**	**22.52**	**1**	P	**P**	**20 37 11.9**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**22.55**	**1**	*eP*	**P**	**20 37 12.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
BRVK	**Borovoye**	**22.55**	**1**	*eP*	**P**	**20 37 12.0**	**-0.3**
	comp=Z,2.7nm,0.7s,mb3.8						
SONM	**Songino Array**	**33.01**	**48**	P	**P**	**20 38 47.5**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=267,slow=8.6,SNR=5.5						
SONM	**Songino Array**	**33.01**	**48**	P	**P**	**20 38 47.5**	**+0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**64.47**	**271**	P	**P**	**20 42 49.6**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=44,slow=3.7,SNR=3.0						
MBWA	**Marble Bar**	**70.44**	**130**	P	**P**	**20 43 25.7**	**-0.5**
WRAB	**Tennant Creek**	**79.94**	**120**	P	**P**	**20 44 21.2**	**+0.4**
INK	**Inuvik**	**80.01**	**9**	P	**P**	**20 44 20.8**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=335,slow=4.6,SNR=6.0						
ASAR	**Alice Springs**	**81.89**	**123**	P	**P**	**20 44 32.2**	**+1.0**
	comp=Z,0.3nm,0.7s,mb3.3,baz=306,slow=6.2,SNR=4.4						
YKA	**Yellowknife Ar**	**87.28**	**2**	P	**P**	**20 44 58.1**	**-0.3**
	comp=Z,0.5nm,0.5s,mb4.0,baz=351,slow=5.5,SNR=3.3						

IDC 11 20:48:43.5±0.9, 2700N×14084E, h493km±43km, mb2.7/3, mb1 2.8/4, mb1mx2.5/18, mbtmp3.5/4, Error ellipse: s-maj=196.6km s-min=18.9km az=83.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.20**	**85**	P	P	20 49 46.2	+1.6
	13nm,0.3s,baz=285,slow=20,SNR=8.2						
CBIJ				S	S	20 50 34.0	-0.3
	9.5nm,0.3s,baz=278,slow=22,SNR=4.1						
MJAR	**Matsushiro Arr**	**9.77**	**347**	P	P	20 50 58.9	+0.6
	0.4nm,0.3s,baz=162,slow=9.6,SNR=4.5						
WRA	**Warramunga Arr**	**47.09**	**188**	P	P	20 56 30.0	+0.1
	0.4nm,0.3s,baz=5.5,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**50.81**	**188**	P	P	20 56 57.8	+0.2
	0.2nm,0.3s,baz=359,slow=4.7,SNR=12						
FINES	**FINESS Array B**	**77.50**	**333**	P	P	20 59 46.9	-0.6
	0.3nm,0.3s,baz=82,slow=4.8,SNR=5.9						

*ISCJB **11** 21:09:55.1±0.2, 3746N±002×11885W±002, h8km, Error ellipse: s-maj=2.7km s-min=2.0km az=177.5*
*NEIC **11** 21:09:55.0, 3746N×11884W, h8km, ML3.5(NCEDC), After NCEDC.*

ISC 11 21:09:55.3±0.2, 3747N±002×11883W±002, h8km, n51, σ1§07/78, 21C-26D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAC	**Mammoth Lakes**	**0.16**	**359**	⇓P	**Pg**	**21 09 58.9**	**+0.2**
	baz=0.2,SNR=1000						
MLAC				⇓S	**Sg**	**21 10 01.9**	**+0.9**
	baz=0.2						
MTUM	**Tungsten Hills**	**0.24**	**118**	*e*P	**Pg**	**21 09 60.0**	**-0.2**
MTUM				*e*S	**Sg**	**21 10 07.3**	**+3.8**
KCC	**Kaiser Creek**	**0.41**	**249**	⇓P	**Pg**	**21 10 02.9**	**-0.5**
	baz=0.4,SNR=68						
KCC				⇓S	**Sg**	**21 10 08.2**	**-0.6**
	baz=0.4						
S08C	**White Mtn Res**	**0.53**	**87**	⇓P	**Pg**	**21 10 05.3**	**-0.2**
	baz=0.5,SNR=685						
S08C				⇑S	**Sg**	**21 10 12.8**	**+0.3**
	baz=0.5						
TIN	**Tinemaha**	**0.64**	**130**	⇓P	**Pg**	**21 10 07.3**	**-0.3**
	baz=0.6,SNR=39						
TIN				⇑S	**Sg**	**21 10 15.9**	**0.0**
	baz=0.6						
R07C	**Lee Vining**	**0.64**	**345**	⇓P	**Pg**	**21 10 07.8**	**+0.1**
	baz=0.7,SNR=33						
R07C				⇑S	**Sg**	**21 10 16.8**	**+0.7**
	baz=0.7						
T06C	**Millerton Lake**	**0.84**	**237**	P	**Pg**	**21 10 10.6**	**-0.9**
	baz=0.8,SNR=48						
S06C	**San Francisco**	**0.91**	**297**	⇓P	**Pg**	**21 10 11.9**	**-0.9**
	baz=0.9,SNR=69						
S06C				⇑S	**Sg**	**21 10 23.5**	**-0.9**
	baz=0.9						
R08A	**Mina**	**1.05**	**33**	⇑P	**Pg**	**21 10 15.1**	**-0.4**
	baz=1.1,SNR=32						
R08A				⇑S	**Sg**	**21 10 29.5**	**+0.4**
	baz=1.1						
MNV	**Mina**	**1.10**	**29**	*e*Pg	**Pg**	**21 10 15.9**	**-0.6**
MNV				*e*Sg	**Sg**	**21 10 30.8**	**0.0**
CWC	**Cottonwood Cre**	**1.19**	**149**	⇑P	**Pb**	**21 10 17.0**	**-1.2**
	baz=1.2,SNR=57						
CWC				⇓S	**Sg**	**21 10 32.0**	**-1.6**
	baz=1.2						
S05C	**Merced**	**1.20**	**265**	⇓P	**Pb**	**21 10 17.1**	**-1.2**
	baz=1.2,SNR=531						
S05C				⇓S	**Sg**	**21 10 32.6**	**-1.3**
	baz=1.2						
S09A	**Goldfield**	**1.31**	**78**	P	**Pn**	**21 10 19.6**	**-0.2**
	baz=1.3,SNR=1000						
S09A				⇓S	**Sb**	**21 10 36.5**	**-0.6**
	baz=1.3						
CMB	**Columbia Colle**	**1.35**	**295**	*e*Pn	**Pn**	**21 10 19.6**	**-1.0**
CMB				*e*Sn	**Sn**	**21 10 37.1**	**-1.6**
CMB	**Columbia Colle**	**1.35**	**295**	⇓P	**Pn**	**21 10 19.6**	**-1.0**
	baz=1.4,SNR=384						
CMB				⇑S	**Sb**	**21 10 37.1**	**-1.3**
	baz=1.4						
U05C	**Westside ANR,**	**1.53**	**223**	⇓P	**Pn**	**21 10 23.4**	**+0.5**
	baz=1.5,SNR=92						
DAC	**Darwin (Calif)**	**1.55**	**140**	⇓*i*Pn	**Pn**	**21 10 22.9**	**-0.4**
DAC				*i* Sn	**Sn**	**21 10 43.4**	**-0.2**
Q08A	**Gabbs**	**1.56**	**27**	⇑P	**Pn**	**21 10 24.6**	**+1.2**
	baz=1.6,SNR=18						
T05C	**Eagle Field, D**	**1.57**	**249**	⇑P	**Pn**	**21 10 24.3**	**+0.7**
	baz=1.6,SNR=39						
R05C	**Kirkwood Meado**	**1.57**	**322**	⇑P	**Pn**	**21 10 24.2**	**+0.6**
	baz=1.6,SNR=19						
V05C	**Boulder Hill,**	**1.81**	**209**	⇓P	**Pn**	**21 10 28.0**	**+1.1**
	baz=1.8,SNR=50						
ISA	**Isabella**	**1.83**	**171**	P	**Pn**	**21 10 28.2**	**+1.1**
	baz=1.8,SNR=80						
R04C	**Big Horse Ranc**	**1.84**	**296**	⇑P	**Pn**	**21 10 28.3**	**+1.0**
	baz=1.8,SNR=84						
Q09A	**Carvers**	**1.88**	**43**	⇓P	**Pn**	**21 10 30.3**	**+2.4**
	baz=1.9,SNR=19						
U04C	**Hernandez Rese**	**1.91**	**235**	⇑P	**Pn**	**21 10 29.0**	**+0.8**
	baz=1.9,SNR=411						
WCN	**Washoe City**	**1.97**	**339**	⇑P	**Pn**	**21 10 32.3**	**+3.3**
	baz=2.0						
LAVA	**Lava Cap Winer**	**1.98**	**311**	⇓P	**Pn**	**21 10 31.0**	**+1.9**
	baz=2.0,SNR=13						
S04C	**Ingram Canyon,**	**1.99**	**272**	P	**Pn**	**21 10 30.3**	**+1.0**
	baz=2.0,SNR=320						
PACP	**Pacheco Peak**	**2.01**	**257**	⇑P	**Pn**	**21 10 30.5**	**+0.9**
	baz=2.0,SNR=23						
LRV	**Little Rabbit**	**2.04**	**240**	*e*Pn	**Pn**	**21 10 30.8**	**+0.8**
LRV				*e*Sg	**Sg**	**21 11 00.2**	**-0.6**
PKD	**Parkfield**	**2.05**	**223**	⇑P	**Pn**	**21 10 30.6**	**+0.5**
	baz=2.0,SNR=56						
TPNV	**Topopah Spring**	**2.13**	**103**	⇓*i*Pn	**Pn**	**21 10 31.3**	**+0.1**
TPNV				*i* Sg	**Sg**	**21 11 03.8**	**0.0**
SAO	**San Andreas Ge**	**2.21**	**252**	⇑*e*Pn	**Pn**	**21 10 33.2**	**+0.9**
SAO				*e*Sn	**Sn**	**21 11 01.3**	**+1.6**
WENL	**Wente Brothers**	**2.33**	**275**	⇓P	**Pn**	**21 10 35.5**	**+1.6**
	baz=2.3						
V03C	**Hunter Liggett**	**2.41**	**234**	⇑P	**Pn**	**21 10 35.7**	**+0.6**
	baz=2.4,SNR=27						
HAST	**Hastings Reser**	**2.43**	**244**	P	**Pn**	**21 10 36.1**	**+0.8**
	baz=2.4,SNR=78						
V04C	**Ramage Ranch,**	**2.45**	**223**	⇓P	**Pn**	**21 10 36.5**	**+0.8**
	baz=2.4,SNR=29						
V04C				⇓S	**Sn**	**21 11 04.6**	**-1.3**
	baz=2.4						
BNLO	**Ben Lomond**	**2.68**	**264**	⇓P	**Pn**	**21 10 39.9**	**+1.0**
	baz=2.7,SNR=9.2						
BNLO				⇑S	**Sn**	**21 11 11.3**	**-0.2**
	baz=2.7						
JRSC	**Jasper Ridge**	**2.71**	**270**	⇑S	**Sn**	**21 11 11.5**	**-0.8**
	baz=2.7						
OHCM	**Honcut**	**2.79**	**313**	*e*Pg	**Pg**	**21 10 45.7**	**-3.2**
OHCM				*e*Sn	**Sn**	**21 11 14.3**	**0.0**
OHCM				*e*Sg	**Sg**	**21 11 21.1**	**-4.0**
SAC	**San Andreas**	**2.85**	**273**	Pn	**Pn**	**21 10 40.5**	**-0.6**
SUTB	**Sutter Buttes**	**2.91**	**308**	⇓P	**Pn**	**21 10 45.0**	**+3.0**
	baz=2.9						
O05C	**Quincy**	**2.97**	**327**	⇑P	**Pn**	**21 10 49.7**	**+6.8**
	baz=3.0,SNR=16						
NSHM	**Saint Helena R**	**3.16**	**291**	*e*Pg	**Pg**	**21 10 49.8**	**-6.1**
NSHM				*e*Sn	**Sn**	**21 11 23.5**	**+0.2**
FARB	**Farallon Islan**	**3.32**	**275**	⇓S	**Sn**	**21 11 25.9**	**-1.3**
	baz=3.3						
ELK	**Elko**	**4.30**	**39**	*e*Pn	**Pn**	**21 11 02.0**	**+0.9**
ELK				*e*Sg	**Sg**	**21 12 10.7**	**-2.8**
CCUT	**Cedar City**	**4.35**	**87**	*e*Pn	**Pn**	**21 11 02.9**	**+1.2**
CCUT				*e*Pg	**Pg**	**21 11 17.2**	**-1.5**
CCUT				*e*Sn	**Sn**	**21 11 57.5**	**+4.8**
M10A	**I.L. Ranch, Tu**	**4.42**	**23**	P	**Pg**	**21 11 17.9**	**-2.1**
	baz=4.4,SNR=7.2						
N13A	**West Wendover**	**4.94**	**45**	⇓P	**Pg**	**21 11 28.2**	**-1.7**
	baz=4.9,SNR=6.0						
M12A	**Wells**	**4.97**	**36**	P	**Pg**	**21 11 27.4**	**-3.2**
	baz=5.0,SNR=7.4						
MVU	**Marysvale**	**5.33**	**77**	*e*Pn	**Pn**	**21 11 15.6**	**+0.4**
MVU				*e*Sg	**Sg**	**21 12 55.9**	**+9.3**

*ISCJB **11** 21:15:49.5±0.4, 3837N±002×2175E±003, h6km, Error ellipse: s-maj=3.6km s-min=2.9km az=57.1*
*NEIC **11** 21:15:49.4, 3835N×2178E, h6km, MD3.4(ATH), After ATH.*
*ATH **11** 21:15:49.4, 3835N×2178E, h6km±2km, MD3.4/9*
*THE **11** 21:15:49.5, 3833N×2174E, h1km, ML2.6*
*CSEM **11** 21:15:50.1±0.1, 3838N×2177E, h2km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.7km az=26.0*

ISC 11 21:15:49.6±0.6, 3836N±002×2176E±003, h2km±5km, n24, σ1§00/38, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.38**	**217**	⇓*i*PG	**Pg**	**21 15 56.7**	**-0.2**
RLS				*e*SB	**Sg**	**21 16 02.9**	**+1.1**
EVR	**Evrytania**	**0.56**	**4**	*e*PB	**Pg**	**21 15 59.9**	**-0.3**
EVR				*e*SB	**Sg**	**21 16 08.6**	**+1.2**
AGG	**Agios Georgios**	**0.80**	**34**	*e*Pg	**Pg**	**21 16 04.0**	**-0.9**
AGG				*e*Sg	**Sg**	**21 16 17.5**	**+2.3**
LKD	**Levkas**	**0.94**	**292**	*e*Pg	**Pg**	**21 16 06.3**	**-1.2**
LKD				*e*Sg	**Sg**	**21 16 20.5**	**+0.8**
VLS	**Valsamata**	**0.94**	**259**	*e*PB	**Pg**	**21 16

NLYR			*e*Sb	**Sb**	**21 21 40.7 +2.5**	
NLYR			max		21 21 41.5	
	comp=E,7μm,0.7s					
NLYR	**Nelyaty**	**1.53 252**	*e*PG	**Pg**	**21 21 18.0 -1.7**	
NLYR			*e*		21 21 38.3	
NLYR			pmax	pmax		
	comp=Z,2μm,0.3s					
NLYR			smax			
	comp=N,7μm,0.6s					
BOD	**Bodaibo**	**2.48 291**	*e*Pn	**Pn**	**21 21 31.7 +0.9**	
BOD			⇑*i*Pg	**Pg**	**21 21 34.4 -3.5**	
BOD			Pmax		21 21 39.5	
	comp=N,160nm,0.4s					
BOD			*e*Sn	**Sn**	**21 22 01.2 +0.1**	
BOD			*e*Sg	**Sg**	**21 22 06.4 -3.6**	
BOD			Smax		21 22 09.6	
	comp=N,2μm,0.8s					
BOD	**Bodaibo**	**2.48 291**	*e*PN	**Pg**	**21 21 37.0 -0.9**	
BOD			*e*		21 22 05.7	
BOD			pmax	pmax		
	comp=Z,122nm,0.2s					
BOD			smax			
	comp=N,2μm,0.3s					
TUP	**Tupik**	**2.73 160**	*e*Pn	**Pn**	**21 21 34.9 +0.6**	
TUP			⇑*i*Pg	**Pg**	**21 21 38.5 -4.3**	
TUP			Pmax		21 21 40.2	
	comp=N,351nm,0.6s					
TUP			*e*Sn	**Sn**	**21 22 06.3 -1.1**	
TUP			*e*Sg	**Sg**	**21 22 13.5 -4.7**	
TUP			Smax		21 22 15.5	
	comp=N,3μm,0.8s					
TUP	**Tupik**	**2.73 160**	*e*PN	**Pn**	**21 21 34.7 +0.4**	
TUP			*e*		21 21 39.2	
TUP			*e*S	**Sn**	**21 22 07.2 -0.2**	
TUP			*e*		21 22 13.6	
TUP			pmax	pmax		
	comp=Z,522nm,0.6s					
TUP			smax			
	comp=E,3μm,0.8s					
SVKR	**Severomuysk**	**2.78 254**	*e*Pn	**Pn**	**21 21 35.8 +0.9**	
SVKR			⇓*i*Pg	**Pg**	**21 21 41.0 -2.6**	
SVKR			Pmax		21 21 52.9	
	comp=E,646nm,0.6s					
SVKR			*e*Sn	**Sn**	**21 22 08.8 +0.3**	
SVKR			*e*Sg	**Sg**	**21 22 16.7 -3.0**	
SVKR			Smax		21 22 19.8	
	comp=E,3μm,0.6s					
SVKR	**Severomuysk**	**2.78 254**	*e*PN	**Pn**	**21 21 35.7 +0.8**	
SVKR			*e*		21 21 40.9	
SVKR			*e*S	**Sn**	**21 22 09.6 +1.1**	
SVKR			*e*		21 22 14.2	
SVKR			pmax	pmax		
	comp=Z,649nm,0.6s					
SVKR			smax			
	comp=N,3μm,0.9s					
UKT	**Uakit**	**3.02 242**	*e*Pn	**Pn**	**21 21 39.2 +0.9**	
UKT			⇓*i*Pg	**Pg**	**21 21 45.2 -3.1**	
UKT			Pmax		21 21 46.3	
	comp=N,193nm,0.8s					
UKT			*e*Sn	**Sn**	**21 22 15.6 +1.1**	
UKT			*e*Sg	**Sg**	**21 22 24.2 -3.3**	
UKT			Smax		21 22 25.8	
	comp=N,1μm,0.9s					
UKT	**Uakit**	**3.02 242**	*e*PN	**Pn**	**21 21 44.9 +6.6**	
UKT			*e*		21 22 23.8	
UKT			pmax	pmax		
	comp=Z,191nm,0.5s					
UKT			smax			
	comp=N,1μm,0.8s					
NRGR	**Nerungri**	**3.53 93**	*e*PN	**Pn**	**21 21 49.1 +3.9**	
NRGR			S	**Sn**	**21 22 31.2 +4.1**	
NRGR			smax			
	comp=E,43nm,0.1s					
CLNS	**Chul'man**	**3.60 90**	*e*Pn	**Pn**	**21 21 48.2 +2.0**	
CLNS			*e*Pg	**Pg**	**21 21 56.5 -2.9**	
CLNS			*e*Sn	**Sn**	**21 22 28.9 +0.1**	
CLNS			*e*Sg	**Sg**	**21 22 40.6 -5.5**	
CLNS			*e*		21 22 45.8	
CLNS	**Chul'man**	**3.60 90**	*e*PN	**Pn**	**21 21 48.2 +2.0**	
CLNS			*e*		21 22 45.5	
CLNS			pmax	pmax		
	comp=Z,17nm,0.3s					
CLNS			pmax	pmax		
	comp=N,22nm,0.4s					
CLNS			pmax	pmax		
	comp=E,14nm,0.3s					
CLNS			smax			
	comp=N,1μm,0.8s					
CLNS			smax			
	comp=Z,336nm,0.6s					
CLNS			smax			
	comp=E,256nm,0.3s					
YOA	**Uoyan**	**3.75 259**	*e*Pn	**Pn**	**21 21 49.8 +1.5**	
YOA			*e*Pg	**Pg**	**21 21 58.1 -4.2**	
YOA			Pmax		21 22 17.0	
	comp=E,491nm,1.0s					
YOA			*e*Sn	**Sn**	**21 22 32.7 +0.2**	
YOA			*e*Sg	**Sg**	**21 22 46.6 -4.3**	
YOA			Smax		21 22 50.7	
	comp=E,6μm,1.0s					
YOA	**Uoyan**	**3.75 259**	⇑*i*PN	**Pn**	**21 21 49.7 +1.4**	
YOA			*i*		21 21 58.3	
YOA			*e*		21 22 47.4	
YOA			pmax	pmax		
	comp=Z,499nm,0.4s					
YOA			smax			
	comp=E,6μm,1.0s					
KMO	**Kumora**	**4.11 257**	⇓*i*Pn	**Pn**	**21 21 54.3 +1.1**	
KMO			⇓*i*		21 22 07.0	
KMO			max		21 22 12.3	
	comp=E,145nm,0.8s					
KMO			*i* Sg	**Sg**	**21 22 57.1 -5.2**	
KMO			Smax		21 23 00.7	
	comp=E,2μm,1.0s					
KMO	**Kumora**	**4.11 257**	*e*PN	**Pn**	**21 21 54.2 +1.0**	
KMO			*e*		21 22 03.0	
KMO			*e*S	**Sn**	**21 22 39.5 -1.8**	
ALDR	**Aldan**	**4.12 64**	*e*Pn	**Pn**	**21 21 54.9 +1.5**	
ALDR			*e*Pg	**Pg**	**21 22 05.5 -3.8**	
ALDR			*e*Sn	**Sn**	**21 22 40.7 -0.9**	
ALDR			*e*Sg	**Sg**	**21 22 58.1 -4.6**	
YLYR	**Ulyunkhan**	**4.55 245**	⇓*i*Pn	**Pn**	**21 22 00.4 +1.1**	
YLYR			*e*Pg	**Pg**	**21 22 13.4 -4.2**	
YLYR			Pmax		21 22 18.7	
	comp=E,91nm,0.9s					
YLYR			*e*Sn	**Sn**	**21 22 52.7 +0.5**	
YLYR			*e*Sg	**Sg**	**21 23 11.6 -4.9**	
YLYR			Smax		21 23 22.7	
	comp=E,576nm,1.8s					
YLYR	**Ulyunkhan**	**4.55 245**	*e*PN	**Pn**	**21 22 00.4 +1.1**	
YLYR			*e*		21 22 13.2	
YLYR			*e*		21 23 11.4	
YLYR			pmax	pmax		
	comp=Z,93nm,0.8s					
YLYR			smax			
	comp=E,579nm,1.5s					
NIZ	**Nizh Angarsk**	**5.03 260**	*e*Pn	**Pn**	**21 22 07.4 +1.5**	
NIZ			*e*Pg	**Pg**	**21 22 22.1 -4.6**	
NIZ			Pmax		21 22 28.1	
	comp=E,76nm,0.9s					
NIZ			*e*Sg	**Sg**	**21 23 26.8 -5.1**	
NIZ			Smax		21 23 29.7	
	comp=E,1μm,1.4s					
NIZ	**Nizh Angarsk**	**5.03 260**	*e*PN	**Pn**	**21 22 08.2 +2.3**	
NIZ			*e*		21 22 22.6	
NIZ			*e*		21 23 26.4	
NIZ			pmax	pmax		
	comp=Z,77nm,0.9s					
NIZ			smax			
	comp=N,1μm,1.4s					
CIT	**Chita**	**5.71 211**	*e*Pn	**Pn**	**21 22 17.1 +2.0**	
CIT			*e*Pg	**Pg**	**21 22 33.2 -6.4**	
CIT			Pmax		21 22 54.1	
	comp=N,55nm,1.0s					
CIT			*e*Sg	**Sg**	**21 23 47.6 -5.9**	
CIT			Smax		21 23 53.6	
	comp=N,2μm,1.3s					
SYVR	**Suvo**	**5.81 238**	*e*Pn	**Pn**	**21 22 17.0 +0.5**	
SYVR			*e*Pg	**Pg**	**21 22 36.0 -5.6**	
SYVR			Pmax		21 22 43.3	
	comp=N,64nm,1.1s					
SYVR			*e*Sn	**Sn**	**21 23 23.3 +0.1**	
SYVR			*e*Sg	**Sg**	**21 23 50.2 -6.6**	
SYVR			*e*		21 24 02.7	
SYVR			max		21 24 04.3	
	comp=N,538nm,1.6s					
SYVR	**Suvo**	**5.81 238**	*e*PN	**Pn**	**21 22 16.9 +0.4**	
SYVR			*e*		21 22 36.7	
SYVR			*e*		21 23 50.2	
SYVR			pmax	pmax		
	comp=Z,43nm,1.2s					
SYVR			smax			
	comp=E,339nm,0.9s					
MXMB	**Maximikha**	**6.64 240**	*e*Pn	**Pn**	**21 22 28.8 +0.8**	
MXMB			*e*Pg	**Pg**	**21 22 51.1 -6.4**	
MXMB			Pmax		21 22 56.1	
	comp=E,24nm,0.7s					
MXMB			*e*Sg	**Sg**	**21 24 17.1 -6.5**	
MXMB			Smax		21 24 28.9	
	comp=E,695nm,1.0s					
OGRR	**Ongureny**	**6.98 246**	*e*Pg	**Pg**	**21 22 57.4 -6.6**	
OGRR			Pmax		21 23 27.5	
	comp=E,25nm,1.1s					
OGRR			*e*Sg	**Sg**	**21 24 27.4 -7.0**	
OGRR			Smax		21 24 36.8	
	comp=E,116nm,1.7s					
YAK	**Yakutsk**	**7.67 44**	*e*PN	**Pn**	**21 22 40.4 -1.6**	
YAK			*e*		21 24 03.3	
YAK			*e*		21 24 43.4	
YAK			pmax	pmax		
	comp=Z,6.0nm,0.9s					
YAK			pmax	pmax		
	comp=E,3.0nm,1.2s					
YAK			pmax	pmax		
	comp=Z,7.0nm,0.8s					
YAK			pmax	pmax		
	comp=N,9.0nm,1.1s					
YAK			pmax	pmax		
	comp=E,6.0nm,0.9s					
YAK			smax			
	comp=N,41nm,1.0s					
YAK			smax			
	comp=Z,29nm,1.0s					
YAK			smax			
	comp=E,14nm,0.7s					
YAK			smax			
	comp=N,278nm,1.0s					
YAK			smax			
	comp=Z,117nm,0.9s					
YAK			smax			
	comp=E,137nm,0.8s					
YAK	**Yakutsk**	**7.67 44**	*e*Pn	**Pn**	**21 22 39.4 -2.6**	
	comp=E,32nm,0.6s					
YAK			*e*Sn	**Sn**	**21 24 04.8 -4.2**	
HIA	**Hailar**	**7.79 173**	*e*Pn	**Pn**	**21 22 44.7 +1.0**	
HIA			*e*Pg	Pn	21 23 11.9 +28	
HIA			*e*Sn	**Sn**	**21 24 10.5 -1.4**	
HIA			*e*Sg	Sn	21 24 52.2 +40	
HIA	**Hailar**	**7.79 173**	*e*PN	**Pn**	**21 22 42.5 -1.2**	
HIA			pmax	pmax		
	comp=Z,27nm,0.9s					
HIA	**Hailar**	**7.79 173**	*e*Pn	**Pn**	**21 22 42.5 -1.2**	
	comp=Z,27nm,0.9s					
HIA			*e*Sn	Sn	21 24 54.7 +43	
TRTB	**Turuntaevo**	**7.83 237**	*e*Pn	**Pn**	**21 22 43.6 -0.7**	
TRTB			*e*		21 22 53.7	
TRTB			*e*Pg	Pn	21 23 11.7 +27	
TRTB			Pmax		21 23 20.2	
	comp=Z,18nm,1.4s					
TRTB			*e*Sg	Sn	21 24 51.8 +39	
TRTB			*e*		21 24 59.4	
TRTB			max		21 25 10.9	
	comp=Z,364nm,1.2s					
KPC	**Khapcheranga**	**8.12 208**	*e*Pn	**Pn**	**21 22 47.5 -0.8**	
KPC			*e*Pg	Pn	21 23 17.9 +30	
KPC			Pmax		21 23 24.7	
	comp=Z,24nm,0.8s					
KPC			*e*		21 24 40.0	
KPC			*e*Sg	Sn	21 25 02.3 +42	
KPC			Smax		21 25 09.9	
	comp=Z,658nm,1.4s					
KPC	**Khapcheranga**	**8.12 208**	*e*PN	**Pn**	**21 22 47.5 -0.8**	
KPC			*e*		21 23 18.4	
KPC			pmax	pmax		
	comp=Z,23nm,0.8s					
FFNB	**Fofonovo**	**8.35 238**	*e*Sg	Sx	21 25 11.4	
FFNB			Smax		21 25 23.4	
	comp=Z,531nm,1.1s					
KAB	**Kabansk**	**8.40 239**	*e*Sg	Sx	21 25 10.7	
KAB			Smax		21 25 44.6	
	comp=Z,1μm,1.6s					
HRMR	**Khuramsha**	**8.54 236**	*e*Pn	**Pn**	**21 22 54.3 +0.2**	
HRMR			*e*Pg	Pn	21 23 25.8 +32	
HRMR			Pmax		21 23 33.2	
	comp=Z,37nm,0.8s					
HRMR			*e*		21 24 58.4	
HRMR			*e*Sg	Sn	21 25 16.5 +46	
HRMR			*e*		21 25 26.7	
HRMR			max		21 25 49.0	
	comp=Z,1μm,1.1s					
LSTR	**Listvyanka**	**9.38 243**	*e*	rx	21 25 14.6	
LSTR			*e*Sg	Sx	21 25 41.9	
LSTR			Smax		21 25 51.9	
	comp=Z,137nm,2.1s					
IRK	**Irkutsk**	**9.43 246**	*e*Sg	Sx	21 25 41.8	
IRK			Smax		21 26 01.4	
	comp=Z,180nm,1.2s					
TLY	**Talaya**	**10.08 244**	*e*P	**Pn**	**21 23 18.0 +2.8**	
TLY			*e*S	**Sn**	**21 25 05.3 -3.0**	
TLY			pmax	pmax		
	comp=Z,4.0nm,0.8s					
TLY			smax			
	comp=E,52nm,0.9s					
ARS	**Arshan**	**10.55 248**	*e*Sg	Sx	21 26 17.2	
ARS			Smax		21 26 37.5	
	comp=E,252nm,1.2s					
ZAK	**Zakamensk**	**11.09 240**	*e*Sg	Sx	21 26 36.3	
ZAK			Smax		21 26 48.4	
	comp=E,127nm,1.5s					
ZAK	**Zakamensk**	**11.09 240**	*e*P	**Pn**	**21 23 31.8 +2.8**	
ZAK			*e*		21 25 32.2	
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.8s					
KLR	**Kul'dur**	**11.19 128**	*e*P	**Pn**	**21 23 30.0 -0.3**	
MOY	**Mondy**	**11.43 250**	*e*	rx	21 26 20.0	
MOY			*e*Sg	Sx	21 26 43.7	
MOY			Smax		21 27 02.9	
	comp=Z,156nm,2.0s					
MOY	**Mondy**	**11.43 250**	*e*P	**Pn**	**21 23 34.2 +0.7**	
MOY			*e*S	**Sn**	**21 25 36.0 -5.2**	
MOY			pmax	pmax		
	comp=Z,10.0nm,1.6s					
ULN	**Ulaanbaatar**	**11.43 222**	*e*P	**Pn**	**21 23 34.1 +0.5**	
ULN	**Ulaanbaatar**	**11.43 222**	*e*Pn	**Pn**	**21 23 27.1 -6.5**	
	comp=Z,2.1nm,0.6s					
ULN			*e*Sn	**Sn**	**21 25 49.1 +7.9**	
SONM	**Songino Array**	**11.69 223**	Pn	**Pn**	**21 23 38.5 +1.2**	
	comp=Z,0.2nm,0.3s,baz=20,slow=12,SNR=12					
SONM			Sn	**Sn**	**21 25 49.3 +1.4**	
	comp=Z,0.4nm,0.3s,baz=46,slow=17,SNR=4.4					
SONM			Lg		21 26 54.3	
	comp=Z,1.0nm,0.3s,baz=30,slow=27,SNR=5.1					
SONM	**Songino Array**	**11.69 223**	P	**Pn**	**21 23 38.5 +1.3**	
SONM					21 25 49.3	
TIXI	**Tiksi**	**15.36 13**	*c i*P	**Pn**	**21 24 21.3 -5.8**	
HHC	**Hu-ho-hao-te**	**16.74 198**	*e*P	**Pn**	**21 24 54.1 +9.2**	
HHC			AP	pP	21 24 57.7 +7.7	
HHC			XP	sP	21 25 00.3 +9.0	
HHC			PP		21 25 04.4	
HHC			AMB	AMB		
	comp=Z,120nm,6.9s					
HHC			LR	LR		
	comp=N,190nm,8.4s					
HHC			LR	LR		
	comp=E,280nm,6.4s					
HHC			LR	LR		
	comp=Z,310nm,13.4s					
GTA	**Gaotai**	**21.36 222**	*e*P	**P**	**21 25 39.7 +1.9**	
GTA			AP		21 25 44.9	
GTA			XP	sP	21 25 49.0 +7.0	
GTA			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2					
KURK	**Kurchatov**	**23.98 272**	*e*P	**P**	**21 26 04.5 -0.4**	
KURK			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8					
KURK	**Kurchatov**	**23.98 272**	*e*P	**P**	**21 26 04.5 -0.4**	
	comp=Z,2.5nm,0.7s,mb3.8					
BILL	**Bilibino**	**24.03 43**	*e*P	**P**	**21 26 05.4 0.0**	
BILL			pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.0					
BILL	**Bilibino**	**24.03 43**	*e*P	**P**	**21 26 05.4 0.0**	
	comp=Z,1.8nm,0.3s,mb4.0					
MKAR	**Makanchi Array**	**24.19 261**	P	**P**	**21 26 07.5 +0.7**	
	comp=Z,0.9nm,0.5s,mb3.5,baz=50,slow=7.7,SNR=21					
MKAR	**Makanchi Array**	**24.19 261**	P	**P**	**21 26 07.5 +0.6**	
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.5s					
SSE	**Sheshan**	**25.97 174**	P	**P**	**21 26 20.0 -3.0**	
SSE			AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8					
SSE			AMB	AMB		
	comp=Z,510nm,12.0s					
SSE			LR	LR		
	comp=N,360nm,20.0s,MS4.2					
SSE			LR	LR		
	comp=E,670nm,20.0s,MS4.2					
SSE			LR	LR		
	comp=Z,300nm,20.0s,MS3.8					
BVAR	**Borovoye Array**	**27.32 282**	P	**P**	**21 26 35.7 +0.5**	
	comp=Z,0.8nm,0.6s,mb3.5,baz=53,slow=9.0,SNR=4.8					
BVAR	**Borovoye Array**	**27.32 282**	P	**P**	**21 26 35.7 +0.5**	
BVAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
BRVK	**Borovoye**	**27.36 282**	*e*P	**P**	**21 26 34.9 -0.7**	
BRVK			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5					
BRVK	**Borovoye**	**27.36 282**	*e*P	**P**	**21 26 34.9 -0.7**	
	comp=Z,0.9nm,0.6s,mb3.5					
ZRNK	**Zerenda**	**28.09 283**	*e*P	**P**	**21 26 41.0 -1.1**	
	comp=Z,0.4nm,0.4s,mb3.4					
AAK	**Ala-Archa**	**31.11 262**	*e*P	**P**	**21 27 09.9 +1.0**	
AAK			pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0					
AAK	**Ala-Archa**	**31.11 262**	*e*P	**P**	**21 27 09.8 +0.9**	
	comp=Z,1.3nm,0.4s,mb4.1					
LSA	**Lhasa**	**33.26 226**	*e*P	**P**	**21 27 27.9 +0.1**	
LSA			pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2					
LSA	**Lhasa**	**33.26 226**	*e*P	**P**	**21 27 27.9 +0.2**	
	comp=Z,1.4nm,0.3s,mb4.4					
AKTK	**Aktyubinsk**	**35.24 286**	P	**P**	**21 27 43.7 -1.2**	
AKTO	**Aktyubinsk**	**35.24 286**	P	**P**	**21 27 43.7 -1.2**	
	comp=Z,0.8nm,0.6s,mb3.9,baz=84,slow=16,SNR=3.6					
AKTO	**Aktyubinsk**	**35.24 286**	P	**P**	**21 27 43.7 -1.2**	
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9					
JOF	**Joensuu**	**40.78 316**	*e*p	**P**	**21 28 30.6 -1.1**	
	comp=Z,1.7nm,0.5s,mb3.9					
KAF	**Kangasniemi**	**43.15 317**	*e*p	**P**	**21 28 49.2 -1.8**	
FINES	**FINESS Array B**	**43.64 316**	P	**P**	**21 28 53.6 -1.4**	
	comp=Z,1.8nm,0.6s,mb4.0,baz=43,slow=9.6,SNR=13					
FINES	**FINESS Array B**	**43.64 316**	*i* P	**P**	**21 28 54.7 -0.3**	
FINES			pmax	pmax		
	comp=Z,2.0nm,0.6s					
INK	**Inuvik**	**44.48 30**	P	**P**	**21 29 04.1 +2.4**	
	comp=Z,1.3nm,0.8s,mb3.7,baz=329,slow=8.5,SNR=5.3					
INK	**Inuvik**	**44.48 30**	P	**P**	**21 29 04.1 +2.4**	
INK			pmax	pmax		
	comp=Z,1.0nm,0.8s					
INK	**Inuvik**	**44.48 30**	P	**P**	**21 29 04.1 +2.4**	
KDAK	**Kodiak Island**	**44.66 50**	*e*P	**P**	**21 29 09.7 +6.5**	
KIV	**Kislovodsk**	**47.40 288**	*e*P	**P**	**21 29 25.2 +0.5**	
KIV			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5					
NOA	**NORSAR Array B**	**49.25 322**	P	**P**	**21 29 40.1 +1.0**	
	comp=Z,1.2nm,0.8s,mb4.0,baz=46,slow=7.7,SNR=5.3					
NOA	**NORSAR Array B**	**49.25 322**	P	**P**	**21 29 40.1 +1.0**	
NOA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
NOA	**NORSAR Array B**	**49.25 322**	P	**P**	**21 29 40.1 +1.0**	
AKASG	**Malin Array Be**	**49.36 303**	P	**P**	**21 29 38.8 -1.1**	
	comp=Z,0.6nm,0.4s,mb4.0,baz=41,slow=8.6,SNR=6.6					
AKASG	**Malin Array Be**	**49.36 303**	P	**P**	**21 29 38.8 -1.1**	
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.4s					
GERES	**GERESS Array B**	**57.52 311**	P	**P**	**21 30 40.4 +0.6**	
	comp=Z,0.7nm,0.9s,mb3.7,baz=58,slow=9.4,SNR=4.6					
GERES	**GERESS Array B**	**57.52 311**	P	**P**	**21 30 40.4 +0.6**	
GERES			pmax	pmax		
	comp=Z,1.0nm,0.9s					
PDAR	**Pinedale Array**	**72.79 35**	P	**P**	**21 32 19.3 +0.3**	
	comp=Z,1.0nm,0.8s,mb3.8,baz=10,slow=3.3,SNR=6.8					
HWUT	**Hardware Ranch**	**73.19 37**	*e*P	**P**	**21 32 22.8 +1.5**	
	comp=Z,2.8nm,0.8s,mb4.2					
NVAR	**Mina Array Bea**	**73.64 43**	P	**P**	**21 32 25.6 +1.5**	
	comp=Z,0.6nm,0.6s,mb3.7,baz=324,slow=3.4,SNR=4.0					
TORD	**Torodi Ar. Bea**	**92.86 299**	P	**P**	**21 34 03.0 -0.3**	
	comp=Z,0.6nm,0.9s,mb4.0,baz=27,slow=2.4,SNR=3.6					

BJI ***11*** *21:27:18.2, 54.09N×163.14W, h11km, mB5.0, mb4.6, Ms4.6, Msz4.3*
IDC ***11*** *21:27:21.1±1.2, 54.16N×164.04W, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.0/24, mbtmp4.1/15, ML3.8/1, MS4.0/1, Ms1 4.0/1, ms1mx2.8/37, Error ellipse: s-maj=32.2km s-min=16.7km az=5.0*
ISCJB ***11*** *21:27:23.8±0.8, 53.65N±007×163.63W±007, h43km±5km, mb4.3/33, MS4.2/2, Error ellipse: s-maj=12.0km s-min=5.4km az=138.1*
NEIC ***11*** *21:27:23.0, 53.68N×163.70W, h3km, mb4.4/20, ML4.1(AEIC), After AEIC.*
NEIC Felt at False Pass.

ISC 11 21:27:25.0±0.8, 5365N±007×16363W±006, h42km±5km, n80, σ1°11/87, mb4.3/33, MS4.2/2, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.21**	**6**	P	**Pn**	**21 27 44.8**	**-0.7**
FALS				S	**Sn**	**21 28 01.4**	**+0.7**
AKA	**Akutan**	**1.36**	**292**	P	**Pn**	**21 27 46.7**	**-0.7**
AKA				S	**Sn**	**21 28 04.8**	**+0.6**
AKUT	**Akutan**	**1.36**	**292**	P	**Pn**	**21 27 46.6**	**-0.8**
AKUT				S	**Sn**	**21 28 04.6**	**+0.4**
AKLV	**Akutan Long Va**	**1.47**	**291**	P	**Pn**	**21 27 48.1**	**-0.8**
AKLV				S	**Sn**	**21 28 06.9**	**0.0**
UNV	**Unalaska Valle**	**1.72**	**278**	P	**Pn**	**21 27 51.1**	**-1.3**
SDPT	**Sand Point**	**2.50**	**46**	P	**Pn**	**21 28 03.0**	**-0.1**
OKCD	**Okmok Cone D**	**2.68**	**267**	P	**Pn**	**21 28 05.7**	**+0.1**
OKCE	**Okmok Cone E**	**2.71**	**267**	P	**Pn**	**21 28 06.8**	**+0.8**
NIKO	**Nikolski**	**3.21**	**260**	P	**Pn**	**21 28 12.4**	**-0.4**
CHGN	**Chignik**	**4.01**	**46**	*e*P	**Pn**	**21 28 23.6**	**-0.2**
SPIA	**Saint Paul Isl**	**5.16**	**316**	P	**Pn**	**21 28 39.9**	**+0.2**
ATKA	**Atka Island**	**6.55**	**261**	P	**Pn**	**21 28 59.3**	**+0.5**
KDAK	**Kodiak Island**	**7.48**	**52**	Pn	**Pn**	**21 29 09.2**	**-2.4**
	2.4nm,0.3s,baz=196,slow=5.7,SNR=17						
KDAK				Sn	**Sn**	**21 30 28.2**	**-6.9**
	baz=316,slow=22,SNR=2.8						
KDAK	**Kodiak Island**	**7.48**	**52**	Pn	**Pn**	**21 29 09.2**	**-2.4**
KDAK				Sn	**Sn**	**21 30 28.2**	**-6.9**
SLKM	**Skilak Lake**	**10.01**	**41**	*e*Pn	**Pn**	**21 29 45.7**	**-0.4**
TTA	**Tatalina**	**10.12**	**20**	*e*Pn	**Pn**	**21 29 49.8**	**+2.1**
	33nm,1.4s						
GAMB	**Gambell**	**10.97**	**341**	*e*Pn	**Pn**	**21 30 00.8**	**+1.5**
TNA	**Tin City**	**12.14**	**351**	*e*Pn	**Pn**	**21 30 16.9**	**+1.7**
	3.4nm,0.7s						
DAWY	**Dawson**	**16.19**	**40**	*e*Pn	**Pn**	**21 31 07.4**	**-2.0**
SKAG	**Skagway**	**16.56**	**58**	*e*Pn	**Pn**	**21 31 14.9**	**+0.8**
DLBC	**Dease Lake**	**19.23**	**62**	P	**Pn**	**21 31 47.9**	**+1.0**
	0.1nm,0.3s,baz=259,slow=11,SNR=4.5						
INK	**Inuvik**	**20.38**	**32**	P	**P**	**21 31 56.4**	**-1.7**
	0.6nm,0.3s,baz=265,slow=12,SNR=8.9						
INK	**Inuvik**	**20.38**	**32**	*e*P	**P**	**21 31 57.6**	**-0.5**
	2.3nm,0.4s						
YKA	**Yellowknife Ar**	**26.76**	**51**	P	**P**	**21 33 03.4**	**+2.8**
	0.9nm,0.8s,mb3.4,baz=278,slow=9.7,SNR=3.3						
YKA				LR	LR	21 42 41.5	
	comp=Z,337nm,19.5s,MS3.9,baz=110,slow=35						
YBH	**Yreka Blue Hor**	**29.60**	**97**	P	**P**	**21 33 30.2**	**+4.3**
	0.6nm,0.4s,mb3.7,baz=319,slow=3.2,SNR=2.5						
NVAR	**Mina Array Bea**	**34.30**	**98**	P	**P**	**21 34 12.1**	**+4.8**
	0.4nm,0.2s,mb3.9,baz=290,slow=9.4,SNR=4.9						
ELK	**Elko**	**34.64**	**92**	*e*P	**P**	**21 34 12.2**	**+2.1**
	2.6nm,0.9s,mb4.2						
TPNV	**Topopah Spring**	**36.50**	**98**	*e*P	**P**	**21 34 31.1**	**+4.9**
	1.3nm,0.4s,mb4.1

CN2				*e*S	**S**	**21 42 28.6**	**+2.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=E,400nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=Z,400nm,14.0s,MS4.5						
SUMG	**Summit**	**48.48**	**19**	*e*P	**P**	**21 36 02.1**	**-1.2**
	comp=Z,9.1nm,0.9s,mb4.8						
SONM	**Songino Array**	**53.56**	**303**	P	**P**	**21 36 40.5**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=42,slow=7.4,SNR=13						
ARCES	**ARCESS Array B**	**56.94**	**356**	P	**P**	**21 37 04.4**	**-1.5**
	comp=Z,2.6nm,0.8s,mb4.3,baz=355,slow=7.6,SNR=3.5						
LZH	**Lanzhou**	**63.26**	**295**	*e*P	**P**	**21 37 50.5**	**+1.3**
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
KAF	**Kangasniemi**	**64.31**	**355**	*e*p	**P**	**21 37 55.0**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**64.59**	**327**	P	**P**	**21 37 56.8**	**-1.1**
	comp=Z,5.0nm,0.7s,mb4.7,baz=48,slow=6.5,SNR=27						
FINES	**FINESS Array B**	**64.99**	**355**	P	**P**	**21 37 58.0**	**-2.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=29,slow=7.5,SNR=9.5						
ZRNK	**Zerenda**	**65.09**	**328**	*e*P	**P**	**21 38 00.6**	**-0.6**
	comp=Z,9.2nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**65.36**	**316**	P	**P**	**21 38 01.1**	**-1.9**
	comp=Z,1.9nm,0.7s,mb4.2,baz=47,slow=6.0,SNR=21						
WMQ	**Urumqi**	**65.39**	**311**	*e*P	**P**	**21 38 07.3**	**+4.2**
WMQ				AMB	AMB		
	comp=Z,140nm,7.0s						
NB2	**NORSAR Subarra**	**65.58**	**3**	P	**P**	**21 38 03.7**	**-0.7**
	comp=Z,1.3nm,0.8s,mb4.0,baz=357,slow=6.9						
NOA	**NORSAR Array B**	**65.58**	**3**	P	**P**	**21 38 01.4**	**-3.0**
	comp=Z,1.0nm,0.8s,mb3.9,baz=357,slow=6.6,SNR=4.0						
CD2	**Chengdu**	**67.21**	**291**	*e*P	**P**	**21 38 16.8**	**+2.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**71.92**	**319**	*e*P	**P**	**21 38 43.2**	**-0.6**
	comp=Z,4.5nm,0.8s,mb4.5						
KMI	**Kunming**	**72.24**	**288**	P	**P**	**21 38 46.9**	**+1.2**
KMI				AP	pP	21 38 52.7	-5.5
KMI				XP	sP	21 38 54.7	-8.3
LSA	**Lhasa**	**74.92**	**300**	*e*P	**P**	**21 39 02.9**	**+1.5**
	comp=Z,3.4nm,0.7s,mb4.4						
AKASG	**Malin Array Be**	**75.46**	**352**	P	**P**	**21 39 02.8**	**-1.8**
	comp=Z,2.1nm,0.5s,mb4.3,baz=6.2,slow=5.7,SNR=12						
BAIF	**Baives**	**76.16**	**8**	*e*P	**P**	**21 39 08.6**	**+0.1**
GERES	**GERESS Array B**	**77.85**	**2**	P	**P**	**21 39 18.4**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=347,slow=5.5,SNR=8.6						
LOR	**Lormes**	**78.89**	**9**	*e*P	**P**	**21 39 24.0**	**+0.2**
GUN	**Gumba**	**79.06**	**302**	*e*P	**P**	**21 39 25.4**	**+0.7**
SSF	**Saint Saulge**	**79.07**	**9**	*e*P	**P**	**21 39 24.6**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.0						
SSF	**Saint Saulge**	**79.07**	**9**	*e*P	**P**	**21 39 24.6**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.0						
JIRN	**Jiri**	**79.11**	**302**	*e*P	**P**	**21 39 24.4**	**-0.6**
	comp=Z,21nm,0.7s,mb5.2						
MFF	**Saint Martin d**	**79.14**	**12**	*e*P	**P**	**21 39 26.0**	**+0.9**
	comp=Z,18nm,1.2s,mb4.6						
MFF	**Saint Martin d**	**79.14**	**12**	*e*P	**P**	**21 39 26.0**	**+0.9**
	comp=Z,8.8nm,1.2s,mb4.6						
AVF	**Avril sur Loir**	**79.32**	**9**	*e*P	**P**	**21 39 26.0**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.1						
AVF	**Avril sur Loir**	**79.32**	**9**	*e*P	**P**	**21 39 26.0**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1						
KKN	**Kakani**	**79.46**	**303**	*e*P	**P**	**21 39 26.3**	**-0.6**
SMF	**Signal de Mont**	**79.51**	**9**	*e*P	**P**	**21 39 27.2**	**0.0**
	comp=Z,6.6nm,0.9s,mb4.3						
SMF	**Signal de Mont**	**79.51**	**9**	*e*P	**P**	**21 39 27.2**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.3						
PKI	**Pulchoki**	**79.58**	**303**	*e*P	**P**	**21 39 26.8**	**-0.8**
DMN	**Daman**	**79.70**	**303**	*e*P	**P**	**21 39 27.9**	**-0.3**
CABF	**La Chapelle**	**79.73**	**7**	*e*P	**P**	**21 39 28.9**	**+0.5**
	comp=Z,5.8nm,0.8s,mb4.2						
CABF	**La Chapelle**	**79.73**	**7**	*e*P	**P**	**21 39 28.9**	**+0.5**
	comp=Z,2.9nm,0.8s,mb4.3						
KOLN	**Koldanda**	**80.31**	**304**	*e*P	**P**	**21 39 29.0**	**-2.5**
LPL	**La Plagne**	**80.87**	**7**	*e*P	**P**	**21 39 35.2**	**+0.7**
LPG	**La Plagne**	**80.89**	**7**	*e*P	**P**	**21 39 35.1**	**+0.5**
VIVF	**Saint-Julien-l**	**81.36**	**8**	*e*P	**P**	**21 39 37.6**	**+0.5**
ORIF	**Oris-en-Rattie**	**81.40**	**8**	*e*P	**P**	**21 39 37.7**	**+0.4**
	comp=Z,1.6nm,0.4s,mb4.0						
ORIF	**Oris-en-Rattie**	**81.40**	**8**	*e*P	**P**	**21 39 37.7**	**+0.4**
	comp=Z,0.8nm,0.4s,mb4.0						
MBDF	**Montbardon**	**81.65**	**7**	*e*P	**P**	**21 39 39.2**	**+0.5**
	comp=Z,5.6nm,0.7s,mb4.3						
MBDF	**Montbardon**	**81.65**	**7**	*e*P	**P**	**21 39 39.2**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.3						
SMRF	**Simiane la Rot**	**82.31**	**8**	*e*P	**P**	**21 39 42.4**	**+0.3**
SBF	**Sospel**	**82.56**	**7**	*e*P	**P**	**21 39 43.8**	**+0.4**
	comp=Z,18nm,0.9s,mb4.8						
SBF	**Sospel**	**82.56**	**7**	*e*P	**P**	**21 39 43.8**	**+0.4**
	comp=Z,8.9nm,0.9s,mb4.8						
BR131	**Keskin Array S**	**85.81**	**347**	*e*P	**P**	**21 40 00.2**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**85.81**	**347**	P	**P**	**21 40 00.1**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.4,baz=45,slow=1.8,SNR=14						

*TIF **11** 21:33:48.6,3872N×4624E,h15km±1km*
*ISCJB **11** 21:33:50.0±0.8,3834N±005×4598E±006,h10km,Error ellipse: s-maj=8.6km s-min=6.0km az=70.3*
*THR **11** 21:33:49.2±0.4,3965N×4621E,h34km±4km,ML3.0*
*CSEM **11** 21:33:49.2,3965N×4621E,h34km,ML3.0,After THR*

ISC 11 21:33:51.4±0.8,3839N±006×4601E±007,h10km,n11, σ1§68/20,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**1.41**	**313**	*e*PG	**Pn**	**21 34 11.8**	**-5.4**
MAKU				*e*Sg	**Sb**	**21 34 28.1**	**-7.8**
MAKU				AML	AML	21 34 29.6	
	comp=N,279nm,0.4s						
MAKU				AML	AML	21 34 32.1	
	comp=E,242nm,0.7s						
MAKU	**Maku**	**1.41**	**313**	*e*Pg	**Pn**	**21 34 11.8**	**-5.3**
	SNR=99						
MAKU				*e*Sg	**Sb**	**21 34 28.1**	**-7.8**
	comp=E,242nm,0.7s,SNR=99						
GRMI	**Germi**	**1.54**	**74**	*e*PG	**Pn**	**21 34 17.3**	**-1.5**
GRMI				*e*Sg	**Sn**	**21 34 38.0**	**-0.8**
GRMI				AML	AML	21 34 40.2	
	comp=N,332nm,0.3s						
GRMI	**Germi**	**1.54**	**74**	*e*Pg	**Pn**	**21 34 17.3**	**-1.5**
	SNR=97						
GRMI				*e*Sg	**Sn**	**21 34 38.0**	**-0.9**
	comp=N,332nm,0.3s,SNR=97						
CLDR	**Caldiran**	**1.80**	**295**	PN	**Pn**	**21 34 20.8**	**-1.6**
CLDR				SN	**Sn**	**21 34 44.0**	**-1.3**
GNI	**Garni**	**2.01**	**331**	PN	**Pn**	**21 34 21.2**	**-4.2**
GNI				SN	**Sn**	**21 34 43.9**	**-6.7**
CUKT	**Cukurca**	**2.22**	**240**	*e*P	**Pn**	**21 34 31.6**	**+3.4**
DGRG	**David-gareji**	**3.10**	**351**	P	**Pn**	**21 34 41.1**	**+0.9**
DGRG				S	**Sn**	**21 35 19.3**	**+2.0**
MTA	**Mtatsminda**	**3.43**	**345**	P	**Pn**	**21 34 44.5**	**-0.4**
MTA				S	**Sn**	**21 35 27.0**	**+1.4**
SNGE	**Sanandaj**	**3.46**	**161**	*e*PN	**Pg**	**21 34 59.3**	**+1.6**
SNGE				AML	AML	21 35 54.2	
	comp=E,8.6nm,0.0s						
SNGE				AML	AML	21 35 55.6	
	comp=N,7.8nm,0.3s						
TBLG	**Delisi**	**3.48**	**344**	P	**Pn**	**21 34 46.9**	**+1.4**
TBLG				S	**Sn**	**21 35 28.5**	**+1.8**

NEIC 11 21:35:55.4±1.7,1283S×7734W,h35km,mb4.4/1, ML4.2(LIM),Error ellipse: s-maj=29.2km s-min=13.9km az=209.0,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.97**	**30**	*e*P	Pn	21 36 13.2	+0.7
NNA				*e*S	Sn	21 36 20.4	-4.6
LPAZ	**La Paz**	**9.55**	**112**	*e*Pn	Pn	21 38 10.5	+0.2
OTAV	**Otavalo**	**13.03**	**355**	Pn	Pn	21 38 55.9	-2.1
SAML	**Samuel**	**14.42**	**76**	*e*P	Pn	21 39 18.4	+1.4
	4.1nm,0.8s						
PAYG	**Puerto Ayora**	**17.62**	**312**	*e*Pn	Pn	21 39 59.4	+1.3
SDV	**Santo Domingo**	**22.58**	**17**	*e*P	P	21 40 51.3	-1.3
	3.0nm,0.2s						

JTS	**JuntasAbangare**	**24.18**	**341**	P	P	21 41 08.3	-0.1

PRE 11 21:46:14.8±1.1,2120S×3277E,h5km,ML3.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.23**	**190**	*e*P	Pn	21 47 47.4	0.0
POGA				*e*S	Sn	21 48 56.1	-2.9
POGA				AML	AML	21 49 47.5	
	comp=Z,8.2nm,0.5s						
KSR	**Koster**	**7.10**	**228**	*e*P	Pn	21 48 00.9	+1.6
KSR				*e*S	Sn	21 49 17.8	-2.7
KSR				AML	AML	21 50 14.9	
	comp=Z,6.3nm,0.5s						
LBTB	**Lobatse**	**7.61**	**239**	*e*P	Pn	21 48 07.8	+1.4
LBTB				*e*S	Sn	21 49 30.2	-2.9
LBTB				AML	AML	21 50 35.6	
	comp=Z,6.8nm,0.6s						
SWZ	**Schweizer**	**9.03**	**227**	*e*P	Pn	21 48 26.8	+1.1
SWZ				*e*S	Sn	21 50 03.1	-4.7
SWZ				AML	AML	21 51 20.7	
	comp=Z,4.1nm,0.5s						

*LDG **11** 21:56:51.1±0.5,5166N×1626E,h1km,Ml3.8/5,Error ellipse: s-maj=12.9km s-min=4.9km az=10.0,Suspected Mining induced.*
*MOS **11** 21:56:51.9±1.0,5166N×1606E,h10km,mb4.0/1,Error ellipse: s-maj=9.4km s-min=4.4km az=79.3*
*ISCJB **11** 21:56:52.7±0.3,5143N±002×1609E±002,h0km,mb3.1/1, Error ellipse: s-maj=2.5km s-min=1.8km az=20.3*
*NEIC **11** 21:56:53.1±0.3,5160N×1612E,h5km,ML3.3(SZGRF), Error ellipse: s-maj=4.0km s-min=3.8km az=114.0*
*IPEC **11** 21:56:53.8±0.3,5153N×1644E,h0km,ML2.9/4,Error ellipse: s-maj=3.4km s-min=1.9km az=92.0*
*IDC **11** 21:56:54.5±0.6,5151N×1596E,h0km,mb3.4/1,mb1 3.5/9, mb1mx3.4/22,mbtmp3.4/9,ML3.1/8,MS3.0/2,Ms1 3.0/2, ms1mx2.6/22,Error ellipse: s-maj=10.7km s-min=5.9km az=111.0*
*CSEM **11** 21:56:54.8±0.1,5148N×1613E,h1km,ML3.7/14,Error ellipse: s-maj=1.7km s-min=1.0km az=4.0*
*PRU **11** 21:56:55.3,5145N×1606E,h0km,Felt In Harrachov*
*BGR **11** 21:56:56.0±0.7,5147N×1603E,h1km,ML3.3,Error ellipse: s-maj=8.9km s-min=6.7km az=166.0*
*VIE **11** 21:56:56.0±0.7,5133N×1608E,h0km,Error ellipse: s-maj=4.7km s-min=3.1km az=11.0,Suspected Mining induced. 70 km WNW of Breslau*
*WAR **11** 21:56:55.1,5149N×1610E,ML3.1,Mining Induced*

ISC 11 21:56:52.5±0.3,5156N±002×1611E±002,h0km,n97, σ1§16/176,mb3.1/1,13C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*i* Pgd	**Pg**	**21 57 07.1**	**+0.6**
KSP				*e*Sg	**Sg**	**21 57 16.2**	**+0.2**
KSP				*e*L		21 57 19.2	
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**21 57 07.1**	**+0.6**
KSP				*e*Sg	**Sg**	**21 57 16.2**	**+0.2**
KSP				*e*S	**Sg**	**21 57 19.2**	**+3.2**
UPC	**Upice**	**1.06**	**183**	*e*PG	**Pg**	**21 57 13.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**21 57 15.9**	**0.0**
DPC				*e*SG	**Sg**	**21 57 30.8**	**-1.0**
	149nm,0.7s						
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pg**	**21 57 20.1**	**+0.3**
BRG	**Berggiesshubel**	**1.53**	**244**	*e*Pg	**Pg**	**21 57 22.1**	**+0.2**
BRG				*e*Sg	**Sg**	**21 57 42.3**	**+0.7**
BRG	**Berggiesshubel**	**1.53**	**244**	PN	**Pn**	**21 57 20.9**	**-0.2**
BRG				PG	**Pg**	**21 57 22.4**	**+0.5**
BRG				SG	**Sg**	**21 57 42.6**	**+1.0**
	103nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**244**	P	**Pn**	**21 57 20.9**	**-0.2**
BRG						21 57 42.7	
BRG				smax			
	comp=N,103nm,0.4s						
RUE	**Ruedersdorf**	**1.71**	**303**	*e*Pn	**Pn**	**21 57 24.8**	**+1.3**
RUE				*e*Sn	**Sn**	**21 57 50.9**	**+4.8**
RUE	**Ruedersdorf**	**1.71**	**303**	*e*Pn	**Pn**	**21 57 24.8**	**+1.2**
PRA	**Prague**	**1.83**	**216**	PG	**Pg**	**21 57 25.0**	**-2.7**
PRA				SG	**Sg**	**21 57 50.0**	**-1.5**
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*Pn	**Pn**	**21 57 29.0**	**+3.6**
GKP				*e*Sg	**Sg**	**21 57 58.8**	**+7.0**
FBE	**Freiberg**	**1.85**	**251**	*e*Sg	**Sg**	**21 57 52.4**	**+0.5**
PRU	**Pruhonice**	**1.86**	**213**	*e*PN	**Pn**	**21 57 25.7**	**0.0**
PRU				*e*PG	**Pg**	**21 57 27.0**	**-1.3**
PRU				*e*x	x	21 57 44.2	
PRU				*e*SG	**Sg**	**21 57 51.1**	**-1.4**
	comp=N,82nm,0.5s						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**21 57 27.4**	**+0.4**
CLL				*e*Pg	**Pg**	**21 57 30.0**	**-0.2**
CLL				*i* Sg	**Sg**	**21 57 56.1**	**+0.5**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**21 57 27.0**	**-0.1**
CLL				*e*Pg	**Pg**	**21 57 30.0**	**-0.2**
CLL				*i* x	x	21 57 34.4	
CLL				*i* Sg	**Sg**	**21 57 56.1**	**+0.5**
	comp=Z,60nm,0.8s						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**21 57 27.0**	**-0.1**
CLL				*e*Pg	**Pg**	**21 57 30.0**	**-0.2**
CLL				*i* Sg	**Sg**	**21 57 56.1**	**+0.5**
RAC	**Raciborz**	**1.98**	**137**	*e*Pn	**Pn**	**21 57 27.2**	**-0.1**
RAC				*e*Pg	**Pg**	**21 57 30.9**	**+0.3**
RAC				*e*Sg	**Sg**	**21 57 56.6**	**+0.3**
RAC	**Raciborz**	**1.98**	**137**	*e*Pg	**Pg**	**21 57 30.9**	**+0.3**
RAC				*e*Sg	**Sg**	**21 57 56.6**	**+0.3**
MORC	**Moravsky Berou**	**2.01**	**152**	⇑*i*P	**Pn**	**21 57 27.6**	**0.0**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**21 57 27.8**	**+0.1**
MORC				*e*Sn	**Sn**	**21 57 55.4**	**+2.0**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**21 57 27.7**	**+0.1**
MORC				*e*Sg	**Sg**	**21 57 52.9**	**-4.1**
MORC				*e*S	**Sn**	**21 57 55.4**	**+2.0**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PN	**Pn**	**21 57 29.4**	**-0.3**
OKC				*e*PG	**Pg**	**21 57 33.3**	**-0.6**
OKC				*e*SG	**Sg**	**21 58 00.4**	**-1.5**
	comp=Z,139nm,1.0s						
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**21 57 32.2**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=349,slow=14,SNR=16						
VRAC				Lg		21 58 04.5	
	comp=Z,8.9nm,0.3s,baz=257,slow=21,SNR=14						
VRAC	**Vranov**	**2.28**	**172**	⇓*i*P	**Pn**	**21 57 32.0**	**+0.6**
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**21 57 31.9**	**+0.5**
VRAC				*e*Sg	**Sg**	**21 58 03.6**	**-2.1**
	comp=Z,45nm,0.4s						
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**21 57 35.5**	**+0.9**
KRUC				*e*Sg	**Sg**	**21 58 11.1**	**-2.1**
	comp=Z,53nm,0.5s						
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**21 57 36.8**	**+1.3**
TANN				*e*Sg	**Sg**	**21 58 14.1**	**-1.3**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**21 57 38.0**	**+1.2**
NKC				*e*PG	**Pg**	**21 57 43.1**	**-0.7**
NKC				*e*SG	**Sg**	**21 58 19.2**	**+0.7**
	comp=Z,116nm,0.3s						
WERN	**Wernitzgruen**	**2.69**	**243**	*e*Pn	**Pn**	**21 57 38.5**	**+1.4**
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**21 57 44.6**	**+0.4**
OJC				*e*Sg	**Sg**	**21 58 19.9**	**+0.8**
NEUB	**Neuenburg**	**2.74**	**264**	*e*Sg	**Sg**	**21 58 22.2**	**+1.6**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*Sg	**Sg**	**21 58 24.0**	**-1.3**
	comp=Z,68nm,0.7s						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**21 57 40.9**	**+0.6**
KHC				*e*PG	**Pg**	**21 57 46.8**	**-1.8**
KHC				*e*SN	**Sn**	**21 58 16.0**	**-0.1**
KHC				*e*SG	**Sg**	**21 58 26.5**	**-0.1**
	comp=Z,69nm,0.8s						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*P	**Pn**	**21 57 40.9**	**+0.6**
KHC				*e*		21 58 16.0	
KHC	**Kasperske Hory**	**2.93**	**215**	*e*Pn	**Pn**	**21 57 40.9**	**+0.6**
KHC				*e*Pg	**Pg**	**21 57 46.8**	**-1.8**
KHC				*e*Sn	**Sn**	**21 58 16.0**	**-0.1**
KHC				*e*Sg	**Sg**	**21 58 26.5**	**-0.1**
MHAI	**Haid-Arzberg**	**2.94**	**240**	⇑*i*Pn	**Pn**	**21 57 41.6**	**+1.2**
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**21 57 42.7**	**+1.6**
MOX				*e*Pg	**Pg**	**21 57 50.2**	**+0.5**
MOX				*e*Sg	**Sg**	**21 58 29.3**	**+1.1**
MOX	**Moxa**	**2.98**	**254**	*e*PN	**Pn**	**21 57 41.7**	**+0.7**
MOX				*e*PG	**Pg**	**21 57 50.2**	**+0.5**
MOX				*e*SG	**Sg**	**21 58 29.2**	**+0.9**
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**21 57 41.7**	**+0.7**
MOX				*e*Pg	**Pg**	**21 57 50.2**	**+0.5**
MOX				*e*Sg	**Sg**	**21 58 29.2**	**+0.9**
MANZ	**Manzenberg**	**2.99**	**240**	*e*Pn	**Pn**	**21 57 42.5**	**+1.3**
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Pn	**Pn**	**21 57 44.4**	**+1.3**
GEC2				*e*Sg	**Sg**	**21 58 32.2**	**-0.9**
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Pn	**Pn**	**21 57 44.4**	**+1.3**
GEC2				*e*Sg	**Sg**	**21 58 32.2**	**-0.9**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**21 57 43.6**	**+0.5**
	comp=Z,2.4nm,0.3s,baz=30,slow=12,SNR=88						
GERES				Pg	**Pg**	**21 57 50.6**	**-1.9**
	comp=Z,4.9nm,0.3s,baz=29,slow=19,SNR=40						
GERES				Sn	**Sn**	**21 58 20.2**	**-1.0**
	comp=Z,3.4nm,0.3s,baz=35,slow=26,SNR=5.9						
GERES				Lg		21 58 30.9	
	comp=Z,7.0nm,0.3s,baz=33,slow=27,SNR=13						
GERES				LR	LR	21 58 59.6	
	comp=Z,229nm,19.7s,baz=93,slow=41						
GERES	**GERESS Array B**	**3.13**	**211**	Pg	**Pg**	**21 57 50.6**	**-1.9**
SMOL	**Smolenice**	**3.17**	**164**	*e*SG	**Sg**	**21 58 35.1**	**+0.8**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**21 57 44.4**	**+0.6**
WET				*e*Sg	**Sg**	**21 58 33.2**	**-1.7**
VKA	**Vienna**	**3.30**	**178**	*i* Pg	**Pg**	**21 57 56.2**	**+0.3**
VKA				*i* Sg	**Sg**	**21 58 39.8**	**+1.1**
KOLL	**Kolacno**	**3.33**	**153**	*e*PN	**Pn**	**21 57 48.2**	**+2.3**
KOLL				*e*PG	**Pg**	**21 57 57.2**	**+0.8**
KOLL				*e*SG	**Sg**	**21 58 38.6**	**-1.0**
ZST	**Bratislava**	**3.43**	**169**	*e*SG	**Sg**	**21 58 39.4**	**-3.4**
NIE	**Niedzica**	**3.44**	**127**	*e*P	**Pg**	**21 57 58.3**	**-0.1**
NIE				*e*S	**Sg**	**21 58 42.9**	**0.0**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**21 57 50.9**	**+0.9**
BSD				*i* S	**Sn**	**21 58 31.5**	**-2.0**
GRA1	**Grafenberg Arr**	**3.63**	**241**	*e*Pn	**Pn**	**21 57 51.1**	**+1.1**
GRA1				*e*Sg	**Sg**	**21 58 49.4**	**+0.1**
GRF	**Grafenberg Arr**	**3.63**	**241**	*e*Pn	**Pn**	**21 57 51.1**	**+1.1**
GRF				*e*Sg	**Sg**	**21 58 49.4**	**+0.1**
CONA	**Conrad Observa**	**3.64**	**183**	⇑*i*Pn	**Pn**	**21 57 50.6**	**+0.5**
	SNR=8.7						
CONA				⇓*i*Sg	**Sg**	**21 58 49.0**	**-0.5**
	comp=Z,41nm,0.7s						
HROE	**Hohe Rhon--Fla**	**3.90**	**257**	⇓*i*Pn	**Pn**	**21 57 54.9**	**+1.3**
MOA	**Molln**	**3.91**	**199**	⇑⇑*i*Pn	**Pn**	**21 57 54.7**	**+0.9**
	SNR=12						
MOA				⇑*i*Sg	**Sg**	**21 58 57.8**	**-0.2**
	comp=Z,48nm,0.9s						
MOA	**Molln**	**3.91**	**199**	Pn	**Pn**	**21 57 54.7**	**+0.9**
	comp=Z,12nm,2.0s						
MOA				Sg	**Sg**	**21 58 57.8**	**-0.2**
	comp=Z,48nm,0.9s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN	**Pn**	**21 57 55.6**	**+1.7**
STHS				*e*PG	**Pg**	**21 58 08.7**	**+1.1**
STHS				*e*SG	**Sg**	**21 59 03.0**	**+4.6**
KECS	**Kecovo**	**4.18**	**136**	*e*PN	**Pn**	**21 57 58.1**	**+0.6**
KECS				*e*PG	**Pg**	**21 58 12.1**	**-0.5**
KECS				*e*SG	**Sg**	**21 59 09.1**	**+2.4**
ARSA	**Arzberg**	**4.33**	**185**	⇑*i*Pn	**Pn**	**21 58 00.1**	**+0.4**
ARSA				⇓*e*Sg	**Sg**	**21 59 11.6**	**-0.2**
	comp=Z,52nm,0.8s,SNR=5.3						
KWP	**Kalwaria**	**4.62**	**112**	*e*Pg	**Pg**	**21 58 19.2**	**-2.0**
KWP	**Kalwaria**	**4.62**	**112**	*e*Pn	**Pn**	**21 58 03.9**	**+0.3**
KWP				*e*Pg	**Pg**	**21 58 18.8**	**-2.4**
KWP				*e*Sn	**Sn**	**21 58 58.5**	**+0.4**
KWP				*e*Sg	**Sg**	**21 59 20.8**	**-0.3**
KWP	**Kalwaria**	**4.62**	**112**	*e*Pg	**Pg**	**21 58 18.8**	**-2.4**
WTTA	**Wattenberg**	**5.20**	**216**	⇑*i*Pn	**Pn**	**21 58 13.2**	**+1.6**
WTTA				⇑*i*Sg	**Sg**	**21 59 40.3**	**+0.7**
	comp=Z,12nm,0.6s						
MOTA	**Moosalm**	**5.34**	**220**	⇑*i*Pn	**Pn**	**21 58 14.4**	**+0.9**
MOTA				⇓*i*Sg	**Sg**	**21 59 44.3**	**+0.3**
	comp=Z,15nm,0.7s						
SQTA	**Sankt Quirin**	**5.40**	**218**	⇑*i*Pn	**Pn**	**21 58 16.1**	**+1.8**
SQTA				⇑*i*Sg	**Sg**	**21 59 48.7**	**+2.7**
	comp=Z,13nm,0.8s						
PKSM	**Moragy**	**5.61**	**162**	⇑*i*P	**Pn**	**21 58 18.4**	**+1.2**
DAVOX	**Davos**	**6.29**	**223**	Pn	**Pn**	**21 58 27.9**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=46,slow=17,SNR=5.4						
DAVOX				Lg		22 00 09.0	
	comp=Z,0.5nm,0.3s,baz=206,slow=21,SNR=3.

NIED **11** *23:04:00, 4150N×142.10E, h74km, Mw4.5 Best double couple: M0=5.47000×10^15 NP1:φ=336.00000°, δ67.00000°, λ35.00000°. NP2:φ=230.00000°, δ58.00000°, λ153.00000°.*
BJI **11** *23:04:17.8, 4150N×142.24E, h92km, mB4.8, mb4.7*
ISCJB **11** *23:04:18.6±0.3, 4149N±002×142.05E±.004, h78km±2km, mb4.6/52, Error ellipse: s-maj=5.3km s-min=3.4km az=52.3*
MOS **11** *23:04:18.1±1.0, 4152N×142.06E, h76km, mb4.9/30, Error ellipse: s-maj=9.3km s-min=6.0km az=107.9*
IDC **11** *23:04:19.7±0.7, 4149N×142.01E, h74km±5km, mb4.1/16, mb1 4.3/18, mb1mx4.2/22, mbtmp4.5/18, MS3.5/1, Ms1 3.5/1, ms1mx2.2/22, Error ellipse: s-maj=17.1km s-min=9.0km az=96.0*
JMA **11** *23:04:19.5±0.1, 4150N×142.04E, h72km±2km, M4.4 Broadband fault plane solution: P waves. NP1: φs143.00000°, δ38.00000°, λ13.00000°. NP2:φs42.00000°, δ82.00000°, λ128.00000°. Principal axes: T Plg41.0000°, Azm347.0000°; N Plg37.0000°, Azm216.0000°; P Plg27.0000°, Azm103.0000°;*
JMA Felt III J1.
NEIC **11** *23:04:20.0±0.4, 4147N×142.09E, mb4.8/23, MW4.4(NIED) Error ellipse: s-maj=10.0km s-min=6.4km az=98.0*
NEIC Recorded [3 JMA] in southwestern Hokkaido; [2 JMA] in the Chitose and Obihiro areas; [1 JMA] in south-central and eastern Hokkaido. Also recorded [2 JMA] in Aomori and Iwate Prefectures, Honshu.

ISC 11 23:04:19.6±0.3, 4150N±002×14207E±004, h72km±2km, h78km±2.1km:pP-P, n159, σ1§08/170, mb4.6/52, 11C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.77**	**262**	⇓P	**Pn**	**23 04 35.3**	**-0.2**
JOT				S	**Sn**	**23 04 47.1**	**-0.1**
JKB	**Kayabe**	**0.87**	**297**	⇓P	**Pn**	**23 04 35.9**	**-0.6**
JKB				S	**Sn**	**23 04 48.2**	**-0.9**
JNBK	**Urakawa-nobuka**	**0.94**	**33**	⇑P	**Pn**	**23 04 37.2**	**-0.2**
JNBK				*e*S	**Sn**	**23 04 51.1**	**+0.5**
JEM	**Erimo**	**0.97**	**57**	⇓P	**Pn**	**23 04 37.8**	**0.0**
JEM				S	**Sn**	**23 04 50.7**	**-0.6**
JTM	**Tenmabayashi**	**1.03**	**227**	⇓P	**Pn**	**23 04 38.7**	**+0.1**
JTM				S	**Sn**	**23 04 52.7**	**-0.1**
JANG	**Nango**	**1.20**	**201**	⇑P	**Pn**	**23 04 40.4**	**-0.3**
JANG				S	**Sn**	**23 04 55.8**	**-0.7**
JEW	**Eniwo**	**1.42**	**341**	P	**Pn**	**23 04 43.8**	**+0.3**
JEW				S	**Sn**	**23 05 01.6**	**+0.1**
JCH	**Churui**	**1.48**	**40**	⇑P	**Pn**	**23 04 44.6**	**+0.3**
JCH				S	**Sn**	**23 05 02.8**	**-0.1**
JFR	**Furan**	**1.71**	**13**	⇑P	**Pn**	**23 04 47.5**	**+0.1**
JFR				*e*S	**Sn**	**23 05 08.6**	**+0.2**
JOSM	**Okushiri--Mats**	**2.02**	**288**	P	**Pn**	**23 04 51.1**	**-0.5**
JOSM				S	**Sn**	**23 05 15.0**	**-0.9**
JOM	**Ohasama**	**2.11**	**196**	⇑P	**Pn**	**23 04 52.7**	**0.0**
JOM				S	**Sn**	**23 05 18.0**	**0.0**
ASAJ	**Asahikawa**	**2.65**	**8**	P	**Pn**	**23 05 00.5**	**+0.5**
	252nm,0.3s,baz=222,slow=8.2,SNR=794						
ASAJ				S	**Sn**	**23 05 31.4**	**+0.3**
	64nm,0.3s,baz=346,slow=29,SNR=9.9						
ASAJ	**Asahikawa**	**2.65**	**8**	P	**Pn**	**23 05 00.5**	**+0.5**
ASAJ				S	**Sn**	**23 05 31.4**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,252nm,0.3s						
ASAJ				smax			
	comp=N,64nm,0.3s						
YSS	**Yuzh-Sakhalins**	**5.48**	**5**	*e*P	**Pn**	**23 05 39.3**	**+0.7**
YSS				pmax	pmax		
	comp=Z,53nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.48**	**5**	*e*Pn	**Pn**	**23 05 39.3**	**+0.8**
	comp=Z,53nm,0.8s						
KUR	**Kuril'sk**	**5.64**	**47**	*e*P	**Pn**	**23 05 38.0**	**-2.8**
KUR				*e*S	**Sn**	**23 06 39.0**	**-5.2**
KUR				pmax	pmax		
	comp=N,70nm,0.7s						
KUR				pmax	pmax		
	comp=E,90nm,0.7s						
KUR				pmax	pmax		
	comp=Z,130nm,0.7s						
KUR				smax			
	comp=N,770nm,0.7s						
KUR				smax			
	comp=E,430nm,0.7s						
MAJO	**Matsushiro**	**5.79**	**212**	*e*P	**Pn**	**23 05 44.2**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,93nm,0.6s						
MAJO	**Matsushiro**	**5.79**	**212**	*e*Pn	**Pn**	**23 05 44.2**	**+1.4**
	comp=Z,93nm,0.6s						
MAT	**Matsushiro**	**5.79**	**212**	P	**Pn**	**23 05 44.0**	**+1.2**
MAT				*e*S	**Sn**	**23 06 49.1**	**+1.3**
MAT	**Matsushiro**	**5.79**	**212**	*e*P	**Pn**	**23 05 44.0**	**+1.2**
MAT				pmax	pmax		
	comp=Z,122nm,1.0s						
MAT	**Matsushiro**	**5.79**	**212**	*e*P	**Pn**	**23 05 44.0**	**+1.2**
	comp=Z,122nm,1.0s						
MJAR	**Matsushiro Arr**	**5.79**	**212**	P	**Pn**	**23 05 43.8**	**+1.0**
	comp=Z,11nm,0.3s,baz=23,slow=14,SNR=216						
MJAR	**Matsushiro Arr**	**5.79**	**212**	P	**Pn**	**23 05 43.8**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,11nm,0.3s						
VLA	**Vladivostok**	**7.71**	**286**	*i* P	**Pn**	**23 06 11.3**	**+2.2**
VLA				pmax	pmax		
	comp=Z,78nm,0.9s						
JHJ	**Hachijo jima 2**	**8.56**	**193**	P	**Pn**	**23 06 16.9**	**-3.8**
	comp=Z,62nm,0.3s,baz=287,slow=22,SNR=19						
JHJ				S	**Sn**	**23 07 47.1**	**-8.5**
	comp=Z,20nm,0.3s,baz=96,slow=21,SNR=2.5						
HABR	**Khabarovsk**	**8.56**	**327**	*e*P	**Pn**	**23 06 20.2**	**-0.5**
HABR				S	**Sn**	**23 07 55.8**	**+0.1**
MDJ	**Mudanjiang**	**9.65**	**293**	P	**Pn**	**23 06 38.9**	**+3.3**
MDJ				AMB	AMB		
	comp=Z,30nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,130nm,5.6s						
MDJ	**Mudanjiang**	**9.65**	**293**	*e*Pn	**Pn**	**23 06 36.9**	**+1.4**
	comp=Z,23nm,0.9s						
KLR	**Kul'dur**	**10.60**	**320**	*e*P	**Pn**	**23 06 48.2**	**-0.3**
KLR				pmax	pmax		
	comp=E,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,25nm,1.2s						
CN2	**Changchun**	**12.45**	**286**	*e*P	**Pn**	**23 07 14.9**	**+1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CBIJ	**Chichi jima**	**14.37**	**180**	P	**Pn**	**23 07 35.0**	**-4.3**
	comp=Z,9.9nm,0.3s,baz=301,slow=17,SNR=7.5						
CBIJ				S	**Sn**	**23 10 04.0**	**-13**
	comp=Z,6.2nm,0.3s,baz=260,slow=22,SNR=2.7						
HIA	**Hailar**	**17.46**	**304**	*e*P	**Pn**	**23 08 16.2**	**-2.0**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
HIA	**Hailar**	**17.46**	**304**	*e*Pn	**Pn**	**23 08 16.2**	**-2.0**
	comp=Z,7.2nm,0.4s						
JOW	**Kunigami**	**18.52**	**222**	P	**Pn**	**23 08 26.4**	**-4.7**
	comp=Z,1.6nm,0.3s,baz=159,slow=28,SNR=3.6						
BJT	**Baijiatuau**	**19.66**	**274**	*e*P	**Pn**	**23 08 41.5**	**-3.1**
BJT				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	**Baijiatuau**	**19.66**	**274**	*e*Pn	**Pn**	**23 08 41.5**	**-3.1**
	comp=Z,13nm,0.6s						
NJ2	**Nanjing**	**20.80**	**251**	*e*P	**P**	**23 08 55.1**	**+0.2**
NJ2				AP		23 09 14.5	
NJ2				PP		23 09 22.2	
NJ2				XP	sP	23 09 26.2	+7.4
NJ2				PPP		23 09 31.5	
NJ2				S	**S**	**23 12 35.0**	**-7.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,100nm,9.9s						
NJ2				LR	LR		
	comp=N,380nm,21.0s						
NJ2				LR	LR		
	comp=E,280nm,18.0s						
NJ2				LR	LR		
	comp=Z,150nm,15.1s						
YAK	**Yakutsk**	**21.87**	**344**	P	**P**	**23 09 04.9**	**-1.5**
HHC	**Hu-ho-hao-te**	**22.92**	**279**	*e*P	**P**	**23 09 15.7**	**-1.7**
HHC				AMB	AMB		
	comp=Z,40nm,5.4s						
YHNB	**Yeheng**	**24.03**	**232**	*e*P	**P**	**23 09 26.1**	**-1.7**
WHN	**Wuhan**	**24.84**	**253**	*e*P	**P**	**23 09 32.0**	**-3.1**
ULN	**Ulaanbaatar**	**25.54**	**296**	*c i*P	**P**	**23 09 41.2**	**-0.3**
ULN	**Ulaanbaatar**	**25.54**	**296**	*e*P	**P**	**23 09 40.4**	**-1.1**
	comp=Z,7.7nm,0.6s,mb4.3						
SONM	**Songino Array**	**25.98**	**296**	P	**P**	**23 09 44.2**	**-1.3**
	comp=Z,8.2nm,0.5s,mb4.4,baz=84,slow=8.3,SNR=59						
SONM				ScP	ScP	23 16 46.0	+0.7
	comp=Z,0.3nm,0.6s,baz=111,slow=3.2,SNR=2.4						
TLY	**Talaya**	**28.00**	**304**	*e*P	**P**	**23 10 03.1**	**-0.5**
TLY				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.4						
TLY	**Talaya**	**28.00**	**304**	*e*P	**P**	**23 10 03.1**	**-0.5**
	comp=Z,13nm,1.1s,mb4.4						
ZAK	**Zakamensk**	**28.12**	**302**	*e*P	**P**	**23 10 04.0**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.2						
BILL	**Biilibino**	**29.62**	**18**	*e*P	**P**	**23 10 18.0**	**0.0**
BILL	**Biilibino**	**29.62**	**18**	*e*P	**P**	**23 10 17.9**	**0.0**
MOY	**Mondy**	**29.64**	**304**	*e*P	**P**	**23 10 17.8**	**-0.4**
MOY				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.4						
GTA	**Gaotai**	**31.99**	**280**	P	**P**	**23 10 38.6**	**-0.2**
CD2	**Chengdu**	**32.43**	**263**	*e*P	**P**	**23 10 42.7**	**0.0**
CD2				AP	pP	23 11 00.5	+0.6
CD2				PP	PP	23 11 53.1	-4.0
CD2				S	**S**	**23 15 50.5**	**-1.6**
CD2				SS	SS	23 17 50.2	-24
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,60nm,6.2s						
CD2				LR	LR		
	comp=E,120nm,14.2s						
CD2				LR	LR		
	comp=Z,90nm,12.4s						
KRAR	**Krasnoyarsk**	**34.73**	**312**	⇑*e*P	**P**	**23 11 02.6**	**-0.1**
KRAR				pmax	pmax		
	comp=Z,16nm,0.4s,mb5.2						
ZAL	**Zalesovo**	**39.42**	**308**	P	**P**	**23 11 42.6**	**+0.1**
	comp=Z,14nm,0.5s,mb5.0						
ZAL				LR	LR	23 29 23.8	
	comp=Z,76nm,21.4s,baz=70,slow=38						
ZAL	**Zalesovo**	**39.42**	**308**	P	**P**	**23 11 42.6**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,14nm,0.5s						
ZAL				MLR	MLR		
	comp=Z,76nm,21.4s						
WMQ	**Urumqi**	**39.45**	**292**	P	**P**	**23 11 43.3**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,30nm,4.0s						
NVS	**Novosibirsk**	**40.24**	**310**	*i* P	**P**	**23 11 47.8**	**-1.4**
NVS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
NVS				pmax	pmax		
	comp=N,5.0nm,0.6s						
MK31	**Makanchi Array**	**42.32**	**298**	P	**P**	**23 12 05.7**	**-0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
MKAR	**Makanchi Array**	**42.32**	**298**	P	**P**	**23 12 05.8**	**-0.4**
	comp=Z,6.2nm,0.4s,mb4.7,baz=75,slow=11,SNR=128						
MKAR	**Makanchi Array**	**42.32**	**298**	P	**P**	**23 12 05.9**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
LSA	**Lhasa**	**42.49**	**271**	*e*P	**P**	**23 12 10.0**	**+2.4**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.7						
LSA	**Lhasa**	**42.49**	**271**	*e*P	**P**	**23 12 10.0**	**+2.4**
	comp=Z,4.8nm,0.3s,mb4.7						
KURK	**Kurchatov**	**43.70**	**305**	*e*P	**P**	**23 12 16.5**	**-0.9**
KURK				*e**PP	pP	23 12 35.8	+0.7
KURK				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9						
KURK	**Kurchatov**	**43.70**	**305**	*e*P	**P**	**23 12 16.5**	**-0.9**
	comp=Z,15nm,0.6s,mb4.9						
KURK				*e*pP	pP	23 12 35.8	+0.7
COLA	**College**	**45.08**	**35**	*i* P	**P**	**23 12 29.9**	**+1.5**
COLA	**College**	**45.08**	**35**	*e*P	**P**	**23 12 28.0**	**-0.4**
	comp=Z,12nm,0.9s,mb4.6						
JIRN	**Jiri**	**47.27**	**271**	*e*P	**P**	**23 12 47.8**	**+2.2**
	comp=Z,22nm,0.4s,mb5.2						
GUN	**Gumba**	**47.37**	**272**	*e*P	**P**	**23 12 48.2**	**+1.9**
	comp=Z,104nm,0.6s						
VOSK	**Vostochnaya**	**47.77**	**309**	P	**P**	**23 12 51.9**	**+2.4**
KKN	**Kakani**	**47.88**	**272**	*e*P	**P**	**23 12 52.2**	**+1.9**
	comp=Z,44nm,0.7s,mb5.4						
KKN	**Kakani**	**47.88**	**272**	*e*P	**P**	**23 12 52.2**	**+1.9**
KKN				pmax	pmax		
	comp=Z,44nm,0.7s,mb5.4						
PKI	**Pulchoki**	**47.90**	**272**	*e*P	**P**	**23 12 52.1**	**+1.6**
	comp=Z,13nm,0.4s,mb5.1						
PKI	**Pulchoki**	**47.90**	**272**	*e*P	**P**	**23 12 52.1**	**+1.6**
PKI				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.1						
BVA0	**Borovoye Array**	**48.03**	**310**	*i* P	**P**	**23 12 51.4**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
BVAR	**Borovoye Array**	**48.03**	**310**	P	**P**	**23 12 51.4**	**-0.1**
	comp=Z,12nm,0.5s,mb5.0,baz=76,slow=9.4,SNR=76						
BVAR	**Borovoye Array**	**48.03**	**310**	P	**P**	**23 12 51.4**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,12nm,0.5s						
TKM2	**Tokmak 2**	**48.07**	**295**	P	**P**	**23 12 55.2**	**+3.4**
	SNR=7.6						
BRVK	**Borovoye**	**48.09**	**310**	*e*P	**P**	**23 12 51.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
BRVK	**Borovoye**	**48.09**	**310**	*e*P	**P**	**23 12 51.6**	**-0.3**
	comp=Z,5.7nm,0.5s,mb4.7						
BRVK				*e*ScP	ScP	23 18 14.0	+7.3
DMN	**Daman**	**48.11**	**272**	*e*P	**P**	**23 12 54.0**	**+1.9**
	comp=Z,18nm,0.5s,mb5.2						
KBK	**Karagaybulak**	**48.61**	**295**	P	**P**	**23 12 59.1**	**+3.1**
	SNR=13						
KZA	**Kyzart**	**48.63**	**294**	P	**P**	**23 13 00.5**	**+4.3**
	SNR=9.6						
USP	**Ospenovka**	**48.68**	**296**	P	**P**	**23 12 56.4**	**-0.1**
	SNR=11						
ZRNK	**Zerenda**	**48.85**	**310**	*e*P	**P**	**23 12 57.7**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
ZRNK	**Zerenda**	**48.85**	**310**	*e*P	**P**	**23 12 57.7**	**-0.2**
	comp=Z,17nm,0.7s,mb5.1						
AAK	**Ala-Archa**	**48.93**	**295**	P	**P**	**23 13 01.1**	**+2.7**
	SNR=5.1						
AAK	**Ala-Archa**	**48.93**	**295**	⇑*e*P	**P**	**23 12 58.5**	**+0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,24.0s						
AAK	**Ala-Archa**	**48.93**	**295**	*e*P	**P**	**23 12 57.7**	**-0.7**
	comp=Z,10.0nm,0.4s,mb5.1						
EKS2	**Erkin-Say**	**49.41**	**296**	P	**P**	**23 13 02.2**	**+0.1**
	SNR=16						
AML	**Almayashu**	**49.67**	**295**	P	**P**	**23 13 06.7**	**+2.6**
	SNR=5.8						
INK	**Inuvik**	**50.21**	**29**	P	**P**	**23 13 08.9**	**+0.7**
	comp=Z,2.3nm,0.5s,mb4.3,baz=316,slow=8.7,SNR=12						
INK	**Inuvik**	**50.21**	**29**	*e*P	**P**	**23 13 08.8**	**+0.7**
INK				*e*pP	pP	23 13 29.2	+2.9
KKAR	**Karatay Array**	**51.43**	**297**	*i* P	**P**	**23 13 16.8**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ARU	**Arti**	**53.41**	**317**	⇑*i P*	**P**	**23 13 31.6**	**-0.3**
ARU				*e*		23 15 28.9	
ARU				*e*PPP		23 16 40.3	
ARU				*e*S	**S**	**23 20 58.9**	**+0.1**
ARU				*e*		23 23 12.3	
ARU				*e*SS	SS	23 24 42.2	+2.6
ARU				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
PSI	**Prapat**	**54.58**	**237**	P	**P**	**23 13 40.9**	**+0.4**
	comp=Z,2.8nm,0.4s,mb4.7,baz=46,slow=5.5,SNR=5.7						
PSI	**Prapat**	**54.58**	**237**	P	**P**	**23 13 40.9**	**+0.4**
PSI				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
AB31	**Akbulak array**	**55.52**	**308**	*i* P	**P**	**23 13 46.8**	**-0.4**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
AKTK	**Aktyubinsk**	**56.13**	**310**	P	**P**	**23 13 50.6**	**-1.0**
AKTO	**Aktyubinsk**	**56.13**	**310**	P	**P**	**23 13 50.6**	**-1.0**
	comp=Z,2.4nm,0.5s,mb4.5,baz=72,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**56.13**	**310**	P	**P**	**23 13 50.7**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
RES	**Resolute Bay**	**58.16**	**15**	*e*P	**P**	**23 14 05.8**	**-0.1**
RES				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
RES	**Resolute Bay**	**58.16**	**15**	*e*P	**P**	**23 14 05.8**	**-0.2**
	comp=Z,9.9nm,0.8s,mb4.9						
YKA	**Yellowknife Ar**	**59.72**	**32**	pP	pP	23 14 35.3	0.0
	comp=Z,3.4nm,0.8s,baz=302,slow=6.9,SNR=7.8						
ARCES	**ARCESS Array B**	**60.01**	**339**	P	**P**	**23 14 20.3**	**+1.6**
	comp=Z,2.7nm,0.8s,mb4.3,baz=39,slow=6.0,SNR=18						
ARCES	**ARCESS Array B**	**60.01**	**339**	P	**P**	**23 14 20.3**	**+1.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**61.53**	**188**	*i* P	**P**	**23 14 28.2**	**-0.8**
WRAB	**Tennant Creek**	**61.53**	**188**	*e*P	**P**	**23 14 26.1**	**-3.0**
	comp=Z,14nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**61.54**	**188**	⇑*i P*	**P**	**23 14 28.1**	**-1.0**
WRA	**Warramunga Arr**	**61.55**	**188**	P	**P**	**23 14 28.3**	**-0.8**
	comp=Z,7.5nm,0.5s,mb5.0,baz=6.9,slow=7.0,SNR=46						
WRA	**Warramunga Arr**	**61.55**	**188**	P	**P**	**23 14 28.3**	**-0.8**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JOF	**Joensuu**	**62.29**	**331**	*e*p	**P**	**23 14 33.1**	**-1.0**
	comp=Z,2.7nm,0.4s,mb4.6						
KAF	**Kangasniemi**	**64.59**	**332**	*e*p	**P**	**23 14 49.6**	**+0.3**
	comp=Z,1.8nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**64.59**	**332**	*e*P	**P**	**23 14 49.6**	**+0.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
OBN	**Obninsk**	**64.85**	**322**	*e*P	**P**	**23 14 50.7**	**-0.3**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
FINES	**FINESS Array B**	**65.12**	**332**	P	**P**	**23 14 52.2**	**-0.5**
	comp=Z,1.4nm,0.3s,mb4.2,baz=55,slow=7.1,SNR=23						
FINES				pP	pP	23 15 11.5	-0.1
	comp=Z,7.2nm,0.8s,baz=42,slow=8.5,SNR=9.5						
FINES	**FINESS Array B**	**65.12**	**332**	P	**P**	**23 14 52.2**	**-0.5**
FINES				*PP	pP	23 15 11.5	-0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**65.12**	**332**	P	**P**	**23 14 52.2**	**-0.5**
FINES				pP	pP	23 15 11.5	-0.1
AS31	**Alice Springs**	**65.27**	**188**	*e*P	**P**	**23 14 53.3**	**-0.4**
ASAR	**Alice Springs**	**65.27**	**188**	P	**P**	**23 14 53.0**	**-0.8**
	comp=Z,6.5nm,0.8s,mb4.5,baz=1.5,slow=5.3,SNR=74						
ASAR				PcP	PcP	23 15 26.1	+0.5
	comp=Z,2.0nm,0.8s,baz=7.5,slow=5.6,SNR=5.7						
ASAR	**Alice Springs**	**65.27**	**188**	P	**P**	**23 14 53.0**	**-0.7**
ASAR						23 15 26.1	
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ASPA	**Alice Springs**	**65.27**	**188**	*e*P	**P**	**23 14 53.3**	**-0.4**
SUMG	**Summit**	**66.23**	**0**	*e*P	**P**	**23 15 00.7**	**+0.8**
	comp=Z,5.6nm,0.6s,mb4.6						
SUMG				*e*pP	pP	23 15 21.4	+2.6
GOF	**Gofitskoye**	**67.54**	**311**	*e*P	**P**	**23 15 15.4**	**+7.2**
KIV	**Kislovodsk**	**68.40**	**310**	⇑*i P*	**P**	**23 15 15.0**	**+1.4**
KIV				*i*	pP	23 15 34.5	+1.9
KIV				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.5						
KIV	**Kislovodsk**	**68.40**	**310**	*e*P	**P**	**23 15 14.8**	**+1.2**
	comp=Z,11nm,0.9s,mb4.7						
KIV				*e*pP	pP	23 15 34.3	+1.8
NB2	**NORSAR Subarra**	**70.28**	**337**	P	**P**	**23 15 24.9**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.3,baz=36,slow=6.5						
NB2	**NORSAR Subarra**	**70.28**	**337**	P	**P**	**23 15 24.9**	**-0.3**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
NOA	**NORSAR Array B**	**70.28**	**337**	P	**P**	**23 15 24.6**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.0,baz=37,slow=6.3,SNR=7.3						
NOA				pP	pP	23 15 44.3	+0.1
	comp=Z,4.1nm,0.7s,baz=37,slow=6.1,SNR=12						
NOA	**NORSAR Array B**	**70.28**	**337**	P	**P**	**23 15 24.6**	**-0.6**
NOA				*PP	pP	23 15 44.3	+0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SOC	**Sochi**	**70.32**	**311**	*e*P	**P**	**23 15 23.7**	**-1.8**
SOC				*e**PP	pP	23 15 44.1	-0.4
SOC				*e*S	S	23 24 28.9	-3.2
SOC				*e**SS	sS	23 25 06.7	+2.3
SOC				*e*SS	SS	23 29 07.8	+4.1
SOC				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.1						
ANN	**Anapa**	**70.83**	**313**	*e*P	**P**	**23 15 25.4**	**-3.1**
ANN				*e*	pP	23 15 42.6	-5.0
ANN				*e**PP	pP	23 15 49.2	+1.6
ANN				*e*S	S	23 24 33.1	-4.8
ANN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
AKASG	**Malin Array Be**	**71.09**	**322**	P	**P**	**23 15 29.6**	**-0.6**
	comp=Z,1.3nm,0.4s,mb4.2,baz=44,slow=6.3,SNR=14						
AKASG				pP	pP	23 15 49.4	+0.2
	comp=Z,0.9nm,0.4s,baz=45,slow=6.5,SNR=3.8						
AKASG	**Malin Array Be**	**71.09**	**322**	P	**P**	**23 15 29.6**	**-0.5**
AKASG				*PP	pP	23 15 49.4	+0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.09**	**322**	P	**P**	**23 15 29.6**	**-0.6**
AKASG				pP	pP	23 15 49.4	+0.2
NVAR	**Mina Array Bea**	**71.95**	**55**	pP	pP	23 15 55.5	+1.1
	comp=Z,2.2nm,0.8s,baz=259,slow=8.6,SNR=4.9						
STKA	**Stephens Creek**	**73.01**	**180**	*e*P	**P**	**23 15 39.9**	**-1.7**
	comp=Z,4.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**73.01**	**180**	P	**P**	**23 15 39.9**	**-1.7**
	comp=Z,5.5nm,0.8s,mb4.4,baz=343,slow=7.0,SNR=9.6						
STKA	**Stephens Creek**	**73.01**	**180**	*e*P	**P**	**23 15 40.1**	**-1.5**
FORT	**Forrest**	**73.07**	**193**	*e*P	**P**	**23 15 41.7**	**-0.2**
	comp=Z,8.3nm,0.6s,mb4.7						
PDAR	**Pinedale Array**	**74.21**	**47**	P	**P**	**23 15 49.2**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.5,

SMKR	Semkarok	1.54 288	*i* P		23 05 40.9	
SMKR			*i* S		23 06 00.7	
BDR	Baidarnaya	1.67 286	*i* P		23 05 43.5	
BDR			*e*S		23 06 05.1	
SRKR	Sorokina	1.71 289	*e*P		23 05 43.4	
SRKR			*e*S		23 06 04.3	
ZLN	Zelenaya	1.86 268	*i* P		23 05 46.7	
ZLN			*e*S		23 06 10.0	
CIRR	Tsirk	1.88 271	*i* P		23 05 46.8	
CIRR			*e*S		23 06 10.0	
LGNR	Loginova	1.92 270	*e*P		23 05 47.4	
LGNR			*e*S		23 06 10.0	
KLY	Klyuchi	1.94 277	*i* P		23 05 45.7	
KLY			*e*S		23 06 08.3	
KRSR	Krestovskiy	1.98 274	*e*P		23 05 47.5	
KRSR			*e*S		23 06 12.4	
MKZ	Mys Kozlova	2.09 222	*i* P		23 05 48.7	
MKZ			*e*S		23 06 13.9	
KPT	Kopyto	2.19 267	*e*P		23 05 51.1	
KPT			*e*S		23 06 17.5	
KMNR	Kamenistaya	2.21 262	*e*P		23 05 52.1	
KMNR			*e*S		23 06 18.6	
KOZ	Kozyrevsk	2.38 270	*e*P		23 05 54.3	
KOZ			*e*S		23 06 23.1	
TUMR	Tumrok	2.40 251	*e*P		23 05 53.1	
SRDR	Sredinnyy	2.46 276	*e*P		23 05 55.2	
SRDR			*e*S		23 06 25.0	
OSSR	Ossora	3.17 350	*e*P		23 06 03.9	
OSSR			*i* S		23 06 38.5	
OSSR			Smax			
	80nm,0.5s					
SPN	Mys Shipunski	3.86 220	*e*P		23 06 13.2	
SPN			*e*S		23 06 57.3	
NLC	Nalytchevo	4.06 225	*e*P		23 06 16.1	
NLC			*e*S		23 07 02.6	
SDLR	Sedlovina	4.17 229	*e*P		23 06 18.7	
SMAR	Somma	4.22 229	*e*P		23 06 19.1	
AVH	Avacha	4.24 229	*e*P		23 06 20.3	
UGLR	Uglovaya	4.25 228	*e*P		23 06 20.2	
KOK	Koryaka	4.27 230	*e*P		23 06 20.7	
GNL	Ganaly	4.32 238	*e*P		23 06 22.0	
RUS	Russkaya	4.95 224	*e*P		23 06 29.8	

*NEIC **11** 23:35:50.3±0.7, 540N×9421E, h30km, mb4.4/4, Error ellipse: s-maj=23.3km s-min=7.8km az=223.0*
*IDC **11** 23:35:54.5±4.5, 549N×9442E, h65km±41km, mb3.6/10, mb1 3.8/11, mb1mx3.6/21, mbtmp3.9/11, ML4.0/1, Error ellipse: s-maj=50.0km s-min=17.1km az=54.0*
*ISCJB **11** 23:35:56.0±2.5, 57N±01×947E±01, h90km±23km, mb4.0/14, Error ellipse: s-maj=27.0km s-min=13.6km az=106.7*

ISC 11 23:35:57.1±2.3, 57N±01×946E±01, h82km±22km, n19, σ0°77/22, mb4.0/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.15	124	P	Pn	23 37 11.1	-0.5
	5.5nm,0.3s,baz=306,slow=8.0,SNR=19						
PSI				S	Sn	23 38 11.3	+1.6
	2.1nm,0.3s,baz=177,slow=20,SNR=4.3						
PSI	Prapat	5.15	124	P	Pn	23 37 11.1	-0.5
PSI				S	Sn	23 38 11.3	+1.6
KULM	Kulim	6.00	93	*e*Pn	Pn	23 37 22.9	-0.4
KULM				*e*Sn	Sn	23 38 29.7	-0.9
LSA	Lhasa	24.12	353	*e*P	P	23 41 07.1	+2.0
AAK	Ala-Archa	40.90	337	*e*P	P	23 43 31.0	-0.2
	5.7nm,0.3s,mb4.9						
MKAR	Makanchi Array	42.32	347	P	P	23 43 43.2	+0.5
	2.1nm,0.5s,mb4.2,baz=172,slow=6.1,SNR=15						
MKAR	Makanchi Array	42.32	347	P	P	23 43 43.2	+0.5
SONM	Songino Array	43.19	12	P	P	23 43 50.6	+0.9
	0.5nm,0.5s,mb3.5,baz=208,slow=5.7,SNR=3.0						
WRA	Warramunga Arr	46.61	124	P	P	23 44 16.4	-0.5
	0.7nm,0.6s,mb3.6,baz=305,slow=8.9,SNR=4.7						
WRAB	Tennant Creek	46.62	124	*e*P	P	23 44 16.8	-0.1
	3.9nm,0.5s,mb4.4						
ASAR	Alice Springs	48.15	129	P	P	23 44 29.1	+0.2
	0.5nm,0.4s,mb3.7,baz=298,slow=7.9,SNR=14						
ZAL	Zalesovo	48.77	352	P	P	23 44 33.8	+0.2
	1.4nm,0.3s,mb4.4,baz=278,slow=6.2,SNR=3.7						
BVAR	Borovoye Array	51.21	341	P	P	23 44 51.8	-0.3
	1.1nm,0.4s,mb4.2,baz=134,slow=11,SNR=9.3						
BRVK	Borovoye	51.27	341	*e*P	P	23 44 52.2	-0.3
	1.2nm,0.4s,mb4.3						
ZRNK	Zerenda	51.60	340	*e*P	P	23 44 54.6	-0.3
	1.3nm,0.5s,mb4.2						
ZRNK				*e*pP	pP	23 45 10.5	-4.8
BRTR	Keskin Array B	64.23	311	P	P	23 46 22.2	-1.1
	0.4nm,0.7s,mb3.4,baz=28,slow=6.5,SNR=4.0						
FINES	FINESS Array B	74.87	332	P	P	23 47 28.1	-0.7
	0.7nm,0.8s,mb3.5,baz=98,slow=4.0,SNR=6.1						
ARCES	ARCESS Array B	77.48	340	P	P	23 47 43.2	-0.4
	1.5nm,0.8s,mb3.8,baz=101,slow=6.3,SNR=4.5						
GERES	GERESS Array B	79.78	318	P	P	23 47 57.0	+0.8
	0.6nm,0.6s,mb3.6,baz=102,slow=6.2,SNR=5.4						

*ISCJB **11** 23:42:25.7±0.6, 3854N±002×2365E±005, h16km±6km, Error ellipse: s-maj=6.3km s-min=3.6km az=152.1*
*CSEM **11** 23:42:26.8±0.1, 3858N×2370E, h10km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.5km az=76.0*
*NEIC **11** 23:42:26.1, 3859N×2368E, h27km, ML3.2(ATH), After ATH.*
*ATH **11** 23:42:26.1, 3859N×2368E, h27km±1km, MD3.5/12, ML3.2*
*THE **11** 23:42:27.6, 3863N×2368E, h8km, ML2.7*

ISC 11 23:42:26.3±0.5, 3857N±002×2370E±004, h15km±4km, n24, σ1°12/38, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	Penteli	0.54	166	*e*PN	Pg	23 42 37.0	+0.1
LKR	Lokris	0.56	278	*e*PN	Pg	23 42 36.7	-0.5
LKR				*e*SN	Sg	23 42 45.0	+0.4
ATH	Athens Observa	0.60	179	⇓*i*PN	Pg	23 42 38.4	+0.4
ATH				*e*SN	Sg	23 42 47.8	+1.8
AOS	Alonnisos	0.61	13	*e*Pg	Pg	23 42 37.8	-0.4
AOS				*e*Sg	Sg	23 42 46.5	+0.1
MGER	Gerania Oros	0.68	211	*e*PN	Pn	23 42 40.0	-1.4
KVR	Kavouri	0.74	176	*e*PN	Pn	23 42 41.0	-1.3
NEO	Neokhori	0.82	333	*e*PN	Pn	23 42 42.0	-1.3
NEO				*e*SN	Sn	23 42 53.9	-1.4
NAIG	Nisos Aigina	0.83	192	*e*PN	Pn	23 42 42.5	-0.9
XOR	Xorichti	0.89	334	*e*Pg	Pg	23 42 42.9	-0.5
XOR				*e*Sg	Sg	23 42 55.7	+0.7
AGG	Agios Georgios	1.16	293	*e*Pg	Pg	23 42 48.3	-0.4
AGG				*e*Sg	Sg	23 43 05.2	+1.4
EVR	Evrytania	1.52	284	*e*PN	Pn	23 42 54.3	+1.4
LIA	Limnos Island	1.75	41	*e*PN	Pn	23 42 57.0	+0.8
OUR	Ouranopolis	1.77	7	*e*Pb	Pb	23 42 56.8	-1.7
OUR				*e*Sb	Sb	23 43 18.9	-1.6
LIT	Litokhoron	1.79	329	*e*Pb	Pb	23 42 57.3	-1.5
LIT				*e*Sb	Sb	23 43 19.8	-1.3
PLG	Polygyros	1.81	354	⇑*i*PB	Pb	23 42 57.2	-1.9
PLG				*e*SN	Sn	23 43 19.4	-0.2
CHOS	Chios island	1.86	95	*e*Pb	Pb	23 42 58.6	-1.3
CHOS				*e*Sb	Sb	23 43 24.4	+1.5
VLI	Veliai	1.95	198	*e*PB	Pb	23 43 00.0	-1.5
APE	Apeiranthos	2.09	135	*e*PN	Pn	23 43 01.6	+0.9
THE	Thessaloniki	2.13	345	*e*Pn	Pn	23 43 02.0	+0.6
THE				*e*Sn	Sn	23 43 28.7	+1.0
SOH	Sokhos	2.26	353	*e*Pn	Pn	23 43 04.2	+1.0
SOH				*e*Sn	Sn	23 43 32.5	+1.6
GRG	Griva	2.58	338	*e*Pn	Pn	23 43 09.0	+1.5
GRG				*e*Sn	Sn	23 43 40.0	+1.3
KNT	Kendrikon	2.66	347	*e*Pn	Pn	23 43 09.8	+1.1
KNT				*e*Sn	Sn	23 43 41.6	+1.0
NVR	Nevrokopi	2.78	3	*e*PN	Pn	23 43 10.6	+0.4
FNA	Florina	2.84	322	*e*Pn	Pn	23 43 11.1	-0.1

NEIC 11 23:43:42.6±2.5, 561S×10557E, h208km±22km, mb4.1/5, Error ellipse: s-maj=24.0km s-min=15.4km az=215.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	8.48	34	*e*P	Pn	23 45 41.6	-0.4
KULM	Kulim	11.88	336	*e*P	Pn	23 46 26.0	+0.3
KKM	Kota Kinabalu	15.71	43	*e*P	Pn	23 47 14.2	+1.2
WRAB	Tennant Creek	31.40	120	P	P	23 49 44.0	0.0
ENH	Enshi	35.87	6	*e*P	P	23 50 22.4	-0.2
	0.2nm,0.2s						
LSA	Lhasa	37.73	339	*e*P	P	23 50 39.7	+1.5
	2.1nm,0.3s						
KURK	Kurchatov	60.72	341	P	P	23 53 31.4	-0.7
	1.1nm,0.3s						
BRVK	Borovoye	65.61	337	*e*P	P	23 54 03.4	-0.8
	0.6nm,0.2s						
LBTB	Lobatse	78.57	246	*e*P	P	23 55 22.3	+1.3
	3.6nm,1.0s						

*ROM **12** 00:05:43.0±0.3, 4668N×958E, h10km±6km, Md2.7/6, Ml2.4/6, Error ellipse: s-maj=9.8km s-min=2.6km az=159.0*
*LDG **12** 00:05:43.9±0.4, 4667N×976E, h2km, Ml2.8/5, Error ellipse: s-maj=9.3km s-min=6.5km az=69.0*
*NEIC **12** 00:05:43.4, 4662N×960E, h4km, ML2.4(ZUR), ML2.4(ROM), ML2.6(STR), ML2.8(LDG), ML2.8(SZGRF), After ZUR.*
*PRU **12** 00:05:43.7, 4657N×961E, h0km*
*ZUR **12** 00:05:43.4, 4662N×960E, h4km±3km, ML2.4/16*
*CSEM **12** 00:05:43.8±0.1, 4662N×969E, h0km, ML2.7/5, Error ellipse: s-maj=1.6km s-min=1.3km az=160.0*
*ISCJB **12** 00:05:43.2±0.2, 4665N±001×961E±002, h4km, Error ellipse: s-maj=2.1km s-min=1.6km az=149.6*
*STR **12** 00:05:44.9±0.2, 4661N×973E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 12 00:05:44.2±0.2, 4663N±001×961E±002, h4km, n100, σ1°09/145, 15C-21D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VDL	Val di Lei	0.17	214	⇓*i*Pg	Pg	00 05 47.2	-0.4
	1μm,0.3s						
VDL				*i* Sg	Sg	00 05 49.7	-0.2
	1μm,0.3s						
DAVOX	Davos	0.24	51	⇑*i*Pg	Pg	00 05 48.6	-0.3
	3μm,0.4s						
DAVOX				Sg	Sg	00 05 52.3	+0.3
TUE	Stuetta	0.24	229	⇓*i*Pg	Pg	00 05 48.2	-0.7
	207nm,0.5s						
BERNI	Berninapass	0.36	127	⇑*i*Pg	Pg	00 05 50.7	-0.4
	1μm,0.4s						
FUORN	Ofenpass	0.45	91	⇑*i*Pg	Pg	00 05 52.4	-0.5
	861nm,0.6s						
FUORN	Ofenpass	0.45	91	Pg	Pg	00 05 52.5	-0.4
FUORN				Sg	Sg	00 05 59.5	+0.8
PLONS	Plons	0.45	339	⇑*i*Pg	Pg	00 05 52.4	-0.5
	335nm,0.4s						
PLONS				*i* Sg	Sg	00 05 58.6	-0.1
	335nm,0.4s						
LLS	Linth-Limmern	0.47	298	*e*Sg	Pg	00 05 52.5	-0.8
	147nm,0.5s						
LLS	Linth-Limmern	0.47	298	⇓*i*Pg	Sg	00 06 00.0	+0.7
	147nm,0.5s						
LLS	Linth-Limmern	0.47	298	⇓*i*P	Pg	00 05 52.5	-0.8
BRMO	Bormio	0.55	106	⇑*i*Pg	Pg	00 05 54.1	-0.7
BRMO				Sg	Sg	00 06 02.7	+0.8
	108nm,0.4s						
LIENZ	Alp Oberkamor	0.67	353	⇓*i*Pg	Pg	00 05 56.8	-0.3
	103nm,0.5s						
FUSIO	Fusio	0.68	255	⇓*i*Pg	Pg	00 05 56.8	-0.5
	129nm,0.5s						
FUSIO	Fusio	0.68	255	⇓*i*P	Pg	00 05 56.1	-1.2
DAVA	Damuels	0.68	16	⇑*e*Pg	Pg	00 05 56.9	-0.5
	SNR=20						
DAVA				⇓*i*Sg	Sg	00 06 06.4	+0.2
	comp=Z,40nm,0.4s						
MUO	Muotathal	0.75	297	⇓*i*Pg	Pg	00 05 56.8	-1.8
	357nm,0.7s						
MUO	Muotathal	0.75	297	⇓*i*P	Pg	00 05 57.9	-0.7
MUGIO	Muggio	0.81	209	*e*Pg	Pg	00 05 57.9	-1.9
	201nm,0.5s						
MUGIO	Muggio	0.81	209	*e*P	Pg	00 05 58.9	-0.9
MUGIO	Muggio	0.81	209	Pg	Pg	00 05 58.8	-1.0
BNALP	Bannalp	0.85	287	⇓*i*Pg	Pg	00 05 58.9	-1.7
	89nm,0.4s						
BNALP	Bannalp	0.85	287	⇓*i*P	Pg	00 05 59.6	-1.0
MDI	Monti di Nese	0.86	175	Pg	Pg	00 06 00.4	-0.3
	89nm,0.4s						
WILA	Wila	0.92	329	⇑*i*Pg	Pg	00 05 59.6	-2.3
	504nm,0.5s						
WILA	Wila	0.92	329	⇑*i*P	Pg	00 06 02.1	+0.2
WEIN	Weingarten	1.00	335	⇓*i*Pg	Pg	00 06 02.5	-0.8
	117nm,0.3s						
WEIN	Weingarten	1.00	335	⇓*i*P	Pg	00 06 03.4	+0.1
HASLI	Hasliberg	1.01	278	⇓*i*Pg	Pg	00 06 00.5	-3.2
	192nm,0.4s						
HASLI	Hasliberg	1.01	278	⇓*i*P	Pg	00 06 02.5	-1.2
APPI	Appiano	1.12	97	Pg	Pg	00 06 04.8	-1.0
	65nm,0.4s						
SALO	Salr	1.19	148	Pg	Pg	00 06 07.1	0.0
	207nm,1.0s						
SAL	Salo	1.20	148	Pg	Pg	00 06 07.8	+0.5
	78nm,0.4s						
SQTA	Sankt Quirin	1.24	61	⇓*e*Pg	Pg	00 06 06.8	-1.3
	SNR=29						
SQTA				⇓*i*Sg	Sg	00 06 24.3	+0.1
	25nm,0.3s						
MOTA	Moosalm	1.25	54	⇓*e*Pg	Pg	00 06 07.1	-1.0
	SNR=43						
MOTA				⇑*i*Sg	Sg	00 06 25.4	+1.0
	24nm,0.3s						
MMK	Mattmark	1.28	244	Pg	Pg	00 06 07.0	-1.8
MCGN	Macugnaga	1.31	240	Pg	Pn	00 06 06.9	-2.5
	9.0nm,0.4s						
ORO	Oropa	1.51	229	Pg	Pn	00 06 10.4	-1.7
	16nm,0.3s						
WATA	Walderalm	1.52	62	⇑*e*Pg	Pg	00 06 11.8	-1.5
	SNR=21						
WATA				⇓*i*Sg	Sg	00 06 34.0	+0.9
	16nm,0.3s						
WTTA	Wattenberg	1.52	65	⇑*e*Pg	Pg	00 06 12.6	-0.9
	SNR=18						
WTTA				⇑*i*Sg	Sg	00 06 34.1	+0.8
	28nm,0.6s						
CTI	Castel Tesino	1.53	112	Pg	Pn	00 06 12.2	-0.1
	63nm,0.4s						
SPAK	Spaichingen-Ko	1.58	339	Pn	Pn	00 06 13.0	0.0
DIX	Grande Dixence	1.62	251	Pg	Pn	00 06 13.5	-0.1
FELD	Feldberg im Sc	1.66	319	P	Pg	00 06 14.2	-1.9
FELD				S	Sg	00 06 37.8	+0.2
FELD	Feldberg im Sc	1.66	319	Pn	Pg	00 06 14.3	-1.8
FELD				Sn	Sg	00 06 37.9	+0.3
BBS	Basel-Blauen	1.66	301	Pn	Pg	00 06 14.4	-1.7
BBS				Sn	Sg	00 06 38.6	+0.9
FUR	Furstenfeldbru	1.91	36	*e*Pn	Pg	00 06 20.1	-0.7
FUR				*e*Sg	Sg	00 06 46.5	+1.0
BFO	Black Forest	1.91	333	*e*Pn	Pn	00 06 17.6	0.0
BFO				*e*Sg	Sg	00 06 45.1	-0.5
LOMF	Lomont	2.04	292	Pn	Pn	00 06 19.6	+0.3
MOF	Molkenrain	2.08	307	Pn	Pn	00 06 19.8	-0.2
STU	Stuttgart	2.16	353	*e*Pg	Pg	00 06 27.9	+2.2
HINF	Hinteralfeld	2.22	303	*e*Pn	Pn	00 06 22.0	+0.1
HINF				*e*Sg	Sg	00 06 55.7	0.0
	18nm,0.4s						
HINF	Hinteralfeld	2.22	303	*e*Pn	Pn	00 06 22.0	+0.1
HINF				*e*Sg	Sg	00 06 55.7	0.0
	9.2nm,0.4s						
LPG	La Plagne	2.29	241	*e*Pg	Pg	00 06 28.8	+0.6
LPG	La Plagne	2.29	241	*e*P	Pn	00 06 24.3	+1.5
LPG				*e*Pg	Pg	00 06 28.8	+0.6
LPG	La Plagne	2.29	241	*e*Pg	Pg	00 06 28.8	+0.6
LPL	La Plagne	2.29	242	*e*P	Pn	00 06 25.2	+2.4
ECH	Echery	2.30	314	Pn	Pn	00 06 23.3	+0.3
ECH	Echery	2.30	314	P	Pg	00 06 30.0	+1.7
WLS	Welschbruch	2.35	320	P	Pg	00 06 31.4	+2.1
WLS				S	Sg	00 07 00.1	+0.3
CDF	Champ du Feu	2.38	319	*e*Pg	Pg	00 06 31.2	+1.2
CDF				*e*Sg	Sg	00 07 00.3	-0.6
	22nm,0.7s						
CDF	Champ du Feu	2.38	319	*e*Pn	Pn	00 06 24.1	0.0
CDF				*e*Pg	Pg	00 06 31.2	+1.2
CDF				*e*Sg	Sg	00 07 00.3	-0.6
CDF	Champ du Feu	2.38	319	*e*Pg	Pg	00 06 31.2	+1.2
CDF				*e*Sg	Sg	00 07 00.3	-0.6
	11nm,0.7s						
CABF	La Chapelle	2.43	271	*e*Pg	Pg	00 06 30.0	-0.8
CABF				*e*Sg	Sg	00 07 02.5	+0.2
	22nm,0.6s						
CABF	La Chapelle	2.43	271	*e*P	Pn	00 06 25.8	+1.1
CABF				*e*Pg	Pg	00 06 30.0	-0.8
CABF				*e*Sg	Sg	00 07 02.5	+0.2
CABF	La Chapelle	2.43	271	*e*Pg	Pg	00 06 30.0	-0.8
CABF				*e*Sg	Sg	00 07 02.5	+0.2
	11nm,0.6s						
HAU	Haudompre	2.61	303	*e*Pn	Pn	00 06 28.4	+1.2
MBDF	Montbardon	2.75	227	*e*Pn	Pn	00 06 29.0	-0.2
THEF	They Montfort	2.93	304	Pn	Pn	00 06 32.8	+1.1
VOJS	Vojsko	3.02	100	*e*Pn	Pn	00 06 35.3	+2.5
ORIF	Oris-en-Rattie	3.12	238	*e*P	Pn	00 06 37.1	+2.8
SBF	Sospel	3.17	210	*e*Pn	Pn	00 06 35.7	+0.9
MOA	Molln	3.40	67	⇑*i*Pn	Pn	00 06 36.5	-1.5
MOA			⇓	*i*Pg	Pg	00 06 48.7	-0.7
MOA			⇑	*i*Sn	Sn	00 07 17.5	-1.2
MOA			⇑	*i*Sg	Sg	00 07 35.5	+2.1
	comp=Z,3.1nm,0.4s						
MEZF	Maizieres J'vi	3.61	303	*e*P	Pn	00 06 41.9	+0.9
KHC	Kasperske Hory	3.66	45	*e*PN	Pn	00 06 42.2	+0.6
KHC				*e*PG	Pg	00 06 52.8	-1.6
KHC				*e*SN	Sn	00 07 22.9	-2.3
KHC				*e*SG	Sg	00 07 43.3	+1.5
	6.5nm,0.5s						
FRF	La Foret Royal	3.72	215	*e*Pn	Pn	00 06 42.7	+0.3
FRF				*e*Sn	Sn	00 07 26.8	+0.1
	4.5nm,0.5s						
FRF	La Foret Royal	3.72	215	*e*Pn	Pn	00 06 42.7	+0.3
FRF				*e*Sn	Sn	00 07 26.8	+0.1
	2.2nm,0.5s						
VIVF	Saint-Julien-l	3.89	245	*e*Pn	Pn	00 06 45.0	+0.2
SMRF	Simiane la Rot	3.89	228	*e*P	Pn	00 06 47.6	+2.8
LMR	La Mourre	3.96	215	*e*P	Pn	00 06 47.7	+1.9
LMR	La Mourre	3.96	215	*e*Pn	Pn	00 06 44.7	-1.1
LMR				*e*P		00 06 47.7	
LMR	La Mourre	3.96	215	*e*P	Pn	00 06 47.7	+1.9
SMF	Signal de Mont	3.98	272	*e*Pg	Pg	00 07 00.0	-0.4
SMF				*e*Sg	Sg	00 07 51.0	-1.0
	4.2nm,0.5s						
SMF	Signal de Mont	3.98	272	*e*P	Pn	00 06 47.8	+1.8
SMF				*e*Pg	Pg	00 07 00.0	-0.4
SMF				*e*Sg	Sg	00 07 51.0	-1.0
SMF	Signal de Mont	3.98	272	*e*Pg	Pg	00 07 00.0	-0.4
SMF				*e*Sg	Sg	00 07 51.0	-1.0
	2.1nm,0.5s						
LOR	Lormes	3.99	281	*e*Pn	Pn	00 06 47.0	+0.8
LOR				*e*Pg	Pg	00 06 59.0	-1.7
SSF	Saint Saulge	4.21	278	*e*Pn	Pn	00 06 50.2	+1.0
MOX				*e*SN	Sn	00 07 37.1	-2.3
MOX				*e*SG	Sg	00 08 00.9	+0.7
MOX	Moxa	4.23	18	*e*PG	Pg	00 07 04.1	-1.2
AVF	Avril sur Loir	4.31	274	*e*Pn	Pn	00 06 51.6	+1.0
BGF	Bois d'Agland	4.67	272	*e*Pn	Pn	00 06 55.8	+0.3
PRU	Pruhonice	4.70	43	*e*PN	Pn	00 06 56.5	+0.5
PRU				*e*PG	Pg	00 07 10.2	-4.1
PRU				*e*SG	Sg	00 08 14.8	-0.5
TREC	Trest	4.76	54	*e*PN	Pn	00 06 57.3	+0.5
LASF	Ste Croix	4.79	240	*e*Pn	Pn	00 06 57.3	+0.1
BAIF	Baives	4.97	316	*e*P	Pn	00 07 00.8	+1.1
BRG	Berggiesshubel	5.12	32	SG	Sg	00 08 29.4	+0.6
	1.8nm,1.0s						
TCF	Toulx Ste Croi	5.13	269	*e*Pn	Pn	00 07 02.6	+0.8
TCF				*e*Pg	Pg	00 07 20.3	-2.2
CLL	Collm	5.19	24	*e*Sg	Sg	00 08 38.0	+7.2
CAF	Calviac	5.55	255	*e*Pn	Pn	00 07 08.7	+1.1
DPC	Dobruska-Polom	5.81	48	*e*SG	Sg	00 08 49.6	-1.2
MFF	Saint Martin d	6.72	273	*e*Pn	Pn	00 07 24.2	+0.5
FLN	La Foliniere	7.14	291	*e*Pn	Pn	00 07 29.6	+0.2

*ISCJB **12** 00:14:52.0±1.1, 531S±03×1180W±03, h10km, mb4.0/8, Error ellipse: s-maj=37.5km s-min=23.8km az=150.6*
*IDC **12** 00:14:51.8±0.9, 531S×11806W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, Error ellipse: s-maj=100.6km s-min=26.8km az=165.0*
*NEIC **12** 00:14:53.5±0.5, 531S×11803W, h10km, mb4.1/7, Error ellipse: s-maj=23.1km s-min=13.2km az=163.0*

ISC 12 00:14:53.6±1.1, 532S±03×1180W±03, h10km, n19, σ0°44/12, mb4.0/8, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	34.07	88	*e*P	P	00 21 38.4	+0.3
	1.7nm,0.8s,mb4.0						
TRQA	Tornquist	40.91	91	*e*P	P	00 22 35.5	-0.5
	1.8nm,0.8s,mb3.8						
LVC	Limon Verde	47.99	70	*e*P	P	00 23 33.3	+0.7
	1.3nm,0.5s,mb4.2						
CPUP	Villa Florida	51.92	84	P	P	00 24 01.9	-0.5
	1.2nm,0.6s,mb4.0,baz=230,slow=8.5,SNR=4.9						
CPUP	Villa Florida	51.92	84	*e*P	P	00 24 02.2	-0.3
	4.4nm,0.5s,mb4.6						
LPAZ	La Paz	53.50	66	P	P	00 24 14.8	+0.7
	0.7nm,0.7s,mb3.7,baz=200,slow=8.0,SNR=3.8						
LPAZ	La Paz	53.50	66	*e*P	P	00 24 14.9	+0.8
	1.0nm,0.7s,mb3.9						
PAYG	Puerto Ayora	57.21	34	P	P	00 24 40.6	-0.3
SAML	Samuel	62.25	66	*e*P	P	00 25 15.1	-0.5
	0.7nm,0.6s,mb4.0						
OTAV	Otavalo	62.60	46	*e*P	P	00 25 17.7	-0.2
	0.7nm,0.5s,mb4.0						
JTS	JuntasAbangare	69.26	35	P	P	00 26 00.8	0.0
ASAR	Alice Springs	81.50	242	P	P	00 27 11.2	+0.1
	2.5nm,0.9s,mb4.2,baz=154,slow=4.5,SNR=6.9						
GERES	GERESS Array B	149.79	79	PKPbc	PKPbc	00 34 42.2	-1.6
	0.4nm,0.6s,baz=222,slow=2.6,SNR=7.3						
CLL	Collm	150.42	74	*e*PKPab	PKPab	00 34 50.0	-1.7
	comp=Z,8.0nm,1.4s						
SONM	Songino Array	151.63	277	PKPbc	PKPbc	00 34 47.7	-0.4
	comp=Z,1.2nm,0

GRG				*e*Sn		**Sn**	**00 18 59.5**	**+0.7**
VAY	**Valandovo**	**2.30**	**301**	*i* Pn		**Pg**	**00 18 37.9**	**-0.4**
VAY				*i* Sn		**Sg**	**00 19 08.2**	**0.0**
KKB	**Krupnik**	**2.33**	**317**	P		**Pb**	**00 18 37.0**	**+1.2**
AGG	**Agios Georgios**	**2.50**	**243**	*e*Pn		**Pn**	**00 18 34.9**	**+0.6**
JMB	**Yambol**	**2.51**	**24**	*i* P		**Pn**	**00 18 34.4**	**0.0**
SMG	**Samos**	**2.77**	**152**	*e*PN		**Pn**	**00 18 39.1**	**+1.1**
VTS	**Vitosha**	**2.84**	**329**	P		**Pb**	**00 18 45.0**	**+0.5**
SZH	**Strazhica**	**3.13**	**10**	P		**Pn**	**00 18 42.7**	**-0.2**

CASC 12 00:30:11.6±1.9, 1121N×8566W, h166km±6km, MD3.7, ML3.3, 7C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.20**	**292⇑**	*e*P	Pn	00 30 34.3	+0.5
SSNN				*e*S	Sn	00 30 51.9	+1.2
SSNN				*i*		00 30 52.6	
	comp=Z,543nm,0.1s						
MADN	**Villa Maderas**	**0.23**	**32⇑**	*e*P	Pn	00 30 34.7	+0.9
MADN				*e*S	Sn	00 30 52.9	+2.1
CONN	**Concepcion**	**0.35**	**5⇑**	*e*P	Pn	00 30 34.8	+0.7
CONN				*e*S	Sn	00 30 53.0	+1.7
LIM1	**Limonal**	**0.64**	**142⇑**	*e*P	Pn	00 30 35.5	+0.1
LIM1				*e*S	Sn	00 30 54.4	+0.7
APON	**Apoyo**	**0.81**	**330**	*e*P	Pn	00 30 37.3	+0.8
TICN	**Ticuantepe**	**0.99**	**326**	*e*P	Pn	00 30 38.9	+1.1
VCR	**Vista de Mar**	**1.08**	**179⇑**	*e*P	Pn	00 30 39.0	+0.6
VCR				*e*S	Sn	00 30 59.3	+0.2
APYN	**Apoyeque**	**1.22**	**326**	*e*P	Pn	00 30 41.0	+1.3
APYN				*e*S	Sn	00 31 02.7	+1.4
COPN	**Copaltepe**	**1.33**	**317⇑**	*e*P	Pn	00 30 41.3	+0.6
COPN				*e*S	Sn	00 31 03.0	-0.1
MOMJ	**Momotombo**	**1.47**	**324**	*e*P	Pn	00 30 42.7	+0.6
MOMJ				*e*S	Sn	00 31 06.2	+0.7
MIRN	**Miramar**	**1.60**	**320**	*e*P	Pn	00 30 44.1	+0.7
MIRN				*e*S	Sn	00 31 08.5	+0.7
MIRN				*i*		00 31 14.2	
	comp=Z,187nm,0.3s						
CNGN	**Cerro Negro**	**1.64**	**322**	*e*P	Pn	00 30 44.8	+1.0
CNGN				*e*S	Sn	00 31 09.1	+0.6
CGA2	**Cerro Gallo 2**	**1.67**	**135**	*e*P	Pn	00 30 45.3	+1.2
CGA2				*e*S	Sn	00 31 10.3	+1.2
LEON	**Leon**	**1.70**	**315⇓**	*e*P	Pn	00 30 45.1	+0.7
LEON				*e*S	Sn	00 31 09.4	-0.3
PRS1	**Puriscal**	**1.80**	**133**	*e*P	Pn	00 30 47.2	+1.7
LAJ	**Bijagual**	**2.02**	**131**	*e*P	Pn	00 30 47.0	-0.9
LCR2	**La Lucha 2**	**2.19**	**132**	*e*P	Pn	00 30 50.7	+1.0
LCR2				*e*S	Sn	00 31 19.7	+0.4
URSC	**Urasca**	**2.30**	**126**	*e*P	Pn	00 30 51.7	+0.6
BUS	**Buena Vista**	**2.49**	**131⇑**	*e*P	Pn	00 30 54.9	+1.6
BUS				*e*S	Sn	00 31 28.3	+2.7

*IDC **12** 00:47:10.6±3.5, 2401S×17945E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.9/10, mbtmp3.9/3, Error ellipse: s-maj=264.1km s-min=33.0km az=153.0*
*ISCJB **12** 00:48:01.6±1.3, 245S±03×1786E±02, h500km, mb3.9/6, Error ellipse: s-maj=37.4km s-min=22.9km az=139.0*
*NEIC **12** 00:48:08.1±3.8, 2498S×17801E, h500km, mb4.4/3, Error ellipse: s-maj=81.0km s-min=30.2km az=51.0*

ISC 12 00:48:02.6±1.2, 245S±03×1787E±02, h500km, n13, σ0§98/13, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.29**	**272**	*e*P	**P**	**00 53 33.7**	**+1.4**
	3.9nm,0.4s,mb4.2						
CTAO	**Charters Tower**	**30.29**	**272**	*e*P	**P**	**00 53 34.5**	**+2.2**
	4.9nm,0.4s,mb4.3						
TAU	**Tasmania Unive**	**31.65**	**227**	P	**P**	**00 53 43.0**	**-1.0**
STKA	**Stephens Creek**	**33.39**	**249**	*e*P	**P**	**00 53 57.9**	**-0.9**
	2.1nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**33.39**	**249**	P	**P**	**00 53 58.0**	**-0.9**
	2.0nm,0.5s,mb3.8,baz=95,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**33.39**	**249**	*e*P	**P**	**00 53 57.9**	**-1.0**
ASAR	**Alice Springs**	**40.76**	**262**	P	**P**	**00 54 59.8**	**+0.4**
	0.9nm,0.4s,mb3.5,baz=95,slow=7.2,SNR=15						
WB2	**Warramunga Arr**	**41.16**	**267**	*e*P	**P**	**00 55 02.4**	**-0.3**
WRAB	**Tennant Creek**	**41.17**	**267**	*e*P	**P**	**00 55 02.6**	**-0.1**
	3.9nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**49.59**	**267**	*e*P	**P**	**00 56 07.8**	**+0.5**
	30nm,2.0s,mb4.3						
MBWA	**Marble Bar**	**54.09**	**261**	P	**P**	**00 56 38.5**	**-1.3**
MAW	**Mawson**	**76.77**	**201**	P	**P**	**00 59 03.8**	**+1.7**
NVAR	**Mina Array Bea**	**86.02**	**45**	P	**P**	**00 59 49.1**	**-0.5**
	0.3nm,0.3s,mb3.3,baz=202,slow=7.5,SNR=4.4						

*NEIC **12** 00:53:00.5, 3937N×2087E, h5km, MD3.6(ATH), After ATH.*
*ATH **12** 00:53:00.5, 3937N×2089E, h5km±3km, MD3.6/7*
*THE **12** 00:53:00.9, 3937N×2088E, h10km*
*ISCJB **12** 00:53:01.3±0.3, 3937N±002×2088E±003, h10km, Error ellipse: s-maj=3.5km s-min=2.7km az=156.4*
*CSEM **12** 00:53:01.8±0.2, 3941N×2084E, h6km±1km, MD3.6, Error ellipse: s-maj=5.7km s-min=3.8km az=82.0*

ISC 12 00:53:00.8±0.5, 3937N±002×2088E±003, h0km±5km, n31, σ1§04/48, 2C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.28**	**356⇑**	*i*PG	**Pg**	**00 53 06.1**	**-0.1**
JAN				*e*SG	**Sg**	**00 53 10.4**	**+0.5**
IGT	**Igoumenitsa**	**0.45**	**291**	*e*Pg	**Pg**	**00 53 09.2**	**-0.2**
IGT				*e*Sg	**Sg**	**00 53 16.4**	**+1.2**
MEV	**Metsovon**	**0.49**	**34**	*e*Pg	**Pg**	**00 53 09.8**	**-0.4**
LKD	**Levkas**	**0.69**	**195**	*e*Pg	**Pg**	**00 53 13.9**	**0.0**
LKD				*e*Sg	**Sg**	**00 53 24.8**	**+1.9**
LSK	**Leskovik**	**0.80**	**345**	*i* Pg	**Pg**	**00 53 16.9**	**+0.7**
LSK				*i* Sg	**Sg**	**00 53 31.2**	**+4.6**
LSK	**Leskovik**	**0.80**	**345**	*e*Pg	**Pg**	**00 53 16.9**	**+0.7**
LSK				*i* Sn	**Sg**	**00 53 31.2**	**+4.6**
SRN	**Sarande**	**0.84**	**307**	*i* Pn	**Pn**	**00 53 16.8**	**-3.1**
SRN				*i* Sn	**Sg**	**00 53 35.0**	**+7.1**
SRN	**Sarande**	**0.84**	**307**	*e*Pn	**Pn**	**00 53 16.8**	**-3.1**
SRN				*e*Sn	**Sg**	**00 53 35.0**	**+7.1**
EVR	**Evrytania**	**0.86**	**122**	*e*Pg	**Pg**	**00 53 16.5**	**-0.7**
EVR				*e*Sb	**Sb**	**00 53 30.1**	**-0.4**
KEK	**Kerkira**	**0.90**	**292**	*e*PB	**Pb**	**00 53 17.9**	**-1.3**
KEK				*e*SB	**Sb**	**00 53 31.1**	**-0.6**
KZN	**Kozani**	**1.16**	**36**	*e*PB	**Pb**	**00 53 23.1**	**-0.5**
AGG	**Agios Georgios**	**1.18**	**107**	*e*Pg	**Pg**	**00 53 22.4**	**-1.1**
AGG				*e*Sg	**Sg**	**00 53 40.2**	**+1.4**
VLS	**Valsamata**	**1.22**	**191⇑**	*i*PN	**Pn**	**00 53 22.8**	**-2.2**
VLS				*e*SB	**Sb**	**00 53 40.7**	**-0.1**
RLS	**Riolos of Patr**	**1.39**	**160**	*e*PB	**Pb**	**00 53 27.0**	**-0.6**
RLS				*e*SB	**Sb**	**00 53 46.5**	**+0.5**
LIT	**Litokhoron**	**1.44**	**59**	*e*Pg	**Pg**	**00 53 28.0**	**-0.4**
FNA	**Florina**	**1.46**	**15**	*e*Pg	**Pg**	**00 53 26.9**	**-1.8**
FNA				*e*Sg	**Sg**	**00 53 48.1**	**+0.5**
BIA	**Bitola**	**1.68**	**12**	*i* Pn	**Pn**	**00 53 31.8**	**+0.4**
BIA				*i* Sn	**Sg**	**00 53 59.0**	**+4.2**
BIA	**Bitola**	**1.68**	**12**	*i* Pn	**Pn**	**00 53 31.7**	**+0.4**
OHR	**Ohrid**	**1.74**	**358**	*i* Pn	**Pn**	**00 53 34.1**	**+2.0**
OHR				*i* Sn	**Sg**	**00 54 01.0**	**+4.5**
OHR	**Ohrid**	**1.74**	**358**	*i* Pn	**Pn**	**00 53 34.1**	**+1.9**
OHR				*i* Sn	**Sg**	**00 54 01.2**	**+4.6**
OHR	**Ohrid**	**1.74**	**358**	*i* Pn	**Pb**	**00 53 34.0**	**+0.5**
XOR	**Xorichti**	**1.79**	**90**	*e*Pb	**Pn**	**00 53 31.9**	**-1.0**
GRG	**Griva**	**1.97**	**36**	*e*Pb	**Pn**	**00 53 35.1**	**-0.2**
PLG	**Polygyros**	**2.21**	**62**	*e*PN	**Pb**	**00 53 40.8**	**-0.9**
VAY	**Valandovo**	**2.34**	**33**	*e*Pn	**Pb**	**00 53 42.7**	**-1.0**
VAY	**Valandovo**	**2.34**	**33**	*e*Pn	**Pn**	**00 53 40.9**	**+0.5**
VAY	**Valandovo**	**2.34**	**33**	*e*Pn	**Pn**	**00 53 40.8**	**+0.4**
ITM	**Ithomi**	**2.34**	**159**	*e*PN	**Pn**	**00 53 42.5**	**+2.0**
KNT	**Kendrikon**	**2.36**	**40**	*e*Pn	**Pn**	**00 53 41.2**	**+0.5**
SOH	**Sokhos**	**2.39**	**52**	*e*Pn	**Pn**	**00 53 41.4**	**+0.3**
SOH				*e*Sn	**Sn**	**00 54 12.6**	**+1.6**
OUR	**Ouranopolis**	**2.58**	**67**	*e*Pn	**Pn**	**00 53 43.9**	**+0.3**

*NSSC **12** 01:03:50.5, 3537N×3677E, h10km*
*CSEM **12** 01:03:50.9±0.4, 3529N×3674E, h5km, ML3.1, Error ellipse: s-maj=10.8km s-min=7.4km az=71.0*
*ISCJB **12** 01:03:51.6±1.9, 353N±0.1×367E±02, h4km±18km, Error ellipse: s-maj=27.3km s-min=8.9km az=98.6*
*GRAL **12** 01:03:53.8±0.6, 3530N×3665E, h0km±6km, MD3.1*

ISC 12 01:03:51.7±1.5, 3531N±005×367E±01, h3km±12km, n9, σ0§42/12, 4D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFRA	**Kufra**	**0.12**	**148**	⇓P	**Pg**	**01 03 53.6**	**-0.4**
KFRA	**Kufra**	**0.12**	**148**	⇓*i*P	**Pg**	**01 03 53.6**	**-0.4**
WRDH	**Warideh**	**0.32**	**308**	⇑P	**Pg**	**01 03 58.3**	**+0.4**
WRDH				⇑S	**Sg**	**01 04 01.7**	**-0.4**
WRDH	**Warideh**	**0.32**	**308**	⇑*i*P	**Pg**	**01 03 58.3**	**+0.4**
BIDA	**Albida**	**0.45**	**228**	⇓P	**Pg**	**01 04 00.9**	**+0.7**
BIDA	**Albida**	**0.45**	**228**	⇓*i*P	**Pg**	**01 04 00.9**	**+0.6**
FKH	**Fakeheh**	**1.11**	**194**	*e*P	**Pg**	**01 04 13.4**	**+0.4**
FKH				*e*S	**Sg**	**01 04 27.6**	**+0.3**
HWQ	**Hawqa**	**1.21**	**212**	*e*P	**Pg**	**01 04 14.7**	**-0.3**
HWQ				*e*S	**Sg**	**01 04 30.2**	**-0.6**
BHL	**Bhannes**	**1.66**	**212**	*e*S	**Sn**	**01 04 43.5**	**-0.1**

*ISCJB **12** 01:17:03.5±1.5, 3650S±005×7345W±009, h23km±10km, mb3.8/3, Error ellipse: s-maj=12.3km s-min=8.3km az=28.4*
*NEIC **12** 01:17:03.8, 3655S×7342W, h37km, mb4.4/1, ML4.2(GUC), After GUC.*
*GUC **12** 01:17:03.8±0.7, 3655S×7342W, h37km±4km, MD4.3, ML4.2*
*IDC **12** 01:17:04.3±2.7, 3653S×7284W, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.6/17, mbtmp3.6/6, ML3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/14, Error ellipse: s-maj=66.9km s-min=18.0km az=89.0*

ISC 12 01:17:04.6±1.5, 3649S±005×7335W±008, h16km±9km, n27, σ0§80/36, mb3.8/3, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**1.00**	**42**	*e*P	**Pb**	**01 17 23.2**	**-0.4**
CNCO				*i* S	**Sg**	**01 17 37.6**	**+0.4**
CNCO				AML	AML	01 17 39.3	
	comp=N,10μm,0.5s						
CNCO	**Chanco**	**1.00**	**42**	*e*P	**Pb**	**01 17 23.2**	**-0.4**
CNCO				*i* S	**Sg**	**01 17 37.6**	**+0.4**
CCHI	**Chillan**	**1.03**	**97⇑**	*i*P	**Pb**	**01 17 23.1**	**-1.0**
CCHI				*i* S	**Sb**	**01 17 37.9**	**+0.5**
CCHI				AML	AML	01 17 41.6	
	comp=N,6μm,0.5s						
CCHI	**Chillan**	**1.03**	**97⇑**	*i*P	**Pb**	**01 17 23.1**	**-1.0**
CCHI				*i* S	**Sb**	**01 17 37.9**	**+0.5**
LNCH	**Linares**	**1.55**	**66**	*e*P	**Pn**	**01 17 30.9**	**-0.8**
LNCH				*i* S	**Sn**	**01 17 51.9**	**+0.5**
LNCH				AML	AML	01 17 56.3	
	comp=N,6μm,0.7s						
LNCH	**Linares**	**1.55**	**66**	*e*P	**Pn**	**01 17 30.9**	**-0.8**
LNCH				*i* S	**Sn**	**01 17 51.9**	**+0.5**
TALC	**Talca**	**1.77**	**52**	*e*P	**Pn**	**01 17 34.1**	**-0.4**
TALC				*i* S	**Sn**	**01 17 57.6**	**+0.9**
TALC				AML	AML	01 18 06.6	
	comp=N,7μm,0.6s						
TALC	**Talca**	**1.77**	**52**	*e*P	**Pn**	**01 17 34.1**	**-0.4**
TALC				*i* S	**Sn**	**01 17 57.6**	**+0.9**
SFDO	**San Fernando**	**2.67**	**46⇑**	*i*P	**Pn**	**01 17 47.2**	**+0.3**
LNV	**Longovilo**	**2.98**	**33⇑**	*i*P	**Pn**	**01 17 51.3**	**0.0**
CICH	**Cipreses**	**3.23**	**49**	*e*P	**Pn**	**01 17 55.5**	**+0.9**
CACH	**El Canelo**	**3.26**	**44**	*e*P	**Pn**	**01 17 55.2**	**+0.1**
LCCH	**Las Cruces**	**3.34**	**26**	*e*P	**Pn**	**01 17 55.5**	**-0.7**
CHCH	**Chadas Angostu**	**3.37**	**42**	*e*P	**Pn**	**01 17 56.2**	**-0.4**
TACH	**Talagante**	**3.45**	**36**	*e*P	**Pn**	**01 17 57.7**	**0.0**
PCH	**Pirque**	**3.69**	**40**	*e*P	**Pn**	**01 18 00.6**	**-0.3**
FCH	**Farellones**	**4.03**	**39⇓**	*i*P	**Pn**	**01 18 05.9**	**+0.2**
JACH	**Jahuel**	**4.42**	**32**	*e*P	**Pn**	**01 18 11.0**	**-0.2**
PLCA	**Paso Flores**	**4.77**	**154**	Pn	**Pn**	**01 18 15.7**	**-0.2**
	comp=N,1.7nm,0.3s,baz=319,slow=13,SNR=36						
PLCA				Lg		01 19 28.9	
	comp=N,2.6nm,0.3s,baz=276,slow=20,SNR=2.8						
CFAA	**Coronel Fontan**	**6.46**	**43**	Pn	**Pn**	**01 18 38.7**	**-0.4**
	comp=N,0.3nm,0.3s,baz=211,slow=12,SNR=32						
CFAA				Sn	**Sn**	**01 19 51.0**	**-1.4**
	comp=N,0.8nm,0.3s,baz=311,slow=18,SNR=7.3						
CFAA	**Coronel Fontan**	**6.46**	**43**	Pn	**Pn**	**01 18 38.7**	**-0.4**
CFAA				Sn	**Sn**	**01 19 51.0**	**-1.4**
LVC	**Limon Verde**	**14.35**	**17**	LR	LR	01 26 33.0	
	comp=N,81nm,19.0s,baz=219,slow=40						
USHA	**Ushuaia**	**18.66**	**171**	P	**Pn**	**01 21 23.5**	**+1.4**
	comp=N,0.2nm,0.3s,baz=326,slow=15,SNR=3.2						
LPAZ	**La Paz**	**20.65**	**14**	P	**P**	**01 21 46.0**	**+2.5**
	comp=N,1.1nm,0.7s,baz=206,slow=9.0,SNR=3.9						
SIV	**San Ignacio**	**23.15**	**31**	P	**P**	**01 22 11.3**	**+0.9**
	comp=N,1.7nm,0.8s,mb3.5,baz=214,slow=13,SNR=5.0						
QSPA	**South Pole Qui**	**53.75**	**180**	*e*P	**P**	**01 26 25.4**	**-0.7**
	comp=N,5.4nm,1.3s,mb4.3						
TORD	**Torodi Ar. Bea**	**86.06**	**71**	P	**P**	**01 29 43.6**	**-1.0**
	comp=N,0.2nm,0.5s,mb3.6,baz=226,slow=4.7,SNR=4.7						

*ISCJB **12** 01:19:17.8±0.6, 3876N±003×2334E±005, h11km±5km, Error ellipse: s-maj=6.5km s-min=5.1km az=165.7*
*NEIC **12** 01:19:18.5, 3878N×2338E, h24km, ML2.9(ATH), After ATH.*
*ATH **12** 01:19:18.5, 3878N×2338E, h24km±2km, MD3.1/9, ML2.9*
*THE **12** 01:19:18.9, 3878N×2333E, h8km, ML2.3*
*CSEM **12** 01:19:18.5, 3878N×2338E, h24km, MD3.1/9, After ATH*

ISC 12 01:19:18.1±0.6, 3875N±003×2335E±005, h12km±5km, n16, σ0§88/21, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.29**	**250**	⇓*i*PB	**Pg**	**01 19 25.0**	**+0.9**
NEO	**Neokhori**	**0.56**	**350**	⇑*i*PN	**Pg**	**01 19 29.6**	**+0.5**
AOS	**Alonnisos**	**0.59**	**45**	*e*Pg	**Pg**	**01 19 30.1**	**+0.5**
AOS				*e*Sg	**Sg**	**01 19 38.0**	**+0.7**
XOR	**Xorichti**	**0.63**	**349**	*e*Pg	**Pg**	**01 19 30.6**	**+0.3**
XOR				*e*Sg	**Sg**	**01 19 39.0**	**+0.5**
PTL	**Penteli**	**0.81**	**150**	*e*PN	**Pg**	**01 19 34.0**	**+0.2**
ATH	**Athens Observa**	**0.83**	**159**	*e*PN	**Pn**	**01 19 35.3**	**-0.4**
AGG	**Agios Georgios**	**0.84**	**289**	*e*Pg	**Pg**	**01 19 34.2**	**-0.2**
AGG				*e*Sg	**Sg**	**01 19 45.8**	**+0.5**
KVR	**Kavouri**	**0.98**	**160**	*e*PN	**Pn**	**01 19 38.0**	**+0.3**
NAIG	**Nisos Aigina**	**1.00**	**174**	*e*PN	**Pn**	**01 19 38.2**	**+0.2**
EVR	**Evrytania**	**1.21**	**278**	*e*PN	**Pn**	**01 19 42.4**	**+1.5**
LIT	**Litokhoron**	**1.50**	**334**	*e*Pg	**Pg**	**01 19 45.1**	**-1.8**
LIT				*e*Sg	**Sg**	**01 20 04.7**	**-1.8**
PLG	**Polygyros**	**1.62**	**3**	*e*PN	**Pn**	**01 19 46.7**	**+0.1**
OUR	**Ouranopolis**	**1.66**	**17**	*e*Pb	**Pb**	**01 19 47.4**	**-1.2**
VLI	**Veliai**	**2.06**	**189**	*e*PB	**Pb**	**01 19 53.5**	**-1.9**
SOH	**Sokhos**	**2.07**	**0**	*e*Pn	**Pn**	**01 19 52.5**	**-0.2**
GRG	**Griva**	**2.32**	**342**	*e*Pn	**Pn**	**01 19 56.2**	**0.0**
GRG				*e*Sn	**Sn**	**01 20 25.5**	**+0.9**

*IDC **12** 01:35:35.3±1.5, 1461N×9432W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML4.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/29, Error ellipse: s-maj=58.6km s-min=18.6km az=60.0*
*ISCJB **12** 01:35:36.8±1.9, 1464N±005×9467W±004, h23km±15km, mb4.1/17, Error ellipse: s-maj=8.3km s-min=5.8km az=47.8*
*NEIC **12** 01:35:39.3, 1458N×9477W, h16km, mb4.3/12, MD4.0(MEX), After MEX.*
*MEX **12** 01:35:39.3±0.9, 1458N×9477W, h17km±27km, MD4.0*
*CASC **12** 01:35:40.2±1.9, 1424N×9419W, h175km±108km, MD4.3, mb4.3(NEIC)*

ISC 12 01:35:37.9±2.1, 1463N±005×9468W±004, h19km±15km, n49, σ1§23/59, mb4.1/17, 2C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.79**	**310**	*i* P	**Pn**	**01 36 05.7**	**-2.1**
HUIG				*i* S	**Sn**	**01 36 25.3**	**-4.7**
CMIG	**Matias Romero**	**2.46**	**355**	Pn	**Pn**	**01 36 16.8**	**-0.2**
	104nm,0.3s,baz=163,slow=11,SNR=692						
CMIG				Sn	**Sn**	**01 36 46.2**	**-0.3**
	72nm,0.3s,baz=71,slow=21,SNR=21						
CMIG				LR	LR	01 37 33.0	
	comp=Z,525nm,20.8s,baz=288,slow=47						
CMIG	**Matias Romero**	**2.46**	**355⇑**	*i*P	**Pn**	**01 36 16.8**	**-0.2**
CMIG				*i* S	**Sn**	**01 36 45.7**	**-0.8**
CMIG	**Matias Romero**	**2.46**	**355**	Pn	**Pn**	**01 36 16.8**	**-0.2**
CMIG				*i* S	**Sn**	**01 36 45.7**	**-0.8**
CMIG				Sn	**Sn**	**01 36 46.2**	**-0.3**
CMIG				LR	LR	01 37 33.0	
SCX	**San Cristobal**	**2.87**	**43**	*i* P	**Pn**	**01 36 23.5**	**+0.8**
SCX				*i* S	**Sn**	**01 36 57.5**	**+0.7**
CCIG	**Comitan**	**2.95**	**56**	*i* P	**Pn**	**01 36 24.6**	**+0.9**
CCIG				*i* S	**Sn**	**01 36 58.7**	**+0.1**
JAT	**Jato**	**2.96**	**96⇑**	*e*P	**Pn**	**01 36 23.5**	**-0.4**
VHO	**Vista Hermosa**	**3.13**	**321**	*i* P	**Pn**	**01 36 25.5**	**-0.8**
VHO				*i* S	**Sn**	**01 37 02.5**	**-0.7**
TUIG	**Tuzandepetl**	**3.40**	**4**	*i* P	**Pn**	**01 36 30.5**	**+0.6**
TUIG				*i* S	**Sn**	**01 37 09.4**	**-0.2**
TP2	**Tecpan 2**	**3.54**	**87**	*e*P	**Pn**	**01 36 32.1**	**+0.2**
FUG	**Fuego 3**	**3.72**	**92⇓**	*i*P	**Pn**	**01 36 34.1**	**-0.2**
UTMO	**Huajuapan**	**4.38**	**317**	*e*P	**Pn**	**01 36 44.2**	**+0.9**
UTMO				*i* S	**Sn**	**01 37 32.2**	**-1.6**
SCIG		**5.46**	**37**	*i* P	**Pn**	**01 36 56.8**	**-1.4**
SCIG				*i* S	**Sn**	**01 38 01.0**	**+0.5**
TEIG	**Tepich**	**8.26**	**47**	*e*Pn	**Pn**	**01 37 35.5**	**-1.2**
JTS	**JuntasAbangare**	**10.43**	**113**	LR	LR	01 41 41.7	
	comp=Z,94nm,18.2s,baz=61,slow=36						
JTS	**JuntasAbangare**	**10.43**	**113**	*e*P	**Pn**	**01 38 14.9**	**+8.5**
	5.8nm,0.6s						
JCT	**Junction City**	**16.47**	**344**	*e*Pn	**Pn**	**01 39 29.1**	**+1.2**
	11nm,0.8s						
LRAL	**Lakeview Retre**	**19.61**	**20**	*e*Pn	**Pn**	**01 40 05.7**	**-0.8**
MNTX	**Cornudas Mount**	**19.61**	**332**	*e*P	**Pn**	**01 40 09.6**	**+3.1**
UALR	**University of**	**20.17**	**6**	*e*P	**P**	**01 40 11.2**	**0.0**
	8.0nm,0.6s						
OXF	**Oxford**	**20.36**	**13**	*e*Pn	**P**	**01 40 12.8**	**-0.5**
	12nm,0.6s						
AMTX	**Amarillo**	**21.13**	**344**	*e*P	**P**	**01 40 23.7**	**+2.0**
SWET	**Sewanee**	**21.96**	**19**	*e*Pn	**P**	**01 40 30.0**	**-0.5**
BNM	**Barren Site**	**22.24**	**333**	*e*P	**P**	**01 40 36.6**	**+3.1**
SIUC	**Southern Illin**	**23.50**	**11**	*e*P	**P**	**01 40 45.2**	**-1.6**
	9.6nm,0.7s,mb4.3						
CCM	**Cathedral Cave**	**23.53**	**7**	*e*P	**P**	**01 40 45.7**	**-1.4**
	15nm,1.1s,mb4.3						
SDV	**Santo Domingo**	**24.21**	**101**	P	**P**	**01 40 54.3**	**+1.0**
	1.5nm,0.4s,mb3.8,baz=306,slow=7.1,SNR=2.7						
SDV	**Santo Domingo**	**24.21**	**101**	P	**P**	**01 40 54.3**	**+1.0**
WCI	**Wyandotte Cave**	**24.65**	**16**	*e*P	**P**	**01 40 56.7**	**-0.6**
BLO	**Bloomington**	**25.48**	**15**	*e*P	**P**	**01 41 04.9**	**+0.1**
ELN	**Prospectdale**	**25.70**	**26**	*e*P	**P**	**01 41 06.1**	**-0.7**
ACSO	**Alum Creek Sta**	**27.48**	**20**	*e*P	**P**	**01 41 21.8**	**-1.2**
	6.9nm,0.5s,mb4.4						
PDAR	**Pinedale Array**	**30.83**	**338**	P	**P**	**01 41 54.3**	**+1.7**
	0.4nm,0.7s,mb3.4,baz=149,slow=9.7,SNR=4.1						
NVAR	**Mina Array Bea**	**31.58**	**323**	P	**P**	**01 42 02.7**	**+3.4**
	0.8nm,0.8s,mb3.6,baz=158,slow=5.8,SNR=6.5						
LOHW	**Long Hollow**	**31.94**	**338**	*e*P	**P**	**01 42 05.2**	**+2.7**
	3.6nm,1.0s,mb4.2						
HLID	**Hailey**	**33.42**	**334**	*e*P	**P**	**01 42 18.5**	**+3.1**
	1.6nm,0.9s,mb4.0						
HLID				*e*pP	pP	01 42 26.0	+4.8
HLID				*e*sP	sP	01 42 29.0	+5.4
DLMT	**Dillon**	**34.18**	**337**	*e*P	**P**	**01 42 26.9**	**+5.0**
	8.9nm,1.1s,mb4.6						
MOD	**Modoc**	**35.06**	**326**	*e*P	**P**	**01 42 34.2**	**+4.6**
	4.4nm,0.3s,mb4.9						
ULM	**Lac du Bonnet**	**35.54**	**359**	P	**P**	**01 42 33.4**	**-0.3**
	1.0nm,0.3s,mb4.2,baz=176,slow=9.0,SNR=4.2						
ULM	**Lac du Bonnet**	**35.54**	**359**	P	**P**	**01 42 33.4**	**-0.3**
CHMT	**Chamberlain Mo**	**35.73**	**338**	*e*P	**P**	**01 42 38.8**	**+3.4**
CHMT				*e*pP	pP	01 42 46.6	+5.4
LPAZ	**La Paz**	**40.39**	**139**	P	**P**	**01 43 13.4**	**-1.2**
	1.2nm,0.8s,mb3.7,baz=262,slow=5.7,SNR=5.1						
LPAZ	**La Paz**	**40.39**	**139**	*e*P	**P**	**01 43 14.0**	**-0.6**
	1.3nm,0.8s,mb3.7						
SIV	**San Ignacio**	**45.03**	**131**	P	**P**	**01 43 50.7**	**-1.6**
	0.9nm,0.5s,mb3.9,baz=304,slow=9.8,SNR=7.1						
SCHQ	**Schefferville**	**45.58**	**22**	P	**P**	**01 43

AOS	Alonnisos	3.98	26	P	Pn	02 02 50.7 +0.5
IGT	Igoumenitsa	4.06	345	*e*Pn	Pn	02 02 51.6 +0.3
JAN	Janina	4.09	351	⇓*i*PN	Pn	02 02 52.8 +1.0
MEV	Metsovon	4.18	356	*e*Pn	Pn	02 02 54.3 +1.2
MEV				*e*Sn	Sn	02 03 42.6 +1.9
KEK	Kerkira	4.36	341	*e*PN	Pn	02 02 56.5 +1.1
KEK	Kerkira	4.36	341	*e*Pn	Pn	02 02 55.5 +0.1
SRN	Sarande	4.46	343	*e*Pn	Pn	02 02 56.9 0.0
CHOS	Chios island	4.49	50	*e*Pn	Pn	02 02 56.8 -0.4
KARP	Karpathos	4.49	89	*e*PN	Pn	02 02 58.2 +0.9
LIT	Litokhoron	4.54	8	*e*Pn	Pn	02 02 58.4 +0.5
SMG	Samos	4.67	62	*e*PN	Pn	02 03 00.8 +1.1
KZN	Kozani	4.69	1⇑	*i*PN	Pn	02 03 01.3 +1.3
BODT	Bodrum	4.79	71	*e*P	Pn	02 03 01.7 +0.3
DAT	Datca	4.92	75	*e*P	Pn	02 03 03.4 +0.2
PLG	Polygyros	4.97	16	*e*PN	Pn	02 03 04.5 +0.7
PLG	Polygyros	4.97	16	*e*Pn	Pn	02 03 03.8 0.0
OUR	Ouranopolis	5.07	21	*e*Pn	Pn	02 03 05.3 +0.1
SLUM		5.07	143	⇓P	Pn	02 03 05.6 +0.4
SLUM				S	Sn	02 03 58.8 -3.6
SOI	Samo	5.12	300	P	Pn	02 03 06.5 +0.6
SOI				pmax	pmax	
	comp=Z,92nm,1.2s					
SOI	Samo	5.12	300	Pn	Pn	02 03 06.5 +0.6
	comp=Z,92nm,1.2s					
THE	Thessaloniki	5.12	11	*e*Pn	Pn	02 03 05.4 -0.5
BLCB	Balcova	5.13	56	*e*P	Pn	02 03 05.4 -0.6
PRK	Paraskevi	5.17	44	*e*PN	Pn	02 03 07.6 +1.0
FNA	Florina	5.17	358	*e*Pn	Pn	02 03 06.8 +0.2
MLSB	Milas	5.22	69	*e*P	Pn	02 03 08.0 +0.7
GRI	Girifalco	5.27	309	Pn	Pn	02 02 58.0 -10
TIP	Timpagrande	5.28	314⇑	*i*Pn	Pn	02 03 08.1 0.0
TIP				*e*Sn	Sn	02 04 01.8 -5.9
TIP	Timpagrande	5.28	314⇑	*i*Pn	Pn	02 03 08.1 0.0
TIP				*e*Sn	Sn	02 04 01.8 -5.9
IZM	Izmir	5.29	57	*e*P	Pn	02 03 06.4 -1.8
ARG	Arkhangelos	5.29	82	*e*PN	Pn	02 03 10.0 +1.8
ARG	Arkhangelos	5.29	82	*e*Pn	Pn	02 03 08.6 +0.4
MTTG	Motta San Giov	5.34	298	Pn	Pn	02 03 09.6 +0.6
	comp=Z,88nm,0.6s					
GRG	Griva	5.38	6	*e*Pn	Pn	02 03 09.5 +0.1
SOH	Sokhos	5.38	14	*e*Pn	Pn	02 03 09.7 +0.3
BIA	Bitola	5.41	357	*i*Pn	Pn	02 03 09.8 -0.1
BIA				*i*Sn	Sn	02 04 08.1 -2.8
BIA	Bitola	5.41	357	*i*Pn	Pn	02 03 09.7 -0.2
AGST	Augusta-Monte	5.43	290	Pn	Pn	02 03 09.4 -0.8
	comp=Z,3μm,6.9s					
HAVL	Avola	5.44	286	Pn	Pn	02 03 10.3 0.0
	comp=Z,152nm,0.3s					
LCI	Lecce	5.49	330	P	Pn	02 03 10.8 -0.1
LCI				pmax	pmax	
	comp=Z,50nm,0.4s					
LCI	Lecce	5.49	330	Pn	Pn	02 03 10.8 -0.1
	comp=Z,50nm,0.4s					
SSY	Sortino	5.53	288	Pn	Pn	02 03 12.1 +0.6
	comp=Z,71nm,0.4s					
OHR	Ohrid	5.54	353	*i*Pn	Pn	02 03 11.6 0.0
YER	Yerkesik	5.56	72	*e*P	Pn	02 03 13.6 +1.6
PZI	Palazzolo	5.60	287	P	Pn	02 03 13.1 +0.6
PZI				pmax	pmax	
	comp=Z,77nm,0.1s					
PZI	Palazzolo	5.60	287	Pn	Pn	02 03 13.1 +0.6
	comp=Z,77nm,0.1s					
EZN	Ezine	5.61	40	*e*P	Pn	02 03 12.9 +0.3
KNT	Kendrikon	5.63	10	*e*Pn	Pn	02 03 12.8 -0.1
SRS	Serrai	5.71	15	*e*Pn	Pn	02 03 13.8 -0.2
HMDC	Modica	5.71	286	Pn	Pn	02 03 14.5 +0.5
	comp=Z,90nm,0.6s					
VAY	Valandovo	5.75	7	*i*Pn	Pn	02 03 13.8 -0.7
VAY				*i*Sn	Sn	02 04 15.2 -4.1
DALT	Dalyan (Mudla)	5.77	76	*e*P	Pn	02 03 16.0 +1.3
HVZN	Vizzini	5.81	288	Pn	Pn	02 03 15.9 +0.5
	comp=Z,111nm,0.4s					
AKS	Akhisar	5.90	55	*e*P	Pn	02 03 16.3 -0.3
NVR	Nevrokopi	5.99	16	*e*PN	Pn	02 03 18.2 +0.3
ORI	Oriolo Calabro	6.06	319	P	Pn	02 03 19.5 +0.7
ORI				pmax	pmax	
	comp=Z,116nm,0.4s					
ORI	Oriolo Calabro	6.06	319	Pn	Pn	02 03 19.5 +0.7
	comp=Z,116nm,0.4s					
RAFF	Raffo Rosso	6.09	287	Pn	Pn	02 03 20.9 +1.6
FETY	Fethiye	6.10	78	*e*P	Pn	02 03 19.5 +0.1
VAE	Valguarnera	6.12	290	Pn	Pn	02 03 21.1 +1.5
	comp=Z,2.5nm,0.3s,baz=8.3,slow=2.6,SNR=12					
VAE				Sn	Sn	02 04 28.4 +0.1
	comp=Z,3.4nm,0.3s,baz=297,slow=18,SNR=2.0					
VAE				LR	LR	02 05 36.9
	comp=Z,414nm,19.1s,baz=308,slow=37					
VAE	Valguarnera	6.12	290	Pn	Pn	02 03 21.1 +1.5
VAE				Sn	Sn	02 04 28.5 +0.1
MMB	Musomiste	6.19	15	*i*P	Pn	02 03 20.2 -0.4
DENT	Denizli	6.31	68	*e*P	Pn	02 03 23.2 +1.0
ALN	Alexandroupoli	6.31	32	*e*Pn	Pn	02 03 21.6 -0.7
RDO	Rodhopi	6.32	28	*e*PN	Pn	02 03 22.8 +0.5
KKB	Krupnik	6.35	10	*i*P	Pn	02 03 23.6 +0.8
SKO	Skopje	6.36	359	*i*Pn	Pn	02 03 22.9 0.0
SKO				*i*Sn	Sn	02 04 26.9 -7.3
CUC	Castrocucco	6.37	315	Pn	Pn	02 03 23.4 +0.4
	comp=Z,66nm,0.6s					
BALB	Balikesir	6.38	49	*e*P	Pn	02 03 22.1 -1.0
HMAT	Matruh	6.40	133	⇓P	Pn	02 03 23.8 +0.3
KSL	Kastellorizon	6.46	83	*e*PN	Pn	02 03 25.2 +0.9
SG1	Sgolgore (BA)	6.53	325	*e*Pn	Pn	02 03 24.5 -0.7
RZN	Rozhen	6.53	21	*i*P	Pn	02 03 25.8 +0.6
KKS	Kukesi	6.53	352	*e*Pg	Pn	02 03 24.9 -0.4
PTRP	Pietrapertosa	6.60	320	Pn	Pn	02 03 27.6 +1.4
	comp=Z,31nm,1.6s					
MGR	Morigerati	6.61	315	Pn	Pn	02 03 26.4 0.0
	comp=Z,32nm,0.6s					
BAI	Bari	6.65	327	*e*Pn	Pn	02 03 27.0 +0.1
RKY	Sarkoy-Tekirda	6.69	39	*e*P	Pn	02 03 25.5 -1.9
KDZ	Kurdzhali	6.71	25	*i*P	Pn	02 03 27.5 -0.3
SLCN	Sala Consilina	6.74	317	Pn	Pn	02 03 29.4 +1.3
	comp=Z,97nm,0.4s					
ELL	Elmali	6.78	78	*e*P	Pn	02 03 29.1 +0.5
MFT	Murefte	6.81	39	*e*P	Pn	02 03 25.4 -3.7
EDC	Edincik	6.82	44	*e*P	Pn	02 03 28.1 -1.1
MRMT	Marmara Adasi	6.84	41	*e*P	Pn	02 03 27.9 -1.7
BNT	Bandirma	6.85	44	*e*P	Pn	02 03 28.6 -1.1
KHL	Karahalli	6.86	64	*e*P	Pn	02 03 31.0 +1.2
CDT	Castel del Mon	6.91	324	*e*Pn	Pn	02 03 30.6 +0.2
SGO	Sicignano	7.03	317	P	Pn	02 03 32.7 +0.5
SGO				pmax	pmax	
	comp=Z,13nm,0.3s					
SGO	Sicignano	7.03	317	Pn	Pn	02 03 32.7 +0.5
	comp=Z,13nm,0.3s					
MRLC	Muro Lucano	7.07	318	Pn	Pn	02 03 33.3 +0.6
	comp=Z,30nm,0.6s					
VTS	Vitosha	7.08	9	*i*P	Pn	02 03 32.7 -0.1
VTS	Vitosha	7.08	9⇑	*i*P	Pn	02 03 33.6 +0.8
VTS	Vitosha	7.08	9⇑	P	Pn	02 03 33.6 +0.8
DIM	Dimitrovgrad	7.11	24	P	Pn	02 03 33.5 +0.3
SWA2		7.11	152	⇓P	Pn	02 03 34.9 +1.6
SWA1		7.19	150	P	Pn	02 03 36.0 +1.6
SWA1				S	Sn	02 04 51.1 -3.6
DABA	Dabaa	7.20	128	P	Pn	02 03 34.3 -0.1
FG4	Candela	7.32	321	P	Pn	02 03 36.3 +0.2
FG4				pmax	pmax	
	comp=Z,45nm,0.8s					
FG4	Candela	7.32	321	Pn	Pn	02 03 36.3 +0.2
	comp=Z,45nm,0.8s					
ANTB	Antalya	7.39	77	*e*P	Pn	02 03 37.7 +0.7
EDRB	Edirne	7.39	31	*e*P	Pn	02 03 36.1 -1.0
BCK	Bucak	7.43	73	*e*P	Pn	02 03 38.0 +0.4
ISP	Isparta	7.46	70	*e*P	Pn	02 03 38.3 +0.4
ISP	Isparta	7.46	70	*e*P	Pn	02 03 38.5 +0.6
ISP				pmax	pmax	
	comp=Z,36nm,0.6s					
ISP	Isparta	7.46	70	*e*Pn	Pn	02 03 38.5 +0.5
	comp=Z,36nm,0.6s					
ISP	Isparta	7.46	70	*e*P	Pn	02 03 38.5 +0.6
	comp=Z,36nm,0.6s					
FGMS	Monte Sant'Ang	7.55	326	Pn	Pn	02 03 38.3 -0.9
	comp=Z,47nm,0.7s					
MS1	Monte Sant'Ang	7.55	325	*e*Pn	Pn	02 03 38.1 -1.2
FG5	Orsara di Pugl	7.56	320	P	Pn	02 03 39.9 +0.5
FG5				pmax	pmax	
	comp=Z,66nm,0.6s					
FG5	Orsara di Pugl	7.56	320	Pn	Pn	02 03 39.9 +0.5
	comp=Z,66nm,0.6s					
ALT	Altintas	7.57	60	*e*P	Pn	02 03 40.2 +0.7
CTT	Catalca	7.68	42	*e*P	Pn	02 03 41.6 +0.6
RGNG	Rignano Grg	7.70	324	Pn	Pn	02 03 40.3 -0.9
IZI	Iznik	7.77	50	*e*P	Pn	02 03 40.6 -1.7
YLV	Yalova	7.85	49	*e*P	Pn	02 03 42.4 -0.9
STON	Ston	7.88	338	*i*Pn	Pn	02 03 41.7 -2.1
STON				*i*Sn	Sn	02 05 01.6 -10
ISK	Istanbul-Kandi	7.97	45	*e*P	Pn	02 03 44.8 -0.2
ADVT	Abdulvahap	8.00	51	*e*P	Pn	02 03 46.5 +1.1
FG2	Serracapriola	8.00	323	Pn	Pn	02 03 45.1 -0.3
	comp=Z,82nm,0.4s					
KLYT	Kilyos	8.09	44	*e*P	Pn	02 03 46.3 -0.3
CII	Carovilli	8.38	319	Pn	Pn	02 03 52.9 +2.2
	comp=Z,21nm,0.5s					
HBRG	Burj al 'Arab	8.51	124	⇓P	Pn	02 03 51.5 -0.9
DIVS	Divcibare	8.58	352	⇑*i*Pn	Pn	02 03 50.4 -2.9
SVIS	Svilajnac	8.69	358	*i*Pn	Pn	02 03 52.1 -2.7
KIZT	Kizilcal	8.79	65	*e*P	Pn	02 03 58.4 +2.2
KONT	Konya--Tatoy	8.90	72	*e*P	Pn	02 03 58.3 +0.5
MDU	Mudurnu	8.97	54	*e*P	Pn	02 03 59.8 +1.1
MANS	Anshas	9.47	117	P	Pn	02 04 08.2 +2.6
AWBH		9.52	138	P	Pn	02 04 06.5 +0.3
CSS	Prodhromos	9.57	90	Pn	Pn	02 04 06.2 -0.7
CSS				*e*Sn	Sn	02 05 47.7 -5.5
HNAT	Natroun	9.62	126	P	Pn	02 04 06.9 -0.7
HMYD	Mayadein	9.64	124	P	Pn	02 04 07.3 -0.6
AANS		9.75	120	⇓P	Pn	02 04 08.2 -1.3
IKL	Isikli	9.78	83	*e*P	Pn	02 04 07.5 -2.3
ANTO	Ankara	9.80	61	*e*P	Pn	02 04 09.5 -0.5
ANTO	Ankara	9.80	61⇑	*i*P	Pn	02 04 13.0 +3.0
ANTO	Ankara	9.80	61⇑	P	Pn	02 04 13.0 +3.0
FYM	Al Fayyum	9.87	124	P	Pn	02 04 09.8 -1.2
AYT	Al 'Ayyat	9.94	124	⇓P	Pn	02 04 11.0 -1.0
BZS	Buzias	10.00	360⇑	*i*P	Pn	02 04 11.4 -1.4
BZS	Buzias	10.00	360⇑	P	Pn	02 04 11.4 -1.4
VOIR		10.15	14⇑	*i*P	Pn	02 04 14.7 -0.2
VOIR		10.15	14⇑	P	Pn	02 04 14.7 -0.2
HFRF	Wahat Farafira	10.17	144	⇓P	Pn	02 04 16.2 +1.1
TIRR	Tirgusor	10.24	28⇑	*i*P	Pn	02 04 15.2 -1.0
HSAF	As Saff	10.26	123	⇓P	Pn	02 04 15.6 -0.8
KOT	Kottamia	10.27	121	⇓P	Pn	02 04 15.4 -1.1
KAMT	Kaman	10.29	65	*e*P	Pn	02 04 17.2 +0.3
BR131	Keskin Array S	10.35	63	*e*Pn	Pn	02 04 19.3 +1.6
	comp=Z,9.4nm,0.9s					
BRTR	Keskin Array B	10.35	63	Pn	Pn	02 04 19.3 +1.7
	comp=Z,0.4nm,0.3s,baz=239,slow=13,SNR=41					
BRTR	Keskin Array B	10.35	63	*i*P	Pn	02 04 19.7 +2.1
BRTR				pmax	pmax	
	comp=Z,9.0nm,1.0s					
BRTR	Keskin Array B	10.35	63	*i*P	Pn	02 04 19.7 +2.1
	comp=Z,9.0nm,1.0s					
GLL	Jalalah	10.39	123	⇓P	Pn	02 04 17.3 -0.9
MLR	Muntele Rosu	10.40	17	Pn	Pn	02 04 18.1 -0.2
	comp=Z,0.8nm,0.3s,baz=285,slow=13,SNR=8.0					
MLR	Muntele Rosu	10.40	17⇑	*i*P	Pn	02 04 20.6 +2.3
HHAG	Hagoal	10.44	120	⇓P	Pn	02 04 17.6 -1.3
HBNS	Bani Suwayf	10.46	127	P	Pn	02 04 18.5 -0.6
MERS	Mersin	10.47	79	*e*P	Pn	02 04 18.5 -0.8
CFR	Carcaliu	10.76	25⇑	*i*P	Pn	02 04 22.5 -0.7
CFR	Carcaliu	10.76	25⇑	P	Pn	02 04 22.5 -0.7
PKSM	Moragy	10.84	349⇑	*i*P	Pn	02 04 21.1 -3.2
PKSM	Moragy	10.84	349⇑	P	Pn	02 04 21.1 -3.2
AMAG	Maghara	10.88	114	⇓P	Pn	02 04 22.6 -2.2
PLOR	Plostina	10.91	19⇑	*i*P	Pn	02 04 25.8 +0.5
KARA	Karaisali	10.93	77	*e*P	Pn	02 04 24.1 -1.3
VRI	Vrincioaia	10.95	19⇑	*i*P	Pn	02 04 26.4 +0.6
VRI	Vrincioaia	10.95	19⇑	P	Pn	02 04 26.4 +0.6
BOJS	Bojanci	11.02	336	*e*Pn	Pn	02 04 25.1 -1.6
BOJS				*e*Sn	Sn	02 06 18.4 -10
SUZ		11.03	118	⇓P	Pn	02 04 25.8 -1.1
SUZ				S	Sn	02 06 17.1 -12
KRTS	Karatas	11.15	81	*e*P	Pn	02 04 25.1 -3.4
DRGR		11.20	4⇑	*i*P	Pn	02 04 29.0 -0.3
DRGR		11.20	4⇑	P	Pn	02 04 29.0 -0.3
CORM	Corum	11.22	62	*e*P	Pn	02 04 31.1 +1.5
CRES	Cresnjev	11.23	337	*e*Pn	Pn	02 04 27.9 -1.8
CRES				*e*Sn	Sn	02 06 23.1 -11
ZNM		11.33	120	P	Pn	02 04 30.2 -0.8
GOLS	Golise	11.35	338	*e*Pn	Pn	02 04 30.5 -0.8
VISS	Visnje	11.42	335	*i*Pn	Pn	02 04 31.2 -1.0
VISS				*e*Sn	Sn	02 06 29.6 -8.8
CEY	Cerknica	11.51	334	*e*Pn	Pn	02 04 33.5 +0.1
CEY				*e*Sn	Sn	02 06 31.1 -9.5
KOZT	Kozan	11.56	77	*e*P	Pn	02 04 31.6 -2.6
YOZ	Yozgat	11.56	66	*e*P	Pn	02 04 32.7 -1.5
MMAI	Mount Meron Ar	11.66	99	Pn	Pn	02 04 31.9 -3.7
	comp=Z,1.9nm,0.3s,baz=291,slow=12,SNR=11					
MMAI				Sn	Sn	02 06 37.1 -7.3
	comp=Z,2.6nm,0.3s,baz=308,slow=14,SNR=4.8					
LJU	Ljubljana	11.73	335	*i*Pn	Pn	02 04 35.3 -1.2
LJU				*e*Sn	Sn	02 06 37.4 -8.8
BNN	Bunyan	11.77	70	*e*P	Pn	02 04 38.8 +1.8
JAVS	Javornik	11.77	333	*i*Pn	Pn	02 04 36.9 -0.2
JAVS				*e*Sn	Sn	02 06 34.6 -12
JAVS	Javornik	11.77	333	*i*Pn	Pn	02 04 36.8 -0.2
HWQ	Hawqa	11.81	92	*e*Pn	Pn	02 04 37.2 -0.3
HNKL	Nakhl	11.82	115	⇓P	Pn	02 04 36.4 -1.3
RCY	Rachaya	11.87	96	*e*Pn	Pn	02 04 35.6 -2.8
VOY	Vojsko	11.95	333	*e*Pn	Pn	02 04 39.3 -0.2
VOY				*e*		02 04 52.6
VOY				*e*Sn	Sn	02 06 41.5 -10
VOY				*e*		02 06 43.2
PGF	Pioggiola	12.02	309	*e*P	Pn	02 04 41.0 +0.5
	comp=Z,4.3nm,0.5s					
PGF	Pioggiola	12.02	309	*e*P	Pn	02 04 41.0 +0.5
PGF				pmax	pmax	
	comp=Z,2.0nm,0.5s					
PGF	Pioggiola	12.02	309	*e*P	Pn	02 04 41.0 +0.5
	comp=Z,2.2nm,0.5s					
PERS	Pernice	12.06	338	*e*Pn	Pn	02 04 38.8 -2.3
PERS				*e*Sn	Sn	02 06 41.8 -12
OBKA	Obir	12.13	336	⇓*i*Pn	Pn	02 04 40.5 -1.5
OBKA				⇑*i*Sn	Sn	02 06 45.2 -11
OBKA	Obir	12.13	336	⇓*i*Pn	Pn	02 04 40.5 -1.5
OBKA				*i*Sn	Sn	02 06 45.2 -11
BURAR	Bucovina Array	12.29	11	⇑*i*P	Pn	02 04 44.8 +0.7
PSZ	Piszkesteto	12.37	354	*e*P	Pn	02 04 43.6 -1.7
PSZ				pmax	pmax	
	comp=Z,11nm,0.8s					
PSZ	Piszkesteto	12.37	354	*e*Pn	Pn	02 04 43.6 -1.6
	comp=Z,11nm,0.8s					
PSZ	Piszkesteto	12.37	354	*e*P	Pn	02 04 43.6 -1.7
	comp=Z,11nm,0.8s					
TR2		12.52	122	P	Pn	02 04 45.1 -2.1
GAZ	Gaziantep	12.64	78	*e*P	Pn	02 04 47.0 -1.9
HBST	Basata	12.75	116	⇓P	Pn	02 04 49.7 -0.7
KECS	Kecovo	12.90	357	*e*	Pn	02 04 42.5 -10
KECS	Kecovo	12.90	357	*e*PN	Pn	02 04 51.3 -1.1
TR1		12.91	123	P	Pn	02 04 52.5 -0.1
ASF	Jabal al Asfar	13.12	101	Pn	Pn	02 04 53.3 -2.2
	comp=Z,0.2nm,0.3s,baz=139,slow=7.8,SNR=3.6					
ASF				Sn	Sn	02 07 13.4 -6.6
	comp=Z,0.3nm,0.3s,baz=68,slow=23,SNR=3.1					
HHRG	Al Ghardaqah	13.16	126	⇑P	Pn	02 04 55.6 -0.4
SIM	Simferopol'	13.31	42	P	Pn	02 04 58.6 +0.5
SIM				pmax	pmax	
	comp=Z,8.0nm,0.7s					
SIM				MLR	MLR	
	comp=Z,340nm,16.5s					
SIM	Simferopol'	13.31	42	P	Pn	02 04 58.6 +0.5
	comp=Z,340nm,16.5s					
MOA	Molln	13.41	338	⇓*i*Pn	Pn	02 04 57.8 -1.6
MOA				⇑*i*Sn	Sn	02 07 16.9 -10
MALT	Malatya	13.69	74	*e*P	Pn	02 05 01.8 -1.4
MALT	Malatya	13.69	74⇑	*i*P	Pn	02 05 04.6 +1.4
MALT	Malatya	13.69	74⇑	P	Pn	02 05 04.6 +1.4
SBF	Sospel	13.69	311	*e*P	Pn	02 05 03.2 0.0
STHS	Stebnicka Huta	13.81	359	*e*	Pn	02 05 14.9 +10
KWP	Kalwaria	14.04	3	*e*P	Pn	02 05 07.6 -0.4
KWP				pmax	pmax	
	comp=Z,200nm,0.9s					
KWP	Kalwaria	14.04	3	*e*Pn	Pn	02 05 07.6 -0.4
	comp=Z,200nm,0.9s					
KWP	Kalwaria	14.04	3	*e*P	Pn	02 05 07.6 -0.4
	comp=Z,200nm,0.9s					
DAVOX	Davos	14.23	325	Pn	Pn	02 05 10.7 +0.1
	comp=Z,0.2nm,0.3s,baz=345,slow=13,SNR=3.9					
DAVOX				Sn	Sn	02 07 39.2 -8.1
	comp=Z,0.2nm,0.3s,baz=69,slow=16,SNR=2.7					
OKC	Ostrava-Krasne	14.45	351	*e*P	Pn	02 05 18.4 +4.8
OKC				AMS	AMS	02 11 40.0
	comp=Z,300nm,18.7s					
GERES	GERESS Array B	14.47	339	Pn	Pn	02 05 12.8 -1.0
	comp=Z,0.3nm,0.3s,baz=298,slow=15,SNR=11					
GERES				Sn	Sn	02 07 38.9 -14
	comp=Z,0.0nm,0.3s,baz=151,slow=22,SNR=2.5					
MORC	Moravsky Berou	14.48	349⇑	*i*P	Pn	02 05 22.1 +8.1
MORC	Moravsky Berou	14.48	349⇑	P	Pn	02 05 22.1 +8.1
MBDF	Montbardon	14.56	313	*e*P	Pn	02 05 15.1 0.0
	comp=Z,18nm,1.0s					
MBDF	Montbardon	14.56	313	*e*P	Pn	02 05 15.1 0.0
MBDF				pmax	pmax	
	comp=Z,9.0nm,1.0s					
MBDF	Montbardon	14.56	313	*e*P	Pn	02 05 15.1 0.0
	comp=Z,8.8nm,1.0s					
DAVA	Damuels	14.61	327	⇓*i*Pn	Pn	02 05 14.4 -1.4
DAVA				⇓*i*Sn	Sn	02 07 46.7 -10
DAVA	Damuels	14.61	327	⇓*i*Pn	Pn	02 05 14.4 -1.4
DAVA				*i*Sn	Sn	02 07 46.7 -10
KHC	Kasperske Hory	14.76	339	*e*P	Pn	02 05 16.3 -1.5
KHC				*e*pP	pP	02 05 25.0 -7.8
KHC				*e*x	x	02 05 36.5
KHC				AMS	AMS	02 11 50.0
	comp=Z,1μm,15.2s					
KHC	Kasperske Hory	14.76	339	*d*i P	Pn	02 05 18.7 +0.9
KHC	Kasperske Hory	14.76	339	*e*P	Pn	02 05 16.3 -1.5
KHC				*e*		02 05 25.0
KHC				*e*		02 05 36.5
LPG	La Plagne	15.01	316	*e*P	Pn	02 05 20.9 -0.1
LPL	La Plagne	15.03	316	*e*P	Pn	02 05 21.3 0.0
ANN	Anapa	15.13	48	*e*P	Pn	02 05 25.9 +3.2
ANN				*e*S	S	02 08 10.3 -15
ANN				pmax	pmax	
	comp=Z,58nm,1.3s					
ORIF	Oris-en-Rattie	15.19	313	*e*P	Pn	02 05 23.0 -0.4
	comp=Z,9.6nm,1.0s					
ORIF				*e*R		02 05 58.5
	comp=Z,217nm,18.8s					
ORIF	Oris-en-Rattie	15.19	313	*e*P	Pn	02 05 23.0 -0.4
ORIF				pmax	pmax	
	comp=Z,5.0nm,1.0s					
ORIF	Oris-en-Rattie	15.19	313	*e*P	Pn	02 05 23.0 -0.4
	comp=Z,4.8nm,1.0s					
DPC	Dobruska-Polom	15.24	347	*e*P	Pn	02 05 28.6 +4.6
PRU	Prunonice	15.28	342	*e*P	Pn	02 05 29.3 +4.7
PRU				AMS	AMS	02 12 20.0
	comp=Z,800nm,15.1s					
UPC	Upice	15.45	346	*e*P	Pn	02 05 31.0 +4.3
PVCC	Panska Ves	15.78	343	AMS	AMS	02 12 30.0
VIVF	Saint-Julien-l	15.90	311	*e*P	Pn	02 05 32.2 -0.3
GRA1	Grafenberg Arr	16.01	335	*e*Pn	Pn	02 05 38.1 +4.1
GRF	Grafenberg Arr	16.01	335	*e*P	Pn	02 05 38.1 +4.1
CABF	La Chapelle	16.05	318	*e*P	Pn	02 05 33.9 -0.6
	comp=Z,4.0nm,0.7s					
CABF	La Chapelle	16.05	318	*e*P	Pn	02 05 33.9 -0.6
CABF				pmax	pmax	
	comp=Z,2.0nm,0.7s					
CABF	La Chapelle	16.05	318	*e*P	Pn	02 05 33.9 -0.6
	comp=Z,2.0nm,0.7s					
LASF	Ste Croix	16.05	307	*e*P	Pn	02 05 34.1 -0.4
AKASG	Malin Array Be	16.05	18	Pn	Pn	02 05 30.5 -4.1
	comp=Z,1.0nm,0.3s,baz=207,slow=12,SNR=17					
AKASG	Malin Array Be	16.05	18	P	Pn	02 05 30.5 -4.1
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.3s					
NKC	Novy Kostel	16.08	338	*e*P	Pn	02 05 39.5 +4.6
NKC				AMS	AMS	02 12 50.0
	comp=Z,900nm,14.8s					
BRG	Berggiesshubel	16.25	342	*e*P	Pn	02 05 36.0 -1.0
	comp=Z,1.5nm,0.9s					
BRG				*e*		02 05 58.5
	comp=Z,4.4nm,1.3s					
HINF	Hinteralfeld	16.42	322	*e*P	Pn	02 05 38.6 -0.7
CDF	Champ du Feu	16.63	325	*e*P	Pn	02 05 41.2 -0.7
MOX	Moxa	16.70	337	*e*PN	Pn	02 05 43.8 +1.1
MOX						
	comp=Z,700nm,18.0s					
MOX	Moxa	16.70	337	*e*P	Pn	02 05 43.8 +1.1
	comp=Z,700nm,18.0s					
HAU	Haudompre	16.80	322

SJPF	Ste Jean	19.18	300	eP	Pn	02 06 13.3 +0.2
	comp=Z,24nm,1.2s					
BAIF	Baives	19.23	324	eP	Pn	02 06 12.8 -0.9
	comp=Z,16nm,1.0s					
BAIF	Baives	19.23	324	eP	Pn	02 06 12.8 -0.9
BAIF				pmax	pmax	
	comp=Z,8.0nm,1.0s					
BAIF	Baives	19.23	324	eP	Pn	02 06 12.8 -0.9
	comp=Z,7.9nm,1.0s					
MNK	Minsk	19.38	11	eP	Pn	02 06 10.0 -5.5
MFF	Saint Martin d	19.70	311	eP	Pn	02 06 18.5 -0.8
	comp=Z,8.7nm,0.6s					
MFF	Saint Martin d	19.70	311	eP	Pn	02 06 18.5 -0.8
MFF				pmax	pmax	
	comp=Z,4.0nm,0.6s					
MFF	Saint Martin d	19.70	311	eP	Pn	02 06 18.5 -0.8
	comp=Z,4.3nm,0.6s					
BSEG	Bad Segeberg	19.97	340	eP	Pn	02 06 21.4 -1.1
BSD	Bornholm Skovb	20.06	349⇑	iP	P	02 06 20.8 -0.8
	comp=Z,11nm,0.7s					
BSD	Bornholm Skovb	20.06	349⇑	iP	P	02 06 20.8 -0.8
BSD				pmax	pmax	
	comp=Z,11nm,0.7s					
VRSR	Storozhevoye	20.06	34	eP	P	02 06 21.1 -0.5
VRSR				pmax	pmax	
	comp=E,3.0nm,0.8s					
VRSR				pmax	pmax	
	comp=Z,3.0nm,0.8s					
VRSR				pmax	pmax	
	comp=N,4.0nm,0.9s					
VRSR	Storozhevoye	20.06	34	eP	P	02 06 21.1 -0.5
	comp=N,4.0nm,0.9s					
LDF	La Druitiere	20.63	316	eP	P	02 06 28.4 +0.6
	comp=N,6.2nm,0.6s					
LDF	La Druitiere	20.63	316	eP	P	02 06 28.4 +0.6
LDF				pmax	pmax	
	comp=Z,3.0nm,0.6s					
LDF	La Druitiere	20.63	316	eP	P	02 06 28.4 +0.6
	comp=Z,3.1nm,0.6s					
ESDC	Sonseca Array	20.66	289	P	P	02 06 30.0 +1.9
	comp=Z,5.7nm,0.9s,baz=87,slow=10,SNR=24					
FLN	La Foliniere	20.93	316	eP	P	02 06 31.3 +0.3
	comp=Z,16nm,0.7s					
FLN				eR		
	comp=Z,162nm,21.8s					
FLN	La Foliniere	20.93	316	eP	P	02 06 31.3 +0.3
FLN				pmax	pmax	
	comp=Z,8.0nm,0.7s					
FLN				MLR	MLR	
	comp=Z,160nm,21.8s,MS3.4					
FLN	La Foliniere	20.93	316	eP	P	02 06 31.3 +0.3
	comp=Z,8.3nm,0.7s					
FLN				LR	LR	
	comp=Z,160nm,21.8s,MS3.4					
GRR	Gorron	20.95	314	eP	P	02 06 31.9 +0.6
	comp=Z,23nm,0.9s					
GRR	Gorron	20.95	314	eP	P	02 06 31.9 +0.6
GRR				pmax	pmax	
	comp=Z,12nm,0.9s					
GRR	Gorron	20.95	314	eP	P	02 06 31.9 +0.6
	comp=Z,12nm,0.9s					
VRHR	Novokhopersk	21.12	37	eP	P	02 06 32.1 -1.0
VRHR				pmax	pmax	
	comp=E,10.0nm,0.6s					
VRHR				pmax	pmax	
	comp=Z,70nm,0.6s,mb5.2					
VRHR				pmax	pmax	
	comp=N,10.0nm,0.5s					
VRHR	Novokhopersk	21.12	37	eP	P	02 06 32.1 -1.0
	comp=N,10.0nm,0.5s,mb4.4					
MDT	Midelt	21.88	270	P	P	02 06 43.8 +2.6
	comp=N,8.2nm,0.9s,mb4.2,baz=85,slow=13,SNR=13					
MDT				LR	LR	02 17 36.7
	comp=N,451nm,18.8s,MS3.9,baz=302,slow=43					
SGMF	Saint Gilles	21.89	313	eP	P	02 06 41.3 -0.1
	comp=N,16nm,0.8s,mb4.2					
SGMF	Saint Gilles	21.89	313	eP	P	02 06 41.3 -0.1
SGMF				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.2					
SGMF	Saint Gilles	21.89	313	eP	P	02 06 41.3 -0.1
	comp=Z,7.8nm,0.8s,mb4.2					
OBN	Obninsk	22.06	23	ceP	P	02 06 41.1 -2.0
OBN				i *SP	sP	02 07 04.8 +6.9
OBN				i S	S	02 10 37.1 -7.1
OBN				pmax	pmax	
	comp=Z,28nm,0.7s,mb4.8					
OBN				MLR	MLR	
	comp=Z,300nm,16.0s,MS3.8					
OBN	Obninsk	22.06	23	eP	P	02 06 41.1 -2.0
	comp=Z,52nm,1.0s,mb4.9					
OBN	Obninsk	22.06	23	eP	P	02 06 41.1 -2.0
	comp=Z,52nm,1.0s,mb4.9					
QUIF	Quistinic	22.12	311	eP	P	02 06 43.5 -0.2
	comp=Z,12nm,0.7s,mb4.1					
QUIF	Quistinic	22.12	311	eP	P	02 06 43.5 -0.2
QUIF				pmax	pmax	
	comp=Z,6.0nm,0.7s,mb4.1					
QUIF	Quistinic	22.12	311	eP	P	02 06 43.5 -0.2
	comp=Z,5.9nm,0.7s,mb4.1					
MIB	Mutribah	22.35	98	eP	P	02 06 46.7 +0.5
MIB				AMb	AMB	02 06 48.4
	comp=Z,134nm,0.5s					
ROSF	Rostrenen	22.36	312	eP	P	02 06 45.9 -0.4
	comp=Z,46nm,1.2s,mb4.5					
ROSF	Rostrenen	22.36	312	eP	P	02 06 45.9 -0.4
ROSF				pmax	pmax	
	comp=Z,23nm,1.2s,mb4.5					
ROSF	Rostrenen	22.36	312	eP	P	02 06 45.9 -0.4
	comp=Z,23nm,1.2s,mb4.5					
NAY	Al-Naaiem	22.48	99	eP	P	02 06 48.8 +1.2
NAY				AMb	AMB	02 06 50.7
	comp=Z,23nm,0.5s,mb4.9					
UMR	Umm Al-Rimmam	22.74	98	eP	P	02 06 51.6 +1.2
UMR				AMb	AMB	02 06 52.8
	comp=Z,97nm,0.5s,mb5.5					
MOS	Moscow	22.91	24	eP	P	02 06 52.7 +0.5
MOS				eS	S	02 10 54.1 -5.3
MOS				pmax	pmax	
	comp=Z,32nm,1.0s,mb4.7					
MOS	Moscow	22.91	24	eP	P	02 06 52.7 +0.5
	comp=Z,32nm,1.0s,mb4.7					
VSU	Vasula	23.11	7	d iP	P	02 06 54.0 -0.3
VSU	Vasula	23.11	7	i P	P	02 06 54.0 -0.3
HFS	Hagfors	25.08	351	P	P	02 07 12.0 -0.6
	comp=Z,4.1nm,0.4s,mb4.3,baz=156,slow=11,SNR=40					
HFS	Hagfors	25.08	351	P	P	02 07 12.0 -0.6
HFS				pmax	pmax	
	comp=Z,4.0nm,0.4s					
KONO	Kongsberg	25.31	346	P	P	02 07 14.1 -0.5
KONO				pmax	pmax	
	comp=Z,6.0nm,0.6s,mb4.3					
KONO	Kongsberg	25.31	346	P	P	02 07 14.1 -0.6
	comp=Z,5.6nm,0.6s,mb4.3					
KONO	Kongsberg	25.31	346	P	P	02 07 14.1 -0.5
	comp=Z,5.6nm,0.6s,mb4.3					
FINES	FINESS Array B	26.01	5	P	P	02 07 20.4 -0.6
	comp=Z,7.5nm,0.7s,mb4.3,baz=157,slow=10,SNR=37					
FINES				LR	LR	02 18 44.8
	comp=Z,244nm,18.2s,MS3.8,baz=14,slow=39					
FINES	FINESS Array B	26.01	5	i P	P	02 07 20.6 -0.4
FINES				pmax	pmax	
	comp=Z,8.0nm,0.7s					
EKA	Eskdalemuir Ar	26.06	327	P	P	02 07 22.4 +1.0
	comp=Z,4.5nm,0.6s,mb4.2,baz=129,slow=8.1,SNR=32					
EKA	Eskdalemuir Ar	26.06	327	P	P	02 07 22.5 +1.0
EKA				pmax	pmax	
	comp=Z,5.0nm,0.6s					
ESK	Eskdalemuir	26.07	327	eP	P	02 07 22.1 +0.6
ESK				pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.3					
ESK	Eskdalemuir	26.07	327	eP	P	02 07 22.1 +0.5
	comp=Z,6.5nm,0.7s,mb4.3					
ESK	Eskdalemuir	26.07	327	eP	P	02 07 22.1 +0.6
	comp=Z,6.5nm,0.7s,mb4.3					
NAO01	NORSAR Array S	26.18	348	eP	P	02 07 22.4 -0.1
	comp=Z,2.6nm,0.5s,mb4.0					
NAO01	NORSAR Array S	26.18	348	eP	P	02 07 22.5 -0.1
	comp=Z,2.5nm,0.5s,mb4.0					
NB2	NORSAR Subarra	26.31	349	P	P	02 07 23.4 -0.3
	comp=Z,3.7nm,0.8s,mb4.0,baz=156,slow=9.3					
NB2	NORSAR Subarra	26.31	349	P	P	02 07 23.4 -0.3
NB2				pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.0					
NB2	NORSAR Subarra	26.31	349	P	P	02 07 23.4 -0.3
	comp=Z,3.7nm,0.8s,mb4.0					
NOA	NORSAR Array B	26.31	349	P	P	02 07 23.8 0.0
	comp=Z,2.6nm,0.6s,mb3.9,baz=157,slow=9.1,SNR=23					
NOA	NORSAR Array B	26.31	349	P	P	02 07 23.8 +0.1
NOA				pmax	pmax	
	comp=Z,3.0nm,0.6s					
NOA	NORSAR Array B	26.31	349	P	P	02 07 23.8 0.0
KAF	Kangasniemi	26.69	5	ep	P	02 07 25.3 -1.8
	comp=Z,8.0nm,0.7s,mb4.4,baz=185,slow=9.3					
JOF	Joensuu	27.99	9	ep	P	02 07 37.0 -1.8
	comp=Z,3.7nm,0.6s,mb4.2					
ORR	Orenburg	28.50	46	eP	P	02 07 43.1 -0.3
ORR				pmax	pmax	
	comp=Z,10.0nm,0.5s,mb4.8					
ORR	Orenburg	28.50	46	eP	P	02 07 43.1 -0.3
	comp=Z,10.0nm,0.5s,mb4.8					
TORD	Torodi Ar. Bea	28.70	224	P	P	02 07 48.5 +3.4
	comp=Z,4.6nm,0.6s,mb4.4,baz=34,slow=9.5,SNR=150					
TORD				PcP	PcP	02 10 56.7 +1.8
	comp=Z,0.7nm,0.8s,baz=36,slow=2.2,SNR=4.5					
TORD	Torodi Ar. Bea	28.70	224	P	P	02 07 48.5 +3.4
TORD				PcP	PcP	02 10 56.7 +1.8
AKTK	Aktyubinsk	30.09	49	P	P	02 07 56.8 -0.6
	comp=Z,3.0nm,0.6s,mb4.2					
AKTO	Aktyubinsk	30.09	49	P	P	02 07 56.8 -0.6
	comp=Z,2.7nm,0.6s,mb4.2,baz=262,slow=9.7,SNR=14					
AKTO	Aktyubinsk	30.09	49	P	P	02 07 56.8 -0.6
AKTO				pmax	pmax	
	comp=Z,3.0nm,0.6s,mb4.2					
ARU	Arti	32.45	38⇑	iP	P	02 08 17.4 -0.8
ARU				e		02 09 21.0
ARU				eS	S	02 13 23.8 -6.3
ARU				pmax	pmax	
	comp=Z,7.0nm,0.7s,mb4.6					
ARU	Arti	32.45	38	i P	P	02 08 17.4 -0.8
	comp=Z,7.0nm,0.7s,mb4.6					
ARU				eS	S	02 13 23.8 -6.3
ARCES	ARCESS Array B	34.05	2	P	P	02 08 31.8 -0.4
	comp=Z,6.8nm,0.6s,mb4.8,baz=189,slow=9.4,SNR=43					
ARCES				LR	LR	02 23 36.0
	comp=Z,213nm,19.2s,MS3.9,baz=344,slow=39					
ARCES	ARCESS Array B	34.05	2	P	P	02 08 31.8 -0.4
ARCES				pmax	pmax	
	comp=Z,7.0nm,0.6s					
ARCES				MLR	MLR	
	comp=Z,213nm,19.2s					
ARE0	ARCESS Array S	34.05	2	eP	P	02 08 31.7 -0.4
ARE0	ARCESS Array S	34.05	2	eP	P	02 08 31.7 -0.5
KEV	Kevo	34.33	3	ep	P	02 08 33.5 -1.1
	comp=Z,19nm,1.0s,mb5.0					
KEV	Kevo	34.33	3	eP	P	02 08 33.5 -1.1
KEV				pmax	pmax	
	comp=Z,19nm,1.0s,mb5.0					
ZRNK	Zerenda	37.30	47	eP	P	02 08 59.1 -0.9
ZRNK				pmax	pmax	
	comp=Z,3.0nm,0.6s,mb4.3					
ZRNK	Zerenda	37.30	47	eP	P	02 08 59.1 -0.9
	comp=Z,2.6nm,0.6s,mb4.2					
ZRNK	Zerenda	37.30	47	eP	P	02 08 59.1 -0.9
	comp=Z,2.6nm,0.6s,mb4.2					
DBIC	Dimbokro	37.70	226	P	P	02 09 06.7 +3.3
	comp=Z,3.0nm,0.4s,mb4.3,baz=36,slow=8.6,SNR=17					
DBIC				LR	LR	02 26 39.3
	comp=Z,210nm,18.1s,MS4.0,baz=8.5,slow=39					
DBIC	Dimbokro	37.70	226	P	P	02 09 06.7 +3.3
DBIC				pmax	pmax	
	comp=Z,3.0nm,0.4s					
DBIC				MLR	MLR	
	comp=Z,210nm,18.1s					
DBIC	Dimbokro	37.70	226	P	P	02 09 06.7 +3.3
DBIC				LR	LR	02 26 39.3
BVAR	Borovoye Array	38.13	47	P	P	02 09 06.6 -0.4
	comp=Z,1.3nm,0.6s,mb3.8,baz=256,slow=6.4,SNR=7.7					
BVAR	Borovoye Array	38.13	47	P	P	02 09 06.6 -0.5
BVAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
AAK	Ala-Archa	41.03	64⇑	eP	P	02 09 31.5 +0.3
AAK				pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.1					
AAK	Ala-Archa	41.03	64	eP	P	02 09 31.2 0.0
	comp=Z,3.0nm,0.6s,mb4.1					
AAK	Ala-Archa	41.03	64	eP	P	02 09 31.2 0.0
	comp=Z,3.0nm,0.6s,mb4.1					
FRU	Bishkek	41.09	63	eP	P	02 09 32.0 +0.3
KURK	Kurchatov	43.13	51	eP	P	02 09 47.4 -0.9
KURK				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.0					
KURK	Kurchatov	43.13	51	eP	P	02 09 47.4 -0.9
	comp=Z,2.4nm,0.6s,mb4.1					
KURK				e		02 11 22.1
NVS	Novosibirsk	45.80	45	i P	P	02 10 08.5 -1.1
NVS				eS	S	02 16 46.2 -4.5
NVS				smax		
	comp=N,4.0nm,0.6s					
NVS				smax		
	comp=E,2.0nm,0.6s					
NVS	Novosibirsk	45.80	45	i P	P	02 10 08.5 -1.1
NVS				eS	S	02 16 46.2 -4.5
MKAR	Makanchi Array	45.92	56	P	P	02 10 10.5 -0.1
	comp=E,9.9nm,0.6s,mb4.9,baz=282,slow=7.1,SNR=81					
MKAR	Makanchi Array	45.92	56	eP	P	02 10 10.5 -0.1
ZAL	Zalesovo	46.76	46	P	P	02 10 16.6 -0.5
	comp=E,3.0nm,0.5s,mb4.5,baz=199,slow=9.0,SNR=10					
ZAL	Zalesovo	46.76	46	P	P	02 10 16.6 -0.5
ZAL				pmax	pmax	
	comp=Z,3.0nm,0.5s					
KOLN	Koldanda	52.54	80	eP	pP	02 11 11.5 -1.0
DMN	Daman	53.82	80	eP	P	02 11 12.0 +1.5
	comp=Z,16nm,0.6s,mb5.1					
KKN	Kakani	53.88	79	eP	P	02 11 12.3 +1.3
	comp=Z,15nm,0.5s,mb5.2					
KKN	Kakani	53.88	79	eP	P	02 11 12.3 +1.3
KKN				pmax	pmax	
	comp=Z,15nm,0.5s,mb5.2					
PKI	Pulchoki	54.08	79	eP	P	02 11 14.0 +1.6
GUN	Gumba	54.31	79	eP	P	02 11 15.0 +0.9
	comp=Z,11nm,0.4s,mb5.1					
JIRN	Jiri	54.66	79	eP	P	02 11 15.4 -1.3
	comp=Z,13nm,0.6s,mb5.2					
TLY	Talaya	58.38	46	i P	P	02 11 44.2 +1.0
TLY				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.5					
TLY	Talaya	58.38	46	i P	P	02 11 44.2 +1.0
	comp=Z,5.0nm,1.0s,mb4.5					
ZAK	Zakamensk	58.59	48	eP	P	02 11 44.7 +0.1
ZAK				pmax	pmax	
	comp=Z,4.0nm,2.0s,mb4.1					
ZAK	Zakamensk	58.59	48	eP	P	02 11 44.7 +0.1
	comp=Z,4.0nm,2.0s,mb4.1					
GTA	Gaotai	60.27	61	eP	P	02 11 57.7 +1.5
GTA				AP	pP	02 12 05.9 -1.8
GTA				XP	sP	02 12 10.2 -2.0
SCHQ	Schefferville	60.97	319	P	P	02 12 01.9 +0.9
	comp=Z,1.4nm,0.6s,mb4.2,baz=357,slow=1.8,SNR=3.6					
SONM	Songino Array	61.41	50	P	P	02 12 04.4 +0.5
	comp=Z,1.7nm,0.6s,mb4.4,baz=279,slow=8.4,SNR=13					
SONM	Songino Array	61.41	50	P	P	02 12 04.4 +0.5
SONM				pmax	pmax	
	comp=Z,2.0nm,0.6s					
TIXI	Tiksi	61.75	20⇑	eP	P	02 12 06.4 +0.2
TIXI				pmax	pmax	
	comp=Z,3.0nm,0.9s,mb4.4					
TIXI	Tiksi	61.75	20	eP	P	02 12 06.4 +0.2
	comp=Z,3.0nm,0.9s,mb4.4					
ULN	Ulaanbaatar	61.80	50	eP	P	02 12 06.8 +0.2
	comp=Z,3.0nm,0.7s,mb4.5					
ULN	Ulaanbaatar	61.80	50	eP	P	02 12 07.0 +0.4
YAK	Yakutsk	66.91	29	eP	P	02 12 39.8 -0.2
	comp=Z,16nm,0.5s,mb5.3					
YAK	Yakutsk	66.91	29	eP	P	02 12 39.8 -0.2
BILL	Bilibino	73.31	13	i P	P	02 13 21.0 +1.8
BILL				MLR	MLR	
	comp=Z,100nm,14.0s,MS4.2					
BILL	Bilibino	73.31	13	i P	P	02 13 21.0 +1.8
	comp=Z,100nm,14.0s					
YKA	Yellowknife Ar	76.11	341	P	P	02 13 37.2 +1.7
	comp=Z,0.7nm,0.6s,mb3.8,baz=27,slow=5.6,SNR=4.1					
YKA	Yellowknife Ar	76.11	341	P	P	02 13 37.2 +1.8
YKA				pmax	pmax	
	comp=Z,1.0nm,0.6s					
NJ2	Nanjing	77.33	60	eP	P	02 13 44.3 +2.0
NJ2				PCP	PcP	02 13 55.1 +2.3
NJ2				S	S	02 23 22.0 -7.6
NJ2				AMB	AMB	
	comp=Z,10.0nm,0.7s,mb4.8					
NJ2				AMB	AMB	
	comp=Z,100nm,4.9s					
SSE	Sheshan	79.51	59	P	P	02 13 55.7 +1.4
SSE				AMB	AMB	
	comp=Z,50nm,4.1s					
YSS	Yuzh-Sakhalins	82.31	36	i P	P	02 14 12.2 +2.9
YSS				pmax	pmax	
	comp=Z,14nm,1.4s,mb4.7					
BDFB	Brasilia	83.25	245	P	P	02 14 18.7 +4.5
	comp=Z,2.8nm,0.5s,mb4.5,baz=33,slow=5.6,SNR=7.6					
BDFB				LR	LR	02 51 55.4
	comp=Z,281nm,18.2s,MS4.7,baz=242,slow=36					
BDFB	Brasilia	83.25	245	P	P	02 14 18.7 +4.5
BDFB				pmax	pmax	
	comp=Z,3.0nm,0.5s					
BDFB				MLR	MLR	
	comp=Z,281nm,18.2s					
PET	Petropavlovsk	84.15	24⇑	eP	P	02 14 19.4 +0.6
PET				pmax	pmax	
	comp=Z,30nm,0.8s,mb5.5					
PET	Petropavlovsk	84.15	24	eP	P	02 14 19.4 +0.6
	comp=Z,30nm,0.8s,mb5.5					
LPAZ	La Paz	99.12	257	LR	LR	03 01 04.7
	comp=Z,66nm,20.7s,MS4.1,baz=99,slow=36					
ASAR	Alice Springs	120.95	98	PKP	PKPdf	02 20 41.8 +1.9
	comp=Z,0.8nm,0.6s,baz=308,slow=1.4,SNR=14					
ASAR	Alice Springs	120.95	98	PKIKP	PKPdf	02 20 41.8 +1.9
ASAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					

IDC ***12*** *02:05:24.9±1.0, 3124S×178.13W, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.2/14, mbtmp4.3/6, ML3.7/1, Error ellipse: s-maj=34.0km s-min=22.1km az=135.0*
ISCJB ***12*** *02:05:28.6±0.7, 3129S±007×1784W±0.1, h33km, mb4.5/10, Error ellipse: s-maj=16.0km s-min=8.9km az=32.0*
NEIC ***12*** *02:05:30.5±0.7, 3119S×1782.9W, h35km, mb4.7/5, Error ellipse: s-maj=18.6km s-min=13.8km az=109.0*
MOS ***12*** *02:05:31.3±1.5, 3144S×1787.0W, h33km, mb4.6/3, Error ellipse: s-maj=44.0km s-min=25.9km az=11.4*

ISC 12 02:05:27.5±5.3, 3123S±007×1783W±0.1, h14km±34km, n36, σ0.9 90/26, mb4.5/10, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.00	9	Pn	Pn	02 06 00.1	-0.7
	178nm,0.3s,baz=69,slow=23,SNR=13						
RAO				Sn	Sn	02 06 21.6	-3.9
	433nm,0.3s,baz=97,slow=21,SNR=9.0						
RAO	Raoul Island	2.00	9	ePn	Pn	02 06 00.2	-0.5
RAO				eSn	Sn	02 06 18.0	-7.5
URZ	Urewera	7.98	207	Pn	Pn	02 07 22.5	-0.4
	0.9nm,0.3s,baz=102,slow=8.0,SNR=3.0						
URZ				Sn	Sn	02 08 52.0	-0.9
	5.8nm,0.3s,baz=219,slow=24,SNR=16						
CTA	Charters Tower	33.72	281	P	P	02 12 10.3	+2.1
	3.8nm,0.7s,mb4.5,baz=120,slow=17,SNR=3.5						
CTA	Charters Tower	33.72	281	P	P	02 12 10.3	+2.1
CTAO	Charters Tower	33.72	281	eP	P	02 12 07.5	-0.7
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CTAO	Charters Tower	33.72	281	eP	P	02 12 07.5	-0.7
	comp=Z,5.0nm,0.8s,mb4.5						
STKA	Stephens Creek	34.08	258	P	P	02 12 11.6	+0.3
	comp=Z,1.4nm,0.5s,mb4.2,baz=99,slow=12,SNR=6.9						
STKA	Stephens Creek	34.08	258	eP	P	02 12 11.5	+0.1
AS31	Alice Springs	42.85	268	eP	P	02 13 25.1	+0.1
ASAR	Alice Springs	42.85	268	P	P	02 13 25.1	+0.1
	comp=Z,4.5nm,0.6s,mb4.4,baz=102,slow=7.4,SNR=61						
ASPA	Alice Springs	42.85	268	eP	P	02 13 25.1	+0.1
WB2	Warramunga Arr	43.90	273	eP	P	02 13 33.6	+0.1
WRAB	Tennant Creek	43.91	273	eP	P	02 13 33.7	+0.1
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.9						
WRAB	Tennant Creek	43.91	273	eP	P	02 13 33.7	+0.1
	comp=Z,9.5nm,0.4s,mb4.9						
SBA	Scott Base	47.19	184	eP	P	02 14 00.2	+0.6
SBA				pmax	pmax		
	comp=Z,34nm,2.0s,mb4.9						
SBA	Scott Base	47.19	184	eP	P	02 14 00.2	+0.7
	comp=Z,304nm,2.0s						
FITZ	Fitzroy Crossi	52.14	271	P	P	02 14 37.9	+0.7
	comp=Z,2.8nm,0.8s,mb4.2,baz=337,slow=22,SNR=3.6						
CASY	Casey	54.30	208	eP	P	02 14 51.2	-1.9
	comp=Z,1.5nm,0.5s,mb4.2						
QSPA	South Pole Qui	58.88	180	eP	P	02 15 27.6	+1.8
	comp=Z,5.0nm,0.8s,mb4.6						
PMSA	Palmer Station	71.60	156	eP	P	02 16 48.2	-0.1
	comp=Z,16nm,0.4s,mb5.3						
NVAR	Mina Array Bea	89.00	43	P	P	02 18 21.8	0.0
	comp=Z,0.4nm,0.5s,mb4.0,baz=235,slow=9.1,SNR=4.1						
NVAR	Mina Array Bea	89.00	43	P	P	02 18 21.8	0.0
BVAR	Borovoye Array	126.84	315	PKP	PKPdf	02 24 32.0	+1.4
	comp=Z,0.7nm,0.6s,baz=225,slow=0.2,SNR=3.7						
KEV	Kevo	138.88	347	epkp		02 25 07.1	
KAF	Kangasniemi	145.25	340	epkp	PKPdf	02 25 04.5	-0.1
	baz=41,slow=3.2						
FINES	FINESS Array B	145.85	339	PKPbc	PKPbc	02 25 03.0	-3.2
	comp=Z,4.5nm,0.6s,baz=48,slow=3.9,SNR=16						
FINES	FINESS Array B	145.85	339	PKPbc	PKPbc	02 25 03.0	-3.2
NB2	NORSAR Subarra	149.54	351	PKPa	PKPbc	02 25 13.5	-2.8
	comp=Z,1.5nm,0.7s,baz=14,slow=4.3						
NB2	NORSAR Subarra	149.54	351	⇑PKPab	PKPbc	02 25 13.5	-2.8
NOA	NORSAR Array B	149.54	351	PKPbc	PKPbc	02 25 13.6	-2.7
	comp=Z,1.4nm,0.7s,baz=14,slow=4.1,SNR=7.0						
HFS	Hagfors	150.01	348	PKPbc	PKPbc	02 25 14.5	-2.9
	comp=Z,1.5nm,0.7s,baz=12,slow=7.6,SNR=5.1						
AKASG	Malin Array Be	151.82	322	PKPbc	PKPbc	02 25 22.7	+1.0
	comp=Z,2.4nm,0.7s,baz=50,slow=2.5,SNR=10.0						
AKASG	Malin Array Be	151.82	322	PKPbc	PKPbc	02 25 22.7	+1.0
BRTR	Keskin Array B	152.79	297	PKPbc	PKPbc	02 25 25.9	+2.1
	comp=Z,0.8nm,0.5s,baz=141,slow=4.5,SNR=7.8						
TORD	Torodi Ar. Bea	162.00	180	PKPab	PKPab	02 26 14.3	-0.1
	comp=Z,0.5nm,0.6s,baz=172,slow=3.9,SNR=11						

MOS ***12*** *02:36:10.6±3.2, 5691N×11833E, h13km, mb4.2/1, Error ellipse: s-maj=35.1km s-min=22.0km az=150.2*

BYKL 12 02:36:09.2±0.2, 5700N×11836E, h7km±2km, 1C, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	Chara	0.11	207⇑	iPg	Pg	02 36 11.6	-0.1
CRS				eSg	Sg	02 36 13.3	0.0
KHNR	Khani	0.89	94	ePg	Pg	02 36 25.8	-0.5
KHNR				eSg	Sg	02 36 36.7	-1.

comp=E,292nm,0.7s
SVKR Severomuysk 2.80 254 *e*PN Pn 02 37 01.1 +6.7
UKT Uakit 3.04 242 *e*PN Pn 02 36 58.5 +0.7
UKT *e*Pg Pg 02 37 04.3 -3.2
UKT *e*Sg Sg 02 37 42.9 -4.1
UKT Pmax
comp=E,21nm,0.7s
UKT Smax
comp=E,108nm,0.8s
UKT Uakit 3.04 242 *e*PN Pn 02 37 04.8 +7.0
UKT *e* 02 37 42.8
UKT pmax pmax
comp=Z,19nm,0.6s
UKT smax
comp=N,108nm,0.8s
CLNS Chul'man 3.58 90 *e*Sg Sg 02 38 00.4 -4.0
CLNS Smax
comp=N,31nm,0.2s
CLNS Chul'man 3.58 90 *e*PN Pn 02 37 09.7 +4.5
CLNS *e* 02 37 15.7
CLNS *e*S Sn 02 37 49.5 +1.7
CLNS pmax pmax
comp=N,2.0nm,0.3s
CLNS pmax pmax
comp=E,2.0nm,0.3s
CLNS pmax pmax
comp=Z,6.0nm,0.3s
CLNS pmax pmax
comp=E,4.0nm,0.3s
CLNS pmax pmax
comp=Z,6.0nm,0.3s
CLNS pmax pmax
comp=N,4.0nm,0.4s
CLNS smax
comp=N,5.0nm,0.3s
CLNS smax
comp=E,5.0nm,0.3s
CLNS smax
comp=Z,5.0nm,0.3s
YOA Uoyan 3.77 259 *e*Sg Sg 02 38 05.3 -5.1
YOA Smax
comp=Z,338nm,0.6s
YOA Uoyan 3.77 259 *e*PN Pn 02 37 17.0 +9.2
YOA *i* 02 38 06.4
YOA pmax pmax
comp=Z,68nm,0.2s
YOA smax
comp=N,334nm,0.6s
TNDR Tynda 4.02 115 *e*Sg Sg 02 38 13.0 -5.3
TNDR Smax
comp=N,416nm,0.3s
KMO Kumora 4.13 257 *e*PN Pn 02 37 13.5 +0.9
KMO *e* 02 37 26.1
KMO *e*Sg Sg 02 38 16.3 -5.5
KMO Smax
comp=N,89nm,1.1s
KMO Kumora 4.13 257 *e*PN Pn 02 37 13.4 +0.8
KMO *e* 02 37 23.8
KMO *e*S Sn 02 38 00.8 -0.4
KMO *e* 02 38 16.4
KMO pmax pmax
comp=Z,13nm,0.6s
KMO smax
comp=N,88nm,1.0s
YLYR Ulyunkhan 4.57 245 *e*Pn Pn 02 37 19.3 +0.5
YLYR *e*Pg Pg 02 37 31.1 -5.7
YLYR *e*Sg Sg 02 38 30.4 -5.7
YLYR Pmax
comp=N,9.0nm,1.0s
YLYR Smax
comp=N,36nm,0.7s
NIZ Nizh Angarsk 5.05 260 *e*Pg Pg 02 37 40.7 -5.3
NIZ *e*Sg Sg 02 38 45.5 -5.9
NIZ Pmax
comp=N,5.0nm,0.1s
NIZ Smax
comp=N,43nm,0.4s
NIZ Nizh Angarsk 5.05 260 *e*PN Pn 02 37 41.0 +16
NIZ *e* 02 38 46.8
NIZ pmax pmax
comp=Z,11nm,1.1s
NIZ smax
comp=N,39nm,0.8s
CIT Chita 5.72 211 *e*Sg Sg 02 39 06.7 -6.2
CIT Smax
comp=N,104nm,1.4s
SYVR Suvo 5.83 238 *e*Pn Pn 02 37 36.0 0.0
SYVR *e*Sg Sg 02 39 09.5 -6.9
SYVR Smax
comp=N,32nm,1.0s
CGD Chagda 6.77 70 *e*Sg Sg 02 39 38.0 -8.5
CGD Smax
comp=N,25nm,0.1s
OGRR Ongureny 7.00 246 *e*Sg Sg 02 39 46.0 -8.0
OGRR Smax
comp=N,23nm,1.7s

KRSC 12 02:54:21.9±1.6, 4962N×15663E, h65km±38km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.85**	**4**	*i* P		02 54 51.9	
MIPR	**Malaya Ipel'ka**	**2.66**	**2**	*e*P		02 55 03.9	
MIPR				*e*S		02 55 34.8	
RUS	**Russkaya**	**3.06**	**22**	*i* P		02 55 09.4	
RUS				*i* S		02 55 44.3	
GRL	**Gorelyy**	**3.07**	**17**	*e*P		02 55 10.9	
GRL				*e*S		02 55 44.8	
PET	**Petropavlovsk**	**3.64**	**20**	*e*S		02 55 58.2	
UGLR	**Uglovaya**	**3.85**	**20**	*e*P		02 55 21.5	
UGLR				*e*S		02 56 05.0	
AVH	**Avacha**	**3.88**	**19**	*e*P		02 55 22.8	
AVH				*e*S		02 56 04.1	
KOK	**Koryaka**	**3.88**	**18**	*e*P		02 55 21.9	
KOK				*e*S		02 56 06.0	
SMAR	**Somma**	**3.89**	**20**	*e*P		02 55 22.8	
SDLR	**Sedlovina**	**3.92**	**20**	*e*P		02 55 21.8	
SDLR				*e*S		02 56 04.5	
SPN	**Mys Shipunski**	**4.08**	**30**	*e*P		02 55 23.7	
SPN				*e*S		02 56 09.8	
GNL	**Ganaly**	**4.16**	**11**	*e*P		02 55 26.1	
MKZ	**Mys Kozlova**	**5.86**	**30**	*e*P		02 55 47.1	
MKZ				*i* S		02 56 50.2	

ISCJB ***12*** *04:40:09.7±0.8, 8.14S±006×7423W±005, h152km±9km, mb3.9/17, Error ellipse: s-maj=12.1km s-min=5.9km az=73.0*
IDC ***12*** *04:40:10.9±1.7, 828S×7429W, h153km±18km, mb3.6/12, mb1 3.8/16, mb1mx3.7/23, mbtmp4.1/16, Error ellipse: s-maj=20.4km s-min=10.2km az=49.0*
NEIC ***12*** *04:40:13.6±1.0, 821S×7408W, h176km±10km, mb4.1/14, Error ellipse: s-maj=12.7km s-min=5.9km az=63.0*
ISC 12 04:40:10.6±0.7, 818S±006×7420W±005, h141km±8km, n36, σ0=91/38, mb3.9/17, 1C, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.32**	**285**	P	**Pn**	**04 41 14.6**	**-0.2**
	61nm,0.3s,baz=90,slow=6.6,SNR=451						
ATAH				S	**Sn**	**04 42 03.7**	**-1.0**
	31nm,0.3s,baz=267,slow=22,SNR=8.8						
OTAV	**Otavalo**	**9.37**	**333**	*e*P	**Pn**	**04 42 26.9**	**+4.6**
	3.5nm,0.7s						
LPAZ	**La Paz**	**10.00**	**144**	P	**Pn**	**04 42 31.5**	**+0.8**
	0.3nm,0.3s,baz=335,slow=13,SNR=14						
LPAZ	**La Paz**	**10.00**	**144**	*e*Pn	**Pn**	**04 42 31.2**	**+0.5**
	20nm,0.9s						
LPAZ				*e*Sn	**Sn**	**04 44 23.3**	**+2.0**
SAML	**Samuel**	**10.92**	**95**	*i*Pn	**Pn**	**04 42 42.8**	**-0.1**
	13nm,0.5s						
SAML				*e*Sn	**Sn**	**04 44 41.9**	**-1.5**
SIV	**San Ignacio**	**14.99**	**122**	P	**Pn**	**04 43 36.1**	**+0.8**
	1.4nm,0.3s,baz=311,slow=11,SNR=18						
SIV				S	**Sn**	**04 46 20.7**	**-0.8**
	0.4nm,0.3s,baz=13,slow=9.8,SNR=3.8						
LVC	**Limon Verde**	**15.23**	**161**	P	**Pn**	**04 43 40.6**	**+2.5**
	0.5nm,0.3s,baz=337,slow=11,SNR=5.3						
LVC	**Limon Verde**	**15.23**	**161**	*e*Pn	**Pn**	**04 43 40.9**	**+2.7**
	2.4nm,0.5s						
SDV	**Santo Domingo**	**17.32**	**12**	P	**Pn**	**04 44 05.6**	**+1.9**
	1.1nm,0.3s,baz=204,slow=3.7,SNR=4.0						
SDV	**Santo Domingo**	**17.32**	**12**	*e*P	**Pn**	**04 44 04.3**	**+0.6**
	2.3nm,0.4s						
CFAA	**Coronel Fontan**	**23.96**	**167**	P	**P**	**04 45 11.2**	**-0.6**
	0.8nm,0.7s,mb3.4,baz=347,slow=9.5,SNR=17						
CPUP	**Villa Florida**	**24.14**	**140**	P	**P**	**04 45 12.3**	**-1.1**
	1.1nm,0.5s,mb3.7,baz=313,slow=9.4,SNR=9.9						
CPUP	**Villa Florida**	**24.14**	**140**	*e*P	**P**	**04 45 12.3**	**-1.2**
	9.2nm,0.6s,mb4.5						
BDFB	**Brasilia**	**26.65**	**109**	P	**P**	**04 45 36.4**	**+0.3**
	2.5nm,0.7s,mb4.0,baz=266,slow=13,SNR=5.1						
SJG	**San Juan**	**27.30**	**17**	P	**P**	**04 45 42.9**	**+1.0**
	4.9nm,0.4s,mb4.5,baz=76,slow=8.3,SNR=3.2						
SJG	**San Juan**	**27.30**	**17**	*e*P	**P**	**04 45 41.3**	**-0.7**
	8.4nm,0.4s,mb4.7						
TRQA	**Tornquist**	**31.73**	**161**	*e*P	**P**	**04 46 19.9**	**-1.1**
	0.8nm,0.6s,mb3.6						
CMIG	**Matias Romero**	**32.38**	**321**	P	**P**	**04 46 27.2**	**+0.5**
	1.7nm,0.5s,mb4.1,baz=211,slow=22,SNR=5.1						
PLCA	**Paso Flores**	**32.58**	**175**	P	**P**	**04 46 27.6**	**-0.9**
	1.2nm,0.5s,mb3.9,baz=344,slow=13,SNR=5.4						
PLCA	**Paso Flores**	**32.58**	**175**	*e*P	**P**	**04 46 27.5**	**-0.9**
	1.2nm,0.6s,mb3.8						
DUG	**Dugway**	**59.89**	**326**	*e*P	**P**	**04 50 02.4**	**+0.9**
	4.1nm,1.3s,mb4.1						
PDAR	**Pinedale Array**	**60.07**	**331**	P	**P**	**04 50 02.7**	**0.0**
	0.6nm,0.6s,mb3.6,baz=128,slow=8.2,SNR=7.6						
ULM	**Lac du Bonnet**	**61.17**	**344**	P	**P**	**04 50 09.1**	**-1.0**
	0.6nm,0.4s,mb3.7,baz=189,slow=8.8,SNR=3.2						
NVAR	**Mina Array Bea**	**61.91**	**322**	P	**P**	**04 50 15.6**	**+0.4**
	0.7nm,0.8s,mb3.5,baz=150,slow=7.3,SNR=4.7						
GCMT	**Greycliff**	**62.41**	**333**	*e*P	**P**	**04 50 18.8**	**+0.4**
MCMT	**McKenzie Canyo**	**63.20**	**330**	*e*P	**P**	**04 50 24.6**	**+0.9**
BOZ	**Bozeman (W)**	**63.21**	**331**	*e*P	**P**	**04 50 23.9**	**+0.2**
	1.8nm,0.7s,mb4.0						
MSO	**Missoula**	**65.17**	**331**	*e*P	**P**	**04 50 37.1**	**+0.6**
	3.8nm,1.1s,mb4.1						
DBIC	**Dimbokro**	**70.69**	**80**	P	**P**	**04 51 11.1**	**0.0**
	1.7nm,0.4s,mb4.2,baz=232,slow=6.0,SNR=8.4						
DBIC	**Dimbokro**	**70.69**	**80**	*e*P	**P**	**04 51 10.9**	**-0.1**
	1.4nm,0.4s,mb4.0						
SNAA	**Sanae**	**76.46**	**162**	*e*	**P**	**04 51 29.4**	**-15**
SNAA				*e*		04 51 42.0	
YKA	**Yellowknife Ar**	**77.01**	**342**	P	**P**	**04 51 46.6**	**-1.1**
	0.7nm,0.5s,mb3.6,baz=139,slow=6.1,SNR=7.2						
YKA				pP	pP	04 52 25.5	+2.9
	0.4nm,0.5s,baz=141,slow=6.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**78.28**	**75**	P	**P**	**04 51 54.6**	**-0.2**
	1.1nm,0.4s,mb3.9,baz=259,slow=4.2,SNR=42						
QSPA	**South Pole Qui**	**81.93**	**180**	*e*P	**P**	**04 52 14.2**	**-0.2**
	2.8nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**127.51**	**219**	PKP	PKPdf	04 58 56.2	-2.5
	0.3nm,0.3s,baz=161,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**138.10**	**220**	PKP	PKPdf	04 59 18.5	-0.2
	0.9nm,0.6s,baz=126,slow=2.2,SNR=12						

WEL 12 04:46:59.0±0.8, 3773S×17611E, h223km±6km, ML3.6/5, Error ellipse: s-maj=9.0km s-min=8.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.95**	**124**	PN	Pn	04 47 30.5	-0.4
URZ				SN	S	04 47 54.8	-0.8
BKZ	**Black Stump Fm**	**1.47**	**168**	PN	Pn	04 47 35.2	+0.8
BKZ				SN	S	04 48 02.7	+0.5
KNZ	**Kokohu**	**1.78**	**137**	PN	Pn	04 47 37.4	+0.3
KNZ				SN	S	04 48 05.8	-1.3
MRZ	**Mangatainoka R**	**2.96**	**188**	PN	Pn	04 47 49.4	+0.1
DUWZ	**D'Urville Isla**	**3.51**	**208**	PN	Pn	04 47 55.9	+0.2
TCW	**Tory Channel**	**3.76**	**202**	PN	Pn	04 47 58.4	-0.3
TUWZ	**Tuamarina**	**4.06**	**204**	PN	Pn	04 48 01.8	-0.4

NEIC ***12*** *04:58:17.5, 3899N×2644E, h22km, MD3.2(ISK), MD3.4(ATH), After ATH.*
ATH ***12*** *04:58:17.5, 3899N×2644E, h22km±2km, MD3.4/3*
ISCJB ***12*** *04:58:18.5±0.6, 3901N±002×2646E±005, h12km±4km, Error ellipse: s-maj=6.8km s-min=2.9km az=130.7*
CSEM ***12*** *04:58:18.3±0.1, 3899N×2651E, h15km, MD3.4, Error ellipse: s-maj=2.4km s-min=1.3km az=66.0*
ISK ***12*** *04:58:19.0, 3899N×2641E, h29km, MD3.2*
ISC 12 04:58:19.1±0.5, 3902N±002×2646E±005, h15km±3km, n29, σ0=73/41, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.27**	**328**	*i*PB	**Pg**	**04 58 24.6**	**-0.4**
PRK				*e*SB	**Sg**	**04 58 29.1**	**+0.2**
AYVA	**Ayvalik**	**0.34**	**31**	*i* P	**Pg**	**04 58 25.5**	**-0.7**
AYVA				*i* S	**Sg**	**04 58 30.7**	**-0.3**
URLA	**Izmir**	**0.66**	**171**	*i* P	**Pg**	**04 58 30.9**	**-1.2**
URLA				*i* S	**Sg**	**04 58 42.6**	**+1.7**
BLCB	**Balcova**	**0.78**	**144**	PG	**Pg**	**04 58 33.4**	**-0.8**
BLCB				SG	**Sg**	**04 58 44.6**	**+0.1**
EZN	**Ezine**	**0.82**	**353**	PG	**Pg**	**04 58 34.3**	**-0.7**
EZN				SG	**Sg**	**04 58 47.4**	**+1.7**
KDAG	**Bornova**	**0.88**	**134**	*i* P	**Pb**	**04 58 36.4**	**+0.3**
KDAG				*i* S	**Sb**	**04 58 48.1**	**+0.5**
IZM	**Izmir**	**0.88**	**134**	PG	**Pg**	**04 58 36.3**	**+0.1**
IZM				SG	**Sg**	**04 58 48.9**	**+1.1**
BOZC	**Bozcaada**	**0.88**	**339**	*i* P	**Pb**	**04 58 35.4**	**-0.8**
BOZC				*i* S	**Sb**	**04 58 47.9**	**+0.2**
BOZC	**Bozcaada**	**0.88**	**339**	*i* P	**Pb**	**04 58 35.3**	**-0.8**
AKS	**Akhisar**	**1.06**	**97**	PN	**Pn**	**04 58 38.7**	**-0.7**
CANB	**Canakkale**	**1.10**	**25**	PN	**Pn**	**04 58 39.4**	**-0.6**
BALB	**Balikesir**	**1.27**	**60**	PN	**Pn**	**04 58 41.9**	**-0.3**
LIA	**Limnos Island**	**1.32**	**312**	*e*PN	**Pn**	**04 58 42.9**	**-0.1**
LIA				*e*SN	**Sn**	**04 59 01.2**	**+0.8**
SMG	**Samos**	**1.34**	**167**	*e*PN	**Pn**	**04 58 42.0**	**-1.2**
SMG				*e*SN	**Sn**	**04 59 00.8**	**+0.1**
EDC	**Edincik**	**1.71**	**39**	*e*PN	**Pn**	**04 58 47.8**	**-0.6**
MANT	**Manisa**	**1.72**	**107**	*i* P	**Pn**	**04 58 48.3**	**-0.2**
MANT				*i* S	**Sn**	**04 59 09.7**	**-0.5**
BNT	**Bandirma**	**1.75**	**40**	*e*PN	**Pn**	**04 58 48.3**	**-0.6**
AYDN	**Tasoluk**	**1.75**	**140**	*i* P	**Pn**	**04 58 47.8**	**-1.1**
AYDN				*i* S	**Sn**	**04 59 12.1**	**+1.1**
RKY	**Sarkoy-Tekirda**	**1.76**	**18**	*e*PN	**Pn**	**04 58 49.3**	**+0.3**
MFT	**Murefte**	**1.88**	**19**	*e*PN	**Pn**	**04 58 51.2**	**+0.6**
KCT	**Karacabey**	**1.92**	**49**	*e*PN	**Pn**	**04 58 51.1**	**-0.2**
BODT	**Bodrum**	**2.06**	**161**	*e*PN	**Pn**	**04 58 53.4**	**+0.2**
APE	**Apeiranthos**	**2.08**	**201**	*e*PN	**Pn**	**04 58 52.5**	**-0.9**
RDO	**Rodhopi**	**2.24**	**342**	*e*PN	**Pn**	**04 58 55.9**	**+0.3**
DAT	**Datca**	**2.45**	**158**	*e*PN	**Pn**	**04 58 58.3**	**-0.2**
KHL	**Karahalli**	**2.50**	**105**	*e*PN	**Pn**	**04 59 00.0**	**+0.9**
YLV	**Yalova**	**2.73**	**54**	*e*PN	**Pn**	**04 59 03.4**	**+1.1**
EDRB	**Edirne**	**2.84**	**4**	*e*PN	**Pn**	**04 59 04.5**	**+0.7**
NVR	**Nevrokopi**	**3.06**	**320**	*e*PN	**Pn**	**04 59 07.3**	**+0.3**

IDC ***12*** *05:35:32.8±0.7, 529N×9424E, h0km, mb4.6/11, mb1 4.6/11, mb1mx4.4/21, mbtmp4.6/11, MS3.8/7, Ms1 3.8/7, ms1mx3.4/24, Error ellipse: s-maj=32.9km s-min=15.7km az=50.0*
BJI ***12*** *05:35:34.1, 504N×9447E, h32km, mB4.9, mb5.0, Ms3.9, Msz3.6*
ISCJB ***12*** *05:35:38.0±1.6, 532N±006×9429E±006, h49km±14km, mb4.8/31, MS3.8/7, Error ellipse: s-maj=13.1km s-min=7.6km az=90.3*
MOS ***12*** *05:35:37.3±1.0, 546N×9434E, h33km, mb5.0/15, Error ellipse: s-maj=21.1km s-min=10.1km az=115.5*
NEIC ***12*** *05:35:37.6±0.3, 532N×9420E, h30km, mb4.9/13, Error ellipse: s-maj=11.3km s-min=6.2km az=219.0*
ISC 12 05:35:39.7±1.2, 535N±006×9426E±006, h45km±11km, h45km±3.2km: pP-P, n75, σ0=92/68, mb4.8/31, MS3.8/7, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.30**	**118**	Pn	**Pn**	**05 36 58.1**	**+1.9**
	5.6nm,0.3s,baz=306,slow=11,SNR=35						
PSI				Sn	**Sn**	**05 37 56.2**	**+0.3**
	4.3nm,0.3s,baz=0.0,slow=19,SNR=2.1						
PSI				LR	LR	05 39 27.0	
	comp=Z,397nm,18.2s,baz=120,slow=44						
PSI	**Prapat**	**5.30**	**118**	P	**Pn**	**05 36 58.1**	**+1.9**
PSI						05 37 56.2	
PSI				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PSI				smax			
	comp=N,4.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,397nm,18.2s						
KULM	**Kulim**	**6.36**	**90**	*e*Pn	**Pn**	**05 37 11.0**	**+0.2**
KULM				*e*Sn	**Sn**	**05 38 20.6**	**-1.5**
PALK	**Pallekele**	**13.61**	**279**	*e*Pn	**Pn**	**05 38 48.3**	**-1.6**
	comp=Z,13nm,0.6s						
PALK				*e*Sn	**Sn**	**05 41 09.2**	**-10**
CHTO	**Chiang Mai**	**14.14**	**18**	*e*P	**Pn**	**05 39 00.8**	**+3.6**
CHTO				pmax	pmax		
	comp=Z,37nm,0.7s						
CHTO	**Chiang Mai**	**14.14**	**18**	*e*Pn	**Pn**	**05 39 00.8**	**+3.7**
	comp=Z,37nm,0.7s						
QIZ	**Qiongzhong**	**20.39**	**47**	*e*P	**P**	**05 40 14.2**	**+1.6**
	comp=Z,12nm,0.7s						
KMI	**Kunming**	**21.27**	**22**	P	**P**	**05 40 23.5**	**+1.4**
KMI				AP		05 40 30.8	
KMI				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
JIRN	**Jiri**	**23.48**	**342**	*e*P	**P**	**05 40 45.1**	**-0.2**
	comp=Z,74nm,0.7s,mb5.2						
PKI	**Pulchoki**	**23.65**	**340**	*e*P	**P**	**05 40 46.1**	**-0.7**
DMN	**Daman**	**23.79**	**340**	*e*P	**P**	**05 40 48.3**	**+0.2**
	comp=Z,41nm,0.8s,mb4.9						
GUN	**Gumba**	**23.81**	**341**	*e*P	**P**	**05 40 47.5**	**-0.8**
	comp=Z,56nm,0.7s,mb5.1						
KKN	**Kakani**	**23.89**	**340**	*e*P	**P**	**05 40 49.1**	**0.0**
	comp=Z,47nm,0.8s,mb5.0						
KKN	**Kakani**	**23.89**	**340**	*e*P	**P**	**05 40 49.1**	**0.0**
KKN				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.0						
GYA	**Guiyang**	**24.10**	**28**	*i*P	**P**	**05 40 50.6**	**-0.4**
GYA				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.3						
LSA	**Lhasa**	**24.39**	**353**	*e*P	**P**	**05 40 54.9**	**+1.3**
LSA				pmax	pmax		
	comp=Z,24nm,0.6s,mb4.8						
LSA	**Lhasa**	**24.39**	**353**	*e*P	**P**	**05 40 54.9**	**+1.3**
	comp=Z,24nm,0.6s,mb4.8						
CD2	**Chengdu**	**26.95**	**18**	*e*P	**P**	**05 41 17.2**	**+0.5**
CD2				AP	pP	05 41 26.6	-2.1
CD2				XP	sP	05 41 30.6	-3.5
CD2				PP		05 42 03.4	
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.6s						
CD2				LR	LR		
	comp=E,180nm,16.8s						
CD2				LR	LR		
	comp=Z,120nm,18.2s,MS3.5						
XAN	**Xi'an**	**31.62**	**24**	P	**P**	**05 41 57.0**	**-1.2**
XAN				AP	pP	05 42 08.4	-1.8
XAN				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
LZH	**Lanzhou**	**31.83**	**15**	*e*P	**P**	**05 41 59.5**	**-0.6**
LZH				AP	pP	05 42 08.3	-3.8
LZH				XP	sP	05 42 11.8	-5.7
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
GTA	**Gaotai**	**34.27**	**8**	P	**P**	**05 42 20.9**	**-0.5**
GTA				AP	pP	05 42 28.6	-4.9
GTA				XP	sP	05 42 31.8	-7.0
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**38.75**	**128**	*e*P	**P**	**05 42 58.6**	**-0.9**
	comp=Z,11nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**38.75**	**128**	P	**P**	**05 42 58.6**	**-0.9**
	comp=Z,3.8nm,0.7s,mb4.2,baz=266,slow=9.9,SNR=5.6						
JOW	**Kunigami**	**38.82**	**53**	P	**P**	**05 43 00.8**	**+0.7**
	comp=Z,24nm,0.8s,mb5.0,baz=166,slow=12,SNR=4.5						
BJT	**Baijiatuau**	**39.75**	**27**	*e*P	**P**	**05 43 08.5**	**+0.6**
BJT				pmax	pmax		
	comp=Z,12nm,0.6s						
BJT	**Baijiatuau**	**39.75**	**27**	*e*P	**P**	**05 43 08.5**	**+0.6**
	comp=Z,12nm,0.6s,mb4.8						
MKAR	**Makanchi Array**	**42.56**	**348**	P	**P**	**05 43 31.1**	**+0.2**
	comp=Z,29nm,0.7s,mb5.1,baz=166,slow=8.2,SNR=26						
SONM	**Songino Array**	**43.59**	**12**	P	**P**	**05 43 38.7**	**-0.5**
	comp=Z,11nm,0.9s,mb4.6,baz=194,slow=8.4,SNR=28						
SONM				PcP	PcP	05 45 26.7	+0.5
	comp=Z,1.7nm,0.6s,baz=205,slow=3.6,SNR=3.8						
SONM				LR	LR	06 03 05.3	
	comp=Z,85nm,20.3s,MS3.6,baz=21,slow=38						
SONM	**Songino Array**	**43.59**	**12**	P	**P**	**05 43 38.7**	**-0.5**
SONM						05 45 26.7	
SONM				pmax	pmax		
	comp=Z,11nm,0.9s						
SONM				MLR	MLR		
	comp=Z,85nm,20.3s						
ULN	**Ulaanbaatar**	**43.75**	**12**	*e*P	**P**	**05 43 38.7**	**-1.9**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**43.75**	**12**	*e*P	**P**	**05 43 38.7**	**-1.9**
	comp=Z,5.7nm,1.0s,mb4.3						
ZAK	**Zakamensk**	**45.51**	**8**	*e*P	**P**	**05 43 54.1**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.2						
WRAB	**Tennant Creek**	**46.74**	**124**	*e*P	**P**	**05 44 04.5**	**+0.2**
WRAB				*e*PP	pP	05 44 17.1	+0.3
WRAB				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**46.74**	**124**	*e*P	**P**	**05 44 04.5**	**+0.2**
	comp=Z,29nm,0.8s,mb5.3						
WRAB				*e*pP	pP	05 44 17.1	+0.3
WB2	**Warramunga Arr**	**46.75**	**124**	*e*P	**P**	**05 44 04.5**	**+0.2**
WB2				*e*	pP	05 44 17.1	+0.3
KURK	**Kurchatov**	**47.07**	**346**	*e*P	**P**	**05 44 07.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,12nm,0.4s,mb5.2						
KURK	**Kurchatov**	**47.07**	**346**	*e*P	**P**	**05 44 07.4**	**+0.5**
	comp=Z,12nm,0.4s,mb5.2						
CN2	**Changchun**	**47.10**	**31**	*e*P	**P**	**05 44 06.0**	**-1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
ASPA	**Alice Springs**	**48.24**	**128**	*e*P	**P**	**05 44 16.0**	**+0.1**
ASPA				*e*	pP	05 44 30.4	+2.0
AS31	**Alice Springs**	**48.24**	**128**	*e*P	**P**	**05 44 16.0**	**+0.1**
AS31				*e*	pP	05 44 30.4	+2.0
ASAR	**Alice Springs**	**48.24**	**128**	P	**P**	**05 44 16.1**	**+0.2**
	comp=Z,4.0nm,0.7s,mb4.6,baz=299,slow=7.5,SNR=57						
ASAR	**Alice Springs**	**48.24**	**128**	P	**P**	**05 44 16.2**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CIT	**Chita**	**49.19**	**16**	*e*P	**P**	**05 44 17.5**	**-5.7**
CIT				pmax	pmax		
	comp=Z,25nm,1.5s,mb5.0						
BVAR	**Borovoye Array**	**51.40**	**342**	P	**P**	**05 44 39.7**	**-0.2**
	comp=Z,7.0nm,0.7s,mb4.7,baz=145,slow=8.1,SNR=5.8						
BVAR	**Borovoye Array**	**51.40**	**342**	P	**P**	**05 44 39.7**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTA	**Charters Tower**	**57.00**	**118**	LR	LR	06 12 10.5	
	comp=Z,100nm,20.8s,MS3.9,baz=49,slow=39						
KMBO	**Kilima Mbogo**	**57.30**	**265**	LR	LR	06 06 09.2	
	comp=Z,98nm,18.2s,MS4.0,baz=99,slow=32						
STKA	**Stephens Creek**	**58.30**	**133**	P	**P**	**05 45 28.2**	**-1.6**
	comp=Z,1.2nm,0.5s,mb4.2,baz=312,slow=7.0,SNR=8.7						
STKA				LR	LR	06 12 53.4	
	comp=Z,125nm,19.0s,MS4.0,baz=26,slow=38						
STKA	**Stephens Creek**	**58.30**	**133**	*e*P	**P**	**05 45 28.2**	**-1.6**
	comp=Z,3.6nm,0.8s,mb4.5						
STKA				*e*P		05 45 28.3	
STKA				*e*	pP	05 45 42.1	-0.6
BRTR	**Keskin Array B**	**64.17**	**312**	P	**P**	**05 46 09.4**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=134,slow=8.3,SNR=8.0						
TIXI	**Tiksi**	**69.67**	**11**	*e*P	**P**	**05 46 40.2**

OJC	Ojcow	75.97	320	*e*P		P	05 47 22.6	+0.8
ARCES	ARCESS Array B	77.66	340	LR		LR	06 24 19.7	
comp=Z,67nm,19.7s,MS4.0,baz=90,slow=38								
DPC	Dobruska-Polom	78.20	320	*e*P		P	05 47 35.5	+1.1
BRG	Berggiesshubel	79.76	321	*e*P		P	05 47 35.0	-7.9
comp=Z,3.0nm,0.8s,mb4.2								
BRG	Berggiesshubel	79.76	321	*e*P		P	05 47 35.0	-7.9
BRG				pmax		pmax		
comp=Z,3.0nm,0.9s,mb4.2								
BRG	Berggiesshubel	79.76	321	*e*P		P	05 47 35.0	-7.9
BRG				pmax		pmax		
comp=Z,3.0nm,0.9s,mb4.2								
GERES	GERESS Array B	79.78	319	P		P	05 47 44.1	+1.1
comp=Z,5.6nm,0.7s,mb4.6,baz=90,slow=5.3,SNR=33								
GERES	GERESS Array B	79.78	319	P		P	05 47 44.1	+1.1
GERES				pmax		pmax		
comp=Z,6.0nm,0.7s								
KHC	Kasperske Hory	79.88	319	*e*P		P	05 47 44.4	+0.9
GAMB	Gambell	87.03	26	*e*P		P	05 48 19.4	-0.9
NVAR	Mina Array Bea	126.99	32	PKP		PKPdf	05 54 40.8	+2.2
comp=Z,0.9nm,0.7s,baz=268,slow=2.8,SNR=7.2								
PDAR	Pinedale Array	127.45	22	PKP		PKPdf	05 54 40.4	+0.9
comp=Z,1.0nm,0.9s,baz=352,slow=3.0,SNR=7.5								
JCT	Junction City	141.91	20	*e*PKIKP		PKPdf	05 55 06.0	-0.4
CPUP	Villa Florida	145.78	229	PKPbc		PKPbc	05 55 15.1	+1.4
comp=Z,0.7nm,0.5s,baz=53,slow=5.4,SNR=4.0								
CPUP	Villa Florida	145.78	229	PKP2		PKPab	05 55 15.1	+1.0
CPUP				pmax		pmax		
comp=Z,1.0nm,0.5s								
CPUP	Villa Florida	145.78	229	PKPbc		PKPbc	05 55 15.1	+1.4
MTP	Monte Pirata	149.35	320	*e*PKPbc		PKPbc	05 55 24.3	+0.8

IDC ***12*** *05:39:32.4±4.9, 3596N×7097E, h48km±44km, mb4.1/10, mb1 4.3/13, mb1mx4.0/22, mbtmp4.4/13, ML4.3/3, MS4.3/1, Ms1 4.3/1, ms1mx3.0/23, Error ellipse: s-maj=30.3km s-min=21.2km az=4.0*

MOS ***12*** *05:39:37.5±1.3, 3632N×7100E, h93km, mb4.4/18, Error ellipse: s-maj=11.9km s-min=6.0km az=98.8*

NEIC ***12*** *05:39:39.2±1.1, 3635N×7117E, h100km±11km, mb4.4/15, Error ellipse: s-maj=10.6km s-min=5.4km az=54.0*

ISCJB ***12*** *05:39:39.9±0.4, 3637N±002×71.14E±005, h121km±5km, mb4.3/24, Error ellipse: s-maj=6.9km s-min=3.2km az=146.1*

BJI ***12*** *05:39:42.0, 3666N×7102E, h108km, mB4.9, mb4.6*

NNC ***12*** *05:39:49.2±5.3, 3703N×7073E, h167km±48km, mb3.6, mpv4.5, Error ellipse: s-maj=44.6km s-min=25.8km az=25.0*

ISC 12 05:39:41.2±0.4,**3637N**±002×**7115E**±005,**h123**km±5km, **n130**,σ1§**21**/156,**mb4.3**/24,**15C-13D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CEP	Cherat	2.61	166	⇑P	Pn	05 40 24.0	+1.5
CHCP	Chirah Chowk	3.21	147	⇓P	Pn	05 40 32.7	+2.4
THW	Thamme Wali	3.60	172	P	Pn	05 40 36.0	+0.6
THW				S	Sn	05 41 18.0	+0.6
SRNI	Srinagar	3.78	126	*e*x	x	05 41 15.0	
SARP	Sargodha	4.61	164	⇑P	Pn	05 40 49.0	+0.1
JMU	Jammu	4.78	139	*e*S	Sn	05 41 45.0	-0.6
KSH	Kashi	4.94	49	P	Pn	05 40 57.9	+4.5
KSH				S	Sn	05 41 54.0	+4.4
KSH				Smax			
comp=N,730nm,0.6s							
KSH				Smax			
comp=E,750nm,0.7s							
DLH	Dalhousie	5.51	132	*e*P	Pn	05 41 01.0	-0.1
DLH				*e*S	Sn	05 42 02.0	-1.3
PONG	Pong	5.93	136	*e*P	Pn	05 41 09.0	+2.3
PONG				*e*S	Sn	05 42 14.0	+0.6
AML	Almayashu	6.09	18	P	Pn	05 41 09.8	+0.9
SNR=252							
UCH	Uchtor	6.41	23	P	Pn	05 41 14.2	+1.0
SNR=158							
KZA	Kyzart	6.53	28	P	Pn	05 41 15.7	+0.9
SNR=127							
BHK	Bhakra	6.60	137	*e*P	Pn	05 41 21.4	+5.7
BHK				*e*S	Sn	05 42 33.2	+3.7
EKS2	Erkin-Say	6.61	17	P	Pn	05 41 16.3	+0.5
SNR=107							
KK31	Karatay Array	6.75	356	⇓P	Pn	05 41 16.9	-0.8
comp=E,46nm,0.3s,baz=184,slow=14,SNR=2572							
KK31				⇑S	Sn	05 42 27.3	-5.8
comp=E,61nm,0.6s,baz=195,slow=25,SNR=6.6							
KK31	Karatay Array	6.75	356	⇓P	Pn	05 41 16.9	-0.8
comp=E,46nm,0.3s,baz=184,slow=14,SNR=2572							
KK31				⇑S	Sn	05 42 27.3	-5.8
comp=E,61nm,0.6s,baz=195,slow=25,SNR=6.6							
AAK	Ala-Archa	6.77	21	P	Pn	05 41 19.2	+1.1
SNR=122							
AAK	Ala-Archa	6.77	21	*d i* PN	Pn	05 41 18.1	0.0
AAK				pmax	pmax		
comp=Z,125nm,0.7s							
AAK	Ala-Archa	6.77	21	⇓*i* Pn	Pn	05 41 18.1	0.0
comp=Z,130nm,0.6s							
AAK				*e*Sn	Sn	05 42 31.2	-2.6
SDNR	Sundarnagar	6.85	133	*e*P	Pn	05 41 18.8	-0.3
SDNR				*e*S	Sn	05 42 33.0	-2.6
KBK	Karagaybulak	6.94	24	P	Pn	05 41 21.4	+1.2
SNR=54							
FRU	Bishkek	6.99	21	⇓*i* PN	Pn	05 41 22.0	+1.0
FRU				pmax	pmax		
comp=Z,140nm,1.9s							
ULHL	Ulahol	7.08	32	P	Pn	05 41 23.1	+0.9
SNR=22							
CHMS	Chumysh	7.18	22	P	Pn	05 41 24.2	+0.5
SNR=85							
USP	Ospenovka	7.36	19	P	Pn	05 41 26.4	+0.4
SNR=148							
TKM2	Tokmak 2	7.39	26	P	Pn	05 41 27.3	+0.9
SNR=99							
TKM2	Tokmak 2	7.39	26	⇓P	Pn	05 41 27.2	+0.8
comp=Z,6.3nm,0.7s							
TKM2				⇑S	Sn	05 42 48.2	-0.5
comp=Z,9.6nm,0.8s							
KLP	Kalpa	7.62	127	*e*P	Pn	05 41 30.3	+0.8
KLP				*e*S	Sn	05 42 52.9	-1.2
DDI	Dehra Dun	8.35	134	*e*x	x	05 41 25.5	
DDI				*e*x	x	05 43 27.5	
BHGR	Bahadurgarh	9.08	146	*e*P	Pn	05 41 49.8	+0.6
KHET	Khetri	9.16	153	*e*P	Pn	05 41 48.8	-1.5
KHET				AMb	AMB	05 41 50.1	
comp=Z,43nm,1.0s							
KHET				*e*S	Sn	05 43 24.9	-6.6
AYAN	Aya Nagar	9.34	146	*e*P	Pn	05 41 52.4	-0.4
KUDL	Kundal	9.36	150	*e*P	Pn	05 41 52.5	-0.6
KUDL				AMb	AMB	05 41 54.3	
comp=Z,21nm,0.4s							
KUDL				*e*S	Sn	05 43 29.6	-6.7
JASL	Jaisalmer	9.41	181	*e*P	Pn	05 41 50.0	-3.7
SONA	Sohna	9.52	147	*e*P	Pn	05 41 55.8	+0.6
SONA				AMb	AMB	05 42 03.6	
comp=Z,28nm,0.8s							
SONA				*e*S	Sn	05 43 34.1	-6.2
PTH	Pithoragarh	10.21	129	*e*P	Pn	05 42 06.7	+2.4
PTH				*e*S	Sn	05 43 52.5	-4.4
LGTI	Lohaghat	10.29	129	*e*P	Pn	05 42 04.0	-1.5
LGTI				*e*S	Sn	05 43 54.0	-5.0
AJM	Ajmer	10.30	162	*e*P	Pn	05 42 03.5	-2.1
AJM				*i* P		05 42 04.0	
AJM				*e*S	Sn	05 43 49.0	-10
AJM				*i* S	Sn	05 43 51.0	-8.1
MK02	Makanchi Array	13.32	35	⇑P	Pn	05 42 45.5	+0.1
comp=Z,32nm,0.8s							
MKAR	Makanchi Array	13.33	35	P	Pn	05 42 44.6	-1.0
comp=Z,0.4nm,0.3s,baz=224,slow=14,SNR=33							
BHPL	Bhopal	14.16	156	*e*P	Pn	05 42 55.8	-0.4
BHPL				AMb	AMB	05 43 03.0	
comp=Z,31nm,0.8s							
BHPL				*i* S	Sn	05 45 36.9	+4.3
DMN	Daman	14.70	122	*e*P	Pn	05 43 02.3	-0.7
comp=Z,110nm,0.6s							
KKN	Kakani	14.71	122	*e*P	Pn	05 43 02.3	-0.8
comp=Z,101nm,0.6s							
KKN	Kakani	14.71	122	*e*P	Pn	05 43 02.3	-0.8
KKN				pmax	pmax		
comp=Z,101nm,0.6s							
PKI	Pulchoki	14.93	122	*e*P	Pn	05 43 05.3	-0.6
comp=Z,40nm,0.4s							
PKI	Pulchoki	14.93	122	*e*P	Pn	05 43 05.3	-0.6
PKI				pmax	pmax		
comp=Z,40nm,0.4s							
GUN	Gumba	15.05	120	*e*P	Pn	05 43 06.4	-1.0
comp=Z,93nm,0.6s							
JBP	Jabalpur	15.21	147	⇓*i* P	Pn	05 43 09.4	0.0
JBP				*e*x	x	05 43 15.0	
comp=Z,24nm,2.1s							
JBP				*i* x	x	05 45 43.4	
AB31	Akbulak array	15.26	331	⇓P	Pn	05 43 07.6	-2.4
comp=Z,3.1nm,0.3s,baz=149,slow=12,SNR=155							
AB31				⇓S	S	05 45 43.4	-23
comp=Z,40nm,0.8s,baz=147,slow=24,SNR=19							
KURK	Kurchatov	15.32	18	⇑P	Pn	05 43 08.1	-2.6
comp=Z,15nm,0.9s							
KURK	Kurchatov	15.32	18	*e*P	Pn	05 43 08.1	-2.7
KURK				pmax	pmax		
comp=Z,31nm,0.9s							
KURK	Kurchatov	15.32	18	*e*Pn	Pn	05 43 08.1	-2.7
comp=Z,31nm,0.9s							
JIRN	Jiri	15.42	120	*e*P	Pn	05 43 11.5	-0.5
comp=Z,226nm,0.6s							
VOSK	Vostochnaya	16.36	360	⇓P	Pn	05 43 21.6	-1.9
comp=Z,16nm,0.8s							
ZRNK	Zerenda	16.65	355	⇑P	Pn	05 43 26.4	-0.8
comp=Z,11nm,0.8s							
ZRNK	Zerenda	16.65	355	*e*P	Pn	05 43 26.1	-1.1
ZRNK				pmax	pmax		
comp=Z,11nm,0.7s							
ZRNK	Zerenda	16.65	355	*e*Pn	Pn	05 43 26.1	-1.1
comp=Z,11nm,0.7s							
NGP	Nagpur	16.66	153	*e*P	Pn	05 43 27.4	+0.2
NGP				AMb	AMB	05 43 39.8	
comp=Z,19nm,0.3s							
NGP				*e*x	x	05 46 19.1	
BVA0	Borovoye Array	16.67	358	⇑P	Pn	05 43 26.7	-0.6
comp=Z,1.8nm,0.7s,baz=169,slow=12,SNR=70							
BVAR	Borovoye Array	16.67	358	P	Pn	05 43 25.6	-1.7
comp=Z,2.1nm,0.3s,baz=165,slow=14,SNR=34							
BVAR	Borovoye Array	16.67	358	P	Pn	05 43 25.6	-1.8
BVAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
BRVK	Borovoye	16.70	358	*e*P	Pn	05 43 26.2	-1.6
BRVK				pmax	pmax		
comp=Z,11nm,0.8s							
BRVK	Borovoye	16.70	358	*e*Pn	Pn	05 43 26.2	-1.6
comp=Z,11nm,0.8s							
AKTK	Aktyubinsk	16.96	330	P	Pn	05 43 29.6	-1.3
AKTO	Aktyubinsk	16.96	330	⇑P	Pn	05 43 30.2	-0.7
comp=Z,1.1nm,0.8s							
AKTO				⇑S	S	05 46 24.1	-16
comp=Z,2.3nm,1.6s							
AKTO	Aktyubinsk	16.96	330	P	Pn	05 43 29.6	-1.3
comp=Z,1.8nm,0.3s,baz=140,slow=12,SNR=63							
AKTO	Aktyubinsk	16.96	330	P	Pn	05 43 29.6	-1.3
AKTO				pmax	pmax		
comp=Z,2.0nm,0.3s							
CHKZ	Chkalovo	17.32	359	⇑P	Pn	05 43 33.9	-1.4
comp=Z,6.8nm,0.8s							
CHKZ	Chkalovo	17.32	359	*e*P	Pn	05 43 33.2	-2.0
CHKZ				pmax	pmax		
comp=Z,9.0nm,0.8s							
CHKZ	Chkalovo	17.32	359	*e*P	Pn	05 43 33.2	-2.1
comp=Z,9.3nm,0.8s							
CHKZ				*e*		05 44 43.9	
POO	Poona	17.93	172	*e*P	Pn	05 43 43.0	+0.4
POO				*i* PP		05 43 56.0	
POO				*i* x	x	05 44 04.0	
POO				*i* x	x	05 46 40.0	
POO				*i* x	x	05 47 11.8	
LSA	Lhasa	18.03	106	*e*P	P	05 43 46.5	+3.9
LSA				pmax	pmax		
comp=Z,34nm,0.7s							
LSA	Lhasa	18.03	106	*e*P	P	05 43 46.5	+4.0
comp=Z,34nm,0.7s							
ORR	Orenburg	19.21	328	*e*P	P	05 43 55.8	+0.3
ORR				S	S	05 47 16.2	-10
ORR				pmax	pmax		
comp=Z,60nm,1.2s							
ZAL	Zalesovo	19.97	24	P	P	05 44 05.3	+1.6
comp=Z,58nm,0.5s,baz=251,slow=9.2,SNR=143							
ZAL				S	S	05 45 44.3	+3.8
comp=Z,3.2nm,0.3s,baz=307,slow=20,SNR=2.7							
ZAL	Zalesovo	19.97	24	P	P	05 44 05.3	+1.6
ZAL				S	S	05 47 45.4	+3.8
ZAL				pmax	pmax		
comp=Z,58nm,0.5s							
ZAL				smax			
comp=N,3.0nm,0.3s							
ZAL	Zalesovo	19.97	24	P	P	05 44 05.3	+1.6
ZAL				S	S	05 47 45.4	+3.8
HYB	Hyderabad	19.98	159	*i* P	P	05 44 06.0	+2.2
HYB				*e*S	S	05 47 41.0	-0.8
HYB	Hyderabad	19.98	159	*e*P	P	05 44 03.0	-0.8
HYB				*e*S	S	05 47 37.0	-4.8
NVS	Novosibirsk	20.27	20	*i* P	P	05 44 06.8	-0.1
NVS				*e*S	S	05 47 47.5	+0.2
NVS				pmax	pmax		
comp=N,44nm,1.0s							
NVS				pmax	pmax		
comp=Z,50nm,1.0s							
NVS				pmax	pmax		
comp=E,22nm,1.2s							
NVS				smax			
comp=N,32nm,2.1s							
NVS				smax			
comp=E,7.0nm,1.0s							
SHL	Shillong	20.74	115	*i* P	P	05 44 15.0	+3.0
SHL				*e*x	x	05 47 54.0	
GNI	Garni	21.05	288	P	P	05 44 16.5	+1.3
comp=E,8.9nm,0.4s,mb4.4,baz=8.3,slow=6.6,SNR=13							
GNI	Garni	21.05	288	*d i* P	P	05 44 18.1	+2.8
GNI				pmax	pmax		
comp=Z,49nm,1.1s							
GNI	Garni	21.05	288	*e*P	P	05 44 16.0	+0.7
ARU	Arti	21.80	341	⇓*i* P	P	05 44 23.7	+0.5
ARU				pmax	pmax		
comp=Z,23nm,1.0s,mb4.5							
ZEI	Tsey	21.90	295	*e*P	P	05 44 27.3	+3.0
ZEI				pmax	pmax		
comp=Z,7.0nm,0.4s,mb4.3							
GTA	Gaotai	22.79	74	P	P	05 44 37.7	+4.4
KIV	Kislovodsk	22.96	298	*e*P	P	05 44 35.9	+1.1
KIV				pmax	pmax		
comp=Z,20nm,0.8s,mb4.5							
KIV	Kislovodsk	22.96	298	*e*P	P	05 44 35.9	+1.0
comp=Z,20nm,0.8s,mb4.5							
SOC	Sochi	25.04	296	*e*P	P	05 44 53.0	-0.8
SOC				*e**PP	pP	05 45 23.0	+2.9
SOC				*e*		05 45 44.7	
SOC				*e*S	S	05 49 06.1	-2.7
SOC				pmax	pmax		
comp=Z,98nm,1.5s,mb5.0							
ZAK	Zakamensk	26.99	49	*e*P	P	05 45 16.0	+4.6
ZAK				pmax	pmax		
comp=Z,7.0nm,1.4s,mb4.0							
CD2	Chengdu	27.61	92	*e*P	P	05 45 18.4	+1.5
CD2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5							
BR131	Keskin Array S	29.59	288	*e*P	P	05 45 35.9	+1.4
comp=Z,1.5nm,0.6s,mb3.8							
BRTR	Keskin Array B	29.59	288	P	P	05 45 34.3	-0.1
comp=Z,2.0nm,0.7s,mb3.9,baz=99,slow=8.6,SNR=12							
BRTR	Keskin Array B	29.59	288	⇑*e*P	P	05 45 36.7	+2.2
OBN	Obninsk	30.12	319	⇑*e*P	P	05 45 38.8	-0.3
OBN				*e*		05 46 46.0	
OBN				pmax	pmax		
comp=Z,5.0nm,0.4s,mb4.5							
ENH	Enshi	32.46	90	P	P	05 45 58.9	-0.8
comp=Z,0.3nm,0.4s,mb3.4							
AKASG	Malin Array Be	33.12	309	P	P	05 46 05.5	0.0
comp=Z,2.1nm,0.6s,mb4.2,baz=81,slow=7.6,SNR=19							
AKASG	Malin Array Be	33.12	309	*i* P	P	05 46 06.0	+0.5
AKASG				pmax	pmax		
comp=Z,2.0nm,0.6s							
AKASG	Malin Array Be	33.12	309	P	P	05 46 05.5	0.0
JOF	Joensuu	36.05	330	*e*p	P	05 46 29.6	-1.0
comp=Z,3.0nm,0.4s,mb4.6							
FINES	FINESS Array B	37.66	326	P	P	05 46 45.2	+0.9
comp=Z,1.5nm,0.6s,mb4.0,baz=119,slow=9.9,SNR=9.9							
FINES	FINESS Array B	37.66	326	*i* P	P	05 46 45.2	+0.9
FINES				pmax	pmax		
comp=Z,2.0nm,0.6s							
FINES	FINESS Array B	37.66	326	P	P	05 46 45.2	+0.9
KAF	Kangasniemi	37.80	327	*e*p	P	05 46 46.2	+0.7
comp=Z,2.1nm,0.5s,mb4.2,baz=111,slow=8.4							
NJ2	Nanjing	39.38	82	*e*P	P	05 47 03.1	+4.5
NJ2				PP	PP	05 48 39.8	+8.4
NJ2				S	S	05 52 52.0	+1.2
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.9							
NJ2				AMB	AMB		
comp=Z,100nm,10.8s							
NJ2				LR	LR		
comp=N,240nm,18.9s							
NJ2				LR	LR		
comp=E,720nm,12.2s							
NJ2				LR	LR		
comp=Z,240nm,14.4s							
KEV	Kevo	40.97	338	*e*p	P	05 47 12.1	+0.3
comp=Z,12nm,1.1s,mb4.6							
KEV	Kevo	40.97	338	*e*P	P	05 47 12.1	+0.3
KEV				pmax	pmax		
comp=Z,12nm,1.1s,mb4.6							
ARCES	ARCESS Array B	41.31	338	P	P	05 47 15.8	+1.3
comp=Z,3.5nm,0.6s,mb4.3,baz=111,slow=6.6,SNR=12							
ARCES	ARCESS Array B	41.31	338	P	P	05 47 15.9	+1.3
ARCES				pmax	pmax		
comp=Z,4.0nm,0.6s							
NB2	NORSAR Subarra	44.56	323	P	P	05 47 40.5	-0.2
comp=Z,1.9nm,0.5s,mb4.1,baz=97,slow=7.9							
NB2	NORSAR Subarra	44.56	323	P	P	05 47 40.5	-0.2
NB2				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.1							
NOA	NORSAR Array B	44.56	323	P	P	05 47 40.5	-0.2
comp=Z,1.6nm,0.5s,mb4.0,baz=97,slow=7.8,SNR=12							
NOA	NORSAR Array B	44.56	323	P	P	05 47 40.5	-0.2
NOA				pmax	pmax		
comp=Z,2.0nm,0.5s							
TIXI	Tiksi	45.85	22	*e*P	P	05 47 52.1	+1.2
TIXI				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.2							
JHJ	Hachijo jima 2	55.40	72	LR	LR	06 17 27.2	
comp=Z,238nm,19.3s,baz=34,slow=41							
TORD	Torodi Ar. Bea	65.83	269	P	P	05 50 10.9	-2.4
comp=Z,3.2nm,0.7s,mb4.2,baz=51,slow=5.7,SNR=13							
INK	Inuvik	74.02	9	P	P	05 51 05.4	+2.1
comp=Z,3.1nm,0.7s,mb4.2,baz=351,slow=6.8,SNR=6.5							
INK	Inuvik	74.02	9	P	P	05 51 05.4	+2.0
INK				pmax	pmax		
comp=Z,3.0nm,0.7s							
INK	Inuvik	74.02	9	*e*P	P	05 51 05.5	+2.1
INK				pmax	pmax		
comp=Z,3.0nm,0.6s							
INK	Inuvik	74.02	9	*e*P	P	05 51 05.5	+2.1
comp=Z,2.7nm,0.6s,mb4.2							
COLA	College	74.57	16	*e*P	P	05 51 06.4	-0.2
COLA				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
COLA	College	74.57	16	*e*P	P	05 51 06.4	-0.2
comp=Z,2.7nm,0.8s,mb4.0							
DAWY	Dawson	77.03	13	*e*P	P	05 51 21.1	+0.6
YKA	Yellowknife Ar	81.38	3	P	P	05 51 44.5	+0.4
comp=Z,1.3nm,0.6s,mb3.9,baz=350,slow=5.3,SNR=8.5							
YKA	Yellowknife Ar	81.38	3	⇑*e*P	P	05 51 45.7	+1.6
YKA	Yellowknife Ar	81.38	3	P	P	05 51 44.5	+0.4
ASAR	Alice Springs	84.08	125	P	P	05 51 58.3	+0.1
comp=Z,1.4nm,0.6s,mb4.0,baz=311,slow=4.9,SNR=17							
ASAR	Alice Springs	84.08	125	P	P	05 51 58.3	+0.2
ASAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
ASAR	Alice Springs	84.08	125	P	P	05 51 58.3	+0.1

IDC ***12*** *06:10:00.3±0.7, 3197N×13297E, h0km, mb4.0/12, mb1 4.1/14, mb1mx4.1/21, mbtmp4.0/14, ML3.1/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/18, Error ellipse: s-maj=22.9km s-min=18.7km az=84.0*

NIED ***12*** *06:10:00, 32.10N×133.20E, h11km, Mw4.2 Best double couple: M0=2.55000×1015 NP1:φs=359.00000°, δ80.00000°, λ-18.00000°. NP2:φs=92.00000°, δ73.00000°, λ-169.00000°.*

ISCJB ***12*** *06:10:02.6±1.5, 3208N±006×133.15E±004, h22km±9km, mb4.1/24, MS3.7/2, Error ellipse: s-maj=10.2km s-min=5.7km az=140.9*

JMA ***12*** *06:10:03.1±0.1, 3206N×133.17E, h41km±2km, M4.0*

MOS ***12*** *06:10:03.7±1.3, 3209N×133.10E, h33km, mb4.3/9, Error ellipse: s-maj=15.8km s-min=9.9km az=88.7*

NEIC ***12*** *06:10:05.2±0.5, 3193N×133.03E, h35km, mb4.4/10, Error ellipse: s-maj=13.2km s-min=9.1km az=141.0*

BJI ***12*** *06:10:07.2, 3190N×133.00E, h35km, mB4.5, mb4.7, Ms4.0, Msz3.9*

ISC 12 06:10:02.6±2.1,**3211N**±004×**13308E**±005,**h11**km±13km, **n61**,σ0§**97**/67,**mb4.1**/24,**MS3.7**/2,**1C-5D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JTO	Tosashimizu	0.78	343	⇓P	Pb	06 10 18.9	+0.7
JTO				S	Sb	06 10 29.8	+0.9
UWA2	Uwa jima 2	1.16	341	⇓P	Pn	06 10 24.7	-0.2
UWA2				S	Sb	06 10 39.5	-0.4
JKU	Kubokawa	1.19	359	⇓P	Pn	06 10 24.9	-0.4
JKU				*e*S	Sb	06 10 39.8	-1.0
JNA	Nagahama	1.53	341	⇓P	Pn	06 10 30.1	+0.2
JNA				*e*S	Sn	06 10 48.8	-0.9
JET	Tanbara	1.66	359	⇓P	Pn	06 10 31.6	-0.1
JTZ	Takazaki	1.70	263	⇑P	Pn	06 10 32.1	-0.2
JTZ				*e*S	Sn	06 10 55.1	+1.0
JMN	Monobe	1.75	23	P	Pn	06 10 31.8	-1.1
JIU2	Izumi 2	1.96	283	P	Pn	06 10 36.8	+0.9
JAI	Aioi	2.04	34	P	Pn	06 10 35.5	-1.4
MAJO	Matsushiro	6.13	42	*e*P	Pn	06 11 34.0	+0.9
MAT	Matsushiro	6.13	42	P	Pn	06 11 33.9	+0.8
MAT				S	Sn	06 12 44.0	+0.8
MAT	Matsushiro	6.13	42	P	Pn	06 11 34.0	+0.9
MAT				pmax	pmax		
comp=Z,8.0nm,0.7s							
MAT	Matsushiro	6.13	42	P	Pn	06 11 34.0	+0.9
comp=Z,7.5nm,0.7s							
MJAR	Matsushiro Arr	6.13	42	Pn	Pn	06 11 34.4	+1.2
comp=Z,1.4nm,0.3s,baz=201,slow=12,SNR=12							
MJAR	Matsushiro Arr	6.13	42	P	Pn	06 11 34.4	+1.3
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
JOW	Kunigami	6.72	220	Pn	Pn	06 11 36.5	-4.8
comp=Z,0.6nm,0.3s,baz=121,slow=19,SNR=2.4							
JOW				Sn	Sn	06 12 50.5	-7.4
comp=Z,0.4nm,0.3s,baz=126,slow=19,SNR=2.9							
SSE	Sheshan	10.19	267	P	Pn	06 12 28.3	-0.6
SSE				S	Sn	06 14 28.2	+5.1
S

	comp=Z,6.0nm,0.9s,mb4.1						
ULN	Ulaanbaatar	25.23	316	eP	P	06 15 28.9	+0.3
	comp=Z,5.5nm,0.9s,mb4.1						
SONM	Songino Array	25.61	316	P	P	06 15 29.9	-2.0
	comp=Z,1.5nm,0.9s,mb3.5,baz=131,slow=10.0,SNR=3.9						
TIXI	Tiksi	39.66	358	eP	P	06 17 33.7	-0.9
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
ZAL	Zalesovo	40.49	317	PcP	PcP	06 19 42.6	-1.4
	comp=Z,1.0nm,0.8s,baz=43,slow=3.8,SNR=5.2						
ZAL				LR	LR	06 37 00.7	
	comp=Z,90nm,18.5s,MS3.6,baz=4.6,slow=40						
MKAR	Makanchi Array	41.15	306	P	P	06 17 46.9	0.0
	comp=Z,0.4nm,0.5s,mb3.3,baz=93,slow=10,SNR=5.7						
MKAR				PcP	PcP	06 19 44.8	-1.4
	comp=Z,0.4nm,0.8s,baz=90,slow=1.4,SNR=3.6						
CHKZ	Chkalovo	48.80	315	eP	P	06 18 47.2	-0.6
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	Chkalovo	48.80	315	eP	P	06 18 47.2	-0.7
	comp=Z,1.4nm,0.6s,mb4.2						
BVAR	Borovoye Array	48.94	315	P	P	06 18 49.7	+0.8
	comp=Z,1.0nm,0.6s,mb4.0,baz=87,slow=9.4,SNR=6.6						
BVAR	Borovoye Array	48.94	315	P	P	06 18 49.7	+0.8
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	Zerenda	49.78	315	eP	P	06 18 56.0	+0.7
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ZRNK	Zerenda	49.78	315	eP	P	06 18 56.0	+0.7
	comp=Z,3.4nm,1.0s,mb4.3						
ASAR	Alice Springs	55.47	179	P	P	06 19 36.5	-0.9
	comp=Z,1.5nm,0.6s,mb4.2,baz=10,slow=13,SNR=16						
ASAR	Alice Springs	55.47	179	P	P	06 19 36.5	-0.9
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	Inuvik	61.81	25	eP	P	06 20 21.4	-0.2
INK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
INK	Inuvik	61.81	25	eP	P	06 20 21.4	-0.2
	comp=Z,9.8nm,1.4s,mb4.8						
STKA	Stephens Creek	64.15	172	P	P	06 20 34.7	-2.5
	comp=Z,1.3nm,0.7s,mb4.1,baz=345,slow=12,SNR=3.1						
STKA	Stephens Creek	64.15	172	P	P	06 20 34.7	-2.5
ARCES	ARCESS Array B	66.10	338	P	P	06 20 48.7	-1.1
	comp=Z,1.4nm,0.6s,mb4.2,baz=58,slow=9.2,SNR=5.8						
ARCES				LR	LR	06 52 11.7	
	comp=Z,53nm,18.1s,MS3.8,baz=80,slow=38						
ARCES	ARCESS Array B	66.10	338	P	P	06 20 48.7	-1.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,53nm,18.1s						
YKA	Yellowknife Ar	71.40	27	P	P	06 21 23.2	+0.4
	comp=Z,2.7nm,0.9s,mb4.2,baz=300,slow=5.9,SNR=9.7						
AKASG	Malin Array Be	73.80	320	P	P	06 21 36.6	-0.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=53,slow=6.3,SNR=5.4						
SUMG	Summit	75.43	357	eP	P	06 21 47.3	+0.7
	comp=Z,7.1nm,1.1s,mb4.5						
NB2	NORSAR Subarra	75.87	335	P	P	06 21 48.3	-0.8
	comp=Z,0.8nm,0.7s,mb3.8,baz=48,slow=5.9						
NOA	NORSAR Array B	75.87	335	P	P	06 21 48.1	-1.0
	comp=Z,1.1nm,0.8s,mb3.9,baz=45,slow=5.7,SNR=5.1						
NOA	NORSAR Array B	75.87	335	P	P	06 21 48.1	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	76.74	309	P	P	06 21 55.2	+1.2
	comp=Z,1.3nm,0.8s,mb3.9,baz=122,slow=1.9,SNR=7.3						
BRTR	Keskin Array B	76.74	309	P	P	06 21 55.2	+1.2
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WALA	Waterton Lakes	79.62	38	eP	P	06 22 10.9	+0.9
	comp=Z,2.6nm,1.0s,mb4.1						
FCC	Fort Churchill	81.33	23	eP	P	06 22 19.0	-0.2
FCC				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
FCC	Fort Churchill	81.33	23	eP	P	06 22 19.0	-0.2
	comp=Z,10nm,1.2s,mb4.6						
DLMT	Dillon	82.61	40	eP	P	06 22 26.6	+0.7
	comp=Z,8.7nm,1.2s,mb4.7						
HLID	Hailey	82.70	43	eP	P	06 22 27.6	+1.2
	comp=Z,1.3nm,0.9s,mb4.0						
NVAR	Mina Array Bea	83.42	49	P	P	06 22 31.3	+1.2
	comp=Z,1.4nm,0.6s,mb4.2,baz=292,slow=6.1,SNR=14						
BW06	Boulder Array	85.95	41	eP	P	06 22 42.3	-0.6
	comp=Z,2.1nm,0.9s,mb4.4						
PDAR	Pinedale Array	85.95	41	P	P	06 22 43.2	+0.3
	comp=Z,1.1nm,0.8s,mb4.2,baz=343,slow=2.0,SNR=9.8						
PV10	Paradox Valley	89.13	44	eP	P	06 22 58.2	0.0
PV01	Paradox Valley	89.57	44	eP	P	06 22 59.6	-0.7

IDC 12 07:08:33.2±2.7, 2899N×8364E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.4/19, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=162.8km s-min=32.4km az=63.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	Pithoragarh	3.04	281	eP	Pn	07 09 28.2	+5.7
PTH				eS	Sn	07 10 16.1	+16
NDI	New Delhi	5.64	268	ex	x	07 10 19.0	
MKAR	Makanchi Array	17.80	357	P	Pn	07 12 42.1	-0.2
	0.2nm,0.3s,baz=186,slow=11,SNR=8.4						
ARCES	ARCESS Array B	52.12	338	P	P	07 17 44.8	-0.3
	1.7nm,0.8s,baz=97,slow=6.5,SNR=4.7						
ASAR	Alice Springs	71.27	132	P	P	07 19 54.7	+0.4
	1.0nm,1.1s,baz=311,slow=5.6,SNR=4.3						

NEIC 12 07:31:15.0, 1955N×6533W, h72km, MD3.7(RSPR), After RSPR.

RSPR 12 07:31:15.0, 1955N×6533W, h72km±7km, MD3.7/17, MD3.7/17, 14C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	1.24	164⇑	eP	Pn	07 31 35.7	-1.0
STVI				eS	Sn	07 31 52.7	-0.2
ABV	Anegada	1.25	131	eS	Sn	07 31 52.5	-0.6
TBVI	Tortola	1.33	149⇑	eP	Pn	07 31 36.7	-1.1
TBVI				eS	Sn	07 31 54.3	-0.5
CBYP	Canovanas	1.37	201⇑	eP	Pn	07 31 37.0	-1.3
MTP	Monte Pirata	1.47	188⇑	eP	Pn	07 31 38.7	-0.9
MTP				eS	Sn	07 31 57.5	-0.6
HUMP	Col San Antoni	1.49	199⇑	eP	Pn	07 31 38.7	-1.1
HUMP				eS	Sn	07 31 58.8	+0.2
CPD	Cerro la Pandu	1.60	200⇑	eP	Pn	07 31 40.9	-0.5
SJG	San Juan	1.63	208⇑	eP	Pn	07 31 41.0	-0.7
SJG				eS	Sn	07 32 02.1	+0.2
SJG	San Juan	1.63	208⇓	eP	Pn	07 31 40.9	-0.8
SJG				eS	Sn	07 32 00.7	-1.2
AOPR	Arecibo Observ	1.80	228⇑	eP	Pn	07 31 43.1	-0.9
AOPR				eS	Sn	07 32 05.6	-0.5
CDVI	St. Croix	1.87	163⇑	eP	Pn	07 31 45.8	+0.9
CDVI				eS	Sn	07 32 07.1	-0.6
CELP	Cerrillos	1.89	219⇓	eP	Pn	07 31 45.0	-0.1
CELP				eS	Sn	07 32 07.6	-0.5
LRS	Lares	1.90	229⇑	eP	Pn	07 31 44.4	-1.0
LRS				eS	Sn	07 32 08.3	-0.2
OBIP	Obispado Ponce	1.93	219⇓	eP	Pn	07 31 45.6	-0.1
OBIP				eS	Sn	07 32 08.2	-0.8
AGPR	Aguadilla, PR	2.00	238⇑	eP	Pn	07 31 46.7	0.0
AGPR				eS	Sn	07 32 10.1	-0.7
ICM	Isla Caja Muer	2.00	214⇓	eP	Pn	07 31 46.8	+0.2
ICM				eS	Sn	07 32 10.2	-0.6
LSP	Las Mesas	2.15	231⇑	eP	Pn	07 31 48.3	-0.4
MGP	Maguayo	2.27	228⇑	eP	Pn	07 31 50.0	-0.2
CRPR	Cabo Rojo, PR	2.28	228⇑	eP	Pn	07 31 50.0	-0.5

ISCJB 12 07:42:51.3±0.5, 1083N±003×6234W±003, h99km±5km, Error ellipse: s-maj=5.5km s-min=3.3km az=84.2
FUNV 12 07:42:51.9, 1089N×6217W, h84km, MW4.6
TRN 12 07:42:53.6, 1083N×6212W, h97km, MD3.6
NEIC 12 07:42:54.2, 1091N×6146W, h116km, MD3.4(TRN), After TRN.

ISC 12 07:42:52.5±0.5, 1082N±003×6233W±003, h88km±6km, n32, σ0.96/56, 5C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.20	150⇑	eP	Pn	07 43 05.1	0.0
GUIV				eS	Sn	07 43 13.6	-1.0
GUNV	Guanoco	0.89	223	eP	Pn	07 43 12.1	+1.3
GUNV				eS	Sn	07 43 26.3	+1.8
CRUV	Carupano	0.91	261⇓	iP	Pn	07 43 11.4	+0.5
CRUV				eS	Sn	07 43 24.8	+0.1
TRN	Trinidad (W)	0.92	101	eP	Pn	07 43 10.7	-0.4
TRN				eS	Sn	07 43 22.7	-2.3
BUAY	Buenos Aires	0.95	138	eP	Pn	07 43 13.1	+1.7
BUAY				eS	Sn	07 43 30.9	+5.3
ITEV	Isla Los Testi	0.95	304⇓	iP	Pn	07 43 10.8	-0.7
ITEV				eS	Sn	07 43 24.7	-1.0
TPP	Pointe-a-Pierr	0.99	120	eP	Pn	07 43 13.2	+1.2
TPP				eS	Sn	07 43 25.8	-0.8
SIPA	Siparia	1.05	130	eP	Pn	07 43 13.4	+0.8
SIPA				eS	Sn	07 43 32.2	+4.5
GRW	Mount Saint Ca	1.48	26	eP	Pn	07 43 18.3	+0.4
GRW				eS	Sn	07 43 37.2	+0.2
GRHS	Sauteurs	1.55	26	eP	Pn	07 43 19.0	+0.3
GRHS				eS	Sn	07 43 37.6	-0.9
GRIC	Isle de Caille	1.62	26	eP	Pn	07 43 20.3	+0.6
GRIC				eS	Sn	07 43 40.9	+0.5
GRSS	Sisters	1.62	25	eP	Pn	07 43 20.5	+0.8
GRSS				eS	Sn	07 43 39.7	-0.7
ORIV	Oritupano	2.04	212⇑	eP	Pn	07 43 26.1	+0.9
ORIV				eS	Sn	07 43 51.5	+1.4
PCRV	Puerto La Cruz	2.36	254⇑	eP	Pn	07 43 30.6	+1.2
PCRV				eS	Sn	07 43 58.7	+1.1
IBAV	Isla La Blanqu	2.42	294⇓	iP	Pn	07 43 30.8	+0.6
IBAV				eS	Sn	07 43 58.4	-0.7
SVB	Belmont	2.65	23	eP	Pn	07 43 33.4	+0.1
SVB				eS	Sn	07 44 04.9	+0.3
SVV	Soufriere Volc	2.71	24	eP	Pn	07 43 34.2	+0.2
SVV				eS	Sn	07 44 05.4	-0.6
SSV	Crater Summit	2.73	24	eP	Pn	07 43 34.6	+0.4
SSV				eS	Sn	07 44 05.9	-0.4
GURV	El Guri	3.13	194⇑	iP	Pn	07 43 39.7	-0.1
GURV				eS	Sn	07 44 14.2	-2.0
CUPV	Cœpira	3.49	258⇑	iP	Pn	07 43 45.7	+1.2
CUPV				eS	Sn	07 44 25.4	+0.6
ORCV	Isla La Orchil	3.92	285	eP	Pn	07 43 50.8	+0.5
MVM	Montagne Vaucl	3.96	20	eP	Pn	07 43 51.7	+0.8
FDF	Fort de France	4.05	16	eP	Pn	07 43 51.8	-0.4
CRM	Caravelle	4.14	19	eP	Pn	07 43 53.4	0.0
MERV	Las Mercedes	4.21	249	eP	Pn	07 43 54.6	+0.2
MERV				eS	Sn	07 44 41.5	-0.9
LUEV	Luepa	5.02	170	eP	Pn	07 44 03.8	-1.5
LUEV				eS	Sn	07 44 56.7	-5.3
CAOV	Caicara del Or	5.26	229	eP	Pn	07 44 07.8	-0.7
CAOV				eS	Sn	07 45 04.5	-3.3
TURV	Turiamo	5.43	267	eP	Pn	07 44 11.4	+0.5
BAUV	El Baul	5.93	252	eP	Pn	07 44 16.8	-0.9
BAUV				eS	Sn	07 45 21.6	-2.8
TEPV	Terepaima	6.81	263	eP	Pn	07 44 29.4	-0.3
CURV	Curarigua	7.55	265	eP	Pn	07 44 39.2	-0.7
SOCV	Socops	8.78	254	eP	Pn	07 44 55.4	-1.2

NIED 12 07:51:00, 4280N×14370E, h113km, Mw3.9 Best double couple: M0 8.54000×10^14 NP1:φs245.00000°, δ57.00000°, λ-102.00000°. NP2:φs87.00000°, δ35.00000°, λ-71.00000°.
MOS 12 07:51:32.3±1.0, 4272N×14370E, h107km, mb4.1/7, Error ellipse: s-maj=18.1km s-min=9.6km az=96.7
ISCJB 12 07:51:32.6±0.4, 4273N±003×14374E±005, h111km±2km, mb3.9/13, Error ellipse: s-maj=7.1km s-min=4.8km az=76.9
JMA 12 07:51:33.8±0.1, 4277N×14367E, h108km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs106.00000°, δ28.00000°, λ-63.00000°. NP2: φs256.00000°, δ65.00000°, λ-104.00000°. Principal axes: T Plg19.0000°, Azm356.0000°; N Plg12.0000°, Azm262.0000°; P Plg67.0000°, Azm141.0000°;
JMA Felt I J1.
NEIC 12 07:51:33.2±1.1, 4273N×14374E, h98km±7km, mb4.2/4 Error ellipse: s-maj=19.7km s-min=7.3km az=95.0
IDC 12 07:51:33.7±2.7, 4275N×14382E, h104km±14km, mb3.5/9, mb1 3.6/10, mb1mx3.5/20, mbtmp3.9/10, Error ellipse: s-maj=45.8km s-min=17.5km az=81.0

ISC 12 07:51:33.7±0.4, 4274N±003×14374E±005, h106km±2km, n51, σ0.63/65, mb3.9/13, 3C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	Onbets	0.18	22	⇓P	Pn	07 51 49.3	+0.7
JOB				eS	Sn	07 52 00.8	+1.1
JCH	Churui	0.30	247	⇓P	Pn	07 51 49.2	+0.2
JCH				eS	Sn	07 52 00.0	-0.5
JAR	Ashorobuto	0.56	2	⇓P	Pn	07 51 50.8	+0.2
JAR				eS	Sn	07 52 03.4	+0.2
JAK	Akkeshi	0.75	69	⇓P	Pn	07 51 52.4	+0.3
JAK				eS	Sn	07 52 06.4	+0.4
JEM	Erimo	0.84	211	P	Pn	07 51 53.7	+0.7
JEM				eS	Sn	07 52 08.2	+0.7
JNBK	Urakawa-nobuka	0.86	238	⇓P	Pn	07 51 53.4	+0.2
JNBK				eS	Sn	07 52 08.0	+0.2
JFR	Furan	0.94	297	P	Pn	07 51 53.4	-0.6
JNK	Nakash	1.11	40	⇓P	Pn	07 51 55.8	0.0
JNK				eS	Sn	07 52 12.0	-0.4
JTKR	Abashiri--Toko	1.24	6	⇓P	Pn	07 51 57.2	0.0
JTKR				eS	Sn	07 52 14.5	-0.5
JMP	Maruseppu	1.30	348	⇓P	Pn	07 51 57.8	-0.1
JMP				eS	Sn	07 52 15.5	-0.8
JKK2	Kamakawa 2	1.35	328	⇓P	Pn	07 51 58.3	-0.2
JKK2				eS	Sn	07 52 16.5	-0.7
JAB	Ashibetsu	1.35	305	⇓P	Pn	07 51 58.6	+0.1
JRA	Rausu	1.57	40	⇑P	Pn	07 52 01.5	+0.4
JRA				eS	Sn	07 52 22.7	+0.8
NEM2	Nemuro 2	1.60	66	⇑P	Pn	07 52 01.1	-0.4
NEM2				eS	Sn	07 52 20.8	-1.8
ASAJ	Asahikawa	1.61	329	P	Pn	07 52 02.1	+0.5
	7.4nm,0.3s,baz=200,slow=14,SNR=36						
ASAJ				S	Sn	07 52 23.1	+0.3
	12nm,0.3s,baz=106,slow=31,SNR=36						
ASAJ	Asahikawa	1.61	329	PN	Pn	07 52 02.1	+0.5
ASAJ				S	Sn	07 52 23.2	+0.3
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				smax			
	comp=N,12nm,0.3s						
JEW	Eniwo	1.69	274	P	Pn	07 52 03.0	+0.4
JEW				eS	Sn	07 52 24.6	0.0
YSS	Yuzh-Sakhalins	4.28	351	⇑iPN	Pn	07 52 35.8	-0.9
YSS				e		07 53 25.6	
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	Yuzh-Sakhalins	4.28	351	ePN	Pn	07 52 36.3	-0.4
YSS	Yuzh-Sakhalins	4.28	351	ePn	Pn	07 52 36.3	-0.4
MAJO	Matsushiro	7.51	216	ePN	Pn	07 53 19.6	-0.9
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MAJO	Matsushiro	7.51	216	ePn	Pn	07 53 19.6	-1.0
	comp=Z,10nm,0.6s						
MAT	Matsushiro	7.51	216	P	Pn	07 53 19.6	-0.9
MAT				S	Sn	07 54 42.5	-1.6
MAT	Matsushiro	7.51	216	ePN	Pn	07 53 20.0	-0.5
MAT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MAT	Matsushiro	7.51	216	eP	Pn	07 53 20.0	-0.5
	comp=Z,5.6nm,0.5s						
MJAR	Matsushiro Arr	7.51	216	P	Pn	07 53 20.2	-0.4
	comp=Z,1.7nm,0.3s,baz=27,slow=12,SNR=14						
MJAR	Matsushiro Arr	7.51	216	PN	Pn	07 53 20.2	-0.3
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SONM	Songino Array	26.58	294	P	P	07 57 02.2	+0.4
	comp=Z,3.5nm,0.9s,mb3.9,baz=84,slow=9.7,SNR=12						
ZAL	Zalesovo	39.64	307	P	P	07 58 55.0	0.0
	comp=Z,1.2nm,0.2s,mb4.3,baz=137,slow=12,SNR=4.7						
ZAL	Zalesovo	39.64	307	P	P	07 58 55.0	0.0
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MKAR	Makanchi Array	42.84	297	P	P	07 59 21.4	+0.3
	comp=Z,1.0nm,0.6s,mb3.7,baz=72,slow=7.8,SNR=9.3						
MKAR	Makanchi Array	42.84	297	P	P	07 59 21.5	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	Kurchatov	44.03	304	eP	P	07 59 30.9	+0.2
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
KURK	Kurchatov	44.03	304	eP	P	07 59 30.9	+0.2
	comp=Z,3.2nm,0.7s,mb4.2						
CHKZ	Chkalovo	47.88	310	eP	P	07 59 59.9	-1.0
	comp=Z,4.1nm,0.7s,mb4.4						
BVAR	Borovoye Array	48.21	309	P	P	08 00 04.1	+0.7
	comp=Z,1.4nm,0.5s,mb4.1,baz=70,slow=9.2,SNR=6.4						
BVAR	Borovoye Array	48.21	309	P	P	08 00 04.1	+0.6
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	Borovoye	48.26	309	eP	P	08 00 04.2	+0.3
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
BRVK	Borovoye	48.26	309	eP	P	08 00 04.2	+0.3
	comp=Z,1.4nm,0.6s,mb4.0						
ZRNK	Zerenda	49.03	309	eP	P	08 00 09.6	-0.1
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ZRNK	Zerenda	49.03	309	eP	P	08 00 09.6	-0.2
	comp=Z,2.8nm,0.9s,mb4.2						
AKTK	Aktyubinsk	56.29	310	P	P	08 01 04.3	+1.1
AKTO	Aktyubinsk	56.29	310	P	P	08 01 04.3	+1.1
	comp=Z,0.5nm,0.4s,mb3.9,baz=52,slow=4.2,SNR=5.1						
AKTO	Aktyubinsk	56.29	310	P	P	08 01 04.3	+1.1
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	FINESS Array B	64.62	332	P	P	08 01 58.8	-1.1
	comp=Z,0.4nm,0.5s,mb3.5,baz=63,slow=9.5,SNR=3.4						
ASAR	Alice Springs	66.69	190	P	P	08 02 13.8	+0.7
	comp=Z,0.3nm,0.8s,mb3.2,baz=7.2,slow=5.9,SNR=5.2						
NOA	NORSAR Array B	69.62	338	P	P	08 02 31.2	-0.2
	comp=Z,0.5nm,0.7s,mb3.4,baz=36,slow=6.3,SNR=3.4						
NOA	NORSAR Array B	69.62	338	P	P	08 02 31.2	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	70.89	322	P	P	08 02 39.1	-0.1
	comp=Z,0.2nm,0.2s,mb3.5,baz=37,slow=5.5,SNR=4.1						
SNAA	Sanae	146.72	199	e	PKPdf	08 11 00.7	-0.6
SNAA				e		08 11 06.9	
SNAA				e		08 11 16.0	
SNAA	Sanae	146.72	199	ePKPdf	PKPdf	08 11 00.7	-0.6

IDC 12 07:58:27.4±0.9, 166N×122.17E, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.0/18, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=120.6km s-min=16.4km az=66.0
ISCJB 12 07:58:30.2±0.7, 16N±02×122.1E±05, h33km, mb4.0/7, Error ellipse: s-maj=85.4km s-min=12.1km az=132.9

ISC 12 07:58:32.5±0.7, 15N±02×1220E±05, h35km, n10, σ0.42/10, mb4.0/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.84	170	eP	Pn	08 03 01.7	-0.3
	14nm,1.4s						
FITZ	Fitzroy Crossi	19.84	170	P	Pn	08 03 01.7	-0.3
	0.4nm,0.3s,baz=1.8,slow=14,SNR=13						
WB2	Warramunga Arr	24.54	151	eP	P	08 03 48.4	-0.3
ASAR	Alice Springs	27.59	156	P	P	08 04 17.2	+0.9
	0.8nm,0.6s,mb3.5,baz=343,slow=15,SNR=20						
STKA	Stephens Creek	38.06	152	P	P	08 05 47.4	-0.2
	2.1nm,0.7s,mb4.0,baz=323,slow=9.3,SNR=5.6						
SONM	Songino Array	48.06	346	P	P	08 07 08.4	-0.1
	0.7nm,0.7s,mb3.8,baz=178,slow=6.8,SNR=4.0						
MKAR	Makanchi Array	56.80	328	P	P	08 08 13.7	+0.6
	1.7nm,0.7s,mb4.2,baz=128,slow=7.9,SNR=14						
ZAL	Zalesovo	60.52	336	P	P	08 08 38.7	-0.4
	2.0nm,0.6s,mb4.4,baz=7.4,slow=5.6,SNR=14						
BVAR	Borovoye Array	66.67	329	P	P	08 09 19.8	+0.1
	0.9nm,0.6s,mb4.0,baz=132,slow=6.0,SNR=5.1						
AKTO	Aktyubinsk	72.50	323	P	P	08 09 55.4	-0.2
	0.5nm,0.3s,mb4.0,baz=110,slow=10,SNR=4.9						

NEIC 12 08:00:18.0±2.8, 1648S×7374W, h56km±22km, mb4.4/5, Error ellipse: s-maj=28.4km s-min=14.7km az=109.0
ISCJB 12 08:00:20.4±1.2, 1662S±007×734W±0.1, h75km±12km, mb4.2/8, Error ellipse: s-maj=17.8km s-min=8.5km az=123.1
IDC 12 08:00:22.7±2.8, 1655S×7363W, h95km±23km, mb4.1/6, mb1 4.1/10, mb1mx3.8/18, mbtmp4.3/10, MS3.5/7, Ms1 3.5/7, ms1mx3.3/19, Error ellipse: s-maj=26.3km s-min=20.1km az=54.0

ISC 12 08:00:22.4±1.0, 1671S±006×7352W±009, h80km±10km, n31, σ1.49/30, mb4.2/8, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	1.96	83⇑	iP	Pn	08 00 51.0	-2.8
ARE				i S	Sn	08 01 20.5	+2.8
LPAZ	La Paz	5.19	86	P	Pn	08 01 39.3	+1.7
	9.0nm,0.3s,baz=276,slow=10,SNR=68						
LPAZ				S	Sn	08 02 48.9	+13
	baz=212,slow=18,SNR=1.2						
LPAZ				LR	LR	08 03 58.0	
	comp=Z,696nm,18.2s,baz=279,slow=41						
LPAZ	La Paz	5.19	86	P	Pn	08 01 39.3	+1.7
LPAZ				S	Sn	08 02 48.9	+13
LVC	Limon Verde	7.30	144	P	Pn	08 02 06.1	-0.3
	9.7nm,0.3s,baz=317,slow=9.7,SNR=90						
LVC				S	Sn	08 03 27.3	-0.4
	8.3nm,0.3s,baz=87,slow=20,SNR=11						
LVC				LR	LR	08 05 24.1	
	comp=Z,273nm,18.6s,baz=287,slow=40						
LVC	Limon Verde	7.30	144	ePn	Pn	08 02 05.6	-0.8
LVC				eSn	Sn	08 03 26.0	-1.8
ATAH	Atahualpa	10.76	333	P	Pn	08 02 51.5	-2.1
	0.9nm,0.3s,baz=78,slow=8.5,SNR=3.5						
ATAH				S	Sn	08 04 53.8	+1.7
	0.6nm,0.3s,baz=133,slow=18,SNR=2.1						
SIV	San Ignacio	11.97	88	P	Pn	08 03 07.4	-2.7
	5.1nm,0.3s,baz=274,slow=11,SNR=42						
SAML	Samuel	12.69	54	ePn	Pn	08 03

Error ellipse: s-maj=6.0km s-min=4.3km az=34.0
*ATH **12** 08:01:58.8, 38.17N×2664E, h25km±2km, MD3.3/3*
*CSEM **12** 08:01:58.9±0.1, 3821N×2669E, h12km, MD3.1, Error ellipse: s-maj=2.3km s-min=1.7km az=110.0*
*NEIC **12** 08:01:59.0, 3822N×2667E, h8km, MD3.1(ISK), MD3.3(ATH), After ISK.*
*ISK **12** 08:01:59.4, 38.19N×2671E, h13km, MD3.1*
ISC 12 08:01:59.7±0.5, 3819N±003×2668E±004, h12km±4km, n21, σ0:63/30, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**340**	*i* P	**Pg**	08 02 03.5	-0.2
URLA				*i* S	**Sg**	08 02 07.2	+0.9
BLCB	**Balcova**	**0.35**	**56**	*i* PG	**Pg**	08 02 06.3	-0.3
BLCB				*i* SG	**Sg**	08 02 11.0	-0.3
SMG	**Samos**	**0.50**	**165**	⇑*i*PB	**Pg**	08 02 08.9	-0.5
SMG				*e*SB	**Sg**	08 02 16.3	+0.2
IZM	**Izmir**	**0.51**	**66**	*i* PG	**Pg**	08 02 09.3	-0.3
IZM				*i* SG	**Sg**	08 02 16.9	+0.6
KDAG	**Bornova**	**0.51**	**65**	*i* P	**Pg**	08 02 09.4	-0.3
KDAG				*i* S	**Sg**	08 02 16.9	+0.4
PRK	**Paraskevi**	**1.10**	**343**	*e*PN	**Pn**	08 02 20.2	-0.7
PRK				*e*SN	**Sn**	08 02 35.7	-0.3
AKS	**Akhisar**	**1.12**	**52**	PN	**Pn**	08 02 21.1	-0.2
BODT	**Bodrum**	**1.24**	**156**	PN	**Pn**	08 02 22.3	-0.5
MLSB	**Milas**	**1.25**	**135**	PN	**Pn**	08 02 22.8	-0.2
APE	**Apeiranthos**	**1.44**	**219**	PN	**Pn**	08 02 26.2	+0.6
APE	**Apeiranthos**	**1.44**	**219**	*e*Pn	**Pn**	08 02 25.0	-0.6
DAT	**Datca**	**1.63**	**154**	*e*PN	**Pn**	08 02 28.5	+0.3
EZN	**Ezine**	**1.65**	**351**	*e*PN	**Pn**	08 02 29.4	+0.9
BALB	**Balikesir**	**1.72**	**33**	*e*PN	**Pn**	08 02 30.0	+0.5
CANB	**Canakkale**	**1.85**	**9**	*e*PN	**Pn**	08 02 31.3	+0.1
DNZL	**Cakiroluk**	**1.94**	**104**	*i* P	**Pn**	08 02 35.8	+3.3
DNZL				*i* S	**Sn**	08 03 04.1	+7.4
SANT	**Santorini**	**2.06**	**208**	*e*Pn	**Pn**	08 02 34.1	0.0
SANT				*e*Pg	**Pg**	08 02 38.4	-0.8
SANT				*e*Sg	**Sg**	08 03 06.5	+0.6
SANT	**Santorini**	**2.06**	**208**	*e*Pn	**Pn**	08 02 34.1	0.0
SANT	**Santorini**	**2.06**	**208**	*e*Pg	**Pg**	08 02 38.4	-0.8
DALT	**Dalyan (Mudla)**	**2.11**	**132**	*e*PN	**Pn**	08 02 35.1	+0.3
ULDT	**Uludag**	**2.73**	**44**	*i* P	**Pg**	08 02 50.7	-1.3

*MOS **12** 08:07:04.8±0.7, 3816N×2668E, h10km, mb4.0/1, Error ellipse: s-maj=6.8km s-min=4.6km az=92.0*
*ISCJB **12** 08:07:05.3±0.4, 3815N±001×2665E±002, h12km±3km, mb3.9/2, MS2.7/4, Error ellipse: s-maj=2.5km s-min=2.3km az=46.6*
*NEIC **12** 08:07:05.6, 3818N×2669E, h14km, ML3.9(ATH), ML4.2(ISK), After ISK.*
*ATH **12** 08:07:05.6, 3816N×2664E, h31km±1km, MD4.0/14, ML3.9*
*CSEM **12** 08:07:05.4±0.0, 3819N×2670E, h12km, ML4.2, Error ellipse: s-maj=1.1km s-min=1.0km az=55.0*
*ISK **12** 08:07:05.2, 3817N×2667E, h14km, MD3.9, ML4.2*
*HLW **12** 08:07:06.3, 3823N×2653E, h33km, Mb3.4*
*IDC **12** 08:07:08.7±2.9, 3818N×2668E, h29km±26km, mb3.8/2, mb1 3.8/7, mb1mx3.5/23, mbtmp3.8/7, ML3.5/5, MS2.9/9, Ms1 2.9/9, ms1mx2.8/27, Error ellipse: s-maj=24.0km s-min=13.4km az=131.0*
*THE **12** 08:07:08.0, 3829N×2665E, h4km, ML4.1*
ISC 12 08:07:06.0±0.3, 3815N±001×2668E±002, h10km±2km, n191, σ0:99/224, mb3.9/2, MS2.7/4, 15C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.22**	**342**	*i* P	**Pg**	08 07 10.6	+0.1
URLA				*i* S	**Sg**	08 07 14.3	+0.7
BLCB	**Balcova**	**0.37**	**50**	*i* PG	**Pg**	08 07 13.1	-0.1
BLCB				*i* SG	**Sg**	08 07 18.0	-0.1
BLCB	**Balcova**	**0.37**	**50**	Pg	**Pg**	08 07 13.1	-0.1
BLCB				Sg	**Sg**	08 07 17.1	-1.0
SMG	**Samos**	**0.46**	**164**	⇑*i*PB	**Pg**	08 07 15.9	+1.0
SMG				*e*SB	**Sg**	08 07 23.5	+2.5
IZM	**Izmir**	**0.52**	**61**	*i* PG	**Pg**	08 07 16.2	+0.1
IZM	**Izmir**	**0.52**	**61**	Pg	**Pg**	08 07 16.3	+0.2
KDAG	**Bornova**	**0.53**	**61**	*i* P	**Pg**	08 07 16.3	+0.1
KDAG				*i* S	**Sg**	08 07 23.8	+0.7
CHOS	**Chios island**	**0.55**	**296**	*e*Pg	**Pg**	08 07 17.0	+0.4
CHOS				*e*Sg	**Sg**	08 07 24.7	+0.9
AYDN	**Tasoluk**	**1.07**	**117**	*i* P	**Pg**	08 07 26.4	-0.1
AYDN				*i* S	**Sg**	08 07 40.2	-0.1
PRK	**Paraskevi**	**1.14**	**344**	*e*PN	**Pn**	08 07 26.8	-1.2
PRK				*e*SN	**Sn**	08 07 41.9	-1.8
AKS	**Akhisar**	**1.15**	**50**	*i* PN	**Pn**	08 07 26.9	-1.2
AKS				*i* SN	**Sn**	08 07 43.1	-0.8
AKS	**Akhisar**	**1.15**	**50**	Pn	**Pn**	08 07 27.0	-1.1
AKS				Sg	**Sg**	08 07 44.0	+1.0
AKS	**Akhisar**	**1.15**	**50**	Pn	**Pn**	08 07 27.0	-1.1
AKS				*i* Sn	**Sn**	08 07 43.1	-0.8
AKS				Sg	**Sg**	08 07 44.0	+1.1
AYVA	**Ayvalik**	**1.16**	**0**	*i* P	**Pb**	08 07 27.0	-1.1
AYVA				*i* S	**Sb**	08 07 44.1	+1.0
BODT	**Bodrum**	**1.20**	**155**	*i* PN	**Pn**	08 07 28.4	-0.4
BODT	**Bodrum**	**1.20**	**155**	Pn	**Pn**	08 07 28.7	0.0
BODT	**Bodrum**	**1.20**	**155**	Pn	**Pn**	08 07 28.7	-0.1
MLSB	**Milas**	**1.22**	**134**	*i* PN	**Pn**	08 07 28.8	-0.3
MLSB	**Milas**	**1.22**	**134**	Pn	**Pn**	08 07 28.8	-0.2
BDRM	**Kayabasi**	**1.24**	**151**	*i* P	**Pn**	08 07 29.0	-0.4
BDRM				*i* S	**Sb**	08 07 45.9	+0.3
BDRM	**Kayabasi**	**1.24**	**151**	*i* P	**Pn**	08 07 29.0	-0.4
BDRM				*i* S	**Sb**	08 07 45.8	+0.2
APE	**Apeiranthos**	**1.41**	**221**	PN	**Pn**	08 07 30.5	-1.3
APE	**Apeiranthos**	**1.41**	**221**	*e*PN	**Pn**	08 07 30.7	-1.1
APE				*e*SN	**Sn**	08 07 49.1	-1.4
APE	**Apeiranthos**	**1.41**	**221**	⇓*i*P	**Pn**	08 07 30.8	-1.0
APE	**Apeiranthos**	**1.41**	**221**	*e*P	**Pn**	08 07 30.7	-1.1
APE				*e*		08 07 49.1	
APE	**Apeiranthos**	**1.41**	**221**	⇓P	**Pn**	08 07 30.8	-1.0
MANT	**Manisa**	**1.52**	**76**	*i* P	**Pn**	08 07 33.9	+0.8
MANT				*i* S	**Sn**	08 07 52.9	-0.1
NISR	**Nisiros**	**1.58**	**167**	*e*PN	**Pn**	08 07 34.0	0.0
DAT	**Datca**	**1.59**	**153**	PN	**Pn**	08 07 33.7	-0.5
YER	**Yerkesik**	**1.63**	**128**	PN	**Pn**	08 07 35.1	+0.4
YER	**Yerkesik**	**1.63**	**128**	Pn	**Pn**	08 07 35.1	+0.4
EZN	**Ezine**	**1.70**	**351**	PN	**Pn**	08 07 34.2	-1.5
EZN	**Ezine**	**1.70**	**351**	Pn	**Pn**	08 07 34.3	-1.4
EZN	**Ezine**	**1.70**	**351**	Pn	**Pn**	08 07 34.3	-1.4
BALB	**Balikesir**	**1.76**	**32**	Pn	**Pn**	08 07 36.4	-0.1
BALB	**Balikesir**	**1.76**	**32**	Pn	**Pn**	08 07 37.4	+0.9
DENT	**Denizli**	**1.90**	**101**	*e*PN	**Pn**	08 07 38.5	0.0
DENT	**Denizli**	**1.90**	**101**	Pn	**Pn**	08 07 38.7	+0.3
DENT	**Denizli**	**1.90**	**101**	Pn	**Pn**	08 07 38.7	+0.2
BTOK	**Tokmak**	**1.92**	**33**	*i* P	**Pn**	08 07 38.1	-0.6
DNZL	**Cakiroluk**	**1.93**	**103**	*i* P	**Pn**	08 07 38.9	+0.1
DNZL				*i* S	**Sb**	08 08 06.7	+1.3
THR3	**Thira Island,**	**2.02**	**211**	*e*Pn	**Pb**	08 07 42.9	+0.1
THR3	**Thira Island,**	**2.02**	**211**	P	**Pg**	08 07 44.6	0.0
SANT	**Santorini**	**2.03**	**209**	*e*Pn	**Pn**	08 07 39.1	-1.1
SANT				*e*Pg	**Pg**	08 07 44.6	-0.3
SANT				*e*S	**Sg**	08 08 12.7	+1.6
SANT	**Santorini**	**2.03**	**209**	*e*Pn	**Pn**	08 07 39.2	-1.0
SANT	**Santorini**	**2.03**	**209**	*e*Pg	**Pg**	08 07 44.6	-0.2
THR1	**Thera Island**	**2.03**	**209**	*e*Pn	**Pg**	08 07 43.7	-1.2
DALT	**Dalyan (Mudla)**	**2.08**	**131**	PN	**Pn**	08 07 41.8	+0.9
DALT	**Dalyan (Mudla)**	**2.08**	**131**	Pn	**Pn**	08 07 41.5	+0.6
DALT	**Dalyan (Mudla)**	**2.08**	**131**	Pn	**Pn**	08 07 41.5	+0.6
LIA	**Limnos Island**	**2.10**	**327**	*e*PN	**Pn**	08 07 40.6	-0.6
LOS	**Limnos**	**2.17**	**326**	*e*Pn	**Pn**	08 07 42.2	0.0
LOS				*e*Sn	**Sn**	08 08 09.2	0.0
LOS	**Limnos**	**2.17**	**326**	P	**Pn**	08 07 42.6	+0.4
LOS	**Limnos**	**2.17**	**326**	P	**Pn**	08 07 42.6	+0.4
KHL	**Karahalli**	**2.25**	**85**	PN	**Pn**	08 07 43.4	+0.2
KHL	**Karahalli**	**2.25**	**85**	Pn	**Pn**	08 07 43.5	+0.3
KHL	**Karahalli**	**2.25**	**85**	Pn	**Pn**	08 07 43.5	+0.3
ARG	**Arkhangelos**	**2.25**	**149**	*e*PN	**Pn**	08 07 43.3	0.0
KVR	**Kavouri**	**2.32**	**263**	*e*PN	**Pn**	08 07 44.0	-0.3
ATH	**Athens Observa**	**2.35**	**267**	*e*PN	**Pn**	08 07 43.0	-1.6
EDC	**Edincik**	**2.38**	**22**	PN	**Pn**	08 07 45.2	+0.2
EDC	**Edincik**	**2.38**	**22**	Pn	**Pn**	08 07 45.3	+0.2
EDC	**Edincik**	**2.38**	**22**	Pn	**Pn**	08 07 45.3	+0.3
GDZ	**Gediz**	**2.38**	**66**	*i* P	**Pg**	08 07 50.5	-1.2
GDZ				*i* S	**Sg**	08 08 20.7	-1.9
BNT	**Bandirma**	**2.40**	**23**	PN	**Pn**	08 07 45.1	-0.3
BNT	**Bandirma**	**2.40**	**23**	Pn	**Pn**	08 07 45.1	-0.2
BNT	**Bandirma**	**2.40**	**23**	Pn	**Pn**	08 07 45.2	-0.2
FETY	**Fethiye**	**2.44**	**128**	*e*PN	**Pn**	08 07 46.7	+0.8
FETY	**Fethiye**	**2.44**	**128**	Pn	**Pn**	08 07 46.8	+0.9
KCT	**Karacabey**	**2.48**	**31**	PN	**Pn**	08 07 46.5	0.0
KCT	**Karacabey**	**2.48**	**31**	Pn	**Pn**	08 07 46.5	+0.1
MRMT	**Marmara Adasi**	**2.55**	**16**	*e*PN	**Pn**	08 07 46.5	-0.9
NAIG	**Nisos Aigina**	**2.55**	**262**	*e*PN	**Pn**	08 07 46.5	-1.0
RKY	**Sarkoy-Tekirda**	**2.56**	**8**	*e*PN	**Pn**	08 07 47.5	-0.1
RKY	**Sarkoy-Tekirda**	**2.56**	**8**	Pn	**Pn**	08 07 47.5	-0.1
KARP	**Karpathos**	**2.63**	**171**	*e*PN	**Pn**	08 07 48.0	-0.5
MFT	**Murefte**	**2.67**	**10**	*e*PN	**Pn**	08 07 49.2	+0.1
MGER	**Gerania Oros**	**2.71**	**268**	*e*PN	**Pn**	08 07 48.0	-1.5
ULDT	**Uludag**	**2.76**	**43**	*i* P	**Pn**	08 07 51.0	+0.7
ULDT				*i* S	**Sg**	08 08 42.0	+7.5
ALN	**Alexandroupoli**	**2.79**	**350**	*e*Pn	**Pn**	08 07 49.5	-1.2
ALN				*e*Sn	**Sn**	08 08 23.1	-1.3
ALN	**Alexandroupoli**	**2.79**	**350**	P	**Pn**	08 07 50.0	-0.7
ALN				S	**Sn**	08 08 23.3	-1.0
ALN	**Alexandroupoli**	**2.79**	**350**	P	**Pn**	08 07 50.0	-0.7
ALN				S	**Sn**	08 08 23.3	-1.1
ALT	**Altintas**	**2.83**	**70**	*e*PN	**Pn**	08 07 51.4	+0.1
ALT	**Altintas**	**2.83**	**70**	Pn	**Pn**	08 07 51.4	+0.1
TKTP	**Tekketepe**	**2.87**	**91**	*i* P	**Pn**	08 07 52.2	+0.4
TKTP	**Tekketepe**	**2.87**	**91**	*i* P	**Pn**	08 07 52.2	+0.3
ELL	**Elmali**	**2.92**	**118**	*e*PN	**Pn**	08 07 52.8	+0.2
ELL	**Elmali**	**2.92**	**118**	Pn	**Pn**	08 07 52.9	+0.3
ELL	**Elmali**	**2.92**	**118**	Pn	**Pn**	08 07 52.9	+0.3
LKR	**Lokris**	**2.94**	**281**	*e*PN	**Pn**	08 07 52.2	-0.5
NEO	**Neokhori**	**2.94**	**294**	*e*PN	**Pn**	08 07 52.4	-0.4
NPS	**Neapolis**	**3.01**	**197**	*e*PN	**Pn**	08 07 52.6	-1.1
OUR	**Ouranopolis**	**3.02**	**317**	*e*Pn	**Pn**	08 07 54.0	0.0
OUR	**Ouranopolis**	**3.02**	**317**	P	**Pn**	08 07 54.1	+0.2
OUR				S	**Sn**	08 08 30.1	-0.1
OUR	**Ouranopolis**	**3.02**	**317**	P	**Pn**	08 07 54.1	+0.2
OUR				S	**Sn**	08 08 30.2	0.0
ISP	**Isparta**	**3.04**	**95**	*e*PN	**Pn**	08 07 54.0	-0.1
IZI	**Iznik**	**3.08**	**44**	*e*PN	**Pn**	08 07 55.2	+0.6
RDO	**Rodhopi**	**3.12**	**344**	*e*PN	**Pn**	08 07 54.5	-0.7
YLV	**Yalova**	**3.19**	**40**	*e*PN	**Pn**	08 07 57.1	+0.9
IDI	**Anoyia**	**3.20**	**207**	Pn	**Pn**	08 07 56.5	+0.1
	2.8nm,0.3s,baz=342,slow=9.6,SNR=20						
IDI				Sn	**Sn**	08 08 33.0	-1.6
	6.4nm,0.3s,baz=310,slow=23,SNR=4.0						
IDI				Lg		08 08 52.3	
	18nm,0.3s,baz=294,slow=19,SNR=8.5						
IDI				LR	LR	08 09 14.1	
	comp=Z,192nm,18.9s,baz=34,slow=39						
IDI	**Anoyia**	**3.20**	**207**	Pn	**Pn**	08 07 56.5	+0.1
IDI				Sn	**Sn**	08 08 33.0	-1.6
IDI				Lg		08 08 52.3	
IDI	**Anoyia**	**3.20**	**207**	Pn	**Pn**	08 07 56.5	+0.2
IDI				Sn	**Sn**	08 08 33.0	-1.5
CTT	**Catalca**	**3.28**	**24**	*e*PN	**Pn**	08 07 57.7	+0.2
CTT	**Catalca**	**3.28**	**24**	Pn	**Pn**	08 07 57.7	+0.2
ADVT	**Abdulvahap**	**3.29**	**45**	*e*PN	**Pn**	08 07 57.5	-0.1
ADVT	**Abdulvahap**	**3.29**	**45**	Pn	**Pn**	08 07 57.5	-0.1
VLI	**Veliai**	**3.31**	**246**	*e*PN	**Pn**	08 07 57.5	-0.3
VAM	**Vamos**	**3.39**	**217**	*e*PN	**Pn**	08 07 59.3	+0.4
ISK	**Istanbul-Kandi**	**3.44**	**32**	*e*PN	**Pn**	08 08 00.2	+0.5
KYTH	**Kithira**	**3.46**	**238**	*e*PN	**Pn**	08 07 59.8	-0.1
AGG	**Agios Georgios**	**3.52**	**286**	*e*Pn	**Pn**	08 08 01.6	+0.9
AGG				*e*Sn	**Sn**	08 08 43.1	+0.7
AGG	**Agios Georgios**	**3.52**	**286**	P	**Pn**	08 08 02.5	+1.8
AGG				S	**Sn**	08 08 44.6	+2.1
AGG	**Agios Georgios**	**3.52**	**286**	P	**Pn**	08 08 02.5	+1.8
AGG				S	**Sn**	08 08 44.6	+2.2
HRT	**Hereke**	**3.53**	**40**	*e*PN	**Pn**	08 08 02.1	+1.2
HRT	**Hereke**	**3.53**	**40**	Pn	**Pn**	08 08 02.2	+1.3
ESKT	**Eskisehir**	**3.53**	**66**	*i* P	**Pn**	08 08 01.1	+0.2
SEYT	**Eskypehyr**	**3.53**	**66**	*i* P	**Pn**	08 08 01.1	+0.2
GPA	**Golpazari**	**3.54**	**52**	*e*PN	**Pn**	08 08 02.1	+1.1
GPA	**Golpazari**	**3.54**	**52**	Pn	**Pn**	08 08 02.2	+1.2
KLYT	**Kilyos**	**3.59**	**30**	*e*PN	**Pn**	08 08 02.9	+1.1
EDRB	**Edirne**	**3.69**	**1**	*e*PN	**Pn**	08 08 02.9	-0.2
EDRB	**Edirne**	**3.69**	**1**	Pn	**Pn**	08 08 04.5	+1.4
SOH	**Sokhos**	**3.71**	**317**	*e*Pn	**Pn**	08 08 03.5	+0.2
LIT	**Litokhoron**	**3.80**	**302**	*e*Pn	**Pn**	08 08 05.0	+0.5
NVR	**Nevrokopi**	**3.86**	**327**	*e*PN	**Pn**	08 08 05.4	-0.1
ITM	**Ithomi**	**3.90**	**257**	*e*PN	**Pn**	08 08 06.4	+0.5
EVR	**Evrytania**	**3.90**	**283**	*e*PN	**Pn**	08 08 06.3	+0.4
GVD	**Gavdhos**	**3.91**	**213**	*e*Pn	**Pn**	08 08 08.2	+2.1
KNT	**Kendrikon**	**4.19**	**317**	*e*Pn	**Pn**	08 08 10.8	+0.8
KNT	**Kendrikon**	**4.19**	**317**	P	**Pn**	08 08 11.2	+1.2
KNT	**Kendrikon**	**4.19**	**317**	P	**Pn**	08 08 11.2	+1.2
MDU	**Mudurnu**	**4.21**	**55**	*e*PN	**Pn**	08 08 11.4	+1.2
MDU	**Mudurnu**	**4.21**	**55**	Pn	**Pn**	08 08 12.2	+2.0
HENT	**Hendek**	**4.22**	**49**	*i* P	**Pg**	08 08 24.4	-2.3
KDHN	**Kadinhani**	**4.29**	**83**	*i* P	**Pn**	08 08 12.0	+0.7
GRG	**Griva**	**4.33**	**312**	*e*Pn	**Pn**	08 08 13.0	+1.1
GRG	**Griva**	**4.33**	**312**	P	**Pn**	08 08 13.4	+1.5
GRG	**Griva**	**4.33**	**312**	P	**Pn**	08 08 13.4	+1.4
VAY	**Valandovo**	**4.48**	**316**	*i* Pn	**Pg**	08 08 30.1	-1.7
VAY				*i* Sn	**Sg**	08 09 26.8	-3.0
SGKT	**Sivrigoynuk**	**4.82**	**58**	*i* P	**Pn**	08 08 24.2	+5.6
SGKT				*i* S	**Sg**	08 09 37.2	-3.4
FNA	**Florina**	**4.88**	**304**	*e*Pn	**Pn**	08 08 20.8	+1.4
FNA	**Florina**	**4.88**	**304**	P	**Pn**	08 08 21.1	+1.7
FNA	**Florina**	**4.88**	**304**	P	**Pn**	08 08 21.1	+1.7
ANTO	**Ankara**	**5.06**	**68**	*e*PN	**Pn**	08 08 23.8	+1.9
ANTO	**Ankara**	**5.06**	**68**	⇑*i*P	**Pg**	08 08 42.2	-0.7
ANTO	**Ankara**	**5.06**	**68**	Pn	**Pn**	08 08 23.9	+2.0
VTS	**Vitosha**	**5.17**	**330**	⇓*i*P	**Pn**	08 08 24.5	+1.1
VTS	**Vitosha**	**5.17**	**330**	⇑*i*P	**Pn**	08 08 24.5	+1.1
VTS	**Vitosha**	**5.17**	**330**	⇑P	**Pn**	08 08 24.5	+1.1
ERMK	**Ermenek**	**5.18**	**105**	*i* P	**Pn**	08 08 21.7	-1.9
BR131	**Keskin Array S**	**5.65**	**72**	*e*Pn	**Pn**	08 08 31.0	+1.0
	6.8nm,0.6s						
BRTR	**Keskin Array B**	**5.65**	**72**	Pn	**Pn**	08 08 31.1	+1.2
	0.8nm,0.3s,baz=252,slow=14,SNR=17						
BRTR				Pg	**Pg**	08 08 51.0	-3.1
	1.0nm,0.3s,baz=251,slow=16,SNR=16						
BRTR				Lg		08 10 10.6	
	0.6nm,0.3s,baz=265,slow=22,SNR=6.6						
BRTR	**Keskin Array B**	**5.65**	**72**	Pn	**Pn**	08 08 31.1	+1.1
BRTR	**Keskin Array B**	**5.65**	**72**	Pg	**Pg**	08 08 51.0	-3.1
ELDT	**Eldivan**	**5.73**	**64**	*i* P	**Pg**	08 08 52.9	-2.8
BALT	**Daday**	**6.17**	**55**	*i* P	**Pg**	08 08 59.2	-4.9
BALT				*i* S	**Sg**	08 10 25.0	+1.1
CDAG	**Cicekdag**	**6.18**	**74**	*i* P	**Pn**	08 08 36.9	-0.4
TIRR	**Tirgusor**	**6.43**	**11**	⇓*i*P	**Pn**	08 08 40.4	-0.4
TIRR	**Tirgusor**	**6.43**	**11**	⇑*i*P	**Pn**	08 08 40.4	-0.4
TIRR	**Tirgusor**	**6.43**	**11**	⇑P	**Pn**	08 08 40.4	-0.4
CTKT	**Corum**	**6.75**	**66**	*i* P	**Pg**	08 09 11.4	-3.8
SLUM		**6.75**	**191**	⇓P	**Pn**	08 08 44.3	-0.8
SLUM				S	**Sn**	08 09 56.3	-5.8
HMAT	**Matruh**	**7.05**	**177**	⇓P	**Pn**	08 08 49.1	-0.2
CFR	**Carcaliu**	**7.11**	**8**	⇑*i*P	**Pn**	08 08 49.3	-0.7
CFR	**Carcaliu**	**7.11**	**8**	⇑P	**Pn**	08 08 49.3	-0.7
BOYT	**Boyabat**	**7.12**	**60**	*i* P	**Pg**	08 09 18.0	-4.4
MLR	**Muntele Rosu**	**7.36**	**356**	Pn	**Pn**	08 08 54.3	+0.8
	0.3nm,0.3s,baz=191,slow=2.8,SNR=6.7						
MLR				LR	LR	08 12 05.2	
	comp=Z,88nm,19.6s,baz=200,slow=40						
MLR	**Muntele Rosu**	**7.36**	**356**	⇑*i*P	**Pn**	08 08 54.4	+1.0
MLR	**Muntele Rosu**	**7.36**	**356**	⇑P	**Pn**	08 08 54.4	+1.0
TIP	**Timpagrande**	**7.83**	**281**	*e*Pn	**Pn**	08 09 01.4	+1.4
SEV	**Sevastopol'**	**8.27**	**37**	*e*P	**Pn**	08 09 03.0	-3.0
BZS	**Buzias**	**8.36**	**335**	⇑*i*P	**Pn**	08 09 07.5	+0.3
BZS	**Buzias**	**8.36**	**335**	⇑P	**Pn**	08 09 07.5	+0.3
MMAI	**Mount Meron Ar**	**8.76**	**123**	Pn	**Pn**	08 09 11.3	-1.3
	1.9nm,0.3s,baz=303,slow=11,SNR=4.9						
SWA1		**8.90**	**185**	⇓P	**Pn**	08 09 14.3	-0.4
SWA1				S	**Sn**	08 10 47.9	-7.1
SWA2		**8.94**	**187**	⇑P	**Pn**	08 09 14.8	-0.4
BURAR	**Bucovina Array**	**9.52**	**354**	⇑*i*P	**Pn**	08 09 24.9	+1.8
BURAR	**Bucovina Array**	**9.52**	**354**	⇑P	**Pn**	08 09 24.9	+1.8
ASF	**Jabal al Asfar**	**10.27**	**122**	Pn	**Pn**	08 09 33.5	+0.1
	0.2nm,0.3s,baz=192,slow=9.3,SNR=2.7						
KWP	**Kalwaria**	**11.83**	**347**	*e*P	**Pn**	08 09 56.7	+2.0
KWP				pmax	pmax		
	comp=Z,53nm,0.5s						
KWP	**Kalwaria**	**11.83**	**347**	*e*Pn	**Pn**	08 09 56.7	+2.0
	comp=Z,53nm,0.5s						
VRAC	**Vranov**	**13.31**	**330**	LR	LR	08 15 03.4	
	comp=Z,49nm,18.6s,baz=331,slow=36						
GERES	**GERESS Array B**	**14.22**	**323**	LR	LR	08 16 01.6	
	comp=Z,68nm,21.9s,baz=136,slow=38						
DAVOX	**Davos**	**15.08**	**310**	LR	LR	08 17 19.1	
	comp=Z,19nm,19.1s,baz=266,slow=40						
FINES	**FINESS Array B**	**23.32**	**359**	LR	LR	08 21 59.4	
	comp=Z,21nm,18.0s,MS2.6,baz=168,slow=38						
HFS	**Hagfors**	**23.50**	**344**	LR	LR	08 23 00.6	
	comp=Z,29nm,19.4s,MS2.8,baz=154,slow=41						
NOA	**NORSAR Array B**	**24.88**	**342**	LR	LR	08 22 09.3	
	comp=Z,13nm,18.5s,MS2.5,baz=190,slow=36						
MDT	**Midelt**	**25.96**	**268**	LR	LR	08 23 25.7	
	comp=Z,41nm,18.9s,MS3.0,baz=158,slow=38						
TORD	**Torodi Ar. Bea**	**33.37**	**228**	P	**P**	**08 13 45.0**	**+0.6**
	comp=Z,2.1nm,0.6s,mb4.3,baz=35,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**41.16**	**59**	P	**P**	**08 14 50.3**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.5,baz=282,slow=7.3,SNR=8.0						
MKAR	**Makanchi Array**	**41.16**	**59**	P	**P**	**08 14 50.3**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*ISCJB **12** 08:24:21.6±0.4, 4078N±002×2752E±003, h8km±3km, Error ellipse: s-maj=4.0km s-min=3.4km az=146.9*
*CSEM **12** 08:24:21.2±0.1, 4078N×2753E, h10km, MD3.1, Error ellipse: s-maj=1.4km s-min=1.2km az=160.0*
*ISK **12** 08:24:21.2, 4080N×2749E, h16km, MD3.1*
*ATH **12** 08:24:27.9, 4070N×2686E, h29km, MD3.5/3*
ISC 12 08:24:22.0±0.3, 4079N±002×2752E±003, h11km±3km, n38, σ0:76/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFT	**Murefte**	**0.18**	**270**	*i* PG	**Pg**	08 24 25.0	-0.8
MFT				*i* SG	**Sg**	08 24 28.4	-0.1
MRMT	**Marmara Adasi**	**0.19**	**162**	*i* PG	**Pg**	08 24 25.8	-0.3
MRMT				*i* SG	**Sg**	08 24 28.8	-0.1
TKR	**Tekirdag**	**0.20**	**4**	*i* PG	**Pg**	08 24 26.5	+0.2
TKR				*i* SG	**Sg**	08 24 29.7	+0.5
RKY	**Sarkoy-Tekirda**	**0.28**	**249**	*i* PG	**Pg**	08 24

PVIS	**Viseu**	**5.12**	**16**	Sn	Sn	08 47 11.1	-4.0
	comp=E,1.8nm,0.1s						
EBAN	**Banos Encina**	**5.32**	**62**	Sn	Sn	08 47 15.8	-4.1
	comp=E,1.0nm,0.2s,SNR=4.0						
EQES	**Quesada**	**5.71**	**68**	Sn	Sn	08 47 24.9	-4.7
	comp=E,0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.71**	**68**	S	Sn	08 47 24.9	-4.7
	comp=E,0.5nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.00**	**48**	Pn	Pn	08 46 26.2	-1.0
	comp=E,2.2nm,0.2s,baz=237,slow=13,SNR=3.9						
ESDC				Sn	Sn	08 47 33.9	-2.7
	comp=E,2.3nm,0.1s,baz=238,slow=24,SNR=6.1						
ESDC	**Sonseca Array**	**6.00**	**48**	P	Pn	08 46 26.2	-1.0
	comp=E,2.2nm,0.2s,SNR=3.9						
PCAB	**Cabril**	**6.06**	**12**	*e*Sn	Sn	08 47 31.9	-6.2
PCAB							
	comp=E,2.3nm,0.2s						
PCAB	**Cabril**	**6.06**	**12**	Sn	Sn	08 47 31.9	-6.2
	comp=E,1.1nm,0.2s						
ELOB	**Lobios**	**6.20**	**12**	Pn	Pn	08 46 27.8	-2.3
	comp=E,2.4nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	08 47 36.0	-5.7
	comp=E,1.6nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.20**	**12**	P	Pn	08 46 27.8	-2.3
	comp=E,0.3nm,0.1s,SNR=7.9						
ELOB				S	Sn	08 47 36.0	-5.7
	comp=E,1.6nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.57**	**20**	Pn	Pn	08 46 33.2	-1.8
	comp=E,0.2nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	08 47 46.4	-4.3
	comp=E,3.4nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**7.17**	**4**	Sn	Sn	08 47 57.9	-7.6
	comp=E,7.4nm,0.3s,SNR=7.9						

*ISCJB **12** 10:22:10.6±1.2,3152N±003×11557W±003,h14km±9km, Error ellipse: s-maj=5.7km s-min=3.6km az=22.9*
*NEIC **12** 10:22:11.8,3131N×11537W,h5km,ML3.4(ECX), ML3.5(PAS),After ECX.*
*ECX **12** 10:22:11.8±0.5,3152N×11562W,h5km,MD3.3,ML3.4*

ISC 12 10:22:10.5±0.6,3155N±003×11559W±003,h4km±5km,n29, σ0§90/46,12C-18D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dowling**	**0.49**	**322**	⇑*e*P	**Pg**	**10 22 21.0**	**+1.0**
RDX				*e*S	**Sg**	**10 22 27.8**	**+1.4**
RDX				⇓*e*		10 22 28.7	
	comp=N,2μm,0.4s						
RDX	**Rancho Dowling**	**0.49**	**322**	*e*P	**Pg**	**10 22 21.0**	**+1.0**
RDX				*e*S	**Sg**	**10 22 27.8**	**+1.4**
SPX	**San Pedro Mart**	**0.51**	**168**	*e*P	**Pg**	**10 22 20.8**	**+0.5**
SPX				*e*S	**Sg**	**10 22 27.5**	**+0.5**
SPX				⇑*e*		10 22 28.7	
	comp=N,2μm,0.1s						
ECNX	**Esteban Cantu**	**0.86**	**278**	*e*P	**Pg**	**10 22 26.8**	**-0.3**
ECNX				⇑*e*P		10 22 28.5	
ECNX				*e*S	**Sg**	**10 22 38.4**	**+0.1**
ECNX				*e*S	**Sg**	**10 22 41.2**	**+2.8**
ENX	**Ensenada**	**0.97**	**290**	⇑*e*P	**Pg**	**10 22 28.6**	**-0.6**
ENX				*e*S	**Sg**	**10 22 41.5**	**-0.3**
ENX				⇓*e*		10 22 45.8	
	comp=N,1μm,0.7s						
PBX	**Punta Banda**	**0.99**	**282**	⇑*e*P	**Pg**	**10 22 28.6**	**-0.8**
PBX				*e*S	**Sg**	**10 22 41.6**	**-0.6**
SGL	**Mount Signal**	**1.11**	**354**	⇓*e*P	**Pg**	**10 22 31.6**	**-0.2**
RMX	**La Rumorosa**	**1.13**	**339**	*e*P	**Pg**	**10 22 32.3**	**+0.1**
RMX				*e*S	**Sg**	**10 22 47.4**	**+0.5**
YUH	**Yuha Desert**	**1.13**	**346**	⇓*e*P	**Pg**	**10 22 32.1**	**-0.2**
CBX	**Cerro Bola**	**1.19**	**310**	⇑*e*P	**Pg**	**10 22 32.7**	**-0.6**
CBX				*e*S	**Sg**	**10 22 48.2**	**-0.6**
GLA	**Glamis**	**1.64**	**23**	*e*Pn	**Pn**	**10 22 38.9**	**-1.1**
GLA				*e*Sn	**Sn**	**10 23 03.2**	**+1.8**
GLA	**Glamis**	**1.64**	**23**	⇓P	**Pn**	**10 22 38.9**	**-1.1**
	baz=1.8						
GLA				⇓S	**Sn**	**10 23 03.1**	**+1.7**
	baz=1.8						
109C	**Camp Elliot, M**	**1.86**	**317**	⇓P	**Pn**	**10 22 42.9**	**-0.1**
	baz=1.9,SNR=46						
109C				⇓S	**Sn**	**10 23 07.0**	**0.0**
	baz=1.9						
BC3	**Big Chuckw Mtn**	**2.11**	**3**	⇑P	**Pn**	**10 22 46.2**	**-0.3**
	baz=2.2						
BC3				⇑S	**Sn**	**10 23 11.8**	**-1.3**
	baz=2.2						
PFO	**Pinyon Flat Ob**	**2.18**	**341**	⇓P	**Pn**	**10 22 47.1**	**-0.4**
	baz=2.3,SNR=14						
Y13A	**Salome**	**2.70**	**33**	⇓P	**Pn**	**10 22 54.6**	**-0.1**
	baz=2.8,SNR=9.3						
Z14A	**Wintersburg**	**2.87**	**50**	⇓P	**Pn**	**10 22 56.9**	**-0.1**
	baz=3.0,SNR=13						
Z14A				⇓S	**Sn**	**10 23 31.8**	**-0.3**
	baz=3.0						
115A	**Sonoran Desert**	**3.08**	**67**	⇓P	**Pn**	**10 22 58.9**	**-0.9**
	baz=3.2,SNR=13						
115A				⇑S	**Sn**	**10 23 36.1**	**-0.9**
	baz=3.2						
FMP	**Fort Macarthur**	**3.14**	**314**	⇑S	**Sn**	**10 23 38.9**	**+0.4**
	baz=3.1						
Y14A	**Wickenburg**	**3.24**	**42**	⇑P	**Pn**	**10 23 02.2**	**+0.2**
	baz=3.4,SNR=10						
X13A	**Yucca**	**3.38**	**26**	⇑P	**Pn**	**10 23 04.5**	**+0.5**
	baz=3.5,SNR=22						
116A	**Eloy**	**3.46**	**72**	⇓P	**Pn**	**10 23 04.5**	**-0.5**
	baz=3.6						
X14A	**Yava**	**3.70**	**37**	⇓P	**Pn**	**10 23 08.5**	**+0.2**
	baz=3.8						
GSC	**Goldstone**	**3.88**	**345**	*e*Pn	**Pg**	**10 23 22.2**	**-2.7**
X15A	**Humboldt**	**4.07**	**43**	⇓P	**Pn**	**10 23 14.3**	**+0.9**
	baz=4.2,SNR=9.3						
X15A				⇓S	**Sn**	**10 24 01.0**	**-0.5**
	baz=4.2						
TUC	**Tucson**	**4.16**	**78**	*e*Pn	**Pn**	**10 23 14.0**	**-0.7**
TUC				*e*Sn	**Sn**	**10 24 03.5**	**-0.2**
W14A	**Seligman**	**4.22**	**29**	⇓P	**Pn**	**10 23 17.1**	**+1.7**
	baz=4.3,SNR=21						
ISA	**Isabella**	**4.76**	**330**	*e*Pn	**Pn**	**10 23 26.0**	**+3.1**
WUAZ	**Wupatki**	**5.30**	**41**	*e*Pn	**Pn**	**10 23 32.4**	**+2.0**
	comp=N,1.9nm,0.4s						

*HLW **12** 10:54:37.5,3120N×3547E,h20km,Mb3.0*
*GII **12** 10:54:38.7±1.9,3107N×3516E,h0km,ML2.5/5*
*ISCJB **12** 10:54:39.1±0.6,3104N±004×3517E±007,h7km±7km, Error ellipse: s-maj=10.9km s-min=5.3km az=58.6*

ISC 12 10:54:39.6±0.6,3105N±004×3516E±006,h8km±6km,n16, σ0§51/18,1C-2D,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.31**	**34**	Pg	**Pg**	**10 54 45.3**	**-0.4**
MZDA				Sg	**Sg**	**10 54 50.4**	**+0.5**
MASH	**Mash'abbe Sade**	**0.33**	**261**	Pg	**Pg**	**10 54 46.2**	**+0.2**
RTMM	**Retamin**	**0.41**	**271**	Pg	**Pg**	**10 54 47.7**	**+0.2**
SVTA	**Shivta**	**0.48**	**256**	Pg	**Pg**	**10 54 48.9**	**0.0**
ZFRI	**Zfri**	**0.49**	**178**	Pg	**Pg**	**10 54 49.7**	**+0.6**
DRGI	**Dragot**	**0.58**	**20**	Pg	**Pg**	**10 54 50.0**	**-0.8**
MKRJ	**Makawir**	**0.65**	**39**	Pg	**Pg**	**10 54 52.3**	**+0.2**
HRFI	**Mount Harif**	**1.01**	**186**	Pg	**Pg**	**10 54 58.6**	**-0.4**
MBH	**Mount Berech**	**1.27**	**190**	Pg	**Pg**	**10 55 04.0**	**0.0**
EIL	**Elat**	**1.39**	**188**	Pn	**Pn**	**10 55 05.6**	**+0.5**
HNKL	**Nakhl**	**1.51**	**223**	P	**Pn**	**10 55 06.8**	**-0.1**
HNKL				S	**Sn**	**10 55 27.4**	**+0.7**
OFRI	**'Ofer**	**1.58**	**355**	Pn	**Pn**	**10 55 07.8**	**0.0**
AMAG	**Maghara**	**1.73**	**257**	⇓P	**Pn**	**10 55 09.2**	**-0.6**
MMA0	**Mount Meron ar**	**1.97**	**6**	Pn	**Pn**	**10 55 14.1**	**+0.8**
SUZ		**2.34**	**240**	⇑P	**Pn**	**10 55 18.1**	**-0.2**
HKAT	**Jabal Katrina**	**2.71**	**202**	⇓P	**Pn**	**10 55 22.3**	**-1.1**

*ATH **12** 11:03:36.8,3813N×2655E,h31km±10km,MD3.2/3*
*ISCJB **12** 11:03:37.6±0.7,3819N±003×2664E±005,h12km±4km, Error ellipse: s-maj=6.1km s-min=5.1km az=168.2*
*CSEM **12** 11:03:37.2±0.1,3822N×2666E,h10km,MD2.8,Error ellipse: s-maj=2.7km s-min=2.2km az=113.0*
*ISK **12** 11:03:37.3,3823N×2666E,h14km,MD2.8*

ISC 12 11:03:37.8±0.7,3819N±003×2663E±005,h14km±4km,n13, σ0§60/23,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**350**	*i*P	**Pg**	**11 03 42.2**	**+0.3**
URLA				*i*S	**Sg**	**11 03 45.9**	**+1.1**
BLCB	**Balcova**	**0.38**	**59**	*i*PG	**Pg**	**11 03 45.0**	**-0.4**
BLCB				*i*SG	**Sg**	**11 03 49.8**	**-0.7**
SMG	**Samos**	**0.51**	**161**	*e*PB	**Pg**	**11 03 47.5**	**-0.3**
SMG				*e*SB	**Sg**	**11 03 54.9**	**+0.3**
IZM	**Izmir**	**0.54**	**67**	PG	**Pg**	**11 03 48.0**	**-0.4**
IZM				SG	**Sg**	**11 03 55.4**	**-0.1**
KDAG	**Bornova**	**0.54**	**67**	*i*P	**Pg**	**11 03 48.0**	**-0.4**
KDAG				*i*S	**Sg**	**11 03 55.6**	**0.0**
KDAG	**Bornova**	**0.54**	**67**	*i*P	**Pg**	**11 03 48.0**	**-0.5**
KDAG				*i*S	**Sg**	**11 03 55.7**	**0.0**
PRK	**Paraskevi**	**1.09**	**345**	*e*PN	**Pn**	**11 03 58.0**	**-0.6**
PRK				*e*SN	**Sn**	**11 04 13.6**	**+0.1**
AYDN	**Tasoluk**	**1.12**	**118**	*i*P	**Pb**	**11 03 59.2**	**+0.3**
AYDN				*i*S	**Sb**	**11 04 13.5**	**+0.2**
AKS	**Akhisar**	**1.15**	**53**	PN	**Pn**	**11 03 58.6**	**-0.9**
AKS				SN	**Sn**	**11 04 15.1**	**+0.1**
BODT	**Bodrum**	**1.25**	**154**	PN	**Pn**	**11 04 01.2**	**+0.4**
APE	**Apeiranthos**	**1.42**	**218**	*e*PN	**Pn**	**11 04 03.6**	**+0.4**
APE	**Apeiranthos**	**1.42**	**218**	*e*PN	**Pn**	**11 04 01.3**	**-1.9**
MANT	**Manisa**	**1.54**	**78**	*i*P	**Pb**	**11 04 06.9**	**+0.8**
MANT				*i*S	**Sn**	**11 04 25.7**	**+1.0**

*NIED **12** 11:03:00,3630N×14270E,h5km,Mw4.2 Best double couple: M0=2.65000×10^15 NP1:φs=178.00000°,δ52.00000°, λ55.00000°. NP2:φs=46.00000°,δ49.00000°,λ127.00000°.*
*IDC **12** 11:03:50.4±1.1,3631N×14268E,h0km,mb3.8/9, mb1 3.9/12,mb1mx3.9/22,mbtmp3.9/12,ML3.5/2,MS3.7/6, Ms1 3.7/6,ms1mx3.2/32,Error ellipse: s-maj=28.7km s-min=23.0km az=88.0*
*ISCJB **12** 11:03:51.1±1.4,3637N±007×14265E±005,h14km±8km, mb4.2/25,MS4.0/16,Error ellipse: s-maj=11.7km s-min=6.9km az=149.4*
*JMA **12** 11:03:52.6±0.4,3635N×14265E,h74km,M3.7*
*MOS **12** 11:03:53.2±1.3,3644N×14270E,h33km,mb4.5/16, MS4.0/9,Error ellipse: s-maj=15.2km s-min=9.3km az=127.1*
*BJI **12** 11:03:54.7,3663N×14233E,h19km,mB4.7,mb4.2,Ms4.3, Msz3.9*
*NEIC **12** 11:03:57.3±0.6,3624N×14245E,mb4.3/5,Error ellipse: s-maj=17.8km s-min=9.3km az=179.0*

ISC 12 11:03:53.3±1.7,3641N±006×14255E±006,h15km±10km, h39km±5.6km:pP-P,n66,σ1§18/74,mb4.2/25,MS4.0/16, 2C-1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.56**	**297**	P	**Pn**	**11 04 20.3**	**-0.2**
JHO	**Hitachi**	**1.61**	**278**	P	**Pn**	**11 04 20.6**	**-0.5**
JHO				S	**Sn**	**11 04 41.8**	**+0.3**
JFK	**Kawauchi**	**1.65**	**306**	P	**Pn**	**11 04 20.9**	**-0.7**
JYT	**Yasato**	**1.91**	**265**	P	**Pn**	**11 04 24.6**	**-0.7**
JMM	**Marumori**	**2.02**	**317**	P	**Pn**	**11 04 26.0**	**-0.8**
JFT	**Otama**	**2.09**	**303**	P	**Pn**	**11 04 28.2**	**+0.5**
JFY	**Yanaizu**	**2.48**	**294**	P	**Pn**	**11 04 33.9**	**+0.7**
JAG	**Ashikaga**	**2.50**	**271**	P	**Pn**	**11 04 33.1**	**-0.2**
JAG				S	**Sn**	**11 05 02.8**	**-0.7**
MJAR	**Matsushiro Arr**	**3.50**	**273**	Pn	**Pn**	**11 04 47.9**	**+0.8**
	4.4nm,0.3s,baz=106,slow=9.4,SNR=53						
MJAR	**Matsushiro Arr**	**3.50**	**273**	P	**Pn**	**11 04 47.9**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MAJO	**Matsushiro**	**3.50**	**273**	*e*P	**Pn**	**11 04 48.3**	**+1.1**
MAT	**Matsushiro**	**3.50**	**273**	P	**Pn**	**11 04 48.0**	**+0.8**
MAT				S	**Sn**	**11 05 32.2**	**+3.9**
MAT	**Matsushiro**	**3.50**	**273**	*e*P	**Pn**	**11 04 48.0**	**+0.8**
JHJ	**Hachijo jima 2**	**4.00**	**216**	Pn	**Pn**	**11 04 52.7**	**-1.3**
	comp=Z,9.8nm,0.3s,baz=254,slow=23,SNR=4.6						
JHJ				Sn	**Sn**	**11 05 36.4**	**-4.1**
	comp=Z,47nm,0.3s,baz=91,slow=21,SNR=6.8						
ASAJ	**Asahikawa**	**7.70**	**0**	Pn	**Pn**	**11 05 44.0**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=202,slow=13,SNR=14						
ASAJ				Sn	**Sn**	**11 07 08.2**	**-3.5**
	comp=Z,0.8nm,0.3s,baz=82,slow=22,SNR=4.2						
ASAJ				LR	LR	11 09 45.3	
	comp=Z,523nm,18.7s,baz=182,slow=46						
ASAJ	**Asahikawa**	**7.70**	**0**	P	**Pn**	**11 05 44.0**	**-0.8**
ASAJ						11 07 08.2	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,523nm,18.7s						
YSS	**Yuzh-Sakhalins**	**10.54**	**1**	*d i*P	**Pn**	**11 06 22.2**	**-1.5**
YSS				pmax	pmax		
	comp=Z,32nm,1.2s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	**10.54**	**1**	*e*Pn	**Pn**	**11 06 22.1**	**-1.6**
	comp=Z,22nm,1.0s						
HABR	**Khabarovsk**	**13.25**	**338**	*e*P	**Pn**	**11 06 56.3**	**-4.6**
KLR	**Kul'dur**	**15.04**	**332**	*e*P	**Pn**	**11 07 29.1**	**+3.9**
KLR				MLR	MLR		
	comp=N,600nm,12.5s						
KLR				MLR	MLR		
	comp=E,900nm,12.5s						
KLR				MLR	MLR		
	comp=Z,1μm,12.5s						
SNY	**Shenyang**	**15.68**	**296**	*e*P	**Pn**	**11 07 30.9**	**-2.7**
SNY				AP	pP	11 07 38.1	-3.8
SNY				XP	sP	11 07 43.1	-0.8
SNY				AMB	AMB		
	comp=Z,160nm,3.9s						
SNY				LR	LR		
	comp=N,760nm,11.5s						
SNY				LR	LR		
	comp=Z,710nm,13.2s						
SSE	**Sheshan**	**18.52**	**260**	P	**Pn**	**11 08 10.8**	**+1.5**
SSE				AP	pP	11 08 19.0	+5.5
SSE				XP	sP	11 08 23.2	+7.7
SSE				S	**Sn**	**11 11 33.9**	**-2.1**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s						
SSE				AMB	AMB		
	comp=Z,20nm,3.6s						
SSE				LR	LR		
	comp=N,200nm,17.8s						
SSE				LR	LR		
	comp=E,60nm,17.8s						
SSE				LR	LR		
	comp=Z,150nm,14.9s						
NJ2	**Nanjing**	**20.05**	**264**	*e*P	**P**	**11 08 31.8**	**+6.0**
NJ2				AP		11 08 37.6	
NJ2				XP	sP	11 08 41.4	+9.2
NJ2				PP		11 08 50.4	
NJ2				PPP		11 08 59.9	
NJ2				S	**S**	**11 12 12.0**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,100nm,10.8s						
NJ2				LR	LR		
	comp=N,970nm,12.1s,MS4.5						
NJ2				LR	LR		
	comp=E,920nm,12.2s,MS4.5						
NJ2				LR	LR		
	comp=Z,290nm,18.0s						
CLNS	**Chul'man**	**23.62**	**335**	*e*P	**P**	**11 09 14.3**	**+10**
CLNS				*e**PP		11 09 20.0	
CLNS				*e*S	**S**	**11 13 02.6**	**-15**
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS				smax			
	comp=E,110nm,11.6s						
CLNS				smax			
	comp=Z,152nm,12.3s						
CLNS				smax			
	comp=N,330nm,13.0s						
CLNS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,600nm,14.0s,MS4.3						
CLNS				MLR	MLR		
	comp=E,100nm,11.0s,MS4.3						
WHN	**Wuhan**	**24.19**	**264**	*e*P	**P**	**11 09 08.3**	**-0.7**
WHN				LR	LR		
	comp=Z,1μm,16.1s,MS4.5						
CIT	**Chita**	**25.76**	**316**	*e*P	**P**	**11 09 22.7**	**-0.6**
CIT				*e*		11 09 35.2	
CIT				pmax	pmax		
	comp=Z,60nm,1.9s,mb4.8						
YAK	**Yakutsk**	**26.88**	**347**	*e*P	**P**	**11 09 35.1**	**+1.6**
YAK				*e**PP	pP	11 09 44.9	+6.8
YAK				*e*		11 10 21.7	
YAK				*e*PPP		11 10 28.8	
YAK				*e*SS		11 15 32.3	
YAK				*e*		11 20 17.1	
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
YAK				pmax	pmax		
	comp=E,5.0nm,1.8s						
YAK				MLR	MLR		
	comp=Z,289nm,16.0s,MS3.9						
YAK				MLR	MLR		
	comp=N,178nm,13.0s,MS3.9						
YAK				MLR	MLR		
	comp=E,99nm,13.0s,MS3.9						
ULN	**Ulaanbaatar**	**28.46**	**305**	*e*P	**P**	**11 09 48.8**	**+1.2**
ULN	**Ulaanbaatar**	**28.46**	**305**	*e*P	**P**	**11 09 48.6**	**+1.1**
	comp=E,3.4nm,0.8s,mb4.0						
SONM	**Songino Array**	**28.89**	**305**	P	**P**	**11 09 52.6**	**+1.2**
	comp=E,4.1nm,1.1s,mb4.1,baz=105,slow=8.1,SNR=17						
SONM	**Songino Array**	**28.89**	**305**	P	**P**	**11 09 52.6**	**+1.2**
SONM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LZH	**Lanzhou**	**31.07**	**281**	*e*P	**P**	**11 10 12.5**	**+1.7**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,130nm,4.5s						
LZH				LR	LR		
	comp=E,350nm,12.5s						
LZH				LR	LR		
	comp=Z,580nm,13.8s,MS4.4						
ZAK	**Zakamensk**	**31.37**	**309**	*e*P	**P**	**11 10 15.5**	**+2.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,2.0s,mb4.1						
TLY	**Talaya**	**31.43**	**311**	*e*P	**P**	**11 10 23.9**	**+10**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
TLY				MLR	MLR		
	comp=Z,176nm,14.0s,MS3.9						
CD2	**Chengdu**	**32.59**	**272**	*e*P	**P**	**11 10 23.8**	**-0.3**
GTA	**Gaotai**	**33.62**	**288**	*e*P	**P**	**11 10 34.0**	**+0.9**
GTA				AP	pP	11 10 41.8	+4.0
GTA				XP	sP	11 10 44.7	+5.0
GTA				PP	PP	11 11 48.0	-1.2
GTA				S	**S**	**11 15 55.9**	**+0.8**
GTA				XS	sS	11 16 06.1	+3.2
GTA				AMB	AMB		
	comp=Z,50nm,4.6s						
GTA				LR	LR		
	comp=N,200nm,13.7s,MS4.1						
GTA				LR	LR		
	comp=E,150nm,14.1s,MS4.1						
GTA				LR	LR		
	comp=Z,140nm,13.3s,MS3.9						
WMQ	**Urumqi**	**41.93**	**298**	*e*P	**P**	**11 11 46.1**	**+2.8**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,150nm,5.0s						
WMQ				LR	LR		
	comp=N,140nm,11.0s,MS4.3						
WMQ				LR	LR		
	comp=E,170nm,11.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,50nm,13.0s,MS3.6						
ZAL	**Zalesovo**	**43.02**	**313**	P	**P**	**11 11 53.0**	**+0.9**
	comp=Z,1.0nm,0.4s,mb3.9,baz=14,slow=9.8,SNR=6.0						
ZAL				LR	LR	11 31 13.9	
	comp=Z,67nm,18.9s,MS3.6,baz=270,slow=38						
ZAL	**Zalesovo**	**43.02**	**313**	P	**P**	**11 11 53.0**	**+0.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				MLR	MLR		
	comp=Z,67nm,18.9s						
NVS	**Novosibirsk**	**43.93**	**314**	*e*P	**P**	**11 11 52.5**	**-7.0**
NVS				pmax	pmax		
	comp=Z,17nm,2.2s,mb4.4						
NVS				pmax	pmax		
	comp=E,13nm,1.9s						
MKAR	**Makanchi Array**	**45.22**	**303**	P	**P**	**11 12 10.2**	**+0.4**
	comp=E,2.1nm,0.8s,mb4.0,baz=91,slow=9.8,SNR=15						
MKAR	**Makanchi Array**	**45.22**	**303**	P	**P**	**11 12 10.2**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**47.03**	**309**	*e*P	**P**	**11 12 23.4**	**-0.7**
KURK				*e**PP	pP	11 12 37.2	+8.3
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KURK	**Kurchatov**	**47.03**	**309**	*e*P	**P**	**11 12 23.4**	**-0.7**
	comp=Z,6.5nm,0.9s,mb4.6						
KURK				*e*pP	pP	11 12 37.2	+8.3
CHKZ	**Chkalovo**	**51.40**	**314**	*e*P	**P**	**11 12 57.4**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
CHKZ	**Chkalovo**	**51.40**	**314**	*e*P	**P**	**11 12 57.4**	**0.0**
	comp=Z,5.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**51.59**	**299**	*e*P	**P**	**11 12 58.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb4.1						
AAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.2						
ZRNK	**Zerenda**	**52.50**	**313**	*e*P	**P**	**11 13 03.6**	**-2.0**
ZRNK				*e**PP	pP	11 13 16.5	+6.0
ZRNK				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.6						
ZRNK	**Zerenda**	**52.50**	**313**	*e*P	**P**	**11 13 03.6**	**-2.0**
	comp=Z,12nm,1.5s,mb4.6						
ZRNK				*e*pP	pP	11 13 16.5	+6.0
ARU	**Arti**	**57.43**	**319**	⇑*i*P	**P**	**11 13 40.9**	**-0.4**
ARU				*e*		11 15 46.9	
ARU				*e*PPP		11 17 06.6	
ARU				*e*S	**S**	**11 21 36.0**	**-1.7**
ARU				*e*SS	SS	11 25 20.8	-6.5
ARU				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
ARU				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.0						
ARU				MLR	MLR		
	comp=N,50nm,14.5s,MS4.0						
ARU				MLR	MLR		
	comp=E,70nm,15.0s,MS4.0						
AKTO	**Aktyubinsk**	**59.77**	**313**	LR	LR	11 42 14.7	
	comp=E,40nm,18.3s,MS3.6,baz=108,slow=38						
ASAR	**Alice Springs**	**60.31**	**189**	P	**P**	**11 13 59.8**	**-1.5**
	comp=E,1.1nm,1.1s,mb3.8,baz=2.4,slow=6.5,SNR=6.0						
ASAR	**Alice Springs**	**60.31**	**189**	P	**P**	**11 13 59.8**	**-1.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
OBN	**Obninsk**	**69.14**	**324**	*e*P	**P**	**11 14 56.6**	**-2.3**
OBN

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ANMO                                  pmax    pmax
     comp=Z,2.0nm,1.2s
ANMO Albuquerque          84.28  50  eP      P       11 16 24.6 +0.2
     comp=Z,2.2nm,1.2s,mb4.2
```

*ISCJB **12** 11:30:29.8±0.3, 955N±005×13830E±006, h21km, mb4.5/29, MS3.8/9, Error ellipse: s-maj=8.7km s-min=7.0km az=54.7*
*MOS **12** 11:30:31.6±0.7, 956N×13824E, h33km, mb4.7/15, Error ellipse: s-maj=15.6km s-min=11.6km az=105.6*
*BJI **12** 11:30:31.1, 950N×13820E, h21km, mB4.9, mb4.5, Ms3.8, Msz3.6*
*NEIC **12** 11:30:32.1±0.3, 953N×13821E, mb4.8/16, Error ellipse: s-maj=10.3km s-min=7.3km az=90.0*
*IDC **12** 11:30:32.2±0.6, 952N×13814E, h21km±4km, mb4.1/13, mb1 4.2/14, mb1mx4.1/23, mbtmp4.2/14, ML4.7/1, MS3.8/9, Ms1 3.8/9, ms1mx3.3/31, Error ellipse: s-maj=23.0km s-min=14.2km az=86.0*

ISC 12 11:30:32.3±0.3, 956N±005×13828E±006, h22km, h22km±.8km:pP-P, n77, σ0°99/68, mb4.5/29, MS3.8/9, Western Caroline Islands

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Code Station Name          Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
GUMO Guam                  7.60  58  Pn    Pn          11 32 22.5 +0.9
     10nm,0.3s,baz=174,slow=18,SNR=9.6
GUMO                                Sn    Sn          11 33 47.0 -0.1
     8.2nm,0.3s,baz=332,slow=20,SNR=3.0
GUMO                                LR    LR          11 35 12.8
     comp=Z,463nm,20.3s,baz=243,slow=36
GUMO Guam                  7.60  58  P     Pn          11 32 22.5 +0.9
GUMO                                                   11 33 47.0
GUMO                                pmax  pmax
     comp=Z,10.0nm,0.3s
GUMO                                smax
     comp=N,8.0nm,0.3s
GUMO                                MLR   MLR
     comp=Z,463nm,20.3s
GUMO Guam                  7.60  58  Pn    Pn          11 32 22.5 +0.9
GUMO                                Sn    Sn          11 33 47.0 -0.1
HNR  Honiara              28.66 131  LR    LR          11 45 35.4
     comp=Z,81nm,21.3s,MS3.3,baz=358,slow=31
WB2  Warramunga Arr       29.57 187  eP    P           11 36 36.7 +1.3
WRA  Warramunga Arr       29.57 188  P     P           11 36 35.3 -0.2
     comp=Z,1.8nm,0.9s,mb3.8,baz=7.4,slow=9.8,SNR=7.2
WRA  Warramunga Arr       29.57 188  P     P           11 36 35.3 -0.2
WRA                                pmax  pmax
     comp=Z,2.0nm,0.9s
FITZ Fitzroy Crossi       30.19 204  eP    P           11 36 40.0 -0.9
     comp=Z,6.3nm,1.1s,mb4.3
FITZ Fitzroy Crossi       30.19 204  P     P           11 36 39.8 -1.1
     comp=Z,2.9nm,1.0s,mb4.0,baz=347,slow=5.4,SNR=3.6
AS31 Alice Springs        33.30 187  eP    P           11 37 09.0 +0.8
ASAR Alice Springs        33.30 187  P     P           11 37 09.1 +0.9
     comp=Z,2.7nm,0.6s,mb4.3,baz=19,slow=12,SNR=71
ASAR Alice Springs        33.30 187  P     P           11 37 09.1 +0.9
ASAR                                pmax  pmax
     comp=Z,3.0nm,0.6s
ASPA Alice Springs        33.30 187  eP    P           11 37 09.0 +0.8
ASAJ Asahikawa            34.63   5  LR    LR          11 49 54.4
     comp=Z,73nm,19.2s,MS3.4,baz=191,slow=34
CD2  Chengdu              38.48 308  eP    P           11 37 52.1 -0.5
CD2                                 AP    pP          11 37 58.0 -1.4
CD2                                 XP    sP          11 38 01.0 -1.1
CD2                                 PP    PP          11 39 24.4 +3.6
CD2                                 S     S           11 43 47.1 +0.3
CD2                                 XS    sS          11 43 57.0 -0.9
CD2                                 SS    SS          11 46 28.2 -8.2
CD2                                 AMB   AMB
     comp=Z,10.0nm,0.8s,mb4.6
CD2                                 LR    LR
     comp=N,80nm,15.6s
CD2                                 LR    LR
     comp=Z,100nm,20.4s,MS3.6
PSI  Prapat               39.67 263  P     P           11 38 02.0 -0.6
     comp=Z,8.1nm,0.7s,mb4.6,baz=86,slow=4.9,SNR=11
PSI  Prapat               39.67 263  P     P           11 38 02.0 -0.6
PSI                                 pmax  pmax
     comp=Z,8.0nm,0.7s,mb4.6
KLR  Kul'dur              39.92 353  eP    P           11 38 03.2 -1.4
FORT Forrest              41.29 193  eP    P           11 38 13.5 -2.5
     comp=Z,15nm,0.8s,mb4.7
STKA Stephens Creek       41.33 176  eP    P           11 38 15.0 -1.3
     comp=Z,3.2nm,0.6s,mb4.1
STKA Stephens Creek       41.33 176  P     P           11 38 15.1 -1.2
     comp=Z,4.0nm,0.6s,mb4.2,baz=334,slow=7.9,SNR=14
STKA                                LR    LR          11 56 02.2
     comp=Z,163nm,20.5s,MS3.9,baz=24,slow=37
ULN  Ulaanbaatar          46.38 331  eP    P           11 38 57.8 +1.0
ULN                                 e*PP  pP          11 39 03.6 -0.1
ULN                                 pmax  pmax
     comp=Z,13nm,1.3s,mb4.7
ULN  Ulaanbaatar          46.38 331  eP    P           11 38 57.8 +0.9
     comp=Z,13nm,1.3s,mb4.7
ULN                                 epP   pP          11 39 03.6 -0.1
SONM Songino Array        46.67 331  P     P           11 38 59.9 +0.7
     comp=Z,2.3nm,0.8s,mb4.1,baz=141,slow=8.4,SNR=14
SONM                                pP    pP          11 39 06.4 +0.4
     comp=Z,5.4nm,1.0s,baz=140,slow=6.3,SNR=15
SONM Songino Array        46.67 331  P     P           11 38 59.9 +0.8
SONM                                *PP   pP          11 39 06.4 +0.4
SONM                                pmax  pmax
     comp=Z,2.0nm,0.9s
SONM                                pmax  pmax
     comp=Z,5.0nm,1.0s
NWAO Narrogin (SRO)       46.77 204  P     P           11 38 59.6 -0.4
     comp=Z,5.0nm,0.5s,mb4.7,baz=29,slow=8.0,SNR=8.0
NWAO Narrogin (SRO)       46.77 204  P     P           11 38 59.6 -0.4
NWAO                                pmax  pmax
     comp=Z,5.0nm,0.5s
CIT  Chita                46.89 339  eP    P           11 39 07.5 +6.6
ZAK  Zakamensk            49.91 331  eP    P           11 39 23.5 -0.6
ZAK                                 pmax  pmax
     comp=Z,19nm,1.5s,mb4.9
MOY  Mondy                51.84 331  eP    P           11 39 45.4 +6.7
JIRN Jiri                 52.14 298  eP    P           11 39 42.2 +1.3
     comp=Z,20nm,0.7s,mb5.2
GUN  Gumba                52.45 298  eP    P           11 39 44.5 +1.3
     comp=Z,33nm,0.7s,mb5.4
PKI  Pulchoki             52.81 297  eP    P           11 39 45.9  0.0
     comp=Z,25nm,0.8s,mb5.2
PKI  Pulchoki             52.81 297  eP    P           11 39 45.9  0.0
PKI                                 pmax  pmax
     comp=Z,25nm,0.8s,mb5.2
KKN  Kakani               52.95 298  eP    P           11 39 47.9 +0.9
     comp=Z,27nm,1.0s,mb5.2
KKN  Kakani               52.95 298  eP    P           11 39 47.9 +0.9
KKN                                 pmax  pmax
     comp=Z,27nm,1.0s,mb5.1
DMN  Daman                53.08 297  eP    P           11 39 48.4 +0.5
     comp=Z,28nm,1.0s,mb5.1
ATKA Atka Island          57.32  33  eP    P           11 40 23.9 +5.4
MKAR Makanchi Array       60.07 319  P     P           11 40 37.9 +0.3
     comp=Z,0.7nm,0.7s,mb3.8,baz=98,slow=9.2,SNR=6.4
MKAR Makanchi Array       60.07 319  P     P           11 40 37.9 +0.3
MKAR                                pmax  pmax
     comp=Z,1.0nm,0.7s
MKAR Makanchi Array       60.07 319  P     P           11 40 37.9 +0.3
KURK Kurchatov            63.63 322  eP    P           11 41 00.8 -0.8
KURK                                e*PP  pP          11 41 08.9 +0.3
KURK                                pmax  pmax
     comp=Z,8.0nm,0.9s,mb4.8
KURK Kurchatov            63.63 322  eP    P           11 41 00.8 -0.8
     comp=Z,7.7nm,0.9s,mb4.7
KURK                                epP   pP          11 41 08.9 +0.2
BVAR Borovoye Array       69.16 323  P     P           11 41 36.3 -0.6
     comp=Z,2.0nm,0.8s,mb4.1,baz=101,slow=7.7,SNR=5.1
BVAR Borovoye Array       69.16 323  P     P           11 41 36.3 -0.6
BVAR                                pmax  pmax
     comp=Z,2.0nm,0.8s
CHKZ Chkalovo             69.17 324  eP    P           11 41 36.2 -0.8
CHKZ                                e*PP  pP          11 41 42.9 -1.2
CHKZ                                pmax  pmax
     comp=Z,6.0nm,1.2s,mb4.4
CHKZ Chkalovo             69.17 324  eP    P           11 41 36.2 -0.8
     comp=Z,6.0nm,1.2s,mb4.4
CHKZ                                epP   pP          11 41 42.9 -1.2
BRVK Borovoye             69.23 323  eP    P           11 41 37.3 -0.1
BRVK                                e*PP  pP          11 41 44.2 -0.3
BRVK                                pmax  pmax
     comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye             69.23 323  eP    P           11 41 37.2 -0.1
     comp=Z,2.9nm,0.8s,mb4.3
BRVK                                epP   pP          11 41 44.2 -0.3
ZRNK Zerenda              69.96 323  eP    P           11 41 41.7 -0.2
ZRNK                                e*PP  pP          11 41 47.8 -1.3
ZRNK                                pmax  pmax
     comp=Z,3.0nm,0.7s,mb4.3
ZRNK Zerenda              69.96 323  eP    P           11 41 41.6 -0.3
     comp=Z,3.5nm,0.7s,mb4.4
ZRNK                                epP   pP          11 41 47.8 -1.2
KDAK Kodiak Island        70.88  32  LR    LR          12 08 57.2
     comp=Z,80nm,21.3s,MS4.0,baz=266,slow=32
MCK  McKinley             73.88  26  eP    P           11 42 05.5 +0.1
MCK                                 e*PP  pP          11 42 11.0 -1.6
MCK                                 pmax  pmax
     comp=Z,6.0nm,1.0s,mb4.5
MCK  McKinley             73.88  26  eP    P           11 42 05.5 +0.1
     comp=Z,6.4nm,1.0s,mb4.5
MCK                                 epP   pP          11 42 11.0 -1.6
DAWY Dawson               78.11  26  eP    P           11 42 29.4 -0.1
DAWY                                epP   pP          11 42 36.4 -0.4
INK  Inuvik               80.52  22  eP    P           11 42 41.4 -1.3
INK                                 e*PP  pP          11 42 48.5 -1.4
INK                                 pmax  pmax
     comp=Z,4.0nm,1.1s
INK  Inuvik               80.52  22  eP    P           11 42 41.4 -1.2
     comp=Z,4.5nm,1.1s,mb4.3
INK                                 epP   pP          11 42 48.5 -1.4
BBB  Bella Bella          84.73  38  LR    LR          12 15 13.8
     comp=Z,89nm,20.6s,MS4.1,baz=58,slow=32
ARCES ARCESS Array B      88.84 341  P     P           11 43 23.6 -1.0
     comp=Z,2.0nm,0.9s,mb4.5,baz=69,slow=6.6,SNR=4.3
ARCES ARCESS Array B      88.84 341  P     P           11 43 23.7 -0.9
ARCES                               pmax  pmax
     comp=Z,2.0nm,0.9s
YKA  Yellowknife Ar       89.35  26  P     P           11 43 27.0 +0.1
     comp=Z,0.8nm,0.6s,mb4.2,baz=290,slow=5.4,SNR=3.6
YKA                                 pP    pP          11 43 33.5 -0.8
     comp=Z,1.0nm,0.6s,baz=284,slow=4.8,SNR=3.9
YKA                                 LR    LR          12 21 52.8
     comp=Z,78nm,18.2s,MS4.2,baz=270,slow=34
YKA  Yellowknife Ar       89.35  26  P     P           11 43 27.1 +0.1
YKA                                 pP    pP          11 43 33.5 -0.8
MALT Malatya              91.77 309  eP    P           11 43 41.0 +2.8
MALT                                e*PP  pP          11 43 47.1 +1.5
MALT                                pmax  pmax
     comp=Z,6.0nm,0.8s,mb5.0
MALT Malatya              91.77 309  eP    P           11 43 41.0 +2.8
     comp=Z,5.9nm,0.8s,mb5.0
MALT                                epP   pP          11 43 47.1 +1.5
FINES FINESS Array B      91.97 334  P     P           11 43 37.4 -1.8
     comp=Z,1.3nm,0.8s,mb4.3,baz=27,slow=9.2,SNR=3.9
FINES                               pP    pP          11 43 44.2 -2.3
     comp=Z,0.3nm,0.4s,baz=189,slow=35,SNR=2.4
FINES FINESS Array B      91.97 334  P     P           11 43 37.4 -1.8
FINES                               *PP   pP          11 43 44.2 -2.3
FINES                               pmax  pmax
     comp=Z,1.0nm,0.8s
FINES FINESS Array B      91.97 334  P     P           11 43 37.4 -1.8
FINES                               pP    pP          11 43 44.2 -2.3
NVAR Mina Array Bea       94.45  50  P     P           11 43 52.6 +2.0
     comp=Z,0.6nm,0.8s,mb4.1,baz=259,slow=6.0,SNR=5.0
NVAR                                pP    pP          11 43 59.0 +1.0
     comp=Z,1.2nm,0.8s,baz=265,slow=7.6,SNR=8.5
NVAR Mina Array Bea       94.45  50  P     P           11 43 52.6 +2.0
NVAR                                pP    pP          11 43 59.0 +1.0
HFS  Hagfors              97.89 335  LR    LR          12 28 47.4
     comp=Z,43nm,19.5s,MS4.0,baz=243,slow=36
PDAR Pinedale Array       99.34  44  LR    LR          12 26 32.3
     comp=Z,47nm,18.4s,MS4.0,baz=256,slow=34
TORD Torodi Ar. Bea      131.34 297  PKP   PKPdf       11 49 44.2 +1.5
     comp=Z,0.7nm,0.8s,baz=290,slow=0.4,SNR=3.6
TORD Torodi Ar. Bea      131.34 297  PKP   PKPdf       11 49 44.2 +1.5
SDV  Santo Domingo       145.88  58  ePKPdf PKPdf     11 50 11.7 +2.4
SDV                                 epPKPdf pPKPdf    11 50 18.2 +1.4
LVC  Limon Verde         150.90 120  ePKPbc PKPbc     11 50 25.5 +2.4
LVC                                 ePKPab PKPab      11 50 32.4 +2.0
LPAZ La Paz              153.43 107  PKPbc PKPbc      11 50 32.2 +3.4
     comp=Z,1.9nm,0.7s,baz=309,slow=4.3,SNR=9.3
LPAZ                                pPKPbc pPKPbc     11 50 38.7 +2.4
     comp=Z,2.0nm,0.7s,baz=348,slow=6.0,SNR=5.6
LPAZ La Paz              153.43 107  ePKPbc PKPbc     11 50 31.4 +2.6
LPAZ                                pPKPbc pPKPbc     11 50 38.7 +2.4
```

KRSC 12 12:05:49.8±1.8, 4905N×15748E, h25km±12km, ML3.8, East of Kuril Islands

```
Code Station Name          Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
PAU  Pauzhetka            2.46 350  i P                 12 06 29.4
PAU                                 i S                 12 06 58.7
PAU                                 Smax
     250nm,0.3s
MIPR Malaya Ipel'ka       3.26 352  eP                  12 06 41.0
RUS  Russkaya             3.45  11  eP                  12 06 42.5
RUS                                 eS                  12 07 20.8
GRL  Gorelyy              3.53   6  eP                  12 06 44.8
GRL                                 eS                  12 07 24.6
KRMR Karymshinskiy        3.81   6  eP                  12 06 49.1
PET  Petropavlovsk        4.05  10  eS                  12 07 37.4
UGLR Uglovaya             4.25  11  eP                  12 06 55.0
UGLR                                eS                  12 07 43.9
NLC  Nalytchevo           4.29  15  eS                  12 07 40.5
AVH  Avacha               4.29  10  eP                  12 06 55.9
AVH                                 eS                  12 07 44.9
SMAR Somma                4.30  11  eP                  12 06 56.3
KOK  Koryaka              4.31   9  i P                 12 06 56.4
KOK                                 eS                  12 07 45.6
SDLR Sedlovina            4.33  11  eP                  12 06 55.3
SPN  Mys Shipunski        4.36  21  eP                  12 06 57.4
SPN                                 eS                  12 07 43.3
GNL  Ganaly               4.66   3  eP                  12 07 01.0
MKZ  Mys Kozlova          6.11  24  P                   12 07 19.8
MKZ                                 eS                  12 08 24.2
```

CSEM 12 12:19:49.1±0.5, 4295N×620W, h0km, mb3.7/1, Error ellipse: s-maj=5.3km s-min=3.6km az=159.0, After MDD, Spain

```
Code Station Name          Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
EPON Pontenova            0.79 299  Pg    Pg          12 20 03.0 -1.2
     31nm,0.3s,SNR=33
EPON                                Lg                12 20 15.2
     16nm,0.3s,SNR=7.6
EARI Arriondas            0.81  64  Pg    Pg          12 20 04.3 -0.3
     10nm,0.4s,SNR=15
EARI                                Lg                12 20 14.8
     7.3nm,0.3s,SNR=12
ERUA La Rua               0.89 231  Pg    Pg          12 20 05.1 -1.0
     14nm,0.2s,SNR=11
ERUA                                Lg                12 20 19.0
     13nm,0.3s,SNR=7.9
ECAL Calabor              1.08 202  Pg    Pg          12 20 08.8 -1.1
     39nm,0.3s,SNR=51
ECAL                                Lg                12 20 24.5
     68nm,0.3s,SNR=19
ELOB Lobios               1.75 232  Pg    Pg          12 20 18.3 -4.4
     5.6nm,0.3s,SNR=10
ELOB                                Lg                12 20 44.2
     SNR=7.9
EMAZ Mazaricos            2.04 271  Lg                12 20 53.1
     SNR=7.9
GUD  Guadarrama           2.77 146  Pg    Pg          12 20 38.5 -3.7
     SNR=7.9
GUD                                 Lg                12 21 17.2
     SNR=7.9
```

*MOS **12** 12:29:01.5±1.6, 3613N×7039E, h168km, mb3.8/2, Error ellipse: s-maj=40.6km s-min=12.9km az=84.2*
*NEIC **12** 12:29:02.2±3.4, 3611N×7057E, h159km±29km, mb3.8/3, Error ellipse: s-maj=28.0km s-min=20.5km az=208.0*
*ISCJB **12** 12:29:05.5±1.2, 3640N±007×7096E±0.1, h198km±14km, mb3.3/3, Error ellipse: s-maj=18.9km s-min=9.2km az=135.0*
*IDC **12** 12:29:05.7±7.6, 3621N×7066E, h190km±70km, mb3.3/4, mb1 3.4/7, mb1mx3.1/23, mbtmp3.8/7, Error ellipse: s-maj=41.8km s-min=26.5km az=6.0*
*NNC **12** 12:29:13.0±1.8, 3702N×7083E, h200km±19km, mb2.4, mpv3.5, Error ellipse: s-maj=19.5km s-min=13.4km az=7.0*

ISC 12 12:29:06.6±1.3, 3642N±008×708E±01, h192km±14km, n26, σ0°99/30, mb3.3/3, 5C-1D, Hindu Kush region

```
Code Station Name          Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
AML  Almayashu            6.12  21  P                   12 30 35.9 +0.6
     SNR=33
UCH  Uchtor               6.47  25  P     Pn          12 30 40.3 +0.5
     SNR=24
EKS2 Erkin-Say            6.64  19  P     Pn          12 30 43.2 +1.1
     SNR=8.8
KK31 Karatay Array        6.67 358  ⇓P    Pn          12 30 42.1 -0.4
     6.4nm,0.3s,baz=165,slow=11,SNR=165
KK31                                ⇑S    Sn          12 31 52.5 -5.9
     10nm,0.3s,baz=196,slow=24,SNR=16
AAK  Ala-Archa            6.82  24  P     Pn          12 30 45.3 +0.8
     SNR=7.4
AAK  Ala-Archa            6.82  24  ePN   Pn          12 30 43.9 -0.6
AAK                                 pmax  pmax
     comp=Z,6.0nm,0.4s
AAK  Ala-Archa            6.82  24  ePn   Pn          12 30 43.9 -0.5
     comp=Z,6.0nm,0.4s
AAK                                 eSn   Sn          12 31 59.8 -2.1
SDNR Sundarnagar          7.09 132  eP    Pn          12 30 48.0  0.0
SDNR                                eS    Sn          12 32 04.6 -3.7
TKM2 Tokmak 2             7.46  28  P     Pn          12 30 53.6 +0.8
     SNR=8.7
TKM2 Tokmak 2             7.46  28  ⇑P    Pn          12 30 53.5 +0.7
     comp=Z,0.3nm,0.4s
TKM2                                ⇑S    Sn          12 32 13.1 -4.0
     comp=Z,1.4nm,0.9s
MKAR Makanchi Array       13.44  36  P     Pn          12 32 13.2 +3.4
     comp=Z,0.4nm,0.3s,baz=226,slow=9.9,SNR=12
AB31 Akbulak array        15.08 332  ⇑P    Pn          12 32 31.3 +1.3
     comp=Z,1.3nm,0.5s,baz=148,slow=12,SNR=34
ZRNK Zerenda              16.57 356  eP    Pn          12 32 48.6 +0.5
ZRNK                                pmax  pmax
     comp=Z,2.0nm,0.5s
ZRNK Zerenda              16.57 356  eP    Pn          12 32 48.6 +0.4
     comp=Z,1.9nm,0.5s
BVAR Borovoye Array       16.60 359  P     Pn          12 32 48.3 -0.2
     comp=Z,0.3nm,0.3s,baz=162,slow=10.0,SNR=4.7
AKTK Aktyubinsk           16.77 331  P     Pn          12 32 49.8 -0.7
AKTO Aktyubinsk           16.77 331  ⇑P    Pn          12 32 50.0 -0.5
     comp=Z,0.2nm,1.5s
AKTO Aktyubinsk           16.77 331  P     Pn          12 32 49.8 -0.7
     comp=Z,0.2nm,0.3s,baz=155,slow=11,SNR=4.7
CHKZ Chkalovo             17.25 360  eP    Pn          12 32 55.9 -0.3
CHKZ                                pmax  pmax
     comp=Z,1.0nm,0.4s
CHKZ Chkalovo             17.25 360  eP    Pn          12 32 55.9 -0.3
     comp=Z,1.4nm,0.4s
ZAL  Zalesovo             20.03  25  P     P           12 33 25.8 +1.0
     comp=Z,4.1nm,0.3s,baz=254,slow=9.7,SNR=14
ZAL  Zalesovo             20.03  25  P     P           12 33 25.8 +1.0
ZAL                                 pmax  pmax
     comp=Z,4.0nm,0.3s
TORD Torodi Ar. Bea       65.56 269  P     P           12 39 28.3 -1.3
     comp=Z,0.4nm,0.5s,mb3.3,baz=51,slow=6.0,SNR=6.8
YKA  Yellowknife Ar       81.33   3  P     P           12 41 01.9 +0.4
     comp=Z,0.2nm,0.3s,mb3.2,baz=348,slow=5.3,SNR=4.1
WRA  Warramunga Arr       82.08 122  P     P           12 41 04.9 -0.6
     comp=Z,0.8nm,1.1s,mb3.2,baz=322,slow=4.8,SNR=4.9
WRA  Warramunga Arr       82.08 122  P     P           12 41 04.9 -0.6
WRA                                 pmax  pmax
     comp=Z,1.0nm,1.1s
```

*CSEM **12** 13:03:27.2±0.5, 3862N×2849W, h12km±5km, ML1.5, Error ellipse: s-maj=1.7km s-min=1.5km az=167.0, After PDA*
*PDA **12** 13:03:27.2±0.5, 3862N×2849W, h12km±5km, MD2.6, ML1.5, Error ellipse: s-maj=1.7km s-min=1.5km az=167.0*

SVSA 12 13:03:27.2±0.5, 3862N×2849W, h12km±5km, MD2.6, ML1.5, Error ellipse: s-maj=1.7km s-min=1.5km az=167.0, Azores Islands

```
Code Station Name          Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
PICO Pico                 0.12 158  eP    Pg          13 03 30.1 -0.2
PICO                                eS    Sg          13 03 32.3 -0.2
PCED Cedros               0.17 275  eP    Pg          13 03 30.9 -0.1
PCED                                eS    Sg          13 03 33.2 -0.5
PCED
     14nm,0.1s
PCED Cedros               0.17 275  eP    Pg          13 03 30.9 -0.1
PCED                                eS    Sg          13 03 33.2 -0.5
ROSA Rosais               0.22  61  i P   Pg          13 03 31.2 -0.6
ROSA                                eS    Sg          13 03 34.5 -0.5
ROSA Rosais               0.22  61  eS    Sg          13 03 34.5 -0.5
PID  Ribeirinha           0.34 121  eP    Pg          13 03 33.1 -0.8
SRBC Serra Branca         0.55  39  erx                13 03 38.8
```

*IDC **12** 13:33:37.5±10.0, 349S×14242E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/11, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=376.7km s-min=31.5km az=93.0*
*ISCJB **12** 13:33:47.0±2.5, 35S±02×1407E±05, h33km, mb3.4/2, Error ellipse: s-maj=69.3km s-min=22.1km az=11.6*

ISC 12 13:33:48.8±2.5, 35S±02×1409E±05, h35km, n6, σ0°35/5, mb3.4/2, Irian Jaya

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Code Station Name          Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
KAKA Kakadu               12.37 222  eP    Pn          13 36 42.3 -0.1
     8.6nm,0.5s
WB2  Warramunga Arr       17.52 201  eP    Pn          13 37 50.1 -0.1
WRA  Warramunga Arr       17.53 201  P     Pn          13 37 50.7 +0.5
     0.2nm,0.3s,baz=25,slow=11,SNR=5.6
ASAR Alice Springs        21.13 198  P     P           13 38 30.3 -0.3
     0.5nm,0.8s,mb2.9,baz=31,slow=9.2,SNR=6.9
STKA Stephens Creek       28.22 179  pP    pP          13 39 52.9 +4.7
     1.3nm,0.7s,baz=2.1,slow=9.4,SNR=2.2
MKAR Makanchi Array       71.75 322  P     P           13 45 07.4  0.0
     0.6nm,0.5s,mb3.8,baz=108,slow=8.0,SNR=6.6
```

MOS 12 13:50:08.6±1.1, 4294N×4534E, h49km, mb3.7/1, 7C-3D, Error ellipse: s-maj=29.8km s-min=14.1km az=31.1, Eastern Caucasus

```
Code Station Name          Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
SNJR Sundja               0.41 289  ⇓eP   Pn          13 50 20.0 +1.3
SNJR                                eS    Sn          13 50 28.4 +2.5
VLKR Vladikavkaz          0.50 283  ⇑eP   Pn          13 50 21.1 +1.4
VLKR                                eS    Sn          13 50 30.3 +2.6
BTKR Batakoyurt           0.73 307  ⇓eP   Pn          13 50 24.6 +2.0
BTKR                                eS    Sn          13 50 36.2 +3.4
LACR Lac                  0.78 262  ⇑iP   Pn          13 50 25.3 +2.0
LACR                                i S   Sn          13 50 37.5 +3.5
ARNR Ardon                0.82 288  ⇑iP   Pn          13 50 25.9 +2.1
ARNR                                eS    Sn          13 50 38.6 +3.7
KMSR Komsomolskaya        0.88 300  ⇑iP   Pn          13 50 26.9 +2.2
KMSR                                i S   Sn          13 50 40.2 +3.8
TRKR Terskaya             0.90 331  ⇑eP   Pn          13 50 27.3 +2.4
TRKR                                i S   Sn          13 50 40.8 +3.9
KORR Kora                 0.94 279  ⇓iP   Pn          13 50 27.8 +2.3
KORR                                i S   Sn          13 50 41.9 +3.9
ZEI  Tsey                 1.07 261  ⇑eP   Pn          13 50 29.5 +2.2
ZEI                                 eS    Sn          13 50 44.7 +3.6
PRTR Priterechnaya        1.12 317  ⇑eP   Pn          13 50 30.2 +2.3
PRTR                                eS    Sn          13 50 46.0 +3.8
```

*CASC **12** 14:16:46.4±1.4, 1420N×9376W, h29km, MD4.4, mb3.9(NEIC)*
*IDC **12** 14:16:49.9±4.2, 1455N×9319W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/21, mbtmp3.9/5, ML3.1/1, Error ellipse: s-maj=137.4km s-min=25.1km az=37.0*
*ISCJB **12** 14:16:50.9±0.8, 1420N±006×9356W±005, h33km, mb3.9/4, Error ellipse: s-maj=9.1km s-min=5.3km az=58.0*
*MEX **12** 14:16:51.3±0.6, 1410N×9361W, h20km±64km, MD4.2*
*NEIC **12** 14:16:52.9±4.8, 1433N×9336W, h29km±32km, mb3.9/3, MD4.2(MEX), Error ellipse: s-maj=26.1km s-min=11.2km az=195.0*

ISC 12 14:16:52.7±0.8, 1421N±006×9347W±005, h35km, n28, σ1°26/33, mb3.9/4, 1C, Near coast of Chiapas

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Code Station Name          Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
JAT  Jato                 1.78  86  eP    Pn          14 17 20.2 -0.8
CCIG Comitan              2.43  32  i P   Pn          14 17 30.0 +0.1
CCIG                                i S   Sn          14 18 00.3 +2.0
TP2  Tecpan 2             2.44  76  ⇑eP   Pn          14 17 29.0 -1.0
FUG  Fuego 3              2.56  84  eP    Pn          14 17 30.9 -0.7
```

FUG				*e*S		**Sn**	**14 18 05.3 +3.8**
SCX	**San Cristobal**	**2.64**	**18**	*e*P		**Pn**	**14 17 32.0 -0.7**
SCX				*i* S		**Sn**	**14 18 05.0 +1.5**
CMIG	**Matias Romero**	**3.17**	**335**	Pn		**Pn**	**14 17 39.2 -0.9**
	2.3nm,0.3s,baz=148,slow=11,SNR=26						
CMIG				Sn		**Sn**	**14 18 16.9 +0.2**
	23nm,0.3s,baz=132,slow=8.1,SNR=7.0						
CMIG	**Matias Romero**	**3.17**	**335**	*i* P		**Pn**	**14 17 38.8 -1.3**
CMIG				*i* S		**Sn**	**14 18 14.7 -2.0**
CMIG	**Matias Romero**	**3.17**	**335**	Pn		**Pn**	**14 17 39.2 -0.9**
CMIG				*i* S		**Sn**	**14 18 14.7 -2.0**
CMIG				Sn		**Sn**	**14 18 16.9 +0.2**
RBDL	**Robledal**	**3.67**	**91**	*e*P	x		14 17 45.2
RTR	**El Retiro**	**3.72**	**94**	*e*P	x		14 17 46.3
SBLS	**San Blas**	**3.75**	**95**	*e*P	x		14 17 46.6
SBLS				*e*S	x		14 18 34.2
SNJE	**San Jose**	**3.77**	**95**	*e*P	x		14 17 46.5
SNJE				*e*S	x		14 18 34.9
TUIG	**Tuzandepetl**	**3.91**	**347**	*e*P		**Pn**	**14 17 50.3 0.0**
TUIG				*i* S		**Sn**	**14 18 33.8 -1.2**
BOQS	**Boqueron**	**4.09**	**96**	*e*P	x		14 18 00.4
BOQS				*e*S	x		14 18 51.5
VHO	**Vista Hermosa**	**4.24**	**313**	*e*P		**Pn**	**14 17 55.6 +0.8**
VHO				*i* S		**Sn**	**14 18 36.7 -6.3**
VHO	**Vista Hermosa**	**4.24**	**313**	*e*P		**Pn**	**14 17 55.6 +0.8**
VHO				*i* S		**Sn**	**14 18 40.9 -2.1**
TEIG	**Tepich**	**7.77**	**39**	*e*Pn		**Pn**	**14 18 41.1 -2.2**
	22nm,0.8s						
LTX	**Lajitas**	**17.77**	**330**	*e*P		**Pn**	**14 20 57.5 +0.3**
	10nm,1.2s						
MIAR	**Mount Ida**	**20.25**	**360**	*e*P		**P**	**14 21 23.2 -1.7**
	11nm,0.9s						
MNTX	**Cornudas Mount**	**20.55**	**330**	*e*P		**P**	**14 21 29.6 +1.5**
	3.0nm,0.7s						
SDV	**Santo Domingo**	**22.98**	**101**	P		**P**	**14 21 54.8 +0.6**
	1.9nm,0.3s,mb4.0,baz=270,slow=11,SNR=3.9						
PDAR	**Pinedale Array**	**31.66**	**337**	P		**P**	**14 23 13.5 +0.9**
	0.3nm,0.5s,mb3.4,baz=155,slow=11,SNR=2.9						
NVAR	**Mina Array Bea**	**32.62**	**322**	P		**P**	**14 23 22.9 +1.9**
	1.0nm,0.7s,mb3.8,baz=148,slow=8.4,SNR=8.5						
NVAR	**Mina Array Bea**	**32.62**	**322**	P		**P**	**14 23 22.9 +1.9**
MCMT	**McKenzie Canyo**	**34.68**	**335**	*e*P		**P**	**14 23 41.3 +2.4**
CHMT	**Chamberlain Mo**	**36.56**	**337**	*e*P		**P**	**14 23 54.5 -0.6**
YKA	**Yellowknife Ar**	**50.50**	**347**	P		**P**	**14 25 47.0 -0.2**
	3.1nm,0.7s,mb4.3,baz=150,slow=7.3,SNR=8.2						
YKA	**Yellowknife Ar**	**50.50**	**347**	P		**P**	**14 25 47.0 -0.2**

NIED ***12*** *14:27:00,4480N×14670E,h195km,Mw3.8 Best double couple: M0=5.59000×10^14 NP1:φ=324.00000°,δ70.00000°, λ-70.00000°. NP2:φ=97.00000°,δ28.00000°, λ-133.00000°.*
MOS ***12*** *14:27:28.7±1.0,4502N×14680E,h134km,mb3.7/2,Error ellipse: s-maj=49.5km s-min=26.2km az=63.1*
IDC ***12*** *14:27:29.9±26.0,4495N×14675E,h120km±178km, mb3.2/4,mb1 3.4/5,mb1mx3.2/19,mbtmp3.6/5,ML3.5/1, Error ellipse: s-maj=244.8km s-min=22.8km az=63.0*
ISCJB ***12*** *14:27:34.1±1.1,4473N±009×1467E±01,h170km±6km, mb3.4/4,Error ellipse: s-maj=16.2km s-min=11.8km az=88.1.*
JMA ***12*** *14:27:34.8±0.5,4476N×14672E,h157km±4km,M3.5*
ISC 12 14:27:35.0±1.1,4475N±009×1467E±01,h163km±7km,n23, σ0°81/29,mb3.4/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.92**	**219**	PN		**Pn**	**14 28 00.5 +0.1**
YUK				*i* S		**Sn**	**14 28 20.0 +0.2**
YUK				smax			
	comp=N,4μm,2.0s						
YUK				smax			
	comp=E,5μm,2.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,710nm,0.4s						
JRA	**Rausu**	**1.37**	**234**	P		**Pn**	**14 28 04.1 -0.2**
NEM2	**Nemuro 2**	**1.54**	**206**	P		**Pn**	**14 28 05.3 -0.6**
NEM2				*e*S		**Sn**	**14 28 28.4 -1.3**
JNK	**Nakash**	**1.82**	**231**	P		**Pn**	**14 28 09.1 +0.2**
JTKR	**Abashiri--Toko**	**2.12**	**249**	P		**Pn**	**14 28 12.2 -0.1**
JTKR				*e*S		**Sn**	**14 28 41.9 +0.8**
JAK	**Akkeshi**	**2.26**	**220**	P		**Pn**	**14 28 13.8 0.0**
JAK				*e*S		**Sn**	**14 28 43.9 0.0**
JMP	**Maruseppu**	**2.48**	**254**	P		**Pn**	**14 28 16.5 0.0**
JAR	**Ashorobuto**	**2.54**	**236**	P		**Pn**	**14 28 18.1 +0.9**
JSE	**Soyaes**	**2.91**	**276**	P		**Pn**	**14 28 21.4 -0.3**
JSE				*e*S		**Sn**	**14 28 56.8 -1.1**
JKK2	**Kamakawa 2**	**2.94**	**254**	P		**Pn**	**14 28 22.7 +0.6**
JKK2				*e*S		**Sn**	**14 28 59.4 +0.7**
JCH	**Churui**	**3.21**	**229**	P		**Pn**	**14 28 25.8 +0.4**
JCH				*e*S		**Sn**	**14 29 04.0 -0.6**
JWK2	**Keihoku**	**3.43**	**281**	P		**Pn**	**14 28 29.2 +1.0**
JNBK	**Urakawa-nobuka**	**3.77**	**230**	P		**Pn**	**14 28 32.0 -0.5**
JEW	**Eniwo**	**4.23**	**245**	P		**Pn**	**14 28 40.2 +1.7**
SKR	**Severo-Kuril's**	**8.71**	**44**	*e*PN		**Pn**	**14 29 28.9 -8.7**
MJAR	**Matsushiro Arr**	**10.41**	**221**	P		**Pn**	**14 29 58.7 -1.3**
	comp=E,0.3nm,0.3s,baz=30,slow=14,SNR=7.8						
SONM	**Songino Array**	**27.78**	**291**	P		**P**	**14 33 07.8 -0.6**
	comp=E,0.4nm,0.6s,mb3.3,baz=88,slow=9.1,SNR=2.7						
ZAL	**Zalesovo**	**40.14**	**306**	PcP	PcP		14 36 56.4 +0.5
	comp=E,1.0nm,0.5s,baz=7.6,slow=5.6,SNR=3.3						
MKAR	**Makanchi Array**	**43.82**	**297**	P		**P**	**14 35 22.7 -1.9**
	comp=E,0.7nm,0.6s,mb3.5,baz=77,slow=9.3,SNR=9.6						
MKAR				PcP	PcP		14 37 08.0 -0.1
	comp=E,0.3nm,0.3s,baz=66,slow=5.8,SNR=8.8						
MKAR	**Makanchi Array**	**43.82**	**297**	P		**P**	**14 35 22.7 -1.9**
MKAR							14 37 08.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**65.35**	**193**	P		**P**	**14 38 00.3 +0.7**
	comp=Z,0.5nm,0.5s,mb3.6,baz=9.3,slow=6.7,SNR=7.4						
WRA	**Warramunga Arr**	**65.35**	**193**	P		**P**	**14 38 00.3 +0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**69.08**	**193**	P		**P**	**14 38 24.2 +1.1**
	comp=Z,0.2nm,0.6s,mb3.1,baz=10,slow=6.4,SNR=6.9						

IDC ***12*** *14:33:11.6±1.5,6443S×175.19E,h0km,mb3.6/2, mb1 3.8/3,mb1mx3.7/11,mbtmp3.6/3,ML2.9/1,MS3.9/4, Ms1 3.8/4,ms1mx3.5/12,Error ellipse: s-maj=65.1km s-min=38.2km az=45.0*
ISCJB ***12*** *14:33:12.7±1.4,6445S±02×1748E±06,h10km,mb3.8/3, MS4.0/3,Error ellipse: s-maj=40.4km s-min=21.2km az=155.5*
NEIC ***12*** *14:33:13.1±1.2,6434S×175.18E,h10km,mb4.1/1,Error ellipse: s-maj=40.7km s-min=21.1km az=78.0*
ISC 12 14:33:13.9±1.4,644S±02×1750E±06,h10km,n10,σ0°68/6, mb3.8/3,MS4.0/3,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.79**	**192**	Pn		**Pn**	**14 36 28.7 -0.7**
	0.1nm,0.3s,baz=40,slow=16,SNR=5.7						
VNDA				LR	LR		14 40 27.8
	comp=Z,235nm,21.3s,baz=354,slow=32						
VNDA	**Vanda**	**13.79**	**192**	P		**Pn**	**14 36 29.1 -0.3**
VNDA				LR	LR		14 40 27.8
QSPA	**South Pole Qui**	**25.68**	**180**	P		**P**	**14 38 44.8 +0.8**
	4.4nm,1.0s,mb3.9						
MAW	**Mawson**	**39.71**	**214**	LR	LR		14 57 14.3
	comp=Z,98nm,18.9s,MS3.7,baz=255,slow=36						
ASAR	**Alice Springs**	**48.73**	**307**	P		**P**	**14 41 58.6 0.0**
	0.5nm,1.0s,mb3.5,baz=165,slow=7.7,SNR=3.5						
SUR	**Sutherland**	**81.42**	**202**	LR	LR		15 17 56.7
	comp=Z,115nm,19.2s,MS4.2,baz=135,slow=33						
LPAZ	**La Paz**	**86.41**	**121**	P		**P**	**14 45 56.2 -0.3**
	0.7nm,0.7s,mb4.0,baz=183,slow=4.7,SNR=3.4						
LPAZ	**La Paz**	**86.41**	**121**	P		**P**	**14 45 56.2 -0.3**
LBTB	**Lobatse**	**87.73**	**208**	LR	LR		15 23 18.4
	comp=Z,76nm,19.6s,MS4.1,baz=128,slow=34						
BRTR	**Keskin Array B**	**146.62**	**241**	PKPbc	PKPbc		14 52 52.9 -2.8
	0.9nm,0.7s,baz=178,slow=3.6,SNR=6.1						

ISCJB ***12*** *14:43:53.7±0.8,4730N±003×7.16E±006,h13km±5km, Error ellipse: s-maj=7.5km s-min=4.2km az=68.8*
STR ***12*** *14:43:54.6±0.2,4728N×7.12E,h10km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***12*** *14:43:55.6±0.1,4732N×7.16E,h10km,Md2.3/1,Ml2.3/6, Error ellipse: s-maj=2.5km s-min=1.7km az=144.0*
ISC 12 14:43:54.4±0.8,4730N±004×719E±006,h17km±7km,n15, σ0°85/27,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.25**	**283**	Pg		**Pg**	**14 43 59.8 -0.2**
MOF	**Molkenrain**	**0.56**	**356**	Pg		**Pg**	**14 44 05.4 0.0**
MOF				Sg		**Sg**	**14 44 13.5 +0.6**
HINF	**Hinteralfeld**	**0.57**	**337**	*e*Pg		**Pg**	**14 44 05.2 -0.4**
HINF	**Hinteralfeld**	**0.57**	**337**	*e*Pn		**Pb**	**14 44 07.7 +1.8**
HINF				*e*Sg		**Sg**	**14 44 13.0 -0.2**
HINF				*e*Sn		**Sg**	**14 44 16.2 +3.0**
	9.6nm,0.2s						
HAU	**Haudompre**	**0.91**	**322**	*e*Pg		**Pg**	**14 44 13.2 +1.1**
HAU				*e*Sg		**Sg**	**14 44 23.9 -0.1**
	13nm,0.2s						
ECH	**Echery**	**0.92**	**359**	Pg		**Pg**	**14 44 12.2 -0.1**
ECH				Sg		**Sg**	**14 44 25.4 +1.0**
CABF	**La Chapelle**	**1.02**	**228**	*e*Pg		**Pg**	**14 44 15.2 +1.0**
CABF				*e*Sg		**Sg**	**14 44 28.2 +0.7**
	5.2nm,0.2s						
CDF	**Champ du Feu**	**1.12**	**3**	*e*Pg		**Pg**	**14 44 15.4 -0.6**
CDF				*e*Sg		**Sg**	**14 44 30.4 -0.2**
	10.0nm,0.4s						
WLS	**Welschbruch**	**1.12**	**6**	Pn		**Pn**	**14 44 15.4 0.0**
WLS	**Welschbruch**	**1.12**	**6**	Pg		**Pg**	**14 44 16.2 +0.1**
WLS				Sg		**Sg**	**14 44 31.3 +0.5**
THEF	**They Montfort**	**1.23**	**319**	Pn		**Pn**	**14 44 16.0 -0.9**
THEF				Sg		**Sg**	**14 44 34.9 +0.6**
BFO	**Black Forest**	**1.29**	**36**	*e*Pg		**Pg**	**14 44 17.5 -1.7**
BFO				*e*Sg		**Sg**	**14 44 35.8 -0.3**
MEZF	**Maizieres J'vi**	**1.88**	**311**	*e*Pg		**Pg**	**14 44 29.9 -0.5**
	baz=133						
MEZF				*e*Sg		**Sg**	**14 44 53.4 -1.4**
	4.8nm,0.3s						
LOR	**Lormes**	**2.27**	**270**	*e*Pg		**Pg**	**14 44 37.2 -0.7**
	baz=88						
LOR				*e*Sg		**Sg**	**14 45 06.2 -1.1**
	1.8nm,0.2s						
AVF	**Avril sur Loir**	**2.67**	**260**	*e*Pn		**Pn**	**14 44 37.2 +0.5**

ISCJB ***12*** *15:06:42.6±0.5,237S±01×695E±01,h10km,mb4.1/13, MS3.8/4,Error ellipse: s-maj=16.9km s-min=14.8km az=18.5*
IDC ***12*** *15:06:42.7±0.6,2369S×6949E,h0km,mb4.1/11, mb1 4.2/11,mb1mx4.1/21,mbtmp4.1/11,MS3.8/4, Ms1 3.8/4,ms1mx3.4/17,Error ellipse: s-maj=24.9km s-min=19.1km az=66.0*
NEIC ***12*** *15:06:44.3±0.5,2368S×6948E,h10km,mb4.4/2,Error ellipse: s-maj=15.1km s-min=14.6km az=99.0*
ISC 12 15:06:44.5±0.5,237S±01×695E±01,h10km,n24,σ0°63/18, mb4.1/13,MS3.8/4,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**38.47**	**301**	LR	LR	15 26 25.4	
	comp=Z,69nm,18.6s,MS3.5,baz=94,slow=31						
LSZ	**Lusaka**	**39.72**	**274**	*e*P		**P**	**15 14 18.4 +1.3**
	4.8nm,0.8s,mb4.3						
BOSA	**Boshof**	**39.85**	**253**	LR	LR	15 27 16.1	
	comp=Z,116nm,19.8s,MS3.7,baz=108,slow=31						
BOSA	**Boshof**	**39.85**	**253**	*e*P		**P**	**15 14 17.7 -0.4**
MAW	**Mawson**	**44.11**	**184**	P		**P**	**15 14 53.0 +0.1**
	3.1nm,0.7s,mb4.1,baz=8.7,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**58.49**	**104**	P		**P**	**15 16 40.8 0.0**
	1.3nm,0.6s,mb4.1,baz=253,slow=6.3,SNR=24						
ASAR				PcP	PcP	15 17 31.5 +0.2	
	1.0nm,0.7s,baz=259,slow=3.3,SNR=7.8						
WRA	**Warramunga Arr**	**59.86**	**100**	P		**P**	**15 16 50.6 +0.3**
	1.8nm,0.7s,mb4.2,baz=254,slow=6.9,SNR=8.3						
SNAA	**Sanae**	**62.16**	**200**	P		**P**	**15 17 05.6 -0.3**
	0.4nm,0.8s,mb3.6,baz=102,slow=7.5,SNR=7.1						
STKA	**Stephens Creek**	**63.27**	**115**	LR	LR	15 39 21.7	
	comp=Z,110nm,19.2s,MS4.0,baz=349,slow=31						
VNA2	**Neumayer--Watz**	**63.53**	**201**	*e*		**P**	**15 17 15.0 0.0**
VNA2				*e*	pP	15 17 18.8 +0.5	
VNA2				*e*		15 17 25.2	
MKAR	**Makanchi Array**	**71.10**	**9**	P		**P**	**15 18 03.3 +0.3**
	3.7nm,0.7s,mb4.4,baz=192,slow=6.5,SNR=43						
BRTR	**Keskin Array B**	**71.42**	**332**	P		**P**	**15 18 05.0 +0.1**
	1.8nm,0.8s,mb4.0,baz=156,slow=6.7,SNR=9.0						
KURK	**Kurchatov**	**74.52**	**6**	*e*P		**P**	**15 18 23.4 +0.2**
	7.9nm,1.3s,mb4.5						
TORD	**Torodi Ar. Bea**	**75.70**	**291**	P		**P**	**15 18 30.4 +0.3**
	1.0nm,1.0s,mb3.7,baz=160,slow=3.9,SNR=5.7						
ZAL	**Zalesovo**	**78.43**	**9**	P		**P**	**15 18 45.8 +0.4**
	2.8nm,0.8s,mb4.2,baz=277,slow=4.8,SNR=16						
DBIC	**Dimbokro**	**78.50**	**283**	LR	LR	15 51 16.6	
	comp=Z,70nm,18.9s,MS4.0,baz=114,slow=34						
SONM	**Songino Array**	**78.54**	**24**	P		**P**	**15 18 46.1 0.0**
	1.2nm,0.8s,mb3.9,baz=213,slow=6.2,SNR=8.5						
AKASG	**Malin Array Be**	**82.16**	**335**	P		**P**	**15 19 04.2 -1.3**
	2.9nm,0.8s,mb4.3,baz=139,slow=4.6,SNR=13						
AKASG	**Malin Array Be**	**82.16**	**335**	P		**P**	**15 19 04.2 -1.3**
GERES	**GERESS Array B**	**87.68**	**327**	P		**P**	**15 19 33.2 -0.1**
	0.3nm,0.3s,mb4.0,baz=134,slow=5.8,SNR=4.9						
KHC	**Kasperske Hory**	**87.93**	**327**	*e*P		**P**	**15 19 34.5 0.0**
PRU	**Pruhonice**	**88.02**	**328**	*e*P		**P**	**15 19 31.5 -3.4**
ULM	**Lac du Bonnet**	**151.14**	**340**	PKPbc	PKPbc	15 26 36.9 -1.0	
	3.7nm,0.7s,baz=8.3,slow=4.6,SNR=9.0						
NVAR	**Mina Array Bea**	**163.87**	**23**	PKPab	PKPab	15 27 39.6 -0.9	
	0.6nm,0.6s,baz=299,slow=4.6,SNR=5.3						

LDG ***12*** *15:30:05.6±0.1,4239N×146E,h4km,Ml2.1/8,Error ellipse: s-maj=1.9km s-min=1.4km az=1.0*
MDD 12 15:30:05.8±0.2,4240N×148E,h0km,mbLg1.5/17,Error ellipse: s-maj=1.8km s-min=1.6km az=167.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.13**	**23**	Pg	Pg	15 30 08.5	+0.2
PAND				Lg		15 30 10.8	
CSOR	**Sort**	**0.26**	**264**	Pg	Pg	15 30 10.3	-0.5
CSOR				Lg		15 30 14.0	
	32nm,0.2s						
CLLI	**Llivia**	**0.38**	**78**	Pg	Pg	15 30 12.4	-0.6
CLLI				Lg		15 30 17.6	
	2.2nm,0.1s						
VALF	**Valcebollere**	**0.40**	**90**	Pg	Pg	15 30 13.1	-0.4
VALF				Lg		15 30 18.5	
SALF	**Salau**	**0.41**	**329**	Pg	Pg	15 30 13.4	-0.4
SALF				Lg		15 30 18.7	
EMIR	**Miracle**	**0.49**	**176**	Pg	Pg	15 30 14.8	-0.4
	1.1nm,0.1s,SNR=15						
EMIR				Lg		15 30 21.3	
	8.6nm,0.2s,SNR=4.6						
CARF	**Carcanieres**	**0.56**	**56**	Pg	Pg	15 30 16.2	-0.4
CARF				Lg		15 30 24.0	
MLS	**Moulis**	**0.62**	**333**	Pg	Pg	15 30 17.5	-0.3
MLS				Lg		15 30 25.0	
MELF	**Melles**	**0.71**	**312**	Pg	Pg	15 30 18.5	-0.9
MELF				Lg		15 30 28.6	
CAVN	**Les Avellanes**	**0.75**	**226**	Pg	Pg	15 30 19.7	-0.5
CAVN				Lg		15 30 30.8	
	4.9nm,0.2s						
EGRA	**Graus**	**0.89**	**257**	Pg	Pg	15 30 23.4	+0.5
	0.9nm,0.1s,SNR=7.9						
EGRA				Lg		15 30 35.2	
	3.6nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**0.96**	**132**	Pg	Pg	15 30 23.3	-0.9
CFON				Lg		15 30 36.6	
	7.2nm,0.2s						
EBIE	**Bielsa**	**1.03**	**286**	Pg	Pg	15 30 24.5	-1.1
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		15 30 38.8	
	1.5nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.05**	**307**	*e*Pg	Pg	15 30 24.8	-1.1
EPF				*e*Sg	Sg	15 30 38.0	-1.5
	3.0nm,0.2s						
EPF	**Esparros**	**1.05**	**307**	Pg	Pg	15 30 24.8	-1.1
EPF				Lg		15 30 38.0	
	1.5nm,0.2s						
MTLF	**Montolieu**	**1.08**	**30**	*e*Pg	Pg	15 30 26.0	-0.6
MTLF				*e*Sg	Sg	15 30 40.2	-0.5
	2.9nm,0.2s						
MTLF	**Montolieu**	**1.08**	**30**	Pg	Pg	15 30 26.0	-0.6
MTLF				Lg		15 30 40.2	
	1.4nm,0.2s						
EPOB	**Poblet**	**1.09**	**196**	Pg	Pg	15 30 25.6	-1.2
	0.9nm,0.1s,SNR=6.7						
EPOB				Lg		15 30 39.9	
	7.6nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.58**	**289**	*e*Pg	Pg	15 30 35.2	-1.0
ETSF				*e*Sg	Sg	15 30 56.1	-0.6
	2.3nm,0.2s						
ETSF	**Etsaut**	**1.58**	**289**	Pg	Pg	15 30 35.2	-1.0
ETSF				Lg		15 30 56.1	
	1.1nm,0.2s						
ESAC	**San Caprasio**	**1.60**	**245**	Lg		15 30 58.1	
	17nm,0.3s,SNR=4.0						
ERTA	**Horta de San J**	**1.68**	**211**	Pg	Pg	15 30 36.5	-1.5
	0.5nm,0.1s,SNR=7.9						
ERTA				Lg		15 30 58.9	
	6.1nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**2.11**	**291**	*e*Pg	Pg	15 30 45.0	-1.4
SJPF				*e*Sg	Sg	15 31 12.2	-1.6
	2.0nm,0.3s						
SJPF	**Ste Jean**	**2.11**	**291**	Pg	Pg	15 30 45.0	-1.4
SJPF				Lg		15 31 12.2	
	1.0nm,0.3s						
LASF	**Ste Croix**	**2.41**	**45**	*e*Pg	Pg	15 30 50.6	-1.5
LASF				*e*Sg	Sg	15 31 22.5	-0.9
	1.7nm,0.3s						
LASF	**Ste Croix**	**2.41**	**45**	Pg	Pg	15 30 50.6	-1.5
LASF				Lg		15 31 22.5	
	0.9nm,0.3s						
CAF	**Calviac**	**2.56**	**9**	*e*Pn	Pn	15 30 47.3	-1.2
CAF				*e*Sg	Sg	15 31 26.5	-1.5
	3.8nm,0.3s						
CAF	**Calviac**	**2.56**	**9**	Pn	Pn	15 30 47.3	-1.2
CAF				Lg		15 31 26.5	
	1.9nm,0.3s						
LFF	**La Frestale**	**2.59**	**348**	*e*Sg	Sg	15 31 28.0	-1.1
	6.7nm,0.4s						
LFF	**La Frestale**	**2.59**	**348**	Lg		15 31 28.0	
	3.3nm,0.4s						
VIVF	**Saint-Julien-l**	**3.38**	**42**	*e*Pg	Pg	15 31 08.5	-2.0
VIVF				*e*Sg	Sg	15 31 52.7	-1.6
	0.8nm,0.2s						
VIVF	**Saint-Julien-l**	**3.38**	**42**	Pg	Pg	15 31 08.5	-2.0
VIVF				Lg		15 31 52.7	
	0.4nm,0.2s						

LDG ***12*** *15:46:34.2±0.1,4239N×147E,h5km,Ml2.2/7,Error ellipse: s-maj=1.7km s-min=1.2km az=8.0*
STR ***12*** *15:46:34.1±0.3,4241N×147E,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 12 15:46:34.5±0.2,4240N×147E,h0km,mbLg1.5/17,Error ellipse: s-maj=1.7km s-min=1.5km az=179.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.14**	**23**	Pg	Pg	15 46 37.2	+0.1
PAND				Lg		15 46 39.4	
CSOR	**Sort**	**0.25**	**265**	Pg	Pg	15 46 38.8	-0.5
CSOR				Lg		15 46 42.9	
	36nm,0.2s						
CLLI	**Llivia**	**0.38**	**77**	Pg	Pg	15 46 41.1	-0.7
CLLI				Lg		15 46 46.3	
	2.2nm,0.2s						
VALF	**Valcebollere**	**0.40**	**89**	Pg	Pg	15 46 41.7	-0.5
VALF				Sg	Sg	15 46 48.0	+0.6
VALF	**Valcebollere**	**0.40**	**89**	Pg	Pg	15 46 41.7	-0.5
VALF				Lg		15 46 48.1	
SALF	**Salau**	**0.42**	**330**	Pg	Pg	15 46 42.0	-0.5
SALF				Sg	Sg	15 46 47.6	-0.3
SALF	**Salau**	**0.42**	**330**	Pg	Pg	15 46 42.0	-0.5
SALF				Lg		15 46 47.3	
EMIR	**Miracle**	**0.48**	**175**	Pg	Pg	15 46 43.0	-0.8
	12nm,0.3s,SNR=17						
EMIR				Lg		15 46 50.2	
	17nm,0.1s,SNR=7.9						
CBRU	**Bruguera**	**0.54**	**102**	Pg	Pg	15 46 44.4	-0.4
CBRU				Lg		15 46 52.4	
	6.2nm,0.5s						
CARF	**Carcanieres**	**0.56**	**56**	Pg	Pg	15 46 44.7	-0.6
CARF				Sg	Sg	15 46 52.7	+0.1
CARF	**Carcanieres**	**0.56**	**56**	Pg	Pg	15 46 44.9	-0.4
CARF				Lg		15 46 52.6	
MLS	**Moulis**	**0.62**	**334**	Pg	Pg	15 46 46.4	-0.1
MLS				Sg	Sg	15 46 54.4	-0.2
MLS	**Moulis**	**0.62**	**334**	Lg		15 46 54.3	
MELF	**Melles**	**0.71**	**312**	Pg	Pg	15 46 47.5	-0.6
MELF				Lg		15 46 57.1	
CAVN	**Les Avellanes**	**0.74**	**226**	Pg	Pg	15 46 48.2	-0.6
EGRA	**Graus**	**0.88**	**257**	Pg	Pg	15 46 52.3	+0.9
	1.0nm,0.1s,SNR=7.9						
EGRA				Lg		15 47 04.6	
	1.1nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**0.96**	**131**	Pg	Pg	15 46 52.2	-0.7
CFON				Lg		15 47 05.0	
	10nm,0.2s						
EBIE	**Bielsa**	**1.02**	**287**	Pg	Pg	15 46 53.4	-0.7
	0.2nm,0.1s,SNR=6.4						
EBIE				Lg		15 47 08.5	
	0.7nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.05**	**308**	*e*Pg	Pg	15 46 53.3	-1.3
EPF				*e*Sg	Sg	15 47 06.2	-2.0
	3.8nm,0.2s						
EPF	**Esparros**	**1.05**	**308**	Pg	Pg	15 46 53.3	-1.3
EPF				Lg		15 47 06.2	
	1.9nm,0.2s						
EPOB	**Poblet**	**1.08**	**196**	Pg	Pg	15 46 54.2	-1.

CORG Organya 0.20 214 Pg Pg 15 53 33.7 -0.7
CORG Lg 15 53 36.9
9.4nm,0.1s
CSOR Sort 0.25 265 Pg Pg 15 53 34.9 -0.4
CSOR Lg 15 53 38.9
52nm,0.2s
CLLI Llivia 0.38 78 Pg Pg 15 53 37.2 -0.7
CLLI Lg 15 53 42.4
4.9nm,0.2s
VALF Valcebollere 0.41 89 Pg Pg 15 53 37.9 -0.5
VALF Lg 15 53 44.3
SALF Salau 0.42 331 Pg Pg 15 53 38.2 -0.4
SALF Lg 15 53 43.6
EMIR Miracle 0.48 175 Lg 15 53 46.1
29nm,0.2s,SNR=5.0
CBRU Bruguera 0.54 102 Pg Pg 15 53 40.5 -0.4
CBRU Lg 15 53 48.3
7.2nm,0.2s
CARF Carcanieres 0.57 56 Pg Pg 15 53 41.0 -0.5
CARF Lg 15 53 48.7
MLS Moulis 0.62 334 Lg 15 53 50.4
MELF Melles 0.71 312 Pg Pg 15 53 43.4 -0.7
MELF Lg 15 53 53.3
CAVN Les Avellanes 0.74 226 Pg Pg 15 53 44.2 -0.6
EGRA Graus 0.88 257 Pg Pg 15 53 47.9 +0.5
2.0nm,0.2s,SNR=6.5
EGRA Lg 15 53 59.2
1.9nm,0.1s,SNR=5.0
CFON Fontmartina 0.96 131 Pg Pg 15 53 48.2 -0.8
CFON Lg 15 54 01.5
8.5nm,0.2s
EBIE Bielsa 1.02 287 Pg Pg 15 53 49.1 -1.1
0.5nm,0.1s,SNR=7.9
EBIE Lg 15 54 02.9
2.5nm,0.1s,SNR=7.9
EPF Esparros 1.04 308 *e*Pg Pg 15 53 49.5 -1.1
EPF *e*Sg Sg 15 54 02.3 -1.8
7.8nm,0.2s
EPF Esparros 1.04 308 Pg Pg 15 53 49.5 -1.1
EPF Lg 15 54 02.3
3.9nm,0.2s
EPOB Poblet 1.08 196 Pg Pg 15 53 50.4 -0.9
1.0nm,0.1s,SNR=8.8
EPOB Lg 15 54 04.7
3.2nm,0.1s,SNR=7.9
MTLF Montolieu 1.09 30 *e*Pg Pg 15 53 51.1 -0.4
MTLF *e*Sg Sg 15 54 05.0 -0.7
6.8nm,0.3s
MTLF Montolieu 1.09 30 Pg Pg 15 53 51.1 -0.4
MTLF Lg 15 54 05.0
3.4nm,0.3s
ETSF Etsaut 1.58 289 *e*Pg Pg 15 53 59.4 -1.4
ETSF *e*Sg Sg 15 54 20.8 -0.5
6.2nm,0.2s
ETSF Etsaut 1.58 289 Pg Pg 15 53 59.4 -1.4
ETSF Lg 15 54 20.8
3.1nm,0.2s
ESAC San Caprasio 1.59 246 Pg Pg 15 54 01.5 +0.4
9.3nm,0.2s,SNR=7.9
ESAC Lg 15 54 22.0
25nm,0.3s,SNR=7.9
ERTA Horta de San J 1.67 211 Pg Pg 15 54 01.3 -1.3
1.5nm,0.1s,SNR=7.9
ERTA Lg 15 54 23.4
7.0nm,0.2s,SNR=7.9
SJPF Ste Jean 2.11 291 *e*Sg Sg 15 54 36.1 -2.2
2.9nm,0.3s
SJPF Ste Jean 2.11 291 Lg 15 54 36.1
1.4nm,0.3s
IPRE Itoiz 2.12 282 Lg 15 54 40.2
1.0nm,0.5s,SNR=4.0
EALK Alkurruntz 2.34 292 Lg 15 54 45.7
18nm,0.7s,SNR=7.9
LASF Ste Croix 2.42 45 *e*Pg Pg 15 54 14.5 -2.5
LASF *e*Sg Sg 15 54 47.0 -1.4
2.0nm,0.2s
LASF Ste Croix 2.42 45 Pg Pg 15 54 14.5 -2.5
LASF Lg 15 54 47.0
1.0nm,0.2s
EMOS Mosqueruela 2.50 216 Lg 15 54 52.0
0.6nm,0.2s,SNR=7.9
CAF Calviac 2.56 10 *e*Sg Sg 15 54 50.7 -2.3
4.1nm,0.3s
CAF Calviac 2.56 10 Lg 15 54 50.7
2.0nm,0.3s

LDG ***12*** *15:56:16.3±0.3, 42.39N×146E, h5km, Md2.2/2, Ml2.1/5, Error ellipse: s-maj=6.5km s-min=2.0km az=166.0*
MDD 12 15:56:16.2±0.3, 4238N×147E, h9km±5km, mbLg1.5/12, Error ellipse: s-maj=1.9km s-min=1.6km az=135.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.15**	**22**	Pg	Pg	15 56 19.6	0.0
PAND				Lg		15 56 21.9	
CORG	**Organya**	**0.19**	**217**	Pg	Pg	15 56 20.1	-0.1
CORG				Lg		15 56 23.3	
5.8nm,0.2s							
CSOR	**Sort**	**0.25**	**269**	Pg	Pg	15 56 20.8	-0.5
CSOR				Lg		15 56 25.0	
31nm,0.2s							
CLLI	**Llivia**	**0.39**	**75**	Lg		15 56 28.8	
2.7nm,0.1s							
VALF	**Valcebollere**	**0.41**	**87**	Lg		15 56 29.7	
SALF	**Salau**	**0.43**	**331**	Lg		15 56 29.6	
GRBF	**Gourbit**	**0.46**	**6**	Pg	Pg	15 56 25.1	-0.1
EMIR	**Miracle**	**0.47**	**175**	Pg	Pg	15 56 24.1	-1.2
0.9nm,0.1s,SNR=17							
EMIR				Lg		15 56 32.5	
9.6nm,0.1s,SNR=5.0							
CARF	**Carcanieres**	**0.58**	**54**	Pg	Pg	15 56 27.4	0.0
CARF				Lg		15 56 35.0	
MLS	**Moulis**	**0.64**	**334**	Lg		15 56 36.5	
MELF	**Melles**	**0.72**	**313**	Pg	Pg	15 56 29.5	-0.6
MELF				Lg		15 56 39.6	
EGRA	**Graus**	**0.88**	**258**	Pg	Pg	15 56 33.9	+0.8
1.4nm,0.5s,SNR=7.9							
EGRA				Lg		15 56 45.2	
5.8nm,1.1s,SNR=4.0							
CFON	**Fontmartina**	**0.95**	**130**	Pg	Pg	15 56 34.5	0.0
CFON				Lg		15 56 48.2	
4.9nm,0.2s							
EBIE	**Bielsa**	**1.03**	**288**	Pg	Pg	15 56 35.3	-0.7
0.2nm,0.1s,SNR=7.9							
EBIE				Lg		15 56 50.0	
1.7nm,0.1s,SNR=7.9							
EPF	**Esparros**	**1.06**	**308**	*e*Pg	Pg	15 56 35.9	-0.6
EPF				*e*Sg	Sg	15 56 49.3	-1.0
EPOB	**Poblet**	**1.07**	**196**	Pg	Pg	15 56 36.5	-0.2
1.1nm,0.1s,SNR=7.9							
EPOB				Lg		15 56 50.9	
2.2nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**1.10**	**30**	*e*Pg	Pg	15 56 37.4	-0.1
MTLF				*e*Sg	Sg	15 56 51.6	-0.2
2.9nm,0.2s							
MTLF	**Montolieu**	**1.10**	**30**	Pg	Pg	15 56 37.4	-0.1
MTLF				Lg		15 56 51.6	
1.4nm,0.2s							
ETSF	**Etsaut**	**1.58**	**290**	*e*Pg	Pg	15 56 45.9	-0.7
ETSF				*e*Sg	Sg	15 57 06.2	-1.0
4.1nm,0.3s							
ETSF	**Etsaut**	**1.58**	**290**	Pg	Pg	15 56 45.9	-0.7
ETSF				Lg		15 57 06.2	
2.0nm,0.3s							
ESAC	**San Caprasio**	**1.59**	**246**	Pg	Pg	15 56 44.6	-2.1
12nm,1.2s,SNR=7.9							
ESAC				Lg		15 57 08.4	
6.2nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**1.66**	**211**	Pg	Pg	15 56 47.9	-0.2
0.9nm,0.1s,SNR=4.0							
ERTA				Lg		15 57 09.7	
3.3nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**2.12**	**291**	*e*Sg	Sg	15 57 22.8	-1.5
1.2nm,0.2s							
SJPF	**Ste Jean**	**2.12**	**291**	Lg		15 57 22.8	
0.6nm,0.2s							
LASF	**Ste Croix**	**2.43**	**45**	*e*Pg	Pg	15 57 01.1	-1.7
LASF				*e*Sg	Sg	15 57 33.1	-1.2
1.7nm,0.2s							
LASF	**Ste Croix**	**2.43**	**45**	Pg	Pg	15 57 01.1	-1.7
LASF				Lg		15 57 33.1	
0.9nm,0.2s							
CAF	**Calviac**	**2.58**	**9**	*e*Sg	Sg	15 57 37.0	-2.1
2.2nm,0.3s							
CAF	**Calviac**	**2.58**	**9**	Lg		15 57 37.0	
1.1nm,0.3s							

MOS ***12*** *15:56:39.1±1.3, 8.12S×12103E, h33km, mb4.6/7, Error ellipse: s-maj=24.2km s-min=10.6km az=116.1*
ISCJB ***12*** *15:56:42.2±1.2, 827S±006×12100E±008, h63km±13km, mb4.4/16, Error ellipse: s-maj=16.1km s-min=6.3km az=108.9*
BJI ***12*** *15:56:42.2, 830S×12090E, h54km, mB4.9, mb4.8, Ms4.0, Msz3.5*
NEIC ***12*** *15:56:43.2±1.3, 828S×12090E, h54km±15km, mb4.5/7, Error ellipse: s-maj=15.0km s-min=8.3km az=53.0*
NEIC Felt [III] at Kediri and Mataram, Lombok.
IDC ***12*** *15:56:44.8±2.7, 824S×12105E, h72km±25km, mb4.1/6, mb1 4.3/9, mb1mx4.0/18, mbtmp4.4/9, MS3.5/5, Ms1 3.4/5, ms1mx2.9/24, Error ellipse: s-maj=34.3km s-min=15.3km az=64.0*
ISC 12 15:56:43.6±1.1, 830S±007×12094E±008, h58km±13km, n45, σ0°97/49, mb4.4/16, MS3.5/4, 1C, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.50**	**205**	P	**Pn**	**15 57 07.8**	**-0.3**
7μm,0.6s							
FITZ	**Fitzroy Crossi**	**10.76**	**155**	*e*P	**Pn**	**15 59 15.7**	**+0.9**
34nm,0.6s							
FITZ	**Fitzroy Crossi**	**10.76**	**155**	P	**Pn**	**15 59 15.2**	**+0.4**
FITZ				S	**Sn**	**16 01 13.3**	**-0.4**
1.4nm,0.3s,baz=115,slow=17,SNR=5.2							
FITZ				LR	LR	16 04 35.9	
comp=Z,62nm,19.6s,baz=308,slow=44							
KAKA	**Kakadu**	**12.13**	**112**	*e*P	**Pn**	**15 59 34.3**	**+0.8**
25nm,0.4s							
MBWA	**Marble Bar**	**12.83**	**185**	*e*P	**Pn**	**15 59 40.6**	**-2.5**
MBWA				*e*Sn	**Sn**	**16 01 53.9**	**-10**
KSM	**Kuching**	**14.37**	**312**	*e*P	**Pn**	**16 00 03.7**	**-0.2**
BAKI	**Biak**	**16.68**	**66**	P	**Pn**	**16 00 39.6**	**+6.2**
73nm,1.3s							
WRA	**Warramunga Arr**	**17.38**	**133**	P	**Pn**	**16 00 41.5**	**-0.6**
2.2nm,0.3s,baz=309,slow=12,SNR=25							
WRAB	**Tennant Creek**	**17.39**	**133**	*e*P	**Pn**	**16 00 42.8**	**+0.7**
WRAB				pmax	pmax		
comp=Z,20nm,0.6s							
WRAB	**Tennant Creek**	**17.39**	**133**	*e*P	**Pn**	**16 00 42.8**	**+0.6**
comp=Z,20nm,0.6s							
WB2	**Warramunga Arr**	**17.39**	**133**	*e*P	**Pn**	**16 00 42.8**	**+0.6**
WB2				*e*S	**S**	**16 03 44.3**	**-16**
ASPA	**Alice Springs**	**19.69**	**142**	*e*P	**Pn**	**16 01 09.8**	**-0.1**
AS31	**Alice Springs**	**19.69**	**142**	*e*P	**Pn**	**16 01 09.8**	**-0.1**
ASAR	**Alice Springs**	**19.69**	**142**	P	**Pn**	**16 01 09.9**	**+0.1**
comp=Z,2.6nm,0.3s,baz=330,slow=11,SNR=174							
ASAR				S	**S**	**16 04 41.6**	**-5.3**
baz=323,slow=25,SNR=4.7							
ASAR				ScP	ScP	16 08 54.4	-1.7
comp=Z,0.1nm,0.3s,baz=338,slow=2.1,SNR=8.5							
ASAR	**Alice Springs**	**19.69**	**142**	P	**Pn**	**16 01 10.0**	**+0.1**
ASAR				S	**S**	**16 04 41.6**	**-5.3**
FORT	**Forrest**	**23.33**	**164**	*e*P	**P**	**16 01 47.5**	**+0.8**
comp=Z,21nm,0.8s,mb4.6							
MUN	**Mundaring**	**23.96**	**190**	*e*P	**P**	**16 01 53.4**	**+0.9**
KULM	**Kulim**	**24.32**	**303**	*e*P	**P**	**16 01 56.4**	**+0.7**
PSI	**Prapat**	**24.57**	**296**	P	**P**	**16 01 59.5**	**+1.5**
comp=Z,3.7nm,0.6s,mb4.1,baz=183,slow=9.3,SNR=4.3							
NWAO	**Narrogin (SRO)**	**24.74**	**187**	P	**P**	**16 01 59.8**	**+0.2**
comp=Z,5.2nm,0.8s,mb4.1,baz=13,slow=14,SNR=3.7							
NWAO				LR	LR	16 10 40.6	
comp=Z,78nm,21.1s,MS3.2,baz=136,slow=34							
NWAO	**Narrogin (SRO)**	**24.74**	**187**	P	**P**	**16 01 59.4**	**-0.2**
NWAO				pmax	pmax		
comp=Z,21nm,1.1s							
NWAO	**Narrogin (SRO)**	**24.74**	**187**	P	**P**	**16 01 59.4**	**-0.1**
comp=Z,22nm,1.1s,mb4.6							
NWAO				LR	LR	16 10 40.6	
CTA	**Charters Tower**	**27.15**	**118**	LR	LR	16 14 32.8	
comp=Z,135nm,19.1s,MS3.5,baz=258,slow=39							
STKA	**Stephens Creek**	**30.32**	**144**	P/P	**P**	**16 02 49.2**	**-0.3**
comp=Z,4.6nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**30.32**	**144**	P	**P**	**16 02 49.3**	**-0.2**
comp=Z,4.9nm,0.4s,mb4.6,baz=322,slow=9.0,SNR=35							
STKA				LR	LR	16 17 35.8	
comp=Z,140nm,19.7s,MS3.6,baz=208,slow=41							
CD2	**Chengdu**	**42.33**	**338**	*e*P	**P**	**16 04 32.4**	**+0.7**
CD2				AMB	AMB		
comp=Z,20nm,1.0s,mb4.7							
XAN	**Xi'an**	**43.63**	**345**	P	**P**	**16 04 41.7**	**-0.5**
XAN				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.5							
LZH	**Lanzhou**	**46.99**	**341**	*e*P	**P**	**16 05 10.5**	**+1.6**
LZH				AP	pP	16 05 24.0	+0.1
LZH				XP	sP	16 05 29.0	-1.5
LZH				AMB	AMB		
comp=Z,20nm,1.5s,mb4.8							
LZH				AMB	AMB		
comp=Z,90nm,4.5s							
LSA	**Lhasa**	**47.42**	**324**	*e*P	**P**	**16 05 13.3**	**+1.1**
LSA				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**47.42**	**324**	*e*P	**P**	**16 05 13.3**	**+1.0**
comp=Z,4.1nm,0.6s,mb4.5							
MJAR	**Matsushiro Arr**	**47.47**	**19**	P	**P**	**16 05 11.4**	**-1.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=191,slow=9.5,SNR=6.1							
GTA	**Gaotai**	**51.36**	**339**	*e*P	**P**	**16 05 43.4**	**+1.2**
ULN	**Ulaanbaatar**	**57.26**	**349**	*e*P	**P**	**16 06 25.5**	**+0.4**
ULN				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.8							
ULN	**Ulaanbaatar**	**57.26**	**349**	*e*P	**P**	**16 06 25.5**	**+0.4**
comp=Z,6.5nm,0.6s,mb4.8							
SONM	**Songino Array**	**57.36**	**348**	P	**P**	**16 06 25.8**	**0.0**
comp=Z,4.2nm,0.8s,mb4.5,baz=165,slow=8.5,SNR=32							
SONM				LR	LR	16 33 20.0	
comp=Z,57nm,18.0s,MS3.7,baz=16,slow=38							
ZAK	**Zakamensk**	**60.43**	**347**	*e*P	**P**	**16 06 45.0**	**-2.1**
ZAK				pmax	pmax		
comp=Z,4.0nm,1.3s,mb4.3							
MOY	**Mondy**	**62.15**	**346**	*e*P	**P**	**16 06 59.4**	**+0.7**
MKAR	**Makanchi Array**	**64.73**	**332**	P	**P**	**16 07 14.8**	**-1.0**
comp=Z,2.2nm,0.6s,mb4.4,baz=136,slow=7.1,SNR=29							
MKAR	**Makanchi Array**	**64.73**	**332**	P	**P**	**16 07 14.8**	**-1.0**
KURK	**Kurchatov**	**69.24**	**333**	*e*P	**P**	**16 07 43.2**	**-1.2**
YAK	**Yakutsk**	**70.45**	**4**	*e*P	**P**	**16 07 50.7**	**-1.1**
YAK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
YAK	**Yakutsk**	**70.45**	**4**	*e*P	**P**	**16 07 50.7**	**-1.1**
comp=Z,4.0nm,0.9s,mb4.3							
ZRNK	**Zerenda**	**75.23**	**330**	*e*P	**P**	**16 08 18.1**	**-2.0**
ZRNK				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0							
ZRNK	**Zerenda**	**75.23**	**330**	*e*P	**P**	**16 08 18.1**	**-2.0**
comp=Z,2.2nm,0.9s,mb4.1							
TIXI	**Tiksi**	**79.96**	**3**	*e*P	**P**	**16 08 41.1**	**-5.4**
TIXI				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							

ISCJB ***12*** *15:59:30.2±0.3, 4245N±002×146E±002, h12km±4km, Error ellipse: s-maj=3.6km s-min=2.6km az=7.6*
LDG ***12*** *15:59:31.6±0.1, 4240N×147E, h5km, Md2.8/2, Ml2.8/8, Error ellipse: s-maj=1.4km s-min=0.9km az=11.0*
NEIC ***12*** *15:59:31.7, 4242N×148E, h5km, ML2.2(MRB), ML2.5(STR), ML2.8(LDG), MN2.3(MDD), After STR.*
MDD ***12*** *15:59:31.7±0.2, 4241N×148E, h9km±4km, mbLg2.2/22, Error ellipse: s-maj=1.4km s-min=1.4km az=21.0, PRXIMO*
STR ***12*** *15:59:31.7±0.3, 4242N×148E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***12*** *15:59:31.7±0.1, 4240N×148E, h10km, ML2.9/8, Error ellipse: s-maj=1.3km s-min=1.0km az=126.0*
ISC 12 15:59:30.9±0.3, 4242N±002×148E±002, h15km±4km, n75, σ0°84/99, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.11**	**26**	Pg	**Pg**	**15 59 34.6**	**+0.3**
CSOR	**Sort**	**0.26**	**260**	Pg	**Pg**	**15 59 36.7**	**+0.2**
CSOR				Lg		15 59 40.4	
183nm,0.2s							
CLLI	**Llivia**	**0.37**	**81**	Pg	**Pg**	**15 59 38.5**	**+0.1**
CLLI				Lg		15 59 43.7	
20nm,0.1s							
CLLI	**Llivia**	**0.37**	**81**	P	**Pg**	**15 59 38.5**	**+0.1**
CLLI				S	**Sg**	**15 59 43.7**	**+0.2**
VALF	**Valcebollere**	**0.40**	**93**	Pg	**Pg**	**15 59 39.1**	**+0.1**
VALF				Sg	**Sg**	**15 59 45.5**	**+1.1**
VALF	**Valcebollere**	**0.40**	**93**	Pg	**Pg**	**15 59 39.2**	**+0.2**
VALF				Lg		15 59 44.6	
SALF	**Salau**	**0.40**	**328**	Pg	**Pg**	**15 59 39.5**	**+0.5**
SALF				Sg	**Sg**	**15 59 45.4**	**+0.9**
SALF	**Salau**	**0.40**	**328**	Pg	**Pg**	**15 59 39.5**	**+0.4**
SALF				Lg		15 59 44.8	
EMIR	**Miracle**	**0.51**	**176**	Pg	**Pg**	**15 59 40.9**	**-0.1**
14nm,0.1s,SNR=20							
EMIR				Lg		15 59 47.6	
79nm,0.1s,SNR=33							
EMIR	**Miracle**	**0.51**	**176**	Pg	**Pg**	**15 59 40.9**	**-0.1**
14nm,0.1s,SNR=20							
CBRU	**Bruguera**	**0.54**	**104**	Pg	**Pg**	**15 59 41.8**	**+0.3**
CBRU				Lg		15 59 49.2	
45nm,0.4s							
CBRU	**Bruguera**	**0.54**	**104**	P	**Pg**	**15 59 41.8**	**+0.3**
CBRU				S	**Sg**	**15 59 49.3**	**+0.6**
CARF	**Carcanieres**	**0.55**	**57**	Pg	**Pg**	**15 59 42.2**	**+0.5**
CARF				Sg	**Sg**	**15 59 50.0**	**+1.0**
CARF	**Carcanieres**	**0.55**	**57**	Pg	**Pg**	**15 59 42.2**	**+0.5**
CARF				Lg		15 59 50.0	
MLS	**Moulis**	**0.61**	**332**	Pg	**Pg**	**15 59 43.6**	**+0.8**
MLS				Sg	**Sg**	**15 59 51.2**	**+0.3**
MLS	**Moulis**	**0.61**	**332**	Pg	**Pg**	**15 59 43.1**	**+0.3**
MLS				Lg		15 59 51.0	
LPEF	**Le Peyrat**	**0.61**	**31**	Pg	**Pg**	**15 59 43.7**	**+0.7**
LPEF				Lg		15 59 53.0	
MELF	**Melles**	**0.70**	**311**	Pg	**Pg**	**15 59 44.5**	**0.0**
MELF				Lg		15 59 53.9	
CAVN	**Les Avellanes**	**0.76**	**225**	Pg	**Pg**	**15 59 45.6**	**-0.2**
CAVN	**Les Avellanes**	**0.76**	**225**	P	**Pg**	**15 59 45.7**	**-0.1**
CAVN	**Les Avellanes**	**0.76**	**225**	P	**Pg**	**15 59 45.7**	**-0.1**
FILF	**Fillols**	**0.81**	**80**	Pg	**Pg**	**15 59 45.5**	**-1.2**
FILF				Sg	**Sg**	**15 59 54.7**	**-2.6**
FILF	**Fillols**	**0.81**	**80**	Pg	**Pg**	**15 59 45.5**	**-1.1**
FILF				Lg		15 59 54.9	
EGRA	**Graus**	**0.89**	**256**	Pg	**Pg**	**15 59 48.4**	**+0.2**
7.4nm,0.3s,SNR=24							
EGRA				Lg		16 00 02.1	
29nm,0.4s,SNR=11							
EGRA	**Graus**	**0.89**	**256**	Pg	**Pg**	**15 59 48.4**	**+0.2**
7.4nm,0.3s,SNR=24							
RESF	**Ens**	**0.93**	**295**	Lg		16 00 02.0	
LRDF	**Laroque-de-Fa**	**0.94**	**56**	Lg		16 00 01.9	
CFON	**Fontmartina**	**0.97**	**132**	Pg	**Pg**	**15 59 49.4**	**-0.3**
CFON				Lg		16 00 02.4	
59nm,0.2s							
CFON	**Fontmartina**	**0.97**	**132**	P	**Pb**	**15 59 49.4**	**0.0**
CFON				S	**Sb**	**16 00 02.4**	**+0.4**
EBIE	**Bielsa**	**1.02**	**285**	Pn	**Pn**	**15 59 50.2**	**-0.5**
0.8nm,0.1s,SNR=7.9							
EBIE				Lg		16 00 05.2	
15nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**1.02**	**285**	Pn	**Pn**	**15 59 50.2**	**-0.5**
0.8nm,0.1s,SNR=7.9							
EPF	**Esparros**	**1.04**	**306**	*e*Pg	**Pg**	**15 59 50.8**	**-0.2**
EPF				*e*Sg	**Sg**	**16 00 04.7**	**+0.1**
18nm,0.2s							
EPF	**Esparros**	**1.04**	**306**	*e*Pg	**Pg**	**15 59 50.8**	**-0.2**
EPF				*e*Sg	**Sg**	**16 00 04.7**	**+0.1**
9.0nm,0.2s							
SJAF	**Saint Jean de**	**1.04**	**86**	Pg	**Pg**	**15 59 51.4**	**+0.4**
SJAF				Lg		16 00 04.9	
MTLF	**Montolieu**	**1.07**	**30**	*e*Pg	**Pg**	**15 59 52.0**	**+0.5**
MTLF				*e*Sg	**Sg**	**16 00 06.4**	**+0.9**
21nm,0.2s							
MTLF	**Montolieu**	**1.07**	**30**	*e*Pg	**Pg**	**15 59 52.0**	**+0.5**
MTLF				*e*Sg	**Sg**	**16 00 06.4**	**+0.9**
10nm,0.2s							
EPOB	**Poblet**	**1.11**	**196**	Pg	**Pg**	**15 59 51.8**	**-0.5**
2.6nm,0.2s,SNR=26							
EPOB				Lg		16 00 06.0	
14nm,0.1s,SNR=18							
EPOB	**Poblet**	**1.11**	**196**	Pg	**Pg**	**15 59 51.8**	**-0.5**
EPOB				Lg		16 00 06.0	
EPOB	**Poblet**	**1.11**	**196**	Pg	**Pg**	**15 59 51.8**	**-0.5**
2.6nm,0.2s,SNR=26							
VIEF	**Viey**	**1.17**	**294**	Pg	**Pg**	**15 59 52.9**	**-0.6**
VIEF				Lg		16 00 08.4	
LABF	**Labassere**	**1.21**	**302**	Pg	**Pg**	**15 59 54.2**	**0.0**
LABF				Lg		16 00 10.5	
REYF	**Montagne du Re**	**1.52**	**296**	Lg		16 00 20.3	
ETSF	**Etsaut**	**1.58**	**288**	*e*Pg	**Pg**	**16 00 00.9**	**-0.4**
ETSF				*e*Sg	**Sg**	**16 00 22.2**	**+0.4**
20nm,0.3s							
ETSF	**Etsaut**	**1.58**	**288**	*e*Pg	**Pg**	**16 00 00.9**	**-0.4**
ETSF				*e*Sg	**Sg**	**16 00 22.2**	**+0.4**
9.8nm,0.3s							
ESAC	**San Caprasio**	**1.61**	**245**	Pg	**Pg**	**16 00 00.7**	**-1.2**
52nm,0.3s,SNR=11							
ESAC				Lg		16 00 23.5	
62nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**1.61**	**245**	Pg	**Pg**	**16 00 00.7**	**-1.2**
52nm,0.3s,SNR=11							
ERTA	**Horta de San J**	**1.70**	**211**	Pn	**Pn**	**15 59 59.4**	**-0.6**
0.5nm,0.2s,SNR=13							
ERTA				Pg	**Pg**	**16 00 02.6**	**-0.9**
5.0nm,0.2s,SNR=7.9							
ERTA				Lg		16 00 24.8	
46nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**1.70**	**211**	Pg	**Pg**	**16 00 02.6**	**-0.9**
5.0nm,0.2s,SNR=7.9							
ATE	**Arette**	**1.74**	**293**	Lg		16 00 28.2	
EBR	**Ebro Roquetas**	**1.76**	**205**	*e*SN	**Sn**	**16 00 25.5**	**+2.5**
EBR				*e*S*	**Sb**	**16 00 27.0**	**+2.2**
SJPF	**Ste Jean**	**2.11**	**290**	*e*Pg	**Pg**	**16 00 10.9**	**-0.5**
SJPF				*e*Sg	**Sg**	**16 00 38.7**	**-0.1**
10nm,0.3s							
SJPF	**Ste Jean**	**2.11**	**290**	*e*Pg	**Pg**	**16 00 10.9**	**-0.5**
SJPF				*e*Sg	**Sg**	**16 00 38.7**	**-0.1**
5.2nm,0.3s							
IPRE	**Itoiz**	**2.13**	**281**	Pg	**Pg**	**16 00 12.7**	**+0.9**
0.4nm,0.1s,SNR=7.9							
IPRE				Lg		16 00 41.9	
1.5nm,0.2s,SNR=7.9							
IPRE	**Itoiz**	**2.13**	**281**	Pg	**Pg**	**16 00 12.7**	**+0.9**
0.4nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**2.29**	**284**	Pg	**Pg**	**16 00 15.0**	**+0.1**
0.5nm,0.1s,SNR=7.9							
IUSE				Lg		16 00 47.5	
1.0nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**2.29**	**284**	Pg	**Pg**	**16 00 15.0**	**+0.1**
0.5nm,0.1s,SNR=7.9							
ELIZ	**Elizondo**	**2.34**	**290**	Pg	**Pg**	**16 00 15.2**	**-0.5**
0.3nm,0.0s,SNR=7.9							
ELIZ				Lg		16 00 46.5	
1.4nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**2.34**	**290**	Pg	**Pg**	**16 00 15.2**	**-0.5**
0.3nm,0.0s,SNR=7.9							
EALK	**Alkurruntz**	**2.34**	**291**	Pg	**Pg**	**16 00 15.6**	**-0.1**
0.7nm,0.1s,SNR=7.9							
EALK				Lg		16 00 46.6	
35nm,0.6s,SNR=7.9							
LASF	**Ste Croix**	**2.40**	**46**	*e*Pg	**Pg**	**16

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	SNR=7.9						
ETOS	**Mallorca**	**2.84**	**159**	Pn	**Pn**	**16 00 15.8**	**+0.2**
	SNR=7.9						
ETOS				Sn	**Sn**	**16 00 47.1**	**-2.4**
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*Sg	**Sg**	**16 01 03.0**	**-0.5**
	7.6nm,0.3s						
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*Sg	**Sg**	**16 01 03.0**	**-0.5**
	3.8nm,0.3s						
VIVF	**Saint-Julien-l**	**3.36**	**43**	*e*Pg	**Pg**	**16 00 34.6**	**-0.7**
VIVF				*e*Sg	**Sg**	**16 01 16.9**	**-2.0**
	5.7nm,0.3s						
VIVF	**Saint-Julien-l**	**3.36**	**43**	*e*Pg	**Pg**	**16 00 34.6**	**-0.7**
VIVF				*e*Sg	**Sg**	**16 01 16.9**	**-2.0**
	2.8nm,0.3s						

LDG ***12*** *16:03:28.2±0.2, 4240N×145E, h5km, Ml2.2/5, Error ellipse: s-maj=5.3km s-min=1.3km az=165.0*
MDD 12 16:03:28.3±0.3, 4241N×149E, h11km±1km, mbLg1.6/11, Error ellipse: s-maj=3.0km s-min=2.1km az=61.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.12**	**19**	Pg	Pg	16 03 31.2	-0.1
PAND				Lg		16 03 33.4	
VALF	**Valcebollere**	**0.39**	**91**	Pg	Pg	16 03 35.7	-0.3
VALF				Lg		16 03 41.1	
SALF	**Salau**	**0.42**	**327**	Pg	Pg	16 03 36.0	-0.5
SALF				Lg		16 03 41.5	
EMIR	**Miracle**	**0.49**	**177**	Pg	Pg	16 03 37.5	-0.5
	1.6nm,0.1s,SNR=7.9						
EMIR				Lg		16 03 44.2	
	14nm,0.1s,SNR=7.9						
MLS	**Moulis**	**0.62**	**332**	Pg	Pg	16 03 40.4	0.0
MLS				Lg		16 03 48.3	
MELF	**Melles**	**0.71**	**311**	Pg	Pg	16 03 41.3	-0.8
MELF				Lg		16 03 51.1	
EGRA	**Graus**	**0.90**	**257**	Pg	Pg	16 03 46.0	+0.3
	1.4nm,0.1s,SNR=7.9						
EGRA				Lg		16 03 59.0	
	7.3nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**1.04**	**286**	Pg	Pg	16 03 46.9	-1.4
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		16 04 00.7	
	1.6nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.05**	**307**	*e*Pg	Pg	16 03 47.5	-1.1
EPF				*e*Sg	Sg	16 04 01.2	-1.1
	5.8nm,0.2s						
EPF	**Esparros**	**1.05**	**307**	Pg	Pg	16 03 47.5	-1.1
EPF				Lg		16 04 01.2	
	2.9nm,0.2s						
MTLF	**Montolieu**	**1.07**	**29**	*e*Pg	Pg	16 03 48.8	-0.2
MTLF				*e*Sg	Sg	16 04 02.6	-0.3
	4.8nm,0.2s						
MTLF	**Montolieu**	**1.07**	**29**	Pg	Pg	16 03 48.8	-0.2
MTLF				Lg		16 04 02.6	
	2.4nm,0.2s						
EPOB	**Poblet**	**1.10**	**197**	Pg	Pg	16 03 48.3	-1.2
	0.8nm,0.1s,SNR=7.9						
EPOB				Lg		16 04 02.8	
	1.8nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.59**	**289**	*e*Pg	Pg	16 03 57.4	-1.5
ETSF				*e*Sg	Sg	16 04 17.9	-1.7
	5.9nm,0.2s						
ETSF	**Etsaut**	**1.59**	**289**	Pg	Pg	16 03 57.4	-1.5
ETSF				Lg		16 04 17.9	
	3.0nm,0.2s						
ESAC	**San Caprasio**	**1.61**	**246**	Pg	Pg	16 03 58.2	-1.1
	3.5nm,0.1s,SNR=7.9						
ESAC				Lg		16 04 20.3	
	5.1nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.69**	**211**	Pg	Pg	16 03 58.5	-2.3
	1.1nm,0.1s,SNR=7.9						
ERTA				Lg		16 04 21.5	
	7.1nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**2.12**	**290**	*e*Sg	Sg	16 04 34.2	-2.4
	2.9nm,0.5s						
SJPF	**Ste Jean**	**2.12**	**290**	Lg		16 04 34.2	
	1.4nm,0.5s						
LASF	**Ste Croix**	**2.40**	**45**	*e*Sg	Sg	16 04 44.3	-1.1
	3.3nm,0.3s						
LASF	**Ste Croix**	**2.40**	**45**	Lg		16 04 44.3	
	1.6nm,0.3s						

ISCJB ***12*** *16:04:17.2±0.3, 4248N±002×148E±002, h5km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=133.1*
CSEM ***12*** *16:04:18.8±0.1, 4239N×146E, h0km, ML3.3/20, Error ellipse: s-maj=1.9km s-min=1.2km az=38.0*
STR ***12*** *16:04:18.1±1.6, 4241N×146E, h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***12*** *16:04:18.6, 4240N×150E, h0km, ML2.5(MRB), ML2.9(STR), ML3.3(LDG), MN2.8(MDD), After MRB.*
MDD ***12*** *16:04:19.1±0.1, 4240N×148E, h0km, mbLg2.6/36, Error ellipse: s-maj=1.3km s-min=1.2km az=120.0, PRXIMO*
LDG ***12*** *16:04:19.2±0.1, 4239N×146E, h5km, Md3.0/2, Ml3.3/21, Error ellipse: s-maj=2.0km s-min=1.6km az=140.0*
ISC 12 16:04:18.1±0.2, 4243N±001×149E±002, h8km±2km, n113, σ1§07/180, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.10**	**24**	Pg	**Pg**	**16 04 21.3**	**+0.8**
PAND				Lg		16 04 23.7	
CORG	**Organya**	**0.24**	**213**	Pg	**Pg**	**16 04 22.4**	**-0.5**
CORG				Lg		16 04 25.8	
	125nm,0.2s						
CORG	**Organya**	**0.24**	**213**	P	**Pg**	**16 04 22.5**	**-0.4**
CORG				S	**Sg**	**16 04 25.8**	**-0.3**
CORG	**Organya**	**0.24**	**213**	P	**Pg**	**16 04 22.5**	**-0.4**
CSOR	**Sort**	**0.27**	**258**	Pg	**Pg**	**16 04 23.6**	**+0.1**
CSOR				Lg		16 04 27.1	
	625nm,0.2s						
CSOR	**Sort**	**0.27**	**258**	P	**Pg**	**16 04 23.6**	**+0.2**
CSOR				S	**Sg**	**16 04 27.2**	**+0.1**
CLLI	**Llivia**	**0.36**	**82**	P	**Pg**	**16 04 25.3**	**+0.2**
VALF	**Valcebollere**	**0.39**	**94**	Pg	**Pg**	**16 04 26.5**	**+0.8**
VALF				Lg		16 04 32.2	
SALF	**Salau**	**0.40**	**326**	Pg	**Pg**	**16 04 26.9**	**+1.1**
SALF				Lg		16 04 32.7	
EMIR	**Miracle**	**0.52**	**177**	Pg	**Pg**	**16 04 27.6**	**-0.5**
	15nm,0.2s,SNR=16						
EMIR				Lg		16 04 34.9	
	129nm,0.1s,SNR=36						
EMIR	**Miracle**	**0.52**	**177**	Pg	**Pg**	**16 04 27.6**	**-0.5**
	15nm,0.2s,SNR=16						
CBRU	**Bruguera**	**0.53**	**106**	Pg	**Pg**	**16 04 28.4**	**0.0**
CBRU				Lg		16 04 36.4	
	170nm,0.4s						
CBRU	**Bruguera**	**0.53**	**106**	P	**Pg**	**16 04 28.5**	**+0.1**
CBRU				S	**Sg**	**16 04 36.4**	**+1.1**
CBRU	**Bruguera**	**0.53**	**106**	P	**Pg**	**16 04 28.5**	**+0.1**
CARF	**Carcanieres**	**0.54**	**58**	Pg	**Pg**	**16 04 29.7**	**+1.2**
CARF				Lg		16 04 37.5	
LPEF	**Le Peyrat**	**0.60**	**31**	Pg	**Pg**	**16 04 30.8**	**+1.1**
LPEF				Lg		16 04 40.4	
MLS	**Moulis**	**0.60**	**331**	Pg	**Pg**	**16 04 31.0**	**+1.3**
MLS				Lg		16 04 38.7	
MELF	**Melles**	**0.70**	**309**	Pg	**Pg**	**16 04 32.2**	**+0.7**
MELF				Lg		16 04 41.4	
CAVN	**Les Avellanes**	**0.78**	**225**	Pg	**Pg**	**16 04 32.3**	**-0.7**
CAVN				Lg		16 04 44.4	
	74nm,0.2s						
CAVN	**Les Avellanes**	**0.78**	**225**	P	**Pg**	**16 04 32.3**	**-0.7**
CAVN				S	**Sg**	**16 04 44.5**	**+1.3**
FILF	**Fillols**	**0.80**	**80**	Pg	**Pg**	**16 04 32.4**	**-1.1**
FILF				Lg		16 04 42.3	
EGRA	**Graus**	**0.90**	**255**	Pg	**Pg**	**16 04 36.0**	**+0.6**
	30nm,0.2s,SNR=35						
EGRA				Lg		16 04 49.4	
	30nm,0.2s,SNR=13						
LRDF	**Laroque-de-Fa**	**0.92**	**56**	Pg	**Pg**	**16 04 37.0**	**+1.2**
LRDF				Lg		16 04 49.8	
RESF	**Ens**	**0.93**	**294**	Pg	**Pg**	**16 04 36.1**	**+0.1**
CFON	**Fontmartina**	**0.97**	**133**	Lg		16 04 49.2	
	161nm,0.2s						
EBIE	**Bielsa**	**1.03**	**285**	Pg	**Pg**	**16 04 37.2**	**-0.6**
	1.9nm,0.1s,SNR=7.9						
EBIE				Lg		16 04 51.0	
	29nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**1.03**	**87**	Pg	**Pg**	**16 04 38.8**	**+0.9**
SJAF				Sg	**Sg**	**16 04 52.2**	**+0.9**
SJAF	**Saint Jean de**	**1.03**	**87**	Pg	**Pg**	**16 04 37.6**	**-0.2**
SJAF				Lg		16 04 52.2	
SJAF	**Saint Jean de**	**1.03**	**87**	Pn	**Pn**	**16 04 37.6**	**-1.2**
SJAF				Sg	**Sg**	**16 04 52.2**	**+0.9**
EPF	**Esparros**	**1.04**	**306**	*e*Pn	**Pn**	**16 04 38.6**	**-0.3**
EPF				*e*Sg	**Sg**	**16 04 51.1**	**-0.4**
	73nm,0.3s,SNR=1.0						
EPF	**Esparros**	**1.04**	**306**	Pg	**Pg**	**16 04 38.0**	**0.0**
EPF				Pn	**Pn**	**16 04 38.6**	**-0.3**
EPF				Lg		16 04 51.1	
	37nm,0.3s						
EPF	**Esparros**	**1.04**	**306**	*e*Pg	**Pg**	**16 04 38.0**	**0.0**
EPF				*e*Pn	**Pn**	**16 04 38.6**	**-0.3**
EPF				*e*Sg	**Sg**	**16 04 51.1**	**-0.4**
EPF	**Esparros**	**1.04**	**306**	*e*Pn	**Pn**	**16 04 38.6**	**-0.3**
EPF				*e*Sg	**Sg**	**16 04 51.1**	**-0.4**
	37nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**1.05**	**30**	*e*Pg	**Pg**	**16 04 39.8**	**+1.5**
MTLF				*e*Sg	**Sg**	**16 04 53.8**	**+1.8**
	74nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**1.05**	**30**	Pn	**Pn**	**16 04 39.1**	**0.0**
MTLF				Pg	**Pg**	**16 04 39.8**	**+1.5**
MTLF				Lg		16 04 53.8	
	37nm,0.2s						
MTLF	**Montolieu**	**1.05**	**30**	*e*Pn	**Pn**	**16 04 39.1**	**0.0**
MTLF				*e*Pg	**Pg**	**16 04 39.8**	**+1.5**
MTLF				*e*Sg	**Sg**	**16 04 53.8**	**+1.8**
MTLF	**Montolieu**	**1.05**	**30**	*e*Pg	**Pg**	**16 04 39.8**	**+1.5**
MTLF				*e*Sg	**Sg**	**16 04 53.8**	**+1.8**
	37nm,0.2s,SNR=1.0						
EPOB	**Poblet**	**1.12**	**196**	Pg	**Pg**	**16 04 38.6**	**-1.0**
	8.9nm,0.1s,SNR=26						
EPOB				Lg		16 04 53.4	
	165nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**1.12**	**196**	Pg	**Pg**	**16 04 38.6**	**-1.0**
	8.9nm,0.1s,SNR=26						
VIEF	**Viey**	**1.17**	**293**	Pg	**Pg**	**16 04 39.6**	**-1.0**
VIEF				Sg	**Sg**	**16 04 56.7**	**+0.9**
VIEF	**Viey**	**1.17**	**293**	Pg	**Pg**	**16 04 39.8**	**-0.8**
VIEF				Lg		16 04 56.0	
LABF	**Labassere**	**1.21**	**301**	Pg	**Pg**	**16 04 41.1**	**-0.2**
LABF				Lg		16 04 57.2	
REYF	**Montagne du Re**	**1.53**	**295**	Pg	**Pg**	**16 04 46.2**	**-1.2**
REYF	**Montagne du Re**	**1.53**	**295**	Pg	**Pg**	**16 04 46.0**	**-1.4**
REYF				Lg		16 05 08.0	
REYF	**Montagne du Re**	**1.53**	**295**	Pn	**Pn**	**16 04 46.3**	**+0.7**
ETSF	**Etsaut**	**1.58**	**288**	*e*Pg	**Pg**	**16 04 48.7**	**+0.3**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**16 05 06.7**	**-0.3**
	67nm,0.3s,SNR=1.0						
ETSF				*e*Sg	**Sg**	**16 05 09.9**	**+0.9**
	64nm,0.3s						
ETSF	**Etsaut**	**1.58**	**288**	*e*Pg	**Pg**	**16 04 48.7**	**+0.3**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**16 05 06.7**	**-0.3**
	34nm,0.3s,SNR=1.0						
ETSF				*e*Sg	**Sg**	**16 05 09.9**	**+0.9**
	32nm,0.3s						
ESAC	**San Caprasio**	**1.62**	**245**	Pg	**Pg**	**16 04 48.0**	**-1.3**
	108nm,0.3s,SNR=41						
ESAC				Lg		16 05 10.9	
	255nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**1.62**	**245**	Pg	**Pg**	**16 04 48.0**	**-1.3**
ESAC				Lg		16 05 10.9	
ESAC	**San Caprasio**	**1.62**	**245**	Pg	**Pg**	**16 04 48.0**	**-1.2**
	108nm,0.3s,SNR=41						
ERTA	**Horta de San J**	**1.71**	**211**	Pg	**Pg**	**16 04 49.2**	**-1.6**
	9.0nm,0.2s,SNR=7.9						
ERTA				Lg		16 05 12.3	
	134nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**1.71**	**211**	Pg	**Pg**	**16 04 49.2**	**-1.6**
ERTA				Lg		16 05 12.3	
ERTA	**Horta de San J**	**1.71**	**211**	Pg	**Pg**	**16 04 49.2**	**-1.7**
	9.0nm,0.2s,SNR=7.9						
ATE	**Arette**	**1.74**	**293**	Pg	**Pg**	**16 04 51.4**	**-0.1**
ATE				Lg		16 05 14.0	
EBR	**Ebro Roquetas**	**1.77**	**205**	*e*SN	**Sn**	**16 05 14.0**	**+2.2**
LARF	**Larrau**	**1.92**	**289**	Pg	**Pg**	**16 04 54.1**	**-0.8**
LARF				Lg		16 05 21.6	
ORDF	**Ordiarp**	**1.95**	**294**	Lg		16 05 21.7	
SJPF	**Ste Jean**	**2.11**	**290**	*e*Pg	**Pg**	**16 04 58.5**	**-0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**16 05 26.1**	**+0.1**
	30nm,0.3s						
SJPF	**Ste Jean**	**2.11**	**290**	*e*Pg	**Pg**	**16 04 58.5**	**-0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**16 05 26.1**	**+0.1**
	15nm,0.3s						
IPRE	**Itoiz**	**2.13**	**281**	Pg	**Pg**	**16 05 00.0**	**+1.0**
	3.1nm,0.2s,SNR=7.9						
IPRE				Lg		16 05 28.5	
	14nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**2.13**	**281**	Pg	**Pg**	**16 05 00.0**	**+1.0**
	3.1nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**2.29**	**280**	Lg		16 05 33.8	
	10nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**2.30**	**284**	Pg	**Pg**	**16 05 02.0**	**-0.1**
	2.0nm,0.2s,SNR=7.9						
IUSE				Lg		16 05 33.6	
	8.2nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**2.30**	**284**	Pg	**Pg**	**16 05 02.0**	**-0.2**
	2.0nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**2.34**	**289**	Pg	**Pg**	**16 05 02.2**	**-0.7**
	2.2nm,0.2s,SNR=7.9						
ELIZ				Lg		16 05 33.3	
	11nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.34**	**291**	Pg	**Pg**	**16 05 02.2**	**-0.8**
	16nm,0.3s,SNR=7.9						
EALK				Lg		16 05 33.3	
	42nm,0.4s,SNR=7.9						
LASF	**Ste Croix**	**2.38**	**46**	*e*Pg	**Pg**	**16 05 04.1**	**+0.3**
LASF				*e*Sg	**Sg**	**16 05 36.0**	**+1.3**
	30nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.38**	**46**	Pn	**Pn**	**16 04 58.6**	**+1.2**
LASF				Pg	**Pg**	**16 05 04.1**	**+0.3**
LASF				Lg		16 05 36.0	
	15nm,0.3s						
LASF	**Ste Croix**	**2.38**	**46**	*e*Pn	**Pn**	**16 04 58.6**	**+1.2**
LASF				*e*Pg	**Pg**	**16 05 04.1**	**+0.3**
LASF				*e*Sg	**Sg**	**16 05 36.0**	**+1.3**
LASF	**Ste Croix**	**2.38**	**46**	*e*Pg	**Pg**	**16 05 04.1**	**+0.3**
LASF				*e*Sg	**Sg**	**16 05 36.0**	**+1.3**
	15nm,0.3s,SNR=1.0						
CAF	**Calviac**	**2.53**	**9**	*e*Pg	**Pg**	**16 05 06.7**	**+0.2**
CAF				*e*Sn	**Sn**	**16 05 28.7**	**-1.6**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**16 05 40.1**	**+0.8**
	77nm,0.4s,SNR=1.0						
CAF	**Calviac**	**2.53**	**9**	Pn	**Pn**	**16 05 01.0**	**+1.6**
CAF				Pg	**Pg**	**16 05 06.7**	**+0.2**
CAF				Sn	**Sn**	**16 05 28.7**	**-1.6**
CAF				Lg		16 05 40.1	
	39nm,0.4s						
CAF	**Calviac**	**2.53**	**9**	*e*Pn	**Pn**	**16 05 01.0**	**+1.6**
CAF				*e*Pg	**Pg**	**16 05 06.7**	**+0.2**
CAF				*e*Sn	**Sn**	**16 05 28.7**	**-1.6**
CAF				*e*Sg	**Sg**	**16 05 40.1**	**+0.8**
CAF	**Calviac**	**2.53**	**9**	*e*Pg	**Pg**	**16 05 06.7**	**+0.2**
CAF				*e*Sn	**Sn**	**16 05 28.7**	**-1.6**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**16 05 40.1**	**+0.8**
	39nm,0.4s,SNR=1.0						
EMOS	**Mosqueruela**	**2.54**	**216**	Pn	**Pn**	**16 05 01.8**	**+2.3**
	5.6nm,0.3s,SNR=7.9						
EMOS				Lg		16 05 38.3	
	11nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.54**	**216**	Pn	**Pn**	**16 05 01.8**	**+2.3**
	5.6nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.56**	**348**	*e*Pg	**Pg**	**16 05 07.0**	**-0.3**
LFF				*e*Sg	**Sg**	**16 05 41.4**	**+0.9**
	41nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**2.56**	**348**	*e*Pg	**Pg**	**16 05 07.0**	**-0.3**
LFF				*e*Sg	**Sg**	**16 05 41.4**	**+0.9**
	20nm,0.3s,SNR=1.0						
ETOS	**Mallorca**	**2.84**	**159**	Pn	**Pn**	**16 05 03.3**	**-0.4**
	22nm,1.2s,SNR=5.6						
ETOS				Sn	**Sn**	**16 05 36.8**	**-1.4**
	3.0nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.84**	**159**	Pn	**Pn**	**16 05 03.3**	**-0.4**
	22nm,1.2s,SNR=5.6						
ETOS				Sn	**Sn**	**16 05 36.8**	**-1.3**
	3.0nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.87**	**0**	*e*Pg	**Pg**	**16 05 13.6**	**+0.5**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**16 05 50.5**	**+0.2**
	17nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.87**	**0**	*e*Pg	**Pg**	**16 05 13.6**	**+0.5**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**16 05 50.5**	**+0.2**
	8.4nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.35**	**43**	*e*Pg	**Pg**	**16 05 22.1**	**-0.1**
VIVF				*e*Sg	**Sg**	**16 06 05.9**	**+0.3**
	15nm,0.3s						
VIVF	**Saint-Julien-l**	**3.35**	**43**	Pn	**Pn**	**16 05 11.9**	**+1.3**
VIVF				Pg	**Pg**	**16 05 22.1**	**-0.1**
VIVF				Lg		16 06 05.9	
	7.7nm,0.3s						
VIVF	**Saint-Julien-l**	**3.35**	**43**	*e*Pn	**Pn**	**16 05 11.9**	**+1.3**
VIVF				*e*Pg	**Pg**	**16 05 22.1**	**-0.1**
VIVF				*e*Sg	**Sg**	**16 06 05.9**	**+0.3**
VIVF	**Saint-Julien-l**	**3.35**	**43**	*e*Pg	**Pg**	**16 05 22.1**	**-0.1**
VIVF				*e*Sg	**Sg**	**16 06 05.9**	**+0.3**
	7.7nm,0.3s						
SMRF	**Simiane la Rot**	**3.36**	**61**	*e*Pn	**Pn**	**16 05 11.8**	**+1.0**
SMRF				*e*Pg	**Pg**	**16 05 23.2**	**+0.7**
ECHE	**Chera**	**3.39**	**214**	Pg	**Pg**	**16 05 22.4**	**-0.7**
	4.9nm,0.4s,SNR=7.9						
ECHE				Lg		16 06 05.8	
	4.6nm,0.4s,SNR=7.9						
ECHE	**Chera**	**3.39**	**214**	Pg	**Pg**	**16 05 22.4**	**-0.7**
ECHE				Lg		16 06 05.8	
EIBI	**Ibiza**	**3.40**	**182**	Pn	**Pn**	**16 05 12.4**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**16 05 50.1**	**-1.8**
	6.8nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.40**	**182**	Pn	**Pn**	**16 05 12.4**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**16 05 50.1**	**-1.8**
	6.8nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**3.80**	**75**	*e*Pn	**Pn**	**16 05 18.5**	**+1.7**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**16 06 01.2**	**-0.4**
	3.3nm,0.2s,SNR=1.0						
LMR				*e*Sg	**Sg**	**16 06 18.2**	**-1.8**
	3.7nm,0.2s						
LMR	**La Mourre**	**3.80**	**75**	Pn	**Pn**	**16 05 18.5**	**+1.7**
LMR				Sn	**Sn**	**16 06 01.2**	**-0.4**
	1.6nm,0.2s						
LMR				Lg		16 06 18.2	
	1.9nm,0.2s						
LMR	**La Mourre**	**3.80**	**75**	*e*Pn	**Pn**	**16 05 18.5**	**+1.7**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**16 06 01.2**	**-0.4**
	1.6nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.89**	**7**	*e*Pg	**Pg**	**16 05 31.6**	**-1.0**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**16 06 02.6**	**-1.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**16 06 22.1**	**-0.9**
	27nm,0.6s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.89**	**7**	*e*Pg	**Pg**	**16 05 31.6**	**-1.0**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**16 06 02.6**	**-1.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**16 06 22.1**	**-0.9**
	14nm,0.6s,SNR=1.0						
FRF	**La Foret Royal**	**3.95**	**72**	*e*Pn	**Pn**	**16 05 21.3**	**+2.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**16 06 22.7**	**-2.1**
	5.6nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	**3.95**	**72**	Pn	**Pn**	**16 05 21.3**	**+2.4**
FRF				Lg		16 06 22.7	
	2.8nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.04**	**51**	*e*Pn	**Pn**	**16 05 22.0**	**+1.9**
BGF	**Bois d'Agland**	**4.24**	**13**	*e*Sg	**Sg**	**16 06 33.7**	**-0.5**
	67nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.24**	**13**	*e*Sg	**Sg**	**16 06 33.7**	**-0.5**
	34nm,0.4s,SNR=1.0						
MFF	**Saint Martin d**	**4.33**	**345**	*e*Pn	**Pn**	**16 05 25.4**	**+1.2**
	SNR=1.0						
SMF	**Signal de Mont**	**4.54**	**21**	*e*Pg	**Pg**	**16 05 44.4**	**-0.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**16 06 42.3**	**-1.4**
	9.0nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**4.54**	**21**	*e*Pg	**Pg**	**16 05 44.4**	**-0.6**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**16 06 42.3**	**-1.4**
	4.5nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**4.56**	**16**	*e*Pg	**Pg**	**16 05 43.5**	**-1.9**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**16 06 42.8**	**-1.6**
	10nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**4.56**	**16**	*e*Pg	**Pg**	**16 05 43.5**	**-1.9**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**16 06 42.8**	**-1.6**
	5.1nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**4.85**	**17**	*e*Pg	**Pg**	**16 05 49.8**	**-1.1**
SSF				*e*Sg	**Sg**	**16 06 52.0**	**-1.7**
	7.5nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**4.85**	**17**	*e*Pg	**Pg**	**16 05 49.8**	**-1.1**
SSF				*e*Sg	**Sg**	**16 06 52.0**	**-1.7**
	3.8nm,0.4s,SNR=1.0						
LOR	**Lormes**	**5.12**	**18**	*e*Sg	**Sg**	**16 07 01.0**	**-1.5**
	9.2nm,0.4s,SNR=1.0						
LOR	**Lormes**	**5.12**	**18**	*e*Sg	**Sg**	**16 07 01.0**	**-1.5**
	4.6nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**5.32**	**37**	*e*Pg	**Pg**	**16 05 59.3**	**-0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**16 07 09.

CD2 Chengdu 18.19 302 *e*P **P** **16 18 43.4 +0.6**
CD2 XP sP 16 19 21.4 -0.5
CD2 S **S** **16 21 58.7 -5.6**
CD2 AMB AMB
comp=Z,20nm,0.9s
CD2 LR LR
comp=N,130nm,9.5s
CD2 LR LR
comp=Z,90nm,13.2s
MAJO Matsushiro 20.34 41 *e*P **P** **16 19 07.2 +1.1**
comp=Z,10nm,0.8s
MAT Matsushiro 20.34 41 P **P** **16 19 07.1 +1.0**
MAT Matsushiro 20.34 41 P **P** **16 19 07.2 +1.1**
MAT Matsushiro 20.34 41 *e*P **P** **16 19 07.0 +0.9**
comp=Z,6.7nm,0.8s
MJAR Matsushiro Arr 20.34 41 P **P** **16 19 07.7 +1.6**
comp=Z,7.5nm,0.7s,baz=230,slow=8.3,SNR=24
JRY Ryogami san 20.44 44 P **P** **16 19 09.0 +1.8**
LZH Lanzhou 20.79 316 *e*P **P** **16 19 15.9 +5.0**
LZH AMB AMB
comp=Z,20nm,1.3s
LZH AMB AMB
comp=Z,70nm,5.0s
LZH LR LR
comp=E,190nm,9.0s
LZH LR LR
comp=Z,240nm,10.1s
JYA Atsumi 22.58 39 P **P** **16 19 28.6 -1.2**
JMM Marumori 22.77 42 P **P** **16 19 30.8 -0.7**
JOM Ohasama 24.09 40 P **P** **16 19 42.5 -1.0**
JTM Tenmabayashi 24.83 37 P **P** **16 19 50.7 +0.5**
JOT Ohata 25.22 36 P **P** **16 19 54.2 +0.4**
GTA Gaotai 25.33 318 *e*P **P** **16 19 58.4 +3.6**
JEM Erimo 26.82 37 P **P** **16 20 09.3 +1.1**
ASAJ Asahikawa 27.95 33 P **P** **16 20 19.8 +1.5**
comp=Z,6.0nm,0.5s,mb4.6,baz=158,slow=3.6,SNR=16
ASAJ Asahikawa 27.95 33 P **P** **16 20 21.6 +3.3**
JMP Maruseppu 28.27 34 P **P** **16 20 25.2 +4.1**
SONM Songino Array 28.40 338 P **P** **16 20 22.4 +0.1**
comp=Z,1.3nm,0.7s,mb3.8,baz=156,slow=9.8,SNR=7.7
SONM pP pP 16 20 56.2 +6.3
comp=Z,1.2nm,0.8s,baz=156,slow=9.9,SNR=3.0
SONM PcP PcP 16 23 31.2 -0.3
comp=Z,0.4nm,0.3s,baz=165,slow=4.5,SNR=5.5
MKAR Makanchi Array 40.09 317 P **P** **16 22 04.1 +1.3**
comp=Z,4.0nm,0.7s,mb4.2,baz=111,slow=9.6,SNR=57
MKAR PcP PcP 16 24 04.9 -0.1
comp=Z,1.1nm,0.5s,baz=191,slow=1.2,SNR=15
FITZ Fitzroy Crossi 40.19 174 P **P** **16 22 03.0 -0.7**
comp=Z,1.5nm,0.6s,mb3.8,baz=205,slow=13,SNR=4.2
WRAB Tennant Creek 43.63 162 P **P** **16 22 30.9 -0.7**
WRA Warramunga Arr 43.63 163 P **P** **16 22 30.6 -1.0**
comp=Z,1.4nm,0.5s,mb3.8,baz=344,slow=9.0,SNR=5.6
WB2 Warramunga Arr 43.64 162 *e*P **P** **16 22 31.1 -0.6**
KURK Kurchatov 43.91 321 *e*P **P** **16 22 34.2 +0.3**
comp=Z,2.4nm,0.3s,mb4.3
AS31 Alice Springs 47.07 165 *e*P **P** **16 22 58.8 +0.1**
ASAR Alice Springs 47.07 165 P **P** **16 22 58.8 +0.1**
comp=Z,0.5nm,0.3s,mb3.6,baz=342,slow=6.9,SNR=50
ASAR PcP PcP 16 24 28.6 -0.1
comp=Z,0.6nm,0.6s,baz=342,slow=3.4,SNR=8.9
ASPA Alice Springs 47.07 165 *e*P **P** **16 22 58.8 +0.1**
BVAR Borovoye Array 49.51 322 P **P** **16 23 18.2 +0.8**
comp=Z,1.0nm,0.3s,mb3.9,baz=109,slow=8.4,SNR=7.3
BVAR PcP PcP 16 24 37.1 -0.3
comp=Z,2.2nm,0.5s,baz=104,slow=6.3,SNR=7.4
CHKZ Chkalovo 49.58 323 *e*P **P** **16 23 17.8 -0.2**
comp=Z,3.3nm,0.4s,mb4.3
JOF Joensuu 70.67 331 *e*p **P** **16 25 39.8 -2.0**
comp=Z,1.0nm,0.3s,mb4.0
KEV Kevo 71.01 338 *e*p **P** **16 25 41.9 -1.9**
comp=Z,9.1nm,0.9s,mb4.5
ARCES ARCESS Array B 71.58 338 P **P** **16 25 47.1 -0.1**
comp=Z,1.5nm,0.7s,mb3.9,baz=74,slow=8.9,SNR=4.9
KAF Kangasniemi 73.12 331 *e*p **P** **16 25 55.5 -0.8**
comp=Z,1.8nm,0.4s,mb4.2,baz=74,slow=5.5
FINES FINESS Array B 73.40 330 P **P** **16 25 57.8 -0.3**
comp=Z,1.8nm,0.5s,mb4.1,baz=47,slow=6.5,SNR=29
AKASG Malin Array Be 74.66 319 P **P** **16 26 04.7 -0.6**
comp=Z,3.6nm,0.6s,mb4.2,baz=63,slow=6.0,SNR=12
AKASG Malin Array Be 74.66 319 P **P** **16 26 04.7 -0.6**
HFS Hagfors 79.54 331 P **P** **16 26 31.8 -0.8**
comp=Z,1.9nm,0.4s,mb4.1,baz=127,slow=4.7,SNR=20
NB2 NORSAR Subarra 80.21 332 P **P** **16 26 35.4 -0.8**
comp=Z,1.7nm,0.5s,mb3.9,baz=54,slow=5.9
NOA NORSAR Array B 80.21 332 P **P** **16 26 35.5 -0.7**
comp=Z,1.4nm,0.5s,mb3.8,baz=59,slow=5.5,SNR=9.7
OJC Ojcow 80.49 320 *e*P **P** **16 26 38.2 +0.5**
GERES GERESS Array B 84.67 321 P **P** **16 26 58.7 -0.6**
comp=Z,1.1nm,0.4s,mb3.9,baz=72,slow=5.7,SNR=9.8

*IDC **12** 16:21:50.1±2.0, 4044N×49.10E, h0km, mb3.9/6, mb1 3.9/11, mb1mx3.7/23, mbtmp3.9/11, ML4.4/3, Error ellipse: s-maj=38.3km s-min=13.5km az=158.0*
*CSEM **12** 16:21:52.5±0.2, 4025N×49.12E, h60km, mb3.9/6, Error ellipse: s-maj=6.1km s-min=2.2km az=2.0*
*MOS **12** 16:21:53.0±1.3, 4054N×4931E, h29km, mb4.1/7, Error ellipse: s-maj=7.2km s-min=4.7km az=112.8*
*ISCJB **12** 16:21:55.9±0.9, 4072N±008×4924E±005, h53km±8km, mb4.0/10, Error ellipse: s-maj=12.9km s-min=6.4km az=166.2*
*NEIC **12** 16:21:55.6±3.6, 4062N×49.12E, h32km±30km, mb4.0/5, Error ellipse: s-maj=21.9km s-min=8.1km az=174.0*
ISC 12 16:21:56.2±0.9, 4061N±008×4924E±005, h44km±8km, n84, σ1§17/97, mb4.0/10, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**1.30**	**320**	*e*Pg	**Pn**	**16 22 17.0**	**-0.9**
KSMR				*e*Sg	**Sn**	**16 22 36.0**	**+1.9**
AKT	**Akhty**	**1.43**	**308**	*e*PG	**Pn**	**16 22 19.0**	**-0.8**
DRN	**Derbent**	**1.58**	**335**	*e*PN	**Pn**	**16 22 22.0**	**+0.3**
URKR	**Urkarakh**	**1.97**	**323**	*e*Pn	**Pn**	**16 22 27.0**	**-0.1**
SGKR	**Sergokala**	**2.20**	**328**	*e*Pn	**Pn**	**16 22 30.8**	**+0.6**
MNSR	**Manas**	**2.38**	**332**	*e*PN	**Pn**	**16 22 45.0**	**+12**
GNBR	**Gunib**	**2.46**	**317**	*e*Pn	**Pn**	**16 22 32.5**	**-1.4**
MAK	**Makhachkala**	**2.68**	**332**	*e*PN	**Pn**	**16 22 41.8**	**+4.9**
MAK				*e*S	**Sn**	**16 23 14.6**	**+6.5**
MAK				pmax	pmax		
	comp=Z,65nm,0.1s						
MAK				smax			
	comp=N,2μm,0.5s						
MAK				smax			
	comp=E,1μm,0.5s						
XNZR	**Khunzakh**	**2.71**	**316**	*e*PN	**Pn**	**16 22 40.4**	**+3.2**
BUJR	**Buynaksk**	**2.73**	**325**	*e*PN	**Pn**	**16 22 43.0**	**+5.5**
UNCR	**Uncukul**	**2.79**	**320**	*e*Pn	**Pn**	**16 22 39.5**	**+1.2**
KRNR	**Karanay**	**2.82**	**323**	*e*PN	**Pn**	**16 22 39.5**	**+0.7**
DBC	**Dubki**	**3.01**	**324**	*e*PN	**Pn**	**16 22 41.0**	**-0.3**
DGRG	**David-gareji**	**3.04**	**287**	P	**Pn**	**16 22 42.4**	**+0.6**
DGRG				S	**Sn**	**16 23 18.7**	**+1.8**
BTLR	**Botlikh**	**3.05**	**313**	*e*PN	**Pn**	**16 22 41.8**	**-0.2**
DLMR	**Dylym**	**3.14**	**322**	*e*PN	**Pn**	**16 22 44.7**	**+1.6**
GNI	**Garni**	**3.46**	**264**	Pn	**Pn**	**16 22 47.4**	**-0.2**
	comp=E,5.2nm,0.3s,baz=284,slow=0.9,SNR=8.6						
GNI				Lg		16 23 44.9	
	comp=E,15nm,0.3s,baz=352,slow=18,SNR=3.5						
GNI	**Garni**	**3.46**	**264**	*e*PN	**Pn**	**16 22 47.4**	**-0.2**
GNI	**Garni**	**3.46**	**264**	*e*Pn	**Pn**	**16 22 47.0**	**-0.6**
GNI				Lg		16 23 45.0	
GNI	**Garni**	**3.46**	**264**	*e*Pn	**Pn**	**16 22 47.4**	**-0.2**
MTA	**Mtatsminda**	**3.53**	**289**	P	**Pn**	**16 22 47.8**	**-0.6**
MTA				S	**Sn**	**16 23 27.1**	**-1.8**
TBLG	**Delisi**	**3.58**	**290**	*e*PN	**Pn**	**16 22 48.8**	**-0.4**
ZEI	**Tsey**	**4.54**	**300**	*e*PN	**Pn**	**16 23 03.3**	**+0.9**
ZEI				*e*		16 23 15.5	
ZEI				*e*		16 24 17.3	
ZEI				pmax	pmax		
	comp=Z,17nm,0.1s						
ONI	**Oni**	**4.76**	**296**	P	**Pn**	**16 23 06.5**	**+1.0**
SHAR	**Shatzhatmas**	**5.80**	**305**	*e*P	**Pn**	**16 23 20.4**	**+0.7**
KIV	**Kislovodsk**	**5.90**	**307**	*e*P	**Pn**	**16 23 21.6**	**+0.6**
KIV				pmax	pmax		
	comp=Z,11nm,0.6s						
KIV	**Kislovodsk**	**5.90**	**307**	*e*P	**Pn**	**16 23 21.6**	**+0.6**
	comp=Z,11nm,0.6s						
KIV	**Kislovodsk**	**5.90**	**307**	*e*P	**Pn**	**16 23 21.6**	**+0.6**
	comp=Z,11nm,0.6s						
GOF	**Gofitskoye**	**6.37**	**316**	*e*P	**Pn**	**16 23 24.0**	**-3.5**
GOF				*i* S	**Sn**	**16 24 35.5**	**-3.4**
GOF				smax			
	comp=E,90nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**9.64**	**300**	*e*P	**Pn**	**16 24 29.1**	**+17**
AB31	**Akbulak array**	**11.49**	**38**	P	**Pn**	**16 24 36.5**	**-1.2**
AB31				*e*		16 26 39.9	
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AB31				smax			
	comp=Z,1.0nm,0.4s						
AKTK	**Aktyubinsk**	**11.59**	**29**	Pn	**Pn**	**16 24 38.8**	**-0.2**
AKTK				Sn	**Sn**	**16 26 41.7**	**-5.2**
AKTK	**Aktyubinsk**	**11.59**	**29**	Pn	**Pn**	**16 24 38.8**	**-0.1**
AKTK				Sn	**Sn**	**16 26 41.7**	**-5.2**
AKTO	**Aktyubinsk**	**11.59**	**29**	Pn	**Pn**	**16 24 38.8**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=203,slow=12,SNR=13						
AKTO				Sn	**Sn**	**16 26 41.7**	**-5.2**
	comp=Z,1.8nm,0.3s,baz=336,slow=19,SNR=8.8						
AKTO	**Aktyubinsk**	**11.59**	**29**	P	**Pn**	**16 24 38.8**	**-0.1**
AKTO						16 26 41.7	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,2.0nm,0.3s						
ORR	**Orenburg**	**11.65**	**17**	*e*P	**Pn**	**16 24 39.6**	**-0.3**
ORR				pmax	pmax		
	comp=Z,20nm,0.6s						
BRTR	**Keskin Array B**	**11.97**	**271**	Pn	**Pn**	**16 24 41.6**	**-2.6**
	comp=Z,0.0nm,0.3s,baz=63,slow=9.9,SNR=2.7						
KK31	**Karatay Array**	**16.04**	**74**	*i* P	**Pn**	**16 25 38.3**	**-0.4**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KK31	**Karatay Array**	**16.04**	**74**	*i* P	**Pn**	**16 25 38.3**	**-0.4**
	comp=Z,3.0nm,0.6s						
KKAR	**Karatay Array**	**16.04**	**74**	P	**Pn**	**16 25 38.3**	**-0.4**
KKAR				S	**S**	**16 28 25.7**	**-22**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR				smax			
	comp=Z,1.0nm,0.7s						
OBN	**Obninsk**	**16.78**	**334⇑**	*e*P	**Pn**	**16 25 50.1**	**+2.2**
OBN				*e*S	**S**	**16 28 45.0**	**-17**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
OBN	**Obninsk**	**16.78**	**334**	*e*P	**Pn**	**16 25 50.1**	**+2.2**
	comp=Z,8.0nm,0.6s						
ARU	**Arti**	**16.97**	**18**	*e*P	**Pn**	**16 25 47.8**	**-2.5**
ARU				*e*S	**S**	**16 28 52.5**	**-14**
AKASG	**Malin Array Be**	**17.20**	**313**	Pn	**Pn**	**16 25 50.8**	**-2.4**
	comp=Z,1.3nm,0.3s,baz=100,slow=9.7,SNR=6.4						
AKASG	**Malin Array Be**	**17.20**	**313**	P	**Pn**	**16 25 50.8**	**-2.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKBB	**Malin Array Si**	**17.20**	**313**	P	**Pn**	**16 25 53.0**	**-0.2**
ZRNK	**Zerenda**	**18.25**	**41**	*i* P	**Pn**	**16 26 05.1**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZRNK	**Zerenda**	**18.25**	**41**	*e*P	**Pn**	**16 26 04.7**	**-1.4**
	comp=Z,88nm,0.6s						
ZRNK	**Zerenda**	**18.25**	**41**	*i* P	**Pn**	**16 26 05.1**	**-0.9**
	comp=Z,3.0nm,0.5s						
BRVK	**Borovoye**	**18.95**	**42**	*e*P	**Pn**	**16 26 14.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BRVK	**Borovoye**	**18.95**	**42**	*e*P	**Pn**	**16 26 14.6**	**+0.1**
	comp=Z,6.2nm,0.6s						
AAK	**Ala-Archa**	**18.97**	**76⇓**	*e*P	**Pn**	**16 26 15.8**	**+1.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
AAK	**Ala-Archa**	**18.97**	**76**	*e*P	**Pn**	**16 26 15.6**	**+0.8**
	comp=Z,2.4nm,0.7s						
BVA0	**Borovoye Array**	**18.98**	**42**	*i* P	**Pn**	**16 26 15.3**	**+0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVA0	**Borovoye Array**	**18.98**	**42**	*i* P	**Pn**	**16 26 15.3**	**+0.3**
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**18.98**	**42**	P	**Pn**	**16 26 15.2**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=231,slow=12,SNR=28						
BVAR				S	**S**	**16 29 35.7**	**-11**
	comp=Z,0.2nm,0.3s,baz=272,slow=40,SNR=2.9						
BVAR	**Borovoye Array**	**18.98**	**42**	P	**Pn**	**16 26 15.2**	**+0.2**
BVAR				S	**S**	**16 29 35.7**	**-11**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
VOSK	**Vostochnaya**	**19.13**	**43**	P	**Pn**	**16 26 16.2**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VOSK	**Vostochnaya**	**19.13**	**43**	P	**Pn**	**16 26 16.2**	**-0.5**
	comp=Z,3.0nm,0.6s						
CHKZ	**Chkalovo**	**19.45**	**41**	*i* P	**Pn**	**16 26 19.6**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CHKZ	**Chkalovo**	**19.45**	**41**	*e*P	**Pn**	**16 26 19.9**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CHKZ	**Chkalovo**	**19.45**	**41**	*e*P	**Pn**	**16 26 19.9**	**-0.6**
	comp=Z,6.2nm,0.5s						
CHKZ	**Chkalovo**	**19.45**	**41**	*e*P	**Pn**	**16 26 19.9**	**-0.7**
	comp=Z,6.2nm,0.5s						
KWP	**Kalwaria**	**20.69**	**305**	P	**P**	**16 26 30.1**	**-2.4**
KURK	**Kurchatov**	**22.75**	**54**	*e*P	**P**	**16 26 55.6**	**+1.1**
KURK	**Kurchatov**	**22.75**	**54**	*e*P	**P**	**16 26 55.4**	**+0.9**
	comp=Z,6.0nm,6.0s,mb4.2						
KURK	**Kurchatov**	**22.75**	**54**	*e*P	**P**	**16 26 55.4**	**+0.9**
	comp=Z,6.0nm,0.6s,mb4.2						
MK31	**Makanchi Array**	**24.56**	**64**	P	**P**	**16 27 13.4**	**+1.6**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
MKAR	**Makanchi Array**	**24.56**	**64**	P	**P**	**16 27 13.4**	**+1.6**
	comp=Z,3.8nm,0.5s,mb4.2,baz=259,slow=10,SNR=66						
MKAR	**Makanchi Array**	**24.56**	**64**	*i* P	**P**	**16 27 13.3**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
JOF	**Joensuu**	**24.77**	**340**	*e*p	**P**	**16 27 13.8**	**+0.1**
	comp=Z,4.1nm,0.4s,mb4.3						
FINES	**FINESS Array B**	**25.18**	**334**	P	**P**	**16 27 17.1**	**-0.4**
	comp=Z,1.3nm,0.4s,mb3.8,baz=136,slow=13,SNR=13						
FINES	**FINESS Array B**	**25.18**	**334**	P	**P**	**16 27 17.1**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**25.59**	**335**	*e*p	**P**	**16 27 23.8**	**+2.6**
	comp=Z,3.2nm,0.4s,mb4.2						
GERES	**GERESS Array B**	**26.36**	**300**	P	**P**	**16 27 29.0**	**+0.8**
	comp=Z,1.1nm,0.5s,mb3.6,baz=100,slow=9.3,SNR=8.1						
GERES	**GERESS Array B**	**26.36**	**300**	P	**P**	**16 27 29.0**	**+0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**29.38**	**324**	P	**P**	**16 27 54.6**	**-0.5**
	comp=Z,0.6nm,0.3s,mb3.8,baz=121,slow=9.4,SNR=8.2						
HFS	**Hagfors**	**29.38**	**324**	P	**P**	**16 27 54.6**	**-0.5**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**30.88**	**324**	P	**P**	**16 28 07.2**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=118,slow=9.3						
NB2	**NORSAR Subarra**	**30.88**	**324**	P	**P**	**16 28 07.2**	**-1.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	**NORSAR Array B**	**30.88**	**324**	P	**P**	**16 28 07.4**	**-1.0**
	comp=Z,0.7nm,0.5s,mb3.7,baz=116,slow=8.2,SNR=3.7						
NOA	**NORSAR Array B**	**30.88**	**324**	P	**P**	**16 28 07.4**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**31.56**	**344**	P	**P**	**16 28 14.6**	**+0.2**
	comp=Z,1.7nm,0.9s,mb3.9,baz=92,slow=11,SNR=4.0						
ARCES	**ARCESS Array B**	**31.56**	**344**	P	**P**	**16 28 14.6**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*NEIC **12** 16:31:27.3±3.9, 1665S×7252W, h45km±20km, MG4.3(LIM), Error ellipse: s-maj=49.5km s-min=13.7km az=100.0*
NEIC Felt [III] at Camana.
*ISCJB **12** 16:31:31.8±1.3, 1678S±007×720W±0.1, h73km±9km, mb4.0/2, Error ellipse: s-maj=22.2km s-min=10.6km az=150.2*
*IDC **12** 16:31:34.7±2.6, 1696S×72.12W, h97km±21km, mb3.9/2, mb1 3.8/7, mb1mx3.5/21, mbtmp4.2/7, Error ellipse: s-maj=38.8km s-min=20.5km az=70.0*
ISC 12 16:31:33.4±1.4, 1675S±007×720W±01, h65km±10km, n11, σ1§04/14, mb4.0/2, 1C-1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.54**	**58⇓**	*i*P	**Pn**	**16 31 44.9**	**-1.3**
ARE				*i* S	**Sn**	**16 31 56.0**	**+0.4**
LPAZ	**La Paz**	**3.71**	**83**	P	**Pn**	**16 32 34.3**	**+6.0**
	4.4nm,0.3s,baz=266,slow=11,SNR=89						
LPAZ	**La Paz**	**3.71**	**83**	*e*Pn	**Pn**	**16 32 34.2**	**+6.0**
LPAZ						16 32 49.0	
LVC	**Limon Verde**	**6.50**	**154**	P	**Pn**	**16 33 05.4**	**-1.0**
	30nm,0.3s,baz=344,slow=9.9,SNR=301						
LVC				S	**Sn**	**16 34 18.8**	**-0.3**
	16nm,0.3s,baz=116,slow=23,SNR=14						
LVC	**Limon Verde**	**6.50**	**154⇑**	*i*Pn	**Pn**	**16 33 05.3**	**-1.2**
LVC				*e*Sn	**Sn**	**16 34 20.1**	**+0.9**
SIV	**San Ignacio**	**10.49**	**87**	P	**Pn**	**16 34 02.4**	**+1.5**
	1.0nm,0.3s,baz=278,slow=11,SNR=16						
ATAH	**Atahualpa**	**11.55**	**326**	P	**Pn**	**16 34 16.9**	**+1.4**
	0.3nm,0.3s,baz=155,slow=19,SNR=4.4						
SAML	**Samuel**	**11.55**	**49**	*e*P	**Pn**	**16 34 14.6**	**-0.9**
	2.6nm,0.7s						
SAML				*e*		16 34 23.1	
CPUP	**Villa Florida**	**16.61**	**127**	P	**Pn**	**16 35 22.9**	**+1.0**
	0.2nm,0.3s,baz=306,slow=14,SNR=2.7						
DBIC	**Dimbokro**	**70.30**	**76**	P	**P**	**16 42 39.9**	**-0.1**
	2.2nm,0.9s,mb4.0,baz=243,slow=6.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**78.59**	**72**	P	**P**	**16 43 27.4**	**-0.7**
	1.1nm,0.3s,mb4.1,baz=256,slow=5.1,SNR=31						

IDC 12 16:31:51.1±5.8, 1756S×7185W, h135km±41km, mb3.9/1, mb1 3.6/4, mb1mx3.3/18, mbtmp4.0/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/24, Error ellipse: s-maj=72.8km s-min=43.0km az=115.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.78**	**71**	P	**Pn**	**16 32 48.7**	**+0.7**
	19nm,0.3s,baz=263,slow=10,SNR=27						
LVC	**Limon Verde**	**5.74**	**152**	LR	LR	**16 35 52.1**	
	comp=Z,111nm,19.5s,baz=168,slow=42						
SIV	**San Ignacio**	**10.44**	**83**	P	Pn	**16 34 17.3**	**+0.2**
	1.8nm,0.3s,baz=287,slow=13,SNR=12						
CFAA	**Coronel Fontan**	**14.36**	**167**	P	Pn	**16 35 08.0**	**-0.1**
	0.0nm,0.3s,baz=348,slow=12,SNR=4.3						
TORD	**Torodi Ar. Bea**	**78.73**	**72**	P	P	**16 43 39.1**	**+0.7**
	1.5nm,0.5s,baz=262,slow=5.4,SNR=8.0						
MKAR	**Makanchi Array**	**143.87**	**31**	PKP	PKPdf	**16 51 08.1**	**-2.1**
	0.3nm,0.6s,baz=329,slow=2.6,SNR=3.9						
SONM	**Songino Array**	**149.77**	**2**	PKPbc	PKPbc	**16 51 25.3**	**+0.4**
	0.6nm,0.6s,baz=351,slow=3.1,SNR=5.2						

*STR **12** 16:47:13.9±0.5, 4241N×148E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **12** 16:47:13.9±0.1, 4240N×147E, h4km, Md2.4/2, Ml2.5/7, Error ellipse: s-maj=1.4km s-min=0.9km az=9.0*
*NEIC **12** 16:47:14.8, 4237N×146E, h10km, ML2.2(STR), ML2.5(LDG), MN1.9(MDD), After MDD.*
*CSEM **12** 16:47:14.1±0.1, 4241N×147E, h10km, ML2.4/7, Error ellipse: s-maj=1.4km s-min=1.1km az=144.0*
MDD 12 16:47:14.3±0.2, 4240N×148E, h0km, mbLg1.8/19, Error ellipse: s-maj=1.5km s-min=1.4km az=113.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.13**	**23**	Pg	Pg	16 47 17.0	+0.1
PAND				Lg		16 47 19.3	
CSOR	**Sort**	**0.26**	**265**	Pg	Pg	16 47 18.8	-0.4
CSOR				Lg		16 47 22.8	
	63nm,0.2s						
CLLI	**Llivia**	**0.38**	**78**	Pg	Pg	16 47 20.9	-0.7
CLLI				Lg		16 47 26.1	
	4.9nm,0.4s						
VALF	**Valcebollere**	**0.40**	**89**	Pg	Pg	16 47 21.5	-0.5
VALF				Sg	Sg	16 47 27.0	-0.2
VALF	**Valcebollere**	**0.40**	**89**	Pg	Pg	16 47 21.6	-0.5
VALF				Lg		16 47 27.1	
SALF	**Salau**	**0.42**	**330**	Pg	Pg	16 47 21.9	-0.5
SALF				Sg	Sg	16 47 27.4	-0.4
SALF	**Salau**	**0.42**	**330**	Pg	Pg	16 47 22.0	-0.4
SALF				Lg		16 47 27.4	
EMIR	**Miracle**	**0.48**	**176**	Pg	Pg	16 47 23.3	-0.3
	1.3nm,0.1s,SNR=12						
EMIR				Lg		16 47 29.8	
	23nm,0.1s,SNR=25						
EMIR	**Miracle**	**0.48**	**176**	Pg	Pg	16 47 23.3	-0.4
	1.3nm,0.1s,SNR=12						
CBRU	**Bruguera**	**0.53**	**102**	Pg	Pg	16 47 24.2	-0.4
CBRU				Lg		16 47 31.7	
	13nm,0.4s						
CARF	**Carcanieres**	**0.56**	**55**	Pg	Pg	16 47 24.6	-0.5
CARF				Sg	Sg	16 47 32.5	+0.1
CARF	**Carcanieres**	**0.56**	**55**	Pg	Pg	16 47 24.6	-0.5
CARF				Lg		16 47 32.4	
MLS	**Moulis**	**0.63**	**333**	Pg	Pg	16 47 26.5	+0.2
MLS				Sg	Sg	16 47 33.7	-0.8
MLS	**Moulis**	**0.63**	**333**	Pg	Pg	16 47 25.8	-0.5
MLS				Lg		16 47 34.2	
MELF	**Melles**	**0.71**	**312**	Pg	Pg	16 47 27.3	-0.7
MELF				Lg		16 47 36.7	
CAVN	**Les Avellanes**	**0.75**	**227**	Pg	Pg	16 47 28.2	-0.5
CAVN				Lg		16 47 39.4	
	10nm,0.2s						
EGRA	**Graus**	**0.89**	**257**	Pg	Pg	16 47 30.9	-0.4
	0.3nm,0.1s,SNR=13						
EGRA				Lg		16 47 43.8	
	1.2nm,0.1s,SNR=9.9						
CFON	**Fontmartina**	**0.96**	**131**	Pg	Pg	16 47 32.0	-0.7
CFON				Lg		16 47 45.0	
	15nm,0.2s						
EBIE	**Bielsa**	**1.03**	**287**	Pg	Pg	16 47 33.0	-1.1
	0.1nm,0.1s,SNR=10						
EBIE				Lg		16 47 46.5	
	2.4nm,0.1s,SNR=5.5						
EBIE	**Bielsa**	**1.03**	**287**	Pg	Pg	16 47 33.0	-1.0
	0.1nm,0.1s,SNR=10						
EJON	**La Jonquera**	**1.05**	**87**	Pg	Pg	16 47 35.0	+0.6
	1.8nm,0.1s,SNR=7.9						
EJON				Lg	

SJPF	Ste Jean	2.11 291	*e*Pg	Pg	16 47 53.1	-1.8
SJPF			*e*Sg	Sg	16 48 20.6	-1.7
2.1nm,0.3s						
IUSE	Utxeti	2.30 285	Lg		16 48 28.7	
0.3nm,0.1s,SNR=4.0						
EALK	Alkurruntz	2.34 291	Lg		16 48 29.3	
11nm,0.6s,SNR=7.9						
LASF	Ste Croix	2.42 45	*e*Pg	Pg	16 47 58.9	-1.8
LASF			*e*Sg	Sg	16 48 30.7	-1.3
3.6nm,0.3s						
LASF	Ste Croix	2.42 45	*e*Pg	Pg	16 47 58.9	-1.8
LASF			*e*Sg	Sg	16 48 30.7	-1.3
1.8nm,0.3s						
EMOS	Mosqueruela	2.51 216	Lg		16 48 33.7	
1.2nm,0.4s,SNR=7.9						
CAF	Calviac	2.56 9	*e*Pg	Pg	16 48 01.7	-1.8
CAF			*e*Sg	Sg	16 48 34.9	-1.8
8.1nm,0.3s						
CAF	Calviac	2.56 9	*e*Pg	Pg	16 48 01.7	-1.8
CAF			*e*Sg	Sg	16 48 34.9	-1.8
4.1nm,0.3s						
VIVF	Saint-Julien-l	3.38 42	*e*Pg	Pg	16 48 16.5	-2.6
VIVF			*e*Sg	Sg	16 49 01.0	-1.9
2.1nm,0.3s						
VIVF	Saint-Julien-l	3.38 42	*e*Pg	Pg	16 48 16.5	-2.6
VIVF			*e*Sg	Sg	16 49 01.0	-1.9
1.0nm,0.3s						

STR ***12*** *16:54:19.2±0.2, 42.39N×148E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***12*** *16:54:19.5±0.1, 42.40N×148E, h5km, Md2.3/2, Ml2.3/5, Error ellipse: s-maj=1.4km s-min=0.9km az=16.0*

MDD 12 16:54:19.9±0.2, 4240N×148E, h0km, mbLg1.7/13, Error ellipse: s-maj=1.8km s-min=1.5km az=178.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	Andorre	0.13	22	Pg	Pg	16 54 22.6	+0.1
PAND				Lg		16 54 24.9	
CSOR	Sort	0.26	265	Pg	Pg	16 54 24.2	-0.6
CSOR				Lg		16 54 28.3	
60nm,0.2s							
CLLI	Llivia	0.38	78	Pg	Pg	16 54 26.4	-0.7
CLLI				Lg		16 54 31.7	
5.8nm,0.2s							
VALF	Valcebollere	0.40	90	Pg	Pg	16 54 27.0	-0.6
VALF				Sg	Sg	16 54 32.5	-0.2
VALF	Valcebollere	0.40	90	Pg	Pg	16 54 27.1	-0.5
VALF				Lg		16 54 32.6	
SALF	Salau	0.42	329	Pg	Pg	16 54 27.4	-0.5
SALF				Sg	Sg	16 54 33.3	-0.1
SALF	Salau	0.42	329	Pg	Pg	16 54 27.5	-0.4
SALF				Lg		16 54 33.0	
EMIR	Miracle	0.49	176	Pg	Pg	16 54 29.1	-0.2
2.2nm,0.1s,SNR=10							
EMIR				Lg		16 54 35.5	
4.0nm,0.2s,SNR=7.9							
CBRU	Bruguera	0.53	102	Pg	Pg	16 54 29.6	-0.5
CBRU				Lg		16 54 37.4	
7.2nm,0.4s							
CARF	Carcanieres	0.56	56	Pg	Pg	16 54 30.1	-0.6
CARF				Sg	Sg	16 54 38.0	+0.1
CARF	Carcanieres	0.56	56	Pg	Pg	16 54 30.2	-0.5
CARF				Lg		16 54 37.9	
MLS	Moulis	0.62	333	Pg	Pg	16 54 31.6	-0.3
MLS				Sg	Sg	16 54 40.0	0.0
MLS	Moulis	0.62	333	Pg	Pg	16 54 31.6	-0.3
MLS				Lg		16 54 39.8	
MELF	Melles	0.71	312	Pg	Pg	16 54 32.8	-0.7
MELF				Lg		16 54 42.3	
CAVN	Les Avellanes	0.75	227	Pg	Pg	16 54 33.6	-0.7
CAVN				Lg		16 54 43.5	
7.2nm,0.2s							
EGRA	Graus	0.89	257	Pg	Pg	16 54 37.8	+0.9
1.8nm,0.1s,SNR=6.6							
EGRA				Lg		16 54 49.4	
3.8nm,0.2s,SNR=9.1							
CFON	Fontmartina	0.96	132	Pg	Pg	16 54 37.5	-0.7
CFON				Lg		16 54 50.0	
17nm,0.2s							
EBIE	Bielsa	1.03	287	Pg	Pg	16 54 38.5	-1.2
0.5nm,0.1s,SNR=10							
EBIE				Lg		16 54 52.3	
2.1nm,0.1s,SNR=8.0							
EJON	La Jonquera	1.04	87	Pg	Pg	16 54 39.3	-0.7
1.3nm,0.1s,SNR=7.9							
EJON				Lg		16 54 54.1	
SNR=7.9							
EPF	Esparros	1.05	307	*e*Pg	Pg	16 54 39.2	-0.8
EPF				*e*Sg	Sg	16 54 52.6	-1.0
5.4nm,0.2s							
EPF	Esparros	1.05	307	Pg	Pg	16 54 39.2	-0.8
EPF				Lg		16 54 52.6	
2.7nm,0.2s							
MTLF	Montolieu	1.08	30	*e*Pn	Pn	16 54 40.0	-2.4
MTLF				*e*Sg	Sg	16 54 54.4	-0.4
8.2nm,0.3s							
MTLF	Montolieu	1.08	30	Pn	Pn	16 54 40.0	-2.4
MTLF				Lg		16 54 54.4	
4.1nm,0.3s							
EPOB	Poblet	1.09	196	Pg	Pg	16 54 39.9	-0.9
2.3nm,0.1s,SNR=18							
EPOB				Lg		16 54 54.0	
5.6nm,0.1s,SNR=14							
ETSF	Etsaut	1.58	289	*e*Pg	Pg	16 54 49.2	-1.1
ETSF				*e*Sg	Sg	16 55 09.8	-1.0
5.8nm,0.3s							
ETSF	Etsaut	1.58	289	Pg	Pg	16 54 49.2	-1.1
ETSF				Lg		16 55 09.8	
2.9nm,0.3s							
ESAC	San Caprasio	1.60	246	Pg	Pg	16 54 49.9	-0.8
4.9nm,0.1s,SNR=7.9							
ESAC				Lg		16 55 11.5	
12nm,0.1s,SNR=7.9							
ERTA	Horta de San J	1.68	211	Pg	Pg	16 54 50.9	-1.2
0.8nm,0.1s,SNR=7.9							
ERTA				Lg		16 55 12.8	
10nm,0.2s,SNR=7.9							
SJPF	Ste Jean	2.12	291	*e*Sg	Sg	16 55 26.6	-1.3
3.8nm,0.3s							
SJPF	Ste Jean	2.12	291	Lg		16 55 26.6	
1.9nm,0.3s							
EALK	Alkurruntz	2.34	291	Pg	Pg	16 55 03.5	-1.4
0.3nm,0.2s,SNR=7.9							
EALK				Lg		16 55 35.1	
1.8nm,0.2s,SNR=7.9							
LASF	Ste Croix	2.41	45	*e*Pn	Pn	16 54 59.0	-1.6
LASF	Ste Croix	2.41	45	*e*Pg	Pg	16 55 04.8	-1.4
LASF				*e*Sg	Sg	16 55 36.2	-1.3
2.7nm,0.3s							
LASF	Ste Croix	2.41	45	Pn	Pn	16 54 59.0	-1.6
LASF				Pg	Pg	16 55 04.8	-1.4
LASF				Lg		16 55 36.2	
1.4nm,0.3s							
EMOS	Mosqueruela	2.51	216	Lg		16 55 39.8	
2.0nm,0.2s,SNR=7.9							

WEL 12 17:10:08.3±0.4, 3763S×17662E, h168km±3km, ML3.6/14, Error ellipse: s-maj=4.0km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.74	149	*e*PN	Pn	17 10 33.1	+0.2
URZ				SN	Sn	17 10 52.1	+0.1
MWZ	Matawai	1.01	135	PN	Pn	17 10 35.0	+0.2
MWZ				SN	Sn	17 10 55.4	+0.2
PUZ	Puketiti	1.37	110	PN	Pn	17 10 37.5	-0.5
PUZ				SN	Sn	17 11 00.4	-0.4
BKZ	Black Stump Fm	1.54	184	PN	Pn	17 10 39.7	0.0
BKZ				SN	Sn	17 11 03.8	-0.1
KNZ	Kokohu	1.62	150	PN	Pn	17 10 40.8	+0.4
KNZ				SN	Sn	17 11 05.0	-0.2
FWVZ	Far West T-bar	1.83	207	PN	Pn	17 10 43.3	+0.6
MOVZ	Moawhango	1.91	201	PN	Pn	17 10 43.4	-0.1
PXZ	Pawanui	2.41	176	PN	Pn	17 10 48.7	-0.6
WAZ	Wanganui	2.48	211	PN	Pn	17 10 49.9	-0.2
TSZ	Takapari Road	2.48	192	PN	Pn	17 10 49.4	-0.7
BFZ	Birch Farm	3.07	185	PN	Pn	17 10 55.7	-1.4
MRZ	Mangataiinoka R	3.14	195	PN	Pn	17 10 56.3	-1.8
TIWZ	Tintock	3.20	190	PN	Pn	17 10 57.3	-1.6
KIW	Kapiti Island	3.50	202	PN	Pn	17 11 00.4	-2.1
CAW	Cannon Point	3.68	199	PN	Pn	17 11 02.4	-2.5

NIED ***12*** *17:31:00, 42.20N×144.10E, h32km, Mw3.7 Best double couple: M0=4.34000×10^14 NP1:φ0=97.00000°, δ=87.00000°, λ=114.00000°. NP2:φ0=193.00000°, δ=24.00000°, λ=7.00000°.*
ISCJB ***12*** *17:31:10.9±0.7, 42.08N±0.04×144.20E±0.06, h47km±8km, mb3.6/3, Error ellipse: s-maj=9.3km s-min=4.8km az=89.2*
SKHL ***12*** *17:31:10.8±0.2, 41.98N×144.23E, h61km±5km, mb4.9/2*
MOS ***12*** *17:31:10.8±0.5, 42.07N×144.20E, h46km, mb4.0/2, Error ellipse: s-maj=26.8km s-min=13.6km az=83.7*
JMA ***12*** *17:31:11.9±0.1, 42.16N×144.11E, h61km±2km, M3.9*
JMA Felt I J1.
NEIC ***12*** *17:31:11.9, 42.16N×144.11E, h61km, MG3.9(JMA), After JMA.*
IDC ***12*** *17:31:11.9±5.4, 42.07N×144.41E, h48km±32km, mb3.5/3, mb1 3.6/5, mb1mx3.3/22, mbtmp3.7/5, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/22, Error ellipse: s-maj=76.8km s-min=21.6km az=85.0*

ISC 12 17:31:12.7±0.6, 4216N±004×14414E±006, h42km±9km, n31, σ0=69/44, mb3.6/3, 7C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	Churui	0.73	309	⇓P	Pn	17 31 26.6	0.0
JCH				*e*S	Sn	17 31 36.8	+0.1
JEM	Erimo	0.74	259	⇑P	Pn	17 31 26.5	-0.3
JOB	Onbets	0.78	343	⇑P	Pn	17 31 27.3	+0.1
JOB				*e*S	Sn	17 31 38.0	+0.2
JAK	Akkeshi	0.94	26	⇑P	Pn	17 31 29.3	-0.1
JAK				*e*S	Sn	17 31 42.2	+0.6
JNBK	Urakawa-nobuka	1.03	277	P	Pn	17 31 30.3	-0.5
JAR	Ashorobuto	1.17	347	⇑P	Pn	17 31 32.3	-0.3
JAR				*e*S	Sn	17 31 47.2	-0.2
JBT2	Biratori 2	1.45	296	⇓P	Pn	17 31 35.7	-0.8
JNK	Nakash	1.49	17	⇑P	Pn	17 31 36.5	-0.5
JNK				*e*S	Sn	17 31 55.0	-0.2
JFR	Furan	1.52	312	P	Pn	17 31 37.0	-0.4
NEM2	Nemuro 2	1.69	44	⇑P	Pn	17 31 39.4	-0.3
NEM2				*e*S	Sn	17 31 59.4	-0.8
JTKR	Abashiri--Toko	1.82	355	⇑P	Pn	17 31 42.1	+0.6
JTKR				*e*S	Sn	17 32 04.8	+1.5
ASAJ	Asahikawa	2.26	331	P	Pn	17 31 48.5	+0.9
5.1nm,0.3s,baz=190,slow=12,SNR=75							
ASAJ				S	Sn	17 32 18.6	+4.4
23nm,0.3s,baz=144,slow=21,SNR=12							
ASAJ	Asahikawa	2.26	331	PN	Pn	17 31 48.5	+0.9
ASAJ				S	Sn	17 32 18.6	+4.4
ASAJ				pmax	pmax		
comp=Z,5.0nm,0.3s							
ASAJ				smax			
comp=N,23nm,0.3s							
YUK	Yuzh-Kuril'sk	2.26	33	*e*P	Pn	17 31 47.3	-0.3
YUK				AMB	AMB	17 31 48.4	
comp=N,190nm,0.5s							
YUK				AMB	AMB	17 31 48.4	
comp=N,260nm,0.5s							
YUK				*i* S	Sn	17 32 14.8	+0.6
YUK				A		17 32 17.5	
comp=N,1μm,0.5s							
YUK				A		17 32 23.6	
comp=N,5μm,1.0s							
YUK				A		17 32 23.6	
comp=N,2μm,1.0s							
YUK	Yuzh-Kuril'sk	2.26	33	*e*PN	Pn	17 31 47.3	-0.3
YUK				*i* S	Sn	17 32 14.8	+0.6
YUK				pmax	pmax		
comp=Z,260nm,0.4s							
YUK				smax			
comp=E,1μm,0.5s							
YUK				smax			
comp=N,5μm,1.0s							
YUK				smax			
comp=E,2μm,1.0s							
KUR	Kuril'sk	4.09	40	*e*P	Pn	17 32 11.5	-1.3
KUR				AMB	AMB	17 32 14.7	
comp=E,80nm,0.5s							
KUR				*i* S	Sn	17 33 00.5	+1.1
KUR				A		17 33 15.5	
comp=E,137nm,0.6s							
YSS	Yuzh-Sakhalins	4.90	349	*e*P	Pn	17 32 24.7	+0.9
YSS				*e*S	Sn	17 33 17.0	-2.1
YSS				A		17 33 21.2	
comp=E,30nm,0.8s							
YSS	Yuzh-Sakhalins	4.90	349	*e*Pn	Pn	17 32 24.5	+0.7
MAT	Matsushiro	7.25	221	P	Pn	17 32 56.2	+0.2
MAT				S	Sn	17 34 17.5	+0.5
MAT	Matsushiro	7.25	221	*e*PN	Pn	17 32 56.0	0.0
MAT				pmax	pmax		
comp=Z,4.0nm,0.7s							
MAT	Matsushiro	7.25	221	*e*P	Pn	17 32 56.0	0.0
comp=Z,4.1nm,0.7s							
MJAR	Matsushiro Arr	7.25	221	P	Pn	17 32 56.5	+0.5
comp=Z,0.8nm,0.3s,baz=31,slow=13,SNR=14							
MJAR				LR	LR	17 36 25.8	
comp=Z,142nm,21.0s,baz=45,slow=43							
MJAR	Matsushiro Arr	7.25	221	PN	Pn	17 32 56.5	+0.5
MJAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MJAR				MLR	MLR		
comp=Z,142nm,21.0s							
SONM	Songino Array	27.09	295	P	P	17 36 52.1	+0.7
comp=Z,0.4nm,0.6s,mb3.1,baz=76,slow=10,SNR=4.2							
BVAR	Borovoye Array	48.81	310	P	P	17 39 53.1	-0.5
comp=Z,0.5nm,0.5s,mb3.8,baz=57,slow=10,SNR=3.7							
BVAR	Borovoye Array	48.81	310	P	P	17 39 53.1	-0.5
BVAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
RES	Resolute Bay	57.11	16	*e*P	P	17 40 55.2	+0.3
FINES	FINESS Array B	65.27	332	P	P	17 41 49.7	-0.4
comp=Z,0.6nm,0.5s,mb3.9,baz=47,slow=7.5,SNR=7.2							
FINES	FINESS Array B	65.27	332	P	P	17 41 49.7	-0.4
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s							
FINES	FINESS Array B	65.27	332	P	P	17 41 49.7	-0.4
VNA2	Neumayer--Watz	147.82	197	*e*	PKPdf	17 50 53.3	+3.2
baz=109,slow=3.4							
VNA2				*e*		17 50 55.3	
VNA2				*e*		17 51 06.4	
VNA2				*e*		17 51 09.1	

IDC ***12*** *17:34:20.6±2.0, 40.95N×75.78E, h0km, mb3.3/3, mb1 3.4/6, mb1mx3.3/24, mbtmp3.4/6, ML2.7/3, Error ellipse: s-maj=38.3km s-min=20.1km az=149.0*
ISCJB ***12*** *17:34:22.1±0.5, 41.23N±0.03×75.79E±0.06, h10km, mb3.3/4, Error ellipse: s-maj=7.2km s-min=4.3km az=152.0*
NEIC ***12*** *17:34:22.9±1.5, 41.16N×75.65E, h10km, Error ellipse: s-maj=22.5km s-min=15.6km az=161.0*
BJI ***12*** *17:34:23.6, 41.37N×75.71E, h21km, ML3.7*
NNC ***12*** *17:34:24.1±1.1, 41.39N×75.66E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=8.7km s-min=6.0km az=153.0*
KNET ***12*** *17:34:24.9±0.8, 41.53N×75.78E, h9km±4km, ml3.3, Error ellipse: s-maj=5.6km s-min=3.1km az=142.0*
MOS ***12*** *17:34:27.5±3.4, 41.42N×75.95E, h33km, mb3.6/1, Error ellipse: s-maj=16.0km s-min=9.7km az=98.0*

ISC 12 17:34:23.6±0.5, 4125N±003×7569E±007, h10km, n40, σ1=41/47, mb3.3/4, 14C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart	0.89	338	⇓P	Pg	17 34 38.6	-2.1
117nm,0.2s,SNR=293							
KZA				⇑S	Sg	17 34 49.0	-3.4
497nm,0.2s							
ULHL	Ulahol	1.08	22	⇑P	Pg	17 34 39.5	-4.8
65nm,0.2s,SNR=504							
ULHL				⇓S	Sg	17 34 52.0	-6.4
332nm,0.2s							
UCH	Uchtor	1.32	318	⇓P	Pn	17 34 47.1	-0.9
52nm,0.2s,SNR=95							
UCH				⇑S	Sb	17 35 05.3	0.0
303nm,0.2s							
KBK	Karagaybulak	1.51	339	⇓P	Pn	17 34 50.0	-0.7
191nm,0.1s,SNR=196							
KBK				⇓S	Sn	17 35 08.3	-2.2
558nm,0.2s							
AAK	Ala-Archa	1.65	328	⇓P	Pn	17 34 52.7	+0.2
36nm,0.1s,SNR=112							
AAK				⇓S	Sn	17 35 13.3	-0.4
99nm,0.2s							
AAK	Ala-Archa	1.65	328	⇓*i*Pn	Pn	17 34 51.6	-1.0
AAK				*e*Sn	Sn	17 35 17.5	+3.8
TKM2	Tokmak 2	1.67	358	⇓P	Pn	17 34 51.7	-1.2
48nm,0.2s,SNR=144							
TKM2				⇑S	Sn	17 35 11.5	-2.9
190nm,0.2s							
TKM2	Tokmak 2	1.67	358	⇓P	Pn	17 34 51.7	-1.2
0.7nm,0.2s							
TKM2				⇑S	Sn	17 35 13.4	-1.0
9.6nm,0.5s							
TKM2	Tokmak 2	1.67	358	PG	Pg	17 34 51.6	-4.1
TKM2				S	Sn	17 35 13.3	-1.1
TKM2				pmax	pmax		
comp=Z,4.0nm,0.3s							
TKM2				smax			
comp=Z,60nm,0.5s							
AML	Almayashu	1.74	301	⇓P	Pn	17 34 55.5	+1.7
comp=Z,28nm,0.2s,SNR=28							
KSH	Kashi	1.74	173	PG	Pg	17 34 55.8	-1.2
KSH				SG	Sg	17 35 19.1	-0.5
KSH				Smax			
comp=N,440nm,0.8s							
KSH				Smax			
comp=E,660nm,0.9s							
CHMS	Chumysh	1.88	339	⇓P	Pn	17 34 56.4	+0.6
comp=E,29nm,0.2s,SNR=81							
EKS2	Erkin-Say	2.01	315	⇑P	Pn	17 34 59.7	+2.2
comp=E,20nm,0.2s,SNR=135							
KNDC	Almaty	2.18	25	⇓P	Pn	17 35 00.1	+0.1
comp=E,65nm,0.4s							
KNDC				⇑S	Sn	17 35 28.5	+1.4
comp=E,421nm,0.7s							
USP	Ospenovka	2.20	337	⇓P	Pn	17 35 02.1	+2.0
comp=E,87nm,0.2s,SNR=171							
KK31	Karatay Array	4.27	297	⇑Pg	Pg	17 35 40.4	-5.0
comp=E,4.3nm,0.4s,baz=116,slow=15,SNR=94							
KK31				⇑Lg		17 36 36.3	
comp=E,13nm,0.5s,baz=106,slow=27,SNR=8.4							
KKAR	Karatay Array	4.27	297	*e*PN	Pg	17 35 40.4	-5.0
KKAR						17 36 39.1	
KKAR				pmax	pmax		
comp=Z,3.0nm,0.4s							
KKAR				pmax	pmax		
comp=Z,19nm,0.6s							
MK05	Makanchi Array	7.30	38	⇑Pn	Pn	17 36 11.0	+0.7
comp=Z,2.7nm,0.8s							
MK31	Makanchi Array	7.30	38	PN	Pn	17 36 15.3	+5.0
MK31				pmax	pmax		
comp=Z,2.0nm,0.8s							
MKAR	Makanchi Array	7.30	38	Pn	Pn	17 36 11.8	+1.5
comp=Z,0.1nm,0.3s,baz=206,slow=14,SNR=6.7							
MKAR	Makanchi Array	7.30	38	Pn	Pn	17 36 11.8	+1.5
VOSK	Vostochnaya	11.92	346	⇑Lg		17 40 37.7	
comp=Z,7.3nm,0.9s							
BVA0	Borovoye Array	12.32	345	⇑Lg		17 40 50.4	
comp=Z,3.5nm,1.5s,baz=150,slow=27,SNR=6.1							
BVAR	Borovoye Array	12.32	345	Pn	Pn	17 37 18.4	-0.6
comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=4.9							
BRVK	Borovoye	12.37	345	*e*P	Pn	17 37 21.6	+1.9
BRVK				pmax	pmax		
comp=Z,2.0nm,1.1s							
BRVK	Borovoye	12.37	345	*e*P	Pn	17 37 21.6	+1.9
comp=Z,2.0nm,1.1s							
ZRNK	Zerenda	12.55	341	⇑Lg		17 40 57.9	
comp=Z,9.5nm,1.1s							
CHKZ	Chkalovo	12.89	346	⇓Lg		17 41 07.8	
comp=Z,12nm,1.2s							
AB31	Akbulak array	13.66	311	⇑Pn	Pn	17 37 39.1	+1.7
comp=Z,8.4nm,1.4s,baz=115,slow=12,SNR=4.5							
AB31	Akbulak array	13.66	311	*i* P	Pn	17 37 42.4	+5.1
AB31				pmax	pmax		
comp=Z,12nm,1.4s							
ZAL	Zalesovo	14.09	23	Pn	Pn	17 37 43.0	-0.2
comp=Z,0.1nm,0.3s,baz=152,slow=17,SNR=2.2							
ZAL	Zalesovo	14.09	23	Pn	Pn	17 37 43.0	-0.2
AKTK	Aktyubinsk	15.33	313	Pn	Pn	17 38 03.3	+3.3
AKTO	Aktyubinsk	15.33	313	⇓Pn	Pn	17 38 00.9	+0.9
comp=Z,0.1nm,0.9s							
AKTO	Aktyubinsk	15.33	313	Pn	Pn	17 38 03.3	+3.3
comp=Z,0.1nm,0.3s,baz=114,slow=16,SNR=3.2							
AKTO	Aktyubinsk	15.33	313	P	Pn	17 38 02.7	+2.7
AKTO				pmax	pmax		
comp=Z,1.0nm,1.0s							
ZAK	Zakamensk	21.18	55	*e*P	P	17 39 05.6	-3.5
ZAK				pmax	pmax		
comp=Z,4.0nm,1.8s,mb3.5							
SONM	Songino Array	22.75	63	P	P	17 39 25.4	-0.4
comp=Z,0.2nm,0.3s,mb3.0,baz=268,slow=10,SNR=4.0							
BRTR	Keskin Array B	31.80	281	P	P	17 40 49.0	+0.8
comp=Z,0.4nm,0.7s,mb3.4,baz=63,slow=10,SNR=2.7							
TORD	Torodi Ar. Bea	69.45	270	P	P	17 45 30.6	-1.4
comp=Z,0.4nm,0.6s,mb3.5,baz=48,slow=7.0,SNR=3.1							

ISCJB ***12*** *17:39:54.4±0.2, 42.45N±0.02×147E±0.02, h7km±4km, Error ellipse: s-maj=3.1km s-min=2.2km az=13.7*
LDG ***12*** *17:39:55.5±0.1, 42.38N×147E, h5km, Md2.8/2, Ml3.0/15, Error ellipse: s-maj=1.3km s-min=1.0km az=15.0*
STR ***12*** *17:39:55.3±0.1, 42.40N×146E, h4km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***12*** *17:39:55.3, 42.40N×146E, h4km, ML2.2(MRB), ML2.4(STR), ML3.0(LDG), MN2.3(MDD), After STR.*
CSEM ***12*** *17:39:55.5±0.1, 42.40N×147E, h0km, ML3.0/15, Error ellipse: s-maj=1.6km s-min=1.2km az=26.0*
MDD ***12*** *17:39:56.0±0.2, 42.40N×147E, h0km, mbLg2.3/29, Error ellipse: s-maj=1.7km s-min=1.3km az=2.0, PRXIMO*

ISC 12 17:39:55.1±0.2, 4243N±001×148E±002, h8km±4km, n96, σ0=84/128, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	Andorre	0.11	28	Pg	Pg	17 39 58.7	+1.1
PAND				Lg		17 40 01.0	
CSOR	Sort	0.26	259	Pg	Pg	17 40 00.4	+0.1
CSOR				Lg		17 40 04.2	
259nm,0.3s							
CSOR	Sort	0.26	259	P	Pg	17 40 00.4	+0.1
CSOR				S	Sg	17 40 04.2	+0.4
CLLI	Llivia	0.37	81	Pg	Pg	17 40 02.6	+0.2
CLLI				Lg		17 40 07.8	
28nm,0.3s							
CLLI	Llivia	0.37	81	P	Pg	17 40 02.7	+0.3
CLLI				S	Sg	17 40 07.9	+0.6
CLLI	Llivia	0.37	81	P	Pg	17 40 02.7	+0.3
SALF	Salau	0.40	328	Pg	Pg	17 40 03.4	+0.6
SALF				Sg	Sg	17 40 09.1	+1.0
SALF	Salau	0.40	328	Pg	Pg	17 40 03.5	+0.7
SALF				Lg		17 40 08.9	
VALF	Valcebollere	0.40	93	Pg	Pg	17 40 03.1	+0.2
VALF				Sg	Sg	17 40 09.2	+1.0
VALF	Valcebollere	0.40	93	Pg	Pg	17 40 03.2	+0.3
VALF				Lg		17 40 09.2	
EMIR	Miracle	0.51	176	Pg	Pg	17 40 05.0	0.0
7.9nm,0.1s,SNR=7.9							
EMIR				Lg		17 40 11.5	
43nm,0.1s,SNR=7.9							
EMIR	Miracle	0.51	176	Pg	Pg	17 40 05.0	0.0
7.9nm,0.1s,SNR=7.9							
CBRU	Bruguera	0.54	105	Pg	Pg	17 40 05.8	+0.3
CBRU			

EGRA	**Graus**	**0.89**	**255**	Pg	**Pg**	**17 40 12.7**	**+0.4**
	2.8nm,0.1s,SNR=7.9						
EGRA				Lg		17 40 25.5	
	18nm,0.2s,SNR=7.9						
RESF	**Ens**	**0.92**	**295**	Pg	**Pg**	**17 40 12.6**	**-0.3**
RESF				Sg	**Sg**	**17 40 25.4**	**+0.5**
RESF	**Ens**	**0.92**	**295**	Pg	**Pg**	**17 40 12.8**	**-0.1**
RESF				Lg		17 40 25.5	
LRDF	**Laroque-de-Fa**	**0.94**	**56**	Pg	**Pg**	**17 40 13.4**	**+0.3**
LRDF	**Laroque-de-Fa**	**0.94**	**56**	Pg	**Pg**	**17 40 13.4**	**+0.3**
LRDF				Lg		17 40 26.7	
CFON	**Fontmartina**	**0.97**	**133**	Pg	**Pg**	**17 40 13.6**	**-0.2**
CFON				Lg		17 40 26.5	
	73nm,0.2s						
CFON	**Fontmartina**	**0.97**	**133**	P	**Pg**	**17 40 13.7**	**-0.1**
CFON				S	**Sg**	**17 40 26.6**	**+0.1**
CFON	**Fontmartina**	**0.97**	**133**	P	**Pg**	**17 40 13.7**	**-0.1**
EBIE	**Bielsa**	**1.02**	**285**	⇑Pg	**Pg**	**17 40 14.5**	**-0.3**
	1.4nm,0.1s,SNR=18						
EBIE				Lg		17 40 29.0	
	8.0nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**1.02**	**285**	Pg	**Pg**	**17 40 14.5**	**-0.2**
	1.4nm,0.1s,SNR=18						
EPF	**Esparros**	**1.03**	**306**	*e*Pg	**Pg**	**17 40 14.8**	**-0.2**
EPF				*e*Sg	**Sg**	**17 40 27.7**	**-0.7**
	27nm,0.3s						
EPF	**Esparros**	**1.03**	**306**	*e*Pg	**Pg**	**17 40 14.8**	**-0.2**
EPF				*e*Sg	**Sg**	**17 40 27.7**	**-0.7**
	13nm,0.3s						
SJAF	**Saint Jean de**	**1.04**	**86**	Pg	**Pg**	**17 40 14.9**	**-0.2**
SJAF				Lg		17 40 28.9	
EJON	**La Jonquera**	**1.04**	**88**	Pg	**Pg**	**17 40 15.6**	**+0.4**
	3.4nm,0.1s,SNR=7.9						
EJON				Lg		17 40 30.3	
	101nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**1.04**	**88**	Pg	**Pg**	**17 40 15.6**	**+0.4**
	3.4nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.06**	**30**	*e*Pg	**Pg**	**17 40 16.0**	**+0.4**
MTLF				*e*Sg	**Sg**	**17 40 30.4**	**+1.0**
	31nm,0.2s						
MTLF	**Montolieu**	**1.06**	**30**	*e*Pg	**Pg**	**17 40 16.0**	**+0.4**
MTLF				*e*Sg	**Sg**	**17 40 30.4**	**+1.0**
	15nm,0.2s						
EPOB	**Poblet**	**1.11**	**196**	Pg	**Pg**	**17 40 15.8**	**-0.7**
	5.8nm,0.1s,SNR=7.9						
EPOB				Lg		17 40 30.1	
	72nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.11**	**196**	Pg	**Pg**	**17 40 15.8**	**-0.7**
	5.8nm,0.1s,SNR=7.9						
CGAR	**Garraf**	**1.16**	**193**	Pg	**Pg**	**17 40 16.2**	**-1.2**
CGAR				Lg		17 40 31.9	
	15nm,0.4s						
CGAR	**Garraf**	**1.16**	**193**	P	**Pg**	**17 40 16.3**	**-1.1**
CGAR				S	**Sg**	**17 40 32.0**	**-0.4**
CGAR	**Garraf**	**1.16**	**193**	P	**Pg**	**17 40 16.3**	**-1.1**
VIEF	**Viey**	**1.17**	**294**	Pg	**Pg**	**17 40 17.0**	**-0.5**
VIEF				Lg		17 40 32.4	
LABF	**Labassere**	**1.21**	**301**	Pn	**Pn**	**17 40 17.6**	**-0.7**
LABF				Sg	**Sg**	**17 40 34.9**	**+0.9**
LABF	**Labassere**	**1.21**	**301**	Pg	**Pg**	**17 40 18.2**	**-0.1**
LABF				Lg		17 40 33.9	
REYF	**Montagne du Re**	**1.52**	**296**	Pg	**Pg**	**17 40 23.5**	**-0.8**
REYF				Lg		17 40 45.3	
FDAF	**Les Forges d'A**	**1.56**	**285**	Lg		17 40 46.8	
ETSF	**Etsaut**	**1.57**	**288**	*e*Pg	**Pg**	**17 40 25.1**	**-0.2**
ETSF				*e*Sg	**Sg**	**17 40 46.2**	**+0.4**
	42nm,0.5s						
ETSF	**Etsaut**	**1.57**	**288**	*e*Pg	**Pg**	**17 40 25.1**	**-0.2**
ETSF				*e*Sg	**Sg**	**17 40 46.2**	**+0.4**
	21nm,0.5s						
ESAC	**San Caprasio**	**1.61**	**245**	Pg	**Pg**	**17 40 24.9**	**-1.1**
	56nm,0.3s,SNR=7.9						
ESAC				Lg		17 40 47.5	
	114nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.61**	**245**	Pg	**Pg**	**17 40 24.9**	**-1.1**
	56nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**1.70**	**211**	Pn	**Pn**	**17 40 26.6**	**+1.6**
	8.5nm,0.2s,SNR=7.9						
ERTA				Lg		17 40 48.8	
	66nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**1.70**	**211**	Pn	**Pn**	**17 40 25.5**	**+0.5**
ERTA				Lg		17 40 48.8	
ERTA	**Horta de San J**	**1.70**	**211**	Pn	**Pn**	**17 40 25.5**	**+0.5**
	8.5nm,0.2s,SNR=7.9						
ATE	**Arette**	**1.73**	**293**	Lg		17 40 52.5	
EBR	**Ebro Roquetas**	**1.77**	**205**	*e*PN	**Pn**	**17 40 27.8**	**+1.9**
EBR				*e*SN	**Sn**	**17 40 51.0**	**+2.4**
LARF	**Larrau**	**1.92**	**289**	Pg	**Pg**	**17 40 31.9**	**0.0**
LARF				Lg		17 40 57.2	
SJPF	**Ste Jean**	**2.11**	**290**	*e*Pg	**Pg**	**17 40 35.0**	**-0.5**
SJPF				*e*Sg	**Sg**	**17 41 02.2**	**-0.6**
	20nm,0.4s						
SJPF	**Ste Jean**	**2.11**	**290**	*e*Pg	**Pg**	**17 40 35.0**	**-0.5**
SJPF				*e*Sg	**Sg**	**17 41 02.2**	**-0.6**
	10nm,0.4s						
IPRE	**Itoiz**	**2.13**	**281**	Pg	**Pg**	**17 40 35.7**	**-0.2**
	2.0nm,0.3s,SNR=4.0						
IPRE				Lg		17 41 04.2	
	5.7nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**2.13**	**281**	Pg	**Pg**	**17 40 35.7**	**-0.2**
	2.0nm,0.3s,SNR=4.0						
IUSE	**Utxeti**	**2.29**	**284**	Pg	**Pg**	**17 40 39.1**	**+0.1**
	0.4nm,0.1s,SNR=7.9						
IUSE				Lg		17 41 10.5	
	1.1nm,0.4s,SNR=7.9						
IUSE	**Utxeti**	**2.29**	**284**	Pg	**Pg**	**17 40 39.1**	**+0.1**
	0.4nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**2.33**	**289**	Pg	**Pg**	**17 40 40.0**	**+0.1**
	4.5nm,0.2s,SNR=7.9						
ELIZ				Lg		17 41 12.1	
	3.9nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.33**	**291**	Pg	**Pg**	**17 40 39.7**	**-0.1**
	9.4nm,0.3s,SNR=7.9						
EALK				Lg		17 41 11.0	
	53nm,0.6s,SNR=7.9						
LASF	**Ste Croix**	**2.40**	**46**	*e*Pg	**Pg**	**17 40 40.6**	**-0.5**
LASF				*e*Sg	**Sg**	**17 41 12.6**	**+0.5**
	26nm,0.5s						
LASF	**Ste Croix**	**2.40**	**46**	Pn	**Pn**	**17 40 34.8**	**+0.2**
LASF				Pg	**Pg**	**17 40 40.6**	**-0.5**
LASF				Lg		17 41 12.6	
	13nm,0.5s						
LASF	**Ste Croix**	**2.40**	**46**	*e*Pn	**Pn**	**17 40 34.8**	**+0.2**
LASF				*e*Pg	**Pg**	**17 40 40.6**	**-0.5**
LASF				*e*Sg	**Sg**	**17 41 12.6**	**+0.5**
LASF	**Ste Croix**	**2.40**	**46**	*e*Pg	**Pg**	**17 40 40.6**	**-0.5**
LASF				*e*Sg	**Sg**	**17 41 12.6**	**+0.5**
	13nm,0.5s						
EMOS	**Mosqueruela**	**2.53**	**216**	Pg	**Pg**	**17 40 42.0**	**-1.6**
	6.2nm,0.4s,SNR=7.9						
EMOS				Lg		17 41 15.6	
	16nm,0.9s,SNR=7.9						
EMOS	**Mosqueruela**	**2.53**	**216**	Pg	**Pg**	**17 40 42.0**	**-1.6**
	6.2nm,0.4s,SNR=7.9						
CAF	**Calviac**	**2.54**	**9**	*e*Pn	**Pn**	**17 40 37.3**	**+0.8**
CAF				*e*Sg	**Sg**	**17 41 16.4**	**-0.2**
	34nm,0.3s						
CAF	**Calviac**	**2.54**	**9**	*e*Pn	**Pn**	**17 40 37.3**	**+0.8**
CAF				*e*Sg	**Sg**	**17 41 16.4**	**-0.2**
	17nm,0.3s						
LFF	**La Frestale**	**2.57**	**348**	*e*Sg	**Sg**	**17 41 18.1**	**+0.4**
	24nm,0.4s						
LFF	**La Frestale**	**2.57**	**348**	*e*Sg	**Sg**	**17 41 18.1**	**+0.4**
	12nm,0.4s						
ETOS	**Mallorca**	**2.84**	**159**	Pn	**Pn**	**17 40 40.4**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**17 41 13.2**	**-1.9**
	1.3nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**2.84**	**159**	Pn	**Pn**	**17 40 40.4**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**17 41 13.2**	**-1.9**
	1.3nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.88**	**1**	*e*Pn	**Pn**	**17 40 42.7**	**+1.4**
RJF				*e*Sg	**Sg**	**17 41 27.1**	**-0.5**
	9.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.88**	**1**	*e*Pn	**Pn**	**17 40 42.7**	**+1.4**
RJF				*e*Sg	**Sg**	**17 41 27.1**	**-0.5**
	4.9nm,0.2s						
VIVF	**Saint-Julien-l**	**3.36**	**43**	*e*Pg	**Pg**	**17 40 58.7**	**-0.8**
VIVF				*e*Sg	**Sg**	**17 41 42.7**	**-0.3**
	8.0nm,0.3s						
VIVF	**Saint-Julien-l**	**3.36**	**43**	*e*Pg	**Pg**	**17 40 58.7**	**-0.8**
VIVF				*e*Sg	**Sg**	**17 41 42.7**	**-0.3**
	4.0nm,0.3s						
TCF	**Toulx Ste Croi**	**3.90**	**7**	*e*Sg	**Sg**	**17 41 59.5**	**-0.8**
	15nm,0.6s						
TCF	**Toulx Ste Croi**	**3.90**	**7**	*e*Sg	**Sg**	**17 41 59.5**	**-0.8**
	7.6nm,0.6s						
BGF	**Bois d'Agland**	**4.25**	**13**	*e*Sg	**Sg**	**17 42 10.1**	**-1.4**
	32nm,0.4s						
BGF	**Bois d'Agland**	**4.25**	**13**	*e*Sg	**Sg**	**17 42 10.1**	**-1.4**
	16nm,0.4s						
SMF	**Signal de Mont**	**4.54**	**21**	*e*Sg	**Sg**	**17 42 19.4**	**-1.7**
	5.1nm,0.4s						
SMF	**Signal de Mont**	**4.54**	**21**	*e*Sg	**Sg**	**17 42 19.4**	**-1.7**
	2.5nm,0.4s						
AVF	**Avril sur Loir**	**4.56**	**16**	*e*Sg	**Sg**	**17 42 20.2**	**-1.5**
	5.2nm,0.4s						
AVF	**Avril sur Loir**	**4.56**	**16**	*e*Sg	**Sg**	**17 42 20.2**	**-1.5**
	2.6nm,0.4s						
SSF	**Saint Saulge**	**4.86**	**17**	*e*Sg	**Sg**	**17 42 29.6**	**-1.4**
	2.7nm,0.4s						
SSF	**Saint Saulge**	**4.86**	**17**	*e*Sg	**Sg**	**17 42 29.6**	**-1.4**
	1.4nm,0.4s						

ISCJB ***12*** *17:53:50.1±0.9, 4135N±006×7583E±006, h10km, mb4.2/3, Error ellipse: s-maj=8.3km s-min=6.0km az=6.9*
KNET ***12*** *17:53:50.4±0.7, 4150N×7580E, h8km±4km, ml3.5, Error ellipse: s-maj=5.0km s-min=3.4km az=152.0*
MOS ***12*** *17:53:51.3±1.9, 4128N×7566E, h33km, mb4.0/3, Error ellipse: s-maj=17.5km s-min=8.9km az=99.6*
NNC ***12*** *17:53:53.5±1.9, 4164N×7570E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=14.7km s-min=9.3km az=174.0*

ISC 12 17:53:51.8±0.8, 4138N±006×7568E±006, h10km, n37, σ1§35/45, mb4.2/3, 20C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.77**	**335**	P		**Pg**		**17 54 04.7**	**-1.9**
	216nm,0.2s,SNR=496								
KZA				⇑S		**Sg**		**17 54 15.2**	**-1.4**
	622nm,0.2s								
ULHL	**Ulahol**	**0.96**	**26**	P		**Pg**		**17 54 05.6**	**-4.6**
	88nm,0.1s,SNR=518								
ULHL				⇑S		**Sg**		**17 54 17.0**	**-5.8**
	414nm,0.2s								
UCH	**Uchtor**	**1.21**	**314**	P		**Pn**		**17 54 13.2**	**-1.6**
	104nm,0.3s,SNR=283								
KBK	**Karagaybulak**	**1.39**	**337**	⇓P		**Pn**		**17 54 16.1**	**-1.1**
	215nm,0.1s,SNR=300								
KBK				⇓S		**Sb**		**17 54 35.5**	**0.0**
	862nm,0.2s								
AAK	**Ala-Archa**	**1.53**	**325**	⇓P		**Pn**		**17 54 18.9**	**-0.3**
	53nm,0.2s,SNR=172								
AAK				⇑S		**Sn**		**17 54 40.1**	**+1.0**
	133nm,0.3s								
AAK	**Ala-Archa**	**1.53**	**325**	*d* P	N	**Pn**		**17 54 17.5**	**-1.7**
TKM2	**Tokmak 2**	**1.54**	**358**	P		**Pn**		**17 54 17.9**	**-1.4**
	88nm,0.2s,SNR=143								
TKM2				⇓S		**Sn**		**17 54 38.4**	**-0.9**
	196nm,0.2s								
TKM2	**Tokmak 2**	**1.54**	**358**	⇓P		**Pn**		**17 54 17.8**	**-1.5**
	10nm,0.6s								
TKM2				⇑S		**Sn**		**17 54 38.6**	**-0.7**
	25nm,0.7s								
TKM2	**Tokmak 2**	**1.54**	**358**	*i* P	N	**Pn**		**17 54 17.8**	**-1.5**
TKM2				pmax		pmax			
	comp=Z,120nm,0.5s								
AML	**Almayashu**	**1.66**	**297**	⇓P		**Pn**		**17 54 21.4**	**+0.5**
	comp=Z,51nm,0.2s,SNR=52								
AML				⇓S		**Sn**		**17 54 46.2**	**+3.8**
	comp=Z,579nm,0.5s								
CHMS	**Chumysh**	**1.76**	**337**	P		**Pn**		**17 54 22.5**	**+0.2**
	comp=Z,65nm,0.3s,SNR=98								
CHMS				⇑S		**Sn**		**17 54 46.2**	**+1.5**
	comp=Z,145nm,0.2s								
EKS2	**Erkin-Say**	**1.91**	**313**	⇑P		**Pn**		**17 54 26.1**	**+1.8**
	comp=Z,27nm,0.2s,SNR=261								
KNDC	**Almaty**	**2.07**	**27**	⇑P		**Pn**		**17 54 25.7**	**-0.8**
	comp=Z,123nm,0.6s								
KNDC				⇑S		**Sn**		**17 54 53.1**	**+0.7**
	comp=Z,433nm,0.4s								
USP	**Ospenovka**	**2.08**	**335**	⇓P		**Pn**		**17 54 28.3**	**+1.6**
	comp=Z,28nm,0.3s,SNR=316								
KK31	**Karatay Array**	**4.20**	**296**	⇑Pg		**Pg**		**17 55 08.0**	**-4.4**
	comp=Z,15nm,0.7s,baz=112,slow=14,SNR=102								
KK31				⇑Lg				17 56 04.1	
	comp=Z,13nm,0.3s,baz=103,slow=28,SNR=9.1								
KKAR	**Karatay Array**	**4.20**	**296**	PN		**Pb**		**17 55 06.7**	**+0.9**
KKAR								17 56 04.0	
KKAR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
KKAR				pmax		pmax			
	comp=Z,5.0nm,0.4s								
MK05	**Makanchi Array**	**7.20**	**39**	⇑Pn		**Pn**		**17 55 37.6**	**+0.4**
	comp=Z,5.0nm,0.8s								
MK05				⇑Lg				17 57 33.9	
	comp=Z,3.2nm,0.6s								
MK31	**Makanchi Array**	**7.20**	**39**	P		**Pn**		**17 55 37.5**	**+0.4**
MK31				pmax		pmax			
	comp=Z,4.0nm,0.9s								
MK31				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**7.20**	**39**	*i* PN		**Pn**		**17 55 39.2**	**+2.1**
MKAR				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KURK	**Kurchatov**	**9.55**	**11**	⇓Lg				17 58 48.8	
	comp=Z,25nm,1.3s								
KURK	**Kurchatov**	**9.55**	**11**	*i* P		**Pn**		**17 56 10.1**	**+0.7**
VOSK	**Vostochnaya**	**11.79**	**346**	⇑Lg				17 59 57.6	
	comp=Z,16nm,0.9s								
BVA0	**Borovoye Array**	**12.19**	**345**	⇑Pn		**Pn**		**17 56 45.2**	**-0.2**
	comp=Z,0.5nm,1.6s,baz=155,slow=12,SNR=7.1								
BVA0				⇑Lg				18 00 12.3	
	comp=Z,3.9nm,1.6s,baz=149,slow=26,SNR=4.0								
BVA0	**Borovoye Array**	**12.19**	**345**	*i* P		**Pn**		**17 56 45.2**	**-0.2**
BVA0				pmax		pmax			
	comp=Z,1.0nm,1.7s								
BVA0				pmax		pmax			
	comp=Z,6.0nm,1.7s								
ZRNK	**Zerenda**	**12.43**	**341**	⇑Pn		**Pn**		**17 56 46.3**	**-2.4**
	comp=Z,13nm,2.5s								
ZRNK				⇑Lg				18 00 20.2	
	comp=Z,12nm,1.4s								
ZRNK	**Zerenda**	**12.43**	**341**	*i* P		**Pn**		**17 56 46.2**	**-2.5**
ZRNK				pmax		pmax			
	comp=Z,13nm,2.4s								
CHKZ	**Chkalovo**	**12.76**	**346**	⇑Pn		**Pn**		**17 56 55.4**	**+2.1**
	comp=Z,0.8nm,0.6s								
CHKZ				⇓Lg				18 00 27.5	
	comp=Z,14nm,1.1s								
CHKZ	**Chkalovo**	**12.76**	**346**	P		**Pn**		**17 57 02.0**	**+8.7**
CHKZ				pmax		pmax			
	comp=Z,1.0nm,0.6s								
CHKZ				pmax		pmax			
	comp=Z,16nm,1.2s								
AB31	**Akbulak array**	**13.57**	**311**	⇑Pn		**Pn**		**17 57 07.6**	**+3.3**
	comp=Z,5.8nm,1.0s,baz=114,slow=13,SNR=20								
AB31	**Akbulak array**	**13.57**	**311**	*e*P		**Pn**		**17 57 07.5**	**+3.2**
AB31				pmax		pmax			
	comp=Z,6.0nm,1.0s								
AKTO	**Aktyubinsk**	**15.24**	**312**	⇑Pn		**Pn**		**17 57 27.7**	**+0.7**
	comp=Z,0.2nm,1.1s								
AKTO	**Aktyubinsk**	**15.24**	**312**	*i* P		**Pn**		**17 57 27.6**	**+0.7**
AKTO				pmax		pmax			
	comp=Z,1.0nm,1.1s								
ARU	**Arti**	**18.71**	**329**	*e*P		**Pn**		**17 58 12.5**	**+1.7**
ZAK	**Zakamensk**	**21.12**	**55**	*e*P		**P**		**17 58 35.5**	**-1.1**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.8s,mb3.5								
SOC	**Sochi**	**26.49**	**287**	*e*P		**P**		**17 59 25.7**	**-3.5**
SOC				*e*				18 00 03.9	
SOC				*e*S		**S**		**18 03 57.8**	**-5.3**
SOC				*e*SS				18 05 00.6	
SOC				*e*SSS				18 05 19.3	
SOC				pmax		pmax			
	comp=Z,21nm,1.2s,mb4.5								
OBN	**Obninsk**	**29.01**	**312**	⇓*e*P		**P**		**17 59 48.4**	**-3.4**
OBN				*e*SS		SS		18 06 35.0	-11
OBN				pmax		pmax			
	comp=Z,6.0nm,0.5s,mb4.6								
BRTR	**Keskin Array B**	**31.76**	**281**	*i* P		**P**		**18 00 14.6**	**-1.5**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								

ISCJB ***12*** *18:58:36.0±1.5, 4252N±008×4353E±006, h10km, Error ellipse: s-maj=12.2km s-min=6.7km az=1.9*
MOS ***12*** *18:58:36.3±0.8, 4253N×4355E, h3km, mb3.5/1, Error ellipse: s-maj=42.3km s-min=13.0km az=59.1*

ISC 12 18:58:36.2±2.0, 4253N±009×435E±01, h12km±12km, n7, σ0§33/13, 2C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.07**	**320**	P			**Pg**	**18 58 39.0**	**+0.4**
ONI				S			**Sg**	**18 58 40.4**	**0.0**
ZEI	**Tsey**	**0.38**	**49**	*e*PG			**Pg**	**18 58 44.3**	**+0.7**
ZEI				*e*				18 58 49.7	
DIGR	**Digorskoe uzhe**	**0.38**	**8**	⇓*i*PG			**Pg**	**18 58 43.5**	**-0.2**
DIGR				*i* S			**Sg**	**18 58 48.7**	**-0.1**
LACR	**Lac**	**0.65**	**62**	⇑*i*PG			**Pg**	**18 58 48.5**	**-0.3**
LACR				*i* S			**Sg**	**18 58 57.4**	**0.0**
KORR	**Kora**	**0.69**	**36**	⇓*i*PG			**Pg**	**18 58 49.3**	**-0.3**
KORR				*i* S			**Sg**	**18 58 58.8**	**+0.1**
ARNR	**Ardon**	**0.87**	**40**	⇑*i*PG			**Pg**	**18 58 52.6**	**-0.4**
ARNR				*i* S			**Sg**	**18 59 04.5**	**+0.1**
SNJR	**Sundja**	**1.10**	**60**	*i* PG			**Pg**	**18 58 56.9**	**-0.4**
SNJR				*i* S			**Sb**	**18 59 11.9**	**+0.4**

ISCJB ***12*** *19:05:56.3±0.3, 2121N±004×14391E±006, h57km, mb4.6/59, MS4.0/19, Error ellipse: s-maj=7.8km s-min=5.4km az=156.7*
BJI ***12*** *19:05:57.7, 2128N×14336E, h46km, mB4.8, mb4.6, Ms4.3, Msz4.0*
IDC ***12*** *19:05:57.3±3.0, 2133N×144.17E, h61km±26km, mb4.0/16, mb1 4.1/18, mb1mx4.0/25, mbtmp4.3/18, ML4.2/1, MS3.9/10, Ms1 3.9/10, ms1mx3.5/25, Error ellipse: s-maj=24.3km s-min=11.9km az=89.0*
MOS ***12*** *19:05:58.2±1.0, 2134N×14392E, h75km, mb4.9/26, Error ellipse: s-maj=12.9km s-min=7.0km az=109.7*
NEIC ***12*** *19:05:59.3±2.2, 2130N×14398E, h72km±19km, mb4.7/29, Error ellipse: s-maj=10.8km s-min=8.2km az=102.0*

ISC 12 19:05:58.4±0.3, 2129N±004×14399E±006, h59km, h59km±2.7km: pP-P, n136, σ1§37/133, mb4.6/59, MS4.0/19, 6C-3D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.01**	**344**	P			**Pn**	**19 07 23.1**	**-1.6**
	17nm,0.3s,baz=263,slow=18,SNR=7.3								
CBIJ				S			**Sn**	**19 08 30.6**	**-1.5**
	24nm,0.3s,baz=269,slow=23,SNR=8.4								
CBIJ				LR			LR	19 09 20.2	
	comp=Z,505nm,18.4s,baz=183,slow=34								
JOD2	**Odawara 2**	**14.57**	**344**	P			**Pn**	**19 09 18.6**	**-2.6**
JRY	**Ryogami san**	**15.34**	**344**	P			**Pn**	**19 09 32.7**	**+1.6**
JOW	**Kunigami**	**15.37**	**294**	LR			LR	19 14 27.2	
	comp=Z,148nm,19.8s,baz=291,slow=33								
JWT	**Wachi**	**15.85**	**333**	P			**Pn**	**19 09 39.9**	**+2.3**
MJAR	**Matsushiro Arr**	**16.01**	**343**	P			**Pn**	**19 09 37.1**	**-2.6**
	0.4nm,0.3s,baz=164,slow=11,SNR=6.6								
MJAR				LR			LR	19 15 18.9	
	comp=Z,491nm,18.1s,baz=155,slow=35								
MAJO	**Matsushiro**	**16.02**	**343**	*e*P			**Pn**	**19 09 40.4**	**+0.7**
MAJO				pmax			pmax		
	comp=Z,30nm,1.0s								
MAJO	**Matsushiro**	**16.02**	**343**	*e*P			**Pn**	**19 09 40.4**	**+0.7**
	comp=Z,30nm,1.0s								
MAT	**Matsushiro**	**16.02**	**343**	P			**Pn**	**19 09 39.5**	**-0.2**
MAT				S			**S**	**19 12 37.0**	**-10**
MAT	**Matsushiro**	**16.02**	**343**	P			**Pn**	**19 09 41.9**	**+2.2**
MAT	**Matsushiro**	**16.02**	**343**	P			**Pn**	**19 09 40.0**	**+0.3**
MAT				pmax			pmax		
	comp=Z,7.0nm,0.8s								
MAT	**Matsushiro**	**16.02**	**343**	P			**Pn**	**19 09 40.0**	**+0.3**
	comp=Z,7.5nm,0.8s								
JAD	**Aida**	**16.11**	**330**	P			**Pn**	**19 09 43.0**	**+2.1**
JHS	**Saijyo**	**16.67**	**327**	P			**Pn**	**19 09 53.1**	**+5.2**
JMM	**Marumori**	**16.75**	**351**	P			**Pn**	**19 09 48.5**	**-0.5**
JSD	**Sado**	**17.41**	**345**	P			**Pn**	**19 10 01.2**	**+4.1**
JYA	**Atsumi**	**17.64**	**349**	P			**Pn**	**19 10 00.8**	**+0.9**
JOM	**Ohasama**	**18.27**	**353**	P			**Pn**	**19 10 13.4**	**+5.8**
JTM	**Tenmabayashi**	**19.60**	**353**	P			**Pn**	**19 10 26.5**	**+3.1**
JEM	**Erimo**	**20.68**	**358**	P			**P**	**19 10 36.6**	**+3.3**
JSH	**Shimam**	**21.55**	**352**	P			**P**	**19 10 45.9**	**+3.2**
JEW	**Eniwo**	**21.60**	**355**	P			**P**	**19 10 43.3**	**+0.1**
SSE	**Sheshan**	**22.63**	**300**	P			**P**	**19 10 49.7**	**-4.5**
SSE				AP				19 10 57.6	
SSE				XP			sP	19 11 02.5	-12
SSE				S			**S**	**19 14 46.0**	**-12**
SSE				AMB			AMB		
	comp=Z,20nm,0.7s,mb4.7								
SSE				AMB			AMB		
	comp=Z,40nm,6.0s								
SSE				LR			LR		
	comp=N,200nm,20.5s,MS3.6								
SSE				LR			LR		
	comp=E,100nm,20.5s,MS3.6								
SSE				LR			LR		
	comp=Z,130nm,19.5s,MS3.4								
**JM

CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,170nm,13.2s
CD2 LR LR
comp=Z,140nm,21.6s
LZH Lanzhou 37.90 302 *e*P **P 19 13 12.5 +2.8**
LZH AP pP 19 13 20.4 -4.2
LZH XP sP 19 13 24.0 -7.6
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,90nm,4.0s
LZH LR LR
comp=N,240nm,13.5s
LZH LR LR
comp=Z,380nm,14.2s,MS4.3
KMI Kunming 38.00 284 P **P 19 13 09.3 -1.2**
KMI AP pP 19 13 23.3 -2.2
KMI XP sP 19 13 29.2 -3.2
KMI PP PP 19 14 39.1 +0.9
KMI PPP 19 15 01.5
KMI S **S 19 18 55.7 -2.7**
KMI XS sS 19 19 19.7 -4.1
KMI SSS 19 22 05.3
KMI LR LR
comp=N,250nm,19.2s,MS4.1
KMI LR LR
comp=E,170nm,19.2s,MS4.1
KMI LR LR
comp=Z,260nm,18.5s,MS4.1
ULN Ulaanbaatar 39.76 321 ⇓*i*P **P 19 13 25.3 +0.1**
ULN Ulaanbaatar 39.76 321 *e*P **P 19 13 24.7 -0.5**
comp=Z,2.0nm,0.7s,mb4.0
SONM Songino Array 40.13 320 P **P 19 13 28.5 +0.2**
comp=Z,1.3nm,0.7s,mb3.8,baz=133,slow=8.6,SNR=13
SONM LR LR 19 31 35.1
comp=Z,160nm,19.5s,MS3.9,baz=121,slow=38
CTA Charters Tower 41.18 177 P **P 19 13 37.0 0.0**
comp=Z,12nm,0.9s,mb4.5,baz=17,slow=6.8,SNR=4.6
CTA Charters Tower 41.18 177 P **P 19 13 37.0 0.0**
GTA Gaotai 41.72 306 *e*P **P 19 13 42.5 +1.1**
GTA AP pP 19 13 48.3 -8.2
GTA AMB AMB
comp=Z,70nm,6.5s
GTA LR LR
comp=N,250nm,20.5s,MS4.2
GTA LR LR
comp=E,170nm,20.9s,MS4.2
GTA LR LR
comp=Z,210nm,19.4s,MS4.0
YAK Yakutsk 41.90 350 *e*P **P 19 13 41.7 -1.1**
YAK pmax pmax
comp=Z,19nm,0.8s,mb4.8
YAK Yakutsk 41.90 350 *e*P **P 19 13 41.7 -1.2**
comp=Z,19nm,0.8s,mb4.8
WRAB Tennant Creek 42.04 194 ⇓*i*P **P 19 13 45.3 +1.3**
WRAB Tennant Creek 42.04 194 *e*P **P 19 13 39.6 -4.3**
comp=Z,26nm,0.6s,mb5.0
WB2 Warramunga Arr 42.05 194 *e*P **P 19 13 44.1 +0.1**
WRA Warramunga Arr 42.05 194 P **P 19 13 43.8 -0.3**
comp=Z,14nm,0.6s,mb4.8,baz=16,slow=8.8,SNR=44
ZAK Zakamensk 43.13 322 *e*P **P 19 13 51.8 -1.0**
ZAK *e* 19 14 19.9
ZAK pmax pmax
comp=Z,13nm,1.8s,mb4.4
KULM Kulim 44.89 256 *e*P **P 19 14 10.0 +3.1**
AS31 Alice Springs 45.74 193 ⇑*i*P **P 19 14 13.6 -0.1**
AS31 *e*S tx 19 18 07.7
ASAR Alice Springs 45.75 193 P **P 19 14 13.7 -0.1**
comp=Z,8.0nm,0.6s,mb4.8,baz=12,slow=8.5,SNR=72
ASPA Alice Springs 45.75 193 ⇑*i*P **P 19 14 13.6 -0.1**
ASPA *e*S tx 19 18 07.7
LSA Lhasa 48.08 291 *e*P **P 19 14 34.4 +2.5**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LSA Lhasa 48.08 291 *e*P **P 19 14 34.4 +2.5**
comp=Z,2.8nm,0.6s,mb4.5
TIXI Tiksi 51.13 354 ⇓*i*P **P 19 14 57.9 +2.8**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
WMQ Urumqi 51.42 310 P **P 19 14 58.4 +1.1**
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,90nm,4.0s
WMQ LR LR
comp=N,250nm,21.0s,MS4.3
WMQ LR LR
comp=E,130nm,20.0s,MS4.3
WMQ LR LR
comp=Z,250nm,21.0s,MS4.2
JIRN Jiri 52.59 289 *e*P **P 19 15 08.0 +2.0**
comp=Z,21nm,0.8s,mb5.1
GUN Gumba 52.84 289 *e*P **P 19 15 08.2 +0.4**
STKA Stephens Creek 52.91 183 *e*P **P 19 15 05.9 -2.4**
comp=Z,3.0nm,0.9s,mb4.2
STKA Stephens Creek 52.91 183 P **P 19 15 05.8 -2.5**
comp=Z,2.9nm,0.7s,mb4.3,baz=350,slow=9.2,SNR=11
PKI Pulchoki 53.29 289 *e*P **P 19 15 12.5 +1.4**
KKN Kakani 53.38 289 *e*P **P 19 15 13.0 +1.2**
DMN Daman 53.55 289 *e*P **P 19 15 14.6 +1.5**
FORT Forrest 53.98 197 *e*P **P 19 15 16.1 -0.1**
comp=Z,19nm,0.6s,mb5.2
ZAL Zalesovo 55.01 322 P **P 19 15 23.5 -0.1**
comp=Z,2.0nm,0.5s,mb4.4,baz=340,slow=6.8,SNR=5.3
MKAR Makanchi Array 55.52 313 P **P 19 15 27.8 +0.4**
comp=Z,1.6nm,0.7s,mb4.1,baz=93,slow=8.9,SNR=19
TTA Tatalina 57.71 28 *e*P **P 19 15 45.0 +2.2**
KURK Kurchatov 58.28 317 *e*P **P 19 15 46.7 -0.2**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KURK Kurchatov 58.28 317 *e*P **P 19 15 46.7 -0.2**
comp=Z,5.3nm,0.8s,mb4.6
SML Sawmill 60.94 30 *e*P **P 19 16 06.0 +0.9**
AAK Ala-Archa 61.01 308 ⇑*e*P **P 19 16 05.3 -0.3**
AAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.4
AAK MLR MLR
comp=Z,100nm,19.0s,MS4.0
CHKZ Chkalovo 63.33 320 *e*P **P 19 16 20.4 -0.7**
CHKZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
CHKZ Chkalovo 63.33 320 *e*P **P 19 16 20.4 -0.7**
comp=Z,3.8nm,0.8s,mb4.6
BRVK Borovoye 63.53 320 *e*P **P 19 16 22.4 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BRVK Borovoye 63.53 320 *e*P **P 19 16 22.4 -0.1**
comp=Z,4.9nm,0.9s,mb4.5
ZRNK Zerenda 64.31 320 *e*P **P 19 16 27.4 -0.2**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ZRNK Zerenda 64.31 320 *e*P **P 19 16 27.4 -0.2**
comp=Z,3.7nm,0.8s,mb4.5
ARU Arti 70.04 324 ⇑*i*P **P 19 17 01.9 -2.0**
ARU *e* 19 17 25.2
ARU *e*PPP 19 21 19.7
ARU *e*S S 19 26 08.0 -1.9
ARU *e*SS SS 19 30 35.5 -4.7
ARU pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
DLBC Dease Lake 70.05 34 *e*P **P 19 17 06.4 +2.5**
PPT Papeete 75.68 116 LR LR 19 50 27.7
comp=Z,166nm,18.4s,MS4.4,baz=25,slow=35
YKA Yellowknife Ar 76.47 28 P **P 19 17 39.9 -1.8**
comp=Z,1.5nm,0.7s,mb4.0,baz=293,slow=6.0,SNR=3.6
YKA LR LR 19 49 40.9
comp=Z,87nm,20.1s,MS4.1,baz=75,slow=34
YKA Yellowknife Ar 76.47 28 P **P 19 17 39.9 -1.8**
YKA LR LR 19 49 40.9
HUMO Hull Mountain 78.07 49 P **P 19 17 51.1 +0.4**
comp=Z,8.8nm,1.3s,mb4.5
YBH Yreka Blue Hor 78.52 50 *e*P **P 19 17 53.1 -0.1**
YBH pmax pmax
comp=Z,8.0nm,1.0s
YBH Yreka Blue Hor 78.52 50 *e*P **P 19 17 53.1 0.0**
comp=Z,7.6nm,1.0s,mb4.6
KEV Kevo 78.99 342 *e*p **P 19 17 53.2 -2.5**
comp=Z,12nm,1.0s,mb4.8
KEV Kevo 78.99 342 *e*P **P 19 17 53.2 -2.5**
KEV pmax pmax
comp=Z,12nm,1.0s,mb4.8
ARCES ARCESS Array B 79.55 342 P **P 19 17 57.3 -1.5**
comp=Z,3.3nm,1.0s,mb4.2,baz=74,slow=9.1,SNR=6.4
JOF Joensuu 81.01 335 *e*p **P 19 18 04.5 -2.1**
comp=Z,2.1nm,0.6s,mb4.2
WVOR Wild Horse Val 81.14 48 P **P 19 18 07.1 -0.3**
WVOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WVOR Wild Horse Val 81.14 48 P **P 19 18 07.1 -0.3**
comp=Z,5.7nm,0.8s,mb4.5
CMB Columbia Colle 81.42 53 *e*P **P 19 18 09.0 +0.2**
CMB pmax pmax
comp=Z,12nm,1.0s,mb4.8
CMB Columbia Colle 81.42 53 *e*P **P 19 18 09.0 +0.2**
comp=Z,12nm,1.0s,mb4.8
WALA Waterton Lakes 81.77 41 P **P 19 18 14.0 +3.4**
comp=Z,9.7nm,1.0s,mb4.7
OBN Obninsk 82.24 326 ⇑*e*P **P 19 18 12.4 -0.8**
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.3
VRSR Storozhevoye 82.49 322 *e*P **P 19 18 14.5 +0.1**
VRSR pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
VRSR pmax pmax
comp=N,2.0nm,1.0s
VRSR pmax pmax
comp=E,2.0nm,0.9s
NVAR Mina Array Bea 82.81 52 P **P 19 18 15.3 -0.9**
comp=E,1.6nm,0.7s,mb4.2,baz=261,slow=5.0,SNR=12
NVAR Mina Array Bea 82.81 52 P **P 19 18 15.3 -0.9**
ZEI Tsey 82.88 313 *e*P **P 19 18 16.7 +0.2**
ZEI *e* 19 21 35.5
ZEI pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
KIV Kislovodsk 83.24 315 *c i*P **P 19 18 19.5 +1.1**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.2
KIV Kislovodsk 83.24 315 P **P 19 18 16.4 -2.0**
comp=Z,22nm,1.1s,mb5.1
KAF Kangasniemi 83.41 335 *e*p **P 19 18 16.3 -2.9**
comp=Z,0.7nm,0.4s,mb4.0,baz=55,slow=4.8
FINES FINESS Array B 83.87 335 P **P 19 18 19.1 -2.5**
comp=Z,1.2nm,0.5s,mb4.2,baz=75,slow=5.6,SNR=14
FINES FINESS Array B 83.87 335 *i* P **P 19 18 20.0 -1.6**
FINES pmax pmax
comp=Z,1.0nm,0.5s
DAC Darwin (Calif) 84.13 53 *e*P **P 19 18 23.3 +0.4**
DAC pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
DAC Darwin (Calif) 84.13 53 *e*P **P 19 18 23.3 +0.4**
comp=Z,4.1nm,0.9s,mb4.6
ELK Elko 84.14 49 *e*P **P 19 18 22.6 -0.3**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 84.14 49 *e*P **P 19 18 22.6 -0.3**
comp=Z,4.2nm,0.8s,mb4.6
QLMT Earthquake Lak 85.04 44 *e*P **P 19 18 28.1 +0.6**
SOC Sochi 85.36 315 *e*P **P 19 18 28.5 -0.6**
SOC *e* 19 21 43.5
SOC *e*S 19 28 49.1
SOC *e*SS SS 19 34 26.7 -4.3
SOC *e*SSS 19 38 02.9
SOC pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
IMW Indian Meadow 85.75 44 *e*P **P 19 18 32.0 +1.0**
comp=Z,5.6nm,0.7s,mb4.9
FFC Flin Flon 85.78 32 *e*P **P 19 18 30.8 -0.4**
FFC pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
FFC Flin Flon 85.78 32 *e*P **P 19 18 30.8 -0.3**
comp=Z,8.9nm,1.0s,mb5.0
FLWY Flagg Ranch 85.83 44 *e*P **P 19 18 32.1 +0.7**
comp=Z,21nm,1.1s,mb5.3
DUG Dugway 86.05 48 *e*P **P 19 18 32.1 -0.4**
DUG pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
DUG Dugway 86.05 48 *e*P **P 19 18 32.1 -0.4**
comp=Z,10nm,1.0s,mb5.0
LOHW Long Hollow 86.10 45 *e*P **P 19 18 33.2 +0.4**
ANN Anapa 86.32 317 *e*P **P 19 18 33.4 -0.4**
ANN pmax pmax
comp=Z,45nm,1.2s,mb5.6
HWUT Hardware Ranch 86.32 47 *e*P **P 19 18 34.2 +0.4**
comp=Z,10nm,0.9s,mb5.1
CCUT Cedar City 86.75 51 *e*P **P 19 18 36.0 +0.1**
FCC Fort Churchill 87.08 26 *e*P **P 19 18 35.9 -1.6**
FCC pmax pmax
comp=Z,11nm,1.2s,mb5.0
FCC Fort Churchill 87.08 26 *e*P **P 19 18 35.9 -1.7**
comp=Z,11nm,1.2s,mb5.0
PDAR Pinedale Array 87.16 45 P **P 19 18 36.4 -1.5**
comp=Z,0.7nm,0.8s,mb3.9,baz=262,slow=3.0,SNR=6.5
PDAR LR LR 19 50 58.7
comp=Z,152nm,20.5s,MS4.4,baz=263,slow=31
HFS Hagfors 89.39 338 P **P 19 18 45.8 -2.7**
comp=Z,1.0nm,0.6s,mb4.3,baz=93,slow=7.2,SNR=3.9
BRTR Keskin Array B 91.17 314 P **P 19 18 54.6 -2.2**
comp=Z,0.6nm,0.7s,mb4.0,baz=75,slow=1.4,SNR=4.3
AMTX Amarillo 96.34 49 *e*P **P 19 19 22.6 +2.1**
comp=Z,9.5nm,0.8s,mb5.3
SCHQ Schefferville 99.73 18 LR LR 20 03 42.9
comp=Z,79nm,20.7s,MS4.2,baz=240,slow=35
VNA2 Neumayer--Watz 127.59 191 *e*PKPdf PKPdf 19 24 55.0 -1.7
baz=135,slow=1.4
VNA2 *e* 19 25 00.8
VNA2 *e* 19 25 05.8
VNA2 *e* 19 25 09.4
VNA2 *e* 19 25 14.6
TORD Torodi Ar. Bea 129.58 309 PKP PKPdf 19 24 59.6 -0.9
comp=Z,0.4nm,0.9s,baz=132,slow=1.9,SNR=5.3
PLCA Paso Flores 144.92 131 PKP PKPdf 19 25 26.8 -1.9
comp=Z,14nm,1.0s,baz=224,slow=4.3,SNR=12
PLCA Paso Flores 144.92 131 *e*PKPdf PKPdf 19 25 27.4 -1.2
LPAZ La Paz 149.22 86 PKPbc PKPbc 19 25 41.0 +0.8
comp=Z,2.2nm,0.5s,baz=345,slow=1.4,SNR=4.7
LPAZ La Paz 149.22 86 *e*PKPdf PKPdf 19 25 36.9 +1.1
SAML Samuel 151.10 69 *e*PKPdf PKPdf 19 25 39.0 +0.2
SAML *e*PKPbc PKPbc 19 25 43.8 -0.9

NEIC ***12*** *19:08:45.0±0.8,3274N×550W,h10km,MG4.5(MDD), Error ellipse: s-maj=11.1km s-min=7.3km az=68.0*
CSEM ***12*** *19:08:44.8±0.1,3285N×542W,h15km,MD4.1,Error ellipse: s-maj=3.4km s-min=1.8km az=124.0*
ISCJB ***12*** *19:08:45.9±0.3,3301N±002×561W±003,h10km,mb3.6/4, Error ellipse: s-maj=3.8km s-min=2.3km az=58.9*
IDC ***12*** *19:08:46.0±4.0,3278N×530W,h12km±23km,mb3.6/5, mb1 3.8/6,mb1mx3.5/23,mbtmp3.7/6,ML4.4/1,Error ellipse: s-maj=28.2km s-min=19.9km az=108.0*
CNRM ***12*** *19:08:46.7,3261N×530W,h1km,MD4.1*
SFS ***12*** *19:08:46.0,3292N×600W,h0km,ML4.5*
MDD ***12*** *19:08:47.0±0.5,3276N×540W,h14km±5km,mb4.6/17, Error ellipse: s-maj=7.5km s-min=3.2km az=140.0, PRXIMO*
INMG ***12*** *19:08:48.2±3.0,3295N×506W,h31km±11km,MD3.7, ML3.3,Error ellipse: s-maj=16.8km s-min=11.1km az=99.0*
IGIL ***12*** *19:08:48.1,3290N×5.10W,h31km,ML3.7*
LDG ***12*** *19:08:49.0±0.5,3286N×566W,h10km,Ml3.7/5,Error ellipse: s-maj=8.5km s-min=7.4km az=10.0*
ISC 12 19:08:47.0±0.3,3294N±002×560W±003,h10km,n105,
σ1§26/188,mb3.6/4,1C-2D,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZD	**Col de Zad**	**0.47**	**79**	*i* P	**Pg**	**19 08 53.8**	**-2.5**
CZD				*i* S	**Sg**	**19 09 02.0**	**-0.5**
KIB	**El Ksiba**	**0.52**	**226**	*i* P	**Pg**	**19 08 57.5**	**+0.4**
KIB				*i* S	**Sg**	**19 09 07.0**	**+3.1**
IFR	**Ifrane**	**0.70**	**34**	P	**Pg**	**19 09 00.0**	**-0.5**
IFR				S	**Sg**	**19 09 11.0**	**+1.4**
MDT	**Midelt**	**0.84**	**98**	Pg	**Pg**	**19 08 57.6**	**-5.5**
MDT				Lg		19 09 05.7	
TZC	**Tazercounte**	**1.09**	**224**	*i* P	**Pb**	**19 09 07.0**	**-0.9**
TZC				*i* S	**Sg**	**19 09 22.0**	**-0.2**
ZFT	**Errachidia**	**1.39**	**130**	P	**Pn**	**19 09 06.0**	**-6.4**
ZFT				S	**Sb**	**19 09 17.5**	**-13**
ZFT	**Errachidia**	**1.39**	**130**	*i* P	**Pn**	**19 09 06.0**	**-6.4**
RTC	**Rabat Centre**	**1.48**	**315**	P	**Pn**	**19 09 07.5**	**-6.2**
RTC				S	**Sg**	**19 09 41.0**	**+6.3**

AVE Averroes 1.56 284 P **Pn 19 09 15.5 +0.7**
AVE S **Sn 19 09 37.5 +2.3**
RSA Sarsar 1.94 354 P **Pg 19 09 25.0 +0.8**
RSA S **Sg 19 09 53.0 +3.6**
TSY Tnine Yamani 2.45 353 P **Pg 19 09 33.0 -0.9**
TSY S **Sg 19 10 05.5 -0.1**
TIO Tiouine 2.46 216 P **Pn 19 09 26.0 -1.1**
TIO S **Sn 19 09 59.0 +1.9**
TOU Touzarine 2.53 37 P **Pn 19 09 29.0 +0.9**
TOU S **Sn 19 10 01.0 +2.0**
OUK Oukaimeden 2.59 229 *i* P **Pn 19 09 28.0 -0.9**
OUK *i* S **Sn 19 09 59.0 -1.4**
CIA Chichaoua 3.01 244 *i* P **Pn 19 09 35.0 +0.3**
CIA *i* S **Sn 19 10 11.0 +0.2**
ZAI Zaio 3.12 49 *e*P **Pn 19 09 36.0 -0.2**
ZAI *i* S **Sn 19 10 13.0 -0.5**
EJIF Jimena Fronter 3.50 2 P **Pn 19 09 43.3 +1.8**
1.0nm,0.1s,SNR=7.9
EJIF S **Sn 19 10 22.2 -0.9**
4.1nm,0.3s,SNR=7.9
EJIF Jimena Fronter 3.50 2 P **Pn 19 09 43.1 +1.6**
EJIF S **Sn 19 10 22.2 -0.9**
EJIF Jimena Fronter 3.50 2 P **Pn 19 09 43.1 +1.6**
1.0nm,0.1s,SNR=7.9
EJIF S **Sn 19 10 22.2 -0.8**
4.1nm,0.3s,SNR=7.9
EMIJ Mijas 3.68 10 P **Pn 19 09 42.6 -1.3**
4.0nm,0.1s,SNR=20
EMIJ S **Sn 19 10 26.5 -0.8**
9.6nm,0.2s,SNR=7.9
MAL Malaga 3.90 14 *e*P **Pn 19 09 46.4 -0.6**
MAL *e*S **Sn 19 10 30.8 -2.0**
ESPR Espera 3.92 357 P **Pn 19 09 47.9 +0.6**
2.1nm,0.1s,SNR=7.9
ESPR S **Sn 19 10 32.0 -1.4**
5.0nm,0.2s,SNR=7.9
ESPR Espera 3.92 357 P **Pn 19 09 47.9 +0.6**
2.1nm,0.1s,SNR=7.9
ESPR S **Sn 19 10 32.0 -1.4**
5.0nm,0.2s,SNR=7.9
LIJA Lijar 3.96 2 P **Pn 19 09 48.8 +1.0**
LIJA S **Sn 19 10 35.6 +1.4**
LIJA Lijar 3.96 2 *i* P **Pn 19 09 48.8 +1.0**
LIJA *e*S **Sn 19 10 35.6 +1.3**
EGUA Guajares 4.23 23 P **Pn 19 09 50.5 -0.9**
1.2nm,0.1s,SNR=7.9
EGUA S **Sn 19 10 40.1 -0.8**
2.8nm,0.2s,SNR=7.9
ERON Agron 4.33 19 P **Pn 19 09 53.2 +0.4**
1.8nm,0.2s,SNR=7.9
ELOJ Sierra Loja 4.36 15 P **Pn 19 09 55.6 +2.3**
2.8nm,0.3s,SNR=7.9
ELOJ S **Sn 19 10 44.4 +0.2**
2.4nm,0.2s,SNR=7.9
ELOJ Sierra Loja 4.36 15 P **Pn 19 09 55.6 +2.3**
ELOJ S **Sn 19 10 46.7 +2.5**
ELOJ Sierra Loja 4.36 15 P **Pn 19 09 55.6 +2.3**
2.8nm,0.3s,SNR=7.9
ELOJ S **Sn 19 10 46.7 +2.5**
2.4nm,0.2s,SNR=7.9
EBER Berja 4.53 29 P **Pn 19 09 55.6 0.0**
1.6nm,0.2s,SNR=7.9
EBER S **Sn 19 10 46.3 -2.0**
15nm,0.3s,SNR=7.9
EBER Berja 4.53 29 P **Pn 19 09 55.6 0.0**
1.6nm,0.2s,SNR=7.9
EBER S **Sn 19 10 46.3 -2.1**
15nm,0.3s,SNR=7.9
EQUE Quentar 4.61 22 P **Pn 19 09 58.1 +1.5**
1.6nm,0.1s,SNR=7.9
EQUE S **Sn 19 10 49.9 -0.3**
14nm,0.3s,SNR=7.9
ERIP Rio Piedras 4.63 343 P **Pn 19 09 57.9 +0.9**
20nm,0.1s,SNR=7.9
ERIP S **Sn 19 10 49.8 -0.9**
77nm,0.1s,SNR=7.9
ECOG Cogollos-Vega 4.64 20 P **Pn 19 09 59.1 +2.1**
11nm,0.4s,SNR=7.9
ECOG S **Sn 19 10 50.8 -0.1**
8.4nm,0.4s,SNR=7.9
ECOG Cogollos-Vega 4.64 20 P **Pn 19 09 59.1 +2.0**
11nm,0.4s,SNR=7.9
ECOG S **Sn 19 10 50.8 -0.1**
8.4nm,0.4s,SNR=7.9
EGRO El Granado 4.84 342 ⇓P **Pn 19 10 00.8 +1.0**
16nm,0.2s,SNR=18
EGRO S **Sn 19 10 54.5 -1.4**
3.6nm,0.1s,SNR=7.9
EGRO El Granado 4.84 342 P **Pn 19 10 00.8 +1.0**
16nm,0.2s,SNR=18
EGRO S **Sn 19 10 54.5 -1.4**
3.6nm,0.1s,SNR=7.9
EMIN Mina Concepcio 4.90 350 P **Pn 19 10 00.9 +0.3**
13nm,0.1s,SNR=159
EMIN S **Sn 19 10 56.8 -0.5**
14nm,0.3s,SNR=7.9
EMIN Mina Concepcio 4.90 350 P **Pn 19 10 00.9 +0.3**
EMIN S **Sn 19 10 53.9 -3.4**
EMIN Mina Concepcio 4.90 350 P **Pn 19 10 00.9 +0.3**
13nm,0.1s,SNR=159
MORF Marmelete 5.02 331 *e*P **Pn 19 10 03.3 +0.9**
MORF *e*S **Sn 19 10 57.7 -2.8**
MORF *e*S **Sn 19 10 57.7 -2.8**
MORF AML AML 19 11 06.9
comp=E,98nm,0.2s
MORF Marmelete 5.02 331 *e*P **Pn 19 10 03.3 +0.9**
MORF *e*S **Sn 19 10 57.7 -2.8**
PTEO Sao Teotonio 5.26 332 *e*Pn **Pn 19 10 06.9 +1.3**
PTEO *e*Sn **Sn 19 11 06.4 +0.1**
PTEO
comp=E,25nm,0.2s
EQES Quesada 5.27 22 P **Pn 19 10 06.9 +1.1**
comp=E,3.9nm,0.3s,SNR=7.9
EQES S **Sn 19 11 06.4 -0.2**
comp=E,19nm,0.4s,SNR=7.9
EQES Quesada 5.27 22 P **Pn 19 10 06.9 +1.1**
EQES S **Sn 19 11 07.6 +1.0**
EQES Quesada 5.27 22 P **Pn 19 10 06.9 +1.1**
comp=E,3.9nm,0.3s,SNR=7.9
EQES S **Sn 19 11 07.6 +1.0**
comp=E,19nm,0.4s,SNR=7.9
EADA Adamuz 5.28 9 P **Pn 19 10 06.1 +0.2**
comp=E,1.5nm,0.1s,SNR=15
EADA S **Sn 19 11 04.6 -2.2**
comp=E,22nm,0.1s,SNR=8.0
EADA Adamuz 5.28 9 P **Pn 19 10 06.2 +0.3**
EADA S **Sn 19 11 04.6 -2.2**
comp=E,22nm,0.1s,SNR=8.0
PBEJ Beja 5.40 341 *e*Pn **Pn 19 10 08.4 +0.8**
PBEJ *e*Sn **Sn 19 11 09.0 -0.8**
PBEJ
comp=E,22nm,0.2s
EBAN Banos Encina 5.42 15 P **Pn 19 10 08.4 +0.6**
comp=E,4.9nm,0.1s,SNR=15
EBAN S **Sn 19 11 08.7 -1.5**
comp=E,6.7nm,0.2s,SNR=7.9
EBAN Banos Encina 5.42 15 P **Pn 19 10 08.4 +0.6**
EBAN S **Sn 19 11 10.1 -0.1**
EBAN Banos Encina 5.42 15 P **Pn 19 10 08.4 +0.6**
comp=E,4.9nm,0.1s,SNR=15
EBAN S **Sn 19 11 10.1 -0.1**
comp=E,6.7nm,0.2s,SNR=7.9
EVO Evora 5.92 341 *e*Pn **Pn 19 10 16.1 +1.5**
EVO *e*Sn **Sn 19 11 22.5 0.0**
comp=E,41nm,0.3s
EBAD Badajoz 5.92 349 ⇓P **Pn 19 10 15.5 +0.9**
comp=E,37nm,0.2s,SNR=18
EBAD S **Sn 19 11 20.4 -2.1**
comp=E,52nm,0.2s,SNR=6.8
EBAD Badajoz 5.92 349 P **Pn 19 10 15.5 +0.9**
comp=E,37nm,0.2s,SNR=18
MOE Montemor 6.00 339 *e*Pn **Pn 19 10 17.1 +1.3**
MOE *e*Sn **Sn 19 11 25.4 +0.8**
PLML Palmela 6.21 335 *e*Pn **Pn 19 10 20.1 +1.4**
ETOB Tobarra 6.57 29 P **Pn 19 10 25.4 +1.7**
comp=E,4.1nm,0.4s,SNR=6.5
ETOB S **Sn 19 11 36.3 -2.4**
comp=E,1.2nm,0.2s,SNR=7.9
ETOB Tobarra 6.57 29 P **Pn 19 10 25.4 +1.7**
ETOB S **Sn 19 11 39.1 +0.4**
ETOB Tobarra 6.57 29 P **Pn 19 10 25.4 +1.7**
comp=E,4.1nm,0.4s,SNR=6.5
ETOB S **Sn 19 11 39.1 +0.4**
comp=E,1.2nm,0.2s,SNR=7.9
PLOU Loures 6.60 335 *e*Sn **Sn 19 11 39.4 +0.2**
PLOU

comp=E,20nm,0.4s
PLOU Loures 6.60 335 S **Sn 19 11 39.4 +0.2**
comp=E,10nm,0.4s
ESDC Sonseca Array 6.85 11 Pn **Pn 19 10 27.1 -0.4**
comp=E,2.5nm,0.3s,baz=196,slow=13,SNR=22
ESDC Sn **Sn 19 11 39.0 -6.5**
comp=E,5.4nm,0.3s,baz=194,slow=23,SNR=11
ESDC Sonseca Array 6.85 11 ⇑P **Pn 19 10 27.1 -0.4**
comp=E,5.9nm,0.2s,baz=196,slow=13,SNR=18
ESDC S **Sn 19 11 41.4 -4.0**
comp=E,6.4nm,0.2s,baz=192,slow=23,SNR=7.9
PTOM Tomar 7.04 342 *e*Pn **Pn 19 10 30.7 +0.6**
PTOM *e*Sn **Sn 19 11 47.3 -2.9**
PTOM
comp=E,17nm,0.3s
PCBR Castelo Branco 7.05 348 *e*Pn **Pn 19 10 30.7 +0.5**
PCBR *e*Sn **Sn 19 11 47.3 -3.1**
PCBR
comp=E,14nm,0.2s
MTE Manteigas 7.61 349 *e*Pn **Pn 19 10 38.4 +0.5**
MTE *e*Sn **Sn 19 12 00.9 -3.2**
MTE
comp=E,24nm,0.8s
GUD Guadarrama 7.78 8 P **Pn 19 10 40.5 +0.3**
comp=E,0.8nm,0.2s,SNR=5.4
GUD S **Sn 19 12 03.3 -4.9**
comp=E,4.3nm,0.5s,SNR=7.9
EFAM Famara 7.79 243 P **Pn 19 10 39.1 -1.3**
comp=E,3.5nm,0.1s,SNR=7.9
EFAM S **Sn 19 12 02.2 -6.5**
comp=E,8.7nm,0.4s,SNR=7.9
EFAM Famara 7.79 243 P **Pn 19 10 39.1 -1.3**
EFAM S **Sn 19 12 02.2 -6.5**
PVIS Viseu 7.98 347 *e*Pn **Pn 19 10 43.4 +0.5**
PVIS *e*Sn **Sn 19 12 10.4 -2.8**
PVIS
comp=E,8.6nm,0.3s
EIBI Ibiza 8.28 41 P **Pn 19 10 48.2 +1.1**
comp=E,1.6nm,0.2s,SNR=7.9
EIBI Ibiza 8.28 41 P **Pn 19 10 48.2 +1.1**
EIBI Ibiza 8.28 41 P **Pn 19 10 48.2 +1.1**
comp=E,1.6nm,0.2s,SNR=7.9
CFUE Fuerteventura 8.35 241 P **Pn 19 10 45.6 -2.4**
comp=E,0.7nm,0.1s,SNR=4.0
CFUE S **Sn 19 12 20.1 -2.3**
comp=E,6.7nm,0.2s,SNR=4.0
PCAB Cabril 8.96 348 *e*Pn **Pn 19 10 57.3 +0.8**
PCAB *e*Sn **Sn 19 12 34.2 -3.3**
ECAL Calabor 9.03 355 P **Pn 19 10 57.7 +0.3**
comp=E,7.4nm,0.2s,SNR=41
ECAL S **Sn 19 12 33.9 -5.2**
comp=E,14nm,0.4s,SNR=7.9
ECAL Calabor 9.03 355 P **Pn 19 10 57.7 +0.3**
comp=E,7.4nm,0.2s,SNR=41
ELOB Lobios 9.12 348 P **Pn 19 10 59.6 +0.9**
comp=E,4.6nm,0.2s,SNR=16
ELOB S **Sn 19 12 36.9 -4.5**
comp=E,8.9nm,0.3s,SNR=7.9
ELOB Lobios 9.12 348 P **Pn 19 10 59.6 +0.9**
comp=E,4.6nm,0.2s,SNR=16
EZAM Zamans 9.52 346 P **Pn 19 11 04.3 +0.3**
comp=E,3.6nm,0.2s,SNR=7.9
EZAM S **Sn 19 12 46.2 -4.8**
comp=E,3.2nm,0.4s,SNR=7.9
EARI Arriondas 10.35 2 P **Pn 19 11 15.6 +0.1**
comp=E,0.6nm,0.2s,SNR=7.0
EARI S **Sn 19 13 05.6 -5.9**
comp=E,2.5nm,0.4s,SNR=7.9
EARI Arriondas 10.35 2 P **Pn 19 11 15.6 +0.1**
comp=E,0.6nm,0.2s,SNR=7.0
ELAN Lanestosa 10.41 9 P **Pn 19 11 16.7 +0.4**
comp=E,0.8nm,0.2s,SNR=7.9
ELAN S **Sn 19 13 08.2 -4.9**
comp=E,2.3nm,0.3s,SNR=7.9
ELAN Lanestosa 10.41 9 P **Pn 19 11 16.7 +0.4**
comp=E,0.8nm,0.2s
ELAN S **Sn 19 13 08.2 -4.9**
ELAN Lanestosa 10.41 9 P **Pn 19 11 16.7 +0.3**
comp=E,0.8nm,0.2s,SNR=7.9
EPON Pontenova 10.44 354 P **Pn 19 11 17.3 +0.6**
comp=E,1.6nm,0.2s,SNR=8.5
EPON S **Sn 19 13 08.1 -5.6**
comp=E,3.7nm,0.4s,SNR=7.9
EPON Pontenova 10.44 354 P **Pn 19 11 17.3 +0.6**
comp=E,1.6nm,0.2s,SNR=8.5
ELIZ Elizondo 10.70 16 P **Pn 19 11 21.9 +1.7**
comp=E,0.4nm,0.1s,SNR=4.0
ETSF Etsaut 10.71 20 *e*Pn **Pn 19 11 21.7 +1.4**
ETSF *e*Sn **Sn 19 13 14.9 -5.3**
comp=E,1.7nm,0.4s
ETSF Etsaut 10.71 20 P **Pn 19 11 21.7 +1.4**
ETSF S **Sn 19 13 14.9 -5.3**
comp=E,0.9nm,0.4s
SJPF Ste Jean 10.72 17 *e*Pn **Pn 19 11 22.1 +1.5**
SJPF *e*Sn **Sn 19 13 15.3 -5.4**
comp=E,1.7nm,0.4s
SJPF Ste Jean 10.72 17 P **Pn 19 11 22.1 +1.5**
SJPF S **Sn 19 13 15.3 -5.4**
comp=E,0.9nm,0.4s
EALK Alkurruntz 10.76 16 P **Pn 19 11 21.9 +0.9**
comp=E,5.1nm,0.4s,SNR=7.9
EALK S **Sn 19 13 16.5 -5.0**
comp=E,13nm,0.6s,SNR=7.9
QUIF Quistinic 15.07 6 *e*Pn **Pn 19 12 19.4 -0.6**
QUIF *e*Sn **Sn 19 14 59.0 -8.0**
comp=E,1.3nm,0.4s
QUIF Quistinic 15.07 6 P **Pn 19 12 19.4 -0.6**
QUIF S **Sn 19 14 59.0 -8.0**
comp=E,0.6nm,0.4s
ROSF Rostrenen 15.48 6 *e*Pn **Pn 19 12 25.2 -0.1**
ROSF *e*Sn **Sn 19 15 07.8 -9.1**
comp=E,1.3nm,0.4s
ROSF Rostrenen 15.48 6 P **Pn 19 12 25.2 -0.1**
ROSF S **Sn 19 15 07.8 -9.1**
comp=E,0.6nm,0.4s
TORD Torodi Ar. Bea 20.80 160 P **P 19 13 24.1 -4.3**
comp=E,3.1nm,0.9s,baz=338,slow=9.9,SNR=17
GERES GERESS Array B 21.48 37 P **P 19 13 34.0 -1.7**
comp=E,1.0nm,0.7s,mb3.3,baz=224,slow=11,SNR=8.1
KHC Kasperske Hory 21.60 36 *e*P **P 19 13 35.0 -2.0**
DBIC Dimbokro 26.15 178 P **P 19 14 19.0 -2.3**
comp=E,4.3nm,1.0s,mb3.9,baz=254,slow=7.0,SNR=4.8
FINES FINESS Array B 35.07 26 P **P 19 15 38.9 -1.2**
comp=E,0.7nm,0.7s,mb3.7,baz=243,slow=9.2,SNR=3.2
MKAR Makanchi Array 65.51 49 P **P 19 19 28.8 -1.6**
comp=E,0.6nm,0.9s,mb3.6,baz=298,slow=6.2,SNR=4.0

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*MAN **12** 19:16:09.3,972N×12539E,h6km,mb3.9,ML4.9,MS1.7*
MAN F INTENSITY II - SURIGAO CITY.
*ISCJB **12** 19:16:13.8±1.5,984N±008×1257E±0.1,h65km±13km, mb4.2/23,Error ellipse: s-maj=21.5km s-min=9.8km az=129.7*
*MOS **12** 19:16:13.2±0.9,991N×12577E,h59km,mb4.6/5,Error ellipse: s-maj=27.0km s-min=10.2km az=121.8*
*BJI **12** 19:16:15.5,1010N×12557E,h62km,mB5.0,mb4.7*
*IDC **12** 19:16:15.7±3.6,977N×12556E,h67km±33km,mb3.8/14, mb1 3.9/15,mb1mx3.8/22,mbtmp4.1/15,MS3.8/7, Ms1 3.8/7,ms1mx3.3/21,Error ellipse: s-maj=33.4km s-min=12.3km az=75.0*
*NEIC **12** 19:16:17.3±1.7,971N×12552E,h81km±15km,mb4.6/8, Error ellipse: s-maj=18.3km s-min=9.2km az=68.0*
NEIC Felt [II PIVS] at Surigao.
ISC 12 19:16:16.0±1.3,982N±007×1257E±01,h69km±12km,n45, σ0:82/41,mb4.2/23,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.73**	**183**	⇓*e*P	**Pn**	**19 16 58.0**	**+0.5**
DAV	**Davao City (W)**	**2.73**	**183**	P	**Pn**	**19 16 57.3**	**-0.2**
TGY	**Tagaytay City**	**6.33**	**313**	P	**Pn**	**19 17 46.2**	**-0.4**
baz=150,slow=16,SNR=2.8							
JOW	**Kunigami**	**17.09**	**8**	P	**Pn**	**19 20 15.2**	**+5.0**
0.8nm,0.3s,baz=177,slow=19,SNR=3.4							
JOW				LR	LR	19 25 34.2	
comp=Z,296nm,21.7s,baz=164,slow=32							
CBIJ	**Chichi jima**	**23.17**	**40**	LR	LR	19 28 12.6	
comp=Z,191nm,20.3s,baz=64,slow=31							
JHJ	**Hachijo jima 2**	**26.56**	**27**	LR	LR	19 31 29.2	
comp=Z,167nm,18.3s,baz=296,slow=34							
FITZ	**Fitzroy Crossi**	**27.74**	**180**	*e*P	**P**	**19 21 55.9**	**-2.0**
8.7nm,0.9s,mb4.3							
FITZ	**Fitzroy Crossi**	**27.74**	**180**	P	**P**	**19 21 56.0**	**-2.0**
6.2nm,1.0s,mb4.1,baz=5.6,slow=9.7,SNR=7.1							
XAN	**Xi'an**	**28.61**	**330**	P	**P**	**19 22 04.9**	**-0.8**
MJAR	**Matsushiro Arr**	**28.91**	**21**	P	**P**	**19 22 08.2**	**-0.1**
0.4nm,0.4s,mb3.4,baz=200,slow=8.2,SNR=4.8							
MJAR				LR	LR	19 31 31.3	
comp=Z,215nm,20.5s,baz=250,slow=32							
CD2	**Chengdu**	**29.29**	**319**	*e*P	**P**	**19 22 12.8**	**+1.1**
CD2				PP	PP	19 23 10.4	-8.4
CD2				S	**S**	**19 26 59.8**	**0.0**
CD2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5							
CD2				AMB	AMB		
comp=Z,30nm,4.8s							
WRA	**Warramunga Arr**	**30.77**	**164**	P	**P**	**19 22 25.3**	**+0.5**
comp=Z,0.8nm,0.7s,mb3.5,baz=345,slow=9.4,SNR=3.6							
ASAR	**Alice Springs**	**34.23**	**167**	P	**P**	**19 22 56.2**	**+1.2**
comp=Z,1.5nm,0.7s,mb3.9,baz=353,slow=7.0,SNR=12							
ASAJ	**Asahikawa**	**37.17**	**20**	P	**P**	**19 23 21.8**	**+1.5**
comp=Z,3.5nm,0.7s,mb4.4,baz=239,slow=19,SNR=6.9							
LSA	**Lhasa**	**37.85**	**306**	*e*P	**P**	**19 23 26.7**	**+0.7**
LSA				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.4							
LSA	**Lhasa**	**37.85**	**306**	*e*P	**P**	**19 23 26.7**	**+0.8**
comp=Z,5.7nm,0.9s,mb4.4							
ULN	**Ulaanbaatar**	**41.06**	**341**	*e*P	**P**	**19 23 53.0**	**+0.3**
ULN				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.2							
ULN	**Ulaanbaatar**	**41.06**	**341**	*e*P	**P**	**19 23 53.0**	**+0.3**
comp=Z,2.9nm,0.7s,mb4.2							
JIRN	**Jiri**	**41.20**	**301**	*e*P	**P**	**19 23 53.9**	**+0.1**
comp=Z,23nm,0.7s,mb5.1							
SONM	**Songino Array**	**41.25**	**340**	P	**P**	**19 23 53.7**	**-0.6**
comp=Z,0.7nm,0.7s,mb3.6,baz=155,slow=10.0,SNR=6.0							
SONM				LR	LR	19 44 18.9	
comp=Z,93nm,18.2s,baz=153,slow=41							
GUN	**Gumba**	**41.53**	**301**	*e*P	**P**	**19 23 57.0**	**+0.5**
comp=Z,38nm,0.7s,mb5.2							
PKI	**Pulchoki**	**41.83**	**301**	*e*P	**P**	**19 23 58.7**	**-0.2**
KKN	**Kakani**	**42.01**	**301**	*e*P	**P**	**19 24 00.6**	**+0.2**
comp=Z,14nm,0.9s,mb4.7							
KKN	**Kakani**	**42.01**	**301**	*e*P	**P**	**19 24 00.6**	**+0.2**
KKN				pmax	pmax		
comp=Z,15nm,0.9s,mb4.7							
DMN	**Daman**	**42.10**	**300**	*e*P	**P**	**19 24 01.7**	**+0.6**
comp=Z,16nm,0.9s,mb4.8							
STKA	**Stephens Creek**	**44.15**	**160**	*e*P	**P**	**19 24 17.2**	**-0.5**
comp=Z,4.4nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**44.15**	**160**	P	**P**	**19 24 16.9**	**-0.8**
comp=Z,6.5nm,0.9s,mb4.3,baz=324,slow=8.7,SNR=12							
STKA	**Stephens Creek**	**44.15**	**160**	*e*P	**P**	**19 24 16.6**	**-1.1**
MKAR	**Makanchi Array**	**52.06**	**323**	P	**P**	**19 25 18.7**	**0.0**
comp=Z,2.2nm,0.6s,mb4.3,baz=122,slow=8.2,SNR=32							
MKAR	**Makanchi Array**	**52.06**	**323**	P	**P**	**19 25 18.7**	**0.0**
KURK	**Kurchatov**	**56.13**	**326**	*e*P	**P**	**19 25 47.3**	**-1.0**
KURK				*e*	pP	19 26 06.2	+0.1
KURK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
KURK	**Kurchatov**	**56.13**	**326**	*e*P	**P**	**19 25 47.3**	**-1.0**
comp=Z,3.8nm,0.9s,mb4.4							
KURK				*e*	pP	19 26 06.2	+0.1
TIXI	**Tiksi**	**61.81**	**1**	*e*P	**P**	**19 26 26.2**	**-1.4**
TIXI				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.3							
CHKZ	**Chkalovo**	**61.86**	**326**	P	**P**	**19 26 27.7**	**-0.2**
ZRNK	**Zerenda**	**62.48**	**325**	*e*P	**P**	**19 26 32.8**	**+0.8**
ARCES	**ARCESS Array B**	**84.43**	**340**	P	**P**	**19 28 40.7**	**-0.2**
comp=Z,1.5nm,0.7s,mb3.9,baz=53,slow=4.7,SNR=4.0							
ARCES	**ARCESS Array B**	**84.43**	**340**	P	**P**	**19 28 40.7**	**-0.2**
BRTR	**Keskin Array B**	**85.40**	**309**	P	**P**	**19 28 45.4**	**-0.4**
comp=Z,0.9nm,0.8s,mb3.8,baz=91,slow=5.8,SNR=7.2							
FINES	**FINESS Array B**	**86.03**	**332**	P	**P**	**19 28 47.6**	**-1.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=72,slow=6.2,SNR=9.4							
AKASG	**Malin Array Bs**	**86.57**	**321**	P	**P**	**19 28 50.9**	**-0.7**
comp=Z,0.3nm,0.3s,mb3.7,baz=65,slow=4.6,SNR=6.8							
KMBO	**Kilima Mbogo**	**88.68**	**269**	LR	LR	20 12 51.1	
comp=Z,53nm,18.1s,baz=95,slow=38							
VNDA	**Vanda**	**89.55**	**173**	P	**P**	**19 29 06.5**	**+0.8**
comp=Z,1.2nm,0.9s,mb4.0,baz=314,slow=6.3,SNR=5.6							
HFS	**Hagfors**	**92.20**	**332**	P	**P**	**19 29 19.2**	**+1.2**
comp=Z,1.2nm,0.7s,mb4.2,baz=144,slow=2.7,SNR=3.6							
NOA	**NORSAR Array B**	**92.92**	**334**	LR	LR	20 14 00.7	
comp=Z,56nm,19.5s,baz=0.0,slow=37							
TORD	**Torodi Ar. Bea**	**119.93**	**291**	PKP	PKPdf	19 34 59.2	+0.8
comp=Z,0.8nm,1.0s,baz=55,slow=1.8,SNR=3.6							

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*NEIC **12** 19:40:27.9,2849S×7129W,h39km,MG3.9(GUC),After GUC.*
GUC 12 19:40:27.9±0.9,2849S×7129W,h39km±8km,ML3.9, 3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.73**	**135**	⇓*i*P	Pn	19 40 42.8	+1.1
LCO				*i* S	Sn	19 40 53.4	+1.8
CPCH	**Copiapo**	**1.40**	**36**	⇑*i*P	Pn	19 40 51.6	+0.7
CPCH				*i* S	Sn	19 41 10.8	+2.7
CPCH				AML	AML	19 41 12.2	
comp=N,6μm,0.1s							
CPCH	**Copiapo**	**1.40**	**36**	⇑*i*P	Pn	19 40 51.6	+0.7
CPCH				*i* S	Sn	19 41 10.8	+2.7
TLL	**Tololo Astrono**	**1.72**	**166**	⇓*i*P	Pn	19 40 57.6	+2.3
TLL				*e*S	Sn	19 41 19.3	+3.2
TLL				AML	AML	19 41 25.4	
comp=N,779nm,0.4s							
TLL	**Tololo Astrono**	**1.72**	**166**	⇓*i*P	Pn	19 40 57.6	+2.3
TLL				*e*S	Sn	19 41 19.3	+3.2
CMCH	**Combarbala**	**2.68**	**175**	⇑*i*P	Pn	19 41 09.4	+0.8
CMCH				AML	AML	19 41 54.9	
comp=E,791nm,0.8s							

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*LDG **12** 20:00:31.0±0.1,4239N×146E,h5km,Md2.2/2,Ml2.0/6, Error ellipse: s-maj=1.9km s-min=1.3km az=4.0*
MDD 12 20:00:31.1±0.5,4240N×146E,h9km±7km,mbLg1.7/8, Error ellipse: s-maj=2.3km s-min=1.6km az=3.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.14**	**27**	Pg	Pg	20 00 34.0	-0.1
PAND				Lg		20 00 36.3	
CSOR	**Sort**	**0.25**	**264**	Pg	Pg	20 00 35.6	-0.5
CSOR				Lg		20 00 39.4	
22nm,0.2s							
CLLI	**Llivia**	**0.39**	**78**	Pg	Pg	20 00 38.0	-0.6
CLLI				Lg		20 00 43.2	
2.2nm,0.2s							
VALF	**Valcebollere**	**0.41**	**90**	Pg	Pg	20 00 38.6	-0.5
VALF				Lg		20 00 44.7	
SALF	**Salau**	**0.41**	**331**	Pg	Pg	20 00 38.9	-0.2
SALF				Lg		20 00 44.4	
EMIR	**Miracle**	**0.49**	**175**	Pg	Pg	20 00 40.3	-0.3
0.8nm,0.1s,SNR=7.9							
EMIR				Lg		20 00 46.9	
12nm,0.1s,SNR=7.9							
CBRU	**Bruguera**	**0.54**	**102**	Pg	Pg	20 00 41.3	-0.3
CBRU				Lg		20 00 49.1	
2.7nm,0.4s							
MELF	**Melles**	**0.70**	**312**	Pg	Pg	20 00 44.2	-0.4
MELF				Lg		20 00 53.4	
CAVN	**Les Avellanes**	**0.74**	**226**	Pg	Pg	20 00 45.0	-0.4
EGRA	**Graus**	**0.88**	**257**	Pg	Pg	20 00 47.1	-0.9
0.1nm,0.2s,SNR=7.9							
EGRA				Lg		20 00 59.6	
0.6nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**0.96**	**131**	Pg	Pg	20 00 48.9	-0.8
CFON				Lg		20 01 02.0	
8.1nm,0.2s							
EBIE	**Bielsa**	**1.02**	**287**	Pg	Pg	20 00 50.2	-0.4
0.2nm,0.1s,SNR=7.9							
EBIE				Lg		20 01 03.8	
0.4nm,0.1s,SNR=7.9							
EPF	**Esparros**	**1.04**	**308**	*e*Pg	Pg	20 00 50.0	-1.1
EPF				*e*Sg	Sg	20 01 04.4	-0.2
2.2nm,0.2s							
EPF	**Esparros**	**1.04**	**308**	Pg	Pg	20 00 50.0	-1.1
EPF				Lg		20 01 04.4	
1.1nm,0.2s							
EJON	**La Jonquera**	**1.06**	**87**	Pg	Pg	20 00 51.0	-0.4
0.4nm,0.1s,SNR=7.3							
EJON				Lg		20 01 06.5	
1.9nm,0.0s,SNR=5.0							
EPOB	**Poblet**	**1.09**	**195**	Pg	Pg	20 00 51.3	-0.7
0.5nm,0.1s,SNR=7.9							
EPOB				Lg		20 01 05.3	
2.6nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**1.09**	**30**	*e*Pg	Pg	20 00 51.5	-0.5
MTLF				*e*Sg	Sg	20 01 05.7	-0.5
3.1nm,0.2s							
MTLF	**Montolieu**	**1.09**	**30**	Pg	Pg	20 00 51.5	-0.5
MTLF				Lg		20 01 05.7	
1.6nm,0.2s							
ETSF	**Etsaut**	**1.57**	**289**	*e*Pg	Pg	20 01 00.6	-0.7
ETSF				*e*Sg	Sg	20 01 21.7	0.0
3.0nm,0.3s							
ETSF	**Etsaut**	**1.57**	**289**	Pg	Pg	20 01 00.6	-0.7
ETSF				Lg		20 01 21.7	
1.5nm,0.3s							
ESAC	**San Caprasio**	**1.59**	**245**	Pg	Pg	20 00 59.9	-1.8
4.5nm,0.2s,SNR=4.0							
ESAC				Lg		20 01 23.1	
5.2nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**1.67**	**211**	Pg	Pg	20 01 01.9	-1.3
0.3nm,0.1s,SNR=15							
ERTA				Lg		20 01 24.2	
6.1nm,0.2s,SNR=5.0							
SJPF	**Ste Jean**	**2.10**	**291**	*e*Sg	Sg	20 01 38.8	+0.1
1.2nm,0.3s							
SJPF	**Ste Jean**	**2.10**	**291**	Lg		20 01 38.8	
0.6nm,0.3s							
LASF	**Ste Croix**	**2.42**	**45**	*e*Pg	Pg	20 01 16.1	-1.4
LASF				*e*Sg	Sg	20 01 47.7	-1.2
1.8nm,0.4s							
LASF	**Ste Croix**	**2.42**	**45**	Pg	Pg	20 01 16.1	-1.4
LASF				Lg		20 01 47.7	
0.9nm,0.4s							
CAF	**Calviac**	**2.56**	**10**	*e*Sg	Sg	20 01 51.9	-1.5
1.9nm,0.3s							
CAF	**Calviac**	**2.56**	**10**	Lg		20 01 51.9	
0.9nm,0.3s							

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*ISCJB **12** 20:39:18.5±0.4,4471N±002×678E±003,h14km±5km, Error ellipse: s-maj=4.2km s-min=2.9km az=132.8*
*LDG **12** 20:39:19.8±0.1,4473N×681E,h2km,Md2.2/2,Ml2.2/5, Error ellipse: s-maj=1.9km s-min=1.1km az=68.0*
*STR **12** 20:39:19.7±0.8,4469N×676E,h10km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ROM **12** 20:39:19.0±0.2,4471N×684E,h10km,Md2.0/2,Ml1.1/3, Error ellipse: s-maj=4.0km s-min=1.6km az=110.0*
ISC 12 20:39:19.4±0.4,4472N±002×680E±003,h10km±5km,n19, σ0:53/35,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.02**	**290**	*e*Pg	**Pg**	**20 39 20.9**	**-0.3**
MBDF				*e*Sg	**Sg**	**20 39 21.3**	**-1.2**
201nm,0.2s							
SURF	**Saint Ours**	**0.24**	**177**	Pg	**Pg**	**20 39 24.3**	**0.0**
SURF				Sg	**Sg**	**20 39 28.1**	**+0.5**
BNI	**Bardonecchia**	**0.34**	**346**	Pg	**Pg**	**20 39 26.6**	**+0.4**
7.0nm,0.4s							
DOI	**San Damiano**	**0.39**	**124**	Pg	**Pg**	**20 39 26.6**	**-0.4**
DOI				Sg	**Sg**	**20 39 31.9**	**-0.3**
RSP	**Reno Superiore**	**0.54**	**37**	Pg	**Pg**	**20 39 30.1**	**+0.2**
RSP				Sg	**Sg**	**20 39 37.4**	**+0.4**
10.0nm,0.1s							
STV	**Sta Anna Valdi**	**0.61**	**141**	Pg	**Pg**	**20 39 30.8**	**-0.4**
STV				Sg	**Sg**	**20 39 38.9**	**-0.2**
12nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.68**	**287**	*e*Pg	**Pg**	**20 39 32.8**	**+0.2**
ORIF				*e*Sg	**Sg**	**20 39 41.3**	**-0.2**
12nm,0.2s							
TOUF	**Mont Tournerai**	**0.78**	**155**	Pg	**Pg**	**20 39 34.3**	**-0.1**
LPG	**La Plagne**	**0.78**	**358**	*e*Pg	**Pg**	**20 39 34.6**	**+0.2**
LPG				*e*Sg	**Sg**	**20 39 44.6**	**0.0**
6.4nm,0.3s							
LPL	**La Plagne**	**0.80**	**357**	*e*Pg	**Pg**	**20 39 35.0**	**+0.2**
LPL				*e*Sg	**Sg**	**20 39 45.4**	**+0.2**
8.1nm,0.4s							
AUTN	**L'Aution**	**0.85**	**148**	Pg	**Pg**	**20 39 36.0**	**+0.1**
AUTN				Sg	**Sg**	**20 39 47.6**	**+0.6**
SAOF	**Saorge**	**0.91**	**143**	Pg	**Pg**	**20 39 36.4**	**-0.6**
SAOF				Sg	**Sg**	**20 39 48.8**	**-0.1**
LUCF	**Luceram**	**0.92**	**154**	Pg	**Pg**	**20 39 37.7**	**+0.7**
LUCF				Sg	**Sg**	**20 39 50.2**	**+1.2**
SBF	**Sospel**	**0.97**	**152**	*e*Pg	**Pg**	**20 39 38.5**	**+0.4**
SBF				*e*Sg	**Sg**	**20 39 50.9**	**+0.2**
14nm,0.4s							
SMRF	**Simiane la Rot**	**1.15**	**230**	*e*Pg	**Pg**	**20 39 41.7**	**+0.2**
SMRF				*e*Sg	**Sg**	**20 39 57.0**	**+0.6**
4.2nm,0.4s							
FRF	**La Foret Royal**	**1.16**	**185**	*e*Pg	**Pg**	**20 39 41.5**	**-0.3**
FRF				*e*Sg	**Sg**	**20 39 57.2**	**+0.3**
4.6nm,0.2s							
LMR	**La Mourre**	**1.40**	**189**	*e*Pg	**Pg**	**20 39 46.2**	**-0.1**
LMR				*e*Sg	**Sg**	**20 40 04.0**	**-0.5**
3.3nm,0.2s							
VIVF	**Saint-Julien-l**	**1.52**	**276**	*e*Pg	**Pg**	**20 39 47.4**	**-1.1**
VIVF				*e*Sg	**Sg**	**20 40 08.7**	**+0.5**
2.5nm,0.3s							
PGF	**Pioggiola**	**2.70**	**143**	*e*Sn	**Sn**	**20 40 34.0**	**-1.4**

IDC 12 20:43:56.8±1.2,5945S×15109W,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.8/12,mbtmp3.7/4,MS4.0/7,Ms1 4.0/7, ms1mx3.9/10,Error ellipse: s-maj=54.4km s-min=27.7km az=178.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**23.83**	**203**	P	P	20 49 11.1	-0.4
0.7nm,0.9s,baz=64,slow=9.3,SNR=2.9							
VNDA				LR	LR	20 56 15.4	
comp=Z,185nm,18.6s,baz=78,slow=31							
TBI	**Tubuai**	**36.09**	**3**	*e*LR	LR	21 00 39.7	
444nm,27.2s							
PPT	**Papeete**	**41.84**	**2**	*e*LR	LR	21 03 20.4	
471nm,25.0s,baz=184							
PPT	**Papeete**	**41.84**	**2**	LR	LR	21 04 30.3	
comp=Z,317nm,19.2s,baz=181,slow=30							
VNA2	**Neumayer--Watz**	**47.43**	**165**	*e*	P	20 52 29.2	-3.8
baz=224,slow=4.5							
VNA2				*e*		20 52 36.0	
MAW	**Mawson**	**50.83**	**196**	LR	LR	21 12 24.3	
comp=Z,96nm,18.7s,baz=70,slow=34							
TAOE	**Nuku Hiva Isla**	**51.16**	**14**	*e*LR	LR	21 07 39.7	
558nm,24.7s							
PLCA	**Paso Flores**	**51.49**	**107**	LR	LR	21 09 24.8	
comp=Z,111nm,20.1s,baz=208,slow=30							
STKA	**Stephens Creek**	**51.73**	**271**	LR	LR	21 12 03.3	
comp=Z,225nm,19.6s,baz=200,slow=33							
ASAR	**Alice Springs**	**62.34**	**270**	P	P	20 54 20.7	-0.3
0.7nm,0.8s,baz=132,slow=6.0,SNR=9.8							
CPUP	**Villa Florida**	**69.56**	**107**	P	P	20 55 06.4	-1.1
0.4nm,0.4s,baz=188,slow=7.1,SNR=2.3							
LPAZ	**La Paz**	**72.56**	**92**	P	P	20 55 26.9	+1.3
2.4nm,1.2s,baz=208,slow=6.2,SNR=5.8							
ROSC	**El Rosal**	**87.46**	**76**	LR	L

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**43.01**	**193**	*e*P	**P**	**21 20 31.6**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	**43.01**	**193**	*e*P	**P**	**21 20 31.6**	**-0.6**
	comp=Z,5.5nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**43.02**	**193**	P	**P**	**21 20 32.4**	**+0.1**
	comp=Z,0.6nm,0.2s,mb3.9,baz=17,slow=9.0,SNR=6.5						
ASAR	**Alice Springs**	**46.72**	**192**	P	**P**	**21 21 01.9**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.4,baz=15,slow=9.5,SNR=5.8						
DZM	**Mont Dzumac**	**49.45**	**152**	LR	LR	21 40 16.6	
	comp=Z,121nm,19.9s,baz=30,slow=33						
MKAR	**Makanchi Array**	**54.56**	**312**	P	**P**	**21 22 00.1**	**-0.3**
	comp=Z,0.1nm,0.3s,mb3.3,baz=97,slow=7.7,SNR=4.6						
ARCES	**ARCESS Array B**	**78.42**	**342**	P	**P**	**21 24 33.4**	**+1.2**
	comp=Z,1.7nm,0.9s,mb3.8,baz=39,slow=7.4,SNR=3.0						
FINES	**FINESS Array B**	**82.76**	**335**	P	**P**	**21 24 53.8**	**-1.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=72,slow=4.5,SNR=17						
PLCA	**Paso Flores**	**145.88**	**130**	PKPbc	PKPbc	21 32 10.1	0.0
	comp=Z,0.8nm,0.5s,baz=260,slow=7.8,SNR=4.2						
LPAZ	**La Paz**	**149.46**	**84**	PKPbc	PKPbc	21 32 20.9	+1.2
	comp=Z,0.5nm,0.5s,baz=320,slow=4.0,SNR=4.1						

*ATH **12** 21:13:23.7,3708N×2815E,h26km±1km,MD3.0/3*
*CSEM **12** 21:13:25.9±0.1,3701N×2799E,h10km,MD3.0,Error ellipse: s-maj=2.3km s-min=2.0km az=160.0*
*ISCJB **12** 21:13:26.2±0.6,3694N±003×2802E±004,h9km±4km, Error ellipse: s-maj=5.3km s-min=4.8km az=3.7*
*ISK **12** 21:13:26.0,3697N×2801E,h15km,MD3.0*

ISC 12 21:13:26.8±0.5,3698N±003×2802E±004,h11km±5km,n16, σ1§20/25,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.27**	**54**	*i* PG	**Pg**	**21 13 32.3**	**+0.1**
MLSB	**Milas**	**0.37**	**329**	*e*PG	**Pg**	**21 13 34.1**	**-0.1**
MLSB				*e*SG	**Sg**	**21 13 40.0**	**+0.9**
DAT	**Datca**	**0.43**	**235**	*e*PG	**Pg**	**21 13 35.0**	**-0.2**
DAT				*e*SG	**Sg**	**21 13 41.7**	**+0.8**
BDRM	**Kayabasi**	**0.47**	**281**	*i* P	**Pg**	**21 13 35.1**	**-0.8**
BDRM				*i* S	**Sg**	**21 13 49.5**	**+7.4**
DALT	**Dalyan (Mudla)**	**0.54**	**112**	*e*PG	**Pg**	**21 13 36.5**	**-0.8**
BODT	**Bodrum**	**0.57**	**279**	*e*PG	**Pg**	**21 13 37.2**	**-0.7**
BODT				*e*SG	**Sg**	**21 13 45.6**	**+0.2**
AYDN	**Tasoluk**	**0.69**	**351**	*i* P	**Pg**	**21 13 39.6**	**-0.5**
ARG	**Arkhangelos**	**0.77**	**173**	*e*PN	**Pn**	**21 13 40.6**	**-2.9**
ARG				*e*SN	**Sg**	**21 13 52.7**	**+1.1**
FETY	**Fethiye**	**0.92**	**111**	*e*PG	**Pg**	**21 13 44.3**	**-0.2**
DNZL	**Cakiroluk**	**1.09**	**49**	*i* P	**Pb**	**21 13 47.2**	**-0.4**
DENT	**Denizli**	**1.12**	**46**	*e*PN	**Pn**	**21 13 48.2**	**-0.2**
SMG	**Samos**	**1.19**	**308**	*e*PN	**Pn**	**21 13 46.8**	**-2.5**
SMG				*e*SN	**Sn**	**21 14 03.9**	**-1.6**
IZM	**Izmir**	**1.54**	**337**	*e*PN	**Pn**	**21 13 53.4**	**-0.8**
KDAG	**Bornova**	**1.54**	**338**	*i* P	**Pn**	**21 13 56.5**	**+2.3**
KDAG				*i* S	**Sn**	**21 14 17.7**	**+3.5**
MANT	**Manisa**	**1.57**	**16**	*i* P	**Pn**	**21 13 56.8**	**+2.2**
MANT				*i* S	**Sn**	**21 14 18.8**	**+3.9**
KARP	**Karpathos**	**1.58**	**206**	*e*PN	**Pn**	**21 13 54.3**	**-0.5**
KARP				*e*SN	**Sn**	**21 14 16.3**	**+1.0**

*ISCJB **12** 21:25:14.7±0.2,4244N±002×148E±002,h13km±3km, Error ellipse: s-maj=2.9km s-min=2.1km az=12.7*
*MDD **12** 21:25:16.7±0.1,4240N×147E,h0km,mbLg2.4/26,Error ellipse: s-maj=1.3km s-min=1.3km az=9.0,PRXIMO*
*CSEM **12** 21:25:16.5±0.1,4240N×145E,h5km,ML2.8/20,Error ellipse: s-maj=1.0km s-min=0.9km az=117.0*
*LDG **12** 21:25:16.4±0.1,4239N×147E,h5km,Md2.9/2,Ml2.9/19, Error ellipse: s-maj=1.4km s-min=1.1km az=19.0*
*STR **12** 21:25:16.0±0.2,4240N×146E,h5km±1km,Ml2.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 12 21:25:15.7±0.2,4242N±001×149E±002,h12km±3km,n114, σ1§06/168,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	**Andorre**	**0.11**	**22**	Pg	**Pg**	**21 25 19.4**	**+0.9**
PAND				Lg		21 25 21.7	
CSOR	**Sort**	**0.27**	**260**	Pg	**Pg**	**21 25 21.1**	**-0.1**
CSOR				Lg		21 25 24.9	
	295nm,0.2s						
CLLI	**Llivia**	**0.36**	**81**	Pg	**Pg**	**21 25 23.3**	**+0.4**
CLLI				Lg		21 25 28.6	
	28nm,0.4s						
VALF	**Valcebollere**	**0.39**	**93**	Pg	**Pg**	**21 25 23.9**	**+0.5**
VALF				Sg	**Sg**	**21 25 30.3**	**+1.7**
VALF	**Valcebollere**	**0.39**	**93**	Pg	**Pg**	**21 25 23.9**	**+0.5**
VALF				Lg		21 25 30.4	
SALF	**Salau**	**0.40**	**327**	Pg	**Pg**	**21 25 24.1**	**+0.4**
SALF				Sg	**Sg**	**21 25 29.8**	**+0.7**
SALF	**Salau**	**0.40**	**327**	Pg	**Pg**	**21 25 24.3**	**+0.6**
SALF				Lg		21 25 29.6	
GRBF	**Gourbit**	**0.42**	**5**	Pg	**Pg**	**21 25 25.2**	**+1.2**
EMIR	**Miracle**	**0.51**	**177**	Pg	**Pg**	**21 25 25.7**	**0.0**
	14nm,0.3s,SNR=68						
EMIR				Lg		21 25 32.3	
	82nm,0.1s,SNR=29						
EMIR	**Miracle**	**0.51**	**177**	Pg	**Pg**	**21 25 25.7**	**+0.1**
	14nm,0.3s,SNR=68						
CBRU	**Bruguera**	**0.53**	**105**	Pg	**Pg**	**21 25 26.6**	**+0.6**
CBRU				Lg		21 25 34.1	
	74nm,0.5s						
CARF	**Carcanieres**	**0.54**	**57**	Pg	**Pg**	**21 25 27.0**	**+0.8**
CARF				Sg	**Sg**	**21 25 34.9**	**+1.6**
CARF	**Carcanieres**	**0.54**	**57**	Pg	**Pg**	**21 25 27.1**	**+0.9**
CARF				Lg		21 25 34.9	
LPEF	**Le Peyrat**	**0.61**	**30**	Pg	**Pg**	**21 25 28.9**	**+1.4**
LPEF				Lg		21 25 38.1	
MLS	**Moulis**	**0.61**	**331**	Pg	**Pg**	**21 25 28.2**	**+0.7**
MLS				Sg	**Sg**	**21 25 36.5**	**+1.0**
MLS	**Moulis**	**0.61**	**331**	Pg	**Pg**	**21 25 28.2**	**+0.7**
MLS				Lg		21 25 36.6	
MELF	**Melles**	**0.70**	**310**	Pg	**Pg**	**21 25 29.4**	**+0.1**
MELF				Lg		21 25 39.1	
CAVN	**Les Avellanes**	**0.77**	**226**	Pg	**Pg**	**21 25 30.3**	**-0.3**
CAVN				Lg		21 25 41.4	
	35nm,0.2s						
FILF	**Fillols**	**0.80**	**80**	Pg	**Pg**	**21 25 30.3**	**-0.9**
FILF				Sg	**Sg**	**21 25 39.6**	**-2.1**
FILF	**Fillols**	**0.80**	**80**	Pg	**Pg**	**21 25 30.4**	**-0.8**
FILF				Lg		21 25 39.7	
EGRA	**Graus**	**0.90**	**256**	Pg	**Pg**	**21 25 33.4**	**+0.4**
	11nm,0.2s,SNR=69						
EGRA				Lg		21 25 45.8	
	13nm,0.2s,SNR=6.7						
LRDF	**Laroque-de-Fa**	**0.93**	**56**	Pn	**Pn**	**21 25 34.1**	**-0.5**
LRDF	**Laroque-de-Fa**	**0.93**	**56**	Pg	**Pg**	**21 25 34.2**	**+0.6**
LRDF				Lg		21 25 47.8	
RESF	**Ens**	**0.93**	**295**	Pg	**Pg**	**21 25 33.2**	**-0.5**
RESF				Sg	**Sg**	**21 25 45.3**	**-0.5**
RESF	**Ens**	**0.93**	**295**	Pg	**Pg**	**21 25 33.5**	**-0.2**
RESF				Lg		21 25 45.4	
CFON	**Fontmartina**	**0.96**	**133**	Pg	**Pg**	**21 25 34.2**	**0.0**
CFON				Lg		21 25 47.2	
	58nm,0.2s						
EBIE	**Bielsa**	**1.03**	**285**	Pg	**Pg**	**21 25 35.1**	**-0.4**
	6.3nm,0.3s,SNR=13						
EBIE				Lg		21 25 49.2	
	8.5nm,0.1s,SNR=15						
EBIE	**Bielsa**	**1.03**	**285**	Pg	**Pg**	**21 25 35.3**	**-0.2**
	6.3nm,0.3s,SNR=13						
SJAF	**Saint Jean de**	**1.03**	**86**	Pg	**Pg**	**21 25 37.0**	**+1.5**
SJAF				Sg	**Sg**	**21 25 49.2**	**+0.2**
SJAF	**Saint Jean de**	**1.03**	**86**	Pg	**Pg**	**21 25 35.7**	**+0.2**
SJAF				Lg		21 25 49.7	
EJON	**La Jonquera**	**1.03**	**88**	Pg	**Pg**	**21 25 35.7**	**+0.1**
	3.7nm,0.3s,SNR=14						
EJON				Lg		21 25 50.2	
	60nm,0.2s						
EJON	**La Jonquera**	**1.03**	**88**	Pg	**Pg**	**21 25 35.7**	**+0.1**
	3.7nm,0.3s,SNR=14						
EPF	**Esparros**	**1.04**	**306**	*e*Pg	**Pg**	**21 25 35.3**	**-0.5**
EPF	**Esparros**	**1.04**	**306**	*e*Pn	**Pn**	**21 25 36.0**	**-0.2**
EPF				*e*Sg	**Sg**	**21 25 49.8**	**+0.5**
	26nm,0.2s						
EPF				*e*Sn	**Sn**	**21 25 50.8**	**+0.1**
EPF	**Esparros**	**1.04**	**306**	Pg	**Pg**	**21 25 35.3**	**-0.5**
EPF				Pn	**Pn**	**21 25 36.0**	**-0.2**
EPF				Lg		21 25 49.8	
	13nm,0.2s						
EPF				Sn	**Sn**	**21 25 50.8**	**+0.1**
EPF	**Esparros**	**1.04**	**306**	*e*Pn	**Pn**	**21 25 36.0**	**-0.2**
EPF				*e*Sg	**Sg**	**21 25 49.8**	**+0.5**
	13nm,0.2s						
EPF				*e*Sn	**Sn**	**21 25 50.8**	**+0.1**
MTLF	**Montolieu**	**1.06**	**30**	*e*Pn	**Pn**	**21 25 36.8**	**+0.4**
MTLF	**Montolieu**	**1.06**	**30**	*e*Pg	**Pg**	**21 25 37.2**	**+1.1**
MTLF				*e*Sg	**Sg**	**21 25 51.2**	**+1.3**
	33nm,0.2s						
MTLF	**Montolieu**	**1.06**	**30**	Pn	**Pn**	**21 25 36.8**	**+0.4**
MTLF				Pg	**Pg**	**21 25 37.2**	**+1.1**
MTLF				Lg		21 25 51.2	
	17nm,0.2s						
MTLF	**Montolieu**	**1.06**	**30**	*e*Pg	**Pg**	**21 25 37.2**	**+1.1**
MTLF				*e*Sg	**Sg**	**21 25 51.2**	**+1.3**
	17nm,0.2s						
EPOB	**Poblet**	**1.11**	**196**	Pg	**Pg**	**21 25 36.5**	**-0.6**
	5.5nm,0.2s,SNR=73						
EPOB				Lg		21 25 50.8	
	62nm,0.2s,SNR=18						
EPOB	**Poblet**	**1.11**	**196**	Pg	**Pg**	**21 25 36.5**	**-0.6**
	5.5nm,0.2s,SNR=73						
CGAR	**Garraf**	**1.16**	**193**	Pg	**Pg**	**21 25 38.1**	**+0.2**
CGAR				Lg		21 25 53.2	
	22nm,0.3s						
VIEF	**Viey**	**1.18**	**294**	Pg	**Pg**	**21 25 37.6**	**-0.7**
VIEF				Sg	**Sg**	**21 25 53.9**	**+0.3**
VIEF	**Viey**	**1.18**	**294**	Pg	**Pg**	**21 25 37.7**	**-0.6**
VIEF				Lg		21 25 54.3	
LABF	**Labassere**	**1.22**	**301**	Pn	**Pn**	**21 25 37.8**	**-0.7**
LABF				Sg	**Sg**	**21 25 55.6**	**+0.7**
LABF	**Labassere**	**1.22**	**301**	Pg	**Pg**	**21 25 38.9**	**-0.2**
LABF				Lg		21 25 55.7	
REYF	**Montagne du Re**	**1.53**	**296**	Pg	**Pg**	**21 25 44.5**	**-0.6**
REYF				Sg	**Sg**	**21 26 06.6**	**+1.7**
REYF	**Montagne du Re**	**1.53**	**296**	Pg	**Pg**	**21 25 44.3**	**-0.8**
REYF				Lg		21 26 06.7	
ETSF	**Etsaut**	**1.58**	**288**	*e*Pg	**Pg**	**21 25 46.1**	**0.0**
ETSF				*e*Sg	**Sg**	**21 26 07.1**	**+0.4**
	34nm,0.3s						
ETSF	**Etsaut**	**1.58**	**288**	*e*Pg	**Pg**	**21 25 46.1**	**0.0**
ETSF				*e*Sg	**Sg**	**21 26 07.1**	**+0.4**
	17nm,0.3s						
ESAC	**San Caprasio**	**1.62**	**245**	Pg	**Pg**	**21 25 45.4**	**-1.3**
	45nm,0.3s,SNR=19						
ESAC				Lg		21 26 07.8	
	105nm,0.3s,SNR=12						
ESAC	**San Caprasio**	**1.62**	**245**	Pg	**Pg**	**21 25 45.4**	**-1.3**
	45nm,0.3s,SNR=19						
ERTA	**Horta de San J**	**1.70**	**211**	Pg	**Pg**	**21 25 46.3**	**-2.0**
	7.9nm,0.3s,SNR=7.9						
ERTA				Lg		21 26 09.5	
	46nm,0.2s,SNR=33						
ERTA	**Horta de San J**	**1.70**	**211**	Pg	**Pg**	**21 25 46.3**	**-2.0**
	7.9nm,0.3s,SNR=7.9						
ATE	**Arette**	**1.75**	**293**	Pg	**Pg**	**21 25 49.8**	**+0.7**
ATE				Sg	**Sg**	**21 26 12.6**	**+0.8**
ATE	**Arette**	**1.75**	**293**	Pg	**Pg**	**21 25 48.3**	**-0.8**
ATE				Lg		21 26 12.2	
EBR	**Ebro Roquetas**	**1.77**	**205**	*e*PN	**Pn**	**21 25 48.3**	**+2.2**
EBR				*e*SN	**Sn**	**21 26 11.5**	**+3.0**
LARF	**Larrau**	**1.93**	**289**	Pg	**Pg**	**21 25 51.4**	**-1.2**
LARF				Sg	**Sg**	**21 26 19.1**	**+1.5**
LARF	**Larrau**	**1.93**	**289**	Pg	**Pg**	**21 25 51.6**	**-1.0**
LARF				Lg		21 26 18.4	
SJPF	**Ste Jean**	**2.12**	**290**	*e*Pg	**Pg**	**21 25 55.7**	**-0.5**
SJPF				*e*Sg	**Sg**	**21 26 23.6**	**-0.1**
	16nm,0.3s						
SJPF	**Ste Jean**	**2.12**	**290**	*e*Pg	**Pg**	**21 25 55.7**	**-0.5**
SJPF				*e*Sg	**Sg**	**21 26 23.6**	**-0.1**
	8.2nm,0.3s						
IPRE	**Itoiz**	**2.14**	**281**	Pg	**Pg**	**21 25 55.4**	**-1.2**
	1.3nm,0.2s,SNR=7.9						
IPRE				Lg		21 26 25.4	
	9.3nm,0.6s,SNR=8.9						
IPRE	**Itoiz**	**2.14**	**281**	Pg	**Pg**	**21 25 57.9**	**+1.3**
	1.3nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**2.29**	**280**	Lg		21 26 31.1	
	SNR=7.9						
IUSE	**Utxeti**	**2.30**	**284**	Pg	**Pg**	**21 25 59.0**	**-0.8**
	1.3nm,0.2s,SNR=4.0						
IUSE				Lg		21 26 30.9	
	6.9nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**2.30**	**284**	Pg	**Pg**	**21 25 59.0**	**-0.8**
	1.3nm,0.2s,SNR=4.0						
ELIZ	**Elizondo**	**2.34**	**289**	Pg	**Pg**	**21 26 00.1**	**-0.5**
	0.9nm,0.2s,SNR=7.9						
ELIZ				Lg		21 26 32.0	
	4.9nm,0.2s,SNR=6.8						
EALK	**Alkurruntz**	**2.34**	**291**	Pg	**Pg**	**21 25 59.7**	**-0.9**
	4.5nm,0.2s,SNR=7.9						
EALK				Lg		21 26 31.8	
	52nm,0.7s,SNR=9.8						
LASF	**Ste Croix**	**2.39**	**45**	*e*Pn	**Pn**	**21 25 56.2**	**+1.5**
LASF	**Ste Croix**	**2.39**	**45**	*e*Pg	**Pg**	**21 26 01.4**	**-0.1**
LASF				*e*Sg	**Sg**	**21 26 33.3**	**+0.8**
	15nm,0.3s						
LASF	**Ste Croix**	**2.39**	**45**	Pn	**Pn**	**21 25 56.2**	**+1.5**
LASF				Pg	**Pg**	**21 26 01.4**	**-0.1**
LASF				Lg		21 26 33.3	
	7.4nm,0.3s						
LASF	**Ste Croix**	**2.39**	**45**	*e*Pg	**Pg**	**21 26 01.4**	**-0.1**
LASF				*e*Sg	**Sg**	**21 26 33.3**	**+0.8**
	7.4nm,0.3s						
EMOS	**Mosqueruela**	**2.53**	**216**	Pn	**Pn**	**21 25 56.6**	**0.0**
	4.2nm,0.4s,SNR=13						
EMOS				Pg	**Pg**	**21 26 02.7**	**-1.5**
	4.4nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**21 26 25.9**	**-1.5**
	1.6nm,0.2s,SNR=7.9						
EMOS				Lg		21 26 35.7	
	6.0nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.53**	**216**	Pn	**Pn**	**21 25 58.4**	**+1.8**
	4.2nm,0.4s,SNR=13						
EMOS	**Mosqueruela**	**2.53**	**216**	Pg	**Pg**	**21 26 02.7**	**-1.5**
	4.4nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**21 26 28.2**	**+0.8**
	1.6nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.54**	**9**	*e*Pn	**Pn**	**21 25 58.8**	**+2.1**
CAF	**Calviac**	**2.54**	**9**	*e*Pg	**Pg**	**21 26 03.8**	**-0.5**
CAF				*e*Sg	**Sg**	**21 26 37.7**	**+0.5**
	27nm,0.3s						
CAF	**Calviac**	**2.54**	**9**	Pn	**Pn**	**21 25 58.8**	**+2.1**
CAF				Pg	**Pg**	**21 26 03.8**	**-0.5**
CAF				Lg		21 26 37.7	
	14nm,0.3s						
CAF	**Calviac**	**2.54**	**9**	*e*Pg	**Pg**	**21 26 03.8**	**-0.5**
CAF				*e*Sg	**Sg**	**21 26 37.7**	**+0.5**
	14nm,0.3s						
LFF	**La Frestale**	**2.57**	**348**	*e*Pg	**Pg**	**21 26 03.5**	**-1.5**
LFF				*e*Sg	**Sg**	**21 26 39.2**	**+0.8**
	20nm,0.4s						
LFF	**La Frestale**	**2.57**	**348**	*e*Pg	**Pg**	**21 26 03.5**	**-1.5**
LFF				*e*Sg	**Sg**	**21 26 39.2**	**+0.8**
	9.8nm,0.4s						
ETOS	**Mallorca**	**2.83**	**159**	Pn	**Pn**	**21 26 00.9**	**+0.1**
	0.4nm,0.2s,SNR=7.9						
ETOS				Sn	**Sn**	**21 26 33.8**	**-1.1**
	1.1nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.83**	**159**	Pn	**Pn**	**21 26 00.9**	**+0.1**
	0.4nm,0.2s,SNR=7.9						
ETOS				Sn	**Sn**	**21 26 33.8**	**-1.1**
	1.1nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*Sg	**Sg**	**21 26 47.9**	**-0.3**
	7.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.88**	**0**	*e*Sg	**Sg**	**21 26 47.9**	**-0.3**
	4.0nm,0.2s						
VIVF	**Saint-Julien-l**	**3.35**	**42**	*e*Pg	**Pg**	**21 26 19.4**	**-0.5**
VIVF				*e*Sg	**Sg**	**21 27 03.5**	**+0.1**
	5.5nm,0.3s						
VIVF	**Saint-Julien-l**	**3.35**	**42**	*e*Pg	**Pg**	**21 26 19.4**	**-0.5**
VIVF				*e*Sg	**Sg**	**21 27 03.5**	**+0.1**
	2.8nm,0.3s						
EIBI	**Ibiza**	**3.39**	**182**	Pn	**Pn**	**21 26 08.8**	**+0.4**
	0.6nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**21 26 46.9**	**-1.8**
	1.5nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.39**	**182**	Pn	**Pn**	**21 26 08.8**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**21 26 46.9**	**-1.8**
	1.5nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**3.80**	**74**	*e*Sg	**Sg**	**21 27 15.7**	**-2.0**
	1.6nm,0.3s						
LMR	**La Mourre**	**3.80**	**74**	*e*Sg	**Sg**	**21 27 15.7**	**-2.0**
	0.8nm,0.3s						
TCF	**Toulx Ste Croi**	**3.90**	**7**	*e*Sg	**Sg**	**21 27 20.8**	**-0.1**
	9.2nm,0.5s						
TCF	**Toulx Ste Croi**	**3.90**	**7**	*e*Sg	**Sg**	**21 27 20.8**	**-0.1**
	4.6nm,0.5s						
EBEN	**Beniarda**	**3.94**	**200**	Pn	**Pn**	**21 26 16.4**	**+0.5**
	0.3nm,0.3s,SNR=4.0						
EBEN	**Beniarda**	**3.94**	**200**	Pn	**Pn**	**21 26 16.4**	**+0.4**
	0.3nm,0.3s,SNR=4.0						
BGF	**Bois d'Agland**	**4.25**	**13**	*e*Pg	**Pg**	**21 26 36.1**	**-0.9**
BGF				*e*Sg	**Sg**	**21 27 31.1**	**-0.9**
MFF	**Saint Martin d**	**4.34**	**345**	*e*P	**Pn**	**21 26 24.3**	**+2.8**
MFF				*e*Sg	**Sg**	**21 27 32.1**	**-2.9**
	3.1nm,0.3s						
MFF	**Saint Martin d**	**4.34**	**345**	*e*P	**Pn**	**21 26 24.3**	**+2.8**
MFF				*e*Sg	**Sg**	**21 27 32.1**	**-2.9**
	1.5nm,0.3s						
SMF	**Signal de Mont**	**4.54**	**21**	*e*Pg	**Pg**	**21 26 41.8**	**-0.9**
SMF				*e*Sg	**Sg**	**21 27 40.0**	**-1.5**
	4.3nm,0.5s						
SMF	**Signal de Mont**	**4.54**	**21**	*e*Pg	**Pg**	**21 26 41.8**	**-0.9**
SMF				*e*Sg	**Sg**	**21 27 40.0**	**-1.5**
	2.2nm,0.5s						
AVF	**Avril sur Loir**	**4.56**	**16**	*e*Pg	**Pg**	**21 26 42.1**	**-1.0**
AVF				*e*Sg	**Sg**	**21 27 40.3**	**-1.9**
	2.6nm,0.2s						
AVF	**Avril sur Loir**	**4.56**	**16**	*e*Pg	**Pg**	**21 26 42.1**	**-1.0**
AVF				*e*Sg	**Sg**	**21 27 40.3**	**-1.9**
	1.3nm,0.2s						
SSF	**Saint Saulge**	**4.86**	**16**	*e*Sg	**Sg**	**21 27 49.7**	**-1.8**
	3.4nm,0.5s						
SSF	**Saint Saulge**	**4.86**	**16**	*e*Sg	**Sg**	**21 27 49.7**	**-1.8**
	1.7nm,0.5s						
ESDC	**Sonseca Array**	**4.95**	**238**	Pn	**Pn**	**21 26 31.0**	**+1.1**
	0.7nm,0.1s,baz=56,slow=14,SNR=5.4						
ESDC	**Sonseca Array**	**4.95**	**238**	Pn	**Pn**	**21 26 31.0**	**+1.1**
	0.7nm,0.1s,SNR=5.4						
EARI	**Arriondas**	**5.00**	**282**	Pn	**Pn**	**21 26 32.8**	**+2.2**
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**21 27 27.1**	**-1.2**
	0.2nm,0.3s,SNR=7.9						
LOR	**Lormes**	**5.13**	**18**	*e*Sg	**Sg**	**21 27 58.4**	**-1.9**
	3.2nm,0.3s						
LOR	**Lormes**	**5.13**	**18**	*e*Sg	**Sg**	**21 27 58.4**	**-1.9**
	1.6nm,0.3s						
PGF	**Pioggiola**	**5.55**	**86**	*e*Pn	**Pn**	**21 26 38.6**	**+0.4**
PGF				*e*Sn	**Sn**	**21 27 37.3**	**-4.6**
	2.4nm,0.3s						
PGF	**Pioggiola**	**5.55**	**86**	*e*Pn	**Pn**	**21 26 38.6**	**+0.4**
PGF				*e*Sn	**Sn**	**21 27 37.3**	**-4.6**
	1.2nm,0.3s						
ROSF	**Rostrenen**	**6.80**	**332**	*e*Pg	**Pg**	**21 27 22.1**	**-3.7**
ROSF				*e*Sn	**Sn**	**21 28 08.0**	**-4.6**
	0.3nm,0.2s						
ROSF	**Rostrenen**	**6.80**	**332**	*e*Pg	**Pg**	**21 27 22.1**	**-3.7**
ROSF				*e*Sn	**Sn**	**21 28 08.0**	**-4.6**
	0.2nm,0.2s						

*IDC **12** 21:27:48.2±0.9,1539S×17342W,h0km,mb4.2/7, mb1 4.4/8,mb1mx4.2/16,mbtmp4.2/8,ML2.9/1,MS3.8/9, Ms1 3.8/9,ms1mx3.6/18,Error ellipse: s-maj=49.3km s-min=17.6km az=141.0*
*ISCJB **12** 21:27:49.8±4.4,155S±02×1734W±0.1,h19km±30km, mb4.5/21,MS3.8/8,Error ellipse: s-maj=33.9km s-min=10.3km az=107.2*
*NEIC **12** 21:27:51.3±4.7,1535S×17350W,h16km±28km,mb4.7/14, Error ellipse: s-maj=20.0km s-min=8.0km az=140.0*
*MOS **12** 21:27:52.8±1.0,1553S×17330W,h33km,mb5.0/5,Error ellipse: s-maj=32.3km s-min=13.1km az=49.6*
*SZGRF **12** 21:27:53.6,1584S×17261W,h33km,Samoa Islands region*

ISC 12 21:27:50.2±6.7,154S±01×1735W±01,h6km±40km,n171, σ0§53/116,mb4.5/21,MS3.8/8,46C-33D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.17**	**48**	Pn	**Pn**	**21 28 26.7**	**-0.1**
	226nm,0.3s,baz=30,slow=2.5,SNR=143						
AFI				Sn	**Sn**	**21 28 48.0**	**-6.0**
	410nm,0.3s,baz=57,slow=22,SNR=6.8						
RAR	**Rarotonga**	**14.22**	**116**	LR	LR	21 34 45.5	
	comp=Z,437nm,18.8s,baz=268,slow=29						
PPT	**Papeete**	**22.99**	**99**	eLR	LR	21 38 03.6	
	292nm,28.8s						
PPT	**Papeete**	**22.99**	**99**	LR	LR	21 40 15.8	
	comp=Z,146nm,18.3s,MS3.5,baz=134,slow=33						
HNR	**Honiara**	**26.63**	**280**	LR	LR	21 41 30.7	
	comp=Z,94nm,20.9s,MS3.3,baz=268,slow=31						
STKA	**Stephens Creek**	**44.01**	**240**	P	**P**	**21 35 56.1**	**-2.3**
	4.2nm,0.9s,mb4

WCN	Washoe City	73.91	41	⇑P	P	21 39 25.8	-0.3
	baz=74						
HUMO	Hull Mountain	74.01	36	eP	P	21 39 26.7	+0.1
	comp=Z,11nm,1.1s,mb4.7						
M04C	Macdoel	74.14	38	⇓P	P	21 39 27.6	+0.2
	baz=74						
J02A	Umpqua	74.15	35	⇑P	P	21 39 28.0	+0.5
	baz=74						
TUQ	Turquoise Mtn.	74.28	46	⇑P	P	21 39 27.8	-0.4
	baz=74						
M05C	Lookout	74.29	38	⇑P	P	21 39 28.5	+0.2
	baz=74						
NVAR	Mina Array Bea	74.33	42	P	P	21 39 28.2	-0.3
	comp=Z,3.9nm,1.0s,mb4.3,baz=216,slow=8.1,SNR=11						
L04A	Klamath Falls	74.35	37	⇓P	P	21 39 29.1	+0.4
	baz=75						
O06A	Flanigan	74.37	40	⇑P	P	21 39 29.0	+0.2
	baz=75,SNR=7.9						
Y12C	Blythe	74.38	48	⇓P	P	21 39 28.4	-0.4
	baz=75						
I02A	Mapleton	74.41	35	⇑P	P	21 39 29.4	+0.4
	baz=75						
MNV	Mina	74.43	42	eP	P	21 39 29.3	+0.2
MNV				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
MNV	Mina	74.43	42	eP	P	21 39 29.3	+0.1
	comp=Z,12nm,1.3s,mb4.7						
M06C	Likely Place G	74.59	39	⇓P	P	21 39 30.4	+0.3
	baz=75						
S09A	Goldfield	74.64	43	⇓P	P	21 39 30.2	-0.2
	baz=75						
QSPA	South Pole Qui	74.68	180	eP	P	21 39 32.4	+1.9
	comp=Z,6.3nm,1.0s,mb4.5						
I03A	Eugene	74.69	35	⇑P	P	21 39 30.9	+0.3
	baz=75						
TPNV	Topopah Spring	74.87	44	eP	P	21 39 31.6	-0.1
KDAK	Kodiak Island	74.90	11	P	P	21 39 30.4	-1.4
	comp=Z,5.1nm,0.7s,mb4.6,baz=249,slow=8.6,SNR=3.8						
Y13A	Salome	74.91	48	⇑P	P	21 39 31.9	0.0
	baz=75						
O07A	Toulon	74.96	40	P	P	21 39 32.2	0.0
	baz=75,SNR=11						
MOD	Modoc	75.12	38	eP	P	21 39 33.4	+0.2
	comp=Z,17nm,1.2s,mb4.8						
H03A	Soap Creek Ran	75.14	35	⇓P	P	21 39 33.3	0.0
	baz=75						
X13A	Yucca	75.30	47	⇓P	P	21 39 34.0	-0.2
	baz=76,SNR=5.9						
Z14A	Wintersburg	75.32	49	⇑P	P	21 39 33.8	-0.4
	baz=76						
M07A	Soldier Meadow	75.50	39	⇑P	P	21 39 35.5	+0.2
	baz=76,SNR=9.2						
115A	Sonoran Desert	75.52	50	⇑P	P	21 39 34.9	-0.5
	baz=76						
Y14A	Wickenburg	75.57	48	⇑P	P	21 39 35.0	-0.7
	baz=76						
K06A	Valley Falls	75.70	37	⇓P	P	21 39 36.6	+0.2
	baz=76,SNR=7.5						
P09A	Austin	75.71	42	⇓P	P	21 39 36.6	+0.1
	baz=76						
H04A	Detroit Lake	75.75	35	⇓P	P	21 39 36.3	-0.5
	baz=76						
N08A	GE Springer Mi	75.79	40	⇑P	P	21 39 36.9	0.0
	baz=76,SNR=7.0						
F03A	Seaside	75.81	33	⇓P	P	21 39 37.1	+0.1
	baz=76						
X14A	Yava	75.91	48	⇑P	P	21 39 37.5	-0.1
	baz=76,SNR=6.4						
M08A	Happy Creek Ra	76.02	39	⇑P	P	21 39 38.5	+0.2
	baz=76,SNR=5.1						
J06A	Christmas Vall	76.03	37	⇑P	P	21 39 38.0	-0.3
	baz=76,SNR=10						
O09A	Fish Creek Ran	76.03	41	⇑P	P	21 39 38.1	-0.2
	baz=76						
W14A	Seligman	76.15	47	⇓P	P	21 39 38.9	-0.1
	baz=76,SNR=8.9						
E03A	Lebam	76.21	33	⇓P	P	21 39 40.3	+0.9
	baz=76						
K07A	Rock Creek Ran	76.22	38	⇓P	P	21 39 39.4	0.0
	baz=76,SNR=8.7						
H05A	Madras	76.27	36	⇓P	P	21 39 40.1	+0.4
	baz=76						
X15A	Humboldt	76.39	48	⇓P	P	21 39 40.3	-0.1
	baz=77						
TUC	Tucson	76.41	51	eP	P	21 39 40.3	-0.2
TUC				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
TUC	Tucson	76.41	51	eP	P	21 39 40.3	-0.2
	comp=Z,0.9nm,0.4s,mb4.0						
I06A	Prineville	76.41	37	⇑P	P	21 39 40.7	+0.2
	baz=77						
M09A	Marrel Ranch,	76.57	40	⇑P	P	21 39 41.4	0.0
	baz=77						
W15A	Williams	76.71	48	⇑P	P	21 39 42.3	+0.1
	baz=77						
N10A	Dunphy	76.77	41	⇑P	P	21 39 42.0	-0.5
	baz=77						
L09A	Wilkinson Ranc	76.78	39	⇑P	P	21 39 42.5	-0.1
	baz=77,SNR=5.1						
P12A	McGill	77.11	43	⇑P	P	21 39 44.3	-0.1
	baz=77						
E05A	Randle	77.17	34	⇑P	P	21 39 44.3	-0.4
	baz=77						
M10A	I.L. Ranch, Tu	77.19	40	⇓P	P	21 39 45.0	+0.1
	baz=77						
M11A	Holland Ranch,	77.61	41	⇓P	P	21 39 46.3	-1.0
	baz=78						
N12A	Wells--Clov Va	77.77	41	⇓P	P	21 39 47.9	-0.3
	baz=78						
C05A	Tolt Reservoir	77.92	33	⇓P	P	21 39 48.5	-0.5
	baz=78						
A04A	Legoe Bay, Lum	78.05	32	⇑P	P	21 39 49.5	-0.2
	baz=78						
B05A	Bryant	78.07	32	⇑P	P	21 39 49.4	-0.4
	baz=78						
M12A	Wells	78.16	41	⇓P	P	21 39 49.8	-0.5
	baz=78,SNR=5.1						
N13A	West Wendover	78.31	42	⇑P	P	21 39 50.7	-0.5
	baz=78						
MSU	Marysvale	78.43	45	eP	P	21 39 51.9	+0.1
M13A	Montello	78.60	41	⇑P	P	21 39 52.3	-0.5
	baz=79						
DUG	Dugway	78.87	43	eP	P	21 39 53.6	-0.6
DUG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
DUG	Dugway	78.87	43	eP	P	21 39 53.6	-0.6
	comp=Z,6.1nm,1.1s,mb4.4						
TTA	Tatalina	79.23	8	eP	P	21 39 56.5	+0.3
TTA				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.9						
TTA	Tatalina	79.23	8	eP	P	21 39 56.5	+0.3
	comp=Z,28nm,1.8s,mb4.9						
HLID	Hailey	79.63	39	eP	P	21 39 58.9	+0.5
	comp=Z,2.0nm,0.6s,mb4.2						
TNA	Tin City	80.79	2	eP	P	21 40 04.7	0.0
	comp=Z,3.8nm,1.2s,mb4.2						
MCMT	McKenzie Canyo	81.26	39	eP	P	21 40 07.1	0.0
IMW	Indian Meadow	81.95	40	eP	P	21 40 11.0	+0.2
	comp=Z,16nm,1.4s,mb4.8						
PDAR	Pinedale Array	82.27	42	P	P	21 40 10.8	-1.6
	comp=Z,2.7nm,1.0s,mb4.1,baz=240,slow=2.9,SNR=16						
PDAR				LR	LR	22 08 38.3	
	comp=Z,46nm,20.3s,MS3.8,baz=77,slow=30						
SMCO	Snowmass	82.32	46	eP	P	21 40 13.2	+0.5
	comp=Z,7.9nm,1.0s,mb4.6						
BOZ	Bozeman (W)	82.42	39	eP	P	21 40 13.0	-0.3
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
BOZ	Bozeman (W)	82.42	39	eP	P	21 40 13.0	-0.3
	comp=Z,5.0nm,1.2s,mb4.3						
RWWY	Rawlins	83.30	44	eP	P	21 40 17.2	-0.6
	comp=Z,14nm,1.1s,mb4.9						
DAWY	Dawson	83.40	14	eP	P	21 40 17.3	-1.0
MAW	Mawson	87.81	199	LR	LR	22 14 57.1	
	comp=Z,85nm,20.0s,MS4.2,baz=244,slow=32						
YKA	Yellowknife Ar	90.09	23	LR	LR	22 14 53.7	
	comp=Z,60nm,18.7s,MS4.0,baz=0.0,slow=31						
ULM	Lac du Bonnet	93.94	39	LR	LR	22 17 08.0	
	comp=Z,63nm,18.2s,MS4.1,baz=34,slow=32						
ZRNK	Zerenda	118.66	322	PKIKP	PKPdf	21 46 37.5	-1.6
LVV	L'vov	142.81	341	i PKIKP	PKPdf	21 47 36.6	+12
STHS	Stebnicka Huta	143.99	344	ePKP	PKPdf	21 47 24.8	-1.8
STHS				e		21 47 28.7	
STHS				e		21 47 42.0	
STHS				e		21 47 52.4	
UPC	Upice	144.12	350	ePKP	PKPdf	21 47 25.1	-1.7
DPC	Dobruska-Polom	144.22	349	ePKP	PKPdf	21 47 24.9	-2.1
OKC	Ostrava-Krasne	144.35	347	ePKP	PKPdf	21 47 23.1	-4.1
MOX	Moxa	144.58	354	ePKP	PKPdf	21 47 25.7	-1.9
PRU	Pruhonice	144.87	351	ePKP	PKPdf	21 47 26.9	-1.2
NKC	Novy Kostel	144.90	353	ePKP	PKPdf	21 47 26.3	-1.9
KECS	Kecovo	145.04	344	ePKP	PKPdf	21 47 28.0	-0.4
KECS				e		21 47 35.7	
KECS				e		21 47 41.8	
TNS	Taunus Mts	145.20	358	ePKPbc	PKPbc	21 47 27.8	-0.5
GIVF	Givet	145.33	2	ePKP1	PKPbc	21 47 27.3	-1.4
BAIF	Baives	145.35	3	ePKP1	PKPbc	21 47 27.6	-1.2
ROTZ	Rotzenmuhle	145.39	354	ePKPbc	PKPbc	21 47 28.8	-0.1
TREC	Trest	145.39	350	ePKP	PKPdf	21 47 28.5	-0.5
VYHS	Vyhne	145.46	346	ePKP	PKPdf	21 47 28.8	-0.3
VYHS				e		21 47 37.4	
VYHS				e		21 47 44.1	
VYHS				e		21 47 54.7	
KOLL	Kolacno	145.48	346	ePKP	PKPdf	21 47 29.0	-0.2
KOLL				e		21 47 36.7	
GRA1	Grafenberg Arr	145.56	355	ePKPbc	PKPbc	21 47 29.5	0.0
GRF	Grafenberg Arr	145.56	355	ePKPbc	PKPbc	21 47 29.5	0.0
WLF	Walferdange	145.79	0	ePKPbc	PKPbc	21 47 29.9	-0.3
KHC	Kasperske Hory	145.84	352	ePKP	PKPdf	21 47 29.7	-0.1
KHC				pPKP	pPKPdf	21 47 38.0	+6.1
KHC	Kasperske Hory	145.84	352	eP	PKPdf	21 47 29.7	-0.1
KHC				e		21 47 38.0	
WET	Wettzell	145.92	353	ePKPbc	PKPbc	21 47 30.1	-0.5
GEC2	GERESS Array S	146.10	352	ePKPbc	PKPbc	21 47 30.7	-0.4
GERES	GERESS Array B	146.10	352	PKPbc	PKPbc	21 47 29.9	-1.3
	comp=Z,1.5nm,0.9s,baz=40,slow=2.3,SNR=13						
BR131	Keskin Array S	146.10	321	ePKPdf	PKPdf	21 47 31.5	+1.2
BRTR	Keskin Array B	146.10	321	PKPbc	PKPbc	21 47 31.2	+0.1
	comp=Z,2.3nm,0.8s,baz=96,slow=2.5,SNR=16						
ZST	Bratislava	146.13	347	ePKP	PKPdf	21 47 33.1	+2.8
GRR	Gorron	146.51	9	ePKP1	PKPbc	21 47 30.6	-1.7
CONA	Conrad Observa	146.63	349	⇑iPKPbc	PKPbc	21 47 30.8	-1.9
	comp=Z,12nm,1.2s						
MOA	Molln	146.99	350	⇑iP	PKPdf	21 47 30.9	-0.8
	comp=Z,11nm,1.7s						
CDF	Champ du Feu	147.04	359	ePKP1	PKPbc	21 47 32.9	-1.0
	comp=Z,17nm,1.0s						
FUR	Furstenfeldbru	147.06	354	ePKPbc	PKPbc	21 47 34.0	+0.1
BFO	Black Forest	147.10	358	ePKPbc	PKPbc	21 47 33.8	-0.2
HINF	Hinteralfeld	147.65	360	ePKP1	PKPbc	21 47 34.1	-1.4
LOR	Lormes	148.12	3	ePKP1	PKPbc	21 47 35.6	-1.2
SSF	Saint Saulge	148.30	4	ePKP1	PKPbc	21 47 36.1	-1.2
	comp=Z,26nm,1.5s						
CABF	La Chapelle	148.85	1	ePKP1	PKPbc	21 47 38.3	-0.4
	comp=Z,62nm,1.5s						
LPL	La Plagne	149.95	360	ePKP1	PKPbc	21 47 41.3	-0.1
	comp=Z,28nm,1.4s						
LPG	La Plagne	149.97	360	ePKP1	PKPbc	21 47 41.6	+0.1
	comp=Z,13nm,1.1s						
BNI	Bardonecchia	150.41	360	ePKIKP	PKPbc	21 47 43.1	+0.5
ORIF	Oris-en-Rattie	150.54	1	ePKP1	PKPbc	21 47 42.3	-0.6
	comp=Z,7.4nm,1.0s						
VIVF	Saint-Julien-l	150.56	3	ePKP1	PKPbc	21 47 42.0	-0.9
	comp=Z,21nm,1.3s						
MBDF	Montbardon	150.74	360	ePKP1	PKPbc	21 47 42.8	-0.5
	comp=Z,7.1nm,0.8s						
LASF	Ste Croix	151.29	4	ePKP1	PKPbc	21 47 43.8	-0.8
	comp=Z,14nm,1.1s						
SMRF	Simiane la Rot	151.47	1	ePKP1	PKPbc	21 47 44.6	-0.4
SBF	Sospel	151.59	359	ePKP1	PKPbc	21 47 45.4	+0.1
	comp=Z,16nm,1.1s						
FRF	La Foret Royal	151.90	360	ePKP1	PKPbc	21 47 45.8	-0.2
	comp=Z,24nm,1.3s						

ISCJB ***12*** *21:40:36.3±0.3, 42.43N±002×146E±002, h15km±5km, Error ellipse: s-maj=3.7km s-min=3.1km az=162.3*
LDG ***12*** *21:40:37.8±0.1, 42.39N×148E, h3km, Md2.6/2, Ml2.4/9, Error ellipse: s-maj=1.4km s-min=1.0km az=8.0*
STR ***12*** *21:40:37.1±0.4, 42.39N×148E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***12*** *21:40:38.1±0.2, 42.40N×148E, h0km, mbLg2.0/15, Error ellipse: s-maj=1.4km s-min=1.4km az=71.0, PRXIMO*
CSEM ***12*** *21:40:38.0±0.1, 42.41N×146E, h5km, ML2.6/10, Error ellipse: s-maj=1.4km s-min=1.1km az=130.0*

ISC 12 21:40:37.2±0.3, 4241N±002×147E±002, h12km±5km, n62, σ0.64/79, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	Andorre	0.13	28	Pg	Pg	21 40 40.8	+0.4
PAND				Lg		21 40 43.1	
CSOR	Sort	0.25	262	Pg	Pg	21 40 42.5	0.0
CSOR				Lg		21 40 46.6	
	71nm,0.2s						
CLLI	Llivia	0.38	80	Pg	Pg	21 40 44.7	-0.1
CLLI				Lg		21 40 49.9	
	7.2nm,0.3s						
SALF	Salau	0.41	330	Pg	Pg	21 40 45.6	+0.3
SALF				Sg	Sg	21 40 51.4	+0.7
SALF	Salau	0.41	330	Pg	Pg	21 40 45.7	+0.4
SALF				Lg		21 40 51.2	
VALF	Valcebollere	0.41	91	Pg	Pg	21 40 45.2	-0.1
VALF				Sg	Sg	21 40 50.7	-0.1
VALF	Valcebollere	0.41	91	Pg	Pg	21 40 45.3	0.0
VALF				Lg		21 40 50.8	
EMIR	Miracle	0.50	175	Pg	Pg	21 40 47.1	+0.1
	2.6nm,0.3s,SNR=28						
EMIR				Lg		21 40 53.7	
	23nm,0.1s,SNR=25						
EMIR	Miracle	0.50	175	Pg	Pg	21 40 47.1	+0.1
	2.6nm,0.3s,SNR=28						
CBRU	Bruguera	0.54	103	Pg	Pg	21 40 48.0	+0.2
CBRU				Lg		21 40 55.0	
	9.8nm,0.4s						
CARF	Carcanieres	0.56	57	Pg	Pg	21 40 48.4	+0.2
CARF				Sg	Sg	21 40 56.2	+0.6
CARF	Carcanieres	0.56	57	Pg	Pg	21 40 48.4	+0.2
CARF				Lg		21 40 56.2	
MLS	Moulis	0.61	333	Pg	Pg	21 40 49.7	+0.6
MLS				Sg	Sg	21 40 58.1	+0.9
MLS	Moulis	0.61	333	Pg	Pg	21 40 49.8	+0.7
MLS				Lg		21 40 58.0	
MELF	Melles	0.70	312	Pg	Pg	21 40 51.0	+0.3
MELF				Lg		21 41 01.5	
CAVN	Les Avellanes	0.75	225	Pg	Pg	21 40 51.8	0.0
CAVN				Lg		21 41 01.8	
	9.8nm,0.2s						
EGRA	Graus	0.88	256	Pg	Pg	21 40 54.8	+0.6
	3.3nm,0.2s,SNR=22						
EGRA				Lg		21 41 08.0	
	4.6nm,0.1s,SNR=5.9						
RESF	Ens	0.92	296	Lg		21 41 08.2	
CFON	Fontmartina	0.97	132	Pg	Pg	21 40 55.8	-0.1
CFON				Lg		21 41 08.3	
	22nm,0.2s						
EBIE	Bielsa	1.02	286	Pg	Pg	21 40 56.8	-0.1
	1.9nm,0.3s,SNR=12						
EBIE				Lg		21 41 11.2	
	3.7nm,0.2s,SNR=11						
EBIE	Bielsa	1.02	286	Pg	Pg	21 40 56.8	0.0
	1.9nm,0.3s,SNR=12						
EPF	Esparros	1.04	307	ePg	Pg	21 40 57.0	-0.2
EPF				eSg	Sg	21 41 11.2	+0.5
	7.2nm,0.2s						
EPF	Esparros	1.04	307	ePg	Pg	21 40 57.0	-0.2
EPF				eSg	Sg	21 41 11.2	+0.5
	3.6nm,0.2s						
EJON	La Jonquera	1.05	87	Pg	Pg	21 40 58.5	+1.0
	2.0nm,0.6s,SNR=5.6						
EJON				Lg		21 41 12.5	
	16nm,0.2s,SNR=13						
EJON	La Jonquera	1.05	87	Pg	Pg	21 40 58.5	+1.0
	2.0nm,0.6s,SNR=5.6						
MTLF	Montolieu	1.08	30	ePn	Pn	21 40 58.2	+0.1
MTLF	Montolieu	1.08	30	ePg	Pg	21 40 58.6	+0.6
MTLF				eSg	Sg	21 41 12.6	+0.5
	10nm,0.2s						
MTLF	Montolieu	1.08	30	Pn	Pn	21 40 58.2	+0.1
MTLF				Pg	Pg	21 40 58.6	+0.6
MTLF				Lg		21 41 12.6	
	5.1nm,0.2s						
MTLF	Montolieu	1.08	30	ePg	Pg	21 40 58.6	+0.6
MTLF				eSg	Sg	21 41 12.6	+0.5
	5.1nm,0.2s						
EPOB	Poblet	1.10	196	Pg	Pg	21 40 58.1	-0.3
	1.4nm,0.2s,SNR=25						
EPOB				Lg		21 41 12.4	
	17nm,0.1s,SNR=5.0						
EPOB	Poblet	1.10	196	Pg	Pg	21 40 58.1	-0.2
	1.4nm,0.2s,SNR=25						
LABF	Labassere	1.21	302	Lg		21 41 17.2	
ETSF	Etsaut	1.57	289	ePg	Pg	21 41 07.4	0.0
ETSF				eSg	Sg	21 41 28.5	+0.6
	8.8nm,0.3s						
ETSF	Etsaut	1.57	289	ePg	Pg	21 41 07.4	0.0
ETSF				eSg	Sg	21 41 28.5	+0.6
	4.4nm,0.3s						
ESAC	San Caprasio	1.60	245	Pg	Pg	21 41 06.8	-1.1
	14nm,0.3s,SNR=6.9						
ESAC				Lg		21 41 30.5	
	26nm,0.3s,SNR=5.0						
ESAC	San Caprasio	1.60	245	Pg	Pg	21 41 06.8	-1.1
	14nm,0.3s,SNR=6.9						
ERTA	Horta de San J	1.68	211	Pg	Pg	21 41 09.0	-0.6
	2.0nm,0.3s,SNR=12						
ERTA				Lg		21 41 30.8	
	23nm,0.2s,SNR=5.0						
ERTA	Horta de San J	1.68	211	Pg	Pg	21 41 09.0	-0.5
	2.0nm,0.3s,SNR=12						
ATE	Arette	1.73	294	Lg		21 41 34.8	
EBR	Ebro Roquetas	1.75	205	eSN	Sn	21 41 33.0	+3.5
SJPF	Ste Jean	2.10	290	ePg	Pg	21 41 17.4	-0.2
SJPF				eSg	Sg	21 41 45.0	+0.1
	4.8nm,0.3s						
SJPF	Ste Jean	2.10	290	ePg	Pg	21 41 17.4	-0.2
SJPF				eSg	Sg	21 41 45.0	+0.1
	2.4nm,0.3s						
IPRE	Itoiz	2.12	282	Lg		21 41 47.1	
	1.1nm,0.3s,SNR=7.9						
EARA	Aranguren	2.28	280	Lg		21 41 51.6	
	16nm,1.2s,SNR=7.9						
IUSE	Utxeti	2.29	285	Lg		21 41 51.8	
	1.9nm,0.3s,SNR=7.9						
ELIZ	Elizondo	2.33	290	Pg	Pg	21 41 21.7	-0.2
	1.0nm,0.2s,SNR=6.9						
ELIZ				Lg		21 41 53.6	
	2.2nm,0.2s,SNR=7.9						
EALK	Alkurruntz	2.33	291	Pg	Pg	21 41 21.1	-0.9
	0.7nm,0.5s,SNR=7.9						
EALK				Lg		21 41 53.6	
	14nm,0.4s,SNR=6.4						
LASF	Ste Croix	2.41	46	ePn	Pn	21 41 17.3	+0.8
LASF	Ste Croix	2.41	46	ePg	Pg	21 41 22.8	-0.7
LASF				eSg	Sg	21 41 54.7	0.0
	4.6nm,0.3s						
LASF	Ste Croix	2.41	46	Pn	Pn	21 41 17.3	+0.8
LASF				Pg	Pg	21 41 22.8	-0.7
LASF				Lg		21 41 54.7	
	2.3nm,0.3s						
LASF	Ste Croix	2.41	46	ePg	Pg	21 41 22.8	-0.7
LASF				eSg	Sg	21 41 54.7	0.0
	2.3nm,0.3s						
EMOS	Mosqueruela	2.51	216	Pn	Pn	21 41 18.7	+0.9
	1.1nm,0.4s,SNR=4.0						
EMOS				Pg	Pg	21 41 24.2	-1.2
	0.3nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	21 41 48.3	-0.1
	30nm,1.6s,SNR=7.9						
EMOS				Lg		21 41 57.4	
	3.2nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	2.51	216	Pn	Pn	21 41 18.7	+0.9
	1.1nm,0.4s,SNR=4.0						
EMOS	Mosqueruela	2.51	216	Pg	Pg	21 41 24.2	-1.2
	0.3nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	21 41 48.3	-0.1
	30nm,1.6s,SNR=7.9						
CAF	Calviac	2.55	10	eSg	Sg	21 41 59.0	-0.2
	8.3nm,0.3s						
CAF	Calviac	2.55	10	eSg	Sg	21 41 59.0	-0.2
	4.2nm,0.3s						
LFF	La Frestale	2.58	348	eSg	Sg	21 41 58.7	-1.5
	5.0nm,0.3s						
LFF	La Frestale	2.58	348	eSg	Sg	21 41 58.7	-1.5
	2.5nm,0.3s						
RJF	Les Rejaudoux	2.89	1	ePn	Pn	21 41 22.4	-0.7
RJF				eSg	Sg	21 42 09.0	-1.2
	3.0nm,0.3s						
RJF	Les Rejaudoux	2.89	1	ePn	Pn	21 41 22.4	-0.7
RJF				eSg	Sg	21 42 09.0	-1.2
	1.5nm,0.3s						
VIVF	Saint-Julien-l	3.37	42	ePg	Pg	21 41 40.9	-1.0
VIVF				eSg	Sg	21 42 25.0	-0.6
	1.9nm,0.3s						
VIVF	Saint-Julien-l	3.37	42	ePg	Pg	21 41 40.9	-1.0
VIVF				eSg	Sg	21 42 25.0	-0.6
	0.9nm,0.3s						

LDG ***12*** *21:48:36.0±0.1, 42.37N×148E, h5km, Ml1.8/6, Error ellipse: s-maj=2.4km s-min=1.6km az=1.0*

MDD 12 21:48:36.2±0.2, 4240N×148E, h0km, mbLg1.3/7, Error ellipse: s-maj=1.8km s-min=1.6km az=169.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAND	Andorre	0.13	21	Pg	Pg	21 48 38.9	0.0
PAND				Lg		21 48 41.1	
CSOR	Sort	0.26	265	Pg	Pg	21 48 40.9	-0.3
CSOR				Lg		21 48 44.5	
	18nm,0.2s						
CLLI	Llivia	0.37	77	Pg	Pg	21 48 42.7	-0.7
CLLI				Lg		21 48 47.9	
	1.4nm,0.2s						
VALF	Valcebollere	0.40	89	Pg	Pg	21 48 43.4	-0.5
VALF				Lg		21 48 48.8	
SALF	Salau	0.42	329	Pg	Pg	21 48 44.0	-0.4
SALF				Lg		21 48 49.2	
EMIR	Miracle	0.48	176	Pg	Pg	21 48 45.1	-0.4
	3.1nm,0.8s,SNR=7.2						
EMIR				Lg		21 48 51.9	
	4.5nm,0.3s,SNR=14						
CBRU	Bruguera	0.53	102	Pg	Pg	21 48 46.0	-0.4
CBRU				Lg		21 48 54.0	
	2.7nm,0.3s						
CAVN	Les Avellanes	0.75	227	Pg	Pg	21 48 49.9	-0.7
EGRA	Graus	0.89	257	Pg	Pg	21 48 54.2	+0.9
	0.7nm,0.1s,SNR=6.3						
EGRA				Lg		21 49 06.6	
	2.1nm,0.5s,SNR=6.3						
CFON	Fontmartina	0.95	132	Pg	Pg	21 48 53.2	-1.3
EBIE	Bielsa	1.03

SJPF	**Ste Jean**	**2.12**	**291**	Lg			21 49 43.6	
	0.6nm,0.3s							
LASF	**Ste Croix**	**2.41**	**45**	*e*Pg	Pg		21 49 21.3	-1.2
LASF				*e*Sg	Sg		21 49 53.1	-0.7
	0.9nm,0.3s							
LASF	**Ste Croix**	**2.41**	**45**	Pg	Pg		21 49 21.3	-1.2
LASF				Lg			21 49 53.1	
	0.4nm,0.3s							
VIVF	**Saint-Julien-l**	**3.38**	**42**	*e*Sg	Sg		21 50 23.4	-1.3
	0.4nm,0.2s							
VIVF	**Saint-Julien-l**	**3.38**	**42**	Lg			21 50 23.4	
	0.2nm,0.2s							

*LDG **12** 22:16:15.6±0.1, 4226N×173E, h2km, Ml1.5/4, Error ellipse: s-maj=1.9km s-min=1.0km az=6.0*

MDD 12 22:16:15.7±0.3, 4222N×175E, h11km±1km, mbLg1.1/4, Error ellipse: s-maj=3.6km s-min=2.0km az=131.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.27**	**46**	Pg	Pg	22 16 20.9	-0.4
VALF				Lg		22 16 25.4	
CLLI	**Llivia**	**0.31**	**32**	Pg	Pg	22 16 21.6	-0.4
CBRU	**Bruguera**	**0.32**	**77**	Pg	Pg	22 16 22.2	0.0
EMIR	**Miracle**	**0.34**	**210**	Pg	Pg	22 16 22.0	-0.6
	2.9nm,0.2s,SNR=13						
EMIR				Lg		22 16 27.4	
	9.9nm,0.4s,SNR=9.0						
CSOR	**Sort**	**0.49**	**289**	Pg	Pg	22 16 24.3	-1.0
CSOR				Lg		22 16 32.0	
	3.1nm,0.3s						
EPOB	**Poblet**	**1.00**	**211**	Pg	Pg	22 16 34.1	-0.8
	0.6nm,0.1s,SNR=7.9						
EPOB				Lg		22 16 48.8	
	6.8nm,1.0s,SNR=7.9						
EGRA	**Graus**	**1.07**	**269**	Pg	Pg	22 16 35.8	-0.5
	0.3nm,0.1s,SNR=7.9						
EGRA				Lg		22 16 50.6	
	1.9nm,0.6s,SNR=7.9						
MTLF	**Montolieu**	**1.18**	**17**	*e*Pg	Pg	22 16 37.0	-1.3
MTLF	**Montolieu**	**1.18**	**17**	*e*P	Pb	22 16 38.4	+0.3
MTLF				*e*Sg	Sg	22 16 51.3	-2.3
	1.1nm,0.2s						
MTLF	**Montolieu**	**1.18**	**17**	Pg	Pg	22 16 37.0	-1.3
MTLF				Pg	Pg	22 16 38.4	+0.1
MTLF				Lg		22 16 51.3	
	0.6nm,0.2s						
EBIE	**Bielsa**	**1.28**	**292**	Pg	Pg	22 16 40.1	-0.3
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		22 16 56.9	
	8.2nm,1.9s,SNR=4.0						
EPF	**Esparros**	**1.32**	**308**	*e*Pg	Pg	22 16 39.4	-1.8
EPF				*e*Sg	Sg	22 16 55.9	-2.5
	0.6nm,0.2s						
EPF	**Esparros**	**1.32**	**308**	Pg	Pg	22 16 39.4	-1.8
EPF				Lg		22 16 55.9	
	0.3nm,0.2s						
ERTA	**Horta de San J**	**1.65**	**221**	Pg	Pg	22 16 46.0	-1.4
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		22 17 06.9	
	0.2nm,0.2s,SNR=7.9						
ERTA				Lg		22 17 08.4	
	12nm,1.5s,SNR=7.9						
ETSF	**Etsaut**	**1.84**	**293**	*e*Pg	Pg	22 16 49.3	-1.7
ETSF				*e*Sg	Sg	22 17 12.8	-2.1
	1.5nm,0.3s						
ETSF	**Etsaut**	**1.84**	**293**	Pg	Pg	22 16 49.3	-1.7
ETSF				Lg		22 17 12.8	
	0.8nm,0.3s						
LASF	**Ste Croix**	**2.42**	**39**	*e*Sg	Sg	22 17 30.4	-2.9
	0.2nm,0.3s						
LASF	**Ste Croix**	**2.42**	**39**	Lg		22 17 30.4	
	0.1nm,0.3s						

*IDC **12** 22:41:01.8±1.6, 3777N×2147E, h0km, mb3.3/3, mb1 3.3/3, mb1mx3.2/19, mbtmp3.3/3, Error ellipse: s-maj=68.3km s-min=28.7km az=126.0*
*MOS **12** 22:41:06.3±0.3, 3783N×2124E, h33km, mb3.7/1, Error ellipse: s-maj=13.8km s-min=8.3km az=85.5*
*NEIC **12** 22:41:06.3, 3780N×2127E, h20km, ML3.5(ATH), After ATH.*
*ATH **12** 22:41:06.3, 3780N×2127E, h20km±1km, MD3.5/13, ML3.5*
*THE **12** 22:41:06.8, 3779N×2118E, h6km, ML3.0*
*ISCJB **12** 22:41:06.1±0.5, 3781N±003×2120E±005, h10km, mb3.2/3, Error ellipse: s-maj=6.2km s-min=3.6km az=118.8*
*CSEM **12** 22:41:07.6±0.1, 3783N×2123E, h15km, ML3.5, Error ellipse: s-maj=3.1km s-min=1.8km az=55.0*

ISC 12 22:41:06.9±0.7, 3779N±003×2123E±005, h10km±5km, n33, σ0°87/40, mb3.2/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.33**	**36**	*e*PB	**Pg**	**22 41 13.4**	**0.0**
RLS				*e*SB	**Sg**	**22 41 18.2**	**+0.4**
VLS	**Valsamata**	**0.63**	**308**	*e*PN	**Pg**	**22 41 19.2**	**+0.1**
VLS				*e*SN	**Sg**	**22 41 29.2**	**+1.8**
ITM	**Ithomi**	**0.83**	**137**	*e*PB	**Pg**	**22 41 21.6**	**-1.3**
ITM				*e*SN	**Sg**	**22 41 33.3**	**-0.4**
EVR	**Evrytania**	**1.21**	**22**	*e*PB	**Pn**	**22 41 28.3**	**-1.7**
AGG	**Agios Georgios**	**1.50**	**35**	*e*Pg	**Pg**	**22 41 34.0**	**-1.7**
AGG				*e*Sg	**Sg**	**22 41 55.5**	**+0.2**
MGER	**Gerania Oros**	**1.62**	**83**	*e*PN	**Pn**	**22 41 35.5**	**-0.1**
LKR	**Lokris**	**1.64**	**58**	*e*PN	**Pn**	**22 41 35.8**	**0.0**
VLI	**Veliai**	**1.74**	**128**	*e*PN	**Pn**	**22 41 37.8**	**+0.6**
NAIG	**Nisos Aigina**	**1.79**	**90**	*e*PN	**Pn**	**22 41 38.5**	**+0.5**
IGT	**Igoumenitsa**	**1.87**	**338**	*e*Pb	**Pn**	**22 41 38.6**	**-0.4**
IGT				*e*Sb	**Sb**	**22 42 03.1**	**-1.6**
JAN	**Janina**	**1.88**	**351**	*e*PN	**Pn**	**22 41 39.5**	**+0.3**
ATH	**Athens Observa**	**1.98**	**84**	*e*PN	**Pn**	**22 41 41.2**	**+0.7**
MEV	**Metsovon**	**1.99**	**0**	*e*Pn	**Pn**	**22 41 41.2**	**+0.5**
MEV				*e*Sn	**Sn**	**22 42 06.0**	**+0.3**
MEV	**Metsovon**	**1.99**	**0**	P	**Pn**	**22 41 41.2**	**+0.6**
MEV				S	**Sn**	**22 42 05.9**	**+0.3**
KVR	**Kavouri**	**2.02**	**88**	*e*PN	**Pn**	**22 41 41.0**	**0.0**
KYTH	**Kithira**	**2.09**	**136**	*e*PN	**Pn**	**22 41 43.3**	**+1.2**
PTL	**Penteli**	**2.10**	**82**	*e*PB	**Pn**	**22 41 41.5**	**-0.7**
NEO	**Neokhori**	**2.18**	**45**	*e*PN	**Pn**	**22 41 43.4**	**+0.2**
KEK	**Kerkira**	**2.22**	**336**	*e*PB	**Pn**	**22 41 43.8**	**0.0**
LIT	**Litokhoron**	**2.51**	**23**	*e*Pn	**Pn**	**22 41 47.1**	**-0.7**
FNA	**Florina**	**2.99**	**2**	*e*Pn	**Pn**	**22 41 55.1**	**+0.7**
KARN	**Karanos**	**3.22**	**137**	*e*Pn	**Pn**	**22 41 57.7**	**+0.1**
GRG	**Griva**	**3.29**	**16**	*e*Pn	**Pn**	**22 41 58.3**	**-0.2**
OUR	**Ouranopolis**	**3.32**	**39**	*e*Pn	**Pn**	**22 41 58.7**	**-0.3**
VAM	**Vamos**	**3.38**	**134**	*e*PN	**Pn**	**22 41 59.8**	**+0.1**
SOH	**Sokhos**	**3.44**	**28**	*e*Pn	**Pn**	**22 42 01.1**	**+0.4**
APE	**Apeiranthos**	**3.50**	**101**	*e*Pn	**Pn**	**22 42 01.6**	**+0.1**
KNT	**Kendrikon**	**3.60**	**21**	*e*Pn	**Pn**	**22 42 03.6**	**+0.7**
THR3	**Thira Island,**	**3.61**	**111**	*e*Pn	**Pn**	**22 42 04.9**	**+1.9**
CHOS	**Chios island**	**3.86**	**80**	*e*Pn	**Pn**	**22 42 06.7**	**+0.4**
FINES	**FINESS Array B**	**23.87**	**6**	P	**P**	**22 46 16.6**	**-3.9**
	0.4nm,0.4s,mb3.2,baz=186,slow=9.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**30.09**	**221**	P	**P**	**22 47 13.9**	**-2.6**
	0.2nm,0.4s,mb3.2,baz=33,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**45.03**	**58**	P	**P**	**22 49 17.8**	**-5.0**
	0.2nm,0.4s,mb3.3,baz=275,slow=7.6,SNR=5.6						

*ISCJB **12** 22:43:35.0±0.9, 2503S±006×1177E±0.1, h10km, mb3.7/2, Error ellipse: s-maj=17.2km s-min=5.5km az=42.5*
*IDC **12** 22:43:39.8±3.6, 2484S×1818E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.7/12, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=100.8km s-min=33.9km az=35.0*
*NEIC **12** 22:43:40.0, 2506S×11756E, h2km, mb3.9/1, ML3.9(AUST), After AUST.*
*AUST **12** 22:43:40.1, 2506S×11756E, h2km, ML3.9*

ISC 12 22:43:37.7±0.8, 2503S±005×1177E±01, h10km, n21, σ1°18/22, mb3.7/2, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEEK	**Meekatharra**	**1.82**	**152**	*e*P	**Pn**	**22 44 11.8**	**+2.8**
MEEK				*e*S	Sx	22 44 34.5	
	316nm,0.2s						
GIRL	**Giralia**	**3.14**	**321**	*e*P	Px	22 44 40.1	
GIRL				*e*S	Sx	22 45 18.2	
	376nm,0.6s						
MORW	**Morawa**	**4.28**	**199**	*e*P	**Pn**	**22 44 41.2**	**-1.6**
MORW				*e*S	Sx	22 45 28.3	
	100nm,0.2s						
MBWA	**Marble Bar**	**4.29**	**27**	*e*P	**Pn**	**22 44 44.4**	**+1.4**
MBWA				*e*Pg	**Pg**	**22 44 59.0**	**-0.9**
MBWA				*e*S	**Sn**	**22 45 33.4**	**+0.2**
BLDU	**Ballidu**	**5.63**	**188**	*e*P	**Pn**	**22 45 01.2**	**-0.1**
BLDU				*e*S	Sx	22 46 00.9	
	20nm,0.3s						
BLDU	**Ballidu**	**5.63**	**188**	*e*P	**Pn**	**22 45 01.2**	**-0.1**
	20nm,0.3s						
BLDU				*e*S	Sx	22 46 00.9	
KLBR	**Kellerberrin**	**6.54**	**179**	*e*P	**Pn**	**22 45 14.1**	**+0.2**
KLBR				*e*S	Sx	22 46 20.7	
	37nm,0.3s						
KLBR	**Kellerberrin**	**6.54**	**179**	*e*P	**Pn**	**22 45 14.1**	**+0.2**
	37nm,0.3s						
KLBR				*e*S	Sx	22 46 20.7	
MUN	**Mundaring**	**7.04**	**190**	*e*P	**Pn**	**22 45 20.0**	**-0.8**
MUN				*e*S	Sx	22 46 35.1	
KMBL	**Kambalda**	**7.33**	**150**	*e*P	**Pn**	**22 45 25.6**	**+0.9**
KMBL				*e*S	Sx	22 46 41.5	
	261nm,0.7s						
KMBL	**Kambalda**	**7.33**	**150**	*e*P	**Pn**	**22 45 25.6**	**+0.9**
	261nm,0.7s						
KMBL				*e*S	Sx	22 46 41.5	
NWAO	**Narrogin (SRO)**	**7.88**	**183**	*e*Pn	**Pn**	**22 45 32.9**	**+0.6**
NWAO				*e*Sn	Sx	22 46 53.7	
RKGY	**Rocky Gully**	**9.57**	**183**	*e*P	**Pn**	**22 45 54.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**10.12**	**49**	*e*P	**Pn**	**22 46 03.1**	**+0.1**
	8.6nm,0.9s						
FITZ				*e*S	Sx	22 47 48.9	
FORT	**Forrest**	**10.83**	**124**	*e*P	**Pn**	**22 46 13.4**	**+0.7**
FORT				*e*S	Sx	22 48 09.3	
	19nm,0.4s						
FORT	**Forrest**	**10.83**	**124**	*e*P	**Pn**	**22 46 13.4**	**+0.7**
	19nm,0.4s						
FORT				*e*S	Sx	22 48 09.3	
ASAR	**Alice Springs**	**14.86**	**88**	Pn	**Pn**	**22 47 06.4**	**-1.4**
	0.6nm,0.3s,baz=262,slow=11,SNR=56						
ASAR				Sn	Sx	22 49 42.8	
	0.2nm,0.3s,baz=264,slow=23,SNR=3.2						
WRA	**Warramunga Arr**	**16.21**	**75**	Pn	**Pn**	**22 47 23.0**	**-2.5**
	0.2nm,0.3s,baz=254,slow=12,SNR=3.1						
WRA				Sn	Sx	22 50 13.6	
	0.2nm,0.3s,baz=244,slow=25,SNR=3.0						
STKA	**Stephens Creek**	**22.09**	**113**	*e*P	**P**	**22 48 33.0**	**+0.1**
	1.8nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**22.09**	**113**	P	**P**	**22 48 33.1**	**+0.2**
	2.3nm,0.4s,mb4.0,baz=282,slow=9.4,SNR=8.1						
SONM	**Songino Array**	**73.23**	**352**	P	**P**	**22 55 12.0**	**+3.1**
	0.4nm,0.6s,mb3.5,baz=165,slow=5.8,SNR=4.2						

NIED 12 22:48:00, 2610N×14330E, h23km, Mw3.5 Best double couple: M0 2.26000×10^14 NP1: φs 353.00000°, δ85.00000°, λ71.00000°. NP2: φs 249.00000°, δ19.00000°, λ165.00000°., Bonin Islands region

*NEIC **12** 23:05:29.6, 3697N×2804E, h25km, MD3.3(ATH), After ATH.*
*ATH **12** 23:05:29.6, 3697N×2804E, h25km±1km, MD3.3/4*
*CSEM **12** 23:05:29.9±0.1, 3699N×2800E, h10km, MD3.2, Error ellipse: s-maj=1.4km s-min=1.2km az=34.0*
*ISK **12** 23:05:29.9, 3697N×2799E, h14km, MD3.2*
*ISCJB **12** 23:05:30.1±0.4, 3695N±002×2800E±003, h12km±3km, Error ellipse: s-maj=4.0km s-min=3.6km az=8.5*

ISC 12 23:05:30.5±0.4, 3694N±003×2800E±003, h15km±3km, n23, σ0°96/37, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.30**	**49**	*i* PG	**Pg**	**23 05 36.2**	**-0.6**
YER				*i* SG	**Sg**	**23 05 40.8**	**-0.3**
DAT	**Datca**	**0.40**	**238**	*i* PG	**Pg**	**23 05 38.3**	**-0.1**
MLSB	**Milas**	**0.40**	**334**	*i* PG	**Pg**	**23 05 37.8**	**-0.7**
MLSB				*i* SG	**Sg**	**23 05 43.4**	**-0.5**
BDRM	**Kayabasi**	**0.46**	**286**	*i* P	**Pg**	**23 05 39.0**	**-0.6**
BDRM				*i* S	**Sg**	**23 05 46.4**	**+0.6**
DALT	**Dalyan (Mudla)**	**0.54**	**108**	*i* PG	**Pg**	**23 05 41.3**	**+0.2**
DALT				*i* SG	**Sg**	**23 05 49.7**	**+1.3**
BODT	**Bodrum**	**0.56**	**283**	*i* PG	**Pg**	**23 05 41.1**	**-0.4**
BODT				*i* SG	**Sg**	**23 05 49.7**	**+0.7**
AYDN	**Tasoluk**	**0.73**	**353**	*i* P	**Pg**	**23 05 43.9**	**-0.8**
AYDN				*i* S	**Sg**	**23 05 53.0**	**-1.2**
ARG	**Arkhangelos**	**0.73**	**172**	*e*PN	**Pn**	**23 05 44.4**	**-1.8**
ARG				SN	**Sn**	**23 05 55.7**	**-1.4**
NISR	**Nisiros**	**0.77**	**245**	*e*PN	**Pn**	**23 05 45.6**	**-1.2**
FETY	**Fethiye**	**0.93**	**109**	PG	**Pg**	**23 05 48.3**	**-0.1**
DNZL	**Cakiroluk**	**1.12**	**48**	*i* P	**Pb**	**23 05 51.1**	**-0.5**
DNZL				*i* S	**Sb**	**23 06 06.9**	**+0.8**
DENT	**Denizli**	**1.16**	**45**	PN	**Pn**	**23 05 52.4**	**+0.2**
SMG	**Samos**	**1.20**	**310**	*e*PN	**Pn**	**23 05 52.8**	**+0.1**
SMG				SN	**Sn**	**23 06 09.2**	**+0.4**
KARP	**Karpathos**	**1.54**	**206**	*e*PN	**Pn**	**23 05 58.3**	**+0.9**
KARP				SN	**Sn**	**23 06 19.0**	**+1.8**
ELL	**Elmali**	**1.55**	**96**	PN	**Pn**	**23 05 57.3**	**-0.2**
IZM	**Izmir**	**1.57**	**338**	PN	**Pn**	**23 05 58.0**	**+0.2**
MANT	**Manisa**	**1.61**	**16**	*i* P	**Pn**	**23 05 59.1**	**+0.7**
MANT				*i* S	**Sn**	**23 06 16.2**	**-2.8**
BLCB	**Balcova**	**1.63**	**333**	PN	**Pn**	**23 05 58.4**	**-0.2**
URLA	**Izmir**	**1.80**	**322**	*i* P	**Pb**	**23 06 04.4**	**+1.2**
URLA				*i* S	**Sg**	**23 06 31.4**	**+3.0**
AKS	**Akhisar**	**1.94**	**356**	*e*PN	**Pn**	**23 06 02.1**	**-0.8**
TKTP	**Tekketepe**	**2.15**	**59**	*i* P	**Pb**	**23 06 10.2**	**+1.1**
TKTP				*i* S	**Sb**	**23 06 35.7**	**+0.1**
ALT	**Altintas**	**2.69**	**38**	*e*PN	**Pn**	**23 06 13.8**	**+0.5**
ULDT	**Uludag**	**3.32**	**15**	*i* P	**Pg**	**23 06 33.5**	**-0.6**
ULDT				*i* S	**Sg**	**23 07 19.0**	**+1.8**

MEX 12 23:07:03.5±0.5, 1414N×9362W, h20km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.57**	**34**	*i* P	Pn	23 07 41.9	-2.0
CCIG				*i* S	Sn	23 08 12.2	-2.4
SCX	**San Cristobal**	**2.75**	**20**	*i* P	Pn	23 07 44.0	-2.5
SCX				*i* S	Sn	23 08 15.5	-3.7
CMIG	**Matias Romero**	**3.18**	**338**	*i* P	Pn	23 07 50.4	-2.0
CMIG				*i* S	Sn	23 08 27.4	-2.3

BJI 12 23:16:29.0, 4246N×12048E, h15km, mb4.5, ML3.4, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**2.39**	**104**	⇑PG	Pg	23 17 11.3	-3.5
SNY				SG	Sg	23 17 42.3	-3.5
SNY				Smax			
	comp=N,300nm,0.7s						
SNY				Smax			
	comp=E,320nm,0.3s						
DL2	**Dalian**	**3.66**	**166**	PG	Pg	23 17 36.2	-2.8
DL2				SG	Sg	23 18 25.8	-0.6
DL2				Smax			
	comp=N,30nm,0.5s						
DL2				Smax			
	comp=E,30nm,0.5s						
CN2	**Changchun**	**3.88**	**68**	*e*PG	Pg	23 17 36.2	-7.0
CN2				*e*SG	Sg	23 18 28.5	-5.0
CN2				Smax			
	comp=N,100nm,0.7s						
CN2				Smax			
	comp=E,100nm,0.7s						
NJ2	**Nanjing**	**10.47**	**188**	*e*P	Pn	23 18 58.3	-0.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
LZH	**Lanzhou**	**14.36**	**249**	*e*P	Pn	23 19 51.0	-0.7
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s						

*NEIC **12** 23:17:02.4, 3246S×7181W, h10km, ML2.9(GUC), After GUC.*

GUC 12 23:17:02.4±0.6, 3246S×7181W, h10km±7km, MD3.6, ML2.9, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.84**	**128**	⇑*i* P	Pg	23 17 18.6	-0.1
ROCH				*i* S	Sg	23 17 30.6	+0.9
LCCH	**Las Cruces**	**1.04**	**169**	*e*P	Pg	23 17 20.9	-1.4
JACH	**Jahuel**	**1.05**	**103**	⇑*i* P	Pg	23 17 21.9	-0.7
JACH				*i* S	Sg	23 17 36.6	+0.4
TACH	**Talagante**	**1.40**	**149**	*e*P	Pn	23 17 27.1	-0.9
CMCH	**Combarbala**	**1.45**	**28**	*e*P	Pn	23 17 27.9	-0.8
CMCH				*i* S	Sn	23 17 47.5	-0.4
CMCH				AML	AML	23 17 53.8	
	comp=E,359nm,0.5s						
CMCH	**Combarbala**	**1.45**	**28**	*e*P	Pn	23 17 27.9	-0.8
CMCH				*i* S	Sn	23 17 47.5	-0.4
LNV	**Longovilo**	**1.53**	**168**	*e*P	Pn	23 17 29.0	-0.9
FCH	**Farellones**	**1.54**	**125**	*e*P	Pn	23 17 29.6	-0.4
FCH				*i* S	Sn	23 17 50.6	+0.5
PCH	**Pirque**	**1.59**	**137**	⇓*i* P	Pn	23 17 30.7	+0.1
PCH				*i* S	Sn	23 17 51.8	+0.6
CHCH	**Chadas Angostu**	**1.76**	**147**	*e*P	Pn	23 17 33.0	0.0
CHCH				*i* S	Sn	23 17 56.5	+0.9
CACH	**El Canelo**	**1.94**	**149**	*e*S	Sn	23 18 02.6	+2.7
SFDO	**San Francisco**	**2.25**	**163**	*e*P	Pn	23 17 40.8	+1.1

GUC 12 23:26:54.5±0.8, 2665S×7090W, h28km±13km, MD3.8, ML3.3, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.39**	**40**	⇑*i* P	Pb	23 27 02.9	-0.2
CRCH				*i* S	Sb	23 27 09.0	0.0
CRCH				AML	AML	23 27 09.3	
	comp=N,3μm,0.2s						
CDCH	**Caldera**	**0.43**	**171**	⇑*i* P	Pb	23 27 03.5	-0.3
CDCH				*i* S	Sb	23 27 10.2	+0.2
CDCH				AML	AML	23 27 10.6	
	comp=N,2μm,0.2s						
CPCH	**Copiapo**	**0.86**	**146**	⇓*i* P	Pn	23 27 10.0	-0.7
CPCH				*i* S	Sb	23 27 22.1	+0.1
CPCH				AML	AML	23 27 23.0	
	comp=E,8μm,0.1s						
CPN1	**Cerro Paranal**	**2.06**	**13**	⇑*i* P	Pn	23 27 26.0	-1.2
CPN1				*i* S	Sn	23 27 53.1	+1.2
CPN1				AML	AML	23 27 57.7	
	comp=E,302nm,0.6s						

*LDG **12** 23:33:45.8±0.1, 4299N×081W, h5km, Md2.0/2, Ml1.5/1, Error ellipse: s-maj=3.4km s-min=0.9km az=14.0*

MDD 12 23:33:46.4±0.3, 4301N×079W, h5km±7km, mbLg1.4/10, Error ellipse: s-maj=2.5km s-min=1.2km az=19.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.10**	**42**	Pg	Pg	23 33 48.4	-0.1
ATE				Lg		23 33 50.4	
LARF	**Larrau**	**0.15**	**280**	Pg	Pg	23 33 48.7	-0.7
LARF				Lg		23 33 51.0	
ETSF	**Etsaut**	**0.20**	**124**	*e*Pg	Pg	23 33 50.1	-0.4
ETSF				*e*Sg	Sg	23 33 53.1	-0.1
	77nm,0.3s						
ETSF	**Etsaut**	**0.20**	**124**	Pg	Pg	23 33 50.1	-0.4
ETSF				Lg		23 33 53.1	
	38nm,0.3s						
ORDF	**Ordiarp**	**0.23**	**332**	Pg	Pg	23 33 50.6	-0.3
ORDF				Lg		23 33 54.2	
FDAF	**Les Forges d'A**	**0.25**	**140**	Pg	Pg	23 33 51.1	-0.3
FDAF				Lg		23 33 54.7	
REYF	**Montagne du Re**	**0.30**	**79**	Pg	Pg	23 33 52.4	+0.1
REYF				Lg		23 33 56.4	
SJPF	**Ste Jean**	**0.33**	**288**	*e*Pg	Pg	23 33 52.2	-0.7
SJPF				*e*Sg	Sg	23 33 56.9	-0.4
	25nm,0.3s						
SJPF	**Ste Jean**	**0.33**	**288**	Pg	Pg	23 33 52.2	-0.7
SJPF				Lg		23 33 56.9	
	12nm,0.3s						
OSSF	**Osses**	**0.42**	**305**	Pg	Pg	23 33 53.8	-0.8
OSSF				Lg		23 34 00.0	
IPRE	**Itoiz**	**0.46**	**244**	Pg	Pg	23 33 55.7	+0.4
	0.2nm,0.1s,SNR=7.9						
IPRE				Lg		23 34 01.9	
	1.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.56**	**264**	Pg	Pg	23 33 57.3	+0.1
	0.3nm,0.1s,SNR=4.0						
IUSE				Lg		23 34 04.8	
	1.5nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.56**	**286**	Pg	Pg	23 33 56.8	-0.5
	0.3nm,0.2s,SNR=7.9						
ELIZ				Lg		23 34 04.5	
	2.9nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.56**	**292**	Pg	Pg	23 33 56.8	-0.5
	0.4nm,0.1s,SNR=4.6						
EALK				Lg		23 34 04.5	
	16nm,0.4s,SNR=7.5						
VIEF	**Viey**	**0.61**	**102**	Lg		23 34 05.6	
EBIE	**Bielsa**	**0.76**	**115**	Pg	Pg	23 34 00.0	-1.0
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		23 34 10.2	
	1.7nm,0.2s,SNR=6.5						
EPF	**Esparros**	**0.83**	**88**	*e*Pg	Pg	23 34 01.9	-0.5
EPF				*e*Sg	Sg	23 34 12.6	-0.5
	4.4nm,0.4s						
EPF	**Esparros**	**0.83**	**88**	Pg	Pg	23 34 01.9	-0.5
EPF				Lg		23 34 12.6	
	2.2nm,0.4s						
EGRA	**Graus**	**1.16**	**135**	Pg	Pg	23 34 07.7	-0.9
	0.2nm,0.2s,SNR=4.0						
EGRA				Lg		23 34 23.6	
	0.6nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.31**	**169**	Pg	Pg	23 34 11.0	-0.5
	1.2nm,0.1s,SNR=7.9						
ESAC				Lg		23 34 29.4	
	16nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**1.95**	**277**	Pg	Pg	23 34 22.5	-1.3
	0.7nm,0.3s,SNR=7.9						
ELAN				Lg		23 34 49.0	
	0.9nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**2.04**	**122**	Pg	Pg	23 34 22.9	-2.5
	1.4nm,0.3s,SNR=7.9						
EMIR				Lg		23 34 51.3	
	1.1nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.16**	**139**	Pg	Pg	23 34 25.7	-2.2
	0.5nm,0.3s,SNR=7.9						
EPOB				Lg		23 34 54.9	
	0.6nm,0.3s,SNR=7.9						
ERTA	**Horta de San J

2.9nm,0.7s,mb4.0,baz=219,slow=11,SNR=4.6
MBWA Marble Bar 51.96 108 P **P 00 02 12.5 +0.2**
MAW Mawson 56.79 182 P **P 00 02 46.0 -1.4**
3.6nm,0.8s,mb4.5,baz=340,slow=7.8,SNR=8.4
MAW Mawson 56.79 182 *eP* **P 00 02 46.9 -0.5**
4.0nm,0.8s,mb4.5
FITZ Fitzroy Crossi 57.50 105 LR LR 00 22 34.0
comp=Z,146nm,18.1s,MS4.1,baz=80,slow=31
GTA Gaotai 58.76 30 *eP* **P 00 03 01.4 +0.1**
GTA AP pP 00 03 08.8 +4.3
GTA XP sP 00 03 11.7 +6.0
GTA AMB AMB
comp=Z,70nm,6.1s
GTA LR LR
comp=N,90nm,16.7s,MS4.1
GTA LR LR
comp=E,110nm,18.6s,MS4.1
GTA LR LR
comp=Z,140nm,18.6s,MS4.1
MKAR Makanchi Array 59.05 13 P **P 00 03 01.6 -1.6**
comp=Z,0.7nm,0.8s,mb3.8,baz=199,slow=7.1,SNR=6.4
ASAR Alice Springs 65.11 111 P **P 00 03 43.8 -0.1**
comp=Z,3.9nm,0.9s,mb4.5,baz=279,slow=6.2,SNR=12
WRA Warramunga Arr 65.65 107 P **P 00 03 48.4 +0.9**
comp=Z,2.0nm,0.6s,mb4.3,baz=276,slow=5.5,SNR=8.2
WRAB Tennant Creek 65.66 107 *eP* **P 00 03 49.1 +1.6**
comp=Z,4.0nm,0.7s,mb4.6
HHC Hu-ho-hao-te 66.08 36 *eP* **P 00 03 51.7 +1.4**
HHC AP pP 00 03 59.9 +6.4
HHC XP sP 00 04 07.0 +12
HHC AMB AMB
comp=Z,40nm,3.8s
ZAL Zalesovo 66.33 12 P **P 00 03 52.0 +0.2**
comp=Z,0.7nm,0.4s,mb4.1,baz=360,slow=21,SNR=3.0
SONM Songino Array 68.25 28 P **P 00 04 03.9 -0.1**
comp=Z,3.2nm,0.9s,mb4.4,baz=217,slow=5.6,SNR=18
TORD Torodi Ar. Bea 68.60 289 P **P 00 04 06.8 +0.6**
comp=Z,0.8nm,1.0s,mb3.6,baz=116,slow=3.4,SNR=4.1
AKASG Malin Array Be 69.32 336 P **P 00 04 08.7 -2.0**
comp=Z,0.2nm,0.4s,mb3.4,baz=131,slow=5.5,SNR=3.3
STKA Stephens Creek 71.74 120 P **P 00 04 23.8 -1.7**
comp=Z,2.2nm,0.8s,mb4.1,baz=321,slow=7.4,SNR=2.9
STKA LR LR 00 31 06.3
comp=Z,136nm,21.8s,MS4.2,baz=206,slow=32
DBIC Dimbokro 73.14 280 LR LR 00 35 32.1
comp=Z,113nm,19.6s,MS4.2,baz=98,slow=35
SNAA Sanae 73.37 198 *eP* **P 00 04 33.8 -1.4**
comp=Z,0.4nm,0.5s,mb3.6
GERES GERESS Array B 75.39 327 P **P 00 04 47.0 +0.1**
comp=Z,0.4nm,0.7s,mb3.5,baz=128,slow=8.6,SNR=4.2
QSPA South Pole Qui 79.25 180 *eP* **P 00 05 07.8 -0.8**
comp=Z,4.8nm,1.0s,mb4.4
VNDA Vanda 80.68 167 P **P 00 05 16.1 -0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=281,slow=5.2,SNR=2.6
VNDA Vanda 80.68 167 *eP* **P 00 05 15.7 -0.6**
comp=Z,1.1nm,0.8s,mb3.8
SBA Scott Base 81.66 168 *eP* **P 00 05 22.8 +1.3**
comp=Z,2.0nm,0.8s,mb4.1
ESDC Sonseca Array 82.26 313 P **P 00 05 25.2 +0.5**
comp=Z,0.7nm,0.8s,mb3.7,baz=118,slow=5.4,SNR=2.9
LPAZ La Paz 127.69 240 PKP PKPdf 00 12 09.9 +1.2
comp=Z,0.9nm,0.8s,baz=166,slow=4.2,SNR=5.1
PDAR Pinedale Array 147.98 355 PKPbc PKPbc 00 12 48.9 +0.2
comp=Z,0.3nm,0.3s,baz=67,slow=5.0,SNR=4.0

*ISCJB **12** 23:59:32.9±0.6, 108S±0.1×667E±0.1, h10km, mb4.0/9, MS3.9/3, Error ellipse: s-maj=19.2km s-min=17.1km az=131.8*
*IDC **12** 23:59:33.3±0.8, 1081S×6666E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/21, mbtmp4.0/7, MS3.9/3, Ms1 3.8/3, ms1mx3.2/21, Error ellipse: s-maj=26.6km s-min=22.7km az=174.0*
*NEIC **12** 23:59:34.8±0.4, 1080S×6664E, h10km, mb4.3/2, Error ellipse: s-maj=13.4km s-min=12.1km az=155.0*
ISC 12 23:59:35.2±0.6, 108S±01×667E±01, h10km, n17, σ0§64/13, mb4.0/9, MS3.9/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCO	**West Island**	**29.60**	**96**	*eP*	**P**	**00 05 40.2**	**-0.2**
	45nm,0.5s						
LSZ	**Lusaka**	**37.69**	**259**	P	**P**	**00 06 51.4**	**+0.7**
	5.4nm,0.7s,mb4.4,baz=66,slow=17,SNR=14						
LSZ	**Lusaka**	**37.69**	**259**	P	**P**	**00 06 51.4**	**+0.7**
BOSA	**Boshof**	**42.53**	**239**	LR	LR	00 26 08.3	
	comp=Z,133nm,18.0s,MS3.9,baz=88,slow=38						
MAW	**Mawson**	**56.76**	**182**	P	**P**	**00 09 18.7**	**-0.5**
	3.1nm,1.0s,mb4.3,baz=24,slow=8.2,SNR=4.8						
MAW				LR	LR	00 26 56.0	
	comp=Z,116nm,18.2s,MS4.0,baz=254,slow=29						
MAW	**Mawson**	**56.76**	**182**	P	**P**	**00 09 18.7**	**-0.5**
MAW				LR	LR	00 26 56.0	
MKAR	**Makanchi Array**	**59.05**	**12**	P	**P**	**00 09 33.8**	**-1.5**
	0.3nm,0.6s,mb3.5,baz=213,slow=8.7,SNR=3.6						
ASAR	**Alice Springs**	**64.99**	**111**	P	**P**	**00 10 15.4**	**+0.2**
	1.2nm,0.8s,mb4.0,baz=272,slow=7.0,SNR=7.6						
WRA	**Warramunga Arr**	**65.53**	**107**	P	**P**	**00 10 19.6**	**+0.8**
	1.6nm,0.7s,mb4.2,baz=272,slow=6.1,SNR=7.2						
SONM	**Songino Array**	**68.23**	**28**	P	**P**	**00 10 36.4**	**+0.5**
	1.9nm,0.7s,mb4.2,baz=217,slow=6.4,SNR=16						
ULN	**Ulaanbaatar**	**68.55**	**28**	*eP*	**P**	**00 10 38.5**	**+0.6**
	0.6nm,0.3s,mb4.0						
TORD	**Torodi Ar. Bea**	**68.72**	**289**	P	**P**	**00 10 39.1**	**0.0**
	0.7nm,1.0s,mb3.5,baz=130,slow=5.8,SNR=2.9						
SNAA	**Sanae**	**73.37**	**198**	P	**P**	**00 11 06.7**	**-0.5**
SBA	**Scott Base**	**81.60**	**168**	*eP*	**P**	**00 11 53.2**	**0.0**
	2.4nm,0.7s,mb4.2						
ASAJ	**Asahikawa**	**87.58**	**44**	LR	LR	00 51 58.9	
	comp=Z,48nm,18.5s,MS3.9,baz=219,slow=36						
LPAZ	**La Paz**	**127.77**	**240**	PKP	PKPdf	00 18 42.4	+1.5
	1.1nm,1.0s,baz=115,slow=7.5,SNR=3.8						
PDAR	**Pinedale Array**	**148.02**	**355**	PKPbc	PKPbc	00 19 20.9	0.0
	1.3nm,0.8s,baz=45,slow=2.3,SNR=7.0						

*ISCJB **13** 00:36:38.2±0.6, 6.12N±008×1244E±0.1, h427km±8km, mb3.8/11, Error ellipse: s-maj=23.1km s-min=9.4km az=139.7*
*NEIC **13** 00:36:38.9±2.0, 6.14N×1244.6E, h417km±25km, mb4.0/8, Error ellipse: s-maj=25.4km s-min=6.4km az=63.0*
*IDC **13** 00:36:41.1±3.3, 6.11N×1244.9E, h446km±42km, mb3.4/7, mb1 3.5/7, mb1mx3.2/20, mbtmp4.2/7, Error ellipse: s-maj=61.8km s-min=11.5km az=70.0*
ISC 13 00:36:39.3±0.6, 613N±008×1244E±01, h420km±8km, n26, σ0§62/27, mb3.8/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**1.85**	**20**	*eP*	**P**	**00 37 36.4**	**+0.2**
PAGZ	**Pagadian**	**1.99**	**329**	*eP*	**P**	**00 37 37.1**	**+0.2**
TBP	**Tagbilaran**	**3.58**	**351**	*eP*	**P**	**00 37 57.2**	**+8.4**
GUIM	**Jordan**	**4.82**	**338**	*eP*	**P**	**00 37 58.5**	**-1.9**
PVCP	**Virac**	**7.42**	**358**	*eP*	**P**	**00 38 29.0**	**+1.0**
KKM	**Kota Kinabalu**	**8.15**	**270**	*eP*	**P**	**00 38 36.3**	**+0.3**
KAKA	**Kakadu**	**20.35**	**157**	*eP*	**P**	**00 40 46.1**	**+0.5**
	19nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.11**	**177**	*eP*	**P**	**00 41 19.5**	**-0.1**
	6.6nm,0.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.11**	**177**	P	**P**	**00 41 19.8**	**+0.2**
	4.1nm,0.4s,mb4.2,baz=14,slow=12,SNR=44						
MBWA	**Marble Bar**	**27.51**	**189**	*eP*	**P**	**00 41 49.4**	**-0.3**
	2.7nm,0.4s,mb3.9						
WRAB	**Tennant Creek**	**27.68**	**160**	*eP*	**P**	**00 41 51.2**	**-0.1**
	6.6nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**27.69**	**160**	P	**P**	**00 41 51.0**	**-0.3**
	1.8nm,0.3s,mb3.8,baz=331,slow=11,SNR=5.7						
WB2	**Warramunga Arr**	**27.69**	**160**	*eP*	**P**	**00 41 50.9**	**-0.5**
AS31	**Alice Springs**	**31.03**	**163**	*eP*	**P**	**00 42 21.2**	**+0.7**
ASPA	**Alice Springs**	**31.03**	**163**	*eP*	**P**	**00 42 21.2**	**+0.7**
ASAR	**Alice Springs**	**31.03**	**163**	P	**P**	**00 42 21.1**	**+0.5**
	3.6nm,0.5s,mb4.0,baz=343,slow=7.2,SNR=62						
ASAR				S	**S**	**00 46 53.5**	**-0.9**
	0.4nm,0.7s,baz=316,slow=12,SNR=4.9						
CTAO	**Charters Tower**	**33.77**	**141**	P	**P**	**00 42 44.0**	**0.0**
NWAO	**Narrogin (SRO)**	**39.44**	**190**	P	**P**	**00 43 31.4**	**+0.3**
	6.7nm,0.8s,mb4.0,baz=8.2,slow=6.3,SNR=3.9						
NWAO	**Narrogin (SRO)**	**39.44**	**190**	*eP*	**P**	**00 43 31.7**	**+0.6**
	1.5nm,0.4s,mb3.7						
STKA	**Stephens Creek**	**41.20**	**158**	*eP*	**P**	**00 43 44.0**	**-1.3**
	3.5nm,0.9s,mb3.7						
STKA	**Stephens Creek**	**41.20**	**158**	P	**P**	**00 43 44.2**	**-1.2**
	3.7nm,0.7s,mb3.9,baz=339,slow=7.1,SNR=7.0						
ULN	**Ulaanbaatar**	**44.15**	**343**	*eP*	**P**	**00 44 08.4**	**-0.3**
	0.8nm,0.4s,mb3.4						
SONM	**Songino Array**	**44.31**	**343**	P	**P**	**00 44 10.1**	**+0.1**
	0.3nm,0.3s,mb3.0,baz=162,slow=9.7,SNR=4.9						
MKAR	**Makanchi Array**	**54.28**	**325**	P	**P**	**00 45 24.4**	**+0.2**
	0.9nm,0.5s,mb3.3,baz=123,slow=7.5,SNR=10						
KURK	**Kurchatov**	**58.49**	**328**	*eP*	**P**	**00 45 53.6**	**+0.1**
	1.3nm,0.5s,mb3.5						
CHKZ	**Chkalovo**	**64.23**	**328**	P	**P**	**00 46 31.3**	**-0.1**

CASC 13 00:39:47.8±2.4, 1444N×9054W, h3km±7km, MD3.6, 4C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.08**	**239**	*eP*	Pg	00 39 50.7	+1.2
FUG	**Fuego 3**	**0.30**	**272**	⇑*iP*	Pg	00 39 53.8	+0.3
TP2	**Tecpan 2**	**0.58**	**306**	⇑*eP*	Pg	00 39 59.9	+0.9
TP2				*eS*	Sg	00 40 10.2	+3.7
RBDL	**Robledal**	**0.88**	**111**	⇑*eP*	x	00 40 06.1	
RTR	**El Retiro**	**1.02**	**122**	*eP*	x	00 40 08.2	
RTR				*eS*	x	00 40 23.9	
JAT	**Jato**	**1.07**	**264**	*eP*	Pg	00 40 07.8	-0.6
JAT				*eS*	Sg	00 40 24.1	+1.8
MTO2	**Montecristo 2**	**1.14**	**92**	*eP*	x	00 40 11.1	
MTO2				*eS*	x	00 40 26.0	
LFU	**La Fuente**	**1.54**	**116**	*eS*	x	00 40 37.6	
LFRS	**El Faro**	**1.64**	**119**	⇑*eP*	x	00 40 18.5	
LFRS				*eS*	x	00 40 41.2	

*IDC **13** 01:34:53.9±6.5, 12.19S×16687E, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.8/12, mbtmp4.0/3, MS3.1/2, Ms1 3.1/2, ms1mx2.8/19, Error ellipse: s-maj=199.6km s-min=50.4km az=114.0*
*NEIC **13** 01:34:55.5±1.1, 12.17S×16685E, h10km, mb4.0/2, Error ellipse: s-maj=24.8km s-min=15.4km az=222.0*
*ISCJB **13** 01:34:58.1±1.6, 123S±02×1667E±02, h33km, mb4.0/4, MS3.2/1, Error ellipse: s-maj=35.3km s-min=22.0km az=84.1*
ISC 13 01:34:59.4±1.6, 122S±02×1668E±02, h35km, n12, σ0§66/10, mb4.0/4, MS3.2/1, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.24**	**291**	LR	LR	01 38 57.7	
	comp=Z,70nm,20.0s,baz=181,slow=33						
PMG	**Port Moresby**	**19.46**	**276**	*eP*	**Pn**	**01 39 23.1**	**-1.3**
	2.9nm,0.4s						
AFI	**Afiamalu**	**20.97**	**97**	LR	LR	01 45 51.7	
	comp=Z,111nm,20.2s,MS3.2,baz=62,slow=32						
STKA	**Stephens Creek**	**30.36**	**226**	P	**P**	**01 41 07.9**	**+0.1**
	2.5nm,0.7s,mb4.0,baz=41,slow=9.6,SNR=6.6						
WRAB	**Tennant Creek**	**32.06**	**252**	P	**P**	**01 41 23.9**	**+1.1**
ASAR	**Alice Springs**	**33.22**	**245**	P	**P**	**01 41 33.7**	**+0.7**
	1.0nm,0.7s,mb3.9,baz=68,slow=9.7,SNR=8.7						
TAU	**Tasmania Unive**	**34.97**	**205**	*eP*	**P**	**01 41 48.0**	**-0.1**
VNDA	**Vanda**	**65.40**	**181**	*eP*	**P**	**01 45 38.5**	**0.0**
CASY	**Casey**	**65.71**	**202**	P	**P**	**01 45 40.6**	**+0.1**
QSPA	**South Pole Qui**	**77.85**	**180**	P	**P**	**01 46 52.8**	**-0.5**
MAW	**Mawson**	**84.07**	**202**	P	**P**	**01 47 25.9**	**-0.6**
	0.4nm,0.3s,mb4.0						
MKAR	**Makanchi Array**	**95.02**	**317**	P	**P**	**01 48 19.0**	**+0.5**
	0.4nm,0.6s,mb4.0,baz=94,slow=5.9,SNR=4.7						

*NEIC **13** 01:47:51.6±1.1, 1592S×7377W, h52km±10km, mb4.1/4, Error ellipse: s-maj=13.7km s-min=9.6km az=73.0*
*ISCJB **13** 01:47:55.0±1.1, 1604S±006×7342W±009, h90km±12km, mb4.1/7, Error ellipse: s-maj=15.7km s-min=6.7km az=128.1*
*IDC **13** 01:47:56.6±2.1, 16.10S×7346W, h91km±19km, mb3.9/6, mb1 3.9/10, mb1mx3.7/21, mbtmp4.2/10, MS3.2/7, Ms1 3.2/7, ms1mx3.0/26, Error ellipse: s-maj=24.8km s-min=13.4km az=73.0*
ISC 13 01:47:51.7±0.9, 1598S±006×7378W±008, h50km±10km, n32, σ1§26/29, mb4.2/7, MS3.3/5, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**2.25**	**103**	⇑*iP*	**Pn**	**01 48 28.2**	**+1.8**
ARE				*eS*	**Sn**	**01 48 45.0**	**-7.9**
NNA	**Nana**	**4.96**	**323**	*ePn*	**Pn**	**01 49 01.9**	**-1.6**
NNA				*eSn*	**Sn**	**01 49 59.0**	**-0.6**
LPAZ	**La Paz**	**5.43**	**94**	P	**Pn**	**01 49 17.4**	**+7.4**
LPAZ	**La Paz**	**5.43**	**94**	P	**Pn**	**01 49 17.4**	**+7.4**
LVC	**Limon Verde**	**8.04**	**146**	P	**Pn**	**01 49 47.5**	**+1.7**
	4.4nm,0.3s,baz=325,slow=8.6,SNR=54						
LVC				S	**Sn**	**01 51 14.2**	**-1.1**
	7.2nm,0.3s,baz=122,slow=15,SNR=17						
LVC				LR	LR	01 53 08.9	
	comp=Z,106nm,19.5s,baz=358,slow=40						
ATAH	**Atahualpa**	**10.00**	**333**	P	**Pn**	**01 50 19.9**	**+7.3**
	1.7nm,0.3s,baz=135,slow=5.9,SNR=8.7						
ATAH				S	**Sn**	**01 52 13.4**	**+10**
	0.3nm,0.3s,baz=326,slow=16,SNR=3.1						
SIV	**San Ignacio**	**12.22**	**92**	P	**Pn**	**01 50 42.6**	**-0.3**
	0.4nm,0.3s,baz=289,slow=11,SNR=8.8						
SAML	**Samuel**	**12.47**	**57**	*ePn*	**Pn**	**01 50 45.3**	**-1.1**
	7.1nm,0.8s						
CFAA	**Coronel Fontan**	**16.36**	**163**	P	**Pn**	**01 51 39.8**	**+2.0**
	0.0nm,0.3s,baz=345,slow=9.1,SNR=6.8						
CFAA				LR	LR	01 57 15.4	
	comp=Z,9.9nm,18.3s,baz=246,slow=35						
OTAV	**Otavalo**	**16.76**	**344**	*ePn*	**Pn**	**01 51 48.3**	**+5.5**
	1.0nm,0.4s						
CPUP	**Villa Florida**	**18.46**	**127**	P	**Pn**	**01 52 02.6**	**-1.1**
	0.1nm,0.3s,baz=250,slow=10,SNR=4.0						
ROSC	**El Rosal**	**20.70**	**358**	LR	LR	02 01 39.1	
	comp=Z,54nm,19.3s,MS2.9,baz=56,slow=40						
TRQA	**Tornquist**	**24.33**	**157**	P	**P**	**01 53 03.3**	**-1.4**
BDFB	**Brasilia**	**24.79**	**93**	LR	LR	02 02 47.4	
	comp=Z,36nm,21.0s,MS2.9,baz=239,slow=36						
PLCA	**Paso Flores**	**24.83**	**174**	P	**P**	**01 53 08.5**	**-0.6**
	2.7nm,0.8s,mb3.8,baz=339,slow=13,SNR=6.5						
PLCA	**Paso Flores**	**24.83**	**174**	*eP*	**P**	**01 53 09.1**	**-0.1**
	3.8nm,0.9s,mb3.9						
SDV	**Santo Domingo**	**24.89**	**7**	P	**P**	**01 53 11.4**	**+1.7**
	3.6nm,0.5s,mb4.1,baz=193,slow=5.8,SNR=5.3						
SDV				LR	LR	02 03 33.9	
	comp=Z,64nm,20.0s,MS3.1,baz=210,slow=38						
SDV	**Santo Domingo**	**24.89**	**7**	*eP*	**P**	**01 53 11.4**	**+1.6**
	3.2nm,0.3s,mb4.3						
PCRV	**Puerto La Cruz**	**27.51**	**20**	LR	LR	02 05 34.8	
	comp=Z,149nm,19.7s,MS3.6,baz=125,slow=38						
RCBR	**Riachuelo**	**38.47**	**79**	P	**P**	**01 55 08.2**	**-0.5**
TEIG	**Tepich**	**38.69**	**338**	P	**P**	**01 55 13.4**	**+2.8**
USHA	**Ushuaia**	**39.00**	**175**	P	**P**	**01 55 12.7**	**-0.4**
	6.2nm,0.8s,mb4.4,baz=357,slow=6.2,SNR=4.3						
DBIC	**Dimbokro**	**71.81**	**77**	P	**P**	**01 59 08.2**	**-0.8**
	2.1nm,0.5s,mb4.3,baz=200,slow=11,SNR=7.8						
QSPA	**South Pole Qui**	**74.18**	**180**	*eP*	**P**	**01 59 23.4**	**+0.4**
	9.9nm,1.2s,mb4.6						
QSPA				*ePcP*	PcP	01 59 36.8	-1.0
TORD	**Torodi Ar. Bea**	**80.02**	**73**	P	**P**	**01 59 56.0**	**+0.2**
	1.4nm,0.5s,mb4.2,baz=265,slow=5.6,SNR=48						
TORD				pP	pP	02 00 19.0	+8.8
	4.1nm,0.6s,baz=253,slow=5.1,SNR=13						
TORD	**Torodi Ar. Bea**	**80.02**	**73**	P	**P**	**01 59 56.0**	**+0.2**
TORD				pP	pP	02 00 19.0	+8.8
VNDA	**Vanda**	**81.44**	**190**	P	**P**	**02 00 02.9**	**-0.4**
	1.5nm,1.0s,mb3.9,baz=147,slow=4.3,SNR=5.7						
VNDA				LR	LR	02 30 15.4	
	comp=Z,54nm,19.8s,MS3.9,baz=255,slow=31						
VNDA	**Vanda**	**81.44**	**190**	P	**P**	**02 00 02.9**	**-0.4**
VNDA				LR	LR	02 30 15.4	
ASAR	**Alice Springs**	**132.21**	**215**	PKP	PKPdf	02 06 59.9	-0.1
	0.8nm,0.9s,baz=131,slow=2.0,SNR=5.5						
ZAL	**Zalesovo**	**138.59**	**19**	PKP	PKPdf	02 07 12.9	+1.1
	2.0nm,0.3s,baz=124,slow=1.3,SNR=3.8						
MKAR	**Makanchi Array**	**143.40**	**28**	PKP	PKPdf	02 07 22.0	+1.6
	0.1nm,0.4s,baz=9.5,slow=1.8,SNR=2.0						
SONM	**Songino Array**	**148.23**	**360**	PKPbc	PKPbc	02 07 31.7	-0.4
	0.7nm,0.7s,baz=327,slow=2.3,SNR=6.4						

*CSEM **13** 01:49:06.9±0.1, 3698N×2800E, h10km, MD3.3, Error ellipse: s-maj=1.3km s-min=1.1km az=139.0*
*ISCJB **13** 01:49:07.1±0.4, 3696N±002×2795E±003, h10km±3km, Error ellipse: s-maj=3.7km s-min=3.3km az=116.8*
*NEIC **13** 01:49:07.0, 3697N×2798E, h15km, MD3.3(ISK), MD3.4(ATH), After ISK.*
*ATH **13** 01:49:07.5, 3694N×2796E, h20km±3km, MD3.4/5*
*ISK **13** 01:49:07.0, 3699N×2799E, h13km, MD3.3*
ISC 13 01:49:07.5±0.4, 3694N±002×2795E±003, h9km±3km, n34, σ1§06/51, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.33**	**54**	*i*PG	**Pg**	**01 49 13.3**	**-0.6**
YER				*i*SG	**Sg**	**01 49 17.3**	**-1.0**
DAT	**Datca**	**0.37**	**235**	*i*PG	**Pg**	**01 49 15.5**	**+0.8**
MLSB	**Milas**	**0.38**	**338**	*i*PG	**Pg**	**01 49 14.7**	**-0.2**
MLSB				*i*SG	**Sg**	**01 49 20.3**	**+0.4**
BDRM	**Kayabasi**	**0.42**	**287**	*i*P	**Pg**	**01 49 16.1**	**+0.4**
BDRM				*i*S	**Sg**	**01 49 21.8**	**+0.4**
BODT	**Bodrum**	**0.53**	**283**	*i*PG	**Pg**	**01 49 18.1**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.58**	**107**	PG	**Pg**	**01 49 18.1**	**-0.5**
DALT				SG	**Sg**	**01 49 27.9**	**+1.7**
AYDN	**Tasoluk**	**0.72**	**355**	*i*P	**Pg**	**01 49 20.5**	**-0.8**
AYDN				*i*S	**Sg**	**01 49 29.6**	**-1.1**
ARG	**Arkhangelos**	**0.74**	**169**	*e*PN	**Pg**	**01 49 21.3**	**-0.4**
ARG				*e*SN	**Sg**	**01 49 31.5**	**+0.2**
NISR	**Nisiros**	**0.74**	**244**	*e*PN	**Pn**	**01 49 22.5**	**-1.6**
FETY	**Fethiye**	**0.96**	**108**	PG	**Pg**	**01 49 24.8**	**-1.1**
DNZL	**Cakiroluk**	**1.15**	**49**	*i*P	**Pb**	**01 49 28.5**	**-1.0**
DNZL				*i*S	**Sg**	**01 49 44.3**	**-0.2**
SMG	**Samos**	**1.17**	**311**	*e*PN	**Pn**	**01 49 29.4**	**-0.6**
SMG				*e*SN	**Sn**	**01 49 46.3**	**+0.2**
DENT	**Denizli**	**1.18**	**46**	PN	**Pn**	**01 49 29.0**	**-1.2**
KARP	**Karpathos**	**1.53**	**205**	*e*PN	**Pn**	**01 49 35.3**	**+0.3**
KARP				*e*SN	**Sn**	**01 49 56.0**	**+1.0**
KSL	**Kastellorizon**	**1.53**	**121**	*e*PN	**Pn**	**01 49 36.0**	**+1.0**
IZM	**Izmir**	**1.55**	**340**	PN	**Pn**	**01 49 34.0**	**-1.2**
KDAG	**Bornova**	**1.56**	**340**	*i*P	**Pn**	**01 49 36.2**	**+0.9**
KDAG				*i*S	**Sn**	**01 49 52.1**	**-3.5**
ELL	**Elmali**	**1.58**	**96**	PN	**Pn**	**01 49 35.7**	**0.0**
BLCB	**Balcova**	**1.61**	**334**	PN	**Pn**	**01 49 35.0**	**-1.1**
MANT	**Manisa**	**1.62**	**17**	*i*P	**Pn**	**01 49 35.6**	**-0.6**
MANT				*i*S	**Sn**	**01 49 59.3**	**+2.2**
URLA	**Izmir**	**1.78**	**323**	*i*P	**Pn**	**01 49 37.1**	**-1.3**
URLA				*i*S	**Sg**	**01 50 08.0**	**+3.4**
AKS	**Akhisar**	**1.94**	**357**	PN	**Pn**	**01 49 39.7**	**-0.8**
BCK	**Bucak**	**2.17**	**75**	*e*PN	**Pn**	**01 49 44.1**	**+0.4**
TKTP	**Tekketepe**	**2.18**	**59**	*i*P	**Pn**	**01 49 46.9**	**+3.0**
TKTP				*i*S	**Sn**	**01 50 02.5**	**-8.5**
ISP	**Isparta**	**2.23**	**65**	*e*PN	**Pn**	**01 49 44.4**	**-0.1**
GDZ	**Gediz**	**2.46**	**29**	*i*P	**Pn**	**01 49 47.9**	**+0.1**
GDZ				*i*S	**Sg**	**01 50 30.5**	**+4.0**
AYVA	**Ayvalik**	**2.56**	**338**	*i*P	**Pg**	**01 49 56.4**	**-0.2**
AYVA				*i*S	**Sg**	**01 50 31.2**	**+1.5**
BALB	**Balikesir**	**2.69**	**359**	*e*PN	**Pn**	**01 49 50.3**	**-0.7**
ALT	**Altintas**	**2.71**	**38**	*e*PN	**Pn**	**01 49 51.5**	**+0.3**
BTOK	**Tokmak**	**2.81**	**1**	*i*P	**Pg**	**01 49 59.0**	**-2.4**
BTOK				*i*S	**Sg**	**01 50 39.8**	**+1.9**
ULDT	**Uludag**	**3.33**	**16**	*i*P	**Pn**	**01 49 59.9**	**+0.2**
ULDT				*i*S	**Sg**	**01 50 56.1**	**+1.8**
KIZT	**Kizilcal**	**3.66**	**57**	*e*PN	**Pn**	**01 50 04.4**	**+0.2**
BR131	**Keskin Array S**	**5.26**	**56**	*e*Pn	**Pn**	**01 50 27.9**	**+1.6**
	1.0nm,0.3s						
BR131	**Keskin Array S**	**5.26**	**56**	*e*Pn	**Pn**	**01 50 27.9**	**+1.6**
	1.0nm,0.3s						

*NEIC **13** 02:21:39.5, 1697N×9490W, h127km, MD3.8(MEX), After MEX.*
MEX 13 02:21:39.5±0.9, 1697N×9490W, h127km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.12**	**6**	*e*P	Pn	02 21 55.8	-1.0
CMIG				*i*S	Sn	02 22 07.8	-2.0
TUIG	**Tuzandepetl**	**1.15**	**23**	*e*P	Pn	02 22 02.6	-1.0
TUIG				*i*S	Sn	02 22 19.5	-2.4
HUIG	**Huatulco**	**1.67**	**224**	*i*P	Pn	02 22 07.5	-1.8
HUIG				*i*S	Sn	02 22 30.8	-1.2
OXX	**Oaxaca**	**1.75**	**274**	*i*P	Pn	02 22 11.0	+0.7
OXX				*i*S	Sn	02 22 35.0	+1.2
VHO	**Vista Hermosa**	**1.76**	**274**	*i*P	Pn	02 22 08.8	-1.6
VHO				*i*S	Sn	02 22 34.5	+0.5
CCIG	**Comitan**	**2.73**	**104**	*i*P	Pn	02 22 22.6	+0.1
CCIG				*i*S	Sn	02 22 53.7	-1.9
UTMO	**Huajuapan**	**2.90**	**288**	*i*P	Pn	02 22 25.8	+1.1
UTMO				*i*S	Sn	02 22 57.9	-1.7

*IDC **13** 02:25:57.3±1.4, 3781N×2207E, h47km±18km, mb3.8/12, mb1 3.7/17, mb1mx3.6/30, mbtmp3.8/17, ML3.4/5, MS2.8/2, Ms1 2.8/2, ms1mx2.2/33, Error ellipse: s-maj=13.3km s-min=12.1km az=43.0*
*HLW **13** 02:

BIA	**Bitola**	**3.26 353**	*i* Pn	**Pn**	**02 26 48.4**	**+0.2**
BIA			*i* Sn	**Sn**	**02 27 25.7**	**-0.2**
CHOS	**Chios island**	**3.35 78**	*e*Pn	**Pn**	**02 26 49.5**	**+0.1**
OHR	**Ohrid**	**3.43 346**	*e*Pn	**Pn**	**02 26 50.8**	**+0.3**
OHR	**Ohrid**	**3.43 346**	*e*Pn	**Pn**	**02 26 51.3**	**+0.8**
OHR	**Ohrid**	**3.43 346**	*e*Pn	**Pn**	**02 26 51.2**	**+0.7**
GVD	**Gavdhos**	**3.43 148**	*e*Pn	**Pn**	**02 26 50.4**	**-0.1**
GVD	**Gavdhos**	**3.43 148**	*e*P	**Pn**	**02 26 51.0**	**+0.5**
KNT	**Kendrikon**	**3.47 13**	*e*Pn	**Pn**	**02 26 51.6**	**+0.7**
IDI	**Anoyia**	**3.47 135**	P	**Pn**	**02 26 49.6**	**-1.5**
	3.0nm,0.3s,baz=335,slow=10,SNR=74					
IDI			S	**Sn**	**02 27 26.7**	**-4.4**
	10nm,0.3s,baz=271,slow=16,SNR=9.5					
VAY	**Valandovo**	**3.58 8**	*e*Pn	**Pn**	**02 26 52.5**	**0.0**
VAY	**Valandovo**	**3.58 8**	*i* Pn	**Pn**	**02 26 52.6**	**+0.1**
VAY			*i* Sn	**Sn**	**02 27 33.0**	**-0.6**
VAY	**Valandovo**	**3.58 8**	P	**Pn**	**02 26 52.5**	**0.0**
VAY			*i* Sn	**Sn**	**02 27 32.9**	**-0.6**
PRK	**Paraskevi**	**3.74 66**	*e*P	**Pn**	**02 26 53.5**	**-1.2**
URLA	**Izmir**	**3.77 80**	*i* P	**Pn**	**02 26 55.0**	**0.0**
LCI	**Lecce**	**3.89 312**	Pn	**Pn**	**02 26 56.8**	**+0.1**
TIR	**Tirane**	**3.89 337**	*e*Pn	**Pn**	**02 26 56.9**	**+0.2**
LAST	**Lasithi**	**3.91 131**	*e*Pn	**Pn**	**02 26 56.6**	**-0.3**
STIP	**Stip**	**3.92 3**	*i* Pn	**Pn**	**02 26 57.6**	**+0.5**
STIP			*i* Sn	**Sn**	**02 27 42.2**	**+0.4**
NPS	**Neapolis**	**3.92 129**	*e*P	**Pn**	**02 26 56.9**	**-0.2**
SMG	**Samos**	**3.93 90**	*e*P	**Pn**	**02 26 57.5**	**+0.2**
SKO	**Skopje**	**4.20 356**	*e*Pn	**Pn**	**02 27 02.0**	**+1.1**
XRY	**Khrisi**	**4.23 132**	*e*P	**Pn**	**02 27 02.0**	**+0.6**
TIP	**Timpagrande**	**4.25 291**	*e*Pn	**Pn**	**02 27 01.8**	**+0.1**
TIP			*e*Sn	**Sn**	**02 27 49.3**	**-0.8**
TIP	**Timpagrande**	**4.25 291**	*e*Pn	**Pn**	**02 27 01.8**	**+0.1**
TIP			*e*Sn	**Sn**	**02 27 49.3**	**-0.8**
KDAG	**Bornova**	**4.29 80**	*i* P	**Pn**	**02 27 02.4**	**+0.2**
RDO	**Rodhopi**	**4.39 39**	*e*P	**Pn**	**02 27 03.4**	**-0.2**
ALN	**Alexandroupoli**	**4.49 45**	*e*Pn	**Pn**	**02 27 04.8**	**0.0**
PE1	**Pezze di Greco**	**4.59 313**	*e*Pn	**Pn**	**02 27 06.2**	**-0.1**
SOI	**Samo**	**4.61 275**	Pn	**Pn**	**02 27 07.0**	**+0.4**
ULC	**Ulcinj**	**4.64 335** ⇓	*i*Pn	**Pn**	**02 27 05.5**	**-1.5**
ULC			*e*Sn	**Sn**	**02 27 53.7**	**-5.8**
ULC	**Ulcinj**	**4.64 335** ⇓	*i*Pn	**Pn**	**02 27 05.4**	**-1.6**
ULC			*e*Sn	**Sn**	**02 27 53.7**	**-5.9**
CEL	**Celeste**	**4.75 278**	Pn	**Pn**	**02 27 08.1**	**-0.4**
ORI	**Oriolo Calabro**	**4.81 300**	Pn	**Pn**	**02 27 10.0**	**+0.7**
VTS	**Vitosha**	**4.91 12** ⇓	*i*P	**Pn**	**02 27 14.3**	**+3.6**
PVY	**Plav**	**5.03 344** ⇓	*i*Pn	**Pn**	**02 27 11.9**	**-0.3**
PVY			*e*Sn	**Sn**	**02 28 05.2**	**-3.8**
SG1	**Sgolgore (BA)**	**5.06 309**	*e*Pn	**Pn**	**02 27 12.5**	**-0.2**
TTG	**Podgorica**	**5.06 337**	*e*Pn	**Pn**	**02 27 11.9**	**-0.8**
TTG			*e*Sn	**Sn**	**02 28 04.9**	**-4.9**
BUM	**Brajici-Budva**	**5.06 334** ⇓	*i*Pn	**Pn**	**02 27 11.2**	**-1.5**
BUM			*e*Sn	**Sn**	**02 28 04.1**	**-5.7**
BTOK	**Tokmak**	**5.20 66**	*i* P	**Pn**	**02 27 15.3**	**+0.7**
CUC	**Castrocucco**	**5.22 297**	Pn	**Pn**	**02 27 16.5**	**+1.6**
	73nm,0.5s					
IVA	**Berane**	**5.31 344** ⇓	*i*Pn	**Pn**	**02 27 15.8**	**-0.2**
IVA			*e*Sn	**Sn**	**02 28 12.2**	**-3.6**
HCY	**Herceg Novi**	**5.33 332** ⇓	*i*Pn	**Pn**	**02 27 14.3**	**-2.1**
HCY			*e*Sn	**Sn**	**02 28 09.9**	**-6.6**
CDT	**Castel del Mon**	**5.45 309**	*e*Pn	**Pn**	**02 27 17.7**	**-0.3**
MGR	**Morigerati**	**5.46 297**	Pn	**Pn**	**02 27 18.6**	**+0.4**
	35nm,0.5s					
NKY	**Niksic**	**5.49 337** ⇓	*i*Pn	**Pn**	**02 27 17.5**	**-1.0**
NKY			*e*Sn	**Sn**	**02 28 14.8**	**-5.5**
SLCN	**Sala Consilina**	**5.51 300**	Pn	**Pn**	**02 27 20.2**	**+1.3**
	51nm,0.5s					
PZI	**Palazzolo**	**5.56 265**	P	**Pn**	**02 27 17.6**	**-2.0**
PZI			pmax	pmax		
	comp=Z,115nm,0.1s					
PZI	**Palazzolo**	**5.56 265**	Pn	**Pn**	**02 27 17.6**	**-2.0**
	comp=Z,115nm,0.1s					
SLNA	**Salina**	**5.61 280**	Pn	**Pn**	**02 27 20.3**	**+0.1**
	comp=Z,52nm,0.3s					
TREB	**Trebinje**	**5.62 332**	P	**Pn**	**02 27 20.7**	**+0.3**
TREB			S	**Sn**	**02 28 23.1**	**-0.4**
DNZL	**Cakiroluk**	**5.68 89**	*i* P	**Pn**	**02 27 22.9**	**+1.8**
BRY	**Bratogost**	**5.71 335** ⇓	*i*Pn	**Pn**	**02 27 20.4**	**-1.2**
BRY			*e*Sn	**Sn**	**02 28 19.8**	**-6.0**
SGO	**Sicignano**	**5.81 301**	P	**Pn**	**02 27 24.0**	**+1.0**
SGO			pmax	pmax		
	comp=Z,23nm,0.5s					
SGO	**Sicignano**	**5.81 301**	Pn	**Pn**	**02 27 24.0**	**+1.0**
	comp=Z,23nm,0.5s					
PLE	**Pljevlja**	**5.86 342** ⇓	*i*Pn	**Pn**	**02 27 22.6**	**-0.9**
PLE			*e*Sn	**Sn**	**02 28 25.2**	**-4.1**
PLE	**Pljevlja**	**5.86 342** ⇓	*i*Pn	**Pn**	**02 27 22.6**	**-1.0**
PLE			*e*Sn	**Sn**	**02 28 25.2**	**-4.1**
UPM	**Unac-Piva**	**5.87 338**	*e*Pn	**Pn**	**02 27 22.4**	**-1.4**
UPM			*e*Sn	**Sn**	**02 28 25.0**	**-4.6**
VAE	**Valguarnera**	**5.94 269**	P	**Pn**	**02 27 27.2**	**+2.6**
	comp=Z,1.0nm,0.3s,baz=65,slow=21,SNR=6.7					
VAE			S	**Sn**	**02 28 28.0**	**-3.2**
	comp=Z,4.1nm,0.3s,baz=198,slow=10,SNR=6.3					
VAE			LR	LR	02 30 10.6	
	comp=Z,105nm,19.4s,baz=140,slow=41					
STON	**Ston**	**6.00 329**	*i* Pn	**Pn**	**02 27 23.8**	**-1.8**
STON			*i* Sn	**Sn**	**02 28 27.1**	**-5.8**
ULDT	**Uludag**	**6.13 65**	*i* P	**Pn**	**02 27 28.0**	**+0.7**
FG5	**Orsara di Pugl**	**6.19 306**	P	**Pn**	**02 27 29.1**	**+0.9**
FG5			pmax	pmax		
	comp=Z,19nm,0.3s					
FG5	**Orsara di Pugl**	**6.19 306**	Pn	**Pn**	**02 27 29.1**	**+0.9**
	comp=Z,19nm,0.3s					
FG2	**Serracapriola**	**6.55 310**	Pn	**Pn**	**02 27 35.5**	**+2.5**
	comp=Z,70nm,0.2s					
TKTP	**Tekketepe**	**6.68 85**	*i* P	**Pn**	**02 27 37.6**	**+2.8**
SLUM		**6.85 155**	⇑P	**Pn**	**02 27 33.3**	**-3.8**
SLUM			S	**Sn**	**02 28 43.9**	**-10**
ESKT	**Eskisehir**	**7.23 73**	*i* P	**Pn**	**02 27 43.5**	**+1.1**
SEYT	**Eskypehyr**	**7.23 73**	*i* P	**Pn**	**02 27 43.5**	**+1.1**
HENT	**Hendek**	**7.62 64**	*i* P	**Pn**	**02 27 48.7**	**+1.0**
BLY	**Banja Luka**	**7.81 335**	P	**Pn**	**02 27 51.2**	**+1.0**
HMAT	**Matruh**	**7.94 146**	⇓P	**Pn**	**02 27 48.8**	**-3.2**
HMAT			S	**Sn**	**02 29 10.8**	**-9.4**
MLR	**Muntele Rosu**	**8.28 20**	P	**Pn**	**02 27 59.0**	**+2.3**
	comp=Z,1.5nm,0.3s,baz=179,slow=10,SNR=12					
MLR	**Muntele Rosu**	**8.28 20**	⇓*i*P	**Pn**	**02 27 59.5**	**+2.8**
MLR	**Muntele Rosu**	**8.28 20**	P	**Pn**	**02 27 59.0**	**+2.3**
MLR			pmax	pmax		
	comp=Z,2.0nm,0.3s					
MLR	**Muntele Rosu**	**8.28 20**	⇓P	**Pn**	**02 28 00.1**	**+3.4**
SGKT	**Sivrigoynuk**	**8.38 67**	*i* P	**Pn**	**02 27 59.1**	**+1.1**
DABA	**Dabaa**	**8.58 140**	P	**Pn**	**02 27 57.7**	**-3.0**
NVLJ	**Novalja**	**8.59 324**	*i* Pn	**Pn**	**02 28 00.1**	**-0.8**
NVLJ			*i* Sn	**Sn**	**02 29 29.1**	**-7.1**
PLOR	**Plostina**	**8.81 22**	⇓*i*P	**Pn**	**02 28 06.4**	**+2.4**
VRI	**Vrincioaia**	**8.85 23**	⇓*i*P	**Pn**	**02 28 07.7**	**+3.2**
VRI	**Vrincioaia**	**8.85 23**	⇓P	**Pn**	**02 28 07.7**	**+3.2**
SWA2		**9.02 160**	⇑P	**Pn**	**02 28 03.9**	**-2.9**
SWA1		**9.07 158**	⇓P	**Pn**	**02 28 04.8**	**-2.8**
SWA1			S	**Sn**	**02 29 37.7**	**-10**
BOJS	**Bojanci**	**9.17 329**	*i* Pn	**Pn**	**02 28 07.8**	**-1.1**
BOJS			*e*Sn	**Sn**	**02 29 44.9**	**-5.4**
BR131	**Keskin Array S**	**9.39 74**	*e*Pn	**Pn**	**02 28 14.6**	**+2.8**
	comp=Z,1.9nm,0.5s					
BR131	**Keskin Array S**	**9.39 74**	*e*Pn	**Pn**	**02 28 14.6**	**+2.8**
	comp=Z,1.9nm,0.5s					
BRTR	**Keskin Array B**	**9.39 74**	P	**Pn**	**02 28 06.4**	**-5.4**
	comp=Z,0.1nm,0.3s,baz=300,slow=12,SNR=2.6					
VOY	**Vojsko**	**10.16 327**	*e*Pn	**Pn**	**02 28 23.4**	**+1.0**
VOY			*e*Sn	**Sn**	**02 30 07.9**	**-6.7**
OBKA	**Obir**	**10.28 330** ⇓	*i*Pn	**Pn**	**02 28 22.0**	**-1.9**
OBKA			⇑*i*Sn	**Sn**	**02 30 10.4**	**-6.9**
AWBH		**11.12 146**	⇓P	**Pn**	**02 28 31.8**	**-3.6**
MOA	**Molln**	**11.51 333** ⇓	*i*Pn	**Pn**	**02 28 39.7**	**-1.0**
MOA			⇓*i*Sn	**Sn**	**02 30 39.8**	**-7.5**
AMAG	**Maghara**	**11.77 124**	⇓P	**Pn**	**02 28 42.2**	**-2.0**
HFRF	**Wahat Farafira**	**11.91 151**	⇑P	**Pn**	**02 28 42.6**	**-3.5**
MMAI	**Mount Meron Ar**	**12.01 109**	P	**Pn**	**02 28 46.5**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=288,slow=10,SNR=2.4					
MMAI			S	**Sn**	**02 30 50.4**	**-9.3**
	comp=Z,1.3nm,0.3s,baz=305,slow=28,SNR=3.7					
SUZ		**12.06 128**	⇑P	**Pn**	**02 28 45.4**	**-2.9**
GERES	**GERESS Array B**	**12.55 334**	P	**Pn**	**02 28 54.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=143,slow=30,SNR=3.4					
GERES			S	**Sn**	**02 31 06.8**	**-6.0**
	comp=Z,0.2nm,0.3s,baz=152,slow=23,SNR=4.8					
DAVOX	**Davos**	**12.63 319**	S	**Sn**	**02 31 09.4**	**-5.3**
	comp=Z,0.4nm,0.3s,baz=165,slow=19,SNR=2.8					
DAVOX			LR	LR	02 34 56.4	
	comp=Z,30nm,18.8s,baz=76,slow=42					
KHC	**Kasperske Hory**	**12.84 335**	*e*P	**Pn**	**02 29 05.5**	**+6.7**
MALT	**Malatya**	**13.06 83**	⇓P	**Pn**	**02 29 05.6**	**+3.9**
AKASG	**Malin Array Be**	**13.94 20**	P	**Pn**	**02 29 11.1**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=3.5					
MDT	**Midelt**	**22.15 265**	P	**P**	**02 30 50.7**	**+1.8**
	comp=Z,5.2nm,0.8s,mb3.9,baz=244,slow=8.7,SNR=5.8					
HFS	**Hagfors**	**22.97 349**	P	**P**	**02 30 56.2**	**-1.3**
	comp=Z,2.0nm,0.4s,mb3.8,baz=158,slow=12,SNR=32					
HFS	**Hagfors**	**22.97 349**	P	**P**	**02 30 56.2**	**-1.4**
HFS			pmax	pmax		
	comp=Z,2.0nm,0.4s					
FINES	**FINESS Array B**	**23.83 5**	P	**P**	**02 31 04.3**	**-1.2**
	comp=Z,0.6nm,0.5s,mb3.2,baz=170,slow=8.6,SNR=11					
FINES	**FINESS Array B**	**23.83 5**	P	**P**	**02 31 04.3**	**-1.2**
FINES			pmax	pmax		
	comp=Z,1.0nm,0.5s					
NB2	**NORSAR Subarra**	**24.23 347**	P	**P**	**02 31 07.9**	**-1.2**
	comp=Z,1.1nm,0.5s,mb3.4,baz=160,slow=11					
NB2	**NORSAR Subarra**	**24.23 347**	P	**P**	**02 31 09.4**	**+0.3**
	comp=Z,1.1nm,0.5s,mb3.4,baz=160,slow=11					
NOA	**NORSAR Array B**	**24.23 347**	P	**P**	**02 31 09.4**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.3,baz=159,slow=10,SNR=6.8					
NOA	**NORSAR Array B**	**24.23 347**	P	**P**	**02 31 09.4**	**+0.3**
NOA			pmax	pmax		
	comp=Z,1.0nm,0.7s					
EKA	**Eskdalemuir Ar**	**24.38 324**	P	**P**	**02 31 11.6**	**+1.2**
	comp=Z,0.9nm,0.6s,mb3.3,baz=125,slow=9.2,SNR=5.5					
EKA	**Eskdalemuir Ar**	**24.38 324**	P	**P**	**02 31 11.6**	**+1.2**
EKA			pmax	pmax		
	comp=Z,1.0nm,0.6s					
KAF	**Kangasniemi**	**24.51 5**	*e*p	**P**	**02 31 11.6**	**-0.1**
	comp=Z,0.8nm,0.3s,mb3.6,baz=189,slow=9.4					
KAF	**Kangasniemi**	**24.51 5**	*e*P	**P**	**02 31 11.6**	**-0.1**
KAF			pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7					
JOF	**Joensuu**	**25.82 10**	*e*p	**P**	**02 31 22.5**	**-1.0**
	comp=Z,2.1nm,0.4s,mb3.9					
JOF	**Joensuu**	**25.82 10**	*e*P	**P**	**02 31 22.5**	**-1.0**
JOF			pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9					
TORD	**Torodi Ar. Bea**	**30.42 222**	P	**P**	**02 32 06.2**	**+1.7**
	comp=Z,2.8nm,0.7s,mb4.0,baz=33,slow=9.1,SNR=44					
ARCES	**ARCESS Array B**	**31.88 2**	P	**P**	**02 32 17.1**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.1,baz=189,slow=10,SNR=36					
ARCES	**ARCESS Array B**	**31.88 2**	P	**P**	**02 32 17.1**	**-0.2**
ARCES			pmax	pmax		
	comp=Z,2.0nm,0.5s					
KEV	**Kevo**	**32.16 3**	*e*p	**P**	**02 32 19.6**	**-0.2**
	comp=Z,8.1nm,1.1s,mb4.4					
KEV	**Kevo**	**32.16 3**	*e*P	**P**	**02 32 19.6**	**-0.2**
KEV			pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4					
BVAR	**Borovoye Array**	**36.56 49**	P	**P**	**02 32 58.4**	**+0.6**
	comp=Z,2.7nm,0.6s,mb4.4,baz=267,slow=6.6,SNR=13					
BVAR	**Borovoye Array**	**36.56 49**	P	**P**	**02 32 58.4**	**+0.6**
BVAR			pmax	pmax		
	comp=Z,3.0nm,0.6s					
DBIC	**Dimbokro**	**39.35 225**	P	**P**	**02 33 22.6**	**+1.4**
	comp=Z,2.8nm,0.6s,mb4.3,baz=35,slow=7.0,SNR=7.4					
DBIC	**Dimbokro**	**39.35 225**	P	**P**	**02 33 22.7**	**+1.4**
DBIC			pmax	pmax		
	comp=Z,3.0nm,0.6s					
MKAR	**Makanchi Array**	**44.60 58**	P	**P**	**02 34 03.9**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.0,baz=275,slow=7.1,SNR=21					
MKAR	**Makanchi Array**	**44.60 58**	P	**P**	**02 34 03.9**	**-0.1**
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.5s					
ZAL	**Zalesovo**	**45.15 48**	P	**P**	**02 34 08.2**	**-0.2**
	comp=Z,4.0nm,0.5s,mb4.4,baz=218,slow=7.8,SNR=12					
ZAL	**Zalesovo**	**45.15 48**	P	**P**	**02 34 08.3**	**-0.1**
ZAL			pmax	pmax		
	comp=Z,4.0nm,0.5s					
SONM	**Songino Array**	**59.88 51**	P	**P**	**02 35 56.9**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=284,slow=9.5,SNR=6.8					
SONM	**Songino Array**	**59.88 51**	P	**P**	**02 35 56.9**	**-0.3**
SONM			pmax	pmax		
	comp=Z,1.0nm,0.7s					

NIED ***13*** *02:40:00,42.70N×143.50E,h77km,Mw4.7 Best double couple: M0=1.34000×10^16 NP1:φs=281.00000°,δ=89.00000°, λ=-119.00000°. NP2:φs=189.00000°,δ=29.00000°, λ=-3.00000°.*

BJI ***13*** *02:40:30.5,42.96N×143.46E,h85km,mB4.7,mb4.8,Ms4.0, Msz3.7*

MOS ***13*** *02:40:30.7±0.9,42.74N×143.36E,h83km,mb4.8/81,Error ellipse: s-maj=7.2km s-min=4.0km az=100.2*

ISCJB ***13*** *02:40:31.2±0.1,42.69N±0.002×143.40E±0.02,h87km, mb4.7/145,Error ellipse: s-maj=3.3km s-min=2.4km az=135.3*

IDC ***13*** *02:40:32.1±0.5,42.68N×143.44E,h88km±3km,mb4.5/24, mb1 4.6/26,mb1mx4.6/27,mbtmp4.9/26,MS3.6/8, Ms1 3.6/8,ms1mx3.3/21,Error ellipse: s-maj=10.6km s-min=7.2km az=74.0*

HRVD ***13*** *02:40:33.1±0.5,42.75N×143.51E,h129km±7km,MW4.8/57, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s57,c75; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.41±.14; Mθθ-0.42±.14; Mφφ0.01±.13; Mrθ1.63±.09; Mrφ-1.28±.12; Mθr-0.46±.09; Best double couple: M0=2.14800×10^16 NP1:φs=192.00000°, δ=39.00000°,λ=12.00000°. NP2:φs=93.00000°,δ=83.00000°, λ=128.00000°. Principal axes: T 2.2890, Plg40.0000°, Azm38.0000°; N -0.2820, Plg38.0000°, Azm267.0000°; P -2.0080, Plg27.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *02:40:33.1,42.70N×143.42E,h86km,mb4.8/88, MW4.7(NIED),After JMA.*

NEIC Recorded [4 JMA] in the Kushiro area; [3 JMA] in south-central Hokkaido; [2 JMA] in eastern Hokkaido and in the Shizunai area; [1 JMA] in much of southern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.

JMA ***13*** *02:40:33.1±0.1,42.70N×143.42E,h86km±1km,M4.7 Broadband fault plane solution: P waves. NP1: φs=174.00000°,δ=15.00000°,λ=0.00000°. NP2:φs=84.00000°, δ=90.00000°,λ=105.00000°. Principal axes: T Plg43.0000°, Azm8.0000°; N Plg15.0000°, Azm264.0000°; P Plg43.0000°, Azm160.0000°;*

JMA Felt IV J1.

SZGRF ***13*** *02:40:36.0,43.50N×144.37E,h91km,mb4.8,Hokkaido, Japan, region*

ISC 13 02:40:33.0±0.1,4274N±002×14337E±002,h89km, h89km±.7km:pP-P,n546,σ0=85/569,mb4.7/144,74C-77D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.13**	**181**	⇑P	**Pn**	**02 40 45.2**	**-0.4**
JCH				*e*S	**Sn**	**02 40 53.9**	**-1.1**
JOB	**Onbets**	**0.38**	**65**	⇓P	**Pn**	**02 40 46.7**	**-0.1**
JOB				*e*S	**Sn**	**02 40 56.8**	**-0.2**
JAR	**Ashorobuto**	**0.63**	**28**	⇓P	**Pn**	**02 40 48.7**	**0.0**
JAR				*e*S	**Sn**	**02 41 00.3**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.65**	**225**	⇑P	**Pn**	**02 40 49.0**	**+0.1**
JFR	**Furan**	**0.71**	**307**	⇓P	**Pn**	**02 40 49.5**	**+0.1**
JBT2	**Biratori 2**	**0.74**	**273**	⇓P	**Pn**	**02 40 50.5**	**+0.7**
JBT2				*e*S	**Sn**	**02 41 03.7**	**+1.4**
JEM	**Erimo**	**0.74**	**192**	⇑P	**Pn**	**02 40 50.5**	**+0.7**
JAK	**Akkeshi**	**1.01**	**75**	⇓P	**Pn**	**02 40 51.8**	**-0.9**
JAK				*e*S	**Sn**	**02 41 06.0**	**-1.5**
JAB	**Ashibetsu**	**1.13**	**313**	⇓P	**Pn**	**02 40 55.3**	**+1.2**
JAB				*e*S	**Sn**	**02 41 12.8**	**+2.8**
JKK2	**Kamakawa 2**	**1.22**	**338**	⇓P	**Pn**	**02 40 55.9**	**+0.8**
JMP	**Maruseppu**	**1.26**	**360**	⇓P	**Pn**	**02 40 56.2**	**+0.5**
JMP				*e*S	**Sn**	**02 41 13.7**	**+0.8**
JTKR	**Abashiri--Toko**	**1.29**	**18**	⇓P	**Pn**	**02 40 56.1**	**+0.1**
JTKR				*e*S	**Sn**	**02 41 13.1**	**-0.3**
JNK	**Nakash**	**1.30**	**49**	⇓P	**Pn**	**02 40 55.4**	**-0.8**
JNK				*e*S	**Sn**	**02 41 12.3**	**-1.4**
JEW	**Eniwo**	**1.41**	**275**	⇓P	**Pn**	**02 40 59.0**	**+1.4**
JEW				*e*S	**Sn**	**02 41 18.4**	**+2.2**
ASAJ	**Asahikawa**	**1.48**	**338**	P	**Pn**	**02 40 59.5**	**+1.0**
	454nm,0.3s,baz=194,slow=12,SNR=1207						
ASAJ				S	**Sn**	**02 41 18.7**	**+1.0**
	214nm,0.3s,baz=313,slow=19,SNR=10.0						
ASAJ				LR	LR	02 41 35.0	
	comp=Z,1μm,20.2s,baz=182,slow=40						
ASAJ	**Asahikawa**	**1.48**	**338**	PN	**Pn**	**02 40 59.5**	**+1.1**
ASAJ				S	**Sn**	**02 41 18.7**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,454nm,0.3s						
ASAJ				smax			
	comp=N,214nm,0.3s						
JHR	**Hokuryu**	**1.56**	**310**	⇓P	**Pn**	**02 41 00.9**	**+1.5**
JHR				*e*S	**Sn**	**02 41 22.3**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**2.23**	**54**	⇑*i*PN	**Pn**	**02 41 08.0**	**-0.2**
YUK				*i* S	**Sn**	**02 41 34.0**	**-1.1**
YUK				pmax	pmax		
	comp=Z,7μm,1.0s						
YUK				pmax	pmax		
	comp=N,5μm,0.8s						
YUK				pmax	pmax		
	comp=E,3μm,1.0s						
YUK				smax			
	comp=N,50μm,1.0s						
YUK				smax			
	comp=E,36μm,1.0s						
YUK				smax			
	comp=N,22μm,0.5s						
YUK				smax			
	comp=E,9μm,0.5s						
KUR	**Kuril'sk**	**4.09**	**51**α	*i*PN	**Pn**	**02 41 30.6**	**-2.6**
KUR				*e*S	**Sn**	**02 42 18.0**	**-2.0**
KUR				pmax	pmax		
	comp=Z,3μm,1.0s						
KUR				pmax	pmax		
	comp=N,430nm,0.9s						
KUR				pmax	pmax		
	comp=E,380nm,0.9s						
KUR				pmax	pmax		
	comp=Z,1μm,0.9s						
KUR				smax			
	comp=N,1μm,0.7s						
KUR				smax			
	comp=E,690nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.23**	**354** ⇓	*i*PN	**Pn**	**02 41 36.5**	**+1.4**
YSS				*i* S	**Sn**	**02 42 24.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,160nm,0.9s						
YSS				pmax	pmax		
	comp=N,170nm,1.0s						
YSS				smax			
	comp=N,780nm,1.0s						
YSS				smax			
	comp=E,550nm,1.0s						
YSS				smax			
	comp=N,2μm,2.0s						
YSS	**Yuzh-Sakhalins**	**4.23**	**354**	*e*Pn	**Pn**	**02 41 36.1**	**+1.0**
YSS				*e*Sn	**Sn**	**02 42 23.3**	**-0.1**
UGL	**Uglegorsk**	**6.40**	**352**	*e*PN	**Pn**	**02 42 06.0**	**+1.4**
UGL				*e*S	**Sn**	**02 43 18.0**	**+1.8**
UGL				pmax	pmax		
	comp=E,82nm,0.9s						
UGL				pmax	pmax		
	comp=Z,131nm,0.9s						
UGL				smax			
	comp=N,900nm,4.0s						
UGL				smax			
	comp=E,900nm,3.0s						
MAJO	**Matsushiro**	**7.36**	**214**	*e*PN	**Pn**	**02 42 17.6**	**-0.1**
MAT	**Matsushiro**	**7.36**	**214**	P	**Pn**	**02 42 17.3**	**-0.4**
MAT				S	**Sn**	**02 43 39.1**	**-0.5**
MAT	**Matsushiro**	**7.36**	**214**	*e*PN	**Pn**	**02 42 17.0**	**-0.7**
MAT				S	**Sn**	**02 43 38.0**	**-1.6**
MAT				pmax	pmax		
	comp=Z,27nm,0.6s						
MAT	**Matsushiro**	**7.36**	**214**	*e*P	**Pn**	**02 42 17.0**	**-0.7**
	comp=Z,27nm,0.6s						
MAT				S	**Sn**	**02 43 38.0**	**-1.6**
MJAR	**Matsushiro Arr**	**7.36**	**214**	P	**Pn**	**02 42 17.3**	**-0.4**
	comp=Z,6.3nm,0.3s,baz=29,slow=12,SNR=40						
MJAR				S	**Sn**	**02 43 39.9**	**+0.3**
	comp=Z,3.4nm,0.3s,baz=17,slow=26,SNR=3.1						
MJAR	**Matsushiro Arr**	**7.36**	**214**	PN	**Pn**	**02 42 17.3**	**-0.4**
MJAR				S	**Sn**	**02 43 39.9**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR				smax			
	comp=N,3.0nm,0.3s						
HABR	**Khabarovsk**	**8.17**	**317**	*e*PN	**Pn**	**02 42 31.5**	**+2.8**
HABR				pmax	pmax		
	comp=Z,87nm,0.9s						
VLA	**Vladivostok**	**8.43**	**276**	*i* PN	**Pn**	**02 42 38.8**	**+6.6**
JHJ	**Hachijo jima 2**	**10.01**	**198**	P	**Pn**	**02 42 50.2**	**-3.6**
	comp=Z,33nm,0.3s,baz=249,slow=10,SNR=10.0						
JHJ				S	**Sn**	**02 44 33.6**	**-11**
	comp=

SSE S **S** **02 49 02.0 +1.4**
SSE AMB AMB
comp=Z,40nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,40nm,5.4s
SSE LR LR
comp=N,140nm,14.2s
SSE LR LR
comp=E,60nm,14.2s
SSE LR LR
comp=Z,120nm,18.8s
CIT Chita 22.08 305 *e*P **P** **02 45 22.3 +1.7**
CIT *e* 02 45 42.4
CIT *e* 02 46 07.4
CIT *e* 02 49 20.3
CIT *e* 02 49 54.2
NJ2 Nanjing 22.13 249 *e*P **P** **02 45 22.1 +1.0**
NJ2 PP 02 45 50.4
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.1
NJ2 AMB AMB
comp=Z,60nm,8.7s
NJ2 LR LR
comp=N,520nm,14.5s
NJ2 LR LR
comp=E,570nm,20.0s
NJ2 LR LR
comp=Z,130nm,19.4s
HHC Hu-ho-hao-te 23.71 276 *e*P **P** **02 45 35.1 -1.6**
HHC PP 02 46 07.6
HHC PCP PcP 02 49 21.6 +3.3
HHC S **S** **02 49 45.4 +0.2**
HHC SS 02 50 34.1
HHC PCS PcS 02 52 59.6 +1.7
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb4.5
HHC AMB AMB
comp=Z,60nm,3.8s
HHC LR LR
comp=N,120nm,9.5s
HHC LR LR
comp=E,120nm,11.8s
HHC LR LR
comp=Z,100nm,14.7s
ULN Ulaanbaatar 25.89 294 *i*P **P** **02 45 57.3 +0.9**
ULN Ulaanbaatar 25.89 294 *e*P **P** **02 45 51.9 -4.5**
SONM Songino Array 26.33 294 P **P** **02 46 01.3 +0.9**
comp=Z,8.1nm,0.7s,mb4.2,baz=90,slow=8.7,SNR=30
SONM ScP ScP 02 52 53.8 -2.1
comp=Z,0.2nm,0.5s,baz=145,slow=3.9,SNR=3.9
SONM LR LR 02 56 24.2
comp=Z,68nm,21.6s,baz=280,slow=36
TLY Talaya 28.12 302 *e*P **P** **02 46 18.2 +1.8**
TLY *e*S **S** **02 50 57.4 +2.4**
TLY *e*SS sS 02 51 34.0 +3.9
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
TLY MLR MLR
comp=Z,68nm,18.0s
BILL Bilibino 28.14 18⇑ *i*P **P** **02 46 13.9 -2.7**
BILL pmax pmax
comp=Z,22nm,1.9s,mb4.4
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 28.14 18 *e*P **P** **02 46 13.3 -3.3**
comp=Z,7.4nm,0.6s,mb4.4
XAN Xi'an 28.20 264 P **P** **02 46 17.5 +0.4**
XAN AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
ZAK Zakamensk 28.32 300 *e*P **P** **02 46 19.2 +1.0**
ZAK *e* 02 47 33.6
ZAK pmax pmax
comp=Z,12nm,1.6s,mb4.2
MOY Mondy 29.77 302 *e*P **P** **02 46 32.5 +1.5**
TIXI Tiksi 29.85 351⇑ *i*P **P** **02 46 27.5 -4.2**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
LZH Lanzhou 31.03 271 *e*P **P** **02 46 44.3 +2.1**
LZH PP PP 02 47 46.2 -7.6
LZH *e*S **S** **02 51 46.0 +5.3**
LZH *e*SS SS 02 53 31.5 -25
LZH AMB AMB
comp=Z,40nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,130nm,4.1s
LZH LR LR
comp=E,830nm,12.0s
GTA Gaotai 32.73 279 *e*P **P** **02 46 58.6 +1.6**
GTA PP PP 02 48 07.4 -5.2
GTA PCP PcP 02 49 45.3 +4.7
GTA S **S** **02 52 12.7 +5.6**
GTA SS SS 02 54 07.9 -23
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,80nm,5.7s
GTA LR LR
comp=N,140nm,18.2s
GTA LR LR
comp=E,100nm,19.4s
GTA LR LR
comp=Z,90nm,14.1s
GAMB Gambell 33.12 35 *e*P **P** **02 46 59.2 -1.2**
CD2 Chengdu 33.54 263 *e*P **P** **02 47 04.0 -0.1**
CD2 PCP PcP 02 49 44.3 +1.5
CD2 S **S** **02 52 25.0 +5.3**
CD2 PCS PcS 02 53 29.8 +1.1
CD2 SS SS 02 54 29.3 -19
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.9s
CD2 LR LR
comp=N,80nm,13.2s
CD2 LR LR
comp=Z,80nm,12.0s
GYA Guiyang 33.99 253⇑ *i*P **P** **02 47 08.1 +0.1**
GYA PP PP 02 48 22.0 -4.5
GYA S **S** **02 52 31.8 +5.2**
GYA SS SS 02 54 39.1 -18
GYA AMB AMB
comp=Z,20nm,0.6s,mb5.1
GYA AMB AMB
comp=Z,120nm,3.8s
GYA LR LR
comp=N,340nm,15.8s
GYA LR LR
comp=E,270nm,15.4s
GYA LR LR
comp=Z,390nm,16.0s
TNA Tin City 35.20 33 *e*P **P** **02 47 17.2 -1.2**
comp=Z,24nm,0.9s,mb5.0
KMI Kunming 37.59 255 P **P** **02 47 40.1 +1.3**
KMI PP PP 02 49 10.4 +4.2
KMI S **S** **02 53 31.6 +10**
KMI SS SS 02 56 05.0 -4.9
KMI SSS 02 56 34.7
KMI AMB AMB
comp=Z,20nm,0.8s,mb5.0
KMI AMB AMB
comp=Z,40nm,3.1s
KMI LR LR
comp=N,110nm,15.7s
KMI LR LR
comp=E,110nm,18.6s
KMI LR LR
comp=Z,90nm,17.7s
ZAL Zalesovo 39.42 307 P **P** **02 47 54.5 +0.4**
comp=Z,4.3nm,0.4s,mb4.6,baz=21,slow=8.7,SNR=10
ZAL PcP PcP 02 49 59.7 -0.8
comp=Z,1.9nm,0.3s,baz=281,slow=3.6,SNR=3.5
ZAL ScP ScP 02 53 39.9 -1.1
comp=Z,1.6nm,0.8s,baz=96,slow=5.3,SNR=4.7
ZAL Zalesovo 39.42 307 P **P** **02 47 54.5 +0.4**
ZAL 02 49 59.7
ZAL 02 53 39.9
ZAL pmax pmax
comp=Z,4.0nm,0.4s
ZAL Zalesovo 39.42 307 P **P** **02 47 54.5 +0.4**
ZAL PcP PcP 02 49 59.7 -0.8
ZAL ScP ScP 02 53 39.9 -1.1
WMQ Urumqi 39.89 291 P **P** **02 47 59.2 +1.2**
WMQ PP PP 02 49 35.6 +4.4
WMQ PPP 02 49 59.2
WMQ *e*S **S** **02 54 03.5 +7.3**
WMQ SS SS 02 56 51.9 -4.0
WMQ AMB AMB
comp=Z,120nm,5.0s
WMQ LR LR
comp=N,100nm,20.0s
WMQ LR LR
comp=E,40nm,22.0s
WMQ LR LR
comp=Z,50nm,20.0s
TTA Tatalina 39.95 38 *e*P **P** **02 47 58.2 -0.3**
SVW2 Sparrevohn 40.16 41 *e*P **P** **02 48 00.6 +0.4**
NVS Novosibirsk 40.20 309 *e*P **P** **02 47 57.0 -3.5**
NVS *e*S **S** **02 53 51.3 -9.5**
NVS pmax pmax
comp=Z,15nm,1.6s,mb4.6
NVS pmax pmax
comp=N,14nm,1.7s
NVS smax
comp=N,12nm,1.8s
NVS smax
comp=E,20nm,1.8s
KDAK Kodiak Island 41.95 46 P **P** **02 48 13.7 -1.3**
comp=E,26nm,0.8s,mb5.0,baz=314,slow=2.3,SNR=13
KDAK Kodiak Island 41.95 46 *e*P **P** **02 48 13.7 -1.3**
MK31 Makanchi Array 42.59 297 P **P** **02 48 20.0 -0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
MKAR Makanchi Array 42.59 297 P **P** **02 48 20.3 +0.1**
comp=Z,3.1nm,0.4s,mb4.4,baz=81,slow=9.6,SNR=50
MKAR ScP ScP 02 53 52.4 -1.2
comp=Z,0.8nm,1.0s,baz=72,slow=4.0,SNR=3.8
MKAR Makanchi Array 42.59 297 P **P** **02 48 20.3 +0.1**
MKAR ScP ScP 02 53 52.4 -1.2
SLKM Skilak Lake 42.82 42 *e*P **P** **02 48 22.9 +0.9**
MCK McKinley 43.12 37 *e*P **P** **02 48 24.0 -0.3**
PMR Palmer 43.22 40 *e*P **P** **02 48 24.4 -0.8**
PMR pmax pmax
comp=Z,24nm,0.9s,mb4.9
PMR Palmer 43.22 40 *e*P **P** **02 48 24.4 -0.8**
comp=Z,24nm,0.9s,mb4.9
COLA College 43.51 35c *i*P **P** **02 48 27.1 -0.4**
COLA College 43.51 35⇑ *i*P **P** **02 48 26.9 -0.6**
comp=Z,67nm,0.9s,mb5.4
SML Sawmill 43.58 40 *e*P **P** **02 48 27.7 -0.3**
KURK Kurchatov 43.80 304 *e*P **P** **02 48 29.7 -0.1**
CHTO Chiang Mai 44.34 252⇓ *i*P **P** **02 48 35.4 +1.2**
CHTO pmax pmax
comp=Z,11nm,0.8s,mb4.6
CHTO Chiang Mai 44.34 252⇓ *i*P **P** **02 48 35.4 +1.2**
comp=Z,11nm,0.8s,mb4.6
DIV Divide 44.89 41 *e*P **P** **02 48 38.7 +0.1**
EYAK Cordova Ski Ar 45.00 41 *e*P **P** **02 48 39.2 -0.2**
DAWY Dawson 47.24 36 *e*P **P** **02 48 56.3 -0.7**
CHKZ Chkalovo 47.66 310 *i*P **P** **02 48 59.9 -0.3**
CHKZ pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
CHKZ Chkalovo 47.66 310 *e*P **P** **02 48 59.8 -0.4**
comp=Z,13nm,0.6s,mb4.9
VOSK Vostochnaya 47.75 308 P **P** **02 49 00.7 -0.2**
VOSK pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
BVA0 Borovoye Array 47.99 309 *i*P **P** **02 49 02.9 +0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
BVAR Borovoye Array 47.99 309 P **P** **02 49 02.5 -0.3**
comp=Z,6.8nm,0.3s,mb4.9,baz=80,slow=9.9,SNR=65
BVAR ScP ScP 02 54 15.2 -0.7
comp=Z,1.9nm,0.9s,baz=66,slow=3.7,SNR=5.3
BRVK Borovoye 48.05 309 *e*P **P** **02 49 02.5 -0.7**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BRVK Borovoye 48.05 309 *e*P **P** **02 49 02.5 -0.7**
comp=Z,8.1nm,0.9s,mb4.5
INK Inuvik 48.66 29 P **P** **02 49 07.0 -0.9**
comp=Z,13nm,0.4s,mb5.2,baz=297,slow=6.4,SNR=97
INK Inuvik 48.66 29 P **P** **02 49 07.0 -0.9**
INK pmax pmax
comp=Z,13nm,0.4s
INK Inuvik 48.66 29 *e*P **P** **02 49 07.0 -0.8**
ZRNK Zerenda 48.81 309 *e*P **P** **02 49 09.5 +0.4**
ZRNK pmax pmax
comp=Z,21nm,0.7s,mb5.2
ZRNK Zerenda 48.81 309 *e*P **P** **02 49 09.5 +0.4**
comp=Z,21nm,0.7s,mb5.2
AAK Ala-Archa 49.28 295⇑ *e*P **P** **02 49 12.3 -0.4**
AAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
SKAG Skagway 50.34 41 *e*P **P** **02 49 20.3 -0.4**
KSM Kuching 50.62 225 *e*P **P** **02 49 24.4 +1.6**
KK31 Karatay Array 51.72 297 *i*P **P** **02 49 29.8 -1.2**
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KKAR Karatay Array 51.72 297 *i*P **P** **02 49 29.8 -1.2**
ARU Arti 53.18 316⇑ *i*P **P** **02 49 41.3 -0.5**
ARU *e* 02 50 15.0
ARU *e* 02 50 46.8
ARU *e* 02 51 40.2
ARU *e*S **S** **02 56 58.9 -6.8**
ARU *e*SS SS 03 00 37.3 -9.0
ARU pmax pmax
comp=Z,30nm,0.8s,mb5.4
DLBC Dease Lake 53.27 41 *e*P **P** **02 49 43.5 +1.0**
AB31 Akbulak array 55.52 308 P **P** **02 49 58.7 -0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
AKTK Aktyubinsk 56.08 310 P **P** **02 50 02.3 -0.4**
AKTO Aktyubinsk 56.08 310 P **P** **02 50 02.3 -0.4**
comp=Z,6.7nm,0.6s,mb4.8,baz=66,slow=9.2,SNR=33
AKTO Aktyubinsk 56.08 310 *i*P **P** **02 50 02.4 -0.3**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
KAKA Kakadu 56.08 193 *e*P **P** **02 50 02.2 -0.6**
comp=Z,27nm,0.7s,mb5.4
RES Resolute Bay 56.71 16 *e*P **P** **02 50 05.7 -1.5**
LVZ Lovozero 57.55 335 *e*P **P** **02 50 11.4 -1.8**
LVZ pmax pmax
comp=Z,27nm,1.5s,mb5.1
YKW3 Yellowknife Ar 58.12 32 *e*P **P** **02 50 16.3 -0.8**
YKW3 *ep*P Px 02 50 19.0
APA Apatity 58.13 335⇓ *i*P **P** **02 50 16.5 -0.7**
APA *i* pP 02 50 37.5 -2.0
APA pmax pmax
comp=Z,14nm,0.7s,mb5.1
YKA Yellowknife Ar 58.16 32 P **P** **02 50 16.4 -0.9**
comp=Z,12nm,0.8s,mb5.0,baz=304,slow=6.7,SNR=38
YKA pP pP 02 50 38.2 -1.4
comp=Z,5.2nm,0.7s,baz=305,slow=6.4,SNR=5.6
YKA LR LR 03 17 33.6
comp=Z,53nm,21.9s,baz=240,slow=38
YKA Yellowknife Ar 58.16 32 P **P** **02 50 16.4 -1.0**
YKA *PP pP 02 50 38.2 -1.4
YKA pmax pmax
comp=Z,12nm,0.8s
YKA MLR MLR
comp=Z,53nm,21.9s
YKA Yellowknife Ar 58.16 32 P **P** **02 50 16.4 -1.0**
YKA pP pP 02 50 38.2 -1.4
YKA LR LR 03 17 33.6
KEV Kevo 58.66 339 *ep* **P** **02 50 19.1 -1.8**
comp=Z,16nm,0.6s,mb5.2
KEV Kevo 58.66 339 *e*P **P** **02 50 19.1 -1.8**
KEV pmax pmax
comp=Z,16nm,0.6s,mb5.2
ARCES ARCESS Array B 59.21 339 P **P** **02 50 23.5 -1.2**
comp=Z,4.9nm,0.5s,mb4.8,baz=40,slow=7.6,SNR=78
ARCES LR LR 03 22 40.5
comp=Z,60nm,18.6s,baz=290,slow=43
ARCES ARCESS Array B 59.21 339 P **P** **02 50 23.5 -1.2**
ARCES LR LR 03 22 40.5
KTK1 Kautokeino 60.16 339 *e*P **P** **02 50 30.0 -1.2**
KTK1 Kautokeino 60.16 339 *e*P **P** **02 50 29.8 -1.5**
TRO Tromso 60.82 341 *e*P **P** **02 50 33.0 -2.7**
TRO AMb AMB 02 50 35.0
comp=Z,45nm,0.9s,mb5.5
TRO *ep*P pP 02 50 55.4 -2.7
TRO Tromso 60.82 341 *e*P **P** **02 50 33.0 -2.7**
TRO pmax pmax
comp=Z,45nm,0.9s,mb5.5
TRO Tromso 60.82 341 *e*P **P** **02 50 33.0 -2.7**
comp=Z,45nm,0.9s,mb5.5
JOF Joensuu 61.66 331 *ep* **P** **02 50 39.3 -2.1**
comp=Z,20nm,0.6s,mb5.3
B04A Port Angeles 61.68 50 ⇓P **P** **02 50 41.6 +0.1**
baz=61
A04A Legoe Bay, Lum 61.75 49 ⇑P **P** **02 50 42.2 +0.2**
baz=62
HDW Hoodsport 62.15 50 P **P** **02 50 45.1 +0.4**
C04A Brinnon 62.16 50 ⇓P **P** **02 50 45.0 +0.2**
baz=62
CMW Cultus Mountai 62.24 49 P **P** **02 50 45.7 +0.4**
B05A Bryant 62.34 49 ⇓P **P** **02 50 46.0 0.0**
baz=62,SNR=7.0
JCW Jim Creek 62.48 49 P **P** **02 50 47.0 +0.2**
E03A Lebam 62.48 51 ⇑P **P** **02 50 47.3 +0.5**
baz=62,SNR=5.1
FITZ Fitzroy Crossi 62.70 199 LR LR 03 20 34.9
comp=Z,79nm,18.2s,baz=276,slow=38
F03A Seaside 62.83 52 ⇑P **P** **02 50 49.7 +0.5**
baz=63
C05A Tolt Reservoir 62.89 49 ⇑P **P** **02 50 49.7 0.0**
baz=63,SNR=7.8
WRAB Tennant Creek 62.91 190 *e*P **P** **02 50 49.8 +0.1**
WRAB *ep*P Px 02 50 52.2
WB2 Warramunga Arr 62.92 190 *e*P **P** **02 50 48.7 -1.1**
WRA Warramunga Arr 62.92 190 P **P** **02 50 48.3 -1.5**
comp=Z,11nm,0.8s,mb4.8,baz=7.7,slow=6.9,SNR=36
WRA Warramunga Arr 62.92 190 P **P** **02 50 48.3 -1.5**
WRA pmax pmax
comp=Z,11nm,0.8s
D05A Enumclaw 63.01 50 ⇓P **P** **02 50 51.1 +0.7**
baz=63
PNT Penticton 63.10 47 P **P** **02 50 50.6 -0.4**
LOF Lofoten 63.24 341 *e*P **P** **02 50 52.2 +0.3**
LOF AMb AMB 02 50 58.8
comp=Z,66nm,1.7s,mb5.3
LOF Lofoten 63.24 341 *e*P **P** **02 50 52.2 +0.3**
comp=Z,66nm,1.7s,mb5.3
FMW Mount Fremont 63.34 50 P **P** **02 50 53.0 +0.5**
LON Longmire 63.36 50 *e*P **P** **02 50 53.1 +0.4**
STD Studebaker Rid 63.42 51 P **P** **02 50 54.0 +0.9**
F04A Amboy 63.48 51 ⇑P **P** **02 50 53.7 +0.2**
baz=63,SNR=9.9
E05A Randle 63.50 50 ⇓P **P** **02 50 53.5 -0.1**
baz=63,SNR=7.0
MOS Moscow 63.60 323 *e*P **P** **02 50 52.8 -1.5**
MOS *e* 02 53 11.4
H03A Soap Creek Ran 63.69 53 ⇑P **P** **02 50 55.6 +0.8**
baz=64
G04A Mulino 63.86 52 ⇑P **P** **02 50 56.4 +0.4**
baz=64
KAF Kangasniemi 63.95 332 *ep* **P** **02 50 54.6 -2.0**
comp=Z,17nm,0.7s,mb5.0,baz=40,slow=6.0
KAF Kangasniemi 63.95 332 *e*P **P** **02 50 54.6 -2.0**
KAF pmax pmax
comp=Z,17nm,0.7s,mb5.0
EDM Edmonton 63.99 41 *e*P **P** **02 50 56.4 -0.5**
F05A White Salmon 64.06 51 ⇓P **P** **02 50 57.7 +0.4**
baz=64
I03A Eugene 64.11 53 ⇓P **P** **02 50 58.3 +0.7**
baz=64
HOOD Mount Hood Mea 64.27 51 *e*P **P** **02 50 59.4 +0.7**
J02A Umpqua 64.28 54 ⇑P **P** **02 50 59.4 +0.6**
baz=64,SNR=6.8
H04A Detroit Lake 64.33 52 ⇓P **P** **02 50 59.3 +0.2**
baz=64,SNR=10
OBN Obninsk 64.46 322c *i*P **P** **02 50 58.9 -1.0**
OBN *e* pP 02 51 21.3 -1.2
OBN pmax pmax
comp=Z,34nm,1.2s,mb5.0
OBN Obninsk 64.46 322 *e*P **P** **02 50 58.4 -1.6**
FINES FINESS Array B 64.48 332 P **P** **02 50 58.9 -1.2**
comp=Z,30nm,0.8s,mb5.2,baz=55,slow=7.7,SNR=133
FINES LR LR 03 18 57.5
comp=Z,51nm,21.4s,baz=15,slow=36
FINES FINESS Array B 64.48 332 P **P** **02 50 58.9 -1.2**
FINES pmax pmax
comp=Z,30nm,0.8s
FINES MLR MLR
comp=Z,51nm,21.4s
FINES FINESS Array B 64.48 332 P **P** **02 50 58.9 -1.2**
FINES LR LR 03 18 57.5
G05A Wamic 64.51 51 ⇓P **P** **02 51 00.8 +0.5**
baz=64
MOR8 Moi Rana 64.54 340 *e*P **P** **02 50 57.9 -2.6**
MOR8 AMb AMB 02 50 59.9
comp=Z,66nm,0.7s,mb5.6
MOR8 *ep*P pP 02 51 20.9 -2.2
MOR8 Moi Rana 64.54 340 *e*P **P** **02 50 57.9 -2.6**
comp=Z,66nm,0.7s,mb5.6
FRIS Frissel Point 64.66 52 P **P** **02 51 01.8 +0.6**
K02A Glendale 64.67 54 ⇓P **P** **02 51 01.8 +0.4**
baz=64
OD2 Odessa Site #2 64.71 48 P **P** **02 51 01.3 -0.2**
HAWA Hanford 64.85 49 *e*P **P** **02 51 03.0 +0.5**
H05A Madras 64.91 52 ⇓P **P** **02 51 03.0 +0.2**
baz=65,SNR=6.6
L02A Cave Junction 64.96 55 ⇑P **P** **02 51 03.7 +0.5**
baz=65
SUMG Summit 64.98 1 *e*P **P** **02 51 03.2 -0.1**
NEW Newport 65.06 47 *e*P **P** **02 51 04.0 +0.2**
NEW pmax pmax
comp=Z,16nm,0.9s
NEW Newport 65.06 47 *e*P **P** **02 51 04.0 +0.2**
comp=Z,16nm,0.9s,mb4.9
I05A Bend 65.17 52 ⇓P **P** **02 51 05.0 +0.4**
baz=65
KHMM Horse Mountain 65.64 56 *e*P **P** **02 51 09.0 +1.5**
VRSR Storozhevoye 65.65 318 *e*P **P** **02 51 07.3 -0.3**
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,2.0nm,0.8s
VRSR pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
YBH Yreka Blue Hor 65.75 55 *e*P **P** **02 51 08.7 +0.4**
YBH pmax pmax
comp=Z,6.0nm,0.7s
YBH Yreka Blue Hor 65.75 55 *e*P **P** **02 51 08.7 +0.4**
comp=Z,6.2nm,0.7s,mb4.5
YBH Yreka Blue Hor 65.75 55 ⇓P **P** **02 51 09.1 +0.8**
baz=66,SNR=12
M02C Callahan 65.87 55 ⇑P **P** **02 51 09.9 +0.8**
baz=66,SNR=12
I06A Prineville 65.92 52 ⇓P **P** **02 51 09.7 +0.4**
baz=66,SNR=5.5
N02C Big Bar 65.93 56 ⇓P **P** **02 51 09.9 +0.5**
baz=66
L04A Klamath Falls 65.98 54 ⇑P **P** **02 51 10.3 +0.6**
baz=66
O01C Eel River Cons 66.02 57 ⇑P **P** **02 51 10.9 +1.0**
baz=66
M04C Macdoel 66.25 55 ⇓P **P** **02 51 12.1 +0.7**
baz=66,SNR=6.3
WALA Waterton Lakes 66.26 45 *e*P **P** **02 51 11.5 0.0**
comp=Z,16nm,0.8s,mb4.9
J06A Christmas Vall 66.37 52 ⇑P **P** **02 51 12.5 +0.2**
baz=66,SNR=8.9
M03C McCloud 66.38 55 ⇓P **P** **02 51 12.7 +0.3**
baz=66
WDC Whiskeytown Da 66.54 56 *e*P **P** **02 51 13.7 +0.4**
WDC pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
WDC Whiskeytown Da 66.54 56 *e*P **P** **02 51 13.7 +0.4**
comp=Z,8.8nm,0.9s,mb4.6
WDC Whiskeytown Da 66.54 56 ⇑P **P** **02 51 13.6 +0.2**
baz=66,SNR=8.4
BSMT Bassoo Peak 66.55 46 P **P** **02 51 13.8 +0.4**
K06A Valley Falls 66.58 53 ⇑P **P** **02 51 14.1 +0.5**
baz=66,SNR=6.4
O02C Red Bluff 66.63 56 ⇑P **P** **02 51 14.7 +0.8**
baz=66,SNR=7.5
ASAR Alice Springs 66.65 189 P **P** **02 51 14.4 +0.4**
comp=Z,3.2nm,0.8s,mb4.2,baz=9.9,slow=5.8,SNR=7.2
ASAR pP pP 02 51 36.4 -0.4
comp=Z,1.8nm,0.7s,baz=20,slow=5.7,SNR=2.9
ASAR Alice Springs 66.65 189 P **P** **02 51 14.5 +0.5**
ASAR *PP pP 02 51 36.4 -0.3
ASAR pmax pmax
comp=Z,3.0nm,0.8s
P01C Double 8 Ranch 66.71 57 ⇓P **P** **02 51 14.5 +0.1**
baz=66
M05C Lookout 66.91 55 P **P** **02 51 16.1 +0.4**
baz=67,SNR=7.5
GASB Alder Springs 66.99 57 ⇓P **P** **02 51 17.1 +0.9**
baz=67,SNR=9.2
HATC Hat Creek Radi 67.05 55 ⇑P **P** **02 51 17.0 +0.4**
baz=67,SNR=6.1
K07A Rock Creek Ran 67.23 52 ⇑P **P** **02 51 18.3 +0.6**
baz=67,SNR=17
M06C Likely Place G 67.41 54 ⇓P **P** **02 51 19.3 +0.5**
baz=67

O04C Chester 67.58 55 ⇑P P 02 51 20.4 +0.5
baz=67
MNRC McLaughlin Nat 67.62 57 ⇓P P 02 51 21.0 +0.8
baz=67
MSO Missoula 67.64 46 eP P 02 51 20.1 -0.2
comp=Z,10nm,1.1s,mb4.6
ORV Oroville 67.80 56 ⇓P P 02 51 20.6 -0.6
baz=68,SNR=9.7
O05C Quincy 67.90 56 ⇑P P 02 51 22.0 +0.1
baz=68
OHCM Honcut 67.94 56 eP P 02 51 22.3 +0.1
Q03C Winters 68.04 57 ⇑P P 02 51 23.9 +1.1
baz=68
M07A Soldier Meadow 68.08 54 ⇑P P 02 51 23.6 +0.6
baz=68,SNR=20
FFC Flin Flon 68.13 35 eP P 02 51 22.6 -0.7
FCC Fort Churchill 68.25 28 eP P 02 51 23.1 -1.0
FCC pmax pmax
comp=Z,24nm,1.0s,mb5.0
FCC Fort Churchill 68.25 28 eP P 02 51 23.1 -1.0
comp=Z,24nm,1.0s,mb5.0
Q04C Lincoln 68.31 57 ⇑P P 02 51 24.5 +0.1
baz=68
KIV Kislovodsk 68.34 310⇑eP P 02 51 25.2 +0.5
KIV pmax pmax
comp=Z,26nm,1.2s,mb4.9
KIV Kislovodsk 68.34 310 eP P 02 51 24.9 +0.2
comp=Z,14nm,0.6s,mb5.0
O06A Flanigan 68.44 55 ⇓P P 02 51 25.6 +0.3
baz=68
P05C Yuba Gap, Truc 68.50 56 ⇓P P 02 51 25.6 0.0
baz=68
L09A Wilkinson Ranc 68.57 52 ⇓P P 02 51 26.4 +0.3
baz=68
N07B Gerlach 68.57 54 ⇑P P 02 51 26.5 +0.4
baz=68
LAVA Lava Cap Winer 68.75 57 ⇑P P 02 51 27.1 -0.1
baz=68,SNR=7.1
HRY Holter Researc 68.83 46 eP P 02 51 27.9 +0.2
O07A Toulon 69.01 54 ⇓P P 02 51 29.3 +0.5
baz=69,SNR=6.7
WCN Washoe City 69.01 56 ⇓P P 02 51 29.3 +0.4
baz=69
EGMT Eagleton 69.05 43 eP P 02 51 28.9 -0.1
M09A Marrel Ranch, 69.07 53 ⇑P P 02 51 29.7 +0.5
baz=69
N08A GE Springer Mi 69.07 54 ⇑P P 02 51 29.5 +0.3
baz=69
LRM Limekiln Ridge 69.08 47 eP P 02 51 29.6 +0.3
S04C Ingram Canyon, 69.16 58 ⇑P P 02 51 29.6 -0.2
baz=69
R05C Kirkwood Meado 69.19 56 ⇓P P 02 51 30.1 +0.2
baz=69
DLMT Dillon 69.29 47 eP P 02 51 31.0 +0.4
CMB Columbia Colle 69.42 57 eP P 02 51 31.4 +0.1
CMB pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
CMB Columbia Colle 69.42 57 eP P 02 51 31.4 +0.1
comp=Z,9.5nm,0.9s,mb4.6
CMB Columbia Colle 69.42 57 ⇓P P 02 51 31.4 +0.1
baz=69,SNR=7.9
HLID Hailey 69.45 49 eP P 02 51 32.0 +0.5
PACP Pacheco Peak 69.49 58 ⇑P P 02 51 31.9 +0.1
baz=69
NB2 NORSAR Subarra 69.51 337 P P 02 51 30.9 -1.0
comp=Z,32nm,0.8s,mb5.2,baz=36,slow=6.2
NB2 NORSAR Subarra 69.51 337 P P 02 51 30.9 -1.0
NB2 pmax pmax
comp=Z,32nm,0.8s,mb5.2
NOA NORSAR Array B 69.51 337 P P 02 51 30.9 -1.0
comp=Z,25nm,0.7s,mb5.2,baz=35,slow=6.1,SNR=122
NOA pP pP 02 51 53.2 -1.5
comp=Z,4.9nm,0.8s,baz=36,slow=6.2,SNR=3.0
NOA LR LR 03 26 30.7
comp=Z,33nm,18.1s,baz=10.0,slow=40
NOA NORSAR Array B 69.51 337 P P 02 51 30.9 -1.0
NOA *PP pP 02 51 53.3 -1.5
NOA pmax pmax
comp=Z,25nm,0.7s
NOA MLR MLR
comp=Z,33nm,18.1s
HFS Hagfors 69.51 336 P P 02 51 30.8 -1.2
comp=Z,29nm,0.6s,mb5.3,baz=48,slow=6.6,SNR=137
HFS pP pP 02 51 53.0 -1.8
comp=Z,3.4nm,0.7s,baz=89,slow=6.1,SNR=2.2
HFS Hagfors 69.51 336 P P 02 51 30.8 -1.1
HFS *PP pP 02 51 53.0 -1.8
HFS pmax pmax
comp=Z,29nm,0.6s
M10A I.L. Ranch, Tu 69.54 52 ⇓P P 02 51 32.6 +0.5
baz=69
BOZ Bozeman (W) 69.63 46 eP P 02 51 33.1 +0.5
R06C Coleville 69.69 56 ⇑P P 02 51 33.5 +0.5
baz=69
WAKR Walker 69.71 56 eP P 02 51 34.0 +0.8
HAST Hastings Reser 69.71 59 ⇑P P 02 51 33.1 -0.1
baz=70,SNR=5.8
NAO01 NORSAR Array S 69.76 337 eP P 02 51 32.5 -0.9
comp=Z,13nm,0.7s,mb4.9
S06C San Francisco 69.84 57 ⇓P P 02 51 34.0 0.0
baz=70
S05C Merced 69.88 58 ⇓P P 02 51 33.9 -0.3
baz=70
O09A Fish Creek Ran 70.01 54 ⇑P P 02 51 35.6 +0.6
baz=70,SNR=6.5
M11A Holland Ranch, 70.03 52 ⇓P P 02 51 35.8 +0.7
baz=70,SNR=6.0
V03C Hunter Liggett 70.14 59 ⇓P P 02 51 36.0 +0.2
baz=70,SNR=5.5
U04C Hernandez Rese 70.22 59 ⇑P P 02 51 36.6 +0.3
baz=70
SOC Sochi 70.23 311 eP P 02 51 34.9 -1.4
SOC e 02 51 51.9
SOC e*PP pP 02 52 09.2 +10
SOC ePPP 02 55 49.8
SOC eS S 03 00 29.7 -11
SOC pmax pmax
comp=Z,26nm,1.1s,mb5.0
QLMT Earthquake Lak 70.27 47 eP P 02 51 36.7 +0.1
Q08A Gabbs 70.40 55 ⇓P P 02 51 37.5 +0.1
baz=70
NVAR Mina Array Bea 70.44 56 P P 02 51 38.3 +0.6
comp=Z,6.1nm,0.7s,mb4.5,baz=298,slow=4.6,SNR=32
NVAR pP pP 02 51 59.7 -0.9
comp=Z,2.4nm,0.7s,baz=292,slow=5.0,SNR=3.9
NVAR Mina Array Bea 70.44 56 P P 02 51 38.3 +0.6
NVAR pP pP 02 51 59.7 -0.9
MNV Mina 70.53 55 eP P 02 51 38.6 +0.4
M12A Wells 70.54 51 ⇓P P 02 51 39.0 +0.8
baz=70,SNR=8.6
V04C Ramage Ranch, 70.61 59 ⇑P P 02 51 39.1 +0.5
baz=70
PKD Parkfield 70.62 59 ⇑P P 02 51 38.8 0.0
baz=70
ANN Anapa 70.68 313 eP P 02 51 43.4 +4.4
ANN pmax pmax
comp=Z,48nm,1.0s,mb5.3
AKASG Malin Array Be 70.71 322 P P 02 51 38.1 -1.1
comp=Z,5.8nm,0.5s,mb4.7,baz=41,slow=5.9,SNR=34
AKASG pP pP 02 52 01.5 -0.7
comp=Z,4.6nm,0.7s,baz=41,slow=6.3,SNR=3.3
AKASG Malin Array Be 70.71 322 P P 02 51 38.2 -1.1
AKASG *PP pP 02 52 01.5 -0.7
AKASG pmax pmax
comp=Z,6.0nm,0.5s
ELK Elko 70.79 52 eP P 02 51 40.3 +0.6
N12A Wells--Clov Va 70.83 52 ⇓P P 02 51 40.6 +0.6
baz=71,SNR=5.2
YFT Old Faithful 70.84 47 eP P 02 51 41.6 +1.6
SUW Suwalki 70.90 327 eP P 02 51 39.4 -1.0
M13A Montello 71.01 51 ⇑P P 02 51 41.4 +0.4
baz=71,SNR=7.8
S08C White Mtn Res 71.11 56 ⇓P P 02 51 42.4 +0.7
baz=71,SNR=11
IMW Indian Meadow 71.15 47 eP P 02 51 43.0 +1.1
comp=Z,12nm,0.8s,mb4.8
FLWY Flagg Ranch 71.15 47 eP P 02 51 43.6 +1.7
comp=Z,8.3nm,0.4s,mb4.9
N13A West Wendover 71.31 51 ⇑P P 02 51 43.3 +0.3
baz=71
MOOW Moose Ponds 71.35 47 eP P 02 51 44.0 +0.9
comp=Z,24nm,1.3s,mb4.9
TPAW Teton Pass 71.41 48 eP P 02 51 44.9 +1.4
comp=Z,21nm,1.2s,mb4.8
LOHW Long Hollow 71.52 47 eP P 02 51 45.3 +1.2
REDW Red Top Meadow 71.55 48 eP P 02 51 45.5 +1.1
comp=Z,28nm,1.4s,mb4.9

S09A Goldfield 71.55 56 ⇑P P 02 51 44.6 +0.3
baz=71
LAO LASA Array 71.72 43 eP P 02 51 45.9 +0.6
P12A McGill 71.81 53 ⇓P P 02 51 46.2 +0.3
baz=72
SPUT South Promonto 72.02 50 eP P 02 51 47.9 +0.8
ISA Isabella 72.10 58 ⇑P P 02 51 46.8 -0.8
baz=72
DAC Darwin (Calif) 72.25 57 eP P 02 51 48.7 +0.2
HWUT Hardware Ranch 72.32 49 eP P 02 51 49.7 +0.8
comp=Z,14nm,1.1s,mb4.7
DUG Dugway 72.55 51 eP P 02 51 50.9 +0.6
DUG pmax pmax
comp=Z,14nm,1.1s,mb4.7
DUG Dugway 72.55 51 eP P 02 51 50.9 +0.6
comp=Z,14nm,1.1s,mb4.7
OSI Osito Adit 72.62 59 ⇑P P 02 51 50.9 +0.2
baz=72
PDAR Pinedale Array 72.65 48 P P 02 51 50.8 -0.1
comp=Z,6.9nm,0.7s,mb4.6,baz=278,slow=2.2,SNR=75
PDAR pP pP 02 52 13.4 -0.5
comp=Z,5.3nm,0.8s,baz=318,slow=2.0,SNR=5.7
TCUT Toone Canyon 72.73 50 eP P 02 51 51.8 +0.5
BSD Bornholm Skovb 73.13 332⇑iP P 02 51 52.7 -1.0
comp=Z,22nm,1.0s,mb5.0
BSD i pP 02 52 16.7 -0.1
BSD Bornholm Skovb 73.13 332⇑iP P 02 51 52.7 -1.0
BSD i pP 02 52 16.7 -0.1
BSD pmax pmax
comp=Z,22nm,1.0s,mb4.9
NLU North Lily Min 73.13 51 eP P 02 51 54.2 +0.5
MPU Maple Canyon 73.34 51 eP P 02 51 55.1 +0.1
GSC Goldstone 73.37 57 eP P 02 51 55.4 +0.3
GSC Goldstone 73.37 57 ⇓P P 02 51 55.1 -0.1
baz=73,SNR=6.4
COP Copenhagen 73.50 333 iP P 02 51 56.2 +0.3
comp=Z,19nm,0.9s,mb4.8
COP Copenhagen 73.50 333 iP P 02 51 56.2 +0.3
COP pmax pmax
comp=Z,19nm,0.9s,mb4.8
SHPR Sheep Range 73.59 55 eP P 02 51 57.1 +0.7
TUQ Turquoise Mtn. 73.83 57 ⇑P P 02 51 58.2 +0.4
baz=74
ULM Lac du Bonnet 73.94 35 P P 02 51 57.3 -1.2
comp=Z,9.9nm,0.9s,mb4.5,baz=313,slow=6.0,SNR=12
ULM pP pP 02 52 20.7 -0.9
comp=Z,4.0nm,0.8s,baz=306,slow=10,SNR=2.6
ULM Lac du Bonnet 73.94 35 P P 02 51 57.3 -1.2
ULM pP pP 02 52 20.7 -0.9
MSU Marysvale 74.04 52 eP P 02 52 00.0 +1.0
TMUT Trail Mountain 74.07 51 eP P 02 51 59.1 -0.1
STKA Stephens Creek 74.27 182 eP P 02 51 58.2 -2.2
comp=Z,6.7nm,0.8s,mb4.4
STKA Stephens Creek 74.27 182 P P 02 51 58.5 -1.9
comp=Z,7.5nm,0.7s,mb4.5,baz=345,slow=7.0,SNR=18
KWP Kalwaria 74.37 324 eP P 02 52 01.2 +0.3
FORT Forrest 74.50 194 eP P 02 52 01.7 0.0
comp=Z,26nm,0.6s,mb5.1
SRU San Rafael 74.59 51 eP P 02 52 02.6 +0.4
RWWY Rawlins 74.66 47 eP P 02 52 02.9 +0.2
comp=Z,21nm,1.0s,mb4.8
PFO Pinyon Flat Ob 74.70 58 ⇓P P 02 52 02.9 +0.1
baz=74
109C Camp Elliot, M 74.76 59 ⇓P P 02 52 03.0 -0.2
baz=74
BURAR Bucovina Array 74.76 322⇑iP P 02 52 03.1 -0.1
BURAR Bucovina Array 74.76 322 ⇓P P 02 52 03.6 +0.4
OJC Ojcow 75.13 326 ePc P 02 52 05.5 +0.1
STHS Stebnicka Huta 75.15 325 eP P 02 52 06.3 +0.8
STHS e 02 52 20.1
STHS e pP 02 52 29.2 +0.6
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
STHS Stebnicka Huta 75.15 325 eP P 02 52 06.3 +0.8
comp=Z,4.6nm,0.8s,mb4.3
STHS ePcP PcP 02 52 20.1 +1.5
STHS e pP 02 52 29.2 +0.6
NIE Niedzica 75.54 326 eP P 02 52 08.5 +0.8
BSEG Bad Segeberg 75.64 334 eP P 02 52 07.7 -0.6
comp=Z,106nm,2.6s,mb5.1
BSEG Bad Segeberg 75.64 334 eP P 02 52 07.7 -0.6
BSEG pmax pmax
comp=Z,106nm,2.6s,mb5.1
X13A Yucca 75.67 56 ⇓P P 02 52 08.6 +0.2
baz=75,SNR=16
W14A Seligman 75.72 55 ⇑P P 02 52 09.4 +0.7
baz=76,SNR=10.0
Y12C Blythe 75.81 57 ⇓P P 02 52 09.4 +0.2
baz=76
KSP Ksiaz 76.03 329 eP P 02 52 10.1 -0.4
KSP Ksiaz 76.03 329 eP P 02 52 10.3 -0.2
KSP e pP 02 52 33.6 -0.1
GLA Glamis 76.09 58 eP P 02 52 11.2 +0.4
GLA Glamis 76.09 58 ⇑P P 02 52 10.9 +0.1
baz=76,SNR=8.7
OKC Ostrava-Krasne 76.10 327 eP P 02 52 10.7 -0.2
OKC epP pP 02 52 34.0 -0.1
KECS Kecovo 76.19 325 eP P 02 52 08.3 -3.1
KECS pmax pmax
comp=Z,2.0nm,1.2s,mb3.7
KECS Kecovo 76.19 325 eP P 02 52 08.3 -3.1
comp=Z,2.4nm,1.2s,mb3.8
BRTR Keskin Array B 76.19 312 P P 02 52 11.5 +0.1
comp=Z,1.0nm,0.8s,mb3.6,baz=90,slow=3.7,SNR=6.6
BRTR Keskin Array B 76.19 312 P P 02 52 11.5 +0.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
Y13A Salome 76.20 57 ⇓P P 02 52 11.7 +0.3
baz=76
W15A Williams 76.22 55 ⇓P P 02 52 12.5 +0.9
baz=76
X14A Yava 76.33 56 ⇑P P 02 52 13.0 +0.8
baz=76,SNR=14
MORC Moravsky Berou 76.39 327⇓iP P 02 52 12.7 +0.2
MORC Moravsky Berou 76.39 327 eP P 02 52 12.7 +0.2
MORC pmax pmax
comp=Z,12nm,0.9s,mb4.6
MORC Moravsky Berou 76.39 327 eP P 02 52 12.7 +0.1
comp=Z,12nm,0.9s,mb4.6
UPC Upice 76.41 329 eP P 02 52 12.7 +0.1
UPC epP pP 02 52 36.0 +0.1
DPC Dobruska-Polom 76.41 328 eP P 02 52 13.1 +0.4
DPC epP pP 02 52 36.5 +0.6
WUAZ Wupatki 76.53 54 eP P 02 52 14.5 +1.2
Y14A Wickenburg 76.62 56 ⇓P P 02 52 14.1 +0.3
baz=76,SNR=12
X15A Humboldt 76.71 55 ⇑P P 02 52 15.2 +0.9
baz=76,SNR=16
ISCO Idaho Springs 76.85 48 eP P 02 52 16.1 +1.0
VYHS Vyhne 76.87 326 eP P 02 52 15.4 +0.2
VYHS e 02 52 18.2
VYHS epP pP 02 52 39.1 +0.6
VYHS esP sP 02 52 46.9 -1.2
VYHS ePP PP 02 54 51.5 -18
VYHS Vyhne 76.87 326 eP P 02 52 15.4 +0.2
VYHS e pP 02 52 39.1 +0.6
VYHS e 02 52 46.9
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
VYHS Vyhne 76.87 326 eP P 02 52 15.4 +0.2
comp=Z,2.9nm,1.0s,mb4.0
VYHS e 02 52 18.3
VYHS e pP 02 52 39.1 +0.6
VYHS e 02 52 46.9
VYHS ePP PP 02 54 51.5 -18
CLL Collm 76.88 331 eP P 02 52 14.7 -0.6
comp=Z,18nm,1.0s,mb4.8
CLL Collm 76.88 331⇑iP P 02 52 14.6 -0.7
comp=Z,18nm,1.0s,mb4.8
CLL ⇓iP(2) 02 52 17.7
comp=Z,15nm,0.7s
CLL i pP pP 02 52 38.9 +0.3
comp=Z,17nm,1.0s
CLL Collm 76.88 331⇑iP P 02 52 14.6 -0.7
comp=Z,18nm,1.0s,mb4.8
CLL i pP Px 02 52 17.7
BRG Berggiesshubel 76.89 330 eP P 02 52 14.8 -0.6
comp=Z,8.0nm,1.1s,mb4.4
BRG Berggiesshubel 76.89 330 iP P 02 52 14.9 -0.4
comp=Z,4.8nm,1.1s,mb4.1
BRG e pP 02 52 38.4 -0.2
comp=Z,7.1nm,1.6s
BRG Berggiesshubel 76.89 330 iP P 02 52 15.0 -0.4
BRG e pP 02 52 38.4 -0.2
BRG pmax pmax

comp=Z,5.0nm,1.1s,mb4.2
NRDL Niedersach Rie 76.91 333 eP P 02 52 14.4 -1.1
comp=Z,6.0nm,1.0s,mb4.3
PVCC Panska Ves 76.94 329 eP P 02 52 15.5 -0.1
PVCC epP pP 02 52 39.0 +0.1
KOLL Kolacno 76.98 326 eP P 02 52 16.7 +0.8
KOLL epP pP 02 52 39.6 +0.5
Z14A Wintersburg 77.04 57 ⇓P P 02 52 16.3 +0.1
baz=77
FBE Freiberg 77.07 330 eP P 02 52 16.0 -0.4
comp=Z,8.0nm,0.8s,mb4.5
VRAC Vranov 77.14 327⇓iP P 02 52 17.4 +0.7
VRAC Vranov 77.14 327 ⇓P P 02 52 17.4 +0.7
CLZ Clausthal 77.37 332 eP P 02 52 17.8 -0.2
comp=Z,14nm,1.0s,mb4.7
CLZ Clausthal 77.37 332 eP P 02 52 17.8 -0.2
CLZ pmax pmax
comp=Z,14nm,1.0s,mb4.7
PRU Pruhonice 77.39 329 eP P 02 52 18.1 0.0
PRU epP pP 02 52 41.6 +0.2
SMOL Smolenice 77.43 327 eP P 02 52 19.1 +0.7
SMOL epP pP 02 52 42.1 +0.4
EYMN Ely 77.56 34 eP P 02 52 17.9 -1.2
comp=Z,22nm,0.8s,mb5.0
TREC Trest 77.58 328 eP P 02 52 19.2 0.0
WERD Werda 77.84 330 eP P 02 52 20.1 -0.6
comp=Z,5.0nm,1.0s,mb4.2
BZS Buzias 77.90 322⇓iP P 02 52 20.9 -0.1
MOX Moxa 77.93 331 eP P 02 52 20.3 -0.8
comp=Z,10.0nm,1.2s,mb4.4
MOX Moxa 77.93 331 eP P 02 52 20.7 -0.4
comp=Z,11nm,1.4s,mb4.4
MOX Moxa 77.93 331 eP P 02 52 20.7 -0.4
MOX pmax pmax
comp=Z,11nm,1.4s,mb4.4
115A Sonoran Desert 77.93 57 ⇓P P 02 52 21.8 +0.6
baz=78
WERN Wernitzgruen 77.95 330 eP P 02 52 21.1 -0.2
comp=Z,3.0nm,0.7s,mb4.1
NKC Novy Kostel 77.97 330 eP P 02 52 20.1 -1.3
NKC epP pP 02 52 44.4 -0.2
EKA Eskdalemuir Ar 78.24 341 P P 02 52 22.4 -0.5
comp=Z,5.1nm,0.7s,mb4.4,baz=21,slow=4.9,SNR=22
EKA pP pP 02 52 44.5 -1.6
comp=Z,1.6nm,0.5s,baz=22,slow=5.0,SNR=2.7
EKA Eskdalemuir Ar 78.24 341 P P 02 52 22.4 -0.5
EKA *PP pP 02 52 44.6 -1.6
EKA pmax pmax
comp=Z,5.0nm,0.7s
MANZ Manzenberg 78.30 330 eP P 02 52 22.9 -0.3
comp=Z,4.0nm,0.9s,mb4.2
116A Eloy 78.35 56 ⇓P P 02 52 23.8 +0.3
baz=78,SNR=5.8
ROTZ Rotzenmuhle 78.44 330 eP P 02 52 23.9 -0.1
comp=Z,7.0nm,0.9s,mb4.4
KHC Kasperske Hory 78.45 329 eP P 02 52 24.0 0.0
KHC epP pP 02 52 46.5 -0.8
KHC Kasperske Hory 78.45 329⇑iP P 02 52 24.1 +0.1
CONA Conrad Observa 78.53 327⇑iP P 02 52 24.7 +0.2
comp=Z,5.7nm,0.9s,mb4.4
GEC2 GERESS Array S 78.64 329 eP P 02 52 24.6 -0.4
comp=Z,3.0nm,0.7s,mb4.2
GEC2 GERESS Array S 78.64 329 eP P 02 52 24.6 -0.4
GEC2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
GERES GERESS Array B 78.64 329 P P 02 52 24.6 -0.5
comp=Z,1.8nm,0.5s,mb4.2,baz=38,slow=5.7,SNR=23
GERES pP pP 02 52 45.9 -2.5
comp=Z,0.5nm,0.5s,baz=34,slow=5.3,SNR=2.5
GERES LR LR 03 29 05.4
comp=Z,62nm,19.8s,baz=30,slow=37
GERES GERESS Array B 78.64 329 P P 02 52 24.6 -0.4
GERES *PP pP 02 52 45.9 -2.5
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES MLR MLR
comp=Z,62nm,19.8s
WET Wettzell 78.70 329 eP P 02 52 25.2 -0.2
comp=Z,10.0nm,1.0s,mb4.6
WET Wettzell 78.70 329 eP P 02 52 25.2 -0.2
WET pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
PKSM Moragy 78.74 324⇑iP P 02 52 24.6 -1.0
PKSM Moragy 78.74 324 ⇓P P 02 52 25.3 -0.3
GRA1 Grafenberg Arr 78.86 331 eP P 02 52 26.1 -0.2
comp=Z,16nm,0.9s,mb4.8
GRA1 epP pP 02 52 49.4 -0.2
GRA1 esP sP 02 52 58.7 -0.6
GRF Grafenberg Arr 78.86 331 eP P 02 52 26.1 -0.2
comp=Z,16nm,0.9s,mb4.8
GRF epP pP 02 52 49.4 -0.2
GRF esP sP 02 52 58.7 -0.6
GRF Grafenberg Arr 78.86 331 eP P 02 52 26.1 -0.2
GRF e*PP pP 02 52 49.4 -0.2
GRF e*SP sP 02 52 58.7 -0.6
GRF pmax pmax
comp=Z,16nm,0.9s,mb4.8
TUC Tucson 79.09 56 eP P 02 52 28.7 +1.2
MOA Molln 79.23 328⇑iP P 02 52 28.2 0.0
comp=Z,1.2nm,0.7s,mb3.8
TNS Taunus Mts 79.39 332 eP P 02 52 28.3 -0.9
comp=Z,6.0nm,1.1s,mb4.3
TNS Taunus Mts 79.39 332 eP P 02 52 28.3 -0.9
TNS pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
SCHQ Schefferville 79.45 17 P P 02 52 28.6 -0.9
comp=Z,12nm,0.9s,mb4.7,baz=355,slow=6.6,SNR=20
ANMO Albuquerque 79.81 52 eP P 02 52 32.2 +0.8
PERS Pernice 79.88 327 eP P 02 52 31.8 0.0
BNM Barren Site 80.28 52 eP P 02 52 34.9 +0.9
WATA Walderalm 80.69 329⇓iP P 02 52 36.2 0.0
comp=Z,7.6nm,1.1s,mb4.4
WATA Walderalm 80.69 329⇓iP P 02 52 36.2 +0.1
WATA pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
WTTA Wattenberg 80.73 329⇑iP P 02 52 36.5 +0.2
comp=Z,7.3nm,0.7s,mb4.6
WTTA Wattenberg 80.73 329⇑iP P 02 52 36.5 +0.2
WTTA pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
BOJS Bojanci 80.74 326 eP P 02 52 35.7 -0.7
ROBS Robic 80.84 327 eP P 02 52 37.6 +0.7
MOTA Moosalm 80.86 329⇓iP P 02 52 37.0 -0.1
comp=Z,13nm,1.0s,mb4.7,SNR=12
MOTA Moosalm 80.86 329⇓iP P 02 52 37.0 -0.1
MOTA pmax pmax
comp=Z,13nm,1.0s,mb4.7
BAIF Baives 80.92 335 eP P 02 52 36.3 -1.1
SQTA Sankt Quirin 80.92 329⇑iP P 02 52 37.4 0.0
comp=Z,9.2nm,1.1s,mb4.5
SQTA Sankt Quirin 80.92 329⇑iP P 02 52 37.4 0.0
SQTA pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
CDF Champ du Feu 81.33 332 eP P 02 52 38.8 -0.8
comp=Z,9.2nm,0.8s,mb4.3
CDF Champ du Feu 81.33 332 eP P 02 52 38.8 -0.8
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
CDF Champ du Feu 81.33 332 eP P 02 52 38.8 -0.8
comp=Z,4.6nm,0.8s,mb4.4
DAVA Damuels 81.36 330⇑iP P 02 52 39.6 -0.1
comp=Z,13nm,1.1s,mb4.7
HINF Hinteralfeld 81.99 332 eP P 02 52 42.3 -0.7
HAU Haudompre 82.00 332 eP P 02 52 42.9 -0.2
HAU eR
comp=Z,43nm,20.0s
HAU Haudompre 82.00 332 eP P 02 52 42.9 -0.2
HAU LR LR
comp=Z,40nm,20.0s
MEZF Maizieres J'vi 82.01 333 eP P 02 52 42.3 -0.8
AMTX Amarillo 82.56 49 eP P 02 52 46.2 +0.2
MNTX Cornudas Mount 82.76 53 eP P 02 52 47.6 +0.5
CABF La Chapelle 83.30 332 eP P 02 52 48.1 -1.7
comp=Z,14nm,1.1s,mb4.4
CABF La Chapelle 83.30 332 eP P 02 52 48.1 -1.7
CABF pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
CABF La Chapelle 83.30 332 eP P 02 52 48.1 -1.7
comp=Z,7.1nm,1.1s,mb4.4
LOR Lormes 83.47 334 eP P 02 52 49.7 -1.0
comp=Z,20nm,1.0s,mb4.6
LOR eR
comp=Z,86nm,22.8s
LOR Lormes 83.47 334 eP P 02 52 49.7 -1.0
LOR pmax pmax

comp=Z,10.0nm,1.0s,mb4.6
LOR MLR MLR
LOR Lormes 83.47 334 *e*P **P 02 52 49.7 -1.0**
comp=Z,10nm,1.0s,mb4.6
LOR LR LR
comp=Z,90nm,22.8s
FLN La Foliniere 83.49 337 *e*P **P 02 52 49.7 -1.1**
FLN *e*R
comp=Z,74nm,20.5s
FLN La Foliniere 83.49 337 *e*P **P 02 52 49.7 -1.1**
FLN LR LR
comp=Z,70nm,20.5s
LDF La Druitiere 83.53 337 *e*P **P 02 52 50.2 -0.8**
comp=Z,16nm,1.1s,mb4.5
LDF La Druitiere 83.53 337 *e*P **P 02 52 50.2 -0.8**
LDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
LDF La Druitiere 83.53 337 *e*P **P 02 52 50.2 -0.8**
comp=Z,7.9nm,1.1s,mb4.5
SSF Saint Saulge 83.77 334 *e*P **P 02 52 51.3 -0.9**
comp=Z,14nm,1.0s,mb4.5
SSF Saint Saulge 83.77 334 *e*P **P 02 52 51.3 -0.9**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SSF Saint Saulge 83.77 334 *e*P **P 02 52 51.3 -0.9**
comp=Z,7.0nm,1.0s,mb4.5
GRR Gorron 83.93 337 *e*P **P 02 52 52.0 -1.1**
comp=Z,14nm,0.8s,mb4.6
GRR Gorron 83.93 337 *e*P **P 02 52 52.0 -1.1**
GRR pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
GRR Gorron 83.93 337 *e*P **P 02 52 52.0 -1.1**
comp=Z,7.3nm,0.8s,mb4.6
LPL La Plagne 84.01 331 *e*P **P 02 52 53.3 -0.2**
LPG La Plagne 84.02 331 *e*P **P 02 52 53.4 -0.1**
comp=Z,11nm,0.8s,mb4.5
LPG La Plagne 84.02 331 *e*P **P 02 52 53.4 -0.1**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
LPG La Plagne 84.02 331 *e*P **P 02 52 53.4 -0.1**
SMF Signal de Mont 84.03 333 *e*P **P 02 52 52.7 -0.8**
comp=Z,32nm,1.0s,mb4.8
SMF Signal de Mont 84.03 333 *e*P **P 02 52 52.7 -0.8**
SMF pmax pmax
comp=Z,16nm,1.0s,mb4.8
SMF Signal de Mont 84.03 333 *e*P **P 02 52 52.7 -0.8**
comp=Z,16nm,1.0s,mb4.8
AVF Avril sur Loir 84.06 334 *e*P **P 02 52 52.9 -0.8**
comp=Z,21nm,0.9s,mb4.7
AVF Avril sur Loir 84.06 334 *e*P **P 02 52 52.9 -0.8**
AVF pmax pmax
comp=Z,11nm,0.9s,mb4.7
AVF Avril sur Loir 84.06 334 *e*P **P 02 52 52.9 -0.8**
comp=Z,11nm,0.9s,mb4.7
BNI Bardonecchia 84.43 331 *e*P **P 02 52 55.6 0.0**
BNI pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
BNI Bardonecchia 84.43 331 *e*P **P 02 52 55.5 0.0**
comp=Z,4.3nm,0.7s,mb4.4
SGMF Saint Gilles 84.54 338 *e*P **P 02 52 55.7 -0.4**
MBDF Montbardon 84.68 331 *e*P **P 02 52 56.1 -0.7**
comp=Z,10nm,0.9s,mb4.5
MBDF Montbardon 84.68 331 *e*P **P 02 52 56.1 -0.7**
MBDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MBDF Montbardon 84.68 331 *e*P **P 02 52 56.1 -0.7**
comp=Z,5.2nm,0.9s,mb4.5
ORIF Oris-en-Rattie 84.83 331 *e*P **P 02 52 57.3 -0.3**
comp=Z,16nm,1.0s,mb4.6
ORIF *e*R
comp=Z,95nm,21.1s
ORIF Oris-en-Rattie 84.83 331 *e*P **P 02 52 57.3 -0.3**
ORIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ORIF Oris-en-Rattie 84.83 331 *e*P **P 02 52 57.3 -0.3**
comp=Z,8.3nm,1.0s,mb4.6
TCF Toulx Ste Croi 84.88 334 *e*P **P 02 52 56.3 -1.5**
comp=Z,6.4nm,0.7s,mb4.3
TCF Toulx Ste Croi 84.88 334 *e*P **P 02 52 56.3 -1.5**
TCF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TCF Toulx Ste Croi 84.88 334 *e*P **P 02 52 56.3 -1.5**
comp=Z,3.2nm,0.7s,mb4.4
QUIF Quistinic 85.01 338 *e*P **P 02 52 57.6 -0.9**
comp=Z,18nm,0.9s,mb4.7
QUIF Quistinic 85.01 338 *e*P **P 02 52 57.6 -0.9**
QUIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
QUIF Quistinic 85.01 338 *e*P **P 02 52 57.6 -0.9**
comp=Z,9.3nm,0.9s,mb4.7
SBF Sospel 85.18 330 *e*P **P 02 52 58.0 -1.3**
comp=Z,37nm,0.9s,mb5.0
SBF Sospel 85.18 330 *e*P **P 02 52 58.0 -1.3**
SBF pmax pmax
comp=Z,18nm,0.9s,mb5.0
SBF Sospel 85.18 330 *e*P **P 02 52 58.0 -1.3**
comp=Z,18nm,0.9s,mb5.0
VIVF Saint-Julien-l 85.31 332 *e*P **P 02 52 59.6 -0.4**
comp=Z,22nm,1.0s,mb4.8
VIVF Saint-Julien-l 85.31 332 *e*P **P 02 52 59.6 -0.4**
VIVF pmax pmax
comp=Z,11nm,1.0s,mb4.7
VIVF Saint-Julien-l 85.31 332 *e*P **P 02 52 59.6 -0.4**
comp=Z,11nm,1.0s,mb4.8
MFF Saint Martin d 85.33 336 *e*P **P 02 52 59.9 -0.2**
comp=Z,14nm,0.7s,mb4.7
MFF Saint Martin d 85.33 336 *e*P **P 02 52 59.9 -0.2**
MFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MFF Saint Martin d 85.33 336 *e*P **P 02 52 59.9 -0.2**
comp=Z,7.1nm,0.7s,mb4.7
LTX Lajitas 85.49 54 *e*P **P 02 53 01.5 +0.6**
LTX pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LTX Lajitas 85.49 54 *e*P **P 02 53 01.5 +0.6**
comp=Z,9.2nm,0.8s,mb4.8
PGF Pioggiola 85.70 328 *e*P **P 02 53 00.8 -1.1**
comp=Z,9.3nm,0.8s,mb4.5
PGF Pioggiola 85.70 328 *e*P **P 02 53 00.8 -1.1**
PGF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PGF Pioggiola 85.70 328 *e*P **P 02 53 00.8 -1.1**
comp=Z,4.7nm,0.8s,mb4.5
FRF La Foret Royal 85.73 330 *e*P **P 02 53 00.9 -1.2**
comp=Z,19nm,1.1s,mb4.6
FRF La Foret Royal 85.73 330 *e*P **P 02 53 00.9 -1.2**
FRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
FRF La Foret Royal 85.73 330 *e*P **P 02 53 00.9 -1.2**
comp=Z,9.4nm,1.1s,mb4.6
FVM French Village 85.95 40 *e*P **P 02 53 02.8 -0.4**
FVM pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
FVM French Village 85.95 40 *e*P **P 02 53 02.8 -0.4**
comp=Z,8.8nm,0.6s,mb4.9
RJF Les Rejaudoux 85.97 334 *e*P **P 02 53 02.9 -0.4**
comp=Z,13nm,0.9s,mb4.6
RJF *e*R
comp=Z,103nm,22.2s
RJF Les Rejaudoux 85.97 334 *e*P **P 02 53 02.9 -0.4**
RJF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RJF MLR MLR
comp=Z,100nm,22.3s
RJF Les Rejaudoux 85.97 334 *e*P **P 02 53 02.9 -0.4**
comp=Z,6.7nm,0.9s,mb4.6
RJF LR LR
comp=Z,100nm,22.3s
LMR La Mourre 85.97 330 *e*P **P 02 53 02.3 -1.0**
comp=Z,45nm,1.1s,mb5.0
LMR La Mourre 85.97 330 *e*P **P 02 53 02.3 -1.0**
LMR pmax pmax
comp=Z,23nm,1.1s,mb5.0
LMR La Mourre 85.97 330 *e*P **P 02 53 02.3 -1.0**
comp=Z,22nm,1.1s,mb5.0
CAF Calviac 86.13 334 *e*P **P 02 53 04.3 +0.3**
comp=Z,23nm,1.0s,mb4.8
CAF Calviac 86.13 334 *e*P **P 02 53 04.3 +0.3**
CAF pmax pmax
comp=Z,12nm,1.0s,mb4.8
CAF Calviac 86.13 334 *e*P **P 02 53 04.3 +0.3**
comp=Z,12nm,1.0s,mb4.8
LASF Ste Croix 86.28 332 *e*P **P 02 53 03.6 -1.2**
comp=Z,6.9nm,0.9s,mb4.3
LFF La Frestale 86.55 334 *e*P **P 02 53 06.1 0.0**
comp=Z,42nm,1.1s,mb5.0
LFF La Frestale 86.55 334 *e*P **P 02 53 06.1 0.0**
LFF pmax pmax
comp=Z,21nm,1.0s,mb5.0
LFF La Frestale 86.55 334 *e*P **P 02 53 06.1 0.0**
comp=Z,21nm,1.0s,mb5.0
SIUC Southern Illin 86.74 39 *e*P **P 02 53 07.0 0.0**
ACSO Alum Creek Sta 87.38 34 *e*P **P 02 53 10.0 -0.1**
comp=Z,9.9nm,0.7s,mb4.8
MTLF Montolieu 87.48 333 *e*P **P 02 53 10.6 0.0**
comp=Z,34nm,1.3s,mb4.8
MTLF Montolieu 87.48 333 *e*P **P 02 53 10.6 0.0**
MTLF pmax pmax
comp=Z,17nm,1.3s,mb4.8
MTLF Montolieu 87.48 333 *e*P **P 02 53 10.6 0.0**
comp=Z,17nm,1.3s,mb4.8
WCI Wyandotte Cave 87.64 37 *e*P **P 02 53 10.9 -0.5**
WCI pmax pmax
comp=Z,13nm,0.8s,mb5.0
WCI Wyandotte Cave 87.64 37 *e*P **P 02 53 10.9 -0.5**
comp=Z,13nm,0.8s,mb5.0
ACCN Adirondack Com 88.05 26 *e*P **P 02 53 12.9 -0.3**
EPF Esparros 88.38 334 *e*P **P 02 53 14.1 -0.8**
comp=Z,22nm,1.3s,mb4.7
EPF Esparros 88.38 334 *e*P **P 02 53 14.1 -0.8**
EPF pmax pmax
comp=Z,11nm,1.3s,mb4.7
EPF Esparros 88.38 334 *e*P **P 02 53 14.1 -0.8**
comp=Z,11nm,1.3s,mb4.7
ETSF Etsaut 88.79 334 *e*P **P 02 53 17.1 +0.3**
comp=Z,11nm,0.6s,mb4.7
ETSF Etsaut 88.79 334 *e*P **P 02 53 17.1 +0.3**
ETSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ETSF Etsaut 88.79 334 *e*P **P 02 53 17.1 +0.3**
comp=Z,5.3nm,0.6s,mb4.8
SJPF Ste Jean 88.81 335 *e*P **P 02 53 16.1 -0.8**
comp=Z,18nm,1.0s,mb4.7
SJPF Ste Jean 88.81 335 *e*P **P 02 53 16.1 -0.8**
SJPF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SJPF Ste Jean 88.81 335 *e*P **P 02 53 16.1 -0.8**
comp=Z,8.8nm,1.0s,mb4.7
SSPA Standing Stone 89.02 30 *e*P **P 02 53 17.9 +0.1**
MCWV Mont Chateau 89.12 32 *e*P **P 02 53 18.8 +0.5**
PLAL Pickwick Lake 89.49 40 *e*P **P 02 53 19.5 -0.6**
comp=Z,7.5nm,0.8s,mb4.8
WES Weston 89.69 25 *e*P **P 02 53 21.0 0.0**
SWET Sewanee 90.30 38 *e*P **P 02 53 23.4 -0.4**
ESDC Sonseca Array 92.79 335 P **P 02 53 34.8 -0.6**
comp=Z,0.2nm,0.4s,mb3.8,baz=30,slow=3.9,SNR=4.7
TORD Torodi Ar. Bea 114.21 319 PKP PKiKP 02 59 00.5 -1.4
comp=Z,0.4nm,0.7s,baz=10,slow=2.4,SNR=11
TORD PP PP 02 59 52.0 -6.2
comp=Z,4.0nm,1.1s,baz=22,slow=7.4,SNR=9.9
TORD Torodi Ar. Bea 114.21 319 PKP PKiKP 02 59 00.5 -1.4
TORD PP PP 02 59 52.0 -6.2
MIR Mirnyy 115.57 200 *e*PKIKP PKPdf 02 59 11.0 +6.4
MIR pmax pmax
comp=Z,350nm,0.9s
VNDA Vanda 120.53 175 PKP PKPdf 02 59 13.1 -1.0
comp=Z,0.7nm,1.0s,baz=8,1,slow=7.1,SNR=3.9
VNDA Vanda 120.53 175 PKIKP PKPdf 02 59 13.1 -1.0
VNDA pmax pmax
comp=Z,1.0nm,1.0s
DBIC Dimbokro 122.96 321 PKP PKPdf 02 59 17.7 -1.1
comp=Z,2.9nm,0.9s,baz=34,slow=1.3,SNR=3.3
DBIC Dimbokro 122.96 321 PKIKP PKPdf 02 59 17.7 -1.1
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC Dimbokro 122.96 321 PKP PKPdf 02 59 17.7 -1.1
LPAZ La Paz 142.35 55 PKhKP 02 59 52.1
comp=Z,0.7nm,0.8s,baz=56,slow=3.6,SNR=3.0
LPAZ La Paz 142.35 55 *i* PKIKP PKPdf 02 59 52.1 -3.0
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
BDFB Brasilia 151.28 23 PKPbc PKPbc 03 00 16.2 +0.2
comp=Z,9.2nm,0.7s,baz=292,slow=1.4,SNR=14
BDFB Brasilia 151.28 23 PKIKP PKPbc 03 00 16.2 +0.2
BDFB pmax pmax
comp=Z,9.0nm,0.7s
CPUP Villa Florida 156.46 53 PKPab PKPab 03 00 44.9 -1.4
comp=Z,1.9nm,0.9s,baz=323,slow=13,SNR=3.5
CPUP Villa Florida 156.46 53 PKP2 PKPab 03 00 44.9 -1.4
CPUP pmax pmax
comp=Z,2.0nm,0.9s

MAN ***13*** *03:03:16.7, 6.16N×12703E, h115km, mb3.4, ML4.7, MS4.3*
NEIC ***13*** *03:03:19.9±1.0, 609N×12684E, h35km, mb3.9/1, Error ellipse: s-maj=48.4km s-min=11.1km az=62.0*
ISCJB ***13*** *03:03:20.8±1.2, 608N±007×1268E±0.1, h64km±12km, mb3.8/10, Error ellipse: s-maj=23.3km s-min=11.5km az=153.8*
IDC ***13*** *03:03:25.1±9.4, 603N×12667E, h88km±88km, mb3.6/9, mb1 3.7/9, mb1mx3.6/18, mbtmp3.9/9, Error ellipse: s-maj=99.1km s-min=20.3km az=71.0*
ISC 13 03:03:21.9±1.2, 611N±008×1268E±01, h59km±12km, n18, σ0§94/20, mb3.8/10, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.97**	**329**	*e*P	**Pn**	**03 03 40.3**	**+0.9**
DAV	**Davao City (W)**	**1.51**	**309⇑**	*e*P	**Pn**	**03 03 47.0**	**+0.3**
DAV	**Davao City (W)**	**1.51**	**309**	*e*Pn	**Pn**	**03 03 45.9**	**-0.7**
DAV				*e*Sn	**Sn**	**03 04 05.9**	**+0.6**
BIPH	**Bislig**	**2.10**	**349⇑**	*i*P	**Pn**	**03 03 53.0**	**-1.6**
BIPH				*i* S	**Sn**	**03 04 20.5**	**+0.8**
BUKP	**Musuan**	**2.43**	**316**	*e*P	**Pn**	**03 03 58.0**	**-1.2**
BUKP				*e*S	**Sn**	**03 04 35.7**	**+7.9**
PAGZ	**Pagadian**	**3.77**	**297**	*e*P	**Pn**	**03 04 17.3**	**-0.2**
TBP	**Tagbilaran**	**4.57**	**321**	*e*P	**Pn**	**03 04 37.9**	**+9.5**
FITZ	**Fitzroy Crossi**	**24.08**	**183**	P	**P**	**03 08 31.9**	**+0.1**
	2.9nm,0.7s,mb3.8,baz=131,slow=15,SNR=3.3						
WRAB	**Tennant Creek**	**26.94**	**164**	*e*P	**P**	**03 08 58.6**	**+1.0**
	1.9nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**26.94**	**164**	P	**P**	**03 08 58.6**	**+0.8**
	1.4nm,0.8s,mb3.5,baz=336,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**30.41**	**167**	P	**P**	**03 09 26.8**	**-1.8**
	0.3nm,0.6s,mb3.2,baz=349,slow=7.5,SNR=2.7						
STKA	**Stephens Creek**	**40.34**	**160**	P	**P**	**03 10 54.4**	**+0.7**
	1.1nm,0.7s,mb3.7,baz=316,slow=9.7,SNR=3.5						
SONM	**Songino Array**	**45.07**	**341**	P	**P**	**03 11 33.2**	**+1.2**
	0.4nm,0.7s,mb3.4,baz=165,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**55.64**	**324**	P	**P**	**03 12 52.2**	**+0.4**
	0.6nm,0.5s,mb3.9,baz=120,slow=7.0,SNR=7.6						
ARCES	**ARCESS Array B**	**88.24**	**340**	P	**P**	**03 16 06.1**	**-0.7**
	0.9nm,0.6s,mb4.2,baz=80,slow=7.5,SNR=9.0						
BRTR	**Keskin Array B**	**88.53**	**310**	P	**P**	**03 16 08.3**	**+0.2**
	2.0nm,0.9s,mb4.4,baz=133,slow=5.2,SNR=7.7						
FINES	**FINESS Array B**	**89.76**	**332**	P	**P**	**03 16 12.5**	**-1.4**
	0.4nm,0.4s,mb4.1,baz=110,slow=10,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.18**	**290**	PKP	PKPdf	03 22 10.9	+0.9
	0.7nm,0.7s,baz=61,slow=1.5,SNR=9.2						

CSEM ***13*** *03:10:26.9±1.1, 3860N×2854W, h4km±7km, ML1.0, Error ellipse: s-maj=3.8km s-min=2.8km az=130.0, After PDA*
PDA ***13*** *03:10:26.9±1.1, 3860N×2854W, h4km±7km, MD2.7, ML1.0, Error ellipse: s-maj=3.8km s-min=2.8km az=130.0*
SVSA 13 03:10:26.9±1.1, 3860N×2854W, h4km±7km, MD2.7, ML1.0, Error ellipse: s-maj=3.8km s-min=2.8km az=130.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**222**	*e*P	Pg	03 10 28.5	-0.5
HOR				*e*S	Sg	03 10 30.6	+0.2
PICO	**Pico**	**0.14**	**137**	*e*P	Pg	03 10 29.2	-0.4
PICO				*e*S	Sg	03 10 31.3	-0.2
PCND	**Candelaria**	**0.15**	**154**	*e*P	Pg	03 10 29.9	+0.1
PCND				*e*S	Sg	03 10 32.2	+0.4
PCND	24nm,0.1s						
PTEI	**Pico do Teixo**	**0.18**	**126**	*e*S	Sg	03 10 33.1	+0.2
PTEI	16nm,0.2s						
PBOI	**Pico dos Bois**	**0.21**	**141**	*e*S	Sg	03 10 33.6	-0.2
PBOI	13nm,0.3s						
ROSA	**Rosais**	**0.27**	**63**	*e*P	Pg	03 10 31.8	-0.2
ROSA				*e*S	Sg	03 10 35.4	-0.1
PMAN	**Manadas**	**0.36**	**85**	*e*rx		03 10 32.8	
PID	**Ribeirinha**	**0.37**	**115**	*e*S	Sg	03 10 38.6	-0.2

LDG ***13*** *03:12:33.1±0.1, 4312N×1117W, h19km, Md1.4/2, Error ellipse: s-maj=4.1km s-min=2.0km az=30.0*
STR ***13*** *03:12:33.4±0.2, 4314N×1117W, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 13 03:12:33.2±0.5, 4315N×117W, h21km±3km, mbLg1.0/4, Error ellipse: s-maj=4.0km s-min=1.9km az=7.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.05**	**228**	*e*Pg	Pb	03 12 36.9	0.0
SJPF				*e*Sg	Sb	03 12 38.7	-0.7
	20nm,0.2s						
SJPF	**Ste Jean**	**0.05**	**228**	Pg	Pb	03 12 36.9	0.0
SJPF				Lg		03 12 38.7	
	10nm,0.2s						
OSSF	**Osses**	**0.13**	**329**	Pg	Pb	03 12 37.5	0.0
OSSF				Sg	Sb	03 12 40.2	-0.2
OSSF	**Osses**	**0.13**	**329**	Pg	Pb	03 12 37.6	+0.1
OSSF				Lg		03 12 40.2	
LARF	**Larrau**	**0.17**	**129**	Pg	Pb	03 12 37.9	-0.2
LARF				Sg	Sb	03 12 41.1	-0.3
LARF	**Larrau**	**0.17**	**129**	Pg	Pb	03 12 37.9	-0.2
LARF				Lg		03 12 41.3	
ORDF	**Ordiarp**	**0.18**	**69**	Pg	Pb	03 12 38.3	+0.1
ORDF				Sg	Sb	03 12 41.7	+0.1
ORDF	**Ordiarp**	**0.18**	**69**	Pg	Pb	03 12 38.3	+0.1
ORDF				Lg		03 12 41.6	
EALK	**Alkurruntz**	**0.26**	**286**	Pg	Pb	03 12 37.2	-2.0
	0.8nm,0.2s,SNR=7.9						
EALK				Lg		03 12 43.5	
	1.4nm,0.0s,SNR=7.9						
ELIZ	**Elizondo**	**0.26**	**274**	Pg	Pb	03 12 38.6	-0.7
	0.1nm,0.1s,SNR=6.3						
ELIZ				Lg		03 12 43.6	
	4.1nm,0.2s,SNR=8.4						
IUSE	**Utxeti**	**0.34**	**234**	Pg	Pb	03 12 40.9	+0.3
	0.1nm,0.1s,SNR=7.9						
IUSE				Lg		03 12 45.7	
	1.0nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.35**	**100**	Pg	Pb	03 12 40.6	-0.2
ATE				Sg	Sb	03 12 45.8	-0.1
ATE	**Arette**	**0.35**	**100**	Pg	Pb	03 12 40.6	-0.1
ATE				Lg		03 12 45.8	
ETSF	**Etsaut**	**0.51**	**119**	*e*Pg	Pb	03 12 42.9	-0.6
ETSF				*e*Sg	Sb	03 12 49.6	-1.0
	3.3nm,0.3s						
ETSF	**Etsaut**	**0.51**	**119**	Pg	Pb	03 12 42.9	-0.6
ETSF				Lg		03 12 49.6	
	1.6nm,0.3s						
EBIE	**Bielsa**	**1.07**	**115**	Pg	Pn	03 12 52.9	-0.1
	0.3nm,0.4s,SNR=7.9						
EBIE				Lg		03 13 05.9	
	3.0nm,0.5s,SNR=7.9						

MOS ***13*** *03:33:42.2±1.0, 640S×130.15E, h73km, mb4.7/11, Error ellipse: s-maj=16.2km s-min=7.5km az=115.8*
BJI ***13*** *03:33:42.1, 708S×13071E, h128km, mB4.9, mb4.7*
ISCJB ***13*** *03:33:47.0±0.2, 653S±003×13037E±005, h127km, mb4.7/35, Error ellipse: s-maj=6.6km s-min=4.2km az=138.5*
HRVD ***13*** *03:33:49.3±0.5, 649S×130.42E, h141km±6km, MW5.0/48, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s48,c55; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.29±.26; Mθθ0.57±.24; Mφφ0.72±.29; Mrθ-0.91±.19; Mrφ-0.32±.28; Mθφ2.93±.17; Best double couple: M0=3.26300×10^16 NP1:φs=320.00000°, δ11.00000°, λ-111.00000°. NP2: φs=161.00000°, δ80.00000°, λ-86.00000°. Principal axes: T 3.0680, Plg35.0000°, Azm248.0000°; N 0.3930, Plg4.0000°, Azm341.0000°; P -3.4580, Plg55.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *03:33:49.3±0.3, 644S×130.30E, mb4.8/19 Error ellipse: s-maj=9.4km s-min=5.2km az=60.0*
IDC ***13*** *03:33:49.7±0.8, 644S×130.42E, h132km±7km, mb4.2/11, mb1 4.2/13, mb1mx4.2/16, mbtmp4.6/13, MS3.8/4, Ms1 3.7/4, ms1mx3.2/18, Error ellipse: s-maj=20.6km s-min=11.0km az=69.0*
ISC 13 03:33:48.9±0.3, 652S±003×13049E±005, h129km, h129km±4.1km: pP-P, n98, σ1§27/106, mb4.5/35, 5C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.40**	**69**	P	**Pn**	**03 34 29.9**	**+2.2**
	7μm,1.0s						
SWI	**Sorong**	**5.67**	**8**	P	**Pn**	**03 35 09.6**	**-1.3**
	161nm,0.5s						
KAKA	**Kakadu**	**6.45**	**163**	*e*P	**Pn**	**03 35 21.7**	**+0.3**
	159nm,0.2s						
KAKA				*e*S	**Sn**	**03 36 30.3**	**-3.3**
BAKI	**Biak**	**7.70**	**47**	P	**Pn**	**03 35 37.6**	**-0.7**
	1μm,1.4s						
MMPI	**Merauke**	**9.99**	**102**	P	**Pn**	**03 36 14.1**	**+5.0**
	1μm,0.7s						
JAY	**Jayapura**	**10.93**	**69**	P	**Pn**	**03 36 25.2**	**+3.7**
	46nm,0.7s						
PCI	**Palu**	**12.00**	**297**	P	**Pn**	**03 36 39.0**	**+3.3**
	348nm,1.2s						
FITZ	**Fitzroy Crossi**	**12.45**	**202**	*e*P	**Pn**	**03 36 38.2**	**-3.4**
	51nm,0.4s						
FITZ				*e*S	**Sn**	**03 38 45.9**	**-13**
FITZ	**Fitzroy Crossi**	**12.45**	**202**	P	**Pn**	**03 36 38.3**	**-3.2**
	7.7nm,0.3s,baz=36,slow=12,SNR=182						
FITZ				S	**Sn**	**03 38 45.7**	**-13**
	6.8nm,0.3s,baz=64,slow=13,SNR=5.0						
FITZ				LR	LR	03 41 19.3	
	comp=Z,126nm,20.1s,baz=153,slow=36						
WRAB	**Tennant Creek**	**13.85**	**165**	*e*P	**Pn**	**03 36 58.1**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,38nm,0.6s						
WRAB	**Tennant Creek**	**13.85**	**165**	*e*P	**Pn**	**03 36 59.7**	**0.0**
WRAB	**Tennant Creek**	**13.85**	**165**	*e*Pn	**Pn**	**03 36 58.1**	**-1.5**
	comp=Z,38nm,0.6s						
WRAB				*e*Sn	**Sn**	**03 39 23.7**	**-8.9**
WRA	**Warramunga Arr**	**13.86**	**165**	P	**Pn**	**03 36 57.9**	**-1.8**
	comp=Z,5.0nm,0.3s,baz=348,slow=13,SNR=42						
WRA				S	**Sn**	**03 39 20.5**	**-12**
	comp=Z,11nm,0.3s,baz=349,slow=22,SNR=8.4						
WB2	**Warramunga Arr**	**13.86**	**165**	*e*P	**Pn**	**03 36 57.2**	**-2.6**
WB2				*e*S	**Sn**	**03 39 22.7**	**-10**
KMMI	**Kalianget**	**16.42**	**267**	P	**Pn**	**03 37 35.1**	**+3.4**
	comp=Z,157nm,0.9s						
PMG	**Port Moresby**	**16.75**	**101**	P	**Pn**	**03 37 39.0**	**+3.2**
	comp=Z,3.5nm,0.3s,baz=310,slow=7.3,SNR=9.1						
PMG				S	**S**	**03 40 35.4**	**-7.0**
	comp=Z,2.2nm,0.3s,baz=13,slow=23,SNR=9.1						
PMG	**Port Moresby**	**16.75**	**101**	*e*P	**Pn**	**03 37 39.7**	**+3.9**
PMG				*e*S	**S**	**03 40 39.0**	**-3.4**
PMG				pmax	pmax		
	comp=Z,101nm,1.1s						
PMG	**Port Moresby**	**16.75**	**101**	*e*Pn	**Pn**	**03 37 39.7**	**+3.9**
	comp=Z,101nm,1.1s						
PMG				*e*S	**S**	**03 40 39.0**	**-3.4**
AS31	**Alice Springs**	**17.36**	**169**	*e*P	**Pn**	**03 37 45.5**	**+2.4**
AS31				*e*S	**S**	**03 40 44.9**	**-11**
ASAR	**Alice Springs**	**17.36**	**169**	P	**Pn**	**03 37 44.8**	**+1.6**
	comp=Z,2.0nm,0.3s,baz=19,slow=13,SNR=110						
ASAR				S	**S**	**03 40 47.9**	**-8.5**
	comp=Z,3.0nm,0.3s,baz=348,slow=26,SNR=9.1						
ASPA	**Alice Springs**	**17.36**	**169**	*e*P	**Pn**	**03 37 45.5**	**+2.3**
ASPA				*e*S	**S**	**03 40 44.9**	**-11**
MBWA	**Marble Bar**	**17.90**	**215**	*e*P	**Pn**	**03 37 49.6**	**0.0**
	comp=Z,34nm,0.6s						
KKM	**Kota Kinabalu**	**18.94**	**311**	*e*P	**P**	**03 37 59.4**	**-0.4**
CTA	**Charters Tower**	**20.40**	**133**	*e*P	**P**	**03 38 19.0**	**+3.5**
	comp=Z,13nm,0.6s						
CTA	**Charters Tower**	**20.40**	**133**	P	**P**	**03 38 17.9**	**+2.3**
	comp=Z,20nm,0.8s,baz=303,slow=12,SNR=14						
CTA	**Charters Tower**	**20.40**	**133**	*e*P	**P**	**03 38 19.0**	**+3.5**
CTA				pmax	pmax		
	comp=Z,13nm,0.6s						
CTAO	**Charters Tower**	**20.40**	**133**	*e*P	**P**	**03 38 18.9**	**+3.4**
CTAO				pmax	pmax		
	comp=Z,43nm,1.1s						
CTAO	**Charters Tower**	**20.40**	**133**	*e*P	**P**	**03 38 18.9**	**+3.4**
	comp=Z,43nm,1.1s						
BJII	**Banjamegara**	**20.65**	**267**	P	**P**	**03 38 21.4**	**+3.2**
	comp=Z,58nm,1.1s						

JCJI	**Jatiwangi**	**22.08**	**269**	P	**P**	**03 38 35.1**	**+1.7**
	comp=Z,295nm,1.5s,mb5.5						
LEM	**Lembang**	**22.72**	**268**	P	**P**	**03 38 40.5**	**+0.6**
	comp=Z,214nm,1.1s,mb5.5						
CBJI	**Citeko**	**23.49**	**269**	P	**P**	**03 38 46.2**	**-0.7**
	comp=Z,430nm,0.9s						
FORT	**Forrest**	**24.24**	**185**	*e*P	**P**	**03 38 54.9**	**+1.2**
	comp=Z,19nm,0.6s,mb4.8						
FORT				*e*S	Sx	03 43 26.7	
STKA	**Stephens Creek**	**27.28**	**159**	*e*P	**P**	**03 39 20.8**	**-0.3**
	comp=Z,4.8nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.28**	**159**	P	**P**	**03 39 20.9**	**-0.2**
	comp=Z,5.6nm,0.6s,mb4.4,baz=327,slow=8.7,SNR=17						
STKA				LR	LR	03 51 28.4	
	comp=Z,384nm,19.4s,baz=192,slow=39						
STKA	**Stephens Creek**	**27.28**	**159**	*e*P	**P**	**03 39 20.5**	**-0.6**
STKA				*e*S	**S**	**03 43 55.8**	**+4.9**
KLBR	**Kellerberrin**	**27.65**	**204**	*e*P	**P**	**03 39 24.9**	**+0.5**
	comp=Z,32nm,0.6s,mb5.2						
NWAO	**Narrogin (SRO)**	**29.03**	**203**	P	**P**	**03 39 37.4**	**+0.7**
	comp=Z,9.7nm,0.6s,mb4.7,baz=35,slow=8.0,SNR=15						
NWAO				LR	LR	03 50 43.1	
	comp=Z,159nm,19.4s,baz=203,slow=35						
NWAO	**Narrogin (SRO)**	**29.03**	**203**	*e*P	**P**	**03 39 37.2**	**+0.6**
NWAO				*PP	pP	03 40 01.0	-3.4
NWAO	**Narrogin (SRO)**	**29.03**	**203**	*e*P	**P**	**03 39 37.1**	**+0.5**
NWAO				pP	pP	03 40 01.0	-3.4
NWAO				LR	LR	03 50 43.1	
PPI	**Padang Panjang**	**30.62**	**280**	P	**P**	**03 39 50.8**	**+0.1**
	comp=Z,56nm,1.0s,mb5.2						
KULM	**Kulim**	**32.02**	**291**	*e*P	**P**	**03 40 01.4**	**-1.5**
KULM				pP	pP	03 40 29.7	-1.2
PSI	**Prapat**	**32.85**	**285**	P	**P**	**03 40 07.5**	**-2.7**
	comp=Z,24nm,0.9s,mb4.9,baz=175,slow=6.2,SNR=4.9						
COCO	**West Island**	**33.66**	**258**	P	**P**	**03 40 16.1**	**-1.2**
	comp=Z,245nm,1.5s						
DZM	**Mont Dzumac**	**37.98**	**118**	P	**P**	**03 40 55.9**	**+1.8**
	comp=Z,12nm,0.6s,mb4.7,baz=265,slow=11,SNR=10.0						
NJ2	**Nanjing**	**39.93**	**345**	*e*P	**P**	**03 41 09.1**	**-1.2**
NJ2				PP	PP	03 42 45.1	+0.5
NJ2				S	**S**	**03 47 11.0**	**+5.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,120nm,7.3s						
NJ2				LR	LR		
	comp=N,210nm,22.4s						
NJ2				LR	LR		
	comp=E,190nm,10.0s						
NJ2				LR	LR		
	comp=Z,120nm,10.9s						
CHTO	**Chiang Mai**	**40.01**	**310**	*e*P	**P**	**03 41 10.1**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
CHTO	**Chiang Mai**	**40.01**	**310**	*e*P	**P**	**03 41 10.1**	**-0.9**
	comp=Z,3.5nm,0.6s,mb4.2						
ENH	**Enshi**	**41.76**	**332**	P	**P**	**03 41 25.3**	**-0.1**
	comp=Z,0.3nm,0.2s,mb3.6						
ENH				*e*pP	pP	03 41 53.4	-0.9
MJAR	**Matsushiro Arr**	**43.44**	**9**	P	**P**	**03 41 37.3**	**-1.6**
	comp=Z,5.8nm,0.9s,mb4.2,baz=189,slow=9.6,SNR=15						
MJAR				pP	pP	03 42 09.2	+1.2
	comp=Z,1.8nm,0.9s,baz=181,slow=8.8,SNR=1.8						
MAT	**Matsushiro**	**43.44**	**9**	P	**P**	**03 41 38.0**	**-0.9**
MAT	**Matsushiro**	**43.44**	**9**	*e*P	**P**	**03 41 38.0**	**-0.9**
MAT				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.6						
MAT	**Matsushiro**	**43.44**	**9**	*e*P	**P**	**03 41 38.0**	**-0.9**
	comp=Z,16nm,1.1s,mb4.6						
CD2	**Chengdu**	**45.16**	**327**	*e*P	**P**	**03 41 53.4**	**+0.8**
CD2				AP	pP	03 42 18.0	-3.9
CD2				XP	sP	03 42 36.6	+0.2
CD2				PP	PP	03 43 41.6	+1.0
CD2				S	**S**	**03 48 22.9**	**+0.5**
CD2				XS	sS	03 49 13.3	+0.1
CD2				SS	SS	03 51 40.3	-6.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,6.8s						
LZH	**Lanzhou**	**49.21**	**331**	*e*P	**P**	**03 42 23.9**	**-0.1**
LZH				AP	pP	03 42 54.5	+0.8
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,90nm,4.5s						
LZH				LR	LR		
	comp=E,390nm,15.0s						
LZH				LR	LR		
	comp=Z,590nm,16.2s						
HHC	**Hu-ho-hao-te**	**50.24**	**341**	*e*P	**P**	**03 42 32.0**	**+0.3**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
HHC				AMB	AMB		
	comp=Z,70nm,4.4s						
GTA	**Gaotai**	**53.79**	**331**	*e*P	**P**	**03 42 58.5**	**+0.5**
JIRN	**Jiri**	**54.64**	**311**	*e*P	**P**	**03 43 04.3**	**+0.1**
GUN	**Gumba**	**55.01**	**311**	*e*P	**P**	**03 43 06.9**	**+0.1**
	comp=Z,109nm,1.4s,mb5.4						
PKI	**Pulchoki**	**55.19**	**310**	*e*P	**P**	**03 43 08.1**	**0.0**
KKN	**Kakani**	**55.40**	**310**	*e*P	**P**	**03 43 09.8**	**+0.2**
	comp=Z,102nm,1.5s,mb5.3						
KKN	**Kakani**	**55.40**	**310**	*e*P	**P**	**03 43 09.8**	**+0.2**
KKN				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.4						
DMN	**Daman**	**55.44**	**310**	*e*P	**P**	**03 43 09.9**	**0.0**
	comp=Z,64nm,1.1s,mb5.3						
KLR	**Kul'dur**	**55.52**	**1**	*e*P	**P**	**03 43 08.2**	**-2.3**
HYB	**Hyderabad**	**56.55**	**296**	*i* P	**P**	**03 43 19.0**	**+1.2**
HYB	**Hyderabad**	**56.55**	**296**	*e*P	**P**	**03 43 17.0**	**-0.8**
ULN	**Ulaanbaatar**	**57.96**	**342**	*e*P	**P**	**03 43 28.5**	**+0.8**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**57.96**	**342**	*e*P	**P**	**03 43 28.5**	**+0.8**
	comp=Z,6.7nm,0.9s,mb4.5						
SONM	**Songino Array**	**58.14**	**341**	P	**P**	**03 43 29.7**	**+0.7**
	comp=Z,1.8nm,0.5s,mb4.2,baz=161,slow=7.1,SNR=17						
SONM				pP	pP	03 43 59.9	+0.3
	comp=Z,1.8nm,1.0s,baz=163,slow=8.1,SNR=2.8						
ZAK	**Zakamensk**	**61.37**	**341**	*e*P	**P**	**03 43 50.0**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.2						
MOY	**Mondy**	**63.23**	**340**	*e*P	**P**	**03 44 05.0**	**+1.6**
MKAR	**Makanchi Array**	**68.09**	**326**	P	**P**	**03 44 35.1**	**+0.5**
	comp=Z,5.8nm,0.5s,mb4.6,baz=114,slow=8.7,SNR=62						
MKAR				pP	pP	03 45 06.1	-0.1
	comp=Z,2.1nm,0.6s,baz=111,slow=7.4,SNR=2.1						
MKAR	**Makanchi Array**	**68.09**	**326**	P	**P**	**03 44 35.1**	**+0.5**
MKAR				pP	pP	03 45 06.1	-0.1
YAK	**Yakutsk**	**68.35**	**360⇑**	*e*P	**P**	**03 44 36.3**	**+0.1**
YAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0						
AAK	**Ala-Archa**	**70.49**	**320⇑**	*e*P	**P**	**03 44 49.8**	**+0.4**
AAK				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.3						
AAK	**Ala-Archa**	**70.49**	**320**	*e*P	**P**	**03 44 49.2**	**-0.2**
	comp=Z,5.3nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**71.37**	**333**	P	**P**	**03 44 54.6**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.1,baz=20,slow=5.9,SNR=8.2						
ZAL				pP	pP	03 45 28.1	+1.6
	comp=Z,2.8nm,0.3s,baz=229,slow=3.4,SNR=1.9						
KURK	**Kurchatov**	**72.36**	**328⇑**	*e*P	**P**	**03 45 00.8**	**+0.1**
KURK	**Kurchatov**	**72.36**	**328**	*e*P	**P**	**03 45 00.1**	**-0.5**
	comp=Z,5.5nm,1.0s,mb4.2						
VNDA	**Vanda**	**72.86**	**173**	P	**P**	**03 45 04.5**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.5,baz=308,slow=11,SNR=4.7						
MAW	**Mawson**	**75.58**	**201**	P	**P**	**03 45 20.7**	**+1.4**
	comp=Z,3.6nm,0.6s,mb4.2,baz=76,slow=14,SNR=18						
MAW	**Mawson**	**75.58**	**201**	*e*P	**P**	**03 45 20.5**	**+1.2**
MAW				*e*PcP	PcP	03 45 31.0	-0.6
WSAR	**Wadi Sarin**	**76.10**	**296**	P	**P**	**03 45 21.4**	**-0.9**
	comp=Z,6.7nm,0.8s,mb4.3,baz=90,slow=4.5,SNR=3.4						
WSAR	**Wadi Sarin**	**76.10**	**296**	P	**P**	**03 45 21.4**	**-0.9**
TIXI	**Tiksi**	**78.01**	**359⇑**	*e*P	**P**	**03 45 33.6**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
CHKZ	**Chkalovo**	**78.11**	**328**	*e*P	**P**	**03 45 33.0**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**78.11**	**328**	*e*P	**P**	**03 45 33.0**	**-0.5**
	comp=Z,3.1nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**78.63**	**327**	*e*P	**P**	**03 45 35.5**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**78.63**	**327**	*e*P	**P**	**03 45 35.5**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.0						
SYO	**Syowa Base**	**84.29**	**201⇓**	*e*P	**P**	**03 46 06.6**	**+0.4**
GNI	**Garni**	**90.92**	**310**	LR	LR	04 27 46.4	
	comp=Z,58nm,20.0s,baz=324,slow=36						
OBN	**Obninsk**	**97.55**	**325**	*e*P	**P**	**03 47 09.7**	**+1.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.8						
ANMO	**Albuquerque**	**120.62**	**53⇑**	*i*PKIKP	PKPdf	03 52 30.2	+4.9
TORD	**Torodi Ar. Bea**	**129.19**	**282**	PKP	PKPdf	03 52 42.6	+0.9
	comp=Z,0.7nm,0.6s,baz=82,slow=1.9,SNR=8.7						
LVC	**Limon Verde**	**145.38**	**147**	*e*PKPdf	PKPdf	03 53 15.1	+3.7
CPUP	**Villa Florida**	**146.48**	**167**	PKPbc	PKPbc	03 53 16.2	+1.4
	comp=Z,0.9nm,0.5s,baz=191,slow=2.7,SNR=6.3						
CPUP	**Villa Florida**	**146.48**	**167**	PKPbc	PKPbc	03 53 16.2	+1.4
CPUP				*e*PKPdf	PKPdf	03 53 16.3	+3.0
LPAZ	**La Paz**	**150.79**	**141**	PKPbc	PKPbc	03 53 29.4	+3.5
	comp=Z,2.1nm,0.4s,baz=42,slow=1.7,SNR=28						

*ISCJB **13** 03:43:40.2±0.5, 3954N±002×783W±003, h3km±3km, Error ellipse: s-maj=4.0km s-min=2.6km az=16.4*
*IGIL **13** 03:43:42.7, 3950N×790W, h0km, ML2.1*
*INMG **13** 03:43:42.7±1.8, 3955N×796W, h5km±4km, ML2.3, Error ellipse: s-maj=3.1km s-min=2.4km az=103.0*
*MDD **13** 03:43:42.4±0.3, 3952N×793W, h0km, mbLg2.4/23, Error ellipse: s-maj=2.5km s-min=2.1km az=123.0, PRXIMO*

ISC 13 03:43:41.4±0.4, 3953N±001×789W±003, h8km±3km, n33, σ1$07/60, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTOM	**Tomar**	**0.41**	**282**	*i* Pg	**Pg**	**03 43 49.2**	**-0.3**
PTOM				*e*Sg	**Sg**	**03 43 54.1**	**-0.8**
PTOM							
	187nm,0.1s						
PCBR	**Castelo Branco**	**0.44**	**46**	*i* Pg	**Pg**	**03 43 51.6**	**+1.6**
PCBR				*e*Sg	**Sg**	**03 43 57.7**	**+1.8**
PCBR							
	182nm,0.2s						
ALMR	**Almeirim**	**0.65**	**235**	*e*P	**Pg**	**03 43 54.0**	**0.0**
ALMR				*e*S	**Sg**	**03 44 02.1**	**-0.4**
ALMR				*e*S	**Sg**	**03 44 02.2**	**-0.3**
ALMR				AML	AML	03 44 03.6	
	comp=E,72nm,0.4s						
ALMR	**Almeirim**	**0.65**	**235**	*e*P	**Pg**	**03 43 54.0**	**0.0**
ALMR				*e*S	**Sg**	**03 44 02.1**	**-0.4**
MTE	**Manteigas**	**0.91**	**17**	*e*P	**Pg**	**03 43 59.7**	**+0.8**
MTE				*e*S	**Sg**	**03 44 11.7**	**+1.1**
MTE							
	comp=E,89nm,0.5s						
EBAD	**Badajoz**	**1.03**	**138**	Pg	**Pg**	**03 44 01.8**	**+0.5**
	comp=E,12nm,0.7s,SNR=126						
EBAD				Lg		03 44 15.9	
	comp=E,62nm,0.3s,SNR=44						
MOE	**Montemor**	**1.07**	**200**	*e*P	**Pg**	**03 44 01.8**	**-0.2**
MOE				*e*S	**Sg**	**03 44 15.8**	**-0.1**
PLOU	**Loures**	**1.17**	**237**	*i* P	**Pb**	**03 44 03.9**	**0.0**
PLOU				*e*S	**Sg**	**03 44 18.5**	**-0.7**
PLOU							
	comp=E,41nm,0.2s						
PVIS	**Viseu**	**1.18**	**360**	*e*P	**Pb**	**03 44 04.5**	**+0.4**
PVIS				*e*S	**Sg**	**03 44 20.0**	**+0.5**
PVIS							
	comp=E,74nm,0.1s						
PLML	**Palmela**	**1.25**	**219**	*e*S	**Sb**	**03 44 23.3**	**+1.7**
PBEJ	**Beja**	**1.50**	**179**	*e*P	**Pn**	**03 44 09.6**	**+1.0**
PBEJ				*e*S	**Sn**	**03 44 28.7**	**+0.3**
PBEJ							
	comp=E,18nm,0.2s						
PTO	**Porto**	**1.69**	**341**	*e*Pn	**Pn**	**03 44 12.8**	**+1.5**
PTO				*e*Sn	**Sn**	**03 44 35.5**	**+2.4**
PTO							
	comp=E,30nm,0.1s						
PVRL	**Vila Real**	**1.75**	**4**	*e*Pn	**Pn**	**03 44 12.9**	**+0.9**
PVRL	**Vila Real**	**1.75**	**4**	*e*Pg	**Pg**	**03 44 14.3**	**-0.6**
PVRL				*e*Sg	**Sg**	**03 44 37.0**	**-0.6**
PVRL							
	comp=E,29nm,0.2s						
PVRL	**Vila Real**	**1.75**	**4**	Pn	**Pn**	**03 44 12.9**	**+0.9**
PVRL				Pg	**Pg**	**03 44 14.3**	**-0.6**
PVRL				Lg		03 44 37.0	
	comp=E,15nm,0.2s						
EMIN	**Mina Concepcio**	**2.00**	**151**	Pn	**Pn**	**03 44 16.3**	**+0.8**
	comp=E,1.8nm,0.3s,SNR=23						
EMIN				Pg	**Pg**	**03 44 19.4**	**-0.5**
	comp=E,1.5nm,0.4s,SNR=7.4						
EMIN				Sn	**Sn**	**03 44 40.9**	**+0.2**
	comp=E,2.8nm,0.1s,SNR=7.9						
EMIN				Lg		03 44 45.4	
	comp=E,9.6nm,0.3s,SNR=5.0						
EGRO	**El Granado**	**2.02**	**171**	Pn	**Pn**	**03 44 15.8**	**0.0**
	comp=E,7.9nm,0.3s						
EGRO				Pg	**Pg**	**03 44 19.4**	**-0.8**
	comp=E,5.1nm,0.5s,SNR=12						
EGRO				Sn	**Sn**	**03 44 41.4**	**+0.3**
	comp=E,1.1nm,0.2s,SNR=7.9						
EGRO				Lg		03 44 46.1	
	comp=E,6.6nm,0.4s,SNR=6.1						
PTEO	**Sao Teotonio**	**2.09**	**199**	*e*Pn	**Pn**	**03 44 20.1**	**+3.4**
PTEO				*e*Sn	**Sn**	**03 44 43.6**	**+0.8**
PTEO				*e*Sg	**Sg**	**03 44 46.5**	**-2.0**
PTEO							
	comp=E,12nm,0.3s						
PTEO	**Sao Teotonio**	**2.09**	**199**	Pn	**Pn**	**03 44 20.1**	**+3.4**
PTEO				Sn	**Sn**	**03 44 43.6**	**+0.8**
PTEO				Lg		03 44 46.5	
	comp=E,6.2nm,0.3s						
PCAB	**Cabril**	**2.18**	**357**	*e*Sn	**Sn**	**03 44 43.7**	**-1.4**
PCAB				*e*Sg	**Sg**	**03 44 50.9**	**-0.5**
PCAB							
	comp=E,16nm,0.2s						
ELOB	**Lobios**	**2.34**	**357**	Pn	**Pn**	**03 44 20.4**	**+0.3**
	comp=E,6.5nm,0.3s						
ELOB				Pg	**Pg**	**03 44 25.1**	**-1.1**
	comp=E,3.9nm,0.3s,SNR=9.6						
ELOB				Lg		03 44 56.3	
	comp=E,5.0nm,0.3s,SNR=7.3						
ECAL	**Calabor**	**2.56**	**20**	Pn	**Pn**	**03 44 24.1**	**+0.9**
	comp=E,17nm,0.5s,SNR=5.9						
ECAL				Pg	**Pg**	**03 44 31.2**	**+0.7**
	comp=E,3.3nm,0.4s,SNR=5.5						
ECAL				Sn	**Sn**	**03 44 54.1**	**-0.4**
	comp=E,3.2nm,0.3s,SNR=5.0						
ECAL				Lg		03 45 04.6	
	comp=E,13nm,0.3s,SNR=7.5						
EZAM	**Zamans**	**2.69**	**347**	Sn	**Sn**	**03 44 56.3**	**-1.3**
	comp=E,6.2nm,0.6s,SNR=7.9						
EZAM				Lg		03 45 07.2	
	comp=E,12nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**2.92**	**117**	Pn	**Pn**	**03 44 28.2**	**0.0**
	comp=E,1.8nm,0.8s,SNR=7.3						
EADA				Pg	**Pg**	**03 44 37.4**	**-0.1**
	comp=E,1.4nm,0.6s,SNR=5.7						
EADA				Sn	**Sn**	**03 45 01.7**	**-1.8**
	comp=E,5.6nm,0.5s,SNR=4.5						
EADA				Lg		03 45 14.5	
	comp=E,6.4nm,0.3s,SNR=9.3						
ESDC	**Sonseca Array**	**3.04**	**86**	Pn	**Pn**	**03 44 31.2**	**+1.5**
	comp=E,0.3nm,0.2s,baz=267,slow=12,SNR=3.5						
ESDC				Pg	**Pg**	**03 44 37.0**	**-2.7**
	comp=E,0.5nm,0.2s,baz=269,slow=17,SNR=6.0						
ESDC				Lg		03 45 14.9	
	comp=E,1.2nm,0.3s,baz=266,slow=28,SNR=8.5						
GUD	**Guadarrama**	**3.07**	**68**	Pn	**Pn**	**03 44 31.6**	**+1.4**
	comp=E,0.2nm,0.2s,SNR=7.9						
GUD				Pg	**Pg**	**03 44 38.9**	**-1.5**
	comp=E,1.2nm,0.2s,SNR=5.4						
GUD				Lg		03 45 16.8	
	comp=E,4.1nm,0.3s,SNR=5.1						
ESPR	**Espera**	**3.10**	**148**	Sn	**Sn**	**03 45 07.5**	**-0.4**
	comp=E,7.1nm,0.6s,SNR=7.9						
ESPR				Lg		03 45 22.4	
	comp=E,39nm,0.8s,SNR=7.9						
STS	**Santiago**	**3.39**	**352**	Lg		03 45 30.2	
	comp=E,15nm,1.2s,SNR=7.9						
EPON	**Pontenova**	**3.83**	**8**	Sn	**Sn**	**03 45 23.7**	**-2.1**
	comp=E,9.4nm,0.5s,SNR=4.0						
EPON				Lg		03 45 44.8	
	comp=E,6.1nm,0.7s,SNR=4.0						
EQES	**Quesada**	**4.15**	**113**	Pn	**Pn**	**03 44 45.9**	**+0.9**
	comp=E,5.4nm,0.9s,SNR=10						
EQES				Sn	**Sn**	**03 45 32.6**	**-1.0**
	comp=E,4.7nm,0.8s,SNR=5.0						
EQES				Lg		03 45 55.2	
	comp=E,11nm,1.0s,SNR=6.1						
EARI	**Arriondas**	**4.27**	**27**	Sn	**Sn**	**03 45 35.3**	**-1.4**
	comp=E,0.5nm,0.9s,SNR=7.9						
EARI				Lg		03 45 59.1	
	comp=E,15nm,1.2s,SNR=7.9						
ELAN	**Lanestosa**	**4.99**	**41**	Sn	**Sn**	**03 45 52.8**	**-1.6**
	comp=E,27nm,1.3s,SNR=7.9						
ELAN				Lg		03 46 22.5	
	comp=E,22nm,1.0s,SNR=7.9						
ETOB	**Tobarra**	**5.01**	**98**	Lg		03 46 22.1	
	comp=E,17nm,1.3s,SNR=7.9						

*NEIC **13** 04:18:50.2, 1589N×98.19W, h16km, mb4.5/2, MD4.1(MEX), After MEX.*

MEX 13 04:18:50.0±0.8, 1588N×9820W, h16km±43km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.84**	**50**	*e*P	**Pn**	04 19 17.9	-3.0
VHO				*i* S	Sn	04 19 38.6	-5.3
OXX	**Oaxaca**	**1.85**	**50**	*e*P	**Pn**	04 19 18.0	-3.1
OXX				*i* S	Sn	04 19 39.0	-5.2
ACX	**Acapulco**	**1.92**	**301**	*i* P	Pn	04 19 18.0	-4.0
ACX				*i* S	Sn	04 19 40.0	-5.7
UTMO	**Huajuapan**	**1.97**	**11**	*i* P	Pn	04 19 20.2	-2.5
UTMO				*i* S	Sn	04 19 44.2	-2.9
HUIG	**Huatulco**	**2.02**	**93**	*i* P	Pn	04 19 19.6	-3.7
HUIG				*i* S	Sn	04 19 44.3	-3.9
CAIG	**El Cayaco**	**2.30**	**301**	*i* P	Pn	04 19 25.1	-2.1
CAIG				*i* S	Sn	04 19 50.2	-4.9
CAIG	**El Cayaco**	**2.30**	**301**	*i* P	Pn	04 19 25.7	-1.5
CAIG				*i* S	Sn	04 19 50.2	-4.9
MEIG	**Mezcala**	**2.44**	**326**	*i* P	Pn	04 19 26.8	-2.5
MEIG				*i* S	Sn	04 19 55.9	-2.8
PLIG	**Platanillo**	**2.79**	**334**	*i* P	Pn	04 19 32.5	-1.4
PLIG				*i* S	Sn	04 20 02.9	-4.4
YAIG	**Yautepec**	**3.08**	**345**	*e*P	Pn	04 19 36.5	-1.4
YAIG				*i* S	Sn	04 20 10.4	-3.9
YAIG	**Yautepec**	**3.08**	**345**	*e*P	Pn	04 19 37.4	-0.5
YAIG				*i* S	Sn	04 20 10.4	-3.9
PPM	**Popocatepetl**	**3.19**	**353**	*e*P	Pn	04 19 38.4	-1.2
PPM				*e*P		04 19 40.0	
PPM				*i* S	Sn	04 20 14.3	-2.9
CMIG	**Matias Romero**	**3.40**	**69**	*e*P	Pn	04 19 39.5	-2.9
CMIG				*i* S	Sn	04 20 21.6	-0.7
UNM	**Universidad Na**	**3.55**	**345**	*i* S	Sn	04 20 24.4	-1.7
LVIG	**Laguna Verde**	**4.18**	**24**	*i* S	Sn	04 20 38.0	-3.6
MOIG	**Morelia**	**4.73**	**323**	*i* S	Sn	04 20 51.9	-3.2
JTS	**JuntasAbangare** 4.1nm,0.4s	**14.05**	**112**	*e*Pn	Pn	04 22 07.0	-1.3
PLCA	**Paso Flores** 2.7nm,0.6s	**61.90**	**156**	*e*P	P	04 29 06.3	-2.3
TRQA	**Tornquist** 2.2nm,0.7s	**63.52**	**149**	*e*P	P	04 29 21.1	+1.6

*IDC **13** 04:21:56.6±3.2, 3580N×71.11E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/21, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=64.9km s-min=30.0km az=128.0*
*NEIC **13** 04:22:04.6±0.8, 3610N×7087E, h35km, mb3.7/3, Error ellipse: s-maj=17.2km s-min=9.6km az=46.0*
*MOS **13** 04:22:06.9±0.9, 3620N×7108E, h82km, mb3.9/5, Error ellipse: s-maj=21.2km s-min=10.1km az=102.3*
*ISCJB **13** 04:22:11.2±0.5, 3635N±003×7140E±007, h136km±9km, mb3.6/5, Error ellipse: s-maj=9.2km s-min=4.3km az=160.7*
*NNC **13** 04:22:21.9±6.9, 3720N×7100E, h196km±73km, mb2.7, mpv3.8, Error ellipse: s-maj=63.4km s-min=41.3km az=28.0*

ISC 13 04:22:12.2±0.5, 3635N±003×7139E±007, h129km±9km, n59, σ1$00/68, mb3.6/5, 5C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.56**	**170**	⇑P	**Pn**	**04 22 54.1**	**+1.0**
CHCP	**Chirah Chowk**	**3.10**	**150**	⇑P	**Pn**	**04 23 02.0**	**+1.9**
THW	**Thamme Wali**	**3.56**	**175**	P	**Pn**	**04 23 06.6**	**+0.4**
SBDP	**Sheikh Budin**	**4.07**	**187**	⇑P	**Pn**	**04 23 12.1**	**-0.8**
SARP	**Sargodha**	**4.55**	**166**	P	**Pn**	**04 23 19.0**	**-0.2**
DRP	**Derazinda**	**4.70**	**192**	⇓P	**Pn**	**04 23 21.0**	**-0.3**
DLH	**Dalhousie**	**5.36**	**134**	*e*P	**Pn**	**04 23 31.0**	**+0.9**
DLH				*e*S	**Sn**	**04 24 30.0**	**-0.8**
AML	**Almayashu** SNR=65	**6.04**	**16**	P	**Pn**	**04 23 39.7**	**+0.4**
UCH	**Uchtor** SNR=52	**6.34**	**21**	P	**Pn**	**04 23 43.8**	**+0.4**
KZA	**Kyzart** SNR=30	**6.45**	**26**	P	**Pn**	**04 23 45.5**	**+0.7**
EKS2	**Erkin-Say** SNR=11	**6.56**	**16**	P	**Pn**	**04 23 46.6**	**+0.3**
SDNR	**Sundarnagar**	**6.70**	**135**	*e*P	**Pn**	**04 23 49.6**	**+1.4**
SDNR				*e*S	**Sn**	**04 25 03.0**	**-0.1**
AAK	**Ala-Archa** SNR=43	**6.71**	**20**	P	**Pn**	**04 23 49.0**	**+0.6**
AAK	**Ala-Archa**	**6.71**	**20**	*e*PN	**Pn**	**04 23 48.1**	**-0.3**
AAK				pmax	pmax		
	comp=Z,49nm,0.4s						
AAK	**Ala-Archa**	**6.71**	**20**	*e*Pn	**Pn**	**04 23 48.1**	**

BVAR Borovoye Array 16.68 358 P Pn 04 25 57.7 -0.6
comp=Z,0.7nm,0.3s,baz=155,slow=14,SNR=6.2
BVAR Borovoye Array 16.68 358 P Pn 04 25 57.7 -0.6
BVAR pmax pmax
comp=Z,1.0nm,0.3s
AKTK Aktyubinsk 17.07 330 P Pn 04 26 02.5 -0.4
AKTO Aktyubinsk 17.07 330 ⇑P Pn 04 26 01.7 -1.2
comp=Z,0.2nm,1.0s
AKTO ⇓S S 04 28 57.4 -16
comp=Z,0.1nm,0.8s
AKTO Aktyubinsk 17.07 330 P Pn 04 26 02.5 -0.4
comp=Z,0.6nm,0.3s,baz=148,slow=12,SNR=11
AKTO Aktyubinsk 17.07 330 P Pn 04 26 02.5 -0.4
AKTO pmax pmax
comp=Z,1.0nm,0.3s
CHKZ Chkalovo 17.33 358 *eP* **Pn 04 26 05.7 -0.4**
CHKZ pmax pmax
comp=Z,2.0nm,0.6s
CHKZ Chkalovo 17.33 358 *eP* **Pn 04 26 05.7 -0.4**
comp=Z,2.2nm,0.6s
DGRG David-gareji 20.84 292 S **S 04 30 41.7 +13**
MTA Mtatsminda 21.30 293 S **S 04 30 41.2 +3.4**
ONI Oni 22.39 295 S **S 04 30 41.6 -15**
AKASG Malin Array Be 33.28 309 P P 04 28 37.3 0.0
comp=Z,0.8nm,0.5s,mb3.7,baz=80,slow=7.1,SNR=4.8
AKASG Malin Array Be 33.28 309 P P 04 28 37.3 0.0
AKASG pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 37.78 326 P P 04 29 16.8 +1.0
comp=Z,0.8nm,0.6s,mb3.5,baz=116,slow=4.4,SNR=4.5
FINES FINESS Array B 37.78 326 P P 04 29 16.8 +1.0
FINES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 41.40 338 P P 04 29 48.0 +2.2
comp=Z,1.7nm,0.7s,mb3.8,baz=107,slow=8.0,SNR=7.1
ARCES ARCESS Array B 41.40 338 P P 04 29 48.0 +2.3
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 41.40 338 P P 04 29 48.0 +2.2
NB2 NORSAR Subarra 44.69 323 P P 04 30 12.9 +0.7
comp=Z,1.0nm,0.8s,mb3.5,baz=96,slow=7.9
NB2 NORSAR Subarra 44.69 323 P P 04 30 12.9 +0.7
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb3.5
NOA NORSAR Array B 44.69 323 P P 04 30 12.1 0.0
comp=Z,1.4nm,0.8s,mb3.6,baz=97,slow=7.7,SNR=4.7
NOA NORSAR Array B 44.69 323 P P 04 30 12.1 -0.1
NOA pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 66.03 269 P P 04 32 44.0 -1.0
comp=Z,0.4nm,0.4s,mb3.6,baz=53,slow=5.1,SNR=23

LDG ***13*** *04:34:11.5±7.0,3869N×1608E,h220km,Mb4.1/28,Error ellipse: s-maj=161.5km s-min=25.3km az=130.0*
NEIC ***13*** *04:34:21.2,3895N×1527E,h283km,mb4.0/32,After ROM.*
ROM ***13*** *04:34:21.2±0.2,3895N×1527E,h283km±3km,Ml3.6/35,Error ellipse: s-maj=3.6km s-min=2.7km az=17.0*
CSEM ***13*** *04:34:21.1±0.1,3894N×1517E,h283km,mb3.7/8,ML3.7/14,Error ellipse: s-maj=1.9km s-min=1.5km az=98.0*
ISCJB ***13*** *04:34:21.9±0.3,3898N±003×15.16E±004,h281km±2km,mb3.7/13,Error ellipse: s-maj=4.7km s-min=4.3km az=165.1*
MOS ***13*** *04:34:22.0±1.0,3897N×1507E,h286km,mb4.5/10,Error ellipse: s-maj=7.9km s-min=3.5km az=106.3*
IDC ***13*** *04:34:23.0±1.1,3919N×1505E,h273km±14km,mb3.3/10,mb1 3.4/16,mb1mx3.2/29,mbtmp4.0/16,Error ellipse: s-maj=14.9km s-min=13.7km az=49.0*
ISC 13 04:34:22.5±0.3,3897N±003×1522E±004,h278km±2km, n229,σ1$06/249,mb3.7/13,28C-32D,Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLNA	**Salina** 175nm,0.3s	**0.50**	**217**	⇓*i*Pg			**Pn**	**04 34 59.1**	**+0.5**
LLI	**Lipari** 1μm,0.6s	**0.56**	**202**	⇓*i*Pg			**Pn**	**04 34 59.5**	**+0.7**
VPL	**Vulcano Piano** 484nm,0.5s	**0.62**	**197**	⇓*e*Pg			**Pn**	**04 34 59.0**	**0.0**
IFIL	**Filicudi I Eol** 870nm,0.5s	**0.65**	**232**	⇓*i*Pg			**Pn**	**04 34 59.3**	**+0.2**
IFIL					Sg		**S**	**04 35 28.5**	**+0.5**
MSRU	**Castanea** 322nm,0.5s	**0.74**	**162**	⇓*i*Pg			**Pn**	**04 34 58.8**	**-0.6**
MSRU					Sg		**S**	**04 35 26.7**	**-1.9**
MSI	**Messina ING** 709nm,0.4s	**0.81**	**161**	Pg			**Pn**	**04 34 59.5**	**-0.2**
SCLL	**Scilla** 51nm,0.5s	**0.81**	**151**	Pg			**Pn**	**04 34 59.5**	**-0.2**
CEL	**Celeste** 216nm,0.5s	**0.89**	**143**	⇓*i*Pg			**Pn**	**04 34 59.5**	**-0.5**
CEL					Sg		**S**	**04 35 27.8**	**-1.9**
GRI	**Girifalco** 518nm,0.7s	**0.95**	**98**	⇓*e*Pg			**Pn**	**04 35 00.5**	**+0.2**
GRI					Sg		**S**	**04 35 28.8**	**-1.4**
MMME	**Mongiuffi-Meli** 380nm,0.7s	**1.03**	**178**	⇓*i*Pg			**Pn**	**04 35 01.1**	**+0.4**
MTTG	**Motta San Giov** 356nm,0.6s	**1.04**	**159**	⇓*i*Pg			**Pn**	**04 35 00.9**	**+0.2**
PLAC	**Placanica** 108nm,0.4s	**1.09**	**118**	⇓*i*Pg			**Pn**	**04 35 01.0**	**0.0**
PLAC					Sg		**S**	**04 35 29.2**	**-2.3**
SOI	**Samo** 190nm,0.5s	**1.11**	**143**	⇓*i*Pg			**Pn**	**04 35 01.0**	**-0.1**
SOI					Sg		**S**	**04 35 30.4**	**-1.3**
CUC	**Castrocucco** 97nm,0.7s	**1.12**	**24**	⇓*i*Pg			**Pn**	**04 35 01.3**	**+0.1**
CUC					Sg		**S**	**04 35 29.7**	**-2.1**
SERS	**Sersale** 271nm,0.5s	**1.15**	**86**	⇓*i*Pg			**Pn**	**04 35 01.6**	**+0.3**
SERS					Sg		**S**	**04 35 29.8**	**-2.3**
MGR	**Morigerati** 70nm,0.9s	**1.20**	**13**	⇓*i*Pg			**Pn**	**04 35 01.9**	**+0.3**
MGR					Sg		**S**	**04 35 31.2**	**-1.4**
TIP	**Timpagrande** 352nm,0.9s	**1.22**	**80**	⇓*i*Pg			**Pn**	**04 35 02.1**	**+0.4**
TIP					Sg		**S**	**04 35 30.8**	**-2.0**
CMPR	**Campora** 195nm,1.1s	**1.35**	**3**	⇓*i*Pg			**Pn**	**04 35 03.2**	**+0.7**
CMPR					Sg		**S**	**04 35 33.5**	**-0.7**
GIB	**Gibilmanna** 386nm,0.5s	**1.35**	**224**	⇓*i*Pg			**Pn**	**04 35 02.8**	**+0.3**
GIB					Sg		**S**	**04 35 33.7**	**-0.5**
CSLB	**Castelbuono** 122nm,0.4s	**1.37**	**222**	⇓*i*Pg			**Pn**	**04 35 02.9**	**+0.2**
SCHR	**S. Chirico Rap** 85nm,0.7s	**1.40**	**28**	⇓*e*Pg			**Pn**	**04 35 03.5**	**+0.7**
SCHR					Sg		**S**	**04 35 35.5**	**+0.7**
ORI	**Oriolo Calabro** 396nm,0.4s	**1.45**	**41**	Pg			**Pn**	**04 35 03.7**	**+0.5**
SLCN	**Sala Consilina** 107nm,0.6s	**1.46**	**13**	Pg			**Pn**	**04 35 04.1**	**+0.9**
CDRU	**Civita di Ruta** 71nm,1.3s	**1.52**	**3**	Pg			**Pn**	**04 35 04.4**	**+0.7**
SGO	**Sicignano** 15nm,0.4s	**1.59**	**3**	⇑*i*Pg			**Pn**	**04 35 05.2**	**+1.0**
VAE	**Valguarnera** 8.1nm,0.3s,baz=84,slow=5.5,SNR=6.8	**1.62**	**203**	P			**Pn**	**04 35 06.2**	**+1.8**
VAE	6.9nm,0.3s,baz=250,slow=1.6,SNR=4.3				S		**S**	**04 35 34.6**	**-2.9**
HAGA	**Augusta** 108nm,0.4s	**1.68**	**182**	⇓*e*Pg			**Pn**	**04 35 04.8**	**0.0**
HAGA					Sg		**S**	**04 35 37.9**	**-0.5**
AGST	**Augusta-Monte** 122nm,0.4s	**1.71**	**180**	⇓*e*Pg			**Pn**	**04 35 04.9**	**-0.1**
MCRV	**Calabrutti - M** 63nm,0.8s	**1.81**	**359**	⇑*i*Pg			**Pn**	**04 35 06.8**	**+1.0**
SSY	**Sortino** 364nm,0.4s	**1.81**	**184**	⇓*i*Pg			**Pn**	**04 35 06.2**	**+0.3**
HVZN	**Vizzini** 409nm,0.5s	**1.83**	**193**	⇓*i*Pg			**Pn**	**04 35 06.7**	**+0.7**
HVZN					Sg		**S**	**04 35 41.4**	**+1.0**
CORL	**Corleone** 282nm,1.0s	**1.84**	**235**	Pg			**Pn**	**04 35 06.5**	**+0.4**
RAFF	**Raffo Rosso** 323nm,1.3s	**1.87**	**201**	Pg			**Pn**	**04 35 07.0**	**+0.7**
HAVL	**Avola** 196nm,0.4s	**2.01**	**182**	⇓*i*Pg			**Pn**	**04 35 07.8**	**+0.4**
HMDC	**Modica** 228nm,0.8s	**2.04**	**190**	⇓*i*Pg			**Pn**	**04 35 08.5**	**+0.8**
CLTB	**Caltabellotta** 67nm,0.3s	**2.10**	**229**	Pg			**Pn**	**04 35 08.7**	**+0.5**
SG1	**Sgolgore (BA)**	**2.18**	**31**	*e*Pn			**Pn**	**04 35 08.2**	**-0.7**
PSB1	**Pescosannita** 153nm,2.0s	**2.27**	**352**	⇑*i*Pg			**Pn**	**04 35 10.7**	**+1.0**
PE1	**Pezze di Greco**	**2.50**	**42**	*e*Pn			**Pn**	**04 35 10.7**	**-1.1**
RFI	**Roccamonfina** 2.0nm,0.4s	**2.51**	**338**	⇓*i*Pg			**Pn**	**04 35 13.1**	**+1.2**
VAGA	**Valle Agricola** 40nm,0.8s	**2.56**	**343**	⇑*i*Pg			**Pn**	**04 35 13.3**	**+0.9**
LCI	**Lecce** 53nm,0.2s	**2.62**	**58**	⇓*i*Pg			**Pn**	**04 35 12.5**	**-0.5**
RGNG	**Rignano Grg**	**2.72**	**6**	Pg			**Pn**	**04 35 14.3**	**+0.4**
MIDA	**Miranda** 42nm,0.7s	**2.77**	**345**	⇑*i*Pg			**Pn**	**04 35 15.7**	**+1.3**
CII	**Carovilli** 21nm,0.4s	**2.84**	**346**	Pg			**Pn**	**04 35 17.1**	**+2.0**
RNI2	**Rionero Sannit** 58nm,0.6s	**2.85**	**344**	⇑*i*Pg			**Pn**	**04 35 17.1**	**+1.9**
SDI	**San Donato** 18nm,0.3s	**2.94**	**339**	⇑*i*Pg			**Pn**	**04 35 17.2**	**+1.0**
GIUL	**Giuliano Di Ro** 62nm,1.4s	**2.99**	**331**	⇑*i*Pg			**Pn**	**04 35 17.4**	**+0.7**
VVLD	**Villa Vallelon** 39nm,0.6s	**3.14**	**338**	⇑*i*Pg			**Pn**	**04 35 19.2**	**+0.9**
CERT	**Cerreto** 35nm,0.5s	**3.43**	**331**	⇑*i*Pg			**Pn**	**04 35 22.0**	**+0.7**
AQU	**L'Aquila** 39nm,0.6s	**3.65**	**338**	Pg			**Pn**	**04 35 25.7**	**+2.0**
AQU	**L'Aquila** 39nm,0.6s	**3.65**	**338**	⇓*i*P			**Pn**	**04 35 25.2**	**+1.5**
AQU	**L'Aquila** 39nm,0.6s	**3.65**	**338**	Pg			**Pn**	**04 35 25.7**	**+2.0**
NRCA	**Norcia** 4.0nm,0.4s	**4.18**	**338**	Pg			**Pn**	**04 35 30.7**	**+1.1**
VSL	**Villasalto** 44nm,0.8s	**4.56**	**278**	⇑*i*Pg			**Pn**	**04 35 35.0**	**+0.9**
GRFL	**Gerfalco** 2.0nm,0.5s	**5.26**	**324**	⇑*i*Pg			**Pn**	**04 35 43.6**	**+1.3**
PGF	**Pioggiola** 30nm,0.8s	**5.92**	**309**	*e*P			**Pn**	**04 35 49.7**	**-0.6**
PGF	**Pioggiola** 15nm,0.8s	**5.92**	**309**	*e*P			**Pn**	**04 35 49.7**	**-0.6**
VTS	**Vitosha**	**7.06**	**57**	⇓*i*P			**Pn**	**04 36 06.2**	**+1.9**
OBKA	**Obir** comp=Z,5.6nm,0.5s	**7.55**	**356**	⇑*i*P			**Pn**	**04 36 10.4**	**+0.1**
SBF	**Sospel** 17nm,0.8s	**7.62**	**312**	*e*P			**Pn**	**04 36 10.2**	**-1.0**
SBF	**Sospel** 8.6nm,0.8s	**7.62**	**312**	*e*P			**Pn**	**04 36 10.2**	**-1.0**
PKSM	**Moragy**	**7.67**	**18**	⇑*i*P			**Pn**	**04 36 11.9**	**+0.2**
LMR	**La Mourre**	**7.88**	**306**	*e*P			**Pn**	**04 36 14.1**	**-0.3**
FRF	**La Foret Royal** 23nm,0.7s	**7.92**	**308**	*e*P			**Pn**	**04 36 12.2**	**-2.6**
FRF	**La Foret Royal** 11nm,0.7s	**7.92**	**308**	*e*P			**Pn**	**04 36 12.2**	**-2.6**
MBDF	**Montbardon** 39nm,0.7s	**8.53**	**315**	*e*P			**Pn**	**04 36 22.0**	**-0.5**
MBDF	**Montbardon** 19nm,0.7s	**8.53**	**315**	*e*P			**Pn**	**04 36 22.0**	**-0.5**
IDI	**Anoyia** 1.4nm,0.3s,baz=294,slow=14,SNR=9.0	**8.55**	**112**	P			**Pn**	**04 36 24.0**	**+1.3**
WTTA	**Wattenberg** comp=Z,22nm,0.5s	**8.69**	**344**	⇑*i*P			**Pn**	**04 36 26.2**	**+1.7**
WTTA	**Wattenberg**	**8.69**	**344**	⇑*i*P			**Pn**	**04 36 26.2**	**+1.7**
WTTA	comp=Z,22nm,0.5s				pmax	pmax			
DAVOX	**Davos** comp=Z,1.8nm,0.3s,baz=169,slow=13,SNR=12	**8.73**	**335**	P			**Pn**	**04 36 26.4**	**+1.4**
SQTA	**Sankt Quirin** comp=Z,30nm,0.4s	**8.75**	**342**	⇑*i*P			**Pn**	**04 36 26.4**	**+1.2**
SQTA	**Sankt Quirin**	**8.75**	**342**	⇑*i*P			**Pn**	**04 36 26.4**	**+1.2**
SQTA	comp=Z,30nm,0.4s				pmax	pmax			
WATA	**Walderalm** comp=Z,38nm,0.5s	**8.77**	**344**	⇑*i*P			**Pn**	**04 36 26.1**	**+0.6**
WATA	**Walderalm**	**8.77**	**344**	⇑*i*P			**Pn**	**04 36 26.2**	**+0.7**
WATA	comp=Z,38nm,0.5s				pmax	pmax			
WATA	**Walderalm** comp=Z,38nm,0.5s	**8.77**	**344**	⇑*i*P			**Pn**	**04 36 26.1**	**+0.6**
SMRF	**Simiane la Rot** comp=Z,8.8nm,0.7s	**8.79**	**308**	*e*P			**Pn**	**04 36 25.7**	**-0.1**
SMRF	**Simiane la Rot** comp=Z,4.4nm,0.7s	**8.79**	**308**	*e*P			**Pn**	**04 36 25.7**	**-0.1**
MOTA	**Moosalm** comp=Z,8.5nm,0.5s	**8.89**	**342**	⇓*i*Pn			**Pn**	**04 36 27.9**	**+0.9**
MOTA				⇑*i*S			**S**	**04 38 03.4**	**-4.5**
MOTA	**Moosalm** comp=Z,9.0nm,0.5s	**8.89**	**342**	⇓*i*P			**Pn**	**04 36 27.9**	**+0.9**
MOTA					pmax	pmax			
MOA	**Molln** comp=Z,6.4nm,0.9s	**8.90**	**356**	⇑*i*P			**Pn**	**04 36 27.5**	**+0.4**
LPG	**La Plagne** comp=Z,12nm,0.5s	**9.05**	**319**	*e*P			**Pn**	**04 36 28.6**	**-0.3**
LPG	**La Plagne** comp=Z,6.2nm,0.5s	**9.05**	**319**	*e*P			**Pn**	**04 36 28.6**	**-0.3**
LPL	**La Plagne** comp=Z,13nm,0.6s	**9.07**	**319**	*e*P			**Pn**	**04 36 28.6**	**-0.6**
LPL	**La Plagne** comp=Z,6.4nm,0.6s	**9.07**	**319**	*e*P			**Pn**	**04 36 28.6**	**-0.6**
ORIF	**Oris-en-Rattie** comp=Z,17nm,0.7s	**9.15**	**314**	*e*P			**Pn**	**04 36 29.5**	**-0.6**
ORIF	**Oris-en-Rattie** comp=Z,8.3nm,0.7s	**9.15**	**314**	*e*P			**Pn**	**04 36 29.5**	**-0.6**
DAVA	**Damuels** comp=Z,8.5nm,0.5s	**9.18**	**337**	⇓*i*P			**Pn**	**04 36 31.5**	**+0.9**
ZST	**Bratislava**	**9.32**	**8**	*e*PN			**Pn**	**04 36 32.9**	**+0.5**
VIVF	**Saint-Julien-l** comp=Z,26nm,0.6s	**9.81**	**310**	*e*P			**Pn**	**04 36 38.0**	**-0.4**
VIVF	**Saint-Julien-l**	**9.81**	**310**	*e*P			**Pn**	**04 36 38.0**	**-0.4**
VIVF	comp=Z,13nm,0.6s				pmax	pmax			
VIVF	**Saint-Julien-l** comp=Z,13nm,0.6s	**9.81**	**310**	*e*P			**Pn**	**04 36 38.0**	**-0.4**
VYHS	**Vyhne**	**9.87**	**14**	*e*PN			**Pn**	**04 36 39.2**	**0.0**
KOLL	**Kolacno**	**9.88**	**12**	*e*PN			**Pn**	**04 36 39.2**	**0.0**
LASF	**Ste Croix** comp=Z,14nm,1.0s	**9.93**	**305**	*e*P			**Pn**	**04 36 39.4**	**-0.4**
LASF	**Ste Croix** comp=Z,6.8nm,1.0s	**9.93**	**305**	*e*P			**Pn**	**04 36 39.4**	**-0.4**
GERES	**GERESS Array B** comp=Z,0.4nm,0.3s,baz=167,slow=14,SNR=13	**9.93**	**354**	P			**Pn**	**04 36 38.7**	**-1.2**
CABF	**La Chapelle** comp=Z,34nm,0.5s	**10.16**	**322**	*e*P			**Pn**	**04 36 42.2**	**-0.5**
CABF	**La Chapelle**	**10.16**	**322**	*e*P			**Pn**	**04 36 42.2**	**-0.5**
CABF	comp=Z,17nm,0.5s				pmax	pmax			
CABF	**La Chapelle** comp=Z,17nm,0.5s	**10.16**	**322**	*e*P			**Pn**	**04 36 42.2**	**-0.5**
KHC	**Kasperske Hory**	**10.23**	**354**	*e*P			**Pn**	**04 36 42.7**	**-0.9**
KHC				*ex*			x	04 36 56.5	
KHC	**Kasperske Hory**	**10.23**	**354**	*e*P			**Pn**	**04 36 42.7**	**-0.9**
KHC				*e*				04 36 56.5	
KECS	**Kecovo**	**10.24**	**20**	*e*			**Pn**	**04 36 50.0**	**+6.2**
MLR	**Muntele Rosu** comp=Z,0.4nm,0.3s,baz=233,slow=5.1,SNR=2.2	**10.28**	**47**	P			**Pn**	**04 36 47.8**	**+3.6**
MLR	**Muntele Rosu** comp=Z,3.2nm,0.5s	**10.28**	**47**	⇑*i*P			**Pn**	**04 36 49.5**	**+5.3**
WET	**Wettzell**	**10.31**	**351**	*e*P			**Pn**	**04 36 44.0**	**-0.6**
VRAC	**Vranov** comp=Z,1.3nm,0.3s,baz=170,slow=13,SNR=6.3	**10.38**	**5**	P			**Pn**	**04 36 45.9**	**+0.4**
VRAC	**Vranov**	**10.38**	**5**	⇑*i*P			**Pn**	**04 36 46.1**	**+0.6**
VRAC	**Vranov**	**10.38**	**5**	P			**Pn**	**04 36 45.9**	**+0.4**
VRAC	comp=Z,1.0nm,0.3s				pmax	pmax			
VRAC	**Vranov**	**10.38**	**5**	*e*P			**Pn**	**04 36 45.8**	**+0.3**
BFO	**Black Forest**	**10.60**	**334**	*e*P			**Pn**	**04 36 47.0**	**-1.2**
HINF	**Hinteralfeld** comp=Z,6.5nm,0.5s	**10.73**	**328**	*e*P			**Pn**	**04 36 48.5**	**-1.2**
HINF	**Hinteralfeld**	**10.73**	**328**	*e*P			**Pn**	**04 36 48.5**	**-1.2**
HINF	comp=Z,3.0nm,0.5s				pmax	pmax			
HINF	**Hinteralfeld** comp=Z,3.2nm,0.5s	**10.73**	**328**	*e*P			**Pn**	**04 36 48.5**	**-1.2**
MORC	**Mavsky Berou**	**10.93**	**8**	⇑*i*P			**Pn**	**04 36 52.8**	**+0.5**
MORC	**Moravsky Berou**	**10.93**	**8**	*e*P			**Pn**	**04 36 52.7**	**+0.4**
CDF	**Champ du Feu** comp=Z,9.9nm,0.5s	**11.04**	**331**	*e*P			**Pn**	**04 36 52.4**	**-1.3**
CDF	**Champ du Feu**	**11.04**	**331**	*e*P			**Pn**	**04 36 52.4**	**-1.3**
CDF	comp=Z,5.0nm,0.5s				pmax	pmax			
CDF	**Champ du Feu** comp=Z,4.9nm,0.5s	**11.04**	**331**	*e*P			**Pn**	**04 36 52.4**	**-1.3**
OKC	**Ostrava-Krasne**	**11.07**	**10**	*e*P			**Pn**	**04 36 54.2**	**+0.3**
HAU	**Haudompre** comp=Z,11nm,0.4s	**11.09**	**327**	*e*P			**Pn**	**04 36 53.5**	**-0.7**
HAU	**Haudompre**	**11.09**	**327**	*e*P			**Pn**	**04 36 53.5**	**-0.7**
HAU	comp=Z,6.0nm,0.4s				pmax	pmax			
HAU	**Haudompre** comp=Z,5.7nm,0.4s	**11.09**	**327**	*e*P			**Pn**	**04 36 53.5**	**-0.7**
GRA1	**Grafenberg Arr** comp=Z,18nm,0.9s	**11.09**	**346**	*e*P			**Pn**	**04 36 54.8**	**+0.5**
GRF	**Grafenberg Arr** comp=Z,18nm,0.9s	**11.09**	**346**	*e*P			**Pn**	**04 36 54.8**	**+0.5**
GRF	**Grafenberg Arr**	**11.09**	**346**	*e*P			**Pn**	**04 36 54.8**	**+0.5**
GRF	comp=Z,18nm,0.9s				pmax	pmax			
GRF	**Grafenberg Arr**	**11.09**	**346**	*e*P			**Pn**	**04 36 54.8**	**+0.5**
GRF	comp=Z,18nm,0.9s				pmax	pmax			
MANZ	**Manzenberg** comp=Z,5.0nm,0.8s	**11.24**	**350**	*e*P			**Pn**	**04 36 56.8**	**+0.8**
BURAR	**Bucovina Array**	**11.30**	**37**	⇑*i*P			**Pn**	**04 37 02.3**	**+5.5**
STHS	**Stebnicka Huta**	**11.30**	**20**	*e*PN			**Pn**	**04 36 58.0**	**+1.2**
SMF	**Signal de Mont** comp=Z,5.3nm,0.4s	**11.33**	**316**	*e*P			**Pn**	**04 36 54.7**	**-2.5**
SMF	**Signal de Mont**	**11.33**	**316**	*e*P			**Pn**	**04 36 54.7**	**-2.5**
SMF	comp=Z,3.0nm,0.4s				pmax	pmax			
SMF	**Signal de Mont** comp=Z,2.7nm,0.4s	**11.33**	**316**	*e*P			**Pn**	**04 36 54.7**	**-2.5**
DPC	**Dobruska-Polom**	**11.41**	**4**	*e*P			**Pn**	**04 37 01.0**	**+2.9**
WERN	**Wernitzgruen** comp=Z,8.0nm,0.7s	**11.49**	**351**	*e*P			**Pn**	**04 36 59.2**	**0.0**
UPC	**Upice**	**11.55**	**3**	*e*P			**Pn**	**04 37 00.2**	**+0.3**
TANN	**Tannenbergstha** comp=Z,7.0nm,1.0s	**11.61**	**351**	*e*P			**Pn**	**04 37 01.1**	**+0.5**
WERD	**Werda** comp=Z,7.0nm,0.7s	**11.66**	**351**	*e*P			**Pn**	**04 37 01.6**	**+0.3**
AVF	**Avril sur Loir** comp=Z,9.9nm,0.7s	**11.69**	**316**	*e*P			**Pn**	**04 37 00.9**	**-0.7**
AVF	**Avril sur Loir**	**11.69**	**316**	*e*P			**Pn**	**04 37 00.9**	**-0.7**
AVF	comp=Z,5.0nm,0.7s				pmax	pmax			
AVF	**Avril sur Loir** comp=Z,4.9nm,0.7s	**11.69**	**316**	*e*P			**Pn**	**04 37 00.9**	**-0.7**
LOR	**Lormes** comp=Z,4.6nm,0.5s	**11.72**	**319**	*e*P			**Pn**	**04 37 00.9**	**-1.1**
LOR	**Lormes**	**11.72**	**319**	*e*P			**Pn**	**04 37 00.9**	**-1.1**
LOR	comp=Z,2.0nm,0.5s				pmax	pmax			
LOR	**Lormes** comp=Z,2.3nm,0.5s	**11.72**	**319**	*e*P			**Pn**	**04 37 00.9**	**-1.1**
SSF	**Saint Saulge** comp=Z,4.8nm,0.5s	**11.77**	**317**	*e*P			**Pn**	**04 37 02.1**	**-0.5**
SSF	**Saint Saulge**	**11.77**	**317**	*e*P			**Pn**	**04 37 02.1**	**-0.5**
SSF	comp=Z,2.0nm,0.5s				pmax	pmax			
SSF	**Saint Saulge** comp=Z,2.4nm,0.5s	**11.77**	**317**	*e*P			**Pn**	**04 37 02.1**	**-0.5**
BGF	**Bois d'Agland** comp=Z,16nm,0.6s	**11.83**	**314**	*e*P			**Pn**	**04 37 02.7**	**-0.6**
BGF	**Bois d'Agland**	**11.83**	**314**	*e*P			**Pn**	**04 37 02.7**	**-0.6**
BGF	comp=Z,8.0nm,0.6s				pmax	pmax			
BGF	**Bois d'Agland** comp=Z,7.8nm,0.6s	**11.83**	**314**	*e*P			**Pn**	**04 37 02.7**	**-0.6**
BRG	**Berggiesshubel** comp=Z,3.2nm,0.8s	**11.94**	**356**	*i* P			**Pn**	**04 37 05.1**	**+0.5**
BRG				*i*				04 37 07.9	
BRG	**Berggiesshubel** comp=Z,6.9nm,0.9s	**11.94**	**356**	*i* P			**Pn**	**04 37 05.1**	**+0.5**
BRG	comp=Z,3.0nm,0.8s				pmax	pmax			
BRG	comp=Z,7.0nm,0.9s				pmax	pmax			
BRG	**Berggiesshubel** comp=Z,3.2nm,0.8s	**11.94**	**356**	*i* P			**Pn**	**04 37 05.1**	**+0.5**
BRG				*i*				04 37 07.9	
BRG	**Berggiesshubel** comp=Z,12nm,0.9s	**11.94**	**356**	*e*P			**Pn**	**04 37 04.8**	**+0.2**
MOX	**Moxa** comp=Z,12nm,0.5s	**11.95**	**349**	*e*P			**Pn**	**04 37 05.1**	**+0.3**
MOX	**Moxa**	**11.95**	**349**	*e*P			**Pn**	**04 37 05.5**	**+0.7**
RJF	**Les Rejaudoux** comp=Z,5.5nm,0.5s	**11.97**	**306**	*e*P			**Pn**	**04 37 05.4**	**+0.3**
RJF	**Les Rejaudoux**	**11.97**	**306**	*e*P			**Pn**	**04 37 05.4**	**+0.3**
RJF	comp=Z,3.0nm,0.5s				pmax	pmax			
RJF	**Les Rejaudoux** comp=Z,2.8nm,0.5s	**11.97**	**306**	*e*P			**Pn**	**04 37 05.4**	**+0.3**
FBE	**Freiberg** comp=Z,11nm,0.9s	**12.02**	**354**	*e*P			**Pn**	**04 37 05.6**	**-0.1**
TNS	**Taunus Mts**	**12.23**	**339**	*e*P			**Pn**	**04 37 08.3**	**0.0**
LFF	**La Frestale** comp=Z,20nm,0.7s	**12.31**	**304**	*e*P			**Pn**	**04 37 10.2**	**+1.0**
LFF	**La Frestale**	**12.31**	**304**	*e*P			**Pn**	**04 37 10.2**	**+1.0**
LFF	comp=Z,10.0nm,0.7s				pmax	pmax			
LFF	**La Frestale** comp=Z,9.9nm,0.7s	**12.31**	**304**	*e*P			**Pn**	**04 37 10.2**	**+1.0**
UBBA	**Unterbreizbach**	**12.41**	**344**	*e*P			**Pn**	**04 37 11.7**	**+1.3**
CLL	**Collm** comp=Z,8.0nm,0.7s	**12.44**	**354**	*e*P			**Pn**	**04 37 10.9**	**+0.2**
CLL	**Collm** comp=Z,8.0nm,0.7s	**12.44**	**354**	*i* (P)			**Pn**	**04 37 11.6**	**+0.9**
ETSF	**Etsaut** comp=Z,3.7nm,0.3s	**12.56**	**293**	*e*P			**Pn**	**04 37 13.4**	**+1.2**
ETSF	**Etsaut**	**12.56**	**293**	*e*P			**Pn**	**04 37 13.4**	**+1.2**
ETSF	comp=Z,2.0nm,0.3s				pmax	pmax			
ETSF	**Etsaut** comp=Z,1.9nm,0.3s	**12.56**	**293**	*e*P			**Pn**	**04 37 13.4**	**+1.2**
SJPF	**Ste Jean** comp=Z,6.5nm,0.6s	**13.08**	**294**	*e*P			**Pn**	**04 37 19.8**	**+1.2**
SJPF	**Ste Jean**	**13.08**	**294**	*e*P			**Pn**	**04 37 19.8**	**+1.2**
SJPF	comp=Z,3.0nm,0.6s				pmax	pmax			
SJPF	**Ste Jean** comp=Z,3.2nm,0.6s	**13.08**	**294**	*e*P			**Pn**	**04 37 19.8**	**+1.2**
CLZ	**Clausthal** comp=Z,7.0nm,0.9s	**13.31**	**347**	*e*P			**Pn**	**04 37 21.1**	**-0.3**
CLZ	**Clausthal**	**13.31**	**347**	*e*P			**Pn**	**04 37 21.1**	**-0.3**
CLZ	comp=Z,7.0nm,0.9s				pmax	pmax			
MFF	**Saint Martin d** comp=Z,6.7nm,0.5s	**13.

ROSF pmax pmax
comp=Z,3.0nm,0.5s
ROSF Rostrenen 16.30 311 *eP* **P 04 37 54.2 -0.7**
comp=Z,3.5nm,0.5s
MMAI Mount Meron Ar 17.37 104 P **P 04 38 10.4 +3.9**
comp=Z,1.3nm,0.3s,baz=319,slow=10.0,SNR=4.7
EKA Eskdalemuir Ar 20.49 329 P **P 04 38 37.5 -2.3**
comp=Z,1.7nm,0.4s,baz=139,slow=11,SNR=17
EKA Eskdalemuir Ar 20.49 329 P **P 04 38 37.5 -2.3**
EKA pmax pmax
comp=Z,2.0nm,0.4s
VSU Vasula 20.88 17 *eP* **P 04 38 42.4 -1.5**
KIV Kislovodsk 21.13 68⇑ *eP* **P 04 38 47.9 +1.7**
KIV pmax pmax
comp=Z,3.0nm,0.4s,mb4.0
KIV Kislovodsk 21.13 68 *eP* **P 04 38 47.9 +1.7**
comp=Z,3.0nm,0.4s,mb4.0
HFS Hagfors 21.31 258 P **P 04 38 44.4 -2.4**
comp=Z,1.1nm,0.3s,mb3.7,baz=175,slow=12,SNR=14
HFS Hagfors 21.21 358 P **P 04 38 44.4 -2.5**
HFS pmax pmax
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 22.24 355 P **P 04 38 54.5 -1.8**
comp=Z,0.8nm,0.4s,mb3.4,baz=165,slow=10
NOA NORSAR Array B 22.24 355 P **P 04 38 54.4 -1.9**
comp=Z,1.1nm,0.5s,mb3.4,baz=185,slow=9.4,SNR=5.7
NOA NORSAR Array B 22.24 355 P **P 04 38 54.4 -1.9**
NOA pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 23.49 13 P **P 04 39 07.1 -0.5**
comp=Z,3.8nm,0.3s,mb4.2,baz=191,slow=8.9,SNR=88
FINES FINESS Array B 23.49 13 P **P 04 39 07.1 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.3s
KAF Kangasniemi 24.15 13 *ep* **P 04 39 12.3 -1.3**
comp=Z,3.1nm,0.6s,mb3.8
KAF Kangasniemi 24.15 13 *eP* **P 04 39 12.3 -1.3**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
JOF Joensuu 25.88 17 *ep* **P 04 39 29.6 +0.4**
comp=Z,0.8nm,0.3s,mb3.6
ARCES ARCESS Array B 31.12 7 P **P 04 40 13.8 -1.6**
comp=Z,1.6nm,0.5s,mb3.9,baz=192,slow=8.4,SNR=45
ARCES ARCESS Array B 31.12 7 P **P 04 40 13.9 -1.5**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
KEV Kevo 31.48 8 *ep* **P 04 40 16.4 -2.2**
comp=Z,8.0nm,1.0s,mb4.2
KEV Kevo 31.48 8 *eP* **P 04 40 16.4 -2.2**
KEV pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
DBIC Dimbokro 36.91 215 P **P 04 41 06.4 +1.4**
comp=Z,6.2nm,1.2s,mb3.9,baz=327,slow=11,SNR=4.6
DBIC Dimbokro 36.91 215 P **P 04 41 06.4 +1.4**
DBIC pmax pmax
comp=Z,6.0nm,1.3s
BVAR Borovoye Array 39.82 51 P **P 04 41 29.9 +0.8**
comp=Z,0.9nm,0.6s,mb3.3,baz=226,slow=7.7,SNR=4.3
BVAR Borovoye Array 39.82 51 P **P 04 41 29.9 +0.8**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 48.42 58 P **P 04 42 37.2 +0.3**
comp=Z,1.1nm,0.5s,mb3.5,baz=286,slow=6.4,SNR=13
MKAR Makanchi Array 48.42 58 P **P 04 42 37.2 +0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 71.16 338 P **P 04 45 10.6 -0.5**
comp=Z,1.0nm,0.5s,mb3.7,baz=38,slow=5.9,SNR=5.1
YKA Yellowknife Ar 71.16 338 P **P 04 45 10.6 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 71.16 338 P **P 04 45 10.6 -0.5**
comp=Z,1.0nm,0.5s,mb3.7
PDAR Pinedale Array 84.47 323 P **P 04 46 25.0 +0.9**
comp=Z,0.2nm,0.4s,mb3.3,baz=70,slow=4.0,SNR=3.4

MEX 13 04:34:45.6±1.2, 1508N×9389W, h16km±77km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**2.04**	**36**	*i* P	Pn	04 35 17.5	-1.8
SCX				*i* S	Sn	04 35 40.0	-4.4
CCIG	**Comitan**	**2.07**	**54**	*i* P	Pn	04 35 15.9	-3.7
CCIG				*i* S	Sn	04 35 40.2	-4.9
CMIG	**Matias Romero**	**2.22**	**335**	*i* P	Pn	04 35 17.4	-4.3
CMIG				*i* S	Sn	04 35 44.9	-3.9

CASC 13 05:09:40.0±4.0, 1286N×9000W, h51km±246km, MD3.9, 5C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.04**	**20**	*eP*	x	05 10 02.3	
SBLS				*eS*	x	05 10 15.9	
RTR	**El Retiro**	**1.09**	**18**	*eP*	x	05 10 03.5	
RTR				*eS*	x	05 10 17.5	
SNET	**Serv Nac Est T**	**1.11**	**42**	*eP*	x	05 10 02.6	
SNET				*eS*	x	05 10 16.1	
BOQS	**Boqueron**	**1.12**	**39**	*eP*	x	05 10 03.1	
BOQS				*eS*	x	05 10 17.8	
LFRS	**El Faro**	**1.19**	**50⇓**	*eP*	x	05 10 03.9	
LFRS				*eS*	x	05 10 18.1	
LFU	**La Fuente**	**1.24**	**44⇓**	*eP*	x	05 10 05.2	
LFU				*eS*	x	05 10 20.6	
LCBS	**La Ceiba**	**1.27**	**51**	*eP*	x	05 10 05.1	
LCBS				*eS*	x	05 10 21.0	
LBRS	**Las Brisas**	**1.28**	**47⇑**	*eP*	x	05 10 05.5	
LBRS				*eS*	x	05 10 22.3	
RBDL	**Robledal**	**1.28**	**14⇑**	*eP*	x	05 10 06.5	
RBDL				*eS*	x	05 10 22.4	
SNVI	**San Vicente**	**1.35**	**56**	*eP*	x	05 10 06.9	
SNVI				*eS*	x	05 10 23.6	
MTO2	**Montecristo 2**	**1.65**	**22⇑**	*eP*	x	05 10 11.7	
MTO2				*eS*	x	05 10 33.5	
VSM	**San Miguel**	**1.77**	**71**	*eP*	x	05 10 13.5	
VSM				*eS*	x	05 10 36.4	
FUG	**Fuego 3**	**1.78**	**333⇓**	*eP*	Pn	05 10 09.3	+0.9
BLLM	**Bellamira**	**1.81**	**71⇑**	*eP*	x	05 10 13.4	
BLLM				*eS*	x	05 10 36.1	
CNCH	**Conchagua**	**2.15**	**79**	*eP*	x	05 10 18.4	
CNCH				*eS*	x	05 10 44.5	
TP2	**Tecpan 2**	**2.16**	**333**	*eP*	Pn	05 10 14.7	+1.2
TP2				*eS*	Sn	05 10 41.5	+2.4
CRIN	**San Cristobal**	**2.88**	**93**	*eP*	Pn	05 10 23.3	-0.1
LEON	**Leon**	**3.06**	**98**	*eP*	Pn	05 10 26.2	+0.4
MIRN	**Miramar**	**3.23**	**97⇑**	*eP*	Pn	05 10 27.2	-1.0
COPN	**Copaltepe**	**3.39**	**101**	*eP*	Pn	05 10 31.6	+1.2
COPN				*eS*	Sn	05 11 09.3	-0.1
XAVN	**Gruta Xavier**	**3.65**	**101**	*eP*	Pn	05 10 35.4	+1.4

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*ISCJB **13** 05:16:16.6±0.7, 674N±007×7300W±008, h178km±7km, mb3.6/7, Error ellipse: s-maj=13.9km s-min=10.4km az=72.2*
*IDC **13** 05:16:17.5±1.1, 680N×7297W, h168km±10km, mb3.4/7, mb1 3.5/10, mb1mx3.3/23, mbtmp3.9/10, Error ellipse: s-maj=15.0km s-min=12.8km az=131.0*
*NEIC **13** 05:16:18.0±0.7, 676N×7301W, h175km±7km, mb3.8/1, Error ellipse: s-maj=9.9km s-min=9.0km az=73.0*
ISC 13 05:16:17.5±0.6, 675N±007×7305W±007, h165km±7km, n17, σ0§84/19, mb3.6/7, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.27**	**214**	P	**Pn**	**05 16 58.6**	**+1.9**
	62nm,0.3s,baz=26,slow=2.3,SNR=84						
ROSC				S	**Sn**	**05 17 25.6**	**-1.3**
	102nm,0.3s,baz=96,slow=17,SNR=11						
SDV	**Santo Domingo**	**3.20**	**48**	P	**Pn**	**05 17 08.7**	**+0.8**
	12nm,0.3s,baz=248,slow=2.6,SNR=93						
SDV				S	**Sn**	**05 17 45.4**	**-1.6**
	12nm,0.3s,baz=20,slow=16,SNR=12						
SDV	**Santo Domingo**	**3.20**	**48⇓**	*e*Pn	**Pn**	**05 17 08.6**	**+0.8**
SDV				*e*Sn	**Sn**	**05 17 47.0**	**0.0**
PCRV	**Puerto La Cruz**	**8.99**	**67**	P	**Pn**	**05 18 24.0**	**+0.1**
	0.4nm,0.3s,baz=238,slow=8.3,SNR=2.0						
JTS	**JuntasAbangare**	**12.28**	**287**	P	**Pn**	**05 19 13.7**	**+6.8**
	0.6nm,0.3s,baz=228,slow=23,SNR=4.9						
SAML	**Samuel**	**18.44**	**148**	*eP*	**P**	**05 20 20.5**	**+0.1**
	1.7nm,0.4s						
CMIG	**Matias Romero**	**23.68**	**298**	P	**P**	**05 21 12.9**	**-1.0**
	56nm,0.2s,baz=126,slow=14,SNR=21						
SIV	**San Ignacio**	**25.52**	**152**	P	**P**	**05 21 30.4**	**-0.2**
	0.3nm,0.6s,mb3.1,baz=311,slow=6.6,SNR=4.5						
GLAT	**Glass**	**32.92**	**335**	*eP*	**P**	**05 22 36.7**	**+0.6**
BDFB	**Brasilia**	**33.32**	**132**	P	**P**	**05 22 40.1**	**+0.6**
	1.5nm,0.5s,mb4.0,baz=293,slow=11,SNR=4.9						
ULM	**Lac du Bonnet**	**47.37**	**340**	P	**P**	**05 24 34.5**	**-0.4**
	1.3nm,0.3s,mb4.0,baz=132,slow=7.5,SNR=4.9						
ULM	**Lac du Bonnet**	**47.37**	**340**	P	**P**	**05 24 34.5**	**-0.4**
PDAR	**Pinedale Array**	**48.17**	**324**	P	**P**	**05 24 41.8**	**+0.8**
	0.4nm,0.4s,mb3.4,baz=123,slow=8.4,SNR=4.3						
SCHQ	**Schefferville**	**48.20**	**5**	P	**P**	**05 24 41.1**	**-0.1**
	2.1nm,0.8s,mb3.8,baz=173,slow=8.1,SNR=3.5						
DBIC	**Dimbokro**	**67.67**	**86**	P	**P**	**05 26 56.6**	**-0.1**
	1.1nm,0.5s,mb3.9,baz=260,slow=13,SNR=7.5						
TORD	**Torodi Ar. Bea**	**73.68**	**78**	P	**P**	**05 27 32.0**	**-1.0**
	0.2nm,0.3s,mb3.3,baz=282,slow=6.4,SNR=5.0						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	PKPbc	05 35 47.0	+0.9
	0.6nm,0.5s,baz=117,slow=3.7,SNR=5.3						

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*NEIC **13** 05:20:26.6, 1567N×9368W, h16km, MD4.1(MEX), After MEX.*
MEX 13 05:20:26.1±0.8, 1566N×9367W, h19km±58km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.47**	**43**	*i* P	Pn	05 20 49.5	-2.0
SCX				*i* S	Sn	05 21 06.2	-3.9
CCIG	**Comitan**	**1.60**	**67**	*eP*	Pn	05 20 50.3	-3.1
CCIG				*i* S	Sn	05 21 08.7	-4.8
CCIG	**Comitan**	**1.60**	**67**	*eP*	Pn	05 20 50.3	-3.1
CCIG				*i* S	Sn	05 21 07.8	-5.7
CMIG	**Matias Romero**	**1.84**	**321**	*eP*	Pn	05 20 53.7	-2.9
CMIG				*i* S	Sn	05 21 14.0	-5.4
OXX	**Oaxaca**	**3.25**	**296**	*eP*	Pn	05 21 14.0	-2.1
OXX				*i* S	Sn	05 21 50.5	-3.7
UTMO	**Huajuapan**	**4.51**	**299**	*eP*	Pn	05 21 32.3	-1.0
UTMO				*i* S	Sn	05 22 22.5	-2.7
TEIG	**Tepich**	**6.86**	**48**	*e*Pn	Pn	05 22 00.7	-4.9
	11nm,0.4s						
TEIG				*e*Sn	Sn	05 23 17.2	-5.9
JTS	**JuntasAbangare**	**10.03**	**121**	*e*Pn	Pn	05 22 48.6	-0.5
	12nm,0.6s						

PRE 13 05:23:38.1±1.7, 2192S×3239E, h5km, ML3.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**5.47**	**187**	*eP*	Pn	05 24 59.7	-0.5
POGA				*e*S	Sn	05 26 01.3	-2.1
POGA				AML	AML	05 26 57.1	
	comp=Z,33nm,0.5s						
KSR	**Koster**	**6.37**	**231**	*eP*	Pn	05 25 14.3	+1.8
KSR				*e*S	Sn	05 26 22.6	-3.0
KSR				AML	AML	05 27 22.1	
	comp=Z,23nm,0.5s						
LBTB	**Lobatse**	**6.95**	**242**	*eP*	Pn	05 25 22.0	+1.4
LBTB				*e*S	Sn	05 26 37.7	-2.4
LBTB				AML	AML	05 27 44.6	
	comp=Z,28nm,0.6s						
SWZ	**Schweizer**	**8.29**	**229**	*eP*	Pn	05 25 40.4	+1.5
SWZ				*e*S	Sn	05 27 08.3	-4.5
SWZ				AML	AML	05 28 35.0	
	comp=Z,12nm,0.6s						
BOSA	**Boshof**	**9.27**	**223**	*eP*	Pn	05 25 53.1	+0.7
BOSA				*e*S	Sn	05 27 33.5	-3.6
BOSA				AML	AML	05 29 08.2	
	comp=Z,9.8nm,0.8s						
UPI	**Upington**	**11.95**	**235**	*eP*	Pn	05 26 30.7	+1.6

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*IDC **13** 05:27:40.8±1.1, 976N×12549E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, MS3.4/2, Ms1 3.4/2, ms1mx2.7/20, Error ellipse: s-maj=102.9km s-min=15.1km az=69.0*
*ISCJB **13** 05:27:42.9±0.8, 973N±004×12553E±006, h23km±5km, mb4.0/12, MS3.5/1, Error ellipse: s-maj=11.1km s-min=5.5km az=116.9*
*MAN **13** 05:27:43.3, 974N×12547E, h12km, mb4.0, ML5.0, MS1.9*
MAN F INTENSITY II - SURIGAO CITY.
*NEIC **13** 05:27:46.0±0.5, 977N×12553E, h35km, mb4.3/1, Error ellipse: s-maj=38.0km s-min=8.1km az=71.0*
NEIC Felt [II PIVS] at Surigao.
ISC 13 05:27:42.1±1.0, 982N±004×12562E±005, h8km±5km, n31, σ1§07/38, mb4.0/12, MS3.5/1, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.13**	**254**	*eP*	**Pg**	**05 27 45.5**	**+0.4**
SCPH				*i* S	**Sg**	**05 27 47.3**	**+0.3**
MSLP	**Maasin**	**0.81**	**293**	*eP*	**Pg**	**05 27 57.0**	**-0.7**
MSLP				*e*S	**Sg**	**05 28 08.1**	**-0.1**
BUTP	**Butuan**	**0.84**	**180**	*eP*	**Pg**	**05 27 58.9**	**+0.5**
BUTP				*e*S	**Sg**	**05 28 14.8**	**+5.5**
PLP	**Palo**	**1.48**	**335**	*eP*	**Pn**	**05 28 08.8**	**-0.2**
PLP				*e*S	**Sn**	**05 28 30.3**	**+1.8**
OCLP	**Ormoc**	**1.58**	**321**	*eP*	**Pn**	**05 28 11.0**	**+0.6**
CGP	**Cagayan de Oro**	**1.63**	**214⇓**	*eP*	**Pn**	**05 28 08.4**	**-2.8**
CGP				*e*S	**Sn**	**05 28 32.7**	**+0.3**
LLP	**Lapu-Lapu**	**1.70**	**287**	*eP*	**Pn**	**05 28 09.5**	**-2.6**
LLP				*e*S	**Sn**	**05 28 29.7**	**-4.3**
TBP	**Tagbilaran**	**1.74**	**266⇓**	*eP*	**Pn**	**05 28 18.4**	**+5.8**
TBP				*e*S	**Sn**	**05 28 38.4**	**+3.5**
BUKP	**Musuan**	**2.00**	**196**	*eP*	**Pn**	**05 28 15.4**	**-0.9**
BUKP				*e*S	**Sn**	**05 28 44.3**	**+2.8**
SNPH	**Sibulan**	**2.40**	**259**	*eP*	**Pn**	**05 28 20.5**	**-1.2**
DAV	**Davao City (W)**	**2.73**	**181**	*eP*	**Pg**	**05 28 35.0**	**+0.5**
DAV	**Davao City (W)**	**2.73**	**181**	*e*Pn	**Pn**	**05 28 27.3**	**+1.0**
PAGZ	**Pagadian**	**2.95**	**229**	*eP*	**Pn**	**05 28 27.8**	**-1.5**
GUIM	**Jordan**	**3.09**	**285**	*eP*	**Pn**	**05 28 32.5**	**+1.3**
RCP	**Roxas**	**3.31**	**302⇓**	*eP*	**Pn**	**05 28 34.7**	**+0.5**
RCP				*e*S	**Sn**	**05 29 13.8**	**0.0**
PVCP	**Virac**	**4.02**	**339**	*eP*	**Pn**	**05 28 47.5**	**+3.6**
JOW	**Kunigami**	**17.11**	**8**	LR	LR	05 37 09.0	
	comp=Z,109nm,21.1s,baz=208,slow=33						
JHJ	**Hachijo jima 2**	**26.61**	**27**	LR	LR	05 41 26.2	
	comp=Z,115nm,19.0s,MS3.5,baz=290,slow=31						
FITZ	**Fitzroy Crossi**	**27.74**	**180**	P	**P**	**05 33 30.1**	**-1.0**
	3.4nm,0.9s,mb4.0,baz=34,slow=16,SNR=7.0						
WRA	**Warramunga Arr**	**30.80**	**164**	P	**P**	**05 33 58.2**	**-0.1**
	0.9nm,0.5s,mb3.8,baz=356,slow=9.5,SNR=6.2						
ASAR	**Alice Springs**	**34.25**	**166**	P	**P**	**05 34 30.1**	**+1.6**
	0.8nm,0.4s,mb4.0,baz=353,slow=7.2,SNR=15						
CTAO	**Charters Tower**	**36.00**	**146**	P	**P**	**05 34 44.2**	**+0.7**
	1.7nm,0.4s,mb4.3						
SONM	**Songino Array**	**41.22**	**340**	P	**P**	**05 35 27.9**	**+0.5**
	0.4nm,0.7s,mb3.1,baz=158,slow=9.0,SNR=2.5						
STKA	**Stephens Creek**	**44.19**	**160**	P	**P**	**05 35 50.5**	**-1.0**
	2.7nm,0.4s,mb4.3,baz=336,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**52.00**	**323**	P	**P**	**05 36 52.5**	**+0.6**
	1.3nm,0.8s,mb3.9,baz=122,slow=8.7,SNR=9.5						
AKTK	**Aktyubinsk**	**68.26**	**320**	P	**P**	**05 38 43.1**	**-0.4**
AKTO	**Aktyubinsk**	**68.26**	**320**	P	**P**	**05 38 43.1**	**-0.4**
	0.9nm,0.6s,mb4.0,baz=85,slow=7.5,SNR=3.8						
ARCES	**ARCESS Array B**	**84.39**	**340**	P	**P**	**05 40 14.7**	**-0.3**
	1.4nm,0.7s,mb4.2,baz=90,slow=7.5,SNR=6.0						
BRTR	**Keskin Array B**	**85.32**	**309**	P	**P**	**05 40 19.3**	**-0.4**
	0.7nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=3.8						
FINES	**FINESS Array B**	**85.98**	**332**	P	**P**	**05 40 22.1**	**-0.9**
	1.0nm,0.6s,mb4.2,baz=90,slow=6.2,SNR=6.3						
VNDA	**Vanda**	**89.57**	**173**	P	**P**	**05 40 39.3**	**-0.9**
	0.5nm,0.7s,mb3.9,baz=309,slow=5.4,SNR=3.7						

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*IDC **13** 05:30:43.3±13.0, 2951N×8055E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/22, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=257.1km s-min=97.0km az=136.0*
*ISCJB **13** 05:30:52.9±0.7, 3004N±005×8028E±006, h53km±8km, mb3.7/4, Error ellipse: s-maj=9.1km s-min=7.4km az=103.1*
*NDI **13** 05:30:53.6±3.2, 3011N×8009E, h10km, ML3.2*
ISC 13 05:30:53.2±1.0, 3010N±004×8033E±007, h34km±7km, n19, σ1§13/30, mb3.7/4, 1C, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.55**	**190**	*eP*	**Pb**	**05 31 04.0**	**-0.6**
PTH				*e*S	**Sb**	**05 31 12.2**	**-0.3**
LGTI	**Lohaghat**	**0.65**	**186**	*e*P	**Pn**	**05 31 05.0**	**-1.0**
LGTI				*e*S	**Sb**	**05 31 15.4**	**+0.4**
DDI	**Dehra Dun**	**1.98**	**277**	*eP*	**Pn**	**05 31 23.7**	**-0.6**
DDI				*e*x	**Sn**	**05 31 41.0**	**-6.9**
ASOR	**Ausora**	**2.60**	**240**	*eP*	**Pn**	**05 31 33.0**	**+0.2**
SMLA	**Simla**	**2.91**	**291**	*eP*	**Pn**	**05 31 37.0**	**-0.1**
SMLA				*e*S	**Sn**	**05 32 11.0**	**+0.1**
KKR	**Kurukshetra**	**3.04**	**268**	*eP*	**Pn**	**05 31 38.9**	**-0.1**
NDI	**New Delhi**	**3.06**	**243**	*eP*	**Pn**	**05 31 36.5**	**-2.6**
NDI				*e*S	**Sn**	**05 32 09.0**	**-5.5**
SDNR	**Sundarnagar**	**3.21**	**297**	*ex*	**Pn**	**05 31 38.2**	**-3.0**
SDNR				*e*S	**Sn**	**05 32 20.0**	**+1.7**
AYAN	**Aya Nagar**	**3.23**	**241**	*eP*	**Pn**	**05 31 42.3**	**+0.9**
AYAN				*e*S	**Sn**	**05 32 17.9**	**-0.7**
AYAN				AML	AML	05 32 24.8	
	comp=Z,45nm,0.3s						
BHGR	**Bahadurgarh**	**3.27**	**245**	*eP*	**Pn**	**05 31 43.7**	**+1.6**
SONA	**Sohna**	**3.38**	**238**	*eP*	**Pn**	**05 31 45.8**	**+2.3**
SONA				*e*S	**Sn**	**05 32 22.5**	**0.0**
SONA				AML	AML	05 32 37.1	
	comp=E,133nm,0.2s						
SONA				AML	AML	05 32 37.2	
	comp=N,252nm,0.3s						
KUDL	**Kundal**	**3.88**	**241**	*eP*	**Pn**	**05 31 51.3**	**+0.9**
KUDL				*e*S	**Sn**	**05 32 32.8**	**-2.0**
KUDL				AML	AML	05 32 41.5	
	comp=E,59nm,0.2s						
KUDL				AML	AML	05 32 41.7	
	comp=N,56nm,0.6s						
KHET	**Khetri**	**4.44**	**244**	*eP*	**Pn**	**05 32 06.8**	**+8.7**
KHET				*e*S	**Sn**	**05 32 54.6**	**+6.0**
KHET				AML	AML	05 32 59.7	
	comp=N,42nm,0.3s						
KHET				AML	AML	05 32 59.7	
	comp=E,22nm,0.3s						
JBP	**Jabalpur**	**6.91**	**183⇑**	*iP*	**Pn**	**05 32 33.9**	**+1.9**
JBP				*i* S	**Sn**	**05 33 49.5**	**0.0**
MKAR	**Makanchi Array**	**16.74**	**5**	Pn	**Pn**	**05 34 44.5**	**-0.6**
	comp=E,0.2nm,0.3s,baz=186,slow=14,SNR=3.6						
BVAR	**Borovoye Array**	**24.04**	**345**	P	**P**	**05 36 04.5**	**-0.5**
	comp=E,0.5nm,0.3s,mb3.4,baz=154,slow=11,SNR=4.7						
AKTO	**Aktyubinsk**	**26.32**	**327**	P	**P**	**05 36 27.0**	**+1.2**
	comp=E,0.7nm,0.5s,mb3.5,baz=119,slow=7.0,SNR=4.5						
FINES	**FINESS Array B**	**47.09**	**328**	P	**P**	**05 39 21.1**	**-0.7**
	comp=E,0.8nm,0.4s,mb4.0,baz=116,slow=10,SNR=12						
ARCES	**ARCESS Array B**	**50.01**	**338**	P	**P**	**05 39 43.8**	**-0.4**
	comp=E,1.1nm,0.6s,mb4.1,baz=120,slow=8.5,SNR=12						

IDC 13 05:59:53.1±3.1, 3041S×13845E, h0km, mb1 3.5/4, mb1mx3.5/13, mbtmp3.3/4, ML3.1/4, Error ellipse: s-maj=87.4km s-min=14.9km az=40.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.07**	**119**	Pn	Pn	06 00 42.5	-0.2
	0.7nm,0.3s,baz=301,slow=13,SNR=18						
STKA				Pg	Pg	06 00 50.6	-1.3
	1.6nm,0.3s,baz=293,slow=15,SNR=12						
STKA				Sn	Sn	06 01 21.2	+1.0
	1.9nm,0.3s,baz=171,slow=22,SNR=4.3						
STKA				Lg		06 01 29.2	
	3.9nm,0.3s,baz=254,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**7.84**	**328**	Pn	Pn	06 01 49.1	+0.7
	0.2nm,0.3s,baz=150,slow=12,SNR=6.3						
ASAR				Sn	Sn	06 03 17.4	-0.5
	0.2nm,0.3s,baz=148,slow=22,SNR=3.4						
WRA	**Warramunga Arr**	**11.07**	**339**	Pn	Pn	06 02 33.9	+1.3
	0.3nm,0.3s,baz=156,slow=12,SNR=5.8						
FITZ	**Fitzroy Crossi**	**16.91**	**314**	Pn	Pn	06 03 49.4	-1.7
	0.1nm,0.3s,baz=131,slow=17,SNR=5.8						

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*NEIC **13** 06:07:45.8, 3695S×17748E, h173km, MG3.9(WEL), After WEL.*
WEL 13 06:07:45.7±0.7, 3695S×17747E, h175km±5km, ML3.8/11, Error ellipse: s-maj=7.0km s-min=6.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.34**	**192**	PN	Pn	06 08 15.8	+0.1
URZ				SN	Sn	06 08 38.5	-0.3
URZ	**Urewera**	**1.34**	**192**	*e*P	Pn	06 08 15.8	+0.1
MWZ	**Matawai**	**1.38**	**178**	PN	Pn	06 08 16.2	+0.1
MWZ				SN	Sn	06 08 39.7	+0.1
MWZ	**Matawai**	**1.38**	**178**	*e*P	Pn	06 08 16.2	+0.1
MWZ				S	Sn	06 08 39.7	+0.1
KNZ	**Kokohu**	**2.07**	**176**	PN	Pn	06 08 23.4	+0.2
KNZ	**Kokohu**	**2.07**	**176**	*e*P	Pn	06 08 23.4	+0.2
BKZ	**Black Stump Fm**	**2.34**	**199**	PN	Pn	06 08 26.6	+0.3
BKZ				SN	Sn	06 08 58.1	+0.4
BKZ	**Black Stump Fm**	**2.34**	**199**	*e*P	Pn	06 08 26.6	+0.3
WNVZ	**Wahianoa**	**2.80**	**211**	PN	Pn	06 08 32.6	+1.0
WNVZ	**Wahianoa**	**2.80**	**211**	P	Pn	06 08 32.6	+1.0
MOVZ	**Moawhango**	**2.80**	**208**	PN	Pn	06 08 31.9	+0.2
MOVZ	**Moawhango**	**2.80**	**208**	P	Pn	06 08 31.9	+0.2
PXZ	**Pawanui**	**3.11**	**189**	PN	Pn	06 08 35.1	-0.4
PXZ				SN	Sn	06 09 13.6	-0.7
TSZ	**Takapari Road**	**3.32**	**200**	PN	Pn	06 08 37.3	-0.8
TSZ	**Takapari Road**	**3.32**	**200**	*e*P	Pn	06 08 37.3	-0.8
BFZ	**Birch Farm**	**3.85**	**194**	PN	Pn	06 08 43.8	-0.9
BFZ	**Birch Farm**	**3.85**	**194**	*e*P	Pn	06 08 43.8	-0.9
MRZ	**Mangatainoka R**	**3.99**	**201**	PN	Pn	06 08 44.9	-1.6
MRZ				SN	Sn	06 09 32.2	-1.8
MRZ	**Mangatainoka R**	**3.99**	**201**	*e*P	Pn	06 08 45.1	-1.4
MRZ				S	Sn	06 09 32.2	-1.8
TIWZ	**Tintock**	**4.02**	**197**	PN	Pn	06 08 45.7	-1.1
KIW	**Kapiti Island**	**4.39**	**206**	PN	Pn	06 08 50.0	-1.5
KIW	**Kapiti Island**	**4.39**	**206**	P	Pn	06 08 50.1	-1.5
CAW	**Cannon Point**	**4.55**	**204**	PN	Pn	06 08 51.8	-2.0
CAW	**Cannon Point**	**4.55**	**204**	P	Pn	06 08 51.8	-1.9
MRW	**Makara Radio**	**4.79**	**206**

AB31	**Akbulak array**	**13.82 322**	⇑P		Pn	06 56 19.3	+2.6
	0.5nm,0.3s,baz=132,slow=13,SNR=18						
AB31			⇑S		S	06 58 48.3	-1.9
	0.5nm,0.4s,baz=140,slow=23,SNR=5.6						

PRE ***13*** *07:29:12.2±1.2,21.17S×3292E, h5km, ML4.7*
ISCJB ***13*** *07:29:17.8±1.0,2159S±007×3264E±0.10, h10km, mb4.2/1, MS3.9/1, Error ellipse: s-maj=14.1km s-min=7.8km az=61.2*
IDC ***13*** *07:29:17.6±5.0,2165S×3295E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/22, mbtmp4.0/3, ML4.2/1, MS3.6/2, Ms1 3.5/2, ms1mx3.2/17, Error ellipse: s-maj=114.7km s-min=24.1km az=120.0*

ISC 13 07:29:20.1±1.0,2158S±007×3270E±010, h10km, n10, σ0.94/16, mb4.2/1, MS3.9/1, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**5.79**	**224**	*e*P	**Pn**	**07 30 45.8**	**-0.2**
SLR				*e*S	**Sn**	**07 31 54.8**	**+2.4**
SLR				AML	AML	07 32 42.7	
	comp=Z,220nm,0.8s						
POGA	**Pongola**	**5.85**	**189**	*e*P	**Pn**	**07 30 45.3**	**-1.5**
POGA				*e*S	**Sn**	**07 31 54.6**	**+0.7**
POGA				AML	AML	07 32 44.2	
	comp=Z,129nm,0.7s						
KSR	**Koster**	**6.80**	**230**	*e*P	**Pn**	**07 30 59.8**	**-0.2**
KSR				*e*S	**Sn**	**07 32 18.0**	**+0.5**
KSR				AML	AML	07 33 18.9	
	comp=Z,70nm,0.5s						
LBTB	**Lobatse**	**7.37**	**241**	*e*P	**Pn**	**07 31 07.1**	**-0.5**
LBTB				*e*S	**Sn**	**07 32 30.2**	**-1.1**
LBTB				AML	AML	07 33 41.0	
	comp=Z,90nm,0.8s						
SWZ	**Schweizer**	**8.73**	**229**	*e*P	**Pn**	**07 31 26.4**	**+0.1**
SWZ				*e*S	**Sn**	**07 33 04.2**	**-0.6**
SWZ				AML	AML	07 34 17.9	
	comp=Z,62nm,0.6s						
BOSA	**Boshof**	**9.72**	**222**	*e*P	**Pn**	**07 31 39.9**	**0.0**
BOSA				*e*S	**Sn**	**07 33 27.3**	**-1.8**
BOSA				AML	AML	07 35 02.5	
	comp=Z,36nm,0.8s						
BOSA	**Boshof**	**9.72**	**222**	Pn	**Pn**	**07 31 40.2**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=48,slow=13,SNR=18						
BOSA				Sn	**Sn**	**07 33 30.2**	**+1.1**
	comp=Z,2.1nm,0.3s,baz=306,slow=16,SNR=8.1						
BOSA				Lg		07 34 32.8	
	comp=Z,2.9nm,0.3s,baz=318,slow=18,SNR=7.7						
BOSA				LR	LR	07 35 57.1	
	comp=Z,190nm,20.7s,baz=52,slow=41						
KMBO	**Kilima Mbogo**	**20.81**	**13**	P	**P**	**07 34 01.5**	**0.0**
	comp=Z,1.2nm,0.8s,baz=212,slow=11,SNR=3.2						
TORD	**Torodi Ar. Bea**	**46.01**	**316**	P	**P**	**07 37 44.6**	**+1.0**
	comp=Z,2.9nm,0.9s,mb4.2,baz=130,slow=7.6,SNR=12						
CPUP	**Villa Florida**	**80.74**	**245**	LR	LR	08 13 34.0	
	comp=Z,60nm,20.6s,MS3.9,baz=295,slow=33						

NIED ***13*** *07:49:00, 24.10N×12690E, h47km, Mw4.4 Best double couple: M0:4.02000×10^15 NP1:φs=183.00000°, δ81.00000°, λ-168.00000°. NP2:φs=91.00000°, δ78.00000°, λ-10.00000°.*
IDC ***13*** *07:49:09.7±0.7,2400N×12707E, h0km, mb4.0/13, mb1 4.2/15, mb1mx4.1/24, mbtmp4.0/15, ML3.8/2, MS3.3/7, Ms1 3.3/7, ms1mx2.8/21, Error ellipse: s-maj=28.1km s-min=14.3km az=78.0*
ISCJB ***13*** *07:49:12.0±1.3,2407N±003×12696E±003, h28km±10km, mb4.1/21, MS3.7/5, Error ellipse: s-maj=6.2km s-min=4.1km az=118.3*
BJI ***13*** *07:49:13.8, 2405N×12694E, h43km, mB4.8, mb4.3, Ms3.7, Msz3.5*
MOS ***13*** *07:49:13.3±0.9, 2398N×12700E, h43km, mb4.5/6, Error ellipse: s-maj=21.5km s-min=11.2km az=98.0*
JMA ***13*** *07:49:13.5±0.4, 2414N×12693E, h93km, M4.0*
NEIC ***13*** *07:49:15.7±0.5, 2397N×12690E, mb4.4/8, Error ellipse: s-maj=11.6km s-min=9.6km az=77.0*

ISC 13 07:49:13.3±1.5,2411N±003×12693E±003, h23km±11km, h44km±2.3km:pP-P,n61,σ1.13/80, mb4.1/21, MS3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.53**	**296**	P	**Pn**	**07 49 40.1**	**+1.0**
JOGS				S	**Sn**	**07 49 59.7**	**+1.4**
JMJ	**Miyako jima 2**	**1.65**	**296**	P	**Pn**	**07 49 41.6**	**+0.9**
JMJ				S	**Sn**	**07 50 02.3**	**+1.1**
JTJ	**Tarama**	**2.10**	**285**	P	**Pn**	**07 49 47.2**	**+0.3**
JTJ				S	**Sn**	**07 50 11.4**	**-0.9**
JJT2	**Tamagusuku 2**	**2.16**	**20**	P	**Pn**	**07 49 48.1**	**+0.3**
JJT2				S	**Sn**	**07 50 13.0**	**-0.8**
NAH1	**Naha**	**2.20**	**18**	P	**Pn**	**07 49 48.0**	**-0.4**
NAH1				S	**Sn**	**07 50 14.0**	**-0.9**
JKE	**Kume jima 2**	**2.21**	**357**	P	**Pn**	**07 49 49.2**	**+0.6**
JKE				S	**Sn**	**07 50 14.9**	**-0.3**
JAGN	**Aguni-jima**	**2.49**	**7**	P	**Pn**	**07 49 53.1**	**+0.8**
JAGN				S	**Sn**	**07 50 21.6**	**-0.4**
JIJ	**Ishigaki jima**	**2.55**	**276**	P	**Pn**	**07 49 53.0**	**-0.2**
JIJ				S	**Sn**	**07 50 21.2**	**-2.4**
JKRS	**Kuro-shima**	**2.67**	**273**	P	**Pn**	**07 49 54.8**	**0.0**
JKRS				S	**Sn**	**07 50 25.1**	**-1.3**
HATJ	**Hateruma jima**	**2.85**	**270**	P	**Pn**	**07 49 57.0**	**-0.3**
HATJ				S	**Sn**	**07 50 27.2**	**-3.7**
IRIF	**Iriomote-Funau**	**2.93**	**275**	P	**Pn**	**07 49 58.1**	**-0.2**
IRIF				S	**Sn**	**07 50 31.2**	**-1.6**
JOW	**Kunigami**	**2.98**	**24**	Pn	**Pn**	**07 49 59.3**	**+0.3**
	22nm,0.3s,baz=187,slow=12,SNR=62						
JOW				Sn	**Sn**	**07 50 31.2**	**-2.8**
	40nm,0.3s,baz=132,slow=28,SNR=18						
JOW				LR	LR	07 51 23.4	
	comp=Z,374nm,18.6s,baz=107,slow=44						
JOW	**Kunigami**	**2.98**	**24**	P	**Pn**	**07 49 59.3**	**+0.3**
JOW				S	**Sn**	**07 50 31.0**	**-3.0**
JOW	**Kunigami**	**2.98**	**24**	Pn	**Pn**	**07 49 59.3**	**+0.3**
JOW				Sn	**Sn**	**07 50 31.2**	**-2.8**
JIH	**Iheya**	**3.06**	**18**	P	**Pn**	**07 50 00.9**	**+0.6**
JIH				S	**Sn**	**07 50 34.1**	**-2.1**
YOJ	**Yonaguni jima**	**3.59**	**276**	P	**Pn**	**07 50 07.5**	**0.0**
YOJ				S	**Sn**	**07 50 46.1**	**-3.0**
JTK	**Tokunoshima**	**4.09**	**26**	P	**Pn**	**07 50 14.5**	**+0.1**
JTK				S	**Sn**	**07 50 57.1**	**-4.5**
JMZ	**Minamidaito 2**	**4.25**	**65**	P	**Pn**	**07 50 12.2**	**-4.4**
JMZ				S	**Sn**	**07 50 59.1**	**-6.4**
NACB	**Ninganchiao**	**4.87**	**272**	*e*Pn	**Pn**	**07 50 23.6**	**-1.5**
NACB				*e*Sn	**Sn**	**07 51 08.2**	**-12**
JAM	**Amami Oshima**	**4.92**	**29**	P	**Pn**	**07 50 25.3**	**-0.4**
JAM				S	**Sn**	**07 51 17.5**	**-4.4**
JZK	**Kikaishima**	**5.01**	**32**	P	**Pn**	**07 50 26.0**	**-0.9**
YHNB	**Yeheng**	**5.09**	**277**	*e*Pn	**Pn**	**07 50 28.7**	**+0.6**
JNN	**Nakanoshima**	**6.29**	**24**	P	**Pn**	**07 50 43.8**	**-0.8**
JNN				S	**Sn**	**07 51 54.8**	**-0.9**
CBIJ	**Chichi jima**	**14.09**	**75**	LR	LR	07 57 34.4	
	comp=Z,46nm,18.0s,baz=344,slow=36						
JHJ	**Hachijo jima 2**	**14.42**	**49**	LR	LR	07 56 45.4	
	comp=Z,115nm,20.0s,baz=229,slow=32						
MJAR	**Matsushiro Arr**	**15.75**	**35**	Pn	**Pn**	**07 52 54.8**	**+1.3**
	0.3nm,0.3s,baz=172,slow=13,SNR=3.4						
MJAR				LR	LR	07 58 05.8	
	comp=Z,64nm,21.5s,baz=220,slow=34						
CD2	**Chengdu**	**21.62**	**293**	*e*P	**P**	**07 54 02.6**	**+1.0**
CD2				AP		07 54 13.8	
CD2				XP	sP	07 54 19.5	+8.5
CD2				PP		07 54 28.3	
CD2				S	**S**	**07 57 54.1**	**-5.8**
CD2				XS	sS	07 58 12.3	+2.1
CD2				SS		07 58 32.1	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2				LR	LR		
	comp=N,100nm,12.0s						
CD2				LR	LR		
	comp=Z,90nm,10.8s,MS3.4						
KLR	**Kul'dur**	**25.36**	**7**	*e*P	**P**	**07 54 36.8**	**-1.7**
KLR				MLR	MLR		
	comp=Z,500nm,13.0s,MS4.2						
YSS	**Yuzh-Sakhalins**	**26.09**	**25**	*e*P	**P**	**07 54 49.0**	**+3.9**
ULN	**Ulaanbaatar**	**28.48**	**331**	*e*P	**P**	**07 55 07.4**	**+0.8**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.1						
ULN	**Ulaanbaatar**	**28.48**	**331**	*e*P	**P**	**07 55 07.4**	**+0.8**
	comp=Z,6.1nm,1.2s,mb4.1						
SONM	**Songino Array**	**28.75**	**331**	P	**P**	**07 55 09.6**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.6,baz=114,slow=6.8,SNR=3.4						
SONM				LR	LR	08 07 51.4	
	comp=Z,83nm,20.7s,MS3.3,baz=63,slow=39						
SKR	**Severo-Kuril's**	**34.83**	**33**	*e*P	**P**	**07 56 03.0**	**+0.6**
PET	**Petropavlovsk**	**37.52**	**31**	*e*P	**P**	**07 56 24.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.97**	**182**	P	**P**	**07 57 02.7**	**+0.4**
	comp=Z,1.2nm,0.4s,mb3.9,baz=344,slow=11,SNR=10						
MKAR	**Makanchi Array**	**42.11**	**314**	P	**P**	**07 57 05.0**	**+1.5**
	comp=Z,1.0nm,0.5s,mb3.7,baz=99,slow=10,SNR=16						
ZAL	**Zalesovo**	**43.26**	**325**	P	**P**	**07 57 13.7**	**+0.8**
	comp=Z,1.7nm,0.5s,mb4.1,baz=136,slow=1.5,SNR=5.5						
ZAL				LR	LR	08 16 29.9	
	comp=Z,64nm,21.1s,MS3.5,baz=256,slow=38						
WRAB	**Tennant Creek**	**44.37**	**170**	*e*P	**P**	**07 57 20.3**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**44.37**	**170**	*e*P	**P**	**07 57 20.3**	**-1.4**
	comp=Z,8.8nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**44.37**	**170**	P	**P**	**07 57 19.6**	**-2.2**
	comp=Z,4.4nm,0.8s,mb4.2,baz=350,slow=8.7,SNR=13						
WB2	**Warramunga Arr**	**44.37**	**170**	*e*P	**P**	**07 57 19.0**	**-2.8**
ASAR	**Alice Springs**	**47.97**	**171**	P	**P**	**07 57 49.5**	**-0.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=356,slow=14,SNR=10						
BVAR	**Borovoye Array**	**51.09**	**320**	P	**P**	**07 58 15.4**	**+1.5**
	comp=Z,1.1nm,0.5s,mb4.0,baz=101,slow=9.1,SNR=7.6						
CHKZ	**Chkalovo**	**51.10**	**320**	*e*P	**P**	**07 58 14.7**	**+0.7**
CHKZ				*e*PP	pP	07 58 27.0	+5.9
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**51.10**	**320**	*e*P	**P**	**07 58 14.7**	**+0.7**
	comp=Z,3.9nm,0.9s,mb4.3						
CHKZ				*e*pP	pP	07 58 27.0	+5.9
BRVK	**Borovoye**	**51.16**	**320**	*e*P	**P**	**07 58 15.8**	**+1.3**
BRVK				*e*PP	pP	07 58 28.5	+6.9
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**51.16**	**320**	*e*P	**P**	**07 58 15.8**	**+1.3**
	comp=Z,1.6nm,0.8s,mb4.0						
BRVK				*e*pP	pP	07 58 28.5	+6.9
ZRNK	**Zerenda**	**51.90**	**319**	*e*P	**P**	**07 58 21.1**	**+1.1**
ZRNK				*e*PP	pP	07 58 33.3	+6.1
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**51.90**	**319**	*e*P	**P**	**07 58 21.1**	**+1.1**
	comp=Z,5.4nm,1.0s,mb4.4						
ZRNK				*e*pP	pP	07 58 33.3	+6.1
STKA	**Stephens Creek**	**57.41**	**165**	P	**P**	**07 58 58.9**	**-1.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=320,slow=10,SNR=3.7						
AKTK	**Aktyubinsk**	**58.50**	**316**	P	**P**	**07 59 09.2**	**+1.7**
AKTO	**Aktyubinsk**	**58.50**	**316**	P	**P**	**07 59 09.2**	**+1.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=105,slow=14,SNR=3.8						
INK	**Inuvik**	**71.30**	**23**	P	**P**	**08 00 30.8**	**0.0**
	comp=Z,2.1nm,1.1s,mb4.0,baz=276,slow=8.5,SNR=4.3						
INK	**Inuvik**	**71.30**	**23**	*e*P	**P**	**08 00 31.0**	**+0.1**
INK				*e*PP	pP	08 00 45.0	+6.7
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
INK	**Inuvik**	**71.30**	**23**	*e*P	**P**	**08 00 31.0**	**+0.2**
	comp=Z,2.6nm,1.1s,mb4.1						
INK				*e*pP	pP	08 00 45.0	+6.7
YKA	**Yellowknife Ar**	**80.94**	**24**	P	**P**	**08 01 25.6**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=300,slow=5.9,SNR=5.4						
GERES	**GERESS Array B**	**86.17**	**323**	LR	LR	08 46 16.6	
	comp=Z,53nm,19.8s,MS3.9,baz=281,slow=40						
DLMT	**Dillon**	**92.22**	**37**	*e*P	**P**	**08 02 22.3**	**+1.1**
	comp=Z,2.4nm,1.0s,mb4.5						
HLID	**Hailey**	**92.28**	**40**	*e*P	**P**	**08 02 23.1**	**+1.6**
	comp=Z,1.4nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**92.83**	**46**	P	**P**	**08 02 25.4**	**+1.4**
	comp=Z,0.9nm,0.9s,mb4.2,baz=277,slow=9.7,SNR=5.2						
PDAR	**Pinedale Array**	**95.56**	**38**	P	**P**	**08 02 36.8**	**+0.3**
	comp=Z,0.2nm,0.5s,mb3.8,baz=305,slow=6.4,SNR=3.0						

IDC ***13*** *07:54:44.8±4.3, 4823N×15474E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.8/21, mbtmp4.0/9, ML3.7/2, Error ellipse: s-maj=96.7km s-min=32.3km az=135.0*
ISCJB ***13*** *07:54:55.9±1.5, 482N±01×1538E±02, h73km±13km, mb3.8/7, Error ellipse: s-maj=27.5km s-min=9.1km az=92.7*
MOS ***13*** *07:54:58.2±1.1, 4809N×15364E, h99km, mb4.0/7, Error ellipse: s-maj=19.1km s-min=13.4km az=61.1*

ISC 13 07:54:57.9±1.3,482N±01×1537E±02, h79km±11km, n26, σ1.00/26, mb3.8/7, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.99**	**236**	⇑*i*PN	**Pn**	**07 56 10.8**	**+0.5**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
PET	**Petropavlovsk**	**5.78**	**31**	*e*S	**Sn**	**07 57 25.8**	**-0.1**
PET				smax			
	comp=N,200nm,1.7s						
PET				smax			
	comp=N,116nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.53**	**265**	⇑*e*PN	**Pn**	**07 56 51.8**	**+6.8**
YSS				pmax	pmax		
	comp=Z,13nm,0.6s						
ASAJ	**Asahikawa**	**8.73**	**246**	Pn	**Pn**	**07 57 00.2**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=314,slow=32,SNR=3.0						
ASAJ	**Asahikawa**	**8.73**	**246**	PN	**Pn**	**07 57 00.2**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HABR	**Khabarovsk**	**12.45**	**278**	*e*PN	**Pn**	**07 57 52.4**	**+0.5**
HABR				*e*		08 00 18.8	
MJAR	**Matsushiro Arr**	**16.30**	**230**	Pn	**Pn**	**07 58 41.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=34,slow=10,SNR=4.8						
MJAR	**Matsushiro Arr**	**16.30**	**230**	P	**Pn**	**07 58 41.6**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**20.91**	**13**	*e*P	**P**	**07 59 33.9**	**0.0**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**31.29**	**287**	P	**P**	**08 01 12.2**	**+1.9**
	comp=Z,0.8nm,0.9s,mb3.4,baz=67,slow=4.8,SNR=3.2						
SONM	**Songino Array**	**31.29**	**287**	P	**P**	**08 01 12.2**	**+1.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
COLA	**College**	**34.77**	**40**	*i* P	**P**	**08 01 42.1**	**+1.4**
MKAR	**Makanchi Array**	**46.68**	**296**	P	**P**	**08 03 19.2**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.1,baz=67,slow=8.4,SNR=32						
MKAR	**Makanchi Array**	**46.68**	**296**	P	**P**	**08 03 19.2**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**46.94**	**303**	*de*P	**P**	**08 03 21.1**	**+0.4**
BVAR	**Borovoye Array**	**50.29**	**309**	P	**P**	**08 03 45.9**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.2,baz=61,slow=7.1,SNR=9.0						
BVAR	**Borovoye Array**	**50.29**	**309**	P	**P**	**08 03 45.9**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**62.94**	**335**	P	**P**	**08 05 13.8**	**-2.2**
	comp=Z,0.6nm,0.3s,mb4.0,baz=44,slow=7.3,SNR=6.6						
FINES	**FINESS Array B**	**62.94**	**335**	P	**P**	**08 05 13.8**	**-2.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	**NORSAR Array B**	**67.02**	**341**	P	**P**	**08 05 38.9**	**-3.6**
	comp=Z,0.6nm,0.5s,mb3.6,baz=26,slow=6.4,SNR=3.5						
NOA	**NORSAR Array B**	**67.02**	**341**	P	**P**	**08 05 38.9**	**-3.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ANMO	**Albuquerque**	**70.73**	**59**	⇑*e*P	**P**	**08 06 05.5**	**0.0**
GERES	**GERESS Array B**	**77.36**	**334**	P	**P**	**08 06 43.0**	**-1.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=38,slow=6.8,SNR=8.1						
GERES	**GERESS Array B**	**77.36**	**334**	P	**P**	**08 06 43.0**	**-1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**77.64**	**317**	P	**P**	**08 06 46.1**	**+0.4**
	comp=Z,1.2nm,0.8s,mb3.6,baz=48,slow=3.7,SNR=5.8						
BRTR	**Keskin Array B**	**77.64**	**317**	*e*P	**P**	**08 06 46.0**	**+0.3**

NEIC ***13*** *08:34:35.0, 1564N×9606W, h8km, MD3.7(MEX), After MEX.*

MEX 13 08:34:35.4±0.8, 1566N×9606W, h8km±5km, MD3.7, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.12**	**337**	⇑*i*P	Pg	08 34 37.4	-0.6
HUIG				*i* S	Sg	08 34 39.5	-0.4
VHO	**Vista Hermosa**	**1.54**	**335**	*i* P	Pn	08 35 00.1	-3.0
VHO				*i* S	Sn	08 35 18.5	-4.9
OXX	**Oaxaca**	**1.55**	**336**	*e*P	Pn	08 35 01.0	-2.2
OXX				*i* S	Sn	08 35 18.0	-5.5
CMIG	**Matias Romero**	**1.82**	**38**	*i* P	Pn	08 35 03.0	-3.9
CMIG				*i* S	Sn	08 35 26.1	-4.0
UTMO	**Huajuapan**	**2.73**	**322**	*e*P	Pn	08 35 16.7	-2.8
UTMO				*i* S	Sn	08 35 48.4	-4.2

MEX 13 08:35:22.6±0.4, 1781N×9935W, h50km±15km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.28**	**294**	*i* P	Pn	08 35 30.2	-1.3
MEIG				*i* S	Sn	08 35 36.5	-1.4
PLIG	**Platanillo**	**0.60**	**346**	*i* P	Pn	08 35 33.8	-1.2
PLIG				*i* S	Sn	08 35 42.2	-1.8
YAIG	**Yautepec**	**1.08**	**14**	*i* P	Pn	08 35 40.5	-0.9
YAIG				*i* S	Sn	08 35 53.2	-2.0
ACX	**Acapulco**	**1.08**	**210**	*i* P	Pn	08 35 39.8	-1.6
ACX				*i* S	Sn	08 35 53.3	-2.1

NEIC ***13*** *09:18:05.0, 3731N×11490W, h0km, ML3.5(REN), After REN.*
ISCJB ***13*** *09:18:07.5±0.3, 3720N±002×11507W±003, h10km, Error ellipse: s-maj=3.5km s-min=2.7km az=98.2*

ISC 13 09:18:08.4±0.3, 3722N±002×11506W±003, h10km, n35, σ0.91/57, 17C-14D, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPNV	**Topopah Spring**	**0.98**	**255**	*e*Pn	**Pn**	**09 18 27.8**	**-0.4**
TPNV				*e*S	**Sg**	**09 18 39.3**	**-0.8**
CCUT	**Cedar City**	**1.40**	**76**	*e*Pn	**Pn**	**09 18 33.9**	**0.0**
CCUT				*e*S	**Sn**	**09 18 52.1**	**-0.3**
ARUT	**Antelope Range**	**1.41**	**66**	*e*Pn	**Pn**	**09 18 33.9**	**-0.2**
ARUT				*e*S	**Sn**	**09 18 53.6**	**+0.9**
S09A	**Goldfield**	**1.79**	**287**	P	**Pn**	**09 18 39.0**	**-0.3**
	baz=1.8,SNR=57						
TUQ	**Turquoise Mtn.**	**1.91**	**202**	⇑P	**Pn**	**09 18 40.7**	**-0.2**
	baz=1.9,SNR=106						
W12A	**Cal Nev Ari**	**1.92**	**175**	⇓P	**Pn**	**09 18 42.4**	**+1.3**
	baz=1.9						
DAC	**Darwin (Calif)**	**2.24**	**246**	*e*Pn	**Pn**	**09 18 45.6**	**+0.1**
DAC				*e*S	**Sn**	**09 19 16.6**	**+3.4**
P12A	**McGill**	**2.25**	**3**	⇓P	**Pn**	**09 18 45.9**	**+0.2**
	baz=2.3,SNR=28						
Q09A	**Carvers**	**2.32**	**315**	⇑P	**Pn**	**09 18 46.8**	**+0.1**
	baz=2.4						
Q09A				⇑S	**Sn**	**09 19 17.1**	**+1.8**
	baz=2.4						
GSC	**Goldstone**	**2.37**	**217**	P	**Pn**	**09 18 52.1**	**+4.8**
	baz=2.4,SNR=34						
S08C	**White Mtn Res**	**2.49**	**277**	⇑P	**Pn**	**09 18 49.0**	**0.0**
	baz=2.5,SNR=12						
S08C				⇓S	**Sn**	**09 19 21.1**	**+1.7**
	baz=2.5						
W14A	**Seligman**	**2.56**	**141**	⇓P	**Pn**	**09 18 50.6**	**+0.6**
	baz=2.5,SNR=28						
MSU	**Marysvale**	**2.63**	**60**	*e*Pg	**Pg**	**09 18 51.5**	**-7.2**
MSU				*e*Sn	**Sn**	**09 19 22.7**	**0.0**
R08A	**Mina**	**2.67**	**296**	⇑P	**Pn**	**09 18 56.0**	**+4.6**
	baz=2.7,SNR=11						
MNV	**Mina**	**2.73**	**297**	*e*Pn	**Pn**	**09 18 52.1**	**-0.2**
MNV				*e*Pg	**Pg**	**09 19 00.2**	**-0.6**
MNV				*e*S	**Sn**	**09 19 32.3**	**+7.0**
MTUM	**Tungsten Hills**	**2.79**	**274**	*e*Pn	**Pn**	**09 18 53.1**	**-0.1**
MTUM				*e*Pg	**Pg**	**09 19 01.0**	**-0.9**
MTUM				*e*Sn	**Sn**	**09 19 26.7**	**-0.2**
MTUM				*e*Sg	**Sg**	**09 19 36.3**	**-1.9**
Q08A	**Gabbs**	**2.79**	**307**	⇓P	**Pn**	**09 18 53.0**	**-0.1**
	baz=2.8,SNR=7.7						
X13A	**Yucca**	**2.81**	**159**	⇓P	**Pn**	**09 18 52.8**	**-0.4**
	baz=2.8,SNR=13						
X13A				⇓S	**Sn**	**09 19 25.9**	**-1.3**
	baz=2.8						
P09A	**Austin**	**2.84**	**326**	⇑P	**Pn**	**09 18 53.9**	**+0.1**
	baz=2.9						
W15A	**Williams**	**3.04**	**131**	⇑P	**Pn**	**09 18 57.8**	**+1.3**
	baz=3.0						
X14A	**Yava**	**3.26**	**147**	⇑P	**Pn**	**09 18 59.8**	**+0.3**
	baz=3.2,SNR=17						
X14A				⇓S	**Sn**	**09 19 38.2**	**-0.2**
	baz=3.2						
O09A	**Fish Creek Ran**	**3.39**	**331**	⇓P	**Pn**	**09 19 01.4**	**+0.1**
	baz=3.4,SNR=10						
Y12C	**Blythe**	**3.49**	**173**	⇓P	**Pg**	**09 19 13.6**	**-1.6**
	baz=3.5						
Y12C				⇓S	**Sn**	**09 19 45.1**	**+1.1**
	baz=3.5						
ELK	**Elko**	**3.53**	**358**	*e*Pn	**Pn**	**09 19 03.1**	**-0.1**
ELK				*e*Pg	**Pg**	**09 19 12.8**	**-3.1**
ELK				*e*S	**Sg**	**09 19 56.5**	**-5.1**
Y13A	**Salome**	**3.54**	**163**	⇑P	**Pn**	**09 19 03.2**	**-0.3**
	baz=3.5,SNR=10						
Y13A				⇑S	**Sn**	**09 19 46.3**	**+0.9**
	baz=3.5						
X15A	**Humbold

IDC 13 09:37:05.3±9.9, 244N×12809E, h279km±98km, mb3.3/5, mb1 3.4/5, mb1mx3.2/16, mbtmp3.9/5, Error ellipse: s-maj=90.3km s-min=21.9km az=61.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.55**	**187**	P	P	09 41 24.4	+1.2
	4.7nm,1.1s,baz=20,slow=13,SNR=4.9						
WRA	**Warramunga Arr**	**23.07**	**165**	P	P	09 41 47.3	+0.8
	0.8nm,0.3s,baz=338,slow=10,SNR=43						
ASAR	**Alice Springs**	**26.56**	**168**	P	P	09 42 18.5	+0.6
	0.9nm,0.5s,baz=353,slow=7.9,SNR=22						
ASAR				PcP	PcP	09 45 35.7	+1.4
	0.2nm,0.4s,baz=357,slow=2.3,SNR=5.6						
STKA	**Stephens Creek**	**36.45**	**160**	P	P	09 43 42.3	-1.6
	1.3nm,0.3s,baz=342,slow=8.0,SNR=20						
MKAR	**Makanchi Array**	**59.39**	**325**	P	P	09 46 38.4	-0.1
	0.5nm,0.4s,baz=114,slow=7.9,SNR=6.8						

*ISCJB **13** 10:10:16.8±0.4, 4971N±002×729E±003, h0km, Error ellipse: s-maj=3.3km s-min=2.6km az=153.0*
*NEIC **13** 10:10:17.9, 4979N×736E, h15km, ML2.2(STR), ML2.5(LDG), After LDG.*
*CSEM **13** 10:10:17.9±0.2, 4978N×729E, h1km, ML2.6/7, Error ellipse: s-maj=2.9km s-min=2.7km az=41.0, Mining explosion.*
*LDG **13** 10:10:17.9±0.1, 4979N×736E, h15km, Ml2.5/7, Error ellipse: s-maj=2.0km s-min=1.4km az=59.0*
*STR **13** 10:10:17.7±0.3, 4978N×736E, h8km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*UCC **13** 10:10:19.3±0.7, 4978N×733E, h3km±8km, ML1.7*
*BGR **13** 10:10:19.1±0.4, 4976N×736E, h5km, ML1.9/3, Error ellipse: s-maj=6.7km s-min=4.4km az=164.0, Mining explosion.*

ISC 13 10:10:17.8±0.4, 4975N±002×733E±003, h0km, n42, σ1°26/86, 2C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.18**	**255**	Pg	**Pg**	**10 10 22.8**	**+1.4**
RUP				Sg	**Sg**	**10 10 25.4**	**+1.6**
ABH	**Alteburg**	**0.19**	**46**	Pg	**Pg**	**10 10 21.9**	**+0.4**
ABH				Sg	**Sg**	**10 10 24.5**	**+0.5**
WLF	**Walferdange**	**0.77**	**264**	*e*Pg	**Pg**	**10 10 33.4**	**+0.8**
	SNR=2.8						
WLF				*e*Sg	**Sg**	**10 10 44.8**	**+2.2**
	SNR=6.9						
WLF	**Walferdange**	**0.77**	**264**	⇑P	**Pg**	**10 10 33.6**	**+0.9**
WLF				S	**Sg**	**10 10 45.9**	**+3.2**
	comp=N,16nm,0.3s						
WLF	**Walferdange**	**0.77**	**264**	Pg	**Pg**	**10 10 33.4**	**+0.8**
	SNR=2.8						
WLF				Sg	**Sg**	**10 10 44.8**	**+2.2**
	SNR=6.9						
WLF				S	**Sg**	**10 10 45.8**	**+3.2**
	comp=N,16nm,0.3s						
LANF	**Langenberg**	**0.83**	**158**	Pn	**Pn**	**10 10 34.4**	**-2.4**
TNS	**Taunus Mts**	**0.86**	**56**	*e*Pg	**Pg**	**10 10 34.5**	**+0.1**
	SNR=8.5						
TNS				*e*Sg	**Sg**	**10 10 46.5**	**+1.0**
	SNR=4.9						
MEM	**Membach**	**1.21**	**316**	⇑P	**Pg**	**10 10 41.8**	**+0.7**
MEM				S	**Sg**	**10 10 57.8**	**+1.0**
	comp=N,10nm,0.4s						
MEM	**Membach**	**1.21**	**316**	P	**Pg**	**10 10 41.8**	**+0.7**
MEM				S	**Sg**	**10 10 57.7**	**+0.9**
	comp=N,10nm,0.4s						
WLS	**Welschbruch**	**1.34**	**179**	Pn	**Pn**	**10 10 41.5**	**-2.3**
WLS				Sg	**Sg**	**10 11 03.1**	**+2.2**
CDF	**Champ du Feu**	**1.34**	**182**	*e*Pg	**Pg**	**10 10 43.7**	**+0.2**
CDF				*e*Sn	**Sn**	**10 10 58.2**	**-4.1**
CDF				*e*Sg	**Sg**	**10 11 01.9**	**+1.0**
	comp=N,14nm,0.2s						
CDF	**Champ du Feu**	**1.34**	**182**	*e*Pn	**Pn**	**10 10 41.3**	**-2.5**
CDF				*e*Pg	**Pg**	**10 10 43.7**	**+0.2**
CDF				*e*Sn	**Sn**	**10 10 58.2**	**-4.1**
CDF				*e*Sg	**Sg**	**10 11 01.9**	**+1.0**
CDF	**Champ du Feu**	**1.34**	**182**	*e*Pg	**Pg**	**10 10 43.7**	**+0.2**
CDF				*e*Sn	**Sn**	**10 10 58.2**	**-4.1**
CDF				*e*Sg	**Sg**	**10 11 01.9**	**+1.0**
	comp=N,7.0nm,0.2s						
ECH	**Echery**	**1.54**	**184**	Sg	**Sg**	**10 11 09.0**	**+1.7**
BFO	**Black Forest**	**1.56**	**155**	*e*Pg	**Pg**	**10 10 48.6**	**+0.8**
	SNR=8.8						
BFO				*e*Sg	**Sg**	**10 11 08.9**	**+0.8**
	SNR=8.4						
GIVF	**Givet**	**1.66**	**283**	*e*Pn	**Pn**	**10 10 44.9**	**-3.3**
GIVF	**Givet**	**1.66**	**283**	*e*P	**Pn**	**10 10 46.9**	**-1.3**
GIVF	**Givet**	**1.66**	**283**	*e*Pg	**Pg**	**10 10 48.8**	**-0.9**
GIVF				*e*Sg	**Sg**	**10 11 10.4**	**-0.8**
	comp=N,12nm,0.2s						
GIVF	**Givet**	**1.66**	**283**	*e*P	**Pn**	**10 10 46.9**	**-1.3**
GIVF				*e*Pg	**Pg**	**10 10 48.8**	**-0.9**
GIVF	**Givet**	**1.66**	**283**	*e*P	**Pn**	**10 10 46.9**	**-1.3**
GIVF	**Givet**	**1.66**	**283**	*e*Pg	**Pg**	**10 10 48.8**	**-0.9**
GIVF				*e*Sg	**Sg**	**10 11 10.4**	**-0.8**
	comp=N,5.9nm,0.2s						
DOU	**Dourbes**	**1.80**	**282**	⇓P	**Pn**	**10 10 52.3**	**+2.2**
DOU				S	**Sn**	**10 11 13.3**	**-0.4**
HAU	**Haudompre**	**1.86**	**201**	*e*Pg	**Pg**	**10 10 52.9**	**-0.7**
HAU				*e*Sg	**Sg**	**10 11 17.9**	**+0.2**
	comp=N,7.1nm,0.2s						
HAU	**Haudompre**	**1.86**	**201**	*e*Pn	**Pn**	**10 10 47.9**	**-3.1**
HAU				*e*Pg	**Pg**	**10 10 52.9**	**-0.7**
HAU				*e*Sg	**Sg**	**10 11 17.9**	**+0.2**
HAU	**Haudompre**	**1.86**	**201**	*e*Pg	**Pg**	**10 10 52.9**	**-0.7**
HAU				*e*Sg	**Sg**	**10 11 17.9**	**+0.2**
	comp=N,3.5nm,0.2s						
MOF	**Molkenrain**	**1.91**	**184**	Pg	**Pg**	**10 10 54.5**	**+0.1**
FELD	**Feldberg im Sc**	**1.93**	**166**	Pg	**Pg**	**10 10 55.0**	**+0.2**
FELD				Sg	**Sg**	**10 11 20.5**	**+0.7**
HINF	**Hinteralfeld**	**1.96**	**190**	*e*Pg	**Pg**	**10 10 55.1**	**-0.3**
HINF				*e*Sn	**Sn**	**10 11 13.1**	**-4.5**
HINF				*e*Sg	**Sg**	**10 11 21.6**	**+0.7**
	comp=N,6.0nm,0.2s						
HINF	**Hinteralfeld**	**1.96**	**190**	*e*Pn	**Pn**	**10 10 49.4**	**-2.9**
HINF				*e*Pg	**Pg**	**10 10 55.1**	**-0.3**
HINF				*e*Sn	**Sn**	**10 11 13.1**	**-4.5**
HINF				*e*Sg	**Sg**	**10 11 21.6**	**+0.7**
HINF	**Hinteralfeld**	**1.96**	**190**	*e*Pg	**Pg**	**10 10 55.1**	**-0.3**
HINF				*e*Sn	**Sn**	**10 11 13.1**	**-4.5**
HINF				*e*Sg	**Sg**	**10 11 21.6**	**+0.7**
	comp=N,3.0nm,0.2s						
BAIF	**Baives**	**2.04**	**280**	*e*Pg	**Pg**	**10 10 56.3**	**-0.7**
BAIF				*e*Sg	**Sg**	**10 11 23.3**	**-0.2**
	comp=N,5.5nm,0.2s						
BAIF	**Baives**	**2.04**	**280**	*e*P	**Pn**	**10 10 53.0**	**-0.5**
BAIF				*e*Pg	**Pg**	**10 10 56.3**	**-0.7**
BAIF				*e*Sg	**Sg**	**10 11 23.3**	**-0.2**
BAIF	**Baives**	**2.04**	**280**	*e*Pg	**Pg**	**10 10 56.3**	**-0.7**
BAIF				*e*Sg	**Sg**	**10 11 23.3**	**-0.2**
	comp=N,2.8nm,0.2s						
CABF	**La Chapelle**	**3.25**	**195**	*e*Pn	**Pn**	**10 11 06.9**	**-3.2**
CABF	**La Chapelle**	**3.25**	**195**	*e*P	**Pn**	**10 11 10.0**	**-0.1**
CABF	**La Chapelle**	**3.25**	**195**	*e*Pg	**Pg**	**10 11 18.7**	**-1.4**
CABF				*e*Sn	**Sn**	**10 11 43.7**	**-5.8**
CABF				*e*Sg	**Sg**	**10 12 01.6**	**-0.7**
	comp=N,1.5nm,0.4s						
CABF	**La Chapelle**	**3.25**	**195**	*e*P	**Pn**	**10 11 10.0**	**-0.1**
CABF				*e*Pg	**Pg**	**10 11 18.7**	**-1.4**
CABF				*e*Sn	**Sn**	**10 11 43.7**	**-5.8**
CABF	**La Chapelle**	**3.25**	**195**	*e*P	**Pn**	**10 11 10.0**	**-0.1**
CABF	**La Chapelle**	**3.25**	**195**	*e*Pg	**Pg**	**10 11 18.7**	**-1.4**
CABF				*e*Sn	**Sn**	**10 11 43.7**	**-5.8**
CABF				*e*Sg	**Sg**	**10 12 01.6**	**-0.7**
	comp=N,0.8nm,0.4s						
LOR	**Lormes**	**3.39**	**224**	*e*Sg	**Sg**	**10 12 05.7**	**-1.1**
	comp=N,1.8nm,0.3s						
LOR	**Lormes**	**3.39**	**224**	*e*Sg	**Sg**	**10 12 05.7**	**-1.1**
	comp=N,0.9nm,0.3s						
MORC	**Moravsky Berou**	**6.62**	**86**	*e*Pg	**Pg**	**10 12 21.1**	**-3.5**

*ISCJB **13** 10:31:53.4±2.5, 252S±0.1×1786W±06, h459km±27km, mb4.5/9, Error ellipse: s-maj=82.6km s-min=17.7km az=163.0*
*NEIC **13** 10:31:54.6±2.8, 2522S×17851W, h466km±34km, mb4.6/6, Error ellipse: s-maj=81.0km s-min=32.3km az=78.0*
*IDC **13** 10:31:54.1±11.0, 2541S×17821E, h178km±194km, mb4.3/3, mb1 4.5/5, mb1mx3.9/13, mbtmp4.9/5, ML5.1/2, MS3.5/3, Ms1 3.5/3, ms1mx2.8/26, Error ellipse: s-maj=149.2km s-min=49.5km az=109.0*

ISC 13 10:31:56.1±2.3, 254S±01×1789W±06, h444km±37km, n21, σ0°80/23, mb4.4/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.95**	**168**	P	**P**	**10 33 11.4**	**+1.0**
	92nm,0.3s,baz=117,slow=23,SNR=3.1						
RAO				S	**S**	**10 34 09.5**	**-1.3**
	179nm,0.3s,baz=93,slow=23,SNR=4.5						
RAO				LR	LR	10 34 12.3	
	comp=Z,258nm,20.9s,baz=307,slow=27						
RAO	**Raoul Island**	**3.95**	**168**	*e*Pn	**P**	**10 33 11.2**	**+0.9**
RAO				*e*Sn	**S**	**10 34 06.1**	**-4.7**
RAO				S	**S**	**10 34 09.5**	**-1.3**
URZ	**Urewera**	**13.30**	**194**	P	**P**	**10 34 49.2**	**+0.2**
	6.1nm,0.3s,baz=258,slow=3.3,SNR=32						
URZ				S	**S**	**10 37 11.8**	**0.0**
	6.2nm,0.3s,baz=103,slow=20,SNR=18						
DZM	**Mont Dzumac**	**13.86**	**281**	LR	LR	10 37 40.8	
	comp=Z,293nm,20.6s,baz=260,slow=31						
ARMA	**Armidale**	**26.53**	**252**	*e*P	**P**	**10 36 57.1**	**+0.8**
CNB	**Canberra Magne**	**29.05**	**242**	*e*P	**P**	**10 37 20.5**	**+1.9**
	9.4nm,1.1s,mb4.0						
CTA	**Charters Tower**	**32.55**	**272**	*e*P	**P**	**10 37 49.4**	**+0.6**
	17nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**35.17**	**250**	*e*P	**P**	**10 38 09.5**	**-1.5**
	9.0nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**35.17**	**250**	P	**P**	**10 38 09.8**	**-1.1**
	9.7nm,0.4s,mb4.5,baz=96,slow=10,SNR=79						
STKA	**Stephens Creek**	**35.17**	**250**	*e*P	**P**	**10 38 09.1**	**-1.9**
STKA				*e*P		10 38 09.5	
AS31	**Alice Springs**	**42.84**	**262**	*e*P	**P**	**10 39 13.5**	**+0.1**
ASAR	**Alice Springs**	**42.84**	**262**	P	**P**	**10 39 13.4**	**0.0**
	4.4nm,0.4s,mb4.2,baz=99,slow=7.1,SNR=168						
ASPA	**Alice Springs**	**42.84**	**262**	*e*P	**P**	**10 39 13.5**	**+0.1**
WB2	**Warramunga Arr**	**43.35**	**267**	*e*P	**P**	**10 39 16.5**	**-0.9**
WRAB	**Tennant Creek**	**43.35**	**267**	*e*P	**P**	**10 39 17.2**	**-0.2**
WRA	**Warramunga Arr**	**43.36**	**267**	P	**P**	**10 39 17.0**	**-0.5**
	5.1nm,0.3s,mb4.4,baz=99,slow=6.9,SNR=386						
FORT	**Forrest**	**46.79**	**251**	*e*P	**P**	**10 39 43.1**	**-0.9**
	20nm,0.7s,mb4.5						
KAKA	**Kakadu**	**47.49**	**276**	*e*P	**P**	**10 39 48.9**	**-0.4**
	6.7nm,0.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.76**	**266**	*e*P	**P**	**10 40 21.4**	**+0.4**
	9.9nm,0.4s,mb4.4						
KLBR	**Kellerberrin**	**55.39**	**248**	*e*P	**P**	**10 40 47.2**	**+0.3**
	47nm,1.6s,mb4.5						
NEW	**Newport**	**91.76**	**36**	LR	LR	11 17 31.6	
	comp=Z,31nm,19.8s,baz=321,slow=29						

*NIED **13** 11:03:00, 3740N×141.10E, h23km, Mw3.5 Best double couple: M0:2.18000×10^14 NP1:φs=45.00000°, δ83.00000°, λ95.00000°. NP2:φs=190.00000°, δ8.00000°, λ55.00000°.*
*ISCJB **13** 11:03:51.9±0.8, 3740N±003×14127E±006, h27km±4km, mb3.5/3, Error ellipse: s-maj=8.8km s-min=4.5km az=37.1*
*JMA **13** 11:03:53.8, 3742N×141.11E, h26km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=254.00000°, δ10.00000°, λ113.00000°. NP2: φs=51.00000°, δ81.00000°, λ86.00000°. Principal axes: T Plg54.0000°, Azm316.0000°; N Plg4.0000°, Azm51.0000°; P Plg36.0000°, Azm144.0000°;*
JMA Felt II J1.
*NEIC **13** 11:03:53.9, 3742N×141.11E, h28km, MG4.0(JMA), After JMA.*
NEIC Recorded [2 JMA] in Fukushima Prefecture.
*IDC **13** 11:03:53.9±2.2, 3729N×14153E, h51km±21km, mb3.4/3, mb1 3.4/6, mb1mx3.2/22, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=20.7km s-min=13.2km az=109.0*
*MOS **13** 11:03:56.3±0.9, 3787N×14072E, h33km, mb4.3/3, Error ellipse: s-maj=24.7km s-min=15.9km az=51.2*

ISC 13 11:03:52.9±0.9, 3741N±003×14120E±007, h21km±6km, n25, σ0°78/41, mb3.5/3, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.26**	**261**	⇓P	**Pb**	**11 03 59.6**	**+0.5**
JFK				*e*S	**Sb**	**11 04 03.4**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.44**	**226**	⇑P	**Pb**	**11 04 02.3**	**+0.2**
ONAJ				S	**Sb**	**11 04 08.3**	**+0.1**
JMM	**Marumori**	**0.56**	**325**	⇓P	**Pb**	**11 04 03.9**	**-0.1**
JMM				S	**Sb**	**11 04 11.1**	**-0.4**
JFT	**Otama**	**0.69**	**279**	⇓P	**Pb**	**11 04 06.3**	**0.0**
JFT				S	**Sb**	**11 04 15.0**	**-0.5**
JHO	**Hitachi**	**0.94**	**212**	P	**Pb**	**11 04 09.4**	**-1.2**
JOU	**Okura**	**1.04**	**336**	⇑P	**Pb**	**11 04 11.4**	**-0.9**
JOU				S	**Sb**	**11 04 26.0**	**+0.5**
JIO	**Ouri**	**1.05**	**7**	⇑P	**Pb**	**11 04 12.3**	**-0.1**
JIO				S	**Sb**	**11 04 26.3**	**+0.6**
JSB	**Shiboa**	**1.11**	**247**	P	**Pn**	**11 04 13.3**	**0.0**
JSB				S	**Sb**	**11 04 27.7**	**+0.2**
JFY	**Yanaizu**	**1.19**	**270**	⇑P	**Pn**	**11 04 13.9**	**-0.4**
JFY				S	**Sb**	**11 04 29.1**	**-0.6**
JYS	**Shiratake**	**1.21**	**312**	⇑P	**Pn**	**11 04 14.6**	**0.0**
JYS				S	**Sb**	**11 04 30.3**	**0.0**
MJAR	**Matsushiro Arr**	**2.54**	**251**	P	**Pn**	**11 04 34.2**	**+1.2**
	1.7nm,0.3s,baz=87,slow=16,SNR=14						
MJAR				S	**Sn**	**11 05 07.8**	**+4.5**
	3.8nm,0.3s,baz=85,slow=30,SNR=6.4						
MJAR	**Matsushiro Arr**	**2.54**	**251**	P	**Pn**	**11 04 34.2**	**+1.2**
MJAR				S	**Sn**	**11 05 07.8**	**+4.5**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				smax			
	comp=N,4.0nm,0.3s						
MAJO	**Matsushiro**	**2.55**	**251**	*e*P	**Pn**	**11 04 34.0**	**+1.0**
MAT	**Matsushiro**	**2.55**	**251**	P	**Pn**	**11 04 34.0**	**+1.0**
MAT				S	**Sn**	**11 05 07.2**	**+3.8**
MAT	**Matsushiro**	**2.55**	**251**	*e*P	**Pn**	**11 04 34.0**	**+1.0**
MAT				*e*S	**Sn**	**11 05 07.0**	**+3.6**
JHJ	**Hachijo jima 2**	**4.43**	**196**	P	**Pn**	**11 04 60.0**	**+1.0**
	comp=N,5.0nm,0.3s,baz=43,slow=12,SNR=8.3						
JHJ				S	**Sn**	**11 05 49.5**	**-0.5**
	comp=N,11nm,0.3s,baz=41,slow=19,SNR=4.5						
ASAJ	**Asahikawa**	**6.78**	**9**	P	**Pn**	**11 05 30.5**	**-0.7**
	comp=N,0.6nm,0.3s,baz=251,slow=9.1,SNR=6.5						
ASAJ				S	**Sn**	**11 06 49.5**	**+1.7**
	comp=N,0.2nm,0.3s,baz=60,slow=20,SNR=2.5						
ASAJ	**Asahikawa**	**6.78**	**9**	P	**Pn**	**11 05 30.5**	**-0.7**
ASAJ				S	**Sn**	**11 06 49.6**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**27.43**	**303**	P	**P**	**11 09 37.5**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.0,baz=111,slow=8.2,SNR=3.0						
SONM	**Songino Array**	**27.43**	**303**	P	**P**	**11 09 37.5**	**+0.3**
MKAR	**Makanchi Array**	**43.77**	**302**	P	**P**	**11 11 56.0**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.5,baz=86,slow=9.8,SNR=6.8						
MKAR	**Makanchi Array**	**43.77**	**302**	P	**P**	**11 11 56.0**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**45.57**	**308**	*e*P	**P**	**11 12 09.9**	**-1.4**
AKASG	**Malin Array Be**	**73.90**	**322**	P	**P**	**11 15 25.1**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=47,slow=5.9,SNR=4.8						
AKASG	**Malin Array Be**	**73.90**	**322**	P	**P**	**11 15 25.1**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*NEIC **13** 11:04:29.0±3.5, 2077S×17907W, h619km±42km, mb4.3/13, Error ellipse: s-maj=24.3km s-min=16.3km az=137.0*
*ISCJB **13** 11:04:29.1±1.9, 208S±0.1×179.19W±008, h632km±24km, mb4.2/24, Error ellipse: s-maj=22.2km s-min=6.8km az=133.2*
*IDC **13** 11:04:30.7±2.3, 2100S×17906W, h642km±27km, mb3.6/10, mb1 3.7/10, mb1mx3.5/16, mbtmp4.6/10, Error ellipse: s-maj=34.9km s-min=11.1km az=154.0*
*MOS **13** 11:04:31.1±2.3, 1975S×17960W, h602km, mb4.3/9, Error ellipse: s-maj=24.5km s-min=16.7km az=164.4*

ISC 13 11:04:30.2±1.9, 208S±01×17911W±008, h628km±23km, n136, σ0°58/120, mb4.2/24, 45C-38D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.43**	**265**	⇓*i*P	**P**	**11 10 11.8**	**+0.8**
	4.1nm,0.3s,mb4.5						
CTA	**Charters Tower**	**32.43**	**265**	P	**P**	**11 10 11.9**	**+0.9**
	5.0nm,0.3s,mb4.5,baz=94,slow=13,SNR=20						
CTA	**Charters Tower**	**32.43**	**265**	⇓*i*P	**P**	**11 10 11.8**	**+0.8**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CTAO	**Charters Tower**	**32.43**	**265**	*e*P	**P**	**11 10 11.7**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
CTAO	**Charters Tower**	**32.43**	**265**	*e*P	**P**	**11 10 11.7**	**+0.7**
	comp=Z,14nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**36.73**	**244**	*e*P	**P**	**11 10 44.9**	**-1.7**
	comp=Z,1.9nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**36.73**	**244**	P	**P**	**11 10 45.2**	**-1.4**
	comp=Z,2.1nm,0.5s,mb3.9,baz=191,slow=12,SNR=8.3						
AS31	**Alice Springs**	**43.44**	**257**	⇓*i*P	**P**	**11 11 40.1**	**+0.4**
AS31				*e*S	**S**	**11 17 24.9**	**+0.7**
ASAR	**Alice Springs**	**43.44**	**257**	P	**P**	**11 11 40.2**	**+0.5**
	comp=Z,6.8nm,0.5s,mb4.4,baz=97,slow=7.7,SNR=111						
ASAR				PcP	PcP	11 13 13.8	+0.6
	comp=Z,1.9nm,0.6s,baz=105,slow=3.8,SNR=10.0						
ASAR				ScP	ScP	11 16 10.5	+4.7
	comp=Z,0.6nm,0.6s,baz=96,slow=4.4,SNR=7.8						
ASAR				S	**S**	**11 17 24.0**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=92,slow=14,SNR=9.9						
ASAR	**Alice Springs**	**43.44**	**257**	P	**P**	**11 11 40.3**	**+0.6**
ASAR						11 13 13.8	
ASAR				S	**S**	**11 17 24.0**	**-0.2**
ASPA	**Alice Springs**	**43.45**	**257**	⇓*i*P	**P**	**11 11 40.1**	**+0.3**
ASPA				*e*S	**S**	**11 17 24.9**	**+0.6**
WB2	**Warramunga Arr**	**43.52**	**263**	⇓*i*P	**P**	**11 11 40.3**	**-0.1**
WB2				*e*S	**S**	**11 17 26.1**	**+0.7**
WRAB	**Tennant Creek**	**43.53**	**263**	*e*P	**P**	**11 11 40.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.5						
WRAB	**Tennant Creek**	**43.53**	**263**	*e*P	**P**	**11 11 40.3**	**0.0**
	comp=Z,6.0nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**43.53**	**263**	P	**P**	**11 11 40.4**	**0.0**
	comp=Z,3.5nm,0.3s,mb4.4,baz=97,slow=7.4,SNR=219						
WRA				S	**S**	**11 17 25.7**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=96,slow=12,SNR=4.7						
KAKA	**Kakadu**	**46.94**	**272**	*e*P	**P**	**11 12 06.8**	**+0.5**
	comp=Z,4.4nm,0.3s,mb4.5						
FORT	**Forrest**	**48.23**	**247**	*e*P	**P**	**11 12 15.4**	**-0.4**
	comp=Z,8.4nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.96**	**263**	*e*P	**P**	**11 12 43.4**	**+0.5**
	comp=Z,4.5nm,0.4s,mb4.2						
MBWA	**Marble Bar**	**56.78**	**258**	*e*P	**P**	**11 13 16.6**	**+0.1**
	comp=Z,8.4nm,0.4s,mb4.3						
QSPA	**South Pole Qui**	**69.29**	**180**	*e*P	**P**	**11 14 35.4**	**-0.8**
	comp=Z,1.3nm,0.4s,mb3.7						
MJAR	**Matsushiro Arr**	**69.83**	**324**	P	**P**	**11 14 39.3**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.0,baz=154,slow=5.5,SNR=12						
ATKA	**Atka Island**	**72.80**	**3**	*e*P	**P**	**11 14 54.7**	**-2.0**
ASAJ	**Asahikawa**	**73.48**	**332**	P	**P**	**11 15 02.1**	**+1.6**
	comp=Z,6.2nm,0.9s,mb4.2,baz=39,slow=4.0,SNR=8.6						
YSS	**Yuzh-Sakhalins**	**75.69**	**334**	⇑*e*P	**P**	**11 15 10.6**	**-2.2**
YSS				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.3						
HAST	**Hastings Reser**	**78.66**	**44**	⇑P	**P**	**11 15 29.4**	**+0.5**
	baz=79						
PKD	**Parkfield**	**79.06**	**45**	⇑P	**P**	**11 15 31.6**	**+0.7**
	baz=79						
PACP	**Pacheco Peak**	**79.19**	**44**	⇓P	**P**	**11 15 32.4**	**+0.7**
	baz=79						
CVS	**Carmenet Viney**	**79.25**	**42**	⇑P	**P**	**11 15 32.3**	**+0.3**
	baz=79						
HOPS	**Hopland**	**79.26**	**41**	⇑P	**P**	**11 15 32.7**	**+0.7**
	baz=79						
P01C	**Double 8 Ranch**	**79.39**	**41**	⇑P	**P**	**11 15 33.0**	**+0.2**
	baz=80						
S04C	**Ingram Canyon,**	**79.45**	**43**	⇑P	**P**	**11 15 33.5**	**+0.4**
	baz=80						
O01C	**Eel River Cons**	**79.51**	**40**	⇓P	**P**	**11 15 34.1**	**+0.7**
	baz=80,SNR=6.4						
MNRC	**McLaughlin Nat**	**79.58**	**42**	⇓P	**P**	**11 15 34.2**	**+0.5**
	baz=80						
GASB	**Alder Springs**	**79.88**	**41**	⇑P	**P**	**11 15 35.9**	**+0.6**
	baz=80,SNR=6.4						
O02C	**Red Bluff**	**80.16**	**40**	⇑P	**P**	**11 15 37.3**	**+0.6**
	baz=80,SNR=8.2						
SUTB	**Sutter Buttes**	**80.20**	**42**	⇑P	**P**	**11 15 36.3**	**-0.6**
	baz=80						
N02C	**Big Bar**	**80.24**	**40**	⇓P	**P**	**11 15 37.3**	**+0.2**
	baz=80						
CMB	**Columbia Colle**	**80.37**	**43**	⇑P	**P**	**11 15 37.6**	**-0.2**
	baz=80						
O03C	**Acorn Hollow,**	**80.51**	**41**	⇑P	**P**	**11 15 38.4**	**-0.2**
	baz=81						
PFO	**Pinyon Flat Ob**	**80.54**	**49**	⇑P	**P**	**11 15 39.0**	**+0.4**
	baz=81						
WDC	**Whiskeytown Da**	**80.55**	**40**	⇓P	**P**	**11 15 38.6**	**-0.2**
	baz=81						
ORV	**Oroville**	**80.57**	**41**	⇓P	**P**	**11 15 38.6**	**-0.3**
	baz=81						
LAVA	**Lava Cap Winer**	**80.57**	**42**	⇑P	**P**	**11 15 38.5**	**-0.3**
	baz=81						
M02C	**Callahan**	**80.86**	**39**	⇑P	**P**	**11 15

Y13A	Salome	82.50	50	⇑P		P	11 15 49.2	+0.5
	baz=83							
O07A	Toulon	82.56	42	⇑P		P	11 15 48.8	-0.1
	baz=83							
H03A	Soap Creek Ran	82.65	37	⇑P		P	11 15 48.9	-0.5
	baz=83							
X13A	Yucca	82.90	49	⇑P		P	11 15 50.7	0.0
	baz=83							
Z14A	Wintersburg	82.91	50	⇑P		P	11 15 50.9	+0.2
	baz=83							
M07A	Soldier Meadow	83.09	41	⇓P		P	11 15 51.5	-0.1
	baz=83							
115A	Sonoran Desert	83.10	51	⇓P		P	11 15 52.6	+0.9
	baz=83							
K06A	Valley Falls	83.26	39	⇑P		P	11 15 52.2	-0.2
	baz=83							
N08A	GE Springer Mi	83.38	42	⇑P		P	11 15 52.9	-0.1
	baz=84							
I05A	Bend	83.47	38	⇓P		P	11 15 53.3	-0.2
	baz=84							
X14A	Yava	83.51	50	⇑P		P	11 15 53.9	+0.2
	baz=84							
J06A	Christmas Vall	83.58	39	⇑P		P	11 15 53.8	-0.2
	baz=84							
O09A	Fish Creek Ran	83.63	43	⇑P		P	11 15 54.2	0.0
	baz=84							
W14A	Seligman	83.75	49	⇑P		P	11 15 55.4	+0.6
	baz=84							
K07A	Rock Creek Ran	83.79	40	⇓P		P	11 15 54.9	-0.1
	baz=84,SNR=5.3							
H05A	Madras	83.79	37	⇑P		P	11 15 54.4	-0.6
	baz=84							
F04A	Amboy	83.91	36	⇓P		P	11 15 55.2	-0.5
	baz=84							
I06A	Prineville	83.96	38	⇑P		P	11 15 56.1	+0.2
	baz=84,SNR=7.1							
X15A	Humboldt	83.98	50	⇑P		P	11 15 56.5	+0.6
	baz=84							
L09A	Wilkinson Ranc	84.37	41	⇑P		P	11 15 57.6	-0.3
	baz=84							
C04A	Brinnon	84.73	34	⇓P		P	11 15 59.4	-0.2
	baz=85							
N12A	Wells--Clov Va	85.38	43	⇓P		P	11 16 03.1	+0.3
	baz=86							
C05A	Tolt Reservoir	85.39	35	⇑P		P	11 16 02.7	-0.1
	baz=86							
A04A	Legoe Bay, Lum	85.49	34	⇓P		P	11 16 03.2	-0.1
	baz=86							
B05A	Bryant	85.52	34	⇓P		P	11 16 03.1	-0.3
	baz=86							
MCK	McKinley	87.47	13	*e*P		P	11 16 10.8	-1.8
MCK				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.1							
MCK	McKinley	87.47	13	*e*P		P	11 16 10.8	-1.8
	comp=Z,2.8nm,0.7s,mb4.1							
ANMO	Albuquerque	88.39	52	*e*P		P	11 16 16.5	-0.3
ANMO				pmax		pmax		
	comp=Z,4.0nm,1.3s							
ANMO	Albuquerque	88.39	52	*e*P		P	11 16 16.4	-0.4
	comp=Z,3.6nm,1.3s,mb3.9							
COLA	College	88.71	13	⇓*e*P		P	11 16 16.2	-2.1
COLA	College	88.71	13	*e*P		P	11 16 15.9	-2.4
	comp=Z,8.7nm,0.9s,mb4.6							
MCMT	McKenzie Canyo	88.84	41	*e*P		P	11 16 19.3	+0.3
BILL	Bilibino	89.21	355	*e*P		P	11 16 20.1	-0.6
BILL				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.0							
PDAR	Pinedale Array	89.88	44	P		P	11 16 23.1	-0.6
	comp=Z,1.7nm,0.7s,mb4.0,baz=218,slow=2.9,SNR=16							
SMCO	Snowmass	89.93	48	*e*P		P	11 16 19.4	-4.6
	comp=Z,8.2nm,0.6s,mb4.7							
MKAR	Makanchi Array	110.64	313	PKiKP		PKiKP	11 21 51.5	-1.4
	comp=Z,0.4nm,0.4s,baz=120,slow=1.8,SNR=6.8							
ARCES	ARCESS Array B	129.00	349	PKP		PKPdf	11 22 26.3	-1.7
	comp=Z,2.2nm,0.5s,baz=13,slow=0.9,SNR=20							
FINES	FINESS Array B	135.74	343	PKhKP			11 22 35.7	
	comp=Z,0.3nm,0.4s,baz=29,slow=4.4,SNR=3.3							
FINES				PKP		PKPdf	11 22 40.5	-0.1
	comp=Z,1.0nm,0.5s,baz=98,slow=7.9,SNR=6.0							
FINES	FINESS Array B	135.74	343	*i* PKHKP			11 22 33.5	
NOA	NORSAR Array B	139.13	352	PKhKP			11 22 37.1	
	comp=Z,1.0nm,0.7s,baz=15,slow=4.3,SNR=4.6							
NOA				PKP		PKPdf	11 22 47.7	+0.8
	comp=Z,0.7nm,0.6s,baz=12,slow=4.4,SNR=3.3							
AKASG	Malin Array Be	142.75	330	PKhKP			11 22 49.9	
	comp=Z,13nm,0.4s,baz=43,slow=4.2,SNR=102							
AKASG	Malin Array Be	142.75	330	*i* PKIKP		PKPdf	11 22 56.5	+3.1
MALT	Malatya	143.27	307	⇑*i*P		PKPdf	11 22 53.5	-0.8
MALT	Malatya	143.27	307	*e*PKPdf		PKPdf	11 22 53.8	-0.5
BR131	Keskin Array S	146.25	311	*e*PKPbc		PKPbc	11 23 01.6	-0.2
BRTR	Keskin Array B	146.25	311	PKPbc		PKPbc	11 23 01.6	-0.1
	comp=Z,3.2nm,0.6s,baz=131,slow=4.3,SNR=16							
BRTR	Keskin Array B	146.25	311	*i* PKIKP		PKPdf	11 23 01.7	+2.3
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
BURAR	Bucovina Array	146.79	329	⇑*i*P		PKPdf	11 23 04.1	+3.8
STHS	Stebnicka Huta	147.15	335	*e*PKP		PKPdf	11 23 03.2	+2.3
MLR	Muntele Rosu	147.89	326	⇓*i*P		PKPdf	11 23 05.7	+3.6
CLL	Collm	148.09	346	*e*PKPdf		PKPdf	11 23 04.0	+1.6
	comp=Z,3.0nm,1.0s							
CLL				⇓*i*PKPbc		PKPbc	11 23 05.8	-0.8
	comp=Z,12nm,0.7s							
CLL				*i* PKPab		PKPab	11 23 11.0	-0.9
	comp=Z,6.0nm,0.8s							
KECS	Kecovo	148.19	335	*e*		PKPdf	11 23 04.2	+1.6
VYHS	Vyhne	148.82	337	*e*PKP		PKPdf	11 23 07.9	+4.3
VYHS				*e*			11 23 15.3	
KOLL	Kolacno	148.91	337	*e*PKP		PKPdf	11 23 08.4	+4.7
BZS	Buzias	149.94	330	⇓P		PKPdf	11 23 10.6	+5.3
GERES	GERESS Array B	150.18	343	PKPbc		PKPbc	11 23 11.2	-0.4
	comp=Z,2.3nm,0.6s,baz=48,slow=2.0,SNR=17							
PKSM	Moragy	150.77	334	⇓*i*P		PKPdf	11 23 12.3	+5.7

KRSC 13 12:15:29.1±1.5, 5499N×16139E, h44km±5km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.48	155	*i* P		12 15 40.2	
MKZ				*e*S		12 15 48.1	
TUMR	Tumrok	0.77	293	*i* P		12 15 42.0	
KMNR	Kamenistaya	1.01	320	*e*P		12 15 46.6	
KMNR				*e*S		12 16 00.3	
ZLN	Zelenaya	1.08	342	*e*P		12 15 48.6	
ZLN				*e*S		12 16 02.8	
LGNR	Loginova	1.17	340	*e*P		12 15 50.2	
LGNR				*e*S		12 16 06.4	
KPT	Kopyto	1.18	326	*e*P		12 15 49.6	
KPT				*e*S		12 16 04.6	
CIRR	Tsirk	1.19	342	*i* P		12 15 50.5	
CIRR				*e*S		12 16 06.9	
KRSR	Krestovskiy	1.32	340	*e*P		12 15 51.5	
KRSR				*e*S		12 16 08.1	
KOZ	Kozyrevsk	1.38	322	*e*P		12 15 52.6	
KOZ				*e*S		12 16 10.2	
KLY	Klyuchi	1.39	343	*i* P		12 15 52.9	
KLY				*i* S		12 16 11.2	
KBTR	Krutoberegovo	1.47	33	*e*P		12 15 55.3	
KBTR				*e*S		12 16 12.8	
KBG	Krutoberegovo	1.47	30	*e*P		12 15 55.8	
KBG				*e*S		12 16 13.3	
KBG				Smax			
	1μm,0.6s						
KII	Karymskiy	1.48	231	P		12 15 54.4	
KII				*e*S		12 16 13.2	
SMKR	Semkarok	1.60	2	*e*P		12 15 57.1	
SMKR				*e*S		12 16 15.4	
SRKR	Sorokina	1.67	356	*e*P		12 15 58.2	
SRKR				*e*S		12 16 19.0	
ESO	Esso	1.80	303	*e*P		12 15 58.5	
ESO				*e*S		12 16 18.7	
ESO				Smax			
	80nm,0.8s						
SPN	Mys Shipunski	2.06	204	*e*P		12 16 01.6	
SPN				*e*S		12 16 27.2	
NLC	Nalytchevo	2.19	214	*e*P		12 16 04.0	
NLC				*e*S		12 16 30.2	
SDLR	Sedlovina	2.26	222	*e*P		12 16 06.0	
SDLR				*e*S		12 16 32.2	
SMAR	Somma	2.31	222	*e*P		12 16 07.3	
SMAR				*e*S		12 16 34.2	
AVH	Avacha	2.33	223	*e*P		12 16 07.3	
AVH				*e*S		12 16 35.2	
UGLR	Uglovaya	2.34	221	*e*P		12 16 07.6	
UGLR				*e*S		12 16 35.1	
KOK	Koryaka	2.35	225	*e*P		12 16 08.0	
GNL	Ganaly	2.40	239	*e*P		12 16 08.9	
GNL				*e*S		12 16 36.6	
PET	Petropavlovsk	2.55	220	*e*P		12 16 09.4	
PET				*e*S		12 16 38.9	
BKI	Bering	2.64	83	*e*P		12 16 10.1	
KRMR	Karymshinskiy	2.90	223	*e*P		12 16 15.5	
RUS	Russkaya	3.08	215	*e*P		12 16 16.6	
RUS				*e*S		12 16 50.8	
GRL	Gorelyy	3.14	220	*e*P		12 16 19.1	
APC	Apacha	3.25	232	*e*P		12 16 22.0	
APC				Smax			
	20nm,0.9s						

CASC 13 12:21:30.7±3.7, 1482N×8966W, h20km±20km, MD3.6, 9C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	Robledal	0.71	182	⇓*e*P	x	12 21 58.8	
RBDL				*e*S	x	12 22 12.3	
RTR	El Retiro	0.92	179	⇓*e*P	x	12 21 57.8	
RTR				*e*S	x	12 22 10.2	
SBLS	San Blas	0.98	178	*e*P	x	12 21 57.8	
SBLS				*e*S	x	12 22 09.9	
LFU	La Fuente	1.19	154	⇑*e*P	x	12 22 02.7	
LFU				*e*S	x	12 22 20.7	
SNET	Serv Nac Est T	1.20	160	*e*P	x	12 21 53.1	
LBRS	Las Brisas	1.23	151	⇑*e*P	x	12 22 03.4	
LBRS				*e*S	x	12 22 20.8	
LFRS	El Faro	1.33	154	⇓*e*P	x	12 22 03.1	
LFRS				*e*S	x	12 22 20.3	
LCBS	La Ceiba	1.34	150	⇓*e*P	x	12 22 04.3	
LCBS				*e*S	x	12 22 22.1	
BLLM	Bellamira	1.95	135	⇓*e*P	x	12 22 13.0	
BLLM				*e*S	x	12 22 39.9	
CNCH	Conchagua	2.35	131	⇓*e*P	x	12 22 18.9	
CNCH				*e*S	x	12 22 50.4	
CRIN	San Cristobal	3.30	129	⇑*e*P	Pn	12 22 22.4	+1.2
TELN	Telica	3.52	128	*e*P	Pn	12 22 24.7	+0.4
LEON	Leon	3.60	131	⇑*e*P	Pn	12 22 24.9	-0.5
CNGN	Cerro Negro	3.69	128	⇑*e*P	Pn	12 22 26.7	+0.2
CNGN				*e*S	Sn	12 23 09.8	+0.3
MIRN	Miramar	3.72	129	⇑*e*P	Pn	12 22 27.1	+0.1
MOMJ	Momotombo	3.87	128	⇑*e*P	Pn	12 22 29.4	+0.4
COPN	Copaltepe	3.98	131	⇑*e*P	Pn	12 22 29.1	-1.4
APYN	Apoyeque	4.12	128	⇑*e*P	Pn	12 22 32.8	+0.3

*ISCJB **13** 12:25:27.0±0.2, 1090N±002×6237W±002, h95km±2km, mb4.1/27, Error ellipse: s-maj=3.7km s-min=2.5km az=89.9*
*FUNV **13** 12:25:27.2, 1088N×6211W, h67km, MW5.0*
*IDC **13** 12:25:28.7±0.7, 1105N×6245W, h95km±6km, mb3.9/21, mb1 4.1/25, mb1mx4.1/29, mbtmp4.3/25, MS3.2/6, Ms1 3.2/6, ms1mx3.0/20, Error ellipse: s-maj=12.1km s-min=6.1km az=125.0*
*NEIC **13** 12:25:28.2±0.2, 1089N×6237W, mb4.4/8, MD4.2(TRN), Error ellipse: s-maj=4.6km s-min=3.7km az=137.0*
NEIC Felt at Cocorite, Diego Martin, Maraval, Port-of-Spain and Saint Joseph, Trinidad.
*TRN **13** 12:25:28.6, 1092N×6238W, h74km, MD4.2*
TRN Felt (II) & (III) in Port of Spain and environs and Curepe.

ISC 13 12:25:28.2±0.2, 1090N±002×6236W±002, h87km±2km, h94km±2.6km: pP-P, n105, σ1°04/139, mb4.1/27, 6C-8D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.28	152	⇑*i*P	Pn	12 25 39.1	-2.1
GUIV				*e*S	Sn	12 25 46.0	-4.8
ITEV	Isla Los Testi	0.89	301	⇓*i*P	Pn	12 25 45.1	-1.3
CRUV	Carupano	0.89	256	⇓*i*P	Pn	12 25 45.9	-0.6
CRUV				*e*S	Sn	12 25 59.5	-0.6
GUNV	Guanoco	0.93	218	⇑*i*P	Pn	12 25 46.7	-0.2
GUNV				*e*S	Sn	12 26 00.9	0.0
ALNG	Atlantic LNG	0.97	137	*e*P	Pn	12 25 47.8	+0.5
ALNG				*e*S	Sn	12 26 02.1	+0.5
TRN	Trinidad (W)	0.97	105	*e*P	Pn	12 25 47.7	+0.4
TRN				*e*S	Sn	12 26 00.4	-1.3
BUAY	Buenos Aires	1.02	140	*e*P	Pn	12 25 48.7	+0.8
BUAY				*e*S	Sn	12 26 02.8	0.0
TPP	Pointe-a-Pierr	1.06	123	*e*P	Pn	12 25 48.7	+0.3
TPP				*e*S	Sn	12 26 03.3	-0.2
SIPA	Siparia	1.12	132	*e*P	Pn	12 25 49.3	+0.1
SIPA				*e*S	Sn	12 26 05.0	+0.2
GRW	Mount Saint Ca	1.43	28	*e*P	Pn	12 25 52.8	-0.1
GRW				*e*S	Sn	12 26 09.6	-2.0
GRHS	Sauteurs	1.50	28	*e*P	Pn	12 25 53.5	-0.3
GRHS				*e*S	Sn	12 26 11.3	-1.7
GRSS	Sisters	1.57	28	*e*P	Pn	12 25 55.0	+0.2
GRIC	Isle de Caille	1.57	29	*e*P	Pn	12 25 54.7	0.0
GRIC				*e*S	Sn	12 26 13.4	-1.5
GRCU	Cariacou	1.80	29	*e*P	Pn	12 25 57.9	+0.2
GRCU				*e*S	Sn	12 26 18.7	-1.4
ORIV	Oritupano	2.09	210	⇑*e*P	Pn	12 26 01.4	-0.1
ORIV				*e*S	Sn	12 26 25.6	-1.3
PCRV	Puerto La Cruz	2.35	253	P	Pn	12 26 05.8	+0.8
	39nm,0.3s,baz=60,slow=4.7,SNR=356						
PCRV				S	Sn	12 26 33.5	+0.3
	91nm,0.3s,baz=223,slow=16,SNR=26						
PCRV	Puerto La Cruz	2.35	253	⇓*i*P	Pn	12 26 05.8	+0.8
PCRV				*e*S	Sn	12 26 33.8	+0.6
PCRV	Puerto La Cruz	2.35	253	⇓*e*P	Pn	12 26 05.8	+0.8
PCRV				*e*S	Sn	12 26 33.8	+0.6
IBAV	Isla La Blanqu	2.36	293	⇓*i*P	Pn	12 26 05.4	+0.2
IBAV				*e*S	Sn	12 26 34.4	+1.0
FCV	Fort Charlotte	2.50	26	*e*P	Pn	12 26 07.0	+0.1
FCV				*e*S	Sn	12 26 36.3	-0.2
SVB	Belmont	2.60	24	*e*P	Pn	12 26 08.5	+0.3
SVB				*e*S	Sn	12 26 40.0	+1.1
SVV	Soufriere Volc	2.65	25	*e*P	Pn	12 26 09.4	+0.4
SVV				*e*S	Sn	12 26 41.7	+1.3
SSV	Crater Summit	2.67	25	*e*P	Pn	12 26 09.2	0.0
SSV				*e*S	Sn	12 26 42.2	+1.5
GURV	El Guri	3.20	193	⇑*i*P	Pn	12 26 14.7	-1.6
GURV				*e*S	Sn	12 26 49.4	-4.0
CUPV	Cœpira	3.48	256	⇓*e*P	Pn	12 26 21.9	+1.8
CUPV				*e*S	Sn	12 27 01.5	+1.3
BIRV	Birongo	3.87	264	*e*P	Pn	12 26 26.6	+1.2
BIRV				*e*S	Sn	12 27 10.8	+1.1
ORCV	Isla La Orchil	3.87	284	*e*P	Pn	12 26 25.6	+0.2
MVM	Montagne Vaucl	3.91	21	*e*P	Pn	12 26 26.4	+0.5
MVM				*e*S	Sn	12 27 10.2	-0.5
FDF	Fort de France	3.99	17	⇓*e*P	Pn	12 26 27.1	+0.1
FDF				*e*S	Sn	12 27 08.9	-3.8
CRM	Caravelle	4.08	20	*e*P	Pn	12 26 28.4	+0.1
CRM				*e*S	Sn	12 27 13.3	-1.6
MERV	Las Mercedes	4.21	248	*e*P	Pn	12 26 30.4	+0.4
MERV				*e*S	Sn	12 27 18.0	0.0
BBL	Barber's Block	4.68	11	*e*P	Pn	12 26 38.4	+1.9
TBG	Guadaloupe-3	4.97	8	*e*P	Pn	12 26 41.9	+1.5
MGG	Marie-Galante	5.09	11	*e*P	Pn	12 26 43.9	+1.8
LUEV	Luepa	5.10	170	*e*P	Pn	12 26 39.5	-2.6
LUEV				*e*S	Sn	12 27 31.4	-8.2
PHG	Guadaloupe-2	5.14	8	*e*P	Pn	12 26 43.9	+1.3
SCG	Saint Claude	5.14	7	*e*P	Pn	12 26 44.0	+1.3
SCG				*e*S	Sn	12 27 39.9	-0.9
DOG	Dongo Capester	5.16	8	*e*P	Pn	12 26 44.9	+2.0
LZG	Guadaloupe-1	5.24	6	*e*P	Pn	12 26 45.1	+1.0
CAOV	Caicara del Or	5.28	228	*e*P	Pn	12 26 43.3	-1.3
TURV	Turiamo	5.41	266	*e*P	Pn	12 26 46.9	+0.6
TURV				*e*S	Sn	12 27 46.3	-0.9
DEG	La Desirade	5.53	13	*e*P	Pn	12 26 48.6	+0.6
SEG	Port Louis	5.54	9	*e*P	Pn	12 26 49.9	+1.8
BAUV	El Baul	5.93	251	*e*P	Pn	12 26 52.9	-0.5
BAUV				*e*S	Sn	12 27 58.3	-1.5
BAUV	El Baul	5.93	251	*e*P	Pn	12 26 52.9	-0.5
BAUV				*e*S	Sn	12 27 58.3	-1.5
JACV	Jacura	6.36	272	⇓*i*P	Pn	12 27 00.1	+0.8
TEPV	Terepaima	6.79	263	*e*P	Pn	12 27 05.9	+0.8
SANV	Sanarito	7.20	260	*e*P	Pn	12 27 11.1	+0.3
SIQV	Siquisique	7.33	269	⇑*e*P	Pn	12 27 12.8	+0.4
CURV	Curarigua	7.53	264	*e*P	Pn	12 27 16.4	+1.2
MONV	Montecano	7.54	279	*e*P	Pn	12 27 15.4	0.0
MTP	Monte Pirata	7.80	337	*e*Pn	Pn	12 27 17.9	-0.9
MTP				*e*Sn	Sn	12 28 38.5	-7.1
CPD	Cerro la Pandu	7.89	335	*e*Pn	Pn	12 27 19.6	-0.6
CPD				*e*Sn	Sn	12 28 40.0	-7.8
SJG	San Juan	8.06	333	P	Pn	12 27 22.3	-0.1
	9.5nm,0.3s,baz=336,slow=19,SNR=5.8						
SJG				S	Sn	12 28 43.6	-8.3
	23nm,0.3s,baz=326,slow=15,SNR=7.6						
SJG				LR	LR	12 30 42.4	
	comp=Z,57nm,18.6s,baz=259,slow=40						
QARV	Quebrada Arrib	8.06	266	*e*P	Pn	12 27 22.8	+0.4
DABV	Dabajuro	8.13	271	*e*P	Pn	12 27 24.1	+0.6
SDV	Santo Domingo	8.39	257	P	Pn	12 27 26.3	-0.8
	2.0nm,0.3s,baz=96,slow=7.9,SNR=20						
SDV				S	Sn	12 28 57.0	-3.1
	9.0nm,0.3s,baz=69,slow=18,SNR=11						
SDV	Santo Domingo	8.39	257	P	Pn	12 27 26.3	-0.8
SDV				S	Sn	12 28 57.0	-3.1
SOCV	Socops	8.77	254	*e*P	Pn	12 27 31.1	-1.0
VIGV	El Vigia	9.11	258	*e*P	Pn	12 27 36.6	-0.1
VIRV	Villa del Rosa	9.88	269	⇑*i*P	Pn	12 27 47.3	0.0
CAPV	Capacho	10.28	254	*e*P	Pn	12 27 52.0	-0.7
ROSC	El Rosal	13.29	244	P	Pn	12 28 34.8	+1.6
	0.4nm,0.3s,baz=252,slow=15,SNR=4.3						
JTS	JuntasAbangare	22.22	271	LR	LR	12 38 41.2	
	comp=Z,34nm,21.9s,baz=196,slow=36						
ATAH	Atahualpa	23.89	223	P	P	12 30 37.1	+3.4
	3.2nm,0.4s,mb4.0,baz=91,slow=6.3,SNR=5.1						
SIV	San Ignacio	26.74	177	P	P	12 31 01.0	+1.5
	5.2nm,0.6s,mb4.2,baz=11,slow=9.4,SNR=40						
LPAZ	La Paz	27.61	192	P	P	12 31 09.3	+2.0
	1.1nm,0.8s,mb3.5,baz=19,slow=10,SNR=5.4						
LPAZ	La Paz	27.61	192	P	P	12 31 09.3	+2.0
BDFB	Brasilia	29.95	151	P	P	12 31 29.8	+1.8
	2.5nm,0.6s,mb4.0,baz=352,slow=7.1,SNR=3.4						
BDFB				LR	LR	12 44 43.2	
	comp=Z,44nm,21.7s,baz=238,slow=38						
LVC	Limon Verde	33.91	191	P	P	12 32 03.2	+0.5
	2.4nm,0.7s,mb4.1,baz=29,slow=12,SNR=3.0						
CPUP	Villa Florida	37.32	173	P	P	12 32 31.6	-0.4
	2.0nm,0.5s,mb4.3,baz=339,slow=8.1,SNR=9.3						
CPUP				PcP	PcP	12 34 50.2	+0.7
	1.4nm,0.6s,baz=346,slow=4.2,SNR=3.6						
CPUP				LR	LR	12 47 30.0	
	comp=Z,32nm,18.4s,baz=147,slow=35						
CPUP	Villa Florida	37.32	173	*e*P	P	12 32 32.0	+0.1
CPUP				*e*pP	pP	12 32 51.4	-1.0
CPUP				PcP	PcP	12 34 50.2	+0.7
CPUP				LR	LR	12 47 30.0	
JCT	Junction City	39.83	305	*e*P	P	12 32 52.5	-0.5
	4.2nm,0.5s,mb4.5						
JCT				*e*pP	pP	12 33 13.8	+0.3
SCHQ	Schefferville	43.97	356	P	P	12 33 26.1	-0.5
	2.3nm,0.6s,mb4.1,baz=173,slow=5.7,SNR=6.0						
SCHQ				pP	pP	12 33 46.9	-0.6
	2.0nm,0.6s,baz=180,slow=10,SNR=2.5						
MNTX	Cornudas Mount	44.74	304	*e*P	P	12 33 31.7	-1.1
	1.1nm,0.7s,mb3.7						
MNTX				*e*pP	pP	12 33 54.9	+1.2
LPM	Los Pinos Moun	46.57	307	*e*P	P	12 33 46.5	-0.6
ANMO	Albuquerque	46.65	308	P	P	12 33 46.9	-0.9
	1.0nm,0.5s,mb3.8,baz=123,slow=7.3,SNR=5.7						
ANMO	Albuquerque	46.65	308	P	P	12 33 46.9	-0.9
LAZ	Ladron	46.99	307	*e*P	P	12 33 49.5	-1.0
LAZ				*e*pP	pP	12 34 13.8	+2.2
ULM	Lac du Bonnet	47.96	331	P	P	12 33 54.6	-3.4
	2.2nm,0.5s,mb4.3,baz=129,slow=7.7,SNR=8.9						
ULM				PcP	PcP	12 35 22.2	-2.7
	1.6nm,0.5s,baz=106,slow=2.7,SNR=3.6						
PV01	Paradox Valley	49.35	311	*e*P	P	12 34 08.8	+0.2
SRU	San Rafael	51.12	312	*e*P	P	12 34 21.5	-0.5
	1.8nm,0.8s,mb4.2						
PDAR	Pinedale Array	51.80	317	P	P	12 34 25.6	-1.4
	3.3nm,0.6s,mb4.5,baz=112,slow=9.6,SNR=33						
PDAR				pP	pP	12 34 48.3	-0.1
	0.7nm,0.5s,baz=117,slow=9.5,SNR=2.4						
PDAR				PcP	PcP	12 35 36.6	-2.4
	0.6nm,0.6s,baz=114,slow=6.0,SNR=2.4						
PLCA	Paso Flores	51.92	188	P	P	12 34 28.9	+0.9
	2.1nm,0.9s,mb4.1,baz=12,slow=11,SNR=2.5						
PLCA				PcP	PcP	12 35 40.1	+0.7
	1.4nm,0.6s,baz=0.0,slow=2.0,SNR=4.1						
PLCA				LR	LR	12 56 48.9	
	comp=Z,77nm,21.9s,baz=168,slow=36						
HWUT	Hardware Ranch	52.74	314	*e*P	P	12 34 33.0	-1.0
	2.0nm,0.7s,mb4.3						
BGU	Big Grassy Mou	53.54	313	*e*P	P	12 34 38.7	-1.2
NVAR	Mina Array Bea	56.76	309	P	P	12 35 02.8	-0.3
	0.4nm,0.6s,mb3.6,baz=119,slow=5.6,SNR=4.2						
NVAR				pP	pP	12 35 25.5	+0.7
	0.6nm,0.7s,baz=97,slow=7.4,SNR=3.1						
ESDC	Sonseca Array	58.89	50	P	P	12 35 19.3	+1.3
	2.7nm,0.7s,mb4.4,baz=246,slow=7.4,SNR=9.4						
TORD	Torodi Ar. Bea	62.54	81	P	P	12 35 43.4	+0.7
	0.7nm,0.6s,mb3.8,baz=282,slow=6.3,SNR=10.0						
YKA	Yellowknife Ar	63.54	336	P	P	12 35

Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.31**	**214**	P	Pn	13 20 36.0	+2.0
	19nm,0.3s,baz=277,slow=20,SNR=38						
ROSC				S	Sn	13 21 05.1	+1.0
	18nm,0.3s,baz=276,slow=22,SNR=7.3						
SDV	**Santo Domingo**	**3.17**	**49**	P	Pn	13 20 46.0	+1.3
	15nm,0.3s,baz=237,slow=2.8,SNR=114						
SDV				S	Sn	13 21 23.4	+0.3
	11nm,0.3s,baz=268,slow=19,SNR=14						
PCRV	**Puerto La Cruz**	**8.96**	**67**	P	Pn	13 22 02.5	+1.2
	0.8nm,0.3s,baz=36,slow=12,SNR=4.5						
SCHQ	**Schefferville**	**48.17**	**5**	P	P	13 28 20.2	+0.5
	3.2nm,0.9s,baz=232,slow=8.0,SNR=3.6						
YKA	**Yellowknife Ar**	**63.32**	**340**	P	P	13 30 07.1	-0.5
	0.8nm,0.6s,baz=133,slow=6.9,SNR=6.0						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	PKPbc	13 39 25.6	+0.4
	0.6nm,0.6s,baz=115,slow=3.4,SNR=16						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	PKPbc	13 39 28.7	+0.5
	0.2nm,0.6s,baz=107,slow=2.7,SNR=7.4						

MAN 13 13:58:58.9, 1845N×12089E, h41km, mb2.1, ML3.8, MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.68**	**150**	*e*P	Pn	13 59 13.0	+1.0
APYP				*e*S	Sn	13 59 24.2	+2.8
ABRA	**Dolores**	**0.81**	**192**	*e*P	Pn	13 59 14.6	+0.7
ABRA				*e*S	Sn	13 59 27.4	+2.7
SGCP	**Mt. Cagua**	**1.12**	**100**	*e*P	Pn	13 59 18.8	+0.7
CVP	**Callao Caves**	**1.16**	**130**	*e*P	Pn	13 59 19.0	+0.4
CVP				*e*S	Sn	13 59 34.0	+0.8
CAUP	**Cauayan**	**1.74**	**149**	*e*P	Pn	13 59 28.8	+2.1
BALP	**Baler**	**2.77**	**166**	*e*P	Pn	13 59 41.7	+0.9

*ATH **13** 14:04:27.1, 3644N×2780E, h56km, MD3.1/3*
*CSEM **13** 14:04:27.2±0.1, 3644N×2761E, h14km±1km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.1km az=67.0*
*ISK **13** 14:04:27.5, 3646N×2759E, h18km, MD2.8*
*ISCJB **13** 14:04:28.1±0.7, 3646N±003×2760E±005, h11km±6km, Error ellipse: s-maj=7.3km s-min=4.5km az=134.3*

ISC 13 14:04:28.3±0.7, 3645N±003×2759E±005, h15km±6km, n12, σ0§80/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.28**	**359**	*i* PG	**Pg**	**14 04 33.9**	**-0.3**
DAT				*i* SG	**Sg**	**14 04 38.1**	**-0.1**
ARG	**Arkhangelos**	**0.50**	**118**	*e*P	**Pg**	**14 04 37.7**	**-0.4**
ARG				*e*S	**Sg**	**14 04 44.9**	**+0.1**
BDRM	**Kayabasi**	**0.62**	**350**	*i* P	**Pg**	**14 04 40.2**	**-0.3**
BDRM				*i* S	**Sg**	**14 04 49.0**	**+0.3**
BODT	**Bodrum**	**0.65**	**340**	PG	**Pg**	**14 04 40.7**	**-0.3**
BODT				SG	**Sg**	**14 04 51.0**	**+1.5**
MLSB	**Milas**	**0.85**	**10**	*e*PG	**Pg**	**14 04 44.4**	**-0.5**
MLSB				*e*SG	**Sg**	**14 04 56.0**	**-0.1**
YER	**Yerkesik**	**0.88**	**39**	PG	**Pg**	**14 04 45.2**	**-0.2**
DALT	**Dalyan (Mudla)**	**0.90**	**69**	PG	**Pg**	**14 04 44.6**	**-1.2**
DALT				SG	**Sg**	**14 04 59.2**	**+1.5**
KARP	**Karpathos**	**0.97**	**201**	*e*P	**Pb**	**14 04 46.4**	**-0.3**
KARP				*e*S	**Sb**	**14 05 00.4**	**+1.1**
FETY	**Fethiye**	**1.22**	**81**	*e*PN	**Pn**	**14 04 50.4**	**-0.4**
AYDN	**Tasoluk**	**1.23**	**11**	*i* P	**Pn**	**14 04 49.5**	**-1.4**
AYDN				*i* S	**Sb**	**14 05 07.1**	**+0.2**
SMG	**Samos**	**1.39**	**335**	*e*P	**Pn**	**14 04 52.5**	**-0.6**
DNZL	**Cakiroluk**	**1.70**	**43**	*i* P	**Pn**	**14 04 59.0**	**+1.6**
DNZL				*i* S	**Sn**	**14 05 25.1**	**+6.3**

*BJI **13** 14:15:37.6, 4022N×1960E, h28km, mB4.9, mb4.7, Ms4.8, Msz4.5*
*LDG **13** 14:15:37.1±0.2, 4036N×1999E, h10km, Mb5.0/33, Ms3.6/7, Error ellipse: s-maj=12.7km s-min=5.4km az=18.0*
*MOS **13** 14:15:38.4±1.2, 4026N×1985E, h10km, mb4.7/27, MS4.0/20, Error ellipse: s-maj=3.1km s-min=2.3km az=109.4*
*TIR **13** 14:15:38.8, 4024N×2008E, h0km, Ml4.8*
*PDG **13** 14:15:38.9±1.0, 4028N×1994E, h2km±2km*
*ATH **13** 14:15:38.3, 4027N×1996E, h10km±1km, MD4.6/20, ML4.8*
*ISCJB **13** 14:15:38.9±0.3, 4028N±001×1992E±001, h10km±2km, mb4.5/39, MS4.2/30, Error ellipse: s-maj=1.9km s-min=1.3km az=54.6*
*NEIC **13** 14:15:38.3, 4027N×1996E, h10km, mb4.5/19, ML4.0(BUC), ML4.5(CSEM), ML4.5(PDG), ML4.5(ROM), ML4.8(ATH), After ATH.*
NEIC One person slightly injured and at least 12 houses damaged at Tepelene.
*ROM **13** 14:15:38.4±0.3, 4018N×2014E, h10km, Ml4.5/42, Error ellipse: s-maj=4.1km s-min=1.9km az=86.0*
*THE **13** 14:15:39.6, 4026N×1995E, h10km, ML4.6*
*IDC **13** 14:15:41.4±3.6, 4032N×1994E, h18km±23km, mb4.2/18, mb1 4.3/29, mb1mx4.2/35, mbtmp4.3/29, ML4.0/11, MS4.0/21, Ms1 4.0/21, ms1mx3.8/33, Error ellipse: s-maj=10.6km s-min=9.0km az=83.0*
*CSEM **13** 14:15:41.5, 4032N×1993E, h30km, ML4.5*
*HLW **13** 14:15:41.3, 3939N×1840E, h33km, Mb4.2*

ISC 13 14:15:39.6±0.3, 4026N±001×1994E±001, h1km±2km, n650, σ1§27/736, mb4.5/39, MS4.2/30, 43C-29D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.07**	**59**	*i* Pg	**Pg**	**14 15 40.0**	**-0.9**
TPE				*i* Sg	**Sg**	**14 15 41.3**	**-0.5**
SRN	**Sarande**	**0.38**	**172**	*i* Pg	**Pg**	**14 15 45.9**	**-1.0**
SRN				*i* Sg	**Sg**	**14 15 51.8**	**-0.1**
LSK	**Leskovik**	**0.52**	**102**	*i* Pg	**Pg**	**14 15 47.0**	**-2.6**
LSK				*i* Sg	**Sg**	**14 15 55.4**	**-0.9**
KEK	**Kerkira**	**0.56**	**191**	Pn	**Pg**	**14 15 49.1**	**-1.2**
KEK				Sn	**Sg**	**14 15 58.7**	**+1.2**
	48μm,1.5s						
KEK	**Kerkira**	**0.56**	**191**	*e*PG	**Pg**	**14 15 49.0**	**-1.3**
KEK				*e*SB	**Sg**	**14 15 57.0**	**-0.5**
KBN	**Korca**	**0.74**	**61**	*i* Pg	**Pg**	**14 15 52.0**	**-1.9**
KBN				*i* Sg	**Sg**	**14 16 04.3**	**+0.8**
KBN	**Korca**	**0.74**	**61**	*e*Pg	**Pg**	**14 15 52.0**	**-1.9**
KBN				*e*Sg	**Sg**	**14 16 04.3**	**+0.8**
IGT	**Igoumenitsa**	**0.79**	**157**	*e*Pg	**Pg**	**14 15 53.0**	**-1.8**
IGT				*e*Sg	**Sg**	**14 16 07.1**	**+2.2**
JAN	**Janina**	**0.93**	**130**	*e*PG	**Pg**	**14 15 55.1**	**-2.3**
JAN				*e*SB	**Sg**	**14 16 07.4**	**-2.0**
OHR	**Ohrid**	**1.07**	**37**	*e*Pg	**Pg**	**14 15 57.2**	**-3.0**
OHR	**Ohrid**	**1.07**	**37**	*i* Pn	**Pn**	**14 15 58.1**	**-3.7**
OHR				*i* Sn	**Sn**	**14 16 16.4**	**-0.9**
OHR	**Ohrid**	**1.07**	**37**	*i* Pn	**Pn**	**14 15 58.0**	**-3.7**
OHR				*i* Sn	**Sn**	**14 16 16.3**	**-1.0**
TIR	**Tirane**	**1.09**	**357**	Pn	**Pn**	**14 16 00.8**	**-1.1**
	25μm,1.3s						
TIR	**Tirane**	**1.09**	**357**	*e*Pg	**Pg**	**14 16 01.4**	**+1.0**
TIR	**Tirane**	**1.09**	**357**	P	**Pg**	**14 16 01.4**	**+1.0**
MEV	**Metsovon**	**1.10**	**115**	*e*Pg	**Pg**	**14 15 58.1**	**-2.6**
SCTE	**Santa Cesarea**	**1.14**	**261**	Pn	**Pn**	**14 16 01.9**	**-0.7**
SCTE				Sn	**Sn**	**14 16 19.7**	**+0.8**
	26μm,1.2s						
FNA	**Florina**	**1.22**	**64**	*e*Pg	**Pg**	**14 15 59.7**	**-3.2**
BIA	**Bitola**	**1.30**	**54**	*e*Pg	**Pg**	**14 16 00.8**	**-3.8**
BIA				*e*Sg	**Sg**	**14 16 23.1**	**+1.7**
BIA	**Bitola**	**1.30**	**54**	*i* Pn	**Pn**	**14 16 01.5**	**-3.4**
BIA				*i* Sn	**Sn**	**14 16 23.7**	**+0.9**
BIA	**Bitola**	**1.30**	**54**	*i* Pn	**Pn**	**14 16 01.4**	**-3.5**
BIA				S	**Sg**	**14 16 23.1**	**+1.7**
BIA				*i* Sn	**Sn**	**14 16 23.7**	**+0.8**
LACI	**Lac**	**1.39**	**353**	*i* Pn	**Pn**	**14 16 07.1**	**+1.1**
LACI				*i* Sn	**Sn**	**14 16 28.1**	**+3.2**
LACI	**Lac**	**1.39**	**353**	*e*Pn	**Pn**	**14 16 07.1**	**+1.1**
LCI	**Lecce**	**1.40**	**274**	Pn	**Pn**	**14 16 06.1**	**-0.1**
	2μm,0.8s						
LCI	**Lecce**	**1.40**	**274**	P	**Pn**	**14 16 06.0**	**-0.2**
KZN	**Kozani**	**1.41**	**88**	*e*PG	**Pn**	**14 16 04.1**	**-2.2**
KZN				*e*SB	**Sg**	**14 16 23.0**	**-1.7**
PHP	**Peshkopia**	**1.47**	**15**	*i* Pn	**Pn**	**14 16 07.6**	**+0.4**
PHP				*i* Sn	**Sg**	**14 16 32.1**	**+5.1**
PHP	**Peshkopia**	**1.47**	**15**	*e*Pn	**Pn**	**14 16 07.6**	**+0.4**
LKD	**Levkas**	**1.65**	**160**	*e*Pb	**Pb**	**14 16 08.9**	**-1.8**
LKD				*e*Sb	**Sb**	**14 16 33.5**	**+1.6**
ULC	**Ulcinj**	**1.78**	**343**	⇑*i*Pn	**Pn**	**14 16 11.2**	**-0.2**
ULC				*e*Sn	**Sn**	**14 16 36.4**	**+1.8**
KKS	**Kukesi**	**1.85**	**11**	*i* Pn	**Pb**	**14 16 15.2**	**+1.0**
KKS	**Kukesi**	**1.85**	**11**	*e*Pn	**Pb**	**14 16 15.2**	**+1.0**
LIT	**Litokhoron**	**1.96**	**94**	*e*Pb	**Pn**	**14 16 13.6**	**-0.4**
EVR	**Evrytania**	**1.97**	**132**	*e*PN	**Pn**	**14 16 14.0**	**-0.1**
EVR				*e*SN	**Sn**	**14 16 39.6**	**+0.1**
PE1	**Pezze di Greco**	**1.99**	**287**	⇑*i*Pn	**Pn**	**14 16 14.3**	**0.0**
GRG	**Griva**	**2.00**	**69**	*e*Pn	**Pn**	**14 16 14.2**	**-0.3**
GRG				*e*Sn	**Sn**	**14 16 43.3**	**+3.1**
SKO	**Skopje**	**2.05**	**33**	*e*Pn	**Pn**	**14 16 16.1**	**+0.9**
SKO	**Skopje**	**2.05**	**33**	*i* Pn	**Pn**	**14 16 16.4**	**+1.2**
SKO	**Skopje**	**2.05**	**33**	*i* Pn	**Pn**	**14 16 16.3**	**+1.1**
BCI	**Bajram Curri**	**2.11**	**3**	*i* Pn	**Pn**	**14 16 18.5**	**+2.6**
BCI				*i* Sn	**Sn**	**14 16 48.0**	**+5.2**
BCI	**Bajram Curri**	**2.11**	**3**	*e*Pn	**Pn**	**14 16 18.5**	**+2.6**
VLS	**Valsamata**	**2.14**	**166**	*e*PN	**Pn**	**14 16 16.4**	**0.0**
VLS				*e*SN	**Sn**	**14 16 44.5**	**+0.9**
BUM	**Brajici-Budva**	**2.18**	**339**	⇑*i*Pn	**Pn**	**14 16 17.1**	**+0.1**
BUM				*e*Sn	**Sn**	**14 16 46.0**	**+1.4**
AGG	**Agios Georgios**	**2.23**	**123**	*e*Pn	**Pn**	**14 16 18.8**	**+1.2**
TTG	**Podgorica**	**2.23**	**347**	⇑*i*Pn	**Pn**	**14 16 17.8**	**+0.2**
TTG				*e*Sn	**Sn**	**14 16 47.7**	**+2.0**
STIP	**Stip**	**2.23**	**49**	*i* Pn	**Pn**	**14 16 18.0**	**+0.4**
STIP				*i* Sn	**Sn**	**14 16 52.1**	**+6.4**
STIP	**Stip**	**2.23**	**49**	*i* Pn	**Pn**	**14 16 17.9**	**+0.3**
NOCI	**Noci**	**2.25**	**284**	Pn	**Pn**	**14 16 17.7**	**-0.2**
	8μm,1.5s						
VAY	**Valandovo**	**2.26**	**61**	*e*Pn	**Pn**	**14 16 17.1**	**-1.0**
VAY	**Valandovo**	**2.26**	**61**	*i* Pn	**Pn**	**14 16 17.1**	**-1.0**
VAY				*i* Sn	**Sn**	**14 16 49.0**	**+2.3**
VAY	**Valandovo**	**2.26**	**61**	*i* Pn	**Pn**	**14 16 17.0**	**-1.1**
PVY	**Plav**	**2.33**	**1**	⇑*i*Pn	**Pn**	**14 16 19.9**	**+0.8**
PVY				*e*Sn	**Sn**	**14 16 50.0**	**+1.7**
THE	**Thessaloniki**	**2.34**	**80**	*e*Pn	**Pn**	**14 16 18.3**	**-0.8**
KNT	**Kendrikon**	**2.43**	**67**	*e*Pn	**Pn**	**14 16 19.8**	**-0.5**
HCY	**Herceg Novi**	**2.44**	**334**	⇑*i*Pn	**Pn**	**14 16 19.8**	**-0.7**
HCY				*e*Sn	**Sn**	**14 16 52.5**	**+1.5**
BAI	**Bari**	**2.47**	**291**	*e*Pn	**Pn**	**14 16 20.9**	**-0.1**
RLS	**Riolos of Patr**	**2.50**	**151**	*e*PN	**Pn**	**14 16 21.7**	**+0.3**
RLS				*e*SN	**Sn**	**14 16 52.9**	**+0.4**
SG1	**Sgolgore (BA)**	**2.55**	**284**	*e*Pn	**Pn**	**14 16 21.8**	**-0.2**
IVA	**Berane**	**2.61**	**359**	⇑*i*Pn	**Pn**	**14 16 23.6**	**+0.7**
IVA				*e*Sn	**Sn**	**14 16 56.4**	**+1.2**
AMUR	**Altamura**	**2.62**	**285**	⇑*i*Pn	**Pn**	**14 16 22.9**	**-0.1**
	2μm,1.0s						
NKY	**Niksic**	**2.65**	**345**	⇑*i*Pn	**Pn**	**14 16 23.8**	**+0.5**
NKY				*e*Sn	**Sn**	**14 16 57.2**	**+1.1**
XOR	**Xorichti**	**2.66**	**109**	*e*Pn	**Pn**	**14 16 24.2**	**+0.6**
SOH	**Sokhos**	**2.67**	**77**	*e*Pn	**Pn**	**14 16 23.3**	**-0.3**
TIP	**Timpagrande**	**2.68**	**247**	Pn	**Pn**	**14 16 23.7**	**-0.1**
	405nm,0.9s						
TIP	**Timpagrande**	**2.68**	**247**	*e*Pn	**Pn**	**14 16 23.0**	**-0.8**
TIP				Pn	**Pn**	**14 16 23.7**	**-0.1**
ORI	**Oriolo Calabro**	**2.68**	**267**	Pn	**Pn**	**14 16 24.7**	**+0.9**
	3μm,0.7s						
ORI	**Oriolo Calabro**	**2.68**	**267**	Pn	**Pn**	**14 16 24.7**	**+0.9**
ORI				P		14 16 25.0	
ORI	**Oriolo Calabro**	**2.68**	**267**	P	**Pn**	**14 16 25.0**	**+1.2**
PLG	**Polygyros**	**2.69**	**86**	*e*PN	**Pn**	**14 16 23.5**	**-0.4**
PLG				*e*SN	**Sn**	**14 16 56.9**	**-0.2**
NEO	**Neokhori**	**2.71**	**110**	*e*PN	**Pn**	**14 16 24.6**	**+0.4**
NEO				*e*SN	**Sn**	**14 16 57.7**	**+0.1**
TREB	**Trebinje**	**2.73**	**335**	P	**Pn**	**14 16 23.7**	**-0.8**
TREB				S	**Sn**	**14 16 58.5**	**+0.4**
SERS	**Sersale**	**2.79**	**245**	Pn	**Pn**	**14 16 24.3**	**-1.0**
	3μm,1.7s						
BRY	**Bratogost**	**2.84**	**339**	⇑*i*Pn	**Pn**	**14 16 26.4**	**+0.4**
BRY				*e*Sn	**Sn**	**14 17 02.0**	**+1.3**
LKR	**Lokris**	**2.87**	**123**	*e*PN	**Pn**	**14 16 26.9**	**+0.5**
LKR				*e*SN	**Sn**	**14 17 02.0**	**+0.5**
KKB	**Krupnik**	**2.87**	**55**	P	**Pn**	**14 16 27.3**	**+0.9**
CDT	**Castel del Mon**	**2.90**	**288**	*e*Pn	**Pn**	**14 16 26.9**	**0.0**
SCHR	**S. Chirico Rap**	**2.96**	**270**	Pn	**Pn**	**14 16 28.1**	**+0.5**
	5μm,2.0s						
PTRP	**Pietrapertosa**	**2.97**	**276**	Pn	**Pn**	**14 16 28.6**	**+0.8**
	142nm,4.1s						
SJES	**Sjenica**	**3.01**	**0**	Pn	**Pn**	**14 16 30.8**	**+2.5**
UPM	**Unac-Piva**	**3.04**	**346**	*e*Pn	**Pn**	**14 16 28.3**	**-0.5**
UPM				*e*Sn	**Sn**	**14 17 06.7**	**+1.0**
GRI	**Girifalco**	**3.07**	**243**	Pn	**Pn**	**14 16 28.7**	**-0.5**
	333nm,0.9s						
PLE	**Pljevlja**	**3.09**	**353**	⇑*i*Pn	**Pn**	**14 16 30.4**	**+0.8**
PLE				*e*Sn	**Sn**	**14 17 08.3**	**+1.2**
OUR	**Ouranopolis**	**3.10**	**87**	*e*Pn	**Pn**	**14 16 29.6**	**0.0**
STON	**Ston**	**3.10**	**328**	*i* Pn	**Pn**	**14 16 29.4**	**-0.2**
STON	**Ston**	**3.10**	**328**	*i* Pn	**Pn**	**14 16 29.3**	**-0.3**
STON	**Ston**	**3.10**	**328**	P	**Pn**	**14 16 30.4**	**+0.8**
MMB	**Musomiste**	**3.17**	**64**	P	**Pn**	**14 16 30.6**	**+0.1**
CUC	**Castrocucco**	**3.17**	**266**	Pn	**Pn**	**14 16 31.8**	**+1.2**
	5μm,1.7s						
CUC	**Castrocucco**	**3.17**	**266**	P	**Pn**	**14 16 31.4**	**+0.8**
CUC				Pn	**Pn**	**14 16 31.8**	**+1.2**
NVR	**Nevrokopi**	**3.17**	**69**	*e*PN	**Pn**	**14 16 30.2**	**-0.4**
NVR				*e*SN	**Sn**	**14 17 08.7**	**-0.4**
PLAC	**Placanica**	**3.26**	**237**	Pn	**Pn**	**14 16 31.0**	**-0.8**
	296nm,1.1s						
SLCN	**Sala Consilina**	**3.29**	**274**	Pn	**Pn**	**14 16 32.9**	**+0.7**
	1μm,0.8s						
SLCN	**Sala Consilina**	**3.29**	**274**	P	**Pn**	**14 16 33.0**	**+0.8**
FGMS	**Monte Sant'Ang**	**3.34**	**297**	Pn	**Pn**	**14 16 33.2**	**+0.3**
	545nm,0.7s						
FGMS	**Monte Sant'Ang**	**3.34**	**297**	P	**Pn**	**14 16 33.1**	**+0.2**
MS1	**Monte Sant'Ang**	**3.35**	**297**	*e*Pn	**Pn**	**14 16 32.9**	**-0.1**
MGR	**Morigerati**	**3.36**	**269**	Pn	**Pn**	**14 16 34.1**	**+1.0**
	4μm,1.8s						
MGR	**Morigerati**	**3.36**	**269**	Pn	**Pn**	**14 16 34.1**	**+1.0**
MGR				P		14 16 34.2	
MSAG	**Monte S. Angel**	**3.38**	**297**	Pn	**Pn**	**14 16 33.4**	**0.0**
	2μm,0.9s						
VTS	**Vitosha**	**3.39**	**46**	*e*Pn	**Pn**	**14 16 34.3**	**+0.7**
VTS	**Vitosha**	**3.39**	**46**	⇓*i*P	**Pn**	**14 16 34.7**	**+1.1**
MRLC	**Muro Lucano**	**3.43**	**280**	Pn	**Pn**	**14 16 34.7**	**+0.6**
	3μm,1.3s						
MRLC	**Muro Lucano**	**3.43**	**280**	P	**Pn**	**14 16 34.6**	**+0.5**
MGER	**Gerania Oros**	**3.44**	**130**	*e*PN	**Pn**	**14 16 34.0**	**-0.3**
ITM	**Ithomi**	**3.45**	**153**	*e*PN	**Pn**	**14 16 35.3**	**+0.9**
ITM				*e*SN	**Sn**	**14 17 16.7**	**+0.9**
FG4	**Candela**	**3.47**	**286**	Pn	**Pn**	**14 16 35.5**	**+0.8**
	2μm,0.9s						
FG4	**Candela**	**3.47**	**286**	P	**Pn**	**14 16 35.4**	**+0.7**
SGRT	**San Giovanni R**	**3.50**	**297**	Pn	**Pn**	**14 16 35.2**	**0.0**
	2μm,0.9s						
CMPR	**Campora**	**3.54**	**272**	Pn	**Pn**	**14 16 36.6**	**+0.9**
	8μm,3.1s						
CDRU	**Civita di Ruta**	**3.54**	**275**	Pn	**Pn**	**14 16 35.9**	**+0.2**
	5μm,2.7s						
SGO	**Sicignano**	**3.55**	**276**	Pn	**Pn**	**14 16 36.3**	**+0.6**
	205nm,0.8s						
SGO	**Sicignano**	**3.55**	**276**	P	**Pn**	**14 16 36.1**	**+0.4**
SGO				Pn	**Pn**	**14 16 36.3**	**+0.6**
SGTA	**Sant Agata di**	**3.58**	**286**	Pn	**Pn**	**14 16 36.6**	**+0.4**
	2μm,0.9s						
RGNG	**Rignano Grg**	**3.58**	**295**	Pn	**Pn**	**14 16 36.3**	**+0.1**
RGNG	**Rignano Grg**	**3.58**	**295**	P	**Pn**	**14 16 36.2**	**0.0**
BBLS	**Bajina Basta -**	**3.63**	**354**	*i* Pn	**Pn**	**14 16 38.0**	**+1.1**
CAFE	**Carife**	**3.66**	**284**	Pn	**Pn**	**14 16 37.5**	**+0.3**
	3μm,1.4s						
SNAL	**S. Angelo Dei**	**3.66**	**282**	Pn	**Pn**	**14 16 37.7**	**0.4**
	5μm,1.2s						
MCRV	**Calabrutti - M**	**3.67**	**280**	Pn	**Pn**	**14 16 37.3**	**-0.1**
	2μm,1.5s						
GRUS	**Gruza**	**3.67**	**9**	*i* Pn	**Pn**	**14 16 37.8**	**+0.3**
FG5	**Orsara di Pugl**	**3.69**	**288**	Pn	**Pn**	**14 16 38.7**	**+1.0**
	3μm,1.3s						
CEL	**Celeste**	**3.72**	**239**	Pn	**Pn**	**14 16 37.1**	**-1.0**
	847nm,1.1s						
CEL	**Celeste**	**3.72**	**239**	P	**Pn**	**14 16 36.8**	**-1.3**
CEL				Pn	**Pn**	**14 16 37.1**	**-1.0**
ATH	**Athens Observa**	**3.72**	**127**	*e*PN	**Pn**	**14 16 38.3**	**+0.1**
ATH				*e*SN	**Sn**	**14 17 22.5**	**-0.2**
SOI	**Samo**	**3.72**	**235**	Pn	**Pn**	**14 16 37.3**	**-0.9**
	238nm,0.7s						
NAIG	**Nisos Aigina**	**3.73**	**131**	*e*PN	**Pn**	**14 16 38.0**	**-0.2**
PTL	**Penteli**	**3.77**	**125**	*e*PN	**Pn**	**14 16 39.1**	**+0.3**
CSSN	**Cassano Irpino**	**3.79**	**281**	Pn	**Pn**	**14 16 41.1**	**+2.0**
	237nm,0.8s						
CSSN	**Cassano Irpino**	**3.79**	**281**	P	**Pn**	**14 16 40.7**	**+1.6**
CSSN				Pn	**Pn**	**14 16 41.1**	**+2.0**
DIVS	**Divcibare**	**3.84**	**1**	⇑*i*Pn	**Pn**	**14 16 39.9**	**+0.1**
DIVS	**Divcibare**	**3.84**	**1**	*e*Pn	**Pn**	**14 16 40.8**	**+1.1**
SCLL	**Scilla**	**3.84**	**240**	Pn	**Pn**	**14 16 38.8**	**-1.0**
	70nm,1.0s						
SCLL	**Scilla**	**3.84**	**240**	Pn	**Pn**	**14 16 38.8**	**-1.0**
SCLL				P		14 16 40.0	
SCLL	**Scilla**	**3.84**	**240**	P	**Pn**	**14 16 40.0**	**+0.2**
KVR	**Kavouri**	**3.85**	**128**	*e*PN	**Pn**	**14 16 40.5**	**+0.6**
BOLS	**Boljevac**	**3.87**	**22**	⇑*i*Pn	**Pn**	**14 16 40.1**	**-0.2**
BOLS				Sn	**Sn**	**14 17 25.6**	**-0.7**
RZN	**Rozhen**	**3.89**	**67**	P	**Pn**	**14 16 40.5**	**0.0**
FG2	**Serracapriola**	**3.93**	**295**	Pn	**Pn**	**14 16 41.6**	**+0.6**
	3μm,0.8s						
FG2	**Serracapriola**	**3.93**	**295**	P	**Pn**	**14 16 41.5**	**+0.5**
MSRU	**Castanea**	**3.97**	**241**	Pn	**Pn**	**14 16 40.7**	**-0.9**
	993nm,1.4s						
MSI	**Messina ING**	**3.97**	**240**	P	**Pn**	**14 16 42.3**	**+0.7**
MTTG	**Motta San Giov**	**4.00**	**237**	Pn	**Pn**	**14 16 41.1**	**-0.8**
	299nm,0.8s						
MTTG	**Motta San Giov**	**4.00**	**237**	Pn	**Pn**	**14 16 41.1**	**-0.8**
MTTG				P		14 16 41.3	
PSB1	**Pescosannita**	**4.01**	**286**	Pn	**Pn**	**14 16 43.3**	**+1.2**
	1μm,1.5s						
PSB1	**Pescosannita**	**4.01**	**286**	Pn	**Pn**	**14 16 43.3**	**+1.2**
PSB1				P		14 16 43.4	
PSB1	**Pescosannita**	**4.01**	**286**	P	**Pn**	**14 16 43.4**	**+1.3**
CIGN	**Sant'Elia a Pi**	**4.05**	**292**	Pn	**Pn**	**14 16 42.9**	**+0.2**
	12μm,3.3s						
CIGN	**Sant'Elia a Pi**	**4.05**	**292**	Pn	**Pn**	**14 16 42.9**	**+0.2**
CIGN				P		14 16 43.5	
CIGN	**Sant'Elia a Pi**	**4.05**	**292**	P	**Pn**	**14 16 43.5**	**+0.8**
SACR	**S. Croce Del S**	**4.13**	**288**	Pn	**Pn**	**14 16 45.1**	**+1.4**
	6μm,2.7s						
SVIS	**Svilajnac**	**4.14**	**13**	⇓*i*Pn	**Pn**	**14 16 44.1**	**+0.2**
SVIS				Sn	**Sn**	**14 17 30.7**	**-2.4**
BSSO	**Busso**	**4.25**	**289**	Pn	**Pn**	**14 16 47.1**	**+1.7**
	446nm,0.7s						
VLI	**Veliai**	**4.25**	**145**	*e*PN	**Pn**	**14 16 46.0**	**+0.6**
VLI				*e*SN	**Sn**	**14 17 35.8**	**+0.2**
VPL	**Vulcano Piano**	**4.28**	**246**	Pn	**Pn**	**14 16 45.8**	**0.0**
	823nm,1.3s						
MMME	**Mongiuffi-Meli**	**4.32**	**239**	Pn	**Pn**	**14 16 46.3**	**-0.1**
	483nm,1.3s						
FRES	**Fresagrandinar**	**4.33**	**295**	Pn	**Pn**	**14 16 47.4**	**+0.9**
	2μm,1.1s						
TRIV	**Trivento**	**4.34**	**292**	Pn	**Pn**	**14 16 47.8**	**+1.1**
	1μm,1.2s						
KDZ	**Kurdzhali**	**4.38**	**70**	P	**Pn**	**14 16 46.2**	**-1.0**
VAGA	**Valle Agricola**	**4.48**	**287**	Pn	**Pn**	**14 16 49.9**	**+1.4**
	805nm,1.1s						
CII	**Carovilli**	**4.50**	**291**	Pn	**Pn**	**14 16 50.4**	**+1.5**
	728nm,0.9s						
MIDA	**Miranda**	**4.52**	**290**	Pn	**Pn**	**14 16 50.4**	**+1.3**
MOCO	**Biccari - m.te**	**4.52**	**286**	Pn	**Pn**	**14 16 40.0**	**-9.1**
	3μm,1.5s						
BEO	**Belgrade**	**4.58**	**5**	*e*Pn	**Pn**	**14 16 50.3**	**+0.4**
RNI2	**Rionero Sannit**	**4.61**	**290**	Pn	**Pn**	**14 16 52.0**	**+1.7**
	813nm,0.7s						
RNI2	**Rionero Sannit**	**4.61**	**290**	P	**Pn**	**14 16 52.1**	**+1.8**
RFI	**Roccamonfina**	**4.64**	**285**	Pn	**Pn**	**14 16

418nm,0.6s
MURB P 14 17 14.5
MURB Monte Urbino 6.30 301 P **Pn 14 17 14.5 +0.9**
IDI Anoyia 6.33 140 Pn **Pn 14 17 11.1 -2.9**
1.7nm,0.3s,baz=317,slow=15,SNR=11
IDI Sn **Sn 14 18 20.8 -6.0**
4.4nm,0.3s,baz=104,slow=22,SNR=5.8
IDI LR LR 14 20 15.8
comp=Z,805nm,18.2s,baz=204,slow=43
IDI Anoyia 6.33 140 Sn **Sn 14 18 20.8 -6.0**
GVD Gavdhos 6.34 147 *e*Pn **Pn 14 17 12.9 -1.2**
103nm,1.0s
VOIR 6.39 34⇑*i*P **Pn 14 17 18.0 +3.1**
VOIR 6.39 34⇑P **Pn 14 17 18.0 +3.1**
PESA Pesaro 6.43 307 P **Pn 14 17 15.1 -0.3**
CRES Cresnjev 6.46 331 P **Pn 14 17 15.5 -0.2**
BADI Badiali 6.59 302 Pn **Pn 14 17 18.3 +0.7**
179µm,33.0s
BADI Badiali 6.59 302 Pn **Pn 14 17 18.3 +0.7**
BADI P 14 17 18.6
BADI Badiali 6.59 302 P **Pn 14 17 18.6 +1.0**
BODT Bodrum 6.59 117 *e*P **Pn 14 17 17.6 -0.1**
RSM Repubblica di 6.67 306 P **Pn 14 17 16.7 -1.9**
LAST Lasithi 6.72 137 *e*Pn **Pn 14 17 17.8 -1.6**
CEY Cerknica 6.80 325 *i* Pn **Pn 14 17 19.8 -0.7**
MLSB Milas 6.80 113 *e*P **Pn 14 17 28.3 +7.8**
CRE Caprese Michel 6.83 302 P **Pn 14 17 21.5 +0.6**
DRGR 6.83 16⇑*i*P **Pn 14 17 21.2 +0.3**
MLR Muntele Rosu 6.84 38 Pn **Pn 14 17 22.9 +1.9**
2.1nm,0.3s,baz=280,slow=5.1,SNR=22
MLR Lg 14 19 16.0
0.7nm,0.3s,baz=244,slow=10,SNR=3.1
MLR Muntele Rosu 6.84 38⇓*i*P **Pn 14 17 25.1 +4.1**
MLR Muntele Rosu 6.84 38 P **Pn 14 17 24.2 +3.2**
MANT Manisa 6.91 102 *i* P **Pn 14 17 24.2 +2.2**
DAT Datca 6.95 118 *e*P **Pn 14 17 25.9 +3.3**
MAON Monte Argentar 6.97 291 P **Pn 14 17 22.6 -0.2**
KLYT Kilyos 6.99 79 *e*P **Pn 14 17 25.4 +2.4**
LJU Ljubljana 7.00 327 *e*Pn **Pn 14 17 22.7 -0.5**
LJU *e* 14 17 42.6
SFI Santa Sofia 7.03 304 P **Pn 14 17 24.4 +0.8**
TRI Trieste 7.08 322 P **Pn 14 17 23.8 -0.5**
CSNT Castellina Chi 7.21 299 P **Pn 14 17 27.0 +1.0**
YLV Yalova 7.21 85 *e*P **Pn 14 17 15.7 -10**
VMG Vicchio 7.25 303 P **Pn 14 17 28.2 +1.6**
VOY Vojsko 7.26 325 *e*Pn **Pn 14 17 25.9 -0.9**
VOY *e*Sn **Sn 14 18 49.4 -0.5**
PERS Pernice 7.27 333 *e*Pn **Pn 14 17 26.3 -0.7**
PERS *e*Sn **Sn 14 18 47.6 -2.5**
GRFL Gerfalco 7.30 296 P **Pn 14 17 28.1 +0.8**
OBKA Obir 7.37 330⇓*i*Pn **Pn 14 17 27.4 -1.0**
SNR=18
OBKA ⇓*i*Sn **Sn 14 18 52.0 -0.7**
KARP Karpathos 7.40 127 *e*PN **Pn 14 17 30.4 +1.7**
SEI Scarperia 7.42 304 P **Pn 14 17 30.2 +1.3**
PLOR Plostina 7.44 39⇑*i*P **Pn 14 17 32.0 +2.8**
GDZ Gediz 7.46 96 *i* P **Pn 14 17 30.1 +0.6**
VRI Vrincioaia 7.49 39⇓*i*P **Pn 14 17 31.9 +2.0**
VRI Vrincioaia 7.49 39⇓P **Pn 14 17 31.9 +2.0**
DNZL Cakiroluk 7.55 107 *i* P **Pn 14 17 30.1 -0.6**
TIRR Tirgusor 7.55 53⇓*i*P **Pn 14 17 32.3 +1.6**
TIRR Tirgusor 7.55 53 *e*Pn **Pn 14 17 30.4 -0.4**
TIRR Tirgusor 7.55 53 *e*P **Pn 14 17 30.4 -0.3**
TLI Talmassons 7.55 321⇓*e*P **Pn 14 17 30.0 -0.7**
COLI Coloredo 7.57 323⇓*e*P **Pn 14 17 30.0 -1.1**
ROBS Robic 7.60 324 *e*Pn **Pn 14 17 30.0 -1.4**
ROBS *e*Sn **Sn 14 18 56.5 -1.7**
ARG Arkhangelos 7.61 119 P **Pn 14 17 34.1 +2.6**
FNVD Fontana Vidola 7.62 304 P **Pn 14 17 34.4 +2.7**
PSZ Piszkesteto 7.66 360 *e*P **Pn 14 17 31.6 -0.6**
PSZ pmax pmax
comp=Z,96nm,1.2s
PSZ Piszkesteto 7.66 360 *e*Pn **Pn 14 17 31.6 -0.6**
comp=Z,96nm,1.2s
PSZ P 14 17 35.5
PSZ Piszkesteto 7.66 360 *e*Pn **Pn 14 17 31.6 -0.6**
comp=Z,96nm,1.2s
DALT Dalyan (Mudla) 7.66 114 *e*P **Pn 14 17 38.0 +5.8**
ARSA Arzberg 7.68 337⇑*i*Pn **Pn 14 17 32.4 -0.1**
ARSA ⇑*i*Sn **Sn 14 18 57.9 -2.3**
BAD Bernadia 7.71 323⇓*e*P **Pn 14 17 35.0 +2.0**
GMNA Gemona 7.75 323 P **Pn 14 17 33.3 -0.1**
LSR Lussari 7.77 325⇑*e*P **Pn 14 17 35.0 +1.3**
CFR Carcaliu 7.78 48⇓*i*P **Pn 14 17 35.2 +1.3**
CFR Carcaliu 7.78 48⇓P **Pn 14 17 35.2 +1.3**
PTCC Patocco-Chiusa 7.79 324 P **Pn 14 17 33.9 -0.2**
ZCCA Zocca 7.80 305 P **Pn 14 17 35.8 +1.7**
PII Pisa 7.81 299 P **Pn 14 17 36.2 +1.8**
BDI Bagni Di Lucca 7.91 302 P **Pn 14 17 36.5 +0.8**
CAE Caneva 7.94 319⇑*e*P **Pn 14 17 35.0 -1.1**
MLNI Malnisio 7.95 320⇑*e*P **Pn 14 17 36.0 -0.3**
PLRO Paularo 7.99 324⇑*i*P **Pn 14 17 37.0 +0.2**
FETY Fethiye 8.04 114 *e*P **Pn 14 17 42.5 +5.1**
GSCL Gusciola 8.04 304 P **Pn 14 17 39.3 +1.8**
VLC Villacollemand 8.09 302 *e*Pn **Pn 14 17 37.4 -0.7**
comp=Z,23nm,0.7s
VLC Villacollemand 8.09 302 *e*Pn **Pn 14 17 37.4 -0.7**
comp=Z,23nm,0.7s
VSL Villasalto 8.15 268 *e*Pn **Pn 14 17 37.8 -1.2**
comp=Z,21nm,0.9s
VSL P 14 17 41.3
VSL Villasalto 8.15 268 *e*Pn **Pn 14 17 37.8 -1.2**
comp=Z,21nm,0.9s
VSL Villasalto 8.15 268 P **Pn 14 17 41.3 +2.3**
ERBM Eremo 8.19 304 P **Pn 14 17 41.3 +1.8**
FVI Forni Avoltri 8.20 323 P **Pn 14 17 41.0 +1.4**
CONA Conrad Observa 8.21 340⇓*i*Pn **Pn 14 17 40.1 +0.3**
CONA ⇑*i*Sn **Sn 14 19 11.5 -1.6**
KECS Kecovo 8.23 3 *e*PN **Pn 14 17 42.4 +2.3**
VYHS Vyhne 8.27 355 *e*PN **Pn 14 17 42.5 +1.9**
VYHS *e*SN **Sn 14 19 19.1 +4.4**
VYHS *e* 14 20 36.6
VYHS Vyhne 8.27 355 *e*P **Pn 14 17 42.5 +1.9**
VYHS *e* 14 19 19.1
BURAR Bucovina Array 8.28 26⇓*i*P **Pn 14 17 44.4 +3.7**
BURAR Bucovina Array 8.28 26⇓P **Pn 14 17 44.4 +3.7**
KBA Koelnbreinsper 8.32 327⇓*i*Pn **Pn 14 17 40.6 -0.7**
SNR=9.5
KBA ⇑*i*Sn **Sn 14 19 12.8 -3.0**
TKTP Tekketepe 8.37 102 *i* P **Pn 14 17 46.3 +4.3**
HENT Hendek 8.37 83 *i* P **Pn 14 17 35.5 -6.5**
KOLL Kolacno 8.39 353 *e*PN **Pn 14 17 43.7 +1.4**
ESKT Eskisehir 8.43 92 *i* P **Pn 14 17 43.0 +0.3**
SEYT Eskypehyr 8.43 92 *i* P **Pn 14 17 43.0 +0.2**
PGF Pioggiola 8.53 289 *e*P **Pn 14 17 44.5 +0.3**
comp=Z,63nm,0.7s
PGF Pioggiola 8.53 289 *e*P **Pn 14 17 44.5 +0.3**
comp=Z,31nm,0.7s
UZH Uzhgorod 8.54 11 *e*P **Pn 14 17 48.0 +3.7**
MOA Molin 8.61 334⇑*i*Pn **Pn 14 17 44.7 -0.6**
SNR=11
MOA ⇑*i*Sn **Sn 14 19 20.3 -2.7**
JAVC Velka Javorina 8.75 350 P **Pn 14 17 50.7 +3.5**
BOB Bobbio (Coli) 8.96 304 P **Pn 14 17 50.0 0.0**
STHS Stebnicka Huta 9.20 5 *e* **Pn 14 17 58.4 +5.0**
STHS *e* 14 18 04.7
WTTA Wattenberg 9.22 322⇓*i*Pn **Pn 14 17 52.9 -0.7**
SNR=16
WTTA ⇑*i*Sn **Sn 14 19 35.9 -2.1**
SGKT Sivrigoynuk 9.25 84 *i* P **Pn 14 17 49.9 -4.2**
WATA Walderalm 9.30 322⇑*i*Pn **Pn 14 17 54.4 -0.4**
WATA ⇑*i*Sn **Sn 14 19 38.1 -1.8**
WATA Walderalm 9.30 322⇑*i*Pn **Pn 14 17 54.3 -0.4**
WATA *i* S **Sn 14 19 38.1 -1.8**
VRAC Vranov 9.35 346 Pn **Pn 14 17 56.4 +0.9**
comp=Z,1.2nm,0.3s,baz=158,slow=8.4,SNR=3.1
VRAC Sn **Sn 14 19 37.1 -4.2**
comp=Z,0.2nm,0.3s,baz=205,slow=19,SNR=1.7
VRAC Lg 14 20 30.3
baz=306,slow=20,SNR=1.7
VRAC Vranov 9.35 346 P **Pn 14 17 56.4 +0.9**
VRAC 14 19 37.1
VRAC pmax pmax
comp=Z,1.0nm,0.3s
SQTA Sankt Quirin 9.39 321⇓*i*Pn **Pn 14 17 56.5 +0.5**
SNR=10
SQTA ⇓*i*Sn **Sn 14 19 42.3 0.0**
MOTA Moosalm 9.53 321⇑*i*Pn **Pn 14 17 57.6 -0.3**
SNR=27
MOTA ⇑*i*Sn **Sn 14 19 43.2 -2.4**
MOTA Moosalm 9.53 321⇑*i*Pn **Pn 14 17 57.6 -0.3**
MOTA *i* Sn **Sn 14 19 43.2 -2.4**

KWP Kalwaria 9.57 11 *e*P **Pn 14 18 03.5 +5.0**
KDHN Kadinhani 9.59 97 *i* P **Pn 14 18 00.1 +1.3**
OKC Ostrava-Krasne 9.66 353 *e*P **Pn 14 18 01.2 +1.5**
OKC AMS AMS 14 23 10.0
comp=Z,1µm,9.4s
OKC Ostrava-Krasne 9.66 353 *e*P **Pn 14 18 01.2 +1.5**
comp=Z,1µm,9.4s
GEC2 GERESS Array S 9.66 335 *e*P **Pn 14 17 59.1 -0.6**
comp=Z,8.0nm,1.1s
GEC2 GERESS Array S 9.66 335 *e*P **Pn 14 17 59.1 -0.6**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s
GERES GERESS Array B 9.66 335 Pn **Pn 14 17 58.2 -1.5**
comp=Z,0.6nm,0.3s,baz=155,slow=13,SNR=18
GERES Sn **Sn 14 19 45.2 -3.7**
comp=Z,0.3nm,0.3s,baz=156,slow=20,SNR=2.1
GERES Lg 14 20 45.8
baz=164,slow=25,SNR=3.0
GERES GERESS Array B 9.66 335 P **Pn 14 17 58.2 -1.5**
GERES 14 19 45.2
GERES pmax pmax
comp=Z,1.0nm,0.3s
MORC Moravsky Berou 9.66 351⇓*i*P **Pn 14 18 00.7 +0.9**
MORC Moravsky Berou 9.66 351 Pn **Pn 14 17 58.0 -1.8**
comp=Z,6.1nm,0.8s
MORC Moravsky Berou 9.66 351 Pn **Pn 14 17 58.0 -1.8**
comp=Z,6.1nm,0.8s
MORC Moravsky Berou 9.66 351 P **Pn 14 18 00.7 +0.9**
SLUM 9.74 152⇓P **Pn 14 17 58.7 -2.1**
DAVOX Davos 9.78 315 Pn **Pn 14 18 01.0 -0.4**
comp=Z,1.7nm,0.3s,baz=148,slow=18,SNR=16
DAVOX Sn **Sn 14 19 46.8 -5.1**
comp=Z,0.5nm,0.3s,baz=152,slow=10,SNR=3.5
DAVOX LR LR 14 22 31.6
comp=Z,1µm,18.3s,baz=84,slow=42
TUE Stuetta 9.89 312 P **Pn 14 18 03.4 +0.5**
RAC Raciborz 9.90 353 *e*P **Pn 14 18 05.0 +2.0**
RAC *e*PP 14 18 13.1
RAC *e*Sg 14 21 06.8
RAC L 14 23 47.2
comp=Z,0.9nm,15.7s
KHC Kasperske Hory 9.95 335 *e*P **Pn 14 18 02.3 -1.4**
KHC x x 14 18 16.5
KHC S **Sn 14 19 50.5 -5.5**
KHC AMS AMS 14 22 30.0
comp=Z,2µm,20.4s
KHC Kasperske Hory 9.95 335 *e*P **Pn 14 18 02.3 -1.4**
KHC *e* 14 19 50.5
KHC MLR MLR
comp=Z,2µm,20.4s
KHC Kasperske Hory 9.95 335 *e*P **Pn 14 18 02.3 -1.4**
KHC *e* 14 18 16.5
KHC *e* 14 19 50.5
OJC Ojcow 9.96 359 *e*P **Pn 14 18 06.3 +2.5**
SBF Sospel 9.97 295 *e*P **Pn 14 18 03.7 -0.2**
comp=Z,43nm,0.7s
SBF Sospel 9.97 295 *e*P **Pn 14 18 03.7 -0.2**
comp=Z,21nm,0.7s
LVV L'vov 9.99 15 *e*P **Pn 14 18 07.4 +3.2**
LVV *e*S **Sn 14 20 02.8 +6.0**
DAVA Damuels 10.10 317⇑*i*Pn **Pn 14 18 04.8 -1.0**
DAVA ⇓*i*Sn **Sn 14 19 56.8 -2.9**
WET Wettzell 10.20 333 *e*P **Pn 14 18 06.4 -0.7**
BALT Daday 10.27 79 *i* P **Pn 14 18 06.0 -2.0**
ELDT Eldivan 10.30 84 *i* P **Pn 14 18 11.6 +3.1**
DPC Dobruska-Polom 10.40 347 *e*P **Pn 14 18 20.0 +10**
DPC AMS AMS 14 23 10.0
comp=Z,2µm,8.5s
FRF La Foret Royal 10.44 293 *e*P **Pn 14 18 10.1 -0.3**
comp=Z,31nm,0.7s
FRF La Foret Royal 10.44 293 *e*P **Pn 14 18 10.1 -0.3**
FRF pmax pmax
comp=Z,16nm,0.7s
FRF La Foret Royal 10.44 293 *e*P **Pn 14 18 10.1 -0.3**
comp=Z,16nm,0.7s
PRU Pruhonice 10.44 340 *e*P **Pn 14 18 11.0 +0.6**
PRU AMS AMS 14 23 20.0
comp=Z,1µm,19.4s
PRU Pruhonice 10.44 340 *e*P **Pn 14 18 11.0 +0.6**
comp=Z,1µm,19.4s
LMR La Mourre 10.48 291 *e*P **Pn 14 18 10.4 -0.6**
comp=Z,20nm,0.8s
LMR La Mourre 10.48 291 *e*P **Pn 14 18 10.4 -0.6**
LMR pmax pmax
comp=Z,10.0nm,0.8s
LMR La Mourre 10.48 291 *e*P **Pn 14 18 10.4 -0.6**
comp=Z,10nm,0.8s
BR131 Keskin Array S 10.53 88 *e*P **Pn 14 18 14.8 +3.1**
comp=Z,5.4nm,0.8s
BR131 Keskin Array S 10.53 88 *e*P **Pn 14 18 14.8 +3.2**
comp=Z,5.4nm,0.8s
BRTR Keskin Array B 10.53 88 Pn **Pn 14 18 11.7 0.0**
comp=Z,0.2nm,0.3s,baz=267,slow=9.9,SNR=13
BRTR Lg 14 21 04.2
baz=94,slow=13,SNR=2.3
PRA Prague 10.55 340 P **Pn 14 18 15.0 +3.2**
MBDF Montbardon 10.69 299 *e*P **Pn 14 18 13.8 0.0**
comp=Z,22nm,0.6s
MBDF Montbardon 10.69 299 *e*P **Pn 14 18 13.8 0.0**
MBDF pmax pmax
comp=Z,11nm,0.6s
MBDF Montbardon 10.69 299 *e*P **Pn 14 18 13.8 0.0**
comp=Z,11nm,0.6s
TAVF Tavernes 10.87 293 *e*P **Pn 14 18 18.7 +2.5**
BNI Bardonecchia 10.87 300 P **Pn 14 18 14.5 -1.8**
BNI pmax pmax
comp=Z,6.0nm,0.7s
BNI Bardonecchia 10.87 300 Pn **Pn 14 18 14.5 -1.8**
comp=Z,5.8nm,0.7s
KSP Ksiaz 10.88 348 *e*P **Pn 14 18 23.0 +6.5**
PVCC Panska Ves 10.94 342 *e*P **Pn 14 18 18.8 +1.6**
PVCC MLR MLR
comp=Z,600nm,15.0s
PVCC Panska Ves 10.94 342 *e*P **Pn 14 18 18.8 +1.6**
comp=Z,600nm,15.0s
ROTZ Rotzenmuhle 10.96 333 *e*P **Pn 14 18 18.5 +1.0**
comp=Z,4.0nm,0.9s
LPG La Plagne 10.99 303 *e*P **Pn 14 18 17.3 -0.7**
comp=Z,63nm,0.7s
LPG La Plagne 10.99 303 *e*P **Pn 14 18 17.3 -0.7**
LPG pmax pmax
comp=Z,32nm,0.7s
LPG La Plagne 10.99 303 *e*P **Pn 14 18 17.3 -0.7**
comp=Z,32nm,0.7s
LPL La Plagne 11.02 303 *e*P **Pn 14 18 17.6 -0.6**
comp=Z,37nm,0.7s
LPL La Plagne 11.02 303 *e*P **Pn 14 18 17.6 -0.6**
LPL pmax pmax
comp=Z,19nm,0.7s
LPL La Plagne 11.02 303 *e*P **Pn 14 18 17.6 -0.6**
comp=Z,18nm,0.7s
PUYF Puyloubier 11.10 292 *e*P **Pn 14 18 25.3 +5.9**
CDAG Cicekdag 11.11 89 *i* P **Pn 14 18 15.8 -3.7**
VILF Villemus 11.16 293 *e*P **Pn 14 18 23.6 +3.3**
MANZ Manzenberg 11.18 333 *e*P **Pn 14 18 20.6 +0.1**
comp=Z,8.0nm,1.0s
GRA1 Grafenberg Arr 11.26 330 *e*P **Pn 14 18 23.9 +2.3**
comp=Z,13nm,0.8s
GRF Grafenberg Arr 11.26 330 *e*P **Pn 14 18 23.9 +2.3**
comp=Z,13nm,0.8s
GRF Grafenberg Arr 11.26 330 *e*P **Pn 14 18 23.9 +2.3**
GRF pmax pmax
comp=Z,13nm,0.8s
GRF Grafenberg Arr 11.26 330 *e*P **Pn 14 18 23.9 +2.3**
GRF pmax pmax
comp=Z,13nm,0.8s
NKC Novy Kostel 11.28 335 *e*P **Pn 14 18 23.3 +1.5**
NKC AMS AMS 14 23 30.0
comp=Z,2µm,14.6s
NKC Novy Kostel 11.28 335 *e*P **Pn 14 18 23.3 +1.5**
comp=Z,2µm,14.6s
SMRF Simiane la Rot 11.29 294 *e*P **Pn 14 18 22.0 0.0**
comp=Z,28nm,0.8s
SMRF Simiane la Rot 11.29 294 *e*P **Pn 14 18 22.0 0.0**
comp=Z,14nm,0.8s
WERN Wernitzgruen 11.35 335 *e*P **Pn 14 18 23.5 +0.7**
comp=Z,6.0nm,1.0s
ORIF Oris-en-Rattie 11.36 299 *e*P **Pn 14 18 22.5 -0.4**
comp=Z,22nm,0.7s
ORIF *e*R
comp=Z,424nm,17.2s
ORIF Oris-en-Rattie 11.36 299 *e*P **Pn 14 18 22.5 -0.4**
ORIF pmax pmax
comp=Z,11nm,0.7s
ORIF Oris-en-Rattie 11.36 299 *e*P **Pn 14 18 22.5 -0.4**
comp=Z,11nm,0.7s

BOYT Boyabat 11.40 79 *i* P **Pn 14 18 25.4 +1.9**
BRG Berggiesshubel 11.41 340 *e*P **Pn 14 18 24.2 +0.6**
comp=Z,8.1nm,1.4s
BRG *e* 14 18 31.9
BRG *e* 14 21 28.9
BRG
comp=Z,1µm,15.9s
BRG
comp=N,450nm,16.1s
BRG
comp=E,1µm,16.1s
BRG Berggiesshubel 11.41 340 *e*P **Pn 14 18 24.2 +0.6**
BRG pmax pmax
comp=Z,8.0nm,1.5s
BRG MLR MLR
comp=Z,1µm,15.9s
BRG MLR MLR
comp=N,450nm,16.1s
BRG MLR MLR
comp=E,1µm,16.1s
BRG Berggiesshubel 11.41 340 *e*P **Pn 14 18 24.2 +0.6**
comp=E,8.1nm,1.4s
BRG *e* 14 18 31.9
BRG *e* 14 21 28.9
TANN Tannenbergstha 11.43 335 *e*P **Pn 14 18 23.2 -0.7**
comp=Z,3.0nm,1.0s
SIM Simferopol' 11.45 61 *e*P **Pn 14 18 27.0 +2.8**
SIM S **Sn 14 20 34.0 +1.3**
SIM pmax pmax
comp=Z,14nm,0.5s
SIM Simferopol' 11.45 61 *e*P **Pn 14 18 27.0 +2.8**
comp=Z,14nm,0.5s
SIM S **Sn 14 20 34.0 +1.3**
FELD Feldberg im Sc 11.46 316 *e*P **Pn 14 18 22.9 -1.5**
BBS Basel-Blauen 11.49 313 *e*P **Pn 14 18 22.8 -2.0**
WERD Werda 11.51 335 *e*P **Pn 14 18 24.9 -0.1**
comp=Z,8.0nm,1.1s
BFO Black Forest 11.58 318 *e*P **Pn 14 18 24.5 -1.4**
comp=Z,8.0nm,0.9s
BFO Black Forest 11.58 318 *e*P **Pn 14 18 24.5 -1.4**
BFO pmax pmax
comp=Z,8.0nm,0.9s
MEST Erdemli 11.73 104 *i* P **Pn 14 18 33.7 +5.6**
LOMF Lomont 11.82 311 *e*P **Pn 14 18 29.2 0.0**
SWA2 11.89 156⇓P **Pn 14 18 27.0 -3.2**
SWA2 S **Sn 14 20 28.2 -15**
MOX Moxa 11.90 333 *e*P **Pn 14 18 29.5 -0.9**
comp=Z,14nm,0.8s
MOX Moxa 11.90 333 *e*P **Pn 14 18 29.4 -1.0**
MOX
comp=Z,2µm,19.0s
MERS Mersin 11.91 102 *e*P **Pn 14 18 32.8 +2.3**
MOF Molkenrain 11.92 314 *e*P **Pn 14 18 28.8 -1.9**
SWA1 11.95 155⇓P **Pn 14 18 28.2 -2.8**
SWA1 S **Sn 14 20 30.4 -15**
CLL Collm 12.05 339 *e*Pn **Pn 14 18 33.0 +0.5**
CLL *e*x x 14 18 48.0
CLL *i* x x 14 21 32.5
CLL *e*Sg 14 22 20.0
CLL *e*Sg 14 22 20.0
HINF Hinteralfeld 12.06 313 *e*P **Pn 14 18 30.8 -1.7**
comp=Z,20nm,0.7s
HINF Hinteralfeld 12.06 313 *e*P **Pn 14 18 30.8 -1.7**
HINF pmax pmax
comp=Z,10.0nm,0.7s
HINF Hinteralfeld 12.06 313 *e*P **Pn 14 18 30.8 -1.7**
comp=Z,9.8nm,0.7s
ECH Echery 12.12 315 *e*P **Pn 14 18 31.1 -2.3**
WLS Welschbruch 12.14 316 *e*P **Pn 14 18 31.8 -1.8**
VIVF Saint-Julien-l 12.15 297 *e*P **Pn 14 18 33.4 -0.4**
comp=Z,6.7nm,0.6s
VIVF Saint-Julien-l 12.15 297 *e*P **Pn 14 18 33.4 -0.4**
VIVF pmax pmax
comp=Z,3.0nm,0.6s
VIVF Saint-Julien-l 12.15 297 *e*P **Pn 14 18 33.4 -0.4**
comp=Z,3.3nm,0.6s
CDF Champ du Feu 12.18 316 *e*P **Pn 14 18 32.6 -1.5**
comp=Z,13nm,0.7s
CDF Champ du Feu 12.18 316 *e*P **Pn 14 18 32.6 -1.5**
CDF pmax pmax
comp=Z,7.0nm,0.7s
CDF Champ du Feu 12.18 316 *e*P **Pn 14 18 32.6 -1.5**
comp=Z,6.7nm,0.7s
KARA Karaisali 12.18 99 *e*P **Pn 14 18 35.1 +1.0**
LANF Langenberg 12.26 319 *e*P **Pn 14 18 35.6 +0.3**
AKASG Malin Array Be 12.30 29 Pn **Pn 14 18 34.5 -1.3**
comp=Z,0.6nm,0.3s,baz=214,slow=13,SNR=12
AKASG Lg 14 22 01.1
comp=Z,0.2nm,0.3s,baz=214,slow=27,SNR=2.5
HAU Haudompre 12.45 313 *e*P **Pn 14 18 36.3 -1.5**
comp=Z,21nm,0.6s
HAU *e*R
comp=Z,482nm,19.8s
HAU Haudompre 12.45 313 *e*P **Pn 14 18 36.3 -1.5**
HAU pmax pmax
comp=Z,11nm,0.6s
HAU Haudompre 12.45 313 *e*P **Pn 14 18 36.3 -1.5**
comp=Z,11nm,0.6s
LASF Ste Croix 12.52 293 *e*P **Pn 14 18 38.2 -0.7**
comp=Z,28nm,1.1s
LASF Ste Croix 12.52 293 *e*P **Pn 14 18 38.2 -0.7**
comp=Z,14nm,1.1s
KOZT Kozan 12.69 98 *e*P **Pn 14 18 42.1 +0.9**
THEF They Montfort 12.77 313 *e*P **Pn 14 18 40.3 -1.9**
TNS Taunus Mts 12.82 325 *e*P **Pn 14 18 41.7 -1.2**
comp=Z,9.0nm,1.0s
TNS Taunus Mts 12.82 325 *e*P **Pn 14 18 41.7 -1.2**
TNS pmax pmax
comp=Z,9.0nm,1.0s
PLDF La Plantade 13.21 301 *e*P **Pn 14 18 47.6 -0.6**
SMF Signal de Mont 13.31 304 *e*P **Pn 14 18 46.9 -2.7**
comp=Z,26nm,0.9s
SMF Signal de Mont 13.31 304 *e*P **Pn 14 18 46.9 -2.7**
SMF pmax pmax
comp=Z,13nm,0.9s
SMF Signal de Mont 13.31 304 *e*P **Pn 14 18 46.9 -2.7**
comp=Z,13nm,0.9s
MEZF Maizieres J'vi 13.44 313 *e*P **Pn 14 18 45.8 -5.6**
comp=Z,15nm,0.4s
MEZF Maizieres J'vi 13.44 313 *e*P **Pn 14 18 45.8 -5.6**
comp=Z,15nm,0.4s
MTLF Montolieu 13.57 289 *e*P **Pn 14 18 52.3 -0.9**
ANN Anapa 13.67 65 *e*P **Pn 14 19 03.2 +8.6**
ANN pmax pmax
comp=Z,41nm,1.0s
AVF Avril sur Loir 13.68 304 *e*P **Pn 14 18 53.1 -1.5**
comp=Z,16nm,0.8s
AVF Avril sur Loir 13.68 304 *e*P **Pn 14 18 53.1 -1.5**
AVF pmax pmax
comp=Z,8.0nm,0.8s
AVF Avril sur Loir 13.68 304 *e*P **Pn 14 18 53.1 -1.5**
comp=Z,7.8nm,0.8s
SSF Saint Saulge 13.69 305 *e*P **Pn 14 18 51.3 -3.5**
comp=Z,16nm,0.8s
SSF Saint Saulge 13.69 305 *e*P **Pn 14 18 51.3 -3.5**
SSF pmax pmax
comp=Z,8.0nm,0.8s
SSF Saint Saulge 13.69 305 *e*P **Pn 14 18 51.3 -3.5**
comp=Z,8.2nm,0.8s
BGF Bois d'Agland 13.91 303 *e*P **Pn 14 18 56.1 -1.8**
comp=Z,11nm,0.6s
BGF Bois d'Agland 13.91 303 *e*P **Pn 14 18 56.1 -1.8**
BGF pmax pmax
comp=Z,5.0nm,0.6s
BGF Bois d'Agland 13.91 303 *e*P **Pn 14 18 56.1 -1.8**
comp=Z,5.4nm,0.6s
SUW Suwalki 13.93 8 *e*P **Pn 14 19 05.8 +7.7**
CAF Calviac 13.96 295 *e*P **Pn 14 18 57.6 -0.9**
GZT Gaziantep 14.05 96 *i* P **Pn 14 19 01.6 +1.8**
TCF Toulx Ste Croi 14.24 301 *e*P **Pn 14 19 00.9 -1.4**
MMAI Mount Meron Ar 14.36 115 Pn **Pn 14 19 02.1 -1.9**
comp=Z,1.0nm,0.3s,baz=297,slow=15,SNR=7.2
RJF Les Rejaudoux 14.43 296 *e*P **Pn 14 19 03.7 -1.2**
RJF *e*R
comp=Z,443nm,17.2s
MALT Malatya 14.46 92⇓*i*P **Pn 14 19 12.3 +7.0**
MALT Malatya 14.46 92 P **Pn 14 19 13.6 +8.3**
GIVF Givet 14.48 318 *e*P **Pn 14 19 08.3 +2.7**
comp=Z,28nm,0.9s
GIVF Givet 14.48 318 *e*P **Pn 14 19 08.3 +2.7**
GIVF pmax pmax
comp=Z,14nm,0.9s
GIVF Givet 14.48 318 *e*P **Pn 14 19 08.3 +2.7**
comp=Z,14nm,0.9s
BAIF Baives 14.77 317 *e*P **Pn 14 19 07.3 -2.3**

comp=Z,15nm,0.7s
BAIF Baives 14.77 317 *e*P **Pn 14 19 07.3 -2.3**
BAIF pmax pmax
comp=Z,7.0nm,0.7s
BAIF Baives 14.77 317 *e*P **Pn 14 19 07.3 -2.3**
comp=Z,7.3nm,0.7s
ELZG Elazig 14.84 91 *i* P **Pn 14 19 12.9 +2.4**
URFA Urfa 14.98 95 *e*P **Pn 14 19 13.9 +1.5**
SOC Sochi 15.09 71*c i*P **Pn 14 19 19.7 +5.8**
SOC pmax pmax
comp=Z,43nm,0.9s
SOC MLR MLR
comp=Z,207nm,14.0s
MNK Minsk 15.20 18 *e*P **Pn 14 19 14.0 -1.4**
ETSF Etsaut 15.56 286 *e*P **Pn 14 19 18.6 -1.5**
comp=Z,71nm,1.6s
ETSF Etsaut 15.56 286 *e*P **Pn 14 19 18.6 -1.5**
ETSF pmax pmax
comp=Z,35nm,1.6s
ETSF Etsaut 15.56 286 *e*P **Pn 14 19 18.6 -1.5**
comp=Z,35nm,1.6s
ASF Jabal al Asfar 15.88 115 Pn **Pn 14 19 25.6 +1.4**
comp=Z,0.1nm,0.3s,baz=142,slow=5.7,SNR=5.1
ASF LR LR 14 26 37.2
comp=Z,159nm,19.4s,baz=37,slow=41
SJPF Ste Jean 16.06 287 *e*P **Pn 14 19 24.6 -2.0**
comp=Z,24nm,1.1s
SJPF Ste Jean 16.06 287 *e*P **Pn 14 19 24.6 -2.0**
SJPF pmax pmax
comp=Z,12nm,1.1s
SJPF Ste Jean 16.06 287 *e*P **Pn 14 19 24.6 -2.0**
comp=Z,12nm,1.1s
MARD Mardin 16.51 94 *i* P **Pn 14 19 33.4 +1.0**
LDF La Druitiere 16.54 307 *e*P **Pn 14 19 31.5 -1.2**
comp=Z,50nm,0.8s
LDF La Druitiere 16.54 307 *e*P **Pn 14 19 31.5 -1.2**
LDF pmax pmax
comp=Z,25nm,0.8s
LDF La Druitiere 16.54 307 *e*P **Pn 14 19 31.5 -1.2**
comp=Z,25nm,0.8s
ARTV Artvin 16.70 80 *i* P **Pn 14 19 35.2 +0.5**
FLN La Foliniere 16.82 307 *e*P **Pn 14 19 35.6 -0.7**
comp=Z,144nm,1.4s
FLN *e*R
comp=Z,398nm,17.8s
FLN La Foliniere 16.82 307 *e*P **Pn 14 19 35.6 -0.7**
FLN pmax pmax
comp=Z,72nm,1.4s
FLN La Foliniere 16.82 307 *e*P **Pn 14 19 35.6 -0.7**
comp=Z,72nm,1.4s
GRR Gorron 16.92 306 *e*P **Pn 14 19 36.8 -0.7**
comp=Z,130nm,1.5s
GRR Gorron 16.92 306 *e*P **Pn 14 19 36.8 -0.7**
GRR pmax pmax
comp=Z,65nm,1.5s
GRR Gorron 16.92 306 *e*P **Pn 14 19 36.8 -0.7**
comp=Z,65nm,1.5s
KIV Kislovodsk 17.27 70 *e*P **Pn 14 19 44.5 +2.6**
KIV *e*S **Sn 14 23 01.1 +6.5**
KIV pmax pmax
comp=Z,23nm,1.2s
KIV MLR MLR
comp=Z,133nm,13.0s
KIV Kislovodsk 17.27 70 *e*P **Pn 14 19 45.1 +3.2**
comp=Z,32nm,1.2s
KIV Kislovodsk 17.27 70 *e*P **Pn 14 19 44.5 +2.6**
comp=Z,23nm,1.2s
VRSR Storozhevoye 17.28 44 *e*P **Pn 14 19 42.3 +0.2**
VRSR pmax pmax
comp=E,2.0nm,0.8s
VRSR pmax pmax
comp=Z,2.0nm,0.8s
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR Storozhevoye 17.28 44 *e*P **Pn 14 19 42.3 +0.2**
comp=N,2.0nm,0.7s
VOR Voronezh 17.57 43 *e*P **Pn 14 19 46.0 +0.4**
VOR pmax pmax
comp=N,50nm,1.6s
VOR pmax pmax
comp=E,110nm,1.6s
VOR pmax pmax
comp=Z,100nm,1.6s
GOF Gofitskoye 17.63 67 *e*P **Pn 14 19 46.2 -0.3**
DIGO Kars 17.86 82 *i* P **Pn 14 19 50.8 +1.4**
SGMF Saint Gilles 17.94 304 *e*P **Pn 14 19 49.3 -1.0**
ZEI Tsey 18.11 74 *e*P **Pn 14 19 54.7 +2.4**
QUIF Quistinic 18.23 302 *e*P **Pn 14 19 53.5 -0.3**
comp=Z,107nm,1.5s
QUIF Quistinic 18.23 302 *e*P **Pn 14 19 53.5 -0.3**
QUIF pmax pmax
comp=Z,53nm,1.5s
QUIF Quistinic 18.23 302 *e*P **Pn 14 19 53.5 -0.3**
comp=Z,53nm,1.5s
ESDC Sonseca Array 18.32 276 P **Pn 14 19 55.7 +0.7**
comp=Z,0.6nm,0.3s,baz=74,slow=11,SNR=21
ESDC Sonseca Array 18.32 276 P **Pn 14 19 55.7 +0.7**
ROSF Rostrenen 18.42 304 *e*P **Pn 14 19 54.1 -2.1**
comp=Z,24nm,0.9s
ROSF Rostrenen 18.42 304 *e*P **Pn 14 19 54.1 -2.1**
ROSF pmax pmax
comp=Z,12nm,0.9s
ROSF Rostrenen 18.42 304 *e*P **Pn 14 19 54.1 -2.1**
comp=Z,12nm,0.9s
OBN Obninsk 18.53 31⇑ *e*P **Pn 14 19 57.1 -0.4**
OBN *e*S **Sn 14 23 29.3 +4.1**
OBN pmax pmax
comp=Z,39nm,1.4s
OBN MLR MLR
comp=Z,700nm,21.0s
OBN Obninsk 18.53 31 *e*P **Pn 14 19 57.1 -0.4**
comp=Z,39nm,1.4s
VRHR Novokhopersk 18.56 47 *e*P **Pn 14 19 57.7 -0.1**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,7.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR Novokhopersk 18.56 47 *e*P **Pn 14 19 57.7 -0.1**
comp=E,10.0nm,0.8s
MSL Mosul 18.59 95 *ex* x 14 20 02.0
MSL *ex* x 14 20 33.0
MSL *ex* x 14 23 37.0
HAKT HAKKARI 18.68 91 *i* P **Pn 14 19 59.1 -0.3**
VSU Vasula 18.73 11 *e*P **Pn 14 19 58.7 -1.3**
GNI Garni 18.94 82 P **Pn 14 20 02.7 +0.2**
comp=E,0.7nm,0.3s,baz=314,slow=15,SNR=7.0
GNI Garni 18.94 82 P **Pn 14 20 02.1 -0.4**
GNI pmax pmax
comp=Z,134nm,1.3s
GNI Garni 18.94 82 P **Pn 14 20 02.1 -0.4**
comp=Z,134nm,1.3s
GNI Garni 18.94 82 P **Pn 14 20 02.1 -0.4**
comp=Z,134nm,1.3s
SEMD Semdilli 19.37 91 *e*P **Pn 14 20 06.7 -0.9**
MOS Moscow 19.40 31 *e*P **Pn 14 20 07.8 -0.2**
MOS *e*S **Sn 14 23 48.9 +2.8**
MOS pmax pmax
comp=Z,80nm,1.2s
MOS Moscow 19.40 31 *e*P **Pn 14 20 07.8 -0.2**
comp=Z,80nm,1.2s
HFS Hagfors 20.27 351 P **P 14 20 14.6 -1.9**
comp=Z,3.8nm,0.6s,baz=163,slow=11,SNR=17
HFS LR LR 14 28 52.0
comp=Z,344nm,19.1s,MS3.7,baz=171,slow=39
HFS Hagfors 20.27 351 P **P 14 20 14.6 -1.9**
HFS pmax pmax
comp=Z,4.0nm,0.6s
HFS MLR MLR
comp=Z,344nm,19.1s
HFA0 Hagfors New Ar 20.29 351 P **P 14 20 15.0 -1.6**
KONO Kongsberg 20.47 345 *i* P **P 14 20 15.4 -3.2**
BHD Baghdad 20.75 102 *ex* x 14 20 20.0
BHD *ex* x 14 24 11.0
MDT Midelt 21.04 257 P **P 14 20 23.9 -0.9**
comp=Z,5.4nm,0.8s,mb3.9,baz=57,slow=8.9,SNR=8.0
NAO01 NORSAR Array S 21.36 348 *e*P **P 14 20 26.9 -1.3**
comp=Z,12nm,0.8s,mb4.3
NAO01 NORSAR Array S 21.36 348 *e*P **P 14 20 27.0 -1.2**
comp=Z,12nm,0.8s,mb4.3
EKA Eskdalemuir Ar 21.49 322 P **P 14 20 29.4 -0.2**
comp=Z,12nm,0.8s,mb4.3,baz=126,slow=10,SNR=30
EKA Eskdalemuir Ar 21.49 322 P **P 14 20 29.5 -0.1**
EKA pmax pmax
comp=Z,12nm,0.8s

NB2 NORSAR Subarra 21.49 348 P **P 14 20 28.8 -0.8**
comp=Z,20nm,1.1s,mb4.4,baz=162,slow=11
NB2 NORSAR Subarra 21.49 348 P **P 14 20 28.8 -0.8**
NB2 pmax pmax
comp=Z,21nm,1.1s,mb4.4
NOA NORSAR Array B 21.49 348 P **P 14 20 29.2 -0.4**
comp=Z,3.7nm,0.7s,mb3.8,baz=159,slow=9.5,SNR=11
NOA LR LR 14 29 25.9
comp=Z,268nm,21.9s,MS3.6,baz=150,slow=38
NOA NORSAR Array B 21.49 348 P **P 14 20 29.2 -0.5**
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA MLR MLR
comp=Z,268nm,21.9s
ESK Eskdalemuir 21.50 322 *e*P **P 14 20 29.7 0.0**
ESK pmax pmax
comp=Z,55nm,1.3s,mb4.7
ESK Eskdalemuir 21.50 322 *e*P **P 14 20 29.7 0.0**
comp=Z,54nm,1.3s,mb4.7
ESK Eskdalemuir 21.50 322 *e*P **P 14 20 29.7 0.0**
comp=Z,54nm,1.3s,mb4.7
FINES FINESS Array B 21.54 8 P **P 14 20 27.3 -3.0**
comp=Z,4.5nm,0.5s,mb4.2,baz=168,slow=11,SNR=29
FINES FINESS Array B 21.54 8 *i* P **P 14 20 27.7 -2.5**
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 21.54 8 P **P 14 20 27.2 -3.0**
FINES FINESS Array B 21.54 8 *i* P **P 14 20 27.7 -2.5**
comp=Z,5.0nm,0.5s,mb4.2
KAF Kangasniemi 22.22 8 *e*p **P 14 20 36.4 -1.1**
comp=Z,28nm,1.1s,mb4.6
KAF Kangasniemi 22.22 8 *e*P **P 14 20 36.4 -1.1**
KAF pmax pmax
comp=Z,28nm,1.1s,mb4.6
JOF Joensuu 23.69 13 *e*p **P 14 20 50.2 -2.7**
comp=Z,11nm,0.7s,mb4.5
ORR Orenburg 26.49 53 *e*P **P 14 21 16.2 -2.2**
ORR pmax pmax
comp=Z,40nm,1.4s,mb4.9
ORR Orenburg 26.49 53 *e*P **P 14 21 16.2 -2.2**
comp=Z,40nm,1.4s,mb4.9
AKTK Aktyubinsk 28.35 56 P **P 14 21 32.8 -2.2**
AKTK LR LR 14 34 43.3
AKTK Aktyubinsk 28.35 56 P **P 14 21 32.8 -2.2**
comp=Z,372nm,18.5s
AKTO Aktyubinsk 28.35 56 P **P 14 21 32.8 -2.2**
comp=Z,2.0nm,0.4s,mb4.3,baz=252,slow=10,SNR=14
AKTO LR LR 14 34 43.3
comp=Z,372nm,18.5s,MS4.0,baz=0.0,slow=40
AKTO Aktyubinsk 28.35 56 P **P 14 21 32.8 -2.2**
AKTO pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
AKTO MLR MLR
comp=Z,372nm,18.5s,MS4.0
APA Apatity 28.35 11 *e*P **P 14 21 35.0 -0.1**
APA *e*S **S 14 26 16.0 -6.5**
APA MLR MLR
comp=Z,800nm,9.0s
APA Apatity 28.35 11 *e*P **P 14 21 35.0 -0.1**
APA *e*S **S 14 26 16.0 -6.5**
comp=Z,800nm,9.0s
LVZ Lovozero 28.84 11 *e*P **P 14 21 38.4 -1.0**
LVZ pmax pmax
comp=Z,57nm,3.5s
LVZ MLR MLR
comp=Z,661nm,10.0s,MS4.5
LVZ MLR MLR
comp=N,426nm,11.0s,MS4.3
LVZ MLR MLR
comp=E,293nm,15.0s,MS4.3
LVZ Lovozero 28.84 11 *e*P **P 14 21 38.4 -1.0**
comp=E,426nm,11.0s
ARCES ARCESS Array B 29.49 4 P **P 14 21 43.1 -2.1**
comp=E,2.6nm,0.8s,mb4.1,baz=187,slow=9.5,SNR=13
ARCES ARCESS Array B 29.49 4 P **P 14 21 43.1 -2.0**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
KEV Kevo 29.79 5 *e*p **P 14 21 45.5 -2.4**
ARU Arti 29.85 44 *e*P **P 14 21 48.1 -0.2**
ARU *e* 14 22 42.1
ARU *e*S **S 14 26 48.9 +2.9**
ARU *e*SS SS 14 28 25.5 -27
ARU MLR MLR
comp=Z,400nm,16.0s,MS4.2
ARU MLR MLR
comp=N,80nm,15.0s,MS4.1
ARU MLR MLR
comp=E,300nm,15.0s,MS4.1
TORD Torodi Ar. Bea 31.41 216 P **P 14 22 01.5 -0.6**
comp=E,4.0nm,0.8s,mb4.4,baz=29,slow=8.8,SNR=21
TORD Torodi Ar. Bea 31.41 216 P **P 14 22 01.5 -0.6**
ZRNK Zerenda 35.33 52 *e*P **P 14 22 34.8 -1.5**
ZRNK pmax pmax
comp=Z,12nm,1.4s,mb4.6
ZRNK Zerenda 35.33 52 *e*P **P 14 22 34.8 -1.5**
comp=Z,12nm,1.4s,mb4.7
ZRNK Zerenda 35.33 52 *e*P **P 14 22 34.8 -1.5**
comp=Z,12nm,1.4s,mb4.7
BRVK Borovoye 36.10 52 *e*P **P 14 22 38.4 -4.5**
BRVK pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
BRVK Borovoye 36.10 52 *e*P **P 14 22 38.4 -4.5**
comp=Z,6.7nm,1.1s,mb4.4
CHKZ Chkalovo 36.30 51 *e*P **P 14 22 41.2 -3.5**
CHKZ pmax pmax
comp=Z,14nm,1.2s,mb4.7
CHKZ Chkalovo 36.30 51 *e*P **P 14 22 41.2 -3.4**
comp=Z,14nm,1.2s,mb4.7
DBIC Dimbokro 40.15 220 P **P 14 23 16.4 -0.7**
comp=Z,6.3nm,1.0s,mb4.2,baz=317,slow=5.2,SNR=3.9
DBIC LR LR 14 41 04.4
comp=Z,237nm,19.8s,MS4.0,baz=13,slow=38
DBIC Dimbokro 40.15 220 P **P 14 23 16.4 -0.7**
DBIC pmax pmax
comp=Z,6.0nm,1.0s
DBIC MLR MLR
comp=Z,237nm,19.8s
AAK Ala-Archa 40.37 68⇓ *e*P **P 14 23 16.1 -2.8**
AAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.1
AAK Ala-Archa 40.37 68 *e*P **P 14 23 15.4 -3.5**
comp=Z,5.1nm,0.8s,mb4.2
AAK Ala-Archa 40.37 68 *e*P **P 14 23 16.1 -2.8**
comp=Z,9.0nm,1.7s,mb4.1
FRU Bishkek 40.40 68 *e*P **P 14 23 17.5 -1.7**
FRU pmax pmax
comp=Z,60nm,2.2s,mb4.8
FRU Bishkek 40.40 68 *e*P **P 14 23 17.5 -1.7**
comp=Z,60nm,2.2s,mb4.8
NVS Novosibirsk 43.62 49 *e*P **P 14 23 44.0 -1.4**
NVS *e* 14 25 23.7
NVS *e*S **S 14 30 09.8 -5.9**
NVS pmax pmax
comp=Z,22nm,1.6s,mb4.6
NVS pmax pmax
comp=E,120nm,1.4s
NVS smax
comp=N,34nm,3.2s
NVS Novosibirsk 43.62 49 *e*P **P 14 23 44.0 -1.4**
comp=N,22nm,1.6s,mb4.6
KMBO Kilima Mbogo 44.12 155 LR LR 14 43 27.3
comp=N,94nm,18.5s,MS3.7,baz=296,slow=38
MKAR Makanchi Array 44.63 60 P **P 14 23 51.2 -2.3**
comp=N,4.4nm,0.6s,mb4.6,baz=285,slow=6.7,SNR=39
MKAR Makanchi Array 44.63 60 P **P 14 23 51.2 -2.3**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
ZAL Zalesovo 44.66 50 P **P 14 23 52.4 -1.3**
comp=Z,4.4nm,0.7s,mb4.5,baz=188,slow=8.5,SNR=19
ZAL LR LR 14 43 26.9
comp=Z,108nm,18.3s,MS3.8,baz=176,slow=37
ZAL Zalesovo 44.66 50 P **P 14 23 52.4 -1.4**
ZAL pmax pmax
comp=Z,4.0nm,0.7s
ZAL MLR MLR
comp=Z,108nm,18.3s
ZAL Zalesovo 44.66 50 P **P 14 23 52.4 -1.3**
ZAL LR LR 14 43 26.9
WMQ Urumqi 49.17 62 *e*P **P 14 24 28.0 -1.1**
WMQ AP 14 24 36.6
WMQ PCP PcP 14 25 53.8 +1.4
WMQ PP PP 14 26 21.8 -0.9
WMQ S **S 14 31 29.0 -6.4**
WMQ SS SS 14 34 57.1 -9.4
WMQ AMB AMB
comp=Z,100nm,3.0s
WMQ LR LR
comp=N,100nm,20.0s,MS4.0
WMQ LR LR
comp=E,110nm,23.0s,MS4.0
WMQ LR LR
comp=Z,130nm,22.0s,MS3.9
TLY Talaya 56.23 48 *e*P **P 14 25 22.7 +1.4**
TLY *e* 14 27 30.9
TLY *e*S **S 14 33 08.6 -3.2**
TLY pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
TLY MLR MLR
comp=Z,409nm,15.0s,MS4.6
TLY Talaya 56.23 48 *e*P **P 14 25 22.7 +1.4**
comp=Z,10.0nm,1.1s,mb4.8
ZAK Zakamensk 56.55 50 *e*P **P 14 25 20.1 -3.5**
ZAK pmax pmax
comp=Z,7.0nm,1.9s,mb4.4
SCHQ Schefferville 56.63 316 LR LR 14 48 01.1
comp=Z,63nm,19.0s,MS3.7,baz=96,slow=34
TIXI Tiksi 57.86 21 *e*P **P 14 25 32.1 -0.8**
TIXI pmax pmax
comp=Z,4.0nm,1.7s,mb4.2
TIXI Tiksi 57.86 21 *e*P **P 14 25 32.1 -0.8**
comp=Z,4.0nm,1.7s,mb4.2
GTA Gaotai 59.26 63 *e*P **P 14 25 41.0 -1.6**
GTA AP 14 25 50.9
GTA XP sP 14 25 54.8 +12
GTA PP PP 14 27 54.3 +0.9
GTA S **S 14 33 46.0 -5.5**
GTA XS sS 14 34 02.8 +11
GTA AMB AMB
comp=Z,80nm,5.3s
GTA LR LR
comp=N,140nm,17.1s,MS4.3
GTA LR LR
comp=E,130nm,16.7s,MS4.3
GTA LR LR
comp=Z,210nm,19.8s,MS4.3
SONM Songino Array 59.50 51 P **P 14 25 43.0 -1.3**
comp=Z,4.7nm,0.9s,mb4.5,baz=287,slow=7.8,SNR=24
SONM LR LR 14 55 53.9
comp=Z,155nm,18.5s,MS4.2,baz=281,slow=41
SONM Songino Array 59.50 51 P **P 14 25 43.0 -1.3**
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM MLR MLR
comp=Z,155nm,18.5s
ULN Ulaanbaatar 59.88 51 *e*P **P 14 25 42.1 -4.8**
comp=Z,4.2nm,0.9s,mb4.5
ULN Ulaanbaatar 59.88 51 *e*P **P 14 25 44.8 -2.1**
CIT Chita 61.56 45 *e*P **P 14 25 58.5 +0.2**
YAK Yakutsk 63.53 30⇑ *e*P **P 14 26 08.1 -3.4**
YAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
YAK MLR MLR
comp=Z,100nm,18.0s,MS4.0
LZH Lanzhou 63.69 64 *e*P **P 14 26 12.8 +0.2**
LZH AP 14 26 23.1
LZH XP sP 14 26 27.0 +14
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,80nm,4.0s
HHC Hu-ho-hao-te 66.24 56 *e*P **P 14 26 26.0 -3.2**
HHC AP 14 26 36.3
HHC XP sP 14 26 40.3 +11
HHC PCP PcP 14 26 56.4 -2.9
HHC PP PP 14 28 53.8 -1.1
HHC SCP 14 30 55.8
HHC PCS 14 30 59.5
HHC S S 14 35 10.3 -8.9
HHC XS sS 14 35 26.8 +6.9
HHC PS 14 35 36.3
HHC SCS ScS 14 36 16.0 -11
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,90nm,4.5s
HHC LR LR
comp=N,140nm,12.9s,MS4.5
HHC LR LR
comp=E,150nm,11.9s,MS4.5
HHC LR LR
comp=Z,140nm,16.2s,MS4.3
CD2 Chengdu 66.43 69 *e*P **P 14 26 26.4 -4.0**
CD2 PP PP 14 28 54.4 -2.2
CD2 S S 14 35 13.4 -8.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,40nm,9.0s
CD2 LR LR
comp=N,120nm,14.0s
CD2 LR LR
comp=Z,90nm,12.4s,MS4.2
XAN Xi'an 68.29 63 P **P 14 26 41.8 -0.4**
XAN AP 14 26 47.1
BOSA Boshof 68.70 175 P **P 14 26 44.1 -0.6**
comp=Z,2.8nm,0.5s,mb4.8,baz=322,slow=20,SNR=5.8
BOSA LR LR 14 58 57.8
comp=Z,187nm,18.6s,MS4.3,baz=1.8,slow=38
BOSA Boshof 68.70 175 P **P 14 26 44.1 -0.6**
BOSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.8
BOSA MLR MLR
comp=Z,187nm,18.6s,MS4.3
KMI Kunming 68.98 74 P **P 14 26 44.8 -1.7**
KMI AP 14 26 54.8
KMI XP sP 14 26 58.3 +11
KMI PP PP 14 29 15.0 -3.7
KMI PPP 14 30 58.5
KMI S S 14 35 45.5 -6.6
KMI XS sS 14 36 01.3 +8.5
KMI PS 14 36 13.3
KMI SS SS 14 40 11.5 -6.0
KMI SSS 14 43 11.9
KMI AMB AMB
comp=Z,70nm,5.8s
KMI LR LR
comp=N,100nm,18.5s,MS4.2
KMI LR LR
comp=E,100nm,18.5s,MS4.2
KMI LR LR
comp=Z,110nm,18.5s,MS4.1
INK Inuvik 69.94 350 LR LR 14 59 51.8
comp=Z,94nm,20.8s,MS4.0,baz=341,slow=38
YKA Yellowknife Ar 71.28 340 P **P 14 26 59.3 -1.3**
comp=Z,1.4nm,0.8s,mb4.2,baz=35,slow=5.8,SNR=5.4
YKA LR LR 14 57 07.9
comp=Z,81nm,22.0s,MS3.9,baz=195,slow=35
YKA Yellowknife Ar 71.28 340 P **P 14 26 59.3 -1.3**
YKA LR LR 14 57 07.8
KLR Kul'dur 72.56 40 *e*P **P 14 27 04.8 -3.5**
CN2 Changchun 72.80 47 *e*P **P 14 27 10.0 +0.3**
CN2 *e*AP 14 27 20.3
CN2 *e*XP sP 14 27 24.3 +14
CN2 *e*S S 14 36 31.3 -5.2
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,13.0s,MS4.8
CN2 LR LR
comp=E,200nm,13.0s,MS4.8
CN2 LR LR
comp=Z,200nm,13.0s,MS4.6
ULM Lac du Bonnet 73.76 323 P **P 14 27 15.1 -0.3**
comp=Z,2.5nm,0.7s,mb4.4,baz=27,slow=5.4,SNR=3.9
ULM LR LR 15 01 48.4
comp=Z,93nm,18.2s,MS4.1,baz=71,slow=38
MDJ Mudanjiang 74.53 44 P **P 14 27 15.9 -4.0**
MDJ AP 14 27 25.3
MDJ XP sP 14 27 29.1 +8.7
MDJ PP PP 14 30 01.5 -4.8
MDJ S S 14 36 47.9 -8.2
MDJ XS sS 14 37 04.0 +7.2
MDJ SS SS 14 41 34.5 -8.1
MDJ AMB AMB
comp=Z,40nm,5.0s
MDJ LR LR
comp=N,60nm,21.6s,MS4.1
MDJ LR LR
comp=E,80nm,19.9s,MS4.1

MDJ				LR	LR			
	comp=Z,110nm,17.3s,MS4.2							
SSE	**Sheshan**	**78.30**	**59**	P	**P**	**14 27 36.8**	**-4.5**	
SSE				AMB	AMB			
	comp=Z,30nm,0.9s,mb5.4							
SSE				AMB	AMB			
	comp=Z,40nm,4.7s							
YSS	**Yuzh-Sakhalins**	**79.35**	**36**	*e*P	**P**	**14 27 46.8**	**-0.2**	
YSS				MLR	MLR			
	comp=E,400nm,16.0s							
YSS				MLR	MLR			
	comp=Z,400nm,16.0s,MS4.8							
YSS	**Yuzh-Sakhalins**	**79.35**	**36**	*e*P	**P**	**14 27 44.3**	**-2.8**	
	comp=Z,17nm,1.0s,mb5.0							
YSS	**Yuzh-Sakhalins**	**79.35**	**36**	*e*P	**P**	**14 27 44.3**	**-2.7**	
	comp=Z,17nm,1.0s,mb5.0							
ASAJ	**Asahikawa**	**81.43**	**38**	LR	LR	15 07 39.0		
	comp=Z,197nm,19.2s,MS4.5,baz=147,slow=38							
BDFB	**Brasilia**	**84.01**	**244**	P	**P**	**14 28 12.8**	**+1.1**	
	comp=Z,4.0nm,0.8s,mb4.7,baz=80,slow=11,SNR=5.1							
BDFB				LR	LR	15 07 52.9		
	comp=Z,113nm,18.9s,MS4.3,baz=251,slow=37							
BDFB	**Brasilia**	**84.01**	**244**	P	**P**	**14 28 12.8**	**+1.1**	
BDFB				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BDFB				MLR	MLR			
	comp=Z,113nm,18.9s							
MAT	**Matsushiro**	**84.85**	**45**	P	**P**	**14 28 13.6**	**-2.3**	
MAT	**Matsushiro**	**84.85**	**45**	P	**P**	**14 28 14.0**	**-1.9**	
MJAR	**Matsushiro Arr**	**84.86**	**45**	P	**P**	**14 28 14.9**	**-1.0**	
	comp=Z,3.2nm,0.9s,mb4.6,baz=309,slow=4.2,SNR=6.2							
MJAR				LR	LR	15 11 07.3		
	comp=Z,107nm,18.4s,MS4.3,baz=335,slow=39							
PDAR	**Pinedale Array**	**85.58**	**325**	P	**P**	**14 28 20.4**	**+0.8**	
	comp=Z,0.7nm,0.3s,mb4.2,baz=64,slow=4.1,SNR=5.3							
PDAR				LR	LR	15 07 12.4		
	comp=Z,116nm,18.5s,MS4.3,baz=51,slow=36							
JTS	**JuntasAbangare**	**94.55**	**287**	LR	LR	15 05 45.6		
	comp=Z,56nm,20.0s,MS4.0,baz=24,slow=32							
CPUP	**Villa Florida**	**97.62**	**242**	LR	LR	15 12 44.2		
	comp=Z,132nm,21.1s,MS4.4,baz=53,slow=35							
ASAR	**Alice Springs**	**122.82**	**94**	PKP	PKPdf	14 34 35.7	-1.6	
	comp=Z,0.9nm,0.7s,baz=330,slow=1.5,SNR=13							
ASAR	**Alice Springs**	**122.82**	**94**	PKIKP	PKPdf	14 34 35.7	-1.6	
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							

CASC 13 14:18:38.5±2.6, 1399N×9156W, h53km±19km, MD3.7, 4C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.34**	**348**	⇑*e*P	Pn	14 18 49.8	+1.6
JAT				*e*S	Sn	14 18 55.3	+0.1
FUG	**Fuego 3**	**0.83**	**57**	⇓*i*P	Pn	14 18 54.6	+0.5
TP2	**Tecpan 2**	**0.95**	**34**	⇓*e*P	Pn	14 18 55.7	+0.1
TP2				*e*S	Sn	14 19 10.2	+2.0
PCG	**Pacaya**	**1.01**	**66**	*e*P	Pn	14 18 57.4	+1.0
PCG				*e*S	Sn	14 19 11.7	+2.0
RBDL	**Robledal**	**1.82**	**86**	⇑*e*P	x	14 19 17.8	
RBDL				*e*S	x	14 19 39.8	
RTR	**El Retiro**	**1.86**	**93**	⇑*e*P	x	14 19 18.6	
RTR				*e*S	x	14 19 44.0	
SBLS	**San Blas**	**1.89**	**94**	⇑*e*P	x	14 19 18.7	
SBLS				*e*S	x	14 19 42.0	
LFRS	**El Faro**	**2.46**	**98**	*e*P	x	14 19 26.8	
LFRS				*e*S	x	14 19 56.8	

WEL 13 14:20:28.5±0.3, 3858S×17579E, h147km±2km, ML3.8/8, 2C-1D, Error ellipse: s-maj=2.0km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.40**	**191**	PN	Pn	14 20 49.2	+0.2
KRVZ	**Karewarewa**	**0.53**	**193**	PN	Pn	14 20 49.8	+0.2
WTVZ	**West Tongariro**	**0.56**	**196**	PN	Pn	14 20 49.9	+0.1
WTVZ				SN	Sn	14 21 06.5	+0.6
TWVZ	**Taurewa**	**0.56**	**209**	PN	Pn	14 20 50.0	+0.2
OTVZ	**Oturere**	**0.59**	**190**	PN	Pn	14 20 50.5	+0.5
OTVZ				SN	Sn	14 21 07.3	+1.0
NGZ	**Ngauruhoe**	**0.61**	**194**	PN	Pn	14 20 50.5	+0.4
WPVZ	**Whakapapa**	**0.65**	**197**	PN	Pn	14 20 50.7	+0.3
TUVZ	**Tukino**	**0.69**	**189**	PN	Pn	14 20 51.0	+0.4
FWVZ	**Far West T-bar**	**0.70**	**195**	PN	Pn	14 20 51.0	+0.4
FWVZ				SN	Sn	14 21 08.4	+0.9
HIZ	**Hauiti**	**0.74**	**275**	PN	Pn	14 20 50.5	-0.4
TRVZ	**Turoa**	**0.74**	**195**	PN	Pn	14 20 51.4	+0.4
TRVZ				SN	Sn	14 21 08.5	+0.5
WNVZ	**Wahianoa**	**0.76**	**191**	PN	Pn	14 20 51.4	+0.4
WNVZ				SN	Sn	14 21 08.8	+0.5
PKVZ	**Pokaka**	**0.79**	**206**	PN	Pn	14 20 51.2	-0.1
PKVZ				SN	Sn	14 21 08.9	+0.3
BKZ	**Black Stump Fm**	**0.80**	**137**	⇑PN	Pn	14 20 51.7	+0.3
BKZ				SN	Sn	14 21 08.5	-0.3
MOVZ	**Moawhango**	**0.83**	**182**	⇑PN	Pn	14 20 51.5	0.0
MOVZ				SN	Sn	14 21 08.3	-0.8
MTVZ	**Mangateitei**	**0.84**	**197**	PN	Pn	14 20 51.8	+0.1
MTVZ				SN	Sn	14 21 09.6	+0.2
VRZ	**Vera Road**	**0.97**	**236**	PN	Pn	14 20 52.5	-0.3
URZ	**Urewera**	**1.08**	**73**	PN	Pn	14 20 53.4	-0.3
URZ				SN	Sn	14 21 12.5	-0.5
WAZ	**Wanganui**	**1.33**	**208**	PN	Pn	14 20 55.7	-0.3
MWZ	**Matawai**	**1.39**	**80**	PN	Pn	14 20 56.6	-0.1
TSZ	**Takapari Road**	**1.48**	**175**	PN	Pn	14 20 57.4	-0.2
TSZ				SN	Sn	14 21 18.0	-1.9
KNZ	**Kokohu**	**1.54**	**107**	PN	Pn	14 20 58.6	+0.4
PXZ	**Pawanui**	**1.67**	**151**	PN	Pn	14 20 58.1	-1.5
PUZ	**Puketiti**	**2.00**	**76**	PN	Pn	14 21 03.5	0.0
MRZ	**Mangatainoka R**	**2.08**	**184**	⇓PN	Pn	14 21 03.0	-1.4
BFZ	**Birch Farm**	**2.13**	**171**	PN	Pn	14 21 03.8	-1.1
KIW	**Kapiti Island**	**2.38**	**196**	PN	Pn	14 21 05.9	-2.1

CASC 13 14:26:54.8±2.1, 834N×8281W, h7km±6km, MD4.0, MW4.3, 7C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.37**	**75**	⇓*i*P	Pg	14 27 02.1	+0.2
BRU2	**Volcan**	**0.47**	**14**	⇑*i*P	Pg	14 27 05.2	+1.3
BRU2				*e*S	Sg	14 27 13.2	+3.2
ACR	**Cerro Adams**	**0.47**	**311**	⇑*e*P	Pg	14 27 03.9	-0.1
ACR				*e*S	Sg	14 27 11.7	+1.5
BRU	**Baru**	**0.53**	**28**	⇓*e*P	Pg	14 27 05.3	+0.3
CNI	**Changuinola**	**1.11**	**15**	⇓*e*P	Pg	14 27 14.5	-1.6
CNI				*e*S	Sg	14 27 30.1	-0.4
BUS	**Buena Vista**	**1.53**	**322**	⇓*e*P	Pn	14 27 21.3	-1.2
BUS				*e*S	Sn	14 27 42.8	+0.2
URSC	**Urasca**	**1.77**	**327**	⇑*e*P	Pn	14 27 25.1	-0.7
URSC				*e*S	Sn	14 27 49.0	+0.4
LCR2	**La Lucha 2**	**1.83**	**320**	*e*P	Pn	14 27 26.6	+0.1
LCR2				*e*S	Sn	14 27 52.0	+2.0
ICR	**Volcan Irazu**	**1.92**	**328**	*e*P	Pn	14 27 28.4	+0.6
ICR				*e*S	Sn	14 27 53.7	+1.5
SJS	**Escuela Geolog**	**2.01**	**322**	*e*P	Pn	14 27 29.3	+0.2
SJS				*e*S	Sn	14 27 56.0	+1.6
PRS1	**Puriscal**	**2.21**	**318**	⇑*e*P	Pn	14 27 30.9	-0.9
PRS1				*e*S	Sn	14 28 00.3	+0.9
CGA2	**Cerro Gallo 2**	**2.34**	**316**	*e*P	Pn	14 27 34.8	+1.2
CGA2				*e*S	Sn	14 28 04.3	+1.8
AZU	**Azuero**	**2.57**	**102**	⇑*e*P	Pn	14 27 35.3	-1.5
VCR	**Vista de Mar**	**3.31**	**303**	*e*P	Pn	14 27 46.4	-0.5
CRZC	**La Cruz**	**3.78**	**314**	⇑*e*P	Pn	14 27 54.6	+1.1
PTP	**Ponta Puerca**	**19.39**	**58**	⇑*i*P		14 26 58.8	

BJI 13 14:36:35.7, 3925N×10048E, h13km, mB4.3, mb4.3, ML4.4, Ms3.6, Msz3.4, 1D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**0.54**	**287**	PG	Pg	14 36 46.3	0.0
GTA				SG	Sg	14 36 53.8	+0.3
GTA				Smax			
	comp=N,5μm,0.7s						
GTA				Smax			
	comp=E,5μm,0.6s						
LZH	**Lanzhou**	**4.13**	**139**	P	Pn	14 37 40.3	+1.8
LZH				PG	Pg	14 37 52.4	-2.5
LZH				S	Sn	14 38 27.4	+0.7
LZH				SG	Sg	14 38 46.3	-2.2
LZH				Smax			
	comp=N,2μm,0.6s						
LZH				Smax			
	comp=E,1μm,0.8s						
LZH				LR	LR		
	comp=N,2μm,5.8s						
LZH				LR	LR		
	comp=Z,3μm,6.4s						
XAN	**Xi'an**	**8.54**	**125**	P	Pn	14 38 47.3	+8.2
XAN				Smax			
	comp=N,40nm,0.9s						
XAN				Smax			
	comp=E,40nm,0.9s						
HHC	**Hu-ho-hao-te**	**8.65**	**76**	*e*P	Pn	14 38 42.1	+1.6
HHC				Smax			
	comp=N,190nm,1.0s						
HHC				Smax			
	comp=E,130nm,0.4s						
CD2	**Chengdu**	**8.74**	**161**	*e*P	Pn	14 38 44.1	+2.3
CD2				S	Sn	14 40 23.3	+3.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=N,110nm,10.8s						
CD2				LR	LR		
	comp=Z,100nm,10.8s						
WMQ	**Urumqi**	**10.61**	**300**	*e*P	Pn	14 39 07.8	+0.4
WMQ				S	Sn	14 41 08.8	+2.7
WMQ				LR	LR		
	comp=N,160nm,18.0s						
WMQ				LR	LR		
	comp=E,50nm,16.0s						
WMQ				LR	LR		
	comp=Z,60nm,17.0s						
NJ2	**Nanjing**	**16.56**	**110**	*e*P	Pn	14 40 31.9	+4.4
NJ2				PP		14 40 45.4	
NJ2				PPP		14 40 51.9	
NJ2				S	Sn	14 43 35.0	+3.8
NJ2				PCP	PcP	14 45 24.0	+5.9
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,180nm,4.7s						
NJ2				LR	LR		
	comp=N,320nm,8.9s						
NJ2				LR	LR		
	comp=E,180nm,12.4s						
NJ2				LR	LR		
	comp=Z,170nm,10.0s						
SNY	**Shenyang**	**17.74**	**74**	⇓P	Pn	14 40 45.3	+3.0
SNY				AMB	AMB		
	comp=Z,40nm,5.5s						

*ISCJB **13** 14:47:22.6±0.9, 1814N±004×14547E±008, h204km±9km, mb4.2/32, Error ellipse: s-maj=12.0km s-min=6.2km az=173.3*
*BJI **13** 14:47:22.6, 1841N×14563E, h191km, mB4.6, mb4.4*
*IDC **13** 14:47:24.6±1.1, 1808N×14549E, h209km±10km, mb4.0/15, mb1 4.1/17, mb1mx4.0/23, mbtmp4.5/17, MS4.0/1, Ms1 4.0/1, ms1mx2.7/30, Error ellipse: s-maj=16.7km s-min=7.9km az=88.0*
*NEIC **13** 14:47:24.5±1.2, 1811N×14548E, h210km±12km, mb4.3/18, Error ellipse: s-maj=11.1km s-min=6.3km az=92.0*

ISC 13 14:47:24.0±0.9, 1812N±004×14551E±008, h201km±9km, n61, σ0§95/61, mb4.2/32, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.55**	**188**	P	**Pn**	**14 48 32.6**	**0.0**
	17nm,0.3s,baz=170,slow=2.8,SNR=10						
GUMO				S	**Sn**	**14 49 25.6**	**+0.8**
	58nm,0.3s,baz=168,slow=23,SNR=11						
CBIJ	**Chichi jima**	**9.45**	**342**	S	**Sn**	**14 51 17.4**	**-4.2**
	11nm,0.3s,baz=99,slow=24,SNR=6.1						
JOW	**Kunigami**	**18.12**	**302**	P	**P**	**14 51 24.6**	**+3.7**
	5.5nm,0.3s,baz=132,slow=10,SNR=50						
MJAR	**Matsushiro Arr**	**19.45**	**342**	P	**P**	**14 51 35.5**	**+0.3**
	1.0nm,0.3s,baz=170,slow=10,SNR=13						
MAJO	**Matsushiro**	**19.45**	**342**	P	**P**	**14 51 35.7**	**+0.5**
	6.0nm,0.6s						
MAT	**Matsushiro**	**19.45**	**342**	P	**P**	**14 51 35.8**	**+0.5**
MAT	**Matsushiro**	**19.45**	**342**	P	**P**	**14 51 36.0**	**+0.7**
	6.8nm,0.7s						
ASAJ	**Asahikawa**	**26.03**	**355**	P	**P**	**14 52 39.2**	**+0.7**
	10nm,0.7s,mb4.6,baz=221,slow=14,SNR=21						
PMG	**Port Moresby**	**27.40**	**176**	P	**P**	**14 52 50.2**	**-0.5**
	13nm,1.0s,mb4.5,baz=0.0,slow=5.1,SNR=3.4						
PMG	**Port Moresby**	**27.40**	**176**	*e*P	**P**	**14 52 50.2**	**-0.5**
	16nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**29.59**	**337**	P	**P**	**14 53 11.5**	**+1.4**
MDJ				AP	pP	14 53 52.3	+1.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,4.0s						
KKM	**Kota Kinabalu**	**31.00**	**251**	*e*P	**P**	**14 53 24.2**	**+1.7**
HHC	**Hu-ho-hao-te**	**36.88**	**315**	*e*P	**P**	**14 54 13.8**	**+0.7**
HHC				PP	PP	14 55 46.6	+5.1
HHC				PCP	PcP	14 56 31.3	+1.1
HHC				S	**S**	**14 59 41.0**	**-1.5**
HHC				SS	SS	15 02 24.1	-8.7
HHC				SCS	ScS	15 04 01.3	-4.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,60nm,3.3s						
WRAB	**Tennant Creek**	**39.37**	**197**	*e*P	**P**	**14 54 33.9**	**+0.1**
	comp=Z,12nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**39.38**	**197**	*e*P	**P**	**14 54 34.0**	**+0.1**
WRA	**Warramunga Arr**	**39.38**	**197**	P	**P**	**14 54 34.4**	**+0.5**
	comp=Z,8.2nm,0.6s,mb4.4,baz=16,slow=8.8,SNR=13						
WRA	**Warramunga Arr**	**39.38**	**197**	P	**P**	**14 54 34.4**	**+0.5**
CD2	**Chengdu**	**39.84**	**297**	*e*P	**P**	**14 54 37.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**40.96**	**210**	⇓*i*P	**P**	**14 54 48.1**	**+1.2**
	comp=Z,7.3nm,0.6s,mb4.3						
AS31	**Alice Springs**	**43.05**	**196**	*e*P	**P**	**14 55 04.1**	**+0.3**
ASAR	**Alice Springs**	**43.05**	**196**	P	**P**	**14 55 04.3**	**+0.5**
	comp=Z,2.5nm,0.5s,mb3.9,baz=18,slow=11,SNR=60						
ASAR				ScP	ScP	15 00 19.9	-1.9
	comp=Z,0.4nm,0.8s,baz=17,slow=5.2,SNR=4.3						
ASAR				S	**S**	**15 01 13.2**	**-0.9**
	comp=Z,0.6nm,1.0s,baz=24,slow=22,SNR=3.2						
ASPA	**Alice Springs**	**43.05**	**196**	*e*P	**P**	**14 55 04.1**	**+0.3**
ULN	**Ulaanbaatar**	**43.11**	**322**	P	**P**	**14 55 03.7**	**-0.6**
	comp=Z,1.1nm,0.5s,mb3.5						
SONM	**Songino Array**	**43.48**	**322**	P	**P**	**14 55 07.4**	**+0.1**
	comp=Z,1.7nm,0.6s,mb3.7,baz=137,slow=7.8,SNR=18						
SONM				ScP	ScP	15 00 20.4	-3.2
	comp=Z,0.3nm,0.8s,baz=134,slow=4.2,SNR=3.5						
DZM	**Mont Dzumac**	**44.89**	**152**	P	**P**	**14 55 18.3**	**-0.1**
	comp=Z,7.1nm,0.5s,mb4.3,baz=50,slow=10,SNR=8.0						
YAK	**Yakutsk**	**45.25**	**350**	*e*P	**P**	**14 55 19.9**	**-1.3**
	comp=Z,22nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**49.85**	**184**	*e*P	**P**	**14 55 53.6**	**-3.0**
	comp=Z,0.8nm,0.3s,mb3.5						
STKA	**Stephens Creek**	**49.85**	**184**	P	**P**	**14 55 53.6**	**-3.0**
	comp=Z,0.9nm,0.3s,mb3.5,baz=23,slow=8.5,SNR=6.5						
UNV	**Unalaska Valle**	**51.23**	**34**	*e*P	**P**	**14 56 06.7**	**-0.2**
	comp=Z,26nm,0.5s,mb4.9						
BILL	**Bilibino**	**51.62**	**10**	*e*P	**P**	**14 56 08.0**	**-1.8**
	comp=Z,16nm,0.9s,mb4.4						
AKUT	**Akutan**	**51.74**	**34**	*e*P	**P**	**14 56 10.7**	**0.0**
AFI	**Afiamalu**	**52.79**	**124**	LR	LR	15 14 00.9	
	comp=Z,152nm,20.3s,baz=262,slow=30						
WMQ	**Urumqi**	**54.55**	**311**	*e*P	**P**	**14 56 32.6**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,160nm,5.4s						
ZAL	**Zalesovo**	**58.37**	**323**	P	**P**	**14 56 57.7**	**-0.4**
	comp=Z,1.8nm,0.3s,mb4.2,baz=165,slow=5.1,SNR=3.7						
MKAR	**Makanchi Array**	**58.73**	**314**	P	**P**	**14 57 01.3**	**+0.7**
	comp=Z,1.3nm,0.5s,mb3.9,baz=91,slow=7.8,SNR=22						
MKAR				ScP	ScP	15 01 26.8	-2.3
	comp=Z,0.4nm,0.9s,baz=134,slow=4.2,SNR=2.3						
SVW2	**Sparrevohn**	**59.42**	**29**	*e*P	**P**	**14 57 05.0**	**-0.3**
TTA	**Tatalina**	**59.84**	**27**	*e*P	**P**	**14 57 08.3**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.1						
KDAK	**Kodiak Island**	**59.94**	**33**	P	**P**	**14 57 09.0**	**+0.2**
	comp=Z,5.2nm,0.6s,mb4.3,baz=292,slow=4.2,SNR=5.2						
KDAK	**Kodiak Island**	**59.94**	**33**	P	**P**	**14 57 09.0**	**+0.2**
SML	**Sawmill**	**62.96**	**29**	*e*P	**P**	**14 57 28.4**	**-0.7**
BVAR	**Borovoye Array**	**66.81**	**321**	P	**P**	**14 57 53.5**	**-0.3**
	comp=Z,6.2nm,0.6s,mb4.4,baz=92,slow=7.7,SNR=29						
BRVK	**Borovoye**	**66.87**	**321**	*e*P	**P**	**14 57 53.0**	**-1.3**
	comp=Z,2.8nm,0.5s,mb4.2						
DAWY	**Dawson**	**67.34**	**27**	*e*P	**P**	**14 57 57.5**	**+0.2**
INK	**Inuvik**	**69.97**	**23**	P	**P**	**14 58 12.8**	**-0.7**
	comp=Z,7.0nm,0.7s,mb4.4,baz=275,slow=6.2,SNR=30						
INK	**Inuvik**	**69.97**	**23**	*e*P	**P**	**14 58 12.8**	**-0.7**
	comp=Z,8.2nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**78.58**	**28**	P	**P**	**14 59 02.6**	**-0.6**
	comp=Z,4.0nm,0.6s,mb4.2,baz=290,slow=5.8,SNR=13						
YBH	**Yreka Blue Hor**	**79.46**	**50**	*e*P	**P**	**14 59 08.8**	**+0.9**
	comp=Z,1.5nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**82.99**	**342**	P	**P**	**14 59 24.5**	**-1.9**
	comp=Z,1.0nm,0.6s,mb3.7,baz=68,slow=6.9,SNR=12						
NVAR	**Mina Array Bea**	**83.64**	**52**	P	**P**	**14 59 31.0**	**+1.2**
	comp=Z,3.3nm,0.6s,mb4.2,baz=277,slow=4.3,SNR=16						
NVAR	**Mina Array Bea**	**83.64**	**52**	P	**P**	**14 59 31.0**	**+1.2**
JOF	**Joensuu**	**84.47**	**335**	*e*p	**P**	**14 59 31.0**	**-3.0**
	comp=Z,3.1nm,0.4s,mb4.4						
HLID	**Hailey**	**84.76**	**46**	*e*P	**P**	**14 59 36.3**	**+0.9**
	comp=Z,4.4nm,1.3s,mb4.0						
FINES	**FINESS Array B**	**87.33**	**335**	P	**P**	**14 59 44.8**	**-3.2**
	comp=Z,0.8nm,0.4s,mb3.9,baz=69,slow=5.0,SNR=13						
HWUT	**Hardware Ranch**	**87.42**	**47**	*e*P	**P**	**14 59 49.1**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.0						
FFC	**Flin Flon**	**87.67**	**32**	*e*P	**P**	**14 59 48.9**	**-0.7**
	comp=Z,6.8nm,0.9s,mb4.5						
MSU	**Marysvale**	**88.13**	**50**	*e*P	**P**	**14 59 53.1**	**+1.3**
BW06	**Boulder Array**	**88.36**	**45**	*e*P	**P**	**14 59 52.6**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**88.36**	**45**	P	**P**	**14 59 53.1**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.8,baz=133,slow=2.0,SNR=4.8						
PV10	**Paradox Valley**	**90.46**	**49**	*e*P	**P**	**15 00 03.2**	**+0.6**
LPAZ	**La Paz**	**147.84**	**92**	PKPbc	PKPbc	15 06 46.8	+1.8
	comp=Z,1.2nm,0.5s,baz=289,slow=3.0,SNR=7.9						
LPAZ	**La Paz**	**147.84**	**92**	*e*PKPbc	PKPbc	15 06 46.8	+1.7

*ISCJB **13** 14:53:56.2±0.7, 2835S±004×6740W±007, h115km±10km, mb4.0/4, Error ellipse: s-maj=10.1km s-min=6.9km az=148.4*
*BJI **13** 14:53:56.4, 2840S×6740W, h116km, mB4.8*
*NEIC **13** 14:53:57.5±0.5, 2839S×6735W, h117km±6km, mb4.6/5, Error ellipse: s-maj=8.3km s-min=7.0km az=84.0*
*IDC **13** 14:53:57.2±1.2, 2841S×6744W, h112km±12km, mb3.7/3, mb1 3.8/7, mb1mx3.6/18, mbtmp4.0/7, Error ellipse: s-maj=23.5km s-min=10.7km az=93.0*

ISC 13 14:53:57.5±0.6, 2836S±004×6741W±006, h111km±9km, n26, σ1§09/30, mb4.0/4, 5C-1D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.79**	**290**	⇑*i*P	**Pn**	**14 54 41.0**	**+0.3**
CPCH				*i*S	**Sn**	**14 55 12.5**	**-1.6**
LCO	**Las Campanas**	**2.96**	**257**	⇑*i*P	**Pn**	**14 54 44.1**	**+1.1**
LCO				*i*S	**Sn**	**14 55 18.4**	**+0.3**
CDCH	**Caldera**	**3.29**	**292**	⇓*i*P	**Pn**	**14 54 47.5**	**+0.1**
CDCH				*i*S	**Sn**	**14 55 23.0**	**-2.9**
CFAA	**Coronel Fontan**	**3.31**	**192**	P	**Pn**	**14 54 48.4**	**+0.8**
	1.6nm,0.3s,baz=355,slow=12,SNR=96						
CFAA				S	**Sn**	**14 55 25.2**	**-1.2**
	24nm,0.3s,baz=255,slow=17,SNR=44						
CFAA	**Coronel Fontan**	**3.31**	**192**	P	**Pn**	**14 54 48.4**	**+0.8**
CFAA				S	**Sn**	**14 55 25.2**	**-1.2**
TLL	**Tololo Astrono**	**3.47**	**238**	⇑*i*P	**Pn**	**14 54 50.5**	**+0.8**
TLL				*i*S	**Sn**	**14 55 31.0**	**+0.9**
CRCH	**Chaqaral**	**3.49**	**304**	⇑*i*P	**Pn**	**14 54 51.2**	**+1.2**
CRCH				*i*S	**Sn**	**14 55 29.2**	**-1.5**
LVC	**Limon Verde**	**5.88**	**346**	P	**Pn**	**14 55 24.5**	**+2.3**
	4.9nm,0.3s,baz=172,slow=10,SNR=48						
LVC				S	**Sn**	**14 56 28.5**	**+0.2**
	4.3nm,0.3s,baz=209,slow=22,SNR=3.7						
LVC	**Limon Verde**	**5.88**	**346**	⇑iPn	**Pn**	**14 55 24.4**	**+2.2**
	12nm,0.4s						
LVC				*e*Sn	**Sn**	**14 56 21.0**	**-7.3**
CPUP	**Villa Florida**	**9.19**	**80**	P	**Pn**	**14 56 06.2**	**-0.8**
	1.6nm,0.3s,baz=240,slow=12,SNR=13						
CPUP	**Villa Florida**	**9.19**	**80**	*e*Pn	**Pn**	**14 56 05.9**	**-1.1**
	44nm,0.6s						
TRQA	**Tornquist**	**10.68**	**156**	*e*Pn	**Pn**	**14 56 26.3**	**-0.9**
	8.5nm,0.6s						
LPAZ	**La Paz**	**12.03**	**357**	P	**Pn**	**14 56 47.5**	**+2.2**
	0.2nm,0.3s,baz=187,slow=7.3,SNR=5.3						
LPAZ	**La Paz**	**12.03**	**357**	*e*Pn	**Pn**	**14 56 46.9**	**+1.7**
	2.7nm,0.6s						
SIV	**San Ignacio**	**13.63**	**27**	P	**Pn**	**14 57 04.9**	**-1.2**
	0.3nm,0.3s,baz=295,slow=20,SNR=2.8						
SAML	**Samuel**	**19.72**	**12**	*e*P	**P**	**14 58 18.5**	**+0.3**
SDV	**Santo Domingo**	**37.16**	**355**	*e*P	**P**	**15 00 56.2**	**-1.3**
	12nm,1.2s,mb4.7						
DBIC	**Dimbokro**	**69.57**	**70**	*e*P	**P**	**15 04 54.4**	**0.0**
TORD	**Torodi Ar. Bea**	**78.50**	**68**	P	**P**	**15 05 46.8**	**+0.5**
	2.7nm,0.7s,mb4.1,baz=273,slow=6.2,SNR=34						
PDAR	**

ECX	**Ensenada**	**0.30**	**279**⇑	*e*P	**Pg**	**15 29 57.1**	**-0.4**
ECX				*e*S	**Sg**	**15 30 01.4**	**-0.2**
CCX	**Cicese**	**0.31**	**278**⇑	*e*P	**Pg**	**15 29 57.7**	**+0.1**
CCX				*e*S	**Sg**	**15 30 02.4**	**+0.7**
ENX	**Ensenada**	**0.31**	**281**⇑	*e*P	**Pg**	**15 29 57.7**	**+0.1**
ENX				*e*S	**Sg**	**15 30 02.5**	**+0.7**
ENX			⇑	*e*		15 30 03.0	
	comp=E,8μm,0.2s						
ENX	**Ensenada**	**0.31**	**281**⇑	*e*P	**Pg**	**15 29 57.7**	**+0.1**
ENX				*e*S	**Sg**	**15 30 02.5**	**+0.7**
RDX	**Rancho Dowling**	**0.32**	**70**⇑	*e*P	**Pg**	**15 29 57.4**	**-0.4**
RDX				*e*S	**Sg**	**15 30 02.2**	**+0.1**
RDX			⇑	*e*		15 30 04.3	
	comp=E,7μm,0.3s						
RDX	**Rancho Dowling**	**0.32**	**70**⇑	*e*P	**Pg**	**15 29 57.4**	**-0.4**
RDX				*e*S	**Sg**	**15 30 02.2**	**+0.1**
PBX	**Punta Banda**	**0.37**	**257**⇑	*e*P	**Pg**	**15 29 58.5**	**-0.1**
PBX				*e*S	**Sg**	**15 30 03.2**	**-0.3**
CBX	**Cerro Bola**	**0.57**	**328**⇓	*e*P	**Pg**	**15 30 02.0**	**-0.6**
CBX				*e*S	**Sg**	**15 30 10.2**	**0.0**
RMX	**La Rumorosa**	**0.80**	**14**⇓	*e*P	**Pg**	**15 30 06.4**	**-0.4**
RMX				*e*S	**Sg**	**15 30 16.7**	**-0.6**
SPX	**San Pedro Mart**	**1.06**	**137**⇑	*e*P	**Pg**	**15 30 09.1**	**-2.6**
SPX				*e*S	**Sg**	**15 30 22.2**	**-3.3**
109C			⇑	S	**Sb**	**15 30 29.7**	**-1.8**
	baz=1.2						
109C	**Camp Elliot, M**	**1.26**	**328**	⇑P	**Pn**	**15 30 13.4**	**-1.6**
	baz=1.2,SNR=18						
GLA	**Glamis**	**1.75**	**45**⇑	*i*Pn	**Pn**	**15 30 20.7**	**-1.1**
GLA				*e*Sn	**Sn**	**15 30 42.2**	**-1.9**
GLA			⇑	S	**Sn**	**15 30 42.2**	**-2.0**
	baz=1.8						
GLA	**Glamis**	**1.75**	**45**	⇑P	**Pn**	**15 30 20.7**	**-1.0**
	baz=1.8						
PFO	**Pinyon Flat Ob**	**1.79**	**356**	⇓P	**Pn**	**15 30 20.8**	**-1.5**
	baz=1.8,SNR=37						
Y12C	**Blythe**	**2.44**	**38**	⇑P	**Pn**	**15 30 30.7**	**-0.6**
	baz=2.5						
SNCC	**San Nicolas Is**	**3.07**	**298**	Pn	**Pn**	**15 30 39.0**	**-0.9**
Z14A	**Wintersburg**	**3.22**	**61**	⇓P	**Pn**	**15 30 41.7**	**-0.3**
	baz=3.3						
Z14A			⇓	P		15 31 11.4	
	baz=3.3,SNR=14						
X13A	**Yucca**	**3.45**	**36**	⇑P	**Pn**	**15 30 45.2**	**0.0**
	baz=3.5						
X13A			⇓	P		15 31 15.7	
	baz=3.5						
Y14A	**Wickenburg**	**3.49**	**52**	⇑P	**Pn**	**15 30 46.0**	**+0.3**
	baz=3.5						
GSC	**Goldstone**	**3.49**	**353**	*e*Pn	**Pn**	**15 30 46.3**	**+0.6**
GSC				*e*Pg	**Pg**	**15 30 53.3**	**-5.0**
GSC				*e*Sn	**Sn**	**15 31 23.3**	**-3.8**
GSC	**Goldstone**	**3.49**	**353**	⇑P	**Pn**	**15 30 45.6**	**-0.2**
	baz=3.5						
GSC			⇑	P		15 31 16.0	
	baz=3.5						
115A	**Sonoran Desert**	**3.56**	**75**	⇑P	**Pn**	**15 30 48.2**	**+1.5**
	baz=3.6						
115A			⇓	P		15 31 15.9	
	baz=3.6						
W12A	**Cal Nev Ari**	**3.67**	**19**	⇑P	**Pn**	**15 30 48.4**	**+0.2**
	baz=3.7						
W12A			⇑	P		15 31 19.0	
	baz=3.7						
X14A	**Yava**	**3.90**	**46**	⇓P	**Pn**	**15 30 52.6**	**+1.3**
	baz=3.9						
X14A			⇑	P		15 31 22.3	
	baz=3.9,SNR=10						
W14A	**Seligman**	**4.32**	**38**	⇑P	**Pn**	**15 30 58.1**	**+0.9**
	baz=4.3,SNR=5.9						
W14A			⇓	P		15 31 28.7	
	baz=4.3,SNR=16						
X15A	**Humboldt**	**4.32**	**51**	⇑P	**Pn**	**15 30 58.3**	**+1.1**
	baz=4.4						
DAC	**Darwin (Calif)**	**4.57**	**347**	*e*Pn	**Pn**	**15 31 01.7**	**+1.2**
W15A	**Williams**	**4.75**	**44**	⇓P	**Pn**	**15 31 03.8**	**+0.8**
	baz=4.8						
W15A			⇓	P		15 31 34.6	
	baz=4.8,SNR=21						
PTRM	**Twissleman Ran**	**5.02**	**321**	*e*Pn	**Pn**	**15 31 06.5**	**-0.2**
TPNV	**Topopah Spring**	**5.11**	**1**	*e*Pn	**Pn**	**15 31 10.2**	**+2.1**
WUAZ	**Wupatki**	**5.52**	**47**	*e*Pn	**Pn**	**15 31 15.6**	**+2.0**
	comp=E,7.0nm,0.4s						
LRV	**Little Rabbit**	**6.03**	**321**	*e*Pn	**Pn**	**15 31 22.1**	**+1.5**
MNTX	**Cornudas Mount**	**9.30**	**88**	Pn	**Pn**	**15 32 06.7**	**+1.2**

*BJI **13** 15:30:18.7,3182N×11624W,h8km,mB5.1,mb4.5,Ms5.0, Msz4.7*
*IDC **13** 15:30:19.8±3.1,3163N×11624W,h0km,mb4.2/2, mb1 4.2/7,mb1mx3.9/24,mbtmp4.0/7,ML4.0/5,MS3.4/5, Ms1 3.3/5,ms1mx2.9/41,Error ellipse: s-maj=35.8km s-min=21.7km az=15.0*
*ISCJB **13** 15:30:20.3±0.4,3180N±003×11629W±002,h10km, mb4.0/3,MS3.7/6,Error ellipse: s-maj=4.1km s-min=2.5km az=177.2*
*ECX **13** 15:30:21.5±0.6,3180N×11628W,h5km,MD4.3,ML4.5*
*NEIC **13** 15:30:21.5,3180N×11627W,h5km,mb3.9/4,ML4.5(PAS), ML4.6(ECX),After ECX.*
NEIC Felt [III] at El Cajon, La Jolla, San Diego and Torrance. Felt at Alpine, Boulevard, Chula Vista, Dulzura, El Centro, Jamul, Pine Valley, Ramona, Redondo Beach, Santa Monica, Spring Valley, Torrance and West Covina, California.

ISC 13 15:30:21.7±0.5,**3184N**±003×**11633W**±002,**h4**km±3km, **n105**,σ1§**26**/114,**mb4.0**/3,**MS3.7**/6,**23C-26D,Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECX	**Ensenada**	**0.29**	**276**⇑	*e*P	**Pg**	**15 30 27.1**	**-0.1**
CCX	**Cicese**	**0.29**	**276**⇑	*e*P	**Pg**	**15 30 27.8**	**+0.5**
ENX	**Ensenada**	**0.29**	**279**⇑	*e*P	**Pg**	**15 30 28.0**	**+0.6**
ENX				*e*S	**Sg**	**15 30 32.1**	**+1.0**
ENX			⇑	*e*		15 30 33.6	
	comp=N,36μm,0.6s						
ENX	**Ensenada**	**0.29**	**279**⇑	*e*P	**Pg**	**15 30 28.0**	**+0.6**
ENX				*e*S	**Sg**	**15 30 32.1**	**+1.0**
ECNX	**Esteban Cantu**	**0.29**	**232**⇑	*e*P	**Pg**	**15 30 27.1**	**-0.2**
ECNX			⇑	*e*P		15 30 27.8	
ECNX				*e*S	**Sg**	**15 30 32.5**	**+1.4**
RDX	**Rancho Dowling**	**0.34**	**73**⇑	*e*P	**Pg**	**15 30 27.4**	**-0.8**
RDX				*e*S	**Sg**	**15 30 32.3**	**-0.3**
RDX			⇓	*e*		15 30 34.1	
	comp=N,51μm,0.6s						
PBX	**Punta Banda**	**0.35**	**255**⇑	*e*P	**Pg**	**15 30 28.6**	**+0.1**
CBX	**Cerro Bola**	**0.56**	**329**⇓	*e*P	**Pg**	**15 30 32.1**	**-0.2**
CBX				*e*S	**Sg**	**15 30 40.5**	**+1.0**
RMX	**La Rumorosa**	**0.79**	**15**⇓	*e*P	**Pg**	**15 30 36.3**	**-0.6**
RMX				*e*S	**Sg**	**15 30 46.9**	**-0.2**
BAR	**Barrett**	**0.89**	**341**⇓	*e*P	**Pg**	**15 30 37.7**	**-1.1**
SPX	**San Pedro Mart**	**1.08**	**137**⇓	*e*P	**Pg**	**15 30 39.3**	**-3.1**
SPX			⇓	*e*		15 30 56.6	
	comp=E,11μm,0.8s						
109C	**Camp Elliot, M**	**1.24**	**328**	⇓P	**Pg**	**15 30 43.5**	**-2.0**
	baz=1.2,SNR=9.0						
109C			⇓	S	**Sg**	**15 31 00.0**	**-1.6**
	baz=1.2						
GLA	**Glamis**	**1.75**	**46**	*e*Pn	**Pn**	**15 30 50.8**	**-2.1**
GLA				*e*Sn	**Sn**	**15 31 11.7**	**-4.0**
GLA	**Glamis**	**1.75**	**46**	⇑P	**Pn**	**15 30 50.9**	**-2.0**
	baz=1.8						
GLA			⇓	S	**Sn**	**15 31 12.5**	**-3.2**
	baz=1.8						
PFO	**Pinyon Flat Ob**	**1.77**	**357**	⇑S	**Sn**	**15 31 16.3**	**+0.2**
	baz=1.8						
Y12C	**Blythe**	**2.44**	**38**	⇑P	**Pn**	**15 31 01.0**	**-1.3**
	baz=2.5						
Y12C			⇑	S	**Sn**	**15 31 32.0**	**-0.6**
	baz=2.5						
Y13A	**Salome**	**2.88**	**46**	⇓P	**Pn**	**15 31 07.1**	**-1.3**
	baz=2.9,SNR=20						
SNCC	**San Nicolas Is**	**3.04**	**298**	*e*Pn	**Pn**	**15 31 08.4**	**-2.3**
SNCC	**San Nicolas Is**	**3.04**	**298**	⇑P	**Pn**	**15 31 08.2**	**-2.5**
	baz=3.0,SNR=8.7						
SNCC			⇓	S	**Sn**	**15 31 45.7**	**-1.9**
	baz=3.0						
OSI	**Osito Adit**	**3.42**	**325**	⇓P	**Pn**	**15 31 15.8**	**-0.1**
	baz=3.4						
OSI			⇓	S	**Sn**	**15 31 55.7**	**-1.2**
	baz=3.4						
GSC	**Goldstone**	**3.48**	**354**	*e*Pn	**Pn**	**15 31 15.8**	**-0.8**
Y14A	**Wickenburg**	**3.50**	**52**	⇓P	**Pn**	**15 31 15.6**	**-1.3**
	baz=3.5						
Y14A			⇓	S	**Sn**	**15 31 58.5**	**-0.3**
	baz=3.5						
TUQ	**Turquoise Mtn.**	**3.60**	**5**	⇓P	**Pn**	**15 31 17.2**	**-1.2**
	baz=3.6						
ISA	**Isabella**	**4.21**	**335**	*e*Pn	**Pn**	**15 31 26.2**	**-0.5**
ISA	**Isabella**	**4.21**	**335**	⇑P	**Pn**	**15 31 26.8**	**0.0**
	baz=4.2						
X15A	**Humboldt**	**4.33**	**51**	P	**Pn**	**15 31 27.9**	**-0.5**
	baz=4.4,SNR=12						
X15A			⇓	S	**Sn**	**15 32 18.7**	**-0.5**
	baz=4.4						
DAC	**Darwin (Calif)**	**4.55**	**347**	*e*P	**Pn**	**15 31 32.0**	**+0.6**
TUC	**Tucson**	**4.73**	**83**	Pn	**Pn**	**15 31 22.1**	**-12**
PTRM	**Twissleman Ran**	**5.00**	**321**	*e*P	**Pn**	**15 31 28.6**	**-8.9**
TPNV	**Topopah Spring**	**5.10**	**1**	*e*Pn	**Pn**	**15 31 40.4**	**+1.5**
	comp=E,56nm,0.4s						
TPNV				*e*Sn	**Sg**	**15 33 03.6**	**-1.9**
PKD	**Parkfield**	**5.39**	**321**	⇑P	**Pn**	**15 31 41.9**	**-1.0**
	baz=5.4,SNR=7.1						
WUAZ	**Wupatki**	**5.52**	**47**	*e*P	**Pn**	**15 31 45.5**	**+0.8**
	comp=E,89nm,0.4s						
S08C	**White Mtn Res**	**5.85**	**345**	⇑P	**Pn**	**15 31 49.3**	**+0.1**
	baz=5.9						
S09A	**Goldfield**	**5.92**	**353**	⇑P	**Pn**	**15 31 51.4**	**+1.3**
	baz=5.9,SNR=10						
KCC	**Kaiser Creek**	**6.00**	**337**	⇓P	**Pn**	**15 31 52.7**	**+1.3**
	baz=6.0						
LRV	**Little Rabbit**	**6.00**	**321**	P	**Pn**	**15 31 47.4**	**-4.0**
CCUT	**Cedar City**	**6.20**	**22**	*e*Pn	**Pn**	**15 31 55.6**	**+1.6**
HAST	**Hastings Reser**	**6.28**	**318**	⇓P	**Pn**	**15 31 53.1**	**-2.0**
	baz=6.3						
HAST			⇓	S	**Sn**	**15 33 04.4**	**-2.8**
	baz=6.3						
ARUT	**Antelope Range**	**6.39**	**21**	*e*Pn	**Pn**	**15 31 58.4**	**+1.7**
S05C	**Merced**	**6.41**	**330**	⇓P	**Pn**	**15 31 55.7**	**-1.3**
	baz=6.4						
SAO	**San Andreas Ge**	**6.49**	**321**	*e*Pn	**Pn**	**15 31 56.8**	**-1.2**
	comp=E,11nm,0.8s						
PACP	**Pacheco Peak**	**6.59**	**323**	⇑P	**Pn**	**15 31 59.0**	**-0.4**
	baz=6.6						
S06C	**San Francisco**	**6.69**	**335**	⇑P	**Pn**	**15 32 00.5**	**-0.2**
	baz=6.7						
MNV	**Mina**	**6.75**	**348**	*e*Pn	**Pn**	**15 32 02.4**	**+0.8**
	comp=E,17nm,0.8s						
NVAR	**Mina Array Bea**	**6.77**	**347**	Pn	**Pn**	**15 32 04.0**	**+2.1**
	comp=E,1.1nm,0.3s,baz=120,slow=21,SNR=9.7						
NVAR				Pg	**Pg**	**15 32 14.9**	**-17**
	comp=E,1.3nm,0.3s,baz=98,slow=30,SNR=12						
NVAR				Lg		15 33 59.9	
	comp=E,1.0nm,0.3s,baz=354,slow=23,SNR=3.2						
CMB	**Columbia Colle**	**7.02**	**333**	*e*Pn	**Pn**	**15 32 06.0**	**+0.6**
	comp=E,9.1nm,0.6s						
CMB	**Columbia Colle**	**7.02**	**333**	⇑P	**Pn**	**15 32 05.4**	**+0.1**
	baz=7.0						
BNLO	**Ben Lomond**	**7.15**	**319**	⇑S	**Sn**	**15 33 27.2**	**-1.6**
	baz=7.1						
R04C	**Big Horse Ranc**	**7.44**	**331**	⇑P	**Pn**	**15 32 09.9**	**-1.1**
	baz=7.4						
MSU	**Marysvale**	**7.47**	**26**	*e*Pn	**Pn**	**15 32 14.9**	**+3.3**
R05C	**Kirkwood Meado**	**7.50**	**337**	⇓P	**Pn**	**15 32 13.7**	**+1.7**
	baz=7.5						
P12A	**McGill**	**7.70**	**8**	⇓P	**Pn**	**15 32 16.6**	**+1.9**
	baz=7.7						
LENM	**Lemitar**	**8.19**	**71**	*e*Pn	**Pn**	**15 32 20.6**	**-0.8**
O09A	**Fish Creek Ran**	**8.35**	**355**	⇓P	**Pn**	**15 32 24.9**	**+1.4**
	baz=8.4						
MVCO	**Mesa Verde**	**8.39**	**48**	*e*Pn	**Pn**	**15 32 26.6**	**+2.5**
BNM	**Barren Site**	**8.47**	**72**	*e*P	**Pn**	**15 32 24.8**	**-0.3**
LPM	**Los Pinos Moun**	**8.50**	**71**	*e*Pn	**Pn**	**15 32 24.9**	**-0.7**
TMUT	**Trail Mountain**	**8.53**	**28**	Pn	**Pn**	**15 32 25.5**	**-0.5**
MNRC	**McLaughlin Nat**	**8.62**	**326**	⇓P	**Pn**	**15 32 27.7**	**+0.5**
	baz=8.6						
SRU	**San Rafael**	**8.66**	**31**	*e*Pn	**Pn**	**15 32 29.6**	**+1.8**
	comp=E,80nm,0.8s						
DUG	**Dugway**	**8.81**	**18**	Pn	**Pn**	**15 32 28.9**	**-1.0**
	comp=E,20nm,1.0s						
ANMO	**Albuquerque**	**8.81**	**67**	Pn	**Pn**	**15 32 29.4**	**-0.5**
	comp=E,0.2nm,0.3s,baz=272,slow=11,SNR=6.6						
ANMO				Lg		15 35 01.0	
	comp=E,0.2nm,0.3s,baz=340,slow=18,SNR=3.1						
ANMO	**Albuquerque**	**8.81**	**67**	*e*Pn	**Pn**	**15 32 29.2**	**-0.7**
	comp=E,7.1nm,0.7s						
PV10	**Paradox Valley**	**8.84**	**40**	*e*Pn	**Pn**	**15 32 32.3**	**+2.1**
ELK	**Elko**	**8.93**	**5**	*e*Pn	**Pn**	**15 32 33.0**	**+1.4**
	comp=E,3.9nm,0.4s						
ELK				*e*S	Sn	15 34 57.8	+45
PV01	**Paradox Valley**	**8.94**	**43**	*e*Pn	**Pn**	**15 32 32.7**	**+1.1**
MNTX	**Cornudas Mount**	**9.32**	**88**	*e*Pn	**Pn**	**15 32 35.9**	**-1.0**
	comp=E,5.8nm,0.6s						
MNTX				*e*Sn	**Sn**	**15 34 21.6**	**-0.5**
LPIG	**La Paz**	**9.36**	**144**	LR	LR	15 36 08.5	
	comp=E,210nm,19.3s,baz=29,slow=38						
BGU	**Big Grassy Mou**	**9.45**	**15**	*e*Pn	**Pn**	**15 32 39.7**	**+1.1**
DAU	**Daniels Canyon**	**9.49**	**24**	Pn	**Pn**	**15 32 41.2**	**+2.1**
TCUT	**Toone Canyon**	**10.07**	**22**	Pn	**Pn**	**15 32 48.8**	**+1.6**
L09A	**Wilkinson Ranc**	**10.22**	**354**	⇓P	**Pn**	**15 32 53.0**	**+3.8**
	baz=10						
HWUT	**Hardware Ranch**	**10.47**	**20**	*e*P	**Pn**	**15 32 56.5**	**+3.9**
	comp=E,31nm,1.1s						
MOD	**Modoc**	**10.54**	**344**	*e*P	**Pn**	**15 32 56.3**	**+2.8**
	comp=E,31nm,1.6s						
SMCO	**Snowmass**	**10.56**	**44**	*e*P	**Pn**	**15 32 57.0**	**+3.1**
	comp=E,21nm,0.8s						
YBH	**Yreka Blue Hor**	**11.12**	**334**	Pn	**Pn**	**15 33 06.4**	**+4.9**
	comp=E,0.1nm,0.3s,baz=97,slow=3.6,SNR=4.5						
LTX	**Lajitas**	**11.19**	**100**	*e*P	**Pn**	**15 33 01.8**	**-0.6**
	comp=E,3.7nm,0.6s						
ISCO	**Idaho Springs**	**11.77**	**45**	P	**Pn**	**15 33 09.7**	**-0.7**
	comp=E,8.4nm,1.0s						
PDAR	**Pinedale Array**	**12.16**	**24**	Pn	**Pn**	**15 33 20.1**	**+4.3**
	comp=E,0.2nm,0.3s,baz=214,slow=10,SNR=27						
PDAR				Lg		15 36 50.0	
	comp=E,0.2nm,0.3s,baz=36,slow=36,SNR=3.3						
REDW	**Red Top Meadow**	**12.29**	**19**	*e*P	**Pn**	**15 33 19.2**	**+1.7**
	comp=E,9.8nm,0.9s						
TPAW	**Teton Pass**	**12.38**	**19**	P	**Pn**	**15 33 20.7**	**+1.9**
	comp=E,12nm,1.2s						
LOHW	**Long Hollow**	**12.59**	**19**	P	**Pn**	**15 33 22.8**	**+1.2**
	comp=E,7.5nm,1.0s						
IMW	**Indian Meadow**	**12.77**	**18**	P	**Pn**	**15 33 24.1**	**+0.1**
	comp=E,9.0nm,1.1s						
DLMT	**Dillon**	**13.81**	**11**	P	**Pn**	**15 33 39.0**	**+0.7**
	comp=E,10nm,1.1s						
CHMT	**Chamberlain Mo**	**15.24**	**8**	*e*P	**Pn**	**15 33 56.6**	**-1.1**
RSSD	**Black Hills**	**15.61**	**35**	*e*P	**Pn**	**15 34 02.7**	**+0.2**
	comp=E,10nm,1.3s						
NEW	**Newport**	**16.42**	**358**	Pn	**Pn**	**15 34 16.2**	**+3.2**
	comp=E,1.2nm,0.3s,baz=124,slow=0.9,SNR=3.8						
WALA	**Waterton Lakes**	**17.30**	**5**	*e*P	**Pn**	**15 34 25.7**	**+1.5**
	comp=E,5.3nm,1.1s						
MIAR	**Mount Ida**	**19.23**	**76**	P	**Pn**	**15 34 46.3**	**-1.5**
	comp=E,8.3nm,1.0s						
ULM	**Lac du Bonnet**	**23.87**	**34**	P	**P**	**15 35 36.2**	**0.0**
	comp=E,1.5nm,0.7s,mb3.5,baz=226,slow=11,SNR=3.4						
CMIG	**Matias Romero**	**24.36**	**122**	LR	LR	15 45 27.2	
	comp=E,93nm,19.5s,MS3.3,baz=319,slow=38						
DLBC	**Dease Lake**	**28.19**	**345**	P	**P**	**15 36 14.6**	**-0.8**
	comp=E,3.0nm,0.4s,mb4.3,baz=197,slow=25,SNR=3.1						
DLBC	**Dease Lake**	**28.19**	**345**	P	**P**	**15 36 14.6**	**-0.8**
YKA	**Yellowknife Ar**	**30.69**	**2**	LR	LR	15 49 04.9	
	comp=E,45nm,18.6s,MS3.1,baz=220,slow=36						
SADO	**Sadowa**	**31.63**	**55**	LR	LR	15 51 06.8	
	comp=E,54nm,18.1s,MS3.3,baz=330,slow=39						
DAWY	**Dawson**	**35.33**	**343**	*e*P	**P**	**15 37 19.0**	**+0.9**
INK	**Inuvik**	**37.85**	**350**	LR	LR	15 53 21.3	
	comp=E,48nm,18.8s,MS3.3,baz=288,slow=36						
INK	**Inuvik**	**37.85**	**350**	*e*P	**P**	**15 37 40.1**	**+0.5**
	comp=E,2.9nm,0.8s,mb4.1						
MDJ	**Mudanjiang**	**83.14**	**319**	P	**P**	**15 42 47.4**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,40nm,6.5s						
MDJ				LR	LR		
	comp=N,240nm,30.2s,MS4.6						
MDJ				LR	LR		
	comp=E,340nm,30.8s,MS4.6						
MDJ				LR	LR		
	comp=Z,520nm,28.9s,MS4.7						
CN2	**Changchun**	**85.95**	**320**	*e*P	**P**	**15 43 03.5**	**+0.4**
CN2				*e*S		15 53 36.1	
CN2				LR	LR		
	comp=N,200nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,21.0s,MS4.5						
NJ2	**Nanjing**	**97.79**	**315**	*e*P	**P**	**15 43 57.8**	**-0.5**
WMQ	**Urumqi**	**101.57**	**342**	*e*P	Pdif	15 44 15.8	+0.7
LZH	**Lanzhou**	**102.65**	**328**	*e*P	Pdif	15 44 17.5	-2.4
LZH				AP		15 44 23.6	
LZH				XP		15 44 27.5	
KMI	**Kunming**	**112.17**	**322**	PKP	PKiKP	15 48 56.8	-1.8
KMI				XPKP		15 49 02.1	
FITZ	**Fitzroy Crossi**	**122.86**	**268**	*e*P	Pdif	15 45 52.7	+2.9
	comp=Z,9.9nm,0.9s						

*NIED **13** 15:37:00,2520N×12330E,h35km,Mw4.4 Best double couple: M0:3.84000×10^15 NP1:φ0=86.00000°,δ83.00000°, λ-21.00000°. NP2:φ0=178.00000°,δ69.00000°, λ-172.00000°.*
*ISCJB **13** 15:37:53.6±1.3,2512N±006×12327E±007,h27km±10km, mb3.9/7,Error ellipse: s-maj=10.7km s-min=9.7km az=6.7*
*JMA **13** 15:37:53.2±0.3,2518N×12333E,h21km,M4.1*
*IDC **13** 15:38:29.9±0.8,2535N×12336E,h388km±10km,mb3.1/7, mb1 3.2/9,mb1mx3.1/21,mbtmp3.8/9,Error ellipse: s-maj=29.5km s-min=11.0km az=63.0*

ISC 13 15:37:53.8±1.2,**2510N**±005×**12329E**±006,**h14**km±8km, **n23**,σ1§**12**/24,**mb3.9**/7,**Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.68**	**202**	P	**Pg**	**15 38 07.6**	**+0.7**
IRIF	**Iriomote-Funau**	**0.86**	**152**	P	**Pg**	**15 38 09.8**	**-0.5**
IRIF				S	**Sg**	**15 38 22.2**	**+0.6**
JIJ	**Ishigaki jima**	**1.06**	**133**	P	**Pb**	**15 38 12.6**	**-1.3**
JIJ				S	**Sb**	**15 38 26.4**	**-1.3**
JKRS	**Kuro-shima**	**1.08**	**142**	P	**Pb**	**15 38 13.3**	**-0.8**
JKRS				S	**Sb**	**15 38 28.0**	**0.0**
HATJ	**Hateruma jima**	**1.14**	**155**	P	**Pb**	**15 38 14.8**	**-0.3**
HATJ				S	**Sb**	**15 38 30.3**	**+0.6**
JTJ	**Tarama**	**1.36**	**109**	P	**Pn**	**15 38 17.6**	**-0.7**
JKE	**Kume jima 2**	**3.38**	**68**	P	**Pn**	**15 38 46.1**	**0.0**
JIH	**Iheya**	**4.63**	**64**	P	**Pn**	**15 39 05.6**	**+2.4**
JOW	**Kunigami**	**4.81**	**68**	P	Px	15 39 46.9	
	3.4nm,0.3s,baz=270,slow=12,SNR=6.0						
JOW				S	Sx	15 40 35.8	
	2.3nm,0.3s,baz=285,slow=29,SNR=4.1						
JOW	**Kunigami**	**4.81**	**68**	P	**Pn**	**15 39 08.2**	**+2.5**
JTK	**Tokunoshima**	**5.74**	**61**	P	**Pn**	**15 39 17.9**	**-0.6**
MJAR	**Matsushiro Arr**	**17.14**	**45**	P	**Pn**	**15 42 05.1**	**+12**
	0.2nm,0.3s,baz=247,slow=11,SNR=4.2						
SONM	**Songino Array**	**26.34**	**334**	P	**P**	**15 43 29.5**	**+0.4**
	1.1nm,0.8s,mb3.5,baz=147,slow=8.4,SNR=4.4						
SONM				pP		15 44 38.4	+65
	0.5nm,0.7s,baz=143,slow=14,SNR=1.8						
MKAR	**Makanchi Array**	**39.05**	**314**	P	**P**	**15 45 19.5**	**-0.5**
	1.0nm,1.0s,mb3.5,baz=96,slow=11,SNR=6.2						
MKAR				pP		15 46 34.5	
	0.8nm,0.7s,baz=98,slow=9.0,SNR=2.2						
ZAL	**Zalesovo**	**40.56**	**326**	P	**P**	**15 45 30.7**	**-1.8**
	1.8nm,0.5s,mb4.0,baz=142,slow=15,SNR=4.6						
ZAL				pP		15 46 49.2	
	0.9nm,0.5s,baz=330,slow=9.5,SNR=1.8						
WRA	**Warramunga Arr**	**46.04**	**165**	P	**P**	**15 46 17.8**	**+0.9**
	5.4nm,0.8s,mb4.5,baz=346,slow=8.3,SNR=14						
WB2	**Warramunga Arr**	**46.04**	**165**	*e*P	**P**	**15 46 17.4**	**+0.5**
BVAR	**Borovoye Array**	**48.20**	**320**	P	**P**	**15 46 32.7**	**-1.0**
	0.2nm,0.5s,mb3.4,baz=98,slow=6.0,SNR=3.2						
BVAR				pP		15 47 49.4	
	0.2nm,0.3s,baz=108,slow=9.4,SNR=1.6						
ASAR	**Alice Springs**	**49.55**	**167**	P	**P**	**15 46 45.7**	**+1.6**
	2.4nm,0.9s,mb4.2,baz=351,slow=7.6,SNR=41						
ASAR				pP		15 48 03.0	
	1.2nm,0.3s,baz=355,slow=7.2,SNR=4.7						
ASPA	**Alice Springs**	**49.55**	**167**	*e*P	**P**	**15 46 45.8**	**+1.7**
STKA	**Stephens Creek**	**59.29**	**162**	P	**P**	**15 47 53.3**	**-1.6**
	2.0nm,0.7s,mb4.2,baz=335,slow=7.2,SNR=4.9						
FINES	**FINESS Array B**	**71.63**	**330**	pP		15 50 33.0	
	3.1nm,0.9s,baz=93,slow=13,SNR=4.6						
AKASG	**Malin Array Be**	**73.46**	**319**	pP		15 50 44.5	
	0.1nm,0.3s,baz=64,slow=5.8,SNR=1.8						

*IDC **13** 15:40:31.5±1.0,1556S×17528W,h0km,mb4.0/6, mb1 4.3/6,mb1mx4.2/12,mbtmp4.0/6,MS4.6/16, Ms1 4.6/16,ms1mx4.4/21,

MAW	**Mawson**	**87.20 199**	LR	LR	16 28 46.2		
	comp=Z,468nm,19.2s,MS4.9,baz=241,slow=33						
PLCA	**Paso Flores**	**90.42 133**	LR	LR	16 24 31.2		
	comp=Z,318nm,19.2s,MS4.8,baz=190,slow=29						
YKA	**Yellowknife Ar**	**90.80 24**	LR	LR	16 26 26.2		
	comp=Z,218nm,20.6s,MS4.6,baz=250,slow=30						
SONM	**Songino Array**	**94.05 319**	P	**P**	**15 53 53.4**	**+3.0**	
	0.1nm,0.4s,mb3.6,baz=96,slow=6.0,SNR=2.1						
SONM			LR	LR	16 30 42.8		
	comp=Z,188nm,20.6s,MS4.5,baz=109,slow=32						
BVAR	**Borovoye Array**	**117.16 322**	PKP	PKPdf	15 59 20.3	+3.0	
	0.2nm,0.4s,baz=116,slow=3.4,SNR=4.0						
KECS	**Kecovo**	**144.84 342**	*e*	PKPdf	16 00 13.3	+4.2	
KECS			*e*		16 00 33.0		
VYHS	**Vyhne**	**145.29 344**	*e*PKP	PKPdf	16 00 09.9	0.0	
VYHS			*e*		16 00 25.5		
BR131	**Keskin Array S**	**145.40 320**	*e*PKPbc	PKPbc	16 00 10.5	+0.4	
BRTR	**Keskin Array B**	**145.40 320**	PKPbc	PKPbc	16 00 10.4	+0.4	
	9.5nm,1.1s,baz=85,slow=3.0,SNR=11						
KHC	**Kasperske Hory**	**145.82 350**	*e*P	PKPdf	16 00 13.0	+2.2	
GERES	**GERESS Array B**	**146.08 350**	PKPbc	PKPbc	16 00 12.4	+0.3	
	1.5nm,1.0s,baz=69,slow=7.3,SNR=5.3						
MMAI	**Mount Meron Ar**	**147.59 308**	PKPbc	PKPbc	16 00 16.2	-0.2	
	2.7nm,0.8s,baz=354,slow=16,SNR=4.0						

*ISCJB **13** 15:55:34.8±0.7, 679N±009×730W±0.1, h171km±9km, mb4.0/5, Error ellipse: s-maj=20.5km s-min=10.0km az=82.8*
*IDC **13** 15:55:35.3±0.7, 681N×7303W, h158km±14km, mb3.8/3, mb1 3.8/6, mb1mx3.4/21, mbtmp4.2/6, Error ellipse: s-maj=43.8km s-min=7.8km az=132.0*
*NEIC **13** 15:55:35.8±0.7, 678N×7303W, h162km±8km, mb3.8/3, Error ellipse: s-maj=13.2km s-min=9.8km az=121.0*

ISC 13 15:55:36.0±0.7, 682N±009×730W±01, h161km±10km, n14, σ0°52/17, mb4.0/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.34 214**		P	**Pn**	**15 56 15.7**	**-0.1**
	60nm,0.3s,baz=12,slow=1.3,SNR=121						
ROSC				S	**Sn**	**15 56 46.6**	**+0.2**
	44nm,0.3s,baz=66,slow=20,SNR=8.4						
ROSC	**El Rosal**	**2.34 214**		*e*Pn	**Pn**	**15 56 15.7**	**-0.1**
ROSC				*e*Sn	**Sn**	**15 56 42.4**	**-4.0**
SDV	**Santo Domingo**	**3.13 49**		P	**Pn**	**15 56 25.8**	**+0.4**
	52nm,0.3s,baz=244,slow=3.3,SNR=130						
SDV				S	**Sn**	**15 57 03.5**	**-0.3**
	23nm,0.3s,baz=255,slow=23,SNR=14						
SDV	**Santo Domingo**	**3.13 49**		*e*Pn	**Pn**	**15 56 25.4**	**0.0**
SDV				S	**Sn**	**15 57 03.5**	**-0.3**
PCRV	**Puerto La Cruz**	**8.94 68**		P	**Pn**	**15 57 42.2**	**+0.4**
	1.2nm,0.3s,baz=335,slow=13,SNR=7.2						
SAML	**Samuel**	**18.48 148**		*e*P	**P**	**15 59 39.6**	**-0.1**
	1.2nm,0.3s						
WVT	**Waverly**	**32.17 337**		*e*P	**P**	**16 01 49.2**	**+0.8**
	6.4nm,0.4s,mb4.7						
SDMD	**Soldier's Deli**	**32.63 355**		*e*P	**P**	**16 01 52.5**	**+0.1**
MNTX	**Cornudas Mount**	**39.04 314**		*e*P	**P**	**16 02 47.5**	**+0.5**
	1.0nm,0.7s,mb3.5						
ULM	**Lac du Bonnet**	**47.32 340**		P	**P**	**16 03 52.5**	**-0.9**
	1.5nm,0.3s,mb4.0,baz=149,slow=5.9,SNR=5.3						
SCHQ	**Schefferville**	**48.13 5**		P	**P**	**16 03 59.9**	**+0.2**
	2.3nm,0.9s,mb3.8,baz=190,slow=8.5,SNR=4.0						
YKA	**Yellowknife Ar**	**63.30 340**		P	**P**	**16 05 46.8**	**-0.8**
	1.4nm,0.5s,mb4.0,baz=133,slow=6.2,SNR=8.4						
YKA	**Yellowknife Ar**	**63.30 340**		P	**P**	**16 05 46.8**	**-0.8**
ASAR	**Alice Springs**	**149.19 234**		PKPbc	PKPbc	16 15 05.2	-0.2
	0.3nm,0.6s,baz=121,slow=3.4,SNR=6.7						

JMA 13 16:35:42.3±0.1, 2754N×14128E, h344km, M3.7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.92 119**		P	Pn	16 36 27.5	+0.4
CBIJ				S	S	16 37 02.2	-0.7
JHHJ	**Haha-jima-NKT**	**1.21 138**		P	Pn	16 36 28.4	+0.1
JHHJ				*e*S	S	16 37 05.1	0.0
JHJ2	**Mitsune**	**5.70 348**		P	Pn	16 37 10.1	+0.7
BSO1	**Boso 1**	**7.10 358**		P	Pn	16 37 26.8	+1.2
BSO1				*e*S	S	16 38 47.6	-2.0
BSO3	**Boso 3**	**7.27 355**		P	Pn	16 37 28.8	+1.2
BSO3				*e*S	S	16 38 50.8	-2.5
JAG	**Ashikaga**	**8.99 351**		*e*S	S	16 39 24.4	-6.6
JHO	**Hitachi**	**9.06 356**		*e*S	S	16 39 29.0	-3.6

*NEIC **13** 16:51:09.9, 2648S×7047W, h53km, MG4.2(GUC), After GUC.*
NEIC Felt [IV] at Chanaral and [III] at Diego de Almagro.

GUC 13 16:51:09.9±1.1, 2648S×7047W, h53km±8km, MD4.1, ML4.2, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.19 315**		⇓*i*P	Pn	16 51 18.9	+0.4
CRCH				*i* S	Sn	16 51 25.0	+0.3
CRCH				AML	AML	16 51 25.3	
	comp=N,16μm,0.2s						
CRCH	**Chaqaral**	**0.19 315**		⇓*i*P	Pn	16 51 18.9	+0.4
CRCH				*i* S	Sn	16 51 25.0	+0.3
CDCH	**Caldera**	**0.67 208**		⇓*i*P	Pn	16 51 23.6	+0.2
CDCH				*i* S	Sn	16 51 33.9	+0.6
CPCH	**Copiapo**	**0.88 173**		⇓*i*P	Pn	16 51 29.5	+3.3
CPCH				*i* S	Sn	16 51 43.0	+4.9
CPCH				AML	AML	16 51 46.1	
	comp=N,64μm,0.1s						
CPCH	**Copiapo**	**0.88 173**		⇓*i*P	Pn	16 51 29.5	+3.3
CPCH				*i* S	Sn	16 51 43.0	+4.9
VACH	**Vallenar**	**2.10 187**		*i* P	Pn	16 51 43.2	+0.5
VACH				*i* S	Sn	16 52 08.3	+0.6
LCO	**Las Campanas**	**2.53 185**		*e*P	Pn	16 51 49.5	+1.0
LCO				*i* S	Sn	16 52 19.6	+1.4
CEN1	**Los Morros**	**3.08 5**		*e*P	Pn	16 51 50.5	-5.6
TLL	**Tololo Astrono**	**3.69 184**		*e*P	Pn	16 52 05.8	+1.5
TLL				*i* S	Sn	16 52 48.3	+1.7
TLL				AML	AML	16 53 29.3	
	comp=N,142nm,0.6s						
TLL	**Tololo Astrono**	**3.69 184**		*e*P	Pn	16 52 05.8	+1.5
TLL				*i* S	Sn	16 52 48.3	+1.7

WEL 13 17:00:04.7±0.3, 4040S×17324E, h215km±2km, ML3.5/3, Error ellipse: s-maj=3.5km s-min=2.3km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.69 231**		PN	Pn	17 00 34.1	-0.2
QRZ				SN	S	17 00 56.5	-0.8
NNZ	**Nelson**	**0.83 173**		PN	Pn	17 00 34.8	-0.1
NNZ				SN	S	17 00 58.0	-0.5
TCW	**Tory Channel**	**1.13 136**		PN	Pn	17 00 37.0	+0.1
TCW				SN	S	17 01 01.3	-0.6
TUWZ	**Tuamarina**	**1.16 153**		PN	Pn	17 00 36.9	-0.2
TUWZ				SN	S	17 01 01.6	-0.8
KIW	**Kapiti Island**	**1.35 111**		PN	Pn	17 00 38.5	-0.1
KIW				SN	S	17 01 03.3	-1.6
THZ	**Tophouse**	**1.39 190**		PN	Pn	17 00 38.6	-0.2
THZ				SN	S	17 01 04.6	-0.8
MRZ	**Mangatainoka R**	**1.81 99**		SN	S	17 01 09.8	-2.1
LTZ	**Lake Taylor**	**2.49 197**		SN	S	17 01 21.1	-3.4

*LDG **13** 17:00:32.3±0.1, 4300N×079W, h10km, Md1.4/2, Error ellipse: s-maj=4.2km s-min=1.9km az=18.0*
*STR **13** 17:00:32.4±0.1, 4299N×080W, h3km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 13 17:00:32.8±0.3, 4301N×080W, h10km±3km, mbLg1.2/7, Error ellipse: s-maj=3.4km s-min=1.5km az=24.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.11 44**		Pg	Pg	17 00 35.3	-0.2
ATE				Sg	Sg	17 00 37.4	0.0
ATE	**Arette**	**0.11 44**		Pg	Pg	17 00 35.4	-0.1
ATE				Lg		17 00 37.4	
LARF	**Larrau**	**0.14 283**		Pg	Pg	17 00 35.6	-0.4
LARF				Sg	Sg	17 00 38.0	-0.2
LARF	**Larrau**	**0.14 283**		Pg	Pg	17 00 35.7	-0.3
LARF				Lg		17 00 38.0	
ETSF	**Etsaut**	**0.21 121**		*e*Pg	Pg	17 00 37.1	-0.1
ETSF				*e*Sg	Sg	17 00 40.0	-0.1
	58nm,0.3s						
ETSF	**Etsaut**	**0.21 121**		Pg	Pg	17 00 37.1	-0.1
ETSF				Lg		17 00 40.0	
	29nm,0.3s						
ORDF	**Ordiarp**	**0.23 335**		Pg	Pg	17 00 37.5	0.0
ORDF				Sg	Sg	17 00 41.1	+0.4
ORDF	**Ordiarp**	**0.23 335**		Pg	Pg	17 00 37.5	0.0
ORDF				Lg		17 00 41.2	
FDAF	**Les Forges d'A**	**0.26 138**		Pg	Pg	17 00 38.0	0.0
FDAF				Lg		17 00 41.7	
SJPF	**Ste Jean**	**0.33 289**		*e*Pg	Pg	17 00 39.1	-0.2
SJPF				*e*Sg	Sg	17 00 43.8	+0.1
	19nm,0.4s						
SJPF	**Ste Jean**	**0.33 289**		Pg	Pg	17 00 39.1	-0.2
SJPF				Lg		17 00 43.8	
	9.4nm,0.4s						
IUSE	**Utxeti**	**0.55 264**		Lg		17 00 50.5	
	SNR=7.9						
ELIZ	**Elizondo**	**0.56 287**		Pg	Pg	17 00 42.5	-1.1
	0.1nm,0.6s,SNR=7.9						
ELIZ				Lg		17 00 51.1	
	1.4nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.56 293**		Pg	Pg	17 00 43.3	-0.4
	0.3nm,0.2s,SNR=7.9						
EALK				Lg		17 00 50.6	
	4.8nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**0.77 115**		Pg	Pg	17 00 47.1	-0.5
	0.2nm,0.6s,SNR=7.9						
EBIE				Lg		17 00 57.5	
	1.2nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.84 88**		*e*Pg	Pg	17 00 47.6	-1.4
EPF				*e*Sg	Sg	17 00 58.2	-1.7
	3.0nm,0.4s						
EPF	**Esparros**	**0.84 88**		Pg	Pg	17 00 47.6	-1.4
EPF				Lg		17 00 58.2	
	1.5nm,0.4s						
ESAC	**San Caprasio**	**1.31 169**		Pg	Pg	17 00 58.1	+0.1
	7.1nm,0.3s,SNR=7.9						
ESAC				Lg		17 01 15.8	
	20nm,0.4s,SNR=7.9						

*NIED **13** 17:06:00, 2630N×12550E, h130km, Mw4.8 Best double couple: M0 1.89000×10^16 NP1:φ=21.00000°, δ=62.00000°, λ=-58.00000°. NP2:φ=148.00000°, δ=42.00000°, λ=-134.00000°.*
*SZGRF **13** 17:06:40.1, 2629N×12622E, h33km, mb5.3, Ryukyu Islands, Japan*
*ISCJB **13** 17:06:51.3±0.2, 2624N±002×12547E±002, h127km±2km, mb4.7/95, Error ellipse: s-maj=3.8km s-min=2.6km az=119.2*
*JMA **13** 17:06:52.0±0.2, 2628N×12549E, h124km, M4.8*
*MOS **13** 17:06:52.9±1.0, 2632N×12543E, h147km, mb4.6/45, Error ellipse: s-maj=8.5km s-min=5.2km az=110.0*
*IDC **13** 17:06:52.2±0.7, 2630N×12565E, h131km±6km, mb4.4/19, mb1 4.5/20, mb1mx4.5/23, mbtmp4.8/20, MS3.5/4, Ms1 3.6/4, ms1mx2.9/20, Error ellipse: s-maj=11.2km s-min=9.3km az=11.0*
*BJI **13** 17:06:53.3, 2615N×12558E, h158km, mB4.8, mb4.7*
*HRVD **13** 17:06:53.7±0.4, 2615N×12564E, h149km±3km, MW4.9/67, Centroid moment Tensor Solution. LP body waves: s15,c21;Mantle waves: s67,c100; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.80±.11; Mθθ-0.41±.11; Mφφ2.22±.11; Mrθ-1.58±.08; Mθφ-0.72±.11; Mφr-1.25±.10; Best double couple: M0 2.90900×10^16 NP1:φ=138.00000°, δ=42.00000°, λ=-143.00000°. NP2: φ=19.00000°, δ=66.00000°, λ=-54.00000°. Principal axes: T 2.6050, Plg14.0000°, Azm84.0000°; N 0.6170, Plg32.0000°, Azm183.0000°; P -3.2130, Plg54.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 17:06:53.7±0.2, 2623N×12548E, mb4.7/53 Error ellipse: s-maj=5.2km s-min=4.1km az=134.0*

ISC 13 17:06:52.3±0.2, 2624N±002×12550E±002, h124km±2km, h147km±2.7km: pP-P, n344, σ1°11/375, mb4.7/95, 65C-40D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.15 85**		P	**Pn**	**17 07 16.6**	**+0.4**
JKE				*e*S	**Sn**	**17 07 34.2**	**-0.1**
JMJ	**Miyako jima 2**	**1.43 188**		P	**Pn**	**17 07 19.8**	**+0.7**
JMJ				S	**Sn**	**17 07 40.0**	**+0.4**
JOGS	**Gusukube**	**1.47 183**		P	**Pn**	**17 07 20.5**	**+0.9**
JOGS				S	**Sn**	**17 07 41.4**	**+0.9**
JAGN	**Aguni-jima**	**1.60 77**		P	**Pn**	**17 07 21.2**	**+0.1**
JAGN				S	**Sn**	**17 07 42.4**	**-0.6**
JTJ	**Tarama**	**1.75 205**		P	**Pn**	**17 07 23.4**	**+0.6**
JTJ				*e*S	**Sn**	**17 07 45.8**	**-0.3**
NAH1	**Naha**	**1.96 90**		P	**Pn**	**17 07 25.7**	**+0.2**
NAH1				*e*S	**Sn**	**17 07 49.7**	**-1.2**
JJT2	**Tamagusuku 2**	**2.02 92**		P	**Pn**	**17 07 26.6**	**+0.4**
JJT2				*e*S	**Sn**	**17 07 51.7**	**-0.4**
JIJ	**Ishigaki jima**	**2.23 214**		P	**Pn**	**17 07 28.7**	**-0.1**
JIJ				*e*S	**Sn**	**17 07 55.1**	**-1.8**
JIH	**Iheya**	**2.34 70**		P	**Pn**	**17 07 30.1**	**-0.1**
JIH				*e*S	**Sn**	**17 07 58.0**	**-1.3**
JKRS	**Kuro-shima**	**2.41 215**		P	**Pn**	**17 07 31.1**	**+0.1**
JKRS				*e*S	**Sn**	**17 08 00.1**	**-0.7**
IRIF	**Iriomote-Funau**	**2.48 221**		P	**Pn**	**17 07 32.0**	**0.0**
IRIF				*e*S	**Sn**	**17 08 01.6**	**-0.9**
JOW	**Kunigami**	**2.55 76**		P	**Pn**	**17 07 32.4**	**-0.5**
	265nm,0.3s,baz=165,slow=11,SNR=5042						
JOW				S	**Sn**	**17 08 01.1**	**-3.0**
	1μm,0.3s,baz=129,slow=26,SNR=48						
JOW	**Kunigami**	**2.55 76**		P	**Pn**	**17 07 32.3**	**-0.6**
JOW				*e*S	**Sn**	**17 08 01.4**	**-2.7**
HATJ	**Hateruma jima**	**2.66 216**		P	**Pn**	**17 07 34.5**	**+0.2**
HATJ				*e*S	**Sn**	**17 08 06.3**	**-0.3**
YOJ	**Yonaguni jima**	**2.87 232**		P	**Pn**	**17 07 37.8**	**+0.9**
JTK	**Tokunoshima**	**3.44 63**		P	**Pn**	**17 07 43.3**	**-1.2**
JTK				*e*S	**Sn**	**17 08 21.7**	**-3.1**
TATO	**Taipei**	**3.84 252**		⇑*e*Pn	**Pn**	**17 07 52.0**	**+2.3**
YHNB	**Yeheng**	**4.04 248**		⇑*e*Pn	**Pn**	**17 07 54.6**	**+2.1**
NACB	**Ninganchiao**	**4.09 241**		*e*Pn	**Pn**	**17 07 53.0**	**-0.1**
NACB				*e*Sn	**Sn**	**17 08 38.9**	**-1.4**
JAM	**Amami Oshima**	**4.24 58**		P	**Pn**	**17 07 53.5**	**-1.6**
JAM				S	**Sn**	**17 08 40.5**	**-3.4**
JZK	**Kikaishima**	**4.48 61**		P	**Pn**	**17 07 57.0**	**-1.3**
JZK				*e*S	**Sn**	**17 08 46.9**	**-2.7**
JMZ	**Minamidaito 2**	**5.16 93**		P	**Pn**	**17 08 04.6**	**-2.8**
JNN	**Nakanoshima**	**5.28 46**		P	**Pn**	**17 08 08.3**	**-0.6**
SSE	**Sheshan**	**6.15 323**		P	**Pn**	**17 08 23.1**	**+2.3**
SSE				XP		17 08 55.8	
SSE				S	**Sn**	**17 09 32.3**	**+2.5**
SSE				AMB	AMB		
	comp=Z,140nm,0.8s						
SSE				AMB	AMB		
	comp=Z,60nm,4.3s						
SSE				LR	LR		
	comp=N,240nm,9.1s						
SSE				LR	LR		
	comp=E,360nm,9.1s						
SSE				LR	LR		
	comp=Z,600nm,7.0s						
QZH	**Quanzhou**	**6.37 260**		⇑*i*P	**Pn**	**17 08 25.3**	**+1.6**
QZH				S	**Sn**	**17 09 35.0**	**-0.1**
QZH				AMB	AMB		
	comp=Z,200nm,0.8s						
NJ2	**Nanjing**	**8.21 316**		*e*P	**Pn**	**17 08 51.3**	**+2.7**
NJ2				XP		17 09 30.0	
NJ2				S	**Sn**	**17 10 21.8**	**+2.2**
NJ2				PCP	PcP	17 15 12.0	+1.6
NJ2				PCS	PcS	17 18 43.0	-0.4
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,120nm,5.3s						
NJ2				Smax			
	comp=N,190nm,1.0s						
NJ2				Smax			
	comp=E,110nm,1.0s						
NJ2				LR	LR		
	comp=N,770nm,11.0s						
NJ2				LR	LR		
	comp=E,500nm,9.8s						
NJ2				LR	LR		
	comp=Z,500nm,12.5s						
CVP	**Callao Caves**	**9.15 203**		*e*P	**Pn**	**17 09 02.0**	**+0.7**
APYP	**Conner**	**9.22 206**		*e*P	**Pn**	**17 09 01.4**	**-0.8**
APYP				*e*S	**Sn**	**17 10 39.4**	**-4.7**
PALP	**Palanan**	**9.56 198**		*e*P	**Pn**	**17 09 06.9**	**+0.1**
PALP				*e*S	**Sn**	**17 10 46.0**	**-6.5**
PALP	**Palanan**	**9.56 198**		*e*P	**Pn**	**17 09 06.8**	**0.0**
ABRA	**Dolores**	**9.63 208**		*e*P	**Pn**	**17 09 08.3**	**+0.6**
ABRA				*e*S	**Sn**	**17 10 52.8**	**-1.2**
CAUP	**Cauayan**	**9.86 201**		*e*P	**Pn**	**17 09 14.7**	**+3.9**
CAUP				*e*S	**Sn**	**17 11 00.1**	**+0.5**
WHN	**Wuhan**	**10.72 296**		⇓P	**Pn**	**17 09 26.0**	**+3.8**
WHN				LR	LR		
	comp=Z,1μm,3.9s						
BALP	**Baler**	**11.07 200**		*e*P	**Pn**	**17 09 28.0**	**+1.1**
INCN	**Inchon**	**11.26 5**		*e*Pn	**Pn**	**17 09 31.1**	**+1.8**
	comp=Z,43nm,1.1s						
KS15	**Wonju Array Si**	**11.36 10**		Pn	**Pn**	**17 09 32.1**	**+1.4**
TIA	**Tai'an**	**12.25 326**		*e*P	**Pn**	**17 09 46.3**	**+3.8**
TGY	**Tagaytay City**	**12.81 200**		P	**Pn**	**17 09 57.0**	**+7.2**
	comp=Z,18nm,0.3s,baz=32,slow=3.7,SNR=8.1						
TGY	**Tagaytay City**	**12.81 200**		P	**Pn**	**17 09 57.0**	**+7.2**
TGY				pmax	pmax		
	comp=Z,18nm,0.3s						
DL2	**Dalian**	**13.05 346**		*i* PR		17 09 56.1	
DL2				XP		17 10 33.8	
DL2				S	**Sn**	**17 12 21.8**	**+5.1**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s						
DL2				AMB	AMB		
	comp=Z,100nm,4.3s						
JHJ	**Hachijo jima 2**	**14.18 58**		LR	LR	17 14 21.5	
	comp=Z,110nm,21.6s,baz=259,slow=32						
MAJO	**Matsushiro**	**14.93 43**		*e*P	**Pn**	**17 10 19.1**	**+2.2**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MAJO	**Matsushiro**	**14.93 43**		*e*Pn	**Pn**	**17 10 19.1**	**+2.2**
	comp=Z,6.2nm,0.5s						
MAT	**Matsushiro**	**14.93 43**		P	**Pn**	**17 10 18.5**	**+1.6**
MAT				S	**Sn**	**17 13 07.0**	**+5.0**
MAT	**Matsushiro**	**14.93 43**		*e*P	**Pn**	**17 10 19.0**	**+2.1**
MAT				*e*S	**Sn**	**17 13 08.0**	**+6.0**
MAT				pmax	pmax		
	comp=Z,12nm,1.0s						
MAT	**Matsushiro**	**14.93 43**		*e*P	**Pn**	**17 10 19.0**	**+2.1**
	comp=Z,12nm,1.0s						
MAT				*e*S	**Sn**	**17 13 08.0**	**+6.0**
MJAR	**Matsushiro Arr**	**14.93 43**		P	**Pn**	**17 10 17.9**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=227,slow=9.8,SNR=14						
MJAR	**Matsushiro Arr**	**14.93 43**		P	**Pn**	**17 10 17.9**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CBIJ	**Chichi jima**	**14.94 83**		P	**Pn**	**17 10 17.8**	**+0.7**
	comp=Z,5.3nm,0.3s,baz=288,slow=22,SNR=4.1						
SNY	**Shenyang**	**15.63 355**		P	**Pn**	**17 10 28.3**	**+2.6**
SNY				PP		17 10 43.5	
SNY				S	**S**	**17 13 21.0**	**-4.4**
SNY				SS		17 13 43.9	
SNY				AMB	AMB		
	comp=Z,20nm,1.0s						
SNY				AMB	AMB		
	comp=Z,280nm,4.9s						
SNY				LR	LR		
	comp=N,130nm,11.4s						
SNY				LR	LR		
	comp=E,180nm,13.2s						
SNY				LR	LR		
	comp=Z,160nm,8.7s						
BJT	**Baijiatuau**	**15.80 333**		*e*P	**Pn**	**17 10 29.9**	**+2.2**
BJT				pmax	pmax		
	comp=Z,115nm,1.3s						
BJT	**Baijiatuau**	**15.80 333**		*e*P	**Pn**	**17 10 29.9**	**+2.2**
	comp=Z,115nm,1.3s						
QIZ	**Qiongzhong**	**16.13 247**		*e*P	**Pn**	**17 10 31.5**	**-0.3**
QIZ				XP	sP	17 11 13.3	+2.8
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.6s						
XAN	**Xi'an**	**16.31 302**		P	**Pn**	**17 10 36.1**	**+2.1**
XAN				S	**S**	**17 13 27.3**	**-8.5**
XAN				AMB	AMB		
	comp=Z,20nm,1.4s						
XAN				AMB	AMB		
	comp=Z,170nm,8.2s						
XAN				LR	LR		
	comp=N,280nm,12.1s						
XAN				LR	LR		
	comp=E,110nm,11.0s						
XAN				LR	LR		
	comp=Z,410nm,17.2s						
GYA	**Guiyang**	**16.89 275**		P	**Pn**	**17 10 44.3**	**+3.2**
GYA				XP	sP	17 11 23.6	+4.7
GYA				S	**S**	**17 13 47.1**	**-2.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				LR	LR		
	comp=N,520nm,13.5s						
GYA				LR	LR		
	comp=E,240nm,9.3s						
GYA				LR	LR		
	comp=Z,390nm,12.3s						
CN2	**Changchun**	**17.53 360**		*e*P	**Pn**	**17 10 48.9**	**+0.1**
CN2				*e*S	**S**	**17 13 57.8**	**-6.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				AMB	AMB		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,20.0s						
CN2				LR	LR		
	comp=E,200nm,20.0s						
HHC	**Hu-ho-hao-te**	**18.60 325**		*e*P	**P**	**17 11 02.4**	**+2.5**
HHC				XP	sP	17 11 43.6	+5.8
HHC				PCP	PcP	17 15 18.1	-5.4
HHC				SCP	ScP	17 18 46.3	-1.3
HHC				AMB	AMB		
	comp=Z,100nm,1.0s						
HHC				AMB	AMB		
	comp=Z,370nm,3.7s						
HHC				LR	LR		
	comp=N,120nm,9.4s						
HHC				LR	LR		
	comp=E,160nm,9.0s						
HHC				LR	LR		
	comp=Z,120nm,10.3s						
MDJ	**Mudanjiang**	**18.64 9**		P	**P**	**17 11 01.5**	**+1.3**
MDJ				AP		17 11 27.3	
MDJ				XP	sP	17 11 45.5	+7.3
MDJ				S	**S**	**17 14 26.8**	**+0.8**
MDJ				PCP	PcP	17 15 24.4	+0.8
MDJ				AMB	AMB		
	comp=Z,70nm,6.4s						
MDJ				LR	LR		
	comp=N,70nm,31.2s						
MDJ				LR	LR		
	comp=E,110nm,31.9s						
BTO	**Baotou**	**19.26 322**		*e*P	**P**	**17 11 08.0**	**+1.0**
CD2	**Chengdu**	**19.65 289**		P	**P**	**17 11 11.3**	**0.0**
CD2				AP		17 11 34.8	
CD2				S	**S**	**17 14 39.6**	**-6.6**
CD2				AMB	AMB		
	comp=Z,50nm,1.1s						
CD2				LR	LR		
	comp=N,150nm,10.8s						
CD2				LR	LR		
	comp=Z,170nm,8.4s						
KMI	**K

LZH AP 17 11 52.3
LZH PP 17 11 55.1
LZH XP sP 17 12 13.0 +10
LZH eS **S** **17 15 07.0 -4.4**
LZH PCP PcP 17 15 28.9 +1.1
LZH SS 17 15 47.5
LZH SCP ScP 17 18 52.9 -0.1
LZH PCS PcS 17 19 06.5 +0.7
LZH AMB AMB
comp=Z,100nm,1.4s
LZH AMB AMB
comp=Z,250nm,4.0s
KKM Kota Kinabalu 21.95 205 eP **P** **17 11 36.3 +0.5**
ASAJ Asahikawa 22.58 33 P **P** **17 11 39.0 -3.5**
comp=Z,3.0nm,0.3s,mb4.0,baz=230,slow=12,SNR=18
ASAJ Asahikawa 22.58 33 P **P** **17 11 39.0 -3.4**
ASAJ pmax pmax
comp=Z,3.0nm,0.4s
HIA Hailar 23.43 350 eP **P** **17 11 49.1 -1.0**
HIA pmax pmax
comp=Z,39nm,1.1s
HIA Hailar 23.43 350 eP **P** **17 11 49.1 -1.1**
comp=Z,39nm,1.1s,mb4.7
YSS Yuzh-Sakhalins 24.78 29 eP **P** **17 12 03.0 +0.5**
GTA Gaotai 25.17 308 P **P** **17 12 05.3 -0.7**
GTA AP pP 17 12 37.8 +5.3
GTA XP sP 17 12 56.1 +9.2
GTA PP 17 12 57.1
GTA PCP PcP 17 15 36.9 +0.3
GTA S **S** **17 16 17.9 -4.0**
GTA XS sS 17 17 14.5 +6.0
GTA SS 17 17 33.9
GTA AMB AMB
comp=Z,30nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,80nm,6.5s
GTA LR LR
comp=N,190nm,12.2s
GTA LR LR
comp=E,90nm,14.1s
GTA LR LR
comp=Z,110nm,16.3s
CHTO Chiang Mai 25.59 259 eP **P** **17 12 09.9 +0.1**
CHTO e*PP pP 17 12 41.2 +4.9
CHTO pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
CHTO Chiang Mai 25.59 259 eP **P** **17 12 09.9 +0.1**
comp=Z,2.8nm,0.6s,mb3.9
CHTO epP pP 17 12 41.2 +4.8
ULN Ulaanbaatar 26.01 331 eP **P** **17 12 12.5 -1.0**
ULN pmax pmax
comp=Z,68nm,1.1s,mb5.0
ULN Ulaanbaatar 26.01 331 eP **P** **17 12 12.5 -1.1**
comp=Z,68nm,1.1s,mb5.0
SONM Songino Array 26.27 330 P **P** **17 12 15.3 -0.6**
comp=Z,19nm,0.5s,mb4.8,baz=150,slow=10,SNR=39
SONM PcP PcP 17 15 39.4 +0.3
comp=Z,0.9nm,0.5s,baz=175,slow=3.3,SNR=7.3
SONM ScP ScP 17 19 06.1 -1.3
comp=Z,0.6nm,0.8s,baz=151,slow=2.8,SNR=4.4
SONM LR LR 17 24 31.8
comp=Z,91nm,18.7s,baz=130,slow=40
CIT Chita 27.30 344 eP **P** **17 12 25.0 -0.1**
CIT e pP 17 12 52.2 +0.4
CIT pmax pmax
comp=Z,70nm,1.6s,mb4.9
KSM Kuching 28.63 213 eP **P** **17 12 37.3 +0.3**
ZAK Zakamensk 29.54 331 eP **P** **17 12 44.0 -1.0**
ZAK pmax pmax
comp=Z,9.0nm,1.9s,mb4.1
TLY Talaya 30.34 333 eP **P** **17 12 51.8 -0.3**
TLY e 17 13 41.8
TLY pmax pmax
comp=Z,16nm,1.2s,mb4.5
TLY Talaya 30.34 333 eP **P** **17 12 51.6 -0.5**
comp=Z,28nm,1.7s,mb4.6
LSA Lhasa 30.47 284 eP **P** **17 12 54.7 +1.4**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
LSA Lhasa 30.47 284 eP **P** **17 12 54.7 +1.4**
comp=Z,4.9nm,0.6s,mb4.3
KULM Kulim 31.59 233 P **P** **17 13 04.1 +1.0**
JIRN Jiri 34.98 281 eP **P** **17 13 33.4 +0.9**
comp=Z,82nm,1.3s,mb5.4
WMQ Urumqi 35.22 310 P **P** **17 13 37.3 +2.8**
WMQ AP pP 17 14 07.3 +5.5
WMQ PP PP 17 14 58.3 +1.5
WMQ PCP PcP 17 16 03.1 +0.4
WMQ S **S** **17 18 59.4 +0.7**
WMQ XS sS 17 19 54.0 +7.7
WMQ SS SS 17 21 26.8 -10
WMQ SCS ScS 17 23 39.9 -1.4
WMQ AMB AMB
comp=Z,10.0nm,1.5s,mb4.4
WMQ AMB AMB
comp=Z,120nm,3.2s
WMQ LR LR
comp=N,30nm,18.0s
WMQ LR LR
comp=E,30nm,18.0s
WMQ LR LR
comp=Z,50nm,20.0s
GUN Gumba 35.22 282 eP **P** **17 13 35.4 +0.8**
comp=Z,25nm,0.3s,mb5.5
PKI Pulchoki 35.67 281 eP **P** **17 13 38.9 +0.5**
comp=Z,34nm,0.6s,mb5.5
PKI Pulchoki 35.67 281 eP **P** **17 13 38.9 +0.5**
PKI pmax pmax
comp=Z,34nm,0.6s,mb5.5
KKN Kakani 35.76 282 eP **P** **17 13 39.3 +0.1**
YAK Yakutsk 35.90 3⇑ iP **P** **17 13 37.8 -2.6**
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DMN Daman 35.94 281 eP **P** **17 13 41.2 +0.5**
PET Petropavlovsk 36.42 34 ceP **P** **17 13 43.6 -1.2**
PET pmax pmax
comp=Z,56nm,1.7s,mb5.2
KRAR Krasnoyarsk 37.95 330⇑ eP **P** **17 13 57.0 -0.7**
KRAR pmax pmax
comp=Z,31nm,1.7s,mb4.9
KAKA Kakadu 39.30 169 eP **P** **17 14 07.8 -1.1**
comp=Z,12nm,0.6s,mb4.9
MK31 Makanchi Array 39.72 313 P **P** **17 14 11.0 -1.4**
MK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
MKAR Makanchi Array 39.72 313 P **P** **17 14 10.9 -1.5**
comp=Z,8.3nm,0.5s,mb4.8,baz=97,slow=11,SNR=135
MKAR pP pP 17 14 42.6 +2.3
comp=Z,2.5nm,0.7s,baz=100,slow=11,SNR=1.8
MKAR PcP PcP 17 16 15.8 -0.8
comp=Z,2.9nm,0.5s,baz=120,slow=1.5,SNR=11
MKAR ScP ScP 17 19 52.6 -1.3
comp=Z,0.6nm,0.7s,baz=99,slow=5.4,SNR=5.4
ZAL Zalesovo 40.79 324 P **P** **17 14 20.0 -1.2**
comp=Z,10nm,0.4s,mb5.0,baz=4.7,slow=7.2,SNR=36
ZAL pP pP 17 14 51.3 +2.1
comp=Z,2.2nm,0.7s,baz=349,slow=10,SNR=2.1
ZAL PcP PcP 17 16 18.8 -1.2
comp=Z,3.8nm,0.4s,baz=357,slow=3.9,SNR=6.4
ZAL ScP ScP 17 19 56.2 -1.8
comp=Z,1.5nm,0.4s,baz=175,slow=2.9,SNR=3.1
ZAL LR LR 17 32 20.5
comp=Z,95nm,19.6s,baz=9.5,slow=38
ZAL Zalesovo 40.79 324 P **P** **17 14 20.0 -1.2**
ZAL pP pP 17 14 51.3 +2.1
ZAL PcP PcP 17 16 18.8 -1.2
ZAL ScP ScP 17 19 56.2 -1.9
ZAL LR LR 17 32 20.5
NVS Novosibirsk 42.00 324 eP **P** **17 14 28.6 -2.6**
NVS e 17 16 11.9
NVS e 17 20 40.6
NVS pmax pmax
comp=Z,27nm,2.0s,mb4.6
NVS pmax pmax
comp=N,14nm,1.7s
NVS pmax pmax
comp=E,16nm,1.4s
ULHL Ulahol 43.14 305 P **P** **17 14 41.4 +1.0**
SNR=13
TKM2 Tokmak 2 43.68 306 P **P** **17 14 45.9 +1.2**
SNR=19
TKM2 Tokmak 2 43.68 306 iP **P** **17 14 45.1 +0.4**
TKM2 pmax pmax
comp=Z,12nm,0.5s,mb4.9
KZA Kyzart 43.86 304 P **P** **17 14 46.9 +0.8**
SNR=6.2
FITZ Fitzroy Crossi 44.07 180⇑ iP **P** **17 14 47.3 -0.5**
comp=Z,10nm,0.5s,mb4.8
CHMS Chumysh 44.30 306 P **P** **17 14 49.3 -0.4**
SNR=6.4
UCH Uchtor 44.41 304 P **P** **17 14 51.5 +1.0**
SNR=16
AAK Ala-Archa 44.46 305⇓ eP **P** **17 14 49.1 -1.8**
AAK i *PP pP 17 15 21.4 +2.2
AAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.0
USP Ospenovka 44.51 306 P **P** **17 14 51.4 +0.1**
SNR=6.3
TIXI Tiksi 45.49 1⇑ eP **P** **17 14 55.7 -3.4**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
WRAB Tennant Creek 46.69 169 eP **P** **17 15 08.1 -0.3**
WRAB pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
WRAB Tennant Creek 46.69 169 eP **P** **17 15 08.1 -0.4**
comp=Z,5.2nm,0.7s,mb4.4
WRA Warramunga Arr 46.70 169 P **P** **17 15 08.0 -0.5**
comp=Z,2.4nm,0.4s,mb4.3,baz=349,slow=8.8,SNR=12
WRA Warramunga Arr 46.70 169 P **P** **17 15 08.0 -0.5**
WRA pmax pmax
comp=Z,2.0nm,0.4s
WB2 Warramunga Arr 46.70 169 eP **P** **17 15 08.1 -0.4**
KK31 Karatay Array 47.41 305 i P **P** **17 15 14.2 +0.1**
KK31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
KKAR Karatay Array 47.41 305 i P **P** **17 15 14.2 +0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
MBWA Marble Bar 47.44 187 eP **P** **17 15 13.6 -0.7**
VOSK Vostochnaya 48.24 318 P **P** **17 15 18.5 -1.9**
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
BILL Bilibino 48.45 19⇑ eP **P** **17 15 20.7 -1.4**
BILL e*PP pP 17 15 55.1 +4.3
BILL e 17 16 46.2
BILL pmax pmax
comp=Z,12nm,1.7s,mb4.5
BILL Bilibino 48.45 19⇑ iP **P** **17 15 21.0 -1.1**
BILL pmax pmax
comp=Z,12nm,1.7s,mb4.5
BILL Bilibino 48.45 19 eP **P** **17 15 20.9 -1.2**
comp=Z,4.1nm,0.9s,mb4.3
BILL ePcP PcP 17 16 46.1 -0.3
CHKZ Chkalovo 48.65 320 eP **P** **17 15 21.7 -1.8**
CHKZ e 17 16 45.4
CHKZ pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
CHKZ Chkalovo 48.65 320 eP **P** **17 15 21.7 -1.8**
comp=Z,3.9nm,0.5s,mb4.6
CHKZ ePcP PcP 17 16 45.4 -1.6
BRVK Borovoye 48.72 319 eP **P** **17 15 23.0 -1.1**
BRVK e 17 16 46.4
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 48.72 319 eP **P** **17 15 23.0 -1.1**
comp=Z,3.2nm,0.6s,mb4.4
BRVK ePcP PcP 17 16 46.4 -1.0
ZRNK Zerenda 49.46 318 eP **P** **17 15 28.3 -1.4**
ZRNK e*PP pP 17 16 02.3 +3.8
ZRNK e 17 16 48.7
ZRNK pmax pmax
comp=Z,14nm,0.7s,mb5.0
ZRNK Zerenda 49.46 318 eP **P** **17 15 28.3 -1.4**
comp=Z,14nm,0.7s,mb5.0
ZRNK epP pP 17 16 02.3 +3.8
ZRNK ePcP PcP 17 16 48.7 -1.3
ZRNK ScP ScP 17 20 30.6 -3.2
AS31 Alice Springs 50.27 170⇓ iP **P** **17 15 36.2 +0.4**
ASAR Alice Springs 50.27 170 P **P** **17 15 35.8 -0.1**
comp=Z,4.0nm,0.5s,mb4.6,baz=356,slow=12,SNR=121
ASAR pP pP 17 16 06.7 +1.9
comp=Z,2.3nm,0.7s,baz=354,slow=6.8,SNR=4.7
ASAR PP PP 17 17 29.7 -2.6
comp=Z,3.9nm,1.0s,baz=358,slow=3.2,SNR=8.9
ASAR Alice Springs 50.27 170 P **P** **17 15 35.8 -0.1**
ASAR *PP pP 17 16 06.7 +2.0
ASAR 17 17 29.7
ASAR pmax pmax
comp=Z,4.0nm,0.5s
ASPA Alice Springs 50.27 170⇓ iP **P** **17 15 36.2 +0.3**
AB31 Akbulak array 54.86 313 i P **P** **17 16 08.4 -1.3**
AB31 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
NIKO Nikolski 54.96 42 eP **P** **17 16 09.0 -1.4**
ARU Arti 55.88 322⇓ iP **P** **17 16 15.1 -1.8**
ARU e 17 16 49.4
ARU e 17 17 12.8
ARU eS **S** **17 23 48.6 -6.2**
ARU eSS SS 17 27 31.4 -11
ARU pmax pmax
comp=Z,33nm,1.5s,mb5.1
AKTO Aktyubinsk 56.09 315 i P **P** **17 16 16.7 -1.8**
AKTO pmax pmax
comp=Z,20nm,1.4s,mb5.0
TNA Tin City 56.74 27 eP **P** **17 16 22.4 -0.7**
comp=Z,24nm,1.9s,mb4.9
ORR Orenburg 58.11 316 eP **P** **17 16 31.9 -0.8**
ORR pmax pmax
comp=Z,80nm,1.8s,mb5.5
STKA Stephens Creek 59.79 164⇑ iP **P** **17 16 41.9 -2.4**
comp=Z,2.4nm,0.8s,mb4.3
STKA Stephens Creek 59.79 164 P **P** **17 16 42.4 -1.9**
comp=Z,2.0nm,0.5s,mb4.4,baz=9.8,slow=6.7,SNR=9.7
SDPT Sand Point 59.86 39 eP **P** **17 16 43.1 -1.6**
CHGN Chignik 60.96 38 eP **P** **17 16 50.4 -1.8**
TTA Tatalina 61.77 31 eP **P** **17 16 57.4 -0.3**
SVW2 Sparrevohn 62.08 33 eP **P** **17 17 00.0 +0.2**
KDAK Kodiak Island 63.96 36 eP **P** **17 17 11.2 -1.0**
comp=Z,138nm,1.3s,mb5.6
SLKM Skilak Lake 64.76 33 eP **P** **17 17 16.4 -1.0**
MCK McKinley 64.87 29 eP **P** **17 17 17.4 -0.7**
MCK pmax pmax
comp=Z,11nm,0.7s,mb4.8
MCK McKinley 64.87 29 eP **P** **17 17 17.4 -0.7**
comp=Z,10nm,0.7s,mb4.8
PMR Palmer 65.11 32 eP **P** **17 17 18.7 -1.0**
PMR pmax pmax
comp=Z,32nm,0.8s,mb5.2
PMR Palmer 65.11 32 eP **P** **17 17 18.7 -1.0**
comp=Z,32nm,0.8s,mb5.2
COLA College 65.17 28⇓ iP **P** **17 17 20.1 +0.1**
COLA College 65.17 28 eP **P** **17 17 20.2 +0.2**
comp=Z,5.2nm,0.6s,mb4.5
SML Sawmill 65.45 31 eP **P** **17 17 20.2 -1.6**
LVZ Lovozero 66.30 336 eP **P** **17 17 25.7 -1.6**
LVZ pmax pmax
comp=Z,34nm,2.3s,mb4.8
DIV Divide 66.79 32 eP **P** **17 17 30.1 -0.3**
comp=Z,156nm,0.7s
APA Apatity 66.84 335⇑ iP **P** **17 17 29.2 -1.5**
APA pmax pmax
comp=Z,29nm,1.2s,mb5.0
GNI Garni 66.87 305⇓ eP **P** **17 17 31.0 +0.1**
GNI pmax pmax
comp=Z,36nm,1.7s
EYAK Cordova Ski Ar 66.93 32 eP **P** **17 17 30.9 -0.4**
MENT Mentasta 67.33 30 eP **P** **17 17 33.9 +0.1**
KIV Kislovodsk 67.34 309 i P **P** **17 17 33.2 -0.7**
KIV i *PP pP 17 18 10.8 +6.5
KIV pmax pmax
comp=Z,50nm,1.3s,mb5.2
KIV Kislovodsk 67.34 309 eP **P** **17 17 33.5 -0.4**
comp=Z,46nm,1.3s,mb5.2
OBN Obninsk 68.32 322 ceP **P** **17 17 38.5 -1.5**
OBN e 17 18 03.4
OBN eS S 17 26 24.0 -7.0
OBN pmax pmax
comp=Z,31nm,1.6s,mb4.9
KEV Kevo 68.53 338 ep **P** **17 17 38.6 -2.7**
JOF Joensuu 68.85 331 ep **P** **17 17 42.4 -0.9**
comp=Z,20nm,1.1s,mb4.9
DAWY Dawson 68.92 28 eP **P** **17 17 43.1 -0.6**
ARCES ARCESS Array B 69.10 338 P **P** **17 17 43.0 -1.9**
comp=Z,2.5nm,0.3s,mb4.5,baz=68,slow=7.7,SNR=63
ARCES ARCESS Array B 69.10 338 P **P** **17 17 43.0 -1.9**
ARCES pmax pmax
comp=Z,3.0nm,0.3s
SOC Sochi 69.51 309 eP **P** **17 17 45.3 -2.1**
SOC e*PP pP 17 18 22.5 +4.5
SOC e 17 20 28.0
SOC ePPP 17 22 05.8
SOC eS S 17 26 35.6 -10
SOC eSS SS 17 31 08.7 -6.3
SOC pmax pmax
comp=Z,16nm,0.9s,mb4.8
INK Inuvik 69.84 23 P **P** **17 17 48.5 -0.9**
comp=Z,34nm,1.0s,mb5.1,baz=294,slow=6.6,SNR=59
INK Inuvik 69.84 23 P **P** **17 17 48.5 -0.9**
INK pmax pmax
comp=Z,34nm,1.0s
INK Inuvik 69.84 23 eP **P** **17 17 48.1 -1.3**
comp=Z,52nm,1.1s,mb5.3
KAF Kangasniemi 71.31 331 ep **P** **17 17 56.6 -1.7**
comp=Z,14nm,0.6s,mb5.0
KAF Kangasniemi 71.31 331 eP **P** **17 17 56.6 -1.7**
KAF pmax pmax
comp=Z,14nm,0.6s,mb5.0
FINES FINESS Array B 71.65 330 P **P** **17 17 58.8 -1.5**
comp=Z,7.2nm,0.4s,mb4.8,baz=69,slow=6.4,SNR=93
FINES FINESS Array B 71.65 330 P **P** **17 17 58.8 -1.5**
FINES pmax pmax
comp=Z,7.0nm,0.4s
MALT Malatya 72.09 304 eP **P** **17 18 03.6 +0.6**
MALT pmax pmax
comp=Z,25nm,1.3s,mb4.9
MALT Malatya 72.09 304 eP **P** **17 18 03.6 +0.6**
comp=Z,25nm,1.3s,mb4.9
SKAG Skagway 72.25 32 eP **P** **17 18 04.3 +0.4**
VSU Vasula 72.42 327 c iP **P** **17 18 03.6 -1.3**
AKASG Malin Array Be 73.93 319 P **P** **17 18 12.0 -1.8**
comp=Z,1.3nm,0.3s,mb4.1,baz=57,slow=5.8,SNR=23
AKASG Malin Array Be 73.93 319 P **P** **17 18 12.0 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
DAG Danmarks Havn 74.92 352⇑ iP **P** **17 18 16.4 -3.1**
comp=Z,3.4nm,0.9s,mb4.1
DAG Danmarks Havn 74.92 352⇑ eP **P** **17 18 16.4 -3.1**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
DAG Danmarks Havn 74.92 352⇑ eP **P** **17 18 16.4 -3.1**
comp=Z,3.4nm,0.9s,mb4.1
BR131 Keskin Array S 75.09 307 eP **P** **17 18 19.7 -0.8**
comp=Z,2.1nm,0.5s,mb4.1
BRTR Keskin Array B 75.09 307 P **P** **17 18 20.0 -0.5**
comp=Z,4.1nm,0.5s,mb4.4,baz=100,slow=5.1,SNR=29
BRTR Keskin Array B 75.09 307 P **P** **17 18 20.0 -0.5**
BRTR pmax pmax
comp=Z,4.0nm,0.5s
DLBC Dease Lake 75.17 32 P **P** **17 18 21.3 +0.3**
comp=Z,12nm,0.6s,mb4.8,baz=292,slow=5.3,SNR=22
DLBC Dease Lake 75.17 32 eP **P** **17 18 21.3 +0.3**
RES Resolute Bay 75.99 10 eP **P** **17 18 23.7 -1.9**
RES pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
RES Resolute Bay 75.99 10 eP **P** **17 18 23.7 -1.9**
comp=Z,5.0nm,0.8s,mb4.3
VRI Vrincioaia 77.36 315⇑ iP **P** **17 18 33.7 +0.3**
VRI Vrincioaia 77.36 315⇑ P **P** **17 18 33.7 +0.3**
BURAR Bucovina Array 77.57 317⇑ iP **P** **17 18 34.1 -0.4**
BURAR Bucovina Array 77.57 317⇑ P **P** **17 18 34.1 -0.5**
MLR Muntele Rosu 78.02 315⇑ iP **P** **17 18 37.3 +0.3**
MLR Muntele Rosu 78.02 315⇑ P **P** **17 18 37.3 +0.3**
NB2 NORSAR Subarra 78.21 333 P **P** **17 18 36.2 -1.9**
comp=Z,9.0nm,0.6s,mb4.7,baz=50,slow=6.2
NB2 NORSAR Subarra 78.21 333 P **P** **17 18 36.2 -1.9**
NB2 pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
NOA NORSAR Array B 78.21 333 P **P** **17 18 35.2 -2.9**
comp=Z,6.9nm,0.5s,mb4.7,baz=56,slow=5.6,SNR=33
NOA LR LR 17 56 39.4
comp=Z,47nm,18.7s,baz=65,slow=38
NOA NORSAR Array B 78.21 333 P **P** **17 18 35.2 -2.9**
NOA pmax pmax
comp=Z,7.0nm,0.5s
NOA MLR MLR
comp=Z,47nm,18.7s
NAO01 NORSAR Array S 78.46 333 eP **P** **17 18 37.0 -2.4**
comp=Z,1.9nm,0.4s,mb4.2
STHS Stebnicka Huta 79.14 320 eP **P** **17 18 43.6 +0.5**
STHS e 17 18 52.9
STHS pmax pmax
comp=Z,4.0nm,1.3s,mb4.1
STHS Stebnicka Huta 79.14 320 eP **P** **17 18 43.6 +0.5**
comp=Z,4.1nm,1.3s,mb4.1
STHS e 17 18 52.9
YKW3 Yellowknife Ar 79.49 24 eP **P** **17 18 43.8 -1.3**
YKA Yellowknife Ar 79.54 24 P **P** **17 18 44.5 -0.8**
comp=Z,23nm,0.5s,mb5.3,baz=302,slow=5.5,SNR=100
YKA Yellowknife Ar 79.54 24 P **P** **17 18 44.5 -0.8**
YKA pmax pmax
comp=Z,23nm,0.5s
YKA Yellowknife Ar 79.54 24 P **P** **17 18 44.5 -0.8**
OJC Ojcow 79.59 321 eP **P** **17 18 44.8 -0.8**
KONO Kongsberg 79.66 332⇓ eP **P** **17 18 44.1 -1.9**
OKC Ostrava-Krasne 80.70 321 eP **P** **17 18 50.0 -1.6**
SCO Scoresbysund 80.81 349 i P **P** **17 18 51.4 -0.8**
comp=Z,8.9nm,0.8s,mb4.7
SUMG Summit 80.84 355 eP **P** **17 18 51.0 -1.3**
comp=Z,19nm,0.9s,mb4.9
VYHS Vyhne 80.97 320 i P **P** **17 18 52.8 -0.2**
VYHS pmax pmax
comp=Z,50nm,1.0s,mb5.3
VYHS Vyhne 80.97 320 i P **P** **17 18 52.8 -0.2**
comp=Z,5.3nm,1.0s,mb4.3
DPC Dobruska-Polom 81.46 322 eP **P** **17 18 55.2 -0.4**
UPC Upice 81.55 323 eP **P** **17 18 54.9 -1.1**
APE Apeiranthos 81.98 307⇑ eP **P** **17 18 57.9 -0.4**
PVCC Panska Ves 82.32 323 eP **P** **17 18 59.6 -0.5**
TREC Trest 82.47 322 eP **P** **17 19 00.4 -0.4**
BRG Berggiesshubel 82.47 324 eP **P** **17 19 00.7 -0.2**
comp=Z,4.0nm,0.8s,mb4.3
BRG Berggiesshubel 82.47 324 eP **P** **17 18 59.0 -1.9**
comp=Z,8.4nm,1.4s,mb4.4
BRG Berggiesshubel 82.47 324 eP **P** **17 18 59.0 -1.9**
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb4.4
BSEG Bad Segeberg 82.61 327 eP **P** **17 19 01.3 -0.3**
comp=Z,15nm,1.4s,mb4.6
BSEG Bad Segeberg 82.61 327 eP **P** **17 19 01.3 -0.3**
BSEG pmax pmax
comp=Z,15nm,1.4s,mb4.6
PRU Pruhonice 82.62 323 eP **P** **17 19 01.2 -0.4**
comp=Z,3.9nm,0.6s,mb4.4
CLL Collm 82.73 324 eP **P** **17 19 01.0 -1.2**
CLL Collm 82.73 324 i P **P** **17 19 00.9 -1.3**
comp=Z,8.0nm,0.8s,mb4.6
CLL Collm 82.73 324 i P **P** **17 19 00.9 -1.3**
CLL pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
KHC Kasperske Hory 83.61 322⇓ eP **P** **17 19 05.9 -0.8**
KHC Kasperske Hory 83.61 322 eP **P** **17 19 04.8 -1.9**
GERES GERESS Array B 83.70 322 P **P** **17 19 06.9 -0.3**
comp=Z,1.1nm,0.5s,mb4.0,baz=50,slow=5.5,SNR=12
GERES GERESS Array B 83.70 322 P **P** **17 19 06.9 -0.3**
GERES pmax pmax
comp=Z,10.0nm,0.5s
CLZ Clausthal 83.79 326 eP **P** **17 19 07.0 -0.6**
comp=Z,30nm,1.4s,mb4.9
CLZ Clausthal 83.79 326 eP **P** **17 19 07.0 -0.6**
CLZ pmax pmax
comp=Z,30nm,1.4s,mb4.9
MOX Moxa 83.83 324 eP **P** **17 19 07.4 -0.4**
comp=Z,4.0nm,1.0s,mb4.2
MANZ Manzenberg 83.94 323 eP **P** **17 19 08.1 -0.3**
comp=Z,3.0nm,0.7s,mb4.2
A05A Maple Falls 83.95 38 ⇑P **P** **17 19 08.9 +0.5**
baz=84
ROTZ Rotzenmuhle 84.01 323 eP **P** **17 19 08.4 -0.3**
D03A Wishkah Elem. 84.03 40 ⇑P **P** **17 19 09.3 +0.4**
baz=84
B05A Bryant 84.35 38 ⇓P **P** **17 19 10.9 +0.4**
baz=84
E03A Lebam 84.45 40 ⇓P **P** **17 19 11.1 +0.2**
baz=84
UBBA Unterbreizbach 84.57 325 eP **P** **17 19 10.9 -0.7**
comp=Z,14nm,1.5s,mb4.7
GRA1 Grafenberg Arr 84.58 324 eP **P** **17 19 11.0 -0.6**
comp=Z,20nm,1.2s,mb4.9
GRF Grafenberg Arr 84.58 324 eP **P** **17 19 11.0 -0.6**
comp=Z,20nm,1.2s,mb4.9
GRF Grafenberg Arr 84.58 324 eP **P** **17 19 11.0 -0.6**
GRF pmax pmax
comp=Z,20nm,1.2s,mb4.9
GRF Grafenberg Arr 84.58 324 eP **P** **17 19 11.0 -0.6**
GRF pmax pmax
comp=Z,20nm,1.2s,mb4.9

IBBN	Ibbenburen	84.82	327	eP	P	17 19 12.2	-0.6
	comp=Z,22nm,0.9s,mb5.1						
C05A	Tolt Reservoir	84.90	39	⇑P	P	17 19 14.1	+0.9
	baz=85						
D05A	Enumclaw	85.01	39	⇑P	P	17 19 14.3	+0.6
	baz=85						
F04A	Amboy	85.45	40	⇑P	P	17 19 16.4	+0.4
	baz=85						
E05A	Randle	85.49	40	⇑P	P	17 19 16.8	+0.6
	baz=85						
BUG	Bochum--Univer	85.59	326	eP	P	17 19 15.9	-0.7
	comp=Z,15nm,1.1s,mb4.8						
H03A	Soap Creek Ran	85.62	42	⇓P	P	17 19 17.9	+1.0
	baz=85						
G04A	Mulino	85.81	41	⇓P	P	17 19 19.0	+1.3
	baz=86						
EDM	Edmonton	85.87	31	eP	P	17 19 18.6	+0.5
K01A	Sixes	85.91	44	⇑P	P	17 19 18.8	+0.6
	baz=86						
I03A	Eugene	86.02	42	⇑P	P	17 19 19.4	+0.7
	baz=86						
F05A	White Salmon	86.04	40	⇑P	P	17 19 19.8	+1.0
	baz=86						
J02A	Umpqua	86.16	43	⇑P	P	17 19 20.0	+0.5
	baz=86						
G05A	Wamic	86.48	41	⇑P	P	17 19 22.2	+1.2
	baz=86						
J03A	Ideyld Park	86.54	43	⇓P	P	17 19 21.7	+0.4
	baz=86						
K02A	Glendale	86.54	44	⇓P	P	17 19 21.7	+0.3
	baz=86						
M01C	Crescent City	86.64	45	⇓P	P	17 19 22.8	+1.0
	baz=86						
L02A	Cave Junction	86.80	44	⇓P	P	17 19 23.8	+1.2
	baz=87						
H05A	Madras	86.86	41	⇓P	P	17 19 23.7	+0.8
	baz=87						
BFO	Black Forest	86.92	324	eP	P	17 19 22.2	-1.0
	comp=Z,16nm,1.5s,mb4.7						
BFO	Black Forest	86.92	324	eP	P	17 19 22.2	-1.0
BFO				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.7						
HUMO	Hull Mountain	86.96	43	eP	P	17 19 24.4	+1.1
	comp=Z,6.2nm,0.6s,mb4.7						
HUMO	Hull Mountain	86.96	43	⇑P	P	17 19 24.4	+1.0
	baz=87						
JCC	Jacoby Creek	87.25	45	⇑P	P	17 19 25.5	+0.7
	baz=87						
YBH	Yreka Blue Hor	87.59	44	eP	P	17 19 27.3	+0.9
YBH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YBH	Yreka Blue Hor	87.59	44	eP	P	17 19 27.2	+0.9
	comp=Z,4.1nm,1.0s,mb4.4						
YBH	Yreka Blue Hor	87.59	44	⇓P	P	17 19 27.4	+1.0
	baz=87,SNR=5.5						
M02C	Callahan	87.69	44	⇑P	P	17 19 27.9	+1.0
	baz=88						
K04A	Chilquin	87.71	43	⇓P	P	17 19 27.8	+0.8
	baz=88						
N02C	Big Bar	87.71	45	⇑P	P	17 19 27.9	+0.9
	baz=88,SNR=8.8						
O01C	Eel River Cons	87.75	46	⇑P	P	17 19 28.2	+1.0
	baz=88						
L04A	Klamath Falls	87.86	43	⇑P	P	17 19 28.3	+0.6
	baz=88						
I06A	Prineville	87.87	41	⇓P	P	17 19 28.8	+1.1
	baz=88,SNR=6.8						
M04C	Macdoel	88.11	44	⇑P	P	17 19 29.5	+0.7
	baz=88						
M03C	McCloud	88.21	44	⇓P	P	17 19 30.2	+0.9
	baz=88						
WALA	Waterton Lakes	88.25	35	eP	P	17 19 30.1	+0.6
	comp=Z,5.4nm,0.8s,mb4.6						
J06A	Christmas Vall	88.30	42	⇑P	P	17 19 30.7	+0.9
	baz=88,SNR=6.6						
WDC	Whiskeytown Da	88.33	45	⇓P	P	17 19 30.2	+0.3
	baz=88						
O02C	Red Bluff	88.39	45	⇑P	P	17 19 31.1	+1.0
	baz=88,SNR=6.9						
P01C	Double 8 Ranch	88.43	46	⇑P	P	17 19 30.9	+0.6
	baz=88						
K06A	Valley Falls	88.50	42	⇓P	P	17 19 31.8	+1.1
	baz=88						
GASB	Alder Springs	88.73	46	⇓P	P	17 19 33.0	+1.2
	baz=88,SNR=7.5						
HOPS	Hopland	88.86	47	⇑P	P	17 19 33.0	+0.6
	baz=89						
HATC	Hat Creek Radi	88.88	44	⇓P	P	17 19 33.1	+0.6
	baz=89						
KMBO	Kilima Mbogo	88.92	268	P	P	17 19 33.1	+0.4
	comp=Z,1.6nm,0.6s,mb4.2,baz=50,slow=6.2,SNR=4.9						
KMBO	Kilima Mbogo	88.92	268	P	P	17 19 33.1	+0.4
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
K07A	Rock Creek Ran	89.17	42	⇓P	P	17 19 34.7	+0.9
	baz=89,SNR=7.1						
FCC	Fort Churchill	89.17	19	eP	P	17 19 32.5	-1.3
FCC				e*PP	pP	17 20 08.3	+2.5
FCC				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						
FCC	Fort Churchill	89.17	19	eP	P	17 19 32.5	-1.4
	comp=Z,25nm,0.7s,mb5.4						
FCC				epP	pP	17 20 08.3	+2.5
M06C	Likely Place G	89.28	44	⇑P	P	17 19 35.2	+0.8
	baz=89						
MNRC	McLaughlin Nat	89.33	46	⇑P	P	17 19 35.6	+1.0
	baz=89						
O04C	Chester	89.39	45	⇑P	P	17 19 35.5	+0.6
	baz=89						
MCCM	Marconi Confer	89.45	47	⇓P	P	17 19 35.8	+0.6
	baz=89						
ORV	Oroville	89.56	45	⇑P	P	17 19 35.6	-0.1
	baz=89						
FARB	Farallon Islan	89.62	48	⇑P	P	17 19 36.1	+0.1
	baz=89						
MSO	Missoula	89.65	36	eP	P	17 19 35.9	-0.1
	comp=Z,11nm,1.3s,mb4.8						
FFC	Flin Flon	89.66	25	eP	P	17 19 35.0	-1.1
FFC				e*PP	pP	17 20 11.8	+3.8
FFC				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.6						
FFC	Flin Flon	89.66	25	eP	P	17 19 35.0	-1.1
	comp=Z,70nm,1.3s,mb5.6						
FFC				epP	pP	17 20 11.8	+3.8
CHMT	Chamberlain Mo	89.96	36	eP	P	17 19 37.7	+0.2
M07A	Soldier Meadow	89.97	43	⇑P	P	17 19 38.3	+0.7
	baz=90						
O06A	Flanigan	90.28	44	⇑P	P	17 19 39.5	+0.6
	baz=90						
N07B	Gerlach	90.45	43	⇓P	P	17 19 41.0	+1.2
	baz=90						
LAVA	Lava Cap Winer	90.50	46	⇑P	P	17 19 40.8	+0.8
	baz=90						
L09A	Wilkinson Ranc	90.50	42	⇑P	P	17 19 41.2	+1.1
	baz=90						
WCN	Washoe City	90.82	45	⇓P	P	17 19 42.2	+0.6
	baz=91						
HRY	Holter Researc	90.83	35	eP	P	17 19 42.3	+0.7
N08A	GE Springer Mi	90.97	43	⇓P	P	17 19 43.1	+0.9
	baz=91,SNR=5.3						
M09A	Marrel Ranch,	91.00	42	⇓P	P	17 19 43.6	+1.3
	baz=91						
CMB	Columbia Colle	91.14	46	⇑P	P	17 19 43.3	+0.3
	baz=91						
DLMT	Dillon	91.31	37	eP	P	17 19 44.5	+0.8
	comp=Z,19nm,1.2s,mb5.1						
HAST	Hastings Reser	91.31	48	⇑P	P	17 19 44.0	+0.2
	baz=91						
HLID	Hailey	91.45	39	eP	P	17 19 45.8	+1.4
	comp=Z,4.2nm,1.0s,mb4.5						
M10A	I.L. Ranch, Tu	91.48	42	⇓P	P	17 19 45.6	+1.0
	baz=91						
BOZ	Bozeman (W)	91.64	36	eP	P	17 19 45.4	+0.1
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
BOZ	Bozeman (W)	91.64	36	eP	P	17 19 45.4	+0.1
	comp=Z,2.8nm,0.7s,mb4.6						
O09A	Fish Creek Ran	91.91	43	⇑P	P	17 19 47.7	+1.1
	baz=92						
M11A	Holland Ranch,	91.98	41	⇑P	P	17 19 48.3	+1.4
	baz=92						
Q08A	Gabbs	92.23	44	⇓P	P	17 19 48.9	+0.8
	baz=92						
M12A	Wells	92.51	41	⇓P	P	17 19 50.7	+1.4
	baz=92,SNR=5.8						
N12A	Wells--Clov Va	92.78	41	⇑P	P	17 19 51.5	+0.9
	baz=93						
S08C	White Mtn Res	92.88	46	⇑P	P	17 19 51.8	+0.7
	baz=93						
M13A	Montello	92.98	41	⇓P	P	17 19 52.4	+0.9
	baz=93						
IMW	Indian Meadow	93.16	37	eP	P	17 19 54.0	+1.7
	comp=Z,8.8nm,1.2s,mb5.0						
P12A	McGill	93.72	42	⇑P	P	17 19 55.7	+0.8
	baz=94						
OSI	Osito Adit	94.21	48	⇓P	P	17 19 57.4	+0.2
	baz=94						
PDAR	Pinedale Array	94.67	37	P	P	17 20 00.1	+0.8
	comp=Z,0.8nm,0.9s,mb4.2,baz=350,slow=5.4,SNR=5.1						
GSC	Goldstone	95.08	47	⇓P	P	17 20 02.1	+1.0
	baz=95						
ULM	Lac du Bonnet	95.48	25	P	P	17 20 01.9	-1.0
	comp=Z,1.5nm,0.4s,mb4.8,baz=323,slow=7.4,SNR=5.1						
TUQ	Turquoise Mtn.	95.57	46	⇑P	P	17 20 03.7	+0.3
	baz=95						
W14A	Seligman	97.53	45	⇓P	P	17 20 15.1	+2.9
	baz=97						
X14A	Yava	98.12	45	⇓P	P	17 20 15.8	+0.9
	baz=98						
X15A	Humboldt	98.52	45	⇑P	P	17 20 17.9	+1.3
	baz=98						
115A	Sonoran Desert	99.67	46	⇑P	Pdif	17 20 21.0	-0.8
	baz=100						
DBIC	Dimbokro	121.81	297	PKP	PKPdf	17 25 30.9	-0.6
	comp=Z,3.1nm,0.6s,baz=123,slow=2.4,SNR=5.3						
DBIC	Dimbokro	121.81	297	PKIKP	PKPdf	17 25 31.0	-0.6
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SDV	Santo Domingo	141.73	26	ePKPpre		17 26 04.1	
OTAV	Otavalo	144.98	45	ePKP	PKPdf	17 26 15.2	+0.5
LPAZ	La Paz	163.91	55	PKP	PKPdf	17 26 42.3	+1.7
	comp=Z,0.6nm,0.8s,baz=356,slow=4.2,SNR=4.0						
LPAZ				pPKP	pPKPdf	17 27 16.9	+2.7
	comp=Z,2.0nm,1.0s,baz=2.3,slow=5.8,SNR=3.9						
LPAZ				PKPab	PKPab	17 27 34.3	+0.3
	comp=Z,1.3nm,0.8s,baz=242,slow=14,SNR=3.9						
LPAZ				pPKPab	pPKPab	17 28 08.4	+2.3
	comp=Z,1.8nm,1.1s,baz=329,slow=4.3,SNR=2.6						
LPAZ	La Paz	163.91	55	PKP2	PKPab	17 27 34.3	+0.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						

MOS ***13*** *17:51:43.3±1.2, 4401N×1032E, h10km, mb4.0/1, Error ellipse: s-maj=7.8km s-min=6.4km az=33.9*
NEIC ***13*** *17:51:44.9, 4404N×1045E, h33km, ML2.8(ROM), ML3.0(LDG), ML3.1(STR), After ROM.*
CSEM ***13*** *17:51:44.5±0.1, 4405N×1045E, h40km, ML3.0/6, Error ellipse: s-maj=2.0km s-min=1.3km az=177.0*
ROM ***13*** *17:51:44.9±0.1, 4404N×1045E, h33km±2km, Md2.9/7, Ml2.8/9, Error ellipse: s-maj=3.6km s-min=2.8km az=99.0*
ISCJB ***13*** *17:51:45.0±0.3, 4401N±002×1038E±002, h33km±4km, Error ellipse: s-maj=3.7km s-min=2.6km az=139.1*
GEN ***13*** *17:51:45.8, 4406N×1046E, h27km, ML2.0*
LDG ***13*** *17:51:46.2±0.2, 4396N×1045E, h20km, Ml3.0/7, Error ellipse: s-maj=7.8km s-min=3.4km az=157.0*
STR ***13*** *17:51:53.5±0.4, 4412N×957E, h10km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 13 17:51:45.4±0.2, 4399N±002×1039E±002, h29km±2km, n79, σ1§10/124, 13C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIM		0.11	135	P	Pb	17 51 51.2	+0.6
MAIM				S	Sb	17 51 54.5	+0.3
BDI	Bagni Di Lucca	0.17	65	⇓iPg	Pb	17 51 50.9	-0.2
BDI				Sg	Sb	17 51 54.4	-0.6
	5μm,0.1s						
VLC	Villacollemand	0.17	0	iPg	Pb	17 51 50.9	-0.2
VLC				Sg	Sb	17 51 54.4	-0.6
	2μm,0.1s						
SARO	Sassorosso	0.19	3	P	Pb	17 51 51.0	-0.4
VINC	Vinca	0.23	312	P	Pb	17 51 52.1	+0.3
VINC				S	Sb	17 51 56.2	+0.1
PII	Pisa	0.29	159	⇑iPg	Pb	17 51 53.9	+1.3
PII				Sg	Sb	17 51 59.0	+1.6
BACM		0.36	322	P	Pb	17 51 53.9	+0.3
BACM				S	Sb	17 51 59.1	-0.2
PZZT	Monte Pizzetto	0.37	68	⇑iPg	Pb	17 51 53.2	-0.5
PZZT				Sg	Sb	17 51 58.2	-1.2
	2μm,0.2s						
VALM		0.37	344	P	Pb	17 51 53.5	-0.2
GSCL	Gusciola	0.39	22	Pg	Pb	17 51 53.5	-0.5
GSCL				Sg	Sb	17 51 58.1	-1.8
ERBM	Eremo	0.43	3	⇓iPg	Pb	17 51 54.5	-0.1
ERBM				Sg	Sb	17 52 00.5	-0.4
	294nm,0.2s						
GRAM		0.55	335	P	Pb	17 51 56.5	-0.1
CODM		0.56	316	P	Pb	17 51 56.7	0.0
ZCCA	Zocca	0.56	50	⇑iPg	Pb	17 51 56.8	+0.1
FNVD	Fontana Vidola	0.56	71	⇑iPg	Pb	17 51 56.1	-0.7
	219nm,0.2s						
GROG	Isola di Gorgo	0.67	213	Pg	Pb	17 51 59.3	+0.7
	81nm,0.2s						
SEI	Scarperia	0.70	85	Pg	Pb	17 51 58.1	-1.0
	257nm,0.2s						
SC2M	Scurtabr	0.74	304	P	Pb	17 51 59.9	+0.2
CSNT	Castellina Chi	0.84	128	Pg	Pn	17 52 00.9	-0.3
	75nm,0.7s						
VMG	Vicchio	0.84	92	⇓iPg	Pn	17 51 59.5	-1.7
	96nm,0.5s						
GRFL	Gerfalco	0.95	153	Pg	Pn	17 52 04.2	+1.5
	14nm,0.4s						
BOB	Bobbio (Coli)	1.03	319	Pg	Pn	17 52 03.9	+0.1
BOB				Sg	Sn	17 52 17.6	+0.4
	112nm,0.3s						
SFI	Santa Sofia	1.06	94	Pg	Pn	17 52 02.6	-1.7
	48nm,0.3s						
CRE	Caprese Michel	1.19	108	⇑iPg	Pn	17 52 05.5	-0.6
	34nm,0.2s						
PCP	Pian Castagno	1.43	293	P	Pn	17 52 08.7	-0.7
PCP				S	Sn	17 52 25.0	-2.3
FIN	Finale Ligure	1.58	279	Pg	Pn	17 52 10.9	-0.6
	33nm,0.2s						
FIN				S	Sn	17 52 28.4	-2.6
RORO		1.68	275	P	Pn	17 52 12.4	-0.4
RORO				S	Sn	17 52 30.5	-2.8
MURB	Monte Urbino	1.72	114	Pg	Pn	17 52 13.1	-0.2
	158nm,0.3s						
PGF	Pioggiola	1.76	216	ePn	Pn	17 52 14.7	+0.7
	SNR=1.0						
PGF				eSn	Sn	17 52 35.3	-0.1
	12nm,0.3s,SNR=1.0						
PGF	Pioggiola	1.76	216	ePn	Pn	17 52 14.7	+0.7
	SNR=1.0						
PGF				eSn	Sn	17 52 35.3	-0.1
	5.9nm,0.3s,SNR=1.0						
IMI	Imperia	1.81	268	⇑iPg	Pn	17 52 14.3	-0.2
	12nm,0.2s						
ROB	Roburent	1.84	280	P	Pn	17 52 14.6	-0.4
MONE	Monesi	1.90	274	P	Pn	17 52 15.8	0.0
MONE				S	Sn	17 52 36.2	-2.6
NEGI	Negi	1.94	267	P	Pn	17 52 16.2	-0.2
NEGI				S	Sn	17 52 36.7	-3.2
SAOF	Saorge	2.04	271	Pn	Pn	17 52 18.1	+0.3
SAOF				Sg	Sn	17 52 41.2	-1.1
AUTN	L'Aution	2.13	271	Pn	Pn	17 52 19.7	+0.6
AUTN				Sg	Sn	17 52 44.2	-0.4
SBF	Sospel	2.13	268	ePn	Pn	17 52 19.0	-0.1
	SNR=1.0						
SBF				eSn	Sn	17 52 43.2	-1.4
	43nm,0.2s						
SBF	Sospel	2.13	268	ePn	Pn	17 52 19.0	-0.1
	SNR=1.0						
SBF				eSn	Sn	17 52 43.2	-1.4
	22nm,0.2s						
ENR	Entracque	2.15	277	P	Pn	17 52 19.5	+0.2
ENR				S	Sn	17 52 42.5	-2.5
LUCF	Luceram	2.20	268	Pn	Pn	17 52 20.0	+0.1
LUCF				Sg	Sn	17 52 46.0	-0.2
STV	Sta Anna Valdi	2.22	278	P	Pn	17 52 20.6	+0.4
TOUF	Mont Tournerai	2.26	272	Pn	Pn	17 52 21.4	+0.5
TOUF				Sg	Sn	17 52 49.2	+1.4
MVIF	Mont Vial	2.34	269	Pn	Pn	17 52 23.2	+1.3
PZZ	Prazzo	2.42	283	P	Pn	17 52 22.3	-0.6
RSP	Reno Superiore	2.52	299	P	Pn	17 52 24.0	-0.4
MBDF	Montbardon	2.69	287	ePn	Pn	17 52 27.0	+0.2
	SNR=1.0						
RRL	Cesana Torines	2.74	291	P	Pn	17 52 29.3	+1.9
FRF	La Foret Royal	2.74	262	ePn	Pn	17 52 27.2	-0.2
	SNR=1.0						
FRF				eSn	Sn	17 52 57.6	-2.0
	7.0nm,0.2s,SNR=1.0						
FRF	La Foret Royal	2.74	262	ePn	Pn	17 52 27.2	-0.2
	SNR=1.0						
FRF				eSn	Sn	17 52 57.6	-2.0
	3.5nm,0.2s,SNR=1.0						
LMR	La Mourre	2.89	258	ePn	Pn	17 52 29.1	-0.3
	SNR=1.0						
LMR				eSn	Sn	17 53 01.1	-2.1
	7.5nm,0.2s,SNR=1.0						
LMR	La Mourre	2.89	258	ePn	Pn	17 52 29.1	-0.3
	SNR=1.0						
LMR				eSn	Sn	17 53 01.1	-2.1
	3.8nm,0.2s,SNR=1.0						
LPG	La Plagne	3.00	301	ePn	Pn	17 52 33.7	+2.8
	SNR=1.0						
LPL	La Plagne	3.02	302	ePn	Pn	17 52 33.6	+2.4
	SNR=1.0						
TAVF	Tavernes	3.15	265	Pn	Pn	17 52 34.4	+1.3
VOY	Vojsko	3.22	49	ePn	Pn	17 52 35.2	+1.2
VOY				e		17 52 43.1	
VOY				e		17 53 06.1	
VOY				eSn	Sn	17 53 09.4	-1.9
NVLJ	Novalja	3.27	78	iPn	Pn	17 52 34.3	-0.4
NVLJ				iSn	Sn	17 53 10.2	-2.5
NVLJ	Novalja	3.27	78	iPn	Pn	17 52 34.3	-0.4
NVLJ				iSn	Sn	17 53 10.1	-2.6
SQTA	Sankt Quirin	3.28	10	⇓iPn	Pn	17 52 35.9	+1.0
SQTA				⇓iSn	Sn	17 53 14.2	+1.3
SQTA	Sankt Quirin	3.28	10	⇓iPn	Pn	17 52 35.8	+1.0
SQTA				iSn	Sn	17 53 14.2	+1.3
DAVA	Damuels	3.31	354	⇓iPn	Pn	17 52 37.0	+1.7
DAVA				⇑iSn	Sn	17 53 16.8	+3.1
ORIF	Oris-en-Rattie	3.36	288	ePn	Pn	17 52 37.5	+1.6
	SNR=1.0						
ORIF				eSn	Sn	17 53 15.7	+0.9
	18nm,0.7s,SNR=1.0						
ORIF	Oris-en-Rattie	3.36	288	ePn	Pn	17 52 37.5	+1.6
	SNR=1.0						
ORIF				eSn	Sn	17 53 15.7	+0.9
	9.1nm,0.7s,SNR=1.0						
WTTA	Wattenberg	3.39	15	⇓iPn	Pn	17 52 37.7	+1.4
WTTA				⇑iSn	Sn	17 53 15.9	+0.4
MOTA	Moosalm	3.39	8	⇑iPn	Pn	17 52 37.2	+0.9
MOTA				⇑iSn	Sn	17 53 17.0	+1.4
MOTA	Moosalm	3.39	8	⇑iPn	Pn	17 52 37.2	+0.9
MOTA				iSn	Sn	17 53 17.0	+1.4
PUYF	Puyloubier	3.42	264	Pn	Pn	17 52 37.8	+1.0
SMRF	Simiane la Rot	3.47	271	ePn	Pn	17 52 38.4	+0.9
	SNR=1.0						
SMRF				eSn	Sn	17 53 18.2	+0.6
	5.0nm,0.4s,SNR=1.0						
SMRF	Simiane la Rot	3.47	271	ePn	Pn	17 52 38.4	+0.9
	SNR=1.0						
SMRF				eSn	Sn	17 53 18.2	+0.6
	2.5nm,0.4s,SNR=1.0						
BERF	Bertagne	3.47	260	Pn	Pn	17 52 38.9	+1.4
GELF	Grande-Etoile	3.65	262	Pn	Pn	17 52 40.8	+0.9
KBA	Koelnbreinsper	3.72	33	⇓iPn	Pn	17 52 41.8	+0.9
KBA				⇓iSn	Sn	17 53 23.7	-0.1
VIVF	Saint-Julien-l	4.18	284	ePn	Pn	17 52 46.0	-1.2
	SNR=1.0						
VIVF				eSn	Sn	17 53 32.9	-2.2
	3.3nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-l	4.18	284	ePn	Pn	17 52 46.0	-1.2
	SNR=1.0						
VIVF				eSn	Sn	17 53 32.9	-2.2
	1.6nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	4.55	328	ePn	Pn	17 52 53.5	+1.2
	SNR=1.0						
LASF	Ste Croix	4.71	273	ePn	Pn	17 52 53.5	-1.0
	SNR=1.0						
MOA	Molln	4.71	34	⇑iPn	Pn	17 52 54.6	+0.1
MOA				⇑iSn	Sn	17 53 47.7	-0.6
CDF	Champ du Feu	4.92	335	ePn	Pn	17 52 58.1	+0.7
	SNR=1.0						
BGF	Bois d'Agland	5.91	298	ePn	Pn	17 53 12.7	+1.8
	SNR=1.0						
MTLF	Montolieu	5.96	267	ePn	Pn	17 53 12.1	+0.4
	SNR=1.0						

CASC 13 18:00:48.9±1.5, 1330N×9030W, h24km±5km, MD3.7, 3C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.85	51	⇓iP	x	18 01 05.0	
SBLS				eS	x	18 01 16.8	
RTR	El Retiro	0.87	47	⇓eP	x	18 01 05.5	
RTR				eS	x	18 01 17.2	
SNJE	San Jose	0.88	50	⇓iP	x	18 01 05.5	
SNJE				eS	x	18 01 18.4	
RBDL	Robledal	1.00	36	⇓iP	x	18 01 07.6	
BOQS	Boqueron	1.08	66	eP	x	18 01 08.2	
BOQS				eS	x	18 01 23.7	
LFRS	El Faro	1.25	75	⇑eP	x	18 01 10.2	
LFRS				eP	x	18 01 10.2	
LBRS	Las Brisas	1.30	70	eP	x	18 01 11.3	
LCBS	La Ceiba	1.33	75	⇑eP	x	18 01 12.3	
LCBS				eS	x	18 01 31.9	
MTO2	Montecristo 2	1.43	40	⇓eP	x	18 01 13.6	
SNVI	San Vicente	1.46	78	eP	x	18 01 14.0	
SNVI				eS	x	18 01 32.3	
TP2	Tecpan 2	1.63	335	⇑eP	Pn	18 01 16.8	+0.6
TP2				eS	Sn	18 01 38.4	+2.0
BLLM	Bellamira	2.01	86	eP	x	18 01 21.4	
BLLM				eS	x	18 01 46.7	

NEIC ***13*** *18:07:21.5, 3859S×17591E, h161km, MG3.9(WEL), After WEL.*

WEL 13 18:07:22.3±0.2, 3860S×17591E, h152km±2km, ML3.7/7, 9C-1D, Error ellipse: s-maj=1.8km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	Rangitukua	0.29	202	PN	Pn	18 07 43.1	0.0
RATZ	Rangitukua	0.29	202	P	Pn	18 07 43.1	0.0
RITZ	Rihia Road	0.39	186	PN	Pn	18 07 43.9	+0.5
RITZ	Rihia Road	0.39	186	P	Pn	18 07 44.1	+0.7
WTVZ	West Tongariro	0.58	206	PN	Pn	18 07 44.6	+0.3
WTVZ				SN	Sn	18 08 00.7	-0.4
WTVZ	West Tongariro	0.58	206	P	Pn	18 07 44.6	+0.3
OTVZ	Oturere	0.60	199	PN	Pn	18 07 44.6	+0.2
OTVZ				SN	Sn	18 08 01.4	+0.1
TWVZ	Taurewa	0.60	218	⇑PN	Pn	18 07 44.6	+0.2
TWVZ	Taurewa	0.60	218	P	Pn	18 07 44.6	+0.1
NGZ	Ngauruhoe	0.63	203

MWZ				S	Sn	18 08 10.6	-0.5
WAZ	**Wanganui**	**1.37**	**212**	PN	Pn	18 07 50.3	-0.4
WAZ	**Wanganui**	**1.37**	**212**	*e*P	Pn	18 07 50.3	-0.4
TSZ	**Takapari Road**	**1.46**	**179**	⇑PN	Pn	18 07 51.4	-0.3
TSZ	**Takapari Road**	**1.46**	**179**	P	Pn	18 07 51.4	-0.3
PXZ	**Pawanui**	**1.61**	**153**	PN	Pn	18 07 53.2	0.0
PKE	**Pukeiti**	**1.62**	**248**	PN	Pn	18 07 52.8	-0.4
PKE	**Pukeiti**	**1.62**	**248**	P	Pn	18 07 52.8	-0.5
NRZ	**Ngariki Road**	**1.71**	**244**	PN	Pn	18 07 53.7	-0.6
NRZ	**Ngariki Road**	**1.71**	**244**	P	Pn	18 07 53.7	-0.6
PUZ	**Puketiti**	**1.92**	**75**	PN	Pn	18 07 56.1	-0.4
PUZ				SN	Sn	18 08 22.2	-0.7
PUZ	**Puketiti**	**1.92**	**75**	*e*P	Pn	18 07 56.5	-0.1
MRZ	**Mangatainoka R**	**2.08**	**187**	⇑PN	Pn	18 07 57.1	-1.4
MRZ				SN	Sn	18 08 23.4	-2.9
MRZ	**Mangatainoka R**	**2.08**	**187**	P	Pn	18 07 57.1	-1.4
BFZ	**Birch Farm**	**2.10**	**173**	PN	Pn	18 07 57.6	-1.1
BFZ	**Birch Farm**	**2.10**	**173**	*e*P	Pn	18 07 57.6	-1.1
TIWZ	**Tintock**	**2.18**	**181**	PN	Pn	18 07 58.3	-1.4
KIW	**Kapiti Island**	**2.39**	**199**	P	Pn	18 08 00.2	-2.0
MTW	**Mount Morrison**	**2.58**	**187**	P	Pn	18 08 02.2	-2.3
CAW	**Cannon Point**	**2.59**	**194**	P	Pn	18 08 02.5	-2.2
MRW	**Makara Radio**	**2.79**	**199**	P	Pn	18 08 04.7	-2.4
MRW				S	Sn	18 08 38.2	-3.6
PAWZ	**Paruwai Farm**	**2.81**	**187**	P	Pn	18 08 04.8	-2.6
WEL	**Wellington**	**2.83**	**198**	P	Pn	18 08 05.0	-2.6
MSWZ	**Moikau Station**	**2.86**	**190**	P	Pn	18 08 05.4	-2.6
SNZO	**South Karori**	**2.87**	**199**	P	Pn	18 08 05.3	-2.8
TCW	**Tory Channel**	**2.90**	**205**	P	Pn	18 08 05.9	-2.6
BHW	**Baring Head**	**2.92**	**196**	P	Pn	18 08 06.0	-2.8
NNZ	**Nelson**	**3.27**	**216**	*e*P	Pn	18 08 10.1	-3.0
QRZ	**Quartz Range**	**3.43**	**228**	*e*P	Pn	18 08 11.5	-3.8
THZ	**Tophouse**	**3.92**	**215**	*e*P	Pn	18 08 17.8	-3.7
KHZ	**Kahutara**	**4.23**	**205**	P	Pn	18 08 22.3	-3.2
DSZ	**Denniston Nort**	**4.45**	**224**	*e*P	Pn	18 08 24.1	-4.4
LTZ	**Lake Taylor**	**5.02**	**212**	*e*P	Pn	18 08 31.3	-4.7
CRLZ	**Canterbury Las**	**5.56**	**205**	*e*P	Pn	18 08 38.3	-4.9
MQZ	**McQueen's Vall**	**5.67**	**205**	*e*P	Pn	18 08 39.3	-5.3
ODZ	**Otahua Downs**	**7.55**	**210**	*e*P	Pn	18 09 04.6	-5.1

*ISCJB **13** 18:07:27.6±0.4, 4305N±003×024E±003, h10km, Error ellipse: s-maj=4.1km s-min=2.8km az=154.9*
*LDG **13** 18:07:28.8±0.1, 4298N×020E, h7km, Md1.9/2, Ml1.9/5, Error ellipse: s-maj=2.3km s-min=1.4km az=174.0*
*STR **13** 18:07:28.3±0.1, 4298N×019E, h9km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **13** 18:07:29.0±0.2, 4299N×021E, h10km±1km, mbLg1.4/9, Error ellipse: s-maj=2.5km s-min=1.6km az=11.0, PRXIMO*

ISC 13 18:07:28.3±0.5, 4301N±003×022E±003, h14km±5km, n33, σ0§56/36, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.09**	**75**	*e*Pg	**Pg**	**18 07 31.6**	**+0.3**
EPF				*e*Sg	**Sg**	**18 07 34.0**	**+0.6**
	32nm,0.2s						
EPF	**Esparros**	**0.09**	**75**	Pg	**Pg**	**18 07 31.6**	**+0.3**
EPF				Lg		18 07 34.0	
	16nm,0.2s						
LABF	**Labassere**	**0.12**	**290**	Pg	**Pg**	**18 07 31.6**	**0.0**
LABF				Sg	**Sg**	**18 07 34.0**	**+0.1**
LABF	**Labassere**	**0.12**	**290**	Pg	**Pg**	**18 07 31.7**	**+0.1**
LABF				Lg		18 07 34.1	
VIEF	**Viey**	**0.19**	**230**	Pg	**Pg**	**18 07 32.4**	**-0.3**
VIEF				Sg	**Sg**	**18 07 35.4**	**-0.3**
VIEF	**Viey**	**0.19**	**230**	Pg	**Pg**	**18 07 32.5**	**-0.2**
VIEF				Lg		18 07 35.5	
RESF	**Ens**	**0.22**	**157**	Pg	**Pg**	**18 07 33.2**	**+0.1**
RESF				Sg	**Sg**	**18 07 36.8**	**+0.4**
RESF	**Ens**	**0.22**	**157**	Pg	**Pg**	**18 07 33.4**	**+0.3**
RESF				Lg		18 07 36.7	
EBIE	**Bielsa**	**0.33**	**190**	Pg	**Pg**	**18 07 34.9**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		18 07 39.2	
	8.2nm,0.1s,SNR=7.9						
MELF	**Melles**	**0.42**	**109**	Pg	**Pg**	**18 07 36.6**	**-0.1**
MELF				Lg		18 07 42.4	
REYF	**Montagne du Re**	**0.46**	**278**	Pg	**Pg**	**18 07 36.8**	**-0.6**
REYF				Sg	**Sg**	**18 07 43.3**	**-0.2**
REYF	**Montagne du Re**	**0.46**	**278**	Pg	**Pg**	**18 07 36.8**	**-0.5**
REYF				Lg		18 07 43.4	
ETSF	**Etsaut**	**0.58**	**260**	*e*Pg	**Pg**	**18 07 39.2**	**-0.6**
ETSF				*e*Sg	**Sg**	**18 07 46.4**	**-1.1**
	12nm,0.4s						
ETSF	**Etsaut**	**0.58**	**260**	Pg	**Pg**	**18 07 39.2**	**-0.6**
ETSF				Lg		18 07 46.4	
	6.1nm,0.4s						
ATE	**Arette**	**0.68**	**277**	Lg		18 07 50.2	
SALF	**Salau**	**0.75**	**109**	Pg	**Pg**	**18 07 43.0**	**0.0**
SALF	**Salau**	**0.75**	**109**	Pg	**Pg**	**18 07 43.1**	**+0.2**
SALF				Lg		18 07 52.9	
EGRA	**Graus**	**0.81**	**175**	Pg	**Pg**	**18 07 44.6**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EGRA				Lg		18 07 57.4	
	0.8nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**1.07**	**276**	*e*Pg	**Pg**	**18 07 48.7**	**-0.2**
SJPF	**Ste Jean**	**1.07**	**276**	*e*P	**Pb**	**18 07 50.3**	**+1.7**
SJPF				*e*Sg	**Sg**	**18 08 02.8**	**0.0**
	1.9nm,0.2s						
SJPF	**Ste Jean**	**1.07**	**276**	Pg	**Pg**	**18 07 48.7**	**-0.2**
SJPF				Lg		18 08 02.8	
	0.9nm,0.2s						
EALK	**Alkurruntz**	**1.28**	**280**	Pg	**Pg**	**18 07 54.0**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		18 08 09.4	
	0.4nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.30**	**268**	Pg	**Pg**	**18 07 53.5**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
IUSE				Lg		18 08 14.7	
	0.7nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.38**	**202**	Pg	**Pg**	**18 07 54.7**	**-0.3**
	3.2nm,0.2s,SNR=7.9						
ESAC				Lg		18 08 13.4	
	7.9nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.50**	**76**	*e*Pg	**Pg**	**18 07 56.7**	**-0.4**
MTLF				*e*Sg	**Sg**	**18 08 16.1**	**-0.5**
	1.8nm,0.2s						
MTLF	**Montolieu**	**1.50**	**76**	Pg	**Pg**	**18 07 56.7**	**-0.4**
MTLF				Lg		18 08 16.1	
	0.9nm,0.2s						
EPOB	**Poblet**	**1.77**	**159**	Lg		18 08 24.4	
	0.4nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**1.97**	**11**	*e*Sg	**Sg**	**18 08 31.5**	**-0.1**
	3.8nm,0.4s						
LFF	**La Frestale**	**1.97**	**11**	Lg		18 08 31.5	
	1.9nm,0.4s						
CAF	**Calviac**	**2.33**	**34**	*e*Sg	**Sg**	**18 08 43.9**	**+0.5**
	1.6nm,0.3s						
CAF	**Calviac**	**2.33**	**34**	Lg		18 08 43.9	
	0.8nm,0.3s						
LASF	**Ste Croix**	**2.85**	**67**	*e*Sg	**Sg**	**18 08 58.9**	**-1.0**
	0.5nm,0.2s						
LASF	**Ste Croix**	**2.85**	**67**	Lg		18 08 58.9	
	0.2nm,0.2s						

*NEIC **13** 18:22:11.5, 3503S×7056W, h18km, ML3.8(GUC), After GUC.*
NEIC Felt [III] at Los Quenes and [II] at Curico.

GUC 13 18:22:11.5±0.7, 3503S×7056W, h18km±4km, MD3.9, ML3.8, 4C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.56**	**318**	⇓*i*P	Pg	18 22 22.5	-0.2
CACH	**El Canelo**	**0.91**	**358**	⇑*i*P	Pb	18 22 28.3	-0.6
CACH				*i* S	Sb	18 22 40.8	+0.1
TALC	**Talca**	**0.95**	**247**	⇓*i*P	Pb	18 22 29.0	-0.4
TALC				*i* S	Sb	18 22 42.1	+0.4
TALC				AML	AML	18 22 42.8	
	comp=N,12μm,0.1s						
CHCH	**Chadas Angostu**	**1.10**	**356**	⇓*i*P	Pb	18 22 31.8	-0.2
CHCH				*i* S	Sb	18 22 47.5	+1.5
LNV	**Longovilo**	**1.28**	**327**	⇑*i*P	Pn	18 22 34.7	+0.2
LNV				*i* S	Sn	18 22 52.3	+1.0
PCH	**Pirque**	**1.41**	**2**	⇓*i*P	Pn	18 22 37.1	+0.9
PCH				*i* S	Sn	18 22 56.9	+2.5
TACH	**Talagante**	**1.41**	**347**	⇓*i*P	Pn	18 22 37.0	+0.7
TACH				*i* S	Sn	18 22 56.2	+1.7
ANTU	**Antumapu**	**1.46**	**358**	*e*P	Pn	18 22 38.0	+1.0
ANTU				*i* S	Sn	18 22 57.7	+2.1
ANTU				AML	AML	18 22 59.8	
	comp=E,2μm,0.2s						
ANTU	**Antumapu**	**1.46**	**358**	*e*P	Pn	18 22 38.0	+1.0
ANTU				*i* S	Sn	18 22 57.7	+2.1
CLCH	**Cerro Calan**	**1.63**	**1**	⇑*i*P	Pn	18 22 41.2	+1.9
CLCH				AML	AML	18 23 07.0	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**1.72**	**8**	⇓*i*P	Pn	18 22 42.8	+2.4
FCH				*i* S	Sn	18 23 06.2	+4.2
LCCH	**Las Cruces**	**1.76**	**331**	⇓*i*P	Pn	18 22 42.7	+1.6
LCCH				*i* S	Sn	18 23 06.8	+3.6
ROCH	**El Roble**	**2.09**	**350**	⇑*i*P	Pn	18 22 48.5	+2.8
ROCH				*i* S	Sn	18 23 16.9	+5.8
JACH	**Jahuel**	**2.34**	**359**	*e*P	Pn	18 22 52.3	+3.2

IDC 13 18:25:15.4±8.3, 2146N×14393E, h102km±74km, mb3.4/6, mb1 3.6/7, mb1mx3.5/19, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=43.0km s-min=22.2km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.84**	**343**	P	Pn	18 28 52.3	-0.2
	0.3nm,0.3s,baz=169,slow=9.9,SNR=7.8						
SONM	**Songino Array**	**39.97**	**320**	P	P	18 32 39.7	-0.1
	0.7nm,0.7s,baz=134,slow=7.7,SNR=6.7						
ASAR	**Alice Springs**	**45.90**	**193**	P	P	18 33 27.6	0.0
	0.7nm,0.8s,baz=14,slow=8.7,SNR=9.8						
ZAL	**Zalesovo**	**54.84**	**322**	P	P	18 34 35.2	+0.2
	0.8nm,0.3s,baz=20,slow=5.5,SNR=3.2						
MKAR	**Makanchi Array**	**55.37**	**313**	P	P	18 34 39.6	+0.9
	0.3nm,0.6s,baz=87,slow=7.5,SNR=3.6						
NVAR	**Mina Array Bea**	**82.75**	**52**	P	P	18 37 28.6	+0.6
	0.5nm,0.4s,baz=274,slow=6.1,SNR=3.6						
FINES	**FINESS Array B**	**83.70**	**335**	P	P	18 37 31.6	-1.3
	0.5nm,0.4s,baz=64,slow=3.2,SNR=6.3						
PLCA	**Paso Flores**	**145.08**	**131**	PKPbc	PKPbc	18 44 40.1	-0.3
	4.5nm,1.0s,baz=245,slow=3.6,SNR=4.9						
LPAZ	**La Paz**	**149.27**	**86**	PKPbc	PKPbc	18 44 53.9	+1.7
	0.4nm,0.5s,baz=270,slow=2.0,SNR=3.8						

IDC 13 18:29:06.7±3.4, 337S×13577E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/10, mbtmp3.9/3, Error ellipse: s-maj=201.2km s-min=28.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.85**	**199**	*e*P	Pn	18 31 29.4	-0.1
	8.2nm,0.4s						
KAKA				*e*S	Sn	18 33 13.7	-7.0
WRA	**Warramunga Arr**	**16.53**	**185**	Pn	Pn	18 32 54.9	-4.9
	0.4nm,0.3s,baz=9.7,slow=13,SNR=4.6						
WRA				Sn	Sn	18 35 51.7	-12
	0.4nm,0.3s,baz=5.4,slow=23,SNR=5.9						
ASAR	**Alice Springs**	**20.26**	**185**	P	P	18 33 43.8	+0.2
	4.0nm,0.5s,baz=6.7,slow=11,SNR=57						
ASAR				S	S	18 37 17.8	-14
	0.7nm,0.7s,baz=3.9,slow=28,SNR=3.9						
ASPA	**Alice Springs**	**20.26**	**185**	*e*P	P	18 33 43.8	+0.3
ASPA				*e*S	S	18 37 18.1	-13
STKA	**Stephens Creek**	**28.88**	**170**	P	P	18 35 07.2	+0.2
	1.1nm,0.7s,baz=346,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**68.55**	**324**	P	P	18 40 11.3	+0.2
	0.3nm,0.5s,baz=111,slow=7.8,SNR=5.7						

*STR **13** 18:56:35.1±0.3, 4218N×170E, h7km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **13** 18:56:35.9±0.3, 4221N×176E, h2km, Ml2.2/6, Error ellipse: s-maj=5.0km s-min=1.8km az=164.0*

MDD 13 18:56:36.9±0.2, 4225N×171E, h10km±1km, mbLg1.3/17, Error ellipse: s-maj=2.4km s-min=1.5km az=140.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.28**	**55**	Pg	Pg	18 56 41.6	-0.8
VALF				Sg	Sg	18 56 46.6	+0.4
VALF	**Valcebollere**	**0.28**	**55**	Pg	Pg	18 56 41.6	-0.8
VALF				Lg		18 56 46.6	
CORG	**Organya**	**0.29**	**267**	Pg	Pg	18 56 41.7	-1.0
CORG				Lg		18 56 46.9	
	9.8nm,0.5s						
CLLI	**Llivia**	**0.30**	**40**	Pg	Pg	18 56 42.2	-0.7
CLLI				Lg		18 56 47.6	
	5.8nm,0.2s						
CBRU	**Bruguera**	**0.35**	**83**	Pg	Pg	18 56 43.1	-0.7
CBRU				Lg		18 56 49.4	
	13nm,0.4s						
EMIR	**Miracle**	**0.36**	**203**	Pg	Pg	18 56 43.1	-0.8
	2.6nm,0.2s,SNR=11						
EMIR				Lg		18 56 49.3	
	17nm,0.4s,SNR=12						
CSOR	**Sort**	**0.45**	**287**	Pg	Pg	18 56 44.8	-0.8
CSOR				Lg		18 56 51.9	
	14nm,0.6s						
CARF	**Carcanieres**	**0.55**	**32**	Pg	Pg	18 56 46.9	-0.7
CARF				Sg	Sg	18 56 55.3	+0.4
CARF	**Carcanieres**	**0.55**	**32**	Pg	Pg	18 56 47.0	-0.6
CARF				Lg		18 56 55.3	
SALF	**Salau**	**0.64**	**323**	Pg	Pg	18 56 48.2	-1.1
SALF	**Salau**	**0.64**	**323**	Pg	Pg	18 56 48.6	-0.7
SALF				Lg		18 56 57.4	
CAVN	**Les Avellanes**	**0.80**	**243**	Pg	Pg	18 56 51.3	-1.0
EPOB	**Poblet**	**1.01**	**208**	Pg	Pg	18 56 55.4	-0.9
	1.3nm,0.2s,SNR=6.9						
EPOB				Lg		18 57 09.1	
	1.2nm,0.2s						
EGRA	**Graus**	**1.04**	**268**	Pg	Pg	18 56 56.0	-0.8
	1.4nm,0.3s,SNR=7.9						
EGRA				Lg		18 57 14.2	
	1.6nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.16**	**19**	*e*Pg	Pg	18 56 58.6	-0.5
MTLF				*e*Sg	Sg	18 57 13.6	-0.5
	4.7nm,0.4s						
MTLF	**Montolieu**	**1.16**	**19**	Pg	Pg	18 56 58.6	-0.5
MTLF				Lg		18 57 13.6	
	2.3nm,0.4s						
EBIE	**Bielsa**	**1.24**	**291**	Pg	Pg	18 56 59.5	-1.2
	2.0nm,0.2s,SNR=14						
EBIE				Lg		18 57 18.7	
	0.6nm,0.2s,SNR=7.8						
EPF	**Esparros**	**1.28**	**308**	*e*Pg	Pg	18 57 00.5	-0.9
EPF				*e*Sg	Sg	18 57 18.2	+0.1
	4.4nm,0.2s						
EPF	**Esparros**	**1.28**	**308**	Pg	Pg	18 57 00.5	-0.9
EPF				Lg		18 57 18.2	
	2.2nm,0.2s						
ERTA	**Horta de San J**	**1.65**	**219**	Pg	Pg	18 57 05.9	-2.7
	0.8nm,0.3s						
ERTA				Lg		18 57 29.5	
	2.4nm,0.3s,SNR=6.8						
ESAC	**San Caprasio**	**1.71**	**253**	Pg	Pg	18 57 08.6	-1.0
	6.9nm,0.2s,SNR=7.9						
ESAC				Lg		18 57 31.0	
	11nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**1.80**	**292**	*e*Pg	Pg	18 57 10.3	-1.1
ETSF				*e*Sg	Sg	18 57 34.6	-0.1
	6.9nm,0.4s						
ETSF	**Etsaut**	**1.80**	**292**	Pg	Pg	18 57 10.3	-1.1
ETSF				Lg		18 57 34.6	
	3.5nm,0.4s						
SJPF	**Ste Jean**	**2.33**	**293**	*e*Sg	Sg	18 57 50.9	-0.9
	1.3nm,0.3s						
SJPF	**Ste Jean**	**2.33**	**293**	Lg		18 57 50.9	
	0.6nm,0.3s						
LASF	**Ste Croix**	**2.41**	**40**	*e*Pg	Pg	18 57 20.9	-2.2
LASF				*e*Sg	Sg	18 57 52.2	-2.1
	1.8nm,0.3s						
LASF	**Ste Croix**	**2.41**	**40**	Pg	Pg	18 57 20.9	-2.2
LASF				Lg		18 57 52.2	
	0.9nm,0.3s						
ELIZ	**Elizondo**	**2.56**	**292**	Pg	Pg	18 57 24.6	-1.3
	0.5nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.56**	**293**	Pg	Pg	18 57 24.1	-1.9
	1.3nm,0.4s,SNR=7.9						
EALK				Lg		18 57 58.3	
	2.0nm,0.3s,SNR=7.9						
CAF	**Calviac**	**2.69**	**5**	*e*Pg	Pg	18 57 26.0	-2.4
CAF				*e*Sg	Sg	18 58 01.2	-2.1
	2.4nm,0.3s						
CAF	**Calviac**	**2.69**	**5**	Pg	Pg	18 57 26.0	-2.4
CAF				Lg		18 58 01.2	
	1.2nm,0.3s						

*NIED **13** 19:09:00, 3760N×14220E, h17km, Mw3.5 Best double couple: M0 1.80000×10^14 NP1:φ=179.00000°, δ74.00000°, λ101.00000°. NP2:φ=324.00000°, δ19.00000°, λ57.00000°.*
*IDC **13** 19:09:13.6±5.4, 37.15N×143.13E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.4/3, Error ellipse: s-maj=85.8km s-min=48.8km az=134.0*
*JMA **13** 19:09:22.7±0.2, 3762N×14225E, h34km±3km, M3.5*
*ISCJB **13** 19:09:23.4±1.2, 3765N±006×14230E±009, h33km, mb3.2/2, Error ellipse: s-maj=10.6km s-min=8.6km az=53.8*

ISC 13 19:09:24.6±1.2, 3767N±007×14227E±009, h35km, n16, σ1§07/24, mb3.2/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.07**	**317**	P	**Pn**	**19 09 42.2**	**-0.9**
JIO				*e*S	**Sn**	**19 09 56.0**	**-0.7**
JFK	**Kawauchi**	**1.15**	**255**	P	**Pn**	**19 09 42.3**	**-1.9**
JMM	**Marumori**	**1.19**	**280**	P	**Pn**	**19 09 43.4**	**-1.3**
JMM				S	**Sn**	**19 09 58.1**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.30**	**245**	P	**Pn**	**19 09 44.3**	**-2.0**
JOU	**Okura**	**1.45**	**299**	P	**Pn**	**19 09 48.1**	**-0.2**
JOU				*e*S	**Sn**	**19 10 06.4**	**+0.4**
JMK	**Ichinoseki**	**1.52**	**327**	P	**Pn**	**19 09 49.3**	**0.0**
JFT	**Otama**	**1.54**	**265**	P	**Pn**	**19 09 49.2**	**-0.4**
JFT				*e*S	**Sn**	**19 10 08.1**	**-0.3**
JYS	**Shiratake**	**1.83**	**288**	P	**Pn**	**19 09 53.4**	**-0.1**
JYS				*e*S	**Sn**	**19 10 17.5**	**+2.1**
JYK	**Kaneyama**	**1.95**	**310**	P	**Pn**	**19 09 54.9**	**-0.3**
JOM	**Ohasama**	**1.96**	**337**	P	**Pn**	**19 09 55.7**	**+0.4**
JFY	**Yanaizu**	**2.06**	**263**	P	**Pn**	**19 09 56.7**	**0.0**
JFY				*e*S	**Sn**	**19 10 22.2**	**+1.1**
JYA	**Atsumi**	**2.22**	**295**	P	**Pn**	**19 09 59.0**	**+0.1**
MJAR	**Matsushiro Arr**	**3.44**	**252**	Pn	**Pn**	**19 10 16.9**	**+1.3**
	2.1nm,0.3s,baz=82,slow=15,SNR=18						
MJAR				Sn	**Sn**	**19 11 02.3**	**+7.2**
	1.3nm,0.3s,baz=80,slow=30,SNR=6.0						
MAT	**Matsushiro**	**3.44**	**252**	P	**Pn**	**19 10 17.6**	**+1.9**
MAT				*e*S	**Sn**	**19 11 00.8**	**+5.6**
SONM	**Songino Array**	**28.01**	**303**	P	**P**	**19 15 13.3**	**+1.1**
	0.5nm,0.7s,mb3.3,baz=96,slow=8.4,SNR=6.4						
MKAR	**Makanchi Array**	**44.36**	**302**	P	**P**	**19 17 32.5**	**+1.1**
	0.4nm,0.8s,mb3.2,baz=91,slow=7.4,SNR=3.4						

MAN 13 19:23:11.5, 1731N×11975E, h1km, mb2.4, ML4.0, MS1.6, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.93**	**170**	*e*P	Pg	19 23 30.0	+0.6
ABRA	**Dolores**	**0.98**	**70**	*e*P	Pg	19 23 30.6	+0.3
ABRA				*e*S	Sg	19 23 38.1	-4.8
BCPH	**Baguio City Da**	**1.22**	**139**	⇓*e*P	Pg	19 23 34.0	-0.8
BCPH				*e*S	Sg	19 23 49.0	-1.6
APYP	**Conner**	**1.53**	**69**	*e*P	Pn	19 23 38.6	-1.3
APYP				*e*S	Sn	19 23 56.8	-3.6
SCZP	**Santa Cruz**	**1.53**	**174**	*e*P	Pn	19 23 39.3	-0.7
CAUP	**Cauayan**	**2.02**	**100**	*e*P	Pn	19 23 48.2	+1.6
CAUP				*e*S	Sn	19 24 14.9	+2.4
CVP	**Callao Caves**	**2.02**	**78**	*e*P	Pn	19 23 47.0	+0.4
BALP	**Baler**	**2.34**	**131**	*e*P	Pn	19 23 51.3	+0.2
SGCP	**Mt. Cagua**	**2.38**	**67**	*e*P	Pn	19 23 52.7	+1.1
PALP	**Palanan**	**2.57**	**95**	⇓*e*P	Pn	19 23 54.9	+0.6
PALP				*e*S	Sn	19 24 27.3	+1.2
PALP	**Palanan**	**2.57**	**95**	*e*P	Pn	19 23 54.8	+0.6
PALP				*e*S	Sn	19 24 27.5	+1.4
LUBP	**Lubang**	**3.58**	**172**	*e*P	Pn	19 24 09.7	+1.5

*ISCJB **13** 19:36:26.6±2.6, 387N±02×710E±02, h33km, Error ellipse: s-maj=26.5km s-min=15.2km az=58.0*
*NNC **13** 19:36:30.4±4.0, 3930N×7102E, h0km, mb3.0, mpv2.4, Error ellipse: s-maj=40.7km s-min=28.9km az=57.0*

ISC 13 19:36:28.7±2.7, 387N±02×710E±02, h35km, n8, σ0§52/10, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.40**	**355**	⇑Pn	**Pn**	**19 37 33.3**	**+0.4**
	0.9nm,0.3s,baz=173,slow=12,SNR=22						
KK31				⇑Sn	**Sn**	**19 38 22.9**	**0.0**
	1.4nm,0.3s,baz=181,slow=23,SNR=5.4						
KK31				⇑Lg		19 38 33.2	
	3.0nm,0.3s,baz=174,slow=24,SNR=6.8						
UCH	**Uchtor**	**4.42**	**36**	P	**Pn**	**19 37 33.2**	**0.0**
	SNR=15						
KZA	**Kyzart**	**4.67**	**43**	P	**Pn**	**19 37 36.9**	**+0.2**
	SNR=14						
AAK	**Ala-Archa**	**4.73**	**33**	P	**Pn**	**19 37 37.4**	**-0.1**
	SNR=6.5						
KBK	**Karagaybulak**	**4.95**	**36**	P	**Pn**	**19 37 41.5**	**+0.9**
	SNR=6.9						
USP	**Ospenovka**	**5.26**	**29**	P	**Pn**	**19 37 43.6**	**-1.2**
	SNR=6.2						
TKM2	**Tokmak 2**	**5.46**	**38**	⇓Pn	**Pn**	**19 37 47.5**	**-0.1**
	0.1nm,0.6s						
TKM2				⇑Lg		19 39 05.7	
	0.4nm,0.7s						
AB31	**Akbulak array**	**13.18**	**327**	Pn	**Pn**	**19 39 33.3**	**-0.1**
	0.2nm,0.4s,baz=140,slow=14,SNR=5.0						
AB31			

SANV	Sanarito	8.33	265	*e*P	Pn	21 12 21.8	-0.6
CURV	Curarigua	8.71	268	*e*P	Pn	21 12 26.9	-0.6
MONV	Montecano	8.82	281	*e*P	Pn	21 12 29.0	-0.1
SOCV	Socops	9.82	259	*e*P	Pn	21 12 41.3	-1.5

HLW ***13*** *21:13:08.5, 34.92N×32.05E, h33km, Mb2.9*
ISCJB ***13*** *21:13:09.0±0.9, 34.66N±0.03×32.18E±0.08, h20km±6km, Error ellipse: s-maj=10.9km s-min=5.6km az=18.1*
CSEM ***13*** *21:13:09.0±0.2, 34.68N×32.32E, h20km, Mw3.4, Error ellipse: s-maj=8.5km s-min=3.3km az=97.0*
NEIC ***13*** *21:13:10.8, 34.75N×32.14E, h30km, ML3.3(NIC), After NIC.*
NIC ***13*** *21:13:10.8±0.3, 34.75N×32.14E, h30km, ML3.3, MW3.4*
ISC 13 21:13:10.5±0.8, 3471N±0.03×3224E±0.07, h19km±4km, n17, σ1§14/27, 3C-4D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.20**	**26**	⇓P	**Pg**	**21 13 15.5**	**+0.1**
	31nm,0.3s						
PPCY				S	**Sg**	**21 13 19.3**	**+0.5**
AKMC	**Akamas**	**0.33**	**13**	P	**Pg**	**21 13 17.2**	**-0.3**
SZAC	**Souni-Zanaja**	**0.53**	**85**	⇑P	**Pg**	**21 13 21.0**	**-0.1**
SZAC				S	**Sg**	**21 13 29.2**	**+0.9**
ALFC	**Alevga**	**0.54**	**33**	⇑P	**Pg**	**21 13 20.3**	**-0.9**
	18nm,0.3s						
ALFC				S	**Sg**	**21 13 28.3**	**-0.2**
MAMC	**Mammari**	**0.93**	**60**	P	**Pb**	**21 13 26.9**	**-1.0**
CSS	**Prodhromos**	**0.93**	**74**	P	**Pb**	**21 13 26.3**	**-1.7**
	6.5nm,0.3s						
CSS				S	**Sb**	**21 13 39.1**	**-0.9**
PHNC	**Paralimni**	**1.50**	**78**	P	**Pn**	**21 13 37.5**	**+1.1**
	4.9nm,0.6s						
PHNC				S	**Sn**	**21 13 58.5**	**+3.1**
ERMK	**Ermenek**	**2.01**	**16**	*i* P	**Pn**	**21 13 41.7**	**-1.6**
ERMK				*i* S	**Sn**	**21 14 09.1**	**+1.2**
MEST	**Erdemli**	**2.43**	**39**	*i* P	**Pn**	**21 13 51.5**	**+2.3**
MEST				*i* S	**Sn**	**21 14 16.6**	**-1.8**
COBT	**Iskenderun**	**3.74**	**60**	*i* P	**Pn**	**21 14 10.1**	**+3.0**
AMAG	**Maghara**	**4.13**	**168**	⇓P	**Pn**	**21 14 12.9**	**+0.3**
AMAG				S	**Sn**	**21 14 59.4**	**-1.0**
SUZ		**4.88**	**174**	⇑P	**Pn**	**21 14 23.4**	**+0.6**
SUZ		**4.88**	**174**	P	**Pn**	**21 14 23.4**	**+0.6**
	908nm,3.1s						
HNKL	**Nakhl**	**4.99**	**162**	⇓P	**Pn**	**21 14 24.1**	**-0.2**
HNKL				S	**Sn**	**21 15 20.8**	**-0.6**
HNKL	**Nakhl**	**4.99**	**162**	P	**Pn**	**21 14 24.1**	**-0.2**
	448nm,0.3s						
HNKL				S	**Sn**	**21 15 20.8**	**-0.6**
HKAT	**Jabal Katrina**	**6.34**	**166**	⇓P	**Pn**	**21 14 44.0**	**+1.0**
TR2		**6.43**	**168**	P	**Pn**	**21 14 44.0**	**-0.1**

IDC 13 21:20:35.5±0.8, 2174S×6786W, h107km±14km, mb4.1/2, mb1 3.7/6, mb1mx3.5/17, mbtmp4.1/6, Error ellipse: s-maj=40.6km s-min=14.0km az=128.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.31**	**228**	P	Pn	21 21 00.2	+0.4
	185nm,0.3s,baz=13,slow=7.9,SNR=1855						
LVC				S	Sn	21 21 18.7	+0.4
	84nm,0.3s,baz=274,slow=22,SNR=27						
LPAZ	**La Paz**	**5.43**	**357**	P	Pn	21 21 55.5	+1.5
	1.2nm,0.3s,baz=173,slow=6.8,SNR=33						
SIV	**San Ignacio**	**8.60**	**49**	P	Pn	21 22 37.8	+0.8
	5.0nm,0.3s,baz=240,slow=11,SNR=87						
SIV				S	Sn	21 24 10.7	-1.6
	0.2nm,0.3s,baz=134,slow=23,SNR=4.9						
PLCA	**Paso Flores**	**19.07**	**186**	P	P	21 24 50.1	+0.6
	0.2nm,0.3s,baz=357,slow=7.5,SNR=3.3						
BDFB	**Brasilia**	**19.75**	**76**	P	P	21 24 58.6	+1.8
	0.6nm,0.3s,baz=244,slow=8.1,SNR=3.5						
DBIC	**Dimbokro**	**67.87**	**73**	P	P	21 31 22.8	+0.5
	2.9nm,0.6s,baz=166,slow=15,SNR=5.0						
TORD	**Torodi Ar. Bea**	**76.52**	**70**	P	P	21 32 14.2	+0.4
	1.2nm,0.3s,baz=258,slow=5.7,SNR=61						
MKAR	**Makanchi Array**	**145.24**	**37**	PKPbc	PKPbc	21 39 59.5	-0.9
	0.4nm,0.6s,baz=318,slow=3.4,SNR=5.4						

ISCJB ***13*** *21:31:57.2±0.7, 728S±0.07×1289E±0.1, h83km, mb3.9/9, Error ellipse: s-maj=20.9km s-min=8.2km az=139.5*
IDC ***13*** *21:31:58.2±4.5, 728S×12892E, h75km±40km, mb3.7/5, mb1 4.1/8, mb1mx3.9/14, mbtmp4.2/8, ML4.5/3, Error ellipse: s-maj=59.7km s-min=20.4km az=70.0*
NEIC ***13*** *21:31:59.0±1.4, 731S×12893E, h83km±13km, mb3.9/5, Error ellipse: s-maj=16.9km s-min=7.3km az=60.0*
ISC 13 21:31:59.2±2.0, 73S±01×1289E±01, h84km±19km, n20, σ0§72/22, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.20**	**196**	P	**Pn**	**21 34 35.8**	**-0.4**
	6.0nm,0.3s,baz=32,slow=12,SNR=250						
FITZ				S	**Sn**	**21 36 29.5**	**-10**
	3.5nm,0.3s,baz=291,slow=18,SNR=4.1						
WRAB	**Tennant Creek**	**13.61**	**158**	*e*Pn	**Pn**	**21 35 08.3**	**-0.2**
	9.6nm,0.5s						
WRAB				*e*Sn	**Sn**	**21 37 26.7**	**-11**
WRA	**Warramunga Arr**	**13.61**	**158**	P	**Pn**	**21 35 08.7**	**+0.1**
	2.2nm,0.3s,baz=336,slow=12,SNR=38						
WRA				S	**Sn**	**21 37 29.4**	**-8.7**
	5.8nm,0.3s,baz=331,slow=24,SNR=12						
MBWA	**Marble Bar**	**16.39**	**212**	*e*Pn	**Pn**	**21 35 43.9**	**-0.2**
MBWA				*e*Sn	**Sn**	**21 38 33.9**	**-12**
ASAR	**Alice Springs**	**16.95**	**164**	P	**Pn**	**21 35 52.2**	**+1.3**
	1.0nm,0.3s,baz=340,slow=9.6,SNR=58						
ASAR				S	**S**	**21 38 48.6**	**-15**
	0.6nm,0.3s,baz=350,slow=27,SNR=5.1						
KKM	**Kota Kinabalu**	**18.36**	**316**	P	**Pn**	**21 36 06.9**	**-1.2**
KSM	**Kuching**	**20.53**	**294**	*e*P	**P**	**21 36 31.8**	**+1.1**
STKA	**Stephens Creek**	**27.15**	**156**	P	**P**	**21 37 33.5**	**-0.9**
	1.1nm,0.8s,mb3.5,baz=331,slow=10,SNR=3.6						
NWAO	**Narrogin (SRO)**	**27.71**	**202**	P	**P**	**21 37 40.1**	**+0.7**
	11nm,1.0s,mb4.3,baz=51,slow=13,SNR=2.1						
LSA	**Lhasa**	**51.70**	**317**	P	**P**	**21 40 57.7**	**+0.1**
	3.4nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**58.23**	**343**	P	**P**	**21 41 45.5**	**+0.7**
	0.6nm,0.5s,mb3.9						
SONM	**Songino Array**	**58.40**	**342**	P	**P**	**21 41 46.8**	**+0.9**
	0.4nm,0.5s,mb3.7,baz=159,slow=6.9,SNR=4.3						
MKAR	**Makanchi Array**	**67.91**	**327**	P	**P**	**21 42 48.0**	**-0.8**
	1.1nm,0.3s,mb4.1,baz=116,slow=8.6,SNR=16						
VNDA	**Vanda**	**72.27**	**173**	P	**P**	**21 43 15.2**	**-0.3**
	0.2nm,0.3s,mb3.4,baz=316,slow=10,SNR=3.8						
VNDA	**Vanda**	**72.27**	**173**	P	**P**	**21 43 14.9**	**-0.6**
	0.4nm,0.6s,mb3.4						
MAW	**Mawson**	**74.28**	**201**	P	**P**	**21 43 27.0**	**-0.3**
	0.8nm,0.6s,mb3.6						
ZRNK	**Zerenda**	**78.45**	**328**	*e*P	**P**	**21 43 50.4**	**-0.5**
	2.1nm,0.8s,mb3.9						
CPUP	**Villa Florida**	**146.02**	**170**	PKPbc	PKPbc	21 51 30.0	+0.7
	0.7nm,0.4s,baz=252,slow=2.1,SNR=4.6						
CPUP	**Villa Florida**	**146.02**	**167**	PKPbc	PKPbc	21 51 30.0	+0.7
LPAZ	**La Paz**	**151.11**	**144**	PKPbc	PKPbc	21 51 44.8	+2.3
	0.7nm,0.4s,baz=109,slow=1.5,SNR=5.8						

ISK ***13*** *21:36:04.9, 4046N×2556E, h29km, MD3.4*
MOS ***13*** *21:36:06.3±0.9, 4041N×2588E, h12km, mb3.7/1, Error ellipse: s-maj=10.4km s-min=6.4km az=114.0*
NEIC ***13*** *21:36:06.3, 4046N×2588E, h29km, MD3.2(SOF), MD3.7(ATH), After ATH.*
ATH ***13*** *21:36:06.3, 4046N×2588E, h29km±1km, MD3.7/5*
THE ***13*** *21:36:06.8, 4041N×2589E, h1km, ML3.8*
CSEM ***13*** *21:36:06.6±0.1, 4045N×2591E, h10km, MD3.7, Error ellipse: s-maj=1.6km s-min=1.1km az=24.0*
SOF ***13*** *21:36:06.5, 4050N×2593E, h10km, MD3.2*
ISCJB ***13*** *21:36:06.4±0.5, 4043N±002×2585E±002, h7km±4km, Error ellipse: s-maj=2.9km s-min=2.6km az=81.2*
ISC 13 21:36:07.5±0.4, 4044N±002×2583E±002, h12km±3km, n58, σ1§13/81, 2C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.49**	**19**	*e*Pg	**Pg**	**21 36 16.1**	**-1.0**
ALN				*e*Sg	**Sg**	**21 36 24.0**	**+0.4**
LIA	**Limnos Island**	**0.73**	**223**	*e*PN	**Pg**	**21 36 21.7**	**0.0**
LIA				*e*SN	**Sg**	**21 36 32.7**	**+1.4**
RDO	**Rodhopi**	**0.74**	**343**	*e*PN	**Pg**	**21 36 21.0**	**-0.9**
RDO				*e*SN	**Sg**	**21 36 31.2**	**-0.5**
LOS	**Limnos**	**0.76**	**229**	*e*Pg	**Pg**	**21 36 22.2**	**0.0**
LOS				*e*Sg	**Sg**	**21 36 32.4**	**+0.1**
CANB	**Canakkale**	**1.03**	**114**	*i* PN	**Pb**	**21 36 25.8**	**-1.5**
CANB				*i* SN	**Sg**	**21 36 42.8**	**+2.0**
RKY	**Sarkoy-Tekirda**	**1.06**	**76**	PN	**Pn**	**21 36 26.8**	**-1.3**
MFT	**Murefte**	**1.16**	**72**	PN	**Pn**	**21 36 28.5**	**-1.0**
MFT				SN	**Sn**	**21 36 45.1**	**-0.1**
PRK	**Paraskevi**	**1.23**	**164**	*e*PN	**Pn**	**21 36 29.9**	**-0.7**
PRK				*e*SN	**Sn**	**21 36 46.0**	**-1.1**
KDZ	**Kurdzhali**	**1.25**	**346**	Pg	**Pg**	**21 36 30.7**	**-0.9**
AYVA	**Ayvalik**	**1.30**	**149**	*i* P	**Pn**	**21 36 31.5**	**0.0**
AYVA				*i* S	**Sb**	**21 36 48.4**	**-0.2**
MRMT	**Marmara Adasi**	**1.35**	**82**	PN	**Pn**	**21 36 30.5**	**-1.7**
OUR	**Ouranopolis**	**1.42**	**267**	*e*Pg	**Pn**	**21 36 32.4**	**-0.7**
OUR				*e*Sg	**Sg**	**21 36 54.7**	**+1.6**
RZN	**Rozhen**	**1.51**	**326**	P	**Pn**	**21 36 35.1**	**+0.8**
EDC	**Edincik**	**1.55**	**93**	PN	**Pn**	**21 36 34.1**	**-0.9**
EDRB	**Edirne**	**1.57**	**26**	PN	**Pn**	**21 36 32.8**	**-2.4**
BNT	**Bandirma**	**1.60**	**92**	PN	**Pn**	**21 36 34.8**	**-0.7**
DIM	**Dimitrovgrad**	**1.63**	**352**	P	**Pn**	**21 36 35.6**	**-0.4**
PAIG	**Paliouri**	**1.73**	**254**	*e*Pb	**Pn**	**21 36 36.5**	**-0.8**
PAIG				*e*Sb	**Sb**	**21 37 01.4**	**+0.6**
NVR	**Nevrokopi**	**1.75**	**302**	*e*PN	**Pn**	**21 36 37.5**	**-0.2**
NVR				*e*SN	**Sn**	**21 36 58.6**	**-1.3**
BALB	**Balikesir**	**1.76**	**116**	PN	**Pn**	**21 36 37.5**	**-0.3**
BTOK	**Tokmak**	**1.82**	**111**	*i* P	**Pn**	**21 36 38.5**	**0.0**
BTOK				*i* S	**Sn**	**21 37 02.4**	**+0.9**
PLG	**Polygyros**	**1.82**	**269**	*e*PB	**Pb**	**21 36 38.5**	**-2.3**
PLG				*e*SN	**Sn**	**21 37 00.8**	**-0.9**
PLD	**Plovdiv**	**1.87**	**333**	P	**Pn**	**21 36 40.5**	**+1.2**
SOH	**Sokhos**	**1.93**	**282**	*e*Pb	**Pn**	**21 36 39.9**	**-0.2**
SOH				*e*Sb	**Sb**	**21 37 06.8**	**+0.3**
KCT	**Karacabey**	**1.94**	**94**	PN	**Pn**	**21 36 39.3**	**-0.9**
AOS	**Alonnisos**	**1.96**	**231**	*e*Pb	**Pb**	**21 36 41.3**	**-1.9**
AOS				*e*Sb	**Sb**	**21 37 07.0**	**-0.6**
MMB	**Musomiste**	**1.97**	**307**	P	**Pn**	**21 36 40.0**	**-0.6**
CHOS	**Chios island**	**2.05**	**175**	*e*Pn	**Pn**	**21 36 41.8**	**-0.1**
CHOS				*e*Sn	**Sn**	**21 37 07.5**	**+0.2**
CTT	**Catalca**	**2.10**	**69**	PN	**Pn**	**21 36 41.3**	**-1.1**
JMB	**Yambol**	**2.11**	**15**	*e*Pn	**Pn**	**21 36 42.3**	**-0.2**
JMB				*e*Sn	**Sn**	**21 37 10.7**	**+2.1**
JMB	**Yambol**	**2.11**	**15**	P	**Pn**	**21 36 43.0**	**+0.4**
URLA	**Izmir**	**2.15**	**164**	*i* P	**Pn**	**21 36 43.7**	**+0.5**
URLA				*i* S	**Sg**	**21 37 17.4**	**+0.6**
BLCB	**Balcova**	**2.25**	**155**	*e*PN	**Pn**	**21 36 42.6**	**-1.9**
KDAG	**Bornova**	**2.31**	**151**	*i* P	**Pn**	**21 36 45.5**	**+0.1**
KDAG				*i* S	**Sg**	**21 37 23.1**	**+1.2**
IZM	**Izmir**	**2.32**	**151**	*e*PN	**Pn**	**21 36 43.9**	**-1.5**
KNT	**Kendrikon**	**2.34**	**289**	*e*Pn	**Pn**	**21 36 46.1**	**+0.3**
KKB	**Krupnik**	**2.52**	**305**	*e*P	**Pn**	**21 36 50.3**	**+2.0**
ISK	**Istanbul-Kandi**	**2.53**	**75**	*e*PN	**Pn**	**21 36 48.4**	**0.0**
KLYT	**Kilyos**	**2.57**	**70**	*e*PN	**Pn**	**21 36 49.0**	**+0.1**
VAY	**Valandovo**	**2.63**	**291**	*e*Pn	**Pn**	**21 36 50.7**	**+1.0**
GRG	**Griva**	**2.66**	**282**	*e*Pn	**Pn**	**21 36 51.5**	**+1.3**
GRG				*e*Sn	**Sn**	**21 37 24.5**	**+2.1**
YLV	**Yalova**	**2.70**	**86**	*e*PN	**Pn**	**21 36 51.0**	**+0.2**
PVL	**Pavlikeni**	**2.80**	**353**	*e*P	**Pn**	**21 36 51.0**	**-1.2**
MANT	**Manisa**	**2.87**	**132**	*i* P	**Pn**	**21 36 54.4**	**+1.4**
MANT				*i* S	**Sb**	**21 37 36.6**	**+3.0**
VTS	**Vitosha**	**2.92**	**318**	⇓*i*P	**Pg**	**21 37 01.6**	**-1.9**
VTS	**Vitosha**	**2.92**	**318**	P	**Pn**	**21 36 55.0**	**+1.3**
GDZ	**Gediz**	**3.12**	**114**	*i* P	**Pn**	**21 36 57.0**	**+0.5**
GDZ				*i* S	**Sb**	**21 37 44.0**	**+3.2**
APE	**Apeiranthos**	**3.37**	**184**	*e*Pn	**Pn**	**21 36 59.2**	**-0.7**
ALT	**Altintas**	**3.57**	**111**	*e*PN	**Pn**	**21 37 03.4**	**+0.7**
BDRM	**Kayabasi**	**3.59**	**159**	*i* P	**Pn**	**21 37 02.2**	**-0.8**
BDRM				*i* S	**Sg**	**21 38 02.5**	**-0.4**
ESKT	**Eskisehir**	**3.96**	**102**	*i* P	**Pn**	**21 37 08.5**	**+0.4**
SEYT	**Eskypehyr**	**3.96**	**102**	*i* P	**Pn**	**21 37 08.5**	**+0.4**
KIZT	**Kizilcal**	**4.92**	**106**	*e*PN	**Pn**	**21 37 22.2**	**+1.0**
CFR	**Carcaliu**	**5.03**	**19**	⇓*i*P	**Pb**	**21 37 37.7**	**+2.2**
PLOR	**Plostina**	**5.45**	**6**	⇑*i*P	**Pn**	**21 37 30.6**	**+2.1**
VRI	**Vrincioaia**	**5.47**	**7**	⇓*i*P	**Pn**	**21 37 30.0**	**+1.2**
DIVS	**Divcibare**	**5.67**	**312**	*e*Pn	**Pn**	**21 37 32.2**	**+0.6**
BURAR	**Bucovina Array**	**7.19**	**357**	⇑*i*P	**Pn**	**21 37 55.7**	**+3.3**

IDC 13 21:59:22.0±20.0, 459N×12558E, h550km±301km, mb2.8/4, mb1 3.0/4, mb1mx2.7/17, mbtmp3.8/4, Error ellipse: s-maj=188.5km s-min=49.5km az=59.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.86**	**161**	P	P	22 04 10.6	+0.4
	1.5nm,0.4s,baz=339,slow=10,SNR=14						
WB2	**Warramunga Arr**	**25.86**	**161**	*e*P	P	22 04 10.6	+0.4
ASAR	**Alice Springs**	**29.24**	**164**	P	P	22 04 40.0	+0.3
	0.4nm,0.3s,baz=345,slow=7.5,SNR=8.3						
STKA	**Stephens Creek**	**39.34**	**158**	P	P	22 06 03.5	-0.7
	2.2nm,0.9s,baz=343,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**56.20**	**325**	P	P	22 08 10.0	0.0
	0.2nm,0.3s,baz=112,slow=7.5,SNR=12						

JMA 13 22:00:42.6±0.2, 3152N×13926E, h313km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.66**	**16**	P	Pn	22 01 28.4	+0.4
JKO	**Kozu shima**	**2.66**	**358**	P	Pn	22 01 36.6	+0.6
JIM2	**Oshima 3**	**3.19**	**3**	P	Pn	22 01 41.6	+0.5
JIM2				S	S	22 02 25.8	-2.1
BSO1	**Boso 1**	**3.44**	**24**	P	Pn	22 01 43.6	0.0
BSO1				S	S	22 02 28.2	-4.3
JIE	**Ise**	**3.58**	**324**	P	Pn	22 01 45.3	+0.3
JIE				S	S	22 02 30.3	-4.7
JWZ	**Kozaga**	**3.60**	**305**	P	Pn	22 01 44.6	-0.7
JOD2	**Odawara 2**	**3.74**	**358**	P	Pn	22 01 47.8	+1.1
JOD2				S	S	22 02 33.1	-4.9
JWY	**Kouya**	**4.09**	**312**	P	Pn	22 01 51.1	+0.6
JRY	**Ryogami san**	**4.50**	**356**	P	Pn	22 01 55.8	+0.9
JRY				S	S	22 02 47.0	-6.0
JAI	**Aioi**	**4.64**	**300**	P	Pn	22 01 56.6	0.0
JGM	**Miyama**	**4.68**	**334**	P	Pn	22 01 58.1	+1.2
JGM				S	S	22 02 54.5	-2.2
JAG	**Ashikaga**	**4.89**	**2**	P	Pn	22 01 58.8	-0.6
MAT	**Matsushiro**	**5.09**	**350**	P	Pn	22 01 59.5	-2.1
MAT				*e*S	S	22 02 59.6	-5.6
CBIJ	**Chichi jima**	**5.09**	**149**	P	Pn	22 02 01.9	+0.2
CBIJ				S	S	22 03 03.3	-2.0
JHS	**Saijyo**	**6.21**	**306**	P	Pn	22 02 15.9	+1.2
JMK	**Ichinoseki**	**7.59**	**12**	P	Pn	22 02 31.6	+0.4
JMK				S	S	22 03 52.8	-6.5

NIED ***13*** *22:11:00, 3600N×13990E, h56km, Mw3.5 Best double couple: M0 1.68000×10^14 NP1:φs=47.00000°, δ=80.00000°, λ=84.00000°. NP2:φs=259.00000°, δ=12.00000°, λ=121.00000°.*
NEIC ***13*** *22:11:13.1±2.0, 3610N×140.16E, h35km, mb3.9/2, Error ellipse: s-maj=49.9km s-min=19.4km az=222.0*
ISCJB ***13*** *22:11:14.1±0.8, 3605N±005×13993E±006, h55km±7km, mb3.9/2, Error ellipse: s-maj=9.3km s-min=8.1km az=53.2*
JMA ***13*** *22:11:15.1±0.1, 3604N×13992E, h45km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs=255.00000°, δ=13.00000°, λ=122.00000°. NP2: φs=42.00000°, δ=79.00000°, λ=83.00000°. Principal axes: T Plg55.0000°, Azm304.0000°; N Plg7.0000°, Azm44.0000°; P Plg34.0000°, Azm138.0000°;*
JMA Felt II J1.
ISC 13 22:11:15.1±0.7, 3605N±005×13991E±006, h47km±8km, n13, σ0§64/20, mb3.9/2, 1C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.29**	**51**	⇑P	**Pn**	**22 11 23.8**	**0.0**
JYT				S	**Sn**	**22 11 29.7**	**-0.3**
TOK	**Tokyo**	**0.38**	**199**	P	**Pn**	**22 11 25.4**	**+0.7**
JAG	**Ashikaga**	**0.53**	**316**	⇓P	**Pn**	**22 11 26.7**	**+0.2**
JAG				S	**Sn**	**22 11 34.6**	**-0.1**
JRY	**Ryogami san**	**0.82**	**268**	⇓P	**Pn**	**22 11 30.2**	**-0.1**
JRY				S	**Sn**	**22 11 40.8**	**-0.6**
JKT	**Katashina**	**0.90**	**324**	⇓P	**Pn**	**22 11 31.5**	**+0.2**
JOD2	**Odawara 2**	**1.03**	**221**	P	**Pn**	**22 11 33.4**	**+0.3**
JOD2				S	**Sn**	**22 11 46.1**	**-0.3**
JYN	**Shimob**	**1.24**	**244**	P	**Pn**	**22 11 36.7**	**+0.7**
BSO3	**Boso 3**	**1.33**	**158**	⇓P	**Pn**	**22 11 36.6**	**-0.7**
MAJO	**Matsushiro**	**1.47**	**290**	*e*Pn	**Pn**	**22 11 39.8**	**+0.7**
MAJO				*e*Sn	**Sn**	**22 11 55.1**	**-1.9**
MAT	**Matsushiro**	**1.47**	**290**	P	**Pn**	**22 11 39.4**	**+0.3**
MAT				*e*S	**Sn**	**22 11 58.4**	**+1.4**
MAT	**Matsushiro**	**1.47**	**290**	*e*P	**Pn**	**22 11 39.0**	**-0.1**
MAT				S	**Sn**	**22 11 58.0**	**+1.0**
ZRNK	**Zerenda**	**51.19**	**313**	*e*P	**P**	**22 20 13.4**	**-0.2**
	0.3nm,0.4s,mb3.6						
WRAB	**Tennant Creek**	**55.92**	**186**	*e*P	**P**	**22 20 48.1**	**-0.1**
	2.2nm,0.7s,mb4.3						

ISCJB ***13*** *23:04:46.8±0.3, 2338N±003×9951E±004, h10km, mb4.0/16, MS3.5/1, Error ellipse: s-maj=5.4km s-min=4.4km az=58.8*
IDC ***13*** *23:04:47.9±0.9, 2340N×9941E, h0km, mb3.9/10, mb1 3.9/10, mb1mx3.8/20, mbtmp3.9/10, MS3.6/1, Ms1 3.6/1, ms1mx2.8/17, Error ellipse: s-maj=48.8km s-min=17.3km az=66.0*
BJI ***13*** *23:04:52.0, 2336N×9950E, h33km, mB4.3, mb4.5, ML4.1, Ms4.1, Msz3.5*
NEIC ***13*** *23:04:53.0±0.4, 2346N×9940E, h35km, mb4.2/8, Error ellipse: s-maj=10.4km s-min=7.5km az=47.0*
ISC 13 23:04:48.4±1.0, 2350N±004×9948E±004, h1km±7km, n36, σ0§97/43, mb4.1/16, MS3.5/1, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.38**	**61**	PG	**Pg**	**23 05 53.3**	**0.0**
KMI				SG	**Sg**	**23 06 37.3**	**+0.2**
KMI				Smax			
	comp=N,2μm,1.2s						
KMI				Smax			
	comp=E,730nm,1.1s						
KMI				LR	LR		
	comp=N,4μm,9.3s						
KMI				LR	LR		
	comp=E,2μm,6.1s						
KMI				LR	LR		
	comp=Z,410nm,7.5s						
CHG	**Chiang Mai**	**4.69**	**186**	PN	**Pn**	**23 06 00.9**	**+0.6**
CHG				PG	**Pg**	**23 06 17.1**	**-1.2**
CHG				SG	**Sg**	**23 07 18.7**	**-0.3**
CHTO	**Chiang Mai**	**4.69**	**186**	*e*Pn	**Pn**	**23 06 00.8**	**+0.5**
CHTO				*e*Sn	**Sn**	**23 06 49.7**	**-5.6**
GYA	**Guiyang**	**7.15**	**64**	P	**Pn**	**23 06 37.8**	**+3.7**
GYA				PG	**Pb**	**23 06 54.4**	**+1.0**
GYA				S	**Sn**	**23 07 55.9**	**-0.1**
GYA				Smax			
	comp=N,40nm,0.9s						
GYA				Smax			
	comp=E,70nm,0.9s						
SHL	**Shillong**	**7.22**	**288**	*e*P	**Pn**	**23 06 37.0**	**+1.9**
SHL				*e*S	Sx	23 09 12.0	
NST	**Nakhon Sawan**	**7.81**	**175**	P	**Pn**	**23 06 44.3**	**+1.1**
CD2	**Chengdu**	**8.30**	**26**	*e*P	**Pn**	**23 06 54.3**	**+4.3**
CD2				Smax			
	comp=N,40nm,1.3s						
CD2				Smax			
	comp=E,20nm,0.9s						
CD2				LR	LR		
	comp=N,240nm,12.0s						
CD2				LR	LR		
	comp=Z,240nm,10.2s						
LSA	**Lhasa**	**9.68**	**311**	*e*Pn	**Pn**	**23 07 07.7**	**-1.1**
JIRN	**Jiri**	**12.69**	**292**	*e*P	**Pn**	**23 07 49.6**	**-0.4**
	comp=Z,9.6nm,0.5s						
GUN	**Gumba**	**13.03**	**293**	*e*P	**Pn**	**23 07 55.0**	**+0.4**
	comp=Z,22nm,0.7s						
PKI	**Pulchoki**	**13.34**	**291**	*e*P	**Pn**	**23 08 00.1**	**+1.3**
	comp=Z,18nm,0.6s						
KKN	**Kakani**	**13.50**	**291**	*e*P	**Pn**	**23 07 59.7**	**-1.4**
GTA	**Gaotai**	**15.87**	**1**	*e*P	**Pn**	**23 08 39.6**	**+6.7**
GTA				AP	pP	23 08 45.1	+8.1
GTA				XP	sP	23 08 47.8	+11
NJ2	**Nanjing**	**19.12**	**59**	*e*P	**Pn**	**23 09 12.0**	**-1.6**
NJ2				PP		23 09 27.0	
NJ2				PPP		23 09 37.3	
NJ2				S	**Sn**	**23 12 43.0**	**-5.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,80nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,19.5s						
NJ2				LR	LR		
	comp=E,580nm,18.9s						
NJ2				LR	LR		
	comp=Z,210nm,17.3s						
YHNB	**Yeheng**	**20.02**	**82**	P	**P**	**23 09 22.3**	**-0.3**
PSI	**Prapat**	**20.58**	**182**	P	**P**	**23 09 30.6**	**+1.8**
	comp=Z,3.7nm,0.7s,baz=329,slow=12,SNR=4.0	

Northern Mid-Atlantic Ridge
ISC 14 00:04:44.1±0.1,4878N±004×2792W±002,h10km,n553,
σ0987/545,mb4.7/157,MS3.9/33,50C-36D,Northern
Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCN	**Croghan**	**13.75**	**63**	*e*P	**Pn**	**00 08 03.8**	**+4.8**
DLF	**Lyons Farm**	**14.18**	**63**	*e*P	**Pn**	**00 08 03.0**	**-1.9**
STS	**Santiago**	**14.72**	**106**	P	**Pn**	**00 08 16.2**	**+3.9**
STS				pmax	pmax		
	comp=Z,142nm,3.0s						
STS	**Santiago**	**14.72**	**106**	P	**Pn**	**00 08 16.2**	**+3.9**
	comp=Z,142nm,3.0s						
EPON	**Pontenova**	**15.40**	**103**	P	**Pn**	**00 08 27.0**	**+5.6**
	comp=Z,25nm,1.0s						
ELOB	**Lobios**	**15.56**	**109**	P	**Pn**	**00 08 27.6**	**+4.1**
	comp=Z,305nm,3.3s						
ROSF	**Rostrenen**	**16.31**	**82**	*e*P	**Pn**	**00 08 32.5**	**-0.7**
ECAL	**Calabor**	**16.35**	**107**	P	**Pn**	**00 08 37.9**	**+4.2**
	comp=Z,116nm,1.6s						
QUIF	**Quistinic**	**16.46**	**84**	*e*P	**Pn**	**00 08 34.1**	**-1.0**
	comp=Z,93nm,1.6s						
QUIF	**Quistinic**	**16.46**	**84**	*e*P	**Pn**	**00 08 34.1**	**-1.0**
QUIF				pmax	pmax		
	comp=Z,47nm,1.6s						
QUIF	**Quistinic**	**16.46**	**84**	*e*P	**Pn**	**00 08 34.1**	**-1.0**
	comp=Z,47nm,1.6s						
EKA	**Eskdalemuir Ar**	**16.52**	**57**	Pn	**Pn**	**00 08 35.6**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=241,slow=8.8,SNR=4.3						
EARI	**Arriondas**	**16.67**	**101**	P	**Pn**	**00 08 42.2**	**+4.5**
	comp=Z,47nm,1.2s						
SGMF	**Saint Gilles**	**16.79**	**82**	*e*P	**Pn**	**00 08 38.6**	**-0.7**
	comp=Z,180nm,1.7s						
SGMF	**Saint Gilles**	**16.79**	**82**	*e*P	**Pn**	**00 08 38.6**	**-0.7**
SGMF				pmax	pmax		
	comp=Z,90nm,1.7s						
SGMF	**Saint Gilles**	**16.79**	**82**	*e*P	**Pn**	**00 08 38.6**	**-0.7**
	comp=Z,90nm,1.7s						
GRR	**Gorron**	**17.88**	**81**	*e*P	**Pn**	**00 08 52.5**	**-0.4**
	comp=Z,64nm,1.3s						
GRR	**Gorron**	**17.88**	**81**	*e*P	**Pn**	**00 08 52.5**	**-0.4**
GRR				pmax	pmax		
	comp=Z,32nm,1.3s						
GRR	**Gorron**	**17.88**	**81**	*e*P	**Pn**	**00 08 52.5**	**-0.4**
	comp=Z,32nm,1.3s						
FLN	**La Foliniere**	**18.05**	**80**	*e*P	**Pn**	**00 08 54.1**	**-0.9**
	comp=Z,48nm,1.2s						
FLN				*e*R			
	comp=Z,499nm,18.9s						
FLN	**La Foliniere**	**18.05**	**80**	*e*P	**Pn**	**00 08 54.1**	**-0.9**
FLN				pmax	pmax		
	comp=Z,24nm,1.2s						
FLN	**La Foliniere**	**18.05**	**80**	*e*P	**Pn**	**00 08 54.1**	**-0.9**
	comp=Z,24nm,1.2s						
EBAD	**Badajoz**	**18.07**	**116**	P	**Pn**	**00 08 56.5**	**+1.3**
	comp=Z,8.6nm,1.0s						
EBAD	**Badajoz**	**18.07**	**116**	P	**Pn**	**00 08 56.5**	**+1.3**
	comp=Z,8.6nm,1.0s						
LDF	**La Druitiere**	**18.32**	**80**	*e*P	**Pn**	**00 08 57.8**	**-0.5**
	comp=Z,38nm,1.1s						
LDF	**La Druitiere**	**18.32**	**80**	*e*P	**Pn**	**00 08 57.8**	**-0.5**
LDF				pmax	pmax		
	comp=Z,19nm,1.1s						
LDF	**La Druitiere**	**18.32**	**80**	*e*P	**Pn**	**00 08 57.8**	**-0.5**
	comp=Z,19nm,1.1s						
EGRO	**El Granado**	**18.61**	**120**	P	**Pn**	**00 09 02.2**	**+0.4**
	comp=Z,202nm,2.6s						
EGRO	**El Granado**	**18.61**	**120**	P	**Pn**	**00 09 02.2**	**+0.4**
	comp=Z,202nm,2.6s						
GUD	**Guadarrama**	**18.69**	**107**	P	**Pn**	**00 09 03.9**	**+1.1**
GUD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GUD	**Guadarrama**	**18.69**	**107**	P	**Pn**	**00 09 03.9**	**+1.1**
	comp=Z,5.1nm,0.8s						
GUD	**Guadarrama**	**18.69**	**107**	P	**Pn**	**00 09 03.9**	**+1.1**
	comp=Z,5.0nm,0.8s						
MFF	**Saint Martin d**	**18.79**	**86**	*e*P	**Pn**	**00 09 02.8**	**-1.1**
	comp=Z,85nm,1.6s						
MFF	**Saint Martin d**	**18.79**	**86**	*e*P	**Pn**	**00 09 02.8**	**-1.1**
MFF				pmax	pmax		
	comp=Z,42nm,1.6s						
MFF	**Saint Martin d**	**18.79**	**86**	*e*P	**Pn**	**00 09 02.8**	**-1.1**
	comp=Z,42nm,1.6s						
EMIN	**Mina Concepcio**	**18.92**	**118**	P	**Pn**	**00 09 05.5**	**-0.1**
	comp=Z,46nm,2.2s						
EMIN	**Mina Concepcio**	**18.92**	**118**	P	**Pn**	**00 09 05.5**	**-0.1**
	comp=Z,46nm,2.2s						
EALK	**Alkurruntz**	**19.12**	**97**	P	**Pn**	**00 09 08.8**	**+0.8**
	comp=Z,68nm,2.0s						
EALK	**Alkurruntz**	**19.12**	**97**	P	**Pn**	**00 09 08.8**	**+0.8**
	comp=Z,68nm,2.0s						
SJPF	**Ste Jean**	**19.36**	**97**	*e*P	**Pn**	**00 09 09.7**	**-1.1**
	comp=Z,39nm,1.3s						
SJPF	**Ste Jean**	**19.36**	**97**	*e*P	**Pn**	**00 09 09.7**	**-1.1**
SJPF				pmax	pmax		
	comp=Z,19nm,1.3s						
SJPF	**Ste Jean**	**19.36**	**97**	*e*P	**Pn**	**00 09 09.7**	**-1.1**
	comp=Z,20nm,1.3s						
ESDC	**Sonseca Array**	**19.36**	**109**	P	**Pn**	**00 09 09.2**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=303,slow=9.1,SNR=18						
ESDC	**Sonseca Array**	**19.36**	**109**	P	**Pn**	**00 09 10.8**	**-0.2**
	comp=Z,4.9nm,0.9s						
ESDC	**Sonseca Array**	**19.36**	**109**	P	**Pn**	**00 09 10.8**	**-0.1**
	comp=Z,4.9nm,0.9s						
ETSF	**Etsaut**	**19.89**	**97**	*e*P	**Pn**	**00 09 15.4**	**-1.8**
	comp=Z,167nm,1.6s						
ETSF	**Etsaut**	**19.89**	**97**	*e*P	**Pn**	**00 09 15.4**	**-1.8**
ETSF				pmax	pmax		
	comp=Z,84nm,1.6s						
ETSF	**Etsaut**	**19.89**	**97**	*e*P	**Pn**	**00 09 15.4**	**-1.8**
	comp=Z,84nm,1.6s						
EADA	**Adamuz**	**19.91**	**113**	P	**Pn**	**00 09 15.7**	**-1.7**
	comp=Z,9.9nm,0.9s						
EADA	**Adamuz**	**19.91**	**113**	P	**Pn**	**00 09 15.7**	**-1.7**
	comp=Z,9.9nm,0.9s						
LFF	**La Frestale**	**19.91**	**90**	*e*P	**Pn**	**00 09 16.2**	**-1.3**
	comp=Z,70nm,1.4s						
LFF	**La Frestale**	**19.91**	**90**	*e*P	**Pn**	**00 09 16.2**	**-1.3**
LFF				pmax	pmax		
	comp=Z,35nm,1.4s						
LFF	**La Frestale**	**19.91**	**90**	*e*P	**Pn**	**00 09 16.2**	**-1.3**
	comp=Z,35nm,1.4s						
ESPR	**Espera**	**20.01**	**118**	P	**P**	**00 09 18.1**	**+1.2**
	comp=Z,22nm,1.0s						
ESPR	**Espera**	**20.01**	**118**	P	**P**	**00 09 18.0**	**+1.1**
	comp=Z,22nm,1.0s						
VIEF	**Viey**	**20.28**	**96**	*e*P	**P**	**00 09 21.2**	**+1.4**
RJF	**Les Rejaudoux**	**20.30**	**89**	*e*P	**P**	**00 09 20.2**	**+0.2**
	comp=Z,160nm,1.8s						
RJF				*e*R			
	comp=Z,964nm,19.0s						
RJF	**Les Rejaudoux**	**20.30**	**89**	*e*P	**P**	**00 09 20.2**	**+0.2**
RJF				pmax	pmax		
	comp=Z,80nm,1.8s						
RJF				MLR	MLR		
	comp=Z,960nm,19.0s,MS4.2						
RJF	**Les Rejaudoux**	**20.30**	**89**	*e*P	**P**	**00 09 20.2**	**+0.2**
	comp=Z,80nm,1.8s						
RJF				LR	LR		
	comp=Z,960nm,19.0s,MS4.2						
EPF	**Esparros**	**20.42**	**96**	*e*P	**P**	**00 09 20.7**	**-0.7**
	comp=Z,65nm,1.6s						
EPF	**Esparros**	**20.42**	**96**	*e*P	**P**	**00 09 20.7**	**-0.7**
EPF				pmax	pmax		
	comp=Z,32nm,1.6s						
EPF	**Esparros**	**20.42**	**96**	*e*P	**P**	**00 09 20.7**	**-0.7**
	comp=Z,32nm,1.6s						
HYF	**Humbligny**	**20.43**	**83**	*e*P	**P**	**00 09 21.1**	**-0.4**
TCF	**Toulx Ste Croi**	**20.43**	**86**	*e*P	**P**	**00 09 21.2**	**-0.3**
	comp=Z,193nm,1.8s						
TCF	**Toulx Ste Croi**	**20.43**	**86**	*e*P	**P**	**00 09 21.2**	**-0.3**
TCF				pmax	pmax		
	comp=Z,96nm,1.8s						
TCF	**Toulx Ste Croi**	**20.43**	**86**	*e*P	**P**	**00 09 21.2**	**-0.3**
	comp=Z,96nm,1.8s						
EBIE	**Bielsa**	**20.45**	**97**	P	**P**	**00 09 22.2**	**+0.6**
	comp=Z,17nm,1.0s						
ESAC	**San Caprasio**	**20.50**	**100**	P	**P**	**00 09 23.4**	**+1.2**
	comp=Z,58nm,1.0s						
ESAC	**San Caprasio**	**20.50**	**100**	P	**P**	**00 09 23.4**	**+1.2**
	comp=Z,58nm,1.0s						
RESF	**Ens**	**20.52**	**96**	*e*P	**P**	**00 09 23.9**	**+1.5**
EJIF	**Jimena Fronter**	**20.52**	**119**	P	**P**	**00 09 23.3**	**+0.8**
EJIF				pmax	pmax		
	comp=Z,476nm,3.4s						
EJIF	**Jimena Fronter**	**20.52**	**119**	P	**P**	**00 09 23.2**	**+0.8**
	comp=Z,476nm,3.4s						
EJIF	**Jimena Fronter**	**20.52**	**119**	P	**P**	**00 09 23.3**	**+0.8**
	comp=Z,476nm,3.4s						
BGF	**Bois d'Agland**	**20.77**	**84**	*e*P	**P**	**00 09 25.5**	**+0.4**
	comp=Z,129nm,1.5s						
BGF	**Bois d'Agland**	**20.77**	**84**	*e*P	**P**	**00 09 25.5**	**+0.4**
BGF				pmax	pmax		
	comp=Z,65nm,1.5s						
BGF	**Bois d'Agland**	**20.77**	**84**	*e*P	**P**	**00 09 25.5**	**+0.4**
	comp=Z,64nm,1.5s						
EGRA	**Graus**	**20.79**	**98**	P	**P**	**00 09 26.3**	**+0.9**
	comp=Z,14nm,1.0s						
EGRA	**Graus**	**20.79**	**98**	P	**P**	**00 09 26.3**	**+1.0**
	comp=Z,14nm,1.0s						
VERF	**Verneugheol**	**20.79**	**87**	*e*P	**P**	**00 09 25.8**	**+0.5**
CAF	**Calviac**	**20.80**	**89**	*e*P	**P**	**00 09 25.4**	**0.0**
	comp=Z,57nm,1.3s						
CAF	**Calviac**	**20.80**	**89**	*e*P	**P**	**00 09 25.4**	**0.0**
CAF				pmax	pmax		
	comp=Z,29nm,1.3s						
CAF	**Calviac**	**20.80**	**89**	*e*P	**P**	**00 09 25.4**	**0.0**
	comp=Z,29nm,1.3s						
ELOJ	**Sierra Loja**	**20.83**	**115**	P	**P**	**00 09 26.9**	**+1.1**
ELOJ				pmax	pmax		
	comp=Z,26nm,1.7s						
ELOJ	**Sierra Loja**	**20.83**	**115**	P	**P**	**00 09 26.9**	**+1.2**
	comp=Z,26nm,1.7s						
ELOJ	**Sierra Loja**	**20.83**	**115**	P	**P**	**00 09 26.9**	**+1.1**
	comp=Z,26nm,1.7s						
SNF	**Seneffe**	**20.84**	**73**	P	**P**	**00 09 23.3**	**-2.6**
	comp=Z,7.6nm,0.0s						
SNF				AP		00 09 26.6	
SNF	**Seneffe**	**20.84**	**73**	P	**P**	**00 09 26.5**	**+0.6**
EMIJ	**Mijas**	**20.85**	**117**	P	**P**	**00 09 26.1**	**+0.1**
	comp=Z,28nm,1.0s						
UCC	**Uccle**	**20.85**	**72**	⇑P	**P**	**00 09 25.9**	**-0.1**
UCC				AP		00 09 28.2	
UCC				XP	sP	00 09 30.4	+0.3
BAIF	**Baives**	**20.86**	**74**	*e*P	**P**	**00 09 25.4**	**-0.7**
	comp=Z,104nm,1.3s						
BAIF	**Baives**	**20.86**	**74**	*e*P	**P**	**00 09 25.4**	**-0.7**
BAIF				pmax	pmax		
	comp=Z,52nm,1.3s						
BAIF	**Baives**	**20.86**	**74**	*e*P	**P**	**00 09 25.4**	**-0.7**
	comp=Z,52nm,1.3s						
EVIA	**Vianos**	**20.89**	**110**	P	**P**	**00 09 27.4**	**+0.9**
EVIA				pmax	pmax		
	comp=Z,28nm,0.8s						
EVIA	**Vianos**	**20.89**	**110**	P	**P**	**00 09 27.4**	**+0.9**
	comp=Z,28nm,0.8s						
AVF	**Avril sur Loir**	**21.03**	**84**	*e*P	**P**	**00 09 28.0**	**0.0**
	comp=Z,68nm,1.1s,mb4.6						
AVF	**Avril sur Loir**	**21.03**	**84**	*e*P	**P**	**00 09 28.0**	**0.0**
AVF				pmax	pmax		
	comp=Z,34nm,1.1s,mb4.6						
AVF	**Avril sur Loir**	**21.03**	**84**	*e*P	**P**	**00 09 28.0**	**0.0**
	comp=Z,34nm,1.1s,mb4.6						
SSF	**Saint Saulge**	**21.06**	**83**	*e*P	**P**	**00 09 27.6**	**-0.7**
	comp=Z,143nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**21.06**	**83**	*e*P	**P**	**00 09 27.6**	**-0.7**
SSF				pmax	pmax		
	comp=Z,71nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**21.06**	**83**	*e*P	**P**	**00 09 27.6**	**-0.7**
	comp=Z,71nm,1.4s,mb4.8						
EQES	**Quesada**	**21.06**	**112**	P	**P**	**00 09 29.0**	**+0.8**
	comp=Z,21nm,1.1s,mb4.4						
EQES	**Quesada**	**21.06**	**112**	P	**P**	**00 09 29.0**	**+0.7**
	comp=Z,21nm,1.1s,mb4.4						
DOU	**Dourbes**	**21.10**	**74**	P	**P**	**00 09 26.7**	**-2.0**
	comp=Z,12nm,1.1s,mb4.2						
DOU				AP		00 09 28.7	
SALF	**Salau**	**21.10**	**96**	*e*P	**P**	**00 09 30.4**	**+1.7**
ERON	**Agron**	**21.12**	**115**	P	**P**	**00 09 30.6**	**+1.7**
	comp=Z,90nm,2.3s,mb4.7						
ERON	**Agron**	**21.12**	**115**	P	**P**	**00 09 30.6**	**+1.7**
	comp=Z,90nm,2.3s,mb4.7						
PYM	**Petit Puy Mans**	**21.13**	**87**	*e*P	**P**	**00 09 33.5**	**+4.4**
EMOS	**Mosqueruela**	**21.20**	**103**	P	**P**	**00 09 31.4**	**+1.7**
	comp=Z,123nm,2.0s,mb4.9						
EMOS	**Mosqueruela**	**21.20**	**103**	P	**P**	**00 09 31.4**	**+1.6**
	comp=Z,123nm,2.0s,mb4.9						
LOR	**Lormes**	**21.23**	**82**	*e*P	**P**	**00 09 29.7**	**-0.4**
	comp=Z,90nm,1.3s,mb4.6						
LOR				*e*R			
	comp=Z,376nm,19.2s						
LOR	**Lormes**	**21.23**	**82**	*e*P	**P**	**00 09 29.7**	**-0.4**
LOR				pmax	pmax		
	comp=Z,45nm,1.3s,mb4.6						
LOR				MLR	MLR		
	comp=Z,380nm,19.3s,MS3.8						
LOR	**Lormes**	**21.23**	**82**	*e*P	**P**	**00 09 29.7**	**-0.4**
	comp=Z,45nm,1.3s,mb4.6						
LOR				LR	LR		
	comp=Z,380nm,19.3s,MS3.8						
GIVF	**Givet**	**21.24**	**74**	*e*P	**P**	**00 09 29.5**	**-0.7**
	comp=Z,145nm,1.2s,mb4.9						
GIVF	**Givet**	**21.24**	**74**	*e*P	**P**	**00 09 29.5**	**-0.7**
GIVF				pmax	pmax		
	comp=Z,72nm,1.2s,mb4.9						
GIVF	**Givet**	**21.24**	**74**	*e*P	**P**	**00 09 29.5**	**-0.7**
	comp=Z,72nm,1.2s,mb4.9						
EHUE	**Huescar**	**21.35**	**111**	P	**P**	**00 09 32.3**	**+0.9**
EHUE				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.6						
EHUE	**Huescar**	**21.35**	**111**	P	**P**	**00 09 32.3**	**+0.9**
	comp=Z,33nm,1.1s,mb4.6						
EHUE	**Huescar**	**21.35**	**111**	P	**P**	**00 09 32.3**	**+0.9**
	comp=Z,33nm,1.1s,mb4.6						
SMF	**Signal de Mont**	**21.40**	**84**	*e*P	**P**	**00 09 32.2**	**+0.3**
	comp=Z,167nm,1.4s,mb4.9						
SMF	**Signal de Mont**	**21.40**	**84**	*e*P	**P**	**00 09 32.2**	**+0.3**
SMF				pmax	pmax		
	comp=Z,84nm,1.4s,mb4.9						
SMF	**Signal de Mont**	**21.40**	**84**	*e*P	**P**	**00 09 32.2**	**+0.3**
	comp=Z,84nm,1.4s,mb4.9						
ERTA	**Horta de San J**	**21.41**	**101**	P	**P**	**00 09 34.0**	**+1.9**
	comp=Z,289nm,2.6s,mb5.2						
ERTA	**Horta de San J**	**21.41**	**101**	P	**P**	**00 09 34.0**	**+2.0**
	comp=Z,289nm,2.6s,mb5.2						
LBL	**Lubilhac**	**21.47**	**88**	*e*P	**P**	**00 09 36.4**	**+3.7**
ETOB	**Tobarra**	**21.49**	**108**	P	**P**	**00 09 33.4**	**+0.5**
	comp=Z,20nm,1.0s,mb4.4						
ETOB	**Tobarra**	**21.49**	**108**	P	**P**	**00 09 33.4**	**+0.5**
	comp=Z,20nm,1.0s,mb4.4						
BCLA	**Clavier**	**21.50**	**73**	P	**P**	**00 09 32.7**	**-0.3**
BCLA				E		00 09 39.6	
BCLA	**Clavier**	**21.50**	**73**	P	**P**	**00 09 32.6**	**-0.4**
MTLF	**Montolieu**	**21.52**	**93**	*e*P	**P**	**00 09 32.4**	**-0.9**
	comp=Z,73nm,1.3s,mb4.7						
MTLF	**Montolieu**	**21.52**	**93**	*e*P	**P**	**00 09 32.4**	**-0.9**
MTLF				pmax	pmax		
	comp=Z,37nm,1.3s,mb4.7						
MTLF	**Montolieu**	**21.52**	**93**	*e*P	**P**	**00 09 32.4**	**-0.9**
	comp=Z,36nm,1.3s,mb4.7						
EBR	**Ebro Roquetas**	**21.58**	**101**	*e*P	**P**	**00 09 35.0**	**+1.1**
EBR				*e*Ts		00 27 18.5	
SFJD	**Kangerlussuaq**	**21.65**	**336**	P	**P**	**00 09 34.8**	**+0.2**
	comp=Z,36nm,1.2s,mb4.7,baz=120,slow=11,SNR=4.4						
SFJD				LR	LR	00 16 12.2	
	comp=Z,360nm,21.4s,MS3.7,baz=117,slow=32						
EPOB	**Poblet**	**21.69**	**99**	P	**P**	**00 09 35.7**	**+0.6**
	comp=Z,60nm,1.5s,mb4.8						
MEZF	**Maizieres J'vi**	**21.70**	**78**	*e*P	**P**	**00 09 34.6**	**-0.6**
	comp=Z,327nm,1.7s,mb5.2						
MEZF	**Maizieres J'vi**	**21.70**	**78**	*e*P	**P**	**00 09 34.6**	**-0.6**
	comp=Z,163nm,1.7s,mb5.2						
EMIR	**Miracle**	**21.71**	**97**	P	**P**	**00 09 35.9**	**+0.6**
	comp=Z,22nm,1.1s,mb4.5						
EMIR	**Miracle**	**21.71**	**97**	P	**P**	**00 09 35.9**	**+0.6**
	comp=Z,22nm,1.1s,mb4.5						
CARF	**Carcanieres**	**21.72**	**95**	*e*P	**P**	**00 09 35.9**	**+0.5**
VALF	**Valcebollere**	**21.81**	**96**	*e*P	**P**	**00 09 37.1**	**+0.8**
HGN	**Heimansgroeve**	**21.84**	**72**	*e*P	**P**	**00 09 36.2**	**-0.5**
LRDF	**Laroque-de-Fa**	**21.91**	**94**	*e*P	**P**	**00 09 37.6**	**+0.2**
MEM	**Membach**	**21.91**	**72**	P	**P**	**00 09 37.0**	**-0.5**
	comp=Z,9.5nm,1.1s,mb4.1						
SCO	**Scoresbysund**	**21.96**	**5**	*i* P	**P**	**00 09 40.9**	**+3.0**
	comp=Z,14nm,0.9s,mb4.4						
WLF	**Walferdange**	**22.16**	**75**	⇓P	**P**	**00 09 39.9**	**-0.3**
WLF				XP	sP	00 09 44.1	-0.2
WLF	**Walferdange**	**22.16**	**75**	*e*P	**P**	**00 09 40.1**	**0.0**
WLF				pmax	pmax		
	comp=Z,44nm,1.4s,mb4.7						
WLF	**Walferdange**	**22.16**	**75**	*e*P	**P**	**00 09 40.1**	**-0.1**
	comp=Z,44nm,1.4s,mb4.7						
WLF	**Walferdange**	**22.16**	**75**	*e*P	**P**	**00 09 40.1**	**0.0**
	comp=Z,44nm,1.4s,mb4.7						
LASF	**Ste Croix**	**22.31**	**90**	*e*P	**P**	**00 09 40.6**	**-1.0**
	comp=Z,89nm,1.4s,mb4.7						
LASF	**Ste Croix**	**22.31**	**90**	*e*P	**P**	**00 09 40.6**	**-1.0**
	comp=Z,44nm,1.4s,mb4.7						
THEF	**They Montfort**	**22.37**	**79**	*e*P	**P**	**00 09 41.9**	**-0.4**
VIVF	**Saint-Julien-l**	**22.55**	**88**	*e*P	**P**	**00 09 42.2**	**-2.0**
	comp=Z,37nm,1.1s,mb4.4						
VIVF	**Saint-Julien-l**	**22.55**	**88**	*e*P	**P**	**00 09 42.2**	**-2.0**
VIVF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.4						
VIVF	**Saint-Julien-l**	**22.55**	**88**	*e*P	**P**	**00 09 42.2**	**-2.0**
	comp=Z,19nm,1.1s,mb4.4						
BUG	**Bochum--Univer**	**22.59**	**70**	*e*P	**P**	**00 09 43.4**	**-1.3**
	comp=Z,90nm,1.5s,mb5.0						
HAU	**Haudompre**	**22.66**	**79**	*e*P	**P**	**00 09 45.3**	**-0.1**
	comp=Z,87nm,1.4s,mb4.7						
HAU				*e*R			
	comp=Z,291nm,18.8s						
HAU	**Haudompre**	**22.66**	**79**	*e*P	**P**	**00 09 45.3**	**-0.1**
HAU				pmax	pmax		
	comp=Z,43nm,1.4s,mb4.7						
HAU				MLR	MLR		
	comp=Z,290nm,18.8s,MS3.7						
HAU	**Haudompre**	**22.66**	**79**	*e*P	**P**	**00 09 45.3**	**-0.1**
	comp=Z,43nm,1.4s,mb4.7						
HAU				LR	LR		
	comp=Z,290nm,18.8s,MS3.7						
RUP	**Ruppelstein**	**22.74**	**74**	*e*P	**P**	**00 09 46.6**	**+0.4**
IBBN	**Ibbenburen**	**22.80**	**68**	*e*P	**P**	**00 09 46.8**	**-0.1**
	comp=Z,73nm,1.5s,mb4.9						
ABH	**Alteburg**	**23.01**	**74**	*e*P	**P**	**00 09 49.8**	**+0.7**
HINF	**Hinteralfeld**	**23.04**	**79**	*e*P	**P**	**00 09 48.6**	**-0.8**
	comp=Z,67nm,1.3s,mb4.6						
HINF	**Hinteralfeld**	**23.04**	**79**	*e*P	**P**	**00 09 48.6**	**-0.8**
HINF				pmax	pmax		
	comp=Z,34nm,1.3s,mb4.6						
HINF	**Hinteralfeld**	**23.04**	**79**	*e*P	**P**	**00 09 48.6**	**-0.8**
	comp=Z,34nm,1.3s,mb4.6						
OCF	**Saint Nazaire**	**23.07**	**88**	*e*P	**P**	**00 09 51.9**	**+2.2**
OG26	**St.-Nazaire-De**	**23.07**	**88**	*e*P	**P**	**00 09 51.9**	**+2.2**
ECH	**Echery**	**23.13**	**78**	*e*P	**P**	**00 09 49.9**	**-0.5**
LOMF	**Lomont**	**23.15**	**80**	*e*P	**P**	**00 09 52.5**	**+1.9**
CDF	**Champ du Feu**	**23.16**	**78**	*e*P	**P**	**00 09 49.9**	**-0.8**
	comp=Z,67nm,1.5s,mb4.6						
CDF	**Champ du Feu**	**23.16**	**78**	*e*P	**P**	**00 09 49.9**	**-0.8**
CDF				pmax	pmax		
	comp=Z,34nm,1.5s,mb4.6						
CDF	**Champ du Feu**	**23.16**	**78**	*e*P	**P**	**00 09 49.9**	**-0.8**
	comp=Z,34nm,1.5s,mb4.6						
WLS	**Welschbruch**	**23.21**	**77**	*e*P	**P**	**00 09 51.3**	**+0.1**
MOF	**Molkenrain**	**23.21**	**79**	*e*P	**P**	**00 09 51.3**	**+0.1**
PRAF	**Pradon**	**23.28**	**90**	*e*P	**P**	**00 09 53.2**	**+1.2**
ORIF	**Oris-en-Rattie**	**23.32**	**87**	*e*P	**P**	**00 09 50.5**	**-1.9**
	comp=Z,161nm,1.9s,mb4.8						
ORIF				*e*R			
	comp=Z,575nm,18.8s						
ORIF	**Oris-en-Rattie**	**23.32**	**87**	*e*P	**P**	**00 09 50.5**	**-1.9**
ORIF				pmax	pmax		
	comp=Z,81nm,1.9s,mb4.8						
ORIF	**Oris-en-Rattie**	**23.32**	**87**	*e*P	**P**	**00 09 50.5**	**-1.9**
	comp=Z,81nm,1.9s,mb4.8						
SMRF	**Simiane la Rot**	**23.48**	**89**	*e*P	**P**	**00 09 52.8**	**-1.3**
	comp=Z,143nm,1.8s,mb4.8						
SMRF	**Simiane la Rot**	**23.48**	**89**	*e*P	**P**	**00 09 52.8**	**-1.3**
	comp=Z,71nm,1.8s,mb4.8						
TREF	**Trevaresse**	**23.50**	**90**	*e*P	**P**	**00 09 55.3**	**+1.0**
VILF	**Villemus**	**23.62**	**89**	*e*P	**P**	**00 09 56.8**	**+1.3**
GELF	**Grande-Etoile**	**23.63**	**91**	*e*P	**P**	**00 09 56.3**	**+0.8**
MDT	**Midelt**	**23.64**	**124**	P	**P**	**00 09 53.9**	**-1.7**
	comp=Z,1.8nm,0.8s,mb3.6,baz=318,slow=15,SNR=3.5						
LPL	**La Plagne**	**23.67**	**85**	*e*P	**P**	**00 09 54.5**	**-1.4**
LPG	**La Plagne**	**23.69**	**85**	*e*P	**P**	**00 09 54.8**	**-1.2**
STOF	**St-Etienne Org**	**23.69**	**89**	*e*P	**P**	**00 09 56.5**	**+0.4**
PUYF	**Puyloubier**	**23.75**	**90**	*e*P	**P**	**00 09 57.0**	**+0.4**
FELD	**Feldberg im Sc**	**23.77**	**79**	*e*P	**P**	**00 09 56.5**	**-0.3**
BNI	**Bardonecchia**	**23.80**	**86**	*e*P	**P**	**00 09 56.8**	**-0.3**
BNI				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.1						
BNI	**Bardonecchia**	**23.80**	**86**	*e*P	**P**	**00 09 56.8**	**-0.3**
	comp=Z,12nm,1.4s,mb4.1						
BNI	**Bardonecchia**	**23.80**	**86**	*e*P	**P**	**00 09 56.8**	**-0.3**
	comp=Z,12nm,1.4s,mb4.1						
BERF	**

comp=Z,300nm,21.0s
MOX Moxa 25.43 71 *e*P **P 00 10 11.8 -0.1**
MOX pmax pmax
comp=Z,48nm,1.8s,mb4.7
MOX MLR MLR
comp=Z,300nm,21.0s,MS3.8
MOX Moxa 25.43 71 *e*P **P 00 10 11.7 -0.2**
comp=Z,20nm,1.3s,mb4.5
FUR Furstenfeldbru 25.80 76 *e*P **P 00 10 15.5 +0.2**
comp=Z,64nm,1.6s,mb4.9
FUR Furstenfeldbru 25.80 76 *e*P **P 00 10 15.5 +0.2**
FUR pmax pmax
comp=Z,64nm,1.6s,mb4.9
MANZ Manzenberg 25.87 72 *e*P **P 00 10 16.2 +0.3**
comp=Z,57nm,1.4s,mb4.9
WERD Werda 25.90 71 *e*P **P 00 10 16.1 -0.1**
comp=Z,20nm,1.6s,mb4.4
MOTA Moosalm 25.93 78⇑ *i*P **P 00 10 16.0 -0.4**
comp=Z,41nm,1.7s,mb4.7
MOTA Moosalm 25.93 78⇑ *i*P **P 00 10 16.0 -0.5**
MOTA pmax pmax
comp=Z,41nm,1.7s,mb4.7
ROTZ Rotzenmuhle 25.99 73 *e*P **P 00 10 16.6 -0.4**
comp=Z,49nm,1.6s,mb4.8
TANN Tannenbergstha 26.00 71 *e*P **P 00 10 17.0 -0.1**
comp=Z,17nm,1.4s,mb4.4
NKC Novy Kostel 26.03 71 *e*P **P 00 10 17.1 -0.3**
NKC AMS AMS 00 19 40.0
comp=Z,400nm,17.6s
NKC Novy Kostel 26.03 71 *e*P **P 00 10 17.1 -0.3**
comp=Z,400nm,17.6s
SQTA Sankt Quirin 26.04 79⇑ *i*P **P 00 10 17.0 -0.4**
comp=Z,60nm,2.0s,mb4.8
SQTA Sankt Quirin 26.04 79⇑ *i*P **P 00 10 17.0 -0.4**
SQTA pmax pmax
comp=Z,60nm,2.0s,mb4.8
CLL Collm 26.16 69 *e*P **P 00 10 18.2 -0.3**
comp=Z,42nm,1.6s,mb4.7
CLL Collm 26.16 69⇑ *i*P **P 00 10 18.3 -0.2**
comp=Z,18nm,1.2s,mb4.5
CLL *i* x x 00 10 25.6
comp=Z,42nm,1.6s
CLL Collm 26.16 69⇑ *i*P **P 00 10 18.3 -0.2**
CLL *i* 00 10 25.6
CLL pmax pmax
comp=Z,18nm,1.2s,mb4.5
CLL MLR MLR
comp=Z,600nm,16.0s,MS4.2
CLL Collm 26.16 69⇑ *i*P **P 00 10 18.3 -0.2**
comp=Z,18nm,1.2s,mb4.5
CLL *i* 00 10 25.6
CLL LR LR
comp=Z,600nm,16.0s,MS4.2
HFS Hagfors 26.26 49 P **P 00 10 18.9 -0.6**
comp=Z,4.4nm,0.9s,mb4.0,baz=324,slow=7.3,SNR=4.1
HFS LR LR 00 20 06.0
comp=Z,140nm,18.3s,MS3.5,baz=287,slow=35
WTTA Wattenberg 26.30 78⇑ *i*P **P 00 10 21.0 +1.2**
comp=Z,29nm,1.6s,mb4.6
WTTA Wattenberg 26.30 78⇑ *i*P **P 00 10 21.0 +1.2**
WTTA pmax pmax
comp=Z,29nm,1.6s,mb4.6
PGF Pioggiola 26.35 90 *e*P **P 00 10 19.2 -1.1**
comp=Z,37nm,1.4s,mb4.4
PGF Pioggiola 26.35 90 *e*P **P 00 10 19.2 -1.1**
PGF pmax pmax
comp=Z,19nm,1.4s,mb4.4
PGF Pioggiola 26.35 90 *e*P **P 00 10 19.2 -1.1**
comp=Z,19nm,1.4s,mb4.4
FBE Freiberg 26.45 70 *e*P **P 00 10 21.2 0.0**
comp=Z,35nm,1.4s,mb4.7
BRG Berggiesshubel 26.83 70 *e*P **P 00 10 24.3 -0.3**
comp=Z,22nm,1.4s,mb4.5
BRG Berggiesshubel 26.83 70 *i*P **P 00 10 25.0 +0.4**
comp=Z,6.8nm,1.1s,mb4.1
BRG Berggiesshubel 26.83 70 *i*P **P 00 10 25.0 +0.4**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
KHC Kasperske Hory 27.01 73 *e*P **P 00 10 23.0 -3.2**
KHC AMS AMS 00 20 10.0
comp=Z,600nm,19.9s
KHC Kasperske Hory 27.01 73⇑ *e*P **P 00 10 26.3 +0.1**
GEC2 GERESS Array S 27.16 74 *e*P **P 00 10 27.5 -0.1**
comp=Z,11nm,1.3s,mb4.2
GEC2 GERESS Array S 27.16 74 *e*P **P 00 10 27.5 -0.1**
GEC2 pmax pmax
comp=Z,11nm,1.3s,mb4.2
GERES GERESS Array B 27.16 74 P **P 00 10 26.8 -0.8**
comp=Z,3.6nm,1.0s,mb3.9,baz=282,slow=7.6,SNR=23
GERES LR LR 00 20 48.2
comp=Z,630nm,18.8s,MS4.2,baz=253,slow=36
PVCC Panska Ves 27.29 70 *e*P **P 00 10 28.4 -0.3**
PVCC MLR MLR
comp=Z,200nm,16.5s,MS3.8
PRU Pruhonice 27.40 71 *e*P **P 00 10 29.9 +0.2**
PRU AMS AMS 00 20 00.0
comp=Z,400nm,20.4s
MOA Molln 27.81 76⇓ *i*P **P 00 10 34.1 +0.6**
comp=Z,5.3nm,1.2s,mb4.0
MOA Molln 27.81 76⇓ *i*P **P 00 10 34.0 +0.6**
comp=Z,5.3nm,1.3s,mb4.0
UPC Upice 28.19 70 *e*P **P 00 10 36.5 -0.3**
DAG Danmarks Havn 28.34 4⇓ *i*P **P 00 10 38.5 +0.4**
comp=Z,2.2nm,0.8s,mb3.8
DAG Danmarks Havn 28.34 4⇓ *e*P **P 00 10 38.5 +0.4**
DAG pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
DAG Danmarks Havn 28.34 4⇓ *e*P **P 00 10 38.5 +0.4**
comp=Z,2.2nm,0.8s,mb3.8
DPC Dobruska-Polom 28.42 70 *e*P **P 00 10 38.9 0.0**
DPC AMS AMS 00 21 40.0
comp=Z,600nm,19.6s
CONA Conrad Observa 28.81 75⇑ *i*P **P 00 10 42.4 +0.1**
comp=Z,4.9nm,1.1s,mb4.1
ARSA Arzberg 28.81 76⇑ *i*P **P 00 10 41.3 -1.0**
comp=Z,7.1nm,1.0s,mb4.4
VRAC Vranov 28.87 72 P **P 00 10 42.2 -0.6**
comp=Z,1.0nm,0.4s,mb3.9,baz=315,slow=14,SNR=4.1
VRAC LR LR 00 21 21.1
comp=Z,449nm,20.6s,MS4.1,baz=282,slow=34
MORC Moravsky Berou 29.33 71 *e*P **P 00 10 46.9 0.0**
MORC pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
MORC Moravsky Berou 29.33 71 *e*P **P 00 10 46.9 -0.1**
comp=Z,9.6nm,1.3s,mb4.4
MORC Moravsky Berou 29.33 71 *e*P **P 00 10 46.9 0.0**
comp=Z,9.6nm,1.3s,mb4.4
ZST Bratislava 29.52 74 *e*P **P 00 10 48.4 -0.2**
ZST MLR MLR
comp=Z,100nm,18.1s,MS3.5
OKC Ostrava-Krasne 29.69 70 *e*P **P 00 10 50.0 -0.1**
OKC AMS AMS 00 23 10.0
comp=Z,400nm,18.6s
VYHS Vyhne 30.52 73 *e*P **P 00 10 57.4 -0.1**
VYHS pmax pmax
comp=Z,9.0nm,1.8s,mb4.3
VYHS Vyhne 30.52 73 *e*P **P 00 10 57.4 -0.1**
comp=Z,8.7nm,1.8s,mb4.3
NIE Niedzica 31.16 70 *e*P **P 00 11 04.0 +0.9**
PSZ Piszkesteto 31.38 73⇑ *e*P **P 00 11 06.0 +1.0**
PSZ Piszkesteto 31.38 73 *e*P **P 00 11 05.8 +0.8**
PSZ pmax pmax
comp=Z,23nm,1.4s,mb4.8
PSZ Piszkesteto 31.38 73 *e*P **P 00 11 05.8 +0.7**
comp=Z,23nm,1.4s,mb4.8
PSZ Piszkesteto 31.38 73 *e*P **P 00 11 05.8 +0.8**
comp=Z,23nm,1.4s,mb4.8
KECS Kecovo 31.56 72 *e*P **P 00 11 05.9 -0.7**
KECS pmax pmax
comp=Z,3.0nm,1.3s,mb4.0
KECS Kecovo 31.56 72 *e*P **P 00 11 05.9 -0.7**
comp=Z,3.3nm,1.3s,mb4.0
STHS Stebnicka Huta 31.74 70 *e*P **P 00 11 08.7 +0.5**
STHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
STHS Stebnicka Huta 31.74 70 *e*P **P 00 11 08.7 +0.5**
comp=Z,6.7nm,1.2s,mb4.3
NCB Newcomb 31.92 279 *e*P **P 00 11 09.8 +0.1**
comp=Z,13nm,1.1s,mb4.7
NCB Newcomb 31.92 279 *e*P **P 00 11 09.8 +0.1**
comp=Z,13nm,1.1s,mb4.7
FINES FINESS Array B 32.37 47 P **P 00 11 12.6 -1.1**
comp=Z,6.8nm,1.0s,mb4.4,baz=269,slow=7.6,SNR=8.9
FINES LR LR 00 23 53.9
comp=Z,188nm,18.8s,MS3.8,baz=274,slow=36
KAF Kangasniemi 32.46 45 *e*p **P 00 11 13.7 -0.9**
comp=Z,11nm,0.9s,mb4.7
KAF Kangasniemi 32.46 45 *e*P **P 00 11 13.7 -0.9**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.7
VAE Valguarnera 32.50 94 LR LR 00 22 01.0
comp=Z,238nm,21.7s,MS3.9,baz=134,slow=32
KWP Kalwaria 32.58 69 *e*P **P 00 11 16.2 +0.6**
KWP pmax pmax
comp=Z,28nm,1.3s,mb5.0
KWP Kalwaria 32.58 69 *e*P **P 00 11 16.2 +0.7**
comp=Z,28nm,1.3s,mb5.0
KWP Kalwaria 32.58 69 *e*P **P 00 11 16.2 +0.6**
comp=Z,28nm,1.3s,mb5.0
ARCES ARCESS Array B 32.79 31 P **P 00 11 16.3 -1.1**
comp=Z,9.9nm,1.1s,mb4.7,baz=255,slow=9.4,SNR=7.9
JOF Joensuu 34.74 44 *e*p **P 00 11 33.1 -1.3**
comp=Z,11nm,0.9s,mb4.8
JOF Joensuu 34.74 44 *e*P **P 00 11 33.1 -1.3**
JOF pmax pmax
comp=Z,11nm,0.9s,mb4.8
SADO Sadowa 34.77 283 P **P 00 11 34.2 -0.4**
comp=Z,18nm,1.0s,mb4.9,baz=74,slow=10.0,SNR=11
SADO LR LR 00 24 29.9
comp=Z,679nm,21.5s,MS4.4,baz=70,slow=34
SADO Sadowa 34.77 283 P **P 00 11 34.2 -0.4**
SADO LR LR 00 24 29.9
MVL Millersville 35.18 274 *e*P **P 00 11 38.3 +0.1**
MVL Millersville 35.18 274 *e*P **P 00 11 38.3 +0.1**
LVZ Lovozero 35.95 35⇑ *e*P **P 00 11 38.8 -6.0**
LVZ pmax pmax
comp=Z,29nm,1.7s,mb4.9
AKASG Malin Array Be 36.19 65 P **P 00 11 45.9 -1.0**
comp=Z,6.4nm,0.8s,mb4.6,baz=284,slow=8.7,SNR=27
AKASG Malin Array Be 36.19 65 *i*P **P 00 11 46.2 -0.7**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 36.19 65 P **P 00 11 45.9 -1.0**
KIS Kishinev 37.34 71 *e*P sP 00 12 13.0 +12
KIS *e* 00 13 30.0
KIS *e* 00 13 42.0
KIS *e* 00 14 20.0
KIS MLR MLR
comp=Z,500nm,15.0s,MS4.4
KIS MLR MLR
comp=Z,500nm,16.0s
OBN Obninsk 38.97 56⇑ *e*P **P 00 12 10.3 0.0**
OBN pmax pmax
comp=Z,12nm,0.9s,mb4.6
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.0
ACSO Alum Creek Sta 39.42 279 *e*P **P 00 12 14.4 +0.2**
comp=Z,43nm,1.4s,mb5.0
ACSO Alum Creek Sta 39.42 279 *e*P **P 00 12 14.4 +0.3**
comp=Z,43nm,1.4s,mb5.0
ESKT Eskisehir 42.22 80 *i*P **P 00 12 37.0 -0.2**
ULM Lac du Bonnet 42.74 299 P **P 00 12 40.3 -1.2**
comp=Z,7.0nm,1.1s,mb4.3,baz=69,slow=8.4,SNR=11
ULM LR LR 00 28 55.3
comp=Z,227nm,18.6s,MS4.1,baz=166,slow=34
TORD Torodi Ar. Bea 43.14 135 P **P 00 12 43.0 -1.7**
comp=Z,11nm,1.0s,mb4.5,baz=328,slow=6.6,SNR=36
ANTO Ankara 43.29 78 *e*P **P 00 12 46.8 +0.9**
ANTO pmax pmax
comp=Z,17nm,1.1s,mb4.7
ANTO Ankara 43.29 78 *e*P **P 00 12 46.8 +0.9**
comp=Z,16nm,1.1s,mb4.7
SJG San Juan 43.46 239 LR LR 00 26 23.4
comp=Z,177nm,21.7s,MS3.9,baz=283,slow=30
ANN Anapa 43.69 70 *e*P **P 00 12 50.4 +1.2**
ANN *e*S **S 00 19 09.6 -9.5**
ANN pmax pmax
comp=Z,34nm,1.4s,mb4.9
BR131 Keskin Array S 43.91 78 *e*P **P 00 12 51.2 +0.2**
comp=Z,4.7nm,0.8s,mb4.3
BR131 Keskin Array S 43.91 78 *e*P **P 00 12 51.2 +0.2**
comp=Z,4.7nm,0.8s,mb4.3
BRTR Keskin Array B 43.91 78 P **P 00 12 51.2 +0.3**
comp=Z,6.4nm,0.9s,mb4.4,baz=302,slow=5.9,SNR=26
BRTR Keskin Array B 43.91 78 *i*P **P 00 12 52.0 +1.0**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 43.91 78 P **P 00 12 51.2 +0.2**
CTKT Corum 44.17 76 *i*P **P 00 12 54.4 +1.4**
FFC Flin Flon 44.25 307 *e*P **P 00 12 53.2 -0.5**
FFC pmax pmax
comp=Z,19nm,1.3s,mb4.7
FFC Flin Flon 44.25 307 *e*P **P 00 12 53.2 -0.5**
comp=Z,19nm,1.3s,mb4.7
FFC Flin Flon 44.25 307 *e*P **P 00 12 53.2 -0.5**
comp=Z,19nm,1.3s,mb4.7
WVT Waverly 44.87 277 *e*P **P 00 12 58.2 -0.4**
WVT pmax pmax
comp=Z,30nm,1.5s,mb4.9
WVT Waverly 44.87 277 *e*P **P 00 12 58.2 -0.4**
comp=Z,30nm,1.5s,mb4.9
WVT Waverly 44.87 277 *e*P **P 00 12 58.2 -0.4**
comp=Z,30nm,1.5s,mb4.9
AVNT Avonos 45.22 78 *i*P **P 00 13 03.3 +1.9**
FVM French Village 45.50 281 *e*P **P 00 13 03.8 +0.2**
FVM pmax pmax
comp=Z,33nm,1.1s,mb5.1
FVM French Village 45.50 281 *e*P **P 00 13 03.8 +0.2**
comp=Z,33nm,1.1s,mb5.1
FVM French Village 45.50 281 *e*P **P 00 13 03.8 +0.2**
comp=Z,33nm,1.1s,mb5.1
PLAL Pickwick Lake 45.71 276 *e*P **P 00 13 05.1 -0.2**
comp=Z,70nm,1.8s,mb5.3
PLAL Pickwick Lake 45.71 276 *e*P **P 00 13 05.1 -0.1**
comp=Z,70nm,1.8s,mb5.3
SOC Sochi 45.72 70 *e*P **P 00 13 07.0 +1.6**
SOC *e* 00 14 48.8
SOC *e*PPP 00 15 36.4
SOC *e*S **S 00 19 39.2 -9.4**
SOC *e*SS SS 00 22 56.6 -16
SOC pmax pmax
comp=Z,19nm,0.9s,mb5.0
SOC MLR MLR
comp=Z,238nm,19.0s,MS4.2
CCM Cathedral Cave 45.99 281 *e*P **P 00 13 07.1 -0.4**
CCM pmax pmax
comp=Z,35nm,1.1s,mb5.2
CCM Cathedral Cave 45.99 281 *e*P **P 00 13 07.0 -0.4**
comp=Z,35nm,1.1s,mb5.2
CCM Cathedral Cave 45.99 281 *e*P **P 00 13 07.1 -0.4**
comp=Z,35nm,1.1s,mb5.2
DBIC Dimbokro 46.29 147 P **P 00 13 08.6 -1.2**
comp=Z,7.4nm,0.8s,mb4.6,baz=324,slow=2.6,SNR=4.4
DBIC LR LR 00 30 51.1
comp=Z,250nm,18.2s,MS4.2,baz=319,slow=34
DBIC Dimbokro 46.29 147 P **P 00 13 08.6 -1.2**
DBIC LR LR 00 30 51.1
GOF Gofitskoye 46.99 66 *e*P **P 00 13 26.2 +11**
YKA Yellowknife Ar 47.00 321 P **P 00 13 14.9 -0.5**
comp=Z,2.3nm,0.9s,mb4.1,baz=62,slow=8.0,SNR=8.6
YKA PcP PcP 00 14 46.3 -1.3
comp=Z,2.7nm,0.9s,baz=64,slow=3.7,SNR=7.1
YKA LR LR 00 30 59.7
comp=Z,75nm,19.0s,MS3.7,baz=75,slow=34
YKA Yellowknife Ar 47.00 321 P **P 00 13 14.9 -0.5**
YKA 00 14 46.3
YKA Yellowknife Ar 47.00 321 P **P 00 13 14.9 -0.5**
YKA PcP PcP 00 14 46.3 -1.3
YKA LR LR 00 30 59.7
YKA Yellowknife Ar 47.00 321 PcP PcP 00 14 46.3 -1.3
KIV Kislovodsk 47.36 68 *e*P **P 00 13 20.3 +2.1**
KIV pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
KIV MLR MLR
comp=Z,163nm,13.0s,MS4.2
SOKR Solikamsk 47.42 44⇑ *i*P **P 00 13 18.9 +0.2**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.2
GZT Gaziantep 47.79 78 *i*P **P 00 13 21.2 -0.4**
MALT Malatya 47.79 77 *e*P **P 00 13 22.0 +0.4**
MALT pmax pmax
comp=Z,12nm,1.3s,mb4.8
MALT Malatya 47.79 77 *e*P **P 00 13 22.0 +0.4**
comp=Z,12nm,1.3s,mb4.8
MALT Malatya 47.79 77 *e*P **P 00 13 22.0 +0.4**
comp=Z,12nm,1.3s,mb4.8
ZEI Tsey 48.74 69 *e*P **P 00 13 30.7 +1.8**
ZEI *e*PP pP 00 13 39.5 +7.4
ZEI pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
ERZM Erzurum 48.76 73 *i*P **P 00 13 31.1 +2.1**
PCRV Puerto La Cruz 49.19 231 LR LR 00 30 59.7
comp=Z,102nm,19.5s,MS3.8,baz=197,slow=32
MIAR Mount Ida 49.58 279 *e*P **P 00 13 34.6 -0.7**
MIAR pmax pmax
comp=Z,53nm,1.3s,mb5.4
MIAR Mount Ida 49.58 279 *e*P **P 00 13 34.6 -0.7**
comp=Z,53nm,1.3s,mb5.4
MIAR Mount Ida 49.58 279 *e*P **P 00 13 34.6 -0.7**
comp=Z,53nm,1.3s,mb5.4
DIGO Kars 49.74 71 *i*P **P 00 13 38.0 +1.4**
ARU Arti 49.75 47⇑ *i*P **P 00 13 36.4 -0.2**
ARU *e* 00 15 00.3
ARU *e* 00 15 31.0
ARU pmax pmax
comp=Z,27nm,1.1s,mb5.2
BEST Besiri 49.86 75 *i*P **P 00 13 38.5 +1.0**
ORR Orenburg 50.28 54 *e*P **P 00 13 39.0 -1.7**
ORR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GNI Garni 50.74 71 P **P 00 13 44.2 0.0**
comp=Z,0.8nm,0.3s,mb4.1,baz=324,slow=9.4,SNR=4.5
GNI Garni 50.74 71 *de*P **P 00 13 45.3 +1.1**
GNI pmax pmax
comp=Z,15nm,1.3s
EDM Edmonton 50.88 309 *e*P **P 00 13 44.9 -0.3**
INK Inuvik 50.94 333 P **P 00 13 44.6 -1.0**
comp=Z,12nm,1.1s,mb4.7,baz=51,slow=8.9,SNR=18
INK Inuvik 50.94 333 *e*P **P 00 13 44.5 -1.1**
INK pmax pmax
comp=Z,16nm,1.1s
INK Inuvik 50.94 333 *e*P **P 00 13 44.5 -1.2**
comp=Z,16nm,1.1s,mb4.8
INK Inuvik 50.94 333 *e*P **P 00 13 44.5 -1.1**
comp=Z,16nm,1.1s,mb4.8
NATX Nacogdoches 52.02 277 *e*P **P 00 13 53.2 -0.5**
comp=Z,13nm,0.3s,mb5.3
AKTO Aktyubinsk 52.66 53 P **P 00 13 57.3 -1.2**
AKTO pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
GCMT Greycliff 52.97 300 *e*P **P 00 14 01.3 +0.5**
GCMT Greycliff 52.97 300 *e*P **P 00 14 01.3 +0.6**
PHWY Pilot Hill 53.08 293 *e*P **P 00 13 59.2 -2.4**
SDV Santo Domingo 53.46 237 P **P 00 14 03.9 -0.5**
comp=Z,1.2nm,0.4s,mb4.2,baz=59,slow=7.6,SNR=4.9
SDV LR LR 00 32 31.0
comp=Z,81nm,21.4s,MS3.8,baz=33,slow=31
SDV Santo Domingo 53.46 237 P **P 00 14 03.9 -0.5**
SDV LR LR 00 32 31.0
WALA Waterton Lakes 53.47 305 *e*P **P 00 14 03.2 -1.2**
comp=Z,24nm,1.2s,mb5.0
WALA Waterton Lakes 53.47 305 *e*P **P 00 14 03.2 -1.2**
comp=Z,24nm,1.2s,mb5.0
HRY Holter Researc 53.67 302 *e*P **P 00 14 06.1 +0.2**
HRY Holter Researc 53.67 302 *e*P **P 00 14 06.1 +0.2**
RWWY Rawlins 53.91 294 *e*P **P 00 14 06.3 -1.4**
comp=Z,42nm,1.0s,mb5.3
RWWY Rawlins 53.91 294 *e*P **P 00 14 06.3 -1.4**
comp=Z,42nm,1.0s,mb5.3
HKT Hockley 53.96 276 *e*P **P 00 14 06.2 -1.8**
HKT pmax pmax
comp=Z,17nm,1.3s,mb4.8
HKT Hockley 53.96 276 *e*P **P 00 14 06.2 -1.8**
comp=Z,17nm,1.3s,mb4.8
HKT Hockley 53.96 276 *e*P **P 00 14 06.2 -1.8**
comp=Z,17nm,1.3s,mb4.8
ISCO Idaho Springs 54.07 292 *e*P **P 00 14 09.6 +0.8**
ISCO pmax pmax
comp=Z,11nm,1.2s,mb4.7
ISCO Idaho Springs 54.07 292 *e*P **P 00 14 09.6 +0.7**
comp=Z,11nm,1.2s,mb4.7
ISCO Idaho Springs 54.07 292 *e*P **P 00 14 09.6 +0.8**
comp=Z,11nm,1.2s,mb4.7
CHMT Chamberlain Mo 54.34 303 *e*P **P 00 14 10.6 -0.3**
CHMT Chamberlain Mo 54.34 303 *e*P **P 00 14 10.6 -0.2**
AB31 Akbulak array 54.36 54 *i*P **P 00 14 10.6 -0.3**
AB31 pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
YFT Old Faithful 54.42 299 P **P 00 14 10.9 -0.5**
AMTX Amarillo 54.62 285 *e*P **P 00 14 12.7 -0.1**
comp=Z,48nm,1.2s,mb5.4
AMTX Amarillo 54.62 285 *e*P **P 00 14 12.7 -0.1**
comp=Z,48nm,1.2s,mb5.4
PDAR Pinedale Array 54.67 297 P **P 00 14 12.4 -0.8**
comp=Z,5.9nm,1.0s,mb4.6,baz=62,slow=6.9,SNR=25
PDAR LR LR 00 36 18.1
comp=Z,200nm,19.8s,MS4.2,baz=67,slow=35
PDAR Pinedale Array 54.67 297 P **P 00 14 12.4 -0.8**
MOOW Moose Ponds 54.78 298 *e*P **P 00 14 13.4 -0.6**
comp=Z,13nm,1.2s,mb4.8
MOOW Moose Ponds 54.78 298 *e*P **P 00 14 13.4 -0.6**
comp=Z,13nm,1.2s,mb4.8
IMW Indian Meadow 54.81 299 *e*P **P 00 14 14.9 +0.7**
comp=Z,11nm,1.0s,mb4.8
TPAW Teton Pass 55.06 298 *e*P **P 00 14 16.1 +0.1**
comp=Z,12nm,1.0s,mb4.9
TPAW Teton Pass 55.06 298 *e*P **P 00 14 16.1 +0.1**
comp=Z,12nm,1.0s,mb4.9
DAWY Dawson 55.45 330 *e*P **P 00 14 19.2 +0.4**
DAWY Dawson 55.45 330 *e*P **P 00 14 19.2 +0.4**
NEW Newport 55.66 306 P **P 00 14 19.3 -1.0**
comp=Z,2.0nm,0.7s,mb4.2,baz=35,slow=7.5,SNR=4.8
NEW Newport 55.66 306 *e*P **P 00 14 19.6 -0.7**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 55.66 306 *e*P **P 00 14 19.6 -0.7**
comp=Z,3.7nm,0.9s,mb4.4
NEW Newport 55.66 306 *e*P **P 00 14 19.6 -0.7**
comp=Z,3.7nm,0.9s,mb4.4
JCT Junction City 56.22 279 *e*P **P 00 14 23.5 -0.8**
JCT pmax pmax
comp=Z,19nm,1.1s,mb5.0
JCT Junction City 56.22 279 *e*P **P 00 14 23.5 -0.8**
comp=Z,20nm,1.1s,mb5.0
JCT Junction City 56.22 279 *e*P **P 00 14 23.5 -0.8**
comp=Z,20nm,1.1s,mb5.0
ZRNK Zerenda 56.71 46 *e*P **P 00 14 28.0 +0.2**
ZRNK pmax pmax
comp=Z,17nm,1.3s,mb4.9
ZRNK Zerenda 56.71 46 *e*P **P 00 14 28.0 +0.2**
comp=Z,16nm,1.3s,mb4.9
CHKZ Chkalovo 57.02 45 *e*P **P 00 14 29.8 -0.2**
CHKZ pmax pmax
comp=Z,20nm,1.3s,mb5.0
CHKZ Chkalovo 57.02 45 *e*P **P 00 14 29.8 -0.3**
comp=Z,20nm,1.3s,mb5.0
CHKZ Chkalovo 57.02 45 *e*P **P 00 14 29.8 -0.2**
comp=Z,20nm,1.3s,mb5.0
HLID Hailey 57.02 300 *e*P **P 00 14 30.6 +0.6**
comp=Z,13nm,1.2s,mb4.8
HLID Hailey 57.02 300 *e*P **P 00 14 30.6 +0.6**
comp=Z,13nm,1.2s,mb4.8
BRVK Borovoye 57.25 45 *e*P **P 00 14 32.0 +0.3**
BRVK pmax pmax
comp=Z,13nm,1.1s,mb4.9
BRVK Borovoye 57.25 45 *e*P **P 00 14 32.0 +0.4**
comp=Z,12nm,1.1s,mb4.9
BRVK Borovoye 57.25 45 *e*P **P 00 14 32.0 +0.3**
comp=Z,12nm,1.1s,mb4.9
BVA0 Borovoye Array 57.32 45 *i*P **P 00 14 32.4 +0.2**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
MVCO Mesa Verde 57.45 291 *e*P **P 00 14 33.8 +0.7**
MVCO Mesa Verde 57.45 291 *e*P **P 00 14 33.8 +0.7**
COLA College 57.50 334⇓ *e*P **P 00 14 32.2 -1.2**
ANMO Albuquerque 57.61 288 *c*P **P 00 14 35.1 +0.9**
ANMO Albuquerque 57.61 288 *e*P **P 00 14 34.3 +0.1**
comp=Z,15nm,1.4s,mb4.8
ANMO Albuquerque 57.61 288 *e*P **P 00 14 34.3 +0.1**
comp=Z,15nm,1.4s,mb4.8
VOSK Vostochnaya 57.79 45 P **P 00 14 34.4 -1.1**
VOSK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
DUG Dugway 58.18 296 *e*P **P 00 14 38.6 +0.4**
DUG pmax pmax
comp=Z,25nm,1.2s,mb5.1
DUG Dugway 58.18 296 *e*P **P 00 14 38.6 +0.3**
comp=Z,25nm,1.2s,mb5.1
DUG Dugway 58.18 296 *e*P **P 00 14 38.6 +0.4**
comp=Z,25nm,1.2s,mb5.1
M13A Montello 58.24 298 ⇑P **P 00 14 39.3 +0.6**
baz=58
MCK McKinley 58.67 333 *e*P **P 00 14 41.1 -0.5**
MCK pmax pmax
comp=Z,21nm,1.4s,mb5.0
MCK McKinley 58.67 333 *e*P **P 00 14 41.1 -0.5**
comp=Z,21nm,1.4s,mb5.0
MCK McKinley 58.67 333 *e*P **P 00 14 41.1 -0.5**
comp=Z,21nm,1.4s,mb5.0

TIXI Tiksi 58.75 8 *e*P P 00 14 40.9 -1.3
TIXI *e*S S 00 22 48.6 +1.5
TIXI pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
ROSC El Rosal 58.84 238 P P 00 14 42.7 -0.1
comp=Z,2.3nm,0.5s,mb4.5,baz=96,slow=22,SNR=5.4
ROSC LR LR 00 35 59.5
comp=Z,101nm,19.3s,MS4.0,baz=207,slow=32
N12A Wells--Clov Va 59.08 298 ⇓P P 00 14 45.1 +0.6
baz=59
M11A Holland Ranch, 59.15 299 ⇑P P 00 14 46.2 +1.3
baz=59
ELK Elko 59.26 298 *e*P P 00 14 46.6 +0.9
ELK pmax pmax
comp=Z,18nm,1.4s
ELK Elko 59.26 298 *e*P P 00 14 46.6 +0.9
comp=Z,18nm,1.4s,mb4.9
ELK Elko 59.26 298 *e*P P 00 14 46.6 +0.9
comp=Z,18nm,1.4s,mb4.9
LTX Lajitas 59.49 281 *e*P P 00 14 47.3 0.0
LTX pmax pmax
comp=Z,27nm,1.7s,mb5.0
LTX Lajitas 59.49 281 *e*P P 00 14 47.2 -0.1
comp=Z,27nm,1.7s,mb5.0
LTX Lajitas 59.49 281 *e*P P 00 14 47.2 -0.1
comp=Z,27nm,1.7s,mb5.0
N11A Elko Archery C 59.51 298 ⇓P P 00 14 48.2 +0.8
baz=59
M10A I.L. Ranch, Tu 59.52 299 ⇑P P 00 14 48.7 +1.1
baz=59
L09A Wilkinson Ranc 59.85 300 P P 00 14 51.2 +1.4
baz=60,SNR=5.3
P12A McGill 59.89 297 ⇑P P 00 14 50.3 +0.2
baz=60,SNR=9.5
SML Sawmill 59.93 332 *e*P P 00 14 50.0 -0.4
N10A Dunphy 60.02 299 ⇑P P 00 14 51.3 +0.4
baz=60
I06A Prineville 60.03 304 ⇓P P 00 14 52.3 +1.2
baz=60
WVOR Wild Horse Val 60.13 301 *e*P P 00 14 51.3 -0.4
WVOR pmax pmax
comp=Z,27nm,1.3s,mb5.1
WVOR Wild Horse Val 60.13 301 *e*P P 00 14 51.3 -0.4
comp=Z,27nm,1.3s,mb5.1
H05A Madras 60.13 305 ⇓P P 00 14 52.3 +0.5
baz=60
K07A Rock Creek Ran 60.31 302 ⇓P P 00 14 53.3 +0.3
baz=60
WUAZ Wupatki 60.31 291 *e*P P 00 14 53.7 +0.8
comp=Z,26nm,1.4s,mb5.1
WUAZ Wupatki 60.31 291 *e*P P 00 14 53.7 +0.7
comp=Z,26nm,1.4s,mb5.1
PMR Palmer 60.35 332 *e*P P 00 14 53.6 +0.4
PMR pmax pmax
comp=Z,31nm,1.2s,mb5.2
PMR Palmer 60.35 332 *e*P P 00 14 53.6 +0.4
comp=Z,31nm,1.2s,mb5.2
PMR Palmer 60.35 332 *e*P P 00 14 53.6 +0.4
comp=Z,31nm,1.2s,mb5.2
J06A Christmas Vall 60.45 303 ⇓P P 00 14 54.3 +0.4
baz=60,SNR=9.8
F03A Seaside 60.55 307 ⇓P P 00 14 55.5 +1.0
baz=60
M08A Happy Creek Ra 60.62 300 ⇑P P 00 14 55.9 +0.8
baz=60
O09A Fish Creek Ran 60.77 299 ⇑P P 00 14 56.9 +0.8
baz=60
N08A GE Springer Mi 60.91 300 ⇓P P 00 14 57.4 +0.3
baz=61
M07A Soldier Meadow 61.11 301 ⇑P P 00 14 59.1 +0.6
baz=61
P09A Austin 61.15 298 ⇑P P 00 14 59.2 +0.5
baz=61
TTA Tatalina 61.30 336 *e*P P 00 14 59.2 -0.5
TTA pmax pmax
comp=Z,44nm,1.8s,mb5.3
TTA Tatalina 61.30 336 *e*P P 00 14 59.2 -0.5
comp=Z,44nm,1.8s,mb5.3
TTA Tatalina 61.30 336 *e*P P 00 14 59.2 -0.5
comp=Z,44nm,1.8s,mb5.3
X15A Humboldt 61.52 291 ⇑P P 00 15 01.5 +0.3
baz=61,SNR=8.4
W14A Seligman 61.56 292 ⇑P P 00 15 02.2 +0.7
baz=61,SNR=5.5
NVS Novosibirsk 61.73 38 ⇑*i*P P 00 15 02.1 -0.5
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=Z,30nm,1.3s,mb5.3
O07A Toulon 61.75 300 ⇑P P 00 15 02.9 +0.2
baz=62
X14A Yava 61.94 291 ⇓P P 00 15 04.2 +0.2
baz=62,SNR=6.5
M06C Likely Place G 61.98 301 ⇓P P 00 15 04.9 +0.6
baz=62,SNR=5.2
Q08A Gabbs 62.06 298 P P 00 15 05.0 +0.2
baz=62,SNR=12
TUC Tucson 62.06 288 *e*P P 00 15 04.9 +0.1
TUC pmax pmax
comp=Z,10.0nm,1.6s,mb4.7
TUC Tucson 62.06 288 *e*P P 00 15 04.9 0.0
comp=Z,9.9nm,1.6s,mb4.7
TUC Tucson 62.06 288 *e*P P 00 15 04.9 +0.1
comp=Z,9.9nm,1.6s,mb4.7
L04A Klamath Falls 62.12 303 ⇓P P 00 15 05.7 +0.5
baz=62
M05C Lookout 62.25 302 ⇑P P 00 15 06.5 +0.4
baz=62,SNR=5.1
O06A Flanigan 62.30 300 ⇑P P 00 15 06.8 +0.4
baz=62
M04C Macdoel 62.35 303 ⇓P P 00 15 06.7 -0.1
baz=62,SNR=7.0
Y14A Wickenburg 62.36 291 ⇑P P 00 15 06.9 +0.1
baz=62
S09A Goldfield 62.40 297 ⇓P P 00 15 06.8 -0.3
baz=62,SNR=12
X13A Yucca 62.44 292 ⇑P P 00 15 07.6 +0.3
baz=62,SNR=5.5
116A Eloy 62.47 289 ⇑P P 00 15 06.8 -0.8
baz=62
MNV Mina 62.48 298 *e*P P 00 15 07.4 -0.2
MNV pmax pmax
comp=Z,12nm,1.1s,mb4.9
MNV Mina 62.48 298 *e*P P 00 15 07.4 -0.2
comp=Z,12nm,1.1s,mb4.9
MNV Mina 62.48 298 *e*P P 00 15 07.4 -0.2
comp=Z,12nm,1.1s,mb4.9
NVAR Mina Array Bea 62.56 298 P P 00 15 07.6 -0.6
comp=Z,1.4nm,0.9s,mb4.1,baz=92,slow=9.1,SNR=4.0
K02A Glendale 62.60 304 ⇑P P 00 15 09.2 +0.7
baz=62
SVW2 Sparrevohn 62.66 334 *e*P P 00 15 08.2 -0.6
SVW2 Sparrevohn 62.66 334 *e*P P 00 15 08.2 -0.7
115A Sonoran Desert 62.71 289 ⇓P P 00 15 09.5 +0.4
baz=62
Z14A Wintersburg 62.71 290 ⇓P P 00 15 09.0 -0.2
baz=62
HATC Hat Creek Radi 62.78 302 ⇑P P 00 15 09.5 -0.2
baz=62
M03C McCloud 62.85 302 ⇓P P 00 15 10.0 -0.2
baz=63
YBH Yreka Blue Hor 62.87 303 ⇓P P 00 15 10.3 0.0
baz=63
O04C Chester 62.91 301 ⇓P P 00 15 10.2 -0.3
baz=63
Y13A Salome 62.96 291 ⇓P P 00 15 09.9 -0.9
baz=63
ZAL Zalesovo 63.01 38 P P 00 15 11.1 -0.1
comp=Z,1.7nm,0.9s,mb4.2,baz=159,slow=9.0,SNR=10
BILL Bilibino 63.02 354 ⇑P P 00 15 11.0 -0.2
BILL pmax pmax
comp=Z,5.0nm,1.7s,mb4.4
L02A Cave Junction 63.07 304 ⇑P P 00 15 12.0 +0.4
baz=63
S08C White Mtn Res 63.11 297 ⇓P P 00 15 11.7 -0.1
baz=63
TUQ Turquoise Mtn. 63.15 294 ⇓P P 00 15 11.7 -0.4
baz=63
P05C Yuba Gap, Truc 63.32 300 ⇓P P 00 15 13.2 0.0
baz=63
TIN Tinemaha 63.44 297 ⇑P P 00 15 13.9 -0.1
baz=63
DAC Darwin (Calif) 63.59 296 *e*P P 00 15 15.4 +0.4
DAC pmax pmax
comp=Z,15nm,1.2s,mb4.9
DAC Darwin (Calif) 63.59 296 *e*P P 00 15 15.3 +0.4
comp=Z,15nm,1.2s,mb4.9
DAC Darwin (Calif) 63.59 296 *e*P P 00 15 15.4 +0.4
comp=Z,15nm,1.2s,mb4.9
O03C Acorn Hollow, 63.66 301 ⇑P P 00 15 15.4 -0.1
baz=63
ORV Oroville 63.66 301 ⇑P P 00 15 15.1 -0.4
baz=63
GSC Goldstone 63.77 294 ⇓P P 00 15 16.4 +0.2
baz=64,SNR=10
N02C Big Bar 63.82 303 ⇑P P 00 15 16.0 -0.6
baz=64
S06C San Francisco 63.84 298 ⇓P P 00 15 17.2 +0.5
baz=64
O02C Red Bluff 63.96 302 ⇑P P 00 15 16.7 -0.7
baz=64
CMB Columbia Colle 64.04 299 ⇑P P 00 15 18.3 +0.3
baz=64
KRAR Krasnoyarsk 64.51 32 ⇑*e*P P 00 15 21.3 +0.2
KRAR pmax pmax
comp=Z,29nm,0.5s,mb5.6
ISA Isabella 64.53 296 ⇓P P 00 15 21.3 +0.1
baz=64
P01C Double 8 Ranch 64.76 302 P P 00 15 23.0 +0.3
baz=64,SNR=5.8
HOPS Hopland 64.93 301 ⇓P P 00 15 24.7 +0.8
baz=65
SAML Samuel 65.31 219 *e*P P 00 15 24.9 -1.3
comp=Z,9.0nm,1.3s,mb4.6
SAML Samuel 65.31 219 *e*P P 00 15 24.9 -1.4
comp=Z,9.0nm,1.3s,mb4.6
FRU Bishkek 66.27 52 *e*P P 00 15 33.5 +1.0
AAK Ala-Archa 66.35 52 ⇓*e*P P 00 15 33.5 +0.5
AAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
AAK Ala-Archa 66.35 52 *e*P P 00 15 33.2 +0.3
comp=Z,14nm,1.4s,mb4.8
AAK Ala-Archa 66.35 52 *e*P P 00 15 33.2 +0.2
comp=Z,14nm,1.4s,mb4.8
BDFB Brasília 66.58 201 P P 00 15 33.5 -1.0
comp=Z,2.7nm,0.8s,mb4.3,baz=180,slow=1.0,SNR=2.9
BDFB LR LR 00 39 28.5
comp=Z,156nm,18.0s,MS4.3,baz=253,slow=31
MKAR Makanchi Array 67.17 44 P P 00 15 38.0 -0.2
comp=Z,6.1nm,0.9s,mb4.6,baz=320,slow=5.4,SNR=40
MOY Mondy 70.85 31 *e*P P 00 16 02.1 +1.0
MOY pmax pmax
comp=Z,26nm,2.1s,mb4.8
ATAH Atahualpa 70.91 234 P P 00 16 00.7 -0.8
comp=Z,3.0nm,0.7s,mb4.4,baz=78,slow=14,SNR=4.2
MA2 Magadan 72.00 1 *i*P P 00 16 11.7 +3.7
ZAK Zakamensk 72.71 30 *e*P P 00 16 12.7 +0.4
ZAK pmax pmax
comp=Z,9.0nm,2.0s,mb4.3
LPAZ La Paz 73.97 220 P P 00 16 18.4 -1.3
comp=Z,1.4nm,0.8s,mb3.9,baz=9.8,slow=8.0,SNR=7.1
LPAZ La Paz 73.97 220 *e*P P 00 16 19.4 -0.3
LPAZ pmax pmax
comp=Z,7.0nm,1.3s
LPAZ La Paz 73.97 220 *e*P P 00 16 19.4 -0.3
comp=Z,7.0nm,1.3s,mb4.4
SONM Songino Array 75.94 30 P P 00 16 31.3 +0.2
comp=Z,5.3nm,1.0s,mb4.4,baz=326,slow=5.8,SNR=29
ULN Ulaanbaatar 76.13 29 *e*P P 00 16 33.2 +1.0
ULN pmax pmax
comp=Z,15nm,1.3s,mb4.8
ULN Ulaanbaatar 76.13 29 *e*P P 00 16 33.2 +1.1
comp=Z,15nm,1.3s,mb4.8
CPUP Villa Florida 79.27 207 P P 00 16 47.6 -2.0
comp=Z,3.5nm,1.1s,mb4.2,baz=359,slow=6.4,SNR=3.8
LVC Limon Verde 79.94 218 P P 00 16 51.5 -1.8
comp=Z,2.4nm,0.8s,mb4.2,baz=4.4,slow=3.2,SNR=3.4
GTA Gaotai 80.76 38 *e*P P 00 16 58.5 +0.8
LZH Lanzhou 85.24 37 ⇑P P 00 17 22.0 +1.1
LZH AP pP 00 17 27.0 +2.7
LZH XP sP 00 17 30.0 +4.6
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,160nm,5.1s
CFAA Coronel Fontan 87.75 214 LR LR 00 54 41.1
comp=Z,15nm,19.0s,MS3.4,baz=156,slow=34
NJ2 Nanjing 94.23 28 *e*P P 00 18 07.5 +4.1
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.5
NJ2 AMB AMB
comp=Z,70nm,7.6s
SSE Sheshan 95.82 26 P P 00 18 11.8 +1.1
SSE AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,20nm,4.1s
QSPA South Pole Qui 138.66 180 *e*PKPdf PKPdf 00 24 07.4 -2.9
MIR Mirnyy 145.43 143 *d i*PKIKP PKPdf 00 24 21.0 -1.3
MIR pmax pmax
comp=Z,220nm,1.5s
VNDA Vanda 150.91 184 PKPbc PKPbc 00 24 35.7 -1.3
comp=Z,7.4nm,1.0s,baz=268,slow=4.3,SNR=13
VNDA Vanda 150.91 184 PKPbc PKPbc 00 24 35.7 -1.3

*ISCJB **14** 00:08:42.0±0.9, 487N±03×277W±03, h10km, mb3.8/5, Error ellipse: s-maj=40.6km s-min=19.6km az=119.0*
*IDC **14** 00:08:42.4±6.3, 4866N×2766W, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.5/3, Error ellipse: s-maj=150.7km s-min=44.9km az=90.0*
*NEIC **14** 00:08:51.8±1.0, 46.11N×2690W, h10km, mb4.6/7, Error ellipse: s-maj=32.2km s-min=17.7km az=147.0*
ISC 14 00:08:43.8±0.9, 486N±03×276W±03, h10km, n7, σ0°64/7, mb3.8/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	36.07	65	P	P	00 15 45.5	0.0
	1.1nm,0.7s,mb3.9,baz=283,slow=9.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	42.88	136	P	P	00 16 42.8	+0.5
	0.7nm,0.8s,mb3.4,baz=333,slow=8.3,SNR=4.5						
SDV	**Santo Domingo**	53.55	237	*e*P	P	00 18 05.0	+0.3
	1.2nm,0.4s,mb4.2						
OTAV	**Otavalo**	65.04	239	P	P	00 19 25.2	+1.0
MKAR	**Makanchi Array**	67.14	45	P	P	00 19 37.7	0.0
	0.4nm,0.6s,mb3.6,baz=314,slow=5.8,SNR=4.2						
LVC	**Limon Verde**	79.95	218	*e*P	P	00 20 52.1	-0.9
	1.2nm,0.7s,mb3.9						
TRQA	**Tornquist**	91.55	206	P	P	00 21 49.8	-0.9

*IDC **14** 00:08:53.8±1.3, 5566S×2709W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, Error ellipse: s-maj=35.1km s-min=29.6km az=36.0*
*ISCJB **14** 00:08:57.5±4.4, 557S±02×273W±03, h39km±38km, mb3.9/7, Error ellipse: s-maj=37.2km s-min=22.5km az=82.2*
*NEIC **14** 00:08:58.3±0.9, 5570S×2696W, h35km, mb4.2/2, Error ellipse: s-maj=27.5km s-min=16.6km az=210.0*
ISC 14 00:08:58.9±3.9, 558S±02×272W±03, h39km±34km, n13, σ1°13/14, mb3.9/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	5.57	282	*e*Pn	Pn	00 10 19.9	+0.8
HOPE				*e*Sn	Sn	00 11 20.9	-0.9
SNAA	**Sanae**	18.98	156	*e*P	Pn	00 13 01.6	-16
QSPA	**South Pole Qui**	34.46	180	*e*P	P	00 15 51.3	+8.4
	2.3nm,0.6s,mb4.3						
CPUP	**Villa Florida**	36.65	311	P	P	00 15 59.6	-2.0
	1.7nm,0.7s,mb4.0,baz=128,slow=5.4,SNR=5.4						
MDZ	**Mendoza**	36.79	291	*e*P	P	00 16 13.6	+11
CFAA	**Coronel Fontan**	37.47	293	P	P	00 16 08.4	-0.1
	0.2nm,0.6s,mb3.1,baz=136,slow=16,SNR=4.4						
LVC	**Limon Verde**	45.18	300	P	P	00 17 13.4	+1.6
	2.2nm,0.6s,mb4.2,baz=63,slow=2.3,SNR=4.7						
VNDA	**Vanda**	46.84	183	P	P	00 17 25.4	+0.5
	0.7nm,0.6s,mb3.8,baz=190,slow=6.8,SNR=3.6						
VNDA	**Vanda**	46.84	183	*e*P	P	00 17 25.1	+0.2
	1.1nm,0.6s,mb4.0						
LPAZ	**La Paz**	50.23	305	P	P	00 17 52.5	+1.5
	1.4nm,0.5s,mb4.2,baz=162,slow=6.4,SNR=9.0						
TORD	**Torodi Ar. Bea**	72.82	29	P	P	00 20 23.4	0.0
	0.8nm,0.7s,mb3.8,baz=201,slow=6.1,SNR=16						
TORD	**Torodi Ar. Bea**	72.82	29	P	P	00 20 23.4	0.0
COCO	**West Island**	97.80	125	P	P	00 22 28.8	-1.3

*IDC **14** 00:09:01.0±2.0, 4857N×2800W, h0km, mb4.0/9, mb1 4.0/11, mb1mx3.8/26, mbtmp3.9/11, ML3.7/2, Error ellipse: s-maj=44.7km s-min=27.8km az=74.0*
*MOS **14** 00:09:00.9±0.8, 4852N×2799W, h10km, mb4.4/2, Error ellipse: s-maj=22.0km s-min=8.9km az=150.2*
*ISCJB **14** 00:09:01.2±0.6, 485N±0.1×2793W±0.09, h10km, mb4.2/28, MS3.9/2, Error ellipse: s-maj=14.7km s-min=8.2km az=25.7*
*NEIC **14** 00:09:02.4±0.7, 4859N×2807W, h10km, mb4.2/17, MS3.8/1, Error ellipse: s-maj=13.6km s-min=9.1km az=206.0*
*CSEM **14** 00:09:04.2±0.1, 4864N×2796W, h33km, mb4.3/15, Ms3.6, Error ellipse: s-maj=7.8km s-min=3.3km az=13.0*
*SZGRF **14** 00:09:23.1, 4876N×2537W, h33km, mb4.3, Northern Mid-Atlantic Ridge*
ISC 14 00:09:03.0±0.6, 486N±01×2793W±009, h10km, n67, σ0°88/66, mb4.2/28, MS3.9/2, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESK	**Eskdalemuir**	16.60	57	P	Pn	00 12 57.1	+1.2
EKA	**Eskdalemuir Ar**	16.63	57	Pn	Pn	00 12 57.5	+1.2
	0.1nm,0.3s,baz=257,slow=12,SNR=4.1						
ESDC	**Sonseca Array**	19.30	109	P	Pn	00 13 29.2	0.0
	0.1nm,0.3s,baz=308,slow=6.3,SNR=4.2						
ESLA	**Sonseca Array**	19.31	109	*e*P	Pn	00 13 27.9	-1.3
	0.6nm,0.8s						
ESLA	**Sonseca Array**	19.31	109	*e*P	Pn	00 13 27.9	-1.3
	0.6nm,0.8s						
TCF	**Toulx Ste Croi**	20.45	85	*e*P	P	00 13 41.4	+0.8
BGF	**Bois d'Agland**	20.79	84	*e*P	P	00 13 45.6	+1.3
	13nm,0.8s						
BGF	**Bois d'Agland**	20.79	84	*e*P	P	00 13 45.6	+1.3
	6.4nm,0.8s						
BAIF	**Baives**	20.91	74	*e*P	P	00 13 45.5	-0.2
	9.7nm,0.7s						
BAIF	**Baives**	20.91	74	*e*P	P	00 13 45.5	-0.2
	4.8nm,0.7s						
AVF	**Avril sur Loir**	21.06	83	*e*P	P	00 13 47.9	+0.7
	11nm,0.9s,mb3.9						
AVF	**Avril sur Loir**	21.06	83	*e*P	P	00 13 47.9	+0.7
	5.3nm,0.9s,mb3.9						
SSF	**Saint Saulge**	21.09	82	*e*P	P	00 13 47.7	+0.2
	35nm,1.5s,mb4.2						
SSF	**Saint Saulge**	21.09	82	*e*P	P	00 13 47.7	+0.2
	17nm,1.5s,mb4.2						
LOR	**Lormes**	21.26	82	*e*P	P	00 13 49.9	+0.5
	13nm,0.9s,mb3.9						
LOR				*e*R			
	376nm,19.2s						
LOR	**Lormes**	21.26	82	*e*P	P	00 13 49.9	+0.5
	6.3nm,0.9s,mb4.0						
LOR				LR	LR		
	comp=Z,380nm,19.3s,MS3.8						
GIVF	**Givet**	21.30	74	*e*P	P	00 13 49.4	-0.4
SMF	**Signal de Mont**	21.43	83	*e*P	P	00 13 52.0	+0.9
MTLF	**Montolieu**	21.52	93	*e*P	P	00 13 52.5	+0.4
	comp=Z,45nm,1.6s,mb4.4						
MTLF	**Montolieu**	21.52	93	*e*P	P	00 13 52.5	+0.4
	comp=Z,23nm,1.6s,mb4.4						
CDF	**Champ du Feu**	23.21	77	*e*P	P	00 14 09.0	-1.1
KONO	**Kongsberg**	24.28	49	*e*P	P	00 14 19.2	-1.1
	comp=Z,2.6nm,0.5s,mb3.9						
KONO	**Kongsberg**	24.28	49	*e*P	P	00 14 19.2	-1.2
	comp=Z,2.6nm,0.5s,mb3.9						
STU	**Stuttgart**	24.36	75	*e*P	P	00 14 21.1	-0.1
	comp=Z,5.8nm,0.3s,mb4.5						
STU	**Stuttgart**	24.36	75	*e*P	P	00 14 21.0	-0.1
	comp=Z,5.8nm,0.3s,mb4.5						
SUMG	**Summit**	24.54	352	*e*P	P	00 14 21.8	-1.0
	comp=Z,2.3nm,0.5s,mb4.0						
SUMG	**Summit**	24.54	352	*e*P	P	00 14 21.8	-1.0
	comp=Z,2.3nm,0.5s,mb4.0						
NAO01	**NORSAR Array S**	25.14	46	*e*P	P	00 14 25.9	-2.3
	comp=Z,3.3nm,0.7s,mb4.0						
GRA1	**Grafenberg Arr**	25.44	73	*e*P	P	00 14 32.3	+1.3
	comp=Z,14nm,1.4s,mb4.3						
GRF	**Grafenberg Arr**	25.44	73	*e*P	P	00 14 32.3	+1.3
	comp=Z,14nm,1.4s,mb4.3						
GRF	**Grafenberg Arr**	25.44	73	*e*P	P	00 14 32.3	+1.3
GRF				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.3						
CLL	**Collm**	26.24	68	*e*P	P	00 14 38.0	-0.2
CLL				*i*x	x	00 14 46.2	
PGF	**Pioggiola**	26.36	89	*e*P	P	00 14 38.4	-0.9
	comp=Z,13nm,1.2s,mb4.0						
PGF	**Pioggiola**	26.36	89	*e*P	P	00 14 38.4	-0.9
	comp=Z,6.6nm,1.2s,mb4.0						
BRG	**Berggiesshubel**	26.90	69	*i*P	P	00 14 44.6	+0.4
	comp=Z,3.7nm,1.3s,mb3.8						
BRG				*e*		00 14 54.0	
	comp=Z,15nm,2.0s						
BRG							
	comp=Z,353nm,17.3s						
BRG							
	comp=N,223nm,18.8s						
BRG							
	comp=E,274nm,18.8s						
BRG	**Berggiesshubel**	26.90	69	*i*P	P	00 14 44.6	+0.4
	comp=E,3.7nm,1.3s,mb3.8						
BRG				*e*		00 14 54.0	
BRG				LR	LR		
	comp=Z,350nm,17.3s,MS4.0						
GERES	**GERESS Array B**	27.22	74	P	P	00 14 46.6	-0.5
	comp=Z,0.5nm,0.4s,mb3.4,baz=276,slow=9.6,SNR=5.8						
MORC	**Moravsky Berou**	29.40	70	*e*P	P	00 15 07.3	+0.8
	comp=Z,1.6nm,0.7s,mb3.9						
MORC	**Moravsky Berou**	29.40	70	*e*P	P	00 15 07.3	+0.8
	comp=Z,1.6nm,0.7s,mb3.9						
PSZ	**Piszkesteto**	31.44	73	*e*P	P	00 15 24.5	0.0
	comp=Z,2.9nm,0.8s,mb4.2						
PSZ	**Piszkesteto**	31.44	73	*e*P	P	00 15 24.5	0.0
	comp=Z,2.9nm,0.8s,mb4.2						
FINES	**FINESS Array B**	32.51	46	P	P	00 15 32.7	-1.2
	comp=Z,1.6nm,0.9s,mb4.0,baz=245,slow=8.2,SNR=3.8						
FINES	**FINESS Array B**	32.51	46	P	P	00 15 32.7	-1.2
FINES	**FINESS Array B**	32.51	46	*e*P	P	00 15 32.7	-1.2
ARCES	**ARCESS Array B**	32.96	31	P	P	00 15 36.2	-1.6
	comp=Z,2.3nm,0.8s,mb4.2,baz=238,slow=11,SNR=6.9						
ARCES	**ARCESS Array B**	32.96	31	P	P	00 15 36.2	-1.6
KEV	**Kevo**	33.51	31	*e*P	P	00 15 43.9	+1.2
AKASG	**Malin Array Be**	36.28	65	P	P	00 16 05.6	-1.0
	comp=Z,1.8nm,0.6s,mb4.2,baz=285,slow=8.8,SNR=9.1						
AKASG	**Malin Array Be**	36.28	65	P	P	00 16 05.6	-1.0
TORD	**Torodi Ar. Bea**	43.00	135	P	P	00 17 01.7	-0.8
	comp=Z,1.5nm,0.7s,mb3.8,baz=337,slow=7.8,SNR=9.5						
BRTR	**Keskin Array B**	43.96	78	P	P	00 17 10.6	+0.3
	comp=Z,1.5nm,0.7s,mb3.9,baz=297,slow=5.4,SNR=3.9						
CCM	**Cathedral Cave**	46.02	281	*e*P	P	00 17 26.1	-0.6
	comp=Z,8.0nm,1.2s,mb4.5						
CCM	**Cathedral Cave**	46.02	281	*e*P	P	00 17 26.1	-0.6
	comp=Z,8.0nm,1.2s,mb4.5						
ARU	**Arti**	49.88	46	*e*P	P	00 17 56.1	-0.5
ISCO	**Idaho Springs**	54.14	292	P	P	00 18 28.6	+0.3
	comp=Z,74nm,1.2s,mb5.5						
ISCO	**Idaho Springs**	54.14	292	P	P	00 18 28.6	+0.3
FLWY	**Flagg Ranch**	54.65	299	P	P	00 18 37.1	+5.1
	comp=Z,13nm,0.6s,mb5.1						
LOHW	**Long Hollow**	54.87	298	P	P	00 18 35.0	+1.4
	comp=Z,6.7nm,0.6s,mb4.8						
TPAW	**Teton Pass**	55.15	298	P	P	00 18 36.5	+0.9
	comp=Z,6.7nm,0.6s,mb4.8						
DAWY	**Dawson**	55.62	330	*e*P	P	00 18 44.7	+5.7
CHKZ	**Chkalovo**	57.16	44	*e*P	P	00 18 50.1	+0.2
	comp=Z,4.5nm,1.1s,mb4.4						
CHKZ	**Chkalovo**	57.16	44	*e*P	P	00 18 50.2	+0.2
	comp=Z,4.5nm,1.1s,mb4.4						
ZAL	**Zalesovo**	63.17	38	P	P	00 19 31.7	+0.5
	comp=Z,0.6nm,0.4s,mb4.1,baz=276,slow=9.2,SNR=2.7						
MKAR	**Makanchi Array**	67.32	44	P	P	00 19 57.4	-0.6
	comp=Z,1.4nm,0.7s,mb4.1,baz=326,slow=6.3,SNR=11						
MKAR	**Makanchi Array**	67.32	44	P	P	00 19 57.4	-0.7
SONM	**Songino Array**	76.12	30	P	P	00 20 51.2	+0.2
	comp=Z,1.1nm,0.9s,mb3.8,baz=321,slow=5.8,SNR=6.5						
ASAR	**Alice Springs**	151.27	37	PKPbc	PKPbc	00 28 56.2	-0.5
	comp=Z,1.1nm,0.6s,baz=337,slow=2.1,SNR=6.1						

*MOS **14** 00:14:29.1±0.8, 559N×9457E, h33km, mb5.4/107, Error ellipse: s-maj=8.0km s-min=3.6km az=121.9*
*BJI **14** 00:14:30.8, 532N×9443E, h69km, mB5.1, mb5.2, Ms4.7, Msz4.5*
*ISCJB **14** 00:14:31.1±0.2, 549N±003×9455E±002, h53km, mb5.1/179, MS4.5/36, Error ellipse: s-maj=4.4km s-min=3.2km az=34.4*
*IDC **14** 00:14:32.6±0.4, 556N×9461E, h52km±3km, mb4.6/27,*

mb1 4.6/28, mb1mx4.6/30, mbtmp4.8/28, MS4.3/11, Ms1 4.3/11, ms1mx4.1/17, Error ellipse: s-maj=14.2km s-min=8.7km az=44.0

NEIC **14** *00:14:32.6±0.1, 551N×9457E, mb5.2/106, Error ellipse: s-maj=4.2km s-min=2.9km az=210.0*

SZGRF **14** *00:14:32.3, 527N×9447E, h54km, mb5.2, Northern Sumatera, Indonesia*

HRVD **14** *00:14:32.6±0.2, 527N×9441E, h52km±1km, MW5.1/82, Centroid moment Tensor Solution. LP body waves: s62, c83; Mantle waves: s82, c123; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.60±.18; $M_{\theta\theta}$-1.25±.13; $M_{\phi\phi}$-3.35±.15; $M_{r\theta}$2.52±.10; $M_{\theta\phi}$3.42±.12; $M_{\phi r}$-1.78±.13; Best double couple: $M_0$6.10800×10^{16} NP1:ϕ_s338.00000°, δ32.00000°, λ112.00000°. NP2: ϕ_s132.00000°, δ61.00000°, λ77.00000°. Principal axes: T 5.5680, Plg71.0000°, Azm12.0000°; N 1.0800, Plg11.0000°, Azm139.0000°; P -6.6480, Plg15.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 00:14:33.1±0.2, 549N±003×9453E±002, h55km, h55km±.6km: pP-P, n622, σ0.91/545, mb5.1/179, MS4.5/36, 153C-44D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.46**	**54**	P	**Pn**	**00 15 41.0**	**+2.9**
PSI	**Prapat**	**5.13**	**121**	P	**Pn**	**00 15 48.0**	**+0.7**
	21nm,0.3s,baz=299,slow=11,SNR=72						
PSI				S	**Sn**	**00 16 46.2**	**+0.9**
	24nm,0.3s,baz=166,slow=12,SNR=3.8						
PSI				LR	LR	00 18 03.6	
	comp=Z,3μm,21.4s,baz=288,slow=41						
PSI	**Prapat**	**5.13**	**121**	P	**Pn**	**00 15 48.1**	**+0.7**
PSI				S	**Sn**	**00 16 46.2**	**+0.9**
PSI				pmax	pmax		
	comp=Z,21nm,0.3s						
PSI				smax			
	comp=N,24nm,0.3s						
PSI				MLR	MLR		
	comp=Z,3μm,21.4s						
PSI	**Prapat**	**5.13**	**121**	P	**Pn**	**00 15 48.0**	**+0.7**
PSI				S	**Sn**	**00 16 46.2**	**+0.9**
PSI				LR	LR	00 18 03.6	
KULM	**Kulim**	**6.10**	**92**	*e*Pn	**Pn**	**00 15 59.9**	**-0.7**
KULM				*e*Sn	**Sn**	**00 17 09.4**	**+0.4**
SNG	**Songkhla**	**6.28**	**74**	P	**Pn**	**00 16 04.0**	**+0.9**
PBA	**Port Blair**	**6.38**	**344**	*e*P	x	00 15 16.0	
PBA				*e*S	x	00 17 53.2	
IPM	**Ipoh**	**6.55**	**98**	P	**Pn**	**00 16 05.8**	**-1.0**
NNT	**Nongplab**	**8.73**	**36**	P	**Pn**	**00 16 38.9**	**+2.2**
KGM	**Kluang**	**9.43**	**111**	P	**Pn**	**00 16 45.9**	**-0.3**
NST	**Nakhon Sawan**	**11.52**	**28**	P	**Pn**	**00 17 16.0**	**+1.2**
PALK	**Pallekele**	**13.85**	**278**	Pn	**Pn**	**00 17 48.1**	**+1.5**
	comp=Z,163nm,0.6s,SNR=7.4						
PALK	**Pallekele**	**13.85**	**278**	*e*Pn	**Pn**	**00 17 47.5**	**+0.8**
PALK				*e*Sn	**Sn**	**00 20 07.6**	**-11**
CHG	**Chiang Mai**	**13.93**	**18**	⇑P	**Pn**	**00 17 49.1**	**+1.5**
	comp=Z,15nm,1.0s						
CHTO	**Chiang Mai**	**13.93**	**18**	*e*P	**Pn**	**00 17 49.1**	**+1.5**
CHTO				pmax	pmax		
	comp=Z,176nm,1.1s						
CHTO	**Chiang Mai**	**13.93**	**18**	*e*Pn	**Pn**	**00 17 49.1**	**+1.5**
	comp=Z,176nm,1.1s						
KSM	**Kuching**	**16.25**	**104**	*e*Pn	**Pn**	**00 18 19.2**	**+1.6**
COCO	**West Island**	**17.71**	**173**	*e*Pn	**Pn**	**00 18 33.9**	**-1.8**
HYB	**Hyderabad**	**19.62**	**309**	*i* P	**Pn**	**00 18 58.5**	**-0.2**
HYB				*e*S	**S**	**00 22 31.5**	**-3.8**
HYB	**Hyderabad**	**19.62**	**309**	*e*P	**Pn**	**00 18 59.0**	**+0.3**
HYB				*e*		00 22 26.0	
HYB	**Hyderabad**	**19.62**	**309**	*e*P	**Pn**	**00 18 59.0**	**+0.3**
HYB				*e*		00 22 26.0	
HYB				*e*S	**S**	**00 22 42.0**	**+6.7**
QIZ	**Qiongzhong**	**20.10**	**47**	⇓P	**P**	**00 19 02.3**	**+0.1**
QIZ				AP		00 19 14.8	
QIZ				XP	sP	00 19 21.5	+0.1
QIZ				S	**S**	**00 22 48.0**	**+3.0**
QIZ				XS	sS	00 23 05.3	+0.4
QIZ				AMB	AMB		
	comp=Z,20nm,1.5s						
QIZ				AMB	AMB		
	comp=Z,280nm,9.2s						
QIZ				LR	LR		
	comp=N,2μm,17.0s,MS4.5						
QIZ				LR	LR		
	comp=E,1μm,17.0s,MS4.5						
QIZ				LR	LR		
	comp=Z,2μm,18.6s,MS4.5						
QIZ	**Qiongzhong**	**20.10**	**47**	*e*P	**P**	**00 19 03.7**	**+1.5**
	comp=Z,162nm,1.4s						
QIZ				*e*		00 19 16.2	
KMI	**Kunming**	**21.06**	**21**	P	**P**	**00 19 14.8**	**+2.3**
KMI				AP		00 19 27.8	
KMI				XP	sP	00 19 33.0	+1.3
KMI				PP		00 19 38.3	
KMI				PPP		00 19 49.8	
KMI				S	**S**	**00 23 06.6**	**+2.8**
KMI				XS	sS	00 23 28.4	+4.5
KMI				SSS		00 24 02.8	
KMI				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,230nm,3.1s						
KMI				LR	LR		
	comp=N,770nm,18.8s,MS4.3						
KMI				LR	LR		
	comp=E,930nm,18.4s,MS4.3						
KMI				LR	LR		
	comp=Z,1μm,23.8s						
KKM	**Kota Kinabalu**	**21.59**	**87**	P	**P**	**00 19 18.5**	**+0.4**
KKM	**Kota Kinabalu**	**21.59**	**87**	*e*P	**P**	**00 19 18.1**	**-0.1**
JIRN	**Jiri**	**23.44**	**341**	*e*P	**P**	**00 19 36.2**	**-1.2**
	comp=Z,298nm,0.9s,mb5.7						
PKI	**Pulchoki**	**23.62**	**339**	*e*P	**P**	**00 19 37.7**	**-1.4**
	comp=Z,77nm,0.6s,mb5.3						
PKI	**Pulchoki**	**23.62**	**339**	*e*P	**P**	**00 19 37.7**	**-1.4**
PKI				pmax	pmax		
	comp=Z,77nm,0.6s,mb5.3						
DMN	**Daman**	**23.76**	**339**	*e*P	**P**	**00 19 39.6**	**-0.8**
	comp=Z,61nm,0.5s,mb5.3						
GUN	**Gumba**	**23.77**	**341**	*e*P	**P**	**00 19 39.3**	**-1.2**
	comp=Z,161nm,0.5s,mb5.7						
GYA	**Guiyang**	**23.86**	**28**	⇑*i*P	**P**	**00 19 41.6**	**+0.3**
GYA				AP		00 19 54.9	
GYA				XP	sP	00 20 03.3	+1.8
GYA				PP		00 20 20.3	
GYA				S	**S**	**00 23 54.4**	**+1.0**
GYA				XS	sS	00 24 18.8	+2.2
GYA				AMB	AMB		
	comp=Z,110nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,550nm,5.9s						
GYA				LR	LR		
	comp=N,2μm,16.8s,MS4.6						
GYA				LR	LR		
	comp=E,840nm,15.6s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,16.9s,MS4.5						
KKN	**Kakani**	**23.86**	**339**	*e*P	**P**	**00 19 40.2**	**-1.1**
	comp=Z,368nm,1.3s,mb5.7						
KKN	**Kakani**	**23.86**	**339**	*e*P	**P**	**00 19 40.2**	**-1.1**
KKN				pmax	pmax		
	comp=Z,368nm,1.3s,mb5.7						
LSA	**Lhasa**	**24.30**	**353**	*e*P	**P**	**00 19 45.4**	**+0.1**
LSA				pmax	pmax		
	comp=Z,49nm,0.5s,mb5.2						
LSA	**Lhasa**	**24.30**	**353**	*e*P	**P**	**00 19 45.4**	**+0.2**
	comp=Z,49nm,0.5s,mb5.2						
GZH	**Guangzhou**	**25.21**	**44**	P	**P**	**00 19 57.3**	**+3.7**
GZH				LR	LR		
	comp=N,870nm,17.4s,MS4.5						
GZH				LR	LR		
	comp=E,760nm,17.7s,MS4.5						
GZH				LR	LR		
	comp=Z,2μm,16.8s,MS4.6						
ENH	**Enshi**	**28.40**	**28**	P	**P**	**00 20 21.9**	**-0.3**
QZH	**Quanzhou**	**30.12**	**48**	*e*P	**P**	**00 20 40.0**	**+2.5**
QZH				*e*S	**S**	**00 25 33.9**	**+1.5**
QZH				LR	LR		
	comp=N,2μm,15.5s,MS4.9						
QZH				LR	LR		
	comp=E,890nm,10.7s,MS4.9						
QZH				LR	LR		
	comp=Z,2μm,22.8s						
WHN	**Wuhan**	**31.13**	**34**	P	**P**	**00 20 47.3**	**+0.8**
WHN				LR	LR		
	comp=Z,3μm,17.3s,MS5.0						
XAN	**Xi'an**	**31.39**	**23**	P	**P**	**00 20 47.9**	**-0.9**
XAN				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.6						
LZH	**Lanzhou**	**31.64**	**14**	*e*P	**P**	**00 20 50.3**	**-0.6**
LZH				AP	pP	00 21 03.5	-1.3
LZH				PP	PP	00 22 00.4	-2.7
LZH				S	**S**	**00 25 56.4**	**+0.3**
LZH				XS	sS	00 26 23.0	+3.3
LZH				SS	SS	00 27 53.0	-20
LZH				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,210nm,4.2s						
LZH				LR	LR		
	comp=N,3μm,14.8s						
LZH				LR	LR		
	comp=Z,3μm,15.2s,MS5.1						
NACB	**Ninganchiao**	**31.97**	**52**	*e*P	**P**	**00 20 53.2**	**-0.7**
YHNB	**Yeheng**	**32.06**	**51**	*e*P	**P**	**00 20 54.1**	**-0.5**
GTA	**Gaotai**	**34.11**	**7**	P	**P**	**00 21 12.4**	**-0.1**
GTA				AP	pP	00 21 24.8	-1.7
GTA				PP	PP	00 22 27.1	-3.4
GTA				PCP	PcP	00 23 50.1	+1.3
GTA				S	**S**	**00 26 33.9**	**-0.6**
GTA				SCP	ScP	00 27 30.8	+1.8
GTA				SS	SS	00 28 42.4	-21
GTA				SCS	ScS	00 31 29.4	-1.8
GTA				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
GTA				AMB	AMB		
	comp=Z,70nm,4.9s						
GTA				LR	LR		
	comp=N,350nm,24.0s,MS4.1						
GTA				LR	LR		
	comp=E,220nm,22.8s,MS4.1						
GTA				LR	LR		
	comp=Z,490nm,23.6s,MS4.2						
NJ2	**Nanjing**	**34.87**	**38**	*e*P	**P**	**00 21 20.1**	**+1.0**
NJ2				AP	pP	00 21 33.6	+0.5
NJ2				PP	PP	00 22 38.9	0.0
NJ2				PPP		00 22 57.6	
NJ2				S	**S**	**00 26 38.0**	**-8.3**
NJ2				AMB	AMB		
	comp=Z,80nm,1.4s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,180nm,5.6s						
NJ2				LR	LR		
	comp=N,1μm,21.9s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,26.3s,MS4.7						
NJ2				LR	LR		
	comp=Z,360nm,23.3s,MS4.0						
SSE	**Sheshan**	**35.71**	**41**	P	**P**	**00 21 27.6**	**+1.3**
SSE				XP	sP	00 21 49.3	+2.5
SSE				PP	PP	00 22 49.4	+1.2
SSE				S	**S**	**00 26 59.4**	**+0.3**
SSE				XS	sS	00 27 25.4	+2.5
SSE				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,150nm,7.2s						
SSE				LR	LR		
	comp=N,500nm,19.6s,MS4.4						
SSE				LR	LR		
	comp=E,470nm,19.6s,MS4.4						
SSE				LR	LR		
	comp=Z,810nm,21.1s,MS4.5						
MBWA	**Marble Bar**	**36.23**	**138**	*e*P	**P**	**00 21 31.0**	**+0.3**
TIA	**Tai'an**	**36.95**	**31**	*e*P	**P**	**00 21 36.8**	**-0.1**
BTO	**Baotou**	**37.63**	**19**	*e*P	**P**	**00 21 41.4**	**-1.2**
HHC	**Hu-ho-hao-te**	**38.38**	**21**	*e*P	**P**	**00 21 49.3**	**+0.4**
HHC				AP	pP	00 22 04.4	+1.3
HHC				XP	sP	00 22 11.8	+2.3
HHC				PP	PP	00 23 22.1	+4.6
HHC				PCP	PcP	00 24 00.8	-0.7
HHC				S	**S**	**00 27 39.8**	**+0.1**
HHC				SCP	ScP	00 27 43.8	-0.9
HHC				PCS	PcS	00 27 50.3	-0.4
HHC				SS	SS	00 30 21.6	-8.7
HHC				SCS	ScS	00 31 53.1	-1.7
HHC				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,90nm,3.3s						
HHC				LR	LR		
	comp=N,790nm,19.1s,MS4.7						
HHC				LR	LR		
	comp=E,680nm,15.3s,MS4.7						
HHC				LR	LR		
	comp=Z,760nm,20.1s,MS4.5						
JOW	**Kunigami**	**38.53**	**53**	P	**P**	**00 21 49.8**	**-0.4**
	comp=Z,24nm,0.7s,mb5.1,baz=223,slow=9.2,SNR=15						
FITZ	**Fitzroy Crossi**	**38.62**	**128**	*e*P	**P**	**00 21 49.1**	**-1.8**
	comp=Z,25nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**38.62**	**128**	P	**P**	**00 21 49.5**	**-1.4**
	comp=Z,5.5nm,0.5s,mb4.5,baz=324,slow=5.7,SNR=23						
FITZ				pP	pP	00 22 05.0	-0.1
	comp=Z,16nm,0.8s,baz=281,slow=3.7,SNR=6.3						
WMQ	**Urumqi**	**38.65**	**352**	⇑P	**P**	**00 21 51.5**	**+0.3**
WMQ				XP	sP	00 22 16.8	+5.0
WMQ				PP	PP	00 23 24.0	+3.5
WMQ				PPP		00 23 46.8	
WMQ				S	**S**	**00 27 43.1**	**-0.7**
WMQ				SS	SS	00 30 25.8	-10
WMQ				SCS	ScS	00 31 54.6	-1.8
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,210nm,4.5s						
WMQ				LR	LR		
	comp=N,110nm,10.0s,MS4.2						
WMQ				LR	LR		
	comp=E,230nm,15.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,380nm,30.0s						
BJT	**Baijiatuan**	**39.52**	**26**	*e*P	**P**	**00 21 59.1**	**+0.7**
BJT				*e**PP	pP	00 22 12.6	0.0
BJT				pmax	pmax		
	comp=Z,97nm,1.1s						
BJT	**Baijiatuan**	**39.52**	**26**	*e*P	**P**	**00 21 59.1**	**+0.7**
	comp=Z,98nm,1.1s,mb5.5						
BJT				*e*pP	pP	00 22 12.6	0.0
ULHL	**Ulahol**	**40.05**	**339**	P	**P**	**00 22 04.2**	**+1.4**
	SNR=20						
KZA	**Kyzart**	**40.27**	**338**	P	**P**	**00 22 06.0**	**+1.3**
	SNR=34						
UCH	**Uchtor**	**40.69**	**337**	P	**P**	**00 22 09.5**	**+1.4**
	SNR=82						
TKM2	**Tokmak 2**	**40.88**	**339**	P	**P**	**00 22 10.7**	**+1.0**
	SNR=51						
TKM2	**Tokmak 2**	**40.88**	**339**	*i* P	**P**	**00 22 10.1**	**+0.4**
KBK	**Karagaybulak**	**40.89**	**338**	P	**P**	**00 22 11.4**	**+1.6**
	SNR=98						
AML	**Almayashu**	**40.93**	**336**	P	**P**	**00 22 11.3**	**+1.2**
	SNR=37						
AAK	**Ala-Archa**	**41.04**	**337**	P	**P**	**00 22 13.1**	**+2.1**
	SNR=12						
AAK	**Ala-Archa**	**41.04**	**337**	P	**P**	**00 22 11.2**	**+0.2**
	comp=Z,236nm,1.1s,mb5.7,SNR=11						
AAK	**Ala-Archa**	**41.04**	**337**	*e*P	**P**	**00 22 11.6**	**+0.6**
AAK				*e**PP	pP	00 22 25.7	+0.4
AAK				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.1						
AAK	**Ala-Archa**	**41.04**	**337**	*e*P	**P**	**00 22 11.6**	**+0.6**
	comp=Z,51nm,1.0s,mb5.1						
AAK				*e*pP	pP	00 22 25.7	+0.4
FRU	**Bishkek**	**41.16**	**338**	⇑*e*P	**P**	**00 22 12.5**	**+0.5**
FRU				*e*	pP	00 22 26.0	-0.3
FRU				pmax	pmax		
	comp=Z,170nm,2.2s,mb5.3						
CHMS	**Chumysh**	**41.25**	**338**	P	**P**	**00 22 13.4**	**+0.6**
	SNR=14						
DL2	**Dalian**	**41.34**	**33**	P	**P**	**00 22 14.1**	**+0.6**
DL2				XP	sP	00 22 33.5	-0.6
DL2				*e*S	**S**	**00 28 26.3**	**+2.3**
DL2				XS	sS	00 28 50.6	+2.6
DL2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.2						
DL2				AMB	AMB		
	comp=Z,200nm,4.1s						
DL2				LR	LR		
	comp=N,290nm,18.1s,MS4.3						
DL2				LR	LR		
	comp=E,220nm,17.8s,MS4.3						
DL2				LR	LR		
	comp=Z,410nm,17.5s,MS4.3						
EKS2	**Erkin-Say**	**41.34**	**337**	P	**P**	**00 22 14.8**	**+1.3**
	SNR=36						
USP	**Ospenovka**	**41.58**	**338**	P	**P**	**00 22 16.2**	**+0.8**
	SNR=90						
MK31	**Makanchi Array**	**42.49**	**348**	P	**P**	**00 22 22.2**	**-0.6**
MK31				pmax	pmax		
	comp=Z,41nm,0.7s,mb5.2						
MKAR	**Makanchi Array**	**42.49**	**348**	P	**P**	**00 22 23.0**	**+0.2**
	comp=Z,47nm,0.6s,mb5.3,baz=167,slow=8.9,SNR=285						
MKAR				pP	pP	00 22 37.6	+0.4
	comp=Z,14nm,0.6s,baz=169,slow=7.2,SNR=5.7						
MKAR	**Makanchi Array**	**42.49**	**348**	P	**P**	**00 22 23.0**	**+0.2**
MKAR				*PP	pP	00 22 37.6	+0.4
MKAR				pmax	pmax		
	comp=Z,47nm,0.6s						
KK31	**Karatay Array**	**43.06**	**334**	*i* P	**P**	**00 22 27.5**	**0.0**
KKAR	**Karatay Array**	**43.06**	**334**	*i* P	**P**	**00 22 27.5**	**0.0**
KKAR				pmax	pmax		
	comp=Z,30nm,0.4s,mb5.4						
SONM	**Songino Array**	**43.40**	**12**	P	**P**	**00 22 29.8**	**-0.4**
	comp=Z,18nm,0.7s,mb4.9,baz=191,slow=8.2,SNR=86						
SONM				PcP	PcP	00 24 18.1	+0.3
	comp=Z,4.5nm,0.5s,baz=200,slow=3.7,SNR=11						
SONM				pPcP		00 24 33.3	
	comp=Z,7.1nm,0.9s,baz=191,slow=2.4,SNR=4.0						
SONM				LR	LR	00 42 43.5	
	comp=Z,396nm,20.5s,MS4.3,baz=195,slow=39						
ULN	**Ulaanbaatar**	**43.57**	**12**	*e*P	**P**	**00 22 31.0**	**-0.6**
ULN				*PP	pP	00 22 46.6	+0.7
ULN				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
ULN	**Ulaanbaatar**	**43.57**	**12**	*e*P	**P**	**00 22 31.0**	**-0.5**
	comp=Z,18nm,0.6s,mb5.0						
ULN				pP	pP	00 22 46.6	+0.7
ULN				*e*ScP	ScP	00 28 05.3	+0.2
NWAO	**Narrogin (SRO)**	**43.87**	**152**	P	**P**	**00 22 35.0**	**+1.1**
	comp=Z,10nm,0.8s,mb4.6,baz=326,slow=7.3,SNR=4.6						
NWAO	**Narrogin (SRO)**	**43.87**	**152**	P	**P**	**00 22 35.0**	**+1.1**
NWAO				pmax	pmax		
	comp=Z,11nm,0.8s						
NWAO	**Narrogin (SRO)**	**43.87**	**152**	P	**P**	**00 22 34.4**	**+0.5**
KS15	**Wonju Array Si**	**44.00**	**39**	*e*P	**P**	**00 22 34.3**	**-0.8**
SNY	**Shenyang**	**44.48**	**31**	⇑P	**P**	**00 22 38.8**	**-0.1**
SNY				AP	pP	00 22 54.8	+1.5
SNY				XP	sP	00 23 02.1	+2.5
SNY				PP	PP	00 24 27.9	+4.5
SNY				S	**S**	**00 29 08.1**	**-2.0**
SNY				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
SNY				AMB	AMB		
	comp=Z,160nm,3.8s						
SNY				LR	LR		
	comp=N,490nm,18.2s,MS4.5						
SNY				LR	LR		
	comp=E,280nm,22.0s,MS4.5						
SNY				LR	LR		
	comp=Z,660nm,21.0s,MS4.5						
ZAK	**Zakamensk**	**45.34**	**8**	⇑*i*P	**P**	**00 22 45.4**	**-0.3**
ZAK				*e*		00 24 24.6	
ZAK				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.0						
ABKT	**Ailbek**	**46.24**	**319**	P	**P**	**00 22 53.9**	**+1.1**
	comp=Z,251nm,0.4s,SNR=20						
MOY	**Mondy**	**46.34**	**6**	*e*P	**P**	**00 22 53.5**	**-0.1**
MOY				pmax	pmax		
	comp=Z,31nm,3.0s						
WRA	**Warramunga Arr**	**46.59**	**124**	P	**P**	**00 22 55.0**	**-0.5**
	comp=Z,19nm,0.8s,mb5.1,baz=304,slow=9.3,SNR=57						
WRA	**Warramunga Arr**	**46.59**	**124**	P	**P**	**00 22 55.0**	**-0.5**
WRA				pmax	pmax		
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	**46.60**	**124**	P	**P**	**00 22 55.0**	**-0.6**
	comp=Z,210nm,0.6s,mb6.2,SNR=14						
WRAB	**Tennant Creek**	**46.60**	**124**	*e*P	**P**	**00 22 55.2**	**-0.4**
WRAB				*e*PP	pP	00 23 11.7	+1.6
WRAB				pmax	pmax		
	comp=Z,81nm,0.9s,mb5.7						
WRAB	**Tennant Creek**	**46.60**	**124**	*e*P	**P**	**00 22 55.2**	**-0.4**
	comp=Z,81nm,0.9s,mb5.7						
WRAB				*e*pP	pP	00 23 11.7	+1.6
WB2	**Warramunga Arr**	**46.60**	**124**	*e*P	**P**	**00 22 55.1**	**-0.5**
TLY	**Talaya**	**46.66**	**8**	*e*P	**P**	**00 22 56.2**	**+0.1**
TLY				*e*S	**S**	**00 29 35.9**	**-5.6**
TLY				pmax	pmax		
	comp=Z,33nm,1.9s,mb4.9						
TLY				MLR	MLR		
	comp=Z,498nm,24.0s,MS4.4						
TLY	**Talaya**	**46.66**	**8**	⇑*i*P	**P**	**00 22 56.0**	**-0.1**
CN2	**Changchun**	**46.85**	**31**	*e*P	**P**	**00 23 01.0**	**+3.4**
CN2				*e*AP	pP	00 23 15.5	+3.4
CN2				*e*XP	sP	00 23 23.6	+5.1
CN2				*e*S	**S**	**00 29 47.3**	**+3.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=E,400nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS4.3						
KURK	**Kurchatov**	**47.01**	**346**	P	**P**	**00 22 59.1**	**+0.3**
	comp=Z,940nm,0.6s,SNR=15						
ASPA	**Alice Springs**	**48.11**	**129**	*e*P	**P**	**00 23 06.9**	**-0.5**
ASAR	**Alice Springs**	**48.11**	**129**	P	**P**	**00 23 06.8**	**-0.5**
	comp=Z,5.7nm,0.6s,mb4.8,baz=300,slow=7.8,SNR=79						
ASAR	**Alice Springs**	**48.11**	**129**	P	**P**	**00 23 06.9**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AS31	**Alice Springs**	**48.12**	**129**	*e*P	**P**	**00 23 06.9**	**-0.5**
FORT	**Forrest**	**48.25**	**140**	*e*P	**P**	**00 23 02.6**	**-5.9**
	comp=Z,14nm,0.7s,mb5.1						
HIA	**Hailar**	**48.57**	**22**	⇑*i*P	**P**	**00 23 10.6**	**-0.3**
ZAL	**Zalesovo**	**48.95**	**352**	P	**P**	**00 23 14.0**	**+0.2**
	comp=Z,33nm,0.8s,mb5.4,baz=300,slow=7.3,SNR=113						
ZAL				LR	LR	00 47 16.9	
	comp=Z,194nm,21.5s,MS4.1,baz=288,slow=40						
ZAL	**Zalesovo**	**48.95**	**352**	P	**P**	**00 23 14.0**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,33nm,0.8s						
ZAL				MLR	MLR		
	comp=Z,194nm,21.5s						
CIT	**Chita**	**48.99**	**15**	*e*P	**P**	**00 23 13.5**	**-0.6**
CIT				*e*	pP	00 23 25.3	-3.4
CIT				*e*		00 24 38.3	
CIT				pmax	pmax		
	comp=Z,75nm,2.5s,mb5.3						
MDJ	**Mudanjiang**	**49.58**	**33**	P	**P**	**00 23 19.0**	**+0.4**
MDJ				AP	pP	00 23 34.8	+1.6
MDJ				XP	sP	00 23 42.0	+2.5
MDJ				PCP	PcP	00 24 36.8	-2.8
MDJ				PP	PP	00 25 18.8	+5.5
MDJ				SCP	ScP	00 28 26.6	-3.7
MDJ				PCS	PcS	00 28 33.9	-2.4
MDJ				S	**S**	**00 30 27.8**	**+5.1**
MDJ				SCS	ScS	00 33 04.8	-0.5
MDJ				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,70nm,5.3s						
MDJ				LR	LR		
	comp=N,150nm,17.2s,MS4.5						
MDJ				LR	LR		
	comp=E,420nm,19.8s,MS4.5						
MDJ				LR	LR		
	comp=Z,420nm,17.9s,MS4.5						
MDJ	**Mudanjiang**	**49.58**	**33**	*e*P	**P**	**00 23 18.5**	**-0.2**
	comp=Z,28n

comp=E,55nm,1.8s
NVS smax
comp=N,25nm,1.6s
UMR Umm Al-Rimmam 50.19 304 *e*P **P 00 23 24.1 +0.8**
KRAR Krasnoyarsk 50.40 359⇓*i*P **P 00 23 25.3 +0.5**
NAY Al-Naaiem 50.48 304 *e*P **P 00 23 26.4 +1.0**
NAY AMb AMB 00 23 27.7
comp=Z,43nm,0.8s,mb5.5
MAJO Matsushiro 50.50 46 P **P 00 23 25.7 +0.1**
MAT Matsushiro 50.50 46 P **P 00 23 24.6 -1.0**
MAT S **S 00 30 31.0 -4.5**
MAT Matsushiro 50.50 46 *e*P **P 00 23 25.0 -0.6**
MAT pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MAT MLR MLR
comp=Z,350nm,20.0s,MS4.4
MAT Matsushiro 50.50 46 *e*P **P 00 23 25.0 -0.6**
comp=Z,7.6nm,1.1s,mb4.5
MAT *e*S sS 00 31 01.0 +0.9
MAT LR LR
comp=Z,350nm,20.0s,MS4.4
MJAR Matsushiro Arr 50.50 46 P **P 00 23 25.5 -0.1**
comp=Z,3.7nm,0.8s,mb4.4,baz=248,slow=7.4,SNR=12
MJAR PcP PcP 00 24 42.5 -0.4
comp=Z,1.2nm,0.3s,baz=258,slow=1.9,SNR=5.3
MJAR pPcP 00 24 57.8
comp=Z,5.6nm,0.9s,baz=250,slow=3.4,SNR=6.0
MJAR LR LR 00 45 16.1
comp=Z,488nm,21.9s,MS4.5,baz=255,slow=37
MIB Mutribah 50.58 304 *e*P **P 00 23 27.1 +0.9**
MIB AMb AMB 00 23 28.5
comp=Z,103nm,0.7s,mb5.8
VOSK Vostochnaya 50.92 342 P **P 00 23 28.0 -0.7**
VOSK pmax pmax
comp=Z,75nm,1.1s,mb5.5
BVA0 Borovoye Array 51.36 342 *i* P **P 00 23 31.8 -0.2**
BVA0 pmax pmax
comp=Z,16nm,1.4s,mb4.8
BRVK Borovoye 51.42 342 P **P 00 23 32.1 -0.4**
comp=Z,299nm,0.5s,SNR=34
BRVK Borovoye 51.42 342 *e*P **P 00 23 32.5 0.0**
BRVK *e**PP pP 00 23 46.2 -1.0
BRVK pmax pmax
comp=Z,20nm,0.6s,mb5.2
BRVK Borovoye 51.42 342 *e*P **P 00 23 32.5 0.0**
comp=Z,20nm,0.6s,mb5.2
BRVK *e*pP pP 00 23 46.2 -1.0
ZRNK Zerenda 51.74 341 *e*P **P 00 23 34.7 -0.2**
ZRNK *e**PP pP 00 23 49.0 -0.6
ZRNK pmax pmax
comp=Z,65nm,1.1s,mb5.5
ZRNK Zerenda 51.74 341 *e*P **P 00 23 34.7 -0.2**
comp=Z,65nm,1.1s,mb5.5
ZRNK *e*pP pP 00 23 49.0 -0.6
CHKZ Chkalovo 51.85 342 *i* P **P 00 23 35.7 0.0**
AB31 Akbulak array 52.50 332⇑*e*P **P 00 23 40.7 +0.2**
KLR Kul'dur 53.75 29 *e*P **P 00 23 46.5 -3.2**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.2
KLR MLR MLR
comp=Z,600nm,15.0s,MS4.8
AKTK Aktyubinsk 54.22 332 *i* P **P 00 23 52.3 -0.8**
AKTO Aktyubinsk 54.22 332 *i* P **P 00 23 52.3 -0.8**
BOD Bodaibo 54.38 13 *e*P **P 00 23 53.7 -0.6**
BOD pmax pmax
comp=Z,32nm,1.3s,mb5.1
HABR Khabarovsk 54.94 32 *e*P **P 00 23 57.2 -1.2**
HABR S **S 00 31 34.8 -1.2**
HAKT HAKKARI 56.12 312 *i* P **P 00 24 00.2 -6.7**
GNI Garni 56.38 315⇑*i*P **P 00 24 08.9 +0.2**
ORR Orenburg 56.55 331 *e*P **P 00 24 09.3 -0.6**
ORR pmax pmax
comp=Z,40nm,1.2s,mb5.3
CTA Charters Tower 56.83 118 *e*P **P 00 24 11.0 -0.9**
comp=Z,16nm,1.4s,mb4.9
CTA Charters Tower 56.83 118 *e*P **P 00 24 11.0 -0.9**
CTA pmax pmax
comp=Z,16nm,1.4s
CTAO Charters Tower 56.83 118 *e*P **P 00 24 12.6 +0.7**
CTAO *e**PP pP 00 24 27.3 +0.6
CTAO pmax pmax
comp=Z,11nm,0.9s,mb4.9
CTAO Charters Tower 56.83 118 *e*P **P 00 24 12.6 +0.7**
comp=Z,11nm,0.9s,mb4.9
CTAO *e*pP pP 00 24 27.3 +0.5
KMBO Kilima Mbogo 57.57 265 P **P 00 24 19.4 +2.3**
comp=Z,2.7nm,0.9s,mb4.3,baz=48,slow=7.3,SNR=6.8
KMBO LR LR 00 44 59.1
comp=Z,394nm,21.5s,MS4.5,baz=96,slow=32
KMBO Kilima Mbogo 57.57 265 *e*P **P 00 24 18.1 +0.9**
comp=Z,14nm,1.3s,mb4.8
KMBO *e*pP pP 00 24 31.0 -1.1
KMBO LR LR 00 44 59.1
ZEI Tsey 58.05 318 *e*P **P 00 24 20.1 -0.3**
ZEI *e**PP pP 00 24 35.2 -0.1
ZEI pmax pmax
comp=Z,19nm,0.9s,mb5.1
STKA Stephens Creek 58.20 133 *e*P **P 00 24 18.9 -2.6**
comp=Z,8.3nm,0.8s,mb4.8
STKA Stephens Creek 58.20 133 P **P 00 24 18.8 -2.7**
comp=Z,4.5nm,0.5s,mb4.8,baz=1.5,slow=3.6,SNR=16
STKA LR LR 00 52 48.6
comp=Z,183nm,20.9s,MS4.2,baz=135,slow=40
ARU Arti 58.23 337 P **P 00 24 21.3 -0.4**
comp=Z,174nm,1.1s,mb6.0,SNR=14
ARU Arti 58.23 337⇑*i*P **P 00 24 21.1 -0.6**
ARU *e* pP 00 24 36.4 -0.2
ARU *e* 00 25 09.9
ARU *e* 00 26 26.0
ARU *e*S **S 00 32 20.3 +0.8**
ARU *e*SS SS 00 36 13.7 +1.9
ARU pmax pmax
comp=Z,34nm,1.1s,mb5.3
YSS Yuzh-Sakhalins 58.44 37⇑*e*P **P 00 24 23.0 -0.2**
YSS *e* pP 00 24 38.0 -0.1
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,300nm,16.0s,MS4.5
YSS Yuzh-Sakhalins 58.44 37⇓*e*P **P 00 24 23.6 +0.4**
ERZM Erzurum 58.68 314 *i* P **P 00 24 25.7 +0.8**
KIV Kislovodsk 59.34 319 P **P 00 24 29.7 +0.2**
comp=Z,168nm,1.0s,mb6.0,SNR=10.0
KIV Kislovodsk 59.34 319 *e*P **P 00 24 29.2 -0.3**
KIV pmax pmax
comp=Z,42nm,1.1s,mb5.4
KIV Kislovodsk 59.34 319⇑*i*P **P 00 24 29.1 -0.4**
GOF Gofitskoye 59.58 320 *e*P **P 00 24 30.3 -0.8**
GOF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ELZG Elazig 59.95 312 *i* P **P 00 24 32.5 -1.1**
MALT Malatya 60.30 311⇑*i*P **P 00 24 36.5 +0.5**
MALT Malatya 60.30 311 ⇑P **P 00 24 36.5 +0.5**
GZT Gaziantep 60.67 310 *i* P **P 00 24 35.7 -2.9**
SOKR Solikamsk 61.15 339*c i*P **P 00 24 41.9 +0.1**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
SOC Sochi 61.18 317*c i*P **P 00 24 40.3 -1.7**
SOC *e**PP pP 00 24 57.7 +0.7
SOC *e* 00 27 05.8
SOC *e*PPP 00 28 31.9
SOC *e*S **S 00 32 53.5 -3.9**
SOC *e* 00 34 29.2
SOC pmax pmax
comp=Z,19nm,1.0s,mb5.2
GRSN GIRESUNGRSN 61.25 314 *i* P **P 00 24 32.3 -10**
BHL Bhannes 61.27 306 *e*P **P 00 24 44.5 +1.9**
YAK Yakutsk 62.13 18 *e*P **P 00 24 47.4 -1.0**
YAK pmax pmax
comp=Z,15nm,1.0s,mb5.1
YAK pmax pmax
comp=N,10.0nm,1.6s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK Yakutsk 62.13 18⇑*i*P **P 00 24 46.6 -1.8**
MEST Erdemli 63.11 308 *i* P **P 00 24 52.6 -2.3**
AVNT Avonos 63.12 311 *i* P **P 00 24 52.7 -2.3**
CSS Prodhromos 63.38 306 *e*P **P 00 24 57.4 +0.7**
comp=E,75nm,1.4s,mb5.6
CSS *e*pP pP 00 25 12.1 +0.4
MBAR Mbarara 63.98 267 *i* P **P 00 25 00.3 -0.4**
BR131 Keskin Array S 64.28 312 *e*P **P 00 25 02.0 -0.7**
comp=E,6.4nm,0.8s,mb4.7
BR131 *e*pP pP 00 25 17.1 -0.7
BR131 *e*sP sP 00 25 24.9 +0.9
BRTR Keskin Array B 64.28 312 P **P 00 25 02.1 -0.5**
comp=E,8.8nm,0.9s,mb4.8,baz=120,slow=7.2,SNR=43
BRTR Keskin Array B 64.28 312 P **P 00 25 02.2 -0.4**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
VRSR Storozhevoye 64.54 325 *e*P **P 00 25 03.0 -1.3**
VRSR pmax pmax
comp=E,7.0nm,1.0s
VRSR pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
VRSR pmax pmax
comp=N,2.0nm,0.8s
ELDT Eldivan 64.64 312 *i* P **P 00 25 04.9 0.0**
VOR Voronezh 64.75 326 *e*P **P 00 25 03.0 -2.7**
VOR *e**PP pP 00 25 17.5 -3.3
VOR pmax pmax
comp=N,40nm,1.5s
VOR pmax pmax
comp=E,40nm,1.5s
VOR pmax pmax
comp=Z,80nm,1.5s,mb5.5
BALT Daday 64.95 313 *i* P **P 00 25 04.5 -2.5**
KDHN Kadinhani 65.13 310 *i* P **P 00 25 02.5 -5.7**
SIM Simferopol' 65.42 317*c i*P **P 00 25 10.2 +0.1**
SIM pmax pmax
comp=Z,22nm,0.7s,mb5.3
SGKT Sivrigoynuk 65.67 312 *i* P **P 00 25 10.7 -0.9**
ESKT Eskisehir 66.32 311 *i* P **P 00 25 14.9 -0.9**
TKTP Tekketepe 66.41 309 *i* P **P 00 25 15.9 -0.5**
HNR Honiara 66.85 103 *e*P **P 00 25 16.0 -3.2**
GDZ Gediz 67.27 310 *i* P **P 00 25 20.4 -1.5**
MOS Moscow 67.31 329 *e*P **P 00 25 19.8 -2.3**
MOS *i* pP 00 25 35.7 -1.6
MOS pmax pmax
comp=Z,200nm,1.7s,mb5.9
MOS pmax pmax
comp=Z,99nm,1.5s,mb5.6
OBN Obninsk 67.59 328*c i*P **P 00 25 22.9 -1.0**
OBN *e**PP pP 00 25 37.9 -1.2
OBN *e* 00 27 53.4
OBN pmax pmax
comp=Z,66nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
OBN Obninsk 67.59 328⇑*i*P **P 00 25 22.4 -1.5**
OBN LR LR
comp=Z,100nm,19.0s,MS4.1
MA2 Magadan 68.70 27*ce*P **P 00 25 29.7 -1.1**
MA2 *e* 00 35 22.0
MA2 pmax pmax
comp=Z,30nm,1.2s,mb5.1
MA2 Magadan 68.70 27 *e*P **P 00 25 29.6 -1.3**
MA2 *e*pP pP 00 25 44.8 -1.3
KDAG Bornova 68.83 309 *i* P **P 00 25 31.6 -0.1**
LSZ Lusaka 68.86 251 *e*P **P 00 25 33.9 +2.1**
LSZ *e**PP pP 00 25 48.7 +1.6
LSZ pmax pmax
comp=Z,19nm,1.2s,mb4.9
LSZ Lusaka 68.86 251 *e*P **P 00 25 33.9 +2.1**
comp=Z,18nm,1.2s,mb4.9
LSZ *e*pP pP 00 25 48.6 +1.6
PSN Preselentsi 69.20 315 *e*P **P 00 25 33.0 -0.9**
TIXI Tiksi 69.49 11⇑*i*P **P 00 25 33.7 -2.0**
CFR Carcaliu 69.57 316⇓*i*P **P 00 25 36.0 -0.2**
SANT Santorini 69.93 307 *e*P **P 00 25 38.3 -0.2**
JMB Yambol 70.09 313 *e*P **P 00 25 40.0 +0.6**
ALN Alexandroupoli 70.20 311 *e*P **P 00 25 40.1 0.0**
IDI Anoyia 70.25 305 P **P 00 25 39.4 -1.0**
comp=Z,9.4nm,0.4s,mb5.1,baz=97,slow=8.8,SNR=36
AKASG Malin Array Be 70.26 322 P **P 00 25 39.1 -1.4**
comp=Z,6.5nm,0.6s,mb4.8,baz=94,slow=4.8,SNR=48
AKASG pP pP 00 25 53.9 -1.9
comp=Z,4.2nm,0.6s,baz=92,slow=5.0,SNR=6.1
AKASG Malin Array Be 70.26 322 P **P 00 25 39.1 -1.4**
AKASG *PP pP 00 25 53.9 -1.9
AKASG pmax pmax
comp=Z,7.0nm,0.6s
VRI Vrincioaia 70.69 317⇑*i*P **P 00 25 43.6 +0.5**
VRI Vrincioaia 70.69 317 ⇑P **P 00 25 43.6 +0.5**
PLOR Plostina 70.74 317⇓*i*P **P 00 25 44.3 +0.9**
DIM Dimitrovgrad 70.78 313 *e*P **P 00 25 43.4 -0.3**
VOIR 71.75 316⇓*i*P **P 00 25 49.3 -0.2**
VOIR 71.75 316 ⇓P **P 00 25 49.2 -0.2**
MMB Musomiste 72.04 312 *e*P **P 00 25 50.5 -0.7**
BURAR Bucovina Array 72.07 318⇑*i*P **P 00 25 52.0 +0.6**
BURAR Bucovina Array 72.07 318 ⇑P **P 00 25 52.0 +0.6**
SRS Serrai 72.07 311 *e*P **P 00 25 50.5 -0.9**
MNK Minsk 72.13 326 *e*P **P 00 25 49.0 -2.8**
CASY Casey 72.53 173 P **P 00 25 54.4 +0.3**
comp=Z,19nm,1.0s,mb5.0
KKB Krupnik 72.56 312 *e*P **P 00 25 52.7 -1.6**
VTS Vitosha 72.57 313 *e*P **P 00 25 54.0 -0.4**
VTS Vitosha 72.57 313⇑*i*P **P 00 25 54.4 0.0**
KNT Kendrikon 72.59 311 *e*P **P 00 25 52.6 -1.9**
VAY Valandovo 72.86 311 *i* P **P 00 25 54.3 -1.8**
GRG Griva 72.94 311 *e*P **P 00 25 55.8 -0.7**
JOF Joensuu 73.16 335 *e*p **P 00 25 56.8 -1.1**
comp=Z,12nm,0.6s,mb5.0
JOF Joensuu 73.16 335 *e*P **P 00 25 56.8 -1.1**
comp=Z,12nm,0.6s,mb5.0
JOF pmax pmax
STIP Stip 73.20 312 *i* P **P 00 25 56.2 -1.9**
LVV L'vov 73.28 320 *e*P **P 00 25 57.2 -1.4**
LBTB Lobatse 73.45 242 *e*P **P 00 26 01.6 +2.0**
LBTB *e**PP pP 00 26 17.0 +2.0
LBTB pmax pmax
comp=Z,31nm,1.1s,mb5.2
LBTB Lobatse 73.45 242 *e*P **P 00 26 01.6 +2.0**
comp=Z,31nm,1.1s,mb5.2
LBTB *e*pP pP 00 26 17.0 +1.9
DRGR 73.59 317⇑*i*P **P 00 26 01.1 +0.7**
DRGR 73.59 317 ⇑P **P 00 26 01.1 +0.6**
BIA Bitola 73.75 311 *i* P **P 00 25 59.5 -1.8**
SKO Skopje 73.79 312 *i* P **P 00 26 01.4 -0.2**
VSU Vasula 73.83 330 *i* P **P 00 26 01.4 -0.4**
VSU Vasula 73.83 330 *i* Pr 00 26 01.4
LVZ Lovozero 73.92 340⇓*i*P **P 00 26 01.5 -0.8**
KWP Kalwaria 74.09 320 *e*P **P 00 26 03.6 +0.3**
OHR Ohrid 74.16 311 *i* P **P 00 26 02.1 -1.7**
BOSA Boshof 74.66 239 P **P 00 26 08.5 +1.9**
comp=Z,5.6nm,0.8s,mb4.5,baz=71,slow=6.9,SNR=10
BOSA pP pP 00 26 23.1 +1.0
comp=Z,19nm,0.9s,baz=63,slow=6.2,SNR=9.5
BOSA Boshof 74.66 239 *e*P **P 00 26 08.6 +2.0**
BOSA *e**PP pP 00 26 23.7 +1.6
BOSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BOSA Boshof 74.66 239 *e*P **P 00 26 08.6 +1.9**
comp=Z,5.2nm,0.8s,mb4.5
BOSA *e*pP pP 00 26 23.7 +1.6
SUW Suwalki 74.66 325 *e*P **P 00 26 05.8 -0.8**
SUW Suwalki 74.66 325 *e*P **P 00 26 06.0 -0.6**
SUW *e* pP 00 26 20.7 -1.4
SUW pmax pmax
comp=Z,52nm,0.8s,mb5.5
SUW Suwalki 74.66 325 *e*P **P 00 26 06.0 -0.7**
comp=Z,52nm,0.8s,mb5.5
SUW *e*PcP PcP 00 26 20.6 0.0
FINES FINESS Array B 74.99 332 P **P 00 26 07.7 -0.9**
comp=Z,5.0nm,0.6s,mb4.6,baz=100,slow=5.6,SNR=54
FINES FINESS Array B 74.99 332 P **P 00 26 07.7 -0.9**
FINES pmax pmax
comp=Z,5.0nm,0.6s
STHS Stebnicka Huta 75.00 320 *i* P **P 00 26 08.9 +0.3**
STHS *e* pP 00 26 23.2 -0.8
STHS pmax pmax
comp=Z,18nm,0.9s,mb5.0
STHS Stebnicka Huta 75.00 320 *i* P **P 00 26 08.9 +0.3**
comp=Z,18nm,0.9s,mb5.0
STHS *e* pP 00 26 23.2 -0.8
KAF Kangasniemi 75.08 333 *e*p **P 00 26 07.6 -1.5**
comp=Z,11nm,0.5s,mb5.0,baz=104,slow=5.5
KAF Kangasniemi 75.08 333 *e*P **P 00 26 07.6 -1.5**
KAF pmax pmax
comp=Z,11nm,0.5s,mb5.0
KECS Kecovo 75.35 319 *i* P **P 00 26 10.8 +0.2**
KECS *e* pP 00 26 25.6 -0.5
KECS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KECS Kecovo 75.35 319 *i* P **P 00 26 10.8 +0.2**
comp=Z,8.1nm,0.8s,mb4.7
KECS *e* pP 00 26 25.6 -0.5
NIE Niedzica 75.60 320 *i* Pc 00 26 12.7
PSZ Piszkesteto 75.66 318⇑*i*P **P 00 26 12.7 +0.3**
PSZ Piszkesteto 75.66 318 *e*P **P 00 26 12.5 +0.1**
PSZ *e**PP pP 00 26 27.6 -0.2
PSZ pmax pmax
comp=Z,51nm,1.5s,mb5.2
PSZ Piszkesteto 75.66 318 *e*P **P 00 26 12.5 +0.2**
comp=Z,51nm,1.5s,mb5.2
PSZ *e*pP pP 00 26 27.6 -0.2
OJC Ojcow 76.04 320 *i* Pc 00 26 14.5
OJC *e*PcP PcP 00 26 29.3 +2.7
BUD Budapest 76.19 317⇑*i*P **P 00 26 15.6 +0.2**
MAW Mawson 76.29 192 P **P 00 26 16.2 +0.2**
comp=Z,2.2nm,0.6s,mb4.3,baz=27,slow=13,SNR=4.3
MAW LR LR 00 54 12.0
comp=Z,180nm,18.5s,MS4.4,baz=173,slow=31
MAW Mawson 76.29 192 *e*P **P 00 26 16.2 +0.2**
comp=Z,11nm,1.2s,mb4.7
MAW *e*pP pP 00 26 29.6 -1.8
MAW LR LR 00 54 12.1
PKSM Moragy 76.30 316⇓*i*P **P 00 26 15.4 -0.6**
PKSM Moragy 76.30 316 ⇓P **P 00 26 15.4 -0.6**
VYHS Vyhne 76.44 318 *i* P **P 00 26 16.9 +0.1**
VYHS *e* pP 00 26 32.2 -0.1
VYHS pmax pmax
comp=Z,12nm,1.1s,mb4.7
VYHS Vyhne 76.44 318 *i* P **P 00 26 16.9 +0.1**
comp=Z,12nm,1.1s,mb4.7
VYHS *e* pP 00 26 32.2 -0.1
KOLL Kolacno 76.73 319 *i* P **P 00 26 18.6 +0.1**
KOLL *e* 00 26 25.8
KOLL *e*pP pP 00 26 33.9 -0.1
SRO1 Iza 76.75 318 *e*P **P 00 26 19.8 +1.2**
SRO1 pmax pmax
comp=Z,29nm,0.9s,mb5.2
RAC Raciborz 77.05 320 *e*P **P 00 26 21.0 +0.7**
OKC Ostrava-Krasne 77.05 320⇑*e*P **P 00 26 20.1 -0.2**
OKC *e*pP pP 00 26 35.8 0.0
TIP Timpagrande 77.08 309 *e*P **P 00 26 20.9 +0.5**
TIP *e*PcP PcP 00 26 32.9 +1.7
KEV Kevo 77.20 341 *e*p **P 00 26 19.7 -1.4**
comp=Z,11nm,0.7s,mb4.9
KEV Kevo 77.20 341 *e*P **P 00 26 19.7 -1.4**
KEV pmax pmax
comp=Z,11nm,0.7s,mb4.9
GRI Girifalco 77.32 308 P **P 00 26 22.9 +1.1**
GRI pmax pmax
comp=Z,48nm,1.2s,mb5.3
GRI Girifalco 77.32 308 P **P 00 26 22.9 +1.1**
comp=Z,48nm,1.2s,mb5.3
SMOL Smolenice 77.37 318 *e*P **P 00 26 22.6 +0.6**
MORC Moravsky Berou 77.43 320⇓*i*P **P 00 26 22.7 +0.3**
MORC Moravsky Berou 77.43 320 ⇓P **P 00 26 22.7 +0.3**
ZST Bratislava 77.55 318 *e*P **P 00 26 23.7 +0.6**
ZST *e*pP pP 00 26 38.2 -0.4
ZST Bratislava 77.55 318 *e*P **P 00 26 23.7 +0.6**
comp=Z,44nm,0.9s,mb5.4
ZST *e* pP 00 26 38.2 -0.4
ZST LR LR
comp=Z,100nm,15.2s,MS4.2
ARCES ARCESS Array B 77.63 340 P **P 00 26 23.0 -0.5**
comp=Z,8.9nm,0.5s,mb4.9,baz=88,slow=6.0,SNR=90
ARCES ARCESS Array B 77.63 340 P **P 00 26 23.0 -0.5**
ARCES pmax pmax
comp=Z,9.0nm,0.5s
SOP Sopron 77.87 317⇑*i*P **P 00 26 25.1 +0.3**
VRAC Vranov 78.00 319 P **P 00 26 25.4 -0.2**
comp=Z,3.6nm,0.5s,mb4.5,baz=134,slow=5.0,SNR=8.9
VRAC Vranov 78.00 319⇑*i*P **P 00 26 25.7 +0.2**
VRAC Vranov 78.00 319 ⇑P **P 00 26 25.7 +0.1**
GKP Gorka Klasztor 78.03 323 *e*P **P 00 26 25.7 0.0**
BILL Bilibino 78.16 21⇓*e*P **P 00 26 25.3 -1.1**
BILL *e**PP pP 00 26 38.1 -3.9
BILL pmax pmax
comp=Z,11nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,600nm,17.0s,MS5.0
BILL Bilibino 78.16 21⇑*i*P **P 00 26 24.7 -1.7**
DPC Dobruska-Polom 78.27 320⇑*i*P **P 00 26 27.7 +0.6**
DPC *e*pP pP 00 26 42.8 +0.2
KSP Ksiaz 78.34 321 *e*P **P 00 26 28.2 +0.8**
KSP Ksiaz 78.34 321 *e*P **P 00 26 28.0 +0.6**
KSP *e*pP pP 00 26 42.7 -0.3
CONA Conrad Observa 78.36 318⇑*i*P **P 00 26 27.7 +0.1**
comp=Z,114nm,3.6s
UPC Upice 78.48 320⇑*i*P **P 00 26 28.9 +0.7**
UPC *e*pP pP 00 26 42.7 -1.1
ARSA Arzberg 78.53 317⇓*i*P **P 00 26 29.0 +0.5**
comp=Z,101nm,1.9s,mb5.4,SNR=17
BOJS Bojanci 78.59 315 *i* P **P 00 26 28.7 -0.2**
BOJS *i* pP 00 26 43.8 -0.6
PERS Pernice 78.76 316 *i* P **P 00 26 30.2 +0.4**
VAE Valguarnera 78.84 307 P **P 00 26 32.3 +2.1**
comp=Z,15nm,1.0s,mb4.9,baz=216,slow=13,SNR=5.6
LJU Ljubljana 79.13 316 *i* P **P 00 26 32.3 +0.5**
LJU *e* pP 00 26 47.3 -0.1
OBKA Obir 79.15 316 *i* P **P 00 26 32.4 +0.5**
comp=Z,81nm,1.8s,mb5.4,SNR=9.7
PRU Pruhonice 79.38 320⇑*i*P **P 00 26 33.5 +0.3**
PRU *e*pP pP 00 26 48.7 0.0
PRU AMS AMS 01 02 00.0
comp=Z,200nm,23.7s
PVCC Panska Ves 79.40 320⇑*i*P **P 00 26 33.7 +0.4**
PVCC *e* pP 00 26 48.5 -0.3
PVCC MLR MLR
comp=Z,100nm,17.0s,MS4.2
MOA Molln 79.42 318 *i* P **P 00 26 33.5 +0.1**
comp=Z,33nm,1.6s,mb5.0,SNR=9.6
VOY Vojsko 79.57 316 *e*P **P 00 26 33.9 -0.3**
VOY *e* pP 00 26 48.7 -1.1
BSD Bornholm Skovb 79.58 325 *i* P **P 00 26 33.1 -1.1**
comp=Z,16nm,1.2s,mb4.8
BSD *e* pP 00 26 47.1 -2.7
BSD Bornholm Skovb 79.58 325 *i* P **P 00 26 33.1 -1.1**
BSD *e* pP 00 26 47.1 -2.7
BSD pmax pmax
comp=Z,16nm,1.2s,mb4.8
AQU L'Aquila 79.77 312⇓*i*P **P 00 26 35.9 +0.6**
AQU L'Aquila 79.77 312 ⇓P **P 00 26 35.9 +0.7**
BRG Berggiesshubel 79.83 321 *e*P **P 00 26 35.4 -0.2**
comp=Z,24nm,1.3s,mb5.0
BRG Berggiesshubel 79.83 321⇑*i*P **P 00 26 35.7 +0.2**
comp=Z,15nm,1.3s,mb4.7
BRG *e* pP 00 26 51.3 +0.1
comp=Z,26nm,1.7s
BRG *e* 00 52 12.2
comp=Z,7.9nm,1.4s
ROBS Robic 79.85 316 *i* P **P 00 26 35.6 -0.1**
ROBS *e* pP 00 26 52.1 +0.8
GEC2 GERESS Array S 79.86 319 *e*P **P 00 26 36.0 +0.3**
comp=Z,54nm,1.2s,mb5.3
GEC2 GERESS Array S 79.86 319 *e*P **P 00 26 36.0 +0.3**
GEC2 pmax pmax
comp=Z,54nm,1.2s,mb5.3
GERES GERESS Array B 79.86 319 P **P 00 26 36.2 +0.5**
comp=Z,18nm,0.8s,mb5.0,baz=92,slow=6.7,SNR=89
GERES pP pP 00 26 50.6 -0.8
comp=Z,11nm,0.8s,baz=87,slow=5.5,SNR=12
GERES GERESS Array B 79.86 319 P **P 00 26 36.2 +0.5**
GERES *PP pP 00 26 50.6 -0.7
GERES pmax pmax
comp=Z,18nm,0.8s
KHC Kasperske Hory 79.95 319⇑*i*P **P 00 26 36.4 +0.1**
KHC *e*pP pP 00 26 51.5 -0.3
KHC AMS AMS 01 02 40.0
comp=Z,300nm,22.4s
KHC Kasperske Hory 79.95 319⇑*i*P **P 00 26 36.4 +0.1**
KHC *e* pP 00 26 51.5 -0.3
KHC LR LR
comp=Z,300nm,22.4s,MS4.6
PTCC Patocco-Chiusa 79.97 316 P **P 00 26 36.5 +0.2**
comp=Z,53nm,1.2s,mb5.3
NRCA Norcia 80.00 312 P **P 00 26 36.6 +0.1**
comp=Z,33nm,1.3s,mb5.1
KBA Koelnbreinsper 80.00 317 *i* P **P 00 26 36.5 0.0**
comp=Z,47nm,1.6s,mb5.2,SNR=7.1
KBA Koelnbreinsper 80.00 317 *i* P **P 00 26 36.5 0.0**
KBA pmax pmax
comp=Z,47nm,1.6s,mb5.2
RUE Ruedersdorf 80.04 322 *e*P **P 00 26 36.6 -0.1**
comp=Z,52nm,1.2s,mb5.3
RUE *e*pP pP 00 26 51.7 -0.6
RUE Ruedersdorf 80.04 322 *e*P **P 00 26 36.9 +0.2**
comp=Z,15nm,0.6s,mb5.1

RUE *e*pP pP 00 26 51.9 -0.4
SNTG Esanatoglia 80.14 313 P **P 00 26 37.6 +0.3**
comp=Z,34nm,1.1s,mb5.2
ARV Arcevia 80.15 313 P **P 00 26 38.1 +0.8**
ARV pmax pmax
comp=Z,41nm,0.9s,mb5.4
ARV Arcevia 80.15 313 P **P 00 26 38.1 +0.8**
comp=Z,41nm,0.9s,mb5.4
FBE Freiberg 80.20 321 *e*P **P 00 26 37.7 +0.1**
comp=Z,30nm,1.2s,mb5.1
FVI Forni Avoltri 80.37 316 P **P 00 26 38.7 +0.2**
FVI pmax pmax
comp=Z,63nm,1.5s,mb5.3
FVI Forni Avoltri 80.37 316 P **P 00 26 38.7 +0.2**
comp=Z,63nm,1.5s,mb5.3
WET Wettzell 80.41 319 *e*P **P 00 26 39.0 +0.3**
comp=Z,30nm,1.2s,mb5.1
WET Wettzell 80.41 319 *e*P **P 00 26 39.0 +0.3**
WET pmax pmax
comp=Z,30nm,1.2s,mb5.1
CLL Collm 80.44 321 *e*P **P 00 26 38.4 -0.5**
comp=Z,17nm,1.4s,mb4.8
CLL *e*pP pP 00 26 53.7 -0.8
CLL Collm 80.44 321⇑*i*P **P 00 26 38.6 -0.3**
comp=Z,16nm,1.4s,mb4.8
CLL *i* PcP PcP 00 26 46.3 +0.5
CLL *i* pP pP 00 26 53.9 -0.6
CLL Lm 01 03 00.0
comp=Z,300nm,19.0s
CLL Collm 80.44 321⇑*i*P **P 00 26 38.6 -0.3**
CLL *i* *PP pP 00 26 53.9 -0.6
CLL pmax pmax
comp=Z,16nm,1.4s,mb4.8
CLL MLR MLR
comp=Z,300nm,19.0s,MS4.7
RSM Repubblica di 80.52 313 P **P 00 26 40.5 +1.2**
BADI Badiali 80.65 313 P **P 00 26 41.0 +1.0**
HFS Hagfors 80.70 330 P **P 00 26 39.4 -0.9**
comp=Z,3.6nm,0.5s,mb4.5,baz=109,slow=4.2,SNR=16
HFS pP pP 00 26 54.4 -1.4
comp=Z,5.1nm,0.7s,baz=116,slow=5.8,SNR=5.1
HFS LR LR 01 07 25.3
comp=Z,169nm,19.4s,MS4.4,baz=93,slow=39
NKC Novy Kostel 80.74 320⇑*i*P **P 00 26 40.7 +0.2**
NKC *e*pP pP 00 26 56.0 -0.1
NKC AMS AMS 01 02 50.0
comp=Z,200nm,10.0s
NKC Novy Kostel 80.74 320⇑*i*P **P 00 26 40.7 +0.2**
NKC *e* pP 00 26 56.0 -0.1
TANN Tannenbergstha 80.74 320 *e*P **P 00 26 40.5 0.0**
comp=Z,17nm,1.4s,mb4.8
WERN Wernitzgruen 80.79 320 *e*P **P 00 26 40.9 +0.1**
comp=Z,15nm,1.3s,mb4.8
WERD Werda 80.84 320 *e*P **P 00 26 41.0 0.0**
comp=Z,18nm,1.3s,mb4.8
CRE Caprese Michel 80.87 313 P **P 00 26 41.6 +0.4**
CRE pmax pmax
comp=Z,39nm,1.2s,mb5.2
CRE Caprese Michel 80.87 313 P **P 00 26 41.6 +0.4**
comp=Z,39nm,1.2s,mb5.2
ROTZ Rotzenmuhle 80.88 319 *e*P **P 00 26 41.8 +0.6**
comp=Z,24nm,1.2s,mb5.0
MANZ Manzenberg 80.95 320 *e*P **P 00 26 42.1 +0.5**
comp=Z,35nm,1.2s,mb5.2
SFI Santa Sofia 80.95 313 P **P 00 26 43.1 +1.5**
SFI pmax pmax
comp=Z,16nm,1.3s,mb4.8
SFI Santa Sofia 80.95 313 P **P 00 26 43.1 +1.5**
comp=Z,159nm,1.3s,mb5.8
CTI Castel Tesino 81.14 316 P **P 00 26 43.2 +0.6**
CTI pmax pmax
comp=Z,30nm,0.8s,mb5.3
CTI Castel Tesino 81.14 316 P **P 00 26 43.2 +0.6**
comp=Z,30nm,0.8s,mb5.3
VMG Vicchio 81.17 314 P **P 00 26 44.0 +1.2**
comp=Z,87nm,0.8s,mb5.7
WTTA Wattenberg 81.17 317⇑*i*P **P 00 26 42.5 -0.3**
comp=Z,71nm,1.5s,mb5.4,SNR=15
WTTA Wattenberg 81.17 317⇑*i*P **P 00 26 42.5 -0.3**
WTTA pmax pmax
comp=Z,71nm,1.5s,mb5.4
WATA Walderalm 81.22 317⇑*i*P **P 00 26 42.5 -0.5**
comp=Z,20nm,1.2s,mb4.9
WATA Walderalm 81.22 317⇑*i*P **P 00 26 42.5 -0.5**
WATA pmax pmax
comp=Z,20nm,1.2s,mb4.9
MOX Moxa 81.29 320 *e*P **P 00 26 43.4 0.0**
comp=Z,17nm,1.4s,mb4.8
MOX *e*pP pP 00 26 58.4 -0.6
MOX Moxa 81.29 320 *e*P **P 00 26 43.4 0.0**
comp=Z,22nm,1.6s,mb4.8
MOX *e* pP 00 26 58.7 -0.3
MOX Moxa 81.29 320 *e*P **P 00 26 43.4 0.0**
MOX *e* pP 00 26 58.7 -0.3
MOX pmax pmax
comp=Z,22nm,1.6s,mb4.8
FUR Furstenfeldbru 81.44 318 *e*P **P 00 26 44.0 -0.2**
comp=Z,31nm,1.3s,mb5.1
FUR Furstenfeldbru 81.44 318 *e*P **P 00 26 44.0 -0.2**
FUR pmax pmax
comp=Z,31nm,1.3s,mb5.1
SQTA Sankt Quirin 81.47 317⇑*i*P **P 00 26 44.2 -0.1**
comp=Z,21nm,1.2s,mb4.9,SNR=10
SQTA Sankt Quirin 81.47 317⇑*i*P **P 00 26 44.2 -0.1**
SQTA pmax pmax
comp=Z,21nm,1.2s,mb4.9
GRA1 Grafenberg Arr 81.51 319 *e*P **P 00 26 45.0 +0.4**
comp=Z,30nm,1.2s,mb5.1
GRA1 *e*pP pP 00 27 00.2 0.0
GRF Grafenberg Arr 81.51 319 *e*P **P 00 26 45.0 +0.4**
comp=Z,30nm,1.2s,mb5.1
GRF *e*pP pP 00 27 00.2 0.0
GRF Grafenberg Arr 81.51 319 *e*P **P 00 26 45.0 +0.4**
GRF *e**PP pP 00 27 00.2 0.0
GRF pmax pmax
comp=Z,30nm,1.2s,mb5.1
GRF Grafenberg Arr 81.51 319 *e*P **P 00 26 45.0 +0.4**
GRF *e**PP pP 00 27 00.2 0.0
GRF pmax pmax
comp=Z,30nm,1.2s,mb5.1
MOTA Moosalm 81.54 317⇑*i*P **P 00 26 44.4 -0.3**
comp=Z,22nm,1.0s,mb5.0,SNR=14
MOTA Moosalm 81.54 317⇑*i*P **P 00 26 44.4 -0.3**
MOTA pmax pmax
comp=Z,22nm,1.0s,mb5.0
GRFL Gerfalco 81.57 313 P **P 00 26 44.7 -0.2**
comp=Z,14nm,0.8s,mb5.0
GSCL Gusciola 81.86 314 P **P 00 26 48.0 +1.6**
comp=Z,39nm,1.2s,mb5.2
SAL Salo 81.91 315 P **P 00 26 47.8 +1.1**
SAL pmax pmax
comp=Z,70nm,0.9s,mb5.6
SAL Salo 81.91 315 P **P 00 26 47.8 +1.1**
comp=Z,70nm,0.9s,mb5.6
MABI Malga Bissina 81.93 316 P **P 00 26 47.4 +0.6**
NB2 NORSAR Subarra 81.99 331 P **P 00 26 45.8 -1.3**
comp=Z,18nm,1.4s,mb4.8,baz=92,slow=5.3
NB2 NORSAR Subarra 81.99 331 P **P 00 26 45.8 -1.3**
NB2 pmax pmax
comp=Z,18nm,1.4s,mb4.8
NOA NORSAR Array B 81.99 331 P **P 00 26 45.7 -1.4**
comp=Z,2.3nm,0.8s,mb4.1,baz=93,slow=5.9,SNR=5.0
NOA pP pP 00 27 00.2 -2.5
comp=Z,4.5nm,0.8s,baz=94,slow=5.5,SNR=6.3
NOA NORSAR Array B 81.99 331 P **P 00 26 45.7 -1.4**
NOA *PP pP 00 27 00.2 -2.5
NOA pmax pmax
comp=Z,2.0nm,0.8s
BRMO Bormio 82.03 316 P **P 00 26 48.0 +0.7**
comp=Z,9.9nm,0.7s,mb4.8
CLZ Clausthal 82.11 321 *e*P **P 00 26 47.7 0.0**
comp=Z,26nm,1.2s,mb5.0
CLZ Clausthal 82.11 321 *e*P **P 00 26 47.7 0.0**
CLZ pmax pmax
comp=Z,26nm,1.2s,mb5.0
BSEG Bad Segeberg 82.19 324 *e*P **P 00 26 48.4 +0.3**
comp=Z,38nm,1.2s,mb5.2
BSEG Bad Segeberg 82.19 324 *e*P **P 00 26 48.4 +0.3**
BSEG pmax pmax
comp=Z,38nm,1.2s,mb5.2
NRDL Niedersach Rie 82.28 322 *e*P **P 00 26 48.8 +0.2**
comp=Z,36nm,1.4s,mb5.1
GTTG Gvttingen 82.35 321 *e*P **P 00 26 49.0 0.0**
comp=Z,14nm,1.1s,mb4.8
DAVOX Davos 82.37 316 P **P 00 26 49.8 +0.7**
comp=Z,18nm,0.6s,mb5.2,baz=118,slow=3.7,SNR=28

DAVA Damuels 82.37 317⇑*i*P **P 00 26 49.2 +0.1**
comp=Z,61nm,1.5s,mb5.3,SNR=11
BOB Bobbio (Coli) 82.68 314 P **P 00 26 50.7 0.0**
STU Stuttgart 82.83 318 *e*P **P 00 26 51.2 -0.3**
comp=Z,20nm,1.3s,mb5.0
STU Stuttgart 82.83 318 P **P 00 26 49.8 -1.7**
PGF Pioggiola 83.03 312⇑*i*P **P 00 26 52.7 +0.2**
comp=Z,36nm,1.2s,mb5.0
PGF Pioggiola 83.03 312⇑*i*P **P 00 26 52.7 +0.2**
PGF pmax pmax
comp=Z,18nm,1.2s,mb5.0
PGF Pioggiola 83.03 312⇑*i*P **P 00 26 52.7 +0.2**
comp=Z,18nm,1.2s,mb5.0
KBS Kingsbay 83.22 349⇓*i*P **P 00 26 49.9 -3.6**
SYO Syowa Base 83.25 197⇑*e*P **P 00 26 54.6 +0.9**
SYO Syowa Base 83.25 197⇑*e*pP pP 00 27 09.8 +0.5
BFO Black Forest 83.41 318 *e*P **P 00 26 54.0 -0.5**
comp=Z,17nm,1.2s,mb5.0
BFO Black Forest 83.41 318 *e*P **P 00 26 54.0 -0.5**
BFO pmax pmax
comp=Z,17nm,1.2s,mb5.0
FIN Finale Ligure 83.57 314 P **P 00 26 55.5 +0.2**
FIN pmax pmax
comp=Z,11nm,1.2s,mb4.9
FIN Finale Ligure 83.57 314 P **P 00 26 55.5 +0.2**
comp=Z,106nm,1.2s,mb5.8
FELD Feldberg im Sc 83.64 317 *e*P **P 00 26 55.1 -0.5**
IBBN Ibbenburen 83.72 322 *e*P **P 00 26 56.3 +0.2**
comp=Z,26nm,1.1s,mb5.3
LANF Langenberg 83.75 319 *e*P **P 00 26 56.5 +0.3**
BBS Basel-Blauen 83.98 317 *e*P **P 00 26 58.5 +1.1**
BUG Bochum-Univer 84.04 321 *e*P **P 00 26 57.9 +0.2**
comp=Z,47nm,1.5s,mb5.4
CDF Champ du Feu 84.11 318 *e*P **P 00 26 57.6 -0.5**
SBF Sospel 84.14 313⇑*i*P **P 00 26 58.2 0.0**
comp=Z,77nm,1.1s,mb5.5
SBF Sospel 84.14 313⇑*i*P **P 00 26 58.2 0.0**
SBF pmax pmax
comp=Z,38nm,1.1s,mb5.4
SBF Sospel 84.14 313⇑*i*P **P 00 26 58.2 0.0**
comp=Z,38nm,1.1s,mb5.4
ECH Echery 84.19 318 *e*P **P 00 26 57.5 -1.0**
RUP Ruppelstein 84.22 319 *e*P **P 00 26 58.7 +0.1**
LOMF Lomont 84.45 317 *e*P **P 00 26 59.1 -0.7**
LPG La Plagne 84.57 315⇑*i*P **P 00 27 00.8 +0.4**
comp=Z,33nm,0.8s,mb5.2
LPG La Plagne 84.57 315⇑*i*P **P 00 27 00.8 +0.4**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.2
LPG La Plagne 84.57 315⇑*i*P **P 00 27 00.8 +0.4**
comp=Z,16nm,0.8s,mb5.2
LPL La Plagne 84.58 315⇑*i*P **P 00 27 00.8 +0.4**
comp=Z,40nm,0.8s,mb5.3
LPL La Plagne 84.58 315⇑*i*P **P 00 27 00.8 +0.4**
LPL pmax pmax
comp=Z,20nm,0.8s,mb5.3
LPL La Plagne 84.58 315⇑*i*P **P 00 27 00.8 +0.4**
comp=Z,20nm,0.8s,mb5.3
MBDF Montbardon 84.58 314⇑*i*P **P 00 26 59.9 -0.6**
BNI Bardonecchia 84.64 315 *e*P **P 00 27 00.8 +0.1**
BNI pmax pmax
comp=Z,19nm,1.1s,mb5.1
BNI Bardonecchia 84.64 315 *e*P **P 00 27 00.8 0.0**
comp=Z,18nm,1.1s,mb5.1
FRF La Foret Royal 84.72 313⇑*i*P **P 00 27 01.4 +0.2**
comp=Z,77nm,1.2s,mb5.4
FRF La Foret Royal 84.72 313⇑*i*P **P 00 27 01.4 +0.2**
FRF pmax pmax
comp=Z,38nm,1.2s,mb5.4
FRF La Foret Royal 84.72 313⇑*i*P **P 00 27 01.4 +0.2**
comp=Z,38nm,1.2s,mb5.4
HAU Haudompre 84.75 318⇑*i*P **P 00 27 01.7 +0.4**
comp=Z,40nm,0.9s,mb5.3
HAU Haudompre 84.75 318⇑*i*P **P 00 27 01.7 +0.4**
HAU pmax pmax
comp=Z,20nm,0.9s,mb5.2
HAU Haudompre 84.75 318⇑*i*P **P 00 27 01.7 +0.4**
comp=Z,20nm,0.9s,mb5.2
WLF Walferdange 84.81 319 ⇑P **P 00 27 02.1 +0.5**
comp=Z,4.8nm,0.0s
WLF AP pP 00 27 17.4 +0.1
LMR La Mourre 84.83 313⇑*i*P **P 00 27 01.8 +0.1**
comp=Z,43nm,1.1s,mb5.2
LMR La Mourre 84.83 313⇑*i*P **P 00 27 01.8 +0.1**
LMR pmax pmax
comp=Z,22nm,1.1s,mb5.2
LMR La Mourre 84.83 313⇑*i*P **P 00 27 01.8 +0.1**
comp=Z,22nm,1.1s,mb5.2
MEM Membach 84.86 320 ⇑P **P 00 27 01.8 0.0**
THEF They Montfort 84.98 318 *e*P **P 00 27 02.2 -0.2**
OG25 Le Caire 85.10 314 *e*P **P 00 27 02.0 -1.0**
TAVF Tavernes 85.15 313 *e*P **P 00 27 03.8 +0.5**
ORIF Oris-en-Rattie 85.21 315 *e*P **P 00 27 03.8 +0.2**
comp=Z,13nm,0.7s,mb4.8
ORIF Oris-en-Rattie 85.21 315 *e*P **P 00 27 03.8 +0.2**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ORIF Oris-en-Rattie 85.21 315 *e*P **P 00 27 03.8 +0.2**
comp=Z,6.3nm,0.7s,mb4.8
STOF St-Etienne Org 85.24 314 *e*P **P 00 27 05.0 +1.3**
BCLA Clavier 85.32 320 P **P 00 27 04.6 +0.4**
BCLA AP pP 00 27 20.1 +0.3
VILF Villemus 85.38 313 *e*P **P 00 27 05.5 +1.0**
PUYF Puyloubier 85.41 313 *e*P **P 00 27 05.2 +0.6**
BERF Bertagne 85.43 313 *e*P **P 00 27 05.2 +0.5**
SMRF Simiane la Rot 85.48 314⇑*i*P **P 00 27 05.7 +0.8**
comp=Z,48nm,1.2s,mb5.2
SMRF Simiane la Rot 85.48 314⇑*i*P **P 00 27 05.7 +0.8**
comp=Z,48nm,1.2s,mb5.5
GELF Grande-Etoile 85.62 313 *e*P **P 00 27 06.7 +1.1**
TREF Trevaresse 85.64 313 *e*P **P 00 27 06.7 +1.0**
GIVF Givet 85.64 320 *e*P **P 00 27 05.6 -0.1**
PRAF Pradon 85.78 313 *e*P **P 00 27 07.4 +1.0**
DOU Dourbes 85.79 320 P **P 00 27 06.8 +0.3**
comp=Z,2.0nm,0.0s
DOU AP pP 00 27 21.7 -0.5
SNF Seneffe 85.97 320 P **P 00 27 07.2 -0.1**
SNF AP pP 00 27 26.4 +3.3
BAIF Baives 86.04 320⇑*i*P **P 00 27 07.8 +0.1**
comp=Z,22nm,1.0s,mb5.0
BAIF Baives 86.04 320⇑*i*P **P 00 27 07.8 +0.1**
BAIF pmax pmax
comp=Z,11nm,1.0s,mb5.0
BAIF Baives 86.04 320⇑*i*P **P 00 27 07.8 +0.1**
comp=Z,11nm,1.0s,mb5.0
VIVF Saint-Julien-l 86.07 315⇑*i*P **P 00 27 07.9 0.0**
comp=Z,30nm,1.1s,mb5.2
VIVF Saint-Julien-l 86.07 315⇑*i*P **P 00 27 07.9 0.0**
VIVF pmax pmax
comp=Z,15nm,1.1s,mb5.1
VIVF Saint-Julien-l 86.07 315⇑*i*P **P 00 27 07.9 0.0**
comp=Z,15nm,1.1s,mb5.1
LOR Lormes 86.47 317⇑*i*P **P 00 27 09.5 -0.3**
comp=Z,28nm,0.9s,mb5.2
LOR Lormes 86.47 317⇑*i*P **P 00 27 09.5 -0.3**
LOR pmax pmax
comp=Z,14nm,0.9s,mb5.2
LOR Lormes 86.47 317⇑*i*P **P 00 27 09.5 -0.3**
comp=Z,14nm,0.9s,mb5.2
SMF Signal de Mont 86.53 316⇑*i*P **P 00 27 09.7 -0.4**
comp=Z,42nm,1.1s,mb5.3
SMF Signal de Mont 86.53 316⇑*i*P **P 00 27 09.7 -0.4**
SMF pmax pmax
comp=Z,21nm,1.1s,mb5.3
SMF Signal de Mont 86.53 316⇑*i*P **P 00 27 09.7 -0.4**
comp=Z,21nm,1.1s,mb5.3
LASF Ste Croix 86.71 314 *e*P **P 00 27 11.3 +0.3**
comp=Z,36nm,1.3s,mb5.1
SSF Saint Saulge 86.72 317⇑*i*P **P 00 27 11.0 -0.1**
comp=Z,44nm,1.4s,mb5.2
SSF Saint Saulge 86.72 317⇑*i*P **P 00 27 11.0 -0.1**
SSF pmax pmax
comp=Z,22nm,1.4s,mb5.2
SSF Saint Saulge 86.72 317⇑*i*P **P 00 27 11.0 -0.1**
comp=Z,22nm,1.4s,mb5.2
PLDF La Plantade 86.73 316 *e*P **P 00 27 10.9 -0.2**
GAMB Gambell 86.79 26 *e*P **P 00 27 10.2 -1.2**
GAMB *e*pP pP 00 27 25.2 -1.9
AVF Avril sur Loir 86.85 317⇑*i*P **P 00 27 11.3 -0.4**
comp=Z,32nm,1.2s,mb5.1
AVF Avril sur Loir 86.85 317⇑*i*P **P 00 27 11.3 -0.4**
AVF pmax pmax
comp=Z,16nm,1.2s,mb5.1
AVF Avril sur Loir 86.85 317⇑*i*P **P 00 27 11.3 -0.4**
comp=Z,16nm,1.2s,mb5.1

LBL Lubilhac 87.05 315 *e*P **P 00 27 13.7 +1.0**
BGF Bois d'Agland 87.22 316⇑*i*P **P 00 27 13.6 +0.1**
comp=Z,61nm,1.3s,mb5.4
BGF Bois d'Agland 87.22 316⇑*i*P **P 00 27 13.6 +0.1**
BGF pmax pmax
comp=Z,30nm,1.3s,mb5.4
BGF Bois d'Agland 87.22 316⇑*i*P **P 00 27 13.6 +0.1**
comp=Z,30nm,1.3s,mb5.4
URZ Urewera 87.56 129 LR LR 01 05 49.3
comp=Z,200nm,20.7s,MS4.5,baz=187,slow=35
TCF Toulx Ste Croi 87.68 316⇑*i*P **P 00 27 16.0 +0.3**
comp=Z,40nm,1.5s,mb5.1
TCF Toulx Ste Croi 87.68 316⇑*i*P **P 00 27 16.0 +0.3**
TCF pmax pmax
comp=Z,20nm,1.5s,mb5.1
TCF Toulx Ste Croi 87.68 316⇑*i*P **P 00 27 16.0 +0.3**
comp=Z,20nm,1.5s,mb5.1
CAF Calviac 87.91 315⇑*i*P **P 00 27 17.3 +0.5**
comp=Z,28nm,1.3s,mb5.0
CAF Calviac 87.91 315⇑*i*P **P 00 27 17.3 +0.5**
CAF pmax pmax
comp=Z,14nm,1.3s,mb5.0
CAF Calviac 87.91 315⇑*i*P **P 00 27 17.3 +0.5**
comp=Z,14nm,1.3s,mb5.0
MTLF Montolieu 87.96 313 *e*P **P 00 27 17.4 +0.4**
comp=Z,25nm,1.2s,mb5.0
MTLF Montolieu 87.96 313 *e*P **P 00 27 17.4 +0.4**
MTLF pmax pmax
comp=Z,12nm,1.2s,mb5.0
MTLF Montolieu 87.96 313 *e*P **P 00 27 17.4 +0.4**
comp=Z,12nm,1.2s,mb5.0
TNA Tin City 88.17 24 *e*P **P 00 27 17.5 -0.5**
comp=Z,8.9nm,1.0s,mb5.0
RJF Les Rejaudoux 88.26 315⇑*i*P **P 00 27 18.9 +0.5**
comp=Z,68nm,1.5s,mb5.3
RJF Les Rejaudoux 88.26 315⇑*i*P **P 00 27 18.9 +0.5**
RJF pmax pmax
comp=Z,34nm,1.5s,mb5.4
RJF Les Rejaudoux 88.26 315⇑*i*P **P 00 27 18.9 +0.5**
comp=Z,34nm,1.5s,mb5.3
LFF La Frestale 88.85 315⇑*i*P **P 00 27 21.8 +0.6**
comp=Z,60nm,1.3s,mb5.5
LFF La Frestale 88.85 315⇑*i*P **P 00 27 21.8 +0.6**
LFF pmax pmax
comp=Z,30nm,1.3s,mb5.5
LFF La Frestale 88.85 315⇑*i*P **P 00 27 21.8 +0.6**
comp=Z,30nm,1.3s,mb5.5
LDF La Druitiere 89.00 319 *e*P **P 00 27 21.9 0.0**
comp=Z,54nm,1.4s,mb5.4
FLN La Foliniere 89.22 319 *e*P **P 00 27 22.8 -0.1**
MFF Saint Martin d 89.26 317 *e*P **P 00 27 23.3 +0.1**
comp=Z,50nm,1.4s,mb5.4
MFF Saint Martin d 89.26 317 *e*P **P 00 27 23.3 +0.1**
MFF pmax pmax
comp=Z,25nm,1.4s,mb5.3
MFF Saint Martin d 89.26 317 *e*P **P 00 27 23.3 +0.1**
comp=Z,25nm,1.4s,mb5.4
GRR Gorron 89.51 318 *e*P **P 00 27 24.5 +0.2**
comp=Z,102nm,1.8s,mb5.5
GRR Gorron 89.51 318 *e*P **P 00 27 24.5 +0.2**
GRR pmax pmax
comp=Z,51nm,1.8s,mb5.5
GRR Gorron 89.51 318 *e*P **P 00 27 24.5 +0.2**
comp=Z,51nm,1.8s,mb5.5
DAG Danmarks Havn 89.88 348⇓*i*P **P 00 27 24.3 -1.7**
comp=Z,2.7nm,0.7s,mb4.7
DAG Danmarks Havn 89.88 348⇓*i*P **P 00 27 24.3 -1.7**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
EKA Eskdalemuir Ar 89.89 326 P **P 00 27 25.9 -0.2**
comp=Z,4.0nm,0.9s,mb4.7,baz=92,slow=5.3,SNR=9.5
EKA pP pP 00 27 41.0 -1.0
comp=Z,6.0nm,0.9s,baz=102,slow=4.9,SNR=9.5
EKA Eskdalemuir Ar 89.89 326 P **P 00 27 25.9 -0.2**
EKA *PP pP 00 27 41.0 -0.9
EKA pmax pmax
comp=Z,4.0nm,0.9s
ETSF Etsaut 90.03 313 *e*P **P 00 27 27.6 +0.9**
comp=Z,29nm,1.1s,mb5.2
ETSF Etsaut 90.03 313 *e*P **P 00 27 27.6 +0.9**
ETSF pmax pmax
comp=Z,14nm,1.1s,mb5.2
ETSF Etsaut 90.03 313 *e*P **P 00 27 27.6 +0.9**
comp=Z,14nm,1.1s,mb5.2
SJPF Ste Jean 90.48 313 *e*P **P 00 27 29.8 +1.0**
comp=Z,54nm,1.4s,mb5.4
SJPF Ste Jean 90.48 313 *e*P **P 00 27 29.8 +1.0**
SJPF pmax pmax
comp=Z,27nm,1.4s,mb5.4
SJPF Ste Jean 90.48 313 *e*P **P 00 27 29.8 +1.0**
comp=Z,27nm,1.4s,mb5.4
VNDA Vanda 90.53 168 LR LR 01 05 19.3
comp=Z,175nm,18.4s,MS4.5,baz=302,slow=34
VNDA Vanda 90.53 168 P **P 00 27 28.6 -0.5**
SGMF Saint Gilles 90.66 318 *e*P **P 00 27 29.8 +0.1**
comp=Z,86nm,1.6s,mb5.5
SGMF Saint Gilles 90.66 318 *e*P **P 00 27 29.8 +0.1**
SGMF pmax pmax
comp=Z,43nm,1.6s,mb5.5
SGMF Saint Gilles 90.66 318 *e*P **P 00 27 29.8 +0.1**
comp=Z,43nm,1.6s,mb5.5
QUIF Quistinic 91.11 318 *e*P **P 00 27 31.7 -0.1**
ALE Alert 91.50 357 P **P 00 27 33.0 -0.6**
comp=Z,114nm,0.6s,SNR=12
TORD Torodi Ar. Bea 91.52 283 P **P 00 27 34.6 +1.0**
comp=Z,4.8nm,1.1s,mb4.7,baz=88,slow=4.4,SNR=14
TORD PKKPbc PKKPbc 00 44 53.8 +0.3
comp=Z,1.6nm,1.3s,baz=295,slow=3.2,SNR=4.4
MAIT Maitri 92.76 199 *e*P **P 00 27 41.5 +2.1**
ESDC Sonseca Array 93.04 310 P **P 00 27 41.2 +0.5**
comp=Z,1.3nm,0.6s,mb4.5,baz=66,slow=5.6,SNR=9.6
ESDC pP pP 00 27 57.4 +0.9
comp=Z,1.0nm,0.5s,baz=62,slow=4.1,SNR=3.4
ESLA Sonseca Array 93.04 310 P **P 00 27 41.5 +0.8**
TTA Tatalina 93.86 26 *e*P **P 00 27 43.9 -0.6**
TTA *e**PP pP 00 27 58.1 -2.2
TTA pmax pmax
comp=Z,58nm,1.6s,mb5.8
TTA Tatalina 93.86 26 *e*P **P 00 27 43.9 -0.5**
comp=Z,58nm,1.6s,mb5.8
TTA *e*pP pP 00 27 58.1 -2.2
SVW2 Sparrevohn 94.68 27 *e*P **P 00 27 48.3 +0.1**
SVW2 *e*pP pP 00 28 03.2 -0.9
QSPA South Pole Qui 95.40 180 *e*P **P 00 27 51.6 0.0**
comp=Z,0.8nm,0.4s,mb4.5
COLA College 96.39 22 P **P 00 27 54.9 -1.1**
MCK McKinley 96.48 24 *e*P **P 00 27 54.1 -2.3**
SUMG Summit 96.54 347 *e*P **P 00 27 57.4 +0.6**
comp=Z,13nm,1.1s,mb5.3
DBIC Dimbokro 98.64 278 LR LR 01 13 24.6
comp=Z,167nm,19.2s,MS4.5,baz=52,slow=36
INK Inuvik 99.17 16 P **P 00 28 07.2 -1.4**
comp=Z,2.7nm,0.8s,mb4.9,baz=323,slow=6.3,SNR=7.6
INK Inuvik 99.17 16 *e*P **P 00 28 07.6 -0.9**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 99.17 16 *e*P **P 00 28 07.6 -0.9**
comp=Z,4.6nm,1.0s,mb5.0
B05A Bryant 117.60 27 ⇓P PKPdf 00 33 13.0 +0.2
baz=117
SCHQ Schefferville 117.92 348 PKP PKPdf 00 33 12.3 -1.2
comp=Z,1.2nm,0.4s,baz=267,slow=2.6,SNR=8.2
SCHQ Schefferville 117.92 348 PKP PKPdf 00 33 12.3 -1.2
SCHQ *e*PKPdf PKPdf 00 33 13.3 -0.2
C05A Tolt Reservoir 118.20 27 ⇑P PKPdf 00 33 13.9 -0.1
baz=118
NEW Newport 119.71 24 *e*PKIKP PKPdf 00 33 16.6 -0.3
NEW *e* 00 33 32.8
WALA Waterton Lakes 120.28 21 *e*PKPdf PKPdf 00 33 18.4 +0.4
H05A Madras 120.67 29 ⇑P PKPdf 00 33 18.4 -0.4
baz=120
L02A Cave Junction 121.25 32 ⇑P PKPdf 00 33 19.2 -0.6
baz=121
HUMO Hull Mountain 121.28 32 *e*PKPdf PKPdf 00 33 20.8 +0.9
HUMO Hull Mountain 121.28 32 ⇑P PKPdf 00 33 20.5 +0.6
baz=121
I06A Prineville 121.69 29 ⇑P PKPdf 00 33 21.4 +0.7
baz=122
MSO Missoula 122.13 23 *e*PKPdf PKPdf 00 33 21.2 -0.4
MSO *e*pPKPdf pPKPdf 00 33 39.7 +1.8
M02C Callahan 122.19 33 ⇓P PKPdf 00 33 22.4 +0.7
baz=122
J06A Christmas Vall 122.23 29 ⇓P PKPdf 00 33 22.3 +0.6
baz=122,SNR=7.6
N02C Big Bar 122.33 33 ⇓P PKPdf 00 33 22.6 +0.6
baz=122

O01C	Eel River Cons	122.52	34	⇓P		PKPdf	00 33 22.8	+0.5
	baz=122							
M03C	McCloud	122.66	32	⇓P		PKPdf	00 33 23.4	+0.8
	baz=122							
WDC	Whiskeytown Da	122.92	33	⇓P		PKPdf	00 33 23.4	+0.3
	baz=123							
O02C	Red Bluff	123.06	34	⇓P		PKPdf	00 33 24.0	+0.6
	baz=123							
K07A	Rock Creek Ran	123.09	29	⇓P		PKPdf	00 33 23.5	+0.1
	baz=123,SNR=9.4							
M05C	Lookout	123.11	32	⇓P		PKPdf	00 33 23.9	+0.4
	baz=123							
P01C	Double 8 Ranch	123.24	35	⇑P		PKPdf	00 33 24.0	+0.4
	baz=123							
HATC	Hat Creek Radi	123.33	32	⇑P		PKPdf	00 33 24.3	+0.4
	baz=123							
GASB	Alder Springs	123.47	34	⇓P		PKPdf	00 33 24.9	+0.8
	baz=123							
HOPS	Hopland	123.72	35	⇑P		PKPdf	00 33 25.2	+0.6
	baz=124							
ULM	Lac du Bonnet	123.77	8	PKP		PKPdf	00 33 24.1	-0.6
	comp=Z,4.3nm,0.5s,baz=348,slow=1.9,SNR=17							
DLMT	Dillon	123.87	23	*e*PKPdf		PKPdf	00 33 25.4	+0.5
BOZ	Bozeman (W)	124.00	22	*e*PKIKP		PKPdf	00 33 25.3	+0.2
M07A	Soldier Meadow	124.10	30	⇓P		PKPdf	00 33 26.1	+0.8
	baz=124							
MNRC	McLaughlin Nat	124.16	35	⇓P		PKPdf	00 33 26.1	+0.6
	baz=124							
ORV	Oroville	124.21	33	⇑P		PKPdf	00 33 25.4	-0.1
	baz=124							
SUTB	Sutter Buttes	124.28	34	⇑P		PKPdf	00 33 26.1	+0.4
	baz=124							
M08A	Happy Creek Ra	124.45	30	⇑P		PKPdf	00 33 26.9	+1.0
	baz=124							
CVS	Carmenet Viney	124.51	35	⇑P		PKPdf	00 33 26.6	+0.5
	baz=124							
GCMT	Greycliff	124.58	20	*e*PKPdf		PKPdf	00 33 26.6	+0.4
GCMT				*ep*PKPdf		pPKPdf	00 33 42.2	-0.4
HLID	Hailey	124.62	25	*e*PKPdf		PKPdf	00 33 27.1	+0.8
O07A	Toulon	125.16	31	⇓P		PKPdf	00 33 27.9	+0.6
	baz=125							
LAVA	Lava Cap Winer	125.19	34	⇑P		PKPdf	00 33 27.9	+0.5
	baz=125							
M10A	I.L. Ranch, Tu	125.28	28	⇑P		PKPdf	00 33 28.7	+1.1
	baz=125							
JRSC	Jasper Ridge	125.28	36	⇑P		PKPdf	00 33 29.0	+1.4
	baz=125							
M11A	Holland Ranch,	125.71	28	⇑P		PKPdf	00 33 29.2	+0.8
	baz=126							
S04C	Ingram Canyon,	125.74	35	⇑P		PKPdf	00 33 29.1	+0.6
	baz=126							
CMB	Columbia Colle	125.90	34	*e*PKIKP		PKPdf	00 33 29.1	+0.3
CMB	Columbia Colle	125.90	34	⇑P		PKPdf	00 33 29.5	+0.7
	baz=126							
N10A	Dunphy	125.92	29	⇑P		PKPdf	00 33 28.9	+0.1
	baz=126							
TPAW	Teton Pass	126.08	23	*e*PKPdf		PKPdf	00 33 30.2	+1.1
TPAW				*ep*PKPdf		pPKPdf	00 33 45.8	+0.2
Q07A	Schurz	126.10	32	⇑P		PKPdf	00 33 29.7	+0.6
	baz=126							
PACP	Pacheco Peak	126.11	35	⇑P		PKPdf	00 33 29.8	+0.6
	baz=126							
LOHW	Long Hollow	126.11	22	*e*PKPdf		PKPdf	00 33 29.4	+0.3
M12A	Wells	126.12	27	⇓P		PKPdf	00 33 30.0	+0.8
	baz=126							
N11A	Elko Archery C	126.21	28	⇑P		PKPdf	00 33 30.3	+0.9
	baz=126							
S06C	San Francisco	126.31	34	⇓P		PKPdf	00 33 30.1	+0.6
	baz=126							
HAST	Hastings Reser	126.38	36	⇓P		PKPdf	00 33 30.1	+0.4
	baz=126							
S05C	Merced	126.41	34	⇑P		PKPdf	00 33 30.4	+0.7
	baz=126							
ELK	Elko	126.50	28	*e*PKIKP		PKPdf	00 33 31.5	+1.6
ELK				*e*			00 33 46.4	
N12A	Wells--Clov Va	126.51	28	⇑P		PKPdf	00 33 30.6	+0.6
	baz=126							
Q08A	Gabbs	126.62	31	⇑P		PKPdf	00 33 30.8	+0.7
	baz=126							
NVAR	Mina Array Bea	126.74	32	PKP		PKPdf	00 33 31.3	+0.9
	comp=Z,1.4nm,0.5s,baz=61,slow=19,SNR=10.0							
N13A	West Wendover	126.89	27	⇓P		PKPdf	00 33 31.2	+0.5
	baz=127							
BW06	Boulder Array	127.23	22	*e*PKPdf		PKPdf	00 33 32.0	+0.7
PDAR	Pinedale Array	127.23	22	PKP		PKPdf	00 33 31.2	-0.1
	comp=Z,2.8nm,0.5s,baz=129,slow=1.9,SNR=24							
PDAR				pPKP		pPKPdf	00 33 48.0	+0.3
	comp=Z,2.8nm,0.7s,baz=153,slow=0.7,SNR=5.7							
PKD	Parkfield	127.28	36	⇓P		PKPdf	00 33 32.0	+0.6
	baz=127							
S08C	White Mtn Res	127.50	33	⇑P		PKPdf	00 33 32.7	+0.8
	baz=127							
P12A	McGill	127.66	29	⇑P		PKPdf	00 33 32.8	+0.6
	baz=127							
S09A	Goldfield	127.84	32	⇓P		PKPdf	00 33 33.3	+0.8
	baz=128							
RSSD	Black Hills	127.86	17	*e*PKIKP		PKPdf	00 33 33.2	+0.7
DUG	Dugway	128.05	27	*e*PKIKP		PKPdf	00 33 34.0	+1.1
ISA	Isabella	128.66	35	⇓P		PKPdf	00 33 34.6	+0.6
	baz=128							
DAC	Darwin (Calif)	128.71	33	*e*PKIKP		PKPdf	00 33 35.4	+1.3
DAC				*e*			00 33 52.2	
TPNV	Topopah Spring	128.93	32	*e*PKIKP		PKPdf	00 33 35.6	+1.1
SADO	Sadowa	129.65	354	PKP		PKPdf	00 33 35.6	-0.3
	comp=Z,2.5nm,0.4s,baz=310,slow=5.2,SNR=4.6							
GSC	Goldstone	129.86	34	⇑P		PKPdf	00 33 37.3	+1.0
	baz=130							
ISCO	Idaho Springs	131.26	21	*e*PKIKP		PKPdf	00 33 40.3	+1.3
ISCO				*e*			00 33 56.6	
W14A	Seligman	131.90	31	⇑P		PKPdf	00 33 42.1	+1.9
	baz=132							
X14A	Yava	132.58	31	⇓P		PKPdf	00 33 43.6	+2.2
	baz=132							
GLA	Glamis	132.62	34	⇓P		PKPdf	00 33 43.2	+1.6
	baz=132							
X15A	Humboldt	132.89	31	⇑P		PKPdf	00 33 44.0	+1.9
	baz=133							
Y14A	Wickenburg	132.93	32	⇑P		PKPdf	00 33 43.8	+1.6
	baz=133							
115A	Sonoran Desert	134.30	32	⇑P		PKPdf	00 33 46.6	+1.9
	baz=134							
116A	Eloy	134.69	32	⇓P		PKPdf	00 33 47.6	+2.1
	baz=134							
ANMO	Albuquerque	135.18	25	*e*PKIKP		PKPdf	00 33 48.0	+1.7
TUC	Tucson	135.36	31	*e*PKIKP		PKPdf	00 33 48.5	+1.8
Y22C	IRIS PASSCAL I	135.74	26	⇓P		PKPdf	00 33 49.5	+2.1
	baz=136							
MNTX	Cornudas Mount	138.43	26	*e*PKPdf		PKPdf	00 33 53.4	+1.1
WVT	Waverly	138.55	3	*e*PKIKP		PKPdf	00 33 52.5	-0.1
MIAR	Mount Ida	139.46	10	*e*PKIKP		PKPdf	00 33 53.9	-0.3
MIAR				*e*			00 34 10.6	
LTX	Lajitas	141.22	26	*e*PKIKP		PKPdf	00 33 58.4	+1.0
JCT	Junction City	141.70	20	*e*PKHKP			00 33 52.5	
CPUP	Villa Florida	146.06	229	PKPbc		PKPbc	00 34 07.2	+0.4
	comp=Z,1.8nm,0.5s,baz=66,slow=3.5,SNR=9.5							
CPUP	Villa Florida	146.06	229	PKP2		PKPab	00 34 07.3	-0.2
CPUP				pmax		pmax		
	comp=Z,2.0nm,0.5s							
SFJM	Santa Fe	148.95	33	*i* P		PKPdf	00 34 13.0	+2.3
MTP	Monte Pirata	149.42	320	*e*PKPbc		PKPbc	00 34 16.8	+0.9
CPD	Cerro la Pandu	149.69	321	*e*PKP2		PKPab	00 34 17.3	-4.6
LPAZ	La Paz	159.89	236	PKP		PKPdf	00 34 28.1	+2.2
	comp=Z,1.5nm,0.9s,baz=0.1,slow=6.4,SNR=5.6							
LPAZ				PKPab		PKPab	00 35 08.1	+2.8
	comp=Z,2.2nm,0.8s,baz=65,slow=8.4,SNR=5.5							
LPAZ	La Paz	159.89	236	PKP2		PKPab	00 35 08.1	+2.8
LPAZ				pmax		pmax		
	comp=Z,2.0nm,0.8s							
JTS	JuntasAbangare	164.32	358	*e*PKIKP		PKPdf	00 34 33.2	+2.9

MOS 14 00:24:02.1±2.4, 4280N×4520E, h37km, mb3.5/1, 1C-2D, Error ellipse: s-maj=31.8km s-min=11.7km az=43.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	Sundja	0.39	313	⇓*i*P		Pn	00 24 12.8 +1.5
SNJR				*i* S		Sn	00 24 20.6 +3.0
LACR	Lac	0.67	272	⇓*i*P		Pn	00 24 17.2 +2.2
LACR				*i* S		Sn	00 24 28.3 +4.1
BTKR	Batakoyurt	0.75	320	*e*P		Pn	00 24 18.4 +2.2
BTKR				*e*S		Sn	00 24 30.2 +3.9
ARNR	Ardon	0.78	300	⇑*i*P		Pn	00 24 18.9 +2.3
ARNR				*i* S		Sn	00 24 31.2 +4.2
KMSR	Komsomolskaya	0.88	311	*e*P		Pn	00 24 20.5 +2.6
KMSR				*e*S		Sn	00 24 33.9 +4.5
KORR	Kora	0.88	289	*e*P		Pn	00 24 20.6 +2.6
KORR				*e*S		Sn	00 24 34.1 +4.6
PRTR	Priterechnaya	1.16	325	*e*P		Pn	00 24 24.5 +2.6
PRTR				*e*S		Sn	00 24 41.2 +4.7

*NEIC **14** 00:26:09.9, 1799N×9957W, h5km, MD3.6(MEX), After MEX.*

MEX 14 00:26:10.9±0.7, 1793N×9965W, h7km±6km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	0.03	105	*i* P		Pg	00 26 11.3 -0.9
MEIG				*i* S		Sg	00 26 12.5 -0.6
CAIG	El Cayaco	1.06	214	*i* P		Pg	00 26 28.9 -2.4
CAIG				*i* S		Sg	00 26 40.8 -4.2
CAIG	El Cayaco	1.06	214	*i* P		Pg	00 26 28.9 -2.4
CAIG				*i* S		Sg	00 26 43.5 -1.4
YAIG	Yautepec	1.08	31	*e*P		Pg	00 26 28.8 -2.8
YAIG				*i* S		Sg	00 26 42.7 -2.9
YAIG	Yautepec	1.08	31	*i* P		Pg	00 26 26.8 -4.8
YAIG				*i* S		Sg	00 26 39.6 -6.0
ACX	Acapulco	1.09	193	*i* P		Pg	00 26 29.0 -2.8
ACX				*i* S		Sg	00 26 43.5 -2.5
ACX	Acapulco	1.09	193	*i* P		Pg	00 26 29.0 -2.8
ACX				*i* S		Sg	00 26 44.0 -2.0
UTMO	Huajuapan	1.76	93	*i* P		Pn	00 26 38.6 -3.3
UTMO				*e*S		Sn	00 27 00.0 -4.5

*IDC **14** 00:47:24.8±0.6, 4868N×2797W, h0km, mb4.1/18, mb1 4.2/20, mb1mx4.1/28, mbtmp4.0/20, ML3.2/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/30, Error ellipse: s-maj=18.4km s-min=13.2km az=178.0*

*ISCJB **14** 00:47:25.1±5.1, 4864N±008×2795W±007, h12km±32km, mb4.2/50, MS3.7/9, Error ellipse: s-maj=14.1km s-min=7.7km az=25.5*

*NEIC **14** 00:47:26.5±0.3, 4864N×2795W, h10km, mb4.4/43, MS3.7/3, Error ellipse: s-maj=8.5km s-min=3.4km az=190.0*

*CSEM **14** 00:47:27.1±0.1, 4864N×2795W, h30km, mb4.5/27, Ms3.6, Error ellipse: s-maj=4.8km s-min=1.7km az=13.0*

*SZGRF **14** 00:47:45.2, 4855N×2536W, h33km, mb4.4, Northern Mid-Atlantic Ridge*

ISC 14 00:47:26.5±5.1, 4864N±008×2794W±008, h11km±32km, n139, o0°73/132, mb4.2/50, MS3.7/9, 1C, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	Rostrenen	16.34	82	*e*P		Pn	00 51 15.8 -0.1
	96nm,1.6s						
ROSF	Rostrenen	16.34	82	*e*P		Pn	00 51 15.8 -0.1
	48nm,1.6s						
QUIF	Quistinic	16.49	83	*e*P		Pn	00 51 18.0 +0.2
EKA	Eskdalemuir Ar	16.61	57	Pn		Pn	00 51 19.2 -0.1
	0.1nm,0.3s,baz=254,slow=12,SNR=3.6						
SGMF	Saint Gilles	16.83	82	*e*P		Pn	00 51 22.2 +0.2
	108nm,1.6s						
SGMF	Saint Gilles	16.83	82	*e*P		Pn	00 51 22.2 +0.2
	54nm,1.6s						
GRR	Gorron	17.92	81	*e*P		Pn	00 51 35.9 +0.3
	133nm,1.8s						
GRR	Gorron	17.92	81	*e*P		Pn	00 51 35.9 +0.3
	67nm,1.8s						
FLN	La Foliniere	18.09	79	*e*P		Pn	00 51 38.0 +0.2
FLN				*e*R			
	595nm,22.0s						
LDF	La Druitiere	18.36	80	*e*P		Pn	00 51 41.3 +0.3
	72nm,1.6s						
LDF	La Druitiere	18.36	80	*e*P		Pn	00 51 41.3 +0.3
	36nm,1.6s						
MFF	Saint Martin d	18.81	86	*e*P		Pn	00 51 46.6 +0.1
	25nm,1.2s						
MFF	Saint Martin d	18.81	86	*e*P		Pn	00 51 46.6 +0.1
	12nm,1.2s						
ESDC	Sonseca Array	19.34	109	P		Pn	00 51 53.4 +0.5
	baz=302,slow=8.7,SNR=8.4						
SJPF	Ste Jean	19.35	97	*e*P		Pn	00 51 52.6 -0.5
	58nm,1.4s						
SJPF	Ste Jean	19.35	97	*e*P		Pn	00 51 52.6 -0.5
	29nm,1.4s						
ETSF	Etsaut	19.89	96	*e*P		Pn	00 51 59.0 -0.4
	91nm,1.5s						
ETSF	Etsaut	19.89	96	*e*P		Pn	00 51 59.0 -0.4
	45nm,1.5s						
LFF	La Frestale	19.93	90	*e*P		Pn	00 51 59.3 -0.7
	16nm,1.0s						
LFF	La Frestale	19.93	90	*e*P		Pn	00 51 59.3 -0.7
	7.8nm,1.0s						
RJF	Les Rejaudoux	20.32	88	*e*P		P	00 52 03.2 +0.7
RJF				*e*R			
	311nm,19.0s						
RJF	Les Rejaudoux	20.32	88	*e*P		P	00 52 03.2 +0.7
RJF				LR		LR	
	comp=Z,310nm,19.0s,MS3.7						
EPF	Esparros	20.42	95	*e*P		P	00 52 04.4 +0.8
TCF	Toulx Ste Croi	20.46	85	*e*P		P	00 52 04.3 +0.3
	comp=Z,101nm,1.9s						
TCF	Toulx Ste Croi	20.46	85	*e*P		P	00 52 04.3 +0.3
	comp=Z,51nm,1.9s						
BGF	Bois d'Agland	20.80	84	*e*P		P	00 52 08.9 +1.2
	comp=Z,15nm,0.7s						
BGF	Bois d'Agland	20.80	84	*e*P		P	00 52 08.9 +1.2
	comp=Z,7.5nm,0.7s						
CAF	Calviac	20.81	89	*e*P		P	00 52 08.6 +0.7
	comp=Z,27nm,1.3s						
CAF	Calviac	20.81	89	*e*P		P	00 52 08.6 +0.7
	comp=Z,13nm,1.3s						
SNF	Seneffe	20.89	73	P		P	00 52 09.9 +1.1
SNF				XP		sP	00 52 13.9 +0.7
UCC	Uccle	20.91	72	P		P	00 52 09.3 +0.4
BAIF	Baives	20.91	74	*e*P		P	00 52 08.5 -0.4
	comp=Z,33nm,1.1s						
BAIF	Baives	20.91	74	*e*P		P	00 52 08.5 -0.4
	comp=Z,16nm,1.1s						
AVF	Avril sur Loir	21.07	83	*e*P		P	00 52 11.1 +0.5
	comp=Z,42nm,1.2s,mb4.3						
AVF	Avril sur Loir	21.07	83	*e*P		P	00 52 11.1 +0.5
	comp=Z,21nm,1.2s,mb4.3						
SSF	Saint Saulge	21.09	82	*e*P		P	00 52 10.8 -0.1
	comp=Z,62nm,1.4s,mb4.4						
SSF	Saint Saulge	21.09	82	*e*P		P	00 52 10.8 -0.1
	comp=Z,31nm,1.4s,mb4.4						
DOU	Dourbes	21.15	74	⇑P		P	00 52 12.1 +0.5
	comp=Z,5.8nm,1.1s,mb3.8						
DOU				XP		sP	00 52 16.8 +0.8
LOR	Lormes	21.27	82	*e*P		P	00 52 12.9 +0.1
	comp=Z,56nm,1.4s,mb4.4						
LOR				*e*R			
	comp=Z,492nm,22.2s						
LOR	Lormes	21.27	82	*e*P		P	00 52 12.9 +0.1
	comp=Z,28nm,1.4s,mb4.4						
LOR				LR		LR	
	comp=Z,490nm,22.3s,MS3.9						
GIVF	Givet	21.30	74	*e*P		P	00 52 13.0 -0.1
SMF	Signal de Mont	21.43	83	*e*P		P	00 52 15.3 +0.8
	comp=Z,84nm,1.6s,mb4.5						
SMF	Signal de Mont	21.43	83	*e*P		P	00 52 15.3 +0.8
	comp=Z,42nm,1.6s,mb4.5						
MTLF	Montolieu	21.53	93	*e*P		P	00 52 16.0 +0.4
	comp=Z,25nm,1.2s,mb4.2						
MTLF	Montolieu	21.53	93	*e*P		P	00 52 16.0 +0.4
	comp=Z,12nm,1.2s,mb4.2						
BCLA	Clavier	21.55	73	P		P	00 52 16.0 +0.1
BCLA				XP		sP	00 52 19.1 -1.2
BCLA				E			00 52 23.1
BEBN	Eben Emael	21.74	72	P		P	00 52 17.0 -0.8
MEZF	Maizieres J'vi	21.74	78	*e*P		P	00 52 17.6 -0.3
	comp=Z,131nm,1.6s,mb4.8						
MEZF	Maizieres J'vi	21.74	78	*e*P		P	00 52 17.6 -0.3
	comp=Z,66nm,1.6s,mb4.8						
SFJD	Kangerlussuaq	21.77	336	LR		LR	00 58 55.1
	comp=Z,137nm,21.2s,MS3.3,baz=183,slow=32						
MEM	Membach	21.97	72	P		P	00 52 20.7 +0.4
MEM				E			00 52 41.1
LASF	Ste Croix	22.32	90	*e*P		P	00 52 24.0 -0.1
	comp=Z,43nm,1.5s,mb4.4						
LASF	Ste Croix	22.32	90	*e*P		P	00 52 24.0 -0.1
	comp=Z,22nm,1.5s,mb4.4						
VIVF	Saint-Julien-l	22.57	87	*e*P		P	00 52 26.7 0.0
	comp=Z,19nm,1.1s,mb4.2						
VIVF	Saint-Julien-l	22.57	87	*e*P		P	00 52 26.7 0.0
	comp=Z,9.6nm,1.1s,mb4.2						
HAU	Haudompre	22.70	79	*e*P		P	00 52 28.2 +0.1
	comp=Z,34nm,1.2s,mb4.3						
HAU				*e*R			
	comp=Z,439nm,21.0s						
HAU	Haudompre	22.70	79	*e*P		P	00 52 28.2 +0.1
	comp=Z,17nm,1.2s,mb4.3						
HAU				LR		LR	
	comp=Z,440nm,21.0s,MS3.9						
HINF	Hinteralfeld	23.08	79	*e*P		P	00 52 31.6 -0.5
CDF	Champ du Feu	23.20	77	*e*P		P	00 52 33.3 -0.1
ORIF	Oris-en-Rattie	23.34	86	*e*P		P	00 52 33.6 -1.3
ORIF				*e*R			
	comp=Z,259nm,21.5s						
SMRF	Simiane la Rot	23.50	89	*e*P		P	00 52 35.2 -1.3
LPL	La Plagne	23.70	84	*e*P		P	00 52 38.0 -0.4
LPG	La Plagne	23.71	84	*e*P		P	00 52 38.5 -0.1
	comp=Z,43nm,1.5s,mb4.4						
LPG	La Plagne	23.71	84	*e*P		P	00 52 38.5 -0.1
	comp=Z,22nm,1.5s,mb4.4						
MBDF	Montbardon	24.00	86	*e*P		P	00 52 40.2 -1.0
	comp=Z,15nm,1.1s,mb4.0						
MBDF	Montbardon	24.00	86	*e*P		P	00 52 40.2 -1.0
	comp=Z,7.4nm,1.1s,mb4.0						
FRF	La Foret Royal	24.38	89	*e*P		P	00 52 43.1 -1.5
	comp=Z,22nm,1.3s,mb4.1						
FRF	La Foret Royal	24.38	89	*e*P		P	00 52 43.1 -1.5
	comp=Z,11nm,1.3s,mb4.1						
LMR	La Mourre	24.38	90	*e*P		P	00 52 43.2 -1.4
	comp=Z,8.3nm,1.0s,mb3.8						
LMR	La Mourre	24.38	90	*e*P		P	00 52 43.2 -1.4
	comp=Z,4.2nm,1.0s,mb3.8						
SUMG	Summit	24.48	352	*e*P		P	00 52 45.5 -0.1
	comp=Z,9.2nm,1.0s,mb4.2						
SCHQ	Schefferville	24.62	299	P		P	00 52 46.8 0.0
	comp=Z,2.1nm,0.7s,mb3.8,baz=103,slow=9.4,SNR=6.6						
SCHQ				LR		LR	01 00 06.0
	comp=Z,206nm,21.4s,MS3.6,baz=286,slow=31						
SBF	Sospel	24.78	88	*e*P		P	00 52 47.6 -0.7
NOA	NORSAR Array B	25.30	46	P		P	00 52 52.5 -0.5
	comp=Z,1.6nm,0.8s,mb3.6,baz=244,slow=11,SNR=3.3						
NOA	NORSAR Array B	25.30	46	P		P	00 52 52.5 -0.5
DAVOX	Davos	25.35	80	P		P	00 52 54.6 +1.1
	comp=Z,2.9nm,0.9s,mb3.8,baz=346,slow=19,SNR=4.1						
DAVOX				LR		LR	01 02 00.2
	comp=Z,288nm,20.2s,MS3.8,baz=262,slow=34						
GRA1	Grafenberg Arr	25.44	73	*e*P		P	00 52 54.9 +0.7
	comp=Z,22nm,1.6s,mb4.4						
GRF	Grafenberg Arr	25.44	73	*e*P		P	00 52 54.9 +0.7
	comp=Z,22nm,1.6s,mb4.4						
MOX	Moxa	25.49	70	*e*P		P	00 52 55.4 +0.7
	comp=Z,19nm,1.5s,mb4.4						
MOX							
	comp=Z,200nm,19.0s						
CLL	Collm	26.23	69	*i* P		P	00 53 02.0 +0.6
	comp=Z,7.0nm,1.1s,mb4.1						
CLL				*i* x		x	00 53 08.9
PGF	Pioggiola	26.37	89	*e*P		P	00 53 02.2 -0.5
	comp=Z,21nm,1.4s,mb4.2						
PGF	Pioggiola	26.37	89	*e*P		P	00 53 02.2 -0.5
	comp=Z,10nm,1.4s,mb4.2						
BRG	Berggiesshubel	26.89	69	*e*P		P	00 53 07.8 +0.4
	comp=Z,4.4nm,1.3s,mb3.8						
GERES	GERESS Array B	27.22	74	P		P	00 53 10.5 +0.2
	comp=Z,2.2nm,1.0s,mb3.6,baz=282,slow=6.7,SNR=12						
FINES	FINESS Array B	32.48	46	P		P	00 53 55.5 -1.5
	comp=Z,3.6nm,1.0s,mb4.2,baz=270,slow=3.4,SNR=6.4						
KAF	Kangasniemi	32.57	45	*ep*		P	00 53 50.6 -7.2
	comp=Z,3.5nm,0.9s,mb4.3						
ARCES	ARCESS Array B	32.91	31	P		P	00 53 58.6 -2.1
	comp=Z,2.2nm,0.8s,mb4.2,baz=355,slow=20,SNR=4.7						
JOF	Joensuu	34.85	43	*ep*		P	00 54 16.5 -1.1
	comp=Z,8.5nm,1.0s,mb4.6						
AKASG	Malin Array Be	36.27	65	P		P	00 54 29.2 -0.5
	comp=Z,0.8nm,0.3s,mb4.1,baz=286,slow=8.6,SNR=9.8						
ULM	Lac du Bonnet	42.80	299	P		P	00 55 23.8 -0.4
	comp=Z,2.5nm,0.8s,mb4.0,baz=52,slow=8.8,SNR=5.2						
ULM	Lac du Bonnet	42.80	299	P		P	00 55 23.8 -0.4
TORD	Torodi Ar. Bea	43.05	135	P		P	00 55 26.1 -0.2
	comp=Z,4.1nm,1.0s,mb4.1,baz=319,slow=6.8,SNR=13						
BR131	Keskin Array S	43.96	78	*e*P		P	00 55 34.6 +1.0
	comp=Z,2.3nm,0.9s,mb3.9						
BR131	Keskin Array S	43.96	78	*e*P		P	00 55 34.6 +1.0
	comp=Z,2.3nm,0.9s,mb3.9						
BRTR	Keskin Array B	43.96	78	P		P	00 55 31.8 -1.8
	comp=Z,3.2nm,0.9s,mb4.1,baz=328,slow=5.1,SNR=6.3						
FFC	Flin Flon	44.32	307	*e*P		P	00 55 36.9 +0.4
	comp=Z,8.6nm,1.3s,mb4.3						
FFC				*e*			00 55 47.4
FFC	Flin Flon	44.32	307	*e*P		P	00 55 36.9 +0.4
YKA	Yellowknife Ar	47.10	321	P		P	00 55 57.3 -1.1
	comp=Z,1.0nm,0.8s,mb3.8,baz=67,slow=7.8,SNR=5.3						
YKA				PcP		PcP	00 57 29.7 -0.5
	comp=Z,1.5nm,0.9s,baz=63,slow=3.9,SNR=5.2						
YKA	Yellowknife Ar	47.10	321	PcP		PcP	00 57 29.8 -0.4
PCRV	Puerto La Cruz	49.09	231	LR		LR	01 12 33.4
	comp=Z,91nm,21.4s,MS3.7,baz=131,slow=31						
MIAR

*CSEM **14** 00:52:04.7±0.1, 48.40N×27.96W, h10km, mb4.3/19, Ms3.4, Error ellipse: s-maj=6.2km s-min=3.1km az=13.0*
*ISCJB **14** 00:52:05.1±0.5, 48.39N±009×27.97W±007, h10km, mb4.0/35, MS3.6/2, Error ellipse: s-maj=13.7km s-min=6.3km az=25.5*
*IDC **14** 00:52:05.9±0.7, 48.53N×28.07W, h0km, mb3.9/17, mb1 4.0/19, mb1mx3.9/30, mbtmp3.9/19, ML3.6/2, Error ellipse: s-maj=21.9km s-min=13.5km az=5.0*
*NEIC **14** 00:52:07.1±0.4, 48.46N×27.96W, h10km, mb4.3/27, Error ellipse: s-maj=11.8km s-min=5.5km az=191.0*
*SZGRF **14** 00:52:25.2, 48.86N×25.75W, h33km, mb4.2, Northern Mid-Atlantic Ridge*

ISC 14 00:52:06.7±0.5, 48.42N±009×27.97W±007, h10km, n95, σ0.98/93, mb4.0/35, MS3.6/2, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	Rostrenen	16.39	81	eP	Pn	00 55 56.0	-0.8
QUIF	Quistinic	16.54	82	eP	Pn	00 55 58.1	-0.5
ESK	Eskdalemuir	16.72	56	eP	Pn	00 56 03.1	+2.2
ESK	Eskdalemuir	16.72	56	eP	Pn	00 56 03.1	+2.2
EKA	Eskdalemuir Ar	16.75	56	Pn	Pn	00 56 01.4	0.0
	0.1nm,0.3s,baz=245,slow=15,SNR=3.6						
SGMF	Saint Gilles	16.88	81	eP	Pn	00 56 01.8	-1.1
	39nm,1.2s						
SGMF	Saint Gilles	16.88	81	eP	Pn	00 56 01.8	-1.1
	20nm,1.2s						
FLN	La Foliniere	18.15	79	eP	Pn	00 56 17.5	-1.3
	49nm,1.3s						
FLN				eR			
	374nm,20.2s						
FLN	La Foliniere	18.15	79	eP	Pn	00 56 17.5	-1.3
	24nm,1.3s						
ESDC	Sonseca Array	19.28	108	P	Pn	00 56 31.6	-0.8
	0.1nm,0.3s,baz=312,slow=14,SNR=2.5						
ESLA	Sonseca Array	19.28	108	eP	Pn	00 56 32.9	+0.5
	0.3nm,0.8s						
ETSF	Etsaut	19.88	96	eP	Pn	00 56 39.1	-0.5
	45nm,1.4s						
ETSF	Etsaut	19.88	96	eP	Pn	00 56 39.1	-0.5
	23nm,1.4s						
LFF	La Frestale	19.95	89	eP	Pn	00 56 39.7	-0.7
	50nm,1.4s						
LFF	La Frestale	19.95	89	eP	Pn	00 56 39.7	-0.7
	25nm,1.4s						
TCF	Toulx Ste Croi	20.49	85	eP	P	00 56 44.5	-0.2
	21nm,1.2s						
TCF	Toulx Ste Croi	20.49	85	eP	P	00 56 44.5	-0.2
	10nm,1.2s						
CAF	Calviac	20.83	88	eP	P	00 56 48.8	+0.4
	23nm,1.3s						
CAF	Calviac	20.83	88	eP	P	00 56 48.8	+0.4
	12nm,1.3s						
BGF	Bois d'Agland	20.84	84	eP	P	00 56 49.3	+0.9
	13nm,0.7s						
BGF	Bois d'Agland	20.84	84	eP	P	00 56 49.3	+0.9
	6.4nm,0.7s						
BAIF	Baives	20.99	73	eP	P	00 56 50.6	+0.5
	20nm,1.1s						
BAIF	Baives	20.99	73	eP	P	00 56 50.6	+0.5
	9.8nm,1.1s						
AVF	Avril sur Loir	21.11	83	eP	P	00 56 51.8	+0.5
	23nm,1.1s,mb4.1						
AVF	Avril sur Loir	21.11	83	eP	P	00 56 51.8	+0.5
	12nm,1.1s,mb4.1						
SSF	Saint Saulge	21.14	82	eP	P	00 56 51.0	-0.7
	33nm,1.2s,mb4.2						
SSF	Saint Saulge	21.14	82	eP	P	00 56 51.0	-0.7
	16nm,1.2s,mb4.2						
LOR	Lormes	21.32	81	eP	P	00 56 53.1	-0.5
LOR				eR			
	243nm,18.2s						
LOR	Lormes	21.32	81	eP	P	00 56 53.1	-0.5
LOR				LR	LR		
	comp=Z,240nm,18.3s,MS3.6						
GIVF	Givet	21.38	73	eP	P	00 56 53.1	-1.1
	comp=Z,32nm,1.0s,mb4.3						
GIVF	Givet	21.38	73	eP	P	00 56 53.1	-1.1
	comp=Z,16nm,1.0s,mb4.3						
SMF	Signal de Mont	21.47	83	eP	P	00 56 56.0	+0.7
MTLF	Montolieu	21.54	92	eP	P	00 56 56.3	+0.3
	comp=Z,36nm,1.4s,mb4.3						
MTLF	Montolieu	21.54	92	eP	P	00 56 56.3	+0.3
	comp=Z,18nm,1.4s,mb4.3						
MEZF	Maizieres J'vi	21.81	77	eP	P	00 56 58.3	-0.6
	comp=Z,74nm,1.2s,mb4.7						
MEZF	Maizieres J'vi	21.81	77	eP	P	00 56 58.3	-0.6
	comp=Z,37nm,1.2s,mb4.7						
LASF	Ste Croix	22.34	89	eP	P	00 57 04.1	-0.4
	comp=Z,22nm,1.4s,mb4.1						
LASF	Ste Croix	22.34	89	eP	P	00 57 04.1	-0.4
	comp=Z,11nm,1.4s,mb4.1						
VIVF	Saint-Julien-l	22.59	87	eP	P	00 57 06.0	-1.3
	comp=Z,21nm,1.2s,mb4.1						
VIVF	Saint-Julien-l	22.59	87	eP	P	00 57 06.0	-1.3
	comp=Z,10nm,1.2s,mb4.1						
HAU	Haudompre	22.76	78	eP	P	00 57 09.1	+0.1
	comp=Z,23nm,1.1s,mb4.2						
HAU				eR			
	comp=Z,278nm,22.8s						
HAU	Haudompre	22.76	78	eP	P	00 57 09.1	+0.1
	comp=Z,11nm,1.1s,mb4.2						
HAU				LR	LR		
	comp=Z,280nm,22.8s,MS3.6						
HINF	Hinteralfeld	23.14	78	eP	P	00 57 12.4	-0.6
	comp=Z,13nm,1.0s,mb4.0						
HINF	Hinteralfeld	23.14	78	eP	P	00 57 12.4	-0.6
	comp=Z,6.3nm,1.0s,mb4.0						
CDF	Champ du Feu	23.27	77	eP	P	00 57 13.3	-1.1
SMRF	Simiane la Rot	23.52	88	eP	P	00 57 16.3	-0.7
	comp=Z,21nm,1.3s,mb4.1						
SMRF	Simiane la Rot	23.52	88	eP	P	00 57 16.3	-0.7
	comp=Z,10nm,1.3s,mb4.1						
FRF	La Foret Royal	24.40	88	eP	P	00 57 24.4	-0.7
	comp=Z,19nm,1.1s,mb4.1						
FRF	La Foret Royal	24.40	88	eP	P	00 57 24.4	-0.7
	comp=Z,9.4nm,1.1s,mb4.1						
LMR	La Mourre	24.40	89	eP	P	00 57 24.2	-0.9
	comp=Z,41nm,1.6s,mb4.3						
LMR	La Mourre	24.40	89	eP	P	00 57 24.2	-0.9
	comp=Z,20nm,1.6s,mb4.3						
KONO	Kongsberg	24.41	49	eP	P	00 57 24.4	-0.8
	comp=Z,2.5nm,0.5s,mb3.9						
KONO	Kongsberg	24.41	49	eP	P	00 57 24.4	-0.8
	comp=Z,2.5nm,0.5s,mb3.9						
SUMG	Summit	24.70	352	eP	P	00 57 29.1	+1.3
	comp=Z,13nm,1.1s,mb4.4						
SUMG	Summit	24.70	352	eP	P	00 57 29.1	+1.2
	comp=Z,13nm,1.1s,mb4.4						
SCHQ	Schefferville	24.72	300	P	P	00 57 26.2	-1.8
	comp=Z,3.2nm,0.8s,mb3.9,baz=97,slow=8.7,SNR=4.2						
SCHQ	Schefferville	24.72	300	P	P	00 57 26.2	-1.8
SCHQ				eP		00 57 27.2	
SCHQ	Schefferville	24.72	300	eP	P	00 57 27.2	-0.8
DAVOX	Davos	25.41	79	P	P	00 57 36.8	+2.6
	comp=Z,1.1nm,0.3s,mb3.8,baz=335,slow=11,SNR=2.9						
NOA	NORSAR Array B	25.47	46	P	P	00 57 35.6	+0.8
	comp=Z,1.6nm,0.9s,mb3.6,baz=260,slow=9.7,SNR=2.7						
GRA1	Grafenberg Arr	25.52	72	eP	P	00 57 36.5	+1.2
	comp=Z,9.0nm,1.3s,mb4.1						
GRF	Grafenberg Arr	25.52	72	eP	P	00 57 36.5	+1.2
	comp=Z,9.0nm,1.3s,mb4.1						
CLL	Collm	26.32	68	eP	P	00 57 43.0	+0.4
CLL				Lm		01 02 00.0	
	comp=Z,300nm,20.1s						
RUE	Ruedersdorf	26.62	65	eP	P	00 57 49.2	+4.0
	comp=Z,9.7nm,0.5s,mb4.6						
FRB	Frobisher Bay	26.75	320	P	P	00 57 46.8	+0.4
	comp=Z,5.2nm,0.8s,mb4.1,baz=226,slow=20,SNR=3.3						
GERES	GERESS Array B	27.30	73	P	P	00 57 52.4	+1.0
	comp=Z,0.3nm,0.5s,mb3.1,baz=289,slow=8.3,SNR=4.8						
MORC	Moravsky Berou	29.48	70	eP	P	00 58 11.7	+0.9
	comp=Z,0.7nm,0.4s,mb3.7						
MORC	Moravsky Berou	29.48	70	eP	P	00 58 11.7	+0.9
	comp=Z,0.7nm,0.4s,mb3.7						
FINES	FINESS Array B	32.65	46	P	P	00 58 37.8	-0.9
	comp=Z,0.9nm,0.8s,mb3.8,baz=242,slow=4.1,SNR=3.4						
KWP	Kalwaria	32.74	68	eP	P	00 58 40.9	+1.3
	comp=Z,2.1nm,0.6s,mb4.2						
KWP	Kalwaria	32.74	68	eP	P	00 58 40.9	+1.4
	comp=Z,2.1nm,0.6s,mb4.2						
SADO	Sadowa	34.82	284	P	P	00 58 59.2	+1.6
	comp=Z,1.9nm,0.6s,mb4.2,baz=94,slow=7.4,SNR=3.4						
AKASG	Malin Array Be	36.38	64	P	P	00 59 10.6	-0.4
	comp=Z,0.8nm,0.5s,mb3.9,baz=284,slow=8.8,SNR=5.7						
AKASG	Malin Array Be	36.38	64	P	P	00 59 10.6	-0.4
ULM	Lac du Bonnet	42.89	299	P	P	01 00 04.2	-1.0
	comp=Z,0.8nm,0.5s,mb3.7,baz=75,slow=6.6,SNR=4.6						
ULM	Lac du Bonnet	42.89	299	P	P	01 00 04.2	-1.1
TORD	Torodi Ar. Bea	42.90	135	P	P	01 00 07.5	+2.2
	comp=Z,2.4nm,0.9s,mb4.0,baz=336,slow=8.0,SNR=9.0						
BRTR	Keskin Array B	44.02	77	P	P	01 00 15.8	+1.4
	comp=Z,1.1nm,0.7s,mb3.7,baz=304,slow=6.4,SNR=5.6						
MALT	Malatya	47.91	76	eP	P	01 00 46.2	+1.2
MALT	Malatya	47.91	76	eP	P	01 00 46.2	+1.2
GNI	Garni	50.89	71	eP	P	01 01 08.3	+0.5
GNI	Garni	50.89	71	eP	P	01 01 08.3	+0.5
INK	Inuvik	51.25	333	P	P	01 01 09.2	-1.3
	comp=Z,2.0nm,0.9s,mb4.0,baz=46,slow=13,SNR=4.1						
INK	Inuvik	51.25	333	eP	P	01 01 09.6	-0.9
	comp=Z,4.8nm,1.2s,mb4.3						
INK	Inuvik	51.25	333	eP	P	01 01 09.6	-0.9
	comp=Z,4.8nm,1.2s,mb4.3						
PDAR	Pinedale Array	54.81	297	P	P	01 01 36.6	-0.2
	comp=Z,0.8nm,0.7s,mb3.8,baz=54,slow=7.7,SNR=7.1						
COLA	College	57.82	334	P	P	01 01 55.9	-2.4
ZAL	Zalesovo	63.32	38	P	P	01 02 36.0	+0.3
	comp=Z,0.7nm,0.3s,mb4.3,baz=164,slow=10,SNR=3.1						
ZAL	Zalesovo	63.32	38	P	P	01 02 36.0	+0.2
MKAR	Makanchi Array	67.46	44	P	P	01 03 02.8	+0.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=331,slow=5.9,SNR=12						
SONM	Songino Array	76.28	30	P	P	01 03 56.1	+0.6
	comp=Z,0.9nm,0.6s,mb3.9,baz=320,slow=6.4,SNR=8.2						
CPUP	Villa Florida	78.93	207	P	P	01 04 10.2	-0.2
	comp=Z,0.4nm,0.5s,mb3.6,baz=54,slow=8.7,SNR=3.1						
CPUP	Villa Florida	78.93	207	P	P	01 04 10.1	-0.2
VNDA	Vanda	150.54	184	PKPbc	PKPbc	01 11 58.9	+0.2
	comp=Z,2.5nm,1.1s,baz=244,slow=4.0,SNR=5.2						
ASAR	Alice Springs	151.42	37	PKPbc	PKPbc	01 12 01.1	+0.4
	comp=Z,0.9nm,0.6s,baz=339,slow=2.1,SNR=11						

*NIED **14** 01:24:00, 27.10N×141.50E, h98km, Mw4.4 Best double couple: M0 3.98000×10^15 NP1:φs335.00000°, δ56.00000°, λ72.00000°. NP2:φs185.00000°, δ38.00000°, λ115.00000°.*
*IDC **14** 01:24:28.7±1.0, 27.12N×141.00E, h103km±9km, mb3.9/14, mb1 4.0/17, mb1mx3.9/24, mbtmp4.3/17, Error ellipse: s-maj=17.5km s-min=13.0km az=61.0*
*ISCJB **14** 01:24:29.4±0.4, 27.09N±003×141.32E±007, h126km±4km, mb4.4/28, Error ellipse: s-maj=11.0km s-min=5.4km az=160.1*
*JMA **14** 01:24:31.2±0.1, 27.10N×141.53E, h126km, M4.2*
JMA Felt I J1.
*MOS **14** 01:24:32.1±1.3, 27.12N×140.94E, h148km, mb4.2/17, Error ellipse: s-maj=20.3km s-min=7.5km az=101.4*
*NEIC **14** 01:24:34.7±1.6, 27.11N×141.15E, h156km±15km, mb4.5/20, MW4.3(NIED), Error ellipse: s-maj=12.4km s-min=7.5km az=98.0*
NEIC Recorded [1 JMA] on Chichi-jima.

ISC 14 01:24:30.8±0.4, 27.15N±003×141.45E±008, h127km±4km, n94, σ1.30/94, mb4.4/28, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.66	94	P	Pn	01 24 50.5	0.0
	2μm,0.3s,baz=281,slow=16,SNR=1721						
CBIJ				S	Sn	01 25 06.0	+0.4
	baz=287,slow=19						
CBIJ	Chichi jima	0.66	94	P	Pn	01 24 50.5	-0.1
CBIJ				S	Sn	01 25 04.9	-0.6
JHHJ	Haha-jima-NKT	0.83	128	P	Pn	01 24 51.7	-0.2
JHHJ				S	Sn	01 25 06.9	-1.0
TK02	Tokai 2	7.49	336	P	Pn	01 26 20.4	+3.0
BSO1	Boso 1	7.49	357	P	Pn	01 26 17.1	-0.4
BSO3	Boso 3	7.67	354	P	Pn	01 26 19.2	-0.7
BSO4	Boso 4	7.88	353	P	Pn	01 26 22.9	+0.3
BSO4				eS	Sn	01 27 52.2	+2.1
JOD2	Odawara 2	8.34	347	P	Pn	01 26 28.5	-0.4
JAO	Obara	8.85	337	P	Pn	01 26 38.2	+2.4
JRY	Ryogami san	9.11	347	P	Pn	01 26 39.4	+0.2
JAG	Ashikaga	9.40	350	P	Pn	01 26 41.9	-1.3
JAG				eS	Sn	01 28 24.0	-3.1
JHO	Hitachi	9.47	356	P	Pn	01 26 41.5	-2.5
JHO				eS	Sn	01 28 23.3	-5.3
MJAR	Matsushiro Arr	9.76	344	P	Pn	01 26 46.4	-1.6
	2.9nm,0.3s,baz=159,slow=11,SNR=23						
MAJO	Matsushiro	9.76	344	ePn	Pn	01 26 50.1	+2.1
	12nm,0.4s						
MAT	Matsushiro	9.76	344	P	Pn	01 26 49.5	+1.5
MAT	Matsushiro	9.76	344	P	Pn	01 26 50.0	+2.0
	6.8nm,0.7s						
JOW	Kunigami	11.75	271	P	Pn	01 27 08.2	-6.2
	0.4nm,0.3s,baz=108,slow=17,SNR=4.8						
KS15	Wonju Array Si	15.37	315	ePn	Pn	01 28 01.9	+1.0
ASAJ	Asahikawa	16.96	3	P	Pn	01 28 21.4	+1.0
	1.9nm,0.3s,baz=233,slow=14,SNR=7.3						
ASAJ	Asahikawa	16.96	3	P	Pn	01 28 21.4	+1.0
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
TATO	Taipei	18.06	268	eP	P	01 28 31.2	-1.1
	comp=Z,18nm,0.3s						
NACB	Ninganchiao	18.14	265	eP	P	01 28 33.8	+0.7
YHNB	Yeheng	18.22	267	eP	P	01 28 35.4	+1.3
YSS	Yuzh-Sakhalins	19.80	3	eP	P	01 28 54.2	+3.0
	comp=Z,11nm,0.3s						
MDJ	Mudanjiang	19.86	334	eP	P	01 28 53.6	+1.6
	comp=Z,4.5nm,0.4s						
KLR	Kul'dur	23.29	344	eP	P	01 29 25.0	-2.2
KLR				e		01 29 51.0	
KLR				eS	S	01 33 28.3	-1.6
MA2	Magadan	33.05	9	P	P	01 30 54.2	+0.1
ULN	Ulaanbaatar	33.83	317	P	P	01 31 01.9	+1.0
SONM	Songino Array	34.22	317	P	P	01 31 03.0	-1.3
	comp=Z,0.3nm,0.3s,mb3.6,baz=141,slow=4.8,SNR=3.6						
CHTO	Chiang Mai	39.84	267	eP	P	01 31 51.7	-0.1
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
CHTO	Chiang Mai	39.84	267	eP	P	01 31 51.7	-0.1
	comp=Z,11nm,0.8s,mb4.7						
KAKA	Kakadu	40.57	194	eP	P	01 31 58.0	+0.2
	comp=Z,12nm,0.9s,mb4.7						
BILL	Bilibino	43.56	13	eP	P	01 32 24.3	+2.3
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
BILL	Bilibino	43.56	13	eP	P	01 32 24.3	+2.4
	comp=Z,3.1nm,0.6s,mb4.2						
LSA	Lhasa	44.03	286	eP	P	01 32 28.0	+2.2
KULM	Kulim	44.49	248	eP	P	01 32 30.5	+1.1
CTA	Charters Tower	47.18	174	P	P	01 32 51.0	+0.5
	comp=Z,11nm,1.0s,mb4.5,baz=350,slow=12,SNR=3.6						
CTA	Charters Tower	47.18	174	P	P	01 32 51.0	+0.4
CTA				pmax	pmax		
	comp=Z,11nm,1.0s						
CTAO	Charters Tower	47.18	174	eP	P	01 32 51.8	+1.2
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
CTAO	Charters Tower	47.18	174	eP	P	01 32 51.8	+1.2
	comp=Z,2.3nm,0.6s,mb4.1						
WRAB	Tennant Creek	47.30	189	eP	P	01 32 51.4	-0.1
WRAB				pmax	pmax		
	comp=Z,62nm,0.6s,mb5.5						
WRAB	Tennant Creek	47.30	189	eP	P	01 32 51.4	-0.1
	comp=Z,62nm,0.6s,mb5.5						
WB2	Warramunga Arr	47.31	189	eP	P	01 32 51.4	-0.2
FITZ	Fitzroy Crossi	47.52	201	eP	P	01 32 53.4	+0.2
	comp=Z,11nm,0.4s,mb5.0						
MKAR	Makanchi Array	49.94	310	P	P	01 33 09.7	-1.9
	comp=Z,0.3nm,0.3s,mb3.7,baz=84,slow=10,SNR=5.8						
MKAR				PcP	PcP	01 34 28.1	-1.9
	comp=Z,0.6nm,0.5s,baz=96,slow=4.9,SNR=4.7						
MKAR	Makanchi Array	49.94	310	P	P	01 33 09.7	-1.9
MKAR						01 34 28.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AS31	Alice Springs	51.03	189	eP	P	01 33 20.9	+1.0
ASAR	Alice Springs	51.04	189	P	P	01 33 19.6	-0.3
	comp=Z,2.7nm,0.5s,mb4.5,baz=0.6,slow=5.3,SNR=45						
ASAR				PcP	PcP	01 34 34.9	+0.8
	comp=Z,0.3nm,0.4s,baz=9.7,slow=3.0,SNR=4.7						
ASAR	Alice Springs	51.04	189	P	P	01 33 19.6	-0.3
ASAR						01 34 34.9	
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASPA	Alice Springs	51.04	189	eP	P	01 33 20.9	+1.0
MBWA	Marble Bar	52.42	206	eP	P	01 33 30.6	+0.5
	comp=Z,9.0nm,0.3s,mb5.3						
SVW2	Sparrevohn	53.60	33	eP	P	01 33 43.0	+4.1
KDAK	Kodiak Island	54.72	37	P	P	01 33 49.0	+2.1
	comp=Z,6.4nm,0.5s,mb4.9,baz=355,slow=5.1,SNR=6.6						
CHKZ	Chkalovo	57.39	318	P	P	01 34 03.6	-2.3
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
CHKZ	Chkalovo	57.39	318	P	P	01 34 03.6	-2.3
	comp=Z,0.8nm,0.4s,mb4.1						
BVAR	Borovoye Array	57.56	317	P	P	01 34 05.8	-1.3
	comp=Z,0.8nm,0.4s,mb4.1,baz=95,slow=7.1,SNR=6.8						
BVAR				PcP	PcP	01 34 59.9	+0.8
	comp=Z,1.1nm,0.5s,baz=96,slow=3.8,SNR=2.6						
BVAR	Borovoye Array	57.56	317	P	P	01 34 05.8	-1.3
BVAR						01 34 59.9	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	Borovoye	57.62	317	P	P	01 34 06.3	-1.2
ZRNK	Zerenda	58.40	317	eP	P	01 34 11.8	-1.2
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ZRNK	Zerenda	58.40	317	eP	P	01 34 11.8	-1.2
	comp=Z,0.8nm,0.3s,mb4.2						
STKA	Stephens Creek	58.69	180	eP	P	01 34 12.7	-2.3
	comp=Z,2.6nm,0.6s,mb4.4						
STKA	Stephens Creek	58.69	180	P	P	01 34 11.6	-3.4
	comp=Z,2.5nm,0.5s,mb4.5,baz=346,slow=8.5,SNR=9.8						
STKA				PcP	PcP	01 35 02.2	-1.4
	comp=Z,1.6nm,0.5s,baz=350,slow=8.2,SNR=2.2						
FORT	Forrest	59.00	193	eP	P	01 34 16.7	-0.4
	comp=Z,22nm,0.7s,mb5.3						
NWAO	Narrogin (SRO)	64.02	203	eP	P	01 34 50.8	0.0
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NWAO	Narrogin (SRO)	64.02	203	eP	P	01 34 50.8	0.0
	comp=Z,9.2nm,0.6s,mb4.8						
YKA	Yellowknife Ar	72.41	28	P	P	01 35 44.5	+1.4
	comp=Z,1.8nm,0.7s,mb4.0,baz=294,slow=6.4,SNR=6.9						
YKA	Yellowknife Ar	72.41	28	P	P	01 35 44.5	+1.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	72.41	28	P	P	01 35 44.5	+1.4
ARCES	ARCESS Array B	73.28	341	P	P	01 35 47.9	-0.4
	comp=Z,2.2nm,0.7s,mb4.1,baz=69,slow=7.8,SNR=17						
ARCES	ARCESS Array B	73.28	341	P	P	01 35 47.9	-0.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
JOF	Joensuu	74.75	334	ep	P	01 35 50.8	-6.0
	comp=Z,1.7nm,0.4s,mb4.1						
JOF	Joensuu	74.75	334	eP	P	01 35 50.8	-6.0
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
KAF	Kangasniemi	77.14	334	ep	P	01 36 09.7	-0.7
	comp=Z,1.9nm,0.4s,mb4.2						
KAF	Kangasniemi	77.14	334	eP	P	01 36 09.7	-0.7
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
FINES	FINESS Array B	77.61	334	P	P	01 36 11.9	-1.1
	comp=Z,1.1nm,0.3s,mb4.1,baz=64,slow=5.2,SNR=21						
FINES	FINESS Array B	77.61	334	P	P	01 36 11.9	-1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	82.19	324	P	P	01 36 36.7	-0.9
	comp=Z,0.4nm,0.3s,mb3.7,baz=44,slow=5.8,SNR=4.3						
HFS	Hagfors	83.12	337	P	P	01 36 41.5	-0.9
	comp=Z,1.0nm,0.3s,mb4.1,baz=126,slow=2.3,SNR=17						
HFS	Hagfors	83.12	337	P	P	01 36 41.5	-0.9
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	NORSAR Subarra	83.32	338	P	P	01 36 43.2	-0.3
	comp=Z,0.6nm,0.4s,mb3.8,baz=44,slow=5.3						
NB2	NORSAR Subarra	83.32	338	P	P	01 36 43.2	-0.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
NOA	NORSAR Array B	83.32	338	P	P	01 36 42.5	-1.0
	comp=Z,0.5nm,0.5s,mb3.6,baz=46,slow=4.8,SNR=3.1						
NOA	NORSAR Array B	83.32	338	P	P	01 36 42.5	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	Pinedale Array	84.64	44	P	P	01 36 53.4	+3.3
	comp=Z,2.6nm,1.0s,mb4.1,baz=276,slow=4.2,SNR=7.3						
SFJD	Kangerlussuaq	85.71	5	P	P	01 36 54.7	-0.7
	comp=Z,6.7nm,0.5s,mb4.8,baz=120,slow=14,SNR=6.2						
ANMO	Albuquerque	90.95	50	eP	P	01 37 25.1	+4.8
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ANMO	Albuquerque	90.95	50	eP	P	01 37 25.1	+4.7
	comp=Z,1.5nm,1.0s,mb4.1						
TORD	Torodi Ar. Bea	124.05	311	PKP	PKPdf	01 43 14.2	+0.1
	comp=Z,0.3nm,0.4s,baz=59,slow=1.1,SNR=14						
PLCA	Paso Flores	150.38	125	PKPbc	PKPbc	01 44 09.3	+2.2
	comp=Z,7.1nm,0.7s,baz=251,slow=3.5,SNR=20						
PLCA	Paso Flores	150.38	125	PKIKP	PKPdf	01 44 09.4	+7.6
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SAML	Samuel	150.51	57	ePKPdf	PKPdf	01 44 05.1	+3.0
LPAZ	La Paz	150.55	75	PKPbc	PKPbc	01 44 11.7	+4.1
	comp=Z,1.9nm,0.4s,baz=265,slow=3

LDF La Druitiere 18.33 80 *eP* **Pn 01 29 55.4 -0.4**
comp=Z,7.9nm,0.9s
MFF Saint Martin d 18.78 86 *eP* **Pn 01 30 00.6 -0.8**
comp=Z,17nm,1.0s
MFF Saint Martin d 18.78 86 *eP* **Pn 01 30 00.6 -0.8**
MFF pmax pmax
comp=Z,8.0nm,1.0s
MFF Saint Martin d 18.78 86 *eP* **Pn 01 30 00.6 -0.8**
comp=Z,8.4nm,1.0s
ESDC Sonseca Array 19.32 109 P **Pn 01 30 09.2 +1.4**
comp=Z,0.1nm,0.3s,baz=305,slow=8.4,SNR=12
SJPF Ste Jean 19.33 97 *eP* **Pn 01 30 07.4 -0.6**
ETSF Etsaut 19.86 97 *eP* **Pn 01 30 13.0 -1.3**
comp=Z,45nm,1.1s
ETSF Etsaut 19.86 97 *eP* **Pn 01 30 13.0 -1.3**
ETSF pmax pmax
comp=Z,22nm,1.1s
ETSF Etsaut 19.86 97 *eP* **Pn 01 30 13.0 -1.3**
comp=Z,22nm,1.1s
LFF La Frestale 19.91 90 *eP* **Pn 01 30 13.8 -1.0**
comp=Z,90nm,1.7s
LFF La Frestale 19.91 90 *eP* **Pn 01 30 13.8 -1.0**
LFF pmax pmax
comp=Z,45nm,1.7s
LFF La Frestale 19.91 90 *eP* **Pn 01 30 13.8 -1.0**
comp=Z,45nm,1.7s
VIEF Viey 20.25 96 *eP* **P 01 30 19.6 +2.6**
RJF Les Rejaudoux 20.29 88 *eP* **P 01 30 17.9 +0.5**
RJF *eR*
comp=Z,1μm,19.2s
RJF Les Rejaudoux 20.29 88 *eP* **P 01 30 17.9 +0.5**
RJF LR LR
comp=Z,1μm,19.3s,MS4.3
EPF Esparros 20.40 95 *eP* **P 01 30 18.3 -0.3**
TCF Toulx Ste Croi 20.43 85 *eP* **P 01 30 18.8 -0.1**
comp=Z,55nm,1.2s
TCF Toulx Ste Croi 20.43 85 *eP* **P 01 30 18.8 -0.1**
TCF pmax pmax
comp=Z,28nm,1.2s
TCF Toulx Ste Croi 20.43 85 *eP* **P 01 30 18.8 -0.1**
comp=Z,28nm,1.2s
HYF Humbligny 20.44 82 *eP* **P 01 30 18.7 -0.3**
RESF Ens 20.50 96 *eP* **P 01 30 22.1 +2.5**
BGF Bois d'Agland 20.77 84 *eP* **P 01 30 23.1 +0.5**
comp=Z,43nm,0.9s
BGF Bois d'Agland 20.77 84 *eP* **P 01 30 23.1 +0.5**
BGF pmax pmax
comp=Z,22nm,0.9s
BGF Bois d'Agland 20.77 84 *eP* **P 01 30 23.1 +0.5**
comp=Z,22nm,0.9s
CAF Calviac 20.79 89 *eP* **P 01 30 22.9 +0.1**
comp=Z,29nm,1.1s
CAF Calviac 20.79 89 *eP* **P 01 30 22.9 +0.1**
CAF pmax pmax
comp=Z,15nm,1.1s
CAF Calviac 20.79 89 *eP* **P 01 30 22.9 +0.1**
comp=Z,15nm,1.1s
UCC Uccle 20.88 72 E 01 30 21.5
UCC Uccle 20.88 72 P **P 01 30 24.1 +0.4**
UCC AP 01 30 26.0
BAIF Baives 20.88 74 *eP* **P 01 30 23.0 -0.8**
comp=Z,49nm,1.2s
BAIF Baives 20.88 74 *eP* **P 01 30 23.0 -0.8**
BAIF pmax pmax
comp=Z,25nm,1.2s
BAIF Baives 20.88 74 *eP* **P 01 30 23.0 -0.8**
comp=Z,25nm,1.2s
AVF Avril sur Loir 21.04 83 *eP* **P 01 30 25.6 +0.1**
comp=Z,39nm,1.1s,mb4.4
AVF Avril sur Loir 21.04 83 *eP* **P 01 30 25.6 +0.1**
AVF pmax pmax
comp=Z,19nm,1.1s,mb4.3
AVF Avril sur Loir 21.04 83 *eP* **P 01 30 25.6 +0.1**
comp=Z,20nm,1.1s,mb4.4
SSF Saint Saulge 21.06 82 *eP* **P 01 30 25.2 -0.6**
comp=Z,83nm,1.4s,mb4.6
SSF Saint Saulge 21.06 82 *eP* **P 01 30 25.2 -0.6**
SSF pmax pmax
comp=Z,42nm,1.4s,mb4.6
SSF Saint Saulge 21.06 82 *eP* **P 01 30 25.2 -0.6**
comp=Z,42nm,1.4s,mb4.6
DOU Dourbes 21.12 74 P **P 01 30 27.2 +0.9**
DOU AP 01 30 29.4
DOU E 01 30 34.2
DOU Dourbes 21.12 74 P **P 01 30 27.2 +0.8**
LOR Lormes 21.24 82 *eP* **P 01 30 27.2 -0.4**
comp=Z,16nm,0.8s,mb4.1
LOR *eR*
comp=Z,2μm,22.8s
LOR Lormes 21.24 82 *eP* **P 01 30 27.2 -0.4**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
LOR MLR MLR
comp=Z,2μm,22.8s,MS4.4
LOR Lormes 21.24 82 *eP* **P 01 30 27.2 -0.4**
comp=Z,7.9nm,0.8s,mb4.1
LOR LR LR
comp=Z,2μm,22.8s,MS4.4
GIVF Givet 21.27 74 *eP* **P 01 30 27.1 -0.8**
SMF Signal de Mont 21.40 83 *eP* **P 01 30 29.8 +0.4**
comp=Z,17nm,0.8s,mb4.1
SMF Signal de Mont 21.40 83 *eP* **P 01 30 29.8 +0.4**
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
SMF Signal de Mont 21.40 83 *eP* **P 01 30 29.8 +0.4**
comp=Z,8.6nm,0.8s,mb4.1
LBL Lubilhac 21.46 87 *eP* **P 01 30 35.7 +5.6**
PLDF La Plantade 21.46 85 *eP* **P 01 30 33.3 +3.2**
MTLF Montolieu 21.51 93 *eP* **P 01 30 29.9 -0.6**
MEZF Maizieres J'vi 21.71 78 *eP* **P 01 30 32.4 -0.4**
comp=Z,80nm,1.2s,mb4.7
MEZF Maizieres J'vi 21.71 78 *eP* **P 01 30 32.4 -0.4**
comp=Z,40nm,1.2s,mb4.7
SFJD Kangerlussuaq 21.76 336 LR LR 01 37 10.6
comp=Z,567nm,18.8s,MS4.0,baz=44,slow=32
MEM Membach 21.94 72 P **P 01 30 35.8 +0.6**
WLF Walferdange 22.19 75 P **P 01 30 38.5 +0.7**
WLF XP sP 01 30 43.3 +1.3
LASF Ste Croix 22.30 90 *eP* **P 01 30 38.2 -0.8**
comp=Z,42nm,1.3s,mb4.4
LASF Ste Croix 22.30 90 *eP* **P 01 30 38.2 -0.8**
comp=Z,21nm,1.3s,mb4.4
VIVF Saint-Julien-l 22.54 87 *eP* **P 01 30 39.7 -1.9**
comp=Z,34nm,1.3s,mb4.3
VIVF Saint-Julien-l 22.54 87 *eP* **P 01 30 39.7 -1.9**
VIVF pmax pmax
comp=Z,17nm,1.3s,mb4.3
VIVF Saint-Julien-l 22.54 87 *eP* **P 01 30 39.7 -1.9**
comp=Z,17nm,1.3s,mb4.3
HAU Haudompre 22.67 79 *eP* **P 01 30 42.4 -0.6**
comp=Z,12nm,0.8s,mb4.1
HAU *eR*
comp=Z,2μm,19.5s
HAU Haudompre 22.67 79 *eP* **P 01 30 42.4 -0.6**
HAU pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
HAU MLR MLR
comp=Z,2μm,19.5s,MS4.5
HAU Haudompre 22.67 79 *eP* **P 01 30 42.4 -0.6**
comp=Z,5.9nm,0.8s,mb4.1
HAU LR LR
comp=Z,2μm,19.5s,MS4.5
RUP Ruppelstein 22.76 74 *eP* **P 01 30 46.8 +2.9**
ABH Alteburg 23.04 74 *eP* **P 01 30 48.7 +1.9**
HINF Hinteralfeld 23.05 79 *eP* **P 01 30 46.0 -1.0**
comp=Z,26nm,1.1s,mb4.3
HINF Hinteralfeld 23.05 79 *eP* **P 01 30 46.0 -1.0**
HINF pmax pmax
comp=Z,13nm,1.1s,mb4.3
HINF Hinteralfeld 23.05 79 *eP* **P 01 30 46.0 -1.0**
comp=Z,13nm,1.1s,mb4.3
ECH Echery 23.15 78 *eP* **P 01 30 51.6 +3.6**
LOMF Lomont 23.16 80 *eP* **P 01 30 55.8 +7.7**
CDF Champ du Feu 23.18 77 *eP* **P 01 30 47.7 -0.6**
MOF Molkenrain 23.22 79 *eP* **P 01 30 49.7 +0.9**
WLS Welschbruch 23.22 77 *eP* **P 01 30 49.7 +0.9**
PRAF Pradon 23.27 90 *eP* **P 01 30 53.9 +4.6**
SMRF Simiane la Rot 23.47 89 *eP* **P 01 30 50.5 -0.9**
BBS Basel-Blauen 23.57 79 *eP* **P 01 31 02.5 +10**
LPG La Plagne 23.69 85 *eP* **P 01 30 52.3 -1.2**
PUYF Puyloubier 23.74 90 *eP* **P 01 30 55.8 +1.9**
FELD Feldberg im Sc 23.78 78 *eP* **P 01 30 54.9 +0.6**
BERF Bertagne 23.82 90 *eP* **P 01 30 56.0 +1.3**
JMIC Jan Mayen 24.18 15 LR LR 01 38 06.6
comp=Z,178nm,18.2s,MS3.6,baz=287,slow=31
FRF La Foret Royal 24.35 89 *eP* **P 01 30 58.1 -1.5**
comp=Z,32nm,1.3s,mb4.3
FRF La Foret Royal 24.35 89 *eP* **P 01 30 58.1 -1.5**
FRF pmax pmax
comp=Z,16nm,1.3s,mb4.3
FRF La Foret Royal 24.35 89 *eP* **P 01 30 58.1 -1.5**
comp=Z,16nm,1.3s,mb4.3
LMR La Mourre 24.36 90 *eP* **P 01 30 57.9 -1.7**
comp=Z,19nm,1.2s,mb4.1
LMR La Mourre 24.36 90 *eP* **P 01 30 57.9 -1.7**
LMR pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
LMR La Mourre 24.36 90 *eP* **P 01 30 57.9 -1.7**
comp=Z,9.5nm,1.2s,mb4.1
SCHQ Schefferville 24.63 299 P **P 01 31 00.5 -1.7**
comp=Z,3.3nm,0.7s,mb4.0,baz=88,slow=8.3,SNR=12
SCHQ LR LR 01 39 05.8
comp=Z,567nm,19.0s,MS4.1,baz=68,slow=33
SCHQ Schefferville 24.63 299 P **P 01 31 00.4 -1.7**
SBF Sospel 24.75 88 *eP* **P 01 31 01.7 -1.5**
NB2 NORSAR Subarra 25.27 46 P **P 01 31 09.3 +1.4**
comp=Z,4.3nm,1.0s,mb3.9,baz=265,slow=5.3
NB2 NORSAR Subarra 25.27 46 P **P 01 31 09.3 +1.4**
NB2 pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
NOA NORSAR Array B 25.27 46 P **P 01 31 08.8 +0.9**
comp=Z,2.4nm,0.8s,mb3.8,baz=260,slow=8.6,SNR=3.7
NOA LR LR 01 39 54.0
comp=Z,331nm,19.8s,MS3.9,baz=275,slow=34
DAVOX Davos 25.32 80 P **P 01 31 06.0 -2.4**
comp=Z,3.0nm,0.8s,mb3.9,baz=152,slow=14,SNR=3.1
DAVOX LR LR 01 40 25.8
comp=Z,1μm,19.0s,MS4.4,baz=299,slow=35
GRA1 Grafenberg Arr 25.41 73 *eP* **P 01 31 09.5 +0.4**
comp=Z,10.0nm,1.1s,mb4.3
GRF Grafenberg Arr 25.41 73 *eP* **P 01 31 09.5 +0.4**
comp=Z,10.0nm,1.1s,mb4.3
GRF Grafenberg Arr 25.41 73 *eP* **P 01 31 09.5 +0.4**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
GRF Grafenberg Arr 25.41 73 *eP* **P 01 31 09.5 +0.4**
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
MOX Moxa 25.46 70 *eP* **P 01 31 11.7 +2.1**
comp=Z,6.0nm,0.9s,mb4.1
MOX
comp=Z,500nm,22.0s
MOX Moxa 25.46 70 *eP* **P 01 31 11.7 +2.1**
MOX pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
MOX MLR MLR
comp=Z,500nm,22.0s,MS4.0
CLL Collm 26.19 69 *eP* **P 01 31 19.0 +2.7**
CLL MLR MLR
comp=Z,900nm,16.0s,MS4.4
HFS Hagfors 26.33 49 P **P 01 31 17.7 +0.2**
comp=Z,2.2nm,0.8s,mb3.7,baz=203,slow=14,SNR=3.4
HFS LR LR 01 39 53.2
comp=Z,329nm,21.4s,MS3.8,baz=275,slow=32
PGF Pioggiola 26.34 89 *eP* **P 01 31 16.6 -1.0**
FRB Frobisher Bay 26.59 320 LR LR 01 39 10.9
comp=Z,392nm,18.7s,MS4.0,baz=4.0,slow=31
BRG Berggiesshubel 26.86 69 *i P* **P 01 31 23.1 +0.8**
comp=Z,2.6nm,0.9s,mb3.8
BRG *e* 01 31 32.3
comp=Z,12nm,1.6s
BRG
comp=Z,555nm,21.9s
BRG
comp=N,378nm,14.2s
BRG
comp=E,263nm,16.9s
KHC Kasperske Hory 27.03 73 *eP* **P 01 31 24.2 +0.3**
GERES GERESS Array B 27.19 74 P **P 01 31 24.0 -1.3**
comp=E,1.4nm,0.9s,mb3.5,baz=278,slow=14,SNR=4.4
GERES LR LR 01 41 47.2
comp=E,1μm,18.7s,MS4.4,baz=184,slow=36
GERES GERESS Array B 27.19 74 P **P 01 31 24.0 -1.3**
GERES LR LR 01 41 47.2
PRU Pruhonice 27.43 71 *eP* **P 01 31 24.8 -2.6**
UPC Upice 28.22 69 *eP* **P 01 31 36.2 +1.7**
DPC Dobruska-Polom 28.45 70 *eP* **P 01 31 35.9 -0.7**
VRAC Vranov 28.89 72 LR LR 01 42 20.9
comp=E,682nm,21.6s,MS4.2,baz=278,slow=34
FINES FINESS Array B 32.45 46 P **P 01 32 11.0 -0.9**
comp=E,2.5nm,0.8s,mb4.1,baz=274,slow=7.5,SNR=6.5
FINES LR LR 01 44 53.1
comp=E,309nm,18.1s,MS4.0,baz=267,slow=36
KAF Kangasniemi 32.54 45 *ep* **P 01 32 11.5 -1.2**
comp=E,7.8nm,0.9s,mb4.6
KAF Kangasniemi 32.54 45 *eP* **P 01 32 11.5 -1.2**
KAF pmax pmax
comp=E,8.0nm,0.9s,mb4.7
KWP Kalwaria 32.61 69 *eP* **P 01 32 14.3 +1.0**
KWP pmax pmax
comp=Z,20nm,1.4s,mb4.8
KWP Kalwaria 32.61 69 *eP* **P 01 32 14.3 +1.0**
comp=Z,20nm,1.4s,mb4.8
KWP Kalwaria 32.61 69 *eP* **P 01 32 14.3 +1.0**
comp=Z,20nm,1.4s,mb4.8
ARCES ARCESS Array B 32.88 31 P **P 01 32 14.5 -1.1**
comp=Z,4.4nm,0.9s,mb4.4,baz=261,slow=8.0,SNR=7.1
SADO Sadowa 34.80 283 P **P 01 32 31.1 -1.3**
comp=Z,2.0nm,0.5s,mb4.3,baz=43,slow=5.4,SNR=3.1
SADO LR LR 01 45 28.3
comp=Z,990nm,21.8s,MS4.5,baz=76,slow=34
JOF Joensuu 34.82 44 *ep* **P 01 32 28.5 -4.0**
comp=Z,5.3nm,0.8s,mb4.5
JOF Joensuu 34.82 44 *eP* **P 01 32 28.5 -4.0**
JOF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MLR Muntele Rosu 36.17 74 LR LR 01 48 52.6
comp=Z,414nm,18.6s,MS4.2,baz=281,slow=38
AKASG Malin Array Be 36.23 65 P **P 01 32 44.3 -0.3**
comp=Z,3.2nm,0.6s,mb4.4,baz=286,slow=8.6,SNR=10
OBN Obninsk 39.02 55 P **P 01 33 08.0 -0.3**
OBN *e* 01 33 14.4
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.0
OBN Obninsk 39.02 55 P **P 01 33 08.0 -0.3**
comp=Z,200nm,17.0s
ULM Lac du Bonnet 42.81 299 P **P 01 33 38.1 -1.3**
comp=Z,1.8nm,0.7s,mb3.9,baz=58,slow=7.2,SNR=7.1
ULM LR LR 01 49 54.2
comp=Z,342nm,18.2s,MS4.3,baz=241,slow=34
TORD Torodi Ar. Bea 43.05 135 P **P 01 33 41.4 -0.1**
comp=Z,3.6nm,0.9s,mb4.1,baz=337,slow=7.6,SNR=16
SJG San Juan 43.41 239 LR LR 01 48 08.0
comp=Z,212nm,21.4s,MS4.0,baz=344,slow=31
BRTR Keskin Array B 43.93 78 P **P 01 33 50.3 +1.8**
comp=Z,4.1nm,0.8s,mb4.2,baz=302,slow=5.0,SNR=16
BRTR Keskin Array B 43.93 78 P **P 01 33 50.3 +1.8**
FVM French Village 45.53 281 *eP* **P 01 34 00.4 -0.9**
FVM pmax pmax
comp=Z,11nm,0.8s,mb4.8
FVM French Village 45.53 281 *eP* **P 01 34 00.4 -0.9**
comp=Z,11nm,0.8s,mb4.8
FVM French Village 45.53 281 *eP* **P 01 34 00.4 -0.9**
comp=Z,11nm,0.8s,mb4.8
CCM Cathedral Cave 46.02 281 *eP* **P 01 34 04.9 -0.3**
CCM pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CCM Cathedral Cave 46.02 281 *eP* **P 01 34 04.9 -0.3**
comp=Z,9.0nm,0.8s,mb4.8
DBIC Dimbokro 46.18 147 P **P 01 34 07.2 +0.7**
comp=Z,4.8nm,0.8s,mb4.5,baz=345,slow=6.4,SNR=4.0
DBIC LR LR 01 51 30.2
comp=Z,326nm,20.3s,MS4.3,baz=322,slow=34
YKA Yellowknife Ar 47.10 321 P **P 01 34 12.5 -1.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=63,slow=7.8,SNR=5.9
YKA LR LR 01 51 22.9
comp=Z,151nm,18.8s,MS4.0,baz=75,slow=33
YKA Yellowknife Ar 47.10 321 P **P 01 34 12.6 -1.1**
YKA LR LR 01 51 22.9
MALT Malatya 47.81 77 *eP* **P 01 34 20.4 +1.2**
comp=Z,5.8nm,1.0s,mb4.6
MALT Malatya 47.81 77 *eP* **P 01 34 20.4 +1.2**
comp=Z,5.8nm,1.0s,mb4.6
MIAR Mount Ida 49.60 279 *eP* **P 01 34 32.5 -0.5**
MIAR pmax pmax
comp=Z,11nm,0.9s,mb4.9
MIAR Mount Ida 49.60 279 *eP* **P 01 34 32.5 -0.4**
comp=Z,11nm,0.9s,mb4.9
MIAR Mount Ida 49.60 279 *eP* **P 01 34 32.5 -0.5**
comp=Z,11nm,0.9s,mb4.9
ARU Arti 49.82 47 ‖ *iP* **P 01 34 34.8 +0.2**
ARU *e*SS ScS 01 44 17.1 -9.2
ARU pmax pmax
comp=Z,14nm,0.9s,mb5.0
ASF Jabal al Asfar 50.50 84 LR LR 01 56 10.3
comp=Z,75nm,20.6s,MS3.7,baz=170,slow=36
INK Inuvik 51.05 333 LR LR 01 54 18.1
comp=Z,371nm,21.4s,MS4.4,baz=60,slow=34
INK Inuvik 51.05 333 *eP* **P 01 34 43.2 -0.7**
INK pmax pmax
comp=Z,5.0nm,0.5s
INK Inuvik 51.05 333 *eP* **P 01 34 43.2 -0.7**
comp=Z,4.7nm,0.5s,mb4.7
INK Inuvik 51.05 333 *eP* **P 01 34 43.2 -0.7**
comp=Z,4.7nm,0.5s,mb4.7
AKTO Aktyubinsk 52.72 53 LR LR 01 57 56.2
comp=Z,197nm,19.1s,MS4.2,baz=0.0,slow=37
WALA Waterton Lakes 53.54 305 *eP* **P 01 35 02.3 -0.1**
comp=Z,6.2nm,0.9s,mb4.5
AMTX Amarillo 54.66 285 *eP* **P 01 35 10.9 +0.3**
comp=Z,7.8nm,0.8s,mb4.8
AMTX Amarillo 54.66 285 *eP* **P 01 35 10.9 +0.4**
comp=Z,7.8nm,0.8s,mb4.8
PDAR Pinedale Array 54.73 297 P **P 01 35 10.6 -0.5**
comp=Z,2.2nm,0.8s,mb4.2,baz=56,slow=7.9,SNR=14
PDAR LR LR 01 57 16.2
comp=Z,274nm,18.2s,MS4.4,baz=77,slow=35
TPAW Teton Pass 55.12 298 *eP* **P 01 35 14.1 +0.2**
comp=Z,4.1nm,0.8s,mb4.5
TPAW Teton Pass 55.12 298 *eP* **P 01 35 14.1 +0.2**
comp=Z,4.1nm,0.8s,mb4.5
ZRNK Zerenda 56.78 46 *eP* **P 01 35 26.5 +0.7**
ZRNK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ZRNK Zerenda 56.78 46 *eP* **P 01 35 26.5 +0.7**
comp=Z,6.0nm,1.1s,mb4.5
ZRNK Zerenda 56.78 46 *eP* **P 01 35 26.5 +0.7**
comp=Z,6.0nm,1.1s,mb4.5
HLID Hailey 57.08 300 *eP* **P 01 35 29.2 +1.3**
comp=Z,6.1nm,1.4s,mb4.4
HLID Hailey 57.08 300 *eP* **P 01 35 29.2 +1.3**
comp=Z,6.1nm,1.4s,mb4.4
CHKZ Chkalovo 57.09 44 *eP* **P 01 35 28.5 +0.5**
CHKZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CHKZ Chkalovo 57.09 44 *eP* **P 01 35 28.5 +0.5**
comp=Z,6.2nm,1.0s,mb4.6
CHKZ Chkalovo 57.09 44 *eP* **P 01 35 28.5 +0.5**
comp=Z,6.2nm,1.0s,mb4.6
BVAR Borovoye Array 57.39 45 P **P 01 35 29.9 -0.3**
comp=Z,4.4nm,0.7s,mb4.6,baz=319,slow=4.1,SNR=15
DUG Dugway 58.24 296 *eP* **P 01 35 37.2 +1.1**
DUG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
DUG Dugway 58.24 296 *eP* **P 01 35 37.2 +1.1**
comp=Z,8.2nm,0.9s,mb4.8
DUG Dugway 58.24 296 *eP* **P 01 35 37.2 +1.1**
comp=Z,8.2nm,0.9s,mb4.8
ROSC El Rosal 58.78 238 LR LR 01 56 59.2
comp=Z,198nm,21.0s,MS4.2,baz=197,slow=32
ELK Elko 59.33 298 *eP* **P 01 35 45.0 +1.4**
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 59.33 298 *eP* **P 01 35 45.0 +1.3**
comp=Z,3.3nm,0.8s,mb4.4
ELK Elko 59.33 298 *eP* **P 01 35 45.0 +1.4**
comp=Z,3.3nm,0.8s,mb4.4
WVOR Wild Horse Val 60.20 301 *eP* **P 01 35 50.3 +0.7**
WVOR pmax pmax
comp=Z,13nm,0.9s,mb5.0
WVOR Wild Horse Val 60.20 301 *eP* **P 01 35 50.3 +0.7**
comp=Z,13nm,0.9s,mb5.0
WVOR Wild Horse Val 60.20 301 *eP* **P 01 35 50.3 +0.7**
comp=Z,13nm,0.9s,mb5.0
NVS Novosibirsk 61.81 38 *eP* **P 01 36 00.5 -0.1**
ZAL Zalesovo 63.10 38 P **P 01 36 09.1 -0.1**
comp=Z,0.8nm,0.3s,mb4.3,baz=248,slow=5.4,SNR=3.7
ZAL LR LR 02 05 26.3
comp=Z,229nm,18.5s,MS4.4,baz=145,slow=38
DAC Darwin (Calif) 63.65 296 *eP* **P 01 36 13.7 +0.9**
DAC pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
DAC Darwin (Calif) 63.65 296 *eP* **P 01 36 13.7 +0.9**
comp=Z,5.0nm,1.0s,mb4.5
BDFB Brasilia 66.47 201 LR LR 02 02 02.5
comp=Z,202nm,18.8s,MS4.4,baz=5.7,slow=33
MKAR Makanchi Array 67.25 44 P **P 01 36 35.6 -0.5**
comp=Z,2.1nm,0.8s,mb4.2,baz=323,slow=5.9,SNR=15
ATD Arta Tunnel 68.72 97 LR LR 02 07 41.9
comp=Z,65nm,19.1s,MS3.9,baz=331,slow=37
ZAK Zakamensk 72.81 30 *eP* **P 01 37 11.5 +1.2**
ZAK pmax pmax
comp=Z,6.0nm,2.2s,mb4.1
LPAZ La Paz 73.89 220 P **P 01 37 17.2 +0.5**
comp=Z,0.9nm,0.8s,mb3.8,baz=48,slow=9.8,SNR=3.1
KMBO Kilima Mbogo 74.70 110 LR LR 02 11 21.8
comp=Z,151nm,18.9s,MS4.3,baz=96,slow=37
SONM Songino Array 76.04 30 P **P 01 37 29.5 +0.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=319,slow=6.5,SNR=11
SONM LR LR 02 14 03.9
comp=Z,91nm,18.6s,MS4.1,baz=23,slow=38
ULN Ulaanbaatar 76.23 29 *eP* **P 01 37 31.7 +1.5**
ULN pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ULN Ulaanbaatar 76.23 29 *eP* **P 01 37 31.7 +1.5**
comp=Z,5.3nm,1.1s,mb4.4
CPUP Villa Florida 79.17 207 LR LR 02 11 16.3
comp=Z,118nm,18.4s,MS4.3,baz=340,slow=35
BOSA Boshof 90.41 135 LR LR 02 17 38.1
comp=Z,179nm,18.4s,MS4.5,baz=126,slow=34
PLCA Paso Flores 96.66 211 LR LR 02 21 06.6
comp=Z,107nm,18.7s,MS4.3,baz=7.8,slow=34
PPT Papeete 123.83 282 *e*LR LR 02 23 00.4
comp=Z,110nm,21.2s
TBI Tubuai 127.87 277 *e*LR LR 02 24 53.6
comp=Z,219nm,25.0s
VNDA Vanda 150.79 184 PKPbc PKPbc 01 45 30.9 -3.3
comp=Z,1.9nm,0.8s,baz=88,slow=0.8,SNR=7.2
ASAR Alice Springs 151.20 36 PKPbc PKPbc 01 45 34.5 -0.6
comp=Z,1.8nm,0.7s,baz=348,slow=1.9,SNR=19

IDC 14 01:33:03.6±6.5,253N×3073W,h0km,mb3.8/3,mb1 4.1/3, mb1mx3.6/22,mbtmp3.8/3,MS3.7/2,Ms1 3.6/2, ms1mx3.1/27,Error ellipse: s-maj=193.0km s-min=44.4km az=7.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**24.86**	**223**	LR	LR	01 47 19.0	
	comp=Z,130nm,20.9s,baz=59,slow=34						
TORD	**Torodi Ar. Bea**	**33.76**	**70**	P	P	01 39 47.3	+0.4
	1.1nm,0.8s,baz=257,slow=8.7,SNR=14						
MDT	**Midelt**	**38.83**	**36**	LR	LR	01 54 56.3	
	comp=Z,117nm,18.6s,baz=334,slow=34						
GERES	**GERESS Array B**	**59.73**	**32**	P	P	01 43 10.2	+0.2
	0.3nm,0.6s,baz=224,slow=5.5,SNR=3.9						
YKA	**Yellowknife Ar**	**84.94**	**332**	P	P	01 45 40.4	-0.1
	1.4nm,0.8s,baz=91,slow=5.1,SNR=6.3						

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*MOS **14** 01:43:45.3±1.4,3229N×4878E,h10km,mb3.9/8,Error ellipse: s-maj=13.6km s-min=8.3km az=113.1*
*IDC **14** 01:43:45.4±1.2,3237N×4884E,h0km,mb3.9/14, mb1 3.9/19,mb1mx3.8/28,mbtmp3.8/19,ML3.5/4,Error ellipse: s-maj=25.2km s-min=17.7km az=158.0*
*KISR **14** 01:43:50.8±0.4,3220N×4878E,h6km±351km,ML3.3*
*THR **14** 01:43:50.4±1.0,3242N×4884E,h31km±5km,ML3.7*
*TEH **14** 01:43:51.1,3228N×4879E,h29km,Mn3.7*
*NEIC **14** 01:43:51.1,3228N×4879E,h29km,mb3.6/2,MN3.7(TEH), After TEH.*
*ISCJB **14** 01:43:52.0±0.4,3248N±003×4882E±004,h59km±5km, mb3.8/15,Error ellipse: s-maj=5.6km s-min=4.2km az=45.3*
*CSEM **14** 01:43:51.9±0.1,3249N×4880E,h45km,mb3.9/9,Error ellipse: s-maj=1.7km s-min=1.2km az=112.0*

ISC 14 01:43:51.1±0.4,3230N±004×4878E±004,h43km±4km,n81, σ1§07/97,mb3.8/15,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.19**	**175**	*e*PG	**Pn**	**01 43 57.6**	**-1.1**
SHGR				*e*Sg	**Sn**	**01 44 03.8**	**-0.1**
SHGR				AML	AML	01 44 11.3	
	comp=N,6μm,0.4s						
SHGR				AML	AML	01 44 11.8	
	comp=E,6μm,0.5s						
IPIR	**Pirpir**	**1.82**	**77**	Pn	**Pn**	**01 44 19.3**	**-0.7**

IKOM	**Komasi**	**2.15**	**331**	Pn		**Pn**	**01 44 25.4**	**+0.9**
ASAO	**Ashtian**	**2.47**	**25**	*e*Pn		**Pn**	**01 44 29.6**	**+0.7**
ASAO				*e*SG		**Sn**	**01 45 02.7**	**+4.9**
ASAO				AML		AML	01 45 09.2	
	comp=N,534nm,0.6s							
ASAO				AML		AML	01 45 10.2	
	comp=E,391nm,0.6s							
IKLH	**Kalahroud**	**2.56**	**66**	*e*Pn		**Pn**	**01 44 30.5**	**+0.3**
IGHG	**Ghaleghazi**	**2.74**	**318**	Pn		**Pn**	**01 44 32.9**	**+0.3**
IGAR	**Garneh**	**2.89**	**90**	*e*Pn		**Pn**	**01 44 33.2**	**-1.5**
ILIN	**Laeen**	**3.02**	**330**	Pn		**Pn**	**01 44 37.3**	**+0.9**
ILIN				*e*Sn		**Sn**	**01 45 11.0**	**-0.3**
ILIN	**Laeen**	**3.02**	**330**	*e*Pn		**Pn**	**01 44 37.3**	**+0.9**
ILIN				*e*Sn		**Sn**	**01 45 10.4**	**-0.9**
SNGE	**Sanandaj**	**3.03**	**337**	*e*Pn		**Pn**	**01 44 37.7**	**+1.1**
SNGE				*e*Sg		**Sn**	**01 45 20.3**	**+8.7**
SNGE				AML		AML	01 45 27.8	
	comp=N,207nm,0.4s							
SNGE	**Sanandaj**	**3.03**	**337**	*e*Pn		**Pn**	**01 44 37.7**	**+1.2**
	SNR=54							
SNGE				*e*Sg		**Sn**	**01 45 20.3**	**+8.7**
	SNR=93							
IZEF	**Zefreh**	**3.05**	**78**	*e*Pn		**Pn**	**01 44 37.1**	**+0.2**
IDHR	**Dehrash**	**3.12**	**321**	*e*Pn		**Pn**	**01 44 38.1**	**+0.3**
IDHR				*e*Sn		**Sn**	**01 45 13.2**	**-0.6**
IRAZ	**Razeghan**	**3.24**	**17**	Pn		**Pn**	**01 44 50.9**	**+11**
KBD	**Kabd**	**3.25**	**197**	*e*P		**Pn**	**01 44 44.5**	**+4.9**
KBD				*e*S		**Sn**	**01 45 24.9**	**+7.8**
KBD				AML		AML	01 45 36.6	
	comp=Z,145nm,0.3s							
KBD	**Kabd**	**3.25**	**197**	*e*P		**Pn**	**01 44 44.5**	**+4.9**
KBD				*e*S		**Sn**	**01 45 24.9**	**+7.8**
NAY	**Al-Naaiem**	**3.32**	**204**	*e*P		**Pn**	**01 44 45.6**	**+5.0**
NAY				*e*S		**Sn**	**01 45 26.4**	**+7.7**
NASN	**Na'in**	**3.44**	**81**	*e*Pn		**Pn**	**01 44 43.7**	**+1.6**
RDF	**Al-Radifah**	**3.53**	**198**	*e*P		**Pn**	**01 44 48.3**	**+4.9**
RDF				*e*S		**Sn**	**01 45 31.4**	**+7.6**
RDF				AML		AML	01 45 31.7	
	comp=Z,61nm,0.4s							
QRN	**Al-Qurain**	**3.62**	**192**	*e*P		**Pn**	**01 44 49.6**	**+4.9**
QRN				AML		AML	01 45 35.2	
	comp=Z,45nm,0.2s							
IVRN	**Varamin**	**3.64**	**42**	Pn		**Pn**	**01 44 45.1**	**+0.2**
IVRN				Sn		**Sn**	**01 45 26.7**	**+0.1**
IVRN	**Varamin**	**3.64**	**42**	*e*Pn		**Pn**	**01 44 45.1**	**+0.2**
THKV	**Tehran--Karaj**	**4.00**	**25**	*e*PN		**Pn**	**01 44 50.4**	**+0.5**
CHTH	**Charan**	**4.09**	**28**	*e*Pn		**Pn**	**01 44 51.0**	**-0.1**
IDMV	**Damavand**	**4.24**	**39**	*e*Pn		**Pn**	**01 44 53.3**	**+0.1**
IGZV	**Gazvin**	**4.24**	**16**	*e*Pn		**Pn**	**01 44 52.5**	**-0.7**
DAMV	**Damavand**	**4.25**	**38**	*e*Pn		**Pn**	**01 44 53.3**	**+0.1**
IAFJ	**Afjeh**	**4.30**	**34**	Pn		**Pn**	**01 44 54.1**	**+0.1**
IFIR	**Firoozkooh**	**4.69**	**44**	*e*Pn		**Pn**	**01 44 59.8**	**+0.5**
GNI	**Garni**	**8.48**	**339**	*e*P		**Pn**	**01 45 48.5**	**-2.9**
ASF	**Jabal al Asfar**	**10.07**	**272**	Pn		**Pn**	**01 46 13.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=130,slow=5.2,SNR=6.3							
ASF				Sn		**Sn**	**01 48 00.0**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=94,slow=19,SNR=2.9							
MALT	**Malatya**	**10.37**	**308**	*e*Pn		**Pn**	**01 46 18.8**	**+1.6**
MALT				*e*Sn		**Sn**	**01 48 09.8**	**-2.2**
MALT	**Malatya**	**10.37**	**308**	*e*P		**Pn**	**01 46 18.8**	**+1.6**
MALT				*e*Sn		**Sn**	**01 48 09.8**	**-2.2**
MMAI	**Mount Meron Ar**	**11.30**	**277**	Pn		**Pn**	**01 46 29.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=83,slow=16,SNR=3.6							
WSAR	**Wadi Sarin**	**12.54**	**134**	Pn		**Pn**	**01 46 47.5**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=325,slow=13,SNR=7.1							
WSAR				Sn		**Sn**	**01 49 03.0**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=61,slow=19,SNR=5.3							
KIV	**Kislovodsk**	**12.58**	**339**	P		**Pn**	**01 46 48.2**	**+0.8**
KIV	**Kislovodsk**	**12.58**	**339**	Pn		**Pn**	**01 46 48.2**	**+0.8**
CSS	**Prodhromos**	**13.15**	**286**	Pn		**Pn**	**01 46 55.4**	**+0.2**
BRTR	**Keskin Array B**	**14.31**	**305**	Pn		**Pn**	**01 47 10.7**	**-0.3**
BRTR	**Keskin Array B**	**14.31**	**305**	Pn		**Pn**	**01 47 10.7**	**-0.3**
BRTR	**Keskin Array B**	**14.31**	**305**	P		**Pn**	**01 47 10.7**	**-0.3**
AKTK	**Aktyubinsk**	**19.37**	**18**	P		**Pn**	**01 48 11.8**	**-2.7**
AKTO	**Aktyubinsk**	**19.37**	**18**	P		**Pn**	**01 48 11.8**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=216,slow=11,SNR=6.6							
IDI	**Anoyia**	**20.07**	**285**	P		**P**	**01 48 22.2**	**+1.4**
	comp=Z,9.2nm,1.1s,baz=86,slow=14,SNR=3.6							
MLR	**Muntele Rosu**	**22.03**	**313**	P		**P**	**01 48 43.1**	**+1.3**
	comp=Z,1.7nm,0.4s,mb3.9,baz=50,slow=8.1,SNR=4.5							
MLR	**Muntele Rosu**	**22.03**	**313**	P		**P**	**01 48 43.1**	**+1.3**
MLR				pmax		pmax		
	comp=Z,2.0nm,0.4s							
MLR	**Muntele Rosu**	**22.03**	**313**	P		**P**	**01 48 43.1**	**+1.3**
MLR	**Muntele Rosu**	**22.03**	**313**	P		**P**	**01 48 43.1**	**+1.3**
	comp=Z,2.0nm,0.4s,mb3.9							
AAK	**Ala-Archa**	**22.79**	**56**	P		**P**	**01 48 50.2**	**+0.3**
AKASG	**Malin Array Be**	**23.38**	**328**	P		**P**	**01 48 55.1**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.1,baz=133,slow=10,SNR=4.2							
ZRNK	**Zerenda**	**25.28**	**29**	*e*P		**P**	**01 49 14.5**	**+1.1**
ZRNK				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb3.6							
ZRNK	**Zerenda**	**25.28**	**29**	*e*P		**P**	**01 49 14.5**	**+1.1**
	comp=Z,2.3nm,0.9s,mb3.7							
ZRNK	**Zerenda**	**25.28**	**29**	*e*P		**P**	**01 49 14.5**	**+1.1**
	comp=Z,2.0nm,0.9s,mb3.6							
BVAR	**Borovoye Array**	**25.92**	**31**	P		**P**	**01 49 17.6**	**-1.5**
	comp=Z,0.6nm,0.4s,mb3.4,baz=216,slow=7.3,SNR=5.6							
BVAR	**Borovoye Array**	**25.92**	**31**	P		**P**	**01 49 17.6**	**-1.5**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KWP	**Kalwaria**	**26.02**	**319**	*e*P		**P**	**01 49 21.2**	**+1.1**
CHKZ	**Chkalovo**	**26.47**	**30**	*e*P		**P**	**01 49 26.1**	**+1.9**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb3.7							
CHKZ	**Chkalovo**	**26.47**	**30**	*e*P		**P**	**01 49 26.1**	**+2.0**
	comp=Z,0.5nm,0.4s,mb3.4							
CHKZ	**Chkalovo**	**26.47**	**30**	*e*P		**P**	**01 49 26.1**	**+1.9**
	comp=Z,1.0nm,0.4s,mb3.7							
MORC	**Moravsky Berou**	**29.03**	**316**	*e*P		**P**	**01 49 46.5**	**-0.6**
MKAR	**Makanchi Array**	**29.36**	**51**	P		**P**	**01 49 50.3**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=246,slow=8.2,SNR=7.1							
MKAR	**Makanchi Array**	**29.36**	**51**	P		**P**	**01 49 50.3**	**+0.4**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**32.67**	**340**	P		**P**	**01 50 18.5**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=137,slow=8.2,SNR=10							
WLF	**Walferdange**	**35.99**	**312**	P		**P**	**01 50 51.1**	**+3.2**
WLF	**Walferdange**	**35.99**	**312**	P		**P**	**01 50 51.0**	**+3.1**
HFS	**Hagfors**	**36.17**	**331**	P		**P**	**01 50 49.1**	**-0.3**
	comp=Z,3.2nm,0.4s,mb4.6,baz=120,slow=10,SNR=26							
HFS	**Hagfors**	**36.17**	**331**	P		**P**	**01 50 49.1**	**-0.3**
HFS				pmax		pmax		
	comp=Z,3.0nm,0.4s							
NOA	**NORSAR Array B**	**37.70**	**331**	P		**P**	**01 51 01.7**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.7,baz=131,slow=7.6,SNR=4.5							
NOA	**NORSAR Array B**	**37.70**	**331**	P		**P**	**01 51 01.7**	**-0.6**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**39.52**	**347**	P		**P**	**01 51 17.3**	**-0.3**
	comp=Z,2.7nm,1.1s,mb3.9,baz=152,slow=11,SNR=5.5							
ARCES	**ARCESS Array B**	**39.52**	**347**	P		**P**	**01 51 17.3**	**-0.3**
ARCES				pmax		pmax		
	comp=Z,3.0nm,1.1s							
ARCES	**ARCESS Array B**	**39.52**	**347**	P		**P**	**01 51 17.3**	**-0.4**
EKA	**Eskdalemuir Ar**	**42.71**	**318**	P		**P**	**01 51 42.9**	**-1.0**
	comp=Z,0.8nm,0.8s,mb3.5,baz=102,slow=8.0,SNR=3.9							
EKA	**Eskdalemuir Ar**	**42.71**	**318**	P		**P**	**01 51 42.9**	**-1.0**
EKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**47.01**	**257**	P		**P**	**01 52 19.6**	**+1.5**
	comp=Z,0.3nm,0.3s,mb3.6,baz=62,slow=6.9,SNR=14							
DBIC	**Dimbokro**	**55.94**	**255**	P		**P**	**01 53 24.0**	**-0.8**
	comp=Z,11nm,1.1s,mb4.8,baz=201,slow=7.4,SNR=3.4							
DBIC	**Dimbokro**	**55.94**	**255**	P		**P**	**01 53 24.0**	**-0.8**
DBIC				pmax		pmax		
	comp=Z,11nm,1.1s							
DBIC	**Dimbokro**	**55.94**	**255**	P		**P**	**01 53 24.0**	**-0.8**
SCHQ	**Schefferville**	**77.18**	**328**	P		**P**	**01 55 40.1**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=51,slow=13,SNR=2.9							
ULM	**Lac du Bonnet**	**92.05**	**338**	P		**P**	**01 56 54.7**	**-0.8**
	comp=Z,0.9nm,0.7s,mb4.2,baz=329,slow=5.9,SNR=3.2							
ULM	**Lac du Bonnet**	**92.05**	**338**	P		**P**	**01 56 54.7**	**-0.8**

*NEIC **14** 01:57:37.5, 1861N×6847W, h197km, MD4.0(RSPR), After RSPR.*

RSPR 14 01:57:37.5, 1861N×6847W, h197km±4km, MD4.0/13, **MD4.0**/13, **12C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.38**	**108**↑	*e*P		Pn	01 58 10.6	+0.8
LSP				*e*S		Sn	01 58 35.8	+0.8
CRPR	**Cabo Rojo, PR**	**1.42**	**115**↑	*e*P		Pn	01 58 09.6	-0.6
CRPR				*e*S		Sn	01 58 35.5	-0.1
MGP	**Maguayo**	**1.44**	**114**↑	*e*P		Pn	01 58 09.9	-0.4
MGP				*e*S		Sn	01 58 35.7	-0.2
LRS	**Lares**	**1.57**	**101**↓	*e*P		Pn	01 58 11.8	+0.3
LRS				*e*S		Sn	01 58 39.0	+1.0
AOPR	**Arecibo Observ**	**1.65**	**99**↓	*e*P		Pn	01 58 12.4	+0.1
AOPR				*e*S		Sn	01 58 40.2	+0.9
OBIP	**Obispado Ponce**	**1.85**	**107**↑	*e*P		Pn	01 58 14.5	+0.3
OBIP				*e*S		Sn	01 58 44.2	+1.3
CELP	**Cerrillos**	**1.87**	**106**↑	*e*P		Pn	01 58 14.9	+0.5
CELP				*e*S		Sn	01 58 44.6	+1.4
ICM	**Isla Caja Muer**	**1.98**	**111**	*e*S		Sn	01 58 46.5	+1.4
SJG	**San Juan**	**2.25**	**102**↑	*e*P		Pn	01 58 19.2	+0.7
SJG				*e*S		Sn	01 58 51.7	+1.3
SJG	**San Juan**	**2.25**	**102**↑	*e*P		Pn	01 58 18.4	0.0
SJG				*e*S		Sn	01 58 51.2	+0.9
CBYP	**Canovanas**	**2.50**	**97**↑	*e*P		Pn	01 58 21.6	+0.5
CBYP				*e*S		Sn	01 58 56.0	+0.7
HUMP	**Col San Antoni**	**2.53**	**100**↑	*e*P		Pn	01 58 22.2	+0.8
HUMP				*e*S		Sn	01 58 56.3	+0.6
MTP	**Monte Pirata**	**2.81**	**100**↑	*e*P		Pn	01 58 26.2	+1.5
MTP				*e*S		Sn	01 59 03.3	+1.8
STVI	**Saint Thomas**	**3.33**	**94**↑	*e*P		Pn	01 58 32.9	+2.0
STVI				*e*S		Sn	01 59 14.0	+1.2
TBVI	**Tortola**	**3.66**	**92**↑	*e*P		Pn	01 58 37.6	+2.6
TBVI				*e*S		Sn	01 59 21.0	+1.0

*IDC **14** 02:27:15.8±0.9, 1615N×6101W, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.7/23, mbtmp3.9/7, Error ellipse: s-maj=31.4km s-min=12.4km az=79.0*
*TRN **14** 02:27:17.6, 1603N×6120W, h20km, MD3.9, M3.8(FDF), M3.4(FDF)*
TRN Felt (II) & (III)in Guadeloupe.
*ISCJB **14** 02:27:18.6±0.6, 1607N±002×61.11W±005, h25km±3km, mb3.8/8, Error ellipse: s-maj=8.7km s-min=2.9km az=146.8*
*NEIC **14** 02:27:19.1, 1606N×6120W, h19km, mb3.9/3, MD3.6(FDF), MD3.8(TRN), After FDF.*
NEIC Felt [III] on Guadeloupe.

ISC 14 02:27:18.9±0.6, 1605N±002×6113W±005, h16km±3km, n42, σ0°76/60, mb3.8/8, 9C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFG	**Saint Francois**	**0.21**	**342**	*e*P		**Pg**	**02 27 24.2**	**+0.4**
MGG	**Marie-Galante**	**0.22**	**233**↑	*i*P		**Pg**	**02 27 24.1**	**+0.1**
DEG	**La Desirade**	**0.27**	**15**↑	*i*P		**Pg**	**02 27 25.5**	**+0.8**
DOG	**Dongo Capester**	**0.47**	**267**	*e*P		**Pg**	**02 27 27.6**	**-0.7**
PHG	**Guadaloupe-2**	**0.49**	**266**	*e*P		**Pg**	**02 27 28.0**	**-0.8**
SEG	**Port Louis**	**0.50**	**314**↑	*i*P		**Pg**	**02 27 28.3**	**-0.5**
DWS	**Wesley**	**0.51**	**200**↓	*i*P		**Pg**	**02 27 29.5**	**+0.4**
DWS				*e*S		**Sg**	**02 27 36.8**	**+0.8**
SCG	**Saint Claude**	**0.53**	**267**	*e*P		**Pg**	**02 27 28.4**	**-1.0**
HMG	**Houelmont**	**0.55**	**263**	*e*P		**Pg**	**02 27 28.9**	**-0.9**
BBL	**Barber's Block**	**0.62**	**212**↑	*i*P		**Pg**	**02 27 30.6**	**-0.4**
LZG	**Guadaloupe-1**	**0.63**	**278**↑	*i*P		**Pg**	**02 27 29.8**	**-1.4**
MDN	**Morne-Daniel**	**0.77**	**199**↑	*e*P		**Pg**	**02 27 34.6**	**+0.7**
MDN				*e*S		**Sg**	**02 27 45.2**	**+1.1**
DBCT	**Belle View Cho**	**0.81**	**195**	*e*P		**Pb**	**02 27 35.3**	**+0.8**
DBCT				*e*S		**Sg**	**02 27 45.3**	**+0.1**
DSHT	**Scott's Head**	**0.87**	**196**	*e*P		**Pb**	**02 27 36.5**	**+0.9**
DSHT				*e*S		**Sb**	**02 27 47.8**	**+0.9**
BPA	**Boggy Peak**	**1.21**	**325**↓	*i*P		**Pn**	**02 27 40.6**	**-0.5**
BPA				*e*S		**Sb**	**02 27 55.9**	**-0.8**
CRM	**Caravelle**	**1.31**	**171**↑	*e*P		**Pn**	**02 27 41.5**	**-0.9**
CRM				*e*S		**Sb**	**02 27 58.6**	**-1.0**
FDF	**Fort de France**	**1.31**	**181**↑	*i*P		**Pn**	**02 27 41.6**	**-0.9**
FDF				*e*S		**Sn**	**02 27 58.2**	**-1.5**
MVM	**Montagne Vaucl**	**1.51**	**171**↑	*e*P		**Pn**	**02 27 44.7**	**-0.5**
MVM				*e*S		**Sn**	**02 28 04.1**	**-0.4**
CPB	**Codrington**	**1.71**	**337**↓	*e*P		**Pn**	**02 27 48.0**	**-0.1**
CPB				*e*S		**Sn**	**02 28 10.1**	**+0.5**
NVRH	**Round Hill, Ne**	**1.80**	**309**	*e*P		**Pn**	**02 27 49.4**	**+0.2**
NVRH				*e*S		**Sn**	**02 28 12.1**	**+0.3**
SKTB	**Turtle Beach**	**1.83**	**309**	*e*P		**Pn**	**02 27 49.5**	**-0.2**
SKTB				*e*S		**Sn**	**02 28 12.1**	**-0.4**
SKI	**Saint Kitts**	**2.00**	**310**	*e*P		**Pn**	**02 27 52.2**	**+0.2**
SKI				*e*S		**Sn**	**02 28 17.0**	**+0.4**
SKDB	**Saint Kitts 2**	**2.09**	**310**	*e*P		**Pn**	**02 27 53.7**	**+0.4**
STAT	**Sint Eustatius**	**2.28**	**309**	*e*P		**Pn**	**02 27 56.1**	**+0.3**
STAT				*e*S		**Sn**	**02 28 26.4**	**+2.9**
SABS	**Saba**	**2.55**	**308**	*e*P		**Pn**	**02 27 59.9**	**+0.3**
SABT	**Saba**	**2.55**	**308**	*e*P		**Pn**	**02 27 59.9**	**+0.3**
SSV	**Crater Summit**	**2.71**	**181**	*e*P		**Pn**	**02 28 01.6**	**-0.1**
SSV				*e*S		**Sn**	**02 28 34.0**	**-0.2**
SVB	**Belmont**	**2.77**	**182**	*e*P		**Pn**	**02 28 03.8**	**+1.2**
SVB				*e*S		**Sn**	**02 28 35.9**	**+0.2**
FCV	**Fort Charlotte**	**2.88**	**182**	*e*P		**Pn**	**02 28 05.2**	**+1.1**
FCV				*e*S		**Sn**	**02 28 37.7**	**-0.7**
MTP	**Monte Pirata**	**4.69**	**296**	*e*Pn		**Pn**	**02 28 29.4**	**+0.3**
CPD	**Cerro la Pandu**	**4.98**	**294**	*e*Pn		**Pn**	**02 28 32.5**	**-0.5**
SJG	**San Juan**	**5.22**	**294**	Pn		**Pn**	**02 28 36.1**	**-0.1**
	33nm,0.3s,baz=131,slow=14,SNR=46							
SJG				Sn		**Sn**	**02 29 32.0**	**-4.1**
	8.1nm,0.3s,baz=7.6,slow=19,SNR=2.8							
PCRV	**Puerto La Cruz**	**6.77**	**211**	Pn		**Pn**	**02 28 58.1**	**+0.6**
	1.0nm,0.3s,baz=7.6,slow=14,SNR=7.3							
PCRV				Sn		**Sn**	**02 30 09.1**	**-5.1**
	0.7nm,0.3s,baz=108,slow=6.4,SNR=2.2							
SAML	**Samuel**	**24.92**	**185**	*e*P		**P**	**02 32 41.3**	**+0.1**
	2.7nm,1.0s,mb3.7							
SCHQ	**Schefferville**	**38.95**	**355**	P		**P**	**02 34 44.6**	**+0.6**
	1.4nm,0.7s,mb3.8,baz=186,slow=9.2,SNR=4.1							
CPUP	**Villa Florida**	**42.29**	**175**	P		**P**	**02 35 11.8**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=352,slow=8.8,SNR=2.5							
MNTX	**Cornudas Mount**	**43.05**	**299**	*e*P		**P**	**02 35 17.4**	**-0.4**
	1.0nm,0.4s,mb3.9							
PV10	**Paradox Valley**	**47.43**	**308**	*e*P		**P**	**02 35 54.5**	**+1.9**
BW06	**Boulder Array**	**49.02**	**313**	*e*P		**P**	**02 36 05.0**	**+0.1**
	0.8nm,0.5s,mb4.0							
PDAR	**Pinedale Array**	**49.02**	**313**	P		**P**	**02 36 04.8**	**0.0**
	1.3nm,0.6s,mb4.1,baz=117,slow=9.0,SNR=9.7							
YKA	**Yellowknife Ar**	**59.40**	**334**	P		**P**	**02 37 19.4**	**-1.1**
	0.5nm,0.4s,mb3.9,baz=105,slow=7.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**60.67**	**84**	P		**P**	**02 37 28.0**	**-1.2**
	1.6nm,1.3s,mb4.0,baz=273,slow=6.7,SNR=2.6							

*ISCJB **14** 02:27:43.5±1.6, 2148N±007×144.1E±02, h52km±15km, mb3.8/9, MS3.7/3, Error ellipse: s-maj=35.3km s-min=10.0km az=158.1*
*NEIC **14** 02:27:45.6±1.4, 2149N×144.17E, h57km±13km, mb4.0/3, Error ellipse: s-maj=21.2km s-min=8.9km az=76.0*
*IDC **14** 02:27:45.7±2.6, 2151N×144.12E, h57km±23km, mb3.5/6, mb1 3.8/9, mb1mx3.7/21, mbtmp3.9/9, ML4.0/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/20, Error ellipse: s-maj=33.9km s-min=15.4km az=78.0*

ISC 14 02:27:45.8±1.3, 2149N±007×1442E±02, h58km±13km, n20, σ0°53/14, mb3.8/9, MS3.7/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.87**	**342**	P		**Pn**	**02 29 10.3**	**+0.2**
	8.9nm,0.3s,baz=272,slow=23,SNR=4.6							
CBIJ				S		**Sn**	**02 30 15.8**	**-0.2**
	8.9nm,0.3s,baz=286,slow=20,SNR=4.2							
CBIJ				LR		LR	02 31 03.0	
	comp=Z,162nm,21.0s,baz=319,slow=34							
GUMO	**Guam**	**7.89**	**175**	P		**Pn**	**02 29 37.3**	**-0.5**
	4.1nm,0.3s,baz=18,slow=20,SNR=2.9							
GUMO	**Guam**	**7.89**	**175**	P		**Pn**	**02 29 37.3**	**-0.5**
JHJ	**Hachijo jima 2**	**12.22**	**342**	LR		LR	02 35 20.9	
	comp=Z,228nm,18.4s,baz=246,slow=37							
MJAR	**Matsushiro Arr**	**15.87**	**342**	P		**Pn**	**02 31 26.0**	**+0.6**
	0.4nm,0.3s,baz=146,slow=15,SNR=5.1							
MJAR				LR		LR	02 37 13.3	
	comp=Z,275nm,19.4s,baz=210,slow=36							
ASAJ	**Asahikawa**	**22.60**	**357**	LR		LR	02 40 30.0	
	comp=Z,176nm,21.6s,MS3.5,baz=186,slow=34							
SONM	**Songino Array**	**40.09**	**320**	P		**P**	**02 35 15.5**	**0.0**
	0.6nm,0.7s,mb3.5,baz=137,slow=8.5,SNR=4.0							
WRAB	**Tennant Creek**	**42.28**	**194**	*e*P		**P**	**02 35 34.1**	**+0.6**
	1.7nm,0.6s,mb3.9							
ASAR	**Alice Springs**	**45.99**	**193**	P		**P**	**02 36 03.5**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=15,slow=9.6,SNR=14							
MKAR	**Makanchi Array**	**55.52**	**313**	P		**P**	**02 37 14.7**	**-0.2**
	0.2nm,0.3s,mb3.6,baz=93,slow=8.7,SNR=3.3							
MKAR				PcP		PcP	02 38 14.1	-0.2
	0.3nm,0.4s,baz=129,slow=50,SNR=2.9							
CHKZ	**Chkalovo**	**63.28**	**320**	*e*P		**P**	**02 38 08.4**	**0.0**
	0.9nm,0.8s,mb4.0							
ZRNK	**Zerenda**	**64.27**	**320**	*e*P		**P**	**02 38 15.2**	**+0.4**
	1.2nm,0.8s,mb4.0							
YKA	**Yellowknife Ar**	**76.20**	**28**	P		**P**	**02 39 28.0**	**+0.2**
	0.9nm,0.7s,mb3.8,baz=305,slow=5.3,SNR=4.4							
YKA				LR		LR	03 12 27.6	
	comp=Z,61nm,18.2s,MS4.0,baz=0.0,slow=35							
NVAR	**Mina Array Bea**	**82.54**	**52**	P		**P**	**02 40 02.4**	**+0.1**
	0.6nm,0.5s,mb3.9,baz=256,slow=11,SNR=4.2							
FINES	**FINESS Array B**	**83.76**	**335**	P		**P**	**02 40 07.0**	**-1.6**
	0.8nm,0.6s,mb4.0,baz=90,slow=5.7,SNR=5.3							
NOA	**NORSAR Array B**	**89.47**	**339**	LR		LR	03 24 01.9	
	comp=Z,29nm,21.1s,MS3.7,baz=0.0,slow=38							
PLCA	**Paso Flores**	**144.93**	**131**	PKP		PKPdf	02 47 15.8	-0.5
	7.1nm,0.9s,baz=231,slow=5.6,SNR=11							
PLCA	**Paso Flores**	**144.93**	**131**	PKP		PKPdf	02 47 15.8	-0.5
LPAZ	**La Paz**	**149.03**	**86**	PKP		PKPdf	02 47 25.6	+2.5
	1.2nm,0.6s,baz=317,slow=3.7,SNR=4.1							
LPAZ				PKPbc		PKPbc	02 47 29.2	+1.9
	1.2nm,0.6s,baz=290,slow=4.2,SNR=11							
LPAZ	**La Paz**	**149.03**	**86**	PKP		PKPdf	02 47 25.6	+2.5
LPAZ				PKPbc		PKPbc	02 47 29.2	+1.9

*ISCJB **14** 02:35:14.8±4.5, 84S±01×122.1E±02, h33km±43km, mb4.1/7, Error ellipse: s-maj=35.4km s-min=19.1km az=157.5*
*IDC **14** 02:35:14.6±0.8, 840S×122.02E, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.2/16, mbtmp4.2/10, ML4.0/3, Error ellipse: s-maj=46.8km s-min=15.7km az=72.0*
*NEIC **14** 02:35:15.0±9.2, 838S×122.11E, h3km±58km, mb4.2/1, Error ellipse: s-maj=30.5km s-min=14.4km az=81.0*
NEIC Felt [III] at Kupang and Maumere.

ISC 14 02:35:19.7±3.1, 84S±01×1221E±02, h35km±31km, n18, σ0°80/20, mb4.1/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.21**	**161**	*e*P		**Pn**	**02 37 43.9**	**+0.3**
	10nm,0.6s							
FITZ				*e*S		**Sn**	**02 39 31.1**	**-5.7**
FITZ	**Fitzroy Crossi**	**10.21**	**161**	Pn		**Pn**	**02 37 43.7**	**+0.1**
	0.5nm,0.3s,baz=354,slow=8.8,SNR=12							
FITZ				Sn		**Sn**	**02 39 31.9**	**-4.8**
	1.5nm,0.3s,baz=129

KUR A 03 11 45.2
12μm,0.7s
KUR A 03 11 45.2
10μm,0.7s
KUR Kuril'sk 0.76 343κ *i*PN **Pn 03 11 26.2 -1.9**
KUR *i* S **Sn 03 11 40.3 -1.5**
KUR pmax pmax
comp=N,3μm,0.6s
KUR pmax pmax
comp=E,3μm,0.6s
KUR pmax pmax
comp=Z,7μm,0.6s
KUR pmax pmax
comp=N,7μm,1.0s
KUR pmax pmax
comp=E,9μm,1.0s
KUR pmax pmax
comp=Z,28μm,1.0s
KUR smax
comp=N,29μm,1.0s
KUR smax
comp=E,16μm,1.0s
KUR smax
comp=N,9μm,0.7s
KUR smax
comp=E,6μm,0.7s
YUK Yuzh-Kuril'sk 1.73 255⇓ *i*P **Pn 03 11 39.5 +0.2**
YUK ⇓ *i*P 03 11 39.5
YUK AMB AMB 03 11 40.5
comp=E,8μm,0.2s
YUK AMB AMB 03 11 40.5
comp=E,2μm,0.3s
YUK AMB AMB 03 11 40.5
comp=E,2μm,0.3s
YUK AMB AMB 03 11 40.5
comp=E,6μm,0.3s
YUK *e*S **Sn 03 12 00.5 -1.1**
YUK A 03 12 02.8
comp=E,15μm,0.5s
YUK A 03 12 02.8
comp=E,16μm,0.5s
YUK A 03 12 05.0
comp=E,14μm,0.6s
YUK A 03 12 05.0
comp=E,24μm,0.3s
YUK Yuzh-Kuril'sk 1.73 255⇓ *i*PN **Pn 03 11 39.5 +0.2**
YUK *e*S **Sn 03 12 00.5 -1.1**
YUK pmax pmax
comp=Z,6μm,0.3s
YUK pmax pmax
comp=N,2μm,0.2s
YUK pmax pmax
comp=E,2μm,0.2s
YUK pmax pmax
comp=Z,8μm,0.2s
YUK smax
comp=N,15μm,0.5s
YUK smax
comp=E,16μm,0.5s
YUK smax
comp=N,24μm,0.3s
YUK smax
comp=E,14μm,0.6s
NEM2 Nemuro 2 2.10 238 P **Pn 03 11 43.5 -0.5**
NEM2 *e*S **Sn 03 12 07.9 -2.1**
JRA Rausu 2.27 256 P **Pn 03 11 47.5 +1.3**
JRA *e*S **Sn 03 12 15.4 +1.5**
JNK Nakash 2.66 251 P **Pn 03 11 51.9 +0.6**
JAK Akkeshi 2.95 240 P **Pn 03 11 54.7 -0.4**
JAK *e*S **Sn 03 12 27.8 -2.0**
JTKR Abashiri--Toko 3.12 261 P **Pn 03 11 58.6 +1.2**
JTKR *e*S **Sn 03 12 34.6 +0.7**
JAR Ashorobuto 3.41 251 P **Pn 03 12 02.5 +1.2**
JKK2 Kamakawa 2 3.96 263 P **Pn 03 12 10.3 +1.6**
JCH Churui 3.98 243 P **Pn 03 12 08.8 -0.2**
JCH *e*S **Sn 03 12 52.7 -2.0**
JSE Soyaes 4.01 278 P **Pn 03 12 11.0 +1.6**
ASAJ Asahikawa 4.03 266 P **Pn 03 12 10.7 +1.1**
comp=E,19nm,0.3s,baz=75,slow=21,SNR=117
ASAJ S **Sn 03 12 57.6 +1.9**
comp=E,6.2nm,0.3s,baz=40,slow=26,SNR=6.2
ASAJ LR LR 03 13 41.4
comp=E,194nm,20.6s,baz=143,slow=38
ASAJ Asahikawa 4.03 266 PN **Pn 03 12 10.7 +1.1**
ASAJ S **Sn 03 12 57.7 +1.9**
ASAJ pmax pmax
comp=Z,19nm,0.3s
ASAJ smax
comp=N,6.0nm,0.3s
ASAJ MLR MLR
comp=Z,194nm,20.6s
JFR Furan 4.26 254 P **Pn 03 12 14.0 +1.3**
YSS Yuzh-Sakhalins 4.52 305⇑ *e*P **Pn 03 12 17.7 +1.5**
YSS AMB AMB 03 12 18.3
comp=Z,40nm,0.6s
YSS AMB AMB 03 12 18.3
comp=Z,20nm,0.6s
YSS *i* S **Sn 03 13 08.2 +0.6**
YSS A 03 13 10.0
comp=Z,140nm,0.9s
YSS A 03 13 10.0
comp=Z,220nm,0.9s
YSS A 03 13 12.5
comp=Z,500nm,2.0s
YSS Yuzh-Sakhalins 4.52 305⇑ *e*PN **Pn 03 12 17.7 +1.5**
YSS *i* S **Sn 03 13 08.2 +0.6**
YSS pmax pmax
comp=E,20nm,0.6s
YSS pmax pmax
comp=Z,40nm,0.6s
YSS smax
comp=N,140nm,0.9s
YSS smax
comp=E,220nm,0.9s
YSS smax
comp=E,500nm,2.0s
YSS Yuzh-Sakhalins 4.52 305 *e*Pn **Pn 03 12 17.9 +1.7**
JWK2 Keihoku 4.54 282 P **Pn 03 12 19.4 +3.0**
JNBK Urakawa-nobuka 4.54 242 P **Pn 03 12 15.5 -1.0**
JNBK *e*S **Sn 03 13 03.9 -4.3**
JHR Hokuryu 4.71 263 P **Pn 03 12 21.3 +2.5**
JYG Yagishiri 4.84 271 P **Pn 03 12 22.7 +2.2**
JEW Eniwo 5.16 253 P **Pn 03 12 26.2 +1.3**
JEW *e*S **Sn 03 13 24.1 +0.9**
JSK Shakotan 5.69 261 P **Pn 03 12 32.8 +0.8**
JKB Kayabe 5.85 246 P **Pn 03 12 33.8 -0.4**
JKB *e*S **Sn 03 13 35.6 -4.3**
JOT Ohata 6.10 242 P **Pn 03 12 36.2 -1.4**
UGL Uglegorsk 6.20 320 *e*P **Pn 03 12 39.0 0.0**
UGL AMB AMB 03 12 46.0
comp=E,91nm,0.6s
UGL A 03 14 14.0
comp=E,600nm,3.0s
UGL A 03 14 14.0
comp=E,500nm,3.0s
JOSM Okushiri--Mats 6.80 252 P **Pn 03 12 47.0 -0.1**
JOSM *e*S **Sn 03 14 00.3 -2.8**
TYV Tymovskoe 7.37 332 *e*P **Pn 03 12 55.8 +1.0**
TYV AMB AMB 03 13 02.5
comp=E,15nm,0.8s
TYV AMB AMB 03 13 02.5
comp=E,11nm,0.8s
TYV AMB AMB 03 13 02.5
comp=E,24nm,0.8s
SKR Severo-Kuril's 8.17 38 *e*P **Pn 03 13 05.0 -0.8**
HABR Khabarovsk 9.88 298 *e*PN **Pn 03 13 27.4 -1.6**
MAT Matsushiro 10.99 227 P **Pn 03 13 41.6 -2.5**
MAT *e*S **Sn 03 15 34.3 -11**
MJAR Matsushiro Arr 10.99 227 P **Pn 03 13 42.1 -2.0**
comp=E,0.5nm,0.3s,baz=28,slow=13,SNR=12
MJAR Matsushiro Arr 10.99 227 PN **Pn 03 13 42.1 -2.0**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
KLR Kul'dur 12.19 299 *e*PN **Pn 03 13 58.2 -1.9**
MDJ Mudanjiang 13.26 277 P **Pn 03 14 13.3 -0.8**
MDJ S **Sn 03 16 37.8 -2.2**
MDJ PCP PcP 03 19 33.8 -2.1
MDJ SCP ScP 03 22 58.8 -1.0
MDJ PCS PcS 03 23 11.6 +1.1
MDJ SCS ScS 03 26 34.5 -2.0
MDJ AMB AMB
comp=Z,90nm,8.4s
MDJ Mudanjiang 13.26 277 *e*Pn **Pn 03 14 13.6 -0.6**
comp=Z,7.8nm,0.4s
MA2 Magadan 15.17 5*ce*P **Pn 03 14 40.2 +1.6**
MA2 pmax pmax
comp=Z,9.0nm,0.6s
MA2 pmax pmax
comp=N,5.0nm,0.5s
MA2 Magadan 15.17 5 *e*P **Pn 03 14 39.1 +0.4**
comp=N,9.2nm,0.6s
CN2 Changchun 16.33 275 *e*P **Pn 03 14 53.3 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
ZEA Zeya 16.47 312 *e*P **Pn 03 14 51.3 -3.5**
ZEA AMB AMB 03 14 53.6
comp=Z,20nm,0.7s
SNY Shenyang 18.13 270⇓ P **P 03 15 15.3 +1.3**
SNY AMB AMB
comp=Z,20nm,0.6s
YAK Yakutsk 20.61 335 *e*P **P 03 15 38.3 -2.6**
YAK pmax pmax
comp=Z,47nm,0.7s
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,13nm,1.1s
YAK Yakutsk 20.61 335 *e*P **P 03 15 38.1 -2.9**
comp=E,132nm,0.8s
BJT Baijiatuau 24.03 270 *e*P **P 03 16 15.4 +0.1**
BJT pmax pmax
comp=Z,6.0nm,0.4s
BJT Baijiatuau 24.03 270 *e*P **P 03 16 15.3 0.0**
comp=Z,5.6nm,0.4s,mb4.2
BOD Bodaibo 24.91 314 *e*P **P 03 16 20.2 -3.2**
BOD pmax pmax
comp=Z,18nm,0.7s,mb4.6
SSE Sheshan 25.05 247 P **P 03 16 24.6 0.0**
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,40nm,7.6s
BILL Bilibino 25.42 16*d i*P **P 03 16 27.4 -0.6**
BILL pmax pmax
comp=Z,8.0nm,1.8s,mb3.9
ATKA Atka Island 25.92 59 *e*P **P 03 16 31.7 -0.8**
NJ2 Nanjing 26.02 251 *e*P **P 03 16 35.5 +2.1**
NJ2 PP 03 17 21.4
NJ2 S **S 03 20 53.0 -3.6**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.5
NJ2 AMB AMB
comp=Z,1μm,8.0s
NJ2 LR LR
comp=N,220nm,15.8s
NJ2 LR LR
comp=E,260nm,21.0s
NJ2 LR LR
comp=Z,140nm,16.1s
HHC Hu-ho-hao-te 27.02 275 *e*P **P 03 16 46.5 +4.1**
HHC AP pP 03 17 10.3 +5.2
HHC PP 03 17 36.3
HHC PCP PcP 03 20 06.5 +5.3
HHC S **S 03 21 12.6 +0.1**
HHC XS sS 03 21 54.5 +2.4
HHC SS 03 22 33.8
HHC PCS PcS 03 23 46.8 +4.0
HHC SCS ScS 03 27 24.4 +1.2
HHC AMB AMB
comp=Z,60nm,0.8s,mb5.2
HHC AMB AMB
comp=Z,100nm,4.8s
HHC LR LR
comp=N,180nm,18.5s
HHC LR LR
comp=E,570nm,21.8s
HHC LR LR
comp=Z,70nm,13.1s
BTO Baotou 28.21 276 *e*P **P 03 16 57.6 +4.7**
BTO AMB AMB
comp=Z,90nm,0.7s,mb5.4
ULN Ulaanbaatar 28.43 292 *e*P **P 03 16 55.3 +0.4**
ULN pmax pmax
comp=Z,16nm,0.6s,mb4.7
ULN Ulaanbaatar 28.43 292 *e*P **P 03 16 55.3 +0.4**
comp=Z,16nm,0.6s,mb4.7
SONM Songino Array 28.87 292 P **P 03 16 59.5 +0.6**
comp=Z,16nm,0.8s,mb4.7,baz=77,slow=8.4,SNR=78
SONM LR LR 03 29 57.2
comp=Z,49nm,18.0s,baz=356,slow=39
SONM Songino Array 28.87 292 P **P 03 16 59.5 +0.6**
SONM pmax pmax
comp=Z,16nm,0.8s
SONM MLR MLR
comp=Z,49nm,18.0s
ZAK Zakamensk 30.55 297 *e*P **P 03 17 13.8 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.2
LZH Lanzhou 34.49 271⇑ P **P 03 17 49.0 +0.9**
LZH AP pP 03 18 14.0 +2.8
LZH XP sP 03 18 27.5 +4.4
LZH PP PP 03 19 08.3 +0.2
LZH *e*S **S 03 23 07.3 -1.8**
LZH XS sS 03 23 51.1 +1.9
LZH *e*SS SS 03 25 24.3 -18
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,120nm,5.2s
GTA Gaotai 35.91 279 P **P 03 18 01.6 +1.4**
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 Chengdu 37.22 264 *e*P **P 03 18 10.6 -0.8**
CD2 AP pP 03 18 32.8 -2.0
CD2 XP sP 03 18 44.3 -2.2
CD2 PP PP 03 19 39.8 +1.6
CD2 S **S 03 23 48.3 -2.5**
CD2 XS sS 03 24 27.3 -3.9
CD2 SS SS 03 26 24.3 -14
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.3s
CD2 LR LR
comp=E,80nm,15.6s
CD2 LR LR
comp=Z,60nm,15.6s
KDAK Kodiak Island 38.19 48 P **P 03 18 18.5 -1.0**
comp=Z,4.2nm,0.4s,mb4.6,baz=296,slow=2.8,SNR=4.6
KDAK Kodiak Island 38.19 48 P **P 03 18 18.5 -1.0**
COLA College 40.02 37*d i*P **P 03 18 35.9 +1.1**
ZAL Zalesovo 41.15 307 P **P 03 18 43.5 -0.6**
comp=Z,3.2nm,0.4s,mb4.5,baz=49,slow=8.5,SNR=7.4
ZAL Zalesovo 41.15 307 P **P 03 18 43.5 -0.6**
ZAL pmax pmax
comp=Z,3.0nm,0.4s
KMI Kunming 41.41 258 P **P 03 18 48.0 +1.8**
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
WMQ Urumqi 42.51 291 P **P 03 18 55.9 +0.8**
WMQ AMB AMB
comp=Z,20nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,90nm,4.5s
DAWY Dawson 43.74 37 *e*P **P 03 19 05.5 +0.4**
MK31 Makanchi Array 44.89 297 P **P 03 19 14.2 0.0**
MK31 pmax pmax
comp=Z,25nm,0.6s,mb5.1
MKAR Makanchi Array 44.89 297 P **P 03 19 14.3 +0.1**
comp=Z,38nm,0.6s,mb5.3,baz=78,slow=8.5,SNR=298
MKAR Makanchi Array 44.89 297 P **P 03 19 14.3 +0.1**
MKAR pmax pmax
comp=Z,38nm,0.6s
INK Inuvik 45.37 31 P **P 03 19 18.8 +0.7**
comp=Z,4.9nm,0.4s,mb4.6,baz=306,slow=5.9,SNR=27
INK Inuvik 45.37 31 P **P 03 19 18.8 +0.8**
INK pmax pmax
comp=Z,5.0nm,0.4s
INK Inuvik 45.37 31 *e*P **P 03 19 18.3 +0.3**
comp=Z,4.3nm,0.4s,mb4.5
KURK Kurchatov 45.72 304 *e*P **P 03 19 19.6 -1.2**
KURK pmax pmax
comp=Z,8.0nm,0.4s,mb4.8
KURK Kurchatov 45.72 304 *e*P **P 03 19 19.6 -1.2**
comp=Z,7.7nm,0.4s,mb4.8
CHKZ Chkalovo 49.22 310 *e*P **P 03 19 45.6 -2.2**
CHKZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHKZ Chkalovo 49.22 310 *e*P **P 03 19 45.6 -2.2**
comp=Z,8.6nm,0.8s,mb4.7
VOSK Vostochnaya 49.39 309 P **P 03 19 48.4 -0.7**
VOSK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BVA0 Borovoye Array 49.60 309 *i* P **P 03 19 49.9 -0.8**
BVAR Borovoye Array 49.60 309 P **P 03 19 50.1 -0.6**
baz=60,slow=12
BRVK Borovoye 49.64 309 *e*P **P 03 19 49.7 -1.4**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRVK Borovoye 49.64 309 *e*P **P 03 19 49.7 -1.4**
comp=Z,7.8nm,0.9s,mb4.6
ZRNK Zerenda 50.39 310 P **P 03 19 55.2 -1.5**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZRNK Zerenda 50.39 310 *e*P **P 03 19 55.1 -1.6**
comp=Z,4.0nm,0.4s,mb4.7
ULHL Ulahol 50.75 294 P **P 03 20 00.7 +1.2**
SNR=11
TKM2 Tokmak 2 50.85 295 P **P 03 20 01.4 +1.2**
SNR=18
USP Ospenovka 51.39 296 P **P 03 20 05.0 +0.7**
SNR=23
KBK Karagaybulak 51.40 295 P **P 03 20 05.4 +1.1**
SNR=16
KZA Kyzart 51.48 295 P **P 03 20 07.0 +2.1**
SNR=22
AAK Ala-Archa 51.70 296 P **P 03 20 07.3 +0.8**
SNR=6.9
AAK Ala-Archa 51.70 296*c i*P **P 03 20 06.1 -0.4**
AAK *i* *PP pP 03 20 30.2 -0.9
AAK pmax pmax
comp=Z,13nm,1.0s,mb4.9
AAK Ala-Archa 51.70 296 *e*P **P 03 20 05.9 -0.6**
comp=Z,6.3nm,0.6s,mb4.8
EKS2 Erkin-Say 52.15 296 P **P 03 20 10.8 +1.0**
SNR=17
AML Almayashu 52.46 295 P **P 03 20 13.8 +1.6**
SNR=5.2
KK31 Karatay Array 54.02 298 *i* P **P 03 20 23.7 +0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.3s,mb5.0
KKAR Karatay Array 54.02 298 *e*P **P 03 20 23.7 +0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
RES Resolute Bay 54.02 17 *e*P **P 03 20 22.6 -1.0**
RES pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
RES Resolute Bay 54.02 17 *e*P **P 03 20 22.6 -1.0**
comp=Z,6.8nm,0.8s,mb4.7
ARU Arti 54.30 317⇑ *i*P **P 03 20 23.6 -2.0**
ARU *e* 03 20 54.9
ARU *e* 03 22 25.3
ARU *e*S **S 03 27 49.3 -6.2**
ARU *e*SS SS 03 31 33.6 -5.2
ARU pmax pmax
comp=Z,13nm,0.8s,mb5.0
YKA Yellowknife Ar 54.76 34 P **P 03 20 29.4 +0.5**
comp=Z,1.0nm,0.6s,mb4.0,baz=301,slow=7.2,SNR=5.5
YKA Yellowknife Ar 54.76 34 P **P 03 20 29.4 +0.5**
YKA pmax pmax
comp=Z,1.0nm,0.6s
AB31 Akbulak array 57.17 309 *i* P **P 03 20 45.6 -0.5**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
AKTO Aktyubinsk 57.60 311 P **P 03 20 49.1 0.0**
KEV Kevo 58.26 340 *ep* **P 03 20 51.8 -2.0**
comp=Z,3.4nm,0.3s,mb4.8
KEV Kevo 58.26 340 *e*P **P 03 20 51.8 -2.0**
KEV pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
ARCES ARCESS Array B 58.79 340 P **P 03 20 52.4 -5.0**
comp=Z,1.9nm,0.5s,mb4.4,baz=44,slow=7.5,SNR=25
ARCES ARCESS Array B 58.79 340 P **P 03 20 52.4 -5.0**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
EDM Edmonton 60.34 43 *e*P **P 03 21 08.2 +0.2**
JOF Joensuu 61.76 332 *ep* **P 03 21 15.7 -1.9**
comp=Z,14nm,0.6s,mb5.2
JOF Joensuu 61.76 332 *e*P **P 03 21 15.7 -1.9**
JOF pmax pmax
comp=Z,14nm,0.6s,mb5.2
YBH Yreka Blue Hor 61.86 58 P **P 03 21 19.4 +1.0**
comp=Z,0.9nm,0.5s,mb4.0,baz=266,slow=2.9,SNR=5.4
YBH Yreka Blue Hor 61.86 58 *e*P **P 03 21 19.6 +1.3**
YBH pmax pmax
comp=Z,1.0nm,0.7s
YBH Yreka Blue Hor 61.86 58 *e*P **P 03 21 19.6 +1.2**
comp=Z,1.5nm,0.7s,mb4.1
WALA Waterton Lakes 62.52 47 *e*P **P 03 21 23.4 +0.7**
comp=Z,2.0nm,0.6s,mb4.2
SUMG Summit 63.12 2 *e*P **P 03 21 26.2 -0.6**
comp=Z,5.4nm,0.6s,mb4.7
KAF Kangasniemi 63.96 334 *ep* **P 03 21 30.5 -1.8**
comp=Z,12nm,0.5s,mb5.0,baz=42,slow=6.3
KAF Kangasniemi 63.96 334 *e*P **P 03 21 30.5 -1.8**
KAF pmax pmax
comp=Z,12nm,0.5s,mb5.0
FINES FINESS Array B 64.53 333 P **P 03 21 34.6 -1.3**
comp=Z,19nm,0.5s,mb5.2,baz=47,slow=7.4,SNR=184
FINES FINESS Array B 64.53 333 P **P 03 21 34.7 -1.3**
FINES pmax pmax
comp=Z,19nm,0.5s
OBN Obninsk 65.14 324 P **P 03 21 39.0 -0.9**
OBN *i* pP 03 22 08.7 +3.2
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
WRA Warramunga Arr 65.38 194 P **P 03 21 40.7 -0.7**
comp=Z,1.5nm,0.7s,mb3.9,baz=13,slow=6.6,SNR=7.4
WRA Warramunga Arr 65.38 194 P **P 03 21 40.7 -0.7**
WRA pmax pmax
comp=Z,2.0nm,0.7s
HLID Hailey 65.62 52 *e*P **P 03 21 43.7 +0.7**
comp=Z,0.7nm,0.6s,mb3.7
NVAR Mina Array Bea 66.55 59 P **P 03 21 49.9 +0.9**
comp=Z,1.3nm,0.5s,mb4.0,baz=319,slow=5.1,SNR=8.7
BW06 Boulder Array 68.85 50 *e*P **P 03 22 03.9 +0.5**
comp=Z,0.9nm,0.7s,mb3.7
PDAR Pinedale Array 68.85 50 P **P 03 22 03.7 +0.3**
comp=Z,1.0nm,0.5s,mb3.9,baz=258,slow=1.6,SNR=10
GOF Gofitskoye 68.88 313 *e*P **P 03 22 02.9 -0.7**
GOF pmax pmax
comp=Z,70nm,0.7s,mb5.6
ASAR Alice Springs 69.09 194 P **P 03 22 05.9 +1.0**
comp=Z,1.2nm,0.5s,mb4.0,baz=12,slow=6.1,SNR=21
ASAR Alice Springs 69.09 194 P **P 03 22 05.9 +1.0**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 69.16 339 P **P 03 22 04.7 -0.6**
comp=Z,6.0nm,0.5s,mb4.7,baz=29,slow=6.5
NB2 NORSAR Subarra 69.16 339 P **P 03 22 04.7 -0.6**
NB2 pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
NOA NORSAR Array B 69.16 339 P **P 03 22 03.9 -1.4**
comp=Z,8.2nm,0.4s,mb4.9,baz=30,slow=6.4,SNR=24
NOA NORSAR Array B 69.16 339 P **P 03 22 03.9 -1.4**
NOA pmax pmax
comp=Z,8.0nm,0.4s
KIV Kislovodsk 69.81 312 *e*P **P 03 22 10.2 +0.9**
KIV pmax pmax
comp=Z,41nm,0.6s,mb5.4
KIV Kislovodsk 69.81 312 *e*P **P 03 22 10.1 +0.8**
comp=Z,39nm,0.6s,mb5.4
ULM Lac du Bonnet 70.44 38 P **P 03 22 12.9 -0.3**
comp=Z,1.0nm,0.4s,mb4.0,baz=333,slow=7.2,SNR=3.0
SRU San Rafael 70.73 54 *e*P **P 03 22 15.4 +0.4**
SRU pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
SRU San Rafael 70.73 54 *e*P **P 03 22 15.4 +0.5**
comp=Z,4.0nm,0.8s,mb4.3
GNI Garni 71.26 308 P **P 03 22 19.9 +1.8**
comp=Z,6.0nm,0.4s,mb4.8,baz=6.9,slow=2.7,SNR=3.8
GNI Garni 71.26 308 P **P 03 22 19.9 +1.8**
GNI pmax pmax
comp=Z,6.0nm,0.4s
GNI Garni 71.26 308 *e*P **P 03 22 17.9 -0.3**
comp=Z,14nm,0.8s,mb4.8
AKASG Malin Array Be 71.40 324 P **P 03 22 18.4 -0.6**
comp=Z,11nm,0.6s,mb4.9,baz=37,slow=6.1,SNR=58
AKASG Malin Array Be 71.40 324 P **P 03 22 18.4 -0.6**
AKASG pmax pmax
comp=Z,11nm,0.6s
SOC Sochi 71.62 313 *e*P **P 03 22 20.2 -0.1**
SOC *e**PP pP 03 23 01.6 +15
SOC *e* 03 25 10.1
SOC *e*PPP 03 26 42.7
SOC *e*S S 03 31 26.2 -5.3

SOC *e*SS SS 03 36 10.7 +2.0
SOC pmax pmax
comp=Z,21nm,0.6s,mb5.1
ANN Anapa 71.93 316 *e*P **P 03 22 21.5 -0.7**
ANN *e*S S 03 31 29.5 -5.5
ANN pmax pmax
comp=Z,14nm,0.5s,mb5.0
PV01 Paradox Valley 72.52 54 *e*P **P 03 22 25.5 -0.2**
BSD Bornholm Skovb 73.14 334⇓*i*P **P 03 22 28.8 -0.5**
comp=Z,17nm,0.9s,mb4.9
BSD Bornholm Skovb 73.14 334⇓*i*P **P 03 22 28.8 -0.5**
BSD pmax pmax
comp=Z,17nm,0.9s,mb4.9
SIM Simferopol' 73.46 317 *e*P **P 03 22 30.6 -0.6**
SIM pmax pmax
comp=Z,11nm,0.6s,mb4.9
KWP Kalwaria 74.88 327 *e*P **P 03 22 39.7 +0.2**
KWP pmax pmax
comp=Z,31nm,1.2s,mb4.9
KWP Kalwaria 74.88 327 *e*P **P 03 22 39.7 +0.2**
comp=Z,31nm,1.2s,mb4.9
OJC Ojcow 75.52 329 *e*P **P 03 22 43.1 0.0**
BSEG Bad Segeberg 75.54 336 *e*P **P 03 22 43.2 0.0**
comp=Z,12nm,1.0s,mb4.6
BSEG Bad Segeberg 75.54 336 *e*P **P 03 22 43.2 0.0**
BSEG pmax pmax
comp=Z,12nm,1.0s,mb4.6
STHS Stebnicka Huta 75.62 327 *e*P **P 03 22 44.4 +0.7**
STHS Stebnicka Huta 75.62 327 *e*P **P 03 22 44.5 +0.8**
STHS pmax pmax
comp=Z,9.0nm,1.4s,mb4.3
STHS Stebnicka Huta 75.62 327 *e*P **P 03 22 44.5 +0.8**
comp=Z,8.9nm,1.4s,mb4.3
ANMO Albuquerque 75.95 55⇑*e*P **P 03 22 46.8 +1.2**
NIE Niedzica 75.98 328 *e*P **P 03 22 47.0 +1.3**
MALT Malatya 76.05 310 *e*P **P 03 22 47.4 +1.3**
MALT pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
MALT Malatya 76.05 310 *e*P **P 03 22 47.4 +1.2**
comp=Z,10.0nm,1.1s,mb4.5
STKA Stephens Creek 76.26 186 P **P 03 22 46.2 -1.1**
comp=Z,2.7nm,0.7s,mb4.1,baz=335,slow=7.7,SNR=4.6
STKA Stephens Creek 76.26 186 *e*P **P 03 22 46.4 -1.0**
OKC Ostrava-Krasne 76.44 329 *e*P **P 03 22 48.9 +0.5**
UPC Upice 76.64 331 *e*P **P 03 22 50.1 +0.6**
SCHQ Schefferville 76.65 20 P **P 03 22 48.7 -0.9**
comp=Z,1.3nm,0.5s,mb3.9,baz=345,slow=10,SNR=7.6
SCHQ Schefferville 76.65 20 P **P 03 22 48.7 -0.9**
DPC Dobruska-Polom 76.67 331 *e*P **P 03 22 50.0 +0.4**
NRDL Niedersach Rie 76.86 335 *e*P **P 03 22 50.3 -0.4**
comp=Z,7.0nm,1.0s,mb4.3
CLL Collm 76.98 333 *e*P **P 03 22 50.8 -0.6**
comp=Z,15nm,0.8s,mb4.8
CLL Collm 76.98 333⇓*i*P **P 03 22 51.5 +0.1**
comp=Z,15nm,0.8s,mb4.8
CLL Collm 76.98 333⇓*i*P **P 03 22 51.5 +0.1**
CLL pmax pmax
comp=Z,15nm,0.8s,mb4.8
CLL Collm 76.98 333⇓*i*P **P 03 22 51.5 +0.1**
comp=Z,15nm,0.8s,mb4.8
BRG Berggiesshubel 77.04 332 *e*P **P 03 22 45.1 -6.6**
comp=Z,9.7nm,1.8s,mb4.2
BRG Berggiesshubel 77.04 332 *e*P **P 03 22 45.1 -6.6**
BRG pmax pmax
comp=Z,10.0nm,1.8s,mb4.2
PVCC Panska Ves 77.12 332 *e*P **P 03 22 52.9 +0.7**
FBE Freiberg 77.19 333 *e*P **P 03 22 52.3 -0.3**
comp=Z,12nm,1.1s,mb4.5
VYHS Vyhne 77.30 328 *e*P **P 03 22 53.1 0.0**
VYHS pmax pmax
comp=Z,8.0nm,1.7s,mb4.2
VYHS Vyhne 77.30 328 *e*P **P 03 22 53.1 0.0**
comp=Z,8.1nm,1.7s,mb4.2
CLZ Clausthal 77.35 335 *e*P **P 03 22 53.8 +0.4**
comp=Z,9.0nm,0.8s,mb4.5
CLZ Clausthal 77.35 335 *e*P **P 03 22 53.8 +0.4**
CLZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
BRTR Keskin Array B 77.55 314 P **P 03 22 55.3 +0.7**
comp=Z,2.9nm,0.7s,mb4.1,baz=62,slow=3.0,SNR=15
BRTR Keskin Array B 77.55 314 P **P 03 22 55.3 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
PRU Pruhonice 77.59 331 *e*P **P 03 22 54.9 +0.1**
IBBN Ibbenburen 77.71 336 *e*P **P 03 22 56.2 +0.7**
comp=Z,16nm,0.3s,mb5.2
SMOL Smolenice 77.81 329 *e*P **P 03 22 56.7 +0.7**
ANTO Ankara 77.88 315 *e*P **P 03 22 56.7 +0.3**
ANTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
ANTO Ankara 77.88 315 *e*P **P 03 22 56.7 +0.3**
comp=Z,9.9nm,0.8s,mb4.6
WERD Werda 77.94 333 *e*P **P 03 22 57.1 +0.4**
comp=Z,20nm,1.9s,mb4.5
MOX Moxa 78.00 333 *e*P **P 03 22 57.2 +0.2**
comp=Z,3.0nm,0.6s,mb4.2
WERN Wernitzgruen 78.06 333 *e*P **P 03 22 57.4 0.0**
comp=Z,4.0nm,0.6s,mb4.3
NKC Novy Kostel 78.08 333 *e*P **P 03 22 58.0 +0.5**
UBBA Unterbreizbach 78.35 334 *e*P **P 03 22 58.8 -0.2**
comp=Z,2.0nm,0.6s,mb4.0
KHC Kasperske Hory 78.65 332 *e*P **P 03 23 00.7 +0.1**
GERES GERESS Array B 78.85 331 P **P 03 23 01.6 -0.1**
comp=Z,1.7nm,0.4s,mb4.2,baz=37,slow=6.0,SNR=26
GERES GERESS Array B 78.85 331 P **P 03 23 01.6 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.4s
CONA Conrad Observa 78.87 330⇑*i*P **P 03 23 02.7 +0.8**
comp=Z,4.0nm,1.1s,mb4.2
MNTX Cornudas Mount 78.89 56 *e*P **P 03 23 02.7 +0.8**
comp=Z,0.9nm,0.7s,mb3.7
GRA1 Grafenberg Arr 78.95 333 *e*P **P 03 23 01.8 -0.5**
comp=Z,10.0nm,0.6s,mb4.8
GRF Grafenberg Arr 78.95 333 *e*P **P 03 23 01.8 -0.5**
comp=Z,10.0nm,0.6s,mb4.8
GRF Grafenberg Arr 78.95 333 *e*P **P 03 23 01.8 -0.5**
GRF pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
GRF Grafenberg Arr 78.95 333 *e*P **P 03 23 01.8 -0.5**
GRF pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
KBA Koelnbreinsper 80.49 331⇑*i*P **P 03 23 12.0 +1.4**
comp=Z,5.7nm,0.6s,mb4.6
KBA Koelnbreinsper 80.49 331⇑*i*P **P 03 23 12.0 +1.4**
KBA pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
MOTA Moosalm 81.03 332⇑*i*P **P 03 23 13.6 +0.1**
comp=Z,12nm,1.4s,mb4.5
MOTA Moosalm 81.03 332⇑*i*P **P 03 23 13.6 +0.1**
MOTA pmax pmax
comp=Z,12nm,1.4s,mb4.5
CDF Champ du Feu 81.31 335 *e*P **P 03 23 14.9 -0.1**
comp=Z,2.8nm,0.6s,mb4.0
CDF Champ du Feu 81.31 335 *e*P **P 03 23 14.9 -0.1**
CDF pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
CDF Champ du Feu 81.31 335 *e*P **P 03 23 14.9 -0.1**
comp=Z,1.4nm,0.6s,mb4.0
FLN La Foliniere 83.14 340 *e*P **P 03 23 24.4 -0.1**
comp=Z,3.3nm,0.5s,mb4.2
FLN La Foliniere 83.14 340 *e*P **P 03 23 24.4 -0.1**
FLN pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
FLN La Foliniere 83.14 340 *e*P **P 03 23 24.4 -0.1**
comp=Z,1.6nm,0.4s,mb4.2
LDF La Druitiere 83.20 339 *e*P **P 03 23 24.6 -0.2**
comp=Z,4.7nm,0.7s,mb4.2
LDF La Druitiere 83.20 339 *e*P **P 03 23 24.6 -0.2**
LDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
LDF La Druitiere 83.20 339 *e*P **P 03 23 24.6 -0.2**
comp=Z,2.3nm,0.7s,mb4.1
LOR Lormes 83.35 336 *e*P **P 03 23 25.1 -0.5**
comp=Z,4.2nm,0.6s,mb4.1
LOR Lormes 83.35 336 *e*P **P 03 23 25.1 -0.5**
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
LOR Lormes 83.35 336 *e*P **P 03 23 25.1 -0.5**
comp=Z,2.1nm,0.6s,mb4.1
GRR Gorron 83.58 340 *e*P **P 03 23 26.5 -0.2**
comp=Z,12nm,0.6s,mb4.6
GRR Gorron 83.58 340 *e*P **P 03 23 26.5 -0.2**
GRR pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
GRR Gorron 83.58 340 *e*P **P 03 23 26.5 -0.2**
comp=Z,6.2nm,0.6s,mb4.6
SSF Saint Saulge 83.64 337 *e*P **P 03 23 26.5 -0.6**
comp=Z,5.4nm,0.7s,mb4.2
SSF Saint Saulge 83.64 337 *e*P **P 03 23 26.5 -0.6**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
SSF Saint Saulge 83.64 337 *e*P **P 03 23 26.5 -0.6**
comp=Z,2.7nm,0.7s,mb4.2
SMF Signal de Mont 83.92 336 *e*P **P 03 23 28.0 -0.5**
AVF Avril sur Loir 83.93 337 *e*P **P 03 23 28.2 -0.3**
comp=Z,3.0nm,0.5s,mb4.1
AVF Avril sur Loir 83.93 337 *e*P **P 03 23 28.2 -0.3**
AVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
AVF Avril sur Loir 83.93 337 *e*P **P 03 23 28.2 -0.3**
comp=Z,1.5nm,0.5s,mb4.1
LPL La Plagne 84.07 334 *e*P **P 03 23 29.3 +0.1**
LPG La Plagne 84.08 334 *e*P **P 03 23 29.5 +0.2**
comp=Z,4.8nm,0.6s,mb4.2
LPG La Plagne 84.08 334 *e*P **P 03 23 29.5 +0.2**
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
LPG La Plagne 84.08 334 *e*P **P 03 23 29.5 +0.2**
comp=Z,2.4nm,0.6s,mb4.2
SGMF Saint Gilles 84.11 341 *e*P **P 03 23 29.3 -0.2**
comp=Z,11nm,0.8s,mb4.5
SGMF Saint Gilles 84.11 341 *e*P **P 03 23 29.3 -0.2**
SGMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SGMF Saint Gilles 84.11 341 *e*P **P 03 23 29.3 -0.2**
comp=Z,5.7nm,0.8s,mb4.5
ROSF Rostrenen 84.20 341 *e*P **P 03 23 29.6 -0.3**
TCF Toulx Ste Croi 84.71 337 *e*P **P 03 23 32.2 -0.3**
MBDF Montbardon 84.76 333 *e*P **P 03 23 32.6 -0.1**
comp=Z,4.4nm,0.6s,mb4.3
MBDF Montbardon 84.76 333 *e*P **P 03 23 32.6 -0.1**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MBDF Montbardon 84.76 333 *e*P **P 03 23 32.6 -0.1**
comp=Z,2.2nm,0.6s,mb4.3
ORIF Oris-en-Rattie 84.87 334 *e*P **P 03 23 33.1 -0.2**
comp=Z,5.0nm,0.6s,mb4.3
ORIF Oris-en-Rattie 84.87 334 *e*P **P 03 23 33.1 -0.2**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ORIF Oris-en-Rattie 84.87 334 *e*P **P 03 23 33.1 -0.2**
comp=Z,2.5nm,0.6s,mb4.3
MFF Saint Martin d 85.06 339 *e*P **P 03 23 33.7 -0.5**
comp=Z,6.4nm,0.7s,mb4.3
MFF Saint Martin d 85.06 339 *e*P **P 03 23 33.7 -0.5**
MFF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MFF Saint Martin d 85.06 339 *e*P **P 03 23 33.7 -0.5**
comp=Z,3.2nm,0.7s,mb4.4
VIVF Saint-Julien-I 85.30 335 *e*P **P 03 23 35.3 -0.1**
comp=Z,6.1nm,0.7s,mb4.3
VIVF Saint-Julien-I 85.30 335 *e*P **P 03 23 35.3 -0.1**
VIVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
VIVF Saint-Julien-I 85.30 335 *e*P **P 03 23 35.3 -0.1**
comp=Z,3.0nm,0.7s,mb4.3
SBF Sospel 85.31 333 *e*P **P 03 23 35.4 -0.1**
RJF Les Rejaudoux 85.81 337 *e*P **P 03 23 37.7 -0.2**
SMRF Simiane la Rot 85.81 334 *e*P **P 03 23 37.8 -0.2**
comp=Z,6.9nm,0.9s,mb4.3
SMRF Simiane la Rot 85.81 334 *e*P **P 03 23 37.8 -0.2**
comp=Z,6.9nm,0.9s,mb4.6
FRF La Foret Royal 85.84 333 *e*P **P 03 23 37.8 -0.3**
comp=Z,2.4nm,0.5s,mb4.1
FRF La Foret Royal 85.84 333 *e*P **P 03 23 37.8 -0.3**
FRF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
FRF La Foret Royal 85.84 333 *e*P **P 03 23 37.8 -0.3**
comp=Z,1.2nm,0.5s,mb4.1
PGF Pioggiola 85.95 331 *e*P **P 03 23 38.1 -0.6**
CAF Calviac 86.00 337 *e*P **P 03 23 38.7 -0.2**
comp=Z,4.0nm,0.7s,mb4.2
CAF Calviac 86.00 337 *e*P **P 03 23 38.7 -0.2**
CAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
CAF Calviac 86.00 337 *e*P **P 03 23 38.7 -0.2**
comp=Z,2.0nm,0.7s,mb4.2
LMR La Mourre 86.09 333 *e*P **P 03 23 39.2 -0.1**
comp=Z,7.3nm,0.9s,mb4.3
LMR La Mourre 86.09 333 *e*P **P 03 23 39.2 -0.1**
LMR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LMR La Mourre 86.09 333 *e*P **P 03 23 39.2 -0.1**
comp=Z,3.7nm,0.9s,mb4.3
LASF Ste Croix 86.25 335 *e*P **P 03 23 40.0 -0.1**
MTLF Montolieu 87.41 336 *e*P **P 03 23 45.6 -0.1**
comp=Z,8.3nm,1.1s,mb4.3
MTLF Montolieu 87.41 336 *e*P **P 03 23 45.6 -0.1**
MTLF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MTLF Montolieu 87.41 336 *e*P **P 03 23 45.6 -0.1**
comp=Z,4.2nm,1.0s,mb4.3
EPF Esparros 88.23 337 *e*P **P 03 23 49.7 +0.1**
SJPF Ste Jean 88.58 338 *e*P **P 03 23 51.3 0.0**
ETSF Etsaut 88.60 338 *e*P **P 03 23 51.5 +0.1**
comp=Z,6.6nm,0.7s,mb4.5
ETSF Etsaut 88.60 338 *e*P **P 03 23 51.5 +0.1**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ETSF Etsaut 88.60 338 *e*P **P 03 23 51.5 +0.1**
comp=Z,3.3nm,0.7s,mb4.5
TORD Torodi Ar. Bea 115.04 324 PKP PKiKP 03 29 38.4 -0.6
comp=Z,0.2nm,0.8s,baz=15,slow=1.4,SNR=6.5
LPAZ La Paz 138.45 59 PKP PKPdf 03 30 25.3 +1.9
comp=Z,0.4nm,0.6s,baz=326,slow=3.6,SNR=4.0
SNAA Sanae 149.41 198 PKPbc PKPbc 03 30 45.9 -1.1
comp=Z,0.4nm,0.7s,baz=135,slow=5.7,SNR=8.1
PLCA Paso Flores 151.43 96 PKPbc PKPbc 03 30 51.9 +0.1
comp=Z,1.8nm,0.5s,baz=263,slow=4.1,SNR=12
PLCA Paso Flores 151.43 96 PKIKP PKPbc 03 30 51.9 +0.1
PLCA pmax pmax
comp=Z,2.0nm,0.5s
CPUP Villa Florida 152.58 57 PKPbc PKPbc 03 30 53.1 -1.3
comp=Z,0.7nm,0.6s,baz=271,slow=2.8,SNR=3.5
CPUP Villa Florida 152.58 57 PKIKP PKPdf 03 30 53.1 +5.8
CPUP pmax pmax
comp=Z,1.0nm,0.6s

NEIC ***14*** *03:30:45.1, 38.19S×176.19E, h191km, MG3.8(WEL), After WEL.*

WEL 14 03:30:44.7±0.6, 3785S×17645E, h153km±5km, ML3.6/16, Error ellipse: s-maj=7.6km s-min=6.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.66**	**128**	PN	Pn	03 31 07.4	+0.1
URZ				SN	Sn	03 31 25.2	+0.7
MWZ	**Matawai**	**0.98**	**120**	PN	Pn	03 31 09.5	0.0
MWZ				SN	Sn	03 31 29.2	+0.6
MWZ	**Matawai**	**0.98**	**120**	*e*P	Pn	03 31 09.5	-0.1
MWZ				S	Sn	03 31 30.2	+1.6
BKZ	**Black Stump Fm**	**1.31**	**179**	PN	Pn	03 31 12.7	+0.1
BKZ				SN	Sn	03 31 34.4	+0.4
BKZ	**Black Stump Fm**	**1.31**	**179**	*e*P	Pn	03 31 12.7	+0.1
BKZ				S	Sn	03 31 34.4	+0.4
KRVZ	**Karewarewa**	**1.40**	**207**	SN	Sn	03 31 34.0	-1.4
PUZ	**Puketiti**	**1.44**	**99**	PN	Pn	03 31 13.4	-0.5
PUZ	**Puketiti**	**1.44**	**99**	*e*P	Pn	03 31 13.4	-0.5
NGZ	**Ngauruhoe**	**1.48**	**207**	PN	Pn	03 31 14.9	+0.6
KNZ	**Kokohu**	**1.51**	**141**	PN	Pn	03 31 15.0	+0.4
WNVZ	**Wahianoa**	**1.62**	**204**	PN	Pn	03 31 16.0	+0.3
WNVZ	**Wahianoa**	**1.62**	**204**	P	Pn	03 31 16.0	+0.3
MOVZ	**Moawhango**	**1.65**	**199**	PN	Pn	03 31 15.7	-0.3
MOVZ	**Moawhango**	**1.65**	**199**	P	Pn	03 31 15.7	-0.4
PKVZ	**Pokaka**	**1.68**	**211**	PN	Pn	03 31 16.5	+0.1
PXZ	**Pawanui**	**2.20**	**172**	PN	Pn	03 31 21.8	-0.5
WAZ	**Wanganui**	**2.22**	**211**	PN	Pn	03 31 22.3	-0.3
TSZ	**Takapari Road**	**2.24**	**190**	PN	Pn	03 31 21.8	-1.0
TSZ	**Takapari Road**	**2.24**	**190**	*e*P	Pn	03 31 21.8	-1.0
BFZ	**Birch Farm**	**2.83**	**183**	PN	Pn	03 31 28.4	-1.7
BFZ	**Birch Farm**	**2.83**	**183**	P	Pn	03 31 28.4	-1.6
MRZ	**Mangatainoka R**	**2.89**	**193**	PN	Pn	03 31 28.7	-2.1
MRZ	**Mangatainoka R**	**2.89**	**193**	P	Pn	03 31 28.7	-2.0
TIWZ	**Tintock**	**2.95**	**188**	PN	Pn	03 31 29.7	-1.8
KIW	**Kapiti Island**	**3.23**	**201**	PN	Pn	03 31 32.4	-2.8
KIW	**Kapiti Island**	**3.23**	**201**	P	Pn	03 31 32.4	-2.7
MTW	**Mount Morrison**	**3.38**	**192**	P	Pn	03 31 34.0	-3.0
CAW	**Cannon Point**	**3.42**	**198**	PN	Pn	03 31 34.7	-2.9
CAW	**Cannon Point**	**3.42**	**198**	P	Pn	03 31 34.7	-2.9
MRW	**Makara Radio**	**3.63**	**201**	P	Pn	03 31 37.1	-3.2
MSWZ	**Moikau Station**	**3.68**	**194**	P	Pn	03 31 37.5	-3.3
SNZO	**South Karori**	**3.71**	**201**	P	Pn	03 31 37.9	-3.3
TCW	**Tory Channel**	**3.75**	**206**	P	Pn	03 31 38.6	-3.2
KHZ	**Kahutara**	**5.08**	**205**	*e*P	Pn	03 31 55.0	-4.2
LTZ	**Lake Taylor**	**5.87**	**212**	*e*P	Pn	03 32 04.1	-5.6
MSZ	**Milford Sound**	**9.36**	**221**	*e*P	Pn	03 32 32.6	-23

NIED ***14*** *04:13:00, 3970N×14450E, h5km, Mw3.4 Best double couple: M0 1.55000×10^14 NP1:φs225.00000°, δ73.00000°, λ-44.00000°. NP2:φs330.00000°, δ48.00000°, λ-157.00000°.*

JMA 14 04:13:05.7±0.2, 3970N×14451E, h48km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**2.05**	**278**	*e*S	Sn	04 14 03.8	+1.7
MIYJ	**Miyakonagasawa**	**2.08**	**267**	P	Pn	04 13 39.2	+1.1
MIYJ				*e*S	Sn	04 14 04.0	+1.2
OFUJ	**Ofunato**	**2.29**	**255**	P	Pn	04 13 41.7	+0.8
JANG	**Nango**	**2.40**	**287**	P	Pn	04 13 43.4	+1.0
JANG				S	Sn	04 14 11.4	+0.9
JOM	**Ohasama**	**2.50**	**266**	P	Pn	04 13 45.5	+1.7
JOM				S	Sn	04 14 14.7	+1.7
JMK	**Ichinoseki**	**2.66**	**255**	P	Pn	04 13 47.1	+1.1
JMK				S	Sn	04 14 18.1	+1.1
JCH	**Churui**	**3.04**	**344**	P	Pn	04 13 52.0	+0.8
JCH				*e*S	Sn	04 14 26.7	+0.4
JOT	**Ohata**	**3.13**	**304**	P	Pn	04 13 54.5	+2.0
JOT				*e*S	Sn	04 14 31.4	+2.8
JKB	**Kayabe**	**3.43**	**311**	P	Pn	04 13 58.3	+1.7
JKB				*e*S	Sn	04 14 38.4	+2.5
NEM2	**Nemuro 2**	**3.78**	**14**	P	Pn	04 13 59.2	-2.2
NEM2				*e*S	Sn	04 14 41.3	-3.2
JTKR	**Abashiri--Toko**	**4.29**	**354**	*e*S	Sn	04 14 57.1	-0.1
JRY	**Ryogami san**	**5.76**	**232**	P	Pn	04 14 28.7	+0.1
JRY				*e*S	Sn	04 15 30.9	-2.5

IDC ***14*** *04:18:40.4±0.5, 5203N×17671E, h0km, mb5.0/18, mb1 5.2/19, mb1mx5.1/21, mbtmp5.1/19, ML5.3/1, MS6.4/26, Ms1 6.4/26, ms1mx6.1/33, Error ellipse: s-maj=14.3km s-min=8.4km az=160.0*

ISCJB ***14*** *04:18:42.9±0.1, 5169N±002×177.19E±002, h27km, mb5.8/347, MS6.5/220, Error ellipse: s-maj=3.5km s-min=1.5km az=5.7*

HRVD ***14*** *04:18:42.5±0.1, 5196N×17707E, h13km, MW6.5/114, Centroid moment Tensor Solution. LP body waves: s113,c276;Mantle waves: s114,c509; Half duration: 4s2 Moment tensor: Scale 10^18Nm; Mrr-1.16±.03; Mθθ-5.73±.03; Mφφ6.89±.03; Mrθ-0.01±.07; Mφφ0.23±.03; Mφr1.10±.07; Best double couple: M0 6.38800×10^18 NP1:φs46.00000°, δ84.00000°, λ5.00000°. NP2: φs316.00000°, δ85.00000°, λ174.00000°. Principal axes: T 7.0420, Plg8.0000°, Azm271.0000°; N -1.3070, Plg82.0000°, Azm94.0000°; P -5.7340, Plg0.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***14*** *04:18:42.5±0.2, 5175N×17708E, h14km, mb5.9/241, ME6.9, MS6.4/158, MW6.4, ML6.1(AEIC) Error ellipse: s-maj=4.9km s-min=2.9km az=3.0, Moment Tensor Solution. s68 Moment tensor: Scale 10^18Nm; Mrr1.14; Mθθ-6.00; Mφφ4.87; Mrθ0.25; Mθφ0.00; Mφr0.11; Best double couple: M0 5.50000×10^18 NP1:φs225.00000°, δ90.00000°, λ-3.00000°. NP2:φs315.00000°, δ87.00000°, λ-180.00000°. Principal axes: T 4.8800, Plg2.0000°, Azm270.0000°; N 1.1300, Plg87.0000°, Azm39.0000°; P -6.0000, Plg2.0000°, Azm180.0000°; Broadband fault plane solution: P waves. NP1:φs219.00000°, δ85.00000°, λ-12.00000°. NP2:φs310.00000°, δ78.00000°, λ-175.00000°. Principal axes: T Plg5.0000°, Azm265.0000°; N Plg0.0000°, Azm0.0000°; P Plg12.0000°, Azm174.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] on Shemya.

IGIL ***14*** *04:18:42.0, 5180N×17706E, h14km, MS6.4*

BJI ***14*** *04:18:43.8, 5272N×17625E, h14km, mB6.3, mb5.6, Ms6.7, Msz6.4*

MOS ***14*** *04:18:43.7±1.3, 5180N×17706E, h33km, mb6.0/143, MS6.4/90, Error ellipse: s-maj=6.4km s-min=3.7km az=93.6*

BGS ***14*** *04:18:43.9, 5177N×17709E, h14km, mb6.0*

SZGRF ***14*** *04:18:48.9, 5230N×17634E, h33km, mb5.8, MS6.3, Rat Islands, Aleutian Islands, United States*

CSEM ***14*** *04:19:27.6, 5977N×17854W, h33km, mb5.7*

ISC 14 04:18:44.7±0.1, 5177N±002×17714E±002, h29km, h29km±1.1km: pP-P, n1328, σ1s19/1387, mb5.8/347, MS6.5/220, 207C-185D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.40**	**105**	P	**Pn**	**04 19 07.3**	**-1.0**
AMKA				S	**Sn**	**04 19 27.5**	**+1.6**
SMY	**Shemya**	**2.10**	**298**	*e*P	**Pn**	**04 19 14.1**	**-3.8**
SMY				*e*		04 19 42.3	
SMY	**Shemya**	**2.10**	**298**	P	**Pn**	**04 19 13.8**	**-4.1**
SMY				S	**Sn**	**04 19 40.4**	**-2.6**
NIKO	**Nikolski**	**8.66**	**77**	P	**Pn**	**04 20 50.2**	**+2.2**
OKCE	**Okmok Cone E**	**9.10**	**74**	P	**Pn**	**04 20 55.8**	**+1.8**
SPIA	**Saint Paul Isl**	**9.12**	**49**	P	**Pn**	**04 20 54.7**	**+0.5**
UNV	**Unalaska Valle**	**10.12**	**72**	*e*Pn	**Pn**	**04 21 10.5**	**+2.5**
	365nm,0.6s						
AKUT	**Akutan**	**10.58**	**70**	*e*P	**Pn**	**04 21 16.5**	**+2.2**
	130nm,0.3s						
PET	**Petropavlovsk**	**11.37**	**284**	*c i*P	**Pn**	**04 21 22.1**	**-3.0**
PET				*e*S	**Sn**	**04 23 22.7**	**-8.3**
PET				pmax	pmax		
	comp=Z,14μm,11.4s						
PET				smax			
	comp=N,874nm,0.6s						
PET				MLR	MLR		
	comp=Z,138μm,16.0s						
PET	**Petropavlovsk**	**11.37**	**284**	*e*Pn	**Pn**	**04 21 23.9**	**-1.2**
	comp=Z,942nm,1.4s						
FALS	**False Pass**	**12.03**	**67**	*e*Pn	**Pn**	**04 21 36.7**	**+2.6**
SKR	**Severo-Kuril's**	**13.22**	**274**	*c e*P	**Pn**	**04 21 44.0**	**-6.4**
SKR				pmax	pmax		
	comp=Z,280nm,0.7s						
SKR				pmax	pmax		
	comp=N,150nm,0.5s						
SKR				pmax	pmax		
	comp=E,180nm,0.5s						
SKR				MLR	MLR		
	comp=E,151μm,20.0s						
SKR				MLR	MLR		
	comp=Z,93μm,20.0s						
SKR				MLR	MLR		
	comp=N,128μm,16.0s						
GAMB	**Gambell**	**13.40**	**22**	*e*Pn	**Pn**	**04 21 51.5**	**-1.3**
SDPT	**Sand Point**	**13.76**	**66**	*e*P	**Pn**	**04 21 59.5**	**+1.8**
	comp=N,269nm,1.0s						
CHGN	**Chignik**	**15.02**	**63**	*e*P	**Pn**	**04 22 16.0**	**+1.1**
TNA	**Tin City**	**15.79**	**23**	*e*P	**Pn**	**04 22 25.3**	**+0.4**
	comp=N,361nm,1.0s						
MA2	**Magadan**	**16.71**	**308**	⇓*i*P	**Pn**	**04 22 35.9**	**-0.7**
MA2				pmax	pmax		
	comp=Z,75nm,1.3s						
MA2				MLR	MLR		
	comp=Z,219μm,20.0s						
MA2	**Magadan**	**16.71**	**308**	*e*P	**Pn**	**04 22 36.8**	**+0.2**
	comp=Z,711nm,1.4s						
BILL	**Bilibino**	**17.16**	**346**	*k i*P	**Pn**	**04 22 41.3**	**-0.9**
BILL				*i* S	**Sn**	**04 25 53.6**	**+1.5**
BILL				pmax	pmax		
	comp=Z,352nm,1.2s						
BILL				MLR	MLR		
	comp=Z,64μm,15.0s						
BILL	**Bilibino**	**17.16**	**346**	*e*Pn	**Pn**	**04 22 41.4**	**-0.9**
	comp=Z,3μm,1.4s						
SVW2	**Sparrevohn**	**17.61**	**47**	*e*P	**Pn**	**04 22 48.9**	**+1.0**
TTA	**Tatalina**	**18.13**	**42**	*e*P	**Pn**	**04 22 54.7**	**+0.4**
KDAK	**Kodiak Island**	**18.36**	**59**	P	**Pn**	**04 22 57.6**	**+0.5**
	comp=Z,5μm,1.0s,SNR=25						
KDAK	**Kodiak Island**	**18.36**	**59**	P	**Pn**	**04 22 56.6**	**-0.5**

comp=Z,9.2nm,0.3s,baz=260,slow=3.8,SNR=57
KDAK S **Sn** **04 26 27.3 +6.0**
comp=Z,0.8nm,0.3s,baz=178,slow=20,SNR=2.1
KDAK Kodiak Island 18.36 59 *eP* **Pn** **04 22 57.4 +0.3**
comp=Z,2μm,1.3s
SLKM Skilak Lake 19.98 51 *eP* **Pn** **04 23 14.7 -1.9**
PMR Palmer 20.73 49 P **P** **04 23 21.8 -1.0**
PMR pmax pmax
comp=Z,350nm,0.9s
PMR Palmer 20.73 49 *eP* **P** **04 23 24.5 +1.7**
comp=Z,231nm,1.1s
PMR LR LR
comp=Z,305μm,18.0s,MS6.7
SML Sawmill 21.15 48 *eP* **P** **04 23 26.1 -1.2**
SML Sawmill 21.15 48 *eP* **P** **04 23 27.6 +0.2**
MCK McKinley 21.39 43 P **P** **04 23 30.1 +0.1**
MCK pmax pmax
comp=Z,240nm,0.6s,mb5.7
MCK McKinley 21.39 43 *eP* **P** **04 23 30.7 +0.7**
comp=Z,241nm,0.6s,mb5.7
MCK LR LR
comp=Z,74μm,20.0s,MS6.1
MID Middleton Isla 21.77 55 *eP* **P** **04 23 31.9 -2.1**
EYAK Cordova Ski Ar 22.18 52 *eP* **P** **04 23 38.3 0.0**
COLA College 22.21 40 *eP* **P** **04 23 38.2 -0.5**
COLA pmax pmax
comp=Z,540nm,0.9s,mb6.0
COLA MLR MLR
comp=Z,126μm,20.0s,MS6.3
COLA College 22.21 40 *eP* **P** **04 23 38.2 -0.5**
comp=Z,540nm,0.9s,mb6.0
COLA LR LR
comp=Z,126μm,20.0s,MS6.3
YUK Yuzh-Kuril'sk 22.22 262 *eP* **P** **04 23 37.0 -1.8**
YUK *e* 04 24 11.0
YUK pmax pmax
comp=E,4μm,1.6s
YUK pmax pmax
comp=Z,7μm,1.6s,mb6.8
YUK pmax pmax
comp=N,200nm,0.2s
YUK MLR MLR
comp=Z,126μm,17.0s,MS6.4
YUK MLR MLR
comp=N,50μm,15.0s,MS6.3
YUK MLR MLR
comp=E,86μm,15.0s,MS6.3
DIV Divide 22.24 51 *eP* **P** **04 23 39.1 +0.1**
comp=E,358nm,0.4s,mb6.2
DIV LR LR
comp=Z,483μm,19.0s,MS6.9
YSS Yuzh-Sakhalins 22.77 271 *j eP* **P** **04 23 44.0 -0.6**
YSS *i* 04 23 51.5
YSS *e**SP sP 04 23 58.0 +1.8
YSS *e*S **S** **04 27 48.0 -3.9**
YSS *e*SS 04 28 28.0
YSS pmax pmax
comp=N,90nm,1.0s
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,220nm,1.0s,mb5.5
YSS smax
comp=E,98μm,14.0s
YSS smax
comp=N,47μm,16.0s
YSS MLR MLR
comp=N,17μm,16.0s
YSS MLR MLR
comp=Z,121μm,16.0s,MS6.4
YSS Yuzh-Sakhalins 22.77 271 *eP* **P** **04 23 44.5 -0.2**
comp=Z,451nm,1.0s,mb5.8
YSS LR LR
comp=Z,75μm,20.0s,MS6.1
MENT Mentasta 23.48 46 *eP* **P** **04 23 53.3 +1.2**
MIDW Midway 23.89 168 *eP* **P** **04 23 59.6 +3.9**
comp=Z,2μm,1.7s,mb6.2
MIDW LR LR
comp=Z,49μm,21.0s,MS6.0
ASAJ Asahikawa 24.19 265 P **P** **04 23 57.7 -0.9**
comp=Z,118nm,0.9s,mb5.3,baz=42,slow=5.4,SNR=52
ASAJ S **S** **04 28 22.2 +7.2**
comp=Z,5.5nm,0.4s,baz=211,slow=25,SNR=2.0
ASAJ ScP ScP 04 31 18.1 +2.9
comp=Z,7.3nm,0.4s,baz=288,slow=20,SNR=3.1
ASAJ LR LR 04 33 09.2
comp=Z,71μm,19.2s,MS6.2,baz=83,slow=36
ERM Erimo 24.98 260 P **P** **04 24 06.0 +0.2**
comp=Z,2μm,0.9s,mb6.6,SNR=12
DAWY Dawson 25.58 44 *eP* **P** **04 24 10.7 -0.5**
HABR Khabarovsk 26.91 280 *eP* **P** **04 24 22.7 -0.5**
HABR *e*S **S** **04 28 57.4 -0.9**
HABR pmax pmax
comp=Z,266nm,1.5s,mb5.5
HABR MLR MLR
comp=Z,23μm,13.5s,MS5.9
YAK Yakutsk 27.25 311 *eP* **P** **04 24 23.2 -3.0**
YAK *i* *PP pP 04 24 33.3 -1.4
YAK *e* 04 25 16.1
YAK *e*PPP 04 25 25.2
YAK *e*S **S** **04 29 09.9 +6.3**
YAK *e**SS sS 04 29 23.2 +5.7
YAK *e*SS 04 30 21.2
YAK *e*SSS 04 30 40.4
YAK *e* 04 35 14.1
YAK pmax pmax
comp=Z,65nm,1.1s,mb5.1
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,38nm,1.4s
YAK smax
comp=N,69nm,1.4s
YAK smax
comp=E,42nm,1.3s
YAK MLR MLR
comp=Z,56μm,16.0s,MS6.2
YAK MLR MLR
comp=N,68μm,13.0s,MS6.5
YAK MLR MLR
comp=E,46μm,15.0s,MS6.5
YAK Yakutsk 27.25 311 *eP* **P** **04 24 23.0 -3.2**
comp=E,678nm,0.9s,mb6.2
YAK LR LR
comp=Z,67μm,20.0s,MS6.2
SKAG Skagway 27.39 55 *eP* **P** **04 24 29.6 +2.1**
comp=Z,128nm,1.0s,mb5.4
SKAG *e*ScP ScP 04 31 25.3 +0.9
SKAG LR LR
comp=Z,180μm,20.0s,MS6.6
SIT Sitka 27.69 60 *eP* **P** **04 24 30.4 +0.2**
SIT pmax pmax
comp=Z,624nm,1.4s,mb6.0
SIT Sitka 27.69 60 *eP* **P** **04 24 30.4 +0.1**
comp=Z,624nm,1.4s,mb6.0
SIT *e*ScP ScP 04 31 24.9 -0.4
INK Inuvik 28.61 36 P **P** **04 24 38.4 0.0**
comp=Z,42nm,0.7s,mb5.3,baz=258,slow=8.1,SNR=31
INK S **S** **04 29 34.4 +9.3**
comp=Z,7.3nm,1.0s,baz=293,slow=32,SNR=2.0
INK ScP ScP 04 31 29.4 +1.3
comp=Z,20nm,1.1s,baz=278,slow=5.9,SNR=4.2
INK Inuvik 28.61 36 *eP* **P** **04 24 37.8 -0.6**
INK pmax pmax
comp=Z,181nm,1.8s
INK Inuvik 28.61 36 *eP* **P** **04 24 37.8 -0.7**
comp=Z,2μm,1.8s,mb6.5
INK *e*ScP ScP 04 31 27.2 -1.0
KLR Kul'dur 28.63 283 *eP* **P** **04 24 33.0 -5.6**
KLR *e* 04 25 26.5
KLR *e*S **S** **04 29 21.0 -4.3**
KLR pmax pmax
comp=E,240nm,1.8s
KLR pmax pmax
comp=Z,430nm,1.8s,mb5.9
TIXI Tiksi 29.05 331 ⇓ *iP* **P** **04 24 39.8 -2.5**
TIXI LR LR
comp=Z,46μm,19.0s,MS6.1
CRAG Craig 29.22 63 *eP* **P** **04 24 46.6 +2.8**
DLBC Dease Lake 30.25 56 S sS 04 30 05.5 +0.8
DLBC LR LR 04 37 30.4
comp=Z,194μm,20.3s,MS6.7,baz=36,slow=37
DLBC Dease Lake 30.25 56 *eP* **P** **04 24 54.4 +1.4**
CLNS Chul'man 30.27 300 *eP* **P** **04 24 50.3 -2.8**
CLNS *e**PP pP 04 24 56.7 -4.9
CLNS *e*PPP 04 25 47.7
CLNS *e* 04 27 54.4
CLNS *e* 04 31 28.5
CLNS pmax pmax
comp=Z,300nm,1.1s,mb5.9
CLNS pmax pmax
comp=N,21nm,0.8s
CLNS pmax pmax
comp=E,18nm,0.8s
CLNS MLR MLR
comp=Z,153μm,19.0s,MS6.7
CLNS MLR MLR
comp=N,294μm,17.0s,MS7.0
CLNS MLR MLR
comp=E,125μm,18.0s,MS7.0
NRGR Nerungri 30.40 300 *eP* **P** **04 24 59.5 +5.2**
MJAR Matsushiro Arr 31.38 256 P **P** **04 25 02.6 -0.3**
comp=E,56nm,1.2s,mb5.3,baz=45,slow=7.3,SNR=20
MJAR PcP PcP 04 27 56.5 +0.3
comp=E,1.0nm,0.3s,baz=347,slow=5.0,SNR=2.1
MJAR S **S** **04 30 10.2 +1.8**
comp=E,1.1nm,0.3s,baz=39,slow=16,SNR=2.4
MJAR ScP ScP 04 31 39.9 +2.8
comp=E,0.8nm,0.3s,baz=54,slow=2.1,SNR=4.0
MJAR LR LR 04 36 27.7
comp=E,39μm,19.7s,MS6.1,baz=65,slow=34
MJAR Matsushiro Arr 31.38 256 P **P** **04 25 02.6 -0.3**
MJAR PcP PcP 04 27 56.5 +0.3
MJAR S **S** **04 30 10.2 +1.8**
MJAR ScP ScP 04 31 39.9 +2.8
MJAR LR LR 04 36 27.7
MAJO Matsushiro 31.38 256 *eP* **P** **04 25 02.8 -0.1**
MAJO pmax pmax
comp=Z,96nm,0.8s,mb5.7
MAJO MLR MLR
comp=Z,45μm,21.0s,MS6.1
MAJO Matsushiro 31.38 256 *eP* **P** **04 25 02.8 -0.1**
comp=Z,96nm,0.8s,mb5.7
MAJO *e*ScP ScP 04 31 37.0 -0.1
MAJO LR LR
comp=Z,45μm,21.0s,MS6.1
MAT Matsushiro 31.38 256 P **P** **04 25 02.6 -0.3**
MAT S **S** **04 30 06.0 -2.4**
MAT Matsushiro 31.38 256 *eP* **P** **04 25 03.0 +0.1**
MAT *e*S **S** **04 30 06.0 -2.4**
MAT pmax pmax
comp=Z,117nm,1.6s,mb5.5
MAT MLR MLR
comp=Z,27μm,20.0s,MS5.9
MAT Matsushiro 31.38 256 *eP* **P** **04 25 03.0 +0.1**
comp=Z,117nm,1.6s,mb5.5
MAT *e*S **S** **04 30 06.0 -2.4**
MAT LR LR
comp=Z,27μm,20.0s,MS5.9
MDJ Mudanjiang 32.01 276 P **P** **04 25 06.9 -1.5**
MDJ PCP PcP 04 28 02.0 +4.2
MDJ S **S** **04 30 18.1 -0.2**
MDJ SCP ScP 04 31 42.3 +3.1
MDJ PCS PcS 04 31 45.3 +2.7
MDJ AMB AMB
comp=Z,20nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,4μm,9.7s
MDJ LR LR
comp=N,66μm,27.1s,MS6.3
MDJ LR LR
comp=E,41μm,26.0s,MS6.3
MDJ LR LR
comp=Z,72μm,34.1s
MDJ Mudanjiang 32.01 276 *eP* **P** **04 25 06.6 -1.9**
comp=Z,60nm,0.9s,mb5.4
MDJ *e*PcP PcP 04 27 58.3 +0.5
MDJ LR LR
comp=Z,68μm,21.0s,MS6.3
BBB Bella Bella 33.05 67 LR LR 04 38 27.4
comp=Z,82μm,19.5s,MS6.5,baz=302,slow=36
WAKE Wake Island 33.45 198 *eP* **P** **04 25 21.2 +0.2**
comp=Z,288nm,1.1s,mb6.1
WAKE LR LR
comp=Z,51μm,20.0s,MS6.2
CN2 Changchun 34.98 278 *eP* **P** **04 25 31.3 -3.0**
CN2 *e*AP pP 04 25 43.4 +0.5
CN2 PPP 04 27 08.0
CN2 *e*S **S** **04 30 57.9 -6.5**
CN2 LR LR
comp=N,87μm,15.0s,MS6.7
CN2 LR LR
comp=E,39μm,15.0s,MS6.7
CN2 LR LR
comp=Z,75μm,19.0s,MS6.5
BOD Bodaibo 35.70 305 *eP* **P** **04 25 37.0 -3.5**
BOD *e* 04 31 09.7
BOD pmax pmax
comp=Z,199nm,1.3s,mb5.9
HIA Hailar 35.78 289 *eP* **P** **04 25 37.8 -3.4**
HIA *e* 04 28 09.2
HIA pmax pmax
comp=Z,377nm,1.5s
HIA MLR MLR
comp=Z,87μm,20.0s
HIA Hailar 35.78 289 *eP* **P** **04 25 37.8 -3.4**
comp=Z,377nm,1.5s,mb6.1
HIA *e*PcP PcP 04 28 09.2 +0.7
HIA LR LR
comp=Z,87μm,20.0s,MS6.5
KIP Kipapa 35.91 138 *eP* **P** **04 25 42.7 +0.4**
KIP pmax pmax
comp=Z,401nm,0.9s,mb6.3
KIP MLR MLR
comp=Z,37μm,19.0s,MS6.2
KIP Kipapa 35.91 138 *eP* **P** **04 25 42.7 +0.4**
comp=Z,401nm,0.9s,mb6.3
KIP LR LR
comp=Z,37μm,19.0s,MS6.2
CBIJ Chichi jima 36.00 240 S **S** **04 31 32.3 +12**
comp=Z,54nm,1.0s,baz=84,slow=20,SNR=1.9
CBIJ LR LR 04 42 28.7
comp=Z,13μm,18.2s,MS5.8,baz=209,slow=40
HON Honolulu 36.01 138 *eP* **P** **04 25 43.2 +0.1**
YKW3 Yellowknife Ar 36.77 46 *eP* **P** **04 25 49.6 0.0**
YKA Yellowknife Ar 36.79 46 P **P** **04 25 49.6 -0.2**
comp=Z,39nm,0.7s,mb5.3,baz=285,slow=8.3,SNR=75
YKA ScP ScP 04 31 55.7 -0.6
comp=Z,5.3nm,0.9s,baz=295,slow=3.3,SNR=5.4
YKA LR LR 04 42 11.3
comp=Z,114μm,19.3s,MS6.7,baz=285,slow=38
C03A Quillayute Air 36.91 72 ⇓P **P** **04 25 50.6 -0.2**
baz=37
C03A ⇑S **S** **04 31 38.9 +5.1**
baz=37
KS15 Wonju Array Si 37.15 267 *eP* **P** **04 25 53.7 +0.8**
SNY Shenyang 37.21 276 ⇑P **P** **04 25 51.8 -1.6**
SNY AP pP 04 26 02.1 +0.1
SNY XP sP 04 26 06.1 +0.6
SNY S **S** **04 31 39.0 +0.5**
SNY AMB AMB
comp=Z,40nm,1.6s,mb5.0
SNY AMB AMB
comp=Z,6μm,7.6s
SNY LR LR
comp=N,69μm,21.2s,MS6.5
SNY LR LR
comp=E,48μm,21.2s,MS6.5
SNY LR LR
comp=Z,56μm,29.9s
OCWA Octopus Mounta 37.23 72 *eP* **P** **04 25 54.5 +0.9**
comp=Z,144nm,1.3s,mb5.6
OCWA LR LR
comp=Z,93μm,22.0s,MS6.5
PGC Sidney 37.24 71 *eP* **P** **04 25 53.0 -0.6**
comp=Z,62nm,0.8s,mb5.5
PGC *e*PcP PcP 04 28 13.5 +0.6
B04A Port Angeles 37.49 72 ⇓P **P** **04 25 55.3 -0.4**
baz=37
B04A ⇑S **S** **04 31 41.7 -0.9**
baz=37
A04A Legoe Bay, Lum 37.64 70 ⇑P **P** **04 25 56.6 -0.4**
baz=38
A04A ⇑S **S** **04 31 45.0 +0.1**
baz=38
D03A Wishkah Elem. 37.78 73 ⇓P **P** **04 25 57.9 -0.3**
baz=38
D03A ⇓S **S** **04 31 48.3 +1.2**
baz=38
A05A Maple Falls 37.87 69 ⇓P **P** **04 25 58.2 -0.7**
baz=38
A05A ⇑S **S** **04 31 47.9 -0.5**
baz=38
INCN Inchon 37.90 268 *eP* **P** **04 25 59.3 +0.1**
comp=Z,170nm,0.9s,mb5.8
INCN LR LR
comp=Z,35μm,19.0s,MS6.2
HDW Hoodsport 37.95 72 P **P** **04 25 59.8 +0.2**
C04A Brinnon 37.96 72 ⇓P **P** **04 25 59.2 -0.6**
baz=38
C04A ⇑S **S** **04 31 49.8 -0.1**
baz=38
CIT Chita 38.11 296 *eP* **P** **04 25 58.5 -2.5**
CIT *e* 04 31 57.3
CIT pmax pmax
comp=Z,520nm,1.6s,mb6.0
CMW Cultus Mountai 38.12 70 P **P** **04 26 01.2 +0.1**
E03A Lebam 38.19 74 ⇓P **P** **04 26 01.0 -0.7**
baz=38
E03A ⇑S **S** **04 31 55.8 +2.5**
baz=38
B05A Bryant 38.21 70 ⇑P **P** **04 26 01.2 -0.7**
baz=38,SNR=21
B05A ⇑S **S** **04 31 55.9 +2.2**
baz=38
D04A Dobbs Creek Ra 38.36 72 ⇓P **P** **04 26 02.5 -0.6**
baz=38
POHA Pohakuloa 38.44 136 *eP* **P** **04 26 03.9 +0.1**
comp=Z,4μm,1.4s
POHA LR LR
comp=Z,31μm,20.0s
F03A Seaside 38.51 75 ⇑P **P** **04 26 03.8 -0.5**
baz=38
E04A Onalaska 38.67 73 ⇑P **P** **04 26 05.5 -0.2**
baz=39
E04A ⇑S **S** **04 31 59.8 -0.8**
baz=39
C05A Tolt Reservoir 38.73 71 ⇑P **P** **04 26 05.5 -0.7**
baz=39,SNR=9.8
C05A ⇑S **S** **04 32 01.2 -0.2**
baz=39
D05A Enumclaw 38.80 72 ⇓P **P** **04 26 06.3 -0.5**
baz=39,SNR=12
D05A ⇓S **S** **04 32 01.9 -0.7**
baz=39
H02A Toledo 38.90 77 ⇑S **S** **04 32 04.8 +0.9**
baz=39
F04A Amboy 39.19 74 ⇑P **P** **04 26 09.2 -0.9**
baz=39
F04A ⇑S **S** **04 32 08.2 -0.2**
baz=39
E05A Randle 39.26 73 ⇓P **P** **04 26 10.0 -0.6**
baz=39
E05A ⇓S **S** **04 32 08.7 -0.7**
baz=39
H03A Soap Creek Ran 39.32 76 ⇓P **P** **04 26 10.6 -0.5**
baz=39
H03A ⇓S **S** **04 32 08.4 -2.0**
baz=39
I02A Mapleton 39.36 77 ⇓P **P** **04 26 11.3 -0.2**
baz=39
I02A ⇓S **S** **04 32 09.7 -1.2**
baz=39
COR Corvallis 39.37 76 P **P** **04 26 11.4 -0.1**
COR pmax pmax
comp=Z,80nm,0.7s,mb5.6
COR Corvallis 39.37 76 *eP* **P** **04 26 11.6 0.0**
comp=Z,80nm,0.7s,mb5.6
COR LR LR
comp=Z,64μm,19.0s,MS6.5
G04A Mulino 39.53 75 ⇓P **P** **04 26 12.3 -0.6**
baz=39
G04A ⇓S **S** **04 32 13.1 -0.4**
baz=39
K01A Sixes 39.63 79 ⇓P **P** **04 26 13.1 -0.6**
baz=40
K01A ⇑S **S** **04 32 13.1 -1.9**
baz=40
KEBM Edson Butte 39.68 79 *eP* **P** **04 26 14.9 +0.8**
I03A Eugene 39.71 77 ⇑P **P** **04 26 14.2 -0.2**
baz=40
I03A ⇑S **S** **04 32 15.7 -0.5**
baz=40
SSOR Sweet Springs 39.73 75 P **P** **04 26 15.3 +0.7**
EBG Ellensburg 39.78 72 P **P** **04 26 15.3 +0.3**
F05A White Salmon 39.79 73 ⇓P **P** **04 26 14.4 -0.6**
baz=40
F05A ⇑S **S** **04 32 17.2 -0.2**
baz=40
J02A Umpqua 39.87 78 ⇓P **P** **04 26 15.5 -0.2**
baz=40,SNR=7.9
J02A ⇓S **S** **04 32 17.0 -1.5**
baz=40
H04A Detroit Lake 39.99 75 ⇑P **P** **04 26 16.2 -0.5**
baz=40
H04A ⇓S **S** **04 32 18.9 -1.4**
baz=40
BROR Big Rock Looko 40.05 76 P **P** **04 26 17.4 +0.2**
KBO Bosley Butte 40.11 80 *eP* **P** **04 26 19.8 +2.1**
DL2 Dalian 40.13 274 P **P** **04 26 18.8 +0.9**
DL2 S **S** **04 32 25.3 +2.8**
DL2 AMB AMB
comp=Z,100nm,0.7s,mb5.7
DL2 AMB AMB
comp=Z,2μm,6.8s
DL2 LR LR
comp=N,23μm,18.5s,MS6.2
DL2 LR LR
comp=E,22μm,19.8s,MS6.2
DL2 LR LR
comp=Z,16μm,15.7s,MS6.0
G05A Wamic 40.21 74 ⇑P **P** **04 26 18.8 +0.3**
baz=40
G05A ⇑S **S** **04 32 20.7 -2.9**
baz=40
J03A Ideyld Park 40.24 78 ⇑P **P** **04 26 17.2 -1.5**
baz=40
J03A ⇑S **S** **04 32 22.4 -1.6**
baz=40
K02A Glendale 40.25 79 ⇓P **P** **04 26 17.7 -1.2**
baz=40
K02A ⇑S **S** **04 32 20.7 -3.5**
baz=40
M01C Crescent City 40.38 80 ⇓P **P** **04 26 20.5 +0.5**
baz=40
M01C ⇓S **S** **04 32 24.4 -1.9**
baz=40
RES Resolute Bay 40.43 24 *eP* **P** **04 26 19.0 -1.3**
RES pmax pmax
comp=Z,760nm,1.5s,mb6.2
RES Resolute Bay 40.43 24 *eP* **P** **04 26 19.0 -1.3**
comp=Z,760nm,1.5s,mb6.2
L02A Cave Junction 40.53 80 ⇓P **P** **04 26 21.2 0.0**
baz=40
L02A ⇓S **S** **04 32 27.6 -0.8**
baz=40
WIFE Three Sisters- 40.55 76 P **P** **04 26 21.8 +0.5**
H05A Madras 40.58 75 ⇑P **P** **04 26 20.4 -1.2**
baz=40
H05A ⇑S **S** **04 32 28.9 -0.3**
baz=40
OD2 Odessa Site #2 40.63 70 P **P** **04 26 21.1 -0.9**
HAWA Hanford 40.66 72 *eP* **P** **04 26 21.0 -1.3**
comp=Z,9.4nm,0.9s
HAWA LR LR
comp=Z,4μm,19.0s
HUMO Hull Mountain 40.66 79 *eP* **P** **04 26 23.9 +1.6**
comp=Z,79nm,0.6s,mb5.5
HUMO LR LR
comp=Z,45μm,20.0s,MS6.3
HUMO Hull Mountain 40.66 79 ⇑P **P** **04 26 22.3 0.0**
baz=41
HUMO ⇑S **S** **04 32 30.7 +0.2**
baz=41
EDM Edmonton 40.81 60 *eP* **P** **04 26 22.8 -0.7**
I05A Bend 40.82 76 ⇑P **P** **04 26 23.4 -0.2**
baz=41
I05A ⇓S **S** **04 32 31.9 -0.9**
baz=41
JCC Jacoby Creek 41.04 82 ⇑P **P** **04 26 26.2 +0.8**
baz=41
JCC ⇑S **S** **04 32 35.9 -0.1**
baz=41
NEW Newport 41.10 68 S **S** **04 32 40.1 +3.2**
comp=Z,1.8nm,0.7s,baz=60,slow=5.3,SNR=2.3
NEW LR LR 04 44 27.0
comp=Z,43μm,18.1s,MS6.3,baz=292,slow=38
NEW Newport 41.10 68 *eP* **P** **04 26 25.0 -0.9**
NEW pmax pmax
comp=Z,111nm,0.9s

NEW MLR MLR
comp=Z,76µm,22.0s
NEW Newport 41.10 68 *e*P **P 04 26 25.0 -0.9**
comp=Z,111nm,0.9s,mb5.5
NEW LR LR
comp=Z,76µm,22.0s,MS6.5
KHMM Horse Mountain 41.19 81 *e*P **P 04 26 28.2 +1.6**
YBH Yreka Blue Hor 41.31 80 LR LR 04 41 57.1
comp=Z,66µm,20.1s,MS6.5,baz=301,slow=34
YBH Yreka Blue Hor 41.31 80 *e*P **P 04 26 28.6 +0.9**
YBH pmax pmax
comp=Z,113nm,1.1s
YBH MLR MLR
comp=Z,57µm,20.0s
YBH Yreka Blue Hor 41.31 80 *e*P **P 04 26 28.6 +0.9**
comp=Z,113nm,1.1s,mb5.4
YBH LR LR
comp=Z,57µm,20.0s,MS6.4
YBH Yreka Blue Hor 41.31 80 ⇑P **P 04 26 28.3 +0.7**
baz=41,SNR=22
YBH ⇓S **S 04 32 40.1 0.0**
baz=41
K04A Chilquin 41.41 78 ⇑P **P 04 26 28.8 +0.3**
baz=41
K04A ⇓S **S 04 32 38.8 -2.8**
baz=41
M02C Callahan 41.43 80 ⇑P **P 04 26 29.6 +1.0**
baz=41,SNR=24
M02C ⇑S **S 04 32 42.0 +0.2**
baz=41
N02C Big Bar 41.48 81 ⇓P **P 04 26 29.6 +0.6**
baz=41,SNR=20
N02C ⇑S **S 04 32 43.5 +1.0**
baz=41
L04A Klamath Falls 41.56 78 ⇓P **P 04 26 29.9 +0.3**
baz=42,SNR=10
L04A ⇓S **S 04 32 44.1 +0.3**
baz=42
O01C Eel River Cons 41.57 82 ⇓P **P 04 26 31.3 +1.5**
baz=42,SNR=13
O01C ⇓S **S 04 32 42.3 -1.6**
baz=42
I06A Prineville 41.58 75 ⇑P **P 04 26 29.7 -0.1**
baz=42
I06A ⇓S **S 04 32 42.1 -2.0**
baz=42
M04C Macdoel 41.82 79 ⇑P **P 04 26 32.1 +0.3**
baz=42,SNR=15
M04C ⇓S **S 04 32 48.2 +0.6**
baz=42
M03C McCloud 41.95 80 ⇑P **P 04 26 33.3 +0.5**
baz=42,SNR=20
M03C ⇑S **S 04 32 48.2 -1.2**
baz=42
KIPM Iron Peak 41.98 82 *e*P **P 04 26 34.8 +1.7**
J06A Christmas Vall 42.00 76 ⇓P **P 04 26 33.0 -0.3**
baz=42,SNR=23
J06A ⇑S **S 04 32 48.6 -1.7**
baz=42
WDC Whiskeytown Da 42.09 81 *e*P **P 04 26 34.7 +0.7**
WDC *e* 04 28 30.0
WDC pmax pmax
comp=Z,137nm,1.1s,mb5.5
WDC MLR MLR
comp=Z,30µm,20.0s,MS6.2
WDC Whiskeytown Da 42.09 81 *e*P **P 04 26 34.7 +0.7**
comp=Z,136nm,1.1s,mb5.5
WDC *e*PcP PcP 04 28 30.0 +1.6
WDC *e*ScP ScP 04 32 18.0 +1.2
WDC LR LR
comp=Z,30µm,20.0s,MS6.2
WDC Whiskeytown Da 42.09 81 ⇑P **P 04 26 34.2 +0.2**
baz=42,SNR=31
WDC ⇑S **S 04 32 53.6 +1.9**
baz=42
O02C Red Bluff 42.18 81 ⇓P **P 04 26 35.5 +0.8**
baz=42,SNR=24
O02C ⇓S **S 04 32 53.3 +0.4**
baz=42
K06A Valley Falls 42.20 77 ⇑P **P 04 26 34.8 0.0**
baz=42,SNR=20
K06A ⇓S **S 04 32 52.2 -0.9**
baz=42
P01C Double 8 Ranch 42.27 83 ⇑P **P 04 26 36.1 +0.6**
baz=42,SNR=20
P01C ⇓S **S 04 32 56.1 +1.9**
baz=42
M05C Lookout 42.48 79 ⇑P **P 04 26 37.5 +0.3**
baz=42,SNR=25
M05C ⇑S **S 04 32 55.7 -1.7**
baz=42
WALA Waterton Lakes 42.53 65 *e*P **P 04 26 36.8 -0.8**
comp=Z,283nm,1.1s,mb5.9
GASB Alder Springs 42.54 82 ⇑P **P 04 26 38.7 +1.1**
baz=42,SNR=25
GASB ⇑S **S 04 32 58.2 0.0**
baz=42
HATC Hat Creek Radi 42.61 80 ⇑P **P 04 26 38.6 +0.3**
baz=42
HATC ⇑S **S 04 32 59.8 +0.5**
baz=42
ALE Alert 42.67 10 P **P 04 26 39.5 +0.8**
comp=Z,2µm,1.4s,mb6.7,SNR=10
MOD Modoc 42.68 78 *e*P **P 04 26 38.5 -0.3**
comp=Z,92nm,1.0s,mb5.5
MOD LR LR
comp=Z,43µm,21.0s,MS6.3
HOPS Hopland 42.72 83 *e*P **P 04 26 38.3 -0.8**
comp=Z,381nm,1.3s,mb6.0
HOPS LR LR
comp=Z,33µm,22.0s,MS6.2
HOPS Hopland 42.72 83 ⇑P **P 04 26 39.9 +0.8**
baz=43,SNR=23
HOPS ⇑S **S 04 32 59.8 -1.1**
baz=43
O03C Acorn Hollow, 42.75 81 ⇓P **P 04 26 39.3 -0.1**
baz=43
O03C ⇓S **S 04 33 03.0 +1.6**
baz=43
BJT Baijiatuau 42.83 279 *e*P **P 04 26 38.9 -1.1**
BJT pmax pmax
comp=Z,301nm,1.0s
BJT MLR MLR
comp=Z,39µm,20.0s
BJT Baijiatuau 42.83 279 *e*P **P 04 26 38.9 -1.1**
comp=Z,301nm,1.0s,mb6.0
BJT LR LR
comp=Z,39µm,20.0s,MS6.3
K07A Rock Creek Ran 42.87 76 P **P 04 26 40.5 +0.2**
baz=43,SNR=57
K07A ⇓S **S 04 33 01.7 -1.3**
baz=43
M06C Likely Place G 42.99 79 ⇓P **P 04 26 41.4 +0.1**
baz=43,SNR=12
M06C ⇓S **S 04 33 00.7 -4.1**
baz=43
IRK Irkutsk 43.08 301 *e*P **P 04 26 40.2 -1.8**
IRK *e* 04 28 18.6
IRK pmax pmax
comp=Z,305nm,3.6s
O04C Chester 43.14 80 ⇑P **P 04 26 42.9 +0.4**
baz=43,SNR=23
O04C ⇑S **S 04 33 07.1 +0.1**
baz=43
ELFS Eagle Lake Fie 43.18 80 ⇓P **P 04 26 42.9 +0.1**
baz=43
ELFS ⇓S **S 04 33 06.4 -1.2**
baz=43
MNRC McLaughlin Nat 43.18 83 ⇓P **P 04 26 43.4 +0.6**
baz=43,SNR=35
MNRC ⇑S **S 04 33 05.5 -2.1**
baz=43
NSHM Saint Helena R 43.30 83 *e*P **P 04 26 44.6 +0.8**
ORV Oroville 43.35 81 ⇑P **P 04 26 43.6 -0.5**
baz=43,SNR=18
ORV ⇑S **S 04 33 05.8 -4.3**
baz=43
MCCM Marconi Confer 43.36 84 *e*P **P 04 26 50.0 +5.7**
MCCM Marconi Confer 43.36 84 ⇑P **P 04 26 44.6 +0.3**
baz=43
MCCM ⇑S **S 04 33 08.0 -2.3**
baz=43
SUTB Sutter Buttes 43.37 82 ⇓P **P 04 26 43.9 -0.4**
baz=43
SUTB ⇑S **S 04 33 06.0 -4.4**
baz=43
WVOR Wild Horse Val 43.38 76 *e*P **P 04 26 50.1 +5.6**
comp=Z,87nm,0.8s,mb5.5
WVOR LR LR
comp=Z,54µm,20.0s,MS6.5
O05C Quincy 43.46 80 ⇓P **P 04 26 45.3 +0.2**
baz=43,SNR=18
O05C ⇓S **S 04 33 08.6 -3.0**
baz=43
OHCM Honcut 43.49 82 *e*P **P 04 26 45.5 +0.2**
CVS Carmenet Viney 43.50 83 ⇑P **P 04 26 45.3 -0.1**
baz=43,SNR=26
CVS ⇑S **S 04 33 10.1 -2.2**
baz=43
FARB Farallon Islan 43.56 84 ⇓P **P 04 26 46.1 +0.2**
baz=44,SNR=6.6
FARB ⇑S **S 04 33 09.7 -3.6**
baz=44
Q03C Winters 43.60 83 ⇓P **P 04 26 47.3 +1.1**
baz=44
Q03C ⇓S **S 04 33 10.8 -2.9**
baz=44
M07A Soldier Meadow 43.67 78 P **P 04 26 46.8 0.0**
baz=44,SNR=44
M07A ⇑S **S 04 33 12.3 -2.5**
baz=44
MSO Missoula 43.69 68 *e*P **P 04 26 45.5 -1.4**
comp=Z,95nm,1.0s,mb5.5
MSO LR LR
comp=Z,28µm,22.0s,MS6.1
TLY Talaya 43.70 300 P **P 04 26 44.4 -2.6**
comp=Z,361nm,1.6s,mb5.8,SNR=12
TLY Talaya 43.70 300 *e*P **P 04 26 43.9 -3.1**
TLY *e*PPP 04 28 40.1
TLY *e*S **S 04 33 12.4 -2.8**
TLY *e*SS SS 04 36 26.1 -5.0
TLY pmax pmax
comp=Z,188nm,1.7s,mb5.5
TLY MLR MLR
comp=Z,96µm,18.0s,MS6.8
TLY Talaya 43.70 300 *e*P **P 04 26 45.1 -1.9**
comp=Z,49nm,0.8s,mb5.3
TLY LR LR
comp=Z,104µm,19.0s,MS6.8
ULN Ulaanbaatar 43.80 294⇓*e*P **P 04 26 46.3 -1.5**
ULN Ulaanbaatar 43.80 294 *e*P **P 04 26 46.0 -1.9**
comp=Z,128nm,0.9s,mb5.7
ULN LR LR
comp=Z,54µm,20.0s,MS6.5
Q04C Lincoln 43.86 82 ⇑P **P 04 26 48.3 0.0**
baz=44
Q04C ⇑S **S 04 33 17.0 -0.5**
baz=44
SAC San Andreas 44.00 84 *e*P **P 04 26 50.7 +1.3**
O06A Flanigan 44.00 79 ⇓P **P 04 26 49.6 +0.1**
baz=44,SNR=16
O06A ⇓S **S 04 33 20.0 +0.4**
baz=44
CHMT Chamberlain Mo 44.04 68 *e*P **P 04 26 48.6 -1.1**
P05C Yuba Gap, Truc 44.05 81 ⇓P **P 04 26 50.1 +0.3**
baz=44,SNR=18
P05C ⇑S **S 04 33 18.4 -1.8**
baz=44
BDM Black Diamond 44.11 83 ⇓P **P 04 26 50.6 +0.3**
baz=44
BDM ⇑S **S 04 33 19.0 -2.1**
baz=44
M08A Happy Creek Ra 44.12 77 ⇑P **P 04 26 50.5 +0.1**
baz=44,SNR=21
M08A ⇓S **S 04 33 19.8 -1.4**
baz=44
SONM Songino Array 44.19 294 P **P 04 26 49.2 -1.8**
comp=Z,37nm,0.7s,mb5.2,baz=58,slow=9.0,SNR=74
SONM PcP PcP 04 28 35.3 -0.1
comp=Z,14nm,0.7s,baz=71,slow=3.5,SNR=2.4
SONM ScP ScP 04 32 26.6 +1.3
comp=Z,5.2nm,0.9s,baz=63,slow=0.6,SNR=3.7
SONM S **S 04 33 20.6 -1.7**
comp=Z,2.0nm,0.8s,baz=25,slow=36,SNR=2.7
SONM LR LR 04 45 05.9
comp=Z,96µm,21.1s,MS6.7,baz=60,slow=36
SONM Songino Array 44.19 294 P **P 04 26 49.2 -1.8**
SONM 04 28 35.3
SONM S **S 04 33 20.6 -1.8**
SONM pmax pmax
comp=Z,370nm,0.7s
SONM smax
comp=N,2.0nm,0.9s
SONM MLR MLR
comp=Z,96µm,21.1s
SONM Songino Array 44.19 294 P **P 04 26 49.2 -1.8**
SONM PcP PcP 04 28 35.3 -0.1
SONM ScP ScP 04 32 26.6 +1.3
SONM S **S 04 33 20.6 -1.7**
SONM LR LR 04 45 05.9
JOW Kunigami 44.19 255 LR LR 04 42 43.1
comp=Z,21µm,21.5s,MS6.0,baz=58,slow=33
L09A Wilkinson Ranc 44.21 76 P **P 04 26 51.0 -0.1**
baz=44,SNR=11
L09A ⇓S **S 04 33 21.6 -1.1**
baz=44
JRSC Jasper Ridge 44.22 84 ⇓P **P 04 26 51.5 +0.2**
baz=44,SNR=12
JRSC ⇓S **S 04 33 17.9 -4.9**
baz=44
P06A Stead Airport, 44.25 80 ⇑P **P 04 26 51.6 +0.1**
baz=44
P06A ⇓S **S 04 33 20.1 -3.2**
baz=44
LAVA Lava Cap Winer 44.30 82 ⇑P **P 04 26 51.8 0.0**
baz=44,SNR=19
LAVA ⇓S **S 04 33 21.5 -2.4**
baz=44
WENL Wente Brothers 44.38 84 ⇓P **P 04 26 53.0 +0.5**
baz=44
WENL ⇑S **S 04 33 23.2 -1.9**
baz=44
BNLO Ben Lomond 44.44 85 ⇓P **P 04 26 52.8 -0.1**
baz=44,SNR=10
BNLO ⇓S **S 04 33 23.7 -2.2**
baz=44
R04C Big Horse Ranc 44.49 82 ⇑P **P 04 26 53.0 -0.3**
baz=44
R04C ⇑S **S 04 33 22.0 -4.6**
baz=44
PAHR Pah Rah Range 44.55 80 *e*P **P 04 26 54.3 +0.5**
comp=Z,384nm,1.4s,mb6.0
ZAK Zakamensk 44.56 299 *e*P **P 04 26 51.9 -2.1**
ZAK *e* 04 28 45.8
ZAK pmax pmax
comp=Z,251nm,1.6s,mb5.8
O07A Toulon 44.58 79 ⇓P **P 04 26 54.5 +0.4**
baz=44,SNR=15
O07A ⇓S **S 04 33 25.7 -2.4**
baz=44
TIA Tai'an 44.60 274 ⇓P **P 04 26 53.3 -1.0**
TIA AMB AMB
comp=Z,70nm,1.2s,mb5.4
TIA AMB AMB
comp=Z,2µm,5.0s
N08A GE Springer Mi 44.67 78 ⇑P **P 04 26 54.4 -0.4**
baz=44,SNR=27
N08A ⇑S **S 04 33 28.3 -1.0**
baz=44
S04C Ingram Canyon, 44.72 84 ⇑P **P 04 26 55.6 +0.4**
baz=45,SNR=10
S04C ⇓S **S 04 33 29.0 -1.1**
baz=45
R05C Kirkwood Meado 44.74 81 ⇑P **P 04 26 55.7 +0.3**
baz=45,SNR=26
R05C ⇓S **S 04 33 30.1 -0.3**
baz=45
P07A Fallon 44.95 80 ⇑P **P 04 26 56.6 -0.4**
baz=45
P07A ⇑S **S 04 33 29.7 -3.8**
baz=45
HRY Holter Researc 44.97 67 *e*P **P 04 26 55.5 -1.7**
CMB Columbia Colle 44.97 82 P **P 04 26 58.0 +0.8**
CMB pmax pmax
comp=Z,280nm,1.4s,mb5.9
CMB Columbia Colle 44.97 82 *e*P **P 04 26 58.3 +1.1**
comp=Z,281nm,1.4s,mb5.9
CMB LR LR
comp=Z,35µm,19.0s,MS6.3
CMB Columbia Colle 44.97 82 ⇑P **P 04 26 57.3 +0.1**
baz=45,SNR=32
CMB ⇓S **S 04 33 27.9 -5.8**
baz=45
PACP Pacheco Peak 45.06 84 ⇑P **P 04 26 57.9 0.0**
baz=45,SNR=8.2
PACP ⇓S **S 04 33 30.7 -4.3**
baz=45
SAO San Andreas Ge 45.11 84 *e*P **P 04 26 59.1 +0.8**
SAO pmax pmax
comp=Z,269nm,1.3s,mb5.9
SAO MLR MLR
comp=Z,51µm,19.0s,MS6.5
SAO San Andreas Ge 45.11 84 *e*P **P 04 26 59.1 +0.8**
comp=Z,268nm,1.3s,mb5.9
SAO LR LR
comp=Z,51µm,19.0s,MS6.5
MOY Mondy 45.12 301 *e*P **P 04 26 56.5 -1.9**
MOY pmax pmax
comp=Z,443nm,3.1s
HHC Hu-ho-hao-te 45.14 283 *e*P **P 04 26 57.6 -0.9**
HHC AP pP 04 27 07.5 +0.3
HHC XP sP 04 27 11.4 +0.7
HHC PCP PcP 04 28 39.8 +1.1
HHC PP PP 04 28 43.1 -1.2
HHC PCS PcS 04 32 33.9 +1.4
HHC S **S 04 33 27.4 -8.7**
HHC AMB AMB
comp=Z,70nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,4µm,4.6s
M10A I.L. Ranch, Tu 45.19 76 ⇑P **P 04 26 58.4 -0.5**
baz=45,SNR=22
M10A ⇑S **S 04 33 32.3 -4.4**
baz=45
R06C Coleville 45.24 81 ⇑P **P 04 26 59.5 +0.2**
baz=45,SNR=13
R06C ⇑S **S 04 33 36.0 -1.6**
baz=45
HLID Hailey 45.25 72 *e*P **P 04 26 59.0 -0.5**
comp=Z,147nm,1.1s,mb5.7
HLID LR LR
comp=Z,61µm,19.0s,MS6.5
DLMT Dillon 45.28 69 *e*P **P 04 26 58.6 -1.0**
comp=Z,62nm,1.2s,mb5.3
HAST Hastings Reser 45.29 85 ⇓P **P 04 27 00.0 +0.3**
baz=45,SNR=25
HAST ⇑S **S 04 33 34.6 -3.7**
baz=45
P08A Dixie Valley 45.36 79 ⇓P **P 04 27 00.3 0.0**
baz=45
P08A ⇑S **S 04 33 39.9 +0.6**
baz=45
Q07A Schurz 45.37 80 ⇓P **P 04 27 00.6 +0.2**
baz=45
Q07A ⇓S **S 04 33 37.1 -2.4**
baz=45
S06C San Francisco 45.40 82 ⇓P **P 04 27 00.6 +0.1**
baz=45
S06C ⇓S **S 04 33 35.3 -4.5**
baz=45
EGMT Eagleton 45.42 64 *e*P **P 04 26 59.3 -1.5**
comp=Z,422nm,1.8s,mb6.0
EGMT LR LR
comp=Z,56µm,20.0s,MS6.5
BMN Battle Mountai 45.43 77 *e*P **P 04 27 01.1 +0.3**
BMN pmax pmax
comp=Z,87nm,0.9s,mb5.6
BMN MLR MLR
comp=Z,39µm,20.0s,MS6.3
BMN Battle Mountai 45.43 77 *e*P **P 04 27 01.1 +0.2**
comp=Z,87nm,0.9s,mb5.6
BMN LR LR
comp=Z,39µm,20.0s,MS6.3
S05C Merced 45.43 83 ⇓P **P 04 27 00.7 -0.2**
baz=45,SNR=15
S05C ⇑S **S 04 33 34.6 -5.7**
baz=45
MCMT McKenzie Canyo 45.44 70 *e*P **P 04 27 01.5 +0.5**
SSE Sheshan 45.49 265 P **P 04 27 01.9 +0.6**
SSE AP pP 04 27 13.0 +3.0
SSE PP PP 04 28 48.6 +0.6
SSE S **S 04 33 39.4 -1.7**
SSE AMB AMB
comp=Z,60nm,1.5s,mb5.2
SSE AMB AMB
comp=Z,680nm,7.3s
SSE LR LR
comp=N,37µm,20.5s,MS6.4
SSE LR LR
comp=E,22µm,20.6s,MS6.4
SSE LR LR
comp=Z,44µm,21.3s,MS6.4
T05C Eagle Field, D 45.51 84 ⇓P **P 04 27 01.8 +0.3**
baz=45
T05C ⇑S **S 04 33 36.3 -5.2**
baz=45
LRV Little Rabbit 45.60 84 *e*P **P 04 27 04.3 +2.1**
O09A Fish Creek Ran 45.60 78 ⇓P **P 04 27 02.0 -0.3**
baz=46,SNR=27
O09A ⇓S **S 04 33 37.8 -5.1**
baz=46
BOZ Bozeman (W) 45.68 68 P **P 04 27 01.7 -1.1**
BOZ pmax pmax
comp=Z,140nm,1.0s,mb5.8
BOZ Bozeman (W) 45.68 68 *e*P **P 04 27 01.8 -1.0**
comp=Z,137nm,1.0s,mb5.8
BOZ LR LR
comp=Z,28µm,19.0s,MS6.2
N10A Dunphy 45.68 77 ⇑P **P 04 27 02.8 0.0**
baz=46
N10A ⇓S **S 04 33 36.4 -7.6**
baz=46
M11A Holland Ranch, 45.69 75 ⇑P **P 04 27 02.5 -0.5**
baz=46,SNR=23
M11A ⇑S **S 04 33 38.3 -5.7**
baz=46
V03C Hunter Liggett 45.72 85 ⇓P **P 04 27 03.4 +0.3**
baz=46
V03C ⇑S **S 04 33 39.0 -5.5**
baz=46
R07C Lee Vining 45.76 81 ⇑P **P 04 27 03.6 +0.1**
baz=46
R07C ⇑S **S 04 33 40.1 -4.9**
baz=46
U04C Hernandez Rese 45.78 84 ⇓P **P 04 27 04.1 +0.5**
baz=46,SNR=22
U04C ⇓S **S 04 33 42.5 -3.0**
baz=46
FFC Flin Flon 45.95 53 P **P 04 27 03.7 -1.2**
comp=Z,227nm,0.8s,mb6.2,SNR=11
FFC Flin Flon 45.95 53 P **P 04 27 03.6 -1.3**
FFC pmax pmax
comp=Z,99nm,1.3s,mb5.6
FFC Flin Flon 45.95 53 *e*P **P 04 27 03.7 -1.2**
comp=Z,99nm,1.4s,mb5.5
FFC LR LR
comp=Z,151µm,19.0s,MS7.0
Q08A Gabbs 45.96 80 ⇑P **P 04 27 04.8 -0.2**
baz=46,SNR=14
Q08A ⇓S **S 04 33 41.7 -6.3**
baz=46
P09A Austin 46.02 78 ⇑P **P 04 27 05.5 0.0**
baz=46,SNR=22
P09A ⇑S **S 04 33 44.1 -4.7**
baz=46
T06C Milleton Lake 46.03 83 ⇓P **P 04 27 05.6 0.0**
baz=46
T06C ⇓S **S 04 33 42.4 -6.6**
baz=46
GUMO Guam 46.07 226 LR LR 04 45 35.4
comp=Z,16µm,18.8s,MS6.0,baz=41,slow=35
KCC Kaiser Creek 46.07 82 ⇑P **P 04 27 05.9 0.0**
baz=46
KCC ⇓S **S 04 33 43.7 -5.9**
baz=46
N11A Elko Archery C 46.09 76 ⇓P **P 04 27 05.6 -0.5**
baz=46
N11A ⇓S **S 04 33 43.6 -6.2**
baz=46
MNV Mina 46.09 80 *e*P **P 04 27 05.6 -0.5**
MNV pmax pmax
comp=Z,127nm,1.2s,mb5.7
MNV MLR MLR
comp=Z,28µm,21.0s,MS6.2
MNV Mina 46.09 80 *e*P **P 04 27 05.6 -0.5**
comp=Z,127nm,1.2s,mb5.7
MNV LR LR
comp=Z,28µm,21.0s,MS6.2
R08A Mina 46.17 80 ⇓P **P 04 27 06.9 +0.2**
baz=46
R08A ⇓S **S 04 33 49.4 -1.6**
baz=46

MLAC Mammoth Lakes 46.17 82 ⇑P P 04 27 07.1 +0.4
baz=46
MLAC ⇑S **S 04 33 51.5 +0.4**
baz=46
V04C Ramage Ranch, 46.19 85 ⇓P P 04 27 07.3 +0.4
baz=46
V04C ⇑S **S 04 33 46.8 -4.5**
baz=46
PKD Parkfield 46.20 85 ⇑P P 04 27 07.2 +0.3
baz=46,SNR=21
PKD ⇑S **S 04 33 45.8 -5.6**
baz=46
U05C Westside ANR, 46.21 84 ⇓P P 04 27 07.1 +0.2
baz=46
U05C ⇓S **S 04 33 44.8 -6.7**
baz=46
BTO Baotou 46.22 284 *eP* **P 04 27 06.1 -1.0**
BTO S **S 04 33 54.0 +2.3**
M12A Wells 46.22 75 ⇓P P 04 27 06.7 -0.4
baz=46
M12A ⇓S **S 04 33 47.6 -4.2**
baz=46
QLMT Earthquake Lak 46.27 69 *eP* **P 04 27 07.0 -0.5**
NJ2 Nanjing 46.28 268 *eP* **P 04 27 06.5 -1.0**
NJ2 AP pP 04 27 15.9 -0.4
NJ2 XP sP 04 27 20.3 +0.6
NJ2 PCP PcP 04 28 41.9 -0.7
NJ2 PP PP 04 28 56.0 -0.4
NJ2 PPP 04 29 39.0
NJ2 S **S 04 33 51.0 -1.5**
NJ2 AMB AMB
comp=Z,290nm,1.4s,mb6.0
NJ2 AMB AMB
comp=Z,5μm,11.0s
NJ2 LR LR
comp=N,80μm,26.0s,MS6.8
NJ2 LR LR
comp=E,84μm,22.2s,MS6.8
NJ2 LR LR
comp=Z,40μm,29.1s
ELK Elko 46.44 76 *eP* **P 04 27 08.6 -0.2**
ELK pmax pmax
comp=Z,84nm,0.8s
ELK MLR MLR
comp=Z,66μm,19.0s
ELK Elko 46.44 76 *eP* **P 04 27 08.6 -0.1**
comp=Z,84nm,0.8s,mb5.7
ELK LR LR
comp=Z,66μm,19.0s,MS6.6
Q09A Carvers 46.44 79 ⇑P P 04 27 08.6 -0.1
baz=46
Q09A ⇓S **S 04 33 49.4 -5.4**
baz=46
N12A Wells--Clov Va 46.49 76 ⇓P P 04 27 09.1 -0.1
baz=46
N12A ⇑S **S 04 33 48.7 -6.9**
baz=46
MTUM Tungsten Hills 46.52 82 *eP* **P 04 27 10.1 +0.7**
PTRM Twissleman Ran 46.59 85 *eP* **P 04 27 10.6 +0.6**
YMR Madison River 46.63 69 *eP* **P 04 27 09.6 -0.7**
comp=Z,312nm,1.4s,mb6.0
YMR LR LR
comp=Z,44μm,19.0s,MS6.4
V05C Boulder Hill, 46.65 84 ⇓P P 04 27 10.3 -0.1
baz=46
V05C ⇓S **S 04 33 54.3 -3.5**
baz=46
S08C White Mtn Res 46.67 81 ⇑P P 04 27 10.6 0.0
baz=47,SNR=26
S08C ⇓S **S 04 33 55.4 -2.7**
baz=47
M13A Montello 46.71 74 ⇓P P 04 27 10.5 -0.4
baz=47
M13A ⇑S **S 04 33 58.4 -0.2**
baz=47
GCMT Greycliff 46.73 67 *eP* **P 04 27 10.1 -0.9**
YFT Old Faithful 46.83 69 *eP* **P 04 27 11.5 -0.4**
TPH Tonopah 46.88 80 *eP* **P 04 27 12.4 +0.1**
TPH pmax pmax
comp=Z,228nm,1.3s,mb5.9
TPH MLR MLR
comp=Z,35μm,20.0s,MS6.3
TPH Tonopah 46.88 80 *eP* **P 04 27 12.4 +0.1**
comp=Z,228nm,1.3s,mb5.9
TPH LR LR
comp=Z,35μm,20.0s,MS6.3
KRAR Krasnoyarsk 46.91 310 ⇓*iP* **P 04 27 10.4 -2.1**
KRAR pmax pmax
comp=Z,56nm,0.6s,mb5.7
KRAR MLR MLR
comp=Z,52μm,16.0s,MS6.6
TIN Tinemaha 46.91 82 ⇑P P 04 27 12.8 +0.3
baz=47
TIN ⇑S **S 04 34 01.3 -0.3**
baz=47
N13A West Wendover 46.99 75 ⇓P P 04 27 12.6 -0.5
baz=47,SNR=16
N13A ⇑S **S 04 33 57.6 -5.1**
baz=47
LKWY Lake 47.02 69 *eP* **P 04 27 14.1 +0.8**
LKWY pmax pmax
comp=Z,82nm,0.9s,mb5.7
LKWY MLR MLR
comp=Z,53μm,19.0s,MS6.5
LKWY Lake 47.02 69 *eP* **P 04 27 14.1 +0.8**
comp=Z,82nm,0.9s,mb5.7
LKWY LR LR
comp=Z,53μm,19.0s,MS6.5
IMW Indian Meadow 47.10 70 *eP* **P 04 27 13.5 -0.5**
comp=Z,65nm,1.0s,mb5.5
S09A Goldfield 47.11 80 ⇓P P 04 27 13.9 -0.2
baz=47,SNR=19
S09A ⇓S **S 04 34 03.8 -0.7**
baz=47
FLWY Flagg Ranch 47.13 69 *eP* **P 04 27 14.4 +0.2**
comp=Z,105nm,1.0s,mb5.7
DCID1 Drake Creek 47.13 70 *eP* **P 04 27 19.1 +4.9**
HVU Hansel Valley 47.28 73 *eP* **P 04 27 15.3 -0.1**
HVU pmax pmax
comp=Z,81nm,0.9s,mb5.7
HVU Hansel Valley 47.28 73 *eP* **P 04 27 15.3 -0.1**
comp=Z,81nm,0.9s,mb5.7
MOOW Moose Ponds 47.30 70 *eP* **P 04 27 14.8 -0.7**
comp=Z,52nm,1.4s,mb5.3
TPAW Teton Pass 47.33 70 *eP* **P 04 27 15.9 +0.2**
comp=Z,74nm,1.1s,mb5.5
CWC Cottonwood Cre 47.40 82 ⇑P P 04 27 15.9 -0.4
baz=47
CWC ⇑S **S 04 34 11.2 +2.7**
baz=47
P12A McGill 47.42 77 ⇓P P 04 27 16.0 -0.5
baz=47,SNR=16
P12A ⇑S **S 04 34 05.1 -3.7**
baz=47
LOHW Long Hollow 47.46 70 *eP* **P 04 27 16.5 -0.3**
comp=Z,46nm,1.1s,mb5.3
REDW Red Top Meadow 47.47 70 *eP* **P 04 27 22.0 +5.2**
comp=Z,142nm,1.3s,mb5.7
BGU Big Grassy Mou 47.65 74 *eP* **P 04 27 18.2 -0.1**
ISA Isabella 47.66 83 PFAKE 04 27 30.0 +12
ISA LR LR
comp=Z,13μm,19.0s,MS5.9
ISA Isabella 47.66 83 ⇑P P 04 27 18.0 -0.4
baz=48
ISA ⇓S **S 04 34 06.2 -6.0**
baz=48
AHID Auburn Hatcher 47.68 71 *eP* **P 04 27 17.4 -1.1**
comp=Z,106nm,1.2s,mb5.8
AHID LR LR
comp=Z,74μm,22.0s,MS6.6
SBC Santa Barbara 47.69 86 ⇓P P 04 27 18.4 -0.2
baz=48
SBC ⇓S **S 04 34 10.6 -2.1**
baz=48
SPUT South Promonto 47.76 73 P **P 04 27 18.5 -0.6**
DAC Darwin (Calif) 47.80 82 *eP* **P 04 27 19.3 -0.2**
DAC pmax pmax
comp=Z,201nm,1.4s,mb6.0
DAC MLR MLR
comp=Z,44μm,22.0s,MS6.4
DAC Darwin (Calif) 47.80 82 *eP* **P 04 27 19.3 -0.2**
comp=Z,201nm,1.4s,mb6.0
DAC LR LR
comp=Z,44μm,22.0s,MS6.4
HWUT Hardware Ranch 48.11 73 *eP* **P 04 27 21.9 +0.1**
comp=Z,68nm,1.1s,mb5.6
HWUT LR LR
comp=Z,45μm,19.0s,MS6.5
OSI Osito Adit 48.19 85 ⇑P P 04 27 22.6 +0.1
baz=48
OSI ⇑S **S 04 34 21.5 +1.7**
baz=48
TPNV Topopah Spring 48.20 81 *eP* **P 04 27 22.4 -0.1**
TPNV pmax pmax
comp=Z,448nm,1.3s,mb6.3
TPNV MLR MLR
comp=Z,51μm,22.0s,MS6.5
TPNV Topopah Spring 48.20 81 *eP* **P 04 27 22.4 -0.1**
comp=Z,448nm,1.3s,mb6.3
TPNV LR LR
comp=Z,51μm,22.0s,MS6.5
DUG Dugway 48.23 75 P **P 04 27 22.7 -0.1**
DUG pmax pmax
comp=Z,99nm,0.9s,mb5.8
DUG Dugway 48.23 75 *eP* **P 04 27 22.0 -0.7**
comp=Z,100nm,0.9s,mb5.8
DUG LR LR
comp=Z,38μm,20.0s,MS6.4
NOQ North Oquirrh 48.36 74 *eP* **P 04 27 28.6 +4.8**
comp=Z,237nm,1.2s,mb6.1
CTU Camp Tracy 48.56 74 *eP* **P 04 27 25.8 +0.5**
comp=Z,67nm,0.9s,mb5.7
BW06 Boulder Array 48.58 70 *eP* **P 04 27 24.5 -1.0**
comp=Z,6μm,0.1s
BW06 LR LR
comp=Z,53μm,21.0s,MS6.5
PDAR Pinedale Array 48.58 70 P **P 04 27 24.2 -1.2**
comp=Z,7.5nm,0.7s,mb4.9,baz=306,slow=4.1,SNR=63
PDAR ScP ScP 04 32 46.1 +2.5
comp=Z,5.9nm,1.1s,baz=305,slow=3.2,SNR=4.3
PDAR LR LR 04 45 26.7
comp=Z,45μm,21.4s,MS6.4,baz=319,slow=33
SNCC San Nicolas Is 48.61 87 *eP* **P 04 27 25.1 -0.6**
SNCC LR LR
comp=Z,35μm,21.0s,MS6.3
SNCC San Nicolas Is 48.61 87 ⇑P P 04 27 25.9 +0.3
baz=48
SNCC ⇓S **S 04 34 27.8 +2.2**
baz=48
NLU North Lily Min 48.82 75 *eP* **P 04 27 26.9 -0.4**
GSC Goldstone 48.92 83 *eP* **P 04 27 28.2 +0.1**
GSC Goldstone 48.92 83 ⇑P P 04 27 28.0 -0.1
baz=49,SNR=34
GSC ⇑S **S 04 34 26.0 -4.1**
baz=49
DAU Daniels Canyon 49.03 74 *eP* **P 04 27 29.2 +0.3**
MPU Maple Canyon 49.05 74 *eP* **P 04 27 29.5 +0.4**
comp=Z,33nm,0.7s,mb5.5
MPU LR LR
comp=Z,44μm,20.0s,MS6.5
FMP Fort Macarthur 49.06 85 ⇓P P 04 27 29.1 0.0
baz=49
FMP ⇓S **S 04 34 35.2 +3.2**
baz=49
KBS Kingsbay 49.26 356 *eP* **P 04 27 31.0 +0.3**
KBS AMb AMB 04 27 43.9
comp=Z,190nm,1.5s,mb5.9
KBS *eS* **S 04 34 38.0 +3.1**
KBS AMS AMS 04 53 01.9
comp=Z,14μm,17.8s,MS6.0
KBS Kingsbay 49.26 356 *eP* **P 04 27 30.7 0.0**
KBS pmax pmax
comp=Z,94nm,0.9s,mb5.8
KBS MLR MLR
comp=Z,20μm,19.0s,MS6.1
KBS Kingsbay 49.26 356 *eP* **P 04 27 30.7 0.0**
comp=Z,94nm,0.9s,mb5.8
KBS LR LR
comp=Z,20μm,19.0s,MS6.1
ARUT Antelope Range 49.37 78 *eP* **P 04 27 33.4 +1.9**
TUQ Turquoise Mtn. 49.38 82 ⇓P P 04 27 31.0 -0.6
baz=49
TUQ ⇑S **S 04 34 40.6 +4.1**
baz=49
CCUT Cedar City 49.57 78 *eP* **P 04 27 33.7 +0.7**
MVU Marysvale 49.66 76 PFAKE 04 27 50.0 +16
MVU LR LR
comp=Z,57μm,20.0s,MS6.6
TATO Taipei 49.67 259 PFAKE 04 27 50.0 +16
TATO LR LR
comp=Z,35μm,20.0s,MS6.3
MSU Marysvale 49.67 76 *eP* **P 04 27 34.1 +0.3**
TMUT Trail Mountain 49.76 75 *eP* **P 04 27 34.4 0.0**
YHNB Yeheng 49.97 259 *eP* **P 04 27 37.8 +1.8**
WHN Wuhan 50.11 270 ⇑P P 04 27 36.5 -0.6
WHN S **S 04 34 43.8 -2.9**
WHN AMB AMB
comp=Z,8μm,10.2s
WHN LR LR
comp=Z,64μm,15.9s,MS6.7
W12A Cal Nev Ari 50.12 81 ⇑P P 04 27 36.5 -0.7
baz=50
W12A ⇑S **S 04 34 47.2 +0.4**
baz=50
NACB Ninganchiao 50.20 259 *eP* **P 04 27 37.6 -0.2**
PFO Pinyon Flat Ob 50.27 84 P **P 04 27 38.0 -0.3**
comp=Z,259nm,1.8s,mb6.0,SNR=9.8
PFO Pinyon Flat Ob 50.27 84 ⇓P P 04 27 38.1 -0.2
baz=50,SNR=5.3
PFO ⇓S **S 04 34 51.4 +2.6**
baz=50
SRU San Rafael 50.29 75 *eP* **P 04 27 38.3 -0.2**
SRU pmax pmax
comp=Z,80nm,0.8s,mb5.8
SRU San Rafael 50.29 75 *eP* **P 04 27 38.3 -0.1**
comp=Z,80nm,0.8s,mb5.8
109C Camp Elliot, M 50.34 85 ⇓P P 04 27 38.8 -0.1
baz=50,SNR=8.3
109C ⇑S **S 04 34 51.1 +1.2**
baz=50
RWWY Rawlins 50.62 70 *eP* **P 04 27 40.1 -0.9**
comp=Z,145nm,1.3s,mb5.8
RSSD Black Hills 50.93 66 P **P 04 27 41.9 -1.4**
RSSD pmax pmax
comp=Z,150nm,1.7s,mb5.7
RSSD Black Hills 50.93 66 *eP* **P 04 27 41.6 -1.7**
comp=Z,150nm,1.7s,mb5.7
RSSD LR LR
comp=Z,18μm,19.0s,MS6.1
XAN Xi'an 51.10 278 P **P 04 27 42.8 -1.8**
XAN AP pP 04 27 48.3 -5.1
XAN S **S 04 35 03.8 +3.4**
XAN AMB AMB
comp=Z,50nm,1.3s,mb5.3
XAN AMB AMB
comp=Z,480nm,6.9s
XAN LR LR
comp=N,21μm,17.1s,MS6.6
XAN LR LR
comp=E,42μm,16.7s,MS6.6
XAN LR LR
comp=Z,44μm,16.7s,MS6.6
X13A Yucca 51.23 81 ⇓P P 04 27 44.9 -0.7
baz=51,SNR=27
X13A ⇑S **S 04 35 01.6 -0.6**
baz=51
W14A Seligman 51.27 80 ⇑P P 04 27 45.7 -0.2
baz=51,SNR=21
W14A ⇓S **S 04 35 02.9 0.0**
baz=51
DAG Danmarks Havn 51.34 5*b iP* **P 04 27 46.4 0.0**
comp=Z,24nm,0.9s,mb5.1
DAG
comp=Z,4μm,23.0s
DAG Danmarks Havn 51.34 5*beP* **P 04 27 46.4 0.0**
DAG pmax pmax
comp=Z,240nm,0.9s,mb6.1
DAG Danmarks Havn 51.34 5 *eP*cr **P 04 27 46.4 0.0**
comp=Z,24nm,0.9s,mb5.1
DAG LR LR
comp=Z,4μm,23.0s,MS5.4
Y12C Blythe 51.36 82 ⇓P P 04 27 46.1 -0.5
baz=51,SNR=18
Y12C ⇑S **S 04 35 02.7 -1.4**
baz=51
QZH Quanzhou 51.47 262 ⇑*iP* **P 04 27 46.8 -0.6**
QZH PP PP 04 29 48.3 +3.6
QZH S **S 04 35 05.0 -0.6**
QZH AMB AMB
comp=Z,490nm,1.1s,mb6.3
QZH AMB AMB
comp=Z,8μm,8.1s
QZH LR LR
comp=N,18μm,13.1s,MS6.5
QZH LR LR
comp=E,31μm,14.6s,MS6.5
ULM Lac du Bonnet 51.56 55 P **P 04 27 46.9 -1.2**
comp=E,12nm,0.7s,mb4.9,baz=303,slow=8.0,SNR=30
ULM LR LR 04 51 25.8
comp=E,76μm,18.1s,MS6.8,baz=312,slow=38
GLA Glamis 51.65 83 *eP* **P 04 27 49.1 +0.4**
GLA Glamis 51.65 83 ⇑P P 04 27 48.5 -0.2
baz=52,SNR=14
GLA ⇑S **S 04 35 06.9 -1.1**
baz=52
PV10 Paradox Valley 51.65 74 *eP* **P 04 27 48.9 +0.2**
Y13A Salome 51.75 82 ⇑P P 04 27 49.4 -0.1
baz=52
Y13A ⇑S **S 04 35 07.6 -1.8**
baz=52
W15A Williams 51.79 80 ⇑P P 04 27 49.9 +0.2
baz=52
W15A ⇓S **S 04 35 10.8 +0.9**
baz=52
PHWY Pilot Hill 51.88 69 *eP* **P 04 27 50.6 +0.2**
X14A Yava 51.88 81 ⇑P P 04 27 50.3 -0.1
baz=52,SNR=16
X14A ⇑S **S 04 35 07.5 -3.7**
baz=52
ZAL Zalesovo 51.91 311 P **P 04 27 48.0 -2.7**
comp=E,2.4nm,0.4s,baz=47,slow=7.6,SNR=8.6
ZAL Zalesovo 51.91 311 P **P 04 27 48.0 -2.7**
ZAL pmax pmax
comp=Z,200nm,0.4s
ZAL Zalesovo 51.91 311 P **P 04 27 48.0 -2.7**
NVS Novosibirsk 52.08 313 *eP* **P 04 27 47.7 -4.2**
NVS *eS* **S 04 35 16.0 +2.1**
NVS *e* 04 37 39.4
NVS pmax pmax
comp=N,254nm,2.4s
NVS pmax pmax
comp=Z,564nm,2.4s,mb6.1
NVS pmax pmax
comp=E,397nm,2.1s
PV01 Paradox Valley 52.09 74 *eP* **P 04 27 51.6 -0.4**
WUAZ Wupatki 52.11 79 *eP* **P 04 27 51.5 -0.7**
comp=E,128nm,1.1s,mb5.8
WUAZ LR LR
comp=Z,46μm,19.0s,MS6.5
Y14A Wickenburg 52.17 81 ⇑P P 04 27 52.5 -0.1
baz=52,SNR=23
Y14A ⇑S **S 04 35 10.7 -4.5**
baz=52
X15A Humboldt 52.27 80 ⇑P P 04 27 53.8 +0.5
baz=52,SNR=26
X15A ⇓S **S 04 35 11.4 -5.1**
baz=52
SMCO Snowmass 52.36 72 *eP* **P 04 27 53.4 -0.6**
comp=Z,74nm,1.3s,mb5.5
Z14A Wintersburg 52.59 82 ⇑P P 04 27 55.5 -0.2
baz=52
Z14A ⇑S **S 04 35 16.9 -4.1**
baz=52
MVCO Mesa Verde 52.73 75 *eP* **P 04 27 56.8 0.0**
ISCO Idaho Springs 52.76 71 *eP* **P 04 27 56.6 -0.3**
ISCO pmax pmax
comp=Z,91nm,1.3s,mb5.5
ISCO MLR MLR
comp=Z,78μm,22.0s,MS6.7
ISCO Idaho Springs 52.76 71 *eP* **P 04 27 56.6 -0.3**
comp=Z,91nm,1.3s,mb5.5
ISCO LR LR
comp=Z,78μm,22.0s,MS6.7
LZH Lanzhou 52.84 283 ⇑P P 04 27 56.8 -0.7
LZH AP pP 04 28 01.0 -5.4
LZH XP sP 04 28 04.6 -5.2
LZH PP PP 04 29 58.0 +1.0
LZH S **S 04 35 23.3 -1.0**
LZH XS sS 04 35 35.0 -3.8
LZH PS 04 35 38.0
LZH AMB AMB
comp=Z,1μm,1.2s,mb6.7
LZH AMB AMB
comp=Z,7μm,5.0s
LZH LR LR
comp=N,43μm,15.3s
LZH LR LR
comp=Z,80μm,16.5s,MS6.8
GTA Gaotai 53.06 289 ⇑P P 04 27 57.8 -1.3
GTA AP pP 04 28 09.1 +1.1
GTA PCP PcP 04 29 04.9 -2.5
GTA PP PP 04 30 00.8 +1.8
GTA S **S 04 35 24.0 -3.3**
GTA AMB AMB
comp=Z,90nm,1.1s,mb5.6
GTA AMB AMB
comp=Z,3μm,5.7s
GTA LR LR
comp=N,91μm,17.9s,MS7.0
GTA LR LR
comp=E,85μm,17.5s,MS7.0
GTA LR LR
comp=Z,62μm,18.2s,MS6.7
BJO Bjornoya 53.14 353 *eP* **P 04 28 05.5 +5.8**
BJO *eS* **S 04 35 33.5 +5.0**
BJO AMS AMS 04 59 43.3
comp=Z,17μm,18.3s,MS6.1
BJO1 Bjornoya 53.16 353 *eP* **P 04 28 05.5 +5.6**
BJO1 LR LR
comp=Z,17μm,18.3s,MS6.1
ENH Enshi 53.32 274 PFAKE 04 28 10.0 +8.9
ENH LR LR
comp=Z,4.0nm,22.0s
115A Sonoran Desert 53.48 82 ⇑P P 04 28 02.1 -0.2
baz=53,SNR=22
115A ⇑S **S 04 35 26.5 -6.6**
baz=53
SUMG Summit 53.50 13 *eP* **P 04 28 01.5 -0.9**
comp=Z,953nm,1.4s,mb6.5
116A Eloy 53.91 82 ⇓P P 04 28 05.0 -0.4
baz=54,SNR=17
116A ⇑S **S 04 35 40.5 +1.7**
baz=54
SDCO Great Sand Dun 54.17 73 PFAKE 04 28 20.0 +13
SDCO LR LR
comp=Z,35μm,20.0s,MS6.4
TUC Tucson 54.64 81 *eP* **P 04 28 10.4 -0.3**
TUC pmax pmax
comp=Z,87nm,1.1s,mb5.7
TUC MLR MLR
comp=Z,22μm,19.0s,MS6.2
TUC Tucson 54.64 81 *eP* **P 04 28 10.4 -0.3**
comp=Z,87nm,1.1s,mb5.7
TUC LR LR
comp=Z,22μm,19.0s,MS6.2
APYP Conner 55.20 254 *eP* **P 04 28 16.7 +1.9**
EYMN Ely 55.24 55 *eP* **P 04 28 13.9 -1.1**
comp=Z,261nm,1.1s,mb6.2
EYMN LR LR
comp=Z,75μm,19.0s,MS6.8
ANMO Albuquerque 55.47 76 LR LR 04 53 04.0
comp=Z,36μm,18.1s,MS6.5,baz=346,slow=37
ANMO Albuquerque 55.47 76 *eP* **P 04 28 17.0 +0.3**
ANMO pmax pmax
comp=Z,44nm,1.2s
ANMO MLR MLR
comp=Z,32μm,20.0s
ANMO Albuquerque 55.47 76 *eP* **P 04 28 17.0 +0.3**
comp=Z,44nm,1.2s,mb5.4
ANMO LR LR
comp=Z,32μm,20.0s,MS6.4
CAUP Cauayan 55.57 253 *eP* **P 04 28 21.2 +3.7**
ABRA Dolores 55.69 254 *eP* **P 04 28 26.4 +8.2**
Y22C IRIS PASSCAL I 55.79 77 ⇑P P 04 28 19.7 +0.7
baz=56
Y22C ⇓S **S 04 36 06.0 +1.9**
baz=56
HKC Hong Kong 56.14 263 ⇓*iP* **P 04 28 30.0 +8.5**
SFJD Kangerlussuaq 56.20 20 LR LR 04 52 11.5
comp=Z,25μm,21.9s,MS6.3,baz=299,slow=36
SFJD Kangerlussuaq 56.20 20 ⇓*iP* **P 04 28 23.7 +1.7**
comp=Z,176nm,1.1s,mb6.0
SFJD *e* 04 36 12.4
SFJD *i* 04 45 11.1
SFJD Kangerlussuaq 56.20 20 P **P 04 28 22.7 +0.7**
SFJD Kangerlussuaq 56.20 20 ⇓*eP* **P 04 28 23.7 +1.7**
comp=Z,176nm,1.1s,mb6.0
SFJD *e* 04 36 12.4
SFJD *i* 04 45 11.1
CD2 Chengdu 56.41 279 ⇓*iP* **P 04 28 22.5 -1.0**

CD2				AP	pP	04 28 27.1 -5.3
CD2				XP	sP	04 28 29.8 -6.0
CD2				PCP	PcP	04 29 20.0 -0.3
CD2				PP	PP	04 30 29.6 +0.5
CD2				SCP	ScP	04 33 17.3 -0.2
CD2				PCS	PcS	04 33 19.8 -1.1
CD2				S	**S**	**04 36 08.5 -3.9**
CD2				PS		04 36 23.5
CD2				AMB	AMB	
	comp=Z,130nm,1.3s,mb5.8					
CD2				AMB	AMB	
	comp=Z,2μm,10.5s					
CD2				LR	LR	
	comp=E,22μm,18.0s					
CD2				LR	LR	
	comp=Z,22μm,25.2s					
BCPH	**Baguio City Da**	**56.75**	**253**⇓	*e*P	**P**	**04 28 27.0 +1.1**
KEV	**Kevo**	**56.84**	**348**	*e*p	**P**	**04 28 25.4 -1.1**
	comp=Z,24nm,0.7s,mb5.3					
KEV	**Kevo**	**56.84**	**348**	*e*P	**P**	**04 28 25.4 -1.1**
KEV				pmax	pmax	
	comp=Z,24nm,0.7s,mb5.3					
PVCP	**Virac**	**56.86**	**248**	*e*P	**P**	**04 28 27.2 +0.6**
KURK	**Kurchatov**	**56.89**	**311**	P	**P**	**04 28 24.9 -1.9**
	comp=Z,3μm,1.3s,SNR=23					
WMQ	**Urumqi**	**56.98**	**300**	P	**P**	**04 28 26.8 -0.7**
WMQ				XP	sP	04 28 33.9 -5.9
WMQ				PCP	PcP	04 29 22.5 0.0
WMQ				PP	PP	04 30 34.8 +0.6
WMQ				PPP		04 32 02.0
WMQ				SCP	ScP	04 33 19.6 -0.4
WMQ				S	**S**	**04 36 17.6 -2.3**
WMQ				AMB	AMB	
	comp=Z,180nm,1.1s,mb6.0					
WMQ				AMB	AMB	
	comp=Z,2μm,4.5s					
WMQ				LR	LR	
	comp=N,281μm,20.0s,MS7.4					
WMQ				LR	LR	
	comp=E,122μm,20.0s,MS7.4					
WMQ				LR	LR	
	comp=Z,69μm,18.0s,MS6.8					
BOLP	**Bolinao**	**57.15**	**254**	*e*P	**P**	**04 28 30.7 +2.0**
ARCES	**ARCESS Array B**	**57.24**	**349**	P	**P**	**04 28 26.6 -2.7**
	comp=Z,13nm,0.8s,mb5.0,baz=29,slow=8.0,SNR=14					
ARCES				S	**S**	**04 36 22.4 -0.8**
	comp=Z,2.6nm,0.9s,baz=336,slow=2.7,SNR=3.2					
ARCES				LR	LR	04 57 51.1
	comp=Z,43μm,18.9s,MS6.6,baz=23,slow=41					
ARCES	**ARCESS Array B**	**57.24**	**349**	P	**P**	**04 28 26.6 -2.7**
ARCES				S	**S**	**04 36 22.5 -0.8**
ARCES				pmax	pmax	
	comp=Z,130nm,0.8s					
ARCES				smax		
	comp=N,3.0nm,0.9s					
ARCES				MLR	MLR	
	comp=Z,43μm,18.9s					
ARE0	**ARCESS Array S**	**57.24**	**349**	P	**P**	**04 28 27.3 -2.1**
SCO	**Scoresbysund**	**57.28**	**8**	*i* P	**P**	**04 28 29.6 0.0**
	comp=Z,76nm,1.1s,mb5.6					
SCO				*i* S	**S**	**04 36 36.8 +13**
SCO	**Scoresbysund**	**57.28**	**8**	*e*P	**P**	**04 28 29.6 0.0**
SCO				*i* S	**S**	**04 36 36.8 +13**
SCO				pmax	pmax	
	comp=Z,76nm,1.1s,mb5.6					
SCO	**Scoresbysund**	**57.28**	**8**	*e*P	**P**	**04 28 29.6 0.0**
	comp=Z,76nm,1.1s,mb5.6					
SCO				*i* S	**S**	**04 36 36.8 +13**
LVZ	**Lovozero**	**57.41**	**344**	P	**P**	**04 28 28.8 -1.7**
	comp=Z,1μm,0.9s,mb6.9,SNR=8.0					
LVZ	**Lovozero**	**57.41**	**344**⇑	*i* P	**P**	**04 28 28.6 -1.9**
LVZ				*e*PPP		04 32 03.4
LVZ				*i* S	**S**	**04 36 28.0 +2.5**
LVZ				pmax	pmax	
	comp=E,18nm,0.9s					
LVZ				pmax	pmax	
	comp=Z,160nm,0.9s,mb6.0					
LVZ				MLR	MLR	
	comp=Z,31μm,16.0s,MS6.5					
LVZ				MLR	MLR	
	comp=N,22μm,17.0s,MS6.3					
LVZ				MLR	MLR	
	comp=E,6μm,17.0s,MS6.3					
LVZ	**Lovozero**	**57.41**	**344**	*e*Pr	**P**	**04 28 28.4 -2.1**
LVZ				LR	LR	
	comp=Z,22μm,20.0s,MS6.3					
JMIC	**Jan Mayen**	**57.48**	**2**	*e*P	**P**	**04 28 35.5 +4.5**
JMIC				*i*		04 36 37.3
JMIC				AMS	AMS	04 57 35.2
	comp=Z,9μm,19.9s,MS5.9					
SCZP	**Santa Cruz**	**57.62**	**253**	*e*P	**P**	**04 28 36.7 +4.7**
GYA	**Guiyang**	**57.77**	**273**⇑	*i* P	**P**	**04 28 31.4 -1.6**
GYA				AP	pP	04 28 43.1 +1.1
GYA				PP	PP	04 30 41.6 +0.4
GYA				S	**S**	**04 36 31.3 +1.1**
GYA				SCS	ScS	04 38 13.6 -6.9
GYA				AMB	AMB	
	comp=Z,190nm,1.0s,mb6.1					
GYA				AMB	AMB	
	comp=Z,3μm,8.1s					
GYA				LR	LR	
	comp=N,31μm,24.0s,MS6.5					
GYA				LR	LR	
	comp=E,27μm,24.2s,MS6.5					
GYA				LR	LR	
	comp=Z,18μm,21.6s,MS6.2					
MK31	**Makanchi Array**	**57.78**	**306**	P	**P**	**04 28 29.9 -3.2**
MK31				pmax	pmax	
	comp=Z,97nm,0.8s,mb5.9					
MKAR	**Makanchi Array**	**57.78**	**306**	P	**P**	**04 28 29.9 -3.2**
	comp=Z,20nm,0.6s,mb5.3,baz=51,slow=6.3,SNR=102					
MKAR				S	**S**	**04 36 26.1 -4.3**
	comp=Z,0.4nm,0.5s,baz=260,slow=41,SNR=2.8					
MKAR	**Makanchi Array**	**57.78**	**306**	P	**P**	**04 28 30.0 -3.1**
MKAR				S	**S**	**04 36 26.1 -4.3**
MKAR				pmax	pmax	
	comp=Z,200nm,0.6s					
TRO	**Tromso**	**57.87**	**351**	*e*P	**P**	**04 28 38.8 +5.1**
TRO				AMb	AMB	04 28 45.1
	comp=Z,224nm,1.6s,mb6.0					
TRO				*e*S	**S**	**04 36 37.3 +5.8**
TRO				AMS	AMS	05 00 48.3
	comp=Z,18μm,18.4s,MS6.2					
TRO	**Tromso**	**57.87**	**351**	*e*P	**P**	**04 28 38.8 +5.1**
TRO				*i*		04 36 38.3
TRO				pmax	pmax	
	comp=Z,225nm,1.5s,mb6.0					
TRO				MLR	MLR	
	comp=Z,18μm,18.4s,MS6.2					
TRO	**Tromso**	**57.87**	**351**	*e*P	**P**	**04 28 38.8 +5.1**
	comp=Z,224nm,1.5s,mb6.0					
TRO				*i*		04 36 38.3
TRO				LR	LR	
	comp=Z,18μm,18.4s,MS6.2					
KTK1	**Kautokeino**	**58.01**	**349**	*e*P	**P**	**04 28 33.5 -1.3**
KTK1				AMb	AMB	04 28 46.8
	comp=Z,652nm,1.6s,mb6.4					
KTK1	**Kautokeino**	**58.01**	**349**	*e*P	**P**	**04 28 33.5 -1.3**
	comp=Z,652nm,1.6s,mb6.4					
BOAC	**Boac**	**58.31**	**250**	*e*P	**P**	**04 28 38.2 +1.4**
CHKZ	**Chkalovo**	**58.36**	**318**	P	**P**	**04 28 35.8 -1.4**
CHKZ				pmax	pmax	
	comp=Z,214nm,1.2s,mb6.0					
CHKZ	**Chkalovo**	**58.36**	**318**	*e*P	**P**	**04 28 34.3 -2.9**
	comp=Z,347nm,1.3s,mb6.2					
MNTX	**Cornudas Mount**	**58.36**	**78**	*e*P	**P**	**04 28 37.1 -0.1**
	comp=Z,82nm,0.9s,mb5.8					
MNTX				LR	LR	
	comp=Z,25μm,19.0s,MS6.3					
AMTX	**Amarillo**	**58.37**	**73**	*e*P	**P**	**04 28 36.3 -1.0**
	comp=Z,286nm,1.6s,mb6.0					
AMTX				LR	LR	
	comp=Z,26μm,19.0s,MS6.4					
SCIA	**State Center**	**58.38**	**61**	*e*P	**P**	**04 28 35.9 -1.5**
VOSK	**Vostochnaya**	**58.89**	**317**	P	**P**	**04 28 38.8 -2.1**
VOSK				pmax	pmax	
	comp=Z,111nm,0.9s,mb5.9					
BVA0	**Borovoye Array**	**58.92**	**318**	*i* P	**P**	**04 28 39.0 -2.1**
BVA0				pmax	pmax	
	comp=Z,320nm,0.9s,mb6.3					
BRVK	**Borovoye**	**58.94**	**318**	P	**P**	**04 28 39.0 -2.2**
	comp=Z,2μm,0.6s,SNR=25					
BRVK	**Borovoye**	**58.94**	**318**	*e*P	**P**	**04 28 39.1 -2.1**
BRVK				pmax	pmax	
	comp=Z,119nm,0.8s,mb6.0					
BRVK				MLR	MLR	
	comp=Z,34μm,19.0s,MS6.5					
BRVK	**Borovoye**	**58.94**	**318**	*e*P	**P**	**04 28 39.1 -2.2**
	comp=Z,119nm,0.8s,mb6.0					
BRVK				LR	LR	
	comp=Z,34μm,19.0s,MS6.5					
LUBP	**Lubang**	**59.03**	**252**	*e*P	**P**	**04 28 39.5 -2.3**
SOKR	**Solikamsk**	**59.03**	**329**	*d i*P	**P**	**04 28 43.8 +1.9**
SOKR				S	**S**	**04 36 54.5 +7.8**
SOKR				SSS		04 42 58.8
SOKR				pmax	pmax	
	comp=Z,290nm,1.4s,mb6.1					
SOKR				MLR	MLR	
	comp=Z,36μm,15.0s,MS6.6					
OTRP	**Odiongan**	**59.08**	**249**	*e*P	**P**	**04 28 45.9 +3.7**
SCPH	**Surigao**	**59.19**	**244**	*i* P	**P**	**04 28 46.6 +3.6**
ZRNK	**Zerenda**	**59.55**	**318**	P	**P**	**04 28 43.2 -2.3**
ZRNK				pmax	pmax	
	comp=Z,158nm,0.9s,mb6.0					
ZRNK	**Zerenda**	**59.55**	**318**	*e*P	**P**	**04 28 42.8 -2.7**
	comp=Z,429nm,1.2s,mb6.3					
LOF	**Lofoten**	**59.79**	**353**	*e*P	**P**	**04 28 52.6 +5.5**
FUNA	**Funafuti**	**60.08**	**178**	PFAKE		04 29 00.0 +11
FUNA				LR	LR	
	comp=Z,27μm,19.0s,MS6.4					
GUIM	**Jordan**	**60.15**	**247**	*e*P	**P**	**04 28 52.0 +2.5**
BUSP	**Coron**	**60.43**	**251**	*e*P	**P**	**04 28 52.6 +1.1**
LPIG	**La Paz**	**60.76**	**88**	*i* P	**P**	**04 28 53.2 -0.6**
SNPH	**Sibulan**	**60.81**	**246**	*e*P	**P**	**04 28 59.0 +4.9**
CUYO	**Cuyo Island**	**60.87**	**249**	*e*P	**P**	**04 28 57.5 +3.0**
ARU	**Arti**	**60.90**	**326**	P	**P**	**04 28 53.8 -0.9**
	comp=Z,1μm,1.0s,SNR=7.6					
ARU	**Arti**	**60.90**	**326**⇓	*i* P	**P**	**04 28 53.4 -1.3**
ARU				*e*		04 29 37.2
ARU				*e*S	**S**	**04 37 08.7 -2.0**
ARU				*e*		04 38 38.9
ARU				pmax	pmax	
	comp=Z,253nm,1.1s,mb6.3					
ARU				MLR	MLR	
	comp=Z,48μm,18.0s,MS6.7					
ARU				MLR	MLR	
	comp=N,36μm,17.0s,MS6.7					
ARU				MLR	MLR	
	comp=E,31μm,17.0s,MS6.7					
ARU	**Arti**	**60.90**	**326**	*e*P	**P**	**04 28 53.1 -1.6**
	comp=E,372nm,1.3s,mb6.4					
BUKP	**Musuan**	**60.99**	**243**	*e*P	**P**	**04 28 57.6 +2.4**
LTX	**Lajitas**	**61.08**	**78**	P	**P**	**04 28 55.6 -0.3**
LTX				pmax	pmax	
	comp=Z,150nm,1.2s,mb6.0					
LTX	**Lajitas**	**61.08**	**78**	*e*P	**P**	**04 28 54.6 -1.3**
	comp=Z,151nm,1.3s,mb6.0					
LTX				LR	LR	
	comp=Z,23μm,19.0s,MS6.3					
KMI	**Kunming**	**61.17**	**275**	P	**P**	**04 28 54.9 -1.6**
KMI				AP	pP	04 29 02.8 -2.7
KMI				XP	sP	04 29 05.3 -3.6
KMI				PP	PP	04 31 13.5 +2.2
KMI				PPP		04 32 41.9
KMI				AMB	AMB	
	comp=Z,20nm,1.3s,mb5.1					
KMI				AMB	AMB	
	comp=Z,3μm,6.9s					
KMI				LR	LR	
	comp=N,37μm,18.2s,MS6.7					
KMI				LR	LR	
	comp=E,22μm,17.4s,MS6.7					
KMI				LR	LR	
	comp=Z,24μm,28.9s					
SCHQ	**Schefferville**	**61.23**	**36**	P	**P**	**04 28 55.3 -1.6**
	comp=Z,39nm,1.1s,mb5.5,baz=335,slow=6.4,SNR=23					
SCHQ				LR	LR	04 55 22.1
	comp=Z,34μm,21.8s,MS6.5,baz=318,slow=36					
SCHQ	**Schefferville**	**61.23**	**36**	*e*P	**P**	**04 28 55.8 -1.1**
	comp=Z,361nm,1.1s,mb6.4					
SCHQ				LR	LR	
	comp=Z,68μm,20.0s,MS6.8					
QIZ	**Qiongzhong**	**61.26**	**264**	P	**P**	**04 28 58.3 +1.1**
QIZ				S	**S**	**04 37 18.5 +3.2**
QIZ				XS	sS	04 37 28.6 -1.5
QIZ				SS	SS	04 41 17.6 +1.8
QIZ				AMB	AMB	
	comp=Z,110nm,1.5s,mb5.8					
QIZ				AMB	AMB	
	comp=Z,3μm,8.8s					
QIZ				LR	LR	
	comp=E,20μm,17.6s					
QIZ				LR	LR	
	comp=Z,26μm,15.4s,MS6.5					
QIZ	**Qiongzhong**	**61.26**	**264**	*e*P	**P**	**04 28 57.6 +0.5**
	comp=Z,170nm,1.3s,mb6.0					
QIZ				LR	LR	
	comp=Z,18μm,19.0s,MS6.2					
DAV	**Davao City (W)**	**61.37**	**242**	PFAKE		04 29 10.0 +12
DAV				LR	LR	
	comp=Z,19μm,22.0s,MS6.2					
ENPP	**El Nido**	**61.52**	**251**	*e*P	**P**	**04 29 00.5 +1.7**
MOR8	**Moi Rana**	**61.65**	**352**	*e*P	**P**	**04 28 59.5 -0.3**
MOR8				AMb	AMB	04 29 09.2
	comp=Z,161nm,1.6s,mb5.9					
MOR8	**Moi Rana**	**61.65**	**352**	*e*P	**P**	**04 28 59.5 -0.3**
	comp=Z,161nm,1.5s,mb5.9					
CCM	**Cathedral Cave**	**62.15**	**63**	*e*P	**P**	**04 29 01.4 -1.7**
CCM				pmax	pmax	
	comp=Z,300nm,1.8s,mb6.1					
CCM	**Cathedral Cave**	**62.15**	**63**	*e*P	**P**	**04 29 01.0 -2.1**
	comp=Z,302nm,1.8s,mb6.1					
CCM				LR	LR	
	comp=Z,12μm,21.0s,MS6.0					
SLM	**Saint Louis**	**62.30**	**62**	*e*P	**P**	**04 29 02.9 -1.2**
SLM				pmax	pmax	
	comp=Z,253nm,1.4s,mb6.2					
SLM	**Saint Louis**	**62.30**	**62**	*e*P	**P**	**04 29 02.9 -1.2**
	comp=Z,253nm,1.4s,mb6.2					
JOF	**Joensuu**	**62.53**	**343**	*e*p	**P**	**04 29 03.3 -2.4**
	comp=Z,117nm,1.0s,mb6.0					
JOF	**Joensuu**	**62.53**	**343**	*e*P	**P**	**04 29 03.3 -2.4**
JOF				pmax	pmax	
	comp=Z,117nm,1.0s,mb6.0					
JCT	**Junction City**	**62.59**	**75**	*e*P	**P**	**04 29 05.8 -0.3**
JCT				pmax	pmax	
	comp=Z,163nm,1.0s,mb6.1					
JCT				MLR	MLR	
	comp=Z,35μm,20.0s,MS6.5					
JCT	**Junction City**	**62.59**	**75**	*e*P	**P**	**04 29 05.8 -0.4**
	comp=Z,163nm,1.0s,mb6.1					
JCT				LR	LR	
	comp=Z,35μm,20.0s,MS6.5					
FVM	**French Village**	**62.66**	**63**	*e*P	**P**	**04 29 07.0 +0.5**
FVM				pmax	pmax	
	comp=Z,71nm,1.0s,mb5.8					
FVM	**French Village**	**62.66**	**63**	*e*P	**P**	**04 29 07.0 +0.4**
	comp=Z,71nm,1.0s,mb5.8					
HNR	**Honiara**	**62.73**	**199**	LR	LR	04 51 56.2
	comp=Z,24μm,20.1s,MS6.4,baz=0.9,slow=32					
HNR	**Honiara**	**62.73**	**199**	*e*P	**P**	**04 29 07.9 +0.9**
HNR				MLR	MLR	
	comp=Z,24μm,20.0s,MS6.4					
BORG	**Borgarnes**	**62.94**	**9**	*e*P	**P**	**04 29 09.6 +1.2**
	comp=Z,550nm,1.7s,mb6.4					
BORG				LR	LR	
	comp=Z,19μm,19.0s,MS6.3					
AAA	**Alma-Ata**	**62.95**	**306**	*i* P	**P**	**04 29 14.2 +5.7**
AAA				*i* S	**S**	**04 37 42.3 +5.7**
AAA				pmax	pmax	
	comp=Z,3μm,6.2s					
AAA				smax		
	comp=N,7μm,16.5s					
AAA				MLR	MLR	
	comp=Z,67μm,21.2s,MS6.8					
PPR	**Puerto Princes**	**63.06**	**250**	*e*P	**P**	**04 29 12.9 +3.7**
MIAR	**Mount Ida**	**63.34**	**67**	P	**P**	**04 29 10.2 -0.9**
MIAR				pmax	pmax	
	comp=Z,320nm,1.4s,mb6.3					
MIAR	**Mount Ida**	**63.34**	**67**	*e*P	**P**	**04 29 09.9 -1.1**
	comp=Z,318nm,1.4s,mb6.3					
MIAR				LR	LR	
	comp=Z,51μm,21.0s,MS6.7					
NSS	**Namsos**	**63.47**	**353**	*e*P	**P**	**04 29 10.9 -1.0**
NSS				*e*S	**S**	**04 37 45.5 +2.4**
NSS				AMS	AMS	05 05 39.4
	comp=Z,17μm,17.9s,MS6.3					
NSS	**Namsos**	**63.47**	**353**	*e*P	**P**	**04 29 10.9 -1.0**
NSS				*i*		04 37 54.5
NSS				LR	LR	
	comp=Z,17μm,17.9s,MS6.3					
TKM2	**Tokmak 2**	**63.88**	**307**	P	**P**	**04 29 13.9 -0.7**
	SNR=37					
TKM2	**Tokmak 2**	**63.88**	**307**	*i* P	**P**	**04 29 13.5 -1.1**
UALR	**University of**	**63.88**	**66**	*e*P	**P**	**04 29 15.6 +1.0**
	comp=Z,73nm,1.3s,mb5.5					
BLO	**Bloomington**	**63.92**	**59**	P	**P**	**04 29 13.7 -1.2**
BLO				pmax	pmax	
	comp=Z,99nm,1.0s,mb5.8					
BLO	**Bloomington**	**63.92**	**59**	*e*P	**P**	**04 29 13.1 -1.8**
	comp=Z,99nm,1.0s,mb5.8					
PARMO	**Parma**	**63.98**	**63**	*e*P	**P**	**04 29 16.0 +0.8**
ULHL	**Ulahol**	**64.05**	**306**	P	**P**	**04 29 15.2 -0.6**
	SNR=36					
KAF	**Kangasniemi**	**64.13**	**345**	*e*p	**P**	**04 29 14.0 -2.3**
	comp=Z,44nm,0.7s,mb5.6,baz=15,slow=5.9					
KAF	**Kangasniemi**	**64.13**	**345**	*e*P	**P**	**04 29 14.0 -2.3**
KAF				pmax	pmax	
	comp=Z,44nm,0.7s,mb5.6					
USP	**Ospenovka**	**64.17**	**308**	P	**P**	**04 29 14.7 -1.8**
	SNR=47					
USIN	**University of**	**64.18**	**61**	*e*P	**P**	**04 29 15.5 -1.1**
	comp=Z,122nm,0.8s,mb6.0					
CHMS	**Chumysh**	**64.24**	**307**	P	**P**	**04 29 16.2 -0.8**
	SNR=13					
HBAR	**Harrisburg**	**64.27**	**65**	*e*P	**P**	**04 29 17.4 +0.2**
GNAR	**Gosnell**	**64.33**	**64**	*e*P	**P**	**04 29 18.7 +1.1**
	comp=Z,3μm,1.5s					
BATP	**Bataraza**	**64.39**	**251**	*e*P	**P**	**04 29 21.7 +3.8**
KBK	**Karagaybulak**	**64.40**	**307**	P	**P**	**04 29 16.5 -1.5**
	SNR=20					
FRU	**Bishkek**	**64.43**	**307**	*e*P	**P**	**04 29 16.2 -2.0**
FRU				*e*S	**S**	**04 37 54.0 -1.0**
FRU				pmax	pmax	
	comp=Z,922nm,2.0s,mb6.5					
FRU				smax		
	comp=E,7μm,17.0s					
FRU				MLR	MLR	
	comp=Z,36μm,15.0s,MS6.7					
GLAT	**Glass**	**64.52**	**63**	*e*P	**P**	**04 29 17.0 -1.8**
AAK	**Ala-Archa**	**64.64**	**307**	P	**P**	**04 29 18.0 -1.6**
	SNR=35					
AAK	**Ala-Archa**	**64.64**	**307**	P	**P**	**04 29 17.0 -2.6**
	comp=Z,371nm,0.8s,mb6.5,SNR=24					
AAK	**Ala-Archa**	**64.64**	**307**	*c i*P	**P**	**04 29 17.9 -1.7**
AAK				pmax	pmax	
	comp=Z,44nm,0.8s,mb5.5					
AAK	**Ala-Archa**	**64.64**	**307**	*e*P	**P**	**04 29 17.1 -2.5**
	comp=Z,223nm,1.1s,mb6.1					
AAK				LR	LR	
	comp=Z,32μm,20.0s,MS6.5					
KZA	**Kyzart**	**64.67**	**306**	P	**P**	**04 29 19.8 -0.1**
	SNR=36					
UTMT	**University of**	**64.70**	**63**	*e*P	**P**	**04 29 20.2 +0.2**
	comp=Z,409nm,1.1s,mb6.4					
NATX	**Nacogdoches**	**64.72**	**70**	*e*P	**P**	**04 29 19.9 -0.2**
	comp=Z,254nm,1.3s,mb6.1					
NATX				LR	LR	
	comp=Z,39μm,19.0s,MS6.6					
WCI	**Wyandotte Cave**	**64.73**	**60**	*e*P	**P**	**04 29 19.3 -0.9**
WCI				pmax	pmax	
	comp=Z,82nm,1.0s,mb5.7					
WCI				MLR	MLR	
	comp=Z,13μm,20.0s,MS6.1					
WCI	**Wyandotte Cave**	**64.73**	**60**	*e*P	**P**	**04 29 19.3 -0.9**
	comp=Z,82nm,1.0s,mb5.7					
WCI				LR	LR	
	comp=Z,13μm,20.0s,MS6.1					
HALT	**Halls**	**64.75**	**64**	*e*P	**P**	**04 29 19.9 -0.4**
FIA1	**FINESS Array S**	**64.80**	**345**	*e*P	**P**	**04 29 18.5 -2.1**
FINES	**FINESS Array B**	**64.80**	**345**	P	**P**	**04 29 17.8 -2.9**
	comp=Z,8.7nm,0.7s,mb4.9,baz=20,slow=6.1,SNR=16					
FINES				LR	LR	05 00 35.7
	comp=Z,18μm,19.3s,MS6.3,baz=212,slow=39					
FINES	**FINESS Array B**	**64.80**	**345**	*i* P	**P**	**04 29 18.2 -2.4**
FINES				pmax	pmax	
	comp=Z,90nm,0.7s					
LSA	**Lhasa**	**64.91**	**287**	P	**P**	**04 29 22.4 +1.0**
LSA				AP	pP	04 29 30.8 +0.4
LSA				XP	sP	04 29 34.8 +1.0
LSA				PCP	PcP	04 29 52.6 -1.8
LSA				PP	PP	04 31 46.3 +2.0
LSA				S	**S**	**04 37 51.0 -10**
LSA				SCS	ScS	04 39 14.5 +0.3
LSA				AMB	AMB	
	comp=Z,40nm,1.1s,mb5.4					
LSA				AMB	AMB	
	comp=Z,490nm,8.5s					
LSA				LR	LR	
	comp=N,15μm,17.7s,MS6.5					
LSA				LR	LR	
	comp=E,28μm,20.7s,MS6.5					
LSA				LR	LR	
	comp=Z,23μm,21.9s,MS6.3					
LSA	**Lhasa**	**64.91**	**287**	*e*P	**P**	**04 29 21.4 0.0**
LSA				pmax	pmax	
	comp=Z,130nm,0.8s,mb6.0					
LSA				MLR	MLR	
	comp=Z,36μm,19.0s,MS6.6					
LSA	**Lhasa**	**64.91**	**287**	*e*P	**P**	**04 29 21.4 0.0**
	comp=Z,130nm,0.8s,mb6.0					
LSA				LR	LR	
	comp=Z,36μm,19.0s,MS6.6					
UCH	**Uchtor**	**64.93**	**307**	P	**P**	**04 29 20.8 -0.7**
	SNR=21					
EKS2	**Erkin-Say**	**64.97**	**308**	P	**P**	**04 29 20.1 -1.6**
	SNR=54					
ACSO	**Alum Creek Sta**	**65.01**	**56**	*e*P	**P**	**04 29 20.3 -1.7**
	comp=Z,72nm,1.1s,mb5.6					
ACSO				LR	LR	
	comp=Z,26μm,19.0s,MS6.4					
ERPA	**Erie**	**65.13**	**53**	*e*P	**P**	**04 29 21.9 -0.9**
	comp=Z,214nm,1.0s,mb6.1					
ERPA				LR	LR	
	comp=Z,107μm,19.0s,MS7.1					
HKT	**Hockley**	**65.34**	**72**	*e*P	**P**	**04 29 24.3 +0.1**
HKT				pmax	pmax	
	comp=Z,192nm,1.5s,mb5.9					
HKT				MLR	MLR	
	comp=Z,7μm,19.0s,MS5.9					
HKT	**Hockley**	**65.34**	**72**	*e*P	**P**	**04 29 24.3 +0.1**
	comp=Z,192nm,1.5s,mb5.9					
HKT				LR	LR	
	comp=Z,7μm,19.0s,MS5.9					
ALLY	**Alegheny Colle**	**65.40**	**54**	*e*P	**P**	**04 29 23.9 -0.6**
AML	**Almayashu**	**65.41**	**307**	P	**P**	**04 29 23.8 -0.8**
	SNR=30					
WVT	**Waverly**	**65.43**	**62**	P	**P**	**04 29 23.5 -1.2**
WVT				pmax	pmax	
	comp=Z,76nm,1.1s,mb5.6					
WVT	**Waverly**	**65.43**	**62**	*e*P	**P**	**04 29 23.1 -1.6**
	comp=Z,76nm,1.1s,mb5.6					
WVT				LR	LR	
	comp=Z,35μm,19.0s,MS6.6					
PECR	**Pechory**	**65.53**	**333**	*e*P	**P**	**04 29 23.4 -2.0**
PECR				*e*		04 31 55.4
PECR				*e*S	S	04 38 07.6 -0.9
PECR				*e*SSS		04 45 21.3
PECR				pmax	pmax	
	comp=Z,900nm,2.0s,mb6.5					
PECR				smax		
	comp=E,6μm,15.0s					
PECR				smax		
	comp=N,8μm,12.0s					
PECR				MLR	MLR	
	comp=E,9μm,19.0s,MS6.2					
PECR				MLR	MLR	
	comp=Z,49μm,19.0s,MS6.7					
PECR				MLR	MLR	
	comp=N,13μm,17.0s,MS6.2					
MOL	**Molde**	**65.71**	**355**⇑	*i* P	**P**	**04 29 34.4 +7.9**
MOL				*i*		04 30 47.9
MOL				*e*S	S	04 38 13.5 +2.8
MOL	**Molde**	**65.71**	**355**⇑	*i* P	**P**	**04 29 34.4 +7.9**
MOL				*i*		04 30 47.9
MOL				*e*		04 38 29.6
OXF	**Oxford**	**65.73**	**65**	*e*P	**P**	**04 29 25.9 -0.8**
OXF				pmax	pmax	
	comp=Z,603nm,1.3s,mb6.5					
OXF				MLR	MLR	
	comp=Z,44μm,20.0s,MS6.7					
OXF	**Oxford**	**65.73**	**65**	*e*P	**P**	**04 29 25.9 -0.8**
	comp=Z,603nm,1.3s,mb6.5					
OXF				LR	LR	
	comp=Z,44μ

ORR S S 04 38 05.7 -10
ORR SSS 04 45 19.2
ORR pmax pmax
comp=Z,310nm,1.8s,mb6.0
ORR MLR MLR
comp=Z,52μm,22.0s,MS6.7
AFI Afiamalu 66.11 168 LR LR 04 52 40.3
comp=Z,15μm,20.9s,MS6.2,baz=346,slow=31
AFI Afiamalu 66.11 168 PFAKE 04 29 40.0 +11
AFI LR LR
comp=Z,15μm,20.0s,MS6.2
FRNY Flat Rock 66.13 47 *e*P **P 04 29 27.1 -2.1**
PLAL Pickwick Lake 66.13 63 *e*P **P 04 29 27.4 -1.9**
comp=Z,132nm,1.1s,mb5.9
PLAL LR LR
comp=Z,43μm,21.0s,MS6.6
DOMB Dombas 66.14 354 *e*P **P 04 29 31.5 +2.2**
PMG Port Moresby 66.18 213 LR LR 04 52 33.6
comp=Z,30μm,21.9s,MS6.5,baz=150,slow=31
PMG Port Moresby 66.18 213 *e*P **P 04 29 30.1 +0.5**
PMG pmax pmax
comp=Z,333nm,1.5s
PMG MLR MLR
comp=Z,30μm,21.0s
PMG Port Moresby 66.18 213 *e*P **P 04 29 30.1 +0.5**
comp=Z,333nm,1.5s,mb6.2
PMG LR LR
comp=Z,30μm,21.0s,MS6.5
KSH Kashi 66.21 304 *e*P **P 04 29 28.3 -1.4**
KSH AP pP 04 29 38.1 -0.7
KSH *e*XP sP 04 29 42.3 +0.1
KSH PCP PcP 04 29 59.6 -0.2
KSH *e*PPP 04 33 30.0
KSH *e*SCP 04 33 58.8
KSH *e*PCS 04 34 02.5
KSH *e*PS 04 38 35.3
KSH *e*SCS ScS 04 39 17.5 -6.6
KSH AMB AMB
comp=Z,50nm,0.3s,mb6.0
KSH AMB AMB
comp=Z,2μm,8.2s
KSH LR LR
comp=N,15μm,14.4s,MS6.4
KSH LR LR
comp=E,8μm,11.0s,MS6.4
KSH LR LR
comp=Z,9μm,19.9s
KK31 Karatay Array 66.22 310 *i* P **P 04 29 28.0 -1.8**
KKAR Karatay Array 66.22 310 *i* P **P 04 29 28.0 -1.8**
KKAR pmax pmax
comp=Z,1μm,1.7s,mb6.6
NCB Newcomb 66.50 48 *e*P **P 04 29 30.0 -1.6**
comp=Z,389nm,1.6s,mb6.2
NCB LR LR
comp=Z,69μm,19.0s,MS6.9
ZAIG Zacatecas 66.53 83 *i* P **P 04 29 33.1 +1.3**
IMP Imphal 66.83 281 *e*P **P 04 29 33.0 -0.7**
NB2 NORSAR Subarra 66.98 353 P **P 04 29 32.8 -1.9**
comp=Z,182nm,1.2s,mb6.0,baz=9.0,slow=6.5
NB2 NORSAR Subarra 66.98 353 P **P 04 29 32.8 -1.9**
NB2 pmax pmax
comp=Z,182nm,1.2s,mb6.0
NOA NORSAR Array B 66.98 353 P **P 04 29 32.8 -1.9**
comp=Z,31nm,0.9s,mb5.3,baz=9.4,slow=6.3,SNR=19
NOA LR LR 05 02 57.1
comp=Z,17μm,18.2s,MS6.3,baz=355,slow=40
NOA NORSAR Array B 66.98 353 P **P 04 29 32.8 -1.9**
NOA pmax pmax
comp=Z,31nm,0.9s
NOA MLR MLR
comp=Z,17μm,18.2s
BINY Binghamton 67.03 51 *e*P **P 04 29 34.0 -1.0**
comp=Z,268nm,1.3s,mb6.1
BINY LR LR
comp=Z,49μm,20.0s,MS6.7
MCWV Mont Chateau 67.04 55 *e*P **P 04 29 34.5 -0.6**
comp=Z,50nm,0.7s,mb5.7
MCWV LR LR
comp=Z,93μm,19.0s,MS7.0
SWET Sewanee 67.14 62 *e*P **P 04 29 34.7 -1.0**
NAO01 NORSAR Array S 67.20 353 *e*P **P 04 29 36.4 +0.4**
comp=Z,16nm,0.7s,mb5.2
NAO01 LR LR
comp=Z,26μm,20.0s,MS6.5
ACCN Adirondack Com 67.21 48 *e*P **P 04 29 34.0 -2.1**
SSPA Standing Stone 67.29 53 *e*P **P 04 29 35.2 -1.4**
comp=Z,118nm,0.8s,mb6.0
SSPA LR LR
comp=Z,21μm,20.0s,MS6.4
SHL Shillong 67.50 283 *e*P **P 04 29 38.7 +0.7**
VSU Vasula 67.51 344 *e*P **P 04 29 38.4 +0.4**
VSU Vasula 67.51 344 *e*Pr **P 04 29 38.4 +0.4**
KKM Kota Kinabalu 67.53 250 P **P 04 29 39.7 +1.6**
KKM Kota Kinabalu 67.53 250 *e*P **P 04 29 38.6 +0.4**
HNH Hanover 67.60 47 *e*P **P 04 29 38.9 +0.3**
comp=Z,8,2nm,1.0s
KKTK Khon Kaen 67.65 268 P **P 04 29 39.0 +0.1**
MOS Moscow 67.74 337 *e*P **P 04 29 39.9 +0.4**
MOS *e* 04 32 08.2
MOS *e*PPP 04 33 45.2
MOS *e*S S 04 38 33.0 -2.3
MOS *e* 04 39 32.6
MOS *e*SS SS 04 43 01.5 +4.8
MOS pmax pmax
comp=Z,533nm,1.6s,mb6.3
MOS pmax pmax
comp=N,331nm,1.4s
MOS MLR MLR
comp=E,27μm,18.0s
MOS MLR MLR
comp=Z,69μm,18.0s,MS6.9
SFJM Santa Fe 67.94 85 *e*P **P 04 29 43.0 +2.3**
TSM Tawau 67.98 248 P **P 04 29 43.0 +2.0**
BER Bergen 68.00 356 *e*P **P 04 29 45.5 +4.4**
BER AMb AMB 04 29 54.6
comp=Z,171nm,1.9s,mb5.8
BER *e*S S 04 38 37.6 -0.9
BER *e*SS SS 04 43 04.9 +4.1
BER *e* 04 51 18.1
BER AMS AMS 05 07 55.4
comp=Z,16μm,18.2s,MS6.3
BER Bergen 68.00 356 *e*P **P 04 29 45.5 +4.3**
BER pmax pmax
comp=Z,171nm,1.9s,mb5.8
BER MLR MLR
comp=Z,16μm,18.2s,MS6.3
BER Bergen 68.00 356 *e*P **P 04 29 45.5 +4.4**
comp=Z,171nm,1.9s,mb5.8
BER *i* 04 38 45.3
BER *e* 04 51 18.1
BER LR LR
comp=Z,16μm,18.2s,MS6.3
OSL Oslo 68.11 353 *e*P **P 04 29 47.0 +5.2**
FWV Forest Hill 68.11 57 *e*P **P 04 29 42.7 +0.9**
GTK Gangtok 68.16 287 *e*x x 04 29 53.0
CHG Chiang Mai 68.19 273 ⇑P **P 04 29 40.9 -1.4**
comp=Z,32nm,0.9s,mb5.3
CHTO Chiang Mai 68.19 273 *e*P **P 04 29 41.2 -1.1**
CHTO pmax pmax
comp=Z,175nm,1.1s,mb6.0
CHTO MLR MLR
comp=Z,16μm,20.0s,MS6.2
CHTO Chiang Mai 68.19 273 *e*P **P 04 29 41.2 -1.1**
comp=Z,175nm,1.1s,mb6.0
CHTO LR LR
comp=Z,16μm,20.0s,MS6.2
ELN Prospectdale 68.41 57 *e*P **P 04 29 45.1 +1.4**
KONO Kongsberg 68.48 353 *e*P **P 04 29 45.9 +1.8**
KONO *e*S S 04 38 48.8 +4.7
KONO Kongsberg 68.48 353 *e*P **P 04 29 44.3 +0.2**
KONO pmax pmax
comp=Z,155nm,1.2s,mb5.9
KONO MLR MLR
comp=Z,23μm,20.0s,MS6.4
KONO Kongsberg 68.48 353 *e*P **P 04 29 44.3 +0.2**
comp=Z,155nm,1.2s,mb5.9
KONO LR LR
comp=Z,23μm,20.0s,MS6.4
MVL Millersville 68.53 52 *e*P **P 04 29 43.2 -1.3**
OBN Obninsk 68.56 337 P **P 04 29 47.9 +3.3**
comp=Z,1μm,1.1s,mb6.7,SNR=7.2
OBN Obninsk 68.56 337 *ce*P **P 04 29 43.2 -1.4**
OBN *i* pP 04 29 52.9 -0.8
OBN *i* 04 29 58.9
OBN *e* 04 30 06.9
OBN 04 32 11.0
OBN *i* S S 04 38 49.5 +4.4
OBN *e*PS 04 39 14.0
OBN *e* 04 39 44.2
OBN pmax pmax
comp=Z,30nm,0.7s,mb5.3
OBN MLR MLR
comp=Z,47μm,17.0s,MS6.8
OBN Obninsk 68.56 337 *e*P **P 04 29 45.2 +0.6**
comp=Z,832nm,1.7s,mb6.4
OBN LR LR
comp=Z,51μm,19.0s,MS6.8
BLA Blacksburg 68.59 57 *e*P **P 04 29 44.1 -0.7**
BLA pmax pmax
comp=Z,32nm,1.6s,mb5.0
BLA MLR MLR
comp=Z,3μm,22.0s,MS5.5
BLA Blacksburg 68.59 57 *e*P **P 04 29 44.1 -0.7**
comp=Z,32nm,1.6s,mb5.0
BLA LR LR
comp=Z,3μm,22.0s,MS5.5
QUA2 Belchertown 68.68 48 *e*P **P 04 29 43.9 -1.4**
comp=Z,160nm,1.4s,mb5.8
SDMD Soldier's Deli 68.74 53 *e*P **P 04 29 52.2 +6.5**
HRV Harvard--Oak R 68.87 48 *e*P **P 04 29 47.2 +0.7**
HRV pmax pmax
comp=Z,112nm,1.1s,mb5.7
HRV MLR MLR
comp=Z,60μm,19.0s,MS6.8
HRV Harvard--Oak R 68.87 48 *e*P **P 04 29 47.1 +0.6**
comp=Z,112nm,1.1s,mb5.7
HRV LR LR
comp=Z,60μm,19.0s,MS6.8
BRNJ Basking Ridge 68.87 51 *e*P **P 04 29 43.1 -3.5**
BLS5 Blasjo 68.91 355 *e*P **P 04 29 46.9 +0.1**
BLS5 Blasjo 68.91 355 *e*P **P 04 29 48.8 +2.0**
PAL Palisades 68.94 50 *e*P **P 04 29 46.1 -0.9**
PAL pmax pmax
comp=Z,281nm,1.5s,mb6.0
PAL Palisades 68.94 50 *e*P **P 04 29 46.0 -0.9**
comp=Z,281nm,1.5s,mb6.0
WES Weston 69.07 48 P **P 04 29 46.3 -1.5**
WES pmax pmax
comp=Z,180nm,1.0s,mb6.0
WES Weston 69.07 48 *e*P **P 04 29 45.9 -1.9**
comp=Z,176nm,1.0s,mb6.0
WES LR LR
comp=Z,40μm,19.0s,MS6.7
CPNY Central Park 69.08 50 *e*P **P 04 29 48.9 +1.1**
GUN Gumba 69.35 289 *e*P **P 04 29 48.7 -0.8**
comp=Z,2μm,0.9s
JIRN Jiri 69.35 289 *e*P **P 04 29 48.9 -0.6**
comp=Z,2μm,1.2s,mb6.9
CBN Corbin 69.40 54 *e*P **P 04 29 49.1 -0.7**
comp=Z,140nm,1.0s,mb5.8
MRX Morelia 69.67 84 *e*P **P 04 29 54.0 +2.5**
MOIG Morelia 69.69 84 *i* P **P 04 29 53.7 +2.0**
KKN Kakani 69.79 289 *e*P **P 04 29 51.3 -0.9**
comp=Z,331nm,0.6s,mb6.4
KKN Kakani 69.79 289 *e*P **P 04 29 51.3 -0.9**
KKN pmax pmax
comp=Z,331nm,0.6s,mb6.4
NST Nakhon Sawan 69.82 270 P **P 04 29 52.0 -0.5**
PKI Pulchoki 69.88 289 *e*P **P 04 29 51.9 -0.9**
comp=Z,2μm,1.3s,mb6.8
PKI Pulchoki 69.88 289 *e*P **P 04 29 51.9 -0.9**
PKI pmax pmax
comp=Z,154nm,1.3s,mb5.8
DMN Daman 70.03 289 *e*P **P 04 29 52.8 -0.9**
comp=Z,1μm,1.3s,mb6.7
IZAR Zarasai 70.17 343 *e*P **P 04 29 53.5 -1.1**
IZAR AMb AMB 04 30 06.1
comp=Z,2μm,0.7s
ISAL Salakas 70.36 343 *e*P **P 04 29 55.0 -0.7**
ISAL AMb AMB 04 30 05.8
comp=Z,939nm,1.9s,mb6.4
JSC Jenkinsville 70.38 59 P **P 04 29 57.5 +1.7**
JSC Jenkinsville 70.38 59 *e*P **P 04 29 58.4 +2.5**
IDID Didziasalis 70.49 343 *e*P **P 04 29 55.8 -0.7**
IDID AMb AMB 04 30 03.8
comp=Z,2μm,1.0s,mb6.9
TAOE Nuku Hiva Isla 70.65 135 *e*S S 04 39 17.5 +7.9
comp=Z,31μm,26.8s
TAOE *e*SS SS 04 43 40.7 -0.8
comp=Z,8μm,29.6s
TAOE *e*LQ 04 48 07.6
comp=Z,152μm,32.5s
TAOE *e*LR LR 04 51 36.0
comp=Z,60μm,28.7s
VRHR Novokhopersk 70.82 332 *e*P **P 04 30 05.1 +6.5**
VRHR pmax pmax
comp=Z,70nm,0.9s,mb5.6
VRHR pmax pmax
comp=N,60nm,0.6s
VRHR MLR MLR
comp=Z,16μm,19.0s,MS6.3
VRHR MLR MLR
comp=N,24μm,16.0s,MS6.6
VRHR MLR MLR
comp=E,11μm,15.0s,MS6.6
VOR Voronezh 70.94 334 P **P 04 30 01.0 +1.7**
VOR pmax pmax
comp=E,180nm,1.8s
VOR pmax pmax
comp=Z,330nm,1.8s,mb6.0
VOR pmax pmax
comp=N,200nm,1.7s
MCD Coleburn Disti 71.01 0 *e*P **P 04 30 00.9 +1.2**
MNK Minsk 71.05 342 *e*P **P 04 30 00.0 0.0**
MNK *e*S S 04 39 02.0 -12
MNK pmax pmax
comp=Z,1μm,1.5s,mb6.6
KSK Scoval 71.08 2 *e*P **P 04 30 00.4 +0.3**
UNM Universidad Na 71.19 83 *e*P **P 04 29 50.0 -11**
COW Cow Castle Cre 71.36 60 *e*P **P 04 30 00.1 -1.7**
VRSR Storozhevoye 71.40 334 *e*P **P 04 30 00.5 -1.6**
VRSR *e**PP pP 04 30 11.1 -0.1
VRSR *e* 04 32 40.4
VRSR *e*S S 04 39 09.5 -8.9
VRSR *e* 04 39 55.3
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR pmax pmax
comp=Z,50nm,0.9s,mb5.4
VRSR smax
comp=N,20nm,4.7s
VRSR smax
comp=E,10.0nm,3.1s
VRSR MLR MLR
comp=Z,20μm,17.0s,MS6.4
VRSR MLR MLR
comp=E,6μm,16.0s
KAR1 Arisaig 71.65 2 *e*P **P 04 30 04.6 +1.0**
MUD Monsted U'grnd 71.68 353 *i* P **P 04 30 02.4 -1.4**
comp=E,72nm,1.0s,mb5.6
MUD *i* 04 31 33.2
MUD *i* S S 04 39 34.6 +13
MUD Monsted U'grnd 71.68 353 *e*P **P 04 30 02.4 -1.4**
MUD pmax pmax
comp=Z,72nm,1.0s,mb5.6
MUD Monsted U'grnd 71.68 353 *e*P **P 04 30 02.4 -1.4**
comp=Z,72nm,1.0s,mb5.6
MUD *i* 04 31 33.2
MUD *i* S S 04 39 34.6 +13
PLIG Platanillo 71.70 83 *i* P **P 04 30 08.9 +5.1**
PPM Popocatepetl 71.73 82 *i* P pP 04 30 16.9 +3.7
NHSC New Hope 71.85 60 PFAKE 04 30 20.0 +15
NHSC LR LR
comp=Z,56μm,20.0s,MS6.8
CAL Calcutta 71.91 283 ⇑*i*x x 04 30 12.4
CAL *ex* x 04 32 37.3
CAL *e*S S 04 39 26.7 +2.5
CAL AMP 04 47 19.8
comp=Z,3μm,17.8s
NIL Nilore 72.08 302 P **P 04 30 06.3 +0.2**
comp=Z,708nm,1.3s,mb6.4,SNR=8.5
BHK Bhakra 72.09 298 *e*P **P 04 30 08.4 +2.2**
COP Copenhagen 72.16 351 ⇑*i*P **P 04 30 15.2 +8.5**
comp=Z,32nm,0.9s,mb5.2
COP *i* 04 34 39.7
COP *i* S S 04 39 33.3 +6.2
COP
comp=Z,6μm,20.0s
SUW Suwalki 72.36 344 *e*P **P 04 30 07.7 -0.1**
SUW *e* pP 04 30 15.5 -1.5
EAB Aberfoyle 72.40 1 *e*P **P 04 30 09.5 +1.4**
EAB AMb AMB 04 30 20.4
comp=Z,454nm,1.5s,mb6.2
NNT Nongplab 72.43 268 P **P 04 30 08.8 +0.6**
BOK Bokaro 72.43 286 *e*P **P 04 30 08.4 +0.2**
BOK AMb AMB 04 30 22.1
comp=Z,476nm,1.4s,mb6.2
BSD Bornholm Skovb 72.46 349 ⇑*i*P **P 04 30 16.1 +7.7**
comp=Z,47nm,0.9s,mb5.4
BSD *i* 04 31 35.4
BSD *i* S S 04 39 42.3 +12
ACX Acapulco 72.60 85 *e*P **P 04 30 13.0 +3.7**
EDI Edinburgh 72.67 0 *e*P **P 04 30 09.6 -0.1**
EDI AMb AMB 04 30 21.9
comp=Z,275nm,1.4s,mb6.0
ESY Stoneypath 72.68 360 *e*P **P 04 30 10.3 +0.5**
ESY AMb AMB 04 30 21.9
comp=Z,457nm,1.5s,mb6.2
EAU Auchinoon 72.75 0 *e*P **P 04 30 10.5 +0.4**
EAU AMb AMB 04 30 22.7
comp=Z,810nm,1.3s,mb6.5
PGBU Glenifferbraes 72.78 1 *e*P **P 04 30 10.7 +0.4**
PMOR Pomariorio Ree 73.11 145 *e*P **P 04 30 21.1 +8.8**
comp=Z,258nm,1.2s,mb6.0
RGN Rugen 73.20 350 *e*P **P 04 30 11.1 -1.7**
comp=Z,94nm,0.6s,mb5.9
RGN *e*pP pP 04 30 22.0 +0.1
ESK Eskdalemuir 73.28 0 *e*P **P 04 30 13.4 +0.2**
ESK AMb AMB 04 30 25.7
comp=Z,343nm,1.4s,mb6.1
ESK Eskdalemuir 73.28 0 *e*P **P 04 30 13.6 +0.3**
ESK *e**PP pP 04 30 23.7 +1.3
ESK pmax pmax
comp=Z,292nm,1.3s,mb6.0
ESK MLR MLR
comp=Z,14μm,19.0s,MS6.3
ESK Eskdalemuir 73.28 0 *e*P **P 04 30 13.6 +0.3**
comp=Z,292nm,1.3s,mb6.0
ESK *e*pP pP 04 30 23.7 +1.3
ESK LR LR
comp=Z,14μm,19.0s,MS6.3
ECK Cauldkaine Hil 73.42 0 *e*P **P 04 30 15.3 +1.3**
ECK AMb AMB 04 30 26.4
comp=Z,274nm,1.6s,mb5.9
BWH Wardlaw 73.42 0 *e*P **P 04 30 15.4 +1.3**
VAH Vaihoa 73.42 144 *e*P **P 04 30 22.8 +8.7**
comp=Z,302nm,1.1s,mb6.1
GAL1 Galloway 73.72 1 *e*P **P 04 30 17.1 +1.3**
NDI New Delhi 73.74 296 *e*P **P 04 30 13.5 -2.5**
NDI *ex* x 04 39 29.7
BBO1 Bothel 73.86 0 *e*P **P 04 30 18.1 +1.4**
CKE Keswick 74.01 0 *e*P **P 04 30 19.0 +1.4**
BSEG Bad Segeberg 74.09 352 *e*P **P 04 30 19.5 +1.5**
comp=Z,170nm,1.5s,mb5.8
BSEG Bad Segeberg 74.09 352 *e*P **P 04 30 19.5 +1.5**
BSEG pmax pmax
comp=Z,170nm,1.5s,mb5.8
XDE Dent Fell 74.09 0 *e*P **P 04 30 18.7 +0.7**
DZM Mont Dzumac 74.12 190 *e*P **P 04 30 18.2 0.0**
GIM North Isle of 74.30 1 *e*P **P 04 30 20.6 +1.3**
GMM Mts of Mourne 74.33 2 *e*P **P 04 30 20.7 +1.3**
AKASG Malin Array Be 74.34 339 P **P 04 30 16.5 -3.0**
comp=Z,14nm,0.6s,mb5.1,baz=22,slow=5.9,SNR=23
AKASG PKPPKP 04 57 37.5
comp=Z,0.5nm,0.3s,baz=90,slow=0.9,SNR=3.6
AKASG Malin Array Be 74.34 339 *i* P **P 04 30 17.3 -2.2**
AKASG pmax pmax
comp=Z,140nm,0.6s
AKBB Malin Array Si 74.34 339 *e*P **P 04 30 17.3 -2.2**
OXX Oaxaca 74.41 82 *e*P **P 04 30 22.0 +2.1**
VHO Vista Hermosa 74.41 82 *i* P **P 04 30 28.3 +8.4**
WIM Isle of Man 74.44 1 *e*P **P 04 30 20.1 0.0**
KSM Kuching 74.67 252 *e*P **P 04 30 22.2 +0.8**
PPT Papeete 74.90 147 *e*P **P 04 30 31.5 +8.8**
comp=Z,109nm,1.3s,mb5.6
PPT Papeete 74.90 147 *e*S S 04 40 05.3 +7.2
comp=Z,12μm,26.8s
PPT *e*SS SS 04 44 45.2 -1.3
comp=Z,8μm,24.8s
PPT *e*LQ 04 49 45.5
comp=Z,92μm,31.8s
PPT *e*LR LR 04 53 21.9
comp=Z,30μm,21.2s,baz=343
PPT Papeete 74.90 147 LR LR 04 59 59.3
comp=Z,25μm,18.8s,MS6.5,baz=341,slow=33
KAKA Kakadu 74.95 225 ⇓*i*P **P 04 30 22.7 -0.3**
comp=Z,254nm,0.6s,mb6.3
KAKA *e* 04 31 25.1
DWPF Disney 75.02 64 *e*P **P 04 30 23.5 +0.1**
DWPF LR LR
comp=Z,9μm,20.0s,MS6.1
LHO Holmfirth 75.05 359 *e*P **P 04 30 24.7 +1.1**
RUE Ruedersdorf 75.18 350 *e*P **P 04 30 25.4 +1.0**
comp=Z,59nm,0.9s,mb5.5
DCN Croghan 75.19 3 *e*P **P 04 30 16.9 -7.5**
DCN Croghan 75.19 3 ⇑*i*P **P 04 30 24.1 -0.3**
DCN Croghan 75.19 3 ⇑*i*P **P 04 30 24.1 -0.3**
DLF Lyons Farm 75.26 2 *e*P **P 04 30 17.3 -7.5**
DLF Lyons Farm 75.26 2 ⇑*i*P **P 04 30 24.6 -0.2**
DLF Lyons Farm 75.26 2 ⇑*i*P **P 04 30 24.6 -0.2**
WLF1 Llynfaes 75.31 1 *e*P **P 04 30 25.4 +0.3**
DSB Dublin 75.32 2 *e*P **P 04 30 24.4 -0.8**
comp=Z,39nm,2.3s,mb4.9
DSB *e*pP pP 04 30 36.4 +2.1
KBI1 Birley Grange 75.34 359 *e*P **P 04 30 25.3 0.0**
NRDL Niedersach Rie 75.54 352 *e*P **P 04 30 27.5 +1.1**
comp=Z,110nm,1.6s,mb5.5
KWE Weaver Farm 75.58 359 *e*P **P 04 30 26.6 -0.1**
SBD1 Bryn Du 75.70 0 *e*P **P 04 30 28.2 +0.9**
SBD1 AMb AMB 04 30 40.0
comp=Z,412nm,1.5s,mb6.2
GOF Gofitskoye 75.75 328 *e*P **P 04 30 26.0 -1.6**
GOF *e*S S 04 40 08.3 +0.8
GOF pmax pmax
comp=Z,250nm,0.8s,mb6.2
GOF smax
comp=N,80nm,1.3s
GOF smax
comp=E,20nm,1.3s
HUIG Huatulco 75.79 83 *i* P **P 04 30 35.5 +7.7**
IBBN Ibbenburen 75.91 353 *e*P **P 04 30 30.0 +1.5**
comp=Z,363nm,1.6s,mb6.1
AEU East Anglia Un 75.93 357 *e*P **P 04 30 30.0 +1.3**
BLSP Bilaspur 75.93 288 *e*P **P 04 30 29.0 +0.4**
VAN Vannovskaya 76.03 315 *e*P **P 04 30 32.1 +2.9**
VAN *e*S S 04 40 08.9 -1.7
ABKT Ailbek 76.04 315 P **P 04 30 29.8 +0.5**
comp=Z,806nm,1.2s,mb6.5,SNR=15
MAK Makhachkala 76.05 324 *e*P **P 04 30 38.5 +9.2**
MAK *e* 04 30 39.9
MAK *e* 04 30 44.8
MAK *e* 04 33 25.9
MAK *e*PPP 04 35 13.5
MAK *e* 04 40 39.7
MAK pmax pmax
comp=Z,482nm,1.6s,mb6.2
MAK MLR MLR
comp=Z,44μm,17.0s,MS6.8
MAK MLR MLR
comp=N,76μm,22.0s
MAK MLR MLR
comp=E,37μm,15.0s
SNG Songkhla 76.06 264 P **P 04 30 28.0 -1.4**
comp=E,152nm,0.8s,mb6.0
HLM1 Long Mynd 76.09 0 *e*P **P 04 30 31.1 +1.6**
HLM1 AMb AMB 04 30 42.0
comp=Z,270nm,1.6s,mb5.9
CLZ Clausthal 76.16 352 *e*P **P 04 30 31.5 +1.5**
comp=Z,139nm,1.5s,mb5.7
CLZ Clausthal 76.16 352 *e*P **P 04 30 31.5 +1.5**
CLZ pmax pmax
comp=Z,139nm,1.5s,mb5.7
SSP1 Stoney Pound 76.19 0 *e*P **P 04 30 30.2 +0.1**
SSP1 AMb AMB 04 30 35.9
comp=Z,60nm,1.6s,mb5.3
LVV L'vov 76.23 342 *i* P **P 04 30 39.0 +8.6**
LVV *i* PS 04 41 11.6
LVV MLR MLR
comp=N,14μm,19.0s,MS6.4
LVV MLR MLR
comp=E,13μm,19.0s,MS6.4
LVV MLR MLR
comp=Z,20μm,19.0s,MS6.5

JBP	**Jabalpur**	**76.39 290⇑**	*eP*	**P**	**04 30 31.1**	**-0.2**
JBP			*ex*	x	04 30 44.2	
	comp=Z,409nm,1.2s					
JBP			*ex*	x	04 40 12.5	
CLL	**Collm**	**76.42 350**	*eP*	**P**	**04 30 30.9**	**-0.6**
	comp=Z,339nm,2.3s,mb5.9					
CLL			*e*PP	PP	04 33 26.6	+3.3
CLL			*e*(PPP)		04 34 56.5	
CLL			*e*S	S	04 40 17.1	+2.2
CLL			*e*PS		04 40 46.3	
CLL			*e*SS	SS	04 45 10.6	+1.0
CLL			*e*SSS		04 48 33.6	
CLL			*e*SSSS		04 50 46.0	
CLL			*e*LR	LR	04 55 15.0	
CLL			*e*PKPPKPdf		04 57 50.3	
CLL			*e*L		05 10 14.7	
	comp=Z,22μm,20.0s					
CLL	**Collm**	**76.42 350**	*i* P	**P**	**04 30 34.1**	**+2.6**
	comp=Z,109nm,2.4s,mb5.4					
CLL			*i* pP	pP	04 30 39.3	-1.3
	comp=Z,330nm,2.3s					
CLL			*i* PcP	PcP	04 30 45.4	+2.3
CLL			*i* x	x	04 31 33.7	
CLL			*ex*	x	04 31 49.0	
CLL			*e*PP	PP	04 33 27.0	+3.7
CLL			*e*(PPP)		04 34 50.0	
CLL			*ex*	x	04 36 46.0	
CLL			*e*S	S	04 40 16.0	+1.1
CLL			*e*PS		04 40 47.0	
CLL			*ex*	x	04 41 47.0	
CLL			*e*SS	SS	04 45 06.0	-3.6
CLL			*e*SSS		04 48 32.0	
CLL			*e*SSSS		04 50 45.0	
CLL			*e*PKPPKPdf		04 57 50.0	
CLL	**Collm**	**76.42 350**	*i* P	**P**	**04 30 34.1**	**+2.6**
CLL			*i* *PP	pP	04 30 39.3	-1.3
CLL			*e*S	S	04 40 16.0	+1.1
CLL			pmax	pmax		
	comp=Z,109nm,2.4s,mb5.4					
CLL			MLR	MLR		
	comp=Z,23μm,17.7s,MS6.5					
CLL	**Collm**	**76.42 350**	*i* P	**P**	**04 30 34.1**	**+2.6**
	comp=Z,109nm,2.4s,mb5.4					
CLL			*i* pP	pP	04 30 39.3	-1.3
CLL			*e*S	S	04 40 16.0	+1.1
CLL			*e*P'P'		04 57 50.0	
CLL			LR	LR		
	comp=Z,23μm,17.7s,MS6.5					
VAL	**Valentia**	**76.48 5**	*eP*	**P**	**04 30 30.7**	**-1.1**
KSP	**Ksiaz**	**76.48 348**	*eP*	**P**	**04 30 39.0**	**+7.2**
KSP	**Ksiaz**	**76.48 348**	*eP*	**P**	**04 30 32.2**	**+0.4**
KSP			*e*'PP	pP	04 30 40.4	-0.6
KSP			*e*S	S	04 40 16.0	+0.4
KSP			*e*		04 40 45.5	
KSP			MLR	MLR		
	comp=Z,45μm,22.1s,MS6.7					
KSP	**Ksiaz**	**76.48 348**	*eP*	**P**	**04 30 32.2**	**+0.4**
KSP			*e*pP	pP	04 30 40.4	-0.6
KSP			*e*S	S	04 40 16.0	+0.4
KSP			*e*SKS		04 40 45.5	
KSP			*e*SS	SS	04 44 58.0	-13
KSP			LR	LR		
	comp=Z,45μm,22.1s,MS6.7					
CTA	**Charters Tower**	**76.48 210**	*eP*	**P**	**04 30 32.0**	**+0.2**
	comp=Z,115nm,0.9s,mb5.8					
CTA			*e*		04 31 39.7	
CTA			*e*S	S	04 40 16.7	+1.1
CTA	**Charters Tower**	**76.48 210**	*eP*	**P**	**04 30 32.0**	**+0.2**
CTA			*e*S	S	04 40 16.7	+1.1
CTA			pmax	pmax		
	comp=Z,115nm,0.9s					
CTAO	**Charters Tower**	**76.48 210**	*eP*	**P**	**04 30 32.2**	**+0.4**
CTAO			*e*'PP	pP	04 30 44.2	+3.2
CTAO			pmax	pmax		
	comp=Z,174nm,0.9s,mb6.0					
CTAO			MLR	MLR		
	comp=Z,27μm,20.0s,MS6.5					
CTAO	**Charters Tower**	**76.48 210**	*eP*	**P**	**04 30 32.2**	**+0.4**
	comp=Z,174nm,0.9s,mb6.0					
CTAO			*e*pP	pP	04 30 44.2	+3.2
CTAO			LR	LR		
	comp=Z,27μm,20.0s,MS6.5					
GTTG	**Gvttingen**	**76.49 352**	*eP*	**P**	**04 30 33.2**	**+1.4**
	comp=Z,70nm,1.1s,mb5.5					
HTR	**Trewern Hill**	**76.53 0**	*eP*	**P**	**04 30 32.3**	**+0.2**
HTR			AMb	AMB	04 30 44.5	
	comp=Z,234nm,1.2s,mb6.0					
OJC	**Ojcow**	**76.58 345**	*eP*	**P**	**04 30 32.5**	**+0.2**
OJC			*e*	pP	04 30 41.1	-0.4
OJC			*e*PP	PP	04 33 30.6	+6.0
OJC			*e*S	S	04 40 13.1	-3.5
OJC			*e*SS	SS	04 45 14.6	+2.6
OJC			L		05 05 40.3	
	comp=Z,121nm,22.4s					
OJC	**Ojcow**	**76.58 345**	*eP*	**P**	**04 30 32.5**	**+0.2**
OJC			*e*	pP	04 30 41.1	-0.4
OJC			*e*PP	PP	04 33 30.6	+6.0
OJC			*e*S	S	04 40 13.1	-3.5
OJC			*e*SS	SS	04 45 14.6	+2.6
OJC			LR	LR		
	comp=Z,121μm,22.4s,MS7.2					
MCH1	**Michaelchurch**	**76.61 0**	*eP*	**P**	**04 30 33.4**	**+0.9**
KWP	**Kalwaria**	**76.66 343**	*eP*	**P**	**04 30 32.4**	**-0.4**
KWP			*e*	pP	04 30 42.3	+0.3
BRG	**Berggiesshubel**	**76.75 349**	*eP*	**P**	**04 30 34.0**	**+0.7**
	comp=Z,86nm,1.5s,mb5.5					
BRG	**Berggiesshubel**	**76.75 349**	*eP*	**P**	**04 30 33.5**	**+0.2**
	comp=Z,4.7nm,1.0s					
BRG	**Berggiesshubel**	**76.75 349**	*i* P	**P**	**04 30 41.2**	**+8.0**
	comp=Z,328nm,2.9s,mb5.8					
BRG			*i*		04 30 47.4	
	comp=Z,88nm,2.1s					
BRG			*i*		04 31 10.0	
	comp=Z,80nm,2.0s					
BRG			*e*		04 33 34.8	
	comp=Z,110nm,2.4s					
BRG			S	S	04 40 25.0	+6.6
BRG			SS	SS	04 45 11.0	-3.5
BRG			PKPPKP		04 57 52.9	
	comp=Z,11nm,1.6s					
BRG						
	comp=Z,16μm,16.6s					
BRG						
	comp=N,14μm,16.5s					
BRG						
	comp=E,17μm,16.5s					
BRG	**Berggiesshubel**	**76.75 349**	*eP*	**P**	**04 30 33.5**	**+0.2**
BRG			pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4					
BRG	**Berggiesshubel**	**76.75 349**	*i* P	**P**	**04 30 41.2**	**+8.0**
	comp=Z,328nm,2.9s,mb5.8					
BRG			*i*		04 30 47.4	
BRG			*i*		04 31 10.0	
BRG			*e*		04 33 34.8	
BRG			S	S	04 40 25.0	+6.6
BRG			SS	SS	04 45 11.0	-3.5
BRG			P'P'		04 57 52.9	
BRG			LR	LR		
	comp=Z,16μm,16.6s,MS6.4					
FBE	**Freiberg**	**76.77 350**	*eP*	**P**	**04 30 34.5**	**+1.1**
	comp=Z,144nm,1.6s,mb5.7					
BUG	**Bochum--Univer**	**76.81 354**	*eP*	**P**	**04 30 34.7**	**+1.1**
	comp=Z,181nm,1.5s,mb5.8					
KIV	**Kislovodsk**	**76.84 328**	P	**P**	**04 30 34.3**	**+0.5**
	comp=Z,393nm,0.7s,mb6.5,SNR=12					
KIV	**Kislovodsk**	**76.84 328**	*eP*	**P**	**04 30 33.5**	**-0.3**
KIV			*e*		04 33 26.6	
KIV			*e*PPP		04 35 11.0	
KIV			*e*S	S	04 40 18.7	-0.8
KIV			pmax	pmax		
	comp=Z,44nm,0.6s,mb5.6					
KIV			MLR	MLR		
	comp=Z,34μm,16.0s,MS6.8					
KIV	**Kislovodsk**	**76.84 328**	*eP*	**P**	**04 30 33.7**	**-0.1**
	comp=Z,145nm,1.1s,mb5.8					
KIV			LR	LR		
	comp=Z,32μm,20.0s,MS6.6					
UPC	**Upice**	**76.85 348**	*eP*	**P**	**04 30 34.3**	**+0.4**
UPC			*e*pP	pP	04 30 42.6	-0.4
SKP1	**Kophill**	**76.87 359**	*eP*	**P**	**04 30 35.2**	**+1.2**
AJM	**Ajmer**	**76.88 296**	*eP*	**P**	**04 30 33.3**	**-0.8**
AJM			AMb	AMB	04 30 45.3	
	comp=Z,329nm,1.0s,mb6.2					
RAC	**Raciborz**	**76.96 346**	*eP*	**P**	**04 30 34.1**	**-0.4**

RAC			e	pP	04 30 43.8	+0.1
RAC			*e*PP	PP	04 33 37.2	+9.4
RAC			*e*S	S	04 40 26.5	+5.8
RAC			L		05 03 33.2	
	comp=E,57nm,21.0s					
RAC			L		05 03 41.3	
	comp=N,40nm,21.2s					
RAC			L		05 09 34.4	
	comp=Z,34nm,18.3s					
DPC	**Dobruska-Polom**	**76.96 348**	*eP*	**P**	**04 30 35.0**	**+0.5**
DPC			*e*pP	pP	04 30 43.5	-0.2
DPC			*e*PP	PP	04 33 36.7	+8.9
DPC			*e*S	S	04 40 24.7	+3.9
DPC			AMS	AMS	05 12 00.0	
	comp=Z,29μm,17.0s					
DPC	**Dobruska-Polom**	**76.96 348**	*eP*	**P**	**04 30 35.0**	**+0.5**
DPC			*e*	pP	04 30 43.5	-0.2
DPC			*e*S	S	04 40 24.7	+3.9
DPC			MLR	MLR		
	comp=Z,29μm,17.0s,MS6.7					
HGH	**Gray Hill**	**76.97 360**	*eP*	**P**	**04 30 34.6**	**+0.1**
HGH			AMb	AMB	04 30 44.3	
	comp=Z,211nm,1.5s,mb5.8					
PVCC	**Panska Ves**	**77.01 349**	*eP*	**P**	**04 30 35.2**	**+0.4**
PVCC			*e*	pP	04 30 42.3	-1.7
PVCC			*e*S	S	04 40 25.5	+4.2
PVCC			*e*		04 41 07.6	
PVCC			MLR	MLR		
	comp=Z,8μm,18.4s,MS6.0					
SWN1	**Swindon**	**77.09 359**	*eP*	**P**	**04 30 35.5**	**+0.3**
STHS	**Stebnicka Huta**	**77.12 344**	*eP*	**P**	**04 30 34.8**	**-0.6**
STHS			*e*	pP	04 30 45.1	+0.5
STHS			*e*		04 33 33.3	
STHS			pmax	pmax		
	comp=Z,156nm,1.3s,mb5.8					
STHS	**Stebnicka Huta**	**77.12 344**	*eP*	**P**	**04 30 34.8**	**-0.6**
	comp=Z,156nm,1.3s,mb5.8					
STHS			*e*	pP	04 30 45.1	+0.5
STHS			*e*PP	PP	04 33 33.3	+4.1
TEIG	**Tepich**	**77.14 74**	*eP*	**P**	**04 30 35.8**	**+0.3**
	comp=Z,18nm,1.0s,mb5.0					
TEIG			*e*PcP	PcP	04 30 46.4	+0.2
TEIG			LR	LR		
	comp=Z,9μm,21.0s,MS6.0					
OKC	**Ostrava-Krasne**	**77.20 346**	*eP*	**P**	**04 30 36.1**	**+0.2**
OKC			*e*pP	pP	04 30 43.1	-2.0
OKC			*e*S	S	04 40 27.3	+3.9
OKC			AMS	AMS	05 09 10.0	
	comp=Z,31μm,17.6s					
OKC	**Ostrava-Krasne**	**77.20 346**	*eP*	**P**	**04 30 36.1**	**+0.2**
OKC			*e*	pP	04 30 43.1	-2.0
OKC			*e*S	S	04 40 27.3	+3.9
UBBA	**Unterbreizbach**	**77.21 352**	*eP*	**P**	**04 30 36.8**	**+0.9**
	comp=Z,725nm,2.9s,mb6.1					
MOX	**Moxa**	**77.22 351**	*eP*	**P**	**04 30 37.0**	**+1.0**
	comp=Z,101nm,1.6s,mb5.5					
MOX	**Moxa**	**77.22 351**	*eP*	**P**	**04 30 36.5**	**+0.5**
MOX			*e*	pP	04 30 44.5	-0.7
	comp=Z,158nm,2.1s					
MOX						
	comp=Z,16μm,19.0s					
MOX	**Moxa**	**77.22 351**	*eP*	**P**	**04 30 36.5**	**+0.5**
MOX			*e*	pP	04 30 44.5	-0.7
MOX	**Moxa**	**77.22 351**	*eP*	**P**	**04 30 36.5**	**+0.5**
	comp=Z,158nm,2.1s,mb5.6					
MOX			*e*	pP	04 30 44.5	-0.7
MOX			LR	LR		
	comp=Z,16μm,19.0s,MS6.4					
NIE	**Niedzica**	**77.27 345**	*eP*	**P**	**04 30 38.1**	**+1.9**
NIE			i	pP	04 30 45.7	+0.3
NIE			*e*PP	PP	04 33 28.7	-1.7
NIE	**Niedzica**	**77.27 345**	*eP*	**P**	**04 30 38.1**	**+1.9**
NIE			*e*	pP	04 30 45.7	+0.3
NIE			*e*PP	PP	04 33 28.7	-1.7
WERD	**Werda**	**77.35 350**	*eP*	**P**	**04 30 37.9**	**+1.2**
	comp=Z,81nm,1.6s,mb5.4					
MORC	**Moravsky Berou**	**77.35 347⇑**	*i* P	**P**	**04 30 38.4**	**+1.7**
MORC	**Moravsky Berou**	**77.35 347**	*eP*	**P**	**04 30 36.4**	**-0.3**
MORC			*e*	pP	04 30 45.8	-0.1
MORC			pmax	pmax		
	comp=Z,79nm,1.4s,mb5.5					
MORC	**Moravsky Berou**	**77.35 347**	*eP*	**P**	**04 30 36.4**	**-0.3**
	comp=Z,79nm,1.4s,mb5.5					
MORC			*e*PcP	PcP	04 30 45.8	-1.4
TANN	**Tannenbergstha**	**77.36 350**	*eP*	**P**	**04 30 38.1**	**+1.3**
	comp=Z,111nm,1.7s,mb5.5					
SWK	**Warminster**	**77.46 360**	*eP*	**P**	**04 30 37.4**	**+0.1**
PRA	**Prague**	**77.48 349**	pP	pP	04 30 45.0	-1.6
PBA	**Port Blair**	**77.48 273**	*ex*	x	04 30 14.8	
PBA			AMb	x	04 30 22.9	
	comp=Z,551nm,1.7s					
ZEI	**Tsey**	**77.49 327**	*eP*	**P**	**04 30 39.8**	**+2.3**
ZEI			*e*'PP	pP	04 30 48.2	+1.6
ZEI			*e*		04 33 27.6	
ZEI			pmax	pmax		
	comp=Z,110nm,1.0s,mb5.7					
WERN	**Wernitzgruen**	**77.50 350**	*eP*	**P**	**04 30 38.9**	**+1.4**
	comp=Z,93nm,1.6s,mb5.5					
KULM	**Kulim**	**77.51 263**	*eP*	**P**	**04 30 36.9**	**-0.6**
KULM			*e*PcP	PcP	04 30 47.5	-0.4
HEX	**Exmoor**	**77.54 1**	*eP*	**P**	**04 30 37.8**	**+0.1**
NKC	**Novy Kostel**	**77.55 350**	*eP*	**P**	**04 30 38.1**	**+0.3**
NKC			*e*pP	pP	04 30 46.8	-0.2
NKC			*e*PP	PP	04 33 38.4	+5.7
NKC			*e*S	S	04 40 31.1	+4.0
NKC			*ex*	x	04 41 14.9	
NKC			AMS	AMS	05 11 50.0	
	comp=Z,18μm,16.1s					
NKC	**Novy Kostel**	**77.55 350**	*eP*	**P**	**04 30 38.1**	**+0.3**
NKC			*e*	pP	04 30 46.8	-0.2
NKC			*e*PP	PP	04 33 38.4	+5.7
NKC			*e*S	S	04 40 31.1	+4.0
NKC			*e*		04 41 14.9	
PRU	**Pruhonice**	**77.55 349**	*eP*	**P**	**04 30 38.2**	**+0.4**
PRU			*e*pP	pP	04 30 46.5	-0.5
PRU			*e*PP	PP	04 33 31.3	-1.4
PRU			*e*S	S	04 40 30.7	+3.6
PRU			*e*PS		04 41 13.5	
PRU			AMS	AMS	05 14 20.0	
	comp=Z,22μm,17.2s					
BEBN	**Eben Emael**	**77.55 354**	P	**P**	**04 30 37.3**	**-0.5**
BEBN			PCP	PcP	04 30 46.3	-1.7
HGN	**Heimansgroeve**	**77.57 354**	*eP*	**P**	**04 30 37.8**	**-0.2**
UCC	**Uccle**	**77.62 355**	AP	pP	04 30 43.0	-4.4
UZH	**Uzhgorod**	**77.69 343**	*eP*	**P**	**04 30 40.0**	**+1.4**
UZH			MLR	MLR		
	comp=Z,7μm,17.0s,MS6.0					
ANN	**Anapa**	**77.72 332**	*eP*	**P**	**04 30 40.6**	**+1.9**
ANN			*e*S	S	04 40 32.2	+3.2
ANN			MLR	MLR		
	comp=N,76μm,23.0s,MS7.0					
ANN			MLR	MLR		
	comp=E,32μm,23.0s,MS7.0					
ANN			MLR	MLR		
	comp=Z,64μm,23.0s,MS6.9					
ANN	**Anapa**	**77.72 332**	*eP*	**P**	**04 30 38.0**	**-0.7**
MEM	**Membach**	**77.72 354**	P	**P**	**04 30 38.1**	**-0.6**
MEM			AP	pP	04 30 41.7	-6.3
MEM			XP	sP	04 30 44.8	-6.6
MEM			PCP	PcP	04 30 48.1	-0.6
ONI	**Oni**	**77.81 327**	P	**P**	**04 30 41.3**	**+2.1**
ONI			S	S	04 40 23.7	-6.3
BHPL	**Bhopal**	**77.82 292**	*eP*	**P**	**04 30 37.9**	**-1.4**
LIKS	**Likavka**	**77.83 345**	*e*	pP	04 30 49.2	+0.7
MANZ	**Manzenberg**	**77.83 350**	*eP*	**P**	**04 30 40.6**	**+1.3**
	comp=Z,76nm,1.7s,mb5.3					
CCIG	**Comitan**	**77.83 79**	*i* P	**P**	**04 30 41.0**	**+1.6**
IPM	**Ipoh**	**77.91 262**	P	**P**	**04 30 40.9**	**+1.1**
SNF	**Seneffe**	**77.92 355**	P	**P**	**04 30 40.8**	**+1.0**
SNF			AP	pP	04 30 42.8	-6.2
SNF			PCP	PcP	04 30 48.6	-1.0
KIS	**Kishinev**	**77.92 338**	*eP*	**P**	**04 30 40.0**	**+0.1**
KIS			*e*		04 33 40.0	
KIS			*e*S	S	04 40 28.0	-3.2
KIS			*i* PS		04 40 44.0	
KIS			*e*		04 41 25.0	
KIS			pmax	pmax		
	comp=Z,1μm,2.5s,mb6.4					
KIS			MLR	MLR		
	comp=N,16μm,18.0s,MS6.6					
KIS			MLR	MLR		
	comp=Z,35μm,18.0s,MS6.7					
KIS			MLR	MLR		

	comp=E,17μm,17.0s,MS6.6					
VRAC	**Vranov**	**77.94 347⇑**	*i* P	**P**	**04 30 41.8**	**+1.8**
VRAC	**Vranov**	**77.94 347**	P	**P**	**04 30 41.3**	**+1.3**
BCLA	**Clavier**	**77.95 355**	P	**P**	**04 30 40.0**	**-0.1**
BCLA			PCP	PcP	04 30 49.1	-0.7
MENF	**Mencas**	**77.96 357**	*eP*	**P**	**04 30 42.4**	**+2.3**
ROTZ	**Rotzenmuhle**	**78.03 350**	*eP*	**P**	**04 30 42.0**	**+1.5**
	comp=Z,86nm,1.7s,mb5.4					
TREC	**Trest**	**78.11 348**	*eP*	**P**	**04 30 41.7**	**+0.8**
BURAR	**Bucovina Array**	**78.11 341⇑**	*i* P	**P**	**04 30 40.5**	**-0.4**
BURAR	**Bucovina Array**	**78.11 341⇓**	*i* P	**P**	**04 30 40.6**	**-0.3**
TBLG	**Delisi**	**78.12 326**	P	**P**	**04 30 39.6**	**-1.4**
SOC	**Sochi**	**78.13 330***c*	*i* P	**P**	**04 30 38.7**	**-2.3**
SOC			*i*	pP	04 30 47.4	-2.8
SOC			*e*'PP	pP	04 30 52.0	+1.8
SOC			*e*S	S	04 40 31.8	-1.6
SOC			*e*'SS	sS	04 40 51.9	+3.3
SOC			*e*		04 40 54.0	
SOC			*e*SSS		04 48 56.4	
SOC			pmax	pmax		
	comp=Z,22nm,0.6s,mb5.3					
SOC			MLR	MLR		
	comp=Z,35μm,20.0s,MS6.7					
MTA	**Mtatsminda**	**78.13 326**	P	**P**	**04 30 41.1**	**+0.1**
MTA			S	S	04 40 36.3	+2.8
DGRG	**David-gareji**	**78.14 325**	P	**P**	**04 30 42.6**	**+1.6**
DGRG			S	S	04 40 44.7	+11
KECS	**Kecovo**	**78.15 344**	*eP*	**P**	**04 30 42.8**	**+1.7**
KECS			*e*	pP	04 30 50.4	+0.1
KECS			*e*		04 33 46.6	
KECS			pmax	pmax		
	comp=Z,48nm,1.2s,mb5.3					
KECS	**Kecovo**	**78.15 344**	*eP*	**P**	**04 30 42.8**	**+1.7**
	comp=Z,48nm,1.2s,mb5.3					
KECS			*e*	pP	04 30 50.4	+0.1
KECS			*e*PP	PP	04 33 46.6	+8.8
DYA	**Yadsworthy**	**78.17 1**	*eP*	**P**	**04 30 42.5**	**+1.3**
GRA1	**Grafenberg Arr**	**78.21 351**	*eP*	**P**	**04 30 43.0**	**+1.6**
	comp=Z,194nm,1.7s,mb5.8					
GRA1			LR	LR		
	comp=Z,16μm,21.3s,MS6.3					
GRF	**Grafenberg Arr**	**78.21 351**	*eP*	**P**	**04 30 43.0**	**+1.6**
	comp=Z,194nm,1.7s,mb5.8					
GRF			*e*L		05 06 46.9	
	comp=Z,16μm,21.3s					
GRF	**Grafenberg Arr**	**78.21 351**	*eP*	**P**	**04 30 43.0**	**+1.6**
GRF			pmax	pmax		
	comp=Z,194nm,1.7s,mb5.8					
GRF			MLR	MLR		
	comp=Z,16μm,21.3s,MS6.3					
GRF	**Grafenberg Arr**	**78.21 351**	*eP*	**P**	**04 30 43.0**	**+1.6**
GRF			pmax	pmax		
	comp=Z,194nm,1.7s,mb5.8					
GRF			MLR	MLR		
	comp=Z,16μm,21.3s,MS6.3					
CSA1	**St Austell**	**78.24 1**	*eP*	**P**	**04 30 42.2**	**+0.6**
SOR	**Soroa**	**78.25 68**	*eP*	**P**	**04 30 47.0**	**+5.3**
GIVF	**Givet**	**78.30 355**	*eP*	**P**	**04 30 40.6**	**-1.3**
	comp=Z,608nm,1.8s,mb5.9					
GIVF	**Givet**	**78.30 355**	*eP*	**P**	**04 30 40.6**	**-1.3**
GIVF			pmax	pmax		
	comp=Z,304nm,1.8s,mb5.9					
GIVF	**Givet**	**78.30 355**	*eP*	**P**	**04 30 40.6**	**-1.3**
	comp=Z,304nm,1.8s,mb5.9					
DOU	**Dourbes**	**78.31 355**	P	**P**	**04 30 40.8**	**-1.2**
DOU			AP	pP	04 30 45.5	-5.7
DOU			XP	sP	04 30 46.8	-7.8
DOU			E	pP	04 30 48.3	-2.9
DOU			PCP	PcP	04 30 50.6	-0.7
DOU			E		04 30 52.8	
DOU			E		04 30 58.9	
ABH	**Alteburg**	**78.34 353**	*eP*	**P**	**04 30 43.3**	**+1.1**
BAIF	**Baives**	**78.37 355**	*eP*	**P**	**04 30 41.3**	**-1.1**
	comp=Z,572nm,1.6s,mb6.0					
BAIF	**Baives**	**78.37 355**	*eP*	**P**	**04 30 41.3**	**-1.1**
BAIF			pmax	pmax		
	comp=Z,286nm,1.6s,mb6.0					
BAIF	**Baives**	**78.37 355**	*eP*	**P**	**04 30 41.3**	**-1.1**
	comp=Z,286nm,1.6s,mb6.0					
KOLL	**Kolacno**	**78.39 346**	*eP*	**P**	**04 30 43.9**	**+1.4**
KOLL			*es*P	sP	04 30 50.9	-4.2
VYHS	**Vyhne**	**78.41 345**	*eP*	**P**	**04 30 41.9**	**-0.7**
VYHS			*e*	pP	04 30 51.6	-0.2
VYHS			*e*PP	PP	04 33 48.7	+8.7
VYHS			*e*S	S	04 40 41.9	+5.5
VYHS	**Vyhne**	**78.41 345**	*eP*	**P**	**04 30 41.9**	**-0.7**
	comp=Z,73nm,1.5s,mb5.4					
VYHS			*e*	pP	04 30 51.6	-0.2
VYHS			*e*PP	PP	04 33 48.7	+8.7
VYHS			*e*S	S	04 40 41.9	+5.5
VYHS			LR	LR		
	comp=Z,12μm,26.0s,MS6.1					
NGP	**Nagpur**	**78.50 289**	*eP*	**P**	**04 30 42.8**	**-0.3**
NGP			AMb	AMB	04 30 54.9	
	comp=Z,443nm,1.8s,mb6.1					
NGP			*ex*	x	04 40 32.3	
NGP			AMP		05 09 04.4	
	comp=Z,40μm,19.9s					
KHC	**Kasperske Hory**	**78.50 349**	*eP*	**P**	**04 30 43.8**	**+0.7**
KHC			*e*pP	pP	04 30 51.7	-0.6
KHC			*e*PP	PP	04 33 45.4	+4.6
KHC			*e*S	S	04 40 39.8	+2.3
KHC			*e*PS		04 41 25.9	
KHC			AMS	AMS	05 15 40.0	
	comp=Z,18μm,14.7s					
SIM	**Simferopol'**	**78.51 334***c*	*i* P	**P**	**04 30 52.7**	**+10**
SIM			*e*S	S	04 40 43.6	+6.0
SIM			*e*PS		04 41 21.0	
SIM			pmax	pmax		
	comp=Z,56nm,1.1s,mb5.4					
SIM			MLR	MLR		
	comp=Z,59μm,17.2s,MS7.0					
TOD	**Tromm**	**78.52 352**	*eP*	**P**	**04 30 44.0**	**+0.9**
RUP	**Ruppelstein**	**78.55 353**	*eP*	**P**	**04 30 44.4**	**+1.0**
WET	**Wettzell**	**78.57 350**	*eP*	**P**	**04 30 45.0**	**+1.5**
	comp=Z,128nm,1.8s,mb5.5					
WET	**Wettzell**	**78.57 350**	*eP*	**P**	**04 30 45.0**	**+1.5**
WET			pmax	pmax		
	comp=Z,128nm,1.8s,mb5.5					
SMOL	**Smolenice**	**78.60 346**	*eP*	**P**	**04 30 46.0**	**+2.4**
SMOL			*e*	pP	04 30 53.9	+1.1
VIS	**Vishakhapatnam**	**78.60 284**	*eP*	**P**	**04 30 43.6**	**0.0**
VIS			AMb	AMB	04 30 57.2	
	comp=Z,284nm,1.5s,mb6.0					
WLF	**Walferdange**	**78.65 354**	P	**P**	**04 30 45.1**	**+1.2**
WLF			AP	pP	04 30 47.2	-5.9
WLF			PCP	PcP	04 30 52.6	-0.2
WLF	**Walferdange**	**78.65 354**	*eP*	**P**	**04 30 44.5**	**+0.6**
WLF			pmax	pmax		
	comp=Z,110nm,0.8s,mb5.8					
WLF	**Walferdange**	**78.65 354**	*eP*	**P**	**04 30 44.5**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8					
GEC2	**GERESS Array S**	**78.77 349**	*eP*	**P**	**04 30 45.8**	**+1.2**
	comp=Z,85nm,1.6s,mb5.4					
GEC2	**GERESS Array S**	**78.77 349**	*eP*	**P**	**04 30 45.8**	**+1.2**
GEC2			pmax	pmax		
	comp=Z,85nm,1.6s,mb5.4					
GERES	**GERESS Array B**	**78.77 349**	P	**P**	**04 30 43.1**	**-1.4**
	comp=Z,2.0nm,0.6s,baz=35,slow=4.9,SNR=14					
GERES			PKKPbc	PKKPbc	04 49 39.4	+0.9
	comp=Z,0.2nm,0.4s,baz=24,slow=9.7,SNR=2.1					
GERES			PKPPKP		04 57 32.1	
	comp=Z,0.2nm,0.4s,baz=156,slow=1.3,SNR=3.6					
GERES			LR

ZST MLR MLR
comp=Z,7µm,3.0s
ZST Bratislava 78.96 347 *e*P **P 04 30 47.9 +2.3**
comp=Z,7µm,20.9s,MS6.0
ZST *e* pP 04 30 54.9 +0.1
ZST *e*PP PP 04 33 42.5 -2.1
ZST *e*S S 04 40 46.6 +4.3
ZST LR LR
comp=Z,1µm,3.0s
SRO Srobarova 79.15 346 *e*P pP 04 30 56.2 +0.3
comp=Z,106nm,1.1s
SRO *e*PP PP 04 33 53.5 +7.3
SRO2 Moca 79.19 346 *e* pP 04 30 57.3 +1.2
SRO1 Iza 79.21 346 *e*P **P 04 30 49.4 +2.4**
SRO1 *e* pP 04 30 57.0 +0.8
SRO1 Iza 79.21 346 *e*P **P 04 30 49.4 +2.4**
SRO1 *e* pP 04 30 57.0 +0.8
SRO1 pmax pmax
comp=Z,93nm,1.2s,mb5.6
LANF Langenberg 79.22 353 *e*P **P 04 30 47.6 +0.6**
STU Stuttgart 79.31 352 *e*P **P 04 30 48.6 +1.1**
comp=Z,75nm,1.3s,mb5.5
BUD Budapest 79.36 345⇑*e*pP pP 04 30 57.8 +0.8
JLP Les Platons 79.36 359 *e*P **P 04 30 48.0 +0.2**
DRGR 79.39 342⇑*i*P **P 04 30 47.7 -0.2**
DRGR 79.39 342⇓P **P 04 30 47.8 -0.1**
DRGR 79.39 342 P **P 04 30 48.0 +0.1**
CONA Conrad Observa 79.39 347⇑*i*P **P 04 30 48.5 +0.5**
comp=Z,630nm,2.9s,mb6.0,SNR=10
JRS Jersey 79.41 359 *e*P **P 04 30 48.7 +0.6**
VRI Vrincioaia 79.46 339⇓*i*P **P 04 30 50.3 +2.0**
VRI Vrincioaia 79.46 339⇓P **P 04 30 50.7 +2.4**
VRI Vrincioaia 79.46 339 P **P 04 30 51.8 +3.5**
PLOR Plostina 79.49 340⇓*i*P **P 04 30 51.3 +2.8**
PLOR Plostina 79.49 340⇑P **P 04 30 51.4 +2.9**
GNI Garni 79.51 325 *e*P **P 04 30 48.2 -0.4**
GNI pmax pmax
comp=Z,489nm,1.8s
GNI MLR MLR
comp=Z,54µm,22.0s
GNI Garni 79.51 325 *e*P **P 04 30 48.2 -0.4**
comp=Z,489nm,1.8s,mb6.1
GNI LR LR
comp=Z,54µm,22.0s,MS6.8
SOP Sopron 79.54 347⇑*e*pP pP 04 30 58.4 +0.4
ARTV Artvin 79.57 327 *i*P **P 04 30 51.0 +2.1**
MOA Molln 79.68 348⇑*i*P **P 04 30 49.7 +0.2**
comp=Z,915nm,4.6s,SNR=7.8
FUR Furstenfeldbru 79.71 350 *e*P **P 04 30 51.1 +1.4**
comp=Z,398nm,2.3s,mb5.9
FUR Furstenfeldbru 79.71 350 *e*P **P 04 30 51.1 +1.4**
FUR pmax pmax
comp=Z,398nm,2.3s,mb5.9
DIGO Kars 79.76 326 *i*P **P 04 30 52.8 +2.8**
CFR Carcaliu 79.80 338⇑*i*P **P 04 30 49.7 -0.5**
CFR Carcaliu 79.80 338⇓P **P 04 30 52.4 +2.2**
WLS Welschbruch 79.81 353 *e*P **P 04 30 50.9 +0.6**
BFO Black Forest 79.82 352 P **P 04 30 50.0 -0.3**
comp=Z,252nm,1.1s,mb6.1,SNR=8.2
BFO Black Forest 79.82 352 *e*P **P 04 30 51.5 +1.2**
comp=Z,63nm,1.2s,mb5.4
CDF Champ du Feu 79.82 353 *e*P **P 04 30 49.0 -1.3**
FLN La Foliniere 79.83 358 *e*P **P 04 30 48.8 -1.5**
comp=Z,402nm,1.1s,mb6.0
FLN *e*R
comp=Z,21µm,20.0s
FLN La Foliniere 79.83 358 *e*P **P 04 30 48.8 -1.5**
comp=Z,201nm,1.1s,mb6.0
FLN LR LR
comp=Z,21µm,20.0s,MS6.5
MEZF Maizieres J'vi 79.88 355 *e*P **P 04 30 49.6 -1.0**
LDF La Druitiere 79.99 358 *e*P **P 04 30 49.8 -1.4**
comp=Z,320nm,1.1s,mb5.9
LDF La Druitiere 79.99 358 *e*P **P 04 30 49.8 -1.4**
LDF pmax pmax
comp=Z,160nm,1.1s,mb5.9
LDF La Druitiere 79.99 358 *e*P **P 04 30 49.8 -1.4**
comp=Z,160nm,1.1s,mb5.9
ECH Echery 80.03 353 *e*P **P 04 30 54.6 +3.2**
AKL Akola 80.03 291 *i* x x 04 30 21.5
AKL AMb AMB 04 30 31.2
comp=Z,313nm,1.8s,mb6.0
AKL *i* x x 04 40 17.8
THEF They Montfort 80.09 354 *e*P **P 04 30 52.6 +0.8**
ARSA Arzberg 80.11 347⇑*i*P **P 04 30 52.3 +0.5**
comp=Z,535nm,2.9s,mb6.0,SNR=7.6
GRR Gorron 80.21 359 *e*P **P 04 30 51.1 -1.3**
comp=Z,672nm,1.4s,mb6.1
GRR Gorron 80.21 359 *e*P **P 04 30 51.1 -1.3**
GRR pmax pmax
comp=Z,336nm,1.4s,mb6.1
GRR Gorron 80.21 359 *e*P **P 04 30 51.1 -1.3**
comp=Z,336nm,1.4s,mb6.1
SNX Sinaia 80.21 340⇑P **P 04 30 55.4 +3.0**
ISR Istrita 80.21 339⇑P **P 04 30 51.9 -0.5**
VOIR 80.23 340⇑*i*P **P 04 30 51.5 -1.0**
VOIR 80.23 340⇓P **P 04 30 52.1 -0.4**
BBSR BB Station 80.25 49 *e*P **P 04 30 52.2 -0.4**
comp=Z,74nm,0.9s,mb5.6
BBSR LR LR
comp=Z,24µm,20.0s,MS6.5
ROSF Rostrenen 80.27 0 *e*P **P 04 30 51.7 -1.0**
comp=Z,282nm,1.2s,mb5.8
ROSF Rostrenen 80.27 0 *e*P **P 04 30 51.7 -1.0**
ROSF pmax pmax
comp=Z,141nm,1.2s,mb5.8
ROSF Rostrenen 80.27 0 *e*P **P 04 30 51.7 -1.0**
comp=Z,141nm,1.2s,mb5.8
HAU Haudompre 80.29 354 *e*P **P 04 30 52.4 -0.4**
HAU *e*R
comp=Z,36µm,20.5s
HAU Haudompre 80.29 354 *e*P **P 04 30 52.4 -0.4**
HAU LR LR
comp=Z,36µm,20.5s,MS6.7
FELD Feldberg im Sc 80.30 353 *e*P **P 04 30 53.2 +0.3**
TBI Tubuai 80.33 149 *e*S S 04 41 03.4 +6.6
comp=Z,9µm,29.8s
TBI *e*SS SS 04 46 06.9 -1.4
comp=Z,9µm,27.2s
TBI *e*LQ 04 51 44.4
comp=Z,47µm,33.5s
TBI *e*LR LR 04 55 56.6
comp=Z,37µm,29.8s,baz=336
SGMF Saint Gilles 80.36 360 *e*P **P 04 30 52.0 -1.2**
comp=Z,38nm,0.6s,mb5.2
SGMF Saint Gilles 80.36 360 *e*P **P 04 30 52.0 -1.2**
SGMF pmax pmax
comp=Z,190nm,0.6s,mb6.2
SGMF Saint Gilles 80.36 360 *e*P **P 04 30 52.0 -1.2**
comp=Z,19nm,0.6s,mb5.2
MOF Molkenrain 80.39 353 *e*P **P 04 30 55.6 +2.2**
TIRR Tirgusor 80.41 338⇑*i*P **P 04 30 52.6 -0.9**
TIRR Tirgusor 80.41 338⇓P **P 04 30 51.8 -1.7**
TIRR Tirgusor 80.41 338 *e*P **P 04 30 53.1 -0.3**
MTUR Matau 80.43 340⇓*i*P **P 04 30 55.6 +2.0**
MTUR Matau 80.43 340⇓P **P 04 30 55.1 +1.6**
HINF Hinteralfeld 80.44 353 *e*P **P 04 30 52.2 -1.5**
comp=Z,110nm,1.3s,mb5.3
HINF Hinteralfeld 80.44 353 *e*P **P 04 30 52.2 -1.5**
HINF pmax pmax
comp=Z,55nm,1.3s,mb5.3
HINF Hinteralfeld 80.44 353 *e*P **P 04 30 52.2 -1.5**
comp=Z,55nm,1.3s,mb5.3
WATA Walderalm 80.50 350⇑*i*P **P 04 30 53.4 -0.6**
comp=Z,76nm,1.2s,mb5.5
WATA Walderalm 80.50 350⇑*i*P **P 04 30 53.4 -0.6**
WATA pmax pmax
comp=Z,76nm,1.2s,mb5.5
MGV Manicaragua 80.52 66 *e*P **P 04 31 00.7 +6.7**
MOTA Moosalm 80.54 350⇓*i*P **P 04 30 55.1 +0.9**
comp=Z,110nm,1.3s,mb5.6,SNR=7.3
MOTA Moosalm 80.54 350⇓*i*P **P 04 30 55.1 +0.9**
MOTA pmax pmax
comp=Z,110nm,1.3s,mb5.6
KBA Koelnbreinsper 80.55 349 *i*P **P 04 30 53.8 -0.4**
comp=Z,861nm,2.7s,mb6.2,SNR=24
KBA Koelnbreinsper 80.55 349 *i*P **P 04 30 53.8 -0.4**
KBA pmax pmax
comp=Z,861nm,2.7s,mb6.2
WTTA Wattenberg 80.56 350⇓*i*P **P 04 30 53.7 -0.6**
comp=Z,694nm,2.5s,mb6.2,SNR=10
WRAB Tennant Creek 80.59 220 P **P 04 30 54.0 -0.4**
comp=Z,968nm,1.2s,mb6.6,SNR=23
WRAB Tennant Creek 80.59 220 *e*P **P 04 30 53.9 -0.5**
WRAB pmax pmax
comp=Z,838nm,1.5s,mb6.5
WRAB MLR MLR
comp=Z,17µm,21.0s,MS6.4
WRAB Tennant Creek 80.59 220 *e*P **P 04 30 53.9 -0.6**
comp=Z,838nm,1.5s,mb6.5
WRAB LR LR
comp=Z,17µm,21.0s,MS6.4
WB2 Warramunga Arr 80.60 220⇓*i*P **P 04 30 54.0 -0.5**
SQTA Sankt Quirin 80.65 350⇑*i*P **P 04 30 55.4 +0.6**
comp=Z,86nm,1.2s,mb5.6,SNR=6.9
SQTA Sankt Quirin 80.65 350⇑*i*P **P 04 30 55.4 +0.6**
SQTA pmax pmax
comp=Z,86nm,1.2s,mb5.6
PKSM Moragy 80.66 345⇑*i*P **P 04 30 56.1 +1.3**
PKSM Moragy 80.66 345 P **P 04 30 56.0 +1.2**
QUIF Quistinic 80.69 0 *e*P **P 04 30 53.8 -1.2**
comp=Z,381nm,1.4s,mb5.8
QUIF Quistinic 80.69 0 *e*P **P 04 30 53.8 -1.2**
QUIF pmax pmax
comp=Z,191nm,1.4s,mb5.8
QUIF Quistinic 80.69 0 *e*P **P 04 30 53.8 -1.2**
comp=Z,191nm,1.4s,mb5.8
CLDR Caldiran 80.70 325 *e*P **P 04 30 56.2 +1.2**
DAVA Damuels 80.72 351⇑*i*P **P 04 30 54.0 -1.1**
comp=Z,396nm,3.0s,mb5.8,SNR=6.3
BBS Basel-Blauen 80.75 353 *e*P **P 04 30 55.9 +0.6**
PERS Pernice 80.76 348 *e*P **P 04 30 56.9 +1.5**
PERS *e* pP 04 31 04.6 0.0
RAO Raoul Island 80.79 176 PFAKE 04 31 10.0 +15
RAO LR LR
comp=Z,22µm,19.0s,MS6.5
EZM Erzurum 80.90 327 *e*P **P 04 30 56.2 +0.1**
LOMF Lomont 80.91 353 *e*P **P 04 30 57.0 +0.9**
OBKA Obir 80.96 348 *i*P **P 04 30 56.4 0.0**
comp=Z,1µm,3.3s,SNR=14
FVI Forni Avoltri 81.09 349 P **P 04 30 59.5 +2.4**
FVI pmax pmax
comp=Z,268nm,1.9s,mb5.8
FVI Forni Avoltri 81.09 349 P **P 04 30 59.5 +2.4**
comp=Z,268nm,1.9s,mb5.8
BRES Bressanone 81.11 350 P **P 04 30 58.6 +1.4**
LOR Lormes 81.17 355 *e*P **P 04 30 56.3 -1.2**
LOR *e*R
comp=Z,28µm,22.2s
LOR Lormes 81.17 355 *e*P **P 04 30 56.3 -1.2**
LOR LR LR
comp=Z,28µm,22.3s,MS6.6
HYF Humbligny 81.23 356 *e*P **P 04 30 56.9 -0.9**
ROBS Robic 81.35 349 *e*P **P 04 30 59.3 +0.8**
ROBS *e* pP 04 31 07.0 -0.8
SSF Saint Saulge 81.40 356 *e*P **P 04 30 57.6 -1.1**
comp=Z,223nm,1.2s,mb5.7
SSF Saint Saulge 81.40 356 *e*P **P 04 30 57.6 -1.1**
SSF pmax pmax
comp=Z,112nm,1.3s,mb5.6
SSF Saint Saulge 81.40 356 *e*P **P 04 30 57.6 -1.1**
comp=Z,112nm,1.3s,mb5.6
LJU Ljubljana 81.42 348 *e*P **P 04 30 59.9 +1.0**
LJU *e* pP 04 31 06.9 -1.2
DJES Djerdap 81.50 342 *i*P pP 04 31 07.6 -0.9
VOY Vojsko 81.52 348 *e*P **P 04 31 01.2 +1.8**
VOY *e* 04 31 07.2
VOY *e* 04 31 36.7
BOYT Boyabat 81.55 332 *i*P **P 04 31 00.0 +0.5**
AVF Avril sur Loir 81.67 356 *e*P **P 04 30 59.0 -1.2**
comp=Z,227nm,1.2s,mb5.7
AVF Avril sur Loir 81.67 356 *e*P **P 04 30 59.0 -1.2**
AVF pmax pmax
comp=Z,114nm,1.3s,mb5.6
AVF Avril sur Loir 81.67 356 *e*P **P 04 30 59.0 -1.2**
comp=Z,114nm,1.3s,mb5.6
HYB Hyderabad 81.69 287 *i*P **P 04 31 00.5 +0.2**
comp=Z,300nm,1.0s,mb6.2
HYB *e*pP pP 04 31 05.0 -4.5
HYB *e*PcP PcP 04 31 07.5 +1.5
HYB *e*S S 04 41 10.5 -0.5
HYB LR LR 05 10 20.0
comp=Z,52nm,16.0s
HYB Hyderabad 81.69 287 *e*P **P 04 30 59.0 -1.3**
HYB *e*S S 04 41 06.0 -5.0
HYB pmax pmax
comp=Z,300nm,1.0s,mb6.2
HYB Hyderabad 81.69 287 *e*P **P 04 30 59.0 -1.3**
comp=Z,300nm,1.0s,mb6.2
HYB *e*S S 04 41 06.0 -5.0
BEO Belgrade 81.70 343⇓*i*P **P 04 31 01.5 +1.2**
SISC Sisak 81.73 346 *i*P 04 30 59.5
CTI Castel Tesino 81.76 350 P **P 04 31 04.1 +3.4**
CTI pmax pmax
comp=Z,631nm,2.5s,mb6.1
CTI Castel Tesino 81.76 350 P **P 04 31 04.1 +3.4**
comp=Z,631nm,2.5s,mb6.1
SMF Signal de Mont 81.80 355 *e*P **P 04 30 59.5 -1.3**
comp=Z,268nm,1.1s,mb5.8
SMF Signal de Mont 81.80 355 *e*P **P 04 30 59.5 -1.3**
SMF pmax pmax
comp=Z,134nm,1.1s,mb5.8
SMF Signal de Mont 81.80 355 *e*P **P 04 30 59.5 -1.3**
comp=Z,134nm,1.1s,mb5.8
BNGL BINGOL 81.83 327 *i*P **P 04 31 04.9 +3.9**
BOJS Bojanci 81.86 347 *e*P **P 04 31 02.3 +1.1**
BOJS *e* pP 04 31 09.8 -0.6
BOJS *e*S S 04 41 15.9 +3.3
BALT Daday 81.88 333 *i*P **P 04 31 01.2 -0.1**
BGF Bois d'Agland 81.93 356 *e*P **P 04 31 00.5 -1.0**
comp=Z,278nm,1.4s,mb5.7
BGF Bois d'Agland 81.93 356 *e*P **P 04 31 00.5 -1.0**
BGF pmax pmax
comp=Z,139nm,1.4s,mb5.7
BGF Bois d'Agland 81.93 356 *e*P **P 04 31 00.5 -1.0**
comp=Z,139nm,1.4s,mb5.7
SEMD Semdili 82.07 324 *e*P **P 04 30 57.7 -4.6**
SVIS Svilajnac 82.07 343 *i*P **P 04 31 03.0 +0.7**
TOS Tosya 82.16 333 *e*P **P 04 31 02.0 -0.8**
YOGI Yogyakarta 82.17 247 *e*P **P 04 30 56.5 -6.3**
comp=Z,6.0nm,1.0s
HAKT HAKKARI 82.18 324 *i*P **P 04 31 03.4 +0.5**
BHJ Bhuj 82.19 298 *e*P **P 04 31 04.8 +1.8**
BHJ ⇑*ex* x 04 31 09.3
BHJ AMb AMB 04 31 16.2
comp=Z,195nm,1.6s,mb5.8
BHJ *e*S S 04 41 21.7 +5.6
MCGN Macugnaga 82.20 352 P **P 04 31 04.1 +1.1**
comp=Z,77nm,1.2s,mb5.5
TCF Toulx Ste Croi 82.22 356 *e*P **P 04 31 02.0 -1.1**
comp=Z,82nm,1.0s,mb5.3
TCF Toulx Ste Croi 82.22 356 *e*P **P 04 31 02.0 -1.1**
TCF pmax pmax
comp=Z,41nm,1.0s,mb5.3
TCF Toulx Ste Croi 82.22 356 *e*P **P 04 31 02.0 -1.1**
comp=Z,41nm,1.0s,mb5.3
PVL Pavlikeni 82.29 340 *e*P pP 04 31 12.0 -0.7
SVSK Karacayir 82.31 330 *e*P **P 04 31 02.2 -1.3**
CTKT Corum 82.32 332 *i*P **P 04 31 03.5 -0.1**
SAFT Safranbolu 82.34 334 *e*P **P 04 31 02.1 -1.6**
BOLS Boljevac 82.39 342⇑*i*P **P 04 31 03.2 -0.7**
PLDF La Plantade 82.48 355 *e*P **P 04 31 04.3 -0.1**
DIVS Divcibare 82.49 344⇓*i*P **P 04 31 03.7 -0.7**
CCCC Cccc 82.49 65 *e*P **P 04 31 11.5 +7.1**
CCCC *e*S S 04 41 25.1 +5.9
CUKT Cukurca 82.49 324 *e*P **P 04 30 60.0 -4.5**
GRUS Gruza 82.56 343 *i*P **P 04 31 04.5 -0.3**
JMB Yambol 82.72 338 *e*P pP 04 31 15.0 0.0
LPL La Plagne 82.74 353 *e*P **P 04 31 05.9 +0.1**
comp=Z,141nm,1.2s,mb5.6
LPL La Plagne 82.74 353 *e*P **P 04 31 05.9 +0.1**
LPL pmax pmax
comp=Z,70nm,1.2s,mb5.6
LPL La Plagne 82.74 353 *e*P **P 04 31 05.9 +0.1**
comp=Z,70nm,1.2s,mb5.6
LPG La Plagne 82.76 353 *e*P **P 04 31 06.0 +0.1**
comp=Z,197nm,1.1s,mb5.7
LPG La Plagne 82.76 353 *e*P **P 04 31 06.0 +0.1**
LPG pmax pmax
comp=Z,99nm,1.1s,mb5.8
LPG La Plagne 82.76 353 *e*P **P 04 31 06.0 +0.1**
comp=Z,99nm,1.1s,mb5.8
FITZ Fitzroy Crossi 82.77 229⇓*i*P **P 04 31 06.1 +0.2**
comp=Z,410nm,0.9s,mb6.5
FITZ *e*S S 04 41 22.2 +0.2
CORM Corum 82.78 332 *e*P **P 04 31 04.6 -1.3**
BBLS Bajina Basta - 82.81 344 *i*P **P 04 31 07.2 +1.1**
NVLJ Novalja 82.83 347 *i*P pP 04 31 13.4 -2.1
ELDT Eldivan 82.83 333 *i*P **P 04 31 06.5 +0.2**
ELZG Elazig 82.97 328 *i*P **P 04 31 07.2 +0.3**
YOZ Yozgat 83.07 331 *e*P **P 04 31 08.0 +0.5**
GRN Grenoble 83.08 354 *e*P **P 04 31 10.6 +3.0**
GDM Grand'Maison 83.10 354 *e*P pP 04 31 14.8 -2.1
SGKT Sivrigoynuk 83.14 334 *i*P **P 04 31 09.5 +1.7**
PGB Panagyurishte 83.17 340 *e*P **P 04 31 09.0 +1.0**
BNI Bardonecchia 83.21 353 *e*P **P 04 31 08.1 -0.1**
BNI pmax pmax
comp=Z,171nm,1.1s,mb6.0
BNI Bardonecchia 83.21 353 *e*P **P 04 31 08.1 -0.1**
comp=Z,171nm,1.1s,mb6.0
BNI *e*PcP PcP 04 31 12.2 -0.5
RJF Les Rejaudoux 83.23 357 *e*P **P 04 31 07.0 -1.3**
comp=Z,554nm,1.9s,mb6.0
RJF *e*R
comp=Z,29µm,21.2s
RJF Les Rejaudoux 83.23 357 *e*P **P 04 31 07.0 -1.3**
RJF pmax pmax
comp=Z,277nm,1.9s,mb6.0
RJF MLR MLR
comp=Z,29µm,21.3s,MS6.6
RJF Les Rejaudoux 83.23 357 *e*P **P 04 31 07.0 -1.3**
comp=Z,277nm,1.9s,mb6.0
RJF LR LR
comp=Z,29µm,21.3s,MS6.6
LBL Lubilhac 83.23 356 *e*P **P 04 31 08.8 +0.5**
EDRB Edirne 83.28 338 *e*P **P 04 31 09.4 +0.9**
MYA Malataya 83.30 328 *e*P **P 04 31 11.0 +2.3**
MALT Malatya 83.31 328⇑*i*P **P 04 31 09.4 +0.6**
MALT Malatya 83.31 328 *e*P **P 04 31 08.9 +0.1**
MALT pmax pmax
comp=Z,160nm,1.3s,mb5.9
MALT Malatya 83.31 328 *e*P **P 04 31 08.9 +0.1**
comp=Z,160nm,1.3s,mb5.9
VTS Vitosha 83.33 341 *e*P **P 04 31 07.8 -1.0**
VTS Vitosha 83.33 341⇑*i*P **P 04 31 07.7 -1.1**
PLE Pljevlja 83.34 344⇓*i*P **P 04 31 09.8 +0.9**
DIM Dimitrovgrad 83.36 339 *e*P **P 04 31 12.0 +3.0**
CDAG Cicekdag 83.36 332 *i*P **P 04 31 10.2 +1.2**
ORIF Oris-en-Rattie 83.40 354 *e*P **P 04 31 09.1 -0.1**
comp=Z,108nm,0.9s,mb5.6
ORIF *e*R
comp=Z,20µm,21.0s
ORIF Oris-en-Rattie 83.40 354 *e*P **P 04 31 09.1 -0.1**
ORIF pmax pmax
comp=Z,54nm,0.9s,mb5.6
ORIF Oris-en-Rattie 83.40 354 *e*P **P 04 31 09.1 -0.1**
comp=Z,54nm,0.9s,mb5.6
MARD Mardin 83.43 326 *i*P **P 04 31 11.3 +2.0**
ISK Istanbul-Kandi 83.46 336 *e*P **P 04 31 15.2 +5.7**
MDU Mudurnu 83.47 335 *e*P **P 04 31 08.0 -1.5**
BRTR Keskin Array B 83.48 333 P **P 04 31 09.2 -0.4**
comp=Z,5.0nm,0.8s,baz=26,slow=3.5,SNR=22
BRTR Keskin Array B 83.48 333 P **P 04 31 09.2 -0.4**
BRTR pmax pmax
comp=Z,50nm,0.8s
PLD Plovdiv 83.49 340 *e*P **P 04 31 12.0 +2.4**
ZCCA Zocca 83.51 350 P **P 04 31 12.9 +3.1**
comp=Z,101nm,0.8s,mb6.0
MBDF Montbardon 83.52 353 *e*P **P 04 31 09.6 -0.2**
comp=Z,155nm,0.9s,mb5.8
MBDF Montbardon 83.52 353 *e*P **P 04 31 09.6 -0.2**
MBDF pmax pmax
comp=Z,77nm,0.9s,mb5.8
MBDF Montbardon 83.52 353 *e*P **P 04 31 09.6 -0.2**
comp=Z,77nm,0.9s,mb5.8
MSL Mosul 83.53 324 *ex* x 04 31 09.0
MSL *ex* x 04 31 19.0
MSL *ex* x 04 34 24.0
MSL *ex* x 04 41 34.0
MSL *ex* x 04 42 50.0
HRT Hereke 83.53 336 *e*P **P 04 31 11.3 +1.4**
VIVF Saint-Julien-I 83.53 355 *e*P **P 04 31 09.3 -0.6**
comp=Z,216nm,1.3s,mb5.8
VIVF Saint-Julien-I 83.53 355 *e*P **P 04 31 09.3 -0.6**
VIVF pmax pmax
comp=Z,108nm,1.3s,mb5.8
VIVF Saint-Julien-I 83.53 355 *e*P **P 04 31 09.3 -0.6**
comp=Z,108nm,1.3s,mb5.8
UPM Unac-Piva 83.54 344⇓*i*P **P 04 31 10.9 +1.0**
POO Poona 83.57 292 *ex* x 04 31 48.2
ANTO Ankara 83.59 333 *e*P **P 04 31 11.8 +1.7**
ANTO Ankara 83.59 333 *e*P **P 04 31 08.6 -1.6**
ANTO pmax pmax
comp=Z,280nm,1.5s,mb6.2
ANTO MLR MLR
comp=Z,18µm,20.0s,MS6.4
ANTO Ankara 83.59 333 *e*P **P 04 31 08.6 -1.6**
comp=Z,280nm,1.5s,mb6.2
ANTO LR LR
comp=Z,18µm,20.0s,MS6.4
CAF Calviac 83.59 356 *e*P **P 04 31 09.5 -0.7**
LFF La Frestale 83.62 357 *e*P **P 04 31 09.3 -1.0**
comp=Z,132nm,0.8s,mb5.8
LFF La Frestale 83.62 357 *e*P **P 04 31 09.3 -1.0**
LFF pmax pmax
comp=Z,66nm,0.8s,mb5.8
LFF La Frestale 83.62 357 *e*P **P 04 31 09.3 -1.0**
comp=Z,66nm,0.8s,mb5.8
IVA Berane 83.69 343⇓*i*P **P 04 31 11.6 +0.9**
HLGC Holguin 83.69 64 *e*P **P 04 31 03.9 -6.8**
PESA Pesaro 83.70 349 P **P 04 31 10.6 -0.2**
DOI San Damiano 83.71 353 P **P 04 31 11.4 +0.6**
DOI pmax pmax
comp=Z,42nm,0.7s,mb5.7
DOI San Damiano 83.71 353 P **P 04 31 11.4 +0.6**
comp=Z,42nm,0.7s,mb5.7
RSM Repubblica di 83.76 349 P **P 04 31 15.0 +3.9**
SURF Saint Ours 83.77 353 *e*P **P 04 31 13.5 +2.4**
SEI Scarperia 83.77 350 P **P 04 31 15.1 +4.0**
comp=Z,343nm,0.8s,mb6.5
VLC Villacollemand 83.77 350 *e*P **P 04 31 10.3 -0.7**
comp=Z,398nm,1.8s,mb6.2
KAMT Kaman 83.79 332 *e*P **P 04 31 09.8 -1.4**
VMG Vicchio 83.84 350 P **P 04 31 14.3 +2.9**
comp=Z,185nm,0.8s,mb6.3
BDI Bagni Di Lucca 83.84 350 P **P 04 31 13.6 +2.2**
YLV Yalova 83.85 336 *e*P **P 04 31 12.4 +0.9**
BOM Bombay 83.88 293 *e*P **P 04 31 11.5 -0.1**
BOM *e*P 04 31 16.4
BOM *e*S S 04 41 32.1 -1.2
RZN Rozhen 83.88 340 *e*P **P 04 31 12.0 +0.3**
ADVT Abdulvahap 83.88 336 *e*P **P 04 31 15.0 +3.4**
BRY Bratogost 83.90 344⇓*i*P **P 04 31 12.2 +0.5**
NKY Niksic 83.91 344⇓*i*P **P 04 31 11.4 -0.4**
PVY Plav 83.95 343⇓*i*P **P 04 31 13.1 +1.1**
URFA Urfa 83.98 328 *e*P **P 04 31 12.4 +0.2**
AVNT Avonos 84.00 331 *i*P **P 04 31 14.2 +1.9**
KKB Krupnik 84.05 341 *e*P **P 04 31 09.0 -3.5**
STON Ston 84.06 345 *i*P **P 04 31 12.6 0.0**
MDRS Chennai 84.07 283 *ex* x 04 30 53.6
MDRS AMb AMB 04 31 04.9
comp=Z,195nm,1.0s,mb6.2
AS31 Alice Springs 84.12 219 *e*P **P 04 31 13.0 +0.1**
ATAB Bozova 84.12 328 *i*P **P 04 31 13.2 +0.3**
ASAR Alice Springs 84.13 219 P **P 04 31 12.9 0.0**
comp=Z,33nm,0.7s,mb5.6,baz=25,slow=5.5,SNR=121
ASAR PKKPbc PKKPbc 04 49 26.4 +0.1
comp=Z,1.0nm,0.8s,baz=196,slow=2.7,SNR=3.8
ASAR PKPPKP 04 57 35.6
comp=Z,5.8nm,1.1s,baz=188,slow=2.3,SNR=11
ASPA Alice Springs 84.13 219 *e*P **P 04 31 13.0 +0.1**
MFT Murefte 84.16 337 *e*P **P 04 31 14.4 +1.3**
MMB Musomiste 84.19 340 *e*P **P 04 31 11.0 -2.2**
TOUF Mont Tournerai 84.20 353 *e*P **P 04 31 14.4 +1.1**
AUTN L'Aution 84.20 353 *e*P **P 04 31 14.2 +0.9**
TTG Podgorica 84.23 344⇓*i*P **P 04 31 12.6 -0.9**
IMI Imperia 84.25 352 P **P 04 31 14.9 +1.4**
comp=Z,52nm,0.7s,mb5.8
MRMT Marmara Adasi 84.26 337 *e*P **P 04 31 20.1 +6.5**
RKY Sarkoy-Tekirda 84.28 338 *e*P **P 04 31 13.9 +0.2**
SKO Skopje 84.28 342⇑*i*P pP 04 31 23.3 +0.4
LUCF Lucerem 84.31 353 *e*P **P 04 31 15.2 +1.4**
STOF St-Etienne Org 84.31 354 *e*P pP 04 31 21.0 -2.1
MVIF Mont Vial 84.32 353 *e*P **P 04 31 13.8 -0.1**
SBF Sospel 84.33 353 *e*P **P 04 31 12.9 -1.0**
comp=Z,190nm,0.9s,mb5.9
SBF Sospel 84.33 353 *e*P **P 04 31 12.9 -1.0**
SBF pmax pmax
comp=Z,95nm,0.9s,mb5.9
SBF Sospel 84.33 353 *e*P **P 04 31 12.9 -1.0**
comp=Z,95nm,0.9s,mb5.9
KAD Karad 84.34 291 *e*P **P 04 31 14.4 +0.4**

HCY	Herceg Novi	84.35	344	⇓*i*P	P	04 31 15.0	+1.0
SMRF	Simiane la Rot	84.36	354	*e*P	P	04 31 14.1	0.0
	comp=Z,263nm,1.4s,mb5.9						
SMRF	Simiane la Rot	84.36	354	*e*P	P	04 31 14.1	0.0
	comp=Z,263nm,1.4s,mb6.2						
LASF	Ste Croix	84.36	355	*e*P	P	04 31 13.7	-0.4
	comp=Z,182nm,1.5s,mb5.7						
STIP	Stip	84.40	341	*i* P	pP	04 31 23.2	-0.4
MURB	Monte Urbino	84.41	349	P	P	04 31 17.2	+2.8
BUM	Brajici-Budva	84.42	344	⇓*i*P	P	04 31 14.6	+0.2
ESKT	Eskisehir	84.45	334	*i* P	P	04 31 13.4	-1.2
REVF	Revere	84.46	353	*e*P	P	04 31 17.5	+2.9
GZT	Gaziantep	84.47	329	*i* P	P	04 31 14.3	-0.4
VILF	Villemus	84.47	354	*e*P	P	04 31 19.1	+4.5
PRAF	Pradon	84.55	354	*e*P	P	04 31 18.0	+2.9
RCC	Rio Carpintero	84.61	64	*e*P	pP	04 31 21.9	-2.8
TAVF	Tavernes	84.68	354	*e*P	P	04 31 17.2	+1.5
VAY	Valandovo	84.68	341	⇑*i*P	pP	04 31 24.6	-0.4
ULC	Ulcinj	84.69	344	⇓*i*P	P	04 31 16.2	+0.4
FRF	La Foret Royal	84.69	353	*e*P	P	04 31 14.9	-0.9
TREF	Trevaresse	84.72	354	*e*P	P	04 31 18.2	+2.3
GAZ	Gaziantep	84.75	329	*e*P	P	04 31 16.1	+0.1
PUYF	Puyloubier	84.79	354	*e*P	P	04 31 17.7	+1.4
ARMA	Armidale	84.85	202	*e*P	P	04 31 18.4	+1.8
KOZT	Kozan	84.90	330	*e*P	P	04 31 15.7	-1.2
LMR	La Mourre	84.93	353	*e*P	P	04 31 16.2	-0.8
CANB	Canakkale	84.94	337	*e*P	P	04 31 20.7	+3.7
GELF	Grande-Etoile	84.95	354	*e*P	P	04 31 18.9	+1.8
BERF	Bertagne	85.01	354	*e*P	P	04 31 19.6	+2.2
KDHN	Kadinhani	85.03	333	*i* P	P	04 31 15.1	-2.4
BALB	Balikesir	85.10	337	*e*P	P	04 31 18.3	+0.5
MTLF	Montolieu	85.17	356	*e*P	P	04 31 17.4	-0.8
	comp=Z,213nm,1.0s,mb5.9						
MTLF	Montolieu	85.17	356	*e*P	P	04 31 17.4	-0.8
	comp=Z,106nm,1.0s,mb5.9						
AQU	L'Aquila	85.20	348	⇑*i*P	P	04 31 20.3	+2.0
AQU	L'Aquila	85.20	348	*e*P	P	04 31 17.8	-0.5
AQU				pmax	pmax		
	comp=Z,196nm,1.1s,mb6.2						
AQU	L'Aquila	85.20	348	*e*P	P	04 31 17.8	-0.5
	comp=Z,196nm,1.1s,mb6.2						
EPON	Pontenova	85.21	3	P	P	04 31 20.3	+1.9
	comp=Z,30nm,0.9s,mb5.4						
BIA	Bitola	85.22	342	*i* P	pP	04 31 26.4	-1.4
OHR	Ohrid	85.23	342	⇑*i*P	pP	04 31 26.4	-1.3
MNS	Montasola	85.26	349	P	P	04 31 19.0	+0.4
EARI	Arriondas	85.29	2	P	P	04 31 21.3	+2.6
	comp=Z,19nm,0.8s,mb5.3						
KARA	Karaisali	85.34	331	*e*P	P	04 31 17.6	-1.5
OSSF	Osses	85.34	359	*e*P	P	04 31 21.0	+2.0
ORDF	Ordiarp	85.38	359	*e*P	pP	04 31 25.3	-3.2
EALK	Alkurruntz	85.38	359	P	P	04 31 24.3	+5.1
	comp=Z,62nm,1.0s,mb5.7						
MAON	Monte Argentar	85.40	350	P	P	04 31 22.2	+2.9
ELIZ	Elizondo	85.44	359	P	P	04 31 24.4	+4.9
	comp=Z,52nm,1.0s,mb5.6						
SJPF	Ste Jean	85.49	359	*e*P	P	04 31 18.3	-1.5
	comp=Z,87nm,0.8s,mb5.6						
SJPF	Ste Jean	85.49	359	*e*P	P	04 31 18.3	-1.5
SJPF				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.6						
SJPF	Ste Jean	85.49	359	*e*P	P	04 31 18.3	-1.5
	comp=Z,44nm,0.8s,mb5.6						
PGF	Pioggiola	85.50	351	*e*P	P	04 31 18.3	-1.5
	comp=Z,59nm,1.1s,mb5.3						
PGF	Pioggiola	85.50	351	*e*P	P	04 31 18.3	-1.5
PGF				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.3						
PGF	Pioggiola	85.50	351	*e*P	P	04 31 18.3	-1.5
	comp=Z,30nm,1.1s,mb5.3						
KONT	Konya--Tatoy	85.50	333	*e*P	P	04 31 19.3	-0.5
ATE	Arette	85.51	358	*e*P	pP	04 31 27.0	-2.1
EMAZ	Mazaricos	85.51	5	P	P	04 31 22.1	+2.2
	comp=Z,38nm,1.0s,mb5.6						
REYF	Montagne du Re	85.52	358	*e*P	P	04 31 25.3	+5.4
LABF	Labassere	85.53	358	*e*P	pP	04 31 27.0	-2.3
EPF	Esparros	85.54	358	*e*P	P	04 31 18.5	-1.5
	comp=Z,99nm,1.0s,mb5.7						
EPF	Esparros	85.54	358	*e*P	P	04 31 18.5	-1.5
EPF				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.7						
EPF	Esparros	85.54	358	*e*P	P	04 31 18.5	-1.5
	comp=Z,50nm,1.0s,mb5.7						
RKT	Rikitea	85.54	137	*e*S		04 41 55.6	
	comp=Z,3μm,34.2s						
RKT				*e*SS	SS	04 47 24.6	-1.1
	comp=Z,7μm,30.2s						
RKT				*e*LQ		04 54 30.5	
	comp=Z,44μm,30.2s						
LRDF	Laroque-de-Fa	85.56	356	*e*P	P	04 31 24.0	+3.9
LARF	Larrau	85.56	359	*e*P	P	04 31 24.0	+3.9
MLS	Moulis	85.59	357	*e*P	P	04 31 22.5	+2.2
STS	Santiago	85.59	4	P	P	04 31 21.2	+0.9
	comp=Z,206nm,1.3s,mb6.2						
MTCE	Montecelio	85.61	348	P	P	04 31 24.1	+3.7
COBT	Iskenderun	85.65	329	*i* P	P	04 31 20.2	-0.3
CIGN	Sant'Elia a Pi	85.68	347	P	P	04 31 25.6	+4.9
ETSF	Etsaut	85.69	358	*e*P	P	04 31 20.2	-0.6
	comp=Z,195nm,1.0s,mb6.0						
ETSF	Etsaut	85.69	358	*e*P	P	04 31 20.2	-0.6
ETSF				pmax	pmax		
	comp=Z,98nm,1.0s,mb6.0						
ETSF	Etsaut	85.69	358	*e*P	P	04 31 20.2	-0.6
	comp=Z,98nm,1.0s,mb6.0						
VIEF	Viey	85.69	358	*e*P	P	04 31 22.6	+1.8
BHD	Baghdad	85.74	322	*ex*	x	04 31 21.5	
BHD				*ex*	x	04 34 43.0	
BHD				*ex*	x	04 41 50.5	
BHD				*ex*	x	04 42 50.0	
RNI2	Rionero Sannit	85.74	347	P	P	04 31 25.9	+4.9
RESF	Ens	85.76	358	*e*P	P	04 31 25.0	+3.9
SALF	Salau	85.78	357	*e*P	pP	04 31 29.5	-1.0
CARF	Carcanieres	85.80	356	*e*P	pP	04 31 29.2	-1.4
MERS	Mersin	85.87	331	*e*P	P	04 31 19.8	-1.9
RDP	Rocca di Papa	85.87	348	P	P	04 31 24.9	+3.2
KRTS	Karatas	85.88	330	*e*P	P	04 31 24.1	+2.4
EBIE	Bielsa	85.89	358	P	pP	04 31 28.7	-2.4
	comp=Z,41nm,0.9s						
SJAF	Saint Jean de	85.99	356	*e*P	P	04 31 24.8	+2.5
VALF	Valcebollere	86.11	356	*e*P	P	04 31 25.5	+2.6
RFI	Roccamonfina	86.16	347	P	P	04 31 27.4	+4.3
	comp=Z,79nm,1.7s,mb5.7						
MEST	Erdemli	86.24	331	*i* P	P	04 31 21.9	-1.6
EGRA	Graus	86.37	358	P	pP	04 31 31.5	-1.9
	comp=Z,26nm,0.8s						
IZM	Izmir	86.43	337	*e*P	P	04 31 27.8	+3.4
BLCB	Balcova	86.49	337	*e*P	P	04 31 27.8	+3.1
ERMK	Ermenek	86.56	332	*i* P	P	04 31 20.5	-4.6
ECAL	Calabor	86.61	3	P	P	04 31 31.2	+5.9
	comp=Z,13nm,0.7s,mb5.3						
ELOB	Lobios	86.63	4	P	P	04 31 28.7	+3.3
	comp=Z,12nm,0.6s,mb5.3						
PBRG	Braganca	86.74	3	*e*P	P	04 31 25.9	-0.1
	comp=Z,22nm,2.1s,mb5.0						
JTS	JuntasAbangare	86.85	77	*e*P	P	04 31 27.9	+1.5
	comp=Z,16nm,0.9s,mb5.2						
JTS				LR	LR		
	comp=Z,20μm,21.0s,MS6.5						
ESAC	San Caprasio	86.86	358	P	P	04 31 28.8	+2.2
	comp=Z,24nm,0.6s,mb5.6						
BANOM	Banah	86.92	309	⇓P	P	04 31 28.9	+2.1
	SNR=16						
ORI	Oriolo Calabro	87.01	345	P	pP	04 31 35.5	-1.0
EPOB	Poblet	87.19	357	P	pP	04 31 36.0	-1.5
	comp=Z,21nm,0.8s						
PVRL	Vila Real	87.24	4	*e*P	P	04 31 26.4	-2.0
	comp=Z,24nm,1.5s,mb5.2						
ELL	Elmali	87.30	334	*e*P	P	04 31 28.6	-0.1
YER	Yerkesik	87.37	336	*e*P	P	04 31 24.2	-4.8
MIB	Mutribah	87.61	318	*e*P	P	04 31 29.1	-1.0
MIB				AMb	AMB	04 31 41.9	
	comp=Z,721nm,1.0s,mb6.8						
DALT	Dalyan (Mudla)	87.62	335	*e*P	P	04 31 32.4	+2.2
FETY	Fethiye	87.63	335	*e*P	P	04 31 33.9	+3.7
DGI	Dorgali Grotta	87.65	350	P	P	04 31 33.5	+3.2
UMR	Umm Al-Rimmam	87.67	318	*e*P	P	04 31 29.1	-1.3
UMR				AMb	AMB	04 31 42.0	
	comp=Z,359nm,1.0s,mb6.5						
EBR	Ebro Roquetas	87.74	357	*e*P	pP	04 31 37.0	-3.1
PVIS	Viseu	87.79	4	*e*P	P	04 31 32.0	+1.0
	comp=Z,27nm,0.9s,mb5.5						
TIP	Timpagrande	87.82	345	*e*P	P	04 31 30.3	-0.9
DAT	Datca	87.93	336	*e*P	P	04 31 30.1	-1.6
GUD	Guadarrama	87.96	1	P	P	04 31 36.8	+5.0
	comp=Z,15nm,0.6s,mb5.4						
CSS	Prodhromos	87.99	331	*e*P	P	04 31 32.3	+0.4
	comp=Z,140nm,1.4s,mb6.0						
KBD	Kabd	88.01	317	*e*P	P	04 31 30.6	-1.5
KBD				AMb	AMB	04 31 43.9	
	comp=Z,1μm,1.2s						
BIDO	Bidbid	88.04	307	⇓P	P	04 31 33.0	+0.8
	SNR=6.7						
ASHO	Ashiyiah	88.08	309	⇑P	P	04 31 33.7	+1.3
	SNR=27						
MTE	Manteigas	88.12	4	*e*P	P	04 31 33.2	+0.6
MTE	Manteigas	88.12	4	*e*SKS		04 42 07.5	
MTE	Manteigas	88.12	4	*e*LQ		04 57 04.1	
MTE				*e*LR	LR	05 00 51.2	
MTE	Manteigas	88.12	4	*e*P	P	04 31 31.9	-0.6
	comp=Z,48nm,0.8s,mb5.8						
NAY	Al-Naaiem	88.14	318	*e*P	P	04 31 31.0	-1.7
NAY				AMb	AMB	04 31 44.2	
	comp=Z,222nm,1.1s,mb6.3						
MBWA	Marble Bar	88.21	232	P	P	04 31 32.3	-0.7
	comp=Z,144nm,1.1s,mb6.1						
MBWA				LR	LR		
	comp=Z,6μm,20.0s,MS6.0						
EMOS	Mosqueruela	88.22	358	P	pP	04 31 41.3	-1.1
	comp=Z,29nm,1.0s						
RIV	Riverview	88.23	201	*e*P	P	04 31 34.5	+1.4
BHL	Bhannes	88.25	329	*e*P	pP	04 31 40.2	-2.3
RDF	Al-Radifah	88.29	317	*e*P	P	04 31 32.2	-1.2
RDF				AMb	AMB	04 31 45.1	
	comp=Z,534nm,1.1s,mb6.7						
PALK	Pallekele	88.32	280	*e*P	P	04 31 35.5	+2.0
	comp=Z,187nm,1.4s,mb6.1						
PALK				LR	LR		
	comp=Z,15μm,20.0s,MS6.4						
WBK	Wadi Bani Khal	88.37	305	⇓P	P	04 31 34.0	+0.2
	SNR=6.1						
HOQ	Hoqain	88.39	307	⇑P	P	04 31 32.1	-1.7
SMDO	Samad	88.46	306	⇓P	P	04 31 30.3	-3.9
	SNR=7.3						
VSL	Villasalto	88.48	351	*e*P	P	04 31 35.9	+1.6
	comp=Z,51nm,1.1s,mb5.7						
PCBR	Castelo Branco	88.68	4	*e*P	P	04 31 35.4	+0.2
	comp=Z,28nm,1.6s,mb5.3						
PTOM	Tomar	88.86	4	*e*P	P	04 31 36.6	+0.5
	comp=Z,59nm,0.7s,mb6.0						
ESDC	Sonseca Array	88.93	1	P	P	04 31 36.5	+0.1
	comp=Z,2.5nm,0.7s,baz=355,slow=3.6,SNR=8.3						
STKA	Stephens Creek	88.95	210	*e*S	SKSac	04 42 01.4	-2.7
STKA	Stephens Creek	88.95	210	P	P	04 31 35.3	-1.2
	comp=Z,48nm,0.9s,mb5.8,baz=350,slow=6.6,SNR=24						
STKA				LR	LR	05 10 23.3	
	comp=Z,18μm,20.2s,MS6.5,baz=13,slow=35						
STKA	Stephens Creek	88.95	210	*e*P	P	04 31 34.8	-1.7
	comp=Z,174nm,1.6s,mb6.1						
STKA				*e*S	SKSac	04 42 01.4	-2.7
ARQ	Araqi	88.99	308	⇓P	P	04 31 34.2	-2.5
	SNR=23						
JMDO	Jabal Madar	89.01	306	⇑P	P	04 31 30.1	-6.7
BSY	Bisya	89.15	307	⇓P	P	04 31 35.0	-2.4
	SNR=16						
PTCN	Pitcairn Islan	89.38	134	PFAKE		04 31 50.0	+11
PTCN				LR	LR		
	comp=Z,18μm,20.0s,MS6.5						
PLOU	Loures	89.55	5	*e*P	P	04 31 39.4	+0.1
TRD	Trivandrum	89.63	283	*e*P	P	04 31 41.3	+1.6
TRD				AMb	AMB	04 31 53.0	
	comp=Z,198nm,1.3s,mb6.3						
LIS	Lisbon	89.72	5	*e*P	P	04 31 39.2	-0.9
LIS				*e*S		04 42 09.4	
LIS				*e*S		04 42 09.5	
LIS				AMS	AMS	05 15 48.5	
	comp=Z,21μm,19.1s,MS6.6						
ETOB	Tobarra	89.95	359	P	pP	04 31 48.2	-2.3
	comp=Z,22nm,0.9s						
MOE	Montemor	89.95	4	*e*P	P	04 31 41.6	+0.4
CNB	Canberra Magne	90.07	202	*e*P	P	04 31 43.0	+1.2
	comp=Z,72nm,0.9s,mb6.0						
EADA	Adamuz	90.42	1	P	pP	04 31 50.8	-2.0
	comp=Z,16nm,1.0s						
PBEJ	Beja	90.47	4	*e*P	P	04 31 43.3	-0.3
EMIN	Mina Concepcio	90.77	3	P	P	04 31 47.7	+2.7
	comp=Z,19nm,0.9s,mb5.4						
EHUE	Huescar	90.79	360	P	pP	04 31 51.2	-3.2
	comp=Z,52nm,1.4s						
EQES	Quesada	90.80	0	P	pP	04 31 52.8	-1.7
	comp=Z,24nm,1.2s						
EGRO	El Granado	90.98	4	P	pP	04 31 51.8	-3.5
	comp=Z,21nm,0.9s						
MORF	Marmelete	91.15	5	*e*P	P	04 31 45.7	-1.0
MORF				*e*S		04 42 18.1	
MORF				*e*S		04 42 18.1	
MORF				AMS	AMS	05 17 46.3	
	comp=N,10μm,22.1s						
SJG	San Juan	91.35	58	PFAKE		04 32 00.0	+12
SJG				LR	LR		
	comp=Z,40μm,20.0s,MS6.9						
ELOJ	Sierra Loja	91.45	1	P	P	04 31 54.0	+5.8
	comp=Z,14nm,0.8s,mb5.3						
CPD	Cerro la Pandu	91.53	58	*e*P	P	04 31 49.3	+0.8
MTP	Monte Pirata	91.67	58	*e*P	P	04 31 47.6	-1.6
ESPR	Espera	91.69	2	P	P	04 31 53.5	+4.2
	comp=Z,50nm,1.0s,mb5.8						
EJIF	Jimena Fronter	92.12	2	P	P	04 31 56.7	+5.5
	comp=Z,47nm,1.2s,mb5.7						
PAYG	Puerto Ayora	92.12	88	*e*P	P	04 31 52.1	+0.8
PAYG				LR	LR		
	comp=Z,16μm,20.0s,MS6.5						
EIL	Elat	92.37	328	*e*P	P	04 31 52.8	+0.4
	comp=Z,965nm,1.6s,mb6.9						
ADE	Adelaide	92.71	211	P	P	04 31 52.2	-1.8
SNZO	South Karori	92.73	182	PFAKE		04 32 00.0	+5.9
SNZO				LR	LR		
	comp=Z,29μm,21.0s,MS6.7						
FORT	Forrest	92.79	221	*e*P	P	04 31 54.2	-0.1
	comp=Z,144nm,1.0s,mb6.4						
TOO	Toolangi	93.18	205	*e*P	P	04 31 56.7	+0.6
	comp=Z,18nm,0.7s,mb5.6						
TOO	Toolangi	93.18	205	*e*P	P	04 31 56.7	+0.6
TOO				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.6						
COCO	West Island	93.56	255	PFAKE		04 32 10.0	+12
COCO				LR	LR		
	comp=Z,5μm,20.0s,MS5.9						
SDV	Santo Domingo	96.43	67	*e*P	P	04 32 10.3	-0.7
SDV				LR	LR		
	comp=Z,14μm,19.0s,MS6.5						
ROSC	El Rosal	97.52	72	LR	LR	05 15 40.3	
	comp=Z,9μm,21.8s,MS6.2,baz=357,slow=35						
TAU	Tasmania Unive	97.78	202	PFAKE		04 32 30.0	+13
TAU				LR	LR		
	comp=Z,9μm,20.0s,MS6.3						
OTAV	Otavalo	98.71	78	*e*P	P	04 32 23.6	+2.3
	comp=Z,32nm,1.6s,mb5.6						
OTAV				LR	LR		
	comp=Z,11μm,21.0s,MS6.3						
NWAO	Narrogin (SRO)	99.31	228	*e*P	P	04 32 32.8	+8.8
NWAO				*e*S		04 43 05.4	
NWAO				pmax	pmax		
	comp=Z,180nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,9μm,20.0s						
NWAO	Narrogin (SRO)	99.31	228	*e*P	P	04 32 32.8	+8.8
	comp=Z,180nm,1.0s,mb6.6						
NWAO				*e*S		04 43 05.4	
NWAO				LR	LR		
	comp=Z,9μm,20.0s,MS6.3						
RPN	Rapa Nui	101.44	119	PFAKE		04 32 40.0	+6.6
RPN				LR	LR		
	comp=Z,7μm,20.0s,MS6.2						
DGAR	Diego Garcia	104.87	277	PFAKE		04 33 00.0	+11
DGAR				LR	LR		
	comp=Z,12μm,20.0s,MS6.4						
NNA	Nana	109.23	85	PFAKE		04 37 20.0	+8.2
NNA				LR	LR		
	comp=Z,18μm,20.0s,MS6.6						
SAML	Samuel	115.15	72	*e*PKP	PKiKP	04 37 22.7	-0.4
SAML				*e*		04 37 32.4	
SAML				LR	LR		
	comp=Z,25μm,22.0s,MS6.8						
TOA0	Torodi Ar. Sit	115.23	355	*e*PKP	PKiKP	04 37 22.6	-0.6
TORD	Torodi Ar. Bea	115.23	355	PKP	PKiKP	04 37 21.1	-2.1
	comp=Z,2.5nm,1.1s,baz=355,slow=4.6,SNR=5.8						
TORD				PP	PP	04 38 16.6	-7.1
	comp=Z,8.6nm,1.2s,baz=20,slow=3.6,SNR=4.1						
TORD				PKKPbc	PKKPbc	04 47 59.8	+2.0
	comp=Z,4.8nm,1.0s,baz=173,slow=2.4,SNR=8.2						
LPAZ	La Paz	117.91	81	PKP	PKPdf	04 37 29.8	+1.4
	comp=Z,1.4nm,0.6s,baz=350,slow=7.2,SNR=5.4						
LPAZ				PKKPab	PKKPab	04 47 51.6	-0.2
	comp=Z,1.5nm,0.7s,baz=64,slow=16,SNR=2.6						
LPAZ	La Paz	117.91	81	*e*PKPdf	PKPdf	04 37 29.8	+1.4
LPAZ				*ep*PKPdf	pPKPdf	04 37 40.0	+2.0
LPAZ				LR	LR		
	comp=Z,16μm,22.0s,MS6.6						
KMBO	Kilima Mbogo	119.37	312	PKP	PKPdf	04 37 32.2	+1.0
	comp=Z,1.4nm,0.7s,baz=34,slow=7.3,SNR=3.8						
KMBO	Kilima Mbogo	119.37	312	*e*PKPdf	PKPdf	04 37 31.9	+0.7
KMBO				*e*		04 37 39.5	
KMBO				LR	LR		
	comp=Z,14μm,19.0s,MS6.6						
DRV	Dumont d'Urvil	121.42	196	PP	PP	04 39 04.0	-2.6
DRV				SP	SP	04 49 01.0	+5.2
DRV				SS	SS	04 55 43.0	+3.7
DBIC	Dimbokro	121.77	2	PKP	PKPdf	04 37 35.2	-0.6
	comp=Z,5.3nm,0.4s,baz=354,slow=2.6,SNR=14						
DBIC	Dimbokro	121.77	2	*e*PKPdf	PKPdf	04 37 35.1	-0.7
DBIC				LR	LR		
	comp=Z,17μm,19.0s,MS6.7						
LVC	Limon Verde	122.18	86	*e*PKPdf	PKPdf	04 37 38.0	+1.4
LVC				LR	LR		
	comp=Z,7μm,20.0s,MS6.3						
LIC	Lamto	122.20	3	*e*PKIKP	PKPdf	04 37 35.4	-1.3
	comp=Z,31nm,0.8s						
LIC				*e*R			
	comp=Z,24μm,19.8s						
LIC	Lamto	122.20	3	*e*PKPdf	PKPdf	04 37 35.4	-1.3
LIC				LR	LR		
	comp=Z,12μm,19.8s,MS6.5						
RCBR	Riachuelo	126.67	43	PFAKE		04 38 00.0	+15
RCBR				LR	LR		
	comp=Z,12μm,20.0s,MS6.5						
CASY	Casey	128.08	208	*e*P	PKPdf	04 37 45.9	-2.0
FCH	Farellones	128.91	96	*e*P	PKPdf	04 37 50.7	+1.2
BDFB	Brasilia	129.21	62	PKP	PKPdf	04 37 49.4	-0.6
	comp=Z,13nm,0.9s,baz=5.1,slow=2.4,SNR=6.3						
BDFB	Brasilia	129.21	62	PKIKP	PKPdf	04 37 49.4	-0.6
BDFB				pmax	pmax		
	comp=Z,130nm,0.9s						
BAO	Brasilia Array	129.21	62	PKPdf	PKPdf	04 37 54.0	+3.9
VNDA	Vanda	129.37	184	PKP	PKPdf	04 37 50.5	+0.2
	comp=Z,4.8nm,0.9s,baz=295,slow=2.7,SNR=9.9						
VNDA				SKPbc		04 41 12.8	
	comp=Z,4.4nm,1.0s,baz=11,slow=5.2,SNR=1.9						
VNDA	Vanda	129.37	184	*e*PKPdf	PKPdf	04 37 50.1	-0.3
VNDA				*e*		04 37 58.8	
VNDA				LR	LR		
	comp=Z,6μm,20.0s,MS6.3						
MDZ	Mendoza	129.50	95	*e*P	PKPdf	04 37 55.8	+5.2
SBA	Scott Base	129.51	183	*e*PKIKP	PKPdf	04 37 48.9	-1.7
SBA				*e*		04 37 59.9	
SBA				MLR	MLR		
	comp=Z,6μm,20.0s,MS6.3						
SBA	Scott Base	129.51	183	*e*PKPdf	PKPdf	04 37 48.9	-1.7
SBA				*e*		04 37 59.9	
SBA				*e*SKP		04 41 19.5	
SBA				LR	LR		
	comp=Z,6μm,20.0s,MS6.3						
CPUP	Villa Florida	132.04	80	PKP	PKPdf	04 37 55.0	-0.4
	comp=Z,7.4nm,0.8s,baz=296,slow=2.8,SNR=9.8						
CPUP				SKPbc	SKPbc	04 41 22.2	+2.7
	comp=Z,39nm,1.2s,baz=302,slow=4.3,SNR=8.2						
CPUP	Villa Florida	132.04	80	*e*PKPdf	PKPdf	04 37 55.1	-0.4
CPUP				*ep*PKPdf	pPKPdf	04 38 04.6	-0.4
CPUP				*e*SKP		04 41 21.9	
CPUP				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
PLCA	Paso Flores	133.51	104	PKP	PKPdf	04 37 59.3	+1.1
	comp=Z,11nm,0.6s,baz=239,slow=2.8,SNR=7.7						
PLCA				SKPbc	SKPbc	04 41 25.9	+1.4
	comp=Z,11nm,1.0s,baz=303,slow=4.8,SNR=4.9						
PLCA	Paso Flores	133.51	104	*e*PKPdf	PKPdf	04 37 58.9	+0.7
PLCA				*e*SKP		04 41 24.7	
PLCA				LR	LR		
	comp=Z,13μm,19.0s,MS6.7						
MIR	Mirnyy	133.83	213	*d i*PKIKP	PKPdf	04 38 02.5	+3.7
MIR				pmax	pmax		
	comp=Z,400nm,1.5s						
ASCN	Ascension	135.28	16	PFAKE		04 38 10.0	+8.5
ASCN				LR	LR		
	comp=Z,15μm,20.0s,MS6.7						
LSZ	Lusaka	135.97	314	*e*PKIKP	PKPdf	04 38 01.7	-1.1
LSZ				MLR	MLR		
	comp=Z,19μm,20.0s,MS6.8						
TRQA	Tornquist	137.12	95	*e*PKPdf	PKPdf	04 38 03.5	-1.4
TRQA				*e*SKP		04 41 39.4	
TRQA				LR	LR		
	comp=Z,14μm,20.0s,MS6.7						
CAM4	Nova Friburgo	137.63	61	*e*P	PKPdf	04 38 04.6	-1.3
CAM4				*i*		04 38 09.2	
CAM4				*i*		04 38 12.9	
CAM4				*i*		04 38 16.4	
CAM4				*i*		04 38 21.1	
QSPA	South Pole Qui	141.52	180	*e*PKPpre		04 38 07.5	
QSPA				*e*PKPdf	PKPdf	04 38 12.8	-0.

mb4.6/24, Error ellipse: s-maj=21.1km s-min=6.8km az=5.2

ISC 14 04:26:53.7±1.2, 519N±01×17687E±007, h53km±9km, n65, σ1°25/56, mb4.6/24, 1C, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.88**	**296**	P	**Pn**	**04 27 23.0**	**-0.4**
SMY				S	**Sn**	**04 27 46.0**	**+0.1**
ATKA	**Atka Island**	**5.52**	**84**	P	**Pn**	**04 28 12.4**	**-0.9**
AKUT	**Akutan**	**10.69**	**71**	Pn	**Pn**	**04 29 25.6**	**+1.5**
TNA	**Tin City**	**15.71**	**24**	*e*Pn	**Pn**	**04 30 35.3**	**+3.7**
BILL	**Bilibino**	**16.96**	**346**	⇑*i*P	**Pn**	**04 30 50.4**	**+3.1**
BILL				pmax	pmax		
	comp=Z,85nm,0.9s						
KDAK	**Kodiak Island**	**18.43**	**59**	P	**Pn**	**04 31 03.8**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=280,slow=7.7,SNR=4.9						
SML	**Sawmill**	**21.17**	**49**	*e*P	**P**	**04 31 33.9**	**-0.6**
DIV	**Divide**	**22.27**	**51**	*e*P	**P**	**04 31 46.6**	**+0.4**
	comp=Z,105nm,1.1s,mb5.2						
MENT	**Mentasta**	**23.50**	**47**	*e*P	**P**	**04 31 58.6**	**-0.2**
ASAJ	**Asahikawa**	**24.04**	**265**	P	**P**	**04 32 06.3**	**+2.6**
	comp=Z,17nm,0.8s,mb4.5,baz=60,slow=5.0,SNR=5.1						
ASAJ	**Asahikawa**	**24.04**	**265**	P	**P**	**04 32 06.3**	**+2.6**
ASAJ				pmax	pmax		
	comp=Z,17nm,0.8s						
DAWY	**Dawson**	**25.59**	**45**	*e*P	**P**	**04 32 19.4**	**+1.6**
SKAG	**Skagway**	**27.44**	**55**	*e*P	**P**	**04 32 37.0**	**+2.5**
MDJ	**Mudanjiang**	**31.82**	**276**	P	**P**	**04 33 09.3**	**-4.0**
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,10μm,13.3s						
YKA	**Yellowknife Ar**	**36.81**	**46**	P	**P**	**04 33 56.7**	**+0.3**
	comp=Z,7.5nm,0.8s,mb4.6,baz=283,slow=8.3,SNR=10						
YKA	**Yellowknife Ar**	**36.81**	**46**	P	**P**	**04 33 56.7**	**+0.3**
YKA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YKA	**Yellowknife Ar**	**36.81**	**46**	P	**P**	**04 33 56.7**	**+0.3**
EDM	**Edmonton**	**40.88**	**60**	*e*P	**P**	**04 34 29.6**	**-0.9**
SONM	**Songino Array**	**43.97**	**294**	P	**P**	**04 34 57.0**	**+1.4**
	comp=Z,2.2nm,0.7s,mb4.0,baz=60,slow=7.9,SNR=3.8						
SONM				PcP	PcP	04 36 42.2	+1.6
	comp=Z,1.9nm,0.7s,baz=58,slow=3.0,SNR=4.5						
SONM	**Songino Array**	**43.97**	**294**	P	**P**	**04 34 57.0**	**+1.4**
SONM						04 36 42.2	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**44.94**	**283**	*e*P	**P**	**04 35 01.0**	**-2.3**
HHC				AP	pP	04 35 05.5	-12
HHC				XP	sP	04 35 07.9	-16
HHC				PCP	PcP	04 36 42.5	-1.4
HHC				PP	PP	04 36 46.8	-2.3
HHC				PCS	PcS	04 40 34.8	-2.8
HHC				SCP	ScP	04 40 36.0	+4.2
HHC				S	**S**	**04 41 38.5**	**+0.9**
HHC				XS	sS	04 41 46.3	-15
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
ELK	**Elko**	**46.56**	**76**	*e*P	**P**	**04 35 15.9**	**-0.3**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ELK	**Elko**	**46.56**	**76**	*e*P	**P**	**04 35 15.8**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.1						
DUG	**Dugway**	**48.36**	**75**	*e*P	**P**	**04 35 28.5**	**-1.6**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
DUG	**Dugway**	**48.36**	**75**	*e*P	**P**	**04 35 28.5**	**-1.5**
	comp=Z,9.4nm,1.1s,mb4.7						
PDAR	**Pinedale Array**	**48.69**	**70**	P	**P**	**04 35 31.7**	**-0.9**
	comp=Z,0.9nm,0.7s,mb3.9,baz=288,slow=6.5,SNR=3.4						
LZH	**Lanzhou**	**52.63**	**283**	*e*P	**P**	**04 36 00.4**	**-1.9**
LZH				AP	pP	04 36 04.9	-12
LZH				XP	sP	04 36 07.5	-15
LZH				PP	PP	04 38 00.8	-1.0
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
SUMG	**Summit**	**53.38**	**13**	*e*P	**P**	**04 36 08.2**	**+0.4**
	comp=Z,27nm,1.1s,mb5.1						
CD2	**Chengdu**	**56.22**	**278**	*e*P	**P**	**04 36 29.4**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**56.66**	**311**	*e*P	**P**	**04 36 31.8**	**+0.3**
KURK				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
KURK	**Kurchatov**	**56.66**	**311**	*e*P	**P**	**04 36 31.8**	**+0.3**
	comp=Z,20nm,1.0s,mb5.1						
WMQ	**Urumqi**	**56.75**	**300**	*e*P	**P**	**04 36 31.3**	**-0.9**
MKAR	**Makanchi Array**	**57.55**	**306**	P	**P**	**04 36 37.1**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.2,baz=56,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**57.55**	**306**	P	**P**	**04 36 37.2**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHKZ	**Chkalovo**	**58.13**	**318**	*e*P	**P**	**04 36 41.3**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.0						
CHKZ	**Chkalovo**	**58.13**	**318**	*e*P	**P**	**04 36 41.3**	**-0.6**
	comp=Z,23nm,1.4s,mb5.0						
MNTX	**Cornudas Mount**	**58.50**	**78**	*e*P	**P**	**04 36 44.9**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**58.69**	**317**	P	**P**	**04 36 45.0**	**-0.7**
	comp=Z,6.1nm,0.7s,mb4.8,baz=53,slow=7.1,SNR=7.2						
BVAR	**Borovoye Array**	**58.69**	**317**	P	**P**	**04 36 45.0**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRVK	**Borovoye**	**58.71**	**317**	*e*P	**P**	**04 36 46.2**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BRVK	**Borovoye**	**58.71**	**317**	*e*P	**P**	**04 36 46.2**	**+0.3**
	comp=Z,4.2nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**59.32**	**318**	*e*P	**P**	**04 36 50.0**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**59.32**	**318**	*e*P	**P**	**04 36 50.0**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.6						
KMI	**Kunming**	**60.98**	**274**	P	**P**	**04 36 59.8**	**-1.7**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.7						
AAK	**Ala-Archa**	**64.41**	**307**	*e*P	**P**	**04 37 22.1**	**-2.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**64.41**	**307**	*e*P	**P**	**04 37 22.1**	**-2.2**
	comp=Z,6.4nm,0.9s,mb4.7						
NOA	**NORSAR Array B**	**66.80**	**352**	P	**P**	**04 37 39.8**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.2,baz=7.7,slow=6.3,SNR=3.6						
NOA	**NORSAR Array B**	**66.80**	**352**	P	**P**	**04 37 39.8**	**+0.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HYB	**Hyderabad**	**81.48**	**287**	*i* P	**P**	**04 39 07.0**	**+1.7**
HYB	**Hyderabad**	**81.48**	**287**	*e*P	**P**	**04 39 07.0**	**+1.7**
ASAR	**Alice Springs**	**84.14**	**219**	P	**P**	**04 39 20.8**	**+1.7**
	comp=Z,1.7nm,0.7s,mb4.3,baz=20,slow=5.3,SNR=6.3						
ASAR	**Alice Springs**	**84.14**	**219**	P	**P**	**04 39 20.8**	**+1.7**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**89.00**	**209**	P	**P**	**04 39 44.0**	**+1.3**
	comp=Z,5.7nm,1.1s,mb4.8,baz=335,slow=6.4,SNR=4.7						
STKA	**Stephens Creek**	**89.00**	**209**	*e*P	**P**	**04 39 43.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**115.06**	**355**	PKP	PKiKP	04 45 28.9	+0.1
	comp=Z,0.3nm,0.5s,baz=9,2,slow=2.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**115.06**	**355**	PKP	PKiKP	04 45 28.9	+0.1
SBA	**Scott Base**	**129.66**	**183**	*e*PKIKP	PKPdf	04 45 50.4	-6.4
PLCA	**Paso Flores**	**133.72**	**104**	PKP	PKPdf	04 46 05.4	+1.0
	comp=Z,1.3nm,0.8s,baz=284,slow=8.3,SNR=3.0						
PLCA	**Paso Flores**	**133.72**	**104**	PKIKP	PKPdf	04 46 05.4	+0.9
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MAW	**Mawson**	**145.26**	**218**	PKPbc	PKPbc	04 46 25.3	+0.1
	comp=Z,2.3nm,0.4s,baz=73,slow=4.1,SNR=6.7						
MAW	**Mawson**	**145.26**	**218**	PKIKP	PKPdf	04 46 25.3	-0.1
MAW				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LBTB	**Lobatse**	**145.37**	**310**	PKPbc	PKPbc	04 46 27.1	+1.5
	comp=Z,13nm,0.7s,baz=12,slow=2.0,SNR=15						
LBTB	**Lobatse**	**145.37**	**310**	*e*P	PKPbc	04 46 26.1	+0.5
BOSA	**Boshof**	**148.54**	**307**	PKPbc	PKPbc	04 46 35.8	+1.2
	comp=Z,3.2nm,0.6s,baz=111,slow=15,SNR=8.1						
BOSA	**Boshof**	**148.54**	**307**	PKP2	PKPab	04 46 35.8	-2.3
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						

IDC 14 04:29:40.8±1.0, 5206N×17697E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/23, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=34.9km s-min=21.6km az=149.0

ISCJB 14 04:29:43.3±3.3, 52.1N±0.1×177.11E±0.10, h29km±25km, mb4.1/7, Error ellipse: s-maj=21.5km s-min=7.8km az=38.0.

NEIC 14 04:29:43.1, 51.95N×176.95E, h24km, ML3.8(AEIC), After AEIC.

ISC 14 04:29:43.4±4.4, 520N±01×1771E±01, h20km±28km, n13, σ0°72/14, mb4.1/7, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.53**	**114**	P	**Pn**	**04 30 09.6**	**0.0**
AMKA				S	**Sn**	**04 30 28.1**	**-0.8**
SMY	**Shemya**	**1.95**	**292**	P	**Pn**	**04 30 14.3**	**-1.1**
SMY				S	**Sn**	**04 30 39.8**	**+0.5**
ATKA	**Atka Island**	**5.39**	**85**	P	**Pn**	**04 31 03.8**	**+1.1**
KDAK	**Kodiak Island**	**18.28**	**60**	P	**Pn**	**04 33 55.4**	**-0.3**
	0.4nm,0.3s,baz=300,slow=8.1,SNR=3.5						
YKA	**Yellowknife Ar**	**36.65**	**46**	P	**P**	**04 36 48.9**	**+0.4**
	3.6nm,0.7s,mb4.3,baz=285,slow=8.4,SNR=7.6						
YKA	**Yellowknife Ar**	**36.65**	**46**	P	**P**	**04 36 48.9**	**+0.4**
SONM	**Songino Array**	**44.05**	**294**	P	**P**	**04 37 50.5**	**+0.8**
	0.9nm,0.7s,mb3.6,baz=53,slow=7.3,SNR=2.5						
MKAR	**Makanchi Array**	**57.59**	**306**	P	**P**	**04 39 31.1**	**-0.7**
	0.7nm,0.5s,mb3.9,baz=50,slow=8.4,SNR=3.2						
BVAR	**Borovoye Array**	**58.70**	**317**	P	**P**	**04 39 38.5**	**-1.1**
	2.4nm,0.5s,mb4.5,baz=54,slow=6.1,SNR=7.1						
SCHQ	**Schefferville**	**61.05**	**36**	P	**P**	**04 39 56.0**	**+0.2**
	2.0nm,0.7s,mb4.4,baz=299,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**80.76**	**220**	P	**P**	**04 41 55.5**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=31,slow=5.8,SNR=8.8						
ASAR	**Alice Springs**	**84.29**	**219**	P	**P**	**04 42 14.7**	**+0.9**
	0.5nm,0.6s,mb3.8,baz=22,slow=5.3,SNR=5.4						
LBTB	**Lobatse**	**145.41**	**310**	PKPbc	PKPbc	04 49 19.5	-0.3
	3.8nm,0.6s,baz=10,slow=1.9,SNR=9.8						

ISCJB 14 04:32:38.6±0.7, 520N±02×177.1E±0.1, h13km, mb3.8/5, Error ellipse: s-maj=28.7km s-min=6.3km az=42.8

NEIC 14 04:32:40.4, 51.90N×177.06E, h13km, ML3.6(AEIC), After AEIC.

IDC 14 04:32:40.3±1.2, 5189N×176.03E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.8/5, Error ellipse: s-maj=39.3km s-min=29.1km az=126.0

ISC 14 04:32:39.5±4.7, 519N±02×1771E±02, h12km±30km, n9, σ0°77/10, mb3.8/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.49**	**111**	P	**Pn**	**04 33 04.7**	**-1.3**
AMKA				S	**Sn**	**04 33 25.5**	**+0.2**
SMY	**Shemya**	**2.00**	**295**	P	**Pn**	**04 33 13.5**	**+0.4**
SMY				S	**Sn**	**04 33 38.2**	**+0.2**
ATKA	**Atka Island**	**5.38**	**84**	P	**Pn**	**04 34 00.8**	**+1.3**
YKA	**Yellowknife Ar**	**36.70**	**46**	P	**P**	**04 39 52.9**	**+6.6**
	0.5nm,0.6s,mb3.5,baz=289,slow=8.5,SNR=3.2						
MKAR	**Makanchi Array**	**57.66**	**306**	P	**P**	**04 42 28.8**	**-0.8**
	0.4nm,0.6s,mb3.6,baz=55,slow=6.3,SNR=3.6						
BVAR	**Borovoye Array**	**58.78**	**317**	P	**P**	**04 42 36.7**	**-0.8**
	1.2nm,0.4s,mb4.3,baz=55,slow=6.9,SNR=7.0						
WRA	**Warramunga Arr**	**80.71**	**220**	P	**P**	**04 44 52.7**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=30,slow=5.8,SNR=8.4						
ASAR	**Alice Springs**	**84.23**	**219**	P	**P**	**04 45 11.6**	**+0.7**
	0.5nm,0.5s,mb3.9,baz=26,slow=5.5,SNR=5.1						
LBTB	**Lobatse**	**145.47**	**310**	PKP	PKPdf	04 52 17.8	+0.4
	3.9nm,0.7s,baz=29,slow=1.9,SNR=6.1						

NEIC 14 04:33:31.4±1.4, 51.68N×176.32E, h10km, mb4.2/1, Error ellipse: s-maj=33.5km s-min=10.5km az=189.0

IDC 14 04:33:31.4±3.4, 5206N×176.29E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/21, mbtmp3.8/4, Error ellipse: s-maj=112.6km s-min=29.6km az=179.0

ISCJB 14 04:33:37.8±5.5, 519N±07×176.3E±02, h75km±27km, mb3.9/4, Error ellipse: s-maj=116.4km s-min=22.0km az=173.8

ISC 14 04:33:38.2±5.4, 519N±07×1764E±02, h61km±27km, n9, σ1°30/8, mb3.9/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.62**	**302**	*e*Pg	**Pn**	**04 34 04.7**	**+0.2**
KDAK	**Kodiak Island**	**18.73**	**59**	*e*P	**Pn**	**04 37 50.1**	**-2.7**
	12nm,0.8s						
SML	**Sawmill**	**21.44**	**49**	*e*P	**P**	**04 38 22.2**	**+0.9**
DAWY	**Dawson**	**25.84**	**45**	*e*P	**P**	**04 39 04.4**	**+0.6**
YKA	**Yellowknife Ar**	**37.06**	**46**	P	**P**	**04 40 42.1**	**-0.2**
	1.9nm,0.8s,mb4.0,baz=284,slow=8.0,SNR=7.0						
PDAR	**Pinedale Array**	**49.00**	**70**	P	**P**	**04 42 19.2**	**+0.5**
	0.4nm,0.5s,mb3.7,baz=303,slow=3.9,SNR=3.4						
MKAR	**Makanchi Array**	**57.31**	**305**	P	**P**	**04 43 20.0**	**+0.3**
	0.5nm,0.5s,mb3.8,baz=48,slow=8.5,SNR=3.8						
BVAR	**Borovoye Array**	**58.50**	**317**	P	**P**	**04 43 27.1**	**-1.0**
	1.2nm,0.5s,mb4.2,baz=50,slow=7.3,SNR=4.5						
LBTB	**Lobatse**	**145.15**	**309**	PKPbc	PKPbc	04 53 09.8	+1.4
	3.1nm,0.7s,baz=41,slow=9.2,SNR=4.3						

BJI 14 04:34:58.6, 52.12N×177.04E, h7km, mB4.6, mb5.1, Ms4.7, Msz4.6

IDC 14 04:34:59.7±0.6, 5199N×177.04E, h0km, mb4.4/18, mb1 4.6/19, mb1mx4.5/26, mbtmp4.5/19, ML4.5/1, Error ellipse: s-maj=20.9km s-min=13.7km az=168.0

ISCJB 14 04:35:01.6±0.2, 5193N±005×177.08E±004, h22km, mb4.7/67, Error ellipse: s-maj=7.4km s-min=3.6km az=179.8

NEIC 14 04:35:01.7, 51.97N×177.08E, h5km, mb4.7/40, ML4.3(AEIC), After AEIC.

MOS 14 04:35:03.4±1.3, 5198N×177.08E, h33km, mb4.7/33, Error ellipse: s-maj=11.3km s-min=8.4km az=86.0

ISC 14 04:35:03.4±0.2, 5190N±005×17707E±004, h23km, h23km±2.0km: pP-P, n156, σ1°09/149, mb4.7/67, 4C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.48**	**110**	P	**Pn**	**04 35 28.8**	**+0.1**
AMKA				S	**Sn**	**04 35 45.9**	**-1.5**
SMY	**Shemya**	**2.00**	**296**	P	**Pn**	**04 35 35.7**	**-0.1**
SMY				S	**Sn**	**04 36 00.8**	**+0.7**
ATKA	**Atka Island**	**5.40**	**83**	P	**Pn**	**04 36 22.1**	**-0.3**
NIKO	**Nikolski**	**8.67**	**77**	P	**Pn**	**04 37 09.9**	**+2.6**
SPIA	**Saint Paul Isl**	**9.06**	**49**	P	**Pn**	**04 37 12.7**	**0.0**
AKUT	**Akutan**	**10.57**	**71**	*e*Pn	**Pn**	**04 37 34.9**	**+1.4**
PET	**Petropavlovsk**	**11.29**	**283**	*e*P	**Pn**	**04 37 43.0**	**-0.3**
PET				*e*S	**Sn**	**04 39 45.5**	**-3.3**
PET				pmax	pmax		
	comp=Z,41nm,1.0s						
PET				smax			
	comp=E,162nm,0.7s						
PET				MLR	MLR		
	comp=Z,16μm,13.0s						
GAMB	**Gambell**	**13.29**	**22**	*e*Pn	**Pn**	**04 38 10.9**	**+0.4**
TNA	**Tin City**	**15.68**	**23**	P	**Pn**	**04 38 43.9**	**+1.1**
	comp=Z,22nm,1.0s						
BILL	**Bilibino**	**17.02**	**346**	*e*P	**Pn**	**04 39 01.7**	**+1.9**
BILL				pmax	pmax		
	comp=Z,131nm,1.3s						
SVW2	**Sparrevohn**	**17.55**	**48**	*e*P	**Pn**	**04 39 07.9**	**+1.5**
TTA	**Tatalina**	**18.06**	**42**	*e*P	**Pn**	**04 39 14.7**	**+2.0**
KDAK	**Kodiak Island**	**18.33**	**59**	P	**Pn**	**04 39 15.2**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=293,slow=6.6,SNR=8.0						
PMR	**Palmer**	**20.68**	**49**	*e*P	**P**	**04 39 41.4**	**-0.2**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PMR	**Palmer**	**20.68**	**49**	*e*P	**P**	**04 39 41.4**	**-0.2**
	comp=Z,6.2nm,0.7s						
SML	**Sawmill**	**21.09**	**49**	*e*P	**P**	**04 39 45.4**	**-0.7**
MCK	**McKinley**	**21.32**	**43**	*e*P	**P**	**04 39 49.0**	**+0.4**
MCK				pmax	pmax		
	comp=Z,88nm,1.2s,mb5.0						
MCK	**McKinley**	**21.32**	**43**	*e*P	**P**	**04 39 49.0**	**+0.4**
	comp=Z,9μm,1.2s						
COLA	**College**	**22.14**	**41**	*e*P	**P**	**04 39 58.9**	**+1.6**
DIV	**Divide**	**22.19**	**51**	*e*P	**P**	**04 39 58.8**	**+1.0**
	comp=Z,252nm,1.0s,mb5.6						
YSS	**Yuzh-Sakhalins**	**22.72**	**271**	⇓*e*P	**P**	**04 40 06.0**	**+2.4**
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
MENT	**Mentasta**	**23.42**	**47**	*e*P	**P**	**04 40 11.8**	**+0.9**
DAWY	**Dawson**	**25.51**	**45**	*e*P	**P**	**04 40 30.6**	**+0.5**
HABR	**Khabarovsk**	**26.85**	**279**	*e*P	**P**	**04 40 35.2**	**-6.9**
HABR				S	**S**	**04 45 10.1**	**-7.2**
SKAG	**Skagway**	**27.35**	**55**	*e*P	**P**	**04 40 49.5**	**+2.9**
	comp=Z,6.2nm,0.7s,mb4.2						
INK	**Inuvik**	**28.53**	**36**	P	**P**	**04 40 57.3**	**+0.2**
	comp=Z,4.8nm,0.8s,mb4.3,baz=230,slow=14,SNR=6.7						
INK	**Inuvik**	**28.53**	**36**	P	**P**	**04 40 57.3**	**+0.1**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
INK	**Inuvik**	**28.53**	**36**	*e*P	**P**	**04 40 57.5**	**+0.4**
	comp=Z,44nm,1.7s,mb4.9						
DLBC	**Dease Lake**	**30.21**	**56**	*e*P	**P**	**04 41 13.9**	**+1.8**
MDJ	**Mudanjiang**	**31.95**	**276**	P	**P**	**04 41 25.3**	**-2.1**
MDJ				AMB	AMB		
	comp=Z,52μm,13.5s						
CN2	**Changchun**	**34.93**	**277**	*e*P	**P**	**04 41 54.6**	**+1.3**
YKA	**Yellowknife Ar**	**36.73**	**46**	P	**P**	**04 42 08.3**	**-0.5**
	comp=Z,19nm,0.9s,mb4.9,baz=286,slow=8.4,SNR=50						
YKA	**Yellowknife Ar**	**36.73**	**46**	P	**P**	**04 42 08.3**	**-0.5**
YKA				pmax	pmax		
	comp=Z,19nm,0.9s						
SNY	**Shenyang**	**37.16**	**276**	⇑P	**P**	**04 42 12.8**	**+0.4**
SNY				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.4						
EDM	**Edmonton**	**40.78**	**60**	*e*P	**P**	**04 42 42.5**	**-0.3**
NEW	**Newport**	**41.09**	**68**	P	**P**	**04 42 43.6**	**-1.7**
	comp=Z,5.3nm,0.9s,mb4.2,baz=295,slow=6.4,SNR=6.5						
NEW	**Newport**	**41.09**	**68**	P	**P**	**04 42 43.6**	**-1.7**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YBH	**Yreka Blue Hor**	**41.33**	**80**	P	**P**	**04 42 47.1**	**-0.2**
	comp=Z,2.5nm,0.9s,mb3.8,baz=282,slow=4.9,SNR=5.7						
YBH	**Yreka Blue Hor**	**41.33**	**80**	P	**P**	**04 42 47.1**	**-0.2**
YBH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YBH	**Yreka Blue Hor**	**41.33**	**80**	*e*P	**P**	**04 42 47.8**	**+0.6**
	comp=Z,4.8nm,1.2s,mb4.0						
WALA	**Waterton Lakes**	**42.51**	**65**	*e*P	**P**	**04 42 56.5**	**-0.4**
	comp=Z,8.0nm,1.0s,mb4.4						
HOPS	**Hopland**	**42.75**	**83**	*e*P	**P**	**04 42 59.1**	**+0.3**
	comp=Z,20nm,1.3s,mb4.7						
NSHM	**Saint Helena R**	**43.32**	**83**	*e*P	**P**	**04 43 03.4**	**-0.1**
MSO	**Missoula**	**43.68**	**68**	*e*P	**P**	**04 43 06.0**	**-0.4**
	comp=Z,4.0nm,1.1s,mb4.1						
SONM	**Songino Array**	**44.10**	**294**	P	**P**	**04 43 08.7**	**-1.0**
	comp=Z,4.4nm,0.8s,mb4.2,baz=60,slow=7.8,SNR=5.9						
SONM				PcP	PcP	04 44 54.8	+0.1
	comp=Z,3.5nm,0.8s,baz=39,slow=2.8,SNR=6.6						
SONM	**Songino Array**	**44.10**	**294**	P	**P**	**04 43 08.7**	**-1.0**
SONM						04 44 54.8	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**45.07**	**283**	*e*P	**P**	**04 43 16.4**	**-1.1**
HHC				AP	pP	04 43 20.5	-4.0
HHC				XP	sP	04 43 23.5	-3.9
HHC				PCP	PcP	04 44 57.4	-0.6
HHC				PP	PP	04 45 02.1	-0.8
HHC				PCS	PcS	04 48 50.5	-1.3
HHC				SCP	ScP	04 48 52.3	+3.2
HHC				S	**S**	**04 49 52.8**	**-2.3**
HHC				SS	SS	04 53 04.4	-13
HHC				SCS	ScS	04 53 09.8	-3.4
HHC				AMB	AMB		
	comp=Z,60nm,1.4s,mb5.2						
HLID	**Hailey**	**45.25**	**72**	*e*P	**P**	**04 43 18.7**	**-0.2**
	comp=Z,4.7nm,1.3s,mb4.2						
SSE	**Sheshan**	**45.45**	**265**	P	**P**	**04 43 18.5**	**-2.0**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
BOZ	**Bozeman (W)**	**45.67**	**68**	*e*P	**P**	**04 43 21.4**	**-0.8**
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BOZ	**Bozeman (W)**	**45.67**	**68**	*e*P	**P**	**04 43 21.4**	**-0.9**
	comp=Z,7.0nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**46.02**	**80**	P	**P**	**04 43 25.2**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=301,slow=6.3,SNR=8.5						
NVAR	**Mina Array Bea**	**46.02**	**80**	P	**P**	**04 43 25.2**	**+0.2**
MNV	**Mina**	**46.11**	**80**	*e*P	**P**	**04 43 26.0**	**+0.3**
MNV				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
MNV	**Mina**	**46.11**	**80**	*e*P	**P**	**04 43 25.9**	**+0.2**
	comp=Z,6.1nm,1.3s,mb4.4						
NJ2	**Nanjing**	**46.24**	**268**	*e*P	**P**	**04 43 28.5**	**+1.8**
NJ2				PCP	PcP	04 45 01.1	-1.0
NJ2				S	**S**	**04 50 13.0**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
ELK	**Elko**	**46.44**	**76**	*e*P	**P**	**04 43 27.9**	**-0.4**
ELK				pmax	pmax

CHKZ epP pP 04 45 00.7 -2.4
MNTX Cornudas Mount 58.38 78 eP P 04 44 56.5 -0.3
comp=Z,3.5nm,0.9s,mb4.4
MNTX epP pP 04 45 04.2 +0.1
BVAR Borovoye Array 58.79 317 P P 04 44 59.0 -0.7
comp=Z,8.8nm,0.7s,mb4.9,baz=53,slow=7.8,SNR=25
BVAR Borovoye Array 58.79 317 P P 04 44 59.0 -0.7
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 58.81 318 eP P 04 44 59.5 -0.4
BRVK pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
BRVK Borovoye 58.81 318 eP P 04 44 59.5 -0.4
comp=Z,3.1nm,0.5s,mb4.6
ZRNK Zerenda 59.42 318 eP P 04 45 03.6 -0.5
ZRNK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZRNK Zerenda 59.42 318 eP P 04 45 03.6 -0.5
comp=Z,9.3nm,0.8s,mb4.9
ARU Arti 60.77 326 ⇓iP P 04 45 12.8 -0.5
ARU pmax pmax
comp=Z,20nm,1.3s,mb5.1
ARU Arti 60.77 326 eP P 04 45 12.7 -0.6
comp=Z,6.8nm,0.4s,mb5.1
KMI Kunming 61.11 275 P P 04 45 16.8 +1.1
KMI AP pP 04 45 25.3 +2.4
KMI XP sP 04 45 29.6 +3.9
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
SCHQ Schefferville 61.15 36 P P 04 45 15.5 -0.4
comp=Z,11nm,0.9s,mb5.0,baz=328,slow=6.2,SNR=12
SCHQ Schefferville 61.15 36 eP P 04 45 15.2 -0.7
comp=Z,22nm,1.1s,mb5.2
JOF Joensuu 62.39 343 ep **P 04 45 21.9 -2.4**
MIAR Mount Ida 63.33 67 eP P 04 45 30.0 -0.5
MIAR pmax pmax
comp=Z,24nm,1.5s,mb5.1
MIAR Mount Ida 63.33 67 eP P 04 45 30.0 -0.5
comp=Z,24nm,1.5s,mb5.1
KAF Kangasniemi 63.99 345 ep **P 04 45 28.2 -6.7**
AAK Ala-Archa 64.52 307⇑eP P 04 45 37.5 -0.9
AAK pmax pmax
comp=Z,11nm,1.1s,mb4.8
AAK Ala-Archa 64.52 307 eP P 04 45 36.2 -2.1
comp=Z,8.9nm,0.8s,mb4.8
FINES FINESS Array B 64.66 345 P P 04 45 37.5 -1.8
comp=Z,2.7nm,0.9s,mb4.3,baz=41,slow=9.2,SNR=5.8
FINES FINESS Array B 64.66 345 P P 04 45 37.5 -1.7
FINES pmax pmax
comp=Z,30nm,0.9s
LSA Lhasa 64.83 286 eP P 04 45 40.9 +0.5
LSA e*PP pP 04 45 47.6 -0.1
LSA pmax pmax
comp=Z,20nm,0.8s,mb5.2
LSA Lhasa 64.83 286 eP P 04 45 40.9 +0.5
comp=Z,20nm,0.8s,mb5.2
LSA epP pP 04 45 47.5 -0.2
NB2 NORSAR Subarra 66.84 353 P P 04 45 52.6 -0.7
comp=Z,6.1nm,1.0s,mb4.6,baz=9.4,slow=6.5
NB2 NORSAR Subarra 66.84 353 P P 04 45 52.6 -0.7
NB2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
NOA NORSAR Array B 66.84 353 P P 04 45 52.6 -0.7
comp=Z,2.0nm,0.9s,mb4.2,baz=11,slow=6.6,SNR=3.0
NOA NORSAR Array B 66.84 353 P P 04 45 52.7 -0.6
NOA pmax pmax
comp=Z,2.0nm,0.9s
SSPA Standing Stone 67.24 53 eP P 04 45 54.1 -1.8
comp=Z,6.5nm,0.9s,mb4.7
OBN Obninsk 68.42 337 P P 04 46 03.0 -0.3
OBN pmax pmax
comp=Z,42nm,2.1s,mb5.1
GUN Gumba 69.26 289 eP P 04 46 09.5 +1.0
comp=Z,163nm,0.9s,mb6.0
JIRN Jiri 69.27 289 eP P 04 46 09.5 +0.9
comp=Z,96nm,0.7s,mb5.8
KKN Kakani 69.70 289 eP P 04 46 12.1 +0.8
comp=Z,51nm,0.8s,mb5.5
KKN Kakani 69.70 289 eP P 04 46 12.1 +0.8
KKN pmax pmax
comp=Z,51nm,0.8s,mb5.5
PKI Pulchoki 69.79 289 eP P 04 46 12.5 +0.7
comp=Z,86nm,1.1s,mb5.6
PKI Pulchoki 69.79 289 eP P 04 46 12.5 +0.7
PKI pmax pmax
comp=Z,86nm,1.1s,mb5.6
DMN Daman 69.94 289 eP P 04 46 13.7 +1.0
comp=Z,60nm,0.8s,mb5.5
AKASG Malin Array Be 74.20 339 P P 04 46 36.5 -1.8
comp=Z,2.5nm,0.6s,mb4.3,baz=22,slow=5.8,SNR=16
AKASG Malin Array Be 74.20 339 P P 04 46 36.5 -1.7
AKASG pmax pmax
comp=Z,3.0nm,0.6s
KAKA Kakadu 75.01 225 eP P 04 46 43.7 +0.8
comp=Z,22nm,0.6s,mb5.3
GOF Gofitskoye 75.61 328 eP P 04 46 45.7 -0.7
KIV Kislovodsk 76.71 328 eP P 04 46 48.7 -3.9
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
STHS Stebnicka Huta 76.98 344 eP P 04 46 52.6 -1.6
STHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
STHS Stebnicka Huta 76.98 344 eP P 04 46 52.6 -1.6
comp=Z,5.7nm,1.2s,mb4.4
KECS Kecovo 78.01 344 eP P 04 47 00.2 +0.3
KECS Kecovo 78.01 344 eP P 04 47 00.3 +0.4
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KECS Kecovo 78.01 344 eP P 04 47 00.3 +0.4
comp=Z,2.0nm,0.9s,mb4.0
VYHS Vyhne 78.27 345 eP P 04 47 02.0 +0.7
WB2 Warramunga Arr 80.67 220 eP P 04 47 14.9 +0.5
WRA Warramunga Arr 80.68 220 P P 04 47 14.3 -0.2
comp=Z,4.7nm,0.8s,mb4.5,baz=30,slow=5.8,SNR=16
WRA Warramunga Arr 80.68 220 P P 04 47 14.3 -0.2
WRA pmax pmax
comp=Z,5.0nm,0.8s
FITZ Fitzroy Crossi 82.82 229 eP P 04 47 26.9 +1.1
comp=Z,18nm,0.8s,mb5.2
MALT Malatya 83.18 328 eP P 04 47 29.6 +2.0
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MALT Malatya 83.18 328 eP P 04 47 29.6 +2.0
comp=Z,1.9nm,0.8s,mb4.2
BRTR Keskin Array B 83.34 332 P P 04 47 28.6 +0.1
comp=Z,2.6nm,1.1s,mb4.2,baz=28,slow=6.5,SNR=6.2
BRTR Keskin Array B 83.34 332 P P 04 47 28.6 +0.1
BRTR pmax pmax
comp=Z,3.0nm,1.1s
AS31 Alice Springs 84.20 219 eP P 04 47 33.8 +0.9
ASAR Alice Springs 84.20 219 P P 04 47 34.2 +1.3
comp=Z,3.0nm,0.6s,mb4.6,baz=24,slow=4.8,SNR=12
ASAR Alice Springs 84.20 219 P P 04 47 34.2 +1.3
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASPA Alice Springs 84.20 219 eP P 04 47 33.8 +0.9
TORD Torodi Ar. Bea 115.10 355 PKP PKiKP 04 53 41.5 -1.1
comp=Z,0.8nm,0.9s,baz=5.7,slow=2.1,SNR=4.4
BDFB Brasilia 129.18 62 PKP PKPdf 04 54 08.8 -0.8
comp=Z,1.3nm,0.4s,baz=314,slow=5.2,SNR=3.5
BDFB Brasilia 129.18 62 PKIKP PKPdf 04 54 08.8 -0.8
BDFB pmax pmax
comp=Z,1.0nm,0.4s
CPUP Villa Florida 132.06 79 PKP PKPdf 04 54 14.5 -0.6
comp=Z,0.2nm,0.4s,baz=318,slow=1.8,SNR=4.4
PLCA Paso Flores 133.59 104 PKP PKPdf 04 54 17.4 -0.6
comp=Z,1.8nm,0.7s,baz=3.3,slow=3.0,SNR=4.6
PLCA Paso Flores 133.59 104 PKIKP PKPdf 04 54 17.4 -0.5
PLCA pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 145.32 218 PKPbc PKPbc 04 54 37.8 -1.3
comp=Z,4.0nm,0.6s,baz=76,slow=4.1,SNR=12
MAW Mawson 145.32 218 PKIKP PKPdf 04 54 37.8 -1.4
MAW pmax pmax
comp=Z,4.0nm,0.6s
LBTB Lobatse 145.48 310 PKPbc PKPbc 04 54 39.8 +0.3
comp=Z,29nm,0.8s,baz=32,slow=1.8,SNR=35
LBTB Lobatse 145.48 310 PKIKP PKPdf 04 54 39.8 +0.3
LBTB pmax pmax
comp=Z,29nm,0.8s
LBTB Lobatse 145.48 310 ePKPdf **PKPdf 04 54 40.1 +0.6**
BOSA Boshof 148.66 307 PKPbc PKPbc 04 54 47.3 -1.3
comp=Z,8.0nm,0.8s,baz=10,slow=0.8,SNR=10
BOSA Boshof 148.66 307 ePKPbc **PKPbc 04 54 48.1 -0.5**
BOSA ePKPab PKPab 04 54 52.0 -0.2

SZGRF ***14*** *04:36:10.6, 4251N×14756E, h33km, Off southeast coast of Hokkaido, Japan*
JMA ***14*** *04:36:13.5±0.2, 4363N×14754E, h0km, M4.8*
MOS ***14*** *04:36:13.8±0.8, 4378N×14770E, h33km, mb4.8/47, Error ellipse: s-maj=10.6km s-min=5.9km az=105.1*
ISCJB ***14*** *04:36:14.1±0.3, 4380N±005×14778E±004, h35km, mb4.5/64, MS4.1/1, Error ellipse: s-maj=7.4km s-min=3.4km az=134.6*
SKHL ***14*** *04:36:14.5±1.2, 4384N×14793E, h49km±17km, mb5.1/6*
BJI ***14*** *04:36:15.3, 4336N×14794E, h70km, mB4.9, mb4.6, Ms4.2, Msz4.0*
IDC ***14*** *04:36:15.9±0.7, 4382N×14767E, h37km±5km, mb4.2/20, mb1 4.3/22, mb1mx4.3/25, mbtmp4.4/22, ML4.0/1, MS5.4/1, Ms1 5.4/1, ms1mx3.3/26, Error ellipse: s-maj=15.0km s-min=13.2km az=149.0*
NEIC ***14*** *04:36:16.2±0.2, 4383N×14767E, mb4.7/41, Error ellipse: s-maj=5.7km s-min=4.0km az=142.0*
ISC 14 04:36:16.1±0.3, 4388N±005×14773E±004, h37km, h37km±4.0km: pP-P, n217, σ0°89/216, mb4.5/64, MS4.1/1, 6C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.36**	**277**	⇓*i*P		**Pn**		**04 36 37.7**	**-0.8**
YUK				⇓*i*P				04 36 38.0	
YUK					AMB	AMB		04 36 39.0	
	2μm,0.5s								
YUK					AMB	AMB		04 36 39.0	
	740nm,0.5s								
YUK					AMB	AMB		04 36 39.0	
	4μm,0.5s								
YUK					AMB	AMB		04 36 39.2	
	6μm,1.0s								
YUK					AMB	AMB		04 36 39.2	
	10μm,1.0s								
YUK				*i*	S	**Sn**		**04 36 54.1**	**-1.1**
YUK					A			04 36 58.0	
	28μm,1.0s								
YUK					A			04 36 58.0	
	27μm,1.0s								
YUK					A			04 37 01.5	
	17μm,0.2s								
YUK					A			04 37 01.5	
	6μm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.36**	**277**	⇓*i*PN		**Pn**		**04 36 37.7**	**-0.8**
YUK				*i*	S	**Sn**		**04 36 54.1**	**-1.1**
YUK					pmax	pmax			
	comp=E,740nm,0.4s								
YUK					pmax	pmax			
	comp=Z,4μm,0.4s								
YUK					pmax	pmax			
	comp=N,2μm,0.5s								
YUK					smax				
	comp=N,28μm,0.9s								
YUK					smax				
	comp=E,27μm,0.9s								
YUK					smax				
	comp=N,17μm,0.3s								
YUK					smax				
	comp=E,6μm,0.3s								
KUR	**Kuril'sk**	**1.36**	**4**	⇓*i*P		**Pn**		**04 36 36.2**	**-2.3**
KUR					AMB	AMB		04 36 38.0	
	comp=E,490nm,0.5s								
KUR					AMB	AMB		04 36 38.0	
	comp=E,550nm,0.5s								
KUR					AMB	AMB		04 36 38.0	
	comp=E,1μm,0.5s								
KUR				*i*	S	**Sn**		**04 36 52.5**	**-2.8**
KUR					A			04 37 06.4	
	comp=E,3μm,0.5s								
KUR					A			04 37 06.4	
	comp=E,4μm,0.5s								
KUR	**Kuril'sk**	**1.36**	**4**	⇓*i*PN		**Pn**		**04 36 36.2**	**-2.3**
KUR				*i*	S	**Sn**		**04 36 52.5**	**-2.8**
KUR					pmax	pmax			
	comp=N,490nm,0.5s								
KUR					pmax	pmax			
	comp=E,550nm,0.5s								
KUR					pmax	pmax			
	comp=Z,1μm,0.5s								
KUR					smax				
	comp=N,3μm,0.5s								
KUR					smax				
	comp=E,4μm,0.5s								
NEM2	**Nemuro 2**	**1.53**	**251**		P	**Pn**		**04 36 39.0**	**-1.9**
NEM2					*e*S	**Sn**		**04 36 57.2**	**-2.3**
JRA	**Rausu**	**1.88**	**273**		P	**Pn**		**04 36 45.8**	**+0.1**
JRA					*e*S	**Sn**		**04 37 08.9**	**+0.6**
JNK	**Nakash**	**2.20**	**263**		P	**Pn**		**04 36 49.5**	**-0.6**
JAK	**Akkeshi**	**2.38**	**249**		P	**Pn**		**04 36 51.5**	**-1.0**
JTKR	**Abashiri--Toko**	**2.76**	**273**		P	**Pn**		**04 36 58.7**	**+0.9**
JAR	**Ashorobuto**	**2.93**	**260**		P	**Pn**		**04 37 00.3**	**+0.1**
JAR					*e*S	**Sn**		**04 37 34.8**	**+0.6**
JOB	**Onbets**	**3.00**	**252**		P	**Pn**		**04 37 00.7**	**-0.4**
JOB					*e*S	**Sn**		**04 37 35.8**	**0.0**
JMP	**Maruseppu**	**3.16**	**274**		P	**Pn**		**04 37 04.5**	**+1.3**
JCH	**Churui**	**3.43**	**250**		P	**Pn**		**04 37 07.1**	**+0.1**
JKK2	**Kamakawa 2**	**3.60**	**272**		P	**Pn**		**04 37 11.0**	**+1.7**
ASAJ	**Asahikawa**	**3.71**	**275**		Pn	**Pn**		**04 37 12.2**	**+1.3**
ASAJ					Sn	**Sn**		**04 38 02.5**	**+9.2**
	comp=E,8.7nm,0.3s,baz=85,slow=14,SNR=33								
	comp=E,10nm,0.3s,baz=8.7,slow=22,SNR=3.9								
ASAJ	**Asahikawa**	**3.71**	**275**		P	**Pn**		**04 37 12.5**	**+1.7**
ASAJ	**Asahikawa**	**3.71**	**275**		PN	**Pn**		**04 37 12.2**	**+1.4**
ASAJ								04 38 02.5	
ASAJ					pmax	pmax			
	comp=Z,9.0nm,0.3s								
ASAJ					smax				
	comp=N,10.0nm,0.3s								
JFR	**Furan**	**3.80**	**261**		P	**Pn**		**04 37 13.2**	**+1.1**
JEM	**Erimo**	**3.84**	**243**		P	**Pn**		**04 37 14.0**	**+1.4**
JSE	**Soyaes**	**3.84**	**288**		P	**Pn**		**04 37 13.9**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.98**	**248**		P	**Pn**		**04 37 13.7**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.66**	**313⇑**	*e*PN		**Pn**		**04 37 25.0**	**+1.1**
YSS					pmax	pmax			
	comp=E,30nm,0.5s								
YSS					pmax	pmax			
	comp=Z,50nm,0.5s								
TEY	**Ternei**	**8.04**	**282**	*e*P		**Pn**		**04 38 15.0**	**+4.7**
TEY					AMB	AMB		04 38 16.0	
	comp=Z,50nm,0.8s								
SKR	**Severo-Kuril's**	**8.88**	**37**	*e*PN		**Pn**		**04 38 19.0**	**-2.7**
SKR					pmax	pmax			
	comp=N,60nm,0.5s								
SKR					pmax	pmax			
	comp=E,60nm,0.5s								
SKR					pmax	pmax			
	comp=Z,80nm,0.5s								
MJAR	**Matsushiro Arr**	**10.32**	**228**		Pn	**Pn**		**04 38 40.3**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=34,slow=14,SNR=6.3								
MJAR	**Matsushiro Arr**	**10.32**	**228**		PN	**Pn**		**04 38 40.3**	**-1.3**
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
MAT	**Matsushiro**	**10.32**	**228**		P	**Pn**		**04 38 41.1**	**-0.5**
MAT	**Matsushiro**	**10.32**	**228**	*e*PN		**Pn**		**04 38 41.0**	**-0.6**
MAT					pmax	pmax			
	comp=Z,3.0nm,0.6s								
MAT	**Matsushiro**	**10.32**	**228**	*e*P		**Pn**		**04 38 41.0**	**-0.6**
	comp=Z,3.3nm,0.6s								
KLR	**Kul'dur**	**12.22**	**302**	*e*PN		**Pn**		**04 39 17.7**	**+10**
KLR					pmax	pmax			
	comp=E,76nm,1.0s								
KLR					pmax	pmax			
	comp=Z,140nm,1.0s								
JHJ	**Hachijo jima 2**	**12.41**	**213**		LR	LR		04 43 15.9	
	comp=Z,15μm,19.1s,baz=360,slow=34								
MA2	**Magadan**	**15.83**	**6**	*e*P		**Pn**		**04 39 56.4**	**+0.3**
YASR	**Yasnyy**	**16.06**	**313**	*e*P		**Pn**		**04 39 58.3**	**-0.7**
YASR					AMB	AMB		04 40 00.1	
	comp=Z,6.0nm,0.9s								
YASR					AMB	AMB		04 40 00.1	
	comp=Z,16nm,0.9s								
YASR					AMB	AMB		04 40 00.1	
	comp=Z,21nm,0.9s								
HIA	**Hailar**	**19.92**	**296**	*e*P		**Pn**		**04 40 45.1**	**-1.2**
YAK	**Yakutsk**	**21.05**	**336**	*e*P		**P**		**04 40 59.5**	**+2.8**
YAK					pmax	pmax			
	comp=Z,16nm,1.1s,mb4.3								
YAK					pmax	pmax			
	comp=N,11nm,1.3s								
YAK					pmax	pmax			
	comp=E,7.0nm,1.2s								
BILL	**Bilibino**	**26.12**	**16**	*e*P		**P**		**04 41 40.6**	**-5.9**
BILL					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb3.9								
SONM	**Songino Array**	**28.81**	**293**		P	**P**		**04 42 11.3**	**+0.7**
	comp=Z,2.3nm,0.6s,mb4.1,baz=84,slow=7.8,SNR=7.4								
SONM	**Songino Array**	**28.81**	**293**		P	**P**		**04 42 11.3**	**+0.8**
SONM					pmax	pmax			
	comp=Z,2.0nm,0.6s								
GYA	**Guiyang**	**37.36**	**256⇑**	*i*P		**P**		**04 43 24.4**	**-0.6**
GYA					AP	pP		04 43 34.6	-1.0
GYA					XP	sP		04 43 38.5	-1.6
GYA					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.7								
GYA					AMB	AMB			
	comp=Z,80nm,4.2s								
GYA					LR	LR			
	comp=N,240nm,21.7s,MS4.1								
GYA					LR	LR			
	comp=E,260nm,24.0s,MS4.1								
GYA					LR	LR			
	comp=Z,280nm,21.4s,MS4.0								
COLA	**College**	**40.72**	**36⇑**	*i*P		**P**		**04 43 54.1**	**+1.0**
COLA	**College**	**40.72**	**36**	*e*P		**P**		**04 43 53.5**	**+0.4**
	comp=Z,6.3nm,0.5s,mb4.5								
MENT	**Mentasta**	**42.68**	**39**	*e*P		**P**		**04 44 10.6**	**+1.4**
MKAR	**Makanchi Array**	**44.90**	**298**		P	**P**		**04 44 26.6**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.3,baz=74,slow=8.9,SNR=14								
MKAR	**Makanchi Array**	**44.90**	**298**		P	**P**		**04 44 26.6**	**-0.3**
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.7s								
KURK	**Kurchatov**	**45.80**	**304**	*e*P		**P**		**04 44 33.6**	**-0.5**
KURK					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
KURK	**Kurchatov**	**45.80**	**304**	*e*P		**P**		**04 44 33.6**	**-0.5**
	comp=Z,4.2nm,0.6s,mb4.5								
INK	**Inuvik**	**46.08**	**30**	P		**P**		**04 44 37.3**	**+1.0**
	comp=Z,3.9nm,0.4s,mb4.7,baz=278,slow=5.5,SNR=20								
INK	**Inuvik**	**46.08**	**30**	P		**P**		**04 44 37.3**	**+1.0**
INK					pmax	pmax			
	comp=Z,4.0nm,0.4s								
INK	**Inuvik**	**46.08**	**30**	*e*P		**P**		**04 44 36.9**	**+0.5**
	comp=Z,4.7nm,0.4s,mb4.8								
BVAR	**Borovoye Array**	**49.74**	**309**		P	**P**		**04 45 04.5**	**-0.2**
	comp=Z,5.2nm,0.6s,mb4.8,baz=48,slow=7.4,SNR=11								
BVAR					PcP	PcP		04 46 25.3	+0.1
	comp=Z,1.7nm,0.5s,baz=73,slow=4.7,SNR=3.3								
BVAR	**Borovoye Array**	**49.74**	**309**		P	**P**		**04 45 04.5**	**-0.2**
BVAR								04 46 25.3	
BVAR					pmax	pmax			
	comp=Z,5.0nm,0.6s								
BVAR					pmax	pmax			
	comp=Z,2.0nm,0.5s								
BVAR	**Borovoye Array**	**49.74**	**309**		P	**P**		**04 45 04.5**	**-0.2**
BVAR					PcP	PcP		04 46 25.3	+0.1
BRVK	**Borovoye**	**49.79**	**310**	*e*P		**P**		**04 45 05.3**	**+0.3**
ZRNK	**Zerenda**	**50.55**	**310**	*e*P		**P**		**04 45 09.7**	**-1.0**
ULHL	**Ulahol**	**50.72**	**295**	P		**P**		**04 45 13.0**	**+1.0**
SNR=6.0									
TKM2	**Tokmak 2**	**50.83**	**296**	P		**P**		**04 45 13.8**	**+1.0**
SNR=11									
JIRN	**Jiri**	**51.34**	**273**	*e*P		**P**		**04 45 17.5**	**+0.8**
KBK	**Karagaybulak**	**51.37**	**296**	P		**P**		**04 45 17.9**	**+0.9**
SNR=8.5									
USP	**Ospenovka**	**51.38**	**296**	P		**P**		**04 45 17.6**	**+0.6**
SNR=8.5									
GUN	**Gumba**	**51.42**	**274**	*e*P		**P**		**04 45 18.0**	**+0.7**
	comp=Z,32nm,0.9s,mb5.3								
KZA	**Kyzart**	**51.45**	**295**	P		**P**		**04 45 19.4**	**+1.9**
SNR=15									
AAK	**Ala-Archa**	**51.68**	**296**	*e*P		**P**		**04 45 18.7**	**-0.5**
AAK					e*PP	pP		04 45 24.0	-6.2
AAK					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
AAK	**Ala-Archa**	**51.68**	**296**	*e*P		**P**		**04 45 18.7**	**-0.5**
	comp=Z,3.7nm,0.8s,mb4.4								
AAK					*e*pP	pP		04 45 24.0	-6.2
KKN	**Kakani**	**51.93**	**274**	*e*P		**P**		**04 45 21.6**	**+0.5**
	comp=Z,17nm,0.7s,mb5.1								
KKN	**Kakani**	**51.93**	**274**	*e*P		**P**		**04 45 21.6**	**+0.5**
KKN					pmax	pmax			
	comp=Z,17nm,0.7s,mb5.1								
EKS2	**Erkin-Say**	**52.13**	**296**	P		**P**		**04 45 23.2**	**+0.6**
SNR=6.5									
DMN	**Daman**	**52.16**	**274**	*e*P		**P**		**04 45 23.6**	**+0.8**
	comp=Z,23nm,0.8s,mb5.2								
ARU	**Arti**	**54.54**	**317**	*e*P		**P**		**04 45 38.3**	**-2.0**
ARU					pmax	pmax			
	comp=Z,15nm,1.1s,mb4.9								
RES	**Resolute Bay**	**54.72**	**17**	*e*P		**P**		**04 45 40.8**	**-0.8**
RES					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6								
RES	**Resolute Bay**	**54.72**	**17**	*e*P		**P**		**04 45 40.8**	**-0.8**
	comp=Z,5.4nm,0.8s,mb4.6								
YKA	**Yellowknife Ar**	**55.46**	**34**	P		**P**		**04 45 47.1**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.2,baz=299,slow=6.8,SNR=9.9								
YKA					pP	pP		04 45 58.7	+0.7
	comp=Z,1.8nm,0.6s,baz=300,slow=6.9,SNR=6.3								
YKA	**Yellowknife Ar**	**55.46**	**34**	P		**P**		**04 45 47.1**	**+0.1**
YKA					*PP	pP		04 45 58.7	+0.7
YKA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
YKA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
YKA	**Yellowknife Ar**	**55.46**	**34**	P		**P**		**04 45 47.1**	**+0.2**
YKA					pP	pP		04 45 58.7	+0.7
ARCES	**ARCESS Array B**	**59.27**	**340**	P		**P**		**04 46 12.2**	**-1.6**
	comp=Z,2.5nm,0.8s,mb4.3,baz=48,slow=7.0,SNR=7.8								
ARCES	**ARCESS Array B**	**59.27**	**340**	P		**P**		**04 46 12.2**	**-1.6**
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.8s								
NEW	**Newport**	**61.93**	**49**	*e*P		**P**		**04 46 32.4**	**+0.5**
NEW					pmax	pmax			
	comp=Z,1.0nm,0.5s								
NEW	**Newport**	**61.93**	**49**	*e*P		**P**		**04 46 32.4**	**+0.4**
	comp=Z,1.3nm,0.5s,mb4.3								
JOF	**Joensuu**	**62.17**	**332**	ep		**P**		**04 46 31.8**	**-1.7**
	comp=Z,5.1nm,0.5s,mb4.9								
JOF	**Joensuu**	**62.17**	**332**	*e*P		**P**		**04 46 31.8**	**-1.7**
JOF					pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.9								
YBH	**Yreka Blue Hor**	**62.47**	**58**	P		**P**		**04 46 36.7**	**+1.1**
	comp=Z,1.0nm,0.6s,mb4.1,baz=16,slow=5.2,SNR=5.9								
YBH	**Yreka Blue Hor**	**62.47**	**58**	P		**P**		**04 46 36.7**	**+1.1**
YBH					pmax	pmax			
	comp=Z,1.0nm,0.6s								
KAF	**Kangasniemi**	**64.39**	**334**	ep		**P**		**04 46 46.9**	**-1.3**
	comp=Z,4.6nm,0.5s,mb4.8,baz=42,slow=6.2								
KAF	**Kangasniemi**	**64.39**	**334**	*e*P		**P**		**04 46 46.9**	**-1.3**
KAF					pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.8								
WRAB	**Tennant Creek**	**64.67**	**194**	*e*P		**P**		**04 46 49.0**	**-1.1**
WRAB					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.6								
WRAB	**Tennant Creek**	**64.67**	**194**	*e*P		**P**		**04 46 49.0**	**-1.0**
	comp=Z,6.0nm,0.9s,mb4.6								
WRA	**Warramunga Arr**	**64.68**	**194**	P		**P**		**04 46 49.2**	**-1.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=10,slow=6.8,SNR=9.0								
WRA	**Warramunga Arr**	**64.68**	**194**	P		**P**		**04 46 49.2**	**-0.9**
WRA					pmax	pmax			
	comp=Z,1.0nm,0.5s								
FINES	**FINESS Array B**	**64.95**	**333**	P		**P**		**04 46 50.9**	**-1.0**
	comp=Z,4.0nm,0.5s,mb4.7,baz=48,slow=7.3,SNR=24								
FINES	**FINESS Array B**	**64.95**	**333**	P		**P**		**04 46 50.9**	**-1.0**
FINES					pmax	pmax			
	comp=Z,4.0nm,0.5s								
OBN	**Obninsk**	**65.46**	**324**	P		**P**		**04 46 53.0**	**-2.2**
BOZ	**Bozeman (W)**	**66.51**	**49**	*e*P		**P**		**04 47 02.6**	**+0.7**
BOZ					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3								
BOZ	**B

PDAR Pinedale Array 69.51 50 P **P** **04 47 21.1 +0.3**
comp=Z,1.3nm,0.7s,mb4.0,baz=266,slow=1.4,SNR=6.1
NB2 NORSAR Subarra 69.63 339 P **P** **04 47 20.7 -0.8**
comp=Z,1.9nm,0.4s,mb4.4,baz=38,slow=5.9
NB2 NORSAR Subarra 69.63 339 P **P** **04 47 20.7 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
NOA NORSAR Array B 69.63 339 P **P** **04 47 20.8 -0.8**
comp=Z,4.8nm,0.4s,mb4.8,baz=31,slow=6.3,SNR=13
NOA NORSAR Array B 69.63 339 P **P** **04 47 20.8 -0.7**
NOA pmax pmax
comp=Z,5.0nm,0.4s
NOA NORSAR Array B 69.63 339 P **P** **04 47 20.8 -0.8**
KIV Kislovodsk 69.99 312 *e*P **P** **04 47 24.8 +1.1**
KIV pmax pmax
comp=Z,48nm,1.0s,mb5.4
KIV Kislovodsk 69.99 312 *e*P **P** **04 47 24.8 +1.1**
comp=Z,30nm,0.8s,mb5.3
ULM Lac du Bonnet 71.14 37 P **P** **04 47 30.1 -0.7**
comp=Z,1.6nm,0.5s,mb4.2,baz=321,slow=6.9,SNR=6.7
ULM pP pP 04 47 40.8 -1.3
comp=Z,1.9nm,0.5s,baz=325,slow=5.9,SNR=4.8
AKASG Malin Array Be 71.72 324 P **P** **04 47 33.7 -0.6**
comp=Z,6.7nm,0.5s,mb4.9,baz=39,slow=6.2,SNR=26
AKASG Malin Array Be 71.72 324 P **P** **04 47 33.7 -0.6**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
STKA Stephens Creek 75.60 185 *e*P **P** **04 47 55.7 -1.3**
comp=Z,5.5nm,0.9s,mb4.5
STKA Stephens Creek 75.60 185 P **P** **04 47 55.7 -1.3**
comp=Z,6.2nm,0.8s,mb4.6,baz=0.5,slow=7.2,SNR=13
OJC Ojcow 75.89 329 *e*P **P** **04 47 59.0 +0.3**
STHS Stebnicka Huta 75.98 327 *e*P **P** **04 48 00.0 +0.8**
STHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
STHS Stebnicka Huta 75.98 327 *e*P **P** **04 48 00.0 +0.8**
comp=Z,6.8nm,1.1s,mb4.5
MALT Malatya 76.21 310 *e*P **P** **04 48 01.5 +1.0**
MALT pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
MALT Malatya 76.21 310 *e*P **P** **04 48 01.5 +1.1**
comp=Z,6.0nm,1.2s,mb4.4
ANMO Albuquerque 76.58 54 P **P** **04 48 03.5 +0.8**
comp=Z,0.6nm,0.3s,mb4.0,baz=315,slow=6.8,SNR=4.9
ANMO Albuquerque 76.58 54 P **P** **04 48 03.5 +0.9**
ANMO pmax pmax
comp=Z,1.0nm,0.3s
ANMO Albuquerque 76.58 54 *e*P **P** **04 48 03.3 +0.7**
comp=Z,1.1nm,0.7s,mb3.9
KECS Kecovo 77.03 327 *e*P **P** **04 48 05.0 -0.1**
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KECS Kecovo 77.03 327 *e*P **P** **04 48 05.0 -0.1**
comp=Z,1.6nm,0.7s,mb4.1
UPC Upice 77.04 331 *e*P **P** **04 48 05.2 0.0**
DPC Dobruska-Polom 77.06 330 *e*P **P** **04 48 05.4 +0.1**
SCHQ Schefferville 77.36 20 P **P** **04 48 06.8 -0.2**
comp=Z,2.0nm,0.4s,mb4.4,baz=261,slow=9.1,SNR=16
SCHQ pP pP 04 48 17.7 -0.7
comp=Z,2.4nm,0.8s,baz=280,slow=7.2,SNR=2.6
CLL Collm 77.39 333⇑ *i*P **P** **04 48 06.6 -0.6**
comp=Z,22nm,1.0s,mb5.0
CLL *e*(pP) pP 04 48 21.0 +2.4
CLL *i* x x 04 48 34.8
BRG Berggiesshubel 77.45 332 *i* P **P** **04 48 07.2 -0.3**
comp=Z,2.8nm,0.7s,mb4.3
BRG *e* pP 04 48 16.0 -2.9
comp=Z,2.9nm,1.0s
BRG Berggiesshubel 77.45 332 *i* P **P** **04 48 07.2 -0.3**
BRG *e* pP 04 48 16.0 -2.9
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
PVCC Panska Ves 77.53 332 *e*P **P** **04 48 08.1 +0.2**
VYHS Vyhne 77.66 328 *e*P **P** **04 48 08.7 +0.1**
BRTR Keskin Array B 77.76 314 P **P** **04 48 10.0 +0.8**
comp=Z,1.9nm,0.6s,mb4.2,baz=61,slow=3.0,SNR=7.9
BRTR Keskin Array B 77.76 314 P **P** **04 48 10.0 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
PRU Pruhonice 77.99 331 *e*P **P** **04 48 10.5 0.0**
KHC Kasperske Hory 79.05 331 *e*P **P** **04 48 16.5 +0.2**
KHC pP pP 04 48 25.5 -2.3
KHC Kasperske Hory 79.05 331 *e*P **P** **04 48 16.5 +0.2**
KHC *e* pP 04 48 25.5 -2.3
GERES GERESS Array B 79.25 331 P **P** **04 48 17.3 -0.1**
comp=Z,1.5nm,0.5s,mb4.2,baz=36,slow=5.8,SNR=12
GERES pP pP 04 48 30.1 +1.2
comp=Z,0.7nm,0.4s,baz=36,slow=5.6,SNR=3.6
GERES GERESS Array B 79.25 331 P **P** **04 48 17.3 -0.1**
GERES *PP pP 04 48 30.1 +1.2
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES pmax pmax
comp=Z,1.0nm,0.4s
GRA1 Grafenberg Arr 79.37 333 *e*P **P** **04 48 18.1 +0.1**
comp=Z,10.0nm,1.3s,mb4.6
GRF Grafenberg Arr 79.37 333 *e*P **P** **04 48 18.1 +0.1**
comp=Z,10.0nm,1.3s,mb4.6
GRF Grafenberg Arr 79.37 333 *e*P **P** **04 48 18.1 +0.1**
GRF pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
GRF Grafenberg Arr 79.37 333 *e*P **P** **04 48 18.1 +0.1**
GRF pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
DLF Lyons Farm 80.71 345 *e*P **P** **04 48 23.9 -1.4**
DCN Croghan 80.81 345 *e*P **P** **04 48 24.9 -0.9**
WTTA Wattenberg 81.32 331⇑ *i*P **P** **04 48 29.1 +0.5**
comp=Z,6.1nm,0.4s,mb4.8
WTTA Wattenberg 81.32 331⇑ *i*P **P** **04 48 29.1 +0.5**
WTTA pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
CDF Champ du Feu 81.75 335 *e*P **P** **04 48 30.7 -0.1**
HAU Haudompre 82.39 335 *e*P **P** **04 48 34.0 -0.2**
FLN La Foliniere 83.62 339 *e*P **P** **04 48 40.2 -0.3**
comp=Z,6.8nm,0.6s,mb4.7
FLN La Foliniere 83.62 339 *e*P **P** **04 48 40.2 -0.3**
FLN pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
FLN La Foliniere 83.62 339 *e*P **P** **04 48 40.2 -0.3**
comp=Z,3.4nm,0.6s,mb4.7
LDF La Druitiere 83.68 339 *e*P **P** **04 48 40.2 -0.7**
comp=Z,3.7nm,0.6s,mb4.4
LDF La Druitiere 83.68 339 *e*P **P** **04 48 40.2 -0.7**
LDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
LDF La Druitiere 83.68 339 *e*P **P** **04 48 40.2 -0.7**
comp=Z,1.9nm,0.6s,mb4.4
LOR Lormes 83.80 336 *e*P **P** **04 48 41.1 -0.4**
GRR Gorron 84.06 340 *e*P **P** **04 48 42.9 +0.1**
comp=Z,20nm,0.7s,mb5.1
GRR Gorron 84.06 340 *e*P **P** **04 48 42.9 +0.1**
GRR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
GRR Gorron 84.06 340 *e*P **P** **04 48 42.9 +0.1**
comp=Z,10nm,0.7s,mb5.1
SSF Saint Saulge 84.09 336 *e*P **P** **04 48 42.9 0.0**
comp=Z,4.0nm,0.6s,mb4.5
SSF Saint Saulge 84.09 336 *e*P **P** **04 48 42.9 0.0**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
SSF Saint Saulge 84.09 336 *e*P **P** **04 48 42.9 0.0**
comp=Z,2.0nm,0.6s,mb4.4
SMF Signal de Mont 84.37 336 *e*P **P** **04 48 44.2 -0.2**
comp=Z,7.5nm,0.6s,mb4.7
SMF Signal de Mont 84.37 336 *e*P **P** **04 48 44.2 -0.2**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
SMF Signal de Mont 84.37 336 *e*P **P** **04 48 44.2 -0.2**
comp=Z,3.8nm,0.6s,mb4.7
AVF Avril sur Loir 84.38 336 *e*P **P** **04 48 44.2 -0.2**
comp=Z,6.8nm,0.7s,mb4.6
AVF Avril sur Loir 84.38 336 *e*P **P** **04 48 44.2 -0.2**
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
AVF Avril sur Loir 84.38 336 *e*P **P** **04 48 44.2 -0.2**
comp=Z,3.4nm,0.7s,mb4.6
LPL La Plagne 84.49 334 *e*P **P** **04 48 45.2 +0.2**
comp=Z,8.0nm,0.7s,mb4.7
LPL La Plagne 84.49 334 *e*P **P** **04 48 45.2 +0.2**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
LPL La Plagne 84.49 334 *e*P **P** **04 48 45.2 +0.2**
comp=Z,4.0nm,0.6s,mb4.7
LPG La Plagne 84.50 334 *e*P **P** **04 48 45.5 +0.5**
comp=Z,10nm,0.6s,mb4.8
LPG La Plagne 84.50 334 *e*P **P** **04 48 45.5 +0.5**
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LPG La Plagne 84.50 334 *e*P **P** **04 48 45.5 +0.5**
comp=Z,5.1nm,0.6s,mb4.8
SGMF Saint Gilles 84.60 341 *e*P **P** **04 48 45.5 0.0**
comp=Z,15nm,0.6s,mb5.0
SGMF Saint Gilles 84.60 341 *e*P **P** **04 48 45.5 0.0**
SGMF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
SGMF Saint Gilles 84.60 341 *e*P **P** **04 48 45.5 0.0**
comp=Z,7.6nm,0.6s,mb5.0
ROSF Rostrenen 84.70 341 *e*P **P** **04 48 46.0 0.0**
QUIF Quistinic 85.06 341 *e*P **P** **04 48 47.7 -0.2**
TCF Toulx Ste Croi 85.17 337 *e*P **P** **04 48 48.2 -0.2**
comp=Z,9.7nm,1.0s,mb4.6
TCF Toulx Ste Croi 85.17 337 *e*P **P** **04 48 48.2 -0.2**
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
TCF Toulx Ste Croi 85.17 337 *e*P **P** **04 48 48.2 -0.2**
comp=Z,4.8nm,1.0s,mb4.6
MBDF Montbardon 85.18 333 *e*P **P** **04 48 48.3 -0.1**
comp=Z,7.3nm,0.6s,mb4.7
MBDF Montbardon 85.18 333 *e*P **P** **04 48 48.3 -0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
MBDF Montbardon 85.18 333 *e*P **P** **04 48 48.3 -0.1**
comp=Z,3.7nm,0.6s,mb4.7
ORIF Oris-en-Rattie 85.30 334 *e*P **P** **04 48 49.1 +0.1**
comp=Z,6.5nm,0.7s,mb4.6
ORIF Oris-en-Rattie 85.30 334 *e*P **P** **04 48 49.1 +0.1**
ORIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
ORIF Oris-en-Rattie 85.30 334 *e*P **P** **04 48 49.1 +0.1**
comp=Z,3.3nm,0.7s,mb4.6
MFF Saint Martin d 85.53 338 *e*P **P** **04 48 50.2 0.0**
comp=Z,9.2nm,0.6s,mb4.9
MFF Saint Martin d 85.53 338 *e*P **P** **04 48 50.2 0.0**
MFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
MFF Saint Martin d 85.53 338 *e*P **P** **04 48 50.2 0.0**
comp=Z,4.6nm,0.6s,mb4.9
SBF Sospel 85.73 332 *e*P **P** **04 48 50.9 -0.3**
comp=Z,21nm,0.8s,mb5.1
SBF Sospel 85.73 332 *e*P **P** **04 48 50.9 -0.3**
SBF pmax pmax
comp=Z,11nm,0.8s,mb5.1
SBF Sospel 85.73 332 *e*P **P** **04 48 50.9 -0.3**
comp=Z,11nm,0.8s,mb5.1
VIVF Saint-Julien-l 85.73 335 *e*P **P** **04 48 51.3 +0.1**
FRF La Foret Royal 86.26 333 *e*P **P** **04 48 54.1 +0.3**
RJF Les Rejaudoux 86.26 337 *e*P **P** **04 48 54.2 +0.4**
PGF Pioggiola 86.35 331 *e*P **P** **04 48 53.8 -0.4**
CAF Calviac 86.45 336 *e*P **P** **04 48 55.3 +0.6**
comp=Z,11nm,0.8s,mb4.8
CAF Calviac 86.45 336 *e*P **P** **04 48 55.3 +0.6**
CAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
CAF Calviac 86.45 336 *e*P **P** **04 48 55.3 +0.6**
comp=Z,5.4nm,0.8s,mb4.8
LMR La Mourre 86.50 333 *e*P **P** **04 48 55.0 0.0**
LASF Ste Croix 86.69 335 *e*P **P** **04 48 56.3 +0.4**
comp=Z,8.4nm,0.9s,mb4.7
LFF La Frestale 86.81 337 *e*P **P** **04 48 56.7 +0.2**
comp=Z,7.8nm,0.4s,mb5.0
LFF La Frestale 86.81 337 *e*P **P** **04 48 56.7 +0.2**
LFF pmax pmax
comp=Z,4.0nm,0.4s,mb5.0
LFF La Frestale 86.81 337 *e*P **P** **04 48 56.7 +0.2**
comp=Z,3.9nm,0.4s,mb5.0
MTLF Montolieu 87.85 336 *e*P **P** **04 49 01.9 +0.4**
comp=Z,3.1nm,0.5s,mb4.5
MTLF Montolieu 87.85 336 *e*P **P** **04 49 01.9 +0.4**
MTLF pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
MTLF Montolieu 87.85 336 *e*P **P** **04 49 01.9 +0.4**
comp=Z,1.5nm,0.5s,mb4.5
ETSF Etsaut 89.06 337 *e*P **P** **04 49 08.0 +0.8**
TORD Torodi Ar. Bea 115.35 323 PKP PKPdf 04 54 52.7 -1.0
comp=Z,0.3nm,0.5s,baz=26,slow=1.8,SNR=7.4
TORD pPKP pPKPdf 04 55 05.0 -0.6
comp=Z,0.9nm,1.1s,baz=13,slow=1.8,SNR=1.8
TORD Torodi Ar. Bea 115.35 323 PKP PKPdf 04 54 52.7 -1.0
TORD pPKP pPKPdf 04 55 05.0 -0.6
BDFB Brasilia 148.83 30 PKPbc PKPbc 04 55 59.9 +0.3
comp=Z,2.6nm,0.6s,baz=281,slow=2.6,SNR=7.0
BDFB Brasilia 148.83 30 PKP2 PKPbc 04 55 59.9 +0.3
BDFB pmax pmax
comp=Z,3.0nm,0.6s
PLCA Paso Flores 151.69 97 PKPbc PKPbc 04 56 06.2 -0.2
comp=Z,2.6nm,0.6s,baz=259,slow=2.5,SNR=11
PLCA Paso Flores 151.69 97 PKIKP PKPbc 04 56 06.2 -0.2
PLCA pmax pmax
comp=Z,3.0nm,0.6s
PLCA Paso Flores 151.69 97 PKPbc PKPbc 04 56 06.2 -0.2
CPUP Villa Florida 153.20 57 PKPbc PKPbc 04 56 09.7 -0.1
comp=Z,1.0nm,0.5s,baz=46,slow=1.4,SNR=7.5
CPUP Villa Florida 153.20 57 PKIKP PKPbc 04 56 09.7 -0.1
CPUP pmax pmax
comp=Z,1.0nm,0.5s

BJI ***14*** *04:46:39.1, 5226N×17695E, h20km, mB6.4, mb5.6, Ms6.2, Msz5.9*
ISCJB ***14*** *04:46:40.9±0.1, 5197N±003×177.12E±002, h29km, mb5.5/261, MS5.9/36, Error ellipse: s-maj=3.9km s-min=1.8km az=8.9*
MOS ***14*** *04:46:41.6±0.9, 5198N×177.10E, h33km, mb5.7/131, MS5.8/21, Error ellipse: s-maj=7.1km s-min=3.8km az=95.2*
IDC ***14*** *04:46:41.7±1.6, 5204N×17709E, h23km±9km, mb5.0/29, mb1 5.1/30, mb1mx5.0/32, mbtmp5.1/30, ML5.3/1, MS5.8/13, Ms1 5.8/13, ms1mx5.6/22, Error ellipse: s-maj=14.3km s-min=8.8km az=155.0*
HRVD ***14*** *04:46:42.4±0.1, 5197N×177.13E, h15km, MW6.0/113, Centroid moment Tensor Solution. LP body waves: s76,c128;Mantle waves: s113,c369; Half duration: 2s3 Moment tensor: Scale 1018Nm; Mrr=0.35±.01; Mθθ=0.53±.01; Mφφ=0.88±.01; Mrθ=0.33±.04; Mφφ=-0.52±.01; Mφr=0.40±.04; Best double couple: M0=1.06100×1018 NP1:ϕs=302.00000°, δ57.00000°, λ=-161.00000°. NP2: ϕs=201.00000°, δ75.00000°, λ=-35.00000°. Principal axes: T 1.1130, Plg11.0000°, Azm255.0000°; N -0.1040, Plg53.0000°, Azm0.0000°; P -1.0090, Plg35.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***14*** *04:46:42.4±0.1, 5195N×177.13E, mb5.5/156, ML5.7(AEIC) Error ellipse: s-maj=3.4km s-min=2.0km az=178.0*
SZGRF ***14*** *04:46:43.4, 5209N×17647E, h36km, mb5.6, Rat Islands, Aleutian Islands, United States*
ISC 14 04:46:42.7±0.1, 5203N±003×17709E±002, h30km, h30km±1.1km: pP-P, n895, σ0984/873, mb5.5/261, MS5.9/36, 97C-83D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.52**	**115**	P	**Pn**	**04 47 05.5**	**-2.3**
AMKA				S	**Sn**	**04 47 24.1**	**-2.6**
SMY	**Shemya**	**1.96**	**292**	P	**Pn**	**04 47 12.4**	**-1.5**
SMY				S	**Sn**	**04 47 39.1**	**+1.6**
ATKA	**Atka Island**	**5.37**	**85**	P	**Pn**	**04 47 59.5**	**-1.3**
NIKO	**Nikolski**	**8.63**	**78**	P	**Pn**	**04 48 45.9**	**+0.4**
SPIA	**Saint Paul Isl**	**8.97**	**50**	P	**Pn**	**04 48 50.3**	**+0.2**
OKCE	**Okmok Cone E**	**9.06**	**75**	P	**Pn**	**04 48 51.9**	**+0.6**
UNV	**Unalaska Valle**	**10.07**	**73**	*e*Pn	**Pn**	**04 49 05.4**	**+0.2**
AKUT	**Akutan**	**10.52**	**72**	*e*P	**Pn**	**04 49 11.9**	**+0.5**
	455nm,0.9s						
PET	**Petropavlovsk**	**11.28**	**282**	*e*P	**Pn**	**04 49 19.0**	**-2.7**
PET				*e*S	**Sn**	**04 51 21.3**	**-5.4**
PET				pmax	pmax		
	comp=Z,96nm,0.6s						
PET				smax			
	comp=E,938nm,0.7s						
PET				MLR	MLR		
	comp=N,52μm,14.0s						
PET				MLR	MLR		
	comp=Z,40μm,15.0s						
PET	**Petropavlovsk**	**11.28**	**282**	*e*Pn	**Pn**	**04 49 21.0**	**-0.7**
	comp=Z,320nm,1.2s						
FALS	**False Pass**	**11.96**	**69**	*e*Pn	**Pn**	**04 49 31.5**	**+0.5**
GAMB	**Gambell**	**13.16**	**22**	*e*Pn	**Pn**	**04 49 47.7**	**+0.2**
SKR	**Severo-Kuril's**	**13.18**	**272**⇑ *i*P		**Pn**	**04 49 44.0**	**-3.7**
SKR				pmax	pmax		
	comp=E,240nm,0.8s						
SKR				pmax	pmax		
	comp=Z,360nm,0.8s						
SKR				pmax	pmax		
	comp=N,100nm,0.6s						
SDPT	**Sand Point**	**13.68**	**67**	*e*P	**Pn**	**04 49 56.3**	**+1.7**
	comp=N,2μm,1.6s						
CHGN	**Chignik**	**14.93**	**64**	*e*P	**Pn**	**04 50 12.1**	**+0.5**
TNA	**Tin City**	**15.56**	**24**	*e*Pn	**Pn**	**04 50 21.3**	**+1.5**
	comp=N,607nm,1.5s						
MA2	**Magadan**	**16.52**	**307**	*de*P	**Pn**	**04 50 33.9**	**+1.7**
MA2				*e*S	**Sn**	**04 53 38.2**	**+3.6**
MA2				pmax	pmax		
	comp=E,100nm,1.5s						
MA2				pmax	pmax		
	comp=Z,200nm,1.5s						
MA2	**Magadan**	**16.52**	**307**	*e*Pn	**Pn**	**04 50 33.3**	**+1.1**
	comp=Z,137nm,0.9s						
BILL	**Bilibino**	**16.89**	**346**κ *i*P		**Pn**	**04 50 36.9**	**+0.1**
BILL				S	**Sn**	**04 53 40.3**	**-3.3**
BILL				pmax	pmax		
	comp=Z,602nm,0.8s						
BILL	**Bilibino**	**16.89**	**346**	*e*Pn	**Pn**	**04 50 37.0**	**+0.2**
	comp=Z,729nm,1.1s						
SVW2	**Sparrevohn**	**17.45**	**48**	*e*P	**Pn**	**04 50 45.2**	**+1.4**
TTA	**Tatalina**	**17.95**	**42**	*e*P	**Pn**	**04 50 51.3**	**+1.3**
KDAK	**Kodiak Island**	**18.25**	**60**	P	**Pn**	**04 50 53.0**	**-0.7**
	comp=Z,2μm,1.1s,SNR=24						
KDAK	**Kodiak Island**	**18.25**	**60**	P	**Pn**	**04 50 53.0**	**-0.6**
	comp=Z,9.1nm,0.3s,baz=214,slow=5.4,SNR=36						
KDAK	**Kodiak Island**	**18.25**	**60**	*e*Pn	**Pn**	**04 50 53.0**	**-0.7**
	comp=Z,976nm,1.4s						
SLKM	**Skilak Lake**	**19.84**	**52**	*e*P	**Pn**	**04 51 11.0**	**-1.8**
PMR	**Palmer**	**20.58**	**49**	*e*P	**P**	**04 51 18.2**	**-0.8**
PMR				pmax	pmax		
	comp=Z,230nm,1.1s						
PMR	**Palmer**	**20.58**	**49**	*e*P	**P**	**04 51 18.0**	**-1.0**
	comp=Z,33nm,0.9s						
SML	**Sawmill**	**21.00**	**49**	*e*P	**P**	**04 51 23.2**	**-0.4**
MCK	**McKinley**	**21.22**	**43**	*e*P	**P**	**04 51 25.8**	**-0.2**
MCK				pmax	pmax		
	comp=Z,93nm,0.8s,mb5.2						
MCK	**McKinley**	**21.22**	**43**	*e*P	**P**	**04 51 25.8**	**-0.2**
	comp=Z,93nm,0.8s,mb5.2						
MID	**Middleton Isla**	**21.65**	**56**	*e*P	**P**	**04 51 30.9**	**+0.4**
COLA	**College**	**22.03**	**41**	P	**P**	**04 51 35.3**	**+0.7**
COLA				pmax	pmax		
	comp=Z,240nm,1.0s,mb5.6						
COLA	**College**	**22.03**	**41**	*e*P	**P**	**04 51 34.2**	**-0.4**
	comp=Z,241nm,1.0s,mb5.6						
EYAK	**Cordova Ski Ar**	**22.04**	**53**	*e*P	**P**	**04 51 34.0**	**-0.7**
DIV	**Divide**	**22.09**	**51**	*e*P	**P**	**04 51 35.4**	**+0.1**
	comp=Z,38nm,0.4s,mb5.2						
YUK	**Yuzh-Kuril'sk**	**22.23**	**261**	*e*P	**P**	**04 51 37.0**	**+0.3**
YUK				S	**S**	**04 55 41.0**	**+1.1**
YUK				pmax	pmax		
	comp=N,340nm,1.6s						
YUK				pmax	pmax		
	comp=E,340nm,1.6s						
YUK				pmax	pmax		
	comp=Z,670nm,1.6s,mb5.8						
YUK				smax			
	comp=N,11μm,12.0s						
YUK				smax			
	comp=E,16μm,12.0s						
YUK				MLR	MLR		
	comp=Z,32μm,14.0s,MS5.9						
YUK				MLR	MLR		
	comp=N,8μm,13.0s,MS5.8						
YUK				MLR	MLR		
	comp=E,24μm,13.0s,MS5.8						
YSS	**Yuzh-Sakhalins**	**22.73**	**271**⇑ *e*P		**P**	**04 51 42.0**	**-0.1**
YSS				*e*		04 51 57.6	
YSS				*e*S	**S**	**04 55 46.0**	**-3.0**
YSS				pmax	pmax		
	comp=N,270nm,1.3s						
YSS				pmax	pmax		
	comp=E,440nm,1.3s						
YSS				pmax	pmax		
	comp=Z,550nm,1.3s,mb5.8						
YSS				smax			
	comp=N,840nm,3.0s						
YSS				MLR	MLR		
	comp=Z,21μm,16.0s,MS5.7						
YSS				MLR	MLR		
	comp=E,12μm,18.0s						
YSS	**Yuzh-Sakhalins**	**22.73**	**271**	*e*P	**P**	**04 51 42.6**	**+0.5**
	comp=E,208nm,0.8s,mb5.6						
MENT	**Mentasta**	**23.32**	**47**	*e*P	**P**	**04 51 48.4**	**+0.1**
ASAJ	**Asahikawa**	**24.19**	**265**	P	**P**	**04 51 56.4**	**0.0**
	comp=E,207nm,1.0s,mb5.5,baz=7.5,slow=4.7,SNR=94						
ASAJ				LR	LR	05 00 53.7	
	comp=E,19μm,19.0s,MS5.6,baz=65,slow=35						
ASAJ	**Asahikawa**	**24.19**	**265**	P	**P**	**04 51 56.4**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,207nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,19μm,19.0s						
ERM	**Erimo**	**25.00**	**260**	P	**P**	**04 52 05.0**	**+1.3**
	comp=Z,859nm,1.1s,mb6.2,SNR=7.5						
DAWY	**Dawson**	**25.41**	**45**	*e*P	**P**	**04 52 07.7**	**+0.2**
HABR	**Khabarovsk**	**26.84**	**279**	*e*P	**P**	**04 52 20.4**	**0.0**
HABR				*e*S	**S**	**04 56 54.9**	**+0.1**
HABR				pmax	pmax		
	comp=Z,253nm,1.8s,mb5.5						
HABR				MLR	MLR		
	comp=Z,10μm,16.7s,MS5.5						
YAK	**Yakutsk**	**27.05**	**310**	*e*P	**P**	**04 52 21.2**	**-1.1**
YAK				*e**PP	pP	04 52 31.3	+0.2
YAK				*e*PPP		04 53 13.1	
YAK				*e*		04 55 40.4	
YAK				*e*S	**S**	**04 56 56.5**	**-1.7**
YAK				*e**SS	sS	04 57 09.8	-3.0
YAK				*e*SSS		04 58 20.2	
YAK				*e*		05 03 12.1	
YAK				pmax	pmax		
	comp=Z,69nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,23nm,1.5s						
YAK				pmax	pmax		
	comp=E,55nm,1.7s						
YAK				smax			
	comp=N,36nm,1.4s						
YAK				smax			
	comp=E,36nm,1.3s						
YAK				MLR	MLR		
	comp=Z,12μm,15.0s,MS5.6						
YAK				MLR	MLR		
	comp=N,17μm,14.0s,MS5.8						
YAK				MLR	MLR		
	comp=E,8μm,13.0s,MS5.8						
YAK	**Yakutsk**	**27.05**	**310**	*e*P	**P**	**04 52 21.0**	**-1.3**
	comp=E,381nm,1.0s,mb5.9						
SKAG	**Skagway**	**27.26**	**55**	*e*P	**P**	**04 52 25.1**	**+0.9**
	comp=E,46nm,0.8s,mb5.1						
SIT	**Sitka**	**27.59**	**61**	*e*P	**P**	**04 52 28.8**	**+1.7**
SIT				pmax	pmax		
	comp=Z,340nm,1.6s,mb5.7						
SIT	**Sitka**	**27.59**	**61**	*e*P	**P**	**04 52 28.8**	**+1.7**
	comp=Z,340nm,1.6s,mb5.7						
INK	**Inuvik**	**28.42**	**36**	P	**P**	**04 52 35.0**	**+0.4**
	comp=Z,54nm,1.1s,mb5.1,baz=248,slow=8.0,SNR=55						
INK				ScP	ScP	04 59 23.6	-1.6
	comp=Z,8.7nm,1.0s,baz=199,slow=6.2,SNR=4.0						
INK				LR	LR	05 06 12.1	
	comp=Z,14μm,18.1s,MS5.6,baz=248,slow=41						
INK	**Inuvik**	**28.42**	**36**	*e*P	**P**	**04 52 34.9**	**+0.3**
	comp=Z,228nm,1.4s,mb5.6						
KLR	**Kul'dur**	**28.54**	**283**⇓ *i*P		**P**	**04 52 32.2**	**-3.4**
KLR				pmax	pmax		
	comp=E,160nm,1.8s						
KLR				pmax	pmax		
	comp=Z,240nm,1.8s,mb5.6						
TIXI	**Tiksi**	**28.81**	**331**⇑ *i*P		**P**	**04 52 37.2**	**-0.8**
CRAG	**Craig**	**29.13**	**63**	*e*P	**P**	**04 52 40.5**	**-0.3**
CRAG				*e*pP	pP	04 52 48.5	-1.2
CLNS	**Chul'man**	**30.11**	**300**	*e*P	**P**	**04 52 46.5**	**-3.1**
CLNS				*e**PP	pP	04 52 54.0	-4.4
CLNS				*e*		04 55 55.0	
CLNS				*e*		04 59 19.9	
CLNS				pmax	pmax		

comp=Z,27nm,1.2s,mb4.8
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,19nm,0.9s
CLNS MLR MLR
comp=N,61µm,18.0s,MS6.3
CLNS MLR MLR
comp=Z,28µm,18.0s,MS6.0
CLNS MLR MLR
comp=E,19µm,17.0s,MS6.3
DLBC Dease Lake 30.13 57 P **P 04 52 51.1 +1.4**
comp=E,16nm,0.8s,mb4.8,baz=284,slow=10,SNR=17
DLBC LR LR 05 05 01.7
comp=E,34µm,19.7s,MS6.0,baz=276,slow=36
DLBC Dease Lake 30.13 57 *eP* **P 04 52 51.4 +1.7**
DLBC *ep*P pP 04 52 58.0 -0.6
NRGR Nerungri 30.25 300 *eP* **P 04 52 49.9 -0.8**
MJAR Matsushiro Arr 31.41 256 P **P 04 53 01.5 +0.5**
comp=E,33nm,1.2s,mb5.0,baz=39,slow=7.8,SNR=51
MJAR ScP ScP 04 59 35.4 +0.5
comp=E,1.9nm,0.6s,baz=34,slow=1.3,SNR=7.2
MJAR LR LR 05 04 21.0
comp=E,11µm,19.3s,MS5.5,baz=55,slow=34
MJAR Matsushiro Arr 31.41 256 P **P 04 53 01.5 +0.5**
MJAR ScP ScP 04 59 35.4 +0.5
MJAR LR LR 05 04 21.0
MAJO Matsushiro 31.41 256 *eP* **P 04 53 01.5 +0.5**
MAJO pmax pmax
comp=Z,205nm,1.5s,mb5.7
MAJO Matsushiro 31.41 256 *eP* **P 04 53 01.5 +0.5**
comp=Z,205nm,1.5s,mb5.7
MAT Matsushiro 31.41 256 P **P 04 53 01.3 +0.3**
MAT S **S 04 58 05.8 -0.9**
MAT Matsushiro 31.41 256 *eP* **P 04 53 01.0 0.0**
MAT *eS* **S 04 58 06.0 -0.7**
MAT pmax pmax
comp=Z,73nm,1.1s,mb5.4
MAT Matsushiro 31.41 256 *eP* **P 04 53 01.0 0.0**
comp=Z,73nm,1.1s,mb5.4
MAT *eS* **S 04 58 06.0 -0.7**
MDJ Mudanjiang 31.95 276 P **P 04 53 04.3 -1.5**
MDJ PCP PcP 04 55 56.5 +1.0
MDJ S **S 04 58 15.3 +0.2**
MDJ SCP ScP 04 59 37.5 +0.8
MDJ PCS PcS 04 59 38.8 -1.4
MDJ SCS ScS 05 03 38.0 +2.8
MDJ AMB AMB
comp=Z,20nm,1.1s,mb4.9
MDJ LR LR
comp=N,6µm,18.9s,MS5.7
MDJ LR LR
comp=E,12µm,17.4s,MS5.7
MDJ LR LR
comp=Z,13µm,15.2s,MS5.7
MDJ Mudanjiang 31.95 276 *eP* **P 04 53 05.0 -0.7**
comp=Z,40nm,1.1s,mb5.2
BBB Bella Bella 32.97 68 P **P 04 53 15.7 +1.0**
comp=Z,18nm,0.9s,mb5.0,baz=264,slow=9.4,SNR=9.1
CN2 Changchun 34.92 277 *eP* **P 04 53 30.3 -1.3**
CN2 *eS* **S 04 58 55.6 -5.5**
CN2 AMB AMB
comp=Z,40nm,1.1s,mb5.3
CN2 LR LR
comp=N,17µm,16.0s,MS6.0
CN2 LR LR
comp=E,10µm,16.0s,MS6.0
CN2 LR LR
comp=Z,12µm,16.0s,MS5.7
BOD Bodaibo 35.52 305 *eP* **P 04 53 35.3 -1.5**
BOD pmax pmax
comp=Z,140nm,0.9s,mb5.9
HIA Hailar 35.66 289 *eP* **P 04 53 37.2 -0.8**
HIA pmax pmax
comp=Z,167nm,1.4s
HIA Hailar 35.66 289 *eP* **P 04 53 37.2 -0.8**
comp=Z,168nm,1.4s,mb5.8
CBIJ Chichi jima 36.11 240 P **P 04 53 42.4 +0.5**
comp=Z,46nm,0.7s,mb5.5,baz=63,slow=15,SNR=3.2
KIP Kipapa 36.13 138 ⇓*iP* **P 04 53 43.2 +1.2**
KIP Kipapa 36.13 138 *eP* **P 04 53 41.5 -0.5**
comp=Z,371nm,1.3s,mb6.2
KIP *ep*P pP 04 53 48.1 -2.9
KIP *es*P sP 04 53 53.2 -1.5
YKW3 Yellowknife Ar 36.61 46 *eP* **P 04 53 46.3 +0.2**
YKW3 *e*PP PP 04 55 07.7 -1.9
YKA Yellowknife Ar 36.63 46 P **P 04 53 46.3 +0.1**
comp=Z,102nm,0.9s,mb5.7,baz=287,slow=8.5,SNR=278
YKA ScP ScP 04 59 51.4 -1.9
comp=Z,2.0nm,0.8s,baz=289,slow=3.2,SNR=5.9
YKA LR LR 05 08 10.8
comp=Z,21µm,18.8s,MS6.0,baz=285,slow=35
YKA Yellowknife Ar 36.63 46 P **P 04 53 46.3 0.0**
YKA pmax pmax
comp=Z,102nm,0.9s
YKA MLR MLR
comp=Z,21µm,18.8s
YKA Yellowknife Ar 36.63 46 P **P 04 53 46.4 +0.1**
YKA ScP ScP 04 59 51.4 -1.9
YKA LR LR 05 08 10.8
KS15 Wonju Array Si 37.13 267 *eP* **P 04 53 50.1 -0.4**
SNY Shenyang 37.16 276 ⇑P **P 04 53 51.4 +0.6**
A04A Legoe Bay, Lum 37.58 70 ⇑P **P 04 53 54.4 +0.1**
baz=37
D03A Wishkah Elem. 37.73 73 ⇓P **P 04 53 55.9 +0.2**
baz=38
A05A Maple Falls 37.80 70 ⇑P **P 04 53 56.2 0.0**
baz=38
INCN Inchon 37.88 268 *eP* **P 04 53 56.7 -0.2**
comp=Z,201nm,1.1s,mb5.8
C04A Brinnon 37.91 72 ⇑P **P 04 53 57.2 0.0**
baz=38
CIT Chita 37.97 296 *eP* **P 04 53 56.7 -0.9**
CIT *e* pP 04 54 05.2 -1.4
CIT *e* 04 59 48.9
CIT pmax pmax
comp=Z,199nm,2.3s,mb5.4
CMW Cultus Mountai 38.06 71 P **P 04 53 58.8 +0.4**
E03A Lebam 38.15 74 ⇓P **P 04 53 59.4 +0.3**
baz=38
B05A Bryant 38.15 71 ⇑P **P 04 53 59.2 0.0**
baz=38,SNR=16
F03A Seaside 38.47 75 ⇓P **P 04 54 02.0 +0.2**
baz=38
C05A Tolt Reservoir 38.67 71 P **P 04 54 03.2 -0.3**
baz=38,SNR=8.8
D05A Enumclaw 38.75 72 ⇓P **P 04 54 04.3 +0.1**
baz=39,SNR=9.5
F04A Amboy 39.15 74 P **P 04 54 07.2 -0.3**
baz=39,SNR=9.5
E05A Randle 39.21 73 ⇓P **P 04 54 07.6 -0.4**
baz=39
MTMW Mount Mitchell 39.22 74 P **P 04 54 08.5 +0.4**
H03A Soap Creek Ran 39.29 76 ⇑P **P 04 54 08.6 -0.2**
baz=39
K01A Sixes 39.61 80 ⇓P **P 04 54 10.7 -0.7**
baz=40
I03A Eugene 39.68 77 ⇑P **P 04 54 11.9 -0.1**
baz=40
SSOR Sweet Springs 39.69 76 P **P 04 54 12.6 +0.5**
EBG Ellensburg 39.73 72 P **P 04 54 12.5 +0.1**
F05A White Salmon 39.74 74 ⇓P **P 04 54 12.5 0.0**
baz=40
J02A Umpqua 39.84 78 ⇑P **P 04 54 12.9 -0.4**
baz=40
H04A Detroit Lake 39.95 76 ⇑P **P 04 54 14.0 -0.2**
baz=40
EPH Ephrata 40.07 71 P **P 04 54 14.7 -0.5**
DL2 Dalian 40.08 273 P **P 04 54 15.4 +0.1**
DL2 *eS* **S 05 00 21.8 +2.3**
DL2 AMB AMB
comp=Z,50nm,1.2s,mb5.1
DL2 LR LR
comp=N,6µm,15.3s,MS5.7
DL2 LR LR
comp=E,7µm,16.5s,MS5.7
DL2 LR LR
comp=Z,3µm,14.3s,MS5.3
G05A Wamic 40.17 74 ⇑P **P 04 54 16.4 +0.4**
baz=40
RES Resolute Bay 40.20 24 *eP* **P 04 54 16.7 +0.4**
RES pmax pmax
comp=Z,185nm,1.4s,mb5.6
RES Resolute Bay 40.20 24 *eP* **P 04 54 16.7 +0.5**
comp=Z,185nm,1.4s,mb5.6
J03A Ideyld Park 40.21 78 ⇑P **P 04 54 16.5 +0.1**
baz=40
K02A Glendale 40.23 79 ⇓P **P 04 54 16.6 +0.1**
baz=40
L02A Cave Junction 40.51 80 ⇑P **P 04 54 19.4 +0.5**
baz=40,SNR=11
H05A Madras 40.54 75 ⇑P **P 04 54 18.9 -0.2**
baz=40
OD2 Odessa Site #2 40.56 70 P **P 04 54 18.7 -0.6**
HAWA Hanford 40.61 72 *eP* **P 04 54 19.1 -0.5**
comp=Z,2.8nm,0.9s
HUMO Hull Mountain 40.64 79 ⇓P **P 04 54 20.3 +0.3**
baz=40
EDM Edmonton 40.71 60 *eP* **P 04 54 19.9 -0.6**
I05A Bend 40.79 76 ⇓P **P 04 54 21.2 +0.1**
baz=41
KTRM Thompson Ridge 40.79 80 P **P 04 54 22.3 +1.2**
JCC Jacoby Creek 41.03 82 ⇓P **P 04 54 24.2 +1.0**
baz=41
NEW Newport 41.03 68 P **P 04 54 21.6 -1.5**
comp=Z,18nm,0.9s,mb4.7,baz=303,slow=5.9,SNR=27
NEW ScP ScP 05 00 09.7 -0.5
comp=Z,6.5nm,0.9s,baz=113,slow=2.4,SNR=4.6
NEW LR LR 05 08 26.0
comp=Z,11µm,20.4s,MS5.7,baz=306,slow=32
NEW Newport 41.03 68 *eP* **P 04 54 21.8 -1.4**
comp=Z,111nm,1.1s,mb5.4
YBH Yreka Blue Hor 41.30 80 P **P 04 54 25.1 -0.2**
comp=Z,10nm,0.7s,mb4.5,baz=329,slow=4.4,SNR=24
YBH ScP ScP 05 00 12.2 +1.0
comp=Z,1.0nm,0.5s,baz=11,slow=5.2,SNR=3.0
YBH LR LR 05 10 55.9
comp=Z,13µm,18.0s,MS5.8,baz=297,slow=35
YBH Yreka Blue Hor 41.30 80 P **P 04 54 26.3 +1.0**
baz=41,SNR=26
K04A Chilquin 41.38 78 ⇑P **P 04 54 26.8 +0.8**
baz=41
M02C Callahan 41.41 80 ⇑P **P 04 54 26.9 +0.6**
baz=41,SNR=18
N02C Big Bar 41.47 81 ⇓P **P 04 54 27.0 +0.2**
baz=41,SNR=26
L04A Klamath Falls 41.54 79 ⇓P **P 04 54 27.5 +0.2**
baz=41,SNR=13
I06A Prineville 41.54 75 ⇑P **P 04 54 27.1 -0.2**
baz=41,SNR=10
O01C Eel River Cons 41.56 82 ⇓P **P 04 54 28.6 +1.1**
baz=41,SNR=26
LHEM Herd Peak 41.66 80 P **P 04 54 28.8 +0.5**
M04C Macdoel 41.80 79 ⇑P **P 04 54 30.0 +0.6**
baz=42,SNR=20
M03C McCloud 41.93 80 ⇓P **P 04 54 30.5 0.0**
baz=42,SNR=14
J06A Christmas Vall 41.97 76 ⇓P **P 04 54 30.9 0.0**
baz=42,SNR=21
KIPM Iron Peak 41.97 83 *eP* **P 04 54 30.5 -0.3**
WDC Whiskeytown Da 42.08 81 ⇑P **P 04 54 32.1 +0.4**
baz=42,SNR=29
K06A Valley Falls 42.17 77 ⇑P **P 04 54 32.3 -0.1**
baz=42,SNR=9.4
O02C Red Bluff 42.17 82 ⇑P **P 04 54 33.0 +0.6**
baz=42,SNR=42
P01C Double 8 Ranch 42.26 83 P **P 04 54 33.9 +0.7**
baz=42,SNR=21
ALE Alert 42.41 10 P **P 04 54 34.8 +0.3**
comp=Z,606nm,0.9s,mb6.2,SNR=25
M05C Lookout 42.46 79 P **P 04 54 34.9 0.0**
baz=42,SNR=33
GASB Alder Springs 42.53 82 ⇓P **P 04 54 36.6 +1.2**
baz=42,SNR=30
BSMT Bassoo Peak 42.58 67 P **P 04 54 35.3 -0.5**
HATC Hat Creek Radi 42.60 80 P **P 04 54 36.5 +0.5**
baz=42,SNR=29
HOPS Hopland 42.72 83 P **P 04 54 37.5 +0.5**
baz=43,SNR=37
BJT Baijiatuau 42.76 279 *eP* **P 04 54 37.4 +0.1**
BJT pmax pmax
comp=Z,181nm,1.2s
BJT Baijiatuau 42.76 279 *eP* **P 04 54 37.4 +0.1**
comp=Z,182nm,1.2s,mb5.7
K07A Rock Creek Ran 42.83 76 P **P 04 54 37.6 -0.2**
baz=43,SNR=29
IRK Irkutsk 42.92 300 *eP* **P 04 54 37.4 -1.2**
IRK *e* 04 56 28.0
IRK pmax pmax
comp=Z,148nm,1.8s,mb5.4
M06C Likely Place G 42.97 79 ⇓P **P 04 54 38.9 0.0**
baz=43,SNR=14
O04C Chester 43.12 80 ⇓P **P 04 54 40.1 -0.1**
baz=43,SNR=33
MNRC McLaughlin Nat 43.18 83 P **P 04 54 41.7 +1.1**
baz=43,SNR=16
NSHM Saint Helena R 43.30 84 *eP* **P 04 54 41.4 -0.2**
ORV Oroville 43.34 82 ⇓P **P 04 54 41.4 -0.6**
baz=43,SNR=23
SUTB Sutter Buttes 43.36 82 P **P 04 54 41.8 -0.3**
baz=43,SNR=15
MCCM Marconi Confer 43.36 84 ⇓P **P 04 54 41.9 -0.2**
baz=43
O05C Quincy 43.44 81 ⇑P **P 04 54 43.1 +0.3**
baz=43
OHCM Honcut 43.48 82 *eP* **P 04 54 42.7 -0.4**
CVS Carmenet Viney 43.50 84 P **P 04 54 43.8 +0.6**
baz=43,SNR=26
TLY Talaya 43.54 300 P **P 04 54 43.2 -0.4**
comp=Z,300nm,1.0s,mb6.0,SNR=13
TLY Talaya 43.54 300 *eP* **P 04 54 43.0 -0.6**
TLY pmax pmax
comp=Z,63nm,1.1s,mb5.3
TLY MLR MLR
comp=Z,15µm,18.0s,MS5.9
TLY Talaya 43.54 300 *eP* **P 04 54 43.2 -0.4**
comp=Z,73nm,1.1s,mb5.3
TLY *ep*P pP 04 54 51.3 -1.3
FARB Farallon Islan 43.57 85 ⇑P **P 04 54 44.3 +0.5**
baz=43
Q03C Winters 43.59 83 ⇓P **P 04 54 45.6 +1.6**
baz=43,SNR=14
M07A Soldier Meadow 43.65 78 ⇓P **P 04 54 44.9 +0.5**
baz=44,SNR=57
ULN Ulaanbaatar 43.67 294 *i* P **P 04 54 44.6 0.0**
ULN Ulaanbaatar 43.67 294 *eP* **P 04 54 44.4 -0.2**
comp=Z,70nm,1.0s,mb5.3
ULN *ep*P pP 04 54 52.0 -1.7
Q04C Lincoln 43.85 82 ⇓P **P 04 54 46.5 +0.5**
baz=44
CHMT Chamberlain Mo 43.97 68 *eP* **P 04 54 46.2 -0.8**
O06A Flanigan 43.99 80 P **P 04 54 47.5 +0.3**
baz=44,SNR=14
SAC San Andreas 44.00 84 *eP* **P 04 54 47.4 +0.1**
P05C Yuba Gap, Truc 44.04 81 P **P 04 54 48.2 +0.6**
baz=44,SNR=12
SONM Songino Array 44.05 294 P **P 04 54 47.6 -0.1**
comp=Z,14nm,0.7s,mb4.8,baz=58,slow=9.8,SNR=69
SONM ScP ScP 05 00 22.3 0.0
comp=Z,6.0nm,1.1s,baz=53,slow=0.7,SNR=5.2
SONM LR LR 05 14 56.2
comp=Z,17µm,18.3s,MS6.0,baz=159,slow=38
M08A Happy Creek Ra 44.09 77 P **P 04 54 48.6 +0.7**
baz=44,SNR=12
BDM Black Diamond 44.11 84 ⇓P **P 04 54 48.5 +0.4**
baz=44
L09A Wilkinson Ranc 44.17 76 ⇑P **P 04 54 48.7 0.0**
baz=44,SNR=14
JRSC Jasper Ridge 44.23 84 ⇑P **P 04 54 48.9 -0.1**
baz=44,SNR=13
JOW Kunigami 44.23 255 P **P 04 54 49.0 -0.2**
comp=Z,84nm,1.1s,mb5.4,baz=49,slow=7.6,SNR=9.3
P06A Stead Airport, 44.24 80 ⇓P **P 04 54 49.8 +0.6**
baz=44,SNR=5.7
LAVA Lava Cap Winer 44.29 82 P **P 04 54 49.6 0.0**
baz=44,SNR=34
WENL Wente Brothers 44.38 84 ⇑P **P 04 54 50.6 +0.2**
baz=44
ZAK Zakamensk 44.41 299 ⇑*iP* **P 04 54 50.2 -0.4**
ZAK *e* 04 56 33.6
ZAK pmax pmax
comp=Z,154nm,1.8s,mb5.4
BNLO Ben Lomond 44.44 85 ⇓P **P 04 54 50.4 -0.4**
baz=44,SNR=14
R04C Big Horse Ranc 44.48 83 ⇓P **P 04 54 51.0 -0.1**
baz=44
TIA Tai'an 44.56 274 *eP* **P 04 54 51.5 -0.2**
TIA AMB AMB
comp=Z,140nm,1.4s,mb5.6
O07A Toulon 44.56 79 ⇑P **P 04 54 51.6 -0.2**
baz=44,SNR=23
N08A GE Springer Mi 44.64 78 P **P 04 54 52.3 -0.1**
baz=44,SNR=22
S04C Ingram Canyon, 44.72 84 ⇓P **P 04 54 53.3 +0.2**
baz=45
R05C Kirkwood Meado 44.73 82 ⇑P **P 04 54 53.3 +0.2**
baz=45,SNR=21
HRY Holter Researc 44.89 67 *eP* **P 04 54 53.6 -0.8**
P07A Fallon 44.94 80 ⇑P **P 04 54 55.1 +0.3**
baz=45
MOY Mondy 44.95 301 *eP* **P 04 54 54.6 -0.3**
MOY pmax pmax
comp=Z,136nm,2.7s,mb5.3
CMB Columbia Colle 44.96 82 ⇓P **P 04 54 55.1 +0.1**
baz=45,SNR=28
HHC Hu-ho-hao-te 45.05 283 *eP* **P 04 54 56.6 +0.9**
HHC AP pP 04 55 07.0 +2.2
HHC XP sP 04 55 10.5 +2.1
HHC PCP PcP 04 56 35.8 -0.4
HHC PP PP 04 56 42.6 +1.4
HHC SCP ScP 05 00 26.6 +0.2
HHC PCS PcS 05 00 28.8 -1.1
HHC S **S 05 01 34.3 +1.8**
HHC XS sS 05 01 49.5 +2.0
HHC SS SS 05 04 47.8 -7.3
HHC SCS ScS 05 04 49.0 -1.5
HHC AMB AMB
comp=Z,130nm,1.6s,mb5.5
HHC AMB AMB
comp=Z,15µm,13.3s
HHC LR LR
comp=N,19µm,19.8s,MS6.1
HHC LR LR
comp=E,11µm,20.2s,MS6.1
HHC LR LR
comp=Z,14µm,14.3s
PACP Pacheco Peak 45.06 84 ⇓P **P 04 54 56.1 +0.3**
baz=45,SNR=18
SAO San Andreas Ge 45.12 85 P **P 04 54 56.6 +0.4**
SAO pmax pmax
comp=Z,64nm,1.1s,mb5.4
SAO San Andreas Ge 45.12 85 *eP* **P 04 54 55.9 -0.3**
comp=Z,64nm,1.1s,mb5.4
M10A I.L. Ranch, Tu 45.15 76 ⇓P **P 04 54 56.5 +0.1**
baz=45
HLID Hailey 45.20 72 *eP* **P 04 54 56.2 -0.6**
comp=Z,31nm,1.0s,mb5.1
R06C Coleville 45.23 81 ⇓P **P 04 54 57.2 +0.1**
baz=45,SNR=20
HAST Hastings Reser 45.30 85 P **P 04 54 57.9 +0.3**
baz=45,SNR=24
P08A Dixie Valley 45.34 79 ⇓P **P 04 54 58.2 +0.3**
baz=45
LCCM Lewis and Clar 45.36 68 P **P 04 54 57.2 -0.9**
MCMT McKenzie Canyo 45.38 70 *eP* **P 04 54 58.2 -0.1**
S06C San Francisco 45.39 82 ⇑P **P 04 54 58.9 +0.6**
baz=45
BMN Battle Mountai 45.40 78 P **P 04 54 58.7 +0.3**
BMN pmax pmax
comp=Z,63nm,1.3s,mb5.3
BMN Battle Mountai 45.40 78 *eP* **P 04 54 58.5 +0.1**
comp=Z,63nm,1.3s,mb5.3
S05C Merced 45.43 83 ⇑P **P 04 54 58.6 -0.1**
baz=45,SNR=28
SSE Sheshan 45.48 265 P **P 04 54 57.1 -2.0**
SSE AMB AMB
comp=Z,50nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,7µm,11.6s
O09A Fish Creek Ran 45.58 78 P **P 04 54 59.9 +0.1**
baz=45,SNR=20
LRV Little Rabbit 45.60 85 *eP* **P 04 55 00.4 +0.4**
M11A Holland Ranch, 45.65 76 ⇑P **P 04 55 00.6 +0.1**
baz=46,SNR=17
N10A Dunphy 45.65 77 ⇓P **P 04 55 00.5 +0.1**
baz=46
V03C Hunter Liggett 45.73 85 ⇓P **P 04 55 01.0 0.0**
baz=46
R07C Lee Vining 45.74 81 ⇓P **P 04 55 01.7 +0.5**
baz=46
U04C Hernandez Rese 45.79 85 ⇑P **P 04 55 01.9 +0.4**
baz=46,SNR=17
FFC Flin Flon 45.81 53 P **P 04 55 01.4 -0.3**
comp=Z,133nm,1.2s,mb5.7,SNR=14
FFC Flin Flon 45.81 53 *eP* **P 04 55 00.8 -0.9**
FFC pmax pmax
comp=Z,93nm,1.4s,mb5.5
FFC Flin Flon 45.81 53 *eP* **P 04 55 00.8 -0.8**
comp=Z,93nm,1.4s,mb5.5
Q08A Gabbs 45.94 80 P **P 04 55 02.9 +0.2**
baz=46,SNR=44
NVAR Mina Array Bea 45.99 81 P **P 04 55 03.2 +0.2**
comp=Z,8.6nm,0.6s,mb4.8,baz=299,slow=6.6,SNR=33
NVAR PP PP 04 56 46.0 -5.2
comp=Z,10nm,1.0s,baz=242,slow=1.1,SNR=4.1
NVAR ScP ScP 05 00 31.1 +0.8
comp=Z,1.8nm,0.9s,baz=296,slow=4.5,SNR=3.8
P09A Austin 45.99 79 ⇓P **P 04 55 03.2 0.0**
baz=46,SNR=8.0
T06C Millerton Lake 46.03 83 ⇑P **P 04 55 03.6 +0.2**
baz=46
N11A Elko Archery C 46.05 76 ⇑P **P 04 55 03.8 +0.2**
baz=46
KCC Kaiser Creek 46.07 82 ⇑P **P 04 55 03.9 +0.2**
baz=46
MNV Mina 46.08 80 P **P 04 55 03.8 0.0**
MNV pmax pmax
comp=Z,30nm,1.0s,mb5.2
MNV Mina 46.08 80 *eP* **P 04 55 03.6 -0.2**
comp=Z,30nm,1.0s,mb5.2
BTO Baotou 46.13 283 *eP* **P 04 55 04.8 +0.6**
BTO AMB AMB
comp=Z,100nm,1.4s,mb5.5
R08A Mina 46.15 81 ⇑P **P 04 55 04.8 +0.4**
baz=46
M12A Wells 46.19 75 ⇑P **P 04 55 04.5 -0.1**
baz=46,SNR=14
QLMT Earthquake Lak 46.20 69 *eP* **P 04 55 04.2 -0.6**
V04C Ramage Ranch, 46.20 85 ⇓P **P 04 55 05.3 +0.5**
baz=46
PKD Parkfield 46.21 85 ⇑P **P 04 55 04.6 -0.2**
baz=46,SNR=28
GUMO Guam 46.23 226 P **P 04 55 03.6 -1.4**
comp=Z,83nm,0.9s,mb5.7,baz=66,slow=17,SNR=3.2
GUMO LR LR 05 14 03.8
comp=Z,5µm,18.7s,MS5.5,baz=47,slow=36
GUMO Guam 46.23 226 P **P 04 55 03.6 -1.4**
GUMO pmax pmax
comp=Z,83nm,0.9s,mb5.7
GUMO MLR MLR
comp=Z,5µm,18.7s,MS5.5
NJ2 Nanjing 46.26 268 *eP* **P 04 55 05.3 +0.1**
NJ2 AP pP 04 55 14.8 +0.5
NJ2 XP sP 04 55 18.4 +0.4
NJ2 PCP PcP 04 56 38.1 -2.3
NJ2 S **S 05 01 50.0 +0.1**
NJ2 XS sS 05 02 06.0 +1.0
NJ2 AMB AMB
comp=Z,130nm,1.4s,mb5.7
NJ2 AMB AMB
comp=Z,4µm,6.0s
NJ2 LR LR
comp=N,5µm,24.0s,MS5.6
NJ2 LR LR
comp=E,7µm,24.0s,MS5.6
NJ2 LR LR
comp=Z,3µm,24.0s,MS5.1
ELK Elko 46.40 76 *eP* **P 04 55 05.6 -0.7**
ELK pmax pmax
comp=Z,26nm,0.9s
ELK Elko 46.40 76 *eP* **P 04 55 05.5 -0.8**
comp=Z,26nm,0.9s,mb5.2
Q09A Carvers 46.42 79 ⇑P **P 04 55 06.4 -0.1**
baz=46
N12A Wells–Clov Va 46.45 76 ⇓P **P 04 55 06.7 0.0**
baz=46
MTUM Tungsten Hills 46.51 82 *eP* **P 04 55 07.5 +0.3**
PTRM Twissleman Ran 46.60 85 *eP* **P 04 55 07.2 -0.7**
PTRM *ep*P pP 04 55 15.3 -1.7
GCMT Greycliff 46.65 67 *eP* **P 04 55 07.7 -0.5**
GCMT *ep*P pP 04 55 17.1 -0.4
S08C White Mtn Res 46.66 81 ⇑P **P 04 55 08.7 +0.3**
baz=46,SNR=36
M13A Montello 46.67 75 ⇑P **P 04 55 08.5 0.0**
baz=46
KRAR Krasnoyarsk 46.72 310 ⇑*iP* **P 04 55 08.3 -0.5**
KRAR pmax pmax
comp=Z,223nm,2.5s,mb5.7
KRAR MLR MLR

comp=Z,13µm,19.0s,MS5.9
TIN Tinemaha 46.91 82 ⇑P P 04 55 11.2 +0.9
baz=47
N13A West Wendover 46.95 75 ⇓P P 04 55 10.7 0.0
baz=47
S09A Goldfield 47.10 81 P P 04 55 11.7 -0.1
baz=47,SNR=14
MOOW Moose Ponds 47.23 70 *eP* **P 04 55 12.5 -0.4**
comp=Z,27nm,1.5s,mb5.0
TPAW Teton Pass 47.27 70 *eP* **P 04 55 12.8 -0.3**
comp=Z,26nm,1.1s,mb5.1
P12A McGill 47.39 77 P P 04 55 14.4 +0.3
baz=47,SNR=16
CWC Cottonwood Cre 47.40 83 ⇓P P 04 55 14.6 +0.5
baz=47,SNR=5.6
LOHW Long Hollow 47.40 70 *eP* **P 04 55 13.8 -0.3**
comp=Z,28nm,1.4s,mb5.0
AHID Auburn Hatcher 47.62 71 *eP* **P 04 55 15.5 -0.4**
comp=Z,39nm,1.1s,mb5.3
ISA Isabella 47.66 84 ⇓P P 04 55 16.1 -0.1
baz=48
HWUT Hardware Ranch 48.06 73 *eP* **P 04 55 18.8 -0.4**
comp=Z,18nm,0.9s,mb5.1
DUG Dugway 48.19 75 P P 04 55 20.3 0.0
DUG pmax pmax
comp=Z,68nm,1.1s,mb5.6
DUG Dugway 48.19 75 *eP* **P 04 55 19.7 -0.6**
comp=Z,68nm,1.2s,mb5.5
BW06 Boulder Array 48.52 70 *eP* **P 04 55 21.7 -1.1**
comp=Z,31nm,0.9s,mb5.3
PDAR Pinedale Array 48.52 70 P P 04 55 21.3 -1.5
comp=Z,15nm,1.0s,mb5.0,baz=309,slow=4.7,SNR=64
PDAR ScP ScP 05 00 40.4 -0.6
comp=Z,2.0nm,1.0s,baz=292,slow=1.0,SNR=3.4
PDAR LR LR 05 12 02.4
comp=Z,11µm,20.3s,MS5.8,baz=217,slow=31
SNCC San Nicolas Is 48.62 87 ⇑P P 04 55 23.9 +0.3
baz=48
GSC Goldstone 48.92 83 ⇑P P 04 55 25.7 -0.2
baz=49,SNR=41
DAU Daniels Canyon 48.98 74 P P 04 55 26.7 +0.3
DAU Daniels Canyon 48.98 74 *eP* **P 04 55 26.0 -0.4**
KBS Kingsbay 49.00 356⇓ *eP* **P 04 55 27.9 +1.4**
KBS Kingsbay 49.00 356⇓ *eP* **P 04 55 27.0 +0.5**
TUQ Turquoise Mtn. 49.37 82 ⇓P P 04 55 28.5 -0.8
baz=49
MSU Marysvale 49.64 76 P P 04 55 32.1 +0.7
MSU Marysvale 49.64 76 *eP* **P 04 55 31.6 +0.2**
WHN Wuhan 50.08 270 ⇑P P 04 55 35.8 +1.1
W12A Cal Nev Ari 50.11 81 ⇑P P 04 55 34.6 -0.3
baz=50
PFO Pinyon Flat Ob 50.27 84 P P 04 55 34.0 -2.1
comp=Z,123nm,1.3s,mb5.8,SNR=6.1
PFO Pinyon Flat Ob 50.27 84 ⇑P P 04 55 35.3 -0.8
baz=50
109C Camp Elliot, M 50.35 85 ⇓P P 04 55 36.7 -0.1
baz=50
RSSD Black Hills 50.85 66 *eP* **P 04 55 40.4 -0.1**
RSSD *e**PP pP 04 55 47.7 -2.0
RSSD pmax pmax
comp=Z,51nm,1.5s,mb5.2
RSSD Black Hills 50.85 66 *eP* **P 04 55 40.4 -0.2**
comp=Z,51nm,1.5s,mb5.2
RSSD *e*pP pP 04 55 47.7 -2.0
XAN Xi'an 51.03 277 P P 04 55 41.4 -0.5
XAN AP pP 04 55 45.8 -5.3
XAN AMB AMB
comp=Z,60nm,1.5s,mb5.3
X13A Yucca 51.22 81 ⇓P P 04 55 42.8 -0.5
baz=51,SNR=17
W14A Seligman 51.26 80 P P 04 55 43.6 0.0
baz=51,SNR=19
Y12C Blythe 51.36 83 ⇓P P 04 55 44.1 -0.3
baz=51,SNR=20
ULM Lac du Bonnet 51.43 55 P P 04 55 43.1 -1.8
comp=Z,15nm,0.9s,mb4.9,baz=306,slow=8.0,SNR=30
ULM LR LR 05 18 30.3
comp=Z,9µm,18.2s,MS5.8,baz=318,slow=37
QZH Quanzhou 51.48 262⇑ *iP* **P 04 55 46.8 +1.5**
QZH S **S 05 03 03.0 -0.4**
QZH AMB AMB
comp=Z,430nm,1.2s,mb6.2
QZH LR LR
comp=N,7µm,12.2s,MS6.2
QZH LR LR
comp=E,11µm,13.4s,MS6.2
QZH LR LR
comp=Z,9µm,12.9s,MS6.0
PV10 Paradox Valley 51.60 74 *eP* **P 04 55 45.8 -0.4**
GLA Glamis 51.65 83 ⇑P P 04 55 46.3 -0.2
baz=52,SNR=23
ZAL Zalesovo 51.72 311 P P 04 55 46.4 -0.6
comp=Z,1.7nm,0.7s,baz=45,slow=11,SNR=7.2
ZAL Zalesovo 51.72 311 P P 04 55 46.4 -0.6
ZAL pmax pmax
comp=Z,20nm,0.7s
Y13A Salome 51.74 82 ⇓P P 04 55 47.0 -0.3
baz=52,SNR=17
W15A Williams 51.77 80 P P 04 55 48.1 +0.7
baz=52,SNR=15
X14A Yava 51.87 81 ⇓P P 04 55 48.5 +0.3
baz=52,SNR=40
NVS Novosibirsk 51.87 313⇓ *iP* **P 04 55 45.9 -2.3**
NVS *e*S **S 05 03 17.4 +8.6**
NVS pmax pmax
comp=Z,340nm,2.2s,mb5.9
NVS pmax pmax
comp=N,94nm,1.7s
PV01 Paradox Valley 52.04 74 *eP* **P 04 55 48.7 -0.7**
Y14A Wickenburg 52.16 81 ⇑P P 04 55 50.2 -0.2
baz=52,SNR=22
X15A Humboldt 52.25 80 P P 04 55 51.2 +0.2
baz=52,SNR=22
SMCO Snowmass 52.30 72 *eP* **P 04 55 50.9 -0.6**
comp=N,9.3nm,0.7s,mb4.8
Z14A Wintersburg 52.59 82 ⇑P P 04 55 53.2 -0.3
baz=52
MVCO Mesa Verde 52.69 75 *eP* **P 04 55 53.9 -0.4**
ISCO Idaho Springs 52.70 71 P P 04 55 54.5 +0.2
ISCO pmax pmax
comp=Z,52nm,0.5s,mb5.7
ISCO Idaho Springs 52.70 71 *eP* **P 04 55 54.3 0.0**
comp=Z,31nm,1.3s,mb5.1
LZH Lanzhou 52.74 283 P P 04 55 55.3 +0.6
LZH AP pP 04 56 00.3 -3.6
LZH XP sP 04 56 04.8 -2.7
LZH S **S 05 03 22.0 +1.3**
LZH XS sS 05 03 32.0 -4.0
LZH PS 05 03 35.0
LZH AMB AMB
comp=Z,200nm,1.2s,mb5.9
LZH AMB AMB
comp=Z,580nm,4.2s
LZH LR LR
comp=N,11µm,16.0s
LZH LR LR
comp=Z,15µm,17.0s,MS6.1
GTA Gaotai 52.94 289 P P 04 55 56.3 +0.2
GTA AP pP 04 56 06.8 +1.4
GTA XP sP 04 56 09.9 +0.9
GTA PCP PcP 04 57 05.8 +1.0
GTA PP PP 04 57 59.0 +3.2
GTA S **S 05 03 22.5 -0.9**
GTA PS 05 03 38.1
GTA SS SS 05 07 01.5 -1.1
GTA AMB AMB
comp=Z,140nm,1.2s,mb5.8
GTA LR LR
comp=N,23µm,16.0s,MS6.4
GTA LR LR
comp=E,19µm,17.5s,MS6.4
GTA LR LR
comp=Z,10µm,17.5s,MS5.9
SUMG Summit 53.25 13 *eP* **P 04 55 58.7 +0.4**
comp=Z,205nm,1.1s,mb6.0
115A Sonoran Desert 53.48 82 P P 04 56 00.3 +0.3
baz=53,SNR=30
116A Eloy 53.90 82 ⇑P P 04 56 02.9 -0.3
baz=54
TUC Tucson 54.63 81 *eP* **P 04 56 08.6 +0.1**
TUC pmax pmax
comp=Z,34nm,1.3s,mb5.2
TUC Tucson 54.63 81 *eP* **P 04 56 08.6 +0.1**
comp=Z,34nm,1.3s,mb5.2
ANMO Albuquerque 55.43 76⇑ *eP* **P 04 56 14.6 +0.3**
ANMO Albuquerque 55.43 76 *eP* **P 04 56 14.2 -0.1**
comp=Z,20nm,1.3s,mb5.0
CAUP Cauayan 55.62 252 *eP* **P 04 56 17.6 +2.0**
SFJD Kangerlussuaq 55.96 21 *i P* **P 04 56 16.9 -1.2**
comp=Z,24nm,0.9s,mb5.2
SFJD
comp=Z,20µm,18.0s
GZH Guangzhou 56.07 265 P P 04 56 14.6 -4.2
CD2 Chengdu 56.34 278 *eP* **P 04 56 20.8 0.0**
CD2 PP PP 04 58 27.6 +1.2
CD2 S **S 05 04 06.3 -2.9**
CD2 SS SS 05 07 53.3 -2.9
CD2 AMB AMB
comp=Z,70nm,1.2s,mb5.6
CD2 LR LR
comp=N,5µm,18.0s
CD2 LR LR
comp=Z,5µm,15.6s,MS5.7
KEV Kevo 56.58 348 *ep* **P 04 56 22.3 -0.2**
comp=Z,11nm,0.8s,mb5.0
KEV Kevo 56.58 348 *eP* **P 04 56 22.3 -0.2**
KEV pmax pmax
comp=Z,11nm,0.8s,mb4.9
KURK Kurchatov 56.69 311 P P 04 56 22.2 -1.1
comp=Z,766nm,1.1s,SNR=65
ARCES ARCESS Array B 56.97 348 P P 04 56 24.4 -0.8
comp=Z,11nm,0.9s,mb4.9,baz=26,slow=8.6,SNR=26
ARCES LR LR 05 24 20.8
comp=Z,9µm,18.9s,MS5.9,baz=244,slow=40
ARCES ARCESS Array B 56.97 348 P P 04 56 24.5 -0.8
ARCES pmax pmax
comp=Z,11nm,0.9s
ARCES MLR MLR
comp=Z,9µm,18.9s
ARE0 ARCESS Array S 56.97 348 *eP* **P 04 56 24.3 -1.0**
ARE0 *ep*P pP 04 56 34.6 0.0
SCO Scoresbysund 57.02 8 *i P* **P 04 56 26.4 +0.8**
comp=Z,29nm,1.0s,mb5.3
SCO Scoresbysund 57.02 8 *i P* **P 04 56 26.4 +0.8**
SCO pmax pmax
comp=Z,29nm,1.0s,mb5.3
LVZ Lovozero 57.14 344 P P 04 56 26.1 -0.4
comp=Z,399nm,0.9s,mb6.5,SNR=6.0
LVZ Lovozero 57.14 344 *i P* **P 04 56 25.3 -1.2**
LVZ pmax pmax
comp=Z,84nm,1.2s,mb5.7
LVZ pmax pmax
comp=N,49nm,1.5s
LVZ pmax pmax
comp=E,29nm,1.6s
LVZ Lovozero 57.14 344⇑ *iP* **P 04 56 25.9 -0.6**
BOLP Bolinao 57.19 254 *eP* **P 04 56 26.7 -0.2**
MK31 Makanchi Array 57.60 306 P P 04 56 28.3 -1.4
MK31 pmax pmax
comp=Z,251nm,1.6s,mb6.0
MKAR Makanchi Array 57.60 306 P P 04 56 28.2 -1.5
comp=Z,17nm,0.8s,mb5.1,baz=52,slow=7.9,SNR=86
MKAR Makanchi Array 57.60 306 P P 04 56 28.2 -1.5
MKAR pmax pmax
comp=Z,170nm,0.8s
APA Apatity 57.65 344⇓ *iP* **P 04 56 29.5 -0.5**
APA pmax pmax
comp=Z,115nm,1.5s,mb5.7
CHKZ Chkalovo 58.14 318 *eP* **P 04 56 32.4 -1.1**
CHKZ *e**PP pP 04 56 43.0 +0.2
CHKZ pmax pmax
comp=Z,233nm,1.6s,mb6.0
CHKZ Chkalovo 58.14 318 *eP* **P 04 56 32.4 -1.1**
comp=Z,233nm,1.6s,mb6.0
CHKZ *e*pP pP 04 56 43.0 +0.1
AMTX Amarillo 58.32 73 *eP* **P 04 56 34.2 -0.5**
comp=Z,37nm,1.1s,mb5.3
MNTX Cornudas Mount 58.34 78 *eP* **P 04 56 34.1 -0.8**
comp=Z,42nm,1.1s,mb5.4
TGY Tagaytay City 58.38 251 P P 04 56 36.3 +1.1
comp=Z,187nm,0.2s,baz=186,slow=20,SNR=17
TGY Tagaytay City 58.38 251 P P 04 56 36.3 +1.1
TGY pmax pmax
comp=Z,187nm,0.3s
VOSK Vostochnaya 58.67 317 P P 04 56 36.4 -0.8
VOSK pmax pmax
comp=Z,90nm,1.2s,mb5.7
BVA0 Borovoye Array 58.71 317 *i P* **P 04 56 36.6 -0.8**
BVA0 pmax pmax
comp=Z,90nm,0.8s,mb5.8
BVAR Borovoye Array 58.71 317 P P 04 56 36.8 -0.7
comp=Z,30nm,0.6s,mb5.5,baz=49,slow=7.2,SNR=120
BVAR Borovoye Array 58.71 317 P P 04 56 36.8 -0.6
BVAR pmax pmax
comp=Z,30nm,0.6s
BRVK Borovoye 58.73 317 P P 04 56 37.2 -0.4
comp=Z,423nm,0.5s,SNR=17
BRVK Borovoye 58.73 317 P P 04 56 39.3 +1.7
BRVK pmax pmax
comp=Z,160nm,1.4s,mb5.9
BRVK Borovoye 58.73 317 *eP* **P 04 56 37.4 -0.2**
comp=Z,162nm,1.4s,mb5.9
BRVK *e*pP pP 04 56 47.3 +0.4
SOKR Solikamsk 58.79 329 *c iP* **P 04 56 38.6 +0.6**
SOKR pmax pmax
comp=Z,110nm,1.5s,mb5.7
ZRNK Zerenda 59.34 318 *eP* **P 04 56 41.3 -0.5**
ZRNK pmax pmax
comp=Z,34nm,0.6s,mb5.5
ZRNK Zerenda 59.34 318 *eP* **P 04 56 41.3 -0.5**
comp=Z,34nm,0.6s,mb5.5
ARU Arti 60.66 326 P P 04 56 51.8 +0.9
comp=Z,458nm,1.3s,mb6.5,SNR=15
ARU Arti 60.66 326⇓ *iP* **P 04 56 51.2 +0.3**
ARU *e* 04 59 01.9
ARU *e*S **S 05 05 07.4 +2.0**
ARU pmax pmax
comp=Z,119nm,1.3s,mb5.9
ARU Arti 60.66 326 *ePr* 04 56 50.9
SNPH Sibulan 60.89 246 *eP* **P 04 56 54.0 +1.5**
SCHQ Schefferville 61.03 36 P P 04 56 53.2 -0.2
comp=Z,53nm,1.0s,mb5.6,baz=336,slow=6.7,SNR=56
SCHQ Schefferville 61.03 36 P P 04 56 53.2 -0.2
LTX Lajitas 61.05 79 *eP* **P 04 56 53.5 -0.1**
LTX pmax pmax
comp=Z,56nm,1.2s,mb5.6
LTX Lajitas 61.05 79 *eP* **P 04 56 53.5 -0.1**
comp=Z,56nm,1.2s,mb5.6
KMI Kunming 61.11 274 P P 04 56 53.8 -0.2
KMI AP pP 04 57 02.3 -1.1
KMI XP sP 04 57 07.3 +0.4
KMI PP PP 04 59 08.5 -0.2
KMI S **S 05 05 08.5 -2.6**
KMI XS sS 05 05 25.8 -0.8
KMI SS SS 05 09 14.8 +3.6
KMI SSS 05 11 55.6
KMI AMB AMB
comp=Z,40nm,1.6s,mb5.3
KMI LR LR
comp=N,10µm,16.9s,MS6.2
KMI LR LR
comp=E,8µm,14.8s,MS6.2
KMI LR LR
comp=Z,9µm,17.5s,MS6.0
QIZ Qiongzhong 61.26 264 P P 04 56 55.1 +0.2
QIZ *e*S **S 05 05 14.1 +1.1**
QIZ AMB AMB
comp=Z,40nm,1.8s,mb5.2
QIZ LR LR
comp=N,5µm,14.1s,MS6.1
QIZ LR LR
comp=E,8µm,14.1s,MS6.1
QIZ LR LR
comp=Z,10µm,15.4s,MS6.1
CCM Cathedral Cave 62.06 63 *eP* **P 04 56 59.4 -0.9**
CCM pmax pmax
comp=Z,45nm,1.4s,mb5.4
CCM Cathedral Cave 62.06 63 *eP* **P 04 56 59.4 -0.9**
comp=Z,45nm,1.4s,mb5.4
JOF Joensuu 62.27 343 *ep* **P 04 57 00.8 -0.9**
comp=Z,45nm,0.7s,mb5.7
JOF Joensuu 62.27 343 *eP* **P 04 57 00.8 -0.9**
JOF pmax pmax
comp=Z,45nm,0.7s,mb5.7
JCT Junction City 62.55 75 *eP* **P 04 57 03.0 -0.7**
JCT *e**PP pP 04 57 13.8 +0.7
JCT pmax pmax
comp=Z,55nm,1.0s,mb5.6
JCT Junction City 62.55 75 *eP* **P 04 57 03.0 -0.7**
comp=Z,55nm,1.0s,mb5.6
JCT *e*pP pP 04 57 13.8 +0.7
FVM French Village 62.56 63 *eP* **P 04 57 02.9 -0.8**
FVM pmax pmax
comp=Z,56nm,1.4s,mb5.5
FVM French Village 62.56 63 *eP* **P 04 57 02.9 -0.8**
comp=Z,56nm,1.4s,mb5.5
BORG Borgarnes 62.68 9 *eP* **P 04 57 05.1 +0.6**
comp=Z,47nm,0.9s,mb5.6
PPR Puerto Princes 63.12 250 *eP* **P 04 57 09.4 +2.0**
MIAR Mount Ida 63.27 68 P P 04 57 07.9 -0.5
MIAR pmax pmax
comp=Z,91nm,1.3s,mb5.8
MIAR Mount Ida 63.27 68 *eP* **P 04 57 07.6 -0.8**
comp=Z,91nm,1.3s,mb5.8
TKM2 Tokmak 2 63.70 307 P P 04 57 11.6 +0.3
SNR=33
TKM2 Tokmak 2 63.70 307 P P 04 57 10.9 -0.3
TKM2 pmax pmax
comp=Z,71nm,1.1s,mb5.6
TKM2 Tokmak 2 63.70 307 *i P* **P 04 57 10.0 -1.2**
UALR University of 63.80 67 *eP* **P 04 57 11.4 -0.5**
BLO Bloomington 63.81 59 P P 04 57 11.6 -0.4
BLO pmax pmax
comp=Z,56nm,1.0s,mb5.5
BLO Bloomington 63.81 59 *eP* **P 04 57 11.4 -0.6**
comp=Z,56nm,1.0s,mb5.5
KAF Kangasniemi 63.87 345 *ep* **P 04 57 11.0 -1.3**
comp=Z,29nm,0.8s,mb5.3,baz=16,slow=5.9
KAF Kangasniemi 63.87 345 *eP* **P 04 57 11.0 -1.3**
KAF pmax pmax
comp=Z,29nm,0.8s,mb5.4
ULHL Ulahol 63.87 306 P P 04 57 12.4 0.0
SNR=41
USP Ospenovka 63.98 308 P P 04 57 13.2 +0.1
SNR=37
CHMS Chumysh 64.06 307 P P 04 57 14.0 +0.4
SNR=20
KBK Karagaybulak 64.21 307 P P 04 57 14.8 +0.2
SNR=26
FRU Bishkek 64.25 307⇓ *iP* **P 04 57 15.0 +0.2**
FRU pmax pmax
comp=Z,75nm,2.0s,mb5.4
AAK Ala-Archa 64.45 307 P P 04 57 16.0 -0.2
SNR=25
AAK Ala-Archa 64.45 307 P P 04 57 15.2 -1.0
comp=Z,288nm,1.2s,mb6.2,SNR=18
AAK Ala-Archa 64.45 307⇓ *eP* **P 04 57 15.5 -0.7**
AAK pmax pmax
comp=Z,117nm,1.7s,mb5.6
AAK Ala-Archa 64.45 307 *eP* **P 04 57 15.7 -0.5**
KZA Kyzart 64.49 306 P P 04 57 17.0 +0.6
SNR=21
FINES FINESS Array B 64.53 345 P P 04 57 16.0 -0.7
comp=Z,16nm,0.9s,mb5.1,baz=42,slow=5.9,SNR=19
FINES PKPPKP 05 26 05.3
comp=Z,1.1nm,0.7s,baz=209,slow=2.0,SNR=4.4
UTMT University of 64.61 63 *eP* **P 04 57 17.0 -0.2**
comp=Z,204nm,1.1s,mb6.1
WCI Wyandotte Cave 64.62 60 *eP* **P 04 57 17.5 +0.2**
WCI *e**PP pP 04 57 26.3 -0.5
WCI pmax pmax
comp=Z,34nm,0.9s,mb5.4
WCI Wyandotte Cave 64.62 60 *eP* **P 04 57 17.5 +0.1**
comp=Z,34nm,0.9s,mb5.4
WCI *e*pP pP 04 57 26.3 -0.5
NATX Nacogdoches 64.66 70 *eP* **P 04 57 17.5 -0.1**
comp=Z,41nm,0.9s,mb5.5
UCH Uchtor 64.75 307 P P 04 57 19.1 +1.0
SNR=19
EKS2 Erkin-Say 64.79 307 P P 04 57 18.4 +0.1
SNR=39
LSA Lhasa 64.81 286 *eP* **P 04 57 19.0 +0.5**
LSA pmax pmax
comp=Z,111nm,1.0s,mb5.8
LSA Lhasa 64.81 286 *eP* **P 04 57 19.0 +0.5**
comp=Z,111nm,1.0s,mb5.8
ACSO Alum Creek Sta 64.89 56 *eP* **P 04 57 17.7 -1.3**
comp=Z,26nm,0.9s,mb5.3
ERPA Erie 65.00 53 *eP* **P 04 57 19.4 -0.3**
comp=Z,84nm,0.8s,mb5.8
AML Almayashu 65.22 307 P P 04 57 22.1 +0.9
SNR=18
ALLY Alegheny Colle 65.27 54 *eP* **P 04 57 21.3 -0.2**
PECR Pechory 65.28 333 *eP* **P 04 57 20.6 -1.0**
HKT Hockley 65.29 73 P P 04 57 21.6 -0.1
HKT pmax pmax
comp=Z,63nm,1.4s,mb5.5
HKT Hockley 65.29 73 *eP* **P 04 57 21.1 -0.5**
comp=Z,63nm,1.4s,mb5.5
WVT Waverly 65.33 63 *eP* **P 04 57 21.4 -0.5**
comp=Z,86nm,1.4s,mb5.6
OXF Oxford 65.65 65 P P 04 57 22.8 -1.2
OXF pmax pmax
comp=Z,180nm,1.1s,mb6.0
OXF Oxford 65.65 65 *eP* **P 04 57 22.5 -1.5**
comp=Z,177nm,1.1s,mb6.0
ORR Orenburg 65.87 325 *eP* **P 04 57 25.8 +0.4**
ORR pmax pmax
comp=Z,130nm,1.9s,mb5.6
FRNY Flat Rock 65.97 47 *eP* **P 04 57 25.0 -1.1**
KK31 Karatay Array 66.03 310 *i P* **P 04 57 25.1 -1.3**
KK31 pmax pmax
comp=Z,282nm,1.8s,mb6.0
KK31 Karatay Array 66.03 310 *i P* **P 04 57 25.2 -1.2**
KKAR Karatay Array 66.03 310 *i P* **P 04 57 25.1 -1.3**
KKAR pmax pmax
comp=Z,522nm,1.9s,mb6.2
KSH Kashi 66.03 304 *eP* **P 04 57 26.5 +0.1**
KSH *e*AP pP 04 57 36.8 +0.9
KSH *e*XP sP 04 57 40.8 +1.3
KSH *e*PCP PcP 04 57 57.4 +0.5
KSH *e*PP PP 04 59 53.8 +1.9
KSH *e*PPP 05 01 28.8
KSH *e*SCP 05 01 56.5
KSH *e*PCS 05 02 00.3
KSH *e*S S 05 06 09.3 -3.1
KSH *e*XS sS 05 06 26.4 -1.6
KSH *e*PS 05 06 35.1
KSH *e*SCS ScS 05 07 16.1 -4.4
KSH *e*SS SS 05 10 26.3 -1.7
KSH AMB AMB
comp=Z,30nm,0.8s,mb5.4
KSH LR LR
comp=N,28µm,13.9s,MS6.8
KSH LR LR
comp=E,26µm,13.2s,MS6.8
KSH LR LR
comp=Z,30µm,15.2s,MS6.6
PLAL Pickwick Lake 66.04 64 *eP* **P 04 57 25.3 -1.2**
comp=Z,27nm,0.8s,mb5.3
PMG Port Moresby 66.39 213 P P 04 57 28.1 -0.6
comp=Z,20nm,0.8s,mb5.2,baz=353,slow=5.5,SNR=3.7
PMG Port Moresby 66.39 213 *eP* **P 04 57 28.2 -0.5**
PMG pmax pmax
comp=Z,116nm,1.3s
PMG Port Moresby 66.39 213 *eP* **P 04 57 28.1 -0.5**
comp=Z,116nm,1.3s,mb5.8
NB2 NORSAR Subarra 66.71 353 P P 04 57 30.2 -0.6
comp=Z,2.2nm,0.7s,baz=12,slow=6.5
NB2 NORSAR Subarra 66.71 353 P P 04 57 30.2 -0.6
NB2 pmax pmax
comp=Z,20nm,0.7s,mb5.3
NOA NORSAR Array B 66.71 353 P P 04 57 30.1 -0.7
comp=Z,17nm,0.8s,mb5.1,baz=9.9,slow=6.4,SNR=37
NOA PKP2ab 05 26 07.5
comp=Z,1.1nm,0.7s,baz=178,slow=3.5,SNR=3.3
NAO01 NORSAR Array S 66.93 353 *eP* **P 04 57 31.8 -0.3**
SWET Sewanee 67.05 62 *eP* **P 04 57 32.0 -0.9**
ACCN Adirondack Com 67.06 48 *eP* **P 04 57 31.9 -1.1**
SSPA Standing Stone 67.15 53 *eP* **P 04 57 33.4 -0.2**
comp=Z,50nm,0.8s,mb5.6
VSU Vasula 67.25 344⇑ *iP* **P 04 57 33.8 -0.4**
MOS Moscow 67.48 337 *eP* **P 04 57 33.0 -2.7**
MOS pmax pmax
comp=Z,172nm,1.5s,mb5.9
KKM Kota Kinabalu 67.59 250 P P 04 57 36.9 +0.6
KKM Kota Kinabalu 67.59 250 *eP* **P 04 57 36.7 +0.4**
SFJM Santa Fe 67.95 85 *eP* **P 04 57 40.0 +1.4**
FWV Forest Hill 67.99 57 *eP* **P 04 57 38.6 -0.3**
TSM Tawau 68.05 247 P P 04 57 39.6 +0.4
CHG Chiang Mai 68.15 273 ⇑P P 04 57 39.7 -0.2
comp=Z,68nm,1.3s,mb5.5
KONO Kongsberg 68.22 353 *eP* **P 04 57 40.2 -0.1**
KONO pmax pmax
comp=Z,45nm,1.1s,mb5.4
KONO Kongsberg 68.22 353 *eP* **P 04 57 40.2 -0.1**
comp=Z,45nm,1.1s,mb5.4
ELN Prospectdale 68.29 57 *eP* **P 04 57 40.1 -0.7**

OBN Obninsk 68.31 337 P **P 04 57 40.2 -0.7**
comp=Z,367nm,1.5s,mb6.2,SNR=7.9
OBN Obninsk 68.31 337⇑ *i*P **P 04 57 40.9 0.0**
OBN *i* pP 04 57 51.4 +1.0
OBN *e* 04 57 58.7
OBN *e* 04 58 04.4
OBN pmax pmax
comp=Z,173nm,1.7s,mb5.8
OBN MLR MLR
comp=Z,10µm,20.0s,MS6.0
OBN Obninsk 68.31 337 *e*P **P 04 57 40.5 -0.4**
comp=Z,265nm,1.6s,mb6.0
BLA Blacksburg 68.48 57 P **P 04 57 42.2 +0.3**
BLA pmax pmax
comp=Z,50nm,1.2s,mb5.4
BLA Blacksburg 68.48 57 *e*P **P 04 57 41.8 -0.1**
comp=Z,5.0nm,1.2s,mb4.4
BLA *e*pP pP 04 57 51.6 +0.2
PAL Palisades 68.79 50 P **P 04 57 43.3 -0.6**
PAL pmax pmax
comp=Z,66nm,1.2s,mb5.4
PAL Palisades 68.79 50 *e*P **P 04 57 43.1 -0.8**
comp=Z,66nm,1.2s,mb5.4
CPNY Central Park 68.93 50 *e*P **P 04 57 44.2 -0.6**
GUN Gumba 69.23 289 *e*P **P 04 57 47.4 +0.8**
comp=Z,562nm,0.8s
JIRN Jiri 69.24 288 *e*P **P 04 57 47.5 +0.8**
comp=Z,506nm,1.0s,mb6.4
MRX Morelia 69.67 84 *e*P **P 04 57 50.0 +0.7**
KKN Kakani 69.67 289 *e*P **P 04 57 49.9 +0.6**
comp=Z,371nm,1.1s,mb6.2
KKN Kakani 69.67 289 *e*P **P 04 57 49.9 +0.6**
KKN pmax pmax
comp=Z,371nm,1.1s,mb6.2
MOIG Morelia 69.69 84 *e*P **P 04 57 51.8 +2.3**
PKI Pulchoki 69.76 289 *e*P **P 04 57 50.2 +0.3**
comp=Z,659nm,1.3s,mb6.4
PKI Pulchoki 69.76 289 *e*P **P 04 57 50.2 +0.3**
PKI pmax pmax
comp=Z,659nm,1.3s,mb6.4
NST Nakhon Sawan 69.80 270 P **P 04 57 50.5 +0.4**
DMN Daman 69.91 289 *e*P **P 04 57 51.5 +0.7**
comp=Z,753nm,1.6s,mb6.4
JSC Jenkinsville 70.27 59 *e*P **P 04 57 53.1 +0.1**
JSC *e**PP pP 04 58 02.7 +0.2
VOR Voronezh 70.69 334 *e*P **P 04 57 54.0 -1.6**
VOR *e**PP pP 04 58 03.0 -2.1
VOR pmax pmax
comp=Z,180nm,1.8s,mb5.7
MCD Coleburn Disti 70.75 0 *e*P **P 04 57 54.1 -1.8**
TAOE Nuku Hiva Isla 70.85 135 *e*LR LR 05 19 38.4
comp=Z,14µm,23.1s
KPL Plockton 70.97 2 *e*P **P 04 57 56.5 -0.8**
VRSR Storozhevoye 71.15 334 *e*P **P 04 57 58.6 +0.2**
VRSR pmax pmax
comp=N,100nm,1.1s
VRSR pmax pmax
comp=Z,80nm,1.1s,mb5.6
VRSR pmax pmax
comp=E,30nm,1.2s
UNM Universidad Na 71.19 83 *e*P **P 04 57 55.0 -3.6**
MUD Monsted U'grnd 71.42 353 *i* P **P 04 58 03.8 +3.8**
comp=E,56nm,1.1s,mb5.4
MUD
comp=Z,17µm,19.0s
MUD Monsted U'grnd 71.42 353 *e*P **P 04 58 03.8 +3.8**
MUD pmax pmax
comp=Z,56nm,1.1s,mb5.4
MUD MLR MLR
comp=Z,17µm,19.0s,MS6.3
MUD Monsted U'grnd 71.42 353 *e*P **P 04 58 03.8 +3.8**
comp=Z,56nm,1.1s,mb5.4
PPM Popocatepetl 71.73 82 *e*P **P 04 58 00.0 -1.8**
NIL Nilore 71.92 302 P **P 04 58 04.8 +1.8**
comp=Z,176nm,0.8s,mb6.0,SNR=5.4
SUW Suwalki 72.10 344 *e*P **P 04 58 03.8 -0.3**
EAB Aberfoyle 72.14 1 *e*P **P 04 58 03.1 -1.2**
EAB AMb AMB 04 58 11.8
comp=Z,115nm,1.4s,mb5.6
BSD Bornholm Skovb 72.20 349 *i* P **P 04 58 04.9 +0.2**
BSD
comp=Z,15µm,18.0s
BSD Bornholm Skovb 72.20 349 *e*P **P 04 58 04.9 +0.2**
BSD MLR MLR
comp=Z,15µm,18.0s,MS6.3
BSD Bornholm Skovb 72.20 349 *e*P **P 04 58 04.9 +0.2**
comp=Z,15nm,1.8s,mb4.6
NNT Nongplab 72.41 268 P **P 04 58 07.0 +1.1**
EDI Edinburgh 72.41 0 *e*P **P 04 58 04.8 -1.1**
EDI AMb AMB 04 58 12.4
comp=Z,83nm,1.7s,mb5.4
ESY Stoneypath 72.42 360 *e*P **P 04 58 05.0 -1.0**
ESY AMb AMB 04 58 08.2
comp=Z,101nm,1.5s,mb5.5
EAU Auchinoon 72.49 0 *e*P **P 04 58 05.5 -0.9**
EAU AMb AMB 04 58 09.0
comp=Z,187nm,1.2s,mb5.9
PGBU Glenifferbraes 72.51 1 *e*P **P 04 58 05.8 -0.8**
RGN Rugen 72.93 350 *e*P **P 04 58 08.6 -0.5**
comp=Z,165nm,1.4s,mb5.8
ESK Eskdalemuir 73.02 0 *e*P **P 04 58 08.2 -1.4**
ESK *e*P 04 58 08.6
ESK AMb AMB 04 58 16.4
comp=Z,82nm,1.4s,mb5.5
ESK Eskdalemuir 73.02 0 P **P 04 58 08.6 -0.9**
ESK AMb AMB 04 58 16.4
comp=Z,82nm,1.4s,mb5.5
ESK Eskdalemuir 73.02 0 P **P 04 58 09.9 +0.4**
ESK pmax pmax
comp=Z,72nm,1.3s,mb5.4
ESK Eskdalemuir 73.02 0 *e*P **P 04 58 09.0 -0.6**
comp=Z,72nm,1.3s,mb5.5
ECK Cauldkaine Hil 73.15 0 *e*P **P 04 58 09.8 -0.6**
ECK AMb AMB 04 58 12.8
comp=Z,74nm,1.4s,mb5.4
BHH Howats Hill 73.24 0 *e*P **P 04 58 10.4 -0.4**
PMOR Pomariorio Rey 73.34 145 *e*P **P 04 58 18.1 +6.6**
comp=Z,219nm,1.4s,mb5.9
BBO1 Bothel 73.60 0 *e*P **P 04 58 12.1 -0.8**
BBO1 AMb AMB 04 58 19.9
comp=Z,26nm,1.3s,mb5.0
VAH Vaihoa 73.65 144 *e*P **P 04 58 19.6 +6.3**
comp=Z,272nm,1.2s,mb6.0
BSEG Bad Segeberg 73.83 352 *e*P **P 04 58 14.3 0.0**
comp=Z,168nm,1.8s,mb5.7
BSEG Bad Segeberg 73.83 352 *e*P **P 04 58 14.3 0.0**
BSEG pmax pmax
comp=Z,168nm,1.8s,mb5.7
XDE Dent Fell 73.83 0 *e*P **P 04 58 13.8 -0.6**
XDE AMb AMB 04 58 17.4
comp=Z,112nm,2.1s,mb5.4
GMM Mts of Mourne 74.07 2 *e*P **P 04 58 15.0 -0.8**
AKASG Malin Array Be 74.09 339 P **P 04 58 15.3 -0.6**
comp=Z,29nm,0.9s,mb5.2,baz=22,slow=5.8,SNR=57
AKASG Malin Array Be 74.09 339 P **P 04 58 15.3 -0.5**
AKASG pmax pmax
comp=Z,29nm,0.9s
AKASG Malin Array Be 74.09 339 P **P 04 58 15.3 -0.6**
WIM Isle of Man 74.18 1 *e*P **P 04 58 16.3 -0.1**
OXX Oaxaca 74.40 82 *e*P **P 04 58 20.0 +2.3**
VHO Vista Hermosa 74.40 82 *e*P **P 04 58 17.1 -0.6**
KSM Kuching 74.72 252 *e*P **P 04 58 19.9 +0.4**
LHO Holmfirth 74.79 359 *e*P **P 04 58 18.6 -1.3**
RUE Ruedersdorf 74.92 350 *e*P **P 04 58 20.3 -0.4**
comp=Z,79nm,1.4s,mb5.5
DCN Croghan 74.93 3⇑ *i*P **P 04 58 19.5 -1.2**
DLF Lyons Farm 75.00 2⇑ *i*P **P 04 58 19.8 -1.3**
DSB Dublin 75.05 2 *e*P **P 04 58 21.4 0.0**
comp=Z,67nm,1.3s,mb5.4
KBI1 Birley Grange 75.08 359 *e*P **P 04 58 20.4 -1.2**
KAKA Kakadu 75.11 225 *e*P **P 04 58 21.4 -0.4**
comp=Z,296nm,1.4s,mb6.0
PPT Papeete 75.14 147 *e*LR LR 05 21 15.6
comp=Z,8µm,22.8s,baz=342
PPT Papeete 75.14 147 LR LR 05 22 59.7
comp=Z,6µm,20.4s,MS5.9,baz=334,slow=29
NRDL Niedersach Rie 75.27 352 *e*P **P 04 58 22.3 -0.4**
comp=Z,79nm,1.8s,mb5.3
KWE Weaver Farm 75.32 359 *e*P **P 04 58 21.9 -1.0**
SBD1 Bryn Du 75.43 0 *e*P **P 04 58 22.3 -1.4**
SBD1 AMb AMB 04 58 27.0
comp=Z,124nm,2.0s,mb5.5
GOF Gofitskoye 75.51 328 *e*P **P 04 58 23.6 -0.5**
GOF pmax pmax
comp=Z,270nm,0.8s,mb6.2

IBBN Ibbenburen 75.65 353 *e*P **P 04 58 24.8 0.0**
comp=Z,497nm,2.4s,mb6.0
ABKT Ailbek 75.83 314 P **P 04 58 26.3 +0.4**
comp=Z,247nm,1.2s,mb6.0,SNR=8.3
CLZ Clausthal 75.89 352 *e*P **P 04 58 26.3 0.0**
comp=Z,80nm,1.7s,mb5.4
CLZ Clausthal 75.89 352 *e*P **P 04 58 26.3 0.0**
CLZ pmax pmax
comp=Z,80nm,1.7s,mb5.4
SSP1 Stoney Pound 75.92 0 *e*P **P 04 58 25.8 -0.6**
SSP1 AMb AMB 04 58 29.0
comp=Z,69nm,1.5s,mb5.4
LVV L'vov 75.97 342 *e*P **P 04 58 26.4 -0.3**
SNG Songkhla 76.06 264 P **P 04 58 25.0 -2.2**
CLL Collm 76.16 350 *e*P **P 04 58 26.9 -0.9**
comp=Z,111nm,2.4s,mb5.4
CLL Collm 76.16 350⇑ *i*P **P 04 58 27.6 -0.2**
comp=Z,82nm,2.0s,mb5.3
CLL *i* pP pP 04 58 37.2 -0.2
CLL *e*(sP) sP 04 58 43.0 +2.1
CLL *i* x x 04 59 02.8
CLL Collm 76.16 350⇑ *i*P **P 04 58 27.6 -0.2**
CLL *i* *PP pP 04 58 37.2 -0.2
CLL pmax pmax
comp=Z,82nm,2.0s,mb5.3
CLL Collm 76.16 350⇑ *i*P **P 04 58 27.6 -0.2**
comp=Z,82nm,2.0s,mb5.3
CLL *i* pP pP 04 58 37.2 -0.2
KSP Ksiaz 76.22 348 *e*P **P 04 58 26.4 -1.7**
GTTG Gvttingen 76.22 352 *e*P **P 04 58 28.0 -0.1**
comp=Z,47nm,1.7s,mb5.1
HTR Trewern Hill 76.26 0 *e*P **P 04 58 28.2 -0.1**
HTR AMb AMB 04 58 35.9
comp=Z,62nm,1.3s,mb5.4
OJC Ojcow 76.32 345 *e*P **P 04 58 28.4 -0.3**
MCH1 Michaelchurch 76.34 0 *e*P **P 04 58 27.4 -1.4**
MCH1 *e*P 04 58 28.2
MCH1 AMb AMB 04 58 35.4
comp=Z,103nm,1.6s,mb5.5
MCH1 Michaelchurch 76.34 0 P **P 04 58 28.2 -0.6**
MCH1 AMb AMB 04 58 35.4
comp=Z,103nm,1.6s,mb5.5
KWP Kalwaria 76.40 343 *e*P **P 04 58 30.5 +1.4**
BRG Berggiesshubel 76.48 349 *e*P **P 04 58 28.9 -0.7**
comp=Z,106nm,2.4s,mb5.3
BRG Berggiesshubel 76.48 349 *e*P **P 04 58 29.4 -0.2**
comp=Z,64nm,2.4s,mb5.1
BRG *e* 04 59 21.9
comp=Z,17nm,1.2s
BRG PP PP 05 01 21.8 +0.2
comp=Z,25nm,1.7s
BRG Berggiesshubel 76.48 349 *e*P **P 04 58 29.4 -0.2**
BRG 05 01 21.8
BRG pmax pmax
comp=Z,64nm,2.4s,mb5.1
FBE Freiberg 76.50 349 *e*P **P 04 58 29.3 -0.4**
comp=Z,139nm,2.1s,mb5.5
BUG Bochum--Univer 76.54 353 *e*P **P 04 58 29.6 -0.3**
comp=Z,124nm,1.9s,mb5.5
UPC Upice 76.58 348⇑ *i*P **P 04 58 29.9 -0.3**
KIV Kislovodsk 76.60 328 P **P 04 58 30.6 +0.3**
comp=Z,432nm,1.0s,mb6.3,SNR=9.2
KIV Kislovodsk 76.60 328 *d i*P **P 04 58 30.8 +0.5**
KIV pmax pmax
comp=Z,102nm,2.5s,mb5.3
KIV MLR MLR
comp=Z,5µm,16.0s,MS6.0
KIV Kislovodsk 76.60 328 *e*P **P 04 58 30.5 +0.2**
comp=Z,54nm,0.8s,mb5.5
DPC Dobruska-Polom 76.70 347⇑ *i*P **P 04 58 31.3 +0.5**
CTA Charters Tower 76.70 210 *e*P **P 04 58 30.8 0.0**
comp=Z,28nm,0.8s,mb5.2
CTA Charters Tower 76.70 210 *e*P **P 04 58 30.8 0.0**
CTA pmax pmax
comp=Z,28nm,0.8s
CTAO Charters Tower 76.70 210 P **P 04 58 30.6 -0.2**
CTAO pmax pmax
comp=Z,140nm,1.3s,mb5.7
CTAO Charters Tower 76.70 210 *e*P **P 04 58 30.1 -0.7**
comp=Z,136nm,1.4s,mb5.7
HGH Gray Hill 76.70 360 *e*P **P 04 58 30.2 -0.6**
HGH AMb AMB 04 58 38.3
comp=Z,155nm,1.4s,mb5.8
PVCC Panska Ves 76.75 349⇑ *e*P **P 04 58 31.1 0.0**
STHS Stebnicka Huta 76.86 344 *i* P **P 04 58 33.1 +1.4**
STHS *e* 04 58 40.0
STHS pmax pmax
comp=Z,59nm,1.2s,mb5.4
STHS Stebnicka Huta 76.86 344 *i* P **P 04 58 33.1 +1.4**
comp=Z,58nm,1.2s,mb5.4
STHS *e* 04 58 40.0
OKC Ostrava-Krasne 76.94 346⇑ *i*P **P 04 58 32.7 +0.5**
UBBA Unterbreizbach 76.94 352 *e*P **P 04 58 31.7 -0.5**
comp=Z,2µm,5.4s
MOX Moxa 76.96 351 *e*P **P 04 58 31.9 -0.4**
comp=Z,117nm,2.1s,mb5.5
MOX Moxa 76.96 351 *e*P **P 04 58 32.2 -0.1**
comp=Z,61nm,2.0s,mb5.2
MOX Moxa 76.96 351 *e*P **P 04 58 32.2 -0.1**
MOX pmax pmax
comp=Z,61nm,2.0s,mb5.2
NIE Niedzica 77.01 345 *e*P **P 04 58 33.7 +1.1**
WERD Werda 77.08 350 *e*P **P 04 58 32.7 -0.3**
comp=Z,252nm,3.0s
MORC Moravsky Berou 77.09 347⇓ *i*P **P 04 58 33.3 +0.3**
MORC Moravsky Berou 77.09 347 P **P 04 58 34.0 +1.0**
MORC Moravsky Berou 77.09 347 *e*P **P 04 58 32.5 -0.5**
comp=Z,106nm,1.9s,mb5.4
TANN Tannenbergstha 77.10 350 *e*P **P 04 58 32.9 -0.2**
comp=Z,220nm,2.6s,mb5.6
WERN Wernitzgruen 77.23 350 *e*P **P 04 58 33.7 -0.1**
comp=Z,142nm,2.1s,mb5.5
ZEI Tsey 77.25 327 *e*P **P 04 58 34.6 +0.7**
ZEI *e**PP pP 04 58 41.2 -2.4
ZEI pmax pmax
comp=Z,66nm,1.1s,mb5.5
NKC Novy Kostel 77.28 350⇑ *i*P **P 04 58 34.0 -0.1**
PRU Pruhonice 77.28 349⇑ *i*P **P 04 58 34.2 +0.1**
UCC Uccle 77.36 355 P **P 04 58 34.7 +0.2**
MEM Membach 77.45 354 P **P 04 58 34.6 -0.5**
MEM Membach 77.45 354 AP pP 04 58 44.2 -0.5
MEM XP sP 04 58 49.2 +1.0
ANN Anapa 77.47 332 *e*P **P 04 58 34.2 -1.0**
ANN pmax pmax
comp=Z,53nm,1.9s,mb5.2
KULM Kulim 77.51 263 *e*P **P 04 58 35.5 +0.1**
MANZ Manzenberg 77.56 350 *e*P **P 04 58 35.5 -0.2**
comp=Z,97nm,2.4s,mb5.3
LIKS Likavka 77.56 345 *e*P **P 04 58 36.8 +1.1**
SNF Seneffe 77.65 355 P **P 04 58 36.7 +0.5**
SNF AP pP 04 58 45.2 -0.6
SNF XP sP 04 58 48.5 -0.9
VRAC Vranov 77.68 347⇓ *i*P **P 04 58 44.0 +7.7**
BCLA Clavier 77.69 355 P **P 04 58 35.9 -0.5**
MENF Mencas 77.69 357 *e*P **P 04 58 36.6 +0.2**
ROTZ Rotzenmuhle 77.77 350 *e*P **P 04 58 36.8 0.0**
comp=Z,30nm,1.7s,mb5.0
BURAR Bucovina Array 77.85 341⇓ *i*P **P 04 58 37.7 +0.4**
BURAR Bucovina Array 77.85 341⇓ P **P 04 58 37.7 +0.4**
SOC Sochi 77.89 330 *e*P **P 04 58 36.2 -1.3**
SOC *e**PP pP 04 58 48.1 +1.0
SOC pmax pmax
comp=Z,55nm,1.3s,mb5.3
SOC Sochi 77.89 330 *i* P **P 04 58 38.8 +1.3**
KECS Kecovo 77.89 344 *i* P **P 04 58 38.0 +0.5**
KECS *e* pP 04 58 45.2 -1.9
KECS pmax pmax
comp=Z,19nm,1.0s,mb5.0
KECS Kecovo 77.89 344 *i* P **P 04 58 38.0 +0.5**
comp=Z,19nm,1.0s,mb5.0
KECS *e* pP 04 58 45.2 -1.9
KECS *e*PP PP 05 01 28.2 -5.2
IPM Ipoh 77.92 262 P **P 04 58 37.0 -0.7**
GRA1 Grafenberg Arr 77.94 351 *e*P **P 04 58 37.9 +0.1**
comp=Z,158nm,1.9s,mb5.6
GRF Grafenberg Arr 77.94 351 *e*P **P 04 58 37.9 +0.1**
comp=Z,158nm,1.9s,mb5.6
GRF Grafenberg Arr 77.94 351 *e*P **P 04 58 37.9 +0.1**
GRF pmax pmax
comp=Z,158nm,1.9s,mb5.6
GRF Grafenberg Arr 77.94 351 *e*P **P 04 58 37.9 +0.1**
GRF pmax pmax
comp=Z,158nm,1.9s,mb5.6
GIVF Givet 78.03 355 *e*P **P 04 58 38.1 -0.2**
DOU Dourbes 78.05 355 P **P 04 58 37.3 -1.1**

ABH Alteburg 78.07 353 *e*P **P 04 58 39.1 +0.6**
BAIF Baives 78.11 355 *e*P **P 04 58 38.7 0.0**
comp=Z,94nm,1.2s,mb5.3
BAIF Baives 78.11 355 *e*P **P 04 58 38.7 0.0**
BAIF pmax pmax
comp=Z,47nm,1.2s,mb5.3
BAIF Baives 78.11 355 *e*P **P 04 58 38.7 0.0**
comp=Z,47nm,1.2s,mb5.3
KOLL Kolacno 78.13 346 *e*P **P 04 58 39.8 +1.0**
VYHS Vyhne 78.14 345 *e*P **P 04 58 39.4 +0.5**
VYHS *e*PP PP 05 01 35.4 -0.2
VYHS Vyhne 78.14 345 *e*P **P 04 58 39.5 +0.6**
VYHS pmax pmax
comp=Z,43nm,1.8s,mb5.1
VYHS Vyhne 78.14 345 *e*P **P 04 58 39.5 +0.6**
comp=Z,43nm,1.8s,mb5.1
VYHS *e*PP PP 05 01 35.5 -0.1
KHC Kasperske Hory 78.24 349⇑ *i*P **P 04 58 40.0 +0.6**
KHC pP pP 04 58 47.5 -1.6
KHC Kasperske Hory 78.24 349⇑ *i*P **P 04 58 40.0 +0.6**
KHC *e* pP 04 58 47.5 -1.6
TOD Tromm 78.25 352 *e*P **P 04 58 38.4 -1.1**
SIM Simferopol' 78.26 334 *e*P **P 04 58 40.1 +0.5**
SIM pmax pmax
comp=Z,20nm,0.9s,mb5.0
RUP Ruppelstein 78.29 353 *e*P **P 04 58 40.2 +0.5**
WET Wettzell 78.31 349 *e*P **P 04 58 39.8 0.0**
comp=Z,118nm,2.3s,mb5.4
WET Wettzell 78.31 349 *e*P **P 04 58 39.8 0.0**
WET pmax pmax
comp=Z,118nm,2.3s,mb5.4
WLF Walferdange 78.39 354 P **P 04 58 40.0 -0.2**
WLF AP pP 04 58 49.6 -0.3
WLF Walferdange 78.39 354 P **P 04 58 41.0 +0.7**
WLF pmax pmax
comp=Z,120nm,1.7s,mb5.5
WLF Walferdange 78.39 354 *e*P **P 04 58 40.2 0.0**
comp=Z,122nm,1.8s,mb5.5
KGM Kluang 78.46 258 P **P 04 58 41.6 +0.9**
GEC2 GERESS Array S 78.51 349 *e*P **P 04 58 40.7 -0.2**
comp=Z,36nm,1.9s,mb5.0
GEC2 GERESS Array S 78.51 349 *e*P **P 04 58 40.7 -0.2**
GEC2 pmax pmax
comp=Z,36nm,1.9s,mb5.0
GERES GERESS Array B 78.51 349 P **P 04 58 40.2 -0.7**
comp=Z,9.9nm,1.1s,mb4.7,baz=25,slow=4.4,SNR=7.4
GERES PKPPKP 05 25 40.8
comp=Z,0.3nm,0.4s,baz=180,slow=2.0,SNR=4.4
PSZ Piszkesteto 78.53 345⇑ *e*P **P 04 58 42.6 +1.5**
PSZ Piszkesteto 78.53 345 *e*P **P 04 58 42.0 +0.9**
PSZ pmax pmax
comp=Z,61nm,1.3s,mb5.4
PSZ Piszkesteto 78.53 345 *e*P **P 04 58 42.0 +0.9**
comp=Z,61nm,1.3s,mb5.4
ZST Bratislava 78.69 346 *e*P **P 04 58 43.0 +1.0**
ZST pmax pmax
comp=Z,32nm,1.1s,mb5.2
ZST Bratislava 78.69 346 *e*P **P 04 58 43.0 +1.0**
comp=Z,32nm,1.1s,mb5.2
SRO Srobarova 78.89 346 *e*P **P 04 58 44.5 +1.5**
SRO pmax pmax
comp=Z,58nm,1.2s,mb5.4
SRO Srobarova 78.89 346 *e*P **P 04 58 44.5 +1.5**
comp=Z,58nm,1.2s,mb5.4
SRO *e*PP PP 05 01 42.3 +0.5
SRO2 Moca 78.92 346 *e*P **P 04 58 45.3 +2.1**
SRO2 pmax pmax
comp=Z,27nm,1.0s,mb5.1
LANF Langenberg 78.95 353 *e*P **P 04 58 43.8 +0.4**
SRO1 Iza 78.95 346 *e*P **P 04 58 45.1 +1.7**
SRO1 pmax pmax
comp=Z,36nm,0.6s,mb5.5
STU Stuttgart 79.04 352 *e*P **P 04 58 43.4 -0.5**
comp=Z,19nm,0.9s,mb5.0
STU Stuttgart 79.04 352 *e*P **P 04 58 43.5 -0.4**
BUD Budapest 79.10 345⇑ *e*P **P 04 58 45.7 +1.5**
DRGR 79.13 342⇑ *i*P **P 04 58 45.5 +1.2**
DRGR 79.13 342 ⇑P **P 04 58 45.5 +1.1**
CONA Conrad Observa 79.13 347 *i* P **P 04 58 45.5 +1.2**
comp=Z,26nm,1.2s,mb5.0,SNR=10
VRI Vrincioaia 79.20 339⇑ *i*P **P 04 58 47.6 +2.9**
VRI Vrincioaia 79.20 339 P **P 04 58 46.1 +1.4**
VRI Vrincioaia 79.20 339 ⇑P **P 04 58 47.6 +2.8**
PLOR Plostina 79.23 339⇓ *i*P **P 04 58 46.4 +1.5**
SOP Sopron 79.27 347⇑ *e*P **P 04 58 46.3 +1.2**
GNI Garni 79.28 325⇑ *e*P **P 04 58 47.2 +2.0**
GNI pmax pmax
comp=Z,100nm,1.7s
GNI Garni 79.28 325 *e*P **P 04 58 47.1 +1.9**
comp=Z,114nm,1.3s,mb5.6
MOA Molln 79.42 348⇑ *i*P **P 04 58 46.3 +0.4**
comp=Z,15nm,1.3s,mb4.8
FUR Furstenfeldbru 79.45 350 *e*P **P 04 58 45.9 -0.2**
comp=Z,40nm,1.2s,mb5.2
FUR Furstenfeldbru 79.45 350 *e*P **P 04 58 45.9 -0.2**
FUR pmax pmax
comp=Z,40nm,1.2s,mb5.2
CFR Carcaliu 79.54 338⇑ *i*P **P 04 58 47.6 +1.0**
CFR Carcaliu 79.54 338 ⇑P **P 04 58 47.6 +1.0**
WLS Welschbruch 79.55 353 *e*P **P 04 58 46.9 +0.3**
BFO Black Forest 79.56 352 P **P 04 58 46.2 -0.5**
comp=Z,76nm,1.2s,mb5.5,SNR=5.2
BFO Black Forest 79.56 352 *e*P **P 04 58 46.3 -0.4**
comp=Z,66nm,1.9s,mb5.2
BFO Black Forest 79.56 352 P **P 04 58 46.5 -0.2**
CDF Champ du Feu 79.56 353 *e*P **P 04 58 46.4 -0.3**
comp=Z,148nm,1.8s,mb5.3
CDF Champ du Feu 79.56 353 *e*P **P 04 58 46.4 -0.3**
CDF pmax pmax
comp=Z,74nm,1.8s,mb5.3
CDF Champ du Feu 79.56 353 *e*P **P 04 58 46.4 -0.3**
comp=Z,74nm,1.8s,mb5.3
FLN La Foliniere 79.56 358 *e*P **P 04 58 46.2 -0.5**
comp=Z,178nm,1.3s,mb5.5
FLN La Foliniere 79.56 358 *e*P **P 04 58 46.2 -0.5**
FLN pmax pmax
comp=Z,89nm,1.3s,mb5.5
FLN La Foliniere 79.56 358 *e*P **P 04 58 46.2 -0.5**
comp=Z,89nm,1.3s,mb5.5
MEZF Maizieres J'vi 79.61 355 *e*P **P 04 58 47.0 0.0**
LDF La Druitiere 79.72 358 *e*P **P 04 58 46.9 -0.7**
comp=Z,105nm,1.2s,mb5.3
LDF La Druitiere 79.72 358 *e*P **P 04 58 46.9 -0.7**
LDF pmax pmax
comp=Z,52nm,1.2s,mb5.3
LDF La Druitiere 79.72 358 *e*P **P 04 58 46.9 -0.7**
comp=Z,52nm,1.2s,mb5.3
ECH Echery 79.76 353 *e*P **P 04 58 48.0 +0.2**
THEF They Montfort 79.83 354 *e*P **P 04 58 48.5 +0.3**
ARSA Arzberg 79.84 347⇑ *i*P **P 04 58 49.5 +1.3**
comp=Z,22nm,1.2s,mb5.0,SNR=7.2
GRR Gorron 79.94 359 *e*P **P 04 58 48.4 -0.4**
comp=Z,132nm,1.2s,mb5.5
GRR Gorron 79.94 359 *e*P **P 04 58 48.4 -0.4**
GRR pmax pmax
comp=Z,66nm,1.2s,mb5.4
GRR Gorron 79.94 359 *e*P **P 04 58 48.4 -0.4**
comp=Z,66nm,1.2s,mb5.4
VOIR 79.97 340⇓ *i*P **P 04 58 50.8 +1.9**
VOIR 79.97 340⇓ P **P 04 58 50.8 +1.9**
ROSF Rostrenen 80.01 0 *e*P **P 04 58 48.9 -0.2**
comp=Z,186nm,1.4s,mb5.5
ROSF Rostrenen 80.01 0 *e*P **P 04 58 48.9 -0.2**
ROSF pmax pmax
comp=Z,93nm,1.4s,mb5.5
ROSF Rostrenen 80.01 0 *e*P **P 04 58 48.9 -0.2**
comp=Z,93nm,1.4s,mb5.5
HAU Haudompre 80.03 354 *e*P **P 04 58 50.0 +0.8**
FELD Feldberg im Sc 80.03 353 *e*P **P 04 58 46.2 -3.0**
SGMF Saint Gilles 80.09 360 *e*P **P 04 58 49.3 -0.3**
comp=Z,197nm,1.3s,mb5.6
SGMF Saint Gilles 80.09 360 *e*P **P 04 58 49.3 -0.3**
SGMF pmax pmax
comp=Z,98nm,1.3s,mb5.6
SGMF Saint Gilles 80.09 360 *e*P **P 04 58 49.3 -0.3**
comp=Z,98nm,1.3s,mb5.6
MOF Molkenrain 80.12 353 *e*P **P 04 58 49.9 +0.2**
TIRR Tirgusor 80.16 338⇓ *i*P **P 04 58 47.5 -2.4**
TIRR Tirgusor 80.16 338 *e*P **P 04 58 48.8 -1.2**
HINF Hinteralfeld 80.18 353 *e*P **P 04 58 49.6 -0.4**
KBA Koelnbreinsper 80.29 349 *i* P **P 04 58 51.8 +1.1**
comp=Z,111nm,1.0s,mb5.7,SNR=18
KBA Koelnbreinsper 80.29 349 *i* P **P 04 58 51.8 +1.2**
KBA pmax pmax
comp=Z,111nm,1.0s,mb5.8

WTTA Wattenberg 80.30 350 *i* P **P 04 58 51.9 +1.2**
comp=Z,56nm,1.2s,mb5.4,SNR=10
WTTA Wattenberg 80.30 350 *i* P **P 04 58 51.9 +1.2**
WTTA pmax pmax
comp=Z,56nm,1.2s,mb5.4
PKSM Moragy 80.40 345⇑*i*P **P 04 58 52.0 +0.8**
PKSM Moragy 80.40 345 ⇑P **P 04 58 52.0 +0.8**
QUIF Quistinic 80.43 0 *e*P **P 04 58 51.2 -0.2**
DAVA Damuels 80.45 351⇓*i*P **P 04 58 52.4 +0.9**
comp=Z,17nm,1.3s,mb4.8
BBS Basel-Blauen 80.48 353 *e*P **P 04 58 52.2 +0.5**
PERS Pernice 80.50 348 *e*P **P 04 58 52.4 +0.7**
TBI Tubuai 80.57 149 eLR LR 05 23 19.2
comp=Z,8μm,29.0s,baz=335
LOMF Lomont 80.64 353 *e*P **P 04 58 52.7 +0.2**
OBKA Obir 80.70 348⇑*i*P **P 04 58 53.7 +0.9**
comp=Z,34nm,1.0s,mb5.2,SNR=11
WRAB Tennant Creek 80.77 220 P **P 04 58 52.0 -1.2**
comp=Z,526nm,1.6s,mb6.2,SNR=14
WRAB Tennant Creek 80.77 220 P **P 04 58 52.4 -0.8**
WRAB pmax pmax
comp=Z,220nm,1.2s,mb6.0
WRAB Tennant Creek 80.77 220 *e*P **P 04 58 52.3 -0.9**
comp=Z,222nm,1.3s,mb5.9
WB2 Warramunga Arr 80.78 220⇓*i*P **P 04 58 52.3 -1.0**
WRA Warramunga Arr 80.78 220 P **P 04 58 52.5 -0.8**
comp=Z,47nm,1.0s,mb5.4,baz=32,slow=6.2,SNR=106
WRA Warramunga Arr 80.78 220 P **P 04 58 52.5 -0.8**
WRA pmax pmax
comp=Z,47nm,1.0s
LOR Lormes 80.91 355 *e*P **P 04 58 53.7 -0.2**
comp=Z,146nm,1.6s,mb5.4
LOR Lormes 80.91 355 *e*P **P 04 58 53.7 -0.2**
LOR pmax pmax
comp=Z,73nm,1.5s,mb5.4
LOR Lormes 80.91 355 *e*P **P 04 58 53.7 -0.2**
comp=Z,73nm,1.5s,mb5.4
PTCC Patocco-Chiusa 80.95 349 P **P 04 58 53.6 -0.6**
comp=Z,25nm,1.1s,mb5.1
HYF Humbligny 80.96 356 *e*P **P 04 58 54.3 +0.1**
ROBS Robic 81.09 349 *e*P **P 04 58 53.8 -1.1**
GMNA Gemona 81.09 349 P **P 04 58 54.9 0.0**
comp=Z,165nm,0.9s,mb6.0
APPI Appiano 81.12 350 P **P 04 58 55.9 +0.8**
SSF Saint Saulge 81.13 356 *e*P **P 04 58 54.7 -0.4**
LJU Ljubljana 81.16 348 *e*P **P 04 58 55.5 +0.2**
BRMO Bormio 81.21 351 P **P 04 58 56.6 +1.1**
comp=Z,30nm,1.1s,mb5.1
VOY Vojsko 81.25 348 *e*P **P 04 58 55.2 -0.6**
AVF Avril sur Loir 81.41 356 *e*P **P 04 58 56.4 -0.2**
comp=Z,134nm,1.6s,mb5.3
AVF Avril sur Loir 81.41 356 *e*P **P 04 58 56.4 -0.2**
AVF pmax pmax
comp=Z,67nm,1.5s,mb5.3
AVF Avril sur Loir 81.41 356 *e*P **P 04 58 56.4 -0.2**
comp=Z,67nm,1.5s,mb5.3
BEO Belgrade 81.44 343 *i* P **P 04 58 58.2 +1.4**
CTI Castel Tesino 81.50 350 P **P 04 58 57.4 +0.3**
CTI pmax pmax
comp=Z,200nm,0.9s,mb6.0
CTI Castel Tesino 81.50 350 P **P 04 58 57.4 +0.3**
comp=Z,20nm,0.9s,mb5.0
SMF Signal de Mont 81.53 355 *e*P **P 04 58 57.0 -0.3**
comp=Z,232nm,1.8s,mb5.5
SMF Signal de Mont 81.53 355 *e*P **P 04 58 57.0 -0.3**
SMF pmax pmax
comp=Z,116nm,1.8s,mb5.5
SMF Signal de Mont 81.53 355 *e*P **P 04 58 57.0 -0.3**
comp=Z,116nm,1.8s,mb5.5
HYB Hyderabad 81.58 287⇓*i*P **P 04 58 58.0 +0.5**
comp=Z,300nm,1.4s,mb6.0
HYB *e*S S 05 09 06.0 -1.6
HYB Hyderabad 81.58 287⇓*e*P **P 04 58 57.5 0.0**
HYB *e*S S 05 09 08.0 +0.4
HYB pmax pmax
comp=Z,300nm,1.4s,mb6.0
HYB Hyderabad 81.58 287⇓*e*P **P 04 58 57.5 0.0**
comp=Z,300nm,1.4s,mb6.0
HYB *e*S S 05 09 08.0 +0.4
BOJS Bojanci 81.59 347 *e*P **P 04 58 57.5 0.0**
BOJS *e* 04 59 02.0
BGF Bois d'Agland 81.66 356 *e*P **P 04 58 57.8 -0.2**
comp=Z,81nm,1.2s,mb5.2
BGF Bois d'Agland 81.66 356 *e*P **P 04 58 57.8 -0.2**
BGF pmax pmax
comp=Z,41nm,1.2s,mb5.2
BGF Bois d'Agland 81.66 356 *e*P **P 04 58 57.8 -0.2**
comp=Z,41nm,1.2s,mb5.2
MFF Saint Martin d 81.72 358 *e*P **P 04 58 58.1 -0.1**
SVIS Svilajnac 81.81 343 *i* P **P 04 58 58.9 +0.1**
MCGN Macugnaga 81.94 352 P **P 04 59 00.8 +1.4**
comp=Z,141nm,2.2s,mb5.5
TCF Toulx Ste Croi 81.96 356 *e*P **P 04 58 59.4 -0.1**
comp=Z,62nm,1.4s,mb5.0
TCF Toulx Ste Croi 81.96 356 *e*P **P 04 58 59.4 -0.1**
TCF pmax pmax
comp=Z,31nm,1.4s,mb5.0
TCF Toulx Ste Croi 81.96 356 *e*P **P 04 58 59.4 -0.1**
comp=Z,31nm,1.4s,mb5.0
BOLS Boljevac 82.12 342⇑*i*P **P 04 58 59.3 -1.1**
PLDF La Plantade 82.22 355 *e*P **P 04 59 01.8 +0.9**
DIVS Divcibare 82.22 344⇓*i*P **P 04 59 00.2 -0.7**
ORO Oropa 82.27 352 P **P 04 59 01.4 +0.3**
ORO pmax pmax
comp=Z,38nm,1.3s,mb5.2
ORO Oropa 82.27 352 P **P 04 59 01.4 +0.3**
comp=Z,38nm,1.3s,mb5.2
GRUS Gruza 82.30 343 *i* P **P 04 59 00.8 -0.4**
LPL La Plagne 82.48 353 *e*P **P 04 59 01.1 -1.1**
LPG La Plagne 82.49 353 *e*P **P 04 59 01.5 -0.8**
comp=Z,45nm,1.3s,mb5.0
LPG La Plagne 82.49 353 *e*P **P 04 59 01.5 -0.8**
LPG pmax pmax
comp=Z,23nm,1.3s,mb5.0
LPG La Plagne 82.49 353 *e*P **P 04 59 01.5 -0.8**
comp=Z,23nm,1.3s,mb4.9
BBLS Bajina Basta - 82.55 344 *i* P **P 04 59 04.5 +1.9**
GRN Grenoble 82.82 354 *e*P **P 04 59 05.1 +1.1**
FITZ Fitzroy Crossi 82.92 229 *e*P **P 04 59 04.3 -0.2**
comp=Z,93nm,0.9s,mb5.8
BNI Bardonecchia 82.94 353 P **P 04 59 05.5 +0.9**
BNI pmax pmax
comp=Z,66nm,1.3s,mb5.5
BNI Bardonecchia 82.94 353 *e*P **P 04 59 04.8 +0.2**
comp=Z,66nm,1.4s,mb5.5
RJF Les Rejaudoux 82.97 357 *e*P **P 04 59 04.5 -0.3**
comp=Z,166nm,1.8s,mb5.5
RJF Les Rejaudoux 82.97 357 *e*P **P 04 59 04.5 -0.3**
RJF pmax pmax
comp=Z,83nm,1.8s,mb5.5
RJF Les Rejaudoux 82.97 357 *e*P **P 04 59 04.5 -0.3**
comp=Z,83nm,1.8s,mb5.5
LBL Lubilhac 82.97 356 *e*P **P 04 59 05.8 +1.0**
BOB Bobbio (Coli) 82.99 351 P **P 04 59 04.9 0.0**
VTS Vitosha 83.07 341⇓*i*P **P 04 59 05.5 +0.2**
VTS Vitosha 83.07 341 P **P 04 59 05.6 +0.3**
VTS Vitosha 83.07 341 *e*P **P 04 59 05.0 -0.3**
MALT Malatya 83.07 328⇑*i*P **P 04 59 07.2 +1.9**
MALT Malatya 83.07 328 *e*P **P 04 59 06.3 +1.0**
MALT pmax pmax
comp=Z,102nm,1.6s,mb5.6
MALT Malatya 83.07 328 *e*P **P 04 59 06.3 +1.0**
comp=Z,102nm,1.6s,mb5.6
ORIF Oris-en-Rattie 83.13 354 *e*P **P 04 59 04.5 -1.1**
comp=Z,26nm,0.8s,mb5.0
ORIF Oris-en-Rattie 83.13 354 *e*P **P 04 59 04.5 -1.1**
ORIF pmax pmax
comp=Z,13nm,0.8s,mb5.0
ORIF Oris-en-Rattie 83.13 354 *e*P **P 04 59 04.5 -1.1**
comp=Z,13nm,0.8s,mb5.0
BRTR Keskin Array B 83.23 332 P **P 04 59 07.0 +0.9**
comp=Z,4.7nm,0.8s,mb4.6,baz=44,slow=3.5,SNR=18
BRTR Keskin Array B 83.23 332 P **P 04 59 07.0 +0.8**
BRTR pmax pmax
comp=Z,50nm,0.8s
BRTR Keskin Array B 83.23 332 P **P 04 59 07.0 +0.9**
MBDF Montbardon 83.26 353 *e*P **P 04 59 05.1 -1.2**
comp=Z,22nm,0.7s,mb5.0
MBDF Montbardon 83.26 353 *e*P **P 04 59 05.1 -1.2**
MBDF pmax pmax
comp=Z,11nm,0.6s,mb5.1
MBDF Montbardon 83.26 353 *e*P **P 04 59 05.1 -1.2**
comp=Z,11nm,0.6s,mb5.1
VIVF Saint-Julien-l 83.27 355 *e*P **P 04 59 06.7 +0.4**
comp=Z,24nm,1.1s,mb4.9
VIVF Saint-Julien-l 83.27 355 *e*P **P 04 59 06.7 +0.4**
VIVF pmax pmax
comp=Z,12nm,1.0s,mb4.9
VIVF Saint-Julien-l 83.27 355 *e*P **P 04 59 06.7 +0.4**
comp=Z,12nm,1.0s,mb4.9
MSL Mosul 83.30 324 *ex* x 04 59 08.0
CAF Calviac 83.33 356 *e*P **P 04 59 06.9 +0.3**
comp=Z,269nm,1.9s,mb5.7
CAF Calviac 83.33 356 *e*P **P 04 59 06.9 +0.3**
CAF pmax pmax
comp=Z,134nm,1.9s,mb5.7
CAF Calviac 83.33 356 *e*P **P 04 59 06.9 +0.3**
comp=Z,134nm,1.9s,mb5.7
ANTO Ankara 83.34 333 P **P 04 59 08.1 +1.4**
ANTO pmax pmax
comp=Z,67nm,1.4s,mb5.5
ANTO Ankara 83.34 333 *e*P **P 04 59 06.8 +0.1**
comp=Z,67nm,1.4s,mb5.5
LFF La Frestale 83.36 357 *e*P **P 04 59 06.8 0.0**
SURF Saint Ours 83.50 353 *e*P **P 04 59 08.9 +1.4**
BDI Bagni Di Lucca 83.58 350 P **P 04 59 07.3 -0.6**
KKB Krupnik 83.80 341 *e*P **P 04 59 09.0 0.0**
STON Ston 83.80 345 *i* P **P 04 59 07.0 -2.1**
MMB Musomiste 83.93 340 *e*P **P 04 59 10.0 +0.3**
TOUF Mont Tournerai 83.93 353 *e*P **P 04 59 10.4 +0.7**
AUTN L'Aution 83.93 353 *e*P **P 04 59 10.2 +0.5**
CING Cingoli 83.95 348 P **P 04 59 10.8 +1.0**
SKO Skopje 84.02 342 *i* P **P 04 59 11.1 +0.9**
LUCF Luceram 84.04 353 *e*P **P 04 59 11.1 +0.8**
STOF St-Etienne Org 84.05 354 *e*P **P 04 59 11.6 +1.3**
MVIF Mont Vial 84.06 353 *e*P **P 04 59 11.1 +0.7**
SBF Sospel 84.06 352 *e*P **P 04 59 10.3 -0.1**
SMRF Simiane la Rot 84.09 354 *e*P **P 04 59 11.5 +1.0**
comp=Z,226nm,1.9s,mb5.7
SMRF Simiane la Rot 84.09 354 *e*P **P 04 59 11.5 +1.0**
comp=Z,226nm,1.9s,mb6.0
LASF Ste Croix 84.09 355 *e*P **P 04 59 09.1 -1.4**
STIP Stip 84.14 341 *i* P **P 04 59 10.6 -0.2**
MURB Monte Urbino 84.15 349 P **P 04 59 11.6 +0.8**
REVF Revere 84.19 353 *e*P **P 04 59 11.6 +0.5**
VILF Villemus 84.20 354 *e*P **P 04 59 12.8 +1.7**
PRAF Pradon 84.29 354 *e*P **P 04 59 13.2 +1.7**
AS31 Alice Springs 84.31 219 *e*P **P 04 59 11.7 0.0**
ASAR Alice Springs 84.31 219 P **P 04 59 11.5 -0.2**
comp=Z,9.5nm,0.7s,mb5.0,baz=19,slow=5.2,SNR=64
ASAR PKKPbc PKKPbc 05 17 23.3 -0.4
comp=Z,0.3nm,0.4s,baz=11,slow=41,SNR=3.8
ASPA Alice Springs 84.31 219 *e*P **P 04 59 11.7 0.0**
TAVF Tavernes 84.41 353 *e*P **P 04 59 13.7 +1.5**
VAY Valandovo 84.42 341 *i* P **P 04 59 12.4 +0.2**
FRF La Foret Royal 84.43 353 *e*P **P 04 59 12.1 -0.1**
GRFL Gerfalco 84.44 350 P **P 04 59 11.8 -0.5**
comp=Z,48nm,1.2s,mb5.5
TREF Trevaresse 84.45 354 *e*P **P 04 59 14.0 +1.6**
PUYF Puyloubier 84.52 354 *e*P **P 04 59 14.2 +1.5**
LMR La Mourre 84.66 353 *e*P **P 04 59 13.4 0.0**
GELF Grande-Etoile 84.69 354 *e*P **P 04 59 14.9 +1.3**
BERF Bertagne 84.74 354 *e*P **P 04 59 15.1 +1.3**
MTLF Montolieu 84.90 356 *e*P **P 04 59 14.9 +0.3**
comp=Z,53nm,1.0s,mb5.3
MTLF Montolieu 84.90 356 *e*P **P 04 59 14.9 +0.3**
MTLF pmax pmax
comp=Z,26nm,1.0s,mb5.3
MTLF Montolieu 84.90 356 *e*P **P 04 59 14.9 +0.3**
comp=Z,26nm,1.0s,mb5.3
AQU L'Aquila 84.93 348⇓*i*P **P 04 59 22.0 +7.2**
AQU L'Aquila 84.93 348 *e*P **P 04 59 15.8 +1.0**
AQU pmax pmax
comp=Z,138nm,1.3s,mb5.9
AQU L'Aquila 84.93 348 *e*P **P 04 59 15.8 +1.0**
comp=Z,138nm,1.3s,mb5.9
BIA Bitola 84.96 342 *i* P **P 04 59 14.3 -0.6**
OHR Ohrid 84.97 342 *i* P **P 04 59 13.8 -1.2**
MNS Montasola 84.99 348 P **P 04 59 17.3 +2.2**
ARMA Armidale 85.09 202 *e*P **P 04 59 16.8 +1.2**
SJPF Ste Jean 85.22 359 *e*P **P 04 59 16.0 -0.2**
comp=Z,32nm,0.9s,mb5.2
SJPF Ste Jean 85.22 359 *e*P **P 04 59 16.0 -0.2**
comp=Z,16nm,0.9s,mb5.2
PGF Pioggiola 85.23 351 *e*P **P 04 59 16.3 0.0**
comp=Z,178nm,1.5s,mb5.7
PGF Pioggiola 85.23 351 *e*P **P 04 59 16.3 0.0**
comp=Z,89nm,1.5s,mb5.7
EPF Esparros 85.27 358 *e*P **P 04 59 15.9 -0.6**
comp=Z,27nm,0.9s,mb5.1
EPF Esparros 85.27 358 *e*P **P 04 59 15.9 -0.6**
EPF pmax pmax
comp=Z,14nm,0.9s,mb5.1
EPF Esparros 85.27 358 *e*P **P 04 59 15.9 -0.6**
comp=Z,14nm,0.9s,mb5.1
LRDF Laroque-de-Fa 85.29 356 *e*P **P 04 59 15.8 -0.8**
LARF Larrau 85.29 359 *e*P **P 04 59 17.4 +0.8**
MLS Moulis 85.33 357 *e*P **P 04 59 17.0 +0.2**
ETSF Etsaut 85.43 358 *e*P **P 04 59 17.6 +0.3**
comp=Z,61nm,1.0s,mb5.4
ETSF Etsaut 85.43 358 *e*P **P 04 59 17.6 +0.3**
ETSF pmax pmax
comp=Z,30nm,1.0s,mb5.4
ETSF Etsaut 85.43 358 *e*P **P 04 59 17.6 +0.3**
comp=Z,30nm,1.0s,mb5.4
VIEF Viey 85.43 358 *e*P **P 04 59 18.2 +0.9**
CII Carovilli 85.43 347 P **P 04 59 18.7 +1.4**
comp=Z,821nm,3.0s
RESF Ens 85.50 358 *e*P **P 04 59 17.7 +0.1**
BHD Baghdad 85.51 322 *ex* x 04 59 18.0
SJAF Saint Jean de 85.73 356 *e*P **P 04 59 19.4 +0.6**
PBRG Braganca 86.48 3 *e*P **P 04 59 25.6 +3.1**
BANOM Banah 86.73 309 ⇑P **P 04 59 19.5 -4.2**
SNR=8.8
PVRL Vila Real 86.97 4 *e*P **P 04 59 27.5 +2.6**
MIB Mutribah 87.39 318 *e*P **P 04 59 26.4 -0.5**
MIB AMb AMB 04 59 34.6
comp=Z,130nm,0.8s,mb6.2
UMR Umm Al-Rimmam 87.46 318 *e*P **P 04 59 26.6 -0.6**
UMR AMb AMB 04 59 30.9
comp=Z,128nm,1.2s,mb6.0
PVIS Viseu 87.53 4 *e*P **P 04 59 27.9 +0.3**
TIP Timpagrande 87.56 345 *e*P **P 04 59 27.7 0.0**
KBD Kabd 87.80 317 *e*P **P 04 59 28.5 -0.3**
MTE Manteigas 87.86 4 *e*P **P 04 59 29.7 +0.6**
MTE Manteigas 87.86 4 *e*P **P 04 59 28.6 -0.5**
comp=Z,25nm,0.9s,mb5.5
ASHO Ashiyiah 87.89 309 ⇓P **P 04 59 24.9 -4.4**
SNR=8.8
NAY Al-Naaiem 87.92 318 *e*P **P 04 59 28.6 -0.9**
NAY AMb AMB 04 59 30.9
comp=Z,74nm,1.1s,mb5.8
RDF Al-Radifah 88.07 317 *e*P **P 04 59 30.3 +0.1**
QRN Al-Qurain 88.08 317 *e*P **P 04 59 29.6 -0.6**
WBK Wadi Bani Khal 88.19 305 ⇑P **P 04 59 26.6 -4.2**
HOQ Hoqain 88.21 307 ⇓P **P 04 59 26.8 -4.0**
PALK Pallekele 88.24 279 *e*P **P 04 59 31.2 +0.2**
comp=Z,48nm,1.1s,mb5.6
SMDO Samad 88.28 306 ⇓P **P 04 59 27.7 -3.4**
MBWA Marble Bar 88.35 232 *e*P **P 04 59 30.9 -0.5**
comp=Z,36nm,1.0s,mb5.6
PTOM Tomar 88.60 4 *e*P **P 04 59 33.0 +0.3**
ESDC Sonseca Array 88.66 1 P **P 04 59 31.6 -1.3**
comp=Z,1.0nm,0.5s,mb4.4,baz=29,slow=3.4,SNR=5.6
ARQ Araqi 88.80 308 ⇑P **P 04 59 31.0 -2.6**
SNR=8.0
JMDO Jabal Madar 88.83 306 ⇓P **P 04 59 30.0 -3.7**
BSY Bisya 88.97 307 ⇑P **P 04 59 31.5 -2.9**
SNR=5.5
STKA Stephens Creek 89.16 210 *e*P **P 04 59 32.9 -2.4**
comp=Z,56nm,1.5s,mb5.7
STKA Stephens Creek 89.16 210 P **P 04 59 33.1 -2.2**
comp=Z,51nm,1.0s,mb5.8,baz=348,slow=5.2,SNR=28
PLOU Loures 89.29 5 *e*P **P 04 59 38.8 +2.9**
PBEJ Beja 90.21 4 *e*P **P 04 59 42.3 +2.1**
CNB Canberra Magne 90.31 202 *e*P **P 04 59 42.0 +1.4**
comp=Z,60nm,1.3s,mb5.8
FORT Forrest 92.97 221 *e*P **P 04 59 52.2 -0.8**
comp=Z,35nm,0.8s,mb5.8
OTAV Otavalo 98.68 78 *e*P **P 05 00 19.5 +0.5**
comp=Z,13nm,1.6s,mb5.2
TORD Torodi Ar. Bea 114.97 355 PKP PKiKP 05 05 19.1 -1.4
comp=Z,1.8nm,0.5s,baz=355,slow=2.0,SNR=40
TORD PKKPbc PKKPbc 05 15 55.0 -1.6
comp=Z,1.4nm,0.9s,baz=166,slow=2.2,SNR=11
LPAZ La Paz 117.89 81 PKP PKPdf 05 05 27.2 +1.0
comp=Z,1.8nm,1.1s,baz=238,slow=6.0,SNR=3.9
LPAZ PKKPbc PKKPbc 05 15 46.3 0.0
comp=Z,1.2nm,1.1s,baz=243,slow=6.8,SNR=2.6
LPAZ La Paz 117.89 81 *e*PKPdf PKPdf 05 05 26.6 +0.5
KMBO Kilima Mbogo 119.17 312 PKP PKPdf 05 05 28.4 -0.2
comp=Z,2.6nm,0.9s,baz=14,slow=20,SNR=4.6
KMBO Kilima Mbogo 119.17 312 PKIKP PKPdf 05 05 28.4 -0.2
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 119.17 312 *e*PKPdf PKPdf 05 05 29.5 +0.9
DBIC Dimbokro 121.50 2 PKP PKPdf 05 05 32.4 -0.7
comp=Z,4.8nm,0.5s,baz=328,slow=3.3,SNR=16
DBIC Dimbokro 121.50 2 PKIKP PKPdf 05 05 32.4 -0.7
DBIC pmax pmax
comp=Z,5.0nm,0.5s
DBIC Dimbokro 121.50 2 *e*PKPdf PKPdf 05 05 33.0 -0.1
LIC Lamto 121.94 2 *e*PKIKP PKPdf 05 05 33.6 -0.4
comp=Z,18nm,1.1s
RCBR Riachuelo 126.50 42 *e*PKPdf PKPdf 05 05 41.8 -0.9
CASY Casey 128.29 208 *e*P PKPdf 05 05 44.6 -1.5
BDFB Brasilia 129.11 62 PKP PKPdf 05 05 47.2 -0.5
comp=Z,15nm,1.1s,baz=308,slow=3.0,SNR=12
BDFB Brasilia 129.11 62 PKIKP PKPdf 05 05 47.2 -0.5
BDFB pmax pmax
comp=Z,15nm,1.1s
VNDA Vanda 129.63 184 PKP PKPdf 05 05 48.4 -0.3
comp=Z,2.9nm,0.9s,baz=280,slow=1.8,SNR=8.1
VNDA SKPbc 05 09 08.4
comp=Z,2.5nm,0.9s,baz=346,slow=4.5,SNR=5.1
VNDA Vanda 129.63 184 *e*PKPdf PKPdf 05 05 46.4 -2.3
CPUP Villa Florida 132.03 79 PKP PKPdf 05 05 52.7 -0.5
comp=Z,13nm,1.1s,baz=328,slow=2.9,SNR=3.3
CPUP SKPbc SKPbc 05 09 15.8 -1.3
comp=Z,4.4nm,0.9s,baz=332,slow=6.7,SNR=6.4
CPUP Villa Florida 132.03 79 *e*PKPdf PKPdf 05 05 52.5 -0.6
CPUP *e*SKPbc SKPbc 05 09 16.4 -0.7
CPUP *e*SKPdf SKPdf 05 09 23.2 -3.0
PLCA Paso Flores 133.61 104 PKP PKPdf 05 05 55.2 -0.9
comp=Z,4.2nm,0.6s,baz=252,slow=3.0,SNR=15
PLCA SKPbc SKPbc 05 09 23.5 +0.9
comp=Z,7.6nm,1.0s,baz=310,slow=5.1,SNR=5.1
PLCA Paso Flores 133.61 104 *e*PKPdf PKPdf 05 05 55.4 -0.8
LSZ Lusaka 135.76 314 *e*PKIKP PKPdf 05 06 00.5 +0.3
TRQA Tornquist 137.17 95 *e*PKPdf PKPdf 05 06 02.4 -0.5
QSPA South Pole Qui 141.78 180 *e*P PKPdf 05 06 04.4 -6.8
TSUM Tsumeb 143.51 326 *e*PKPdf PKPdf 05 06 13.6 -0.7
LBTB Lobatse 145.41 310 PKPbc PKPbc 05 06 17.9 +0.3
comp=Z,114nm,1.1s,baz=48,slow=2.7,SNR=57
LBTB Lobatse 145.41 310 PKIKP PKPdf 05 06 17.9 +0.3
LBTB pmax pmax
comp=Z,114nm,1.1s
LBTB Lobatse 145.41 310 *e*PKPdf PKPdf 05 06 17.8 +0.3
MAW Mawson 145.43 218 *e*P PKPdf 05 06 15.4 -2.2
comp=Z,46nm,1.4s
MAW Mawson 145.43 218 PKPbc PKPbc 05 06 15.6 -2.0
comp=Z,20nm,0.6s,baz=70,slow=4.0,SNR=38
MAW Mawson 145.43 218 PKIKP PKPdf 05 06 15.6 -2.0
MAW pmax pmax
comp=Z,20nm,0.6s
EFI East Falkland 146.62 112 PKP2 PKPab 05 06 20.8 -1.5
EFI East Falkland 146.62 112 *e*PKPbc PKPbc 05 06 19.5 -1.7
PMSA Palmer Station 146.96 137 *e*PKPbc PKPbc 05 06 21.4 -0.8
BOSA Boshof 148.59 307 PKPbc PKPbc 05 06 26.4 -0.2
comp=Z,32nm,0.9s,baz=40,slow=2.2,SNR=22
BOSA Boshof 148.59 307 PKP2 PKPab 05 06 26.5 -3.6
BOSA Boshof 148.59 307 *e*PKPbc PKPbc 05 06 26.1 -0.5
SYO Syowa Base 153.85 214⇓*e*P PKPdf 05 06 28.8 -2.1
SNAA Sanae 160.29 180 PKP PKPdf 05 06 37.6 -1.5
comp=Z,0.8nm,1.1s,baz=160,slow=5.7,SNR=6.2
SNAA PKPab PKPab 05 07 18.5 -1.2
comp=Z,0.7nm,0.6s,baz=216,slow=4.7,SNR=5.1
VNA1 Neumayer--Stat 161.16 174 *e*PKPdf PKPdf 05 06 40.1 +0.1
VNA1 *e* 05 06 47.2
VNA1 *e* 05 06 49.4

JMA 14 04:51:16.5±0.3,**3733N**×**13464E**,**h418**km,**M3.7**,**Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**2.13**	**163**	P	P	04 52 15.2	+0.3
JWT				S	S	04 53 00.0	-2.2
JHS	**Saijyo**	**2.63**	**208**	P	P	04 52 18.0	-0.3
JFT	**Otama**	**4.54**	**86**	P	P	04 52 35.8	+1.1
JYT	**Yasato**	**4.59**	**102**	P	P	04 52 35.1	-0.2
JHO	**Hitachi**	**4.80**	**97**	P	P	04 52 36.8	-0.5
JMM	**Marumori**	**4.92**	**82**	P	P	04 52 38.9	+0.4
JFK	**Kawauchi**	**4.97**	**88**	P	P	04 52 38.9	-0.1
BSO4	**Boso 4**	**5.17**	**115**	P	P	04 52 42.2	+1.2
BSO4				S	S	04 53 47.9	-1.9
BSO3	**Boso 3**	**5.38**	**116**	P	P	04 52 43.6	+0.4
BSO3				*e*S	S	04 53 50.5	-3.4

IDC ***14*** *04:55:28.6*±*1.1,5198N*×*17690E,h0*km*,mb3.8/6, mb1 4.1/7,mb1mx3.8/23,mbtmp3.9/7,ML4.2/1,Error ellipse: s-maj=38.9km s-min=23.7km az=152.0*
ISCJB ***14*** *04:55:32.7*±*1.2,520N*±*0.1*×*1770E*±*0.1,h40*km±*13*km*, mb3.9/6,Error ellipse: s-maj=20.7km s-min=10.8km az=25.5*
NEIC ***14*** *04:55:32.2,5205N*×*177.13E,h15*km*,ML3.5(AEIC),After AEIC.*
ISC 14 04:55:33.4±3.7,**520N**±01×**1770E**±01,**h33**km±28km,**n13**, σ**0°58**/15,**mb3.9**/6,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.56**	**112**	P	**Pn**	**04 55 58.1**	**-0.7**
AMKA				S	**Sn**	**04 56 17.9**	**0.0**
SMY	**Shemya**	**1.93**	**294**	*e*Pn	**Pn**	**04 56 04.3**	**+0.4**
SMY				*e*Sg	**Sn**	**04 56 33.5**	**+6.5**
ATKA	**Atka Island**	**5.44**	**84**	P	**Pn**	**04 56 52.7**	**+0.6**
KDAK	**Kodiak Island**	**18.33**	**60**	P	**Pn**	**04 59 44.4**	**-0.7**
	0.7nm,0.3s,baz=248,slow=15,SNR=4.5						
DAWY	**Dawson**	**25.49**	**45**	*e*P	**P**	**05 00 58.8**	**+0.2**
YKW3	**Yellowknife Ar**	**36.69**	**46**	*e*P	**P**	**05 02 37.7**	**+0.6**
YKA	**Yellowknife Ar**	**36.71**	**46**	P	**P**	**05 02 37.9**	**+0.6**
	2.1nm,0.8s,mb4.0,baz=284,slow=8.2,SNR=7.2						
YKA	**Yellowknife Ar**	**36.71**	**46**	P	**P**	**05 02 37.9**	**+0.6**
PDAR	**Pinedale Array**	**48.59**	**70**	P	**P**	**05 04 13.5**	**-0.3**
	0.5nm,0.7s,mb3.6,baz=306,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**57.58**	**306**	P	**P**	**05 05 19.0**	**-1.0**
	0.5nm,0.4s,mb3.9,baz=52,slow=7.6,SNR=2.5						
BVAR	**Borovoye Array**	**58.70**	**317**	P	**P**	**05 05 27.1**	**-0.6**
	1.2nm,0.4s,mb4.3,baz=54,slow=6.3,SNR=4.7						
WRA	**Warramunga Arr**	**80.71**	**220**	P	**P**	**05 07 43.1**	**-0.1**
	0.6nm,0.7s,mb3.6,baz=30,slow=5.9,SNR=6.2						
ASAR	**Alice Springs**	**84.23**	**219**	P	**P**	**05 08 02.5**	**+0.9**
	0.4nm,0.6s,mb3.7,baz=23,slow=5.2,SNR=3.2						

MAN 14 05:18:01.1,1190N×**12523E**,**h24**km,**mb2.6**,**ML4.1**,**MS2.1**, **Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.36**	**145**	*e*P	Pb	05 18 10.2	+1.3
BESP				*e*S	Sb	05 18 15.4	+1.1
PLP	**Palo**	**0.77**	**198**	*e*P	Pb	05 18 15.3	-0.4
PLP				*e*S	Sb	05 18 24.8	-1.0
OCLP	**Ormoc**	**1.04**	**216**	*e*P	Pn	05 18 21.2	+1.1
MSLP	**Maasin**	**1.79**	**192**	*e*P	Pn	05 18 31.6	+1.2
PVCP	**Virac**	**1.99**	**328**	*e*P	Pn	05 18 33.3	+0.1
SCPH	**Surigao**	**2.12**	**173**	*e*P	Pn	05 18 36.1	+1.1
SCPH				*e*S	Sn	05 19 00.9	+0.4
GUIM	**Jordan**	**2.88**	**244**	*e*P	Pn	05 18 46.5	+1.0

BJI ***14*** *05:26:39.2,5220N*×*17720E,h12*km*,mB5.2,mb4.8,Ms5.4, Msz4.9*
IDC ***14*** *05:26:39.0*±*0.6,5202N*×*17702E,h0*km*,mb4.2/14, mb1 4.4/15,mb1mx4.3/23,mbtmp4.2/15,ML4.4/1,Error ellipse: s-maj=23.7km s-min=15.1km az=148.0*
MOS ***14*** *05:26:42.6*±*1.2,5203N*×*17706E,h33*km*,mb4.5/25,Error ellipse: s-maj=14.3km s-min=10.2km az=66.9*
ISCJB ***14*** *05:26:43.4*±*0.8,5196N*±*007*×*177.11E*±*005,h42*km±*7km, mb4.4/39,MS5.2/4,Error ellipse: s-maj=11.0km s-min=5.0km az=3.0*
NEIC ***14*** *05:26:43.2,5217N*×*17723E,h13*km*,mb4.4/23, ML4.6(AEIC),After AEIC.*
ISC 14 05:26:44.7±0.7,**5195N**±006×**17711E**±005,**h39**km±6km, **n104**,σ**1°06**/99,**mb4.4**/39,**MS5.2**/4,**1C**,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.48**	**112**	P	**Pn**	**05 27 09.3**	**+0.5**
AMKA				S	**Sn**	**05 27 27.5**	**+0.5**
SMY	**Shemya**	**2.00**	**294**	P	**Pn**	**05 27 16.3**	**+0.3**
SMY				S	**Sn**	**05 27 39.3**	**-0.6**
ATKA	**Atka Island**	**5.37**	**84**	P	**Pn**	**05 28 02.2**	**-0.1**
NIKO	**Nikolski**	**8.63**	**78**	P	**Pn**	**05 28 48.5**	**+1.4**
SPIA	**Saint Paul Isl**	**9.01**	**50**	P	**Pn**	**05 28 52.1**	**-0.2**
UNV	**Unalaska Valle**	**10.08**	**73**	*e*Pn	**Pn**	**05 29 06.9**	**0.0**
	77nm,0.6s						
AKUT	**Akutan**	**10.54**	**71**	*e*P	**Pn**	**05 29 10.8**	**-2.3**
	48nm,1.0s						
SKR	**Severo-Kuril's**	**13.19**	**273**	*e*P	**Pn**	**05 29 48.6**	**-0.8**
SDPT	**Sand Point**	**13.70**	**67**	*e*P	**Pn**	**05 29 56.6**	**+0.2**
	66nm,1.0s						
BILL	**Bilibino**	**16.97**	**346**	*e*P	**Pn**	**05 30 41.4**	**+2.3**
BILL				pmax	pmax		
	comp=Z,35nm,1.0s						
BILL	**Bilibino**	**16.97**	**346**	*e*Pn	**Pn**	**05 30 41.4**	**+2.3**
	comp=Z,35nm,1.0s						
SVW2	**Sparrevohn**	**17.50**	**48**	*e*P	**Pn**	**05 30 46.6**	**+0.9**
TTA	**Tatalina**	**18.01**	**42**	*e*P	**Pn**	**05 30 53.0**	**+1.1**
KDAK	**Kodiak Island**	**18.29**	**59**	P	**Pn**	**05 30 55.0**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=209,slow=2.4,SNR=8.4						
KDAK	**Kodiak Island**	**18.29**	**59**	*e*Pn	**Pn**	**05 30 54.5**	**-0.9**
	comp=Z,26nm,0.8s						
SLKM	**Skilak Lake**	**19.89**	**52**	*e*P	**Pn**	**05 31 13.4**	**-1.1**
PMR	**Palmer**	**20.63**	**49**	*e*P	**P**	**05 31 20.5**	**-0.2**
PMR				pmax	pmax		
	comp=Z,11nm,0.8s						
PMR	**Palmer**	**20.63**	**49**	*e*P	**P**	**05 31 20.5**	**-0.2**
	comp=Z,11nm,0.8s						
SML	**Sawmill**	**21.04**	**49**	*e*P	**P**	**05 31 25.9**	**+0.7**
MCK	**McKinley**	**21.27**	**43**	*e*P	**P**	**05 31 26.8**	**-0.9**
MCK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.2						
MCK	**McKinley**	**21.27**	**43**	*e*P	**P**	**05 31 26.8**	**-0.9**
	comp=Z,12nm,1.0s,mb4.2						
EYAK	**Cordova Ski Ar**	**22.08**	**53**	*e*P	**P**	**05 31 37.3**	**+1.1**
COLA	**College**	**22.08**	**41**	*e*P	**P**	**05 31 36.3**	**0.0**
COLA				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
COLA	**College**	**22.08**	**41**	*e*P	**P**	**05 31 36.3**	**0.0**
	comp=Z,21nm,1.0s,mb4.5						
YSS	**Yuzh-Sakhalins**	**22.75**	**271⇑**	*e*P	**P**	**05 31 49.4**	**+6.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
MENT	**Mentasta**	**23.37**	**47**	*e*P	**P**	**05 31 50.6**	**+0.7**
ASAJ	**Asahikawa**	**24.19**	**265**	P	**P**	**05 32 00.1**	**+2.7**
	comp=Z,12nm,0.7s,mb4.4,baz=84,slow=12,SNR=11						
ASAJ	**Asahikawa**	**24.19**	**265**	P	**P**	**05 32 00.1**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.7s						
DAWY	**Dawson**	**25.46**	**45**	*e*P	**P**	**05 32 09.5**	**+0.6**
SKAG	**Skagway**	**27.30**	**55**	*e*P	**P**	**05 32 26.7**	**+1.1**
INK	**Inuvik**	**28.48**	**36**	P	**P**	**05 32 36.2**	**+0.2**
	comp=Z,2.1nm,0.6s,mb3.9,baz=249,slow=12,SNR=7.2						
INK	**Inuvik**	**28.48**	**36**	P	**P**	**05 32 36.2**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**28.48**	**36**	*e*P	**P**	**05 32 38.1**	**+2.1**
	comp=Z,10nm,1.3s,mb4.3						
KLR	**Kul'dur**	**28.57**	**283**	*e*P	**P**	**05 32 35.3**	**-1.6**
MDJ	**Mudanjiang**	**31.97**	**276**	P	**P**	**05 33 05.3**	**-1.6**
CN2	**Changchun**	**34.94**	**277**	*e*P	**P**	**05 33 35.0**	**+2.2**
CN2				*e*XP	sP	05 33 42.0	-6.5
CN2				*e*S	**S**	**05 39 04.3**	**+2.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,4μm,18.0s,MS5.3						
CN2				LR	LR		
	comp=E,4μm,18.0s,MS5.3						
CN2				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
YKW3	**Yellowknife Ar**	**36.66**	**46**	*e*P	**P**	**05 33 48.1**	**+0.6**
YKA	**Yellowknife Ar**	**36.68**	**46**	P	**P**	**05 33 48.1**	**+0.5**
	comp=Z,6.9nm,0.8s,mb4.5,baz=284,slow=8.4,SNR=36						
YKA	**Yellowknife Ar**	**36.68**	**46**	P	**P**	**05 33 48.1**	**+0.4**
YKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
EDM	**Edmonton**	**40.74**	**60**	*e*P	**P**	**05 34 21.4**	**-0.3**
NEW	**Newport**	**41.05**	**68**	*e*P	**P**	**05 34 23.4**	**-0.9**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**41.05**	**68**	*e*P	**P**	**05 34 23.4**	**-0.9**
	comp=Z,3.2nm,0.8s,mb4.0						
SONM	**Songino Array**	**44.10**	**294**	P	**P**	**05 34 48.3**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.6,baz=69,slow=8.0,SNR=4.7						
SONM	**Songino Array**	**44.10**	**294**	P	**P**	**05 34 48.3**	**-0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAK	**Zakamensk**	**44.46**	**299**	*e*P	**P**	**05 34 55.4**	**+3.5**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.2						
HHC	**Hu-ho-hao-te**	**45.08**	**283**	*e*P	**P**	**05 34 55.0**	**-1.8**
HHC				AP	pP	05 34 58.9	-9.2
HHC				XP	sP	05 35 02.6	-10
HHC				PCP	PcP	05 36 35.0	-2.1
HHC				PP	PP	05 36 42.3	-0.3
HHC				SCP	ScP	05 40 25.8	-0.6
HHC				PCS	PcS	05 40 27.8	-3.0
HHC				S	**S**	**05 41 34.5**	**+1.3**
HHC				XS	sS	05 41 42.3	-9.5
HHC				SCS	ScS	05 44 48.8	-1.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,1μm,8.0s						
HHC				LR	LR		
	comp=N,2μm,17.1s,MS5.3						
HHC				LR	LR		
	comp=E,2μm,13.5s,MS5.3						
HHC				LR	LR		
	comp=Z,2μm,15.6s,MS5.1						
HLID	**Hailey**	**45.22**	**72**	*e*P	**P**	**05 34 57.2**	**-0.7**
	comp=Z,4.7nm,1.2s,mb4.2						
BOZ	**Bozeman (W)**	**45.63**	**68**	*e*P	**P**	**05 34 59.9**	**-1.3**
FFC	**Flin Flon**	**45.85**	**53**	*e*P	**P**	**05 35 02.4**	**-0.6**
FFC				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
FFC	**Flin Flon**	**45.85**	**53**	*e*P	**P**	**05 35 02.4**	**-0.6**
	comp=Z,5.5nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**45.99**	**81**	P	**P**	**05 35 04.1**	**0.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=306,slow=6.9,SNR=5.8						
NVAR				PcP	PcP	05 36 40.3	0.0
	comp=Z,1.5nm,0.8s,baz=302,slow=2.8,SNR=4.4						
NVAR	**Mina Array Bea**	**45.99**	**81**	P	**P**	**05 35 04.1**	**0.0**
NVAR				PcP	PcP	05 36 40.3	0.0
NJ2	**Nanjing**	**46.27**	**268**	*e*P	**P**	**05 35 06.8**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
ELK	**Elko**	**46.41**	**76**	*e*P	**P**	**05 35 06.9**	**-0.4**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELK	**Elko**	**46.41**	**76**	*e*P	**P**	**05 35 06.9**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2						
TPAW	**Teton Pass**	**47.29**	**70**	*e*P	**P**	**05 35 14.3**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.2						
BW06	**Boulder Array**	**48.54**	**70**	*e*P	**P**	**05 35 22.7**	**-1.2**
	comp=Z,1.7nm,0.8s,mb4.1						
BW06				*e*	pP	05 35 33.6	-1.5
PDAR	**Pinedale Array**	**48.54**	**70**	P	**P**	**05 35 22.6**	**-1.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=316,slow=3.6,SNR=10						
ULM	**Lac du Bonnet**	**51.47**	**55**	P	**P**	**05 35 45.4**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.2,baz=325,slow=7.3,SNR=6.6						
SMCO	**Snowmass**	**52.32**	**72**	*e*P	**P**	**05 35 54.3**	**+1.9**
	comp=Z,1.7nm,0.7s,mb4.1						
SUMG	**Summit**	**53.32**	**13**	*e*P	**P**	**05 35 59.8**	**0.0**
	comp=Z,11nm,1.0s,mb4.8						
TUC	**Tucson**	**54.63**	**81**	*e*P	**P**	**05 36 09.8**	**+0.4**
TUC				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
TUC	**Tucson**	**54.63**	**81**	*e*P	**P**	**05 36 09.8**	**+0.4**
	comp=Z,3.8nm,1.4s,mb4.2						
CD2	**Chengdu**	**56.37**	**278**	*e*P	**P**	**05 36 20.4**	**-1.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
KURK	**Kurchatov**	**56.75**	**311**	*e*P	**P**	**05 36 24.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb5.2						
KURK	**Kurchatov**	**56.75**	**311**	*e*P	**P**	**05 36 24.0**	**-0.6**
	comp=Z,7.7nm,0.3s,mb5.2						
WMQ	**Urumqi**	**56.87**	**300**	*e*P	**P**	**05 36 27.0**	**+1.6**
WMQ				LR	LR		
	comp=N,1μm,23.0s,MS5.1						
WMQ				LR	LR		
	comp=E,950nm,20.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,29.0s						
MKAR	**Makanchi Array**	**57.66**	**306**	P	**P**	**05 36 29.5**	**-1.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=54,slow=7.3,SNR=6.0						
MKAR	**Makanchi Array**	**57.66**	**306**	P	**P**	**05 36 29.5**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**58.21**	**318**	*e*P	**P**	**05 36 35.1**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**58.21**	**318**	*e*P	**P**	**05 36 35.1**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.3						
MNTX	**Cornudas Mount**	**58.34**	**78**	*e*P	**P**	**05 36 35.5**	**-0.3**
	comp=Z,3.1nm,1.1s,mb4.2						
BRVK	**Borovoye**	**58.79**	**318**	P	**P**	**05 36 41.4**	**+2.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**58.79**	**318**	P	**P**	**05 36 41.4**	**+2.4**
	comp=Z,3.5nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**59.40**	**318**	*e*P	**P**	**05 36 42.6**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**59.40**	**318**	*e*P	**P**	**05 36 42.6**	**-0.6**
	comp=Z,3.9nm,0.8s,mb4.5						
SCHQ	**Schefferville**	**61.09**	**36**	P	**P**	**05 36 54.0**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.6,baz=323,slow=7.0,SNR=8.4						
KMI	**Kunming**	**61.13**	**275**	P	**P**	**05 36 56.5**	**+1.5**
KMI				AP	pP	05 36 59.3	-7.3
KMI				LR	LR		
	comp=N,1μm,18.2s,MS5.3						
KMI				LR	LR		
	comp=E,2μm,15.9s,MS5.3						
KMI				LR	LR		
	comp=Z,750nm,19.0s,MS4.9						
AAK	**Ala-Archa**	**64.51**	**307**	*e*P	**P**	**05 37 16.9**	**-0.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**64.51**	**307**	*e*P	**P**	**05 37 16.9**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.3						
NB2	**NORSAR Subarra**	**66.79**	**353**	P	**P**	**05 37 31.3**	**-0.9**
	comp=Z,5.8nm,1.1s,mb4.5,baz=8.0,slow=6.2						
NB2	**NORSAR Subarra**	**66.79**	**353**	P	**P**	**05 37 31.3**	**-0.9**
NB2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
NOA	**NORSAR Array B**	**66.79**	**353**	P	**P**	**05 37 31.0**	**-1.2**
	comp=Z,1.9nm,0.8s,mb4.2,baz=10,slow=6.3,SNR=4.7						
NOA	**NORSAR Array B**	**66.79**	**353**	P	**P**	**05 37 31.0**	**-1.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**74.17**	**339**	P	**P**	**05 38 15.9**	**-1.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=22,slow=6.4,SNR=4.8						
AKASG	**Malin Array Be**	**74.17**	**339**	P	**P**	**05 38 16.0**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KWP	**Kalwaria**	**76.48**	**343**	*e*P	**P**	**05 38 30.4**	**0.0**
KWP				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KWP	**Kalwaria**	**76.48**	**343**	*e*P	**P**	**05 38 30.4**	**0.0**
	comp=Z,7.5nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**80.73**	**220**	P	**P**	**05 38 54.4**	**+0.6**
	comp=Z,5.0nm,0.7s,mb4.6,baz=35,slow=6.2,SNR=22						
WRA	**Warramunga Arr**	**80.73**	**220**	P	**P**	**05 38 54.4**	**+0.6**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRTR	**Keskin Array B**	**83.31**	**332**	P	**P**	**05 39 07.8**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.7,baz=28,slow=6.5,SNR=3.4						
BRTR	**Keskin Array B**	**83.31**	**332**	P	**P**	**05 39 07.8**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**84.25**	**219**	P	**P**	**05 39 13.1**	**+0.9**
	comp=Z,2.7nm,0.7s,mb4.5,baz=21,slow=5.3,SNR=20						
ASAR	**Alice Springs**	**84.25**	**219**	P	**P**	**05 39 13.1**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
STKA	**Stephens Creek**	**89.09**	**210**	P	**P**	**05 39 35.2**	**-0.6**
	comp=Z,8.5nm,0.9s,mb5.1,baz=7.2,slow=6.9,SNR=15						
TORD	**Torodi Ar. Bea**	**115.05**	**355**	PKP	PKiKP	05 45 20.6	-0.9
	comp=Z,0.2nm,0.6s,baz=338,slow=1.7,SNR=6.6						
BDFB	**Brasilia**	**129.14**	**62**	PKP	PKPdf	05 45 49.3	+0.8
	comp=Z,1.2nm,0.8s,baz=214,slow=3.9,SNR=3.3						
BDFB	**Brasilia**	**129.14**	**62**	PKIKP	PKPdf	05 45 49.3	+0.8
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PLCA	**Paso Flores**	**133.58**	**104**	PKP	PKPdf	05 45 56.5	-0.4
	comp=Z,1.3nm,0.7s,baz=224,slow=11,SNR=6.3						
PLCA	**Paso Flores**	**133.58**	**104**	PKIKP	PKPdf	05 45 56.5	-0.4
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAW	**Mawson**	**145.38**	**218**	PKPbc	PKPbc	05 46 17.1	-1.1
	comp=Z,3.3nm,0.5s,baz=86,slow=5.4,SNR=12						
MAW	**Mawson**	**145.38**	**218**	PKIKP	PKPdf	05 46 17.1	-1.2
MAW				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BOSA	**Boshof**	**148.65**	**307**	PKPbc	PKPbc	05 46 27.6	+0.1
	comp=Z,5.6nm,1.1s,baz=115,slow=15,SNR=5.4						
BOSA	**Boshof**	**148.65**	**307**	PKP2	PKPab	05 46 27.6	-3.6
BOSA				pmax	pmax		
	comp=Z,6.0nm,1.1s						

*NEIC **14** 05:30:00.9, 1525N×9859W, h20km, MD3.9(MEX), After MEX.*

MEX 14 05:30:04.5±1.3, 1563N×9847W, h19km±69km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.86**	**312**	*i* P	Pn	05 30 32.0	-3.3
ACX				*i* S	Sn	05 30 55.0	-3.2
VHO	**Vista Hermosa**	**2.20**	**49**	*i* P	Pn	05 30 38.4	-1.6
VHO				*i* S	Sn	05 31 03.2	-3.3
VHO	**Vista Hermosa**	**2.20**	**49**	*i* P	Pn	05 30 38.4	-1.6
VHO				*i* S	Sn	05 31 08.8	+2.2
OXX	**Oaxaca**	**2.21**	**49**	*e*P	Pn	05 30 39.0	-1.1
OXX				*i* S	Sn	05 31 10.0	+3.1
UTMO	**Huajuapan**	**2.28**	**16**	*e*P	Pn	05 30 36.8	-4.2
UTMO				*i* S	Sn	05 31 04.9	-3.6
MEIG	**Mezcala**	**2.53**	**334**	*i* P	Pn	05 30 42.3	-2.3
MEIG				*i* S	Sn	05 31 12.0	-2.9
PLIG	**Platanillo**	**2.92**	**340**	*e*P	Pn	05 30 48.2	-1.7
PLIG				*i* S	Sn	05 31 20.3	-4.1
PLIG	**Platanillo**	**2.92**	**340**	*i* P	Pn	05 30 48.8	-1.0
PLIG				*i* S	Sn	05 31 25.3	+0.9
YAIG	**Yautepec**	**3.26**	**350**	*i* P	Pn	05 30 51.4	-3.2
YAIG				*i* S	Sn	05 31 31.0	-1.9
YAIG	**Yautepec**	**3.26**	**350**	*i* P	Pn	05 30 54.2	-0.4
YAIG				*e*S	Sn	05 31 35.2	+2.3
PPM	**Popocatepetl**	**3.42**	**357**	*i* P	Pn	05 30 55.3	-1.5
PPM				*e*P		05 30 58.0	
PPM				*i* S	Sn	05 31 34.6	-2.1
PPM	**Popocatepetl**	**3.42**	**357**	*i* P	Pn	05 30 56.6	-0.1
PPM				*i* S	Sn	05 31 39.5	+2.7

IDC 14 05:54:39.7±3.8, 029N×9912E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=155.9km s-min=24.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.93**	**122**	P	P	06 02 15.6	+0.1
	0.3nm,0.5s,baz=304,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**41.32**	**128**	P	P	06 02 27.4	+0.4
	0.2nm,0.3s,baz=304,slow=7.5,SNR=4.1						
SONM	**Songino Array**	**47.78**	**7**	P	P	06 03 19.7	+1.1
	1.5nm,0.7s,baz=198,slow=9.3,SNR=6.3						
MKAR	**Makanchi Array**	**48.60**	**345**	P	P	06 03 24.4	-0.6
	1.1nm,0.5s,baz=155,slow=8.9,SNR=18						

*NEIC **14** 06:07:17.5, 3671N×1253W, h0km, MG3.6(MDD), After MDD.*

MDD 14 06:07:17.5±4.6, 3671N×1253W, h0km, mb3.6/4, Error ellipse: s-maj=43.1km s-min=34.0km az=31.0, PRXIMO SIN SOLUCIN, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**4.11**	**77**	P	Pn	06 08 20.4	-1.1
	0.3nm,0.1s,SNR=4.0						
EGRO				S	Sn	06 09 06.9	-3.5
	1.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.11**	**77**	P	Pn	06 08 20.4	-1.2
	0.3nm,0.1s,SNR=4.0						
EGRO				S	Sn	06 09 06.9	-3.5
	1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.79**	**76**	P	Pn	06 08 29.2	-1.6
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 09 22.7	-4.4
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.79**	**76**	P	Pn	06 08 29.2	-1.6
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 09 22.7	-4.3
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.82**	**63**	P	Pn	06 08 30.3	-1.0
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	06 09 23.7	-4.1
	2.0nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.82**	**63**	P	Pn	06 08 30.3	-1.0
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	06 09 23.7	-4.1
	2.0nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.20**	**33**	P	Pn	06 08 49.4	-0.9
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	06 09 55.9	-6.0
	1.1nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**6.20**	**33**	P	Pn	06 08 49.4	-0.9
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	06 09 55.9	-6.0
	1.1nm,0.3s,SNR=7.9						

*BJI **14** 06:25:15.6, 5180N×17700E, h10km, mB5.2, mb4.9, Ms4.8, Msz4.8*
*IDC **14** 06:25:16.4±0.8, 5193N×17707E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, ML3.9/1, Error ellipse: s-maj=41.2km s-min=18.8km az=144.0*
*NEIC **14** 06:25:17.6±1.1, 5184N×17701E, h10km, ML4.0(AEIC), Error ellipse: s-maj=21.7km s-min=9.6km az=193.0*
*ISCJB **14** 06:25:18.7±2.9, 5200N±009×177.10E±007, h26km±22km, mb4.0/9, MS4.8/2, Error ellipse: s-maj=15.3km s-min=6.8km az=22.8*

ISC 14 06:25:19.7±3.3, 5194N±009×17707E±007, h23km±25km, n23, σ0972/24, mb4.0/9, MS4.8/2, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.50**	**111**	P	**Pn**	**06 25 44.8**	**-0.4**
AMKA				S	**Sn**	**06 26 04.1**	**+0.1**
SMY	**Shemya**	**1.99**	**295**	P	**Pn**	**06 25 51.5**	**-0.3**
SMY				S	**Sn**	**06 26 16.0**	**0.0**
ATKA	**Atka Island**	**5.40**	**84**	P	**Pn**	**06 26 39.1**	**+0.3**
SPIA	**Saint Paul Isl**	**9.04**	**50**	P	**Pn**	**06 27 29.2**	**+0.4**
UNV	**Unalaska Valle**	**10.11**	**73**	*e*Pn	**Pn**	**06 27 44.1**	**+0.7**
	111nm,1.3s						
KDAK	**Kodiak Island**	**18.32**	**59**	P	**Pn**	**06 29 31.2**	**-1.0**
	0.4nm,0.3s,baz=260,slow=6.1,SNR=3.0						
SLKM	**Skilak Lake**	**19.92**	**52**	*e*P	**Pn**	**06 29 51.0**	**-0.4**
ASAJ	**Asahikawa**	**24.16**	**265**	P	**P**	**06 30 34.8**	**+0.7**
	2.2nm,0.2s,mb4.1,baz=128,slow=19,SNR=5.0						
DAWY	**Dawson**	**25.49**	**45**	*e*P	**P**	**06 30 46.5**	**+0.3**
INK	**Inuvik**	**28.50**	**36**	P	**P**	**06 31 13.3**	**+0.1**
	0.7nm,0.8s,mb3.5,baz=270,slow=4.0,SNR=2.2						
INK	**Inuvik**	**28.50**	**36**	P	**P**	**06 31 13.3**	**0.0**
MDJ	**Mudanjiang**	**31.95**	**276**	P	**P**	**06 31 42.3**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,640nm,9.3s						
CN2	**Changchun**	**34.92**	**277**	*e*P	**P**	**06 32 09.5**	**-0.1**
YKA	**Yellowknife Ar**	**36.71**	**46**	P	**P**	**06 32 25.4**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.7,baz=283,slow=8.1,SNR=5.2						
NJ2	**Nanjing**	**46.24**	**268**	*e*P	**P**	**06 33 44.3**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
PDAR	**Pinedale Array**	**48.57**	**70**	P	**P**	**06 34 00.7**	**-0.5**
	comp=Z,0.1nm,0.3s,mb3.3,baz=294,slow=6.8,SNR=2.4						
WMQ	**Urumqi**	**56.85**	**300**	*e*P	**P**	**06 35 03.3**	**+0.8**
WMQ				LR	LR		
	comp=N,720nm,22.0s,MS4.9						
WMQ				LR	LR		
	comp=E,610nm,21.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,880nm,21.0s,MS4.8						
MKAR	**Makanchi Array**	**57.64**	**306**	P	**P**	**06 35 06.9**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=43,slow=6.5,SNR=2.8						
KMI	**Kunming**	**61.11**	**275**	P	**P**	**06 35 32.6**	**+0.6**
KMI				AP	pP	06 35 36.8	-2.4
KMI				XP	sP	06 35 38.6	-3.3
KMI				LR	LR		
	comp=N,440nm,20.4s,MS4.8						
KMI				LR	LR		
	comp=E,510nm,17.6s,MS4.8						
KMI				LR	LR		
	comp=Z,600nm,17.6s,MS4.8						
WRA	**Warramunga Arr**	**80.70**	**220**	P	**P**	**06 37 31.2**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.2,baz=31,slow=6.2,SNR=17						
ASAR	**Alice Springs**	**84.23**	**219**	P	**P**	**06 37 50.1**	**+0.8**

NJ2 LR LR
comp=N,2μm,16.7s
NJ2 LR LR
comp=E,960nm,22.6s
NJ2 LR LR
comp=Z,530nm,17.8s,MS4.5
PDAR Pinedale Array 48.58 70 P **P 06 41 12.1 -1.0**
comp=Z,0.9nm,0.7s,mb3.9,baz=286,slow=4.3,SNR=7.9
ULM Lac du Bonnet 51.52 55 P **P 06 41 34.5 -0.8**
comp=Z,1.1nm,0.8s,mb3.8,baz=281,slow=4.3,SNR=4.0
WMQ Urumqi 56.89 300 *e*P **P 06 42 24.0 +10**
WMQ LR LR
comp=Z,820nm,21.0s,MS4.8
MKAR Makanchi Array 57.68 306 P **P 06 42 18.9 -1.1**
comp=Z,0.5nm,0.6s,mb3.7,baz=47,slow=5.3,SNR=4.8
BVAR Borovoye Array 58.81 317 P **P 06 42 27.4 -0.5**
comp=Z,1.6nm,0.6s,mb4.2,baz=46,slow=11,SNR=7.4
ASAR Alice Springs 84.19 219 P **P 06 45 02.1 +1.3**
comp=Z,1.6nm,0.7s,mb4.3,baz=19,slow=5.7,SNR=19
STKA Stephens Creek 89.03 210 P **P 06 45 24.0 -0.4**
comp=Z,2.2nm,0.5s,mb4.8,baz=295,slow=5.4,SNR=4.7
PLCA Paso Flores 133.58 104 PKP PKPdf 06 51 45.8 0.0
comp=Z,1.1nm,0.9s,baz=261,slow=20,SNR=3.2
MAW Mawson 145.31 218 PKPbc PKPbc 06 52 06.5 -0.5
comp=Z,2.9nm,0.5s,baz=86,slow=7.0,SNR=13
LBTB Lobatse 145.50 310 PKPbc PKPbc 06 52 08.9 +1.3
comp=Z,4.3nm,0.7s,baz=10,slow=2.1,SNR=8.0

IDC ***14*** *06:33:45.8±0.6,5204N×17708E,h0km,mb4.4/20, mb1 4.6/21,mb1mx4.5/25,mbtmp4.5/21,ML4.8/1,Error ellipse: s-maj=19.8km s-min=12.2km az=166.0*
BJI ***14*** *06:33:47.9,5244N×17743E,h36km,mB5.4,mb4.9,Ms5.1, Msz4.7*
ISCJB ***14*** *06:33:48.2±0.2,5194N±005×177.12E±003,h28km, mb4.8/75,MS4.8/8,Error ellipse: s-maj=7.1km s-min=2.7km az=4.5*
MOS ***14*** *06:33:48.1±1.2,5191N×17698E,h33km,mb4.8/42, MS4.5/4,Error ellipse: s-maj=10.8km s-min=9.4km az=95.3*
NEIC ***14*** *06:33:50.1±0.2,5192N×17704E,mb4.8/37,ML4.7(AEIC), Error ellipse: s-maj=7.6km s-min=3.9km az=172.0*
ISC 14 06:33:50.1±0.2,**5194N**±005×**17712E**±003,**h30**km, **h30**km±3.1km:**pP-P,n284,**σ0s**89**/274,**mb4.8**/75,**MS4.8**/8, **46C-45D,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.47**	**112**	P	**Pn**	**06 34 15.4**	**+0.9**
AMKA				S	**Sn**	**06 34 31.9**	**-0.7**
SMY	**Shemya**	**2.02**	**294**	P	**Pn**	**06 34 20.9**	**-1.1**
SMY				S	**Sn**	**06 34 46.6**	**+0.4**
ATKA	**Atka Island**	**5.36**	**84**	P	**Pn**	**06 35 09.5**	**+1.5**
NIKO	**Nikolski**	**8.63**	**78**	P	**Pn**	**06 35 56.0**	**+3.2**
SPIA	**Saint Paul Isl**	**9.02**	**49**	P	**Pn**	**06 35 59.2**	**+1.0**
UNV	**Unalaska Valle**	**10.08**	**73**	*e*Pn	**Pn**	**06 36 14.6**	**+1.9**
PET	**Petropavlovsk**	**11.32**	**283**	*e*P	**Pn**	**06 36 27.1**	**-2.5**
PET				*e*S	**Sn**	**06 38 29.8**	**-5.2**
PET				smax			
	comp=N,141nm,0.9s						
PET				MLR	MLR		
	comp=N,3μm,13.0s						
PET				MLR	MLR		
	comp=E,1μm,16.0s						
FALS	**False Pass**	**11.97**	**68**	*e*Pn	**Pn**	**06 36 44.8**	**+6.2**
SKR	**Severo-Kuril's**	**13.20**	**273**	*e*P	**Pn**	**06 37 02.0**	**+6.6**
GAMB	**Gambell**	**13.25**	**22**	*e*Pn	**Pn**	**06 37 02.1**	**+6.1**
CHGN	**Chignik**	**14.96**	**63**	*e*P	**Pn**	**06 37 23.9**	**+4.6**
MA2	**Magadan**	**16.60**	**308**	*de*P	**Pn**	**06 37 45.9**	**+5.4**
MA2				pmax	pmax		
	comp=Z,60nm,1.6s						
BILL	**Bilibino**	**16.99**	**346**	*d i*P	**Pn**	**06 37 47.7**	**+2.3**
BILL				pmax	pmax		
	comp=Z,43nm,1.3s						
BILL				MLR	MLR		
	comp=Z,1μm,16.0s						
BILL	**Bilibino**	**16.99**	**346**	*e*P	**Pn**	**06 37 48.0**	**+2.6**
	comp=Z,237nm,1.5s						
SVW2	**Sparrevohn**	**17.50**	**48**	*e*P	**Pn**	**06 37 54.0**	**+2.2**
TTA	**Tatalina**	**18.01**	**42**	*e*P	**Pn**	**06 37 59.3**	**+1.2**
TTA				pmax	pmax		
	comp=Z,161nm,2.0s						
TTA	**Tatalina**	**18.01**	**42**	*e*P	**Pn**	**06 37 59.3**	**+1.2**
	comp=Z,161nm,2.0s						
KDAK	**Kodiak Island**	**18.29**	**59**	P	**Pn**	**06 38 00.9**	**-0.5**
	comp=Z,3.2nm,0.3s,baz=296,slow=4.4,SNR=12						
KDAK	**Kodiak Island**	**18.29**	**59**	*e*P	**Pn**	**06 38 01.8**	**+0.4**
	comp=Z,47nm,0.9s						
PMR	**Palmer**	**20.63**	**49**	*e*P	**P**	**06 38 30.2**	**+3.2**
PMR				pmax	pmax		
	comp=Z,14nm,0.8s						
PMR	**Palmer**	**20.63**	**49**	*e*P	**P**	**06 38 30.2**	**+3.2**
	comp=Z,14nm,0.8s						
SML	**Sawmill**	**21.05**	**49**	*e*P	**P**	**06 38 31.1**	**-0.4**
MCK	**McKinley**	**21.28**	**43**	*e*P	**P**	**06 38 35.1**	**+1.1**
MCK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.3						
MCK	**McKinley**	**21.28**	**43**	*e*P	**P**	**06 38 35.1**	**+1.1**
	comp=Z,17nm,1.1s,mb4.3						
MID	**Middleton Isla**	**21.68**	**55**	*e*P	**P**	**06 38 42.1**	**+3.8**
EYAK	**Cordova Ski Ar**	**22.08**	**53**	*e*P	**P**	**06 38 42.3**	**-0.3**
COLA	**College**	**22.09**	**41**	*e*P	**P**	**06 38 43.4**	**+0.8**
COLA				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.7						
COLA	**College**	**22.09**	**41**	*e*P	**P**	**06 38 43.4**	**+0.7**
	comp=Z,33nm,1.1s,mb4.7						
DIV	**Divide**	**22.14**	**51**	*e*P	**P**	**06 38 45.2**	**+2.0**
	comp=Z,278nm,1.1s,mb5.6						
YUK	**Yuzh-Kuril'sk**	**22.23**	**262**	P	**P**	**06 38 46.0**	**+1.8**
YUK				*e*		06 39 18.0	
YSS	**Yuzh-Sakhalins**	**22.75**	**271**	*e*P	**P**	**06 38 50.5**	**+0.8**
YSS				*e**PP		06 39 02.5	
YSS				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.7						
YSS	**Yuzh-Sakhalins**	**22.75**	**271**	*e*P	**P**	**06 38 50.5**	**+0.8**
	comp=Z,20nm,0.7s,mb4.7						
YSS				*e*pP		06 39 02.5	
MENT	**Mentasta**	**23.38**	**47**	*e*P	**P**	**06 38 57.0**	**+0.8**
ASAJ	**Asahikawa**	**24.20**	**265**	P	**P**	**06 39 05.0**	**+1.2**
	comp=Z,36nm,1.0s,mb4.8,baz=16,slow=3.6,SNR=15						
ASAJ	**Asahikawa**	**24.20**	**265**	P	**P**	**06 39 05.1**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,36nm,1.0s						
DAWY	**Dawson**	**25.47**	**45**	*e*P	**P**	**06 39 16.0**	**+0.6**
SKAG	**Skagway**	**27.30**	**55**	*e*P	**P**	**06 39 33.5**	**+1.6**
INK	**Inuvik**	**28.48**	**36**	P	**P**	**06 39 42.4**	**-0.1**
	comp=Z,6.2nm,0.8s,mb4.3,baz=218,slow=6.2,SNR=9.4						
INK	**Inuvik**	**28.48**	**36**	*e*P	**P**	**06 39 43.1**	**+0.6**
INK				*e**PP	pP	06 39 58.2	+6.9
INK				pmax	pmax		
	comp=Z,51nm,1.6s						
INK	**Inuvik**	**28.48**	**36**	*e*P	**P**	**06 39 43.1**	**+0.6**
	comp=Z,51nm,1.6s,mb4.9						
INK				*e*pP	pP	06 39 58.2	+6.9
KLR	**Kul'dur**	**28.58**	**283**	*e*P	**P**	**06 39 38.8**	**-4.6**
DLBC	**Dease Lake**	**30.17**	**57**	*e*pP	pP	06 40 00.6	-5.6
MJAR	**Matsushiro Arr**	**31.41**	**256**	P	**P**	**06 40 09.6**	**+1.2**
	comp=Z,0.8nm,0.4s,mb3.9,baz=29,slow=8.0,SNR=6.2						
MJAR	**Matsushiro Arr**	**31.41**	**256**	P	**P**	**06 40 09.6**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MDJ	**Mudanjiang**	**31.98**	**276**	P	**P**	**06 40 13.4**	**0.0**
MDJ				AMB	AMB		
	comp=Z,420nm,9.1s						
CN2	**Changchun**	**34.95**	**277**	*e*P	**P**	**06 40 40.4**	**+1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
HIA	**Hailar**	**35.71**	**289**	*e*P	**P**	**06 40 45.7**	**-0.1**
YKW3	**Yellowknife Ar**	**36.66**	**46**	*e*P	**P**	**06 40 54.9**	**+0.9**
YKA	**Yellowknife Ar**	**36.68**	**46**	P	**P**	**06 40 54.4**	**+0.3**
	comp=Z,17nm,0.9s,mb4.9,baz=287,slow=8.5,SNR=37						
YKA	**Yellowknife Ar**	**36.68**	**46**	P	**P**	**06 40 54.4**	**+0.3**
YKA				pmax	pmax		
	comp=Z,17nm,0.9s						
SNY	**Shenyang**	**37.18**	**276**	⇑P	**P**	**06 41 02.4**	**+4.0**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
A05A	**Maple Falls**	**37.82**	**70**	⇑P	**P**	**06 41 03.4**	**-0.4**
	baz=38						
C04A	**Brinnon**	**37.92**	**72**	⇓P	**P**	**06 41 04.6**	**0.0**
	baz=38						
CIT	**Chita**	**38.03**	**296**	*e*P	**P**	**06 41 05.8**	**+0.3**
CIT				pmax	pmax		
	comp=Z,59nm,2.6s,mb4.9						
B05A	**Bryant**	**38.17**	**71**	⇑P	**P**	**06 41 06.5**	**-0.2**
	baz=38						
C05A	**Tolt Reservoir**	**38.69**	**71**	⇓P	**P**	**06 41 11.2**	**+0.2**
	baz=39						
F04A	**Amboy**	**39.15**	**74**	⇓P	**P**	**06 41 15.7**	**+0.8**
	baz=39						
H04A	**Detroit Lake**	**39.96**	**76**	⇑P	**P**	**06 41 21.1**	**-0.5**
	baz=40						
G05A	**Wamic**	**40.17**	**74**	⇑P	**P**	**06 41 23.4**	**-0.1**
	baz=40						
J03A	**Ideyld Park**	**40.21**	**78**	⇓P	**P**	**06 41 21.2**	**-2.6**
	baz=40						
RES	**Resolute Bay**	**40.28**	**24**	*e*P	**P**	**06 41 23.4**	**-0.9**
RES				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.8						
RES	**Resolute Bay**	**40.28**	**24**	*e*P	**P**	**06 41 23.4**	**-0.9**
	comp=Z,23nm,1.3s,mb4.8						
L02A	**Cave Junction**	**40.51**	**80**	⇓P	**P**	**06 41 27.1**	**+0.9**
	baz=40						
NEW	**Newport**	**41.05**	**68**	P	**P**	**06 41 30.2**	**-0.5**
	comp=Z,5.6nm,0.9s,mb4.2,baz=310,slow=7.2,SNR=6.5						
NEW	**Newport**	**41.05**	**68**	P	**P**	**06 41 30.2**	**-0.5**
NEW				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YBH	**Yreka Blue Hor**	**41.30**	**80**	P	**P**	**06 41 33.0**	**+0.2**
	comp=Z,2.4nm,0.9s,mb3.8,baz=314,slow=1.1,SNR=3.7						
YBH	**Yreka Blue Hor**	**41.30**	**80**	P	**P**	**06 41 33.0**	**+0.3**
YBH				pmax	pmax		
	comp=Z,20nm,0.9s						
YBH	**Yreka Blue Hor**	**41.30**	**80**	⇓P	**P**	**06 41 33.4**	**+0.7**
	baz=41						
M02C	**Callahan**	**41.41**	**80**	⇑P	**P**	**06 41 34.9**	**+1.3**
	baz=41						
N02C	**Big Bar**	**41.47**	**81**	⇓P	**P**	**06 41 35.2**	**+1.1**
	baz=41						
L04A	**Klamath Falls**	**41.54**	**79**	⇓P	**P**	**06 41 35.2**	**+0.4**
	baz=41						
I06A	**Prineville**	**41.55**	**75**	⇑P	**P**	**06 41 34.9**	**+0.1**
	baz=41						
O01C	**Eel River Cons**	**41.56**	**82**	⇑P	**P**	**06 41 36.4**	**+1.5**
	baz=42						
M04C	**Macdoel**	**41.80**	**79**	⇑P	**P**	**06 41 37.1**	**+0.3**
	baz=42						
M03C	**McCloud**	**41.93**	**80**	⇓P	**P**	**06 41 38.1**	**+0.2**
	baz=42						
J06A	**Christmas Vall**	**41.98**	**76**	⇓P	**P**	**06 41 38.7**	**+0.5**
	baz=42						
WDC	**Whiskeytown Da**	**42.08**	**81**	⇓P	**P**	**06 41 39.6**	**+0.4**
	baz=42,SNR=5.4						
O02C	**Red Bluff**	**42.16**	**82**	⇓P	**P**	**06 41 40.1**	**+0.3**
	baz=42,SNR=7.4						
K06A	**Valley Falls**	**42.17**	**77**	⇑P	**P**	**06 41 40.2**	**+0.3**
	baz=42						
P01C	**Double 8 Ranch**	**42.26**	**83**	⇓P	**P**	**06 41 41.1**	**+0.5**
	baz=42						
M05C	**Lookout**	**42.46**	**79**	⇓P	**P**	**06 41 42.7**	**+0.5**
	baz=42						
WALA	**Waterton Lakes**	**42.47**	**65**	*e*P	**P**	**06 41 41.8**	**-0.5**
GASB	**Alder Springs**	**42.53**	**82**	⇑P	**P**	**06 41 43.9**	**+1.1**
	baz=42,SNR=8.9						
HATC	**Hat Creek Radi**	**42.59**	**80**	⇑P	**P**	**06 41 44.0**	**+0.7**
	baz=42						
BSMT	**Bassoo Peak**	**42.60**	**67**	*e*P	**P**	**06 41 42.9**	**-0.5**
HOPS	**Hopland**	**42.71**	**83**	*e*P	**P**	**06 41 45.1**	**+0.8**
	comp=Z,22nm,1.1s,mb4.8						
HOPS	**Hopland**	**42.71**	**83**	⇓P	**P**	**06 41 44.4**	**+0.2**
	baz=43,SNR=6.7						
O03C	**Acorn Hollow,**	**42.74**	**81**	⇓P	**P**	**06 41 44.4**	**-0.1**
	baz=43						
BJT	**Baijiatuau**	**42.79**	**279**	*e*P	**P**	**06 41 45.6**	**+0.7**
BJT				pmax	pmax		
	comp=Z,30nm,1.0s						
BJT	**Baijiatuau**	**42.79**	**279**	*e*P	**P**	**06 41 45.6**	**+0.7**
	comp=Z,30nm,1.0s,mb5.0						
K07A	**Rock Creek Ran**	**42.84**	**76**	⇓P	**P**	**06 41 45.3**	**0.0**
	baz=43,SNR=7.2						
M06C	**Likely Place G**	**42.97**	**79**	⇓P	**P**	**06 41 46.5**	**+0.2**
	baz=43						
O04C	**Chester**	**43.12**	**80**	⇓P	**P**	**06 41 47.6**	**0.0**
	baz=43,SNR=6.7						
MNRC	**McLaughlin Nat**	**43.17**	**83**	⇑P	**P**	**06 41 47.9**	**-0.1**
	baz=43						
ORV	**Oroville**	**43.33**	**81**	⇓P	**P**	**06 41 49.2**	**-0.1**
	baz=43						
SUTB	**Sutter Buttes**	**43.35**	**82**	⇑P	**P**	**06 41 49.3**	**-0.2**
	baz=43						
O05C	**Quincy**	**43.44**	**81**	⇑P	**P**	**06 41 50.2**	**0.0**
	baz=43						
CVS	**Carmenet Viney**	**43.49**	**84**	⇓P	**P**	**06 41 50.5**	**-0.1**
	baz=43						
Q03C	**Winters**	**43.59**	**83**	⇓P	**P**	**06 41 51.2**	**-0.1**
	baz=44						
TLY	**Talaya**	**43.60**	**300**	*e*P	**P**	**06 41 57.2**	**+5.7**
TLY				*e*		06 43 40.6	
TLY				*e*SS	SS	06 52 21.7	+47
TLY				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.5						
TLY				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.9						
MSO	**Missoula**	**43.64**	**68**	*e*P	**P**	**06 41 51.6**	**-0.1**
M07A	**Soldier Meadow**	**43.65**	**78**	⇑P	**P**	**06 41 51.9**	**0.0**
	baz=44,SNR=8.4						
ULN	**Ulaanbaatar**	**43.72**	**294**	*e*P	**P**	**06 41 53.7**	**+1.3**
ULN				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
ULN	**Ulaanbaatar**	**43.72**	**294**	*e*P	**P**	**06 41 53.7**	**+1.3**
	comp=Z,14nm,1.3s,mb4.5						
Q04C	**Lincoln**	**43.84**	**82**	⇑P	**P**	**06 41 53.3**	**-0.2**
	baz=44						
O06A	**Flanigan**	**43.98**	**80**	⇓P	**P**	**06 41 54.4**	**-0.2**
	baz=44						
P05C	**Yuba Gap, Truc**	**44.03**	**81**	⇑P	**P**	**06 41 54.4**	**-0.5**
	baz=44						
M08A	**Happy Creek Ra**	**44.09**	**77**	⇓P	**P**	**06 41 55.0**	**-0.4**
	baz=44						
SONM	**Songino Array**	**44.11**	**294**	P	**P**	**06 41 55.0**	**-0.5**
	comp=Z,4.1nm,0.7s,mb4.3,baz=63,slow=7.0,SNR=12						
SONM				PcP	PcP	06 43 40.3	0.0
	comp=Z,2.2nm,0.5s,baz=90,slow=2.1,SNR=4.3						
SONM	**Songino Array**	**44.11**	**294**	P	**P**	**06 41 55.0**	**-0.6**
SONM						06 43 40.3	
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
L09A	**Wilkinson Ranc**	**44.18**	**76**	⇓P	**P**	**06 41 55.6**	**-0.5**
	baz=44						
JRSC	**Jasper Ridge**	**44.22**	**84**	⇑P	**P**	**06 41 55.8**	**-0.6**
	baz=44						
LAVA	**Lava Cap Winer**	**44.29**	**82**	⇑P	**P**	**06 41 56.6**	**-0.4**
	baz=44,SNR=5.5						
ZAK	**Zakamensk**	**44.47**	**299**	*e*P	**P**	**06 41 57.2**	**-1.2**
ZAK				*e*		06 43 41.9	
ZAK				pmax	pmax		
	comp=Z,20nm,1.8s,mb4.5						
O07A	**Toulon**	**44.56**	**79**	⇓P	**P**	**06 41 58.8**	**-0.3**
	baz=44						
N08A	**GE Springer Mi**	**44.64**	**78**	⇓P	**P**	**06 41 59.4**	**-0.4**
	baz=44						
R05C	**Kirkwood Meado**	**44.73**	**81**	⇓P	**P**	**06 42 00.4**	**-0.1**
	baz=45						
CMB	**Columbia Colle**	**44.96**	**82**	⇑P	**P**	**06 42 02.3**	**0.0**
	baz=45						
MOY	**Mondy**	**45.02**	**301**	*e*P	**P**	**06 42 03.0**	**+0.2**
MOY				pmax	pmax		
	comp=Z,26nm,2.0s,mb4.7						
PACP	**Pacheco Peak**	**45.05**	**84**	⇑P	**P**	**06 42 03.0**	**0.0**
	baz=45						
HHC	**Hu-ho-hao-te**	**45.09**	**283**	*e*P	**P**	**06 41 59.3**	**-4.1**
HHC				AP	pP	06 42 09.3	-3.1
HHC				XP	sP	06 42 13.1	-2.9
HHC				PCP	PcP	06 43 42.8	-0.9
HHC				PP	PP	06 43 44.8	-4.2
HHC				SCP	ScP	06 47 31.3	-2.7
HHC				PCS	PcS	06 47 34.9	-2.6
HHC				S	**S**	**06 48 32.8**	**-7.7**
HHC				SCS	ScS	06 51 52.0	-6.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.0						
HHC				LR	LR		
	comp=N,660nm,16.5s,MS4.8						
HHC				LR	LR		
	comp=E,710nm,16.1s,MS4.8						
HHC				LR	LR		
	comp=Z,560nm,15.5s,MS4.6						
M10A	**I.L. Ranch, Tu**	**45.16**	**76**	⇑P	**P**	**06 42 03.9**	**0.0**
	baz=45						
HLID	**Hailey**	**45.21**	**72**	*e*P	**P**	**06 42 03.8**	**-0.5**
R06C	**Coleville**	**45.23**	**81**	⇑P	**P**	**06 42 04.2**	**-0.3**
	baz=45						
DLMT	**Dillon**	**45.23**	**69**	*e*P	**P**	**06 42 12.6**	**+8.1**
	comp=Z,6.5nm,0.4s,mb4.8						
WAKR	**Walker**	**45.24**	**81**	*e*P	**P**	**06 42 05.5**	**+0.9**
HAST	**Hastings Reser**	**45.29**	**85**	⇓P	**P**	**06 42 04.6**	**-0.3**
	baz=45						
S05C	**Merced**	**45.42**	**83**	⇑P	**P**	**06 42 05.8**	**-0.2**
	baz=45,SNR=6.4						
SSE	**Sheshan**	**45.49**	**265**	P	**P**	**06 42 07.8**	**+1.3**
SSE				PP	PP	06 43 56.4	+3.2
SSE				S	**S**	**06 48 42.8**	**-3.5**
SSE				SS	SS	06 52 07.5	-2.8
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,60nm,4.4s						
SSE				LR	LR		
	comp=N,690nm,19.9s,MS4.7						
SSE				LR	LR		
	comp=E,680nm,19.9s,MS4.7						
SSE				LR	LR		
	comp=Z,940nm,13.8s						
O09A	**Fish Creek Ran**	**45.58**	**78**	⇑P	**P**	**06 42 06.8**	**-0.4**
	baz=46						
BOZ	**Bozeman (W)**	**45.63**	**68**	*e*P	**P**	**06 42 06.9**	**-0.7**
N10A	**Dunphy**	**45.66**	**77**	⇓P	**P**	**06 42 07.5**	**-0.4**
	baz=46						
M11A	**Holland Ranch,**	**45.66**	**76**	⇑P	**P**	**06 42 07.6**	**-0.3**
	baz=46						
U04C	**Hernandez Rese**	**45.78**	**84**	⇑P	**P**	**06 42 08.3**	**-0.5**
	baz=46						
Q08A	**Gabbs**	**45.94**	**80**	⇑P	**P**	**06 42 09.7**	**-0.5**
	baz=46						
NVAR	**Mina Array Bea**	**45.98**	**81**	P	**P**	**06 42 11.1**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=294,slow=6.5,SNR=10						
NVAR				PcP	PcP	06 43 47.5	+0.7
	comp=Z,2.1nm,0.9s,baz=284,slow=1.3,SNR=4.7						
P09A	**Austin**	**45.99**	**79**	⇑P	**P**	**06 42 10.3**	**-0.2**
	baz=46						
N11A	**Elko Archery C**	**46.06**	**76**	⇑P	**P**	**06 42 10.9**	**-0.1**
	baz=46						
MNV	**Mina**	**46.07**	**80**	*e*P	**P**	**06 42 11.2**	**+0.1**
MNV				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
MNV	**Mina**	**46.07**	**80**	*e*P	**P**	**06 42 11.2**	**0.0**
	comp=Z,6.0nm,1.3s,mb4.4						
BTO	**Baotou**	**46.17**	**284**	*e*P	**P**	**06 42 12.3**	**+0.4**
M12A	**Wells**	**46.19**	**75**	⇑P	**P**	**06 42 11.7**	**-0.4**
	baz=46						
V04C	**Ramage Ranch,**	**46.19**	**85**	⇑P	**P**	**06 42 11.4**	**-0.7**
	baz=46						
PKD	**Parkfield**	**46.20**	**85**	⇓P	**P**	**06 42 11.6**	**-0.6**
	baz=46						
NJ2	**Nanjing**	**46.27**	**268**	*e*P	**P**	**06 42 15.0**	**+2.3**
NJ2				PCP	PcP	06 43 48.3	+0.5
NJ2				S	**S**	**06 48 53.0**	**-4.6**
NJ2				XS	sS	06 49 22.0	+10
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,540nm,10.4s						
NJ2				LR	LR		
	comp=N,2μm,27.3s						
NJ2				LR	LR		
	comp=E,2μm,18.9s						
Q09A	**Carvers**	**46.42**	**79**	⇓P	**P**	**06 42 13.6**	**-0.2**
	baz=46						
N12A	**Wells--Clov Va**	**46.46**	**76**	⇓P	**P**	**06 42 13.8**	**-0.4**
	baz=46						
MTUM	**Tungsten Hills**	**46.51**	**82**	*e*P	**P**	**06 42 15.8**	**+1.2**
PTRM	**Twissleman Ran**	**46.59**	**85**	*e*P	**P**	**06 42 16.1**	**+0.9**
S08C	**White Mtn Res**	**46.65**	**81**	⇑P	**P**	**06 42 15.2**	**-0.5**
	baz=47,SNR=6.8						
M13A	**Montello**	**46.67**	**75**	⇑P	**P**	**06 42 15.3**	**-0.6**
	baz=47						
S09A	**Goldfield**	**47.09**	**81**	⇓P	**P**	**06 42 18.5**	**-0.7**
	baz=47						
CWC	**Cottonwood Cre**	**47.39**	**82**	⇑P	**P**	**06 42 21.1**	**-0.4**
	baz=47						
P12A	**McGill**	**47.39**	**77**	⇑P	**P**	**06 42 20.9**	**-0.6**
	baz=47						
ISA	**Isabella**	**47.65**	**84**	⇓P	**P**	**06 42 23.2**	**-0.3**
	baz=48						
SBC	**Santa Barbara**	**47.69**	**86**	⇑P	**P**	**06 42 23.7**	**-0.1**
	baz=48						
TPNV	**Topopah Spring**	**48.18**	**81**	*e*P	**P**	**06 42 27.3**	**-0.3**
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
TPNV	**Topopah Spring**	**48.18**	**81**	*e*P	**P**	**06 42 27.3**	**-0.3**
	comp=Z,8.1nm,0.8s,mb4.8						
DUG	**Dugway**	**48.20**	**75**	*e*P	**P**	**06 42 27.6**	**-0.1**
PDAR	**Pinedale Array**	**48.53**	**70**	P	**P**	**06 42 29.6**	**-0.7**
	comp=Z,3.6nm,1.0s,mb4.4,baz=311,slow=5.5,SNR=12						
MWC	**Mount Wilson**	**48.86**	**85**	*e*P	**P**	**06 42 35.8**	**+3.0**
GSC	**Goldstone**	**48.92**	**83**	*e*P	**P**	**06 42 33.6**	**+0.4**
GSC	**Goldstone**	**48.92**	**83**	⇑P	**P**	**06 42 33.0**	**-0.2**
	baz=49						
TUQ	**Turquoise Mtn.**	**49.37**	**82**	⇑P	**P**	**06 42 36.0**	**-0.7**
	baz=49						
TMUT	**Trail Mountain**	**49.73**	**75**	*e*P	**P**	**06 42 40.0**	**+0.6**
WHN	**Wuhan**	**50.10**	**270**	*e*P	**P**	**06 42 44.3**	**+2.0**
SRU	**San Rafael**	**50.25**	**75**	*e*P	**P**	**06 42 43.2**	**-0.2**
XAN	**Xi'an**	**51.06**	**278**	P	**P**	**06 42 49.0**	**-0.5**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
X13A	**Yucca**	**51.21**	**81**	⇓P	**P**	**06 42 49.3**	**-1.3**
	baz=51						
W14A	**Seligman**	**51.26**	**80**	⇓P	**P**	**06 42 50.3**	**-0.7**
	baz=51						
Y12C	**Blythe**	**51.35**	**83**	⇓P	**P**	**06 42 50.9**	**-0.8**
	baz=51						
ULM	**Lac du Bonnet**	**51.47**	**55**	P	**P**	**06 42 51.8**	**-0.8**
	comp=Z

TUC	**Tucson**	**54.63**	**81**	*eP*	**P**	**06 43 16.0**	**+0.2**
TUC				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
TUC	**Tucson**	**54.63**	**81**	*eP*	**P**	**06 43 16.0**	**+0.2**
comp=Z,5.0nm,1.1s,mb4.5							
EYMN	**Ely**	**55.16**	**55**	*eP*	**P**	**06 43 19.6**	**-0.1**
comp=Z,15nm,1.1s,mb4.9							
ANMO	**Albuquerque**	**55.44**	**76**	*eP*	**P**	**06 43 20.1**	**-1.6**
CD2	**Chengdu**	**56.38**	**279**	*eP*	**P**	**06 43 28.3**	**-0.1**
CD2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
WMQ	**Urumqi**	**56.88**	**300**	P	**P**	**06 43 33.4**	**+1.4**
WMQ				XP	sP	06 43 45.8	+0.9
WMQ				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.8							
WMQ				LR	LR		
comp=N,2μm,23.0s,MS5.2							
WMQ				LR	LR		
comp=E,870nm,22.0s,MS5.2							
WMQ				LR	LR		
comp=Z,820nm,21.0s,MS4.8							
ARCES	**ARCES Array B**	**57.07**	**349**	P	**P**	**06 43 31.6**	**-1.7**
comp=Z,2.9nm,0.9s,mb4.3,baz=37,slow=10,SNR=3.5							
ARCES	**ARCES Array B**	**57.07**	**349**	P	**P**	**06 43 31.7**	**-1.7**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**57.67**	**306**	P	**P**	**06 43 35.2**	**-2.4**
comp=Z,2.4nm,0.5s,mb4.5,baz=52,slow=6.9,SNR=15							
MKAR	**Makanchi Array**	**57.67**	**306**	P	**P**	**06 43 35.2**	**-2.4**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.5s							
MKAR	**Makanchi Array**	**57.67**	**306**	P	**P**	**06 43 35.2**	**-2.4**
GYA	**Guiyang**	**57.75**	**273⇑**	*iP*	**P**	**06 43 36.8**	**-1.3**
GYA				PP	PP	06 45 46.3	0.0
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
GYA				AMB	AMB		
comp=Z,90nm,3.8s							
GYA				LR	LR		
comp=N,240nm,21.4s,MS4.5							
GYA				LR	LR		
comp=E,340nm,22.6s,MS4.5							
GYA				LR	LR		
comp=Z,230nm,21.8s,MS4.2							
CHKZ	**Chkalovo**	**58.23**	**318**	*eP*	**P**	**06 43 40.5**	**-1.0**
CHKZ				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.7							
CHKZ	**Chkalovo**	**58.23**	**318**	*eP*	**P**	**06 43 40.5**	**-1.0**
comp=Z,4.0nm,0.5s,mb4.7							
MNTX	**Cornudas Mount**	**58.34**	**78**	*eP*	**P**	**06 43 42.5**	**+0.3**
comp=Z,4.9nm,1.0s,mb4.5							
BVAR	**Borovoye Array**	**58.79**	**317**	P	**P**	**06 43 44.2**	**-1.2**
comp=Z,7.6nm,0.5s,mb5.0,baz=56,slow=6.8,SNR=21							
BVAR	**Borovoye Array**	**58.79**	**317**	P	**P**	**06 43 44.2**	**-1.2**
BVAR				pmax	pmax		
comp=Z,8.0nm,0.5s							
BRVK	**Borovoye**	**58.81**	**318**	*eP*	**P**	**06 43 43.5**	**-2.0**
ZRNK	**Zerenda**	**59.42**	**318**	*eP*	**P**	**06 43 48.8**	**-1.0**
ZRNK				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.9							
ZRNK	**Zerenda**	**59.42**	**318**	*eP*	**P**	**06 43 48.8**	**-0.9**
comp=Z,7.6nm,0.6s,mb4.9							
ARU	**Arti**	**60.75**	**326⇑**	*iP*	**P**	**06 43 56.8**	**-2.1**
ARU				*e*		06 44 39.2	
ARU				*e*S	**S**	**06 52 12.0**	**-1.9**
ARU				*e*SS	SS	06 56 14.0	+1.1
ARU				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.9							
LTX	**Lajitas**	**61.06**	**79**	*eP*	**P**	**06 44 01.0**	**0.0**
SCHQ	**Schefferville**	**61.10**	**36**	P	**P**	**06 44 00.6**	**-0.7**
comp=Z,8.7nm,0.9s,mb4.9,baz=320,slow=7.8,SNR=10							
SCHQ	**Schefferville**	**61.10**	**36**	*eP*	**P**	**06 44 00.7**	**-0.5**
comp=Z,18nm,1.2s,mb5.1							
SCHQ				*ep*P	pP	06 44 11.5	+0.9
KMI	**Kunming**	**61.14**	**275**	P	**P**	**06 44 03.8**	**+2.3**
KMI				PP	PP	06 46 18.4	+2.1
KMI				S	**S**	**06 52 12.3**	**-6.6**
KMI				SS	SS	06 56 15.5	-3.5
KMI				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.9							
KMI				AMB	AMB		
comp=Z,270nm,3.9s							
KMI				LR	LR		
comp=N,580nm,20.3s,MS4.9							
KMI				LR	LR		
comp=E,710nm,20.3s,MS4.9							
KMI				LR	LR		
comp=Z,800nm,18.1s,MS4.9							
JCT	**Junction City**	**62.56**	**75**	*eP*	**P**	**06 44 11.0**	**-0.1**
JCT				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.8							
JCT	**Junction City**	**62.56**	**75**	*eP*	**P**	**06 44 11.0**	**-0.1**
comp=Z,8.8nm,1.0s,mb4.8							
FRU	**Bishkek**	**64.32**	**307**	*eP*	**P**	**06 44 22.5**	**-0.2**
AAK	**Ala-Archa**	**64.53**	**307**	*eP*	**P**	**06 44 23.2**	**-0.9**
AAK				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.7							
AAK	**Ala-Archa**	**64.53**	**307**	*eP*	**P**	**06 44 23.2**	**-0.9**
comp=Z,4.9nm,0.6s,mb4.7							
FINES	**FINESS Array B**	**64.63**	**345**	P	**P**	**06 44 23.8**	**-1.0**
comp=Z,1.8nm,0.7s,mb4.2,baz=331,slow=7.4,SNR=4.7							
FINES	**FINESS Array B**	**64.63**	**345**	P	**P**	**06 44 23.8**	**-1.0**
FINES				pmax	pmax		
comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**64.63**	**345**	P	**P**	**06 44 23.8**	**-1.0**
LSA	**Lhasa**	**64.85**	**287**	*eP*	**P**	**06 44 27.9**	**+1.7**
LSA				*e**PP	pP	06 44 35.3	-0.3
ORR	**Orenburg**	**65.96**	**325**	*eP*	**P**	**06 44 34.2**	**+0.8**
ORR				pmax	pmax		
comp=Z,10.0nm,2.0s,mb4.5							
NB2	**NORSAR Subarra**	**66.81**	**353**	P	**P**	**06 44 38.1**	**-0.7**
comp=Z,4.4nm,1.0s,mb4.4,baz=7.2,slow=6.5							
NB2	**NORSAR Subarra**	**66.81**	**353**	P	**P**	**06 44 38.1**	**-0.7**
NB2				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
NOA	**NORSAR Array B**	**66.81**	**353**	P	**P**	**06 44 39.8**	**+1.0**
comp=Z,0.6nm,0.5s,mb3.9,baz=8.5,slow=6.2,SNR=2.8							
NOA	**NORSAR Array B**	**66.81**	**353**	P	**P**	**06 44 39.8**	**+1.0**
NOA				pmax	pmax		
comp=Z,1.0nm,0.5s							
BINY	**Binghamton**	**66.93**	**51**	*eP*	**P**	**06 44 37.6**	**-2.0**
ACCN	**Adirondack Com**	**67.11**	**48**	*eP*	**P**	**06 44 39.4**	**-1.3**
SSPA	**Standing Stone**	**67.19**	**53**	*eP*	**P**	**06 44 40.7**	**-0.5**
comp=Z,5.4nm,0.6s,mb4.8							
SHL	**Shillong**	**67.45**	**283**	*eP*	**P**	**06 44 42.0**	**-0.9**
CHTO	**Chiang Mai**	**68.17**	**273**	*eP*	**P**	**06 44 47.7**	**+0.3**
CHTO				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.8							
CHTO	**Chiang Mai**	**68.17**	**273**	*eP*	**P**	**06 44 47.6**	**+0.3**
comp=Z,9.2nm,0.9s,mb4.8							
OBN	**Obninsk**	**68.40**	**337**	P	**P**	**06 44 47.0**	**-1.8**
OBN				*e*	pP	06 44 56.3	-2.0
OBN						06 45 18.0	
OBN				MLR	MLR		
comp=Z,400nm,16.0s,MS4.7							
EMMW	**East Machias**	**68.83**	**44**	*eP*	**P**	**06 44 51.1**	**-0.4**
comp=Z,14nm,1.2s,mb4.8							
GUN	**Gumba**	**69.28**	**289**	*eP*	**P**	**06 44 54.9**	**+0.6**
comp=Z,86nm,0.5s							
JIRN	**Jiri**	**69.29**	**289**	*eP*	**P**	**06 44 54.9**	**+0.6**
comp=Z,76nm,0.6s,mb5.8							
KKN	**Kakani**	**69.72**	**289**	*eP*	**P**	**06 44 57.4**	**+0.4**
comp=Z,38nm,0.6s,mb5.5							
KKN	**Kakani**	**69.72**	**289**	*eP*	**P**	**06 44 57.4**	**+0.4**
KKN				pmax	pmax		
comp=Z,38nm,0.6s,mb5.5							
PKI	**Pulchoki**	**69.81**	**289**	*eP*	**P**	**06 44 57.9**	**+0.3**
comp=Z,78nm,0.8s,mb5.7							
PKI	**Pulchoki**	**69.81**	**289**	*eP*	**P**	**06 44 57.9**	**+0.3**
PKI				pmax	pmax		
comp=Z,79nm,0.8s,mb5.7							
DMN	**Daman**	**69.96**	**289**	*eP*	**P**	**06 44 58.7**	**+0.2**
comp=Z,72nm,1.0s,mb5.5							
BOK	**Bokaro**	**72.37**	**286**	*eP*	**P**	**06 45 13.1**	**0.0**
BOK				AMb	AMB	06 45 22.4	
comp=Z,31nm,1.6s,mb5.0							
AKASG	**Malin Array Be**	**74.18**	**339**	P	**P**	**06 45 23.0**	**-0.8**
comp=Z,2.4nm,0.6s,mb4.3,baz=22,slow=5.8,SNR=10							
AKASG	**Malin Array Be**	**74.18**	**339**	*iP*	**P**	**06 45 23.1**	**-0.7**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.6s							
KAKA	**Kakadu**	**75.06**	**225**	*eP*	**P**	**06 45 27.8**	**-1.1**
comp=Z,20nm,0.6s,mb5.2							
CTA	**Charters Tower**	**76.62**	**210**	*eP*	**P**	**06 45 38.6**	**+0.8**
comp=Z,13nm,1.3s,mb4.7							
CTA	**Charters Tower**	**76.62**	**210**	*eP*	**P**	**06 45 38.6**	**+0.8**
CTA				pmax	pmax		
comp=Z,13nm,1.3s							
KIV	**Kislovodsk**	**76.69**	**328**	*eP*	**P**	**06 45 40.1**	**+1.9**
KIV				pmax	pmax		
comp=Z,11nm,0.9s,mb4.8							
AJM	**Ajmer**	**76.80**	**296**	*eP*	**P**	**06 45 38.9**	**+0.1**
AJM				AMb	AMB	06 45 41.6	
comp=Z,24nm,0.7s,mb5.2							
VIS	**Vishakhapatnam**	**78.55**	**284**	*eP*	**P**	**06 45 49.2**	**+0.7**
VIS				AMb	AMB	06 45 53.5	
comp=Z,41nm,1.7s,mb5.1							
WRAB	**Tennant Creek**	**80.71**	**220**	*eP*	**P**	**06 46 00.0**	**-0.3**
WRAB				pmax	pmax		
comp=Z,12nm,0.8s,mb4.9							
WRAB	**Tennant Creek**	**80.71**	**220**	*eP*	**P**	**06 46 00.0**	**-0.3**
comp=Z,12nm,0.8s,mb4.9							
WB2	**Warramunga Arr**	**80.72**	**220**	*eP*	**P**	**06 46 00.3**	**0.0**
HYB	**Hyderabad**	**81.63**	**287**	*iP*	**P**	**06 46 05.5**	**+0.3**
HYB				*e*		06 46 34.0	
HYB	**Hyderabad**	**81.63**	**287**	*eP*	**P**	**06 46 05.0**	**-0.2**
HYB				*e*		06 46 34.0	
BHJ	**Bhuj**	**82.10**	**298**	*eP*	**P**	**06 46 06.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**82.87**	**229**	*eP*	**P**	**06 46 11.9**	**+0.2**
comp=Z,15nm,0.9s,mb5.0							
BRTR	**Keskin Array B**	**83.33**	**332**	P	**P**	**06 46 13.8**	**-0.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=53,slow=1.6,SNR=4.8							
BRTR	**Keskin Array B**	**83.33**	**332**	P	**P**	**06 46 13.8**	**-0.2**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.6s							
MDRS	**Chennai**	**84.02**	**283**	*eP*	**P**	**06 46 16.0**	**-1.6**
MDRS				AMb	AMB	06 46 19.7	
comp=Z,62nm,0.2s							
ASAR	**Alice Springs**	**84.25**	**219**	P	**P**	**06 46 19.5**	**+0.8**
comp=Z,3.9nm,0.9s,mb4.5,baz=22,slow=5.1,SNR=11							
ASAR	**Alice Springs**	**84.25**	**219**	P	**P**	**06 46 19.5**	**+0.8**
ASAR				pmax	pmax		
comp=Z,4.0nm,0.9s							
KAD	**Karad**	**84.27**	**291**	*eP*	**P**	**06 46 19.4**	**+0.5**
KAD				AMb	AMB	06 46 21.7	
comp=Z,20nm,1.2s,mb5.1							
STKA	**Stephens Creek**	**89.09**	**210**	P	**P**	**06 46 41.5**	**-0.9**
comp=Z,2.7nm,0.3s,mb5.1,baz=13,slow=16,SNR=6.1							
STKA	**Stephens Creek**	**89.09**	**210**	*eP*	**P**	**06 46 41.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**115.06**	**355**	PKP	PKiKP	06 52 26.9	-1.2
comp=Z,0.3nm,0.4s,baz=346,slow=2.2,SNR=6.5							
DBIC	**Dimbokro**	**121.60**	**2**	PKP	PKPdf	06 52 40.0	-0.7
comp=Z,3.1nm,0.8s,baz=290,slow=21,SNR=4.4							
DBIC	**Dimbokro**	**121.60**	**2**	PKIKP	PKPdf	06 52 40.0	-0.7
DBIC				pmax	pmax		
comp=Z,3.0nm,0.8s							
VNDA	**Vanda**	**129.54**	**184**	PKP	PKPdf	06 52 55.1	-0.8
comp=Z,0.7nm,0.7s,baz=258,slow=2.7,SNR=3.1							
VNDA	**Vanda**	**129.54**	**184**	PKIKP	PKPdf	06 52 55.1	-0.8
VNDA				pmax	pmax		
comp=Z,1.0nm,0.7s							
CPUP	**Villa Florida**	**132.03**	**79**	PKP	PKPdf	06 53 00.8	+0.2
comp=Z,0.7nm,0.5s,baz=339,slow=5.4,SNR=4.1							
CPUP	**Villa Florida**	**132.03**	**79**	PKIKP	PKPdf	06 53 00.8	+0.2
CPUP				pmax	pmax		
comp=Z,1.0nm,0.5s							
PLCA	**Paso Flores**	**133.57**	**104**	PKP	PKPdf	06 53 03.4	-0.1
comp=Z,2.2nm,0.9s,baz=217,slow=2.9,SNR=5.1							
PLCA	**Paso Flores**	**133.57**	**104**	PKIKP	PKPdf	06 53 03.4	-0.1
PLCA				pmax	pmax		
comp=Z,2.0nm,0.9s							
QSPA	**South Pole Qui**	**141.69**	**180**	*eP*	PKPdf	06 53 12.5	-5.9
MAW	**Mawson**	**145.37**	**218**	PKPbc	PKPbc	06 53 23.5	-1.3
comp=Z,5.2nm,0.4s,baz=68,slow=3.3,SNR=20							
MAW	**Mawson**	**145.37**	**218**	PKIKP	PKPdf	06 53 23.5	-1.4
MAW				pmax	pmax		
comp=Z,5.0nm,0.4s							
MAW	**Mawson**	**145.37**	**218**	*e*PKPdf	PKPdf	06 53 23.2	-1.7
LBTB	**Lobatse**	**145.48**	**310**	PKPbc	PKPbc	06 53 25.8	+0.6
comp=Z,21nm,0.8s,baz=54,slow=2.0,SNR=22							
LBTB	**Lobatse**	**145.48**	**310**	PKIKP	PKPdf	06 53 25.8	+0.7
LBTB				pmax	pmax		
comp=Z,21nm,0.8s							
LBTB	**Lobatse**	**145.48**	**310**	*e*PKPdf	PKPdf	06 53 25.7	+0.6
BOSA	**Boshof**	**148.66**	**307**	PKPbc	PKPbc	06 53 34.2	+0.1
comp=Z,6.4nm,0.8s,baz=25,slow=0.8,SNR=7.6							
BOSA	**Boshof**	**148.66**	**307**	PKP2	PKPab	06 53 34.3	-3.5
BOSA				pmax	pmax		
comp=Z,6.0nm,0.8s							

*IDC **14** 06:34:14.5±0.8, 5202N×17706E, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.4/22, mbtmp4.5/15, ML4.5/1, Error ellipse: s-maj=24.1km s-min=16.5km az=160.0*
*NEIC **14** 06:34:15.8±0.5, 5197N×17703E, h10km, Error ellipse: s-maj=17.7km s-min=11.2km az=163.0*
*MOS **14** 06:34:19.0±1.2, 5224N×17676E, h33km, mb4.6/11, Error ellipse: s-maj=34.6km s-min=19.4km az=100.7*
*ISCJB **14** 06:34:22.7±4.8, 521N±0.1×177.1E±02, h79km±45km, mb4.3/14, Error ellipse: s-maj=24.8km s-min=14.7km az=148.4*

ISC 14 06:34:23.5±4.2, 521N±01×1771E±02, h74km±41km, n32, σ0°77/25, mb4.3/14, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**18.23**	**60**	P	**Pn**	**06 38 30.7**	**-0.6**
1.5nm,0.3s,baz=291,slow=8.6,SNR=3.0							
ASAJ	**Asahikawa**	**24.21**	**265**	P	**P**	**06 39 33.8**	**+0.7**
32nm,0.9s,mb4.7,baz=52,slow=6.6,SNR=4.8							
MJAR	**Matsushiro Arr**	**31.43**	**256**	P	**P**	**06 40 38.4**	**+0.7**
1.2nm,0.5s,mb3.9,baz=46,slow=7.2,SNR=3.7							
MJAR	**Matsushiro Arr**	**31.43**	**256**	P	**P**	**06 40 38.4**	**+0.7**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**36.60**	**46**	P	**P**	**06 41 24.0**	**+1.7**
comp=Z,12nm,0.8s,mb4.9,baz=286,slow=8.4,SNR=7.7							
SONM	**Songino Array**	**44.06**	**294**	P	**P**	**06 42 23.4**	**-0.5**
comp=Z,5.1nm,1.0s,mb4.2,baz=60,slow=7.7,SNR=3.9							
SONM				PcP	PcP	06 44 07.9	-0.2
comp=Z,2.6nm,0.7s,baz=78,slow=3.2,SNR=3.8							
SONM	**Songino Array**	**44.06**	**294**	P	**P**	**06 42 23.4**	**-0.6**
SONM						06 44 07.9	
SONM				pmax	pmax		
comp=Z,5.0nm,1.0s							
SONM				pmax	pmax		
comp=Z,3.0nm,0.7s							
NVAR	**Mina Array Bea**	**45.97**	**81**	P	**P**	**06 42 38.8**	**-0.3**
comp=Z,1.9nm,0.7s,mb3.9,baz=292,slow=5.9,SNR=4.1							
PDAR	**Pinedale Array**	**48.50**	**70**	P	**P**	**06 42 58.6**	**-0.1**
comp=Z,1.8nm,0.8s,mb3.9,baz=308,slow=5.5,SNR=3.5							
ARCES	**ARCESS Array B**	**56.95**	**348**	P	**P**	**06 44 01.5**	**+0.4**
comp=Z,2.7nm,0.9s,mb4.3,baz=32,slow=9.0,SNR=2.7							
ARCES	**ARCESS Array B**	**56.95**	**348**	P	**P**	**06 44 01.5**	**+0.4**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**57.60**	**306**	P	**P**	**06 44 04.2**	**-1.5**
comp=Z,4.1nm,0.8s,mb4.5,baz=52,slow=6.5,SNR=6.2							
MKAR	**Makanchi Array**	**57.60**	**306**	P	**P**	**06 44 04.2**	**-1.4**
MKAR				pmax	pmax		
comp=Z,4.0nm,0.8s							
BVAR	**Borovoye Array**	**58.70**	**317**	P	**P**	**06 44 13.0**	**-0.3**
comp=Z,4.9nm,0.3s,mb5.0,baz=53,slow=7.3,SNR=10							
BVAR	**Borovoye Array**	**58.70**	**317**	P	**P**	**06 44 13.0**	**-0.3**
BVAR				pmax	pmax		
comp=Z,5.0nm,0.3s							
FINES	**FINESS Array B**	**64.52**	**345**	P	**P**	**06 44 52.4**	**-0.1**
comp=Z,3.9nm,0.8s,mb4.3,baz=111,slow=8.4,SNR=5.0							
FINES	**FINESS Array B**	**64.52**	**345**	P	**P**	**06 44 52.4**	**-0.1**
FINES				pmax	pmax		
comp=Z,4.0nm,0.8s							
NOA	**NORSAR Array B**	**66.69**	**353**	P	**P**	**06 45 06.3**	**-0.2**
comp=Z,2.8nm,0.8s,mb4.2,baz=10,slow=6.6,SNR=4.7							
NOA	**NORSAR Array B**	**66.69**	**353**	P	**P**	**06 45 06.3**	**-0.2**
NOA				pmax	pmax		
comp=Z,3.0nm,0.8s							
AKASG	**Malin Array Be**	**74.07**	**339**	P	**P**	**06 45 52.0**	**+0.6**
comp=Z,2.4nm,0.6s,mb4.1,baz=22,slow=5.9,SNR=5.6							
AKASG	**Malin Array Be**	**74.07**	**339**	P	**P**	**06 45 52.0**	**+0.6**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**84.34**	**219**	P	**P**	**06 46 48.0**	**+0.7**
comp=Z,2.9nm,0.8s,mb4.2,baz=22,slow=5.7,SNR=4.0							
ASAR	**Alice Springs**	**84.34**	**219**	P	**P**	**06 46 48.1**	**+0.7**
ASAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
STKA	**Stephens Creek**	**89.19**	**210**	P	**P**	**06 47 09.8**	**-1.2**
comp=Z,2.6nm,0.3s,mb4.7,baz=8.2,slow=19,SNR=3.7							
STKA	**Stephens Creek**	**89.19**	**210**	P	**P**	**06 47 09.8**	**-1.2**
CPUP	**Villa Florida**	**132.00**	**79**	PKP	PKPdf	06 53 28.5	+0.1
comp=Z,3.2nm,1.0s,baz=213,slow=4.5,SNR=3.4							
CPUP	**Villa Florida**	**132.00**	**79**	PKIKP	PKPdf	06 53 28.5	+0.1
CPUP				pmax	pmax		
comp=Z,3.0nm,1.0s							
LBTB	**Lobatse**	**145.41**	**310**	PKPbc	PKPbc	06 53 54.7	+1.8
comp=Z,25nm,0.9s,baz=60,slow=2.5,SNR=9.0							
LBTB	**Lobatse**	**145.41**	**310**	PKIKP	PKPdf	06 53 54.7	+1.9
LBTB				pmax	pmax		
comp=Z,25nm,0.9s							
LBTB	**Lobatse**	**145.41**	**310**	PKPbc	PKPbc	06 53 54.7	+1.8
MAW	**Mawson**	**145.46**	**218**	PKPbc	PKPbc	06 53 52.2	-0.9
comp=Z,4.5nm,0.5s,baz=62,slow=3.9,SNR=3.9							
MAW	**Mawson**	**145.46**	**218**	PKIKP	PKPdf	06 53 52.2	-0.7
MAW				pmax	pmax		
comp=Z,5.0nm,0.5s							

KRSC 14 06:39:13.9±0.0, 5049N×15691E, h6km±9km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.98**	**356**	*eP*		06 39 33.6	
PAU				*eS*		06 39 48.0	
PAU				Smax			
170nm,0.1s							
GRL	**Gorelyy**	**2.19**	**19**	*eP*		06 39 51.8	
RUS	**Russkaya**	**2.19**	**27**	*eP*		06 39 50.3	
UGLR	**Uglovaya**	**2.97**	**23**	*eP*		06 40 03.2	
AVH	**Avacha**	**3.00**	**21**	*eP*		06 40 04.0	
KOK	**Koryaka**	**3.00**	**20**	*eP*		06 40 04.3	
SMAR	**Somma**	**3.01**	**22**	*eP*		06 40 04.6	
SDLR	**Sedlovina**	**3.05**	**23**	*eP*		06 40 03.5	

NEIC 14 06:51:33.8, 5204N×17708E, h5km, ML3.6(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.53**	**115**	P	Pn	06 52 01.2	-0.6
AMKA				S	Sn	06 52 20.7	-1.4
SMY	**Shemya**	**1.95**	**292**	*eP*	Pn	06 52 06.9	-0.7
ATKA	**Atka Island**	**5.38**	**85**	P	Pn	06 52 54.6	0.0
DAWY	**Dawson**	**25.41**	**45**	P	P	06 57 01.6	-0.6
MDJ	**Mudanjiang**	**31.95**	**276**	P	P	06 57 57.8	-2.7
MDJ				AMB	AMB		
comp=Z,590nm,13.3s							
CN2	**Changchun**	**34.91**	**277**	*eP*	P	06 58 20.5	-5.8
NJ2	**Nanjing**	**46.25**	**268**	*eP*	P	06 59 58.3	-1.7
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s							
WMQ	**Urumqi**	**56.81**	**300**	*eP*	P	07 01 19.5	+0.4
WMQ				LR	LR		
comp=N,370nm,18.0s							
WMQ				LR	LR		
comp=E,470nm,20.0s							
WMQ				LR	LR		
comp=Z,450nm,18.0s							
KMI	**Kunming**	**61.11**	**274**	P	P	07 01 47.9	-1.0

WEL 14 06:54:04.4±0.4, 3723S×17927E, h5km, ML3.5/10, Error ellipse: s-maj=3.2km s-min=3.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.84**	**246**	P*	Pb	06 54 20.2	-1.2
MXZ				*eS**	Sb	06 54 32.2	-0.7
PUZ	**Puketiti**	**1.16**	**224**	*eP**	Pb	06 54 27.0	0.0
PUZ				S*	Sb	06 54 41.6	-0.7
MWZ	**Matawai**	**1.77**	**231**	PN	Pn	06 54 35.2	-0.4
MWZ				SN	Sn	06 54 57.6	-0.9
URZ	**Urewera**	**2.00**	**238**	PN	Pn	06 54 38.3	-0.5
URZ				SN	Sn	06 55 03.4	-0.7
KNZ	**Kokohu**	**2.19**	**215**	PN	Pn	06 54 40.2	-1.1
KNZ				SN	Sn	06 55 08.3	-0.5
KUZ	**Kuaotunu**	**2.89**	**279**	PN	Pn	06 54 46.7	-4.3
BKZ	**Black Stump Fm**	**2.92**	**228**	PN	Pn	06 54 51.0	-0.4
PXZ	**Pawanui**	**3.37**	**213**	PN	Pn	06 54 55.3	-2.4
TSZ	**Takapari Road**	**3.83**	**222**	PN	Pn	06 55 01.7	-2.3
WCZ	**Waipu Caves**	**4.17**	**287**	PN	Pn	06 55 04.8	-3.9
WAZ	**Wanganui**	**4.20**	**232**	PN	Pn	06 55 07.9	-1.2

*ISCJB **14** 07:01:04.5±4.0, 5186N±009×17697E±008, h3km±26km, mb4.0/8, MS4.5/1, Error ellipse: s-maj=16.4km s-min=7.7km az=29.8*
*BJI **14** 07:01:04.1, 5180N×17700E, h10km, mB4.9, mb4.6, Ms4.7, Msz4.5*
*IDC **14** 07:01:06.2±0.9, 5191N×17674E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=41.6km s-min=20.9km az=140.0*
*NEIC **14** 07:01:07.1±1.6, 5180N×17698E, h10km, ML4.0(AEIC), Error ellipse: s-maj=31.3km s-min=13.1km az=194.0*

ISC 14 07:01:06.5±4.0, 5182N±010×17698E±008, h8km±25km, n21, σ0°88/22, mb4.0/8, MS4.5/1, Rat Islands

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

MPR				*e*S	Sg	07 02 37.5	+0.2
CPD	**Cerro la Pandu**	**0.90**	**95**	*e*S	Sb	07 02 54.6	-2.1
CPD	**Cerro la Pandu**	**0.90**	**95**	*e*S	Sb	07 02 54.6	-2.1
HUMP	**Col San Antoni**	**0.96**	**89**	*e*S	Sb	07 02 56.2	-2.2
HUMP	**Col San Antoni**	**0.96**	**89⇑**	*e*P	Pb	07 02 44.4	-1.4
HUMP	**Col San Antoni**	**0.96**	**89**	*e*S	Sb	07 02 55.5	-2.9
CBYP	**Canovanas**	**0.96**	**81⇑**	*e*P	Pb	07 02 42.4	-3.5
CBYP				*e*S	Sb	07 02 55.8	-2.7
MTP	**Monte Pirata**	**1.24**	**91⇑**	*e*P	Pn	07 02 48.3	-2.0
MTP	**Monte Pirata**	**1.24**	**91**	*e*S	Sb	07 03 03.7	-2.7
MTP	**Monte Pirata**	**1.24**	**91⇑**	*e*P	Pn	07 02 48.8	-1.5
MTP	**Monte Pirata**	**1.24**	**91**	*e*S	Sb	07 03 04.0	-2.4
MTP	**Monte Pirata**	**1.24**	**91⇑**	*e*P	Pn	07 02 48.8	-1.5
MTP				*e*S	Sb	07 03 04.0	-2.4

BJI ***14*** *07:06:15.8, 5190N×17700E, h10km, mB5.0, mb4.7, Ms4.6, Msz4.4*

IDC ***14*** *07:06:15.6±0.7, 5194N×17695E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/26, mbtmp4.1/17, ML4.1/1, Error ellipse: s-maj=24.1km s-min=14.4km az=166.0*

NEIC ***14*** *07:06:16.8±0.9, 5189N×17702E, mb4.3/3, MS4.2/1, ML4.2(AEIC), Error ellipse: s-maj=19.0km s-min=8.3km az=184.0*

ISCJB ***14*** *07:06:17.3±2.4, 5191N±008×17709E±006, h24km±18km, mb4.2/20, MS4.3/2, Error ellipse: s-maj=12.7km s-min=6.1km az=18.4*

MOS ***14*** *07:06:19.2±1.3, 5200N×17701E, h33km, mb4.3/12, Error ellipse: s-maj=18.8km s-min=12.2km az=75.6*

ISC 14 07:06:17.5±3.3, 5187N±008×17709E±006, h17km±20km, n59, σ1º02/59, mb4.2/20, MS4.3/2, 1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.47**	**109**	P	**Pn**	**07 06 43.4**	**+0.2**
AMKA				S	**Sn**	**07 07 01.3**	**-0.7**
SMY	**Shemya**	**2.03**	**296**	P	**Pn**	**07 06 50.1**	**-0.8**
SMY				S	**Sn**	**07 07 15.6**	**-0.2**
ATKA	**Atka Island**	**5.39**	**83**	P	**Pn**	**07 07 37.7**	**+0.5**
NIKO	**Nikolski**	**8.67**	**77**	P	**Pn**	**07 08 25.4**	**+3.3**
SPIA	**Saint Paul Isl**	**9.08**	**49**	P	**Pn**	**07 08 27.7**	**-0.1**
UNV	**Unalaska Valle**	**10.12**	**72**	*e*Pn	**Pn**	**07 08 40.6**	**-1.4**
	9μm,0.8s						
AKUT	**Akutan**	**10.58**	**71**	*e*P	**Pn**	**07 08 46.7**	**-1.6**
	41nm,0.6s						
BILL	**Bilibino**	**17.05**	**346**	*e*P	**Pn**	**07 10 16.0**	**+0.9**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SVW2	**Sparrevohn**	**17.57**	**48**	*e*P	**Pn**	**07 10 22.3**	**+0.8**
TTA	**Tatalina**	**18.08**	**42**	*e*P	**Pn**	**07 10 29.0**	**+1.2**
KDAK	**Kodiak Island**	**18.34**	**59**	P	**Pn**	**07 10 30.9**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=251,slow=7.5,SNR=6.5						
SLKM	**Skilak Lake**	**19.95**	**52**	*e*P	**Pn**	**07 10 48.7**	**-1.6**
SLKM				*e*pP	pP	07 10 51.3	-2.2
PMR	**Palmer**	**20.69**	**49**	*e*P	**P**	**07 11 00.1**	**+3.4**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PMR				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.2						
PMR	**Palmer**	**20.69**	**49**	*e*P	**P**	**07 11 00.1**	**+3.4**
	comp=Z,3.2nm,0.6s						
PMR				LR	LR		
	comp=Z,1μm,21.0s,MS4.2						
EYAK	**Cordova Ski Ar**	**22.14**	**52**	*e*P	**P**	**07 11 12.3**	**0.0**
COLA	**College**	**22.16**	**41**	*e*P	**P**	**07 11 11.7**	**-0.8**
COLA	**College**	**22.16**	**41**	*e*P	**P**	**07 11 12.2**	**-0.3**
	comp=Z,10nm,0.8s,mb4.3						
COLA				*e*pP		07 11 15.7	
YSS	**Yuzh-Sakhalins**	**22.73**	**271**	P	**P**	**07 11 29.0**	**+10**
MENT	**Mentasta**	**23.44**	**47**	*e*P	**P**	**07 11 26.8**	**+0.8**
ASAJ	**Asahikawa**	**24.17**	**265**	P	**P**	**07 11 33.0**	**+0.2**
	comp=Z,9.2nm,0.8s,mb4.3,baz=125,slow=32,SNR=8.2						
ASAJ	**Asahikawa**	**24.17**	**265**	P	**P**	**07 11 33.0**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DAWY	**Dawson**	**25.53**	**45**	*e*P	**P**	**07 11 45.0**	**-0.2**
INK	**Inuvik**	**28.55**	**36**	P	**P**	**07 12 12.7**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.7,baz=279,slow=6.0,SNR=3.3						
INK	**Inuvik**	**28.55**	**36**	P	**P**	**07 12 12.7**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**28.55**	**36**	*e*P	**P**	**07 12 12.5**	**+0.1**
	comp=Z,11nm,1.4s,mb4.4						
MDJ	**Mudanjiang**	**31.96**	**276**	P	**P**	**07 12 39.3**	**-3.2**
MDJ				AMB	AMB		
	comp=Z,430nm,14.0s						
CN2	**Changchun**	**34.94**	**278**	*e*P	**P**	**07 13 13.3**	**+4.9**
YKW3	**Yellowknife Ar**	**36.73**	**46**	P	**P**	**07 13 21.6**	**-2.1**
YKA	**Yellowknife Ar**	**36.75**	**46**	P	**P**	**07 13 24.2**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.1,baz=283,slow=8.3,SNR=9.5						
SNY	**Shenyang**	**37.17**	**276**	⇓P	**P**	**07 13 29.0**	**+1.5**
EDM	**Edmonton**	**40.79**	**60**	*e*P	**P**	**07 13 56.4**	**-1.4**
EDM				*e*pP	pP	07 13 59.5	-3.7
YBH	**Yreka Blue Hor**	**41.33**	**80**	P	**P**	**07 14 04.2**	**+1.9**
	comp=Z,0.7nm,0.5s,mb3.5,baz=297,slow=4.5,SNR=3.2						
YBH	**Yreka Blue Hor**	**41.33**	**80**	P	**P**	**07 14 04.2**	**+1.9**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**44.12**	**294**	P	**P**	**07 14 26.0**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.7,baz=55,slow=7.8,SNR=3.9						
SONM	**Songino Array**	**44.12**	**294**	P	**P**	**07 14 26.0**	**+1.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**46.02**	**80**	P	**P**	**07 14 40.8**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=296,slow=5.7,SNR=4.4						
NJ2	**Nanjing**	**46.25**	**268**	*e*P	**P**	**07 14 42.3**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
PDAR	**Pinedale Array**	**48.58**	**70**	P	**P**	**07 15 00.6**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.9,baz=302,slow=2.8,SNR=8.4						
ULM	**Lac du Bonnet**	**51.53**	**55**	P	**P**	**07 15 23.2**	**+0.9**
	comp=Z,0.6nm,0.4s,mb3.9,baz=216,slow=0.2,SNR=3.2						
WMQ	**Urumqi**	**56.90**	**300**	*e*P	**P**	**07 16 01.4**	**-0.1**
WMQ				LR	LR		
	comp=N,210nm,22.0s,MS4.5						
WMQ				LR	LR		
	comp=E,340nm,20.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,300nm,18.0s,MS4.4						
MKAR	**Makanchi Array**	**57.69**	**306**	P	**P**	**07 16 05.7**	**-1.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=47,slow=6.4,SNR=7.7						
MKAR	**Makanchi Array**	**57.69**	**306**	P	**P**	**07 16 05.7**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**58.83**	**317**	P	**P**	**07 16 14.2**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.3,baz=52,slow=5.9,SNR=7.5						
BVAR	**Borovoye Array**	**58.83**	**317**	P	**P**	**07 16 14.2**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**60.80**	**326**	*e*P	**P**	**07 16 33.0**	**+4.4**
ARU				pmax	pmax		
	comp=Z,16nm,2.5s,mb4.7						
KMI	**Kunming**	**61.12**	**275**	P	**P**	**07 16 29.6**	**-1.2**
KMI				AP	pP	07 16 33.8	-2.5
SCHQ	**Schefferville**	**61.17**	**36**	P	**P**	**07 16 31.7**	**+0.6**
	comp=Z,2.6nm,1.0s,mb4.3,baz=315,slow=8.8,SNR=3.2						
AAK	**Ala-Archa**	**64.55**	**307**	*e*P	**P**	**07 16 58.0**	**+4.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
AKTO	**Aktyubinsk**	**65.76**	**322**	P	**P**	**07 17 01.6**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.4,baz=75,slow=6.8,SNR=6.7						
AKTO	**Aktyubinsk**	**65.76**	**322**	P	**P**	**07 17 01.6**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
EKA	**Eskdalemuir Ar**	**73.17**	**0**	P	**P**	**07 17 47.5**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=324,slow=8.3,SNR=3.9						
EKA	**Eskdalemuir Ar**	**73.17**	**0**	P	**P**	**07 17 47.5**	**+0.3**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**74.24**	**339**	P	**P**	**07 17 52.9**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=20,slow=5.6,SNR=3.3						
GOF	**Gofitskoye**	**75.65**	**328**	*e*P	**P**	**07 18 08.1**	**+6.4**
ASAR	**Alice Springs**	**84.18**	**219**	P	**P**	**07 18 48.8**	**+0.9**
	comp=Z,1.8nm,0.7s,mb4.3,baz=18,slow=5.2,SNR=14						
ASAR	**Alice Springs**	**84.18**	**219**	P	**P**	**07 18 48.8**	**+1.0**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**89.02**	**210**	P	**P**	**07 19 10.9**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.7,baz=342,slow=7.5,SNR=6.6						
MAW	**Mawson**	**145.30**	**218**	PKPbc	PKPbc	07 25 53.5	-0.6
	comp=Z,2.6nm,0.5s,baz=104,slow=2.8,SNR=10						
MAW	**Mawson**	**145.30**	**218**	PKIKP	PKPdf	07 25 53.5	-0.8
MAW				pmax	pmax		

comp=Z,3.0nm,0.5s

CASC 14 07:07:53.0±2.5, 1150N×8748W, h74km±85km, MD3.9, 8C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.07**	**32⇑**	*i*P	Pn	07 08 12.7	+0.1
COPN	**Copaltepe**	**1.10**	**52⇓**	*e*P	Pn	07 08 12.5	-0.4
MIRN	**Miramar**	**1.20**	**39⇓**	*e*P	Pn	07 08 13.9	-0.2
CNGN	**Cerro Negro**	**1.25**	**37⇑**	*e*P	Pn	07 08 14.7	-0.1
CRIN	**San Cristobal**	**1.26**	**19⇑**	*e*P	Pn	07 08 15.7	+0.7
MOMJ	**Momotombo**	**1.28**	**45⇑**	*e*P	Pn	07 08 15.4	+0.2
XAVN	**Gruta Xavier**	**1.30**	**60**	*e*P	Pn	07 08 15.4	0.0
APYN	**Apoyeque**	**1.32**	**56⇑**	*e*P	Pn	07 08 15.6	-0.1
TICN	**Ticuantepe**	**1.33**	**66⇑**	*e*P	Pn	07 08 16.2	+0.4
MGAN	**Managua**	**1.36**	**62⇓**	*e*P	Pn	07 08 15.8	-0.4
MGAN				*e*S	Sn	07 08 35.3	+1.5
APON	**Apoyo**	**1.44**	**73⇓**	*e*P	Pn	07 08 16.9	-0.4
SSNN	**San Juan del S**	**1.61**	**97**	*e*P	Pn	07 08 22.5	+3.0
CONN	**Concepcion**	**1.81**	**88**	*e*P	Pn	07 08 21.3	-0.9
LCBS	**La Ceiba**	**2.60**	**326⇑**	*e*P	x	07 08 42.3	
LCBS				*e*S	x	07 09 13.0	
SBLS	**San Blas**	**3.13**	**318**	*e*P	x	07 08 52.6	
SBLS				*e*S	x	07 09 28.1	
CGA2	**Cerro Gallo 2**	**3.31**	**116**	*e*S	Sn	07 09 21.0	+0.5
LCR2	**La Lucha 2**	**3.83**	**117**	*e*S	Sn	07 09 33.8	+0.4
URSC	**Urasca**	**3.99**	**114⇑**	*e*P	Pn	07 08 55.4	+3.6
URSC				*e*S	Sn	07 09 39.5	+2.2
BUS	**Buena Vista**	**4.13**	**118**	*e*P	Pn	07 08 55.8	+2.1
BUS				*e*S	Sn	07 09 42.1	+1.3

BJI ***14*** *07:15:55.8, 5170N×17690E, h10km, mB4.6, mb4.7, Ms4.1, Msz3.9*

NEIC 14 07:15:58.8±2.0, 5172N×17690E, h10km, ML3.6(AEIC), Error ellipse: s-maj=47.6km s-min=12.5km az=194.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.54**	**102**	P	Pn	07 16 26.1	-0.2
AMKA				S	Sn	07 16 44.1	-2.2
SMY	**Shemya**	**2.00**	**302**	P	Pn	07 16 32.9	+0.2
SMY				S	Sn	07 16 58.5	+0.8
ATKA	**Atka Island**	**5.53**	**81**	P	Pn	07 17 20.2	-0.9
NIKO	**Nikolski**	**8.81**	**76**	*e*Pn	Pn	07 18 08.0	+1.7
AKUT	**Akutan**	**10.74**	**70**	*e*P	Pn	07 18 32.2	-0.4
	100nm,1.4s						
DAWY	**Dawson**	**25.72**	**44**	*e*P	P	07 21 28.2	-1.1
MDJ	**Mudanjiang**	**31.87**	**276**	P	P	07 22 23.1	-0.9
CN2	**Changchun**	**34.84**	**278**	*e*P	P	07 22 49.8	-0.2
NJ2	**Nanjing**	**46.13**	**268**	*e*P	P	07 24 24.0	+0.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**56.27**	**278**	*e*P	P	07 25 38.8	-0.7
CD2				AP	pP	07 25 43.4	+0.7
CD2				XP	sP	07 25 45.8	+1.9
CD2				PP	PP	07 27 45.3	+0.6
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
CD2				AMB	AMB		
	comp=Z,120nm,8.2s						
WMQ	**Urumqi**	**56.88**	**300**	*e*P	P	07 25 45.6	+1.8
KMI	**Kunming**	**61.02**	**275**	P	P	07 26 14.3	+1.8
KMI				AP	pP	07 26 17.0	+1.3
KMI				XP	sP	07 26 18.6	+1.6

ISCJB ***14*** *07:16:35.5±0.7, 2348S±006×668W±0.1, h223km±15km, mb3.5/1, Error ellipse: s-maj=19.3km s-min=10.3km az=4.2*

IDC ***14*** *07:16:36.0±0.8, 2350S×6676W, h206km±18km, mb3.4/1, mb1 3.1/8, mb1mx3.1/20, mbtmp3.6/8, Error ellipse: s-maj=21.9km s-min=12.6km az=99.0*

NEIC ***14*** *07:16:36.6±0.6, 2347S×6673W, h217km±17km, mb3.8/1, Error ellipse: s-maj=15.7km s-min=9.2km az=101.0*

ISC 14 07:16:36.7±0.7, 2345S±007×667W±01, h209km±15km, n9, σ0º95/12, mb3.5/1, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.17**	**292**	P	**Pn**	**07 17 18.9**	**+1.3**
	4.1nm,0.3s,baz=91,slow=7.9,SNR=158						
LVC				S	**Sn**	**07 17 49.3**	**-0.1**
	5.7nm,0.3s,baz=360,slow=23,SNR=29						
LPAZ	**La Paz**	**7.24**	**349**	P	**Pn**	**07 18 21.4**	**+1.4**
	0.3nm,0.3s,baz=175,slow=7.2,SNR=15						
LPAZ				S	**Sn**	**07 19 40.3**	**-2.1**
	0.1nm,0.3s,baz=265,slow=18,SNR=2.4						
CFAA	**Coronel Fontan**	**8.23**	**189**	P	**Pn**	**07 18 32.3**	**-0.6**
	0.1nm,0.3s,baz=16,slow=10,SNR=12						
CFAA				S	**Sn**	**07 19 59.1**	**-6.7**
	0.1nm,0.3s,baz=168,slow=15,SNR=8.7						
CPUP	**Villa Florida**	**9.01**	**111**	P	**Pn**	**07 18 43.1**	**+0.2**
	0.1nm,0.3s,baz=280,slow=6.1,SNR=3.0						
SIV	**San Ignacio**	**9.13**	**37**	P	**Pn**	**07 18 43.7**	**-0.9**
	0.9nm,0.3s,baz=221,slow=12,SNR=34						
SAML	**Samuel**	**14.81**	**14**	*e*Pn	**Pn**	**07 19 56.3**	**+0.2**
	2.5nm,0.6s						
PLCA	**Paso Flores**	**17.53**	**190**	P	**P**	**07 20 25.7**	**-1.0**
	0.1nm,0.3s,baz=15,slow=12,SNR=2.4						
BDFB	**Brasilia**	**19.26**	**70**	P	**P**	**07 20 46.0**	**+0.5**
	0.5nm,0.3s,baz=256,slow=10,SNR=11						
TORD	**Torodi Ar. Bea**	**76.15**	**69**	P	**P**	**07 28 02.0**	**+0.5**
	0.7nm,0.6s,mb3.5,baz=251,slow=5.5,SNR=8.1						

BJI ***14*** *07:24:05.2, 268N×9432E, h31km, mB5.5, mb5.2, Ms5.3, Msz5.0*

MOS ***14*** *07:24:05.8±0.8, 274N×9440E, h33km, mb5.4/63, Error ellipse: s-maj=8.6km s-min=4.6km az=114.7*

ISCJB ***14*** *07:24:05.0±0.2, 266N±003×9441E±003, h29km, mb5.1/134, MS5.0/30, Error ellipse: s-maj=4.8km s-min=3.9km az=29.0*

HRVD ***14*** *07:24:06.6±0.5, 259N×9429E, h16km±1km, MW5.2/66, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s66,c92; Half duration: 1º0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.82±.09; $M_{\theta\theta}$-0.46±.05; $M_{\phi\phi}$-0.35±.06; $M_{r\theta}$-0.37±.17; $M_{\theta\phi}$0.44±.03; $M_{\phi r}$-0.01±.17; Best double couple: $M_0$0.91500×10^{17} NP1:ϕ_s146.00000°, δ38.00000°, λ114.00000°. NP2: ϕ_s296.00000°, δ56.00000°, λ72.00000°. Principal axes: T 0.9310, Plg72.0000°, Azm160.0000°; N -0.0320, Plg15.0000°, Azm307.0000°; P -0.8990, Plg9.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***14*** *07:24:06.6±0.1, 265N×9437E, mb5.1/56 Error ellipse: s-maj=5.1km s-min=3.5km az=216.0*

IDC ***14*** *07:24:06.2±0.5, 265N×9434E, h28km±3km, mb4.6/23, mb1 4.7/24, mb1mx4.6/26, mbtmp4.8/24, ML4.1/1, MS4.6/7, Ms1 4.6/7, ms1mx4.1/22, Error ellipse: s-maj=14.9km s-min=10.8km az=59.0*

SZGRF ***14*** *07:24:07.1, 325N×9504E, h33km, mb5.2, Off west coast of northern Sumatera, Indonesia*

ISC 14 07:24:07.4±0.2, 266N±003×9440E±003, h31km, h31km±.5km: pP-P, n412, σ0º98/322, mb5.1/134, MS5.0/30, 74C-58D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.52**	**88**	Pn	**Pn**	**07 25 13.8**	**+0.1**
	9.1nm,0.3s,baz=303,slow=9.6,SNR=92						
PSI				LR	LR	07 26 29.6	
	comp=Z,2μm,20.0s,baz=360,slow=31						
PSI	**Prapat**	**4.52**	**88**	Pn	**Pn**	**07 25 13.8**	**+0.1**
PSI				LR	LR	07 26 29.6	
KULM	**Kulim**	**6.76**	**67**	*e*Pn	**Pn**	**07 25 43.4**	**-1.0**
KULM				*e*Sn	**Sn**	**07 26 53.7**	**-6.6**
IPM	**Ipoh**	**6.86**	**75**	P	**Pn**	**07 25 45.5**	**-0.2**
SNG	**Songkhla**	**7.65**	**54**	P	**Pn**	**07 25 57.0**	**+0.4**
	418nm,1.0s						
KGM	**Kluang**	**8.94**	**94**	P	**Pn**	**07 26 14.1**	**-0.1**
PBA	**Port Blair**	**9.09**	**350**	*ex*	x	07 27 40.7	
NST	**Nakhon Sawan**	**14.11**	**23**	⇑P	**Pn**	**07 27 32.5**	**+7.5**
	58nm,1.0s						
PALK	**Pallekele**	**14.39**	**289**	*e*Pn	**Pn**	**07 27 27.1**	**-1.7**
	17nm,0.7s						
KSM	**Kuching**	**15.94**	**94**	*e*Pn	**Pn**	**07 27 50.1**	**+0.8**
CHG	**Chiang Mai**	**16.66**	**15**	⇑P	**Pn**	**07 27 56.1**	**-2.4**
	69nm,1.1s						
CHTO	**Chiang Mai**	**16.66**	**15**	*e*P	**Pn**	**07 27 56.5**	**-2.0**
CHTO				pmax	pmax		
	comp=Z,81nm,1.0s						
CHTO	**Chiang Mai**	**16.66**	**15**	*e*Pn	**Pn**	**07 27 56.5**	**-2.0**
	comp=Z,81nm,1.0s						
TRD	**Trivandrum**	**18.30**	**289**	*e*P	**Pn**	**07 28 21.5**	**+2.8**
TRD				AMb	AMB	07 28 23.4	
	comp=Z,110nm,1.4s						
VIS	**Vishakhapatnam**	**18.49**	**325**	*e*P	**Pn**	**07 28 18.4**	**-2.7**
VIS				AMb	AMB	07 28 29.5	
	comp=Z,161nm,1.1s						
HYB	**Hyderabad**	**21.38**	**314**	*i* P	**P**	**07 28 53.0**	**+0.8**
	comp=Z,80nm,1.0s,mb5.0						
HYB	**Hyderabad**	**21.38**	**314**	*e*P	**P**	**07 28 53.0**	**+0.8**
HYB				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.0						
HYB	**Hyderabad**	**21.38**	**314**	*e*P	**P**	**07 28 53.0**	**+0.8**
	comp=Z,80nm,1.0s,mb5.0						
IMP	**Imphal**	**22.00**	**359**	*e*P	**P**	**07 29 00.0**	**+1.1**
KKM	**Kota Kinabalu**	**22.01**	**80**	P	**P**	**07 28 59.8**	**+0.8**
KKM	**Kota Kinabalu**	**22.01**	**80**	*e*P	**P**	**07 29 00.3**	**+1.4**
QIZ	**Qiongzhong**	**22.20**	**42**	⇓P	**P**	**07 29 01.4**	**+0.3**
QIZ				AP		07 29 08.8	
QIZ				XS	sS	07 33 14.4	-2.9
QIZ				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.5						
QIZ				LR	LR		
	comp=N,4μm,18.9s,MS5.0						
QIZ				LR	LR		
	comp=E,3μm,17.3s,MS5.0						
QIZ				LR	LR		
	comp=Z,5μm,16.5s,MS5.0						
QIZ	**Qiongzhong**	**22.20**	**42**	*e*P	**P**	**07 29 01.4**	**+0.3**
	comp=Z,148nm,1.7s,mb5.1						
BOK	**Bokaro**	**22.57**	**339**	*e*P	**P**	**07 29 05.5**	**+0.6**
BOK				AMb	AMB	07 29 11.2	
	comp=Z,221nm,1.1s,mb5.5						
BLSP	**Bilaspur**	**22.73**	**329**	*e*P	**P**	**07 29 07.0**	**+0.4**
SHL	**Shillong**	**22.90**	**354**	*e*P	**P**	**07 29 08.0**	**-0.5**
TSM	**Tawau**	**23.48**	**85**	P	**P**	**07 29 14.4**	**-0.1**
NGP	**Nagpur**	**23.69**	**322**	*e*P	**P**	**07 29 17.6**	**+1.2**
NGP				*ex*	x	07 29 20.6	
	comp=Z,139nm,2.0s						
NGP				*e*S	**S**	**07 33 36.1**	**+7.0**
KMI	**Kunming**	**23.73**	**19**	P	**P**	**07 29 18.1**	**+1.3**
KMI				AP		07 29 24.0	
KMI				XP	sP	07 29 27.0	-2.5
KMI				PP		07 29 51.0	
KMI				PPP		07 30 02.3	
KMI				S	**S**	**07 33 31.8**	**+1.9**
KMI				XS	sS	07 33 42.3	-2.3
KMI				AMB	AMB		
	comp=Z,60nm,1.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,870nm,3.9s						
KMI				LR	LR		
	comp=N,4μm,11.4s,MS5.2						
KMI				LR	LR		
	comp=E,2μm,11.0s,MS5.2						
KMI				LR	LR		
	comp=Z,4μm,11.4s,MS5.1						
KAD	**Karad**	**24.62**	**308**	*e*P	**P**	**07 29 25.5**	**+0.7**
KAD				AMb	AMB	07 29 29.5	
	comp=Z,50nm,1.9s,mb4.7						
AKL	**Akola**	**24.67**	**318**	*ex*	x	07 28 54.5	
AKL				*i* x	x	07 28 54.6	
AKL				AMb	AMB	07 28 58.2	
	comp=Z,73nm,1.9s,mb4.9						
JBP	**Jabalpur**	**24.71**	**327⇑**	*e*P	**P**	**07 29 26.9**	**+1.2**
JBP				*ex*	x	07 29 46.9	
	comp=Z,60nm,1.8s						
JBP				*e*S	**S**	**07 33 51.4**	**+5.8**
POO	**Poona**	**25.57**	**310⇓**	*i*P	**P**	**07 29 33.0**	**-0.5**
JIRN	**Jiri**	**26.07**	**343**	*e*P	**P**	**07 29 38.5**	**+0.5**
	comp=Z,62nm,0.7s,mb5.2						
PKI	**Pulchoki**	**26.22**	**342**	*e*P	**P**	**07 29 39.3**	**-0.1**
BHPL	**Bhopal**	**26.25**	**323**	*e*P	**P**	**07 29 41.2**	**+1.5**
BHPL				AMb	AMB	07 29 42.7	
	comp=Z,46nm,1.0s,mb5.0						
DMN	**Daman**	**26.35**	**341**	*e*P	**P**	**07 29 40.9**	**+0.3**
	comp=Z,43nm,0.9s,mb5.0						
GUN	**Gumba**	**26.40**	**343**	*e*P	**P**	**07 29 41.4**	**+0.4**
	comp=Z,61nm,0.8s,mb5.2						
GYA	**Guiyang**	**26.43**	**25⇑**	*i*P	**P**	**07 29 41.4**	**+0.1**
GYA				AP	pP	07 29 50.9	+0.7
GYA				XP	sP	07 29 55.3	+1.3
GYA				PPP		07 30 57.6	
GYA				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,140nm,4.2s						
GYA				LR	LR		
	comp=N,3μm,18.4s,MS4.9						
GYA				LR	LR		
	comp=E,2μm,18.2s,MS4.9						
GYA				LR	LR		
	comp=Z,4μm,16.7s,MS5.0						
KKN	**Kakani**	**26.46**	**342**	*e*P	**P**	**07 29 41.8**	**+0.2**
	comp=Z,65nm,1.0s,mb5.1						
KKN	**Kakani**	**26.46**	**342**	*e*P	**P**	**07 29 41.8**	**+0.2**

LZH XP sP 07 31 01.0 -3.4
LZH *e*S **S** **07 36 17.3 -0.1**
LZH XS sS 07 36 34.0 +1.6
LZH AMB AMB
comp=Z,50nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,340nm,4.8s
LZH LR LR
comp=E,3μm,13.0s
LZH LR LR
comp=Z,3μm,14.5s,MS5.2
GTA Gaotai 36.91 7 ⇑P **P** **07 31 13.0 -0.2**
GTA AP pP 07 31 21.6 -0.7
GTA XP sP 07 31 24.8 -1.3
GTA PP PP 07 32 39.8 +2.2
GTA PCP PcP 07 33 34.6 +0.3
GTA S **S** **07 36 55.6 -0.5**
GTA XS sS 07 37 11.9 +0.8
GTA SS SS 07 39 26.5 -12
GTA AMB AMB
comp=Z,40nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,320nm,7.2s
GTA LR LR
comp=N,2μm,12.9s,MS5.0
GTA LR LR
comp=E,730nm,11.4s,MS5.0
GTA LR LR
comp=Z,1μm,12.5s,MS4.9
FITZ Fitzroy Crossi 37.05 125 *e*P **P** **07 31 13.4 -1.0**
comp=Z,17nm,0.8s,mb4.9
NJ2 Nanjing 37.20 36 *e*P **P** **07 31 17.0 +1.3**
NJ2 AP pP 07 31 27.0 +2.2
NJ2 XP sP 07 31 31.1 +2.5
NJ2 PP PP 07 32 44.9 +4.1
NJ2 S **S** **07 37 00.0 -0.5**
NJ2 XS sS 07 37 16.0 +0.5
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.4
NJ2 AMB AMB
comp=Z,380nm,6.2s
NJ2 LR LR
comp=N,4μm,15.4s,MS5.4
NJ2 LR LR
comp=E,4μm,18.9s,MS5.4
NJ2 LR LR
comp=Z,2μm,13.9s,MS5.1
SSE Sheshan 37.94 39 P **P** **07 31 22.8 +0.9**
SSE AP pP 07 31 31.5 +0.4
SSE XP sP 07 31 34.8 0.0
SSE S **S** **07 37 12.5 +0.8**
SSE XS sS 07 37 27.9 +1.1
SSE AMB AMB
comp=Z,30nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,140nm,5.2s
SSE LR LR
comp=N,1μm,12.9s,MS5.2
SSE LR LR
comp=E,2μm,12.9s,MS5.2
SSE LR LR
comp=Z,3μm,17.1s,MS5.1
BTO Baotou 40.33 18 *e*P **P** **07 31 40.8 -1.1**
KSH Kashi 40.33 338 *e*P **P** **07 31 41.5 -0.4**
KSH *e*AP pP 07 31 51.3 +0.2
KSH *e*XP sP 07 31 55.5 +0.6
KSH *e*PP PP 07 33 18.5 +3.5
KSH *e*PPP 07 33 44.4
KSH *e*PCP PcP 07 33 45.9 +0.9
KSH *e*SCP ScP 07 37 31.4 -0.5
KSH *e*PCS PcS 07 37 35.1 -0.4
KSH *e*S **S** **07 37 45.6 -2.1**
KSH *e*XS sS 07 38 01.5 -1.3
KSH *e*SS SS 07 40 39.0 -7.9
KSH *e*SCS ScS 07 41 43.3 -2.5
KSH AMB AMB
comp=Z,30nm,0.6s,mb5.2
KSH AMB AMB
comp=Z,550nm,5.2s
KSH LR LR
comp=N,1μm,13.2s,MS5.5
KSH LR LR
comp=E,4μm,12.8s,MS5.5
KSH LR LR
comp=Z,1μm,18.0s
KAKA Kakadu 40.74 113 *e*P **P** **07 31 40.4 -4.9**
comp=Z,20nm,0.9s,mb4.7
BIDO Bidbid 40.75 304 P **P** **07 31 48.0 +2.6**
SNR=5.4
HHC Hu-ho-hao-te 41.05 20 *e*P **P** **07 31 48.8 +0.9**
HHC AP pP 07 31 58.8 +1.7
HHC XP sP 07 32 02.9 +2.1
HHC PP PP 07 33 28.0 +5.1
HHC PCP PcP 07 33 47.8 +0.5
HHC SCP ScP 07 37 33.8 -1.0
HHC PCS PcS 07 37 37.4 -0.9
HHC S **S** **07 38 00.6 +2.2**
HHC XS sS 07 38 17.8 +4.2
HHC SS SS 07 41 01.4 +0.1
HHC SCS ScS 07 41 47.8 -2.4
HHC AMB AMB
comp=Z,40nm,1.5s,mb4.8
HHC LR LR
comp=N,2μm,15.3s,MS5.3
HHC LR LR
comp=E,2μm,16.7s,MS5.3
HHC LR LR
comp=Z,2μm,20.2s,MS4.9
BSY Bisya 41.21 302 P **P** **07 31 51.7 +2.5**
SNR=5.7
WMQ Urumqi 41.42 353 P **P** **07 31 51.6 +0.7**
WMQ PP PP 07 33 31.8 +5.0
WMQ PPP 07 34 01.3
WMQ *e*S **S** **07 38 04.6 +0.8**
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,790nm,4.5s
WMQ LR LR
comp=N,410nm,23.0s,MS4.5
WMQ LR LR
comp=E,560nm,23.0s,MS4.5
WMQ LR LR
comp=Z,380nm,22.0s,MS4.2
HOQ Hoqain 41.46 303 P **P** **07 31 53.6 +2.4**
SNR=5.7
NWAO Narrogin (SRO) 41.47 150 P **P** **07 31 51.2 -0.1**
comp=Z,9.4nm,0.7s,mb4.5,baz=310,slow=11,SNR=6.2
NWAO Narrogin (SRO) 41.47 150 *e*P **P** **07 31 51.5 +0.3**
NWAO *e*pP pP 07 32 00.5 0.0
BJT Baijiatuau 42.10 25 *e*P **P** **07 31 57.5 +1.0**
BJT pmax pmax
comp=Z,62nm,1.3s
BJT Baijiatuau 42.10 25 *e*P **P** **07 31 57.5 +1.0**
comp=Z,62nm,1.3s,mb5.1
WHFO Wadi Hawf 42.62 294 ⇓P **P** **07 32 02.0 +1.3**
ULHL Ulahol 42.64 340 P **P** **07 32 01.4 +0.6**
SNR=16
KZA Kyzart 42.84 339 P **P** **07 32 03.5 +1.1**
SNR=14
ABTO Aybut 42.90 293 ⇓P **P** **07 32 04.3 +1.4**
ASHO Ashiyiah 42.96 304 ⇑P **P** **07 32 05.3 +1.9**
UCH Uchtor 43.23 338 P **P** **07 32 06.6 +0.9**
SNR=32
KBK Karagaybulak 43.45 339 P **P** **07 32 09.1 +1.7**
SNR=5.9
TKM2 Tokmak 2 43.45 340 P **P** **07 32 08.1 +0.6**
SNR=13
TKM2 Tokmak 2 43.45 340 P **P** **07 32 07.7 +0.2**
TKM2 pmax pmax
comp=Z,186nm,2.2s,mb5.4
AML Almayashu 43.46 338 P **P** **07 32 08.6 +1.1**
SNR=12
AAK Ala-Archa 43.59 339 P **P** **07 32 10.0 +1.5**
SNR=5.9
AAK Ala-Archa 43.59 339 P **P** **07 32 08.5 -0.1**
comp=Z,70nm,1.0s,mb5.3,SNR=7.2
AAK Ala-Archa 43.59 339*c i*P **P** **07 32 08.2 -0.4**
AAK pmax pmax
comp=Z,54nm,2.5s,mb4.8
AAK Ala-Archa 43.59 339 *e*P **P** **07 32 08.3 -0.2**
comp=Z,7.7nm,0.9s,mb4.4
FRU Bishkek 43.72 339 *e*P **P** **07 32 09.5 -0.1**
FRU pmax pmax
comp=Z,148nm,2.2s,mb5.3

DL2 Dalian 43.79 31 ⇑P **P** **07 32 11.3 +1.1**
DL2 S **S** **07 38 43.5 +4.8**
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
DL2 AMB AMB
comp=Z,110nm,4.2s
DL2 LR LR
comp=N,570nm,13.6s,MS4.7
DL2 LR LR
comp=E,370nm,14.5s,MS4.7
DL2 LR LR
comp=Z,680nm,15.3s,MS4.7
EKS2 Erkin-Say 43.88 338 P **P** **07 32 12.0 +1.1**
SNR=14
USP Ospenovka 44.14 339 P **P** **07 32 13.5 +0.5**
SNR=10
WRAB Tennant Creek 45.18 122 P **P** **07 32 21.9 +0.6**
comp=Z,174nm,1.3s,mb5.7,SNR=6.1
WRAB Tennant Creek 45.18 122 *e*P **P** **07 32 21.3 0.0**
WRAB *e**PP pP 07 32 29.5 -1.1
WRAB pmax pmax
comp=Z,45nm,0.9s,mb5.3
WRAB Tennant Creek 45.18 122 *e*P **P** **07 32 21.3 0.0**
comp=Z,45nm,0.9s,mb5.3
WRAB *e*pP pP 07 32 29.5 -1.0
WB2 Warramunga Arr 45.19 122 ⇑*i*P **P** **07 32 20.8 -0.5**
WB2 *e*pP pP 07 32 29.3 -1.3
MK31 Makanchi Array 45.20 348 P **P** **07 32 21.3 -0.2**
MK31 pmax pmax
comp=Z,38nm,0.9s,mb5.2
MKAR Makanchi Array 45.20 348 P **P** **07 32 21.6 +0.1**
comp=Z,30nm,0.7s,mb5.2,baz=165,slow=8.2,SNR=246
MKAR pP pP 07 32 29.9 -0.9
comp=Z,19nm,0.8s,baz=161,slow=8.1,SNR=12
KK31 Karatay Array 45.55 335 *i* P **P** **07 32 23.5 -0.6**
KK31 pmax pmax
comp=Z,15nm,0.8s,mb5.0
KKAR Karatay Array 45.55 335 *i* P **P** **07 32 23.5 -0.6**
KKAR pmax pmax
comp=Z,12nm,0.8s,mb4.9
SONM Songino Array 46.18 11 P **P** **07 32 29.5 +0.3**
comp=Z,14nm,0.9s,mb4.9,baz=197,slow=8.9,SNR=39
SONM pP pP 07 32 38.0 -0.5
comp=Z,5.6nm,0.7s,baz=192,slow=9.3,SNR=6.5
SONM LR LR 07 53 34.1
comp=Z,870nm,21.3s,MS4.7,baz=188,slow=38
SONM Songino Array 46.18 11 P **P** **07 32 29.5 +0.4**
SONM *PP pP 07 32 38.0 -0.4
FORT Forrest 46.20 139 *e*P **P** **07 32 29.0 -0.3**
comp=Z,32nm,0.8s,mb5.3
FORT *i* pP pP 07 32 38.5 -0.1
KS15 Wonju Array Si 46.29 37 *e*P **P** **07 32 29.9 -0.1**
KS15 *e*pP pP 07 32 39.0 -0.3
ULN Ulaanbaatar 46.34 12 *e*P **P** **07 32 30.4 0.0**
ULN *e* 07 34 06.0
ULN pmax pmax
comp=Z,55nm,1.6s,mb5.2
ULN Ulaanbaatar 46.34 12 *e*P **P** **07 32 30.4 0.0**
comp=Z,55nm,1.6s,mb5.2
ULN *e*PcP PcP 07 34 06.0 +0.8
ASAR Alice Springs 46.50 126 P **P** **07 32 31.7 0.0**
comp=Z,9.7nm,0.9s,mb4.7,baz=296,slow=7.9,SNR=70
ASAR pP pP 07 32 40.0 -1.1
comp=Z,8.3nm,0.8s,baz=302,slow=7.6,SNR=13
ASAR PcP PcP 07 34 05.9 +0.1
comp=Z,5.4nm,0.8s,baz=304,slow=4.0,SNR=8.3
ASAR pPcP 07 34 14.7
comp=Z,5.1nm,0.8s,baz=302,slow=3.6,SNR=7.3
SNY Shenyang 46.96 30 ⇑P **P** **07 32 35.3 0.0**
SNY AP pP 07 32 44.0 -0.6
SNY XP sP 07 32 46.9 -1.4
SNY S **S** **07 39 23.3 -1.2**
SNY XS sS 07 39 42.6 +2.7
SNY SS SS 07 42 45.3 -6.2
SNY AMB AMB
comp=Z,50nm,1.7s,mb5.2
SNY AMB AMB
comp=Z,490nm,12.0s
SNY LR LR
comp=E,1μm,16.7s
SNY LR LR
comp=Z,1μm,19.8s,MS5.0
ZAK Zakamensk 48.14 8 *i* P **P** **07 32 44.8 +0.3**
ZAK *e* 07 34 35.0
ZAK pmax pmax
comp=Z,67nm,1.8s,mb5.4
ZAK pmax pmax
comp=Z,7.0nm,1.9s,mb4.4
ABKT Ailbek 48.32 321 P **P** **07 32 46.3 +0.5**
comp=Z,265nm,0.8s,mb6.3,SNR=9.1
MOY Mondy 49.15 5 *e*P **P** **07 32 52.6 +0.4**
MOY pmax pmax
comp=Z,43nm,3.1s
CN2 Changchun 49.35 29 *e*P **P** **07 32 54.0 +0.3**
CN2 *e*XP sP 07 33 07.5 +0.7
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,14.0s,MS5.1
CN2 LR LR
comp=E,500nm,14.0s,MS5.1
CN2 LR LR
comp=Z,1μm,13.0s,MS5.0
TLY Talaya 49.46 8 P **P** **07 32 55.4 +0.8**
comp=Z,130nm,0.9s,mb6.0,SNR=8.2
TLY Talaya 49.46 8 *e*P **P** **07 32 55.4 +0.8**
TLY pmax pmax
comp=Z,65nm,2.2s,mb5.3
TLY MLR MLR
comp=Z,792nm,19.0s,MS4.7
TLY Talaya 49.46 8 *e*P **P** **07 32 55.4 +0.8**
comp=Z,22nm,1.1s,mb5.1
TLY *e*pP pP 07 33 04.7 +0.7
KURK Kurchatov 49.71 347 P **P** **07 32 56.7 +0.3**
comp=Z,219nm,1.8s,mb5.9,SNR=20
KURK Kurchatov 49.71 347 P **P** **07 32 56.1 -0.3**
KURK pmax pmax
comp=Z,418nm,2.3s,mb6.1
OPO Ambohidratompo 51.02 244 P **P** **07 33 04.8 -1.5**
comp=Z,3.7nm,1.0s,mb4.3,baz=85,slow=7.8,SNR=3.8
HIA Hailar 51.23 21 *e*P **P** **07 33 07.8 -0.1**
HIA *e**PP pP 07 33 17.3 0.0
HIA pmax pmax
comp=Z,42nm,0.8s
HIA Hailar 51.23 21 *e*P **P** **07 33 07.8 -0.1**
comp=Z,42nm,0.8s,mb5.4
HIA *e*pP pP 07 33 17.3 0.0
KBD Kabd 51.58 306 *e*P **P** **07 33 11.6 +1.0**
RDF Al-Radifah 51.60 305 *e*P **P** **07 33 11.4 +0.6**
RDF AMb AMB 07 33 14.5
comp=Z,152nm,1.7s,mb5.7
CIT Chita 51.73 15 *e*P **P** **07 33 12.2 +0.5**
CIT *e* 07 34 24.8
CIT pmax pmax
comp=Z,148nm,1.6s,mb5.7
NAY Al-Naaiem 51.97 306 *e*P **P** **07 33 14.1 +0.6**
NAY AMb AMB 07 33 15.3
comp=Z,48nm,0.7s,mb5.5
MDJ Mudanjiang 52.03 31 P **P** **07 33 14.9 +1.0**
MDJ AP pP 07 33 21.3 -2.0
MDJ XP sP 07 33 23.8 -3.2
MDJ PCP PcP 07 34 20.8 -5.1
MDJ PP PP 07 35 16.8 +4.7
MDJ SCP ScP 07 38 18.9 -1.6
MDJ PCS PcS 07 38 21.1 -2.9
MDJ AMB AMB
comp=Z,20nm,1.5s,mb4.8
MDJ AMB AMB
comp=Z,250nm,7.1s
MDJ LR LR
comp=N,300nm,20.3s,MS4.5
MDJ LR LR
comp=E,280nm,17.4s,MS4.5
MDJ LR LR
comp=Z,640nm,18.9s,MS4.7
MDJ Mudanjiang 52.03 31 *e*P **P** **07 33 14.4 +0.5**
comp=Z,18nm,1.0s,mb5.0
MIB Mutribah 52.10 306 *e*P **P** **07 33 15.4 +0.9**
MIB AMb AMB 07 33 16.7
comp=Z,182nm,0.9s,mb6.0
JHJ Hachijo jima 2 52.13 49 LR LR 07 55 35.3
comp=Z,354nm,18.1s,MS4.4,baz=338,slow=36
MAJO Matsushiro 52.56 45 *e*P **P** **07 33 18.1 +0.2**
MAJO pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
MAJO Matsushiro 52.56 45 *e*P **P** **07 33 18.1 +0.2**
comp=Z,5.2nm,0.3s,mb4.9
MJAR Matsushiro Arr 52.56 45 P **P** **07 33 17.0 -0.9**
comp=Z,2.2nm,0.8s,mb4.1,baz=234,slow=7.1,SNR=8.4
MJAR PcP PcP 07 34 28.3 +0.4
comp=Z,1.2nm,0.3s,baz=246,slow=3.8,SNR=7.3
MJAR pPcP 07 34 36.9
comp=Z,3.0nm,0.7s,baz=236,slow=4.8,SNR=4.1
MJAR LR LR 07 57 17.4
comp=Z,1μm,18.4s,MS4.9,baz=255,slow=38
MJAR Matsushiro Arr 52.56 45 P **P** **07 33 17.0 -0.9**
MJAR 07 34 28.3
NVS Novosibirsk 52.81 352 ⇑*i*P **P** **07 33 17.9 -1.8**
NVS *e*S 07 40 53.8
NVS pmax pmax
comp=Z,72nm,1.3s,mb5.4
NVS pmax pmax
comp=N,76nm,1.6s
NVS pmax pmax
comp=E,21nm,1.3s
NVS smax
comp=N,47nm,2.4s
NVS smax
comp=E,33nm,2.6s
KRAR Krasnoyarsk 53.20 359 *e*P **P** **07 33 22.3 -0.3**
KRAR pmax pmax
comp=Z,28nm,0.8s,mb5.2
VOSK Vostochnaya 53.55 343 P **P** **07 33 23.6 -1.5**
VOSK pmax pmax
comp=Z,31nm,1.0s,mb5.2
BVA0 Borovoye Array 53.99 342 *i* P **P** **07 33 26.7 -1.7**
BVA0 pmax pmax
comp=Z,55nm,2.4s,mb5.1
BVAR Borovoye Array 53.99 342 P **P** **07 33 27.6 -0.7**
comp=Z,11nm,0.7s,mb4.9,baz=147,slow=8.5,SNR=79
BRVK Borovoye 54.05 342 P **P** **07 33 28.8 0.0**
comp=Z,111nm,1.4s,mb5.6,SNR=5.8
BRVK Borovoye 54.05 342 *e*P **P** **07 33 28.3 -0.5**
BRVK pmax pmax
comp=Z,20nm,1.2s,mb4.9
BRVK Borovoye 54.05 342 *e*P **P** **07 33 28.2 -0.6**
comp=Z,20nm,1.2s,mb4.9
ZRNK Zerenda 54.36 341 *e*P **P** **07 33 30.4 -0.6**
ZRNK pmax pmax
comp=Z,16nm,0.9s,mb5.0
ZRNK Zerenda 54.36 341 *e*P **P** **07 33 30.4 -0.6**
comp=Z,16nm,0.9s,mb5.0
CHKZ Chkalovo 54.49 343 *e*P **P** **07 33 31.7 -0.3**
CHKZ pmax pmax
comp=Z,83nm,1.3s,mb5.5
CHKZ Chkalovo 54.49 343 *e*P **P** **07 33 31.7 -0.3**
comp=Z,84nm,1.3s,mb5.5
AB31 Akbulak array 54.94 333 *i* P **P** **07 33 33.5 -1.7**
AB31 pmax pmax
comp=Z,32nm,1.0s,mb5.3
CTA Charters Tower 55.65 116 *e*P **P** **07 33 40.8 +0.4**
comp=Z,12nm,0.6s,mb5.1
CTA Charters Tower 55.65 116 LR LR 08 03 30.6
comp=Z,513nm,18.2s,MS4.7,baz=304,slow=42
CTA Charters Tower 55.65 116 *e*P **P** **07 33 40.8 +0.4**
CTA pmax pmax
comp=Z,12nm,0.6s
CTAO Charters Tower 55.65 116 *e*P **P** **07 33 41.2 +0.8**
BHD Baghdad 55.74 309 *i* x x 07 33 40.5
KLR Kul'dur 56.26 29 ⇓*i*P **P** **07 33 42.2 -2.6**
KLR *e*S 07 41 45.5
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,150nm,1.8s,mb5.7
KLR MLR MLR
comp=N,1μm,13.0s
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.6
STKA Stephens Creek 56.41 131 ⇑*i*P **P** **07 33 43.8 -2.0**
comp=Z,11nm,0.7s,mb5.0
STKA *i* pP pP 07 33 52.4 -2.9
STKA Stephens Creek 56.41 131 P **P** **07 33 43.9 -1.9**
comp=Z,11nm,0.6s,mb5.0,baz=302,slow=7.4,SNR=42
AKTK Aktyubinsk 56.65 333 P **P** **07 33 45.8 -1.8**
AKTO Aktyubinsk 56.65 333 P **P** **07 33 45.8 -1.8**
comp=Z,3.6nm,0.7s,mb4.5,baz=132,slow=7.6,SNR=15
BOD Bodaibo 57.14 12 *e*P **P** **07 33 50.7 -0.3**
BOD pmax pmax
comp=Z,55nm,1.0s,mb5.5
KMBO Kilima Mbogo 57.26 267 P **P** **07 33 51.5 -0.3**
comp=Z,6.7nm,0.9s,mb4.7,baz=56,slow=9.5,SNR=15
KMBO LR LR 07 54 40.4
comp=Z,662nm,18.4s,MS4.8,baz=94,slow=32
KMBO Kilima Mbogo 57.26 267 *e*P **P** **07 33 53.8 +2.0**
KMBO *e**PP pP 07 34 02.0 +0.7
KMBO pmax pmax
comp=Z,29nm,1.5s
KMBO Kilima Mbogo 57.26 267 *e*P **P** **07 33 53.8 +1.9**
comp=Z,29nm,1.5s,mb5.1
KMBO *e*pP pP 07 34 02.0 +0.7
MSL Mosul 57.88 312 *e*x x 07 33 56.0
HAKT HAKKARI 57.94 313 *i* P **P** **07 33 55.3 -1.3**
GNI Garni 58.31 317 *e*P **P** **07 33 59.9 +0.6**
GNI pmax pmax
comp=Z,15nm,0.8s
GNI Garni 58.31 317 *e*P **P** **07 33 59.9 +0.7**
comp=Z,15nm,0.8s,mb5.1
ORR Orenburg 58.96 332 *e*P **P** **07 34 02.8 -1.0**
ORR pmax pmax
comp=Z,40nm,2.2s,mb5.1
CLNS Chul'man 59.23 19 *e*P **P** **07 34 01.8 -3.8**
CLNS pmax pmax
comp=Z,28nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS MLR MLR
comp=Z,2μm,14.0s,MS5.4
CLNS MLR MLR
comp=N,1μm,17.0s,MS5.3
CLNS MLR MLR
comp=E,1μm,13.0s,MS5.3
ASAJ Asahikawa 59.23 39 P **P** **07 34 06.2 +0.6**
comp=E,9.4nm,0.8s,mb4.9,baz=276,slow=5.4,SNR=9.0
ASAJ LR LR 07 59 39.2
comp=E,1μm,20.5s,MS5.0,baz=344,slow=36
MARD Mardin 59.99 312 *i* P **P** **07 34 10.7 -0.1**
ZEI Tsey 60.06 319 *e*P **P** **07 34 12.2 +0.8**
ZEI *e**PP pP 07 34 19.7 -1.2
ZEI *e* 07 36 25.3
ZEI pmax pmax
comp=Z,19nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 60.77 36 ⇑*i*P **P** **07 34 16.5 +0.3**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
ARU Arti 60.78 338 ⇑*i*P **P** **07 34 14.6 -1.6**
ARU *e* 07 36 27.1
ARU *e*S **S** **07 42 31.2 -0.1**
ARU *e*SS SS 07 46 29.6 -0.8
ARU pmax pmax
comp=Z,27nm,1.0s,mb5.3
ARU Arti 60.78 338 *e*P **P** **07 34 14.8 -1.4**
comp=Z,64nm,1.5s,mb5.5
KIV Kislovodsk 61.39 320*c i*P **P** **07 34 19.6 -0.8**
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.2
ELZG Elazig 61.74 313 *i* P **P** **07 34 23.8 +1.1**
TOO Toolangi 61.93 136 *e*P **P** **07 34 25.1 +1.1**
comp=Z,12nm,1.1s,mb5.0
TOO *i* pP pP 07 34 33.8 +0.2
TOO Toolangi 61.93 136 *e*P **P** **07 34 25.1 +1.1**
TOO *i* *PP pP 07 34 33.8 +0.2
TOO pmax pmax
comp=Z,13nm,1.1s,mb5.0
MALT Malatya 62.08 312 ⇑*i*P **P** **07 34 25.8 +0.7**
MALT Malatya 62.08 312 *e*P **P** **07 34 26.1 +1.0**
MALT *e**PP pP 07 34 35.1 +0.5
MALT pmax pmax
comp=Z,26nm,1.1s,mb5.3
MALT Malatya 62.08 312 *e*P **P** **07 34 26.1 +1.0**
comp=Z,26nm,1.1s,mb5.3
MALT *e*pP pP 07 34 35.1 +0.5
EIL Elat 62.31 302 *e*P **P** **07 34 27.3 +0.7**
GZT Gaziantep 62.40 311 *i* P **P** **07 34 28.1 +0.9**
ARMA Armidale 63.65 126 *e*P **P** **07 34 37.1 +1.6**
ARMA *e* pP 07 34 46.1 +1.0
MBAR Mbarara 63.72 268 *e*P **P** **07 34 35.6 -0.4**
YAK Yakutsk 64.84 18*c i*P **P** **07 34 42.4 -0.9**

YAK pmax pmax
comp=Z,48nm,1.0s,mb5.5
YAK pmax pmax
comp=N,19nm,1.5s
YAK pmax pmax
comp=E,20nm,1.5s
ANN Anapa 65.16 319 *e*P **P 07 34 40.1 -5.3**
ANN pmax pmax
comp=Z,47nm,1.5s,mb5.3
BRTR Keskin Array B 66.07 313 P **P 07 34 50.0 -1.2**
comp=Z,7.0nm,0.8s,mb4.7,baz=124,slow=6.5,SNR=32
SIM Simferopol' 67.41 318 *e*P **P 07 34 59.7 -0.1**
SIM pmax pmax
comp=Z,25nm,0.8s,mb5.3
LSZ Lusaka 67.86 252 *e*P **P 07 35 03.2 +0.6**
LSZ pmax pmax
comp=Z,35nm,1.5s,mb5.2
LSZ Lusaka 67.86 252 *e*P **P 07 35 03.2 +0.6**
comp=Z,35nm,1.5s,mb5.2
CASY Casey 69.75 173 *e*P **P 07 35 14.3 -0.1**
CASY *i* pP pP 07 35 23.2 -0.9
OBN Obninsk 69.92 329 *oe*P **P 07 35 14.1 -1.3**
OBN *e* 07 35 27.9
OBN *e* 07 35 33.9
OBN pmax pmax
comp=Z,80nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,400nm,20.0s,MS4.7
OBN Obninsk 69.92 329 *e*P **P 07 35 14.4 -1.1**
comp=Z,19nm,0.5s,mb5.3
TIRR Tirgusor 71.14 316⇑*i*P **P 07 35 22.1 -0.8**
TIRR Tirgusor 71.14 316⇑P **P 07 35 22.1 -0.7**
MA2 Magadan 71.26 27 *e*P **P 07 35 23.3 -0.3**
MA2 pmax pmax
comp=Z,48nm,1.4s,mb5.2
MA2 Magadan 71.26 27 *e*P **P 07 35 23.3 -0.3**
comp=Z,48nm,1.4s,mb5.2
CFR Carcaliu 71.52 317⇓*i*P **P 07 35 24.8 -0.4**
CFR Carcaliu 71.52 317⇓P **P 07 35 24.8 -0.3**
LBTB Lobatse 72.04 243 *e*P **P 07 35 28.4 +0.1**
LBTB *e**PP pP 07 35 37.3 -0.7
LBTB pmax pmax
comp=Z,27nm,1.3s,mb5.0
LBTB Lobatse 72.04 243 *e*P **P 07 35 28.4 +0.1**
comp=Z,27nm,1.3s,mb5.0
LBTB *e*pP pP 07 35 37.3 -0.7
TIXI Tiksi 72.27 11 *e*P **P 07 35 28.7 -0.9**
AKASG Malin Array Be 72.41 323 P **P 07 35 28.8 -1.6**
comp=Z,6.2nm,0.7s,mb4.6,baz=94,slow=4.8,SNR=26
VRI Vrincioaia 72.65 317⇑*i*P **P 07 35 32.1 +0.2**
VRI Vrincioaia 72.65 317⇑P **P 07 35 32.1 +0.2**
PLOR Plostina 72.70 317⇑*i*P **P 07 35 33.1 +0.9**
MLR Muntele Rosu 73.09 317 P **P 07 35 34.5 -0.1**
comp=Z,19nm,0.9s,mb5.0,baz=95,slow=3.8,SNR=22
BOSA Boshof 73.10 239 P **P 07 35 34.8 +0.2**
comp=Z,2.7nm,0.7s,mb4.3,baz=352,slow=5.1,SNR=3.9
BOSA Boshof 73.10 239 *e*P **P 07 35 34.4 -0.2**
BOSA pmax pmax
comp=Z,74nm,2.1s,mb5.2
BOSA Boshof 73.10 239 *e*P **P 07 35 34.4 -0.2**
comp=Z,74nm,2.1s,mb5.2
MAW Mawson 73.52 192⇑*i*P **P 07 35 37.4 +0.3**
comp=Z,6.1nm,0.8s,mb4.6
MAW *e*pP pP 07 35 46.1 -0.7
MAW Mawson 73.52 192 P **P 07 35 37.0 -0.1**
comp=Z,8.5nm,0.9s,mb4.7,baz=23,slow=7.4,SNR=14
MAW Mawson 73.52 192⇑*i*P **P 07 35 37.4 +0.3**
MAW *e**PP pP 07 35 46.1 -0.7
MAW pmax pmax
comp=Z,6.0nm,0.8s
VOIR 73.69 317⇓*i*P **P 07 35 38.8 +0.7**
VOIR 73.69 317⇓P **P 07 35 38.8 +0.7**
BURAR Bucovina Array 74.09 319⇑*i*P **P 07 35 40.7 +0.3**
BURAR Bucovina Array 74.09 319⇑P **P 07 35 40.7 +0.3**
MNK Minsk 74.39 326 *e*P **P 07 35 37.0 -5.1**
VTS Vitosha 74.40 313⇑*i*P **P 07 35 41.6 -0.6**
VTS Vitosha 74.40 313⇑P **P 07 35 41.6 -0.6**
VAY Valandovo 74.64 312 *i* P **P 07 35 41.5 -2.1**
LVV L'vov 75.37 321 *e*P **P 07 35 47.0 -0.8**
DRGR 75.57 318⇓*i*P **P 07 35 49.2 +0.2**
DRGR 75.57 318⇓P **P 07 35 49.2 +0.2**
JOF Joensuu 75.64 335 *e*p **P 07 35 47.7 -1.7**
comp=Z,23nm,0.9s,mb5.1
JOF Joensuu 75.64 335 *e*P **P 07 35 47.7 -1.7**
JOF pmax pmax
comp=Z,23nm,0.9s,mb5.1
BZS Buzias 76.09 316⇑*i*P **P 07 35 48.7 -3.2**
APA Apatity 76.79 340⇓*i*P **P 07 35 54.0 -1.9**
APA *e*S S 07 45 45.0 +3.9
APA pmax pmax
comp=Z,26nm,0.8s,mb5.2
APA MLR MLR
comp=Z,500nm,20.0s,MS4.8
SUW Suwalki 76.88 325 *e*P **P 07 35 55.4 -1.0**
STHS Stebnicka Huta 77.06 320 *e*P **P 07 35 57.6 +0.2**
STHS pmax pmax
comp=Z,11nm,1.0s,mb4.7
STHS Stebnicka Huta 77.06 320 *e*P **P 07 35 57.6 +0.2**
comp=Z,11nm,1.0s,mb4.8
KECS Kecovo 77.38 319 *i* P **P 07 35 58.8 -0.4**
KECS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KECS Kecovo 77.38 319 *i* P **P 07 35 58.8 -0.4**
comp=Z,8.2nm,0.9s,mb4.7
FINES FINESS Array B 77.42 333 P **P 07 35 58.5 -1.0**
comp=Z,8.7nm,0.8s,mb4.8,baz=104,slow=8.0,SNR=25
KAF Kangasniemi 77.53 333 *e*p **P 07 35 58.8 -1.3**
comp=Z,36nm,1.0s,mb5.3,baz=106,slow=5.2
KAF Kangasniemi 77.53 333 *e*P **P 07 35 58.8 -1.3**
KAF pmax pmax
comp=Z,36nm,1.0s,mb5.3
PSZ Piszkesteto 77.67 318 *e*P **P 07 36 00.7 -0.1**
PSZ pmax pmax
comp=Z,11nm,0.9s,mb4.8
PSZ Piszkesteto 77.67 318 *e*P **P 07 36 00.7 -0.1**
comp=Z,11nm,0.9s,mb4.8
OJC Ojcow 78.13 321 *e*P **P 07 36 03.1 -0.3**
BUD Budapest 78.17 318⇑*e*P **P 07 36 02.8 -0.8**
PKSM Moragy 78.24 317⇑*i*P **P 07 36 03.3 -0.7**
VYHS Vyhne 78.46 319 *i* P **P 07 36 04.7 -0.5**
VYHS pmax pmax
comp=Z,39nm,2.0s,mb5.0
VYHS Vyhne 78.46 319 *i* P **P 07 36 04.7 -0.5**
comp=Z,39nm,2.0s,mb5.0
VYHS *e*PP PP 07 38 56.0 -6.8
OKC Ostrava-Krasne 79.11 320 *e*P **P 07 36 08.8 0.0**
MORC Moravsky Berou 79.49 320 *e*P **P 07 36 10.9 0.0**
MORC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MORC Moravsky Berou 79.49 320 *e*P **P 07 36 10.9 0.0**
comp=Z,7.9nm,1.0s,mb4.6
ZST Bratislava 79.56 318 *e*P **P 07 36 11.3 +0.1**
ZST pmax pmax
comp=Z,24nm,1.1s,mb5.0
ZST Bratislava 79.56 318 *e*P **P 07 36 11.3 +0.1**
comp=Z,24nm,1.1s,mb5.0
SOP Sopron 79.86 318⇑*e*P **P 07 36 12.9 +0.1**
ARCES ARCESS Array B 80.23 341 P **P 07 36 12.8 -2.1**
comp=Z,10nm,0.9s,mb4.8,baz=110,slow=5.3,SNR=16
ARCES ARCESS Array B 80.23 341 P **P 07 36 12.8 -2.1**
DPC Dobruska-Polom 80.35 321 *e*P **P 07 36 15.8 +0.3**
DPC *e*pP pP 07 36 25.6 +0.2
KSP Ksiaz 80.44 321 *e*P **P 07 36 16.1 +0.1**
BOJS Bojanci 80.50 316 *e*P **P 07 36 16.0 -0.4**
BOJS *e* pP 07 36 23.9 -2.3
SYO Syowa Base 80.53 197⇓*e*P **P 07 36 16.6 +0.1**
SYO Syowa Base 80.53 197⇑*e*PcP PcP 07 36 24.6 +1.3
UPC Upice 80.57 321 *e*P **P 07 36 16.8 +0.1**
UPC *e*pP pP 07 36 26.9 +0.4
PERS Pernice 80.71 317 *e*P **P 07 36 17.3 -0.1**
BILL Bilibino 80.81 21 *e*P **P 07 36 17.6 -0.4**
BILL *e**PP pP 07 36 28.5 +0.7
BILL pmax pmax
comp=Z,22nm,1.7s,mb4.8
BILL MLR MLR
comp=Z,2μm,19.0s,MS5.4
LJU Ljubljana 81.06 316 *e*P **P 07 36 19.0 -0.3**
PRU Pruhonice 81.45 320 *e*P **P 07 36 21.3 -0.1**
PVCC Panska Ves 81.49 321 *e*P **P 07 36 21.2 -0.4**
ROBS Robic 81.78 316 *e*P **P 07 36 22.2 -0.9**
NRCA Norcia 81.80 313 P **P 07 36 23.2 0.0**
comp=Z,31nm,1.6s,mb5.0
GEC2 GERESS Array S 81.88 319 *e*P **P 07 36 23.6 0.0**
comp=Z,28nm,1.1s,mb5.1
GEC2 GERESS Array S 81.88 319 *e*P **P 07 36 23.6 0.0**
GEC2 pmax pmax
comp=Z,28nm,1.1s,mb5.1
GERES GERESS Array B 81.88 319 P **P 07 36 23.3 -0.3**
comp=Z,8.2nm,0.8s,mb4.7,baz=101,slow=5.6,SNR=52
GERES pP pP 07 36 32.1 -1.4
comp=Z,4.9nm,0.8s,baz=100,slow=6.0,SNR=7.0
PTCC Patocco-Chiusa 81.90 316 P **P 07 36 23.4 -0.4**
BRG Berggiesshubel 81.92 321 *e*P **P 07 36 23.8 0.0**
comp=Z,22nm,1.5s,mb4.9
BRG Berggiesshubel 81.92 321⇑*i*P **P 07 36 23.6 -0.2**
comp=Z,13nm,1.5s,mb4.7
BRG Berggiesshubel 81.92 321⇑*i*P **P 07 36 23.6 -0.2**
BRG pmax pmax
comp=Z,13nm,1.5s,mb4.6
SNTG Esanatoglia 81.96 313 P **P 07 36 24.1 0.0**
comp=Z,21nm,1.1s,mb5.0
ARV Arcevia 81.98 313 P **P 07 36 24.5 +0.3**
KHC Kasperske Hory 81.99 319 *e*P **P 07 36 23.4 -0.8**
KHC *e*pP pP 07 36 33.8 -0.3
KHC Kasperske Hory 81.99 319 *e*P **P 07 36 23.7 -0.5**
RUE Ruedersdorf 82.18 322 *e*P **P 07 36 24.8 -0.4**
comp=Z,27nm,0.6s,mb5.3
FBE Freiberg 82.29 321 *e*P **P 07 36 25.5 -0.3**
comp=Z,13nm,1.0s,mb4.8
WET Wettzell 82.44 319 *e*P **P 07 36 26.2 -0.4**
comp=Z,22nm,1.4s,mb4.9
WET Wettzell 82.44 319 *e*P **P 07 36 26.2 -0.4**
WET pmax pmax
comp=Z,22nm,1.4s,mb4.9
CLL Collm 82.55 321 *e*P **P 07 36 26.3 -0.8**
comp=Z,8.0nm,0.9s,mb4.8
CLL Collm 82.55 321 *i* P **P 07 36 26.3 -0.8**
CLL *e*pP pP 07 36 36.0 -1.0
SFI Santa Sofia 82.79 314 P **P 07 36 29.4 +1.0**
SFI pmax pmax
comp=Z,112nm,1.4s,mb5.7
SFI Santa Sofia 82.79 314 P **P 07 36 29.4 +1.0**
comp=Z,112nm,1.4s,mb5.7
NKC Novy Kostel 82.81 320 *e*P **P 07 36 28.7 +0.2**
TANN Tannenbergstha 82.82 320 *e*P **P 07 36 28.0 -0.5**
comp=Z,49nm,2.1s,mb5.2
WERN Wernitzgruen 82.86 320 *e*P **P 07 36 28.8 0.0**
comp=Z,6.0nm,0.9s,mb4.6
WERD Werda 82.92 320 *e*P **P 07 36 28.8 -0.3**
comp=Z,11nm,1.3s,mb4.7
ROTZ Rotzenmuhle 82.93 320 *e*P **P 07 36 29.2 +0.1**
comp=Z,17nm,1.3s,mb4.9
MANZ Manzenberg 83.01 320 *e*P **P 07 36 29.8 +0.3**
comp=Z,22nm,1.2s,mb5.1
VMG Vicchio 83.02 314 P **P 07 36 31.2 +1.6**
comp=Z,89nm,1.1s,mb5.7
MOX Moxa 83.37 321 *e*P **P 07 36 30.7 -0.7**
comp=Z,37nm,2.1s,mb5.0
MOX Moxa 83.37 321 *e*P **P 07 36 30.9 -0.5**
GRA1 Grafenberg Arr 83.56 320 *e*P **P 07 36 32.3 -0.1**
comp=Z,21nm,1.2s,mb5.1
GRF Grafenberg Arr 83.56 320 *e*P **P 07 36 32.3 -0.1**
comp=Z,21nm,1.2s,mb5.1
GRF Grafenberg Arr 83.56 320 *e*P **P 07 36 32.3 -0.1**
GRF pmax pmax
comp=Z,21nm,1.2s,mb5.1
GRF Grafenberg Arr 83.56 320 *e*P **P 07 36 32.3 -0.1**
GRF pmax pmax
comp=Z,21nm,1.2s,mb5.1
BRMO Bormio 83.96 316 P **P 07 36 34.4 0.0**
CLZ Clausthal 84.22 322 *e*P **P 07 36 35.2 -0.6**
comp=Z,14nm,1.1s,mb5.0
CLZ Clausthal 84.22 322 *e*P **P 07 36 35.2 -0.6**
CLZ pmax pmax
comp=Z,14nm,1.1s,mb5.0
DAVOX Davos 84.32 317 P **P 07 36 36.5 +0.3**
comp=Z,12nm,0.7s,mb5.2,baz=110,slow=7.2,SNR=17
NB2 NORSAR Subarra 84.38 331 P **P 07 36 35.0 -1.6**
comp=Z,13nm,1.0s,mb5.0,baz=94,slow=5.1
NB2 NORSAR Subarra 84.38 331 P **P 07 36 35.0 -1.6**
NB2 pmax pmax
comp=Z,13nm,1.0s,mb5.0
NOA NORSAR Array B 84.38 331 P **P 07 36 34.9 -1.7**
comp=Z,6.1nm,0.9s,mb4.8,baz=95,slow=5.3,SNR=11
NOA pP pP 07 36 44.5 -2.0
comp=Z,3.0nm,0.9s,baz=95,slow=5.4,SNR=3.8
NOA NORSAR Array B 84.38 331 P **P 07 36 34.9 -1.7**
NOA pP pP 07 36 44.5 -2.0
NRDL Niedersach Rie 84.42 322 *e*P **P 07 36 36.7 -0.1**
comp=Z,102nm,2.3s,mb5.5
KONO Kongsberg 85.08 329⇑*e*P **P 07 36 38.5 -1.6**
IBBN Ibbenburen 85.85 322 *e*P **P 07 36 43.7 -0.2**
comp=Z,18nm,0.9s,mb5.3
BUG Bochum--Univer 86.14 321 *e*P **P 07 36 45.0 -0.4**
LPG La Plagne 86.47 315 *e*P **P 07 36 46.8 -0.2**
comp=Z,25nm,1.1s,mb5.0
LPG La Plagne 86.47 315 *e*P **P 07 36 46.8 -0.2**
LPG pmax pmax
comp=Z,13nm,1.1s,mb5.1
LPG La Plagne 86.47 315 *e*P **P 07 36 46.8 -0.2**
comp=Z,12nm,1.1s,mb5.1
VNDA Vanda 87.80 168 P **P 07 36 52.0 -1.4**
comp=Z,5.3nm,1.2s,mb4.6,baz=316,slow=5.1,SNR=6.1
NVL N'lazarevskaya 90.04 199⇓*i*P **P 07 37 05.5 +1.5**
NVL *i* pP 07 37 14.7 +0.8
NVL pmax pmax
comp=Z,42nm,1.4s,mb5.6
NVL pmax pmax
comp=Z,56nm,1.5s,mb5.7
MAIT Maitri 90.07 199 *e*P **P 07 37 06.0 +1.9**
TORD Torodi Ar. Bea 92.03 283 P **P 07 37 13.2 -0.1**
comp=Z,3.8nm,1.1s,mb4.6,baz=85,slow=5.4,SNR=11
TORD pP pP 07 37 22.9 -0.3
comp=Z,2.6nm,1.0s,baz=71,slow=5.7,SNR=8.4
QSPA South Pole Qui 92.60 180 *e*P **P 07 37 16.3 +0.5**
comp=Z,21nm,1.4s,mb5.4
TTA Tatalina 96.44 26 *e*P **P 07 37 32.1 -1.3**
YKA Yellowknife Ar 111.40 14 PP PP 07 43 16.9 -2.0
comp=Z,1.3nm,0.9s,baz=334,slow=8.0,SNR=4.5
A04A Legoe Bay, Lum 119.54 27⇑P PKPdf 07 42 52.9 -1.0
baz=119
A05A Maple Falls 119.62 27⇓P PKPdf 07 42 53.3 -0.7
baz=120
C04A Brinnon 120.14 28⇑P PKPdf 07 42 54.3 -0.7
baz=120
B05A Bryant 120.15 27⇓P PKPdf 07 42 54.8 -0.3
baz=120
C05A Tolt Reservoir 120.76 28⇓P PKPdf 07 42 56.0 -0.3
baz=121
D05A Enumclaw 120.98 28⇓P PKPdf 07 42 55.9 -0.7
baz=121
F04A Amboy 121.68 29⇓P PKPdf 07 42 57.7 -0.3
baz=122
H03A Soap Creek Ran 122.12 31⇓P PKPdf 07 42 58.3 -0.6
baz=122
HUMO Hull Mountain 123.72 33⇑P PKPdf 07 43 02.5 +0.6
baz=124
YBH Yreka Blue Hor 124.45 33⇓P PKPdf 07 43 04.4 +1.1
baz=124
M02C Callahan 124.61 34⇑P PKPdf 07 43 04.4 +0.8
baz=124
J06A Christmas Vall 124.73 30⇑P PKPdf 07 43 04.3 +0.4
baz=125
N02C Big Bar 124.73 34⇓P PKPdf 07 43 04.5 +0.6
baz=125
M04C Macdoel 124.89 33⇑P PKPdf 07 43 04.5 +0.3
baz=125
CHMT Chamberlain Mo 124.96 23 *e*PKPdf PKPdf 07 43 04.1 -0.2
K06A Valley Falls 125.00 31⇓P PKPdf 07 43 05.0 +0.6
baz=125
M03C McCloud 125.09 33⇑P PKPdf 07 43 04.4 -0.2
baz=125
WDC Whiskeytown Da 125.33 34⇑P PKPdf 07 43 04.7 -0.3
baz=125
O02C Red Bluff 125.46 35⇑P PKPdf 07 43 06.0 +0.8
baz=125
M05C Lookout 125.55 33⇑P PKPdf 07 43 05.9 +0.4
baz=126
K07A Rock Creek Ran 125.59 30⇓P PKPdf 07 43 06.5 +1.0
baz=126,SNR=7.9
P01C Double 8 Ranch 125.61 36⇓P PKPdf 07 43 06.0 +0.5
baz=126
HATC Hat Creek Radi 125.76 33⇓P PKPdf 07 43 06.1 +0.3
baz=126
GASB Alder Springs 125.85 35⇑P PKPdf 07 43 06.7 +0.8
baz=126
M06C Likely Place G 126.03 32⇑P PKPdf 07 43 07.1 +0.7
baz=126
HOPS Hopland 126.08 36⇓P PKPdf 07 43 07.2 +0.8
baz=126
O04C Chester 126.31 33⇓P PKPdf 07 43 07.8 +0.9
baz=126
MNRC McLaughlin Nat 126.53 36⇑P PKPdf 07 43 08.5 +1.2
baz=126
ULM Lac du Bonnet 126.56 8 PKP PKPdf 07 43 06.8 -0.6
comp=Z,4.4nm,0.8s,baz=341,slow=3.2,SNR=16
M07A Soldier Meadow 126.58 31⇑P PKPdf 07 43 08.1 +0.7
baz=126
ORV Oroville 126.61 34⇓P PKPdf 07 43 07.7 +0.3
baz=126
O05C Quincy 126.66 34⇓P PKPdf 07 43 07.8 +0.3
baz=126
SUTB Sutter Buttes 126.67 35⇓P PKPdf 07 43 08.0 +0.4
baz=126
MCCM Marconi Confer 126.75 37⇓P PKPdf 07 43 07.9 +0.1
baz=127
CVS Carmenet Viney 126.87 36⇓P PKPdf 07 43 08.8 +0.9
baz=127
L09A Wilkinson Ranc 126.87 30⇓P PKPdf 07 43 08.8 +0.9
baz=127,SNR=5.3
M08A Happy Creek Ra 126.94 31⇑P PKPdf 07 43 09.5 +1.5
baz=127
Q03C Winters 126.94 36⇑P PKPdf 07 43 09.3 +1.2
baz=127
O06A Flanigan 127.11 33⇓P PKPdf 07 43 09.3 +0.9
baz=127
Q04C Lincoln 127.17 35⇑P PKPdf 07 43 08.5 0.0
baz=127
GCMT Greycliff 127.25 21 *e*PKPdf PKPdf 07 43 08.8 +0.2
P05C Yuba Gap, Truc 127.28 34⇑P PKPdf 07 43 08.6 -0.2
baz=127
QLMT Earthquake Lak 127.40 23 *e*PKPdf PKPdf 07 43 10.0 +1.1
N08A GE Springer Mi 127.56 31⇑P PKPdf 07 43 09.8 +0.5
baz=127
LAVA Lava Cap Winer 127.58 35⇓P PKPdf 07 43 09.7 +0.4
baz=128
O07A Toulon 127.62 32⇓P PKPdf 07 43 10.1 +0.7
baz=128
M10A I.L. Ranch, Tu 127.80 29⇓P PKPdf 07 43 10.9 +1.1
baz=128
BNLO Ben Lomond 127.84 37⇓P PKPdf 07 43 10.1 +0.3
baz=128
R05C Kirkwood Meado 128.00 34⇑P PKPdf 07 43 10.4 +0.3
baz=128
S04C Ingram Canyon, 128.10 36⇓P PKPdf 07 43 11.2 +0.9
baz=128
M11A Holland Ranch, 128.24 29⇓P PKPdf 07 43 12.1 +1.6
baz=128
PACP Pacheco Peak 128.45 37⇓P PKPdf 07 43 12.0 +1.0
baz=128
R06C Coleville 128.48 34⇑P PKPdf 07 43 12.2 +1.2
baz=128
O09A Fish Creek Ran 128.49 31⇑P PKPdf 07 43 12.2 +1.1
baz=128
M12A Wells 128.66 28⇑P PKPdf 07 43 12.6 +1.3
baz=128,SNR=5.1
HAST Hastings Reser 128.70 37⇑P PKPdf 07 43 12.8 +1.3
baz=129
S05C Merced 128.78 36⇓P PKPdf 07 43 12.3 +0.7
baz=129
P09A Austin 128.98 31⇑P PKPdf 07 43 13.1 +1.1
baz=129
N12A Wells--Clov Va 129.04 29⇑P PKPdf 07 43 13.4 +1.3
baz=129,SNR=5.4
M13A Montello 129.06 28⇑P PKPdf 07 43 13.1 +1.0
baz=129
Q08A Gabbs 129.07 33⇓P PKPdf 07 43 13.1 +1.0
baz=129
V03C Hunter Liggett 129.14 38⇓P PKPdf 07 43 13.4 +1.2
baz=129
NVAR Mina Array Bea 129.17 33 PKP PKPdf 07 43 13.6 +1.2
comp=Z,1.8nm,0.8s,baz=337,slow=1.0,SNR=11
NVAR pPKP pPKPdf 07 43 21.9 -0.7
comp=Z,1.2nm,0.7s,baz=210,slow=0.9,SNR=5.3
R08A Mina 129.34 33⇓P PKPdf 07 43 13.5 +0.8
baz=129
PDAR Pinedale Array 129.87 23 PKP PKPdf 07 43 13.7 0.0
comp=Z,1.4nm,0.9s,baz=8.5,slow=3.0,SNR=12
S08C White Mtn Res 129.91 34⇓P PKPdf 07 43 15.0 +1.3
baz=130
P12A McGill 130.17 30⇑P PKPdf 07 43 15.3 +1.1
baz=130
S09A Goldfield 130.28 33⇓P PKPdf 07 43 15.4 +1.0
baz=130
GSC Goldstone 132.25 35⇓P PKPdf 07 43 19.0 +0.8
baz=132
TUQ Turquoise Mtn. 132.65 34⇑P PKPdf 07 43 20.5 +1.6
baz=132
109C Camp Elliot, M 133.76 38⇑P PKPdf 07 43 22.6 +1.6
baz=134
NEE Needles 133.84 34⇓P PKPdf 07 43 21.5 +0.3
baz=134
W14A Seligman 134.37 32⇑P PKPdf 07 43 23.0 +0.9
baz=134
X13A Yucca 134.43 33⇓P PKPdf 07 43 23.2 +0.9
baz=134
Y12C Blythe 134.67 35⇓P PKPdf 07 43 22.4 -0.3
baz=134
W15A Williams 134.81 31⇓P PKPdf 07 43 22.8 -0.1
baz=135
MVCO Mesa Verde 134.99 26 *e*PKPdf PKPdf 07 43 24.2 +0.9
GLA Glamis 135.00 35⇑P PKPdf 07 43 23.8 +0.5
baz=135
Y13A Salome 135.01 34⇓P PKPdf 07 43 24.3 +0.9
baz=135
X14A Yava 135.03 32⇓P PKPdf 07 43 23.8 +0.5
baz=135
X15A Humboldt 135.36 32⇑P PKPdf 07 43 24.5 +0.5
baz=135
Y14A Wickenburg 135.37 33⇑P PKPdf 07 43 24.3 +0.3
baz=135
Z14A Wintersburg 135.84 33⇑P PKPdf 07 43 25.6 +0.7
baz=136
115A Sonoran Desert 136.73 33⇓P PKPdf 07 43 27.0 +0.4
baz=137
116A Eloy 137.13 33⇓P PKPdf 07 43 27.7 +0.4
baz=137
ANMO Albuquerque 137.78 26⇑*i*PKIKP PKPdf 07 43 29.1 +0.6
ANMO Albuquerque 137.78 26 *e*PKPdf PKPdf 07 43 29.8 +1.3
BDFB Brasilia 140.81 248 PKP PKPdf 07 43 34.2 +0.2
comp=Z,6.5nm,1.1s,baz=168,slow=2.1,SNR=5.4
MNTX Cornudas Mount 141.00 27 *e*PKPdf PKPdf 07 43 34.6 +0.3
WVT Waverly 141.36 3 *e*PKIKP PKPdf 07 43 35.1 +0.1
LTX Lajitas 143.78 27 *e*PKIKP PKPdf 07 43 38.4 -0.9
CPUP Villa Florida 144.08 226 PKP PKPdf 07 43 38.7 -1.1
comp=Z,13nm,0.7s,baz=101,slow=3.2,SNR=50
CPUP pPKP pPKPdf 07 43 47.0 -3.1
comp=Z,14nm,0.8s,baz=108,slow=3.5,SNR=14
CPUP Villa Florida 144.08 226 *e*PKPdf PKPdf 07 43 38.8 -1.0
JCT Junction City 144.37 21 *e*PKIKP PKPdf 07 43 39.2 -1.1
NATX Nacogdoches 144.70 13 *e*PKPdf PKPdf 07 43 41.1 +0.2
HKT Hockley 146.13 16 *e*PKP2 PKPab 07 43 43.4 -1.6
LPAZ La Paz 158.12 231 PKP PKPdf 07 44 03.0 +1.9
comp=Z,2.1nm,0.9s,baz=339,slow=1.3,SNR=8.1
LPAZ PKPab PKPab 07 44 37.0 +2.2
comp=Z,3.5nm,0.8s,baz=107,slow=5.3,SNR=8.6
LPAZ La Paz 158.12 231 *e*PKPdf PKPdf 07 44 02.7 +1.6

NEIC ***14*** *07:30:30.4±1.9,5178N×17694E,h10km,ML4.0(AEIC), Error ellipse: s-maj=51.5km s-min=12.7km az=13.0*
ISCJB ***14*** *07:30:32.6±1.0,520N±03×177.1E±02,h49km±25km, mb3.8/4, Error ellipse: s-maj=48.9km s-min=8.2km az=35.6*
IDC ***14*** *07:30:43.5±13.0,5199N×177.37W,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/21,mbtmp3.7/4, Error ellipse: s-maj=245.2km s-min=92.4km az=59.0*
ISC 14 07:30:33.0±1.8,518N±03×1770E±02,h54km±19km,n9,
σ1§02/11,mb3.8/4,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.50**	**104**	P	**Pn**	**07 30 57.4**	**-0.2**
AMKA		S		S	**Sn**	**07 31 15.6**	**-0.4**
SMY	**Shemya**	**2.01**	**300**	P	**Pn**	**07 31 04.1**	**-0.4**
SMY		S		S	**Sn**	**07 31 28.8**	**+0.2**
ATKA	**Atka Island**	**5.47**	**82**	P	**Pn**	**07 31 52.5**	**+0.7**
NIKO	**Nikolski**	**8.75**	**77**	*e*Pn	**Pn**	**07 32 38.5**	**+1.7**
UNV	**Unalaska Valle**	**10.21**	**72**	*e*Pn	**Pn**	**07 32 55.8**	**-1.1**
	155nm,1.4s						
INK	**Inuvik**	**28.67**	**36**	P	**P**	**07 36 22.9**	**-1.8**
	0.8nm,0.8s,mb3.5,baz=256,slow=4.2,SNR=2.8						
YKA	**Yellowknife Ar**	**36.86**	**46**	P	**P**	**07 37 28.7**	**-7.4**
	0.9nm,0.7s,mb3.7,baz=283,slow=8.6,SNR=4.0						
PDAR	**Pinedale Array**	**48.67**	**70**	P	**P**	**07 39 03.2**	**-8.4**
	0.4nm,0.7s,mb3.6,baz=309,slow=5.0,SNR=3.6						
SCHQ	**Schefferville**	**61.29**	**36**	P	**P**	**07 40 44.0**	**+1.3**

2.3nm,0.9s,mb4.3,baz=320,slow=9.5,SNR=4.0

*BJI **14** 07:32:23.6, 5160N×17685E, h7km, mB5.1, mb4.7, Ms4.8, Msz4.5*
*IDC **14** 07:32:26.0±0.7, 5198N×177.14E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.0/25, mbtmp4.0/15, ML3.8/1, Error ellipse: s-maj=26.9km s-min=15.9km az=152.0*
*NEIC **14** 07:32:27.9±1.0, 5200N×177.13E, h10km, ML3.6(AEIC), Error ellipse: s-maj=25.1km s-min=11.5km az=195.0*
*ISCJB **14** 07:32:30.2±0.9, 5201N±009×177.15E±007, h43km±9km, mb4.1/16, MS4.5/1, Error ellipse: s-maj=15.6km s-min=6.8km az=23.1*
*MOS **14** 07:32:31.4±1.5, 5257N×17706E, h33km, mb4.3/10, Error ellipse: s-maj=24.5km s-min=18.7km az=90.6*

ISC 14 07:32:29.7±2.8, 5196N±009×17712E±007, h27km±20km, n37, σ0§93/35, mb4.1/16, MS4.5/1, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.48**	**112**	P	**Pn**	**07 32 55.2**	**+0.7**
AMKA				S	**Sn**	**07 33 13.1**	**+0.1**
SMY	**Shemya**	**2.01**	**294**	P	**Pn**	**07 33 02.0**	**+0.2**
SMY				S	**Sn**	**07 33 26.9**	**+0.9**
KDAK	**Kodiak Island**	**18.28**	**60**	P	**Pn**	**07 36 41.6**	**+0.3**
	0.3nm,0.3s,baz=252,slow=6.4,SNR=3.4						
ASAJ	**Asahikawa**	**24.20**	**265**	P	**P**	**07 37 45.6**	**+1.7**
	3.1nm,0.6s,mb3.9,baz=29,slow=19,SNR=3.2						
ASAJ	**Asahikawa**	**24.20**	**265**	P	**P**	**07 37 45.6**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**28.47**	**36**	P	**P**	**07 38 22.5**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.7,baz=248,slow=7.5,SNR=3.0						
INK	**Inuvik**	**28.47**	**36**	P	**P**	**07 38 22.5**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MDJ	**Mudanjiang**	**31.98**	**276**	P	**P**	**07 38 51.0**	**-2.5**
CN2	**Changchun**	**34.95**	**277**	*e*P	**P**	**07 39 18.3**	**-1.1**
YKA	**Yellowknife Ar**	**36.67**	**46**	P	**P**	**07 39 34.9**	**+0.8**
	comp=Z,3.3nm,0.8s,mb4.2,baz=285,slow=8.3,SNR=11						
YKA	**Yellowknife Ar**	**36.67**	**46**	P	**P**	**07 39 34.9**	**+0.8**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**41.04**	**68**	P	**P**	**07 40 10.6**	**-0.2**
	comp=Z,1.2nm,0.5s,mb3.8,baz=299,slow=10,SNR=2.7						
NEW	**Newport**	**41.04**	**68**	P	**P**	**07 40 10.6**	**-0.2**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NJ2	**Nanjing**	**46.27**	**268**	*e*P	**P**	**07 40 52.1**	**-0.7**
NJ2				AP	pP	07 40 56.1	-4.9
NJ2				XP	sP	07 40 59.3	-4.9
NJ2				PCP	PcP	07 42 26.0	-2.0
NJ2				S	**S**	**07 47 39.0**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
PDAR	**Pinedale Array**	**48.53**	**70**	P	**P**	**07 41 09.8**	**-0.6**
	comp=Z,0.7nm,0.8s,mb3.7,baz=296,slow=4.8,SNR=3.9						
MSU	**Marysvale**	**49.64**	**76**	*e*P	**P**	**07 41 19.7**	**+0.8**
ULM	**Lac du Bonnet**	**51.46**	**55**	P	**P**	**07 41 31.9**	**-0.7**
	comp=Z,1.2nm,0.7s,mb3.9,baz=271,slow=4.3,SNR=3.6						
WMQ	**Urumqi**	**56.87**	**300**	*e*P	**P**	**07 42 13.3**	**+1.2**
WMQ				LR	LR		
	comp=N,230nm,15.0s,MS4.6						
WMQ				LR	LR		
	comp=E,350nm,19.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,320nm,20.0s,MS4.4						
MKAR	**Makanchi Array**	**57.66**	**306**	P	**P**	**07 42 16.8**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.6,baz=48,slow=6.1,SNR=3.5						
BVAR	**Borovoye Array**	**58.77**	**317**	P	**P**	**07 42 24.9**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.3,baz=47,slow=6.7,SNR=7.5						
BVAR	**Borovoye Array**	**58.77**	**317**	P	**P**	**07 42 24.9**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SCHQ	**Schefferville**	**61.08**	**36**	P	**P**	**07 42 40.2**	**-1.1**
	comp=Z,2.7nm,0.8s,mb4.4,baz=319,slow=4.3,SNR=5.1						
KMI	**Kunming**	**61.14**	**275**	P	**P**	**07 42 40.0**	**-1.7**
KMI				AP	pP	07 42 45.3	-4.7
KMI				XP	sP	07 42 47.6	-5.6
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
NOA	**NORSAR Array B**	**66.79**	**353**	P	**P**	**07 43 18.9**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.1,baz=10,slow=6.1,SNR=4.0						
NOA	**NORSAR Array B**	**66.79**	**353**	P	**P**	**07 43 19.0**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**80.74**	**220**	P	**P**	**07 44 41.0**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.0,baz=32,slow=6.0,SNR=6.8						
WRA	**Warramunga Arr**	**80.74**	**220**	P	**P**	**07 44 41.0**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**83.31**	**332**	P	**P**	**07 44 55.4**	**+1.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=44,slow=8.8,SNR=3.0						
BRTR	**Keskin Array B**	**83.31**	**332**	P	**P**	**07 44 55.4**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**84.27**	**219**	P	**P**	**07 44 59.9**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.9,baz=10,slow=4.8,SNR=4.6						
ASAR	**Alice Springs**	**84.27**	**219**	P	**P**	**07 44 59.9**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**89.11**	**210**	P	**P**	**07 45 21.9**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.3,baz=262,slow=7.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**115.04**	**355**	PKP	PKiKP	07 51 07.4	-0.9
	comp=Z,0.6nm,1.1s,baz=334,slow=1.7,SNR=4.5						
PLCA	**Paso Flores**	**133.57**	**104**	PKP	PKPdf	07 51 43.5	-0.1
	comp=Z,2.1nm,1.0s,baz=243,slow=8.3,SNR=3.1						
PLCA	**Paso Flores**	**133.57**	**104**	PKIKP	PKPdf	07 51 43.6	-0.1
PLCA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MAW	**Mawson**	**145.38**	**218**	PKPbc	PKPbc	07 52 04.6	-0.4
	comp=Z,1.5nm,0.5s,baz=34,slow=3.6,SNR=5.0						
MAW	**Mawson**	**145.38**	**218**	PKIKP	PKPdf	07 52 04.6	-0.5
MAW				pmax	pmax		
	comp=Z,2.0nm,0.5s						

IDC 14 07:44:47.7±10.0, 2392S×17997W, h618km±120km, mb3.3/4, mb1 3.5/5, mb1mx3.2/13, mbtmp4.4/5, Error ellipse: s-maj=98.2km s-min=45.9km az=30.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.51**	**189**	P	P	07 47 51.2	+0.6
	1.3nm,0.3s,baz=54,slow=19,SNR=7.7						
CTA	**Charters Tower**	**31.50**	**270**	P	P	07 50 21.5	+0.4
	5.8nm,0.3s,baz=101,slow=11,SNR=18						
STKA	**Stephens Creek**	**34.74**	**248**	P	P	07 50 47.9	-0.4
	2.2nm,0.6s,baz=100,slow=9.3,SNR=5.5						
ASAR	**Alice Springs**	**42.06**	**261**	P	P	07 51 48.0	+0.9
	1.4nm,0.4s,baz=91,slow=8.2,SNR=15						
WB2	**Warramunga Arr**	**42.42**	**266**	*e*P	P	07 51 49.8	-0.2
WRA	**Warramunga Arr**	**42.43**	**266**	P	P	07 51 50.0	0.0
	1.5nm,0.3s,baz=96,slow=8.3,SNR=152						
AKASG	**Malin Array Be**	**145.00**	**327**	PKPbc	PKPbc	08 03 15.8	-1.0
	0.8nm,0.4s,baz=44,slow=3.2,SNR=9.3						

*MOS **14** 07:56:18.8±0.8, 4567N×14865E, h195km, mb4.0/3, Error ellipse: s-maj=34.8km s-min=19.4km az=55.4*
*ISCJB **14** 07:56:19.7±0.6, 4558N±006×14839E±0.10, h209km±6km, mb3.5/9, Error ellipse: s-maj=12.5km s-min=8.3km az=77.5*
*NEIC **14** 07:56:22.7±1.8, 4582N×148.14E, h221km±19km, mb4.1/1, Error ellipse: s-maj=26.9km s-min=12.4km az=117.0*
*IDC **14** 07:56:22.7±2.2, 4587N×148.11E, h219km±23km, mb3.3/8, mb1 3.5/10, mb1mx3.3/21, mbtmp3.8/10, Error ellipse: s-maj=30.6km s-min=13.9km az=119.0*
*JMA **14** 07:56:22.9±0.6, 4535N×14826E, h227km, M3.9*

ISC 14 07:56:20.5±0.6, 4562N±007×14839E±010, h203km±6km, n34, σ1§25/45, mb3.5/9, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.53**	**224**	⇑*i*PN	**Pn**	**07 56 47.0**	**-1.1**
KUR				*i* S	**Sn**	**07 57 09.4**	**-0.1**
KUR				pmax	pmax		
	comp=N,30nm,0.4s						
KUR				pmax	pmax		
	comp=Z,230nm,0.4s						
KUR				smax			
	comp=N,2μm,1.6s						
KUR				smax			
	comp=N,380nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
JRA	**Rausu**	**2.87**	**235**	P	**Pn**	**07 57 10.4**	**+1.6**
NEM2	**Nemuro 2**	**2.94**	**221**	P	**Pn**	**07 57 10.0**	**+0.4**
NEM2				*e*S	**Sn**	**07 57 47.5**	**-0.6**
JNK	**Nakash**	**3.32**	**233**	P	**Pn**	**07 57 15.4**	**+1.4**
JTKR	**Abashiri--Toko**	**3.59**	**244**	P	**Pn**	**07 57 18.8**	**+1.5**
JAK	**Akkeshi**	**3.73**	**227**	P	**Pn**	**07 57 19.4**	**+0.4**
JAK				*e*S	**Sn**	**07 58 03.9**	**-1.1**
YSS	**Yuzh-Sakhalins**	**4.13**	**291**	⇑*i*PN	**Pn**	**07 57 24.2**	**+0.2**
YSS				*i* S	**Sn**	**07 58 13.0**	**-0.9**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				smax			
	comp=E,100nm,1.2s						
YSS	**Yuzh-Sakhalins**	**4.13**	**291**	*e*Pn	**Pn**	**07 57 24.4**	**+0.5**
JSE	**Soyaes**	**4.15**	**263**	P	**Pn**	**07 57 25.8**	**+1.6**
JKK2	**Kamakawa 2**	**4.38**	**249**	P	**Pn**	**07 57 28.8**	**+1.7**
ASAJ	**Asahikawa**	**4.38**	**252**	P	**Pn**	**07 57 29.2**	**+2.1**
	comp=E,4.7nm,0.3s,baz=77,slow=13,SNR=79						
ASAJ				S	**Sn**	**07 58 21.1**	**+1.4**
	comp=E,0.5nm,0.3s,baz=171,slow=31,SNR=3.9						
ASAJ	**Asahikawa**	**4.38**	**252**	PN	**Pn**	**07 57 29.3**	**+2.1**
ASAJ				S	**Sn**	**07 58 21.1**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
JCH	**Churui**	**4.70**	**232**	P	**Pn**	**07 57 31.3**	**+0.1**
JCH				*e*S	**Sn**	**07 58 24.0**	**-2.9**
JNBK	**Urakawa-nobuka**	**5.26**	**233**	P	**Pn**	**07 57 37.5**	**-0.8**
JKB	**Kayabe**	**6.50**	**238**	P	**Pn**	**07 57 53.3**	**-1.0**
JKB				*e*S	**Sn**	**07 59 03.0**	**-5.6**
JOT	**Ohata**	**6.81**	**234**	P	**Pn**	**07 57 56.9**	**-1.4**
JOT				*e*S	**Sn**	**07 59 09.2**	**-6.7**
JANG	**Nango**	**7.27**	**226**	P	**Pn**	**07 58 02.1**	**-2.1**
JANG				*e*S	**Sn**	**07 59 20.3**	**-6.4**
JOSM	**Okushiri--Mats**	**7.35**	**244**	P	**Pn**	**07 58 04.8**	**-0.4**
JMK	**Ichinoseki**	**8.52**	**221**	P	**Pn**	**07 58 19.6**	**-0.9**
JMK				*e*S	**Sn**	**07 59 51.9**	**-4.3**
MJAR	**Matsushiro Arr**	**11.87**	**224**	P	**Pn**	**07 59 04.8**	**+1.2**
	comp=N,0.3nm,0.3s,baz=25,slow=9.8,SNR=4.8						
COLA	**College**	**39.05**	**37**	*e*P	**P**	**08 03 27.1**	**-0.5**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
COLA	**College**	**39.05**	**37**	*e*P	**P**	**08 03 27.1**	**-0.5**
	comp=Z,4.9nm,0.9s,mb4.0						
INK	**Inuvik**	**44.35**	**31**	P	**P**	**08 04 09.7**	**-0.8**
	comp=Z,1.4nm,0.5s,mb3.5,baz=287,slow=7.9,SNR=12						
INK	**Inuvik**	**44.35**	**31**	P	**P**	**08 04 09.7**	**-0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.52**	**296**	P	**P**	**08 04 10.0**	**-1.9**
	comp=Z,0.4nm,0.6s,mb2.9,baz=74,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**44.52**	**296**	P	**P**	**08 04 10.0**	**-1.9**
YKA	**Yellowknife Ar**	**53.76**	**35**	P	**P**	**08 05 20.5**	**-1.3**
	comp=Z,1.7nm,0.8s,mb3.6,baz=301,slow=6.8,SNR=5.9						
NVAR	**Mina Array Bea**	**65.85**	**59**	P	**P**	**08 06 45.4**	**+1.2**
	comp=Z,0.4nm,0.5s,mb3.3,baz=247,slow=11,SNR=4.3						
NVAR	**Mina Array Bea**	**65.85**	**59**	P	**P**	**08 06 45.4**	**+1.2**
WRA	**Warramunga Arr**	**66.48**	**194**	P	**P**	**08 06 48.9**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.3,baz=10,slow=6.7,SNR=7.7						
PDAR	**Pinedale Array**	**68.04**	**51**	P	**P**	**08 06 58.6**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.3,baz=333,slow=1.7,SNR=4.6						
ASAR	**Alice Springs**	**70.20**	**194**	P	**P**	**08 07 13.8**	**+2.6**
	comp=Z,0.6nm,0.5s,mb3.5,baz=10,slow=6.2,SNR=13						
ASAR	**Alice Springs**	**70.20**	**194**	P	**P**	**08 07 13.8**	**+2.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	**75.56**	**20**	P	**P**	**08 07 42.1**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.7,baz=230,slow=13,SNR=3.9						

*ISCJB **14** 08:11:02.8±0.5, 5287S±008×256E±02, h10km, mb4.1/15, MS4.4/9, Error ellipse: s-maj=17.8km s-min=11.3km az=159.6*
*IDC **14** 08:11:02.8±0.7, 5288S×2565E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, MS4.5/9, Ms1 4.4/9, ms1mx4.1/14, Error ellipse: s-maj=23.7km s-min=15.8km az=73.0*
*NEIC **14** 08:11:04.3±0.4, 5289S×2565E, h10km, mb4.7/3, Error ellipse: s-maj=15.3km s-min=9.8km az=77.0*
*HRVD **14** 08:11:04.3±0.3, 5298S×2559E, h20km±1km, MW5.3/71, Centroid moment Tensor Solution. LP body waves: s32,c35;Mantle waves: s71,c104; Half duration: 1§0 Moment tensor: Scale 10^17^Nm; M_{rr}-0.14±.04; $M_{\theta\theta}$0.82±.04; $M_{\phi\phi}$-0.67±.04; $M_{r\theta}$0.25±.07; $M_{\theta\phi}$0.56±.03; $M_{\phi r}$-0.12±.07; Best double couple: M=0.97700×10^17^ NP1:φ§27.00000°,δ73.00000°,λ-177.00000°. NP2: φ§296.00000°,δ87.00000°,λ-17.00000°. Principal axes: T 1.0380, Plg10.0000°, Azm343.0000°; N -0.1210, Plg72.0000°, Azm106.0000°; P -0.9170, Plg14.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 08:11:04.3±0.5, 5289S±008×257E±02, h10km, n21, σ0§87/16, mb4.1/15, MS4.4/9, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**22.63**	**203**	P	**P**	**08 16 05.4**	**+0.1**
	3.8nm,1.1s,mb3.7,baz=45,slow=10,SNR=22						
MAW	**Mawson**	**23.09**	**144**	P	**P**	**08 16 09.5**	**-0.6**
	1.3nm,0.6s,mb3.5,baz=268,slow=16						
MAW				LR	LR	08 23 23.1	
	comp=Z,1μm,18.5s,MS4.3,baz=291,slow=32						
VNA1	**Neumayer--Stat**	**23.44**	**208**	*e*	**P**	**08 16 15.6**	**+1.8**
VNA1				*e*		08 16 21.6	
VNA1				*e*		08 16 29.5	
VNA1				*e*		08 16 40.6	
VNA1				*e*		08 16 48.0	
VNA1				*e*		08 16 52.1	
VNA1				*e*		08 17 04.2	
BOSA	**Boshof**	**24.25**	**359**	P	**P**	**08 16 21.4**	**0.0**
	5.2nm,0.8s,mb4.0,baz=188,slow=10,SNR=7.9						
BOSA				LR	LR	08 23 15.1	
	comp=Z,836nm,21.7s,MS4.2,baz=175,slow=30						
LBTB	**Lobatse**	**27.84**	**360**	P	**P**	**08 16 54.0**	**+0.1**
	1.4nm,0.6s,mb3.8,baz=232,slow=12,SNR=3.6						
LBTB				LR	LR	08 26 12.7	
	comp=Z,682nm,18.9s,MS4.2,baz=190,slow=33						
TSUM	**Tsumeb**	**34.22**	**346**	P	**P**	**08 17 50.9**	**+0.9**
	2.1nm,0.8s,mb4.1,baz=183,slow=6.5,SNR=5.3						
QSPA	**South Pole Qui**	**37.33**	**180**	*e*P	**P**	**08 18 15.7**	**-1.0**
	9.9nm,0.7s,mb4.8						
VNDA	**Vanda**	**47.04**	**168**	P	**P**	**08 19 35.3**	**-0.6**
	3.3nm,0.7s,mb4.4,baz=244,slow=7.6,SNR=33						
VNDA				LR	LR	08 38 37.6	
	comp=Z,595nm,20.7s,MS4.5,baz=208,slow=35						
KMBO	**Kilima Mbogo**	**52.47**	**15**	LR	LR	08 40 20.3	
	comp=Z,354nm,20.1s,MS4.4,baz=105,slow=34						
PLCA	**Paso Flores**	**62.18**	**239**	P	**P**	**08 21 26.3**	**+0.5**
	1.1nm,0.6s,mb4.1,baz=119,slow=11,SNR=2.8						
DBIC	**Dimbokro**	**64.77**	**326**	LR	LR	08 42 32.6	
	comp=Z,383nm,21.7s,MS4.5,baz=219,slow=29						
NWAO	**Narrogin (SRO)**	**65.35**	**112**	LR	LR	08 42 10.8	
	comp=Z,357nm,18.8s,MS4.6,baz=221,slow=29						
CPUP	**Villa Florida**	**65.38**	**259**	P	**P**	**08 21 46.0**	**-0.9**
	0.9nm,0.5s,mb4.1,baz=136,slow=7.9,SNR=5.5						
BDFB	**Brasilia**	**67.88**	**273**	P	**P**	**08 22 02.3**	**-0.6**
	1.5nm,0.7s,mb4.1,baz=158,slow=19,SNR=2.6						
BDFB				LR	LR	08 45 49.4	
	comp=Z,342nm,18.2s,MS4.6,baz=143,slow=31						
TORD	**Torodi Ar. Bea**	**68.95**	**335**	P	**P**	**08 22 08.4**	**-1.1**
	0.9nm,0.7s,mb3.8,baz=182,slow=4.1,SNR=6.9						
STKA	**Stephens Creek**	**78.86**	**129**	P	**P**	**08 23 08.5**	**+0.9**
	0.8nm,0.6s,mb3.8,baz=225,slow=10,SNR=2.9						
STKA				LR	LR	08 49 04.6	
	comp=Z,213nm,20.5s,MS4.5,baz=206,slow=29						
LPAZ	**La Paz**	**79.49**	**257**	*e*P	**P**	**08 23 11.1**	**+0.1**
	6.8nm,1.5s,mb4.4						
ASAR	**Alice Springs**	**81.70**	**118**	P	**P**	**08 23 22.0**	**-0.9**
	1.6nm,0.7s,mb4.0,baz=206,slow=6.0,SNR=5.8						
WRA	**Warramunga Arr**	**84.36**	**116**	P	**P**	**08 23 41.3**	**+1.6**
	1.7nm,0.8s,mb4.2,baz=209,slow=3.9,SNR=4.5						
PDAR	**Pinedale Array**	**148.80**	**269**	PKPbc	PKPbc	08 30 52.8	+0.8
	1.0nm,0.9s,baz=118,slow=2.5,SNR=4.2						
NVAR	**Mina Array Bea**	**151.36**	**254**	PKPbc	PKPbc	08 30 56.4	-1.8
	0.2nm,0.3s,baz=152,slow=4.1,SNR=2.6						

*IDC **14** 08:17:58.2±0.7, 5189N×17703E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/25, mbtmp4.0/15, ML3.9/1, Error ellipse: s-maj=27.4km s-min=14.5km az=160.0*
*BJI **14** 08:17:58.8, 5190N×17700E, h28km, mB4.8, mb4.6, Ms4.6, Msz4.3*
*ISCJB **14** 08:18:00.7±1.9, 5195N±007×17704E±005, h31km±13km, mb4.4/29, MS4.2/4, Error ellipse: s-maj=11.3km s-min=5.4km az=10.6*
*MOS **14** 08:18:01.6±1.1, 5199N×17702E, h33km, mb4.3/15, Error ellipse: s-maj=16.0km s-min=11.3km az=78.7*
*NEIC **14** 08:18:01.9±0.3, 5188N×17699E, mb4.6/14, ML4.5(AEIC), Error ellipse: s-maj=8.4km s-min=4.5km az=177.0*

ISC 14 08:18:02.3±1.9, 5191N±007×17700E±005, h32km±14km, h33km±2.5km: pP-P, n86, σ0§99/87, mb4.4/29, MS4.2/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.53**	**110**	P	**Pn**	**08 18 26.9**	**-0.5**
AMKA				S	**Sn**	**08 18 46.1**	**0.0**
SMY	**Shemya**	**1.96**	**296**	P	**Pn**	**08 18 33.2**	**-0.1**
SMY				S	**Sn**	**08 18 58.0**	**+1.2**
ATKA	**Atka Island**	**5.44**	**83**	P	**Pn**	**08 19 20.3**	**-0.9**
NIKO	**Nikolski**	**8.71**	**77**	P	**Pn**	**08 20 08.2**	**+2.2**
SPIA	**Saint Paul Isl**	**9.09**	**50**	*e*Pn	**Pn**	**08 20 10.9**	**-0.3**
UNV	**Unalaska Valle**	**10.16**	**73**	*e*Pn	**Pn**	**08 20 25.0**	**-0.8**
	237nm,1.1s						
AKUT	**Akutan**	**10.61**	**71**	*e*Pn	**Pn**	**08 20 32.4**	**+0.3**
PET	**Petropavlovsk**	**11.25**	**283**	*e*P	**Pn**	**08 20 39.3**	**-1.5**
PET				*e*S	**Sn**	**08 22 44.0**	**-1.4**
PET				smax			
	comp=E,41nm,1.0s						
PET				MLR	MLR		
	comp=Z,700nm,15.0s						
PET	**Petropavlovsk**	**11.25**	**283**	Pn	**Pn**	**08 20 34.0**	**-6.7**
BILL	**Bilibino**	**17.00**	**346**	P	**Pn**	**08 21 58.1**	**+0.6**
BILL				pmax	pmax		
	comp=Z,18nm,1.1s						
BILL	**Bilibino**	**17.00**	**346**	P	**Pn**	**08 21 58.1**	**+0.5**
	comp=Z,18nm,1.1s						
SVW2	**Sparrevohn**	**17.58**	**48**	*e*Pn	**Pn**	**08 22 04.7**	**-0.1**
TTA	**Tatalina**	**18.09**	**42**	*e*P	**Pn**	**08 22 11.6**	**+0.6**
TTA				pmax	pmax		
	comp=Z,16nm,1.4s						
TTA	**Tatalina**	**18.09**	**42**	*e*P	**Pn**	**08 22 11.6**	**+0.6**
	comp=Z,16nm,1.4s						
KDAK	**Kodiak Island**	**18.37**	**59**	P	**Pn**	**08 22 13.2**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=220,slow=7.5,SNR=3.5						
KDAK	**Kodiak Island**	**18.37**	**59**	P	**Pn**	**08 22 13.7**	**-0.7**
	comp=Z,67nm,1.0s						
SLKM	**Skilak Lake**	**19.96**	**52**	*e*P	**Pn**	**08 22 31.9**	**-1.7**
PMR	**Palmer**	**20.70**	**49**	*e*P	**P**	**08 22 39.8**	**0.0**
PMR				pmax	pmax		
	comp=Z,12nm,0.8s						
PMR	**Palmer**	**20.70**	**49**	*e*P	**P**	**08 22 39.8**	**0.0**
	comp=Z,12nm,0.8s						
SML	**Sawmill**	**21.12**	**49**	*e*P	**P**	**08 22 44.2**	**-0.1**
SML				epP		08 22 51.3	
MCK	**McKinley**	**21.35**	**43**	*e*P	**P**	**08 22 46.6**	**-0.1**
MCK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.2						
MCK	**McKinley**	**21.35**	**43**	*e*P	**P**	**08 22 46.5**	**-0.2**
	comp=Z,13nm,1.0s,mb4.2						
EYAK	**Cordova Ski Ar**	**22.16**	**52**	*e*P	**P**	**08 22 55.2**	**-0.1**
COLA	**College**	**22.16**	**41**	*e*P	**P**	**08 22 55.4**	**0.0**
COLA				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.6						
COLA	**College**	**22.16**	**41**	*e*P	**P**	**08 22 55.4**	**0.0**
	comp=Z,25nm,1.0s,mb4.6						
DIV	**Divide**	**22.22**	**51**	*e*P	**P**	**08 22 57.5**	**+1.5**
	comp=Z,105nm,1.4s,mb5.1						
YSS	**Yuzh-Sakhalins**	**22.68**	**271**	*e*P	**P**	**08 23 05.0**	**+4.1**
ASAJ	**Asahikawa**	**24.12**	**265**	P	**P**	**08 23 17.0**	**+1.9**
	comp=Z,12nm,0.9s,mb4.3,baz=58,slow=2.0,SNR=7.4						
ASAJ	**Asahikawa**	**24.12**	**265**	P	**P**	**08 23 17.0**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,12nm,1.0s						
DAWY	**Dawson**	**25.54**	**45**	*e*P	**P**	**08 23 28.3**	**+0.3**
KLR	**Kul'dur**	**28.51**	**283**	*e*P	**P**	**08 23 53.2**	**-1.5**
INK	**Inuvik**	**28.55**	**36**	P	**P**	**08 23 56.6**	**+1.5**
	comp=Z,2.9nm,1.1s,mb3.9,baz=254,slow=6.4,SNR=2.7						
INK	**Inuvik**	**28.55**	**36**	P	**P**	**08 23 56.6**	**+1.5**
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
INK	**Inuvik**	**28.55**	**36**	P	**P**	**08 23 55.6**	**+0.6**
	comp=Z,26nm,1.3s,mb4.8						
MJAR	**Matsushiro Arr**	**31.33**	**256**	P	**P**	**08 24 21.9**	**+2.2**
	comp=Z,0.6nm,0.3s,mb3.8,baz=39,slow=8.2,SNR=4.4						
MJAR	**Matsushiro Arr**	**31.33**	**256**	P	**P**	**08 24 21.9**	**+2.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MDJ	**Mudanjiang**	**31.91**	**276**	P	**P**	**08 24 21.3**	**-3.4**
MDJ				PP	PP	08 25 28.0	-9.1
MDJ				PCP	PcP	08 27 12.3	-2.4
M

comp=E,410nm,15.8s
NJ2 LR LR
comp=Z,130nm,11.1s
QLMT Earthquake Lak 46.30 69 P **P 08 26 24.0 -0.9**
YMR Madison River 46.66 69 P **P 08 26 27.4 -0.3**
comp=Z,7.6nm,0.3s,mb5.1
PDAR Pinedale Array 48.62 70 P **P 08 26 43.6 +0.8**
comp=Z,0.5nm,0.7s,mb3.7,baz=323,slow=3.0,SNR=4.9
ULM Lac du Bonnet 51.55 55 P **P 08 27 04.5 -0.7**
comp=Z,1.0nm,0.7s,mb3.9,baz=323,slow=2.7,SNR=3.6
GTA Gaotai 52.93 289 *e*P **P 08 27 20.3 +4.9**
GTA AP pP 08 27 30.1 +5.0
GTA XP sP 08 27 33.5 +4.5
CD2 Chengdu 56.30 278 *e*P **P 08 27 38.4 -1.5**
CD2 AP pP 08 27 51.1 +1.4
CD2 XP sP 08 27 56.4 +2.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,60nm,18.4s
CD2 LR LR
comp=Z,80nm,17.2s,MS3.9
KURK Kurchatov 56.73 311 *e*P **P 08 27 42.9 0.0**
KURK pmax pmax
comp=Z,16nm,1.0s,mb5.0
KURK Kurchatov 56.73 311 *e*P **P 08 27 42.9 0.0**
comp=Z,16nm,1.0s,mb5.0
WMQ Urumqi 56.83 300 *e*P **P 08 27 43.8 +0.2**
WMQ LR LR
comp=N,600nm,23.0s,MS4.7
WMQ LR LR
comp=E,380nm,25.0s,MS4.7
WMQ LR LR
comp=Z,210nm,17.0s
MKAR Makanchi Array 57.63 306 P **P 08 27 48.9 -0.3**
comp=Z,0.3nm,0.3s,mb3.8,baz=44,slow=7.5,SNR=3.8
MKAR Makanchi Array 57.63 306 *i P* **P 08 27 51.7 +2.5**
MKAR Makanchi Array 57.63 306 P **P 08 27 48.9 -0.3**
CHKZ Chkalovo 58.20 318 *e*P **P 08 27 52.4 -0.8**
CHKZ *e**PP pP 08 28 00.4 -2.7
CHKZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CHKZ Chkalovo 58.20 318 *e*P **P 08 27 52.4 -0.8**
comp=Z,2.8nm,1.0s,mb4.2
CHKZ *e*pP pP 08 28 00.3 -2.7
BVAR Borovoye Array 58.76 317 P **P 08 27 56.9 -0.2**
comp=Z,0.9nm,0.3s,mb4.3,baz=64,slow=6.8,SNR=5.3
BVAR Borovoye Array 58.76 317 P **P 08 27 56.9 -0.2**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
ZRNK Zerenda 59.39 318 *e*P **P 08 28 00.8 -0.7**
ZRNK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ZRNK Zerenda 59.39 318 *e*P **P 08 28 00.8 -0.7**
comp=Z,3.0nm,0.8s,mb4.4
ARU Arti 60.73 326 *e*P **P 08 28 05.8 -4.9**
ARU pmax pmax
comp=Z,3.0nm,1.3s,mb4.3
KMI Kunming 61.07 274 P **P 08 28 14.3 +1.3**
KMI AP pP 08 28 22.8 -0.1
KMI XP sP 08 28 26.8 +0.1
KMI PP PP 08 30 28.6 +1.0
KMI AMB AMB
comp=Z,80nm,4.6s
KMI LR LR
comp=N,190nm,17.0s
KMI LR LR
comp=E,160nm,24.2s
KMI LR LR
comp=Z,200nm,24.1s
AAK Ala-Archa 64.48 307 P **P 08 28 31.6 -4.1**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AAK Ala-Archa 64.48 307 P **P 08 28 31.6 -4.1**
comp=Z,1.6nm,0.6s,mb4.2
AKTK Aktyubinsk 65.70 322 P **P 08 28 43.7 +0.1**
AKTO Aktyubinsk 65.70 322 P **P 08 28 43.7 +0.1**
comp=Z,1.6nm,0.8s,mb4.1,baz=53,slow=10,SNR=3.5
AKTO Aktyubinsk 65.70 322 P **P 08 28 43.7 +0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ACCN Adirondack Com 67.18 48 *e*P **P 08 28 51.5 -1.6**
PPT Papeete 75.07 147 *e*LR LR 08 53 02.6
comp=Z,223nm,26.2s
CFR Carcaliu 79.64 338 S S 08 40 14.8 +8.5
TIRR Tirgusor 80.25 338 S S 08 40 04.5 -8.3
TBI Tubuai 80.49 149 *e*LR LR 08 55 25.5
comp=Z,166nm,28.5s
FITZ Fitzroy Crossi 82.79 228 P **P 08 30 24.0 +0.8**
comp=Z,5.2nm,1.1s,mb4.5,baz=83,slow=14,SNR=6.4
ASAR Alice Springs 84.18 219 P **P 08 30 31.1 +0.8**
comp=Z,1.1nm,0.7s,mb4.1,baz=23,slow=5.7,SNR=11
ASAR Alice Springs 84.18 219 P **P 08 30 31.1 +0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
STKA Stephens Creek 89.03 210 P **P 08 30 53.1 -0.9**
comp=Z,2.1nm,0.9s,mb4.5,baz=351,slow=12,SNR=4.3

*ISCJB **14** 08:18:26.2±0.2,52.11N±006×17707E±004,h10km, mb4.6/51,MS4.3/4,Error ellipse: s-maj=8.7km s-min=3.7km az=177.6*
*IDC **14** 08:18:26.2±0.5,5207N×17707E,h0km,mb4.4/23, mb1 4.6/24,mb1mx4.5/30,mbtmp4.4/24,ML4.5/1,Error ellipse: s-maj=18.2km s-min=11.2km az=158.0*
*NEIC **14** 08:18:27.6±0.2,5204N×17703E,h10km,mb4.7/29, ML4.5(AEIC),Error ellipse: s-maj=7.6km s-min=4.2km az=171.0*
*BJI **14** 08:18:28.6,5200N×17700E,h10km,mB4.9,mb4.8,Ms4.6, Msz4.3*
ISC 14 08:18:32.9±1.1,5216N±007×17712E±005,h48km±9km, n176,σ0°79/168,mb4.6/51,MS4.3/4,48C-34D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.94**	**288**	*e*Pn	**Pn**	**08 18 58.9**	**-4.5**
ATKA	**Atka Island**	**5.34**	**86**	P	**Pn**	**08 19 49.5**	**-0.6**
NIKO	**Nikolski**	**8.59**	**79**	P	**Pn**	**08 20 36.4**	**+1.9**
SPIA	**Saint Paul Isl**	**8.87**	**51**	P	**Pn**	**08 20 38.1**	**-0.4**
FALS	**False Pass**	**11.89**	**69**	*e*Pn	**Pn**	**08 21 18.3**	**-1.4**
GAMB	**Gambell**	**13.04**	**22**	*e*Pn	**Pn**	**08 21 34.9**	**-0.6**
BILL	**Bilibino**	**16.77**	**346**	Pn	**Pn**	**08 22 23.8**	**-0.6**
40nm,1.0s							
KDAK	**Kodiak Island**	**18.18**	**60**	P	**Pn**	**08 22 41.0**	**-0.6**
1.6nm,0.3s,baz=286,slow=3.6,SNR=9.6							
YSS	**Yuzh-Sakhalins**	**22.75**	**270**	*e*P	**P**	**08 23 32.8**	**+1.9**
36nm,1.0s,mb4.8							
ASAJ	**Asahikawa**	**24.22**	**264**	P	**P**	**08 23 45.8**	**+0.7**
32nm,0.9s,mb4.8,baz=349,slow=6.1,SNR=12							
INK	**Inuvik**	**28.30**	**37**	P	**P**	**08 24 23.3**	**+1.4**
6.4nm,0.7s,mb4.3,baz=266,slow=15,SNR=7.4							
INK	**Inuvik**	**28.30**	**37**	P	**P**	**08 24 23.3**	**+1.4**
DLBC	**Dease Lake**	**30.05**	**57**	P	**P**	**08 24 38.6**	**+1.3**
4.8nm,1.0s,mb4.2,baz=304,slow=12,SNR=3.5							
MAJO	**Matsushiro**	**31.46**	**256**	*e*P	**P**	**08 24 48.5**	**-1.3**
11nm,0.9s,mb4.7							
MJAR	**Matsushiro Arr**	**31.46**	**256**	P	**P**	**08 24 49.7**	**-0.1**
2.9nm,0.9s,mb4.1,baz=64,slow=7.6,SNR=5.7							
MJAR	**Matsushiro Arr**	**31.46**	**256**	P	**P**	**08 24 49.7**	**-0.1**
YKA	**Yellowknife Ar**	**36.53**	**46**	P	**P**	**08 25 34.5**	**+0.8**
11nm,0.9s,mb4.7,baz=288,slow=8.6,SNR=18							
YKA	**Yellowknife Ar**	**36.53**	**46**	P	**P**	**08 25 34.5**	**+0.8**
SNY	**Shenyang**	**37.16**	**276**	⇑P	**P**	**08 25 45.8**	**+6.7**
SNY				PP	PP	08 27 12.4	+7.9
SNY				S	**S**	**08 31 36.1**	**+14**
SNY				AMB	AMB		
comp=Z,180nm,9.2s							
SNY				LR	LR		
comp=N,320nm,16.1s							
SNY				LR	LR		
comp=Z,370nm,18.8s,MS4.2							
A05A	**Maple Falls**	**37.74**	**70**	⇑P	**P**	**08 25 43.5**	**-0.5**
baz=38							
C04A	**Brinnon**	**37.85**	**72**	⇑P	**P**	**08 25 44.8**	**-0.2**
baz=38							
B05A	**Bryant**	**38.09**	**71**	⇑P	**P**	**08 25 45.8**	**-1.2**
baz=38							
E03A	**Lebam**	**38.09**	**74**	⇓P	**P**	**08 25 46.5**	**-0.5**
baz=38							
C05A	**Tolt Reservoir**	**38.62**	**72**	⇓P	**P**	**08 25 50.8**	**-0.6**
baz=39							
F04A	**Amboy**	**39.09**	**74**	⇓P	**P**	**08 25 55.1**	**-0.3**
baz=39							
RES	**Resolute Bay**	**40.08**	**24**	*e*P	**P**	**08 26 04.5**	**+1.0**
comp=Z,19nm,1.4s,mb4.6							
RES				*e*PcP	PcP	08 28 02.7	-4.9
HUMO	**Hull Mountain**	**40.60**	**79**	⇑P	**P**	**08 26 06.1**	**-1.8**
baz=40							
NEW	**Newport**	**40.97**	**68**	P	**P**	**08 26 10.6**	**-0.3**
comp=Z,4.7nm,0.8s,mb4.2,baz=303,slow=6.9,SNR=6.8							
NEW				PcP	PcP	08 28 11.1	+0.7
comp=Z,2.6nm,0.6s,baz=231,slow=1.1,SNR=3.5							
NEW	**Newport**	**40.97**	**68**	P	**P**	**08 26 10.6**	**-0.3**
NEW				PcP	PcP	08 28 11.1	+0.7
YBH	**Yreka Blue Hor**	**41.26**	**80**	P	**P**	**08 26 13.6**	**+0.3**
comp=Z,2.7nm,0.8s,mb4.0,baz=179,slow=9.6,SNR=8.4							
YBH	**Yreka Blue Hor**	**41.26**	**80**	⇑P	**P**	**08 26 14.0**	**+0.7**
baz=41							
M02C	**Callahan**	**41.37**	**80**	⇑P	**P**	**08 26 15.1**	**+0.8**
baz=41							
N02C	**Big Bar**	**41.43**	**81**	⇓P	**P**	**08 26 15.6**	**+0.9**
baz=41							
L04A	**Klamath Falls**	**41.50**	**79**	⇑P	**P**	**08 26 15.6**	**+0.4**
baz=41							
O01C	**Eel River Cons**	**41.53**	**83**	⇑P	**P**	**08 26 17.2**	**+1.7**
baz=42							
M04C	**Macdoel**	**41.76**	**79**	⇑P	**P**	**08 26 17.2**	**-0.2**
baz=42							
M03C	**McCloud**	**41.89**	**80**	⇓P	**P**	**08 26 19.1**	**+0.7**
baz=42							
J06A	**Christmas Vall**	**41.92**	**76**	⇑P	**P**	**08 26 18.6**	**-0.2**
baz=42							
WDC	**Whiskeytown Da**	**42.04**	**81**	*e*P	**P**	**08 26 19.8**	**0.0**
comp=Z,10nm,1.1s,mb4.4							
WDC	**Whiskeytown Da**	**42.04**	**81**	⇓P	**P**	**08 26 20.2**	**+0.4**
baz=42							
K06A	**Valley Falls**	**42.12**	**77**	⇑P	**P**	**08 26 19.6**	**-0.8**
baz=42							
O02C	**Red Bluff**	**42.13**	**82**	P	**P**	**08 26 21.4**	**+1.0**
baz=42,SNR=5.3							
P01C	**Double 8 Ranch**	**42.23**	**83**	⇑P	**P**	**08 26 21.8**	**+0.6**
baz=42							
WALA	**Waterton Lakes**	**42.38**	**66**	*e*P	**P**	**08 26 22.2**	**-0.2**
comp=Z,14nm,1.2s,mb4.5							
M05C	**Lookout**	**42.42**	**79**	⇓P	**P**	**08 26 23.2**	**+0.4**
baz=42							
GASB	**Alder Springs**	**42.50**	**82**	P	**P**	**08 26 24.9**	**+1.5**
baz=42,SNR=5.9							
HATC	**Hat Creek Radi**	**42.56**	**80**	⇓P	**P**	**08 26 24.4**	**+0.6**
baz=42							
HOPS	**Hopland**	**42.69**	**83**	⇓P	**P**	**08 26 25.3**	**+0.3**
baz=43							
O03C	**Acorn Hollow,**	**42.70**	**82**	⇑P	**P**	**08 26 24.8**	**-0.3**
baz=43							
K07A	**Rock Creek Ran**	**42.78**	**77**	⇑P	**P**	**08 26 25.7**	**-0.1**
baz=43,SNR=7.5							
M06C	**Likely Place G**	**42.92**	**79**	⇑P	**P**	**08 26 27.1**	**+0.2**
baz=43							
O04C	**Chester**	**43.08**	**81**	⇑P	**P**	**08 26 29.5**	**+1.3**
baz=43							
MNRC	**McLaughlin Nat**	**43.14**	**83**	⇓P	**P**	**08 26 29.6**	**+1.0**
baz=43							
NSHM	**Saint Helena R**	**43.27**	**84**	*e*P	**P**	**08 26 29.8**	**+0.2**
ORV	**Oroville**	**43.30**	**82**	⇓P	**P**	**08 26 29.7**	**-0.3**
baz=43							
SUTB	**Sutter Buttes**	**43.32**	**82**	⇓P	**P**	**08 26 29.9**	**-0.2**
baz=43							
O05C	**Quincy**	**43.41**	**81**	⇓P	**P**	**08 26 30.6**	**-0.2**
baz=43							
OHCM	**Honcut**	**43.45**	**82**	*e*P	**P**	**08 26 30.8**	**-0.3**
CVS	**Carmenet Viney**	**43.47**	**84**	⇑P	**P**	**08 26 31.8**	**+0.5**
baz=43							
MSO	**Missoula**	**43.56**	**68**	*e*P	**P**	**08 26 31.2**	**-0.7**
comp=Z,5.2nm,1.2s,mb4.1							
Q03C	**Winters**	**43.56**	**83**	⇑P	**P**	**08 26 33.0**	**+1.0**
baz=44							
M07A	**Soldier Meadow**	**43.60**	**78**	⇓P	**P**	**08 26 32.7**	**+0.4**
baz=44,SNR=6.3							
ULN	**Ulaanbaatar**	**43.63**	**293**	*e*P	**P**	**08 26 29.6**	**-3.0**
comp=Z,5.1nm,0.9s,mb4.2							
ULN				*e*PP	PP	08 28 19.6	+4.8
Q04C	**Lincoln**	**43.81**	**82**	⇑P	**P**	**08 26 34.4**	**+0.4**
baz=44							
O06A	**Flanigan**	**43.95**	**80**	⇓P	**P**	**08 26 35.3**	**+0.2**
baz=44							
P05C	**Yuba Gap, Truc**	**44.00**	**81**	⇓P	**P**	**08 26 35.9**	**+0.4**
baz=44							
SONM	**Songino Array**	**44.02**	**294**	P	**P**	**08 26 35.8**	**+0.1**
comp=Z,1.1nm,0.6s,mb3.8,baz=59,slow=8.4,SNR=3.6							
SONM				PcP	PcP	08 28 21.0	+0.5
comp=Z,1.7nm,0.6s,baz=54,slow=2.7,SNR=4.8							
M08A	**Happy Creek Ra**	**44.04**	**77**	⇑P	**P**	**08 26 35.2**	**-0.6**
baz=44							
L09A	**Wilkinson Ranc**	**44.12**	**76**	⇓P	**P**	**08 26 35.5**	**-1.0**
baz=44							
LAVA	**Lava Cap Winer**	**44.26**	**82**	⇑P	**P**	**08 26 38.1**	**+0.5**
baz=44							
WENL	**Wente Brothers**	**44.35**	**84**	⇑P	**P**	**08 26 39.4**	**+1.0**
baz=44							
BNLO	**Ben Lomond**	**44.41**	**85**	⇓P	**P**	**08 26 39.8**	**+1.0**
baz=44							
O07A	**Toulon**	**44.52**	**79**	⇓P	**P**	**08 26 39.5**	**-0.2**
baz=44							
N08A	**GE Springer Mi**	**44.59**	**78**	⇑P	**P**	**08 26 40.1**	**-0.2**
baz=44							
R05C	**Kirkwood Meado**	**44.70**	**82**	⇑P	**P**	**08 26 41.8**	**+0.7**
baz=45							
CMB	**Columbia Colle**	**44.93**	**83**	*e*P	**P**	**08 26 43.3**	**+0.4**
comp=Z,17nm,1.4s,mb4.7							
CMB	**Columbia Colle**	**44.93**	**83**	⇑P	**P**	**08 26 43.0**	**+0.1**
baz=45							
PACP	**Pacheco Peak**	**45.03**	**84**	⇑P	**P**	**08 26 44.4**	**+0.7**
baz=45							
M10A	**LL. Ranch, Tu**	**45.10**	**76**	⇑P	**P**	**08 26 43.5**	**-0.8**
baz=45							
R06C	**Coleville**	**45.19**	**81**	⇑P	**P**	**08 26 45.7**	**+0.6**
baz=45							
HAST	**Hastings Reser**	**45.27**	**85**	⇓P	**P**	**08 26 46.3**	**+0.7**
baz=45							
MCMT	**McKenzie Canyo**	**45.32**	**70**	*e*P	**P**	**08 26 45.1**	**-1.0**
S06C	**San Francisco**	**45.35**	**82**	⇓P	**P**	**08 26 47.0**	**+0.7**
baz=45							
S05C	**Merced**	**45.40**	**83**	⇓P	**P**	**08 26 46.9**	**+0.3**
baz=45							
O09A	**Fish Creek Ran**	**45.53**	**78**	⇑P	**P**	**08 26 47.6**	**-0.1**
baz=46							
BOZ	**Bozeman (W)**	**45.55**	**69**	*e*P	**P**	**08 26 47.4**	**-0.4**
comp=Z,8.5nm,1.2s,mb4.5							
M11A	**Holland Ranch,**	**45.60**	**76**	⇓P	**P**	**08 26 48.2**	**-0.1**
baz=46							
U04C	**Hernandez Rese**	**45.76**	**85**	⇑P	**P**	**08 26 50.4**	**+0.8**
baz=46							
Q08A	**Gabbs**	**45.90**	**80**	⇑P	**P**	**08 26 50.4**	**-0.2**
baz=46							
NVAR	**Mina Array Bea**	**45.95**	**81**	P	**P**	**08 26 50.8**	**-0.2**
comp=Z,2.1nm,0.7s,mb4.2,baz=305,slow=6.0,SNR=13							
NVAR				PcP	PcP	08 28 28.4	+1.2
comp=Z,1.7nm,0.8s,baz=311,slow=1.5,SNR=4.3							
P09A	**Austin**	**45.95**	**79**	⇓P	**P**	**08 26 49.9**	**-1.1**
baz=46							
R08A	**Mina**	**46.12**	**81**	⇓P	**P**	**08 26 52.5**	**+0.2**
baz=46							
BTO	**Baotou**	**46.12**	**283**	*e*P	**P**	**08 26 53.1**	**+0.8**
M12A	**Wells**	**46.13**	**75**	⇑P	**P**	**08 26 51.6**	**-0.9**
baz=46							
V04C	**Ramage Ranch,**	**46.17**	**86**	⇑P	**P**	**08 26 53.9**	**+1.1**
baz=46							
PKD	**Parkfield**	**46.18**	**85**	⇑P	**P**	**08 26 53.3**	**+0.5**
baz=46							
ELK	**Elko**	**46.35**	**76**	*e*P	**P**	**08 26 54.2**	**0.0**
comp=Z,4.4nm,0.9s,mb4.4							
Q09A	**Carvers**	**46.38**	**80**	⇑P	**P**	**08 26 54.7**	**+0.4**
baz=46							
N12A	**Wells--Clov Va**	**46.41**	**76**	⇓P	**P**	**08 26 53.4**	**-1.2**
baz=46							
MTUM	**Tungsten Hills**	**46.48**	**82**	*e*P	**P**	**08 26 55.9**	**+0.8**
S08C	**White Mtn Res**	**46.62**	**82**	⇑P	**P**	**08 26 56.6**	**+0.3**
baz=46							
N13A	**West Wendover**	**46.90**	**75**	⇑P	**P**	**08 26 56.1**	**-2.4**
baz=47							
S09A	**Goldfield**	**47.06**	**81**	⇓P	**P**	**08 26 59.5**	**-0.3**
baz=47							
P12A	**McGill**	**47.34**	**77**	⇑P	**P**	**08 27 00.4**	**-1.5**
baz=47							
CWC	**Cottonwood Cre**	**47.36**	**83**	⇑P	**P**	**08 27 02.0**	**-0.1**
baz=47							
DUG	**Dugway**	**48.14**	**75**	*e*P	**P**	**08 27 08.0**	**-0.1**
comp=Z,18nm,1.1s,mb5.0							
TPNV	**Topopah Spring**	**48.15**	**81**	*e*P	**P**	**08 27 08.2**	**+0.1**
comp=Z,7.7nm,0.8s,mb4.8							
PDAR	**Pinedale Array**	**48.46**	**70**	P	**P**	**08 27 10.1**	**-0.5**
comp=Z,2.5nm,0.7s,mb4.3,baz=314,slow=3.7,SNR=15							
GSC	**Goldstone**	**48.89**	**83**	P	**P**	**08 27 14.2**	**+0.3**
baz=49,SNR=5.7							
TUQ	**Turquoise Mtn.**	**49.34**	**82**	⇓P	**P**	**08 27 17.4**	**+0.1**
baz=49							
W12A	**Cal Nev Ari**	**50.07**	**82**	⇑P	**P**	**08 27 22.7**	**-0.2**
baz=50							
WHN	**Wuhan**	**50.10**	**270**	*e*P	**P**	**08 27 21.8**	**-1.3**
SRU	**San Rafael**	**50.20**	**75**	*e*P	**P**	**08 27 23.8**	**0.0**
comp=Z,12nm,1.0s,mb4.9							
PFO	**Pinyon Flat Ob**	**50.24**	**84**	⇓P	**P**	**08 27 24.0**	**-0.1**
baz=50							
109C	**Camp Elliot, M**	**50.32**	**85**	⇓P	**P**	**08 27 25.1**	**+0.3**
baz=50							
X13A	**Yucca**	**51.18**	**81**	⇑P	**P**	**08 27 30.9**	**-0.3**
baz=51							
W14A	**Seligman**	**51.22**	**80**	⇑P	**P**	**08 27 30.9**	**-0.6**
baz=51							
Y12C	**Blythe**	**51.33**	**83**	⇓P	**P**	**08 27 32.3**	**0.0**
baz=51							
ULM	**Lac du Bonnet**	**51.34**	**55**	P	**P**	**08 27 31.8**	**-0.6**
comp=Z,4.7nm,1.1s,mb4.3,baz=311,slow=8.4,SNR=5.6							
GLA	**Glamis**	**51.61**	**84**	⇓P	**P**	**08 27 33.7**	**-0.8**
baz=52							
W15A	**Williams**	**51.73**	**80**	⇓P	**P**	**08 27 34.9**	**-0.5**
baz=52							
X14A	**Yava**	**51.83**	**81**	⇑P	**P**	**08 27 35.8**	**-0.3**
baz=52							
Y14A	**Wickenburg**	**52.12**	**81**	⇑P	**P**	**08 27 38.0**	**-0.3**
baz=52							
X15A	**Humboldt**	**52.21**	**80**	⇑P	**P**	**08 27 38.4**	**-0.5**
baz=52							
MVCO	**Mesa Verde**	**52.64**	**75**	*e*P	**P**	**08 27 43.7**	**+1.6**
LZH	**Lanzhou**	**52.73**	**283**	*e*P	**P**	**08 27 44.0**	**+1.2**
LZH				AP	pP	08 27 51.0	-5.0
LZH				XP	sP	08 27 56.0	-5.5
LZH				PP	PP	08 29 44.5	+2.1
LZH				AMB	AMB		
comp=Z,20nm,1.2s,mb4.9							
SUMG	**Summit**	**53.12**	**13**	*e*P	**P**	**08 27 46.4**	**+0.8**
comp=Z,22nm,1.3s,mb4.9							
115A	**Sonoran Desert**	**53.44**	**82**	⇓P	**P**	**08 27 47.0**	**-0.9**
baz=53							
116A	**Eloy**	**53.86**	**82**	⇑P	**P**	**08 27 50.9**	**-0.2**
baz=54							
CD2	**Chengdu**	**56.34**	**278**	*e*P	**P**	**08 28 09.4**	**+0.4**
CD2				AP	pP	08 28 22.1	-0.2
CD2				S	**S**	**08 35 53.9**	**-2.0**
CD2				XS	sS	08 36 15.3	-2.8
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
CD2				AMB	AMB		
comp=Z,40nm,5.6s							
CD2				LR	LR		
comp=N,90nm,15.2s							
CD2				LR	LR		
comp=Z,90nm,16.2s,MS4.0							
WMQ	**Urumqi**	**56.77**	**300**	*e*P	**P**	**08 28 16.0**	**+4.0**
WMQ				LR	LR		
comp=N,600nm,23.0s,MS4.7							
WMQ				LR	LR		
comp=E,380nm,25.0s,MS4.7							
WMQ				LR	LR		
comp=Z,210nm,17.0s							
MKAR Makanchi Array 57.54 306 P **P 08 28 17.0 -0.4**							
comp=Z,0.5nm,0.3s,mb4.0,baz=56,slow=7.4,SNR=5.3							
GYA Guiyang 57.74 272 *i P* **P 08 28 19.1 +0.3**							
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
GYA				AMB	AMB		
comp=Z,80nm,3.9s							
GYA				LR	LR		
comp=N,210nm,21.4s,MS4.4							
GYA				LR	LR		
comp=E,230nm,20.7s,MS4.4							
GYA				LR	LR		
comp=Z,240nm,21.8s,MS4.3							
CHKZ Chkalovo 58.06 318 *e*P **P 08 28 20.9 -0.2**							
comp=Z,6.0nm,1.0s,mb4.6							
MNTX Cornudas Mount 58.29 78 *e*P **P 08 28 22.8 0.0**							
comp=Z,4.9nm,1.0s,mb4.5							
BVAR Borovoye Array 58.63 317 P **P 08 28 24.2 -0.8**							
comp=Z,2.4nm,0.5s,mb4.5,baz=53,slow=7.6,SNR=9.6							
BRVK Borovoye 58.65 317 *e*P **P 08 28 25.1 -0.1**							
comp=Z,3.7nm,0.8s,mb4.5							
BRVK				*e*ScP	ScP	08 33 13.1	+1.9
ZRNK Zerenda 59.25 318 *e*P **P 08 28 29.7 +0.3**							
comp=Z,5.4nm,0.7s,mb4.7							
SCHQ Schefferville 60.92 36 P **P 08 28 40.8 0.0**							
comp=Z,12nm,1.1s,mb4.9,baz=343,slow=6.2,SNR=7.7							
MIAR Mount Ida 63.20 68 *e*P **P 08 28 54.9 -1.2**							
comp=Z,7.3nm,1.0s,mb4.8							
AAK Ala-Archa 64.39 307 *e*P **P 08 29 04.0 +0.1**							
comp=Z,3.2nm,0.5s,mb4.6							
FINES FINESS Array B 64.42 345 P **P 08 29 04.2 +0.1**							
comp=Z,2.9nm,0.9s,mb4.3,baz=359,slow=12,SNR=4.0							
AKTK Aktyubinsk 65.55 322 P **P 08 29 12.2 +0.8**							
AKTO Aktyubinsk 65.55 322 P **P 08 29 12.2 +0.8**							
comp=Z,3.9nm,0.7s,mb4.5,baz=38,slow=6.7,SNR=10.0							
NB2 NORSAR Subarra 66.59 353 P **P 08 29 17.8 -0.3**							
comp=Z,8.8nm,1.2s,mb4.7,baz=7.8,slow=6.2							
NOA NORSAR Array B 66.59 353 P **P 08 29 17.2 -0.9**							
comp=Z,1.6nm,0.8s,mb4.1,baz=7.7,slow=5.3,SNR=2.6							
SSPA Standing Stone 67.06 53 *e*P **P 08 29 19.0 -2.1**							
comp=Z,8.4nm,0.9s,mb4.8							
GUN Gumba 69.21 289 *e*P **P 08 29 35.6 +1.0**							
comp=Z,85nm,0.9s,mb5.7							
JIRN Jiri 69.22 288 *e*P **P 08 29 35.6 +1.0**							
comp=Z,34nm,0.7s,mb5.4							
KKN Kakani 69.65 289 *e*P **P 08 29 38.1 +0.8**							
comp=Z,24nm,0.7s,mb5.2							
PKI Pulchoki 69.74 289 *e*P **P 08 29 38.8 +1.0**							
AKASG Malin Array Be 73.97 339 P **P 08 30 02.2 -1.0**							
comp=Z,1.7nm,0.7s,mb4.1,baz=23,slow=5.7,SNR=6.1							
KAKA Kakadu 75.22 225 *e*P **P 08 30 09.4 -1.0**							
comp=Z,30nm,0.6s,mb5.4							
CTA Charters Tower 76.82 210 *e*P **P 08 30 19.4 -0.2**							
comp=Z,7.1nm,0.8s,mb4.7							
CTA Charters Tower 76.82 210 P **P 08 30 19.4 -0.1**							
comp=Z,4.7nm,0.6s,mb4.6,baz=14,slow=11,SNR=5.8							
PSI Prapat 80.56 262 P **P 08 30 40.0 -0.1**							
comp=Z,4.0nm,0.7s,mb4.5,baz=147,slow=0.9,SNR=4.8							
WB2 Warramunga Arr 80.89 220 *e*P **P 08 30 41.2 -0.7**							
HYB Hyderabad 81.56 287 *i P* **P 08 30 46.0 +0.5**							
HYB Hyderabad 81.56 287 *e*P **P 08 30 46.0 +0.5**							
**F

mb4.2/11, MS4.1/1, Error ellipse: s-maj=15.7km s-min=7.1km az=25.5
*MOS **14** 08:23:18.1±1.7, 5187N×17709E, h33km, mb4.2/7, Error ellipse: s-maj=25.8km s-min=17.2km az=103.6*
ISC 14 08:23:17.9±3.6, 5189N±009×**17713E**±008, **h21**km±27km, **n30**, σ1°**04**/32, **mb4.2**/11, **MS4.1**/1, **1D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.45**	**110**	P	**Pn**	**08 23 43.2**	**+0.5**
AMKA				S	**Sn**	**08 24 00.1**	**-1.0**
SMY	**Shemya**	**2.04**	**296**	P	**Pn**	**08 23 50.0**	**-1.0**
SMY				S	**Sn**	**08 24 14.7**	**-1.1**
BILL	**Bilibino**	**17.04**	**346**	*d* iP	**Pn**	**08 27 17.3**	**+2.5**
BILL				pmax	pmax		
	comp=Z,22nm,1.0s						
KDAK	**Kodiak Island**	**18.31**	**59**	P	**Pn**	**08 27 30.2**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=251,slow=12,SNR=3.5						
KDAK	**Kodiak Island**	**18.31**	**59**	P	**Pn**	**08 27 30.2**	**-0.3**
SLKM	**Skilak Lake**	**19.92**	**52**	P	**Pn**	**08 27 49.3**	**-0.5**
ASAJ	**Asahikawa**	**24.20**	**265**	P	**P**	**08 28 33.6**	**+0.9**
	comp=Z,1.5nm,0.3s,mb3.9,baz=66,slow=12,SNR=2.2						
ASAJ	**Asahikawa**	**24.20**	**265**	P	**P**	**08 28 33.7**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
DAWY	**Dawson**	**25.50**	**45**	*e*P	**P**	**08 28 45.5**	**+0.9**
MDJ	**Mudanjiang**	**31.99**	**276**	P	**P**	**08 29 41.6**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,130nm,10.9s						
CN2	**Changchun**	**34.96**	**278**	*e*P	**P**	**08 30 09.4**	**+1.0**
YKA	**Yellowknife Ar**	**36.72**	**46**	P	**P**	**08 30 23.1**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=280,slow=7.9,SNR=4.9						
YKA	**Yellowknife Ar**	**36.72**	**46**	P	**P**	**08 30 23.1**	**-0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**36.72**	**46**	P	**P**	**08 30 23.1**	**-0.3**
SONM	**Songino Array**	**44.14**	**294**	P	**P**	**08 31 24.5**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.7,baz=66,slow=6.9,SNR=3.5						
SONM	**Songino Array**	**44.14**	**294**	P	**P**	**08 31 24.5**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NJ2	**Nanjing**	**46.27**	**268**	*e*P	**P**	**08 31 41.8**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
WMQ	**Urumqi**	**56.91**	**300**	*e*P	**P**	**08 33 02.4**	**+1.1**
WMQ				LR	LR		
	comp=N,130nm,17.0s,MS4.1						
WMQ				LR	LR		
	comp=E,60nm,18.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,140nm,16.0s,MS4.2						
MKAR	**Makanchi Array**	**57.71**	**306**	P	**P**	**08 33 05.2**	**-1.6**
	comp=Z,0.4nm,0.4s,mb3.8,baz=58,slow=9.4,SNR=3.3						
BVAR	**Borovoye Array**	**58.83**	**317**	P	**P**	**08 33 13.6**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.3,baz=59,slow=6.9,SNR=10.0						
BVAR	**Borovoye Array**	**58.83**	**317**	P	**P**	**08 33 13.6**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SCHQ	**Schefferville**	**61.14**	**36**	P	**P**	**08 33 30.1**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.1,baz=297,slow=11,SNR=2.5						
KMI	**Kunming**	**61.15**	**275**	P	**P**	**08 33 31.9**	**+1.3**
KMI				AP	pP	08 33 36.4	-1.1
KMI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
AKTO	**Aktyubinsk**	**65.77**	**322**	P	**P**	**08 34 00.3**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.1,baz=46,slow=7.3,SNR=4.9						
AKTO	**Aktyubinsk**	**65.77**	**322**	P	**P**	**08 34 00.3**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KHC	**Kasperske Hory**	**78.39**	**349**	*e*P	**P**	**08 35 19.0**	**+2.2**
WRA	**Warramunga Arr**	**80.69**	**220**	P	**P**	**08 35 28.7**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=29,slow=5.9,SNR=10						
WRA	**Warramunga Arr**	**80.69**	**220**	P	**P**	**08 35 28.7**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**84.21**	**219**	P	**P**	**08 35 48.5**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.1,baz=18,slow=5.6,SNR=12						
ASAR	**Alice Springs**	**84.21**	**219**	P	**P**	**08 35 48.5**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*HLW **14** 08:26:13.4, 3139N×3538E, h20km, Mb2.9*
*ISCJB **14** 08:26:15.9±0.5, 3107N±003×3516E±005, h8km±5km, Error ellipse: s-maj=8.0km s-min=4.1km az=33.5*
*GII **14** 08:26:15.2±1.0, 3108N×3515E, h0km, ML2.4/6*
ISC 14 08:26:16.4±0.5, **3108N**±003×**3515E**±005, **h9**km±5km, **n22**, σ0°**77**/26, **1C-2D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.29**	**38**	Pg	**Pg**	**08 26 22.0**	**-0.3**
MZDA				Sg	**Sg**	**08 26 27.3**	**+1.1**
MASH	**Mash'abbe Sade**	**0.33**	**255**	Pg	**Pg**	**08 26 22.7**	**-0.1**
RTMM	**Retamin**	**0.40**	**266**	Pg	**Pg**	**08 26 24.2**	**0.0**
AMAZ	**Amatzia**	**0.49**	**336**	Pg	**Pg**	**08 26 26.0**	**-0.1**
AMAZ				Sg	**Sg**	**08 26 33.6**	**+1.1**
ZFRI	**Zfri**	**0.52**	**178**	Pg	**Pg**	**08 26 26.2**	**-0.4**
DRGI	**Dragot**	**0.55**	**22**	Pg	**Pg**	**08 26 26.6**	**-0.5**
MKRJ	**Makawir**	**0.63**	**41**	Pg	**Pg**	**08 26 28.9**	**+0.3**
KZIT	**Kziot**	**0.67**	**255**	Pg	**Pg**	**08 26 28.9**	**-0.5**
PRNI	**Paran**	**0.74**	**190**	Pg	**Pg**	**08 26 30.3**	**-0.3**
PRNI				Sg	**Sg**	**08 26 42.2**	**+2.0**
HRFI	**Mount Harif**	**1.04**	**185**	Pg	**Pg**	**08 26 36.7**	**+0.2**
HMDT	**Nahal Hemdat**	**1.21**	**15**	Pg	**Pg**	**08 26 38.5**	**-1.2**
MBH	**Mount Berech**	**1.30**	**189**	Pg	**Pg**	**08 26 40.4**	**-1.0**
MMLI	**Mount Malkishu**	**1.37**	**10**	Pn	**Pn**	**08 26 41.3**	**-0.4**
EIL	**Elat**	**1.42**	**187**	Pn	**Pn**	**08 26 41.7**	**-0.7**
HNKL	**Nakhl**	**1.53**	**222**	⇑P	**Pn**	**08 26 43.4**	**-0.5**
HNKL				S	**Sn**	**08 27 05.7**	**+1.8**
OFRI	**'Ofer**	**1.54**	**355**	Pn	**Pn**	**08 26 44.3**	**+0.2**
AMAG	**Maghara**	**1.73**	**256**	⇓P	**Pn**	**08 26 45.8**	**-0.8**
HBST	**Basata**	**1.89**	**191**	P	**Pn**	**08 26 48.9**	**0.0**
HBST	**Basata**	**1.89**	**191**	P	**Pn**	**08 26 48.8**	**-0.1**
MMA0	**Mount Meron ar**	**1.94**	**6**	Pn	**Pn**	**08 26 50.5**	**+0.9**
SUZ		**2.35**	**239**	P	**Pn**	**08 26 54.8**	**-0.5**
HKAT	**Jabal Katrina**	**2.74**	**202**	⇓P	**Pn**	**08 27 00.8**	**+0.3**

*NEIC **14** 08:39:49.8, 3837N×2663E, h34km, MD3.0(ISK), MD3.2(ATH), After ATH.*
*ATH **14** 08:39:49.8, 3837N×2663E, h34km±9km, MD3.2/3*
*ISCJB **14** 08:39:50.1±0.5, 3844N±003×2674E±003, h3km±5km, Error ellipse: s-maj=4.6km s-min=4.1km az=50.1*
*CSEM **14** 08:39:50.0±0.1, 3845N×2678E, h7km, MD3.1, Error ellipse: s-maj=1.7km s-min=1.3km az=84.0*
*ISK **14** 08:39:50.4, 3845N×2679E, h9km, MD3.1*
ISC 14 08:39:50.6±0.5, **3842N**±003×**2673E**±003, **h5**km±4km, **n20**, σ0°**65**/30, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.12**	**240**	*i* P	**Pg**	**08 39 53.1**	**0.0**
URLA				*i* S	**Sg**	**08 39 55.4**	**+0.6**
BLCB	**Balcova**	**0.25**	**99**	*i* PG	**Pg**	**08 39 55.3**	**-0.1**
BLCB				*i* SG	**Sg**	**08 39 58.5**	**-0.2**
IZM	**Izmir**	**0.42**	**93**	*i* PG	**Pg**	**08 39 58.3**	**-0.4**
IZM				*i* SG	**Sg**	**08 40 04.3**	**+0.2**
KDAG	**Bornova**	**0.42**	**93**	*i* P	**Pg**	**08 39 58.4**	**-0.3**
KDAG				*i* S	**Sg**	**08 40 05.0**	**+0.8**
SMG	**Samos**	**0.72**	**173**	*e*PN	**Pg**	**08 40 03.8**	**-0.6**
SMG				*e*SN	**Sg**	**08 40 13.9**	**+0.2**
PRK	**Paraskevi**	**0.90**	**337**	*e*PN	**Pg**	**08 40 07.4**	**-0.4**
PRK				*e*SN	**Sg**	**08 40 20.4**	**+1.0**
AKS	**Akhisar**	**0.96**	**61**	PG	**Pg**	**08 40 08.1**	**-1.0**
AKS				SG	**Sg**	**08 40 21.2**	**-0.3**
MLSB	**Milas**	**1.40**	**143**	*e*PN	**Pn**	**08 40 16.4**	**-0.3**
BODT	**Bodrum**	**1.43**	**161**	*e*PN	**Pn**	**08 40 17.4**	**+0.2**
EZN	**Ezine**	**1.44**	**347**	*e*PN	**Pn**	**08 40 16.7**	**-0.5**
MANT	**Manisa**	**1.44**	**87**	*i* P	**Pn**	**08 40 17.8**	**+0.5**
BDRM	**Kayabasi**	**1.47**	**157**	*i* P	**Pn**	**08 40 17.2**	**-0.5**
BDRM				*i* S	**Sn**	**08 40 38.4**	**+1.1**
BALB	**Balikesir**	**1.51**	**36**	PN	**Pn**	**08 40 17.7**	**-0.6**
APE	**Apeiranthos**	**1.65**	**216**	*e*PN	**Pn**	**08 40 17.3**	**-2.9**
BTOK	**Tokmak**	**1.68**	**37**	*i* P	**Pn**	**08 40 21.6**	**+1.1**
BTOK				*i* S	**Sg**	**08 40 44.9**	**+0.4**
BTOK	**Tokmak**	**1.68**	**37**	*i* P	**Pn**	**08 40 21.6**	**+1.0**
BTOK				*i* S	**Sg**	**08 40 44.9**	**+0.4**
YER	**Yerkesik**	**1.78**	**136**	*e*PN	**Pn**	**08 40 22.3**	**+0.3**
DAT	**Datca**	**1.82**	**158**	*e*PN	**Pn**	**08 40 22.8**	**+0.3**
EDC	**Edincik**	**2.11**	**24**	*e*PN	**Pn**	**08 40 26.4**	**-0.2**
DALT	**Dalyan (Mudla)**	**2.24**	**137**	*e*PN	**Pn**	**08 40 28.2**	**-0.1**

NEIC 14 08:42:56.1, 5184N×17696E, h5km, **ML3.6**(AEIC), **After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.53**	**107**	P	Pn	08 43 23.2	-0.9
AMKA				S	Sn	08 43 44.1	-0.3
SMY	**Shemya**	**1.97**	**298**	P	Pn	08 43 29.9	-0.4
SMY				S	Sn	08 43 55.2	-0.2
ATKA	**Atka Island**	**5.47**	**83**	P	Pn	08 44 18.0	-0.3
UNV	**Unalaska Valle**	**10.20**	**72**	*e*Pn	Pn	08 45 23.3	0.0

*NIED **14** 09:30:00, 4270N×14300E, h86km, Mw4.0 Best double couple: M0 1.21000×10^15 NP1:φs 139.00000°, δ70.00000°, λ54.00000°. NP2:φs 24.00000°, δ41.00000°, λ149.00000°.*
*ISCJB **14** 09:30:27.5±0.3, 4268N±003×14295E±004, h103km±2km, mb4.3/25, Error ellipse: s-maj=5.5km s-min=3.8km az=86.0*
*MOS **14** 09:30:27.6±0.9, 4269N×14301E, h110km, mb4.6/16, Error ellipse: s-maj=15.1km s-min=7.9km az=83.1*
*IDC **14** 09:30:28.7±1.2, 4268N×14289E, h99km±8km, mb3.9/14, mb1 4.1/16, mb1mx3.9/21, mbtmp4.3/16, Error ellipse: s-maj=17.2km s-min=11.2km az=115.0*
*NEIC **14** 09:30:29.6±0.7, 4269N×14290E, h107km±7km, mb4.6/9, MW4.0(NIED), Error ellipse: s-maj=10.3km s-min=7.4km az=125.0*
NEIC Recorded [3 JMA] in the Obihiro area and [1 JMA] in the Chitose area.
*JMA **14** 09:30:29.8±0.1, 4275N×14299E, h87km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs 26.00000°, δ54.00000°, λ143.00000°. NP2: φs 139.00000°, δ61.00000°, λ42.00000°. Principal axes: T Plg49.0000°, Azm356.0000°; N Plg41.0000°, Azm168.0000°; P Plg4.0000°, Azm261.0000°;*
JMA Felt III J1.
ISC 14 09:30:28.6±0.3, **4269N**±003×**14295E**±004, **h99**km±2km, **n77**, σ0°**84**/100, **mb4.3**/25, **9C-8D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.31**	**104**	⇑P	**Pn**	**09 30 42.9**	**-0.1**
JCH				*e*S	**Sn**	**09 30 52.8**	**-1.0**
JNBK	**Urakawa-nobuka**	**0.44**	**200**	⇑P	**Pn**	**09 30 44.8**	**+1.0**
JBT2	**Biratori 2**	**0.44**	**281**	⇑P	**Pn**	**09 30 43.8**	**0.0**
JBT2				*e*S	**Sn**	**09 30 54.8**	**-0.4**
JFR	**Furan**	**0.54**	**331**	⇑P	**Pn**	**09 30 44.1**	**-0.4**
JFR				*e*S	**Sn**	**09 30 55.5**	**-0.9**
JOB	**Onbets**	**0.68**	**72**	⇓P	**Pn**	**09 30 46.1**	**+0.4**
JOB				*e*S	**Sn**	**09 30 58.7**	**+0.2**
JEM	**Erimo**	**0.69**	**167**	⇑P	**Pn**	**09 30 46.9**	**+1.1**
JAR	**Ashorobuto**	**0.85**	**44**	⇓P	**Pn**	**09 30 47.2**	**-0.1**
JAR				*e*S	**Sn**	**09 31 00.4**	**-0.9**
JAB	**Ashibetsu**	**0.97**	**327**	⇓P	**Pn**	**09 30 48.5**	**0.0**
JAB				*e*S	**Sn**	**09 31 02.6**	**-1.0**
JEW	**Eniwo**	**1.12**	**278**	⇓P	**Pn**	**09 30 50.7**	**+0.5**
JEW				*e*S	**Sn**	**09 31 06.9**	**+0.5**
JKK2	**Kamakawa 2**	**1.19**	**353**	⇑P	**Pn**	**09 30 51.0**	**0.0**
JKK2				*e*S	**Sn**	**09 31 07.0**	**-0.9**
JAK	**Akkeshi**	**1.32**	**76**	⇓P	**Pn**	**09 30 52.3**	**-0.2**
JAK				*e*S	**Sn**	**09 31 09.7**	**-0.9**
JMP	**Maruseppu**	**1.35**	**13**	⇓P	**Pn**	**09 30 53.2**	**+0.4**
JMP				*e*S	**Sn**	**09 31 11.1**	**-0.1**
JHR	**Hokuryu**	**1.38**	**320**	P	**Pn**	**09 30 53.9**	**+0.6**
JHR				*e*S	**Sn**	**09 31 12.4**	**+0.4**
ASAJ	**Asahikawa**	**1.45**	**350**	P	**Pn**	**09 30 54.5**	**+0.5**
	33nm,0.3s,baz=212,slow=11,SNR=99						
ASAJ				S	**Sn**	**09 31 13.4**	**+0.1**
	62nm,0.3s,baz=120,slow=20,SNR=31						
ASAJ	**Asahikawa**	**1.45**	**350**	PN	**Pn**	**09 30 54.6**	**+0.5**
ASAJ				S	**Sn**	**09 31 13.5**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,33nm,0.3s						
ASAJ				smax			
	comp=N,62nm,0.3s						
JTKR	**Abashiri--Toko**	**1.46**	**28**	⇓P	**Pn**	**09 30 54.4**	**+0.2**
JTKR				*e*S	**Sn**	**09 31 13.2**	**-0.3**
JKB	**Kayabe**	**1.64**	**241**	⇓P	**Pn**	**09 30 56.8**	**+0.4**
JKB				*e*S	**Sn**	**09 31 17.3**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**2.51**	**57**	⇑*i*PN	**Pn**	**09 31 09.0**	**+1.3**
YUK				*i* S	**Sn**	**09 31 39.0**	**+1.2**
YUK				pmax	pmax		
	comp=N,1μm,0.5s						
YUK				pmax	pmax		
	comp=E,740nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=Z,3μm,1.0s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,3μm,1.5s						
YUK				smax			
	comp=E,2μm,1.5s						
YSS	**Yuzh-Sakhalins**	**4.26**	**358**	*e*Pn	**Pn**	**09 31 32.5**	**+1.3**
YSS				*e*Sn	**Sn**	**09 32 21.7**	**+1.9**
KUR	**Kuril'sk**	**4.36**	**53**	⇑*i*PN	**Pn**	**09 31 31.4**	**-1.2**
KUR				*i* S	**Sn**	**09 32 23.0**	**+0.7**
KUR				pmax	pmax		
	comp=E,30nm,0.4s						
KUR				pmax	pmax		
	comp=Z,140nm,0.4s						
KUR				smax			
	comp=N,110nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
MAJO	**Matsushiro**	**7.15**	**212**	*e*PN	**Pn**	**09 32 11.1**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MAJO	**Matsushiro**	**7.15**	**212**	*e*Pn	**Pn**	**09 32 11.1**	**+0.7**
	comp=Z,9.7nm,0.5s						
MAT	**Matsushiro**	**7.15**	**212**	PN	**Pn**	**09 32 12.0**	**+1.6**
MAT				*e*S	**Sn**	**09 33 29.0**	**-1.1**
MAT				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAT	**Matsushiro**	**7.15**	**212**	P	**Pn**	**09 32 12.0**	**+1.6**
	comp=Z,5.0nm,1.0s						
MAT				*e*S	**Sn**	**09 33 29.0**	**-1.1**
MJAR	**Matsushiro Arr**	**7.15**	**212**	P	**Pn**	**09 32 10.2**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=32,slow=11,SNR=13						
MJAR				S	**Sn**	**09 33 29.9**	**-0.1**
	baz=19,slow=27,SNR=2.5						
MJAR	**Matsushiro Arr**	**7.15**	**212**	PN	**Pn**	**09 32 10.2**	**-0.2**
MJAR				S	**Sn**	**09 33 30.0**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JHJ	**Hachijo jima 2**	**9.88**	**196**	P	**Pn**	**09 32 46.4**	**-1.2**
	comp=Z,7.1nm,0.3s,baz=81,slow=19,SNR=4.6						
JHJ				S	**Sn**	**09 34 28.6**	**-8.0**
	comp=Z,10nm,0.3s,baz=265,slow=23,SNR=6.4						
MA2	**Magadan**	**17.58**	**13**	*e*P	**Pn**	**09 34 25.1**	**-2.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SONM	**Songino Array**	**26.07**	**294**	P	**P**	**09 35 53.4**	**+0.6**
	comp=Z,1.2nm,0.6s,mb3.5,baz=85,slow=8.0,SNR=7.3						
SONM	**Songino Array**	**26.07**	**294**	P	**P**	**09 35 53.4**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BILL	**Bilibino**	**28.28**	**18**	*e*P	**P**	**09 36 11.5**	**-1.0**
BILL				pmax	pmax		
	comp=Z,7.0nm,2.5s,mb3.8						
KDAK	**Kodiak Island**	**42.20**	**46**	P	**P**	**09 38 11.5**	**-0.1**
	comp=Z,7.1nm,0.9s,mb4.4,baz=333,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**42.35**	**297**	P	**P**	**09 38 12.9**	**+0.1**
	comp=Z,3.1nm,0.7s,mb4.1,baz=81,slow=9.2,SNR=22						
MKAR	**Makanchi Array**	**42.35**	**297**	*i* P	**P**	**09 38 13.1**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**43.57**	**304**	*e*P	**P**	**09 38 22.7**	**+0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
KURK	**Kurchatov**	**43.57**	**304**	*e*P	**P**	**09 38 22.7**	**+0.1**
	comp=Z,6.2nm,0.7s,mb4.5						
CHKZ	**Chkalovo**	**47.46**	**310**	*e*P	**P**	**09 38 53.2**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**47.46**	**310**	*e*P	**P**	**09 38 53.2**	**-0.1**
	comp=Z,8.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**48.61**	**309**	*e*P	**P**	**09 39 02.5**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
ZRNK	**Zerenda**	**48.61**	**309**	*e*P	**P**	**09 39 02.5**	**+0.3**
	comp=Z,7.9nm,0.6s,mb4.8						
INK	**Inuvik**	**48.85**	**29**	P	**P**	**09 39 03.8**	**-0.2**
	comp=Z,3.7nm,0.5s,mb4.5,baz=294,slow=6.8,SNR=33						
INK	**Inuvik**	**48.85**	**29**	P	**P**	**09 39 03.8**	**-0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARU	**Arti**	**53.00**	**316**	⇑*i*P	**P**	**09 39 34.8**	**-0.3**
ARU				*e*		09 40 04.6	
ARU				*e*		09 40 37.9	
ARU				*e*S	**S**	**09 46 53.0**	**-4.2**
ARU				*e*SS	SS	09 50 30.5	-7.0
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
ARU	**Arti**	**53.00**	**316**	*e*P	**P**	**09 39 35.0**	**-0.1**
	comp=Z,7.6nm,0.6s,mb4.9						
RES	**Resolute Bay**	**56.84**	**16**	*e*P	**P**	**09 40 01.7**	**-1.0**
RES				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
RES	**Resolute Bay**	**56.84**	**16**	*e*P	**P**	**09 40 01.7**	**-1.0**
	comp=Z,3.5nm,0.4s,mb4.7						
YKA	**Yellowknife Ar**	**58.36**	**32**	P	**P**	**09 40 13.4**	**0.0**
	comp=Z,2.9nm,0.9s,mb4.3,baz=305,slow=6.6,SNR=10						
YKA	**Yellowknife Ar**	**58.36**	**32**	P	**P**	**09 40 13.4**	**0.0**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**59.14**	**339**	P	**P**	**09 40 18.5**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=39,slow=7.8,SNR=4.4						
ARCES	**ARCESS Array B**	**59.14**	**339**	P	**P**	**09 40 18.5**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**59.14**	**339**	P	**P**	**09 40 18.5**	**-0.3**
JOF	**Joensuu**	**61.56**	**331**	*e*p	**P**	**09 40 34.0**	**-1.3**
	comp=Z,8.8nm,0.7s,mb4.9						
JOF	**Joensuu**	**61.56**	**331**	*e*P	**P**	**09 40 34.0**	**-1.3**
JOF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
KAF	**Kangasniemi**	**63.85**	**332**	*e*p	**P**	**09 40 48.9**	**-1.6**
	comp=Z,5.3nm,0.5s,mb4.6,baz=46,slow=6.3						
KAF	**Kangasniemi**	**63.85**	**332**	*e*P	**P**	**09 40 48.9**	**-1.6**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
FINES	**FINESS Array B**	**64.38**	**332**	P	**P**	**09 40 53.2**	**-0.8**
	comp=Z,6.6nm,0.5s,mb4.8,baz=52,slow=7.3,SNR=63						
FINES	**FINESS Array B**	**64.38**	**332**	P	**P**	**09 40 53.2**	**-0.8**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FINES	**FINESS Array B**	**64.38**	**332**	P	**P**	**09 40 53.2**	**-0.8**
KCPM	**Cahto Peak**	**66.71**	**57**	*e*P	**P**	**09 41 03.2**	**-5.8**
KIV	**Kislovodsk**	**68.14**	**310**	*e*P	**P**	**09 41 19.1**	**+1.2**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,31nm,18.0s						
NB2	**NORSAR Subarra**	**69.43**	**337**	P	**P**	**09 41 25.4**	**-0.6**
	comp=Z,2.9nm,0.5s,mb4.4,baz=34,slow=6.5						
NB2	**NORSAR Subarra**	**69.43**	**337**	P	**P**	**09 41 25.4**	**-0.6**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
NOA	**NORSAR Array B**	**69.43**	**337**	P	**P**	**09 41 25.4**	**-0.6**
	comp=Z,5.3nm,0.7s,mb4.5,baz=36,slow=6.2,SNR=15						
NOA	**NORSAR Array B**	**69.43**	**337**	P	**P**	**09 41 25.4**	**-0.6**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ANN	**Anapa**	**70.49**	**313**	*e*P	**P**	**09 41 35.0**	**+2.6**
ANN				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.3						
AKASG	**Malin Array Be**	**70.57**	**322**	P	**P**	**09 41 33.0**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.1,baz=41,slow=5.9,SNR=13						
AKASG	**Malin Array Be**	**70.57**	**322**	P	**P**	**09 41 33.0**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**70.57**	**322**	P	**P**	**09 41 33.0**	**+0.1**
NVAR	**Mina Array Bea**	**70.72**	**55**	P	**P**	**09 41 35.6**	**+1.7**
	comp=Z,0.6nm,0.6s,mb3.6,baz=306,slow=4.0,SNR=4.9						
PDAR	**Pinedale Array**	**72.91**	**47**	P	**P**	**09 41 48.0**	**+1.1**
	comp=Z,1.2nm,0.5s,mb4.0,baz=307,slow=0.7,SNR=19						
ULM	**Lac du Bonnet**	**74.16**	**35**	P	**P**	**09 41 53.5**	**-0.8**
	comp=Z,1.5nm,0.9s,mb3.7,baz=293,slow=6.8,SNR=4.1						
CLL	**Collm**	**76.78**	**330**	*i* P	**P**	**09 42 08.6**	**-0.6**
	comp=Z,9.0nm,1.0s,mb4.5						
KHC	**Kasperske Hory**	**78.33**	**329**	*e*P	**P**	**09 42 18.4**	**+0.5**
GERES	**GERESS Array B**	**78.52**	**329**	P	**P**	**09 42 17.9**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.5,baz=28,slow=6.2,SNR=4.5						
SCHQ	**Schefferville**	**79.58**	**17**	P	**P**	**09 42 24.8**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.0,baz=359,slow=8.0,SNR=3.8						
SCHQ	**Schefferville**	**79.58**	**17**	P	**P**	**09 42 24.8**	**+0.1**
**TOR

HHC				PCS	PcS	10 42 29.8	+0.1
HHC				SCS	ScS	10 46 10.4	-2.7
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,60nm,3.9s						
HHC				LR	LR		
	comp=N,110nm,16.9s						
HHC				LR	LR		
	comp=E,420nm,28.8s						
HHC				LR	LR		
	comp=Z,60nm,7.6s						
CD2	**Chengdu**	**35.92**	**292**	*e*P	**P**	**10 36 31.0**	**-0.7**
LZH	**Lanzhou**	**36.52**	**301**	*e*P	**P**	**10 36 38.0**	**+1.2**
LZH				AP	pP	10 37 15.5	+5.6
LZH				XP	sP	10 37 35.6	+8.1
LZH				PP	PP	10 38 08.4	+5.3
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.5						
KMI	**Kunming**	**36.84**	**282**	P	**P**	**10 36 39.1**	**-0.4**
SONM	**Songino Array**	**38.67**	**320**	P	**P**	**10 36 54.6**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.6,baz=124,slow=5.0,SNR=4.8						
CTA	**Charters Tower**	**42.37**	**175**	*e*P	**P**	**10 37 26.9**	**+1.7**
	comp=Z,10nm,1.1s,mb4.4						
CTAO	**Charters Tower**	**42.37**	**175**	*e*P	**P**	**10 37 26.5**	**+1.3**
	comp=Z,19nm,1.1s,mb4.6						
WRAB	**Tennant Creek**	**42.93**	**192**	*e*P	**P**	**10 37 29.4**	**-0.3**
	comp=Z,9.6nm,0.4s,mb4.8						
WB2	**Warramunga Arr**	**42.94**	**192⇑**	*i*P	**P**	**10 37 29.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**43.70**	**204**	*e*P	**P**	**10 37 36.0**	**+0.1**
	comp=Z,10nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**43.70**	**204**	P	**P**	**10 37 36.3**	**+0.4**
	comp=Z,5.6nm,0.7s,mb4.3,baz=42,slow=9.3,SNR=20						
AS31	**Alice Springs**	**46.65**	**191**	*e*P	**P**	**10 37 59.0**	**-0.2**
ASAR	**Alice Springs**	**46.65**	**191**	P	**P**	**10 37 58.9**	**-0.3**
	comp=Z,1.4nm,0.5s,mb3.8,baz=18,slow=8.5,SNR=24						
ASPA	**Alice Springs**	**46.65**	**191**	*e*P	**P**	**10 37 59.0**	**-0.2**
NIKO	**Nikolski**	**47.52**	**38**	*e*P	**P**	**10 38 05.1**	**-0.8**
BILL	**Bilibino**	**47.85**	**12**	*e*P	**P**	**10 38 06.6**	**-1.8**
	comp=Z,2.8nm,0.6s,mb4.1						
MBWA	**Marble Bar**	**48.90**	**209**	*e*P	**P**	**10 38 15.8**	**-0.6**
	comp=Z,9.5nm,0.7s,mb4.5						
WMQ	**Urumqi**	**49.99**	**309**	*e*P	**P**	**10 38 26.0**	**+1.3**
STKA	**Stephens Creek**	**54.00**	**181**	P	**P**	**10 38 53.0**	**-1.4**
	comp=Z,8.2nm,0.4s,mb4.8,baz=12,slow=8.6,SNR=28						
STKA	**Stephens Creek**	**54.00**	**181**	*e*P	**P**	**10 38 52.6**	**-1.8**
MKAR	**Makanchi Array**	**54.08**	**312**	P	**P**	**10 38 55.5**	**+0.6**
	comp=Z,0.9nm,0.6s,mb3.7,baz=91,slow=8.4,SNR=7.0						
KDAK	**Kodiak Island**	**57.71**	**35**	P	**P**	**10 39 20.1**	**-0.7**
	comp=Z,4.0nm,0.5s,mb4.5,baz=177,slow=7.9,SNR=6.2						
COLA	**College**	**61.09**	**27**	*e*P	**P**	**10 39 43.0**	**-1.0**
	comp=Z,1.8nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**61.87**	**320**	*e*P	**P**	**10 39 49.1**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**62.85**	**319**	*e*P	**P**	**10 39 55.8**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.0						
DAWY	**Dawson**	**64.67**	**28**	*e*P	**P**	**10 40 07.5**	**-0.1**
INK	**Inuvik**	**66.98**	**24**	*e*P	**P**	**10 40 21.6**	**-0.8**
	comp=Z,2.9nm,0.6s,mb4.3						
DLBC	**Dease Lake**	**69.63**	**34**	*e*P	**P**	**10 40 39.0**	**+0.2**
YKA	**Yellowknife Ar**	**75.90**	**28**	P	**P**	**10 41 15.3**	**-0.5**
	comp=Z,4.2nm,0.4s,mb4.4,baz=292,slow=5.9,SNR=31						
RES	**Resolute Bay**	**76.42**	**13**	*e*P	**P**	**10 41 17.8**	**-1.0**
ARCES	**ARCESS Array B**	**78.19**	**341**	P	**P**	**10 41 27.5**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.0,baz=60,slow=7.2,SNR=3.9						
JOF	**Joensuu**	**79.59**	**334**	*e*p	**P**	**10 41 34.6**	**-1.7**
	comp=Z,1.7nm,0.4s,mb4.0						
NEW	**Newport**	**79.87**	**42**	*e*P	**P**	**10 41 38.4**	**+0.6**
	comp=Z,3.2nm,0.6s,mb4.1						
CMB	**Columbia Colle**	**81.47**	**52**	*e*P	**P**	**10 41 47.0**	**+0.7**
	comp=Z,4.5nm,0.7s,mb4.2						
WALA	**Waterton Lakes**	**81.51**	**40**	*e*P	**P**	**10 41 47.3**	**+0.9**
	comp=Z,6.2nm,0.7s,mb4.3						
KAF	**Kangasniemi**	**82.00**	**335**	*e*p	**P**	**10 41 48.2**	**-0.8**
	comp=Z,8.0nm,0.9s,mb4.3,baz=54,slow=4.8						
FINES	**FINESS Array B**	**82.46**	**334**	P	**P**	**10 41 50.0**	**-1.4**
	comp=Z,1.4nm,0.4s,mb4.0,baz=75,slow=4.2,SNR=14						
NVAR	**Mina Array Bea**	**82.84**	**51**	P	**P**	**10 41 54.5**	**+1.1**
	comp=Z,2.6nm,0.7s,mb4.0,baz=268,slow=4.9,SNR=13						
LRM	**Limekiln Ridge**	**83.78**	**43**	*e*P	**P**	**10 41 58.8**	**+0.6**
ELK	**Elko**	**84.08**	**48**	*e*P	**P**	**10 42 00.6**	**+0.8**
	comp=Z,1.7nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**84.37**	**43**	*e*P	**P**	**10 42 01.7**	**+0.5**
QLMT	**Earthquake Lak**	**84.86**	**43**	*e*P	**P**	**10 42 03.9**	**+0.2**
TPNV	**Topopah Spring**	**84.92**	**52**	*e*P	**P**	**10 42 04.6**	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.2						
YMR	**Madison River**	**85.23**	**43**	*e*P	**P**	**10 42 06.6**	**+1.1**
	comp=Z,6.9nm,0.7s,mb4.5						
FFC	**Flin Flon**	**85.31**	**32**	*e*P	**P**	**10 42 05.9**	**0.0**
	comp=Z,4.0nm,0.7s,mb4.3						
FFC				*e*pP	pP	10 42 52.4	+8.0
DUG	**Dugway**	**85.99**	**48**	*e*P	**P**	**10 42 09.3**	**+0.1**
	comp=Z,3.7nm,0.5s,mb4.4						
HWUT	**Hardware Ranch**	**86.21**	**46**	*e*P	**P**	**10 42 10.9**	**+0.6**
	comp=Z,3.9nm,1.0s,mb4.1						
PDAR	**Pinedale Array**	**87.01**	**45**	P	**P**	**10 42 13.2**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.4,baz=257,slow=5.9,SNR=5.0						
PV10	**Paradox Valley**	**89.42**	**48**	*e*P	**P**	**10 42 25.9**	**+0.3**
CASY	**Casey**	**91.77**	**193**	*e*P	**P**	**10 42 31.5**	**-5.0**
	comp=Z,19nm,0.6s,mb5.3						
TORD	**Torodi Ar. Bea**	**128.15**	**309**	PKP	PKPdf	10 48 33.8	-0.3
	comp=Z,0.2nm,0.5s,baz=41,slow=1.5,SNR=6.4						
PLCA	**Paso Flores**	**146.36**	**131**	PKPbc	PKPbc	10 49 08.8	-0.1
	comp=Z,4.4nm,0.6s,baz=255,slow=1.9,SNR=17						
LPAZ	**La Paz**	**150.05**	**84**	PKPbc	PKPbc	10 49 20.1	+1.6
LPAZ	**La Paz**	**150.05**	**84**	*e*PKPbc	PKPbc	10 49 19.2	+0.6

IDC 14 10:40:56.8±2.4, 015N×9779E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.6/19, mbtmp3.6/5, ML2.7/1, MS3.2/1, Ms1 3.2/1, ms1mx3.0/12, Error ellipse: s-maj=73.2km s-min=23.6km az=65.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.87**	**23**	Pn	Pn	10 41 43.0	-0.9
	1.3nm,0.3s,baz=195,slow=11,SNR=7.9						
PSI				LR	LR	10 42 29.4	
	comp=Z,365nm,18.5s,baz=335,slow=33						
WRA	**Warramunga Arr**	**40.99**	**121**	P	P	10 48 41.4	0.0
	0.9nm,1.3s,baz=302,slow=9.0,SNR=4.8						
ASAR	**Alice Springs**	**42.30**	**127**	P	P	10 48 52.8	+0.7
	0.5nm,0.6s,baz=296,slow=8.1,SNR=5.5						
SONM	**Songino Array**	**48.09**	**8**	P	P	10 49 38.4	+0.3
	0.9nm,0.8s,baz=189,slow=5.8,SNR=7.1						
MKAR	**Makanchi Array**	**48.40**	**346**	P	P	10 49 40.3	-0.2
	0.6nm,0.4s,baz=155,slow=8.2,SNR=6.7						

*ISCJB **14** 10:51:52.2±0.7, 5970N±005×2240E±007, h0km, Error ellipse: s-maj=8.0km s-min=3.8km az=129.6*
*HEL **14** 10:51:53.1±0.1, 5965N×2239E, h0km, ML1.9, ML2.2(UPP), Explosion*
*IDC **14** 10:51:54.1±2.5, 5979N×2250E, h0km, mb1 3.1/3, mb1mx3.0/19, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=33.0km s-min=9.2km az=161.0*

ISC 14 10:51:53.0±0.6, 5974N±005×2239E±006, h0km, n20, σ0§84/27, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.12**	**64**	*e*P	**Pg**	**10 52 13.7**	**-0.7**
MEF				*e*S	**Sg**	**10 52 28.6**	**-0.3**
AAL	**Aland**	**1.28**	**291**	*e*P	**Pg**	**10 52 16.6**	**-1.0**
RAF	**Rauma**	**1.33**	**347**	*e*P	**Pg**	**10 52 18.2**	**-0.2**
RAF				*e*S	**Sg**	**10 52 36.6**	**+1.0**
NRTU	**Norrtaelje**	**1.91**	**270**	*e*P	**Pn**	**10 52 26.5**	**-0.2**
PVF	**Pernaja**	**1.92**	**63**	*e*P	**Pn**	**10 52 27.6**	**+0.8**
PVF				*e*S	**Sn**	**10 52 52.5**	**+0.9**
PVF				MSG		10 52 55.0	
	comp=Z,7.2nm,0.1s						
FORU	**Forsmark**	**2.21**	**289**	*e*P	**Pn**	**10 52 31.4**	**+0.5**
FLYU	**Flymyra**	**2.30**	**282**	*e*P	**Pn**	**10 52 32.1**	**0.0**
NYNU	**Nynaeshamn**	**2.36**	**254**	*e*P	**Pn**	**10 52 33.3**	**+0.3**
FIA0	**FINESS Array S**	**2.50**	**45**	*e*P	**Pn**	**10 52 36.0**	**+1.2**
FIA0				*e*SB	**Sb**	**10 53 09.3**	**-0.6**
FINES	**FINESS Array B**	**2.50**	**45**	Pn	**Pn**	**10 52 36.2**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=229,slow=13,SNR=13						
FINES				Lg		10 53 09.4	
	comp=Z,1.9nm,0.3s,baz=230,slow=23,SNR=27						
BACU	**Backbrunna**	**2.67**	**275**	*e*P	**Pn**	**10 52 37.6**	**+0.4**
OSTU	**Oestervaala**	**2.69**	**283**	*e*P	**Pn**	**10 52 37.8**	**+0.3**
KEF	**Keuruu**	**2.72**	**25**	*e*PB	**Pb**	**10 52 40.9**	**-1.6**
KEF				*e*SB	**Sb**	**10 53 16.8**	**+0.3**
KEF				MSG		10 53 20.5	
	comp=Z,3.1nm,0.1s						
IGGU	**Iggoen**	**2.77**	**296**	*e*P	**Pn**	**10 52 39.0**	**+0.4**
ESKU	**Eskilstuna**	**3.10**	**263**	*e*P	**Pn**	**10 52 43.2**	**+0.1**
ARNU	**Arnoeviken**	**3.15**	**311**	*e*P	**Pn**	**10 52 44.8**	**+1.0**
VAF	**Ylistaro**	**3.32**	**2**	*e*PB	**Pb**	**10 52 51.5**	**-1.2**
VAF				*e*SB	**Sb**	**10 53 34.4**	**+0.8**
VAF				MSG		10 53 38.9	
	comp=Z,1.7nm,0.1s						
FALU	**Falun**	**3.37**	**286**	*e*P	**Pn**	**10 52 47.1**	**+0.3**
NOA	**NORSAR Array B**	**5.70**	**288**	Pn	**Pn**	**10 53 18.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=102,slow=13,SNR=1.3						
NOA				Sn	**Sn**	**10 54 21.6**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=112,slow=21,SNR=2.6						
ARCES	**ARCESS Array B**	**9.93**	**6**	Pn	**Pn**	**10 54 15.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=183,slow=15,SNR=1.8						

ISC 14 12:03:18.8±1.8, 4604N±005×136E±01, h0km, n6, σ0§40/11, 1C, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRE	**Drenchia**	**0.15**	**24⇑**	*i*Pg	**Pg**	**12 03 21.4**	**-0.1**
DRE				*i* Sg	**Sg**	**12 03 23.4**	**0.0**
ROBS	**Robic**	**0.21**	**351**	*i* Pg	**Pg**	**12 03 23.4**	**+0.7**
CADS	**Cadrg**	**0.23**	**34**	*i* Pg	**Pg**	**12 03 22.9**	**-0.2**
CADS				*e*Sg	**Sg**	**12 03 26.2**	**+0.2**
CADS							
	comp=Z,20nm,0.2s						
VOJS	**Vojsko**	**0.23**	**92**	*i* Pg	**Pg**	**12 03 22.7**	**-0.4**
VOJS				*e*Sg	**Sg**	**12 03 26.3**	**+0.2**
JAVS	**Javornik**	**0.38**	**112**	*i* Pg	**Pg**	**12 03 25.7**	**-0.4**
JAVS				*e*Sg	**Sg**	**12 03 31.8**	**+0.7**
JAVS							
	comp=Z,5.0nm,0.2s						
GORS	**Gorjuse**	**0.41**	**48**	*i* Pg	**Pg**	**12 03 26.1**	**-0.5**
GORS				*e*Sg	**Sg**	**12 03 32.0**	**0.0**

*IDC **14** 12:08:47.2±1.3, 51.16N×178.30E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.7/4, MS3.1/2, Ms1 3.1/2, ms1mx2.7/25, Error ellipse: s-maj=56.3km s-min=30.0km az=137.0*
*NEIC **14** 12:08:48.2, 5205N×177.13E, h7km, ML3.4(AEIC), After AEIC.*
*ISCJB **14** 12:08:49.4±3.5, 520N±0.1×177.10E±0.10, h26km±28km, mb3.6/4, MS3.0/2, Error ellipse: s-maj=20.6km s-min=7.8km az=40.9*

ISC 14 12:08:49.7±4.4, 519N±01×177.1E±01, h19km±28km, n13, σ0§72/13, mb3.6/4, MS3.0/2, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.48**	**109**	P	**Pn**	**12 09 15.2**	**-0.1**
AMKA				S	**Sn**	**12 09 34.1**	**0.0**
SMY	**Shemya**	**2.01**	**296**	P	**Pn**	**12 09 21.5**	**-1.0**
SMY				S	**Sn**	**12 09 46.9**	**-0.1**
ATKA	**Atka Island**	**5.40**	**83**	P	**Pn**	**12 10 09.6**	**+0.5**
BILL	**Bilibino**	**17.03**	**346**	*e*P	**Pn**	**12 12 48.4**	**+1.8**
SML	**Sawmill**	**21.10**	**48**	*e*P	**P**	**12 13 31.8**	**-1.1**
ASAJ	**Asahikawa**	**24.16**	**265**	LR	LR	12 24 08.2	
	comp=Z,24nm,19.0s,MS2.7,baz=335,slow=37						
DAWY	**Dawson**	**25.52**	**45**	*e*P	**P**	**12 14 16.7**	**-0.2**
DLBC	**Dease Lake**	**30.22**	**56**	LR	LR	12 27 27.2	
	comp=Z,54nm,18.6s,MS3.2,baz=60,slow=37						
YKA	**Yellowknife Ar**	**36.74**	**46**	P	**P**	**12 15 55.2**	**-0.4**
	1.5nm,0.8s,mb3.9,baz=284,slow=8.3,SNR=6.3						
YKA	**Yellowknife Ar**	**36.74**	**46**	P	**P**	**12 15 55.2**	**-0.4**
SONM	**Songino Array**	**44.10**	**294**	P	**P**	**12 17 04.8**	**+8.2**
	0.3nm,0.4s,mb3.4,baz=51,slow=7.8,SNR=2.7						
WRA	**Warramunga Arr**	**80.67**	**220**	P	**P**	**12 21 01.6**	**+0.4**
	0.7nm,0.8s,mb3.7,baz=30,slow=5.8,SNR=8.2						
ASAR	**Alice Springs**	**84.19**	**219**	P	**P**	**12 21 19.9**	**+0.3**
	0.4nm,0.8s,mb3.6,baz=9.6,slow=4.3,SNR=6.9						

*NEIC **14** 13:03:59.8, 2121N×6243W, h25km, MD4.2(RSPR), After RSPR.*

RSPR 14 13:03:59.8, 2121N×6243W, h25km±99km, MD4.2/4, MD4.2/4, 5C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**3.46**	**217⇑**	*e*P	Pn	13 04 51.6	-0.5
TBVI				*e*S	Sn	13 05 28.3	-4.0
STVI	**Saint Thomas**	**3.71**	**220⇑**	*e*P	Pn	13 04 55.1	-0.4
STVI				*e*S	Sn	13 05 37.6	-0.8
MTP	**Monte Pirata**	**4.28**	**224⇑**	*e*P	Pn	13 05 01.1	-2.3
MTP				*e*S	Sn	13 05 50.4	-2.1
CBYP	**Canovanas**	**4.36**	**228⇑**	*e*P	Pn	13 05 04.6	+0.2
CBYP				*e*S	Sn	13 05 54.0	-0.4
CRPR	**Cabo Rojo, PR**	**5.44**	**235⇑**	*e*P	Pn	13 05 16.5	-2.8

*ISCJB **14** 13:19:37.0±2.6, 370N±02×699E±02, h33km, Error ellipse: s-maj=26.3km s-min=19.8km az=68.7*
*NNC **14** 13:19:37.1±7.1, 37.15N×6998E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=77.0km s-min=58.0km az=73.0*

ISC 14 13:19:38.3±2.7, 369N±02×698E±02, h35km, n11, σ1§08/12, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.99**	**29**	P	**Pn**	**13 21 05.0**	**+0.5**
SNR=6.5							
KK31	**Karatay Array**	**6.20**	**5**	⇑P	**Pn**	**13 21 05.5**	**-1.7**
	5.3nm,0.3s,baz=180,slow=13,SNR=99						
KK31				⇓S	**Sn**	**13 22 17.0**	**+0.3**
	30nm,0.7s,baz=175,slow=27						
UCH	**Uchtor**	**6.41**	**33**	P	**Pn**	**13 21 07.6**	**-2.5**
SNR=12							
EKS2	**Erkin-Say**	**6.48**	**27**	P	**Pn**	**13 21 10.9**	**-0.2**
SNR=8.2							
AAK	**Ala-Archa**	**6.73**	**31**	P	**Pn**	**13 21 15.6**	**+1.0**
SNR=7.5							
KBK	**Karagaybulak**	**6.94**	**33**	P	**Pn**	**13 21 18.6**	**+1.1**
SNR=7.6							
CHMS	**Chumysh**	**7.14**	**30**	P	**Pn**	**13 21 20.8**	**+0.6**
SNR=5.9							
USP	**Ospenovka**	**7.27**	**28**	P	**Pn**	**13 21 20.7**	**-1.3**
SNR=10							
TKM2	**Tokmak 2**	**7.44**	**35**	P	**Pn**	**13 21 25.2**	**+0.8**
SNR=9.4							
TKM2	**Tokmak 2**	**7.44**	**35**	⇑P	**Pn**	**13 21 24.9**	**+0.6**
	0.4nm,0.5s						
AB31	**Akbulak array**	**14.27**	**333**	P	**Pn**	**13 22 58.5**	**+0.7**
	1.4nm,0.6s,baz=145,slow=12,SNR=25						

*LDG **14** 14:07:42.8±0.7, 1284S×16652E, h10km, Mb5.2/4, Ms4.2/7, Error ellipse: s-maj=62.7km s-min=38.0km az=179.0*
*ISCJB **14** 14:07:43.6±2.9, 1280S±006×16644E±007, h15km±20km, mb4.9/44, MS4.1/16, Error ellipse: s-maj=12.7km s-min=9.0km az=114.3*
*MOS **14** 14:07:46.0±1.0, 1276S×16648E, h33km, mb5.0/20, Error ellipse: s-maj=13.8km s-min=10.3km az=125.9*
*BJI **14** 14:07:46.4, 1262S×16695E, h46km, mB5.1, mb5.0, Ms4.8, Msz4.4*
*IDC **14** 14:07:48.9±3.0, 1284S×16646E, h42km±26km, mb4.3/15, mb1 4.4/16, mb1mx4.4/18, mbtmp4.5/16, ML4.6/2, MS4.0/11, Ms1 4.0/11, ms1mx3.7/23, Error ellipse: s-maj=19.7km s-min=14.0km az=76.0*
*NEIC **14** 14:07:49.0±1.6, 1278S×16653E, h48km±13km, mb4.8/19, MS4.6/1, Error ellipse: s-maj=12.7km s-min=8.6km az=78.0*

ISC 14 14:07:48.3±1.5, 1279S±006×16652E±008, h35km±12km, h30km±2.8km: pP-P, n136, σ1§02/90, mb4.9/43, MS4.1/16, 2C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**5.12**	**161⇑**	*i*P	**Pn**	**14 09 12.5**	**+10**
BKM				S	**Sn**	**14 10 19.0**	**+19**
HNR	**Honiara**	**7.26**	**297**	P	**Pn**	**14 09 32.3**	**+0.3**
	62nm,0.3s,baz=270,slow=0.6,SNR=34						
HNR				S	**Sn**	**14 10 51.9**	**-1.3**
	118nm,0.3s,baz=274,slow=21,SNR=8.7						
HNR				LR	LR	14 12 06.8	
	comp=Z,1μm,19.9s,baz=175,slow=36						
HNR	**Honiara**	**7.26**	**297**	P	**Pn**	**14 09 32.3**	**+0.4**
HNR				S	**Sn**	**14 10 51.9**	**-1.2**
HNR				pmax	pmax		
	comp=Z,62nm,0.3s						
HNR				smax			
	comp=N,118nm,0.3s						
HNR				MLR	MLR		
	comp=Z,1μm,20.0s						
HNR	**Honiara**	**7.26**	**297**	*e*P	**Pn**	**14 09 31.1**	**-0.9**
	comp=Z,735nm,0.8s						
DZM	**Mont Dzumac**	**9.23**	**180**	*e*P	**Pn**	**14 10 01.0**	**+2.2**
DZM				*e*S	**Sn**	**14 11 55.6**	**+14**
DZM	**Mont Dzumac**	**9.23**	**180**	P	**Pn**	**14 10 00.3**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=67,slow=22,SNR=5.8						
DZM				S	**Sn**	**14 11 53.9**	**+12**
	comp=Z,0.7nm,0.3s,baz=302,slow=22,SNR=2.6						
DZM				LR	LR	14 12 32.6	
	comp=Z,353nm,21.1s,baz=24,slow=31						
CTA	**Charters Tower**	**20.73**	**247**	*e*P	**P**	**14 12 27.3**	**+1.5**
	comp=Z,12nm,0.7s						
CTA	**Charters Tower**	**20.73**	**247**	P	**P**	**14 12 26.9**	**+1.1**
	comp=Z,12nm,0.8s,baz=54,slow=10,SNR=7.7						
CTA				LR	LR	14 19 09.0	
	comp=Z,464nm,21.0s,MS3.8,baz=70,slow=33						
CTA	**Charters Tower**	**20.73**	**247**	*e*P	**P**	**14 12 27.3**	**+1.5**
CTA				pmax	pmax		
	comp=Z,12nm,0.7s						
CTAO	**Charters Tower**	**20.73**	**247**	*e*P	**P**	**14 12 26.1**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,17nm,0.7s						
CTAO	**Charters Tower**	**20.73**	**247**	*e*P	**P**	**14 12 26.1**	**+0.3**
	comp=Z,17nm,0.7s						
AFI	**Afiamalu**	**21.15**	**95**	LR	LR	14 19 42.7	
	comp=Z,297nm,18.5s,MS3.7,baz=256,slow=34						
ARMA	**Armidale**	**22.30**	**216**	*e*P	**P**	**14 12 45.0**	**+2.4**
URZ	**Urewera**	**27.06**	**161**	P	**P**	**14 13 25.7**	**-1.7**
	comp=Z,6.1nm,0.8s,mb4.2,baz=318,slow=15,SNR=2.5						
URZ				LR	LR	14 22 43.0	
	comp=Z,332nm,21.6s,MS3.9,baz=301,slow=33						
STKA	**Stephens Creek**	**29.74**	**226**	*e*P	**P**	**14 13 49.8**	**-1.5**
	comp=Z,5.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**29.74**	**226**	P	**P**	**14 13 49.6**	**-1.7**
	comp=Z,3.9nm,0.9s,mb4.2,baz=42,slow=7.5,SNR=7.1						
STKA				PcP	PcP	14 16 51.7	-2.8
	comp=Z,2.2nm,0.6s,baz=12,slow=12,SNR=3.0						
STKA				LR	LR	14 25 13.9	
	comp=Z,375nm,19.2s,MS4.0,baz=303,slow=35						
TOO	**Toolangi**	**31.01**	**214**	*e*P	**P**	**14 14 10.2**	**+7.7**
	comp=Z,6.1nm,0.8s,mb4.5						
TOO	**Toolangi**	**31.01**	**214**	*e*P	**P**	**14 14 10.2**	**+7.7**
TOO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
AS31	**Alice Springs**	**32.73**	**246**	*e*P	**P**	**14 14 17.2**	**-0.4**
ASAR	**Alice Springs**	**32.73**	**246**	P	**P**	**14 14 16.9**	**-0.8**
	comp=Z,9.9nm,0.7s,mb4.8,baz=73,slow=9.5,SNR=106						
ASAR	**Alice Springs**	**32.73**	**246**	P	**P**	**14 14 16.9**	**-0.7**
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASPA	**Alice Springs**	**32.74**	**246**	*e*P	**P**	**14 14 17.2**	**-0.4**
GUMO	**Guam**	**33.88**	**320**	LR	LR	14 26 59.6	
	comp=Z,245nm,20.3s,MS3.9,baz=130,slow=34						
FITZ	**Fitzroy Crossi**	**39.70**	**257**	*e*P	**P**	**14 15 17.6**	**+0.5**
	comp=Z,7.7nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**39.70**	**257**	P	**P**	**14 15 17.7**	**+0.7**
	comp=Z,3.9nm,1.0s,mb4.1,baz=108,slow=13,SNR=4.6						
FITZ				LR	LR	14 31 16.8	
	comp=Z,189nm,18.4s,MS4.0,baz=86,slow=36						
FORT	**Forrest**	**39.70**	**237**	*e*P	**P**	**14 15 16.6**	**-0.5**
	comp=Z,20nm,0.7s,mb5.0						
PPT	**Papeete**	**42.57**	**102**	*e*LR	LR	14 28 04.3	
	comp=Z,260nm,23.8s						
PPT	**Papeete**	**42.57**	**102**	LR	LR	14 28 59.6	
	comp=Z,239nm,21.0s,MS4.1,baz=306,slow=30						
TBI	**Tubuai**	**42.99**	**111**	*e*LR	LR	14 27 49.6	
	comp=Z,135nm,41.0s						
NWAO	**Narrogin (SRO)**	**49.14**	**237**	LR	LR	14 37 37.8	
	comp=Z,299nm,19.7s,MS4.3,baz=248,slow=36						
TAOE	**Nuku Hiva Isla**	**52.46**	**91**	*e*LR	LR	14 32 11.4	
	comp=Z,460nm,26.3s						
MJAR	**Matsshiro Arr**	**55.86**	**333**	P	**P**	**14 17 21.4**	**-0.9**
	comp=Z,9.9nm,0.8s,mb4.9,baz=167,slow=8.4,SNR=24						
MJAR	**Matsushiro Arr**	**55.86**	**333**	P	**P**	**14 17 21.4**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAJO	**Matsushiro**	**55.86**	**333**	*e*P	**P**	**14 17 21.0**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
MAJO	**Matsushiro**	**55.86**	**333**	*e*P	**P**	**14 17 21.0**	**-1.3**
	comp=Z,4.8nm,0.5s,mb4.8						
MAT	**Matsushiro**	**55.86**	**333**

comp=Z,20nm,1.0s,mb5.0
KMI AMB AMB
comp=Z,40nm,3.1s
KMI LR LR
comp=N,110nm,16.0s,MS4.4
KMI LR LR
comp=E,120nm,18.9s,MS4.4
KMI LR LR
comp=Z,90nm,22.9s,MS4.0
HHC Hu-ho-hao-te 73.65 320 *eP* **P 14 19 19.0 +0.8**
HHC AP pP 14 19 29.8 +0.6
HHC PCP PcP 14 19 34.4 +0.5
HHC AMB AMB
comp=Z,20nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,80nm,3.7s
HHC LR LR
comp=N,90nm,16.6s,MS4.4
HHC LR LR
comp=E,160nm,16.7s,MS4.4
HHC LR LR
comp=Z,170nm,16.7s,MS4.4
CD2 Chengdu 74.26 307 *eP* **P 14 19 21.6 -0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 LR LR
comp=Z,190nm,15.1s,MS4.5
BTO Baotou 74.50 319 *eP* **P 14 19 24.3 +1.2**
LZH Lanzhou 76.49 312 *eP* **P 14 19 36.0 +1.4**
LZH AP pP 14 19 43.5 -2.1
LZH XP sP 14 19 49.0 -0.6
LZH AMB AMB
comp=Z,40nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,210nm,4.6s
QSPA South Pole Qui 77.22 180 *eP* **P 14 19 37.9 -0.8**
CIT Chita 79.04 330 *eP* **P 14 19 48.9 +0.1**
CIT *e* 14 19 53.7
CIT pmax pmax
comp=Z,48nm,1.2s,mb5.3
ULN Ulaanbaatar 80.15 324 *eP* **P 14 19 55.3 +0.5**
ULN pmax pmax
comp=Z,16nm,0.8s,mb5.0
ULN Ulaanbaatar 80.15 324 *eP* **P 14 19 55.3 +0.5**
comp=Z,16nm,0.8s,mb5.0
SONM Songino Array 80.51 324 P **P 14 19 57.0 +0.3**
comp=Z,3.2nm,0.5s,mb4.5,baz=142,slow=6.2,SNR=28
SONM Songino Array 80.51 324 P **P 14 19 57.0 +0.2**
SONM pmax pmax
comp=Z,3.0nm,0.5s
BILL Bilibino 80.61 360 P **P 14 19 56.0 -1.3**
BILL *e* pP 14 20 06.8 -1.6
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GTA Gaotai 80.81 314 P **P 14 19 59.5 +1.2**
GTA AP pP 14 20 06.8 -2.6
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
MAW Mawson 83.39 202 P **P 14 20 11.2 -0.7**
comp=Z,1.8nm,0.5s,mb4.3,baz=244,slow=14,SNR=4.1
MAW Mawson 83.39 202 P **P 14 20 11.2 -0.7**
MAW pmax pmax
comp=Z,2.0nm,0.5s
ZAK Zakamensk 83.56 325 *eP* **P 14 20 12.1 -0.6**
ZAK pmax pmax
comp=Z,18nm,1.3s,mb5.0
TLY Talaya 83.99 326 *eP* **P 14 20 15.1 +0.2**
TLY pmax pmax
comp=Z,14nm,0.9s,mb5.1
TLY Talaya 83.99 326 *eP* **P 14 20 14.3 -0.6**
comp=Z,16nm,0.9s,mb5.2
YBH Yreka Blue Hor 84.57 45 P **P 14 20 18.7 +0.8**
comp=Z,3.7nm,0.9s,mb4.5,baz=312,slow=2.7,SNR=8.9
YBH Yreka Blue Hor 84.57 45 P **P 14 20 18.7 +0.8**
YBH pmax pmax
comp=Z,4.0nm,0.9s
COLA College 84.70 18 P **P 14 20 18.8 +0.2**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
COLA College 84.70 18 P **P 14 20 18.8 +0.2**
comp=Z,3.0nm,0.7s,mb4.5
NVAR Mina Array Bea 86.57 50 P **P 14 20 28.4 +0.6**
comp=Z,0.9nm,0.7s,mb4.1,baz=227,slow=7.7,SNR=7.8
JIRN Jiri 87.49 299 *eP* **P 14 20 33.0 +0.7**
comp=Z,29nm,1.0s,mb5.5
GUN Gumba 87.83 299 *eP* **P 14 20 34.4 +0.5**
comp=Z,33nm,0.9s,mb5.5
PKI Pulchoki 88.14 299 *eP* **P 14 20 35.9 +0.5**
comp=Z,23nm,0.6s,mb5.6
PKI Pulchoki 88.14 299 *eP* **P 14 20 35.9 +0.5**
PKI pmax pmax
comp=Z,23nm,0.6s,mb5.6
KKN Kakani 88.30 299 *eP* **P 14 20 36.7 +0.5**
comp=Z,30nm,0.7s,mb5.6
KKN Kakani 88.30 299 *eP* **P 14 20 36.7 +0.5**
KKN pmax pmax
comp=Z,30nm,0.7s,mb5.6
DMN Daman 88.41 299 *eP* **P 14 20 37.2 +0.5**
comp=Z,66nm,0.7s,mb6.0
SYO Syowa Base 90.34 197⇑ *eP* **P 14 20 44.0 -1.7**
WMQ Urumqi 90.86 315 *eP* **P 14 20 44.8 -3.3**
WMQ LR LR
comp=N,80nm,28.0s,MS4.5
WMQ LR LR
comp=E,240nm,23.0s,MS4.5
WMQ LR LR
comp=Z,90nm,19.0s,MS4.2
MKAR Makanchi Array 95.31 317 P **P 14 21 08.5 -0.2**
comp=Z,9.5nm,0.8s,mb5.2,baz=97,slow=6.6,SNR=44
MKAR Makanchi Array 95.31 317 P **P 14 21 08.5 -0.1**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 96.17 27 P **P 14 21 12.1 -0.4**
comp=Z,0.7nm,0.6s,mb4.3,baz=262,slow=4.8,SNR=5.2
AAK Ala-Archa 100.02 312 *eP* Pdif 14 21 30.0 +0.2
AAK pmax pmax
comp=Z,2.0nm,1.3s
ARCES ARCESS Array B 118.21 345 PKP PKPdf 14 26 29.6 -2.1
comp=Z,4.9nm,0.9s,baz=66,slow=1.9,SNR=5.3
ARCES ARCESS Array B 118.21 345 PKIKP PKPdf 14 26 29.6 -2.1
ARCES pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 122.68 328 PKIKP PKPdf 14 26 52.0 +12
OBN pmax pmax
comp=Z,16nm,1.1s
GRR Gorron 142.99 346 *e*PKP1 PKPdf 14 27 16.3 -2.0
SGMF Saint Gilles 143.50 348 *e*PKP1 PKPdf 14 27 16.1 -3.0
BNI Bardonecchia 143.54 336 *e*PKIKP PKPdf 14 27 17.3 -1.9
ROSF Rostrenen 143.56 349 *e*PKP1 PKPdf 14 27 15.6 -3.7
MBDF Montbardon 143.77 335 *e*PKP1 PKPdf 14 27 16.5 -3.1
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 143.97 336 *e*PKP1 PKPdf 14 27 17.7 -2.3
comp=Z,34nm,0.7s
ORIF *e*R
comp=Z,82nm,21.0s
SAOF Saorge 144.05 334 *e*P PKPdf 14 27 17.8 -2.3
AUTN L'Aution 144.09 334 *e*P PKPdf 14 27 19.2 -1.0
AUTN L'Aution 144.09 334 *e*P PKPdf 14 27 17.7 -2.5
AUTN L'Aution 144.09 334 *e*P PKPdf 14 27 17.7 -2.5
AUTN *e*P 14 27 19.2
TOUF Mont Tournerai 144.16 334 *e*P PKPdf 14 27 18.3 -2.0
SBF Sospel 144.20 334 *e*PKP1 PKPdf 14 27 17.8 -2.6
comp=Z,63nm,0.8s
MVIF Mont Vial 144.29 334 *e*P PKPdf 14 27 18.8 -1.7
MFF Saint Martin d 144.47 344 *e*PKP1 PKPdf 14 27 18.8 -2.0
comp=Z,35nm,0.8s
OCF Saint Nazaire 144.48 337 *e*P PKPdf 14 27 19.8 -1.1
OG26 St.-Nazaire-De 144.48 337 *e*P PKPdf 14 27 19.8 -1.1
VIVF Saint-Julien-l 144.48 338 *e*PKP1 PKPdf 14 27 19.4 -1.5
comp=Z,30nm,0.9s
PGF Pioggiola 144.52 331 *e*PKP1 PKPdf 14 27 19.2 -1.7
comp=Z,45nm,0.7s
CORF Corte 144.64 330 *e*P PKPdf 14 27 19.8 -1.3
LBL Lubilhac 144.67 339 *e*P PKPdf 14 27 20.8 -0.4
FRF La Foret Royal 144.78 334 *e*PKP1 PKPdf 14 27 19.8 -1.6
comp=Z,55nm,0.8s
SMRF Simiane la Rot 144.88 336 *e*PKP1 PKPdf 14 27 20.8 -0.7
comp=Z,26nm,0.8s
VILF Villemus 144.92 336 *e*P PKPdf 14 27 21.0 -0.6
TAVF Tavernes 144.98 335 *e*P PKPdf 14 27 20.8 -0.9
VAE Valguarnera 145.01 320 PKPbc PKPdf 14 27 22.7 +0.9
comp=Z,10.0nm,0.5s,baz=33,slow=11,SNR=3.3
LMR La Mourre 145.02 334 *e*PKP1 PKPbc 14 27 20.7 -0.5
comp=Z,50nm,1.0s
RJF Les Rejaudoux 145.17 341 *e*PKP1 PKPbc 14 27 21.3 -0.4
comp=Z,50nm,1.2s
RJF *e*R
comp=Z,92nm,18.2s
RJF Les Rejaudoux 145.17 341 *e*PKP PKPdf 14 27 21.3 -0.8
RJF LR LR
comp=Z,90nm,18.3s,MS4.6
PRAF Pradon 145.18 336 *e*P PKPbc 14 27 22.0 +0.3
PUYF Puyloubier 145.19 335 *e*P PKPbc 14 27 22.4 +0.6
TREF Trevaresse 145.25 336 *e*P PKPbc 14 27 22.7 +0.8
CAF Calviac 145.34 340 *e*PKP1 PKPbc 14 27 22.1 -0.1
BERF Bertagne 145.38 335 *e*P PKPbc 14 27 22.4 0.0
LASF Ste Croix 145.45 338 *e*PKP1 PKPbc 14 27 22.5 -0.1
comp=Z,25nm,1.0s
LFF La Frestale 145.74 342 *e*PKP1 PKPbc 14 27 23.0 -0.5
VSL Villasalto 146.61 327 *e*PKPbc PKPbc 14 27 25.6 -0.4
MTLF Montolieu 146.68 339 *e*PKP1 PKPbc 14 27 26.1 -0.2
comp=Z,14nm,0.7s
ESDC Sonseca Array 151.94 344 PKPbc PKPbc 14 27 38.5 -1.0
comp=Z,0.4nm,0.3s,baz=12,slow=3.8,SNR=5.4
ESDC PKPab PKPab 14 27 50.1 +1.2
comp=Z,2.5nm,0.8s,baz=14,slow=2.8,SNR=7.1
TORD Torodi Ar. Bea 165.21 273 PKPab PKPab 14 28 47.4 +1.2
comp=Z,4.4nm,1.1s,baz=83,slow=5.2,SNR=12
LIC Lamto 169.41 233 *e*PKIKP PKPdf 14 27 51.5 -0.3
comp=Z,69nm,1.5s
DBIC Dimbokro 169.55 235 PKPab PKPab 14 29 06.5 +1.1
comp=Z,8.7nm,0.9s,baz=126,slow=4.2,SNR=6.3

BJI ***14*** *14:12:31.4, 5183N×17671E, h12km, mB4.7, mb4.7, Ms4.2, Msz3.9*
IDC ***14*** *14:12:32.7±1.0, 5198N×17678E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/24, mbtmp3.8/9, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/25, Error ellipse: s-maj=32.7km s-min=22.1km az=154.0*
NEIC ***14*** *14:12:33.5, 5185N×17696E, h13km, mb4.1/3, ML4.1(AEIC), After AEIC.*
ISCJB ***14*** *14:12:34.0±2.4, 5186N±009×17698E±007, h29km±17km, mb4.0/13, MS3.7/3, Error ellipse: s-maj=15.4km s-min=6.5km az=25.5*
ISC 14 14:12:35.5±2.7, 5182N±009×17696E±007, h28km±19km, n30, σ1°08/32, mb4.0/13, MS3.7/3, 1C, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.53**	**106**	P	**Pn**	**14 12 59.8**	**-1.2**
AMKA				S	**Sn**	**14 13 18.2**	**-1.7**
SMY	**Shemya**	**1.98**	**298**	P	**Pn**	**14 13 06.2**	**-0.9**
SMY				S	**Sn**	**14 13 31.9**	**+0.9**
ATKA	**Atka Island**	**5.48**	**83**	P	**Pn**	**14 13 55.0**	**-0.2**
NIKO	**Nikolski**	**8.76**	**77**	*e*Pn	**Pn**	**14 14 42.4**	**+2.1**
SPIA	**Saint Paul Isl**	**9.17**	**49**	*e*Pn	**Pn**	**14 14 45.0**	**-0.9**
UNV	**Unalaska Valle**	**10.21**	**72**	*e*Pn	**Pn**	**14 15 01.1**	**+0.9**
BILL	**Bilibino**	**17.08**	**346**	*e*P	**Pn**	**14 16 31.9**	**-0.4**
	8.9nm,1.0s						
KDAK	**Kodiak Island**	**18.44**	**59**	P	**Pn**	**14 16 50.0**	**+1.1**
	0.3nm,0.3s,baz=207,slow=6.8,SNR=2.7						
SLKM	**Skilak Lake**	**20.04**	**52**	*e*P	**P**	**14 17 05.0**	**-1.3**
SML	**Sawmill**	**21.20**	**48**	*e*P	**P**	**14 17 19.1**	**+0.2**
DAWY	**Dawson**	**25.62**	**45**	*e*P	**P**	**14 18 02.8**	**+0.3**
INK	**Inuvik**	**28.64**	**36**	P	**P**	**14 18 30.8**	**+1.1**
	0.5nm,0.5s,mb3.5,baz=260,slow=8.2,SNR=3.5						
INK				LR	LR	14 30 37.7	
	comp=Z,52nm,20.9s,MS3.1,baz=149,slow=38						
MDJ	**Mudanjiang**	**31.89**	**276**	P	**P**	**14 18 57.3**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,50nm,3.5s						
CN2	**Changchun**	**34.87**	**278**	*e*P	**P**	**14 19 24.0**	**-0.3**
YKA	**Yellowknife Ar**	**36.84**	**46**	P	**P**	**14 19 40.3**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.5,baz=278,slow=8.3,SNR=2.8						
SNY	**Shenyang**	**37.09**	**276**	⇑P	**P**	**14 19 42.6**	**-0.8**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
HHC	**Hu-ho-hao-te**	**45.02**	**283**	*e*P	**P**	**14 20 47.4**	**-1.2**
HHC				AP	pP	14 20 55.3	-1.7
HHC				XP	sP	14 20 58.5	-1.8
HHC				PCP	PcP	14 22 28.5	-0.8
HHC				PP	PP	14 22 34.3	+0.3
HHC				SCP	ScP	14 26 18.3	-1.5
HHC				PCS	PcS	14 26 21.3	-1.7
HHC				S	**S**	**14 27 23.0**	**-2.5**
HHC				XS	sS	14 27 36.4	-2.9
HHC				SS	SS	14 30 37.8	-10
HHC				SCS	ScS	14 30 40.6	-3.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,60nm,3.1s						
HHC				LR	LR		
	comp=N,120nm,16.6s						
HHC				LR	LR		
	comp=E,170nm,23.0s						
HHC				LR	LR		
	comp=Z,80nm,12.4s,MS3.9						
HLID	**Hailey**	**45.34**	**72**	*e*P	**P**	**14 20 50.7**	**-0.5**
	comp=Z,3.8nm,1.3s,mb4.1						
NVAR	**Mina Array Bea**	**46.10**	**80**	P	**P**	**14 20 59.3**	**+2.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=282,slow=6.8,SNR=3.5						
LZH	**Lanzhou**	**52.71**	**283**	*e*P	**P**	**14 21 48.3**	**+0.7**
LZH				AP	pP	14 21 55.8	-0.3
LZH				XP	sP	14 21 59.1	-0.3
LZH				PP	PP	14 23 48.4	+1.5
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
WMQ	**Urumqi**	**56.85**	**300**	*e*P	**P**	**14 22 18.4**	**+0.8**
WMQ				LR	LR		
	comp=N,80nm,28.0s,MS4.2						
WMQ				LR	LR		
	comp=E,240nm,23.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,90nm,19.0s,MS3.9						
MKAR	**Makanchi Array**	**57.66**	**306**	P	**P**	**14 22 22.9**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.8,baz=51,slow=6.6,SNR=4.4						
BVAR	**Borovoye Array**	**58.80**	**317**	P	**P**	**14 22 30.0**	**-1.3**
	comp=Z,1.0nm,0.5s,mb4.1,baz=30,slow=7.3,SNR=3.8						
ZRNK	**Zerenda**	**59.44**	**318**	*e*P	**P**	**14 22 35.2**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.1						
KMI	**Kunming**	**61.05**	**275**	P	**P**	**14 22 47.0**	**+0.3**
AKTK	**Aktyubinsk**	**65.75**	**322**	P	**P**	**14 23 18.5**	**+0.7**
AKTO	**Aktyubinsk**	**65.75**	**322**	P	**P**	**14 23 18.5**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.9,baz=24,slow=10.0,SNR=3.4						
WRA	**Warramunga Arr**	**80.57**	**220**	P	**P**	**14 24 47.1**	**+1.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=5.8,SNR=4.1						
MDRS	**Chennai**	**83.94**	**283**	*ex*	x	14 25 07.0	
ASAR	**Alice Springs**	**84.09**	**219**	P	**P**	**14 25 05.6**	**+1.8**
	comp=Z,0.3nm,0.6s,mb3.6,baz=35,slow=5.1,SNR=3.8						

ISCJB ***14*** *14:12:38.9±0.9, 4026N±003×1978E±006, h5km, Error ellipse: s-maj=7.1km s-min=3.3km az=35.8*
THE ***14*** *14:12:38.6, 4029N×1973E, h10km, ML3.2*
TIR ***14*** *14:12:39.2, 4025N×2008E, h5km*
ATH ***14*** *14:12:39.4, 4028N×1991E, h5km, MD3.4/5*
NEIC ***14*** *14:12:39.5, 4027N×1994E, h5km, MD3.4(ATH), After ATH.*
CSEM ***14*** *14:12:40.6±0.1, 4023N×1993E, h2km, MD3.4, Error ellipse: s-maj=2.8km s-min=1.3km az=114.0*
ISC 14 14:12:39.6±0.9, 4024N±003×1977E±006, h5km, n33, σ1°39/54, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.19**	**73**	*i* Pg	**Pg**	**14 12 40.7**	**-2.6**
TPE				*i* Sg	**Sg**	**14 12 42.1**	**-3.8**
TPE	**Tepelena**	**0.19**	**73**	*e*Pg	**Pg**	**14 12 40.7**	**-2.6**
TPE				*e*Sg	**Sg**	**14 12 42.1**	**-3.8**
SRN	**Sarande**	**0.40**	**154**	*i* Pg	**Pg**	**14 12 46.6**	**-0.7**
SRN				*i* Sg	**Sg**	**14 12 53.7**	**+1.2**
SRN	**Sarande**	**0.40**	**154**	*e*Pg	**Pg**	**14 12 46.6**	**-0.7**
SRN				*e*Sg	**Sg**	**14 12 53.7**	**+1.2**
KEK	**Kerkira**	**0.53**	**178**	*e*PB	**Pg**	**14 12 50.3**	**+0.6**
LSK	**Leskovik**	**0.64**	**98**	*i* Pg	**Pg**	**14 12 47.5**	**-4.4**
LSK				*i* Sg	**Sg**	**14 12 54.7**	**-5.5**
IGT	**Igoumenitsa**	**0.83**	**148**	*e*Pg	**Pg**	**14 12 54.3**	**-1.1**
IGT				*e*Sg	**Sg**	**14 13 08.2**	**+2.0**
KBN	**Korca**	**0.86**	**63**	*i* Pg	**Pg**	**14 12 52.5**	**-3.7**
KBN				*i* Sg	**Sg**	**14 13 07.8**	**+0.4**
KBN	**Korca**	**0.86**	**63**	*e*Pg	**Pg**	**14 12 52.5**	**-3.7**
KBN				*e*Sg	**Sg**	**14 13 07.8**	**+0.4**
JAN	**Janina**	**1.01**	**125**	*e*PB	**Pg**	**14 12 57.2**	**-1.8**
JAN				*e*SB	**Sg**	**14 13 10.2**	**-2.0**
OHR	**Ohrid**	**1.17**	**42**	*e*Pg	**Pg**	**14 12 59.5**	**-2.5**
OHR				*e*Sg	**Sg**	**14 13 17.8**	**+0.6**
OHR	**Ohrid**	**1.17**	**42**	*i* Pg	**Pg**	**14 13 04.2**	**+2.1**
OHR				*i* Sg	**Sg**	**14 13 17.7**	**+0.5**
OHR	**Ohrid**	**1.17**	**42**	*i* Pg	**Pg**	**14 13 04.1**	**+2.1**
OHR				*i* Sg	**Sg**	**14 13 17.6**	**+0.4**
MEV	**Metsovon**	**1.21**	**112**	*e*Pg	**Pg**	**14 13 00.8**	**-1.9**
MEV				*e*Sg	**Sg**	**14 13 18.9**	**+0.5**
FNA	**Florina**	**1.34**	**65**	*e*Pg	**Pn**	**14 13 02.3**	**-2.6**
FNA				*e*Sg	**Sg**	**14 13 24.5**	**+1.9**
BIA	**Bitola**	**1.42**	**56**	*e*Pg	**Pn**	**14 13 03.9**	**-2.0**
BIA				*e*Sg	**Sg**	**14 13 25.1**	**0.0**
BIA	**Bitola**	**1.42**	**56**	*i* Pg	**Pn**	**14 13 03.8**	**-2.2**
BIA	**Bitola**	**1.42**	**56**	*i* Pg	**Pn**	**14 13 03.7**	**-2.3**
BIA				S	**Sg**	**14 13 25.1**	**0.0**
KZN	**Kozani**	**1.53**	**87**	*e*PB	**Pn**	**14 13 06.2**	**-1.4**
LKD	**Levkas**	**1.67**	**156**	*e*Pb	**Pb**	**14 13 11.1**	**+0.2**
LKD				*e*Sb	**Sb**	**14 13 32.1**	**-0.1**
EVR	**Evrytania**	**2.05**	**129**	*e*PN	**Pn**	**14 13 15.8**	**+1.0**
LIT	**Litokhoron**	**2.09**	**93**	*e*Pn	**Pn**	**14 13 15.2**	**0.0**
LIT				*e*Sn	**Sn**	**14 13 43.0**	**+1.5**
SKO	**Skopje**	**2.14**	**35**	*e*Pn	**Pn**	**14 13 18.2**	**+2.3**
VLS	**Valsamata**	**2.15**	**163**	*e*PN	**Pn**	**14 13 18.5**	**+2.4**
VLS	**Valsamata**	**2.15**	**163**	*e*Pg	**Pg**	**14 13 20.0**	**-0.9**
AGG	**Agios Georgios**	**2.32**	**121**	*e*Pn	**Pn**	**14 13 19.6**	**+1.2**
AGG				*e*Sn	**Sb**	**14 13 50.7**	**-0.1**
AGG	**Agios Georgios**	**2.32**	**121**	P	**Pn**	**14 13 19.6**	**+1.2**
AGG				S	**Sb**	**14 13 50.7**	**-0.1**
VAY	**Valandovo**	**2.38**	**62**	*e*Pn	**Pn**	**14 13 19.2**	**0.0**
VAY	**Valandovo**	**2.38**	**62**	*i* Pg	**Pn**	**14 13 19.1**	**-0.2**
VAY	**Valandovo**	**2.38**	**62**	*i* Pg	**Pn**	**14 13 19.0**	**-0.3**
KNT	**Kendrikon**	**2.55**	**68**	*e*Pn	**Pn**	**14 13 21.4**	**-0.2**
KNT				*e*Sn	**Sn**	**14 13 53.8**	**+0.9**
XOR	**Xorichti**	**2.77**	**107**	*e*Pn	**Pn**	**14 13 25.2**	**+0.6**
XOR	**Xorichti**	**2.77**	**107**	P	**Pn**	**14 13 25.2**	**+0.5**

IDC ***14*** *14:18:38.3±0.5, 689S×7237E, h0km, mb4.2/26, mb1 4.3/26, mb1mx4.2/30, mbtmp4.2/26, MS4.0/11, Ms1 3.9/11, ms1mx3.9/15, Error ellipse: s-maj=14.9km s-min=14.2km az=51.0*
MOS ***14*** *14:18:38.7±2.4, 696S×7244E, h10km, mb5.1/16, Error ellipse: s-maj=16.0km s-min=8.2km az=105.0*
ISCJB ***14*** *14:18:39.7±1.4, 686S±005×7235E±006, h20km±10km, mb4.5/52, MS4.0/15, Error ellipse: s-maj=10.1km s-min=8.3km az=171.8*
BJI ***14*** *14:18:40.9, 653S×7198E, h11km, mB5.0, mb4.7, Ms4.2, Msz3.8*
NEIC ***14*** *14:18:40.2±1.4, 688S×7232E, h11km±8km, mb4.8/13, Error ellipse: s-maj=7.5km s-min=6.4km az=82.0*
ISC 14 14:18:40.2±1.4, 687S±005×7234E±006, h8km±9km, h17km±2.9km: pP-P, n99, σ1°10/91, mb4.5/52, MS4.0/15, 4C-3D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**0.55**	**168**	*c i* P	**Pg**	**14 18 50.8**	**0.0**
DGAR	**Diego Garcia**	**0.55**	**168**	*e*Pg	**Pg**	**14 18 50.5**	**-0.3**
DGAR				*e*Sg	**Sg**	**14 18 58.2**	**+0.2**
PALK	**Pallekele**	**16.34**	**31**	*e*P	**Pn**	**14 22 31.2**	**+1.3**
	24nm,0.6s						
PALK				S	**Sn**	**14 25 17.0**	**-14**
HYB	**Hyderabad**	**24.90**	**14**	*i* P	**P**	**14 24 04.5**	**+1.0**
HYB	**Hyderabad**	**24.90**	**14**	*e*P	**P**	**14 24 04.5**	**+1.0**
OPO	**Ambohidratompo**	**27.10**	**242**	P	**P**	**14 24 23.9**	**+0.5**
	1.2nm,0.6s,mb3.6,baz=23,slow=8.6,SNR=2.8						
PSI	**Prapat**	**28.23**	**71**	LR	LR	14 34 51.7	
	comp=Z,306nm,18.1s,MS3.9,baz=230,slow=35						
WSAR	**Wadi Sarin**	**32.79**	**336**	P	**P**	**14 25 13.7**	**0.0**
	3.6nm,0.9s,mb4.3,baz=157,slow=11,SNR=2.8						
KMBO	**Kilima Mbogo**	**35.45**	**278**	P	**P**	**14 25 36.9**	**+0.1**
	1.4nm,0.5s,mb4.1,baz=66,slow=14,SNR=6.0						
KMBO				LR	LR	14 37 24.8	
	comp=Z,73nm,19.2s,MS3.5,baz=96,slow=32						
KMBO	**Kilima Mbogo**	**35.45**	**278⇑**	*e*P	**P**	**14 25 37.5**	**+0.7**
KMBO	**Kilima Mbogo**	**35.45**	**278**	*e*P	**P**	**14 25 37.9**	**+1.1**
	2.2nm,0.8s,mb4.1						
KMBO				LR	LR	14 37 24.8	
LSZ	**Lusaka**	**44.05**	**255**	P	**P**	**14 26 48.6**	**+0.2**
	12nm,0.9s,mb4.6,baz=80,slow=5.8,SNR=20						
MATP	**Matopo**	**44.52**	**248**	P	**P**	**14 26 52.4**	**+0.2**
	8.3nm,0.8s,mb4.6,baz=73,slow=8.8,SNR=16						
CD2	**Chengdu**	**48.13**	**37**	*e*P	**P**	**14 27 21.6**	**+1.1**
CD2				AP	pP	14 27 26.1	+2.9
CD2				XP	sP	14 27 29.0	+4.8
CD2				PP	PP	14 29 13.6	+0.9
CD2				S	**S**	**14 34 20.1**	**+0.7**
CD2				XS	sS	14 34 27.6	+3.8
CD2				SS	SS	14 37 44.1	-4.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,40nm,8.6s						
CD2				LR	LR		
	comp=N,70nm,11.8s						
CD2				LR	LR		
	comp=Z,60nm,12.0s,MS3.8						
LBTB	**Lobatse**	**48.14**	**243**	P	**P**	**14 27 20.6**	**+0.1**
	comp=Z,4.1nm,0.9s,mb4.5,baz=109,slow=7.4,SNR=5.4						
AAK	**Ala-Archa**	**49.31**	**2**	*e*P	**P**	**14 27 28.2**	**-1.4**
AAK				*e*		14 27 34.8	
AAK				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
AAK	**Ala-Archa**	**49.31**	**2**	*e*P	**P**	**14 27 28.2**	**-1.4**
	comp=Z,19nm,1.1s,mb5.0						
AAK				*e*		14 27 34.8	
BOSA	**Boshof**	**49.37**	**238**	LR	LR	14 46 12.6	
	comp=Z,173nm,18.4s,MS4.1,baz=48,slow=34						
BOSA	**Boshof**	**49.37**	**238**	P	**P**	**14 27 29.9**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
BOSA	**Boshof**	**49.37**	**238**	P	**P**	**14 27 29.9**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.1						
ASF	**Jabal al Asfar**	**51.46**	**321**	P	**P**	**14 27 46.9**	**+1.0**
	comp=Z,1.6nm,0.3s,mb4.4,baz=143,slow=7.0,SNR=2.3						
LZH	**Lanzhou**	**51.98**	**33**	*e*P	**P**	**14 27 56.0**	**+6.3**
LZH				AP	pP	14 28 04.0	+12
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
WMQ	**Urumqi**	**52.34**	**14**	*e*P	**P**	**14 27 52.3**	**-0.1**
WMQ				LR	LR		
	comp=N,160nm,20.0s,MS4.1						
WMQ				LR	LR		
	comp=E,90nm,20.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,90nm,20.0s,MS3.8						
GTA	**Gaotai**	**52.61**	**27**	*e*P	**P**	**14 27 55.0**	**+0.6**
GTA				AP	pP	14 28 05.1	+8.0
GTA				XP	sP	14 28 08.3	+10
MMAI	**Mount Meron Ar**	**52.96**	**321**	P	**P**	**14 27 58.5**	**+1.5**
	comp=Z,0.9nm,0.3s,mb4.2,baz=79,slow=7.5,SNR=6.1						
FITZ	**Fitzroy Crossi**	**53.05**	**107**	P	**P**	**14 27 58.2**	**+0.5**
	comp=Z,3.9nm,1.1s,mb4.3,baz=265,slow=11,SNR=3.1						
GNI	**Garni**	**53.26**	**334**	P	**P**	**14 28 05.6**	**+6.4**
	comp=Z,23nm,0.9s,mb5.1,baz=331,slow=5.1,SNR=6.7						
GNI	**Garni**	**53.26**	**334⇑**	*e*P	**P**	**14 28 04.7**	**+5.4**
GNI				pmax	pmax		
	comp=Z,31nm,1.2s						
MKAR	**Makanchi Array**	**54.16**	**8**	P	**P**	**14 28 05.2**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.2,baz=184,slow=7.8,SNR=13						
ZEI	**Tsey**	**55.77**	**335**	*e*P	**P**	**14 28 23.9**	**+6.4**
ZEI				*e*PP	pP	14 28 27.6	+7.4
ZEI				*e*		14 30 25.5	
ZEI				pmax	pmax

AKTO Aktyubinsk 58.41 349 P **P** **14 28 35.5 -0.7**
comp=Z,6.9nm,0.9s,mb4.7,baz=159,slow=8.0,SNR=9.2
BRTR Keskin Array B 58.53 326 P **P** **14 28 37.2 +0.1**
comp=Z,0.6nm,0.9s,mb3.6,baz=142,slow=5.4,SNR=2.9
ZRNK Zerenda 59.66 358 *e*P **P** **14 28 43.9 -0.9**
ZRNK *e* 14 28 49.7
ZRNK pmax pmax
comp=Z,21nm,0.9s,mb5.2
ZRNK Zerenda 59.66 358 *e*P **P** **14 28 43.9 -0.9**
comp=Z,22nm,0.9s,mb5.2
ZRNK *e* 14 28 49.7
BVAR Borovoye Array 59.69 359 P **P** **14 28 44.9 -0.2**
comp=Z,7.0nm,0.9s,mb4.7,baz=156,slow=9.0,SNR=7.9
BRVK Borovoye 59.73 359 P **P** **14 28 45.5 +0.2**
BRVK *e* 14 28 50.1
BRVK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRVK Borovoye 59.73 359 P **P** **14 28 45.5 +0.2**
comp=Z,9.1nm,1.0s,mb4.8
BRVK *e* 14 28 50.1
ORR Orenburg 60.19 347 *e*P **P** **14 28 52.8 +4.3**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ORR MLR MLR
comp=Z,210nm,19.0s,MS4.3
ANN Anapa 60.25 332 *e*P **P** **14 28 52.2 +3.3**
ANN *e*S **S** **14 37 08.0 +5.0**
ANN pmax pmax
comp=Z,55nm,1.2s,mb5.5
CHKZ Chkalovo 60.34 359 *e*P **P** **14 28 47.8 -1.7**
CHKZ *e* 14 28 54.3
CHKZ pmax pmax
comp=Z,17nm,1.0s,mb5.0
CHKZ Chkalovo 60.34 359 *e*P **P** **14 28 47.8 -1.7**
comp=Z,17nm,1.0s,mb5.0
CHKZ *e* 14 28 54.3
MAW Mawson 60.98 184 P **P** **14 28 53.9 0.0**
comp=Z,4.8nm,0.9s,mb4.6,baz=355,slow=8.9,SNR=5.9
MAW LR LR 14 49 46.7
comp=Z,211nm,18.2s,MS4.3,baz=259,slow=31
MAW Mawson 60.98 184 *e*P **P** **14 28 53.8 -0.1**
MAW pmax pmax
comp=Z,3.0nm,0.5s
MAW Mawson 60.98 184 *e*P **P** **14 28 53.8 -0.1**
comp=Z,2.6nm,0.5s,mb4.6
MAW LR LR 14 49 46.7
IDI Anoyia 61.25 317 P **P** **14 29 01.8 +6.0**
comp=Z,21nm,1.1s,mb5.2,baz=106,slow=6.1,SNR=6.0
ASPA Alice Springs 61.25 113 *e*P **P** **14 28 56.1 +0.4**
ASAR Alice Springs 61.26 113 P **P** **14 28 55.8 0.0**
comp=Z,4.5nm,0.7s,mb4.7,baz=280,slow=6.4,SNR=64
AS31 Alice Springs 61.26 113 *e*P **P** **14 28 56.1 +0.3**
WRAB Tennant Creek 61.40 109 *e*P **P** **14 28 57.4 +0.6**
WRAB pmax pmax
comp=Z,24nm,1.0s,mb5.3
WRAB Tennant Creek 61.40 109 *e*P **P** **14 28 57.4 +0.6**
comp=Z,24nm,1.0s,mb5.3
WB2 Warramunga Arr 61.41 109 *e*P **P** **14 28 57.1 +0.3**
SONM Songino Array 62.20 25 P **P** **14 29 02.7 +0.6**
comp=Z,2.8nm,1.0s,mb4.4,baz=216,slow=7.4,SNR=12
SONM LR LR 14 55 47.0
comp=Z,109nm,19.3s,MS4.0,baz=346,slow=36
ZAK Zakamensk 63.01 22 *e*P **P** **14 29 04.7 -2.8**
ZAK pmax pmax
comp=Z,6.0nm,1.9s,mb4.4
ARU Arti 64.09 352⇑*i*P **P** **14 29 18.7 +4.0**
ARU *e* 14 29 49.2
ARU *e* 14 31 36.2
ARU *e*S **S** **14 37 57.8 +6.2**
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CASY Casey 64.89 164 *e*P **P** **14 29 18.4 -1.5**
comp=Z,2.7nm,0.7s,mb4.4
KRAR Krasnoyarsk 64.92 13 *e*P **P** **14 29 24.6 +4.5**
KRAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MLR Muntele Rosu 66.59 326 P **P** **14 29 33.9 +3.0**
comp=Z,10nm,1.1s,mb4.8,baz=74,slow=2.0,SNR=7.1
AKASG Malin Array Be 68.33 332 P **P** **14 29 40.6 -1.3**
comp=Z,1.1nm,0.4s,mb4.2,baz=128,slow=5.7,SNR=7.9
AKASG Malin Array Be 68.33 332 *i* P **P** **14 29 40.5 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
OBN Obninsk 68.56 339⇓*e*P **P** **14 29 48.0 +4.7**
OBN *e* 14 29 56.0
OBN 14 30 12.0
OBN pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
STKA Stephens Creek 68.80 121 *e*P **P** **14 29 42.9 -1.9**
comp=Z,2.4nm,0.6s,mb4.3
STKA Stephens Creek 68.80 121 P **P** **14 29 42.9 -2.0**
comp=Z,3.1nm,0.7s,mb4.4,baz=276,slow=7.1,SNR=9.6
HIA Hailar 69.49 31 *e*P **P** **14 29 53.3 +4.2**
CRVS Cervenica-Dubn 71.09 327 *e* **P** **14 30 07.1 +8.2**
STHS Stebnicka Huta 71.50 328 *e*pP pP 14 30 06.7 +2.5
STHS *e* 14 30 23.8
STHS Stebnicka Huta 71.50 328 *e*P **P** **14 30 06.7 +5.3**
STHS *e* 14 30 23.8
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
VYHS Vyhne 72.30 326 *e*pP pP 14 30 10.9 +2.0
VYHS *e* 14 30 30.3
VYHS Vyhne 72.30 326 *e*P **P** **14 30 10.9 +4.8**
VYHS *e* 14 30 30.3
VYHS pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
TORD Torodi Ar. Bea 72.92 286 P **P** **14 30 10.3 +0.5**
comp=Z,0.7nm,0.8s,mb3.6,baz=100,slow=4.4,SNR=2.6
NVL N'lazarevskaya 74.09 197*d i*P **P** **14 30 17.0 +0.3**
NVL pmax pmax
comp=N,15nm,1.0s
NVL pmax pmax
comp=Z,34nm,1.0s,mb5.2
NVL pmax pmax
comp=E,7.0nm,0.7s
DPC Dobruska-Polom 74.67 327 *e*P **P** **14 30 19.1 -1.1**
DPC *e*pP pP 14 30 24.8 +1.9
MJAR Matsushiro Arr 75.14 50 P **P** **14 30 23.6 +0.8**
comp=E,2.4nm,0.8s,mb4.2,baz=247,slow=7.6,SNR=5.2
MJAR LR LR 15 05 38.0
comp=E,72nm,19.3s,MS4.0,baz=70,slow=38
GERES GERESS Array B 75.39 324 P **P** **14 30 24.4 +0.1**
comp=E,0.2nm,0.3s,mb3.5,baz=339,slow=26,SNR=2.3
KHC Kasperske Hory 75.60 325 *e*P **P** **14 30 23.9 -1.6**
KHC *e*pP pP 14 30 28.4 +0.1
KLR Kul'dur 76.03 36 *e*P **P** **14 30 27.2 -0.7**
DAVOX Davos 76.75 321 LR LR 15 04 13.5
comp=E,47nm,19.3s,MS3.8,baz=89,slow=36
NKC Novy Kostel 76.77 325 *e*P **P** **14 30 33.2 +1.0**
NKC *e*pP pP 14 30 38.0 +3.0
FINES FINESS Array B 76.96 339 P **P** **14 30 31.2 -2.0**
comp=E,1.5nm,0.8s,mb4.0,baz=120,slow=18,SNR=2.5
CLL Collm 76.98 326⇓*i*pP pP 14 30 39.2 +3.1
comp=Z,10.0nm,1.1s
ARMA Armidale 77.33 120 *e*P **P** **14 30 37.4 +2.1**
DBIC Dimbokro 78.17 278 LR LR 15 06 45.7
comp=Z,51nm,19.8s,MS3.9,baz=263,slow=37
VNA1 Neumayer--Stat 80.44 199 *e*PKPdf **P** **14 30 53.4 +1.0**
VNA1 *e* pP 14 30 54.4 -0.7
VNA1 *e* pP 14 30 57.0 +1.9
VNA1 *e* 14 31 00.3
VNA1 *e* 14 31 02.4
HFS Hagfors 81.04 334 P **P** **14 30 53.2 -2.4**
comp=Z,9.2nm,1.2s,mb4.6,baz=5.4,slow=6.3,SNR=4.2
NOA NORSAR Array B 82.56 335 P **P** **14 31 02.1 -1.5**
comp=Z,1.0nm,0.8s,mb3.9,baz=142,slow=23,SNR=2.4
ARCES ARCESS Array B 82.67 345 LR LR 15 10 43.0
comp=Z,143nm,18.1s,MS4.4,baz=143,slow=38
QSPA South Pole Qui 83.15 180 *e*P **P** **14 31 06.0 -0.7**
comp=Z,8.9nm,0.9s,mb4.8
VNDA Vanda 83.23 167 P **P** **14 31 05.9 -1.2**
comp=Z,2.8nm,1.1s,mb4.2,baz=283,slow=8.6,SNR=5.6
VNDA LR LR 15 02 18.8
comp=Z,80nm,21.9s,MS4.0,baz=77,slow=32
ESDC Sonseca Array 83.92 311 P **P** **14 31 11.5 +0.8**
comp=Z,0.2nm,0.4s,mb3.6,baz=63,slow=4.0,SNR=3.0
BORG Borgarnes 97.73 334 LR LR 15 16 27.5
comp=Z,66nm,20.6s,MS4.1,baz=187,slow=36
PDAR Pinedale Array 144.21 2 PKP PKPdf 14 38 16.3 -0.3
comp=Z,0.9nm,0.8s,baz=45,slow=2.7,SNR=5.9
ELK Elko 145.60 10 *e*PKP2 PKPab 14 38 20.0 +0.6
NVAR Mina Array Bea 147.14 16 PKPbc PKPbc 14 38 25.1 +1.3
comp=Z,1.0nm,0.6s,baz=291,slow=1.5,SNR=10.0
MNV Mina 147.18 15 *e*PKP2 PKPab 14 38 24.8 -0.7
OTAV Otavalo 150.12 258 *e*PKPbc PKPbc 14 38 33.4 +1.9

NEIC 14 14:24:55.1±1.9,5160N×17690E,h10km,mb3.8/1,
ML3.5(AEIC),**Error ellipse: s-maj=40.5km**
s-min=10.0km az=201.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.52**	**97**	P	Pn	14 25 22.8	+0.5
AMKA				S	Sn	14 25 42.6	+0.5
SMY	**Shemya**	**2.06**	**304**	P	Pn	14 25 29.6	-0.2
SMY				S	Sn	14 25 53.0	-2.6
ATKA	**Atka Island**	**5.55**	**80**	P	Pn	14 26 17.2	-0.5
NIKO	**Nikolski**	**8.85**	**75**	*e*Pn	Pn	14 27 02.7	-0.3
BILL	**Bilibino**	**17.29**	**347**	*e*P	Pn	14 28 56.6	0.0
	8.5nm,1.0s						

*ISCJB **14** 15:12:09.9±0.4,4258N±002×4354E±003,h11km,Error ellipse: s-maj=3.4km s-min=2.8km az=1.1*
*TIF **14** 15:12:09.3,4255N×4354E,h11km±1km*
*CSEM **14** 15:12:10.3,4260N×4370E,h7km,mb3.5,After OBN*
*MOS **14** 15:12:10.3±1.2,4260N×4370E,h7km,mb3.5/1,Error ellipse: s-maj=16.3km s-min=7.8km az=81.5*
ISC 14 15:12:10.3±0.4,4256N±002×4355E±003,h2km±7km,n18,
σ1§19/36,1C-1D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.08**	**285**	P	**Pg**	**15 12 12.2**	**+0.4**
ONI				S	**Sg**	**15 12 13.9**	**+1.1**
AMRG		**0.31**	**262**	P	**Pg**	**15 12 15.9**	**-0.3**
AMRG				S	**Sg**	**15 12 20.6**	**+0.3**
ZEI	**Tsey**	**0.33**	**51**	*e*Pg	**Pg**	**15 12 18.8**	**+2.1**
ZEI				*e*Sg	**Sg**	**15 12 23.6**	**+2.6**
DIGR	**Digorskoe uzhe**	**0.34**	**4**	*i* Pg	**Pg**	**15 12 16.8**	**0.0**
DIGR				*i* Sg	**Sg**	**15 12 23.0**	**+1.8**
LACR	**Lac**	**0.61**	**64**	*i* Pg	**Pg**	**15 12 21.5**	**-0.5**
LACR				*i* Sg	**Sg**	**15 12 31.0**	**+1.1**
KORR	**Kora**	**0.65**	**36**	*e*Pg	**Pg**	**15 12 21.8**	**-0.9**
KORR				*e*Sg	**Sg**	**15 12 31.8**	**+0.6**
GOR	**Gori**	**0.71**	**144**	P	**Pg**	**15 12 23.5**	**-0.3**
GOR				S	**Sg**	**15 12 34.5**	**+1.4**
ARNR	**Ardon**	**0.83**	**40**	*e*Pg	**Pg**	**15 12 24.6**	**-1.5**
ARNR				*e*Sg	**Sg**	**15 12 36.6**	**-0.3**
KMSR	**Komsomolskaya**	**0.98**	**34**	*e*Pg	**Pg**	**15 12 26.9**	**-2.1**
KMSR				*e*Sg	**Sg**	**15 12 40.5**	**-1.2**
BTKR	**Batakoyurt**	**1.09**	**42**	*e*Pg	**Pg**	**15 12 28.7**	**-2.5**
BTKR				*e*Sg	**Sg**	**15 12 43.7**	**-1.6**
AKH	**Akhalkalaki**	**1.15**	**182**	P	**Pg**	**15 12 30.9**	**-1.4**
AKH				S	**Sg**	**15 12 46.4**	**-0.9**
TBLG	**Delisi**	**1.21**	**133**	P	**Pg**	**15 12 33.3**	**-0.2**
TBLG				S	**Sg**	**15 12 50.7**	**+1.5**
TBLG	**Delisi**	**1.21**	**133**	*e*Pg	**Pg**	**15 12 32.3**	**-1.2**
TBLG				*e*Sg	**Sg**	**15 12 50.1**	**+0.9**
KUBR	**Kubataba**	**1.24**	**355**	*i* Pg	**Pg**	**15 12 35.2**	**+1.1**
KUBR				*i* Sg	**Sg**	**15 12 54.5**	**+4.3**
MTA	**Mtatsminda**	**1.27**	**133**	P	**Pg**	**15 12 34.1**	**-0.5**
MTA				S	**Sg**	**15 12 51.2**	**+0.2**
SHAR	**Shatzhatmas**	**1.35**	**332**⇓	*i*PG	**Pg**	**15 12 35.3**	**-0.8**
SHAR				*e*S	**Sg**	**15 12 53.7**	**+0.1**
KIV	**Kislovodsk**	**1.53**	**336**⇑	*i*PG	**Pg**	**15 12 38.7**	**-0.9**
KIV				*i* S	**Sn**	**15 12 59.7**	**+0.6**
DGRG	**David-gareji**	**1.75**	**129**	P	**Pn**	**15 12 43.4**	**+1.7**
DGRG				S	**Sn**	**15 13 09.1**	**+4.6**

*BJI **14** 15:35:12.6,166N×12874E,h175km,mB4.5,mb4.8*
*IDC **14** 15:35:17.8±2.0,225N×12855E,h162km±17km,mb4.4/13,mb1 4.3/13,mb1mx4.2/18,mbtmp4.8/13,MS4.1/1,Ms1 4.1/1,ms1mx2.6/22,Error ellipse: s-maj=29.4km s-min=9.9km az=83.0*
*ISCJB **14** 15:35:19.1±1.2,223N±004×12847E±008,h191km±13km,mb4.7/45,Error ellipse: s-maj=12.8km s-min=6.7km az=168.8*
*NEIC **14** 15:35:19.2±1.8,224N×12843E,h175km±18km,mb4.8/22,Error ellipse: s-maj=10.7km s-min=5.3km az=78.0*
*MOS **14** 15:35:20.5±0.9,228N×12844E,h205km,mb4.7/16,Error ellipse: s-maj=20.4km s-min=8.1km az=104.5*
ISC 14 15:35:20.6±1.2,222N±004×12850E±008,h189km±12km,
n90,σ1§00/93,mb4.7/46,5C-2D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**4.12**	**138**	P	**Pn**	**15 36 23.3**	**-0.2**
	198nm,1.1s						
KAKA	**Kakadu**	**15.34**	**165**	*e*P	**Pn**	**15 38 47.0**	**-0.4**
	33nm,0.6s						
KSM	**Kuching**	**18.20**	**268**	*e*P	**P**	**15 39 18.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.39**	**188**⇑	*i*P	**P**	**15 39 41.8**	**-1.1**
	19nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.39**	**188**	P	**P**	**15 39 41.9**	**-1.0**
	9.9nm,0.5s,baz=17,slow=7.3,SNR=71						
BJII	**Banjamegara**	**21.02**	**243**	P	**P**	**15 39 50.0**	**+0.5**
	46nm,2.0s,mb4.5						
WRAB	**Tennant Creek**	**22.75**	**166**	*e*P	**P**	**15 40 07.6**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,52nm,1.0s,mb4.9						
WRAB	**Tennant Creek**	**22.75**	**166**	*e*P	**P**	**15 40 07.6**	**+1.0**
	comp=Z,52nm,1.0s,mb4.9						
WB2	**Warramunga Arr**	**22.76**	**166**⇑	*i*P	**P**	**15 40 07.3**	**+0.7**
WB2				*e*S	**S**	**15 44 08.8**	**+7.8**
YHNB	**Yeheng**	**23.35**	**343**	*e*P	**P**	**15 40 10.8**	**-1.2**
JOW	**Kunigami**	**24.47**	**360**	P	**P**	**15 40 23.0**	**+0.8**
	comp=Z,14nm,0.5s,mb4.7,baz=169,slow=14,SNR=4.8						
MBWA	**Marble Bar**	**24.77**	**200**	*e*P	**P**	**15 40 24.7**	**-0.3**
	comp=Z,4.8nm,0.5s,mb4.3						
AS31	**Alice Springs**	**26.26**	**169**	*e*P	**P**	**15 40 39.0**	**+0.7**
ASAR	**Alice Springs**	**26.27**	**169**	P	**P**	**15 40 39.1**	**+0.8**
	comp=Z,4.2nm,0.5s,mb4.4,baz=354,slow=8.1,SNR=131						
ASAR				ScP	ScP	15 47 25.2	+3.8
	comp=Z,2.2nm,1.1s,baz=330,slow=2.3,SNR=6.1						
ASPA	**Alice Springs**	**26.27**	**169**	*e*P	**P**	**15 40 39.0**	**+0.7**
CBIJ	**Chichi jima**	**27.99**	**27**	P	**P**	**15 40 52.6**	**-1.1**
	comp=Z,22nm,0.5s,mb5.2,baz=312,slow=17,SNR=4.8						
NJ2	**Nanjing**	**31.03**	**344**	*e*P	**P**	**15 41 23.3**	**+2.8**
NJ2				S	**S**	**15 46 11.0**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2				LR	LR		
	comp=N,190nm,10.9s						
NJ2				LR	LR		
	comp=E,180nm,14.2s						
NJ2				LR	LR		
	comp=Z,140nm,11.2s						
WHN	**Wuhan**	**31.20**	**336**	⇑P	**P**	**15 41 23.3**	**+1.3**
JHJ	**Hachijo jima 2**	**32.50**	**18**	LR	LR	15 51 52.2	
	comp=Z,362nm,21.5s,baz=113,slow=31						
FORT	**Forrest**	**32.82**	**181**	*e*P	**P**	**15 41 36.3**	**+0.2**
	comp=Z,21nm,0.8s,mb4.9						
KMI	**Kunming**	**33.69**	**315**	P	**P**	**15 41 44.8**	**+1.1**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,70nm,6.1s						
KMI				LR	LR		
	comp=N,90nm,16.0s						
KMI				LR	LR		
	comp=E,100nm,13.7s						
KMI				LR	LR		
	comp=Z,100nm,15.1s						
KLBR	**Kellerberrin**	**35.15**	**196**	*e*P	**P**	**15 41 55.5**	**-0.7**
	comp=Z,19nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**35.31**	**14**	*e*P	**P**	**15 41 56.6**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**35.31**	**14**	*e*P	**P**	**15 41 56.6**	**-1.0**
	comp=Z,24nm,0.8s,mb4.9						
MAT	**Matsushiro**	**35.31**	**14**	P	**P**	**15 41 56.5**	**-1.0**
MAT	**Matsushiro**	**35.31**	**14**	*e*P	**P**	**15 41 57.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.7						
MAT	**Matsushiro**	**35.31**	**14**	*e*P	**P**	**15 41 57.0**	**-0.5**
	comp=Z,14nm,0.7s,mb4.7						
MJAR	**Matsushiro Arr**	**35.31**	**14**	P	**P**	**15 41 56.5**	**-1.1**
	comp=Z,13nm,0.6s,mb4.7,baz=186,slow=9.3,SNR=52						
MUN	**Mundaring**	**35.96**	**198**	*e*P	**P**	**15 42 02.5**	**-0.6**
STKA	**Stephens Creek**	**36.12**	**161**⇑	*i*P	**P**	**15 42 03.8**	**-0.6**
	comp=Z,9.3nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**36.12**	**161**	P	**P**	**15 42 03.9**	**-0.6**
	comp=Z,14nm,0.6s,mb4.8,baz=333,slow=8.8,SNR=64						
STKA				ScP	ScP	15 47 56.9	+2.6
	comp=Z,1.1nm,0.7s,baz=25,slow=5.8,SNR=3.5						
NWAO	**Narrogin (SRO)**	**36.55**	**196**	P	**P**	**15 42 07.8**	**-0.3**
	comp=Z,14nm,0.9s,mb4.6,baz=24,slow=8.7,SNR=6.3						
NWAO	**Narrogin (SRO)**	**36.55**	**196**	*e*P	**P**	**15 42 08.2**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**36.55**	**196**	*e*P	**P**	**15 42 08.2**	**+0.2**
	comp=Z,5.0nm,0.6s,mb4.3						
XAN	**Xi'an**	**36.56**	**332**	P	**P**	**15 42 07.9**	**-0.3**
XAN				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2	**Chengdu**	**36.90**	**323**	*e*P	**P**	**15 42 09.8**	**-1.2**
CD2				AP	pP	15 42 47.6	-3.1
CD2				XP	sP	15 43 07.4	-4.8
CD2				PP	PP	15 43 41.8	+2.6
CD2				PCP	PcP	15 44 28.5	+0.1
CD2				S	**S**	**15 47 40.8**	**-0.8**
CD2				SCP	ScP	15 47 57.4	+0.2
CD2				PCS	PcS	15 48 15.6	-1.1
CD2				SS	SS	15 50 22.8	-8.6
CD2				SCS	ScS	15 52 03.4	-1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,5.9s						
CD2				LR	LR		
	comp=N,90nm,13.2s						
CD2				LR	LR		
	comp=Z,60nm,14.4s						
BJT	**Baijiatuau**	**39.25**	**345**	*e*P	**P**	**15 42 30.5**	**-0.2**
BJT				pmax	pmax		
	comp=Z,38nm,0.8s						
BJT	**Baijiatuau**	**39.25**	**345**	*e*P	**P**	**15 42 30.5**	**-0.2**
	comp=Z,38nm,0.8s,mb5.1						
SNY	**Shenyang**	**39.67**	**354**⇓	P	**P**	**15 42 34.3**	**+0.1**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
LZH	**Lanzhou**	**40.70**	**329**	P	**P**	**15 42 43.5**	**+0.9**
LZH				AMB	AMB		
	comp=Z,50nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,310nm,5.2s						
HHC	**Hu-ho-hao-te**	**41.39**	**340**	*e*P	**P**	**15 42 49.3**	**+1.1**
HHC				AP	pP	15 43 24.8	-3.8
HHC				XP	sP	15 43 42.8	-7.2
HHC				PP	PP	15 44 30.3	+2.5
HHC				PCP	PcP	15 44 44.5	+1.9
HHC				PCS	PcS	15 48 34.8	+0.7
HHC				S	**S**	**15 48 50.9**	**+2.3**
HHC				SCS	ScS	15 52 33.6	+2.3
HHC				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,90nm,5.6s						
HHC				LR	LR		
	comp=N,70nm,10.7s						
HHC				LR	LR		
	comp=E,150nm,19.0s						
HHC				LR	LR		
	comp=Z,80nm,13.1s						
MDJ	**Mudanjiang**	**42.23**	**1**	P	**P**	**15 42 55.3**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,30nm,4.2s						
LSA	**Lhasa**	**44.76**	**311**	P	**P**	**15 43 15.4**	**+0.2**
LSA	**Lhasa**	**44.76**	**311**	*e*P	**P**	**15 43 17.0**	**+1.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.6						
LSA	**Lhasa**	**44.76**	**311**	*e*P	**P**	**15 43 17.0**	**+1.8**
	comp=Z,7.6nm,0.5s,mb4.6						
GTA	**Gaotai**	**45.29**	**328**	P	**P**	**15 43 20.3**	**+0.9**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
HABR	**Khabarovsk**	**46.42**	**6**	*e*P	**P**	**15 43 28.5**	**+0.3**
HABR				*e*S	**S**	**15 49 55.2**	**-6.2**
KLR	**Kul'dur**	**46.91**	**3**	*e*P	**P**	**15 43 29.0**	**-3.1**
JIRN	**Jiri**	**47.68**	**306**	*e*P	**P**	**15 43 38.9**	**+0.9**
	comp=Z,33nm,0.6s,mb5.1						
GUN	**Gumba**	**48.04**	**306**	*e*P	**P**	**15 43 41.5**	**+0.8**
	comp=Z,31nm,0.5s,mb5.2						
PKI	**Pulchoki**	**48.28**	**306**	*e*P	**P**	**15 43 42.6**	**0.0**
KKN	**Kakani**	**48.47**	**306**	*e*P	**P**	**15 43 44.1**	**+0.1**
	comp=Z,11nm,0.5s,mb4.7						
KKN	**Kakani**	**48.47**	**306**	*e*P	**P**	**15 43 44.1**	**+0.1**
KKN				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.7						
DMN	**Daman**	**48.54**	**306**	*e*P	**P**	**15 43 45.4**	**+0.8**
ULN	**Ulaanbaatar**	**49.10**	**341**	*e*P	**P**	**15 43 49.0**	**+0.2**
ULN				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**49.10**	**341**	*e*P	**P**	**15 43 49.0**	**+0.2**
	comp=Z,18nm,0.8s,mb4.8						
SONM	**Songino Array**	**49.29**	**340**	P	**P**	**15 43 50.6**	**+0.4**
	comp=Z,9.1nm,0.6s,mb4.6,baz=151,slow=8.1,SNR=65						
SONM				PcP	PcP	15 45 11.5	+1.4
	comp=Z,1.4nm,0.6s,baz=165,slow=3.7,SNR=5.0						
ZAK	**Zakamensk**	**52.53**	**340**	*e*P	**P**	**15 44 14.0**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.1						
MOY	**Mondy**	**54.40**	**339**	*e*P	**P**	**15 44 29.0**	**+1.0**
YAK	**Yakutsk**	**59.67**	**1**	*e*P	**P**	**15 45 05.5**	**+0.5**
YAK				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,9.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
MA2	**Magadan**	**59.75**	**13***de*P	**P**	**15 45 06.5**	**+1.0**
MA2				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.1						
MKAR	**Makanchi Array**	**59.80**	**325**	P	**P**	**15 45 06.0**	**+0.2**
	comp=Z,21nm,0.5s,mb5.3,baz=116,slow=8.3,SNR=154						
MKAR				ScP	ScP	15 49 36.2	+2.9
	comp=Z,0.4nm,0.7s,baz=111,slow=6.6,SNR=3.5						
MKAR	**Makanchi Array**	**59.80**	**325**	P	**P**	**15 45 06.0**	**+0.2**
MKAR				ScP	ScP	15 49 36.2	+2.9
AAK	**Ala-Archa**	**62.65**	**318**	*e*P	**P**	**15 45 25.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
AAK	**Ala-Archa**	**62.65**	**318**	*e*P	**P**	**15 45 24.7**	**-0.3**
	comp=Z,2.2nm,0.4s,mb4.3						
KURK	**Kurchatov**	**63.95**	**327**	*e*P	**P**	**15 45 33.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.3						
KURK	**Kurchatov**	**63.95**	**327**	*e*P	**P**	**15 45 33.2**	**-0.4**
	comp=Z,31nm,0.6s,mb5.3						
NVS	**Novosibirsk**	**64.01**	**333**	*e*P	**P**	**15 45 31.5**	**-2.4**
TIXI	**Tiksi**	**69.33**	**0**	*e*P	**P**	**15 46 05.1**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**69.54**	**327**	P	**P**	**15 46 08.6**	**-0.3**
	comp=Z,11nm,0.7s,mb4.7,baz=126,slow=7.5,SNR=70						
BRVK	**Borovoye**	**69.61**	**327**	*e*P	**P**	**15 46 08.6**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
BRVK	**Borovoye**	**69.61**	**327**	*e*P	**P**	**15 46 08.6**	**-0.7**
	comp=Z,11nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**69.70**	**327**	*e*P	**P**	**15 46 08.9**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**69.70**	**327**	*e*P	**P**	**15 46 08.9**	**-0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**81.72**	**173**	*eP*	**P**	**15 47 18.4**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.6						
OBN	**Obninsk**	**89.30**	**325**	P	**P**	**15 47 53.0**	**-2.3**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
JOF	**Joensuu**	**91.32**	**333**	*ep*	**P**	**15 48 03.0**	**-1.7**
	comp=Z,3.9nm,0.5s,mb4.7						
JOF	**Joensuu**	**91.32**	**333**	*eP*	**P**	**15 48 03.0**	**-1.7**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ARCES	**ARCESS Array B**	**92.46**	**340**	P	**P**	**15 48 09.2**	**-0.7**
	comp=Z,4.5nm,0.6s,mb4.7,baz=82,slow=5.8,SNR=16						
FINES	**FINESS Array B**	**93.99**	**332**	P	**P**	**15 48 15.9**	**-1.1**
	comp=Z,0.9nm,0.6s,mb4.1,baz=33,slow=4.5,SNR=8.4						
TORD	**Torodi Ar. Bea**	**125.06**	**288**	PKP	PKPdf	15 53 59.7	+1.4
	comp=Z,0.3nm,0.6s,baz=65,slow=1.6,SNR=6.3						

*NEIC **14** 15:47:47.9, 37.21S×177.58E, h163km, MG3.9(WEL), After WEL.*

WEL 14 15:47:48.5±0.4, 37.14S×177.48E, h150km±4km, ML3.8/16, Error ellipse: s-maj=5.1km s-min=4.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.45**	**211**	PN	Pn	15 48 09.2	-0.4
WIZ	**White Island**	**0.45**	**211**	P	Pn	15 48 08.9	-0.6
MXZ	**Matakaoa Point**	**0.79**	**123**	PN	Pn	15 48 11.9	+0.4
MXZ				SN	Sn	15 48 28.6	-0.5
PUZ	**Puketiti**	**1.12**	**147**	PN	Pn	15 48 14.1	-0.1
PUZ				SN	Sn	15 48 33.4	-0.5
PUZ	**Puketiti**	**1.12**	**147**	*eP*	Pn	15 48 14.1	-0.1
URZ	**Urewera**	**1.16**	**195**	PN	Pn	15 48 14.4	-0.1
URZ				SN	Sn	15 48 35.1	+0.5
URZ	**Urewera**	**1.16**	**195**	P	Pn	15 48 14.4	-0.2
MWZ	**Matawai**	**1.20**	**178**	PN	Pn	15 48 14.9	0.0
MWZ				*e*SN	Sn	15 48 35.9	+0.8
MWZ	**Matawai**	**1.20**	**178**	P	Pn	15 48 14.9	0.0
MWZ				*e*S	Sn	15 48 35.9	+0.7
TAZ	**Tarawera**	**1.34**	**215**	PN	Pn	15 48 16.3	0.0
TAZ	**Tarawera**	**1.34**	**215**	P	Pn	15 48 17.3	+1.0
KNZ	**Kokohu**	**1.89**	**175**	PN	Pn	15 48 22.3	0.0
KNZ	**Kokohu**	**1.89**	**175**	P	Pn	15 48 22.3	+0.1
BKZ	**Black Stump Fm**	**2.17**	**201**	PN	Pn	15 48 25.7	+0.1
WPVZ	**Whakapapa**	**2.57**	**216**	PN	Pn	15 48 31.5	+1.1
WPVZ	**Whakapapa**	**2.57**	**216**	P	Pn	15 48 32.0	+1.6
TUVZ	**Tukino**	**2.57**	**213**	PN	Pn	15 48 31.1	+0.8
TUVZ	**Tukino**	**2.57**	**213**	P	Pn	15 48 31.1	+0.7
FWVZ	**Far West T-bar**	**2.60**	**215**	PN	Pn	15 48 31.6	+0.7
FWVZ	**Far West T-bar**	**2.60**	**215**	P	Pn	15 48 31.6	+0.8
WNVZ	**Wahianoa**	**2.64**	**214**	PN	Pn	15 48 32.1	+0.8
MOVZ	**Moawhango**	**2.64**	**210**	PN	Pn	15 48 31.1	-0.2
PKVZ	**Pokaka**	**2.73**	**217**	PN	Pn	15 48 33.3	+0.9
VRZ	**Vera Road**	**2.92**	**226**	*eP*	Pn	15 48 36.7	+1.9
PXZ	**Pawanui**	**2.93**	**189**	PN	Pn	15 48 34.0	-0.9
TSZ	**Takapari Road**	**3.15**	**202**	PN	Pn	15 48 36.5	-1.2
TSZ	**Takapari Road**	**3.15**	**202**	P	Pn	15 48 36.5	-1.2
WAZ	**Wanganui**	**3.27**	**216**	PN	Pn	15 48 39.4	+0.2
WAZ	**Wanganui**	**3.27**	**216**	*eP*	Pn	15 48 39.4	+0.2
BFZ	**Birch Farm**	**3.67**	**195**	PN	Pn	15 48 42.5	-1.9
BFZ	**Birch Farm**	**3.67**	**195**	P	Pn	15 48 42.5	-1.8
MRZ	**Mangatainoka R**	**3.82**	**202**	PN	Pn	15 48 44.3	-2.0
MRZ	**Mangatainoka R**	**3.82**	**202**	*eP*	Pn	15 48 44.3	-2.0
MRZ				S	Sn	15 49 27.9	-3.3
TIWZ	**Tintock**	**3.84**	**198**	PN	Pn	15 48 44.8	-1.8
KIW	**Kapiti Island**	**4.22**	**207**	P	Pn	15 48 49.4	-2.2
MTW	**Mount Morrison**	**4.30**	**200**	P	Pn	15 48 49.7	-2.9
CAW	**Cannon Point**	**4.39**	**205**	P	Pn	15 48 51.0	-2.7
MSWZ	**Moikau Station**	**4.61**	**201**	P	Pn	15 48 53.4	-3.3
MRW	**Makara Radio**	**4.62**	**207**	P	Pn	15 48 53.9	-2.9
SNZO	**South Karori**	**4.69**	**206**	*eP*	Pn	15 48 54.8	-2.9
TCW	**Tory Channel**	**4.77**	**210**	P	Pn	15 48 55.9	-2.9
THZ	**Tophouse**	**5.82**	**216**	*eP*	Pn	15 49 10.3	-2.4
KHZ	**Kahutara**	**6.08**	**209**	*eP*	Pn	15 49 12.6	-3.6

NEIC 14 16:05:33.7, 52.07N×177.18E, h5km, mb3.2/1, ML3.5(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.49**	**117**	P	Pn	16 06 00.5	-0.7
AMKA				S	Sn	16 06 20.1	-0.9
SMY	**Shemya**	**2.00**	**290**	P	Pn	16 06 07.6	-0.5
SMY				S	Sn	16 06 33.7	+0.2
ATKA	**Atka Island**	**5.32**	**85**	P	Pn	16 06 55.5	+1.8
SPIA	**Saint Paul Isl**	**8.90**	**50**	*e*Pn	Pn	16 07 45.6	+2.7
BILL	**Bilibino**	**16.87**	**346**	*eP*	Pn	16 09 34.3	+3.7
	1.7nm,0.8s						

*IDC **14** 16:13:20.9±2.8, 039N×98.80E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=107.0km s-min=21.5km az=64.0*
*ISCJB **14** 16:13:24.1±1.4, 04N±01×98.8E±03, h33km, mb3.9/6, Error ellipse: s-maj=40.1km s-min=10.9km az=140.0*
*NEIC **14** 16:13:25.2±1.2, 039N×98.75E, h30km, mb4.2/2, Error ellipse: s-maj=35.7km s-min=9.9km az=70.0*

ISC 14 16:13:26.6±1.4, 05N±01×98.8E±03, h35km, n11, σ1§01/11, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.33**	**3**	Pn	**Pn**	**16 14 00.1**	**-2.3**
	3.4nm,0.3s,baz=289,slow=24,SNR=22						
KULM	**Kulim**	**5.14**	**21**	*eP*	**Pn**	**16 14 41.9**	**+0.8**
LSA	**Lhasa**	**29.98**	**347**	*eP*	**P**	**16 19 32.9**	**+1.2**
	3.9nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**40.28**	**122**	P	**P**	**16 21 00.4**	**+0.2**
	0.5nm,0.6s,mb3.5,baz=304,slow=8.7,SNR=9.7						
WRAB	**Tennant Creek**	**40.29**	**122**	P	**P**	**16 21 00.9**	**+0.6**
	0.8nm,0.5s,mb3.7						
WB2	**Warramunga Arr**	**40.29**	**122**	*eP*	**P**	**16 21 00.2**	**-0.1**
ASPA	**Alice Springs**	**41.67**	**128**	*eP*	**P**	**16 21 12.0**	**+0.4**
ASAR	**Alice Springs**	**41.67**	**128**	P	**P**	**16 21 11.7**	**0.0**
	0.7nm,0.6s,mb3.5,baz=299,slow=8.0,SNR=18						
AS31	**Alice Springs**	**41.67**	**128**	*eP*	**P**	**16 21 12.0**	**+0.3**
MKAR	**Makanchi Array**	**48.36**	**345**	P	**P**	**16 22 04.9**	**+0.1**
	0.9nm,0.6s,mb4.0,baz=158,slow=7.9,SNR=6.3						
STKA	**Stephens Creek**	**51.67**	**133**	P	**P**	**16 22 27.7**	**-2.2**
	3.4nm,1.0s,mb4.2,baz=315,slow=4.3,SNR=3.8						

*NIED **14** 16:58:00, 36.50N×140.60E, h59km, Mw3.6 Best double couple: M0=2.80000×10^14 NP1:φ1=22.00000°, δ1=72.00000°, λ1=82.00000°. NP2:φ2=227.00000°, δ2=20.00000°, λ2=113.00000°.*

JMA 14 16:58:12.5±0.1, 36.44N×140.61E, h55km±1km, M3.8, 3C-5D Broadband fault plane solution: P waves. NP1: φ1=197.00000°, δ1=27.00000°, λ1=90.00000°. NP2: φ2=17.00000°, δ2=63.00000°, λ2=90.00000°. Principal axes: T Plg72.0000°, Azm287.0000°; N Plg0.0000°, Azm17.0000°; P Plg18.0000°, Azm107.0000°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.17**	**349**	⇑P	Pn	16 58 21.3	+0.1
JHO				S	Sn	16 58 27.2	-0.3
JYT	**Yasato**	**0.40**	**238**	⇓P	Pn	16 58 23.2	+0.2
JYT				S	Sn	16 58 30.4	-0.1
ONAJ	**Iwakimizuishiy**	**0.68**	**13**	⇑P	Pn	16 58 25.7	-0.5
JAG	**Ashikaga**	**0.93**	**269**	⇓P	Pn	16 58 29.8	+0.3
JAG				S	Sn	16 58 41.8	-0.1
JFK	**Kawauchi**	**0.95**	**13**	⇑P	Pn	16 58 28.9	-0.8
JFT	**Otama**	**1.10**	**349**	P	Pn	16 58 31.8	+0.2
JFT				S	Sn	16 58 45.8	-0.1
JKT	**Katashina**	**1.14**	**287**	⇓P	Pn	16 58 32.8	+0.6
JKT				S	Sn	16 58 47.9	+1.0
JFY	**Yanaizu**	**1.21**	**323**	⇓P	Pn	16 58 33.6	+0.5
JMM	**Marumori**	**1.43**	**6**	⇓P	Pn	16 58 36.2	+0.1
JMM				S	Sn	16 58 53.3	-0.6
MAT	**Matsushiro**	**1.94**	**274**	P	Pn	16 58 43.7	+0.7
MAT				S	Sn	16 59 07.6	+1.4

GUC 14 17:05:32.8±0.8, 32.46S×71.90W, h35km±4km, MD3.5, ML2.3, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.91**	**125**	*i* P	Pn	17 05 50.0	+0.9
ROCH				*i* S	Sn	17 06 02.8	+1.9
LCCH	**Las Cruces**	**1.05**	**165**	*eP*	Pn	17 05 51.0	-0.1
LCCH				*i* S	Sn	17 06 05.8	+1.2
JACH	**Jahuel**	**1.13**	**102**	⇑*i*P	Pn	17 05 53.3	+1.3
JACH				*i* S	Sn	17 06 08.1	+1.7
RCDM	**Rinconada Maip**	**1.38**	**139**	*eP*	Pn	17 05 57.5	+1.9
RCDM				*i* S	Sn	17 06 15.7	+3.1
RCDM				AML	AML	17 06 16.8	
	comp=E,117nm,0.1s						
TACH	**Talagante**	**1.44**	**146**	*eP*	Pn	17 05 57.4	+1.0
TACH				*i* S	Sn	17 06 17.1	+2.9
LNV	**Longovilo**	**1.55**	**165**	*i* S	Sn	17 06 19.8	+3.0
FCH	**Farellones**	**1.61**	**123**	⇑*i*P	Pn	17 06 01.0	+2.3
FCH				*i* S	Sn	17 06 21.8	+3.6
FCH				AML	AML	17 06 23.7	
	comp=E,47nm,0.1s						

*NEIC **14** 17:23:21.8±1.0, 17.72S×173.37W, h10km, mb4.5/4, Error ellipse: s-maj=30.0km s-min=16.1km az=115.0*
*ISCJB **14** 17:23:22.6±0.8, 17.67S±0.10×173.3W±0.2, h33km, mb4.5/9, MS3.7/2, Error ellipse: s-maj=27.3km s-min=8.6km az=51.8*
*IDC **14** 17:23:24.0±0.9, 18.07S×173.91W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.1/14, mbtmp4.2/5, MS3.7/2, Ms1 3.7/2, ms1mx2.7/26, Error ellipse: s-maj=38.2km s-min=23.0km az=132.0*

ISC 14 17:23:24.8±0.8, 17.69S±0.10×173.2W±0.2, h35km, n22, σ1§21/16, mb4.5/9, MS3.7/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.01**	**21**	Pn	**Pn**	**17 24 24.9**	**+1.1**
	8.1nm,0.3s,baz=81,slow=4.9,SNR=9.6						
AFI				Sn	**Sn**	**17 25 09.7**	**+0.1**
	20nm,0.3s,baz=16,slow=22,SNR=3.9						
AFI	**Afiamalu**	**4.01**	**21**	*e*Pn	**Pn**	**17 24 24.1**	**+0.3**
AFI				*e*Sn	**Sn**	**17 25 07.7**	**-1.8**
RAR	**Rarotonga**	**13.17**	**108**	Pn	**Pn**	**17 26 20.1**	**-9.2**
	1.8nm,0.3s,baz=260,slow=14,SNR=6.2						
URZ	**Urewera**	**22.17**	**200**	P	**P**	**17 28 16.1**	**-1.6**
	23nm,0.5s,mb4.9,baz=23,slow=4.2,SNR=25						
PPT	**Papeete**	**22.54**	**93**	*e*LR	LR	17 33 34.5	
	169nm,26.0s						
TBI	**Tubuai**	**22.95**	**108**	*e*LR	LR	17 33 51.5	
	125nm,26.0s						
HNR	**Honiara**	**27.31**	**284**	LR	LR	17 38 21.0	
	comp=Z,166nm,18.4s,MS3.6,baz=179,slow=34						
CTAO	**Charters Tower**	**38.34**	**260**	*eP*	**P**	**17 30 43.9**	**+1.6**
	4.8nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**43.07**	**242**	P	**P**	**17 31 19.1**	**-2.2**
	1.7nm,0.7s,mb3.9,baz=77,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**43.07**	**242**	*eP*	**P**	**17 31 19.0**	**-2.3**
WRAB	**Tennant Creek**	**49.51**	**259**	*eP*	**P**	**17 32 11.7**	**-0.1**
	4.7nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**49.59**	**254**	P	**P**	**17 32 12.8**	**+0.3**
	5.3nm,0.6s,mb4.8,baz=92,slow=8.1,SNR=42						
FITZ	**Fitzroy Crossi**	**57.92**	**259**	LR	LR	17 55 49.8	
	comp=Z,68nm,20.8s,MS3.7,baz=164,slow=34						
SBA	**Scott Base**	**60.99**	**185**	*eP*	**P**	**17 33 35.9**	**+1.3**
	2.9nm,0.8s,mb4.5						
VNDA	**Vanda**	**61.13**	**186**	P	**P**	**17 33 35.9**	**+0.4**
	1.5nm,1.1s,mb4.0,baz=20,slow=8.3,SNR=6.5						
VNDA	**Vanda**	**61.13**	**186**	*eP*	**P**	**17 33 35.8**	**+0.2**
	1.7nm,1.0s,mb4.1						
NVAR	**Mina Array Bea**	**75.92**	**42**	P	**P**	**17 35 17.3**	**+9.4**
	0.6nm,0.8s,mb3.6,baz=240,slow=10,SNR=2.8						
ATAH	**Atahualpa**	**92.48**	**98**	P	**P**	**17 36 41.7**	**+10**
	14nm,0.8s,mb5.3,baz=124,slow=6.8,SNR=6.0						
KMBO	**Kilima Mbogo**	**144.63**	**241**	PKP	PKPdf	17 43 00.5	+2.8
	3.8nm,0.9s,baz=75,slow=4.9,SNR=9.9						
CLL	**Collm**	**146.10**	**353**	*e*PKPbc	PKPbc	17 43 04.0	+2.9
	comp=Z,9.0nm,1.2s						
BRTR	**Keskin Array B**	**148.01**	**319**	PKPbc	PKPbc	17 43 10.9	+4.5
	comp=Z,1.5nm,0.9s,baz=159,slow=3.8,SNR=5.5						
GERES	**GERESS Array B**	**148.42**	**351**	PKPbc	PKPbc	17 43 11.6	+4.0
	comp=Z,0.6nm,0.6s,baz=85,slow=3.1,SNR=5.3						

*BJI **14** 17:25:04.0, 51.80N×177.00E, h21km, mB4.8, mb4.3, Ms4.2, Msz4.1*
*ISCJB **14** 17:25:12.5±0.9, 51.94N±0.10×177.08E±0.08, h39km±10km, mb3.9/7, MS3.3/4, Error ellipse: s-maj=17.2km s-min=7.3km az=31.3*
*NEIC **14** 17:25:12.1±3.8, 51.85N×176.97E, h21km±29km, mb3.8/1, ML3.8(AEIC), Error ellipse: s-maj=18.0km s-min=10.7km az=194.0*
*IDC **14** 17:25:19.1±12.0, 52.13N×176.98E, h76km±110km, mb3.6/6, mb1 3.7/6, mb1mx3.4/21, mbtmp3.9/6, MS3.3/3, Ms1 3.3/3, ms1mx2.7/31, Error ellipse: s-maj=46.0km s-min=26.2km az=158.0*

ISC 14 17:25:13.4±1.0, 51.8N±01×177.02E±0.08, h37km±11km, n23, σ1§13/23, mb3.9/7, MS3.3/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.50**	**107**	P	**Pn**	**17 25 37.4**	**-0.4**
AMKA				S	**Sn**	**17 25 56.1**	**0.0**
SMY	**Shemya**	**2.00**	**298**	P	**Pn**	**17 25 43.6**	**-1.0**
SMY				S	**Sn**	**17 26 09.1**	**+0.6**
ATKA	**Atka Island**	**5.44**	**83**	P	**Pn**	**17 26 30.9**	**-1.1**
NIKO	**Nikolski**	**8.71**	**77**	*e*Pn	**Pn**	**17 27 19.3**	**+2.4**
SPIA	**Saint Paul Isl**	**9.13**	**49**	*e*Pn	**Pn**	**17 27 22.2**	**-0.3**
SPIA				*e*Sn	**Sn**	**17 28 60.0**	**-4.0**
BILL	**Bilibino**	**17.07**	**346**	*eP*	**Pn**	**17 29 10.7**	**+1.6**
	7.0nm,0.9s						
SML	**Sawmill**	**21.16**	**48**	*eP*	**P**	**17 29 55.5**	**+0.2**
ASAJ	**Asahikawa**	**24.12**	**265**	P	**P**	**17 30 29.0**	**+3.4**
	3.8nm,0.9s,mb3.8,baz=342,slow=14,SNR=5.0						
ASAJ				LR	LR	17 39 02.4	
	comp=Z,31nm,18.2s,MS2.8,baz=130,slow=34						
DAWY	**Dawson**	**25.58**	**45**	*eP*	**P**	**17 30 38.7**	**-0.2**
DLBC	**Dease Lake**	**30.27**	**56**	LR	LR	17 43 30.6	
	comp=Z,94nm,19.2s,MS3.5,baz=122,slow=36						
MDJ	**Mudanjiang**	**31.93**	**276**	P	**P**	**17 31 26.8**	**-8.6**
MDJ				AMB	AMB		
	comp=Z,30nm,4.1s						
CN2	**Changchun**	**34.90**	**278**	*eP*	**P**	**17 31 55.5**	**-5.8**
YKA	**Yellowknife Ar**	**36.80**	**46**	P	**P**	**17 32 17.5**	**0.0**
	comp=Z,1.6nm,0.8s,mb3.9,baz=285,slow=8.1,SNR=5.8						
YBH	**Yreka Blue Hor**	**41.38**	**80**	LR	LR	17 45 56.0	
	comp=Z,55nm,21.2s,MS3.4,baz=353,slow=30						
SONM	**Songino Array**	**44.09**	**294**	P	**P**	**17 33 17.4**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.1,baz=70,slow=7.4,SNR=4.1						
SONM				PcP	PcP	17 35 03.5	+0.9
	comp=Z,0.1nm,0.4s,baz=58,slow=2.7,SNR=3.7						
NJ2	**Nanjing**	**46.20**	**268**	*eP*	**P**	**17 33 30.0**	**-4.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ	**Urumqi**	**56.88**	**300**	*eP*	**P**	**17 34 52.4**	**-2.0**
WMQ				LR	LR		
	comp=N,40nm,23.0s,MS3.5						
WMQ				LR	LR		
	comp=E,10.0nm,21.0s,MS3.5						
WMQ				LR	LR		
	comp=Z,20nm,16.0s,MS3.3						
MKAR	**Makanchi Array**	**57.67**	**306**	P	**P**	**17 34 59.3**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=51,slow=6.6,SNR=4.1						
KMI	**Kunming**	**61.08**	**275**	P	**P**	**17 35 18.9**	**-4.7**
ASAR	**Alice Springs**	**84.13**	**219**	P	**P**	**17 37 42.5**	**+1.9**
	comp=Z,0.5nm,0.6s,mb3.8,baz=21,slow=4.9,SNR=11						
STKA	**Stephens Creek**	**88.97**	**210**	P	**P**	**17 38 04.3**	**+0.1**
	comp=Z,2.9nm,1.0s,mb4.6,baz=353,slow=8.1,SNR=3.8						
STKA	**Stephens Creek**	**88.97**	**210**	P	**P**	**17 38 04.3**	**+0.1**
MAW	**Mawson**	**145.25**	**218**	PKPbc	PKPbc	17 44 47.2	+0.4
	comp=Z,1.4nm,0.4s,baz=69,slow=6.4,SNR=4.2						

*NEIC **14** 17:54:15.5±0.9, 20.25N×122.38E, h35km, mb4.0/1, Error ellipse: s-maj=40.7km s-min=10.7km az=79.0*
*ISCJB **14** 17:54:17.3±0.4, 20.47N±0.03×121.82E±0.08, h95km±9km, mb4.0/1, Error ellipse: s-maj=13.5km s-min=3.3km az=26.7*
*JMA **14** 17:54:18.5±0.3, 20.41N×122.12E, h55km, M3.9*
*MAN **14** 17:54:20.3, 20.29N×121.69E, h78km, mb3.1, ML4.4, MS7.9*

ISC 14 17:54:18.6±0.4, 20.45N±0.03×121.82E±0.09, h88km±8km, n22, σ0§95/33, mb4.0/1, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.21**	**174**	*eP*	**Pn**	**17 54 54.1**	**+0.7**
SGCP				*e*S	**Sn**	**17 55 19.7**	**-0.4**
PIP	**Pasuquin**	**2.40**	**208**	⇓*e*P	**Pn**	**17 54 55.0**	**-1.0**
PIP				*i* S	**Sn**	**17 55 23.2**	**-1.5**
APYP	**Conner**	**2.63**	**192**	*eP*	**Pn**	**17 54 59.3**	**+0.1**
APYP				*e*S	**Sn**	**17 55 29.0**	**-1.3**
CVP	**Callao Caves**	**2.73**	**180**	⇓*e*P	**Pn**	**17 55 01.5**	**+1.0**
CVP				*e*S	**Sn**	**17 55 32.0**	**-0.7**
ABRA	**Dolores**	**2.98**	**201**	*eP*	**Pn**	**17 55 03.9**	**+0.1**
CAUP	**Cauayan**	**3.49**	**180**	*eP*	**Pn**	**17 55 13.5**	**+2.9**
NACB	**Ninganchiao**	**3.71**	**357**	*e*Pn	**Pn**	**17 55 12.3**	**-1.4**
HATJ	**Hateruma jima**	**4.03**	**27**	P	**Pn**	**17 55 18.1**	**+0.1**
HATJ				S	**Sn**	**17 56 03.2**	**-0.9**
YOJ	**Yonaguni jima**	**4.14**	**15**	P	**Pn**	**17 55 20.6**	**+1.1**
YOJ				S	**Sn**	**17 56 07.4**	**+0.7**
YHNB	**Yeheng**	**4.22**	**354**	*e*Pn	**Pn**	**17 55 21.6**	**+1.1**
YHNB				*e*Sn	**Sn**	**17 56 08.9**	**+0.2**
IRIF	**Iriomote-Funau**	**4.25**	**24**	P	**Pn**	**17 55 21.4**	**+0.4**
IRIF				S	**Sn**	**17 56 09.5**	**+0.1**
JKRS	**Kuro-shima**	**4.28**	**28**	P	**Pn**	**17 55 21.8**	**+0.4**
JKRS				S	**Sn**	**17 56 10.1**	**0.0**
BOLP	**Bolinao**	**4.43**	**204**	*eP*	**Pn**	**17 55 23.5**	**0.0**
JIJ	**Ishigaki jima**	**4.45**	**28**	P	**Pn**	**17 55 23.7**	**0.0**
JIJ				S	**Sn**	**17 56 12.8**	**-1.4**
TATO	**Taipei**	**4.51**	**356**	*e*Pn	**Pn**	**17 55 26.5**	**+1.9**
TATO				*e*Sn	**Sn**	**17 56 14.5**	**-1.3**
BALP	**Baler**	**4.69**	**183**	*eP*	**Pn**	**17 55 29.2**	**+2.2**
JTJ	**Tarama**	**4.95**	**32**	S	**Sn**	**17 56 25.9**	**-0.5**
SCZP	**Santa Cruz**	**4.99**	**202**	*eP*	**Pn**	**17 55 31.7**	**+0.7**
MAJO	**Matsushiro**	**21.50**	**38**	P	**P**	**17 58 59.6**	**-0.6**
WRAB	**Tennant Creek**	**41.97**	**162**	*eP*	**P**	**18 02 00.9**	**+0.1**
WB2	**Warramunga Arr**	**41.98**	**162**	*eP*	**P**	**18 02 00.7**	**-0.2**
STKA	**Stephens Creek**	**55.37**	**160**	*eP*	**P**	**18 03 42.8**	**-0.7**
	2.3nm,1.6s,mb4.0						

*ISCJB **14** 17:54:25.2±0.7, 35.99N±0.04×70.4E±0.1, h150km, Error ellipse: s-maj=15.3km s-min=5.5km az=160.5*
*NNC **14** 17:54:32.2±7.3, 36.51N×70.55E, h173km±112km, mb2.8, mpv3.4, Error ellipse: s-maj=92.8km s-min=36.8km az=45.0*

ISC 14 17:54:26.2±0.8, 36.98N±0.04×70.5E±0.2, h150km, n14, σ0§61/17, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.46**	**151**	P	**Pn**	**17 56 07.0**	**+0.1**
CHCP	**Chirah Chowk**	**3.27**	**134**	P	**Pn**	**17 55 17.9**	**+0.9**
THW	**Thamme Wali**	**3.35**	**161**	⇓P	**Pn**	**17 55 18.2**	**+0.1**
THW				S	**Sn**	**17 55 57.0**	**-1.2**
DRP	**Derazinda**	**4.23**	**183**	P	**Pn**	**17 55 30.1**	**+0.6**
AML	**Almayashu**	**6.64**	**21**	P	**Pn**	**17 56 01.8**	**+0.4**
	SNR=11						
UCH	**Uchtor**	**6.99**	**26**	P	**Pn**	**17 56 06.2**	**+0.1**
	SNR=17						
KK31	**Karatay Array**	**7.11**	**0**	P	**Pn**	**17 56 06.4**	**-1.3**
	3.0nm,0.4s,baz=179,slow=13,SNR=119						
KK31				⇑S	**Sn**	**17 57 22.1**	**-5.2**
	16nm,0.7s,baz=176,slow=22						
KZA	**Kyzart**	**7.14**	**30**	P	**Pn**	**17 56 07.9**	**-0.2**
	SNR=6.3						
EKS2	**Erkin-Say**	**7.15**	**20**	P	**Pn**	**17 56 08.9**	**+0.7**
	SNR=14						
CHMS	**Chumysh**	**7.75**	**24**	P	**Pn**	**17 56 15.9**	**-0.4**
	SNR=10						
USP	**Ospenovka**	**7.92**	**22**	P	**Pn**	**17 56 18.4**	**0.0**
	SNR=13						
TKM2	**Tokmak 2**	**7.99**	**28**	P	**Pn**	**17 56 19.5**	**+0.1**
	SNR=8.1						
TKM2	**Tokmak 2**	**7.99**	**28**	⇓P	**Pn**	**17 56 19.1**	**-0.3**
	0.5nm,0.7s						
AB31	**Akbulak array**	**15.34**	**333**	P	**Pn**	**17 57 55.0**	**+0.2**
	3.5nm,0.5s,baz=153,slow=12,SNR=41						
AB31				S	**S**	**18 00 39.4**	**-6.2**
	0.7nm,0.4s,baz=152,slow=24,SNR=14						

*CSEM **14** 18:17:27.4±0.2, 39.61N×33.14E, h10km, MD3.0, Error ellipse: s-maj=6.4km s-min=3.1km az=27.0*
*ISK **14** 18:17:27.5, 39.59N×33.15E, h6km, MD3.0*
*ISCJB **14** 18:17:28.3±0.7, 39.56N±0.05×33.12E±0.05, h10km, Error ellipse: s-maj=8.5km s-min=4.0km az=68.5*

ISC 14 18:17:28.6±0.7, 39.57N±0.05×33.38E±0.05, h10km, n11, σ0§88/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.40**	**319**	*e*PG	**Pg**	**18 17 34.9**	**-1.5**
ANTO				*e*SG

GUC 14 19:26:11.6±0.5, 2815S×6955W, h107km±10km, ML3.9, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
CPCH	**Copiapo**	**1.06**	**318**	⇑*iP*	Pn	19 26 33.4	+0.2
CPCH				*i* S	Sn	19 26 50.0	+0.5
CPCH				AML	AML	19 26 51.5	
	comp=E,4μm,0.1s						
CPCH	**Copiapo**	**1.06**	**318**	⇑*iP*	Pn	19 26 33.4	+0.2
CPCH				*i* S	Sn	19 26 50.0	+0.5
VACH	**Vallenar**	**1.15**	**248**	⇑*iP*	Pn	19 26 34.2	+0.1
VACH				*i* S	Sn	19 26 51.8	+0.7
VACH				AML	AML	19 26 52.7	
	comp=E,2μm,0.1s						
VACH	**Vallenar**	**1.15**	**248**	⇑*iP*	Pn	19 26 34.2	+0.1
VACH				*i* S	Sn	19 26 51.8	+0.7
CDCH	**Caldera**	**1.56**	**313**	⇑*iP*	Pn	19 26 39.0	0.0
CDCH				*i* S	Sn	19 27 00.1	+0.4
CRCH	**Chaqaral**	**2.03**	**332**	⇑*iP*	Pn	19 26 45.4	+0.6
CRCH				*i* S	Sn	19 27 10.5	+0.2
LVC	**Limon Verde**	**5.54**	**6**	*eP*	Pn	19 27 30.5	-1.2
	comp=E,4.7nm,0.3s						

ISCJB ***14*** *19:49:02.0±0.7, 1092N±004×6247W±003, h98km±7km, Error ellipse: s-maj=6.9km s-min=4.6km az=105.7*
FUNV ***14*** *19:49:03.2, 1099N×6237W, h90km, MW3.4*
TRN ***14*** *19:49:03.3, 1107N×6234W, h4km, MD3.3*
NEIC ***14*** *19:49:04.5, 1109N×6228W, h10km, MD3.3(TRN), After TRN.*

ISC 14 19:49:03.0±0.7, 1093N±004×6247W±003, h92km±8km, n20, σ1§09/36, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.37**	**139**	*eP*	**Pn**	**19 49 16.9**	**-0.1**
GUIV				*eS*	**Sn**	**19 49 26.8**	**-0.7**
ITEV	**Isla Los Testi**	**0.78**	**303**	⇓*iP*	**Pn**	**19 49 20.1**	**-0.3**
ITEV				*eS*	**Sn**	**19 49 33.3**	**-0.1**
GUNV	**Guanoco**	**0.89**	**211**	⇑*iP*	**Pn**	**19 49 23.1**	**+1.5**
GUNV				*eS*	**Sn**	**19 49 37.4**	**+1.9**
TRN	**Trinidad (W)**	**1.08**	**105**	⇑*iP*	**Pn**	**19 49 23.7**	**-0.1**
TRN				*eS*	**Sn**	**19 49 37.0**	**-2.4**
TPP	**Pointe-a-Pierr**	**1.17**	**121**	*eP*	**Pn**	**19 49 26.2**	**+1.4**
TPP				*eS*	**Sn**	**19 49 42.2**	**+1.0**
GRW	**Mount Saint Ca**	**1.46**	**33**	*eP*	**Pn**	**19 49 28.6**	**+0.2**
GRW				*eS*	**Sn**	**19 49 43.1**	**-4.4**
GRHS	**Sauteurs**	**1.52**	**32**	*eP*	**Pn**	**19 49 28.1**	**-1.0**
GRHS				*eS*	**Sn**	**19 49 45.9**	**-3.0**
GRHS	**Sauteurs**	**1.52**	**32**	*eP*	**Pn**	**19 49 28.1**	**-1.0**
GRHS				*eS*	**Sn**	**19 49 45.9**	**-3.0**
GRSS	**Sisters**	**1.60**	**32**	*eP*	**Pn**	**19 49 30.2**	**0.0**
GRSS				*eS*	**Sn**	**19 49 50.4**	**-0.3**
GRCU	**Cariacou**	**1.83**	**33**	*eP*	**Pn**	**19 49 32.5**	**-0.5**
GRCU				*eS*	**Sn**	**19 49 54.7**	**-1.2**
IBAV	**Isla La Blanqu**	**2.25**	**294**	*eP*	**Pn**	**19 49 39.4**	**+0.9**
IBAV				*eS*	**Sn**	**19 50 06.0**	**+0.3**
PCRV	**Puerto La Cruz**	**2.26**	**251**	*eS*	**Sn**	**19 50 06.0**	**+0.1**
SVB	**Belmont**	**2.62**	**27**	*eP*	**Pn**	**19 49 44.9**	**+1.4**
SVB	**Belmont**	**2.62**	**27**	*eP*	**Pn**	**19 49 46.3**	**+2.9**
SVB				*eS*	**Sn**	**19 50 15.3**	**+0.8**
SSV	**Crater Summit**	**2.69**	**28**	*eP*	**Pn**	**19 49 44.8**	**+0.4**
SSV	**Crater Summit**	**2.69**	**28**	*eP*	**Pn**	**19 49 45.2**	**+0.7**
SSV				*eS*	**Sn**	**19 50 17.4**	**+1.2**
CUPV	**Cepira**	**3.38**	**255**	*eS*	**Sn**	**19 50 32.3**	**-0.4**
CAOV	**Caicara del Or**	**5.22**	**227**	*eP*	**Pn**	**19 50 18.2**	**-0.4**
CAOV				*eS*	**Sn**	**19 51 14.5**	**-3.0**
BAUV	**El Baul**	**5.83**	**251**	*eP*	**Pn**	**19 50 26.8**	**-0.1**
BAUV				*eS*	**Sn**	**19 51 28.6**	**-3.8**
PAYV	**Puerto Ayacuch**	**7.50**	**224**	*eP*	**Pn**	**19 50 49.0**	**-0.6**
PAYV				*eS*	**Sn**	**19 52 07.5**	**-5.7**

CASC 14 19:53:41.9±2.0, 1219N×8700W, h84km±9km, MD3.7, ML3.4, 6C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.25**	**26**	⇓*iP*	Pn	19 53 54.2	-0.2
LEON				*eS*	Sn	19 54 05.2	+1.6
MIRN	**Miramar**	**0.38**	**49**	⇑*eP*	Pn	19 53 55.0	0.0
MIRN				*eS*	Sn	19 54 07.8	+2.9
COPN	**Copaltepe**	**0.40**	**92**	⇑*iP*	Pn	19 53 55.0	-0.2
COPN				*eS*	Sn	19 54 04.6	-0.6
TEL3	**Telica 3**	**0.41**	**22**	*eP*	Pn	19 53 55.8	+0.5
CNGN	**Cerro Negro**	**0.43**	**44**	⇑*eP*	Pn	19 53 55.5	0.0
CNGN				*eS*	Sn	19 54 07.3	+1.9
TELN	**Telica**	**0.44**	**22**	*eP*	Pn	19 53 55.5	-0.1
TELN				*eS*	Sn	19 54 06.8	+1.1
MOMJ	**Momotombo**	**0.50**	**65**	⇓*eP*	Pn	19 53 55.9	-0.1
MOMJ				*eS*	Sn	19 54 06.5	0.0
CRIN	**San Cristobal**	**0.51**	**355**	⇓*iP*	Pn	19 53 56.6	+0.6
CRIN				*eS*	Sn	19 54 07.1	+0.5
APYN	**Apoyeque**	**0.64**	**86**	⇑*eP*	Pn	19 53 57.2	-0.1
APYN				*eS*	Sn	19 54 10.5	+1.8
XAVN	**Gruta Xavier**	**0.66**	**94**	⇓*iP*	Pn	19 53 57.5	0.0
XAVN				*eS*	Sn	19 54 08.5	-0.6
TISN	**Laguna Tiscapa**	**0.72**	**94**	⇑*iP*	Pn	19 53 58.2	+0.1
TISN				*eS*	Sn	19 54 10.8	+0.7
MGAN	**Managua**	**0.74**	**93**	⇑*eP*	Pn	19 53 58.2	0.0
MGAN				*eS*	Sn	19 54 10.8	+0.3
	comp=E,811nm,0.3s						
TICN	**Ticuantepe**	**0.77**	**102**	⇓*iP*	Pn	19 53 59.0	+0.4
TICN				*eS*	Sn	19 54 11.7	+0.6
APON	**Apoyo**	**0.96**	**107**	⇓*eP*	Pn	19 54 00.4	-0.2
APON				*eS*	Sn	19 54 15.8	+1.1
CNCH	**Conchagua**	**1.35**	**323**	*eP*	x	19 54 05.8	
BLLM	**Bellamira**	**1.73**	**316**	*eP*	x	19 54 11.1	
BLLM				*eS*	x	19 54 31.9	
VSM	**San Miguel**	**1.75**	**315**	*eP*	x	19 54 11.6	
VSM				*eS*	x	19 54 33.5	
LIM1	**Limonal**	**2.27**	**131**	*eP*	Pn	19 54 17.5	+0.1
LIM1				*eS*	Sn	19 54 45.8	+1.1
SNVI	**San Vicente**	**2.28**	**308**	*eP*	x	19 54 19.2	
SNVI				*eS*	x	19 54 45.3	
LCBS	**La Ceiba**	**2.41**	**307**	*eP*	x	19 54 20.4	
LCBS				*eS*	x	19 54 48.0	
VCR	**Vista de Mar**	**2.46**	**147**	*eP*	Pn	19 54 20.0	+0.1
LFRS	**El Faro**	**2.46**	**306**	*eP*	x	19 54 21.2	
LFRS				*eS*	x	19 54 49.4	
SBLS	**San Blas**	**3.03**	**303**	*eP*	x	19 54 29.5	
SNJE	**San Jose**	**3.03**	**304**	*eP*	x	19 54 30.3	
PRS1	**Puriscal**	**3.44**	**129**	*eP*	Pn	19 54 35.6	+2.4
LCR2	**La Lucha 2**	**3.82**	**129**	*eP*	Pn	19 54 40.2	+1.7
URSC	**Urasca**	**3.94**	**126**	*eP*	Pn	19 54 41.9	+1.9
BUS	**Buena Vista**	**4.13**	**129**	*eP*	Pn	19 54 44.5	+2.0

NEIC ***14*** *20:31:04.6, 1126N×6191W, h19km, MD2.8(TRN), After TRN.*
FUNV ***14*** *20:31:04.5, 1126N×6181W, h26km, MW3.0*
TRN ***14*** *20:31:04.6, 1126N×6191W, h19km, MD2.8, M2.5(CAR)*
ISCJB ***14*** *20:31:06.0±0.5, 1121N±003×6190W±004, h33km, Error ellipse: s-maj=6.2km s-min=4.0km az=54.5*

ISC 14 20:31:06.2±0.5, 1120N±003×6189W±004, h35km, n12, σ0§92/24, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.64**	**211**	*eP*	**Pn**	**20 31 18.6**	**-0.3**
GUIV				*eS*	**Sn**	**20 31 28.5**	**+0.7**
TRN	**Trinidad (W)**	**0.73**	**139**	*eP*	**Pn**	**20 31 20.0**	**0.0**
TRN				*eS*	**Sn**	**20 31 31.1**	**+1.2**
GRW	**Mount Saint Ca**	**0.98**	**13**	*eP*	**Pn**	**20 31 21.8**	**-1.7**
GRW				*eS*	**Sn**	**20 31 37.6**	**+1.5**
TPP	**Pointe-a-Pierr**	**0.98**	**154**	*eP*	**Pn**	**20 31 22.3**	**-1.1**
TPP				*eS*	**Sn**	**20 31 40.9**	**+4.8**
TPP	**Pointe-a-Pierr**	**0.98**	**154**	*eP*	**Pn**	**20 31 22.3**	**-1.1**
TPP				*eS*	**Sn**	**20 31 40.9**	**+4.8**
GRSS	**Sisters**	**1.12**	**14**	*eP*	**Pn**	**20 31 25.5**	**0.0**
GRSS				*eS*	**Sn**	**20 31 40.6**	**+0.9**
ITEV	**Isla Los Testi**	**1.23**	**277**	*eP*	**Pn**	**20 31 26.4**	**-0.6**
ITEV				*eS*	**Sn**	**20 31 43.2**	**+0.8**
GRCU	**Cariacou**	**1.33**	**19**	*eP*	**Pn**	**20 31 27.8**	**-0.5**
GRCU				*eS*	**Sn**	**20 31 44.8**	**0.0**
CRUV	**Carupano**	**1.43**	**249**	*eP*	**Pn**	**20 31 29.2**	**-0.4**
CRUV				*eS*	**Sn**	**20 31 47.5**	**+0.4**
GUNV	**Guanoco**	**1.46**	**225**	*eP*	**Pn**	**20 31 29.8**	**-0.4**
GUNV				*eS*	**Sn**	**20 31 49.7**	**+1.7**
CAOV	**Caicara del Or**	**5.83**	**229**	*eP*	**Pn**	**20 32 29.1**	**-1.1**
CAOV				*eS*	**Sn**	**20 33 30.7**	**-5.1**
BAUV	**El Baul**	**6.46**	**250**	*eP*	**Pn**	**20 32 37.8**	**-1.1**
BAUV				*eS*	**Sn**	**20 33 46.1**	**-5.3**

WEL ***14*** *20:33:46.4±0.3, 3770S×17953W, h33km, ML5.2/52, Error ellipse: s-maj=2.4km s-min=2.1km az=90.0*
ISCJB ***14*** *20:33:47.7±0.3, 3766S±004×17985W±004, h33km, mb5.0/29, MS4.3/9, Error ellipse: s-maj=6.6km s-min=3.8km az=132.6*
NEIC ***14*** *20:33:48.8±0.3, 3764S×17981W, mb5.1/16, ML5.2(WEL), Error ellipse: s-maj=6.4km s-min=4.3km az=159.0*
MOS ***14*** *20:33:48.5±2.1, 3770S×17990W, h33km, mb5.1/13, Error ellipse: s-maj=15.6km s-min=12.9km az=130.1*
HRVD ***14*** *20:33:48.8±0.5, 3767S×17947W, h24km±1km, MW5.0/55, Centroid moment Tensor Solution. LP body waves: s29,c34;Mantle waves: s55,c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.25; $M_{\theta\theta}$3.47±.17; $M_{\phi\phi}$-0.72±.15; $M_{r\theta}$-0.01±.21; $M_{\theta\phi}$2.46±.14; $M_{\phi r}$1.80±.24; Best double couple: $M_0$4.36100×10^{16} NP1:ϕ_s215.00000°, δ61.00000°, λ-133.00000°. Principal axes: T 4.6840, Plg6.0000°, Azm334.0000°; N -0.6440, Plg37.0000°, Azm239.0000°; P -4.0390, Plg53.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***14*** *20:33:50.4±1.7, 3759S×17987W, h45km±14km, mb4.7/15, mb1 4.8/17, mb1mx4.8/18, mbtmp4.9/17, ML4.8/2, MS4.2/11, Ms1 4.2/11, ms1mx3.9/16 Error ellipse: s-maj=14.3km s-min=11.3km az=5.0*
CSEM ***14*** *20:33:52.0, 3726S×17967W, h80km, mb5.5*

ISC 14 20:33:49.2±0.3, 3775S±004×17983W±004, h35km, h35km±1.1km: pP-P, n241, σ1§27/172, mb5.0/29, MS4.3/9, 16C-10D, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.49**	**276**	PN	**Pn**	**20 34 13.5**	**0.0**
MXZ				*e*SN	**Sn**	**20 34 33.4**	**+1.6**
MXZ				SN	**Sn**	**20 34 33.7**	**+2.0**
MXZ	**Matakaoa Point**	**1.49**	**276**	P	**Pn**	**20 34 13.5**	**0.0**
MXZ				*e*S	**Sn**	**20 34 33.4**	**+1.6**
PUZ	**Puketiti**	**1.55**	**257**	PN	**Pn**	**20 34 14.2**	**-0.1**
PUZ				*e*SN	**Sn**	**20 34 35.4**	**+2.2**
PUZ	**Puketiti**	**1.55**	**257**	P	**Pn**	**20 34 14.2**	**-0.1**
PUZ				*e*S	**Sn**	**20 34 35.4**	**+2.2**
MWZ	**Matawai**	**2.17**	**253**	PN	**Pn**	**20 34 22.8**	**0.0**
MWZ				SN	**Sn**	**20 34 50.1**	**+1.6**
MWZ				SN	**Sn**	**20 34 50.5**	**+2.0**
MWZ	**Matawai**	**2.17**	**253**	P	**Pn**	**20 34 22.8**	**0.0**
MWZ				S	**Sn**	**20 34 50.1**	**+1.6**
KNZ	**Kokohu**	**2.34**	**236**	PN	**Pn**	**20 34 24.7**	**-0.5**
KNZ				SN	**Sn**	**20 34 54.7**	**+2.0**
KNZ	**Kokohu**	**2.34**	**236**	*eP*	**Pn**	**20 34 24.7**	**-0.5**
URZ	**Urewera**	**2.47**	**257**	P	**Pn**	**20 34 27.5**	**+0.5**
	154nm,0.3s,baz=81,slow=3.8,SNR=463						
URZ				S	**Sn**	**20 34 58.3**	**+2.3**
	1μm,0.3s,baz=133,slow=23,SNR=38						
URZ				LR	LR	20 35 26.3	
	comp=Z,2μm,19.2s,baz=117,slow=39						
URZ	**Urewera**	**2.47**	**257**	PN	**Pn**	**20 34 27.1**	**+0.1**
URZ				SN	**Sn**	**20 34 58.3**	**+2.3**
URZ	**Urewera**	**2.47**	**257**	P	**Pn**	**20 34 27.1**	**+0.1**
EDRZ	**Edgecumbe**	**2.74**	**261**	PN	**Pn**	**20 34 31.1**	**+0.4**
MARZ	**Manawahe**	**2.78**	**264**	PN	**Pn**	**20 34 31.2**	**0.0**
MARZ	**Manawahe**	**2.78**	**264**	P	**Pn**	**20 34 31.2**	**0.0**
TAZ	**Tarawera**	**2.94**	**259**	PN	**Pn**	**20 34 33.7**	**+0.4**
PATZ	**Paeroa**	**3.15**	**257**	PN	**Pn**	**20 34 36.7**	**+0.3**
MYRZ	**Mayor Island**	**3.16**	**277**	PN	**Pn**	**20 34 36.3**	**-0.1**
BKZ	**Black Stump Fm**	**3.22**	**243**	PN	**Pn**	**20 34 36.9**	**-0.3**
BKZ	**Black Stump Fm**	**3.22**	**243**	P	**Pn**	**20 34 36.7**	**-0.6**
PXZ	**Pawanui**	**3.45**	**228**	PN	**Pn**	**20 34 38.9**	**-1.5**
KUZ	**Kuaotunu**	**3.69**	**284**	PN	**Pn**	**20 34 43.1**	**-0.6**
KUZ	**Kuaotunu**	**3.69**	**284**	P	**Pn**	**20 34 43.1**	**-0.6**
TOZ	**Tahuroa Road**	**3.70**	**269**	PN	**Pn**	**20 34 43.7**	**-0.2**
TOZ	**Tahuroa Road**	**3.70**	**269**	P	**Pn**	**20 34 43.7**	**-0.2**
KRVZ	**Karewarewa**	**3.81**	**248**	PN	**Pn**	**20 34 45.2**	**-0.1**
OTVZ	**Oturere**	**3.81**	**247**	PN	**Pn**	**20 34 45.6**	**+0.1**
MOVZ	**Moawhango**	**3.84**	**243**	PN	**Pn**	**20 34 45.9**	**+0.1**
MOVZ	**Moawhango**	**3.84**	**243**	P	**Pn**	**20 34 45.9**	**+0.1**
WTVZ	**West Tongariro**	**3.85**	**248**	PN	**Pn**	**20 34 46.4**	**+0.4**
WTVZ	**West Tongariro**	**3.85**	**248**	P	**Pn**	**20 34 45.9**	**-0.1**
TUVZ	**Tukino**	**3.86**	**245**	PN	**Pn**	**20 34 46.9**	**+0.9**
TUVZ	**Tukino**	**3.86**	**245**	P	**Pn**	**20 34 46.9**	**+0.9**
NGZ	**Ngauruhoe**	**3.86**	**247**	PN	**Pn**	**20 34 46.2**	**+0.1**
NGZ	**Ngauruhoe**	**3.86**	**247**	P	**Pn**	**20 34 46.2**	**+0.1**
WPVZ	**Whakapapa**	**3.91**	**247**	PN	**Pn**	**20 34 47.1**	**+0.3**
WNVZ	**Wahianoa**	**3.92**	**245**	PN	**Pn**	**20 34 47.2**	**+0.3**
WNVZ	**Wahianoa**	**3.92**	**245**	P	**Pn**	**20 34 47.2**	**+0.3**
FWVZ	**Far West T-bar**	**3.93**	**246**	PN	**Pn**	**20 34 47.2**	**+0.2**
FWVZ	**Far West T-bar**	**3.93**	**246**	*eP*	**Pn**	**20 34 47.2**	**+0.2**
TRVZ	**Turoa**	**3.94**	**245**	PN	**Pn**	**20 34 47.2**	**0.0**
TWVZ	**Taurewa**	**3.95**	**249**	P	**Pn**	**20 34 48.5**	**+1.2**
TSZ	**Takapari Road**	**4.02**	**234**	PN	**Pn**	**20 34 47.0**	**-1.3**
TSZ	**Takapari Road**	**4.02**	**234**	P	**Pn**	**20 34 47.0**	**-1.2**
MTVZ	**Mangateitei**	**4.03**	**245**	PN	**Pn**	**20 34 48.6**	**+0.2**
PKVZ	**Pokaka**	**4.09**	**246**	PN	**Pn**	**20 34 49.7**	**+0.5**
BFZ	**Birch Farm**	**4.23**	**225**	PN	**Pn**	**20 34 48.6**	**-2.6**
BFZ	**Birch Farm**	**4.23**	**225**	*eP*	**Pn**	**20 34 48.6**	**-2.6**
OTAZ	**Otara**	**4.26**	**279**	P	**Pn**	**20 34 53.0**	**+1.5**
HIZ	**Hauiti**	**4.26**	**258**	PN	**Pn**	**20 34 52.3**	**+0.7**
MTAZ	**Motutapu**	**4.30**	**281**	P	**Pn**	**20 34 52.7**	**+0.5**
KAAZ	**Kauri Point**	**4.46**	**280**	P	**Pn**	**20 34 55.3**	**+1.0**
VRZ	**Vera Road**	**4.47**	**250**	PN	**Pn**	**20 34 54.7**	**+0.3**
VRZ	**Vera Road**	**4.47**	**250**	P	**Pn**	**20 34 54.7**	**+0.2**
WAZ	**Wanganui**	**4.53**	**242**	*eP*	**Pn**	**20 34 56.1**	**+0.9**
WTAZ	**Waiatarua**	**4.54**	**279**	P	**Pn**	**20 34 56.2**	**+0.8**
MRZ	**Mangatainoka R**	**4.61**	**229**	PN	**Pn**	**20 34 54.0**	**-2.3**
MRZ	**Mangatainoka R**	**4.61**	**229**	P	**Pn**	**20 34 54.0**	**-2.3**
RAEZ	**Rainy Point**	**4.79**	**249**	P	**Pn**	**20 34 59.9**	**+1.1**
MTW	**Mount Morrison**	**4.97**	**225**	P	**Pn**	**20 34 58.0**	**-3.3**
NEZ	**North Egmont**	**5.00**	**250**	P	**Pn**	**20 35 03.3**	**+1.5**
WCZ	**Waipu Caves**	**5.01**	**289**	PN	**Pn**	**20 35 02.4**	**+0.5**
WCZ	**Waipu Caves**	**5.01**	**289**	*eP*	**Pn**	**20 35 02.4**	**+0.5**
PKE	**Pukeiti**	**5.07**	**251**	P	**Pn**	**20 35 04.9**	**+2.3**
KIW	**Kapiti Island**	**5.13**	**231**	PN	**Pn**	**20 35 01.8**	**-1.8**
KIW	**Kapiti Island**	**5.13**	**231**	P	**Pn**	**20 35 01.8**	**-1.8**
PAWZ	**Paruwai Farm**	**5.16**	**224**	P	**Pn**	**20 35 00.9**	**-3.1**
CAW	**Cannon Point**	**5.19**	**228**	PN	**Pn**	**20 35 01.4**	**-2.9**
CAW	**Cannon Point**	**5.19**	**228**	P	**Pn**	**20 35 01.4**	**-2.9**
MSWZ	**Moikau Station**	**5.28**	**225**	P	**Pn**	**20 35 01.3**	**-4.3**
MRW	**Makara Radio**	**5.48**	**229**	PN	**Pn**	**20 35 05.8**	**-2.5**
MRW	**Makara Radio**	**5.48**	**229**	P	**Pn**	**20 35 05.8**	**-2.5**
SNZO	**South Karori**	**5.53**	**228**	*eP*	**Pn**	**20 35 05.7**	**-3.3**
TCW	**Tory Channel**	**5.73**	**231**	PN	**Pn**	**20 35 08.9**	**-2.8**
TCW	**Tory Channel**	**5.73**	**231**	P	**Pn**	**20 35 08.9**	**-2.8**
OUZ	**Omahuta**	**5.87**	**293**	*eP*	**Pn**	**20 35 13.9**	**+0.2**
NNZ	**Nelson**	**6.30**	**234**	PN	**Pn**	**20 35 17.0**	**-2.5**
NNZ	**Nelson**	**6.30**	**234**	*eP*	**Pn**	**20 35 17.0**	**-2.5**
QRZ	**Quartz Range**	**6.68**	**240**	*eP*	**Pn**	**20 35 22.0**	**-2.8**
THZ	**Tophouse**	**6.89**	**232**	*eP*	**Pn**	**20 35 24.6**	**-3.1**
KHZ	**Kahutara**	**6.90**	**225**	*eP*	**Pn**	**20 35 23.9**	**-4.0**
LTZ	**Lake Taylor**	**7.86**	**228**	*eP*	**Pn**	**20 35 37.9**	**-3.1**
MQZ	**McQueen's Vall**	**8.25**	**221**	*eP*	**Pn**	**20 35 42.8**	**-3.5**
RAO	**Raoul Island**	**8.62**	**11**	S	**Sn**	**20 37 15.7**	**-12**
	92nm,0.3s,baz=113,slow=23,SNR=2.5						
RAO				LR	LR	20 38 29.6	
	comp=Z,692nm,18.9s,baz=259,slow=33						
DZM	**Mont Dzumac**	**19.60**	**319**	*eP*	**Pn**	**20 38 13.8**	**-2.1**
DZM	**Mont Dzumac**	**19.60**	**319**	P	**Pn**	**20 38 14.0**	**-1.9**
	4.1nm,0.3s,baz=98,slow=17,SNR=31						
DZM				LR	LR	20 44 53.7	
	comp=Z,700nm,19.0s,baz=28,slow=34						
NOUC	**Port Laguerre**	**19.65**	**319**	*eP*	**Pn**	**20 38 14.4**	**-2.1**
RAR	**Rarotonga**	**23.92**	**52**	P	**P**	**20 38 58.8**	**-1.1**
	16nm,0.8s,mb4.5,baz=223,slow=5.8,SNR=4.3						
RAR				LR	LR	20 46 40.1	
	comp=Z,444nm,19.8s,MS3.9,baz=286,slow=32						
RAR	**Rarotonga**	**23.92**	**52**	P	**P**	**20 38 58.8**	**-1.0**
RAR				pmax	pmax		
	comp=Z,16nm,0.8s						
RAR				MLR	MLR		
	comp=Z,444nm,19.8s						
ARMA	**Armidale**	**24.68**	**279**	*eP*	**P**	**20 39 08.4**	**+1.6**
ARMA				*e*		20 39 18.4	
AFI	**Afiamalu**	**24.80**	**19**	P	**P**	**20 39 08.2**	**+0.4**
	comp=Z,57nm,0.3s,mb5.6,baz=92,slow=4.0,SNR=13						
CNB	**Canberra Magne**	**24.82**	**266**	*eP*	**P**	**20 39 11.2**	**+3.2**
	comp=Z,30nm,0.9s,mb4.8						
CNB				*e*pP		20 39 19.4	
TOO	**Toolangi**	**27.37**	**260**	*eP*	**P**	**20 39 32.6**	**+1.6**
	comp=Z,7.3nm,0.8s,mb4.3						
TOO				*e*	pP	20 39 40.7	-0.4
TOO	**Toolangi**	**27.37**	**260**	*eP*	**P**	**20 39 32.6**	**+1.6**
TOO				*e*	pP	20 39 40.7	-0.4
TOO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
TBI	**Tubuai**	**29.68**	**70**	*e*LR	LR	20 47 05.3	
	comp=Z,843nm,27.0s,baz=226						
STKA	**Stephens Creek**	**32.05**	**269**	*eP*	**P**	**20 40 11.1**	**-1.4**
	comp=Z,8.6nm,0.7s,mb4.7						
STKA				*e*pP	pP	20 40 21.9	-0.7
STKA	**Stephens Creek**	**32.05**	**269**	P	**P**	**20 40 11.3**	**-1.2**
	comp=Z,7.4nm,0.6s,mb4.7,baz=103,slow=9.4,SNR=31						
STKA				LR	LR	20 52 06.3	
	comp=Z,1μm,19.8s,MS4.5,baz=189,slow=34						
PPT	**Papeete**	**33.27**	**61**	*e*LR	LR	20 48 40.8	
	comp=Z,852nm,26.5s,baz=238						
PPT	**Papeete**	**33.27**	**61**	LR	LR	20 51 12.6	
	comp=Z,434nm,19.5s,MS4.2,baz=200,slow=31						
HNR	**Honiara**	**33.58**	**322**	P	**P**	**20 40 24.2**	**-1.7**
	comp=Z,119nm,0.8s,mb5.9,baz=271,slow=5.0,SNR=5.0						
HNR	**Honiara**	**33.58**	**322**	P	**P**	**20 40 24.2**	**-1.7**
HNR				pmax	pmax		
	comp=Z,119nm,0.8s,mb5.9						
CTA	**Charters Tower**	**34.27**	**291**	⇑*iP*	**P**	**20 40 32.1**	**+0.2**
	comp=Z,12nm,0.5s,mb5.1						
CTA				*e*pP	pP	20 40 42.0	0.0
CTA	**Charters Tower**	**34.27**	**291**	P	**P**	**20 40 31.7**	**-0.2**
	comp=Z,17nm,0.7s,mb5.1,baz=119,slow=10,SNR=33						
CTA	**Charters Tower**	**34.27**	**291**	⇑*iP*	**P**	**20 40 32.1**	**+0.2**
CTA				*e**PD	pP	20 40 42.0	0.0
CTA				pmax	pmax		
	comp=Z,12nm,0.5s						
CTAO	**Charters Tower**	**34.27**	**291**	*eP*	**P**	**20 40 32.1**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.2						
CTAO	**Charters Tower**	**34.27**	**291**	*eP*	**P**	**20 40 32.1**	**+0.2**
	comp=Z,24nm,0.7s,mb5.2						
VNDA	**Vanda**	**40.65**	**186**	P	**P**	**20 41 26.6**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=20,slow=6.7,SNR=6.1						
VNDA				LR	LR	20 54 54.7	
	comp=Z,217nm,20.4s,MS4.0,baz=28,slow=31						
VNDA	**Vanda**	**40.65**	**186**	P	**P**	**20 41 26.7**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA				MLR	MLR		
	comp=Z,217nm,20.4s						
VNDA	**Vanda**	**40.65**	**186**	P	**P**	**20 41 26.6**	**+0.7**
VNDA				LR	LR	20 54 54.7	
RKT	**Rikitea**	**40.94**	**82**	*e*LR	LR	20 52 19.5	
PMG	**Port Moresby**	**40.98**	**305**	P	**P**	**20 41 28.4**	**-0.2**
	comp=Z,45nm,0.9s,mb5.1,baz=134,slow=8.5,SNR=5.9						
AS31	**Alice Springs**	**41.77**	**276**	⇑*iP*	**P**	**20 41 34.5**	**-0.6**
AS31				*e*pP	pP	20 41 44.9	-0.6
AS31				*e*S	**S**	**20 47 48.2**	**-1.9**
ASAR	**Alice Springs**	**41.78**	**276**	P	**P**	**20 41 34.1**	**-1.0**
	comp=Z,31nm,0.6s,mb5.1,baz=120,slow=8.1,SNR=246						
ASAR				S	**S**	**20 47 50.4**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=124,slow=16,SNR=5.3	

S08C	**White Mtn Res**	94.03	45	⇑P	P	20 47 04.9	+1.2
	baz=94						
M02C	**Callahan**	94.38	39	⇑P	P	20 47 06.7	+1.4
	baz=95						
NVAR	**Mina Array Bea**	94.61	44	P	P	20 47 06.9	+0.5
	comp=Z,0.3nm,0.3s,mb4.2,baz=219,slow=17,SNR=3.2						
CHTO	**Chiang Mai**	94.64	290	*e*P	P	20 47 06.1	-0.4
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.1						
CHTO	**Chiang Mai**	94.64	290	*e*P	P	20 47 06.0	-0.4
	comp=Z,9.4nm,1.1s,mb5.1						
H02A	**Toledo**	96.29	36	⇑P	P	20 47 15.1	+1.1
	baz=96						
LPAZ	**La Paz**	96.41	116	P	P	20 47 16.4	+1.8
	comp=Z,3.7nm,1.0s,mb4.8,baz=240,slow=4.3,SNR=11						
LPAZ				PKKPbc	PKKPbc	21 03 57.9	-1.3
	comp=Z,0.5nm,0.5s,baz=358,slow=9.2,SNR=4.2						
LPAZ				LR	LR	21 18 43.6	
	comp=Z,64nm,21.5s,MS4.1,baz=267,slow=28						
CPUP	**Villa Florida**	96.51	130	P	P	20 47 15.2	+0.3
	comp=Z,0.3nm,0.4s,mb4.1,baz=233,slow=5.1,SNR=4.0						
CPUP				LR	LR	21 23 33.9	
	comp=Z,342nm,18.9s,MS4.8,baz=210,slow=31						
SONM	**Songino Array**	107.53	317	PKKPbc	PKKPbc	21 03 27.0	+0.2
	comp=Z,1.3nm,0.9s,baz=284,slow=3.3,SNR=7.7						
MKAR	**Makanchi Array**	121.17	307	PKP	PKPdf	20 52 37.2	-1.0
	comp=Z,0.6nm,0.6s,baz=120,slow=1.7,SNR=4.8						
MKAR				PKKPbc	PKKPbc	21 02 40.6	+0.6
	comp=Z,1.5nm,0.9s,baz=330,slow=4.2,SNR=6.5						
MKAR	**Makanchi Array**	121.17	307	PKIKP	PKPdf	20 52 37.2	-1.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	121.17	307	PKP	PKPdf	20 52 37.2	-1.0
MKAR				PKKPbc	PKKPbc	21 02 40.6	+0.6
KURK	**Kurchatov**	124.85	311	*e*PKIKP	PKPdf	20 52 44.6	-0.7
ZRNK	**Zerenda**	131.19	311	*e*PKIKP	PKPdf	20 52 48.8	-8.6
SEMD	**Semdilli**	145.08	283	*e*P	PKPbc	20 53 22.6	+0.3
DGRG	**David-gareji**	145.28	291	P	PKPbc	20 53 23.6	+0.7
ARCES	**ARCESS Array B**	145.35	345	PKPbc	PKPbc	20 53 21.5	-1.7
	comp=Z,16nm,0.9s,baz=33,slow=2.2,SNR=34						
ARCES	**ARCESS Array B**	145.35	345	PKP2	PKPab	20 53 21.5	-1.8
ARCES				pmax	pmax		
	comp=Z,16nm,0.9s						
ARE0	**ARCESS Array S**	145.35	345	*e*PKPdf	PKPdf	20 53 21.9	-1.3
GNI	**Garni**	145.53	288	*e*P	PKPdf	20 53 26.8	+3.3
GNI	**Garni**	145.53	288	*e*PKPdf	PKPdf	20 53 23.1	-0.5
MTA	**Mtatsminda**	145.74	291	P	PKPdf	20 53 24.5	+0.6
CUKT	**Cukurca**	145.76	283	*e*P	PKPdf	20 53 23.9	0.0
TBLG	**Delisi**	145.79	291	P	PKPdf	20 53 24.3	+0.3
MSL	**Mosul**	145.92	281	*ex*	x	20 53 26.0	
CLDR	**Caldiran**	145.95	286	*e*P	PKPdf	20 53 24.5	+0.2
ZEI	**Tsey**	146.54	293	*e*PKP2	PKPab	20 53 26.9	-0.9
AKH	**Akhalkalaki**	146.67	290	P	PKPdf	20 53 28.6	+3.0
ONI	**Oni**	146.85	292	P	PKPdf	20 53 27.6	+1.8
AMRG		147.07	292	P	PKPdf	20 53 31.1	+4.9
GOF	**Gofitskoye**	147.34	297	*e*PKP2	PKPab	20 53 28.4	-2.5
GOF				pmax	pmax		
	comp=Z,20nm,0.8s						
KIV	**Kislovodsk**	147.53	295	*i* PKP2	PKPab	20 53 29.7	-2.0
KIV				pmax	pmax		
	comp=Z,8.0nm,1.2s						
VRHR	**Novokhopersk**	147.97	308	*i* PKP2	PKPab	20 53 30.0	-3.5
VRHR				pmax	pmax		
	comp=Z,30nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,40nm,1.2s						
LIC	**Lamto**	148.27	170	*e*PKIKP	PKPdf	20 53 31.1	+2.9
	comp=E,35nm,0.8s						
JOF	**Joensuu**	148.49	333	*e*pkp	PKPdf	20 53 30.4	+1.9
DBIC	**Dimbokro**	148.73	170	PKP	PKPdf	20 53 29.4	+0.4
	comp=E,10.0nm,0.7s,baz=210,slow=1.8,SNR=3.5						
DBIC				PKPbc	PKPbc	20 53 33.7	+1.0
	comp=E,10.0nm,0.7s,baz=141,slow=2.0,SNR=8.3						
DBIC	**Dimbokro**	148.73	170	PKIKP	PKPdf	20 53 29.4	+0.5
DBIC						20 53 33.7	
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
DBIC	**Dimbokro**	148.73	170	PKP	PKPdf	20 53 29.4	+0.4
DBIC				PKPbc	PKPbc	20 53 33.7	+1.0
VOR	**Voronezh**	149.35	310	PKP2	PKPab	20 53 36.0	-3.1
VOR				pmax	pmax		
	comp=Z,50nm,1.6s						
SOC	**Sochi**	149.65	294*c*	*i* PKP2	PKPab	20 53 35.5	-4.8
SOC				*e*		20 57 03.8	
SOC				*e*PPP		21 00 26.8	
SOC				*e*SS	SS	21 16 19.9	-0.5
SOC				pmax	pmax		
	comp=Z,18nm,0.9s						
SOC				MLR	MLR		
	comp=Z,182nm,20.0s,MS4.9						
OBN	**Obninsk**	149.94	317	⇓*i* PKP2	PKPab	20 53 35.1	-6.4
OBN				pmax	pmax		
	comp=Z,27nm,1.5s						
OBN	**Obninsk**	149.94	317	*e*PKPdf	PKPdf	20 53 35.5	+4.6
MALT	**Malatya**	150.00	283	*e*PKP2	PKPab	20 53 37.1	-4.6
EIL	**Elat**	150.10	265	*e*PKPbc	PKPbc	20 53 39.1	+3.0
KAF	**Kangasniemi**	150.76	335	*e*pkp	PKPdf	20 53 36.0	+3.9
FINES	**FINESS Array B**	151.31	334	PKPbc	PKPbc	20 53 37.4	-1.6
	comp=Z,6.4nm,0.7s,baz=35,slow=3.8,SNR=20						
FINES	**FINESS Array B**	151.31	334	*i* PKIKP	PKPdf	20 53 38.2	+5.2
FINES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
FINES	**FINESS Array B**	151.31	334	PKPbc	PKPbc	20 53 37.4	-1.6
BRTR	**Keskin Array B**	153.90	285	PKPbc	PKPbc	20 53 45.2	+0.4
	comp=Z,2.1nm,0.9s,baz=129,slow=2.6,SNR=9.8						
BRTR	**Keskin Array B**	153.90	285	PKIKP	PKPdf	20 53 45.2	+8.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	155.47	184	PKP	PKPdf	20 53 39.4	+0.5
	comp=Z,2.4nm,0.9s,baz=215,slow=0.5,SNR=7.0						
TORD				PKPab	PKPab	20 54 04.9	+0.2
	comp=Z,11nm,0.9s,baz=165,slow=2.8,SNR=17						
TORD	**Torodi Ar. Bea**	155.47	184	PKP	PKPdf	20 53 39.4	+0.5
TORD				PKPab	PKPab	20 54 04.9	+0.2
AKASG	**Malin Array Be**	155.66	311	PKP	PKPdf	20 53 38.4	-0.8
	comp=Z,0.2nm,0.3s,baz=358,slow=0.7,SNR=3.0						
AKASG				PKPbc	PKPdf	20 53 48.4	+9.2
	comp=Z,0.4nm,0.4s,baz=68,slow=2.0,SNR=4.5						
AKASG	**Malin Array Be**	155.66	311	PKP	PKPdf	20 53 38.4	-0.8
AKASG				PKPbc	PKPdf	20 53 48.4	+9.2
NB2	**NORSAR Subarra**	155.67	347	PKPa		20 53 52.7	
	comp=Z,5.2nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	155.67	347	PKPbc	PKPdf	20 53 49.9	+11
	comp=Z,1.8nm,0.8s,baz=33,slow=2.0,SNR=6.1						
CFR	**Carcaliu**	157.84	298	⇓*i* P	PKPab	20 54 15.6	+0.7
VRI	**Vrincioaia**	158.68	301	⇓*i* P	PKPab	20 54 23.2	+4.7
BURAR	**Bucovina Array**	159.19	306	⇑*i* P	PKPab	20 54 20.0	-0.8
MLR	**Muntele Rosu**	159.30	300	⇓*i* P	PKPab	20 54 20.8	-0.4
CRVS	**Cervenica-Dubn**	160.98	313	*e*PKP	PKPab	20 54 28.8	+0.2
OJC	**Ojcow**	161.23	318	*e*PKP	PKPab	20 54 29.1	-0.6
KECS	**Kecovo**	161.75	312	*i* PKP2	PKPab	20 54 31.5	-0.4
KECS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
OKC	**Ostrava-Krasne**	162.32	319	*e*PKPAB	PKPab	20 54 33.6	-0.8
MORC	**Moravsky Berou**	162.67	319	⇓*i* P	PKPab	20 54 35.1	-0.9
VYHS	**Vyhne**	162.70	314	*e*PKP2	PKPab	20 54 35.7	-0.4
VYHS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DPC	**Dobruska-Polom**	162.91	323	*e*PKPAB	PKPab	20 54 36.5	-0.5
DPC				*e*pPKP	pPKPab	20 54 46.7	-1.6
UPC	**Upice**	162.96	324	*e*PKPAB	PKPab	20 54 36.2	-1.0
UPC				*e*pPKP	pPKPab	20 54 46.5	-1.9
PVCC	**Panska Ves**	163.60	326	*e*PKPAB	PKPab	20 54 39.2	-0.9
BRG	**Berggiesshubel**	163.62	328	*e*(P)	PKPab	20 54 39.0	-1.1
	comp=Z,5.7nm,1.5s						
BRG	**Berggiesshubel**	163.62	328	*e*PKP2	PKPab	20 54 39.0	-1.1
BRG				pmax	pmax		
	comp=Z,6.0nm,1.5s						
CLL	**Collm**	163.68	330	*i* PKPab	PKPab	20 54 38.7	-1.7
	comp=Z,6.0nm,0.9s						
PRU	**Pruhonice**	164.00	324	*e*PKPAB	PKPab	20 54 40.7	-1.1
CONA	**Conrad Observa**	164.67	317	⇓*i* PKPab	PKPab	20 54 44.6	-0.2
	comp=Z,12nm,0.9s						
NKC	**Novy Kostel**	164.73	329	*e*PKPAB	PKPab	20 54 43.9	-1.1
KHC	**Kasperske Hory**	165.05	324	*e*PKPAB	PKPab	20 54 45.4	-1.0
GERES	**GERESS Array B**	165.19	323	PKPab	PKPab	20 54 45.3	-1.7
	comp=Z,4.0nm,0.7s,baz=38,slow=5.0,SNR=32						
GERES	**GERESS Array B**	165.19	323	PKP2	PKPab	20 54 45.3	-1.7
GERES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARSA	**Arzberg**	165.24	315	⇑*i* P	PKPab	20 54 46.8	-0.5
	comp=Z,5.7nm,0.8s						
MOA	**Molln**	165.57	319	⇑*i* P	PKPab	20 54 48.0	-0.7
	comp=Z,4.5nm,0.9s						
GRF	**Grafenberg Arr**	165.65	330	*e*PKP	PKPab	20 54 48.3	-0.8
CDF	**Champ du Feu**	168.15	336	*e*PKP2	PKPab	20 54 58.5	-1.6
LPL	**La Plagne**	170.82	330	*e*PKP2	PKPab	20 55 08.8	-3.1
LPG	**La Plagne**	170.82	330	*e*PKP2	PKPab	20 55 09.1	-2.9
	comp=Z,21nm,1.2s						
ORIF	**Oris-en-Rattie**	171.65	331	*e*PKP2	PKPab	20 55 12.2	-3.4
	comp=Z,9.6nm,1.0s						
PGF	**Pioggiola**	171.71	308	*e*PKP2	PKPab	20 55 15.1	-0.8
	comp=Z,26nm,1.4s						
FRF	**La Foret Royal**	172.39	322	*e*PKP2	PKPab	20 55 16.8	-2.1
	comp=Z,9.6nm,0.9s						
EVO	**Evora**	173.50	81	*e*PKP2	PKPab	20 55 22.7	-1.1
	comp=Z,137nm,1.8s						

MEX 14 21:02:01.7±0.9, 1564N×9607W, h8km±4km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	0.13	343	*i* P	Pg	21 02 04.2	-0.4
HUIG				*i* S	Sg	21 02 06.3	-0.2
VHO	**Vista Hermosa**	1.56	336	*i* P	Pn	21 02 26.7	-3.0
VHO				*i* S	Sn	21 02 45.0	-5.0
OXX	**Oaxaca**	1.56	336	*e*P	Pn	21 02 27.0	-2.7
OXX				*i* S	Sn	21 02 45.0	-5.2
CMIG	**Matias Romero**	1.83	38	*i* P	Pn	21 02 29.3	-4.2
CMIG				*i* S	Sn	21 02 53.4	-3.5
UTMO	**Huajuapan**	2.74	323	*e*P	Pn	21 02 42.8	-3.1
UTMO				*i* S	Sn	21 03 15.6	-3.5

MAN ***14*** *21:26:18.1, 1853N×12061E, h14km, mb3.8, ML4.9, MS1.9*
ISCJB ***14*** *21:26:21.4±0.8, 1836N±005×12073E±006, h36km±12km, mb3.9/12, MS3.3/3, Error ellipse: s-maj=10.1km s-min=7.8km az=92.8*
BJI ***14*** *21:26:24.5, 1810N×12080E, h113km, mb4.1*
MOS ***14*** *21:26:28.6±0.9, 1804N×12058E, h114km, mb4.6/2, Error ellipse: s-maj=27.5km s-min=13.7km az=102.9*
IDC ***14*** *21:26:30.1±3.2, 1802N×12072E, h112km±30km, mb3.5/10, mb1 3.7/11, mb1mx3.5/22, mbtmp3.9/11, MS3.4/3, Ms1 3.4/3, ms1mx2.9/15, Error ellipse: s-maj=27.6km s-min=14.5km az=73.0*
NEIC ***14*** *21:26:30.1±1.7, 1807N×12075E, h113km±18km, mb4.6/2, Error ellipse: s-maj=18.7km s-min=11.4km az=82.0*
NEIC Felt [II PIVS] at Pasuquin.

ISC 14 21:26:23.1±0.6, 1832N±005×12077E±004, h40km±9km, n37, σ1°29/42, mb3.9/12, MS3.3/3, 3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	0.64	135	*e*P	Pn	21 26 34.0	-1.7
APYP				*e*S	Sn	21 26 43.9	-0.7
ABRA	**Dolores**	0.67	185	*e*P	Pn	21 26 34.5	-1.6
CVP	**Callao Caves**	1.17	121	⇓*e*P	Pn	21 26 42.0	-1.0
SGCP	**Mt. Cagua**	1.22	93	*e*P	Pn	21 26 42.4	-1.1
SGCP				*e*S	Sn	21 26 58.8	0.0
CAUP	**Cauayan**	1.69	143	*e*P	Pn	21 26 52.1	+2.0
BCPH	**Baguio City Da**	1.93	185	⇓*e*P	Pn	21 26 52.0	-1.4
BCPH				*e*S	Sn	21 27 20.0	+3.5
PALP	**Palanan**	2.01	128	*e*P	Pn	21 26 56.0	+1.5
BOLP	**Bolinao**	2.09	203	*e*P	Pn	21 26 56.0	+0.4
SCZP	**Santa Cruz**	2.66	198	*e*P	Pn	21 27 03.6	+0.3
BALP	**Baler**	2.67	163	*e*P	Pn	21 27 04.6	+1.0
PCPH	**Palayan**	2.76	173	⇓*e*P	Pn	21 27 06.0	+1.3
PCPH				*e*S	Sn	21 27 42.4	+5.6
POLP	**Polilio Island**	3.74	162	*e*P	Pn	21 27 17.2	-1.1
TGY	**Tagaytay City**	4.19	178	P	Pn	21 27 28.5	+4.1
	62nm,0.3s,baz=188,slow=18,SNR=8.7						
LUBP	**Lubang**	4.58	186	*e*P	Pn	21 27 30.6	+0.8
PVCP	**Virac**	5.71	145	*e*P	Pn	21 27 45.8	+0.5
BUSP	**Coron**	6.30	185	*e*P	Pn	21 27 54.4	+1.0
YHNB	**Yeheng**	6.35	5	*e*P	Pn	21 27 53.8	-0.3
ENPP	**El Nido**	7.19	191	*e*P	Pn	21 28 07.4	+1.8
QIZ	**Qiongzhong**	10.38	276	P	Pn	21 28 47.9	-1.4
QIZ				S	Sn	21 30 42.3	-2.0
QIZ				LR	LR		
	comp=E,240nm,19.9s						
QIZ				LR	LR		
	comp=Z,300nm,18.0s						
KSM	**Kuching**	19.64	213	*e*P	Pn	21 30 49.6	-0.2
CD2	**Chengdu**	19.88	312	*e*P	Pn	21 30 54.1	+1.4
CD2				AP	pP	21 31 14.8	+14
CD2				PP		21 31 19.6	
CD2				XP	sP	21 31 29.6	+24
CD2				S	S	21 34 27.8	-4.6
CD2				XS	sS	21 34 58.8	+10
CD2				SS		21 35 03.9	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GUMO	**Guam**	23.63	98	LR	LR	21 40 40.9	
	comp=Z,48nm,19.7s,MS3.0,baz=300,slow=36						
MJAR	**Matsushiro Arr**	23.79	37	P	P	21 31 36.0	+4.0
	comp=Z,1.0nm,0.8s,mb3.3,baz=248,slow=9.9,SNR=3.1						
PSI	**Prapat**	26.38	237	P	P	21 31 55.4	-0.2
	comp=Z,8.1nm,0.8s,mb4.3,baz=47,slow=6.6,SNR=6.4						
PSI				LR	LR	21 41 40.0	
	comp=Z,178nm,18.3s,MS3.6,baz=343,slow=35						
SONM	**Songino Array**	31.70	341	P	P	21 32 43.6	+0.8
	comp=Z,0.4nm,0.6s,mb3.4,baz=155,slow=10,SNR=3.2						
SONM				LR	LR	21 47 00.7	
	comp=Z,63nm,18.7s,MS3.3,baz=342,slow=38						
FITZ	**Fitzroy Crossi**	36.51	172	P	P	21 33 22.0	-2.4
	comp=Z,0.7nm,0.4s,mb3.9,baz=275,slow=22,SNR=5.7						
WRA	**Warramunga Arr**	40.28	160	P	P	21 33 53.8	-2.4
	comp=Z,0.4nm,0.3s,mb3.6,baz=334,slow=10,SNR=21						
MKAR	**Makanchi Array**	42.45	321	P	P	21 34 15.6	+1.7
	comp=Z,0.4nm,0.3s,mb3.5,baz=109,slow=7.6,SNR=8.7						
MKAR				PcP	PcP	21 36 05.7	-0.7
	comp=Z,0.9nm,0.8s,baz=98,slow=5.1,SNR=3.6						
ASAR	**Alice Springs**	43.65	162	P	P	21 34 21.6	-2.1
	comp=Z,0.7nm,0.3s,mb3.8,baz=339,slow=7.1,SNR=9.6						
KURK	**Kurchatov**	46.46	324	*e*P	P	21 34 46.2	+0.2
KURK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
KURK	**Kurchatov**	46.46	324	*e*P	P	21 34 46.2	+0.2
	comp=Z,12nm,1.4s,mb4.6						
BVAR	**Borovoye Array**	52.06	324	P	P	21 35 29.6	+0.9
	comp=Z,0.2nm,0.4s,mb3.4,baz=310,slow=42,SNR=2.4						
BVAR				PcP	PcP	21 36 39.5	-1.0
	comp=Z,0.6nm,0.6s,baz=96,slow=3.0,SNR=4.3						
ZRNK	**Zerenda**	52.81	323	*e*P	P	21 35 35.3	+1.0
ZRNK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
ZRNK	**Zerenda**	52.81	323	*e*P	P	21 35 35.3	+1.0
	comp=Z,11nm,1.4s,mb4.6						
ZRNK				*e*		21 35 41.9	
HFS	**Hagfors**	82.48	331	P	P	21 38 41.1	-0.3
	comp=Z,1.3nm,0.7s,mb4.0,baz=60,slow=3.5,SNR=3.9						
YKA	**Yellowknife Ar**	88.51	22	P	P	21 39 10.9	-0.4
	comp=Z,0.6nm,0.7s,mb4.0,baz=308,slow=4.4,SNR=5.4						
YKA	**Yellowknife Ar**	88.51	22	P	P	21 39 10.9	-0.4

CSEM ***14*** *22:01:31.8±0.1, 5980N×2427E, h1km, ML2.5, Error ellipse: s-maj=3.9km s-min=2.8km az=153.0, Mining explosion.*
ISCJB ***14*** *22:01:31.1±0.5, 5979N±003×2433E±007, h0km, Error ellipse: s-maj=5.7km s-min=3.8km az=93.0*
HEL ***14*** *22:01:32.5±0.1, 5978N×2430E, h0km, ML2.5, ML2.4(UPP), ML2.3(NAO), Explosion*
IDC ***14*** *22:01:32.2±1.9, 5977N×2452E, h0km, mb1 3.4/3, mb1mx3.1/19, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=21.0km s-min=6.9km az=143.0*
NAO ***14*** *22:01:32.4±1.0, 5980N×2433E, ML2.3*
BER ***14*** *22:01:33.4±3.3, 5981N×2424E, h0km±15km, ML2.3(NAO)*
UPP ***14*** *22:01:37.7, 5994N×2362E, h0km, ML2.4, Suspected Mining explosion.*

ISC 14 22:01:32.1±0.5, 5981N±003×2436E±007, h0km, n43, σ0°91/58, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	0.41	3	*e*P	Pg	22 01 39.9	0.0
MEF				*e*S	Sg	22 01 46.0	+0.7
PVF	**Pernaja**	1.05	45	*e*P	Pg	22 01 51.8	-0.6
PVF				*e*S	Sg	22 02 06.4	+0.4
VSU	**Vasula**	1.83	137	*e*P	Pn	22 02 04.8	0.0
VSU				*e*S	Sn	22 02 27.5	-1.0
VSU	**Vasula**	1.83	137	Pn	Pn	22 02 04.8	0.0
VSU				Lg		22 02 30.5	
VSU	**Vasula**	1.83	137	P	Pn	22 02 04.7	0.0
FIA0	**FINESS Array S**	1.85	27	*e*P	Pn	22 02 05.8	+0.8
FIA0				*e*S	Sn	22 02 29.9	+0.8
FIA0	**FINESS Array S**	1.85	27	Pn	Pn	22 02 05.8	+0.8
	baz=202,slow=18						
FIA0				Lg		22 02 31.1	
	baz=205,slow=37						
FIA0	**FINESS Array S**	1.85	27	P	Pn	22 02 05.8	+0.8
FIA0				S	Sn	22 02 29.8	+0.7
FINES	**FINESS Array B**	1.85	27	Pn	Pn	22 02 05.7	+0.7
	6.9nm,0.3s,baz=202,slow=16,SNR=346						
FINES				Lg		22 02 30.1	
	4.5nm,0.3s,baz=203,slow=27,SNR=18						
AAL	**Aland**	2.22	281	*e*P	Pn	22 02 11.4	+1.2
KEF	**Keuruu**	2.38	6	*e*PB	Pb	22 02 14.5	-1.3
KEF				*e*S	Sn	22 02 42.8	+0.6
KEF				*e*SG	Sg	22 02 46.4	-2.1
KEF				MSG		22 02 47.8	
	comp=Z,24nm,0.2s						
NRTU	**Norrtaelje**	2.90	270	*e*P	Pn	22 02 19.6	0.0
NRTU	**Norrtaelje**	2.90	270	P	Pn	22 02 19.5	0.0
GRAU	**Graesoe**	2.96	283	*e*P	Pn	22 02 19.9	-0.5
GRAU	**Graesoe**	2.96	283	P	Pn	22 02 20.1	-0.3
SUF	**Sumiainen**	3.05	16	*e*P	Pn	22 02 23.2	+1.6
SUF				*e*S	Sn	22 02 59.6	+0.9
SUF	**Sumiainen**	3.05	16	P	Pn	22 02 23.1	+1.6
FLYU	**Flymyra**	3.27	278	*e*P	Pn	22 02 24.6	0.0
FLYU	**Flymyra**	3.27	278	P	Pn	22 02 24.5	-0.1
NYNU	**Nynaeshamn**	3.35	259	*e*P	Pn	22 02 26.3	+0.7
OSTU	**Oestervaala**	3.65	280	*e*P	Pn	22 02 29.7	-0.2
IGGU	**Iggoen**	3.66	290	*e*P	Pn	22 02 29.9	-0.1
IGGU	**Iggoen**	3.66	290	P	Pn	22 02 30.0	+0.1
BACU	**Backbrunna**	3.66	274	*e*P	Pn	22 02 30.7	+0.8
BACU	**Backbrunna**	3.66	274	P	Pn	22 02 30.6	+0.6
ARNU	**Arnoeviken**	3.91	302	*e*P	Pn	22 02 33.5	+0.1
HUDU	**Hudiksvall**	4.04	302	P	Pn	22 02 35.2	0.0
ESKU	**Eskilstuna**	4.10	265	*e*P	Pn	22 02 36.5	+0.5
FALU	**Falun**	4.32	283	*e*P	Pn	22 02 39.2	+0.2
NRAU	**Nora**	4.73	271	*e*P	Pn	22 02 44.9	+0.2
NRAU	**Nora**	4.73	271	P	Pn	22 02 44.8	+0.2
LNKU	**Linkoeping**	4.84	255	*e*P	Pn	22 02 47.4	+1.2
ASKU	**Askersund**	4.96	263	*e*P	Pn	22 02 47.8	-0.1
HFS	**Hagfors**	5.37	278	*e*P	Pn	22 02 53.5	+0.1
HFS				*e*S	Sn	22 03 53.1	-2.8
HFS				*e*SG		22 04 14.0	
HFS	**Hagfors**	5.37	278	Pn	Pn	22 02 53.5	+0.1
	comp=Z,0.4nm,0.3s,baz=96,slow=14,SNR=12						
HFS				Sn	Sn	22 03 52.8	-3.1
	comp=Z,0.6nm,0.3s,baz=90,slow=29,SNR=7.0						
HFS	**Hagfors**	5.37	278	Pn	Pn	22 02 53.5	+0.1
	baz=88,slow=10						
HFS				Sn	Sn	22 03 53.1	-2.8
	baz=88,slow=37						
HFS				Lg		22 04 14.0	
	baz=86,slow=37						
NB2	**NORSAR Subarra**	6.62	286	*e*P	Pn	22 03 09.4	-1.3
NB2				*e*SG		22 04 55.8	
NB2	**NORSAR Subarra**	6.62	286	Pn	Pn	22 03 09.4	-1.3
	baz=92,slow=14						
NB2				Lg		22 04 55.8	
	baz=95,slow=28						
NOA	**NORSAR Array B**	6.62	286	Pn	Pn	22 03 09.5	-1.2
	comp=Z,0.5nm,0.3s,baz=94,slow=14,SNR=3.2						
NOA				Sn	Sn	22 04 22.6	-4.2
	comp=Z,0.3nm,0.3s,baz=90,slow=7.2,SNR=2.9						
ARA0	**ARCESS Array S**	9.78	2	Pn	Pn	22 03 52.0	-1.9
	baz=178,slow=14						
ARA0				Sn	Sn	22 05 37.5	-7.0
	baz=185,slow=28						
ARA0	**ARCESS Array S**	9.78	2	*e*P	Pn	22 03 52.0	-1.9
ARA0				*e*S	Sn	22 05 37.5	-7.0
ARA0	**ARCESS Array S**	9.78	2	Pn	Pn	22 03 52.0	-2.0

JIM2				S	Sn	22 24 36.0	-1.2
BSO4	**Boso 4**	**1.69**	**3**	P	Pn	22 24 19.1	+0.7
JIZS	**Izushimoda**	**1.80**	**322**	P	Pn	22 24 20.2	+0.4
JIZS				S	Sn	22 24 41.5	-1.1
KTJJ	**Kamata 2**	**1.89**	**330**	P	Pn	22 24 20.8	-0.1
KTJJ				S	Sn	22 24 43.5	-1.0
JOD2	**Odawara 2**	**2.17**	**335**	P	Pn	22 24 25.0	+0.4
JOD2				*e*S	Sn	22 24 50.6	-0.6
TK04	**Tokai 4**	**2.23**	**300**	P	Pn	22 24 26.4	+1.0
TK04				*e*S	Sn	22 24 54.0	+1.4
SHZ3	**Shizuoka 3**	**2.43**	**317**	P	Pn	22 24 29.4	+1.4
JYN	**Shimob**	**2.60**	**328**	P	Pn	22 24 31.3	+1.1
MJAR	**Matsushiro Arr**	**3.63**	**333**	P	Pn	22 24 44.0	-0.1
	8.6nm,0.3s,baz=145,slow=14,SNR=62						
MJAR				S	Sn	22 25 26.1	+0.1
	3.6nm,0.3s,baz=158,slow=20,SNR=11						
MJAR	**Matsushiro Arr**	**3.63**	**333**	P	Pn	22 24 44.1	0.0
MJAR				S	Sn	22 25 26.2	+0.2
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MJAR				smax			
	comp=N,4.0nm,0.3s						
MAJO	**Matsushiro**	**3.64**	**333**	*e*P	Pn	22 24 43.9	-0.2
MAT	**Matsushiro**	**3.64**	**333**	P	Pn	22 24 44.7	+0.6
MAT				S	Sn	22 25 26.5	+0.4
CBIJ	**Chichi jima**	**6.41**	**164**	P	Pn	22 25 20.4	-1.3
	comp=N,8.8nm,0.3s,baz=273,slow=18,SNR=8.8						
CBIJ				S	Sn	22 26 30.6	-2.8
	comp=N,7.0nm,0.3s,baz=272,slow=22,SNR=3.3						
ASAJ	**Asahikawa**	**10.96**	**9**	S	Sn	22 28 16.9	-7.3
	comp=N,0.3nm,0.3s,baz=252,slow=24,SNR=2.8						
NACB	**Ninganchiao**	**18.67**	**246**	P	Pn	22 28 01.6	-0.1
ULN	**Ulaanbaatar**	**28.83**	**310**	*e*P	P	22 29 38.2	-0.7
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ULN	**Ulaanbaatar**	**28.83**	**310**	*e*P	P	22 29 38.2	-0.7
	comp=Z,0.8nm,0.4s,mb3.7						
SONM	**Songino Array**	**29.25**	**310**	P	P	22 29 43.4	+0.8
	comp=Z,0.4nm,0.5s,mb3.3,baz=106,slow=9.6,SNR=3.9						
TLY	**Talaya**	**32.19**	**316**	*e*P	P	22 30 09.4	+0.9
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
TLY	**Talaya**	**32.19**	**316**	*e*P	P	22 30 09.4	+0.9
	comp=Z,3.4nm,1.0s,mb4.0						
LSA	**Lhasa**	**41.69**	**279**	*e*P	P	22 31 32.0	+3.0
LSA				pmax	pmax		
	comp=Z,2.0nm,0.2s,mb4.5						
LSA	**Lhasa**	**41.69**	**279**	*e*P	P	22 31 32.0	+3.0
	comp=Z,2.5nm,0.2s,mb4.6						
ZAL	**Zalesovo**	**43.81**	**315**	P	P	22 31 46.2	+0.2
	comp=Z,0.9nm,0.5s,mb3.8,baz=31,slow=7.0,SNR=5.3						
ZAL	**Zalesovo**	**43.81**	**315**	P	P	22 31 46.2	+0.2
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**45.37**	**305**	P	P	22 31 58.1	-0.3
	comp=Z,0.7nm,0.4s,mb3.7,baz=87,slow=9.3,SNR=18						
MKAR	**Makanchi Array**	**45.37**	**305**	P	P	22 31 58.1	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**47.55**	**311**	*e*P	P	22 32 14.3	-1.2
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**47.55**	**311**	*e*P	P	22 32 14.3	-1.2
	comp=Z,5.9nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**52.21**	**315**	*e*P	P	22 32 49.9	-0.9
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**52.21**	**315**	*e*P	P	22 32 49.9	-0.8
	comp=Z,2.2nm,0.6s,mb4.4						
BRVK	**Borovoye**	**52.48**	**314**	*e*P	P	22 32 53.1	+0.3
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**52.48**	**314**	*e*P	P	22 32 53.1	+0.3
	comp=Z,1.1nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**53.23**	**187**	*e*P	P	22 32 58.8	+0.5
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
WRAB	**Tennant Creek**	**53.23**	**187**	*e*P	P	22 32 58.8	+0.5
	comp=Z,2.0nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**53.24**	**187**	P	P	22 32 58.7	+0.3
	comp=Z,1.3nm,0.4s,mb4.3,baz=1.6,slow=7.6,SNR=45						
WRA	**Warramunga Arr**	**53.24**	**187**	P	P	22 32 58.7	+0.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**53.26**	**314**	*e*P	P	22 32 58.0	-0.5
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**53.26**	**314**	*e*P	P	22 32 58.0	-0.5
	comp=Z,1.3nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**56.97**	**187**	P	P	22 33 25.9	+0.8
	comp=Z,0.5nm,0.3s,mb4.0,baz=22,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**56.97**	**187**	P	P	22 33 25.9	+0.8
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MBWA	**Marble Bar**	**57.58**	**203**	*e*P	P	22 33 33.7	+4.3
INK	**Inuvik**	**58.16**	**26**	*e*P	P	22 33 34.7	+1.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**58.16**	**26**	*e*P	P	22 33 34.7	+1.2
	comp=Z,0.6nm,0.6s,mb3.8						
RES	**Resolute Bay**	**66.45**	**14**	*e*P	P	22 34 29.9	+1.1
ARCES	**ARCESS Array B**	**67.15**	**340**	P	P	22 34 32.5	-0.7
	comp=Z,5.4nm,1.0s,mb4.3,baz=24,slow=6.9,SNR=3.0						
ARCES	**ARCESS Array B**	**67.15**	**340**	P	P	22 34 32.5	-0.8
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
JOF	**Joensuu**	**68.80**	**332**	*e*p	P	22 34 43.0	-0.6
	comp=Z,2.1nm,0.3s,mb4.5						
JOF	**Joensuu**	**68.80**	**332**	*e*P	P	22 34 43.0	-0.6
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
KAF	**Kangasniemi**	**71.18**	**333**	*e*p	P	22 34 56.7	-1.5
	comp=Z,0.8nm,0.4s,mb3.9,baz=52,slow=5.7						
KAF	**Kangasniemi**	**71.18**	**333**	*e*P	P	22 34 56.7	-1.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**71.67**	**332**	P	P	22 35 00.8	-0.3
	comp=Z,1.7nm,0.7s,mb4.0,baz=70,slow=5.8,SNR=16						
FINES	**FINESS Array B**	**71.67**	**332**	P	P	22 35 00.8	-0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**76.65**	**322**	P	P	22 35 29.5	-0.6
	comp=Z,0.5nm,0.4s,mb3.6,baz=50,slow=5.9,SNR=5.0						
AKASG	**Malin Array Be**	**76.65**	**322**	P	P	22 35 29.5	-0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**77.25**	**337**	P	P	22 35 32.9	-0.5
	comp=Z,1.1nm,0.8s,mb3.6,baz=43,slow=5.9						
NB2	**NORSAR Subarra**	**77.25**	**337**	P	P	22 35 32.9	-0.5
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
NOA	**NORSAR Array B**	**77.25**	**337**	P	P	22 35 32.2	-1.2
	comp=Z,0.5nm,0.7s,mb3.4,baz=47,slow=5.2,SNR=4.0						
NOA	**NORSAR Array B**	**77.25**	**337**	P	P	22 35 32.2	-1.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**85.36**	**328**	P	P	22 36 16.2	-0.1
	comp=Z,0.6nm,0.5s,mb3.8,baz=38,slow=6.8,SNR=5.5						
GERES	**GERESS Array B**	**85.36**	**328**	P	P	22 36 16.2	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**119.20**	**312**	PKP	PKPdf	22 42 27.1	-0.4
	comp=Z,0.5nm,1.1s,baz=12,slow=2.2,SNR=4.1						

*IGIL **14** 22:25:26.0, 3733N×776W, h0km, ML1.7*
*INMG **14** 22:25:26.9±1.0, 3731N×781W, h2km±5km, ML1.6, Error ellipse: s-maj=8.5km s-min=2.7km az=129.0*

MDD 14 22:25:25.8±0.5, 3729N×775W, h11km±1km, mbLg1.8/7, 1C, Error ellipse: s-maj=5.4km s-min=2.8km az=165.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.33**	**41**	⇑Pg	Pg	22 25 32.0	-0.3
	15nm,0.1s,SNR=18						
EGRO				Lg		22 25 36.4	
	48nm,0.1s,SNR=11						
MORF	**Marmelete**	**0.72**	**272**	*e*P	Pg	22 25 38.8	-0.9
MORF				*e*S	Sg	22 25 48.0	-1.1
MORF				*e*S	Sg	22 25 48.1	-1.1
MORF				AML	AML	22 25 51.4	
	comp=E,25nm,0.2s						
MORF	**Marmelete**	**0.72**	**272**	*e*P	Pg	22 25 38.8	-0.9
MORF				*e*S	Sg	22 25 48.0	-1.1
PBEJ	**Beja**	**0.74**	**353**	*e*Pg	Pg	22 25 39.9	-0.3
PBEJ				*e*Sg	Sg	22 25 49.4	-0.5
PBEJ							
	comp=E,9.1nm,0.1s						
PTEO	**Sao Teotonio**	**0.82**	**289**	*e*P	Pg	22 25 41.0	-0.6
PTEO				*e*S	Sg	22 25 51.2	-1.1
PTEO							
	comp=E,16nm,0.3s						
EMIN	**Mina Concepcio**	**0.98**	**60**	Pg	Pg	22 25 43.4	-1.3
	comp=E,1.9nm,0.1s,SNR=88						
EMIN				Lg		22 25 56.8	
	comp=E,3.5nm,0.1s,SNR=16						
MOE	**Montemor**	**1.32**	**339**	*e*P	Pn	22 25 50.6	+0.4
MOE				*e*S	Sb	22 26 08.1	+0.5
ESPR	**Espera**	**1.57**	**105**	Pn	Pn	22 25 53.1	-0.5
	comp=E,0.4nm,0.1s,SNR=4.7						
ESPR				Lg		22 26 14.5	
	comp=E,1.6nm,0.1s,SNR=9.4						
EBAD	**Badajoz**	**1.58**	**21**	Pg	Pg	22 25 54.5	-1.5
	comp=E,0.2nm,0.1s,SNR=8.4						
EBAD				Lg		22 26 13.9	
	comp=E,0.8nm,0.1s,SNR=15						
PTOM	**Tomar**	**2.38**	**348**	*e*Pg	Pg	22 26 09.8	-1.7
PTOM				*e*Sg	Sg	22 26 39.8	-2.6
PCBR	**Castelo Branco**	**2.56**	**5**	*e*Sn	Sn	22 26 37.4	-0.9
EADA	**Adamuz**	**2.67**	**70**	Pn	Pn	22 26 07.1	-1.6
	comp=E,0.1nm,0.1s,SNR=7.9						
EADA				Pg	Pg	22 26 13.0	-3.8
	comp=E,0.0nm,0.2s,SNR=7.9						
EADA				Lg		22 26 46.6	
	comp=E,0.9nm,0.1s,SNR=4.0						
MTE	**Manteigas**	**3.11**	**3**	*e*Sn	Sn	22 26 49.8	-2.2
EQES	**Quesada**	**3.75**	**81**	Pn	Pn	22 26 22.7	-0.9
	comp=E,0.0nm,0.2s,SNR=7.9						
EQES				Sn	Sn	22 27 04.3	-3.4
	comp=E,0.9nm,0.7s,SNR=7.9						

*NEIC **14** 23:28:30.7±0.9, 45.18N×149.68E, h35km, mb4.1/3, Error ellipse: s-maj=19.6km s-min=18.2km az=125.0*
*JMA **14** 23:28:30.5±0.8, 45.20N×149.72E, h30km, M4.2*
*ISCJB **14** 23:28:34.4±1.6, 449N±0.1×1494E±02, h79km±13km, mb4.1/3, Error ellipse: s-maj=24.0km s-min=13.5km az=107.7*

ISC 14 23:28:35.9±1.6, 450N±01×1494E±02, h73km±13km, n20, σ1§08/26, mb4.1/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.06**	**239**	P	Pn	23 29 19.6	-2.3
NEM2				*e*S	Sn	23 29 56.7	-0.7
JNK	**Nakash**	**3.61**	**249**	P	Pn	23 29 29.3	-0.1
JAK	**Akkeshi**	**3.91**	**241**	P	Pn	23 29 32.4	-1.0
JAK				*e*S	Sn	23 30 17.2	-0.8
JTKR	**Abashiri--Toko**	**4.03**	**257**	P	Pn	23 29 36.0	+0.9
JAR	**Ashorobuto**	**4.36**	**249**	P	Pn	23 29 40.5	+0.9
JMP	**Maruseppu**	**4.40**	**259**	P	Pn	23 29 41.8	+1.6
JOB	**Onbets**	**4.50**	**244**	P	Pn	23 29 41.8	+0.3
JOB				*e*S	Sn	23 30 33.7	+1.2
JKK2	**Kamakawa 2**	**4.87**	**259**	P	Pn	23 29 47.9	+1.4
JCH	**Churui**	**4.95**	**244**	P	Pn	23 29 47.7	+0.1
JCH				*e*S	Sn	23 30 44.9	+1.5
JEM	**Erimo**	**5.40**	**239**	P	Pn	23 29 54.4	+0.6
JNBK	**Urakawa-nobuka**	**5.50**	**243**	P	Pn	23 29 54.2	-1.0
JNBK				*e*S	Sn	23 30 56.3	-0.8
JKB	**Kayabe**	**6.80**	**246**	P	Pn	23 30 12.3	-0.7
JKB				*e*S	Sn	23 31 27.7	-1.3
HIA	**Hailar**	**20.54**	**293**	P	P	23 33 08.3	0.0
BJT	**Baijiatuan**	**24.86**	**270**	P	P	23 33 52.2	+0.7
TATO	**Taipei**	**30.09**	**238**	*e*P	P	23 34 39.1	+0.8
	11nm,0.3s,mb5.0						
INK	**Inuvik**	**44.54**	**31**	P	P	23 36 36.4	-3.9
KURK	**Kurchatov**	**46.16**	**304**	*e*P	P	23 36 52.5	-0.7
	0.9nm,0.5s,mb3.8						
LSA	**Lhasa**	**47.74**	**272**	P	P	23 37 06.1	+0.7
BRVK	**Borovoye**	**50.00**	**309**	*e*P	P	23 37 20.1	-2.6
	0.4nm,0.5s,mb3.6						
PMG	**Port Moresby**	**54.17**	**183**	P	P	23 37 54.2	+0.6

*IDC **14** 23:38:32.5±1.3, 245N×94.26E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/22, mbtmp3.9/9, ML3.4/1, Error ellipse: s-maj=48.9km s-min=17.8km az=53.0*
*ISCJB **14** 23:38:35.4±0.6, 250N±008×94.42E±006, h33km, mb4.0/14, Error ellipse: s-maj=12.3km s-min=8.3km az=44.0*
*NEIC **14** 23:38:36.7±0.4, 246N×94.32E, h30km, mb4.1/7, Error ellipse: s-maj=11.6km s-min=8.4km az=56.0*

ISC 14 23:38:37.8±0.6, 249N±008×9439E±006, h35km, n22, σ0§90/24, mb4.0/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.54**	**86**	Pn	Pn	23 39 44.4	+0.5
	1.8nm,0.3s,baz=290,slow=3.3,SNR=16						
PSI				Sn	Sn	23 40 34.4	-1.0
	1.6nm,0.3s,baz=156,slow=22,SNR=4.0						
PSI	**Prapat**	**4.54**	**86**	Pn	Pn	23 39 44.4	+0.5
PSI				Sn	Sn	23 40 34.4	-1.0
KULM	**Kulim**	**6.83**	**66**	*e*Pn	Pn	23 40 15.2	-0.2
KULM				*e*Sn	Sn	23 41 24.1	-7.9
CHTO	**Chiang Mai**	**16.83**	**15**	*e*Pn	Pn	23 42 30.7	+0.2
	5.7nm,1.0s						
LSA	**Lhasa**	**27.24**	**354**	*e*P	P	23 44 18.9	+0.5
	15nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**45.09**	**121**	P	P	23 46 51.9	+1.5
	2.1nm,0.8s,mb4.0,baz=302,slow=8.8,SNR=9.6						
MKAR	**Makanchi Array**	**45.37**	**348**	P	P	23 46 52.2	-0.4
	0.9nm,0.5s,mb3.9,baz=166,slow=7.6,SNR=10						
MKAR	**Makanchi Array**	**45.37**	**348**	P	P	23 46 52.2	-0.4
SONM	**Songino Array**	**46.35**	**11**	P	P	23 46 59.6	-0.7
	0.8nm,0.6s,mb3.8,baz=189,slow=7.9,SNR=5.5						
ASAR	**Alice Springs**	**46.41**	**126**	P	P	23 47 02.5	+1.6
	0.8nm,0.5s,mb3.9,baz=295,slow=7.8,SNR=8.6						
KURK	**Kurchatov**	**49.87**	**347**	*e*P	P	23 47 27.1	-0.4
	0.9nm,0.6s,mb4.0						
ZAL	**Zalesovo**	**51.89**	**353**	P	P	23 47 44.3	+1.6
	1.0nm,0.4s,mb4.1,baz=295,slow=4.9,SNR=4.8						
BVAR	**Borovoye Array**	**54.15**	**342**	P	P	23 47 59.5	+0.1
	0.9nm,0.7s,mb3.8,baz=129,slow=11,SNR=4.7						
BRVK	**Borovoye**	**54.21**	**342**	*e*P	P	23 48 00.4	+0.6
	0.6nm,0.4s,mb3.9						
ZRNK	**Zerenda**	**54.52**	**341**	*e*P	P	23 48 02.1	0.0
	0.7nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**54.65**	**343**	*e*P	P	23 48 01.5	-1.5
	5.8nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**56.30**	**131**	P	P	23 48 14.8	-0.1
	1.1nm,0.5s,mb4.2,baz=316,slow=7.0,SNR=5.0						
CASY	**Casey**	**69.58**	**173**	*e*P	P	23 49 42.6	-0.6
	1.1nm,0.4s,mb4.1						
MAW	**Mawson**	**73.35**	**192**	P	P	23 50 04.0	-1.9
GERES	**GERESS Array B**	**82.00**	**319**	P	P	23 50 54.5	+0.4
	0.1nm,0.3s,mb3.3,baz=110,slow=8.5,SNR=3.4						
ESLA	**Sonseca Array**	**94.86**	**310**	P	P	23 51 55.9	-0.1
CPUP	**Villa Florida**	**143.96**	**226**	PKP	PKPdf	23 58 08.8	-0.6
	0.6nm,0.5s,baz=44,slow=2.8,SNR=6.6						

*NEIC **15** 00:43:45.2, 36.44S×178.32E, h146km, MG3.9(WEL), After WEL.*

WEL 15 00:43:45.7±0.5, 3641S×17815E, h136km±7km, ML3.9/6, Error ellipse: s-maj=8.6km s-min=7.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.16**	**174**	PN	Pn	00 44 10.5	-0.2
MXZ				SN	Sn	00 44 29.7	+0.1
MXZ	**Matakaoa Point**	**1.16**	**174**	*e*P	Pn	00 44 10.5	-0.1
PUZ	**Puketiti**	**1.66**	**177**	PN	Pn	00 44 16.4	+0.4
PUZ				SN	Sn	00 44 39.0	-0.2
PUZ	**Puketiti**	**1.66**	**177**	P	Pn	00 44 16.4	+0.4
PUZ				S	Sn	00 44 39.8	+0.6
MWZ	**Matawai**	**1.99**	**194**	PN	Pn	00 44 20.3	+0.5
MWZ				SN	Sn	00 44 46.4	+0.4
MWZ	**Matawai**	**1.99**	**194**	P	Pn	00 44 20.5	+0.7
MWZ				S	Sn	00 44 46.8	+0.9
URZ	**Urewera**	**2.02**	**204**	PN	Pn	00 44 20.6	+0.3
URZ				SN	Sn	00 44 46.7	0.0
URZ	**Urewera**	**2.02**	**204**	*e*P	Pn	00 44 20.9	+0.6
KNZ	**Kokohu**	**2.63**	**188**	PN	Pn	00 44 27.3	-0.6
KNZ	**Kokohu**	**2.63**	**188**	*e*P	Pn	00 44 27.5	-0.3
BKZ	**Black Stump Fm**	**3.05**	**205**	*e*PN	Pn	00 44 31.8	-1.3
BKZ	**Black Stump Fm**	**3.05**	**205**	*e*P	Pn	00 44 33.3	+0.2
FWVZ	**Far West T-bar**	**3.51**	**215**	*e*PN	Pn	00 44 39.6	+0.5
MOVZ	**Moawhango**	**3.54**	**212**	*e*PN	Pn	00 44 39.4	-0.1
MRZ	**Mangatainoka R**	**4.70**	**205**	*e*PN	Pn	00 44 52.0	-2.9
MRZ				SN	Sn	00 45 44.3	-4.3
MRZ	**Mangatainoka R**	**4.70**	**205**	*e*P	Pn	00 44 52.2	-2.6
MRZ				S	Sn	00 45 45.9	-2.7
KIW	**Kapiti Island**	**5.12**	**209**	*e*PN	Pn	00 44 57.8	-2.6
TCW	**Tory Channel**	**5.67**	**211**	*e*PN	Pn	00 45 05.3	-2.5
THZ	**Tophouse**	**6.72**	**216**	*e*PN	Pn	00 45 19.1	-2.8
MQZ	**McQueen's Vall**	**8.42**	**208**	SN	Sn	00 47 08.9	-9.2

*MOS **15** 00:51:58.1±0.8, 2529N×12390E, h107km, mb4.9/49, Error ellipse: s-maj=11.7km s-min=4.7km az=123.9*
*ISCJB **15** 00:52:00.3±0.2, 2520N±003×12395E±002, h130km±2km, mb4.6/97, Error ellipse: s-maj=4.4km s-min=3.2km az=148.2*
*NIED **15** 00:52:00, 25.10N×12390E, h122km, Mw4.7 Best double couple: M0 1.13000×10^16 NP1:φs85.00000°, δ76.00000°, λ-128.00000°. NP2:φs337.00000°, δ40.00000°, λ-22.00000°.*
*NEIC **15** 00:52:01.9±0.2, 2521N×12392E, mb4.8/54, Error ellipse: s-maj=5.5km s-min=5.0km az=62.0*
NEIC Recorded [1 JMA] on Iriomote-jima and Tarama-shima, Ryukyu Islands.
*BJI **15** 00:52:01.6, 25.18N×12407E, h154km, mB4.8, mb4.7*
*HRVD **15** 00:52:01.9±0.7, 25.17N×12372E, h148km±6km, MW4.8/50, Centroid moment Tensor Solution. LP body waves: s9,c9;Mantle waves: s50,c69; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.52±.11; Mθθ0.49±.14; Mφφ0.03±.13; Mrθ-1.33±.08; Mrφ-1.27±.13; Mθφ-0.51±.07; Best double couple: M0 1.95900×10^16 NP1:φs347.00000°, δ45.00000°, λ-17.00000°. NP2:φs89.00000°, δ78.00000°, λ-134.00000°. Principal axes: T 1.8170, Plg21.0000°, Azm210.0000°; N 0.2840, Plg42.0000°, Azm100.0000°; P -2.1010, Plg40.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **15** 00:52:01.5±0.8, 2523N×12393E, h130km±7km, mb4.3/14, mb1 4.4/16, mb1mx4.3/22, mbtmp4.7/16, MS3.3/4, Ms1 3.3/4, ms1mx2.6/24 Error ellipse: s-maj=14.8km s-min=10.4km az=63.0*
*JMA **15** 00:52:02.2±0.2, 25.11N×12391E, h121km±3km, M4.6*
JMA Felt I J1.
*SZGRF **15** 00:52:11.5, 26.72N×122.45E, h120km, mb4.8, Taiwan region*

ISC 15 00:52:01.4±0.2, 2518N±003×12397E±002, h127km±2km, h130km±6.1km; pP-P, n285, σ0§93/306, mb4.8/97, 15C-24D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.83**	**169**	P	Pn	00 52 22.0	-0.5
JIJ				S	Sn	00 52 36.9	-1.5
JTJ	**Tarama**	**0.86**	**129**	P	Pn	00 52 23.2	+0.5
JTJ				S	Sn	00 52 39.1	+0.2
IRIF	**Iriomote-Funau**	**0.87**	**194**	P	Pn	00 52 22.3	-0.5
IRIF				*e*S	Sn	00 52 38.2	-0.8
JKRS	**Kuro-shima**	**0.94**	**178**	P	Pn	00 52 23.2	-0.2
JKRS				S	Sn	00 52 38.9	-1.3
YOJ	**Yonaguni jima**	**1.13**	**231**	P	Pn	00 52 24.9	-0.3
YOJ				S	Sn	00 52 41.9	-1.4
HATJ	**Hateruma jima**	**1.13**	**187**	P	Pn	00 52 25.0	-0.3
HATJ				*e*S	Sn	00 52 42.9	-0.5
JMJ	**Miyako jima 2**	**1.26**	**107**	P	Pn	00 52 27.6	+1.0
JMJ				S	Sn	00 52 46.4	+0.6
JOGS	**Gusukube**	**1.37**	**108**	P	Pn	00 52 29.0	+1.2
JOGS				*e*S	Sn	00 52 49.2	+1.3
TATO	**Taipei**	**2.26**	**265**	*e*Pn	Pn	00 52 39.1	+0.8
TATO				*e*Sn	Sn	00 53 06.2	-0.5
NACB	**Ninganchiao**	**2.38**	**245**	*e*Pn	Pn	00 52 39.0	-0.9
NACB				*e*Sn	Sn	00 53 04.8	-4.7
YHNB	**Yeheng**	**2.41**	**258**	*e*Pn	Pn	00 52 41.0	+0.7
YHNB				*e*Sn	Sn	00 53 10.5	+0.4
JKE	**Kume jima 2**	**2.79**	**65**	P	Pn	00 52 46.0	+0.9
JKE				*e*S	Sn	00 53 20.8	+2.1
JAGN	**Aguni-jima**	**3.27**	**64**	P	Pn	00 52 52.2	+0.9
JAGN				S	Sn	00 53 29.2	-0.7
NAH1	**Naha**	**3.51**	**72**	P	Pn	00 52 55.8	+1.3
NAH1				*e*S	Sn	00 53 35.4	-0.3
JJT2	**Tamagusuku 2**	**3.54**	**74**	P	Pn	00 52 56.0	+1.0
JJT2				*e*S	Sn	00 53 36.5	0.0
JIH	**Iheya**	**4.04**	**62**	P	Pn	00 53 02.0	+0.4
JIH				*e*S	Sn	00 53 46.8	-1.5
JOW	**Kunigami**	**4.21**	**66**	P	Pn	00 53 03.7	-0.1
	289nm,0.3s,baz=218,slow=8.9,SNR=379						
JOW				S	Sn	00 53 52.7	+0.4
	baz=120,slow=20,SNR=2.6						
QZH	**Quanzhou**	**4.88**	**268**	⇓*e*P	Pn	00 53 13.0	+0.2
QZH				S	Sn	00 54 04.0	-4.3
QZH				Smax			
	comp=N,220nm,0.8s						
QZH				Smax			
	comp=E,240nm,1.1s						
JTK	**Tokunoshima**	**5.16**	**59**	P	Pn	00 53 15.8	-0.8
JAM	**Amami Oshima**	**5.98**	**56**	P	Pn	00 53 26.5

HHC Hu-ho-hao-te 18.73 330 *e*P **P 00 56 11.9 +1.7**
HHC S **S 00 59 31.1 -5.7**
HHC PCP PcP 01 00 35.1 +2.6
HHC AMB AMB
comp=Z,50nm,1.2s
HHC AMB AMB
comp=Z,160nm,3.6s
HHC LR LR
comp=N,150nm,10.7s
HHC LR LR
comp=E,100nm,10.7s
HHC LR LR
comp=Z,60nm,11.9s
BTO Baotou 19.29 326 *e*P **P 00 56 17.3 +1.0**
LZH Lanzhou 20.40 307 *e*P **P 00 56 28.5 +0.2**
LZH PP 00 56 58.8
LZH XP sP 00 57 18.1 +11
LZH *e*S **S 01 00 03.5 -6.2**
LZH AMB AMB
comp=Z,50nm,1.4s
LZH AMB AMB
comp=Z,340nm,5.2s
KKM Kota Kinabalu 20.43 203 P **P 00 56 19.8 -8.7**
TSM Tawau 21.58 197 P **P 00 56 42.0 +1.2**
CHTO Chiang Mai 24.03 260 *e*P **P 00 57 03.8 -0.7**
CHTO pmax pmax
comp=Z,39nm,1.4s,mb4.5
CHTO Chiang Mai 24.03 260 *e*P **P 00 57 03.8 -0.7**
comp=Z,39nm,1.4s,mb4.5
HIA Hailar 24.27 353 *e*P **P 00 57 05.1 -1.5**
GTA Gaotai 24.76 311 *e*P **P 00 57 10.9 -0.2**
KLR Kul'dur 24.76 12 *e*P **P 00 57 07.2 -4.0**
HABR Khabarovsk 24.83 18 *e*P **P 00 57 05.7 -6.1**
HABR *e*S **S 01 01 19.2 -5.9**
ULN Ulaanbaatar 26.29 334 *e*P **P 00 57 24.5 -0.4**
comp=Z,6.2nm,0.6s,mb4.2
SONM Songino Array 26.53 333 P **P 00 57 26.2 -0.9**
comp=Z,6.8nm,0.6s,mb4.3,baz=151,slow=8.4,SNR=61
SONM pP pP 00 57 55.4 +1.2
comp=Z,3.5nm,0.8s,baz=150,slow=8.2,SNR=4.0
SONM PcP PcP 01 00 47.6 -0.9
comp=Z,1.8nm,0.9s,baz=129,slow=3.0,SNR=6.7
SONM LR LR 01 08 57.7
comp=Z,51nm,18.8s,baz=324,slow=38
SONM Songino Array 26.53 333 P **P 00 57 26.2 -0.9**
SONM 01 00 47.6
CIT Chita 27.95 346 *e*P **P 00 57 39.6 -0.2**
LSA Lhasa 29.41 286 *e*P **P 00 57 54.1 +1.4**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.5
LSA Lhasa 29.41 286 *e*P **P 00 57 54.1 +1.4**
comp=Z,10nm,0.8s,mb4.5
TLY Talaya 30.67 335 *e*P **P 00 58 03.0 -0.8**
TLY pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
MOY Mondy 31.72 332 *e*P **P 00 58 13.3 +0.2**
MOY pmax pmax
comp=Z,28nm,1.8s,mb4.7
JIRN Jiri 33.84 283 *e*P **P 00 58 32.7 +1.2**
comp=Z,22nm,0.9s,mb5.0
GUN Gumba 34.09 283 *e*P **P 00 58 34.0 +0.3**
comp=Z,32nm,0.8s,mb5.2
PKI Pulchoki 34.53 283 *e*P **P 00 58 37.6 +0.1**
KKN Kakani 34.63 283 *e*P **P 00 58 38.6 +0.3**
comp=Z,38nm,0.9s,mb5.2
KKN Kakani 34.63 283 *e*P **P 00 58 38.6 +0.3**
KKN pmax pmax
comp=Z,38nm,0.9s,mb5.2
DMN Daman 34.80 283 *e*P **P 00 58 39.8 0.0**
comp=Z,31nm,1.0s,mb5.1
WMQ Urumqi 34.84 311 *e*P **P 00 58 38.6 -1.6**
YAK Yakutsk 37.04 4 *e*P **P 00 58 57.7 -1.2**
YAK pmax pmax
comp=Z,28nm,1.0s,mb5.2
KAKA Kakadu 38.56 167 *e*P **P 00 59 11.6 -0.1**
comp=Z,16nm,0.9s,mb4.9
MK31 Makanchi Array 39.42 314 P **P 00 59 16.9 -2.0**
MK31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.3
MKAR Makanchi Array 39.42 314 P **P 00 59 17.2 -1.6**
comp=Z,3.5nm,0.3s,mb4.7,baz=54,slow=13,SNR=65
ZAL Zalesovo 40.83 325 P **P 00 59 29.2 -1.2**
comp=Z,7.8nm,0.5s,mb4.8,baz=360,slow=9.8,SNR=5.3
ZAL LR LR 01 17 24.6
comp=Z,40nm,18.6s,baz=355,slow=37
NVS Novosibirsk 42.07 326 *e*P **P 00 59 38.5 -2.0**
NVS pmax pmax
comp=Z,32nm,1.7s,mb4.8
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=E,18nm,1.3s
HYB Hyderabad 42.85 269 *i* P **P 00 59 48.0 +1.1**
HYB Hyderabad 42.85 269 *e*P **P 00 59 48.0 +1.1**
KURK Kurchatov 42.99 318 *e*P **P 00 59 47.5 -0.5**
KURK pmax pmax
comp=Z,51nm,1.1s,mb5.2
KURK Kurchatov 42.99 318 *e*P **P 00 59 47.5 -0.5**
comp=Z,51nm,1.1s,mb5.2
FITZ Fitzroy Crossi 43.05 178 *e*P **P 00 59 48.2 -0.3**
comp=Z,17nm,0.8s,mb4.8
TKM2 Tokmak 2 43.17 307 *i* P **P 00 59 49.5 0.0**
TKM2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
AAK Ala-Archa 43.94 306⇑ *e*P **P 00 59 54.7 -0.9**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
WRAB Tennant Creek 45.97 166 *d*iP **P 01 00 12.8 +1.1**
WRAB Tennant Creek 45.97 166 *e*P **P 01 00 12.5 +0.8**
comp=Z,21nm,0.8s,mb4.9
WRA Warramunga Arr 45.98 166 P **P 01 00 12.5 +0.8**
comp=Z,15nm,0.6s,mb4.9,baz=349,slow=8.2,SNR=54
WRA pP pP 01 00 40.6 -0.1
comp=Z,6.9nm,0.9s,baz=347,slow=8.4,SNR=4.8
WB2 Warramunga Arr 45.98 166⇑ *i*P **P 01 00 12.4 +0.7**
MBWA Marble Bar 46.25 185 *e*P **P 01 00 13.7 -0.1**
comp=Z,6.1nm,0.3s,mb4.8
TIXI Tiksi 46.58 2⇑ *e*P **P 01 00 14.8 -1.6**
TIXI pmax pmax
comp=Z,16nm,1.5s,mb4.5
KK31 Karatay Array 46.90 306 *i* P **P 01 00 19.1 +0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.2
KKAR Karatay Array 46.90 306 P **P 01 00 19.1 +0.2**
VOSK Vostochnaya 48.11 319 P **P 01 00 26.8 -1.5**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
BVA0 Borovoye Array 48.53 320 *i* P **P 01 00 31.0 -0.5**
BVA0 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CHKZ Chkalovo 48.55 320 *e*P **P 01 00 30.9 -0.8**
CHKZ pmax pmax
comp=Z,20nm,0.8s,mb5.1
CHKZ Chkalovo 48.55 320 *e*P **P 01 00 30.9 -0.8**
comp=Z,20nm,0.8s,mb5.1
BRVK Borovoye 48.60 320 *e*P **P 01 00 32.1 +0.1**
BRVK pmax pmax
comp=Z,12nm,0.6s,mb5.0
BRVK Borovoye 48.60 320 *e*P **P 01 00 32.1 0.0**
comp=Z,12nm,0.6s,mb5.0
ZRNK Zerenda 49.33 319 *e*P **P 01 00 37.0 -0.6**
ZRNK *e* 01 01 57.7
ZRNK pmax pmax
comp=Z,19nm,0.7s,mb5.1
ZRNK Zerenda 49.33 319 *e*P **P 01 00 37.0 -0.6**
comp=Z,19nm,0.7s,mb5.1
ZRNK *e*PcP PcP 01 01 57.7 -0.6
AS31 Alice Springs 49.51 168 *e*P **P 01 00 40.1 +1.2**
ASAR Alice Springs 49.51 168 P **P 01 00 40.2 +1.3**
comp=Z,5.9nm,0.6s,mb4.7,baz=350,slow=8.2,SNR=50
ASAR PcP PcP 01 01 59.4 +0.4
comp=Z,1.5nm,0.5s,baz=336,slow=3.2,SNR=6.9
ASPA Alice Springs 49.51 168 *e*P **P 01 00 40.1 +1.2**
BILL Bilibino 49.90 19 *e*P **P 01 00 41.3 -0.6**
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
AB31 Akbulak array 54.57 314 *e*P **P 01 01 16.5 +0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
ARU Arti 55.85 322⇓ *i*P **P 01 01 24.7 -0.9**
ARU *e* 01 02 18.7
ARU *e* 01 03 29.4
ARU *e*S **S 01 09 04.1 +1.1**
ARU *e*SS SS 01 12 50.8 +0.3
ARU pmax pmax
comp=Z,34nm,1.0s,mb5.3
ARU Arti 55.85 322 *e*P **P 01 01 24.8 -0.8**
comp=Z,55nm,1.3s,mb5.4
ORR Orenburg 57.90 317 *e*P **P 01 01 40.1 0.0**
ORR pmax pmax
comp=Z,70nm,0.7s,mb5.8
STKA Stephens Creek 59.19 163 *e*P **P 01 01 47.9 -1.1**
comp=Z,3.9nm,0.9s,mb4.4
STKA Stephens Creek 59.19 163 P **P 01 01 47.2 -1.8**
comp=Z,4.0nm,0.7s,mb4.6,baz=342,slow=6.3,SNR=9.2
BIDO Bidbid 59.45 283 P **P 01 01 52.6 +1.8**
SNR=5.8
SMDO Samad 59.65 283 P **P 01 01 53.5 +1.4**
SNR=8.1
JMDO Jabal Madar 59.80 282 ⇓P **P 01 01 54.1 +1.0**
HOQ Hoqain 60.15 284 P **P 01 01 57.0 +1.5**
SNR=7.1
BANOM Banah 60.39 287 P **P 01 01 58.6 +1.4**
SNR=6.5
BSY Bisya 60.49 283 P **P 01 01 59.2 +1.4**
SNR=5.8
ARQ Araqi 60.91 284 ⇑P **P 01 02 01.7 +1.0**
ASHO Ashiyiah 60.94 285 ⇓P **P 01 02 02.1 +1.2**
RBK Rabkut 64.81 278 ⇑P **P 01 02 27.3 +0.8**
WHFO Wadi Hawf 65.06 279 ⇑P **P 01 02 28.6 +0.4**
VRHR Novokhopersk 66.14 317 *e*P **P 01 02 33.8 -1.2**
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.4
VRHR pmax pmax
comp=N,6.0nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.9s
GNI Garni 66.32 305 *d*iP **P 01 02 37.4 +1.2**
GNI pmax pmax
comp=Z,31nm,1.7s
GNI Garni 66.32 305 *e*P **P 01 02 37.1 +0.8**
comp=Z,11nm,0.9s,mb4.7
ZEI Tsey 66.33 308 *e*P **P 01 02 36.8 +0.5**
ZEI *e* 01 05 01.5
ZEI pmax pmax
comp=Z,20nm,0.6s,mb5.1
GOF Gofitskoye 66.44 310 *e*P **P 01 02 36.5 -0.5**
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.2
UMR Umm Al-Rimmam 66.72 293 *e*P **P 01 02 38.8 0.0**
KBD Kabd 66.84 292 *e*P **P 01 02 39.7 +0.2**
KBD AMb AMB 01 02 41.1
comp=Z,124nm,0.6s
KIV Kislovodsk 66.93 309 *e*P **P 01 02 40.8 +0.7**
KIV pmax pmax
comp=Z,99nm,1.2s,mb5.5
KIV Kislovodsk 66.93 309 *e*P **P 01 02 40.8 +0.7**
comp=Z,99nm,1.2s,mb5.5
MIB Mutribah 66.96 293 *e*P **P 01 02 40.2 0.0**
MIB AMb AMB 01 02 40.9
comp=Z,53nm,0.8s,mb5.4
RDF Al-Radifah 67.03 292 *e*P **P 01 02 40.7 0.0**
NAY Al-Naaiem 67.20 293 *e*P **P 01 02 41.7 -0.1**
NAY AMb AMB 01 02 43.1
comp=Z,37nm,0.8s,mb5.3
VOR Voronezh 67.49 318 *e*P **P 01 02 42.0 -1.6**
VOR pmax pmax
comp=Z,70nm,1.0s,mb5.5
MOS Moscow 67.56 322 *e*P **P 01 02 42.5 -1.6**
MOS pmax pmax
comp=Z,71nm,1.1s,mb5.4
VRSR Storozhevoye 67.61 317⇑ *i*P **P 01 02 44.1 -0.3**
VRSR pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,9.0nm,0.9s
OBN Obninsk 68.28 322 *d*iP **P 01 02 47.7 -0.9**
OBN *i* 01 03 12.9
OBN pmax pmax
comp=Z,66nm,1.6s,mb5.2
OBN Obninsk 68.28 322 *e*P **P 01 02 47.2 -1.4**
comp=Z,58nm,1.4s,mb5.2
JOF Joensuu 69.08 331 *e*p **P 01 02 52.4 -1.1**
comp=Z,7.7nm,0.5s,mb4.8
SOC Sochi 69.10 309 *e*P **P 01 02 53.0 -0.7**
SOC *e**PP pP 01 03 19.4 -5.4
SOC *e*S S 01 11 51.0 +2.1
SOC *e**SS sS 01 12 39.9 -2.6
SOC *e*SS SS 01 16 15.0 -2.3
SOC pmax pmax
comp=Z,43nm,1.2s,mb5.2
ARCES ARCESS Array B 69.56 338 P **P 01 02 56.4 -0.1**
comp=Z,7.7nm,1.0s,mb4.5,baz=77,slow=7.8,SNR=26
ARCES PcP PcP 01 03 18.6 -0.2
comp=Z,7.6nm,0.7s,baz=71,slow=5.3,SNR=13
ANN Anapa 70.36 311 *e*P **P 01 02 53.0 -8.3**
ANN *i* *PP pP 01 03 22.1 -10
ANN pmax pmax
comp=Z,62nm,0.9s,mb5.4
INK Inuvik 71.35 23 *e*P **P 01 03 06.6 -0.7**
INK pmax pmax
comp=Z,1.0nm,0.3s
INK Inuvik 71.35 23 *e*P **P 01 03 06.6 -0.7**
comp=Z,1.0nm,0.3s,mb4.1
KAF Kangasniemi 71.54 331 *e*p **P 01 03 06.0 -2.5**
comp=Z,2.5nm,0.3s,mb4.5,baz=69,slow=5.7
KAF Kangasniemi 71.54 331 *e*P **P 01 03 06.0 -2.5**
KAF pmax pmax
comp=Z,3.0nm,0.3s,mb4.6
MALT Malatya 71.54 304 ⇓*i*P **P 01 03 10.0 +1.5**
MALT Malatya 71.54 304 ⇓P **P 01 03 10.0 +1.5**
FINES FINESS Array B 71.86 330 P **P 01 03 09.6 -0.8**
comp=Z,3.2nm,0.3s,mb4.6,baz=64,slow=5.3,SNR=59
FINES LR LR 01 37 57.6
comp=Z,26nm,20.6s,baz=31,slow=38
FINES FINESS Array B 71.86 330 *i* P **P 01 03 10.0 -0.4**
FINES pmax pmax
comp=Z,3.0nm,0.3s
SIM Simferopol' 72.56 312 *d*iP **P 01 03 15.0 +0.4**
SIM pmax pmax
comp=Z,39nm,0.9s,mb5.2
AKASG Malin Array Be 73.80 319 P **P 01 03 20.7 -1.1**
comp=Z,6.8nm,0.8s,mb4.4,baz=60,slow=6.0,SNR=32
AKASG Malin Array Be 73.80 319 *i* P **P 01 03 21.0 -0.9**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 74.61 307 *e*P **P 01 03 27.0 +0.4**
comp=Z,16nm,0.9s,mb4.8
BRTR Keskin Array B 74.61 307 P **P 01 03 26.9 +0.4**
comp=Z,16nm,0.9s,mb4.8,baz=96,slow=6.3,SNR=79
BRTR Keskin Array B 74.61 307⇑ *e*P **P 01 03 27.2 +0.6**
CFR Carcaliu 76.46 314 ⇓*i*P **P 01 03 37.0 -0.1**
CFR Carcaliu 76.46 314 ⇓P **P 01 03 37.0 -0.2**
TIRR Tirgusor 76.55 313 ⇑*i*P **P 01 03 37.7 +0.1**
TIRR Tirgusor 76.55 313 ⇑P **P 01 03 37.7 +0.1**
VRI Vrincioaia 77.12 315 ⇓*i*P **P 01 03 41.6 +0.8**
VRI Vrincioaia 77.12 315 ⇓P **P 01 03 41.6 +0.9**
PLOR Plostina 77.17 315 ⇓*i*P **P 01 03 42.9 +1.8**
LVV L'vov 77.22 319 *e*P **P 01 03 40.5 -0.9**
BURAR Bucovina Array 77.39 317 ⇓*i*P **P 01 03 42.3 0.0**
MLR Muntele Rosu 77.77 315 ⇓*i*P **P 01 03 45.4 +1.0**
MLR Muntele Rosu 77.77 315 ⇓P **P 01 03 45.4 +1.0**
KWP Kalwaria 78.08 319 *e*P **P 01 03 46.4 +0.2**
KWP pmax pmax
comp=Z,45nm,1.3s,mb5.0
KWP Kalwaria 78.08 319 *e*P **P 01 03 46.4 +0.3**
comp=Z,45nm,1.3s,mb5.0
NB2 NORSAR Subarra 78.51 333 P **P 01 03 47.6 -0.9**
comp=Z,5.1nm,0.7s,mb4.5,baz=57,slow=5.3
NB2 NORSAR Subarra 78.51 333 P **P 01 03 47.6 -0.9**
NB2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NOA NORSAR Array B 78.51 333 P **P 01 03 47.4 -1.1**
comp=Z,3.2nm,0.7s,mb4.3,baz=56,slow=5.6,SNR=12
NOA LR LR 01 44 38.8
comp=Z,16nm,19.0s,baz=95,slow=40
KOLS Kolonicke sedl 78.64 319 *e*P **P 01 03 50.6 +1.4**
NAO01 NORSAR Array S 78.75 333 *e*P **P 01 03 49.5 -0.3**
STHS Stebnicka Huta 79.04 320 *e*P **P 01 03 51.4 0.0**
STHS pmax pmax
comp=Z,5.0nm,1.3s,mb4.2
STHS Stebnicka Huta 79.04 320 *e*P **P 01 03 51.4 0.0**
comp=Z,4.6nm,1.3s,mb4.2
STHS *e* 01 04 11.7
CRVS Cervenica-Dubn 79.13 319 *e* **P 01 03 55.0 +3.1**
CRVS *e* 01 04 20.0
DRGR 79.28 317⇑ *i*P **P 01 03 53.6 +0.9**
DRGR 79.28 317 ⇑P **P 01 03 53.6 +0.9**
OJC Ojcow 79.52 321 *e*P **P 01 03 54.1 +0.1**
OJC Ojcow 79.52 321 *e*P **P 01 03 54.0 0.0**
KECS Kecovo 79.90 319 *e*P **P 01 03 56.2 +0.1**
KECS pmax pmax
comp=Z,3.0nm,0.3s,mb4.6
KECS Kecovo 79.90 319 *e*P **P 01 03 56.2 +0.1**
comp=Z,2.8nm,0.3s,mb4.6
BZS Buzias 80.48 316 ⇓*i*P **P 01 03 58.5 -0.7**
BZS Buzias 80.48 316 ⇓P **P 01 03 58.5 -0.7**
OKC Ostrava-Krasne 80.64 321 *e*P **P 01 03 59.9 -0.1**
VTS Vitosha 80.77 313 ⇓*i*P **P 01 04 01.4 +0.7**
VTS Vitosha 80.77 313 ⇓P **P 01 04 01.4 +0.7**
VYHS Vyhne 80.87 319 *i* P **P 01 04 01.7 +0.5**
VYHS *e* pP 01 04 37.0 +3.8
VYHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
VYHS Vyhne 80.87 319 *i* P **P 01 04 01.7 +0.5**
comp=Z,5.5nm,1.0s,mb4.3
VYHS *e* pP 01 04 37.0 +3.8
YKW3 Yellowknife Ar 81.01 24 *e*P **P 01 04 02.0 +0.1**
MORC Moravsky Berou 81.02 321⇑ *i*P **P 01 04 02.5 +0.5**
YKA Yellowknife Ar 81.06 24 P **P 01 04 01.7 -0.5**
comp=Z,4.9nm,0.9s,mb4.3,baz=311,slow=5.2,SNR=49
YKA pP pP 01 04 35.7 +1.5
comp=Z,1.1nm,0.8s,baz=305,slow=5.1,SNR=3.2
YKA PKKPbc PKKPbc 01 22 35.9 -2.0
comp=Z,0.2nm,0.5s,baz=129,slow=2.5,SNR=6.7
YKA Yellowknife Ar 81.06 24⇑ *e*P **P 01 04 02.2 0.0**
YKA Yellowknife Ar 81.06 24 P **P 01 04 01.8 -0.5**
YKA pP pP 01 04 35.8 +1.5
YKA PKKPbc PKKPbc 01 22 35.9 -2.0
KOLL Kolacno 81.09 320 *e*P **P 01 04 03.2 +0.8**
DPC Dobruska-Polom 81.43 322 *e*P **P 01 04 04.9 +0.7**
UPC Upice 81.53 322 *e*P **P 01 04 05.8 +1.1**
SUMG Summit 81.76 355 *e*P **P 01 04 06.1 +0.2**
comp=Z,7.5nm,0.8s,mb4.6
PKSM Moragy 82.06 317 ⇓*i*P **P 01 04 07.4 -0.1**
PKSM Moragy 82.06 317 ⇓P **P 01 04 07.4 -0.1**
PVCC Panska Ves 82.31 323 *e*P **P 01 04 11.0 +2.2**
TREC Trest 82.42 321 *e*P **P 01 04 09.6 +0.2**
BRG Berggiesshubel 82.48 323 *e*P **P 01 04 09.0 -0.7**
comp=Z,4.0nm,0.9s,mb4.2
BRG Berggiesshubel 82.48 323 *e*P **P 01 04 09.0 -0.7**
BRG pmax pmax
comp=Z,3.0nm,1.2s,mb4.0
PRU Pruhonice 82.60 322 *e*P **P 01 04 10.7 +0.4**
CLL Collm 82.76 324 *e*P **P 01 04 10.8 -0.4**
comp=Z,8.0nm,1.2s,mb4.4
CLL Collm 82.76 324 *i* P **P 01 04 10.8 -0.4**
comp=Z,8.0nm,1.2s,mb4.4
CLL Collm 82.76 324 *i* P **P 01 04 10.8 -0.4**
CLL pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
FBE Freiberg 82.78 323 *e*P **P 01 04 10.9 -0.3**
comp=Z,5.0nm,0.8s,mb4.4
KHC Kasperske Hory 83.58 322 *e*P **P 01 04 14.7 -0.7**
WERD Werda 83.59 323 *e*P **P 01 04 15.6 +0.2**
comp=Z,3.0nm,1.0s,mb4.1
NKC Novy Kostel 83.63 323 *e*P **P 01 04 15.9 +0.3**
NRDL Niedersach Rie 83.64 326 *e*P **P 01 04 15.7 0.0**
WERN Wernitzgruen 83.64 323 *e*P **P 01 04 15.6 -0.1**
comp=Z,4.0nm,0.9s,mb4.2
GEC2 GERESS Array S 83.66 321 *e*P **P 01 04 15.7 -0.1**
comp=Z,10.0nm,1.2s,mb4.5
GEC2 GERESS Array S 83.66 321 *e*P **P 01 04 15.7 -0.1**
GEC2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
GERES GERESS Array B 83.66 321 P **P 01 04 15.1 -0.6**
comp=Z,3.8nm,0.8s,mb4.2,baz=63,slow=3.6,SNR=27
MOX Moxa 83.86 324 *e*P **P 01 04 16.9 +0.1**
comp=Z,7.0nm,1.5s,mb4.3
CLZ Clausthal 83.86 325 *e*P **P 01 04 17.2 +0.4**
comp=Z,52nm,2.2s,mb5.0
CLZ Clausthal 83.86 325 *e*P **P 01 04 17.2 +0.4**
CLZ pmax pmax
comp=Z,52nm,2.2s,mb5.0
ROTZ Rotzenmuhle 84.01 323 *e*P **P 01 04 18.3 +0.8**
comp=Z,4.0nm,1.1s,mb4.2
PDKS Podkum 84.34 319 *e*P **P 01 04 19.1 -0.1**
IBBN Ibbenburen 84.93 326 *e*P **P 01 04 22.5 +0.3**
comp=Z,26nm,1.1s,mb5.1
FUR Furstenfeldbru 85.39 322 *e*P **P 01 04 25.0 +0.5**
comp=Z,24nm,1.4s,mb4.9
FUR Furstenfeldbru 85.39 322 *e*P **P 01 04 25.0 +0.5**
FUR pmax pmax
comp=Z,24nm,1.4s,mb4.9
TNS Taunus Mts 85.78 324 *e*P **P 01 04 26.6 +0.2**
STU Stuttgart 86.20 323 *e*P **P 01 04 28.4 -0.1**
comp=Z,10.0nm,0.8s,mb4.6
CDF Champ du Feu 87.45 323 *e*P **P 01 04 34.0 -0.5**
comp=Z,12nm,0.8s,mb4.6
CDF Champ du Feu 87.45 323 *e*P **P 01 04 34.0 -0.5**
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CDF Champ du Feu 87.45 323 *e*P **P 01 04 34.0 -0.5**
comp=Z,6.0nm,0.8s,mb4.6
EDM Edmonton 87.48 30 *e*P **P 01 04 35.8 +1.1**
HAU Haudompre 88.19 323 *e*P **P 01 04 38.2 +0.2**
comp=Z,10nm,1.0s,mb4.5
HAU Haudompre 88.19 323 *e*P **P 01 04 38.2 +0.2**
HAU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
HAU Haudompre 88.19 323 *e*P **P 01 04 38.2 +0.2**
comp=Z,5.2nm,1.0s,mb4.5
NEW Newport 88.73 36 *e*P **P 01 04 41.9 +1.3**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 88.73 36 *e*P **P 01 04 41.9 +1.3**
comp=Z,4.0nm,0.8s,mb4.5
LPG La Plagne 89.46 321 *e*P **P 01 04 44.1 +0.1**
comp=Z,22nm,0.7s,mb5.0
LPG La Plagne 89.46 321 *e*P **P 01 04 44.1 +0.1**
LPG pmax pmax
comp=Z,11nm,0.7s,mb5.0
LPG La Plagne 89.46 321 *e*P **P 01 04 44.1 +0.1**
comp=Z,11nm,0.7s,mb5.0
LPL La Plagne 89.46 321 *e*P **P 01 04 44.0 0.0**
comp=Z,19nm,0.8s,mb4.9
LPL La Plagne 89.46 321 *e*P **P 01 04 44.0 0.0**
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LPL La Plagne 89.46 321 *e*P **P 01 04 44.0 0.0**
comp=Z,9.5nm,0.8s,mb4.9
BNI Bardonecchia 89.77 321 *e*P **P 01 04 45.0 -0.4**
BNI pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
BNI Bardonecchia 89.77 321 *e*P **P 01 04 45.0 -0.4**
comp=Z,6.7nm,1.0s,mb4.7
PGF Pioggiola 89.86 318 *e*P **P 01 04 45.4 -0.4**
comp=Z,11nm,0.9s,mb4.7
PGF Pioggiola 89.86 318 *e*P **P 01 04 45.4 -0.4**
PGF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
PGF Pioggiola 89.86 318 *e*P **P 01 04 45.4 -0.4**
comp=Z,5.4nm,0.9s,mb4.7
MBDF Montbardon 89.91 321 *e*P **P 01 04 45.7 -0.4**
LOR Lormes 89.98 324 *e*P **P 01 04 45.3 -1.1**
SBF Sospel 90.03 320 *e*P **P 01 04 45.8 -0.8**
comp=Z,13nm,0.6s,mb4.9
SBF Sospel 90.03 320 *e*P **P 01 04 45.8 -0.8**
SBF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
SBF Sospel 90.03 320 *e*P **P 01 04 45.8 -0.8**
comp=Z,6.5nm,0.6s,mb4.9
SSF Saint Saulge 90.30 324 *e*P **P 01 04 47.3 -0.6**
ORIF Oris-en-Rattie 90.30 321 *e*P **P 01 04 47.6 -0.3**
comp=Z,12nm,0.8s,mb4.8
ORIF Oris-en-Rattie 90.30 321 *e*P **P 01 04 47.6 -0.3**
ORIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 90.30 321 *e*P **P 01 04 47.6 -0.3**
comp=Z,6.2nm,0.8s,mb4.8
SMF Signal de Mont 90.38 323 *e*P **P 01 04 47.5 -0.8**
comp=Z,5.3nm,0.8s,mb4.4
SMF Signal de Mont 90.38 323 *e*P **P 01 04 47.5 -0.8**
SMF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
SMF Signal de Mont 90.38 323 *e*P **P 01 04 47.5 -0.8**
comp=Z,2.7nm,0.8s,mb4.4
AVF Avril sur Loir 90.55 324 *e*P **P 01 04 48.4 -0.7**
comp=Z,2.5nm,0.6s,mb4.2
AVF Avril sur Loir 90.55 324 *e*P **P 01 04 48.4 -0.7**
AVF pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
AVF Avril sur Loir 90.55 324 *e*P **P 01 04 48.4 -0.7**
comp=Z,1.3nm,0.6s,mb4.2

FRF La Foret Royal 90.67 320 *eP* **P 01 04 48.8 -0.8**
comp=Z,9.8nm,0.9s,mb4.6
FRF La Foret Royal 90.67 320 *eP* **P 01 04 48.8 -0.8**
FRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
FRF La Foret Royal 90.67 320 *eP* **P 01 04 48.8 -0.8**
comp=Z,4.9nm,0.9s,mb4.6
LMR La Mourre 90.89 320 *eP* **P 01 04 49.7 -0.9**
comp=Z,17nm,1.0s,mb4.8
LMR La Mourre 90.89 320 *eP* **P 01 04 49.7 -0.9**
LMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LMR La Mourre 90.89 320 *eP* **P 01 04 49.7 -0.9**
comp=Z,8.4nm,1.0s,mb4.8
VIVF Saint-Julien-l 91.02 322 *eP* **P 01 04 50.7 -0.5**
comp=Z,11nm,0.8s,mb4.7
VIVF Saint-Julien-l 91.02 322 *eP* **P 01 04 50.7 -0.5**
VIVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
VIVF Saint-Julien-l 91.02 322 *eP* **P 01 04 50.7 -0.5**
comp=Z,5.3nm,0.8s,mb4.7
SMRF Simiane la Rot 91.04 321 *eP* **P 01 04 50.6 -0.8**
comp=Z,19nm,1.2s,mb4.8
SMRF Simiane la Rot 91.04 321 *eP* **P 01 04 50.6 -0.8**
comp=Z,19nm,1.2s,mb5.1
LDF La Druitiere 91.18 327 *eP* **P 01 04 50.5 -1.5**
FFC Flin Flon 91.19 25 *eP* **P 01 04 52.3 +0.3**
FFC pmax pmax
comp=Z,12nm,1.1s,mb4.9
FFC Flin Flon 91.19 25 *eP* **P 01 04 52.3 +0.2**
comp=Z,12nm,1.1s,mb4.9
FLN La Foliniere 91.25 327 *eP* **P 01 04 51.5 -0.8**
TCF Toulx Ste Croi 91.48 324 *eP* **P 01 04 52.3 -1.1**
GRR Gorron 91.69 327 *eP* **P 01 04 53.7 -0.6**
comp=Z,63nm,1.3s,mb5.4
GRR Gorron 91.69 327 *eP* **P 01 04 53.7 -0.6**
GRR pmax pmax
comp=Z,32nm,1.3s,mb5.4
GRR Gorron 91.69 327 *eP* **P 01 04 53.7 -0.6**
comp=Z,32nm,1.3s,mb5.4
LASF Ste Croix 91.96 321 *eP* **P 01 04 54.7 -0.9**
comp=Z,7.3nm,0.8s,mb4.6
CAF Calviac 92.42 323 *eP* **P 01 04 57.6 -0.1**
RJF Les Rejaudoux 92.48 323 *eP* **P 01 04 57.2 -0.8**
comp=Z,5.6nm,0.7s,mb4.6
RJF Les Rejaudoux 92.48 323 *eP* **P 01 04 57.2 -0.8**
RJF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
RJF Les Rejaudoux 92.48 323 *eP* **P 01 04 57.2 -0.8**
comp=Z,2.8nm,0.7s,mb4.6
ROSF Rostrenen 92.90 328 *eP* **P 01 04 59.7 -0.2**
DLMT Dillon 92.97 36 *eP* **P 01 05 02.4 +2.1**
comp=Z,8.3nm,1.1s,mb5.0
MTLF Montolieu 93.35 322 *eP* **P 01 05 01.0 -1.0**
NVAR Mina Array Bea 93.97 44 P **P 01 05 05.8 +1.0**
comp=Z,1.2nm,0.7s,mb4.3,baz=298,slow=2.9,SNR=9.0
EPF Esparros 94.60 322 *eP* **P 01 05 06.4 -1.3**
ETSF Etsaut 95.18 323 *eP* **P 01 05 09.0 -1.4**
TORD Torodi Ar. Bea 112.06 297 PKiKP PKiKP 01 10 21.8 +0.1
comp=Z,0.3nm,0.5s,baz=116,slow=2.4,SNR=7.8
TORD PP PP 01 11 09.1 +1.8
comp=Z,1.1nm,0.9s,baz=58,slow=6.5,SNR=3.8
VNA1 Neumayer--Stat 127.01 198 *e*Pdiff Pdif 01 07 29.6 -2.5
VNA1 *e* 01 07 56.6
VNA1 *e* 01 08 00.2
OTAV Otavalo 146.70 44 *e*PKP PKPdf 01 11 30.1 +3.6
PLCA Paso Flores 160.33 146 PKPab PKPab 01 12 27.9 +0.8
comp=Z,0.4nm,0.5s,baz=238,slow=4.7,SNR=3.5
LPAZ La Paz 165.64 54 PKP PKPdf 01 11 53.5 +2.7
comp=Z,0.7nm,0.8s,baz=298,slow=23,SNR=4.4
LPAZ PKPab PKPab 01 12 51.3 +0.9
comp=Z,1.0nm,1.0s,baz=326,slow=8.8,SNR=5.4
LPAZ La Paz 165.64 54 PKP2 PKPab 01 12 51.3 +0.9
LPAZ pmax pmax
comp=Z,1.0nm,1.0s

*ISK **15** 01:09:19.6,3527N×2627E,h44km,MD3.7*
*NEIC **15** 01:09:22.5,3544N×2688E,h26km,MD3.4(ATH),After ATH.*
*ATH **15** 01:09:22.5,3543N×2690E,h26km±1km,MD3.4/4*
*ISCJB **15** 01:09:22.4±1.7,3538N±003×2688E±004,h5km±13km, mb3.6/3,Error ellipse: s-maj=6.8km s-min=4.8km az=72.2*
*CSEM **15** 01:09:22.8±0.1,3547N×2681E,h10km,MD3.4,Error ellipse: s-maj=2.4km s-min=1.6km az=142.0*
*IDC **15** 01:09:23.1±1.2,3542N×2687E,h0km,mb3.6/3,mb1 3.4/6, mb1mx3.3/22,mbtmp3.4/6,ML3.3/3,Error ellipse: s-maj=35.4km s-min=11.8km az=168.0*
*HLW **15** 01:09:23.5,3572N×2675E,h33km,Mb3.0*
ISC 15 01:09:23.3±1.3,3542N±003×2682E±005,h2km±9km,n25, σ0°97/30,mb3.6/3,3C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.31**	**66**	⇓*i*PB	**Pg**	**01 09 28.9**	**-0.3**
KARP				*e*SB	**Sg**	**01 09 33.7**	**+0.5**
NPS	**Neapolis**	**1.00**	**261**	*e*PN	**Pn**	**01 09 42.8**	**-1.4**
XRY	**Khrisi**	**1.07**	**240**	*e*PN	**Pn**	**01 09 44.0**	**-1.2**
ARG	**Arkhangelos**	**1.33**	**53**	*e*PN	**Pn**	**01 09 46.5**	**-2.3**
DAT	**Datca**	**1.44**	**25**	*e*PN	**Pn**	**01 09 49.0**	**-1.4**
DAT				*e*SN	**Sn**	**01 10 10.3**	**+0.4**
SANT	**Santorini**	**1.45**	**311**	*e*Pn	**Pn**	**01 09 50.8**	**+0.3**
SANT				*e*Sn	**Sn**	**01 10 11.8**	**+1.6**
SANT	**Santorini**	**1.45**	**311**	*e*Pn	**Pn**	**01 09 50.8**	**+0.3**
IDI	**Anoyia**	**1.58**	**266**	Pg	**Pn**	**01 09 52.5**	**+0.2**
	9.3nm,0.3s,baz=77,slow=14,SNR=105						
IDI				Lg		01 10 15.3	
	83nm,0.3s,baz=64,slow=4.7,SNR=23						
APE	**Apeiranthos**	**1.94**	**328**	*e*PB	**Pn**	**01 09 55.8**	**-1.5**
DALT	**Dalyan (Mudla)**	**2.00**	**47**	*e*PN	**Pn**	**01 09 58.6**	**+0.6**
MLSB	**Milas**	**2.02**	**22**	*e*PN	**Pn**	**01 09 57.5**	**-0.9**
YER	**Yerkesik**	**2.08**	**34**	*e*PN	**Pn**	**01 09 58.5**	**-0.6**
VAM	**Vamos**	**2.14**	**270**	*e*PN	**Pn**	**01 09 59.9**	**0.0**
FETY	**Fethiye**	**2.20**	**56**	*e*PN	**Pn**	**01 10 01.3**	**+0.5**
ELL	**Elmali**	**2.83**	**61**	*e*PN	**Pn**	**01 10 10.3**	**+0.8**
SLUM		**4.14**	**199**	⇑*e*P	**Pn**	**01 10 28.6**	**+1.1**
HMAT	**Matruh**	**4.32**	**177**	⇓*e*P	**Pn**	**01 10 30.9**	**+1.0**
HMAT				S	**Sn**	**01 11 20.9**	**0.0**
SWA1		**6.21**	**189**	⇓*e*P	**Pn**	**01 10 57.1**	**+1.2**
SWA1				S	**Sn**	**01 12 05.4**	**-2.1**
SWA2		**6.27**	**191**	⇑P	**Pn**	**01 10 57.6**	**+0.9**
BRTR	**Keskin Array B**	**6.91**	**50**	Pn	**Pn**	**01 11 06.2**	**+0.7**
	0.1nm,0.3s,baz=217,slow=17,SNR=3.7						
MMAI	**Mount Meron Ar**	**7.51**	**106**	Pn	**Pn**	**01 11 13.4**	**-0.3**
	0.5nm,0.3s,baz=304,slow=14,SNR=3.0						
GERES	**GERESS Array B**	**16.54**	**328**	Pn	**Pn**	**01 13 17.1**	**+0.9**
	0.1nm,0.3s,baz=152,slow=13,SNR=3.9						
TORD	**Torodi Ar. Bea**	**31.70**	**232**	P	**P**	**01 15 48.8**	**+0.5**
	0.3nm,0.4s,mb3.5,baz=34,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**42.50**	**57**	P	**P**	**01 17 19.9**	**0.0**
	0.5nm,0.6s,mb3.3,baz=283,slow=7.2,SNR=6.0						
SONM	**Songino Array**	**58.27**	**51**	P	**P**	**01 19 19.1**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=286,slow=6.8,SNR=7.9						

*MOS **15** 01:23:38.3±1.6,3555N×7109E,h106km,mb4.0/1,Error ellipse: s-maj=22.6km s-min=9.9km az=89.0*
*NEIC **15** 01:23:46.8±2.1,3584N×7124E,h166km±18km,mb3.3/4, Error ellipse: s-maj=20.4km s-min=10.5km az=161.0*
*IDC **15** 01:23:48.9±10.0,3598N×7129E,h178km±114km,mb3.2/3, mb1 3.1/6,mb1mx2.9/22,mbtmp3.6/6,Error ellipse: s-maj=82.8km s-min=47.9km az=97.0*
*ISCJB **15** 01:23:53.5±0.6,3642N±005×712E±0.1,h222km±11km, mb3.3/3,Error ellipse: s-maj=17.2km s-min=7.8km az=28.9*
*NNC **15** 01:24:00.8±1.0,3697N×7128E,h201km±15km,mb2.6, mpv3.6,Error ellipse: s-maj=17.2km s-min=9.2km az=49.0*
ISC 15 01:23:54.4±0.6,3642N±005×711E±01,h208km±11km,n36, σ1°11/38,mb3.3/3,3C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.67**	**166**	P	**Pn**	**01 24 41.0**	**+0.4**
CHCP	**Chirah Chowk**	**3.26**	**147**	⇓P	**Pn**	**01 24 48.5**	**+1.0**
THW	**Thamme Wali**	**3.65**	**172**	⇑P	**Pn**	**01 24 52.4**	**+0.2**
SARP	**Sargodha**	**4.66**	**164**	⇑P	**Pn**	**01 24 56.1**	**-8.6**
AML	**Almayashu**	**6.04**	**18**	P	**Pn**	**01 25 22.2**	**0.0**
	SNR=13						
UCH	**Uchtor**	**6.36**	**23**	P	**Pn**	**01 25 26.3**	**-0.1**
	SNR=18						
KZA	**Kyzart**	**6.49**	**28**	P	**Pn**	**01 25 28.0**	**0.0**
	SNR=5.9						
EKS2	**Erkin-Say**	**6.56**	**17**	P	**Pn**	**01 25 28.7**	**-0.2**
	SNR=6.9						
KK31	**Karatay Array**	**6.69**	**356**	P	**Pn**	**01 25 29.9**	**-0.7**
	4.8nm,0.3s,baz=182,slow=13,SNR=292						
KK31				⇓S	**Sn**	**01 26 41.1**	**-6.1**
	4.5nm,0.6s,baz=185,slow=23,SNR=5.8						
AAK	**Ala-Archa**	**6.72**	**22**	P	**Pn**	**01 25 31.2**	**+0.1**
	SNR=11						
AAK	**Ala-Archa**	**6.72**	**22**	*e*PN	**Pn**	**01 25 30.2**	**-0.9**
AAK				pmax	pmax		
	comp=Z,13nm,0.3s						
AAK	**Ala-Archa**	**6.72**	**22**	*e*Pn	**Pn**	**01 25 30.2**	**-0.9**
	comp=Z,13nm,0.3s						
AAK				*e*Sn	**Sn**	**01 26 45.2**	**-2.7**
KBK	**Karagaybulak**	**6.89**	**24**	P	**Pn**	**01 25 33.6**	**+0.4**
	SNR=6.4						
USP	**Ospenovka**	**7.31**	**20**	P	**Pn**	**01 25 37.7**	**-0.9**
	SNR=8.6						
TKM2	**Tokmak 2**	**7.34**	**27**	P	**Pn**	**01 25 39.2**	**+0.1**
	SNR=9.8						
TKM2	**Tokmak 2**	**7.34**	**27**	⇓P	**Pn**	**01 25 38.5**	**-0.6**
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**13.29**	**35**	P	**Pn**	**01 26 54.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=207,slow=11,SNR=4.9						
AB31	**Akbulak array**	**15.21**	**331**	⇑P	**Pn**	**01 27 20.1**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=148,slow=12,SNR=15						
KURK	**Kurchatov**	**15.27**	**18**	*e*Pn	**Pn**	**01 27 20.1**	**+0.7**
	comp=Z,0.4nm,0.4s						
ZRNK	**Zerenda**	**16.60**	**355**	*e*P	**P**	**01 27 35.3**	**+1.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**16.60**	**355**	*e*P	**P**	**01 27 35.3**	**+1.0**
	comp=Z,0.5nm,0.4s						
BVAR	**Borovoye Array**	**16.61**	**358**	P	**P**	**01 27 35.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=6.3						
BRVK	**Borovoye**	**16.65**	**358**	*e*P	**P**	**01 27 37.0**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**16.65**	**358**	*e*P	**P**	**01 27 37.0**	**+2.2**
	comp=Z,0.8nm,0.4s						
AKTK	**Aktyubinsk**	**16.91**	**330**	P	**P**	**01 27 38.5**	**+0.8**
AKTO	**Aktyubinsk**	**16.91**	**330**	P	**P**	**01 27 38.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=125,slow=12,SNR=4.2						
CHKZ	**Chkalovo**	**17.26**	**359**	*e*P	**P**	**01 27 43.1**	**+1.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**17.26**	**359**	*e*P	**P**	**01 27 43.1**	**+1.6**
	comp=Z,0.7nm,0.4s						
GNI	**Garni**	**21.03**	**288**	P	**P**	**01 28 20.4**	**-1.6**
MALT	**Malatya**	**26.00**	**284**	P	**P**	**01 29 05.6**	**-2.4**
ULN	**Ulaanbaatar**	**28.73**	**55**	*e*P	**P**	**01 29 30.6**	**-1.7**
BR131	**Keskin Array S**	**29.57**	**288**	*e*P	**P**	**01 29 38.4**	**-1.3**
FINES	**FINESS Array B**	**37.61**	**326**	P	**P**	**01 30 49.6**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.1,baz=116,slow=12,SNR=6.6						
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**01 31 19.7**	**+0.6**
	comp=Z,2.4nm,0.8s,mb3.7,baz=113,slow=9.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	**65.83**	**269**	P	**P**	**01 34 16.2**	**-1.2**
	comp=Z,2.2nm,0.4s,mb3.1,baz=47,slow=6.1,SNR=10						
TORD	**Torodi Ar. Bea**	**65.83**	**269**	P	**P**	**01 34 16.2**	**-1.2**

*MOS **15** 01:29:43.7±0.8,699S×13032E,h62km,mb4.3/5,Error ellipse: s-maj=71.9km s-min=11.0km az=109.3*
*IDC **15** 01:29:45.2±4.9,692S×13054E,h61km±43km,mb3.8/6, mb1 4.1/8,mb1mx4.0/14,mbtmp4.2/8,ML4.9/3,MS3.0/1, Ms1 3.0/1,ms1mx2.2/16,Error ellipse: s-maj=76.4km s-min=19.6km az=68.0*
*ISCJB **15** 01:29:47.3±0.5,708S±006×1305E±02,h100km,mb3.9/12, Error ellipse: s-maj=25.2km s-min=5.2km az=147.1*
*NEIC **15** 01:29:47.6±1.9,699S×13054E,h85km±18km,mb4.1/7, Error ellipse: s-maj=24.3km s-min=12.4km az=62.0*
ISC 15 01:29:49.2±0.5,709S±008×1304E±02,h100km,n36, σ0°96/41,mb3.9/12,1D,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.93**	**161**	⇓*i*P	**Pn**	**01 31 16.5**	**+2.1**
	237nm,0.4s						
KAKA				*e*S	**Sn**	**01 32 20.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.89**	**203**	*e*P	**Pn**	**01 32 34.8**	**-0.5**
	27nm,0.4s						
FITZ				*e*S	**Sn**	**01 34 39.6**	**-6.5**
FITZ	**Fitzroy Crossi**	**11.89**	**203**	P	**Pn**	**01 32 35.1**	**-0.3**
	5.0nm,0.3s,baz=32,slow=10,SNR=121						
FITZ				S	**Sn**	**01 34 39.8**	**-6.3**
	6.7nm,0.3s,baz=224,slow=19,SNR=8.3						
FITZ				LR	LR	01 37 32.7	
	comp=Z,77nm,20.7s,baz=30,slow=39						
WRAB	**Tennant Creek**	**13.32**	**164**	*e*Pn	**Pn**	**01 32 52.8**	**-1.4**
	59nm,0.7s						
WRAB				*e*Sn	**Sn**	**01 35 13.0**	**-7.7**
WRA	**Warramunga Arr**	**13.33**	**164**	P	**Pn**	**01 32 53.0**	**-1.3**
	8.1nm,0.3s,baz=346,slow=13,SNR=60						
WRA				S	**Sn**	**01 35 12.6**	**-8.3**
	2.4nm,0.3s,baz=337,slow=24,SNR=5.1						
WRA	**Warramunga Arr**	**13.33**	**164**	P	**Pn**	**01 32 53.0**	**-1.3**
WRA				S	**Sn**	**01 35 12.6**	**-8.3**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.3s						
WRA				smax			
	comp=N,2.0nm,0.3s						
WB2	**Warramunga Arr**	**13.33**	**164**	*e*P	**Pn**	**01 32 52.8**	**-1.5**
WB2				*e*S	**Sn**	**01 35 14.4**	**-6.5**
AS31	**Alice Springs**	**16.82**	**169**	*e*P	**Pn**	**01 33 39.8**	**+1.4**
AS31				*e*S	**S**	**01 36 39.2**	**-10**
ASPA	**Alice Springs**	**16.82**	**169**	*e*P	**Pn**	**01 33 39.8**	**+1.4**
ASPA				*e*S	**S**	**01 36 39.2**	**-10**
ASAR	**Alice Springs**	**16.82**	**169**	P	**Pn**	**01 33 39.0**	**+0.5**
	comp=N,4.2nm,0.3s,baz=336,slow=8.4,SNR=111						
ASAR				S	**S**	**01 36 38.0**	**-11**
	comp=N,1.8nm,0.3s,baz=356,slow=27,SNR=8.3						
ASAR	**Alice Springs**	**16.82**	**169**	P	**Pn**	**01 33 39.0**	**+0.6**
ASAR				S	**S**	**01 36 38.1**	**-11**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAR				smax			
	comp=N,2.0nm,0.3s						
MBWA	**Marble Bar**	**17.39**	**215**	*e*Pn	**Pn**	**01 33 48.2**	**+2.8**
	comp=N,4.9nm,0.4s						
STKA	**Stephens Creek**	**26.77**	**159**	P	**P**	**01 35 20.1**	**+0.5**
	comp=N,0.9nm,0.3s,mb3.8,baz=342,slow=11,SNR=5.5						
TAU	**Tasmania Univ**	**38.66**	**160**	*e*P	**P**	**01 37 03.1**	**+0.2**
	comp=N,1.3nm,0.3s,mb4.2						
ULN	**Ulaanbaatar**	**58.48**	**342**	*e*P	**P**	**01 39 35.0**	**+0.4**
	comp=N,2.0nm,0.7s,mb4.3						
SONM	**Songino Array**	**58.66**	**341**	P	**P**	**01 39 35.6**	**-0.3**
	comp=N,0.8nm,0.5s,mb4.0,baz=161,slow=6.8,SNR=9.4						
SONM				PcP	PcP	01 40 25.0	0.0
	comp=N,0.5nm,0.5s,baz=158,slow=5.0,SNR=3.5						
SONM	**Songino Array**	**58.66**	**341**	P	**P**	**01 39 35.6**	**-0.3**
SONM						01 40 25.0	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**68.53**	**327**	P	**P**	**01 40 41.0**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.1,baz=118,slow=8.2,SNR=23						
MKAR	**Makanchi Array**	**68.53**	**327**	P	**P**	**01 40 41.0**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**71.85**	**334**	P	**P**	**01 41 00.8**	**-0.3**
	comp=Z,1.1nm,0.3s,mb4.1,baz=46,slow=15,SNR=4.2						
ZAL	**Zalesovo**	**71.85**	**334**	P	**P**	**01 41 00.8**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**71.85**	**334**	P	**P**	**01 41 00.8**	**-0.3**
VNDA	**Vanda**	**72.31**	**173**	P	**P**	**01 41 05.0**	**+1.2**
	comp=Z,0.7nm,0.5s,mb3.7,baz=332,slow=5.3,SNR=6.3						
VNDA	**Vanda**	**72.31**	**173**	P	**P**	**01 41 05.0**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**72.81**	**328**	*e*P	**P**	**01 41 06.8**	**0.0**
	comp=Z,0.9nm,0.3s,mb4.1						
BVAR	**Borovoye Array**	**78.36**	**328**	P	**P**	**01 41 38.3**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.5,baz=123,slow=5.5,SNR=4.8						
BVAR	**Borovoye Array**	**78.36**	**328**	P	**P**	**01 41 38.3**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**78.43**	**328**	*e*P	**P**	**01 41 38.8**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.7						
CHKZ	**Chkalovo**	**78.56**	**328**	*e*P	**P**	**01 41 39.1**	**-0.4**
	comp=Z,0.5nm,0.3s,mb3.8						
ZRNK	**Zerenda**	**79.06**	**327**	*e*P	**P**	**01 41 41.9**	**-0.4**
	comp=Z,0.8nm,0.4s,mb3.9						
TORD	**Torodi Ar. Bea**	**129.24**	**281**	PKP	PKPdf	01 48 47.0	+1.4
	comp=Z,0.7nm,0.5s,baz=84,slow=1.6,SNR=13						
DBIC	**Dimbokro**	**135.61**	**272**	PKP	PKPdf	01 48 59.9	+2.3
	comp=Z,9.0nm,1.1s,baz=225,slow=7.4,SNR=3.0						
DBIC	**Dimbokro**	**135.61**	**272**	PKIKP	PKPdf	01 48 59.9	+2.2
DBIC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
DBIC	**Dimbokro**	**135.61**	**272**	PKP	PKPdf	01 48 59.9	+2.3
JTS	**JuntasAbangare**	**144.90**	**82**	PKP	PKPdf	01 49 16.4	+2.0
	comp=Z,4.4nm,0.5s,baz=9.3,slow=23,SNR=5.9						
JTS	**JuntasAbangare**	**144.90**	**82**	PKIKP	PKPdf	01 49 16.4	+2.0
JTS				pmax	pmax		
	comp=Z,4.0nm,0.5s						

*ISCJB **15** 01:44:05.1±0.6,2831S±003×6745W±005,h120km±6km, mb4.2/23,Error ellipse: s-maj=7.7km s-min=4.7km az=179.9*
*GUC **15** 01:44:06.5±0.9,2832S×6750W,h117km,ML4.9*
*IDC **15** 01:44:06.1±1.2,2833S×6741W,h118km±12km,mb3.9/14, mb1 3.9/18,mb1mx3.9/21,mbtmp4.2/18,Error ellipse: s-maj=17.1km s-min=10.1km az=93.0*
*MOS **15** 01:44:06.3±1.2,2828S×6733W,h128km,mb4.8/3,Error ellipse: s-maj=16.4km s-min=11.8km az=75.4*
*NEIC **15** 01:44:06.5,2832S×6750W,h117km,mb4.5/10,After GUC.*
ISC 15 01:44:06.3±0.5,2831S±003×6745W±005,h116km±5km, n67,σ0°96/78,mb4.2/23,7C-4D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**2.74**	**290**	⇓*i*P	**Pn**	**01 44 49.5**	**+0.5**
CPCH				*i* S	**Sn**	**01 45 21.9**	**-0.1**
CPCH				AML	AML	01 45 27.8	
	comp=N,5μm,0.1s						
CPCH	**Copiapo**	**2.74**	**290**	⇓*i*P	**Pn**	**01 44 49.5**	**+0.5**
CPCH				*i* S	**Sn**	**01 45 21.9**	**-0.1**
VACH	**Vallenar**	**2.93**	**264**	⇑*i*P	**Pn**	**01 44 52.3**	**+0.8**
VACH				*i* S	**Sn**	**01 45 25.9**	**-0.4**
VACH				AML	AML	01 45 29.3	
	comp=E,4μm,0.1s						
VACH	**Vallenar**	**2.93**	**264**	⇑*i*P	**Pn**	**01 44 52.3**	**+0.8**
VACH				*i* S	**Sn**	**01 45 25.9**	**-0.4**
LCO	**Las Campanas**	**2.94**	**256**	⇑*i*P	**Pn**	**01 44 52.9**	**+1.2**
LCO				*i* S	**Sn**	**01 45 27.2**	**+0.6**
CDCH	**Caldera**	**3.24**	**292**	⇑*i*P	**Pn**	**01 44 55.6**	**0.0**
CDCH				*i* S	**Sn**	**01 45 30.9**	**-2.8**
CDCH				AML	AML	01 45 31.2	
	comp=E,1μm,0.5s						
CDCH	**Caldera**	**3.24**	**292**	⇑*i*P	**Pn**	**01 44 55.6**	**0.0**
CDCH				S	**Sn**	**01 45 30.9**	**-2.8**
CFAA	**Coronel Fontan**	**3.35**	**192**	P	**Pn**	**01 44 57.9**	**+0.9**
	comp=E,2.8nm,0.3s,baz=360,slow=12,SNR=271						
CFAA				S	**Sn**	**01 45 36.0**	**-0.2**
	comp=E,21nm,0.3s,baz=5.7,slow=15,SNR=15						
CFAA	**Coronel Fontan**	**3.35**	**192**	P	**Pn**	**01 44 57.9**	**+0.9**
CFAA				S	**Sn**	**01 45 36.0**	**-0.2**
CRCH	**Chaqaral**	**3.44**	**304**	*e*P	**Pn**	**01 44 58.8**	**+0.6**
CRCH				*i* S	**Sn**	**01 45 37.5**	**-0.9**
CRCH				AML	AML	01 45 44.7	
	comp=N,936nm,0.3s						
CRCH	**Chaqaral**	**3.44**	**304**	*e*P	**Pn**	**01 44 58.8**	**+0.6**
CRCH				*i* S	**Sn**	**01 45 37.5**	**-0.9**
TLL	**Tololo Astrono**	**3.47**	**237**	⇑*i*P	**Pn**	**01 44 59.5**	**+0.9**
TLL				*i* S	**Sn**	**01 45 39.9**	**+0.8**
TLL				AML	AML	01 45 43.2	
	comp=E,4μm,0.4s						
TLL	**Tololo Astrono**	**3.47**	**237**	⇑*i*P	**Pn**	**01 44 59.5**	**+0.9**
TLL				*i* S	**Sn**	**01 45 39.9**	**+0.8**
OVCH	**Ovalle**	**3.99**	**234**	⇓*i*P	**Pn**	**01 45 04.8**	**-0.8**
OVCH				*i* S	**Sn**	**01 45 49.8**	**-1.7**
CMCH	**Combarbala**	**4.20**	**226**	⇓*i*P	**Pn**	**01 45 07.5**	**-0.9**
CMCH				*i* S	**Sn**	**01 45 55.3**	**-1.3**
CPN1	**Cerro Paranal**	**4.53**	**324**	*e*P	**Pn**	**01 45 14.4**	**+1.6**
CPN1				*i* S	**Sn**	**01 46 04.4**	**-0.1**
MDZ	**Mendoza**	**4.71**	**195**	*e*P	**Pn**	**01 45 19.1**	**+3.8**
MDZ				*e*		01 45 56.2	
MDZ				*e*S	**Sn**	**01 46 04.1**	**-4.8**
CEN1	**Los Morros**	**5.49**	**333**	*e*P	**Pn**	**01 45 24.8**	**-1.0**
CEN1				*i* S	**Sn**	**01 46 23.0**	**-4.8**
FCH	**Farellones**	**5.56**	**205**	*e*P	**Pn**	**01 45 28.0**	**+1.3**
FCH				*i* S	**Sn**	**01 46 29.7**	**+0.3**
LVC	**Limon Verde**	**5.83**	**347**	P	**Pn**	**01 45 32.8**	**+2.5**
	comp=E,4.3nm,0.3s,baz=200,slow=8.4,SNR=48						
LVC				S	**Sn**	**01 46 34.5**	**-1.3**
	comp=E,8.4nm,0.3s,baz=270,slow=7.2,SNR=7.4						
CPUP	**Villa Florida**	**9.21**	**80**	P	**Pn**	**01 46 14.8**	**-1.4**
	comp=E,2.0nm,0.3s,baz=242,slow=12,SNR=23						
LPAZ	**La Paz**	**11.98**	**357**	P	**Pn**	**01 46 54.2**	**+1.0**
	comp=E,0.2nm,0.3s,baz=180,slow=9.2,SNR=9.1						
LPAZ	**La Paz**	**11.98**	**357**	P	**Pn**	**01 46 54.2**	**+1.0**
SIV	**San Ignacio**	**13.61**	**27**	P	**Pn**	**01 47 14.7**	**+0.3**
	comp=E,0.1nm,0.3s,baz=238,slow=12,SNR=5.6						
SAML	**Samuel**	**19.68**	**13**	*e*P	**P**	**01 48 27.1**	**+1.0**
	comp=E,4.8nm,1.0s						
BDFB

NVS	**Novosibirsk**	**146.05**	**30**	*e*PKIKP	PKPdf	02 03 29.7	-1.8
NVS				*e*		02 04 06.2	
NVS				pmax	pmax		
comp=Z,130nm,0.8s							
AAK	**Ala-Archa**	**146.17**	**55**	*e*PKP2	PKPab	02 03 32.0	-1.8
ZAL	**Zalesovo**	**147.34**	**31**	PKPbc	PKPbc	02 03 34.3	-1.9
comp=Z,7.8nm,0.4s,baz=156,slow=3.1,SNR=23							
ZAL				pPKPbc	pPKPbc	02 04 10.6	+3.2
comp=Z,2.7nm,0.5s,baz=172,slow=4.4,SNR=3.0							
MKAR	**Makanchi Array**	**150.00**	**44**	PKPbc	PKPbc	02 03 42.9	-0.1
comp=Z,7.3nm,0.8s,baz=305,slow=2.2,SNR=29							
MKAR				pPKPbc	pPKPbc	02 04 17.0	+2.7
comp=Z,2.2nm,0.9s,baz=300,slow=2.7,SNR=3.2							
MKAR	**Makanchi Array**	**150.00**	**44**	PKPbc	PKPbc	02 03 42.9	-0.1
MKAR				pPKPbc	pPKPbc	02 04 17.0	+2.7
SONM	**Songino Array**	**159.93**	**12**	PKP	PKPdf	02 03 51.5	0.0
comp=Z,0.5nm,0.9s,baz=353,slow=3.5,SNR=3.8							
SONM				PKPab	PKPab	02 04 31.2	-0.2
comp=Z,0.9nm,0.7s,baz=327,slow=3.8,SNR=6.4							

*IDC **15** 01:51:02.3±1.0, 324S×14076E, h0km, mb3.9/4, mb1 4.3/6, mb1mx4.1/13, mbtmp4.2/6, ML4.0/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/15, Error ellipse: s-maj=27.0km s-min=12.1km az=107.0*

*ISCJB **15** 01:51:04.0±3.0, 330S±005×14091E±007, h26km±22km, mb4.0/8, MS3.7/4, Error ellipse: s-maj=11.1km s-min=8.1km az=4.7*

*NEIC **15** 01:51:07.6±1.4, 328S×14087E, h39km±13km, mb4.1/7, Error ellipse: s-maj=10.9km s-min=8.5km az=72.0*

ISC 15 01:51:07.5±1.7, 327S±007×14091E±006, h36km±17km, n35, σ0°74/33, mb4.0/9, MS3.8/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.70**	**135**	Pn	**Pn**	**01 53 11.1**	**+0.3**
1.5nm,0.3s,baz=309,slow=6.5,SNR=3.7							
PMG				Sn	**Sn**	**01 54 47.4**	**-0.1**
0.8nm,0.3s,baz=136,slow=17,SNR=2.0							
KAKA	**Kakadu**	**12.58**	**221**	*e*P	**Pn**	**01 54 04.4**	**+0.6**
59nm,0.5s							
KAKA				*e*S	**Sn**	**01 56 23.1**	**+0.5**
GUMO	**Guam**	**17.21**	**13**	LR	LR	02 01 19.0	
comp=Z,59nm,19.3s,baz=182,slow=36							
CTA	**Charters Tower**	**17.51**	**163**	P	**Pn**	**01 55 13.8**	**+5.1**
0.3nm,0.3s,baz=30,slow=8.1,SNR=3.2							
CTA				LR	LR	02 02 31.6	
comp=Z,167nm,19.8s,baz=26,slow=39							
CTA	**Charters Tower**	**17.51**	**163**	P	**Pn**	**01 55 13.8**	**+5.1**
CTA				LR	LR	02 02 31.6	
CTAO	**Charters Tower**	**17.51**	**163**	*e*Pn	**Pn**	**01 55 09.7**	**+1.0**
WRAB	**Tennant Creek**	**17.75**	**201**	*e*Pn	**Pn**	**01 55 11.6**	**-0.1**
87nm,1.1s							
WRAB				*e*Sn	**Sn**	**01 58 24.7**	**-3.7**
WB2	**Warramunga Arr**	**17.76**	**201**	*e*P	**Pn**	**01 55 12.0**	**+0.2**
WRA	**Warramunga Arr**	**17.77**	**201**	P	**Pn**	**01 55 11.0**	**-0.8**
1.9nm,0.3s,baz=18,slow=14,SNR=26							
WRA				S	**S**	**01 58 29.8**	**-4.9**
0.1nm,0.3s,baz=21,slow=23,SNR=3.7							
FITZ	**Fitzroy Crossi**	**21.00**	**224**	*e*P	**P**	**01 55 48.5**	**+0.8**
7.8nm,0.6s,mb4.2							
FITZ				*e*S	**S**	**01 59 42.3**	**+2.7**
FITZ	**Fitzroy Crossi**	**21.00**	**224**	P	**P**	**01 55 48.5**	**+0.8**
4.5nm,0.7s,mb3.9,baz=53,slow=12,SNR=10							
FITZ				S	**S**	**01 59 39.7**	**+0.1**
6.6nm,0.8s,baz=203,slow=16,SNR=3.8							
FITZ				LR	LR	02 03 14.4	
comp=Z,144nm,19.0s,MS3.4,baz=50,slow=35							
AS31	**Alice Springs**	**21.37**	**198**	*e*P	**P**	**01 55 51.1**	**-0.6**
ASAR	**Alice Springs**	**21.38**	**198**	P	**P**	**01 55 51.0**	**-0.8**
8.5nm,0.6s,mb4.2,baz=28,slow=10,SNR=82							
ASAR				S	**S**	**01 59 53.0**	**+6.1**
1.2nm,0.7s,baz=20,slow=20,SNR=5.1							
ASPA	**Alice Springs**	**21.38**	**198**	*e*P	**P**	**01 55 51.1**	**-0.6**
MBWA	**Marble Bar**	**27.21**	**228**	*e*Pn	**P**	**01 56 48.9**	**+1.1**
STKA	**Stephens Creek**	**28.46**	**179**	LR	LR	02 09 44.4	
comp=Z,221nm,19.3s,MS3.8,baz=184,slow=39							
STKA	**Stephens Creek**	**28.46**	**179**	*e*P	**P**	**01 56 59.0**	**+0.1**
NACB	**Ninganchiao**	**33.13**	**326**	*e*P	**P**	**01 57 39.2**	**-0.9**
YHNB	**Yeheng**	**33.64**	**327**	*e*P	**P**	**01 57 43.9**	**-0.7**
TAU	**Tasmania Unive**	**39.88**	**173**	P	**P**	**01 58 37.8**	**+0.2**
KULM	**Kulim**	**41.11**	**282**	*e*P	**P**	**01 58 46.6**	**-1.2**
SONM	**Songino Array**	**59.18**	**334**	P	**P**	**02 01 04.7**	**0.0**
0.4nm,0.7s,mb3.6,baz=167,slow=8.9,SNR=3.5							
MKAR	**Makanchi Array**	**71.58**	**322**	P	**P**	**02 02 25.2**	**+0.3**
0.8nm,0.5s,mb4.0,baz=104,slow=7.6,SNR=7.9							
KURK	**Kurchatov**	**75.44**	**324**	*e*P	**P**	**02 02 48.1**	**+0.5**
1.5nm,0.7s,mb4.0							
CHKZ	**Chkalovo**	**81.10**	**325**	*e*P	**P**	**02 03 18.8**	**-0.1**
0.7nm,0.5s,mb3.9							
BRVK	**Borovoye**	**81.10**	**325**	*e*P	**P**	**02 03 19.5**	**+0.6**
0.8nm,0.6s,mb3.8							
MAW	**Mawson**	**82.43**	**202**	LR	LR	02 37 04.4	
comp=Z,63nm,20.9s,MS4.0,baz=167,slow=34							
MCK	**McKinley**	**84.26**	**25**	*e*P	**P**	**02 03 36.7**	**+1.4**
0.6nm,0.5s,mb4.0							
QSPA	**South Pole Qui**	**86.68**	**180**	*e*P	**P**	**02 03 46.8**	**-0.6**
1.2nm,0.4s,mb4.5							
YKA	**Yellowknife Ar**	**99.56**	**27**	LR	LR	02 44 09.8	
comp=Z,38nm,21.2s,MS3.9,baz=305,slow=32							
TORD	**Torodi Ar. Bea**	**138.52**	**286**	PKhKP		02 10 20.7	
0.5nm,0.9s,baz=86,slow=3.4,SNR=5.1							
TORD				PKP	PKPdf	02 10 31.9	+2.7
0.7nm,0.7s,baz=44,slow=1.1,SNR=6.2							
TORD	**Torodi Ar. Bea**	**138.52**	**286**	PKP	PKPdf	02 10 20.7	-8.5
TORD				PKP	PKPdf	02 10 31.9	+2.7
LPAZ	**La Paz**	**145.33**	**125**	PKPbc	PKPbc	02 10 42.7	+1.5
5.2nm,0.9s,baz=247,slow=2.3,SNR=22							
CPUP	**Villa Florida**	**145.69**	**150**	PKPbc	PKPbc	02 10 41.8	-0.5
1.4nm,0.6s,baz=226,slow=2.0,SNR=7.6							
DBIC	**Dimbokro**	**145.74**	**277**	PKPbc	PKPbc	02 10 43.6	+1.2
7.3nm,0.7s,baz=8.2,slow=3.0,SNR=22							

*NEIC **15** 02:00:15.9, 3774S×17970W, h5km, ML3.7(WEL), After WEL.*

WEL 15 02:00:16.7±0.2, 3771S×17952W, h33km, ML3.7/10, Error ellipse: s-maj=1.5km s-min=1.3km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.73**	**274**	PN	Pn	02 00 43.9	-0.5
MXZ				SN	Sn	02 01 03.9	-1.4
MXZ	**Matakaoa Point**	**1.73**	**274**	*e*P	Pn	02 00 44.0	-0.4
MXZ				S	Sn	02 01 04.2	-1.2
PUZ	**Puketiti**	**1.79**	**258**	PN	Pn	02 00 44.7	-0.6
PUZ				SN	Sn	02 01 05.9	-1.1
PUZ				SN	Sn	02 01 06.2	-0.7
PUZ	**Puketiti**	**1.79**	**258**	P	Pn	02 00 44.8	-0.5
MWZ	**Matawai**	**2.41**	**254**	PN	Pn	02 00 53.3	-0.5
MWZ				SN	Sn	02 01 20.7	-1.5
MWZ	**Matawai**	**2.41**	**254**	P	Pn	02 00 53.3	-0.5
MWZ				S	Sn	02 01 21.2	-1.0
KNZ	**Kokohu**	**2.56**	**238**	PN	Pn	02 00 55.2	-0.7
KNZ				SN	Sn	02 01 24.5	-1.5
KNZ	**Kokohu**	**2.56**	**238**	*e*P	Pn	02 00 55.4	-0.5
URZ	**Urewera**	**2.72**	**257**	PN	Pn	02 00 57.4	-0.7
URZ				SN	Sn	02 01 28.5	-1.2
URZ	**Urewera**	**2.72**	**257**	P	Pn	02 00 58.5	+0.5
BKZ	**Black Stump Fm**	**3.45**	**244**	*e*PN	Pn	02 01 06.9	-1.2
BKZ				SN	Sn	02 01 45.7	-2.1
BKZ	**Black Stump Fm**	**3.45**	**244**	*e*P	Pn	02 01 07.4	-0.7
BKZ				S	Sn	02 01 46.4	-1.4
BFZ	**Birch Farm**	**4.43**	**227**	SN	Sn	02 02 07.9	-4.0
MRZ	**Mangatainoka R**	**4.81**	**231**	*e*PN	Pn	02 01 23.8	-3.0
MRZ				SN	Sn	02 02 16.3	-5.1
MRZ				SN	Sn	02 02 16.3	-5.1
SNZO	**South Karori**	**5.73**	**229**	SN	Sn	02 02 38.5	-5.6
TCW	**Tory Channel**	**5.94**	**232**	SN	Sn	02 02 45.2	-3.9
KHZ	**Kahutara**	**7.10**	**226**	SN	Sn	02 03 09.9	-7.8
MQZ	**McQueen's Vall**	**8.44**	**222**	SN	Sn	02 03 39.6	-11

*LDG **15** 02:08:20.3±0.1, 4311N×047W, h9km±3km, mbLg1.3/7, Error ellipse: s-maj=2.8km s-min=1.4km az=4.0, PRXIMO, Pyrenees*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.07**	**124**	Pg	Pg	02 08 22.5	-0.1
REYF				Lg		02 08 24.5	
ATE	**Arette**	**0.17**	**263**	Pg	Pg	02 08 23.6	-0.7
ATE				Lg		02 08 26.6	
ETSF	**Etsaut**	**0.22**	**198**	*e*Pg	Pg	02 08 24.7	-0.3
ETSF				*e*Sg	Sg	02 08 27.4	-0.6
27nm,0.2s							
ETSF	**Etsaut**	**0.22**	**198**	Pg	Pg	02 08 24.7	-0.3
ETSF				Lg		02 08 27.4	
14nm,0.2s							
FDAF	**Les Forges d'A**	**0.30**	**195**	Pg	Pg	02 08 26.2	-0.3
FDAF				Lg		02 08 30.7	
LARF	**Larrau**	**0.39**	**260**	Pg	Pg	02 08 27.9	-0.3
LARF				Lg		02 08 33.7	
LABF	**Labassere**	**0.40**	**98**	Pg	Pg	02 08 28.2	-0.2
LABF				Lg		02 08 33.8	
VIEF	**Viey**	**0.42**	**122**	Pg	Pg	02 08 28.3	-0.5
VIEF				Lg		02 08 34.1	
SJPF	**Ste Jean**	**0.56**	**271**	*e*Pg	Pg	02 08 30.8	-0.6
SJPF				*e*Sg	Sg	02 08 38.0	-0.6
5.1nm,0.2s							
SJPF	**Ste Jean**	**0.56**	**271**	Pg	Pg	02 08 30.8	-0.6
SJPF				Lg		02 08 38.0	
2.5nm,0.2s							
EPF	**Esparros**	**0.59**	**97**	*e*Pg	Pg	02 08 31.6	-0.5
EPF				*e*Sg	Sg	02 08 39.9	0.0
3.7nm,0.2s							
EPF	**Esparros**	**0.59**	**97**	Pg	Pg	02 08 31.6	-0.5
EPF				Lg		02 08 39.9	
1.9nm,0.2s							
EBIE	**Bielsa**	**0.61**	**133**	Pg	Pg	02 08 31.8	-0.7
SNR=7.9							
EBIE				Lg		02 08 40.1	
1.6nm,0.0s,SNR=7.9							
IPRE	**Itoiz**	**0.72**	**246**	Pg	Pg	02 08 34.0	-0.4
0.8nm,0.1s,SNR=5.1							
IPRE				Lg		02 08 45.1	
3.2nm,0.2s,SNR=7.4							
EALK	**Alkurruntz**	**0.77**	**279**	Pg	Pg	02 08 35.0	-0.4
0.4nm,0.1s,SNR=7.9							
EALK				Lg		02 08 45.2	
1.5nm,0.1s,SNR=7.9							
ELIZ	**Elizondo**	**0.78**	**275**	Pg	Pg	02 08 35.2	-0.4
1.0nm,0.2s,SNR=6.3							
ELIZ				Lg		02 08 46.0	
0.8nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**0.81**	**259**	Pg	Pg	02 08 35.5	-0.7
0.6nm,0.1s,SNR=7.9							
IUSE				Lg		02 08 46.3	
1.6nm,0.1s,SNR=7.9							
EGRA	**Graus**	**1.08**	**147**	Pg	Pg	02 08 41.4	+0.1
0.8nm,0.3s,SNR=7.9							
EGRA				Lg		02 08 55.7	
0.3nm,0.1s,SNR=7.9							
ESAC	**San Caprasio**	**1.38**	**180**	Pg	Pg	02 08 47.2	+0.1
2.5nm,0.1s,SNR=7.9							
ESAC				Lg		02 09 05.3	
1.0nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**1.89**	**128**	Lg		02 09 21.3	
3.5nm,0.3s,SNR=7.9							
MTLF	**Montolieu**	**1.98**	**82**	*e*Pn	Pn	02 08 53.1	-1.1
MTLF	**Montolieu**	**1.98**	**82**	*e*Pg	Pg	02 08 56.9	-1.6
MTLF				*e*Sg	Sg	02 09 22.6	-1.5
1.1nm,0.3s							
MTLF	**Montolieu**	**1.98**	**82**	Pn	Pn	02 08 53.1	-1.1
MTLF				Pg	Pg	02 08 56.9	-1.6
MTLF				Lg		02 09 22.6	
0.6nm,0.3s							
LFF	**La Frestale**	**2.03**	**25**	*e*Pn	Pn	02 08 53.5	-1.5
LFF	**La Frestale**	**2.03**	**25**	*e*Pg	Pg	02 08 57.9	-1.6
LFF				*e*Sg	Sg	02 09 24.5	-1.3
1.8nm,0.2s							
LFF	**La Frestale**	**2.03**	**25**	Pn	Pn	02 08 53.5	-1.5
LFF				Pg	Pg	02 08 57.9	-1.6
LFF				Lg		02 09 24.5	
0.9nm,0.2s							
CAF	**Calviac**	**2.58**	**44**	*e*Pg	Pg	02 09 08.1	-1.9
CAF				*e*Sg	Sg	02 09 41.5	-1.9
1.0nm,0.3s							
CAF	**Calviac**	**2.58**	**44**	Pg	Pg	02 09 08.1	-1.9
CAF				Lg		02 09 41.5	
0.0nm,0.3s							
RJF	**Les Rejaudoux**	**2.62**	**32**	*e*Pg	Pg	02 09 08.7	-2.1
RJF				*e*Sg	Sg	02 09 42.2	-2.6
1.1nm,0.2s							
RJF	**Les Rejaudoux**	**2.62**	**32**	Pg	Pg	02 09 08.7	-2.1
RJF				Lg		02 09 42.2	
0.6nm,0.2s							

*HLW **15** 02:18:27.4, 3476N×2357E, h33km, Mb3.2*

*ISCJB **15** 02:18:28.6±0.9, 3454N±005×2377E±0.1, h33km, Error ellipse: s-maj=15.6km s-min=5.8km az=154.0*

*NEIC **15** 02:18:36.5, 3543N×2414E, h40km, MG3.4(ATH), After ATH.*

*ATH **15** 02:18:36.5, 3543N×2414E, h40km±3km, MD3.4/7*

*CSEM **15** 02:18:36.8±0.6, 3535N×2412E, h34km±6km, MD3.4, Error ellipse: s-maj=23.4km s-min=8.4km az=20.0*

ISC 15 02:18:30.0±0.9, 3460N±005×237E±01, h35km, n11, σ0°93/14, 1C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.90**	**26**	*e*P	**Pn**	**02 18 43.4**	**-2.7**
XRY	**Khrisi**	**1.65**	**80**	*e*P	**Pn**	**02 19 01.5**	**+5.0**
NPS	**Neapolis**	**1.69**	**66**	*e*P	**Pn**	**02 18 57.8**	**+0.7**
KYTH	**Kithira**	**1.77**	**342**	*e*P	**Pn**	**02 18 58.9**	**+0.8**
VLI	**Veliai**	**2.21**	**344**	*e*P	**Pn**	**02 19 03.7**	**-0.4**
APE	**Apeiranthos**	**2.87**	**30**	*e*P	**Pn**	**02 19 09.9**	**-3.4**
KARP	**Karpathos**	**2.98**	**70**	*e*P	**Pn**	**02 19 15.5**	**+0.8**
SLUM		**3.34**	**158**	⇓P	**Pn**	**02 19 20.1**	**+0.3**
SLUM				S	**Sn**	**02 19 58.1**	**0.0**
HMAT	**Matruh**	**4.50**	**140**	⇑P	**Pn**	**02 19 35.9**	**+0.2**
HMAT				S	**Sn**	**02 20 26.7**	**-0.2**
SWA2		**5.54**	**164**	⇓*i*P	**Pn**	**02 19 50.3**	**+0.4**
SWA1		**5.58**	**162**	⇓P	**Pn**	**02 19 51.1**	**+0.6**
SWA1				S	**Sn**	**02 20 52.2**	**-1.2**

*ISCJB **15** 02:48:44.5±1.6, 1309N±008×1438E±02, h108km±18km, mb4.0/10, Error ellipse: s-maj=34.0km s-min=13.5km az=8.9*

*NEIC **15** 02:48:46.0±1.2, 1310N×14388E, h109km±13km, mb3.8/2, Error ellipse: s-maj=24.8km s-min=10.8km az=93.0*

*IDC **15** 02:48:46.2±1.3, 1314N×14388E, h108km±13km, mb3.8/8, mb1 4.0/8, mb1mx3.9/18, mbtmp4.1/8, Error ellipse: s-maj=27.4km s-min=15.7km az=96.0*

ISC 15 02:48:46.3±1.4, 1312N±008×1439E±02, h110km±16km, n17, σ0°81/17, mb4.0/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.06**	**64**	P	**Pn**	**02 49 08.1**	**+0.1**
295nm,0.3s,baz=211,slow=2.3,SNR=118							
GUMO				S	**Sn**	**02 49 24.5**	**0.0**
569nm,0.3s,baz=149,slow=22,SNR=57							
MJAR	**Matsushiro Arr**	**23.87**	**349**	P	**P**	**02 53 48.2**	**-1.2**
3.4nm,0.7s,mb3.8,baz=166,slow=8.8,SNR=7.6							
WB2	**Warramunga Arr**	**34.17**	**196**	*e*P	**P**	**02 55 21.1**	**+0.2**
WRA	**Warramunga Arr**	**34.17**	**196**	P	**P**	**02 55 20.9**	**0.0**
3.9nm,0.8s,mb4.3,baz=22,slow=9.4,SNR=21							
AS31	**Alice Springs**	**37.84**	**195**	*e*P	**P**	**02 55 52.4**	**+0.2**
ASAR	**Alice Springs**	**37.84**	**195**	P	**P**	**02 55 52.6**	**+0.5**
2.9nm,0.4s,mb4.4,baz=19,slow=13,SNR=51							
ASPA	**Alice Springs**	**37.85**	**195**	*e*P	**P**	**02 55 52.4**	**+0.2**
STKA	**Stephens Creek**	**44.80**	**183**	*e*P	**P**	**02 56 46.4**	**-2.6**
2.8nm,1.1s,mb3.9							
STKA	**Stephens Creek**	**44.80**	**183**	P	**P**	**02 56 46.5**	**-2.5**
2.0nm,0.8s,mb3.9,baz=4.9,slow=7.9,SNR=4.8							
SONM	**Songino Array**	**46.57**	**326**	P	**P**	**02 57 03.7**	**+0.8**
1.3nm,0.6s,mb3.8,baz=145,slow=7.6,SNR=8.1							
MKAR	**Makanchi Array**	**61.17**	**316**	P	**P**	**02 58 49.6**	**+0.5**
0.4nm,0.4s,mb3.8,baz=90,slow=9.2,SNR=6.7							
CHKZ	**Chkalovo**	**69.63**	**323**	*e*P	**P**	**02 59 43.0**	**-0.7**
0.6nm,0.5s,mb3.7							
YKA	**Yellowknife Ar**	**83.71**	**27**	P	**P**	**03 01 02.1**	**-0.7**
0.4nm,0.4s,mb3.6,baz=285,slow=5.1,SNR=9.7							
YKA	**Yellowknife Ar**	**83.71**	**27**	P	**P**	**03 01 02.1**	**-0.7**
NVAR	**Mina Array Bea**	**87.95**	**51**	P	**P**	**03 01 24.9**	**+1.2**
1.9nm,1.0s,mb4.1,baz=268,slow=6.3,SNR=6.0							
FINES	**FINESS Array B**	**91.18**	**335**	P	**P**	**03 01 39.2**	**+0.4**
1.8nm,1.5s,mb4.2,baz=57,slow=5.1,SNR=5.6							
LPAZ	**La Paz**	**148.88**	**100**	PKPbc	PKPbc	03 08 23.3	+2.3
1.6nm,0.6s,baz=250,slow=4.6,SNR=13							

*STR **15** 02:49:35.9±0.1, 4304N×077W, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **15** 02:49:36.3±0.1, 4299N×081W, h5km, Md2.1/2, Ml2.0/3, Error ellipse: s-maj=1.8km s-min=1.2km az=15.0*

MDD 15 02:49:37.0±0.2, 4302N×079W, h0km, mbLg1.6/17, Error ellipse: s-maj=2.0km s-min=1.1km az=14.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.10**	**44**	Pg	Pg	02 49 38.9	0.0
ATE				Sg	Sg	02 49 40.9	+0.7
ATE	**Arette**	**0.10**	**44**	Pg	Pg	02 49 38.9	0.0
ATE				Lg		02 49 41.0	
LARF	**Larrau**	**0.14**	**279**	Pg	Pg	02 49 39.2	-0.5
LARF				Lg		02 49 41.6	
ETSF	**Etsaut**	**0.21**	**124**	*e*Pg	Pg	02 49 40.7	-0.3
ETSF				*e*Sg	Sg	02 49 43.6	0.0
268nm,0.3s							
ETSF	**Etsaut**	**0.21**	**124**	Pg	Pg	02 49 40.7	-0.3
ETSF				Lg		02 49 43.6	
134nm,0.3s							
ORDF	**Ordiarp**	**0.23**	**332**	Pg	Pg	02 49 41.0	-0.3
ORDF				Sg	Sg	02 49 44.7	+0.5
ORDF	**Ordiarp**	**0.23**	**332**	Pg	Pg	02 49 40.9	-0.4
ORDF				Lg		02 49 44.8	
FDAF	**Les Forges d'A**	**0.26**	**140**	Pg	Pg	02 49 41.5	-0.4
FDAF				Lg		02 49 45.2	
REYF	**Montagne du Re**	**0.30**	**79**	Pg	Pg	02 49 42.4	-0.3
REYF				Lg		02 49 46.9	
SJPF	**Ste Jean**	**0.33**	**287**	*e*Pg	Pg	02 49 42.6	-0.7
SJPF				*e*Sg	Sg	02 49 47.4	-0.2
90nm,0.4s							
SJPF	**Ste Jean**	**0.33**	**287**	Pg	Pg	02 49 42.6	-0.7
SJPF				Lg		02 49 47.4	
45nm,0.4s							
OSSF	**Osses**	**0.42**	**305**	Pg	Pg	02 49 44.3	-0.7
OSSF				Sg	Sg	02 49 50.4	-0.1
OSSF	**Osses**	**0.42**	**305**	Pg	Pg	02 49 44.3	-0.7
OSSF				Lg		02 49 50.5	
IPRE	**Itoiz**	**0.46**	**243**	Pg	Pg	02 49 46.0	+0.1
0.2nm,0.1s,SNR=7.9							
IPRE				Lg		02 49 52.5	
4.4nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.56**	**263**	Pg	Pg	02 49 46.6	-1.1
1.4nm,0.1s,SNR=7.9							
IUSE				Lg		02 49 54.8	
7.8nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**0.56**	**286**	Pg	Pg	02 49 46.8	-0.9
1.2nm,0.1s,SNR=7.9							
ELIZ				Lg		02 49 55.0	
6.2nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**0.56**	**292**	Pg	Pg	02 49 47.0	-0.7
1.7nm,0.1s,SNR=7.9							
EALK				Lg		02 49 55.8	
14nm,0.2s,SNR=7.9							
VIEF	**Viey**	**0.61**	**102**	Pg	Pg	02 49 48.0	-0.7
VIEF				Lg		02 49 56.2	
EARA	**Aranguren**	**0.63**	**248**	Lg		02 49 57.2	
3.6nm,0.1s,SNR=7.9							
LABF	**Labassere**	**0.64**	**87**	Pg	Pg	02 49 48.3	-0.9
LABF				Lg		02 49 58.0	
EBIE	**Bielsa**	**0.76**	**115**	Pg	Pg	02 49 50.6	-1.0
0.5nm,0.1s,SNR=18							
EBIE				Lg		02 50 01.0	
8.4nm,0.2s,SNR=7.9							
EPF	**Esparros**	**0.83**	**88**	*e*Pg	Pg	02 49 52.5	-0.4
EPF				*e*Sg	Sg	02 50 03.3	-0.4
12nm,0.3s							
EPF	**Esparros**	**0.83**	**88**	Pg	Pg	02 49 52.5	-0.4
EPF				Lg		02 50 03.3	
5.9nm,0.3s							
RESF	**Ens**	**0.86**	**104**	Pg	Pg	02 49 52.3	-1.1
RESF				Sg	Sg	02 50 03.7	-0.8
RESF	**Ens**	**0.86**	**104**	Pg	Pg	02 49 52.4	-1.0
RESF				Lg		02 50 03.8	
MELF	**Melles**	**1.15**	**97**	Lg		02 50 14.1	
EGRA	**Graus**	**1.16**	**135**	Pg	Pg	02 49 58.4	-0.7
1.2nm,0.2s,SNR=7.9							
EGRA				Lg		02 50 16.2	
0.9nm,0.1s,SNR=7.9							
ESAC	**San Caprasio**	**1.31**	**169**	Pg	Pg	02 50 02.9	+0.7
5.9nm,0.2s,SNR=7.9							
ESAC				Lg		02 50 19.6	
7.7nm,0.1s,SNR=7.9							
SALF	**Salau**	**1.48**	**99**	Lg		02 50 23.5	
ELAN	**Lanestosa**	**1.94**	**277**	Pg	Pg	02 50 10.9	-3.4
SNR=7.9							
ELAN				Lg		02 50 35.4	
SNR=7.9							
EMIR	**Miracle**	**2.04**	**122**	Pg	Pg	02 50 14.7	-1.4
1.1nm,0.1s,SNR=7.1							
EMIR				Lg		02 50 42.1	
2.7nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**2.17**	**139**	Pg	Pg	02 50 16.9	-1.6
0.5nm,0.1s,SNR=7.9							
EPOB				Lg		02 50 44.3	
0.1nm,0.0s,SNR=7.9							
LFF	**La Frestale**	**2.22**	**29**	*e*Pn	Pn	02 50 12.3	-2.7
LFF	**La Frestale**	**2.22**	**29**	*e*Pg	Pg	02 50 17.9	-1.6

IPEC ***15*** *03:54:50.9±0.3, 5154N×1618E, h0km, ML1.8/3, Error ellipse: s-maj=4.1km s-min=1.9km az=83.0*
ISCJB ***15*** *03:54:51.2±0.8, 5141N±004×1608E±004, h0km, Error ellipse: s-maj=5.7km s-min=3.2km az=40.7*
PRU ***15*** *03:54:52.7, 5146N×1611E, h0km*
VIE ***15*** *03:54:53.8±0.5, 5130N×1618E, h0km, mb2.0/4, ML2.5/4, Error ellipse: s-maj=2.9km s-min=2.7km az=172.0 62 km WNW of Breslau Suspected Mining induced.*
CSEM ***15*** *03:54:53.3±0.2, 5143N×1616E, h0km, ML3.0/8, Error ellipse: s-maj=2.8km s-min=2.3km az=12.0*
ISC 15 03:54:51.5±0.8, 5148N±004×1611E±004, h0km, n18, σ0°69/39, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**170**	*i* Pgd	**Pg**	**03 55 04.8**	**+0.8**
KSP				*e*Sg	**Sg**	**03 55 14.2**	**+1.8**
KSP	**Ksiaz**	**0.65**	**170**	*e*Pg	**Pg**	**03 55 04.6**	**+0.6**
KSP				*e*Sg	**Sg**	**03 55 13.0**	**+0.6**
UPC	**Upice**	**0.98**	**184**	*e*PG	**Pg**	**03 55 10.8**	**+0.5**
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG	**Pg**	**03 55 13.6**	**+0.2**
DPC				*e*SG	**Sg**	**03 55 28.6**	**+0.4**
	18nm,0.7s						
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*Pg	**Pg**	**03 55 13.5**	**+0.1**
DPC				*e*Sg	**Sg**	**03 55 28.5**	**+0.3**
PVCC	**Panska Ves**	**1.36**	**226**	*e*PG	**Pg**	**03 55 17.6**	**-0.1**
BRG	**Berggiesshubel**	**1.50**	**247**	PN	**Pn**	**03 55 19.5**	**-0.1**
BRG				PG	**Pg**	**03 55 20.2**	**0.0**
BRG				SG	**Sg**	**03 55 40.5**	**+0.9**
	19nm,0.3s						
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**03 55 23.4**	**-0.4**
PRU				*e*PG	**Pg**	**03 55 25.3**	**-0.7**
PRU				*e*SG	**Sg**	**03 55 49.8**	**+0.5**
	17nm,0.3s						
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**03 55 25.2**	**-0.5**
MORC				*e*Sg	**Sg**	**03 55 52.8**	**-0.9**
	5.5nm,0.2s						
CLL	**Collm**	**1.96**	**266**	*i* Pg	**Pg**	**03 55 28.2**	**-0.8**
CLL				*i* x	x	03 55 32.2	
CLL				*i* Sg	**Sg**	**03 55 54.8**	**+0.4**
	comp=Z,16nm,0.7s						
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	**Pg**	**03 55 32.1**	**+0.4**
OKC				*e*SG	**Sg**	**03 56 00.6**	**+1.7**
	comp=Z,13nm,0.6s						
VRAC	**Vranov**	**2.20**	**172**	*e*Pn	**Pn**	**03 55 29.5**	**+0.2**
VRAC				*e*Sg	**Sg**	**03 56 01.2**	**-1.0**
	comp=Z,4.1nm,0.1s						
KRUC	**Moravsky**	**2.43**	**176**	*e*Pn	**Pn**	**03 55 33.0**	**+0.5**
KRUC				*e*Sg	**Sg**	**03 56 08.8**	**-0.8**
	comp=Z,4.4nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**03 55 35.6**	**+0.3**
NKC				*e*PG	**Pg**	**03 55 41.7**	**-0.4**
NKC				*e*SG	**Sg**	**03 56 16.7**	**+0.4**
	comp=Z,16nm,0.2s						
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**03 55 42.3**	**-0.1**
OJC				*e*Sg	**Sg**	**03 56 16.5**	**-0.4**
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	**Pn**	**03 55 38.5**	**+0.1**
KHC				*e*PG	**Pg**	**03 55 44.6**	**-1.7**
KHC				*e*SN	**Sn**	**03 56 13.5**	**0.0**
KHC				*e*SG	**Sg**	**03 56 22.6**	**-0.8**
	comp=Z,4.2nm,0.4s						
CONA	**Conrad Observa**	**3.56**	**183**	⇑*i*Pn	**Pn**	**03 55 47.7**	**-0.3**
CONA				⇑*i*Sg	**Sg**	**03 56 45.1**	**-0.9**
	comp=Z,6.2nm,0.5s						
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**03 55 52.3**	**+0.6**
MOA				⇑*i*Sg	**Sg**	**03 56 55.3**	**+0.8**
	comp=Z,3.1nm,0.5s						

LDG ***15*** *04:00:37.9±0.1, 4301N×081W, h5km, Md1.9/2, Ml1.6/1, Error ellipse: s-maj=6.7km s-min=1.9km az=14.0*
MDD 15 04:00:38.0±0.2, 4302N×080W, h10km±2km, mbLg1.0/5, Error ellipse: s-maj=3.0km s-min=1.5km az=20.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.10**	**45**	Pg	Pg	04 00 40.5	-0.1
ATE				Lg		04 00 42.6	
LARF	**Larrau**	**0.14**	**280**	Pg	Pg	04 00 40.8	-0.5
LARF				Lg		04 00 43.2	
ETSF	**Etsaut**	**0.21**	**123**	*e*Pg	Pg	04 00 42.3	-0.2
ETSF				*e*Sg	Sg	04 00 45.2	-0.2
	57nm,0.3s						
ETSF	**Etsaut**	**0.21**	**123**	Pg	Pg	04 00 42.3	-0.2
ETSF				Lg		04 00 45.2	
	29nm,0.3s						
ORDF	**Ordiarp**	**0.22**	**333**	Pg	Pg	04 00 42.7	0.0
ORDF				Lg		04 00 46.4	
FDAF	**Les Forges d'A**	**0.26**	**139**	Pg	Pg	04 00 43.2	-0.1
FDAF				Lg		04 00 47.0	
SJPF	**Ste Jean**	**0.33**	**288**	*e*Pg	Pg	04 00 44.1	-0.5
SJPF				*e*Sg	Sg	04 00 49.0	0.0
	15nm,0.3s						
SJPF	**Ste Jean**	**0.33**	**288**	Pg	Pg	04 00 44.1	-0.5
SJPF				Lg		04 00 49.0	
	7.3nm,0.3s						
IPRE	**Itoiz**	**0.46**	**243**	Pg	Pg	04 00 46.6	-0.4
	0.2nm,0.1s,SNR=4.0						
IPRE				Lg		04 00 54.2	
	0.6nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.55**	**263**	Pg	Pg	04 00 48.0	-0.8
	0.3nm,0.1s,SNR=4.0						
IUSE				Lg		04 00 56.2	
	0.8nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.56**	**286**	Pg	Pg	04 00 47.6	-1.2
	0.2nm,0.1s,SNR=7.9						
ELIZ				Lg		04 00 55.7	
	1.3nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.56**	**292**	Pg	Pg	04 00 47.4	-1.5
	0.1nm,0.0s,SNR=4.0						
EALK				Lg		04 00 56.0	
	1.6nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.77**	**115**	Pg	Pg	04 00 52.3	-0.5
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		04 01 02.2	
	0.9nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.83**	**89**	*e*Pg	Pg	04 00 54.1	0.0
EPF				*e*Sg	Sg	04 01 04.9	-0.1
	1.9nm,0.2s						
EPF	**Esparros**	**0.83**	**89**	Pg	Pg	04 00 54.1	0.0
EPF				Lg		04 01 04.9	
	0.9nm,0.2s						
MTLF	**Montolieu**	**2.23**	**81**	*e*Sg	Sg	04 01 47.8	-1.9
	0.6nm,0.3s						
MTLF	**Montolieu**	**2.23**	**81**	Lg		04 01 47.8	
	0.3nm,0.3s						

NEIC ***15*** *04:08:10.7, 3399S×7020W, h117km, MG4.0(GUC), After GUC.*
GUC 15 04:08:10.7±0.8, 3399S×7020W, h117km±3km, MD3.8, ML4.0, 14C-17D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YECH	**El Yeso**	**0.34**	**16**	⇑*i*P	Pn	04 08 28.1	+0.6
YECH				*i* S	Sn	04 08 41.8	+1.7
YECH				AML	AML	04 08 46.4	
	comp=N,1μm,0.5s						
CACH	**El Canelo**	**0.36**	**249**	⇓*i*P	Pn	04 08 28.1	+0.5
SJCH	**San Jose de Ma**	**0.37**	**339**	⇓*i*P	Pn	04 08 27.6	0.0
SJCH				*e*S	Sn	04 08 40.7	+0.4
SJCH				AML	AML	04 08 43.0	
	comp=E,3μm,0.2s						
SJCH	**San Jose de Ma**	**0.37**	**339**	⇓*i*P	Pn	04 08 27.6	0.0
SJCH				*e*S	Sn	04 08 40.7	+0.4
CICH	**Cipreses**	**0.38**	**209**	⇑*i*P	Pn	04 08 28.2	+0.6
CICH				*i* S	Sn	04 08 41.4	+1.0
CHCH	**Chadas Angostu**	**0.38**	**278**	⇓*i*P	Pn	04 08 28.1	+0.4
PCH	**Pirque**	**0.45**	**324**	⇑*i*P	Pn	04 08 28.7	+0.7
PCH				*e*S	Sn	04 08 42.1	+1.0
ANTU	**Antumapu**	**0.55**	**319**	⇑*i*P	Pn	04 08 29.2	+0.5
ANTU				*i* S	Sn	04 08 42.9	+0.7
ANTU				AML	AML	04 08 43.6	
	comp=E,14μm,0.3s						
ANTU	**Antumapu**	**0.55**	**319**	⇑*i*P	Pn	04 08 29.2	+0.5
ANTU				*i* S	Sn	04 08 42.9	+0.7
CLCH	**Cerro Calan**	**0.66**	**334**	AML	AML	04 08 46.6	
	comp=E,12μm,0.5s						
SAN	**Santiago**	**0.66**	**324**	*i* P	Pn	04 08 29.8	+0.4
SAN				*i* S	Sn	04 08 44.2	+0.6
SAN				AML	AML	04 08 44.9	
	comp=N,5μm,0.4s						
FCH	**Farellones**	**0.66**	**353**	⇓*i*P	Pn	04 08 30.4	+0.9
FCH				*i* S	Sn	04 08 45.1	+1.5
FCH				AML	AML	04 08 47.2	
	comp=E,6μm,0.3s						
STL	**Santa Lucia**	**0.66**	**326**	⇑*i*P	Pn	04 08 29.2	-0.3
STL				*i* S	Sn	04 08 43.5	-0.1
STL				AML	AML	04 08 43.9	
	comp=E,2μm,0.3s						
DSCH	**Colegio Aleman**	**0.67**	**332**	⇓*i*P	Pn	04 08 29.5	0.0
DSCH				*i* S	Sn	04 08 44.1	+0.5
DSCH				AML	AML	04 08 44.9	
	comp=N,754nm,0.4s						
TACH	**Talagante**	**0.70**	**298**	⇓*i*P	Pn	04 08 30.2	+0.4
TACH				*i* S	Sn	04 08 44.3	+0.2
RCDM	**Rinconada Maip**	**0.71**	**314**	⇑*i*P	Pn	04 08 30.2	+0.4
RCDM				*i* S	Sn	04 08 44.9	+0.6
RCDM				*i* S	Sn	04 08 45.0	+0.7
RCDM				AML	AML	04 08 46.2	
	comp=N,16μm,0.1s						
RCDM	**Rinconada Maip**	**0.71**	**314**	⇑*i*P	Pn	04 08 30.2	+0.4
RCDM				*i* S	Sn	04 08 45.0	+0.7
SFDO	**San Fernando**	**0.92**	**227**	⇓*i*P	Pn	04 08 32.4	+0.7
SFDO				*e*S	Sn	04 08 48.9	+1.4
PEL	**Peldehue**	**0.94**	**334**	⇓*i*P	Pn	04 08 32.5	+0.7
PEL				*i* S	Sn	04 08 48.9	+1.0
LNV	**Longovilo**	**1.01**	**272**	⇑*i*P	Pn	04 08 32.5	-0.1
LNV				*e*S	Sn	04 08 49.0	-0.1
ROCH	**El Roble**	**1.22**	**326**	⇓*i*P	Pn	04 08 35.4	+0.6
ROCH				*i* S	Sn	04 08 54.3	+1.2
LCCH	**Las Cruces**	**1.25**	**294**	⇓*i*P	Pn	04 08 35.3	+0.2
LCCH				*i* S	Sn	04 08 54.2	+0.5
NICH	**Los Niches**	**1.32**	**220**	⇓*i*P	Pn	04 08 36.5	+0.6
NICH				*i* S	Sn	04 08 56.3	+1.3
JACH	**Jahuel**	**1.34**	**346**	⇓*i*P	Pn	04 08 37.0	+0.9
JACH				*i* S	Sn	04 08 56.9	+1.4
IHA	**Instituto Hidr**	**1.54**	**308**	⇑*i*P	Pn	04 08 39.0	+0.6
IHA				*i* S	Sn	04 08 59.8	+0.3
MDZ	**Mendoza**	**1.58**	**46**	*e*P	Pn	04 08 38.9	+0.1
MDZ				*e*		04 09 04.0	
TALC	**Talca**	**1.84**	**220**	⇑*i*P	Pn	04 08 44.1	+2.1
TALC				*i* S	Sn	04 09 08.0	+2.1
TALC				AML	AML	04 09 09.9	
	comp=E,3μm,0.4s						
TALC	**Talca**	**1.84**	**220**	⇑*i*P	Pn	04 08 44.1	+2.1
TALC				*i* S	Sn	04 09 08.0	+2.1
LNCH	**Linares**	**2.18**	**211**	⇑*i*P	Pn	04 08 46.6	+0.3
LNCH				*i* S	Sn	04 09 14.0	+0.4
LNCH				AML	AML	04 09 14.6	
	comp=N,657nm,0.4s						
LNCH	**Linares**	**2.18**	**211**	⇑*i*P	Pn	04 08 46.6	+0.3
LNCH				*i* S	Sn	04 09 14.0	+0.4
CNCO	**Chanco**	**2.59**	**227**	⇓*i*P	Pn	04 08 51.6	0.0
CNCO				*i* S	Sn	04 09 22.7	-0.2
CNCO				AML	AML	04 09 33.4	
	comp=E,593nm,0.4s						
CNCO	**Chanco**	**2.59**	**227**	⇓*i*P	Pn	04 08 51.6	0.0
CNCO				*i* S	Sn	04 09 22.7	-0.2
CMCH	**Combarbala**	**2.89**	**346**	⇓*i*P	Pn	04 08 55.0	-0.4
CMCH				*i* S	Sn	04 09 28.7	-1.1
CMCH				AML	AML	04 09 31.7	
	comp=N,2μm,0.7s						
CMCH	**Combarbala**	**2.89**	**346**	⇓*i*P	Pn	04 08 55.0	-0.4
CMCH				*i* S	Sn	04 09 28.7	-1.1
CCHI	**Chillan**	**3.03**	**210**	*e*P	Pn	04 08 57.4	+0.2
CCHI				*i* S	Sn	04 09 33.1	0.0
CCHI				AML	AML	04 09 36.0	
	comp=E,271nm,0.3s						
CCHI	**Chillan**	**3.03**	**210**	*e*P	Pn	04 08 57.4	+0.2
CCHI				*i* S	Sn	04 09 33.1	0.0
TRQA	**Tornquist**	**7.80**	**124**	*e*Pn	Pn	04 09 59.8	-1.6
	comp=E,16nm,0.9s						

NEIC ***15*** *04:17:10.4, 3781S×17983W, h5km, ML4.0(WEL), After WEL.*
WEL 15 04:17:09.3±0.3, 3771S×17949W, h33km, ML4.0/5, Error ellipse: s-maj=3.0km s-min=2.5km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.75**	**274**	PN	Pn	04 17 36.6	-0.8
MXZ				*e*SN	Sn	04 17 57.1	-1.5
MXZ	**Matakaoa Point**	**1.75**	**274**	P	Pn	04 17 36.8	-0.6
MXZ				*e*S	Sn	04 17 57.1	-1.5
PUZ	**Puketiti**	**1.82**	**258**	PN	Pn	04 17 37.6	-0.7
PUZ				SN	Sn	04 17 59.2	-0.9
PUZ	**Puketiti**	**1.82**	**258**	P	Pn	04 17 37.6	-0.7
MWZ	**Matawai**	**2.44**	**254**	PN	Pn	04 17 46.0	-0.8
MWZ				*e*SN	Sn	04 18 13.8	-1.6
MWZ	**Matawai**	**2.44**	**254**	P	Pn	04 17 46.1	-0.7
MWZ				*e*S	Sn	04 18 12.7	-2.7
KNZ	**Kokohu**	**2.58**	**239**	PN	Pn	04 17 48.0	-0.8
KNZ				SN	Sn	04 18 17.5	-1.5
KNZ	**Kokohu**	**2.58**	**239**	P	Pn	04 17 48.2	-0.6
WIZ	**White Island**	**2.64**	**273**	*e*PN	Pn	04 17 49.3	-0.4
WIZ	**White Island**	**2.64**	**273**	P	Pn	04 17 50.0	+0.4
URZ	**Urewera**	**2.74**	**257**	PN	Pn	04 17 50.7	-0.3
URZ	**Urewera**	**2.74**	**257**	P	Pn	04 17 51.0	0.0
TAZ	**Tarawera**	**3.20**	**259**	PN	Pn	04 17 57.1	-0.2
TAZ	**Tarawera**	**3.20**	**259**	P	Pn	04 17 57.2	-0.1
BKZ	**Black Stump Fm**	**3.47**	**244**	PN	Pn	04 18 00.2	-0.9
BKZ				*e*SN	Sn	04 18 37.8	-3.2
BKZ	**Black Stump Fm**	**3.47**	**244**	*e*P	Pn	04 18 00.2	-0.8
BKZ				*e*S	Sn	04 18 39.4	-1.6
PXZ	**Pawanui**	**3.67**	**230**	*e*PN	Pn	04 18 00.2	-3.5
PXZ				SN	Sn	04 18 41.7	-4.1
KUZ	**Kuaotunu**	**3.94**	**283**	PN	Pn	04 18 06.2	-1.2
KUZ	**Kuaotunu**	**3.94**	**283**	*e*P	Pn	04 18 06.5	-1.0
MOVZ	**Moawhango**	**4.09**	**244**	*e*PN	Pn	04 18 09.2	-0.4
MOVZ	**Moawhango**	**4.09**	**244**	P	Pn	04 18 09.3	-0.3
WPVZ	**Whakapapa**	**4.17**	**248**	P	Pn	04 18 08.9	-1.7
FWVZ	**Far West T-bar**	**4.18**	**247**	PN	Pn	04 18 10.7	-0.2
FWVZ	**Far West T-bar**	**4.18**	**247**	*e*P	Pn	04 18 10.7	-0.1
TRVZ	**Turoa**	**4.20**	**246**	*e*PN	Pn	04 18 10.3	-0.8
BFZ	**Birch Farm**	**4.45**	**227**	*e*P	Pn	04 18 11.6	-2.8
MRZ	**Mangatainoka R**	**4.83**	**231**	PN	Pn	04 18 17.0	-2.7
MRZ				SN	Sn	04 19 09.5	-5.0
MRZ	**Mangatainoka R**	**4.83**	**231**	*e*P	Pn	04 18 17.2	-2.5
MRZ				S	Sn	04 19 10.0	-4.5
KIW	**Kapiti Island**	**5.36**	**232**	*e*PN	Pn	04 18 24.6	-2.4
KIW				SN	Sn	04 19 23.4	-4.3
CAW	**Cannon Point**	**5.41**	**229**	*e*PN	Pn	04 18 24.0	-3.6
CAW	**Cannon Point**	**5.41**	**229**	P	Pn	04 18 24.5	-3.2
MSWZ	**Moikau Station**	**5.50**	**226**	SN	Sn	04 19 24.4	-6.5
MRW	**Makara Radio**	**5.70**	**230**	SN	Sn	04 19 30.1	-5.9
TCW	**Tory Channel**	**5.96**	**232**	*e*PN	Pn	04 18 32.6	-2.5
TCW				SN	Sn	04 19 37.1	-5.2
NNZ	**Nelson**	**6.53**	**235**	*e*PN	Pn	04 18 41.0	-2.1
KHZ	**Kahutara**	**7.12**	**226**	*e*PN	Pn	04 18 48.1	-3.0
KHZ				SN	Sn	04 20 02.9	-7.9
THZ	**Tophouse**	**7.12**	**233**	*e*PN	Pn	04 18 48.5	-2.7
THZ				SN	Sn	04 20 05.5	-5.4
LTZ	**Lake Taylor**	**8.08**	**229**	SN	Sn	04 20 26.3	-8.3
MQZ	**McQueen's Vall**	**8.45**	**222**	SN	Sn	04 20 32.2	-11

KRSC 15 04:21:56.4±0.9, 5611N×16412E, h12km±2km, ML4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.73**	**278**	*i* P		04 22 10.6	
KBTR				*e*S		04 22 20.5	
KBG	**Krutoberegovo**	**0.80**	**281**	*e*P		04 22 12.1	
KBG				*i* S		04 22 23.8	
KBG				Smax			
	7μm,1.1s						
BKI	**Bering**	**1.39**	**130**	*i* P		04 22 20.4	
BKI				*i* S		04 22 37.9	
BKI				Smax			
	540nm,0.4s						
SMKR	**Semkarok**	**1.55**	**289**	*i* P		04 22 23.8	
SMKR				*i* S		04 22 44.7	
BDR	**Baidarnaya**	**1.69**	**287**	*i* P		04 22 26.4	
BDR				*i* S		04 22 49.0	
SRKR	**Sorokina**	**1.73**	**290**	*i* P		04 22 26.5	
SRKR				*e*S		04 22 48.8	
CIRR	**Tsirk**	**1.89**	**272**	*e*P		04 22 29.5	
CIRR				*e*S		04 22 54.6	
KLY	**Klyuchi**	**1.95**	**277**	*e*P		04 22 28.5	
KLY				*e*S		04 22 51.8	
KRSR	**Krestovskiy**	**1.99**	**275**	*e*P		04 22 30.7	
KRSR				*e*S		04 22 55.4	
MKZ	**Mys Kozlova**	**2.07**	**222**	*e*P		04 22 31.3	
MKZ				*i* S		04 22 56.8	
KPT	**Kopyto**	**2.19**	**268**	*e*P		04 22 34.3	
KPT				*e*S		04 23 02.0	
KMNR	**Kamenistaya**	**2.21**	**262**	*e*P		04 22 35.1	
KMNR				*e*S		04 23 01.5	
KOZ	**Kozyrevsk**	**2.38**	**271**	*i* P		04 22 37.6	
KOZ				*e*S		04 23 06.8	
TUMR	**Tumrok**	**2.40**	**251**	*e*P		04 22 37.6	
TUMR				*e*S		04 23 07.2	
SRDR	**Sredinnyy**	**2.47**	**277**	*e*P		04 22 38.5	
SRDR				*i* S		04 23 08.9	
OSSR	**Ossora**	**3.20**	**350**	*i* P		04 22 46.8	
OSSR				Smax			
	120nm,0.7s						
SPN	**Mys Shipunski**	**3.84**	**220**	*e*P		04 22 55.5	
SPN				*e*S		04 23 38.6	
NLC	**Nalytchevo**	**4.04**	**225**	*e*P		04 22 59.5	
NLC				*e*S		04 23 45.7	
SDLR	**Sedlovina**	**4.16**	**229**	*e*P		04 23 01.9	
SDLR				*e*S		04 23 47.7	
SMAR	**Somma**	**4.20**	**229**	*e*P		04 23 02.6	
AVH	**Avacha**	**4.23**	**230**	*e*P		04 23 03.5	
UGLR	**Uglovaya**	**4.23**	**229**	*e*P		04 23 03.1	
KOK	**Koryaka**	**4.25**	**231**	*e*P		04 23 03.9	
GNL	**Ganaly**	**4.31**	**238**	*e*P		04 23 04.2	
KRMR	**Karymshinskiy**	**4.80**	**229**	*e*P		04 23 09.9	
RUS	**Russkaya**	**4.94**	**224**	*e*P		04 23 12.2	

BJI ***15*** *04:27:58.9, 120N×12645E, h34km, mB5.5, mb5.3, Ms5.0, Msz4.8*
ISCJB ***15*** *04:27:59.7±0.1, 148N±002×12634E±003, h21km, mb5.5/127, MS4.8/47, Error ellipse: s-maj=4.6km s-min=3.0km az=134.9*
MOS ***15*** *04:28:01.9±1.0, 154N×12624E, h33km, mb5.7/50, MS4.7/17, Error ellipse: s-maj=9.5km s-min=4.8km az=111.7*
IDC ***15*** *04:28:02.2±1.6, 141N×12629E, h31km±11km, mb5.1/33, mb1 5.1/35, mb1mx5.1/36, mbtmp5.3/35, ML4.8/1, MS4.6/11, Ms1 4.6/11, ms1mx4.4/22, Error ellipse: s-maj=14.3km s-min=7.2km az=77.0*
HRVD ***15*** *04:28:02.3±0.1, 164N×12645E, h32km, MW5.6/89, Centroid moment Tensor Solution. LP body waves: s88,c150;Mantle waves: s89,c190; Half duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.75±.04; $M_{\theta\theta}$0.03±.03; $M_{\phi\phi}$-1.78±.04; $M_{r\theta}$0.89±.05; $M_{\theta\phi}$-1.66±.03; $M_{\phi r}$-1.27±.06; Best double couple: $M_0$2.87700×10^{17} NP1:ϕ_s62.00000°, δ48.00000°, λ142.00000°. NP2:ϕ_s179.00000°, δ63.00000°, λ49.00000°. Principal axes: T 2.8880, Plg53.0000°, Azm39.0000°; N -0.0230, Plg36.0000°, Azm201.0000°; P -2.8650, Plg9.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***15*** *04:28:02.3±1.5, 145N×12630E, h28km±10km, mb5.5/64, MS4.7/10, MW5.4 Error ellipse: s-maj=5.5km s-min=3.4km az=70.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}0.95; $M_{\theta\theta}$0.00; $M_{\phi\phi}$-0.95; $M_{r\theta}$0.66; $M_{\theta\phi}$-1.14; $M_{\phi r}$-0.55; Best double couple: $M_0$1.70000×10^{17} NP1:ϕ_s180.00000°, δ60.00000°, λ40.00000°. NP2: ϕ_s67.00000°, δ56.00000°, λ143.00000°. Principal axes: T 1.7100, Plg48.0000°, Azm35.0000°; N 0.0000, Plg42.0000°, Azm211.0000°; P -1.7100, Plg2.0000°, Azm303.0000°;*
NEIC Felt [III] at Bitung and on Ternate; [II] at Manado, Indonesia.
ISC 15 04:28:01.6±0.1, 147N±002×12640E±003, h22km, h22km±2.2km: pP-P, n448, σ1§11/378, mb5.5/126, MS4.8/47, 62C-28D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**5.38**	**115**	P	**Pn**	**04 29 21.7**	**+1.1**
	300nm,1.0s						
AAI	**Ambon**	**5.42**	**161**	P	**Pn**	**04 29 25.5**	**+4.4**
	695nm,1.0s						
DAV	**Davao City (W)**	**5.62**	**352**	*e*Pn	**Pn**	**04 29 25.3**	**+1.4**
	766nm,0.5s						
DMPH	**Davao City--Mi**	**5.65**	**351**	⇑*i*P	**Pn**	**04 29 29.3**	**+5.1**
DMPH				*i* S	**Sn**	**04 30 16.1**	**-12**
KCP	**Kidapawan**	**5.66**	**347**	⇓*e*P	**Pn**	**04 29 29.3**	**+5.0**
KCP				*i* S	**Sn**	**04 30 38.0**	**+9.4**
CTBH	**Cotabato--PC H**	**6.11**	**340**	⇑*e*P	**Pn**	**04 29 33.5**	**+3.0**
BIPH	**Bislig**	**6.67**	**360**	⇑*i*P	**Pn**	**04 29 40.4**	**+2.2**
BIPH				*i* S	**Sn**	**04 30 51.4**	**-2.3**
PCI	**Palu**	**6.97**	**250**	P	**Pn**	**04 29 45.8**	**+3.4**
	645nm,1.2s						
SCPH	**Surigao**	**8.31**	**354**	*e*P	**Pn**	**04 30 04.3**	**+3.6**
SNPH	**Sibulan**	**8.43**	**338**	*e*P	**Pn**	**04 30 06.5**	**+4.1**
TBP	**Tagbilaran**	**8.55**	**343**	*e*P	**Pn**	**04 30 16.0**	**+12**
TSM	**Tawau**	**8.96**	**288**	P	**Pn**	**04 30 12.2**	**+2.5**
TLE	**Tual**	**9.48**	**138**	P	**Pn**	**04 30 20.9**	**+4.1**
	1μm,0.9s						
BAKI	**Biak**	**10.06**	**105**	P	**Pn**	**04 30 30.5**	**+5.7**
	1μm,1.5s						
RCP	**Roxas**	**10.66**	**340**	⇓*e*P	**Pn**	**04 30 37.6**	**+4.6**
KKM	**Kota Kinabalu**	**11.13**	**294**	P	**Pn**	**04 30 44.9**	**+5.5**
KKM	**Kota Kinabalu**	**11.13**	**294**	*e*Pn	**Pn**	**04 30 42.2**	**+2.9**
KKM				*e*Sn	**Sn**	**04 32 45.9**	**+2.8**
BATP	**Bataraza**	**11.23**	**311**	*e*P	**Pn**	**04 30 42.2**	**+1.3**
PPR	**Puerto Princes**	**11.24**	**318**	⇓*i*P	**Pn**	**04 30 45.5**

QIZ LR LR
comp=Z,3μm,22.4s,MS4.7
QIZ Qiongzhong 23.83 318 *e*P **P 04 33 11.9 -1.2**
comp=Z,60nm,0.9s,mb5.0
QZH Quanzhou 24.53 343 P **P 04 33 16.0 -3.4**
QZH S **S 04 37 35.0 -3.8**
QZH AMB AMB
comp=Z,360nm,1.5s,mb5.7
QZH AMB AMB
comp=Z,1μm,4.5s
QZH LR LR
comp=N,4μm,19.6s,MS5.0
QZH LR LR
comp=E,3μm,19.3s,MS5.0
QZH LR LR
comp=Z,6μm,19.2s,MS5.1
GZH Guangzhou 24.95 330 P **P 04 33 24.9 +1.6**
GZH S **S 04 37 52.6 +7.0**
GZH LR LR
comp=N,3μm,20.2s,MS4.8
GZH LR LR
comp=E,2μm,19.0s,MS4.8
GZH LR LR
comp=Z,3μm,20.4s,MS4.8
JOW Kunigami 25.28 4 P **P 04 33 27.2 +0.9**
comp=Z,153nm,0.7s,mb5.7,baz=195,slow=9.3,SNR=11
IPM Ipoh 25.51 277 P **P 04 33 29.9 +1.5**
KULM Kulim 25.98 279 *e*P **P 04 33 33.2 +0.6**
AS31 Alice Springs 26.03 164 *e*P **P 04 33 34.0 +0.9**
AS31 *e*S **S 04 38 01.1 -1.6**
AS31 *e*ScS ScS 04 44 26.7 -2.0
ASAR Alice Springs 26.03 164 P **P 04 33 31.9 -1.2**
comp=Z,72nm,1.0s,mb5.2,baz=345,slow=8.0,SNR=250
ASAR PcP PcP 04 36 59.6 -1.2
comp=Z,10nm,0.7s,baz=342,slow=2.3,SNR=5.2
ASAR S **S 04 38 01.4 -1.3**
comp=Z,8.4nm,0.8s,baz=348,slow=17,SNR=4.3
ASAR ScP ScP 04 40 39.0 0.0
comp=Z,3.4nm,0.8s,baz=343,slow=2.9,SNR=5.3
ASAR Alice Springs 26.03 164 P **P 04 33 31.9 -1.2**
ASAR 04 36 59.6
ASAR S **S 04 38 01.4 -1.3**
ASPA Alice Springs 26.03 164 *e*P **P 04 33 34.0 +0.9**
ASPA *e*S **S 04 38 01.1 -1.6**
ASPA *e*SCS ScS 04 44 26.7 -2.0
PPI Padang Panjang 26.07 266 P **P 04 33 37.9 +4.5**
comp=Z,75nm,1.2s,mb5.1
SNG Songkhla 26.31 283 P **P 04 33 37.0 +1.3**
comp=Z,112nm,0.8s,mb5.5
PSI Prapat 27.48 273 P **P 04 33 44.6 -1.6**
comp=Z,71nm,0.9s,mb5.2,baz=86,slow=3.7,SNR=26
CTA Charters Tower 28.95 139 *e*P **P 04 34 00.6 +1.4**
comp=Z,32nm,1.0s,mb5.0
CTA Charters Tower 28.95 139 P **P 04 33 59.4 +0.2**
comp=Z,39nm,0.9s,mb5.1,baz=324,slow=11,SNR=11
CTA ScP ScP 04 40 48.4 +0.4
comp=Z,15nm,1.1s,baz=252,slow=7.8,SNR=3.2
CTA Charters Tower 28.95 139 *e*P **P 04 34 00.6 +1.4**
CTA pmax pmax
comp=Z,32nm,1.0s
CTAO Charters Tower 28.95 139 P **P 04 34 00.7 +1.5**
CTAO pmax pmax
comp=Z,42nm,0.9s,mb5.2
CTAO Charters Tower 28.95 139 *e*P **P 04 34 00.6 +1.3**
comp=Z,42nm,0.9s,mb5.2
NST Nakhon Sawan 29.50 300 P **P 04 34 05.2 +1.1**
CBIJ Chichi jima 29.65 29 P **P 04 34 05.1 -0.3**
comp=Z,113nm,0.5s,mb5.8,baz=222,slow=6.3,SNR=18
CBIJ LR LR 04 46 01.3
comp=Z,741nm,19.7s,MS4.3,baz=272,slow=36
SSE Sheshan 29.88 351 P **P 04 34 08.5 +1.0**
SSE S **S 04 39 05.4 +2.0**
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,210nm,6.1s
SSE LR LR
comp=N,810nm,19.4s,MS4.7
SSE LR LR
comp=E,1μm,19.4s,MS4.7
SSE LR LR
comp=Z,1μm,18.9s,MS4.6
WHN Wuhan 31.09 340 P **P 04 34 19.6 +1.4**
WHN S **S 04 39 21.0 -1.4**
WHN LR LR
comp=Z,6μm,22.5s,MS5.2
NJ2 Nanjing 31.24 348 *e*P **P 04 34 19.1 -0.4**
NJ2 PP PP 04 35 20.3 -10
NJ2 PPP 04 35 36.6
NJ2 S **S 04 39 22.0 -2.7**
NJ2 AMB AMB
comp=Z,70nm,1.1s,mb5.4
NJ2 AMB AMB
comp=Z,200nm,4.3s
NJ2 LR LR
comp=N,2μm,25.6s,MS4.9
NJ2 LR LR
comp=E,3μm,26.6s,MS4.9
NJ2 LR LR
comp=Z,1μm,19.6s
GYA Guiyang 31.26 324⇑*i*P **P 04 34 20.3 +0.6**
GYA AP pP 04 34 24.8 -1.6
GYA PP PP 04 35 21.4 -9.0
GYA PPP 04 35 36.3
GYA PCP PcP 04 37 15.4 +1.6
GYA S **S 04 39 21.9 -3.1**
GYA SCS ScS 04 44 52.4 -0.4
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,590nm,7.7s
GYA LR LR
comp=N,3μm,20.4s,MS4.9
GYA LR LR
comp=E,1μm,19.7s,MS4.9
GYA LR LR
comp=Z,1μm,16.4s,MS4.6
BSI Banda Aceh 31.29 278 P **P 04 34 19.7 -0.3**
comp=Z,39nm,1.4s,mb5.0
CHG Chiang Mai 31.96 304 PG **P 04 34 26.0 +0.2**
CHTO Chiang Mai 31.96 304 P **P 04 34 26.0 +0.2**
CHTO pmax pmax
comp=Z,17nm,0.7s,mb5.0
CHTO Chiang Mai 31.96 304 *e*P **P 04 34 25.8 -0.1**
comp=Z,17nm,0.7s,mb5.0
FORT Forrest 32.10 177⇓*i*P **P 04 34 27.6 +0.5**
comp=Z,86nm,0.6s,mb5.8
FORT *e*S **S 04 39 41.3 +3.1**
KMI Kunming 32.78 318 P **P 04 34 32.0 -1.0**
KMI PPP 04 35 53.8
KMI S **S 04 39 42.8 -5.9**
KMI AMB AMB
comp=Z,30nm,1.4s,mb5.0
KMI LR LR
comp=N,1μm,19.4s,MS4.7
KMI LR LR
comp=E,1μm,20.5s,MS4.7
KMI LR LR
comp=Z,2μm,21.0s,MS4.8
KLBR Kellerberrin 33.88 193 *e*P **P 04 34 43.2 +0.5**
comp=Z,84nm,0.7s,mb5.8
MUN Mundaring 34.64 195 *e*P **P 04 34 49.6 +0.4**
NWAO Narrogin (SRO) 35.29 193 P **P 04 34 53.6 -1.2**
comp=Z,52nm,0.7s,mb5.6,baz=19,slow=8.3,SNR=30
NWAO Narrogin (SRO) 35.29 193 P **P 04 34 55.7 +0.9**
NWAO pmax pmax
comp=Z,46nm,0.8s
NWAO Narrogin (SRO) 35.29 193 *e*P **P 04 34 55.1 +0.3**
comp=Z,46nm,0.8s,mb5.5
KS15 Wonju Array Si 35.83 2 *e*P **P 04 35 00.3 +0.9**
STKA Stephens Creek 36.16 158 *e*P **P 04 35 00.4 -1.9**
comp=Z,81nm,0.9s,mb5.7
STKA *e*S **S 04 40 35.4 -5.4**
STKA Stephens Creek 36.16 158 P **P 04 35 00.0 -2.2**
comp=Z,112nm,0.9s,mb5.8,baz=331,slow=8.4,SNR=70
CD2 Chengdu 36.29 326 P **P 04 35 03.1 -0.3**
CD2 AP pP 04 35 10.0 -0.1
CD2 XP sP 04 35 15.6 +2.8
CD2 PP PP 04 36 26.3 +0.2
CD2 PPP 04 36 44.0
CD2 S **S 04 40 42.0 -0.9**
CD2 SS SS 04 43 05.3 -16
CD2 SCS ScS 04 45 18.9 -0.3
CD2 AMB AMB
comp=Z,40nm,1.1s,mb5.3

CD2 AMB AMB
comp=Z,150nm,5.9s
CD2 LR LR
comp=N,1μm,19.8s
CD2 LR LR
comp=Z,890nm,21.6s,MS4.5
XAN Xi'an 36.30 335 P **P 04 35 02.3 -1.1**
XAN AP pP 04 35 09.3 -0.8
XAN SS SS 04 43 14.0 -7.6
XAN AMB AMB
comp=Z,40nm,1.1s,mb5.3
XAN LR LR
comp=N,420nm,13.6s
XAN LR LR
comp=E,850nm,24.7s
MJAR Matsushiro Arr 36.57 16 P **P 04 35 05.3 -0.5**
comp=E,25nm,0.6s,mb5.2,baz=184,slow=9.2,SNR=47
MJAR PcP PcP 04 37 29.5 +0.7
comp=E,5.9nm,0.9s,baz=165,slow=3.1,SNR=4.0
MJAR ScP ScP 04 41 12.9 -1.3
comp=E,4.5nm,1.0s,baz=203,slow=4.2,SNR=6.0
MJAR LR LR 04 50 27.5
comp=E,604nm,18.6s,MS4.4,baz=190,slow=37
MJAR Matsushiro Arr 36.57 16 P **P 04 35 05.3 -0.5**
MJAR 04 37 29.5
MAJO Matsushiro 36.57 16⇑*i*P **P 04 35 04.9 -0.9**
MAJO pmax pmax
comp=Z,42nm,0.7s,mb5.4
MAJO MLR MLR
comp=Z,917nm,21.0s,MS4.5
MAJO Matsushiro 36.57 16⇑*i*P **P 04 35 04.9 -0.9**
comp=Z,42nm,0.7s,mb5.4
MAJO LR LR
comp=Z,917nm,21.0s,MS4.5
MAT Matsushiro 36.57 16 P **P 04 35 04.9 -0.9**
MAT S **S 04 40 37.0 -10**
MAT Matsushiro 36.57 16 *e*P **P 04 35 05.0 -0.8**
MAT *e*S **S 04 40 38.0 -9.2**
MAT pmax pmax
comp=Z,471nm,2.0s,mb6.0
MAT MLR MLR
comp=Z,1μm,22.0s,MS4.6
MAT Matsushiro 36.57 16 *e*P **P 04 35 05.0 -0.8**
comp=Z,471nm,2.0s,mb6.0
MAT *e*S **S 04 40 38.0 -9.2**
MAT LR LR
comp=Z,1μm,22.0s,MS4.6
DL2 Dalian 37.52 354 P **P 04 35 14.8 +1.0**
DL2 S **S 04 41 04.4 +2.9**
DL2 AMB AMB
comp=Z,90nm,0.7s,mb5.6
DL2 AMB AMB
comp=Z,180nm,4.4s
DL2 LR LR
comp=N,410nm,17.5s,MS4.6
DL2 LR LR
comp=E,630nm,15.0s,MS4.6
DL2 LR LR
comp=Z,650nm,17.7s,MS4.5
ADE Adelaide 38.03 163⇓*i*P **P 04 35 19.9 +1.7**
BJT Baijiatuau 39.48 348⇑*i*P **P 04 35 29.9 -0.5**
BJT pmax pmax
comp=Z,50nm,0.6s
BJT Baijiatuau 39.48 348⇑*i*P **P 04 35 29.9 -0.5**
comp=Z,50nm,0.6s,mb5.4
ARMA Armidale 39.79 145 *e*P **P 04 35 34.1 +1.2**
SNY Shenyang 40.26 357⇑P **P 04 35 37.5 +0.7**
SNY S **S 04 41 42.8 -0.1**
SNY AMB AMB
comp=Z,90nm,1.3s,mb5.3
SNY AMB AMB
comp=Z,700nm,4.5s
SNY LR LR
comp=N,920nm,20.6s
SNY LR LR
comp=Z,1μm,23.7s,MS4.7
LZH Lanzhou 40.29 331 P **P 04 35 37.8 +0.7**
LZH AP pP 04 35 43.5 -0.4
LZH XP sP 04 35 48.4 +1.8
LZH PP PP 04 37 14.0 +4.1
LZH S **S 04 41 37.4 -6.0**
LZH AMB AMB
comp=Z,150nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,420nm,4.8s
LZH LR LR
comp=N,3μm,18.5s
LZH LR LR
comp=Z,5μm,19.8s,MS5.4
SHL Shillong 40.98 309 *e*P **P 04 35 43.0 +0.2**
SHL *ex* x 04 41 31.0
HHC Hu-ho-hao-te 41.44 343 *e*P **P 04 35 49.4 +2.9**
HHC AP pP 04 35 54.0 +0.7
HHC XP sP 04 35 56.4 +0.4
HHC PP PP 04 37 29.8 +7.4
HHC PCP PcP 04 37 46.5 +2.3
HHC PCS PcS 04 41 36.3 +0.9
HHC S **S 04 42 06.4 +6.0**
HHC XS sS 04 42 14.3 +2.7
HHC AMB AMB
comp=Z,20nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,280nm,3.5s
HHC LR LR
comp=N,840nm,24.3s,MS4.7
HHC LR LR
comp=E,770nm,21.0s,MS4.7
HHC LR LR
comp=Z,1μm,27.3s
CNB Canberra Magne 42.43 152 *e*P **P 04 35 56.1 +1.5**
comp=Z,46nm,1.2s,mb5.0
TOO Toolangi 42.68 157 *e*P **P 04 35 58.4 +1.8**
comp=Z,18nm,0.7s,mb4.9
TOO Toolangi 42.68 157 *e*P **P 04 35 58.4 +1.8**
TOO pmax pmax
comp=Z,19nm,0.7s,mb4.9
MDJ Mudanjiang 43.06 3 P **P 04 36 00.8 +1.1**
MDJ PP PP 04 37 38.6 -1.2
MDJ PCP PcP 04 37 53.3 +3.7
MDJ S **S 04 42 21.6 -2.7**
MDJ SS SS 04 45 35.0 -1.8
MDJ AMB AMB
comp=Z,50nm,1.0s,mb5.2
MDJ AMB AMB
comp=Z,430nm,5.3s
MDJ Mudanjiang 43.06 3⇑*i*P **P 04 36 00.1 +0.4**
comp=Z,57nm,0.9s,mb5.3
ASAJ Asahikawa 44.84 17 P **P 04 36 14.4 +0.4**
comp=Z,39nm,0.7s,mb5.4,baz=225,slow=13,SNR=26
ASAJ Asahikawa 44.84 17 P **P 04 36 14.4 +0.4**
ASAJ pmax pmax
comp=Z,39nm,0.7s
GTA Gaotai 44.87 331 P **P 04 36 14.3 0.0**
GTA PCP PcP 04 37 57.4 +1.7
GTA PP PP 04 37 59.1 -0.1
GTA S **S 04 42 48.4 -2.4**
GTA SS SS 04 46 00.4 -12
GTA SCS ScS 04 46 09.3 -1.1
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GTA AMB AMB
comp=Z,80nm,4.9s
GTA LR LR
comp=N,1μm,19.8s,MS5.0
GTA LR LR
comp=E,1μm,21.7s,MS5.0
GTA LR LR
comp=Z,3μm,21.3s,MS5.1
BOK Bokaro 45.06 303 *e*P **P 04 36 15.0 -0.7**
VIS Vishakhapatnam 45.27 294 *e*P **P 04 36 17.2 -0.3**
VIS AMb AMB 04 36 23.1
comp=Z,43nm,0.8s,mb5.3
PALK Pallekele 45.90 279 *e*P **P 04 36 23.0 +0.6**
comp=Z,25nm,0.9s,mb5.1
JIRN Jiri 46.45 308 *e*P **P 04 36 26.8 0.0**
comp=Z,36nm,0.3s,mb5.8
GUN Gumba 46.81 308 *e*P **P 04 36 29.5 -0.1**
comp=Z,111nm,0.5s,mb6.1
PKI Pulchoki 47.03 307 *e*P **P 04 36 30.9 -0.4**
comp=Z,20nm,0.3s,mb5.5
PKI Pulchoki 47.03 307 *e*P **P 04 36 30.9 -0.4**
PKI pmax pmax
comp=Z,20nm,0.3s,mb5.5
KKN Kakani 47.23 307 *e*P **P 04 36 32.4 -0.5**
comp=Z,36nm,0.5s,mb5.6
KKN Kakani 47.23 307 *e*P **P 04 36 32.4 -0.5**

KKN pmax pmax
comp=Z,36nm,0.5s,mb5.6
DMN Daman 47.29 307 *e*P **P 04 36 32.4 -0.9**
comp=Z,100nm,1.0s,mb5.7
HABR Khabarovsk 47.42 8⇑*i*P **P 04 36 35.8 +1.5**
HABR *e*S **S 04 43 28.5 +1.2**
HABR pmax pmax
comp=Z,212nm,1.4s,mb5.9
YSS Yuzh-Sakhalins 47.50 15*oe*P **P 04 36 35.3 +0.4**
YSS *e* 04 38 05.8
YSS *e* 04 38 26.0
YSS *e*S **S 04 43 27.0 -1.4**
YSS pmax pmax
comp=N,40nm,1.0s
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.5
YSS MLR MLR
comp=N,500nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.5
YSS Yuzh-Sakhalins 47.50 15⇑*i*P **P 04 36 34.9 -0.1**
comp=Z,98nm,1.0s,mb5.7
YSS *e*PP PP 04 38 25.9 -0.5
KLR Kul'dur 47.80 5⇓*i*P **P 04 36 34.3 -3.0**
KLR *e*S **S 04 43 27.5 -5.3**
KLR *e* 04 46 52.0
KLR pmax pmax
comp=E,56nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s,mb5.8
KLR MLR MLR
comp=E,500nm,20.0s
KLR MLR MLR
comp=Z,800nm,20.0s,MS4.7
HIA Hailar 47.96 354⇑*i*P **P 04 36 39.0 +0.5**
HIA pmax pmax
comp=Z,256nm,1.6s
HIA Hailar 47.96 354⇑*i*P **P 04 36 39.0 +0.5**
comp=Z,256nm,1.6s,mb6.0
ULN Ulaanbaatar 49.16 343 P **P 04 36 48.1 +0.3**
ULN pmax pmax
comp=Z,48nm,1.0s,mb5.5
ULN Ulaanbaatar 49.16 343⇑*i*P **P 04 36 48.0 +0.2**
comp=Z,48nm,1.0s,mb5.5
ULN LR LR
comp=Z,994nm,21.0s,MS4.8
SONM Songino Array 49.33 342 P **P 04 36 48.8 -0.3**
comp=Z,15nm,0.8s,mb5.1,baz=152,slow=7.8,SNR=42
SONM ScP ScP 04 42 05.2 -0.2
comp=Z,2.1nm,1.0s,baz=144,slow=2.7,SNR=2.6
SONM LR LR 05 01 01.5
comp=Z,362nm,19.9s,MS4.4,baz=154,slow=40
HYB Hyderabad 49.60 292⇓*i*P **P 04 36 50.5 -0.6**
HYB Hyderabad 49.60 292⇓*e*P **P 04 36 50.5 -0.6**
TRD Trivandrum 49.70 280 *e*P **P 04 36 51.9 0.0**
TRD *ex* x 04 36 56.0
TRD AMb AMB 04 36 56.6
comp=Z,76nm,0.7s,mb5.8
NGP Nagpur 50.10 297 *e*P **P 04 36 52.5 -2.4**
CIT Chita 51.52 350 *e*P **P 04 37 06.7 +1.1**
CIT *e* 04 44 16.1
CIT *e* 04 46 42.9
CIT pmax pmax
comp=Z,387nm,1.6s,mb6.1
AKL Akola 51.81 295 *ex* x 04 36 34.4
AKL AMb AMB 04 36 39.5
comp=Z,72nm,0.8s,mb5.7
LGTI Lohaghat 51.94 307 *i*P **P 04 37 09.0 +0.2**
BHPL Bhopal 52.15 299 *e*P **P 04 37 09.7 -0.6**
BHPL AMb AMB 04 37 14.1
comp=Z,49nm,0.6s,mb5.6
ZAK Zakamensk 52.54 342 *e*P **P 04 37 12.9 -0.3**
ZAK *e* 04 38 23.3
ZAK pmax pmax
comp=Z,24nm,1.8s,mb4.8
FUNA Funafuti 53.55 102 *e*P **P 04 37 22.2 +1.6**
FUNA *e* 04 37 33.5
TLY Talaya 53.57 343 P **P 04 37 21.7 +0.9**
comp=Z,78nm,0.8s,mb5.7,SNR=6.7
TLY Talaya 53.57 343 *e*P **P 04 37 21.9 +1.1**
TLY *e*S **S 04 44 42.4 -10**
TLY *e* 04 47 01.9
TLY pmax pmax
comp=Z,35nm,1.2s,mb5.2
TLY MLR MLR
comp=Z,689nm,21.0s,MS4.7
TLY Talaya 53.57 343⇑*i*P **P 04 37 21.0 +0.2**
comp=Z,31nm,1.1s,mb5.1
KAD Karad 53.66 290 *e*P **P 04 37 20.1 -1.3**
KAD AMb AMB 04 37 24.6
comp=Z,25nm,0.7s,mb5.2
IRK Irkutsk 53.88 343 *e*P **P 04 37 23.4 +0.3**
IRK pmax pmax
comp=Z,83nm,2.4s,mb5.2
NDI New Delhi 54.10 305 *e*P **P 04 37 23.5 -1.2**
POO Poona 54.21 292⇓*i*P **P 04 37 24.0 -1.5**
POO *ex* x 04 38 04.5
MOY Mondy 54.39 341 *e*P **P 04 37 27.6 +0.8**
MOY pmax pmax
comp=Z,80nm,3.9s
WMQ Urumqi 54.39 326 P **P 04 37 27.3 +0.5**
WMQ PCP PcP 04 38 31.0 +0.6
WMQ PP PP 04 39 30.4 +1.5
WMQ PPP 04 40 42.0
WMQ S **S 04 45 03.8 -0.1**
WMQ SCS ScS 04 47 12.6 -2.2
WMQ AMB AMB
comp=Z,50nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,170nm,3.0s
WMQ LR LR
comp=N,1μm,19.0s,MS5.1
WMQ LR LR
comp=E,880nm,20.0s,MS5.1
WMQ LR LR
comp=Z,1μm,21.0s,MS5.0
CLNS Chul'man 55.22 359 *e*P **P 04 37 33.7 +0.9**
AJM Ajmer 55.53 301 *e*P **P 04 37 34.6 -0.4**
DLH Dalhousie 56.53 309 *e*P **P 04 37 39.0 -3.2**
BOD Bodaibo 57.04 352 *e*P **P 04 37 45.7 -0.1**
BOD pmax pmax
comp=Z,67nm,1.2s,mb5.5
PET Petropavlovsk 57.93 22*c i*P **P 04 37 52.8 +0.7**
PET *e*S **S 04 45 51.7 +0.8**
PET pmax pmax
comp=N,300nm,5.7s
PET pmax pmax
comp=Z,600nm,4.9s
PET MLR MLR
comp=Z,300nm,20.0s,MS4.4
PET MLR MLR
comp=Z,400nm,20.0s
PET Petropavlovsk 57.93 22 *e*P **P 04 37 49.1 -3.0**
MK31 Makanchi Array 59.23 326 P **P 04 38 00.8 -0.3**
MK31 pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
MKAR Makanchi Array 59.23 326 P **P 04 38 00.1 -1.0**
comp=Z,24nm,0.5s,mb5.5,baz=119,slow=7.6,SNR=131
MKAR S **S 04 46 04.2 -3.5**
comp=Z,0.2nm,0.3s,baz=139,slow=13,SNR=5.0
MKAR PKPPKP 05 07 28.1
comp=Z,0.5nm,0.8s,baz=285,slow=2.4,SNR=4.3
MKAR Makanchi Array 59.23 326 *i*P **P 04 38 00.8 -0.3**
MKAR pmax pmax
comp=Z,25nm,0.5s
MKAR Makanchi Array 59.23 326 P **P 04 38 00.1 -1.0**
MKAR S **S 04 46 04.2 -3.5**
MKAR P'P' 05 07 28.1
KSH Kashi 59.42 316 *e*P **P 04 38 01.4 -1.0**
KSH *e*PCP PcP 04 38 49.5 -0.6
KSH *e*PPP 04 41 39.0
KSH *e*SCP ScP 04 42 48.0 -1.5
KSH *e*PCS PcS 04 42 50.5 -1.6
KSH *e*S **S 04 46 06.5 -3.7**
KSH *e*PS 04 46 23.0
KSH *e*SCS ScS 04 47 47.5 -3.8
KSH *e*SS SS 04 50 02.8 -2.5
KSH AMB AMB
comp=Z,80nm,1.2s,mb5.6
KSH LR LR
comp=N,570nm,5.9s
KSH LR LR
comp=E,430nm,6.7s
KSH LR LR
comp=Z,1μm,21.1s,MS5.0

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YAK  Yakutsk      60.47  2 eP        P     04 38 10.1 +0.5
YAK                        e                04 38 52.5
YAK                        e                04 40 24.2
YAK                        ePPP             04 41 51.5
YAK                        eS        S      04 46 22.2 -1.5
YAK                        e                04 47 55.5
YAK                        eSS       SS     04 50 24.2 +2.5
YAK                        pmax      pmax
     comp=Z,75nm,1.0s,mb5.7
YAK                        pmax      pmax
     comp=N,36nm,1.2s
YAK                        pmax      pmax
     comp=E,10.0nm,1.3s
YAK                        smax
     comp=N,11nm,1.5s
YAK                        smax
     comp=E,17nm,1.8s
YAK  Yakutsk      60.47  2⇑iP        P     04 38 09.4 -0.2
     comp=E,96nm,0.6s,mb6.0
YAK                        LR        LR
     comp=Z,515nm,20.0s,MS4.7
MA2  Magadan      60.97 14c iP        P     04 38 14.0 +1.0
MA2                        e                04 40 25.4
MA2                        eS        S      04 46 29.5 -0.6
MA2                        pmax      pmax
     comp=N,40nm,0.8s
MA2                        pmax      pmax
     comp=Z,100nm,0.8s,mb6.0
MA2                        MLR       MLR
     comp=Z,1µm,23.1s,MS4.9
MA2  Magadan      60.97 14⇑iP         P     04 38 13.7 +0.6
     comp=Z,63nm,0.8s,mb5.8
KZA  Kyzart       61.06 319 P         P     04 38 14.7 +0.9
     SNR=20
TKM2 Tokmak 2     61.23 319 P         P     04 38 14.9 +0.1
     SNR=33
KBK  Karagaybulak 61.53 319 P         P     04 38 17.5 +0.7
     SNR=19
UCH  Uchtor       61.62 318 P         P     04 38 18.3 +0.8
     SNR=55
AAK  Ala-Archa    61.81 319 P         P     04 38 19.0 +0.2
     SNR=9.0
AAK  Ala-Archa    61.81 319 P         P     04 38 18.0 -0.8
     comp=Z,122nm,1.2s,mb5.9,SNR=8.8
AAK  Ala-Archa    61.81 319d iP       P     04 38 18.3 -0.5
AAK                        pmax      pmax
     comp=Z,23nm,1.1s,mb5.2
AAK  Ala-Archa    61.81 319 eP        P     04 38 18.0 -0.8
     comp=Z,28nm,1.1s,mb5.3
AAK                        LR        LR
     comp=Z,705nm,20.0s,MS4.8
FRU  Bishkek      61.82 319 eP        P     04 38 20.0 +1.2
FRU                        e                04 38 33.0
USP  Ospenovka    62.10 319 P         P     04 38 20.5 -0.2
     SNR=45
AML  Almayashu    62.12 318 P         P     04 38 21.6 +0.7
     SNR=13
EKS2 Erkin-Say    62.30 319 P         P     04 38 22.5 +0.5
     SNR=23
ZAL  Zalesovo     62.45 334 P         P     04 38 22.9 -0.1
     comp=Z,9.9nm,0.4s,mb5.2,baz=350,slow=7.1,SNR=34
ZAL                        S         S      04 46 47.6 -1.3
     comp=Z,1.5nm,0.4s,baz=238,slow=21,SNR=6.0
ZAL  Zalesovo     62.45 334 P         P     04 38 22.9 -0.1
ZAL                        S         S      04 46 47.6 -1.3
KURK Kurchatov    63.47 328 P         P     04 38 29.3 -0.5
     SNR=87
KURK Kurchatov    63.47 328⇑eP        P     04 38 29.1 -0.7
KURK                       pmax      pmax
     comp=Z,102nm,0.6s,mb6.1
KURK                       MLR       MLR
     comp=Z,562nm,22.0s,MS4.7
KURK Kurchatov    63.47 328⇑eP        P     04 38 29.1 -0.7
     comp=Z,102nm,0.6s,mb6.1
KURK                       LR        LR
     comp=Z,562nm,22.0s,MS4.7
NVS  Novosibirsk  63.73 334 eP        P     04 38 30.0 -1.6
NVS                        eS        S      04 46 58.2 -6.8
NVS                        e                04 48 25.7
NVS                        pmax      pmax
     comp=N,37nm,1.4s
NVS                        pmax      pmax
     comp=Z,70nm,1.4s,mb5.5
NVS                        pmax      pmax
     comp=E,46nm,1.5s
NVS                        smax
     comp=N,25nm,1.6s
NVS                        smax
     comp=E,45nm,1.7s
KK31 Karatay Array 64.66 318 iP       P     04 38 37.1 -0.6
KKAR Karatay Array 64.66 318 iP       P     04 38 37.0 -0.7
KKAR                       pmax      pmax
     comp=Z,3.0nm,0.5s,mb4.6
CASY Casey        68.55 187 eP        P     04 39 02.5  0.0
VOSK Vostochnaya  68.57 327 P         P     04 39 01.7 -0.9
BVAR Borovoye Array 69.03 328 P       P     04 39 05.0 -0.5
     comp=Z,13nm,0.4s,mb5.2,baz=128,slow=9.6,SNR=74
BRVK Borovoye     69.10 328 P         P     04 39 05.8 -0.1
     comp=Z,400nm,1.0s,mb6.3,SNR=26
BRVK Borovoye     69.10 328⇑iP        P     04 39 05.5 -0.4
BRVK                       pmax      pmax
     comp=Z,53nm,1.1s,mb5.4
BRVK Borovoye     69.10 328⇑iP        P     04 39 05.5 -0.5
     comp=Z,53nm,1.1s,mb5.4
CHKZ Chkalovo     69.21 328⇑iP        P     04 39 05.8 -0.8
CHKZ                       pmax      pmax
     comp=Z,50nm,1.0s,mb5.4
CHKZ Chkalovo     69.21 328⇑iP        P     04 39 05.8 -0.8
     comp=Z,50nm,1.0s,mb5.4
ZRNK Zerenda      69.75 327⇑iP        P     04 39 09.2 -0.7
ZRNK                       pmax      pmax
     comp=Z,59nm,0.6s,mb5.7
ZRNK Zerenda      69.75 327⇑iP        P     04 39 09.2 -0.7
     comp=Z,59nm,0.6s,mb5.7
TIXI Tiksi        70.09  1⇑iP        P     04 39 10.8 -1.2
ATKA Atka Island  70.54 34⇑iP         P     04 39 14.8 +0.1
BILL Bilibino     71.81 15c iP        P     04 39 22.1 -0.4
BILL                       pmax      pmax
     comp=Z,40nm,1.7s,mb5.1
BILL                       MLR       MLR
     comp=Z,500nm,23.0s,MS4.7
BILL Bilibino     71.81 15⇑iP         P     04 39 22.0 -0.5
     comp=Z,7.7nm,0.6s,mb4.8
MIR  Mirnyy       71.89 193 eP        P     04 39 27.0 +4.0
MIR                        pmax      pmax
     comp=Z,400nm,1.5s,mb6.1
AB31 Akbulak array 73.69 321 iP       P     04 39 33.2 -0.4
SPIA Saint Paul Isl 74.61 30⇑iP       P     04 39 39.5 +0.5
AKTK Aktyubinsk   75.22 322 P         P     04 39 42.4 -0.1
AKTK                       LR        LR     05 15 06.8
AKTO Aktyubinsk   75.22 322 P         P     04 39 42.4 -0.2
     comp=Z,13nm,0.3s,mb5.3,baz=107,slow=7.4,SNR=82
AKTO                       LR        LR     05 15 06.8
     comp=Z,806nm,20.4s,MS5.0,baz=272,slow=38
UNV  Unalaska Valle 75.47 34⇑iP       P     04 39 44.0 +0.1
     comp=Z,85nm,0.7s,mb5.8
AKUT Akutan       75.96 34 eP         P     04 39 47.3 +0.5
     comp=Z,390nm,1.7s,mb6.1
GAMB Gambell      76.59 24⇑iP         P     04 39 50.9 +0.6
ARU  Arti         76.66 328 P         P     04 39 50.3 -0.5
     comp=Z,455nm,0.7s,mb6.5,SNR=6.6
ARU  Arti         76.66 328 P         P     04 39 50.0 -0.8
ARU                        pmax      pmax
     comp=Z,49nm,0.7s,mb5.5
ARU  Arti         76.66 328⇑iP        P     04 39 49.8 -1.0
     comp=Z,49nm,0.7s,mb5.5
SOKR Solikamsk    78.51 331c iP       P     04 40 00.1 -1.0
SOKR                       S         S      04 49 54.9 -1.2
SOKR                       pmax      pmax
     comp=Z,100nm,1.5s,mb5.5
SOKR                       MLR       MLR
     comp=Z,860nm,29.0s,MS4.9
QRN  Al-Qurain    79.19 299 eP        P     04 40 04.5 -0.3
SDPT Sand Point   79.25 34 eP         P     04 40 05.5 +0.4
     comp=Z,354nm,1.6s,mb6.0
RDF  Al-Radifah   79.53 299 eP        P     04 40 05.8 -0.9
RDF                        AMb       AMB    04 40 10.4
     comp=Z,57nm,0.4s,mb5.8
MIB  Mutribah     79.78 300 eP        P     04 40 07.6 -0.4
MIB                        AMb       AMB    04 40 10.1
     comp=Z,134nm,0.8s,mb5.9
NAY  Al-Naaiem    79.82 299 eP        P     04 40 07.7 -0.6
NAY                        AMb       AMB    04 40 10.2
     comp=Z,54nm,0.7s,mb5.6
CHGN Chignik      80.59 33 eP         P     04 40 13.5 +1.1
VNDA Vanda        81.24 173 P         P     04 40 14.3 -1.5
     comp=Z,22nm,0.8s,mb5.2,baz=318,slow=6.1,SNR=107
VNDA                       LR        LR     05 18 23.3
     comp=Z,298nm,18.0s,MS4.7,baz=327,slow=37
VNDA Vanda        81.24 173 P         P     04 40 15.5 -0.3
VNDA                       pmax      pmax
     comp=Z,25nm,0.9s
VNDA Vanda        81.24 173⇑eP        P     04 40 15.4 -0.4
     comp=Z,25nm,0.9s,mb5.1
MAW  Mawson       81.53 200 eP        P     04 40 17.9 +0.5
     comp=Z,17nm,1.0s,mb4.9
MAW  Mawson       81.53 200 P         P     04 40 15.6 -1.8
     comp=Z,19nm,0.8s,mb5.1,baz=74,slow=6.9,SNR=22
MAW                        LR        LR     05 18 09.8
     comp=Z,240nm,18.2s,MS4.6,baz=59,slow=37
MAW  Mawson       81.53 200 P         P     04 40 18.1 +0.7
MAW                        pmax      pmax
     comp=Z,38nm,1.0s
SBA  Scott Base   82.15 172 eP        P     04 40 21.5 +0.8
SBA                        pmax      pmax
     comp=Z,26nm,0.9s,mb5.2
SBA                        MLR       MLR
     comp=Z,654nm,20.0s,MS5.0
SBA  Scott Base   82.15 172 eP        P     04 40 21.4 +0.8
     comp=Z,26nm,0.9s,mb5.2
SBA                        LR        LR
     comp=Z,654nm,20.0s,MS5.0
DGRG David-gareji 82.30 311 P         P     04 40 21.9 +0.5
BHD  Baghdad      82.52 303 ex        x     04 40 21.0
BHD  Baghdad      82.52 303 ex        x     04 50 34.0
BHD                        ex        x      04 50 53.0
GNI  Garni        82.67 310 P         P     04 40 23.6 +0.3
     comp=Z,4.0nm,0.4s,mb4.8,baz=14,slow=13,SNR=8.4
GNI                        LR        LR     05 24 22.3
     comp=Z,159nm,21.1s,MS4.4,baz=282,slow=41
GNI  Garni        82.67 310c iP       P     04 40 24.2 +0.8
GNI                        pmax      pmax
     comp=Z,48nm,1.7s
GNI  Garni        82.67 310 eP        P     04 40 24.9 +1.5
     comp=Z,62nm,1.1s,mb5.5
MTA  Mtatsminda   82.75 312 P         P     04 40 23.6 -0.2
SVW2 Sparrevohn   82.93 29 eP         P     04 40 25.8 +1.1
TTA  Tatalina     83.06 27 eP         P     04 40 26.4 +1.0
TTA                        pmax      pmax
     comp=Z,280nm,1.7s,mb6.0
TTA  Tatalina     83.06 27 eP         P     04 40 26.3 +0.9
HAKT HAKKARI      83.31 307 iP        P     04 40 27.3 +0.6
ATD  Arta Tunnel  83.39 281 P         P     04 40 26.7 -0.4
     comp=Z,32nm,0.8s,mb5.4,baz=5.4,slow=2.2,SNR=23
ZEI  Tsey         83.49 313 eP        P     04 40 29.2 +1.6
ZEI                        e*PP      pP     04 40 35.2 +0.3
ZEI                        pmax      pmax
     comp=Z,56nm,0.9s,mb5.6
AKH  Akhalkalaki  83.70 311 P         P     04 40 30.1 +1.4
MSL  Mosul        83.74 306 ex        x     04 40 29.5
MSL  Mosul        83.74 306 ex        x     04 50 50.0
KDAK Kodiak Island 83.97 32 P         P     04 40 31.2 +1.1
     comp=Z,277nm,1.5s,mb6.2,SNR=7.1
KDAK Kodiak Island 83.97 32 P         P     04 40 29.9 -0.2
     comp=Z,26nm,0.8s,mb5.4,baz=264,slow=3.9,SNR=12
KDAK Kodiak Island 83.97 32 eP        P     04 40 31.2 +1.1
     comp=Z,41nm,0.8s,mb5.6
KDAK                       LR        LR
     comp=Z,117nm,21.0s,MS4.2
GOF  Gofitskoye   84.27 315 eP        P     04 40 31.1 -0.5
GOF                        pmax      pmax
     comp=Z,60nm,0.8s,mb5.8
KIV  Kislovodsk   84.45 314 P         P     04 40 33.4 +0.9
     SNR=6.1
KIV  Kislovodsk   84.45 314c iP       P     04 40 32.7 +0.2
KIV                        pmax      pmax
     comp=Z,78nm,1.7s,mb5.6
KIV  Kislovodsk   84.45 314 eP        P     04 40 33.8 +1.3
     comp=Z,38nm,0.8s,mb5.6
PECR Pechory      84.51 326d iP       P     04 40 32.6 -0.2
PECR                       e                04 40 47.4
PECR                       pmax      pmax
     comp=Z,2µm,1.4s
PECR                       pmax      pmax
     comp=Z,500nm,4.0s
PPT  Papeete      84.74 108 LR        LR     05 11 26.4
     comp=Z,353nm,21.5s,MS4.7,baz=168,slow=31
ARTV Artvin       84.87 311 iP        P     04 40 35.7 +1.0
ERZM Erzurum      85.25 310 iP        P     04 40 37.6 +1.1
BEST Besiri       85.25 308 iP        P     04 40 37.5 +0.9
SLKM Skilak Lake  85.46 30 P          P     04 40 37.9 +0.3
SLKM Skilak Lake  85.46 30 eP         P     04 40 37.4 -0.2
VRHR Novokhopersk 85.57 321 eP        P     04 40 37.8 -0.3
VRHR                       pmax      pmax
     comp=E,40nm,0.7s
VRHR                       pmax      pmax
     comp=Z,140nm,0.7s,mb6.3
VRHR                       pmax      pmax
     comp=N,20nm,0.9s
MARD Mardin       85.63 307 iP        P     04 40 39.0 +0.6
PMR  Palmer       86.08 28 eP         P     04 40 41.1 +0.5
PMR                        pmax      pmax
     comp=Z,67nm,1.5s,mb5.7
PMR  Palmer       86.08 28 eP         P     04 40 41.1 +0.5
     comp=Z,66nm,1.5s,mb5.7
MCK  McKinley     86.33 26⇑iP         P     04 40 41.0 -0.9
MCK                        pmax      pmax
     comp=Z,50nm,0.8s,mb5.8
MCK  McKinley     86.33 26⇑iP         P     04 40 41.0 -0.9
     comp=Z,5.3nm,0.8s,mb4.8
SML  Sawmill      86.47 28 eP         P     04 40 43.0 +0.4
SOC  Sochi        86.59 313c iP       P     04 40 42.7 -0.4
SOC                        iS        P      04 51 06.2
SOC                        pmax      pmax
     comp=Z,54nm,0.8s,mb5.8
SOC                        MLR       MLR
     comp=Z,380nm,19.0s,MS4.8
SOC  Sochi        86.59 313 iP        P     04 40 43.6 +0.5
COLA College      86.87 25 eP         P     04 40 44.6 +0.1
COLA                       pmax      pmax
     comp=Z,40nm,0.8s,mb5.7
COLA College      86.87 25 eP         P     04 40 44.6  0.0
     comp=Z,3.8nm,0.8s,mb4.7
ELZG Elazig       87.07 308 iP        P     04 40 47.0 +1.5
VRSR Storozhevoye 87.11 321⇑iP        P     04 40 44.9 -0.8
VRSR                       pmax      pmax
     comp=Z,10.0nm,1.0s,mb5.0
VRSR                       pmax      pmax
     comp=N,2.0nm,0.8s
VRSR                       pmax      pmax
     comp=E,10.0nm,0.9s
VOR  Voronezh     87.12 322 eP        P     04 40 44.5 -1.2
VOR                        pmax      pmax
     comp=Z,200nm,1.5s,mb6.1
MALT Malatya      87.50 308 eP        P     04 40 48.3 +0.7
MALT                       pmax      pmax
     comp=Z,44nm,1.0s,mb5.6
MALT Malatya      87.50 308 eP        P     04 40 48.3 +0.7
     comp=Z,44nm,1.0s,mb5.6
ATAB Bozova       87.61 307 iP        P     04 40 49.2 +1.1
GRSN GIRESUNGRSN  87.63 311 iP        P     04 40 47.9 -0.3
MOS  Moscow       88.10 326⇑iP        P     04 40 49.6 -0.9
MOS                        e                04 44 15.6
MOS                        pmax      pmax
     comp=Z,79nm,0.9s,mb5.9
GZT  Gaziantep    88.19 307 iP        P     04 40 51.7 +0.9
ANN  Anapa        88.24 315c iP       P     04 40 50.2 -0.9
ANN                        i*PP      pP     04 41 00.3 +1.9
ANN                        e                04 44 18.1
ANN                        eS               04 51 15.8
ANN                        pmax      pmax
     comp=Z,72nm,0.9s,mb5.9
MENT Mentasta     88.65 27 eP         P     04 40 53.4 +0.4
OBN  Obninsk      88.71 325c iP       P     04 40 52.1 -1.2
OBN                        e                04 44 22.1
OBN                        iS               04 51 28.8
OBN                        ePS              04 52 44.7
OBN                        pmax      pmax
     comp=Z,132nm,1.6s,mb6.0
OBN                        MLR       MLR
     comp=Z,300nm,20.0s,MS4.7
OBN  Obninsk      88.71 325 eP        P     04 40 52.0 -1.3
     comp=Z,43nm,0.5s,mb6.0
ASF  Jabal al Asfar 88.80 302 P       P     04 40 53.6 -0.2
     comp=Z,48nm,0.9s,mb5.8,baz=41,slow=2.1,SNR=16
KMBO Kilima Mbogo 89.17 269 P         P     04 40 54.9 -0.7
     comp=Z,9.4nm,0.6s,mb5.3,baz=59,slow=7.3,SNR=15
KMBO                       LR        LR     05 17 38.3
     comp=Z,764nm,21.2s,MS5.1,baz=88,slow=33
KMBO Kilima Mbogo 89.17 269 iP        P     04 40 56.7 +1.2
KMBO                       pmax      pmax
     comp=Z,9.0nm,0.6s
KMBO Kilima Mbogo 89.17 269 eP        P     04 40 57.3 +1.8
     comp=Z,23nm,1.1s,mb5.4
COBT Iskenderun   89.25 306 iP        P     04 40 56.0 +0.1
APA  Apatity      89.80 337⇓eP        P     04 40 56.0 -2.4
APA                        iS               04 51 45.0
APA                        pmax      pmax
     comp=Z,51nm,1.5s,mb5.6
APA                        MLR       MLR
     comp=Z,500nm,20.0s,MS4.9
MMAI Mount Meron Ar 90.05 303 P       P     04 40 60.0 +0.4
     comp=Z,12nm,0.6s,mb5.4,baz=77,slow=7.6,SNR=11
BOYT Boyabat      90.16 311 iP        P     04 41 00.5 +0.4
SYO  Syowa Base   90.21 201⇓eP        P     04 41 00.9 +0.6
SYO  Syowa Base   90.21 201⇓epP       PcP    04 41 04.3 +2.8
AVNT Avonos       90.30 309 iP        P     04 41 02.0 +1.2
DAWY Dawson       90.54 26 eP         P     04 41 01.7 -0.2
SIM  Simferopol'  90.59 315 eP        P     04 41 02.8 +0.7
SIM                        e                04 51 33.0
SIM                        eS               04 51 55.8
SIM                        pmax      pmax
     comp=Z,34nm,0.7s,mb5.8
CDAG Cicekdag     90.64 309 iP        P     04 41 01.6 -0.7
JOF  Joensuu      91.03 333 ep        P     04 41 01.9 -2.3
BR131 Keskin Array S 91.20 310 eP     P     04 41 03.7 -1.2
     comp=Z,7.2nm,0.8s,mb5.0
BRTR Keskin Array B 91.20 310 P       P     04 41 04.3 -0.6
     comp=Z,7.7nm,0.8s,mb5.1,baz=114,slow=5.5,SNR=27
BALT Daday        91.30 311 iP        P     04 41 04.8 -0.6
ELDT Eldivan      91.32 310 iP        P     04 41 04.7 -0.8
QSPA South Pole Qui 91.39 180 eP      P     04 41 05.8  0.0
     comp=Z,17nm,1.0s,mb5.3
CSS  Prodhromos   91.69 305 eP        P     04 41 06.9 -0.3
     comp=Z,50nm,0.8s,mb5.9
ERMK Ermenek      91.93 307 iP        P     04 41 02.1 -6.2
SGKT Sivrigoynuk  92.36 311 iP        P     04 41 07.4 -2.9
INK  Inuvik       92.38 21 P          P     04 41 08.7 -1.8
     comp=Z,12nm,1.1s,mb5.1,baz=278,slow=6.9,SNR=18
INK  Inuvik       92.38 21⇑iP         P     04 41 09.7 -0.7
INK                        pmax      pmax
     comp=Z,29nm,1.3s
INK  Inuvik       92.38 21⇑iP         P     04 41 09.7 -0.7
     comp=Z,29nm,1.3s,mb5.4
ARCES ARCESS Array B 92.44 340 P      P     04 41 09.3 -1.4
     comp=Z,18nm,0.8s,mb5.4,baz=80,slow=5.7,SNR=22
ARCES                      PKKP      PKKPbc 04 58 21.2 -2.9
     comp=Z,3.2nm,0.9s,baz=249,slow=3.4,SNR=8.9
ARCES                      LR        LR     05 28 22.1
     comp=Z,368nm,20.1s,MS4.8,baz=75,slow=39
ARCES ARCESS Array B 92.44 340 P      P     04 41 09.3 -1.4
ARCES                      PKKP      PKKPbc 04 58 21.2 -2.9
ARCES ARCESS Array B 92.44 340 P      P     04 41 09.3 -1.4
ARCES                      PKKP      PKKPbc 04 58 21.2 -2.9
ARCES                      LR        LR     05 28 22.1
ARE0 ARCESS Array S 92.44 340 eP      P     04 41 08.5 -2.2
HENT Hendek       93.22 311 iP        P     04 41 10.3 -4.0
ESKT Eskisehir    93.36 310 iP        P     04 41 14.2 -0.7
AKASG Malin Array Be 93.43 321 P      P     04 41 13.5 -1.7
     comp=Z,3.6nm,0.8s,mb4.9,baz=76,slow=4.0,SNR=8.9
AKASG Malin Array Be 93.43 321 iP     P     04 41 14.3 -0.9
AKASG                      pmax      pmax
     comp=Z,4.0nm,0.8s
KAF  Kangasniemi  93.44 332 ep        P     04 41 13.6 -1.7
FINES FINESS Array B 93.66 332 P      P     04 41 13.8 -2.5
     comp=Z,2.8nm,0.4s,mb5.0,baz=68,slow=5.2,SNR=17
FINES                      LR        LR     05 27 46.1
     comp=Z,351nm,19.0s,MS4.8,baz=263,slow=38
FINES FINESS Array B 93.66 332 P      P     04 41 13.8 -2.5
FINES                      LR        LR     05 27 46.1
TIRR Tirgusor     94.69 315⇑iP        P     04 41 18.1 -2.9
CFR  Carcaliu     94.80 315⇓iP        P     04 41 21.8 +0.3
VRI  Vrincioaia   95.69 316⇓iP        P     04 41 26.3 +0.7
DLBC Dease Lake   95.84 31 P          P     04 41 26.1 -0.2
     comp=Z,1.6nm,0.6s,mb4.6,baz=235,slow=3.9,SNR=6.0
DLBC Dease Lake   95.84 31 eP         P     04 41 27.0 +0.7
KDAG Bornova      96.25 309 iP        P     04 41 27.5 -0.7
MLR  Muntele Rosu 96.29 316⇓iP        P     04 41 28.7 +0.4
BURAR Bucovina Array 96.45 318⇓iP     P     04 41 29.6 +0.5
SUW  Suwalki      96.57 325 eP        P     04 41 28.6 -1.0
URLA Izmir        96.78 309 iP        P     04 41 29.8 -0.8
KWP  Kalwaria     97.73 320 eP        P     04 41 34.6 -0.3
KWP                        pmax      pmax
     comp=Z,20nm,0.9s,mb5.7
KWP  Kalwaria     97.73 320 eP        P     04 41 34.6 -0.2
     comp=Z,200nm,0.9s
SANT Santorini    97.94 307 eP        P     04 41 35.3 -0.5
DRGR              98.28 318⇓iP        P     04 41 36.7 -0.6
LSZ  Lusaka       98.30 255 eP        P     04 41 37.7 +0.3
LSZ                        pmax      pmax
     comp=Z,4.0nm,0.8s,mb5.0
LSZ  Lusaka       98.30 255 eP        P     04 41 37.7 +0.3
     comp=Z,4.5nm,0.8s,mb5.0
IDI  Anoyia       98.54 306 P         P     04 41 38.1 -0.4
     comp=Z,4.1nm,0.6s,mb5.2,baz=90,slow=9.1,SNR=2.7
CRVS Cervenica-Dubn 98.68 320 eP      P     04 41 41.1 +2.0
STHS Stebnicka Huta 98.71 320 eP      P     04 41 40.4 +1.1
NIE  Niedzica     99.30 321 eP        P     04 41 42.1 +0.2
VAY  Valandovo    99.39 312 iP        P     04 41 39.7 -2.6
KECS Kecovo       99.40 320 eP        P     04 41 42.8 +0.5
KECS                       pmax      pmax
     comp=Z,5.0nm,1.0s,mb5.0
KECS Kecovo       99.40 320 eP        P     04 41 42.8 +0.5
     comp=Z,4.5nm,1.0s,mb5.0
DAG  Danmarks Havn 99.44 352⇑iP       P     04 41 40.7 -1.8
     comp=Z,5.1nm,1.1s,mb5.0
DAG  Danmarks Havn 99.44 352⇑eP       P     04 41 40.7 -1.8
DAG                        pmax      pmax
     comp=Z,5.0nm,1.1s,mb5.0
DAG  Danmarks Havn 99.44 352⇑eP       P     04 41 40.7 -1.8
     comp=Z,5.1nm,1.1s,mb5.0
OJC  Ojcow        99.44 321 eP        P     04 41 46.5 +4.0
HFS  Hagfors      99.85 332 P         Pdif  04 41 42.2 -2.1
     comp=Z,4.9nm,0.9s,baz=71,slow=5.0,SNR=5.4
PSZ  Piszkesteto  99.92 319 eP        Pdif  04 41 44.1 -0.5
RES  Resolute Bay 100.08 10 eP        Pdif  04 41 45.0 -0.4
SKO  Skopje       100.11 313 iP       Pdif  04 41 44.6 -0.9
VYHS Vyhne        100.47 320 eP       Pdif  04 41 47.9 +0.8
VYHS                       pmax      pmax
     comp=Z,3.0nm,1.2s
VYHS Vyhne        100.47 320 eP       Pdif  04 41 47.9 +0.8
     comp=Z,3.1nm,1.2s
NB2  NORSAR Subarra100.65 333 P       Pdif  04 41 45.8 -2.1
     comp=Z,6.1nm,0.9s,baz=68,slow=4.8
NB2  NORSAR Subarra100.65 333 P       Pdif  04 41 45.8 -2.1
NB2                        pmax      pmax
     comp=Z,6.0nm,0.9s
NOA  NORSAR Array B100.65 333 P       Pdif  04 41 46.1 -1.8
     comp=Z,2.6nm,0.9s,baz=77,slow=4.3,SNR=7.5
OHR  Ohrid        100.75 312 iP       Pdif  04 41 40.2 -8.2
MORC Moravsky Berou 100.96 321 eP     Pdif  04 41 49.7 +0.4
YKW3 Yellowknife Ar 101.65 24 ePdif   Pdif  04 41 52.0 -0.3
YKA  Yellowknife Ar 101.68 24 P       Pdif  04 41 51.7 -0.7
     comp=Z,1.1nm,0.6s,baz=296,slow=4.2,SNR=13
YKA                        PKKPbc    PKKPbc 04 57 57.0 -1.7
     comp=Z,0.6nm,0.7s,baz=114,slow=2.7,SNR=8.5
YKA  Yellowknife Ar 101.68 24 iP      Pdif  04 41 52.2 -0.3
YKA                        pmax      pmax
     comp=Z,1.0nm,0.6s
YKA  Yellowknife Ar 101.68 24 P       Pdif  04 41 51.7 -0.7
YKA                        PKKPbc    PKKPbc 04 57 57.0 -1.7
BRG  Berggiesshubel 102.84 323 eP     Pdif  04 41 57.7  0.0
     comp=Z,2.6nm,1.0s
BRG                        e                04 46 15.2
     comp=Z,7.5nm,1.5s
BRG  Berggiesshubel 102.84 323 eP     Pdif  04 41 57.7 +0.1
BRG                        e                04 46 15.2
BRG                        pmax      pmax
     comp=Z,3.0nm,1.0s
K01A Sixes        102.94 46 ⇑P        Pdif  04 41 59.8 +1.7
     baz=103
CLL  Collm        103.26 324 i (Pdif) Pdif  04 42 03.5 +4.0
     comp=Z,6.0nm,0.8s
CLL                        ePP       PP     04 46 15.0 +0.3
CLL                        ePPP              04 48 30.0
CLL                        eSKSac    SKSac  04 52 27.0  -11
CLL                        eSKKSac   SKKSac 04 53 17.0 -2.0
CLL                        eSdif     Sdif   04 53 44.0 -1.6
CLL                        eSP       SP     04 55 15.0 -6.0
CLL                        ePPS              04 56 08.0
CLL                        eSS       SS     05 00 57.0 +0.4
CLL                        eSKKSdf   SKKSdf 05 05 27.0 +15
CLL                        eSSSS             05 08 24.0
CLL  Collm        103.26 324 iP       Pdif  04 42 03.5 +4.0
CLL                        eS        Sdif   04 53 44.0 -1.6
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CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL MLR MLR
comp=Z,600nm,22.5s,MS5.1
CLL Collm 103.26 324 *i* Pdif Pdif 04 42 03.5 +4.0
comp=Z,6.0nm,0.8s
CLL *e*Sdif Sdif 04 53 44.0 -1.6
CLL LR LR
comp=Z,600nm,22.5s,MS5.1
PERS Pernice 103.39 319 *e*PP PP 04 46 11.1 -4.6
BOJS Bojanci 103.62 318 *e*Pdiff Pdif 04 42 01.0 -0.1
GERES GERESS Array B 103.63 321 Pdiff Pdif 04 41 59.7 -1.5
comp=Z,1.0nm,0.8s,baz=66,slow=4.5,SNR=7.0
CEY Cerknica 104.11 318 *e*Pdiff Pdif 04 42 01.9 -1.4
CEY *i* 04 42 08.5
TIP Timpagrande 104.19 311 *e*Pdif Pdif 04 42 03.8 +0.2
GRA1 Grafenberg Arr 104.88 323 *e*Pdif Pdif 04 42 06.3 -0.4
GRA1 LR LR
comp=Z,400nm,22.0s,MS4.9
GRF Grafenberg Arr 104.88 323 *e*Pdiff Pdif 04 42 06.3 -0.4
GRF *e*L 05 31 56.2
comp=Z,436nm,22.0s
JRSC Jasper Ridge 105.94 50 ⇓P PKiKP 04 46 23.6 -0.1
baz=106
EDM Edmonton 106.41 33 *e*PKP PKiKP 04 46 25.0 +0.5
EDM *e*PP PP 04 46 37.0 -1.1
LPG La Plagne 109.25 320 *e*PKP1 PKiKP 04 46 27.9 -2.0
S09A Goldfield 109.68 49 ⇓P PKiKP 04 46 31.4 +0.7
baz=110
HLID Hailey 109.69 42 *e*PKP PKiKP 04 46 32.4 +1.7
ELK Elko 110.14 45 *e*PKIKP PKiKP 04 46 32.7 +1.2
ELK *e* 04 47 05.2
N12A Wells--Clov Va 110.24 45 ⇑P PKiKP 04 46 33.0 +1.3
baz=110
LMR La Mourre 110.25 318 *e*PKP1 PKiKP 04 46 28.3 -3.4
Q11A Duckwater 110.49 47 ⇑P PKiKP 04 46 34.3 +2.1
baz=110
M13A Montello 110.68 44 ⇓P PKiKP 04 46 34.3 +1.8
baz=111
FFC Flin Flon 111.38 28 *e*PKIKP PKiKP 04 46 33.6 -0.3
LASF Ste Croix 111.71 319 *e*PKP1 PKiKP 04 46 33.9 -0.6
comp=Z,11nm,1.0s
TCF Toulx Ste Croi 111.79 322 *e*PKP1 PKiKP 04 46 30.1 -4.6
TPAW Teton Pass 112.03 41 *e*PKP PKiKP 04 46 36.7 +1.6
DUG Dugway 112.06 45 *e*PKIKP PKiKP 04 46 36.8 +1.6
LOHW Long Hollow 112.21 41 *e*PKP PKiKP 04 46 36.5 +1.1
HWUT Hardware Ranch 112.39 43 *e*PKP PKiKP 04 46 36.7 +0.9
GLA Glamis 112.98 53 PKIKP PKiKP 04 46 45.9 +9.0
DAU Daniels Canyon 113.08 45 *e*PKIKP PKiKP 04 46 43.9 +6.8
MSU Marysvale 113.15 47 *e*PKIKP PKiKP 04 46 39.6 +2.4
BW06 Boulder Array 113.26 42 *e*PKP PKiKP 04 46 38.2 +0.8
PDAR Pinedale Array 113.26 42 PKKPbc PKKPbc 04 57 23.3 +0.8
comp=Z,0.8nm,0.9s,baz=112,slow=5.7,SNR=5.0
LAO LASA Array 113.54 37 *e*PKP PKiKP 04 46 39.2 +1.2
W14A Seligman 113.65 50 ⇑P PKiKP 04 46 39.5 +1.3
baz=114
X15A Humboldt 114.55 51 ⇓P PKiKP 04 46 41.3 +1.4
baz=115
115A Sonoran Desert 115.16 53 ⇓P PKiKP 04 46 42.1 +1.0
baz=115
RSSD Black Hills 116.17 38 PKIKP PKPdf 04 46 43.6 +0.6
RSSD Black Hills 116.17 38 *e*PKPdf PKPdf 04 46 43.4 +0.3
TUC Tucson 116.44 53 *e*PKIKP PKPdf 04 46 45.0 +1.4
SMCO Snowmass 116.59 44 *e*PKPdf PKPdf 04 46 46.6 +2.8
ULM Lac du Bonnet 117.09 29 PKP PKPdf 04 46 43.9 -0.9
comp=Z,4.5nm,0.9s,baz=315,slow=3.9,SNR=8.0
ULM Lac du Bonnet 117.09 29 PKP PKPdf 04 46 43.9 -0.9
ANMO Albuquerque 118.77 48 *i* PKIKP PKPdf 04 46 48.9 +0.9
ANMO Albuquerque 118.77 48 *e*PKPdf PKPdf 04 46 49.8 +1.7
LPM Los Pinos Moun 118.91 49 *e*PKPdf PKPdf 04 46 49.4 +1.1
BNM Barren Site 118.98 49 *e*PKPdf PKPdf 04 46 49.9 +1.5
MNTX Cornudas Mount 120.92 51 *e*PKPdf PKPdf 04 46 53.6 +1.5
MDT Midelt 122.59 311 PKP PKPdf 04 46 56.3 +0.9
comp=Z,0.9nm,0.4s,baz=9.8,slow=3.5,SNR=5.7
SCHQ Schefferville 122.84 9 PKP PKPdf 04 46 56.2 +0.3
comp=Z,2.6nm,0.3s,baz=28,slow=3.7,SNR=27
SCHQ Schefferville 122.84 9 *e*PKPdf PKPdf 04 46 55.5 -0.3
LTX Lajitas 123.23 53 *e*PKIKP PKPdf 04 46 57.7 +1.1
TORD Torodi Ar. Bea 123.28 287 PKP PKPdf 04 46 57.5 +0.8
comp=Z,5.9nm,0.7s,baz=64,slow=1.5,SNR=42
TORD PKKPbc PKKPbc 04 56 47.8 +1.4
comp=Z,2.1nm,0.7s,baz=239,slow=3.4,SNR=14
SCIA State Center 123.91 35 *e*PKPdf PKPdf 04 46 58.3 +0.3
JCT Junction City 125.77 50 *e*PKIKP PKPdf 04 47 02.0 +0.5
CCM Cathedral Cave 127.54 37 *e*PKIKP PKPdf 04 47 04.9 0.0
FVM French Village 128.08 37 *e*PKIKP PKPdf 04 47 05.9 0.0
HKT Hockley 129.04 49 *e*PKIKP PKPdf 04 47 09.2 +1.5
BLO Bloomington 129.52 33 *e*PKIKP PKPdf 04 47 08.7 +0.1
WCI Wyandotte Cave 130.31 34 *e*PKIKP PKPdf 04 47 10.3 +0.2
ACSO Alum Creek Sta 130.58 30 *e*PKPdf PKPdf 04 47 10.4 -0.3
ACSO *e*SKPbc SKPbc 04 50 31.9 -1.0
DBIC Dimbokro 130.68 280 PKP PKPdf 04 47 11.7 +0.8
comp=Z,4.5nm,0.7s,baz=327,slow=1.6,SNR=4.4
WVT Waverly 130.86 37 *e*PKPdf PKPdf 04 47 12.5 +1.3
WVT *e*SKP 04 50 36.5
PLAL Pickwick Lake 131.47 38 *e*PKPdf PKPdf 04 47 12.6 +0.2
SWET Sewanee 132.62 37 *e*PKPdf PKPdf 04 47 15.4 +0.9
FWV Forest Hill 133.70 30 *e*PKPdf PKPdf 04 47 17.0 +0.5
JSC Jenkinsville 135.97 34 *e*P Pdif 04 44 18.8 -6.1
PLCA Paso Flores 138.01 161 PKhKP 04 47 17.9
comp=Z,3.8nm,1.1s,baz=196,slow=7.8,SNR=5.4
PLCA PKP PKPdf 04 47 26.1 +1.6
comp=Z,5.8nm,0.7s,baz=229,slow=2.5,SNR=14
PLCA Paso Flores 138.01 161 *e*PKPpre 04 47 19.3
PLCA *e*PKPdf PKPdf 04 47 26.1 +1.5
TRQA Tornquist 142.78 169 *e*PKPpre 04 47 29.7
TRQA *e*PKPdf PKPdf 04 47 33.5 +0.3
FCH Farellones 144.65 155 ⇓*i*P PKPdf 04 47 37.1 +0.7
BBSR BB Station 144.75 16 *e*PKPdf PKPdf 04 47 36.7 +0.1
MDZ Mendoza 145.62 157 *e*P PKPdf 04 47 40.3 +2.2
MDZ *e* 04 47 45.9
CMCH Combarbala 146.18 153 ⇓*i*P PKPdf 04 47 40.9 +1.8
JTS JuntasAbangare 146.69 69 PKP2 PKPab 04 47 42.9 +0.2
JTS JuntasAbangare 146.69 69 *e*PKPbc PKPbc 04 47 42.7 +1.1
CFAA Coronel Fontan 146.99 157 PKPbc PKPbc 04 47 42.1 -0.4
comp=Z,6.5nm,0.6s,baz=227,slow=2.5,SNR=65
CCCC Cccc 147.35 45 *e*P PKPdf 04 47 44.4 +3.3
NNA Nana 154.69 115 *e*PKPdf PKPdf 04 47 53.5 +1.2
NNA *e*PKPbc PKPbc 04 48 01.6 +0.8
CPUP Villa Florida 155.02 172 PKP PKPdf 04 47 54.0 +1.2
comp=Z,1.8nm,0.7s,baz=212,slow=0.5,SNR=5.7
CPUP PKPbc PKPdf 04 48 02.1 +9.4
comp=Z,7.1nm,0.7s,baz=97,slow=0.4,SNR=14
CPUP PKPab PKPab 04 48 18.3 +1.2
comp=Z,6.7nm,0.7s,baz=210,slow=3.6,SNR=7.3
CPUP Villa Florida 155.02 172 PKIKP PKPdf 04 47 54.0 +1.2
CPUP 04 48 02.1
CPUP 04 48 18.3
CPUP pmax pmax
comp=Z,20nm,0.7s
CPUP Villa Florida 155.02 172 *e*PKPdf PKPdf 04 47 54.3 +1.5
CPUP *e*PKPbc PKPdf 04 48 02.6 +10
CPUP *e*PKPab PKPab 04 48 17.9 +0.8
OTAV Otavalo 155.10 86 *e*PKPdf PKPdf 04 47 55.8 +2.9
CAM4 Nova Friburgo 156.62 207 (P) PKPab 04 48 19.9 -4.1
CAM4 *i* 04 48 26.6
CAM4 *i* 04 48 38.4
CAM4 *i* 04 48 58.2
ARE Arequipa 156.93 131 *e*P PKPdf 04 48 04.0 +8.7
ROSC El Rosal 158.36 73 PKP PKPdf 04 47 58.7 +1.7
comp=Z,6.1nm,0.7s,baz=90,slow=20,SNR=6.1
LPAZ La Paz 159.46 137 PKP PKPdf 04 48 00.0 +1.7
comp=Z,3.3nm,0.8s,baz=39,slow=2.2,SNR=19
LPAZ La Paz 159.46 137 PKIKP PKPdf 04 48 00.0 +1.6
LPAZ pmax pmax
comp=Z,30nm,0.8s
LPAZ La Paz 159.46 137 *e*PKPdf PKPdf 04 48 00.5 +2.2
SDV Santo Domingo 160.16 58 *e*PKPdf PKPdf 04 47 60.0 +0.8
BDFB Brasilia 164.88 201 PKP PKPdf 04 48 03.6 -0.3
comp=Z,3.2nm,0.8s,baz=99,slow=6.4,SNR=4.8
SAML Samuel 167.91 128 *e*PKPdf PKPdf 04 48 07.3 +1.1
SAML *e*PKPab PKPab 04 49 13.8 +0.4

*IDC **15** 04:53:26.6±0.6,2231S×17426W,h0km,mb4.3/9, mb1 4.6/9,mb1mx4.5/14,mbtmp4.3/9,Error ellipse: s-maj=29.5km s-min=20.3km az=135.0*
*ISCJB **15** 04:53:30.7±0.4,2232S±0.010×17428W±0.009,h33km, mb4.7/27,MS4.5/2,Error ellipse: s-maj=15.7km s-min=8.6km az=108.2*
*BJI **15** 04:53:32.9,2230S×17430W,h28km,mB5.0,mb4.8,Ms4.7, Msz4.4*

*NEIC **15** 04:53:32.9±0.3,2229S×17425W,mb4.8/16,Error ellipse: s-maj=12.6km s-min=6.8km az=145.0*
*MOS **15** 04:53:44.8±0.9,1910S×17694W,h33km,mb4.8/7, MS5.0/5,Error ellipse: s-maj=28.1km s-min=16.7km az=141.8*
ISC 15 04:53:32.6±0.4,2233S±009×17418W±008,h35km, (h37km±1.7Kmt:pP-P),n105,σ1900/50,mb4.7/27,MS4.5/2, 9C-8D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.68**	**16**	Pn	**Pn**	**04 55 29.3**	**-6.3**
	2.4nm,0.3s,baz=188,slow=19,SNR=2.7						
AFI				Sn	**Sn**	**04 56 58.5**	**-14**
	1.7nm,0.3s,baz=50,slow=21,SNR=2.9						
RAR	**Rarotonga**	**13.43**	**88**	Pn	**Pn**	**04 56 29.6**	**-11**
	2.2nm,0.3s,baz=272,slow=9.3,SNR=11						
URZ	**Urewera**	**17.55**	**203**	P	**Pn**	**04 57 35.6**	**+1.2**
	0.8nm,0.3s,baz=15,slow=12,SNR=5.2						
URZ				S	S	05 00 32.8	-23
	0.4nm,0.3s,baz=52,slow=18,SNR=4.1						
DZM	**Mont Dzumac**	**17.95**	**267**	P	**Pn**	**04 57 41.2**	**+1.9**
	0.6nm,0.3s,baz=105,slow=16,SNR=3.7						
TBI	**Tubuai**	**22.80**	**97**	*e*LR	LR	05 03 49.2	
	395nm,28.5s						
PPT	**Papeete**	**23.59**	**83**	*e*LR	LR	05 04 04.1	
	416nm,26.0s						
CTAO	**Charters Tower**	**36.89**	**266**	*e*P	**P**	**05 00 37.1**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**36.89**	**266**	*e*P	**P**	**05 00 37.1**	**-0.6**
	comp=Z,19nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**40.27**	**247**	P	**P**	**05 01 04.2**	**-1.9**
	comp=Z,2.8nm,0.8s,mb4.1,baz=87,slow=6.1,SNR=5.3						
STKA	**Stephens Creek**	**40.27**	**247**	*e*P	**P**	**05 01 04.3**	**-1.8**
AS31	**Alice Springs**	**47.59**	**258**	*e*P	**P**	**05 02 04.6**	**-0.2**
ASAR	**Alice Springs**	**47.59**	**258**	P	**P**	**05 02 04.0**	**-0.9**
	comp=Z,9.8nm,0.9s,mb4.8,baz=92,slow=8.1,SNR=44						
ASPA	**Alice Springs**	**47.60**	**258**	*e*P	**P**	**05 02 04.6**	**-0.3**
WB2	**Warramunga Arr**	**47.88**	**263**	*e*P	**P**	**05 02 06.0**	**-1.1**
WRAB	**Tennant Creek**	**47.88**	**263**	*e*P	**P**	**05 02 05.9**	**-1.2**
WRAB				*e*PP	pP	05 02 16.7	-0.8
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**47.88**	**263**	*e*P	**P**	**05 02 05.9**	**-1.2**
	comp=Z,16nm,0.8s,mb5.1						
WRAB				*e*pP	pP	05 02 16.7	-0.8
WRA	**Warramunga Arr**	**47.89**	**263**	P	**P**	**05 02 06.1**	**-1.1**
	comp=Z,12nm,0.8s,mb5.0,baz=101,slow=8.3,SNR=56						
KAKA	**Kakadu**	**51.58**	**271**	*e*P	**P**	**05 02 34.4**	**-0.8**
	comp=Z,12nm,0.6s,mb5.0						
FORT	**Forrest**	**51.87**	**248**	*e*P	**P**	**05 02 37.5**	**+0.1**
	comp=Z,21nm,0.5s,mb5.3						
SBA	**Scott Base**	**56.32**	**185**	*e*P	**P**	**05 03 05.5**	**-4.3**
	comp=Z,216nm,2.3s,mb5.8						
FITZ	**Fitzroy Crossi**	**56.32**	**263**	*e*P	**P**	**05 03 10.5**	**+0.7**
	comp=Z,9.5nm,0.9s,mb4.8						
VNDA	**Vanda**	**56.44**	**186**	P	**P**	**05 03 10.6**	**-0.1**
	comp=Z,1.9nm,1.0s,mb4.1,baz=9.5,slow=4.3,SNR=5.4						
VNDA	**Vanda**	**56.44**	**186**	P	**P**	**05 03 10.6**	**-0.1**
KLBR	**Kellerberrin**	**60.52**	**245**	*e*P	**P**	**05 03 40.1**	**+0.9**
	comp=Z,41nm,1.0s,mb5.5						
MBWA	**Marble Bar**	**60.93**	**257**	*e*P	**P**	**05 03 41.7**	**-0.2**
	comp=Z,15nm,1.1s,mb5.0						
MBWA				*e*pP	pP	05 03 53.4	+0.8
QSPA	**South Pole Qui**	**67.75**	**180**	*e*P	**P**	**05 04 26.9**	**+0.4**
	comp=Z,9.2nm,1.1s,mb4.7						
MJAR	**Matsushiro Arr**	**73.82**	**322**	P	**P**	**05 05 03.8**	**+0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=163,slow=6.1,SNR=4.4						
KSM	**Kuching**	**77.18**	**277**	*e*P	**P**	**05 05 24.3**	**+1.6**
CMB	**Columbia Colle**	**78.45**	**41**	*e*P	**P**	**05 05 30.5**	**+0.7**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CMB	**Columbia Colle**	**78.45**	**41**	*e*P	**P**	**05 05 30.4**	**+0.6**
	comp=Z,5.0nm,1.1s,mb4.4						
WDC	**Whiskeytown Da**	**78.88**	**37**	*e*P	**P**	**05 05 32.0**	**-0.1**
WDC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
WDC	**Whiskeytown Da**	**78.88**	**37**	*e*P	**P**	**05 05 32.0**	**-0.1**
	comp=Z,3.2nm,1.0s,mb4.2						
NVAR	**Mina Array Bea**	**79.97**	**41**	P	**P**	**05 05 38.4**	**+0.3**
	comp=Z,2.0nm,0.9s,mb4.1,baz=212,slow=7.4,SNR=7.9						
NVAR	**Mina Array Bea**	**79.97**	**41**	P	**P**	**05 05 38.4**	**+0.3**
MAW	**Mawson**	**81.03**	**199**	P	**P**	**05 05 43.3**	**-0.4**
	comp=Z,5.7nm,0.9s,mb4.5,baz=149,slow=5.9,SNR=8.5						
MAW	**Mawson**	**81.03**	**199**	*e*P	**P**	**05 05 43.4**	**-0.3**
	comp=Z,9.8nm,1.1s,mb4.7						
TUC	**Tucson**	**81.36**	**50**	*e*P	**P**	**05 05 46.1**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.9						
MSU	**Marysvale**	**83.87**	**44**	*e*P	**P**	**05 05 59.5**	**+1.0**
MDJ	**Mudanjiang**	**84.08**	**323**	P	**P**	**05 06 01.1**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,140nm,4.1s						
ANMO	**Albuquerque**	**85.81**	**50**	*e*P	**P**	**05 06 08.3**	**0.0**
	comp=Z,3.5nm,1.1s,mb4.5						
BW06	**Boulder Array**	**87.90**	**42**	*e*P	**P**	**05 06 17.4**	**-1.1**
	comp=Z,1.7nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**87.90**	**42**	P	**P**	**05 06 17.9**	**-0.6**
	comp=Z,1.0nm,0.9s,mb4.0,baz=174,slow=3.0,SNR=8.0						
COLA	**College**	**89.27**	**11**	*e*P	**P**	**05 06 24.2**	**-0.8**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.7						
COLA	**College**	**89.27**	**11**	*e*P	**P**	**05 06 24.1**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.7						
DAWY	**Dawson**	**90.28**	**15**	*e*P	**P**	**05 06 29.4**	**-0.3**
BILL	**Bilibino**	**91.25**	**353**	*e*P	**P**	**05 06 32.7**	**-1.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.6						
XAN	**Xi'an**	**92.08**	**306**	P	**P**	**05 06 40.1**	**+2.1**
HHC	**Hu-ho-hao-te**	**93.19**	**313**	*e*P	**P**	**05 06 45.8**	**+2.6**
HHC				AP	pP	05 06 56.5	+2.2
HHC				XP	sP	05 07 00.5	+2.2
HHC				PP	PP	05 10 33.0	+6.3
HHC				SKS		05 17 16.1	
HHC				S		05 17 48.9	
HHC				XS	sS	05 18 06.0	-0.1
HHC				PS	PS	05 19 11.4	+7.1
HHC				SS	SS	05 24 09.5	+6.4
HHC				AMB	AMB		
	comp=Z,150nm,8.7s						
HHC				LR	LR		
	comp=N,110nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=E,240nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=Z,130nm,16.6s,MS4.5						
CD2	**Chengdu**	**94.77**	**301**	*e*P	**P**	**05 06 50.4**	**0.0**
CD2				AP	pP	05 07 00.8	-0.8
CD2				PP	PP	05 10 41.5	+2.4
CD2				SKS		05 17 21.8	
CD2				S		05 17 58.5	
CD2				XS	sS	05 18 16.3	-3.7
CD2				PS	PS	05 19 24.8	+3.0
CD2				SS	SS	05 24 27.1	+1.3
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.5						
CD2				LR	LR		
	comp=E,90nm,14.4s						
CD2				LR	LR		
	comp=Z,60nm,10.8s,MS4.3						
YKA	**Yellowknife Ar**	**96.71**	**24**	P	**P**	**05 06 58.2**	**-1.0**
	comp=Z,0.5nm,0.8s,mb4.0,baz=230,slow=4.1,SNR=7.0						
YKA	**Yellowknife Ar**	**96.71**	**24**	P	**P**	**05 06 58.2**	**-1.0**
MKAR	**Makanchi Array**	**115.05**	**312**	PKP	PKiKP	05 12 09.3	-0.5
	comp=Z,1.0nm,1.0s,baz=48,slow=1.8,SNR=3.7						
CHKZ	**Chkalovo**	**122.56**	**320**	*e*PKIKP	PKPdf	05 12 23.2	-1.1
ZRNK	**Zerenda**	**123.61**	**320**	*e*PKIKP	PKPdf	05 12 24.9	-1.4
ARCES	**ARCESS Array B**	**131.32**	**351**	PKP	PKPdf	05 12 41.0	0.0
	comp=Z,3.8nm,0.8s,baz=31,slow=2.8,SNR=6.2						
TSUM	**Tsumeb**	**137.15**	**196**	*e*PKPdf	PKPdf	05 12 51.0	-0.9
FINES	**FINESS Array B**	**138.48**	**345**	PKP	PKPdf	05 12 53.7	-0.7
	comp=Z,2.2nm,0.9s,baz=83,slow=4.6,SNR=5.2						
KMBO	**Kilima Mbogo**	**141.49**	**237**	*i* PKHKP		05 13 02.5	
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SUW	**Suwalki**	**145.75**	**342**	*e*PKHKP	PKPbc	05 13 08.0	+0.2
AKASG	**Malin Array Be**	**146.30**	**333**	PKPbc	PKPbc	05 13 08.8	-0.6
	comp=Z,7.0nm,0.8s,baz=38,slow=3.9,SNR=24						
AKASG	**Malin Array Be**	**146.30**	**333**	PKPbc	PKPbc	05 13 08.8	-0.6
MALT	**Malatya**	**147.87**	**307**	*e*PKIKP	PKPbc	05 13 15.3	+1.5
OJC	**Ojcow**	**150.08**	**342**	*e*PX	PKPbc	05 13 19.8	+0.4
STHS	**Stebnicka Huta**	**150.34**	**339**	*e*PKP	PKPbc	05 13 21.3	+1.2
BURAR	**Bucovina Array**	**150.35**	**333**	⇑*i*P	PKPbc	05 13 21.0	+0.9
BURAR	**Bucovina Array**	**150.35**	**333**	⇑P	PKPbc	05 13 21.0	+0.9
KOLS	**Kolonicke sedl**	**150.41**	**338**	*e*PKP	PKPbc	05 13 24.7	+4.5
CLL	**Collm**	**150.54**	**351**	⇓*i*PKPbc	PKPbc	05 13 21.0	+0.5
	comp=Z,16nm,1.0s						
CLL	**Collm**	**150.54**	**351**	⇓*i*P	PKPbc	05 13 21.0	+0.5
CLL				*i*		05 14 24.4	
NIE	**Niedzica**	**150.63**	**341**	*e*PX	PKPbc	05 13 21.9	+1.1
BR131	**Keskin Array S**	**150.70**	**313**	*e*PKPbc	PKPbc	05 13 20.9	0.0
BRTR	**Keskin Array B**	**150.70**	**313**	PKPbc	PKPbc	05 13 18.9	-2.0
	comp=Z,3.5nm,0.8s,baz=116,slow=2.9,SNR=16						
UPC	**Upice**	**150.76**	**347**	*e*PKPbc	PKPbc	05 13 22.1	+1.0
CFR	**Carcaliu**	**150.80**	**327**	⇓*i*P	PKPbc	05 13 21.8	+0.7
CFR	**Carcaliu**	**150.80**	**327**	⇓P	PKPbc	05 13 21.8	+0.7
BRG	**Berggiesshubel**	**150.81**	**349**	*i* P	PKPbc	05 13 21.8	+0.6
	comp=Z,6.2nm,0.9s						
DPC	**Dobruska-Polom**	**150.84**	**346**	*e*PKPbc	PKPbc	05 13 22.2	+0.9
DPC				*e*pPKP	pPKPdf	05 13 33.5	+6.4
DPC				AMS	AMS	05 28 40.0	
	comp=Z,400nm,18.6s						
OKC	**Ostrava-Krasne**	**150.88**	**344**	*e*PKPbc	PKPbc	05 13 22.1	+0.8
OKC				AMS	AMS	05 29 40.0	
	comp=Z,300nm,18.4s						
VRI	**Vrincioaia**	**151.00**	**329**	⇑*i*P	PKPbc	05 13 22.5	+0.9
VRI	**Vrincioaia**	**151.00**	**329**	⇑P	PKPbc	05 13 22.4	+0.8
PVCC	**Panska Ves**	**151.03**	**348**	*e*PKPbc	PKPbc	05 13 22.9	+1.2
PVCC				AMS	AMS	05 30 10.0	
	comp=Z,200nm,19.1s						
PLOR	**Plostina**	**151.05**	**329**	⇓*i*P	PKPbc	05 13 22.1	+0.4
MORC	**Moravsky Berou**	**151.09**	**344**	⇑*i*P	PKPbc	05 13 22.8	+1.0
MORC	**Moravsky Berou**	**151.09**	**344**	*e*PKPbc	PKPbc	05 13 22.5	+0.7
MOX	**Moxa**	**151.38**	**352**	*e*P	PKPbc	05 13 23.0	+0.5
MOX							
	comp=Z,300nm,23.0s						
KECS	**Kecovo**	**151.40**	**339**	*e*PKP	PKPbc	05 13 23.7	+1.1
PRU	**Pruhonice**	**151.56**	**348**	*e*PKPbc	PKPbc	05 13 23.7	+0.8
PRU				AMS	AMS	05 29 30.0	
	comp=Z,400nm,23.5s						
MLR	**Muntele Rosu**	**151.65**	**329**	PKPbc	PKPbc	05 13 22.9	-0.2
	comp=Z,9.2nm,0.9s,baz=318,slow=1.8,SNR=10						
MLR	**Muntele Rosu**	**151.65**	**329**	⇓*i*P	PKPbc	05 13 22.9	-0.2
MLR	**Muntele Rosu**	**151.65**	**329**	⇓P	PKPbc	05 13 22.9	-0.3
NKC	**Novy Kostel**	**151.67**	**351**	*e*PKPbc	PKPbc	05 13 24.6	+1.4
NKC				AMS	AMS	05 31 00.0	
	comp=Z,600nm,26.7s						
VYHS	**Vyhne**	**151.90**	**341**	*e*PKP	PKPbc	05 13 24.6	+0.9
KOLL	**Kolacno**	**151.95**	**342**	*e*PKP	PKPbc	05 13 25.0	+1.2
TREC	**Trest**	**152.02**	**346**	*e*PKPbc	PKPbc	05 13 24.7	+0.7
TREC				AMS	AMS	05 31 30.0	
	comp=Z,400nm,22.8s						
VOIR		**152.11**	**330**	⇑*i*P	PKPbc	05 13 25.5	+1.3
VOIR		**152.11**	**330**	⇑P	PKPbc	05 13 25.5	+1.3
KHC	**Kasperske Hory**	**152.56**	**349**	*e*PKPbc	PKPbc	05 13 25.9	+0.7
KHC				*e*PKPab	PKPab	05 13 36.2	+0.5
KHC				AMS	AMS	05 32 10.0	
	comp=Z,300nm,22.0s						
KHC	**Kasperske Hory**	**152.56**	**349**	*i* PKHKP	PKPbc	05 13 24.7	-0.5
GERES	**GERESS Array B**	**152.81**	**349**	PKPbc	PKPbc	05 13 25.0	-0.7
	comp=Z,1.1nm,0.8s,baz=90,slow=1.3,SNR=9.3						
EIL	**Elat**	**152.87**	**292**	*e*PKPbc	PKPbc	05 13 26.3	+0.4
BZS	**Buzias**	**153.43**	**335**	⇑*i*P	PKPbc	05 13 27.8	+0.7
BZS	**Buzias**	**153.43**	**335**	⇑P	PKPbc	05 13 27.8	+0.7
AQU	**L'Aquila**	**159.05**	**344**	⇓*i*P	PKPdf	05 13 19.0	-7.8
TORD	**Torodi Ar. Bea**	**170.06**	**156**	PKP	PKPdf	05 13 36.1	-0.3
	comp=Z,1.0nm,1.0s,baz=273,slow=5.1,SNR=4.3						
TORD				PKPab	PKPab	05 14 51.4	-0.5
	comp=Z,2.3nm,1.1s,baz=202,slow=2.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**170.06**	**156**	PKP	PKPdf	05 13 36.1	-0.3
TORD				PKPab	PKPab	05 14 51.4	-0.5

IDC 15 05:06:36.4±1.7,1783S×6922W,h157km±12km,mb3.6/2, mb1 3.6/4,mb1mx3.2/18,mbtmp3.9/4,Error ellipse: s-maj=26.6km s-min=19.7km az=104.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.85**	**34**	P	Pn	05 07 11.8	+1.6
	2.3nm,0.3s,baz=224,slow=8.2,SNR=37						
LPAZ				S	Sn	05 07 37.4	+1.2
	0.7nm,0.3s,baz=340,slow=8.0,SNR=3.7						
LVC	**Limon Verde**	**4.77**	**177**	P	Pn	05 07 46.7	-0.1
	1.0nm,0.3s,baz=338,slow=11,SNR=18						
LVC				S	Sn	05 08 37.6	-4.3
	6.5nm,0.3s,baz=123,slow=21,SNR=22						
SIV	**San Ignacio**	**8.01**	**78**	P	Pn	05 08 30.2	+0.4
	2.0nm,0.3s,baz=274,slow=11,SNR=38						
SIV				S	Sn	05 09 59.6	+0.4
	0.1nm,0.3s,baz=344,slow=21,SNR=6.5						
TORD	**Torodi Ar. Bea**	**76.43**	**71**	P	P	05 18 09.2	+0.7
	0.5nm,0.3s,baz=258,slow=5.2,SNR=22						
YKA	**Yellowknife Ar**	**87.64**	**341**	P	P	05 19 06.4	-0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBIE				Pg	Pg	05 08 13.8	-1.9
	2.6nm,0.1s,SNR=23						
EBIE				Lg		05 08 44.1	
	7.2nm,0.2s,SNR=7.0						
EBIE	**Bielsa**	**2.21 278**		Pn	Pn	05 08 11.6	+0.3
	1.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**2.21 278**		Pg	Pg	05 08 13.9	-1.9
	2.6nm,0.1s,SNR=23						
VIEF	**Viey**	**2.33 283**		Pg	Pg	05 08 16.2	-1.8
VIEF				Lg		05 08 46.5	
LABF	**Labassere**	**2.33 287**		Pg	Pg	05 08 15.5	-2.5
LABF				Lg		05 08 45.8	
ERTA	**Horta de San J**	**2.53 236**		Pn	Pn	05 08 14.7	-1.0
	1.7nm,0.1s,SNR=8.8						
ERTA				Pg	Pg	05 08 20.9	-1.0
	1.2nm,0.1s,SNR=13						
ERTA				Lg		05 08 53.2	
	2.6nm,0.1s,SNR=5.0						
ERTA	**Horta de San J**	**2.53 236**		Pn	Pn	05 08 14.7	-1.0
	1.7nm,0.1s,SNR=8.8						
ERTA	**Horta de San J**	**2.53 236**		Pg	Pg	05 08 20.9	-1.0
	1.2nm,0.1s,SNR=13						
ETOS	**Mallorca**	**2.64 185**		Pn	Pn	05 08 14.5	-2.8
	1.3nm,0.1s,SNR=16						
ETOS				Sn	Sn	05 08 46.5	-3.5
	128nm,1.6s,SNR=5.0						
ETOS	**Mallorca**	**2.64 185**		Pn	Pn	05 08 14.5	-2.8
ETOS				Sn	Sn	05 08 44.2	-5.8
ETOS	**Mallorca**	**2.64 185**		Pn	Pn	05 08 14.5	-2.7
	1.3nm,0.1s,SNR=16						
ETOS				Sn	Sn	05 08 44.2	-5.8
	128nm,1.6s,SNR=5.0						
ESAC	**San Caprasio**	**2.75 257**		Pn	Pn	05 08 17.6	-1.1
	17nm,0.3s,SNR=9.5						
ESAC				Pg	Pg	05 08 25.2	-0.9
	19nm,0.1s,SNR=7.9						
ESAC				Lg		05 09 00.9	
	19nm,0.3s,SNR=9.3						
ESAC	**San Caprasio**	**2.75 257**		Pn	Pn	05 08 17.6	-1.1
	17nm,0.3s,SNR=9.5						
ESAC	**San Caprasio**	**2.75 257**		Pg	Pg	05 08 25.2	-0.9
	19nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**3.32 278**		Pg	Pg	05 08 35.0	-2.1
	0.7nm,0.1s,SNR=4.8						
IPRE				Lg		05 09 20.2	
	0.9nm,0.1s,SNR=5.1						
IPRE	**Itoiz**	**3.32 278**		Pg	Pg	05 08 35.4	-1.6
	0.7nm,0.1s,SNR=4.8						
EMOS	**Mosqueruela**	**3.38 234**		Pn	Pn	05 08 26.9	-0.5
	4.7nm,0.9s,SNR=11						
EMOS				Pg	Pg	05 08 36.3	-1.9
	0.8nm,0.1s,SNR=7.9						
EMOS				Lg		05 09 20.3	
	1.7nm,0.3s,SNR=5.0						
EMOS	**Mosqueruela**	**3.38 234**		Pn	Pn	05 08 26.9	-0.5
	4.7nm,0.9s,SNR=11						
EMOS	**Mosqueruela**	**3.38 234**		Pg	Pg	05 08 36.3	-1.8
	0.8nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**3.49 285**		Pn	Pn	05 08 28.1	-0.8
	0.7nm,0.2s,SNR=7.9						
EALK				Lg		05 09 25.0	
	2.7nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**3.49 285**		Pn	Pn	05 08 28.8	-0.1
EALK				Lg		05 09 25.0	
EALK	**Alkurruntz**	**3.49 285**		Pn	Pn	05 08 28.8	-0.1
	0.7nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**3.50 284**		Pn	Pn	05 08 30.2	+1.2
	2.7nm,0.5s,SNR=6.6						
ELIZ				Pg	Pg	05 08 38.2	-2.2
	1.2nm,0.2s,SNR=6.5						
ELIZ				Lg		05 09 25.5	
	2.8nm,0.3s,SNR=5.0						
ELIZ	**Elizondo**	**3.50 284**		Pn	Pn	05 08 30.2	+1.2
ELIZ				Pg	Pg	05 08 38.2	-2.2
ELIZ				Lg		05 09 28.9	
ETOR	**Torete**	**4.18 249**		Pn	Pn	05 08 37.7	-0.7
	1.3nm,0.1s,SNR=21						
ETOR				Sn	Sn	05 09 24.4	-3.6
	1.9nm,0.5s,SNR=5.0						
ETOR				Lg		05 09 45.7	
	0.7nm,0.2s,SNR=5.0						
ETOR	**Torete**	**4.18 249**		Pn	Pn	05 08 37.7	-0.7
	1.3nm,0.1s,SNR=21						
ETOR				Sn	Sn	05 09 24.4	-3.6

JMA 15 05:49:08.2±0.2, 3698N×14165E, h72km±2km, M3.6, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.69 280**		⇓P	Pn	05 49 23.3	+0.2
ONAJ				S	Sn	05 49 34.0	-0.2
JFK	**Kawauchi**	**0.73 302**		⇓P	Pn	05 49 23.5	-0.1
JFK				eS	Sn	05 49 34.6	-0.3
JHO	**Hitachi**	**0.94 247**		⇓P	Pn	05 49 26.0	-0.1
JHO				eS	Sn	05 49 38.6	-0.8
JMM	**Marumori**	**1.12 323**		⇓P	Pn	05 49 28.2	0.0
JFT	**Otama**	**1.18 298**		⇓P	Pn	05 49 30.0	+1.0
JFT				eS	Sn	05 49 45.7	+1.1
JIO	**Ouri**	**1.49 351**		⇑P	Pn	05 49 32.8	-0.3
JIO				eS	Sn	05 49 50.4	-1.4
JOU	**Okura**	**1.59 331**		P	Pn	05 49 34.5	+0.1
JOU				eS	Sn	05 49 54.6	+0.4
JFY	**Yanaizu**	**1.61 286**		P	Pn	05 49 35.3	+0.6
JFY				eS	Sn	05 49 55.3	+0.6
JYS	**Shirataka**	**1.77 315**		P	Pn	05 49 37.8	+1.1
JYS				eS	Sn	05 49 59.9	+1.5
JAG	**Ashikaga**	**1.85 253**		P	Pn	05 49 38.4	+0.5
JKT	**Katashina**	**1.94 264**		P	Pn	05 49 40.7	+1.7
JKT				eS	Sn	05 50 04.7	+2.2
JMK	**Ichinoseki**	**2.00 350**		P	Pn	05 49 39.7	-0.1
JMK				S	Sn	05 50 03.0	-0.9
MAT	**Matsushiro**	**2.80 262**		P	Pn	05 49 51.9	+1.2
MAT				S	Sn	05 50 25.7	+2.4

*IDC **15** 06:02:22.2±0.7, 1901N×120.12E, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.2/21, mbtmp4.2/14, ML5.2/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/17, Error ellipse: s-maj=36.6km s-min=13.4km az=68.0*
*MOS **15** 06:02:25.5±0.7, 1897N×12004E, h33km, mb4.8/4, Error ellipse: s-maj=26.3km s-min=10.3km az=114.8*
*NEIC **15** 06:02:26.2±2.6, 1903N×120.19E, h26km±19km, mb4.8/10, Error ellipse: s-maj=11.4km s-min=5.1km az=72.0*
*ISCJB **15** 06:02:26.9±1.2, 1897N±006×120.1E±01, h45km±12km, mb4.4/24, MS3.7/2, Error ellipse: s-maj=17.4km s-min=7.7km az=133.8*
*BJI **15** 06:02:29.3, 1922N×11950E, h26km, mB4.5, mb4.1, Ms3.9, Msz3.9*
*MAN **15** 06:02:36.0, 1839N×12038E, h15km, mb4.4, ML5.2, MS0.8*
ISC 15 06:02:25.3±3.6, 1901N±005×12009E±009, h16km±23km, n47, σ0°97/48, mb4.4/24, MS3.7/2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.10 128**		*i* P	**Pn**	**06 03 01.0**	**+1.3**
BCPH	**Baguio City Da**	**2.66 170**		*e*P	**Pn**	**06 03 08.0**	**+0.7**
	5μm,1.0s						
TGY	**Tagaytay City**	**4.95 170**		Pn	**Pn**	**06 03 39.0**	**+0.2**
	86nm,0.3s,baz=78,slow=9.3,SNR=2.9						
YHNB	**Yeheng**	**5.76 12**		*e*P	**Pn**	**06 03 48.7**	**-1.3**
GZH	**Guangzhou**	**7.49 304**		P	**Pn**	**06 04 10.9**	**-2.8**
GZH				LR	LR		
	comp=N,580nm,11.5s						
GZH				LR	LR		
	comp=E,1μm,10.9s						
GZH				LR	LR		
	comp=Z,2μm,10.9s						
QIZ	**Qiongzhong**	**9.69 272**		P	**Pn**	**06 04 40.6**	**-3.3**
QIZ				S	**Sn**	**06 06 24.5**	**-7.8**
QIZ				LR	LR		
	comp=N,570nm,11.8s						
QIZ				LR	LR		
	comp=E,410nm,10.7s						
QIZ				LR	LR		
	comp=Z,420nm,12.3s						
KSM	**Kuching**	**19.89 210**		*e*P	**Pn**	**06 06 56.6**	**-0.8**
BJT	**Baijiatuan**	**21.21 352**		*e*P	**P**	**06 07 10.8**	**+0.7**
BJT				pmax	pmax		
	comp=Z,32nm,1.0s						
BJT	**Baijiatuan**	**21.21 352**		*e*P	**P**	**06 07 10.8**	**+0.7**
	comp=Z,32nm,1.0s,mb4.6						
LZH	**Lanzhou**	**22.23 323**		P	**P**	**06 07 21.5**	**+0.4**
LZH				AP		06 07 29.5	
LZH				XP	sP	06 07 34.0	+6.1
LZH				AMB	AMB		
	comp=Z,50nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,290nm,5.2s						
HHC	**Hu-ho-hao-te**	**22.96 343**		*e*P	**P**	**06 07 29.8**	**+1.0**
HHC				AP		06 07 36.6	
HHC				XP	sP	06 07 42.0	+6.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
HHC				AMB	AMB		
	comp=Z,110nm,6.1s						
PSI	**Prapat**	**26.23 235**		P	**P**	**06 07 60.0**	**+0.6**
	comp=Z,13nm,1.2s,mb4.3,baz=27,slow=3.6,SNR=6.0						
PSI	**Prapat**	**26.23 235**		P	**P**	**06 07 60.0**	**+0.6**
GTA	**Gaotai**	**26.84 324**		*e*P	**P**	**06 08 06.0**	**+1.2**
GTA				AP	pP	06 08 10.5	+0.7
GTA				XP	sP	06 08 13.3	+1.4
SONM	**Songino Array**	**30.84 342**		P	**P**	**06 08 40.4**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.5,baz=160,slow=9.3,SNR=6.9						
SONM				LR	LR	06 21 50.6	
	comp=Z,107nm,19.5s,MS3.5,baz=358,slow=38						
SONM	**Songino Array**	**30.84 342**		P	**P**	**06 08 40.4**	**-0.1**
SONM				LR	LR	06 21 50.6	
JIRN	**Jiri**	**32.21 292**		*e*P	**P**	**06 08 54.3**	**+1.8**
	comp=Z,29nm,1.2s,mb5.0						
GUN	**Gumba**	**32.52 292**		*e*P	**P**	**06 08 56.9**	**+1.7**
	comp=Z,49nm,1.1s,mb5.3						
PKI	**Pulchoki**	**32.88 292**		*e*P	**P**	**06 08 58.4**	**0.0**
DMN	**Daman**	**33.16 292**		*e*P	**P**	**06 09 00.8**	**0.0**
KAKA	**Kakadu**	**33.79 158**		*e*P	**P**	**06 09 05.3**	**-1.0**
	comp=Z,9.8nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**37.28 171**		*e*P	**P**	**06 09 36.1**	**-0.2**
	comp=Z,15nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**41.15 159**		*e*P	**P**	**06 10 08.0**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**41.15 159**		*e*P	**P**	**06 10 08.0**	**-0.6**
	comp=Z,22nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**41.16 159**		P	**P**	**06 10 08.0**	**-0.7**
	comp=Z,13nm,1.1s,mb4.5,baz=340,slow=9.2,SNR=21						
WRA				PcP	PcP	06 12 07.8	0.0
	comp=Z,1.8nm,0.8s,baz=341,slow=3.5,SNR=5.9						
WB2	**Warramunga Arr**	**41.16 159**		*e*P	**P**	**06 10 08.1**	**-0.6**
MKAR	**Makanchi Array**	**41.50 321**		P	**P**	**06 10 12.8**	**+1.3**
	comp=Z,2.6nm,1.0s,mb3.8,baz=122,slow=8.7,SNR=13						
MKAR				PcP	PcP	06 12 09.4	+0.5
	comp=Z,1.0nm,0.8s,baz=129,slow=5.7,SNR=3.1						
ZAL	**Zalesovo**	**44.13 331**		P	**P**	**06 10 33.3**	**+0.4**
	comp=Z,1.5nm,0.2s,mb4.3,baz=144,slow=6.7,SNR=5.8						
ZAL				LR	LR	06 30 14.5	
	comp=Z,163nm,18.9s,MS4.0,baz=266,slow=38						
AS31	**Alice Springs**	**44.51 162**		*e*P	**P**	**06 10 36.2**	**+0.4**
ASAR	**Alice Springs**	**44.51 162**		P	**P**	**06 10 36.2**	**+0.4**
	comp=Z,5.9nm,0.8s,mb4.5,baz=332,slow=6.9,SNR=31						
ASPA	**Alice Springs**	**44.51 162**		*e*P	**P**	**06 10 36.2**	**+0.4**
KURK	**Kurchatov**	**45.52 324**		*e*P	**P**	**06 10 44.6**	**+0.7**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**45.52 324**		*i* P	**P**	**06 10 44.7**	**+0.8**
KURK	**Kurchatov**	**45.52 324**		*e*P	**P**	**06 10 44.6**	**+0.6**
	comp=Z,4.3nm,0.9s,mb4.4						
FORT	**Forrest**	**50.09 171**		*e*P	**P**	**06 11 20.4**	**+1.1**
	comp=Z,19nm,0.7s,mb5.2						
BVAR	**Borovoye Array**	**51.12 324**		P	**P**	**06 11 26.4**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=142,slow=12,SNR=2.5						
STKA	**Stephens Creek**	**54.64 158**		*e*P	**P**	**06 11 51.7**	**-1.4**
	comp=Z,11nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**54.64 158**		P	**P**	**06 11 52.1**	**-1.0**
	comp=Z,14nm,0.9s,mb5.0,baz=345,slow=7.3,SNR=13						
AKTK	**Aktyubinsk**	**57.84 318**		P	**P**	**06 12 16.0**	**+0.1**
AKTO	**Aktyubinsk**	**57.84 318**		P	**P**	**06 12 16.0**	**+0.1**
	comp=Z,2.1nm,1.0s,mb4.1,baz=114,slow=9.8,SNR=4.0						
FINES	**FINESS Array B**	**75.39 330**		P	**P**	**06 14 06.5**	**-1.6**
	comp=Z,2.6nm,0.9s,mb4.2,baz=131,slow=5.3,SNR=5.5						
AKASG	**Malin Array Be**	**76.06 319**		P	**P**	**06 14 10.7**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=67,slow=5.8,SNR=5.5						
NB2	**NORSAR Subarra**	**82.31 332**		P	**P**	**06 14 45.0**	**-1.0**
	comp=Z,2.0nm,0.7s,mb4.2,baz=64,slow=5.6						
NB2	**NORSAR Subarra**	**82.31 332**		P	**P**	**06 14 45.0**	**-1.0**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**82.31 332**		P	**P**	**06 14 45.0**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=64,slow=5.0,SNR=4.4						
GERES	**GERESS Array B**	**86.17 321**		P	**P**	**06 15 05.4**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.9,baz=57,slow=4.9,SNR=5.2						
YKA	**Yellowknife Ar**	**88.12 22**		P	**P**	**06 15 14.9**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.4,baz=316,slow=4.8,SNR=23						

*NEIC **15** 06:18:30.3, 1376N×9331W, h16km, MD4.0(MEX), After MEX.*
MEX 15 06:18:30.3±0.8, 1376N×9331W, h16km±54km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.75 24**		*i* P	Pn	06 19 12.3	-1.5
CCIG				*i* S	Sn	06 19 43.0	-3.7
CMIG	**Matias Romero**	**3.64 336**		*e*P	Pn	06 19 22.6	-3.4
CMIG				*i* S	Sn	06 20 05.9	-2.8
TEIG	**Tepich**	**8.03 36**		*e*Pn	Pn	06 20 25.6	-0.7
HWUT	**Hardware Ranch**	**31.96 334**		*e*P	P	06 24 52.6	-2.9
	56nm,3.0s						

*ISCJB **15** 06:31:51.7±0.7, 187N±0.1×462W±02, h10km, mb3.8/9, MS3.5/5, Error ellipse: s-maj=24.6km s-min=18.0km az=73.8*
*IDC **15** 06:31:52.2±1.1, 1876N×46.19W, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.6/7, MS3.5/5, Ms1 3.5/5, ms1mx3.3/22, Error ellipse: s-maj=31.4km s-min=24.8km az=157.0*
*NEIC **15** 06:31:53.4±0.6, 1866N×46.18W, h10km, mb4.7/1, Error ellipse: s-maj=21.1km s-min=15.2km az=125.0*
ISC 15 06:31:53.8±0.7, 187N±01×462W±02, h10km, n13, σ0°97/9, mb3.8/9, MS3.5/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**25.63 251**		P	**P**	**06 37 30.3**	**+6.8**
	2.8nm,0.7s,mb3.9,baz=347,slow=19,SNR=4.4						
SDV				LR	LR	06 46 09.5	
	comp=Z,96nm,21.9s,MS3.3,baz=10.0,slow=33						
ROSC	**El Rosal**	**30.72 247**		LR	LR	06 50 41.0	
	comp=Z,33nm,19.2s,MS3.0,baz=26,slow=37						
BDFB	**Brasilia**	**34.18 183**		LR	LR	06 52 33.6	
	comp=Z,88nm,18.7s,MS3.5,baz=283,slow=36						
SCHQ	**Schefferville**	**39.35 341**		LR	LR	06 53 53.3	
	comp=Z,81nm,18.4s,MS3.6,baz=64,slow=34						
LPAZ	**La Paz**	**40.93 213**		P	**P**	**06 39 37.3**	**+0.9**
	0.3nm,0.5s,mb3.2,baz=189,slow=14,SNR=5.8						
DBIC	**Dimbokro**	**41.96 101**		LR	LR	06 54 45.7	
	comp=Z,122nm,18.1s,MS3.8,baz=357,slow=33						
CPUP	**Villa Florida**	**46.06 194**		*e*P	**P**	**06 40 16.2**	**-1.6**
	6.6nm,0.7s,mb4.7						
TORD	**Torodi Ar. Bea**	**46.28 90**		P	**P**	**06 40 20.6**	**+1.1**
	1.8nm,1.0s,mb4.0,baz=290,slow=6.1,SNR=6.1						
GERES	**GERESS Array B**	**56.40 43**		P	**P**	**06 41 35.6**	**+0.3**
	0.1nm,0.3s,mb3.4,baz=248,slow=5.6,SNR=4.2						
PDAR	**Pinedale Array**	**58.08 309**		P	**P**	**06 41 48.5**	**+1.2**
	0.8nm,1.0s,mb3.7,baz=96,slow=6.0,SNR=6.4						
NOA	**NORSAR Array B**	**58.20 29**		P	**P**	**06 41 47.1**	**-1.0**
	2.1nm,1.1s,mb4.1,baz=247,slow=7.1,SNR=2.3						
YKA	**Yellowknife Ar**	**63.62 331**		P	**P**	**06 42 24.1**	**-0.8**
	0.2nm,0.7s,mb3.3,baz=100,slow=6.8,SNR=3.8						
BRTR	**Keskin Array B**	**70.61 54**		P	**P**	**06 43 09.1**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=272,slow=4.2,SNR=4.8						

*ISCJB **15** 06:38:16.5±2.3, 57S±0.1×1482E±02, h97km±17km, mb4.7/6, Error ellipse: s-maj=31.6km s-min=17.3km az=79.0*
*NEIC **15** 06:38:16.9±3.4, 552S×14829E, h108km±23km, mb4.6/4, Error ellipse: s-maj=33.0km s-min=22.7km az=179.0*
*IDC **15** 06:38:16.9±3.9, 574S×14835E, h98km±35km, mb4.6/2, mb1 5.0/3, mb1mx4.0/11, mbtmp5.2/3, Error ellipse: s-maj=52.9km s-min=31.5km az=126.0*
ISC 15 06:38:22.8±2.1, 60S±02×1482E±02, h125km±14km, n18, σ0°99/22, mb4.7/6, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.52 197**		*e*Pn	**Pn**	**06 39 16.4**	**+0.4**
PMG				*e*Sn	**Sn**	**06 39 56.3**	**-0.8**
CTA	**Charters Tower**	**14.11 187**		*e*P	**Pn**	**06 41 28.8**	**-8.3**
	8.3nm,0.8s						
WRAB	**Tennant Creek**	**19.29 223**		*e*P	**P**	**06 42 38.5**	**+0.6**
	182nm,0.6s						
WB2	**Warramunga Arr**	**19.30 223**		*e*P	**P**	**06 42 38.5**	**+0.6**
WB2				*e*S	**S**	**06 46 09.6**	**0.0**
WRA	**Warramunga Arr**	**19.30 223**		P	**P**	**06 42 38.7**	**+0.7**
	16nm,0.3s,baz=48,slow=11,SNR=729						
WRA				S	**S**	**06 46 09.4**	**-0.4**
	0.4nm,0.3s,baz=42,slow=21,SNR=6.3						
AS31	**Alice Springs**	**22.29 217**		*e*P	**P**	**06 43 10.4**	**+0.5**
AS31				*e*S	**S**	**06 47 11.1**	**+5.1**
ASAR	**Alice Springs**	**22.29 217**		P	**P**	**06 43 10.6**	**+0.7**
	46nm,0.6s,mb5.0,baz=51,slow=9.1,SNR=554						
ASAR				S	**S**	**06 47 11.0**	**+5.0**
	9.7nm,0.8s,baz=32,slow=23,SNR=18						
ASPA	**Alice Springs**	**22.29 217**		*e*P	**P**	**06 43 10.4**	**+0.5**
ASPA				*e*S	**S**	**06 47 11.1**	**+5.1**
ARMA	**Armidale**	**24.49 173**		*e*P	**P**	**06 43 31.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**25.07 239**		*e*P	**P**	**06 43 34.8**	**-0.7**
	76nm,0.4s,mb5.5						
STKA	**Stephens Creek**	**26.45 193**		*e*P	**P**	**06 43 46.0**	**-2.0**
	9.1nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**26.45 193**		P	**P**	**06 43 46.0**	**-2.0**
	9.4nm,0.7s,mb4.3,baz=0.5,slow=9.8,SNR=15						
FORT	**Forrest**	**31.05 215**		*e*P	**P**	**06 44 23.5**	**-5.3**
	20nm,0.8s,mb4.9						
MBWA	**Marble Bar**	**31.40 239**		*e*P	**P**	**06 44 31.0**	**-0.9**
KLBR	**Kellerberrin**	**38.18 224**		⇑*i* P	**P**	**06 45 29.2**	**-0.9**
	9.8nm,0.5s,mb4.9						
VNDA	**Vanda**	**71.83 177**		P	**P**	**06 49 31.3**	**-0.6**
	0.4nm,0.5s,mb3.5,baz=351,slow=7.4,SNR=2.3						
SAML	**Samuel**	**145.38 115**		*e*PKPdf	PKPdf	06 57 43.3	-2.6
TORD	**Torodi Ar. Bea**	**146.24 285**		PKPbc	PKPbc	06 57 45.8	-2.8
	0.4nm,0.5s,baz=68,slow=3.2,SNR=2.6						

MOS 15 06:38:57.9±2.3, 4525N×9754E, h14km, mb4.8/1, 2C, Error ellipse: s-maj=31.1km s-min=19.3km az=62.1, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**6.82**	**18**	*e*P	Pn	06 40 39.0	+1.5
MOY				*e*S	Sn	06 41 54.4	-0.5
MOY				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MOY				pmax	pmax		
	comp=E,239nm,1.2s						
ULN	**Ulaanbaatar**	**7.06**	**65**	*e*P	Pn	06 40 41.7	+0.9
TLY	**Talaya**	**7.61**	**30***c*	*i* P	Pn	06 40 50.3	+2.0
KURK	**Kurchatov**	**13.79**	**300***c*	*i* P	Pn	06 42 12.4	-0.5
AAK	**Ala-Archa**	**16.79**	**269**	*e*P	Pn	06 42 54.0	+1.4
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GNI	**Garni**	**38.56**	**282**	*e*P	P	06 46 18.1	-2.0
GNI				pmax	pmax		
	comp=Z,18nm,2.4s						

*NEIC **15** 06:44:13.6, 3108S×7024W, h126km, MG3.3(GUC), After GUC.*
GUC 15 06:44:13.6±0.9, 3108S×7024W, h126km±10km, MD3.9, ML3.3, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.66 262**		*e*P	Pn	06 44 33.9	+0.6
CMCH				*i* S	Sn	06 44 49.3	+1.1
CMCH				AML	AML	06 44 50.3	
	comp=E,616nm,0.7s						
CMCH	**Combarbala**	**0.66 262**		*e*P	Pn	06 44 33.9	+0.6
CMCH				*i* S	Sn	06 44 49.3	+1.1
TLL	**Tololo Astrono**	**1.03 332**		*e*P	Pn	06 44 37.4	+0.9
TLL				*i* S	Sn	06 44 54.8	+1.0
TLL				AML	AML	06 44 57.3	
	comp=N,296nm,0.4s						
TLL	**Tololo Astrono**	**1.03 332**		*e*P	Pn	06 44 37.4	+0.9
TLL				*i* S	Sn	06 44 54.8	+1.0
JACH	**Jahuel**	**1.63 191**		*e*P	Pn	06 44 43.7	+0.8
JACH				*i* S	Sn	06 45 06.8	+1.6
ROCH	**El Roble**	**2.00 199**		*i* P	Pn	06 44 47.8	+0.4
ROCH				*i* S	Sn	06 45 13.7	+0.5
PEL	**Peldehue**	**2.09 190**		*e*P	Pn	06 44 49.2	+0.7
PEL				*i* S	Sn	06 45 16.0	+0.7
PEL				AML	AML	06 45 18.8	
	comp=N,162nm,0.3s						
PEL	**Peldehue**	**2.09 190**		*e*P	Pn	06 44 49.2	+0.7
PEL				*i* S	Sn	06 45 16.0	+0.7
FCH	**Farellones**	**2.24 181**		*e*P	Pn	06 44 51.8	+1.5
FCH				*i* S	Sn	06 45 20.3	+1.7
FCH				AML	AML	06 45 23.8	
	comp=E,179nm,0.2s						
RCDM	**Rinconada Maip**	**2.45 191**		*e*P	Pn	06 44 53.3	+0.3
RCDM				*i* S	Sn	06 45 23.8	+0.5
RCDM				AML	AML	06 45 24.9	
	comp=E,363nm,0.3s						
RCDM	**Rinconada Maip**	**2.45 191**		*e*P	Pn	06 44 53.3	+0.3
RCDM				*i* S	Sn	06 45 23.8	+0.5
PCH	**Pirque**	**2.54 185**		*i* P	Pn	06 44 55.3	+1.1
PCH				*i* S	Sn	06 45 26.3	+0.9
TACH	**Talagante**	**2.63 193**		⇑*i* P	Pn	06 44 55.6	+0.3
LCCH	**Las Cruces**	**2.64 205**		⇑*i* P	Pn	06 44 55.7	+0.2
CHCH	**Chadas Angostu**	**2.87 187**		*e*P	Pn	06 44 58.6	+0.2
LNV	**Long

nsta2 refers to surface/mantle waves, cutoff=50s.
*NNC **15** 06:49:50.0±1.4, 46.09N×97.59E, h0km, mb5.7 Error ellipse: s-maj=26.4km s-min=15.7km az=16.0*
ISC 15 06:49:49.7±0.1, 45.42N±002×97.36E±002, h13km, h13km±.5km: pP-P, n1329, σ0: 95/1379, mb5.7/309, MS5.7/150, 326C-146D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
GTA	**Gaotai**	**6.27**	**162**	Op P	**Pn**	**06 51 20.4**	**-1.4**
GTA				PG	**Pg**	**06 51 39.3**	**-10**
GTA				S	**Sn**	**06 52 29.1**	**-4.2**
GTA				SG	**Sg**	**06 52 57.8**	**-13**
GTA				Smax			
	comp=N,9μm,1.3s						
GTA				Smax			
	comp=E,21μm,1.3s						
GTA				LR	LR		
	comp=N,178μm,8.7s						
GTA				LR	LR		
	comp=E,652μm,8.7s						
GTA				LR	LR		
	comp=Z,180μm,9.9s						
SONM	**Songino Array**	**6.68**	**66**	Pn	**Pn**	**06 51 26.3**	**-1.0**
	comp=Z,69nm,0.3s,baz=247,slow=14,SNR=1564						
SONM				Pg	**Pg**	**06 51 47.9**	**-10**
	comp=Z,227nm,0.3s,baz=252,slow=18,SNR=28						
SONM				Lg		06 53 12.7	
	comp=Z,656nm,0.3s,baz=247,slow=33,SNR=14						
MOY	**Mondy**	**6.70**	**20**	*e*P	**Pn**	**06 51 30.0**	**+2.3**
MOY				*e*S	**Sn**	**06 52 49.9**	**+6.0**
MOY				pmax	pmax		
	comp=Z,30μm,0.7s						
WMQ	**Urumqi**	**7.08**	**260**	P	**Pn**	**06 51 34.4**	**+1.5**
WMQ				S	**Sn**	**06 52 50.6**	**-2.6**
WMQ				SG	**Sg**	**06 53 29.0**	**-7.8**
WMQ				Smax			
	comp=N,12μm,0.8s						
WMQ				Smax			
	comp=E,12μm,1.2s						
WMQ				LR	LR		
	comp=N,201μm,19.0s						
WMQ				LR	LR		
	comp=E,57μm,20.0s						
WMQ				LR	LR		
	comp=Z,81μm,20.0s						
ULN	**Ulaanbaatar**	**7.11**	**66**	⇓*i*P	**Pn**	**06 51 32.1**	**-1.2**
ULN				pmax	pmax		
	comp=Z,3μm,1.0s						
ULN	**Ulaanbaatar**	**7.11**	**66**	⇓*i*Pn	**Pn**	**06 51 32.0**	**-1.3**
	comp=Z,3μm,1.0s						
ULN				*e*Pb	**Pb**	**06 51 55.7**	**+2.8**
TLY	**Talaya**	**7.53**	**31**	Pn	**Pn**	**06 51 40.8**	**+1.8**
	comp=Z,3μm,0.5s,SNR=62						
TLY	**Talaya**	**7.53**	**31**	*e*P	**Pn**	**06 51 40.7**	**+1.7**
TLY				pmax	pmax		
	comp=Z,2μm,0.8s						
TLY	**Talaya**	**7.53**	**31**	*e*Pn	**Pn**	**06 51 39.8**	**+0.8**
	comp=Z,3μm,1.0s						
TLY				*e*Pb	**Pb**	**06 52 03.3**	**+3.3**
AKAR	**Aktash**	**8.18**	**310**	*e*P	**Pn**	**06 51 48.9**	**+0.9**
TASR	**Tashtagol**	**9.62**	**323**	*e*P	**Pn**	**06 52 10.2**	**+2.5**
UKR	**Ust'-Kan**	**10.05**	**308**	*e*P	**Pn**	**06 52 15.2**	**+1.5**
BTO	**Baotou**	**10.44**	**113**	P	**Pn**	**06 52 17.0**	**-2.0**
BTO				S	**Sn**	**06 54 08.8**	**-7.1**
LZH	**Lanzhou**	**10.54**	**150**	*e*P	**Pn**	**06 52 18.6**	**-1.7**
LZH				AP		06 52 25.8	
LZH				XP		06 52 30.0	
LZH				*e*S	**Sn**	**06 54 13.0**	**-5.1**
LZH				AMB	AMB		
	comp=Z,13μm,4.4s						
LZH				LR	LR		
	comp=N,59μm,8.7s						
LZH				LR	LR		
	comp=Z,63μm,9.4s						
MK05	**Makanchi Array**	**10.56**	**283**	⇓Pn	**Pn**	**06 52 20.7**	**+0.1**
	comp=Z,270nm,1.1s,baz=92,slow=14						
MK05				⇓Lg		06 55 23.9	
	comp=Z,3μm,1.2s,baz=83,slow=32						
MK31	**Makanchi Array**	**10.56**	**283**	P	**Pn**	**06 52 20.6**	**0.0**
MK31				pmax	pmax		
	comp=Z,540nm,1.3s						
MKAR	**Makanchi Array**	**10.56**	**283**	Pn	**Pn**	**06 52 20.9**	**+0.3**
	comp=Z,6.0nm,0.3s,baz=98,slow=11,SNR=148						
MKAR				Lg		06 55 24.3	
	comp=Z,31nm,0.3s,baz=76,slow=37,SNR=5.3						
MKAR	**Makanchi Array**	**10.56**	**283**	*i* P	**Pn**	**06 52 20.8**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,21nm,0.5s						
ELT	**Yel'tsovka**	**10.68**	**321**	*e*P	**Pn**	**06 52 23.7**	**+1.5**
KRAR	**Krasnoyarsk**	**10.98**	**347**	⇓*e*P	**Pn**	**06 52 32.3**	**+6.0**
HHC	**Hu-ho-hao-te**	**11.34**	**109**	*e*P	**Pn**	**06 52 28.8**	**-2.5**
HHC				AP		06 52 32.3	
HHC				XP		06 52 34.3	
HHC				PP		06 52 37.3	
HHC				AMB	AMB		
	comp=Z,210nm,0.9s						
HHC				LR	LR		
	comp=N,262μm,11.4s						
HHC				LR	LR		
	comp=E,152μm,10.9s						
HHC				LR	LR		
	comp=Z,83μm,10.9s						
ZAL	**Zalesovo**	**11.77**	**321**	Pn	**Pn**	**06 52 37.7**	**+0.6**
	comp=Z,3.3nm,0.3s,baz=339,slow=9.4,SNR=56						
ZAL				Lg		06 56 00.1	
	comp=Z,4.8nm,0.3s,baz=263,slow=8.1,SNR=3.0						
ZAL	**Zalesovo**	**11.77**	**321**	Pn	**Pn**	**06 52 37.7**	**+0.5**
ZAL				Lg		06 56 00.1	
CIT	**Chita**	**12.56**	**52**	*e*P	**Pn**	**06 52 49.1**	**+1.2**
CIT				pmax	pmax		
	comp=Z,3μm,2.6s						
NVS	**Novosibirsk**	**13.05**	**321**	*i* P	**Pn**	**06 52 52.9**	**-1.8**
NVS				*e*		06 55 16.4	
KURK	**Kurchatov**	**13.59**	**300**	⇑P	**Pn**	**06 53 00.1**	**-2.0**
KURK				⇑Lg		06 56 54.7	
	comp=Z,8μm,2.5s						
KURK	**Kurchatov**	**13.59**	**300**	Pn	**Pn**	**06 53 00.4**	**-1.7**
	comp=Z,5μm,0.5s,SNR=64						
KURK	**Kurchatov**	**13.59**	**300**	*c iP*	**Pn**	**06 52 59.8**	**-2.3**
KURK	**Kurchatov**	**13.59**	**300**	⇑*e*Pn	**Pn**	**06 52 59.9**	**-2.2**
	comp=Z,430nm,0.6s						
XAN	**Xi'an**	**14.41**	**138**	P	**Pn**	**06 53 08.8**	**-4.5**
XAN				S	**Sn**	**06 55 54.3**	**+1.3**
XAN				AMB	AMB		
	comp=Z,2μm,7.4s						
XAN				LR	LR		
	comp=N,43μm,10.6s						
XAN				LR	LR		
	comp=E,30μm,9.7s						
XAN				LR	LR		
	comp=Z,61μm,12.2s						
AAA	**Alma-Ata**	**14.76**	**269**	*i* P	**Pn**	**06 53 16.0**	**-2.0**
KNDC	**Almaty**	**14.76**	**269**	⇑P	**Pn**	**06 53 25.9**	**+7.9**
	comp=Z,483nm,1.3s						
KNDC				⇓Lg		06 57 40.4	
	comp=Z,6μm,2.1s						
BJT	**Baijiatuau**	**14.83**	**105**	*e*P	**Pn**	**06 53 16.8**	**-2.2**
BJT				pmax	pmax		
	comp=Z,231nm,1.0s						
BJT	**Baijiatuau**	**14.83**	**105**	*e*Pn	**Pn**	**06 53 16.8**	**-2.2**
	comp=Z,231nm,1.0s						
CD2	**Chengdu**	**15.32**	**159**	P	**Pn**	**06 53 24.5**	**-1.1**
CD2				PP		06 53 36.8	
CD2				S	**Sn**	**06 56 13.5**	**-1.7**
CD2				SS		06 56 33.1	
CD2				AMB	AMB		
	comp=Z,210nm,1.6s						
CD2				AMB	AMB		
	comp=Z,1μm,6.3s						
CD2				LR	LR		
	comp=N,127μm,12.3s						
CD2				LR	LR		
	comp=Z,48μm,10.8s						
ULHL	**Ulahol**	**15.56**	**266**	P	**Pn**	**06 53 35.5**	**+6.9**
	SNR=11						
HIA	**Hailar**	**15.64**	**68**	*e*P	**Pn**	**06 53 27.2**	**-2.5**
HIA				pmax	pmax		
	comp=Z,272nm,1.0s						
HIA	**Hailar**	**15.64**	**68**	*e*Pn	**Pn**	**06 53 27.2**	**-2.5**
	comp=Z,272nm,1.0s						
TKM2	**Tokmak 2**	**15.81**	**269**	P	**Pn**	**06 53 36.0**	**+4.2**
	SNR=26						
TKM2	**Tokmak 2**	**15.81**	**269**	⇓P	**Pn**	**06 53 34.3**	**+2.4**
	comp=Z,552nm,2.8s						
TKM2				⇑S	**Sn**	**06 56 40.5**	**+14**
	comp=Z,528nm,3.7s						
TKM2				⇑Lg		06 58 17.5	
	comp=Z,1μm,2.5s						
BOD	**Bodaibo**	**16.09**	**34**	*e*P	**Pn**	**06 53 35.0**	**-0.6**
BOD				pmax	pmax		
	comp=Z,290nm,1.2s						
KZA	**Kyzart**	**16.31**	**266**	P	**Pn**	**06 53 38.2**	**-0.1**
	SNR=54						
KBK	**Karagaybulak**	**16.34**	**268**	P	**Pn**	**06 53 39.5**	**+0.7**
	SNR=107						
CHMS	**Chumysh**	**16.38**	**270**	P	**Pn**	**06 53 40.0**	**+0.8**
	SNR=54						
LSA	**Lhasa**	**16.43**	**199**	P	**Pn**	**06 53 39.0**	**-0.9**
LSA				AP	pP	06 53 48.4	+2.0
LSA				XP	sP	06 53 51.6	+3.5
LSA				LR	LR		
	comp=N,12μm,9.8s						
LSA				LR	LR		
	comp=E,42μm,9.8s						
LSA				LR	LR		
	comp=Z,23μm,9.8s						
LSA	**Lhasa**	**16.43**	**199**	*e*Pn	**Pn**	**06 53 41.3**	**+1.4**
	comp=Z,446nm,0.8s						
USP	**Ospenovka**	**16.48**	**271**	P	**Pn**	**06 53 41.7**	**+1.1**
	SNR=72						
FRU	**Bishkek**	**16.52**	**269**	*i* P	**Pn**	**06 53 40.0**	**-1.0**
FRU				*i* S	**Sn**	**06 56 48.0**	**+3.7**
FRU				pmax	pmax		
	comp=Z,140nm,2.0s						
FRU				smax			
	comp=E,6μm,4.0s						
AAK	**Ala-Archa**	**16.67**	**269**	P	**Pn**	**06 53 43.6**	**+0.7**
	SNR=49						
AAK	**Ala-Archa**	**16.67**	**269**	Pn	**Pn**	**06 53 42.8**	**-0.1**
	comp=E,1μm,1.4s,SNR=68						
AAK	**Ala-Archa**	**16.67**	**269**	⇓*e*P	**Pn**	**06 53 42.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,98nm,1.5s						
AAK				MLR	MLR		
	comp=Z,19μm,14.0s						
AAK	**Ala-Archa**	**16.67**	**269**	*e*Pn	**Pn**	**06 53 42.3**	**-0.5**
	comp=Z,1μm,1.8s						
UCH	**Uchtor**	**16.78**	**267**	P	**Pn**	**06 53 42.9**	**-1.4**
	SNR=58						
KSH	**Kashi**	**16.82**	**257**	⇑*i*P	**Pn**	**06 53 44.6**	**-0.3**
KSH				*e*AP	pP	06 53 48.1	-2.6
KSH				XP	sP	06 53 51.8	-0.6
KSH				PP		06 53 58.5	
KSH				*e*PPP		06 54 06.5	
KSH				*e*S	**Sn**	**06 56 48.1**	**-3.5**
KSH				*e*SS		06 57 08.3	
KSH				*e*PCP	PcP	06 58 35.6	+3.2
KSH				AMB	AMB		
	comp=Z,1μm,2.3s						
KSH				AMB	AMB		
	comp=Z,2μm,6.4s						
KSH				LR	LR		
	comp=N,81μm,5.2s						
KSH				LR	LR		
	comp=E,97μm,7.4s						
KSH				LR	LR		
	comp=Z,56μm,20.7s						
EKS2	**Erkin-Say**	**17.16**	**269**	P	**Pn**	**06 53 50.8**	**+1.6**
	SNR=232						
TIA	**Tai'an**	**17.53**	**115**	*e*P	**Pn**	**06 53 52.0**	**-1.6**
TIA				AP	pP	06 54 01.3	+2.9
TIA				S	**Sn**	**06 57 08.5**	**-0.1**
TIA				AMB	AMB		
	comp=Z,430nm,1.8s						
TIA				AMB	AMB		
	comp=Z,6μm,4.0s						
TIA				LR	LR		
	comp=N,11μm,8.0s						
TIA				LR	LR		
	comp=E,38μm,9.0s						
VOSK	**Vostochnaya**	**18.69**	**303**	⇑P	**Pn**	**06 54 07.4**	**-0.6**
	comp=E,873nm,1.9s						
VOSK				⇓S	**Sn**	**06 57 37.3**	**+0.6**
	comp=E,316nm,2.3s						
VOSK				⇑Lg		06 59 38.5	
	comp=E,5μm,2.6s						
DL2	**Dalian**	**19.09**	**101**	*i* PR		06 54 10.1	
DL2				S	**Sn**	**06 57 40.9**	**-5.6**
DL2				LG1		06 59 40.4	
DL2				LG2		07 00 07.3	
DL2				AMB	AMB		
	comp=Z,160nm,0.8s						
DL2				AMB	AMB		
	comp=Z,2μm,5.7s						
DL2				LR	LR		
	comp=N,37μm,13.6s						
DL2				LR	LR		
	comp=E,25μm,14.2s						
DL2				LR	LR		
	comp=Z,25μm,10.7s						
BVA0	**Borovoye Array**	**19.11**	**303**	⇑P	**Pn**	**06 54 12.6**	**-0.4**
	comp=Z,140nm,1.0s,baz=109,slow=14,SNR=1835						
BVA0				⇑S	**Sn**	**06 57 45.8**	**-1.0**
	comp=Z,39nm,2.4s						
BVA0				⇓Lg		06 59 49.1	
	comp=Z,473nm,2.5s,baz=105,slow=27,SNR=3.9						
BVA0	**Borovoye Array**	**19.11**	**303**	*i* P	**Pn**	**06 54 12.5**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,140nm,1.0s						
BVAR	**Borovoye Array**	**19.11**	**303**	P	**Pn**	**06 54 12.4**	**-0.6**
	comp=Z,32nm,0.3s,baz=102,slow=12,SNR=410						
BVAR				S	**Sn**	**06 57 45.5**	**-1.3**
	baz=103,slow=25,SNR=2.0						
BVAR				Lg		06 59 57.1	
	comp=Z,1.3nm,0.3s,baz=106,slow=24,SNR=3.2						
BVAR	**Borovoye Array**	**19.11**	**303**	P	**Pn**	**06 54 12.4**	**-0.6**
BVAR				S	**Sn**	**06 57 45.5**	**-1.3**
CHKZ	**Chkalovo**	**19.13**	**305**	⇑P	**Pn**	**06 54 12.2**	**-1.0**
	comp=Z,948nm,1.9s						
CHKZ				⇑S	**Sn**	**06 57 45.7**	**-1.6**
	comp=Z,232nm,2.6s						
CHKZ				⇑Lg		06 59 46.4	
	comp=Z,4μm,2.4s						
CHKZ	**Chkalovo**	**19.13**	**305**	⇑*i*P	**Pn**	**06 54 12.1**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,158nm,1.4s						
CHKZ	**Chkalovo**	**19.13**	**305**	⇑*i*P	**Pn**	**06 54 12.1**	**-1.1**
	comp=Z,158nm,1.4s						
BRVK	**Borovoye**	**19.18**	**303**	Pn	**Pn**	**06 54 13.0**	**-0.8**
	comp=Z,4μm,0.8s						
BRVK	**Borovoye**	**19.18**	**303**	⇑*i*P	**Pn**	**06 54 13.2**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,303nm,0.8s						
BRVK	**Borovoye**	**19.18**	**303**	⇑*i*P	**Pn**	**06 54 13.2**	**-0.6**
	comp=Z,303nm,0.8s						
SNY	**Shenyang**	**19.29**	**91**	⇓P	**Pn**	**06 54 14.0**	**-1.1**
SNY				AP	pP	06 54 20.0	+2.2
SNY				XP	sP	06 54 23.5	+3.9
SNY				PP		06 54 31.8	
SNY				S	**Sn**	**06 57 42.6**	**-8.6**
SNY				XS	sS	06 57 50.3	-7.8
SNY				AMB	AMB		
	comp=Z,220nm,1.9s						
SNY				AMB	AMB		
	comp=Z,680nm,4.9s						
SNY				LR	LR		
	comp=E,55μm,10.1s						
SNY				LR	LR		
	comp=Z,57μm,10.2s						
KK31	**Karatay Array**	**19.34**	**273**	⇑P	**Pn**	**06 54 15.6**	**-0.1**
	comp=Z,487nm,1.6s,baz=64,slow=16,SNR=286						
KK31				⇑Lg		07 00 01.6	
	comp=Z,848nm,1.7s,baz=220,slow=29,SNR=2.9						
KK31	**Karatay Array**	**19.34**	**273**	*i* P	**Pn**	**06 54 14.8**	**-0.9**
KKAR	**Karatay Array**	**19.34**	**273**	*i* P	**Pn**	**06 54 14.8**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,2μm,1.7s						
GUN	**Gumba**	**19.71**	**211**	*e*P	**Pn**	**06 54 18.5**	**-1.7**
	comp=Z,2μm,1.2s						
JIRN	**Jiri**	**19.83**	**210**	*e*P	**Pn**	**06 54 19.4**	**-2.2**
	comp=Z,2μm,1.2s						
ZRNK	**Zerenda**	**19.91**	**302**	⇑P	**Pn**	**06 54 21.3**	**-1.3**
	comp=Z,473nm,1.1s						
ZRNK				⇑S	**Sn**	**06 58 00.7**	**-5.5**
	comp=Z,107nm,1.3s						
ZRNK				⇑Lg		07 00 13.8	
	comp=Z,3μm,2.2s						
ZRNK	**Zerenda**	**19.91**	**302**	⇑*i*P	**Pn**	**06 54 21.2**	**-1.4**
ZRNK				*e*S	**Sn**	**06 58 00.5**	**-5.7**
ZRNK				pmax	pmax		
	comp=Z,198nm,1.9s						
ZRNK	**Zerenda**	**19.91**	**302**	⇑*i*P	**Pn**	**06 54 21.2**	**-1.4**
	comp=Z,198nm,1.9s						
ZRNK				*e*S	**Sn**	**06 58 00.5**	**-5.7**
WHN	**Wuhan**	**19.94**	**132**	P	**Pn**	**06 54 20.3**	**-2.6**
WHN				S	**Sn**	**06 58 06.0**	**-0.8**
WHN				LR	LR		
	comp=Z,148μm,12.0s						
CN2	**Changchun**	**20.03**	**85**	*e*P	**P**	**06 54 20.9**	**-1.3**
CN2				*e*XP	sP	06 54 27.6	-0.1
CN2				*e*PP		06 54 40.4	
CN2				*e*S	**S**	**06 58 00.4**	**-6.6**
CN2				LR	LR		
	comp=N,129μm,16.0s,MS6.4						
CN2				LR	LR		
	comp=E,33μm,16.0s,MS6.4						
CN2				LR	LR		
	comp=Z,51μm,12.0s,MS6.1						
KKN	**Kakani**	**20.05**	**213**	*e*P	**P**	**06 54 22.2**	**-0.2**
	comp=Z,3μm,1.3s						
KKN	**Kakani**	**20.05**	**213**	*e*P	**P**	**06 54 22.2**	**-0.2**
KKN				pmax	pmax		
	comp=Z,3μm,1.3s						
PKI	**Pulchoki**	**20.20**	**212**	*e*P	**P**	**06 54 23.8**	**-0.2**
	comp=Z,3μm,1.5s						
PKI	**Pulchoki**	**20.20**	**212**	*e*P	**P**	**06 54 23.8**	**-0.2**
PKI				pmax	pmax		
	comp=Z,3μm,1.5s						
DMN	**Daman**	**20.28**	**213**	*e*P	**P**	**06 54 24.9**	**0.0**
	comp=Z,570nm,0.9s						
SHL	**Shillong**	**20.29**	**194**	*i* P	**P**	**06 54 24.0**	**-1.1**
SHL				*e*x	x	06 58 06.0	
GYA	**Guiyang**	**20.34**	**155**	⇑*i*P	**P**	**06 54 23.5**	**-2.1**
GYA				AP		06 54 26.8	
GYA				XP	sP	06 54 30.8	-0.2
GYA				PP		06 54 42.8	
GYA				PPP		06 54 51.9	
GYA				S	**S**	**06 58 03.3**	**-10**
GYA				SS		06 58 30.8	
GYA				AMB	AMB		
	comp=Z,1μm,1.0s						
GYA				AMB	AMB		
	comp=Z,3μm,4.8s						
GYA				LR	LR		
	comp=N,26μm,10.2s,MS6.1						
GYA				LR	LR		
	comp=E,34μm,10.5s,MS6.1						
GYA				LR	LR		
	comp=Z,24μm,12.3s,MS5.8						
NRGR	**Nerungri**	**20.41**	**47**	*e*P	**P**	**06 54 26.4**	**+0.1**
NRGR				S	**S**	**06 58 31.9**	**+17**
NRGR				pmax	pmax		
	comp=Z,598nm,0.5s						
CLNS	**Chul'man**	**20.56**	**46**	*e*P	**P**	**06 54 27.9**	**-0.1**
KMI	**Kunming**	**20.71**	**166**	P	**P**	**06 54 28.4**	**-1.2**
KMI				AP		06 54 33.1	
KMI				XP	sP	06 54 35.4	+0.3
KMI				PP		06 54 50.3	
KMI				PPP		06 54 57.5	
KMI				S	**S**	**06 58 13.3**	**-7.3**
KMI				XS	sS	06 58 24.8	-1.8
KMI				SS		06 58 45.3	
KMI				AMB	AMB		
	comp=Z,270nm,1.7s						
KMI				AMB	AMB		
	comp=Z,2μm,3.1s						
KMI				LR	LR		
	comp=N,30μm,10.3s,MS6.1						
KMI				LR	LR		
	comp=E,44μm,15.2s,MS6.1						
KMI				LR	LR		
	comp=Z,25μm,11.2s,MS5.8						
IMP	**Imphal**	**20.77**	**189**	*e*P	**P**	**06 54 29.0**	**-1.3**
IMP				*e*x	x	06 57 12.0	
IMP				*e*x	x	06 58 21.0	
PTH	**Pithoragarh**	**20.81**	**226**	*e*P	**P**	**06 54 31.8**	**+1.1**
PTH				*e*x	x	06 55 24.0	
LGTI	**Lohaghat**	**20.88**	**226**	*i* x	x	06 54 36.5	
DLH	**Dalhousie**	**20.94**	**240**	*e*P	**P**	**06 54 32.0**	**-0.1**
DLH				*e*x	x	06 55 10.0	
NJ2	**Nanjing**	**21.35**	**121**	*e*P	**P**	**06 54 35.1**	**-1.4**
NJ2				AP		06 54 39.0	
NJ2				XP	sP	06 54 42.0	0.0
NJ2				PP		06 54 56.1	
NJ2				PPP		06 55 07.1	
NJ2				S	**S**	**06 58 28.0**	**-5.2**
NJ2				XS	sS	06 58 38.0	-1.2
NJ2				AMB	AMB		
	comp=Z,490nm,0.8s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,6μm,4.9s						
NJ2				LR	LR		
	comp=N,118μm,12.8s,MS6.6						
NJ2				LR	LR		
	comp=E,76μm,12.2s,MS6.6						
NJ2				LR	LR		
	comp=Z,67μm,11.9s,MS6.3						
DDI	**Dehra Dun**	**21.35**	**232**	*e*P	**P**	**06 54 37.8**	**+1.3**
PONG	**Pong**	**21.36**	**238**	*e*P	**P**	**06 54 37.0**	**+0.3**
NIL	**Nilore**	**21.91**	**246**	P	**P**	**06 54 43.5**	**+1.0**
	comp=Z,1μm,1.3s,mb6.2,SNR=33						
MDJ	**Mudanjiang**	**22.73**	**80**	P	**P**	**06 54 50.8**	**-0.4**
MDJ				AP		06 54 52.9	
MDJ				XP	sP	06 54 54.6	-2.1
MDJ				PCP	PcP	06 58 43.3	+0.2
MDJ				S	**S**	**06 58 57.8**	**-2.0**
MDJ				SCP	ScP	07 02 20.6	+0.2
MDJ				SCS	ScS	07 06 07.0	+1.1
MDJ				AMB	AMB		
	comp=Z,70nm,2.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,950nm,6.5s						
MDJ				LR	LR		
	comp=N,74μm,16.3s,MS6.2						
MDJ				LR	LR		
	comp=E,16μm,15.8s,MS6.2						
MDJ				LR	LR		
	comp=Z,10μm,12.2s,MS5.5						
MDJ	**Mudanjiang**	**22.73**	**80**	*e*P	**P**	**06 54 51.5**	**+0.3**
	comp=Z,328nm,1.4s,mb5.6						
MDJ				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
NDI	**New Delhi**	**23.08**	**231**	*e*P	**P**	**06 54 54.0**	**-0.9**
NDI				*e*S	**S**	**06 59 08.0**	**+2.4**
INCN	**Inchon**	**23.24**	**100**	*e*P	**P**	**06 54 57.1**	**+0.5**
	comp=Z,364nm,1.0s,mb5.8						
INCN				LR	LR		
	comp=Z,19μm,20.0s,MS5.5						
SSE	**Sheshan**	**23.43**	**119**	P	**P**	**06 54 59.3**	**+0.6**
SSE				AP		06 55 05.0	
SSE				XP	sP	06 55 07.6	+3.4
SSE				S	**S**	**06 59 08.3**	**-3.0**
SSE				XS	sS	06 59 18.3	+0.4
SSE				AMB	AMB		
	comp=Z,440nm,1.2s,mb5.8						
SSE				AMB	AMB		
	comp=Z,2μm,4.0s						
SSE				LR	LR		
	comp=N,31μm,14.3s,MS6.0						
SSE				LR	LR		
	comp=E,28μm,14.3s,MS6.0						
SSE				LR	LR		
	comp=Z,52μm,13.5s,MS6.2						
BOK	**Bokaro**	**23.50**	**207**	*i* P	**P**	**06 54 59.7**	**+0.3**
BOK				*e*P		06 55 00.1	
BOK				AMb	AMB	06 55 05.0	
BOK				*i* S	**S**	**06 59 11.9**	**-0.5**
KLR	**Kul'dur**	**23.50**	**68**	⇑*e*P	**P**	**06 54 54.8**	**-4.5**
KLR				*e*S	**S**	**06 59 05.5**	**-6.9**
KLR				pmax	pmax		
	comp=E,2μm,2.8s						
KLR				pmax	pmax		
	comp=Z,3μm,2.8s,mb6.2						
KLR				smax			
	comp=N,7μm,13.0s						
KLR				smax			
	comp=E,13μm,13.0s						
KLR				MLR	MLR		
	comp=N,28μm,9.5s						
KLR				MLR	MLR		
	comp=E,32μm,9.5s						
KLR				MLR	MLR		
	comp=Z,52μm,9.5s						
CAL	**Calcutta**	**23.98**	**201**	*e*P	**P**	**06 55 03.9**	**+0.1**
CAL				*e*x	x	06 59 26.4	

KS15	Wonju Array Si	24.13	98	eP	P	06 55 05.0	-0.2
YAK	Yakutsk	24.95	37	eP	P	06 55 12.1	-0.6
YAK				e		06 55 47.4	
YAK				ePPP		06 55 55.5	
YAK				e		06 58 48.4	
YAK				eS	S	06 59 34.3	-1.6
YAK				eSS		07 00 27.2	
YAK				eSSS		07 00 42.4	
YAK				pmax	pmax		
	comp=Z,87nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,39nm,1.1s						
YAK				pmax	pmax		
	comp=E,50nm,1.1s						
YAK				smax			
	comp=N,30nm,1.6s						
YAK				smax			
	comp=E,23nm,1.6s						
YAK				MLR	MLR		
	comp=E,6μm,11.0s,MS5.5						
YAK				MLR	MLR		
	comp=Z,6μm,11.0s,MS5.4						
YAK				MLR	MLR		
	comp=N,5μm,10.0s,MS5.5						
YAK	Yakutsk	24.95	37	eP	P	06 55 11.3	-1.3
	comp=N,306nm,0.9s,mb5.8						
YAK				epP		06 55 15.1	
AB31	Akbulak array	25.47	292	⇑P	P	06 55 18.1	+0.7
	comp=N,490nm,0.8s,mb6.1,baz=86,slow=9.7,SNR=1222						
AB31				⇓S	S	06 59 51.2	+7.1
	comp=N,590nm,2.5s						
AB31	Akbulak array	25.47	292	iP	P	06 55 18.1	+0.7
HABR	Khabarovsk	25.74	70	⇑iP	P	06 55 20.1	+0.3
HABR				eS	S	06 59 51.9	+3.5
HABR				pmax	pmax		
	comp=Z,400nm,1.8s,mb5.7						
HABR				MLR	MLR		
	comp=Z,34μm,8.8s						
GZH	Guangzhou	25.80	144	P	P	06 55 15.3	-5.1
GZH				S	S	06 59 41.6	-7.8
GZH				AMB	AMB		
	comp=Z,330nm,1.4s,mb5.7						
GZH				LR	LR		
	comp=N,23μm,14.1s						
GZH				LR	LR		
	comp=E,21μm,9.0s						
GZH				LR	LR		
	comp=Z,40μm,14.9s,MS6.1						
AJM	Ajmer	26.22	232	iP	P	06 55 24.0	-0.1
AJM				eP	pP	06 55 25.7	-2.4
AJM				AMb	AMB	06 55 32.3	
	comp=Z,351nm,1.2s,mb5.8						
JBP	Jabalpur	26.32	218	⇑eP	P	06 55 26.1	+1.0
JBP				eS	S	07 00 00.0	+2.4
BLSP	Bilaspur	26.36	213	eP	P	06 55 26.0	+0.6
ARU	Arti	26.46	309	P	P	06 55 26.0	-0.3
	comp=Z,1μm,1.1s,mb6.3,SNR=37						
ARU	Arti	26.46	309	⇓iP	P	06 55 26.4	+0.1
ARU				ePPP		06 56 14.9	
ARU				e		06 58 48.4	
ARU				eS	S	07 00 03.3	+3.5
ARU				eSS		07 01 04.1	
ARU				eSSS		07 01 20.4	
ARU				pmax	pmax		
	comp=Z,177nm,1.0s,mb5.5						
ARU				MLR	MLR		
	comp=N,6μm,18.0s						
ARU				MLR	MLR		
	comp=Z,16μm,18.0s,MS5.6						
ARU	Arti	26.46	309	⇑iP	P	06 55 26.2	-0.1
	comp=Z,147nm,0.8s,mb5.6						
ARU				LR	LR		
	comp=Z,22μm,20.0s,MS5.7						
CHG	Chiang Mai	26.56	177	⇑P	P	06 55 26.6	-0.6
	comp=Z,96nm,1.0s,mb5.3						
CHTO	Chiang Mai	26.56	177	eP	P	06 55 26.6	-0.7
	comp=Z,136nm,1.2s,mb5.3						
CHTO				LR	LR		
	comp=Z,19μm,19.0s,MS5.7						
AKTK	Aktyubinsk	26.61	295	P	P	06 55 28.1	+0.4
AKTK				Lg		07 03 53.8	
AKTK				LR	LR	07 06 27.0	
AKTO	Aktyubinsk	26.61	295	⇑P	P	06 55 28.1	+0.4
	comp=Z,8.3nm,1.1s,mb4.2						
AKTO	Aktyubinsk	26.61	295	P	P	06 55 28.1	+0.4
	comp=Z,213nm,1.0s,mb5.6,baz=88,slow=8.6,SNR=118						
AKTO				Lg		07 03 53.8	
	comp=Z,24nm,1.1s,baz=221,slow=16,SNR=6.5						
AKTO				LR	LR	07 06 27.0	
	comp=Z,25μm,18.0s,MS5.8,baz=0.0,slow=37						
QZH	Quanzhou	26.66	133	P	P	06 55 28.0	-0.1
QZH				S	S	07 00 02.0	-0.9
QZH				AMB	AMB		
	comp=Z,190nm,1.0s,mb5.6						
QZH				LR	LR		
	comp=N,35μm,8.3s						
QZH				LR	LR		
	comp=E,41μm,9.4s						
QZH				LR	LR		
	comp=Z,68μm,10.9s,MS6.5						
HKC	Hong Kong	26.84	144	P	P	06 55 36.0	+6.2
HKC				S	S	07 00 08.0	+2.2
BHPL	Bhopal	27.43	223	ix	x	06 59 52.2	
SOKR	Solikamsk	27.95	315	ciP	P	06 55 39.3	-0.4
SOKR				S	S	07 00 29.0	+5.8
SOKR				pmax	pmax		
	comp=Z,180nm,1.5s,mb5.5						
SOKR				MLR	MLR		
	comp=Z,33μm,17.0s,MS6.0						
QIZ	Qiongzhong	28.28	154	⇓P	P	06 55 43.5	+0.8
QIZ				S	S	07 00 33.0	+4.5
QIZ				AMB	AMB		
	comp=Z,80nm,1.6s,mb5.1						
QIZ				AMB	AMB		
	comp=Z,540nm,3.5s						
QIZ				LR	LR		
	comp=N,16μm,10.1s,MS6.1						
QIZ				LR	LR		
	comp=E,21μm,11.4s,MS6.1						
QIZ				LR	LR		
	comp=Z,21μm,11.1s,MS6.0						
QIZ	Qiongzhong	28.28	154	eP	P	06 55 42.5	-0.2
	comp=Z,158nm,1.4s,mb5.5						
YHNB	Yeheng	28.36	129	eP	P	06 55 43.6	+0.3
NGP	Nagpur	28.50	218	eP	P	06 55 44.1	-0.6
NGP				eP		06 55 44.4	
NGP				eS	S	07 00 34.2	+2.3
ORR	Orenburg	28.57	298	eP	P	06 55 45.5	+0.3
ORR				S	S	07 00 40.6	+7.6
NACB	Ninganchiao	28.88	129	eP	P	06 55 49.2	+1.3
KKTK	Khon Kaen	29.35	169	P	P	06 55 53.0	+0.8
	comp=Z,432nm,1.0s,mb6.1						
NST	Nakhon Sawan	29.74	175	P	P	06 55 55.5	-0.2
AKL	Akola	29.80	221	ix	x	06 55 25.9	
AKL				ix	x	07 00 18.9	
VIS	Vishakhapatnam	30.00	208	eP	P	06 55 55.5	-2.4
VIS				AMb	AMB	06 56 04.7	
	comp=Z,170nm,1.2s,mb5.6						
ABKT	Ailbek	30.01	270	P	P	06 55 59.0	+1.0
	comp=Z,605nm,0.8s,mb6.4,SNR=43						
TIXI	Tiksi	30.29	19	eP	P	06 55 55.8	-4.6
TIXI				eS	S	07 00 54.4	-5.5
TIXI				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,8μm,10.0s,MS5.7						
TIXI	Tiksi	30.29	19	⇑iP	P	06 55 59.1	-1.3
JOW	Kunigami	30.84	116	LR	LR	07 09 43.7	
	comp=Z,12μm,18.7s,MS5.6,baz=129,slow=39						
YSS	Yuzh-Sakhalins	31.14	71	eP	P	06 56 06.0	-1.9
YSS				eSP	sP	06 56 13.1	-0.5
YSS				e		06 57 13.2	
YSS				ePPP		06 57 31.8	
YSS				e		06 59 04.8	
YSS				eS	S	07 01 09.0	-4.3
YSS				eSSS		07 02 57.0	
YSS				e		07 03 26.0	
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.5						
YSS				pmax	pmax		
	comp=N,50nm,0.8s						
YSS				smax			
	comp=E,2μm,9.0s						
YSS				MLR	MLR		
	comp=Z,24μm,15.0s,MS6.0						
YSS				MLR	MLR		
	comp=N,18μm,13.0s,MS6.1						
YSS				MLR	MLR		
	comp=E,20μm,13.0s,MS6.1						
YSS	Yuzh-Sakhalins	31.14	71	eP	P	06 56 07.3	-0.6
	comp=E,64nm,0.9s,mb5.5						
BHJ	Bhuj	31.55	235	eP	P	06 56 12.9	+1.3
BHJ				AMb	AMB	06 56 19.0	
	comp=Z,394nm,1.6s,mb6.0						
MAJO	Matsushiro	31.80	92	eP	P	06 56 12.7	-1.1
MAJO				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.2						
MAJO	Matsushiro	31.80	92	eP	P	06 56 12.7	-1.1
	comp=Z,52nm,1.4s,mb5.2						
MAT	Matsushiro	31.80	92	P	P	06 56 11.5	-2.3
MAT				S	S	07 01 18.0	-5.6
MAT	Matsushiro	31.80	92	eP	P	06 56 12.0	-1.8
MAT				eS	S	07 01 18.0	-5.6
MAT				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.0						
MAT				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.2						
MAT	Matsushiro	31.80	92	eP	P	06 56 12.0	-1.8
	comp=Z,33nm,1.2s,mb5.0						
MAT				eS	S	07 01 18.0	-5.6
MAT				LR	LR		
	comp=Z,6μm,20.0s,MS5.2						
MJAR	Matsushiro Arr	31.80	92	P	P	06 56 12.6	-1.2
	comp=Z,15nm,1.0s,mb4.8,baz=297,slow=8.2,SNR=16						
MJAR				PP	PP	06 57 18.7	-7.0
	comp=Z,8.4nm,1.1s,baz=301,slow=11,SNR=3.3						
MJAR				LR	LR	07 09 28.1	
	comp=Z,8μm,18.1s,MS5.4,baz=320,slow=37						
MJAR	Matsushiro Arr	31.80	92	P	P	06 56 12.6	-1.2
MJAR						06 57 18.7	
MJAR	Matsushiro Arr	31.80	92	P	P	06 56 12.6	-1.2
MJAR				PP	PP	06 57 18.7	-7.0
MJAR				LR	LR	07 09 28.1	
ASAJ	Asahikawa	31.83	76	P	P	06 56 12.0	-2.0
	comp=Z,18nm,0.9s,mb4.9,baz=298,slow=10,SNR=3.1						
ASAJ				LR	LR	07 10 04.9	
	comp=Z,11μm,18.2s,MS5.6,baz=298,slow=38						
ASAJ	Asahikawa	31.83	76	P	P	06 56 12.0	-2.0
ASAJ				pmax	pmax		
	comp=Z,18nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,11μm,18.2s						
HYB	Hyderabad	32.03	215	iP	P	06 56 16.5	+0.6
	comp=Z,180nm,1.0s,mb5.9						
HYB				eS	S	07 01 30.0	+2.7
HYB				LR	LR	07 09 40.0	
	comp=Z,24nm,16.0s						
HYB	Hyderabad	32.03	215	eP	P	06 56 16.5	+0.6
HYB				eS	S	07 01 30.0	+2.7
HYB				pmax	pmax		
	comp=Z,180nm,1.0s,mb5.9						
HYB	Hyderabad	32.03	215	eP	P	06 56 16.5	+0.6
	comp=Z,180nm,1.0s,mb5.9						
HYB				eS	S	07 01 30.0	+2.7
HYB				eLR	LR	07 09 40.0	
NNT	Nongplab	32.78	176	P	P	06 56 25.0	+2.6
ERM	Erimo	32.94	79	P	P	06 56 29.7	+6.0
	comp=Z,398nm,1.4s,mb6.2,SNR=5.3						
POO	Poona	33.17	224	⇓iP	P	06 56 25.0	-0.8
	comp=Z,200nm,1.0s,mb6.0						
POO				ex	x	06 57 03.6	
POO				AMb	AMB	06 57 10.6	
	comp=Z,243nm,1.3s,mb6.0						
BOM	Bombay	33.38	226	eP	P	06 56 28.6	+1.0
BOM				eP		06 56 28.6	
BOM				ix	x	06 56 32.8	
BOM				AMb	AMB	06 56 33.9	
	comp=Z,216nm,1.5s,mb5.8						
BOM				ex	x	07 01 44.6	
PBA	Port Blair	33.88	188	ex	x	06 56 09.6	
PBA				AMb	x	06 56 10.8	
	comp=Z,433nm,1.6s						
PBA				ex	x	07 01 12.6	
KAD	Karad	34.06	222	eP	P	06 56 34.6	+1.1
KAD				AMb	AMB	06 56 38.4	
YUK	Yuzh-Kuril'sk	34.08	75	eP	P	06 56 33.0	-0.7
YUK				e		06 57 53.0	
YUK				ePPP		06 58 07.0	
YUK				eS	S	07 02 02.0	+3.0
YUK				e		07 06 52.0	
YUK				pmax	pmax		
	comp=Z,2μm,4.0s						
YUK				smax			
	comp=N,3μm,4.0s						
YUK				smax			
	comp=E,3μm,4.0s						
YUK				MLR	MLR		
	comp=N,8μm,11.0s,MS5.9						
YUK				MLR	MLR		
	comp=E,8μm,11.0s,MS5.9						
YUK				MLR	MLR		
	comp=Z,13μm,11.0s,MS5.9						
MA2	Magadan	34.44	46	diP	P	06 56 36.5	-0.3
MA2				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
MA2	Magadan	34.44	46	eP	P	06 56 36.7	-0.1
	comp=Z,120nm,1.3s,mb5.7						
MA2				LR	LR		
	comp=Z,18μm,19.0s,MS5.8						
PECR	Pechory	34.50	308	diP	P	06 56 37.2	-0.1
PECR				e		06 57 47.6	
PECR				eS	S	07 02 05.4	-0.1
PECR				eSS	SS	07 04 19.0	-16
PECR				eSSS		07 04 49.5	
PECR				pmax	pmax		
	comp=Z,990nm,2.4s,mb6.3						
PECR				smax			
	comp=E,1μm,5.0s						
PECR				smax			
	comp=N,900nm,4.4s						
PECR				MLR	MLR		
	comp=Z,37μm,15.0s,MS6.2						
PECR				MLR	MLR		
	comp=N,12μm,10.0s,MS6.3						
PECR				MLR	MLR		
	comp=E,24μm,10.0s,MS6.3						
BCPH	Baguio City Da	34.89	139	eP	P	06 56 43.0	+2.3
	comp=E,2μm,1.0s,mb6.7						
MDRS	Chennai	35.37	210	ex	x	06 56 26.0	
MDRS				ex	x	07 00 23.0	
MDRS				ex	x	07 02 02.0	
MDRS				ex	x	07 08 24.0	
MAK	Makhachkala	35.37	284	iP	P	06 56 43.1	-1.8
MAK				e	pP	06 56 45.8	-3.2
MAK				ePPP		06 58 20.2	
MAK				i		06 59 16.5	
MAK				eS	S	07 02 17.4	-1.6
MAK				e		07 07 03.3	
MAK				pmax	pmax		
	comp=Z,870nm,1.8s,mb6.4						
MAK				smax			
	comp=N,1μm,2.0s						
MAK				smax			
	comp=E,1μm,2.1s						
MAK				MLR	MLR		
	comp=Z,36μm,13.0s,MS6.3						
MAK				MLR	MLR		
	comp=N,35μm,10.0s,MS6.5						
MAK				MLR	MLR		
	comp=E,28μm,11.0s,MS6.5						
MAK	Makhachkala	35.37	284	eP	P	06 56 42.2	-2.7
VRHR	Novokhopersk	36.77	299	eP	P	06 56 56.9	0.0
VRHR				eS	S	07 02 41.2	+0.8
VRHR				eSS	sS	07 02 45.7	-1.5
VRHR				pmax	pmax		
	comp=Z,220nm,0.7s,mb6.1						
VRHR				pmax	pmax		
	comp=N,30nm,0.5s						
VRHR				pmax	pmax		
	comp=E,40nm,0.5s						
VRHR				smax			
	comp=N,190nm,1.5s						
VRHR				smax			
	comp=E,240nm,1.6s						
VRHR				MLR	MLR		
	comp=Z,14μm,9.0s						
VRHR				MLR	MLR		
	comp=N,3μm,10.0s,MS5.9						
VRHR				MLR	MLR		
	comp=E,10μm,10.0s,MS5.9						
TGY	Tagaytay City	37.04	140	P	P	06 57 01.7	+2.6
	comp=E,94nm,0.3s,baz=199,slow=12,SNR=6.6						
TGY				LR	LR	07 11 55.7	
	comp=E,14nm,21.8s,baz=298,slow=36						
DGRG	David-gareji	37.42	283	P	P	06 57 04.0	+1.7
GOF	Gofitskoye	37.63	289	eP	P	06 57 04.4	+0.2
GOF				eS	S	07 03 00.2	+6.6
GOF				pmax	pmax		
	comp=Z,330nm,1.0s,mb6.0						
GOF				smax			
	comp=N,70nm,1.3s						
GOF				smax			
	comp=E,100nm,1.3s						
MTA	Mtatsminda	37.72	284	P	P	06 57 05.3	+0.5
MTA				S	S	07 02 57.0	+2.2
TBLG	Delisi	37.74	284	P	P	06 57 08.4	+3.3
ZEI	Tsey	37.90	286	eP	P	06 57 07.1	+0.7
ZEI				e*PP	pP	06 57 10.9	+0.4
ZEI				pmax	pmax		
	comp=Z,125nm,1.3s,mb5.5						
VOR	Voronezh	38.09	301	eP	P	06 57 06.0	-2.1
VOR						06 58 31.0	
VOR				pmax	pmax		
	comp=E,400nm,2.0s						
VOR				pmax	pmax		
	comp=Z,500nm,2.0s,mb5.9						
VOR				pmax	pmax		
	comp=N,90nm,1.6s						
BANOM	Banah	38.10	253	⇓P	P	06 57 09.4	+1.2
	SNR=12						
MOS	Moscow	38.17	308	eP	P	06 57 04.5	-4.2
MOS				e		06 58 33.1	
MOS				eS	S	07 02 59.0	-2.6
MOS				eSSS		07 06 10.0	
MOS				pmax	pmax		
	comp=Z,422nm,1.4s,mb6.0						
MOS				MLR	MLR		
	comp=Z,19μm,9.8s						
MOS				MLR	MLR		
	comp=E,18μm,9.3s						
MOS	Moscow	38.17	308	eP	P	06 57 08.1	-0.6
SNG	Songkhla	38.20	175	P	P	06 57 10.0	+1.0
VRSR	Storozhevoye	38.23	300	⇑iP	P	06 57 09.1	-0.1
VRSR				e*PP	pP	06 57 11.8	-1.5
VRSR				eS	S	07 03 02.5	-0.1
VRSR				eSS	SS	07 05 33.7	-17
VRSR				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.6						
VRSR				pmax	pmax		
	comp=N,20nm,0.4s						
VRSR				pmax	pmax		
	comp=E,40nm,0.5s						
VRSR				smax			
	comp=N,40nm,2.7s						
VRSR				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.4						
KIV	Kislovodsk	38.27	288	P	P	06 57 11.3	+1.8
	comp=Z,775nm,1.0s,mb6.4,SNR=28						
KIV	Kislovodsk	38.27	288	ciP	P	06 57 10.9	+1.4
KIV				e		06 59 21.6	
KIV				eS	S	07 03 06.1	+3.0
KIV				pmax	pmax		
	comp=Z,203nm,1.2s,mb5.7						
KIV				MLR	MLR		
	comp=Z,13μm,14.0s,MS5.9						
KIV	Kislovodsk	38.27	288	⇑eP	P	06 57 10.4	+0.9
	comp=Z,344nm,1.4s,mb5.9						
KIV				ePP	PP	06 58 37.1	+0.1
KIV				LR	LR		
	comp=Z,14μm,19.0s,MS5.8						
ONI	Oni	38.28	286	P	P	06 57 11.4	+1.8
ONI				S	S	07 02 52.5	-11
WSAR	Wadi Sarin	38.38	248	P	P	06 57 11.9	+1.5
	comp=Z,171nm,1.0s,mb5.8,baz=52,slow=6.9,SNR=42						
WSAR				PP	PP	06 58 46.4	+8.2
	comp=Z,40nm,1.1s,baz=32,slow=9.9,SNR=4.4						
WSAR				LR	LR	07 15 21.4	
	comp=Z,4μm,18.8s,MS5.3,baz=46,slow=40						
WSAR	Wadi Sarin	38.38	248	P	P	06 57 11.9	+1.5
WSAR				PP	PP	06 58 46.4	+8.2
WSAR				LR	LR	07 15 21.4	
GNI	Garni	38.40	281	iP	P	06 57 11.8	+1.1
GNI	Garni	38.40	281	P	P	06 57 12.7	+2.1
	comp=Z,182nm,0.9s,mb5.8,baz=20,slow=0.4,SNR=75						
GNI				PP	PP	06 58 40.0	+1.5
	comp=Z,33nm,0.8s,baz=147,slow=3.3,SNR=3.4						
GNI				LR	LR	07 14 59.5	
	comp=Z,10μm,18.5s,MS5.7,baz=72,slow=39						
GNI	Garni	38.40	281	⇑iP	P	06 57 13.1	+2.4
	comp=Z,457nm,1.2s,mb6.1						
GNI				ePP	PP	06 58 39.9	+1.4
GNI				LR	LR		
	comp=Z,6μm,20.0s,MS5.4						
BIDO	Bidbid	38.51	249	⇓P	P	06 57 13.5	+1.9
	SNR=14						
AMRG		38.52	286	P	P	06 57 13.9	+2.2
WBK	Wadi Bani Khal	38.60	247	P	P	06 57 15.5	+3.1
	SNR=11						
AKH	Akhalkalaki	38.72	284	P	P	06 57 15.6	+2.2
AKH				S	PP	06 58 37.3	-4.7
SKR	Severo-Kuril's	38.73	60	eP	P	06 57 09.0	-4.4
SKR				e		06 58 39.0	
SKR				ePPP		06 59 03.0	
SKR				eS	S	07 03 06.0	-4.1
SKR				pmax	pmax		
	comp=N,1μm,3.0s						
SKR				pmax	pmax		
	comp=E,1μm,3.0s						
SKR				pmax	pmax		
	comp=Z,1μm,3.0s						
SKR				smax			
	comp=N,1μm,10.0s						
SKR				smax			
	comp=E,1μm,10.0s						
SKR				MLR	MLR		
	comp=E,10μm,14.0s,MS6.0						
SKR				MLR	MLR		
	comp=Z,24μm,14.0s,MS6.2						
SKR				MLR	MLR		
	comp=N,9μm,12.0s,MS6.0						
LVZ	Lovozero	38.80	328	P	P	06 57 14.7	+0.7
	comp=N,239nm,0.9s,mb5.9,SNR=7.5						
LVZ	Lovozero	38.80	328	eP	P	06 57 13.4	-0.6
LVZ				S	S	07 03 03.6	-7.6
LVZ				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.2						
LVZ				pmax	pmax		
	comp=N,14nm,1.1s						
LVZ				pmax	pmax		
	comp=E,22nm,1.1s						
LVZ				MLR	MLR		
	comp=N,6μm,13.0s,MS5.9						
LVZ				MLR	MLR		
	comp=E,11μm,13.0s,MS5.9						
LVZ	Lovozero	38.80	328	⇓eP	P	06 57 14.0	0.0
OBN	Obninsk	38.88	307	P	P	06 57 14.5	-0.2
	comp=E,1μm,0.4s,SNR=12						
OBN	Obninsk	38.88	307	ciP	P	06 57 13.9	-0.8
OBN				i		06 58 42.5	
OBN				i		06 59 25.5	
OBN				iS	S	07 03 19.1	+6.8
OBN				iSS	SS	07 05 52.1	-12
OBN				pmax	pmax		
	comp=Z,397nm,1.7s,mb5.9						
OBN				MLR	MLR		
	comp=Z,6μm,16.0s,MS5.5						
OBN	Obninsk	38.88	307	eP	P	06 57 14.1	-0.5
	comp=Z,143nm,0.8s,mb5.8						
SMDO	Samad	38.88	248	⇓P	P	06 57 16.7	+2.0
	SNR=35						
HOQ	Hoqain	39.01	250	P	P	06 57 17.8	+2.0
	SNR=15						
ASHO	Ashiyiah	39.09	252	⇓P	P	06 57 18.0	+1.6
	SNR=55						
DIGO	Kars	39.23	282	iP	P	06 57 20.0	+2.4
APA	Apatity	39.27	327	⇑iP	P	06 57 18.5	+0.6
APA				i		06 58 46.0	
APA				i		06 59 16.0	
APA				iS	S	07 03 20.0	+1.8
APA				pmax	pmax		
	comp=Z,108nm,1.2s,mb5.5						
APA				MLR	MLR		
	comp=Z,23μm,13.0s,MS6.2						
CLDR	Caldiran	39.42	280	iP	P	06 57 21.3	+2.1
PET	Petropavlovsk	39.64	56	diP	P	06 57 20.0	-1.0

PET				*e*			06 58 56.7
PET				*e*			06 59 07.2
PET				*i* S		**S**	**07 03 18.8 -5.0**
PET				pmax		pmax	
	comp=Z,300nm,3.0s						
PET				MLR		MLR	
	comp=Z,6μm,15.0s,MS5.5						
PET	**Petropavlovsk**	**39.64**	**56**	*e*P		**P**	**06 57 20.7 -0.3**
	comp=Z,608nm,1.6s,mb6.1						
PET				LR		LR	
	comp=Z,6μm,19.0s,MS5.5						
BSY	**Bisya**	**39.66**	**249**		P	**P**	**06 57 23.4 +2.2**
	SNR=25						
ARQ	**Araqi**	**39.70**	**250**	⇓P		**P**	**06 57 23.8 +2.3**
	SNR=36						
BSI	**Banda Aceh**	**39.81**	**183**		P	**P**	**06 57 21.4 -1.0**
SEMD	**Semdilli**	**39.84**	**278**	*i* P		**P**	**06 57 24.5 +1.8**
ARTV	**Artvin**	**39.89**	**284**	*i* P		**P**	**06 57 25.0 +1.9**
BCA	**Borcka**	**39.98**	**285**	*i* P		**P**	**06 57 24.8 +0.9**
VANB	**Van**	**40.03**	**280**	*i* P		**P**	**06 57 26.9 +2.6**
VANB	**Van**	**40.03**	**280**	P		**P**	**06 57 26.7 +2.4**
TVAN	**Van**	**40.05**	**280**	*i* P		**P**	**06 57 27.8 +3.3**
KULM	**Kulim**	**40.07**	**175**	*e*P		**P**	**06 57 23.9 -0.7**
KULM				*e*PcP		PcP	06 59 30.8 +1.5
HAKT	**HAKKARI**	**40.30**	**278**	*i* P		**P**	**06 57 28.3 +1.8**
JOF	**Joensuu**	**40.35**	**320**	*ep*		**P**	**06 57 26.6 -0.4**
	comp=Z,59nm,0.8s,mb5.4						
SOC	**Sochi**	**40.39**	**289***c*	*i*P		**P**	**06 57 27.4 +0.1**
SOC				*e*			06 59 02.5
SOC				*e*			06 59 31.7
SOC				*e*S		**S**	**07 03 36.7 +1.6**
SOC				*e*SS		SS	07 06 33.9 -0.2
SOC				*e*SSS			07 07 00.1
SOC				pmax		pmax	
	comp=Z,169nm,1.3s,mb5.6						
SOC				MLR		MLR	
	comp=Z,14μm,16.0s,MS5.9						
SOC	**Sochi**	**40.39**	**289**	*i* P		**P**	**06 57 29.3 +2.0**
CUKT	**Cukurca**	**40.52**	**278**	*i* P		**P**	**06 57 29.8 +1.4**
PALK	**Pallekele**	**40.65**	**206**	P		**P**	**06 57 30.3 +0.9**
	comp=Z,740nm,1.3s,mb6.2,SNR=6.1						
PALK	**Pallekele**	**40.65**	**206**	*e*P		**P**	**06 57 29.5 +0.1**
	comp=Z,257nm,1.4s,mb5.7						
TRD	**Trivandrum**	**40.77**	**212**	*e*P		**P**	**06 57 29.2 -1.2**
TRD			⇓*e*P				06 57 30.0
TRD				AMb		AMB	06 57 38.0
	comp=Z,262nm,1.4s,mb5.7						
ERZM	**Erzurum**	**40.83**	**283**	*i* P		**P**	**06 57 34.2 +3.3**
EZM	**Erzurum**	**40.84**	**283**	*i* P		**P**	**06 57 34.0 +3.1**
IPM	**Ipoh**	**40.90**	**174**	P		**P**	**06 57 32.6 +1.1**
IPM	**Ipoh**	**40.90**	**174**	P		**P**	**06 57 30.4 -1.1**
BILL	**Bilibino**	**41.14**	**32***d*	*i*P		**P**	**06 57 33.6 +0.1**
BILL				pmax		pmax	
	comp=Z,200nm,0.9s,mb5.8						
BILL				MLR		MLR	
	comp=Z,10μm,27.0s,MS5.6						
BILL	**Bilibino**	**41.14**	**32**	*e*P		**P**	**06 57 34.0 +0.5**
	comp=Z,139nm,1.4s,mb5.4						
BILL				*e*PP		PP	06 59 07.9 -0.5
BILL				LR		LR	
	comp=Z,6μm,19.0s,MS5.5						
MSL	**Mosul**	**41.35**	**277**	*i* x		x	06 57 36.5
MSL				*ex*		x	06 59 13.0
MSL				*ex*		x	06 59 58.0
MSL				*ex*		x	07 03 53.0
BNGL	**BINGOL**	**41.42**	**282**	*i* P		**P**	**06 57 38.3 +2.6**
ANN	**Anapa**	**41.43**	**291***c*	*i*P		**P**	**06 57 36.4 +0.6**
ANN				*i* *PP		pP	06 57 39.6 -0.3
ANN				*e*			06 59 13.1
ANN				*e*S		**S**	**07 03 53.7 +3.2**
ANN				pmax		pmax	
	comp=Z,358nm,1.3s,mb5.8						
ANN				MLR		MLR	
	comp=N,19μm,18.0s,MS6.0						
ANN				MLR		MLR	
	comp=E,9μm,18.0s,MS6.0						
ANN				MLR		MLR	
	comp=Z,3μm,18.0s,MS5.2						
ANN	**Anapa**	**41.43**	**291**	*e*P		**P**	**06 57 35.0 -0.8**
KEV	**Kevo**	**41.59**	**330**	*e*P		**P**	**06 57 36.7 -0.4**
KEV				*e*			06 57 37.2
KEV				pmax		pmax	
	comp=Z,30nm,0.7s,mb5.0						
KEV	**Kevo**	**41.59**	**330**	*e*P		**P**	**06 57 36.7 -0.4**
	comp=Z,30nm,0.7s,mb5.0						
KEV				*e*PKPdf			**06 57 37.1 0.0**
UMR	**Umm Al-Rimmam**	**41.78**	**265**	*e*P		**P**	**06 57 39.0 +0.4**
UMR				AMb		AMB	06 57 45.5
	comp=Z,477nm,1.2s,mb6.0						
BEST	**Besiri**	**41.84**	**280**	*i* P		**P**	**06 57 41.2 +2.1**
MIB	**Mutribah**	**41.89**	**266**	*e*P		**P**	**06 57 40.3 +0.7**
MIB				AMb		AMB	06 57 46.4
	comp=Z,585nm,1.2s,mb6.1						
BINT	**Bingol**	**41.91**	**282**	*i* P		**P**	**06 57 41.7 +1.9**
SGF	**Sodankyl**	**41.91**	**327**	P		**P**	**06 57 39.1 -0.7**
EZC	**Erzincan**	**41.97**	**283**	*i* P		**P**	**06 57 44.9 +4.6**
KBD	**Kabd**	**42.02**	**265**	*e*P		**P**	**06 57 41.4 +0.7**
KBD				AMb		AMB	06 57 47.6
	comp=Z,2μm,1.5s,mb6.5						
BHD	**Baghdad**	**42.02**	**272**	*i* x		x	06 57 40.0
BHD				*ex*		x	06 59 14.0
BHD				*i* x		x	07 04 02.5
QRN	**Al-Qurain**	**42.12**	**264**	*e*P		**P**	**06 57 42.2 +0.7**
QRN				AMb		AMB	06 57 48.5
	comp=Z,666nm,1.2s,mb6.2						
ARCES	**ARCESS Array B**	**42.12**	**330**	P		**P**	**06 57 41.2 -0.3**
	comp=Z,48nm,0.7s,mb5.2,baz=79,slow=7.7,SNR=76						
ARCES				PP		PP	06 59 17.0 -2.0
	comp=Z,8.6nm,0.8s,baz=58,slow=8.6,SNR=3.6						
ARCES				LR		LR	07 16 52.3
	comp=Z,10μm,18.6s,MS5.7,baz=87,slow=38						
ARCES	**ARCESS Array B**	**42.12**	**330**	P		**P**	**06 57 41.2 -0.3**
ARCES							06 59 17.0
ARCES	**ARCESS Array B**	**42.12**	**330**	P		**P**	**06 57 41.2 -0.3**
ARCES				PP		PP	06 59 17.0 -2.0
ARCES				LR		LR	07 16 52.3
ARE0	**ARCESS Array S**	**42.12**	**330**	*e*P		**P**	**06 57 41.5 -0.1**
ARE0				*ep*P		pP	06 57 45.7 0.0
TBP	**Tagbilaran**	**42.26**	**139**	*e*P		**P**	**06 57 48.7 +6.1**
RDF	**Al-Radifah**	**42.27**	**265**	*e*P		**P**	**06 57 43.5 +0.8**
RDF				AMb		AMB	06 57 49.7
	comp=Z,726nm,1.4s,mb6.1						
NAY	**Al-Naaiem**	**42.29**	**265**	*e*P		**P**	**06 57 43.2 +0.3**
NAY				AMb		AMB	06 57 49.6
	comp=Z,389nm,1.4s,mb5.9						
OUL	**Oulu**	**42.45**	**323**	P		**P**	**06 57 40.9 -3.2**
MARD	**Mardin**	**42.46**	**280**	*i* P		**P**	**06 57 45.8 +1.6**
PSI	**Prapat**	**42.47**	**178**	P		**P**	**06 57 45.0 +0.7**
	comp=Z,14nm,0.7s,mb4.8,baz=317,slow=8.2,SNR=24						
GRSN	**GIRESUNGRSN**	**42.49**	**286**	*i* P		**P**	**06 57 44.9 +0.4**
KKM	**Kota Kinabalu**	**42.51**	**152**	P		**P**	**06 57 44.7 0.0**
KKM	**Kota Kinabalu**	**42.51**	**152**	*e*P		**P**	**06 57 44.1 -0.6**
MNCY	**Minicoy**	**42.56**	**217**	*e*P		**P**	**06 57 45.0 0.0**
MNCY				*ex*		x	06 58 18.0
DIY	**Diyarbakir**	**42.56**	**281**	P		**P**	**06 57 48.1 +3.1**
KAF	**Kangasniemi**	**42.77**	**319**	*ep*		**P**	**06 57 46.1 -0.7**
	comp=Z,29nm,0.7s,mb5.1,baz=79,slow=7.9						
KAF	**Kangasniemi**	**42.77**	**319**	*e*P		**P**	**06 57 46.1 -0.7**
KAF				pmax		pmax	
	comp=Z,29nm,0.7s,mb5.1						
KTK1	**Kautokeino**	**42.98**	**329**	*e*P		**P**	**06 57 47.9 -0.5**
KTK1				AMb		AMB	06 57 49.9
	comp=Z,106nm,1.6s,mb5.3						
KTK1	**Kautokeino**	**42.98**	**329**	*e*P		**P**	**06 57 47.9 -0.5**
	comp=Z,106nm,1.6s,mb5.3						
FINES	**FINESS Array B**	**43.02**	**318**	P		**P**	**06 57 48.1 -0.7**
	comp=Z,32nm,0.8s,mb5.1,baz=91,slow=8.0,SNR=61						
FINES				LR		LR	07 15 29.3
	comp=Z,3μm,20.6s,MS5.2,baz=90,slow=36						
FINES	**FINESS Array B**	**43.02**	**318**	*i* P		**P**	**06 57 48.0 -0.8**
FINES				pmax		pmax	
	comp=Z,32nm,0.8s						
ELZG	**Elazig**	**43.12**	**282**	*i* P		**P**	**06 57 52.1 +2.4**
VSU	**Vasula**	**43.39**	**314***c*	*i*P		**P**	**06 57 51.2 -0.6**
VSU	**Vasula**	**43.39**	**314**⇑	*i*P		**P**	**06 57 51.3 -0.5**
SIM	**Simferopol'**	**43.53**	**293***c*	*i*P		**P**	**06 57 54.1 +1.2**
SIM				*e*			06 59 34.0
SIM				*e*S		**S**	**07 04 25.5 +4.0**
SIM				pmax		pmax	
	comp=Z,68nm,1.2s,mb5.2						
SIM				MLR		MLR	
	comp=Z,12μm,21.5s,MS5.8						
SIM	**Simferopol'**	**43.53**	**293**	*e*P		**P**	**06 57 54.0 +1.1**
KGM	**Kluang**	**43.54**	**171**	P		**P**	**06 57 54.0 +1.0**
MYA	**Malataya**	**43.59**	**282**	P		**P**	**06 57 55.7 +2.2**
MALT	**Malatya**	**43.60**	**282**⇑	*i*P		**P**	**06 57 55.8 +2.3**
MALT	**Malatya**	**43.60**	**282**	*e*P		**P**	**06 57 55.5 +2.0**
MALT				pmax		pmax	
	comp=Z,153nm,1.1s,mb5.6						
MALT	**Malatya**	**43.60**	**282**	*e*P		**P**	**06 57 55.5 +2.0**
	comp=Z,153nm,1.1s,mb5.6						
BJO	**Bjornoya**	**43.73**	**338**	AMS		AMS	07 21 27.0
	comp=Z,8μm,17.1s,MS5.7						
URFA	**Urfa**	**43.75**	**281**	P		**P**	**06 57 55.7 +1.0**
SVSK	**Karacayir**	**43.81**	**285**	P		**P**	**06 57 56.3 +1.1**
MNK	**Minsk**	**43.92**	**308**	*e*P		**P**	**06 57 55.0 -1.1**
MNK				*e*			06 59 36.0
MNK				*e*S		**S**	**07 04 22.0 -5.1**
MNK				*e*SSS			07 08 32.0
MNK				MLR		MLR	
	comp=Z,6μm,10.0s,MS5.8						
MNK				MLR		MLR	
	comp=N,3μm,11.0s,MS5.6						
MNK				MLR		MLR	
	comp=E,3μm,11.0s,MS5.6						
KVT	**Kavak**	**43.92**	**287**	P		**P**	**06 57 57.2 +1.1**
GSI	**Gunungsitoli**	**43.93**	**180**	P		**P**	**06 57 56.4 +0.3**
TOKT	**Tokat**	**43.93**	**286**	P		**P**	**06 57 56.9 +0.7**
MEF	**Metsahovi**	**44.10**	**317**	P		**P**	**06 57 56.1 -1.4**
BTDF	**Bukit Timah Da**	**44.24**	**171**	P		**P**	**06 58 00.2 +1.6**
AKASG	**Malin Array Be**	**44.38**	**302**	P		**P**	**06 57 59.2 -0.6**
	comp=E,19nm,0.5s,mb5.1,baz=59,slow=8.1,SNR=113						
AKASG				PP		PP	06 59 39.8 -3.5
	comp=E,5.4nm,0.6s,baz=63,slow=8.7,SNR=2.1						
AKASG	**Malin Array Be**	**44.38**	**302**	P		**P**	**06 57 59.2 -0.6**
AKASG				PP		PP	06 59 39.8 -3.5
TRO	**Tromso**	**44.41**	**331**	*e*P		**P**	**06 57 58.0 -2.0**
TRO				*e*SS		SS	07 07 55.5 +2.4
TRO				AMS		AMS	07 18 55.7
	comp=Z,6μm,18.5s,MS5.5						
TRO	**Tromso**	**44.41**	**331**	*i* P		**P**	**06 57 58.5 -1.5**
TRO				LR		LR	
	comp=Z,6μm,18.5s,MS5.5						
BOYT	**Boyabat**	**44.53**	**288**	*i* P		**P**	**06 58 02.2 +1.2**
GZT	**Gaziantep**	**44.66**	**282**	*i* P		**P**	**06 58 03.8 +1.8**
TSM	**Tawau**	**44.71**	**150**	P		**P**	**06 58 03.8 +1.4**
CTKT	**Corum**	**44.98**	**287**	*i* P		**P**	**06 58 05.8 +1.2**
KBS	**Kingsbay**	**44.98**	**344**	*e*P		**P**	**06 58 00.8 -3.7**
KBS				*e*PP		PP	06 59 48.8 -0.8
KBS				*e*SS		SS	07 08 07.2 +3.0
KBS				AMS		AMS	07 19 47.9
	comp=Z,5μm,17.9s,MS5.5						
KBS	**Kingsbay**	**44.98**	**344**	*e*P		**P**	**06 58 04.2 -0.4**
KBS				*i*			06 59 48.2
GAZ	**Gaziantep**	**45.00**	**282**	P		**P**	**06 58 06.3 +1.6**
BNN	**Bunyan**	**45.10**	**284**	P		**P**	**06 58 06.2 +0.7**
KSM	**Kuching**	**45.23**	**162**	*e*P		**P**	**06 58 06.6 +0.1**
CORM	**Corum**	**45.29**	**287**	P		**P**	**06 58 08.2 +1.1**
TOS	**Tosya**	**45.30**	**288**	P		**P**	**06 58 08.3 +1.2**
DAV	**Davao City (W)**	**45.35**	**139**	*e*P		**P**	**06 58 07.0 -0.5**
	comp=Z,235nm,0.4s,mb6.4						
DAV				LR		LR	
	comp=Z,6μm,19.0s,MS5.5						
RBK	**Rabkut**	**45.37**	**247**	⇓P		**P**	**06 58 08.4 +0.8**
	SNR=16						
BALT	**Daday**	**45.50**	**289**	*i* P		**P**	**06 58 09.8 +1.1**
CDAG	**Cicekdag**	**45.73**	**286**	*i* P		**P**	**06 58 11.1 +0.6**
CANT	**Cankiri**	**45.77**	**288**	P		**P**	**06 58 11.9 +1.1**
KOZT	**Kozan**	**45.80**	**283**	P		**P**	**06 58 12.0 +1.0**
AVNT	**Avonos**	**45.82**	**285**	*i* P		**P**	**06 58 13.5 +2.4**
ELDT	**Eldivan**	**45.96**	**288**	*i* P		**P**	**06 58 13.7 +1.4**
COBT	**Iskenderun**	**45.99**	**281**	*i* P		**P**	**06 58 14.3 +1.8**
KIS	**Kishinev**	**46.06**	**298***d*	*i*P		**P**	**06 58 12.0 -1.1**
KIS				*e*			06 59 58.0
KIS				*e*S		**S**	**07 04 54.0 -4.1**
KIS				*e*SS		SS	07 09 20.0 +57
KIS				pmax		pmax	
	comp=Z,700nm,4.0s						
KIS				MLR		MLR	
	comp=Z,10μm,12.0s,MS6.0						
ABTO	**Aybut**	**46.07**	**247**	⇓P		**P**	**06 58 14.1 +1.0**
	SNR=24						
CEYT	**Ceyhan**	**46.09**	**282**	P		**P**	**06 58 14.6 +1.3**
SAFT	**Safranbolu**	**46.10**	**289**	P		**P**	**06 58 14.2 +0.8**
BR131	**Keskin Array S**	**46.18**	**287**	*e*P		**P**	**06 58 15.0 +1.0**
	comp=Z,59nm,0.8s,mb5.6						
BR131				LR		LR	
	comp=Z,4μm,20.0s,MS5.4						
BRTR	**Keskin Array B**	**46.18**	**287**	P		**P**	**06 58 15.0 +1.0**
	comp=Z,65nm,0.8s,mb5.6,baz=80,slow=7.0,SNR=166						
BRTR				PP		PP	07 00 03.0 +0.7
	comp=Z,26nm,1.0s,baz=64,slow=6.6,SNR=2.8						
KAMT	**Kaman**	**46.30**	**286**	P		**P**	**06 58 15.5 +0.5**
KARA	**Karaisali**	**46.44**	**283**	P		**P**	**06 58 17.2 +1.1**
KRTS	**Karatas**	**46.57**	**282**	P		**P**	**06 58 17.8 +0.7**
LOF	**Lofoten**	**46.64**	**329**	*e*P		**P**	**06 58 18.4 +0.8**
LOF				AMb		AMB	06 58 23.0
	comp=Z,159nm,0.9s,mb6.0						
LOF	**Lofoten**	**46.64**	**329**	*e*P		**P**	**06 58 18.4 +0.8**
	comp=Z,159nm,0.9s,mb6.0						
SUW	**Suwalki**	**46.65**	**309**	*e*P		**P**	**06 58 17.8 0.0**
ANTO	**Ankara**	**46.68**	**287**	P		**P**	**06 58 17.8 -0.2**
ANTO	**Ankara**	**46.68**	**287**	*e*P		**P**	**06 58 18.0 0.0**
ANTO				pmax		pmax	
	comp=Z,86nm,0.8s,mb5.7						
ANTO				MLR		MLR	
	comp=Z,6μm,20.0s,MS5.5						
ANTO	**Ankara**	**46.68**	**287**	*e*P		**P**	**06 58 18.0 0.0**
	comp=Z,86nm,0.8s,mb5.7						
ANTO				LR		LR	
	comp=Z,6μm,20.0s,MS5.5						
LOD	**Lodumlu**	**46.69**	**287**	P		**P**	**06 58 18.3 +0.3**
SGKT	**Sivrigoynuk**	**46.84**	**288**	*i* P		**P**	**06 58 20.8 +1.6**
MOR8	**Moi Rana**	**46.85**	**326**	*e*P		**P**	**06 58 17.3 -2.0**
MOR8				AMb		AMB	06 58 19.1
	comp=Z,91nm,1.5s,mb5.5						
MOR8				*ep*P		pP	06 58 20.8 -2.7
MOR8	**Moi Rana**	**46.85**	**326**	*e*P		**P**	**06 58 17.3 -2.0**
	comp=Z,91nm,1.5s,mb5.5						
CFR	**Carcaliu**	**47.27**	**296**⇑	*i*P		**P**	**06 58 23.2 +0.6**
CFR	**Carcaliu**	**47.27**	**296**	⇓P		**P**	**06 58 23.0 +0.4**
MEST	**Erdemli**	**47.41**	**283**	*i* P		**P**	**06 58 24.2 +0.5**
TIRR	**Tirgusor**	**47.41**	**295**⇑	*i*P		**P**	**06 58 23.5 -0.2**
TIRR	**Tirgusor**	**47.41**	**295**	*e*P		**P**	**06 58 23.8 +0.1**
TIRR				*ep*P		pP	06 58 27.9 0.0
MDU	**Mudurnu**	**47.45**	**289**	P		**P**	**06 58 24.7 +0.7**
HENT	**Hendek**	**47.49**	**289**	*i* P		**P**	**06 58 24.5 +0.3**
KIZT	**Kizilcal**	**47.78**	**286**	P		**P**	**06 58 27.0 +0.4**
BHL	**Bhannes**	**47.79**	**279**	*e*P		**P**	**06 58 27.3 +0.7**
LVV	**L'vov**	**47.80**	**303**	*e*P		**P**	**06 58 25.7 -1.0**
LVV				*e*			06 59 54.5
LVV				*e*			07 00 16.3
LVV				*e*PPP			07 01 05.7
LVV				*e*S		**S**	**07 05 21.5 -1.5**
LVV				*e*PS			07 05 31.3
LVV				MLR		MLR	
	comp=E,5μm,16.0s,MS5.7						
LVV				MLR		MLR	
	comp=Z,6μm,16.0s,MS5.7						
LVV				MLR		MLR	
	comp=N,4μm,15.0s,MS5.7						
KDHN	**Kadinhani**	**47.80**	**286**	*i* P		**P**	**06 58 27.0 +0.3**
VRI	**Vrincioaia**	**47.85**	**297**⇓	*i*P		**P**	**06 58 27.9 +0.8**
VRI	**Vrincioaia**	**47.85**	**297**	P		**P**	**06 58 28.1 +1.0**
ASF	**Jabal al Asfar**	**47.88**	**276**	P		**P**	**06 58 29.4 +2.1**
	comp=N,101nm,0.9s,mb5.9,baz=283,slow=3.7,SNR=80						
IKL	**Isikli**	**47.91**	**282**	P		**P**	**06 58 27.4 -0.2**
RCY	**Rachaya**	**47.91**	**278**	*e*P		**P**	**06 58 28.6 +1.0**
PSN	**Preselentsi**	**47.92**	**294**	*e*P		**P**	**06 58 28.8 +1.2**
KONT	**Konya--Tatoy**	**47.93**	**285**	P		**P**	**06 58 28.3 +0.6**
BURAR	**Bucovina Array**	**48.02**	**300**⇑	*i*P		**P**	**06 58 28.7 +0.3**
GPA	**Golpazari**	**48.14**	**289**	P		**P**	**06 58 29.7 +0.4**
ESKT	**Eskisehir**	**48.16**	**288**	*i* P		**P**	**06 58 29.6 +0.1**
KSDI	**Kefar Szold**	**48.18**	**278**	P		**P**	**06 58 30.4 +0.8**
ERMK	**Ermenek**	**48.23**	**283**	*i* P		**P**	**06 58 25.1 -4.8**
NSS	**Namsos**	**48.35**	**325**	*e*PP		PP	07 00 20.6 -2.9
NSS				AMS		AMS	07 21 04.0
	comp=Z,11μm,16.4s,MS5.9						
ADVT	**Abdulvahap**	**48.45**	**289**	P		**P**	**06 58 31.7 0.0**
MMAI	**Mount Meron Ar**	**48.46**	**278**	P		**P**	**06 58 32.5 +0.8**
	comp=Z,55nm,0.9s,mb5.6,baz=52,slow=9.6,SNR=35						
MMAI				PP		PP	07 00 20.5 -4.0
	comp=Z,8.2nm,0.9s,baz=98,slow=10,SNR=2.8						
KLYT	**Kilyos**	**48.51**	**291**	P		**P**	**06 58 32.5 +0.4**
MLR	**Muntele Rosu**	**48.51**	**297**⇑	*i*P		**P**	**06 58 33.0 +0.8**
MLR	**Muntele Rosu**	**48.51**	**297**	P		**P**	**06 58 33.1 +0.9**
WAR	**Warsaw**	**48.54**	**307**	*e*P		**P**	**06 58 32.5 +0.1**
ISK	**Istanbul-Kandi**	**48.59**	**290**	P		**P**	**06 58 33.3 +0.5**
YLV	**Yalova**	**48.62**	**290**	P		**P**	**06 58 33.0 -0.1**
KWP	**Kalwaria**	**48.66**	**303**	*e*P		**P**	**06 58 33.9 +0.6**
KWP				*e*PP		PP	07 00 26.9 +0.6
KWP	**Kalwaria**	**48.66**	**303**	P		**P**	**06 58 33.8 +0.5**
KWP				pmax		pmax	
	comp=Z,190nm,1.0s,mb6.1						
CSS	**Prodhromos**	**48.83**	**281**	*e*P		**P**	**06 58 33.9 -0.7**
	comp=Z,204nm,1.3s,mb6.0						
BUC1	**Bucharest**	**48.98**	**296**	P		**P**	**06 58 37.1 +1.3**
KSI	**Kapahiang**	**49.08**	**173**	P		**P**	**06 58 35.0 -1.5**
VOIR		**49.10**	**297**⇓	*i*P		**P**	**06 58 36.8 +0.1**
MTUR	**Matau**	**49.19**	**297**	P		**P**	**06 58 39.0 +1.6**
HFA0	**Hagfors New Ar**	**49.20**	**319**	P		**P**	**06 58 35.8 -1.6**
KOLS	**Kolonicke sedl**	**49.22**	**303**	*e*P		**P**	**06 58 39.9 +2.3**
KOLS				*e*PP		PP	07 00 44.4 +13
KOLS				*e*S		**S**	**07 05 40.4 -2.6**
KOLS				*e*SS		SS	07 09 17.1 +2.8
KOLS	**Kolonicke sedl**	**49.22**	**303**	*e*P		**P**	**06 58 39.9 +2.3**
KOLS				*e*S		**S**	**07 05 40.4 -2.6**
KOLS				*e*SS		SS	07 09 17.1 +2.8
KOLS				pmax		pmax	
	comp=Z,46nm,1.5s,mb5.3						
KOLS				MLR		MLR	
	comp=Z,6μm,20.8s,MS5.6						
KOLS	**Kolonicke sedl**	**49.22**	**303**	*e*P		**P**	**06 58 39.9 +2.3**
	comp=Z,46nm,1.5s,mb5.3						
KOLS				*e*PP		PP	07 00 44.4 +13
KOLS				*e*S		**S**	**07 05 40.4 -2.6**
KOLS				*e*SS		SS	07 09 17.1 +2.8
KOLS				LR		LR	
	comp=Z,6μm,20.8s,MS5.6						
TKTP	**Tekketepe**	**49.27**	**286**	*i* P		**P**	**06 58 38.4 +0.4**
GDZ	**Gediz**	**49.29**	**288**	*i* P		**P**	**06 58 38.5 +0.3**
UZH	**Uzhgorod**	**49.34**	**302**	*i* P		**P**	**06 58 37.0 -1.5**
UZH				*i*			07 00 30.0
UZH				*e*S		**S**	**07 05 41.0 -3.7**
UZH				MLR		MLR	
	comp=Z,21μm,10.0s,MS6.4						
JMB	**Yambol**	**49.52**	**293**	P		**P**	**06 58 41.0 +1.1**
STHS	**Stebnicka Huta**	**49.61**	**304**	*e*P		**P**	**06 58 40.4 -0.2**
STHS				*e*			07 00 39.7
STHS				pmax		pmax	
	comp=Z,24nm,1.0s,mb5.2						
STHS	**Stebnicka Huta**	**49.61**	**304**	*e*P		**P**	**06 58 40.4 -0.2**
	comp=Z,24nm,1.0s,mb5.2						
STHS				*e*PP		PP	07 00 39.7 +4.7
BNT	**Bandirma**	**49.69**	**290**	P		**P**	**06 58 41.3 +0.1**
EDRB	**Edirne**	**49.72**	**293**	P		**P**	**06 58 41.6 +0.1**
MFT	**Murefte**	**49.90**	**291**	P		**P**	**06 58 41.4 -1.3**
DRGR		**49.92**	**300**⇓	*i*P		**P**	**06 58 43.2 +0.3**
DRGR		**49.92**	**300**	P		**P**	**06 58 43.9 +0.9**
BTOK	**Tokmak**	**49.92**	**290**	*i* P		**P**	**06 58 43.4 +0.5**
NB2	**NORSAR Subarra**	**49.97**	**321**	P		**P**	**06 58 42.0 -1.3**
	comp=Z,23nm,0.6s,mb5.4,baz=68,slow=7.9						
NB2	**NORSAR Subarra**	**49.97**	**321**	P		**P**	**06 58 42.0 -1.3**
NB2				pmax		pmax	
	comp=Z,23nm,0.6s,mb5.4						
NOA	**NORSAR Array B**	**49.97**	**321**	P		**P**	**06 58 42.0 -1.3**
	comp=Z,21nm,0.6s,mb5.3,baz=72,slow=8.6,SNR=66						
NOA				LR		LR	07 19 50.1
	comp=Z,5μm,21.0s,MS5.5,baz=45,slow=36						
RKY	**Sarkoy-Tekirda**	**50.01**	**291**	P		**P**	**06 58 43.4 -0.3**
BALB	**Balikesir**	**50.08**	**289**	P		**P**	**06 58 44.0 -0.2**
OJC	**Ojcow**	**50.10**	**305**	*i* Pc		**P**	**06 58 44.2 -0.1**
OJC				*e*PP		PP	07 00 39.8 +0.4
OJC				*e*S		**S**	**07 05 54.2 -1.1**
OJC				*e*SS		SS	07 09 26.3 -2.1
OJC				L			07 20 32.0
	comp=Z,97nm,19.7s						
NIE	**Niedzica**	**50.15**	**304**	*e*P		**P**	**06 58 45.3 +0.6**
NIE				*e*PP		PP	07 00 40.9 +1.0
NAO01	**NORSAR Array S**	**50.20**	**320**	*e*P		**P**	**06 58 43.8 -1.2**
	comp=Z,38nm,0.9s,mb5.4						
GKP	**Gorka Klasztor**	**50.20**	**310**	*e*P		**P**	**06 58 45.9 +0.8**
ELL	**Elmali**	**50.22**	**285**	P		**P**	**06 58 45.0 -0.2**
PCI	**Palu**	**50.24**	**150**	P		**P**	**06 58 46.8 +1.4**
DENT	**Denizli**	**50.28**	**287**	P

KONO eSS SS 07 09 49.6 +2.3
KONO Kongsberg 51.28 319 *i* P **P 06 58 52.1 -1.1**
KONO Kongsberg 51.28 319 *eP* **P 06 58 52.8 -0.4**
KONO *e* 07 00 50.2
KONO *i* 07 09 49.8
BLCB Balcova 51.29 289 P **P 06 58 52.6 -0.7**
MLSB Milas 51.37 287 P **P 06 58 54.3 +0.4**
VYHS Vyhne 51.44 304 *i* P **P 06 58 54.8 +0.3**
VYHS ePP PP 07 00 50.7 -0.9
VYHS eS **S 07 06 15.9 +1.9**
VYHS Vyhne 51.44 304 *i* P **P 06 58 54.8 +0.3**
VYHS *e* 07 00 50.7
VYHS eS **S 07 06 15.9 +1.9**
VYHS pmax pmax
comp=Z,418nm,3.0s
VYHS MLR MLR
comp=Z,13µm,20.0s,MS6.0
VYHS Vyhne 51.44 304 *i* P **P 06 58 54.8 +0.3**
comp=Z,418nm,3.0s
VYHS ePP PP 07 00 50.7 -0.9
VYHS eS **S 07 06 15.9 +1.9**
VYHS LR LR
comp=Z,13µm,20.0s,MS6.0
TNA Tin City 51.58 32 *eP* **P 06 58 55.8 +0.3**
comp=Z,383nm,1.6s,mb6.1
MORC Moravsky Berou 51.59 305⇑*iP* **P 06 58 55.7 +0.1**
MORC Moravsky Berou 51.59 305 *eP* **P 06 58 55.7 +0.1**
MORC pmax pmax
comp=Z,53nm,1.2s,mb5.3
MORC Moravsky Berou 51.59 305 *eP* **P 06 58 55.7 +0.1**
comp=Z,53nm,1.2s,mb5.3
VTS Vitosha 51.63 295 P **P 06 58 56.0 +0.1**
VTS Vitosha 51.63 295 *eP* **P 06 58 56.5 +0.6**
VTS Vitosha 51.63 295⇑*iP* **P 06 58 56.5 +0.6**
COP Copenhagen 51.66 314 *i* P **P 06 58 55.0 -1.1**
COP
comp=Z,7µm,18.0s
KOLL Kolacno 51.66 304 *eP* **P 06 58 56.4 +0.3**
DAG Danmarks Havn 51.71 345*b iP* **P 06 58 54.3 -2.1**
comp=Z,25nm,1.3s,mb5.0
DAG
comp=Z,5µm,21.0s
DAG Danmarks Havn 51.71 345⇑*eP* **P 06 58 54.3 -2.1**
DAG pmax pmax
comp=Z,25nm,1.3s,mb5.0
DAG MLR MLR
comp=Z,5µm,21.0s,MS5.5
DAG Danmarks Havn 51.71 345 *e*Pcr **P 06 58 54.3 -2.1**
comp=Z,25nm,1.3s,mb5.0
DAG LR LR
comp=Z,5µm,21.0s,MS5.5
RGN Rugen 51.71 312 *eP* **P 06 58 56.4 -0.1**
comp=Z,432nm,1.6s,mb6.1
ARG Arkhangelos 51.72 286 P **P 06 58 54.8 -1.7**
BDRM Kayabasi 51.72 287 *i* P **P 06 58 57.2 +0.7**
BOLS Boljevac 51.80 297⇓*iP* **P 06 58 56.6 -0.6**
MMB Musomiste 51.80 294 P **P 06 58 58.0 +0.8**
KSP Ksiaz 51.81 307 *eP* **P 06 58 57.1 -0.1**
KSP *e* 07 02 01.9
KSP Ksiaz 51.81 307⇑*eP* **P 06 58 57.2 0.0**
KSP ePP PP 07 00 50.0 -4.9
KSP eS **S 07 06 17.5 -1.5**
KSP eSS SS 07 09 53.0 -2.5
DAT Datca 51.81 286 P **P 06 58 56.9 -0.3**
BODT Bodrum 51.81 287 P **P 06 58 57.5 +0.3**
BUD Budapest 51.81 302⇑*iP* **P 06 58 57.6 +0.4**
ALE Alert 51.91 357 P **P 06 58 57.0 -0.9**
comp=Z,265nm,1.9s,mb5.8,SNR=38
CHOS Chios island 51.95 289 *eP* **P 06 58 58.0 -0.2**
JAVC Velka Javorina 51.95 304 P **P 06 59 00.2 +1.9**
DPC Dobruska-Polom 52.02 307 *eP* **P 06 59 58.2 +0.4**
DPC eSS SS 07 10 15.7 +17
DPC AMS AMS 07 21 20.0
comp=Z,20µm,12.7s
SVIS Svilajnac 52.03 298⇓*iP* **P 06 58 59.0 +0.1**
SVIS Svilajnac 52.03 298 P **P 06 59 00.9 +2.1**
SRO Srobarova 52.08 303 *eP* **P 06 59 00.6 +1.4**
KKB Krupnik 52.08 294 P **P 06 58 59.6 +0.4**
UPC Upice 52.12 307 *eP* **P 06 58 59.6 +0.1**
SRO1 Iza 52.15 303 *eP* **P 06 59 01.5 +1.8**
SRO1 pmax pmax
comp=Z,45nm,0.8s,mb5.5
BEO Belgrade 52.24 299 *i* P **P 06 59 00.5 +0.1**
VRAC Vranov 52.36 305⇑*iP* **P 06 59 01.3 0.0**
VRAC Vranov 52.36 305 P **P 06 59 01.9 +0.6**
RUE Ruedersdorf 52.42 310 *eP* **P 06 59 01.5 -0.3**
comp=Z,262nm,1.7s,mb5.9
RUE Ruedersdorf 52.42 310 *eP* **P 06 59 01.7 0.0**
comp=Z,67nm,0.9s,mb5.6
SOH Sokhos 52.44 293 *eP* **P 06 59 01.9 0.0**
GRUS Gruza 52.55 298 *i* P **P 06 59 02.4 -0.3**
JMIC Jan Mayen 52.59 337 *e* **P 06 58 53.8 -9.2**
JMIC *eP* 06 59 02.8
JMIC eS **S 07 06 31.5 +1.8**
JMIC AMS AMS 07 24 11.5
comp=Z,4µm,21.3s,MS5.4
KRUC Moravsky 52.59 305 P **P 06 59 03.7 +0.7**
ZST Bratislava 52.60 304 *eP* **P 06 59 04.4 +1.3**
ZST ePP PP 07 00 58.2 -3.9
ZST eS **S 07 06 33.2 +3.3**
ZST eSS SS 07 10 35.7 +28
ZST Bratislava 52.60 304 *eP* **P 06 59 04.4 +1.3**
ZST *e* 07 00 58.2
ZST eS **S 07 06 33.2 +3.3**
ZST pmax pmax
comp=Z,75nm,1.8s,mb5.3
ZST MLR MLR
comp=Z,5µm,20.7s,MS5.5
ZST Bratislava 52.60 304 *eP* **P 06 59 04.4 +1.3**
comp=Z,75nm,1.8s,mb5.3
ZST ePP PP 07 00 58.2 -3.9
ZST eS **S 07 06 33.2 +3.3**
ZST eSS SS 07 10 35.7 +28
ZST LR LR
comp=Z,5µm,20.7s,MS5.5
PLG Polygyros 52.62 293 *eP* **P 06 59 02.5 -0.7**
PKSM Moragy 52.66 301⇑*iP* **P 06 59 03.3 -0.2**
PKSM Moragy 52.66 301 P **P 06 59 03.6 +0.1**
VAY Valandovo 52.69 294 *eP* **P 06 59 03.6 -0.2**
VAY Valandovo 52.69 294⇑*iP* **P 06 59 03.6 -0.1**
KARP Karpathos 52.74 285 *eP* **P 06 59 04.0 -0.1**
STIP Stip 52.74 295 *i* P **P 06 59 04.0 -0.1**
THE Thessaloniki 52.79 293 *eP* **P 06 59 04.1 -0.4**
BLS5 Blasjo 52.81 320 *eP* **P 06 59 04.7 +0.1**
BLS5 AMb AMB 06 59 11.2
comp=Z,47nm,1.2s,mb5.3
BLS5 Blasjo 52.81 320 *eP* **P 06 59 04.7 +0.1**
comp=Z,47nm,1.2s,mb5.3
BER Bergen 52.86 321 *eP* **P 06 59 03.0 -2.0**
BER eS **S 07 06 32.2 -1.2**
BER eSS SS 07 10 14.8 +2.6
BER AMS AMS 07 23 25.6
comp=Z,12µm,17.0s,MS6.0
BER Bergen 52.86 321 *i* P **P 06 59 01.6 -3.4**
BER *e* 07 06 37.4
BER LR LR
comp=Z,12µm,17.0s,MS6.0
DIVS Divcibare 52.90 298⇓*iP* **P 06 59 04.7 -0.6**
DIVS Divcibare 52.90 298 *eP* **P 06 59 04.8 -0.5**
PVCC Panska Ves 52.92 307 *eP* **P 06 59 05.8 +0.4**
PVCC *e* 07 01 08.3
PVCC *e* 07 02 11.9
PVCC eS **S 07 06 36.5 +2.3**
PVCC eSS SS 07 10 18.8 +5.6
PVCC MLR MLR
comp=Z,8µm,11.4s,MS6.0
MUD Monsted U'grnd 52.93 316⇑*iP* **P 06 59 05.3 -0.2**
comp=Z,115nm,1.2s,mb5.7
MUD *i* S **S 07 06 39.3 +5.0**
MUD
comp=Z,7µm,18.0s
MUD Monsted U'grnd 52.93 316⇑*iP* **P 06 59 05.3 -0.2**
comp=Z,115nm,1.2s,mb5.7
MUD *i* S **S 07 06 39.3 +5.0**
GRG Griva 52.99 294 *eP* **P 06 59 05.8 -0.1**
TREC Trest 53.00 306 *eP* **P 06 59 06.5 +0.5**
TREC ePP PP 07 01 06.4 +0.7
TREC *ex* x 07 02 09.9
TREC eS **S 07 06 36.5 +1.2**
TREC eSS SS 07 10 19.7 +5.3
TREC AMS AMS 07 21 50.0
comp=Z,16µm,11.4s
APE Apeiranthos 53.00 288 *eP* **P 06 59 05.6 -0.5**

APE Apeiranthos 53.00 288 *eP* **P 06 59 05.0 -1.1**
APE Apeiranthos 53.00 288⇓*iP* **P 06 59 05.5 -0.6**
SKO Skopje 53.08 295 *eP* **P 06 59 07.4 +0.8**
SKO Skopje 53.08 295 *i* P **P 06 59 07.5 +0.9**
BRG Berggiesshubel 53.10 308 *eP* **P 06 59 06.3 -0.5**
comp=Z,104nm,1.7s,mb5.5
BRG Berggiesshubel 53.10 308 *i* P **P 06 59 06.6 -0.1**
comp=Z,38nm,1.3s,mb5.2
BRG PP PP 07 01 06.0 -0.6
BRG S **S 07 06 35.0 -1.7**
BRG SS SS 07 10 20.0 +4.0
BRG
comp=Z,10µm,13.4s
BRG
comp=N,10µm,13.5s
BRG
comp=E,7µm,13.5s
BRG Berggiesshubel 53.10 308 *i* P **P 06 59 06.6 -0.2**
BRG 07 01 06.0
BRG S **S 07 06 35.0 -1.7**
BRG SS SS 07 10 20.0 +4.0
BRG pmax pmax
comp=Z,380nm,1.3s,mb6.2
BRG MLR MLR
comp=Z,10µm,13.4s,MS6.0
BRG Berggiesshubel 53.10 308 *i* P **P 06 59 06.6 -0.1**
comp=Z,38nm,1.3s,mb5.2
BRG PP PP 07 01 06.0 -0.6
BRG S **S 07 06 35.0 -1.7**
BRG SS SS 07 10 20.0 +4.0
BRG LR LR
comp=Z,10µm,13.4s,MS6.0
SOP Sopron 53.17 304⇑*iP* **P 06 59 08.1 +0.8**
SOP Sopron 53.17 304 P **P 06 59 07.6 +0.3**
PRU Pruhonice 53.20 307 *eP* **P 06 59 07.6 +0.1**
PRU ePP PP 07 01 08.8 +1.3
PRU *ex* x 07 02 14.3
PRU eS **S 07 06 36.7 -1.3**
PRU eSS SS 07 10 24.0 +6.4
PRU AMS AMS 07 22 10.0
comp=Z,17µm,13.0s
PRU Pruhonice 53.20 307 *eP* **P 06 59 07.6 +0.1**
PRU *e* 07 01 08.8
PRU *e* 07 02 14.3
PRU eS **S 07 06 36.7 -1.3**
PRU MLR MLR
comp=Z,17µm,13.0s,MS6.3
PRA Prague 53.22 307⇑P **P 06 59 07.0 -0.6**
BBLS Bajina Basta - 53.37 298 *i* P **P 06 59 09.6 +0.8**
FBE Freiberg 53.41 308 *eP* **P 06 59 08.7 -0.3**
comp=Z,150nm,1.7s,mb5.7
CLL Collm 53.41 309 *eP* **P 06 59 08.6 -0.4**
comp=Z,105nm,1.6s,mb5.5
CLL ePP PP 07 01 09.5 +0.1
CLL ePPP 07 02 16.9
CLL eS **S 07 06 41.9 +1.0**
CLL eSS SS 07 10 27.4 +6.5
CLL eL 07 23 40.7
comp=Z,7µm,18.0s
CLL Collm 53.41 309 *i* P **P 06 59 08.5 -0.5**
comp=Z,103nm,1.6s,mb5.5
CLL *i* pP pP 06 59 11.7 -1.5
CLL ePP PP 07 01 09.0 -0.4
CLL ePPP 07 02 13.0
CLL eS **S 07 06 40.0 -0.9**
CLL eSS SS 07 10 18.0 -2.9
CLL Collm 53.41 309 *i* P **P 06 59 08.5 -0.5**
CLL *i* *PP pP 06 59 11.7 -1.5
CLL eS **S 07 06 36.0 -4.9**
CLL pmax pmax
comp=Z,103nm,1.6s,mb5.5
CLL MLR MLR
comp=Z,19µm,10.4s,MS6.4
CLL Collm 53.41 309 *i* P **P 06 59 08.5 -0.5**
comp=Z,103nm,1.6s,mb5.5
CLL *i* pP pP 06 59 11.7 -1.5
CLL eS **S 07 06 36.0 -4.9**
CLL LR LR
comp=Z,19µm,10.4s,MS6.4
SANT Santorini 53.43 287 *eP* **P 06 59 07.8 -1.4**
CONA Conrad Observa 53.46 304 *i* P **P 06 59 10.2 +0.8**
comp=Z,603nm,2.2s,mb6.1,SNR=44
PTL Penteli 53.58 290 *eP* **P 06 59 10.0 -0.3**
IVA Berane 53.58 297⇑*iP* **P 06 59 10.8 +0.5**
ZKR Zakros 53.62 286 *eP* **P 06 59 10.6 +0.1**
BIA Bitola 53.65 294 *i* P **P 06 59 11.7 +0.9**
PLE Pljevlja 53.66 298⇑*iP* **P 06 59 11.9 +1.0**
PVY Plav 53.68 297 *eP* **P 06 59 11.1 +0.1**
LBOS 53.90 252⇑*eP* **P 06 59 12.6 0.0**
LBOS AMb AMB 06 59 14.9
comp=Z,786nm,2.1s,mb6.3
OHR Ohrid 53.94 295 *eP* **P 06 59 11.7 -1.2**
NPS Neapolis 53.95 286 *eP* **P 06 59 12.0 -1.0**
DHBB Dhamar BB 53.97 253 *eP* **P 06 59 13.2 0.0**
NAIG Nisos Aigina 53.99 290 *eP* **P 06 59 12.0 -1.3**
ARSA Arzberg 54.00 304⇑*iP* **P 06 59 13.3 -0.1**
comp=Z,456nm,3.8s,SNR=12
UPM Unac-Piva 54.03 298⇑*iP* **P 06 59 13.4 -0.2**
AGG Agios Georgios 54.06 292 *eP* **P 06 59 13.8 -0.1**
LAST Lasithi 54.09 286 *eP* **P 06 59 13.8 -0.3**
XRY Khrisi 54.11 286 *eP* **P 06 59 13.0 -1.2**
TANN Tannenbergstha 54.15 308 *eP* **P 06 59 14.2 -0.3**
comp=Z,85nm,1.6s,mb5.4
KHC Kasperske Hory 54.17 306 *eP* **P 06 59 14.4 -0.2**
KHC pP pP 06 59 21.5 +2.7
KHC ePP PP 07 01 16.0 -0.2
KHC *ex* x 07 02 22.7
KHC eS **S 07 06 51.7 +0.5**
KHC eSS SS 07 10 34.3 +1.4
KHC AMS AMS 07 22 50.0
comp=Z,24µm,12.9s
KHC Kasperske Hory 54.17 306 *eP* **P 06 59 14.4 -0.2**
KHC *e* 06 59 21.5
KHC ePP PP 07 01 16.0 -0.2
KHC *e* 07 02 22.7
KHC eS **S 07 06 51.7 +0.5**
KHC eSS SS 07 10 34.3 +1.4
KHC LR LR
comp=Z,24µm,12.9s,MS6.5
NKY Niksic 54.18 297 *eP* **P 06 59 14.4 -0.3**
TTG Podgorica 54.22 297⇑*iP* **P 06 59 14.7 -0.2**
WERD Werda 54.22 308 *eP* **P 06 59 14.7 -0.3**
comp=Z,144nm,2.0s,mb5.6
GEC2 GERESS Array S 54.24 306 *eP* **P 06 59 15.0 -0.1**
comp=Z,89nm,1.9s,mb5.4
GEC2 GERESS Array S 54.24 306 *eP* **P 06 59 15.0 -0.1**
GEC2 pmax pmax
comp=Z,89nm,1.9s,mb5.4
GERES GERESS Array B 54.24 306 P **P 06 59 14.7 -0.5**
comp=Z,5.1nm,0.9s,mb4.4,baz=60,slow=6.5,SNR=33
GERES LR LR 07 23 32.2
comp=Z,14µm,19.7s,MS6.0,baz=72,slow=37
NKC Novy Kostel 54.25 308 *eP* **P 06 59 15.3 +0.1**
NKC ePP PP 07 01 17.7 +0.7
NKC *ex* x 07 02 26.0
NKC eS **S 07 06 54.6 +2.4**
NKC eSS SS 07 10 43.7 +10
NKC AMS AMS 07 22 50.0
comp=Z,24µm,11.6s
NKC Novy Kostel 54.25 308 *eP* **P 06 59 15.3 +0.1**
NKC *e* 07 01 17.7
NKC *e* 07 02 26.0
NKC eS **S 07 06 54.6 +2.4**
NKC Novy Kostel 54.25 308 *eP* **P 06 59 15.3 +0.1**
NKC ePP PP 07 01 17.7 +0.7
NKC *e* 07 02 26.0
NKC eS **S 07 06 54.6 +2.4**
NKC eSS SS 07 10 43.7 +10
YOGI Yogyakarta 54.25 164 *eP* **P 06 59 14.0 -1.2**
comp=Z,5.0nm,0.5s,mb4.7
WERN Wernitzgruen 54.26 308 *eP* **P 06 59 15.1 -0.2**
comp=Z,149nm,2.0s,mb5.6
NRDL Niedersach Rie 54.38 311 *eP* **P 06 59 16.3 +0.2**
comp=Z,259nm,1.8s,mb5.9
TIR Tirane 54.41 295 *eP* **P 06 59 16.1 -0.2**
BRY Bratogost 54.42 298⇑*iP* **P 06 59 16.1 -0.3**
MOA Molln 54.43 305⇑*iP* **P 06 59 16.8 +0.3**
comp=Z,684nm,3.3s,SNR=19
EVR Evrytania 54.46 292 *eP* **P 06 59 17.0 +0.3**
ULC Ulcinj 54.47 296⇑*iP* **P 06 59 16.8 0.0**
MOX Moxa 54.50 309 *eP* **P 06 59 16.7 -0.3**
comp=Z,336nm,2.5s,mb5.9
MOX Moxa 54.50 309 *eP* **P 06 59 16.8 -0.2**

comp=Z,186nm,2.2s,mb5.7
MOX
comp=Z,8µm,14.0s
MOX Moxa 54.50 309 *eP* **P 06 59 16.8 -0.2**
MOX pmax pmax
comp=Z,186nm,2.2s,mb5.7
MOX MLR MLR
comp=Z,8µm,14.0s,MS5.9
BUM Brajici-Budva 54.51 297⇑*iP* **P 06 59 17.0 -0.1**
PERS Pernice 54.55 303 *eP* **P 06 59 17.1 -0.3**
PERS *e* pP 06 59 21.0 -0.6
WET Wettzell 54.56 307 *eP* **P 06 59 17.4 0.0**
comp=Z,406nm,2.8s,mb6.0
WET Wettzell 54.56 307 *eP* **P 06 59 17.4 0.0**
WET pmax pmax
comp=Z,406nm,2.8s,mb6.0
MANZ Manzenberg 54.56 308 *eP* **P 06 59 17.5 0.0**
comp=Z,246nm,2.6s,mb5.8
CLZ Clausthal 54.57 311 *eP* **P 06 59 17.4 -0.1**
comp=Z,150nm,2.0s,mb5.7
CLZ Clausthal 54.57 311 *eP* **P 06 59 17.4 -0.1**
CLZ pmax pmax
comp=Z,150nm,2.0s,mb5.7
SPIA Saint Paul Isl 54.60 42 *eP* **P 06 59 18.1 +0.4**
ROTZ Rotzenmuhle 54.62 308 *eP* **P 06 59 18.0 +0.1**
comp=Z,178nm,2.0s,mb5.8
SIVA Sivas 54.63 286 *eP* **P 06 59 17.5 -0.5**
JAN Janina 54.68 293 *eP* **P 06 59 10.5 -7.8**
HCY Herceg Novi 54.69 297⇑*iP* **P 06 59 18.3 -0.1**
LEGS Legarje 54.79 302 *eP* **P 06 59 18.6 -0.5**
VAM Vamos 54.82 287 *eP* **P 06 59 15.0 -4.3**
GTTG Gvttingen 54.94 310 *eP* **P 06 59 20.1 -0.1**
comp=Z,307nm,2.2s,mb5.9
OBKA Obir 54.95 303⇑*iP* **P 06 59 20.2 -0.1**
comp=Z,536nm,3.5s,SNR=15
KARN Karanos 55.01 287 *eP* **P 06 59 19.4 -1.3**
BOJS Bojanci 55.06 302 *eP* **P 06 59 20.9 -0.2**
BOJS *e*PcP PP 07 01 22.4 -1.9
BOJS eS **S 07 07 03.7 +0.6**
BOJS *e* 07 07 43.2
BOJS *e* 07 09 08.7
BOJS *e* 07 11 29.1
KYTH Kithira 55.11 288 *eP* **P 06 59 20.0 -1.4**
ATKA Atka Island 55.16 49 *eP* **P 06 59 22.0 +0.2**
GRA1 Grafenberg Arr 55.21 308 *eP* **P 06 59 22.3 +0.2**
comp=Z,206nm,1.6s,mb5.9
GRA1 LR LR
comp=Z,7µm,19.0s,MS5.8
GRF Grafenberg Arr 55.21 308 *eP* **P 06 59 22.3 +0.2**
comp=Z,206nm,1.6s,mb5.9
GRF *e*L 07 25 06.1
comp=Z,7µm,19.0s
GRF Grafenberg Arr 55.21 308 *eP* **P 06 59 22.3 +0.2**
GRF pmax pmax
comp=Z,206nm,1.6s,mb5.9
GRF MLR MLR
comp=Z,7µm,19.0s,MS5.8
GRF Grafenberg Arr 55.21 308 *eP* **P 06 59 22.3 +0.2**
GRF pmax pmax
comp=Z,206nm,1.6s,mb5.9
GRF MLR MLR
comp=Z,7µm,19.0s,MS5.8
LJU Ljubljana 55.21 303 *eP* **P 06 59 21.5 -0.6**
LJU *i* pP 06 59 25.5 -0.9
LJU *i* PcP PP 07 01 24.8 -0.8
GVD Gavdhos 55.22 286 *eP* **P 06 59 21.5 -0.7**
UBBA Unterbreizbach 55.29 310 *eP* **P 06 59 22.2 -0.5**
comp=Z,92nm,1.9s,mb5.5
KEK Kerkira 55.33 294 *eP* **P 06 59 22.0 -1.0**
ITM Ithomi 55.34 290 *eP* **P 06 59 21.0 -2.1**
KBA Koelnbreinsper 55.36 304 *i* P **P 06 59 23.6 +0.4**
comp=Z,529nm,2.5s,mb6.1,SNR=40
KBA Koelnbreinsper 55.36 304 *i* P **P 06 59 23.6 +0.4**
KBA pmax pmax
comp=Z,529nm,2.5s,mb6.1
VOY Vojsko 55.59 303 *eP* **P 06 59 23.2 -1.7**
VOY *e* 06 59 46.3
VLS Valsamata 55.67 292 *eP* **P 06 59 24.0 -1.4**
PTCC Patocco-Chiusa 55.71 304 P **P 06 59 24.9 -0.9**
IBBN Ibbenburen 55.71 312 *eP* **P 06 59 25.1 -0.7**
comp=Z,85nm,1.4s,mb5.6
TRI Trieste 55.84 303 P **P 06 59 25.8 -0.9**
FVI Forni Avoltri 55.94 304 P **P 06 59 27.0 -0.4**
FUR Furstenfeldbru 55.98 306 *eP* **P 06 59 27.8 +0.1**
comp=Z,697nm,2.5s,mb6.2
FUR Furstenfeldbru 55.98 306 *eP* **P 06 59 27.8 +0.1**
FUR pmax pmax
comp=Z,697nm,2.5s,mb6.2
LCI Lecce 56.07 295 P **P 06 59 28.4 0.0**
SEST Monte Rota 56.19 304 P **P 06 59 28.7 -0.5**
WATA Walderalm 56.25 305⇑*iP* **P 06 59 29.7 +0.1**
comp=Z,107nm,1.7s,mb5.6
WATA Walderalm 56.25 305⇑*iP* **P 06 59 29.7 +0.1**
WATA pmax pmax
comp=Z,107nm,1.7s,mb5.6
WATA Walderalm 56.25 305⇑*iP* **P 06 59 29.7 +0.1**
comp=Z,107nm,1.7s,mb5.6
WTTA Wattenberg 56.25 305⇑*iP* **P 06 59 29.7 +0.1**
comp=Z,626nm,3.0s,SNR=12
WTTA Wattenberg 56.25 305⇑*iP* **P 06 59 29.7 +0.1**
WTTA pmax pmax
comp=Z,626nm,3.0s
WTTA Wattenberg 56.25 305⇑*iP* **P 06 59 29.7 +0.1**
comp=Z,626nm,3.0s
SIND Sindeldorf 56.28 308 P **P 06 59 30.4 +0.6**
HDH Heidenheim-Cha 56.36 307 P **P 06 59 31.0 +0.6**
WTSB Winterswijk 56.40 312⇑*eP* **P 06 59 30.1 -0.6**
comp=Z,93nm,1.7s,mb5.5
BUG Bochum--Univer 56.43 311 *eP* **P 06 59 30.6 -0.3**
comp=Z,197nm,1.8s,mb5.8
SCO Scoresbysund 56.45 339 *i* P **P 06 59 30.7 -0.3**
comp=Z,18nm,0.9s,mb5.1
SCO Scoresbysund 56.45 339 *i* P **P 06 59 30.7 -0.3**
SCO pmax pmax
comp=Z,18nm,0.9s,mb5.1
BRES Bressanone 56.50 305 P **P 06 59 30.7 -0.7**
MOTA Moosalm 56.51 306⇓*iP* **P 06 59 31.4 -0.1**
comp=Z,74nm,1.4s,mb5.5,SNR=15
MOTA Moosalm 56.51 306⇓*iP* **P 06 59 31.4 -0.1**
MOTA pmax pmax
comp=Z,74nm,1.4s,mb5.5
SQTA Sankt Quirin 56.52 305⇑*iP* **P 06 59 31.6 +0.1**
comp=Z,111nm,1.5s,mb5.7,SNR=10
SQTA Sankt Quirin 56.52 305⇑*iP* **P 06 59 31.6 +0.1**
SQTA pmax pmax
comp=Z,111nm,1.5s,mb5.7
TOD Tromm 56.59 309 *eP* **P 06 59 31.5 -0.5**
FGMS Monte Sant'Ang 56.68 298 P **P 06 59 33.1 +0.4**
STU Stuttgart 56.82 308 *eP* **P 06 59 33.1 -0.6**
comp=Z,134nm,1.8s,mb5.7
STU Stuttgart 56.82 308 P **P 06 59 33.4 -0.3**
STU pmax pmax
comp=Z,35nm,1.1s,mb5.3
STU Stuttgart 56.82 308 *eP* **P 06 59 33.3 -0.3**
comp=Z,34nm,1.1s,mb5.3
CTI Castel Tesino 56.90 304 P **P 06 59 33.4 -0.8**
BUCH Bad Urach 56.91 307 P **P 06 59 35.2 +0.9**
AOI Ancona 57.11 301 P **P 06 59 35.8 +0.1**
FG2 Serracapriola 57.12 298 P **P 06 59 36.4 +0.6**
ABH Alteburg 57.12 310 *eP* **P 06 59 35.9 +0.1**
DGAR Diego Garcia 57.14 210 PFAKE 06 59 50.0 +14
DGAR LR LR
comp=Z,4µm,22.0s,MS5.5
DAVA Damuels 57.24 306⇑*iP* **P 06 59 36.5 -0.1**
comp=Z,553nm,3.3s,SNR=13
GUT Gutenstein 57.25 307 P **P 06 59 37.7 +1.0**
FG4 Candela 57.27 297 P **P 06 59 37.3 +0.4**
PTRP Pietrapertosa 57.27 296 P **P 06 59 37.6 +0.7**
COCO West Island 57.34 181 PFAKE 06 59 50.0 +13
COCO LR LR
comp=Z,2µm,19.0s,MS5.3
FG5 Orsara di Pugl 57.34 298 P **P 06 59 38.0 +0.6**
PESA Pesaro 57.35 301 P **P 06 59 37.4 0.0**
CIGN Sant'Elia a Pi 57.36 298 P **P 06 59 37.9 +0.4**
TTA Tatalina 57.38 31 *eP* **P 06 59 37.8 +0.1**
FUORN Ofenpass 57.39 305⇑*iP* **P 06 59 29.7 -8.0**
comp=Z,466nm,2.4s,mb6.1
FUORN Ofenpass 57.39 305⇑*iP* **P 06 59 37.6 -0.1**
CING Cingoli 57.45 301 P **P 06 59 37.9 -0.2**
LIENZ Alp Oberkamor 57.46 306⇑*iP* **P 06 59 37.6 -0.6**
comp=Z,527nm,2.5s,mb6.1
LIENZ Alp Oberkamor 57.46 306⇑*iP* **P 06 59 38.1 -0.1**
LANF Langenberg 57.48 309 *eP* **P 06 59 37.5 -0.8**
RUP Ruppelstein 57.49 310 *eP* **P 06 59 38.3 -0.1**

MRLC Muro Lucano 57.50 297 P **P 06 59 38.7 +0.2**
HGN Heimansgroeve 57.51 311⇑ *eP* **P 06 59 38.1 -0.5**
comp=Z,85nm,1.5s,mb5.5
HGN *eS* **S 07 07 33.8 -1.8**
DAVOX Davos 57.52 306⇑ *iP* **P 06 59 38.5 -0.1**
comp=Z,311nm,2.9s,mb5.8
DAVOX Davos 57.52 306⇑ *iP* **P 06 59 38.4 -0.2**
ARV Arcevia 57.54 301 P **P 06 59 38.5 -0.2**
SISB Singen-Schiene 57.54 307 P **P 06 59 39.8 +1.0**
BFO Black Forest 57.54 308 P **P 06 59 39.3 +0.5**
comp=Z,93nm,0.7s,mb5.9,SNR=6.5
BFO Black Forest 57.54 308 *eP* **P 06 59 38.0 -0.8**
comp=Z,36nm,1.3s,mb5.2
BFO Black Forest 57.54 308 *eP* **P 06 59 38.0 -0.8**
MEM Membach 57.55 311⇑ P **P 06 59 38.6 -0.2**
MEM Membach 57.55 311 AP pP 06 59 41.9 -1.2
MEM E 06 59 50.8
MABI Malga Bissina 57.56 305 P **P 06 59 37.6 -1.3**
TIP Timpagrande 57.58 295 *eP* **P 06 59 39.1 0.0**
RSM Repubblica di 57.59 302 P **P 06 59 39.3 +0.2**
STEIN Stein am Rhein 57.61 307⇑ *iP* **P 06 59 38.9 -0.3**
comp=Z,562nm,2.9s,mb6.1
SLCN Sala Consilina 57.61 296 P **P 06 59 39.9 +0.6**
WEIN Weingarten 57.62 307⇑ *iP* **P 06 59 38.9 -0.4**
comp=Z,498nm,2.2s,mb6.2
TERO Teramo 57.62 300 P **P 06 59 39.2 -0.1**
BEBN Eben Emael 57.62 311 P **P 06 59 39.0 -0.4**
BERNI Berninapass 57.64 305⇑ *iP* **P 06 59 38.4 -1.1**
comp=Z,254nm,2.3s,mb5.8
BERNI Berninapass 57.64 305⇑ *iP* **P 06 59 39.1 -0.4**
PLONS Plons 57.66 306⇑ *iP* **P 06 59 39.1 -0.5**
comp=Z,337nm,2.7s,mb5.9
PLONS Plons 57.66 306⇑ *iP* **P 06 59 39.2 -0.4**
PSB1 Pescosannita 57.66 298 P **P 06 59 40.0 +0.4**
SNTG Esanatoglia 57.67 301 P **P 06 59 39.5 -0.2**
CII Carovilli 57.69 298 P **P 06 59 41.0 +1.2**
CUC Castrocucco 57.72 296 P **P 06 59 38.5 -1.6**
SGO Sicignano 57.72 297 P **P 06 59 40.3 +0.2**
WILA Wila 57.73 307⇑ *iP* **P 06 59 39.2 -0.9**
comp=Z,450nm,2.3s,mb6.1
WILA Wila 57.73 307⇑ *iP* **P 06 59 39.7 -0.4**
SLE Schleitheim 57.76 307⇑ *iP* **P 06 59 39.7 -0.6**
comp=Z,410nm,2.6s,mb6.0
MIDA Miranda 57.77 298 P **P 06 59 40.6 +0.2**
RNI2 Rionero Sannit 57.80 299 P **P 06 59 41.2 +0.6**
NRCA Norcia 57.80 300 P **P 06 59 40.9 +0.3**
MGR Morigerati 57.81 296 P **P 06 59 40.2 -0.4**
FLACH Flaach 57.83 307⇑ *iP* **P 06 59 40.3 -0.5**
AQU L'Aquila 57.90 300⇓ *iP* **P 06 59 41.2 -0.1**
AQU L'Aquila 57.90 300 *eP* **P 06 59 41.6 +0.3**
comp=Z,66nm,1.0s,mb5.6
VDL Val di Lei 57.92 305⇑ *iP* **P 06 59 40.3 -1.1**
comp=Z,278nm,2.6s,mb5.8
VDL Val di Lei 57.92 305⇑ *iP* **P 06 59 41.1 -0.3**
ZUR Zurich 57.94 307⇑ *iP* **P 06 59 41.5 0.0**
comp=Z,515nm,2.5s,mb6.1
ZUR Zurich 57.94 307⇑ *iP* **P 06 59 41.1 -0.4**
BADI Badiali 57.95 301 P **P 06 59 42.2 +0.6**
SFI Santa Sofia 57.97 302 P **P 06 59 42.5 +0.7**
FELD Feldberg im Sc 57.98 307⇑ *eP* **P 06 59 40.6 -1.2**
KIZ Kirchzarten 57.98 308 P **P 06 59 42.1 +0.2**
LLS Linth-Limmern 57.98 306⇑ *iP* **P 06 59 41.1 -0.8**
comp=Z,284nm,3.1s
LLS Linth-Limmern 57.98 306⇑ *iP* **P 06 59 41.3 -0.6**
WLF Walferdange 58.00 310⇑ P **P 06 59 41.3 -0.7**
WLF AP pP 06 59 43.4 -2.8
WLF E 06 59 54.0
TUE Stuetta 58.00 305 P **P 06 59 41.6 -0.4**
SDI San Donato 58.01 299 P **P 06 59 42.2 +0.2**
BCLA Clavier 58.03 311 P **P 06 59 42.2 0.0**
BCLA AP pP 06 59 44.8 -1.7
BCLA E 06 59 53.6
VVLD Villa Vallelon 58.03 299 P **P 06 59 42.3 +0.1**
WLS Welschbruch 58.04 308 *eP* **P 06 59 41.5 -0.8**
CRE Caprese Michel 58.06 301 P **P 06 59 42.8 +0.3**
CDF Champ du Feu 58.08 308⇑ *iP* **P 06 59 41.7 -0.9**
SULZ Sulz-Cheisache 58.11 307⇑ *iP* **P 06 59 42.1 -0.7**
comp=Z,433nm,2.3s,mb6.1
MCD Coleburn Disti 58.12 321 *eP* **P 06 59 41.9 -0.9**
VMG Vicchio 58.12 302 P **P 06 59 43.7 +0.9**
FIAM Fiamignano 58.12 300 P **P 06 59 43.1 +0.3**
MUO Muotathal 58.13 306⇑ *iP* **P 06 59 41.3 -1.6**
comp=Z,420nm,2.3s,mb6.1
MUO Muotathal 58.13 306⇑ *iP* **P 06 59 42.6 -0.3**
RFI Roccamonfina 58.13 298 P **P 06 59 43.2 +0.3**
MME1 Meikle Cairn 58.14 321 *eP* **P 06 59 42.1 -0.9**
SEI Scarperia 58.18 302 P **P 06 59 44.8 +1.6**
FNVD Fontana Vidola 58.25 302 P **P 06 59 45.0 +1.2**
ECH Echery 58.26 308 *eP* **P 06 59 42.9 -0.9**
BNALP Bannalp 58.30 306⇑ *iP* **P 06 59 42.6 -1.5**
comp=Z,334nm,3.1s
BNALP Bannalp 58.30 306⇑ *iP* **P 06 59 43.6 -0.5**
UCC Uccle 58.32 312 P **P 06 59 43.6 -0.6**
SUMG Summit 58.35 346 *eP* **P 06 59 42.4 -2.1**
comp=Z,403nm,2.2s,mb6.1
CERT Cerreto 58.38 299 P **P 06 59 44.2 -0.5**
FUSIO Fusio 58.40 306⇑ *iP* **P 06 59 43.6 -1.2**
comp=Z,204nm,2.0s,mb5.8
FUSIO Fusio 58.40 306⇑ *iP* **P 06 59 44.2 -0.6**
BALST Balsthal 58.45 307⇑ *iP* **P 06 59 44.2 -1.0**
comp=Z,433nm,2.4s,mb6.0
BALST Balsthal 58.45 307⇑ *iP* **P 06 59 44.5 -0.7**
GIVF Givet 58.46 311 *eP* **P 06 59 44.7 -0.5**
GSCL Gusciola 58.47 303 P **P 06 59 46.2 +0.9**
MOF Molkenrain 58.48 308 *eP* **P 06 59 44.5 -0.8**
MUGIO Muggio 58.48 305⇑ *iP* **P 06 59 43.6 -1.8**
comp=Z,282nm,3.2s
BBS Basel-Blauen 58.48 307 *eP* **P 06 59 45.0 -0.4**
MTCE Montecelio 58.49 300 P **P 06 59 44.9 -0.5**
SNF Seneffe 58.52 312⇑ P **P 06 59 45.4 -0.2**
SNF E 06 59 57.5
HASLI Hasliberg 58.52 306⇑ *iP* **P 06 59 44.5 -1.1**
comp=Z,362nm,2.5s,mb6.0
HASLI Hasliberg 58.52 306⇑ *iP* **P 06 59 44.9 -0.7**
ERBM Eremo 58.53 303 P **P 06 59 46.6 +0.9**
CSNT Castellina Chi 58.55 302 P **P 06 59 45.2 -0.6**
DOU Dourbes 58.59 311⇑ P **P 06 59 45.6 -0.5**
DOU E pP 06 59 47.9 -2.4
BDI Bagni Di Lucca 58.62 303 P **P 06 59 46.0 -0.4**
RDP Rocca di Papa 58.65 299 P **P 06 59 46.2 -0.4**
SVW2 Sparrevohn 58.66 33 *eP* **P 06 59 47.1 +0.5**
CEL Celeste 58.66 294 P **P 06 59 46.3 -0.3**
SOI Samo 58.67 294 P **P 06 59 46.6 -0.1**
VLC Villacollemand 58.69 303 *eP* **P 06 59 47.5 +0.6**
comp=Z,64nm,1.0s,mb5.6
SCLL Scilla 58.78 294 P **P 06 59 47.5 0.0**
ESY Stoneypath 58.80 320 *eP* **P 06 59 46.1 -1.5**
ESY AMb AMB 06 59 54.2
comp=Z,63nm,1.5s,mb5.4
BAIF Baives 58.81 311⇑ *iP* **P 06 59 47.2 -0.5**
HAU Haudompre 58.83 308⇑ *iP* **P 06 59 47.9 +0.1**
comp=Z,37nm,0.8s,mb5.2
HAU *eR*
comp=Z,10µm,18.2s
HAU Haudompre 58.83 308⇑ *iP* **P 06 59 47.9 +0.1**
HAU pmax pmax
comp=Z,180nm,0.8s,mb6.2
HAU MLR MLR
comp=Z,10µm,18.3s,MS6.0
HAU Haudompre 58.83 308⇑ *iP* **P 06 59 47.9 +0.1**
comp=Z,18nm,0.8s,mb5.2
HAU LR LR
comp=Z,10µm,18.3s,MS6.0
PII Pisa 58.86 302 P **P 06 59 47.8 -0.2**
WIMIS Wimmis 58.87 306⇑ *iP* **P 06 59 44.9 -3.2**
comp=Z,330nm,2.1s,mb6.0
WIMIS Wimmis 58.87 306⇑ *iP* **P 06 59 47.4 -0.7**
THEF They Montfort 58.90 309 *eP* **P 06 59 47.9 -0.4**
TOLF Tolfa 58.92 300 P **P 06 59 48.2 -0.2**
LOMF Lomont 58.93 307 *eP* **P 06 59 48.2 -0.3**
MTTG Motta San Giov 58.94 294 P **P 06 59 49.1 +0.5**
COLA College 58.95 27 *c iP* **P 06 59 48.5 -0.1**
COLA College 58.95 27 *eP* **P 06 59 48.5 -0.1**
comp=Z,524nm,1.4s,mb6.4
COLA *epP* pP 06 59 53.4 +0.5
COLA LR LR
comp=Z,4µm,20.0s,MS5.5
MMK Mattmark 59.03 306⇑ *iP* **P 06 59 47.4 -1.8**
comp=Z,412nm,2.0s,mb6.1
MMK Mattmark 59.03 306⇑ *iP* **P 06 59 48.8 -0.4**
LKBD Leukerbad 59.03 306⇑ *iP* **P 06 59 48.3 -0.9**
comp=Z,246nm,2.6s,mb5.8
KAC Achnashellach 59.05 322 *eP* **P 06 59 48.2 -1.2**

MCGN Macugnaga 59.07 306 P **P 06 59 48.9 -0.5**
SLNA Salina 59.17 295 P **P 06 59 49.2 -0.9**
TORNY Torny 59.19 307⇑ *iP* **P 06 59 48.8 -1.5**
comp=Z,352nm,2.5s,mb5.9
TORNY Torny 59.19 307⇑ *iP* **P 06 59 49.5 -0.8**
EAU Auchinoon 59.22 320 *eP* **P 06 59 49.4 -1.1**
EAU AMb AMB 06 59 52.1
comp=Z,102nm,1.6s,mb5.6
SENIN Lac Senin 59.23 306⇑ *iP* **P 06 59 49.5 -1.1**
comp=Z,422nm,3.0s
SENIN Lac Senin 59.23 306⇑ *iP* **P 06 59 50.0 -0.6**
DIX Grande Dixence 59.33 306⇑ *iP* **P 06 59 50.0 -1.2**
comp=Z,468nm,2.9s,mb6.0
DIX Grande Dixence 59.33 306⇑ *iP* **P 06 59 51.1 -0.1**
MCK McKinley 59.35 28 *eP* **P 06 59 51.6 +0.2**
comp=Z,83nm,1.3s,mb5.6
MCK LR LR
comp=Z,2µm,21.0s,MS5.1
BRANT Les Verrieres 59.37 307⇑ *iP* **P 06 59 51.0 -0.5**
comp=Z,308nm,2.4s,mb5.9
GRYON Gryon 59.40 306⇑ *iP* **P 06 59 51.0 -0.7**
comp=Z,258nm,2.4s,mb5.8
EAB Aberfoyle 59.42 321 *eP* **P 06 59 50.6 -1.2**
EAB AMb AMB 06 59 54.5
comp=Z,92nm,1.8s,mb5.5
ESK Eskdalemuir 59.43 319 *eP* **P 06 59 50.2 -1.8**
ESK AMb AMB 06 59 56.7
comp=Z,60nm,1.8s,mb5.3
ESK Eskdalemuir 59.43 319 P **P 06 59 51.2 -0.7**
ESK pmax pmax
comp=Z,32nm,1.2s,mb5.2
ESK Eskdalemuir 59.43 319 *eP* **P 06 59 51.4 -0.5**
comp=Z,32nm,1.2s,mb5.2
ESK LR LR
comp=Z,5µm,19.0s,MS5.7
AIGLE Aigle 59.44 306⇑ *iP* **P 06 59 51.1 -0.9**
comp=Z,322nm,2.1s,mb6.0
ECK Cauldkaine Hil 59.47 319 *eP* **P 06 59 51.0 -1.3**
ECK AMb AMB 06 59 52.9
comp=Z,94nm,1.4s,mb5.6
SALAN Lac Salanfe 59.54 306⇑ *iP* **P 06 59 51.1 -1.6**
comp=Z,292nm,2.8s,mb5.8
SALAN Lac Salanfe 59.54 306⇑ *iP* **P 06 59 52.1 -0.6**
BHH Howats Hill 59.56 319 *eP* **P 06 59 51.8 -1.1**
EMV Vieux Emosson 59.63 306⇑ *iP* **P 06 59 52.9 -0.4**
comp=Z,332nm,2.5s,mb5.9
EMV Vieux Emosson 59.63 306⇑ *iP* **P 06 59 52.8 -0.5**
KAR1 Arisaig 59.64 322 *eP* **P 06 59 51.9 -1.4**
BWH Wardlaw 59.72 319 *eP* **P 06 59 52.7 -1.2**
BBO1 Bothel 59.79 319 *eP* **P 06 59 53.4 -1.1**
SSY Sortino 59.84 294 P **P 06 59 54.3 -0.5**
LHO Holmfirth 59.85 317 *eP* **P 06 59 53.5 -1.4**
RES Resolute Bay 59.91 4 *eP* **P 06 59 54.7 -0.5**
RES *e**PP pP 06 59 59.2 -0.3
RES pmax pmax
comp=Z,80nm,1.1s,mb5.7
RES Resolute Bay 59.91 4 *eP* **P 06 59 54.7 -0.5**
comp=Z,80nm,1.1s,mb5.7
RES *epP* pP 06 59 59.2 -0.3
HAVL Avola 59.92 293 P **P 06 59 55.1 -0.2**
FIN Finale Ligure 59.95 304 P **P 06 59 54.9 -0.6**
GIB Gibilmanna 60.02 295 P **P 06 59 54.8 -1.2**
LPG La Plagne 60.04 306⇑ *iP* **P 06 59 56.1 -0.1**
LPL La Plagne 60.04 306⇑ *iP* **P 06 59 56.0 -0.2**
comp=Z,110nm,1.0s,mb5.5
LPL La Plagne 60.04 306⇑ *iP* **P 06 59 56.0 -0.2**
LPL pmax pmax
comp=Z,55nm,1.0s,mb5.5
LPL La Plagne 60.04 306⇑ *iP* **P 06 59 56.0 -0.2**
comp=Z,55nm,1.0s,mb5.5
HVZN Vizzini 60.05 294 P **P 06 59 56.2 0.0**
USI Ustica 60.13 296 P **P 06 59 56.6 -0.2**
HMDC Modica 60.14 294 P **P 06 59 56.9 +0.1**
KWE Weaver Farm 60.16 317 *eP* **P 06 59 55.2 -1.7**
BORG Borgarnes 60.25 334 LR LR 07 28 03.4
comp=Z,2µm,18.1s,MS5.4,baz=212,slow=38
BNI Bardonecchia 60.34 305 *eP* **P 06 59 57.8 -0.4**
BNI pmax pmax
comp=Z,43nm,0.9s,mb5.5
BNI Bardonecchia 60.34 305 *eP* **P 06 59 57.8 -0.5**
comp=Z,43nm,0.9s,mb5.5
GAL1 Galloway 60.39 319 *eP* **P 06 59 57.3 -1.3**
INK Inuvik 60.41 19 *eP* **P 06 59 57.8 -0.9**
INK *e**PP pP 07 00 02.6 -0.4
INK pmax pmax
comp=Z,87nm,1.1s
INK Inuvik 60.41 19 *eP* **P 06 59 57.8 -0.9**
comp=Z,87nm,1.1s,mb5.7
INK *epP* pP 07 00 02.6 -0.3
STV Sta Anna Valdi 60.44 304 P **P 06 59 58.9 0.0**
PGF Pioggiola 60.45 302⇑ *iP* **P 06 59 58.7 -0.3**
comp=Z,303nm,1.4s,mb5.8
PGF Pioggiola 60.45 302⇑ *iP* **P 06 59 58.7 -0.3**
PGF pmax pmax
comp=Z,152nm,1.4s,mb5.8
PGF Pioggiola 60.45 302⇑ *iP* **P 06 59 58.7 -0.3**
comp=Z,152nm,1.4s,mb5.8
SAOF Saorge 60.46 304 *eP* **P 06 59 58.3 -0.7**
CHGN Chignik 60.47 38 *eP* **P 06 59 59.3 +0.2**
MBDF Montbardon 60.48 305⇑ *iP* **P 06 59 58.4 -0.8**
comp=Z,56nm,0.8s,mb5.3
MBDF Montbardon 60.48 305⇑ *iP* **P 06 59 58.4 -0.8**
MBDF pmax pmax
comp=Z,28nm,0.8s,mb5.3
MBDF Montbardon 60.48 305⇑ *iP* **P 06 59 58.4 -0.8**
comp=Z,28nm,0.8s,mb5.3
GMK Mull of Kintyr 60.49 320 *eP* **P 06 59 57.9 -1.3**
CORF Corte 60.51 302 *eP* **P 06 59 59.0 -0.3**
AUTN L'Aution 60.53 304 *eP* **P 06 59 59.1 -0.4**
GDM Grand'Maison 60.58 306 *eP* **P 06 59 59.4 -0.4**
SURF Saint Ours 60.60 305 *eP* **P 06 59 59.6 -0.4**
SBF Sospel 60.60 304⇑ *iP* **P 06 59 59.1 -0.9**
comp=Z,146nm,1.1s,mb5.7
SBF Sospel 60.60 304⇑ *iP* **P 06 59 59.1 -0.9**
SBF pmax pmax
comp=Z,73nm,1.1s,mb5.7
SBF Sospel 60.60 304⇑ *iP* **P 06 59 59.1 -0.9**
comp=Z,73nm,1.1s,mb5.7
TOUF Mont Tournerai 60.62 304 *eP* **P 06 59 59.5 -0.6**
LOR Lormes 60.62 309⇑ *iP* **P 06 59 58.6 -1.5**
comp=Z,48nm,0.9s,mb5.3
LOR *eR*
comp=Z,11µm,19.2s
LOR Lormes 60.62 309⇑ *iP* **P 06 59 58.6 -1.5**
LOR pmax pmax
comp=Z,24nm,0.9s,mb5.3
LOR MLR MLR
comp=Z,11µm,19.3s,MS6.0
LOR Lormes 60.62 309⇑ *iP* **P 06 59 58.6 -1.5**
comp=Z,24nm,0.9s,mb5.3
LOR LR LR
comp=Z,11µm,19.3s,MS6.0
GIM North Isle of 60.63 319 *eP* **P 06 59 59.0 -1.2**
LUCF Luceram 60.64 304 *eP* **P 06 59 59.7 -0.5**
REVF Revere 60.72 304 *eP* **P 07 00 00.1 -0.7**
PMR Palmer 60.72 30 *eP* **P 06 59 59.4 -1.4**
PMR pmax pmax
comp=Z,705nm,2.0s,mb6.5
PMR Palmer 60.72 30 *eP* **P 06 59 59.4 -1.4**
comp=Z,705nm,2.0s,mb6.5
MVIF Mont Vial 60.75 304 *eP* **P 06 59 59.8 -1.2**
GRN Grenoble 60.77 306 *eP* **P 07 00 00.7 -0.4**
WIM Isle of Man 60.81 319 *eP* **P 07 00 00.5 -0.9**
WIM AMb AMB 07 00 03.9
comp=Z,110nm,2.1s,mb5.6
SML Sawmill 60.85 30 *eP* **P 07 00 01.4 -0.3**
SML *e**PP pP 07 00 05.9 -0.1
ORIF Oris-en-Rattie 60.88 306⇑ *iP* **P 07 00 01.2 -0.7**
comp=Z,73nm,1.0s,mb5.5
ORIF *eR*
comp=Z,21µm,18.2s
ORIF Oris-en-Rattie 60.88 306⇑ *iP* **P 07 00 01.2 -0.7**
ORIF pmax pmax
comp=Z,36nm,1.0s,mb5.5
ORIF Oris-en-Rattie 60.88 306⇑ *iP* **P 07 00 01.2 -0.7**
comp=Z,36nm,1.0s,mb5.5
GCL Cushendall 60.90 320 *eP* **P 07 00 00.3 -1.7**
SSF Saint Saulge 60.94 309⇑ *iP* **P 07 00 00.9 -1.4**
comp=Z,53nm,1.1s,mb5.3
SSF Saint Saulge 60.94 309⇑ *iP* **P 07 00 00.9 -1.4**
SSF pmax pmax
comp=Z,26nm,1.1s,mb5.3
SSF Saint Saulge 60.94 309⇑ *iP* **P 07 00 00.9 -1.4**
comp=Z,26nm,1.1s,mb5.3
SMF Signal de Mont 61.00 308⇑ *iP* **P 07 00 01.4 -1.3**

SLKM Skilak Lake 61.06 32 P **P 07 00 02.4 -0.7**
SLKM Skilak Lake 61.06 32 *eP* **P 07 00 02.8 -0.3**
SLKM *epP* pP 07 00 06.6 -0.8
SLKM *esP* sP 07 00 08.3 -0.6
OG25 Le Caire 61.09 305 *eP* **P 07 00 00.9 -2.4**
AVF Avril sur Loir 61.19 309⇑ *iP* **P 07 00 02.6 -1.4**
WLF1 Llynfaes 61.21 318 *eP* **P 07 00 02.4 -1.7**
WLF1 AMb AMB 07 00 05.6
comp=Z,83nm,1.6s,mb5.6
FRF La Foret Royal 61.24 304⇑ *iP* **P 07 00 03.1 -1.2**
YRC Rhoscolyn 61.32 318 *eP* **P 07 00 03.7 -1.2**
YRC AMb AMB 07 00 07.3
comp=Z,77nm,2.0s,mb5.5
GMM Mts of Mourne 61.34 319 *eP* **P 07 00 03.7 -1.4**
DGI Dorgali Grotta 61.40 300 P **P 07 00 05.5 +0.1**
STOF St-Etienne Org 61.41 305 *eP* **P 07 00 05.4 -0.1**
OCF Saint Nazaire 61.41 306 *eP* **P 07 00 05.4 -0.1**
OG26 St.-Nazaire-De 61.41 306 *eP* **P 07 00 05.4 -0.1**
YRE Yr Eifl 61.42 318 *eP* **P 07 00 04.3 -1.3**
YRE AMb AMB 07 00 07.2
comp=Z,78nm,2.0s,mb5.5
LMR La Mourre 61.46 304⇑ *iP* **P 07 00 04.7 -1.1**
PLDF La Plantade 61.53 308 *eP* **P 07 00 05.0 -1.3**
TAVF Tavernes 61.55 304 *eP* **P 07 00 06.0 -0.4**
BGF Bois d'Agland 61.60 309⇑ *iP* **P 07 00 05.6 -1.2**
comp=Z,35nm,0.8s,mb5.2
BGF Bois d'Agland 61.60 309⇑ *iP* **P 07 00 05.6 -1.2**
BGF pmax pmax
comp=Z,18nm,0.8s,mb5.2
BGF Bois d'Agland 61.60 309⇑ *iP* **P 07 00 05.6 -1.2**
comp=Z,18nm,0.8s,mb5.2
VIVF Saint-Julien-l 61.61 306⇑ *iP* **P 07 00 05.7 -1.1**
MENT Mentasta 61.61 27 *eP* **P 07 00 07.2 +0.4**
VILF Villemus 61.61 305 *eP* **P 07 00 06.9 +0.1**
SMRF Simiane la Rot 61.62 305⇑ *iP* **P 07 00 06.1 -0.8**
JAWL J.Aulia 61.70 263 *i P* **P 07 00 06.0 -1.5**
PUYF Puyloubier 61.81 304 *eP* **P 07 00 08.0 -0.2**
TREF Trevaresse 61.94 305 *eP* **P 07 00 09.0 0.0**
BERF Bertagne 61.95 304 *eP* **P 07 00 09.0 -0.1**
PRAF Pradon 61.95 305 *eP* **P 07 00 09.1 -0.1**
KDAK Kodiak Island 61.97 35 P **P 07 00 08.0 -1.2**
comp=Z,908nm,1.2s,SNR=22
KDAK Kodiak Island 61.97 35 P **P 07 00 08.7 -0.5**
comp=Z,126nm,0.8s,mb6.1,baz=324,slow=3.2,SNR=37
KDAK Kodiak Island 61.97 35 *eP* **P 07 00 08.7 -0.5**
comp=Z,209nm,1.1s,mb6.2
KDAK LR LR
comp=Z,1µm,20.0s,MS5.0
LDF La Druitiere 61.97 312⇑ *iP* **P 07 00 07.9 -1.3**
comp=Z,91nm,0.7s,mb5.7
LDF La Druitiere 61.97 312⇑ *iP* **P 07 00 07.9 -1.3**
comp=Z,46nm,0.7s,mb5.7
DMUB Kingscourt 62.00 319⇑ *iP* **P 07 00 08.7 -0.7**
VSL Villasalto 62.04 299 *eP* **P 07 00 09.8 +0.1**
comp=Z,37nm,1.0s,mb5.5
VSL *epP* pP 07 00 13.8 -0.2
FLN La Foliniere 62.05 312⇑ *iP* **P 07 00 08.4 -1.4**
comp=Z,138nm,0.8s,mb5.8
FLN *eR*
comp=Z,16µm,17.5s
FLN La Foliniere 62.05 312⇑ *iP* **P 07 00 08.4 -1.4**
FLN pmax pmax
comp=Z,69nm,0.8s,mb5.8
FLN MLR MLR
comp=Z,16µm,17.5s,MS6.2
FLN La Foliniere 62.05 312⇑ *iP* **P 07 00 08.4 -1.4**
comp=Z,69nm,0.8s,mb5.8
FLN LR LR
comp=Z,16µm,17.5s,MS6.2
GELF Grande-Etoile 62.06 304 *eP* **P 07 00 09.2 -0.7**
DAWY Dawson 62.11 25 *eP* **P 07 00 09.6 -0.6**
DAWY *epP* pP 07 00 14.7 +0.2
TCF Toulx Ste Croi 62.12 309⇑ *iP* **P 07 00 09.3 -1.0**
comp=Z,63nm,0.9s,mb5.5
TCF Toulx Ste Croi 62.12 309⇑ *iP* **P 07 00 09.3 -1.0**
comp=Z,32nm,0.9s,mb5.4
DSB Dublin 62.17 319 *eP* **P 07 00 09.4 -1.2**
comp=Z,32nm,0.8s,mb5.5
LBL Lubilhac 62.18 307 *eP* **P 07 00 10.5 -0.2**
DLF Lyons Farm 62.21 319⇑ *iP* **P 07 00 09.7 -1.2**
HEX Exmoor 62.31 316 *eP* **P 07 00 10.1 -1.4**
GRR Gorron 62.48 312⇑ *iP* **P 07 00 11.3 -1.4**
comp=Z,89nm,0.8s,mb5.7
GRR Gorron 62.48 312⇑ *iP* **P 07 00 11.3 -1.4**
GRR pmax pmax
comp=Z,44nm,0.8s,mb5.6
GRR Gorron 62.48 312⇑ *iP* **P 07 00 11.3 -1.4**
comp=Z,44nm,0.8s,mb5.7
DCN Croghan 62.52 319⇑ *iP* **P 07 00 11.9 -1.1**
LASF Ste Croix 62.54 306⇑ *iP* **P 07 00 12.4 -0.7**
comp=Z,126nm,1.3s,mb5.6
JLP Les Platons 62.59 313 *eP* **P 07 00 12.0 -1.5**
EYAK Cordova Ski Ar 62.63 30 *eP* **P 07 00 13.9 +0.2**
DYA Yadsworthy 62.77 315 *eP* **P 07 00 12.9 -1.7**
CAF Calviac 63.03 307⇑ *iP* **P 07 00 15.9 -0.5**
RJF Les Rejaudoux 63.11 308⇑ *iP* **P 07 00 16.1 -0.7**
comp=Z,33nm,0.8s,mb5.2
RJF *eR*
comp=Z,12µm,19.2s
RJF Les Rejaudoux 63.11 308⇑ *iP* **P 07 00 16.1 -0.7**
comp=Z,16nm,0.8s,mb5.2
RJF LR LR
comp=Z,12µm,19.3s,MS6.1
MFF Saint Martin d 63.21 310⇑ *iP* **P 07 00 16.7 -0.8**
comp=Z,53nm,0.8s,mb5.4
MFF Saint Martin d 63.21 310⇑ *iP* **P 07 00 16.7 -0.8**
comp=Z,26nm,0.8s,mb5.4
MID Middleton Isla 63.22 31 *eP* **P 07 00 19.1 +1.5**
SGMF Saint Gilles 63.45 313⇑ *iP* **P 07 00 18.0 -1.1**
comp=Z,61nm,0.8s,mb5.5
SGMF Saint Gilles 63.45 313⇑ *iP* **P 07 00 18.0 -1.1**
comp=Z,30nm,0.8s,mb5.5
LFF La Frestale 63.76 308⇑ *iP* **P 07 00 20.8 -0.4**
comp=Z,68nm,0.8s,mb5.5
LFF La Frestale 63.76 308⇑ *iP* **P 07 00 20.8 -0.4**
LFF pmax pmax
comp=Z,34nm,0.8s,mb5.4
LFF La Frestale 63.76 308⇑ *iP* **P 07 00 20.8 -0.4**
comp=Z,34nm,0.8s,mb5.4
ROSF Rostrenen 63.77 313 *eP* **P 07 00 20.0 -1.2**
comp=Z,59nm,1.1s,mb5.2
ROSF Rostrenen 63.77 313 *eP* **P 07 00 20.0 -1.2**
ROSF pmax pmax
comp=Z,30nm,1.1s,mb5.2
ROSF Rostrenen 63.77 313 *eP* **P 07 00 20.0 -1.2**
comp=Z,30nm,1.1s,mb5.2
MTLF Montolieu 63.93 306⇑ *iP* **P 07 00 21.4 -0.9**
QUIF Quistinic 63.98 313⇑ *iP* **P 07 00 21.5 -1.1**
comp=Z,65nm,0.7s,mb5.4
QUIF Quistinic 63.98 313⇑ *iP* **P 07 00 21.5 -1.1**
QUIF pmax pmax
comp=Z,32nm,0.7s,mb5.5
QUIF Quistinic 63.98 313⇑ *iP* **P 07 00 21.5 -1.1**
comp=Z,32nm,0.7s,mb5.5
VALF Valcebollere 64.64 305 *eP* **P 07 00 27.0 +0.1**
VAL Valentia 64.81 319 *eP* **P 07 00 27.2 -0.8**
MLS Moulis 64.81 306 *eP* **P 07 00 27.1 -1.0**
CMAH Djebel Manchou 65.02 297 P **P 07 00 29.0 -0.4**
EPF Esparros 65.19 307 *eP* **P 07 00 29.1 -1.4**
ABSA Djebel Ababsia 65.21 297 P **P 07 00 30.0 -0.6**
CAEH 'Ain El Ouahch 65.28 298 P **P 07 00 32.0 +0.9**
SFJD Kangerlussuaq 65.29 347 LR LR 07 33 23.2
comp=Z,5µm,18.1s,MS5.8,baz=6.4,slow=40
SFJD Kangerlussuaq 65.29 347⇑ *iP* **P 07 00 28.9 -2.3**
comp=Z,56nm,1.1s,mb5.5
SFJD *i* S S 07 09 11.9 -2.6
SFJD
comp=Z,5µm,18.0s
SFJD Kangerlussuaq 65.29 347⇑ *iP* **P 07 00 28.9 -2.3**
SFJD *i* S S 07 09 11.9 -2.6
SFJD pmax pmax
comp=Z,56nm,1.1s,mb5.5
SFJD MLR MLR
comp=Z,5µm,18.0s,MS5.7
RESF Ens 65.34 307 *eP* **P 07 00 31.2 -0.3**
EBIE Bielsa 65.52 307⇑ P **P 07 00 32.5 -0.2**
comp=Z,70nm,1.2s,mb5.6
CKFL Kef-Lekhel 65.60 298 P **P 07 00 33.0 -0.2**
EGRA Graus 65.74 306⇓ P **P 07 00 34.1 0.0**
comp=Z,27nm,1.0s,mb5.2
ETSF Etsaut 65.78 307⇑ *iP* **P 07 00 34.0 -0.4**
CASM Ain Smara 65.83 298 P **P 07 00 35.0 +0.3**
EPOB Poblet 65.84 305⇑ P **P 07 00 33.8 -0.9**
comp=Z,311nm,2.4s,mb5.9
KAKA Kakadu 65.97 142 *eP* **P 07 00 34.2 -1.4**

comp=Z,162nm,1.1s,mb6.0
SJPF Ste Jean 66.02 308 *e*P **P 07 00 35.8 -0.1**
comp=Z,75nm,1.2s,mb5.3
SJPF Ste Jean 66.02 308 *e*P **P 07 00 35.8 -0.1**
comp=Z,38nm,1.2s,mb5.3
DFRA Djebel Bou Aff 66.03 298 P **P 07 00 36.0 0.0**
EALK Alkurruntz 66.11 308 P **P 07 00 35.8 -0.6**
comp=Z,351nm,2.8s,mb5.9
ELIZ Elizondo 66.16 308 P **P 07 00 37.0 +0.2**
ELIZ pmax pmax
comp=Z,90nm,1.0s,mb5.8
ELIZ Elizondo 66.16 308 P **P 07 00 37.0 +0.2**
comp=Z,8.8nm,1.0s,mb4.7
ESAC San Caprasio 66.49 306 P **P 07 00 38.5 -0.5**
comp=Z,616nm,3.0s
EBR Ebro Roquetas 66.52 305 *e*P **P 07 00 39.0 -0.1**
SET Setif 66.55 298 P **P 07 00 39.0 -0.3**
CKHR Kef el Ahmar 66.60 298 P **P 07 00 39.0 -0.6**
CMER Merouana 66.61 297 P **P 07 00 50.0 +10**
SKAG Skagway 66.90 26 *e*P **P 07 00 41.7 +0.2**
comp=Z,209nm,1.2s,mb6.0
MIDW Midway 67.35 72 PFAKE 07 01 00.0 +16
MIDW LR LR
comp=Z,2μm,21.0s,MS5.2
ETOR Torete 67.99 306 P **P 07 00 48.3 -0.1**
ETOR pmax pmax
comp=Z,29nm,1.7s,mb5.0
ETOR Torete 67.99 306 P **P 07 00 48.3 -0.1**
comp=Z,29nm,1.7s,mb5.0
EARI Arriondas 68.08 310 P **P 07 00 48.5 -0.5**
comp=Z,270nm,2.4s,mb5.8
FITZ Fitzroy Crossi 68.24 151 *e*P **P 07 00 48.8 -1.2**
comp=Z,43nm,0.9s,mb5.5
FITZ *e*S S 07 09 52.5 +2.3
SIT Sitka 68.82 28 *e*P **P 07 00 53.8 +0.2**
SIT pmax pmax
comp=Z,238nm,1.0s,mb6.1
SIT MLR MLR
comp=Z,5μm,20.0s,MS5.8
SIT Sitka 68.82 28 *e*P **P 07 00 53.8 +0.2**
comp=Z,238nm,1.0s,mb6.1
SIT LR LR
comp=Z,5μm,20.0s,MS5.8
ETOB Tobarra 69.14 304 P **P 07 00 54.7 -0.9**
comp=Z,590nm,2.9s,mb6.0
GUD Guadarrama 69.29 307 ⇓P **P 07 00 56.9 +0.4**
GUD pmax pmax
comp=Z,21nm,0.8s,mb5.1
GUD Guadarrama 69.29 307 ⇓P **P 07 00 56.9 +0.4**
comp=Z,21nm,0.8s,mb5.1
MBWA Marble Bar 69.32 158 *e*P **P 07 00 55.6 -1.1**
comp=Z,110nm,1.2s,mb5.7
MBWA LR LR
comp=Z,2μm,20.0s,MS5.3
DLBC Dease Lake 69.33 24 *e*P **P 07 00 56.9 +0.1**
YKW3 Yellowknife Ar 69.37 15 *e*P **P 07 00 55.6 -1.4**
YKA Yellowknife Ar 69.44 15 P **P 07 00 56.0 -1.4**
comp=Z,63nm,0.9s,mb5.5,baz=335,slow=6.4,SNR=88
YKA LR LR 07 30 38.0
comp=Z,4μm,21.2s,MS5.7,baz=0.0,slow=35
YKA Yellowknife Ar 69.44 15 P **P 07 00 56.0 -1.4**
YKA LR LR 07 30 38.0
CART Cartagena 69.52 303 *e*P **P 07 00 58.1 +0.1**
EVIA Vianos 69.70 305 P **P 07 00 58.3 -0.8**
EVIA pmax pmax
comp=Z,88nm,0.3s,mb6.2
EVIA Vianos 69.70 305 P **P 07 00 58.3 -0.8**
comp=Z,88nm,0.3s,mb6.2
ECAL Calabor 69.83 310 P **P 07 00 58.8 -1.1**
comp=Z,255nm,2.3s,mb5.7
ESDC Sonseca Array 69.84 306 P **P 07 00 59.7 -0.2**
comp=Z,9.7nm,0.9s,mb4.7,baz=46,slow=6.4,SNR=19
ESDC PP PP 07 03 36.2 +1.9
comp=Z,2.7nm,0.8s,baz=50,slow=5.9,SNR=4.2
ESDC Sonseca Array 69.84 306 P **P 07 00 58.6 -1.3**
comp=Z,116nm,1.9s,mb5.5
ESLA Sonseca Array 69.84 306 *e*P **P 07 00 59.5 -0.4**
comp=Z,25nm,1.4s,mb5.0
ESLA LR LR
comp=Z,26μm,20.0s,MS6.5
PBRG Braganca 69.93 309 *e*P **P 07 01 00.7 +0.2**
comp=Z,36nm,1.5s,mb5.1
KMBO Kilima Mbogo 70.30 247 P **P 07 01 02.4 -0.4**
comp=Z,49nm,1.1s,mb5.3,baz=30,slow=9.0,SNR=50
KMBO LR LR 07 37 19.9
comp=Z,3μm,18.9s,MS5.5,baz=28,slow=40
KMBO Kilima Mbogo 70.30 247 *i* P **P 07 01 03.2 +0.5**
KMBO pmax pmax
comp=Z,49nm,1.1s
KMBO Kilima Mbogo 70.30 247 *e*P **P 07 01 03.0 +0.2**
comp=Z,168nm,1.7s,mb5.7
KMBO LR LR
comp=Z,2μm,19.0s,MS5.4
EHUE Huescar 70.31 304 P **P 07 01 02.3 -0.5**
EHUE pmax pmax
comp=Z,26nm,1.6s,mb4.9
EHUE Huescar 70.31 304 P **P 07 01 02.3 -0.4**
comp=Z,26nm,1.6s,mb4.9
PMG Port Moresby 70.53 127 *e*P **P 07 01 03.5 -0.7**
PMG pmax pmax
comp=Z,90nm,1.1s
PMG MLR MLR
comp=Z,2μm,21.0s
PMG Port Moresby 70.53 127 *e*P **P 07 01 03.5 -0.7**
comp=Z,90nm,1.1s,mb5.6
PMG LR LR
comp=Z,2μm,21.0s,MS5.3
EQES Quesada 70.59 304 P **P 07 01 00.4 -4.1**
comp=Z,168nm,2.7s,mb5.5
ELOB Lobios 70.60 310 P **P 07 01 03.5 -1.1**
comp=Z,372nm,2.4s,mb5.9
PCAB Cabril 70.69 310 *e*P **P 07 01 05.5 +0.4**
comp=Z,80nm,1.5s,mb5.4
PVRL Vila Real 70.83 310 *e*P **P 07 01 06.0 0.0**
comp=Z,36nm,1.9s,mb5.0
PVRL Vila Real 70.83 310 *e*PP PP 07 03 43.8 +0.9
CRAG Craig 70.83 28 *e*P **P 07 01 06.6 +0.6**
EADA Adamuz 71.21 305 P **P 07 01 07.7 -0.7**
comp=Z,120nm,1.6s,mb5.6
PVIS Viseu 71.31 309 *e*P **P 07 01 09.2 +0.3**
comp=Z,50nm,2.2s,mb5.0
MTE Manteigas 71.34 309 *e*P **P 07 01 09.1 0.0**
comp=Z,57nm,1.4s,mb5.3
MTE *e*S S 07 10 26.3 -0.3
PCBR Castelo Branco 71.69 308 *e*P **P 07 01 11.4 +0.2**
comp=Z,34nm,1.7s,mb5.0
EBAD Badajoz 72.19 307 P **P 07 01 13.0 -1.2**
comp=Z,308nm,3.3s
PTOM Tomar 72.36 309 *e*P **P 07 01 15.5 +0.3**
comp=Z,54nm,1.3s,mb5.3
EMIJ Mijas 72.43 304 P **P 07 01 13.1 -2.5**
comp=Z,24nm,1.2s,mb5.0
EMIN Mina Concepcio 72.69 306 P **P 07 01 15.3 -1.9**
comp=Z,341nm,2.8s,mb5.8
ESPR Espera 72.84 305 P **P 07 01 16.1 -2.0**
comp=Z,298nm,1.9s,mb5.9
EVO Evora 72.90 308 ⇑ *i* P **P 07 01 18.3 -0.1**
comp=Z,114nm,1.4s,mb5.3
EVO *e*R
comp=Z,8μm,20.0s
PBEJ Beja 73.18 307 *e*P **P 07 01 20.6 +0.5**
comp=Z,68nm,1.9s,mb5.2
WRAB Tennant Creek 73.22 144 P **P 07 01 19.0 -1.3**
comp=Z,546nm,1.3s,mb6.3,SNR=6.4
WRAB Tennant Creek 73.22 144 ⇓ *e*P **P 07 01 19.2 -1.1**
WRAB Tennant Creek 73.22 144 *e*P **P 07 01 19.0 -1.3**
comp=Z,284nm,1.4s,mb6.0
WRAB LR LR
comp=Z,2μm,22.0s,MS5.4
WRA Warramunga Arr 73.22 144 P **P 07 01 18.8 -1.6**
comp=Z,69nm,1.1s,mb5.5,baz=344,slow=6.2,SNR=56
WB2 Warramunga Arr 73.23 144 ⇑ *i* P **P 07 01 18.7 -1.7**
MDT Midelt 74.94 301 LR LR 07 37 59.6
comp=Z,2μm,19.5s,MS5.3,baz=48,slow=38
AS31 Alice Springs 76.38 146 *e*P **P 07 01 37.5 -1.1**
ASPA Alice Springs 76.38 146 *e*P **P 07 01 37.5 -1.1**
ASAR Alice Springs 76.38 146 P **P 07 01 37.0 -1.6**
comp=Z,14nm,0.8s,mb5.0,baz=338,slow=5.8,SNR=47
HNR Honiara 78.21 117 PFAKE 07 02 00.0 +11
HNR LR LR
comp=Z,2μm,20.0s,MS5.4
EDM Edmonton 78.28 18 *e*P **P 07 01 48.9 -0.4**
KLBR Kellerberrin 78.85 162 *e*P **P 07 01 50.4 -2.0**
comp=Z,50nm,0.7s,mb5.6
CTA Charters Tower 78.88 134 *e*P **P 07 01 52.2 -0.4**
comp=Z,33nm,1.2s,mb5.1
CTA Charters Tower 78.88 134 *e*P **P 07 01 52.2 -0.4**
CTA pmax pmax
comp=Z,33nm,1.2s
CTAO Charters Tower 78.88 134 *e*P **P 07 01 52.4 -0.2**
CTAO pmax pmax
comp=Z,95nm,1.3s,mb5.6
CTAO MLR MLR
comp=Z,1μm,19.0s,MS5.3
CTAO Charters Tower 78.88 134 *e*P **P 07 01 52.4 -0.2**
comp=Z,95nm,1.3s,mb5.6
CTAO LR LR
comp=Z,1μm,19.0s,MS5.3
FFC Flin Flon 78.89 11 P **P 07 01 51.5 -1.1**
comp=Z,551nm,1.0s,mb6.4,SNR=35
FFC Flin Flon 78.89 11 *e*P **P 07 01 51.2 -1.4**
FFC *e**PP pP 07 01 55.7 -1.3
FFC pmax pmax
comp=Z,118nm,1.1s,mb5.7
FFC MLR MLR
comp=Z,5μm,20.0s,MS5.8
FFC Flin Flon 78.89 11 *e*P **P 07 01 51.2 -1.4**
comp=Z,118nm,1.1s,mb5.7
FFC *e*pP pP 07 01 55.7 -1.2
FFC LR LR
comp=Z,5μm,20.0s,MS5.8
MUN Mundaring 78.91 164 *e*P **P 07 01 50.2 -2.5**
SCHQ Schefferville 79.23 351 P **P 07 01 53.4 -1.1**
comp=Z,9.5nm,0.8s,mb4.8,baz=28,slow=5.9,SNR=12
SCHQ LR LR 07 36 32.5
comp=Z,2μm,20.3s,MS5.5,baz=203,slow=35
SCHQ Schefferville 79.23 351 *e*P **P 07 01 53.2 -1.3**
comp=Z,96nm,1.6s,mb5.5
SCHQ *e*pP pP 07 01 57.2 -1.6
SCHQ *e*sP sP 07 01 58.8 -1.6
SCHQ LR LR
comp=Z,4μm,20.0s,MS5.7
PGC Sidney 79.76 26 *e*P **P 07 01 58.5 +1.1**
comp=Z,302nm,1.0s,mb6.2
A05A Maple Falls 79.86 25 ⇑P **P 07 01 57.2 -0.8**
baz=80,SNR=26
A05A ⇑S S 07 12 02.8 +1.9
baz=80
A04A Legoe Bay, Lum 79.92 26 ⇑P **P 07 01 58.8 +0.6**
baz=80,SNR=26
A04A ⇓S S 07 12 05.7 +4.1
baz=80
C03A Quillayute Air 80.02 27 ⇑P **P 07 01 59.0 +0.3**
baz=80,SNR=6.7
NWAO Narrogin (SRO) 80.04 163 P **P 07 01 57.1 -1.8**
NWAO pmax pmax
comp=Z,120nm,1.2s
NWAO Narrogin (SRO) 80.04 163 *e*P **P 07 01 57.5 -1.3**
comp=Z,124nm,1.3s,mb5.7
NWAO LR LR
comp=Z,1μm,20.0s,MS5.3
OBC Olympics--Boni 80.11 27 P **P 07 02 00.9 +1.7**
B04A Port Angeles 80.27 26 ⇓P **P 07 02 00.3 +0.2**
baz=80,SNR=9.0
B04A ⇑S S 07 12 09.7 +4.6
baz=80
OCWA Octopus Mounta 80.33 27 *e*P **P 07 02 01.7 +1.3**
comp=Z,294nm,1.3s,mb6.0
OCWA LR LR
comp=Z,2μm,19.0s,MS5.4
B05A Bryant 80.52 26 ⇑P **P 07 02 01.5 0.0**
baz=80,SNR=87
B05A ⇓S S 07 12 10.9 +3.1
baz=80
C04A Brinnon 80.73 26 ⇓P **P 07 02 03.0 +0.4**
baz=80
C04A ⇑S S 07 12 14.1 +4.1
baz=80
FORT Forrest 80.81 154 ⇓ *i* P **P 07 02 02.0 -1.0**
comp=Z,92nm,0.9s,mb5.7
D03A Wishkah Elem. 81.01 27 ⇑P **P 07 02 04.5 +0.4**
baz=81,SNR=8.2
D04A Dobbs Creek Ra 81.33 26 ⇑P **P 07 02 06.7 +1.0**
baz=81,SNR=6.4
D05A Enumclaw 81.51 26 ⇑P **P 07 02 07.5 +0.8**
baz=81,SNR=46
D05A ⇑S S 07 12 22.7 +4.6
baz=81
E03A Lebam 81.58 27 ⇓P **P 07 02 07.2 +0.1**
baz=81,SNR=33
E03A ⇓S S 07 12 23.1 +4.2
baz=81
E04A Ornalaska 81.81 27 ⇓P **P 07 02 08.6 +0.2**
baz=82
NEW Newport 81.94 22 *e*P **P 07 02 09.3 +0.3**
NEW pmax pmax
comp=Z,112nm,1.3s
NEW MLR MLR
comp=Z,3μm,22.0s
NEW Newport 81.94 22 *e*P **P 07 02 09.3 +0.3**
comp=Z,112nm,1.3s,mb5.6
NEW LR LR
comp=Z,3μm,22.0s,MS5.6
WALA Waterton Lakes 82.03 20 *e*P **P 07 02 09.0 -0.5**
comp=Z,97nm,1.3s,mb5.6
WALA *e*pP pP 07 02 13.0 -0.9
WALA *e*sP sP 07 02 15.6 +0.1
F03A Seaside 82.13 27 ⇓P **P 07 02 09.6 -0.5**
baz=82,SNR=7.3
E05A Randle 82.14 26 ⇓P **P 07 02 09.8 -0.3**
baz=82,SNR=20
E05A ⇓S S 07 12 27.9 +3.2
baz=82
EBG Ellensburg 82.19 25 P **P 07 02 10.7 +0.4**
OD2 Odessa Site #2 82.30 24 P **P 07 02 11.6 +0.7**
F04A Amboy 82.50 27 ⇓P **P 07 02 11.8 -0.1**
baz=82,SNR=27
F04A ⇓S S 07 12 31.3 +3.0
baz=82
F05A White Salmon 82.84 26 ⇑P **P 07 02 13.9 +0.1**
baz=82,SNR=19
F05A ⇑S S 07 12 33.7 +1.9
baz=82
HAWA Hanford 82.97 25 *e*P **P 07 02 14.9 +0.6**
comp=Z,5.6nm,1.1s,mb4.5
HAWA LR LR
comp=Z,318nm,20.0s,MS4.7
G04A Mulino 83.12 27 ⇓P **P 07 02 15.2 0.0**
baz=83,SNR=82
H03A Soap Creek Ran 83.33 28 ⇓P **P 07 02 16.6 +0.4**
baz=83,SNR=7.4
H03A ⇓S S 07 12 39.8 +3.1
baz=83
COR Corvallis 83.41 28 *e*P **P 07 02 16.9 +0.3**
COR pmax pmax
comp=Z,165nm,0.9s,mb6.1
COR MLR MLR
comp=Z,2μm,22.0s,MS5.5
COR Corvallis 83.41 28 *e*P **P 07 02 16.9 +0.3**
comp=Z,165nm,0.9s,mb6.1
COR LR LR
comp=Z,2μm,22.0s,MS5.5
G05A Wamic 83.46 26 ⇓P **P 07 02 17.2 +0.3**
baz=83,SNR=7.5
G05A ⇑S S 07 12 40.9 +2.8
baz=83
H04A Detroit Lake 83.69 27 ⇑P **P 07 02 17.9 -0.2**
baz=83,SNR=47
H04A ⇑S S 07 12 41.8 +1.5
baz=83
I02A Mapleton 83.75 29 ⇑P **P 07 02 18.7 +0.3**
baz=83
EGMT Eagleton 83.96 18 *e*P **P 07 02 18.3 -1.1**
comp=Z,215nm,1.7s,mb6.0
EGMT LR LR
comp=Z,2μm,22.0s,MS5.4
I03A Eugene 83.96 28 ⇓P **P 07 02 19.6 +0.1**
baz=84,SNR=9.4
H05A Madras 84.02 27 ⇑P **P 07 02 20.3 +0.6**
baz=84,SNR=11
H05A ⇑S S 07 12 46.2
baz=84
ULM Lac du Bonnet 84.02 8 P **P 07 02 18.4 -1.4**
comp=Z,23nm,0.8s,mb5.4,baz=345,slow=5.4,SNR=16
ULM LR LR 07 40 02.6
comp=Z,3μm,18.1s,MS5.7,baz=357,slow=36
MSO Missoula 84.10 21 *e*P **P 07 02 20.1 -0.1**
comp=Z,82nm,1.2s,mb5.7
MSO LR LR
comp=Z,3μm,19.0s,MS5.6
CHMT Chamberlain Mo 84.19 21 *e*P **P 07 02 20.6 -0.1**
J02A Umpqua 84.39 29 ⇓P **P 07 02 22.2 +0.5**
baz=84,SNR=7.7
J02A ⇓S S 07 12 49.7
baz=84
I05A Bend 84.44 27 ⇓P **P 07 02 22.7 +0.7**
baz=84,SNR=58
I05A ⇑S 07 12 51.2
baz=84
KEBM Edson Butte 84.57 29 *e*P **P 07 02 24.0 +1.4**
K01A Sixes 84.58 30 ⇑P **P 07 02 23.2 +0.6**
baz=84,SNR=6.2
J03A Ideyld Park 84.60 28 ⇓P **P 07 02 23.1 +0.3**
baz=84
TORD Torodi Ar. Bea 84.68 283 P **P 07 02 22.1 -1.0**
comp=Z,14nm,0.9s,mb5.1,baz=42,slow=2.9,SNR=39
TORD PP PP 07 05 31.9 -7.0
comp=Z,8.0nm,1.1s,baz=20,slow=6.4,SNR=3.5
TORD PKKPbc PKKPbc 07 20 32.1 -0.4
comp=Z,1.1nm,0.8s,baz=255,slow=1.6,SNR=5.1
TORD Torodi Ar. Bea 84.68 283 P **P 07 02 22.1 -1.0**
TORD PP PP 07 05 31.9 -7.0
TORD PKKPbc PKKPbc 07 20 32.1 -0.4
HRY Holter Researc 84.72 20 *e*P **P 07 02 23.7 +0.4**
K02A Glendale 84.95 29 ⇓P **P 07 02 24.7 +0.2**
baz=85,SNR=34
K02A ⇑S 07 12 55.5
baz=85
I06A Prineville 84.98 26 P **P 07 02 25.4 +0.8**
baz=85,SNR=61
I06A ⇓S 07 12 57.8
baz=85
HUMO Hull Mountain 85.28 29 *e*P **P 07 02 27.1 +0.9**
comp=Z,160nm,1.3s,mb6.0
HUMO LR LR
comp=Z,2μm,21.0s,MS5.5
HUMO Hull Mountain 85.28 29 ⇓P **P 07 02 26.5 +0.4**
baz=85,SNR=68
HUMO ⇓S 07 12 57.4
baz=85
L02A Cave Junction 85.46 29 ⇓P **P 07 02 27.8 +0.8**
baz=85,SNR=8.9
L02A ⇓S 07 13 01.6
baz=85
M01C Crescent City 85.55 30 ⇑P **P 07 02 27.6 +0.2**
baz=85
J06A Christmas Vall 85.62 26 P **P 07 02 28.8 +0.9**
baz=85,SNR=122
J06A ⇑S 07 13 03.2
baz=85
K04A Chilquin 85.69 28 ⇑P **P 07 02 28.4 +0.3**
baz=85,SNR=8.1
KTRM Thompson Ridge 85.76 29 P **P 07 02 30.1 +1.6**
BOZ Bozeman (W) 85.77 20 *e*P **P 07 02 28.9 +0.3**
BOZ pmax pmax
comp=Z,65nm,1.4s,mb5.7
BOZ MLR MLR
comp=Z,3μm,21.0s,MS5.6
BOZ Bozeman (W) 85.77 20 *e*P **P 07 02 28.9 +0.3**
comp=Z,65nm,1.4s,mb5.7
BOZ LR LR
comp=Z,3μm,21.0s,MS5.6
DLMT Dillon 85.80 21 *e*P **P 07 02 28.2 -0.5**
comp=Z,177nm,1.6s,mb6.0
LAO LASA Array 85.96 16 *e*P **P 07 02 29.3 -0.2**
comp=Z,134nm,1.7s,mb5.9
LAO LR LR
comp=Z,4μm,19.0s,MS5.8
K06A Valley Falls 85.99 27 ⇑P **P 07 02 30.2 +0.6**
baz=86,SNR=29
K06A ⇑S 07 13 06.9
baz=86
HOG Hogback Mounta 86.02 28 P **P 07 02 31.2 +1.3**
L04A Klamath Falls 86.03 28 ⇑P **P 07 02 30.0 +0.2**
baz=86,SNR=18
L04A ⇓S 07 13 06.1
baz=86
GCMT Greycliff 86.09 19 *e*P **P 07 02 30.5 +0.3**
YBH Yreka Blue Hor 86.14 29 *e*P **P 07 02 31.1 +0.7**
comp=Z,118nm,1.8s,mb5.8
YBH LR LR
comp=Z,2μm,20.0s,MS5.6
YBH Yreka Blue Hor 86.14 29 ⇓P **P 07 02 30.4 0.0**
baz=86,SNR=23
YBH ⇑S 07 13 06.3
baz=86
MCMT McKenzie Canyo 86.24 21 *e*P **P 07 02 30.6 -0.3**
M04C Macdoel 86.39 28 P **P 07 02 32.1 +0.4**
baz=86,SNR=83
M04C ⇑S 07 13 09.5
baz=86
M02C Callahan 86.40 29 ⇑P **P 07 02 32.2 +0.5**
baz=86,SNR=40
M02C ⇓S 07 13 10.0
baz=86
K07A Rock Creek Ran 86.41 26 P **P 07 02 32.5 +0.8**
baz=86,SNR=73
K07A ⇑S 07 13 10.4
baz=86
JCC Jacoby Creek 86.49 30 ⇑P **P 07 02 33.1 +1.0**
baz=86,SNR=5.0
JCC ⇑S 07 13 11.1
baz=86
KHMM Horse Mountain 86.55 30 *e*P **P 07 02 32.5 +0.1**
QLMT Earthquake Lak 86.59 20 *e*P **P 07 02 32.5 -0.1**
EYMN Ely 86.70 6 *e*P **P 07 02 32.4 -0.7**
comp=Z,63nm,1.2s,mb5.7
EYMN LR LR
comp=Z,4μm,20.0s,MS5.8
N02C Big Bar 86.75 30 ⇑P **P 07 02 33.7 +0.3**
baz=86,SNR=41
N02C ⇓S 07 13 13.2
baz=86
M03C McCloud 86.75 29 ⇑P **P 07 02 33.4 -0.1**
baz=86,SNR=12
M03C ⇓S 07 13 13.0
baz=86
STKA Stephens Creek 86.78 144 *e*P **P 07 02 29.6 -3.9**
comp=Z,29nm,0.9s,mb5.5
STKA Stephens Creek 86.78 144 P **P 07 02 30.6 -2.9**
comp=Z,31nm,0.9s,mb5.5,baz=333,slow=6.7,SNR=23
STKA LR LR 07 45 38.8
comp=Z,2μm,20.0s,MS5.6,baz=305,slow=39
MOD Modoc 86.78 27 *e*P **P 07 02 32.8 -0.8**
comp=Z,149nm,1.1s,mb6.1
MOD *e*pP pP 07 02 36.7 -1.3
MOD LR LR
comp=Z,2μm,21.0s,MS5.5
LSZ Lusaka 86.80 245 *e*P **P 07 02 33.6 0.0**
comp=Z,117nm,1.4s,mb5.9
LSZ LR LR
comp=Z,1μm,20.0s,MS5.3
WVOR Wild Horse Val 86.83 26 *e*P **P 07 02 34.4 +0.6**
comp=Z,199nm,1.4s,mb6.2
WVOR *e*pP pP 07 02 38.9 +0.7
YMR Madison River 86.85 20 *e*P **P 07 02 33.9 0.0**
comp=Z,35nm,1.3s,mb5.4
M05C Lookout 87.00 28 ⇑P **P 07 02 34.8 +0.2**
baz=87,SNR=41
M05C ⇓S 07 13 16.2
baz=87
HLID Hailey 87.01 23 *e*P **P 07 02 34.4 -0.3**
comp=Z,62nm,1.6s,mb5.6
HLID LR LR
comp=Z,5μm,20.0s,MS5.9
LKWY Lake 87.08 19 *e*P **P 07 02 31.4 -3.6**
LKWY LR LR
comp=Z,5μm,19.0s,MS6.0
YFT Old Faithful 87.09 20 *e*P **P 07 02 36.1 +1.0**
O01C Eel River Cons 87.17 30 ⇑P **P 07 02 36.2 +0.7**
baz=87,SNR=11
WDC Whiskeytown Da 87.22 29 *e*P **P 07 02 35.3 -0.5**
comp=Z,60nm,1.3s,mb5.7
WDC *e*pP pP 07 02 40.0 -0.2
WDC Whiskeytown Da 87.22 29 ⇑P **P 07 02 35.4 -0.3**
baz=87,SNR=21
WDC ⇓S 07 13 18.7
baz=87
M06C Likely Place G 87.36 28 ⇑P **P 07 02 36.9 +0.5**
baz=87,SNR=25
M06C ⇓S 07 13 20.8
baz=87
HATC Hat Creek Radi 87.38 28 ⇑P **P 07 02 36.6 +0.2**
baz=87,SNR=24
HATC ⇑S 07 13 20.3
baz=87
FLWY Flagg Ranch 87.47 20 *e*P **P 07 02 37.6 +0.7**
comp=Z,121nm,1.5s,mb5.9
FLWY *e*pP pP 07 02 41.5 +0.2
O02C Red Bluff 87.50 30 P **P 07 02 38.0 +0.9**
baz=87,SNR=57
O02C ⇑S 07 13 21.5

baz=87
L09A Wilkinson Ranc 87.50 25 P P 07 02 37.7 +0.6
baz=87,SNR=26
L09A ⇑S 07 13 21.0
baz=87
KIPM Iron Peak 87.58 30 eP P 07 02 38.4 +0.9
IMW Indian Meadow 87.58 20 eP P 07 02 38.3 +0.9
comp=Z,93nm,1.4s,mb5.8
IMW epP pP 07 02 42.2 +0.4
M07A Soldier Meadow 87.61 27 P P 07 02 38.4 +0.8
baz=87,SNR=74
M07A ⇓S 07 13 22.9
baz=87
MOOW Moose Ponds 87.77 20 eP P 07 02 39.5 +1.2
comp=Z,58nm,1.4s,mb5.6
ELFS Eagle Lake Fie 87.80 28 ⇓P P 07 02 39.3 +0.8
baz=88
ELFS ⇑S 07 13 24.9
baz=88
M08A Happy Creek Ra 87.80 26 ⇑P P 07 02 39.1 +0.6
baz=88,SNR=43
M08A ⇓S 07 13 24.5
baz=88
DCID1 Drake Creek 87.81 20 eP P 07 02 39.4 +0.9
O03C Acorn Hollow, 87.92 29 ⇑P P 07 02 39.2 +0.2
baz=88
O03C ⇓S 07 13 24.0
baz=88
P01C Double 8 Ranch 87.93 30 ⇑P P 07 02 39.5 +0.4
baz=88,SNR=16
P01C ⇓S 07 13 26.5
baz=88
LOHW Long Hollow 87.93 20 eP P 07 02 39.5 +0.3
comp=Z,65nm,1.5s,mb5.6
LOHW epP pP 07 02 43.5 -0.1
O04C Chester 87.95 28 ⇓P P 07 02 39.9 +0.7
baz=88,SNR=62
O04C ⇑S 07 13 26.3
baz=88
TPAW Teton Pass 87.97 20 eP P 07 02 39.7 +0.4
comp=Z,82nm,1.5s,mb5.7
GASB Alder Springs 87.99 30 ⇑P P 07 02 40.4 +1.0
baz=88,SNR=36
REDW Red Top Meadow 88.11 20 eP P 07 02 39.9 -0.1
comp=Z,82nm,1.6s,mb5.7
M09A Marrel Ranch, 88.11 25 ⇑P P 07 02 40.6 +0.6
baz=88,SNR=43
M09A ⇓S 07 13 28.1
baz=88
N07B Gerlach 88.23 27 ⇓P P 07 02 41.1 +0.6
baz=88,SNR=34
N07B ⇑S 07 13 28.7
baz=88
M10A I.L. Ranch, Tu 88.29 25 ⇓P P 07 02 41.5 +0.6
baz=88,SNR=36
M10A ⇓S 07 13 29.0
baz=88
O05C Quincy 88.33 28 ⇓P P 07 02 41.4 +0.3
baz=88
O05C ⇓S 07 13 29.2
baz=88
HOPS Hopland 88.45 30 eP P 07 02 42.9 +1.3
comp=Z,163nm,1.2s,mb6.1
HOPS LR LR
comp=Z,2μm,19.0s,MS5.5
HOPS Hopland 88.45 30 ⇑P P 07 02 42.8 +1.2
baz=88,SNR=19
HOPS ⇓S 07 13 31.6
baz=88
N08A GE Springer Mi 88.49 26 ⇓P P 07 02 42.2 +0.5
baz=88,SNR=18
N08A ⇓S 07 13 29.9
baz=88
ORV Oroville 88.50 29 ⇓P P 07 02 41.5 -0.3
baz=88,SNR=49
ORV ⇑S 07 13 30.0
baz=88
O06A Flanigan 88.51 28 ⇑P P 07 02 42.4 +0.6
baz=88,SNR=68
O06A ⇑S 07 13 30.5
baz=88
M11A Holland Ranch, 88.60 24 ⇑P P 07 02 42.9 +0.6
baz=88,SNR=64
M11A ⇑S 07 13 31.3
baz=88
AHID Auburn Hatcher 88.61 21 eP P 07 02 42.8 +0.4
comp=Z,27nm,1.0s,mb5.5
AHID LR LR
comp=Z,3μm,19.0s,MS5.8
SUTB Sutter Buttes 88.69 29 ⇓P P 07 02 42.2 -0.5
baz=88,SNR=26
SUTB ⇓S 07 13 32.0
baz=88
OHCM Honcut 88.70 29 eP P 07 02 42.8 +0.1
MNRC McLaughlin Nat 88.78 30 ⇓P P 07 02 44.3 +1.2
baz=88,SNR=27
MNRC ⇑S 07 13 32.4
baz=88
O07A Toulon 88.82 27 ⇑P P 07 02 44.2 +0.9
baz=88,SNR=26
O07A ⇑S 07 13 34.8
baz=88
RSSD Black Hills 88.84 15 eP P 07 02 43.1 -0.3
comp=Z,107nm,1.1s,mb6.1
M12A Wells 88.86 24 ⇑P P 07 02 43.9 +0.4
baz=88,SNR=40
M12A ⇓S 07 13 33.8
baz=88
P06A Stead Airport, 88.92 28 ⇑P P 07 02 44.4 +0.6
baz=89,SNR=5.5
P06A ⇑S 07 13 36.0
baz=89
BW06 Boulder Array 88.98 19 eP P 07 02 43.8 -0.3
comp=Z,30nm,1.4s,mb5.4
BW06 LR LR
comp=Z,3μm,20.0s,MS5.7
PDAR Pinedale Array 88.98 19 P P 07 02 43.0 -1.1
comp=Z,4.2nm,0.9s,mb4.8,baz=354,slow=3.0,SNR=25
PDAR PP PP 07 06 18.4 +4.7
comp=Z,2.2nm,1.1s,baz=318,slow=5.3,SNR=3.5
PDAR PKKPbc PKKPbc 07 20 19.7 -2.5
comp=Z,0.2nm,0.6s,baz=114,slow=2.3,SNR=3.7
PDAR LR LR 07 44 55.3
comp=Z,2μm,19.6s,MS5.6,baz=1.4,slow=37
P05C Yuba Gap, Truc 89.03 29 P P 07 02 44.6 +0.3
baz=89,SNR=34
P05C ⇑S 07 13 34.9
baz=89
NSHM Saint Helena R 89.04 30 eP P 07 02 45.9 +1.6
N10A Dunphy 89.04 25 ⇑P P 07 02 45.2 +0.9
baz=89,SNR=6.2
N10A ⇓S 07 13 33.8
baz=89
PAHR Pah Rah Range 89.07 27 eP P 07 02 45.2 +0.8
comp=Z,79nm,1.1s,mb6.0
PAHR epP pP 07 02 49.5 +0.6
BMN Battle Mountai 89.09 26 eP P 07 02 46.0 +1.4
comp=Z,126nm,1.6s,mb6.0
BMN epP pP 07 02 49.6 +0.7
BMN LR LR
comp=Z,3μm,20.0s,MS5.7
HVU Hansel Valley 89.11 22 eP P 07 02 45.0 +0.3
comp=Z,121nm,1.7s,mb6.0
HVU epP pP 07 02 49.1 0.0
M13A Montello 89.12 23 ⇑P P 07 02 45.1 +0.4
baz=89,SNR=50
M13A ⇑S 07 13 35.7
baz=89
Q03C Winters 89.15 30 ⇓P P 07 02 46.1 +1.2
baz=89,SNR=9.7
N11A Elko Archery C 89.17 24 ⇓P P 07 02 45.5 +0.5
baz=89,SNR=6.7
N11A ⇑S 07 13 36.7
baz=89
Q04C Lincoln 89.18 29 ⇓P P 07 02 45.8 +0.8
baz=89,SNR=27
Q04C ⇓S 07 13 37.8
baz=89
CVS Carmenet Viney 89.25 30 ⇓P P 07 02 46.0 +0.7
baz=89,SNR=10
CVS ⇓S 07 13 37.9
baz=89
MCCM Marconi Confer 89.27 31 ⇓P P 07 02 45.4 -0.1
baz=89
O09A Fish Creek Ran 89.34 26 ⇑P P 07 02 46.4 +0.7
baz=89,SNR=43
O09A ⇓S 07 13 37.6
baz=89
N12A Wells--Clov Va 89.35 24 ⇑P P 07 02 46.3 +0.5
baz=89,SNR=52
N12A ⇓S 07 13 39.6
baz=89
P07A Fallon 89.38 27 ⇑P P 07 02 46.9 +1.0
baz=89
P07A ⇓S 07 13 40.1
baz=89
ELK Elko 89.39 24 eP P 07 02 46.4 +0.4
comp=Z,56nm,1.1s,mb5.8
ELK LR LR
comp=Z,4μm,20.0s,MS5.9
LAVA Lava Cap Winer 89.47 29 ⇑P P 07 02 46.6 +0.2
baz=89,SNR=43
LAVA ⇓S 07 13 39.2
baz=89
P08A Dixie Valley 89.50 27 ⇑P P 07 02 47.4 +0.8
baz=89,SNR=6.4
N13A West Wendover 89.58 23 ⇓P P 07 02 47.2 +0.3
baz=89
N13A ⇓S 07 13 39.9
baz=89
HWUT Hardware Ranch 89.58 21 eP P 07 02 47.0 +0.1
comp=Z,164nm,1.5s,mb6.1
HWUT LR LR
comp=Z,3μm,21.0s,MS5.8
FARB Farallon Islan 89.63 31 ⇓P P 07 02 46.4 -0.7
baz=89
R05C Kirkwood Meado 89.75 28 ⇑P P 07 02 48.2 +0.5
baz=89,SNR=35
BDM Black Diamond 89.80 30 ⇑P P 07 02 48.8 +0.8
baz=90
O11A Cowboy Ranch, 89.83 25 ⇑P P 07 02 48.5 +0.4
baz=90,SNR=30
O11A ⇑S 07 13 40.6
baz=90
BGU Big Grassy Mou 89.84 23 eP P 07 02 48.8 +0.7
R04C Big Horse Ranc 89.85 29 ⇓P P 07 02 48.4 +0.3
baz=90
R04C ⇓S 07 13 42.5
baz=90
P09A Austin 89.92 26 ⇓P P 07 02 48.7 +0.2
baz=90,SNR=7.3
P09A ⇑S 07 13 41.9
baz=90
Q07A Schurz 89.95 27 ⇑P P 07 02 49.2 +0.6
baz=90
LONY Lake Ozonia 90.06 354 eP P 07 02 48.9 -0.3
TCUT Toone Canyon 90.08 21 eP P 07 02 49.6 +0.4
TCUT epP pP 07 02 54.3 +0.6
R06C Coleville 90.12 28 ⇑P P 07 02 50.5 +1.1
baz=90
ARMA Armidale 90.13 135 eP P 07 02 50.1 +0.6
WENL Wente Brothers 90.14 30 ⇓P P 07 02 50.4 +0.9
baz=90
WENL ⇑S 07 13 45.9
baz=90
JRSC Jasper Ridge 90.16 31 ⇓P P 07 02 50.2 +0.6
baz=90
JRSC ⇓S 07 13 44.9
baz=90
LBNH Lisbon 90.22 352 eP P 07 02 49.5 -0.4
comp=Z,28nm,1.3s,mb5.4
LBNH LR LR
comp=Z,5μm,21.0s,MS5.9
CMB Columbia Colle 90.24 29 eP P 07 02 51.0 +1.0
comp=Z,66nm,1.3s,mb5.8
CMB epP pP 07 02 55.3 +0.9
CMB LR LR
comp=Z,2μm,22.0s,MS5.5
CMB Columbia Colle 90.24 29 ⇑P P 07 02 50.4 +0.5
baz=90,SNR=23
CMB ⇓S 07 13 45.9
baz=90
Q08A Gabbs 90.30 27 ⇓P P 07 02 50.8 +0.5
baz=90,SNR=42
Q08A ⇑S 07 13 47.7
baz=90
FUNA Funafuti 90.32 102 PFAKE 07 03 00.0 +10
FUNA LR LR
comp=Z,8μm,19.0s,MS6.2
NOQ North Oquirrh 90.33 22 eP P 07 02 50.6 +0.2
comp=Z,124nm,1.6s,mb6.0
P11A Circle Ranch, 90.34 25 ⇑P P 07 02 51.3 +0.8
baz=90,SNR=8.6
CTU Camp Tracy 90.39 22 eP P 07 02 51.2 +0.5
comp=Z,53nm,1.5s,mb5.7
CTU epP pP 07 02 55.6 +0.5
S04C Ingram Canyon, 90.40 30 ⇑P P 07 02 51.2 +0.4
baz=90,SNR=5.5
S04C ⇑S 07 13 47.5
baz=90
BNLO Ben Lomond 90.43 31 ⇑P P 07 02 49.5 -1.3
baz=90
BNLO ⇑S 07 13 46.8
baz=90
MIV Mineville/With 90.53 353 eP P 07 02 50.9 -0.4
RWWY Rawlins 90.54 18 eP P 07 02 51.3 0.0
comp=Z,464nm,2.2s,mb6.4
RWWY epP pP 07 02 55.2 -0.6
S06C San Francisco 90.56 29 ⇓P P 07 02 52.0 +0.5
baz=90
S06C ⇑S 07 13 48.0
baz=90
Q09A Carvers 90.57 26 ⇑P P 07 02 52.1 +0.6
baz=90
NVAR Mina Array Bea 90.58 27 P P 07 02 52.2 +0.7
comp=Z,19nm,0.9s,mb5.4,baz=353,slow=3.2,SNR=53
NVAR PP PP 07 06 32.7 +6.3
comp=Z,1.4nm,1.0s,baz=298,slow=6.1,SNR=3.0
DUG Dugway 90.58 23 eP P 07 02 52.2 +0.7
comp=Z,106nm,1.4s,mb6.0
DUG LR LR
comp=Z,3μm,20.0s,MS5.8
MNV Mina 90.62 27 eP P 07 02 52.5 +0.8
comp=Z,71nm,1.4s,mb5.8
R07C Lee Vining 90.64 28 ⇓P P 07 02 52.6 +0.7
baz=90,SNR=57
P12A McGill 90.66 24 ⇓P P 07 02 52.5 +0.6
baz=90
DAU Daniels Canyon 90.78 21 eP P 07 02 53.0 +0.5
PACP Pacheco Peak 90.85 30 ⇓P P 07 02 53.5 +0.7
baz=90,SNR=7.8
S05C Merced 90.88 29 ⇑P P 07 02 53.0 0.0
baz=91
NLU North Lily Min 91.00 22 eP P 07 02 52.6 -0.9
Q11A Duckwater 91.02 25 ⇑P P 07 02 53.7 +0.1
baz=91,SNR=37
SAO San Andreas Ge 91.02 30 eP P 07 02 53.5 -0.1
comp=Z,147nm,2.1s,mb5.9
MPU Maple Canyon 91.06 22 eP P 07 02 54.1 +0.3
comp=Z,93nm,1.8s,mb5.8
MLAC Mammoth Lakes 91.13 28 ⇓P P 07 02 55.5 +1.4
baz=91
T05C Eagle Field, D 91.17 30 ⇓P P 07 02 55.2 +0.9
baz=91
ACCN Adirondack Com 91.22 353 eP P 07 02 54.3 -0.2
TPH Tonopah 91.25 27 eP P 07 02 55.8 +1.1
comp=Z,32nm,1.1s,mb5.6
KCC Kaiser Creek 91.25 28 ⇓P P 07 02 55.3 +0.6
baz=91
PHWY Pilot Hill 91.28 17 eP P 07 02 55.6 +0.7
HAST Hastings Reser 91.31 30 ⇑P P 07 02 55.5 +0.6
baz=91,SNR=5.2
T06C Millerton Lake 91.40 29 ⇓P P 07 02 55.8 +0.5
baz=91
S08C White Mtn Res 91.47 28 ⇑P P 07 02 56.9 +1.2
baz=91,SNR=54
MTUM Tungsten Hills 91.47 28 eP P 07 02 57.6 +1.9
LRV Little Rabbit 91.47 30 eP P 07 02 57.0 +1.4
S09A Goldfield 91.57 27 ⇑P P 07 02 56.7 +0.6
baz=91,SNR=40
U04C Hernandez Rese 91.61 30 ⇓P P 07 02 57.3 +1.0
baz=91,SNR=9.2
TMUT Trail Mountain 91.85 22 eP P 07 02 57.8 +0.4
TIN Tinemaha 91.85 28 ⇓P P 07 02 58.4 +1.0
baz=92
U05C Westside ANR, 91.86 29 ⇑P P 07 02 58.7 +1.2
baz=92
HRV Harvard--Oak R 91.90 352 PFAKE 07 03 10.0 +12
HRV LR LR
comp=Z,5μm,20.0s,MS5.9
PKD Parkfield 92.07 30 ⇑P P 07 02 59.3 +0.8
baz=92
SRU San Rafael 92.20 21 eP P 07 02 59.2 +0.2
comp=Z,35nm,1.6s,mb5.4
QUA2 Belchertown 92.21 352 eP P 07 02 58.7 -0.4
comp=Z,63nm,1.4s,mb5.8
V04C Ramage Ranch, 92.23 30 ⇑P P 07 03 00.2 +1.0
baz=92
MSU Marysvale 92.32 23 eP P 07 03 00.4 +0.8
V05C Boulder Hill, 92.36 29 ⇑P P 07 03 00.8 +1.0
baz=92
PTRM Twissleman Ran 92.45 30 eP P 07 03 01.0 +0.8
CWC Cottonwood Cre 92.46 28 ⇓P P 07 03 00.8 +0.5
baz=92
SCIA State Center 92.55 8 eP P 07 03 00.6 -0.1
BINY Binghamton 92.57 355 PFAKE 07 03 10.0 +9.2
BINY LR LR
comp=Z,4μm,19.0s,MS5.9
TPNV Topopah Spring 92.58 26 P P 07 03 05.1 +4.3
TPNV Topopah Spring 92.58 26 eP P 07 03 01.6 +0.8
comp=Z,47nm,1.9s,mb5.6
ARUT Antelope Range 92.65 24 eP P 07 03 02.9 +1.8
ARUT Antelope Range 92.65 24 eP P 07 03 02.5 +1.4
ISCO Idaho Springs 92.69 18 eP P 07 03 01.7 +0.4
comp=Z,79nm,1.6s,mb5.9
ISCO LR LR
comp=Z,5μm,20.0s,MS6.0
DAC Darwin (Calif) 92.77 28 eP P 07 03 02.6 +0.9
comp=Z,59nm,1.2s,mb5.9
DAC LR LR
comp=Z,2μm,20.0s,MS5.5
ERPA Erie 92.82 358 PFAKE 07 03 10.0 +8.1
ERPA LR LR
comp=Z,4μm,20.0s,MS5.9
CCUT Cedar City 92.89 24 eP P 07 03 03.2 +0.9
SMCO Snowmass 92.99 19 eP P 07 03 03.1 +0.4
comp=Z,110nm,1.4s,mb6.1
ISA Isabella 93.04 29 PFAKE 07 03 10.0 +7.1
ISA LR LR
comp=Z,522nm,21.0s,MS5.0
ISA Isabella 93.04 29 ⇓P P 07 03 03.2 +0.3
baz=93
PV10 Paradox Valley 93.27 20 eP P 07 03 05.3 +1.3
PV01 Paradox Valley 93.61 20 eP P 07 03 06.5 +0.9
DBIC Dimbokro 93.79 283 P P 07 03 05.0 -1.3
comp=Z,4.8nm,0.7s,mb5.0,baz=109,slow=11,SNR=4.6
DBIC LR LR 07 53 27.9
comp=Z,1μm,20.0s,MS5.4,baz=28,slow=41
DBIC Dimbokro 93.79 283 eP P 07 03 05.7 -0.7
DBIC LR LR
comp=Z,2μm,20.0s,MS5.5
GSC Goldstone 93.92 27 ⇑P P 07 03 07.7 +0.7
baz=94,SNR=6.8
TUQ Turquoise Mtn. 94.08 27 ⇑P P 07 03 08.5 +0.8
baz=94,SNR=5.8
MVCO Mesa Verde 94.51 20 eP P 07 03 10.7 +1.0
W12A Cal Nev Ari 94.53 26 ⇑P P 07 03 10.3 +0.5
baz=94
ACSO Alum Creek Sta 94.73 0 eP P 07 03 10.5 -0.2
comp=Z,18nm,1.0s,mb5.5
ACSO LR LR
comp=Z,2μm,20.0s,MS5.6
W14A Seligman 95.15 25 ⇑P P 07 03 13.5 +0.8
baz=95,SNR=6.5
W15A Williams 95.42 24 ⇓P P 07 03 14.4 +0.6
baz=95
X13A Yucca 95.51 25 ⇓P P 07 03 14.8 +0.5
baz=95,SNR=22
PFO Pinyon Flat Ob 95.58 28 ⇓P P 07 03 15.4 +0.8
baz=95
LBTB Lobatse 95.65 240 eP P 07 03 15.0 +0.1
comp=Z,35nm,1.5s,mb5.6
LBTB LR LR
comp=Z,2μm,20.0s,MS5.5
X14A Yava 95.90 25 ⇓P P 07 03 16.6 +0.6
baz=96,SNR=6.5
X15A Humboldt 96.07 24 ⇑P P 07 03 17.6 +0.7
baz=96,SNR=17
Y12C Blythe 96.07 26 ⇓P P 07 03 17.2 +0.4
baz=96
Y13A Salome 96.23 26 ⇓P P 07 03 18.0 +0.5
baz=96,SNR=6.3
Y14A Wickenburg 96.36 25 ⇓P P 07 03 18.3 +0.2
baz=96,SNR=5.2
TSUM Tsumeb 96.54 249 eP P 07 03 18.6 -0.4
comp=Z,20nm,1.4s,mb5.4
CCM Cathedral Cave 96.55 7 eP P 07 03 18.6 -0.4
comp=Z,13nm,1.0s,mb5.3
CCM LR LR
comp=Z,3μm,20.0s,MS5.8
GLA Glamis 96.62 27 ⇑P P 07 03 19.8 +0.5
baz=96,SNR=5.1
CBN Corbin 96.62 356 PFAKE 07 03 30.0 +11
CBN LR LR
comp=Z,4μm,20.0s,MS5.9
WCI Wyandotte Cave 96.67 3 eP P 07 03 18.8 -0.7
comp=Z,37nm,1.4s,mb5.6
WCI epP pP 07 03 23.1 -0.9
FVM French Village 96.68 6 eP P 07 03 19.6 0.0
comp=Z,18nm,1.1s,mb5.4
Z14A Wintersburg 96.91 25 ⇓P P 07 03 21.2 +0.5
baz=97
ANMO Albuquerque 97.15 20 eP P 07 03 22.5 +0.8
comp=Z,29nm,1.3s,mb5.5
ANMO LR LR
comp=Z,4μm,19.0s,MS5.9
LAZ Ladron 97.51 20 eP P 07 03 24.9 +1.5
BLA Blacksburg 97.72 358 PFAKE 07 03 40.0 +16
BLA LR LR
comp=Z,326nm,20.0s,MS4.8
115A Sonoran Desert 97.74 25 ⇓P P 07 03 24.5 +0.1
baz=97
BNM Barren Site 97.88 20 eP P 07 03 25.9 +0.9
Y22C IRIS PASSCAL I 97.88 20 ⇑P P 07 03 25.9 +0.9
baz=98
116A Eloy 98.03 24 ⇑P P 07 03 25.9 +0.2
baz=98
AMTX Amarillo 98.23 16 PFAKE 07 03 40.0 +13
AMTX LR LR
comp=Z,4μm,19.0s,MS6.0
BOSA Boshof 98.50 238 LR LR 07 48 27.4
comp=Z,1μm,20.8s,MS5.5,baz=22,slow=36
BOSA Boshof 98.50 238 eP P 07 03 27.1 -0.7
BOSA LR LR
comp=Z,2μm,21.0s,MS5.5
TUC Tucson 98.53 24 eP P 07 03 28.6 +0.7
WVT Waverly 98.69 4 eP P 07 03 28.0 -0.7
comp=Z,15nm,1.0s,mb5.5
PLAL Pickwick Lake 99.82 5 PFAKE 07 03 50.0 +16
PLAL LR LR
comp=Z,520nm,22.0s,MS5.0
MNTX Cornudas Mount 100.52 20 ePdif Pdif 07 03 37.7 +0.9
comp=Z,4.6nm,1.3s
BBSR BB Station 100.88 345 PFAKE 07 03 50.0 +12
BBSR LR LR
comp=Z,2μm,21.0s,MS5.6
LRAL Lakeview Retre 101.82 4 PFAKE 07 03 50.0 +7.4
LRAL LR LR
comp=Z,5μm,19.0s,MS6.0
JCT Junction City 102.87 15 PFAKE 07 04 00.0 +13
JCT LR LR
comp=Z,379nm,20.0s,MS4.9
DWPF Disney 106.82 359 PFAKE 07 08 30.0 +15
DWPF LR LR
comp=Z,4μm,19.0s,MS6.0
ASCN Ascension 110.82 280 PFAKE 07 08 30.0 +7.7
ASCN LR LR
comp=Z,1μm,19.0s,MS5.5
CASY Casey 111.82 174 PFAKE 07 08 30.0 +5.8
CASY LR LR
comp=Z,2μm,21.0s,MS5.6
MAW Mawson 115.67 194 PKP PKPdf 07 08 28.5 -3.1
comp=Z,2.2nm,0.6s,baz=4.0,slow=2.2,SNR=5.4
DRV Dumont d'Urvil 116.41 162 SP SP 07 19 17.0 -2.8
PPT Papeete 118.44 86 ePS PS 07 19 39.1 -0.7
comp=Z,366nm,26.0s
PPT Papeete 118.44 86 eLR LR 07 45 01.9
comp=Z,1μm,22.0s
TAOE Nuku Hiva Isla 118.85 72 eSS SS 07 26 17.2 +2.1
comp=Z,1μm,28.2s
TAOE eLR LR 07 45 00.4
comp=Z,4μm,26.1s
TBI Tubuai 122.31 91 eSS SS 07 26 54.9 -4.7
comp=Z,347nm,29.2s
TBI eSS SS 07 26 57.8 -1.8
comp=Z,384nm,38.5s
TBI eLR LR 07 46 38.2
comp=Z,1μm,26.2s
JTS JuntasAbangare 124.51 3 PFAKE 07 09 00.0 +11
JTS LR LR
comp=Z,3μm,21.0s,MS5.9
SDV Santo Domingo 124.88 345 PKP PKPdf 07 08 47.2 -2.0

comp=Z,14nm,0.9s,baz=7.0,slow=2.7,SNR=12
SDV Santo Domingo 124.88 345 *e*PKPdf PKPdf 07 08 47.3 -2.0
VNDA Vanda 128.82 165 PKP PKPdf 07 08 52.4 -4.4
comp=Z,3.3nm,0.9s,baz=294,slow=4.7,SNR=9.8
VNDA Vanda 128.82 165 *e*PKPdf PKPdf 07 08 55.3 -1.6
ROSC El Rosal 129.40 349 PKP PKPdf 07 08 58.5 +0.6
comp=Z,16nm,0.8s,baz=114,slow=6.0,SNR=9.1
RKT Rikitea 132.33 80 *e*LR LR 07 51 43.6
OTAV Otavalo 134.39 354 *e*PKPdf PKPdf 07 09 08.2 +0.8
OTAV LR LR
comp=Z,701nm,20.0s,MS5.4
PAYG Puerto Ayora 134.94 11 PFAKE 07 09 20.0 +12
PAYG LR LR
comp=Z,1μm,20.0s,MS5.6
QSPA South Pole Qui 135.18 180 *e*PKPdf PKPdf 07 09 07.3 -1.5
BDFB Brasilia 138.47 304 PKhKP 07 09 08.0
comp=Z,2.4nm,0.8s,baz=149,slow=5.9,SNR=4.3
BDFB PKP PKPdf 07 09 15.1 +0.2
comp=Z,3.7nm,0.8s,baz=41,slow=7.7,SNR=5.8
SAML Samuel 139.98 329 *e*PKPdf PKPdf 07 09 16.9 -0.8
ATAH Atahualpa 141.55 353 PKP PKPdf 07 09 20.2 -0.3
comp=Z,13nm,0.9s,baz=338,slow=6.4,SNR=8.7
SIV San Ignacio 145.52 321 PKPbc PKPbc 07 09 26.2 -1.4
comp=Z,37nm,1.0s,baz=74,slow=3.9,SNR=101
LPAZ La Paz 148.51 333 PKPdf PKPdf 07 09 31.9 -0.5
LPAZ La Paz 148.51 333 PKP PKPdf 07 09 31.8 -0.7
comp=Z,12nm,1.0s,baz=35,slow=3.9,SNR=19
LPAZ PKPbc PKPbc 07 09 35.8 -0.2
comp=Z,8.4nm,0.8s,baz=27,slow=4.5,SNR=26
LPAZ La Paz 148.51 333 *e*PKPdf PKPdf 07 09 32.5 +0.1
LPAZ *e*PKPbc PKPbc 07 09 35.8 -0.3
LPAZ *e*PKPab PKPab 07 09 38.7 -0.8
HOPE Hope Point 149.44 236 PFAKE 07 09 40.0 +6.0
HOPE LR LR
comp=Z,2μm,21.0s,MS5.9
ARE Arequipa 149.65 338 *e*P PKPdf 07 09 36.0 +1.7
CPUP Villa Florida 152.20 305 PKP PKPdf 07 09 36.9 -1.3
comp=Z,9.2nm,1.0s,baz=1.3,slow=2.5,SNR=12
CPUP PKPbc PKPbc 07 09 42.5 -2.4
comp=Z,12nm,0.5s,baz=19,slow=3.1,SNR=24
CPUP Villa Florida 152.20 305 *e*PKPdf PKPdf 07 09 36.2 -2.0
CPUP *e*PKPbc PKPbc 07 09 45.2 +0.2
CPUP LR LR
comp=Z,303nm,21.0s,MS5.1
LVC Limon Verde 154.64 329 PKP PKPdf 07 09 42.3 +0.6
comp=Z,2.5nm,0.8s,baz=138,slow=7.2,SNR=3.6
LVC PKPbc PKPbc 07 09 50.6 +0.3
comp=Z,5.5nm,0.8s,baz=92,slow=2.4,SNR=4.7
LVC PKPab PKPab 07 10 05.2 +0.3
comp=Z,7.1nm,0.8s,baz=230,slow=1.3,SNR=5.7
PMSA Palmer Station 158.04 201 PFAKE 07 10 00.0 +14
PMSA LR LR
comp=Z,1μm,20.0s,MS5.7
TRQA Tornquist 162.94 288 *e*PKPdf PKPdf 07 09 50.7 -0.9
PLCA Paso Flores 169.99 294 PKP PKPdf 07 09 56.1 -0.9
comp=Z,6.8nm,1.0s,baz=73,slow=2.2,SNR=7.1
PLCA PKPab PKPab 07 11 11.3 -0.8
comp=Z,1.9nm,0.8s,baz=346,slow=4.2,SNR=2.5
PLCA Paso Flores 169.99 294 *e*PKPdf PKPdf 07 09 56.2 -0.8

IDC 15 07:18:41.7±2.3, 4991S×11070E, h0km, mb4.1/3, mb1 4.4/3, mb1mx4.0/12, mbtmp4.1/3, Error ellipse: s-maj=96.7km s-min=28.6km az=104.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.86**	**43**	P	P	07 25 08.4	+0.1
	2.4nm,0.8s,baz=209,slow=8.2,SNR=16						
VNDA	**Vanda**	**33.61**	**162**	P	P	07 25 23.7	0.0
	1.3nm,0.9s,baz=288,slow=8.0,SNR=5.2						
WRA	**Warramunga Arr**	**35.33**	**41**	P	P	07 25 38.6	0.0
	3.3nm,0.8s,baz=206,slow=8.7,SNR=18						
PDAR	**Pinedale Array**	**151.58**	**89**	PKPbc	PKPbc	07 38 36.5	-1.4
	0.8nm,0.9s,baz=248,slow=1.0,SNR=5.9						
YKA	**Yellowknife Ar**	**152.47**	**46**	PKPbc	PKPbc	07 38 37.8	-2.0
	0.8nm,0.8s,baz=283,slow=1.9,SNR=7.9						
YKA				PKPab	PKPab	07 38 49.1	-0.9
	1.3nm,0.8s,baz=275,slow=4.3,SNR=13						

ISCJB 15 07:22:16.4±0.6, 1914N±009×4609W±0.1, h10km, mb4.1/17, Error ellipse: s-maj=14.5km s-min=12.8km az=12.9
IDC 15 07:22:16.4±0.7, 1915N×4601W, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/28, mbtmp4.0/13, Error ellipse: s-maj=22.5km s-min=17.1km az=115.0
NEIC 15 07:22:20.2±0.4, 1910N×4596W, mb4.6/5, Error ellipse: s-maj=10.9km s-min=9.5km az=105.0
ISC 15 07:22:18.6±0.6, 1913N±009×460W±01, h10km, n18, σ0§79/18, mb4.1/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.14**	**270**	P	**Pn**	**07 26 41.6**	**-1.1**
	baz=102,slow=8.2,SNR=4.7						
SDV	**Santo Domingo**	**25.96**	**250**	P	**P**	**07 27 51.8**	**+0.5**
	11nm,0.9s,mb4.4,baz=18,slow=15,SNR=4.8						
BDFB	**Brasilia**	**34.61**	**183**	P	**P**	**07 29 07.8**	**0.0**
	2.4nm,1.0s,mb4.1,baz=333,slow=13,SNR=2.7						
OTAV	**Otavalo**	**36.97**	**243**	*e*P	**P**	**07 29 30.0**	**+2.1**
	17nm,1.6s,mb4.6						
SIV	**San Ignacio**	**37.93**	**204**	P	**P**	**07 29 35.9**	**-0.2**
	1.1nm,0.9s,mb3.6,baz=4.9,slow=10,SNR=4.8						
LPAZ	**La Paz**	**41.40**	**213**	P	**P**	**07 30 05.6**	**+0.6**
	1.4nm,1.0s,mb3.6,baz=38,slow=9.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**46.07**	**90**	P	**P**	**07 30 42.8**	**+0.2**
	2.4nm,1.1s,mb4.0,baz=287,slow=7.2,SNR=6.5						
CPUP	**Villa Florida**	**46.52**	**194**	P	**P**	**07 30 45.1**	**-1.0**
	3.3nm,0.9s,mb4.3,baz=352,slow=9.3,SNR=9.2						
LVC	**Limon Verde**	**47.16**	**209**	P	**P**	**07 30 50.7**	**-0.4**
	2.5nm,0.8s,mb4.2,baz=20,slow=8.1,SNR=3.7						
PDAR	**Pinedale Array**	**57.98**	**309**	P	**P**	**07 32 10.8**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=102,slow=6.2,SNR=5.9						
WUAZ	**Wupatki**	**59.36**	**300**	*e*P	**P**	**07 32 21.4**	**+0.4**
	10nm,1.1s,mb4.8						
WUAZ				*e*pP	pP	07 32 29.7	+5.6
HWUT	**Hardware Ranch**	**59.43**	**308**	*e*P	**P**	**07 32 22.2**	**+0.8**
	3.3nm,0.8s,mb4.4						
BOZ	**Bozeman (W)**	**59.62**	**312**	*e*P	**P**	**07 32 22.4**	**-0.3**
	3.2nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**63.35**	**331**	P	**P**	**07 32 46.4**	**-1.5**
	0.5nm,0.6s,mb3.8,baz=102,slow=6.8,SNR=9.3						
NEW	**Newport**	**63.48**	**315**	*e*P	**P**	**07 32 49.2**	**+0.5**
	3.4nm,0.6s,mb4.7						
NEW				*e*pP	pP	07 32 55.1	+3.2
PLCA	**Paso Flores**	**63.79**	**201**	P	**P**	**07 32 50.3**	**-0.5**
	1.1nm,0.8s,mb4.0,baz=100,slow=12,SNR=2.3						
BRTR	**Keskin Array B**	**70.20**	**54**	P	**P**	**07 33 31.3**	**-0.3**
	1.6nm,1.1s,mb3.9,baz=275,slow=7.1,SNR=5.3						
BVAR	**Borovoye Array**	**89.66**	**33**	P	**P**	**07 35 17.5**	**+0.8**
	0.3nm,0.4s,mb3.9,baz=252,slow=7.6,SNR=4.6						

NEIC 15 07:34:39.0, 1582N×9411W, h37km, MD4.1(MEX), After MEX.
MEX 15 07:34:39.0±1.3, 1583N×9409W, h38km±999km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.47**	**329**	*i* P	Pn	07 35 01.2	-1.7
CMIG				*i* S	Sn	07 35 18.9	-2.0
SCX	**San Cristobal**	**1.67**	**57**	*e*P	Pn	07 35 04.0	-1.7
SCX				*i* S	Sn	07 35 25.0	-0.8
CCIG	**Comitan**	**1.93**	**76**	*i* P	Pn	07 35 09.3	-0.1
CCIG				*i* S	Sn	07 35 29.5	-2.9
OXX	**Oaxaca**	**2.82**	**297**	*e*P	Pn	07 35 21.0	-0.5
VHO	**Vista Hermosa**	**2.82**	**296**	*i* P	Pn	07 35 20.1	-1.4
VHO				*i* S	Sn	07 35 51.3	-3.0

ISCJB 15 07:41:10.5±0.8, 688N±006×7304W±007, h168km±9km, mb3.6/1, Error ellipse: s-maj=14.0km s-min=7.4km az=73.1
FUNV 15 07:41:10.7, 674N×7322W, h163km, MW3.5
IDC 15 07:41:10.8±0.8, 691N×7315W, h150km±18km, mb3.3/1, mb1 3.7/3, mb1mx3.1/21, mbtmp3.9/3, Error ellipse: s-maj=55.7km s-min=8.1km az=131.0
ISC 15 07:41:11.6±0.8, 687N±006×7305W±007, h162km±9km, n10, σ0§89/17, mb3.6/1, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**36**	⇑*i*P	**Pn**	**07 41 40.5**	**+1.0**
CAPV				*e*S	**Sn**	**07 42 01.7**	**+0.9**
ROSC	**El Rosal**	**2.37**	**213**	P	**Pn**	**07 41 52.5**	**+0.7**
	36nm,0.3s,baz=8.3,slow=1.2,SNR=133						
ROSC				S	**Sn**	**07 42 21.2**	**-1.6**
	21nm,0.3s,baz=89,slow=22,SNR=6.6						
VIGV	**El Vigia**	**2.57**	**40**	*e*P	**Pn**	**07 41 55.0**	**+0.8**
VIGV				*e*S	**Sn**	**07 42 27.7**	**+0.7**
SDV	**Santo Domingo**	**3.12**	**50**	P	**Pn**	**07 42 02.0**	**+1.1**
	16nm,0.3s,baz=259,slow=6.7,SNR=124						
SDV				S	**Sn**	**07 42 38.9**	**-0.2**
	9.5nm,0.3s,baz=92,slow=18,SNR=24						
ELOV	**Elorza**	**3.54**	**88**	*e*P	**Pn**	**07 42 06.6**	**+0.3**
ELOV				*e*S	**Sn**	**07 42 47.6**	**-1.1**
VIRV	**Villa del Rosa**	**3.66**	**10**	*e*P	**Pn**	**07 42 07.3**	**-0.5**
VIRV				*e*S	**Sn**	**07 42 50.1**	**-1.4**
QARV	**Quebrada Arrib**	**4.15**	**37**	*e*P	**Pn**	**07 42 14.8**	**+0.8**
QARV				*e*S	**Sn**	**07 43 01.7**	**-1.0**
CURV	**Curarigua**	**4.37**	**44**	*e*P	**Pn**	**07 42 17.1**	**+0.2**
CURV				*e*S	**Sn**	**07 43 06.8**	**-1.0**
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**07 51 22.8**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=132,slow=6.6,SNR=18						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPbc	08 00 44.4	+0.5
	0.1nm,0.4s,baz=120,slow=2.9,SNR=4.1						

NEIC 15 07:42:32.7, 3266S×7304W, h15km, ML3.3(GUC), After GUC.
GUC 15 07:42:32.7±0.9, 3266S×7304W, h15km±5km, MD3.9, ML3.3, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**1.48**	**124**	*e*P	Pn	07 42 58.4	-0.4
LNV	**Longovilo**	**1.88**	**134**	*i* P	Pn	07 43 04.1	-0.2
LNV				*i* S	Sn	07 43 28.4	+0.6
TACH	**Talagante**	**2.03**	**120**	*e*P	Pn	07 43 06.6	+0.4
TACH				*i* S	Sn	07 43 32.4	+1.0
PEL	**Peldehue**	**2.04**	**104**	*e*P	Pn	07 43 07.7	+1.2
PEL				*i* S	Sn	07 43 35.6	+3.9
PEL				AML	AML	07 43 36.6	
	comp=E,386nm,0.3s						
PEL	**Peldehue**	**2.04**	**104**	P	Pn	07 43 07.7	+1.2
PEL				S	Sn	07 43 35.6	+3.9
JACH	**Jahuel**	**2.07**	**91**	*i* P	Pn	07 43 07.3	+0.4
JACH				*i* S	Sn	07 43 34.2	+1.9
CMCH	**Combarbala**	**2.28**	**50**	*e*P	Pn	07 43 07.2	-2.6
CMCH				*i* S	Sn	07 43 35.5	-2.1
CMCH				AML	AML	07 43 37.6	
	comp=N,292nm,0.3s						
CMCH	**Combarbala**	**2.28**	**50**	*e*P	Pn	07 43 07.2	-2.6
CMCH				*i* S	Sn	07 43 35.5	-2.1
PCH	**Pirque**	**2.33**	**115**	*e*P	Pn	07 43 11.9	+1.5
PCH				*i* S	Sn	07 43 41.0	+2.3
CHCH	**Chadas Angostu**	**2.37**	**123**	*e*P	Pn	07 43 11.6	+0.6
CHCH				*i* S	Sn	07 43 42.1	+2.2
FCH	**Farellones**	**2.41**	**107**	⇑*i*P	Pn	07 43 13.3	+1.8
FCH				*i* S	Sn	07 43 44.2	+3.5
FCH				AML	AML	07 43 46.1	
	comp=N,121nm,0.2s						
CACH	**El Canelo**	**2.51**	**126**	*e*P	Pn	07 43 14.4	+1.5
CACH				*i* S	Sn	07 43 46.1	+2.8
CICH	**Cipreses**	**2.75**	**128**	*e*P	Pn	07 43 17.3	+1.1
CICH				*i* S	Sn	07 43 51.5	+2.4

ISCJB 15 07:54:40.2±0.3, 3863S±003×17577E±006, h176km±3km, mb4.2/8, Error ellipse: s-maj=7.6km s-min=4.1km az=29.1
IDC 15 07:54:40.7±0.4, 3820S×17621E, h178km±5km, mb3.9/6, mb1 4.0/6, mb1mx3.9/12, mbtmp4.4/6, Error ellipse: s-maj=24.7km s-min=16.5km az=36.0
NEIC 15 07:54:41.5, 3851S×17587E, h169km, mb4.8/2, After WEL.
WEL 15 07:54:41.6±0.2, 3851S×17586E, h167km±1km, ML5.5/24, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0
WEL Felt from Gisborne to Wellington, maximum reported intensity MM 4.
MOS 15 07:54:47.0±2.6, 3855S×17539E, h213km, mb4.0/1, Error ellipse: s-maj=33.6km s-min=23.6km az=128.5
ISC 15 07:54:41.2±0.3, 3863S±003×17579E±006, h170km±3km, n164, σ1§08/158, mb4.2/8, 46C-7D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.09**	**209**	⇑PN	**Pn**	**07 55 04.2**	**+0.5**
WHTZ	**Whakaora**	**0.14**	**106**	⇑PN	**Pn**	**07 55 04.2**	**+0.5**
WHTZ	**Whakaora**	**0.14**	**106**	P	**Pn**	**07 55 04.3**	**+0.6**
RATZ	**Rangitukua**	**0.24**	**183**	⇑PN	**Pn**	**07 55 04.4**	**+0.5**
RATZ	**Rangitukua**	**0.24**	**183**	P	**Pn**	**07 55 04.4**	**+0.5**
HATZ	**Hinemaiaia**	**0.35**	**138**	⇑PN	**Pn**	**07 55 04.6**	**+0.4**
HATZ	**Hinemaiaia**	**0.35**	**138**	P	**Pn**	**07 55 04.6**	**+0.4**
RITZ	**Rihia Road**	**0.35**	**171**	⇑PN	**Pn**	**07 55 05.0**	**+0.8**
RITZ	**Rihia Road**	**0.35**	**171**	P	**Pn**	**07 55 05.0**	**+0.8**
KATZ	**Kakaramea**	**0.35**	**192**	PN	**Pn**	**07 55 05.0**	**+0.8**
KATZ	**Kakaramea**	**0.35**	**192**	P	**Pn**	**07 55 05.0**	**+0.8**
PATZ	**Paeroa**	**0.44**	**56**	⇑PN	**Pn**	**07 55 04.6**	**+0.1**
PATZ	**Paeroa**	**0.44**	**56**	P	**Pn**	**07 55 04.7**	**+0.2**
KRVZ	**Karewarewa**	**0.48**	**194**	⇑PN	**Pn**	**07 55 05.5**	**+0.8**
WTVZ	**West Tongariro**	**0.51**	**198**	⇑PN	**Pn**	**07 55 05.7**	**+0.9**
WTVZ	**West Tongariro**	**0.51**	**198**	P	**Pn**	**07 55 05.7**	**+0.9**
TWVZ	**Taurewa**	**0.52**	**212**	⇑PN	**Pn**	**07 55 05.8**	**+0.9**
TWVZ				SN	**Sn**	**07 55 23.7**	**+0.7**
TWVZ	**Taurewa**	**0.52**	**212**	P	**Pn**	**07 55 05.8**	**+0.9**
OTVZ	**Oturere**	**0.54**	**190**	PN	**Pn**	**07 55 06.0**	**+1.0**
UTU	**Utuhina**	**0.55**	**35**	⇑PN	**Pn**	**07 55 04.9**	**-0.1**
UTU	**Utuhina**	**0.55**	**35**	P	**Pn**	**07 55 04.9**	**-0.1**
NGZ	**Ngauruhoe**	**0.57**	**195**	⇑PN	**Pn**	**07 55 05.9**	**+0.8**
NGZ	**Ngauruhoe**	**0.57**	**195**	P	**Pn**	**07 55 05.9**	**+0.8**
WPVZ	**Whakapapa**	**0.61**	**198**	⇑PN	**Pn**	**07 55 06.1**	**+0.8**
TUVZ	**Tukino**	**0.65**	**189**	⇑PN	**Pn**	**07 55 06.6**	**+1.1**
TUVZ	**Tukino**	**0.65**	**189**	P	**Pn**	**07 55 06.7**	**+1.2**
FWVZ	**Far West T-bar**	**0.65**	**196**	PN	**Pn**	**07 55 06.6**	**+1.1**
DRZ	**Dome Shelter**	**0.67**	**195**	PN	**Pn**	**07 55 06.8**	**+1.1**
DRZ	**Dome Shelter**	**0.67**	**195**	P	**Pn**	**07 55 07.0**	**+1.4**
TAZ	**Tarawera**	**0.69**	**55**	PN	**Pn**	**07 55 05.1**	**-0.6**
TAZ	**Tarawera**	**0.69**	**55**	P	**Pn**	**07 55 04.8**	**-0.9**
TRVZ	**Turoa**	**0.69**	**196**	⇑PN	**Pn**	**07 55 07.0**	**+1.3**
WNVZ	**Wahianoa**	**0.71**	**192**	⇑PN	**Pn**	**07 55 07.2**	**+1.3**
HIZ	**Hauiti**	**0.74**	**279**	⇑PN	**Pn**	**07 55 06.4**	**+0.3**
HIZ	**Hauiti**	**0.74**	**279**	P	**Pn**	**07 55 06.4**	**+0.4**
PKVZ	**Pokaka**	**0.74**	**207**	⇑PN	**Pn**	**07 55 07.2**	**+1.1**
BKZ	**Black Stump Fm**	**0.77**	**135**	PN	**Pn**	**07 55 06.9**	**+0.7**
BKZ				SN	**Sn**	**07 55 24.8**	**-0.6**
BKZ	**Black Stump Fm**	**0.77**	**135**	P	**Pn**	**07 55 06.9**	**+0.7**
BKZ				S	**Sn**	**07 55 24.7**	**-0.7**
LIRZ	**Lichensteins R**	**0.78**	**37**	⇑PN	**Pn**	**07 55 05.7**	**-0.5**
LIRZ	**Lichensteins R**	**0.78**	**37**	P	**Pn**	**07 55 05.7**	**-0.6**
MTVZ	**Mangateitei**	**0.80**	**198**	⇑PN	**Pn**	**07 55 07.5**	**+1.1**
EDRZ	**Edgecumbe**	**0.91**	**55**	⇑PN	**Pn**	**07 55 06.5**	**-0.6**
EDRZ	**Edgecumbe**	**0.91**	**55**	P	**Pn**	**07 55 06.5**	**-0.7**
TOZ	**Tahuroa Road**	**0.93**	**346**	PN	**Pn**	**07 55 06.8**	**-0.5**
TOZ				SN	**Sn**	**07 55 25.8**	**-1.5**
TOZ	**Tahuroa Road**	**0.93**	**346**	P	**Pn**	**07 55 06.8**	**-0.5**
VRZ	**Vera Road**	**0.94**	**238**	PN	**Pn**	**07 55 08.4**	**+1.0**
TGRZ	**Tauranga**	**0.97**	**23**	⇑PN	**Pn**	**07 55 06.8**	**-0.8**
TGRZ				SN	**Sn**	**07 55 26.0**	**-1.9**
TGRZ	**Tauranga**	**0.97**	**23**	P	**Pn**	**07 55 06.8**	**-0.8**
URZ	**Urewera**	**1.10**	**71**	P	**Pn**	**07 55 07.7**	**-0.9**
	458nm,0.3s,baz=257,slow=6.4,SNR=3377						
URZ				S	**Sn**	**07 55 26.4**	**-3.4**
	763nm,0.3s,baz=116,slow=20,SNR=87						
URZ	**Urewera**	**1.10**	**71**	⇑PN	**Pn**	**07 55 07.8**	**-0.9**
URZ	**Urewera**	**1.10**	**71**	P	**Pn**	**07 55 07.8**	**-0.8**
RAEZ	**Rainy Point**	**1.27**	**238**	PN	**Pn**	**07 55 11.5**	**+1.4**
WAZ	**Wanganui**	**1.29**	**209**	PN	**Pn**	**07 55 11.5**	**+1.3**
MWZ	**Matawai**	**1.40**	**78**	⇑PN	**Pn**	**07 55 10.8**	**-0.5**
TSZ	**Takapari Road**	**1.44**	**175**	⇑PN	**Pn**	**07 55 12.9**	**+1.3**
TSZ	**Takapari Road**	**1.44**	**175**	P	**Pn**	**07 55 12.9**	**+1.3**
NEZ	**North Egmont**	**1.47**	**244**	PN	**Pn**	**07 55 13.5**	**+1.6**
NEZ	**North Egmont**	**1.47**	**244**	P	**Pn**	**07 55 13.6**	**+1.7**
PKE	**Pukeiti**	**1.52**	**248**	PN	**Pn**	**07 55 13.6**	**+1.2**
PKE	**Pukeiti**	**1.52**	**248**	P	**Pn**	**07 55 13.6**	**+1.2**
KNZ	**Kokohu**	**1.52**	**105**	PN	**Pn**	**07 55 13.0**	**+0.5**
KNZ	**Kokohu**	**1.52**	**105**	P	**Pn**	**07 55 13.1**	**+0.6**
WIZ	**White Island**	**1.56**	**46**	PN	**Pn**	**07 55 11.4**	**-1.5**
WIZ	**White Island**	**1.56**	**46**	P	**Pn**	**07 55 11.7**	**-1.1**
MKAZ	**Moumakai**	**1.59**	**342**	⇓PN	**Pn**	**07 55 12.6**	**-0.6**
NRZ	**Ngariki Road**	**1.61**	**243**	PN	**Pn**	**07 55 14.5**	**+1.1**
PXZ	**Pawanui**	**1.63**	**150**	⇑PN	**Pn**	**07 55 14.8**	**+1.2**
NWEZ	**Newall Road**	**1.63**	**246**	PN	**Pn**	**07 55 14.7**	**+1.1**
OTAZ	**Otara**	**1.81**	**338**	⇓PN	**Pn**	**07 55 14.8**	**-0.6**
OTAZ	**Otara**	**1.81**	**338**	P	**Pn**	**07 55 14.8**	**-0.6**
KUZ	**Kuaotunu**	**1.88**	**358**	⇓PN	**Pn**	**07 55 15.1**	**-1.1**
KUZ	**Kuaotunu**	**1.88**	**358**	P	**Pn**	**07 55 15.1**	**-1.1**
WTAZ	**Waiatarua**	**1.95**	**330**	⇓PN	**Pn**	**07 55 16.7**	**-0.3**
WTAZ	**Waiatarua**	**1.95**	**330**	P	**Pn**	**07 55 16.7**	**-0.2**
MTAZ	**Motutapu**	**1.97**	**339**	⇑PN	**Pn**	**07 55 16.2**	**-0.9**
MTAZ	**Motutapu**	**1.97**	**339**	P	**Pn**	**07 55 16.3**	**-0.8**
KAAZ	**Kauri Point**	**2.00**	**334**	PN	**Pn**	**07 55 16.6**	**-0.9**
KAAZ	**Kauri Point**	**2.00**	**334**	P	**Pn**	**07 55 16.9**	**-0.6**
PUZ	**Puketiti**	**2.02**	**75**	⇓PN	**Pn**	**07 55 16.8**	**-0.9**
MRZ	**Mangatainoka R**	**2.04**	**184**	⇑PN	**Pn**	**07 55 18.5**	**+0.6**
MRZ	**Mangatainoka R**	**2.04**	**184**	P	**Pn**	**07 55 18.5**	**+0.6**
BFZ	**Birch Farm**	**2.08**	**170**	⇑PN	**Pn**	**07 55 19.2**	**+0.8**
BFZ	**Birch Farm**	**2.08**	**170**	P	**Pn**	**07 55 19.2**	**+0.8**
TIWZ	**Tintock**	**2.15**	**178**	⇑PN	**Pn**	**07 55 19.8**	**+0.7**
MXZ	**Matakaoa Point**	**2.25**	**63**	PN	**Pn**	**07 55 19.3**	**-1.0**
MXZ	**Matakaoa Point**	**2.25**	**63**	P	**Pn**	**07 55 19.5**	**-0.9**
KIW	**Kapiti Island**	**2.33**	**197**	⇑PN	**Pn**	**07 55 21.5**	**+0.3**
KIW	**Kapiti Island**	**2.33**	**197**	P	**Pn**	**07 55 21.5**	**+0.2**
MTW	**Mount Morrison**	**2.54**	**185**	⇑PN	**Pn**	**07 55 23.7**	**0.0**
MTW	**Mount Morrison**	**2.54**	**185**	P	**Pn**	**07 55 23.7**	**0.0**
CAW	**Cannon Point**	**2.54**	**192**	⇑PN	**Pn**	**07 55 23.8**	**+0.1**
CAW	**Cannon Point**	**2.54**	**192**	P	**Pn**	**07 55 23.8**	**+0.1**
CAW				*e*S	**Sn**	**07 55 55.8**	**-0.9**
DUWZ	**D'Urville Isla**	**2.60**	**213**	⇑PN	**Pn**	**07 55 24.4**	**-0.1**
MRW	**Makara Radio**	**2.73**	**198**	⇑PN	**Pn**	**07 55 25.9**	**-0.1**
PAWZ	**Paruwai Farm**	**2.76**	**186**	⇑PN	**Pn**	**07 55 26.3**	**-0.1**
WEL	**Wellington**	**2.77**	**196**	PN	**Pn**	**07 55 26.3**	**-0.2**
TRWZ	**Traveller**	**2.77**	**182**	⇑PN	**Pn**	**07 55 26.4**	**0.0**
SNZO	**South Karori**	**2.80**	**197**	⇑PN	**Pn**	**07 55 26.6**	**-0.3**
SNZO	**South Karori**	**2.80**	**197**	P	**Pn**	**07 55 26.7**	**-0.2**
MSWZ	**Moikau Station**	**2.81**	**188**	⇑PN	**Pn**	**07 55 26.8**	**-0.2**
TCW	**Tory Channel**	**2.83**	**204**	⇑PN	**Pn**	**07 55 27.1**	**-0.1**
TCW				*e*SN	**Sn**	**07 56 01.6**	**-1.4**
TCW	**Tory Channel**	**2.83**	**204**	P	**Pn**	**07 55 27.1**	**-0.1**
TCW				*e*S	**Sn**	**07 56 01.6**	**-1.4**
BHW	**Baring Head**	**2.86**	**194**	⇑PN	**Pn**	**07 55 27.4**	**-0.3**
WCZ	**Waipu Caves**	**2.92**	**336**	⇓PN	**Pn**	**07 55 27.5**	**-0.8**
WCZ	**Waipu Caves**	**2.92**	**336**	*e*P	**Pn**	**07 55 27.5**	**-0.8**
TUWZ	**Tuamarina**	**3.14**	**206**	PN	**Pn**	**07 55 30.3**	**-0.7**
NNZ	**Nelson**	**3.18**	**215**	⇑PN	**Pn**	**07 55 30.8**	**-0.7**
NNZ				SN	**Sn**	**07 56 10.8**	**+0.1**
NNZ	**Nelson**	**3.18**	**215**	P	**Pn**	**07 55 30.9**	**-0.6**
NNZ				S	**Sn**	**07 56 10.8**	**+0.1**
QRZ	**Quartz Range**	**3.34**	**228**	PN	**Pn**	**07 55 32.3**	**-1.2**
QRZ	**Quartz Range**	**3.34**	**228**	P	**Pn**	**07 55 32.3**	**-1.2**
CMWZ	**Cape Campbell**	**3.34**	**201**	PN	**Pn**	**07 55 33.8**	**+0.2**
BSWZ	**Blackbirch Sta**	**3.41**	**205**	PN	**Pn**	**07 55 34.0**	**-0.5**
THZ	**Tophouse**	**3.83**	**214**	PN	**Pn**	**07 55 38.5**	**-1.3**
KHZ	**Kahutara**	**4.15**	**204**	⇑PN	**Pn**	**07 55 43.3**	**-0.6**
KHZ	**Kahutara**	**4.15**	**204**	P	**Pn**	**07 55 43.3**	**-0.6**
DSZ	**Denniston Nort**	**4.36**	**223**	PN	**Pn**	**07 55 44.5**	**-2.1**
LTZ	**Lake Taylor**	**4.94**	**212**	PN	**Pn**	**07 55 52.3**	**-1.7**
CRLZ	**Canterbury Las**	**5.49**	**205**	PN	**Pn**	**07 55 58.9**	**-2.4**
CRLZ	**Canterbury Las**	**5.49**	**205**	P	**Pn**	**07 55 59.1**	**-2.2**
MQZ	**McQueen's Vall**	**5.60**	**204**	PN	**Pn**	**07 56 00.1**	**-2.6**
MQZ	**McQueen's Vall**	**5.60**	**204**	P	**Pn**	**07 56 00.1**	**-2.6**
WVZ	**Waitaha Valley**	**5.87**	**219**	PN	**Pn**	**07 56 03.7**	**-2.6**
WVZ	**Waitaha Valley

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS				eS	Sn	08 04 15.1	-5.7
CMSA	**Cobar Meteorol**	**5.62**	**88**	eP	Pn	08 03 23.8	+0.9
CMSA				eS	Sn	08 04 25.4	-2.1
	26nm,0.4s						
CMSA	**Cobar Meteorol**	**5.62**	**88**	eP	Pn	08 03 23.8	+0.9
	26nm,0.4s						
CMSA				eS	Sn	08 04 25.4	-2.1
TOO	**Toolangi**	**7.71**	**139**	eP	Pn	08 03 51.1	-0.5
TOO	**Toolangi**	**7.71**	**139**	eP	Pn	08 03 51.1	-0.5
	3.1nm,0.4s						
YNG	**Young**	**8.14**	**109**	eP	Pn	08 03 59.4	+1.8
YNG				eS	Sn	08 05 23.6	-6.1
	5.5nm,0.4s						
YNG	**Young**	**8.14**	**109**	eP	Pn	08 03 59.4	+1.8
	5.5nm,0.4s						
YNG				eS	Sn	08 05 23.6	-6.1
CNB	**Canberra Magne**	**9.20**	**114**	eP	Pn	08 04 12.0	-0.1
CNB				eS	Sn	08 05 58.7	+3.1
	2.5nm,0.5s						
CNB	**Canberra Magne**	**9.20**	**114**	eP	Pn	08 04 12.0	-0.1
	2.5nm,0.5s						
CNB				eS	Sn	08 05 58.7	+3.1
ASAR	**Alice Springs**	**9.42**	**329**	Pn	Pn	08 04 17.4	+2.3
	0.3nm,0.3s,baz=148,slow=12,SNR=7.3						
ASAR				Sn	Sn	08 06 00.8	-0.2
	1.2nm,0.3s,baz=148,slow=22,SNR=9.7						
MGCD	**Mangrove Creek**	**10.21**	**100**	eP	Pn	08 04 26.6	+0.7
MGCD				eS	Sn	08 06 20.0	-0.4
	5.1nm,0.3s						
WRA	**Warramunga Arr**	**12.67**	**339**	Pn	Pn	08 05 00.0	+0.4
	0.2nm,0.3s,baz=158,slow=12,SNR=14						
WRA				Sn	Sn	08 07 18.2	-2.4
	0.3nm,0.3s,baz=166,slow=24,SNR=5.9						
CTA	**Charters Tower**	**13.41**	**30**	Pn	Pn	08 05 09.4	-0.2
	0.3nm,0.3s,baz=235,slow=16,SNR=2.9						
FITZ	**Fitzroy Crossi**	**18.36**	**315**	P	Pn	08 06 14.5	+0.4
	0.2nm,0.3s,baz=160,slow=15,SNR=3.9						

CASC 15 08:03:57.6±2.0, 1084N×8685W, h25km±12km, MD3.7, 7C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.08**	**66⇑**	eP	Pn	08 04 17.2	+0.1
APON	**Apoyo**	**1.32**	**36⇓**	eP	Pn	08 04 20.5	+0.1
COPN	**Copaltepe**	**1.35**	**11⇓**	eP	Pn	08 04 20.6	-0.2
COPN				eS	Sn	08 04 38.5	+0.5
XAVN	**Gruta Xavier**	**1.40**	**22⇓**	eP	Pn	08 04 21.3	-0.2
CONN	**Concepcion**	**1.40**	**59⇑**	iP	Pn	08 04 21.4	-0.2
MADN	**Villa Maderas**	**1.41**	**66⇑**	eP	Pn	08 04 21.9	+0.2
TISN	**Laguna Tiscapa**	**1.41**	**24⇑**	eP	Pn	08 04 21.6	-0.1
MGAN	**Managua**	**1.43**	**24⇓**	eP	Pn	08 04 21.8	-0.1
LEON	**Leon**	**1.57**	**359⇑**	eP	Pn	08 04 23.4	-0.4
MOMJ	**Momotombo**	**1.59**	**11⇑**	eP	Pn	08 04 23.7	-0.3
MOMJ				eS	Sn	08 04 45.6	+1.8
MIRN	**Miramar**	**1.59**	**5⇑**	eP	Pn	08 04 24.0	-0.2
CNGN	**Cerro Negro**	**1.66**	**5**	eP	Pn	08 04 24.5	-0.5
CNGN				eS	Sn	08 04 47.2	+1.7
CGA2	**Cerro Gallo 2**	**2.49**	**109**	eS	Sn	08 05 07.6	+1.7
PRS1	**Puriscal**	**2.64**	**109**	eP	Pn	08 04 40.9	+2.4
LCR2	**La Lucha 2**	**3.01**	**111**	eP	Pn	08 04 44.6	+1.0
URSC	**Urasca**	**3.19**	**108**	eP	Pn	08 04 48.6	+2.6
URSC				eS	Sn	08 05 25.2	+2.0
BUS	**Buena Vista**	**3.30**	**112**	eP	Pn	08 04 49.1	+1.4
BUS				eS	Sn	08 05 27.4	+1.3

*NEIC **15** 08:20:57.8, 3584S×7167W, h74km, MG3.9(GUC), After GUC.*

GUC 15 08:20:57.8±0.8, 3584S×7167W, h74km±3km, MD3.7, ML3.9, 17C-5D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.06**	**96⇑**	iP	Pn	08 21 08.4	-0.1
LNCH				iS	Sn	08 21 16.6	+0.3
LNCH				AML	AML	08 21 17.1	
	comp=E,9μm,0.3s						
LNCH	**Linares**	**0.06**	**96⇑**	iP	Pn	08 21 08.4	-0.1
LNCH				iS	Sn	08 21 16.6	+0.3
TALC	**Talca**	**0.44**	**4⇑**	iP	Pn	08 21 10.5	0.0
TALC				iS	Sn	08 21 19.9	+0.1
CNCO	**Chanco**	**0.71**	**278⇑**	iP	Pn	08 21 13.2	+0.1
CNCO				iS	Sn	08 21 24.8	+0.5
CNCO				AML	AML	08 21 28.5	
	comp=E,5μm,0.2s						
CNCO	**Chanco**	**0.71**	**278⇑**	iP	Pn	08 21 13.2	+0.1
CNCO				iS	Sn	08 21 24.8	+0.5
CTCH	**Constitucion**	**0.79**	**310⇑**	iP	Pn	08 21 15.1	+1.1
CTCH				iS	Sn	08 21 27.8	+1.8
CTCH				AML	AML	08 21 33.0	
	comp=E,15μm,0.4s						
CTCH	**Constitucion**	**0.79**	**310⇑**	iP	Pn	08 21 15.1	+1.1
CTCH				iS	Sn	08 21 27.8	+1.8
CCHI	**Chillan**	**0.83**	**203**	eP	Pn	08 21 14.9	+0.5
CCHI				iS	Sn	08 21 27.5	+0.7
CCHI				AML	AML	08 21 27.7	
	comp=N,4μm,0.2s						
CCHI				AML	AML	08 21 28.1	
	comp=N,2μm,0.1s						
CCHI	**Chillan**	**0.83**	**203**	eP	Pn	08 21 14.9	+0.5
CCHI				iS	Sn	08 21 27.5	+0.7
NICH	**Los Niches**	**0.91**	**24⇓**	iP	Pn	08 21 15.8	+0.4
NICH				iS	Sn	08 21 29.1	+0.6
SFDO	**San Fernando**	**1.34**	**24⇑**	iP	Pn	08 21 21.1	+0.4
CICH	**Cipreses**	**1.83**	**34⇑**	iP	Pn	08 21 29.0	+1.7
CICH				iS	Sn	08 21 52.6	+2.9
LNV	**Longovilo**	**1.89**	**7⇓**	iP	Pn	08 21 28.6	+0.5
LNV				iS	Sn	08 21 51.4	+0.3
CACH	**El Canelo**	**1.93**	**27⇓**	iP	Pn	08 21 29.4	+0.7
CACH				iS	Sn	08 21 53.6	+1.5
CHCH	**Chadas Angostu**	**2.08**	**24⇑**	iP	Pn	08 21 31.2	+0.6
CHCH				iS	Sn	08 21 56.9	+1.3
TACH	**Talagante**	**2.27**	**16⇑**	iP	Pn	08 21 33.1	0.0
TACH				iS	Sn	08 22 00.8	+0.8
LCCH	**Las Cruces**	**2.36**	**2**	iP	Pn	08 21 33.6	-0.8
PCH	**Pirque**	**2.41**	**24⇑**	iP	Pn	08 21 35.5	+0.5
ANTU	**Antumapu**	**2.42**	**21⇑**	iP	Pn	08 21 35.7	+0.5
ANTU				iS	Sn	08 22 04.8	+0.9
ANTU				AML	AML	08 22 11.9	
	comp=E,871nm,0.5s						
ANTU	**Antumapu**	**2.42**	**21⇑**	iP	Pn	08 21 35.7	+0.5
ANTU				iS	Sn	08 22 04.8	+0.9
RCDM	**Rinconada Maip**	**2.45**	**17**	eP	Pn	08 21 36.0	+0.4
RCDM				iS	Sn	08 22 05.0	+0.5
RCDM				AML	AML	08 22 14.5	
	comp=E,1μm,0.2s						
RCDM	**Rinconada Maip**	**2.45**	**17**	eP	Pn	08 21 36.0	+0.4
RCDM				iS	Sn	08 22 05.0	+0.5
DSCH	**Colegio Aleman**	**2.60**	**21**	iP	Pn	08 21 38.4	+0.8
DSCH				iS	Sn	08 22 09.0	+0.8
CLCH	**Cerro Calan**	**2.61**	**21⇑**	iP	Pn	08 21 39.0	+1.2
CLCH				iS	Sn	08 22 10.2	+1.8
CLCH				AML	AML	08 22 26.3	
	comp=E,788nm,0.5s						
CLCH	**Cerro Calan**	**2.61**	**21⇑**	iP	Pn	08 21 39.0	+1.2
CLCH				iS	Sn	08 22 10.2	+1.8
FCH	**Farellones**	**2.75**	**25⇓**	iP	Pn	08 21 40.5	+0.8
FCH				iS	Sn	08 22 14.2	+2.3
FCH				AML	AML	08 22 21.9	
	comp=N,630nm,0.1s						
PEL	**Peldehue**	**2.81**	**17**	iP	Pn	08 21 41.4	+0.9
ROCH	**El Roble**	**2.91**	**11⇑**	iP	Pn	08 21 42.4	+0.6
JACH	**Jahuel**	**3.28**	**16⇓**	iP	Pn	08 21 46.9	+0.1

ISC 15 08:30:52.4±0.9, 3993N±005×2892E±008, h10km, n6, σ0°65/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLV	**Yalova**	**0.72**	**29**	PG	Pg	08 31 06.3	-0.1
YLV				SG	Sg	08 31 15.9	+0.1
BNT	**Bandirma**	**0.87**	**299**	ePG	Pg	08 31 08.9	-0.4
GDZ	**Gediz**	**0.95**	**152**	iP	Pg	08 31 10.6	-0.1
GDZ				iS	Sg	08 31 27.7	+4.7
GPA	**Golpazari**	**1.13**	**71**	ePN	Pn	08 31 14.4	+0.2
MANT	**Manisa**	**1.47**	**191**	iP	Pn	08 31 19.0	0.0
ESKT	**Eskisehir**	**1.55**	**105**	iP	Pn	08 31 21.1	+1.1
ESKT				iS	Sn	08 31 39.0	-1.1

SSNC 15 08:32:59.6, 1921N×7396W, h8km, MD3.5, ML3.7, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.99**	**345**	ePG	Pg	08 33 16.6	-2.1
MASC				eSG	Sg	08 33 27.6	-4.0
	comp=N,134μm,0.1s						
MASC				e			
	comp=E,151μm,0.1s						
MOAC	**Moa**	**1.72**	**327**	eP	Pn	08 33 27.4	-2.5
MOAC				eS	Sn	08 33 48.7	-3.3
	comp=N,17μm,0.2s						
MOAC				e			
	comp=E,18μm,0.2s						
RCC	**Rio Carpintero**	**1.81**	**296**	eP	Pn	08 33 27.9	-3.2
RCC				eS	Sn	08 33 48.9	-5.3
	comp=N,905nm,0.3s						
RCC				e			
	comp=E,706nm,0.3s						
HLGC	**Holguin**	**2.59**	**311**	eP	Pn	08 33 41.8	+0.1
HLGC				eS	Sn	08 34 09.7	-3.6
	comp=N,14μm,0.3s						
HLGC				e			
	comp=E,15μm,0.3s						
LMGC	**Las Mercedes**	**2.99**	**287**	eP	Pn	08 33 44.3	-3.0
LMGC				eS	Sn	08 34 16.1	-7.2
	comp=N,171nm,0.1s						
LMGC				e			
	comp=E,140nm,0.1s						
CCCC	**Cccc**	**4.08**	**300**	eP	Pn	08 33 57.4	-4.9
CCCC				eS	Sn	08 34 44.0	-6.3
	comp=N,1.6nm,0.8s						
CCCC				e			
	comp=E,0.2nm,0.1s						

*IDC **15** 08:33:05.7±9.2, 3606N×7066E, h172km±86km, mb3.7/6, mb1 3.7/9, mb1mx3.4/22, mbtmp4.1/9, Error ellipse: s-maj=43.3km s-min=22.6km az=24.0*
*MOS **15** 08:33:07.9±1.1, 3626N×7064E, h203km, mb3.5/1, Error ellipse: s-maj=19.7km s-min=8.8km az=98.7*
*NEIC **15** 08:33:07.8±2.6, 3619N×7067E, h190km±29km, mb4.8/7, Error ellipse: s-maj=29.0km s-min=9.1km az=59.0*
*ISCJB **15** 08:33:08.8±0.8, 3632N±004×708E±0.1, h211km±11km, mb3.7/5, Error ellipse: s-maj=14.4km s-min=4.8km az=139.2*
*NNC **15** 08:33:16.2±1.2, 3689N×7076E, h197km±6km, mb2.7, mpv4.0, Error ellipse: s-maj=15.5km s-min=11.2km az=70.0*

ISC 15 08:33:07.7±0.9, 3621N±005×707E±01, h187km±12km, n54, σ1°17/60, mb3.8/5, 3C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.68**	**129**	eP	Pn	08 34 34.0	+3.5
DLH				ex	x	08 35 39.0	
PONG	**Pong**	**6.07**	**133**	ex	x	08 35 50.0	
AML	**Almayashu**	**6.35**	**20**	P	Pn	08 34 39.9	+0.6
	SNR=42						
UCH	**Uchtor**	**6.70**	**25**	P	Pn	08 34 44.4	+0.6
	SNR=95						
KZA	**Kyzart**	**6.84**	**30**	P	Pn	08 34 45.8	+0.2
	SNR=11						
EKS2	**Erkin-Say**	**6.87**	**19**	P	Pn	08 34 46.5	+0.5
	SNR=29						
KK31	**Karatay Array**	**6.89**	**359**	⇓P	Pn	08 34 46.1	-0.3
	8.2nm,0.3s,baz=182,slow=12,SNR=507						
KK31				⇑S	Sn	08 35 57.6	-6.8
	9.6nm,0.4s,baz=181,slow=21,SNR=7.3						
KKAR	**Karatay Array**	**6.89**	**359**	PN	Pn	08 34 46.0	-0.3
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
SDNR	**Sundarnagar**	**7.01**	**130**	eP	Pn	08 34 51.6	+3.7
SDNR				eS	Sn	08 36 06.0	-1.2
AAK	**Ala-Archa**	**7.05**	**23**	P	Pn	08 34 49.1	+0.6
	SNR=23						
AAK	**Ala-Archa**	**7.05**	**23**	ePN	Pn	08 34 48.0	-0.5
AAK				pmax	pmax		
	comp=Z,23nm,0.3s						
AAK	**Ala-Archa**	**7.05**	**23**	ePn	Pn	08 34 48.0	-0.5
	comp=Z,23nm,0.3s						
AAK				eSn	Sn	08 36 05.7	-2.5
KBK	**Karagaybulak**	**7.22**	**26**	P	Pn	08 34 51.6	+0.9
	SNR=13						
ULHL	**Ulahol**	**7.40**	**34**	P	Pn	08 34 53.5	+0.5
	SNR=10						
CHMS	**Chumysh**	**7.46**	**23**	P	Pn	08 34 53.5	-0.4
	SNR=12						
USP	**Ospenovka**	**7.63**	**21**	P	Pn	08 34 55.5	-0.5
	SNR=10						
TKM2	**Tokmak 2**	**7.69**	**28**	P	Pn	08 34 57.0	+0.2
	SNR=17						
TKM2	**Tokmak 2**	**7.69**	**28**	⇓P	Pn	08 34 57.2	+0.3
	comp=Z,3.5nm,0.6s						
KLP	**Kalpa**	**7.81**	**124**	eP	Pn	08 35 02.8	+4.4
KLP				eS	Sn	08 36 25.9	-0.4
KHET	**Khetri**	**9.19**	**151**	eP	Pn	08 35 18.9	+2.5
KHET				AMb	AMB	08 35 20.2	
	comp=Z,6.8nm,0.3s						
KHET				eS	Sn	08 36 55.2	-3.8
NDI	**New Delhi**	**9.30**	**142**	⇓iP	Pn	08 35 19.5	+1.6
	comp=Z,9.0nm,0.5s						
NDI				ex	x	08 36 55.0	
SONA	**Sohna**	**9.59**	**144**	eP	Pn	08 35 24.7	+2.9
SONA				AMb	AMB	08 35 25.6	
	comp=Z,16nm,0.2s						
SONA				eS	Sn	08 37 05.3	-3.4
AJM	**Ajmer**	**10.26**	**160**	eP	Pn	08 35 33.6	+3.2
AJM				AMb	AMB	08 35 35.0	
	comp=Z,9.5nm,0.4s						
AJM				eS	Sn	08 37 18.8	-5.9
MKAR	**Makanchi Array**	**13.66**	**36**	P	Pn	08 36 14.2	+0.4
	comp=Z,0.4nm,0.3s,baz=222,slow=10,SNR=7.3						
BHPL	**Bhopal**	**14.17**	**154**	eP	Pn	08 36 27.5	+7.3
BHPL				AMb	AMB	08 36 28.7	
	comp=Z,25nm,0.6s						
BHPL				ex	x	08 38 56.4	
DMN	**Daman**	**14.92**	**121**	eP	Pn	08 36 32.0	+2.6
	comp=Z,19nm,0.5s						
KKN	**Kakani**	**14.93**	**120**	eP	Pn	08 36 31.7	+2.2
	comp=Z,27nm,0.6s						
KKN	**Kakani**	**14.93**	**120**	eP	Pn	08 36 31.7	+2.2
KKN				pmax	pmax		
	comp=Z,27nm,0.6s						
PKI	**Pulchoki**	**15.15**	**121**	eP	Pn	08 36 33.8	+1.5
	comp=Z,25nm,0.5s						
PKI	**Pulchoki**	**15.15**	**121**	eP	Pn	08 36 33.8	+1.5
PKI				pmax	pmax		
	comp=Z,25nm,0.5s						
AB31	**Akbulak array**	**15.23**	**332**	⇓P	Pn	08 36 34.0	+0.7
	comp=Z,1.1nm,0.3s						
AB31	**Akbulak array**	**15.23**	**332**	P	Pn	08 36 34.7	+1.5
GUN	**Gumba**	**15.28**	**119**	eP	Pn	08 36 33.6	-0.2
	comp=Z,14nm,0.4s						
JIRN	**Jiri**	**15.65**	**119**	eP	Pn	08 36 36.1	-2.2
	comp=Z,24nm,0.4s						
VOSK	**Vostochnaya**	**16.51**	**1**	⇓P	Pn	08 36 48.2	-0.5
	comp=Z,3.2nm,0.8s						
VOSK	**Vostochnaya**	**16.51**	**1**	P	Pn	08 36 48.2	-0.6
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZRNK	**Zerenda**	**16.78**	**356**	⇓P	Pn	08 36 51.2	-0.8
	comp=Z,1.7nm,0.7s						
ZRNK	**Zerenda**	**16.78**	**356**	eP	Pn	08 36 51.6	-0.4
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	**Zerenda**	**16.78**	**356**	eP	Pn	08 36 51.6	-0.4
	comp=Z,2.3nm,0.6s						
BVA0	**Borovoye Array**	**16.82**	**359**	⇑P	Pn	08 36 53.3	+0.9
	comp=Z,0.2nm,0.6s,baz=160,slow=9.7,SNR=11						
BVAR	**Borovoye Array**	**16.82**	**359**	P	Pn	08 36 51.6	-0.8
	comp=Z,0.7nm,0.3s,baz=165,slow=12,SNR=7.4						
AKTK	**Aktyubinsk**	**16.92**	**331**	P	Pn	08 36 53.4	-0.2
AKTO	**Aktyubinsk**	**16.92**	**331**	⇑P	Pn	08 36 53.1	-0.5
	comp=Z,0.1nm,0.5s						
AKTO	**Aktyubinsk**	**16.92**	**331**	P	Pn	08 36 53.4	-0.2
	comp=Z,1.8nm,0.3s,baz=141,slow=11,SNR=34						
CHKZ	**Chkalovo**	**17.47**	**360**	⇓P	Pn	08 36 58.9	-1.2
	comp=Z,0.8nm,0.4s						
ZAL	**Zalesovo**	**20.26**	**25**	P	P	08 37 28.8	+0.1
	comp=Z,5.0nm,0.3s,baz=254,slow=1.5,SNR=3.3						
FINES	**FINESS Array B**	**37.60**	**326**	P	P	08 40 04.6	+0.4
	comp=Z,4.4nm,0.6s,mb4.2,baz=126,slow=10,SNR=25						
ARCES	**ARCESS Array B**	**41.33**	**338**	P	P	08 40 34.8	-0.3
	comp=Z,4.0nm,0.7s,mb4.1,baz=99,slow=7.5,SNR=8.6						
NB2	**NORSAR Subarra**	**44.48**	**323**	P	P	08 40 59.4	-0.9
	comp=Z,0.6nm,0.4s,mb3.6,baz=100,slow=7.9						
NB2	**NORSAR Subarra**	**44.48**	**323**	P	P	08 40 59.4	-0.9
NB2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
NOA	**NORSAR Array B**	**44.48**	**323**	P	P	08 40 59.0	-1.2
	comp=Z,0.4nm,0.5s,mb3.3,baz=97,slow=8.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**65.48**	**269**	P	P	08 43 30.2	-0.6
	comp=Z,1.3nm,0.5s,mb4.0,baz=47,slow=5.9,SNR=29						
TORD	**Torodi Ar. Bea**	**65.48**	**269**	P	P	08 43 30.2	-0.6
WRA	**Warramunga Arr**	**82.03**	**122**	P	P	08 45 06.7	-0.2
	comp=Z,0.3nm,0.6s,mb3.1,baz=325,slow=5.0,SNR=6.4						

*NEIC **15** 08:47:02.6, 1812N×10084W, h20km, MD4.1(MEX), After MEX.*

MEX 15 08:47:02.6±1.2, 1812N×10083W, h20km±56km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.79**	**230**	iP	Pb	08 47 14.6	-3.0
ZIIG				iS	Sb	08 47 25.9	-1.9
MEIG	**Mezcala**	**1.17**	**99**	iP	Pn	08 47 21.3	-2.5
MEIG				iS	Sb	08 47 35.5	-3.3
CAIG	**El Cayaco**	**1.19**	**153**	iP	Pn	08 47 20.4	-3.7
CAIG				iS	Sb	08 47 34.9	-4.6
PLIG	**Platanillo**	**1.29**	**78**	iP	Pn	08 47 23.0	-2.5
PLIG				iS	Sn	08 47 36.6	-5.6
ACX	**Acapulco**	**1.52**	**145**	iP	Pn	08 47 25.0	-3.6
ACX				iS	Sn	08 47 44.0	-3.8
MOIG	**Morelia**	**1.59**	**348**	iP	Pn	08 47 26.9	-2.7
MOIG				iS	Sn	08 47 44.7	-4.8
MRX	**Morelia**	**1.62**	**348**	eP	Pn	08 47 27.0	-3.0
MRX				iS	Sn	08 47 50.0	-0.2
YAIG	**Yautepec**	**1.83**	**66**	iP	Pn	08 47 30.5	-2.4
YAIG				iS	Sn	08 47 50.1	-5.4
UNM	**Universidad Na**	**1.98**	**52**	eP	Pn	08 47 32.4	-2.6
UNM				eP		08 47 33.0	
UNM				iP		08 47 33.2	
UNM				iS	Sn	08 47 53.0	-6.2
UNM				iS	Sn	08 47 54.7	-4.4
UNM				iS	Sn	08 47 56.8	-2.3
UNM	**Universidad Na**	**1.98**	**52**	iP	Pn	08 47 33.2	-1.7
UNM				iS	Sn	08 47 53.0	-6.2
UNM				iS	Sn	08 47 54.0	-5.1
UNM				iS	Sn	08 47 54.7	-4.4
PPM	**Popocatepetl**	**2.29**	**65**	eP	Pn	08 47 37.0	-2.3
PPM				iP		08 47 38.0	
PPM				iS	Sn	08 48 05.5	-1.4
PPM	**Popocatepetl**	**2.29**	**65**	iP	Pn	08 47 38.0	-1.3
PPM				iS	Sn	08 48 05.5	-1.4
UTMO	**Huajuapan**	**2.90**	**95**	eP	Pn	08 47 45.3	-2.2
UTMO				iS	Sn	08 48 19.4	-2.4
SFJM	**Santa Fe**	**3.15**	**319**	eP	Pn	08 47 55.0	+4.0
OXX	**Oaxaca**	**4.05**	**104**	eP	Pn	08 47 59.0	-4.4

*MOS **15** 09:00:43.9±1.3, 4510N×9748E, h10km, mb4.0/2, Error ellipse: s-maj=15.0km s-min=11.4km az=82.5*
*BJI **15** 09:00:43.6, 4556N×9774E, h16km, mb4.3, ML4.4, Ms3.8, Msz3.5*
*ISCJB **15** 09:00:44.0±0.6, 4512N±008×9749E±008, h10km, mb3.7/4, Error ellipse: s-maj=12.0km s-min=7.4km az=142.7*
*NEIC **15** 09:00:44.5±5.9, 4498N×9747E, h1km±40km, mb3.8/2, Error ellipse: s-maj=17.0km s-min=13.6km az=200.0*
*IDC **15** 09:00:44.9±1.3, 4514N×9755E, h0km, mb3.8/3, mb1 3.9/7, mb1mx3.7/24, mbtmp3.9/7, ML3.8/4, Error ellipse: s-maj=27.9km s-min=16.2km az=11.0*

ISC 15 09:00:45.6±0.5, 4506N±004×9750E±007, h10km, n22, σ1°03/27, mb3.7/4, 2C, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**5.91**	**162**	P	Pn	09 02 18.6	+5.4
GTA				PG	Pg	09 02 36.6	-2.1
GTA				S	Sn	09 03 27.3	+6.4
GTA				SG	Sg	09 03 55.8	+0.6
GTA				Smax			
	comp=N,80nm,1.2s						
GTA				Smax			
	comp=E,120nm,0.9s						
SONM	**Songino Array**	**6.74**	**63**	Pn	Pn	09 02 24.7	0.0
	comp=E,4.9nm,0.3s,baz=249,slow=15,SNR=79						
SONM				Pg	Pg	09 02 46.3	-8.4
	comp=E,9.6nm,0.3s,baz=247,slow=18,SNR=24						
SONM				Lg		09 04 13.5	
	comp=E,15nm,0.3s,baz=244,slow=35,SNR=8.8						
MOY	**Mondy**	**7.00**	**18**	eP	Pn	09 02 28.1	-0.2
MOY				eS	Sn	09 03 39.2	-8.8
MOY				pmax	pmax		
	comp=Z,36nm,0.8s						
MOY				pmax	pmax		
	comp=N,246nm,0.8s						
WMQ	**Urumqi**	**7.12**	**263**	eP	Pn	09 02 31.0	+1.1
WMQ				Smax			
	comp=N,180nm,0.9s						
WMQ				Smax			
	comp=E,100nm,1.2s						
ULN	**Ulaanbaatar**	**7.17**	**64⇑**	iP	Pn	09 02 30.7	+0.2
TLY	**Talaya**	**7.78**	**30⇑**	eP	Pn	09 02 38.4	-0.5
MKAR	**Makanchi Array**	**10.73**	**285**	Pn	Pn	09 03 19.5	+0.1
	comp=E,0.1nm,0.3s,baz=96,slow=16,SNR=2.1						
MKAR				Pg	Pn	09 03 59.9	+40
	comp=E,0.3nm,0.3s,baz=100,slow=14,SNR=4.6						
MKAR				Lg		09 06 25.6	
	comp=E,0.8nm,0.3s,baz=97,slow=35,SNR=6.4						
MKAR	**Makanchi Array**	**10.73**	**285**	Pn	Pn	09 03 19.5	+0.1
MKAR				Pg	Pn	09 03 59.9	+40
MKAR				Lg		09 06 25.6	
ZAL	**Zalesovo**	**12.11**	**322**	Pn	Pn	09 03 41.5	+3.3
	comp=E,1.3nm,0.3s,baz=223,slow=5.1,SNR=4.1						
ZAL				Lg		09 07 07.7	
	baz=104,slow=9.3,SNR=7.0						
LSA	**Lhasa**	**16.14**	**200**	eP	Pn	09 04 31.4	-1.1
AAK	**Ala-Archa**	**16.76**	**270**	eP	Pn	09 04 40.9	+0.5
AAK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
BVAR	**Borovoye Array**	**19.38**	**304**	P	Pn	09 05 11.3	-1.4
	comp=Z,0.7nm,0.3s,baz=102,slow=12,SNR=17						
CHKZ	**Chkalovo**	**19.41**	**306**	eP	Pn	09 05 10.5	-2.5
CHKZ				pmax

SANT	Santorini	1.45 296	*e*Pn	Pn	09 07 36.5 -0.2
SANT	Santorini	1.45 296	*e*Pn	Pn	09 07 36.5 -0.3
APE	Apeiranthos	1.82 317	*e*P	Pn	09 07 43.1 +1.3

ATH ***15*** *09:32:42.8, 3872N×2559E, h35km, MD3.4/3*
ISCJB ***15*** *09:32:46.3±0.6, 3881N±003×2665E±005, h10km±5km, Error ellipse: s-maj=7.1km s-min=3.9km az=144.3*
CSEM ***15*** *09:32:46.2±0.1, 3881N×2671E, h12km, MD3.3, Error ellipse: s-maj=3.7km s-min=1.8km az=82.0*
ISK ***15*** *09:32:47.0, 3874N×2676E, h26km, MD3.3*

ISC 15 09:32:47.1±0.5, 3881N±003×2669E±006, h12km±4km, n25, σ0ᵊ77/34, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.46**	**189**	*i* P	**Pg**	**09 32 56.1**	**0.0**
URLA				*i* S	**Sg**	**09 33 03.7**	**+1.4**
AYVA	**Ayvalik**	**0.49**	**360**	*i* P	**Pg**	**09 32 57.1**	**+0.3**
AYVA				*i* S	**Sg**	**09 33 03.7**	**+0.3**
BLCB	**Balcova**	**0.51**	**147**	*i* PG	**Pg**	**09 32 56.7**	**-0.4**
BLCB				*i* SG	**Sg**	**09 33 03.1**	**-0.7**
PRK	**Paraskevi**	**0.54**	**323**	⇓*i* PN	**Pg**	**09 32 57.7**	**0.0**
PRK				*e*SN	**Sg**	**09 33 08.6**	**+3.7**
KDAG	**Bornova**	**0.61**	**132**	*i* P	**Pg**	**09 32 58.8**	**-0.2**
KDAG				*i* S	**Sg**	**09 33 08.4**	**+1.4**
KDAG	**Bornova**	**0.61**	**132**	*i* P	**Pg**	**09 32 58.8**	**-0.2**
KDAG				*i* S	**Sg**	**09 33 08.4**	**+1.4**
IZM	**Izmir**	**0.61**	**133**	PG	**Pg**	**09 32 57.8**	**-1.2**
AKS	**Akhisar**	**0.88**	**85**	PG	**Pg**	**09 33 03.2**	**-0.9**
EZN	**Ezine**	**1.05**	**344**	PN	**Pn**	**09 33 07.2**	**-0.5**
SMG	**Samos**	**1.11**	**174**	*e*PN	**Pn**	**09 33 07.9**	**-0.6**
CANB	**Canakkale**	**1.24**	**13**	PN	**Pn**	**09 33 10.2**	**-0.1**
BALB	**Balikesir**	**1.24**	**48**	PN	**Pn**	**09 33 09.9**	**-0.4**
BTOK	**Tokmak**	**1.41**	**47**	*i* P	**Pn**	**09 33 13.3**	**+0.8**
BTOK				*i* S	**Sn**	**09 33 31.3**	**+0.2**
AYDN	**Tasoluk**	**1.48**	**141**	*i* P	**Pn**	**09 33 13.4**	**-0.3**
AYDN				*i* S	**Sn**	**09 33 33.5**	**+0.5**
MANT	**Manisa**	**1.50**	**102**	*i* P	**Pn**	**09 33 15.1**	**+1.3**
MANT				*i* S	**Sn**	**09 33 34.4**	**+1.1**
EDC	**Edincik**	**1.78**	**30**	*e*PN	**Pn**	**09 33 17.9**	**+0.2**
BNT	**Bandirma**	**1.81**	**31**	*e*PN	**Pn**	**09 33 17.1**	**-1.0**
BODT	**Bodrum**	**1.81**	**164**	*e*PN	**Pn**	**09 33 16.7**	**-1.5**
RKY	**Sarkoy-Tekirda**	**1.91**	**11**	*e*PN	**Pn**	**09 33 19.4**	**-0.1**
MRMT	**Marmara Adasi**	**1.92**	**21**	*e*PN	**Pn**	**09 33 19.4**	**-0.2**
KCT	**Karacabey**	**1.94**	**41**	*e*PN	**Pn**	**09 33 19.8**	**-0.1**
APE	**Apeiranthos**	**1.97**	**208**	*e*PN	**Pn**	**09 33 11.5**	**-8.8**
MFT	**Murefte**	**2.02**	**13**	*e*PN	**Pn**	**09 33 21.3**	**+0.2**
YLV	**Yalova**	**2.71**	**49**	*e*PN	**Pn**	**09 33 29.9**	**-0.6**
EDRB	**Edirne**	**3.03**	**1**	*e*PN	**Pn**	**09 33 35.9**	**+1.0**

ISCJB ***15*** *09:40:31.1±0.4, 6288N±008×17853E±008, h10km, mb4.3/19, MS3.6/8, Error ellipse: s-maj=11.7km s-min=5.2km az=0.3*
MOS ***15*** *09:40:31.2±0.9, 6294N×17851E, h10km, mb4.6/7, Error ellipse: s-maj=17.4km s-min=13.6km az=89.5*
BJI ***15*** *09:40:31.5, 6304N×17802E, h12km, mB5.1, mb4.9, Ms4.8, Msz4.2*
IDC ***15*** *09:40:31.2±0.9, 6287N×17838E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.0/11, MS3.6/5, Ms1 3.6/5, ms1mx3.1/23, Error ellipse: s-maj=27.9km s-min=17.7km az=175.0*
NEIC ***15*** *09:40:32.4±0.4, 6277N×17846E, h10km, mb4.4/5, Error ellipse: s-maj=9.2km s-min=6.2km az=189.0*

ISC 15 09:40:31.4±3.2, 6281N±007×17849E±009, h3km±21km, n56, σ1ᵊ03/53, mb4.3/19, MS3.6/8, 2C-2D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**4.53**	**73**	*e*Pn	**Pn**	**09 41 38.7**	**-2.2**
TNA	**Tin City**	**6.54**	**59**	*e*Pn	**Pn**	**09 42 07.8**	**-0.6**
	20nm,0.8s						
BILL	**Biiibino**	**7.30**	**321**	*d i* P	**Pn**	**09 42 19.7**	**+0.7**
BILL	**Biiibino**	**7.30**	**321**	*e*Pn	**Pn**	**09 42 19.6**	**+0.6**
	14nm,0.6s						
SPIA	**Saint Paul Isl**	**7.98**	**130**	*e*Pn	**Pn**	**09 42 28.1**	**-0.1**
ATKA	**Atka Island**	**11.33**	**156**	*e*Pn	**Pn**	**09 43 12.1**	**-2.0**
TTA	**Tatalina**	**11.61**	**78**	*e*P	**Pn**	**09 43 18.2**	**+0.2**
TTA				pmax	pmax		
	comp=Z,16nm,1.4s						
TTA	**Tatalina**	**11.61**	**78**	*e*Pn	**Pn**	**09 43 18.2**	**+0.2**
	comp=Z,16nm,1.4s						
SVW2	**Sparrevohn**	**12.29**	**86**	*e*Pn	**Pn**	**09 43 27.7**	**+0.5**
MCK	**McKinley**	**14.60**	**72**	*e*P	**Pn**	**09 43 58.9**	**+0.1**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MCK	**McKinley**	**14.60**	**72**	*e*Pn	**Pn**	**09 43 58.9**	**+0.1**
	comp=Z,2.8nm,0.7s						
COLA	**College**	**14.88**	**67**	*c i* P	**Pn**	**09 44 02.5**	**-0.1**
SML	**Sawmill**	**15.36**	**79**	*e*P	**Pn**	**09 44 10.6**	**+1.6**
DAWY	**Dawson**	**18.63**	**67**	*e*P	**Pn**	**09 44 49.8**	**-0.5**
INK	**Inuvik**	**20.14**	**53**	P	**P**	**09 45 06.7**	**+0.1**
	comp=Z,9.0nm,0.6s,baz=304,slow=10.0,SNR=25						
INK				LR	LR	09 52 38.3	
	comp=Z,144nm,19.7s,MS3.3,baz=300,slow=36						
INK	**Inuvik**	**20.14**	**53**	P	**P**	**09 45 06.7**	**+0.1**
INK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
INK				MLR	MLR		
	comp=Z,144nm,19.7s						
INK	**Inuvik**	**20.14**	**53**	*e*P	**P**	**09 45 06.3**	**-0.2**
	comp=Z,9.2nm,0.7s						
TIXI	**Tiksi**	**20.49**	**316**	⇓*i* P	**P**	**09 45 10.2**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK	**Yakutsk**	**22.19**	**290**	⇑*i* P	**P**	**09 45 29.2**	**+0.5**
YAK				pmax	pmax		
	comp=Z,54nm,1.7s,mb4.7						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
YSS	**Yuzh-Sakhalins**	**25.51**	**248**	*e*P	**P**	**09 46 02.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,27nm,1.5s,mb4.6						
YSS				MLR	MLR		
	comp=Z,100nm,21.0s,MS3.3						
ASAJ	**Asahikawa**	**27.84**	**245**	LR	LR	09 57 20.9	
	comp=Z,119nm,19.7s,MS3.5,baz=189,slow=36						
KLR	**Kul'dur**	**28.70**	**264**	P	**P**	**09 46 26.1**	**-3.6**
CIT	**Chita**	**35.06**	**283**	*e*P	**P**	**09 47 25.3**	**-0.2**
EDM	**Edmonton**	**35.66**	**73**	*e*P	**P**	**09 47 31.3**	**+0.6**
MJAR	**Matsushiro Arr**	**36.02**	**242**	P	**P**	**09 47 33.4**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=33,slow=9.2,SNR=4.3						
MJAR	**Matsushiro Arr**	**36.02**	**242**	P	**P**	**09 47 33.4**	**-0.3**
TLY	**Talaya**	**39.66**	**290**	*e*P	**P**	**09 48 07.1**	**+2.6**
ULN	**Ulaanbaatar**	**40.96**	**283**	*e*P	**P**	**09 48 16.1**	**+0.8**
EGMT	**Eagleton**	**40.98**	**76**	*e*P	**P**	**09 48 16.3**	**+0.8**
	comp=Z,8.9nm,1.2s,mb4.3						
SONM	**Songino Array**	**41.28**	**284**	P	**P**	**09 48 18.6**	**+0.7**
	comp=Z,2.4nm,0.9s,mb3.8,baz=41,slow=7.7,SNR=13						
HLID	**Hailey**	**42.27**	**85**	*e*P	**P**	**09 48 26.2**	**+0.2**
	comp=Z,2.0nm,0.9s,mb3.8						
TPAW	**Teton Pass**	**43.91**	**82**	*e*P	**P**	**09 48 40.1**	**+0.8**
	comp=Z,12nm,1.3s,mb4.5						
NVAR	**Mina Array Bea**	**44.56**	**92**	P	**P**	**09 48 45.8**	**+1.3**
	comp=Z,0.9nm,0.8s,mb3.7,baz=310,slow=6.2,SNR=6.5						
PDAR	**Pinedale Array**	**45.11**	**81**	P	**P**	**09 48 49.3**	**+0.4**
	comp=Z,1.4nm,0.9s,mb3.8,baz=333,slow=5.6,SNR=9.8						
ULM	**Lac du Bonnet**	**45.29**	**64**	P	**P**	**09 48 49.7**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.1,baz=281,slow=6.4,SNR=3.5						
ULM	**Lac du Bonnet**	**45.29**	**64**	P	**P**	**09 48 49.7**	**-0.6**
ARCES	**ARCESS Array B**	**46.57**	**347**	LR	LR	10 09 40.8	
	comp=Z,62nm,21.2s,MS3.5,baz=18,slow=38						
MSU	**Marysvale**	**47.31**	**87**	*e*P	**P**	**09 49 06.6**	**+0.4**
ARUT	**Antelope Range**	**47.32**	**89**	*e*P	**P**	**09 49 06.3**	**0.0**
SRU	**San Rafael**	**47.59**	**85**	*e*P	**P**	**09 49 08.8**	**+0.5**
SRU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
SRU	**San Rafael**	**47.59**	**85**	*e*P	**P**	**09 49 08.8**	**+0.5**
	comp=Z,9.3nm,1.0s,mb4.8						
SSE	**Sheshan**	**47.98**	**256**	P	**P**	**09 49 10.3**	**-1.1**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,130nm,3.6s						
NJ2	**Nanjing**	**48.22**	**259**	*e*P	**P**	**09 49 15.6**	**+2.3**
NJ2				S	**S**	**09 56 09.0**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,140nm,5.1s						
NJ2				LR	LR		
	comp=N,530nm,20.3s,MS4.6						
NJ2				LR	LR		
	comp=E,460nm,22.7s,MS4.6						
NJ2				LR	LR		
	comp=Z,240nm,19.9s,MS4.2						
PV01	**Paradox Valley**	**49.27**	**84**	*e*P	**P**	**09 49 21.6**	**+0.3**
BVAR	**Borovoye Array**	**51.56**	**313**	P	**P**	**09 49 37.0**	**-1.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=50,slow=7.7,SNR=5.4						
SCHQ	**Schefferville**	**52.16**	**42**	LR	LR	10 12 24.0	
	comp=Z,69nm,19.8s,MS3.7,baz=82,slow=37						
MKAR	**Makanchi Array**	**52.32**	**300**	*i* P	**P**	**09 49 47.0**	**+2.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
FINES	**FINESS Array B**	**54.32**	**344**	P	**P**	**09 49 57.9**	**-1.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=8.7,slow=14,SNR=5.9						
FINES				LR	LR	10 16 04.9	
	comp=Z,56nm,19.9s,MS3.6,baz=16,slow=39						
CD2	**Chengdu**	**56.08**	**272**	*e*P	**P**	**09 50 10.8**	**-1.0**
NOA	**NORSAR Array B**	**56.10**	**353**	P	**P**	**09 50 11.3**	**-0.6**
	comp=Z,1.3nm,0.7s,mb4.1,baz=4.8,slow=7.2,SNR=2.8						
AKASG	**Malin Array Be**	**64.25**	**339**	*i* P	**P**	**09 51 06.9**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,10nm,0.4s						
CLL	**Collm**	**65.65**	**350**	*e*P	**P**	**09 51 16.0**	**-0.9**
	comp=Z,8.0nm,1.1s,mb4.7						
GERES	**GERESS Array B**	**68.04**	**349**	P	**P**	**09 51 31.0**	**-1.1**
	comp=Z,1.6nm,1.0s,mb4.0,baz=43,slow=6.0,SNR=7.4						
ASAR	**Alice Springs**	**93.13**	**220**	P	**P**	**09 53 45.5**	**-1.2**
	comp=Z,1.0nm,0.8s,mb4.3,baz=27,slow=3.9,SNR=6.6						
ASAR	**Alice Springs**	**93.13**	**220**	*e*P	**P**	**09 53 46.0**	**-0.8**
QSPA	**South Pole Qui**	**152.59**	**180**	*e*P	PKPdf	10 00 25.3	+3.0

NIED ***15*** *09:52:00, 2240N×12130E, h8km, Mw3.8 Best double couple: M0:5.71000×10^14 NP1:φ0=296.00000°, δ69.00000°, λ-93.00000°. NP2:φ0=125.00000°, δ21.00000°, λ-81.00000°.*

JMA 15 09:52:19.8±0.5, 2238N×12132E, h0km, M3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.59**	**37**	P	Pn	09 53 04.0	+1.1
YOJ				S	Sn	09 53 36.7	+1.6
HATJ	**Hateruma jima**	**2.83**	**53**	P	Pn	09 53 06.9	+0.7
HATJ				S	Sn	09 53 42.0	+1.0
IRIF	**Iriomote-Funau**	**2.95**	**48**	P	Pn	09 53 09.1	+1.2
IRIF				S	Sn	09 53 45.6	+1.7
JKRS	**Kuro-shima**	**3.09**	**53**	P	Pn	09 53 11.6	+1.8
JKRS				S	Sn	09 53 50.4	+3.0
JIJ	**Ishigaki jima**	**3.26**	**52**	P	Pn	09 53 13.6	+1.5
JIJ				S	Sn	09 53 52.1	+0.5
JTJ	**Tarama**	**3.83**	**53**	P	Pn	09 53 22.0	+2.0

ISCJB ***15*** *10:13:25.3±0.8, 1889N±007×1227E±0.1, h50km, mb3.6/7, MS3.6/2, Error ellipse: s-maj=19.6km s-min=10.1km az=22.5*
IDC ***15*** *10:13:27.4±1.4, 1884N×12251E, h51km±9km, mb3.5/7, mb1 3.6/7, mb1mx3.5/18, mbtmp3.8/7, MS3.6/2, Ms1 3.7/2, ms1mx2.6/33, Error ellipse: s-maj=158.9km s-min=16.7km az=65.0*
MAN ***15*** *10:13:52.3, 1702N×12171E, h53km, mb3.4, ML4.6, MS3.7*

ISC 15 10:13:27.6±0.8, 1887N±007×1226E±01, h52km, h52km±2.2km: pP-P, n10, σ0ᵊ12/9, mb3.6/7, MS3.6/2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.35**	**211**	*e*P	**Sn**	**10 14 07.0**	**+0.1**
BCPH	**Baguio City Da**	**3.11**	**217**	*e*P	**Pn**	**10 14 14.0**	**-0.1**
	2μm,1.0s						
SONM	**Songino Array**	**31.75**	**339**	P	**P**	**10 19 46.8**	**+0.2**
	0.6nm,0.7s,mb3.5,baz=157,slow=8.8,SNR=3.9						
SONM				LR	LR	10 32 00.8	
	comp=Z,73nm,20.9s,MS3.3,baz=87,slow=35						
WRA	**Warramunga Arr**	**40.27**	**163**	P	**P**	**10 20 59.4**	**0.0**
	0.5nm,0.8s,mb3.3,baz=343,slow=8.8,SNR=4.4						
WRA				pP	pP	10 21 12.0	-1.1
	5.4nm,1.1s,baz=342,slow=9.0,SNR=14						
MKAR	**Makanchi Array**	**43.11**	**319**	P	**P**	**10 21 22.4**	**-0.1**
	1.9nm,0.7s,mb3.9,baz=121,slow=9.6,SNR=6.8						
ASAR	**Alice Springs**	**43.71**	**165**	P	**P**	**10 21 27.4**	**-0.1**
	0.6nm,0.6s,mb3.5,baz=341,slow=6.6,SNR=7.3						
ASAR				pP	pP	10 21 41.9	+0.6
	1.4nm,0.4s,baz=340,slow=6.8,SNR=13						
ZAL	**Zalesovo**	**45.41**	**329**	P	**P**	**10 21 41.1**	**+0.1**
	0.9nm,0.3s,mb4.1,baz=304,slow=4.6,SNR=3.2						
STKA	**Stephens Creek**	**53.66**	**160**	P	**P**	**10 22 43.9**	**+0.1**
	1.8nm,1.0s,mb4.0,baz=9.1,slow=14,SNR=3.2						
STKA				pP	pP	10 22 57.5	-0.5
	7.3nm,0.9s,baz=324,slow=5.4,SNR=8.3						
AKASG	**Malin Array Be**	**77.69**	**319**	P	**P**	**10 25 18.4**	**-0.2**
	0.1nm,0.2s,mb3.3,baz=75,slow=5.2,SNR=5.1						
NOA	**NORSAR Array B**	**83.50**	**333**	LR	LR	11 05 05.2	
	comp=Z,48nm,18.6s,MS3.9,baz=45,slow=37						

IDC 15 10:29:37.5±1.9, 109N×9691E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=53.4km s-min=23.3km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.64**	**50**	Pn	Pn	10 30 21.8	+0.5
	2.5nm,0.3s,baz=266,slow=3.5,SNR=9.0						
WRA	**Warramunga Arr**	**42.22**	**122**	P	P	10 37 32.2	0.0
	0.5nm,0.6s,baz=301,slow=9.1,SNR=8.2						
ASAR	**Alice Springs**	**43.56**	**127**	P	P	10 37 43.8	+0.8
	0.4nm,0.5s,baz=292,slow=7.9,SNR=4.5						
MKAR	**Makanchi Array**	**47.28**	**346**	P	P	10 38 13.1	+0.5
	0.3nm,0.3s,baz=176,slow=9.4,SNR=3.2						
SONM	**Songino Array**	**47.29**	**9**	P	P	10 38 10.9	-1.8
	0.6nm,0.5s,baz=196,slow=9.2,SNR=5.8						
ZAL	**Zalesovo**	**53.62**	**351**	P	P	10 39 01.5	+1.0
	1.1nm,0.4s,baz=312,slow=7.8,SNR=4.2						

MOS 15 10:31:26.1±0.9, 4249N×4365E, h10km, mb3.5/1, 1C-2D, Error ellipse: s-maj=43.7km s-min=13.6km az=65.6, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.17**	**301**	P	Pg	10 31 29.5	-0.4
ONI				S	Sg	10 31 32.3	-0.1
ZEI	**Tsey**	**0.34**	**33**	⇓*i* PG	Pg	10 31 33.2	+0.5
ZEI				*e*S	Sg	10 31 38.4	+1.2
DIGR	**Digorskoe uzhe**	**0.41**	**353**	⇑*e*PG	Pg	10 31 34.2	0.0
DIGR				*e*S	Sg	10 31 40.1	+0.4
LACR	**Lac**	**0.58**	**55**	⇓*e*PG	Pg	10 31 37.6	+0.2
LACR				*e*S	Sg	10 31 46.0	+0.9
KORR	**Kora**	**0.67**	**27**	*e*PG	Pg	10 31 39.1	0.0
KORR				*e*S	Sg	10 31 48.7	+0.9
ARNR	**Ardon**	**0.84**	**33**	*e*PG	Pg	10 31 42.3	0.0
ARNR				*e*S	Sg	10 31 54.2	+1.0
SNJR	**Sundja**	**1.03**	**56**	*e*PG	Pg	10 31 46.0	0.0
SNJR				*e*S	Sg	10 32 00.5	+1.1

ISCJB ***15*** *10:37:11.4±1.3, 177S±0.1×1788W±0.1, h573km±17km, mb4.3/23, Error ellipse: s-maj=22.8km s-min=9.9km az=112.3*
IDC ***15*** *10:37:11.7±1.9, 1772S×17875W, h560km±23km, mb3.8/7, mb1 4.0/8, mb1mx3.8/13, mbtmp4.7/8, Error ellipse: s-maj=26.3km s-min=13.8km az=147.0*
NEIC ***15*** *10:37:12.2±0.9, 1769S×17872W, h571km±11km, mb4.3/19, Error ellipse: s-maj=16.2km s-min=7.1km az=146.0*

ISC 15 10:37:12.6±1.2, 177S±01×1787W±01, h575km±15km, n38, σ0ᵊ91/35, mb4.3/23, 1C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.64**	**61**	P	**P**	**10 39 07.0**	**-0.5**
	6.0nm,0.3s,baz=184,slow=7.0,SNR=9.3						
ARMA	**Armidale**	**29.82**	**239**	⇓*i* P	**P**	**10 42 35.0**	**+1.0**
CTA	**Charters Tower**	**33.23**	**260**	*e*P	**P**	**10 43 03.3**	**+0.3**
	8.9nm,0.7s,mb4.5						
CTAO	**Charters Tower**	**33.23**	**260**	*e*P	**P**	**10 43 03.4**	**+0.4**
	12nm,0.7s,mb4.6						
CNB	**Canberra Magne**	**33.35**	**232**	⇓*i* P	**P**	**10 43 04.7**	**+0.7**
	31nm,0.6s,mb5.1						
PMG	**Port Moresby**	**34.18**	**279**	*e*P	**P**	**10 43 12.6**	**+1.7**
	31nm,0.8s,mb5.0						
TOO	**Toolangi**	**37.10**	**230**	⇑*i* P	**P**	**10 43 35.9**	**+0.8**
	23nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**38.51**	**241**	⇓*i* P	**P**	**10 43 45.3**	**-1.2**
	12nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**10 43 45.4**	**-1.1**
	15nm,0.5s,mb4.8,baz=91,slow=9.7,SNR=82						
STKA	**Stephens Creek**	**38.51**	**241**	*e*P	**P**	**10 43 45.1**	**-1.4**
WB2	**Warramunga Arr**	**44.41**	**259**	⇓*i* P	**P**	**10 44 32.6**	**-0.4**
WRA	**Warramunga Arr**	**44.42**	**259**	P	**P**	**10 44 32.7**	**-0.4**
	8.1nm,0.5s,mb4.5,baz=92,slow=6.9,SNR=284						
AS31	**Alice Springs**	**44.60**	**254**	⇓*i* P	**P**	**10 44 34.8**	**+0.4**
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**10 44 34.9**	**+0.4**
	76nm,0.6s,mb5.4,baz=88,slow=8.2,SNR=1140						
ASAR				PcP	PcP	10 46 05.2	+0.5
	2.1nm,0.5s,baz=94,slow=3.6,SNR=5.0						
ASPA	**Alice Springs**	**44.60**	**254**	⇓*i* P	**P**	**10 44 34.8**	**+0.3**
KAKA	**Kakadu**	**47.34**	**269**	*e*P	**P**	**10 44 54.8**	**-0.3**
	16nm,0.4s,mb4.9						
FORT	**Forrest**	**49.87**	**244**	*e*P	**P**	**10 45 11.7**	**-2.2**
	20nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.81**	**260**	*e*P	**P**	**10 45 35.3**	**+0.2**
	7.4nm,0.6s,mb4.2						
MBWA	**Marble Bar**	**57.88**	**256**	*e*P	**P**	**10 46 10.1**	**-0.1**
	6.0nm,0.3s,mb4.2						
KLBR	**Kellerberrin**	**58.69**	**243**	*e*P	**P**	**10 46 15.2**	**-0.5**
	12nm,0.6s,mb4.2						
VNDA	**Vanda**	**60.62**	**185**	P	**P**	**10 46 28.4**	**-0.1**
	1.1nm,0.6s,mb3.2,baz=339,slow=7.1,SNR=8.6						
VNDA	**Vanda**	**60.62**	**185**	*e*P	**P**	**10 46 28.2**	**-0.3**
	1.3nm,0.7s,mb3.3						
ATKA	**Atka Island**	**69.72**	**3**	*e*P	**P**	**10 47 24.2**	**-1.3**
QSPA	**South Pole Qui**	**72.34**	**180**	*e*P	**P**	**10 47 40.3**	**-0.5**
	6.1nm,0.5s,mb4.4						
CMB	**Columbia Colle**	**77.87**	**43**	*e*P	**P**	**10 48 12.7**	**+1.1**
	2.2nm,0.6s,mb3.8						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**10 48 21.2**	**+1.2**
	1.8nm,0.7s,mb3.5,baz=216,slow=7.0,SNR=13						
WVOR	**Wild Horse Val**	**81.42**	**40**	*e*P	**P**	**10 48 31.0**	**+0.8**
	5.5nm,1.0s,mb3.9						
PMR	**Palmer**	**82.47**	**14**	*e*P	**P**	**10 48 34.2**	**-1.2**
	2.1nm,0.5s,mb3.9						
MAW	**Mawson**	**83.96**	**200**	*e*P	**P**	**10 48 42.3**	**-0.6**
	2.5nm,0.5s,mb4.0						
MAW	**Mawson**	**83.96**	**200**	P	**P**	**10 48 42.5**	**-0.4**
	2.9nm,0.5s,mb4.1,baz=82,slow=4.9,SNR=11						
MAW	**Mawson**	**83.96**	**200**	*e*P	**P**	**10 48 42.3**	**-0.6**
	3.0nm,0.4s,mb4.2						
MCK	**McKinley**	**84.40**	**13**	*e*P	**P**	**10 48 44.1**	**-0.9**
	1.9nm,0.8s,mb3.7						
COLA	**College**	**85.63**	**13**	*e*P	**P**	**10 48 49.7**	**-1.3**
	1.7nm,0.5s,mb3.9						
IMW	**Indian Meadow**	**87.01**	**42**	*e*P	**P**	**10 48 59.1**	**+1.6**
	4.8nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**87.38**	**44**	P	**P**	**10 48 59.8**	**+0.6**
	1.4nm,0.5s,mb3.9,baz=221,slow=3.1,SNR=16						
BRTR	**Keskin Array B**	**144.46**	**315**	PKP	PKPdf	10 55 44.8	+0.8
	0.6nm,0.5s,baz=132,slow=1.8,SNR=4.3						
GERES	**GERESS Array B**	**147.35**	**345**	PKPbc	PKPbc	10 55 52.3	0.0
	0.3nm,0.5s,baz=46,slow=3.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**175.45**	**185**	PKPab	PKPab	10 57 58.4	-0.1
	0.5nm,0.6s,baz=170,slow=3.0,SNR=4.7						

IDC 15 10:59:51.1±7.2, 669S×15497E, h122km±55km, mb3.5/3, mb1 3.7/4, mb1mx3.4/14, mbtmp3.9/4, MS3.3/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=79.8km s-min=35.2km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.63**	**119**	LR	LR	11 03 21.9	
	comp=Z,242nm,18.3s,baz=358,slow=37						
PMG	**Port Moresby**	**8.19**	**250**	P	Pn	11 01 46.5	-0.7
	2.1nm,0.3s,baz=79,slow=10,SNR=7.5						
PMG				S	Sn	11 03 20.8	+2.7
	1.0nm,0.3s,baz=319,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**23.97**	**235**	P	P	11 04 54.6	+0.4
	1.0nm,0.6s,baz=58,slow=9.4,SNR=24						
ASAR	**Alice Springs**	**26.36**	**228**	P	P	11 05 15.7	-0.1
	0.9nm,0.6s,baz=60,slow=8.9,SNR=15						
YKA	**Yellowknife Ar**	**96.08**	**28**	P	P	11 13 04.7	-0.1
	0.3nm,0.6s,baz=268,slow=4.7,SNR=6.8						
TORD	**Torodi Ar. Bea**	**152.92**

HSAF As Saff 6.97 129 ⇑P Pn **11 20 07.6 -0.5**
GLL Jalalah 7.10 128⇓*e*P Pn **11 20 09.8 0.0**
HHAG Hagoal 7.12 124 ⇑P Pn **11 20 09.8 -0.4**
AMAG Maghara 7.54 116⇑*e*P Pn **11 20 15.2 -0.6**
AMAG Maghara 7.54 116 P Pn **11 20 15.2 -0.6**
SUZ 7.70 122 ⇑P Pn **11 20 18.1 0.0**
ZAF 7.85 126 ⇑P Pn **11 20 20.0 -0.1**
HNKL Nakhl 8.47 118⇓*e*P Pn **11 20 28.4 -0.3**
HNKL S **Sn** **11 21 56.1 -7.0**
MMAI Mount Meron Ar 8.48 95 Pn Pn **11 20 30.5 +1.7**
3.4nm,0.3s,baz=293,slow=12,SNR=4.5
MMAI Sn **Sn** **11 22 01.2 -2.1**
6.9nm,0.3s,baz=277,slow=23,SNR=3.7
BRTR Keskin Array B 8.65 48 Pn Pn **11 20 33.4 +2.2**
0.2nm,0.3s,baz=217,slow=16,SNR=3.2
TR2 9.21 127 ⇑P Pn **11 20 38.1 -0.7**
HDK1 Dakhla 9.30 157 ⇓P Pn **11 20 41.2 +1.1**
HKAT Jabal Katrina 9.30 125 ⇓P Pn **11 20 39.5 -0.5**
HHRG Al Ghardaqah 9.91 132 ⇑P Pn **11 20 48.3 -0.2**
AKASG Malin Array Be 16.76 9 Pn Pn **11 22 19.8 -0.7**
1.5nm,0.3s,baz=200,slow=11,SNR=9.6
GERES GERESS Array B 17.02 333 Pn Pn **11 22 23.8 +0.1**
0.2nm,0.3s,baz=143,slow=12,SNR=9.8
HFS Hagfors 27.06 347 P **P** **11 24 08.5 +0.9**
0.7nm,0.5s,mb3.5,baz=150,slow=15,SNR=3.4
TORD Torodi Ar. Bea 29.98 231 P **P** **11 24 33.9 +0.4**
0.9nm,0.5s,mb3.7,baz=32,slow=9.0,SNR=12
ARCES ARCESS Array B 35.41 0 P **P** **11 25 22.0 +1.0**
16nm,1.2s,mb4.8,baz=179,slow=9.9,SNR=4.1
MKAR Makanchi Array 44.21 56 P **P** **11 26 34.3 +0.2**
0.6nm,0.5s,mb3.6,baz=270,slow=7.2,SNR=7.2
SONM Songino Array 60.00 50 P **P** **11 28 32.0 +0.4**
0.5nm,0.5s,mb3.8,baz=281,slow=7.6,SNR=4.7

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*CSEM **15** 11:30:45.5±0.1, 3469N×2480E, h30km, MD3.9, Error ellipse: s-maj=3.6km s-min=2.0km az=51.0*
*IDC **15** 11:30:46.1±4.2, 3459N×2464E, h16km±27km, mb3.7/4, mb1 3.7/8, mb1mx3.5/25, mbtmp3.7/8, ML4.2/3, Error ellipse: s-maj=28.0km s-min=17.5km az=114.0*
*HLW **15** 11:30:46.6, 3480N×2478E, h33km, Mb3.5*
*ISCJB **15** 11:30:46.0±0.8, 3457N±003×2473E±006, h26km±8km, mb3.6/4, Error ellipse: s-maj=7.9km s-min=5.4km az=166.7*
*ATH **15** 11:30:49.9, 3493N×2467E, h20km±2km, MD3.9/7*
*NEIC **15** 11:30:49.9, 3493N×2467E, h19km, MD3.9(ATH), After ATH.*

ISC 15 11:30:47.5±0.8, 3462N±003×2468E±005, h24km±8km, n26, σ1§07/31, mb3.6/4, 7C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.54**	**295**	*e*Pg	**Pb**	**11 30 56.3**	**-1.9**
GVD				*e*Sg	**Sb**	**11 31 05.3**	**-0.3**
GVD	**Gavdhos**	**0.54**	**295**	*e*Pg	**Pb**	**11 30 56.3**	**-2.0**
GVD				*e*Sg	**Sb**	**11 31 05.3**	**-0.3**
IDI	**Anoyia**	**0.69**	**14**	Pg	**Pb**	**11 31 00.1**	**-0.8**
	129nm,0.3s,baz=196,slow=18,SNR=165						
IDI				Lg		11 31 10.6	
	217nm,0.3s,baz=26,slow=18,SNR=25						
XRY	**Khrisi**	**0.87**	**73**	*e*PB	**Pb**	**11 31 05.7**	**+1.7**
VAM	**Vamos**	**0.88**	**334**	⇑*i*PN	**Pn**	**11 31 02.2**	**-2.2**
NPS	**Neapolis**	**1.00**	**50**	*e*PN	**Pn**	**11 31 06.0**	**0.0**
NPS				*e*SN	**Sn**	**11 31 17.2**	**-2.1**
SANT	**Santorini**	**1.86**	**20**	*e*Pn	**Pn**	**11 31 18.4**	**+0.6**
KYTH	**Kithira**	**2.13**	**322**	*e*PN	**Pn**	**11 31 24.0**	**+2.4**
KARP	**Karpathos**	**2.24**	**65**	*e*PN	**Pn**	**11 31 27.1**	**+4.1**
VLI	**Veliai**	**2.53**	**326**	*e*PB	**Pn**	**11 31 28.3**	**+1.2**
APE	**Apeiranthos**	**2.54**	**16**	*e*PB	**Pn**	**11 31 28.0**	**+0.8**
SLUM		**3.15**	**172**	⇑P	**Pn**	**11 31 36.2**	**+0.6**
SLUM				S	**Sn**	**11 32 12.5**	**+0.2**
SWA2		**5.40**	**173**	⇑P	**Pn**	**11 32 07.3**	**+0.8**
SWA1		**5.41**	**170**	⇑P	**Pn**	**11 32 07.8**	**+1.2**
SWA1				S	**Sn**	**11 33 06.5**	**-1.6**
HBRG	**Burj al 'Arab**	**5.93**	**131**	⇑P	**Pn**	**11 32 13.3**	**-0.5**
GLL	**Jalalah**	**7.79**	**128**	⇑P	**Pn**	**11 32 39.2**	**-0.1**
AMAG	**Maghara**	**8.21**	**116**	⇑P	**Pn**	**11 32 44.1**	**-1.0**
SUZ		**8.39**	**122**	⇓P	**Pn**	**11 32 47.1**	**-0.4**
BRTR	**Keskin Array B**	**8.78**	**52**	Pn	**Pn**	**11 32 53.4**	**+0.6**
	0.1nm,0.3s,baz=224,slow=11,SNR=2.8						
MMAI	**Mount Meron Ar**	**9.06**	**97**	Pn	**Pn**	**11 32 57.2**	**+0.4**
	2.4nm,0.3s,baz=297,slow=12,SNR=3.2						
GERES	**GERESS Array B**	**16.38**	**334**	Pn	**Pn**	**11 34 37.0**	**+1.2**
	0.3nm,0.3s,baz=143,slow=12,SNR=11						
AKASG	**Malin Array Be**	**16.41**	**10**	Pn	**Pn**	**11 34 36.2**	**+0.1**
	2.4nm,0.3s,baz=200,slow=11,SNR=7.0						
HFS	**Hagfors**	**26.52**	**348**	P	**P**	**11 36 22.6**	**-0.5**
	0.8nm,0.4s,mb3.6,baz=146,slow=21,SNR=3.9						
FINES	**FINESS Array B**	**26.86**	**1**	P	**P**	**11 36 25.3**	**-0.9**
	2.6nm,1.1s,mb3.7,baz=158,slow=15,SNR=3.9						
TORD	**Torodi Ar. Bea**	**29.84**	**230**	P	**P**	**11 36 52.7**	**0.0**
	0.5nm,0.4s,mb3.6,baz=34,slow=8.5,SNR=9.7						
MKAR	**Makanchi Array**	**44.40**	**56**	P	**P**	**11 38 56.2**	**0.0**
	0.6nm,0.4s,mb3.7,baz=267,slow=8.0,SNR=8.4						

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*IDC **15** 11:32:08.4±2.4, 1081N×1267E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=169.4km s-min=20.7km az=74.0*
*ISCJB **15** 11:32:09.0±0.8, 1061N±004×1264I±006, h10km, mb3.8/5, Error ellipse: s-maj=9.3km s-min=5.6km az=153.2*
*MAN **15** 11:32:09.1, 1069N×1265I, h10km, mb3.8, ML4.9, MS5.4*

ISC 15 11:32:10.9±0.8, 1057N±004×12629E±007, h10km, n15, σ1§26/22, mb3.8/5, 1C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.11**	**226**	*e*P	**Pb**	**11 32 32.7**	**+0.5**
SCPH				*e*S	**Sb**	**11 32 46.5**	**-0.2**
BESP	**Borongan**	**1.33**	**321**	*e*P	**Pn**	**11 32 36.1**	**+0.7**
PLP	**Palo**	**1.42**	**295**	*e*P	**Pn**	**11 32 36.7**	**0.0**
PLP				*i* S	**Sn**	**11 32 55.0**	**-0.5**
LLP	**Lapu-Lapu**	**2.30**	**264**	*e*P	**Pn**	**11 32 50.3**	**+1.4**
LLP				*e*S	**Sn**	**11 33 14.1**	**-3.2**
BIPH	**Bislig**	**2.37**	**178**	⇑*i*P	**Pn**	**11 32 50.0**	**+0.3**
BIPH				*i* S	**Sn**	**11 33 16.8**	**-2.1**
TBP	**Tagbilaran**	**2.55**	**250**	*e*P	**Pn**	**11 33 03.2**	**+11**
TBP				*e*S	**Sn**	**11 33 31.1**	**+7.7**
CGP	**Cagayan de Oro**	**2.63**	**217**	⇓*e*P	**Pn**	**11 32 54.7**	**+1.4**
CGP				*e*S	**Sn**	**11 33 23.8**	**-1.4**
SNPH	**Sibulan**	**3.25**	**248**	*e*P	**Pn**	**11 33 05.5**	**+3.6**
RCP	**Roxas**	**3.62**	**286**	⇓*e*P	**Pn**	**11 33 08.8**	**+1.8**
PVCP	**Virac**	**3.67**	**325**	⇓*e*P	**Pn**	**11 33 07.4**	**-0.2**
PVCP				*e*S	**Sn**	**11 33 49.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**28.49**	**181**	P	**P**	**11 38 09.0**	**+2.8**
	0.8nm,0.3s,mb3.8,baz=14,slow=13,SNR=8.4						
ASAR	**Alice Springs**	**34.83**	**168**	P	**P**	**11 39 01.3**	**-0.6**
	0.3nm,0.3s,mb3.7,baz=349,slow=7.0,SNR=5.5						
SONM	**Songino Array**	**40.75**	**339**	P	**P**	**11 39 52.3**	**+0.3**
	0.3nm,0.3s,mb3.4,baz=148,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**51.81**	**323**	P	**P**	**11 41 17.9**	**-1.0**
	1.6nm,0.7s,mb4.0,baz=116,slow=8.2,SNR=9.1						
ZAL	**Zalesovo**	**54.38**	**331**	P	**P**	**11 41 36.5**	**-1.3**
	0.8nm,0.4s,mb4.0,baz=35,slow=13,SNR=3.0						

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*ISCJB **15** 11:40:10.8±1.0, 188S±02×1778W±03, h625km±37km, mb4.1/5, Error ellipse: s-maj=45.7km s-min=26.0km az=54.8*
*IDC **15** 11:40:10.9±1.8, 1860S×1781.5W, h567km±24km, mb3.6/4, mb1 3.6/6, mb1mx3.2/16, mbtmp4.5/6, Error ellipse: s-maj=45.9km s-min=20.0km az=147.0*
*NEIC **15** 11:40:11.2±0.8, 1872S×17800W, h586km±17km, mb3.8/1, Error ellipse: s-maj=30.1km s-min=14.3km az=136.0*

ISC 15 11:40:11.5±1.2, 188S±02×1780W±05, h582km±61km, n16, σ0§59/14, mb4.1/5, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.68**	**52**	P	**P**	**11 42 07.1**	**+0.1**
	2.9nm,0.3s,baz=95,slow=8.4,SNR=4.5						
RAO	**Raoul Island**	**10.44**	**180**	P	**P**	**11 42 33.8**	**-0.4**
	200nm,0.3s,baz=331,slow=21,SNR=5.6						
RAO	**Raoul Island**	**10.44**	**180**	*e*Pn	**P**	**11 42 34.1**	**-0.1**
DZM	**Mont Dzumac**	**14.95**	**255**	P	**P**	**11 43 20.0**	**+0.2**
	0.3nm,0.3s,baz=103,slow=18,SNR=4.2						
STKA	**Stephens Creek**	**38.57**	**242**	*e*P	**P**	**11 46 46.1**	**+0.7**
	4.6nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**38.57**	**242**	P	**P**	**11 46 45.9**	**+0.4**
	5.2nm,0.5s,mb4.3,baz=102,slow=9.1,SNR=10						
STKA	**Stephens Creek**	**38.57**	**242**	*e*P	**P**	**11 46 46.3**	**+0.9**
WB2	**Warramunga Arr**	**44.86**	**260**	*e*P	**P**	**11 47 33.6**	**-1.2**
WRA	**Warramunga Arr**	**44.87**	**260**	P	**P**	**11 47 33.9**	**-1.0**
	2.8nm,0.5s,mb4.0,baz=95,slow=7.3,SNR=119						
WRA				PcP	PcP	11 49 05.3	+1.6
	0.7nm,0.7s,baz=93,slow=3.4,SNR=3.8						
AS31	**Alice Springs**	**44.94**	**255**	⇓*i*P	**P**	**11 47 35.9**	**+0.5**
ASAR	**Alice Springs**	**44.94**	**255**	P	**P**	**11 47 35.9**	**+0.5**
	18nm,0.5s,mb4.9,baz=88,slow=8.7,SNR=504						
ASAR				PcP	PcP	11 49 05.7	+1.7
	0.7nm,0.5s,baz=105,slow=4.0,SNR=4.7						
ASPA	**Alice Springs**	**44.94**	**255**	⇓*i*P	**P**	**11 47 35.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.28**	**261**	P	**P**	**11 48 36.7**	**0.0**
	0.7nm,0.3s,mb3.4,baz=130,slow=8.2,SNR=8.1						
QSPA	**South Pole Qui**	**71.29**	**180**	*e*P	**P**	**11 50 40.2**	**+7.2**
	2.0nm,0.6s,mb3.8						
BRTR	**Keskin Array B**	**145.66**	**314**	PKPbc	PKPbc	11 58 45.5	-0.3
	0.6nm,0.5s,baz=90,slow=3.0,SNR=4.0						
GERES	**GERESS Array B**	**148.54**	**345**	PKPbc	PKPbc	11 58 52.9	-0.5
	0.6nm,0.5s,baz=28,slow=3.5,SNR=6.8						

GUC 15 11:50:28.8±0.8, 3261S×7126W, h51km±7km, MD3.5, ML2.2, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.42**	**150**	⇓*i*P	Pn	11 50 39.8	+0.6
ROCH				*i* S	Sn	11 50 48.3	+1.8
JACH	**Jahuel**	**0.57**	**97**	*i* P	Pn	11 50 41.2	+0.4
JACH				*i* S	Sn	11 50 51.1	+1.5
PEL	**Peldehue**	**0.72**	**138**	*e*P	Pn	11 50 41.8	-1.0
PEL				*i* S	Sn	11 50 54.5	+1.6
PEL				AML	AML	11 50 55.7	
	comp=N,208nm,0.3s						
LCCH	**Las Cruces**	**0.90**	**197**	*i* P	Pn	11 50 45.9	+0.7
LCCH				*i* S	Sn	11 50 57.6	+0.4
RCDM	**Rinconada Maip**	**0.95**	**157**	*e*P	Pn	11 50 46.3	+0.4
RCDM				*i* S	Sn	11 50 59.7	+1.2
RCDM				AML	AML	11 51 00.6	
	comp=N,173nm,0.1s						
TACH	**Talagante**	**1.07**	**166**	*i* P	Pn	11 50 48.2	+0.7
TACH				*i* S	Sn	11 51 02.7	+1.3
FCH	**Farellones**	**1.08**	**132**	*e*P	Pn	11 50 48.5	+0.9
FCH				*i* S	Sn	11 51 03.8	+2.2
FCH				AML	AML	11 51 05.0	
	comp=N,58nm,0.2s						
PCH	**Pirque**	**1.19**	**148**	*e*P	Pn	11 50 48.5	-0.5
PCH				*i* S	Sn	11 51 05.5	+1.5
CHCH	**Chadas Angostu**	**1.41**	**159**	*e*P	Pn	11 50 53.0	+0.8
CHCH				*i* S	Sn	11 51 11.4	+1.8

IDC 15 12:09:33.0±2.6, 1662S×17527W, h169km±20km, mb3.6/5, mb1 3.8/6, mb1mx3.6/14, mbtmp4.1/6, MS3.5/1, Ms1 3.4/1, ms1mx2.8/18, Error ellipse: s-maj=127.2km s-min=15.9km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.31**	**52**	P	Pn	12 10 39.8	+2.0
	7.1nm,0.3s,baz=251,slow=18,SNR=6.5						
AFI				S	Sn	12 11 28.3	0.0
	32nm,0.3s,baz=35,slow=23,SNR=15						
STKA	**Stephens Creek**	**41.88**	**241**	P	P	12 17 07.5	+1.0
	1.3nm,0.5s,baz=85,slow=10,SNR=4.0						
STKA				LR	LR	12 32 44.1	
	comp=Z,53nm,19.2s,baz=204,slow=33						
WB2	**Warramunga Arr**	**47.82**	**258**	*e*P	P	12 17 53.7	+0.2
WRA	**Warramunga Arr**	**47.83**	**258**	P	P	12 17 53.5	-0.1
	1.5nm,0.6s,baz=97,slow=6.9,SNR=42						
ASAR	**Alice Springs**	**48.03**	**253**	P	P	12 17 55.0	-0.2
	7.8nm,0.6s,baz=89,slow=8.5,SNR=94						
ASPA	**Alice Springs**	**48.04**	**253**	*e*P	P	12 17 55.0	-0.2
NVAR	**Mina Array Bea**	**76.43**	**43**	P	P	12 21 04.1	+0.1
	1.2nm,1.1s,baz=231,slow=8.0,SNR=4.5						
PDAR	**Pinedale Array**	**84.37**	**42**	P	P	12 21 45.8	-0.5
	0.4nm,0.8s,baz=151,slow=3.4,SNR=3.6						
BRTR	**Keskin Array B**	**145.92**	**318**	PKPbc	PKPbc	12 28 53.5	+0.9
	1.5nm,0.9s,baz=64,slow=2.9,SNR=5.6						
GERES	**GERESS Array B**	**147.03**	**349**	PKPbc	PKPbc	12 28 56.2	+0.3
	0.7nm,0.6s,baz=36,slow=2.5,SNR=6.5						

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*ISCJB **15** 12:24:50.5±0.4, 3707N±001×12151W±002, h11km±3km, mb4.2/8, MS4.0/9, Error ellipse: s-maj=2.9km s-min=1.9km az=97.7*
*BJI **15** 12:24:50.1, 37.10N×1215.0W, h5km, mB5.1, mb5.0, Ms5.0, Msz4.6*
*IDC **15** 12:24:51.4±1.9, 3700N×1213.6W, h0km, mb3.8/5, mb1 4.0/10, mb1mx3.9/25, mbtmp3.8/10, ML3.7/5, MS3.7/13, Ms1 3.7/13, ms1mx3.5/38, Error ellipse: s-maj=27.2km s-min=13.6km az=6.0*
*NEIC **15** 12:24:51.1, 37.10N×1214.9W, h3km, mb4.5/3, ML4.7(NCEDC), MW4.3(BRK), After NCEDC.*
NEIC Felt [IV] at Gilroy, La Honda, Morgan Hill, San Juan Bautista and San Martin; [III] at Albany, Aptos, Aromas, Belmont, Belvedere-Tiburon, Ben Lomond, Big Sur, Boulder Creek, Brisbane, Burlingame, Campbell, Carmel, Carmel Valley, Castro Valley, Cupertino, Daly City, Danville, Emmeryville, Felton, Fremont, Gustine, Hayward, Hollister, Los Altos, Los Banos, Los Gatos, Menlo Park, Mill Valley, Millbrae, Milpitas, Mountain View, Newark, Oakland, Palo Alto, Pebble Beach, Pescadero, Portola Valley, Redwood City, San Bruno, San Francisco, San Jose, San Leandro, San Lorenzo, San Mateo, San Rafael, Santa Clara, Santa Cruz, Scotts Valley, Soquel, South San Francisco, Stanford, Sunnyvale, Union City and Watsonville; [II] at Alameda, Atherton, Benicia, Berkely, Capitola, Concord, Corte Madera, Dublin, Fairfax, Half Moon Bay, Lafayette, Larkspur, Livermore, Marina, Martinez, Modesto, Monterey, Moraga, Moss Beach, Newman, Novato, Pacific Grove, Pacifica, Patterson, Pleasanton, Salinas, San Anselmo, San Carlos, San Ramon, San Saratoga, Seaside and Walnut Creek.
*MOS **15** 12:24:52.9±1.6, 3703N×1212.7W, h10km, mb5.0/1, Error ellipse: s-maj=23.9km s-min=12.5km az=165.1*

ISC 15 12:24:51.3±0.3, 3706N±001×12152W±002, h10km±2km, n184, σ1§17/210, mb4.2/8, MS4.0/9, 54C-62D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACP	**Pacheco Peak**	**0.20**	**106**	⇓P	**Pg**	**12 24 54.7**	**-0.8**
	baz=0.2,SNR=1000						
PACP				⇓S	**Sg**	**12 24 58.4**	**0.0**
	baz=0.2						
SAO	**San Andreas Ge**	**0.30**	**168**	*e*P	**Pg**	**12 24 58.2**	**+0.7**
S04C	**Ingram Canyon,**	**0.46**	**20**	⇑P	**Pg**	**12 24 59.4**	**-1.0**
	baz=0.4,SNR=1000						
S04C				⇓S	**Sg**	**12 25 06.6**	**+0.1**
	baz=0.4						
BNLO	**Ben Lomond**	**0.52**	**278**	⇑P	**Pg**	**12 25 01.3**	**-0.2**
	baz=0.5,SNR=1000						
BNLO				⇓S	**Sg**	**12 25 09.2**	**+0.8**
	baz=0.5						
WENL	**Wente Brothers**	**0.59**	**342**	⇑P	**Pg**	**12 25 02.1**	**-0.7**
	baz=0.6,SNR=464						
WENL				⇑S	**Sg**	**12 25 10.8**	**+0.3**
	baz=0.6						
JRSC	**Jasper Ridge**	**0.66**	**301**	P	**Pg**	**12 25 03.5**	**-0.7**
	baz=0.7,SNR=1000						
JRSC				⇑S	**Sg**	**12 25 13.4**	**+0.5**
	baz=0.7						
HAST	**Hastings Reser**	**0.67**	**182**	P	**Pg**	**12 25 04.5**	**+0.1**
	baz=0.7,SNR=1000						
HAST				⇑S	**Sg**	**12 25 14.2**	**+1.0**
	baz=0.7						
T05C	**Eagle Field, D**	**0.70**	**103**	⇑P	**Pg**	**12 25 05.0**	**+0.1**
	baz=0.7,SNR=1000						
T05C				⇑S	**Sg**	**12 25 16.5**	**+2.3**
	baz=0.7						
LRV	**Little Rabbit**	**0.76**	**147**	*e*Pg	**Pg**	**12 25 06.1**	**+0.1**
SAC	**San Andreas**	**0.88**	**306**	*e*P	**Pg**	**12 25 07.8**	**-0.5**
SAC				*e*S	**Sg**	**12 25 20.9**	**+1.1**
U04C	**Hernandez Rese**	**0.92**	**139**	P	**Pg**	**12 25 08.6**	**-0.5**
	baz=0.9,SNR=1000						
U04C				⇓S	**Sg**	**12 25 21.1**	**-0.1**
	baz=0.9						
BDM	**Black Diamond**	**0.93**	**343**	⇓P	**Pg**	**12 25 08.4**	**-0.9**
	baz=0.9,SNR=278						
S05C	**Merced**	**0.99**	**73**	P	**Pg**	**12 25 08.5**	**-2.0**
	baz=1.0,SNR=864						
S05C				⇓S	**Sg**	**12 25 22.1**	**-1.4**
	baz=1.0						
V03C	**Hunter Liggett**	**1.07**	**168**	P	**Pg**	**12 25 11.1**	**-0.8**
	baz=1.1,SNR=1000						
V03C				⇓S	**Sg**	**12 25 25.9**	**+0.2**
	baz=1.1						
R04C	**Big Horse Ranc**	**1.28**	**21**	P	**Pn**	**12 25 13.3**	**-2.0**
	baz=1.2,SNR=584						
R04C				⇓S	**Sb**	**12 25 30.8**	**-1.2**
	baz=1.2						
CMB	**Columbia Colle**	**1.33**	**43**	*e*P	**Pn**	**12 25 14.4**	**-1.4**
CMB				*e*S	**Sb**	**12 25 31.4**	**-1.9**
CMB	**Columbia Colle**	**1.33**	**43**	P	**Pn**	**12 25 14.2**	**-1.7**
	baz=1.3,SNR=746						
CMB				⇓S	**Sb**	**12 25 31.7**	**-1.6**
	baz=1.3						
FARB	**Farallon Islan**	**1.34**	**299**	⇓P	**Pn**	**12 25 13.9**	**-2.1**
	baz=1.3,SNR=76						
FARB				⇓S	**Sb**	**12 25 31.5**	**-2.1**
	baz=1.3						
U05C	**Westside ANR,**	**1.34**	**122**	⇓P	**Pn**	**12 25 14.9**	**-1.1**
	baz=1.3,SNR=35						
PKD	**Parkfield**	**1.37**	**144**	⇓P	**Pn**	**12 25 15.3**	**-1.2**
	baz=1.4,SNR=1000						
PKD				⇓S	**Sb**	**12 25 33.7**	**-0.8**
	baz=1.4						
T06C	**Millerton Lake**	**1.45**	**92**	⇓P	**Pn**	**12 25 16.0**	**-1.6**
	baz=1.4,SNR=150						
T06C				⇑S	**Sn**	**12 25 35.0**	**-1.7**
	baz=1.4						
CVS	**Carmenet Viney**	**1.48**	**330**	⇑P	**Pn**	**12 25 16.2**	**-1.7**
	baz=1.5,SNR=955						
CVS				⇑S	**Sn**	**12 25 35.7**	**-1.5**
	baz=1.5						
V04C	**Ramage Ranch,**	**1.52**	**159**	⇑P	**Pn**	**12 25 17.6**	**-0.9**
	baz=1.5,SNR=115						
V04C				⇓S	**Sn**	**12 25 37.6**	**-0.6**
	baz=1.5						
MCCM	**Marconi Confer**	**1.52**	**315**	*e*Pn	**Pn**	**12 25 16.8**	**-1.8**
MCCM				*e*Pg	**Pg**	**12 25 19.4**	**-1.2**
MCCM				*e*Sn	**Sn**	**12 25 39.9**	**+1.5**
MCCM	**Marconi Confer**	**1.52**	**315**	⇑P	**Pn**	**12 25 16.6**	**-2.0**
	baz=1.5,SNR=696						
MCCM				⇓S	**Sn**	**12 25 36.6**	**-1.9**
	baz=1.5						
S06C	**San Francisco**	**1.56**	**58**	⇑P	**Pn**	**12 25 17.7**	**-1.4**
	baz=1.5,SNR=860						
S06C				⇓S	**Sn**	**12 25 38.1**	**-1.3**
	baz=1.5						
Q03C	**Winters**	**1.61**	**346**	⇑P	**Pn**	**12 25 18.7**	**-1.1**
	baz=1.6,SNR=54						
NSHM	**Saint Helena R**	**1.69**	**330**	*e*Pn	**Pn**	**12 25 19.1**	**-1.7**
PTRM	**Twissleman Ran**	**1.76**	**143**	*e*Pn	**Pn**	**12 25 20.8**	**-1.1**
V05C	**Boulder Hill,**	**1.77**	**132**	⇑P	**Pn**	**12 25 21.0**	**-0.9**
	baz=1.8,SNR=29						
Q04C	**Lincoln**	**1.78**	**4**	⇓P	**Pn**	**12 25 20.6**	**-1.4**
	baz=1.7,SNR=85						
Q04C				⇓S	**Sn**	**12 25 43.4**	**-1.2**
	baz=1.7						
KCC	**Kaiser Creek**	**1.78**	**81**	⇓P	**Pn**	**12 25 21.2**	**-0.9**
	baz=1.7,SNR=137						
KCC				⇑S	**Sn**	**12 25 44.5**	**-0.2**
	baz=1.7						
LAVA	**Lava Cap Winer**	**1.80**	**20**	⇓P	**Pn**	**12 25 21.3**	**-1.1**
	baz=1.8,SNR=224						
LAVA				⇑S	**Sn**	**12 25 44.2**	**-1.1**
	baz=1.8						
MNRC	**McLaughlin Nat**	**1.95**	**338**	⇓P	**Pn**	**12 25 22.6**	**-1.8**
	baz=1.9,SNR=131						
R05C	**Kirkwood Meado**	**1.99**	**35**	⇑P	**Pn**	**12 25 25.7**	**+0.6**
	baz=2.0,SNR=438						
R05C				⇑S	**Sn**	**12 25 49.9**	**-0.1**
	baz=2.0						
SUTB	**Sutter Buttes**	**2.17**	**355**	⇑P	**Pn**	**12 25 25.6**	**-1.9**
	baz=2.1,SNR=28						
R06C	**Coleville**	**2.19**	**48**	P	**Pn**	**12 25 29.0**	**+1.2**
	baz=2.1,SNR=292						
MLAC	**Mammoth Lakes**	**2.22**	**74**	⇑P	**Pn**	**12 25 28.7**	**+0.7**
	baz=2.2,SNR=274						
R07C	**Lee Vining**	**2.22**	**62**	⇑P	**Pn**	**12 25 29.2**	**+1.1**
	baz=2.2						
OHCM	**Honcut**	**2.27**	**1**	*e*Pn	**Pn**	**12 25 27.9**	**-1.0**
OHCM				*e*Pg	**Pg**	**12 25 37.0**	**+2.2**
HOPS	**Hopland**	**2.28**	**328**	*e*Pn	**Pn**	**12 25 27.7**	**-1.3**
HOPS	**Hopland**	**2.28**	**328**	P	**Pn**	**12 25 27.5**	**-1.5**
	baz=2.3,SNR=151						
P05C	**Yuba Gap, Truc**	**2.35**	**18**	⇑P	**Pn**	**12 25 30.2**	**+0.4**
	baz=2.3,SNR=43						
MTUM	**Tungsten Hills**	**2.38**	**82**	*e*Pn	**Pn**	**12 25 31.6**	**+1.2**
ORV	**Oroville**	**2.49**	**0**	⇑P	**Pn**	**12 25 30.8**	**-1.0**
	baz=2.5,SNR=85						
TIN	**Tinemaha**	**2.64**	**89**	⇑P	**Pn**	**12 25 34.8**	**+0.9**
	baz=2.6,SNR=17						
S08C	**White Mtn Res**	**2.71**	**80**	⇓P	**Pn**	**12 25 35.4**	**+0.5**
	baz=2.7,SNR=421						
GASB	**Alder Springs**	**2.75**	**340**	⇓P	**Pn**	**12 25 35.6**	**+0.2**
	baz=2.7						
P01C	**Double 8 Ranch**	**2.79**	**330**	⇓P	**Pn**	**12 25 35.0**	**-1.0**
	baz=2.8,SNR=20						
ISA	**Isabella**	**2.83**	**119**	⇓P	**Pn**	**12 25 35.8**	**-0.8**
	baz=2.8,SNR=41						
ISA				⇑S	**Sn**	**12 26 10.3**	**-0.4**
	baz=2.8						
CWC	**Cottonwood Cre**	**

M06C Likely Place G 4.21 11 ⇑P Pn 12 25 56.7 +1.2
baz=4.2
N07B Gerlach 4.21 27 ⇑P Pn 12 25 55.9 +0.3
baz=4.2,SNR=12
TPNV Topopah Spring 4.22 90 *e*P **Pn 12 25 56.7 +1.0**
JCC Jacoby Creek 4.23 333 ⇓P Pn 12 25 55.7 0.0
baz=4.2,SNR=36
P09A Austin 4.25 53 ⇓P Pn 12 25 55.6 -0.5
baz=4.2
FMP Fort Macarthur 4.26 141 ⇑P Pn 12 25 56.2 0.0
baz=4.3
M05C Lookout 4.30 4 ⇓P Pn 12 25 56.0 -0.7
baz=4.3
M02C Callahan 4.44 347 ⇑P Pn 12 25 59.8 +1.1
baz=4.4,SNR=21
N08A GE Springer Mi 4.56 34 ⇓P Pn 12 25 59.4 -0.9
baz=4.5
O09A Fish Creek Ran 4.60 46 ⇓P Pn 12 26 00.5 -0.3
baz=4.5,SNR=15
M07A Soldier Meadow 4.69 22 ⇑P Pn 12 26 02.0 -0.1
baz=4.6,SNR=12
M04C Macdoel 4.72 357 ⇓P Pn 12 26 02.4 -0.1
baz=4.7
YBH Yreka Blue Hor 4.75 349 Pn **Pn 12 26 06.5 +3.5**
1.9nm,0.3s,baz=193,slow=4.9,SNR=22
YBH LR LR 12 28 14.5
comp=Z,657nm,18.5s,baz=173,slow=42
YBH Yreka Blue Hor 4.75 349 *e*Pn **Pn 12 26 05.7 +2.7**
YBH Yreka Blue Hor 4.75 349 ⇓P Pn 12 26 02.3 -0.7
baz=4.7
BMN Battle Mountai 4.76 44 *e*Pn **Pn 12 26 03.2 +0.2**
BMN *e*S **Sg 12 27 16.5 -7.5**
TUQ Turquoise Mtn. 4.81 108 ⇓P Pn 12 26 03.3 -0.4
baz=4.8,SNR=23
MOD Modoc 4.92 11 *e*Pn **Pn 12 26 09.1 +3.8**
M01C Crescent City 5.18 338 P **Pn 12 26 10.5 +1.6**
baz=5.2,SNR=115
L02A Cave Junction 5.34 343 ⇓P Pn 12 26 13.2 +2.3
baz=5.3,SNR=28
N10A Dunphy 5.35 45 ⇑P Pn 12 26 10.4 -0.8
baz=5.3
M09A Marrel Ranch, 5.38 35 ⇑P Pn 12 26 12.5 +1.0
baz=5.3
PFO Pinyon Flat Ob 5.39 128 ⇑P Pn 12 26 10.8 -0.9
baz=5.4
O11A Cowboy Ranch, 5.52 55 ⇑P Pn 12 26 13.1 -0.4
baz=5.5,SNR=10
KBO Bosley Butte 5.55 339 *e*Pn **Pn 12 26 15.7 +1.8**
HUMO Hull Mountain 5.64 349 *e*Pn **Pn 12 26 18.9 +3.7**
26nm,0.9s
HUMO Hull Mountain 5.64 349 ⇓P Pn 12 26 17.6 +2.4
baz=5.6
W12A Cal Nev Ari 5.66 106 ⇑P Pn 12 26 16.1 +0.6
baz=5.6
WVOR Wild Horse Val 5.81 22 *e*P **Pn 12 26 20.0 +2.6**
WVOR pmax pmax
comp=Z,101nm,1.0s
WVOR Wild Horse Val 5.81 22 *e*Pn **Pn 12 26 20.0 +2.5**
comp=Z,101nm,1.0s
N11A Elko Archery C 5.86 48 ⇓P Pn 12 26 18.1 -0.2
baz=5.8
ELK Elko 6.13 51 *e*P **Pn 12 26 21.7 -0.1**
ELK pmax pmax
comp=Z,83nm,1.2s
ELK Elko 6.13 51 *e*Pn **Pn 12 26 21.7 -0.1**
comp=Z,83nm,1.2s
ELK *e*S **Sg 12 28 01.5 -6.5**
KEBM Edson Butte 6.19 340 *e*Pn **Pn 12 26 25.3 +2.6**
N12A Wells--Clov Va 6.31 51 ⇑P Pn 12 26 24.3 -0.1
baz=6.3
J03A Ideyld Park 6.39 351 ⇓P Pn 12 26 29.8 +4.3
baz=6.4
ARUT Antelope Range 6.47 81 *e*P **Pn 12 26 28.1 +1.5**
CCUT Cedar City 6.52 83 *e*Pn **Pn 12 26 29.0 +1.7**
Y12C Blythe 6.61 118 ⇑P Pn 12 26 26.9 -1.5
baz=6.6,SNR=6.5
X13A Yucca 6.72 109 ⇓P Pn 12 26 29.7 -0.3
baz=6.7
M12A Wells 6.72 48 ⇓P Pn 12 26 29.7 -0.3
baz=6.7
GLA Glamis 6.79 124 ⇑P Pn 12 26 29.6 -1.4
baz=6.8
N13A West Wendover 6.84 54 ⇑S Sn 12 27 48.7 -0.9
baz=6.8
Y13A Salome 7.07 115 ⇓P Pn 12 26 33.7 -1.0
baz=7.1,SNR=16
W14A Seligman 7.08 103 ⇑P Pn 12 26 35.8 +0.9
baz=7.0
M13A Montello 7.14 51 ⇑P Pn 12 26 35.9 +0.1
baz=7.1
X14A Yava 7.48 108 ⇑P Pn 12 26 40.2 -0.2
baz=7.5
DUG Dugway 7.50 63 *e*P **Pn 12 26 43.2 +2.5**
DUG pmax pmax
comp=Z,58nm,1.2s
DUG Dugway 7.50 63 *e*Pn **Pn 12 26 43.2 +2.5**
comp=Z,58nm,1.2s
MSU Marysvale 7.54 76 *e*P **Pn 12 26 44.4 +3.1**
Y14A Wickenburg 7.62 112 ⇓P Pn 12 26 42.3 0.0
baz=7.6
BGU Big Grassy Mou 7.66 57 *e*Pn **Pn 12 26 44.4 +1.6**
H03A Soap Creek Ran 7.72 351 ⇑P Pn 12 26 44.7 +0.9
baz=7.7
Z14A Wintersburg 7.93 115 ⇓P Pn 12 26 45.8 -0.7
baz=7.9
NLU North Lily Min 7.95 66 *e*Pn **Pn 12 26 46.5 -0.4**
X15A Humboldt 7.97 106 ⇓P Pn 12 26 48.0 +0.8
baz=7.9
WUAZ Wupatki 8.34 98 *e*Pn **Pn 12 26 54.8 +2.6**
comp=Z,23nm,0.8s
WUAZ *e*Sg Sn 12 29 17.8 +51
115A Sonoran Desert 8.79 117 ⇓P Pn 12 26 57.4 -0.9
baz=8.8,SNR=6.0
SRU San Rafael 8.91 73 *e*P **Pn 12 27 04.7 +4.6**
SRU pmax pmax
comp=Z,29nm,0.9s
SRU San Rafael 8.91 73 *e*Pn **Pn 12 27 04.7 +4.7**
comp=Z,29nm,0.9s
116A Eloy 9.24 116 ⇓P Pn 12 27 03.6 -1.0
baz=9.2
PV10 Paradox Valley 9.98 79 *e*Pn **Pn 12 27 17.9 +3.2**
TUC Tucson 10.03 115 *e*P **Pn 12 27 14.5 -0.9**
TUC pmax pmax
comp=Z,7.0nm,0.8s
TUC Tucson 10.03 115 *e*Pn **Pn 12 27 14.4 -1.0**
comp=Z,7.2nm,0.8s
MCMT McKenzie Canyo 10.15 38 *e*Pn **Pn 12 27 22.7 +5.6**
PV01 Paradox Valley 10.34 80 *e*Pn **Pn 12 27 22.6 +3.0**
MVCO Mesa Verde 10.40 85 *e*Pn **Pn 12 27 22.8 +2.3**
DLMT Dillon 10.67 36 *e*Pn **Pn 12 27 27.5 +3.3**
comp=Z,34nm,1.1s
PDAR Pinedale Array 10.81 55 Pn **Pn 12 27 30.6 +4.6**
comp=Z,0.1nm,0.3s,baz=249,slow=11,SNR=16
PDAR LR LR 12 32 07.8
comp=Z,291nm,18.1s,baz=339,slow=41
NEW Newport 11.65 15 Pn **Pn 12 27 44.7 +7.1**
comp=Z,0.2nm,0.3s,baz=201,slow=15,SNR=8.1
NEW LR LR 12 31 54.8
comp=Z,216nm,18.4s,baz=195,slow=36
ANMO Albuquerque 12.38 95 Pn **Pn 12 27 47.3 -0.2**
comp=Z,0.1nm,0.3s,baz=313,slow=18,SNR=1.9
ANMO Lg 12 31 20.6
comp=Z,0.1nm,0.3s,baz=182,slow=19,SNR=3.4
ANMO LR LR 12 32 14.6
comp=Z,192nm,21.6s,baz=124,slow=36
ANMO Albuquerque 12.38 95 Pn **Pn 12 27 47.3 -0.2**
ANMO Lg 12 31 20.6
MNTX Cornudas Mount 14.36 107 *e*Pn **Pn 12 28 17.3 +2.8**
comp=Z,10nm,1.1s
RSSD Black Hills 15.03 57 *e*P **Pn 12 28 27.3 +3.7**
RSSD pmax pmax
comp=Z,32nm,1.5s
RSSD Black Hills 15.03 57 *e*P **Pn 12 28 27.3 +3.7**
comp=Z,32nm,1.5s
BBB Bella Bella 15.82 345 LR LR 12 34 41.4
comp=Z,137nm,20.8s,baz=41,slow=37
LPIG La Paz 16.11 140 LR LR 12 34 18.2
comp=Z,324nm,21.7s,baz=329,slow=36
AMTX Amarillo 16.21 92 *e*P **Pn 12 28 44.3 +5.2**
comp=Z,41nm,1.3s
LTX Lajitas 16.80 112 *e*P **Pn 12 28 49.0 +2.4**
LTX pmax pmax
comp=Z,36nm,1.5s
LTX Lajitas 16.80 112 *e*P **Pn 12 28 49.0 +2.4**
comp=Z,36nm,1.5s
EDM Edmonton 17.14 17 *e*P **Pn 12 28 52.5 +1.7**
DLBC Dease Lake 22.10 348 LR LR 12 38 33.4
comp=Z,290nm,19.2s,MS3.7,baz=344,slow=37
ULM Lac du Bonnet 22.62 46 P **P 12 29 53.1 +0.9**
comp=Z,4.0nm,1.0s,mb3.8,baz=242,slow=11,SNR=2.9
MIAR Mount Ida 22.78 88 *e*P **P 12 29 54.1 +0.3**
MIAR pmax pmax
comp=Z,35nm,1.2s,mb4.7
MIAR Mount Ida 22.78 88 *e*P **P 12 29 54.1 +0.3**
comp=Z,35nm,1.2s,mb4.7
YKA Yellowknife Ar 25.82 7 P **P 12 30 23.3 +0.8**
comp=Z,0.6nm,0.7s,mb3.2,baz=194,slow=8.8,SNR=9.9
YKA LR LR 12 41 06.8
comp=Z,113nm,20.7s,MS3.4,baz=180,slow=38
YKA Yellowknife Ar 25.82 7 P **P 12 30 23.3 +0.8**
INK Inuvik 32.01 352 P **P 12 31 21.0 +3.3**
comp=Z,4.9nm,1.0s,mb4.3,baz=154,slow=13,SNR=4.5
SCHQ Schefferville 40.80 46 LR LR 12 49 43.4
comp=Z,222nm,18.8s,MS4.0,baz=264,slow=37
PPT Papeete 60.44 211 LR LR 12 53 26.8
comp=Z,141nm,21.6s,MS4.1,baz=335,slow=28
ARCES ARCESS Array B 70.99 12 LR LR 13 06 53.1
comp=Z,69nm,20.0s,MS3.9,baz=211,slow=36
NOA NORSAR Array B 74.93 22 LR LR 13 08 41.0
comp=Z,27nm,21.4s,MS3.5,baz=315,slow=35
MDJ Mudanjiang 76.40 316 P **P 12 36 40.8 0.0**
MDJ AMB AMB
comp=Z,10.0nm,2.4s,mb4.3
MDJ AMB AMB
comp=Z,140nm,4.7s
CN2 Changchun 79.20 317 *e*P **P 12 36 55.8 -0.7**
CN2 *e*S S 12 46 53.5 -2.8
CN2 LR LR
comp=N,400nm,18.0s,MS5.0
CN2 LR LR
comp=E,400nm,18.0s,MS5.0
SONM Songino Array 85.28 330 P **P 12 37 31.8 +3.5**
comp=E,0.9nm,0.9s,mb3.9,baz=50,slow=2.2,SNR=5.0
GERES GERESS Array B 85.68 28 P **P 12 37 32.7 +2.4**
comp=E,0.1nm,0.2s,mb3.6,baz=253,slow=4.1,SNR=3.5
GERES LR LR 13 18 11.7
comp=E,73nm,18.4s,MS4.1,baz=92,slow=37
HHC Hu-ho-hao-te 88.48 323 *e*P **P 12 37 45.3 +1.4**
HHC PP PP 12 41 17.0 +5.2
HHC SKS 12 48 14.6
HHC S 12 48 33.4
HHC AMB AMB
comp=Z,80nm,5.1s
HHC LR LR
comp=N,240nm,12.6s,MS4.8
HHC LR LR
comp=E,150nm,16.6s,MS4.8
HHC LR LR
comp=Z,200nm,13.0s,MS4.7
SSE Sheshan 90.36 310 P **P 12 37 59.3 +6.7**
SSE AMB AMB
comp=Z,50nm,5.4s
NJ2 Nanjing 91.08 312 *e*P **P 12 37 59.8 +3.8**
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.4
WMQ Urumqi 95.24 339 *e*P **P 12 38 17.0 +1.8**
LZH Lanzhou 95.93 325 *e*P **P 12 38 19.5 +1.2**
LZH AP pP 12 38 23.5 +1.7
LZH XP sP 12 38 26.5 +3.4
LZH PP PP 12 42 13.1 +2.6
CD2 Chengdu 100.20 322 *e*P Pdif 12 38 35.4 -2.1

CSEM ***15*** *12:27:27.9,3761N×2091E,h19km,MD3.7/4,After ATH*
NEIC ***15*** *12:27:27.9,3761N×2091E,h19km,MD3.7(ATH),After ATH.*

ATH 15 12:27:27.9,3761N×2091E,h19km±1km,MD3.7/4,1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.62**	**336**	⇓*i*PN	Pn	12 27 40.0	-1.7
VLS				*e*SN	Sb	12 27 49.7	+1.3
RLS	**Riolos of Patr**	**0.63**	**44**	*e*PB	Pb	12 27 39.8	-0.5
RLS				*e*SN	Sb	12 27 49.3	+0.6
ITM	**Ithomi**	**0.92**	**118**	*e*PN	Pn	12 27 45.5	-0.2
EVR	**Evrytania**	**1.48**	**28**	*e*PN	Pn	12 27 55.5	+1.9
VLI	**Veliai**	**1.85**	**118**	*e*PN	Pn	12 28 00.9	+2.3

CASC 15 12:35:28.3±1.8,1176N×8601W,h191km±8km,MD3.6, 1C-4D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.42**	**117**	⇑*e*P	Pn	12 35 54.4	+0.4
CONN				*e*S	Sn	12 36 13.8	0.0
SSNN	**San Juan del S**	**0.49**	**162**	⇓*e*P	Pn	12 35 54.6	+0.3
SSNN				*e*S	Sn	12 36 14.9	+0.6
MADN	**Villa Maderas**	**0.58**	**127**	⇓*e*P	Pn	12 35 55.7	+1.1
COPN	**Copaltepe**	**0.71**	**306**	⇓*e*P	Pn	12 35 55.7	+0.4
COPN				*e*S	Sn	12 36 16.9	+0.8
LEON	**Leon**	**1.09**	**307**	⇓*e*P	Pn	12 35 57.4	-0.3
PRS1	**Puriscal**	**2.42**	**136**	*e*S	Sn	12 36 45.5	+1.7
LCR2	**La Lucha 2**	**2.81**	**135**	*e*P	Pn	12 36 15.8	+0.6
URSC	**Urasca**	**2.91**	**131**	*e*P	Pn	12 36 18.5	+2.2
BUS	**Buena Vista**	**3.11**	**134**	*e*P	Pn	12 36 21.3	+2.5

ISCJB ***15*** *12:58:13.5±0.4,1901N±005×1203E±0.1,h27km,mb4.1/17, Error ellipse: s-maj=15.3km s-min=6.5km az=152.3*
MOS ***15*** *12:58:14.3±0.8,1898N×12026E,h33km,mb4.5/4,Error ellipse: s-maj=25.4km s-min=11.2km az=106.1*
NEIC ***15*** *12:58:15.2±0.5,1898N×120.12E,mb4.5/5,Error ellipse: s-maj=16.1km s-min=8.7km az=80.0*
IDC ***15*** *12:58:15.3±0.6,1901N×12033E,h26km±3km,mb3.9/13, mb1 4.1/13,mb1mx4.0/21,mbtmp4.1/13,ML5.1/1,MS3.3/1, Ms1 3.3/1,ms1mx1.9/32,Error ellipse: s-maj=31.1km s-min=10.6km az=69.0*
MAN ***15*** *12:58:20.1,1854N×120.11E,h10km,mb4.0,ML5.0, MS10.0*
BJI ***15*** *12:58:24.5,1995N×11956E,h26km,mB4.6,mb4.3,Ms4.1, Msz3.9*

ISC 15 12:58:15.8±0.4,1901N±005×1202E±01,h28km, h28km±.5km:pP-P,n41,σ1°00/41,mb4.1/17,2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.00**	**130**	*e*P	**Pn**	**12 58 50.0**	**+2.3**
TGY	**Tagaytay City**	**4.93**	**172**	Pn	**Pn**	**12 59 26.5**	**-1.5**
73nm,0.3s,baz=124,slow=3.1,SNR=3.4							
YHNB	**Yeheng**	**5.73**	**11**	*e*Pn	**Pn**	**12 59 37.7**	**-1.3**
QZH	**Quanzhou**	**6.09**	**346**	P	**Pn**	**12 59 40.3**	**-3.6**
QZH				S	**Sn**	**13 00 46.1**	**-6.6**
QZH				LR	LR		
comp=N,720nm,11.5s							
QZH				LR	LR		
comp=E,950nm,11.2s							
QZH				LR	LR		
comp=Z,1μm,12.2s							
GZH	**Guangzhou**	**7.59**	**303**	P	**Pn**	**12 59 58.9**	**-5.6**
GZH				LR	LR		
comp=N,450nm,12.4s							
GZH				LR	LR		
comp=E,640nm,12.1s							
GZH				LR	LR		
comp=Z,990nm,12.5s							
QIZ	**Qiongzhong**	**9.82**	**272**	*e*Pn	**Pn**	**13 00 29.6**	**-5.5**
JOW	**Kunigami**	**10.75**	**42**	LR	LR	13 05 00.4	
comp=Z,167nm,19.8s,baz=256,slow=38							
CD2	**Chengdu**	**19.03**	**312**	P	**Pn**	**13 02 35.8**	**-0.5**
CD2				XP	sP	13 02 45.8	-0.8
CD2				PP		13 02 52.3	
CD2				AMB	AMB		
comp=Z,10.0nm,0.7s							
CD2				AMB	AMB		
comp=Z,30nm,4.2s							
CD2				LR	LR		
comp=N,370nm,11.4s							
CD2				LR	LR		
comp=Z,430nm,10.8s							
KSM	**Kuching**	**19.95**	**210**	*e*P	**Pn**	**13 02 45.5**	**-1.9**
BJT	**Baijiatuau**	**21.22**	**351**	*e*P	**P**	**13 02 59.8**	**+0.5**
BJT				pmax	pmax		
comp=Z,14nm,0.4s							
BJT	**Baijiatuau**	**21.22**	**351**	*e*P	**P**	**13 02 59.8**	**+0.5**
comp=Z,14nm,0.4s,mb4.6							
LZH	**Lanzhou**	**22.31**	**323**	*e*P	**P**	**13 03 12.4**	**+1.5**
LZH				AP		13 03 22.1	
LZH				XP	sP	13 03 27.0	+4.8
LZH				AMB	AMB		
comp=Z,90nm,1.5s,mb5.0							
LZH				AMB	AMB		
comp=Z,510nm,5.6s							
HHC	**Hu-ho-hao-te**	**23.00**	**343**	*e*P	**P**	**13 03 17.8**	**-0.4**
HHC				AP		13 03 27.0	
HHC				XP	sP	13 03 31.0	+1.5
HHC				PP		13 03 46.9	
HHC				S	**S**	**13 07 19.3**	**-7.6**
HHC				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.4							
HHC				AMB	AMB		
comp=Z,90nm,4.0s							
HHC				LR	LR		
comp=N,240nm,10.7s							
HHC				LR	LR		
comp=E,150nm,9.5s							
HHC				LR	LR		
comp=Z,360nm,11.9s							
MJAR	**Matsushiro Arr**	**23.56**	**38**	P	**P**	**13 03 21.9**	**-2.0**
comp=Z,1.4nm,0.9s,mb3.4,baz=212,slow=15,SNR=2.7							
PSI	**Prapat**	**26.34**	**235**	P	**P**	**13 03 49.5**	**+0.2**
comp=Z,5.3nm,1.0s,mb4.0,baz=279,slow=3.0,SNR=4.5							
SONM	**Songino Array**	**30.88**	**342**	P	**P**	**13 04 29.8**	**+0.1**
comp=Z,0.5nm,0.6s,mb3.5,baz=161,slow=9.3,SNR=4.7							
SONM				pP	pP	13 04 37.7	-0.3
comp=Z,1.7nm,0.7s,baz=160,slow=10,SNR=12							
FITZ	**Fitzroy Crossi**	**37.26**	**171**	*e*P	**P**	**13 05 24.3**	**-0.7**
comp=Z,12nm,1.0s,mb4.7							
FITZ				*es*P	sP	13 05 32.6	-4.2
FITZ	**Fitzroy Crossi**	**37.26**	**171**	P	**P**	**13 05 24.7**	**-0.3**
comp=Z,6.7nm,1.0s,mb4.4,baz=0.8,slow=8.6,SNR=8.1							
WRA	**Warramunga Arr**	**41.11**	**160**	P	**P**	**13 05 57.3**	**+0.1**
comp=Z,8.7nm,1.0s,mb4.3,baz=343,slow=9.1,SNR=23							
WB2	**Warramunga Arr**	**41.12**	**160**	*e*P	**P**	**13 05 57.2**	**0.0**
WB2				*es*P	sP	13 06 06.3	-2.8
MKAR	**Makanchi Array**	**41.58**	**320**	P	**P**	**13 06 01.1**	**+0.1**
comp=Z,1.3nm,0.8s,mb3.6,baz=114,slow=11,SNR=7.5							
MKAR				pP	pP	13 06 09.8	+0.3
comp=Z,3.8nm,0.8s,baz=118,slow=10,SNR=13							
MKAR	**Makanchi Array**	**41.58**	**320**	P	**P**	**13 06 01.1**	**+0.1**
MKAR				pP	pP	13 06 09.8	+0.3
ZAL	**Zalesovo**	**44.19**	**331**	P	**P**	**13 06 23.0**	**+0.8**
comp=Z,0.9nm,0.4s,mb3.9,baz=47,slow=4.1,SNR=3.8							
ZAL	**Zalesovo**	**44.19**	**331**	P	**P**	**13 06 23.0**	**+0.8**
AS31	**Alice Springs**	**44.47**	**162**	*e*P	**P**	**13 06 25.1**	**+0.7**
AS31				*es*P	sP	13 06 32.8	-3.5
ASPA	**Alice Springs**	**44.47**	**162**	*e*P	**P**	**13 06 25.1**	**+0.7**
ASPA				*es*P	sP	13 06 32.8	-3.5
ASAR	**Alice Springs**	**44.47**	**162**	P	**P**	**13 06 25.2**	**+0.8**
comp=Z,4.6nm,0.6s,mb4.4,baz=342,slow=6.6,SNR=80							
ASAR				pP	pP	13 06 32.8	-0.1
comp=Z,3.4nm,0.5s,baz=342,slow=6.7,SNR=16							
BVAR	**Borovoye Array**	**51.19**	**324**	P	**P**	**13 07 17.4**	**+1.0**
comp=Z,0.8nm,0.7s,mb3.8,baz=249,slow=36,SNR=3.1							
BVAR				pP	pP	13 07 25.7	+0.6
comp=Z,0.9nm,0.8s,baz=134,slow=11,SNR=3.2							
BVAR				PcP	PcP	13 08 32.3	+0.7
comp=Z,0.7nm,0.5s,baz=111,slow=3.7,SNR=2.9							
BVAR	**Borovoye Array**	**51.19**	**324**	P	**P**	**13 07 17.4**	**+0.9**
BVAR				*PP	pP	13 07 25.7	+0.6
BVAR						13 08 32.3	
BVAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
ZRNK	**Zerenda**	**51.95**	**323**	P	**P**	**13 07 22.9**	**+0.8**
ZRNK				*e*PP	pP	13 07 31.0	+0.3
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
ZRNK	**Zerenda**	**51.95**	**323**	P	**P**	**13 07 22.9**	**+0.8**
comp=Z,1.5nm,0.5s,mb4.2							
ZRNK				*e*pP	pP	13 07 31.0	+0.2
STKA	**Stephens Creek**	**54.59**	**158**	*e*P	**P**	**13 07 40.9**	**-0.7**
comp=Z,7.3nm,0.9s,mb4.7							
STKA				*es*P	sP	13 07 48.8	-4.8
STKA	**Stephens Creek**	**54.59**	**158**	P	**P**	**13 07 40.6**	**-0.9**
comp=Z,11nm,0.9s,mb4.9,baz=348,slow=7.3,SNR=12							
STKA				pP	pP	13 07 48.6	-1.6
comp=Z,7.8nm,0.7s,baz=325,slow=7.4,SNR=7.7							
GNI	**Garni**	**67.06**	**306**	⇑*e*P	**P**	**13 09 13.3**	**+6.9**
KIV	**Kislovodsk**	**68.19**	**311**	⇑*e*P	**P**	**13 09 14.4**	**+0.9**
FINES	**FINESS Array B**	**75.46**	**330**	P	**P**	**13 09 57.1**	**0.0**
comp=Z,0.8nm,0.5s,mb3.9,baz=182,slow=34,SNR=3.5							
FINES				pP	pP	13 10 05.0	-1.1
comp=Z,2.7nm,0.9s,baz=38,slow=9.6,SNR=2.8							
NB2	**NORSAR Subarra**	**82.36**	**332**	P	**P**	**13 10 34.6**	**-0.4**
comp=Z,1.8nm,0.8s,mb4.0,baz=65,slow=5.3							
NB2	**NORSAR Subarra**	**82.36**	**332**	P	**P**	**13 10 34.6**	**-0.4**
NB2				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1							
NOA	**NORSAR Array B**	**82.36**	**332**	P	**P**	**13 10 34.3**	**-0.7**
comp=Z,1.6nm,0.8s,mb4.0,baz=62,slow=5.1,SNR=4.5							
NOA				pP	pP	13 10 42.8	-1.3
comp=Z,0.3nm,0.5s,baz=61,slow=4.9,SNR=3.4							
GERES	**GERESS Array B**	**86.25**	**321**	P	**P**	**13 10 54.4**	**-0.3**
comp=Z,0.3nm,0.6s,mb3.7,baz=64,slow=4.6,SNR=3.5							
GERES				pP	pP	13 11 03.2	-0.7
comp=Z,0.6nm,0.7s,baz=72,slow=5.7,SNR=4.1							
QSPA	**South Pole Qui**	**108.83**	**180**	*e*Pdif	Pdif	13 12 35.7	-1.8

IDC 15 13:01:07.3±0.9,1895N×12132E,h0km,mb4.0/7, mb1 4.2/7,mb1mx3.9/19,mbtmp4.0/7,Error ellipse: s-maj=72.3km s-min=18.6km az=67.0,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**31.27**	**340**	P	P	13 07 29.9	+1.1
0.8nm,0.6s,baz=153,slow=9.5,SNR=5.5							
WRA	**Warramunga Arr**	**40.70**	**161**	P	P	13 08 49.4	-0.1
0.8nm,0.5s,baz=343,slow=9.1,SNR=5.3							
MKAR	**Makanchi Array**	**42.30**	**320**	P	P	13 09 02.2	-0.4
1.8nm,0.7s,baz=110,slow=10,SNR=5.7							
ASAR	**Alice Springs**	**44.10**	**163**	P	P	13 09 17.4	+0.2
1.7nm,0.5s,baz=342,slow=6.5,SNR=8.3							
STKA	**Stephens Creek**	**54.15**	**159**	P	P	13 10 34.9	+0.7
1.0nm,0.4s,baz=336,slow=11,SNR=3.1							
AKTO	**Aktyubinsk**	**58.66**	**318**	P	P	13 11 06.2	-0.1
0.9nm,0.5s,baz=53,slow=6.0,SNR=4.1							
YKA	**Yellowknife Ar**	**87.73**	**23**	P	P	13 13 57.3	-0.6
0.8nm,0.8s,baz=316,slow=4.9,SNR=6.1							

ISCJB ***15*** *13:06:21.5±0.7,596S±0.1×1515W±02,h10km,mb4.5/8, MS4.2/10,Error ellipse: s-maj=17.5km s-min=15.1km az=96.3*
IDC ***15*** *13:06:21.9±0.8,5944S×15152W,h0km,mb4.4/7, mb1 4.6/7,mb1mx4.4/13,mbtmp4.4/7,MS4.2/10, Ms1 4.2/10,ms1mx4.1/16,Error ellipse: s-maj=42.4km s-min=19.4km az=10.0*
NEIC ***15*** *13:06:23.4±0.6,5956S×15151W,h10km,mb5.1/2,Error ellipse: s-maj=21.2km s-min=16.0km az=8.0*

ISC 15 13:06:23.2±0.7,597S±01×1515W±02,h10km,n34, σ0°93/15,mb4.5/8,MS4.2/10,1D,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**22.75**	**201**	*e*P	**P**	**13 11 25.8**	**+0.3**
177nm,2.2s,mb5.1							
VNDA	**Vanda**	**23.56**	**203**	P	**P**	**13 11 35.5**	**+1.6**
2.9nm,1.1s,mb3.6,baz=56,slow=9.2,SNR=6.9							
VNDA				LR	LR	13 18 23.3	
comp=Z,410nm,20.7s,MS3.9,baz=75,slow=30							
URZ	**Urewera**	**29.27**	**303**	LR	LR	13 21 31.6	
comp=Z,511nm,19.9s,MS4.1,baz=249,slow=31							
TBI	**Tubuai**	**36.30**	**3**	*e*LR	LR	13 23 02.0	
955nm,28.8s,baz=186							
PPT	**Papeete**	**42.05**	**3**	*e*S	**S**	**13 20 33.7**	**-0.4**
144nm,24.2s							
PPT				*e*LR	LR	13 25 39.5	
938nm,25.5s,baz=193							
PPT	**Papeete**	**42.05**	**3**	LR	LR	13 27 15.0	
comp=Z,378nm,18.6s,MS4.3,baz=181,slow=30							
VNA1	**Neumayer--Stat**	**47.41**	**164**	*e*	**P**	**13 14 55.0**	**-2.7**
VNA1				*e*	pP	13 14 56.9	-4.0
VNA1				*e*		13 15 01.8	
AFI	**Afiamalu**	**48.07**	**333**	LR	LR	13 29 18.3	
comp=Z,373nm,22.0s,MS4.3,baz=207,slow=29							
MAW	**Mawson**	**50.57**	**196**	LR	LR	13 33 45.6	
comp=Z,268nm,21.9s,MS4.2,baz=345,slow=32							
SYO	**Syowa Base**	**51.39**	**185**	⇓*e*P	**P**	**13 15 27.0**	**-1.1**
STKA	**Stephens Creek**	**51.54**	**271**	P	**P**	**13 15 29.1**	**0.0**
8.0nm,0.8s,mb4.7,baz=144,slow=9.3,SNR=13							
STKA				LR	LR	13 33 08.4	
comp=Z,267nm,19.5s,MS4.3,baz=296,slow=31							

STKA Stephens Creek 51.54 271 *eP* **P 13 15 28.5 -0.7**
PLCA Paso Flores 51.62 107 P **P 13 15 30.1 +0.3**
2.7nm,1.1s,mb4.1,baz=209,slow=9.3,SNR=3.0
CTA **Charters Tower 58.92 284** P **P 13 16 22.9 +0.4**
17nm,1.0s,mb5.0,baz=157,slow=6.1,SNR=5.3
CTA LR LR 13 38 13.4
comp=Z,187nm,20.6s,MS4.2,baz=160,slow=32
CTAO Charters Tower 58.92 284 P **P 13 16 23.6 +1.1**
15nm,1.0s,mb5.0
ASAR Alice Springs 62.14 270 P **P 13 16 44.3 -0.1**
9.0nm,0.8s,mb5.0,baz=143,slow=6.7,SNR=40
ASPA Alice Springs 62.14 270 *eP* **P 13 16 44.2 -0.2**
ASPA *e* 13 16 50.6
WRA Warramunga Arr 65.02 273 P **P 13 17 03.3 -0.2**
5.5nm,1.0s,mb4.6,baz=155,slow=5.8,SNR=13
CPUP Villa Florida 69.69 107 P **P 13 17 33.9 +0.9**
2.5nm,0.8s,mb4.2,baz=201,slow=9.0,SNR=5.1
CPUP Villa Florida 69.69 107 P **P 13 17 33.9 +0.9**
LPAZ La Paz 72.74 93 LR LR 13 41 53.1
comp=Z,113nm,20.9s,MS4.1,baz=39,slow=29
ROSC El Rosal 87.70 76 LR LR 13 50 13.9
comp=Z,84nm,21.9s,MS4.1,baz=359,slow=30
BOSA Boshof 92.02 177 LR LR 13 56 02.5
comp=Z,350nm,21.6s,MS4.8,baz=199,slow=32
DAWY Dawson 123.74 6 PKPdf PKPdf 13 25 20.8 -0.4
DAWY *e* 13 25 24.0
HYB Hyderabad 124.59 243 *i* PKP PKPdf 13 25 23.0 +0.2
HYB Hyderabad 124.59 243 *eP* PKPdf 13 25 23.0 +0.2
YKA Yellowknife Ar 125.06 20 PKP PKPdf 13 25 22.3 -1.4
0.8nm,0.9s,baz=203,slow=2.5,SNR=6.4
YKA Yellowknife Ar 125.06 20 PKP PKPdf 13 25 22.3 -1.4
MDT Midelt 145.35 126 PKPbc PKPbc 13 25 59.0 -2.1
4.6nm,1.1s,baz=230,slow=6.9,SNR=3.7
MKAR Makanchi Array 146.32 272 PKPbc PKPbc 13 26 01.5 -2.6
4.8nm,0.7s,baz=104,slow=5.1,SNR=24
MKAR Makanchi Array 146.32 272 PKPbc PKPbc 13 26 01.5 -2.6
ZAL Zalesovo 149.48 284 PKPbc PKPbc 13 26 10.0 -2.6
0.7nm,0.4s,baz=315,slow=1.4,SNR=3.2
ZAL Zalesovo 149.48 284 PKPbc PKPbc 13 26 10.0 -2.6
ESDC Sonseca Array 151.44 120 PKPbc PKPbc 13 26 18.1 +0.8
1.4nm,0.6s,baz=268,slow=2.8,SNR=7.7

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*MAN **15** 13:06:33.5, 1900N×11981E, h14km, mb4.3, ML5.1, MS6.5*
*ISCJB **15** 13:06:34.6±0.3, 1901N±004×120.13E±006, h29km, mb4.3/33, MS4.2/14, Error ellipse: s-maj=8.8km s-min=4.4km az=138.2*
*MOS **15** 13:06:35.4±0.8, 1902N×12004E, h33km, mb4.8/8, Error ellipse: s-maj=17.6km s-min=8.4km az=103.2*
*NEIC **15** 13:06:36.4±0.2, 1901N×120.15E, mb4.8/10, Error ellipse: s-maj=9.8km s-min=5.0km az=86.0*
*HRVD **15** 13:06:36.4±0.4, 1905N×120.13E, h21km±1km, MW4.9/56, Centroid moment Tensor Solution. LP body waves: s12,c15;Mantle waves: s56,c81; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.97±.23; Mθθ2.01±.15; Mφφ-0.04±.15; Mrθ0.75±.25; Mθφ1.45±.08; Mφr-0.41±.28; Best double couple: M0=2.57500×1016 NP1:φ=39.00000°, δ=45.00000°, λ=-126.00000°. NP2: φ=265.00000°, δ=55.00000°, λ=-60.00000°. Principal axes: T 2.8090, Plg6.0000°, Azm334.0000°; N -0.4710, Plg24.0000°, Azm66.0000°; P -2.3410, Plg65.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **15** 13:06:36.1±0.5, 1900N×120.15E, h27km±3km, mb4.1/22, mb1 4.3/24, mb1mx4.2/27, mbtmp4.3/24, ML4.1/2, MS4.1/11, Ms1 4.1/11, ms1mx3.7/31 Error ellipse: s-maj=22.0km s-min=9.2km az=72.0*
*BJI **15** 13:06:39.9, 1943N×11954E, h28km, mB4.8, mb4.2, ML4.5, Ms4.6, Msz4.4*
ISC 15 13:06:36.7±0.3, 1903N±003×12010E±007, h31km, h31km±3km: pP-P, n76, σ0=99/77, mb4.4/33, MS4.2/14, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**2.67**	**170**	*eP*	**Pn**	**13 07 17.0**	**-0.5**
	13μm,2.0s						
PCPH	**Palayan**	**3.57**	**164**	*eP*	**Pn**	**13 07 30.0**	**+0.1**
TGY	**Tagaytay City**	**4.96**	**171**	*eP*	**Pn**	**13 07 45.0**	**-4.0**
TGY	**Tagaytay City**	**4.96**	**171**	Pn	**Pn**	**13 07 50.1**	**+1.1**
	22nm,0.3s,baz=242,slow=18,SNR=1.8						
NACB	**Ninganchiao**	**5.31**	**15**	*e*Pn	**Pn**	**13 07 54.5**	**+0.8**
GQP	**Guinayangan**	**5.56**	**156⇑**	*eP*	**Pn**	**13 07 58.4**	**+1.1**
YHNB	**Yeheng**	**5.74**	**12**	*e*Pn	**Pn**	**13 08 00.3**	**+0.6**
QZH	**Quanzhou**	**6.05**	**347**	P	**Pn**	**13 08 00.6**	**-3.4**
QZH				S	**Sn**	**13 09 06.6**	**-5.7**
QZH				LR	LR		
	comp=N,4μm,12.2s						
QZH				LR	LR		
	comp=E,1μm,10.4s						
QZH				LR	LR		
	comp=Z,5μm,12.2s						
GZH	**Guangzhou**	**7.49**	**304**	P	**Pn**	**13 08 19.9**	**-3.9**
GZH				SG	Sn	13 10 15.1	+27
GZH				LR	LR		
	comp=N,2μm,14.0s						
GZH				LR	LR		
	comp=E,3μm,10.9s						
GZH				LR	LR		
	comp=Z,4μm,11.8s						
QIZ	**Qiongzhong**	**9.71**	**272**	P	**Pn**	**13 08 49.6**	**-4.5**
QIZ				S	**Sn**	**13 10 33.8**	**-8.3**
QIZ				LR	LR		
	comp=N,1μm,10.7s						
QIZ				LR	LR		
	comp=E,800nm,11.2s						
QIZ				LR	LR		
	comp=Z,1μm,12.7s						
QIZ	**Qiongzhong**	**9.71**	**272**	*e*Pn	**Pn**	**13 08 49.4**	**-4.7**
	comp=Z,22nm,0.6s						
JOW	**Kunigami**	**10.82**	**43**	Pn	**Pn**	**13 09 07.7**	**-1.7**
	comp=Z,2.3nm,0.3s,baz=160,slow=17,SNR=8.3						
JOW				LR	LR	13 13 31.8	
	comp=Z,928nm,18.7s,baz=123,slow=38						
XAN	**Xi'an**	**17.97**	**329**	P	**Pn**	**13 10 41.6**	**-2.5**
XAN				AP	pP	13 10 52.3	-0.2
XAN				AMB	AMB		
	comp=Z,10.0nm,1.7s						
CD2	**Chengdu**	**18.94**	**312**	*eP*	**Pn**	**13 10 56.9**	**+1.1**
CD2				XP	sP	13 11 06.9	-0.2
CD2				PP		13 11 13.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=E,1μm,13.2s						
CD2				LR	LR		
	comp=Z,1μm,12.0s						
KSM	**Kuching**	**19.91**	**210**	*eP*	**Pn**	**13 11 06.1**	**-1.3**
BJT	**Baijiatuau**	**21.20**	**352**	*eP*	**P**	**13 11 20.1**	**+0.5**
BJT				pmax	pmax		
	comp=Z,116nm,1.4s						
BJT	**Baijiatuau**	**21.20**	**352**	*eP*	**P**	**13 11 20.1**	**+0.5**
	comp=Z,116nm,1.4s,mb5.0						
LZH	**Lanzhou**	**22.23**	**323**	*eP*	**P**	**13 11 31.0**	**+0.3**
LZH				AP		13 11 37.4	
LZH				XP	sP	13 11 41.9	-0.9
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,330nm,4.4s						
LZH				LR	LR		
	comp=N,2μm,11.0s						
LZH				LR	LR		
	comp=Z,2μm,11.9s,MS4.8						
HHC	**Hu-ho-hao-te**	**22.95**	**343**	*eP*	**P**	**13 11 37.4**	**-0.9**
HHC				AP		13 11 46.5	
HHC				XP	sP	13 11 50.4	-0.1
HHC				PP		13 12 07.6	
HHC				PCP	PcP	13 15 26.9	-0.9
HHC				S	**S**	**13 15 43.3**	**-3.2**
HHC				XS	sS	13 15 56.8	-4.2
HHC				SCP	ScP	13 19 01.3	-2.0
HHC				PCS	PcS	13 19 05.5	-1.3
HHC				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.1						
HHC				AMB	AMB		
	comp=Z,210nm,5.2s						
HHC				LR	LR		
	comp=N,920nm,11.1s,MS4.5						
HHC				LR	LR		
	comp=E,360nm,14.2s,MS4.5						
HHC				LR	LR		
	comp=Z,760nm,13.1s,MS4.3						
BTO	**Baotou**	**23.18**	**340**	*eP*	**P**	**13 11 38.3**	**-2.5**
MAJO	**Matsushiro**	**23.61**	**39**	P	**P**	**13 11 49.5**	**+4.5**
MAJO				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.5						
MAJO	**Matsushiro**	**23.61**	**39**	P	**P**	**13 11 49.5**	**+4.5**
	comp=Z,27nm,1.3s,mb4.5						
MAT	**Matsushiro**	**23.61**	**39**	P	**P**	**13 11 43.9**	**-1.1**
MAT				*e*S	**S**	**13 15 59.2**	**+1.9**
MJAR	**Matsushiro Arr**	**23.62**	**39**	P	**P**	**13 11 44.8**	**-0.3**
	comp=Z,2.2nm,0.9s,mb3.6,baz=232,slow=8.6,SNR=5.2						
GUMO	**Guam**	**24.36**	**99**	LR	LR	13 21 29.8	
	comp=Z,165nm,18.2s,MS3.6,baz=280,slow=37						
PSI	**Prapat**	**26.25**	**235**	P	**P**	**13 12 09.0**	**0.0**
	comp=Z,6.6nm,0.7s,mb4.3,baz=11,slow=3.7,SNR=7.4						
PSI				LR	LR	13 21 10.0	
	comp=Z,141nm,19.7s,MS3.5,baz=161,slow=33						
GTA	**Gaotai**	**26.83**	**323**	*eP*	**P**	**13 12 14.4**	**+0.1**
GTA				AP	pP	13 12 24.3	+1.2
GTA				XP	sP	13 12 28.3	+1.4
GTA				AMB	AMB		
	comp=Z,150nm,7.2s						
GTA				LR	LR		
	comp=N,530nm,10.6s,MS4.6						
GTA				LR	LR		
	comp=E,760nm,11.8s,MS4.6						
GTA				LR	LR		
	comp=Z,760nm,11.4s,MS4.5						
SONM	**Songino Array**	**30.83**	**342**	P	**P**	**13 12 50.2**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.7,baz=154,slow=7.9,SNR=7.1						
SONM				pP	pP	13 12 59.2	+0.4
	comp=Z,1.6nm,0.6s,baz=162,slow=9.7,SNR=10						
SONM				LR	LR	13 25 16.0	
	comp=Z,419nm,21.9s,MS4.0,baz=149,slow=36						
SONM	**Songino Array**	**30.83**	**342**	P	**P**	**13 12 50.2**	**+0.4**
SONM				pP	pP	13 12 59.2	+0.4
KAKA	**Kakadu**	**33.80**	**158**	*eP*	**P**	**13 13 14.6**	**-1.2**
	comp=Z,16nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**37.29**	**171**	*eP*	**P**	**13 13 45.2**	**-0.6**
	comp=Z,15nm,1.0s,mb4.8						
FITZ				*e*sP	sP	13 13 53.8	-4.8
FITZ	**Fitzroy Crossi**	**37.29**	**171**	P	**P**	**13 13 45.2**	**-0.6**
	comp=Z,7.8nm,0.8s,mb4.6,baz=7.8,slow=6.4,SNR=24						
FITZ				pP	pP	13 13 54.0	-0.9
	comp=Z,2.1nm,0.7s,baz=343,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**41.16**	**159**	P	**P**	**13 14 17.6**	**-0.5**
	comp=Z,13nm,1.0s,mb4.5,baz=341,slow=9.1,SNR=39						
WRA				PcP	PcP	13 16 16.8	-0.3
	comp=Z,2.5nm,0.7s,baz=343,slow=3.5,SNR=8.8						
WB2	**Warramunga Arr**	**41.17**	**159**	*eP*	**P**	**13 14 17.7**	**-0.5**
WB2				*e*sP	sP	13 14 26.0	-5.0
MKAR	**Makanchi Array**	**41.50**	**321**	P	**P**	**13 14 22.2**	**+1.3**
	comp=Z,3.4nm,0.8s,mb4.0,baz=117,slow=9.8,SNR=17						
MKAR				pP	pP	13 14 29.9	-0.1
	comp=Z,5.6nm,0.7s,baz=120,slow=9.3,SNR=18						
MKAR	**Makanchi Array**	**41.50**	**321**	P	**P**	**13 14 22.2**	**+1.3**
MKAR				pP	pP	13 14 29.9	-0.1
ZAL	**Zalesovo**	**44.13**	**331**	P	**P**	**13 14 43.7**	**+1.5**
	comp=Z,1.4nm,0.8s,mb3.8,baz=22,slow=12,SNR=5.7						
ZAL				LR	LR	13 34 24.7	
	comp=Z,383nm,20.0s,MS4.3,baz=343,slow=38						
AS31	**Alice Springs**	**44.52**	**162**	*eP*	**P**	**13 14 45.5**	**+0.2**
AS31				*e*sP	sP	13 14 54.4	-3.7
ASAR	**Alice Springs**	**44.52**	**162**	P	**P**	**13 14 45.5**	**+0.2**
	comp=Z,6.7nm,0.5s,mb4.7,baz=340,slow=7.0,SNR=144						
ASAR				pP	pP	13 14 54.2	-0.3
	comp=Z,10.0nm,0.7s,baz=338,slow=7.0,SNR=18						
ASPA	**Alice Springs**	**44.52**	**162**	*eP*	**P**	**13 14 45.5**	**+0.2**
ASPA				*e*sP	sP	13 14 54.4	-3.8
FORT	**Forrest**	**50.10**	**171**	*eP*	**P**	**13 15 29.0**	**+0.2**
	comp=Z,8.6nm,0.7s,mb4.9						
FORT				*e*sP	sP	13 15 37.8	-3.9
BVAR	**Borovoye Array**	**51.12**	**324**	P	**P**	**13 15 37.8**	**+1.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=134,slow=12,SNR=3.4						
BVAR				PcP	PcP	13 16 51.6	-0.2
	comp=Z,1.4nm,0.7s,baz=103,slow=3.2,SNR=4.7						
NWAO	**Narrogin (SRO)**	**51.73**	**183**	P	**P**	**13 15 41.4**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8,baz=358,slow=7.2,SNR=6.1						
ZRNK	**Zerenda**	**51.87**	**323**	*eP*	**P**	**13 15 41.5**	**-0.6**
ZRNK				*e*PP	pP	13 15 51.8	+0.4
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**51.87**	**323**	*eP*	**P**	**13 15 41.5**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.2						
ZRNK				*e*pP	pP	13 15 51.8	+0.4
TIXI	**Tiksi**	**52.88**	**3**	*eP*	**P**	**13 15 49.9**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
STKA	**Stephens Creek**	**54.65**	**158**	*eP*	**P**	**13 16 01.3**	**-1.2**
	comp=Z,13nm,0.9s,mb5.0						
STKA				*e*sP	sP	13 16 09.9	-5.6
STKA	**Stephens Creek**	**54.65**	**158**	P	**P**	**13 16 01.3**	**-1.2**
	comp=Z,16nm,0.9s,mb5.1,baz=346,slow=7.5,SNR=13						
BILL	**Bilibino**	**56.86**	**19**	*eP*	**P**	**13 16 19.0**	**+0.6**
BILL				*e*PP	pP	13 16 27.7	-0.1
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BILL	**Bilibino**	**56.86**	**19**	*eP*	**P**	**13 16 18.9**	**+0.6**
	comp=Z,4.9nm,0.9s,mb4.5						
BILL				*e*pP	pP	13 16 27.7	0.0
AKTK	**Aktyubinsk**	**57.84**	**318**	P	**P**	**13 16 25.9**	**+0.6**
AKTO	**Aktyubinsk**	**57.84**	**318**	P	**P**	**13 16 25.9**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.1,baz=92,slow=15,SNR=6.4						
AKTO				LR	LR	13 43 01.4	
	comp=Z,241nm,19.2s,MS4.3,baz=18,slow=38						
TOO	**Toolangi**	**61.16**	**157**	*eP*	**P**	**13 16 50.2**	**+2.0**
	comp=Z,7.6nm,0.7s,mb4.9						
TOO	**Toolangi**	**61.16**	**157**	*eP*	**P**	**13 16 50.2**	**+2.0**
TOO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
KIV	**Kislovodsk**	**68.10**	**311**	*eP*	**P**	**13 17 34.8**	**+1.3**
KIV				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
KIV				MLR	MLR		
	comp=Z,161nm,20.0s,MS4.2						
JOF	**Joensuu**	**72.71**	**331**	*ep*	**P**	**13 18 00.8**	**-0.8**
MCK	**McKinley**	**73.55**	**28**	*eP*	**P**	**13 18 07.0**	**+0.4**
ARCES	**ARCESS Array B**	**73.94**	**339**	P	**P**	**13 18 09.2**	**+0.3**
	comp=Z,7.7nm,1.0s,mb4.6,baz=60,slow=13,SNR=3.8						
ARCES				pP	pP	13 18 17.7	-0.8
	comp=Z,3.1nm,0.6s,baz=69,slow=6.6,SNR=2.5						
ARCES				LR	LR	13 54 53.1	
	comp=Z,111nm,19.6s,MS4.2,baz=68,slow=39						
ARCES	**ARCESS Array B**	**73.94**	**339**	P	**P**	**13 18 09.2**	**+0.3**
ARCES				pP	pP	13 18 17.7	-0.8
FINES	**FINESS Array B**	**75.39**	**330**	P	**P**	**13 18 17.1**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=108,slow=6.2,SNR=4.8						
FINES				pP	pP	13 18 26.4	-0.6
	comp=Z,1.6nm,0.5s,baz=52,slow=5.4,SNR=3.2						
FINES				LR	LR	13 53 57.9	
	comp=Z,170nm,18.2s,MS4.4,baz=345,slow=38						
FINES	**FINESS Array B**	**75.39**	**330**	P	**P**	**13 18 17.1**	**-0.2**
FINES				pP	pP	13 18 26.4	-0.6
BRTR	**Keskin Array B**	**75.45**	**307**	P	**P**	**13 18 18.4**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=107,slow=27,SNR=3.7						
AKASG	**Malin Array Be**	**76.06**	**319**	P	**P**	**13 18 20.5**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=68,slow=4.8,SNR=4.1						
AKASG				pP	pP	13 18 29.2	-1.6
	comp=Z,1.3nm,0.5s,baz=63,slow=6.0,SNR=3.6						
INK	**Inuvik**	**78.37**	**21**	LR	LR	14 00 38.9	
	comp=Z,70nm,18.5s,MS4.0,baz=299,slow=41						
MLR	**Muntele Rosu**	**79.51**	**314**	P	**P**	**13 18 40.6**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=335,slow=17,SNR=3.5						
HFS	**Hagfors**	**81.56**	**331**	P	**P**	**13 18 50.3**	**-1.0**
	comp=Z,1.6nm,0.7s,mb4.0,baz=97,slow=7.6,SNR=4.6						
HFS				pP	pP	13 18 59.4	-1.6
	comp=Z,1.7nm,0.5s,baz=96,slow=4.5,SNR=3.7						
NB2	**NORSAR Subarra**	**82.30**	**332**	P	**P**	**13 18 53.9**	**-1.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=63,slow=5.1						
NB2	**NORSAR Subarra**	**82.30**	**332**	P	**P**	**13 18 53.9**	**-1.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**82.30**	**332**	P	**P**	**13 18 54.3**	**-0.9**
	comp=Z,2.4nm,0.8s,mb4.2,baz=64,slow=5.1,SNR=6.4						
NOA				pP	pP	13 19 03.2	-1.7
	comp=Z,1.5nm,0.6s,baz=65,slow=5.0,SNR=5.5						
NOA				LR	LR	13 58 17.4	
	comp=Z,238nm,19.1s,MS4.6,baz=60,slow=38						
NOA	**NORSAR Array B**	**82.30**	**332**	P	**P**	**13 18 54.3**	**-0.9**
NOA				pP	pP	13 19 03.2	-1.7
GERES	**GERESS Array B**	**86.17**	**321**	P	**P**	**13 19 15.0**	**+0.1**
	comp=Z,0.6nm,0.6s,mb4.0,baz=68,slow=4.9,SNR=7.0						
GERES				pP	pP	13 19 24.5	-0.2
	comp=Z,0.4nm,0.5s,baz=55,slow=7.0,SNR=3.3						
GERES				LR	LR	14 03 37.9	
	comp=Z,75nm,19.0s,MS4.1,baz=212,slow=40						
GERES	**GERESS Array B**	**86.17**	**321**	P	**P**	**13 19 15.0**	**+0.1**
GERES				pP	pP	13 19 24.5	-0.2
YKA	**Yellowknife Ar**	**88.10**	**22**	P	**P**	**13 19 24.7**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.3,baz=316,slow=4.8,SNR=22						
YKA				pP	pP	13 19 32.8	-1.2
	comp=Z,2.1nm,0.7s,baz=314,slow=4.4,SNR=11						
YKA	**Yellowknife Ar**	**88.10**	**22**	P	**P**	**13 19 24.8**	**+0.6**
YKA				pP	pP	13 19 32.8	-1.2
VNDA	**Vanda**	**99.36**	**172**	P	**P**	**13 20 16.3**	**+0.4**
	comp=Z,0.7nm,1.0s,mb4.2,baz=316,slow=5.1,SNR=4.0						
SDV	**Santo Domingo**	**150.31**	**22**	*e*PKPdf	PKPdf	13 26 22.2	+2.7
SDV				*e*PKPbc	PKPbc	13 26 26.2	+1.4

IDC 15 13:25:29.7±3.6, 2119N×14407E, h193km±36km, mb3.3/6, mb1 3.5/7, mb1mx3.4/21, mbtmp3.9/7, Error ellipse: s-maj=56.9km s-min=13.9km az=104.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**6.12**	**344**	P	Pn	13 26 59.0	+0.5
	4.3nm,0.3s,baz=277,slow=20,SNR=8.6						
CBIJ				S	Sn	13 28 08.9	+0.3
	11nm,0.3s,baz=281,slow=23,SNR=8.3						
WRA	**Warramunga Arr**	**41.97**	**194**	P	P	13 33 02.0	+0.3
	0.4nm,0.3s,baz=14,slow=8.4,SNR=20						
FITZ	**Fitzroy Crossi**	**43.02**	**206**	P	P	13 33 10.7	+0.6
	2.0nm,0.9s,baz=23,slow=16,SNR=6.4						
ASAR	**Alice Springs**	**45.67**	**193**	P	P	13 33 30.6	-0.6
	0.3nm,0.6s,baz=12,slow=9.1,SNR=6.5						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	P	13 36 58.2	-0.2
	0.9nm,0.6s,baz=292,slow=5.5,SNR=8.2						
ARCES	**ARCESS Array B**	**79.66**	**342**	P	P	13 37 15.4	-0.2
	2.5nm,0.9s,baz=76,slow=7.6,SNR=3.8						
NVAR	**Mina Array Bea**	**82.81**	**52**	P	P	13 37 32.9	+0.6
	0.6nm,0.6s,baz=281,slow=4.7,SNR=5.9						

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*MOS **15** 13:37:36.4±1.4, 6308N×17884E, h10km, mb4.2/4, Error ellipse: s-maj=27.6km s-min=22.1km az=95.3*
*ISCJB **15** 13:37:37.3±0.8, 632N±02×1787E±0.1, h10km, mb3.7/6, MS3.1/1, Error ellipse: s-maj=22.1km s-min=9.3km az=175.4*
*IDC **15** 13:37:37.7±1.8, 6348N×17868E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.7/5, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=78.2km s-min=25.0km az=178.0*
ISC 15 13:37:38.6±0.8, 631N±02×1788E±01, h10km, n15, σ1=23/14, mb3.7/6, MS3.1/1, 1C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**7.17**	**319**	*e i* P	**Pn**	**13 39 24.9**	**+1.4**
MA2	**Magadan**	**13.83**	**268**	*eP*	**Pn**	**13 40 55.1**	**+0.5**
COLA	**College**	**14.66**	**68**	*eP*	**Pn**	**13 41 07.5**	**+1.5**
INK	**Inuvik**	**19.88**	**54**	P	**Pn**	**13 42 09.3**	**-2.2**
	0.4nm,0.3s,baz=301,slow=12,SNR=9.4						
TIXI	**Tiksi**	**20.38**	**316**	*eP*	**P**	**13 42 14.7**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YAK	**Yakutsk**	**22.21**	**290**	*eP*	**P**	**13 42 34.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
DLBC	**Dease Lake**	**24.87**	**77**	LR	LR	13 52 12.7	
	comp=Z,66nm,21.2s,MS3.1,baz=116,slow=35						
YSS	**Yuzh-Sakhalins**	**25.72**	**248**	*eP*	**P**	**13 43 08.1**	**-1.0**
YSS				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.4						
YKA	**Yellowknife Ar**	**29.26**	**61**	P	**P**	**13 43 37.9**	**-2.8**
	comp=Z,0.2nm,0.3s,mb3.3,baz=302,slow=8.5,SNR=2.4						
YKA	**Yellowknife Ar**	**29.26**	**61**	P	**P**	**13 43 37.9**	**-2.9**
ULN	**Ulaanbaatar**	**41.02**	**283**	*eP*	**P**	**13 45 23.1**	**+1.2**
SONM	**Songino Array**	**41.33**	**284**	P	**P**	**13 45 23.7**	**-0.7**
	comp=Z,1.1nm,1.0s,mb3.5,baz=54,slow=9.8,SNR=5.9						
SONM	**Songino Array**	**41.33**	**284**	P	**P**	**13 45 23.7**	**-0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NVAR	**Mina Array Bea**	**44.46**	**93**	P	**P**	**13 45 50.5**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.1,baz=298,slow=7.7,SNR=3.6						
PDAR	**Pinedale Array**	**44.95**	**82**	P	**P**	**13 45 54.6**	**+0.9**
	comp=Z,0.8nm,0.6s,mb3.7,baz=352,slow=5.5,SNR=3.4						

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*MOS **15** 13:43:40.9±3.0, 5811N×16868E, h12km, mb3.7/1, Error ellipse: s-maj=51.7km s-min=28.7km az=101.8*
*ISCJB **15** 13:44:22.3±1.8, 6087N±005×1658E±0.3, h6km±19km, Error ellipse: s-maj=22.4km s-min=6.8km az=29.2*
*KRSC **15** 13:44:23.3±0.7, 6080N×16600E, h20km±4km, ML3.8*
ISC 15 13:44:23.5±1.6, 6085N±007×1659E±03, h10km±17km, n11, σ0=89/14, 1C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.43**	**172**	*eP*	**Pg**	**13 44 31.2**	**-0.7**
TILR				*e*S	**Sg**	**13 44 37.5**	**0.0**
KAMR	**Kamenskoye**	**1.61**	**5**	*i* P	**Pn**	**13 44 51.6**	**-0.4**
KAMR				*e*S	**Sn**	**13 45 12.2**	**-0.7**
KAMR				Smax			
	2μm,1.1s						
OSSR	**Ossora**	**2.16**	**223**	*eP*	**Pn**	**13 44 59.5**	**0.0**
OSSR				*e*S	**Sn**	**13 45 25.4**	**-0.9**
EVNR	**Evensk**	**3.38**	**291**	*eP*	**Pn**	**13 45 16.6**	**+0.3**
KBTR	**Krutoberegovo**	**4.94**	**201**	*eP*	**Pn**	**13 45 38.6**	**+0.9**
BILL	**Bilibino**	**7.22**	**

0.2nm,0.4s,mb2.7,baz=1.3,slow=8.1,SNR=12
ASAR Alice Springs 54.44 186 P **P 13 54 36.5 +0.6**
0.1nm,0.4s,mb2.4,baz=356,slow=5.3,SNR=4.7
FINES FINESS Array B 73.47 333 P **P 13 56 38.2 +0.1**
0.7nm,0.5s,mb3.4,baz=52,slow=7.5,SNR=4.1

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*NEIC **15** 14:07:24.3±0.6, 1920N×12082E, mb4.4/2, Error ellipse: s-maj=25.2km s-min=10.7km az=78.0*
*IDC **15** 14:07:24.2±0.8, 1924N×12085E, h25km±5km, mb3.7/8, mb1 3.9/8, mb1mx3.8/18, mbtmp3.9/8, Error ellipse: s-maj=41.4km s-min=14.0km az=68.0*
*ISCJB **15** 14:07:25.2±2.8, 193N±01×1209E±02, h53km±26km, mb3.9/11, Error ellipse: s-maj=26.5km s-min=14.6km az=126.0*
*BJI **15** 14:07:30.2, 1975N×120.13E, h26km, mb4.3*
*MAN **15** 14:07:44.3, 1764N×12055E, h14km, MS2.7*
ISC 15 14:07:26.4±2.4, 193N±01×1209E±01, h46km±23km, h26km±2.6km; pP-P, n20, σ0§99/20, mb3.9/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**2.88**	**186**	*e*P	**Pn**	**14 08 00.0**	**-10**
	2μm,1.0s						
NACB	**Ninganchiao**	**4.94**	**8**	Pn	**Pn**	**14 08 38.8**	**+0.7**
YHNB	**Yeheng**	**5.40**	**5**	*e*Pn	**Pn**	**14 08 48.5**	**+4.1**
CD2	**Chengdu**	**19.34**	**310**	*e*P	**Pn**	**14 11 48.1**	**-1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
BJT	**Baijiatuan**	**21.08**	**350**	*e*P	**P**	**14 12 06.7**	**-0.2**
	comp=Z,34nm,1.3s,mb4.5						
LZH	**Lanzhou**	**22.50**	**322**	*e*P	**P**	**14 12 22.5**	**+0.6**
LZH				AP		14 12 29.0	
LZH				XP	sP	14 12 34.0	-4.6
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
MAJO	**Matsushiro**	**22.98**	**38**	P	**P**	**14 12 19.0**	**-8.0**
MJAR	**Matsushiro Arr**	**22.98**	**38**	P	**P**	**14 12 26.4**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.3,baz=216,slow=16,SNR=3.2						
ULN	**Ulaanbaatar**	**30.67**	**342**	P	**P**	**14 13 37.4**	**+0.8**
	comp=Z,4.2nm,1.3s,mb4.1						
SONM	**Songino Array**	**30.85**	**341**	P	**P**	**14 13 37.4**	**-0.7**
	comp=Z,0.4nm,0.6s,mb3.4,baz=148,slow=11,SNR=3.9						
YSS	**Yuzh-Sakhalins**	**32.92**	**28**	P	**P**	**14 13 54.3**	**-2.0**
WRA	**Warramunga Arr**	**41.13**	**161**	P	**P**	**14 15 05.9**	**-0.1**
	comp=Z,2.0nm,0.8s,mb3.8,baz=342,slow=9.1,SNR=11						
WRA				PcP	PcP	14 17 06.2	+1.5
	comp=Z,0.3nm,0.8s,baz=340,slow=3.6,SNR=4.7						
WRA	**Warramunga Arr**	**41.13**	**161**	P	**P**	**14 15 05.9**	**-0.1**
WRA				PcP	PcP	14 17 06.2	+1.5
MKAR	**Makanchi Array**	**41.79**	**320**	P	**P**	**14 15 11.0**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.5,baz=102,slow=11,SNR=8.1						
MKAR				pP	pP	14 15 19.2	-4.7
	comp=Z,2.5nm,1.0s,baz=123,slow=8.8,SNR=8.3						
MKAR	**Makanchi Array**	**41.79**	**320**	P	**P**	**14 15 11.0**	**-0.5**
MKAR				pP	pP	14 15 19.2	-4.7
ZAL	**Zalesovo**	**44.29**	**330**	P	**P**	**14 15 32.5**	**+0.8**
	comp=Z,0.6nm,0.4s,mb3.7,baz=186,slow=8.2,SNR=3.1						
ASAR	**Alice Springs**	**44.52**	**163**	P	**P**	**14 15 34.1**	**+0.7**
	comp=Z,1.1nm,0.5s,mb3.9,baz=341,slow=6.8,SNR=20						
ASAR				pP	pP	14 15 42.3	-3.6
	comp=Z,2.6nm,0.7s,baz=343,slow=7.2,SNR=14						
STKA	**Stephens Creek**	**54.59**	**158**	P	**P**	**14 16 49.4**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.5,baz=307,slow=12,SNR=5.6						
STKA				pP	pP	14 16 57.2	-5.7
	comp=Z,6.4nm,0.8s,baz=24,slow=2.8,SNR=7.9						
STKA	**Stephens Creek**	**54.59**	**158**	P	**P**	**14 16 49.4**	**-0.7**
STKA				*e*	pP	14 16 57.1	-5.8
STKA				pP	pP	14 16 57.2	-5.7
YKA	**Yellowknife Ar**	**87.60**	**23**	P	**P**	**14 20 11.9**	**+2.2**
	comp=Z,0.5nm,0.7s,mb3.9,baz=320,slow=4.7,SNR=4.8						

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*ISCJB **15** 14:14:02.2±0.7, 3890N±003×24.14E±004, h7km±5km, Error ellipse: s-maj=5.7km s-min=4.4km az=159.4*
*NEIC **15** 14:14:03.8, 3890N×24.14E, h37km, MD3.4(ATH), After ATH.*
*ATH **15** 14:14:03.8, 3890N×24.14E, h37km±2km, MD3.4/10, ML3.2*
*THE **15** 14:14:04.8, 3893N×24.11E, h14km, ML2.9*
*CSEM **15** 14:14:04.0±0.1, 3891N×24.14E, h20km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.4km az=79.0*
ISC 15 14:14:02.9±0.7, 3889N±003×2414E±004, h11km±4km, n23, σ0§90/33, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.34**	**324**	*e*Pg	**Pg**	**14 14 11.1**	**+1.4**
AOS				*e*Sg	**Sg**	14 14 15.5	+1.1
NEO	**Neokhori**	**0.82**	**300**	*e*PN	**Pn**	**14 14 20.1**	**-0.4**
NEO				*e*SN	**Sn**	14 14 31.6	-1.1
PTL	**Penteli**	**0.87**	**195**	*e*PN	**Pn**	**14 14 20.5**	**-0.6**
XOR	**Xorichti**	**0.88**	**303**	*e*Pg	**Pg**	**14 14 21.0**	**+1.2**
XOR				*e*Sg	**Sg**	14 14 31.9	+0.7
LKR	**Lokris**	**0.93**	**255**	*e*PN	**Pn**	14 14 21.5	-0.3
LKR				*e*SN	**Sn**	14 14 34.9	-0.2
ATH	**Athens Observa**	**0.98**	**200**	*e*PN	**Pn**	14 14 22.6	0.0
ATH				*e*SN	**Sn**	14 14 36.0	-0.5
PAIG	**Paliouri**	**1.09**	**341**	*e*Pg	**Pg**	14 14 23.9	+0.1
PAIG				*e*Sg	**Sg**	14 14 38.7	+0.6
KVR	**Kavouri**	**1.10**	**196**	*e*PN	**Pn**	**14 14 25.0**	**+0.7**
MGER	**Gerania Oros**	**1.14**	**218**	*e*PN	**Pn**	14 14 25.2	+0.4
NAIG	**Nisos Aigina**	**1.25**	**205**	*e*PN	**Pn**	14 14 27.0	+0.8
LIA	**Limnos Island**	**1.29**	**38**	*e*PN	**Pn**	14 14 27.0	+0.2
AGG	**Agios Georgios**	**1.42**	**276**	*e*Pg	**Pg**	14 14 29.4	-0.7
AGG				*e*Sg	**Sg**	14 14 47.5	-1.0
OUR	**Ouranopolis**	**1.44**	**355**	*e*Pg	**Pg**	14 14 29.1	-1.5
OUR				*e*Sg	**Sg**	14 14 47.9	-1.5
OUR	**Ouranopolis**	**1.44**	**355**	P	**Pn**	14 14 29.1	+0.1
OUR				S	**Sn**	14 14 47.8	-0.1
CHOS	**Chios island**	**1.58**	**108**	*e*Pg	**Pg**	14 14 32.0	-1.2
PRK	**Paraskevi**	**1.69**	**77**	*e*PN	**Pn**	14 14 33.0	+0.6
LIT	**Litokhoron**	**1.76**	**314**	*e*Pb	**Pb**	14 14 34.0	-1.1
SOH	**Sokhos**	**2.02**	**343**	*e*Pb	**Pb**	14 14 36.8	-2.8
APE	**Apeiranthos**	**2.13**	**149**	*e*Pn	**Pn**	14 14 39.5	+1.2
APE	**Apeiranthos**	**2.13**	**149**	*e*Pn	**Pn**	14 14 39.0	+0.6
APE	**Apeiranthos**	**2.13**	**149**	P	**Pn**	14 14 39.5	+1.1
GRG	**Griva**	**2.46**	**328**	*e*Pn	**Pn**	14 14 43.9	+1.0
KNT	**Kendrikon**	**2.46**	**338**	*e*Pn	**Pn**	14 14 43.5	+0.6
KNT				*e*Sn	**Sn**	**14 15 13.9**	**+1.0**

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*ISCJB **15** 14:16:55.2±0.6, 6626N±005×142.15W±0.10, h10km, Error ellipse: s-maj=7.0km s-min=5.4km az=36.6*
*PGC **15** 14:16:57.7, 6633N×142.13W, h1km, ML2.9/2, 282km northwest of Dawson, Yt Eastern Alaska.*
*NEIC **15** 14:16:57.7, 66.19N×142.43W, h9km, ML3.1(AEIC), After AEIC.*
ISC 15 14:16:56.9±0.6, 6624N±004×14219W±009, h10km, n15, σ1§20/21, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IL08	**Eielson Array**	**2.41**	**235**	P	**Pn**	**14 17 36.3**	**0.0**
DAWY	**Dawson**	**2.48**	**150**	Pn	**Pn**	**14 17 38.8**	**+1.4**
DAWY				Sn	**Sn**	**14 18 10.4**	**+2.7**
DAWY				Sg	**Sg**	**14 18 16.5**	**-0.1**
DAWY				Trac		14 18 23.4	
	comp=Z,15nm,0.1s						
DAWY	**Dawson**	**2.48**	**150**	P	**Pn**	**14 17 38.8**	**+1.4**
COLA	**College**	**2.72**	**242**	P	**Pn**	**14 17 40.5**	**-0.2**
COLD	**Coldfoot**	**3.33**	**291**	P	**Pn**	**14 17 49.5**	**+0.5**
COLD				S	**Sn**	**14 18 27.7**	**-0.9**
MCK	**McKinley**	**3.81**	**232**	P	**Pn**	**14 17 55.3**	**-0.3**
INK	**Inuvik**	**3.95**	**54**	Pn	**Pn**	**14 17 58.3**	**+0.8**
INK				Sn	**Sn**	**14 18 42.9**	**-1.1**
INK				Sg	**Sg**	**14 18 57.6**	**-6.2**
INK				Trac		14 19 12.8	
	comp=Z,21nm,0.7s						
INK	**Inuvik**	**3.95**	**54**	*e*Pn	**Pn**	**14 17 58.7**	**+1.1**
TRF	**Thorofare Moun**	**4.45**	**235**	P	**Pn**	**14 18 04.7**	**+0.4**
IM3	**Indian Mountai**	**4.71**	**272**	P	**Pn**	**14 18 07.2**	**-0.8**
HYT	**Haines Junctio**	**5.82**	**157**	Pn	**Pn**	**14 18 24.8**	**+1.5**
HYT				Sg	**Sg**	**14 20 01.7**	**-2.2**
HYT				Trac		14 20 13.2	
	comp=Z,7.0nm,0.5s						
WHY	**Whitehorse**	**6.49**	**146**	Pn	**Pn**	**14 18 33.6**	**+1.3**
WHY				Sg	**Sg**	**14 20 22.1**	**-2.9**
WHY				Trac		14 20 43.4	
	comp=Z,4.0nm,0.8s						
DLBC	**Dease Lake**	**9.64**	**139**	Trac		14 22 18.7	
	comp=Z,4.0nm,1.1s						
DLBC	**Dease Lake**	**9.64**	**139**	Sg	Sx	14 22 01.0	
YKW3	**Yellowknife Ar**	**12.42**	**94**	P	**Pn**	**14 19 52.8**	**-0.9**
YKW3				Sn	**Sn**	**14 21 59.8**	**-12**
YKW3				Trac		14 22 37.2	
	comp=Z,1.0nm,0.4s						

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*ISCJB **15** 14:18:05.8±1.0, 182S±02×1778W±02, h644km±22km, mb4.4/10, Error ellipse: s-maj=25.5km s-min=23.4km az=149.9*
*MOS **15** 14:18:05.3±1.4, 1833S×17806W, h598km, mb4.6/2, Error ellipse: s-maj=55.3km s-min=17.3km az=162.0*
*NEIC **15** 14:18:06.3±0.8, 1822S×17786W, h623km±11km, mb4.6/6, Error ellipse: s-maj=16.6km s-min=11.0km az=148.0*
*IDC **15** 14:18:06.5±1.5, 1838S×17791W, h621km±20km, mb3.7/5, mb1 3.8/7, mb1mx3.4/17, mbtmp4.8/7, Error ellipse: s-maj=29.5km s-min=16.1km az=150.0*
ISC 15 14:18:06.7±1.0, 183S±02×1778W±02, h628km±25km, n30, σ0§70/27, mb4.5/10, 2C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.24**	**54**	P	**P**	**14 19 59.8**	**-0.2**
	9.0nm,0.3s,baz=252,slow=5.2,SNR=16						
AFI	**Afiamalu**	**7.24**	**54**	*e*P	**P**	**14 19 59.6**	**-0.4**
AFI				P		14 19 59.8	
DZM	**Mont Dzumac**	**15.25**	**253**	P	**P**	**14 21 16.7**	**+0.7**
	0.6nm,0.3s,baz=79,slow=19,SNR=7.8						
URZ	**Urewera**	**20.42**	**192**	P	**P**	**14 22 01.7**	**-1.1**
	3.4nm,0.3s,baz=269,slow=3.6,SNR=7.5						
ARMA	**Armidale**	**30.26**	**241**	*e*P	**P**	**14 23 29.9**	**+0.8**
CNB	**Canberra Magne**	**33.66**	**233**	⇓*i*P	**P**	**14 23 58.8**	**+1.0**
	24nm,0.5s,mb5.1						
CTA	**Charters Tower**	**33.94**	**261**	P	**P**	**14 24 00.1**	**0.0**
	8.2nm,0.6s,mb4.5,baz=88,slow=11,SNR=16						
CTAO	**Charters Tower**	**33.94**	**261**	*e*P	**P**	**14 23 59.9**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**33.94**	**261**	*e*P	**P**	**14 23 59.9**	**-0.3**
	comp=Z,13nm,0.7s,mb4.7						
PMG	**Port Moresby**	**35.07**	**280**	*e*P	**P**	**14 24 10.3**	**+0.8**
TOO	**Toolangi**	**37.39**	**231**	*e*P	**P**	**14 24 29.3**	**+0.9**
	comp=Z,8.0nm,0.7s,mb4.4						
TOO	**Toolangi**	**37.39**	**231**	*e*P	**P**	**14 24 29.3**	**+0.9**
TOO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**38.96**	**242**	⇓*i*P	**P**	**14 24 39.8**	**-1.2**
	comp=Z,9.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**38.96**	**242**	P	**P**	**14 24 39.9**	**-1.2**
	comp=Z,11nm,0.7s,mb4.5,baz=94,slow=10.0,SNR=25						
STKA	**Stephens Creek**	**38.96**	**242**	*e*P	**P**	**14 24 39.6**	**-1.4**
WB2	**Warramunga Arr**	**45.11**	**260**	⇑*i*P	**P**	**14 25 28.7**	**-0.3**
WRA	**Warramunga Arr**	**45.12**	**260**	P	**P**	**14 25 28.8**	**-0.3**
	comp=Z,8.3nm,0.4s,mb4.6,baz=97,slow=7.0,SNR=240						
WRA				PcP	PcP	14 26 56.3	+0.7
	comp=Z,0.5nm,0.3s,baz=92,slow=3.4,SNR=3.5						
AS31	**Alice Springs**	**45.24**	**255**	⇓*i*P	**P**	**14 25 29.9**	**-0.1**
ASAR	**Alice Springs**	**45.24**	**255**	P	**P**	**14 25 30.0**	**0.0**
	comp=Z,60nm,1.1s,mb5.0,baz=92,slow=7.7,SNR=272						
ASAR				PcP	PcP	14 26 56.8	+0.7
	comp=Z,1.3nm,0.4s,baz=105,slow=3.8,SNR=6.0						
ASAR				S	**S**	**14 31 24.6**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=90,slow=15,SNR=8.1						
ASPA	**Alice Springs**	**45.24**	**255**	⇓*i*P	**P**	**14 25 29.9**	**-0.1**
KAKA	**Kakadu**	**48.14**	**269**	⇑*i*P	**P**	**14 25 51.5**	**-0.2**
	comp=Z,10.0nm,0.3s,mb4.8						
FORT	**Forrest**	**50.37**	**245**	*e*P	**P**	**14 26 07.2**	**-0.8**
	comp=Z,11nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**58.53**	**256**	*e*P	**P**	**14 27 04.0**	**-0.8**
	comp=Z,6.4nm,0.7s,mb3.9						
MUN	**Mundaring**	**60.47**	**243**	*e*P	**P**	**14 27 17.7**	**+0.1**
QSPA	**South Pole Qui**	**71.80**	**180**	P	**P**	**14 28 28.5**	**+1.1**
	comp=Z,1.2nm,0.8s,mb3.5						
KSM	**Kuching**	**73.28**	**277**	*e*P	**P**	**14 28 36.3**	**+0.4**
ARCES	**ARCESS Array B**	**126.76**	**350**	PKP	PKPdf	14 35 59.6	-0.6
	comp=Z,2.4nm,0.8s,baz=48,slow=1.8,SNR=3.6						
AKASG	**Malin Array Be**	**141.13**	**333**	PKhKP		14 36 21.3	
	comp=Z,0.7nm,0.5s,baz=46,slow=4.4,SNR=4.9						
BRTR	**Keskin Array B**	**145.43**	**315**	PKPbc	PKPbc	14 36 36.5	+0.5
	comp=Z,1.0nm,0.6s,baz=117,slow=1.6,SNR=6.3						
GERES	**GERESS Array B**	**148.09**	**346**	PKPbc	PKPbc	14 36 43.4	+0.3
	comp=Z,0.3nm,0.3s,baz=28,slow=3.2,SNR=5.0						

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*IDC **15** 14:28:59.3±1.5, 2703S×70.90W, h0km, mb4.1/4, mb1 3.9/8, mb1mx3.7/19, mbtmp3.8/8, ML3.7/4, Error ellipse: s-maj=52.8km s-min=17.6km az=101.0*
*NEIC **15** 14:29:00.9±0.9, 2709S×7122W, h21km, ML4.4(GUC), After GUC.*
*GUC **15** 14:29:00.9±0.9, 2709S×7122W, h21km±13km, ML4.4*
*ISCJB **15** 14:29:01.1±1.7, 2700S±004×712W±0.1, h32km±9km, mb4.0/4, Error ellipse: s-maj=21.5km s-min=6.3km az=3.8*
ISC 15 14:29:01.8±1.9, 2703S±004×712W±01, h23km±11km, n20, σ0§59/28, mb4.0/4, 6C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.30**	**99**	⇓*i*P	**Pb**	**14 29 08.3**	**-0.3**
CDCH				*i* S	**Sb**	14 29 13.4	+0.2
CPCH	**Copiapo**	**0.79**	**115**	⇓*i*P	**Pb**	**14 29 15.6**	**-1.3**
CPCH				*i* S	**Sb**	**14 29 27.3**	**+0.2**
CPCH				AML	AML	14 29 29.4	
	comp=E,55μm,0.2s						
CPCH	**Copiapo**	**0.79**	**115**	⇓*i*P	**Pb**	**14 29 15.6**	**-1.3**
CPCH				*i* S	**Sb**	**14 29 27.3**	**+0.2**
CRCH	**Chaqaral**	**0.83**	**36**	⇑*i*P	**Pb**	**14 29 17.3**	**-0.2**
CRCH				*i* S	**Sb**	**14 29 29.2**	**+0.9**
CRCH				AML	AML	14 29 31.8	
	comp=N,5μm,0.6s						
CRCH	**Chaqaral**	**0.83**	**36**	⇑*i*P	**Pb**	**14 29 17.3**	**-0.2**
CRCH				*i* S	**Sb**	**14 29 29.2**	**+0.9**
VACH	**Vallenar**	**1.58**	**167**	⇑*i*P	**Pn**	**14 29 28.5**	**0.0**
VACH				*i* S	**Sn**	**14 29 47.9**	**-0.3**
VACH				AML	AML	14 29 50.3	
	comp=N,9μm,0.3s						
VACH	**Vallenar**	**1.58**	**167**	⇑*i*P	**Pn**	**14 29 28.5**	**0.0**
VACH				*i* S	**Sn**	**14 29 47.9**	**-0.3**
TLL	**Tololo Astrono**	**3.14**	**174**	⇑*i*P	**Pn**	**14 29 50.1**	**+0.2**
TLL				*i* S	**Sn**	**14 30 27.6**	**+0.9**
TLL				AML	AML	14 30 45.6	
	comp=N,2μm,0.6s						
TLL	**Tololo Astrono**	**3.14**	**174**	⇑*i*P	**Pn**	**14 29 50.1**	**+0.2**
TLL				*i* S	**Sn**	**14 30 27.6**	**+0.9**
LVC	**Limon Verde**	**4.85**	**25**	Pn	**Pn**	**14 30 14.0**	**+0.7**
	comp=N,0.9nm,0.3s,baz=180,slow=8.8,SNR=13						
LVC				Pg	**Pn**	**14 30 22.6**	**+9.3**
	comp=N,8.2nm,0.3s,baz=201,slow=10,SNR=28						
LVC				Lg		14 31 27.6	
	comp=N,19nm,0.3s,baz=154,slow=15,SNR=8.7						
CFAA	**Coronel Fontan**	**5.23**	**151**	Pn	**Pn**	**14 30 19.2**	**+0.7**
	comp=N,0.7nm,0.3s,baz=330,slow=9.0,SNR=31						
CFAA				Lg		14 31 35.0	
	comp=N,0.9nm,0.3s,baz=152,slow=18,SNR=6.3						
CFAA	**Coronel Fontan**	**5.23**	**151**	Pn	**Pn**	**14 30 19.2**	**+0.7**
CFAA				Lg		14 31 35.0	
LPAZ	**La Paz**	**11.05**	**15**	Pn	**Pn**	**14 31 38.4**	**0.0**
	comp=N,0.1nm,0.3s,baz=209,slow=6.7,SNR=4.3						
SIV	**San Ignacio**	**14.44**	**43**	Pn	**Pn**	**14 32 24.2**	**-0.5**
	comp=N,0.3nm,0.3s,baz=223,slow=14,SNR=5.9						
BDFB	**Brasilia**	**24.31**	**67**	P	**P**	**14 34 16.8**	**-0.8**
	comp=N,1.8nm,0.5s,mb3.8,baz=257,slow=7.3,SNR=3.5						
SNAA	**Sanae**	**57.79**	**160**	P	**P**	**14 38 50.3**	**-0.9**
	comp=N,0.3nm,0.7s,mb3.4,baz=254,slow=7.7,SNR=6.5						
MAW	**Mawson**	**79.64**	**164**	P	**P**	**14 41 07.3**	**0.0**
	comp=N,1.3nm,0.5s,mb4.1,baz=204,slow=4.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**81.14**	**70**	P	**P**	**14 41 15.9**	**+0.5**
	comp=N,4.9nm,0.7s,mb4.6,baz=256,slow=5.1,SNR=22						
ZAL	**Zalesovo**	**147.80**	**27**	PKPbc	PKPbc	14 48 45.5	+0.8
	comp=N,1.6nm,0.7s,baz=284,slow=4.2,SNR=11						
MKAR	**Makanchi Array**	**151.24**	**40**	PKPbc	PKPbc	14 48 53.7	+0.4
	comp=N,1.7nm,0.7s,baz=329,slow=2.6,SNR=15						
MKAR				PKPab	PKPab	14 49 02.1	+0.8
	comp=N,0.9nm,0.7s,baz=332,slow=1.5,SNR=3.6						

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*ISCJB **15** 14:41:34.3±0.9, 3431S±007×179.1W±02, h93km±10km, mb4.4/6, Error ellipse: s-maj=24.8km s-min=6.1km az=43.6*
*MOS **15** 14:41:36.4±2.9, 3382S×17992E, h33km, mb5.1/3, Error ellipse: s-maj=23.4km s-min=21.0km az=162.0*
*IDC **15** 14:41:37.9±1.0, 3404S×17985W, h68km±7km, mb4.1/5, mb1 4.4/7, mb1mx4.0/16, mbtmp4.5/7, MS3.2/3, Ms1 3.2/3, ms1mx2.8/21, Error ellipse: s-maj=20.6km s-min=11.8km az=117.0*
*NEIC **15** 14:41:37.1±1.0, 3417S×17945W, h73km±8km, mb4.6/3, Error ellipse: s-maj=15.6km s-min=10.6km az=111.0*
ISC 15 14:41:35.9±0.9, 3431S±007×1791W±02, h88km±9km, n110, σ1§05/78, mb4.4/6, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.86**	**212**	PN	**Pn**	**14 42 34.0**	**+1.0**
MXZ				SN	**Sn**	**14 43 17.7**	**+0.6**
MXZ				T		14 45 14.9	
MXZ				T(MAX)		14 46 10.3	
MXZ	**Matakaoa Point**	**3.86**	**212**	P	**Pn**	**14 42 34.1**	**+1.1**
PUZ	**Puketiti**	**4.31**	**209**	*e*PN	**Pn**	**14 42 40.4**	**+1.3**
PUZ				SN	**Sn**	**14 43 28.6**	**+0.4**
PUZ	**Puketiti**	**4.31**	**209**	*e*P	**Pn**	**14 42 40.4**	**+1.3**
PUZ				*e*S	**Sn**	**14 43 30.4**	**+2.2**
WIZ	**White Island**	**4.38**	**222**	PN	**Pn**	**14 42 40.7**	**+0.6**
WIZ	**White Island**	**4.38**	**222**	P	**Pn**	**14 42 41.8**	**+1.7**
MWZ	**Matawai**	**4.84**	**213**	PN	**Pn**	**14 42 46.7**	**+0.4**
MWZ				SN	**Sn**	**14 43 42.5**	**+1.4**
MWZ	**Matawai**	**4.84**	**213**	P	**Pn**	**14 42 46.8**	**+0.5**
KUZ	**Kuaotunu**	**4.85**	**238**	PN	**Pn**	**14 42 46.6**	**+0.2**
KUZ	**Kuaotunu**	**4.85**	**238**	*e*P	**Pn**	**14 42 46.8**	**+0.4**
URZ	**Urewera**	**4.98**	**216**	P	**Pn**	**14 42 48.1**	**-0.1**
	80nm,0.3s,baz=3.8,slow=3.4,SNR=221						
URZ				S	**Sn**	**14 43 43.5**	**-0.9**
	75nm,0.3s,baz=255,slow=20,SNR=8.5						
URZ				LR	LR	14 44 41.9	
	comp=Z,259nm,21.1s,baz=249,slow=38						
URZ	**Urewera**	**4.98**	**216**	PN	**Pn**	**14 42 48.1**	**-0.1**
URZ				SN	**Sn**	**14 43 44.5**	**+0.1**
URZ	**Urewera**	**4.98**	**216**	P	**Pn**	**14 42 48.2**	**0.0**
EDRZ	**Edgecumbe**	**5.05**	**220**	PN	**Pn**	**14 42 49.7**	**+0.5**
TGRZ	**Tauranga**	**5.06**	**226**	PN	**Pn**	**14 42 50.1**	**+0.9**
TGRZ	**Tauranga**	**5.06**	**226**	P	**Pn**	**14 42 50.1**	**+0.8**
RAO	**Raoul Island**	**5.14**	**12**	P	**Pn**	**14 42 50.2**	**-0.3**
	39nm,0.3s,baz=66,slow=20,SNR=2.7						
RAO				S	**Sn**	**14 43 48.9**	**+0.4**
	52nm,0.3s,baz=72,slow=20,SNR=2.8						
TAZ	**Tarawera**	**5.27**	**221**	PN	**Pn**	**14 42 53.6**	**+1.5**
TAZ	**Tarawera**	**5.27**	**221**	P	**Pn**	**14 42 54.2**	**+2.1**
KNZ	**Kokohu**	**5.36**	**208**	PN	**Pn**	**14 42 52.5**	**-0.9**
KNZ				SN	**Sn**	**14 43 49.5**	**-4.2**
KNZ	**Kokohu**	**5.36**	**208**	P	**Pn**	**14 42 52.8**	**-0.6**
PATZ	**Paeroa**	**5.51**	**221**	PN	**Pn**	**14 42 56.7**	**+1.3**
TOZ	**Tahuroa Road**	**5.53**	**230**	PN	**Pn**	**14 42 57.1**	**+1.5**
TOZ	**Tahuroa Road**	**5.53**	**230**	P	**Pn**	**14 42 57.2**	**+1.5**
WCZ	**Waipu Caves**	**5.59**	**251**	⇓PN	**Pn**	**14 42 55.8**	**-0.7**
WCZ	**Waipu Caves**	**5.59**	**251**	*e*P	**Pn**	**14 42 55.8**	**-0.7**
BKZ	**Black Stump Fm**	**5.99**	**215**	*e*PN	**Pn**	**14 43 00.5**	**-1.5**
BKZ				SN	**Sn**	**14 44 07.3**	**-1.8**
BKZ	**Black Stump Fm**	**5.99**	**215**	*e*P	**Pn**	**14 43 01.3**	**-0.6**
BKZ				S	**Sn**	**14 44 07.3**	**-1.8**
OUZ	**Omahuta**	**6.05**	**259**	PN	**Pn**	**14 43 00.6**	**-2.2**
OUZ	**Omahuta**	**6.05**	**259**	*e*P	**Pn**	**14 43 00.6**	**-2.2**
KRVZ	**Karewarewa**	**6.36**	**220**	PN	**Pn**	**14 43 06.4**	**-0.6**
WTVZ	**West Tongariro**	**6.40**	**220**	PN	**Pn**	**14 43 07.5**	**-0.1**
WTVZ	**West Tongariro**	**6.40**	**220**	P	**Pn**	**14 43 07.6**	**0.0**
HIZ	**Hauiti**	**6.41**	**227**	PN	**Pn**	**14 43 08.5**	**+0.8**
HIZ	**Hauiti**	**6.41**	**227**	P	**Pn**	**14 43 09.1**	**+1.4**
WPVZ	**Whakapapa**	**6.49**	**220**	PN	**Pn**	**14 43 09.1**	**+0.4**
WPVZ	**Whakapapa**	**6.49**	**220**	P	**Pn**	**14 43 08.9**	**+0.1**
FWVZ	**Far West T-bar**	**6.52**	**219**	PN	**Pn**	**14 43 08.9**	**-0.4**
MOVZ	**Moawhango**	**6.54**	**217**	PN	**Pn**	**14 43 07.3**	**-2.1**
MOVZ	**Moawhango**	**6.54**	**217**	P	**Pn**	**14 43 07.7**	**-1.7**
PXZ	**Pawanui**	**6.55**	**208**	*e*PN	**Pn**	**14 43 08.5**	**-1.1**
PXZ				SN	**Sn**	**14 44 18.0**	**-4.7**
**WNVZ

BRTR Keskin Array B 153.37 291 PKPbc PKPbc 15 01 25.2 +1.4
comp=Z,0.8nm,0.5s,baz=127,slow=2.3,SNR=5.8
AKASG Malin Array Be 153.66 317 PKPbc PKPbc 15 01 25.8 +1.4
comp=Z,0.4nm,0.3s,baz=54,slow=2.6,SNR=6.9
TORD Torodi Ar. Bea 158.92 182 PKP PKPdf 15 01 28.7 +5.2
comp=Z,0.6nm,0.8s,baz=133,slow=1.7,SNR=3.6
TORD pPKP pPKPdf 15 01 47.0 -1.2
comp=Z,0.6nm,0.6s,baz=171,slow=2.8,SNR=5.4
TORD PKPab PKPab 15 02 05.5 +5.5
comp=Z,1.6nm,0.7s,baz=166,slow=4.4,SNR=7.6
TORD Torodi Ar. Bea 158.92 182 PKP PKPdf 15 01 28.7 +5.2
TORD pPKP pPKPdf 15 01 47.0 -1.2
TORD PKPab PKPab 15 02 05.5 +5.5

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*ISCJB **15** 14:41:33.4±1.8, 1894N±004×11984E±004, h3km±11km, mb4.3/34, MS3.9/15, Error ellipse: s-maj=8.5km s-min=5.5km az=88.2*
*MOS **15** 14:41:37.3±1.2, 1898N×12006E, h33km, mb4.7/13, Error ellipse: s-maj=18.6km s-min=8.7km az=110.8*
*NEIC **15** 14:41:38.3±0.4, 1893N×12002E, mb4.5/11, Error ellipse: s-maj=12.3km s-min=7.8km az=85.0*
*IDC **15** 14:41:38.5±0.8, 1892N×12007E, h28km±5km, mb3.9/15, mb1 4.1/15, mb1mx4.0/22, mbtmp4.1/15, MS3.8/9, Ms1 3.8/9, ms1mx3.4/28, Error ellipse: s-maj=28.1km s-min=11.8km az=68.0*
*BJI **15** 14:41:39.9, 1927N×11976E, h28km, mB4.7, mb4.3, ML4.3, Ms4.2, Msz4.0*
*MAN **15** 14:41:41.5, 1884N×120.13E, h12km, mb3.9, ML4.9, MS6.4*
ISC 15 14:41:36.9±2.0, 1899N±004×11989E±004, h15km±13km, h27km±3.0km: pP-P, n83, σ1°34/86, mb4.3/34, MS3.9/15, 5C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.18**	**110**	*e*P		**Pn**		**14 42 13.5**	**+0.9**
SGCP				*e*S		**Sn**		**14 42 40.6**	**+1.3**
CVP	**Callao Caves**	**2.24**	**124**	*e*P		**Pn**		**14 42 13.5**	**+0.1**
NACB	**Ninganchiao**	**5.40**	**17**	Pn		**Pn**		**14 43 02.6**	**+5.7**
YHNB	**Yeheng**	**5.82**	**13**	*e*Pn		**Pn**		**14 43 02.2**	**-0.5**
GZH	**Guangzhou**	**7.35**	**305**	P		**Pn**		**14 43 22.1**	**-1.6**
GZH				SG		Sn		14 45 26.9	+40
GZH				LR		LR			
	comp=N,750nm,12.1s								
GZH				LR		LR			
	comp=E,910nm,11.8s								
GZH				LR		LR			
	comp=Z,2μm,10.9s								
QIZ	**Qiongzhong**	**9.50**	**272**	P		**Pn**		**14 43 52.3**	**-0.9**
QIZ				S		**Sn**		**14 45 38.1**	**-1.6**
QIZ				LR		LR			
	comp=N,520nm,11.1s								
QIZ				LR		LR			
	comp=E,430nm,12.7s								
QIZ				LR		LR			
	comp=Z,470nm,12.7s								
QIZ	**Qiongzhong**	**9.50**	**272**	*e*Pn		**Pn**		**14 43 52.0**	**-1.2**
QIZ				*e*Sn		**Sn**		**14 45 32.6**	**-7.2**
JOW	**Kunigami**	**10.98**	**43**	LR		LR		14 48 33.6	
	comp=Z,295nm,19.1s,baz=321,slow=38								
SSE	**Sheshan**	**12.12**	**5**	P		**Pn**		**14 44 27.4**	**-1.6**
SSE				XP				14 44 39.4	
SSE				S		**Sn**		**14 46 40.3**	**-3.5**
SSE				AMB		AMB			
	comp=Z,30nm,0.7s								
SSE				AMB		AMB			
	comp=Z,40nm,4.1s								
WHN	**Wuhan**	**12.55**	**337**	*e*P		**Pn**		**14 44 33.0**	**-2.0**
NJ2	**Nanjing**	**13.04**	**356**	*e*P		**Pn**		**14 44 40.8**	**-0.9**
NJ2				AP				14 44 47.6	
NJ2				PP				14 44 50.1	
NJ2				XP				14 44 52.3	
NJ2				PPP				14 44 57.3	
NJ2				S		**Sn**		**14 47 04.0**	**-2.5**
NJ2				XS				14 47 15.0	
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
NJ2				AMB		AMB			
	comp=Z,100nm,4.8s								
NJ2				LR		LR			
	comp=N,1μm,14.0s								
NJ2				LR		LR			
	comp=E,1μm,12.3s								
NJ2				LR		LR			
	comp=Z,510nm,12.4s								
KKM	**Kota Kinabalu**	**13.35**	**196**	*e*Pn		**Pn**		**14 44 51.0**	**+5.1**
KMI	**Kunming**	**17.02**	**294**	P		**Pn**		**14 45 33.5**	**-0.9**
KMI				AP		pP		14 45 43.1	+2.8
KMI				PP				14 45 48.6	
KMI				XP		sP		14 45 50.3	+8.0
KMI				PPP				14 45 57.0	
KMI				S		**Sn**		**14 48 42.4**	**-0.9**
KMI				SS				14 49 04.8	
KMI				SSS				14 49 17.9	
KMI				AMB		AMB			
	comp=Z,110nm,5.2s								
KMI				LR		LR			
	comp=N,340nm,11.2s								
KMI				LR		LR			
	comp=E,580nm,11.2s								
KMI				LR		LR			
	comp=Z,460nm,11.0s								
XAN	**Xi'an**	**17.90**	**329**	P		**Pn**		**14 45 47.3**	**+2.0**
CD2	**Chengdu**	**18.81**	**312**	*e*P		**Pn**		**14 45 57.3**	**+0.9**
CD2				AP		pP		14 46 06.9	+6.8
CD2				XP		sP		14 46 13.1	+11
CD2				PP				14 46 14.5	
CD2				S		**Sn**		**14 49 22.8**	**-3.8**
CD2				AMB		AMB			
	comp=Z,20nm,0.8s								
CD2				AMB		AMB			
	comp=Z,80nm,5.2s								
CD2				LR		LR			
	comp=N,470nm,12.0s								
CD2				LR		LR			
	comp=Z,530nm,13.2s								
KS15	**Wonju Array Si**	**19.68**	**19**	*e*P		**Pn**		**14 46 10.4**	**+3.6**
KSM	**Kuching**	**19.77**	**209**	*e*P		**Pn**		**14 46 08.8**	**+0.8**
BJT	**Baijiatuau**	**21.20**	**352**	*e*P		**P**		**14 46 23.0**	**+1.0**
BJT				pmax		pmax			
	comp=Z,37nm,1.0s								
BJT	**Baijiatuau**	**21.20**	**352**	*e*P		**P**		**14 46 23.0**	**+1.0**
	comp=Z,37nm,1.0s,mb4.7								
LZH	**Lanzhou**	**22.14**	**324**	*e*P		**P**		**14 46 35.5**	**+3.5**
LZH				S		**S**		**14 50 32.0**	**-3.5**
LZH				AMB		AMB			
	comp=Z,50nm,1.2s,mb4.8								
LZH				AMB		AMB			
	comp=Z,160nm,4.3s								
LZH				LR		LR			
	comp=N,1μm,12.8s								
LZH				LR		LR			
	comp=Z,2μm,13.5s,MS4.7								
HHC	**Hu-ho-hao-te**	**22.93**	**344**	*e*P		**P**		**14 46 41.6**	**+1.2**
HHC				AP				14 46 53.1	
HHC				S		**S**		**14 50 50.3**	**+0.3**
HHC				AMB		AMB			
	comp=Z,10.0nm,0.4s,mb4.6								
HHC				AMB		AMB			
	comp=Z,60nm,4.2s								
HHC				LR		LR			
	comp=N,360nm,12.4s,MS4.0								
HHC				LR		LR			
	comp=E,190nm,16.3s,MS4.0								
HHC				LR		LR			
	comp=Z,260nm,12.7s,MS3.9								
KULM	**Kulim**	**23.18**	**236**	*e*P		**P**		**14 46 43.9**	**+0.9**
MAJO	**Matsushiro**	**23.77**	**39**	*e*P		**P**		**14 46 54.8**	**+5.9**
MAJO				pmax		pmax			
	comp=Z,22nm,1.4s,mb4.4								
MAJO	**Matsushiro**	**23.77**	**39**	*e*P		**P**		**14 46 54.8**	**+5.8**
	comp=Z,22nm,1.4s,mb4.4								
MJAR	**Matsushiro Arr**	**23.77**	**39**	P		**P**		**14 46 48.4**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.4,baz=235,slow=13,SNR=3.7								
GUMO	**Guam**	**24.56**	**99**	LR		LR		14 54 33.6	
	comp=Z,68nm,18.2s,MS3.2,baz=22,slow=32								
CN2	**Changchun**	**25.18**	**9**	*e*P		**P**		**14 47 04.0**	**+2.3**
PSI	**Prapat**	**26.07**	**234**	P		**P**		**14 47 11.8**	**+2.1**
	comp=Z,2.5nm,0.4s,mb4.1,baz=340,slow=7.5,SNR=5.2								
GTA	**Gaotai**	**26.74**	**324**	*e*P		**P**		**14 47 17.8**	**+1.9**
GTA				AP		pP		14 47 22.3	+1.9
GTA				XP		sP		14 47 24.8	+2.5
GTA				XS		sS		14 52 04.8	+6.3
GTA				AMB		AMB			
	comp=Z,120nm,5.3s								
GTA				LR		LR			
	comp=N,130nm,15.6s								
GTA				LR		LR			
	comp=E,280nm,10.3s								
GTA				LR		LR			
	comp=Z,260nm,11.0s,MS4.0								
MDJ	**Mudanjiang**	**26.81**	**15**	P		**P**		**14 47 16.9**	**+0.4**
MDJ				AMB		AMB			
	comp=Z,10.0nm,2.4s,mb3.9								
MDJ				AMB		AMB			
	comp=Z,110nm,4.7s								
LSA	**Lhasa**	**28.20**	**298**	*e*P		**P**		**14 47 29.1**	**+0.2**
LSA				pmax		pmax			
	comp=Z,10.0nm,1.2s,mb4.3								
LSA	**Lhasa**	**28.20**	**298**	*e*P		**P**		**14 47 29.1**	**+0.2**
	comp=Z,10nm,1.2s,mb4.3								
ULN	**Ulaanbaatar**	**30.64**	**343**	⇑*i*P		**P**		**14 47 51.1**	**+0.5**
ULN	**Ulaanbaatar**	**30.64**	**343**	*e*P		**P**		**14 47 50.5**	**-0.1**
SONM	**Songino Array**	**30.80**	**342**	P		**P**		**14 47 53.0**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.7,baz=161,slow=9.6,SNR=8.4								
SONM				LR		LR		15 00 51.7	
	comp=Z,149nm,19.4s,MS3.7,baz=144,slow=37								
TLY	**Talaya**	**35.05**	**342**	*e*P		**P**		**14 48 26.8**	**-2.3**
WMQ	**Urumqi**	**36.60**	**320**	*e*P		**P**		**14 48 43.5**	**+1.0**
WMQ				LR		LR			
	comp=N,140nm,17.0s,MS3.9								
WMQ				LR		LR			
	comp=E,80nm,17.0s,MS3.9								
WMQ				LR		LR			
	comp=Z,110nm,19.0s,MS3.7								
FITZ	**Fitzroy Crossi**	**37.29**	**171**	P		**P**		**14 48 46.2**	**-2.0**
	comp=Z,5.4nm,0.9s,mb4.4,baz=9.7,slow=7.3,SNR=7.3								
MBWA	**Marble Bar**	**39.90**	**180**	P		**P**		**14 49 08.0**	**-2.2**
	comp=Z,5.4nm,0.9s,mb4.3								
WRAB	**Tennant Creek**	**41.20**	**159**	⇑*i*P		**P**		**14 49 20.3**	**-0.6**
WRA	**Warramunga Arr**	**41.20**	**159**	P		**P**		**14 49 19.8**	**-1.1**
	comp=Z,5.3nm,0.9s,mb4.2,baz=343,slow=9.1,SNR=19								
WRA				PcP		PcP		14 51 20.5	+0.6
	comp=Z,1.5nm,0.7s,baz=347,slow=3.2,SNR=7.2								
WB2	**Warramunga Arr**	**41.20**	**159**	*e*P		**P**		**14 49 19.9**	**-1.1**
MKAR	**Makanchi Array**	**41.40**	**321**	P		**P**		**14 49 23.9**	**+1.3**
	comp=Z,2.3nm,0.8s,mb3.9,baz=119,slow=9.7,SNR=9.9								
MKAR				pP		pP		14 49 32.1	+4.9
	comp=Z,2.5nm,0.8s,baz=102,slow=11,SNR=7.4								
MKAR	**Makanchi Array**	**41.40**	**321**	P		**P**		**14 49 23.9**	**+1.3**
MKAR				pP		pP		14 49 32.1	+4.9
YAK	**Yakutsk**	**43.55**	**7**	*e*P		**P**		**14 49 35.6**	**-4.5**
YAK				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.3								
ZAL	**Zalesovo**	**44.06**	**331**	LR		LR		15 09 27.1	
	comp=Z,164nm,18.6s,MS4.0,baz=165,slow=38								
ASAR	**Alice Springs**	**44.54**	**162**	P		**P**		**14 49 47.3**	**-0.8**
	comp=Z,1.3nm,0.7s,mb3.9,baz=338,slow=7.2,SNR=5.5								
ASAR				pP		pP		14 49 55.8	+3.1
	comp=Z,3.5nm,0.7s,baz=339,slow=7.4,SNR=11								
KURK	**Kurchatov**	**45.43**	**324**	⇑*e*P		**P**		**14 49 56.2**	**+1.1**
BVAR	**Borovoye Array**	**51.03**	**324**	P		**P**		**14 50 40.8**	**+2.4**
	comp=Z,0.4nm,0.6s,mb3.6,baz=126,slow=10.0,SNR=4.5								
NWAO	**Narrogin (SRO)**	**51.68**	**183**	P		**P**		**14 50 43.1**	**-0.1**
NWAO				pmax		pmax			
	comp=Z,45nm,1.4s								
NWAO	**Narrogin (SRO)**	**51.68**	**183**	P		**P**		**14 50 43.1**	**-0.1**
	comp=Z,45nm,1.4s,mb5.2								
ZRNK	**Zerenda**	**51.78**	**323**	*e*P		**P**		**14 50 45.0**	**+1.0**
ZRNK				pmax		pmax			
	comp=Z,5.0nm,1.3s,mb4.3								
ZRNK	**Zerenda**	**51.78**	**323**	*e*P		**P**		**14 50 45.0**	**+1.1**
	comp=Z,5.0nm,1.3s,mb4.3								
TIXI	**Tiksi**	**52.93**	**4**	⇑*e*P		**P**		**14 50 50.7**	**-1.8**
TIXI				pmax		pmax			
	comp=Z,4.0nm,1.2s,mb4.2								
STKA	**Stephens Creek**	**54.69**	**157**	*e*P		**P**		**14 51 03.6**	**-1.8**
	comp=Z,6.9nm,0.9s,mb4.7								
STKA	**Stephens Creek**	**54.69**	**157**	P		**P**		**14 51 04.0**	**-1.4**
	comp=Z,8.6nm,0.9s,mb4.8,baz=326,slow=8.8,SNR=12								
STKA				pP		pP		14 51 12.5	+2.4
	comp=Z,4.5nm,0.7s,baz=337,slow=7.8,SNR=4.2								
STKA				LR		LR		15 19 00.2	
	comp=Z,112nm,18.6s,MS4.0,baz=267,slow=41								
BILL	**Bilibino**	**56.96**	**19**	*e*P		**P**		**14 51 20.5**	**-1.2**
BILL				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.3								
BILL				MLR		MLR			
	comp=Z,100nm,19.0s,MS3.9								
BILL	**Bilibino**	**56.96**	**19**	P		**P**		**14 51 26.8**	**+5.1**
	comp=Z,6.6nm,0.9s,mb4.7								
AKTK	**Aktyubinsk**	**57.73**	**318**	P		**P**		**14 51 28.2**	**+1.1**
AKTO	**Aktyubinsk**	**57.73**	**318**	P		**P**		**14 51 28.2**	**+1.1**
	comp=Z,1.9nm,0.9s,mb4.1,baz=101,slow=6.8,SNR=3.9								
ARU	**Arti**	**58.59**	**325**	*e*P		**P**		**14 51 32.8**	**-0.3**
ARU				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb4.9								
KIV	**Kislovodsk**	**67.97**	**311**	⇑*e*P		**P**		**14 52 36.7**	**+1.4**
KIV				pmax		pmax			
	comp=Z,13nm,1.0s,mb4.9								
KIV				MLR		MLR			
	comp=Z,100nm,23.0s,MS4.0								
KLMR	**Klimovskoe**	**68.93**	**329**	*e*P		**P**		**14 52 38.5**	**-2.8**
KLMR				pmax		pmax			
	comp=Z,30nm,2.1s,mb4.8								
OBN	**Obninsk**	**70.86**	**323**	*e*P		**P**		**14 52 52.6**	**-0.5**
OBN				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.5								
OBN				MLR		MLR			
	comp=Z,100nm,21.0s,MS4.0								
MALT	**Malatya**	**71.93**	**305**	P		**P**		**14 53 01.7**	**+2.1**
MALT				pmax		pmax			
	comp=Z,4.0nm,1.2s,mb4.2								
MALT	**Malatya**	**71.93**	**305**	P		**P**		**14 53 01.6**	**+2.0**
	comp=Z,4.1nm,1.2s,mb4.2								
MCK	**McKinley**	**73.68**	**28**	P		**P**		**14 53 08.7**	**-1.3**
MCK				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.2								
MCK	**McKinley**	**73.68**	**28**	P		**P**		**14 53 08.7**	**-1.4**
	comp=Z,2.9nm,0.9s,mb4.2								
ARCES	**ARCESS Array B**	**73.90**	**339**	LR		LR		15 30 48.9	
	comp=Z,66nm,18.8s,MS4.0,baz=173,slow=40								
AFI	**Afiamalu**	**74.81**	**111**	LR		LR		15 19 29.0	
	comp=Z,68nm,20.7s,MS3.9,baz=88,slow=30								
FINES	**FINESS Array B**	**75.32**	**330**	P		**P**		**14 53 18.9**	**-0.6**
	comp=Z,3.3nm,1.0s,mb4.2,baz=85,slow=8.5,SNR=3.8								
FINES				LR		LR		15 29 11.7	
	comp=Z,62nm,20.8s,MS3.9,baz=178,slow=38								
FINES	**FINESS Array B**	**75.32**	**330**	P		**P**		**14 53 18.9**	**-0.6**
FINES				LR		LR		15 29 11.7	
AKASG	**Malin Array Be**	**75.96**	**319**	P		**P**		**14 53 22.9**	**-0.4**
	comp=Z,0.1nm,0.3s,mb3.3,baz=66,slow=5.9,SNR=4.8								
AKASG	**Malin Array Be**	**75.96**	**319**	*i* P		**P**		**14 53 25.2**	**+2.0**
SUW	**Suwalki**	**78.71**	**323**	P		**P**		**14 53 39.5**	**+0.9**
SUW				*e*				14 53 49.0	
SUW				pmax		pmax			
	comp=Z,32nm,1.4s,mb5.1								
SUW	**Suwalki**	**78.71**	**323**	P		**P**		**14 53 39.5**	**+0.9**
	comp=Z,32nm,1.4s,mb5.1								
SUW				*e*				14 53 49.0	
NB2	**NORSAR Subarra**	**82.24**	**332**	P		**P**		**14 53 56.6**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=60,slow=5.3								
NOA	**NORSAR Array B**	**82.24**	**332**	P		**P**		**14 53 56.0**	**-1.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=63,slow=4.9,SNR=3.9								
NOA				LR		LR		15 33 18.9	
	comp=Z,93nm,18.3s,MS4.2,baz=55,slow=38								
MORC	**Moravsky Berou**	**83.39**	**320**	P		**P**		**14 54 07.8**	**+4.2**
KHC	**Kasperske Hory**	**86.03**	**321**	*e*P		**P**		**14 54 17.5**	**+0.6**
GERES	**GERESS Array B**	**86.07**	**321**	P		**P**		**14 54 17.5**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.9,baz=67,slow=3.5,SNR=4.7								
YKA	**Yellowknife Ar**	**88.21**	**22**	P		**P**		**14 54 27.1**	**-0.3**
	comp=Z,1.0nm,0.7s,mb4.1,baz=318,slow=4.6,SNR=11								
SDV	**Santo Domingo**	**150.43**	**21**	*e*PKPbc		PKPbc		15 01 28.8	+1.0
SDV				*e*				15 01 37.3	

IDC 15 14:50:38.6±6.1, 438S×12624E, h454km±80km, mb3.2/3, mb1 3.3/5, mb1mx3.0/17, mbtmp4.0/5, Error ellipse: s-maj=117.7km s-min=27.7km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.65**	**182**	P		P	P	14 53 33.9	-1.2
	0.3nm,0.3s,baz=20,slow=11,SNR=9.8								
WRA	**Warramunga Arr**	**17.37**	**154**	P		P	P	14 54 13.5	-0.9
	0.9nm,0.3s,baz=334,slow=9.9,SNR=37								
WB2	**Warramunga Arr**	**17.37**	**154**	*e*P		P	P	14 54 14.8	+0.3
ASAR	**Alice Springs**	**20.55**	**160**	P		P	P	14 54 45.9	+1.2
	3.4nm,0.4s,baz=333,slow=7.8,SNR=75								
ASPA	**Alice Springs**	**20.55**	**160**	*e*P		P	P	14 54 46.1	+1.5
STKA	**Stephens Creek**	**30.92**	**154**	P		P	P	14 56 16.4	-0.2
	1.8nm,0.5s,baz=334,slow=8.9,SNR=9.9								
MKAR	**Makanchi Array**	**64.02**	**328**	P		P	P	15 00 26.6	+0.3
	0.4nm,0.5s,baz=115,slow=8.2,SNR=5.6								

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*ISCJB **15** 15:02:17.7±0.6, 009N×007×9709E±009, h31km, mb4.2/12, MS4.7/1, Error ellipse: s-maj=12.8km s-min=9.5km az=24.2*
*IDC **15** 15:02:19.2±0.8, 0.12S×9681E, h31km±4km, mb4.0/12, mb1 4.1/12, mb1mx3.9/20, mbtmp4.2/12, MS4.0/2, Ms1 4.0/2, ms1mx3.0/23, Error ellipse: s-maj=37.1km s-min=12.7km az=47.0*
*NEIC **15** 15:02:19.6±0.5, 0.14N×97.12E, h30km, mb4.4/1, Error ellipse: s-maj=12.7km s-min=9.8km az=222.0*
ISC 15 15:02:20.1±0.6, 012N×007×9706E±009, h33km, h33km±.6km: pP-P, n23, σ0°96/23, mb4.2/12, MS4.7/1, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.25**	**35**	Pn		**Pn**		**15 03 07.5**	**-1.3**
	1.6nm,0.3s,baz=292,slow=12,SNR=7.7								
PSI				LR		LR		15 04 56.4	
	comp=Z,464nm,19.0s,baz=231,slow=45								
TSI	**Tuntungan**	**3.68**	**24**	⇓*e*P		**Pn**		**15 03 14.2**	**-0.5**
TSI				*e*S		**Sn**		**15 03 58.5**	**+1.5**
KULM	**Kulim**	**6.26**	**35**	*e*Pn		**Pn**		**15 03 48.6**	**-1.6**
KKM	**Kota Kinabalu**	**20.01**	**73**	*e*P		**Pn**		**15 06 48.0**	**-3.9**
WRA	**Warramunga Arr**	**41.60**	**121**	P		**P**		**15 10 05.4**	**+0.5**
	1.5nm,0.8s,mb3.7,baz=302,slow=9.3,SNR=11								
WRA				pP		pP		15 10 14.6	0.0
	2.2nm,0.8s,baz=299,slow=9.3,SNR=11								
ASAR	**Alice Springs**	**42.87**	**126**	P		**P**		**15 10 15.8**	**+0.5**
	0.4nm,0.9s,baz=299,slow=8.1,SNR=4.5								
ASAR				pP		pP		15 10 24.6	-0.3
	0.6nm,0.9s,baz=217,slow=22,SNR=2.2								
SONM	**Songino Array**	**48.21**	**8**	P		**P**		**15 10 58.1**	**+0.6**
	2.0nm,0.9s,mb4.2,baz=189,slow=8.6,SNR=10								
MKAR	**Makanchi Array**	**48.25**	**346**	P		**P**		**15 10 58.0**	**+0.2**
	2.7nm,0.7s,mb4.4,baz=166,slow=8.9,SNR=19								
MKAR				pP		pP		15 11 07.8	+0.2
	1.0nm,0.5s,baz=164,slow=9.1,SNR=7.5								
ULN	**Ulaanbaatar**	**48.34**	**9**	P		**P**		**15 10 57.4**	**-1.1**
PMG	**Port Moresby**	**50.76**	**102**	P		**P**		**15 11 17.6**	**+0.6**
	35nm,1.2s,mb5.2,baz=318,slow=12,SNR=2.0								
JHJ	**Hachijo jima 2**	**51.86**	**46**	P		**P**		**15 11 27.8**	**+2.6**
	67nm,0.6s,baz=214,slow=18,SNR=2.8								
STKA	**Stephens Creek**	**52.75**	**131**	P		**P**		**15 11 31.0**	**-0.8**
	1.9nm,0.8s,mb4.1,baz=319,slow=11,SNR=3.4								
ZAL	**Zalesovo**	**54.59**	**351**	P		**P**		**15 11 46.2**	**+1.0**
	3.8nm,0.3s,mb4.9,baz=318,slow=6.2,SNR=15								
ZAL				pP		pP		15 11 56.2	+1.1
	3.1nm,0.5s,baz=326,slow=4.7,SNR=4.9								
ZAL	**Zalesovo**	**54.59**	**351**	P		**P**		**15 11 46.2**	**+1.0**
ZAL				pP		pP		15 11 56.2	+1.1
MALT	**Malatya**	**65.74**	**313**	*e*P		**P**		**15 13 02.2**	**+0.5**
	3.1nm,0.9s,mb4.3								
BRTR	**Keskin Array B**	**69.73**	**313**	P		**P**		**15 13 26.3**	**-0.5**
	1.3nm,0.8s,mb3.9,baz=129,slow=5.6,SNR=6.8								
AKASG	**Malin Array Be**	**76.02**	**323**	P		**P**		**15 14 03.4**	**-0.7**
	2.2nm,0.6s,mb4.3,baz=96,slow=4.8,SNR=9.8								
AKASG				pP		pP		15 14 12.7	-1.6
	0.7nm,0.4s,baz=94,slow=5.2,SNR=3.6								
AKASG	**Malin Array Be**	**76.02**	**323**	P		**P**		**15 14 03.4**	**-0.7**
AKASG				pP		pP		15 14 12.7	-1.6
FINES	**FINESS Array B**	**80.88**	**333**	P		**P**		**15 14 30.6**	**-0.3**
	1.2nm,0.6s,mb4.0,baz=98,slow=5.8,SNR=7.0								
FINES				pP		pP		15 14 39.9	-1.3
	0.9nm,0.6s,baz=114,slow=4.6,SNR=1.8								
ARCES	**ARCESS Array B**	**83.50**	**340**	P		**P**		**15 14 44.7**	**+0.1**
	5.2nm,1.0s,mb4.5,baz=99,slow=5.2,SNR=12								
ARCES				pP		pP		15 14 54.5	-0.4
	1.2nm,0.4s,baz=108,slow=4.0,SNR=1.6								
ARCES	**ARCESS Array B**	**83.50**	**340**	P		**P**		**15 14 44.7**	**+0.1**
ARCES				pP		pP		15 14 54.5	-0.5
GERES	**GERESS Array B**	**85.53**	**319**	P		**P**		**15 14 55.0**	**+0.2**
	0.1nm,0.3s,mb3.5,baz=90,slow=6.7,SNR=5.3								
GERES				pP		pP		15 15 05.3	+0.1
	0.4nm,0.7s,baz=42,slow=2.2,SNR=2.7								
JMIC	**Jan Mayen**	**94.93**	**342**	LR		LR		15 59 22.4	
	comp=Z,307nm,21.3s,MS4.7,baz=210,slow=36								

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*IDC **15** 15:12:46.5±4.8, 3646S×17721E, h263km±60km, mb3.3/2, mb1 3.6/2, mb1mx3.1/10, mbtmp3.9/2, Error ellipse: s-maj=139.2km s-min=32.7km az=5.0*
*ISCJB **15** 15:12:49.3±0.7, 37.12S±005×17694E±008, h301km±4km, mb3.5/3, Error ellipse: s-maj=10.3km s-min=8.1km az=179.0*
*WEL **15** 15:12:51.6±0.5, 3693S×17695E, h272km±3km, ML4.9/21, Error ellipse: s-maj=3.9km s-min=3.6km az=90.0*
*NEIC **15** 15:12:51.3, 3702S×17693E, h279km, MG4.9(WE

HIZ Hauiti 2.15 229 P **Pn** **15 13 38.9 +1.2**
KRVZ Karewarewa 2.21 207 PN **Pn** **15 13 38.8 +0.5**
WTVZ West Tongariro 2.25 207 PN **Pn** **15 13 39.2 +0.6**
WTVZ West Tongariro 2.25 207 P **Pn** **15 13 39.4 +0.8**
OTVZ Oturere 2.27 206 PN **Pn** **15 13 39.1 +0.3**
OTVZ SN **S** **15 14 17.2 -0.1**
TWVZ Taurewa 2.27 211 PN **Pn** **15 13 39.4 +0.7**
TWVZ Taurewa 2.27 211 P **Pn** **15 13 39.5 +0.7**
NGZ Ngauruhoe 2.30 207 PN **Pn** **15 13 40.3 +1.3**
NGZ Ngauruhoe 2.30 207 P **Pn** **15 13 40.3 +1.3**
WPVZ Whakapapa 2.34 207 PN **Pn** **15 13 40.2 +0.8**
WPVZ Whakapapa 2.34 207 P **Pn** **15 13 40.3 +0.9**
TUVZ Tukino 2.36 205 PN **Pn** **15 13 40.4 +0.8**
TUVZ Tukino 2.36 205 P **Pn** **15 13 40.5 +0.9**
FWVZ Far West T-bar 2.39 207 PN **Pn** **15 13 40.3 +0.5**
DRZ Dome Shelter 2.40 206 PN **Pn** **15 13 41.2 +1.3**
DRZ Dome Shelter 2.40 206 P **Pn** **15 13 41.3 +1.4**
TRVZ Turoa 2.43 206 PN **Pn** **15 13 40.9 +0.8**
WNVZ Wahianoa 2.44 205 PN **Pn** **15 13 40.9 +0.7**
WNVZ Wahianoa 2.44 205 P **Pn** **15 13 41.0 +0.8**
MOVZ Moawhango 2.46 202 PN **Pn** **15 13 40.8 +0.3**
MOVZ Moawhango 2.46 202 P **Pn** **15 13 40.8 +0.3**
PKVZ Pokaka 2.49 209 PN **Pn** **15 13 41.8 +1.0**
MTVZ Mangateitei 2.53 206 PN **Pn** **15 13 41.8 +0.7**
MTVZ SN **S** **15 14 22.1 +0.5**
VRZ Vera Road 2.63 220 PN **Pn** **15 13 43.3 +1.3**
VRZ SN **S** **15 14 26.0 +2.8**
VRZ Vera Road 2.63 220 P **Pn** **15 13 43.4 +1.4**
PXZ Pawanui 2.90 181 PN **Pn** **15 13 45.4 +0.7**
RAEZ Rainy Point 2.94 222 PN **Pn** **15 13 46.6 +1.6**
RAEZ Rainy Point 2.94 222 P **Pn** **15 13 46.6 +1.6**
TSZ Takapari Road 3.03 194 PN **Pn** **15 13 46.2 +0.3**
TSZ Takapari Road 3.03 194 P **Pn** **15 13 46.2 +0.3**
WAZ Wanganui 3.04 209 PN **Pn** **15 13 46.5 +0.5**
WAZ Wanganui 3.04 209 P **Pn** **15 13 46.7 +0.7**
NEZ North Egmont 3.09 225 PN **Pn** **15 13 48.8 +2.3**
NEZ North Egmont 3.09 225 P **Pn** **15 13 48.9 +2.4**
PKE Pukeiti 3.10 227 PN **Pn** **15 13 48.3 +1.7**
PKE Pukeiti 3.10 227 P **Pn** **15 13 48.6 +1.9**
NWEZ Newall Road 3.23 227 P **Pn** **15 13 49.8 +1.9**
NRZ Ngariki Road 3.23 226 P **Pn** **15 13 49.5 +1.6**
BFZ Birch Farm 3.59 188 PN **Pn** **15 13 52.2 +0.5**
MRZ Mangatainoka R 3.68 196 PN **Pn** **15 13 52.6 -0.2**
MRZ Mangatainoka R 3.68 196 P **Pn** **15 13 52.6 -0.1**
TIWZ Tintock 3.74 192 PN **Pn** **15 13 53.9 +0.6**
KIW Kapiti Island 4.05 202 PN **Pn** **15 13 56.5 -0.2**
KIW Kapiti Island 4.05 202 P **Pn** **15 13 56.5 -0.2**
MTW Mount Morrison 4.18 195 PN **Pn** **15 13 57.6 -0.6**
MTW Mount Morrison 4.18 195 P **Pn** **15 13 58.1 -0.1**
CAW Cannon Point 4.23 199 PN **Pn** **15 13 58.4 -0.4**
CAW Cannon Point 4.23 199 P **Pn** **15 13 58.5 -0.3**
DUWZ D'Urville Isla 4.35 212 PN **Pn** **15 13 59.3 -0.8**
TRWZ Traveller 4.38 192 PN **Pn** **15 14 00.4 +0.1**
PAWZ Paruwai Farm 4.41 195 PN **Pn** **15 14 00.8 +0.1**
PAWZ Paruwai Farm 4.41 195 P **Pn** **15 14 00.9 +0.2**
MRW Makara Radio 4.45 202 PN **Pn** **15 14 00.6 -0.6**
MRW Makara Radio 4.45 202 P **Pn** **15 14 00.9 -0.3**
MSWZ Moikau Station 4.48 196 PN **Pn** **15 14 01.0 -0.5**
MSWZ Moikau Station 4.48 196 P **Pn** **15 14 01.0 -0.5**
SNZO South Karori 4.52 202 PN **Pn** **15 14 01.5 -0.5**
SNZO South Karori 4.52 202 P **Pn** **15 14 01.6 -0.4**
SNZO *e*S **S** **15 14 56.1 -3.4**
BHW Baring Head 4.56 200 PN **Pn** **15 14 02.2 -0.3**
BHW Baring Head 4.56 200 P **Pn** **15 14 02.3 -0.2**
TCW Tory Channel 4.57 206 PN **Pn** **15 14 02.0 -0.6**
TCW Tory Channel 4.57 206 P **Pn** **15 14 02.2 -0.4**
TUWZ Tuamarina 4.88 207 PN **Pn** **15 14 05.3 -0.9**
NNZ Nelson 4.93 213 PN **Pn** **15 14 05.5 -1.2**
NNZ SN **S** **15 15 05.8 -2.3**
QRZ Quartz Range 5.04 221 PN **Pn** **15 14 06.3 -1.7**
QRZ Quartz Range 5.04 221 P **Pn** **15 14 06.4 -1.6**
BSWZ Blackbirch Sta 5.16 206 PN **Pn** **15 14 08.9 -0.5**
BSWZ Blackbirch Sta 5.16 206 P **Pn** **15 14 09.1 -0.3**
THZ Tophouse 5.58 213 PN **Pn** **15 14 12.6 -1.8**
THZ Tophouse 5.58 213 *e*P **Pn** **15 14 13.1 -1.3**
KHZ Kahutara 5.89 205 PN **Pn** **15 14 17.8 -0.3**
KHZ Kahutara 5.89 205 P **Pn** **15 14 17.9 -0.2**
DSZ Denniston Nort 6.08 219 PN **Pn** **15 14 18.3 -2.1**
DSZ Denniston Nort 6.08 219 P **Pn** **15 14 18.9 -1.5**
LTZ Lake Taylor 6.69 211 PN **Pn** **15 14 26.9 -0.8**
LTZ Lake Taylor 6.69 211 *e*P **Pn** **15 14 26.9 -0.8**
CRLZ Canterbury Las 7.23 206 PN **Pn** **15 14 33.2 -1.2**
CRLZ Canterbury Las 7.23 206 *e*P **Pn** **15 14 33.3 -1.1**
MQZ McQueen's Vall 7.34 205 PN **Pn** **15 14 34.3 -1.4**
MQZ McQueen's Vall 7.34 205 *e*P **Pn** **15 14 34.3 -1.4**
WVZ Waitaha Valley 7.60 217 PN **Pn** **15 14 37.4 -1.5**
RPZ Rata Peaks 7.96 212 PN **Pn** **15 14 41.9 -1.4**
RPZ Rata Peaks 7.96 212 *e*P **Pn** **15 14 42.0 -1.3**
LBZ Lake Benmore 8.87 213 *e*PN **Pn** **15 14 52.9 -1.6**
ODZ Otahua Downs 9.22 209 *e*PN **Pn** **15 14 58.6 -0.2**
ASAR Alice Springs 39.13 278 P **P** **15 19 50.1 +0.2**
0.8nm,0.5s,mb3.4,baz=121,slow=7.9,SNR=43
WRA Warramunga Arr 40.77 283 P **P** **15 20 03.1 -0.2**
0.9nm,0.4s,mb3.4,baz=120,slow=7.7,SNR=37
QSPA South Pole Qui 53.00 180 *e*P **P** **15 21 40.7 +3.4**
2.8nm,0.6s,mb3.8
ARCES ARCESS Array B 144.04 343 PKP PKPdf 15 31 47.0 -3.9
2.9nm,0.7s,baz=45,slow=3.6,SNR=7.0
JOF Joensuu 146.74 332 *e*p PKPdf 15 31 54.5 -1.0
KAF Kangasniemi 149.08 333 *e*p PKPdf 15 32 00.7 +1.4
FINES FINESS Array B 149.59 332 PKPbc PKPbc 15 32 02.5 -2.6
1.3nm,0.6s,baz=57,slow=4.5,SNR=7.1

*ISCJB **15** 15:13:13.5±0.6,3800N±004×14044E±006,h135km±4km, mb3.7/3,Error ellipse: s-maj=8.8km s-min=5.3km az=84.0*
*JMA **15** 15:13:14.6±0.1,3798N×14045E,h132km±1km,M3.3*
*MOS **15** 15:13:15.5±1.0,3880N×13894E,h43km,mb4.0/1,Error ellipse: s-maj=34.7km s-min=13.7km az=79.1*
*IDC **15** 15:13:17.1±2.2,3857N×13958E,h86km±37km,mb3.5/3, mb1 3.5/5,mb1mx3.3/20,mbtmp3.7/5,Error ellipse: s-maj=61.0km s-min=19.3km az=120.0*
*NEIC **15** 15:13:20.1±0.8,3837N×139.11E,h100km,Error ellipse: s-maj=19.5km s-min=9.2km az=100.0*
ISC 15 15:13:14.3±0.6,3800N±004×14044E±006,h134km±4km, n26,σ0°53/44,mb3.7/3,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.31**	**115**	P	**Pn**	**15 13 33.1**	**+0.2**
JMM				S	**Sn**	15 13 46.8	-0.2
JYS	**Shiratake**	**0.37**	**307**	P	**Pn**	**15 13 33.6**	**+0.4**
JYS				S	**Sn**	**15 13 47.9**	**+0.5**
JOU	**Okura**	**0.41**	**26**	P	**Pn**	**15 13 33.9**	**+0.6**
JOU				S	**Sn**	**15 13 48.3**	**+0.6**
JFT	**Otama**	**0.49**	**190**	P	**Pn**	**15 13 33.8**	**+0.1**
JFT				S	**Sn**	**15 13 48.2**	**-0.2**
JFK	**Kawauchi**	**0.72**	**151**	P	**Pn**	15 13 35.2	0.0
JFK				S	**Sn**	15 13 50.0	-1.1
JYA	**Atsumi**	**0.82**	**316**	P	**Pn**	15 13 36.3	+0.3
JYA				*e*S	**Sn**	15 13 52.9	+0.4
JFY	**Yanaizu**	**0.83**	**225**	P	**Pn**	15 13 36.3	+0.2
JFY				*e*S	**Sn**	15 13 52.6	0.0
JIO	**Ouri**	**0.85**	**57**	P	**Pn**	15 13 36.4	+0.2
JIO				S	**Sn**	15 13 51.9	-1.0
JNS	**Sasagawa**	**0.91**	**259**	P	**Pn**	15 13 36.8	+0.1
JNS				S	**Sn**	15 13 53.6	-0.1
JYK	**Kaneyama**	**0.92**	**356**	P	**Pn**	15 13 37.2	+0.4
JYK				S	**Sn**	15 13 54.3	+0.3
JAW	**Awa shima**	**1.04**	**296**	P	**Pn**	15 13 38.1	+0.2
JAW				*e*S	**Sn**	15 13 55.2	-0.7
JMK	**Ichinoseki**	**1.13**	**33**	P	**Pn**	15 13 39.1	+0.3
JMK				S	**Sn**	15 13 57.7	+0.3
JOM	**Ohasama**	**1.62**	**24**	P	**Pn**	15 13 44.5	+0.5
JOM				S	**Sn**	15 14 06.3	-0.3
JSD	**Sado**	**1.72**	**272**	P	**Pn**	15 13 44.9	-0.2
JSD				S	**Sn**	15 14 07.6	-1.1
JAG	**Ashikaga**	**1.76**	**207**	P	**Pn**	15 13 45.9	+0.3
MJAR	**Matsushiro Arr**	**2.30**	**231**	P	**Pn**	15 13 52.5	+0.4
2.6nm,0.3s,baz=37,slow=10,SNR=34
MJAR S **Sn** **15 14 21.6 +0.5**
1.1nm,0.3s,baz=24,slow=21,SNR=7.6
MJAR Matsushiro Arr 2.30 231 P **Pn** **15 13 52.5 +0.4**
MJAR S **Sn** **15 14 21.6 +0.5**
MAJO Matsushiro 2.30 231 *e*P **Pn** **15 13 52.2 +0.1**
MAT Matsushiro 2.30 231 P **Pn** **15 13 52.3 +0.2**
MAT S **Sn** **15 14 20.6 -0.5**
MAT Matsushiro 2.30 231 *e*P **Pn** **15 13 52.0 -0.1**
MAT *e*S **Sn** **15 14 21.0 -0.1**

ASAJ Asahikawa 6.33 14 P **Pn** **15 14 43.4 -1.8**
0.4nm,0.3s,baz=207,slow=12,SNR=6.5
PET Petropavlovsk 19.63 34 *e*P **P** **15 17 43.6 +11**
SONM Songino Array 26.61 303 P **P** **15 18 39.4 -0.7**
0.5nm,0.6s,mb3.3,baz=102,slow=9.1,SNR=4.6
ZAL Zalesovo 40.71 312 P **P** **15 20 42.2 +0.6**
1.1nm,0.3s,mb4.0,baz=7.1,slow=18,SNR=3.0
MKAR Makanchi Array 42.95 301 P **P** **15 20 60.0 +0.1**
1.3nm,0.7s,mb3.7,baz=86,slow=9.9,SNR=9.9
MKAR Makanchi Array 42.95 301 P **P** **15 20 60.0 +0.1**

*NEIC **15** 15:20:01.0,2300S×13178E,h0km,ML2.8(AUST),After AUST.*
AUST 15 15:20:01.2,2300S×13178E,h0km,ML2.8,Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASPA	**Alice Springs**	**2.06**	**109**	*e*P	Pn	15 20 35.8	-1.3
ASPA				*e*S	Sn	15 21 01.7	-1.8
AS31	**Alice Springs**	**2.06**	**109**	*e*P	Pn	15 20 35.8	-1.4
AS31				*e*S	Sn	15 21 01.7	-1.9
WB2	**Warramunga Arr**	**3.88**	**39**	*e*P	Pn	15 21 00.0	-2.1
WB2				*e*S	Sn	15 21 44.2	-4.1
FITZ	**Fitzroy Crossi**	**7.54**	**309**	*e*P	Pn	15 21 50.0	-2.4
FITZ				*e*S	Sn	15 23 09.8	-8.7
1.9nm,0.3s
FITZ Fitzroy Crossi 7.54 309 *e*P Pn 15 21 50.0 -2.4
1.9nm,0.3s
FITZ *e*S Sn 15 23 09.8 -8.7
QIS Mount Isa 7.67 73 *e*P Pn 15 21 50.7 -3.5
QIS *e*S Sn 15 23 10.6 -11
1.4nm,0.2s
QIS Mount Isa 7.67 73 *e*P Pn 15 21 50.7 -3.5
1.4nm,0.2s
QIS *e*S Sn 15 23 10.6 -11
KNA Kununurra 7.75 338 *e*P Pn 15 21 52.0 -3.3
KNA *e*S Sn 15 23 14.2 -10
KAKA Kakadu 10.26 4 *e*P Pn 15 22 24.1 -5.5
KAKA *e*S Sn 15 24 13.2 -12
8.0nm,0.6s
KAKA Kakadu 10.26 4 *e*P Pn 15 22 24.1 -5.5
8.0nm,0.6s
KAKA *e*S Sn 15 24 13.2 -12
MBWA Marble Bar 11.32 277 *e*P Pn 15 22 41.3 -2.9
MBWA *e*S Sn 15 24 37.6 -14
MEEK Meekatharra 12.49 250 *e*P Pn 15 22 54.0 -6.2
MEEK *e*S Sn 15 25 03.4 -17
3.8nm,0.5s
MEEK Meekatharra 12.49 250 *e*P Pn 15 22 54.0 -6.2
3.8nm,0.5s
MEEK *e*S Sn 15 25 03.4 -17

*ISCJB **15** 15:36:49.6±1.6,4395N±005×785E±009,h2km,Error ellipse: s-maj=9.4km s-min=7.4km az=3.0*
*LDG **15** 15:36:50.0±0.5,4398N×787E,h2km,Md2.0/1,Ml2.3/4, Error ellipse: s-maj=8.0km s-min=5.0km az=87.0*
*STR **15** 15:36:52.0±1.0,4395N×780E,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 15 15:36:49.4±2.0,4395N±006×79E±01,h1km±9km,n9, σ0°70/17,Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.35**	**277**	Pg	**Pg**	**15 36 56.6**	**+0.5**
AUTN				Sg	**Sg**	**15 37 01.2**	**+0.5**
SBF	**Sospel**	**0.35**	**256**	*e*Pg	**Pg**	**15 36 56.6**	**+0.4**
SBF				*e*Sg	**Sg**	**15 37 01.0**	**+0.2**
45nm,0.2s
TOUF Mont Tournerai 0.48 278 Pg **Pg** **15 36 58.8 +0.2**
TOUF Sg **Sg** **15 37 05.1 +0.3**
FRF La Foret Royal 0.99 247 *e*Pg **Pg** **15 37 08.8 +0.3**
FRF *e*Sg **Sg** **15 37 20.9 -0.4**
9.6nm,0.3s
MBDF Montbardon 1.12 314 *e*Sg **Sg** **15 37 24.7 -0.9**
5.6nm,0.3s
LMR La Mourre 1.19 239 *e*Pg **Pg** **15 37 11.8 -0.4**
LMR *e*Sg **Sg** **15 37 26.8 -0.8**
5.3nm,0.2s
TAVF Tavernes 1.38 257 Pn **Pn** **15 37 15.8 0.0**
TAVF Sn **Sn** **15 37 34.2 -0.5**
VILF Villemus 1.59 267 Pn **Pn** **15 37 19.6 +0.9**
VILF Sg **Sg** **15 37 42.1 +1.7**
SMRF Simiane la Rot 1.68 272 *e*Pg **Pg** **15 37 20.6 -1.1**
SMRF *e*Sg **Sg** **15 37 42.7 -0.8**
7.2nm,0.4s

*MOS **15** 15:38:46.3±0.9,604N×12681E,h98km,mb4.8/23,Error ellipse: s-maj=16.4km s-min=7.3km az=109.4*
*ISCJB **15** 15:38:49.9±0.7,603N±004×12692E±006,h134km±5km, mb4.5/54,Error ellipse: s-maj=10.5km s-min=5.8km az=150.9*
*IDC **15** 15:38:50.3±2.3,601N×12695E,h124km±21km,mb4.1/16, mb1 4.1/16,mb1mx4.0/21,mbtmp4.5/16,Error ellipse: s-maj=27.3km s-min=10.3km az=80.0*
*BJI **15** 15:38:50.7,613N×12668E,h124km,mB4.7,mb4.6*
*NEIC **15** 15:38:51.8±0.8,601N×12682E,h136km±7km,mb4.7/23, Error ellipse: s-maj=9.0km s-min=4.7km az=80.0*
*MAN **15** 15:39:01.5,668N×12636E,h66km,mb4.0,ML5.0,MS4.5*
ISC 15 15:38:51.2±0.7,603N±004×12692E±006,h128km±5km, h130km±4.8km:pP-P,n103,σ0°86/108,mb4.6/54,7C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.68**	**308**	⇓*e*P	**Pn**	**15 39 21.5**	**+0.3**
DAV	**Davao City (W)**	**1.68**	**308**	*e*Pn	**Pn**	**15 39 20.8**	**-0.4**
DMPH	**Davao City--Mi**	**1.75**	**307**	⇑*i*P	**Pn**	**15 39 21.6**	**-0.3**
DMPH				*i* S	**Sn**	**15 39 57.7**	**+12**
KCP	**Kidapawan**	**2.06**	**298**	⇑*e*P	**Pn**	**15 39 26.8**	**+1.2**
KCP				*i* S	**Sn**	**15 39 53.2**	**+1.1**
CTBH	**Cotabato--PC H**	**2.90**	**294**	⇓*i*P	**Pn**	**15 39 35.7**	**-0.7**
CTBH				*i* S	**Sn**	**15 40 11.6**	**+0.3**
CGP	**Cagayan de Oro**	**3.26**	**318**	⇑*e*P	**Pn**	**15 39 39.9**	**-1.2**
CGP				*e*S	**Sn**	**15 40 18.3**	**-1.3**
SCPH	**Surigao**	**3.98**	**339**	*e*P	**Pn**	**15 39 50.4**	**-0.2**
SCPH				*e*S	Sn	15 40 14.3	-22
KKM	**Kota Kinabalu**	**10.64**	**271**	*e*Pn	**Pn**	**15 41 20.6**	**+0.6**
KKM				*e*		15 41 30.9	
KSM	**Kuching**	**17.18**	**255**	*e*Pn	**Pn**	**15 42 43.2**	**-0.1**
KAKA	**Kakadu**	**19.41**	**164**	*e*P	**P**	**15 43 06.8**	**-0.5**
50nm,0.6s
JOW Kunigami 20.72 3 P **P** **15 43 21.4 0.0**
11nm,0.8s,baz=148,slow=19,SNR=4.0
FITZ Fitzroy Crossi 24.02 183 *e*P **P** **15 43 53.9 -0.2**
15nm,0.5s,mb4.6
FITZ Fitzroy Crossi 24.02 183 P **P** **15 43 54.3 +0.3**
8.1nm,0.5s,mb4.3,baz=14,slow=8.4,SNR=36
CBIJ Chichi jima 25.49 33 P **P** **15 44 06.2 -1.3**
23nm,0.4s,mb5.0,baz=170,slow=19,SNR=7.5
SSE Sheshan 25.50 349 P **P** **15 44 05.9 -1.7**
SSE AMB AMB
comp=Z,30nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,70nm,3.7s
WRA Warramunga Arr 26.83 164 P **P** **15 44 19.0 -0.4**
comp=Z,3.2nm,0.5s,mb4.1,baz=339,slow=10,SNR=22
WRA ScP ScP 15 51 08.2 +1.1
comp=Z,1.1nm,0.7s,baz=340,slow=3.4,SNR=6.6
WB2 Warramunga Arr 26.83 164 *e*P **P** **15 44 19.4 -0.1**
NJ2 Nanjing 26.96 345 *e*P **P** **15 44 21.1 +0.5**
NJ2 AP pP 15 44 51.0 +3.0
NJ2 XP sP 15 45 07.3 +4.5
NJ2 PP PP 15 45 11.6 -12
NJ2 S **S** **15 48 44.0 -4.4**
NJ2 XS sS 15 49 35.0 -1.5
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
NJ2 AMB AMB
comp=Z,60nm,7.5s
NJ2 LR LR
comp=N,180nm,16.0s
NJ2 LR LR
comp=E,130nm,13.1s
NJ2 LR LR
comp=Z,80nm,10.5s
MBWA Marble Bar 27.93 194 *e*P **P** **15 44 28.9 -0.4**
comp=Z,9.3nm,0.6s,mb4.5
KMI Kunming 29.94 312 P **P** **15 44 48.4 +1.3**
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
AS31 Alice Springs 30.30 167 *e*P **P** **15 44 50.5 +0.3**
ASAR Alice Springs 30.30 167 P **P** **15 44 50.4 +0.2**
comp=Z,1.2nm,0.4s,mb3.9,baz=342,slow=7.0,SNR=49
ASAR ScP ScP 15 51 19.1 +1.1
comp=Z,0.8nm,0.7s,baz=351,slow=2.5,SNR=6.7
ASPA Alice Springs 30.30 167 *e*P **P** **15 44 50.5 +0.3**
MJAR Matsushiro Arr 32.08 17 P **P** **15 45 05.8 -0.1**
comp=Z,2.2nm,0.7s,mb4.0,baz=191,slow=9.0,SNR=6.5
XAN Xi'an 32.47 331 P **P** **15 45 09.3 0.0**
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CD2 Chengdu 32.93 322 *e*P **P** **15 45 13.6 +0.2**
CD2 AP pP 15 45 41.1 0.0
CD2 XP sP 15 45 55.9 +0.1
CD2 PP PP 15 46 28.8 -1.5
CD2 S **S** **15 50 21.8 -0.1**
CD2 XS sS 15 51 09.9 -0.5
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
CD2 AMB AMB
comp=Z,40nm,5.9s
CD2 LR LR
comp=N,60nm,13.2s
CD2 LR LR
comp=Z,50nm,12.0s
BJT Baijiatuau 35.19 346 *e*P **P** **15 45 33.2 +0.4**
BJT pmax pmax
comp=Z,15nm,0.6s
BJT Baijiatuau 35.19 346 *e*P **P** **15 45 33.2 +0.4**
comp=Z,15nm,0.6s,mb5.0
FORT Forrest 36.62 178 *e*P **P** **15 45 45.4 +0.4**
comp=Z,19nm,0.7s,mb5.1
LZH Lanzhou 36.64 328 *e*P **P** **15 45 46.5 +1.3**
LZH AP pP 15 46 14.5 +1.1
LZH XP sP 15 46 29.5 +1.6
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.0
HHC Hu-ho-hao-te 37.29 341 *e*P **P** **15 45 53.8 +3.1**
HHC AP pP 15 46 21.6 +2.7
HHC XP sP 15 46 36.8 +3.3
HHC PCP PcP 15 48 09.3 +1.9
HHC SCP ScP 15 51 44.6 +2.0
HHC PCS PcS 15 51 57.3 +1.4
HHC SCS ScS 15 55 51.8 +0.9
HHC AMB AMB
comp=Z,30nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,90nm,6.6s
HHC LR LR
comp=N,100nm,9.6s
HHC LR LR
comp=E,90nm,4.5s
HHC LR LR
comp=Z,110nm,6.1s
CN2 Changchun 37.64 358 *e*P **P** **15 45 56.8 +3.2**
KLBR Kellerberrin 38.42 193 *e*P **P** **15 46 01.3 +1.1**
comp=Z,21nm,0.8s,mb5.0
MDJ Mudanjiang 38.50 3 P **P** **15 46 02.5 +1.7**
MDJ AP pP 15 46 29.5 +0.3
MDJ XP sP 15 46 44.6 +0.9
MDJ PP PP 15 47 32.8 +1.3
MDJ PCP PcP 15 48 14.0 +2.8
MDJ SCP ScP 15 51 51.9 +4.7
MDJ PCS PcS 15 52 00.0 -0.5
MDJ XS sS 15 52 36.1 0.0
MDJ AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,80nm,3.7s
MDJ Mudanjiang 38.50 3 P **P** **15 46 01.1 +0.3**
comp=Z,9.2nm,0.8s,mb4.7
MUN Mundaring 39.15 194 *e*P **P** **15 46 06.8 +0.5**
NWAO Narrogin (SRO) 39.82 193 *e*P **P** **15 46 12.4 +0.6**
NWAO pmax pmax
comp=Z,19nm,0.7s
NWAO Narrogin (SRO) 39.82 193 *e*P **P** **15 46 12.4 +0.6**
comp=Z,19nm,0.7s,mb5.0
STKA Stephens Creek 40.22 160 ⇓*i*P **P** **15 46 13.4 -1.7**
comp=Z,5.4nm,0.7s,mb4.5
STKA Stephens Creek 40.22 160 P **P** **15 46 13.7 -1.3**
comp=Z,6.7nm,0.6s,mb4.6,baz=337,slow=10,SNR=22
ASAJ Asahikawa 40.35 17 P **P** **15 46 16.7 +0.5**
comp=Z,7.7nm,0.7s,mb4.7,baz=247,slow=7.7,SNR=7.9
LSA Lhasa 41.10 309 P **P** **15 46 22.5 +0.2**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
LSA Lhasa 41.10 309 P **P** **15 46 22.5 +0.2**
comp=Z,3.5nm,0.6s,mb4.4
GTA Gaotai 41.24 328 *e*P **P** **15 46 24.4 +0.9**
HABR Khabarovsk 42.85 8 P **P** **15 46 34.4 -2.2**
HABR S **S** **15 52 46.5 -4.9**
YSS Yuzh-Sakhalins 42.99 16 *e*P **P** **15 46 38.8 +1.1**
YSS pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
YSS Yuzh-Sakhalins 42.99 16 *e*P **P** **15 46 38.8 +1.1**
comp=Z,7.6nm,0.7s,mb4.5
JIRN Jiri 44.21 304 *e*P **P** **15 46 47.0 -0.5**
comp=Z,24nm,0.8s,mb5.0
GUN Gumba 44.56 304 *e*P **P** **15 46 50.4 +0.2**
comp=Z,22nm,0.6s,mb5.0
PKI Pulchoki 44.83 303 *e*P **P** **15 46 51.4 -0.9**
ULN Ulaanbaatar 45.01 341 *c i*P **P** **15 46 54.7 +1.0**
ULN Ulaanbaatar 45.01 341 *e*P **P** **15 46 54.5 +0.7**
comp=Z,8.7nm,0.8s,mb4.5
KKN Kakani 45.01 304 *e*P **P** **15 46 52.6 -1.2**
comp=Z,22nm,1.0s,mb4.8
KKN Kakani 45.01 304 *e*P **P** **15 46 52.6 -1.2**
KKN pmax pmax
comp=Z,22nm,1.0s,mb4.8
DMN Daman 45.09 303 *e*P **P** **15 46 53.1 -1.3**
SONM Songino Array 45.19 341 P **P** **15 46 56.2 +1.0**
comp=Z,3.2nm,0.8s,mb4.1,baz=156,slow=9.2,SNR=20
SONM PcP PcP 15 48 32.4 -0.9
comp=Z,0.9nm,0.7s,baz=168,slow=3.5,SNR=3.7
MOY Mondy 50.30 339 *e*P **P** **15 47 36.1 +1.5**
WMQ Urumqi 50.97 324 *e*P **P** **15 47 40.3 +0.7**
PET Petropavlovsk 53.55 23 P **P** **15 47 59.5 +0.8**
PET pmax pmax
comp=Z,49nm,1.1s,mb5.5
PET Petropavlovsk 53.55 23 P **P** **15 47 59.5 +0.8**
comp=Z,49nm,1.1s,mb5.5
MK31 Makanchi Array 55.79 324 P **P** **15 48 15.0 +0.2**
MK31 pmax pmax
comp=Z,13nm,0.9s,mb5.0
MKAR Makanchi Array 55.79 324 P **P** **15 48 15.1 +0.2**
comp=Z,5.5nm,0.4s,mb4.9,baz=116,slow=7.5,SNR=98
MKAR PcP PcP 15 49 12.3 0.0
comp=Z,1.7nm,0.7s,baz=127,slow=5.0,SNR=4.2
MKAR Makanchi Array 55.79 324 P **P** **15 48 15.1 +0.2**
MKAR PcP PcP 15 49 12.3 0.0
YAK Yakutsk 55.91 2 *d i*P **P** **15 48 16.1 +0.4**
YAK pmax pmax
comp=Z,20nm,0.7s,mb5.3
YAK Yakutsk 55.91 2 *e*P **P** **15 48 16.0 +0.3**
comp=Z,23nm,0.8s,mb5.3
MA2 Magadan 56.44 14 P **P** **15 48 20.4 +1.0**
ZAL Zalesovo 58.64 332 P **P** **15 48 35.0 +0.2**
comp=Z,1.7nm,0.6s,mb4.3,baz=3.6,slow=5.8,SNR=7.7
AAK Ala-Archa 58.80 317 ⇓*e*P **P** **15 48 35.4 -0.5**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KURK Kurchatov 59.92 327 *i*P **P** **15 48 43.6 0.0**
KURK pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
KK31 Karatay Array 61.70 316 *i*P **P** **15 48 55.3 -0.4**
KK31 pmax pmax
comp=Z,12nm,0.7s,mb5.0
KKAR Karatay Array 61.70 316 P **P** **15 48 55.3 -0.4**
KKAR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VOSK Vostochnaya 65.06 326 P **P** **15 49 17.1 -0.7**
VOSK pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
BVA0 Borovoye Array 65.51 326 P **P** **15 49 20.4 -0.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
TIXI Tiksi 65.55 1 ⇑*e*P **P** **15 49 21.1 +0.1**
TIXI pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
CHKZ Chkalovo 65.66 327 *e*P **P** **15 49 20.4 -1.2**
CHKZ pmax pmax
comp=Z,12nm,1.2s,mb4.6
CHKZ Chkalovo 65.66 327 *e*P **P** **15 49 20.4 -1.3**

comp=Z,12nm,1.2s,mb4.6
ZRNK Zerenda 66.25 326 *e*P **P 15 49 25.2 -0.2**
ZRNK pmax pmax
comp=Z,20nm,0.6s,mb5.1
ZRNK Zerenda 66.25 326 *e*P **P 15 49 25.2 -0.2**
comp=Z,20nm,0.6s,mb5.1
BILL Bilibino 67.29 15⇑*e*P **P 15 49 32.6 +0.5**
BILL pmax pmax
comp=Z,7.0nm,2.0s,mb4.1
BILL Bilibino 67.29 15 *e*P **P 15 49 31.7 -0.3**
comp=Z,3.2nm,1.0s,mb4.1
AB31 Akbulak array 70.50 320 P **P 15 49 51.7 -0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ORR Orenburg 74.24 322 *e*P **P 15 50 14.3 +0.2**
ORR pmax pmax
comp=Z,30nm,1.4s,mb4.8
KIV Kislovodsk 81.69 313⇑*e*P **P 15 50 56.4 +1.1**
KIV pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
MCK McKinley 82.03 27 *e*P **P 15 50 57.4 +0.4**
MCK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MCK McKinley 82.03 27 *e*P **P 15 50 57.4 +0.3**
comp=Z,4.6nm,0.7s,mb4.4
SML Sawmill 82.23 29 *e*P **P 15 50 58.2 +0.1**
KLMR Klimovskoe 83.50 331 *e*P **P 15 51 03.1 -1.5**
KLMR pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
MALT Malatya 85.12 308 *e*P **P 15 51 13.9 +1.1**
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MALT Malatya 85.12 308 *e*P **P 15 51 13.8 +1.1**
comp=Z,3.6nm,0.8s,mb4.3
OBN Obninsk 85.30 325 *e*P **P 15 51 13.5 -0.2**
OBN *e**PP pP 15 51 51.5 +5.3
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
JOF Joensuu 87.23 333 *e*p **P 15 51 21.9 -1.2**
ARCES ARCESS Array B 88.36 340 P **P 15 51 27.4 -1.1**
comp=Z,1.9nm,0.5s,mb4.4,baz=84,slow=6.4,SNR=15
ARCES ARCESS Array B 88.36 340 P **P 15 51 27.4 -1.1**
BR131 Keskin Array S 88.70 310 *e*P **P 15 51 29.2 -0.9**
comp=Z,2.4nm,0.8s,mb4.3
BRTR Keskin Array B 88.70 310 *i*P **P 15 51 29.7 -0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=119,slow=4.6,SNR=11
BRTR Keskin Array B 88.70 310 *i*P **P 15 51 30.1 0.0**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
KAF Kangasniemi 89.65 332 *e*p **P 15 51 35.4 +0.9**
FINES FINESS Array B 89.90 332 P **P 15 51 34.6 -1.1**
comp=Z,1.7nm,0.5s,mb4.4,baz=78,slow=5.3,SNR=10
AKASG Malin Array Be 90.23 321 P **P 15 51 35.7 -1.5**
comp=Z,0.7nm,0.6s,mb4.0,baz=70,slow=4.6,SNR=4.6
AKASG Malin Array Be 90.23 321 *i*P **P 15 51 37.7 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 96.82 334 P **P 15 52 06.4 -1.1**
comp=Z,1.1nm,0.8s,mb4.3,baz=64,slow=4.5,SNR=3.4
GERES GERESS Array B 100.40 322 P Pdif 15 52 22.4 -1.1
comp=Z,0.4nm,0.8s,baz=50,slow=11,SNR=3.4
TORD Torodi Ar. Bea 122.35 290 PKP PKPdf 15 57 31.2 +0.1
comp=Z,0.6nm,0.6s,baz=58,slow=1.7,SNR=6.2

ISCJB ***15*** *15:42:47.8±0.8, 191N±02×46.1W±0.1, h10km, mb4.0/9, MS3.7/9, Error ellipse: s-maj=25.4km s-min=16.1km az=137.1*
IDC ***15*** *15:42:47.9±1.0, 191.3N×46.08W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/23, mbtmp4.0/7, MS3.7/9, Ms1 3.7/9, ms1mx3.5/18, Error ellipse: s-maj=32.0km s-min=22.5km az=146.0*
NEIC ***15*** *15:42:48.8±0.8, 192.9N×46.15W, h10km, mb4.3/2, Error ellipse: s-maj=23.7km s-min=18.6km az=171.0*
ISC 15 15:42:50.0±0.8, 191N±02×461W±01, h10km, n15, σ0°74/9, mb4.0/9, MS3.7/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**25.90**	**250**	*e*P	**P**	**15 48 22.3**	**+0.3**
	11nm,0.9s,mb4.4						
BLA	**Blacksburg**	**35.01**	**308**	P	**P**	**15 49 37.6**	**-5.0**
	1.9nm,0.8s,mb4.1						
SCHQ	**Schefferville**	**39.02**	**341**	LR	LR	16 04 33.1	
	comp=Z,52nm,21.3s,MS3.3,baz=178,slow=34						
LPAZ	**La Paz**	**41.35**	**213**	P	**P**	**15 50 37.2**	**+1.2**
	1.2nm,0.9s,mb3.5,baz=31,slow=7.3,SNR=4.4						
DBIC	**Dimbokro**	**41.90**	**102**	P	**P**	**15 50 41.4**	**+0.9**
	4.7nm,0.9s,mb4.1,baz=318,slow=15,SNR=2.6						
DBIC				LR	LR	16 04 40.9	
	comp=Z,163nm,19.9s,MS3.9,baz=200,slow=31						
TORD	**Torodi Ar. Bea**	**46.13**	**90**	P	**P**	**15 51 13.8**	**-0.8**
	1.5nm,0.8s,mb4.0,baz=293,slow=7.9,SNR=3.6						
CPUP	**Villa Florida**	**46.48**	**194**	P	**P**	**15 51 16.4**	**-0.9**
	1.6nm,0.6s,mb4.1,baz=3.3,slow=8.4,SNR=6.3						
CPUP				LR	LR	16 08 27.2	
	comp=Z,77nm,18.0s,MS3.7,baz=291,slow=33						
ULM	**Lac du Bonnet**	**50.12**	**320**	LR	LR	16 09 47.0	
	comp=Z,76nm,18.5s,MS3.7,baz=183,slow=32						
GERES	**GERESS Array B**	**56.01**	**43**	LR	LR	16 14 01.7	
	comp=Z,29nm,18.6s,MS3.4,baz=93,slow=33						
NOA	**NORSAR Array B**	**57.78**	**29**	LR	LR	16 13 43.3	
	comp=Z,34nm,19.1s,MS3.5,baz=330,slow=32						
PDAR	**Pinedale Array**	**57.94**	**309**	P	**P**	**15 52 42.1**	**-0.3**
	0.9nm,0.9s,mb3.8,baz=101,slow=7.7,SNR=4.6						
PDAR				LR	LR	16 14 25.5	
	comp=Z,136nm,19.8s,MS4.1,baz=117,slow=33						
PLCA	**Paso Flores**	**63.75**	**201**	P	**P**	**15 53 21.3**	**-0.7**
	3.5nm,1.2s,mb4.3,baz=60,slow=8.1,SNR=2.6						
BRTR	**Keskin Array B**	**70.26**	**54**	P	**P**	**15 54 03.6**	**+0.3**
	1.1nm,1.0s,mb3.8,baz=299,slow=3.0,SNR=4.8						
KMBO	**Kilima Mbogo**	**84.03**	**93**	LR	LR	16 30 21.7	
	comp=Z,75nm,19.2s,MS4.1,baz=92,slow=34						
ZAL	**Zalesovo**	**95.92**	**27**	LR	LR	16 41 15.4	
	comp=Z,35nm,18.4s,MS3.9,baz=357,slow=37						

IDC 15 16:00:38.0±22.0, 2197N×14336E, h321km±106km, mb3.3/5, mb1 3.3/6, mb1mx3.1/21, mbtmp4.0/6, Error ellipse: s-maj=318.9km s-min=75.2km az=176.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.21**	**348**	P	Pn	16 01 58.8	0.0
	4.1nm,0.3s,baz=281,slow=19,SNR=6.5						
SONM	**Songino Array**	**39.23**	**320**	P	P	16 07 35.9	-0.2
	0.3nm,0.6s,baz=132,slow=7.0,SNR=2.6						
MKAR	**Makanchi Array**	**54.63**	**312**	P	P	16 09 34.4	+0.2
	0.3nm,0.5s,baz=86,slow=8.8,SNR=2.9						
BVAR	**Borovoye Array**	**62.57**	**319**	P	P	16 10 28.4	-0.1
	1.2nm,0.4s,baz=95,slow=7.2,SNR=8.3						
ARCES	**ARCESS Array B**	**78.72**	**342**	P	P	16 12 05.3	0.0
	5.4nm,0.9s,baz=64,slow=8.4,SNR=5.4						
FINES	**FINESS Array B**	**83.01**	**335**	P	P	16 12 26.8	-0.9
	3.9nm,1.2s,baz=48,slow=5.7,SNR=4.5						

CSEM ***15*** *16:31:15.0, 3539N×23.18E, h10km, MD3.5/3, After ATH*
ATH 15 16:31:15.0, 3539N×2317E, h10km, MD3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.84**	**89**	*e*PB	Pb	16 31 31.0	-0.7
KYTH	**Kithira**	**0.90**	**353**	*e*PB	Pb	16 31 32.2	-0.4
VLI	**Veliai**	**1.34**	**352**	*e*PG	Pg	16 31 40.0	-0.7

THR ***15*** *16:44:23.7±1.1, 3388N×4871E, h14km±9km, ML3.4*
KISR ***15*** *16:44:25.6±0.8, 3358N×4894E, h33km, ML3.3*
ISCJB ***15*** *16:44:26.0±0.3, 3374N±002×4877E±003, h33km, Error ellipse: s-maj=4.2km s-min=2.9km az=68.1*
CSEM ***15*** *16:44:26.0±0.1, 3375N×4873E, h40km, ML3.4, Error ellipse: s-maj=1.8km s-min=1.1km az=125.0*
TEH ***15*** *16:44:27.5, 3372N×4873E, h30km, Mn3.8*
ISC 15 16:44:27.7±0.3, 3377N±002×4876E±003, h35km, n36, σ0°69/53, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.65**	**179**	*e*PG	**Pn**	**16 44 55.5**	**+1.3**
SHGR				*e*Sg	**Sn**	**16 45 19.8**	**+5.6**
SNGE	**Sanandaj**	**1.77**	**319**	*e*PG	**Pn**	**16 44 54.0**	**-1.7**
SNGE				AML	AML	16 45 25.6	
	comp=N,353nm,0.5s						
ILIN	**Laeen**	**1.88**	**308**	*e*Pn	**Pn**	**16 44 57.2**	**-0.1**
ILIN				*e*Sn	**Sn**	**16 45 19.8**	**0.0**
IRAZ	**Razeghan**	**1.90**	**30**	*e*Pn	**Pn**	**16 44 56.5**	**-1.1**
IRAZ				*e*Sn	**Sn**	**16 45 20.9**	**+0.6**
IGHG	**Ghaleghazi**	**1.90**	**288**	*e*Pn	**Pn**	**16 44 57.6**	**0.0**
IPIR	**Pirpir**	**2.09**	**120**	*e*Pn	**Pn**	**16 45 00.3**	**+0.1**
IPIR				*e*Sn	**Sn**	**16 45 24.6**	**-0.3**
IKLH	**Kalahroud**	**2.40**	**100**	*e*Pn	**Pn**	**16 45 04.9**	**+0.5**
IKLH				*e*Sn	**Sn**	**16 45 32.7**	**+0.1**
IMHD	**Mahdasht**	**2.48**	**39**	*e*Pn	**Pn**	**16 45 06.5**	**+1.0**
IMHD				*e*Sn	**Sn**	**16 45 34.9**	**+0.3**
IVRN	**Varamin**	**2.75**	**63**	*e*Pn	**Pn**	**16 45 10.1**	**+0.9**
IVRN				*e*Sn	**Sn**	**16 45 41.0**	**-0.2**
THKV	**Tehran--Karaj**	**2.77**	**39**	*e*PN	**Pn**	**16 45 08.9**	**-0.5**
THKV				*e*SG	**Sn**	**16 45 48.0**	**+6.3**
THKV	**Tehran--Karaj**	**2.77**	**39**	*e*Pn	**Pn**	**16 45 08.9**	**-0.6**
	SNR=52						
IGZV	**Gazvin**	**2.88**	**24**	*e*Pn	**Pn**	**16 45 11.0**	**0.0**
ISFB	**Sefidab**	**2.95**	**78**	*e*Pn	**Pn**	**16 45 12.4**	**+0.4**
ISFB				*e*Sn	**Sn**	**16 45 45.4**	**-0.7**
IZEF	**Zefreh**	**3.11**	**105**	*e*Pn	**Pn**	**16 45 15.3**	**+1.0**
IZEF				*e*Sn	**Sn**	**16 45 49.1**	**-1.1**
IAFJ	**Afjeh**	**3.20**	**49**	*e*Pn	**Pn**	**16 45 16.0**	**+0.5**
IAFJ				*e*Sn	**Sn**	**16 45 52.9**	**+0.5**
DAMV	**Damavand**	**3.23**	**54**	*e*Pn	**Pn**	**16 45 16.6**	**+0.6**
DAMV				AML	AML	16 46 13.3	
	comp=N,110nm,0.6s						
DAMV				AML	AML	16 46 15.1	
	comp=E,129nm,0.7s						
DAMV	**Damavand**	**3.23**	**54**	*e*Pn	**Pn**	**16 45 16.5**	**+0.5**
	SNR=52						
IDMV	**Damavand**	**3.25**	**55**	*e*Pn	**Pn**	**16 45 16.9**	**+0.8**
IDMV				*e*Sn	**Sn**	**16 45 53.5**	**0.0**
NASN	**Na'in**	**3.53**	**105**	*e*PN	**Pn**	**16 45 21.1**	**+1.2**
BHD	**Baghdad**	**3.69**	**264**	*e*x	x	16 45 30.0	
BHD				*e*x	x	16 46 25.0	
IFIR	**Firoozkooh**	**3.79**	**59**	*e*Pn	**Pn**	**16 45 24.2**	**+0.7**
IFIR				*e*Sn	**Sn**	**16 46 05.7**	**-1.1**
ILAS	**Lasjerd**	**3.82**	**64**	*e*Pn	**Pn**	**16 45 23.2**	**-0.8**
MIB	**Mutribah**	**4.13**	**197**	*e*P	**Pn**	**16 45 28.4**	**+0.1**
MIB				*e*S	**Sn**	**16 46 15.9**	**+0.6**
ISHM	**Shahmirzad**	**4.25**	**60**	*e*Pn	**Pn**	**16 45 29.7**	**-0.2**
UMR	**Umm Al-Rimmam**	**4.29**	**192**	*e*P	**Pn**	**16 45 30.4**	**0.0**
ISAD	**Sadrabad**	**4.54**	**113**	*e*Pn	**Pn**	**16 45 35.2**	**+1.3**
IANJ	**Anjiloo**	**4.58**	**67**	*e*Pn	**Pn**	**16 45 34.3**	**-0.1**
KBD	**Kabd**	**4.67**	**192**	*e*P	**Pn**	**16 45 35.7**	**+0.1**
KBD				*e*S	**Sn**	**16 46 28.6**	**+0.1**
KBD				AML	AML	16 46 38.5	
	comp=Z,78nm,0.4s						
KBD	**Kabd**	**4.67**	**192**	*e*P	**Pn**	**16 45 35.7**	**+0.1**
KBD				*e*S	**Sn**	**16 46 28.6**	**+0.1**
NAY	**Al-Naaiem**	**4.69**	**196**	*e*P	**Pn**	**16 45 36.0**	**+0.1**
NAY				AML	AML	16 46 26.3	
	comp=Z,11nm,0.5s						
NAY				*e*S	**Sn**	**16 46 28.6**	**-0.4**
IKIA	**Kiasar**	**4.72**	**58**	*e*Pn	**Pn**	**16 45 35.7**	**-0.7**
RDF	**Al-Radifah**	**4.93**	**192**	*e*P	**Pn**	**16 45 39.4**	**+0.3**
RDF				*e*S	**Sn**	**16 46 34.5**	**-0.6**
RDF				AML	AML	16 46 34.8	
	comp=Z,28nm,0.5s						
ICHK	**Chekchek**	**4.98**	**106**	*e*Pn	**Pn**	**16 45 39.3**	**-0.7**
IMEH	**Mehriz**	**5.48**	**114**	*e*Pn	**Pn**	**16 45 46.3**	**-0.5**
ISRV	**Sarvestan**	**5.74**	**138**	*e*Pn	**Pn**	**16 45 49.4**	**-0.9**
IMOK	**Mook**	**5.79**	**143**	*e*Pn	**Pn**	**16 45 49.9**	**-1.2**

NEIC ***15*** *16:58:27.0, 1891N×6732W, h13km, MD3.8(RSPR), After RSPR.*
RSPR 15 16:58:27.0, 1891N×6732W, h13km±3km, MD3.8/17, 12C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.48**	**155**⇑	*i*P	Pg	16 58 36.5	-0.1
AGPR				*e*S	Sg	16 58 42.7	-0.3
MPR	**Mayaguez**	**0.72**	**166**⇑	*i*P	Pg	16 58 39.6	-1.3
MPR				*e*S	Sg	16 58 49.1	-1.2
LRS	**Lares**	**0.76**	**143**⇑	*i*P	Pg	16 58 40.0	-1.8
LSP	**Las Mesas**	**0.76**	**163**⇓	*i*P	Pg	16 58 40.5	-1.3
AOPR	**Arecibo Observ**	**0.78**	**136**⇑	*i*P	Pg	16 58 40.1	-2.1
AOPR				*e*S	Sg	16 58 51.6	-0.8
CRPR	**Cabo Rojo, PR**	**0.92**	**167**⇑	*i*P	Pg	16 58 42.8	-2.0
CRPR				*e*S	Sg	16 58 54.4	-2.5
MGP	**Maguayo**	**0.93**	**166**⇓	*i*P	Pg	16 58 42.8	-2.1
CELP	**Cerrillos**	**1.09**	**140**⇑	*i*P	Pb	16 58 45.0	-2.7
OBIP	**Obispado Ponce**	**1.10**	**142**⇑	*i*P	Pb	16 58 45.1	-2.8
OBIP				*e*S	Sb	16 58 59.1	-3.1
ICM	**Isla Caja Muer**	**1.27**	**143**⇑	*e*P	Pn	16 58 47.8	-2.6
SJG	**San Juan**	**1.37**	**125**⇑	*i*P	Pn	16 58 49.0	-2.9
SJG	**San Juan**	**1.37**	**125**⇑	*e*P	Pn	16 58 48.7	-3.2
SJG				*e*S	Sn	16 59 05.5	-4.4
CBYP	**Canovanas**	**1.53**	**114**⇑	*e*P	Pn	16 58 50.7	-3.4
CBYP				*e*S	Sn	16 59 10.2	-3.6
CPD	**Cerro la Pandu**	**1.59**	**123**⇑	*e*P	Pn	16 58 51.9	-3.0
CPD				*e*S	Sn	16 59 12.0	-3.4
HUMP	**Col San Antoni**	**1.59**	**118**⇓	*e*P	Pn	16 58 52.0	-2.9
HUMP				*e*S	Sn	16 59 11.6	-3.8
MTP	**Monte Pirata**	**1.86**	**116**⇑	*e*P	Pn	16 58 55.5	-3.2
MTP				*e*S	Sn	16 59 18.9	-3.1
TBVI	**Tortola**	**2.62**	**101**⇑	*e*P	Pn	16 59 06.1	-3.0
TBVI				*e*S	Sn	16 59 37.3	-3.4
CDVI	**St. Croix**	**2.69**	**115**⇓	*e*P	Pn	16 59 06.8	-3.2
CDVI				*e*S	Sn	16 59 39.2	-3.2
ABV	**Anegada**	**2.84**	**93**⇑	*e*P	Pn	16 59 12.9	+0.8

IDC ***15*** *17:15:54.8±0.8, 1544S×17528W, h0km, mb4.2/7, mb1 4.5/7, mb1mx4.4/13, mbtmp4.2/7, MS4.5/7, Ms1 4.5/7, ms1mx4.0/20, Error ellipse: s-maj=43.5km s-min=20.4km az=140.0*
HRVD ***15*** *17:15:56.2±0.2, 1542S×17485W, h14km±1km, MW5.2/96, Centroid moment Tensor Solution. LP body waves: s52,c81;Mantle waves: s96,c156; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~0.51±.13; $M_{\theta\theta}$4.31±.14; $M_{\phi\phi}$-3.80±.14; $M_{r\theta}$1.16±.29; $M_{\theta\phi}$5.47±.13; $M_{\phi r}$~1.26±.29; Best double couple: $M_0$7.03400×10^{16} NP1:ϕ_s19.00000°, δ77.00000°, λ-172.00000°. NP2: ϕ_s287.00000°, δ83.00000°, λ-13.00000°. Principal axes: T 7.0940, Plg4.0000°, Azm334.0000°; N -0.1200, Plg75.0000°, Azm78.0000°; P -6.9750, Plg14.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***15*** *17:15:56.1, 1540S×17530W, h10km, mB5.1, mb5.0, Ms4.8, Msz4.6*
NEIC ***15*** *17:15:56.1±0.3, 1543S×17526W, h10km, mb5.0/15, MS5.0/3, Error ellipse: s-maj=16.8km s-min=8.5km az=129.0*
MOS ***15*** *17:16:00.3±2.4, 1535S×17549W, h33km, mb5.1/9, MS4.8/9, Error ellipse: s-maj=15.6km s-min=11.7km az=78.4*
ISCJB ***15*** *17:16:06.3±4.2, 157S±01×17544W±008, h100km±38km, mb4.6/29, Error ellipse: s-maj=19.8km s-min=10.2km az=131.0*
ISC 15 17:16:10.7±4.3, 156S±01×17545W±008, h122km±39km, h8km±7.7km: pP-P, n151, σ1°26/93, mb4.6/29, 29C-17D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.95**	**65**	Pn	**Pn**	**17 16 45.1**	**-24**
	17nm,0.3s,baz=79,slow=1.7,SNR=38						
RAO	**Raoul Island**	**13.74**	**189**	LR	LR	17 23 45.2	
	comp=Z,2μm,19.8s,baz=209,slow=34						
RAO	**Raoul Island**	**13.74**	**189**	*e*P	**Pn**	**17 19 14.2**	**-6.2**
DZM	**Mont Dzumac**	**18.28**	**247**	*e*P	**Pn**	**17 20 16.7**	**+0.3**
DZM	**Mont Dzumac**	**18.28**	**247**	P	**Pn**	**17 20 15.4**	**-1.0**
	0.6nm,0.3s,baz=73,slow=14,SNR=13						
HNR	**Honiara**	**24.78**	**281**	LR	LR	17 29 44.3	
	comp=Z,2μm,18.9s,baz=174,slow=33						
PPT	**Papeete**	**24.87**	**98**	*e*LQ		17 26 06.0	
	5μm,25.5s						
PPT				*e*LR	LR	17 27 08.6	
	1μm,25.5s						
TBI	**Tubuai**	**25.65**	**111**	*e*LQ		17 26 16.4	
	5μm,27.5s						
TBI				*e*LR	LR	17 27 14.1	
	400nm,28.0s						
TAOE	**Nuku Hiva Isla**	**35.12**	**83**	*e*LR	LR	17 31 50.0	
	5μm,26.6s						
RKT	**Rikitea**	**38.81**	**108**	*e*LQ		17 31 56.6	
	720nm,25.5s						
STKA	**Stephens Creek**	**42.21**	**240**	P	**P**	**17 23 49.8**	**-1.7**
	3.2nm,1.0s,mb4.0,baz=31,slow=10,SNR=3.4						
WB2	**Warramunga Arr**	**47.85**	**257**	*e*P	**P**	**17 24 36.7**	**+0.6**
WRAB	**Tennant Creek**	**47.85**	**257**	*c i*P	**P**	**17 24 41.9**	**+5.8**
WRA	**Warramunga Arr**	**47.86**	**257**	P	**P**	**17 24 36.7**	**+0.5**
	8.2nm,1.0s,mb4.5,baz=90,slow=7.3,SNR=14						
AS31	**Alice Springs**	**48.16**	**252**	*e*P	**P**	**17 24 39.3**	**+0.9**
ASAR	**Alice Springs**	**48.16**	**252**	P	**P**	**17 24 39.5**	**+1.1**
	3.1nm,0.8s,mb4.2,baz=86,slow=8.3,SNR=28						
ASPA	**Alice Springs**	**48.16**	**252**	*e*P	**P**	**17 24 39.3**	**+0.9**
GUMO	**Guam**	**48.81**	**304**	LR	LR	17 42 09.0	
	comp=Z,385nm,18.1s,baz=224,slow=32						
MBWA	**Marble Bar**	**61.39**	**254**	*e*P	**P**	**17 26 14.9**	**+1.2**
	22nm,1.4s,mb5.0						
SBA	**Scott Base**	**62.87**	**184**	*e*P	**P**	**17 26 23.9**	**+0.3**
SBA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SBA	**Scott Base**	**62.87**	**184**	*e*P	**P**	**17 26 23.9**	**+0.3**
	comp=Z,6.6nm,0.8s,mb4.6						
VNDA	**Vanda**	**62.95**	**185**	P	**P**	**17 26 24.3**	**+0.1**
	comp=Z,2.1nm,0.9s,mb4.1,baz=15,slow=7.6,SNR=7.6						
MJAR	**Matsushiro Arr**	**67.86**	**321**	LR	LR	17 51 17.6	
	comp=Z,363nm,21.7s,baz=140,slow=31						
JOW	**Kunigami**	**69.03**	**307**	LR	LR	17 51 56.8	
	comp=Z,444nm,21.9s,baz=161,slow=31						
ASAJ	**Asahikawa**	**70.71**	**329**	LR	LR	17 52 05.8	
	comp=Z,459nm,21.4s,baz=191,slow=31						
YSS	**Yuzh-Sakhalins**	**72.72**	**331**⇑	*i*P	**P**	**17 27 23.1**	**-2.3**
YSS				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.8						
YSS				MLR	MLR		
	comp=Z,100nm,18.0s						
PACP	**Pacheco Peak**	**73.08**	**43**	⇓P	**P**	**17 27 28.9**	**+1.5**
	baz=73						
HOPS	**Hopland**	**73.11**	**40**	⇑P	**P**	**17 27 30.3**	**+2.6**
	baz=73						
MNRC	**McLaughlin Nat**	**73.44**	**41**	⇑P	**P**	**17 27 29.0**	**-0.6**
	baz=73						
GASB	**Alder Springs**	**73.73**	**40**	⇓P	**P**	**17 27 32.8**	**+1.5**
	baz=74						
O02C	**Red Bluff**	**74.00**	**39**	⇓P	**P**	**17 27 33.4**	**+0.6**
	baz=74						
CMB	**Columbia Colle**	**74.26**	**42**	*e*P	**P**	**17 27 32.6**	**-1.7**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.5						
CMB	**Columbia Colle**	**74.26**	**42**	*e*P	**P**	**17 27 32.6**	**-1.7**
	comp=Z,3.4nm,0.3s,mb4.5						
WDC	**Whiskeytown Da**	**74.39**	**39**	*e*P	**P**	**17 27 35.2**	**+0.1**
WDC				pmax	pmax		
	comp=Z,42nm,1.8s,mb4.9						
WDC	**Whiskeytown Da**	**74.39**	**39**	*e*P	**P**	**17 27 35.2**	**0.0**
	comp=Z,42nm,1.8s,mb4.9						
WDC	**Whiskeytown Da**	**74.39**	**39**	⇑P	**P**	**17 27 36.2**	**+1.1**
	baz=74						
QSPA	**South Pole Qui**	**74.41**	**180**	*e*P	**P**	**17 27 33.5**	**-1.7**
	comp=Z,11nm,0.9s,mb4.6						
M02C	**Callahan**	**74.70**	**38**	⇓P	**P**	**17 27 38.2**	**+1.3**
	baz=75						
R05C	**Kirkwood Meado**	**74.83**	**42**	⇑P	**P**	**17 27 38.3**	**+0.7**
	baz=75						
YBH	**Yreka Blue Hor**	**74.99**	**38**	⇓P	**P**	**17 27 39.1**	**+0.5**
	baz=75						
MTUM	**Tungsten Hills**	**75.07**	**44**	*e*P	**P**	**17 27 37.3**	**-1.8**
R07C	**Lee Vining**	**75.16**	**43**	⇑P	**P**	**17 27 39.9**	**+0.4**
	baz=75						
GSC	**Goldstone**	**75.17**	**46**	⇑P	**P**	**17 27 39.8**	**+0.2**
	baz=75						
S08C	**White Mtn Res**	**75.42**	**44**	⇑P	**P**	**17 27 41.2**	**+0.2**
	baz=75						
J02A	**Umpqua**	**75.50**	**36**	⇓P	**P**	**17 27 42.0**	**+0.5**
	baz=75						
ELFS	**Eagle Lake Fie**	**75.53**	**40**	⇑P	**P**	**17 27 42.8**	**+1.1**
	baz=75						
M04C	**Macdoel**	**75.54**	**38**	⇓P	**P**	**17 27 42.7**	**+1.0**
	baz=76						
M05C	**Lookout**	**75.71**	**39**	⇑P	**P**	**17 27 42.9**	**+0.2**
	baz=76						
O06A	**Flanigan**	**75.83**	**41**	⇓P	**P**	**17 27 43.7**	**+0.3**
	baz=76						
NVAR	**Mina Array Bea**	**75.83**	**43**	P	**P**	**17 27 43.4**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.1,baz=218,slow=9.7,SNR=12						
PAHR	**Pah Rah Range**	**75.85**	**41**	P	**P**	**17 27 42.1**	**-1.4**
	comp=Z,26nm,1.5s,mb4.7						
TUQ	**Turquoise Mtn.**	**75.85**	**47**	⇓P	**P**	**17 27 42.7**	**-0.8**
	baz=76						
MNV	**Mina**	**75.94**	**43**	*e*P	**P**	**17 27 40.9**	**-3.1**
MNV				pmax	pmax		
	comp=Z,33nm,1.5s,mb4.8						
MNV	**Mina**	**75.94**	**43**	*e*P	**P**	**17 27 40.9**	**-3.1**
	comp=Z,33nm,1.5s,mb4.8						
S09A	**Goldfield**	**76.17**	**44**	⇑P	**P**	**17 27 45.5**	**+0.2**
	baz=76						
Q08A	**Gabbs**	**76.32**	**43**	⇓P	**P**	**17 27 47.0**	**+0.9**
	baz=76						
O07A	**Toulon**	**76.42**	**41**	⇑P	**P**	**17 27 47.2**	**+0.5**
	baz=76						
SSE	**Sheshan**	**76.53**	**308**	P	**P**	**17 27 47.6**	**+0.3**
SSE				AP	pP	17 27 57.1	-21
SSE				XP	sP	17 28 00.9	-30
SSE				PP	PP	17 30 35.8	-5.0
SSE				S	S	17 37 25.8	+2.6
SSE				XS	sS	17 37 42.0	-34
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,40nm,4.5s						
SSE				LR	LR		
	comp=N,120nm,20.9s						
SSE				LR	LR		
	comp=E,

TTA	**Tatalina**	**79.77**	**9**	*e*P	**P**	**17 28 01.6**	**-3.6**
TTA				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.8						
TTA	**Tatalina**	**79.77**	**9**	*e*P	**P**	**17 28 01.6**	**-3.7**
	comp=Z,23nm,1.5s,mb4.8						
MA2	**Magadan**	**79.80**	**343**	P	**P**	**17 28 03.9**	**-1.5**
MA2				*e*S	S	17 37 56.2	-2.0
MA2				*e*PS		17 38 46.2	
MA2				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
MA2				MLR	MLR		
	comp=Z,300nm,19.3s						
M13A	**Montello**	**80.09**	**42**	⇑P	**P**	**17 28 07.8**	**+0.9**
	baz=80						
HLID	**Hailey**	**81.07**	**40**	*e*P	**P**	**17 28 11.4**	**-0.7**
	comp=Z,5.9nm,1.0s,mb4.4						
ANMO	**Albuquerque**	**82.47**	**51**	*c i*P	**P**	**17 28 20.1**	**+0.6**
COLA	**College**	**82.97**	**11**	*c i*P	**P**	**17 28 19.5**	**-2.6**
REDW	**Red Top Meadow**	**83.21**	**42**	P	**P**	**17 28 20.3**	**-3.0**
	comp=Z,35nm,1.4s,mb5.0						
IMW	**Indian Meadow**	**83.42**	**41**	P	**P**	**17 28 23.1**	**-1.3**
	comp=Z,68nm,1.9s,mb5.2						
PDAR	**Pinedale Array**	**83.77**	**43**	P	**P**	**17 28 23.1**	**-3.0**
	comp=Z,2.2nm,0.7s,mb4.1,baz=215,slow=2.4,SNR=6.4						
SMCO	**Snowmass**	**83.90**	**47**	*e*P	**P**	**17 28 18.5**	**-8.3**
	comp=Z,72nm,1.1s,mb5.4						
DAWY	**Dawson**	**84.15**	**15**	*e*P	**P**	**17 28 25.5**	**-2.6**
BILL	**Bilibino**	**84.49**	**353**	*e*P	**P**	**17 28 27.4**	**-2.4**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
BILL	**Bilibino**	**84.49**	**353**	*e*P	**P**	**17 28 27.4**	**-2.4**
	comp=Z,10.0nm,1.1s,mb4.6						
EDM	**Edmonton**	**86.73**	**32**	P	**P**	**17 28 37.5**	**-3.4**
XAN	**Xi'an**	**87.17**	**306**	P	**P**	**17 28 44.9**	**+1.9**
XAN				AP	pP	17 28 48.5	-26
LAO	**LASA Array**	**87.65**	**40**	*e*P	**P**	**17 28 42.8**	**-2.5**
	comp=Z,1μm,2.3s						
HHC	**Hu-ho-hao-te**	**87.74**	**313**	*e*P	**P**	**17 28 47.8**	**+2.1**
HHC				AP	pP	17 28 52.8	-24
HHC				XP	sP	17 28 59.3	-31
HHC				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
HHC				AMB	AMB		
	comp=Z,80nm,3.2s						
HHC				LR	LR		
	comp=N,110nm,15.5s						
HHC				LR	LR		
	comp=E,120nm,15.5s						
HHC				LR	LR		
	comp=Z,70nm,16.7s						
CD2	**Chengdu**	**90.25**	**302**	*e*P	**P**	**17 28 56.9**	**-0.6**
CD2				AP	pP	17 29 01.8	-27
CD2				XP	sP	17 29 04.0	-38
CD2				PP	PP	17 32 33.8	+0.9
CD2				SKS		17 39 25.8	
CD2				S		17 39 48.8	
CD2				SS	SS	17 45 52.8	+10
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,80nm,9.0s						
CD2				LR	LR		
	comp=E,120nm,18.0s						
CD2				LR	LR		
	comp=Z,110nm,20.4s						
YKA	**Yellowknife Ar**	**91.10**	**24**	P	**P**	**17 28 58.8**	**-2.7**
	comp=Z,0.4nm,0.6s,mb3.7,baz=261,slow=9.2,SNR=4.1						
YKA	**Yellowknife Ar**	**91.10**	**24**	P	**P**	**17 28 58.8**	**-2.7**
UALR	**University of**	**93.26**	**55**	P	**P**	**17 29 10.4**	**-1.0**
VNA1	**Neumayer--Stat**	**93.48**	**176**	*e*P	**P**	**17 29 22.6**	**+10**
VNA1				*e*		17 29 23.5	
VNA1				*e*		17 29 31.0	
VNA1				*e*		17 29 34.9	
TIXI	**Tiksi**	**94.70**	**345**	⇑*i*P	**P**	**17 29 16.8**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,300nm,19.0s						
ULM	**Lac du Bonnet**	**95.36**	**39**	LR	LR	18 05 37.6	
	comp=Z,161nm,19.7s,baz=274,slow=31						
TLY	**Talaya**	**96.59**	**322**	*i* P	**P**	**17 29 23.5**	**-3.1**
TLY				MLR	MLR		
	comp=Z,200nm,17.0s						
KURK	**Kurchatov**	**112.01**	**319**	*i* PKIKP	PKiKP	17 34 34.1	+2.7
ARU	**Arti**	**122.49**	**328**	*i* PKIKP	PKPdf	17 34 54.9	+3.3
KIV	**Kislovodsk**	**137.10**	**319**	*i* PKIKP	PKPdf	17 35 19.7	+0.5
KIV				*e*SP	SP	17 48 16.2	-1.9
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,190nm,21.0s						
CLL	**Collm**	**143.77**	**351**	*e*PKIKP	PKPdf	17 35 36.0	+4.7
UPC	**Upice**	**144.00**	**348**	*e*PKP	PKPdf	17 35 22.5	-9.2
DPC	**Dobruska-Polom**	**144.08**	**347**	*e*PKP	PKPdf	17 35 29.8	-2.0
DPC				LR	LR		
	comp=Z,400nm,24.9s						
KECS	**Kecovo**	**144.72**	**342**	*e*PKP	PKPdf	17 35 31.0	-1.9
KECS				*e*		17 36 29.1	
PRU	**Pruhonice**	**144.79**	**349**	*e*PKP	PKPdf	17 35 35.8	+2.8
PRU				LR	LR		
	comp=Z,300nm,25.5s						
BR131	**Keskin Array S**	**145.06**	**319**	*e*PKPdf	PKPdf	17 35 33.5	0.0
BRTR	**Keskin Array B**	**145.06**	**319**	PKPbc	PKPbc	17 35 33.7	+0.5
	comp=Z,6.3nm,1.0s,baz=90,slow=2.5,SNR=31						
VYHS	**Vyhne**	**145.19**	**343**	*i* PKP	PKPdf	17 35 33.5	-0.2
VYHS				*e*		17 36 30.6	
GRA1	**Grafenberg Arr**	**145.60**	**352**	*e*PKP	PKPdf	17 35 34.2	-0.2
GRF	**Grafenberg Arr**	**145.60**	**352**	*e*PKP	PKPdf	17 35 34.2	-0.2
GIVF	**Givet**	**145.62**	**360**	*e*PKP1	PKPbc	17 35 33.9	-1.0
BAIF	**Baives**	**145.66**	**0**	*e*PKP1	PKPbc	17 35 34.2	-0.9
	comp=Z,14nm,0.8s						
ABH	**Alteburg**	**145.75**	**357**	PKP	PKPdf	17 35 35.1	+0.4
KHC	**Kasperske Hory**	**145.79**	**349**	*e*PKP	PKPdf	17 35 35.6	+0.9
KHC				LR	LR		
	comp=Z,300nm,21.0s						
TOD	**Tromm**	**145.94**	**355**	PKP2	PKPab	17 35 36.7	+0.1
RUP	**Ruppelstein**	**145.96**	**357**	PKIKP	PKPdf	17 35 35.5	+0.5
GERES	**GERESS Array B**	**146.04**	**349**	PKPbc	PKPbc	17 35 35.1	-1.1
	comp=Z,3.5nm,1.1s,baz=11,slow=2.9,SNR=9.2						
CONA	**Conrad Observa**	**146.47**	**346**	⇑*i*PKPab	PKPab	17 35 37.6	-1.0
	comp=Z,10nm,1.2s						
FLN	**La Foliniere**	**146.71**	**6**	*e*PKP1	PKPbc	17 35 37.2	-1.0
	comp=Z,142nm,1.7s						
FLN				*e*R			
	comp=Z,204nm,21.0s						
FLN	**La Foliniere**	**146.71**	**6**	*e*PKP	PKPdf	17 35 37.2	+0.9
FLN				LR	LR		
	comp=Z,200nm,21.0s						
LDF	**La Druitiere**	**146.91**	**6**	*e*PKP1	PKPbc	17 35 37.4	-1.3
SGMF	**Saint Gilles**	**146.95**	**9**	*e*PKP1	PKPbc	17 35 37.4	-1.4
	comp=Z,43nm,1.3s						
GRR	**Gorron**	**147.03**	**7**	*e*PKP1	PKPbc	17 35 38.0	-1.1
ARSA	**Arzberg**	**147.18**	**346**	⇑*i*P	PKPdf	17 35 38.9	+1.8
	comp=Z,7.6nm,1.2s						
QUIF	**Quistinic**	**147.18**	**10**	*e*PKP1	PKPbc	17 35 38.2	-1.3
WLS	**Welschbruch**	**147.23**	**357**	PKP	PKPbc	17 35 41.7	+2.1
CDF	**Champ du Feu**	**147.24**	**357**	*e*PKP1	PKPbc	17 35 39.0	-0.6
	comp=Z,33nm,1.2s						
ECH	**Echery**	**147.44**	**357**	PKP	PKPbc	17 35 45.0	+4.8
THEF	**They Montfort**	**147.48**	**358**	PKP	PKPbc	17 35 44.3	+4.0
FELD	**Feldberg im Sc**	**147.72**	**356**	PKP	PKPbc	17 35 42.4	+1.4
LOR	**Lormes**	**148.45**	**1**	*e*PKP1	PKPbc	17 35 42.2	-0.7
	comp=Z,34nm,1.4s						
LOR				*e*R			
	comp=Z,377nm,21.0s						
LOR	**Lormes**	**148.45**	**1**	*e*PKP	PKPdf	17 35 42.2	+3.0
LOR				LR	LR		
	comp=Z,380nm,21.0s						
SSF	**Saint Saulge**	**148.65**	**1**	*e*PKP1	PKPbc	17 35 42.8	-0.6
	comp=Z,36nm,1.3s						
AVF	**Avril sur Loir**	**148.92**	**2**	*e*PKP1	PKPbc	17 35 43.2	-0.9
SMF	**Signal de Mont**	**149.08**	**1**	*e*PKP1	PKPbc	17 35 43.7	-0.8
CABF	**La Chapelle**	**149.09**	**358**	*e*PKP1	PKPbc	17 35 44.5	0.0
	comp=Z,45nm,1.3s						
BGF	**Bois d'Agland**	**149.14**	**2**	*e*PKP1	PKPbc	17 35 43.9	-0.7
TCF	**Toulx Ste Croi**	**149.38**	**3**	*e*PKP1	PKPbc	17 35 44.3	-0.9
	comp=Z,46nm,1.5s						
LBL	**Lubilhac**	**150.47**	**2**	PKP	PKPab	17 35 52.8	-2.0
BNI	**Bardonecchia**	**150.62**	**357**	*e*PKIKP	PKPbc	17 35 48.3	+0.1
ORIF	**Oris-en-Rattie**	**150.79**	**358**	*e*PKP1	PKPbc	17 35 48.5	-0.1
ORIF				*e*R			
	comp=Z,154nm,22.2s						
VIVF	**Saint-Julien-l**	**150.87**	**360**	*e*PKP1	PKPbc	17 35 48.5	-0.3
MBDF	**Montbardon**	**150.94**	**357**	*e*PKP1	PKPbc	17 35 48.6	-0.3
VILF	**Villemus**	**151.86**	**358**	PKP	PKPbc	17 35 52.8	+1.7

IDC ***15*** *17:16:42.6±0.8, 1797S×17369W, h0km, mb4.4/9, mb1 4.6/10, mb1mx4.5/16, mbtmp4.4/10, ML2.1/1, MS4.6/2, Ms1 4.6/2, ms1mx3.6/20, Error ellipse: s-maj=37.1km s-min=18.2km az=132.0*

NEIC ***15*** *17:16:44.3±0.4, 1793S×17362W, h10km, mb5.0/10, Error ellipse: s-maj=19.1km s-min=8.8km az=132.0*

MOS ***15*** *17:16:45.8±2.2, 1813S×17325W, h33km, mb5.1/8, Error ellipse: s-maj=17.6km s-min=14.4km az=56.6*

ISCJB ***15*** *17:16:46.2±0.4, 1795±0.1×17376W±0.10, h33km, mb4.7/19, MS4.8/2, Error ellipse: s-maj=19.4km s-min=7.7km az=106.4*

ISC 15 17:16:48.4±0.4, 179S±01×17373W±010, h35km, n88, σ0°87/72, mb4.7/19, MS4.8/2, 12C-20D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.40**	**26**	Pn	**Pn**	**17 17 50.8**	**-1.8**
	5.1nm,0.3s,baz=294,slow=20,SNR=4.7						
AFI				Sn	**Sn**	**17 18 33.6**	**-9.0**
	76nm,0.3s,baz=46,slow=16,SNR=8.6						
AFI				T		17 22 14.1	
	18nm,0.3s,baz=90,slow=13,SNR=4.3						
AFI	**Afiamalu**	**4.40**	**26**	Pn	**Pn**	**17 17 50.8**	**-1.8**
AFI				Sn	**Sn**	**17 18 33.6**	**-9.0**
RAR	**Rarotonga**	**13.56**	**106**	Pn	**Pn**	**17 19 48.1**	**-10**
	5.0nm,0.3s,baz=262,slow=10.0,SNR=11						
DZM	**Mont Dzumac**	**19.08**	**254**	LR	LR	17 26 16.6	
	comp=Z,2μm,20.7s,baz=52,slow=30						
URZ	**Urewera**	**21.80**	**200**	P	**P**	**17 21 36.1**	**-1.2**
	12nm,0.4s,mb4.7,baz=2.2,slow=2.7,SNR=14						
CTAO	**Charters Tower**	**37.84**	**260**	*e*P	**P**	**17 24 03.0**	**+1.5**
STKA	**Stephens Creek**	**42.55**	**242**	P	**P**	**17 24 38.9**	**-1.7**
	2.4nm,0.8s,mb4.0,baz=131,slow=11,SNR=2.4						
STKA	**Stephens Creek**	**42.55**	**242**	*e*P	**P**	**17 24 36.2**	**-4.4**
MIDW	**Midway**	**45.98**	**356**	P	**P**	**17 25 06.2**	**-1.9**
	74nm,0.8s,mb5.7						
WB2	**Warramunga Arr**	**48.99**	**259**	*e*P	**P**	**17 25 31.3**	**-0.2**
WRA	**Warramunga Arr**	**49.01**	**259**	P	**P**	**17 25 31.3**	**-0.3**
	1.1nm,0.4s,mb4.2,baz=97,slow=7.4,SNR=49						
AS31	**Alice Springs**	**49.07**	**254**	*e*P	**P**	**17 25 32.0**	**-0.1**
ASAR	**Alice Springs**	**49.07**	**254**	P	**P**	**17 25 32.1**	**0.0**
	6.2nm,0.8s,mb4.7,baz=87,slow=8.2,SNR=14						
ASPA	**Alice Springs**	**49.08**	**254**	*e*P	**P**	**17 25 32.0**	**-0.1**
CASY	**Casey**	**68.01**	**205**	*e*P	**P**	**17 27 33.9**	**-10**
	46nm,0.6s,mb5.7						
MJAR	**Matsushiro Arr**	**70.65**	**321**	P	**P**	**17 28 01.0**	**+0.7**
	3.1nm,0.8s,mb4.3,baz=162,slow=5.8,SNR=7.0						
PACP	**Pacheco Peak**	**73.66**	**41**	⇓P	**P**	**17 28 19.0**	**+0.6**
	baz=74						
ISA	**Isabella**	**74.67**	**44**	P	**P**	**17 28 16.6**	**-7.6**
ISA				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
ISA	**Isabella**	**74.67**	**44**	P	**P**	**17 28 16.6**	**-7.6**
	comp=Z,15nm,1.2s,mb4.8						
O02C	**Red Bluff**	**74.74**	**38**	⇓P	**P**	**17 28 25.3**	**+0.7**
	baz=75						
CMB	**Columbia Colle**	**74.85**	**41**	P	**P**	**17 28 24.3**	**-1.0**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
CMB	**Columbia Colle**	**74.85**	**41**	P	**P**	**17 28 24.3**	**-1.0**
	comp=Z,8.7nm,1.2s,mb4.6						
CMB	**Columbia Colle**	**74.85**	**41**	⇑P	**P**	**17 28 25.2**	**0.0**
	baz=75						
PFO	**Pinyon Flat Ob**	**74.86**	**47**	⇓P	**P**	**17 28 23.8**	**-1.5**
	baz=75						
R05C	**Kirkwood Meado**	**75.45**	**41**	⇑P	**P**	**17 28 29.2**	**+0.5**
	baz=76						
M02C	**Callahan**	**75.48**	**37**	⇓P	**P**	**17 28 29.7**	**+0.8**
	baz=76						
P05C	**Yuba Gap, Truc**	**75.49**	**40**	⇑P	**P**	**17 28 29.6**	**+0.7**
	baz=76						
YSS	**Yuzh-Sakhalins**	**75.50**	**331**	*e*P	**P**	**17 28 30.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**75.50**	**331**	*e*P	**P**	**17 28 30.0**	**+1.0**
	comp=Z,10nm,0.8s,mb4.8						
GLA	**Glamis**	**75.69**	**48**	⇓P	**P**	**17 28 31.5**	**+1.4**
	baz=76						
R07C	**Lee Vining**	**75.72**	**42**	⇓P	**P**	**17 28 30.2**	**-0.1**
	baz=76						
YBH	**Yreka Blue Hor**	**75.78**	**37**	⇑P	**P**	**17 28 31.4**	**+0.8**
	baz=76						
S08C	**White Mtn Res**	**75.94**	**43**	⇑P	**P**	**17 28 32.2**	**+0.7**
	baz=76						
ELFS	**Eagle Lake Fie**	**76.23**	**39**	⇓P	**P**	**17 28 34.6**	**+1.4**
	baz=76						
NVAR	**Mina Array Bea**	**76.40**	**42**	P	**P**	**17 28 34.4**	**+0.3**
	comp=Z,2.6nm,0.6s,mb4.3,baz=220,slow=7.6,SNR=6.3						
O06A	**Flanigan**	**76.49**	**40**	⇑P	**P**	**17 28 34.5**	**-0.1**
	baz=77						
S09A	**Goldfield**	**76.68**	**43**	⇑P	**P**	**17 28 35.5**	**-0.3**
	baz=77						
TPH	**Tonopah**	**76.88**	**43**	P	**P**	**17 28 33.6**	**-3.3**
TPH				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
TPH	**Tonopah**	**76.88**	**43**	P	**P**	**17 28 33.6**	**-3.3**
	comp=Z,16nm,1.2s,mb4.8						
H02A	**Toledo**	**77.00**	**34**	⇓P	**P**	**17 28 38.4**	**+0.8**
	baz=77						
O07A	**Toulon**	**77.07**	**40**	⇓P	**P**	**17 28 38.2**	**+0.3**
	baz=77						
KSM	**Kuching**	**77.11**	**276**	*e*P	**P**	**17 28 39.5**	**+1.4**
Y14A	**Wickenburg**	**77.46**	**48**	⇑P	**P**	**17 28 39.8**	**-0.3**
	baz=78						
M07A	**Soldier Meadow**	**77.64**	**39**	⇓P	**P**	**17 28 41.6**	**+0.5**
	baz=78						
P09A	**Austin**	**77.79**	**41**	⇓P	**P**	**17 28 42.0**	**+0.1**
	baz=78						
K06A	**Valley Falls**	**77.87**	**37**	⇑P	**P**	**17 28 42.7**	**+0.3**
	baz=78						
N08A	**GE Springer Mi**	**77.90**	**40**	⇓P	**P**	**17 28 42.5**	**-0.1**
	baz=78						
O09A	**Fish Creek Ran**	**78.12**	**41**	⇓P	**P**	**17 28 43.8**	**+0.1**
	baz=78						
J06A	**Christmas Vall**	**78.21**	**37**	⇓P	**P**	**17 28 44.2**	**-0.1**
	baz=78						
Q11A	**Duckwater**	**78.34**	**43**	⇓P	**P**	**17 28 45.9**	**+0.9**
	baz=78						
K07A	**Rock Creek Ran**	**78.38**	**38**	⇑P	**P**	**17 28 45.4**	**+0.2**
	baz=78						
I06A	**Prineville**	**78.60**	**36**	⇓P	**P**	**17 28 46.9**	**+0.5**
	baz=79						
M09A	**Marrel Ranch,**	**78.69**	**40**	⇑P	**P**	**17 28 47.6**	**+0.7**
	baz=79						
L09A	**Wilkinson Ranc**	**78.91**	**39**	⇓P	**P**	**17 28 48.0**	**-0.2**
	baz=79						
O11A	**Cowboy Ranch,**	**79.06**	**42**	⇓P	**P**	**17 28 49.4**	**+0.5**
	baz=79						
M10A	**I.L. Ranch, Tu**	**79.31**	**40**	⇓P	**P**	**17 28 50.6**	**+0.3**
	baz=80						
M12A	**Wells**	**80.25**	**41**	⇓P	**P**	**17 28 55.7**	**+0.3**
	baz=80						
PMR	**Palmer**	**81.63**	**12**	P	**P**	**17 29 01.3**	**-1.5**
PMR				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
PMR	**Palmer**	**81.63**	**12**	P	**P**	**17 29 01.3**	**-1.5**
	comp=Z,21nm,1.5s,mb4.8						
ANMO	**Albuquerque**	**82.65**	**50**	LR	LR	17 59 21.8	
	comp=Z,256nm,18.2s,MS4.6,baz=289,slow=31						
MCK	**McKinley**	**83.63**	**11**	*e*P	**P**	**17 29 12.2**	**-1.0**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
MCK	**McKinley**	**83.63**	**11**	*e*P	**P**	**17 29 12.2**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**84.34**	**42**	P	**P**	**17 29 16.1**	**-0.7**
	comp=Z,2.9nm,0.8s,mb4.5,baz=220,slow=2.9,SNR=5.6						
SDCO	**Great Sand Dun**	**84.63**	**48**	P	**P**	**17 29 15.9**	**-2.3**
COLA	**College**	**84.87**	**11**	*e*P	**P**	**17 29 18.8**	**-0.7**
COLA				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.3						
COLA	**College**	**84.87**	**11**	*e*P	**P**	**17 29 18.8**	**-0.7**
	comp=Z,21nm,0.9s,mb5.3						
MAW	**Mawson**	**85.33**	**199**	P	**P**	**17 29 21.4**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.4,baz=153,slow=10,SNR=6.2						
DAWY	**Dawson**	**85.92**	**14**	*e*P	**P**	**17 29 24.2**	**-0.5**
BILL	**Bilibino**	**86.94**	**353**	*e*P	**P**	**17 29 29.4**	**-0.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
BILL	**Bilibino**	**86.94**	**353**	*e*P	**P**	**17 29 29.4**	**-0.3**
	comp=Z,10nm,1.0s,mb5.0						
YKA	**Yellowknife Ar**	**92.51**	**24**	P	**P**	**17 29 55.0**	**-0.8**
	comp=Z,1.0nm,0.7s,mb4.3,baz=233,slow=4.2,SNR=6.5						
YKA	**Yellowknife Ar**	**92.51**	**24**	P	**P**	**17 29 55.0**	**-0.8**
ARCES	**ARCESS Array B**	**127.03**	**352**	PKP	PKPdf	17 35 48.1	-0.6
	comp=Z,3.7nm,0.8s,baz=48,slow=1.8,SNR=10						
FINES	**FINESS Array B**	**134.30**	**347**	PKP	PKPdf	17 36 02.6	+0.1
	comp=Z,0.8nm,0.5s,baz=75,slow=2.2,SNR=5.2						
LVV	**L'vov**	**145.10**	**340**	*i* PKIKP	PKPdf	17 36 20.9	-1.1
LVV				MLR	MLR		
	comp=N,200nm,22.0s,MS5.0						
LVV				MLR	MLR		
	comp=Z,200nm,22.0s,MS4.8						
LVV				MLR	MLR		
	comp=E,200nm,21.0s,MS5.0						
MALT	**Malatya**	**145.36**	**313**	*e*PKP2	PKPab	17 36 23.6	+1.1
OJC	**Ojcow**	**145.99**	**344**	*e*PKP	PKPdf	17 36 25.0	+1.5
KSP	**Ksiaz**	**146.18**	**349**	*e*PKP2	PKPab	17 36 26.0	+0.4
CLL	**Collm**	**146.25**	**352**	⇑*i*PKPbc	PKPbc	17 36 25.6	+0.5
	comp=Z,36nm,1.1s						
CLL				*e*x	x	17 36 37.0	
BRG	**Berggiesshubel**	**146.54**	**351**	*i* PKP	PKPdf	17 36 25.8	+1.3
	comp=Z,16nm,1.6s						
UPC	**Upice**	**146.55**	**349**	*e*PKP	PKPdf	17 36 26.1	+1.6
DPC	**Dobruska-Polom**	**146.65**	**348**	*e*PKP	PKPdf	17 36 27.6	+3.0
DPC				AMS	AMS	18 36 50.0	
	comp=Z,400nm,24.9s						
OKC	**Ostrava-Krasne**	**146.74**	**346**	*e*PKP	PKPbc	17 36 29.1	+2.6
OKC				AMS	AMS	18 35 00.0	
	comp=Z,400nm,29.8s						
PVCC	**Panska Ves**	**146.78**	**350**	AMS	AMS	18 34 40.0	
	comp=Z,200nm,24.8s						
PRU	**Pruhonice**	**147.31**	**350**	*e*PKP	PKPdf	17 36 29.3	+3.5
PRU				AMS	AMS	18 34 50.0	
	comp=Z,300nm,25.5s						
TREC	**Trest**	**147.81**	**349**	AMS	AMS	18 38 50.0	
	comp=Z,300nm,22.4s						
KHC	**Kasperske Hory**	**148.30**	**351**	*e*PKP	PKPdf	17 36 30.1	+2.7
KHC				AMS	AMS	18 35 50.0	
	comp=Z,300nm,21.0s						
GERES	**GERESS Array B**	**148.56**	**351**	PKPbc	PKPbc	17 36 32.2	+0.7
	comp=Z,1.3nm,0.6s,baz=22,slow=4.3,SNR=5.5						

PRE 15 17:36:21.1±1.3, 2144S×3316E, h5km, ML4.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.07**	**193**	*e*P	Pn	17 37 51.3	-0.1
POGA				*e*S	Sn	17 38 58.7	-2.6
POGA				AML	AML	17 39 43.1	
	comp=Z,250nm,0.5s						
SLR	**Silverton**	**6.18**	**225**	*e*P	Pn	17 37 54.0	+0.9
SLR				*e*S	Sn	17 39 02.1	-2.0
SLR				AML	AML	17 39 54.2	
	comp=Z,294nm,0.4s						
ERPM	**east rand prop**	**6.56**	**222**	*e*P	Pn	17 38 00.0	+1.8
ERPM				*e*S	Sn	17 39 10.9	-2.6
ERPM				AML	AML	17 40 03.9	
	comp=Z,211nm,0.6s						
KSR	**Koster**	**7.22**	**231**	*e*P	Pn	17 38 09.0	+1.7
KSR				*e*S	Sn	17 39 26.8	-3.0
KSR				AML	AML	17 39 35.4	
	comp=Z,100nm,0.5s						
LBTB	**Lobatse**	**7.81**	**241**	*e*P	Pn	17 38 16.6	+1.2
LBTB				*e*S	Sn	17 39 41.8	-2.3
LBTB				AML	AML	17 40 38.8	
	comp=Z,124nm,0.6s						
SWZ	**Schweizer**	**9.14**	**230**	*e*P	Pn	17 38 34.6	+0.9
SWZ				*e*S	Sn	17 40 12.4	-4.5
SWZ				AML	AML	17 41 22.4	
	comp=Z,74nm,0.6s						
BOSA	**Boshof**	**10.11**	**223**	*e*P	Pn	17 38 48.1	+1.2
BOSA				*e*S	Sn	17 40 35.7	-5.1
BOSA				AML	AML	17 42 02.9	
	comp=Z,42nm,0.7s						
SUR	**Sutherland**	**15.48**	**223**	*e*P	Pn	17 40 02.5	+2.5
SUR				*e*S	Sn	17 42 43.8	-8.0

IGQ 15 17:38:04.7, 294S×7925W, h12km±8km, Mb4.0, Ms3.8, 1C-5D, Error ellipse: s-maj=20.0km s-min=4.3km az=34.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.56**	**23**	P	Pn	17 38 34.0	+1.7
IGUA				S	Sn	17 38 55.6	+3.2
ARRY	**Arrayan**	**1.63**	**29**	⇓P	Pn	17 38 34.4	+1.2
ARRY				S	Sn	17 38 56.4	+2.3
PATA	**Patacocha**	**1.64**	**30**	⇓P	Pn	17 38 35.0	+1.6
PATA				S	Sn	17 38 57.7	+3.3
CUSU	**Cusua**	**1.67**	**27**	P	Pn	17 38 35.7	+1.9
CUSU				S	Sn	17 38 58.3	+3.1
RETU	**Refugio**	**1.68**	**29**	P	Pn	17 38 35.9	+2.0
RETU				S	Sn	17 38 59.3	+3.9
JUIV	**Juive**	**1.70**	**28**	⇓P	Pn	17 38 35.7	+1.6
JUIV				S	Sn	17 38 59.2

DBC	**Dubki**	**1.68**	**318**	*e*P	**Pn**	**17 39 46.5**	**+0.2**
DBC				*e*S	**Sn**	**17 40 06.5**	**-1.7**
DGRG	**David-gareji**	**2.27**	**263**	P	**Pn**	**17 39 56.4**	**+2.0**
DGRG				S	**Sn**	**17 40 22.4**	**-0.3**
MTA	**Mtatsminda**	**2.67**	**269**	P	**Pn**	**17 40 01.3**	**+1.3**
MTA				S	**Sn**	**17 40 32.5**	**-0.3**
TBLG	**Delisi**	**2.71**	**270**	*e*P	**Pn**	**17 40 01.9**	**+1.3**
TBLG				*e*S	**Sn**	**17 40 33.9**	**+0.2**
GNI	**Garni**	**3.19**	**240**	Pn	**Pn**	**17 40 08.1**	**+1.0**
	comp=E,1.8nm,0.3s,baz=307,slow=13,SNR=5.0						
GNI				Lg		17 40 49.1	
	comp=E,4.9nm,0.3s,baz=216,slow=13,SNR=3.8						
GNI	**Garni**	**3.19**	**240**	*d i*P	**Pn**	**17 40 09.1**	**+1.9**
GNI	**Garni**	**3.19**	**240**	*e*Pn	**Pn**	**17 40 06.7**	**-0.4**
GNI				Lg		17 40 49.1	
GNI	**Garni**	**3.19**	**240**	*e*Pn	**Pn**	**17 40 06.7**	**-0.5**
ZEI	**Tsey**	**3.46**	**288**	*e*P	**Pn**	**17 40 13.2**	**+2.4**
ZEI				*e*S	**Sn**	**17 40 46.4**	**-5.7**
ONI	**Oni**	**3.74**	**284**	P	**Pn**	**17 40 01.7**	**-13**
ONI				S	Sn	17 40 34.1	-25
KUBR	**Kubataba**	**4.17**	**301**	*i* P	**Pn**	**17 40 21.2**	**+0.7**
SHAR	**Shatzhatmas**	**4.63**	**297**	*e*P	**Pn**	**17 40 27.9**	**+1.0**
KIV	**Kislovodsk**	**4.70**	**299**	*i* P	**Pn**	**17 40 27.1**	**-0.8**
AKTK	**Aktyubinsk**	**10.93**	**34**	Pn	**Pn**	**17 41 55.3**	**+1.9**
AKTK				Sn	**Sn**	**17 43 50.8**	**-5.3**
AKTK	**Aktyubinsk**	**10.93**	**34**	Pn	**Pn**	**17 41 55.3**	**+1.9**
AKTK				Sn	**Sn**	**17 43 50.8**	**-5.3**
AKTO	**Aktyubinsk**	**10.93**	**34**	⇓Pn	**Pn**	**17 41 53.2**	**-0.2**
	comp=E,0.2nm,1.2s						
AKTO				⇑Sn	**Sn**	**17 43 49.5**	**-6.6**
	comp=E,0.1nm,0.7s						
AKTO	**Aktyubinsk**	**10.93**	**34**	Pn	**Pn**	**17 41 55.3**	**+1.9**
	comp=E,0.4nm,0.3s,baz=216,slow=13,SNR=7.3						
AKTO				Sn	**Sn**	**17 43 50.8**	**-5.3**
	comp=E,0.5nm,0.3s,baz=7.9,slow=21,SNR=5.0						
AB31	**Akbulak array**	**11.03**	**43**	⇑Pn	**Pn**	**17 41 55.1**	**+0.4**
	comp=E,0.3nm,0.3s,baz=230,slow=13,SNR=8.5						
AB31				⇑Sn	**Sn**	**17 43 54.9**	**-3.5**
	comp=E,1.3nm,0.3s,baz=233,slow=23,SNR=7.6						
AKASG	**Malin Array Be**	**15.93**	**311**	Pn	**Pn**	**17 42 59.2**	**-1.9**
	comp=E,0.3nm,0.3s,baz=121,slow=11,SNR=2.6						
AKASG	**Malin Array Be**	**15.93**	**311**	Pn	**Pn**	**17 42 59.2**	**-1.9**
ARU	**Arti**	**16.08**	**21**	*e*P	**Pn**	**17 42 57.7**	**-5.4**
ARU				*e*S	**Sn**	**17 45 49.0**	**-13**
ZRNK	**Zerenda**	**17.82**	**44**	P	**Pn**	**17 43 22.3**	**-2.8**
	comp=E,4.5nm,1.0s						
BVAR	**Borovoye Array**	**18.59**	**45**	P	**Pn**	**17 43 35.0**	**+0.6**
	comp=E,0.2nm,0.3s,baz=228,slow=13,SNR=4.9						
IDI	**Anoyia**	**19.44**	**258**	P	**Pn**	**17 43 42.1**	**-2.7**
	comp=E,0.5nm,0.3s,baz=44,slow=8.4,SNR=4.2						
FINES	**FINESS Array B**	**23.84**	**333**	P	**P**	**17 44 28.9**	**-1.4**
	comp=E,1.7nm,0.5s,mb3.7,baz=136,slow=10,SNR=15						
MKAR	**Makanchi Array**	**24.67**	**67**	P	**P**	**17 44 39.8**	**+1.7**
	comp=E,0.7nm,0.5s,mb3.4,baz=263,slow=10,SNR=12						
HFS	**Hagfors**	**28.05**	**323**	P	**P**	**17 45 06.8**	**-1.7**
	comp=E,2.4nm,0.7s,mb3.9,baz=107,slow=9.5,SNR=8.2						
NB2	**NORSAR Subarra**	**29.54**	**323**	P	**P**	**17 45 19.4**	**-2.3**
	comp=Z,0.7nm,0.5s,mb3.6,baz=115,slow=8.6						
NOA	**NORSAR Array B**	**29.54**	**323**	P	**P**	**17 45 19.8**	**-1.9**
	comp=Z,1.0nm,0.6s,mb3.7,baz=118,slow=8.3,SNR=4.3						
ULN	**Ulaanbaatar**	**41.19**	**61**	P	**P**	**17 47 03.1**	**+1.3**

ISCJB ***15*** *17:52:53.6±0.4, 4422N±002×5.15E±002, h6km±3km, Error ellipse: s-maj=3.4km s-min=2.4km az=30.4*
NEIC ***15*** *17:52:55.9, 4421N×5.18E, h5km, ML2.6(LDG), After LDG.*
CSEM ***15*** *17:52:55.8±0.1, 4420N×521E, h10km, ML2.6/17, Error ellipse: s-maj=1.5km s-min=1.1km az=19.0*
LDG ***15*** *17:52:55.9±0.0, 4421N×5.18E, h5km, Md2.9/2, Ml2.6/17, Error ellipse: s-maj=0.7km s-min=0.5km az=12.0*
GEN ***15*** *17:52:57.5, 4421N×5.19E, h10km, ML2.0*
ISC 15 17:52:54.9±0.3, 4421N±002×516E±002, h12km±3km, n51, σ0°71/122, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRF	**Simiane la Rot**	**0.38**	**127**	*e*Pg	**Pg**	**17 53 02.4**	**-0.1**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**17 53 08.3**	**+0.7**
	226nm,0.6s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.38**	**127**	*e*Pg	**Pg**	**17 53 02.4**	**-0.1**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**17 53 08.3**	**+0.7**
	113nm,0.6s,SNR=1.0						
VIVF	**Saint-Julien-l**	**0.74**	**332**	*e*Pn	**Pn**	**17 53 10.7**	**-0.4**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**17 53 20.0**	**+1.1**
	61nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**0.74**	**332**	*e*Pg	**Pg**	**17 53 09.4**	**+0.1**
VIVF				*e*Pn	**Pn**	**17 53 10.7**	**-0.4**
VIVF				*e*Sg	**Sg**	**17 53 20.0**	**+1.1**
VIVF	**Saint-Julien-l**	**0.74**	**332**	*e*Pn	**Pn**	**17 53 10.7**	**-0.4**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**17 53 20.0**	**+1.1**
	30nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.88**	**36**	*e*Pn	**Pn**	**17 53 13.4**	**+0.3**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**17 53 25.6**	**-0.1**
	36nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.88**	**36**	*e*Pg	**Pg**	**17 53 12.1**	**+0.2**
ORIF				*e*Pn	**Pn**	**17 53 13.4**	**+0.3**
ORIF				*e*Sn	**Sn**	**17 53 25.6**	**-0.1**
ORIF	**Oris-en-Rattie**	**0.88**	**36**	*e*Pn	**Pn**	**17 53 13.4**	**+0.3**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**17 53 25.6**	**-0.1**
	18nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**0.95**	**263**	*e*Pn	**Pn**	**17 53 14.5**	**+0.5**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**17 53 26.6**	**+1.1**
	16nm,0.4s,SNR=1.0						
LASF				*e*Sn	**Sn**	**17 53 27.9**	**+0.5**
	11nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**0.95**	**263**	*e*Pg	**Pg**	**17 53 13.9**	**+0.7**
LASF				*e*Pn	**Pn**	**17 53 14.5**	**+0.5**
LASF				*e*Sg	**Sg**	**17 53 26.6**	**+1.1**
LASF				*e*Sn	**Sn**	**17 53 27.9**	**+0.5**
LASF	**Ste Croix**	**0.95**	**263**	*e*Pn	**Pn**	**17 53 14.5**	**+0.5**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**17 53 26.6**	**+1.1**
	8.1nm,0.4s,SNR=1.0						
LASF				*e*Sn	**Sn**	**17 53 27.9**	**+0.5**
	5.6nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.25**	**120**	*e*Pg	**Pg**	**17 53 19.2**	**+0.1**
FRF				*e*Sn	**Sn**	**17 53 33.9**	**-1.1**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**17 53 35.4**	**0.0**
	33nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**1.25**	**120**	*e*Pn	**Pn**	**17 53 18.3**	**+0.1**
FRF				*e*Pg	**Pg**	**17 53 19.2**	**+0.1**
FRF				*e*Sn	**Sn**	**17 53 33.9**	**-1.1**
FRF				*e*Sg	**Sg**	**17 53 35.4**	**0.0**
FRF	**La Foret Royal**	**1.25**	**120**	*e*Pg	**Pg**	**17 53 19.2**	**+0.1**
FRF				*e*Sn	**Sn**	**17 53 33.9**	**-1.1**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**17 53 35.4**	**0.0**
	16nm,0.3s,SNR=1.0						
MBDF	**Montbardon**	**1.27**	**65**	*e*Pg	**Pg**	**17 53 19.4**	**+0.1**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 53 35.7**	**-0.1**
	23nm,0.7s,SNR=1.0						
MBDF	**Montbardon**	**1.27**	**65**	*e*Pg	**Pg**	**17 53 19.4**	**+0.1**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 53 35.7**	**-0.1**
	11nm,0.7s,SNR=1.0						
LMR	**La Mourre**	**1.31**	**131**	*e*Pg	**Pg**	**17 53 20.1**	**0.0**
LMR				*e*Sn	**Sn**	**17 53 35.3**	**-1.0**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**17 53 36.9**	**-0.2**
	22nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**1.31**	**131**	*e*Pn	**Pn**	**17 53 19.1**	**+0.1**
LMR				*e*Pg	**Pg**	**17 53 20.1**	**0.0**
LMR				*e*Sn	**Sn**	**17 53 35.3**	**-1.0**
LMR				*e*Sg	**Sg**	**17 53 36.9**	**-0.2**
LMR	**La Mourre**	**1.31**	**131**	*e*Pg	**Pg**	**17 53 20.1**	**0.0**
LMR				*e*Sn	**Sn**	**17 53 35.3**	**-1.0**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**17 53 36.9**	**-0.2**
	11nm,0.3s,SNR=1.0						
RRL	**Cesana Torines**	**1.36**	**58**	P	**Pn**	**17 53 21.8**	**+2.1**
RRL				S	**Sn**	**17 53 39.2**	**+1.5**
PZZ	**Prazzo**	**1.43**	**77**	P	**Pn**	**17 53 21.8**	**+1.2**
PZZ				S	**Sn**	**17 53 38.7**	**-0.5**
STV	**Sta Anna Valdi**	**1.56**	**88**	P	**Pn**	**17 53 23.6**	**+1.2**
STV				S	**Sn**	**17 53 41.1**	**-1.4**
ENR	**Entracque**	**1.63**	**88**	P	**Pn**	**17 53 24.6**	**+1.3**
ENR				S	**Sn**	**17 53 43.0**	**-1.2**
SBF	**Sospel**	**1.68**	**101**	*e*Pg	**Pg**	**17 53 27.0**	**-0.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**17 53 44.4**	**-1.0**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**17 53 48.4**	**-0.5**
	43nm,0.6s,SNR=1.0						
SBF	**Sospel**	**1.68**	**101**	*e*Pn	**Pn**	**17 53 24.1**	**+0.1**
SBF				*e*Pg	**Pg**	**17 53 27.0**	**-0.1**
SBF				*e*Sn	**Sn**	**17 53 44.4**	**-1.0**
SBF				*e*Sg	**Sg**	**17 53 48.4**	**-0.5**
SBF	**Sospel**	**1.68**	**101**	*e*Pg	**Pg**	**17 53 27.0**	**-0.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**17 53 44.4**	**-1.0**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**17 53 48.4**	**-0.5**
	22nm,0.6s,SNR=1.0						
LPG	**La Plagne**	**1.72**	**41**	*e*Pg	**Pg**	**17 53 27.9**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**17 53 49.8**	**-0.4**
	6.5nm,0.5s						
LPG	**La Plagne**	**1.72**	**41**	*e*Pg	**Pg**	**17 53 27.9**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**17 53 49.8**	**-0.4**
	3.2nm,0.5s						
LPL	**La Plagne**	**1.72**	**40**	*e*Pg	**Pg**	**17 53 28.2**	**+0.2**
MONE	**Monesi**	**1.87**	**93**	P	**Pn**	**17 53 27.6**	**+0.9**
FIN	**Finale Ligure**	**2.19**	**89**	P	**Pn**	**17 53 31.8**	**+0.7**
MTLF	**Montolieu**	**2.30**	**249**	*e*Pg	**Pg**	**17 53 39.1**	**+0.1**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**17 54 00.0**	**-0.8**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**17 54 08.8**	**0.0**
	3.3nm,0.3s						
MTLF	**Montolieu**	**2.30**	**249**	*e*Pn	**Pn**	**17 53 33.0**	**+0.4**
MTLF				*e*Pg	**Pg**	**17 53 39.1**	**+0.1**
MTLF				*e*Sn	**Sn**	**17 54 00.0**	**-0.8**
MTLF				*e*Sg	**Sg**	**17 54 08.8**	**0.0**
MTLF	**Montolieu**	**2.30**	**249**	*e*Pg	**Pg**	**17 53 39.1**	**+0.1**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**17 54 00.0**	**-0.8**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**17 54 08.8**	**0.0**
	1.6nm,0.3s						
CAF	**Calviac**	**2.33**	**289**	*e*Pn	**Pn**	**17 53 33.7**	**+0.7**
CAF				*e*Sg	**Sg**	**17 54 08.8**	**-0.9**
	21nm,0.5s						
CAF	**Calviac**	**2.33**	**289**	*e*Pn	**Pn**	**17 53 33.7**	**+0.7**
CAF				*e*Sg	**Sg**	**17 54 08.8**	**-0.9**
	11nm,0.5s						
CABF	**La Chapelle**	**2.49**	**15**	*e*Pg	**Pg**	**17 53 42.0**	**-0.7**
CABF				*e*Sg	**Sg**	**17 54 14.8**	**-0.3**
	8.3nm,0.7s,SNR=1.0						
CABF	**La Chapelle**	**2.49**	**15**	*e*Pn	**Pn**	**17 53 35.4**	**+0.1**
CABF				*e*Pg	**Pg**	**17 53 42.0**	**-0.7**
CABF				*e*Sg	**Sg**	**17 54 14.8**	**-0.3**
CABF	**La Chapelle**	**2.49**	**15**	*e*Pg	**Pg**	**17 53 42.0**	**-0.7**
CABF				*e*Sg	**Sg**	**17 54 14.8**	**-0.3**
	4.2nm,0.7s,SNR=1.0						
SMF	**Signal de Mont**	**2.61**	**340**	*e*Pn	**Pn**	**17 53 36.9**	**0.0**
SMF				*e*Sg	**Sg**	**17 54 18.4**	**-0.4**
	5.1nm,0.3s						
SMF	**Signal de Mont**	**2.61**	**340**	*e*Pn	**Pn**	**17 53 36.9**	**0.0**
SMF				*e*Sg	**Sg**	**17 54 18.4**	**-0.4**
	2.5nm,0.3s						
BGF	**Bois d'Agland**	**2.86**	**326**	*e*Pg	**Pg**	**17 53 49.0**	**-0.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**17 54 26.3**	**-0.6**
	9.4nm,0.4s						
BGF	**Bois d'Agland**	**2.86**	**326**	*e*Pn	**Pn**	**17 53 40.4**	**+0.1**
BGF				*e*Pg	**Pg**	**17 53 49.0**	**-0.8**
BGF				*e*Sg	**Sg**	**17 54 26.3**	**-0.6**
BGF	**Bois d'Agland**	**2.86**	**326**	*e*Pg	**Pg**	**17 53 49.0**	**-0.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**17 54 26.3**	**-0.6**
	4.7nm,0.4s						
AVF	**Avril sur Loir**	**2.88**	**334**	*e*Pn	**Pn**	**17 53 40.8**	**+0.2**
AVF				*e*Sg	**Sg**	**17 54 26.9**	**-0.6**
	4.3nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**2.88**	**334**	*e*Pn	**Pn**	**17 53 40.8**	**+0.2**
AVF				*e*Sg	**Sg**	**17 54 26.9**	**-0.6**
	2.2nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**3.24**	**285**	*e*Pn	**Pn**	**17 53 45.6**	**+0.1**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**17 54 37.9**	**-1.2**
	9.5nm,0.4s						
LFF	**La Frestale**	**3.24**	**285**	*e*Pn	**Pn**	**17 53 45.6**	**+0.1**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**17 54 37.9**	**-1.2**
	4.8nm,0.4s						
PGF	**Pioggiola**	**3.25**	**119**	*e*Pn	**Pn**	**17 53 44.7**	**-1.0**
	SNR=1.0						
EPF	**Esparros**	**3.69**	**253**	*e*Pn	**Pn**	**17 53 51.9**	**+0.2**
EPF				*e*Sg	**Sg**	**17 54 52.5**	**-1.0**
	3.1nm,0.3s						
EPF	**Esparros**	**3.69**	**253**	*e*Pn	**Pn**	**17 53 51.9**	**+0.2**
EPF				*e*Sg	**Sg**	**17 54 52.5**	**-1.0**
	1.5nm,0.3s						

IDC ***15*** *18:00:59.0±2.1, 4342N×10527W, h0km, mb4.3/1, mb1 4.2/3, mb1mx3.6/21, mbtmp4.1/3, ML3.7/2, Error ellipse: s-maj=51.5km s-min=8.2km az=154.0*
ISCJB ***15*** *18:01:00.3±0.7, 4377N±004×10522W±007, h0km, mb4.5/1, Error ellipse: s-maj=7.7km s-min=6.4km az=5.6*
NEIC ***15*** *18:01:01.6±0.5, 4372N×105.19W, h0km, ML3.2, Error ellipse: s-maj=7.1km s-min=6.0km az=150.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 15 18:01:01.6±0.6, 4374N±005×10518W±007, h0km, n21, σ0°95/24, mb4.5/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**65**	*e*P	**Pg**	**18 01 20.4**	**+1.3**
PHWY	**Pilot Hill**	**2.45**	**185**	*e*P	**Pn**	**18 01 42.2**	**-0.6**
RWWY	**Rawlins**	**2.54**	**217**	*e*P	**Pn**	**18 01 44.3**	**+0.3**
RWWY				*e*S	**Sn**	**18 02 14.5**	**-1.2**
PDAR	**Pinedale Array**	**3.34**	**255**	Pn	**Pn**	**18 01 54.5**	**-0.5**
	8.4nm,0.3s,baz=75,slow=18,SNR=48						
PDAR				Pg	**Pg**	**18 01 59.7**	**-6.0**
	14nm,0.3s,baz=72,slow=18,SNR=90						
PDAR				Lg		18 02 39.5	
	14nm,0.3s,baz=76,slow=34,SNR=12						
LOHW	**Long Hollow**	**3.93**	**270**	*e*P	**Pn**	**18 02 04.8**	**+1.5**
ISCO	**Idaho Springs**	**3.95**	**185**	*e*Pn	**Pn**	**18 02 03.9**	**+0.4**
ISCO				*e*Sn	**Sn**	**18 02 53.6**	**+3.0**
FLWY	**Flagg Ranch**	**4.00**	**277**	*e*Pn	**Pn**	**18 02 04.3**	**+0.1**
MOOW	**Moose Ponds**	**4.03**	**272**	*e*Pn	**Pn**	**18 02 05.2**	**+0.7**
YFT	**Old Faithful**	**4.13**	**282**	Pn	**Pn**	**18 02 05.5**	**-0.5**
REDW	**Red Top Meadow**	**4.14**	**267**	*e*Pn	**Pn**	**18 02 05.9**	**-0.1**
IMW	**Indian Meadow**	**4.17**	**274**	*e*Pn	**Pn**	**18 02 06.9**	**+0.4**
TPAW	**Teton Pass**	**4.20**	**269**	*e*Pn	**Pn**	**18 02 07.2**	**+0.3**
BOZ	**Bozeman (W)**	**4.97**	**295**	*e*Pn	**Pn**	**18 02 16.7**	**-0.8**
HRY	**Holter Researc**	**5.55**	**305**	*e*Pn	**Pn**	**18 02 26.1**	**+0.6**
DAU	**Daniels Canyon**	**5.61**	**236**	*e*Pn	**Pn**	**18 02 27.3**	**+1.0**
SRU	**San Rafael**	**6.12**	**223**	*e*Pn	**Pn**	**18 02 31.5**	**-1.9**
	10nm,0.6s						
TMUT	**Trail Mountain**	**6.34**	**228**	*e*Pn	**Pn**	**18 02 36.5**	**+0.2**
CHMT	**Chamberlain Mo**	**6.51**	**302**	*e*P	**Pn**	**18 02 39.2**	**+0.5**
MSU	**Marysvale**	**7.43**	**228**	*e*P	**Pn**	**18 02 50.7**	**-0.5**
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	**18 03 12.8**	**-1.3**
	1.3nm,0.3s,baz=226,slow=12,SNR=9.1						
ULM				Lg		18 05 51.9	
	0.3nm,0.3s,baz=140,slow=15,SNR=3.5						
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**18 11 18.1**	**-1.4**
	3.3nm,0.8s,mb4.5,baz=336,slow=8.0,SNR=7.3						

NEIC ***15*** *18:01:30.0, 2798S×14700E, h0km, ML3.0(AUST), After AUST.*
AUST 15 18:01:30.4, 2798S×14700E, h0km, ML3.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMQ	**Roma**	**2.16**	**47**	*e*P	Pn	18 02 08.1	+0.4
RMQ				*e*S	Sn	18 02 34.0	-1.1
	101nm,0.5s						
QLP	**Quilpie**	**2.83**	**299**	*e*P	Pn	18 02 14.8	-2.0
QLP				*e*S	Sn	18 02 57.2	+5.7
CMSA	**Cobar Meteorol**	**3.72**	**197**	*e*P	Pn	18 02 31.1	+2.0
CMSA				*e*S	Sn	18 03 16.3	+2.7
	7.9nm,0.2s						
EIDS	**Eidsvold**	**4.49**	**55**	*e*P	Pn	18 02 52.1	+12
EIDS				*e*S	Sn	18 03 43.3	+11
	6.0nm,0.3s						
ARMA	**Armidale**	**4.72**	**122**	*e*P	Pn	18 03 00.5	+18
ARMA				*e*S	Sn	18 04 06.1	+28
STKA	**Stephens Creek**	**6.08**	**229**	*e*P	Pn	18 03 01.3	-0.3
STKA				*e*S	Sn	18 04 09.3	-2.6
	2.1nm,0.2s						
STKA	**Stephens Creek**	**6.08**	**229**	*e*P	Pn	18 03 01.3	-0.3
	2.1nm,0.2s						
STKA				*e*S	Sn	18 04 09.3	-2.6
YNG	**Young**	**6.41**	**170**	*e*P	Pn	18 03 09.3	+3.3
YNG				*e*S	Sn	18 04 23.9	+4.0
	8.6nm,1.6s						
YNG	**Young**	**6.41**	**170**	*e*P	Pn	18 03 09.3	+3.3
	8.6nm,1.6s						
YNG				*e*S	Sn	18 04 23.9	+4.0
AS31	**Alice Springs**	**12.55**	**287**	*e*P	Pn	18 04 25.5	-4.7
AS31				*e*S	Sn	18 06 39.1	-12
ASPA	**Alice Springs**	**12.55**	**287**	*e*P	Pn	18 04 25.5	-4.7
ASPA				*e*S	Sn	18 06 39.1	-12
WB2	**Warramunga Arr**	**14.05**	**302**	*e*P	Pn	18 04 46.8	-3.9
WB2				*e*S	Sn	18 06 26.6	-61

BJI ***15*** *18:10:20.5, 1540S×175.10W, h10km, mB5.3, mb4.8, Ms5.4, Msz5.2*
IDC ***15*** *18:10:20.1±0.6, 1549S×175.13W, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.5/17, mbtmp4.4/12, MS5.0/17, Ms1 5.0/17, ms1mx4.9/19, Error ellipse: s-maj=28.1km s-min=17.3km az=135.0*
NEIC ***15*** *18:10:21.6±0.2, 1543S×175.14W, h10km, mb5.1/31, MS5.1/14, Error ellipse: s-maj=13.5km s-min=6.0km az=143.0*
HRVD ***15*** *18:10:21.6±0.1, 1547S×17487W, h12km, MW5.6/107, Centroid moment Tensor Solution. LP body waves: s89,c160;Mantle waves: s107,c267; Half duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr-0.17±.03; Mθθ2.38±.03; Mφφ-2.20±.03; Mrθ0.34±.08; Mrφ1.45±.03; Mθφ-0.31±.08; Best double couple: M=2.75100×10^17 NP1:φ=29.00000°, δ80.00000°, λ-177.00000°. NP2: φ=299.00000°, δ87.00000°, λ-10.00000°. Principal axes: T 2.8200, Plg5.0000°, Azm344.0000°; N -0.1320, Plg80.0000°, Azm102.0000°; P -2.6820, Plg9.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***15*** *18:10:23.4±0.2, 1540S±007×17520W±005, h33km, mb4.9/48, MS5.1/42 Error ellipse: s-maj=11.7km s-min=5.3km az=117.2*
MOS ***15*** *18:10:23.8±1.2, 1525S×17540W, h33km, mb5.3/19, MS5.2/22, Error ellipse: s-maj=17.3km s-min=11.1km az=55.9*
ISC 15 18:10:25.5±0.2, 1544S±007×17518W±005, h35km, (h10km±4.0km:pP-P), n250, σ0°80/187, mb4.9/48, MS5.1/42, 45C-46D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.63**	**66**	Pn	**Pn**	**18 11 11.1**	**-8.0**
	16nm,0.3s,baz=162,slow=5.1,SNR=21						
AFI	**Afiamalu**	**3.63**	**66**	*e*P	**Pn**	**18 11 10.8**	**-8.4**
AFI				*e*		18 13 58.4	
RAO	**Raoul Island**	**13.97**	**190**	LR	LR	18 18 09.6	
	comp=Z,15μm,19.3s,baz=15,slow=34						
RAR	**Rarotonga**	**15.71**	**114**	LR	LR	18 18 21.3	
	comp=Z,4μm,18.9s,baz=291,slow=31						
DZM	**Mont Dzumac**	**18.60**	**246**	*e*P	**Pn**	**18 14 42.6**	**+2.5**
DZM	**Mont Dzumac**	**18.60**	**246**	P	**Pn**	**18 14 41.7**	**+1.6**
	0.7nm,0.3s,baz=59,slow=18,SNR=14						
DZM				LR	LR	18 18 58.8	
	comp=Z,2μm,20.5s,baz=63,slow=28						
URZ	**Urewera**	**23.73**	**195**	P	**P**	**18 15 33.6**	**-0.7**
	9.2nm,0.7s,mb4.3,baz=4.7,slow=9.1,SNR=5.9						
URZ				LR	LR	18 23 56.2	
	comp=Z,6μm,19.7s,MS5.1,baz=20,slow=34						
PPT	**Papeete**	**24.64**	**99**	*e*LQ		18 20 29.7	
	18μm,25.8s						
PPT				*e*LR	LR	18 21 37.2	
	10μm,26.2s,baz=263						
PPT	**Papeete**	**24.64**	**99**	LR	LR	18 22 46.8	
	comp=Z,3μm,19.3s,MS4.8,baz=271,slow=30						
HNR	**Honiara**	**25.00**	**281**	LR	LR	18 24 07.6	
	comp=Z,9μm,21.3s,MS5.2,baz=173,slow=33						
TBI	**Tubuai**	**25.47**	**112**	*e*LQ		18 20 53.8	
	19μm,27.2s						
TBI				*e*LR	LR	18 22 01.4	
	7μm,27.2s,baz=276						
TAOE	**Nuku Hiva Isla**	**34.83**	**83**	*e*LR	LR	18 26 14.6	
	24μm,27.4s,baz=258

HAST	Hastings Reser	72.23	43	⇓P	P	18 21 46.0	-1.0
	baz=72						
JRSC	Jasper Ridge	72.38	42	⇓P	P	18 21 46.9	-0.9
	baz=72						
MCCM	Marconi Confer	72.41	41	⇑P	P	18 21 47.2	-0.8
	baz=73						
PKD	Parkfield	72.65	44	⇓P	P	18 21 49.2	-0.2
	baz=73						
YSS	Yuzh-Sakhalins	72.68	331	⇑*e*P	P	18 21 48.2	-1.4
YSS				*e*		18 24 28.0	
YSS				*e*PPP		18 26 16.0	
YSS				*e*S	S	18 31 13.0	+0.6
YSS				*e*PS		18 31 35.0	
YSS				*e*PPS		18 31 50.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.3						
U04C	Hernandez Rese	72.72	43	⇓P	P	18 21 49.7	-0.2
	baz=73						
PACP	Pacheco Peak	72.76	43	⇓P	P	18 21 49.5	-0.6
	baz=73						
P01C	Double 8 Ranch	72.92	40	⇑P	P	18 21 50.6	-0.5
	baz=73						
S04C	Ingram Canyon,	73.02	42	⇓P	P	18 21 52.0	+0.4
	baz=73						
O01C	Eel River Cons	73.04	39	⇓P	P	18 21 51.8	+0.1
	baz=73,SNR=8.6						
MNRC	McLaughlin Nat	73.12	40	⇓P	P	18 21 51.9	-0.4
	baz=73,SNR=7.3						
GASB	Alder Springs	73.41	40	⇓P	P	18 21 53.8	-0.2
	baz=74						
O02C	Red Bluff	73.69	39	⇓P	P	18 21 56.1	+0.5
	baz=74						
N02C	Big Bar	73.76	38	⇑P	P	18 21 56.1	+0.1
	baz=74						
ISA	Isabella	73.89	45	⇑P	P	18 21 57.4	+0.7
	baz=74						
CMB	Columbia Colle	73.94	42	*e*P	P	18 21 57.7	+0.6
CMB				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
CMB				MLR	MLR		
	comp=Z,705nm,19.0s,MS5.0						
CMB	Columbia Colle	73.94	42	*e*P	P	18 21 57.7	+0.6
	comp=Z,20nm,1.2s,mb4.9						
CMB				LR	LR		
	comp=Z,705nm,19.0s,MS5.0						
CMB	Columbia Colle	73.94	42	⇓P	P	18 21 57.1	+0.1
	baz=74						
WDC	Whiskeytown Da	74.08	39	*e*P	P	18 21 58.4	+0.5
WDC				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.0						
WDC	Whiskeytown Da	74.08	39	*e*P	P	18 21 58.4	+0.5
	comp=Z,28nm,1.5s,mb5.0						
WDC	Whiskeytown Da	74.08	39	⇑P	P	18 21 58.6	+0.7
	baz=74						
ORV	Oroville	74.11	40	⇑P	P	18 21 57.9	-0.1
	baz=74						
LAVA	Lava Cap Winer	74.13	41	⇑P	P	18 21 58.0	-0.2
	baz=74						
S06C	San Francisco	74.20	43	⇑P	P	18 21 58.3	-0.3
	baz=74						
PFO	Pinyon Flat Ob	74.21	48	⇓P	P	18 21 58.6	-0.1
	baz=74						
M02C	Callahan	74.39	38	⇓P	P	18 21 59.9	+0.3
	baz=74						
R05C	Kirkwood Meado	74.52	42	⇓P	P	18 22 00.1	-0.4
	baz=75						
P05C	Yuba Gap, Truc	74.52	41	⇑P	P	18 22 00.7	+0.2
	baz=75						
QSPA	South Pole Qui	74.60	180	*e*P	P	18 22 00.0	-0.9
	comp=Z,26nm,1.1s,mb5.1						
YBH	Yreka Blue Hor	74.68	38	*e*P	P	18 22 01.8	+0.4
YBH				pmax	pmax		
	comp=Z,29nm,1.5s						
YBH				MLR	MLR		
	comp=Z,659nm,20.0s						
YBH	Yreka Blue Hor	74.68	38	*e*P	P	18 22 01.8	+0.5
	comp=Z,29nm,1.5s,mb5.0						
YBH				LR	LR		
	comp=Z,659nm,20.0s,MS4.9						
YBH	Yreka Blue Hor	74.68	38	⇑P	P	18 22 01.6	+0.3
	baz=75						
O04C	Chester	74.82	40	⇑P	P	18 22 02.5	+0.4
	baz=75						
R06C	Coleville	74.82	42	⇑P	P	18 22 02.5	+0.3
	baz=75						
GSC	Goldstone	74.85	46	⇓P	P	18 22 02.4	+0.1
	baz=75						
HATC	Hat Creek Radi	74.88	39	⇑P	P	18 22 02.9	+0.3
	baz=75						
WCN	Washoe City	75.06	41	⇓P	P	18 22 03.8	+0.2
	baz=75						
HUMO	Hull Mountain	75.07	37	⇑P	P	18 22 03.7	+0.1
	baz=75						
S08C	White Mtn Res	75.09	44	⇑P	P	18 22 03.9	+0.1
	baz=75						
GLA	Glamis	75.11	49	⇓P	P	18 22 03.8	0.0
	baz=75						
J02A	Umpqua	75.19	36	⇓P	P	18 22 04.8	+0.5
	baz=75						
ELFS	Eagle Lake Fie	75.21	40	⇑P	P	18 22 04.5	+0.1
	baz=75						
M04C	Macdoel	75.22	38	⇓P	P	18 22 04.8	+0.3
	baz=75						
M05C	Lookout	75.39	39	⇑P	P	18 22 05.6	+0.2
	baz=76						
L04A	Klamath Falls	75.43	38	⇓P	P	18 22 05.0	-0.7
	baz=76						
I02A	Mapleton	75.43	36	⇓P	P	18 22 06.2	+0.4
	baz=76						
O06A	Flanigan	75.51	41	⇓P	P	18 22 06.2	+0.1
	baz=76,SNR=9.7						
NVAR	Mina Array Bea	75.52	43	P	P	18 22 06.9	+0.7
	comp=Z,4.2nm,0.8s,mb4.4,baz=218,slow=7.9,SNR=23						
TUQ	Turquoise Mtn.	75.53	46	⇓P	P	18 22 06.2	-0.1
	baz=76						
PAHR	Pah Rah Range	75.53	41	*e*P	P	18 22 07.4	+1.1
	comp=Z,51nm,1.7s,mb5.2						
R08A	Mina	75.60	43	⇓P	P	18 22 06.4	-0.2
	baz=76						
MNV	Mina	75.61	43	*e*P	P	18 22 07.4	+0.6
MNV				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.2						
MNV				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.2						
MNV	Mina	75.61	43	*e*P	P	18 22 07.4	+0.6
	comp=Z,50nm,1.5s,mb5.2						
MNV				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
Y12C	Blythe	75.68	49	⇑P	P	18 22 07.3	+0.2
	baz=76						
M06C	Likely Place G	75.71	39	⇓P	P	18 22 06.5	-0.8
	baz=76						
S09A	Goldfield	75.85	44	⇑P	P	18 22 07.7	-0.3
	baz=76						
Q08A	Gabbs	76.00	43	⇓P	P	18 22 08.8	-0.1
	baz=76						
TPH	Tonopah	76.04	44	*e*P	P	18 22 09.0	-0.2
TPH				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.1						
TPH				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.2						
TPH	Tonopah	76.04	44	*e*P	P	18 22 09.0	-0.2
	comp=Z,38nm,1.4s,mb5.1						
TPH				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
O07A	Toulon	76.11	41	⇓P	P	18 22 09.6	0.0
	baz=76,SNR=11						
W12A	Cal Nev Ari	76.20	47	⇑P	P	18 22 10.1	0.0
	baz=76						
P08A	Dixie Valley	76.36	42	⇑P	P	18 22 11.3	+0.3
	baz=76						
N07B	Gerlach	76.40	40	⇓P	P	18 22 11.6	+0.4
	baz=76						
Q09A	Carvers	76.47	43	⇑P	P	18 22 11.7	0.0
	baz=77						
X13A	Yucca	76.59	48	⇓P	P	18 22 12.1	-0.2
	baz=77						
SSE	Sheshan	76.62	308	P	P	18 22 13.8	+1.3
SSE				AP	pP	18 22 17.1	-6.3
SSE				PP	PP	18 25 05.5	+0.6
SSE				S	S	18 31 59.8	+3.4
SSE				SS	SS	18 36 55.5	+3.5
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,40nm,3.9s						
SSE				LR	LR		
	comp=N,330nm,22.7s,MS4.9						
SSE				LR	LR		
	comp=E,620nm,22.7s,MS4.9						
SSE				LR	LR		
	comp=Z,930nm,21.0s,MS5.1						
M07A	Soldier Meadow	76.62	40	⇑P	P	18 22 12.8	+0.3
	baz=77						
K06A	Valley Falls	76.78	38	⇓P	P	18 22 14.1	+0.7
	baz=77						
F03A	Seaside	76.80	34	⇓P	P	18 22 14.1	+0.7
	baz=77						
115A	Sonoran Desert	76.85	50	⇓P	P	18 22 13.6	-0.2
	baz=77						
Y14A	Wickenburg	76.87	49	⇑P	P	18 22 13.7	-0.2
	baz=77						
P09A	Austin	76.89	42	⇑P	P	18 22 13.9	-0.1
	baz=77						
N08A	GE Springer Mi	76.93	41	⇓P	P	18 22 14.4	+0.2
	baz=77						
I05A	Bend	76.99	37	⇑P	P	18 22 14.9	+0.4
	baz=77						
J06A	Christmas Vall	77.10	38	⇑P	P	18 22 15.1	-0.1
	baz=77						
M08A	Happy Creek Ra	77.15	40	⇑P	P	18 22 15.0	-0.4
	baz=77						
116A	Eloy	77.18	51	⇑P	P	18 22 15.6	0.0
	baz=77						
O09A	Fish Creek Ran	77.19	42	⇓P	P	18 22 16.1	+0.4
	baz=77						
X14A	Yava	77.21	49	⇑P	P	18 22 16.2	+0.4
	baz=77,SNR=7.8						
BMN	Battle Mountai	77.31	42	*e*P	P	18 22 17.6	+1.2
BMN				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
BMN				MLR	MLR		
	comp=Z,752nm,20.0s,MS5.0						
BMN	Battle Mountai	77.31	42	*e*P	P	18 22 17.6	+1.2
	comp=Z,40nm,1.6s,mb5.1						
BMN				LR	LR		
	comp=Z,752nm,20.0s,MS5.0						
K07A	Rock Creek Ran	77.32	39	⇑P	P	18 22 17.4	+1.0
	baz=78						
W14A	Seligman	77.43	48	⇓P	P	18 22 17.6	+0.6
	baz=78,SNR=11						
D03A	Wishkah Elem.	77.44	33	⇑P	P	18 22 16.8	-0.3
	baz=78						
I06A	Prineville	77.47	37	⇓P	P	18 22 17.6	+0.4
	baz=78						
Q11A	Duckwater	77.49	44	⇑P	P	18 22 17.6	+0.2
	baz=78,SNR=11						
WVOR	Wild Horse Val	77.54	39	*e*P	P	18 22 16.2	-1.5
WVOR				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
WVOR	Wild Horse Val	77.54	39	*e*P	P	18 22 16.1	-1.5
	comp=Z,18nm,1.2s,mb4.9						
X15A	Humboldt	77.69	49	⇓P	P	18 22 18.2	-0.3
	baz=78,SNR=6.4						
M09A	Marrel Ranch,	77.71	41	⇓P	P	18 22 18.5	-0.1
	baz=78						
TUC	Tucson	77.75	51	*e*P	P	18 22 18.0	-0.8
TUC				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
TUC	Tucson	77.75	51	*e*P	P	18 22 18.0	-0.8
	comp=Z,18nm,1.6s,mb4.8						
P11A	Circle Ranch,	77.80	43	⇑P	P	18 22 18.9	-0.1
	baz=78						
L09A	Wilkinson Ranc	77.91	40	⇑P	P	18 22 19.8	+0.1
	baz=78						
W15A	Williams	78.00	48	⇑P	P	18 22 20.2	0.0
	baz=78						
MDJ	Mudanjiang	78.02	323	P	P	18 22 20.8	+0.5
MDJ				AP	pP	18 22 24.3	-7.0
MDJ				PCP	PcP	18 22 30.0	+0.1
MDJ				PP	PP	18 25 20.8	+4.1
MDJ				S	S	18 32 16.1	+4.5
MDJ				SCS	ScS	18 32 40.9	+3.7
MDJ				SS	SS	18 37 19.4	+6.3
MDJ				AMB	AMB		
	comp=Z,180nm,5.5s						
MDJ				LR	LR		
	comp=N,1μm,27.9s						
MDJ				LR	LR		
	comp=E,1μm,33.9s						
MDJ				LR	LR		
	comp=Z,2μm,29.9s,MS5.4						
O11A	Cowboy Ranch,	78.16	42	⇓P	P	18 22 21.7	+0.6
	baz=78						
E05A	Randle	78.17	34	⇑P	P	18 22 21.0	-0.1
	baz=78						
P12A	McGill	78.31	43	⇓P	P	18 22 22.6	+0.7
	baz=78						
M10A	I.L. Ranch, Tu	78.34	41	⇑P	P	18 22 20.8	-1.3
	baz=78						
D05A	Enumclaw	78.43	34	⇑P	P	18 22 21.9	-0.7
	baz=79						
N11A	Elko Archery C	78.47	42	⇑P	P	18 22 21.7	-1.1
	baz=79						
M11A	Holland Ranch,	78.77	41	⇓P	P	18 22 23.8	-0.6
	baz=79						
WUAZ	Wupatki	78.80	48	*e*P	P	18 22 23.8	-0.8
	comp=Z,30nm,1.4s,mb5.0						
NJ2	Nanjing	78.83	308	*e*P	P	18 22 22.9	-1.9
NJ2				PCP	PcP	18 22 33.5	+0.1
NJ2				SKS		18 32 32.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,150nm,7.8s						
NJ2				LR	LR		
	comp=N,500nm,14.0s						
NJ2				LR	LR		
	comp=E,1μm,29.7s						
NJ2				LR	LR		
	comp=Z,340nm,21.2s						
C05A	Tolt Reservoir	78.90	34	⇓P	P	18 22 25.2	+0.1
	baz=79						
N12A	Wells--Clov Va	78.94	42	⇓P	P	18 22 25.2	-0.2
	baz=79						
A04A	Legoe Bay, Lum	79.00	32	⇑P	P	18 22 25.0	-0.7
	baz=79						
B05A	Bryant	79.03	33	⇑P	P	18 22 25.4	-0.5
	baz=79						
M12A	Wells	79.32	42	⇑P	P	18 22 27.7	+0.2
	baz=80						
N13A	West Wendover	79.48	42	⇑P	P	18 22 28.3	0.0
	baz=80						
TTA	Tatalina	79.54	9	*e*P	P	18 22 26.9	-1.8
TTA				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.2						
TTA	Tatalina	79.54	9	*e*P	P	18 22 26.9	-1.8
	comp=Z,53nm,1.8s,mb5.2						
MSU	Marysvale	79.67	45	*e*P	P	18 22 30.7	+1.3
MA2	Magadan	79.69	343	*e*P	P	18 22 32.7	+3.2
MA2				*e*S	S	18 32 26.5	-2.9
MA2				*e*		18 32 41.3	
MA2				*e*PS		18 33 19.6	
MA2				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.0						
MA2				MLR	MLR		
	comp=E,900nm,19.0s						
M13A	Montello	79.77	42	⇓P	P	18 22 30.0	+0.1
	baz=80						
CN2	Changchun	80.02	321	*e*P	P	18 22 31.4	+0.1
CN2				*e*PP	PP	18 25 36.3	+2.9
CN2				*e*S	S	18 32 34.9	+2.0
CN2				*e*SS	SS	18 37 48.1	+4.9
CN2				LR	LR		
	comp=N,600nm,21.0s,MS5.2						
CN2				LR	LR		
	comp=E,1μm,21.0s,MS5.2						
CN2				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
TMUT	Trail Mountain	80.71	45	*e*P	P	18 22 36.5	+1.5
HLID	Hailey	80.75	40	*e*P	P	18 22 35.8	+0.6
	comp=Z,41nm,1.8s,mb5.0						
HLID				LR	LR		
	comp=Z,522nm,20.0s,MS4.9						
HVU	Hansel Valley	80.88	42	*e*P	P	18 22 35.1	-0.8
HVU				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.0						
HVU	Hansel Valley	80.88	42	*e*P	P	18 22 35.0	-0.8
	comp=Z,36nm,1.7s,mb5.0						
QIZ	Qiongzhong	81.33	292	*e*P	P	18 22 39.0	+0.7
QIZ				SS	SS	18 38 11.8	+9.0
QIZ				LR	LR		
	comp=N,290nm,19.5s,MS4.9						
QIZ				LR	LR		
	comp=E,560nm,23.0s,MS4.9						
QIZ				LR	LR		
	comp=Z,870nm,23.9s,MS5.0						
LAZ	Ladron	81.41	51	*e*P	P	18 22 40.4	+1.7
TCUT	Toone Canyon	81.45	43	*e*P	P	18 22 38.5	-0.4
MCK	McKinley	81.49	11	*e*P	P	18 22 38.0	-1.1
MCK				pmax	pmax		
	comp=Z,24nm,1.7s,mb4.8						
MCK				MLR	MLR		
	comp=Z,970nm,21.0s,MS5.1						
MCK	McKinley	81.49	11	*e*P	P	18 22 38.0	-1.2
	comp=Z,24nm,1.7s,mb4.8						
MCK				LR	LR		
	comp=Z,970nm,21.0s,MS5.1						
MNTX	Cornudas Mount	81.63	54	*e*P	P	18 22 38.7	-1.2
	comp=Z,23nm,1.7s,mb4.8						
MNTX				LR	LR		
	comp=Z,740nm,19.0s,MS5.1						
BNM	Barren Site	81.69	51	*e*P	P	18 22 40.7	+0.5
WHN	Wuhan	81.70	305	*e*P	P	18 22 40.8	+0.6
WHN				LR	LR		
	comp=Z,1μm,23.0s,MS5.2						
LPM	Los Pinos Moun	81.75	51	*e*P	P	18 22 40.2	-0.3
ANMO	Albuquerque	82.15	51	*e*P	P	18 22 43.4	+0.8
ANMO				pmax	pmax		
	comp=Z,34nm,1.6s						
ANMO	Albuquerque	82.15	51	*e*P	P	18 22 43.4	+0.8
	comp=Z,34nm,1.6s,mb5.0						
COLA	College	82.73	11	*i* P	P	18 22 44.6	-1.0
TPAW	Teton Pass	82.89	41	*e*P	P	18 22 47.3	+0.9
	comp=Z,38nm,1.5s,mb5.2						
REDW	Red Top Meadow	82.90	41	*e*P	P	18 22 46.8	+0.3
	comp=Z,46nm,1.5s,mb5.3						
IMW	Indian Meadow	83.10	41	*e*P	P	18 22 48.8	+1.3
	comp=Z,3.4nm,0.8s,mb4.4						
MOOW	Moose Ponds	83.15	41	*e*P	P	18 22 48.1	+0.3
	comp=Z,26nm,1.7s,mb5.0						
LOHW	Long Hollow	83.17	41	*e*P	P	18 22 48.9	+0.9
	comp=Z,44nm,1.8s,mb5.2						
CHMT	Chamberlain Mo	83.20	38	P	P	18 22 48.3	+0.2
FLWY	Flagg Ranch	83.34	41	*e*P	P	18 22 49.7	+0.9
	comp=Z,38nm,1.4s,mb5.2						
PDAR	Pinedale Array	83.45	42	P	P	18 22 48.9	-0.5
	comp=Z,2.6nm,0.7s,mb4.3,baz=228,slow=2.1,SNR=20						
PDAR				LR	LR	18 55 49.9	
	comp=Z,683nm,18.2s,MS5.1,baz=250,slow=33						
BOZ	Bozeman (W)	83.53	39	*e*P	P	18 22 50.2	+0.5
BOZ				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.2						
BOZ				MLR	MLR		
	comp=Z,525nm,20.0s,MS4.9						
BOZ	Bozeman (W)	83.53	39	*e*P	P	18 22 50.2	+0.5
	comp=Z,31nm,1.6s,mb5.2						
BOZ				LR	LR		
	comp=Z,525nm,20.0s,MS4.9						
DAWY	Dawson	83.89	15	*e*P	P	18 22 50.7	-0.9
BILL	Bilibino	84.33	353	*i* P	P	18 22 53.3	-0.6
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
BILL				MLR	MLR		
	comp=Z,1μm,23.0s,MS5.1						
RWWY	Rawlins	84.51	44	*e*P	P	18 22 55.0	+0.2
	comp=Z,38nm,1.5s,mb5.3						
EDM	Edmonton	86.43	32	*e*P	P	18 23 04.3	0.0
MAW	Mawson	87.20	199	P	P	18 23 09.4	+1.3
	comp=Z,3.0nm,0.9s,mb4.5,baz=128,slow=4.1,SNR=4.4						
MAW				LR	LR	19 03 20.5	
	comp=Z,767nm,18.1s,MS5.2,baz=117,slow=36						
XAN	Xi'an	87.27	306	P	P	18 23 10.0	+1.6
XAN				AP	pP	18 23 17.1	-2.4
HHC	Hu-ho-hao-te	87.80	313	*e*P	P	18 23 11.3	+0.3
HHC				AP	pP	18 23 16.3	-5.8
HHC				XP	sP	18 23 18.4	-7.7
HHC				PP	PP	18 26 40.4	+3.5
HHC				SKS		18 33 38.0	
HHC				S		18 33 54.3	
HHC				XS	sS	18 34 03.0	-6.4
HHC				PS		18 35 03.4	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.4						
HHC				LR	LR		
	comp=N,450nm,20.1s,MS5.0						
HHC				LR	LR		
	comp=E,540nm,21.8s,MS5.0						
HHC				LR	LR		
	comp=Z,160nm,21.4s,MS4.4						
YAK	Yakutsk	88.48	337	*i* P	P	18 23 10.8	-3.4
YAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
YAK				MLR	MLR		
	comp=Z,500nm,18.0s,MS5.0						
KMI	Kunming	89.50	296	P	P	18 23 20.6	+1.6
KMI				AP	pP	18 23 23.5	-6.6
KMI				PP	PP	18 26 55.0	+4.5
KMI				PPP		18 28 53.8	
KMI				SKS		18 33 48.6	
KMI				S		18 34 09.6	
KMI				SS	SS	18 40 08.9	+6.0
KMI				SSS		18 43 43.3	
KMI				AMB	AMB		
	comp=Z,80nm,4.6s						
KMI				LR	LR		
	comp=N,340nm,22.7s,MS5.0						
KMI				LR	LR		
	comp=E,520nm,23.8s,MS5.0						
KMI				LR	LR		
	comp=Z,820nm,22.3s,MS5.1						
CD2	Chengdu	90.37	302	*e*P	P	18 23 22.8	-0.2
CD2				PP	PP	18 26 58.8	+1.4
CD2				SKS		18 33 51.9	
CD2				S		18 34 15.6	
CD2				SS	SS	18 40 20.5	+5.0
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
CD2				AMB	AMB		
	comp=Z,80nm,9.2s						
CD2				LR	LR		
	comp=E,350nm,21.6s						
CD2				LR	LR		
	comp=Z,360nm,24.0s,MS4.7						
PLCA	Paso Flores	90.75	133	LR	LR	18 55 49.6	
	comp=Z,879nm,18.7s,MS5.2,baz=232,slow=30						
YKA	Yellowknife Ar	90.82	24	P	P	18 23 24.7	-0.5
	comp=Z,0.8nm,0.9s,mb4.0,baz=249,slow=3.7,SNR=3.9						
YKA				LR	LR	19 00 50.8	
	comp=Z,802nm,18.1s,MS5.2,baz=255,slow=33						
SYO	Syowa Base	92.21	192‖	*e*P	P	18 23 30.8	-0.8
SNAA	Sanae	92.95	178	P	P	18 23 35.9	+0.9
	comp=Z,0.5nm,1.1s,mb3.9,baz=160,slow=4.9,SNR=4.0						
ULN	Ulaanbaatar	93.33	319	*i* P	P	18 23 36.7	0.0
VNA1	Neumayer--Stat	93.65	176	*e*P	P	18 23 37.3	-0.9
VNA1				*e*		18 23 38.3	
VNA1				*e*		18 23 38.7	
VNA1				*e*		18 23 40.4	
VNA1				*e*		18 23 41.0	
VNA1				*e*		18 23 42.9	
SONM	Songino Array	93.73	319	LR	LR	19 00 03.0	
	comp=Z,595nm,21.7s,MS5.0,baz=90,slow=32						
TIXI	Tiksi	94.58	345	*e*P	P	18 23 40.4	-2.1
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.1						
ULM	Lac du Bonnet	95.05	39	LR	LR	19 03 24.7	
	comp=Z,693nm,18.3s,MS5.2,baz=68,slow=34						
ARU	Arti	122.47	328	*i* PKIKP	PKPdf	18 29 21.5	+4.5
ARU				*e*		18 31 01.0	
ARU				*e*		18 36 22.3	
ARU				*e*SS	SS	18 47 44.6	+13
ARU				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.6						
ARU				MLR	MLR		
	comp=N,300nm,20.5s,MS5.5						
ARU				MLR	MLR		
	comp=E,1μm,21.0s,MS5.5						
APA	Apatity	124.70	347	*i* PKIKP	PKPdf	18 29 20.0	-1.3
APA				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.6						
KIV	Kislovodsk	137.12	319	*i* PKIKP	PKPdf	18 29 45.2	+0.4
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,831nm,22.0s,MS5.4						
ANN	Anapa	139.83	323	*i* PKHKP		18 29 36.8	
ANN				*e*		18 36 45.6	
ANN				pmax	pmax		
	comp=Z,40nm,1.3s						
LVV	L'vov	142.32	340	*i* PKHKP		18 29 28.9	

LVV MLR MLR
comp=Z,900nm,22.0s,MS5.5
LVV MLR MLR
comp=N,700nm,23.0s,MS5.5
LVV MLR MLR
comp=E,700nm,22.0s,MS5.5
STHS Stebnicka Huta 143.56 342 *e* PKPdf 18 29 52.8 -3.6
CLL Collm 143.62 351 *e*(PKPdf) PKPdf 18 30 02.0 +5.5
CLL *e*SSS 18 57 26.0
CLL Lm 19 29 00.0
comp=Z,400nm,19.2s
UPC Upice 143.87 348 *e*PKP PKPdf 18 30 01.6 +4.6
DPC Dobruska-Polom 143.96 347 *e*PKP PKPdf 18 30 00.5 +3.4
DPC *ex* x 18 52 46.4
DPC AMS AMS 19 31 50.0
comp=Z,1μm,23.2s
DPC Dobruska-Polom 143.96 347 *e*PKP PKPdf 18 30 00.5 +3.4
KMBO Kilima Mbogo 143.96 246 PKP PKPdf 18 29 58.5 +1.4
comp=Z,1.9nm,0.8s,baz=54,slow=13,SNR=4.0
OKC Ostrava-Krasne 144.02 345 *e*PKP PKPdf 18 30 00.6 +3.4
OKC *ex* x 18 52 18.5
OKC AMS AMS 19 30 20.0
comp=Z,1μm,22.1s
OKC Ostrava-Krasne 144.02 345 *e*PKP PKPdf 18 30 00.6 +3.4
OKC *e*SS SS 18 52 18.5 +26
PVCC Panska Ves 144.12 349 AMS AMS 19 29 40.0
MORC Moravsky Berou 144.22 346 PKIKP PKPdf 18 29 56.7 -0.9
MOX Moxa 144.46 353 *e*PKP PKPdf 18 30 03.3 +5.3
MOX
comp=Z,400nm,22.0s
KECS Kecovo 144.62 342 *e*PKP PKPdf 18 30 03.2 +4.9
KECS Kecovo 144.62 342 *e*PKIKP PKPdf 18 29 54.6 -3.7
KECS *e* 18 30 03.2
PRU Pruhonice 144.65 349 *e*PKP PKPdf 18 30 03.3 +5.0
PRU *e*SS SS 18 52 46.3 +46
PRU LR LR
comp=Z,900nm,23.1s,MS5.5
VRAC Vranov 144.88 347 PKP PKPdf 18 29 59.2 +0.5
comp=Z,3.4nm,0.6s,baz=31,slow=7.6,SNR=3.8
VYHS Vyhne 145.08 344 *e*PKP PKPdf 18 29 59.0 -0.1
VYHS *e* 18 30 04.5
BR131 Keskin Array S 145.09 319 *e*PKPdf PKPdf 18 29 59.2 +0.2
BRTR Keskin Array B 145.09 319 PKPbc PKPbc 18 29 59.4 +0.8
comp=Z,4.0nm,0.8s,baz=86,slow=2.8,SNR=12
BRTR Keskin Array B 145.09 319 *i* PKIKP PKPdf 18 30 02.5 +3.4
BRTR pmax pmax
comp=Z,40nm,0.8s
TREC Trest 145.13 348 *e*PKP PKPdf 18 30 02.9 +3.7
TREC AMS AMS 19 33 20.0
comp=Z,900nm,22.8s
MLR Muntele Rosu 145.17 334 PKPbc PKPbc 18 29 59.5 +0.6
comp=Z,3.3nm,0.6s,baz=148,slow=10,SNR=3.0
GIVF Givet 145.43 360 *e*PKP1 PKPbc 18 30 02.2 +2.5
DOU APKP 18 29 59.6
DOU Dourbes 145.44 0 PKP PKPdf 18 29 58.1 -1.5
GRA1 Grafenberg Arr 145.44 353 *e*PKP PKPdf 18 29 59.4 -0.3
GRA1 LR LR
comp=Z,600nm,20.5s,MS5.4
GRF Grafenberg Arr 145.44 353 *e*PKP PKPdf 18 29 59.4 -0.3
GRF *e*L 19 33 23.3
comp=Z,552nm,20.5s
BAIF Baives 145.47 1 *e*PKP1 PKPbc 18 30 02.4 +2.6
comp=Z,79nm,1.5s
ANTO Ankara 145.53 320 PKIKP PKPdf 18 30 00.4 +0.6
KHC Kasperske Hory 145.65 350 *e*PKP PKPdf 18 30 00.8 +0.8
KHC *e*SS SS 18 53 01.5 +50
KHC LR LR
comp=Z,1μm,25.6s,MS5.5
ZST Bratislava 145.80 345 *e*PKP PKPdf 18 30 05.9 +5.6
GERES GERESS Array B 145.90 350 PKPbc PKPbc 18 30 00.4 -0.7
comp=Z,1.5nm,0.8s,baz=25,slow=3.5,SNR=6.0
FLN La Foliniere 146.49 6 *e*PKP1 PKPbc 18 30 05.1 +2.2
FLN *e*R
comp=Z,924nm,21.8s
FLN La Foliniere 146.49 6 *e*PKP PKPdf 18 30 05.1 +3.6
FLN LR LR
comp=Z,920nm,21.8s,MS5.5
CDF Champ du Feu 147.06 357 *e*PKP1 PKPbc 18 30 07.3 +2.8
comp=Z,32nm,1.1s
MMAI Mount Meron Ar 147.25 308 PKPbc PKPbc 18 30 06.4 +1.3
comp=Z,6.0nm,1.0s,baz=225,slow=57,SNR=4.9
LOR Lormes 148.26 1 *e*PKP1 PKPbc 18 30 10.6 +2.8
LOR *e*R
comp=Z,2μm,21.0s
SSF Saint Saulge 148.45 2 *e*PKP1 PKPbc 18 30 11.1 +2.8
comp=Z,72nm,1.5s
MFF Saint Martin d 148.66 7 *e*PKP1 PKPbc 18 30 11.2 +2.4
AVF Avril sur Loir 148.72 2 *e*PKP1 PKPbc 18 30 11.4 +2.4
CABF La Chapelle 148.91 358 *e*PKP1 PKPbc 18 30 12.7 +3.2
comp=Z,95nm,1.6s
TCF Toulx Ste Croi 149.17 4 *e*PKP1 PKPbc 18 30 12.7 +2.6
RJF Les Rejaudoux 150.10 5 *e*PKP1 PKPbc 18 30 14.9 +2.5
RJF *e*R
comp=Z,1μm,21.2s
LFF La Frestale 150.39 6 *e*PKP1 PKPbc 18 30 15.8 +2.7
VIVF Saint-Julien-l 150.68 0 *e*PKP1 PKPbc 18 30 16.9 +3.1
comp=Z,53nm,1.6s
MBDF Montbardon 150.76 357 *e*PKP1 PKPbc 18 30 17.2 +3.2
comp=Z,30nm,1.3s
TORD Torodi Ar. Bea 176.21 127 PKP PKPdf 18 30 35.2 +3.4
comp=Z,0.8nm,1.0s,baz=355,slow=3.4,SNR=3.8

CSEM ***15*** *18:10:30.9, 4239N×4470E, h6km, mb3.5, Error ellipse: s-maj=26.6km s-min=8.4km az=165.0, After OBN*
TIF ***15*** *18:10:31.2, 4237N×4487E, h15km±3km*
MOS 15 18:10:30.9±1.3, 4239N×4470E, h6km, mb3.5/1, Error ellipse: s-maj=26.6km s-min=8.4km az=106.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.53**	**326**	*i* Pg	Pg	18 10 43.3	+2.2
LACR				*i* Sg	Sg	18 10 52.2	+4.3
VLKR	**Vladikavkaz**	**0.66**	**359**	*i* Pg	Pg	18 10 45.7	+2.2
VLKR				*i* Sg	Sg	18 10 56.5	+4.4
TBLG	**Delisi**	**0.66**	**178**	P	Pg	18 10 44.3	+0.7
TBLG				S	Sg	18 10 54.2	+2.0
TBLG	**Delisi**	**0.66**	**178**	*e*Pg	Pg	18 10 44.4	+0.8
TBLG				*e*Sg	Sg	18 10 54.1	+2.0
SNJR	**Sundja**	**0.68**	**7**	*i* Pg	Pg	18 10 46.3	+2.3
SNJR				*i* Sg	Sg	18 10 57.4	+4.5
MTA	**Mtatsminda**	**0.70**	**174**	P	Pg	18 10 45.1	+0.8
MTA				S	Sg	18 10 55.1	+1.7
ZEI	**Tsey**	**0.70**	**303**	*i* Pg	Pg	18 10 46.6	+2.2
ZEI				*i* Sg	Sg	18 10 58.1	+4.5
KORR	**Kora**	**0.84**	**326**	*i* Pg	Pg	18 10 49.0	+2.0
KORR				*i* Sg	Sg	18 11 02.2	+4.3
ARNR	**Ardon**	**0.86**	**339**	*i* Pg	Pg	18 10 49.4	+2.0
ARNR				*i* Sg	Sg	18 11 02.9	+4.4
DIGR	**Digorskoe uzhe**	**0.97**	**302**	*i* Pg	Pg	18 10 51.4	+1.9
DIGR				*i* Sg	Sg	18 11 06.3	+4.2
KMSR	**Komsomolskaya**	**1.02**	**343**	*i* Pg	Pg	18 10 52.6	+2.0
KMSR				*i* Sg	Sg	18 11 08.2	+4.3
DGRG	**David-gareji**	**1.06**	**152**	P	Pg	18 10 45.1	-6.2
DGRG				S	Sg	18 10 55.1	-10

MAN 15 18:10:39.6, 1700N×11996E, h20km, mb2.9, ML4.3, MS4.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.85**	**136**	*e*P	Pb	18 10 55.0	-0.7
PALP	**Palanan**	**2.36**	**88**	*e*P	Pn	18 11 22.1	+5.0

TRN 15 18:18:11.0, 1225N×5909W, h35km, MD4.1, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSV	**Crater Summit**	**2.32**	**298**	*e*P	Pn	18 18 48.2	+1.6
SSV				*e*S	Sn	18 19 15.6	+1.7
SVV	**Soufriere Volc**	**2.33**	**297**	*e*P	Pn	18 18 48.3	+1.5
SVV				*e*S	Sn	18 19 15.8	+1.5
SVB	**Belmont**	**2.34**	**296**	*e*P	Pn	18 18 48.4	+1.4
SVB				*e*S	Sn	18 19 16.1	+1.5
MVM	**Montagne Vaucl**	**2.89**	**323**	*e*P	Pn	18 18 56.1	+1.6
CRM	**Caravelle**	**3.06**	**325**	*e*P	Pn	18 18 58.5	+1.6
CRM				*e*S	Sn	18 19 33.0	+0.8
FDF	**Fort de France**	**3.18**	**321**	*e*P	Pn	18 19 00.8	+2.2
FDF				*e*S	Sn	18 19 36.6	+1.4

ISCJB ***15*** *18:24:39.6±1.7, 757S×009×1285E±02, h161km±17km, mb3.9/4, Error ellipse: s-maj=27.9km s-min=11.0km az=139.2*
NEIC ***15*** *18:24:40.9±2.5, 757S×12831E, h154km±25km, mb4.2/4, Error ellipse: s-maj=36.6km s-min=19.7km az=68.0*
IDC ***15*** *18:24:50.4±8.2, 805S×12790E, h250km±83km, mb3.5/3, mb1 3.4/5, mb1mx3.3/13, mbtmp4.0/5, Error ellipse: s-maj=90.7km s-min=21.7km az=58.0*
ISC 15 18:24:43.0±1.3, 783S±007×1285E±01, h181km±11km, n15, σ1§12/23, mb3.9/4, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.21**	**142**	*e*P	**Pn**	**18 26 13.6**	**+1.0**
	50nm,0.4s						
KAKA				*e*S	**Sn**	**18 27 21.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.59**	**195**	*e*P	**Pn**	**18 27 10.9**	**+0.8**
	7.9nm,0.7s						
FITZ				*e*S	**Sn**	**18 29 03.8**	**-4.0**
FITZ	**Fitzroy Crossi**	**10.59**	**195**	P	**Pn**	**18 27 11.6**	**+1.5**
	0.4nm,0.3s,baz=18,slow=16,SNR=13						
FITZ				S	**Sn**	**18 29 06.3**	**-1.5**
	1.4nm,0.3s,baz=127,slow=22,SNR=6.8						
WRA	**Warramunga Arr**	**13.30**	**155**	P	**Pn**	**18 27 45.9**	**+1.0**
	0.6nm,0.3s,baz=340,slow=13,SNR=13						
WRA				S	**Sn**	**18 30 09.1**	**-3.7**
	2.0nm,0.3s,baz=329,slow=22,SNR=10						
WB2	**Warramunga Arr**	**13.31**	**155**	*e*P	**Pn**	**18 27 44.9**	**0.0**
WB2				*e*S	**Sn**	**18 30 07.7**	**-5.2**
AS31	**Alice Springs**	**16.58**	**162**	⇓*i*P	**Pn**	**18 28 29.7**	**+4.6**
AS31				*e*S	**S**	**18 31 28.3**	**-0.1**
ASAR	**Alice Springs**	**16.58**	**162**	P	**Pn**	**18 28 28.9**	**+3.8**
	0.4nm,0.3s,baz=334,slow=9.8,SNR=47						
ASAR				S	**S**	**18 31 27.9**	**-0.5**
	0.5nm,0.3s,baz=347,slow=24,SNR=5.7						
ASPA	**Alice Springs**	**16.58**	**162**	⇓*i*P	**Pn**	**18 28 29.7**	**+4.6**
ASPA				*e*S	**S**	**18 31 28.3**	**-0.1**
STKA	**Stephens Creek**	**26.85**	**155**	*e*P	**P**	**18 30 09.0**	**+2.4**
	4.9nm,1.3s,mb4.0						
STKA	**Stephens Creek**	**26.85**	**155**	P	**P**	**18 30 08.5**	**+1.8**
	1.7nm,0.6s,mb3.9,baz=344,slow=8.7,SNR=6.5						
MKAR	**Makanchi Array**	**68.12**	**328**	P	**P**	**18 35 22.7**	**-0.5**
	0.8nm,0.5s,mb3.8,baz=118,slow=8.2,SNR=23						
ZAL	**Zalesovo**	**71.68**	**335**	P	**P**	**18 35 44.2**	**-0.7**
	0.9nm,0.4s,mb3.9,baz=342,slow=9.8,SNR=3.4						
ZAL	**Zalesovo**	**71.68**	**335**	P	**P**	**18 35 44.2**	**-0.7**
ZRNK	**Zerenda**	**78.67**	**328**	*e*P	**P**	**18 36 23.6**	**-1.3**
QSPA	**South Pole Qui**	**82.16**	**180**	*e*P	**P**	**18 36 44.2**	**+0.7**
	1.6nm,0.5s,mb3.9						

CASC 15 18:33:35.3±1.6, 1393N×9112W, h33km±5km, MD3.6, ML3.7, 6C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TER	**Terranova**	**0.57**	**49**	⇑*e*P	Pb	18 33 46.3	-0.7
FUG	**Fuego 3**	**0.59**	**28**	⇓*i*P	Pn	18 33 47.4	+0.2
JAT	**Jato**	**0.63**	**308**	⇑*i*P	Pn	18 33 49.4	+1.5
JAT				*e*S	Sb	18 33 57.1	+0.4
PCG	**Pacaya**	**0.68**	**47**	⇑*e*P	Pn	18 33 48.9	+0.3
PCG				*e*S	Sn	18 34 00.8	+2.8
TP2	**Tecpan 2**	**0.86**	**7**	⇓*e*P	Pn	18 33 50.5	-0.5
TP2				*e*S	Sn	18 34 04.6	+2.2
TP2				AML	AML	18 34 06.5	
	comp=N,2μm,0.6s						
RBDL	**Robledal**	**1.41**	**82**	⇓*e*P	x	18 33 58.6	
RBDL				*e*S	x	18 34 16.9	
RTR	**El Retiro**	**1.44**	**91**	⇑*e*P	x	18 33 59.3	
RTR				*e*S	x	18 34 19.3	
SBLS	**San Blas**	**1.46**	**93**	⇓*e*P	x	18 33 60.0	
SBLS				*e*S	x	18 34 19.1	
SNJE	**San Jose**	**1.48**	**92**	⇑*e*P	x	18 33 59.7	
SNJE				*e*S	x	18 34 19.0	
BOQS	**Boqueron**	**1.80**	**96**	⇑*e*P	x	18 34 04.0	
BOQS				*e*S	x	18 34 26.7	
LFRS	**El Faro**	**2.03**	**98**	*e*P	x	18 34 07.2	
LFRS				*e*S	x	18 34 32.5	
LCBS	**La Ceiba**	**2.10**	**97**	*e*P	x	18 34 08.4	
LCBS				*e*S	x	18 34 33.8	

CASC 15 18:39:53.9±2.5, 1148N×8599W, h166km±10km, MD3.8, ML2.8, 4C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.23**	**144**	⇑*e*P	Pn	18 40 16.1	0.0
SSNN				*e*S	Sn	18 40 35.0	+1.8
SSNN				*i*		18 40 36.2	
	comp=Z,118nm,0.1s						
CONN	**Concepcion**	**0.37**	**76**	⇑*i*P	Pn	18 40 16.2	-0.3
MADN	**Villa Maderas**	**0.45**	**99**	⇑*e*P	Pn	18 40 16.7	-0.1
TICN	**Ticuantepe**	**0.60**	**337**	⇓*i*P	Pn	18 40 17.2	-0.3
TICN				*e*S	Sn	18 40 37.0	+1.4
APYN	**Apoyeque**	**0.83**	**335**	*e*P	Pn	18 40 18.2	-0.8
COPN	**Copaltepe**	**0.91**	**320**	*e*P	Pn	18 40 18.4	-1.1
LIM1	**Limonal**	**1.06**	**137**	*e*S	Sn	18 40 42.0	+0.8
VCR	**Vista de Mar**	**1.39**	**165**	*e*P	Pn	18 40 24.6	+1.1
VCR				*e*S	Sn	18 40 46.9	+0.5
CRIN	**San Cristobal**	**1.60**	**320**	⇓*e*P	Pn	18 40 27.2	+1.6
CRIN				*e*S	Sn	18 40 51.5	+1.4
CAO	**Cobano**	**1.97**	**154**	*i* P	Pn	18 40 30.6	+1.0
CAO				*e*S	Sn	18 40 57.2	0.0
EPA	**Esparza**	**2.02**	**137**	*e*P	Pn	18 40 30.3	+0.1
CGA2	**Cerro Gallo 2**	**2.09**	**134**	*e*P	Pn	18 40 32.5	+1.5
CGA2				*e*S	Sn	18 41 01.1	+1.6
PRS1	**Puriscal**	**2.22**	**132**	*e*P	Pn	18 40 34.2	+1.8
PRS1				*e*S	Sn	18 41 03.3	+1.0
LCR2	**La Lucha 2**	**2.60**	**131**	*e*P	Pn	18 40 38.6	+1.6
LCR2				*e*S	Sn	18 41 12.2	+1.7
URSC	**Urasca**	**2.72**	**127**	⇑*e*P	Pn	18 40 41.2	+2.8
URSC				*e*S	Sn	18 41 16.9	+4.0
BUS	**Buena Vista**	**2.91**	**131**	*e*P	Pn	18 40 42.8	+2.0
BUS				*e*S	Sn	18 41 18.3	+1.2

NEIC ***15*** *18:53:55.9, 1656N×9459W, h98km, MD3.7(MEX), After MEX.*
MEX 15 18:53:55.9±1.3, 1656N×9459W, h98km±21km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.59**	**332**	*i* P	Pn	18 54 11.0	-1.2
CMIG				*i* S	Sn	18 54 22.7	-1.6
HUIG	**Huatulco**	**1.66**	**242**	*i* P	Pn	18 54 22.0	-1.9
HUIG				*i* S	Sn	18 54 44.7	-0.6
OXX	**Oaxaca**	**2.10**	**284**	*i* P	Pn	18 54 29.5	-0.2
OXX				*i* S	Sn	18 54 54.0	-1.6
CCIG	**Comitan**	**2.37**	**96**	*i* P	Pn	18 54 33.6	+0.4
CCIG				*i* S	Sn	18 54 59.7	-2.2
UTMO	**Huajuapan**	**3.32**	**293**	*i* P	Pn	18 54 44.9	-0.9

STR ***15*** *19:08:47.1±0.1, 4310N×109W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***15*** *19:08:47.3±0.1, 4304N×109W, h15km, Md2.1/2, Ml1.4/1, Error ellipse: s-maj=5.6km s-min=1.1km az=20.0*
MDD 15 19:08:47.6±0.4, 4314N×106W, h16km±3km, mbLg1.3/7, 1D, Error ellipse: s-maj=3.0km s-min=1.3km az=13.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.12**	**152**	Pg	Pg	19 08 51.0	-0.1
LARF				Lg		19 08 53.5	
ORDF	**Ordiarp**	**0.12**	**52**	Pg	Pg	19 08 50.9	-0.2
ORDF				Sg	Sg	19 08 53.6	+0.2
ORDF	**Ordiarp**	**0.12**	**52**	Pg	Pg	19 08 51.0	-0.1
ORDF				Lg		19 08 53.7	
SJPF	**Ste Jean**	**0.12**	**257**	*e*Pg	Pg	19 08 50.9	-0.2
SJPF				*e*Sg	Sg	19 08 53.2	-0.3
	16nm,0.2s						
SJPF	**Ste Jean**	**0.12**	**257**	Pg	Pg	19 08 50.9	-0.2
SJPF				Lg		19 08 53.2	
	8.1nm,0.2s						
OSSF	**Osses**	**0.18**	**308**	Pg	Pg	19 08 51.6	-0.4
OSSF				Sg	Sg	19 08 54.6	-0.4
OSSF	**Osses**	**0.18**	**308**	Pg	Pg	19 08 51.7	-0.3
OSSF				Lg		19 08 54.7	
ATE	**Arette**	**0.27**	**102**	Pg	Pg	19 08 53.0	-0.4
ATE				Sg	Sg	19 08 57.2	-0.2
ATE	**Arette**	**0.27**	**102**	Pg	Pg	19 08 53.0	-0.4
ATE				Lg		19 08 57.3	
EALK	**Alkurruntz**	**0.33**	**284**	⇓Pg	Pg	19 08 54.1	-0.4
	7.6nm,0.1s,SNR=18						
EALK				Lg		19 08 58.8	
	6.8nm,0.1s,SNR=13						
ELIZ	**Elizondo**	**0.34**	**274**	Pg	Pg	19 08 54.2	-0.4
	2.4nm,0.1s,SNR=8.1						
ELIZ				Lg		19 08 59.4	
	5.7nm,0.1s,SNR=17						
IPRE	**Itoiz**	**0.40**	**213**	Lg		19 09 01.3	
	3.3nm,0.3s,SNR=6.0						
IUSE	**Utxeti**	**0.41**	**242**	Pg	Pg	19 08 55.4	-0.4
	0.6nm,0.1s,SNR=7.9						
IUSE				Lg		19 09 01.0	
	8.7nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.44**	**123**	*e*Pg	Pg	19 08 55.8	-0.6
ETSF				*e*Sg	Sg	19 09 01.4	-1.0
	8.1nm,0.2s						
ETSF	**Etsaut**	**0.44**	**123**	Pg	Pg	19 08 55.8	-0.6
ETSF				Lg		19 09 01.4	
	4.1nm,0.2s						
EBIE	**Bielsa**	**1.00**	**117**	Pg	Pg	19 09 05.5	-1.3
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		19 09 18.4	
	1.4nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.03**	**96**	*e*Pg	Pg	19 09 07.1	-0.5
EPF				*e*Sg	Sg	19 09 21.0	-0.1
	0.7nm,0.2s						
EPF	**Esparros**	**1.03**	**96**	Pg	Pg	19 09 07.1	-0.5
EPF				Lg		19 09 21.0	
	0.3nm,0.2s						
ESAC	**San Caprasio**	**1.48**	**163**	Lg		19 09 35.0	
	4.1nm,0.2s,SNR=7.9						

IDC ***15*** *19:24:30.6±0.5, 780N×122.13E, h0km, mb4.6/20, mb1 4.7/22, mb1mx4.6/27, mbtmp4.7/22, ML4.5/2, MS4.1/7, Ms1 4.1/7, ms1mx3.7/23, Error ellipse: s-maj=24.0km s-min=11.3km az=67.0*
MAN ***15*** *19:24:33.0, 783N×12204E, h26km, mb4.4, ML5.3, MS2.9*
ISCJB ***15*** *19:24:34.8±0.4, 784N±003×122.16E±003, h39km±4km, mb4.8/70, MS4.2/18, Error ellipse: s-maj=5.1km s-min=4.3km az=99.6*
MOS ***15*** *19:24:34.1±0.9, 790N×12224E, h33km, mb4.9/19, Error ellipse: s-maj=14.7km s-min=6.6km az=119.5*
BJI ***15*** *19:24:35.7, 766N×122.18E, h56km, mB4.9, mb4.6, Ms4.6, Msz4.3*
NEIC ***15*** *19:24:36.8±0.2, 782N×122.15E, mb5.0/19, Error ellipse: s-maj=6.5km s-min=4.5km az=57.0*
NEIC Felt [V PIVS] at Siocon, [IV PIVS] at Zamboanga and [III PIVS] at Ipil and Pagadian.
ISC 15 19:24:36.8±0.4, 788N±003×12220E±003, h40km±4km, h48km±2.3km: pP-P, n172, σ1§15/173, mb4.8/70, MS4.2/18, 13C-13D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.38**	**104**	⇓*i*P	**Pn**	**19 24 43.8**	**-2.3**
IPIL				*i* S	**Sn**	**19 24 50.0**	**-2.4**
IPIL	**Ipil**	**0.38**	**104**	*e*P	**Pn**	**19 24 43.9**	**-2.1**
IPIL				*e*S	**Sn**	**19 24 50.0**	**-2.4**
PAGZ	**Pagadian**	**1.17**	**91**	*e*P	**Pn**	**19 24 56.5**	**-0.2**
PAGZ				*e*S	**Sn**	**19 25 12.6**	**+1.2**
SNPH	**Sibulan**	**1.78**	**35**	⇑*e*P	**Pn**	**19 25 04.5**	**-0.6**
SNPH				*i* S	**Sn**	**19 25 29.0**	**+2.5**
CTBH	**Cotabato--PC H**	**2.13**	**108**	⇑*i*P	**Pn**	**19 25 15.1**	**+5.2**
TBP	**Tagbilaran**	**2.44**	**42**	*e*P	**Pn**	**19 25 21.9**	**+7.8**
TBP				*e*S	**Sn**	**19 25 58.4**	**+16**
CGP	**Cagayan de Oro**	**2.53**	**77**	⇑*e*P	**Pn**	**19 25 15.6**	**+0.1**
CGP				*i* S	**Sn**	**19 25 45.0**	**-0.1**
LLP	**Lapu-Lapu**	**2.98**	**36**	⇓*i*P	**Pn**	**19 25 21.0**	**-0.6**
LLP				*e*S	**Sn**	**19 25 53.7**	**-2.5**
KCP	**Kidapawan**	**2.99**	**107**	⇓*e*P	**Pn**	**19 25 25.5**	**+3.7**
CUYO	**Cuyo Island**	**3.17**	**339**	*e*P	**Pn**	**19 25 23.0**	**-1.2**
DMPH	**Davao City--Mi**	**3.37**	**103**	*e*P	**Pn**	**19 25 28.7**	**+1.7**
DAV	**Davao City (W)**	**3.44**	**103**	⇓*e*P	**Pn**	**19 25 30.0**	**+2.0**
DAV	**Davao City (W)**	**3.44**	**103**	*e*P	**Pn**	**19 25 30.3**	**+2.3**
MSLP	**Maasin**	**3.45**	**49**	*e*P	**Pn**	**19 25 28.9**	**+0.8**
BUTP	**Butuan**	**3.55**	**72**	*e*P	**Pn**	**19 25 31.1**	**+1.7**
RCP	**Roxas**	**3.70**	**8**	⇑*e*P	**Pn**	**19 25 31.5**	**+0.1**
SCPH	**Surigao**	**3.76**	**60**	*e*P	**Pn**	**19 25 30.2**	**-2.1**
SCPH				*e*S	**Sn**	**19 26 07.5**	**-7.8**
KALP	**Kalibo**	**3.78**	**2**	⇑*e*P	**Pn**	**19 25 34.9**	**+2.4**
PPR	**Puerto Princes**	**3.91**	**299**	⇑*i*P	**Pn**	**19 25 30.6**	**-3.8**
OCLP	**Ormoc**	**3.95**	**37**	*e*P	**Pn**	**19 25 34.9**	**+0.1**
MATI	**Mati**	**4.13**	**103**	*e*P	**Pn**	**19 25 38.3**	**+1.0**
PLP	**Palo**	**4.26**	**40**	*e*P	**Pn**	**19 25 38.8**	**-0.5**
OTRP	**Odiongan**	**4.46**	**358**	*e*P	**Pn**	**19 25 41.6**	**-0.3**
BUSP	**Coron**	**4.55**	**334**	*e*P	**Pn**	**19 25 41.2**	**-1.9**
BOAC	**Boac**	**5.56**	**356**	*e*P	**Pn**	**19 25 55.6**	**-1.4**
TSM	**Tawau**	**5.59**	**231**	P	**Pn**	**19 25 57.1**	**-0.3**
PVCP	**Virac**	**6.00**	**18**	*e*P	**Pn**	**19 26 04.1**	**+1.1**
LUBP	**Lubang**	**6.13**	**342**	*e*P	**Pn**	**19 26 03.0**	**-1.8**
KKM	**Kota Kinabalu**	**6.21**	**253**	P	**Pn**	**19 26 06.1**	**+0.1**
KKM	**Kota Kinabalu**	**6.21**	**253**	*e*P	**Pn**	**19 26 05.5**	**-0.5**
TGY	**Tagaytay City**	**6.31**	**349**	Pn	**Pn**	**19 26 07.7**	**+0.4**
	23nm,0.3s,baz=207,slow=4.0,SNR=6.9						
POLP	**Polilio Island**	**6.81**	**358**	*e*P	**Pn**	**19 26 15.3**	**+1.1**
KSM	**Kuching**	**13.45**	**242**	*e*P	**Pn**	**19 27 43.4**	**-1.6**
QIZ	**Qiongzhong**	**16.34**	**314**	⇑P	**Pn**	**19 28 24.6**	**+1.4**
QIZ				S	**S**	**19 31 32.1**	**-2.4**
QIZ				AMB	AMB		
	comp=Z,30nm,1.3s						
QIZ				LR	LR		
	comp=N,390nm,16.8s						
QIZ				LR	LR		
	comp=E,390nm,19.5s						
QIZ				LR	LR		
	comp=Z,930nm,25.0s						
UBT	**Ubonrachathani**	**18.35**	**295**	⇑P	**Pn**	**19 28 50.5**	**+2.4**
KGM	**Kluang**	**19.68**	**254**	P	**Pn**	**19 29 05.1**	**+0.9**
JOW	**Kunigami**	**19.71**	**16**	P	**Pn**	**19 29 04.0**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=193,slow=15,SNR=5.2						
JOW				LR	LR	19 37 02.0	
	comp=Z,356nm,18.9s,baz=151,slow=38						
KKTK	**Khon Kaen**	**20.71**	**296**	P	**P**	**19 29 14.5**	**+0.8**
	comp=Z,617nm,0.8s						
IPM	**Ipoh**	**21.32**	**262**	P	**P**	**19 29 21.7**	**+1.5**
SNG	**Songkhla**	**21.41**	**270**	P	**P**	**19 29 23.0**	**+1.8**
	comp=Z,118nm,0.8s,mb5.3						
KULM	**Kulim**	**21.56**	**264**	*e*P	**P**	**19 29 23.3**	**+0.5**
NST	**Nakhon Sawan**	**22.93**	**292**	P	**P**	**19 29 38.0

NJ2 AP 19 29 58.3
NJ2 PP 19 30 23.4
NJ2 PPP 19 30 33.3
NJ2 S **S** **19 34 01.0 -5.0**
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.2
NJ2 AMB AMB
comp=Z,170nm,7.4s
NJ2 LR LR
comp=N,700nm,16.4s,MS4.3
NJ2 LR LR
comp=E,570nm,17.4s,MS4.3
NJ2 LR LR
comp=Z,180nm,14.0s,MS3.7
CHG Chiang Mai 25.07 298 ⇓P **P** **19 29 57.4 0.0**
comp=Z,21nm,0.8s,mb4.7
CHTO Chiang Mai 25.07 298 *e*P **P** **19 29 57.4 0.0**
CHTO pmax pmax
comp=Z,16nm,0.9s,mb4.5
CHTO Chiang Mai 25.07 298 *e*P **P** **19 29 57.4 -0.1**
comp=Z,16nm,0.9s,mb4.5
KMI Kunming 25.28 315 P **P** **19 30 01.8 +2.4**
KMI AP pP 19 30 14.6 +4.4
KMI XP sP 19 30 20.4 +5.3
KMI PP 19 30 42.6
KMI PPP 19 30 54.0
KMI S **S** **19 34 20.9 -1.6**
KMI XS sS 19 34 44.4 +3.8
KMI SS 19 35 25.6
KMI SSS 19 35 43.8
KMI AMB AMB
comp=Z,130nm,6.3s
KMI LR LR
comp=N,420nm,17.0s,MS4.2
KMI LR LR
comp=E,480nm,20.2s,MS4.2
KMI LR LR
comp=Z,650nm,24.9s,MS4.0
FITZ Fitzroy Crossi 26.04 173 *e*P **P** **19 30 04.7 -1.5**
comp=Z,61nm,0.9s,mb5.1
FITZ *e*pP pP 19 30 15.4 -1.7
FITZ Fitzroy Crossi 26.04 173 P **P** **19 30 04.4 -1.9**
comp=Z,40nm,0.9s,mb4.9,baz=2.1,slow=6.5,SNR=33
CBIJ Chichi jima 26.91 42 LR LR 19 39 20.2
comp=Z,361nm,20.5s,MS3.9,baz=169,slow=33
CD2 Chengdu 28.67 325⇑ *i*P **P** **19 30 29.8 -0.1**
CD2 AP pP 19 30 44.5 +3.7
CD2 XP sP 19 30 47.5 +1.9
CD2 PP PP 19 31 19.8 -15
CD2 PPP 19 31 35.1
CD2 S **S** **19 35 11.8 -4.2**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CD2 AMB AMB
comp=Z,60nm,7.2s
CD2 LR LR
comp=N,330nm,5.6s
CD2 LR LR
comp=Z,400nm,18.0s,MS4.1
MBWA Marble Bar 28.96 185 P **P** **19 30 31.9 -0.5**
WRAB Tennant Creek 30.11 157 P **P** **19 30 41.1 -1.5**
comp=Z,226nm,0.8s,SNR=7.5
WRAB Tennant Creek 30.11 157*c* *i*P **P** **19 30 43.0 +0.4**
WRA Warramunga Arr 30.12 157 P **P** **19 30 41.7 -1.0**
comp=Z,28nm,0.9s,mb5.0,baz=338,slow=9.6,SNR=47
WRA PcP PcP 19 33 44.0 +0.6
comp=Z,1.3nm,0.8s,baz=328,slow=3.0,SNR=3.6
WB2 Warramunga Arr 30.12 157 *e*P **P** **19 30 42.0 -0.7**
MJAR Matsushiro Arr 32.05 25 LR LR 19 43 11.6
comp=Z,279nm,18.8s,MS4.0,baz=235,slow=35
LZH Lanzhou 32.70 332 *e*P **P** **19 31 06.4 +1.0**
LZH AP pP 19 31 17.3 +0.9
LZH XP sP 19 31 24.0 +2.8
LZH PP PP 19 32 18.0 -1.7
LZH *e*S **S** **19 36 20.0 +0.9**
LZH XS sS 19 36 40.0 +2.6
LZH *e*SS SS 19 38 22.0 -19
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,100nm,4.2s
LZH LR LR
comp=E,2μm,13.2s
LZH LR LR
comp=Z,2μm,16.2s,MS4.9
AS31 Alice Springs 33.37 160 *e*P **P** **19 31 12.2 +1.0**
AS31 *e*pP pP 19 31 23.9 +1.6
ASAR Alice Springs 33.37 160 P **P** **19 31 11.1 -0.2**
comp=Z,6.0nm,0.7s,mb4.6,baz=344,slow=6.7,SNR=64
ASAR PcP PcP 19 33 51.6 -0.6
comp=Z,1.1nm,0.6s,baz=353,slow=2.6,SNR=6.6
ASPA Alice Springs 33.37 160 *e*P **P** **19 31 12.2 +1.0**
ASPA *e*pP pP 19 31 23.9 +1.6
SHL Shillong 33.81 305 *e*x x 19 32 53.8
SHL AMb AMB 19 32 56.2
comp=Z,490nm,1.1s
HHC Hu-ho-hao-te 34.17 346 *e*P **P** **19 31 21.9 +3.7**
HHC AP pP 19 31 34.8 +5.5
HHC XP sP 19 31 39.8 +5.8
HHC PCP PcP 19 33 54.3 -0.2
HHC S **S** **19 36 48.0 +6.2**
HHC XS sS 19 37 08.0 +7.8
HHC SCP ScP 19 37 35.4 -0.9
HHC PCS PcS 19 37 39.8 -0.9
HHC SCS ScS 19 41 37.3 -1.2
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,100nm,5.2s
HHC LR LR
comp=N,180nm,13.8s,MS4.1
HHC LR LR
comp=E,260nm,18.2s,MS4.1
HHC LR LR
comp=Z,160nm,20.2s,MS3.7
CN2 Changchun 35.90 4 *e*P **P** **19 31 39.3 +6.3**
CN2 *e*S **S** **19 37 14.0 +5.7**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
LSA Lhasa 36.33 311 P **P** **19 31 38.8 +2.0**
LSA Lhasa 36.33 311 *e*P **P** **19 31 38.2 +1.4**
LSA pmax pmax
comp=Z,21nm,1.2s,mb4.9
LSA Lhasa 36.33 311 *e*P **P** **19 31 38.1 +1.4**
comp=Z,21nm,1.2s,mb4.9
CTA Charters Tower 36.51 140 *e*P **P** **19 31 38.1 -0.2**
comp=Z,8.0nm,0.9s,mb4.5
CTA Charters Tower 36.51 140 P **P** **19 31 38.2 0.0**
comp=Z,7.3nm,0.8s,mb4.5,baz=305,slow=8.8,SNR=4.3
CTA Charters Tower 36.51 140 P **P** **19 31 38.3 0.0**
CTA pmax pmax
comp=Z,7.0nm,0.9s
GTA Gaotai 37.27 331 P **P** **19 31 46.3 +1.5**
GTA AP pP 19 31 58.9 +3.0
GTA XP sP 19 32 04.1 +3.4
GTA PP PP 19 33 14.8 +4.6
GTA S **S** **19 37 29.8 +0.5**
GTA XS sS 19 37 49.6 +1.7
GTA SS SS 19 40 01.5 -12
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,90nm,4.2s
GTA LR LR
comp=N,370nm,16.4s,MS4.4
GTA LR LR
comp=E,440nm,18.3s,MS4.4
GTA LR LR
comp=Z,610nm,16.7s,MS4.5
BOK Bokaro 38.20 299 *e*P **P** **19 31 54.4 +1.7**
BOK AMb AMB 19 31 55.5
comp=Z,25nm,1.9s,mb4.6
FORT Forrest 38.84 172 *e*P **P** **19 31 58.2 +0.2**
comp=Z,28nm,0.7s,mb5.1
JIRN Jiri 39.31 305 *e*P **P** **19 32 02.8 +0.9**
comp=Z,89nm,1.2s,mb5.4
GUN Gumba 39.66 305 *e*P **P** **19 32 05.6 +0.7**
comp=Z,139nm,1.1s,mb5.6
PKI Pulchoki 39.92 304 *e*P **P** **19 32 07.0 0.0**
comp=Z,54nm,1.1s,mb5.2
PKI Pulchoki 39.92 304 *e*P **P** **19 32 07.0 0.0**
PKI pmax pmax
comp=Z,54nm,1.1s,mb5.2
KKN Kakani 40.11 304 *e*P **P** **19 32 08.9 +0.4**
comp=Z,74nm,1.1s,mb5.3
KKN Kakani 40.11 304 *e*P **P** **19 32 08.9 +0.4**
KKN pmax pmax
comp=Z,74nm,1.1s,mb5.3
DMN Daman 40.18 304 *e*P **P** **19 32 09.3 +0.1**
comp=Z,64nm,1.1s,mb5.3
NWAO Narrogin (SRO) 40.85 186 P **P** **19 32 13.4 -1.2**
comp=Z,5.4nm,0.8s,mb4.2,baz=246,slow=9.3,SNR=2.8
HNR Honiara 41.34 114 LR LR 19 47 17.0
comp=Z,137nm,20.8s,MS3.8,baz=359,slow=33
ULN Ulaanbaatar 41.88 345⇓ *e*P **P** **19 32 23.9 +0.8**
ULN Ulaanbaatar 41.88 345 P **P** **19 32 23.8 +0.7**
comp=Z,2.1nm,1.0s
SONM Songino Array 42.02 344 P **P** **19 32 24.4 +0.1**
comp=Z,1.4nm,0.5s,mb3.8,baz=173,slow=16,SNR=6.5
SONM LR LR 19 52 15.0
comp=Z,171nm,18.9s,MS4.0,baz=79,slow=40
HYB Hyderabad 43.54 287 *i*P **P** **19 32 37.5 +0.9**
HYB Hyderabad 43.54 287⇓ *e*P **P** **19 32 37.5 +0.9**
NGP Nagpur 43.66 292 *e*P **P** **19 32 35.4 -2.2**
NGP AMb AMB 19 32 37.5
comp=Z,35nm,1.5s,mb4.9
STKA Stephens Creek 43.66 156 *e*P **P** **19 32 35.7 -1.8**
comp=Z,33nm,0.9s,mb5.1
STKA Stephens Creek 43.66 156 P **P** **19 32 36.0 -1.5**
comp=Z,41nm,0.8s,mb5.2,baz=329,slow=7.4,SNR=47
AKL Akola 45.45 291 *e*x x 19 32 20.7
AKL AMb AMB 19 32 22.6
comp=Z,70nm,1.4s,mb5.3
BHPL Bhopal 45.55 295 *e*P **P** **19 32 53.0 +0.4**
BHPL AMb AMB 19 32 54.9
comp=Z,36nm,1.1s,mb5.2
AGRA Agra 46.07 300 *e*P **P** **19 32 55.5 -1.3**
AGRA AMb AMB 19 32 55.8
comp=Z,29nm,0.4s,mb5.5
TLY Talaya 46.27 344 *e*P sP 19 33 13.6 -0.8
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
WMQ Urumqi 46.77 326 P **P** **19 33 03.8 +1.6**
WMQ AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
WMQ AMB AMB
comp=Z,80nm,6.0s
WMQ LR LR
comp=N,380nm,22.0s,MS4.5
WMQ LR LR
comp=E,450nm,21.0s,MS4.5
WMQ LR LR
comp=Z,380nm,22.0s,MS4.3
BISR Bishrakh 46.88 302 *e*P **P** **19 33 03.0 -0.1**
SONA Sohna 47.09 301 *e*P **P** **19 33 03.5 -1.2**
SONA AMb AMB 19 33 06.5
comp=Z,20nm,0.5s,mb5.3
AYAN Aya Nagar 47.12 302 *e*P **P** **19 33 03.3 -1.7**
AYAN AMb AMB 19 33 06.0
comp=Z,18nm,1.1s,mb4.9
KLP Kalpa 47.16 306 *e*P **P** **19 33 05.3 0.0**
ARMA Armidale 47.41 145 *e*P **P** **19 33 08.7 +1.5**
KAD Karad 47.68 286 *e*P **P** **19 33 09.3 0.0**
KHET Khetri 48.12 301 *e*P **P** **19 33 11.7 -1.0**
AJM Ajmer 48.73 298 *e*P **P** **19 33 16.1 -1.4**
AJM AMb AMB 19 33 19.3
comp=Z,13nm,0.7s,mb5.1
BOM Bombay 49.13 288 *e*x x 19 30 26.6
BOM AMb AMB 19 30 28.0
comp=Z,81nm,0.2s
TOO Toolangi 50.18 156 *e*P **P** **19 33 29.4 +0.9**
comp=Z,16nm,0.8s,mb5.1
TOO Toolangi 50.18 156 *e*P **P** **19 33 29.4 +0.9**
TOO pmax pmax
comp=Z,16nm,0.8s,mb5.1
MK31 Makanchi Array 51.61 326 P **P** **19 33 39.4 +0.2**
MK31 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MKAR Makanchi Array 51.61 326 P **P** **19 33 39.8 +0.6**
comp=Z,11nm,0.8s,mb4.8,baz=133,slow=8.4,SNR=69
DZM Mont Dzumac 52.59 125 P **P** **19 33 47.1 +0.6**
comp=Z,11nm,0.9s,mb4.8,baz=349,slow=10,SNR=4.0
AAK Ala-Archa 54.28 318⇑ *e*P **P** **19 33 59.7 +0.8**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
YAK Yakutsk 54.33 4 *e*P **P** **19 33 59.5 +0.3**
YAK pmax pmax
comp=Z,12nm,1.2s,mb4.7
YAK pmax pmax
comp=N,7.0nm,1.4s
ZAL Zalesovo 54.89 334 P **P** **19 34 02.8 -0.5**
comp=N,1.1nm,0.8s,mb4.0,baz=349,slow=9.8,SNR=7.7
KURK Kurchatov 55.85 328 P **P** **19 34 10.6 +0.4**
comp=N,113nm,1.3s,mb5.7,SNR=12
KURK Kurchatov 55.85 328*d* *i*P **P** **19 34 10.2 0.0**
MA2 Magadan 55.94 17 *e*P **P** **19 34 11.5 +0.6**
MA2 *e* 19 43 59.2
MA2 pmax pmax
comp=Z,20nm,1.3s,mb5.0
KKAR Karatay Array 57.14 317 *i*P **P** **19 34 19.6 +0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VOSK Vostochnaya 60.95 327 P **P** **19 34 44.7 -1.1**
VOSK pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
BVA0 Borovoye Array 61.41 327 *i*P **P** **19 34 48.1 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb4.1
BRVK Borovoye 61.48 327 P **P** **19 34 49.2 -0.2**
comp=Z,64nm,1.1s,mb5.7,SNR=6.1
CHKZ Chkalovo 61.60 328 P **P** **19 34 50.1 -0.1**
CHKZ pmax pmax
comp=Z,9.0nm,1.4s,mb4.7
CHKZ Chkalovo 61.60 328 *e*P **P** **19 34 49.9 -0.3**
comp=Z,14nm,1.5s,mb4.9
ZRNK Zerenda 62.13 327 P **P** **19 34 53.3 -0.4**
ZRNK pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
ZRNK Zerenda 62.13 327 *e*P **P** **19 34 53.2 -0.6**
comp=Z,8.4nm,1.0s,mb4.8
TIXI Tiksi 63.84 2*d* *i*P **P** **19 35 04.4 -0.7**
TIXI pmax pmax
comp=Z,16nm,1.2s,mb4.9
AB31 Akbulak array 66.11 321 *i*P **P** **19 35 19.1 -0.8**
AB31 pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BILL Bilibino 66.80 17⇓ *e*P **P** **19 35 24.1 -0.2**
BILL pmax pmax
comp=Z,12nm,1.7s,mb4.7
AKTO Aktyubinsk 67.63 321 P **P** **19 35 29.1 -0.4**
AKTO pmax pmax
comp=Z,19nm,2.4s,mb4.7
ARU Arti 69.05 328⇓ *i*P **P** **19 35 36.9 -1.5**
ARU *e* 19 35 59.2
ARU *e* 19 38 06.1
ARU *e*PPP 19 39 46.1
ARU *e*S S 19 44 41.0 +0.4
ARU *e*SS SS 19 49 04.0 -2.9
ARU pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ORR Orenburg 69.92 322 *e*P **P** **19 35 44.5 +0.7**
ORR pmax pmax
comp=Z,20nm,1.4s,mb4.8
ORR MLR MLR
comp=Z,300nm,16.0s,MS4.6
GNI Garni 75.38 309⇑ *e*P **P** **19 36 18.4 +2.1**
GNI pmax pmax
comp=Z,23nm,1.5s
GNI MLR MLR
comp=Z,200nm,26.0s
KIV Kislovodsk 77.03 313 *e*P **P** **19 36 25.9 +0.3**
KIV pmax pmax
comp=Z,14nm,1.2s,mb4.8
MIR Mirnyy 77.21 192*d* *i*P **P** **19 36 23.0 -3.6**
MIR pmax pmax
comp=Z,290nm,1.0s
VRSR Storozhevoye 79.53 321 *e*P **P** **19 36 38.8 -0.6**
VRSR pmax pmax
comp=Z,1.0nm,1.1s
VRSR pmax pmax
comp=N,2.0nm,1.0s
VRSR pmax pmax
comp=E,1.0nm,0.9s
KLMR Klimovskoe 79.60 330 *e*P **P** **19 36 37.9 -1.9**
KLMR pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
MALT Malatya 80.29 307 *e*P **P** **19 36 45.0 +1.4**
MALT pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MALT Malatya 80.29 307 *e*P **P** **19 36 45.0 +1.5**
comp=Z,5.0nm,1.0s,mb4.4
OBN Obninsk 81.09 325 *e*P **P** **19 36 46.7 -1.1**
OBN pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
MCK McKinley 82.49 27 *e*P **P** **19 36 53.6 -1.6**
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MCK McKinley 82.49 27 *e*P **P** **19 36 53.6 -1.6**
comp=Z,5.3nm,0.8s,mb4.5
SML Sawmill 82.86 29 *e*P **P** **19 36 55.9 -1.2**
SML *e* 19 37 04.5
BR131 Keskin Array S 83.92 309 *e*P **P** **19 37 02.7 +0.1**
comp=Z,4.0nm,0.9s,mb4.5
BRTR Keskin Array B 83.92 309 P **P** **19 37 02.6 0.0**
comp=Z,4.1nm,0.9s,mb4.5,baz=102,slow=5.2,SNR=18
ARCES ARCESS Array B 85.02 339 P **P** **19 37 07.8 -0.3**
comp=Z,3.9nm,0.8s,mb4.6,baz=76,slow=5.1,SNR=4.5
KMBO Kilima Mbogo 85.15 268 P **P** **19 37 09.9 +1.2**
comp=Z,8.6nm,0.9s,mb4.9,baz=55,slow=6.7,SNR=18
KMBO Kilima Mbogo 85.15 268 *e*P **P** **19 37 11.1 +2.3**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 85.15 268 *e*P **P** **19 37 11.1 +2.3**
comp=Z,8.9nm,1.0s,mb4.8
AKASG Malin Array Be 85.85 320 P **P** **19 37 10.9 -1.4**
comp=Z,3.6nm,0.9s,mb4.6,baz=82,slow=4.4,SNR=12
AKASG Malin Array Be 85.85 320 *i*P **P** **19 37 11.6 -0.7**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 86.06 331 P **P** **19 37 13.4 +0.1**
comp=Z,1.4nm,0.9s,mb4.2,baz=43,slow=8.4,SNR=3.4
DAWY Dawson 86.64 26 *e*P **P** **19 37 17.2 +1.0**
DAWY *e* 19 37 25.6
INK Inuvik 87.96 21 P **P** **19 37 22.6 +0.1**
comp=Z,7.1nm,0.9s,mb4.9,baz=262,slow=5.2,SNR=8.4
INK Inuvik 87.96 21 P **P** **19 37 22.6 +0.1**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 87.96 21 *e*P **P** **19 37 22.4 -0.1**
comp=Z,11nm,1.0s,mb5.0
VNDA Vanda 88.11 172 P **P** **19 37 22.1 -1.1**
comp=Z,1.6nm,0.8s,mb4.3,baz=320,slow=6.9,SNR=6.3
VNDA Vanda 88.11 172 P **P** **19 37 22.1 -1.1**
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 88.11 172 *e*P **P** **19 37 22.0 -1.2**
PPT Papeete 90.66 108 LR LR 20 11 17.4
comp=Z,213nm,21.3s,MS4.5,baz=196,slow=31
SYO Syowa Base 94.65 201⇑ *e*sP sP 19 38 10.2 -0.2
GERES GERESS Array B 96.05 321 P **P** **19 37 59.4 -0.6**
comp=Z,0.5nm,0.8s,mb4.0,baz=64,slow=3.1,SNR=3.7
YKA Yellowknife Ar 97.54 23 P **P** **19 38 06.4 -0.3**
comp=Z,1.4nm,0.9s,mb4.5,baz=302,slow=5.0,SNR=5.4
TORD Torodi Ar. Bea 117.33 289 PKP PKPdf 19 43 18.2 +0.3
comp=Z,0.6nm,0.9s,baz=55,slow=2.5,SNR=3.1
PLCA Paso Flores 145.37 163 PKPbc PKPbc 19 44 10.8 +0.6
comp=Z,7.6nm,1.0s,baz=173,slow=5.7,SNR=10
PLCA Paso Flores 145.37 163 PKIKP PKPdf 19 44 10.8 +0.5
PLCA pmax pmax
comp=Z,8.0nm,1.0s
PLCA Paso Flores 145.37 163 *e*PKPdf PKPdf 19 44 10.5 +0.2
LPAZ La Paz 166.90 131 PKP PKPdf 19 44 39.5 +1.5
comp=Z,1.0nm,0.9s,baz=334,slow=4.2,SNR=4.4
LPAZ PKPab PKPab 19 45 43.5 +1.9
comp=Z,1.9nm,0.8s,baz=172,slow=3.4,SNR=7.5
LPAZ La Paz 166.90 131 PKIKP PKPdf 19 44 39.5 +1.4
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
LPAZ pmax pmax
comp=Z,2.0nm,0.9s

CASC 15 19:34:10.9±3.3, 1071N×8722W, h16km±56km, MD3.7, 6C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.47**	**67**⇑	*e*P			Pn	19 34 38.8	+2.2
SSNN				*e*S			Sn	19 34 57.5	+2.1
COPN	**Copaltepe**	**1.59**	**23**⇓	*e*P			Pn	19 34 39.2	+0.9
COPN				*e*S			Sn	19 34 59.8	+1.3
TICN	**Ticuantepe**	**1.64**	**36**⇑	*e*P			Pn	19 34 38.4	-0.6
XAVN	**Gruta Xavier**	**1.68**	**31**	*e*P			Pn	19 34 38.5	-1.1
TISN	**Laguna Tiscapa**	**1.71**	**33**	*e*P			Pn	19 34 38.7	-1.2
MGAN	**Managua**	**1.72**	**34**	*e*P			Pn	19 34 38.6	-1.5
APYN	**Apoyeque**	**1.74**	**29**⇓	*e*P			Pn	19 34 39.1	-1.3
CONN	**Concepcion**	**1.78**	**61**⇑	*e*P			Pn	19 34 38.9	-2.1
MIRN	**Miramar**	**1.79**	**16**⇓	*e*P			Pn	19 34 41.3	+0.1
MADN	**Villa Maderas**	**1.80**	**67**⇑	*e*P			Pn	19 34 39.7	-1.5
MOMU	**Momotombo**	**1.82**	**27**⇑	*e*P			Pn	19 34 40.3	-1.2
CNGN	**Cerro Negro**	**1.86**	**16**⇑	*e*P			Pn	19 34 41.3	-0.7
TELN	**Telica**	**1.93**	**11**	*e*P			Pn	19 34 44.0	+1.0
TELN				*e*S			Sn	19 35 06.8	0.0
CGA2	**Cerro Gallo 2**	**2.80**	**104**	*e*P			Pn	19 34 56.9	+2.0
PRS1	**Puriscal**	**2.95**	**104**	*e*P			Pn	19 34 56.6	-0.5
PRS1				*e*S			Sn	19 35 31.9	-0.3
LCR2	**La Lucha 2**	**3.31**	**107**	*e*P			Pn	19 35 01.6	-0.4
URSC	**Urasca**	**3.50**	**104**	*e*P			Pn	19 35 03.5	-1.1

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*IDC **15** 19:35:22.0±0.8, 5205N×17683E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/21, mbtmp3.9/8, MS3.7/3, Ms1 3.7/3, ms1mx3.2/24, Error ellipse: s-maj=31.6km s-min=22.1km az=135.0*

*ISCJB **15** 19:35:22.8±3.2, 519N±0.1×1769E±0.1, h15km±22km, mb4.4/15, MS3.8/4, Error ellipse: s-maj=18.3km s-min=10.5km az=34.1*

*BJI **15** 19:35:23.2, 5180N×177.10E, h4km, mB4.9, mb4.6, Ms4.0, Msz3.9*

*NEIC **15** 19:35:24.3, 5182N×17708E, h5km, mb4.1/1, ML3.9(AEIC), After AEIC.*

*MOS **15** 19:35:26.4±1.7, 5198N×17683E, h33km, mb4.8/4, Error ellipse: s-maj=36.9km s-min=19.2km az=89.2*

ISC 15 19:35:27.7±1.7, 5188N±010×1771E±01, h40km±17km, n34, σ0.95/29, mb4.4/15, MS3.8/4, 1C, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.49**	**109**		P		**Pn**	**19 35 50.2**	**-1.8**
AMKA					S		**Sn**	**19 36 11.8**	**+1.6**
ATKA	**Atka Island**	**5.42**	**83**		P		**Pn**	**19 36 45.4**	**-0.6**
BILL	**Bilibino**	**17.04**	**346**	*e*P			**Pn**	**19 39 24.1**	**+1.2**
BILL					pmax		pmax		
comp=Z,15nm,1.1s									
BILL	**Bilibino**	**17.04**	**346**	*e*P			**Pn**	**19 39 24.7**	**+1.7**
comp=Z,21nm,1.2s									
SML	**Sawmill**	**21.12**	**48**	*e*P			**P**	**19 40 09.5**	**+0.5**
DAWY	**Dawson**	**25.55**	**45**	*e*P			**P**	**19 40 53.0**	**+0.3**
DLBC	**Dease Lake**	**30.24**	**56**	LR			LR	19 54 08.9	
comp=Z,113nm,20.3s,MS3.5,baz=153,slow=37									
MDJ	**Mudanjiang**	**31.94**	**276**		P		**P**	**19 41 54.9**	**+5.3**
MDJ					AMB		AMB		
comp=Z,10.0nm,2.3s,mb4.2									
MDJ					AMB		AMB		
comp=Z,190nm,4.1s									
CN2	**Changchun**	**34.91**	**277**	*e*P			**P**	**19 42 15.5**	**0.0**
CN2				*e*XP			sP	19 42 22.5	-8.9
CN2				*e*S			**S**	**19 47 46.4**	**+2.3**
YKA	**Yellowknife Ar**	**36.76**	**46**	P			**P**	**19 42 31.5**	**+0.2**
comp=Z,1.4nm,0.8s,mb3.9,baz=285,slow=8.7,SNR=8.0									
YKA	**Yellowknife Ar**	**36.76**	**46**	P			**P**	**19 42 31.5**	**+0.2**
YKA					pmax		pmax		
comp=Z,1.0nm,0.8s									
YBH	**Yreka Blue Hor**	**41.35**	**80**	LR			LR	19 56 58.7	
comp=Z,89nm,18.0s,MS3.7,baz=358,slow=31									
PDAR	**Pinedale Array**	**48.60**	**70**	P			**P**	**19 44 06.8**	**-0.5**
comp=Z,0.3nm,0.3s,mb3.8,baz=270,slow=1.8,SNR=2.9									
CD2	**Chengdu**	**56.34**	**278**	*e*P			**P**	**19 45 03.8**	**-0.8**
CD2					AP		pP	19 45 08.4	-7.9
CD2					XP		sP	19 45 10.9	-10
CD2					PP		PP	19 47 10.6	+0.3
CD2					S		**S**	**19 52 51.1**	**-1.0**
CD2					AMB		AMB		
comp=Z,20nm,0.8s,mb5.2									
WMQ	**Urumqi**	**56.88**	**300**	*e*P			**P**	**19 45 16.8**	**+8.4**
WMQ					LR		LR		
comp=N,130nm,27.0s,MS4.2									
WMQ					LR		LR		
comp=E,240nm,24.0s,MS4.2									
WMQ					LR		LR		

comp=Z,60nm,21.0s,MS3.7
JMIC Jan Mayen 57.38 2 LR LR 20 10 59.6
comp=Z,108nm,20.2s,MS4.0,baz=265,slow=37
MKAR Makanchi Array 57.67 306 P **P** **19 45 12.2 -1.8**
comp=Z,0.6nm,0.6s,mb3.8,baz=49,slow=5.2,SNR=13
GUN Gumba 69.26 289 *e*P **P** **19 46 31.1 +0.5**
comp=Z,17nm,0.6s,mb5.2
JIRN Jiri 69.26 288 *e*P **P** **19 46 31.5 +0.9**
comp=Z,26nm,0.7s,mb5.2
KKN Kakani 69.70 289 *e*P **P** **19 46 33.6 +0.3**
comp=Z,6.7nm,0.5s,mb4.8
KKN Kakani 69.70 289 *e*P **P** **19 46 33.6 +0.3**
KKN pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
PKI Pulchoki 69.79 289 *e*P **P** **19 46 34.0 +0.1**
comp=Z,7.8nm,0.6s,mb4.8
PKI Pulchoki 69.79 289 *e*P **P** **19 46 34.0 +0.1**
PKI pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
DMN Daman 69.94 289 *e*P **P** **19 46 35.4 +0.6**
comp=Z,10nm,0.8s,mb4.8
AKASG Malin Array Be 74.22 339 P **P** **19 46 59.1 -1.4**
comp=Z,0.8nm,0.6s,mb3.8,baz=23,slow=5.4,SNR=4.3
WRA Warramunga Arr 80.64 220 P **P** **19 47 36.6 +0.3**
comp=Z,1.2nm,0.6s,mb4.0,baz=31,slow=5.7,SNR=18
BRTR Keskin Array B 83.36 332 P **P** **19 47 49.7 -0.9**
comp=Z,0.4nm,0.7s,mb3.6,baz=41,slow=4.4,SNR=2.7
ASAR Alice Springs 84.17 219 P **P** **19 47 55.5 +0.8**
comp=Z,0.8nm,0.6s,mb4.0,baz=23,slow=5.4,SNR=18
STKA Stephens Creek 89.01 210 P **P** **19 48 18.1 -0.3**
comp=Z,3.0nm,1.1s,mb4.5,baz=39,slow=6.5,SNR=3.4
TORD Torodi Ar. Bea 115.12 355 PKiKP PKiKP 19 54 03.4 -1.2
comp=Z,0.5nm,0.9s,baz=355,slow=2.1,SNR=4.5
PLCA Paso Flores 133.60 104 PKP PKPdf 19 54 40.2 +0.4
comp=Z,0.8nm,0.7s,baz=282,slow=2.2,SNR=3.4
MIR Mirnyy 133.89 214*c i*PKIKP PKPdf 19 54 45.0 +4.6
MIR pmax pmax
comp=Z,31nm,1.5s
MAW Mawson 145.29 218 PKPbc PKPbc 19 55 00.0 -0.9
comp=Z,1.0nm,0.4s,baz=101,slow=3.2,SNR=6.6
BOSA Boshof 148.67 307 PKPbc PKPbc 19 55 09.2 -1.3
comp=Z,0.9nm,0.5s,baz=24,slow=2.4,SNR=4.5

MEX 15 19:38:21.1±0.4, 1851N×9550W, h6km±12km, MD3.9, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.53**	**158**	*i* P	Pn	19 38 45.3	-3.6
CMIG				*i* S	Sn	19 39 04.2	-4.9
VHO	**Vista Hermosa**	**1.85**	**220**	*e*P	Pn	19 38 50.2	-3.1
VHO				*i* S	Sn	19 39 13.2	-3.9
UTMO	**Huajuapan**	**2.30**	**253**	*i* P	Pn	19 38 56.7	-2.7
UTMO				*i* S	Sn	19 39 22.9	-5.1
PPM	**Popocatepetl**	**3.02**	**281**	*i* P	Pn	19 39 06.6	-2.7
PPM				*i* S	Sn	19 39 43.8	-2.0

MEX 15 19:38:40.2±0.5, 1652N×9826W, h19km±77km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.63**	**282**	*e*P	Pn	19 39 05.0	-2.8
ACX				*i* S	Sn	19 39 24.0	-4.3
MEIG	**Mezcala**	**1.91**	**317**	*e*P	Pn	19 39 08.7	-3.0
MEIG				*i* S	Sn	19 39 31.3	-4.0
PLIG	**Platanillo**	**2.21**	**328**	*e*P	Pn	19 39 13.8	-2.0
PLIG				*i* S	Sn	19 39 39.5	-3.1
CMIG	**Matias Romero**	**3.28**	**80**	*e*P	Pn	19 39 27.8	-2.7
CMIG				*i* S	Sn	19 40 06.9	-2.1

ISCJB ***15*** *19:45:46.1±0.5, 5569S×008×297W±02, h10km, mb4.6/15, MS4.4/10, Error ellipse: s-maj=14.7km s-min=9.5km az=100.5*
IDC ***15*** *19:45:46.6±0.7, 5575S×2976W, h0km, mb4.5/8, mb1 4.5/9, mb1mx4.3/17, mbtmp4.4/9, ML3.7/1, MS4.4/10, Ms1 4.4/10, ms1mx4.2/14, Error ellipse: s-maj=24.2km s-min=16.9km az=52.0*
HRVD ***15*** *19:45:52.3±0.2, 5589S×2991W, h12km, MW5.1/76, Centroid moment Tensor Solution. LP body waves: s33,c43;Mantle waves: s76,c108; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.31±.18; $M_{\theta\theta}$-0.45±.19; $M_{\phi\phi}$2.76±.15; $M_{r\theta}$2.43±.55; $M_{\theta\phi}$4.05±.13; $M_{r\phi}$0.75±.45; Best double couple: $M_0$5.28100×10^{16} NP1:ϕ_s354.00000°, δ51.00000°, λ-159.00000°. NP2: ϕ_s250.00000°, δ73.00000°, λ-41.00000°. Principal axes: T 6.0020, Plg14.0000°, Azm307.0000°; N -1.4450, Plg47.0000°, Azm52.0000°; P -4.5600, Plg40.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***15*** *19:45:52.3±3.2, 5572S×2978W, h44km±29km, mb4.9/7 Error ellipse: s-maj=14.1km s-min=8.8km az=218.0*
ISC 15 19:45:47.8±0.5, 5574S±008×298W±02, h10km, n30, σ0§88/19, mb4.6/15, MS4.4/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.64**	**156**	*e*	**Pn**	**19 49 54.4**	**+0.8**
VNA1				*e*		19 49 57.0	
VNA1				*e*		19 49 58.9	
VNA1				*e*		19 50 00.5	
VNA1				*e*		19 50 12.0	
SNAA	**Sanae**	**19.62**	**155**	P	**Pn**	**19 50 16.1**	**-1.6**
	0.2nm,0.3s,baz=309,slow=8.5,SNR=23						
USHA	**Ushuaia**	**21.86**	**256**	P	**P**	**19 50 39.9**	**-0.6**
	12nm,0.8s,mb4.4,baz=80,slow=10,SNR=8.9						
USHA				LR	LR	19 57 12.3	
	comp=Z,554nm,19.9s,MS4.0,baz=90,slow=31						
TRQA	**Tornquist**	**27.88**	**296**	*e*P	**P**	**19 51 36.9**	**-0.8**
	7.1nm,0.8s,mb4.3						
PLCA	**Paso Flores**	**30.52**	**282**	LR	LR	20 03 30.6	
	comp=Z,1μm,21.3s,MS4.5,baz=126,slow=35						
QSPA	**South Pole Qui**	**34.51**	**180**	*e*P	**P**	**19 52 37.4**	**+1.3**
	12nm,1.1s,mb4.7						
CPUP	**Villa Florida**	**35.54**	**314**	P	**P**	**19 52 45.2**	**+0.2**
	6.2nm,0.8s,mb4.6,baz=133,slow=7.6,SNR=12						
CPUP				LR	LR	20 05 12.9	
	comp=Z,722nm,21.8s,MS4.4,baz=142,slow=33						
CPUP	**Villa Florida**	**35.54**	**314**	P	**P**	**19 52 45.2**	**+0.2**
CPUP				LR	LR	20 05 12.9	
MAW	**Mawson**	**41.25**	**145**	P	**P**	**19 53 32.7**	**-0.3**
	6.9nm,0.7s,mb4.4,baz=236,slow=8.1,SNR=17						
BDFB	**Brasilia**	**42.41**	**333**	P	**P**	**19 53 43.2**	**+0.8**
	4.0nm,0.8s,mb4.1,baz=192,slow=5.3,SNR=5.5						
BDFB				LR	LR	20 08 23.5	
	comp=Z,758nm,19.4s,MS4.6,baz=166,slow=32						
VNDA	**Vanda**	**46.81**	**183**	P	**P**	**19 54 18.1**	**+0.6**
	3.6nm,0.9s,mb4.3,baz=192,slow=6.7,SNR=11						
BOSA	**Boshof**	**47.31**	**79**	P	**P**	**19 54 21.6**	**+0.1**
	8.7nm,1.1s,mb4.6,baz=219,slow=9.9,SNR=5.6						
BOSA				LR	LR	20 10 10.2	
	comp=Z,357nm,20.7s,MS4.3,baz=273,slow=31						
BOSA	**Boshof**	**47.31**	**79**	P	**P**	**19 54 21.6**	**+0.1**
BOSA				LR	LR	20 10 10.2	
LPAZ	**La Paz**	**49.03**	**308**	P	**P**	**19 54 36.1**	**+1.3**
	6.5nm,0.7s,mb4.8,baz=149,slow=6.3,SNR=30						
LPAZ				LR	LR	20 15 29.5	
	comp=Z,218nm,20.0s,MS4.1,baz=356,slow=36						
LBTB	**Lobatse**	**50.32**	**76**	*e*P	**P**	**19 54 43.7**	**-0.8**
	20nm,0.9s,mb5.1						
SAML	**Samuel**	**53.58**	**317**	*e*P	**P**	**19 55 08.7**	**-0.2**
	19nm,1.0s,mb5.0						
SAML				*e*		19 55 16.9	
LSZ	**Lusaka**	**59.63**	**71**	*e*P	**P**	**19 55 51.7**	**-0.2**
	11nm,1.2s,mb4.8						
DBIC	**Dimbokro**	**65.52**	**27**	LR	LR	20 20 33.8	
	comp=Z,173nm,18.1s,MS4.3,baz=106,slow=32						
OTAV	**Otavalo**	**68.29**	**306**	*e*P	**P**	**19 56 48.8**	**-0.1**
	22nm,1.4s,mb5.0						
ROSC	**El Rosal**	**70.61**	**312**	LR	LR	20 30 59.4	
	comp=Z,226nm,19.1s,MS4.4,baz=198,slow=38						
SDV	**Santo Domingo**	**72.78**	**317**	*e*P	**P**	**19 57 14.7**	**-1.7**
	10.0nm,0.9s,mb4.8						
TORD	**Torodi Ar. Bea**	**73.53**	**32**	P	**P**	**19 57 21.8**	**+1.1**
	4.3nm,0.9s,mb4.4,baz=200,slow=4.9,SNR=31						
KMBO	**Kilima Mbogo**	**76.29**	**71**	LR	LR	20 28 22.6	
	comp=Z,188nm,19.8s,MS4.4,baz=97,slow=34						
STKA	**Stephens Creek**	**92.42**	**173**	LR	LR	20 39 47.7	
	comp=Z,258nm,18.0s,MS4.7,baz=201,slow=35						

YKA Yellowknife Ar 134.98 319 PKP PKPdf 20 05 04.8 -2.3
0.7nm,0.8s,baz=138,slow=1.8,SNR=3.9
INK Inuvik 144.65 321 PKP PKPdf 20 05 21.0 -3.6
7.6nm,1.0s,baz=113,slow=4.2,SNR=7.5
INK Inuvik 144.65 321 PKP PKPdf 20 05 21.0 -3.6
COLA College 149.26 313 *e*PKPbc PKPbc 20 05 33.6 -3.1
MCK McKinley 149.46 310 *e*PKPbc PKPbc 20 05 35.3 -1.9
SONM Songino Array 152.15 88 PKPbc PKPbc 20 05 42.2 -1.3
2.2nm,0.7s,baz=196,slow=2.3,SNR=6.1

BJI ***15*** *19:48:50.3, 5190N×17700E, h5km, mB5.2, mb4.8, Ms4.4, Msz4.0*
IDC ***15*** *19:48:53.7±0.7, 5201N×17695E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, ML4.1/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/19, Error ellipse: s-maj=25.1km s-min=17.0km az=140.0*
NEIC ***15*** *19:48:55.3, 5192N×17700E, h5km, mb4.6/7, ML4.1(AEIC), After AEIC.*
ISCJB ***15*** *19:48:56.1±1.9, 5198N±007×17696E±006, h27km±13km, mb4.6/35, MS3.9/9, Error ellipse: s-maj=11.8km s-min=6.5km az=17.9*
MOS ***15*** *19:48:57.7±1.1, 5207N×17687E, h33km, mb4.7/9, Error ellipse: s-maj=15.7km s-min=8.8km az=101.5*
ISC 15 19:48:57.5±1.9, 5193N±007×17696E±006, h27km±13km, h15km±.2km:pP-P,n78,σ1§10/76, mb4.6/35, MS3.9/9, 5C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.56**	**110**	P	**Pn**	**19 49 21.7**	**-1.8**
AMKA				S	**Sn**	**19 49 44.1**	**+1.2**
SMY	**Shemya**	**1.93**	**296**	P	**Pn**	**19 49 28.8**	**+0.2**
SMY				S	**Sn**	**19 49 53.9**	**+2.0**
ATKA	**Atka Island**	**5.46**	**84**	P	**Pn**	**19 50 17.4**	**+0.2**
SPIA	**Saint Paul Isl**	**9.10**	**50**	*e*P	**Pn**	**19 51 07.6**	**+0.6**
UNV	**Unalaska Valle**	**10.18**	**73**	*e*P	**Pn**	**19 51 22.7**	**+0.9**
MA2	**Magadan**	**16.52**	**308**	*e*P	**Pn**	**19 52 46.1**	**-1.2**
MA2				pmax	pmax		
	comp=Z,5.0nm,1.6s						
MA2				MLR	MLR		
	comp=Z,100nm,15.0s						
BILL	**Bilibino**	**16.98**	**346**	*e*P	**Pn**	**19 52 54.2**	**+1.2**
BILL				pmax	pmax		
	comp=Z,57nm,1.0s						
BILL	**Bilibino**	**16.98**	**346**	*e*P	**Pn**	**19 52 54.2**	**+1.2**
	comp=Z,57nm,1.0s						
TTA	**Tatalina**	**18.09**	**42**	*e*P	**Pn**	**19 53 08.1**	**+1.3**
TTA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TTA	**Tatalina**	**18.09**	**42**	*e*P	**Pn**	**19 53 08.1**	**+1.3**
	comp=Z,10nm,1.3s						
KDAK	**Kodiak Island**	**18.38**	**59**	P	**Pn**	**19 53 10.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=225,slow=4.6,SNR=6.7						
SLKM	**Skilak Lake**	**19.97**	**52**	*e*P	**Pn**	**19 53 29.2**	**-0.3**
SML	**Sawmill**	**21.13**	**49**	*e*P	**P**	**19 53 40.1**	**-0.1**
COLA	**College**	**22.16**	**41**	*c i*P	**P**	**19 53 52.2**	**+0.9**
ASAJ	**Asahikawa**	**24.09**	**265**	LR	LR	20 03 25.9	
	comp=Z,118nm,18.7s,MS3.4,baz=342,slow=36						
DAWY	**Dawson**	**25.54**	**45**	*e*P	**P**	**19 54 24.7**	**+0.8**
YAK	**Yakutsk**	**27.06**	**310**	*e*P	**P**	**19 54 36.6**	**-1.1**
YAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.4						
KLR	**Kul'dur**	**28.48**	**283**	*e*P	**P**	**19 54 46.8**	**-3.6**
INK	**Inuvik**	**28.55**	**36**	P	**P**	**19 54 50.6**	**-0.4**
	comp=Z,2.3nm,0.9s,mb3.9,baz=247,slow=12,SNR=4.9						
INK	**Inuvik**	**28.55**	**36**	*e*P	**P**	**19 54 50.6**	**-0.4**
TIXI	**Tiksi**	**28.86**	**331**	*e*P	**P**	**19 54 53.7**	**0.0**
TIXI				pmax	pmax		
	comp=Z,30nm,2.4s,mb4.6						
MJAR	**Matsushiro Arr**	**31.31**	**256**	LR	LR	20 05 39.1	
	comp=Z,118nm,20.1s,MS3.5,baz=80,slow=32						
MDJ	**Mudanjiang**	**31.88**	**276**	P	**P**	**19 55 14.4**	**-6.0**
MDJ				AMB	AMB		
	comp=Z,170nm,4.1s						
CN2	**Changchun**	**34.85**	**277**	*e*P	**P**	**19 55 43.8**	**-2.5**
CN2				*e*XP	sP	19 55 50.8	-6.8
CN2				*e*S	**S**	**20 01 11.8**	**-3.8**
YKA	**Yellowknife Ar**	**36.76**	**46**	P	**P**	**19 56 03.4**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.5,baz=285,slow=8.5,SNR=25						
YKA	**Yellowknife Ar**	**36.76**	**46**	P	**P**	**19 56 03.4**	**+0.7**
ULN	**Ulaanbaatar**	**43.63**	**294**	*c i*P	**P**	**19 57 00.4**	**+0.8**
SONM	**Songino Array**	**44.02**	**294**	P	**P**	**19 57 03.3**	**+0.6**
	comp=Z,1.8nm,0.7s,mb3.9,baz=53,slow=9.1,SNR=6.8						
SONM				PcP	PcP	19 58 48.3	+0.3
	comp=Z,1.5nm,0.8s,baz=54,slow=2.4,SNR=4.1						
HHC	**Hu-ho-hao-te**	**44.99**	**283**	*e*P	**P**	**19 57 10.9**	**+0.4**
HHC				AP	pP	19 57 15.3	-3.3
HHC				XP	sP	19 57 17.4	-4.5
HHC				PCP	PcP	19 58 53.1	+1.8
HHC				PP	PP	19 58 56.4	+0.6
HHC				PCS	PcS	20 02 45.0	0.0
HHC				S	**S**	**20 03 46.6**	**-0.7**
HHC				XS	sS	20 03 54.0	-6.7
HHC				SS	SS	20 06 58.5	-11
HHC				SCS	ScS	20 07 04.8	-1.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
HHC				AMB	AMB		
	comp=Z,90nm,3.9s						
HHC				LR	LR		
	comp=N,160nm,13.1s,MS4.2						
HHC				LR	LR		
	comp=E,130nm,13.1s,MS4.2						
HHC				LR	LR		
	comp=Z,120nm,20.2s						
SSE	**Sheshan**	**45.39**	**265**	P	**P**	**19 57 09.8**	**-3.8**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,30nm,3.4s						
NJ2	**Nanjing**	**46.17**	**268**	*e*P	**P**	**19 57 18.0**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**48.63**	**70**	P	**P**	**19 57 38.0**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=335,slow=6.6,SNR=4.0						
WHN	**Wuhan**	**50.00**	**270**	*e*P	**P**	**19 57 50.5**	**+1.1**
ZAL	**Zalesovo**	**51.72**	**311**	PcP	PcP	19 59 15.7	+0.1
	comp=Z,0.9nm,0.7s,baz=65,slow=6.2,SNR=5.5						
LZH	**Lanzhou**	**52.69**	**283**	*e*P	**P**	**19 58 10.5**	**+0.9**
LZH				AP	pP	19 58 15.0	-2.8
LZH				XP	sP	19 58 17.5	-3.5
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GTA	**Gaotai**	**52.90**	**289**	*e*P	**P**	**19 58 12.0**	**+0.9**
GTA				AP	pP	19 58 16.3	-3.1
GTA				XP	sP	19 58 19.1	-3.5
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
SUMG	**Summit**	**53.37**	**13**	*e*P	**P**	**19 58 14.3**	**-0.2**
	comp=Z,22nm,1.3s,mb4.9						
CD2	**Chengdu**	**56.28**	**278**	*e*P	**P**	**19 58 36.8**	**+1.2**
CD2				XP	sP	19 58 43.8	-3.3
CD2				PP	PP	20 00 43.6	+2.5
CD2				S	**S**	**20 06 24.1**	**+0.2**
CD2				SS	SS	20 10 10.8	0.0
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,6.4s						
CD2				LR	LR		
	comp=N,180nm,16.3s						
CD2				LR	LR		
	comp=Z,120nm,14.2s,MS4.1						
KURK	**Kurchatov**	**56.70**	**311**	*d i*P	**P**	**19 58 38.1**	**-0.5**
WMQ	**Urumqi**	**56.80**	**300**	*e*P	**P**	**19 58 38.8**	**-0.6**
WMQ				LR	LR		
	comp=N,140nm,21.0s,MS4.3						
WMQ				LR	LR		
	comp=E,210nm,24.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,110nm,22.0s,MS3.9						
LVZ	**Lovozero**	**57.22**	**344**	*e*P	**P**	**19 58 42.0**	**-0.3**
LVZ				pmax	pmax		
	comp=Z,41nm,1.5s,mb5.2						
LVZ				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.0						
MKAR	**Makanchi Array**	**57.59**	**306**	P	**P**	**19 58 44.0**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=49,slow=6.7,SNR=13						
CHKZ	**Chkalovo**	**58.16**	**318**	*e*P	**P**	**19 58 46.4**	**-2.6**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**58.16**	**318**	*e*P	**P**	**19 58 46.4**	**-2.6**
	comp=Z,3.4nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**59.36**	**318**	*e*P	**P**	**19 58 56.2**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ZRNK	**Zerenda**	**59.36**	**318**	*e*P	**P**	**19 58 56.1**	**-1.1**
	comp=Z,7.4nm,1.1s,mb4.6						
ARU	**Arti**	**60.70**	**326**	⇑*i*P	**P**	**19 59 06.0**	**-0.5**
ARU				*e*		19 59 47.3	
ARU				*e*		20 01 21.0	
ARU				*e*S	**S**	**20 07 24.6**	**+3.0**
ARU				*e*SS	SS	20 11 20.2	-0.1
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
KMI	**Kunming**	**61.04**	**274**	P	**P**	**19 59 06.0**	**-2.8**
SCHQ	**Schefferville**	**61.17**	**36**	P	**P**	**19 59 07.9**	**-1.8**
	comp=Z,4.1nm,0.9s,mb4.6,baz=302,slow=4.7,SNR=5.2						
KLMR	**Klimovskoe**	**62.52**	**338**	*e*P	**P**	**19 59 17.7**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.6						
AAK	**Ala-Archa**	**64.45**	**307**	*d i*P	**P**	**19 59 31.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,23.0s,MS3.9						
FINES	**FINESS Array B**	**64.61**	**345**	P	**P**	**19 59 31.5**	**-1.1**
	comp=Z,2.8nm,0.9s,mb4.3,baz=19,slow=12,SNR=5.2						
LSA	**Lhasa**	**64.76**	**286**	*e*P	**P**	**19 59 35.7**	**+2.2**
LSA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
LSA	**Lhasa**	**64.76**	**286**	*e*P	**P**	**19 59 35.7**	**+2.2**
	comp=Z,9.4nm,1.0s,mb4.8						
NB2	**NORSAR Subarra**	**66.81**	**353**	P	**P**	**19 59 45.6**	**-1.1**
	comp=Z,2.6nm,0.9s,mb4.3,baz=7.3,slow=6.5						
NB2	**NORSAR Subarra**	**66.81**	**353**	P	**P**	**19 59 45.6**	**-1.1**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**66.81**	**353**	P	**P**	**19 59 45.8**	**-0.9**
	comp=Z,1.1nm,0.8s,mb3.9,baz=6.4,slow=6.8,SNR=3.1						
OBN	**Obninsk**	**68.37**	**337**	*e*P	**P**	**19 59 56.3**	**-0.3**
OBN				*e*		20 00 26.0	
OBN				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.8						
GUN	**Gumba**	**69.19**	**289**	*e*P	**P**	**20 00 02.9**	**+1.2**
	comp=Z,73nm,0.8s,mb5.7						
JIRN	**Jiri**	**69.19**	**288**	*e*P	**P**	**20 00 03.0**	**+1.3**
	comp=Z,50nm,0.8s,mb5.5						
KKN	**Kakani**	**69.63**	**289**	*e*P	**P**	**20 00 05.3**	**+0.9**
	comp=Z,29nm,0.9s,mb5.2						
KKN	**Kakani**	**69.63**	**289**	*e*P	**P**	**20 00 05.3**	**+0.9**
KKN				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
PKI	**Pulchoki**	**69.72**	**289**	*e*P	**P**	**20 00 05.9**	**+1.0**
	comp=Z,33nm,0.9s,mb5.3						
PKI	**Pulchoki**	**69.72**	**289**	*e*P	**P**	**20 00 05.9**	**+1.0**
PKI				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.3						
DMN	**Daman**	**69.87**	**289**	*e*P	**P**	**20 00 07.0**	**+1.1**
	comp=Z,26nm,1.0s,mb5.1						
AKASG	**Malin Array Be**	**74.16**	**339**	P	**P**	**20 00 31.2**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.2,baz=23,slow=5.8,SNR=12						
GOF	**Gofitskoye**	**75.55**	**328**	*e*P	**P**	**20 00 39.6**	**-0.1**
KIV	**Kislovodsk**	**76.65**	**328**	⇑*i*P	**P**	**20 00 45.4**	**-0.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KIV				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.2						
WRA	**Warramunga Arr**	**80.65**	**220**	P	**P**	**20 01 08.7**	**+0.8**
	comp=Z,2.7nm,1.0s,mb4.1,baz=31,slow=5.4,SNR=8.8						
BRTR	**Keskin Array B**	**83.29**	**332**	P	**P**	**20 01 21.9**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=79,slow=3.1,SNR=5.0						
BRTR	**Keskin Array B**	**83.29**	**332**	*i* P	**P**	**20 01 22.3**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**84.18**	**219**	P	**P**	**20 01 27.6**	**+1.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=23,slow=5.3,SNR=12						
STKA	**Stephens Creek**	**89.03**	**210**	P	**P**	**20 01 49.1**	**-0.9**
	comp=Z,3.3nm,0.9s,mb4.7,baz=33,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**115.07**	**355**	PKP	PKiKP	20 07 35.3	-0.8
	comp=Z,0.5nm,0.9s,baz=351,slow=2.0,SNR=4.1						
PLCA	**Paso Flores**	**133.66**	**104**	PKP	PKPdf	20 08 11.1	-0.5
	comp=Z,1.2nm,0.9s,baz=346,slow=1.9,SNR=3.7						
QSPA	**South Pole Qui**	**141.68**	**180**	*e*P	PKPdf	20 08 22.2	-4.2
MAW	**Mawson**	**145.30**	**218**	PKPbc	PKPbc	20 08 31.4	-1.2
	comp=Z,1.4nm,0.7s,baz=315,slow=1.2,SNR=9.1						
BOSA	**Boshof**	**148.59**	**307**	PKPbc	PKPbc	20 08 42.2	+0.3
	comp=Z,2.2nm,0.6s,baz=48,slow=5.9,SNR=5.5						

IGQ 15 20:04:47.2, 090N×7974W, h12km±4km, Mb4.1, Ms3.9, 2C-4D, Error ellipse: s-maj=5.5km s-min=3.0km az=81.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGD	**Magdalena**	**0.96**	**182**	⇑P	Pg	20 05 06.0	+0.3
COTA	**Cotacachi**	**1.51**	**112**	⇓P	Pn	20 05 15.6	+1.5
COTA				S	Sn	20 05 36.6	+3.0
PINO	**Pino**	**1.54**	**133**	⇓P	Pn	20 05 16.1	+1.5
YANA	**Yana**	**1.55**	**131**	⇓P	Pn	20 05 16.2	+1.6
YANA				S	Sn	20 05 37.9	+3.3
TERV	**Terraza Guagua**	**1.56**	**133**	P	Pn	20 05 16.3	+1.5
GGP	**Refugio Guagua**	**1.56**	**133**	⇑P	Pn	20 05 16.4	+1.6
QIL1	**Quilotoa**	**1.91**	**155**	P	Pn	20 05 20.5	+0.9
ANGU	**Angureal**	**1.93**	**116**	⇓P	Pn	20 05 23.2	+3.4
CAYA	**Cayambe**	**1.93**	**115**	P	Pn	20 05 23.5	+3.6
CAYA				S	Sn	20 05 50.4	+6.3
CAYR	**Refugio Cayamb**	**1.94**	**117**	P	Pn	20 05 23.5	+3.5
NAS1	**Nasa**	**1.98**	**140**	P	Pn	20 05 24.1	+3.6
CAMI	**Rancho Maria**	**2.00**	**142**	P	Pn	20 05 23.8	+3.1
VC1	**Cotopaxi 1**	**2.03**	**139**	P	Pn	20 05 25.6	+4.3

IZM	**Izmir**	**0.56**	**135**	*e*PG	**Pg**	**20 10 03.9**	**-1.5**
AKS	**Akhisar**	**0.83**	**84**	*e*PG	**Pg**	**20 10 09.8**	**-0.7**
BOZC	**Bozcaada**	**1.18**	**332**	*i* P	**Pn**	**20 10 15.9**	**-0.8**
BOZC				*i* S	**Sb**	**20 10 31.9**	**-0.2**
BTOK	**Tokmak**	**1.38**	**45**	*i* P	**Pn**	**20 10 22.7**	**+3.2**
BTOK				*i* S	**Sn**	**20 10 37.9**	**+0.3**

*ISCJB **15** 20:36:50.6±3.8, 289S±009×1390E±01, h24km±28km, mb4.3/5, Error ellipse: s-maj=20.7km s-min=13.4km az=55.3*
*NEIC **15** 20:36:54.1±1.9, 286S×13899E, h38km±17km, mb4.4/3, Error ellipse: s-maj=14.5km s-min=13.3km az=179.0*
*IDC **15** 20:36:55.1±4.2, 293S×13903E, h46km±39km, mb4.0/4, mb1 4.2/8, mb1mx4.0/12, mbtmp4.3/8, ML3.9/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/13, Error ellipse: s-maj=36.1km s-min=25.4km az=71.0*
ISC 15 20:36:56.1±1.9, 297S±010×1389E±01, h56km±18km, n22, σ1§04/24, mb4.3/5, 2C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.38**	**128**	P	**Pn**	**20 39 21.3**	**-0.8**
	1.2nm,0.3s,baz=3.5,slow=22,SNR=3.8						
KAKA	**Kakadu**	**11.62**	**213**	*e*P	**Pn**	**20 39 39.3**	**+0.2**
	54nm,0.6s						
WB2	**Warramunga Arr**	**17.45**	**195**	*e*P	**Pn**	**20 40 55.3**	**-0.3**
WB2				*e*S	**S**	**20 44 03.2**	**-11**
WRA	**Warramunga Arr**	**17.46**	**195**	P	**Pn**	**20 40 54.5**	**-1.1**
	0.7nm,0.3s,baz=14,slow=12,SNR=35						
CTA	**Charters Tower**	**18.45**	**158**	P	**Pn**	**20 41 07.1**	**-0.7**
	0.5nm,0.3s,baz=331,slow=12,SNR=6.0						
CTAO	**Charters Tower**	**18.45**	**158**	*e*P	**Pn**	**20 41 08.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**19.90**	**220**	*e*P	**Pn**	**20 41 24.6**	**-0.4**
	15nm,0.7s						
FITZ				*e*S	**S**	**20 45 02.1**	**-1.8**
FITZ	**Fitzroy Crossi**	**19.90**	**220**	P	**Pn**	**20 41 24.8**	**-0.2**
	0.4nm,0.3s,baz=50,slow=11,SNR=12						
FITZ				LR	LR	20 49 04.4	
	comp=Z,126nm,20.6s,baz=187,slow=36						
AS31	**Alice Springs**	**21.14**	**193**	⇑*i*P	**P**	**20 41 37.6**	**+1.2**
AS31				*e*S	**S**	**20 45 33.8**	**+5.4**
ASAR	**Alice Springs**	**21.14**	**193**	P	**P**	**20 41 37.3**	**+0.9**
	4.1nm,0.4s,mb4.1,baz=22,slow=9.7,SNR=51						
ASPA	**Alice Springs**	**21.14**	**193**	⇑*i*P	**P**	**20 41 37.6**	**+1.2**
ASPA				*e*S	**S**	**20 45 33.8**	**+5.4**
MBWA	**Marble Bar**	**26.01**	**224**	*e*P	**P**	**20 42 26.2**	**+2.4**
STKA	**Stephens Creek**	**28.86**	**175**	*e*P	**P**	**20 42 46.1**	**-3.2**
	1.0nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**28.86**	**175**	P	**P**	**20 42 48.0**	**-1.3**
	1.0nm,0.4s,mb3.9,baz=342,slow=9.6,SNR=5.0						
MKAR	**Makanchi Array**	**70.13**	**322**	P	**P**	**20 48 02.9**	**+0.3**
	1.0nm,0.5s,mb4.0,baz=94,slow=9.0,SNR=22						
MKAR	**Makanchi Array**	**70.13**	**322**	P	**P**	**20 48 02.9**	**+0.3**
VNDA	**Vanda**	**75.50**	**175**	P	**P**	**20 48 35.1**	**+0.6**
	4.3nm,0.8s,mb4.5,baz=323,slow=8.3,SNR=17						
CHKZ	**Chkalovo**	**79.74**	**326**	*e*P	**P**	**20 48 57.6**	**-0.5**
ZRNK	**Zerenda**	**80.42**	**325**	P	**P**	**20 49 00.6**	**-1.1**
QSPA	**South Pole Qui**	**86.98**	**180**	*e*P	**P**	**20 49 35.6**	**+0.4**
	6.9nm,0.9s,mb4.9						
DBIC	**Dimbokro**	**143.74**	**277**	PKP	PKPdf	20 56 23.6	-1.3
	3.1nm,0.8s,baz=122,slow=12,SNR=3.2						
LPAZ	**La Paz**	**147.11**	**126**	PKPbc	PKPbc	20 56 34.0	+1.2
	0.9nm,0.5s,baz=238,slow=0.8,SNR=8.0						

*ISCJB **15** 21:01:05.4±1.1, 1472N±008×1192E±01, h10km, mb3.6/3, Error ellipse: s-maj=16.4km s-min=11.4km az=179.6*
*IDC **15** 21:01:05.8±1.5, 1465N×11902E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=37.1km s-min=16.7km az=22.0*
*MAN **15** 21:01:24.2, 1581N×120.17E, h1km, mb2.8, ML4.3, MS3.5*
ISC 15 21:01:07.2±1.1, 1479N±008×1192E±01, h10km, n9, σ1§03/9, mb3.6/3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**1.19**	**35**	*e*P	**Pb**	**21 01 29.0**	**-0.8**
BOLP	**Bolinao**	**1.72**	**23**	*e*P	**Pn**	**21 01 36.2**	**-1.0**
TGY	**Tagaytay City**	**1.81**	**112**	Pg	**Pg**	**21 01 41.6**	**-0.4**
	29nm,0.3s,baz=254,slow=5.1,SNR=4.9						
TGY				Lg		21 02 07.1	
	66nm,0.3s,baz=221,slow=20,SNR=4.0						
BALP	**Baler**	**2.48**	**67**	*e*P	**Pn**	**21 01 49.9**	**+2.4**
ABRA	**Dolores**	**3.19**	**27**	*e*P	**Pn**	**21 01 58.9**	**+1.5**
CAUP	**Cauayan**	**3.31**	**49**	*e*P	**Pn**	**21 01 58.1**	**-0.9**
WRA	**Warramunga Arr**	**37.59**	**156**	P	**P**	**21 08 21.5**	**-0.4**
	0.8nm,0.6s,mb3.6,baz=332,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**40.84**	**159**	P	**P**	**21 08 49.2**	**+0.2**
	1.8nm,0.6s,mb3.9,baz=336,slow=6.9,SNR=25						
MKAR	**Makanchi Array**	**44.30**	**324**	P	**P**	**21 09 17.2**	**+0.1**
	0.4nm,0.7s,mb3.2,baz=132,slow=8.3,SNR=4.5						

*CSEM **15** 21:27:43.0±0.9, 3866N×2857W, h5km, ML1.1, Error ellipse: s-maj=3.7km s-min=2.4km az=165.0, After PDA*
*PDA **15** 21:27:43.0±0.9, 3866N×2857W, h5km, MD2.8, ML1.1, Error ellipse: s-maj=3.7km s-min=2.4km az=165.0*
SVSA 15 21:27:43.0±0.9, 3866N×2857W, h5km, MD2.8, ML1.1, Error ellipse: s-maj=3.7km s-min=2.4km az=165.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.11**	**254**	*i* P	Pg	21 27 45.0	-0.2
PCED				*e*S	Sg	21 27 46.5	-0.2
PCED							
	26nm,0.1s						
PCED	**Cedros**	**0.11**	**254**	*e*S	Sg	21 27 46.5	-0.2
CALA	**Caldeira**	**0.13**	**234**	*i* P	Pg	21 27 45.6	0.0
CALA				*e*S	Sg	21 27 48.0	+0.6
CALA	**Caldeira**	**0.13**	**234**	*e*S	Sg	21 27 48.0	+0.6
HOR	**Horta**	**0.14**	**200**	*e*S	Sg	21 27 47.7	0.0
PICO	**Pico**	**0.19**	**144**	*e*P	Pg	21 27 46.5	-0.3
PICO				*e*S	Sg	21 27 49.3	-0.1
PCND	**Candelaria**	**0.21**	**156**	*e*S	Sg	21 27 51.0	+1.2
PCND							
	12nm,0.2s						
ROSA	**Rosais**	**0.26**	**76**	*e*S	Sg	21 27 51.6	0.0

*ISCJB **15** 21:34:17.0±0.2, 1071N±002×6244W±002, h98km±2km, mb4.0/12, Error ellipse: s-maj=4.4km s-min=3.0km az=75.3*
*FUNV **15** 21:34:17.7, 1073N×6230W, h87km, MW4.0*
*IDC **15** 21:34:18.3±1.4, 1082N×6254W, h97km±14km, mb3.8/12, mb1 3.9/15, mb1mx3.7/27, mbtmp4.2/15, Error ellipse: s-maj=18.8km s-min=9.0km az=126.0*
*TRN **15** 21:34:19.5, 1070N×6180W, h124km, MD3.9*
TRN Felt in Carenage.
*NEIC **15** 21:34:19.6, 1069N×6193W, h116km, mb4.1/2, MD3.9(TRN), After TRN.*
NEIC Felt at Port-of-Spain, Trinidad.
ISC 15 21:34:18.2±0.2, 1071N±002×6243W±002, h89km±3km, n60, σ1§08/91, mb4.0/12, 9C-5D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.21**	**106**	*e*P	**Pn**	**21 34 30.4**	**-0.6**
GUIV				*e*S	**Sn**	**21 34 38.9**	**-1.7**
GUNV	**Guanoco**	**0.74**	**223**	⇑*e*P	**Pn**	**21 34 35.9**	**+1.0**
GUNV				*e*S	**Sn**	**21 34 49.0**	**+1.6**
CRUV	**Carupano**	**0.79**	**268**	⇓*e*P	**Pn**	**21 34 35.7**	**+0.3**
CRUV				*e*S	**Sn**	**21 34 48.4**	**0.0**
ALNG	**Atlantic LNG**	**0.90**	**125**	*e*P	**Pn**	**21 34 38.4**	**+1.8**
ALNG				*e*S	**Sn**	**21 34 52.2**	**+1.8**
ITEV	**Isla Los Testi**	**0.94**	**313**	⇓*e*P	**Pn**	**21 34 36.4**	**-0.7**
ITEV				*e*S	**Sn**	**21 34 50.1**	**-1.2**
BUAY	**Buenos Aires**	**0.94**	**129**	*e*P	**Pn**	**21 34 39.2**	**+2.1**
BUAY				*e*S	**Sn**	**21 34 53.3**	**+2.0**
BUAY	**Buenos Aires**	**0.94**	**129**	*e*P	**Pn**	**21 34 39.2**	**+2.1**
BUAY				*e*S	**Sn**	**21 34 49.5**	**-1.9**
TRN	**Trinidad (W)**	**1.01**	**93**	*e*P	**Pn**	**21 34 37.4**	**-0.5**
TRN				*e*S	**Sn**	**21 34 49.9**	**-2.8**
TPP	**Pointe-a-Pierr**	**1.04**	**112**	*e*P	**Pn**	**21 34 38.6**	**+0.4**
TPP				*e*S	**Sn**	**21 34 51.2**	**-2.0**
TPP	**Pointe-a-Pierr**	**1.04**	**112**	*e*P	**Pn**	**21 34 38.6**	**+0.4**
TPP				*e*S	**Sn**	**21 34 51.2**	**-2.0**
SIPA	**Siparia**	**1.07**	**121**	*e*P	**Pn**	**21 34 39.5**	**+0.9**
SIPA				*e*S	**Sn**	**21 34 51.8**	**-2.1**
GRW	**Mount Saint Ca**	**1.63**	**28**	⇑*i*P	**Pn**	**21 34 45.8**	**+0.3**
GRW				*e*S	**Sn**	**21 35 07.3**	**+1.1**
GRHS	**Sauteurs**	**1.70**	**27**	⇓*i*P	**Pn**	**21 34 46.4**	**+0.1**
GRHS				*e*S	**Sn**	**21 35 07.1**	**-0.7**
GRIC	**Isle de Caille**	**1.78**	**28**	*e*P	**Pn**	**21 34 47.7**	**+0.4**
GRIC				*e*S	**Sn**	**21 35 10.1**	**+0.5**
GRSS	**Sisters**	**1.78**	**27**	*e*P	**Pn**	**21 34 47.7**	**+0.3**
GRSS				*e*S	**Sn**	**21 35 10.2**	**+0.6**
ORIV	**Oritupano**	**1.89**	**211**	⇑*e*P	**Pn**	**21 34 49.3**	**+0.5**
ORIV				*e*S	**Sn**	**21 35 12.8**	**+0.6**
GRCU	**Cariacou**	**2.00**	**29**	⇑*e*P	**Pn**	**21 34 50.6**	**+0.3**
GRCU				*e*S	**Sn**	**21 35 14.7**	**-0.1**
PCRV	**Puerto La Cruz**	**2.23**	**257**	P	**Pn**	**21 34 53.8**	**+0.5**
	229nm,0.3s,baz=52,slow=4.8,SNR=1490						
PCRV				S	**Sn**	**21 35 19.1**	**-1.1**
	222nm,0.3s,baz=230,slow=22,SNR=29						
PCRV	**Puerto La Cruz**	**2.23**	**257**	⇑*e*P	**Pn**	**21 34 53.8**	**+0.5**
PCRV				*e*S	**Sn**	**21 35 19.4**	**-0.8**
IBAV	**Isla La Blanqu**	**2.38**	**298**	⇓*e*P	**Pn**	**21 34 55.8**	**+0.5**
IBAV				*e*S	**Sn**	**21 35 23.7**	**-0.1**
FCV	**Fort Charlotte**	**2.70**	**25**	*e*P	**Pn**	**21 34 59.7**	**+0.1**
FCV				*e*S	**Sn**	**21 35 29.6**	**-1.9**
SVB	**Belmont**	**2.80**	**24**	*e*P	**Pn**	**21 35 01.0**	**+0.1**
SVB				*e*S	**Sn**	**21 35 34.4**	**+0.5**
SVV	**Soufriere Volc**	**2.86**	**25**	*e*P	**Pn**	**21 35 02.1**	**+0.4**
SSV	**Crater Summit**	**2.87**	**25**	*e*P	**Pn**	**21 35 02.2**	**+0.3**
SSV				*e*S	**Sn**	**21 35 33.5**	**-2.1**
GURV	**El Guri**	**3.00**	**192**	⇑*e*P	**Pn**	**21 35 03.0**	**-0.6**
GURV				*e*S	**Sn**	**21 35 35.2**	**-3.4**
CUPV	**Cœpira**	**3.36**	**259**	⇑*e*P	**Pn**	**21 35 09.1**	**+0.6**
CUPV				*e*S	**Sn**	**21 35 48.6**	**+1.2**
BIRV	**Birongo**	**3.78**	**267**	⇑*e*P	**Pn**	**21 35 15.3**	**+1.2**
ORCV	**Isla La Orchil**	**3.85**	**287**	*e*P	**Pn**	**21 35 15.2**	**0.0**
MERV	**Las Mercedes**	**4.07**	**250**	*e*P	**Pn**	**21 35 17.4**	**-0.7**
MERV				*e*S	**Sn**	**21 36 03.3**	**-1.3**
MVM	**Montagne Vaucl**	**4.11**	**21**	⇓*i*P	**Pn**	**21 35 18.3**	**-0.3**
MVM				*e*S	**Sn**	**21 36 06.3**	**+0.7**
FDF	**Fort de France**	**4.19**	**17**	⇑*e*P	**Pn**	**21 35 19.1**	**-0.7**
FDF				*e*S	**Sn**	**21 36 04.4**	**-3.3**
CRM	**Caravelle**	**4.29**	**20**	*e*P	**Pn**	**21 35 20.7**	**-0.4**
BBL	**Barber's Block**	**4.88**	**11**	*e*P	**Pn**	**21 35 27.0**	**-2.1**
CAOV	**Caicara del Or**	**5.10**	**229**	*e*S	**Sn**	**21 36 25.7**	**-4.1**
MGG	**Marie-Galante**	**5.29**	**12**	*e*P	**Pn**	**21 35 35.7**	**+1.0**
PHG	**Guadaloupe-2**	**5.33**	**8**	*e*P	**Pn**	**21 35 35.9**	**+0.7**
SCG	**Saint Claude**	**5.34**	**8**	*e*P	**Pn**	**21 35 36.2**	**+0.8**
SCG				*e*S	**Sn**	**21 36 36.0**	**+0.4**
DOG	**Dongo Capester**	**5.35**	**8**	*e*P	**Pn**	**21 35 36.9**	**+1.4**
LZG	**Guadaloupe-1**	**5.44**	**7**	*e*P	**Pn**	**21 35 38.1**	**+1.3**
DEG	**La Desirade**	**5.73**	**13**	*e*P	**Pn**	**21 35 41.4**	**+0.7**
SEG	**Port Louis**	**5.74**	**9**	*e*P	**Pn**	**21 35 42.0**	**+1.2**
SJG	**San Juan**	**8.20**	**334**	S	**Sn**	**21 37 36.7**	**-8.4**
	7.9nm,0.3s,baz=325,slow=18,SNR=6.6						
SDV	**Santo Domingo**	**8.28**	**258**	P	**Pn**	**21 36 13.8**	**-1.7**
	9.6nm,0.3s,baz=106,slow=8.2,SNR=48						
SDV				S	**Sn**	**21 37 42.1**	**-5.2**
	29nm,0.3s,baz=294,slow=21,SNR=19						
SDV	**Santo Domingo**	**8.28**	**258**	P	**Pn**	**21 36 13.8**	**-1.7**
SDV				S	**Sn**	**21 37 42.1**	**-5.2**
ROSC	**El Rosal**	**13.14**	**245**	P	**Pn**	**21 37 20.4**	**-0.8**
	1.5nm,0.3s,baz=284,slow=23,SNR=3.2						
OTAV	**Otavalo**	**19.02**	**238**	*e*P	**Pn**	**21 38 33.4**	**-1.2**
	15nm,1.1s						
SAML	**Samuel**	**19.54**	**182**	*e*P	**Pn**	**21 38 37.9**	**-2.8**
	5.6nm,0.8s						
ATAH	**Atahualpa**	**23.70**	**223**	P	**P**	**21 39 23.2**	**+1.4**
	12nm,0.7s,mb4.3,baz=72,slow=9.4,SNR=6.6						
SIV	**San Ignacio**	**26.56**	**177**	P	**P**	**21 39 48.8**	**+1.1**
	1.6nm,0.5s,mb3.8,baz=16,slow=8.0,SNR=8.0						
LPAZ	**La Paz**	**27.41**	**192**	P	**P**	**21 39 56.6**	**+1.3**
	1.6nm,0.7s,mb3.6,baz=359,slow=9.0,SNR=8.2						
LVC	**Limon Verde**	**33.71**	**191**	P	**P**	**21 40 51.1**	**+0.2**
	2.0nm,0.6s,mb4.1,baz=11,slow=9.0,SNR=3.3						
ULM	**Lac du Bonnet**	**48.09**	**332**	P	**P**	**21 42 47.7**	**-1.1**
	1.1nm,0.4s,mb4.1,baz=132,slow=8.6,SNR=3.0						
ULM	**Lac du Bonnet**	**48.09**	**332**	P	**P**	**21 42 47.7**	**-1.1**
PLCA	**Paso Flores**	**51.73**	**188**	P	**P**	**21 43 16.1**	**-0.2**
	1.0nm,0.8s,mb3.9,baz=17,slow=8.3,SNR=3.2						
PDAR	**Pinedale Array**	**51.88**	**317**	P	**P**	**21 43 16.1**	**-1.4**
	1.3nm,0.6s,mb4.2,baz=114,slow=9.0,SNR=7.0						
DBIC	**Dimbokro**	**56.99**	**89**	P	**P**	**21 43 54.4**	**-0.2**
	1.3nm,0.5s,mb4.2,baz=282,slow=9.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**62.65**	**81**	P	**P**	**21 44 33.2**	**0.0**
	1.9nm,0.5s,mb4.3,baz=289,slow=6.7,SNR=75						
GERES	**GERESS Array B**	**72.89**	**42**	P	**P**	**21 45 37.0**	**-0.6**
	0.7nm,0.8s,mb3.5,baz=284,slow=5.4,SNR=4.7						
FINES	**FINESS Array B**	**79.97**	**29**	P	**P**	**21 46 16.9**	**-0.7**
	0.9nm,0.5s,mb3.9,baz=231,slow=2.3,SNR=9.9						
BRTR	**Keskin Array B**	**87.86**	**50**	P	**P**	**21 46 58.0**	**+0.3**
	0.4nm,0.6s,mb3.6,baz=282,slow=4.7,SNR=3.4						

*CSEM **15** 21:47:42.9±0.1, 3753N×2267E, h80km, ML3.1, Error ellipse: s-maj=2.1km s-min=1.9km az=119.0*
*NEIC **15** 21:47:43.8, 3759N×2268E, h74km, MG3.1(ATH), After ATH.*
*ISCJB **15** 21:47:43.7±0.5, 3756N±003×2270E±004, h83km±8km, Error ellipse: s-maj=5.5km s-min=4.2km az=147.1*
*HLW **15** 21:47:43.2, 37.12N×2161E, h33km, Mb3.5*
*ATH **15** 21:47:43.8, 3759N×2268E, h74km±2km, ML3.1*
*THE **15** 21:47:45.5, 3758N×2274E, h22km, ML3.1*
ISC 15 21:47:44.8±0.5, 3756N±003×2270E±004, h74km±9km, n32, σ0§67/47, 3C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGER	**Gerania Oros**	**0.61**	**46**	*e*P	**Pn**	**21 47 58.7**	**-0.3**
NAIG	**Nisos Aigina**	**0.66**	**72**	*e*P	**Pn**	**21 47 59.5**	**+0.1**
ITM	**Ithomi**	**0.72**	**239**	*e*P	**Pn**	**21 48 00.0**	**-0.2**
ITM				*e*S	**Sn**	**21 48 12.0**	**+0.4**
VLI	**Veliai**	**0.86**	**167**	*e*P	**Pn**	**21 48 01.5**	**-0.2**
KVR	**Kavouri**	**0.89**	**72**	*e*P	**Pn**	**21 48 02.0**	**-0.1**
ATH	**Athens Observa**	**0.90**	**62**	*e*P	**Pn**	**21 48 02.0**	**-0.3**
ATH				*e*S	**Sn**	**21 48 15.3**	**0.0**
PTL	**Penteli**	**1.04**	**62**	*e*P	**Pn**	**21 48 04.0**	**0.0**
RLS	**Riolos of Patr**	**1.10**	**297**	*e*P	**Pn**	**21 48 03.9**	**-0.8**
RLS				*e*S	**Sn**	**21 48 19.0**	**-0.5**
LKR	**Lokris**	**1.12**	**12**	*e*P	**Pn**	**21 48 04.5**	**-0.4**
LKR				*e*S	**Sn**	**21 48 19.2**	**-0.7**
KYTH	**Kithira**	**1.30**	**168**	*e*P	**Pn**	**21 48 07.8**	**+0.6**
AGG	**Agios Georgios**	**1.49**	**349**	*e*Pg	**Pn**	**21 48 09.5**	**-0.2**
AGG				*e*Sg	**Sn**	**21 48 28.9**	**+0.4**
EVR	**Evrytania**	**1.53**	**333**	*e*P	**Pn**	**21 48 09.6**	**-0.6**
VLS	**Valsamata**	**1.78**	**291**	*e*P	**Pn**	**21 48 14.0**	**+0.4**
NEO	**Neokhori**	**1.79**	**13**	*e*P	**Pn**	**21 48 13.5**	**-0.2**
NEO				*e*S	**Sn**	**21 48 35.0**	**-0.7**
XOR	**Xorichti**	**1.85**	**12**	*e*Pb	**Pn**	**21 48 14.3**	**-0.1**
AOS	**Alonnisos**	**1.86**	**30**	*e*Pb	**Pn**	**21 48 14.3**	**-0.3**
LKD	**Levkas**	**1.98**	**306**	*e*Pn	**Pn**	**21 48 16.6**	**+0.3**
LKD				*e*Sn	**Sn**	**21 48 40.5**	**+0.2**
APE	**Apeiranthos**	**2.31**	**101**	*e*Pn	**Pn**	**21 48 21.2**	**+0.6**
APE	**Apeiranthos**	**2.31**	**101**	*e*P	**Pn**	**21 48 21.1**	**+0.5**
KARN	**Karanos**	**2.36**	**155**	*e*Pn	**Pn**	**21 48 22.1**	**+0.7**
KARN				*e*Sn	**Sn**	**21 48 50.4**	**+1.0**
VAM	**Vamos**	**2.46**	**150**	*e*P	**Pn**	**21 48 24.2**	**+1.5**
PAIG	**Paliouri**	**2.49**	**18**	*e*Pn	**Pn**	**21 48 22.8**	**-0.2**
PAIG				*e*Sn	**Sn**	**21 48 52.7**	**+0.3**
MEV	**Metsovon**	**2.51**	**333**	*e*Pn	**Pn**	**21 48 24.3**	**+1.0**
MEV				*e*Sn	**Sn**	**21 48 53.8**	**+1.0**
LIT	**Litokhoron**	**2.55**	**356**	*e*Pn	**Pn**	**21 48 23.5**	**-0.3**
LIT				*e*Sn	**Sn**	**21 48 53.7**	**-0.1**
CHOS	**Chios island**	**2.78**	**72**	*e*Pn	**Pn**	**21 48 27.9**	**+1.0**
CHOS				*e*Sn	**Sn**	**21 48 59.3**	**-0.1**
OUR	**Ouranopolis**	**2.95**	**19**	*e*Pn	**Pn**	**21 48 29.4**	**+0.1**
THE	**Thessaloniki**	**3.08**	**4**	*e*Pn	**Pn**	**21 48 30.9**	**-0.1**
SOH	**Sokhos**	**3.30**	**9**	*e*Pn	**Pn**	**21 48 34.5**	**+0.4**
KNT	**Kendrikon**	**3.60**	**2**	*e*Pn	**Pn**	**21 48 38.8**	**+0.6**
SLUM		**6.39**	**160**	⇑*i*P	**Pn**	**21 49 15.2**	**-1.1**
SLUM				S	**Sn**	**21 50 21.7**	**-6.1**
SWA2		**8.60**	**164**	⇑P	**Pn**	**21 49 44.4**	**-2.1**
SWA2				S	**Sn**	**21 51 13.2**	**-8.7**
SWA1		**8.64**	**162**	⇑P	**Pn**	**21 49 45.3**	**-1.7**
SWA1				S	**Sn**	**21 51 15.2**	**-7.7**

*IDC **15** 22:01:11.5±0.8, 5202N×17680E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.9/22, mbtmp4.1/8, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/26, Error ellipse: s-maj=35.5km s-min=22.3km az=138.0*
*NEIC **15** 22:01:13.3, 5195N×17698E, h5km, mb3.9/1, ML3.8(AEIC), After AEIC.*
*ISCJB **15** 22:01:15.7±1.0, 5188N±010×17698E±009, h42km±10km, mb4.1/7, MS3.0/2, Error ellipse: s-maj=17.4km s-min=7.5km az=36.9*
*MOS **15** 22:01:16.1±2.5, 5197N×17682E, h33km, mb4.4/3, Error ellipse: s-maj=43.3km s-min=23.8km az=112.0*
ISC 15 22:01:16.6±1.0, 519N±01×17696E±009, h38km±10km, n24, σ0§81/19, mb4.1/7, MS3.0/2, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.54**	**107**	P	**Pn**	**22 01 41.1**	**-0.3**
AMKA				S	**Sn**	**22 01 59.7**	**-0.4**
SMY	**Shemya**	**1.96**	**298**	P	**Pn**	**22 01 46.4**	**-0.9**
SMY				S	**Sn**	**22 02 11.3**	**+0.6**
ATKA	**Atka Island**	**5.47**	**83**	P	**Pn**	**22 02 36.2**	**+0.7**
BILL	**Bilibino**	**17.05**	**346**	*e*P	**Pn**	**22 05 12.8**	**+0.8**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s						
BILL	**Bilibino**	**17.05**	**346**	*e*Pn	**Pn**	**22 05 12.8**	**+0.7**
	comp=Z,11nm,1.0s						
KDAK	**Kodiak Island**	**18.42**	**59**	P	**Pn**	**22 05 29.3**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=216,slow=8.7,SNR=2.6						
ASAJ	**Asahikawa**	**24.09**	**265**	LR	LR	22 14 42.6	
	comp=Z,37nm,20.4s,MS2.9,baz=340,slow=34						
DAWY	**Dawson**	**25.60**	**45**	*e*P	**P**	**22 06 43.2**	**+1.0**
MJAR	**Matsushiro Arr**	**31.29**	**256**	LR	LR	22 18 42.8	
	comp=Z,46nm,19.6s,MS3.1,baz=260,slow=34						
YKA	**Yellowknife Ar**	**36.82**	**46**	P	**P**	**22 08 20.4**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.8,baz=283,slow=7.7,SNR=3.7						
SONM	**Songino Array**	**44.05**	**294**	P	**P**	**22 09 20.2**	**-0.5**
	comp=Z,1.0nm,0.6s,mb3.7,baz=61,slow=9.6,SNR=5.1						
MKAR	**Makanchi Array**	**57.64**	**306**	P	**P**	**22 11 01.4**	**-1.5**
	comp=Z,0.6nm,0.8s,mb3.7,baz=59,slow=6.9,SNR=5.7						
MKAR	**Makanchi Array**	**57.64**	**306**	P	**P**	**22 11 01.4**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SCHQ	**Schefferville**	**61.23**	**36**	P	**P**	**22 11 26.4**	**-1.3**
	comp=Z,1.8nm,0.9s,mb4.2,baz=294,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**80.59**	**220**	P	**P**	**22 13 26.2**	**+1.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=30,slow=5.8,SNR=22						
WRA	**Warramunga Arr**	**80.59**	**220**	P	**P**	**22 13 26.2**	**+1.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**84.11**	**219**	P	**P**	**22 13 44.3**	**+0.8**
	comp=Z,1.5nm,0.6s,mb4.3,baz=24,slow=5.5,SNR=8.9						
ASAR	**Alice Springs**	**84.11**	**219**	P	**P**	**22 13 44.3**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STKA	**Stephens Creek**	**88.96**	**210**	P	**P**	**22 14 07.1**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.5,baz=69,slow=8.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**115.15**	**355**	PKiKP	PKiKP	22 19 52.8	-0.9
	comp=Z,0.4nm,0.9s,baz=14,slow=2.6,SNR=4.0						
MAW	**Mawson**	**145.23**	**218**	PKPbc	PKPbc	22 20 49.3	-0.5
	comp=Z,1.4nm,0.5s,baz=87,slow=7.1,SNR=9.9						
MAW	**Mawson**	**145.23**	**218**	PKIKP	PKPdf	22 20 49.3	-0.8
MAW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOSA	**Boshof**	**148.64**	**307**	PKPbc	PKPbc	22 20 59.9	+0.4
	comp=Z,1.5nm,0.6s,baz=150,slow=17,SNR=3.6						
BOSA	**Boshof**	**148.64**	**307**	PKP2	PKPab	22 20 59.9	-3.2
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.6s						

**BJI 15

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.31	279	PN	Pn	22 55 50.8	-0.4
VRZ				SN	Sn	22 56 06.8	-0.6
VRZ	Vera Road	0.31	279	P	Pn	22 55 50.9	-0.4
FWVZ	Far West T-bar	0.32	105	PN	Pn	22 55 51.5	+0.2
FWVZ				SN	Sn	22 56 07.1	-0.3
WAZ	Wanganui	0.59	193	PN	Pn	22 55 52.8	+0.3
WAZ	Wanganui	0.59	193	P	Pn	22 55 52.9	+0.4
BKZ	Black Stump Fm	1.04	90	PN	Pn	22 55 55.4	-0.3
BKZ				SN	Sn	22 56 13.7	-1.5
BKZ	Black Stump Fm	1.04	90	*e*P	Pn	22 55 55.5	-0.2
BKZ				S	Sn	22 56 13.7	-1.5
TSZ	Takapari Road	1.08	145	PN	Pn	22 55 56.3	+0.3
TSZ				SN	Sn	22 56 15.2	-0.6
TSZ	Takapari Road	1.08	145	P	Pn	22 55 56.3	+0.3
TSZ				S	Sn	22 56 15.3	-0.5
MRZ	Mangatainoka R	1.52	168	PN	Pn	22 55 60.0	-0.3
MRZ	Mangatainoka R	1.52	168	P	Pn	22 56 00.0	-0.2
PXZ	Pawanui	1.57	123	PN	Pn	22 56 00.9	+0.1
KIW	Kapiti Island	1.69	186	PN	Pn	22 56 01.7	-0.4
KIW	Kapiti Island	1.69	186	P	Pn	22 56 01.7	-0.4
CAW	Cannon Point	1.93	182	PN	Pn	22 56 04.1	-0.6
CAW	Cannon Point	1.93	182	P	Pn	22 56 04.2	-0.5
MTW	Mount Morrison	2.00	172	PN	Pn	22 56 04.7	-0.7
MTW	Mount Morrison	2.00	172	P	Pn	22 56 04.8	-0.7
MRW	Makara Radio	2.08	190	PN	Pn	22 56 05.7	-0.8
MRW	Makara Radio	2.08	190	P	Pn	22 56 05.7	-0.7
TCW	Tory Channel	2.14	198	PN	Pn	22 56 06.3	-0.8
TCW	Tory Channel	2.14	198	P	Pn	22 56 06.4	-0.8
TRWZ	Traveller	2.26	170	PN	Pn	22 56 07.7	-0.8
TUWZ	Tuamarina	2.44	202	PN	Pn	22 56 09.3	-1.3
NNZ	Nelson	2.45	213	PN	Pn	22 56 09.5	-1.4
NNZ	Nelson	2.45	213	*e*P	Pn	22 56 09.5	-1.4
BSWZ	Blackbirch Sta	2.72	201	PN	Pn	22 56 13.0	-1.1
THZ	Tophouse	3.10	213	PN	Pn	22 56 17.5	-1.4
THZ	Tophouse	3.10	213	*e*P	Pn	22 56 18.0	-0.9
KHZ	Kahutara	3.46	200	PN	Pn	22 56 22.0	-1.5
KHZ	Kahutara	3.46	200	P	Pn	22 56 22.1	-1.4
LTZ	Lake Taylor	4.21	210	SN	Sn	22 57 16.6	-5.8
MQZ	McQueen's Vall	4.90	202	SN	Sn	22 57 31.2	-7.4

SZGRF ***15*** *22:55:37.9, 2244S×17691W, h33km, South of Fiji Islands*
CSEM ***15*** *22:55:45.0, 2081S×178.10W, h33km, mb5.6*
ISCJB ***15*** *22:56:24.5±0.9, 2121S±005×178.18W±004, h398km±10km, mb4.6/44, Error ellipse: s-maj=8.3km s-min=5.3km az=108.2*
NEIC ***15*** *22:56:26.6±1.0, 2121S×17806W, h414km±10km, mb4.6/34, Error ellipse: s-maj=10.0km s-min=6.4km az=145.0*
BJI ***15*** *22:56:26.6, 2120S×178.10W, h414km, mB5.1, mb4.9*
MOS ***15*** *22:56:27.3±2.8, 2114S×17823W, h410km, mb4.6/15, Error ellipse: s-maj=11.5km s-min=9.9km az=60.2*
IDC ***15*** *22:56:27.2±1.6, 2137S×17805W, h426km±15km, mb4.3/11, mb1 4.4/14, mb1mx4.3/18, mbtmp5.2/14, Error ellipse: s-maj=14.0km s-min=12.5km az=136.0*
ISC 15 22:56:28.4±1.0, 2135S±005×17811W±004, h429km±11km, n270, σ0°88/206, mb4.6/44, 45C-52D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.87	179	P	P	22 58 20.8	-1.4
	74nm,0.3s,baz=102,slow=21,SNR=5.0						
RAO				S	S	22 59 51.5	-3.9
	85nm,0.3s,baz=126,slow=23,SNR=3.1						
AFI	Afiamalu	9.54	40	P	P	22 58 35.1	-5.3
	20nm,0.3s,baz=114,slow=4.7,SNR=6.0						
AFI				S	S	23 00 15.0	-14
	31nm,0.3s,baz=53,slow=20,SNR=7.3						
DZM	Mont Dzumac	14.38	264	*e*P	P	22 59 34.9	+1.6
DZM	Mont Dzumac	14.38	264	P	P	22 59 34.7	+1.4
	3.9nm,0.3s,baz=77,slow=17,SNR=25						
NOUC	Port Laguerre	14.51	264	*e*P	P	22 59 37.1	+2.4
MXZ	Matakaoa Point	16.46	190	*e*PN	P	22 59 54.7	-0.8
PUZ	Puketiti	16.96	190	*e*PN	P	22 59 58.2	-2.7
PUZ				SN	S	23 02 58.1	+1.7
MWZ	Matawai	17.35	192	*e*PN	P	23 00 05.1	+0.2
URZ	Urewera	17.36	193	P	P	23 00 03.3	-1.7
	19nm,0.3s,baz=0.1,slow=2.0,SNR=38						
URZ				S	S	23 03 03.0	-1.0
	2.5nm,0.3s,baz=252,slow=19,SNR=6.2						
URZ	Urewera	17.36	193	PN	P	23 00 03.0	-2.0
SNZO	South Karori	20.81	195	*e*P	P	23 00 38.5	+0.2
	16nm,0.4s						
THZ	Tophouse	21.72	198	PN	P	23 00 46.7	+0.1
KHZ	Kahutara	22.15	197	PN	P	23 00 50.1	-0.4
HNR	Honiara	24.21	296	*e*P	P	23 01 10.4	+1.4
ARMA	Armidale	28.62	245	*e*P	P	23 01 49.8	+1.8
CNB	Canberra Magne	31.68	237	*e*P	P	23 02 16.5	+1.9
	47nm,0.7s,mb4.9						
CTA	Charters Tower	33.32	266	*e*P	P	23 02 29.3	+0.7
	20nm,0.6s,mb4.6						
CTA	Charters Tower	33.32	266	P	P	23 02 29.1	+0.5
	24nm,0.5s,mb4.8,baz=100,slow=11,SNR=35						
CTA	Charters Tower	33.32	266	*e*P	P	23 02 29.3	+0.7
CTA				pmax	pmax		
	comp=Z,20nm,0.6s						
CTAO	Charters Tower	33.32	266	*e*P	P	23 02 29.4	+0.8
CTAO				pmax	pmax		
	comp=Z,26nm,0.6s,mb4.7						
CTAO	Charters Tower	33.32	266	*e*P	P	23 02 29.4	+0.7
	comp=Z,26nm,0.6s,mb4.7						
TOO	Toolangi	35.33	235	*e*P	P	23 02 46.8	+1.2
	comp=Z,30nm,0.6s,mb4.8						
TOO	Toolangi	35.33	235	*e*P	P	23 02 46.8	+1.2
TOO				pmax	pmax		
	comp=Z,30nm,0.6s,mb4.8						
PMG	Port Moresby	35.44	284	P	P	23 02 46.6	0.0
	comp=Z,74nm,0.8s,mb5.1,baz=87,slow=5.9,SNR=16						
PMG	Port Moresby	35.44	284	*e*P	P	23 02 46.7	+0.1
PMG				pmax	pmax		
	comp=Z,46nm,0.6s						
PMG	Port Moresby	35.44	284	*e*P	P	23 02 46.7	+0.1
	comp=Z,46nm,0.6s,mb5.0						
STKA	Stephens Creek	37.34	245	P	P	23 03 01.0	-1.4
	comp=Z,7.7nm,0.5s,mb4.3,baz=93,slow=9.3,SNR=23						
STKA				PcP	PcP	23 05 09.4	-1.3
	comp=Z,3.6nm,0.5s,baz=95,slow=5.8,SNR=3.5						
STKA	Stephens Creek	37.34	245	⇓*i*P	P	23 03 01.1	-1.3
	comp=Z,5.9nm,0.4s,mb4.3						
STKA				*e*P		23 03 01.3	
STKA				*e*S	S	23 08 15.0	-3.1
AS31	Alice Springs	44.23	258	*e*P	P	23 03 57.8	0.0
AS31				*e*S	S	23 09 57.6	-1.1
ASAR	Alice Springs	44.24	258	P	P	23 03 57.9	+0.1
	comp=Z,19nm,0.6s,mb4.6,baz=99,slow=7.9,SNR=210						
ASAR				PcP	PcP	23 05 33.5	+0.1
	comp=Z,4.8nm,0.7s,baz=104,slow=3.8,SNR=8.8						
ASAR				ScP	ScP	23 08 45.9	+2.2
	comp=Z,1.6nm,0.7s,baz=103,slow=3.8,SNR=5.7						
ASAR				S	S	23 09 58.2	-0.5
	comp=Z,2.0nm,0.7s,baz=95,slow=16,SNR=8.4						
ASAR	Alice Springs	44.24	258	P	P	23 03 57.9	+0.1
ASAR						23 05 33.6	
ASAR				S	S	23 09 58.2	-0.5
ASPA	Alice Springs	44.24	258	*e*P	P	23 03 57.8	0.0
ASPA				*e*S	S	23 09 57.6	-1.1
WB2	Warramunga Arr	44.38	263	⇓*i*P	P	23 03 58.3	-0.6
WB2				*e*S	S	23 09 53.1	-7.7
WRAB	Tennant Creek	44.38	263	*e*/*i*P	P	23 03 58.3	-0.6
WRA	Warramunga Arr	44.39	263	P	P	23 03 58.5	-0.5
	comp=Z,20nm,0.7s,mb4.5,baz=96,slow=7.9,SNR=100						
KAKA	Kakadu	47.90	272	*e*P	P	23 04 25.4	-0.5
	comp=Z,26nm,0.6s,mb4.7						
FORT	Forrest	48.87	247	*e*P	P	23 04 31.4	-1.8
	comp=Z,70nm,0.5s,mb5.2						
FORT				*e*PCP	PcP	23 05 55.9	+5.9
FITZ	Fitzroy Crossi	52.82	263	*e*P	P	23 05 02.2	+0.1
	comp=Z,17nm,0.6s,mb4.5						
SBA	Scott Base	57.02	184	*e*P	P	23 05 34.5	+2.7
SBA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.2						
SBA	Scott Base	57.02	184	*e*P	P	23 05 34.5	+2.7
	comp=Z,8.2nm,0.7s,mb4.2						
VNDA	Vanda	57.06	185	P	P	23 05 33.2	+1.2
	comp=Z,2.8nm,0.6s,mb3.7,baz=353,slow=7.4,SNR=15						
VNDA				ScP	ScP	23 09 39.2	+0.4
	comp=Z,2.3nm,0.8s,baz=323,slow=5.1,SNR=7.0						
VNDA	Vanda	57.06	185	*e*P	P	23 05 33.7	+1.7
VNDA				pmax	pmax		
	comp=Z,30nm,0.9s						
VNDA	Vanda	57.06	185	*e*P	P	23 05 33.7	+1.7
	comp=Z,2.8nm,0.9s,mb3.6						
VNDA				ScP	ScP	23 09 39.2	+0.3
MBWA	Marble Bar	57.58	258	*e*P	P	23 05 35.4	-0.2
	comp=Z,55nm,0.6s,mb5.1						
KLBR	Kellerberrin	57.61	245	*e*P	P	23 05 35.6	-0.2
	comp=Z,68nm,0.9s,mb5.0						
NWAO	Narrogin (SRO)	57.91	244	*e*P	P	23 05 38.3	+0.5
NWAO				pmax	pmax		
	comp=Z,13nm,0.7s						
NWAO	Narrogin (SRO)	57.91	244	*e*P	P	23 05 38.3	+0.5
	comp=Z,13nm,0.7s,mb4.4						
MUN	Mundaring	58.88	245	⇓*i*P	P	23 05 44.7	+0.3
QSPA	South Pole Qui	68.73	180	*e*P	P	23 06 49.0	+1.3
MJAR	Matsushiro Arr	70.83	324	P	P	23 06 59.2	-1.1
	comp=Z,5.5nm,0.5s,mb4.3,baz=154,slow=5.9,SNR=19						
MAJO	Matsushiro	70.83	324	*e*P	P	23 06 59.9	-0.5
ATKA	Atka Island	73.31	3	*e*P	P	23 07 13.2	-1.6
KSM	Kuching	73.43	278	*e*P	P	23 07 16.1	+0.6
ASAJ	Asahikawa	74.42	332	P	P	23 07 21.9	+0.7
	comp=Z,22nm,0.6s,mb5.0,baz=208,slow=7.2,SNR=8.4						
YSS	Yuzh-Sakhalins	76.60	334	⇑*e*P	P	23 07 33.8	+0.4
YSS				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.9						
KS15	Wonju Array Si	77.47	319	*e*P	P	23 07 37.1	-1.0
HAST	Hastings Reser	78.41	43	⇓P	P	23 07 43.9	+0.6
	baz=78						
PKD	Parkfield	78.80	44	⇓P	P	23 07 45.5	+0.2
	baz=79						
U04C	Hernandez Rese	78.89	44	⇓P	P	23 07 46.8	+0.9
	baz=79						
PACP	Pacheco Peak	78.96	43	⇑P	P	23 07 46.8	+0.6
	baz=79						
WENL	Wente Brothers	79.03	42	⇓P	P	23 07 47.1	+0.5
	baz=79						
CVS	Carmenet Viney	79.04	41	⇓P	P	23 07 46.5	-0.2
	baz=79						
HOPS	Hopland	79.07	41	⇑P	P	23 07 47.1	+0.3
	baz=79						
P01C	Double 8 Ranch	79.21	40	⇑P	P	23 07 47.7	+0.2
	baz=79						
S04C	Ingram Canyon,	79.23	43	⇑P	P	23 07 47.9	+0.2
	baz=79						
O01C	Eel River Cons	79.35	39	⇓P	P	23 07 48.8	+0.5
	baz=79						
MNRC	McLaughlin Nat	79.38	41	⇑P	P	23 07 49.0	+0.6
	baz=80,SNR=5.1						
GASB	Alder Springs	79.70	40	⇓P	P	23 07 51.1	+0.9
	baz=80,SNR=5.8						
O02C	Red Bluff	79.99	40	P	P	23 07 52.6	+1.0
	baz=80,SNR=9.2						
ISA	Isabella	79.99	46	P	P	23 07 50.9	-0.8
ISA	Isabella	79.99	46	⇑P	P	23 07 51.9	+0.2
	baz=80						
N02C	Big Bar	80.08	39	⇓P	P	23 07 52.2	0.0
	baz=80						
KGM	Kluang	80.10	276	P	P	23 07 54.5	+2.2
CMB	Columbia Colle	80.15	43	*e*P	P	23 07 52.8	+0.3
CMB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
CMB	Columbia Colle	80.15	43	*e*P	P	23 07 52.8	+0.3
	comp=Z,3.7nm,0.8s,mb4.1						
CMB	Columbia Colle	80.15	43	⇑P	P	23 07 52.8	+0.2
	baz=80						
PFO	Pinyon Flat Ob	80.21	48	⇓P	P	23 07 53.0	+0.2
	baz=80						
LAVA	Lava Cap Winer	80.36	42	⇓P	P	23 07 53.7	0.0
	baz=80						
ORV	Oroville	80.38	41	⇓P	P	23 07 53.5	-0.2
	baz=80						
WDC	Whiskeytown Da	80.38	40	*e*P	P	23 07 53.7	-0.1
WDC				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
WDC	Whiskeytown Da	80.38	40	*e*P	P	23 07 53.7	-0.1
	comp=Z,7.3nm,1.0s,mb4.3						
WDC	Whiskeytown Da	80.38	40	⇓P	P	23 07 53.8	0.0
	baz=80						
S06C	San Francisco	80.39	43	⇓P	P	23 07 53.7	-0.1
	baz=80						
PMSA	Palmer Station	80.55	157	P	P	23 07 49.6	-5.1
M02C	Callahan	80.71	39	⇓P	P	23 07 56.3	+0.8
	baz=81,SNR=11						
R05C	Kirkwood Meado	80.74	42	⇓P	P	23 07 56.2	+0.6
	baz=81						
MAW	Mawson	80.74	200	P	P	23 07 55.3	-0.3
	comp=Z,5.0nm,0.7s,mb4.3,baz=171,slow=8.8,SNR=8.8						
MAW	Mawson	80.74	200	*e*P	P	23 07 54.3	-1.3
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAW	Mawson	80.74	200	*e*P	P	23 07 54.3	-1.3
	comp=Z,7.4nm,1.0s,mb4.4						
L02A	Cave Junction	80.77	38	⇑P	P	23 07 55.8	0.0
	baz=81						
GSC	Goldstone	80.91	47	⇓P	P	23 07 56.8	+0.3
	baz=81						
YBH	Yreka Blue Hor	81.01	39	*e*P	P	23 07 57.2	+0.2
YBH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YBH	Yreka Blue Hor	81.01	39	*e*P	P	23 07 57.2	+0.2
	comp=Z,8.8nm,0.8s,mb4.5						
YBH	Yreka Blue Hor	81.01	39	⇑P	P	23 07 57.4	+0.4
	baz=81,SNR=14						
GLA	Glamis	81.05	49	⇓P	P	23 07 58.2	+0.9
	baz=81						
M03C	McCloud	81.06	39	⇓P	P	23 07 57.6	+0.3
	baz=81						
HABR	Khabarovsk	81.13	331	*e*P	P	23 07 58.5	+0.8
HABR				S	S	23 17 31.1	+0.1
MDJ	Mudanjiang	81.15	325	*e*P	P	23 07 56.4	-1.3
	comp=Z,13nm,1.0s,mb4.6						
HATC	Hat Creek Radi	81.18	40	⇓P	P	23 07 58.4	+0.5
	baz=81						
K02A	Glendale	81.22	37	⇓P	P	23 07 58.1	0.0
	baz=81						
S08C	White Mtn Res	81.25	44	⇑P	P	23 07 58.9	+0.6
	baz=81,SNR=14						
WCN	Washoe City	81.30	42	⇑P	P	23 07 58.8	+0.2
	baz=81						
HUMO	Hull Mountain	81.42	38	*e*P	P	23 07 59.5	+0.4
	comp=Z,10nm,1.1s,mb4.5						
HUMO	Hull Mountain	81.42	38	⇓P	P	23 07 59.7	+0.5
	baz=82,SNR=9.7						
M04C	Macdoel	81.55	39	⇑P	P	23 08 00.2	+0.4
	baz=82						
J02A	Umpqua	81.56	37	⇓P	P	23 07 59.7	-0.2
	baz=82						
TUQ	Turquoise Mtn.	81.58	47	⇓P	P	23 08 00.5	+0.5
	baz=82						
KDAK	Kodiak Island	81.66	13	P	P	23 07 58.3	-2.1
	comp=Z,6.4nm,0.6s,mb4.5,baz=207,slow=2.3,SNR=5.2						
L04A	Klamath Falls	81.76	39	⇑P	P	23 08 01.1	+0.2
	baz=82						
O06A	Flanigan	81.77	41	⇓P	P	23 08 01.2	+0.2
	baz=82,SNR=6.2						
I02A	Mapleton	81.82	36	⇑P	P	23 08 00.6	-0.6
	baz=82						
S09A	Goldfield	82.00	44	⇑P	P	23 08 02.0	-0.1
	baz=82						
Y13A	Salome	82.16	49	⇑P	P	23 08 03.7	+0.7
	baz=82						
Q08A	Gabbs	82.19	43	P	P	23 08 03.2	+0.1
	baz=82,SNR=7.9						
TPH	Tonopah	82.20	44	*e*P	P	23 08 03.2	0.0
TPH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
TPH	Tonopah	82.20	44	*e*P	P	23 08 03.2	0.0
	comp=Z,13nm,1.0s,mb4.6						
O07A	Toulon	82.35	42	⇓P	P	23 08 03.9	-0.1
	baz=82,SNR=16						
MOD	Modoc	82.53	40	*e*P	P	23 08 05.0	+0.1
	comp=Z,10nm,0.9s,mb4.6						
Z14A	Wintersburg	82.54	50	⇓P	P	23 08 05.8	+0.9
	baz=83,SNR=6.0						
H03A	Soap Creek Ran	82.55	36	⇑P	P	23 08 04.6	-0.4
	baz=83						
X13A	Yuma	82.57	49	⇑P	P	23 08 05.6	+0.5
	baz=83,SNR=7.1						
Q09A	Carvers	82.65	43	⇑P	P	23 08 05.4	-0.1
	baz=83						
Y14A	Wickenburg	82.81	49	⇓P	P	23 08 06.6	+0.3
	baz=83,SNR=5.8						
WHN	Wuhan	82.86	307	⇑P	P	23 08 07.5	+0.9
M07A	Soldier Meadow	82.90	41	⇓P	P	23 08 06.8	+0.1
	baz=83,SNR=6.5						
CN2	Changchun	82.91	323	*e*P	P	23 08 06.8	0.0
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
116A	Eloy	83.03	51	⇑P	P	23 08 08.2	+0.8
	baz=83						
P09A	Austin	83.09	43	⇓P	P	23 08 07.7	0.0
	baz=83						
K06A	Valley Falls	83.10	39	P	P	23 08 08.1	+0.3
	baz=83,SNR=12						
IPM	Ipoh	83.14	277	P	P	23 08 08.7	+0.8
H04A	Detroit Lake	83.16	37	⇓P	P	23 08 07.5	-0.5
	baz=83,SNR=5.4						
X14A	Yava	83.17	49	⇑P	P	23 08 08.9	+0.8
	baz=83,SNR=6.1						
N08A	GE Springer Mi	83.18	41	⇑P	P	23 08 08.2	0.0
	baz=83,SNR=16						
KLR	Kul'dur	83.20	330	*e*P	P	23 08 05.2	-3.1
O09A	Fish Creek Ran	83.41	42	⇓P	P	23 08 09.2	-0.1
	baz=84,SNR=5.8						
M08A	Happy Creek Ra	83.42	41	⇑P	P	23 08 09.5	+0.2
	baz=84						
W14A	Seligman	83.42	48	P	P	23 08 10.4	+1.1
	baz=84,SNR=9.5						
J06A	Christmas Vall	83.43	39	⇑P	P	23 08 09.2	-0.3
	baz=84						
E03A	Lebam	83.61	34	⇓P	P	23 08 10.0	-0.3
	baz=84						
K07A	Rock Creek Ran	83.62	39	⇑P	P	23 08 10.6	+0.2
	baz=84,SNR=10						
X15A	Humboldt	83.63	49	⇓P	P	23 08 11.0	+0.6
	baz=84,SNR=6.2						
Q11A	Duckwater	83.65	44	P	P	23 08 10.9	+0.4
	baz=84,SNR=6.4						
H05A	Madras	83.67	37	⇓P	P	23 08 10.4	-0.2
	baz=84						
TIA	Tai'an	83.77	313	*e*P	P	23 08 11.0	-0.1
KULM	Kulim	83.79	278	*e*P	P	23 08 12.4	+1.2
I06A	Prineville	83.82	38	⇑P	P	23 08 11.7	+0.4
	baz=84,SNR=16						
F04A	Amboy	83.82	35	⇓P	P	23 08 10.9	-0.4
	baz=84						
M09A	Marrel Ranch,	83.97	41	⇓P	P	23 08 12.3	+0.2
	baz=84,SNR=5.5						
L09A	Wilkinson Ranc	84.18	41	⇓P	P	23 08 13.1	0.0
	baz=84						
O11A	Cowboy Ranch,	84.36	43	⇑P	P	23 08 14.1	+0.1
	baz=84						
PSI	Prapat	84.47	275	P	P	23 08 13.9	-0.7
	comp=Z,25nm,0.8s,mb5.0,baz=135,slow=2.7,SNR=29						
P12A	McGill	84.47	44	⇑P	P	23 08 14.6	0.0
	baz=84						
MA2	Magadan	84.57	345	*i*P	P	23 08 13.9	-1.2
MA2				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
MA2	Magadan	84.57	345	*e*P	P	23 08 13.0	-2.0
E05A	Randle	84.57	35	⇑P	P	23 08 14.5	-0.6
	baz=85						
M10A	I.L. Ranch, Tu	84.58	42	⇑P	P	23 08 15.4	+0.3
	baz=85						
D05A	Enumclaw	84.85	35	⇓P	P	23 08 16.2	-0.2
	baz=85						
N12A	Wells--Clov Va	85.15	43	⇑P	P	23 08 17.7	-0.2
	baz=85						
C05A	Tolt Reservoir	85.32	34	⇓P	P	23 08 18.2	-0.5
	baz=85						
A04A	Legoe Bay, Lum	85.44	33	⇓P	P	23 08 19.0	-0.4
	baz=86						
B05A	Bryant	85.46	34	⇓P	P	23 08 19.1	-0.4
	baz=86						
M12A	Wells	85.54	42	⇓P	P	23 08 19.7	-0.1
	baz=86						
N13A	West Wendover	85.68	43	⇑P	P	23 08 20.7	+0.2
	baz=86						
TTA	Tatalina	85.79	10	*e*P	P	23 08 19.7	-1.3
TTA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
TTA	Tatalina	85.79	10	*e*P	P	23 08 19.7	-1.3
	comp=Z,10nm,1.0s,mb4.5						
PMR	Palmer	85.86	13	P	P	23 08 20.1	-1.3
M13A	Montello	85.98	43	⇓P	P	23 08 22.0	0.0
	baz=86						
HLID	Hailey	87.03	41	*e*P	P	23 08 27.0	+0.1
	comp=Z,1.5nm,0.6s,mb3.9						
LAZ	Ladron	87.26	51	*e*P	P	23 08 27.2	-0.8
MNTX	Cornudas Mount	87.32	55	*e*P	P	23 08 28.1	-0.1
	comp=Z,17nm,1.4s,mb4.6						
MCK	McKinley	87.81	13	*e*P	P	23 08 29.0	-1.6
MCK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
MCK	McKinley	87.81	13	*e*P	P	23 08 29.0	-1.6
	comp=Z,3.5nm,0.5s,mb4.3						
PV10	Paradox Valley	87.82	47	*e*P	P	23 08 30.5	-0.2
VNA1	Neumayer--Stat	87.98	177	*e*P	P	23 08 31.8	+0.4
VNA1				*e*		23 08 34.8	
ANMO	Albuquerque	88.01	51	⇓*e*P	P	23 08 31.8	+0.3
ANMO	Albuquerque	88.01	51	*e*P	P	23 08 30.8	-0.7
	comp=Z,4.2nm,1.3s,mb4.0						
PV01	Paradox Valley	88.02	48	*e*P	P	23 08 31.2	-0.4
NEW	Newport	88.11	36	*e*P	P	23 08 30.6	-1.4
MCMT	McKenzie Canyo	88.66	40	*e*P	P	23 08 34.8	+0.3
COLA	College	89.05	12	⇑*e*P	P	23 08 34.2	-2.2
COLA	College	89.05	12	*e*P	P	23 08 33.9	-2.5
	comp=Z,15nm,0.8s,mb4.8						
HIA	Hailar	89.32	325	*i*P	P	23 08 35.7	-2.0
IMW	Indian Meadow	89.34	42	*e*P	P	23 08 37.9	+0.2
	comp=Z,12nm,0.9s,mb4.6						
LOHW	Long Hollow	89.41	42	*e*P	P	23 08 38.2	+0.2
	comp=Z,2.9nm,0.6s,mb4.2						
FLWY	Flagg Ranch	89.58	42	*e*P	P	23 08 39.2	+0.3
	comp=Z,8.2nm,0.9s,mb4.6						
PDAR	Pinedale Array	89.64	43	P	P	23 08 38.9	-0.2
	comp=Z,5

ANTO	**Ankara**	**147.85**	**312**	*e*PKIKP	PKPbc	23 15 23.4	-0.6
KOLS	**Kolonicke sedl**	**148.03**	**334**	*e*PKP	PKPbc	23 15 24.2	-0.2
KOLS				*e*		23 15 28.4	
STHS	**Stebnicka Huta**	**148.05**	**336**	*e*PKP	PKPbc	23 15 24.9	+0.4
STHS				*e*		23 15 28.8	
MMAI	**Mount Meron Ar**	**148.14**	**299**	PKPbc	PKPbc	23 15 25.2	+0.5
	comp=Z,32nm,0.5s,baz=74,slow=6.3,SNR=91						
CRVS	**Cervenica-Dubn**	**148.38**	**335**	*e*PKP	PKPbc	23 15 26.4	+1.1
CRVS				*e*		23 15 29.7	
KSP	**Ksiaz**	**148.47**	**342**	*e*PKHKP	PKPbc	23 15 24.8	-0.7
OKC	**Ostrava-Krasne**	**148.79**	**340⇑**	*e*PKPB	PKPbc	23 15 26.6	+0.3
OKC				*e*PKPAB	PKPab	23 15 32.3	+0.6
OKC	**Ostrava-Krasne**	**148.79**	**340**	*e*PKP	PKPbc	23 15 26.6	+0.3
OKC				*e*		23 15 32.3	
UPC	**Upice**	**148.85**	**342⇑**	*e*PKPB	PKPbc	23 15 25.6	-0.9
UPC				*e*PKPAB	PKPab	23 15 32.9	+0.9
CLL	**Collm**	**148.86**	**346**	*e*PKPbc	PKPbc	23 15 25.3	-1.2
CLL				*e*PKPab	PKPab	23 15 31.1	-0.9
CLL	**Collm**	**148.86**	**346⇓**	*i*PKPbc	PKPbc	23 15 25.4	-1.1
	comp=Z,33nm,0.7s						
CLL				⇑*i*PKPab	PKPab	23 15 31.2	-0.8
	comp=Z,22nm,0.9s						
MLR	**Muntele Rosu**	**148.87**	**326**	PKPbc	PKPbc	23 15 24.9	-1.6
	comp=Z,5.3nm,0.4s,baz=134,slow=22,SNR=6.1						
DPC	**Dobruska-Polom**	**148.90**	**342⇑**	*e*PKPB	PKPbc	23 15 26.1	-0.5
DPC				*e*PKPAB	PKPab	23 15 32.8	+0.6
BRG	**Berggiesshubel**	**149.05**	**345**	*e*PKPbc	PKPbc	23 15 25.7	-1.3
BRG	**Berggiesshubel**	**149.05**	**345**	*i* PKP	PKPbc	23 15 25.9	-1.1
	comp=Z,6.0nm,0.8s						
BRG				*i*		23 15 32.2	
	comp=Z,7.6nm,0.7s						
KECS	**Kecovo**	**149.10**	**336**	*e*PKP	PKPbc	23 15 27.4	+0.3
KECS				*e*		23 15 33.0	
FBE	**Freiberg**	**149.14**	**346**	*e*PKPbc	PKPbc	23 15 26.4	-0.8
FBE				*e*PKPab	PKPab	23 15 32.7	-0.5
GTTG	**Gvttingen**	**149.21**	**350**	*e*PKPab	PKPab	23 15 32.4	-1.1
PVCC	**Panska Ves**	**149.21**	**344⇑**	*e*PKPB	PKPbc	23 15 27.0	-0.4
PVCC				*e*PKPAB	PKPab	23 15 33.6	+0.1
VYHS	**Vyhne**	**149.70**	**337**	*e*PKP	PKPbc	23 15 27.8	-0.7
VYHS				*e*		23 15 35.3	
VYHS				*e*		23 36 17.9	
VYHS	**Vyhne**	**149.70**	**337**	*e*PKHKP	PKPbc	23 15 27.8	-0.7
VYHS				*e*		23 15 35.4	
VYHS	**Vyhne**	**149.70**	**337**	*e*PKP	PKPbc	23 15 27.8	-0.7
VYHS				*e*		23 15 35.4	
VYHS				*e*		23 36 17.9	
PRU	**Pruhonice**	**149.72**	**344⇑**	*e*PKPB	PKPbc	23 15 27.7	-0.9
PRU				*e*PKPAB	PKPab	23 15 35.4	-0.2
MOX	**Moxa**	**149.78**	**348**	*e*PKPbc	PKPbc	23 15 27.4	-1.3
MOX				*e*PKPab	PKPab	23 15 35.0	-0.8
MOX	**Moxa**	**149.78**	**348**	*e*PKP	PKPbc	23 15 27.6	-1.1
KOLL	**Kolacno**	**149.78**	**338**	*e*PKP	PKPbc	23 15 28.1	-0.6
KOLL				*e*		23 15 36.3	
TANN	**Tannenbergstha**	**149.82**	**347**	*e*PKPbc	PKPbc	23 15 27.8	-1.0
WERD	**Werda**	**149.82**	**347**	*e*PKPbc	PKPbc	23 15 27.6	-1.2
WERD				*e*PKPab	PKPab	23 15 35.4	-0.6
WERN	**Wernitzgruen**	**149.96**	**347**	*e*PKPab	PKPab	23 15 36.4	-0.2
TREC	**Trest**	**150.09**	**342⇑**	*e*PKPB	PKPbc	23 15 28.7	-0.7
TREC				*e*PKPAB	PKPab	23 15 36.9	-0.2
SMOL	**Smolenice**	**150.17**	**339**	*e*PKP	PKPbc	23 15 30.0	+0.4
SMOL				*e*		23 15 38.0	
SMOL	**Smolenice**	**150.17**	**339**	*e*PKP	PKPbc	23 15 30.0	+0.4
SMOL				*e*		23 15 38.0	
MANZ	**Manzenberg**	**150.30**	**347**	*e*PKPbc	PKPbc	23 15 29.0	-0.9
ROTZ	**Rotzenmuhle**	**150.48**	**346**	*e*PKPbc	PKPbc	23 15 29.4	-1.0
ZST	**Bratislava**	**150.56**	**339**	*e*PKP	PKPbc	23 15 30.0	-0.5
ZST				*e*		23 15 39.3	
ZST				*e*		23 36 56.7	
ZST	**Bratislava**	**150.56**	**339**	*e*PKIKP	PKPbc	23 15 30.0	-0.5
ZST				*e*		23 15 39.3	
TNS	**Taunus Mts**	**150.72**	**351**	*e*PKPbc	PKPbc	23 15 29.8	-1.1
TNS				*e*PKPab	PKPab	23 15 38.9	-0.9
KHC	**Kasperske Hory**	**150.75**	**344⇑**	*e*PKPB	PKPbc	23 15 30.3	-0.7
KHC				*e*PKPAB	PKPab	23 15 40.1	+0.2
GRF	**Grafenberg Arr**	**150.76**	**348**	*e*PKPbc	PKPbc	23 15 29.5	-1.5
GERES	**GERESS Array B**	**150.98**	**344**	PKPbc	PKPbc	23 15 30.0	-1.6
	comp=Z,7.8nm,0.6s,baz=35,slow=2.5,SNR=25						
GIVF	**Givet**	**151.21**	**356**	*e*PKP1	PKPbc	23 15 30.7	-1.3
	comp=Z,27nm,0.7s						
BAIF	**Baives**	**151.29**	**357**	*e*PKP1	PKPbc	23 15 30.9	-1.3
	comp=Z,15nm,0.7s						
FUR	**Furstenfeldbru**	**152.20**	**346**	*e*PKPab	PKPab	23 15 45.1	-0.9
CDF	**Champ du Feu**	**152.65**	**352**	*e*PKP1	PKPbc	23 15 33.8	-1.5
	comp=Z,10nm,0.7s						
MEZF	**Maizieres J'vi**	**152.79**	**355**	*e*PKP1	PKPbc	23 15 34.4	-1.1
	comp=Z,18nm,0.9s						
HAU	**Haudompre**	**153.16**	**353**	*e*PKP1	PKPbc	23 15 35.7	-0.7
LJU	**Ljubljana**	**153.29**	**340**	*e*PKPbc	PKPbc	23 15 36.3	-0.3
ROBS	**Robic**	**153.41**	**342**	*e*PKPbc	PKPbc	23 15 36.0	-0.9
BOJS	**Bojanci**	**153.53**	**339**	*e*PKPbc	PKPbc	23 15 36.4	-0.8
DAVOX	**Davos**	**153.81**	**348**	PKPbc	PKPbc	23 15 37.2	-0.6
	comp=Z,8.0nm,0.5s,baz=216,slow=3.6,SNR=6.5						
DAVOX	**Davos**	**153.81**	**348**	PKPbc	PKPbc	23 15 37.2	-0.6
LOR	**Lormes**	**154.09**	**357**	*e*PKP1	PKPbc	23 15 36.8	-1.5
	comp=Z,13nm,0.9s						
TORD	**Torodi Ar. Bea**	**171.84**	**179**	PKP	PKPdf	23 15 45.6	-0.9
	comp=Z,2.2nm,0.8s,baz=338,slow=0.2,SNR=17						
TORD				PKPab	PKPab	23 17 12.6	+0.7
	comp=Z,1.3nm,0.7s,baz=192,slow=3.2,SNR=8.6						

*IDC **15** 23:00:15.0±1.4,3163N×4975E,h0km,mb3.7/7,mb1 3.8/9, mb1mx3.6/23,mbtmp3.7/9,ML3.7/2,Error ellipse: s-maj=30.4km s-min=23.3km az=170.0*
*KISR **15** 23:00:18.4±0.7,3156N×4991E,h33km,ML3.2*
*THR **15** 23:00:20.3±1.1,3158N×4979E,h45km±7km,ML3.1*
*ISCJB **15** 23:00:20.0±0.3,3162N±003×4988E±004,h33km,mb3.6/7, Error ellipse: s-maj=5.7km s-min=3.4km az=85.2*
*CSEM **15** 23:00:20.7±0.1,3160N×4985E,h45km,ML3.1,Error ellipse: s-maj=2.2km s-min=1.2km az=131.0*
*NEIC **15** 23:00:21.2,3150N×4980E,h32km,MN3.3(TEH),After TEH.*

ISC 15 23:00:21.6±0.3,**3161N**±003×**4986E**±004,**h35**km,**n51**, σ**1**§**18**/62,**mb3.6/7**,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.03**	**299**	*e*PG	**Pn**	**23 00 39.3**	**-0.2**
SHGR				AML	AML	23 01 03.0	
	comp=E,570nm,0.4s						
SHGR				AML	AML	23 01 17.6	
	comp=N,421nm,0.4s						
IPIR	**Pirpir**	**1.38**	**39**	Pn	**Pn**	**23 00 42.7**	**-1.7**
IPIR				Sn	**Sn**	**23 01 03.5**	**+2.1**
IKLH	**Kalahroud**	**2.24**	**40**	Pn	**Pn**	**23 00 57.5**	**+1.3**
IZEF	**Zefreh**	**2.45**	**58**	Pn	**Pn**	**23 00 59.7**	**+0.6**
UMR	**Umm Al-Rimmam**	**2.76**	**223**	*e*P	**Pn**	**23 01 03.4**	**0.0**
UMR				AML	AML	23 01 38.6	
	comp=Z,89nm,0.2s						
NASN	**Na'in**	**2.76**	**64**	*e*PN	**Pn**	**23 01 04.5**	**+1.1**
NASN				*e*SG	**Sn**	**23 01 47.4**	**+12**
MIB	**Mutribah**	**2.82**	**231**	*e*P	**Pn**	**23 01 04.4**	**+0.2**
MIB				*e*S	**Sn**	**23 01 38.8**	**+1.8**
MIB				AML	AML	23 01 49.5	
	comp=Z,39nm,0.3s						
MIB	**Mutribah**	**2.82**	**231**	*e*P	**Pn**	**23 01 04.4**	**+0.2**
MIB				*e*S	**Sn**	**23 01 38.8**	**+1.8**
ASAO	**Ashtian**	**2.93**	**3**	*e*Pn	**Pn**	**23 01 07.0**	**+1.3**
ASAO				*e*SG	**Sn**	**23 01 51.0**	**+11**
ASAO				AML	AML	23 01 57.9	
	comp=N,80nm,0.7s						
ASAO				AML	AML	23 02 05.8	
	comp=E,60nm,0.7s						
ASAO	**Ashtian**	**2.93**	**3**	*e*Pn	**Pn**	**23 01 07.0**	**+1.3**
	SNR=54						
ASAO				*e*Sg	**Sn**	**23 01 51.0**	**+11**
	SNR=95						
KBD	**Kabd**	**3.06**	**218**	*e*P	**Pn**	**23 01 07.8**	**+0.3**
KBD				*e*S	**Sn**	**23 01 44.8**	**+1.9**
KBD				AML	AML	23 01 46.0	
	comp=Z,196nm,0.2s						
KBD	**Kabd**	**3.06**	**218**	*e*P	**Pn**	**23 01 07.8**	**+0.3**
KBD				*e*S	**Sn**	**23 01 44.8**	**+1.8**
IKOM	**Komasi**	**3.23**	**323**	Pn	**Pn**	**23 01 10.3**	**+0.4**
NAY	**Al-Naaiem**	**3.26**	**225**	*e*P	**Pn**	**23 01 10.6**	**+0.3**
NAY				*e*S	**Sn**	**23 01 49.3**	**+1.4**
NAY				AML	AML	23 01 50.5	
	comp=Z,23nm,0.3s						
NAY	**Al-Naaiem**	**3.26**	**225**	*e*P	**Pn**	**23 01 10.6**	**+0.3**
NAY				*e*S	**Sn**	**23 01 49.3**	**+1.4**
ISAD	**Sadrabad**	**3.27**	**84**	Pn	**Pn**	**23 01 11.0**	**+0.6**
QRN	**Al-Qurain**	**3.31**	**211**	*e*P	**Pn**	**23 01 10.6**	**-0.3**
RDF	**Al-Radifah**	**3.34**	**217**	*e*P	**Pn**	**23 01 11.4**	**+0.1**
RDF				AML	AML	23 01 55.3	
	comp=Z,85nm,0.3s						
IMOK	**Mook**	**3.55**	**135**	Pn	**Pn**	**23 01 13.0**	**-1.2**
ISRV	**Sarvestan**	**3.58**	**128**	Pn	**Pn**	**23 01 14.1**	**-0.5**
IVRN	**Varamin**	**3.72**	**24**	Pn	**Pn**	**23 01 16.8**	**+0.2**
IRAZ	**Razeghan**	**3.79**	**1**	Pn	**Pn**	**23 01 28.6**	**+11**
IGHG	**Ghaleghazi**	**3.88**	**315**	Pn	**Pn**	**23 01 21.9**	**+3.2**
ICHK	**Chekchek**	**3.92**	**79**	Pn	**Pn**	**23 01 19.1**	**-0.1**
IMEH	**Mehriz**	**4.06**	**92**	Pn	**Pn**	**23 01 21.4**	**+0.1**
SNGE	**Sanandaj**	**4.06**	**329**	*e*Pn	**Pn**	**23 01 21.0**	**-0.2**
SNGE				AML	AML	23 02 33.3	
	comp=E,24nm,0.6s						
SNGE				AML	AML	23 02 35.5	
	comp=N,27nm,0.5s						
ILIN	**Laeen**	**4.10**	**324**	Pn	**Pn**	**23 01 20.5**	**-1.2**
IDHR	**Dehrash**	**4.24**	**318**	Pn	**Pn**	**23 01 23.9**	**+0.2**
IDMV	**Damavand**	**4.35**	**24**	Pn	**Pn**	**23 01 24.9**	**-0.3**
DAMV	**Damavand**	**4.38**	**23**	*e*Pn	**Pn**	**23 01 26.1**	**+0.5**
DAMV	**Damavand**	**4.38**	**23**	*e*Pn	**Pn**	**23 01 26.1**	**+0.5**
	SNR=54						
IAFJ	**Afjeh**	**4.51**	**19**	Pn	**Pn**	**23 01 28.0**	**+0.6**
ILAS	**Lasjerd**	**4.57**	**34**	Pn	**Pn**	**23 01 28.8**	**+0.6**
IFIR	**Firoozkooh**	**4.69**	**30**	Pn	**Pn**	**23 01 30.6**	**+0.7**
IGZV	**Gazvin**	**4.77**	**3**	Pn	**Pn**	**23 01 44.9**	**+14**
IBAF	**Bafgh**	**4.87**	**89**	Pn	**Pn**	**23 01 32.1**	**-0.2**
IPRN	**Paran-Amol**	**5.03**	**23**	Pn	**Pn**	**23 01 36.2**	**+1.7**
ISHM	**Shahmirzad**	**5.07**	**33**	Pn	**Pn**	**23 01 35.0**	**-0.1**
IANJ	**Anjiloo**	**5.12**	**40**	Pn	**Pn**	**23 01 36.2**	**+0.4**
IGLO	**Galoogah**	**5.57**	**32**	Pn	**Pn**	**23 01 47.5**	**+5.5**
ASF	**Jabal al Asfar**	**11.04**	**276**	Pn	**Pn**	**23 02 54.0**	**-3.0**
	comp=N,0.4nm,0.3s,baz=299,slow=9.6,SNR=5.7						
ASF				Sn	**Sn**	**23 04 50.0**	**-9.1**
	comp=N,0.1nm,0.3s,baz=6.3,slow=9.2,SNR=2.6						
WSAR	**Wadi Sarin**	**11.40**	**135**	Pn	**Pn**	**23 03 00.1**	**-1.8**
	comp=N,0.8nm,0.3s,baz=277,slow=10.0,SNR=11						
AKASG	**Malin Array Be**	**24.46**	**327**	P	**P**	**23 05 34.5**	**-2.6**
	comp=N,1.1nm,0.5s,mb3.5,baz=118,slow=10.0,SNR=5.1						
BVAR	**Borovoye Array**	**26.06**	**29**	P	**P**	**23 05 50.4**	**-1.3**
	comp=N,0.7nm,0.5s,mb3.4,baz=218,slow=8.5,SNR=5.4						
MKAR	**Makanchi Array**	**29.10**	**49**	P	**P**	**23 06 18.1**	**-0.8**
	comp=N,0.6nm,0.6s,mb3.5,baz=243,slow=8.3,SNR=6.7						
FINES	**FINESS Array B**	**33.64**	**340**	P	**P**	**23 06 56.9**	**-1.9**
	comp=N,0.4nm,0.3s,mb3.8,baz=144,slow=11,SNR=9.7						
FINES	**FINESS Array B**	**33.64**	**340**	P	**P**	**23 06 56.9**	**-1.9**
NOA	**NORSAR Array B**	**38.75**	**331**	P	**P**	**23 07 39.9**	**-2.6**
	comp=N,0.2nm,0.4s,mb3.2,baz=119,slow=7.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**47.76**	**259**	P	**P**	**23 08 53.4**	**-1.8**
	comp=N,0.2nm,0.4s,mb3.5,baz=59,slow=7.6,SNR=9.3						
SCHQ	**Schefferville**	**78.25**	**328**	P	**P**	**23 12 15.6**	**-2.2**
	comp=N,0.6nm,0.3s,mb4.0,baz=43,slow=7.2,SNR=7.5						
SCHQ	**Schefferville**	**78.25**	**328**	P	**P**	**23 12 15.6**	**-2.2**

*IDC **15** 23:04:45.2±0.4,4539N×9761E,h0km,mb4.9/32, mb1 4.9/36,mb1mx4.9/38,mbtmp4.8/36,ML3.6/2,MS4.1/19, Ms1 4.1/19,ms1mx3.9/34,Error ellipse: s-maj=13.1km s-min=10.1km az=1.0*
*LDG **15** 23:04:45.1±0.1,4548N×9733E,h10km,Mb5.1/41,Ms4.1/7, Error ellipse: s-maj=6.2km s-min=4.0km az=163.0*
*MOS **15** 23:04:45.7±1.0,4539N×9739E,h10km,mb5.2/90, MS4.6/27,Error ellipse: s-maj=5.4km s-min=3.5km az=123.6*
*BJI **15** 23:04:45.9,4542N×9751E,h13km,mB5.0,mb4.9,ML5.7, Ms5.1,Msz4.9*
*ISCJB **15** 23:04:46.6±0.1,4537N±002×9731E±002,h13km, mb5.0/203,MS4.5/52,Error ellipse: s-maj=3.0km s-min=2.2km az=177.8*
*NEIC **15** 23:04:47.8±0.1,4537N×9744E,mb5.1/123,MS4.3/5, Error ellipse: s-maj=3.6km s-min=2.6km az=186.0*
*HRVD **15** 23:04:47.8±0.2,4536N×9749E,h18km,MW5.0/68, Centroid moment Tensor Solution. LP body waves: s44,c57;Mantle waves: s68,c114; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.06±.14; $M_{\theta\theta}$-2.21±.10; $M_{\phi\phi}$-0.85±.10; $M_{r\theta}$1.47±.22; $M_{\theta\phi}$1.64±.07; $M_{\phi r}$-0.01±.23; Best double couple: $M_0$3.51200×10^{16} NP1:ϕ_s318.00000°,δ36.00000°,λ113.00000°. NP2: ϕ_s110.00000°,δ57.00000°,λ74.00000°. Principal axes: T 3.4840, Plg73.0000°, Azm340.0000°; N 0.0540, Plg13.0000°, Azm119.0000°; P -3.5400, Plg11.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NNC **15** 23:04:48.0±1.7,4570N×9741E,h0km,mb5.1 Error ellipse: s-maj=34.3km s-min=19.6km az=17.0*
*SZGRF **15** 23:04:50.3,4497N×9700E,h33km,mb5.0,MS4.4, Mongolia*

ISC 15 23:04:48.1±0.1,**4538N**±002×**9743E**±002,**h13**km, **h13**km±.5km:**pP-P**,**n736**,σ**0**§**95**/737,**mb5.0**/203,**MS4.4**/51, **117C-76D**,**Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**6.22**	**163**	P	**Pn**	**23 06 19.9**	**+0.4**
GTA				PG	**Pg**	**23 06 39.4**	**-7.8**
GTA				S	**Sn**	**23 07 29.3**	**-1.1**
GTA				SG	**Sg**	**23 07 58.8**	**-8.9**
GTA				Smax			
	comp=N,1μm,0.8s						
GTA				Smax			
	comp=E,2μm,1.1s						
GTA				LR	LR		
	comp=N,16μm,8.0s						
GTA				LR	LR		
	comp=E,23μm,8.0s						
GTA				LR	LR		
	comp=Z,16μm,8.4s						
ZAK	**Zakamensk**	**6.37**	**36**	*e*P	**Pn**	**23 06 22.8**	**+1.2**
ZAK				*e*		23 07 35.4	
ZAK				pmax	pmax		
	comp=Z,658nm,1.6s						
ZAK				smax			
	comp=E,5μm,1.4s						
SONM	**Songino Array**	**6.65**	**65**	Pn	**Pn**	**23 06 23.5**	**-2.0**
	comp=E,7.8nm,0.3s,baz=246,slow=15,SNR=74						
SONM				Pg	**Pg**	**23 06 46.6**	**-8.8**
	comp=E,37nm,0.3s,baz=250,slow=18,SNR=17						
SONM				Lg		23 08 10.3	
	comp=E,63nm,0.3s,baz=233,slow=29,SNR=4.5						
SONM				LR	LR	23 08 52.4	
	comp=E,3μm,18.4s,baz=253,slow=38						
SONM	**Songino Array**	**6.65**	**65**	Pn	**Pn**	**23 06 23.4**	**-2.0**
SONM				Pg	**Pg**	**23 06 46.6**	**-8.8**
SONM				Lg		23 08 10.3	
SONM				LR	LR	23 08 52.4	
MOY	**Mondy**	**6.72**	**19**	*e*P	**Pn**	**23 06 28.4**	**+1.9**
MOY				pmax	pmax		
	comp=Z,912nm,0.8s						
ULN	**Ulaanbaatar**	**7.08**	**66**	*e*P	**Pn**	**23 06 31.2**	**-0.2**
ULN				*e*		23 07 57.8	
ULN				pmax	pmax		
	comp=Z,345nm,0.9s						
ULN	**Ulaanbaatar**	**7.08**	**66**	*e*Pn	**Pn**	**23 06 31.2**	**-0.2**
	comp=Z,345nm,0.9s						
ULN				*e*Sn	**Sn**	**23 07 57.8**	**+6.1**
WMQ	**Urumqi**	**7.12**	**261**	P	**Pn**	**23 06 33.6**	**+1.7**
WMQ				S	**Sn**	**23 07 50.6**	**-2.0**
WMQ				SG	**Sg**	**23 08 29.0**	**-7.6**
WMQ				LG2		23 08 36.8	
WMQ				Smax			
	comp=N,4μm,0.8s						
WMQ				Smax			
	comp=E,3μm,1.0s						
WMQ				LR	LR		
	comp=N,10μm,6.4s						
WMQ				LR	LR		
	comp=E,12μm,6.6s						
WMQ				LR	LR		
	comp=Z,3μm,16.0s						
TLY	**Talaya**	**7.54**	**31**	Pn	**Pn**	**23 06 39.8**	**+2.2**
	comp=Z,881nm,0.5s,SNR=8.1						
TLY	**Talaya**	**7.54**	**31**	*e*P	**Pn**	**23 06 38.8**	**+1.2**
TLY				pmax	pmax		
	comp=Z,364nm,1.0s						
IRK	**Irkutsk**	**8.22**	**31**	*e*P	**Pn**	**23 06 50.0**	**+3.0**
IRK				pmax	pmax		
	comp=Z,264nm,0.1s						
BTO	**Baotou**	**10.38**	**113**	*e*P	**Pn**	**23 07 13.8**	**-2.9**
BTO				LR	LR		
	comp=N,3μm,6.1s						
BTO				LR	LR		
	comp=E,2μm,8.8s						
LZH	**Lanzhou**	**10.47**	**150**	*e*P	**Pn**	**23 07 17.8**	**-0.1**
LZH				AP		23 07 20.8	
LZH				XP		23 07 23.6	
LZH				PP		23 07 26.3	
LZH				*e*S	**Sn**	**23 09 12.0**	**-3.1**
LZH				AMB	AMB		
	comp=Z,450nm,1.3s						
LZH				AMB	AMB		
	comp=Z,2μm,5.1s						
LZH				LR	LR		
	comp=N,13μm,9.8s						
LZH				LR	LR		
	comp=Z,17μm,10.7s						
MK05	**Makanchi Array**	**10.61**	**283**	⇑Pn	**Pn**	**23 07 20.4**	**+0.6**
	comp=Z,43nm,0.7s,baz=99,slow=14						
MK05				⇑Lg		23 10 16.2	
	comp=Z,426nm,1.1s,baz=84,slow=30						
MK31	**Makanchi Array**	**10.61**	**283**	P	**Pn**	**23 07 20.4**	**+0.6**
MK31				pmax	pmax		
	comp=Z,22nm,0.7s						
MKAR	**Makanchi Array**	**10.61**	**283**	Pn	**Pn**	**23 07 19.7**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=98,slow=14,SNR=32						
MKAR				Lg		23 10 17.7	
	comp=Z,8.4nm,0.3s,baz=97,slow=32,SNR=3.2						
KRAR	**Krasnoyarsk**	**11.03**	**347⇑**	*e*P	**Pn**	**23 07 31.6**	**+6.1**
HHC	**Hu-ho-hao-te**	**11.28**	**109**	*e*P	**Pn**	**23 07 26.8**	**-2.1**
HHC				PP		23 07 38.1	
HHC				S	**Sn**	**23 09 31.4**	**-3.4**
HHC				SS		23 09 46.9	
HHC				AMB	AMB		
	comp=Z,40nm,0.6s						
HHC				LR	LR		
	comp=N,4μm,18.4s						
HHC				LR	LR		
	comp=E,3μm,8.0s						
HHC				LR	LR		
	comp=Z,4μm,9.6s						
ZAL	**Zalesovo**	**11.83**	**321**	Pn	**Pn**	**23 07 37.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=335,slow=11,SNR=28						
ZAL				Lg		23 10 53.9	
	comp=Z,4.0nm,0.3s,baz=225,slow=24,SNR=2.7						
CIT	**Chita**	**12.54**	**52**	*e*P	**Pn**	**23 07 48.4**	**+2.2**
CIT				pmax	pmax		
	comp=Z,222nm,2.7s						
NVS	**Novosibirsk**	**13.12**	**321**	*e*P	**Pn**	**23 07 53.2**	**-0.8**
KURK	**Kurchatov**	**13.65**	**300**	⇑P	**Pn**	**23 07 59.1**	**-2.3**
	comp=Z,76nm,0.6s						
KURK				⇓Lg		23 11 50.2	
	comp=Z,310nm,0.9s						
KURK	**Kurchatov**	**13.65**	**300**	Pn	**Pn**	**23 07 59.4**	**-2.0**
	comp=Z,1μm,0.7s,SNR=18						
KURK	**Kurchatov**	**13.65**	**300**	*c i*P	**Pn**	**23 07 59.1**	**-2.3**
XAN	**Xi'an**	**14.35**	**138**	P	**Pn**	**23 08 09.0**	**-1.9**
XAN				AP	pP	23 08 14.5	-7.2
XAN				LG2		23 12 26.0	
XAN				AMB	AMB		
	comp=Z,20nm,1.0s						
XAN				LR	LR		
	comp=N,2μm,6.0s						
XAN				LR	LR		
	comp=E,7μm,6.0s						
BJT	**Baijiatuau**	**14.78**	**105**	*e*P	**Pn**	**23 08 16.1**	**-0.6**
BJT				pmax	pmax		
	comp=Z,33nm,0.9s						
BJT	**Baijiatuau**	**14.78**	**105**	*e*Pn	**Pn**	**23 08 16.1**	**-0.6**
	comp=Z,33nm,0.9s						
AAA	**Alma-Ata**	**14.81**	**269**	*e*P	**Pn**	**23 08 22.0**	**+4.9**
AAA				pmax	pmax		
	comp=Z,240nm,2.5s						
KNDC	**Almaty**	**14.81**	**269**	⇓P	**Pn**	**23 08 20.5**	**+3.3**
	comp=Z,53nm,0.7s						
KNDC				⇑Lg		23 12 39.3	
	comp=Z,468nm,1.1s						
CD2	**Chengdu**	**15.27**	**159⇓**	*i*P	**Pn**	**23 08 23.0**	**-0.3**
CD2				PP		23 08 35.3	
CD2				SS		23 11 29.4	
CD2				AMB	AMB		
	comp=Z,60nm,1.2s						
CD2				AMB	AMB		
	comp=Z,210nm,4.5s						
CD2				LR	LR		
	comp=N,3μm,10.5s						
CD2				LR	LR		
	comp=Z,3μm,10.8s						
HIA	**Hailar**	**15.61**	**68**	*e*P	**Pn**	**23 08 27.8**	**+0.1**
HIA				*e*		23 11 18.5	
HIA				pmax	pmax		
	comp=Z,78nm,1.1s						
HIA	**Hailar**	**15.61**	**68**	*e*Pn	**Pn**	**23 08 27.8**	**+0.1**
	comp=Z,78nm,1.1s						
HIA				*e*Sn	**Sn**	**23 11 18.5**	**-2.0**
TKM2	**Tokmak 2**	**15.86**	**269**	P	**Pn**	**23 08 37.5**	**+6.6**
	SNR=16						
BOD	**Bodaibo**	**16.10**	**33**	*e*P	**Pn**	**23 08 35.3**	**+1.2**
BOD				pmax	pmax		
	comp=Z,31nm,1.4s						
KZA	**Kyzart**	**16.36**	**266**	P	**Pn**	**23 08 40.4**	**+3.0**
	SNR=22						
KBK	**Karagaybulak**	**16.39**	**268**	P	**Pn**	**23 08 41.8**	**+4.0**
	SNR=36						
LSA	**Lhasa**	**16.41**	**200**	P	**Pn**	**23 08 43.0**	**+4.9**
LSA				AMB	AMB		
	comp=Z

BVA0	**Borovoye Array**	**19.17 303**	*i* P	**Pn**	**23 09 11.2**	**-1.0**
BVA0			pmax	pmax		
	comp=Z,13nm,0.8s					
BVAR	**Borovoye Array**	**19.17 303**	P	**Pn**	**23 09 10.8**	**-1.4**
	comp=Z,4.9nm,0.3s,baz=102,slow=10,SNR=223					
CHKZ	**Chkalovo**	**19.19 305**	⇑P	**Pn**	**23 09 11.2**	**-1.2**
	comp=Z,67nm,0.7s					
CHKZ			⇑Lg		23 14 56.0	
	comp=Z,219nm,1.4s					
CHKZ	**Chkalovo**	**19.19 305**	*e*P	**Pn**	**23 09 11.1**	**-1.3**
CHKZ			pmax	pmax		
	comp=Z,229nm,0.3s					
CHKZ	**Chkalovo**	**19.19 305**	*e*P	**Pn**	**23 09 11.1**	**-1.3**
	comp=Z,229nm,0.3s					
CHKZ			*e*PcP	PcP	23 13 24.3	-11
BRVK	**Borovoye**	**19.24 303**	P	**Pn**	**23 09 12.0**	**-1.0**
	comp=Z,780nm,0.8s,SNR=25					
SNY	**Shenyang**	**19.24 91**	⇑P	**Pn**	**23 09 11.6**	**-1.4**
SNY			AP	pP	23 09 22.4	+6.6
SNY			S	**Sn**	**23 12 48.8**	**+0.4**
SNY			AMB	AMB		
	comp=Z,30nm,1.2s					
SNY			AMB	AMB		
	comp=Z,680nm,4.9s					
SNY			LR	LR		
	comp=N,2μm,8.6s					
SNY			LR	LR		
	comp=E,3μm,11.8s					
SNY			LR	LR		
	comp=Z,3μm,12.9s					
KK31	**Karatay Array**	**19.39 273**	⇓P	**Pn**	**23 09 14.4**	**-0.3**
	comp=Z,75nm,1.3s,baz=61,slow=12,SNR=147					
KK31			⇑Lg		23 15 02.1	
	comp=Z,45nm,0.9s,baz=59,slow=26,SNR=4.2					
KKAR	**Karatay Array**	**19.39 273**	*i* P	**Pn**	**23 09 14.4**	**-0.4**
KKAR			pmax	pmax		
	comp=Z,167nm,1.4s					
GUN	**Gumba**	**19.70 212**	*e*P	**Pn**	**23 09 17.8**	**-0.8**
	comp=Z,124nm,0.6s					
JIRN	**Jiri**	**19.82 211**	*e*P	**Pn**	**23 09 19.5**	**-0.4**
	comp=Z,179nm,0.7s					
WHN	**Wuhan**	**19.87 132**	P	**Pn**	**23 09 18.6**	**-2.0**
WHN			LR	LR		
	comp=Z,7μm,12.5s					
ZRNK	**Zerenda**	**19.97 303**	⇑P	**Pn**	**23 09 20.0**	**-1.8**
	comp=Z,98nm,1.0s					
ZRNK			⇓Lg		23 15 21.1	
	comp=Z,208nm,1.4s					
ZRNK	**Zerenda**	**19.97 303**	*e*P	**Pn**	**23 09 20.0**	**-1.8**
ZRNK			pmax	pmax		
	comp=Z,9.0nm,0.5s					
ZRNK	**Zerenda**	**19.97 303**	*e*P	**Pn**	**23 09 20.0**	**-1.7**
	comp=Z,9.2nm,0.5s					
CN2	**Changchun**	**19.98 85**	*e*P	**Pn**	**23 09 20.0**	**-1.9**
CN2			*e*AP	pP	23 09 22.8	-1.2
CN2			*e*PP		23 09 38.4	
CN2			*e*S	**Sn**	**23 13 00.6**	**-5.8**
CN2			LG1		23 15 01.8	
CN2			LG2		23 15 29.3	
CN2			AMB	AMB		
	comp=Z,30nm,1.0s					
CN2			AMB	AMB		
	comp=Z,200nm,6.0s					
CN2			LR	LR		
	comp=N,1μm,10.0s					
CN2			LR	LR		
	comp=E,2μm,10.0s					
CN2			LR	LR		
	comp=Z,3μm,11.0s					
KKN	**Kakani**	**20.04 213**	*e*P	**P**	**23 09 21.4**	**+0.7**
	comp=Z,187nm,0.7s					
KKN	**Kakani**	**20.04 213**	*e*P	**P**	**23 09 21.4**	**+0.7**
KKN			pmax	pmax		
	comp=Z,187nm,0.7s					
PKI	**Pulchoki**	**20.19 212**	*e*P	**P**	**23 09 23.5**	**+1.1**
	comp=Z,231nm,1.0s					
PKI	**Pulchoki**	**20.19 212**	*e*P	**P**	**23 09 23.5**	**+1.1**
PKI			pmax	pmax		
	comp=Z,231nm,1.0s					
SHL	**Shillong**	**20.27 195**	*e*x	x	23 09 14.0	
SHL			*e*P		23 09 24.0	
SHL			*e*S	**S**	**23 13 11.0**	**+0.9**
DMN	**Daman**	**20.27 213**	*e*P	**P**	**23 09 23.8**	**+0.6**
	comp=Z,210nm,0.8s					
GYA	**Guiyang**	**20.28 155**	⇑*i*P	**P**	**23 09 22.8**	**-0.6**
GYA			AP		23 09 26.4	
GYA			XP	sP	23 09 29.8	+0.9
GYA			PP		23 09 41.5	
GYA			S	**S**	**23 13 08.9**	**-1.5**
GYA			AMB	AMB		
	comp=Z,80nm,1.0s					
GYA			AMB	AMB		
	comp=Z,420nm,5.1s					
GYA			LR	LR		
	comp=N,1μm,8.7s					
GYA			LR	LR		
	comp=E,1μm,9.6s					
GYA			LR	LR		
	comp=Z,1μm,10.5s,MS4.6					
NRGR	**Nerungri**	**20.40 47**	*e*P	**P**	**23 09 25.6**	**+0.9**
CLNS	**Chul'man**	**20.55 46**	*e*P	**P**	**23 09 26.1**	**-0.3**
CLNS			*e**PP		23 09 29.9	
CLNS			*e*S	**S**	**23 13 06.4**	**-10**
CLNS			*e*		23 13 52.4	
CLNS			pmax	pmax		
	comp=Z,36nm,0.9s					
CLNS			pmax	pmax		
	comp=N,28nm,1.0s					
CLNS			pmax	pmax		
	comp=E,32nm,1.1s					
CLNS			smax			
	comp=E,315nm,12.2s					
CLNS			smax			
	comp=Z,300nm,9.9s					
CLNS			smax			
	comp=N,202nm,11.1s					
CLNS			MLR	MLR		
	comp=N,700nm,10.0s,MS4.9					
CLNS			MLR	MLR		
	comp=Z,3μm,10.0s,MS5.0					
CLNS			MLR	MLR		
	comp=E,3μm,11.0s,MS4.9					
KMI	**Kunming**	**20.66 166**	P	**P**	**23 09 26.6**	**-0.9**
KMI			AP		23 09 31.8	
KMI			S	**S**	**23 13 16.3**	**-1.7**
KMI			XS	sS	23 13 21.0	-3.1
KMI			PCP	PcP	23 13 40.0	+2.5
KMI			SS		23 13 47.3	
KMI			SSS		23 14 01.9	
KMI			AMB	AMB		
	comp=Z,30nm,1.1s					
KMI			AMB	AMB		
	comp=Z,270nm,3.1s					
KMI			LR	LR		
	comp=N,2μm,9.0s					
KMI			LR	LR		
	comp=E,1μm,7.6s					
KMI			LR	LR		
	comp=Z,2μm,10.0s,MS4.8					
IMP	**Imphal**	**20.74 189**	*e*x	x	23 11 04.0	
PTH	**Pithoragarh**	**20.82 227**	*e*P	**P**	**23 09 28.8**	**-0.4**
PTH			*e*x	x	23 09 47.9	
LGTI	**Lohaghat**	**20.88 226**	*i* P	**P**	**23 09 31.0**	**+1.1**
NJ2	**Nanjing**	**21.29 121**	*e*P	**P**	**23 09 34.4**	**+0.2**
NJ2			AP		23 09 38.1	
NJ2			XP	sP	23 09 42.1	+2.3
NJ2			PP		23 09 59.0	
NJ2			PPP		23 10 09.5	
NJ2			S	**S**	**23 13 25.0**	**-5.3**
NJ2			XS	sS	23 13 34.0	-2.5
NJ2			AMB	AMB		
	comp=Z,110nm,1.2s,mb5.1					
NJ2			AMB	AMB		
	comp=Z,320nm,4.0s					
NJ2			LR	LR		
	comp=N,4μm,11.1s,MS5.2					
NJ2			LR	LR		
	comp=E,3μm,12.5s,MS5.2					
NJ2			LR	LR		
	comp=Z,3μm,11.4s,MS4.9					
PONG	**Pong**	**21.38 239**	*e*P	**P**	**23 09 36.0**	**+0.7**
NIL	**Nilore**	**21.93 246**	P	**P**	**23 09 44.4**	**+3.2**
	comp=Z,259nm,0.7s,mb5.8,SNR=7.8					
MDJ	**Mudanjiang**	**22.68 80**	P	**P**	**23 09 49.1**	**-0.1**
MDJ			PCP	PcP	23 13 42.0	+0.6
MDJ			SCP	ScP	23 17 19.8	+1.1
MDJ			SCS	ScS	23 21 05.4	+1.2
MDJ			AMB	AMB		
	comp=Z,20nm,1.6s,mb4.3					
MDJ			AMB	AMB		
	comp=Z,320nm,5.1s					
MDJ			LR	LR		
	comp=N,2μm,16.9s,MS4.7					
MDJ			LR	LR		
	comp=E,670nm,17.7s,MS4.7					
MDJ			LR	LR		
	comp=Z,3μm,9.3s					
MDJ	**Mudanjiang**	**22.68 80**	*e*P	**P**	**23 09 49.4**	**+0.2**
	comp=Z,49nm,1.1s,mb4.8					
NDI	**New Delhi**	**23.09 231**	*e*P	**P**	**23 09 54.0**	**+0.5**
INCN	**Inchon**	**23.18 100**	*e*P	**P**	**23 09 54.1**	**-0.3**
	comp=Z,160nm,1.2s,mb5.3					
SSE	**Sheshan**	**23.37 119**	P	**P**	**23 09 56.8**	**+0.3**
SSE			AP		23 09 59.8	
SSE			XP	sP	23 10 01.1	-1.0
SSE			S	**S**	**23 14 05.8**	**-2.9**
SSE			XS	sS	23 14 11.3	-4.1
SSE			AMB	AMB		
	comp=Z,40nm,0.8s,mb4.9					
SSE			AMB	AMB		
	comp=Z,210nm,5.2s					
SSE			LR	LR		
	comp=N,1μm,12.5s,MS4.7					
SSE			LR	LR		
	comp=E,960nm,12.5s,MS4.7					
SSE			LR	LR		
	comp=Z,2μm,13.2s,MS4.8					
KLR	**Kul'dur**	**23.47 68**	*e*P	**P**	**23 09 53.0**	**-4.5**
KLR			*e*		23 09 53.5	
KLR			*e*		23 14 07.5	
KLR			pmax	pmax		
	comp=E,100nm,1.8s					
KLR			pmax	pmax		
	comp=Z,140nm,1.8s,mb5.1					
KLR			MLR	MLR		
	comp=N,7μm,13.0s,MS5.4					
KLR			MLR	MLR		
	comp=E,3μm,10.0s,MS5.4					
KLR			MLR	MLR		
	comp=Z,6μm,10.0s,MS5.4					
BOK	**Bokaro**	**23.48 207**	*e*P	**P**	**23 09 58.5**	**+0.8**
BOK			AMb	AMB	23 10 05.4	
	comp=Z,45nm,0.9s,mb4.9					
CAL	**Calcutta**	**23.96 201**	*e*x	x	23 14 35.0	
CAL	**Calcutta**	**23.96 201**	*e*x	x	23 14 35.0	
KS15	**Wonju Array Si**	**24.07 98**	*e*P	**P**	**23 10 03.6**	**+0.5**
YAK	**Yakutsk**	**24.96 37**	*e*P	**P**	**23 10 10.1**	**-1.1**
YAK			*e**PP		23 10 18.1	
YAK			*e*		23 10 50.5	
YAK			*e*PPP		23 10 57.5	
YAK			*e*S	**S**	**23 14 40.4**	**+6.0**
YAK			*e*SS		23 15 37.3	
YAK			*e*SSS		23 15 52.5	
YAK			pmax	pmax		
	comp=N,8.0nm,1.1s					
YAK			pmax	pmax		
	comp=E,15nm,1.1s					
YAK			pmax	pmax		
	comp=Z,42nm,1.1s,mb4.9					
YAK			smax			
	comp=N,205nm,13.4s					
YAK			smax			
	comp=E,205nm,9.3s					
YAK			MLR	MLR		
	comp=E,429nm,10.0s					
YAK			MLR	MLR		
	comp=Z,751nm,10.0s,MS4.5					
YAK			MLR	MLR		
	comp=N,390nm,9.0s					
YAK	**Yakutsk**	**24.96 37**	*e*P	**P**	**23 10 10.2**	**-0.9**
	comp=N,36nm,0.6s,mb5.1					
AB31	**Akbulak array**	**25.53 292**	⇑P	**P**	**23 10 16.8**	**+0.5**
	comp=N,97nm,0.8s,mb5.4					
AB31	**Akbulak array**	**25.53 292**	P	**P**	**23 10 16.8**	**+0.5**
AB31			pmax	pmax		
	comp=Z,78nm,0.8s,mb5.3					
HABR	**Khabarovsk**	**25.71 69**	*e*P	**P**	**23 10 17.8**	**-0.2**
HABR			S	**S**	**23 14 47.4**	**+1.1**
HABR			pmax	pmax		
	comp=Z,123nm,1.8s,mb5.1					
GZH	**Guangzhou**	**25.74 144**	P	**P**	**23 10 13.9**	**-4.4**
GZH			S	**S**	**23 14 42.8**	**-4.0**
GZH			LR	LR		
	comp=N,2μm,14.6s,MS5.0					
GZH			LR	LR		
	comp=E,3μm,13.4s,MS5.0					
GZH			LR	LR		
	comp=Z,2μm,13.9s,MS4.8					
AJM	**Ajmer**	**26.23 232**	*e*P	**P**	**23 10 23.5**	**+0.8**
AJM			AMb	AMB	23 10 30.8	
	comp=Z,43nm,1.1s,mb4.9					
JBP	**Jabalpur**	**26.32 218**	⇑*e*P	**P**	**23 10 24.8**	**+1.3**
JBP			*e*x	x	23 10 30.0	
	comp=Z,60nm,1.7s					
JBP			*e*x	x	23 15 01.3	
CHTO	**Chiang Mai**	**26.52 177**	*e*P	**P**	**23 10 24.9**	**-0.4**
CHTO			pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5					
CHTO	**Chiang Mai**	**26.52 177**	*e*P	**P**	**23 10 24.9**	**-0.4**
	comp=Z,14nm,0.8s,mb4.5					
ARU	**Arti**	**26.53 309**	P	**P**	**23 10 25.1**	**-0.3**
	comp=Z,225nm,0.9s,mb5.7,SNR=21					
ARU	**Arti**	**26.53 309**	⇑*i*P	**P**	**23 10 25.2**	**-0.2**
ARU			*e*PPP		23 11 13.1	
ARU			*e*		23 13 46.9	
ARU			*e*S	**S**	**23 15 01.4**	**+2.2**
ARU			*e*SS		23 16 06.2	
ARU			*e*SSS		23 16 22.4	
ARU			pmax	pmax		
	comp=Z,34nm,0.9s,mb4.9					
ARU			MLR	MLR		
	comp=Z,900nm,20.0s,MS4.3					
ARU			MLR	MLR		
	comp=N,200nm,17.0s,MS4.2					
ARU			MLR	MLR		
	comp=E,600nm,19.0s,MS4.2					
QZH	**Quanzhou**	**26.59 133**	P	**P**	**23 10 27.9**	**+1.9**
QZH			S	**S**	**23 15 03.8**	**+3.5**
QZH			LR	LR		
	comp=N,2μm,7.7s					
QZH			LR	LR		
	comp=E,1μm,8.4s					
QZH			LR	LR		
	comp=Z,3μm,11.1s,MS5.1					
AKTK	**Aktyubinsk**	**26.67 295**	P	**P**	**23 10 26.9**	**+0.3**
AKTK			LR	LR	23 21 31.9	
AKTO	**Aktyubinsk**	**26.67 295**	⇑P	**P**	**23 10 26.9**	**+0.3**
	comp=Z,8.6nm,0.8s,mb4.3					
AKTO	**Aktyubinsk**	**26.67 295**	P	**P**	**23 10 26.9**	**+0.3**
	comp=Z,15nm,0.5s,mb4.7,baz=93,slow=9.3,SNR=48					
AKTO			LR	LR	23 21 31.9	
	comp=Z,918nm,20.0s,MS4.3,baz=0.0,slow=38					
BHPL	**Bhopal**	**27.43 223**	*e*P	**P**	**23 10 34.2**	**+0.7**
BHPL			AMb	AMB	23 10 40.4	
	comp=Z,70nm,1.6s,mb4.9					
QIZ	**Qiongzhong**	**28.23 155**	P	**P**	**23 10 40.8**	**+0.2**
QIZ			LR	LR		
	comp=N,1μm,9.3s					
QIZ			LR	LR		
	comp=E,760nm,9.0s					
QIZ			LR	LR		
	comp=Z,2μm,10.3s,MS4.9					
NGP	**Nagpur**	**28.50 218**	*e*P	**P**	**23 10 42.9**	**-0.2**
NGP			AMb	AMB	23 10 47.0	
	comp=Z,53nm,1.7s,mb4.9					
ORR	**Orenburg**	**28.63 298**	⇑*i*P	**P**	**23 10 43.9**	**-0.3**
ORR			pmax	pmax		
	comp=Z,90nm,1.1s,mb5.4					
NST	**Nakhon Sawan**	**29.70 175**	P	**P**	**23 10 56.4**	**+2.7**
AKL	**Akola**	**29.80 221**	*e*x	x	23 10 23.9	
AKL			AMb	AMB	23 10 28.4	
	comp=Z,89nm,0.6s,mb5.7					
ABKT	**Ailbek**	**30.06 270**	P	**P**	**23 10 58.2**	**+1.3**
	comp=Z,230nm,0.9s,mb5.9,SNR=19					
TIXI	**Tiksi**	**30.31 19**	⇓*e*P	**P**	**23 10 58.0**	**-1.1**
TIXI			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1					
TIXI			MLR	MLR		
	comp=Z,500nm,18.0s,MS4.2					
YSS	**Yuzh-Sakhalins**	**31.10 71**	*e*P	**P**	**23 11 08.5**	**+2.4**
YSS			S	**S**	**23 16 10.0**	**-1.2**
YSS			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2					
YSS			MLR	MLR		
	comp=Z,1μm,11.0s,MS4.9					
YSS			MLR	MLR		
	comp=N,900nm,12.0s,MS4.8					
YSS			MLR	MLR		
	comp=E,1μm,12.0s,MS4.8					
MJAR	**Matsushiro Arr**	**31.75 92**	P	**P**	**23 11 09.3**	**-2.5**
	comp=E,4.8nm,1.0s,mb4.3,baz=295,slow=8.1,SNR=24					
MJAR			LR	LR	23 22 59.6	
	comp=E,125nm,19.8s,MS3.6,baz=290,slow=35					
HYB	**Hyderabad**	**32.03 216**	*i* P	**P**	**23 11 15.0**	**+0.8**
HYB	**Hyderabad**	**32.03 216**	*e*P	**P**	**23 11 15.0**	**+0.8**
BOM	**Bombay**	**33.38 226**	*e*x	x	23 09 39.2	
KAD	**Karad**	**34.06 222**	*e*P	**P**	**23 11 31.7**	**-0.4**
KAD			AMb	AMB	23 11 37.5	
	comp=Z,43nm,1.4s,mb5.2					
MA2	**Magadan**	**34.43 46**	*e*P	**P**	**23 11 35.3**	**+0.1**
MA2			*e**PP	pP	23 11 39.1	-0.3
MA2			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8					
MA2	**Magadan**	**34.43 46**	*e*P	**P**	**23 11 35.3**	**+0.1**
	comp=Z,9.8nm,0.8s,mb4.8					
MA2			*e*pP	pP	23 11 39.1	-0.3
VRHR	**Novokhopersk**	**36.84 300**	*e*P	**P**	**23 11 55.7**	**-0.1**
VRHR			*e**SP	sP	23 11 59.0	-2.7
VRHR			pmax	pmax		
	comp=Z,20nm,0.5s,mb5.2					
VRHR			pmax	pmax		
	comp=N,10.0nm,1.0s					
VRHR			pmax	pmax		
	comp=E,20nm,0.7s					
VRHR			MLR	MLR		
	comp=Z,530nm,10.0s,MS4.6					
VRHR			MLR	MLR		
	comp=N,350nm,20.0s					
VRHR			MLR	MLR		
	comp=E,380nm,11.0s					
DGRG	**David-gareji**	**37.47 283**	P	**P**	**23 12 03.3**	**+2.0**
MTA	**Matsminda**	**37.77 284**	P	**P**	**23 12 04.8**	**+1.0**
TBLG	**Delisi**	**37.80 284**	*e*P	**P**	**23 12 05.4**	**+1.4**
ZEI	**Tsey**	**37.96 286**	*e*P	**P**	**23 12 04.4**	**-1.0**
ZEI			pmax	pmax		
	comp=Z,28nm,0.9s,mb5.0					
BANOM	**Banah**	**38.14 254**	⇑P	**P**	**23 12 09.0**	**+2.1**
MOS	**Moscow**	**38.23 308**	*e*P	**P**	**23 12 06.4**	**-1.3**
MOS			*e*		23 13 43.5	
MOS			*e*S	**S**	**23 18 05.5**	**+4.5**
MOS			pmax	pmax		
	comp=Z,139nm,1.3s,mb5.5					
MOS			MLR	MLR		
	comp=E,900nm,10.1s					
MOS			MLR	MLR		
	comp=Z,1μm,10.1s,MS4.9					
VRSR	**Storozhevoye**	**38.29 300**	⇑*i*P	**P**	**23 12 08.1**	**-0.1**
VRSR			pmax	pmax		
	comp=N,7.0nm,0.9s					
VRSR			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4					
VRSR			pmax	pmax		
	comp=E,10.0nm,1.0s					
KIV	**Kislovodsk**	**38.32 288**	P	**P**	**23 12 10.4**	**+1.9**
	comp=E,215nm,0.9s,mb5.9,SNR=13					
KIV	**Kislovodsk**	**38.32 288**	*c i*P	**P**	**23 12 09.8**	**+1.3**
KIV			pmax	pmax		
	comp=Z,68nm,1.7s,mb5.1					
KIV			MLR	MLR		
	comp=Z,1μm,20.0s,MS4.6					
ONI	**Oni**	**38.34 286**	P	**P**	**23 12 10.5**	**+1.9**
WSAR	**Wadi Sarin**	**38.41 248**	P	**P**	**23 12 10.7**	**+1.5**
	comp=Z,38nm,0.8s,mb5.2,baz=55,slow=6.0,SNR=19					
GNI	**Garni**	**38.45 281**	P	**P**	**23 12 11.7**	**+2.1**
	comp=Z,57nm,1.0s,mb5.3,baz=9.6,slow=1.7,SNR=34					
GNI			LR	LR	23 30 45.3	
	comp=Z,266nm,19.1s,MS4.1,baz=74,slow=40					
LVZ	**Lovozero**	**38.86 328**	*i* P	**P**	**23 12 15.1**	**+2.1**
SMDO	**Samad**	**38.91 248**	⇑P	**P**	**23 12 15.7**	**+2.3**
OBN	**Obninsk**	**38.94 307**	P	**P**	**23 12 13.4**	**-0.2**
	comp=Z,248nm,0.9s,mb5.9,SNR=7.2					
OBN	**Obninsk**	**38.94 307**	*e*P	**P**	**23 12 13.0**	**-0.6**
OBN			*e*		23 13 46.6	
OBN			*e*		23 14 23.6	
OBN			pmax	pmax		
	comp=Z,85nm,1.4s,mb5.3					
OBN			MLR	MLR		
	comp=Z,300nm,16.0s,MS4.2					
ASHO	**Ashiyiah**	**39.12 252**	⇑P	**P**	**23 12 17.6**	**+2.4**
APA	**Apatity**	**39.33 327**	⇓*i*P	**P**	**23 12 16.8**	**-0.1**
APA			pmax	pmax		
	comp=Z,31nm,1.0s,mb5.0					
APA			MLR	MLR		
	comp=Z,1μm,14.0s,MS4.9					
PET	**Petropavlovsk**	**39.62 56**	*e*P	**P**	**23 12 18.8**	**-0.5**
PET			*e**PP	pP	23 12 22.3	-1.2
PET			pmax	pmax		
	comp=Z,28nm,0.9s,mb5.0					
PET	**Petropavlovsk**	**39.62 56**	*e*P	**P**	**23 12 18.8**	**-0.5**
	comp=Z,28nm,0.9s,mb5.0					
PET			*e*pP	pP	23 12 22.3	-1.2
ARQ	**Araqi**	**39.73 250**	⇑P	**P**	**23 12 23.1**	**+2.8**
SNR=12						
KULM	**Kulim**	**40.03 175**	*e*P	**P**	**23 12 22.2**	**-0.5**
KULM			*e*pP	pP	23 12 25.5	-1.4
JOF	**Joensuu**	**40.42 320**	*e*p	**P**	**23 12 24.4**	**-1.5**
	comp=Z,19nm,0.8s,mb4.9					
SOC	**Sochi**	**40.45 289**	*c i*P	**P**	**23 12 26.6**	**+0.4**
SOC			*e**PP	pP	23 12 29.2	-1.2
SOC			*e*		23 13 55.3	
SOC			*e*S	**S**	**23 18 35.2**	**+0.8**
SOC			*e*SS	SS	23 21 33.2	-0.5
SOC			pmax	pmax		
	comp=Z,54nm,1.1s,mb5.2					
SOC			MLR	MLR		
	comp=Z,624nm,14.0s,MS4.6					
BILL	**Bilibino**	**41.15 32**	*e*P	**P**	**23 12 32.2**	**+0.2**
BILL			pmax	pmax		
	comp=Z,26nm,1.3s,mb4.7					
BILL	**Bilibino**	**41.15 32**	*e*P	**P**	**23 12 32.2**	**+0.2**
	comp=Z,26nm,1.3s,mb4.7					
MSL	**Mosul**	**41.41 277**	*e*x	x	23 12 35.5	
ANN	**Anapa**	**41.49 291**	*c i*P	**P**	**23 12 35.3**	**+0.6**
ANN			*i* *PP	pP	23 12 42.1	+3.2
ANN			*e*		23 14 08.8	
ANN			*e*S	**S**	**23 18 53.6**	**+3.8**
ANN			pmax	pmax		
	comp=Z,72nm,0.9s,mb5.3					
ANN			MLR	MLR		
	comp=Z,136nm,16.0s,MS3.9					
KEV	**Kevo**	**41.65 330**	*e*p	**P**	**23 12 35.1**	**-1.0**
	comp=Z,8.6nm,0.6s,mb4.6					
KEV	**Kevo**	**41.65 330**	*e*P	**P**	**23 12 35.1**	**-1.0**
KEV			pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6					
UMR	**Umm Al-Rimmam**	**41.82 265**	*e*P	**P**	**23 12 38.0**	**+0.6**
UMR			AMb	AMB	23 12 39.7	
	comp=Z,112nm,0.8s,mb5.5					
MIB	**Mutribah**	**41.94 266**	*e*P	**P**	**23 12 39.3**	**+0.8**
MIB			AMb	AMB	23 12 44.1	
	comp=Z,148nm,1.0s,mb5.6					
KBD	**Kabd**	**42.06 265**	*e*P	**P**	**23 12 40.4**	**+1.0**
KBD			AMb	AMB	23 12 45.2	
	comp=Z,321nm,0.7s,mb6.1					
QRN	**Al-Qurain**	**42.16 264**	*e*P	**P**	**23 12 41.0**	**+0.7**
ARCES	**ARCESS Array B**	**42.19 330**	P	**P**	**23 12 39.7**	**-0.8**
	comp=Z,22nm,0.8s,mb4.8,baz=81,slow=9.6,SNR=41					
ARCES			LR	LR	23 33 32.5	
	comp=Z,198nm,18.9s,MS4.0,baz=285,slow=41					
ARE0	**ARCESS Array S**	**42.19 330**	*e*P	**P**	**23 12 40.1**	**-0.3**
ARE0			*e*pP	pP	23 12 43.3	-1.3
RDF	**Al-Radifah**	**42.31 265**	*e*P	**P**	**23 12 42.3**	**+0.8**
RDF			AMb	AMB	23 12 47.4	
	comp=Z,159nm,1.0s,mb5.6					
NAY	**Al-Naaiem**	**42.33 265**	*e*P	**P**	**23 12 42.2**	**+0.5**
NAY			AMb	AMB	23 12 47.3	
	comp=Z,80nm,1.0s,mb5.3					
PSI	**Prapat**	**42.42 178**	P	**P**	**23 12 44.2**	**+1.8**
	comp=Z,8.0nm,0.6s,mb4.5,baz=19,slow=8.4,SNR=12					
PSI	**Prapat**	**42.42 178**	P	**P**	**23 12 44.2**	**+1.8**
KAF	**Kangasniemi**	**42.84 319**	*e*p	**P**	**23 12 44.1**	**-1.6**
	comp=Z,12nm,0.6s,mb4.8,baz=79,slow=8.0					
KAF	**Kangasniemi**	**42.84 319**	*e*P	**P**	**23 12 44.1**	**-1.6**
KAF			pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8					
FINES	**FINESS Array B**	**43.08 318**	P	**P**	**23 12 47.0**	**-0.7**

comp=Z,9,4nm,0.6s,mb4.7,baz=93,slow=9.5,SNR=37
FINES LR LR 23 32 10.9
comp=Z,220nm,19.4s,MS4.1,baz=273,slow=38
FINES FINESS Array B 43.08 318 P **P** **23 12 47.0 -0.7**
FINES LR LR 23 32 10.9
VSU Vasula 43.45 314⇑ *e*P **P** **23 12 50.1 -0.6**
SIM Simferopol' 43.59 293 *c i*P **P** **23 12 52.7 +0.8**
SIM *e* 23 14 41.0
SIM pmax pmax
comp=Z,28nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,290nm,16.8s,MS4.3
MALT Malatya 43.65 282⇓ *i*P **P** **23 12 54.8 +2.5**
MALT Malatya 43.65 282 *e*P **P** **23 12 54.3 +2.0**
MALT *e**PP pP 23 12 57.9 +1.4
MALT pmax pmax
comp=Z,60nm,1.2s,mb5.2
MALT Malatya 43.65 282 *e*P **P** **23 12 54.3 +2.0**
comp=Z,60nm,1.2s,mb5.2
MALT *e*pP pP 23 12 57.9 +1.4
MNK Minsk 43.98 308 *e*P **P** **23 12 52.0 -3.0**
AKASG Malin Array Be 44.45 303 P **P** **23 12 58.0 -0.7**
comp=Z,8.7nm,0.6s,mb4.7,baz=60,slow=8.5,SNR=35
AKASG PP PP 23 14 44.0 +1.6
comp=Z,0.8nm,0.4s,baz=64,slow=9.2,SNR=5.2
KSM Kuching 45.17 162 *e*P **P** **23 13 04.1 -0.4**
WHFO Wadi Hawf 45.38 247 P **P** **23 13 06.6 +0.5**
SNR=16
RBK Rabkut 45.40 247 ⇑P **P** **23 13 07.1 +0.8**
ABTO Aybut 46.09 247 ⇓P **P** **23 13 12.5 +0.7**
SNR=14
BR131 Keskin Array S 46.24 287 *e*P **P** **23 13 13.6 +0.7**
comp=Z,20nm,0.7s,mb5.2
BRTR Keskin Array B 46.24 287 P **P** **23 13 13.8 +0.8**
comp=Z,30nm,0.8s,mb5.3,baz=82,slow=7.4,SNR=148
SUW Suwalki 46.72 309 *e*P **P** **23 13 15.8 -0.9**
SUW pmax pmax
comp=Z,15nm,0.6s,mb5.1
SUW Suwalki 46.72 309 *e*P **P** **23 13 15.8 -0.9**
comp=Z,14nm,0.6s,mb5.1
ANTO Ankara 46.74 287 *e*P **P** **23 13 17.9 +1.0**
ANTO pmax pmax
comp=Z,30nm,0.8s,mb5.3
ANTO Ankara 46.74 287 *e*P **P** **23 13 17.9 +1.1**
comp=Z,30nm,0.8s,mb5.3
MOR8 Moi Rana 46.91 326 *e*P **P** **23 13 16.5 -1.6**
MOR8 *e*pP pP 23 13 19.7 -2.8
CFR Carcaliu 47.33 296⇓ *i*P **P** **23 13 21.9 +0.4**
CFR Carcaliu 47.33 296 ⇓P **P** **23 13 21.9 +0.4**
TIRR Tirgusor 47.48 295⇓ *i*P **P** **23 13 22.7 +0.1**
TIRR Tirgusor 47.48 295 *e*P **P** **23 13 22.4 -0.2**
LVV L'vov 47.86 303 *e*P **P** **23 13 25.2 -0.4**
LVV *e* 23 15 17.0
LVV *e* 23 20 11.6
LVV MLR MLR
comp=Z,300nm,15.0s,MS4.4
LVV MLR MLR
comp=E,400nm,14.0s
VRI Vrincioaia 47.91 297⇓ *i*P **P** **23 13 26.8 +0.8**
VRI Vrincioaia 47.91 297 ⇓P **P** **23 13 26.8 +0.7**
ASF Jabal al Asfar 47.94 276 P **P** **23 13 28.0 +1.8**
comp=E,50nm,0.9s,mb5.5,baz=287,slow=4.8,SNR=71
ASF LR LR 23 34 36.1
comp=E,78nm,19.7s,MS3.7,baz=95,slow=37
PLOR Plostina 47.97 297⇑ *i*P **P** **23 13 26.8 +0.4**
PSN Preselentsi 47.98 294 *e*P **P** **23 13 27.0 +0.5**
BURAR Bucovina Array 48.08 300⇑ *i*P **P** **23 13 27.5 +0.2**
BURAR Bucovina Array 48.08 300 ⇑P **P** **23 13 27.5 +0.1**
NSS Namsos 48.41 325 *e*P **P** **23 13 27.7 -2.2**
NSS AMS AMS 23 35 51.3
comp=Z,628nm,19.6s,MS4.6
MMAI Mount Meron Ar 48.51 278 P **P** **23 13 31.9 +1.3**
comp=Z,19nm,0.8s,mb5.2,baz=60,slow=11,SNR=29
MLR Muntele Rosu 48.57 297 P **P** **23 13 31.6 +0.5**
comp=Z,2.8nm,0.6s,mb4.5,baz=124,slow=17,SNR=6.4
MLR Muntele Rosu 48.57 297⇑ *i*P **P** **23 13 29.5 -1.6**
MLR Muntele Rosu 48.57 297 P **P** **23 13 31.6 +0.5**
MLR pmax pmax
comp=Z,3.0nm,0.6s
MLR Muntele Rosu 48.57 297 ⇑P **P** **23 13 29.4 -1.6**
KWP Kalwaria 48.72 303 *e*P **P** **23 13 32.6 +0.4**
CSS Prodhromos 48.89 281 *e*P **P** **23 13 33.5 0.0**
comp=Z,37nm,0.8s,mb5.5
VOIR 49.16 297⇓ *i*P **P** **23 13 36.5 +0.9**
VOIR 49.16 297 ⇓P **P** **23 13 36.5 +0.9**
MTUR Matau 49.25 297⇓ *i*P **P** **23 13 35.5 -0.8**
HFS Hagfors 49.26 319 LR LR 23 35 16.1
comp=Z,280nm,19.5s,MS4.3,baz=168,slow=37
KOLS Kolonicke sedl 49.28 303 *e*P **P** **23 13 37.8 +1.3**
KOLS pmax pmax
comp=Z,78nm,2.7s,mb5.3
KOLS Kolonicke sedl 49.28 303 *e*P **P** **23 13 37.8 +1.3**
comp=Z,78nm,2.7s,mb5.3
STHS Stebnicka Huta 49.67 304 *e*P **P** **23 13 39.9 +0.4**
STHS Stebnicka Huta 49.67 304 *e*P **P** **23 13 39.9 +0.4**
STHS pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
STHS Stebnicka Huta 49.67 304 *e*P **P** **23 13 39.9 +0.4**
comp=Z,6.8nm,1.0s,mb4.6
CRVS Cervenica-Dubn 49.77 303 *e*P **P** **23 13 41.4 +1.1**
DRGR 49.98 300⇓ *i*P **P** **23 13 42.5 +0.7**
DRGR 49.98 300 ⇓P **P** **23 13 42.5 +0.6**
NB2 NORSAR Subarra 50.03 321 P **P** **23 13 40.8 -1.5**
comp=Z,14nm,0.8s,mb5.0,baz=69,slow=7.9
NB2 NORSAR Subarra 50.03 321 P **P** **23 13 40.8 -1.5**
NB2 pmax pmax
comp=Z,14nm,0.8s,mb5.0
NOA NORSAR Array B 50.03 321 P **P** **23 13 40.8 -1.5**
comp=Z,7.5nm,0.6s,mb4.9,baz=72,slow=8.4,SNR=38
NOA PP PP 23 15 38.9 +1.6
comp=Z,1.2nm,0.7s,baz=50,slow=9.5,SNR=3.3
NOA LR LR 23 35 02.5
comp=Z,142nm,19.4s,MS4.0,baz=40,slow=36
NOA NORSAR Array B 50.03 321 P **P** **23 13 40.8 -1.5**
NOA 23 15 38.9
OJC Ojcow 50.16 305 *e*P **P** **23 13 42.6 -0.6**
NIE Niedzica 50.22 304 *e*P **P** **23 13 44.0 +0.3**
NAO01 NORSAR Array S 50.26 321 *e*P **P** **23 13 42.4 -1.6**
comp=Z,6.6nm,0.7s,mb4.8
KECS Kecovo 50.54 303 *e*P **P** **23 13 46.1 0.0**
KECS *e* pP 23 13 51.2 +0.8
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 50.54 303 *e*P **P** **23 13 46.1 0.0**
comp=Z,4.4nm,0.9s,mb4.4
KECS *e* pP 23 13 51.2 +0.8
BSD Bornholm Skovb 50.70 313 *i*P **P** **23 13 50.7 +3.4**
comp=Z,18nm,0.7s,mb5.1
BSD Bornholm Skovb 50.70 313 *e*P **P** **23 13 50.7 +3.4**
BSD pmax pmax
comp=Z,18nm,0.7s,mb5.1
BSD Bornholm Skovb 50.70 313 *e*P **P** **23 13 50.7 +3.4**
comp=Z,18nm,0.7s,mb5.1
ALN Alexandroupoli 50.71 292 *e*P **P** **23 13 48.0 +0.6**
EIL Elat 50.74 275 *e*P **P** **23 13 48.2 +0.6**
comp=Z,718nm,1.1s
KDZ Kurdzhali 50.74 293 P **P** **23 13 48.5 +0.9**
BZS Buzias 51.20 299⇑ *i*P **P** **23 13 51.3 +0.2**
BZS Buzias 51.20 299 ⇑P **P** **23 13 51.2 +0.2**
OKC Ostrava-Krasne 51.28 305 *e*P **P** **23 13 51.8 +0.1**
OKC *e*pP pP 23 13 56.3 +0.4
OKC AMS AMS 23 35 40.0
comp=Z,800nm,11.5s
OKC Ostrava-Krasne 51.28 305 *e*P **P** **23 13 51.8 +0.1**
OKC *e*pP pP 23 13 56.3 +0.4
KONO Kongsberg 51.34 319⇑ *e*P **P** **23 13 50.9 -1.2**
VYHS Vyhne 51.51 304 *i*P **P** **23 13 53.6 +0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
VYHS Vyhne 51.51 304 *i*P **P** **23 13 53.6 +0.2**
comp=Z,10nm,1.2s,mb4.6
TNA Tin City 51.59 32 *e*P **P** **23 13 53.7 -0.3**
comp=Z,39nm,1.1s,mb5.2
MORC Moravsky Berou 51.66 306⇓ *i*P **P** **23 13 54.9 +0.4**
MORC Moravsky Berou 51.66 306 ⇓P **P** **23 13 54.9 +0.4**
VTS Vitosha 51.69 295 P **P** **23 13 55.0 +0.2**
VTS Vitosha 51.69 295⇓ *i*P **P** **23 13 55.6 +0.8**
KOLL Kolacno 51.72 304 *e*P **P** **23 13 55.2 +0.2**
DAG Danmarks Havn 51.76 345⇓ *i*P **P** **23 13 53.6 -1.7**
comp=Z,4.8nm,0.7s,mb4.5
DAG Danmarks Havn 51.76 345 ⇓P **P** **23 13 53.6 -1.7**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MMB Musomiste 51.87 294 P **P** **23 13 56.8 +0.8**

KSP Ksiaz 51.87 307 *e*P **P** **23 13 55.6 -0.5**
KSP *e**PP pP 23 14 00.1 -0.2
ALE Alert 51.95 357 P **P** **23 13 55.6 -1.1**
comp=Z,108nm,1.0s,mb5.7,SNR=10
CHOS Chios island 52.00 289 *e*P **P** **23 13 57.4 +0.3**
DPC Dobruska-Polom 52.08 307 *e*P **P** **23 13 58.0 +0.3**
DPC *e*pP pP 23 14 02.9 +1.0
DPC AMS AMS 23 36 20.0
comp=Z,800nm,12.2s
UPC Upice 52.19 307 *e*P **P** **23 13 58.5 +0.1**
VRAC Vranov 52.42 305 LR LR 23 37 09.1
comp=Z,370nm,21.4s,MS4.4,baz=5.3,slow=37
VRAC Vranov 52.42 305⇓ *i*P **P** **23 14 00.5 +0.3**
VRAC Vranov 52.42 305 ⇓P **P** **23 14 00.5 +0.3**
RUE Ruedersdorf 52.49 310 *e*P **P** **23 14 00.5 -0.2**
comp=Z,27nm,1.0s,mb5.1
GRUS Gruza 52.61 298⇓ *i*P **P** **23 14 01.6 0.0**
KNT Kendrikon 52.62 294 *e*P **P** **23 14 02.3 +0.6**
JMIC Jan Mayen 52.65 337 LR LR 23 38 55.5
comp=Z,145nm,18.1s,MS4.1,baz=87,slow=39
ZST Bratislava 52.67 304 *e*P **P** **23 14 02.7 +0.7**
ZST pmax pmax
comp=Z,11nm,1.3s,mb4.6
ZST Bratislava 52.67 304 *e*P **P** **23 14 02.7 +0.7**
comp=Z,11nm,1.3s,mb4.6
PKSM Moragy 52.73 301⇑ *i*P **P** **23 14 02.4 0.0**
PKSM Moragy 52.73 301 ⇑P **P** **23 14 02.4 -0.1**
KARP Karpathos 52.80 285 *e*P **P** **23 14 05.0 +2.0**
BLS5 Blasjo 52.88 320 *e*P **P** **23 14 03.3 -0.2**
BLS5 *e*pP pP 23 14 06.8 -1.0
DIVS Divcibare 52.96 298⇓ *i*P **P** **23 14 03.7 -0.4**
DIVS Divcibare 52.96 298 *e*P **P** **23 14 03.7 -0.4**
PVCC Panska Ves 52.98 308 *e*P **P** **23 14 04.5 +0.2**
PVCC *e**PP pP 23 14 09.4 +0.8
PVCC MLR MLR
comp=Z,300nm,11.2s,MS4.6
MUD Monsted U'grnd 52.99 316 *i*P **P** **23 14 04.1 -0.3**
comp=Z,23nm,0.8s,mb5.2
MUD Monsted U'grnd 52.99 316 *i*P **P** **23 14 04.1 -0.3**
MUD pmax pmax
comp=Z,23nm,0.8s,mb5.2
GRG Griva 53.05 294 *e*P **P** **23 14 05.1 +0.3**
APE Apeiranthos 53.06 288 *e*P **P** **23 14 04.6 -0.3**
APE Apeiranthos 53.06 288 *e*P **P** **23 14 04.5 -0.4**
APE Apeiranthos 53.06 288⇑ *i*P **P** **23 14 04.2 -0.7**
APE Apeiranthos 53.06 288 *c i*P **P** **23 14 04.5 -0.4**
APE Apeiranthos 53.06 288 ⇑P **P** **23 14 04.2 -0.7**
TREC Trest 53.06 306 *e*P **P** **23 14 05.1 +0.2**
TREC *e*pP pP 23 14 09.9 +0.7
TREC AMS AMS 23 36 50.0
comp=Z,600nm,11.6s
BRG Berggiesshubel 53.17 308 *e*P **P** **23 14 05.0 -0.7**
comp=Z,16nm,1.1s,mb4.9
BRG Berggiesshubel 53.17 308⇑ *i*P **P** **23 14 05.3 -0.4**
comp=Z,9.4nm,1.1s,mb4.6
BRG *i* pP 23 14 10.3 +0.3
comp=Z,6.6nm,1.0s
BRG
comp=Z,504nm,13.4s
BRG
comp=N,302nm,13.2s
BRG
comp=E,369nm,13.2s
BRG Berggiesshubel 53.17 308⇑ *i*P **P** **23 14 05.3 -0.4**
BRG *i* pP 23 14 10.3 +0.3
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BRG MLR MLR
comp=Z,500nm,13.4s,MS4.7
BRG Berggiesshubel 53.17 308⇑ *i*P **P** **23 14 05.3 -0.4**
comp=Z,9.4nm,1.1s,mb4.6
BRG *i* pP 23 14 10.3 +0.3
BRG LR LR
comp=Z,500nm,13.4s,MS4.7
PRU Pruhonice 53.26 307 *e*P **P** **23 14 06.3 -0.1**
PRU *e*pP pP 23 14 11.3 +0.6
PRU AMS AMS 23 37 00.0
comp=Z,700nm,14.2s
LIT Litokhoron 53.44 293 *e*P **P** **23 14 07.2 -0.5**
FBE Freiberg 53.47 308 *e*P **P** **23 14 07.7 -0.2**
comp=Z,16nm,1.0s,mb4.9
CLL Collm 53.47 309 *e*P **P** **23 14 07.3 -0.6**
comp=Z,13nm,0.8s,mb4.9
CLL Collm 53.47 309⇑ *i*P **P** **23 14 07.4 -0.5**
comp=Z,13nm,0.8s,mb4.9
CLL *i* pP pP 23 14 10.2 -2.0
CLL *i* sP sP 23 14 12.2 -1.7
CLL *e*SS SS 23 25 36.0 +16
CLL Collm 53.47 309⇑ *i*P **P** **23 14 07.4 -0.5**
CLL *i* *PP pP 23 14 10.2 -2.0
CLL pmax pmax
comp=Z,13nm,0.8s,mb4.9
CLL MLR MLR
comp=Z,800nm,11.2s,MS5.0
CLL Collm 53.47 309⇑ *i*P **P** **23 14 07.4 -0.5**
comp=Z,13nm,0.8s,mb4.9
CLL *i* pP pP 23 14 10.2 -2.0
CLL LR LR
comp=Z,800nm,11.2s,MS5.0
THR3 Thira Island, 53.51 287 *e*P **P** **23 14 07.2 -1.0**
CONA Conrad Observa 53.52 304 *i*P **P** **23 14 09.1 +0.8**
comp=Z,67nm,1.5s,mb5.3,SNR=23
ZKR Zakros 53.68 286 *e*P **P** **23 14 10.0 +0.5**
FNA Florina 53.80 294 *e*P **P** **23 14 10.0 -0.4**
NPS Neapolis 54.01 286 *e*P **P** **23 14 10.0 -1.8**
ARSA Arzberg 54.06 304⇑ *i*P **P** **23 14 11.9 -0.4**
comp=Z,6.1nm,1.2s,mb4.4
AGG Agios Georgios 54.12 292 *e*P **P** **23 14 12.0 -0.7**
LAST Lasithi 54.15 286 *e*P **P** **23 14 12.9 -0.1**
XRY Khrisi 54.17 286 *e*P **P** **23 14 11.0 -2.0**
TANN Tannenbergstha 54.21 308 *e*P **P** **23 14 12.7 -0.7**
comp=Z,12nm,1.2s,mb4.7
KHC Kasperske Hory 54.23 306 *e*P **P** **23 14 13.5 0.0**
KHC *e*pP pP 23 14 18.4 +0.6
KHC AMS AMS 23 37 40.0
comp=Z,1µm,12.4s
WERD Werda 54.28 308 *e*P **P** **23 14 13.2 -0.7**
comp=Z,12nm,1.1s,mb4.7
GERES GERESS Array B 54.31 306 P **P** **23 14 13.8 -0.3**
comp=Z,1.7nm,0.8s,mb4.0,baz=57,slow=5.6,SNR=18
GERES LR LR 23 38 17.6
comp=Z,437nm,19.7s,MS4.5,baz=78,slow=37
WERN Wernitzgruen 54.33 308 *e*P **P** **23 14 13.9 -0.3**
comp=Z,11nm,1.0s,mb4.7
MEV Metsovon 54.43 293 *e*P **P** **23 14 14.9 0.0**
NRDL Niedersach Rie 54.45 311 *e*P **P** **23 14 15.1 +0.1**
comp=Z,31nm,1.3s,mb5.1
TIR Tirane 54.47 295 *e*P **P** **23 14 14.9 -0.3**
IDI Anoyia 54.48 287 P **P** **23 14 13.9 -1.4**
comp=Z,28nm,0.6s,mb5.3,baz=31,slow=9.9,SNR=37
MOA Molln 54.49 305⇑ *i*P **P** **23 14 15.8 +0.4**
comp=Z,40nm,1.8s,mb5.1,SNR=7.9
EVR Evrytania 54.52 292 *e*P **P** **23 14 14.5 -1.1**
MOX Moxa 54.56 309 *e*P **P** **23 14 15.6 -0.3**
comp=Z,23nm,1.6s,mb5.0
MOX
comp=Z,600nm,16.0s
MOX Moxa 54.56 309 *e*P **P** **23 14 15.6 -0.3**
MOX pmax pmax
comp=Z,23nm,1.6s,mb5.0
MOX MLR MLR
comp=Z,600nm,16.0s,MS4.8
PERS Pernice 54.62 303 *e*P **P** **23 14 15.8 -0.5**
WET Wettzell 54.62 307 *e*P **P** **23 14 16.2 -0.1**
comp=Z,11nm,1.0s,mb4.8
WET Wettzell 54.62 307 *e*P **P** **23 14 16.2 -0.1**
WET pmax pmax
comp=Z,11nm,1.0s,mb4.8
MANZ Manzenberg 54.63 308 *e*P **P** **23 14 16.1 -0.3**
comp=Z,21nm,1.7s,mb4.9
CLZ Clausthal 54.63 311 *e*P **P** **23 14 16.1 -0.3**
comp=Z,15nm,1.1s,mb4.9
CLZ Clausthal 54.63 311 *e*P **P** **23 14 16.1 -0.3**
CLZ pmax pmax
comp=Z,15nm,1.1s,mb4.9
ROTZ Rotzenmuhle 54.68 308 *e*P **P** **23 14 16.6 -0.2**
comp=Z,12nm,1.1s,mb4.8
SIVA Sivas 54.69 286 *e*P **P** **23 14 16.9 +0.1**
JAN Janina 54.74 293 *e*P **P** **23 14 17.0 -0.2**
VAM Vamos 54.88 287 *e*P **P** **23 14 17.0 -1.2**
GTTG Gvttingen 55.00 310 *e*P **P** **23 14 19.2 +0.1**
comp=Z,18nm,0.8s,mb5.2
OBKA Obir 55.02 303⇑ *i*P **P** **23 14 19.1 0.0**
comp=Z,18nm,1.2s,mb5.0,SNR=8.1
KARN Karanos 55.07 287 *e*P **P** **23 14 19.0 -0.6**

BOJS Bojanci 55.12 302 *e*P **P** **23 14 19.7 -0.3**
IGT Igoumenitsa 55.15 293 *e*P **P** **23 14 18.9 -1.2**
ATKA Ätka Island 55.15 49 *e*P **P** **23 14 19.8 -0.3**
VISS Visnje 55.21 302 *e*P **P** **23 14 20.0 -0.6**
GRA1 Grafenberg Arr 55.27 308 *e*P **P** **23 14 20.9 -0.1**
comp=Z,31nm,1.2s,mb5.2
GRA1 LR LR
comp=Z,300nm,18.2s,MS4.4
GRF Grafenberg Arr 55.27 308 *e*P **P** **23 14 20.9 -0.1**
comp=Z,31nm,1.2s,mb5.2
GRF *e*L 23 40 04.5
comp=Z,296nm,18.2s
GRF Grafenberg Arr 55.27 308 *e*P **P** **23 14 20.9 -0.1**
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.2
GRF MLR MLR
comp=Z,300nm,18.2s,MS4.4
GRF Grafenberg Arr 55.27 308 *e*P **P** **23 14 20.9 -0.1**
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.2
GRF MLR MLR
comp=Z,300nm,18.2s,MS4.4
GVD Gavdhos 55.28 287 *e*P **P** **23 14 20.5 -0.6**
comp=Z,174nm,0.9s,mb6.1
GVD *e*pP pP 23 14 23.8 -1.5
UBBA Unterbreizbach 55.36 310 *e*P **P** **23 14 20.9 -0.7**
comp=Z,18nm,1.5s,mb4.9
KBA Koelnbreinsper 55.42 304 *i*P **P** **23 14 22.6 +0.5**
comp=Z,51nm,1.5s,mb5.3,SNR=9.8
KBA Koelnbreinsper 55.42 304 *i*P **P** **23 14 22.7 +0.6**
KBA pmax pmax
comp=Z,51nm,1.5s,mb5.3
FVI Forni Avoltri 56.01 304 P **P** **23 14 25.7 -0.6**
FUR Furstenfeldbru 56.04 306 *e*P **P** **23 14 26.7 +0.2**
FUR pmax pmax
comp=Z,25nm,1.0s,mb5.2
FUR Furstenfeldbru 56.04 306 *e*P **P** **23 14 26.7 +0.2**
comp=Z,25nm,1.0s,mb5.2
LCI Lecce 56.13 295 PKP **P** **23 14 27.0 -0.2**
WTTA Wattenberg 56.31 305⇓ *i*P **P** **23 14 28.4 -0.1**
comp=Z,47nm,1.7s,mb5.2
WTTA Wattenberg 56.31 305⇓ *i*P **P** **23 14 28.4 -0.1**
WTTA pmax pmax
comp=Z,47nm,1.7s,mb5.2
WTSB Winterswijk 56.46 312⇑ *e*P **P** **23 14 29.2 -0.3**
comp=Z,27nm,0.8s,mb5.3
BUG Bochum--Univer 56.49 311 *e*P **P** **23 14 29.9 +0.1**
comp=Z,47nm,1.5s,mb5.3
TOD Tromm 56.65 309 *e*P **P** **23 14 30.4 -0.5**
FGMS Monte Sant'Ang 56.74 298 PKP **P** **23 14 30.9 -0.6**
STU Stuttgart 56.88 308 *e*P **P** **23 14 31.7 -0.9**
comp=Z,27nm,1.6s,mb5.0
CTI Castel Tesino 56.96 304 P **P** **23 14 31.8 -1.3**
FG2 Serracapriola 57.18 298 PKP **P** **23 14 34.6 -0.1**
ABH Alteburg 57.19 310 *e*P **P** **23 14 34.4 -0.3**
ATD Arta Tunnel 57.23 252 P **P** **23 14 35.5 +0.5**
comp=Z,32nm,0.9s,mb5.3,baz=17,slow=3.7,SNR=13
DAVA Damuels 57.31 306⇑ *i*P **P** **23 14 35.4 -0.2**
comp=Z,38nm,1.9s,mb5.1
FG4 Candela 57.33 297 PKP **P** **23 14 36.0 +0.3**
TTA Tatalina 57.40 31 *e*P **P** **23 14 36.2 0.0**
FG5 Orsara di Pugl 57.40 298 PKP **P** **23 14 36.5 +0.3**
RUP Ruppelstein 57.55 310 *e*P **P** **23 14 36.7 -0.6**
HGN Heimansgroeve 57.57 311⇑ *e*P **P** **23 14 36.8 -0.6**
comp=Z,20nm,0.8s,mb5.2
ARV Arcevia 57.60 301 PKP **P** **23 14 37.2 -0.4**
BFO Black Forest 57.61 308 *e*P **P** **23 14 36.8 -0.9**
comp=Z,8.0nm,1.1s,mb4.7
BFO Black Forest 57.61 308 *e*P **P** **23 14 36.8 -0.9**
BFO pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MEM Membach 57.62 311 P **P** **23 14 37.2 -0.5**
comp=Z,8.5nm,0.9s,mb4.8
MEM AP pP 23 14 39.1 -2.9
MEM PCP PcP 23 15 29.5 -1.4
TIP Timpagrande 57.65 295 *e*P **P** **23 14 38.0 0.0**
TIP *e*PP PP 23 16 45.0 -0.7
SLCN Sala Consilina 57.68 297 PKP **P** **23 14 38.6 +0.4**
SNTG Esanatoglia 57.73 301 PKP **P** **23 14 38.5 -0.1**
CII Carovilli 57.76 299 PKP **P** **23 14 39.4 +0.7**
CUC Castrocucco 57.78 296 PKP **P** **23 14 38.8 -0.1**
SGO Sicignano 57.78 297 PKP **P** **23 14 39.1 +0.2**
MIDA Miranda 57.83 298 PKP **P** **23 14 39.2 -0.1**
NRCA Norcia 57.87 300 PKP **P** **23 14 39.6 +0.1**
MGR Morigerati 57.87 296 PKP **P** **23 14 39.1 -0.4**
AQU L'Aquila 57.96 300 *e*P **P** **23 14 39.8 -0.3**
AQU *e**PP pP 23 14 45.1 +0.6
AQU pmax pmax
comp=Z,17nm,1.0s,mb5.0
AQU L'Aquila 57.96 300 *e*P **P** **23 14 39.8 -0.4**
comp=Z,17nm,1.0s,mb5.0
AQU *e*pP pP 23 14 45.1 +0.6
MURB Monte Urbino 57.98 301 PKP **P** **23 14 41.0 +0.7**
SFI Santa Sofia 58.03 302 P **P** **23 14 41.3 +0.7**
FELD Feldberg im Sc 58.04 307 *e*P **P** **23 14 39.3 -1.4**
WLF Walferdange 58.06 310 ⇑P **P** **23 14 40.5 -0.4**
WLF PCP PcP 23 15 32.0 -0.7
BCLA Clavier 58.09 311 ⇑P **P** **23 14 40.3 -0.8**
comp=Z,3.6nm,0.8s,mb4.5
BCLA XP sP 23 14 43.6 -3.5
BCLA E 23 15 39.4
WLS Welschbruch 58.10 308 *e*P **P** **23 14 40.3 -0.9**
CDF Champ du Feu 58.15 308 *e*P **P** **23 14 40.5 -1.0**
comp=Z,13nm,1.0s,mb4.6
CDF Champ du Feu 58.15 308 *e*P **P** **23 14 40.5 -1.0**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CDF Champ du Feu 58.15 308 *e*P **P** **23 14 40.5 -1.0**
comp=Z,6.6nm,1.0s,mb4.6
VMG Vicchio 58.18 302 PKP **P** **23 14 43.1 +1.4**
ECH Echery 58.32 308 *e*P **P** **23 14 41.2 -1.5**
UCC Uccle 58.38 312 ⇑P **P** **23 14 42.1 -1.0**
SUMG Summit 58.40 346 *e*P **P** **23 14 35.4 -7.8**
comp=Z,6.1nm,1.0s,mb4.6
GIVF Givet 58.53 311 *e*P **P** **23 14 43.9 -0.2**
MOF Molkenrain 58.54 308 *e*P **P** **23 14 43.8 -0.4**
BBS Basel-Blauen 58.55 307 *e*P **P** **23 14 44.4 +0.1**
SNF Seneffe 58.58 312 P **P** **23 14 43.9 -0.6**
comp=Z,6.1nm,0.9s,mb4.6
DOU Dourbes 58.65 311 ⇑P **P** **23 14 44.5 -0.5**
comp=Z,3.6nm,0.9s,mb4.4
DOU PCP PcP 23 15 30.7 -4.2
SVW2 Sparrevohn 58.67 33 *e*P **P** **23 14 45.8 +0.7**
HINF Hinteralfeld 58.72 308 *e*P **P** **23 14 44.3 -1.1**
CEL Celeste 58.73 294 PKP **P** **23 14 45.5 0.0**
SOI Samo 58.73 294 PKP **P** **23 14 45.5 0.0**
BAIF Baives 58.88 311 *e*P **P** **23 14 46.0 -0.6**
comp=Z,43nm,1.2s,mb5.0
BAIF Baives 58.88 311 *e*P **P** **23 14 46.0 -0.6**
BAIF pmax pmax
comp=Z,22nm,1.2s,mb5.1
BAIF Baives 58.88 311 *e*P **P** **23 14 46.0 -0.6**
comp=Z,22nm,1.2s,mb5.0
HAU Haudompre 58.89 308 *e*P **P** **23 14 46.8 +0.2**
comp=Z,36nm,1.0s,mb5.0
HAU *e*R
comp=Z,143nm,19.8s
HAU Haudompre 58.89 308 *e*P **P** **23 14 46.8 +0.2**
HAU pmax pmax
comp=Z,18nm,1.0s,mb5.1
HAU MLR MLR
comp=Z,140nm,19.8s,MS4.1
HAU Haudompre 58.89 308 *e*P **P** **23 14 46.8 +0.2**
comp=Z,18nm,1.0s,mb5.0
HAU LR LR
comp=Z,140nm,19.8s,MS4.1
THEF They Montfort 58.96 309 *e*P **P** **23 14 46.4 -0.7**
COLA College 58.96 27 *c i*P **P** **23 14 47.2 0.0**
COLA College 58.96 27 *e*P **P** **23 14 46.7 -0.5**
comp=Z,77nm,1.1s,mb5.6
LOMF Lomont 58.99 308 *e*P **P** **23 14 46.6 -0.8**
MTTG Motta San Giov 59.00 294 PKP **P** **23 14 47.8 +0.4**
MCGN Macugnaga 59.13 306 PKP **P** **23 14 47.9 -0.4**
MEZF Maizieres J'vi 59.32 309 *e*P **P** **23 14 49.2 -0.4**
comp=Z,22nm,0.9s,mb4.9
MEZF Maizieres J'vi 59.32 309 *e*P **P** **23 14 49.2 -0.4**
comp=Z,22nm,0.9s,mb5.2
MCK McKinley 59.37 28 *e*P **P** **23 14 50.5 +0.5**
MCK pmax pmax
comp=Z,14nm,0.9s,mb5.0
MCK McKinley 59.37 28 *e*P **P** **23 14 50.5 +0.5**
comp=Z,14nm,0.9s,mb5.0
MENF Mencas 59.67 313 *e*P **P** **23 14 50.4 -1.6**
CABF La Chapelle 59.83 307 *e*P **P** **23 14 52.2 -1.0**
comp=Z,28nm,1.1s,mb4.9

CABF La Chapelle 59.83 307 *e*P **P 23 14 52.2 -1.0**
CABF pmax pmax
comp=Z,14nm,1.1s,mb4.9
CABF La Chapelle 59.83 307 *e*P **P 23 14 52.2 -1.0**
comp=Z,14nm,1.1s,mb4.9
RES Resolute Bay 59.94 4 *e*P **P 23 14 53.2 -0.7**
RES *e**PP pP 23 14 56.6 -1.6
LPG La Plagne 60.10 306 *e*P **P 23 14 55.0 0.0**
LPL La Plagne 60.10 306 *e*P **P 23 14 54.9 -0.1**
VAE Valguarnera 60.13 294 P **P 23 14 55.4 +0.2**
comp=Z,4.4nm,0.8s,mb4.6,baz=270,slow=5.1,SNR=3.6
BORG Borgarnes 60.31 334 LR LR 23 47 27.1
comp=Z,74nm,18.9s,MS3.9,baz=29,slow=42
IMI Imperia 60.37 304 PKP **P 23 14 56.5 -0.4**
BNI Bardonecchia 60.41 305 *e*P **P 23 14 56.9 -0.2**
BNI pmax pmax
comp=Z,21nm,1.0s,mb5.1
BNI Bardonecchia 60.41 305 *e*P **P 23 14 56.9 -0.2**
comp=Z,21nm,1.0s,mb5.1
INK Inuvik 60.44 19 P **P 23 14 56.5 -0.8**
comp=Z,28nm,0.8s,mb5.3,baz=337,slow=8.1,SNR=22
INK Inuvik 60.44 19 *e*P **P 23 14 56.5 -0.8**
INK pmax pmax
comp=Z,27nm,0.8s
INK Inuvik 60.44 19 *e*P **P 23 14 56.5 -0.8**
comp=Z,27nm,0.8s,mb5.3
PGF Pioggiola 60.51 302 *e*P **P 23 14 57.6 -0.2**
comp=Z,64nm,1.2s,mb5.3
PGF Pioggiola 60.51 302 *e*P **P 23 14 57.6 -0.2**
PGF pmax pmax
comp=Z,32nm,1.2s,mb5.3
PGF Pioggiola 60.51 302 *e*P **P 23 14 57.6 -0.2**
comp=Z,32nm,1.2s,mb5.3
MBDF Montbardon 60.54 305 *e*P **P 23 14 56.9 -1.1**
comp=Z,21nm,0.9s,mb5.0
MBDF Montbardon 60.54 305 *e*P **P 23 14 56.9 -1.1**
MBDF pmax pmax
comp=Z,11nm,0.9s,mb5.0
MBDF Montbardon 60.54 305 *e*P **P 23 14 56.9 -1.1**
comp=Z,11nm,0.9s,mb5.0
SBF Sospel 60.67 304 *e*P **P 23 14 58.0 -0.9**
comp=Z,86nm,1.1s,mb5.5
SBF Sospel 60.67 304 *e*P **P 23 14 58.0 -0.9**
SBF pmax pmax
comp=Z,43nm,1.1s,mb5.5
SBF Sospel 60.67 304 *e*P **P 23 14 58.0 -0.9**
comp=Z,43nm,1.1s,mb5.5
TOUF Mont Tournerai 60.69 304 *e*P **P 23 14 59.0 0.0**
LOR Lormes 60.69 309 *e*P **P 23 14 58.3 -0.7**
comp=Z,19nm,0.9s,mb4.9
LOR *e*R
comp=Z,137nm,18.2s
LOR Lormes 60.69 309 *e*P **P 23 14 58.3 -0.7**
LOR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,140nm,18.3s,MS4.1
LOR Lormes 60.69 309 *e*P **P 23 14 58.3 -0.7**
comp=Z,9.5nm,0.9s,mb4.9
LOR LR LR
comp=Z,140nm,18.3s,MS4.1
PMR Palmer 60.73 30 *e*P **P 23 14 59.0 -0.3**
PMR pmax pmax
comp=Z,39nm,1.0s,mb5.5
PMR Palmer 60.73 30 *e*P **P 23 14 59.0 -0.3**
comp=Z,39nm,1.0s,mb5.5
SML Sawmill 60.87 30 *e*P **P 23 15 00.1 -0.1**
ORIF Oris-en-Rattie 60.94 306 *e*P **P 23 15 00.1 -0.7**
comp=Z,32nm,0.9s,mb5.2
ORIF *e*R
comp=Z,713nm,18.2s
ORIF Oris-en-Rattie 60.94 306 *e*P **P 23 15 00.1 -0.7**
ORIF pmax pmax
comp=Z,16nm,0.9s,mb5.2
ORIF Oris-en-Rattie 60.94 306 *e*P **P 23 15 00.1 -0.7**
comp=Z,16nm,0.9s,mb5.2
SSF Saint Saulge 61.00 309 *e*P **P 23 15 00.5 -0.7**
comp=Z,16nm,1.1s,mb4.8
SSF Saint Saulge 61.00 309 *e*P **P 23 15 00.5 -0.7**
SSF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
SSF Saint Saulge 61.00 309 *e*P **P 23 15 00.5 -0.7**
comp=Z,7.9nm,1.1s,mb4.8
SLKM Skilak Lake 61.07 32 *e*P **P 23 15 01.0 -0.6**
SLKM *e**PP pP 23 15 05.2 -0.7
SMF Signal de Mont 61.07 308 *e*P **P 23 15 00.3 -1.3**
comp=Z,17nm,0.9s,mb4.9
SMF Signal de Mont 61.07 308 *e*P **P 23 15 00.3 -1.3**
SMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SMF Signal de Mont 61.07 308 *e*P **P 23 15 00.3 -1.3**
comp=Z,8.4nm,0.9s,mb4.9
AVF Avril sur Loir 61.25 309 *e*P **P 23 15 01.5 -1.3**
comp=Z,32nm,1.2s,mb5.0
AVF Avril sur Loir 61.25 309 *e*P **P 23 15 01.5 -1.3**
AVF pmax pmax
comp=Z,16nm,1.2s,mb5.0
AVF Avril sur Loir 61.25 309 *e*P **P 23 15 01.5 -1.3**
comp=Z,16nm,1.2s,mb5.0
FRF La Foret Royal 61.31 304 *e*P **P 23 15 01.0 -2.2**
comp=Z,23nm,1.0s,mb4.9
FRF La Foret Royal 61.31 304 *e*P **P 23 15 01.0 -2.2**
FRF pmax pmax
comp=Z,11nm,1.0s,mb4.9
FRF La Foret Royal 61.31 304 *e*P **P 23 15 01.0 -2.2**
comp=Z,11nm,1.0s,mb5.0
HYF Humbligny 61.35 309 *e*P **P 23 15 02.8 -0.7**
LMR La Mourre 61.52 304 *e*P **P 23 15 03.6 -1.1**
comp=Z,8.2nm,0.7s,mb4.6
LMR La Mourre 61.52 304 *e*P **P 23 15 03.6 -1.1**
LMR pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
LMR La Mourre 61.52 304 *e*P **P 23 15 03.6 -1.1**
comp=Z,4.1nm,0.7s,mb4.7
BGF Bois d'Agland 61.67 309 *e*P **P 23 15 04.4 -1.3**
comp=Z,15nm,0.8s,mb4.9
BGF Bois d'Agland 61.67 309 *e*P **P 23 15 04.4 -1.3**
BGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BGF Bois d'Agland 61.67 309 *e*P **P 23 15 04.4 -1.3**
comp=Z,7.4nm,0.8s,mb4.9
VIVF Saint-Julien-I 61.67 306 *e*P **P 23 15 04.6 -1.1**
comp=Z,34nm,1.3s,mb5.0
VIVF Saint-Julien-I 61.67 306 *e*P **P 23 15 04.6 -1.1**
VIVF pmax pmax
comp=Z,17nm,1.3s,mb5.0
VIVF Saint-Julien-I 61.67 306 *e*P **P 23 15 04.6 -1.1**
comp=Z,17nm,1.3s,mb5.0
SMRF Simiane la Rot 61.68 305 *e*P **P 23 15 05.1 -0.6**
comp=Z,49nm,1.5s,mb5.1
SMRF Simiane la Rot 61.68 305 *e*P **P 23 15 05.1 -0.6**
comp=Z,49nm,1.5s,mb5.4
KDAK Kodiak Island 61.97 35 P **P 23 15 07.0 -0.7**
comp=Z,473nm,0.7s,SNR=11
KDAK Kodiak Island 61.97 35 P **P 23 15 07.1 -0.6**
comp=Z,60nm,0.8s,mb5.8,baz=341,slow=4.7,SNR=34
KDAK Kodiak Island 61.97 35 P **P 23 15 07.1 -0.6**
LDF La Druitiere 62.03 312 *e*P **P 23 15 06.8 -1.3**
comp=Z,39nm,0.7s,mb5.3
LDF La Druitiere 62.03 312 *e*P **P 23 15 06.8 -1.3**
LDF pmax pmax
comp=Z,19nm,0.7s,mb5.3
LDF La Druitiere 62.03 312 *e*P **P 23 15 06.8 -1.3**
comp=Z,19nm,0.7s,mb5.3
DMUB Kingscourt 62.06 320⇑ *i*P **P 23 15 07.4 -0.9**
PYM Petit Puy Mans 62.07 308 *e*P **P 23 15 07.6 -0.7**
FLN La Foliniere 62.12 312 *e*P **P 23 15 07.4 -1.3**
comp=Z,47nm,0.7s,mb5.4
FLN *e*R
comp=Z,766nm,17.8s
FLN La Foliniere 62.12 312 *e*P **P 23 15 07.4 -1.3**
FLN pmax pmax
comp=Z,23nm,0.7s,mb5.4
FLN MLR MLR
comp=Z,770nm,17.8s,MS4.9
FLN La Foliniere 62.12 312 *e*P **P 23 15 07.4 -1.3**
comp=Z,23nm,0.7s,mb5.4
FLN LR LR
comp=Z,770nm,17.8s,MS4.9
DAWY Dawson 62.13 25 *e*P **P 23 15 08.1 -0.7**
TCF Toulx Ste Croi 62.18 309 *e*P **P 23 15 09.0 -0.1**
comp=Z,30nm,0.9s,mb5.1
TCF Toulx Ste Croi 62.18 309 *e*P **P 23 15 09.0 -0.1**
TCF pmax pmax
comp=Z,15nm,0.9s,mb5.1
TCF Toulx Ste Croi 62.18 309 *e*P **P 23 15 09.0 -0.1**
comp=Z,15nm,0.9s,mb5.1

DIV Divide 62.23 29 *e*P **P 23 15 09.6 +0.2**
comp=Z,48nm,0.7s,mb5.7
DIV *e*pP pP 23 15 14.3 +0.6
DSB Dublin 62.23 319 *e*P **P 23 15 08.4 -1.0**
comp=Z,64nm,1.5s,mb5.5
DSB *e*pP pP 23 15 12.0 -1.8
LBL Lubilhac 62.25 307 *e*P **P 23 15 09.0 -0.6**
DLF Lyons Farm 62.27 319⇑ *i*P **P 23 15 08.6 -1.1**
GRR Gorron 62.54 312 *e*P **P 23 15 10.2 -1.3**
comp=Z,48nm,0.8s,mb5.4
GRR Gorron 62.54 312 *e*P **P 23 15 10.2 -1.3**
GRR pmax pmax
comp=Z,24nm,0.8s,mb5.4
GRR Gorron 62.54 312 *e*P **P 23 15 10.2 -1.3**
comp=Z,24nm,0.8s,mb5.4
DCN Croghan 62.59 319⇑ *i*P **P 23 15 11.0 -0.8**
LASF Ste Croix 62.61 306 *e*P **P 23 15 11.3 -0.7**
comp=Z,54nm,1.4s,mb5.2
EYAK Cordova Ski Ar 62.65 30 *e*P **P 23 15 12.8 +0.6**
EYAK *e*pP pP 23 15 16.2 -0.3
CAF Calviac 63.10 308 *e*P **P 23 15 14.9 -0.3**
comp=Z,14nm,1.1s,mb4.7
CAF Calviac 63.10 308 *e*P **P 23 15 14.9 -0.3**
CAF pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
CAF Calviac 63.10 308 *e*P **P 23 15 14.9 -0.3**
comp=Z,7.0nm,1.1s,mb4.7
RJF Les Rejaudoux 63.17 308 *e*P **P 23 15 15.0 -0.7**
comp=Z,25nm,1.0s,mb5.0
RJF *e*R
comp=Z,234nm,18.8s
RJF Les Rejaudoux 63.17 308 *e*P **P 23 15 15.0 -0.7**
RJF pmax pmax
comp=Z,13nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,230nm,18.8s,MS4.4
RJF Les Rejaudoux 63.17 308 *e*P **P 23 15 15.0 -0.7**
comp=Z,12nm,1.0s,mb5.0
RJF LR LR
comp=Z,230nm,18.8s,MS4.4
MFF Saint Martin d 63.27 310 *e*P **P 23 15 15.6 -0.8**
comp=Z,26nm,0.8s,mb5.1
MFF Saint Martin d 63.27 310 *e*P **P 23 15 15.6 -0.8**
MFF pmax pmax
comp=Z,13nm,0.8s,mb5.1
MFF Saint Martin d 63.27 310 *e*P **P 23 15 15.6 -0.8**
comp=Z,13nm,0.8s,mb5.1
SGMF Saint Gilles 63.51 313 *e*P **P 23 15 17.0 -1.0**
comp=Z,66nm,1.3s,mb5.2
SGMF Saint Gilles 63.51 313 *e*P **P 23 15 17.0 -1.0**
SGMF pmax pmax
comp=Z,33nm,1.3s,mb5.2
SGMF Saint Gilles 63.51 313 *e*P **P 23 15 17.0 -1.0**
comp=Z,33nm,1.3s,mb5.2
LFF La Frestale 63.83 308 *e*P **P 23 15 19.6 -0.4**
comp=Z,34nm,0.9s,mb5.1
LFF La Frestale 63.83 308 *e*P **P 23 15 19.6 -0.4**
LFF pmax pmax
comp=Z,17nm,0.9s,mb5.1
LFF La Frestale 63.83 308 *e*P **P 23 15 19.6 -0.4**
comp=Z,17nm,0.9s,mb5.1
ROSF Rostrenen 63.83 313 *e*P **P 23 15 19.0 -1.1**
comp=Z,33nm,1.1s,mb5.0
ROSF Rostrenen 63.83 313 *e*P **P 23 15 19.0 -1.1**
ROSF pmax pmax
comp=Z,16nm,1.1s,mb5.0
ROSF Rostrenen 63.83 313 *e*P **P 23 15 19.0 -1.1**
comp=Z,16nm,1.1s,mb5.0
MTLF Montolieu 63.99 306 *e*P **P 23 15 20.3 -0.9**
comp=Z,20nm,1.2s,mb4.7
MTLF Montolieu 63.99 306 *e*P **P 23 15 20.3 -0.9**
MTLF pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MTLF Montolieu 63.99 306 *e*P **P 23 15 20.3 -0.9**
comp=Z,10.0nm,1.2s,mb4.7
QUIF Quistinic 64.04 313 *e*P **P 23 15 20.4 -1.1**
comp=Z,33nm,0.8s,mb5.1
QUIF Quistinic 64.04 313 *e*P **P 23 15 20.4 -1.1**
QUIF pmax pmax
comp=Z,17nm,0.8s,mb5.1
QUIF Quistinic 64.04 313 *e*P **P 23 15 20.4 -1.1**
comp=Z,17nm,0.8s,mb5.1
EPF Esparros 65.26 307 *e*P **P 23 15 28.0 -1.4**
comp=Z,16nm,1.1s,mb4.7
EPF Esparros 65.26 307 *e*P **P 23 15 28.0 -1.4**
EPF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
EPF Esparros 65.26 307 *e*P **P 23 15 28.0 -1.4**
comp=Z,8.0nm,1.0s,mb4.7
SFJD Kangerlussuaq 65.34 347 *i*P **P 23 15 28.4 -1.5**
comp=Z,14nm,0.9s,mb5.0
SFJD Kangerlussuaq 65.34 347 *i*P **P 23 15 28.4 -1.5**
SFJD pmax pmax
comp=Z,14nm,0.9s,mb5.0
EBIE Bielsa 65.59 307 P **P 23 15 31.3 -0.2**
comp=Z,8.8nm,1.5s,mb4.6
EGRA Graus 65.80 306 P **P 23 15 33.1 +0.1**
comp=Z,1.0nm,1.2s
ETSF Etsaut 65.85 307 *e*P **P 23 15 32.8 -0.4**
comp=Z,23nm,1.1s,mb4.8
ETSF Etsaut 65.85 307 *e*P **P 23 15 32.8 -0.4**
ETSF pmax pmax
comp=Z,11nm,1.1s,mb4.8
ETSF Etsaut 65.85 307 *e*P **P 23 15 32.8 -0.4**
comp=Z,11nm,1.1s,mb4.8
KAKA Kakadu 65.91 142 *e*P **P 23 15 32.3 -1.3**
comp=Z,15nm,1.0s,mb5.0
KAKA *e*pP pP 23 15 35.7 -2.3
SJPF Ste Jean 66.08 308 *e*P **P 23 15 34.6 -0.1**
comp=Z,20nm,1.1s,mb4.8
SJPF Ste Jean 66.08 308 *e*P **P 23 15 34.6 -0.1**
SJPF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
SJPF Ste Jean 66.08 308 *e*P **P 23 15 34.6 -0.1**
comp=Z,10nm,1.1s,mb4.8
SKAG Skagway 66.92 26 *e*P **P 23 15 40.1 0.0**
comp=Z,40nm,0.8s,mb5.5
EARI Arriondas 68.15 310 P **P 23 15 47.4 -0.5**
comp=Z,61nm,1.9s,mb5.3
FITZ Fitzroy Crossi 68.18 151⇑ *i*P **P 23 15 46.8 -1.3**
comp=Z,13nm,0.9s,mb5.0
FITZ *e*pP pP 23 15 50.4 -2.0
SIT Sitka 68.84 28 *e*P **P 23 15 53.3 +1.1**
SIT pmax pmax
comp=Z,31nm,0.8s,mb5.3
SIT Sitka 68.84 28 *e*P **P 23 15 53.3 +1.2**
comp=Z,31nm,0.8s,mb5.3
MBWA Marble Bar 69.26 158 *e*P **P 23 15 53.7 -1.1**
comp=Z,21nm,0.7s,mb5.2
MBWA *e*pP pP 23 15 57.4 -1.7
DLBC Dease Lake 69.35 24 P **P 23 15 55.5 +0.1**
comp=Z,4.2nm,0.8s,mb4.4,baz=324,slow=8.2,SNR=6.5
GUD Guadarrama 69.36 307 P **P 23 15 54.1 -1.3**
GUD pmax pmax
comp=Z,33nm,1.9s,mb4.9
GUD Guadarrama 69.36 307 P **P 23 15 54.1 -1.2**
comp=Z,33nm,1.9s,mb4.9
YKW3 Yellowknife Ar 69.40 15 *e*P **P 23 15 54.7 -1.0**
YKW3 *e*pP pP 23 15 59.1 -0.9
YKA Yellowknife Ar 69.46 15 P **P 23 15 54.7 -1.3**
comp=Z,16nm,0.9s,mb5.0,baz=332,slow=6.4,SNR=47
YKA LR LR 23 47 10.7
comp=Z,84nm,18.2s,MS4.0,baz=315,slow=37
YKA Yellowknife Ar 69.46 15 P **P 23 15 54.7 -1.3**
YKA LR LR 23 47 10.7
ESDC Sonseca Array 69.90 306 P **P 23 15 58.1 -0.6**
comp=Z,5.6nm,1.0s,mb4.4,baz=48,slow=6.4,SNR=9.9
ESDC Sonseca Array 69.90 306 P **P 23 15 57.3 -1.4**
comp=Z,11nm,1.2s,mb4.7
PBRG Braganca 70.00 310 *e*P **P 23 15 59.0 -0.3**
comp=Z,19nm,1.3s,mb4.9
KMBO Kilima Mbogo 70.33 247 P **P 23 16 00.7 -0.7**
comp=Z,11nm,0.8s,mb4.8,baz=30,slow=9.9,SNR=28
KMBO LR LR 23 46 39.8
comp=Z,92nm,20.7s,MS4.0,baz=89,slow=36
PMG Port Moresby 70.47 127 *i*P **P 23 16 01.6 -0.6**
PCAB Cabril 70.76 310 *e*P **P 23 16 03.5 -0.5**
comp=Z,30nm,1.4s,mb5.0
CRAG Craig 70.85 28 *e*P **P 23 16 04.7 +0.2**
MTE Manteigas 71.40 309 *e*P **P 23 16 07.2 -0.7**
comp=Z,23nm,1.7s,mb4.8
MTE Manteigas 71.40 309 *i* - 23 38 52.1
PCBR Castelo Branco 71.76 308 *e*P **P 23 16 09.8 -0.2**
comp=Z,24nm,1.8s,mb4.8
PTOM Tomar 72.42 309 *e*P **P 23 16 17.3 +3.3**
EMIN Mina Concepcio 72.75 306 P **P 23 16 13.9 -2.0**
comp=Z,25nm,1.1s,mb5.1

EVO Evora 72.97 308 *e*P **P 23 16 16.8 -0.5**
comp=Z,25nm,1.0s,mb4.8
EVO *e*R
comp=Z,260nm,18.5s
WRAB Tennant Creek 73.16 144 P **P 23 16 17.3 -1.1**
comp=Z,96nm,1.2s,mb5.6,SNR=5.5
WRAB Tennant Creek 73.16 144 *c i*P **P 23 16 17.0 -1.4**
WRA Warramunga Arr 73.16 144 P **P 23 16 16.8 -1.6**
comp=Z,14nm,0.8s,mb4.9,baz=344,slow=6.2,SNR=19
WB2 Warramunga Arr 73.17 144⇑ *i*P **P 23 16 16.9 -1.5**
WB2 *e*pP pP 23 16 20.4 -2.4
MDT Midelt 75.00 302 P **P 23 16 27.0 -2.2**
comp=Z,3.2nm,0.9s,mb4.2,baz=33,slow=2.9,SNR=3.0
ASAR Alice Springs 76.32 146 P **P 23 16 35.5 -1.1**
comp=Z,6.2nm,0.8s,mb4.6,baz=335,slow=5.9,SNR=25
EDM Edmonton 78.31 18 *e*P **P 23 16 47.4 -0.4**
EDM *e**PP pP 23 16 52.3 0.0
KLBR Kellerberrin 78.80 162 *e*P **P 23 16 48.8 -1.8**
comp=Z,14nm,0.8s,mb4.9
KLBR *e*pP pP 23 16 52.2 -2.8
CTA Charters Tower 78.82 134⇑ *i*P **P 23 16 50.0 -0.7**
comp=Z,9.3nm,0.9s,mb4.7
CTA Charters Tower 78.82 134⇑ *i*P **P 23 16 50.0 -0.7**
CTA pmax pmax
comp=Z,9.0nm,0.9s
MUN Mundaring 78.86 164 *e*P **P 23 16 49.4 -1.5**
MUN *e*pP pP 23 16 52.8 -2.5
FFC Flin Flon 78.92 11 P **P 23 16 50.9 -0.3**
comp=Z,145nm,1.0s,mb5.9,SNR=11
SCHQ Schefferville 79.28 351 P **P 23 16 50.7 -2.5**
comp=Z,3.4nm,0.7s,mb4.4,baz=259,slow=6.1,SNR=3.8
SCHQ LR LR 23 59 03.3
comp=Z,96nm,19.1s,MS4.2,baz=10,slow=41
SCHQ Schefferville 79.28 351 P **P 23 16 50.7 -2.5**
SCHQ LR LR 23 59 03.2
PGC Sidney 79.78 26 *e*P **P 23 16 56.4 +0.5**
comp=Z,44nm,0.8s,mb5.4
PGC *e*pP pP 23 16 59.8 -0.5
A05A Maple Falls 79.88 25⇑ P **P 23 16 56.2 -0.3**
baz=80
A04A Legoe Bay, Lum 79.94 26⇓ P **P 23 16 57.3 +0.5**
baz=80,SNR=14
OBC Olympics--Boni 80.12 27 P **P 23 16 59.1 +1.4**
B04A Port Angeles 80.28 26⇓ P **P 23 16 59.5 +0.8**
baz=80
B05A Bryant 80.54 26⇑ P **P 23 17 00.4 +0.4**
baz=80,SNR=10
JCW Jim Creek 80.65 25 P **P 23 17 00.7 +0.1**
D03A Wishkah Elem. 81.03 27⇑ P **P 23 17 03.8 +1.2**
baz=81
C05A Tolt Reservoir 81.17 26⇓ P **P 23 17 03.3 -0.1**
baz=81
RMW Rattlesnake Mo 81.34 26 P **P 23 17 05.5 +1.2**
D04A Dobbs Creek Ra 81.34 26⇓ P **P 23 17 05.3 +1.0**
baz=81
D05A Enumclaw 81.53 26⇑ P **P 23 17 06.0 +0.7**
baz=81
E03A Lebam 81.60 27⇓ P **P 23 17 06.3 +0.6**
baz=81
NEW Newport 81.96 23 P **P 23 17 05.8 -1.7**
comp=Z,12nm,1.0s,mb4.8,baz=327,slow=6.9,SNR=10.0
E05A Randle 82.16 26⇓ P **P 23 17 08.4 -0.2**
baz=82
TDL Tradedollar La 82.20 26 P **P 23 17 09.9 +1.0**
MTMW Mount Mitchell 82.49 27 P **P 23 17 11.3 +1.0**
F04A Amboy 82.51 27⇓ P **P 23 17 10.9 +0.5**
baz=82
F05A White Salmon 82.86 26⇑ P **P 23 17 12.9 +0.7**
baz=82
HAWA Hanford 82.98 25 *e*P **P 23 17 13.3 +0.4**
comp=Z,2.4nm,1.2s,mb4.1
HAWA *e*pP pP 23 17 17.0 -0.3
G04A Mulino 83.14 27⇓ P **P 23 17 14.1 +0.4**
baz=83
H03A Soap Creek Ran 83.34 28⇓ P **P 23 17 15.8 +1.1**
baz=83
MPOR Mary's Peak 83.41 28 P **P 23 17 16.3 +1.2**
G05A Wamic 83.48 26⇑ P **P 23 17 15.8 +0.3**
baz=83
H04A Detroit Lake 83.70 27⇑ P **P 23 17 16.6 +0.1**
baz=83,SNR=7.9
I03A Eugene 83.97 28⇑ P **P 23 17 18.5 +0.5**
baz=84,SNR=7.0
H05A Madras 84.03 27⇓ P **P 23 17 18.7 +0.5**
baz=84
ULM Lac du Bonnet 84.06 9 P **P 23 17 15.7 -2.7**
comp=Z,7.4nm,0.9s,mb4.8,baz=352,slow=8.1,SNR=11
CHMT Chamberlain Mo 84.21 21 *e*P **P 23 17 18.9 -0.3**
CHMT *e*pP pP 23 17 23.1 -0.5
J02A Umpqua 84.41 29⇓ P **P 23 17 20.7 +0.5**
baz=84
I05A Bend 84.46 27⇑ P **P 23 17 20.9 +0.4**
baz=84
K01A Sixes 84.59 30⇑ P **P 23 17 21.9 +0.8**
baz=84
J03A Ideyld Park 84.61 28⇓ P **P 23 17 21.9 +0.6**
baz=84
TORD Torodi Ar. Bea 84.73 283 P **P 23 17 20.2 -1.6**
comp=Z,3.9nm,0.8s,mb4.6,baz=30,slow=5.1,SNR=16
TORD PP PP 23 20 33.9 -4.0
comp=Z,2.1nm,0.9s,baz=41,slow=6.5,SNR=4.1
K02A Glendale 84.97 29⇓ P **P 23 17 23.7 +0.6**
baz=85,SNR=8.6
I06A Prineville 84.99 26⇑ P **P 23 17 23.9 +0.8**
baz=85,SNR=10
HUMO Hull Mountain 85.29 29 *e*P **P 23 17 25.2 +0.6**
comp=Z,30nm,1.2s,mb5.3
HUMO *e* pP 23 17 29.5 +0.4
HUMO Hull Mountain 85.29 29⇓ P **P 23 17 25.6 +0.9**
baz=85,SNR=17
L02A Cave Junction 85.47 29⇑ P **P 23 17 26.3 +0.8**
baz=85
J06A Christmas Vall 85.63 27 P **P 23 17 27.3 +1.0**
baz=85,SNR=27
K04A Chilquin 85.70 28⇑ P **P 23 17 27.0 +0.4**
baz=85
BOZ Bozeman (W) 85.79 20 *e*P **P 23 17 27.0 -0.1**
BOZ *e* pP 23 17 31.1 -0.5
BOZ pmax pmax
comp=Z,14nm,1.3s,mb5.0
BOZ Bozeman (W) 85.79 20 *e*P **P 23 17 27.0 -0.1**
comp=Z,14nm,1.3s,mb5.0
BOZ *e*PcP PcP 23 17 31.1 +1.1
K06A Valley Falls 86.01 27⇑ P **P 23 17 29.1 +0.9**
baz=86,SNR=12
L04A Klamath Falls 86.04 28⇓ P **P 23 17 29.0 +0.7**
baz=86
YBH Yreka Blue Hor 86.15 29 P **P 23 17 29.2 +0.2**
comp=Z,1.8nm,0.6s,mb4.5,baz=119,slow=10,SNR=3.2
YBH Yreka Blue Hor 86.15 29⇑ P **P 23 17 29.4 +0.5**
baz=86
M04C Macdoel 86.41 28⇓ P **P 23 17 30.8 +0.6**
baz=86,SNR=9.2
M02C Callahan 86.41 29⇑ P **P 23 17 31.1 +0.9**
baz=86,SNR=11
K07A Rock Creek Ran 86.42 26⇑ P **P 23 17 30.9 +0.7**
baz=86
JCC Jacoby Creek 86.51 30⇑ P **P 23 17 31.6 +1.0**
baz=86
STKA Stephens Creek 86.71 144⇑ *i*P **P 23 17 27.8 -3.9**
comp=Z,11nm,1.0s,mb5.1
STKA Stephens Creek 86.71 144 P **P 23 17 27.9 -3.7**
comp=Z,21nm,1.1s,mb5.3,baz=354,slow=7.4,SNR=7.3
N02C Big Bar 86.76 30⇑ P **P 23 17 32.6 +0.7**
baz=86,SNR=8.5
M03C McCloud 86.77 29⇓ P **P 23 17 32.1 +0.2**
baz=86
MOD Modoc 86.80 27 *e*P **P 23 17 33.2 +1.1**
comp=Z,26nm,1.0s,mb5.4
MOD *e*pP pP 23 17 36.5 0.0
LSZ Lusaka 86.82 245 *e*P **P 23 17 32.3 +0.1**
LSZ *e**PP pP 23 17 36.8 +0.1
LSZ pmax pmax
comp=Z,20nm,1.1s,mb5.3
LSZ Lusaka 86.82 245 *e*P **P 23 17 32.3 +0.1**
comp=Z,20nm,1.1s,mb5.2
LSZ *e*pP pP 23 17 36.8 +0.1
WVOR Wild Horse Val 86.84 26 *e*P **P 23 17 28.7 -3.6**
WVOR pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
WVOR Wild Horse Val 86.84 26 *e*P **P 23 17 28.7 -3.6**
comp=Z,10nm,0.8s,mb5.1
M05C Lookout 87.01 28⇓ P **P 23 17 33.5 +0.4**
baz=87
HLID Hailey 87.03 23 *e*P **P 23 17 33.5 +0.2**
comp=Z,4.0nm,0.9s,mb4.7
HLID *e*pP pP 23 17 36.6 -1.1

O01C	Eel River Cons	87.18	30	⇓P		P	23 17 34.8	+0.9
	baz=87							
WDC	Whiskeytown Da	87.24	29	*e*P		P	23 17 33.9	-0.3
WDC				*e**PP		pP	23 17 37.4	-1.3
WDC				pmax		pmax		
	comp=Z,15nm,1.3s,mb5.1							
WDC	Whiskeytown Da	87.24	29	*e*P		P	23 17 33.9	-0.3
	comp=Z,15nm,1.3s,mb5.1							
WDC				*e*pP		pP	23 17 37.4	-1.4
WDC	Whiskeytown Da	87.24	29	⇑P		P	23 17 34.4	+0.2
	baz=87							
M06C	Likely Place G	87.38	28	⇓P		P	23 17 35.3	+0.5
	baz=87							
HATC	Hat Creek Radi	87.39	28	⇑P		P	23 17 35.6	+0.6
	baz=87							
O02C	Red Bluff	87.51	30	⇑P		P	23 17 36.5	+0.9
	baz=87,SNR=9.3							
L09A	Wilkinson Ranc	87.52	25	⇑P		P	23 17 36.5	+0.9
	baz=87							
IMW	Indian Meadow	87.61	20	*e*P		P	23 17 37.2	+1.2
	comp=Z,26nm,1.3s,mb5.3							
IMW				*e*pP		pP	23 17 40.6	+0.1
M07A	Soldier Meadow	87.62	27	⇓P		P	23 17 36.9	+0.9
	baz=87,SNR=11							
ELFS	Eagle Lake Fie	87.81	28	⇓P		P	23 17 37.8	+0.8
	baz=88							
M08A	Happy Creek Ra	87.82	26	⇑P		P	23 17 36.8	-0.2
	baz=88							
P01C	Double 8 Ranch	87.94	30	⇑P		P	23 17 38.4	+0.8
	baz=88							
O04C	Chester	87.96	28	⇓P		P	23 17 38.4	+0.7
	baz=88							
GASB	Alder Springs	88.00	30	⇓P		P	23 17 39.1	+1.2
	baz=88,SNR=10							
M09A	Marrel Ranch,	88.13	25	⇑P		P	23 17 39.2	+0.7
	baz=88							
M10A	I.L. Ranch, Tu	88.31	25	⇓P		P	23 17 40.2	+0.8
	baz=88							
HOPS	Hopland	88.46	30	⇑P		P	23 17 39.9	-0.1
	baz=88							
N08A	GE Springer Mi	88.51	26	⇑P		P	23 17 41.0	+0.7
	baz=88,SNR=8.2							
ORV	Oroville	88.51	29	⇓P		P	23 17 40.2	-0.1
	baz=88							
O06A	Flanigan	88.53	28	⇑P		P	23 17 41.1	+0.7
	baz=88,SNR=9.7							
M11A	Holland Ranch,	88.61	24	⇑P		P	23 17 40.6	-0.2
	baz=88							
OHCM	Honcut	88.71	29	*e*P		P	23 17 40.9	-0.3
MNRC	McLaughlin Nat	88.79	30	⇓P		P	23 17 42.9	+1.3
	baz=88							
O07A	Toulon	88.83	27	⇓P		P	23 17 42.6	+0.8
	baz=88,SNR=14							
M12A	Wells	88.88	24	⇓P		P	23 17 42.3	+0.3
	baz=88,SNR=10.0							
PDAR	Pinedale Array	89.00	20	PP		PP	23 21 15.5	+3.2
	comp=Z,0.2nm,0.4s,baz=289,slow=4.5,SNR=3.7							
PDAR				LR		LR	23 57 24.0	
	comp=Z,81nm,19.6s,MS4.2,baz=200,slow=36							
P05C	Yuba Gap, Truc	89.04	29	⇓P		P	23 17 43.4	+0.6
	baz=89							
NSHM	Saint Helena R	89.05	30	*e*P		P	23 17 41.9	-0.9
BMN	Battle Mountai	89.10	26	*e*P		P	23 17 43.5	+0.4
BMN				*e**PP		pP	23 17 47.3	-0.3
BMN				pmax		pmax		
	comp=Z,12nm,1.1s,mb5.1							
BMN	Battle Mountai	89.10	26	*e*P		P	23 17 43.5	+0.4
	comp=Z,12nm,1.1s,mb5.1							
BMN				*e*pP		pP	23 17 47.3	-0.3
CVS	Carmenet Viney	89.26	30	⇓P		P	23 17 44.7	+0.9
	baz=89							
WCN	Washoe City	89.33	28	⇓P		P	23 17 44.7	+0.6
	baz=89							
O09A	Fish Creek Ran	89.35	26	⇓P		P	23 17 45.2	+0.9
	baz=89							
N12A	Wells--Clov Va	89.36	24	⇑P		P	23 17 45.0	+0.7
	baz=89,SNR=8.7							
LAVA	Lava Cap Winer	89.48	29	⇑P		P	23 17 45.4	+0.5
	baz=89,SNR=8.4							
N13A	West Wendover	89.60	23	⇑P		P	23 17 46.1	+0.7
	baz=89							
HWUT	Hardware Ranch	89.61	21	*e*P		P	23 17 46.0	+0.6
	comp=Z,22nm,1.1s,mb5.4							
FARB	Farallon Islan	89.64	31	⇑P		P	23 17 46.7	+1.1
	baz=89							
R05C	Kirkwood Meado	89.76	28	⇑P		P	23 17 47.2	+1.0
	baz=89							
BDM	Black Diamond	89.81	30	⇓P		P	23 17 47.4	+1.0
	baz=90							
O11A	Cowboy Ranch,	89.85	25	⇓P		P	23 17 46.9	+0.3
	baz=90							
P09A	Austin	89.94	26	⇑P		P	23 17 47.7	+0.7
	baz=90							
ARMA	Armidale	90.07	136	*e*P		P	23 17 48.0	+0.4
TCUT	Toone Canyon	90.10	21	*e*P		P	23 17 48.4	+0.6
R06C	Coleville	90.13	28	⇑P		P	23 17 48.8	+0.9
	baz=90							
JRSC	Jasper Ridge	90.17	31	⇑P		P	23 17 48.7	+0.6
	baz=90							
CMB	Columbia Colle	90.26	29	⇓P		P	23 17 49.1	+0.7
	baz=90							
Q08A	Gabbs	90.32	27	⇑P		P	23 17 49.3	+0.5
	baz=90							
S06C	San Francisco	90.58	29	⇑P		P	23 17 50.8	+0.8
	baz=90							
Q09A	Carvers	90.58	26	⇓P		P	23 17 50.6	+0.6
	baz=90							
NVAR	Mina Array Bea	90.59	27	P		P	23 17 50.4	+0.3
	comp=Z,3.6nm,0.9s,mb4.7,baz=338,slow=2.1,SNR=8.2							
DUG	Dugway	90.60	23	*e*P		P	23 17 50.5	+0.4
DUG				pmax		pmax		
	comp=Z,26nm,1.2s,mb5.4							
DUG	Dugway	90.60	23	*e*P		P	23 17 50.5	+0.4
	comp=Z,26nm,1.2s,mb5.4							
MNV	Mina	90.64	27	*e*P		P	23 17 50.2	-0.1
MNV				pmax		pmax		
	comp=Z,15nm,1.2s,mb5.2							
MNV	Mina	90.64	27	*e*P		P	23 17 50.2	0.0
	comp=Z,14nm,1.2s,mb5.2							
P12A	McGill	90.68	24	⇑P		P	23 17 50.8	+0.4
	baz=90							
DAU	Daniels Canyon	90.81	22	*e*P		P	23 17 52.2	+1.2
PACP	Pacheco Peak	90.87	30	⇑P		P	23 17 52.5	+1.2
	baz=90							
NLU	North Lily Min	91.02	22	*e*P		P	23 17 52.0	0.0
Q11A	Duckwater	91.03	25	⇓P		P	23 17 52.4	+0.3
	baz=91							
KCC	Kaiser Creek	91.26	28	⇓P		P	23 17 54.0	+0.8
	baz=91							
PHWY	Pilot Hill	91.31	17	*e*P		P	23 17 53.6	+0.3
PHWY				*e*pP		pP	23 17 57.4	-0.4
S08C	White Mtn Res	91.48	28	⇑P		P	23 17 55.5	+1.3
	baz=91							
S09A	Goldfield	91.59	27	⇑P		P	23 17 55.2	+0.5
	baz=91,SNR=6.5							
MSU	Marysvale	92.34	23	*e*P		P	23 17 59.4	+1.2
ARUT	Antelope Range	92.67	24	*e*P		P	23 18 00.8	+1.1
ISCO	Idaho Springs	92.72	18	*e*P		P	23 18 00.3	+0.4
ISCO				*e**PP		pP	23 18 04.8	+0.4
ISCO				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb5.1							
ISCO	Idaho Springs	92.72	18	*e*P		P	23 18 00.2	+0.4
	comp=Z,7.0nm,0.9s,mb5.1							
ISCO				*e*pP		pP	23 18 04.8	+0.4
SMCO	Snowmass	93.02	19	*e*P		P	23 18 01.9	+0.6
	comp=Z,25nm,1.3s,mb5.5							
PV10	Paradox Valley	93.29	21	*e*P		P	23 18 03.1	+0.5
PV01	Paradox Valley	93.63	20	*e*P		P	23 18 04.8	+0.7
DBIC	Dimbokro	93.85	283	LR		LR	00 07 53.3	
	comp=Z,84nm,18.2s,MS4.2,baz=291,slow=40							
GSC	Goldstone	93.93	27	⇑P		P	23 18 06.5	+1.0
	baz=94							
TUQ	Turquoise Mtn.	94.09	27	⇓P		P	23 18 07.0	+0.7
	baz=94							
LIC	Lamto	94.28	283	*e*P		P	23 18 05.3	-1.8
	comp=Z,42nm,1.3s,mb5.4							
LIC	Lamto	94.28	283	*e*P		P	23 18 05.3	-1.8
	comp=Z,21nm,1.3s,mb5.4							
W14A	Seligman	95.17	25	⇓P		P	23 18 12.3	+1.1
	baz=95							
X13A	Yucca	95.52	25	⇓P		P	23 18 13.4	+0.6
	baz=95							
PFO	Pinyon Flat Ob	95.60	28	⇓P		P	23 18 13.8	+0.6
	baz=95							
X14A	Yava	95.92	25	⇓P		P	23 18 14.9	+0.4
	baz=96							
Y14A	Wickenburg	96.38	25	⇑P		P	23 18 17.0	+0.3
	baz=96							
ANMO	Albuquerque	97.17	20	P		P	23 18 20.6	+0.3
	comp=Z,3.6nm,0.9s,mb4.8,baz=332,slow=4.1,SNR=7.9							
ANMO	Albuquerque	97.17	20	⇓*e*P		P	23 18 21.3	+1.0
LAZ	Ladron	97.53	20	P		P	23 18 21.0	-0.9
BOSA	Boshof	98.52	238	LR		LR	00 02 12.8	
	comp=Z,49nm,18.7s,MS4.0,baz=287,slow=35							
SYO	Syowa Base	121.77	201	⇓*e*X		PKPdf	23 23 38.6	-3.2
SDV	Santo Domingo	124.93	346	*e*PKPdf		PKPdf	23 23 46.1	-1.7
VNDA	Vanda	128.77	165	PKP		PKPdf	23 23 51.6	-3.5
	comp=Z,1.0nm,0.8s,baz=304,slow=7.3,SNR=4.2							
ROSC	El Rosal	129.45	349	PKP		PKPdf	23 23 56.9	+0.4
	comp=Z,3.9nm,0.3s,baz=92,slow=17,SNR=5.0							
QSPA	South Pole Qui	135.13	180	*e*PKPdf		PKPdf	23 24 04.8	-2.3
SAML	Samuel	140.04	329	*e*PKPdf		PKPdf	23 24 14.6	-1.6
LPAZ	La Paz	148.56	333	PKPbc		PKPbc	23 24 31.1	-3.6
	comp=Z,8.6nm,1.0s,baz=35,slow=6.5,SNR=13							
ARE	Arequipa	149.71	339	*e*PKP2		PKPbc	23 24 37.0	-0.5
CPUP	Villa Florida	152.26	305	PKP		PKPdf	23 24 34.5	-2.3
	comp=Z,2.2nm,0.8s,baz=224,slow=3.7,SNR=5.9							
CPUP				PKPbc		PKPbc	23 24 41.0	-2.5
	comp=Z,8.7nm,0.7s,baz=16,slow=1.7,SNR=24							
CPUP	Villa Florida	152.26	305	PKIKP		PKPdf	23 24 34.5	-2.3
CPUP							23 24 41.0	
CPUP				pmax		pmax		
	comp=Z,2.0nm,0.8s							
CPUP				pmax		pmax		
	comp=Z,9.0nm,0.7s							
CPUP	Villa Florida	152.26	305	*e*PKPdf		PKPdf	23 24 34.3	-2.4
CPUP				PKP		PKPdf	23 24 34.5	-2.3
CPUP				PKPbc		PKPbc	23 24 41.0	-2.5
PLCA	Paso Flores	170.05	294	PKP		PKPdf	23 24 53.4	-2.1
	comp=Z,5.7nm,1.2s,baz=270,slow=4.0,SNR=5.5							
PLCA	Paso Flores	170.05	294	PKP		PKPdf	23 24 53.4	-2.1

NEIC ***15*** *23:15:38.6, 41.59S×174.34E, h8km, ML4.0(WEL), After WEL.*

WEL 15 23:15:38.6±0.1, 41.61S×174.34E, h12km±1km, ML4.0/33, 6C-4D, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.17	213	⇑PG	Pg	23 15 42.5	+0.1
CMWZ				SG	Sg	23 15 46.1	+1.0
CMWZ	Cape Campbell	0.17	213	P	Pg	23 15 42.5	+0.1
TUWZ	Tuamarina	0.34	301	⇓PG	Pg	23 15 45.5	0.0
TUWZ				SG	Sg	23 15 51.0	+0.9
BSWZ	Blackbirch Sta	0.36	252	⇓PG	Pg	23 15 45.9	+0.1
BSWZ	Blackbirch Sta	0.36	252	P	Pg	23 15 45.9	+0.1
TCW	Tory Channel	0.40	353	⇑PG	Pg	23 15 46.3	-0.1
TCW				SG	Sg	23 15 52.0	+0.3
SNZO	South Karori	0.41	43	⇑PG	Pg	23 15 46.7	+0.1
SNZO	South Karori	0.41	43	*e*P	Pg	23 15 46.7	+0.1
SNZO				*e*S	Sg	23 15 52.0	-0.1
BHW	Baring Head	0.45	64	PG	Pg	23 15 47.5	+0.1
BHW				SG	Sg	23 15 54.7	+1.3
BHW	Baring Head	0.45	64	P	Pg	23 15 47.5	+0.1
WEL	Wellington	0.46	46	PG	Pg	23 15 47.8	+0.2
WEL	Wellington	0.46	46	P	Pg	23 15 47.8	+0.3
MRW	Makara Radio	0.47	36	⇑PG	Pg	23 15 47.6	-0.1
MSWZ	Moikau Station	0.71	75	⇓P*	Pb	23 15 52.4	-0.4
MSWZ	Moikau Station	0.71	75	P	Pg	23 15 52.4	0.0
CAW	Cannon Point	0.74	48	P*	Pb	23 15 52.5	-0.9
CAW	Cannon Point	0.74	48	P	Pg	23 15 52.6	-0.3
NNZ	Nelson	0.82	298	⇓P*	Pb	23 15 53.8	-0.8
NNZ	Nelson	0.82	298	P	Pg	23 15 53.9	-0.5
PAWZ	Paruwai Farm	0.85	75	P*	Pb	23 15 54.8	-0.4
PAWZ	Paruwai Farm	0.85	75	P	Pg	23 15 54.8	-0.2
KIW	Kapiti Island	0.86	30	⇑P*	Pb	23 15 54.6	-0.8
KIW	Kapiti Island	0.86	30	P	Pg	23 15 54.6	-0.6
KIW				*e*S	Sg	23 16 07.0	+0.6
DUWZ	D'Urville Isla	0.86	339	P*	Pb	23 15 54.6	-0.8
MTW	Mount Morrison	0.98	63	P*	Pb	23 15 57.2	-0.3
MTW				SG	Sg	23 16 13.0	+2.6
MTW	Mount Morrison	0.98	63	P	Pb	23 15 57.3	-0.2
KHZ	Kahutara	1.00	216	⇑P*	Pb	23 15 58.2	+0.3
KHZ	Kahutara	1.00	216	P	Pb	23 15 58.2	+0.3
TRWZ	Traveller	1.04	79	P*	Pb	23 15 58.0	-0.4
THZ	Tophouse	1.08	261	P*	Pb	23 15 58.7	-0.5
THZ	Tophouse	1.08	261	P	Pb	23 15 58.8	-0.4
MRZ	Mangatainoka R	1.33	45	P*	Pb	23 16 02.7	-0.7
QRZ	Quartz Range	1.57	299	PN	Pn	23 16 07.1	+0.9
QRZ	Quartz Range	1.57	299	P	Pn	23 16 07.1	+0.9
WAZ	Wanganui	1.91	15	P	Pn	23 16 13.7	+2.8
LTZ	Lake Taylor	1.93	232	PN	Pn	23 16 11.1	-0.1
LTZ	Lake Taylor	1.93	232	*e*P	Pn	23 16 11.1	-0.1
MQZ	McQueen's Vall	2.44	210	*e*P	Pn	23 16 15.9	-2.3
MOVZ	Moawhango	2.45	27	P	Pn	23 16 22.1	+3.8
VRZ	Vera Road	2.50	8	*e*P	Pn	23 16 21.8	+2.8
FWVZ	Far West T-bar	2.52	22	*e*P	Pn	23 16 21.2	+1.9
LBZ	Lake Benmore	4.12	226	*e*PN	Pn	23 16 40.2	-1.1
ODZ	Otahua Downs	4.37	217	*e*PN	Pn	23 16 42.4	-2.2

WEL 15 23:25:57.4±0.1, 41.61S×174.35E, h11km±1km, ML3.7/21, 1C-2D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.17	216	PG	Pg	23 26 01.4	+0.2
CMWZ				*e*SG	Sg	23 26 05.3	+1.5
TUWZ	Tuamarina	0.35	300	⇓PG	Pg	23 26 04.4	0.0
TUWZ				SG	Sg	23 26 09.9	+0.7
BSWZ	Blackbirch Sta	0.37	253	⇓PG	Pg	23 26 04.8	+0.1
BSWZ				SG	Sg	23 26 10.7	+1.0
TCW	Tory Channel	0.40	352	⇑PG	Pg	23 26 05.2	-0.1
TCW				SG	Sg	23 26 11.1	+0.5
SNZO	South Karori	0.40	42	PG	Pg	23 26 05.5	+0.2
BHW	Baring Head	0.44	63	PG	Pg	23 26 06.3	+0.3
WEL	Wellington	0.45	44	PG	Pg	23 26 06.5	+0.3
MRW	Makara Radio	0.46	35	PG	Pg	23 26 06.5	0.0
MSWZ	Moikau Station	0.70	74	P*	Pb	23 26 11.3	-0.4
CAW	Cannon Point	0.74	47	P*	Pb	23 26 11.5	-0.7
NNZ	Nelson	0.83	298	P*	Pb	23 26 12.7	-1.1
PAWZ	Paruwai Farm	0.84	75	P*	Pb	23 26 13.6	-0.3
KIW	Kapiti Island	0.86	30	P*	Pb	23 26 13.3	-1.0
DUWZ	D'Urville Isla	0.87	338	P*	Pb	23 26 13.5	-0.9
KHZ	Kahutara	1.01	217	P*	Pb	23 26 16.9	+0.1
TRWZ	Traveller	1.03	79	P*	Pb	23 26 16.9	-0.3
THZ	Tophouse	1.09	261	*e*P*	Pb	23 26 17.0	-1.3
MRZ	Mangatainoka R	1.33	45	P*	Pb	23 26 21.5	-0.8
QRZ	Quartz Range	1.58	299	PN	Pn	23 26 25.9	+0.5
WAZ	Wanganui	1.91	15	PN	Pn	23 26 30.5	+0.6
LTZ	Lake Taylor	1.94	232	PN	Pn	23 26 29.9	-0.3
MQZ	McQueen's Vall	2.44	210	PN	Pn	23 26 34.7	-2.5

FUNV ***15*** *23:28:11.6, 60.60N×73.16W, h165km, MW3.8*
ISCJB ***15*** *23:28:12.7±0.4, 67.8N±0.05×72.88W±0.05, h179km±4km, mb4.0/10, Error ellipse: s-maj=10.1km s-min=5.7km az=72.1*
NEIC ***15*** *23:28:13.9±0.7, 67.4N×72.85W, h176km±7km, mb3.9/3, Error ellipse: s-maj=11.9km s-min=8.3km az=102.0*
IDC ***15*** *23:28:13.2±2.0, 67.2N×72.78W, h168km±20km, mb3.9/8, mb1 4.0/9, mb1mx3.6/21, mbtmp4.4/9, Error ellipse: s-maj=24.0km s-min=15.4km az=74.0*

ISC 15 23:28:13.6±0.4, 681N±004×7293W±005, h169km±4km, n36, σ1$08/45, mb4.0/10, 1C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.22	30	⇓*e*P	Pn	23 28 42.7	+0.7
CAPV				*e*S	Sn	23 29 03.7	-0.1
ROSC	El Rosal	2.38	216	P	Pn	23 28 54.3	0.0
	177nm,0.3s,baz=306,slow=2.9,SNR=241						
ROSC				S	Sn	23 29 22.5	-3.2
	156nm,0.3s,baz=109,slow=16,SNR=8.8						
SOCV	Socops	2.53	54	⇓*e*P	Pn	23 28 57.4	+1.4
SOCV				*e*S	Sn	23 29 29.4	+0.6
VIGV	El Vigia	2.55	37	⇓*e*P	Pn	23 28 57.1	+0.9
VIGV				*e*S	Sn	23 29 30.3	+1.1
SDV	Santo Domingo	3.08	48	⇓*e*Pn	Pn	23 29 04.0	+1.4
SDV				*e*Sn	Sn	23 29 40.9	+0.2
VIRV	Villa del Rosa	3.71	8	*e*P	Pn	23 29 09.4	-1.2
VIRV				*e*S	Sn	23 29 53.2	-1.9
QARV	Quebrada Arrib	4.13	35	*e*P	Pn	23 29 17.0	+0.9
QARV				*e*S	Sn	23 30 04.8	-0.1
SANV	Sanarito	4.30	51	*e*P	Pn	23 29 18.8	+0.6
CURV	Curarigua	4.34	42	⇓*e*P	Pn	23 29 19.3	+0.6
CURV				*e*S	Sn	23 30 09.0	-0.4
DABV	Dabajuro	4.68	29	*e*P	Pn	23 29 23.5	+0.4
DABV				*e*S	Sn	23 30 16.5	-1.0
TEPV	Terepaima	4.85	49	*e*P	Pn	23 29 26.3	+0.9
SIQV	Siquisique	4.91	39	⇑*e*P	Pn	23 29 26.4	+0.3
BAUV	El Baul	5.29	66	⇓*e*P	Pn	23 29 30.6	-0.6
BAUV				*e*S	Sn	23 30 30.1	-1.8
MONV	Montecano	5.89	30	*e*P	Pn	23 29 38.5	-0.6
CAOV	Caicara del Or	6.58	85	*e*P	Pn	23 29 46.5	-1.6
BIRV	Birongo	7.53	61	*e*P	Pn	23 29 59.7	-1.0
OTAV	Otavalo	8.54	220	*e*Pn	Pn	23 30 15.4	+1.4
OTAV				*e*Sn	Sn	23 31 47.6	-1.5
SJG	San Juan	13.04	30	*e*P	Pn	23 31 12.4	-0.2
SAML	Samuel	18.42	148	*e*P	P	23 32 16.2	+0.2
	1.7nm,0.5s						
SAML				S	S	23 35 39.9	+2.4
TEIG	Tepich	19.99	313	*e*P	P	23 32 34.7	+1.7
	3.2nm,0.5s						
LPAZ	La Paz	23.43	168	P	P	23 33 08.4	+0.9
	0.2nm,0.3s,mb3.0,baz=27,slow=6.8,SNR=3.1						
LPAZ	La Paz	23.43	168	*e*P	P	23 33 08.8	+1.3
LVC	Limon Verde	29.50	172	*e*P	P	23 34 01.0	-0.9
	2.7nm,1.0s,mb3.9						
SADO	Sadowa	38.20	353	P	P	23 35 18.1	+1.2
	2.7nm,0.7s,mb4.0,baz=162,slow=10,SNR=3.3						
RCBR	Riachuelo	39.03	108	*e*P	P	23 35 22.2	-1.6
ULM	Lac du Bonnet	47.36	340	P	P	23 36 29.4	-1.1
	1.7nm,0.4s,mb4.0,baz=143,slow=7.4,SNR=5.0						
SCHQ	Schefferville	48.14	5	P	P	23 36 37.9	+1.4
	6.0nm,0.5s,mb4.5,baz=187,slow=7.0,SNR=29						
FRB	Frobisher Bay	56.92	2	P	P	23 37 40.9	-0.2
	4.4nm,0.4s,mb4.6,baz=221,slow=5.6,SNR=7.7						
YKA	Yellowknife Ar	63.34	340	P	P	23 38 24.0	-0.6
	1.7nm,0.6s,mb4.1,baz=132,slow=6.5,SNR=12						
DBIC	Dimbokro	67.55	86	P	P	23 38 50.1	-1.6
	5.9nm,0.8s,mb4.3,baz=160,slow=6.3,SNR=10.0						
TORD	Torodi Ar. Bea	73.56	78	P	P	23 39 27.3	-0.8
	0.4nm,0.3s,mb3.6,baz=285,slow=6.7,SNR=23						
TORD	Torodi Ar. Bea	73.56	78	P	P	23 39 27.3	-0.8
ARCES	ARCESS Array B	86.62	20	P	P	23 40 38.2	+0.3
	2.6nm,0.9s,mb4.1,baz=283,slow=4.4,SNR=5.6						
MKAR	Makanchi Array	122.27	20	PKP	PKPdf	23 46 49.0	+0.6
	0.5nm,0.4s,baz=292,slow=2.7,SNR=9.6						
ASAR	Alice Springs	149.25	234	PKPbc	PKPbc	23 47 42.4	+0.2
	0.8nm,0.5s,baz=117,slow=3.7,SNR=12						
WRA	Warramunga Arr	150.49	241	PKPbc	PKPbc	23 47 45.3	+0.1
	0.9nm,0.5s,baz=108,slow=2.3,SNR=5.5						
WRA				pPKPbc	pPKPbc	23 48 29.0	-0.3
	0.8nm,0.5s,baz=107,slow=2.7,SNR=2.6						

ISK ***15*** *23:30:03.7, 38.78N×43.25E, h8km, MD3.3*
CSEM ***15*** *23:30:03.5±0.3, 38.75N×43.39E, h5km, MD3.3, Error ellipse: s-maj=7.6km s-min=5.9km az=104.0*
ISCJB ***15*** *23:30:04.6±0.8, 38.76N±004×43.32E±008, h9km±8km, Error ellipse: s-maj=11.4km s-min=5.9km az=39.8*

ISC 15 23:30:05.1±0.7, 3875N±004×4333E±009, h11km±7km, n13, σ1$04/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.16	163	*i* PG	Pg	23 30 08.3	-0.4
TVAN	Van	0.22	165	*i* P	Pg	23 30 08.3	-1.5
TVAN				*i* S	Sg	23 30 13.3	+0.3
VANT	Van	0.30	172	*i* PG	Pg	23 30 10.4	-0.8
VANT				*i* SG	Sg	23 30 17.6	+2.3
CLDR	Caldiran	0.60	49	PG	Pg	23 30 15.8	-1.1
CLDR				SG	Sg	23 30 26.1	+1.3
HAKT	HAKKARI	1.22	166	*i* P	Pn	23 30 26.1	-2.0
HAKT				*i* S	Sb	23 30 38.6	-5.3
CUKT	Cukurca	1.51	172	PN	Pn	23 30 31.7	-0.3
BTMT	Batman	1.55	250	PN	Pn	23 30 33.5	+0.9
SEMD	Semdilli	1.68	146	PN	Pn	23 30 35.2	+0.8
GNI	Garni	1.78	37	*e*PN	Pn	23 30 36.1	+0.4
BEST	Besiri	1.83	243	*i* P	Pn	23 30 37.8	+1.3
BEST				*i* S	Sn	23 31 06.0	+6.4
KARS	Kars	1.87	354	*e*PN	Pn	23 30 36.9	-0.1
EZM	Erzurum	1.92	308	*e*PN	Pn	23 30 37.2	-0.4
BINT	Bingol	2.23	274	*e*PN	Pn	23 30 41.5	-0.4

LDG ***15*** *23:36:39.2±0.4, 41.06N×19.94E, h10km, Mb4.5/19*
MOS ***15*** *23:36:40.4±1.2, 41.02N×19.93E, h10km, mb4.0/7, Error ellipse: s-maj=4.1km s-min=2.8km az=110.5*
ISCJB ***15*** *23:36:41.7±0.3, 41.12N±001×20.08

SKO Skopje 1.36 48 *i* Pg **Pg 23 37 07.0 -1.3**
SKO *i* Sg **Sg 23 37 25.4 -0.5**
SKO *e*Lg 23 37 27.3
comp=N,2µm,0.3s
SKO *e*Lg 23 37 28.4
comp=E,3µm,1.0s
SKO Skopje 1.36 48 *i* Pg **Pg 23 37 06.9 -1.4**
SKO *i* Sg **Sg 23 37 25.3 -0.6**
SKO S **Sb 23 37 27.3 +1.5**
KEK Kerkira 1.38 189 *e*PN **Pn 23 37 09.5 +1.4**
KEK *e*SN **Sn 23 37 26.9 +0.2**
TTG Podgorica 1.49 336⇓*i*Pg **Pg 23 37 09.0 -1.7**
TTG *e*Sg **Sg 23 37 31.9 +1.8**
KZN Kozani 1.50 120 *e*PN **Pn 23 37 09.4 -0.3**
BUM Brajici-Budva 1.51 324⇓*i*Pg **Pg 23 37 10.3 -0.9**
BUM *e*Sg **Sg 23 37 32.8 +1.9**
PVY Plav 1.52 357⇓*i*Pg **Pg 23 37 09.5 -1.9**
PVY *e*Sg **Sg 23 37 32.3 +1.2**
JAN Janina 1.53 157 *e*PN **Pn 23 37 10.0 -0.2**
JAN *e*SN **Sn 23 37 28.0 -2.5**
IGT Igoumenitsa 1.55 173 *e*Pg **Pg 23 37 10.8 -1.2**
IGT *e*Sg **Sg 23 37 33.2 +1.1**
IGT Igoumenitsa 1.55 173 P **Pn 23 37 12.5 +2.0**
IGT S **Sn 23 37 34.7 +3.7**
MEV Metsovon 1.56 145 *e*Pg **Pg 23 37 10.2 -1.8**
MEV *e*Sg **Sg 23 37 32.3 0.0**
MEV Metsovon 1.56 145 P **Pn 23 37 10.5 0.0**
MEV S **Sg 23 37 32.3 0.0**
MEV Metsovon 1.56 145 P **Pn 23 37 10.5 -0.1**
MEV S **Sn 23 37 32.3 +1.2**
LCI Lecce 1.67 244 Pn **Pn 23 37 12.2 +0.1**
STIP Stip 1.70 68 *i* Pn **Pn 23 37 12.1 -0.5**
STIP *i* Sn **Sn 23 37 36.2 +1.5**
STIP *e*Lg 23 37 37.9
comp=E,289nm,0.5s
STIP *e*Lg 23 37 38.1
comp=N,347nm,0.4s
STIP Stip 1.70 68 *i* Pn **Pn 23 37 12.0 -0.5**
STIP *i* Sn **Sn 23 37 36.1 +1.4**
GRG Griva 1.76 93 *e*Pb **Pb 23 37 12.8 -2.2**
GRG Griva 1.76 93 P **Pn 23 37 13.2 -0.2**
GRG Griva 1.76 93 P **Pn 23 37 13.2 -0.1**
IVA Berane 1.80 356⇑*i*Pn **Pn 23 37 14.4 +0.4**
IVA *e*SN **Sn 23 37 39.2 +2.1**
HCY Herceg Novi 1.81 320⇑*i*Pn **Pn 23 37 14.5 +0.4**
HCY *e*SN **Sn 23 37 40.0 +2.6**
VAY Valandovo 1.89 82 *e*Pb **Pb 23 37 13.9 -3.3**
VAY Valandovo 1.89 82 *i* Pn **Pn 23 37 13.7 -1.5**
VAY *e*Lg 23 37 45.6
comp=E,1µm,0.6s
VAY *e*Lg 23 37 46.0
comp=N,747nm,0.7s
NKY Niksic 1.92 335⇑*i*Pn **Pn 23 37 16.4 +0.9**
NKY *e*SN **Sn 23 37 41.4 +1.4**
LIT Litokhoron 2.08 117 *e*Pn **Pn 23 37 17.3 -0.4**
LIT Litokhoron 2.08 117 P **Pn 23 37 17.8 +0.1**
LIT Litokhoron 2.08 117 P **Pn 23 37 17.8 -0.1**
TREB Trebinje 2.09 322 P **Pn 23 37 17.8 -0.1**
TREB S **Sn 23 37 45.8 +1.5**
KNT Kendrikon 2.13 87 *e*Pn **Pn 23 37 17.9 -0.6**
KNT Kendrikon 2.13 87 P **Pn 23 37 18.0 -0.4**
BRY Bratogost 2.16 328⇑*i*Pn **Pn 23 37 19.6 +0.8**
BRY *e*Sn **Sn 23 37 47.8 +1.9**
THE Thessaloniki 2.23 100 *e*Pn **Pn 23 37 19.5 -0.4**
UPM Unac-Piva 2.30 338⇑*i*Pn **Pn 23 37 21.8 +1.0**
UPM *e*Sn **Sn 23 37 50.8 +1.3**
PLE Pljevlja 2.31 347⇓*i*Pn **Pn 23 37 21.6 +0.6**
PLE *e*Sn **Sn 23 37 51.4 +1.6**
LKD Levkas 2.40 169 *e*Pn **Pn 23 37 23.0 +0.8**
BAI Bari 2.42 272 *e*Pn **Pn 23 37 22.3 -0.2**
SOH Sokhos 2.49 95 *e*Pn **Pn 23 37 22.9 -0.5**
STON Ston 2.53 316 *i* Pn **Pn 23 37 23.9 0.0**
STON *i* Sn **Sn 23 37 56.0 +0.9**
STON Ston 2.53 316 *i* Pn **Pn 23 37 23.8 -0.1**
SG1 Sgolgore (BA) 2.59 266 *e*Pn **Pn 23 37 25.2 +0.4**
PLG Polygyros 2.65 104 *e*PN **Pn 23 37 25.5 -0.1**
AGG Agios Georgios 2.68 139 *e*Pn **Pn 23 37 26.9 +0.9**
AGG Agios Georgios 2.68 139 P **Pn 23 37 27.2 +1.2**
AGG Agios Georgios 2.68 139 P **Pn 23 37 27.2 +1.2**
VTS Vitosha 2.78 56 *e*Pn **Pn 23 37 27.6 +0.1**
VTS Vitosha 2.78 56⇑*i*P **Pn 23 37 28.4 +0.9**
VTS Vitosha 2.78 56 P **Pn 23 37 27.5 +0.1**
NVR Nevrokopi 2.86 83 *e*PN **Pn 23 37 29.4 +0.9**
CDT Castel del Mon 2.88 271 *e*Pn **Pn 23 37 28.5 -0.3**
VLS Valsamata 2.92 172 *e*PN **Pn 23 37 30.0 +0.7**
XOR Xorichti 2.93 125 *e*Pn **Pn 23 37 29.2 -0.2**
XOR Xorichti 2.93 125 P **Pn 23 37 29.4 -0.1**
XOR Xorichti 2.93 125 P **Pn 23 37 29.4 0.0**
ORI Oriolo Calabro 2.95 251 Pn **Pn 23 37 29.7 0.0**
PAIG Paliouri 2.97 112 *e*Pn **Pn 23 37 29.4 -0.6**
PAIG Paliouri 2.97 112 P **Pn 23 37 29.6 -0.5**
PAIG Paliouri 2.97 112 P **Pn 23 37 29.6 -0.4**
NEO Neokhori 2.98 125 *e*PN **Pn 23 37 30.5 +0.3**
DIVS Divcibare 3.02 359⇓*i*Pn **Pn 23 37 31.6 +0.9**
DIVS Sn **Sn 23 38 07.5 +0.2**
DIVS Divcibare 3.02 359 *e*Pn **Pn 23 37 31.4 +0.7**
OUR Ouranopolis 3.06 103 *e*Pn **Pn 23 37 31.0 -0.2**
OUR Ouranopolis 3.06 103 P **Pn 23 37 31.3 +0.1**
OUR Ouranopolis 3.06 103 P **Pn 23 37 31.3 +0.1**
PTRP Pietrapertosa 3.10 261 Pn **Pn 23 37 33.3 +1.5**
FGMS Monte Sant'Ang 3.17 283 *i* Pnr **Pn 23 37 32.6 -0.2**
TIP Timpagrande 3.17 234 *e*Pn **Pn 23 37 33.7 +0.8**
TIP *e*Sn **Sn 23 38 13.1 +2.0**
TIP Timpagrande 3.17 234 *e*Pn **Pn 23 37 33.7 +0.9**
MS1 Monte Sant'Ang 3.18 283 *e*Pn **Pn 23 37 32.6 -0.3**
LKR Lokris 3.30 136 *e*PN **Pn 23 37 35.2 +0.6**
SVIS Svilajnac 3.33 14⇓*i*Pn **Pn 23 37 35.0 +0.1**
SVIS Sn **Sn 23 38 11.5 -3.3**
CUC Castrocucco 3.43 253 Pn **Pn 23 37 36.8 +0.5**
RGNG Rignano Grg 3.44 282 Pn **Pn 23 37 35.9 -0.5**
FG4 Candela 3.45 272 Pn **Pn 23 37 37.0 +0.4**
SLCN Sala Consilina 3.45 260 Pn **Pn 23 37 37.2 +0.6**
MRLC Muro Lucano 3.50 266 Pn **Pn 23 37 37.6 +0.4**
MGR Morigerati 3.57 256 Pn **Pn 23 37 38.9 +0.6**
FG5 Orsara di Pugl 3.64 275 Pn **Pn 23 37 39.9 +0.7**
SGO Sicignano 3.66 264 Pn **Pn 23 37 40.0 +0.5**
FG2 Serracapriola 3.77 283 Pn **Pn 23 37 40.5 -0.5**
CIGN Sant'Elia a Pi 3.94 280 Pn **Pn 23 37 43.8 +0.5**
MGER Gerania Oros 3.94 140 *e*PN **Pn 23 37 44.5 +1.1**
PSB1 Pescosannita 3.98 274 Pn **Pn 23 37 46.0 +2.1**
RDO Rodhopi 4.12 87 *e*PN **Pn 23 37 47.5 +1.7**
ITM Ithomi 4.14 159 *e*PN **Pn 23 37 47.8 +1.6**
ATH Athens Observa 4.18 137 *e*PN **Pn 23 37 47.1 +0.4**
PTL Penteli 4.20 135 *e*PN **Pn 23 37 47.0 0.0**
NAIG Nisos Aigina 4.23 140 *e*PN **Pn 23 37 48.5 +1.1**
CEL Celeste 4.28 230 Pn **Pn 23 37 48.4 +0.3**
KVR Kavouri 4.32 137 *e*PN **Pn 23 37 49.5 +1.0**
SOI Samo 4.32 227 Pn **Pn 23 37 48.8 +0.2**
CII Carovilli 4.39 280 Pn **Pn 23 37 50.5 +0.9**
MIDA Miranda 4.42 279 Pn **Pn 23 37 50.6 +0.6**
ALN Alexandroupoli 4.52 90 *e*Pn **Pn 23 37 51.4 +0.2**
MTTG Motta San Giov 4.57 229 Pn **Pn 23 37 52.4 +0.3**
RFI Roccamonfina 4.61 275 Pn **Pn 23 37 54.1 +1.6**
BZS Buzias 4.68 13⇑*i*P **Pn 23 37 54.7 +1.2**
BZS Buzias 4.68 13 ⇑P **Pn 23 37 54.7 +1.2**
INTR Introdacqua 4.73 283 Pn **Pn 23 37 53.7 -0.5**
SLNA Salina 4.76 240 Pn **Pn 23 37 57.0 +2.4**
SDI San Donato 4.76 280 *i* Pnr **Pn 23 37 55.8 +1.2**
SDI San Donato 4.76 280 *i* P **Pn 23 37 55.8 +1.2**
VLI Veliai 4.89 152 *e*PN **Pn 23 37 57.5 +1.2**
VVLD Villa Vallelon 4.92 281 *i* Pnr **Pn 23 37 57.9 +1.1**
RHK3 Tenkes 4.99 345⇑*e*P **Pn 23 37 58.5 +0.7**
JMB Yambol 5.06 72 *e*Pn **Pn 23 37 58.1 -0.6**
JMB Yambol 5.06 72 P **Pn 23 37 58.3 -0.4**
TERO Teramo 5.08 290 Pn **Pn 23 37 59.1 +0.1**
comp=N,84nm,0.5s
AQU L'Aquila 5.16 287⇓*i*P **Pn 23 38 01.0 +0.9**
AQU L'Aquila 5.16 287 ⇓P **Pn 23 38 01.0 +0.8**
SISC Sisak 5.16 330 *e*Pn **Pn 23 38 01.8 +1.7**
SISC Sisak 5.16 330 *e*Pn **Pn 23 38 01.7 +1.6**
NVLJ Novalja 5.18 314 *i* Pn **Pn 23 38 00.0 -0.4**
NVLJ *i* Sn **Sn 23 38 59.0 -1.5**
PKSM Moragy 5.24 349⇓*i*P **Pn 23 38 01.7 +0.5**
PKSM Moragy 5.24 349 ⇓P **Pn 23 38 01.7 +0.5**
FIAM Fiamignano 5.35 285 Pn **Pn 23 38 03.7 +1.0**
comp=N,78nm,0.6s
CERT Cerreto 5.40 282 Pn **Pn 23 38 04.5 +1.1**
comp=N,43nm,0.6s
NRCA Norcia 5.49 291 *i* Pnu **Pn 23 38 04.9 +0.3**
PKS6 Bocsa 5.54 356⇑*e*P **Pn 23 38 08.0 +2.7**

CING Cingoli 5.61 296 Pn **Pn 23 38 05.8 -0.4**
comp=N,70nm,0.6s
BOJS Bojanci 5.66 323 *e*Pn **Pn 23 38 06.8 -0.1**
BOJS *e*Sn **Sn 23 39 10.9 -1.4**
BOJS
comp=Z,231nm,2.1s
BOJS Bojanci 5.66 323 Pn **Pn 23 38 06.8 -0.2**
BOJS *e*Sn **Sn 23 39 10.9 -1.4**
VOIR 5.67 38⇓*i*P **Pn 23 38 12.2 +5.1**
VAE Valguarnera 5.68 233 P **Pn 23 38 08.8 +1.6**
comp=Z,0.3nm,0.3s,baz=119,slow=19,SNR=2.1
VAE S **Sn 23 39 16.4 +3.6**
comp=Z,0.9nm,0.3s,baz=116,slow=19,SNR=2.3
MNS Montasola 5.69 286 Pn **Pn 23 38 08.0 +0.6**
SNTG Esanatoglia 5.74 295 Pn **Pn 23 38 07.7 -0.3**
CRES Cresnjev 5.82 326 *e*Pn **Pn 23 38 09.2 0.0**
CRES *e*Sn **Sn 23 39 15.8 -0.5**
ARV Arcevia 5.82 297 *i* Pnu **Pn 23 38 08.7 -0.5**
APE Apeiranthos 5.83 132 *e*Pn **Pn 23 38 10.1 +0.9**
APE Apeiranthos 5.83 132⇓*i*P **Pn 23 38 10.2 +0.9**
DRGR 6.02 17⇓*i*P **Pn 23 38 15.5 +3.5**
DRGR 6.02 17 ⇓P **Pn 23 38 15.5 +3.5**
PESA Pesaro 6.07 301 Pn **Pn 23 38 12.7 +0.1**
TOLF Tolfa 6.14 282 Pn **Pn 23 38 15.1 +1.5**
MLR Muntele Rosu 6.15 42 P **Pn 23 38 17.8 +4.1**
comp=Z,2.2nm,0.3s,baz=187,slow=8.5,SNR=9.5
MLR S **Sn 23 39 23.2 -1.2**
baz=129,slow=4.7,SNR=2.2
MLR Muntele Rosu 6.15 42⇑*i*P **Pn 23 38 18.6 +4.9**
MLR Muntele Rosu 6.15 42 P **Pn 23 38 17.8 +4.1**
MLR S **Sn 23 39 23.2 -1.1**
MLR pmax pmax
comp=Z,2.0nm,0.3s
MLR Muntele Rosu 6.15 42⇑P **Pn 23 38 18.6 +5.0**
MLR Muntele Rosu 6.15 42 S **Sn 23 39 23.2 -1.1**
PDKS Podkum 6.20 325 *e*Pn **Pn 23 38 14.5 +0.1**
BADI Badiali 6.30 295 Pn **Pn 23 38 17.8 +2.0**
comp=Z,1µm,7.5s
LJU Ljubljana 6.40 323 *e*Pn **Pn 23 38 17.1 0.0**
LJU *e*Sn **Sn 23 39 29.6 -0.9**
LJU Ljubljana 6.40 323 *e*Pn **Pn 23 38 17.1 0.0**
LJU *e*Sn **Sn 23 39 29.6 -1.0**
VOY Vojsko 6.69 320 *e*Pn **Pn 23 38 20.9 -0.2**
VOY *e*Sn **Sn 23 39 37.8 +0.1**
OBKA Obir 6.75 325⇑*i*Pn **Pn 23 38 22.4 +0.5**
SNR=8.4
OBKA ⇓*i*Sn **Sn 23 39 39.0 -0.2**
PLOR Plostina 6.75 43⇑*i*P **Pn 23 38 26.4 +4.4**
VRI Vrincioaia 6.80 43⇓*i*P **Pn 23 38 24.3 +1.6**
VRI Vrincioaia 6.80 43 ⇓P **Pn 23 38 24.3 +1.7**
SRO1 Iza 6.82 349 *e*SN **Sn 23 39 47.0 +6.2**
PSZ Piszkesteto 6.84 359 *e*P **Pn 23 38 24.0 +0.8**
PSZ *e* 23 39 41.6
PSZ pmax pmax
comp=Z,19nm,0.7s
PSZ Piszkesteto 6.84 359 *e*Pn **Pn 23 38 24.0 +0.8**
comp=Z,19nm,0.7s
PSZ *e*Sn **Sn 23 39 41.6 +0.1**
PSZ Piszkesteto 6.84 359 *e*Pn **Pn 23 38 24.0 +0.8**
comp=Z,19nm,0.7s
PSZ *e*S **Sn 23 39 41.6 +0.1**
IDI Anoyia 6.91 145 P **Pn 23 38 23.1 -1.0**
comp=Z,1.6nm,0.3s,baz=321,slow=17,SNR=19
IDI S **Sn 23 39 37.1 -5.9**
comp=Z,1.8nm,0.3s,baz=100,slow=21,SNR=4.9
IDI LR LR 23 40 52.7
comp=Z,81nm,19.9s,baz=62,slow=35
ARSA Arzberg 6.99 334⇓*i*Pn **Pn 23 38 25.4 +0.1**
SNR=9.6
ARSA ⇓*i*Sn **Sn 23 39 44.2 -0.9**
TIRR Tirgusor 7.00 58⇑*i*P **Pn 23 38 24.6 -0.8**
TIRR Tirgusor 7.00 58 ⇑P **Pn 23 38 24.6 -0.8**
ROBS Robic 7.03 320 *e*Pn **Pn 23 38 25.1 -0.6**
ROBS *e*Sn **Sn 23 39 43.7 -2.4**
CFR Carcaliu 7.18 52⇑*i*P **Pn 23 38 30.8 +3.0**
CFR Carcaliu 7.18 52 ⇑P **Pn 23 38 30.8 +2.9**
KECS Kecovo 7.41 2 *e*PN **Pn 23 38 33.6 +2.5**
KECS *e*SN **Sn 23 39 58.6 +3.1**
ZST Bratislava 7.43 344 *e*SN **Sn 23 39 57.5 +1.5**
VYHS Vyhne 7.47 354 *e*PN **Pn 23 38 32.9 +1.0**
VYHS *e*SN **Sn 23 39 56.2 -0.8**
CONA Conrad Observa 7.49 338⇓*i*Pn **Pn 23 38 32.9 +0.9**
CONA ⇓*i*Sn **Sn 23 39 57.0 -0.4**
BURAR Bucovina Array 7.50 28⇑*i*P **Pn 23 38 33.5 +1.2**
BURAR Bucovina Array 7.50 28 ⇑P **Pn 23 38 33.5 +1.3**
SMOL Smolenice 7.67 347 *e*Pn **Pn 23 38 40.1 +5.5**
SMOL *e*Sn **Sn 23 40 04.6 +2.6**
SMOL Smolenice 7.67 347 *e* **Pn 23 38 40.1 +5.5**
KBA Koelnbreinsper 7.71 323⇑*i*Pn **Pn 23 38 35.6 +0.4**
SNR=9.2
KBA ⇑*i*Sn **Sn 23 40 02.4 -0.6**
CRVS Cervenica-Dubn 7.89 7 *e*PN **Pn 23 38 40.4 +2.8**
CRVS *e*SN **Sn 23 40 08.9 +1.7**
MOA Molln 7.95 330⇓*i*Pn **Pn 23 38 39.3 +1.0**
SNR=5.9
MOA ⇑*i*Sn **Sn 23 40 08.1 -0.5**
MOA Molln 7.95 330⇓*i*Pn **Pn 23 38 39.3 +0.9**
KOLS Kolonicke sedl 8.01 10 *e*PN **Pn 23 38 42.6 +3.4**
NIE Niedzica 8.35 1 *e*P **Pn 23 38 47.1 +3.2**
STHS Stebnicka Huta 8.38 5 *e*Pn **Pn 23 38 48.1 +3.7**
STHS *e*Sn **Sn 23 40 20.8 +1.4**
PGF Pioggiola 8.41 284 *e*P **Pn 23 38 42.9 -1.8**
comp=Z,24nm,1.0s
VRAC Vranov 8.59 345 P **Pn 23 38 46.8 -0.5**
comp=Z,0.3nm,0.3s,baz=155,slow=19,SNR=2.9
WTTA Wattenberg 8.66 318⇓*i*Pn **Pn 23 38 48.0 -0.2**
WTTA ⇓*i*Sn **Sn 23 40 26.1 -0.3**
KWP Kalwaria 8.75 11 *e*P **Pn 23 38 52.2 +2.7**
KWP pmax pmax
comp=Z,11nm,0.9s
KWP Kalwaria 8.75 11 *e*Pn **Pn 23 38 52.2 +2.7**
comp=Z,11nm,0.9s
KWP Kalwaria 8.75 11 *e*P **Pn 23 38 52.2 +2.7**
comp=Z,11nm,0.9s
OKC Ostrava-Krasne 8.87 352 *e*S **Sn 23 40 32.0 +0.7**
MORC Moravsky Berou 8.88 349 *e*P **Pn 23 38 53.5 +2.3**
MORC *e* 23 40 35.5
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 8.88 349 *e*Pn **Pn 23 38 53.5 +2.2**
comp=Z,3.2nm,0.8s
MORC *e*Sn **Sn 23 40 35.5 +3.8**
MORC Moravsky Berou 8.88 349 *e*P **Pn 23 38 53.5 +2.3**
comp=Z,3.0nm,0.8s
GERES GERESS Array B 8.99 332 P **Pn 23 38 52.5 -0.1**
comp=Z,0.4nm,0.3s,baz=156,slow=13,SNR=19
GERES S **Sn 23 40 33.7 -0.6**
comp=Z,0.3nm,0.3s,baz=142,slow=22,SNR=3.4
KHC Kasperske Hory 9.27 332 *e*P **Pn 23 38 58.3 +1.7**
KHC *e*x x 23 39 08.5
KHC *e*S **Sn 23 40 40.0 -1.3**
DAVOX Davos 9.31 311 P **Pn 23 38 57.7 +0.6**
comp=Z,0.7nm,0.3s,baz=128,slow=17,SNR=5.6
DAVOX S **Sn 23 40 37.0 -5.1**
comp=Z,0.3nm,0.3s,baz=337,slow=18,SNR=1.9
DAVA Damuels 9.60 314⇑*i*Sn **Sn 23 40 44.6 -4.7**
DAVA Damuels 9.60 314⇓*i*Pn **Pn 23 39 00.6 -0.5**
DAVA ⇑*i*Sn **Sn 23 40 44.6 -4.7**
DPC Dobruska-Polom 9.64 345 *e*P **Pn 23 39 03.0 +1.4**
DPC *e*S **Sn 23 40 49.0 -1.3**
PRU Pruhonice 9.72 338 *e*P **Pn 23 39 04.1 +1.4**
PRU *e*S **Sn 23 40 50.7 -1.6**
SBF Sospel 9.75 291 *e*P **Pn 23 39 01.5 -1.6**
FRF La Foret Royal 10.26 288 *e*P **Pn 23 39 08.0 -2.1**
comp=Z,2.8nm,0.3s
FRF La Foret Royal 10.26 288 *e*P **Pn 23 39 08.0 -2.1**
FRF pmax pmax
comp=Z,1.0nm,0.3s
FRF La Foret Royal 10.26 288 *e*P **Pn 23 39 08.0 -2.1**
comp=Z,1.4nm,0.3s
LMR La Mourre 10.32 287 *e*P **Pn 23 39 09.0 -1.9**
MBDF Montbardon 10.43 295 *e*P **Pn 23 39 10.7 -1.7**
comp=Z,1.9nm,0.3s
MBDF Montbardon 10.43 295 *e*P **Pn 23 39 10.7 -1.7**
MBDF pmax pmax
comp=Z,1.0nm,0.3s
MBDF Montbardon 10.43 295 *e*P **Pn 23 39 10.7 -1.7**
comp=Z,0.9nm,0.3s
BR131 Keskin Array S 10.43 93 *e*Pn **Pn 23 39 13.7 +1.3**
comp=Z,1.1nm,0.5s
BRTR Keskin Array B 10.43 93 P **Pn 23 39 14.7 +2.3**
comp=Z,0.4nm,0.3s,baz=273,slow=12,SNR=12
LPG La Plagne 10.68 299 *e*P **Pn 23 39 15.1 -0.7**
comp=Z,4.9nm,0.4s
LPG La Plagne 10.68 299 *e*P **Pn 23 39 15.1 -0.7**
LPG pmax pmax
comp=Z,2.0nm,0.4s
LPG La Plagne 10.68 299 *e*P **Pn 23 39 15.1 -0.7**
comp=Z,2.5nm,0.4s
STU Stuttgart 10.89 319 *e*P **Pn 23 39 17.8 -0.9**
STU pmax pmax
comp=Z,20nm,0.8s
STU Stuttgart 10.89 319 *e*Pn **Pn 23 39 17.8 -1.0**
comp=Z,20nm,0.8s
STU Stuttgart 10.89 319 *e*Pn **Pn 23 39 17.8 -0.9**
comp=Z,20nm,0.8s
FELD Feldberg im Sc 10.98 312 *e*P **Pn 23 39 18.4 -1.5**
BBS Basel-Blauen 11.04 310 *e*P **Pn 23 39 19.6 -1.2**
ORIF Oris-en-Rattie 11.09 295 *e*P **Pn 23 39 19.6 -1.8**
comp=Z,1.9nm,0.4s
SMRF Simiane la Rot 11.09 290 *e*P **Pn 23 39 20.1 -1.4**
MOX Moxa 11.24 331 *e*P **Pn 23 39 12.7 -11**
MOX
comp=Z,800nm,20.0s
CLL Collm 11.34 337 *e*Pn **Pn 23 39 26.0 +1.1**
CLL *e*(Sb) Sn 23 41 57.0 +25
CLL *e*(Sg) Sn 23 42 34.0 +62
LOMF Lomont 11.39 308 *e*P **Pn 23 39 24.3 -1.2**
MOF Molkenrain 11.46 311 *e*P **Pn 23 39 26.7 +0.2**
CABF La Chapelle 11.52 303 *e*P **Pn 23 39 25.6 -1.7**
comp=Z,23nm,1.1s
AKASG Malin Array Be 11.53 30 P **Pn 23 39 29.0 +1.5**
baz=221,slow=12,SNR=4.7
AKASG Malin Array Be 11.53 30 P **Pn 23 39 29.0 +1.5**
HINF Hinteralfeld 11.60 310 *e*P **Pn 23 39 27.2 -1.3**
comp=Z,4.9nm,0.4s
HINF Hinteralfeld 11.60 310 *e*P **Pn 23 39 27.2 -1.3**
HINF pmax pmax
comp=Z,2.0nm,0.4s
HINF Hinteralfeld 11.60 310 *e*P **Pn 23 39 27.2 -1.3**
comp=Z,2.5nm,0.4s
ECH Echery 11.64 312 *e*P **Pn 23 39 27.9 -1.1**
WLS Welschbruch 11.64 313 *e*P **Pn 23 39 27.4 -1.6**
CDF Champ du Feu 11.68 313 *e*P **Pn 23 39 27.8 -1.8**
comp=Z,11nm,0.8s
CDF Champ du Feu 11.68 313 *e*P **Pn 23 39 27.8 -1.8**
CDF pmax pmax
comp=Z,5.0nm,0.8s
CDF Champ du Feu 11.68 313 *e*P **Pn 23 39 27.8 -1.8**
comp=Z,5.4nm,0.8s
VIVF Saint-Julien-l 11.90 294 *e*P **Pn 23 39 30.7 -1.9**
HAU Haudompre 11.99 310 *e*P **Pn 23 39 32.3 -1.5**
comp=Z,15nm,0.7s
HAU Haudompre 11.99 310 *e*P **Pn 23 39 32.3 -1.5**
HAU pmax pmax
comp=Z,8.0nm,0.7s
HAU Haudompre 11.99 310 *e*P **Pn 23 39 32.3 -1.5**
comp=Z,7.5nm,0.7s
THEF They Montfort 12.31 310 *e*P **Pn 23 39 38.5 +0.3**
SMF Signal de Mont 12.97 301 *e*P **Pn 23 39 44.7 -2.5**
MEZF Maizieres J'vi 12.99 310 *e*P **Pn 23 39 45.4 -2.0**
LOR Lormes 13.18 303 *e*P **Pn 23 39 48.1 -1.9**
SSF Saint Saulge 13.33 302 *e*P **Pn 23 39 49.8 -2.3**
comp=Z,7.0nm,0.8s
SSF Saint Saulge 13.33 302 *e*P **Pn 23 39 49.8 -2.3**
SSF pmax pmax
comp=Z,4.0nm,0.8s
SSF Saint Saulge 13.33 302 *e*P **Pn 23 39 49.8 -2.3**
comp=Z,3.5nm,0.8s
AVF Avril sur Loir 13.34 301 *e*P **Pn 23 39 49.8 -2.3**
TCF Toulx Ste Croi 13.94 298 *e*P **Pn 23 39 59.0 -1.4**
MMAI Mount Meron Ar 14.63 118 P **Pn 23 40 09.4 -0.4**
comp=Z,0.6nm,0.3s,baz=304,slow=12,SNR=7.5
LDF La Druitiere 16.16 304 *e*P **Pn 23 40 27.9 -2.1**
comp=Z,7.8nm,0.8s
LDF La Druitiere 16.16 304 *e*P **Pn 23 40 27.9 -2.1**
LDF pmax pmax
comp=Z,4.0nm,0.8s
LDF La Druitiere 16.16 304 *e*P **Pn 23 40 27.9 -2.1**
comp=Z,3.9nm,0.8s
FLN La Foliniere 16.44 305 *e*P **Pn 23 40 31.1 -2.5**
comp=Z,9.5nm,0.9s
FLN La Foliniere 16.44 305 *e*P **Pn 23 40 31.1 -2.5**
FLN pmax pmax
comp=Z,5.0nm,0.9s
FLN La Foliniere 16.44 305 *e*P **Pn 23 40 31.1 -2.5**
comp=Z,4.8nm,0.9s
GRR Gorron 16.55 303 *e*P **Pn 23 40 33.8 -1.2**
comp=Z,22nm,1.0s
GRR Gorron 16.55 303 *e*P **Pn 23 40 33.8 -1.2**
GRR pmax pmax
comp=Z,11nm,1.0s
GRR Gorron 16.55 303 *e*P **Pn 23 40 33.8 -1.2**
comp=Z,11nm,1.0s
KIV Kislovodsk 16.90 73⇑*e*P **Pn 23 40 41.4 +1.9**
KIV pmax pmax
comp=Z,9.0nm,1.0s
GOF Gofitskoye 17.22 69 *e*P **Pn 23 40 46.4 +2.9**
SGMF Saint Gilles 17.59 302 *e*P **Pn 23 40 45.2 -2.9**
comp=Z,37nm,1.3s
SGMF Saint Gilles 17.59 302 *e*P **Pn 23 40 45.2 -2.9**
SGMF pmax pmax
comp=Z,19nm,1.3s
SGMF Saint Gilles 17.59 302 *e*P **Pn 23 40 45.2 -2.9**
comp=Z,19nm,1.3s
OBN Obninsk 17.78 32 *i* P **Pn 23 40 51.3 +0.8**
OBN pmax pmax
comp=Z,15nm,0.8s
OBN Obninsk 17.78 32 *i* P **Pn 23 40 51.3 +0.8**
comp=Z,15nm,0.8s
ZEI Tsey 17.80 77 *e*P **Pn 23 40 52.4 +1.8**
ESDC Sonseca Array 18.37 274 P **Pn 23 40 57.5 -0.1**
baz=85,slow=12,SNR=2.5
MOS Moscow 18.65 32 *e*P **Pn 23 41 07.3 +6.2**
MOS pmax pmax
comp=Z,41nm,1.3s
GNI Garni 18.73 85 P **Pn 23 41 03.1 +1.0**
comp=Z,0.2nm,0.3s,baz=332,slow=9.5,SNR=3.6
HFS Hagfors 19.49 350 P **Pn 23 41 09.0 -2.2**
comp=Z,0.3nm,0.3s,baz=163,slow=11,SNR=12
NB2 NORSAR Subarra 20.72 348 P **P 23 41 22.0 -1.4**
comp=Z,1.3nm,0.5s,baz=163,slow=11
NB2 NORSAR Subarra 20.72 348 P **P 23 41 22.0 -1.4**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 20.72 348 P **P 23 41 22.6 -0.9**
comp=Z,1.4nm,0.7s,baz=154,slow=10,SNR=6.8
FINES FINESS Array B 20.72 8 P **P 23 41 22.9 -0.6**
comp=Z,2.7nm,0.7s,baz=174,slow=12,SNR=16
FINES PcP PcP 23 45 31.1 -2.1
comp=Z,1.1nm,1.0s,baz=57,slow=7.0,SNR=4.0
FINES FINESS Array B 20.72 8 *i* P **P 23 41 23.3 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.7s
EKA Eskdalemuir Ar 20.92 321 P **P 23 41 24.1 -1.4**
comp=Z,1.1nm,0.8s,baz=127,slow=10,SNR=4.1
KAF Kangasniemi 21.40 8 *e*p **P 23 41 28.9 -1.9**
comp=Z,3.9nm,0.5s,mb4.0,baz=190,slow=11
KAF Kangasniemi 21.40 8 *e*P **P 23 41 28.9 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.0
JOF Joensuu 22.88 13 *e*p **P 23 41 45.6 -0.9**
comp=Z,4.9nm,0.7s,mb4.0
KLMR Klimovskoe 23.11 25 *e*P **P 23 41 45.9 -3.1**
KLMR pmax pmax
comp=Z,20nm,1.6s,mb4.3
KLMR Klimovskoe 23.11 25 *e*P **P 23 41 45.9 -3.1**
comp=Z,20nm,1.6s,mb4.3
AKTK Aktyubinsk 27.81 57 P **P 23 42 30.3 -2.0**
comp=Z,1.0nm,0.5s,mb3.7
AKTO Aktyubinsk 27.81 57 P **P 23 42 30.2 -2.0**
comp=Z,0.6nm,0.5s,mb3.5,baz=253,slow=11,SNR=3.5
AKTO Aktyubinsk 27.81 57 P **P 23 42 30.3 -2.0**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
ARCES ARCESS Array B 28.67 4 P **P 23 42 37.8 -2.2**
comp=Z,2.7nm,0.9s,mb4.0,baz=180,slow=11,SNR=3.0
ARU Arti 29.19 45 *e*P **P 23 42 43.2 -1.4**
TORD Torodi Ar. Bea 32.13 215 P **P 23 43 11.0 +0.4**
comp=Z,2.3nm,0.9s,mb4.0,baz=36,slow=6.4,SNR=12
DBIC Dimbokro 40.84 220 P **P 23 44 23.1 -1.8**
comp=Z,7.5nm,1.1s,mb4.2,baz=0.0,slow=13,SNR=2.7
KURK Kurchatov 40.88 56 *i* P **P 23 44 24.0 -1.2**
ZAL Zalesovo 44.05 50 P **P 23 44 49.4 -1.6**
comp=Z,3.4nm,0.5s,mb4.3,baz=185,slow=7.8,SNR=17
ZAL Zalesovo 44.05 50 P **P 23 44 49.3 -1.6**
MKAR Makanchi Array 44.13 61 P **P 23 44 49.5 -2.1**
comp=Z,0.4nm,0.3s,mb3.6,baz=280,slow=8.0,SNR=11
MKAR PcP PcP 23 46 32.9 -3.8

	comp=Z,1.1nm,1.1s,baz=288,slow=5.0,SNR=3.9							
MKAR	**Makanchi Array**	**44.13**	**61**	*i* P	**P**	**23 44 50.0**	**-1.6**	
DMN	**Daman**	**54.20**	**83**	*e*P	**P**	**23 46 06.6**	**-2.1**	
	comp=Z,18nm,0.9s,mb5.0							
KKN	**Kakani**	**54.23**	**82**	*e*P	**P**	**23 46 06.7**	**-2.2**	
PKI	**Pulchoki**	**54.44**	**83**	*e*P	**P**	**23 46 07.8**	**-2.7**	
GUN	**Gumba**	**54.61**	**82**	*e*P	**P**	**23 46 10.1**	**-1.6**	
	comp=Z,39nm,0.9s,mb5.4							
JIRN	**Jiri**	**54.98**	**82**	*e*P	**P**	**23 46 13.0**	**-1.4**	
	comp=Z,13nm,0.5s,mb5.2							
SCHQ	**Schefferville**	**56.13**	**316**	P	**P**	**23 46 20.3**	**-2.3**	
	comp=Z,2.1nm,1.0s,mb4.1,baz=22,slow=5.4,SNR=2.9							
SONM	**Songino Array**	**58.91**	**52**	P	**P**	**23 46 40.8**	**-1.4**	
	comp=Z,2.2nm,0.9s,mb4.2,baz=281,slow=7.4,SNR=8.7							
SONM	**Songino Array**	**58.91**	**52**	P	**P**	**23 46 40.8**	**-1.4**	
SONM				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BOSA	**Boshof**	**69.50**	**175**	P	**P**	**23 47 51.4**	**-0.3**	
	comp=Z,1.6nm,0.6s,mb4.2,baz=360,slow=9.0,SNR=5.0							
CPUP	**Villa Florida**	**98.10**	**242**	LR	LR	00 36 04.5		
	comp=Z,114nm,18.5s,MS4.4,baz=208,slow=36							
ASAR	**Alice Springs**	**122.77**	**94**	PKP	PKPdf	23 55 37.6	-1.6	
	comp=Z,0.6nm,0.5s,baz=312,slow=1.6,SNR=6.6							

ISCJB ***15*** *23:47:20.3±0.5, 43.14N±0.05×108W±0.04, h15km, Error ellipse: s-maj=7.5km s-min=3.7km az=20.5*
STR ***15*** *23:47:20.3±0.2, 43.09N×1.10W, h4km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***15*** *23:47:20.6±0.4, 43.15N×107W, h15km±3km, mbLg1.1/4, Error ellipse: s-maj=2.9km s-min=1.5km az=14.0, PRXIMO*
LDG ***15*** *23:47:20.2±0.1, 43.12N×108W, h15km, Md2.1/2, Ml1.6/1, Error ellipse: s-maj=3.8km s-min=1.6km az=18.0*

ISC 15 23:47:20.1±1.1, 4314N±006×107W±004, h17km±8km, n18, σ0.25/24, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.12**	**150**	Pg	**Pg**	**23 47 23.9**	**+0.2**
LARF				Lg		23 47 26.6	
SJPF	**Ste Jean**	**0.12**	**258**	*e*Pg	**Pg**	**23 47 23.9**	**+0.1**
SJPF				*e*Sg	**Sg**	**23 47 26.2**	**-0.1**
	14nm,0.2s						
SJPF	**Ste Jean**	**0.12**	**258**	Pg	**Pg**	**23 47 23.9**	**+0.1**
SJPF				Lg		23 47 26.2	
	7.1nm,0.2s						
ORDF	**Ordiarp**	**0.12**	**51**	Pg	**Pg**	**23 47 23.9**	**0.0**
ORDF				Sg	**Sg**	**23 47 26.6**	**+0.2**
ORDF	**Ordiarp**	**0.12**	**51**	Pg	**Pg**	**23 47 24.0**	**+0.1**
ORDF				Lg		23 47 26.6	
OSSF	**Osses**	**0.19**	**310**	Pg	**Pg**	**23 47 24.6**	**-0.1**
OSSF				Sg	**Sg**	**23 47 27.6**	**-0.3**
OSSF	**Osses**	**0.19**	**310**	Pg	**Pg**	**23 47 24.7**	**-0.1**
OSSF				Lg		23 47 27.6	
ATE	**Arette**	**0.27**	**101**	Pg	**Pg**	**23 47 26.0**	**-0.1**
ATE				Sg	**Sg**	**23 47 30.4**	**+0.3**
ATE	**Arette**	**0.27**	**101**	Pg	**Pg**	**23 47 26.0**	**-0.1**
ATE				Lg		23 47 30.4	
EALK	**Alkurruntz**	**0.33**	**284**	Pg	**Pg**	**23 47 27.0**	**-0.1**
	8.8nm,0.1s,SNR=18						
EALK				Lg		23 47 31.8	
	1.3nm,0.0s,SNR=7.9						
ELIZ	**Elizondo**	**0.34**	**275**	Pg	**Pg**	**23 47 27.2**	**-0.1**
	1.5nm,0.1s,SNR=7.9						
ELIZ				Lg		23 47 32.5	
	2.0nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.40**	**213**	Pg	**Pg**	**23 47 28.6**	**+0.4**
	0.2nm,0.1s,SNR=4.0						
IPRE				Lg		23 47 34.5	
	0.9nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.40**	**242**	Pg	**Pg**	**23 47 28.7**	**+0.3**
	0.2nm,0.0s,SNR=7.9						
IUSE				Lg		23 47 34.2	
	4.1nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.44**	**123**	*e*Pg	**Pg**	**23 47 28.8**	**-0.3**
ETSF				*e*Sg	**Sg**	**23 47 34.4**	**-0.7**
	7.2nm,0.2s						
ETSF	**Etsaut**	**0.44**	**123**	Pg	**Pg**	**23 47 28.8**	**-0.3**
ETSF				Lg		23 47 34.4	
	3.6nm,0.2s						
EBIE	**Bielsa**	**1.00**	**117**	Pg	**Pg**	**23 47 39.5**	**0.0**
	0.0nm,0.0s,SNR=7.9						
EBIE				Lg		23 47 51.4	
	0.2nm,0.0s,SNR=7.9						
EPF	**Esparros**	**1.03**	**95**	*e*Pg	**Pg**	**23 47 40.1**	**-0.1**
EPF				*e*Sg	**Sg**	**23 47 54.0**	**+0.3**
	1.2nm,0.2s						
EPF	**Esparros**	**1.03**	**95**	Pg	**Pg**	**23 47 40.1**	**-0.1**
EPF				Lg		23 47 54.0	
	0.6nm,0.2s						

NEIC ***16*** *00:06:10.1±0.8, 774N×12865E, h35km, mb4.4/6, Error ellipse: s-maj=25.2km s-min=13.7km az=59.0*
IDC ***16*** *00:06:10.5±1.2, 660N×12676E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.0/20, mbtmp4.2/7, Error ellipse: s-maj=82.2km s-min=17.1km az=72.0*
ISCJB ***16*** *00:06:20.2±0.8, 67N±0.1×1274E±0.1, h100km, mb4.2/10, Error ellipse: s-maj=20.8km s-min=8.2km az=95.6*
MAN ***16*** *00:06:40.5, 825N×12576E, h168km, mb2.7, ML4.1, MS4.6*

ISC 16 00:06:22.4±0.8, 67N±0.1×1273E±0.1, h100km, n24, σ1.37/24, mb4.2/10, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.04**	**285**	*e*P	**Sn**	**00 07 00.0**	**+1.1**
DAV	**Davao City (W)**	**1.72**	**283**	*e*P	**Pn**	**00 06 56.5**	**+5.1**
DAV	**Davao City (W)**	**1.72**	**283**	*e*Pn	**Pn**	**00 06 56.3**	**+4.9**
DAV				*e*Sn	**Sn**	**00 07 22.0**	**+8.5**
BUKP	**Musuan**	**2.49**	**299**	*e*P	**Pn**	**00 07 06.6**	**+5.3**
BUTP	**Butuan**	**2.80**	**324**	*e*P	**Pn**	**00 07 06.1**	**+0.6**
PAGZ	**Pagadian**	**4.03**	**287**	*e*P	**Pn**	**00 07 21.6**	**-0.3**
KAKA	**Kakadu**	**19.94**	**165**	*e*P	**P**	**00 10 48.7**	**+2.4**
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.68**	**184**	*e*P	**P**	**00 11 32.1**	**-1.8**
	11nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.68**	**184**	P	**P**	**00 11 32.4**	**-1.5**
	6.0nm,0.5s,mb4.3,baz=3.6,slow=9.0,SNR=38						
WRA	**Warramunga Arr**	**27.36**	**165**	P	**P**	**00 11 59.4**	**+1.3**
	1.3nm,0.3s,mb3.9,baz=346,slow=11,SNR=5.5						
WB2	**Warramunga Arr**	**27.36**	**165**	*e*P	**P**	**00 11 59.4**	**+1.3**
ASAR	**Alice Springs**	**30.85**	**168**	P	**P**	**00 12 29.2**	**+0.2**
	1.7nm,0.4s,mb4.2,baz=342,slow=7.0,SNR=24						
ASAR				PcP	PcP	00 15 25.1	+1.5
	0.5nm,0.5s,baz=348,slow=2.6,SNR=4.2						
CTAO	**Charters Tower**	**32.50**	**145**	P	**P**	**00 12 36.5**	**-7.0**
FORT	**Forrest**	**37.26**	**179**	*e*P	**P**	**00 13 23.9**	**-0.4**
	21nm,0.5s,mb5.3						
MUN	**Mundaring**	**39.87**	**195**	*e*P	**P**	**00 13 43.4**	**-2.8**
NWAO	**Narrogin (SRO)**	**40.53**	**193**	P	**P**	**00 13 49.2**	**-2.4**
	12nm,0.9s,mb4.7,baz=5.6,slow=4.4,SNR=13						
NWAO	**Narrogin (SRO)**	**40.53**	**193**	*e*P	**P**	**00 13 49.6**	**-2.0**
	3.5nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**40.71**	**161**	P	**P**	**00 13 53.3**	**+0.2**
	3.2nm,0.7s,mb4.3,baz=316,slow=12,SNR=5.9						
ULN	**Ulaanbaatar**	**44.51**	**341**	*e*P	**P**	**00 14 14.4**	**-9.5**
	0.5nm,0.4s,mb3.6						
MKAR	**Makanchi Array**	**55.48**	**324**	P	**P**	**00 15 47.3**	**+0.5**
	0.5nm,0.4s,mb3.9,baz=119,slow=7.9,SNR=13						
ZAL	**Zalesovo**	**58.23**	**332**	P	**P**	**00 16 04.2**	**-2.1**
	0.6nm,0.4s,mb3.9,baz=148,slow=13,SNR=2.3						
CHKZ	**Chkalovo**	**65.31**	**327**	*e*P	**P**	**00 16 47.1**	**-6.6**
ZRNK	**Zerenda**	**65.91**	**326**	*e*P	**P**	**00 16 51.4**	**-6.2**
	0.3nm,0.3s,mb3.6						
TORD	**Torodi Ar. Bea**	**122.47**	**290**	PKP	PKPdf	00 25 06.7	+0.7
	0.2nm,0.4s,baz=58,slow=1.8,SNR=9.0						

ISCJB ***16*** *00:14:56.3±2.6, 67S±02×1467E±02, h107km±23km, mb4.3/3, Error ellipse: s-maj=30.1km s-min=24.7km az=130.7*
NEIC ***16*** *00:14:56.4±2.5, 658S×14674E, h99km±23km, mb4.4/3, Error ellipse: s-maj=24.9km s-min=22.9km az=113.0*
IDC ***16*** *00:14:58.0±3.6, 677S×14681E, h119km±35km, mb4.0/3, mb1 4.1/5, mb1mx3.7/14, mbtmp4.4/5, Error ellipse: s-maj=48.6km s-min=22.8km az=124.0*

ISC 16 00:14:58.5±1.7, 68S±01×1468E±02, h113km±18km, n16, σ0.92/17, mb4.3/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.67**	**171**	P	**Pn**	**00 15 39.2**	**-1.0**
	43nm,0.3s,baz=354,slow=7.1,SNR=83						
PMG				S	**Sn**	**00 16 12.3**	**0.0**
	23nm,0.3s,baz=50,slow=23,SNR=8.9						
CTA	**Charters Tower**	**13.27**	**182**	P	**Pn**	**00 18 05.5**	**+3.1**
	0.7nm,0.3s,baz=1.0,slow=14,SNR=5.9						
CTAO	**Charters Tower**	**13.27**	**182**	*e*Pn	**Pn**	**00 18 04.7**	**+2.4**
	3.6nm,0.6s						
KAKA	**Kakadu**	**15.29**	**246**	*e*P	**Pn**	**00 18 27.7**	**-0.5**
	9.1nm,0.6s						
WB2	**Warramunga Arr**	**17.80**	**221**	*e*P	**Pn**	**00 18 58.7**	**-0.2**
WRA	**Warramunga Arr**	**17.81**	**221**	P	**Pn**	**00 18 58.8**	**-0.2**
	1.7nm,0.3s,baz=41,slow=12,SNR=28						
WRA				S	**S**	**00 22 16.4**	**-0.6**
	0.1nm,0.3s,baz=44,slow=22,SNR=2.5						
AS31	**Alice Springs**	**20.86**	**215**	*e*P	**P**	**00 19 32.2**	**+0.9**
ASAR	**Alice Springs**	**20.86**	**215**	P	**P**	**00 19 32.4**	**+1.0**
	5.2nm,0.4s,baz=49,slow=8.8,SNR=75						
ASPA	**Alice Springs**	**20.87**	**215**	*e*P	**P**	**00 19 32.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.47**	**239**	*e*P	**P**	**00 19 57.2**	**-0.6**
	20nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**23.47**	**239**	P	**P**	**00 19 57.5**	**-0.3**
	19nm,0.6s,mb4.6,baz=64,slow=9.4,SNR=67						
STKA	**Stephens Creek**	**25.46**	**190**	P	**P**	**00 20 14.0**	**-1.9**
	1.6nm,0.4s,mb3.8,baz=40,slow=12,SNR=6.2						
MBWA	**Marble Bar**	**29.80**	**239**	*e*P	**P**	**00 20 54.8**	**+0.1**
	2.9nm,0.4s,mb4.3						
KKM	**Kota Kinabalu**	**33.02**	**292**	*e*P	**P**	**00 21 23.4**	**+0.6**
ZRNK	**Zerenda**	**88.02**	**324**	P	**P**	**00 27 35.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**145.03**	**283**	PKPbc	PKPdf	00 34 21.1	-1.3
	4.2nm,0.8s,baz=69,slow=3.2,SNR=28						

NEIC 16 00:57:27.7, 3552N×8323W, h5km, MN3.1, 4C-6D, After BLA., North Carolina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTTN	**Green Top**	**0.46**	**310**	*i*P	Pg	00 57 35.6	-1.0
GTTN				*e*S	Sg	00 57 41.5	-1.1
CCRT	**Cow Camps Rge**	**0.68**	**266**	*e*P	Pg	00 57 39.5	-1.2
CCRT				*e*S	Sg	00 57 48.4	-1.1
GRBT	**Greenback**	**0.81**	**282**	*e*P	Pg	00 57 41.8	-1.4
GRBT				*e*S	Sg	00 57 52.2	-1.4
ASTN	**Avondale Sprin**	**0.83**	**346**	*i*P	Pg	00 57 42.3	-1.5
ASTN				*e*S	Sg	00 57 53.6	-1.0
ETT	**Etowah**	**1.02**	**260**	*i*P	Pg	00 57 45.6	-1.7
ETT				*e*S	Sg	00 57 59.9	-0.5
BCRT	**Bacon Ridge**	**1.12**	**283**	*e*P	Pg	00 57 47.7	-1.6
BCRT				*e*S	Sg	00 58 02.4	-1.5
GMG	**Grassy Mountai**	**1.35**	**242**	*i*P	Pn	00 57 51.5	-1.7
GMG				*e*S	Sb	00 58 09.5	-1.5
BHT	**Blowhole**	**1.44**	**284**	*e*P	Pn	00 57 53.2	-1.2
BHT				*i*S	Sb	00 58 15.8	+2.3
DYTN	**Dayton**	**1.52**	**270**	*i*P	Pn	00 57 54.5	-1.1
DYTN				*e*S	Sn	00 58 18.6	+2.9
CMGA		**1.72**	**240**	*i*P	Pn	00 57 58.0	-0.3
CMGA				*e*S	Sn	00 58 21.5	+0.7
RCG	**Rock City**	**1.82**	**253**	*i*P	Pn	00 57 59.5	-0.2
RCG				*e*S	Sn	00 58 23.3	+0.3
JSC	**Jenkinsville**	**2.03**	**127**	*e*Pn	Pn	00 58 03.0	+0.4
JSC				*e*Sn	Sn	00 58 29.9	+1.5
SWET	**Sewanee**	**2.23**	**263**	*e*Pn	Pn	00 58 05.6	+0.3
SWET				*e*Sn	Sn	00 58 29.7	-3.6
SWET				*e*Sg	Sg	00 58 35.6	-3.7
ROKY	**Rotten Point**	**2.45**	**347**	*e*P	Pn	00 58 09.1	+0.7
ROKY				*i*S	Sn	00 58 43.2	+4.4
BHKY	**Bowman Hall**	**2.72**	**338**	*e*P	Pn	00 58 14.3	+2.3
BHKY				*e*S	Sn	00 58 50.2	+4.9
BLA	**Blacksburg**	**2.83**	**52**	*e*Pn	Pn	00 58 13.8	+0.2
BLA				*e*Sg	Sg	00 58 54.6	-3.9
FWV	**Forest Hill**	**2.84**	**43**	*e*Pn	Pn	00 58 13.9	+0.2
FWV				*e*Sn	Sn	00 58 49.9	+1.7
PKKY	**Potato Knob**	**2.87**	**3**	*e*P	Pn	00 58 16.3	+2.2
PKKY				*e*S	Sn	00 58 52.6	+3.6
SOKY	**Sonora**	**2.98**	**313**	*i*P	Pn	00 58 18.6	+3.0
SOKY				*e*S	Sn	00 58 58.1	+6.3
VWCC	**Virginia Weste**	**3.14**	**56**	*e*P	Pn	00 58 18.2	+0.4
VWCC				*e*S	Sn	00 58 57.0	+1.2
NHSC	**New Hope**	**3.48**	**133**	*e*Pn	Pn	00 58 23.9	+1.3
NHSC				*e*Pg	Pg	00 58 31.1	-3.4
NHSC				*e*Sg	Sg	00 59 17.3	-2.4
WCI	**Wyandotte Cave**	**3.66**	**319**	*e*Pn	Pn	00 58 20.9	-4.1
WCI				*e*Pg	Pg	00 58 30.6	-7.2
WCI				*e*Sg	Sg	00 59 20.0	-5.2
LRAL	**Lakeview Retre**	**3.98**	**233**	*e*Pn	Pn	00 58 27.1	-2.3
PLAL	**Pickwick Lake**	**4.00**	**264**	*e*Pn	Pn	00 58 28.2	-1.5
LLKY	**Land-Between-t**	**4.18**	**291**	*e*P	Pn	00 58 33.5	+1.3
LLKY				*e*S	Sn	00 59 23.9	+2.5
USIN	**University of**	**4.32**	**306**	*e*Pg	Pg	00 58 42.8	-7.7
BLO	**Bloomington**	**4.50**	**325**	*e*Pn	Pn	00 58 36.3	-0.2
BLO				*e*Sg	Sg	00 59 48.2	-3.8
ACSO	**Alum Creek Sta**	**4.71**	**2**	*e*Pn	Pn	00 58 35.6	-3.9
ACSO				*e*Pg	Pg	00 58 49.6	-8.4
ACSO				Sn	Sn	00 59 32.5	-2.1
MCWV	**Mont Chateau**	**4.93**	**32**	*e*Pn	Pn	00 58 41.9	-0.6
GLAT	**Glass**	**4.98**	**280**	*e*Sg	Sg	00 59 58.5	-9.0
HALT	**Halls**	**4.99**	**276**	Pn	Pn	00 58 41.3	-1.9
HALT				*e*Sn	Sn	00 59 42.1	+0.8
HALT				*e*Sg	Sg	01 00 00.5	-7.4
SIUC	**Southern Illin**	**5.29**	**296**	*e*Sg	Sg	01 00 11.0	-6.7
CBN	**Corbin**	**5.41**	**59**	Pn	Pn	00 58 49.9	+0.9
CBN				*e*Sg	Sg	01 00 11.5	-10
FVM	**French Village**	**6.28**	**295**	*e*Pn	Pn	00 59 01.8	+0.8
FVM				*e*Sg	Sg	01 00 31.6	-18
SDMD	**Soldier's Deli**	**6.40**	**51**	*e*Sg	Sg	01 00 48.9	-4.3
SLM	**Saint Louis**	**6.41**	**301**	Pn	Pn	00 58 59.8	-3.0
ALLY	**Alegheny Colle**	**6.58**	**21**	Pn	Pn	00 59 03.8	-1.4
ALLY				*e*Sg	Sg	01 00 45.3	-14
SSPA	**Standing Stone**	**6.62**	**38**	*e*Pn	Pn	00 59 05.1	-0.6
SSPA				*e*Pg	Pg	00 59 22.7	-12
SSPA				*e*Sn	Sn	01 00 19.1	-2.5
CCM	**Cathedral Cave**	**6.91**	**294**	*e*Pn	Pn	00 59 08.4	-1.3
CCM				*e*Sn	Sn	01 00 25.9	-2.9
MVL	**Millersville**	**7.05**	**49**	Pn	Pn	00 59 13.3	+1.7
MVL				*e*Sn	Sn	01 00 35.1	+3.0
MVL				*e*Sb	Sb	01 00 56.9	+1.8
ERPA	**Erie**	**7.06**	**20**	*e*Sg	Sg	01 01 02.8	-12
UALR	**University of**	**7.50**	**267**	*e*Sg	Sg	01 01 20.8	-7.8
DWPF	**Disney**	**7.54**	**168**	*e*Sg	Sg	01 01 28.8	-1.0
SCIA	**State Center**	**10.08**	**312**	*e*Sn	Sn	01 01 52.6	+6.1

CASC 16 01:07:20.4±2.6, 1203N×8796W, h18km±7km, MD4.2, 10C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.11**	**53**	*e*P	Pn	01 07 40.6	-0.5
CRIN				*e*S	Sb	01 07 57.8	+2.5
LEON	**Leon**	**1.11**	**70**	*e*P	Pn	01 07 39.9	-1.2
LEON				*e*S	Sb	01 07 55.0	-0.3
TELN	**Telica**	**1.24**	**62**	*e*P	Pn	01 07 41.5	-1.4
TELN				*e*S	Sb	01 07 58.4	-0.6
CNCH	**Conchagua**	**1.25**	**6**	*e*P	x	01 07 48.4	
CNCH				*e*S	x	01 08 05.2	
MIRN	**Miramar**	**1.28**	**71**	*e*P	Pn	01 07 42.4	-1.1
MIRN				*e*S	Sb	01 08 00.1	-0.1
CNGN	**Cerro Negro**	**1.32**	**69**	*e*P	Pn	01 07 42.8	-1.2
CNGN				*e*S	Sn	01 08 03.2	+2.1
COPN	**Copaltepe**	**1.34**	**83**	*e*P	Pn	01 07 43.6	-0.7
COPN				*e*S	Sn	01 08 02.0	+0.2
VSM	**San Miguel**	**1.43**	**348**	*e*P	x	01 07 51.4	
VSM				*e*S	x	01 08 11.7	
BLLM	**Bellamira**	**1.43**	**349**	*e*P	x	01 07 51.1	
BLLM				*e*S	x	01 08 10.3	
MOMJ	**Momotombo**	**1.44**	**75**	*e*P	Pn	01 07 44.4	-1.1
APYN	**Apoyeque**	**1.58**	**82**	*e*P	Pn	01 07 46.8	-0.8
APYN				*e*S	Sn	01 08 08.1	+0.4
XAVN	**Gruta Xavier**	**1.60**	**85**	*e*P	Pn	01 07 47.1	-0.7
XAVN				*e*S	Sn	01 08 10.0	+2.0
TISN	**Laguna Tiscapa**	**1.66**	**86**	*e*P	Pn	01 07 48.0	-0.6
MGAN	**Managua**	**1.68**	**86**	*e*P	Pn	01 07 48.0	-0.9
MGAN				*e*S	Sn	01 08 09.3	-0.6
TICN	**Ticuantepe**	**1.69**	**90**	*e*P	Pn	01 07 48.7	-0.3
TICN				*e*S	Sn	01 08 11.3	+1.1
SNVI	**San Vicente**	**1.79**	**331**	*e*P	x	01 07 57.2	
SNVI				*e*S	x	01 08 20.8	
APON	**Apoyo**	**1.85**	**93**	*e*P	Pn	01 07 51.1	-0.2
APON				*e*S	Sn	01 08 15.4	+1.2
LCBS	**La Ceiba**	**1.90**	**328**	*e*P	x	01 07 58.2	
LCBS				*e*S	x	01 08 22.2	
LFRS	**El Faro**	**1.92**	**326**	*e*P	x	01 07 58.4	
LFRS				*e*S	x	01 08 23.0	
LBRS	**Las Brisas**	**2.00**	**328**	*e*P	x	01 08 00.2	
LBRS				*e*S	x	01 08 25.1	
BOQS	**Boqueron**	**2.13**	**323**	*e*P	x	01 08 02.4	
BOQS				*e*S	x	01 08 30.1	
SSNN	**San Juan del S**	**2.19**	**109**	*e*P	Pn	01 07 55.4	-0.6
CONN	**Concepcion**	**2.33**	**101**	*e*P	Pn	01 07 57.4	-0.5
SBLS	**San Blas**	**2.42**	**318**	*e*P	x	01 08 06.2	
SBLS				*e*S	x	01 08 38.3	
SNJE	**San Jose**	**2.44**	**319**	*e*P	x	01 08 06.4	
SNJE				*e*S	x	01 08 37.9	
MADN	**Villa Maderas**	**2.45**	**104**	*e*P	Pn	01 08 00.2	+0.7
RTR	**El Retiro**	**2.48**	**319**	*e*P	x	01 08 07.3	
RTR				*e*S	x	01 08 38.3	
RBDL	**Robledal**	**2.67**	**321**	*e*P	x	01 08 10.4	
RBDL				*e*S	x	01 08 42.1	

CSEM ***16*** *01:16:36.4±1.7, 3864N×2853W, h7km±4km, ML2.2, Error ellipse: s-maj=3.1km s-min=3.0km az=48.0, After PDA*
PDA ***16*** *01:16:36.4±1.7, 3864N×2853W, h7km±4km, MD3.1, ML2.2, Error ellipse: s-maj=3.1km s-min=3.0km az=48.0*

SVSA 16 01:16:36.4±1.7, 3864N×2853W, h7km±4km, MD3.1, ML2.2, Error ellipse: s-maj=3.1km s-min=3.0km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.13**	**264**	*i* P	Pg	01 16 38.9	-0.4
PCED				*i* S	Sg	01 16 41.6	+0.4
PCED							
	677nm,0.1s						
PCED	**Cedros**	**0.13**	**264**	*i* S	Sg	01 16 41.6	+0.4
HOR	**Horta**	**0.14**	**213**	*e*P	Pg	01 16 38.7	-0.7
HOR				*e*S	Sg	01 16 40.9	-0.4
CALA	**Caldeira**	**0.15**	**245**	*e*P	Pg	01 16 39.3	-0.2
CALA				*e*S	Sg	01 16 41.5	0.0
PICO	**Pico**	**0.17**	**149**	*i* P	Pg	01 16 39.6	-0.2
PICO				*e*S	Sg	01 16 42.1	0.0
PICO	**Pico**	**0.17**	**149**	*e*S	Sg	01 16 42.1	0.0
PCND	**Candelaria**	**0.18**	**162**	*i* P	Pg	01 16 40.5	+0.4
PCND				*e*S	Sg	01 16 43.1	+0.5
PCND							
	396nm,0.2s						
PTEI	**Pico do Teixo**	**0.20**	**137**	*i* P	Pg	01 16 40.9	+0.4
PTEI				*e*S	Sg	01 16 43.5	+0.3
PTEI							
	156nm,0.2s						
PTCA	**Ponta do Capel**	**0.21**	**254**	*e*P	Pg	01 16 41.0	+0.3
PTCA				*e*S	Sg	01 16 43.7	+0.1
PTCA							
	131nm,0.2s						
PTCA	**Ponta do Capel**	**0.21**	**254**	*e*P	Pg	01 16 41.0	+0.3
PTCA				*e*S	Sg	01 16 43.7	+0.1
PBOI	**Pico dos Bois**	**0.24**	**149**	*e*P	Pg	01 16 41.2	0.0
PBOI				*e*S	Sg	01 16 44.3	-0.1
PBOI							
	118nm,0.2s						
ROSA	**Rosais**	**0.24**	**71**	*i* P	Pg	01 16 41.0	-0.2
ROSA				*e*S	Sg	01 16 44.2	-0.2
ROSA	**Rosais**	**0.24**	**71**	*e*S	Sg	01 16 44.2	-0.2
PAMA	**Santo Amaro**	**0.28**	**82**	*e*P	Pg	01 16 42.0	+0.1
PAMA				*e*S	Sg	01 16 45.6	0.0
PAMA							
	214nm,0.1s						
PMAN	**Manadas**	**0.35**	**92**	*i* P	Pg	01 16 42.2	-1.0
PMAN				*e*S	Sg	01 16 46.6	-1.2
PMAN							
	141nm,0.1s						
PMAN	**Manadas**	**0.35**	**92**	*e*S	Sg	01 16 46.6	-1.2
PID	**Ribeirinha**	**0.38**	**122**	*e*P	Pg	01 16 42.7	-1.1
PIED	**Piedade**	**0.44**	**121**	*e*S	Sg	01 16 49.1	-1.5
PLUZ	**Luz**	**0.51**	**317**	*e*P	Pg	01 16 46.1	-0.1
PLUZ				*e*S	Sg	01 16 53.5	+0.6
PLUZ							
	30nm,0.2s						
SRBC	**Serra Branca**	**0.55**	**44**	*e*P	Pg	01 16 45.5	-1.5
PVIA	**Vitoria**	**0.57**	**41**	*e*S	Sg	01 16 53.0	-1.8
PVIA							
	14nm,0.1s						
PGRA	**Graciosa**	**0.58**	**48**	*i* P	Pg	01 16 45.6	-2.0
PGRA				*e*S	Sg	01 16 53.4	-1.7
PGRA							
	52nm,0.2s						
PGRA	**

M_0/~0.64±.05; Best double couple: $M_0$2.37500×10^17 NP1:ϕ_s264.00000°,δ27.00000°,λ-76.00000°. NP2: ϕ_s69.00000°,δ63.00000°,λ-97.00000°. Principal axes: T 2.3590, Plg18.0000°, Azm164.0000°; N 0.0330, Plg6.0000°, Azm72.0000°; P -2.3910, Plg71.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

ISC 16 02:56:17.9±0.1,121N,002×12188E±003,h32km, h32km±1.2km:pP-P,n718,σ1§07/464,mb5.7/143,MS5.3/172, 61C-87D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**5.04**	**307**	P	**Pn**	**02 57 29.3**	**-2.1**
CTBH	**Cotabato--PC H**	**6.42**	**21**	⇑*e*P	**Pn**	**02 57 47.6**	**-2.6**
IPIL	**Ipil**	**6.57**	**6**	*e*P	**Pn**	**02 57 51.7**	**-0.6**
IPIL	**Ipil**	**6.57**	**6**	*e*P	**Pn**	**02 57 51.8**	**-0.5**
IPIL	**Ipil**	**6.57**	**6**	*e*P	**Pn**	**02 57 50.7**	**-1.6**
KCP	**Kidapawan**	**6.59**	**29**	⇓*e*P	**Pn**	**02 57 53.9**	**+1.3**
KCP				*i* S	**Sn**	**02 59 08.0**	**+1.4**
PAGZ	**Pagadian**	**6.76**	**13**	*e*P	**Pn**	**02 57 52.8**	**-2.2**
PAGZ	**Pagadian**	**6.76**	**13**	*e*P	**Pn**	**02 57 53.1**	**-1.8**
PAGZ	**Pagadian**	**6.76**	**13**	*e*P	**Pn**	**02 57 53.2**	**-1.7**
DAV	**Davao City (W)**	**6.89**	**32**	⇑*e*P	**Pn**	**02 57 57.5**	**+0.8**
DAV	**Davao City (W)**	**6.89**	**32**	*e*Pn	**Pn**	**02 57 57.8**	**+1.1**
	2μm,0.9s						
MATI	**Mati**	**7.17**	**37**	*e*P	**Pn**	**02 58 00.3**	**-0.3**
MATI	**Mati**	**7.17**	**37**	*e*P	**Pn**	**02 58 00.3**	**-0.3**
BUKP	**Musuan**	**7.34**	**25**	*e*P	**Pn**	**02 58 01.7**	**-1.2**
BUKP	**Musuan**	**7.34**	**25**	*e*P	**Pn**	**02 58 01.7**	**-1.2**
BUKP	**Musuan**	**7.34**	**25**	*e*P	**Pn**	**02 58 01.7**	**-1.2**
BUKP	**Musuan**	**7.34**	**25**	*e*P	**Pn**	**02 58 01.5**	**-1.4**
KKM	**Kota Kinabalu**	**7.42**	**310**	P	**Pn**	**02 58 03.9**	**0.0**
KKM	**Kota Kinabalu**	**7.42**	**310**	*e*Pn	**Pn**	**02 58 03.3**	**-0.7**
DCPH	**Dipolog City**	**7.47**	**11**	⇑*e*P	**Pn**	**02 58 04.7**	**0.0**
CGP	**Cagayan de Oro**	**7.72**	**21**	⇓*e*P	**Pn**	**02 58 02.6**	**-5.5**
SNPH	**Sibulan**	**8.19**	**9**	*e*P	**Pn**	**02 58 14.0**	**-0.5**
BIPH	**Bislig**	**8.24**	**33**	⇑*i*P	**Pn**	**02 58 14.4**	**-0.8**
TBP	**Tagbilaran**	**8.65**	**13**	*e*P	**Pn**	**02 58 28.7**	**+7.9**
LLP	**Lapu-Lapu**	**9.28**	**13**	*e*P	**Pn**	**02 58 29.4**	**0.0**
MSLP	**Maasin**	**9.35**	**18**	*e*P	**Pn**	**02 58 31.2**	**+0.8**
GUIM	**Jordan**	**9.38**	**4**	*e*P	**Pn**	**02 58 30.3**	**-0.5**
GUIM	**Jordan**	**9.38**	**4**	*e*P	**Pn**	**02 58 30.3**	**-0.6**
GUIM	**Jordan**	**9.38**	**4**	*e*P	**Pn**	**02 58 30.3**	**-0.6**
CUYO	**Cuyo Island**	**9.62**	**355**	*e*P	**Pn**	**02 58 34.4**	**+0.4**
ENPP	**El Nido**	**10.23**	**346**	*e*P	**Pn**	**02 58 41.7**	**-0.7**
KSM	**Kuching**	**11.57**	**271**	⇓*i*Pn	**Pn**	**02 59 01.0**	**+0.1**
PVCP	**Virac**	**12.51**	**10**	*e*P	**Pn**	**02 59 20.0**	**+6.3**
LUBP	**Lubang**	**12.55**	**353**	*e*P	**Pn**	**02 59 13.2**	**-1.0**
LUBP	**Lubang**	**12.55**	**353**	*e*P	**Pn**	**02 59 13.3**	**-0.9**
TGY	**Tagaytay City**	**12.84**	**356**	Pn	**Pn**	**02 59 19.8**	**+1.6**
	57nm,0.3s,baz=162,slow=19,SNR=2.0						
PCPH	**Palayan**	**14.28**	**357**	⇑*e*P	**Pn**	**02 59 40.6**	**+2.8**
BALP	**Baler**	**14.44**	**359**	*e*P	**Pn**	**02 59 42.8**	**+2.8**
BALP	**Baler**	**14.44**	**359**	*e*P	**Pn**	**02 59 42.7**	**+2.7**
SCZP	**Santa Cruz**	**14.60**	**352**	*e*P	**Pn**	**02 59 39.9**	**-2.3**
SCZP	**Santa Cruz**	**14.60**	**352**	*e*P	**Pn**	**02 59 43.6**	**+1.4**
YOGI	**Yogyakarta**	**14.63**	**232**	⇓*e*P	**Pn**	**02 59 50.7**	**+8.1**
YOGI				*e*S	sP	03 00 06.1	+5.3
BJII	**Banjamegara**	**14.82**	**235**	⇑*i*P	**Pn**	**02 59 49.1**	**+4.0**
BJII				*i* S	sP	03 00 03.7	+0.8
BOLP	**Bolinao**	**15.20**	**353**	*e*P	**Pn**	**02 59 50.6**	**+0.5**
BOLP	**Bolinao**	**15.20**	**353**	*e*P	**Pn**	**02 59 50.6**	**+0.4**
CAUP	**Cauayan**	**15.63**	**360**	*e*P	**Pn**	**02 59 58.3**	**+2.5**
CAUP	**Cauayan**	**15.63**	**360**	*e*P	**Pn**	**02 59 58.8**	**+3.0**
CVP	**Callao Caves**	**16.39**	**360**	*e*P	**Pn**	**03 00 06.5**	**+0.5**
APYP	**Conner**	**16.56**	**358**	*e*P	**Pn**	**03 00 08.3**	**+0.6**
APYP	**Conner**	**16.56**	**358**	*e*P	**Pn**	**03 00 09.1**	**+1.4**
KAKA	**Kakadu**	**17.35**	**143**	⇑*i*P	**Pn**	**03 00 21.1**	**+3.5**
	198nm,0.6s						
KGM	**Kluang**	**18.57**	**273**	P	**Pn**	**03 00 33.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**19.54**	**169**	⇑*i*P	**Pn**	**03 00 43.9**	**-0.3**
	588nm,1.2s						
FITZ				*e*S	**Sn**	**03 04 23.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.54**	**169**	P	**Pn**	**03 00 43.9**	**-0.3**
	21nm,0.3s,baz=12,slow=8.6,SNR=390						
FITZ				S	**Sn**	**03 04 18.6**	**-4.0**
	0.2nm,0.3s,baz=118,slow=8.5,SNR=2.4						
FITZ				LR	LR	03 09 21.5	
	comp=Z,7μm,20.0s,baz=342,slow=40						
IPM	**Ipoh**	**21.08**	**279**	P	**P**	**03 01 00.6**	**+1.1**
QIZ	**Qiongzhong**	**21.28**	**327**	P	**P**	**03 01 01.5**	**-0.2**
QIZ				S	**S**	**03 04 57.3**	**+0.9**
QIZ				AMB	AMB		
	comp=Z,330nm,1.3s,mb5.5						
QIZ				AMB	AMB		
	comp=Z,3μm,3.0s						
QIZ				LR	LR		
	comp=N,6μm,17.4s,MS5.1						
QIZ				LR	LR		
	comp=E,2μm,16.6s,MS5.1						
QIZ				LR	LR		
	comp=Z,7μm,17.4s,MS5.1						
QIZ	**Qiongzhong**	**21.28**	**327**	*e*P	**P**	**03 01 01.5**	**-0.2**
	comp=Z,618nm,1.4s,mb5.7						
QIZ				LR	LR		
	comp=Z,5μm,21.0s,MS4.9						
KULM	**Kulim**	**21.58**	**281**	*e*P	**P**	**03 01 04.6**	**-0.2**
SNG	**Songkhla**	**22.01**	**286**	P	**P**	**03 01 10.0**	**+0.5**
	comp=Z,934nm,1.0s,mb6.2						
HKC	**Hong Kong**	**22.27**	**341**	⇓*i*P	**P**	**03 01 13.0**	**+0.8**
HKC				*i* S	**S**	**03 05 12.0**	**-3.6**
MBWA	**Marble Bar**	**22.33**	**185**	*e*P	**P**	**03 01 13.1**	**+0.2**
	comp=Z,2μm,2.1s,mb6.1						
MBWA				LR	LR		
	comp=Z,6μm,20.0s,MS5.0						
NACB	**Ninganchiao**	**22.83**	**359**	*e*P	**P**	**03 01 15.1**	**-3.1**
PSI	**Prapat**	**23.00**	**274**	P	**P**	**03 01 19.8**	**-0.2**
	comp=Z,170nm,1.0s,mb5.4,baz=101,slow=8.0,SNR=116						
PSI				S	**S**	**03 05 28.6**	**+0.2**
	comp=Z,4.5nm,0.6s,baz=130,slow=8.8,SNR=2.4						
GZH	**Guangzhou**	**23.27**	**340**	P	**P**	**03 01 25.8**	**+3.0**
GZH				S	**S**	**03 05 39.8**	**+7.0**
GZH				AMB	AMB		
	comp=Z,360nm,1.6s,mb5.5						
GZH				LR	LR		
	comp=N,5μm,17.1s,MS5.1						
GZH				LR	LR		
	comp=E,4μm,17.5s,MS5.1						
GZH				LR	LR		
	comp=Z,9μm,17.7s,MS5.3						
YHNB	**Yeheng**	**23.33**	**359**	*e*P	**P**	**03 01 22.6**	**-0.8**
TATO	**Taipei**	**23.63**	**359**	*e*P	**P**	**03 01 25.6**	**-0.7**
	comp=Z,161nm,1.0s,mb5.4						
TATO				*e*pP		03 01 33.4	
TATO				LR	LR		
	comp=Z,9μm,20.0s,MS5.2						
QZH	**Quanzhou**	**23.81**	**353**	*i* PR	**P**	**03 01 27.5**	**-0.4**
QZH				S	**S**	**03 05 42.0**	**+0.6**
QZH				AMB	AMB		
	comp=Z,760nm,1.2s,mb6.0						
QZH				AMB	AMB		
	comp=Z,6μm,3.1s						
QZH				LR	LR		
	comp=N,6μm,15.2s,MS5.3						
QZH				LR	LR		
	comp=E,6μm,14.0s,MS5.3						
QZH				LR	LR		
	comp=Z,13μm,17.6s,MS5.4						
WRAB	**Tennant Creek**	**24.31**	**150**	P	**P**	**03 01 32.5**	**0.0**
	comp=Z,2μm,0.8s,mb6.6,SNR=22						
WRAB	**Tennant Creek**	**24.31**	**150**	*c i*P	**P**	**03 01 33.8**	**+1.3**
WRA	**Warramunga Arr**	**24.31**	**150**	P	**P**	**03 01 32.1**	**-0.4**
	comp=Z,115nm,0.8s,mb5.4,baz=330,slow=11,SNR=157						
WRA				S	**S**	**03 05 51.6**	**+2.0**
	comp=Z,13nm,1.0s,baz=319,slow=16,SNR=5.8						
WB2	**Warramunga Arr**	**24.32**	**150**	*e*P	**P**	**03 01 32.0**	**-0.6**
WB2				*e*S	**S**	**03 05 49.3**	**-0.4**
WB2				*e*SCS	ScS	03 12 35.5	0.0
NNT	**Nongplab**	**24.69**	**298**	P	**P**	**03 01 37.0**	**+1.0**
NST	**Nakhon Sawan**	**25.82**	**305**	⇑P	**P**	**03 01 47.0**	**+0.7**
	comp=Z,217nm,1.0s,mb5.6						
GUMO	**Guam**	**25.86**	**61**	LR	LR	03 10 03.9	
	comp=Z,3μm,20.7s,MS4.8,baz=331,slow=32						
JOW	**Kunigami**	**26.20**	**13**	P	**P**	**03 01 49.8**	**+0.1**
	comp=Z,92nm,0.7s,mb5.4,baz=205,slow=7.0,SNR=26						
JOW				LR	LR	03 11 04.3	
	comp=Z,6μm,20.4s,MS5.1,baz=21,slow=34						
PMG	**Port Moresby**	**27.29**	**113**	P	**P**	**03 02 01.1**	**+1.6**
	comp=Z,78nm,0.8s,mb5.3,baz=292,slow=6.8,SNR=14						
PMG	**Port Moresby**	**27.29**	**113**	*d i*P	**P**	**03 02 01.7**	**+2.2**
PMG	**Port Moresby**	**27.29**	**113**	*e*P	**P**	**03 02 01.4**	**+1.9**
	comp=Z,133nm,0.9s,mb5.5						
PMG				LR	LR		
	comp=Z,4μm,21.0s,MS5.0						
ASAR	**Alice Springs**	**27.35**	**155**	P	**P**	**03 02 00.1**	**+0.1**
	comp=Z,26nm,0.7s,mb4.9,baz=340,slow=14,SNR=164						
ASAR				PcP	PcP	03 05 20.4	+1.7
	comp=Z,5.8nm,0.4s,baz=343,slow=2.3,SNR=7.8						
ASAR				S	**S**	**03 06 38.4**	**+0.5**
	comp=Z,41nm,1.0s,baz=342,slow=21,SNR=12						
ASAR				ScP	ScP	03 08 58.0	+1.3
	comp=Z,11nm,1.0s,baz=351,slow=2.0,SNR=8.6						
ASAR	**Alice Springs**	**27.35**	**155**	P	**P**	**03 02 00.2**	**+0.2**
ASAR						03 05 20.4	
ASAR				S	**S**	**03 06 38.4**	**+0.6**
CHTO	**Chiang Mai**	**28.50**	**309**	⇓*e*P	**P**	**03 02 10.5**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,251nm,1.5s,mb5.6						
CHTO				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.3						
CHTO	**Chiang Mai**	**28.50**	**309**	⇓*e*P	**P**	**03 02 10.5**	**+0.2**
	comp=Z,251nm,1.5s,mb5.6						
CHTO				LR	LR		
	comp=Z,8μm,20.0s,MS5.3						
GYA	**Guiyang**	**29.06**	**331**	⇓*i*P	**P**	**03 02 16.3**	**+1.0**
GYA				PCP	PcP	03 05 24.8	+1.9
GYA				PCS	PcS	03 09 04.8	-0.9
GYA				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.2						
GYA				AMB	AMB		
	comp=Z,1μm,10.5s						
GYA				LR	LR		
	comp=N,4μm,17.9s,MS5.2						
GYA				LR	LR		
	comp=E,2μm,16.2s,MS5.2						
GYA				LR	LR		
	comp=Z,5μm,18.0s,MS5.2						
SSE	**Sheshan**	**29.73**	**359**	⇓P	**P**	**03 02 23.5**	**+2.3**
SSE				AP	pP	03 02 32.3	+2.0
SSE				XP	sP	03 02 36.3	+2.1
SSE				PCP	PcP	03 05 27.4	+2.8
SSE				S	**S**	**03 07 17.5**	**+2.3**
SSE				XS	sS	03 07 32.3	+2.0
SSE				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,920nm,12.0s						
SSE				LR	LR		
	comp=N,5μm,18.6s,MS5.3						
SSE				LR	LR		
	comp=E,3μm,18.6s,MS5.3						
SSE				LR	LR		
	comp=Z,8μm,18.3s,MS5.4						
WHN	**Wuhan**	**30.04**	**347**	⇓P	**P**	**03 02 25.8**	**+1.9**
WHN				S	**S**	**03 07 25.0**	**+4.9**
WHN				AMB	AMB		
	comp=Z,2μm,9.4s						
WHN				LR	LR		
	comp=Z,16μm,16.8s,MS5.7						
KMI	**Kunming**	**30.11**	**324**	P	**P**	**03 02 26.4**	**+1.8**
KMI				AP	pP	03 02 35.3	+1.6
KMI				XP	sP	03 02 39.4	+1.8
KMI				PP	PP	03 03 25.8	-7.0
KMI				PCP	PcP	03 05 27.9	+2.3
KMI				S	**S**	**03 07 20.6**	**-0.7**
KMI				SS	SS	03 09 00.5	-30
KMI				SSS		03 09 21.8	
KMI				SCS	ScS	03 13 00.9	-0.1
KMI				AMB	AMB		
	comp=Z,60nm,1.6s,mb5.1						
KMI				AMB	AMB		
	comp=Z,960nm,5.2s						
KMI				LR	LR		
	comp=N,3μm,18.4s,MS5.2						
KMI				LR	LR		
	comp=E,4μm,18.4s,MS5.2						
KMI				LR	LR		
	comp=Z,4μm,18.8s,MS5.1						
PBA	**Port Blair**	**30.72**	**291**	*e*P	x	03 07 21.0	
PBA				*e*S	x	03 10 36.3	
NJ2	**Nanjing**	**30.81**	**355**	*e*P	**P**	**03 02 32.1**	**+1.4**
NJ2				AP	pP	03 02 39.3	-0.6
NJ2				PP	PP	03 03 32.4	-8.1
NJ2				S	**S**	**03 07 33.0**	**+0.8**
NJ2				AMB	AMB		
	comp=Z,510nm,1.2s,mb6.2						
NJ2				AMB	AMB		
	comp=Z,920nm,6.0s						
NJ2				LR	LR		
	comp=N,12μm,18.8s,MS5.7						
NJ2				LR	LR		
	comp=E,7μm,17.1s,MS5.7						
NJ2				LR	LR		
	comp=Z,5μm,18.0s,MS5.2						
CTA	**Charters Tower**	**31.92**	**133**	⇓*i*P	**P**	**03 02 42.3**	**+1.8**
	comp=Z,48nm,1.2s,mb5.2						
CTA	**Charters Tower**	**31.92**	**133**	P	**P**	**03 02 41.5**	**+1.0**
	comp=Z,63nm,1.0s,mb5.4,baz=310,slow=11,SNR=14						
CTA				LR	LR	03 16 28.1	
	comp=Z,4μm,19.0s,MS5.2,baz=308,slow=38						
CTA	**Charters Tower**	**31.92**	**133**	⇓*i*P	**P**	**03 02 42.3**	**+1.8**
CTA				pmax	pmax		
	comp=Z,48nm,1.2s						
CTAO	**Charters Tower**	**31.92**	**133**	P	**P**	**03 02 42.4**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.6						
CTAO	**Charters Tower**	**31.92**	**133**	*e*P	**P**	**03 02 41.8**	**+1.3**
	comp=Z,116nm,1.3s,mb5.5						
CTAO				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
CBIJ	**Chichi jima**	**32.28**	**35**	P	**P**	**03 02 43.4**	**-0.3**
	comp=Z,250nm,0.9s,mb6.1,baz=177,slow=5.1,SNR=13						
FORT	**Forrest**	**32.35**	**170**	⇑*i*P	**P**	**03 02 44.0**	**-0.3**
	comp=Z,99nm,0.7s,mb5.8						
KLBR	**Kellerberrin**	**32.86**	**187**	*e*P	**P**	**03 02 48.2**	**-0.5**
	comp=Z,80nm,0.7s,mb5.8						
MUN	**Mundaring**	**33.44**	**189**	*e*P	**P**	**03 02 55.6**	**+1.8**
CD2	**Chengdu**	**34.17**	**332**	P	**P**	**03 03 00.3**	**+0.1**
CD2				AP	pP	03 03 09.0	-0.4
CD2				PP	PP	03 04 13.6	-4.2
CD2				S	**S**	**03 08 21.8**	**-2.6**
CD2				SCP	ScP	03 09 18.3	-1.0
CD2				PCS	PcS	03 09 23.0	+0.1
CD2				SCS	ScS	03 13 19.3	-2.2
CD2				AMB	AMB		
	comp=Z,130nm,0.8s,mb5.9						
CD2				AMB	AMB		
	comp=Z,670nm,7.1s						
CD2				LR	LR		
	comp=N,2μm,16.8s						
CD2				LR	LR		
	comp=Z,2μm,20.4s,MS4.8						
NWAO	**Narrogin (SRO)**	**34.24**	**187**	P	**P**	**03 03 01.1**	**+0.3**
	comp=Z,89nm,0.7s,mb5.8,baz=11,slow=9.4,SNR=35						
NWAO				LR	LR	03 16 51.9	
	comp=Z,5μm,21.4s,MS5.2,baz=347,slow=36						
NWAO	**Narrogin (SRO)**	**34.24**	**187**	P	**P**	**03 03 01.4**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,100nm,0.9s						
NWAO	**Narrogin (SRO)**	**34.24**	**187**	*e*P	**P**	**03 03 01.1**	**+0.3**
	comp=Z,101nm,0.8s,mb5.8						
NWAO				LR	LR		
	comp=Z,4μm,22.0s,MS5.1						
XAN	**Xi'an**	**34.84**	**341**	P	**P**	**03 03 05.5**	**-0.5**
XAN				S	**S**	**03 08 32.1**	**-2.7**
XAN				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.5						
XAN				AMB	AMB		
	comp=Z,880nm,14.6s						
XAN				LR	LR		
	comp=N,4μm,19.1s,MS5.2						
XAN				LR	LR		
	comp=E,2μm,20.0s,MS5.2						
XAN				LR	LR		
	comp=Z,6μm,18.1s,MS5.4						
TIA	**Tai'an**	**35.10**	**353**	P	**P**	**03 03 07.4**	**-0.8**
TIA				LR	LR		
	comp=N,2μm,8.0s						
TIA				LR	LR		
	comp=E,1μm,8.0s						
IMP	**Imphal**	**35.76**	**313**	*e*P	**P**	**03 03 15.0**	**+1.2**
IMP				*ex*	x	03 05 45.0	
JHJ	**Hachijo jima 2**	**35.92**	**26**	P	**P**	**03 03 15.2**	**-0.1**
	comp=E,192nm,0.8s,mb6.1,baz=243,slow=7.3,SNR=5.7						
INCN	**Inchon**	**36.36**	**6**	PFAKE		03 03 30.0	+11
INCN				LR	LR		
	comp=Z,3μm,19.0s,MS5.1						
KS15	**Wonju Array Si**	**36.48**	**8**	*e*P	**P**	**03 03 20.8**	**+0.8**
KS15				*e*pP	pP	03 03 28.0	-1.2
DL2	**Dalian**	**37.52**	**360**	*i* PR	**P**	**03 03 30.0**	**+1.2**
DL2				PP	PP	03 04 54.0	-0.7
DL2				S	**S**	**03 09 18.0**	**+2.3**
DL2				XS	sS	03 09 35.0	+4.0
DL2				AMB	AMB		
	comp=Z,1μm,5.0s						
DL2				LR	LR		
	comp=N,2μm,15.0s,MS5.1						
DL2				LR	LR		
	comp=E,1μm,15.0s,MS5.1						
SHL	**Shillong**	**37.72**	**312**	*e*P	**P**	**03 03 30.0**	**-0.5**
SHL				*e*P		03 03 31.0	
SHL				*ex*	x	03 09 25.0	
STKA	**Stephens Creek**	**37.84**	**152**	*e*P	**P**	**03 03 30.3**	**-1.3**
	comp=E,94nm,0.9s,mb5.5						
STKA	**Stephens Creek**	**37.84**	**152**	P	**P**	**03 03 30.2**	**-1.3**
	comp=E,114nm,0.9s,mb5.6,baz=324,slow=8.3,SNR=68						
STKA				S	**S**	**03 09 18.8**	**-1.8**
	comp=E,16nm,1.1s,baz=126,slow=16,SNR=4.5						
STKA				LR	LR	03 20 07.0	
	comp=E,5μm,21.9s,MS5.3,baz=326,slow=38						
MAJO	**Matsushiro**	**38.27**	**21**	*e*P	**P**	**03 03 34.1**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,91nm,1.0s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,5μm,22.0s,MS5.2						
MAJO	**Matsushiro**	**38.27**	**21**	*e*P	**P**	**03 03 34.1**	**-1.1**
	comp=Z,92nm,1.0s,mb5.5						
MAJO				LR	LR		
	comp=Z,5μm,22.0s,MS5.2						
MAT	**Matsushiro**	**38.27**	**21**	P	**P**	**03 03 33.6**	**-1.6**
MAT				S	**S**	**03 09 40.0**	**+13**
MAT	**Matsushiro**	**38.27**	**21**	*e*P	**P**	**03 03 34.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.3						
MAT				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.2						
MAT	**Matsushiro**	**38.27**	**21**	*e*P	**P**	**03 03 34.0**	**-1.2**
	comp=Z,60nm,0.9s,mb5.3						
MAT				*e*S	**S**	**03 09 41.0**	**+14**
MAT				LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
MJAR	**Matsushiro Arr**	**38.27**	**21**	P	**P**	**03 03 33.7**	**-1.4**
	comp=Z,75nm,0.9s,mb5.4,baz=196,slow=8.9,SNR=58						
MJAR				ScP	ScP	03 09 34.3	-0.1
	comp=Z,6.2nm,1.1s,baz=211,slow=5.4,SNR=5.4						
MJAR				LR	LR	03 17 04.8	
	comp=Z,4μm,21.5s,MS5.2,baz=210,slow=33						
MJAR	**Matsushiro Arr**	**38.27**	**21**	P	**P**	**03 03 33.7**	**-1.5**
MJAR						03 09 34.3	
MJAR	**Matsushiro Arr**	**38.27**	**21**	P	**P**	**03 03 33.7**	**-1.5**
MJAR				ScP	ScP	03 09 34.3	-0.1
MJAR				LR	LR	03 17 04.8	
LZH	**Lanzhou**	**38.53**	**336**	⇓P	**P**	**03 03 38.5**	**+1.1**
LZH				AP	pP	03 03 47.3	+0.7
LZH				PP	PP	03 05 10.0	+4.2
LZH				S	**S**	**03 09 40.3**	**+9.3**
LZH				XS	sS	03 09 52.0	+5.7
LZH				AMB	AMB		
	comp=Z,190nm,1.4s,mb5.6						
LZH				AMB	AMB		
	comp=Z,620nm,4.5s						
LZH				LR	LR		
	comp=N,6μm,15.4s						
LZH				LR	LR		
	comp=Z,7μm,16.8s,MS5.6						
CAL	**Calcutta**	**38.90**	**306**	*e*P	**P**	**03 03 39.3**	**-1.1**
CAL				*ex*	x	03 03 44.7	
CAL				*e*S	**S**	**03 09 36.5**	**-0.1**
BJT	**Baijiatuau**	**38.98**	**353**	*e*P	**P**	**03 03 41.5**	**+0.4**
BJT				pmax	pmax		
	comp=Z,352nm,1.4s						
BJT				MLR	MLR		
	comp=Z,7μm,20.0s						
BJT	**Baijiatuau**	**38.98**	**353**	*e*P	**P**	**03 03 41.5**	**+0.4**
	comp=Z,352nm,1.4s,mb5.9						
BJT				LR	LR		
	comp=Z,7μm,20.0s,MS5.5						
ADE	**Adelaide**	**39.29**	**158**	P	**P**	**03 03 45.0**	**+1.3**
HNR	**Honiara**	**39.35**	**106**	PFAKE		03 04 00.0	+16
HNR				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
SNY	**Shenyang**	**40.46**	**2**	⇓P	**P**	**03 03 53.3**	**-0.2**
SNY				S	**S**	**03 10 01.0**	**+0.9**
SNY				AMB	AMB		
	comp=Z,180nm,0.9s,mb5.8						
SNY				AMB	AMB		
	comp=Z,1μm,5.2s						
SNY				LR	LR		
	comp=N,4μm,19.5s,MS5.5						
SNY				LR	LR		
	comp=E,5μm,19.5s,MS5.5						
SNY				LR	LR		
	comp=Z,6μm,19.8s,MS5.4						
HHC	**Hu-ho-hao-te**	**40.55**	**348**	*e*P	**P**	**03 03 55.4**	**+1.2**
HHC				PP	PP	03 05 37.4	+10
HHC				PCS	PcS	03 09 39.8	-7.0
HHC				S	**S**	**03 10 03.4**	**+2.0**
HHC				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.2						
HHC				AMB	AMB		
	comp=Z,1μm,7.2s						
HHC				LR	LR		
	comp=N,5μm,17.7s,MS5.4						
HHC				LR	LR		
	comp=E,3μm,19.2s,MS5.4						
HHC				LR	LR		
	comp=Z,5μm,18.4s,MS5.4						
BTO	**Baotou**	**40.66**	**346**	*e*P	**P**	**03 03 55.5**	**+0.3**
BTO				AMB	AMB		
	comp=Z,90nm,1.7s,mb5.1						
LSA	**Lhasa**	**40.71**	**317**	P	**P**	**03 03 57.8**	**+2.3**
LSA				AP	pP	03 04 06.3	+1.5
LSA				PP	PP	03 05 35.1	+5.5
LSA				PCP	PcP	03 05 51.9	-4.7
LSA				S	**S**	**03 10 12.5**	**+8.8**
LSA				XS	sS	03 10 30.0	+11
LSA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
LSA				AMB	AMB		
	comp=Z,1μm,8.6s

GTA S **S** **03 10 43.8 +5.8**
GTA AMB AMB
comp=Z,60nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,1μm,6.1s
GTA LR LR
comp=N,2μm,20.9s,MS5.1
GTA LR LR
comp=E,2μm,20.5s,MS5.1
GTA LR LR
comp=Z,2μm,21.3s,MS5.0
JIRN Jiri 43.12 311 *e*P **P** **03 04 16.2 +1.0**
comp=Z,487nm,0.9s,mb6.2
GUN Gumba 43.49 311 *e*P **P** **03 04 19.1 +0.9**
comp=Z,506nm,0.8s,mb6.3
PKI Pulchoki 43.67 310 *e*P **P** **03 04 20.2 +0.5**
comp=Z,582nm,1.1s,mb6.2
PKI Pulchoki 43.67 310 *e*P **P** **03 04 20.2 +0.5**
PKI pmax pmax
comp=Z,582nm,1.1s,mb6.2
MDJ Mudanjiang 43.76 8 P **P** **03 04 20.9 +0.5**
MDJ AP pP 03 04 30.6 +0.9
MDJ PP PP 03 06 02.8 +0.3
MDJ PCP PcP 03 06 08.4 +1.6
MDJ S **S** **03 10 49.0 +0.3**
MDJ SS SS 03 13 56.4 -8.6
MDJ AMB AMB
comp=Z,170nm,0.8s,mb5.8
MDJ AMB AMB
comp=Z,730nm,3.3s
MDJ LR LR
comp=N,3μm,18.8s,MS5.2
MDJ LR LR
comp=E,310nm,19.8s,MS5.2
MDJ LR LR
comp=Z,4μm,21.7s,MS5.3
MDJ Mudanjiang 43.76 8 *e*P **P** **03 04 20.6 +0.3**
comp=Z,540nm,1.5s,mb6.1
MDJ LR LR
comp=Z,4μm,20.0s,MS5.3
KKN Kakani 43.88 310 *e*P **P** **03 04 21.9 +0.6**
comp=Z,658nm,1.1s,mb6.3
KKN Kakani 43.88 310 *e*P **P** **03 04 21.9 +0.6**
KKN pmax pmax
comp=Z,658nm,1.1s,mb6.3
BLSP Bilaspur 43.90 301 *e*P **P** **03 04 21.0 -0.5**
DMN Daman 43.92 310 *e*P **P** **03 04 22.4 +0.7**
comp=Z,715nm,1.1s,mb6.3
TOO Toolangi 44.34 153 *e*P **P** **03 04 26.2 +1.2**
comp=Z,67nm,1.4s,mb5.2
TOO Toolangi 44.34 153 *e*P **P** **03 04 26.2 +1.2**
TOO pmax pmax
comp=Z,67nm,1.4s,mb5.2
CNB Canberra Magne 44.49 147 *e*P **P** **03 04 28.3 +2.0**
comp=Z,89nm,1.1s,mb5.4
TRD Trivandrum 45.31 281 *e*P **P** **03 04 32.3 -0.5**
HYB Hyderabad 45.53 293 *i*P **P** **03 04 35.0 +0.5**
comp=Z,200nm,1.0s,mb6.0
HYB *e*S **S** **03 11 16.0 +1.6**
JBP Jabalpur 46.13 302 *e*P **P** **03 04 39.1 -0.1**
JBP *e*x x 03 04 44.9
comp=Z,218nm,1.7s
JBP *e*x x 03 11 13.2
NGP Nagpur 46.22 298 *e*P **P** **03 04 38.3 -1.6**
NGP *e*x x 03 04 42.3
comp=Z,246nm,1.8s
NGP *e*S **S** **03 11 23.5 -0.8**
ASAJ Asahikawa 46.52 21 P **P** **03 04 42.4 +0.1**
comp=Z,27nm,0.7s,mb5.3,baz=234,slow=12,SNR=15
ASAJ Asahikawa 46.52 21 P **P** **03 04 42.4 +0.1**
ASAJ pmax pmax
comp=Z,27nm,0.7s
WAKE Wake Island 47.36 65 PFAKE 03 05 00.0 +11
WAKE LR LR
comp=Z,2μm,20.0s,MS5.0
LATR Latur 47.63 294 *e*P **P** **03 04 49.0 -1.9**
AKL Akola 47.88 297 *e*x x 03 04 21.2
AKL *i*x x 03 04 21.4
AKL AMb AMB 03 04 24.5
comp=Z,258nm,1.8s,mb6.0
AKL *i*x x 03 06 15.3
HIA Hailar 47.91 358 *e*P **P** **03 04 53.2 +0.1**
HIA pmax pmax
comp=Z,258nm,1.4s
HIA MLR MLR
comp=Z,5μm,19.0s
HIA Hailar 47.91 358 *e*P **P** **03 04 53.2 +0.1**
comp=Z,258nm,1.4s,mb6.1
HIA LR LR
comp=Z,5μm,19.0s,MS5.5
ULN Ulaanbaatar 48.22 347 *d i*P **P** **03 04 56.4 +0.9**
ULN Ulaanbaatar 48.22 347 *e*P **P** **03 04 53.5 -2.0**
comp=Z,478nm,1.3s,mb6.4
ULN *e*PP PP 03 06 49.2 +1.2
ULN LR LR
comp=Z,4μm,19.0s,MS5.5
SONM Songino Array 48.34 346 P **P** **03 04 56.9 +0.4**
comp=Z,141nm,0.7s,mb6.1,baz=164,slow=8.4,SNR=400
SONM LR LR 03 27 40.3
comp=Z,5μm,18.1s,MS5.5,baz=163,slow=39
SONM PKPPKP 03 36 04.0
comp=Z,0.2nm,0.4s,baz=0.0,slow=1.6,SNR=3.7
BHPL Bhopal 48.35 300 *e*P **P** **03 04 56.3 -0.2**
HABR Khabarovsk 48.43 12⇓ *i*P **P** **03 04 57.6 +0.4**
HABR *e*S **S** **03 11 57.0 +1.2**
HABR pmax pmax
comp=Z,945nm,2.9s,mb6.3
HABR MLR MLR
comp=Z,2μm,18.3s,MS5.1
LGTI Lohaghat 48.55 309 *i*P **P** **03 04 58.5 +0.4**
KLR Kul'dur 48.58 9 *e*P **P** **03 04 53.8 -4.5**
KLR *e*S **S** **03 12 06.5 +8.6**
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,200nm,1.8s,mb5.8
KLR pmax pmax
comp=E,700nm,7.5s
KLR pmax pmax
comp=Z,1μm,7.5s
KLR MLR MLR
comp=N,2μm,16.0s
KLR MLR MLR
comp=Z,2μm,16.0s,MS5.2
YSS Yuzh-Sakhalins 49.06 19 *e*P **P** **03 05 01.7 -0.3**
YSS *e**PP pP 03 05 12.0 +0.5
YSS *e* 03 07 03.0
YSS *e*PPP 03 07 44.0
YSS *e*S **S** **03 12 09.0 +4.3**
YSS *e*PS 03 12 21.0
YSS *e*SS SS 03 15 22.0 -14
YSS MLR MLR
comp=Z,1μm,19.0s,MS5.0
YSS MLR MLR
comp=N,1μm,18.0s,MS5.2
YSS MLR MLR
comp=E,2μm,18.0s,MS5.2
YSS Yuzh-Sakhalins 49.06 19⇑ *i*P **P** **03 05 01.0 -1.0**
YSS LR LR
comp=Z,2μm,21.0s,MS5.0
DZM Mont Dzumac 49.24 121 *e*P **P** **03 05 05.4 +2.1**
DZM Mont Dzumac 49.24 121 P **P** **03 05 05.6 +2.3**
comp=Z,18nm,0.7s,mb5.2,baz=310,slow=7.5,SNR=14
KAD Karad 49.54 292 *e*P **P** **03 05 05.4 -0.2**
POO Poona 50.14 293⇑ *i*P **P** **03 05 09.0 -1.2**
comp=Z,120nm,1.0s,mb5.9
POO *e*x x 03 05 48.4
NDI New Delhi 50.60 307 *e*P **P** **03 05 11.5 -2.2**
NDI *e*x x 03 12 40.0
CIT Chita 51.11 353 *e*P **P** **03 05 18.4 +0.9**
CIT *e* pP 03 05 27.3 +0.2
CIT pmax pmax
comp=Z,507nm,2.1s,mb6.1
ZAK Zakamensk 51.48 345 *e*P **P** **03 05 20.5 +0.2**
ZAK pmax pmax
comp=Z,227nm,1.7s,mb5.8
AJM Ajmer 51.85 303 *e*P **P** **03 05 23.2 +0.1**
AJM AMb AMB 03 05 26.2
comp=Z,146nm,1.2s,mb5.8
SDNR Sundarnagar 52.00 310 *e*P **P** **03 05 25.4 +1.2**
WMQ Urumqi 52.19 329 P **P** **03 05 26.8 +1.2**
WMQ AP pP 03 05 37.4 +2.3
WMQ PCP PcP 03 06 31.4 -5.5
WMQ PP PP 03 07 29.9 +5.8
WMQ S **S** **03 12 47.9 -0.1**
WMQ SCS ScS 03 15 10.5 -2.7
WMQ SS SS 03 16 24.3 -1.3
WMQ AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,2μm,4.3s
WMQ LR LR
comp=N,4μm,18.0s,MS5.5
WMQ LR LR
comp=E,2μm,18.0s,MS5.5
WMQ LR LR
comp=Z,2μm,20.0s,MS5.1
TLY Talaya 52.58 346 P **P** **03 05 29.4 +0.9**
comp=Z,1μm,0.9s,SNR=34
TLY Talaya 52.58 346 *d i*P **P** **03 05 29.2 +0.7**
TLY *e* pP 03 05 38.7 +0.7
TLY *e* 03 07 25.1
TLY *e*S **S** **03 12 58.4 +5.0**
TLY pmax pmax
comp=Z,375nm,1.8s,mb6.0
TLY MLR MLR
comp=Z,3μm,18.0s,MS5.4
TLY Talaya 52.58 346 *i* Pr **P** **03 05 29.6 +1.1**
IRK Irkutsk 52.95 347 *e*P **P** **03 05 31.2 0.0**
IRK *e* 03 07 27.5
IRK pmax pmax
comp=Z,404nm,2.0s,mb6.0
PONG Pong 52.98 310 *e*P **P** **03 05 31.0 -0.4**
DLH Dalhousie 53.22 311 *e*P **P** **03 05 30.0 -3.2**
DLH *e*x x 03 06 00.0
MOY Mondy 53.26 344 *e*P **P** **03 05 34.9 +1.4**
MOY pmax pmax
comp=Z,443nm,1.8s,mb6.1
BHJ Bhuj 55.15 298 *e*P **P** **03 05 47.4 +0.1**
BHJ AMb AMB 03 05 50.5
comp=Z,120nm,1.1s,mb5.8
CLNS Chul'man 55.51 2 *e*P **P** **03 05 49.6 -0.3**
NIL Nilore 55.76 311 P **P** **03 05 52.1 +0.5**
comp=Z,779nm,0.8s,SNR=10
KSH Kashi 56.54 318⇑ *i*P **P** **03 05 59.1 +1.9**
KSH *e*AP pP 03 06 09.1 +2.3
KSH *e*XP sP 03 06 12.8 +2.3
KSH *e*PCP PcP 03 06 56.3 +2.7
KSH *e*PP PP 03 08 06.5 +3.4
KSH *e*PPP 03 09 24.4
KSH *e*SCP ScP 03 10 50.4 -0.2
KSH *e*PCS PcS 03 10 54.3 +0.1
KSH *e*S **S** **03 13 46.8 +0.1**
KSH *e*SCS ScS 03 15 42.4 -1.7
KSH AMB AMB
comp=Z,10.0nm,0.2s,mb5.5
KSH LR LR
comp=N,3μm,6.2s
KSH LR LR
comp=E,2μm,5.2s
KSH LR LR
comp=Z,1μm,13.2s,MS5.2
BOD Bodaibo 56.79 355 *e*P **P** **03 05 59.2 +0.2**
BOD pmax pmax
comp=Z,214nm,1.1s,mb6.1
MK31 Makanchi Array 57.00 329 P **P** **03 06 00.7 +0.2**
MK31 pmax pmax
comp=Z,42nm,0.8s,mb5.5
MKAR Makanchi Array 57.00 329 P **P** **03 06 00.6 0.0**
comp=Z,48nm,0.8s,mb5.6,baz=126,slow=8.1,SNR=142
MKAR PKPPKP 03 35 48.9
comp=Z,0.2nm,0.3s,baz=258,slow=6.1,SNR=3.8
MKAR P4KPbc 03 43 12.3
comp=Z,0.6nm,0.5s,baz=123,slow=4.5,SNR=6.3
MKAR Makanchi Array 57.00 329 P **P** **03 06 00.6 0.0**
MKAR P'P' 03 35 48.9
SKR Severo-Kuril's 57.18 25 *e*P **P** **03 05 58.0 -3.7**
SKR *e*PPP 03 09 34.0
SKR *e*S **S** **03 14 06.0 +11**
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax
comp=N,1μm,10.0s
SKR smax
comp=E,1μm,10.0s
SKR MLR MLR
comp=N,1μm,18.0s,MS5.2
SKR MLR MLR
comp=E,1μm,18.0s,MS5.2
SKR MLR MLR
comp=Z,1μm,18.0s,MS5.1
ULHL Ulahol 57.79 321 P **P** **03 06 07.9 +1.9**
SNR=29
AAA Alma-Ata 57.91 322 *d i*P **P** **03 06 07.9 +1.0**
AAA *i*S **S** **03 14 10.4 +5.7**
AAA pmax pmax
comp=Z,20μm,5.7s
AAA smax
comp=N,18μm,10.7s
FUNA Funafuti 57.93 101 PFAKE 03 06 20.0 +13
FUNA LR LR
comp=Z,6μm,19.0s,MS5.8
KZA Kyzart 58.33 321 P **P** **03 06 11.5 +1.7**
SNR=130
TKM2 Tokmak 2 58.55 322 P **P** **03 06 12.5 +1.1**
SNR=151
KBK Karagaybulak 58.82 321 P **P** **03 06 14.7 +1.5**
SNR=148
UCH Uchtor 58.87 320 P **P** **03 06 15.3 +1.7**
SNR=144
AAK Ala-Archa 59.09 321 P **P** **03 06 16.5 +1.4**
SNR=77
AAK Ala-Archa 59.09 321 P **P** **03 06 15.4 +0.3**
comp=Z,914nm,1.0s,SNR=56
AAK Ala-Archa 59.09 321 *i* Pr **P** **03 06 15.4 +0.3**
CHMS Chumysh 59.12 321 P **P** **03 06 16.2 +0.9**
SNR=25
AML Almayashu 59.35 320 P **P** **03 06 19.1 +2.2**
SNR=36
USP Ospenovka 59.42 321 P **P** **03 06 18.1 +0.7**
SNR=145
KRAR Krasnoyarsk 59.44 342 *e*P **P** **03 06 17.1 -0.5**
KRAR pmax pmax
comp=Z,63nm,1.6s,mb5.4
KRAR MLR MLR
comp=Z,5μm,20.0s,MS5.6
EKS2 Erkin-Say 59.56 320 P **P** **03 06 19.6 +1.2**
SNR=91
PET Petropavlovsk 59.97 25 *d i*P **P** **03 06 22.1 +0.9**
PET *e* 03 07 07.7
PET *e*S **S** **03 14 30.9 -0.5**
PET *e*PS 03 14 47.4
PET *e*SS SS 03 18 28.5 +0.4
PET *e*SSS 03 20 59.0
PET pmax pmax
comp=Z,1μm,3.4s
PET pmax pmax
comp=Z,58nm,2.5s,mb5.2
PET pmax pmax
comp=Z,700nm,11.6s
PET smax
comp=E,300nm,11.9s
PET smax
comp=E,600nm,17.7s
PET smax
comp=N,400nm,21.1s
PET MLR MLR
comp=Z,1μm,20.0s,MS5.0
PET MLR MLR
comp=Z,900nm,19.0s
PET MLR MLR
comp=Z,200nm,17.0s
PET Petropavlovsk 59.97 25 *i* Pr **P** **03 06 20.9 -0.3**
PET LR LR
comp=Z,1μm,20.0s,MS5.0
YAK Yakutsk 60.95 4 *e*P **P** **03 06 27.2 -0.7**
YAK *e**PP pP 03 06 37.0 -0.6
YAK *e* 03 07 09.1
YAK *e* 03 08 44.9
YAK *e*PPP 03 10 05.9
YAK *e*S **S** **03 14 44.6 +0.6**
YAK *e* 03 16 12.4
YAK pmax pmax
comp=Z,109nm,0.9s,mb6.0
YAK pmax pmax
comp=N,65nm,1.6s
YAK pmax pmax
comp=E,19nm,1.3s
YAK smax
comp=N,306nm,8.5s
YAK smax
comp=E,166nm,10.0s
YAK pmax pmax
comp=E,812nm,20.5s
YAK pmax pmax
comp=N,216nm,15.9s
YAK MLR MLR
comp=Z,2μm,27.0s,MS5.1
YAK MLR MLR
comp=N,1μm,20.0s
YAK MLR MLR
comp=E,948nm,18.0s
YAK Yakutsk 60.95 4 *e*P **P** **03 06 27.7 -0.2**
comp=E,237nm,1.0s,mb6.3
YAK *e*pP pP 03 06 34.6 -3.0
YAK *e*sP sP 03 06 37.2 -4.1
YAK LR LR
comp=Z,2μm,19.0s,MS5.3
KURK Kurchatov 61.38 330 P **P** **03 06 30.2 -0.6**
comp=Z,819nm,1.0s,SNR=76
KURK Kurchatov 61.38 330 P **P** **03 06 30.7 -0.1**
KURK pmax pmax
comp=Z,76nm,1.0s,mb5.8
KURK Kurchatov 61.38 330 *i* Pr **P** **03 06 30.6 -0.2**
KK31 Karatay Array 61.88 320 *i*P **P** **03 06 34.4 +0.3**
KKAR Karatay Array 61.88 320 *i*P **P** **03 06 34.4 +0.3**
KKAR pmax pmax
comp=Z,56nm,0.8s,mb5.8
NVS Novosibirsk 62.05 336 *i*P **P** **03 06 36.0 +0.7**
MA2 Magadan 62.38 16 *e*P **P** **03 06 37.4 -0.1**
MA2 *e**SP sP 03 06 47.1 -3.8
MA2 pmax pmax
comp=Z,164nm,1.4s,mb6.0
MA2 MLR MLR
comp=Z,1μm,19.0s,MS5.1
MA2 Magadan 62.38 16 *e*P **P** **03 06 37.4 -0.1**
comp=Z,164nm,1.4s,mb6.0
MA2 *e*pP pP 03 06 43.6 -3.7
MA2 *e*sP sP 03 06 47.1 -3.9
MA2 LR LR
comp=Z,1μm,19.0s,MS5.1
SNZO South Karori 63.81 138 PFAKE 03 07 00.0 +13
SNZO LR LR
comp=Z,4μm,20.0s,MS5.6
MIDW Midway 63.83 59 PFAKE 03 07 00.0 +13
MIDW LR LR
comp=Z,897nm,20.0s,MS5.0
WBK Wadi Bani Khal 64.62 294 P **P** **03 06 52.9 +0.6**
SNR=8.7
WSAR Wadi Sarin 65.03 295 P **P** **03 06 54.5 -0.5**
comp=Z,52nm,1.0s,mb5.5,baz=86,slow=8.9,SNR=18
WSAR LR LR 03 37 48.2
comp=Z,2μm,20.0s,MS5.2,baz=3.3,slow=38
JMDO Jabal Madar 65.37 294 P **P** **03 06 57.2 +0.1**
SNR=8.5
SMDO Samad 65.53 295 P **P** **03 06 58.3 +0.1**
SNR=9.9
BIDO Bidbid 65.54 295 P **P** **03 06 58.4 +0.2**
SNR=16
BSY Bisya 66.25 294 P **P** **03 07 02.4 -0.5**
SNR=16
HOQ Hoqain 66.28 295⇓ P **P** **03 07 02.6 -0.5**
SNR=10.0
VOSK Vostochnaya 66.41 329 P **P** **03 07 02.9 -1.0**
VOSK pmax pmax
comp=Z,156nm,1.6s,mb5.8
BVA0 Borovoye Array 66.88 329 *i*P **P** **03 07 06.7 -0.2**
BVA0 pmax pmax
comp=Z,47nm,1.5s,mb5.3
BVAR Borovoye Array 66.88 329 P **P** **03 07 06.5 -0.3**
comp=Z,35nm,0.9s,mb5.4,baz=138,slow=9.1,SNR=69
BRVK Borovoye 66.95 329 P **P** **03 07 07.6 +0.3**
comp=Z,505nm,1.1s,mb6.5,SNR=19
BRVK Borovoye 66.95 329⇑ *e*P **P** **03 07 07.1 -0.2**
ARQ Araqi 66.96 295 P **P** **03 07 06.9 -0.5**
SNR=9.2
SMY Shemya 67.10 31 *e*P **P** **03 07 08.5 +0.3**
SMY pmax pmax
comp=Z,130nm,1.0s,mb5.9
SMY Shemya 67.10 31 *e*P **P** **03 07 08.4 +0.2**
comp=Z,267nm,1.4s,mb6.1
SMY LR LR
comp=Z,600nm,18.0s,MS4.9
CHKZ Chkalovo 67.11 330 *e*P **P** **03 07 07.7 -0.6**
CHKZ pmax pmax
comp=Z,64nm,0.9s,mb5.7
CHKZ Chkalovo 67.11 330 *e*P **P** **03 07 07.7 -0.6**
comp=Z,64nm,0.9s,mb5.7
CHKZ *e* 03 07 28.4
ZRNK Zerenda 67.56 329 P **P** **03 07 10.8 -0.4**
ZRNK pmax pmax
comp=Z,257nm,1.4s,mb6.1
ZRNK Zerenda 67.56 329 *e*P **P** **03 07 10.6 -0.6**
comp=Z,196nm,1.2s,mb6.0
BANOM Banah 67.59 298 P **P** **03 07 12.3 +1.0**
SNR=6.5
ASHO Ashiyiah 67.59 296 P **P** **03 07 12.6 +1.2**
SNR=11
CASY Casey 67.83 185 PFAKE 03 07 30.0 +17
CASY LR LR
comp=Z,3μm,20.0s,MS5.5
RBK Rabkut 68.37 288 P **P** **03 07 16.6 +0.3**
SNR=9.8
ABKT Ailbek 68.76 310 P **P** **03 07 19.8 +1.1**
comp=Z,992nm,1.4s,mb6.5,SNR=37
WHFO Wadi Hawf 68.82 289 P **P** **03 07 18.7 -0.4**
SNR=8.4
DRV Dumont d'Urvil 68.94 172 P **P** **03 07 25.0 +5.1**
DRV Dumont d'Urvil 68.94 172 PP PP 03 09 57.0 +4.7
DRV S S 03 16 27.0 +4.8
ABTO Aybut 69.22 288 P **P** **03 07 21.4 -0.2**
SNR=13
TIXI Tiksi 70.47 2 *i*P **P** **03 07 27.4 -1.9**
TIXI MLR MLR
comp=Z,3μm,20.0s,MS5.5
TIXI Tiksi 70.47 2 *i* Pr **P** **03 07 27.4 -1.9**
TIXI LR LR
comp=Z,3μm,20.0s,MS5.5
MIR Mirnyy 70.66 192 *d i*P **P** **03 07 33.5 +3.1**
MIR pmax pmax
comp=Z,361nm,1.0s,mb6.3
AB31 Akbulak array 71.10 322 *i*P **P** **03 07 32.9 -0.2**
AKTK Aktyubinsk 72.68 323 P **P** **03 07 42.4 -0.2**
AKTO Aktyubinsk 72.68 323 P **P** **03 07 42.4 -0.2**
comp=Z,93nm,0.7s,mb5.8,baz=106,slow=7.2,SNR=139
BILL Bilibino 73.25 16 *d i*P **P** **03 07 45.5 -0.4**
BILL pmax pmax
comp=Z,51nm,1.6s,mb5.2
BILL MLR MLR
comp=Z,1μm,20.0s,MS5.2
BILL Bilibino 73.25 16 *e*P **P** **03 07 44.8 -1.2**
comp=Z,43nm,1.3s,mb5.2
BILL LR LR
comp=Z,1μm,19.0s,MS5.3
ARU Arti 74.53 329 P **P** **03 07 52.2 -1.2**
comp=Z,488nm,0.9s,mb6.4,SNR=7.4
ARU Arti 74.53 329⇓ *e*P **P** **03 07 52.4 -1.0**
ORR Orenburg 75.01 324 *e*P **P** **03 07 55.9 -0.3**
ORR S S 03 17 38.9 +7.0
ORR SS SS 03 22 20.0 -0.8
ORR pmax pmax
comp=Z,380nm,1.5s,mb6.1
ORR MLR MLR
comp=Z,3μm,24.0s,MS5.4
QRN Al-Qurain 75.37 299 *e*P **P** **03 07 58.0 -0.3**
KBD Kabd 75.62 300 *e*P **P** **03 07 59.1 -0.6**
KBD AMb AMB 03 08 02.6
comp=Z,345nm,1.0s,mb6.2
UMR Umm Al-Rimmam 75.64 300 *e*P **P** **03 07 58.8 -1.0**
UMR AML AML 03 08 01.5
comp=Z,33nm,0.4s
RDF Al-Radifah 75.72 299 *e*P **P** **03 07 59.8 -0.5**
RDF AML AML 03 08 02.7
comp=Z,27nm,0.4s
RDF AMb AMB 03 08 03.1
comp=Z,149nm,1.2s,mb5.8
MIB Mutribah 76.00 300 *e*P **P** **03 08 01.3 -0.5**
MIB AMb AMB 03 08 05.0
comp=Z,187nm,0.9s,mb6.0
NAY Al-Naaiem 76.02 300 *e*P **P** **03 08 01.1 -0.9**
NAY AMb AMB 03 08 04.5
comp=Z,58nm,0.9s,mb5.5
SOKR Solikamsk 76.56 332 *d i*P **P** **03 08 04.4 -0.7**
SOKR S S 03 17 45.6 -3.4

SOKR SSS 03 26 07.0
SOKR pmax pmax
comp=Z,140nm,3.3s
SOKR MLR MLR
comp=Z,1µm,18.0s,MS5.3
NIKO Nikolski 76.66 36 *e*P **P 03 08 05.3 -0.3**
SPIA Saint Paul Isl 77.13 31 *e*P **P 03 08 08.2 -0.1**
MAK Makhachkala 77.77 314*c i*P **P 03 08 13.8 +2.0**
MAK *e* 03 08 20.7
MAK *e* 03 11 07.7
MAK *e*PPP 03 12 58.9
MAK *e*S S 03 18 07.4 +5.3
MAK *e* 03 18 21.5
MAK *e*SS SS 03 23 09.4 +6.8
MAK pmax pmax
comp=Z,204nm,1.5s,mb5.8
MAK MLR MLR
comp=Z,1µm,19.0s,MS5.2
UNV Unalaska Valle 78.24 35 *e*P **P 03 08 13.9 -0.6**
comp=Z,136nm,0.8s,mb5.9
UNV LR LR
comp=Z,3µm,22.0s,MS5.6
GAMB Gambell 78.67 25 *e*P **P 03 08 16.7 -0.1**
AKUT Akutan 78.73 35 *e*P **P 03 08 17.1 -0.1**
BHD Baghdad 78.89 304 *ex* x 03 08 16.0
BHD *ex* x 03 08 24.0
BHD *ex* x 03 18 13.0
ATD Arta Tunnel 79.02 281 P **P 03 08 19.8 +1.1**
comp=Z,33nm,0.9s,mb5.2,baz=72,slow=4.4,SNR=4.3
DGRG David-gareji 79.10 312 P **P 03 08 20.4 +1.3**
GNI Garni 79.40 311 P **P 03 08 21.8 +1.0**
comp=Z,19nm,0.8s,mb5.0,baz=14,slow=2.1,SNR=25
GNI Garni 79.40 311⇓*e*P **P 03 08 21.6 +0.8**
GNI pmax pmax
comp=Z,75nm,1.0s
GNI Garni 79.40 311⇓*e*P **P 03 08 21.6 +0.8**
comp=Z,75nm,1.0s,mb5.6
MTA Mtatsminda 79.56 312 P **P 03 08 22.0 +0.3**
TBLG Delisi 79.61 312 P **P 03 08 21.4 -0.6**
TBLG Delisi 79.61 312 *e*P **P 03 08 22.3 +0.3**
MAW Mawson 79.75 200 P **P 03 08 23.5 +0.7**
comp=Z,4.2nm,0.5s,mb4.6,baz=69,slow=8.0,SNR=12
MAW LR LR 03 44 04.3
comp=Z,1µm,18.2s,MS5.3,baz=48,slow=36
MAW Mawson 79.75 200 P **P 03 08 23.5 +0.7**
MAW pmax pmax
comp=Z,4.0nm,0.5s
MAW MLR MLR
comp=Z,1µm,18.2s
MAW Mawson 79.75 200 *e*P **P 03 08 23.8 +1.0**
comp=Z,43nm,1.2s,mb5.2
MAW LR LR
comp=Z,2µm,21.0s,MS5.5
FALS False Pass 80.23 34 *e*P **P 03 08 24.9 -0.4**
MSL Mosul 80.25 306 *ex* x 03 08 25.0
MSL Mosul 80.25 306 *ex* x 03 18 26.5
ZEI Tsey 80.36 313 *e*P **P 03 08 27.9 +1.9**
ZEI *e**PP pP 03 08 34.4 -1.6
ZEI *e* 03 11 33.1
ZEI pmax pmax
comp=Z,95nm,1.0s,mb5.7
ONI Oni 80.67 313 P **P 03 08 28.2 +0.6**
TNA Tin City 80.79 23 PFAKE 03 08 40.0 +12
TNA LR LR
comp=Z,483nm,19.0s,MS4.9
KIV Kislovodsk 81.38 314 P **P 03 08 33.9 +2.4**
comp=Z,194nm,1.0s,mb6.0,SNR=7.5
KIV Kislovodsk 81.38 314 P **P 03 08 31.7 +0.2**
VNDA Vanda 81.59 172 P **P 03 08 32.1 -0.5**
comp=Z,8.7nm,0.7s,mb4.8,baz=307,slow=6.5,SNR=18
VNDA LR LR 03 44 51.3
comp=Z,3µm,18.6s,MS5.7,baz=3.3,slow=36
VNDA Vanda 81.59 172 *e*P **P 03 08 32.3 -0.3**
VNDA pmax pmax
comp=Z,13nm,0.8s
VNDA MLR MLR
comp=Z,3µm,19.0s
VNDA Vanda 81.59 172 *e*P **P 03 08 32.3 -0.3**
comp=Z,14nm,0.8s,mb4.9
VNDA LR LR
comp=Z,3µm,19.0s,MS5.7
PECR Pechory 82.23 327*c e*P **P 03 08 35.2 -0.8**
PECR pmax pmax
comp=Z,800nm,1.6s,mb6.4
PECR pmax pmax
comp=Z,700nm,6.0s
SBA Scott Base 82.55 171 *e*P **P 03 08 38.7 +1.1**
SBA pmax pmax
comp=Z,25nm,1.2s,mb5.1
SBA MLR MLR
comp=Z,2µm,22.0s,MS5.5
SBA Scott Base 82.55 171 *e*P **P 03 08 38.7 +1.1**
comp=Z,24nm,1.2s,mb5.1
SBA LR LR
comp=Z,2µm,22.0s,MS5.5
VRHR Novokhopersk 82.94 321 *e*P **P 03 08 38.7 -0.9**
VRHR *e**PP pP 03 08 48.2 -1.4
VRHR *e**SP sP 03 08 51.4 -1.9
VRHR pmax pmax
comp=Z,100nm,0.7s,mb6.0
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR MLR MLR
comp=Z,2µm,23.0s,MS5.3
VRHR MLR MLR
comp=N,840nm,22.0s,MS5.3
VRHR MLR MLR
comp=E,1µm,27.0s,MS5.3
SOC Sochi 83.49 314*d i*P **P 03 08 40.8 -1.7**
SOC *e**PP pP 03 08 51.9 -0.6
SOC *e* 03 11 49.7
SOC *e*PPP 03 13 45.5
SOC *i* S S 03 18 58.2 -3.7
SOC *e*SS SS 03 24 30.4 +2.4
SOC pmax pmax
comp=Z,21nm,0.6s,mb5.3
SOC pmax pmax
comp=Z,380nm,3.1s
MALT Malatya 84.11 308⇑*i*P **P 03 08 46.5 +0.8**
MALT Malatya 84.11 308 *e*P **P 03 08 45.9 +0.2**
MALT pmax pmax
comp=Z,39nm,1.3s,mb5.4
MALT Malatya 84.11 308 *e*P **P 03 08 45.9 +0.2**
comp=Z,40nm,1.3s,mb5.4
VRSR Storozhevoye 84.47 321 *e*P **P 03 08 46.6 -0.9**
VRSR *e* 03 18 59.7
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
VRSR MLR MLR
comp=E,10.0nm,20.0s
VRSR MLR MLR
comp=Z,20nm,20.0s
VRSR MLR MLR
comp=N,10.0nm,15.0s
KMBO Kilima Mbogo 84.66 269 P **P 03 08 48.8 +0.3**
comp=N,16nm,0.8s,mb5.2,baz=65,slow=7.4,SNR=32
KMBO LR LR 03 46 15.4
comp=N,1µm,19.0s,MS5.2,baz=86,slow=35
KMBO Kilima Mbogo 84.66 269 *i* P **P 03 08 49.2 +0.8**
KMBO pmax pmax
comp=Z,16nm,0.8s
KMBO Kilima Mbogo 84.66 269 *e*P **P 03 08 49.9 +1.4**
comp=Z,27nm,1.1s,mb5.3
KMBO LR LR
comp=Z,737nm,19.0s,MS5.1
ASF Jabal al Asfar 85.11 302 P **P 03 08 52.5 +1.8**
comp=Z,24nm,0.9s,mb5.3,baz=344,slow=2.5,SNR=36
ANN Anapa 85.21 315 *e*P **P 03 08 50.1 -1.1**
ANN *e**PP pP 03 09 00.8 -0.4
ANN *e*S 03 19 11.1
ANN pmax pmax
comp=Z,164nm,0.9s,mb6.2
ANN Anapa 85.21 315 *e*P **P 03 08 50.2 -1.0**
KLMR Klimovskoe 85.22 331 *e*P **P 03 08 49.6 -1.7**
KLMR *e*S 03 19 12.4
KLMR pmax pmax
comp=Z,220nm,1.3s,mb6.1
TTA Tatalina 85.33 27 *e*P **P 03 08 52.2 +0.4**
SVW2 Sparrevohn 85.33 29 *e*P **P 03 08 52.3 +0.5**

MOS Moscow 85.76 326 *e*P **P 03 08 52.0 -2.0**
MOS *e* pP 03 09 02.9 -1.1
MOS *e* 03 12 08.1
MOS pmax pmax
comp=Z,215nm,1.2s,mb6.2
MOS MLR MLR
comp=Z,2µm,20.5s,MS5.4
BHL Bhannes 86.20 304 *e*P **P 03 08 57.3 +1.2**
OBN Obninsk 86.33 325 P **P 03 08 55.5 -1.2**
comp=Z,672nm,1.1s,SNR=6.0
OBN Obninsk 86.33 325*d i*P **P 03 08 55.2 -1.5**
OBN *e* 03 12 18.7
OBN *i* S 03 19 24.7
OBN pmax pmax
comp=Z,228nm,1.6s,mb6.2
OBN Obninsk 86.33 325 *i* Pr **P 03 08 55.3 -1.4**
OBN LR LR
comp=Z,900nm,18.0s,MS5.2
KDAK Kodiak Island 86.59 32 *e*P **P 03 08 58.0 -0.1**
KDAK *e* 03 19 50.0
comp=Z,22nm,0.9s,mb5.4
KDAK LR LR
comp=Z,259nm,22.0s,MS4.6
EIL Elat 86.74 299 *e*P **P 03 08 59.8 +1.0**
comp=Z,3µm,1.7s
SIM Simferopol' 87.57 315 P **P 03 09 02.3 -0.5**
SIM 03 12 32.4
SIM S 03 19 27.3
SIM pmax pmax
comp=Z,120nm,10.0s
LVZ Lovozero 87.84 338 *e*P **P 03 09 03.6 -0.5**
LVZ S 03 19 42.4
LVZ pmax pmax
comp=Z,34nm,0.9s,mb5.6
LVZ MLR MLR
comp=E,2µm,19.0s,MS5.6
LVZ MLR MLR
comp=Z,3µm,19.0s,MS5.7
LVZ MLR MLR
comp=N,738nm,20.0s,MS5.6
LVZ Lovozero 87.84 338⇑*e*P **P 03 09 02.9 -1.2**
BR131 Keskin Array S 87.88 310 *e*P **P 03 09 03.4 -0.9**
comp=N,9.9nm,0.7s,mb5.2
BR131 LR LR
comp=Z,526nm,19.0s,MS5.0
BRTR Keskin Array B 87.88 310 P **P 03 09 03.1 -1.1**
comp=Z,15nm,0.8s,mb5.3,baz=121,slow=4.1,SNR=43
SLKM Skilak Lake 87.91 30 P **P 03 09 03.4 -1.0**
SLKM Skilak Lake 87.91 30 *e*P **P 03 09 02.6 -1.8**
CSS Prodhromos 88.13 305 *e*P **P 03 09 05.6 +0.2**
comp=Z,91nm,1.2s,mb5.9
APA Apatity 88.31 337⇓*i*P **P 03 09 06.4 +0.1**
APA *i* *PP pP 03 09 22.0 +5.6
APA *i* 03 19 30.0
APA *i* S 03 19 44.0
APA pmax pmax
comp=Z,18nm,0.7s,mb5.4
APA MLR MLR
comp=Z,3µm,21.0s,MS5.7
SYO Syowa Base 88.35 201⇓*e*P **P 03 09 05.8 -0.7**
SYO Syowa Base 88.35 201⇓*i*pP pP 03 09 16.0 -0.6
ANTO Ankara 88.53 310 *e*P **P 03 09 07.1 -0.3**
ANTO pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ANTO MLR MLR
comp=Z,577nm,21.0s,MS5.0
ANTO Ankara 88.53 310 *e*P **P 03 09 07.1 -0.3**
comp=Z,8.1nm,0.9s,mb5.0
ANTO LR LR
comp=Z,577nm,21.0s,MS5.0
MCK McKinley 88.56 26 *e*P **P 03 09 05.7 -1.8**
MCK pmax pmax
comp=Z,9µm,1.2s
MCK MLR MLR
comp=Z,334nm,19.0s,MS4.8
MCK McKinley 88.56 26 *e*P **P 03 09 05.7 -1.8**
comp=Z,9µm,1.2s
MCK LR LR
comp=Z,334nm,19.0s,MS4.8
SML Sawmill 88.84 28 P **P 03 09 08.2 -0.6**
SML Sawmill 88.84 28 *e*P **P 03 09 08.1 -0.7**
PPT Papeete 88.97 107 *e*S 03 19 55.2
comp=Z,2µm,27.5s
PPT *e*SS SS 03 25 52.5 +4.1
comp=Z,1µm,24.5s
PPT *e*LR LR 03 37 30.7
comp=Z,983nm,27.0s
PPT Papeete 88.97 107 LR LR 03 42 53.2
comp=Z,347nm,20.9s,MS4.8,baz=266,slow=31
COLA College 89.03 25⇑*i*P **P 03 09 08.2 -1.5**
COLA College 89.03 25 *e*P **P 03 09 07.8 -1.9**
comp=Z,12nm,0.8s,mb5.3
COLA LR LR
comp=Z,492nm,20.0s,MS4.9
JOF Joensuu 89.19 333 *e*p **P 03 09 07.8 -2.7**
comp=Z,26nm,0.8s,mb5.6
TBI Tubuai 89.24 113 *e*SS SS 03 25 48.5 -3.8
comp=Z,840nm,24.8s
TBI *e*LR LR 03 37 45.7
comp=Z,572nm,28.5s
DIV Divide 90.09 29 *e*P **P 03 09 14.2 -0.4**
comp=Z,92nm,1.0s,mb6.1
DIV LR LR
comp=Z,2µm,22.0s,MS5.5
KEV Kevo 90.57 340 PFAKE 03 09 30.0 +13
KEV LR LR
comp=Z,2µm,20.0s,MS5.5
AKASG Malin Array Be 90.76 321 P **P 03 09 15.0 -2.8**
comp=Z,19nm,0.7s,mb5.5,baz=76,slow=4.6,SNR=62
AKASG PKKPbc PKKPbc 03 26 42.6 -0.5
comp=Z,0.4nm,0.5s,baz=260,slow=3.7,SNR=4.4
AKASG Malin Array Be 90.76 321 *i* P **P 03 09 15.6 -2.2**
AKASG pmax pmax
comp=Z,19nm,0.7s
ARCES ARCESS Array B 91.11 340 P **P 03 09 16.4 -3.0**
comp=Z,6.3nm,0.7s,mb5.0,baz=90,slow=4.9,SNR=12
ARCES PKKPbc PKKPbc 03 26 43.9 +1.7
comp=Z,1.7nm,0.8s,baz=245,slow=2.6,SNR=5.0
ARCES LR LR 03 53 53.6
comp=Z,2µm,18.6s,MS5.5,baz=97,slow=38
ARCES ARCESS Array B 91.11 340 P **P 03 09 16.4 -3.0**
ARCES PKKPbc PKKPbc 03 26 43.9 +1.7
ARCES LR LR 03 53 53.6
QSPA South Pole Qui 91.14 180 *e*P **P 03 09 19.4 -0.1**
comp=Z,20nm,1.0s,mb5.4
QSPA LR LR
comp=Z,3µm,19.0s,MS5.7
MBAR Mbarara 91.16 269⇓*i*P **P 03 09 19.1 -0.5**
KIS Kishinev 91.22 317 *e*P **P 03 09 18.0 -1.9**
KIS *e* 03 13 00.0
KIS *e* 03 19 50.0
KIS *e*S 03 20 08.0
KIS MLR MLR
comp=Z,800nm,20.0s,MS5.2
KIS MLR MLR
comp=Z,1µm,20.0s
KAF Kangasniemi 91.56 332 *e*p **P 03 09 18.7 -2.8**
comp=Z,13nm,0.8s,mb5.3,baz=80,slow=4.2
KAF Kangasniemi 91.56 332 *e*P **P 03 09 18.7 -2.8**
KAF pmax pmax
comp=Z,13nm,0.8s,mb5.3
TIRR Tirgusor 91.64 314⇓*i*P **P 03 09 20.2 -1.7**
TIRR Tirgusor 91.64 314 ⇓P **P 03 09 20.2 -1.7**
FINES FINESS Array B 91.73 331 P **P 03 09 19.8 -2.5**
comp=Z,6.3nm,0.7s,mb5.1,baz=84,slow=5.9,SNR=21
FINES PKiKP PKiKP 03 14 13.2 0.0
comp=Z,1.7nm,0.7s,baz=98,slow=7.2,SNR=3.0
FINES FINESS Array B 91.73 331 *i* P **P 03 09 20.1 -2.2**
FINES pmax pmax
comp=Z,6.0nm,0.7s
CFR Carcaliu 91.80 315⇓*i*P **P 03 09 22.3 -0.3**
CFR Carcaliu 91.80 315 ⇓P **P 03 09 22.3 -0.3**
BJO Bjornoya 92.23 345 AMS AMS 03 58 20.9
comp=Z,2µm,18.6s,MS5.6
KBS Kingsbay 92.60 350 *e*P **P 03 09 17.1 -9.2**
KBS AMS AMS 03 56 07.2
comp=Z,1µm,21.8s,MS5.4
KBS Kingsbay 92.60 350⇑*e*P **P 03 09 24.4 -1.9**
VRI Vrincioaia 92.74 316⇑*i*P **P 03 09 26.7 -0.2**
VRI Vrincioaia 92.74 316 ⇑P **P 03 09 26.7 -0.2**
DAWY Dawson 92.74 26 *e*P **P 03 09 26.5 -0.4**
PLOR Plostina 92.79 316⇑*i*P **P 03 09 27.0 -0.2**
MLR Muntele Rosu 93.32 316 **P 03 09 28.7 -0.9**
comp=Z,19nm,0.8s,mb5.6,baz=117,slow=0.5,SNR=23
MLR Muntele Rosu 93.32 316⇓*i*P **P 03 09 29.1 -0.5**
MLR Muntele Rosu 93.32 316 P **P 03 09 29.8 +0.2**

MLR Muntele Rosu 93.32 316 ⇓P **P 03 09 29.1 -0.5**
TRO Tromso 93.37 340 *e*P **P 03 09 28.0 -1.8**
TRO *e*PP PP 03 13 12.5 -1.5
TRO AMS AMS 03 54 32.4
comp=Z,901nm,20.5s,MS5.2
TRO Tromso 93.37 340 *e*P **P 03 09 28.1 -1.7**
TRO *i* 03 13 12.5
TRO LR LR
comp=Z,900nm,20.5s,MS5.2
BURAR Bucovina Array 93.62 318⇓*i*P **P 03 09 30.6 -0.4**
BURAR Bucovina Array 93.62 318 ⇓P **P 03 09 30.6 -0.4**
LSZ Lusaka 93.88 255 *e*P **P 03 09 31.7 -0.5**
LSZ pmax pmax
comp=Z,61nm,1.5s,mb5.8
LSZ MLR MLR
comp=Z,2µm,21.0s,MS5.7
LSZ Lusaka 93.88 255 *e*P **P 03 09 31.7 -0.5**
comp=Z,60nm,1.5s,mb5.8
LSZ LR LR
comp=Z,2µm,21.0s,MS5.7
SUW Suwalki 94.15 324 *e*P **P 03 09 32.6 -0.8**
SUW *e* 03 09 34.2
LVV L'vov 94.16 320 *e*P **P 03 09 32.8 -0.7**
LVV *e* 03 13 23.6
INK Inuvik 94.25 21 *e*P **P 03 09 32.6 -1.3**
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 94.25 21 *e*P **P 03 09 32.6 -1.3**
comp=Z,15nm,0.9s,mb5.4
KWP Kalwaria 95.03 320 *e*P **P 03 09 37.1 -0.4**
KWP *e* 03 09 39.1
DRGR 95.41 317⇑*i*P **P 03 09 39.9 +0.7**
DRGR 95.41 317 ⇑P **P 03 09 39.9 +0.7**
KOLS Kolonicke sedl 95.41 319 *e*P **P 03 09 39.0 -0.2**
KOLS pmax pmax
comp=Z,13nm,1.1s,mb5.3
KOLS MLR MLR
comp=Z,800nm,23.9s,MS5.1
KOLS Kolonicke sedl 95.41 319 *e*P **P 03 09 39.0 -0.2**
comp=Z,12nm,1.1s,mb5.3
KOLS LR LR
comp=Z,800nm,23.9s,MS5.1
SKAG Skagway 95.45 30 *e*P **P 03 09 40.0 +0.6**
SKAG *e*pP pP 03 09 45.9 -3.6
SKAG *e*sP sP 03 09 48.4 -4.7
VTS Vitosha 95.58 313 P **P 03 09 39.2 -0.8**
SIT Sitka 95.93 32 PFAKE 03 09 50.0 +8.4
SIT LR LR
comp=Z,862nm,20.0s,MS5.2
CRVS Cervenica-Dubn 95.95 319 *e*P **P 03 09 41.2 -0.4**
CRVS *e*PP PP 03 13 18.5 -16
CRVS Cervenica-Dubn 95.95 319 *e*P **P 03 09 41.2 -0.4**
CRVS pmax pmax
comp=Z,15nm,1.0s,mb5.4
CRVS MLR MLR
comp=Z,600nm,23.1s,MS5.0
CRVS Cervenica-Dubn 95.95 319 *e*P **P 03 09 41.2 -0.4**
comp=Z,15nm,1.0s,mb5.4
CRVS *e*PP PP 03 13 18.5 -16
CRVS LR LR
comp=Z,600nm,23.1s,MS5.0
STHS Stebnicka Huta 96.01 320 *e*P **P 03 09 41.3 -0.6**
STHS *e* pP 03 09 52.4 +0.4
STHS pmax pmax
comp=Z,12nm,0.9s,mb5.3
STHS Stebnicka Huta 96.01 320 *e*P **P 03 09 41.3 -0.6**
comp=Z,12nm,0.9s,mb5.3
STHS *e* pP 03 09 52.4 +0.4
LBTB Lobatse 96.21 245 PFAKE 03 09 50.0 +7.2
LBTB LR LR
comp=Z,1µm,21.0s,MS5.3
BZS Buzias 96.32 316⇑*i*P **P 03 09 43.2 -0.2**
BZS Buzias 96.32 316 ⇑P **P 03 09 43.2 -0.2**
BOSA Boshof 96.40 242 P **P 03 09 43.7 0.0**
comp=Z,2.5nm,0.8s,mb4.7,baz=339,slow=1.3,SNR=4.4
BOSA LR LR 03 48 36.5
comp=Z,1µm,20.4s,MS5.3,baz=89,slow=33
BOSA Boshof 96.40 242 P **P 03 09 43.7 0.0**
BOSA LR LR 03 48 36.5
KECS Kecovo 96.65 319 *e*P **P 03 09 43.7 -1.1**
KECS *e* pP 03 09 51.7 -3.3
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
KECS Kecovo 96.65 319 *e*P **P 03 09 43.7 -1.1**
comp=Z,8.4nm,1.0s,mb5.1
KECS *e* pP 03 09 51.7 -3.3
OJC Ojcow 96.80 321 *e*P **P 03 09 44.8 -0.7**
OJC *e*PP PP 03 13 37.6 -3.0
OJC *e*SKS 03 20 18.1
OJC *e*S 03 21 01.3
OJC *e*PS PS 03 22 20.0 -10
OJC L 03 55 28.4
comp=Z,7.4nm,22.1s
OJC Ojcow 96.80 321 *e*P **P 03 09 44.7 -0.8**
OJC *e*PP PP 03 13 37.6 -3.0
OJC *e*SKS 03 20 18.1
OJC *e*S 03 21 01.3
OJC *e*PS PS 03 22 20.0 -10
OJC LR LR
comp=Z,7µm,22.1s,MS6.1
PSZ Piszkesteto 97.13 318⇑*i*P **P 03 09 48.2 +1.2**
PSZ Piszkesteto 97.13 318 *e*P **P 03 09 46.6 -0.4**
PSZ pmax pmax
comp=Z,19nm,1.0s,mb5.5
PSZ Piszkesteto 97.13 318 *e*P **P 03 09 46.5 -0.5**
comp=Z,19nm,1.0s,mb5.5
NSS Namsos 97.38 336 AMS AMS 03 57 58.0
comp=Z,2µm,18.9s,MS5.6
VYHS Vyhne 97.73 319 *i* P **P 03 09 48.5 -1.2**
VYHS *e*pP pP 03 09 57.6 -2.2
VYHS *e*PP PP 03 13 48.3 +0.5
VYHS Vyhne 97.73 319 *i* P **P 03 09 48.5 -1.2**
VYHS *e* pP 03 09 57.6 -2.2
VYHS *e* 03 13 48.4
VYHS pmax pmax
comp=Z,7.0nm,1.2s,mb5.1
VYHS MLR MLR
comp=Z,600nm,23.4s,MS5.0
VYHS Vyhne 97.73 319 *i* P **P 03 09 48.5 -1.2**
comp=Z,7.4nm,1.2s,mb5.1
VYHS *e* pP 03 09 57.6 -2.2
VYHS *e*PP PP 03 13 48.4 +0.6
VYHS LR LR
comp=Z,600nm,23.4s,MS5.0
GKP Gorka Klasztor 97.76 324 *e*P **P 03 09 45.0 -4.9**
RAC Raciborz 97.84 321 *e*P **P 03 09 50.8 +0.6**
RAC L 03 57 12.2
comp=Z,1.3nm,21.4s
OKC Ostrava-Krasne 97.92 321 *e*P **P 03 09 47.8 -2.8**
OKC *e*pP pP 03 09 59.0 -1.7
OKC *e*PP PP 03 13 42.7 -6.5
OKC AMS AMS 03 57 00.0
comp=Z,1µm,21.5s
OKC Ostrava-Krasne 97.92 321 *e*P **P 03 09 47.8 -2.8**
OKC *e**PP pP 03 09 59.0 -1.7
OKC Ostrava-Krasne 97.92 321 *e*P **P 03 09 47.8 -2.8**
OKC *e*pP pP 03 09 59.0 -1.7
OKC *e*PP PP 03 13 42.7 -6.5
PVY Plav 97.94 313⇓*i*PKP 03 17 59.5
IVA Berane 97.96 313⇓*i*PKP 03 17 59.1
TAOE Nuku Hiva Isla 98.06 99 *e*LR LR 03 41 51.1
comp=Z,1µm,24.1s
SRO2 Moca 98.16 318 *e*P **P 03 09 51.6 0.0**
SRO2 pmax pmax
comp=Z,17nm,1.0s,mb5.5
SRO Srobarova 98.20 319 *e*P **P 03 09 50.7 -1.1**
SRO *e* 03 13 47.8
SRO pmax pmax
comp=Z,27nm,1.5s,mb5.6
SRO Srobarova 98.20 319 *e*P **P 03 09 50.7 -1.1**
comp=Z,27nm,1.5s,mb5.6
SRO *e*PP PP 03 13 47.8 -3.6
PLE Pljevlja 98.25 314⇓*i*PKP 03 17 59.2
SRO1 Iza 98.26 319 *e*P **P 03 09 52.6 +0.5**
SRO1 pmax pmax
comp=Z,20nm,0.8s,mb5.7
PKSM Moragy 98.28 317⇓*i*P **P 03 09 50.1 -2.1**
PKSM Moragy 98.28 317 P **P 03 09 52.8 +0.6**
PKSM Moragy 98.28 317 ⇓P **P 03 09 50.1 -2.0**
MORC Moravsky Berou 98.31 321⇑*i*P **P 03 09 52.6 +0.3**
MORC Moravsky Berou 98.31 321 *e*P **P 03 09 51.6 -0.7**
comp=Z,14nm,1.0s,mb5.5
DLBC Dease Lake 98.36 30 *e*P **P 03 09 52.1 -0.5**
TTG Podgorica 98.49 313⇓*i*PKP 03 17 59.8

ULC Ulcinj 98.58 313 ⇓*i*PKP 03 18 00.6
UPM Unac-Piva 98.62 314 ⇓*i*PKP 03 17 59.4
NKY Niksic 98.62 313 ⇓*i*PKP 03 17 59.9
BSD Bornholm Skovb 98.66 326 *i* P **P** **03 09 57.2 +3.3**
BSD *i* 03 13 43.7
BSD *i* S 03 20 34.9
BSD
comp=Z,1μm,18.0s
BSD Bornholm Skovb 98.66 326 *i* P **P** **03 09 57.2 +3.3**
comp=Z,1.1nm,1.8s
BSD *i* 03 13 43.7
BSD *i* S 03 20 34.9
BUM Brajici-Budva 98.78 313 *e*PKP 03 18 00.2
NB2 NORSAR Subarra 98.83 333 P **P** **03 09 51.6 -3.0**
comp=Z,7.4nm,0.9s,mb5.2,baz=74,slow=4.6
NB2 NORSAR Subarra 98.83 333 P **P** **03 09 51.6 -3.0**
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb5.2
NOA NORSAR Array B 98.83 333 P **P** **03 09 52.1 -2.5**
comp=Z,3.0nm,0.8s,mb4.9,baz=73,slow=4.6,SNR=12
NOA PP PP 03 13 39.4 -17
comp=Z,2.1nm,0.9s,baz=66,slow=6.4,SNR=3.4
NOA LR LR 03 59 27.0
comp=Z,2μm,18.1s,MS5.5,baz=30,slow=38
KSP Ksiaz 98.87 322 *e*P **P** **03 09 55.0 +0.2**
KSP Ksiaz 98.87 322 *e*P **P** **03 09 55.2 +0.4**
KSP *e*PP PP 03 13 53.0 -3.5
KSP *e*SKS 03 20 31.0
KSP *e*SP SP 03 22 53.0 +4.9
KSP LR LR
comp=Z,3μm,23.3s,MS5.7
ZST Bratislava 98.92 319 *e*P **P** **03 09 55.4 +0.3**
ZST *e*PP PP 03 13 40.7 -16
ZST Bratislava 98.92 319 *e*P **P** **03 09 55.4 +0.3**
ZST *e*PP PP 03 13 40.7 -16
ZST LR LR
comp=Z,100nm,20.9s,MS4.3
BRY Bratogost 98.93 314 ⇓*i*PKP 03 17 59.8
DPC Dobruska-Polom 98.96 321 *e*P **P** **03 09 54.6 -0.6**
DPC *e*pP pP 03 10 02.8 -2.6
DPC *e*SKS 03 20 30.5
DPC AMS AMS 04 02 20.0
comp=Z,2μm,18.8s
VRAC Vranov 99.02 320 ⇑*i*P **P** **03 09 55.2 -0.3**
VRAC Vranov 99.02 320 ⇑P **P** **03 09 55.2 -0.3**
NAO01 NORSAR Array S 99.04 332 *e*P **P** **03 09 53.9 -1.7**
NAO01 LR LR
comp=Z,2μm,19.0s,MS5.7
HCY Herceg Novi 99.05 313 ⇓*i*PKP 03 18 00.9
DAG Danmarks Havn 99.05 351 ⇓*i*P **P** **03 09 53.5 -2.2**
comp=Z,4.8nm,0.7s,mb5.1
DAG Danmarks Havn 99.05 351 ⇓*e*P **P** **03 09 53.5 -2.2**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb5.2
DAG Danmarks Havn 99.05 351 ⇓*e*P **P** **03 09 53.5 -2.2**
comp=Z,4.8nm,0.7s,mb5.1
UPC Upice 99.12 322 *e*P **P** **03 09 54.0 -1.9**
TREC Trest 99.72 320 *e*P Pdif 03 09 57.6 -1.0
CONA Conrad Observa 99.79 319 ⇑*i*Pdiff Pdif 03 09 58.9 -0.1
comp=Z,5.2nm,1.3s
COP Copenhagen 99.86 327 *i* P Pdif 03 10 04.2 +4.9
COP Copenhagen 99.86 327 *i* S 03 20 31.6
COP *i* 03 22 52.2
COP
comp=Z,360nm,20.0s
COP Copenhagen 99.86 327 *e*P Pdif 03 10 04.2 +4.9
COP *i* S 03 20 31.6
COP *i* 03 22 52.2
COP LR LR
comp=Z,370nm,20.0s,MS4.9
MOL Molde 99.92 335 AMS AMS 04 00 01.3
comp=Z,2μm,16.3s,MS5.7
PVCC Panska Ves 100.01 322 *e*P Pdif 03 09 59.3 -0.6
PVCC *e**PP 03 10 09.4
PVCC MLR MLR
comp=Z,500nm,21.5s,MS5.0
KONO Kongsberg 100.05 331 *e* Pdif 03 09 57.0 -3.1
KONO *e*PP PP 03 14 03.1 -2.4
KONO Kongsberg 100.05 331 ⇑*e*P Pdif 03 09 59.3 -0.8
KONO LR LR
comp=Z,2μm,20.0s,MS5.5
PRU Pruhonice 100.16 321 *e*PDIF Pdif 03 09 59.0 -1.6
PRU *e*pP 03 10 08.7
PRU *e*PP PP 03 14 06.7 +0.4
PRU *e*SKS 03 20 37.2
PRU AMS AMS 03 58 20.0
comp=Z,1μm,18.8s
ARSA Arzberg 100.17 318 ⇑*i*P Pdif 03 09 59.5 -1.1
comp=Z,9.5nm,1.7s
BRG Berggiesshubel 100.31 322 *e*Pdiff Pdif 03 10 01.2 0.0
BRG *e*PP PP 03 14 11.7 +4.2
BRG Berggiesshubel 100.31 322 *e*PKP Pdif 03 10 00.6 -0.6
comp=Z,11nm,1.0s
BRG *e* 03 10 09.1
comp=Z,4.5nm,1.0s
BRG *e* 03 10 23.0
comp=Z,4.1nm,1.1s
BRG PP PP 03 14 02.0 -5.5
BRG *i* 03 20 38.0
BRG *i* 03 21 53.0
BRG *i* 03 23 14.0
BRG *i* 03 28 35.0
BRG
comp=N,492nm,16.3s
BRG
comp=E,672nm,20.3s
BRG
comp=Z,739nm,20.9s
BRG Berggiesshubel 100.31 322 *e*P Pdif 03 10 00.6 -0.6
BRG 03 14 02.0
BRG *i* 03 20 38.0
BRG *i* 03 23 14.0
BRG *i* 03 28 35.0
BRG pmax pmax
comp=Z,11nm,1.0s
BRG MLR MLR
comp=Z,740nm,20.9s,MS5.2
BRG Berggiesshubel 100.31 322 *e*PKP Pdif 03 10 00.6 -0.6
comp=Z,11nm,1.0s
BRG *e* 03 10 09.1
BRG *e* 03 10 23.0
BRG PP PP 03 14 02.0 -5.5
BRG *i* 03 20 38.0
BRG *i* 03 21 53.0
BRG *i* 03 23 14.0
BRG *i* 03 28 35.0
BRG LR LR
comp=Z,740nm,20.9s,MS5.2
CLL Collm 100.76 323 ⇑*i*Pdiff Pdif 03 10 03.2 -0.1
comp=Z,16nm,1.3s
CLL *e*pPdiff 03 10 09.2
CLL *e*sPdiff 03 10 12.0
CLL *e*PP PP 03 14 14.3 +3.4
CLL *e*PPP 03 16 19.7
CLL *e*SKSac SKSac 03 20 39.6 -0.4
CLL *e*PS PS 03 23 16.7 +4.2
CLL *e*PPS 03 24 04.2
CLL *e*SS SS 03 28 53.8 +18
CLL *e*SSS 03 32 31.5
CLL *e*L 04 02 06.3
comp=Z,1μm,18.0s
CLL Collm 100.76 323 ⇑*i*Pdif Pdif 03 10 03.8 +0.5
comp=Z,16nm,1.3s
CLL *i* PP PP 03 14 14.3 +3.4
comp=Z,17nm,1.3s
CLL *e*PKiKP PKiKP 03 14 30.0 +0.9
CLL *e*x x 03 14 49.0
CLL *e*PPP 03 16 19.0
CLL *e*(PPPP) 03 18 36.0
CLL *e*SKSac SKSac 03 20 39.0 -1.0
CLL *e*PS PS 03 23 12.0 -0.5
CLL *e*PPS 03 23 53.0
CLL *e*x x 03 24 46.0
CLL *e*(SS) 03 28 59.0
CLL *e*x x 03 30 07.0
CLL *e*SSS 03 32 30.0
CLL *e*PKPPKPbc 03 35 27.0
CLL LmH 03 59 00.0
comp=N,600nm,19.4s
CLL LmH 03 59 00.0
comp=E,1μm,18.0s
CLL LmV 04 01 00.0
comp=Z,1μm,18.7s
CLL Collm 100.76 323 ⇑*i*P Pdif 03 10 03.8 +0.5
CLL *i* 03 14 14.3
CLL *e* 03 20 39.0
CLL pmax pmax
comp=Z,16nm,1.3s
CLL MLR MLR
comp=Z,1μm,18.7s,MS5.4
CLL Collm 100.76 323 ⇑*i*Pdif Pdif 03 10 03.8 +0.5
comp=Z,16nm,1.3s
CLL *i* PP PP 03 14 14.3 +3.4
CLL *e*SKS 03 20 39.0
CLL *e*P'P' 03 35 27.0
CLL LR LR
comp=Z,1μm,18.7s,MS5.4
MOA Molln 100.86 319 ⇑*i*P Pdif 03 10 03.0 -0.7
comp=Z,12nm,1.5s
GEC2 GERESS Array S 100.97 320 *e*Pdiff Pdif 03 10 04.1 -0.1
GERES GERESS Array B 100.97 320 P Pdif 03 10 03.1 -1.1
comp=Z,4.8nm,0.9s,baz=90,slow=5.3,SNR=24
GERES PP PP 03 13 59.1 -13
comp=Z,0.7nm,0.8s,baz=62,slow=6.6,SNR=3.6
GERES PKKPbc PKKPbc 03 26 17.8 +2.1
comp=Z,0.4nm,0.7s,baz=215,slow=4.4,SNR=3.8
KHC Kasperske Hory 100.98 321 *e*PDIF Pdif 03 10 03.8 -0.4
KHC *e*PP PP 03 14 16.2 +3.6
KHC *e*SKS 03 20 40.5
KHC AMS AMS 03 58 50.0
comp=Z,1μm,17.6s
RES Resolute Bay 101.10 9 *e*P Pdif 03 10 04.2 -0.6
TANN Tannenbergstha 101.34 322 *e*Pdiff Pdif 03 10 05.6 -0.2
TANN *e*PP PP 03 14 19.5 +4.2
MUD Monsted U'grnd 101.35 329 *i* P PP 03 14 19.7 +4.3
MUD *i* 03 20 47.4
MUD
comp=Z,970nm,19.0s
WET Wettzell 101.42 321 *e*Pdiff Pdif 03 10 06.1 -0.1
WET *e*PP PP 03 14 20.4 +4.5
VOY Vojsko 101.54 317 *e*PP PP 03 14 16.5 -0.3
BSEG Bad Segeberg 101.56 326 *e*Pdiff Pdif 03 10 07.3 +0.5
BSEG *e*PP PP 03 14 23.6 +6.7
ROTZ Rotzenmuhle 101.67 321 *e*Pdiff Pdif 03 10 07.3 0.0
ROTZ *e*PP PP 03 14 22.6 +4.8
MANZ Manzenberg 101.67 322 *e*Pdiff Pdif 03 10 07.0 -0.3
MANZ *e*PP PP 03 14 22.6 +4.8
BER Bergen 101.76 333 *e*PP PP 03 14 13.9 -4.5
BER *i* 03 23 19.5
BER AMS AMS 03 59 59.9
comp=Z,2μm,19.8s,MS5.6
MOX Moxa 101.79 322 *e*Pdiff Pdif 03 10 07.4 -0.4
MOX *e*PP PP 03 14 23.0 +4.3
MOX Moxa 101.79 322 *e*P Pdif 03 10 08.0 +0.2
MOX pmax pmax
comp=Z,19nm,1.4s
MOX MLR MLR
comp=Z,800nm,20.0s,MS5.2
MOX Moxa 101.79 322 *e*Pdif Pdif 03 10 08.0 +0.2
comp=Z,19nm,1.4s
MOX LR LR
comp=Z,800nm,20.0s,MS5.2
MOX Moxa 101.79 322 *e*PDIFF Pdif 03 10 08.0 +0.2
comp=Z,19nm,1.4s
NRDL Niedersach Rie 102.13 324 *e*Pdiff Pdif 03 10 10.0 +0.6
NRDL *e*PP PP 03 14 24.7 +3.4
CLZ Clausthal 102.18 324 *e*Pdiff Pdif 03 10 09.3 -0.3
CLZ *e*PP PP 03 14 26.3 +4.7
GRA1 Grafenberg Arr 102.31 322 *e*Pdif Pdif 03 10 09.8 -0.3
GRA1 *e*PP PP 03 14 27.4 +4.8
GRA1 LR LR
comp=Z,1μm,20.4s,MS5.4
GRF Grafenberg Arr 102.31 322 *e*Pdiff Pdif 03 10 09.8 -0.3
GRF *e*pPdiff 03 10 20.4
GRF *e*PP PP 03 14 27.4 +4.8
GRF *e*L 04 03 03.6
comp=Z,1μm,20.4s
RKT Rikitea 102.56 113 *e*SKSac SKSac 03 20 49.2 +0.6
comp=Z,447nm,27.5s
RKT *e*PS PS 03 23 29.7 -1.9
comp=Z,529nm,25.0s
RKT *e*SS SS 03 28 55.2 -5.9
comp=Z,395nm,28.0s
FUR Furstenfeldbru 102.71 320 *e*Pdiff Pdif 03 10 10.4 -1.5
FUR *e*PP PP 03 14 31.0 +5.4
UBBA Unterbreizbach 102.72 323 *e*PP PP 03 14 29.8 +4.2
WTTA Wattenberg 102.73 319 ⇑*i*P Pdif 03 10 10.9 -1.1
comp=Z,7.2nm,0.7s
WTTA Wattenberg 102.73 319 ⇑*i*P Pdif 03 10 10.9 -1.1
WTTA pmax pmax
comp=Z,7.0nm,0.7s
MOTA Moosalm 103.05 319 ⇑*i*P Pdif 03 10 12.1 -1.3
comp=Z,5.0nm,0.9s
MOTA Moosalm 103.05 319 ⇑*i*P Pdif 03 10 12.1 -1.3
MOTA pmax pmax
comp=Z,5.0nm,0.9s
IBBN Ibbenburen 103.56 325 *e*PP PP 03 14 36.2 +4.3
YKA Yellowknife Ar 103.75 23 Pdiff Pdif 03 10 14.5 -2.0
comp=Z,1.3nm,0.8s,baz=140,slow=8.3,SNR=6.1
YKA PKiKP PKiKP 03 14 33.7 -0.7
comp=Z,1.8nm,0.7s,baz=300,slow=1.6,SNR=8.1
YKA PKKPbc PKKPbc 03 26 07.4 -0.1
comp=Z,0.4nm,0.5s,baz=111,slow=2.8,SNR=3.6
YKA Yellowknife Ar 103.75 23 P Pdif 03 10 14.5 -2.0
YKA *i* 03 14 33.7
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.7s
STU Stuttgart 103.85 321 *e*PP PP 03 14 38.6 +4.5
TSUM Tsumeb 103.90 251 PFAKE 03 10 30.0 +13
TSUM LR LR
comp=Z,3μm,21.0s,MS5.8
BUG Bochum--Univer 104.14 324 *e*PP PP 03 14 40.7 +4.4
BFO Black Forest 104.54 321 *e*PP PP 03 14 43.0 +3.8
OCWA Octopus Mounta 104.97 40 PFAKE 03 10 30.0 +8.0
OCWA LR LR
comp=Z,906nm,21.0s,MS5.3
CDF Champ du Feu 105.17 321 *e*P Pdif 03 10 22.9 0.0
comp=Z,8.8nm,1.0s
CDF Champ du Feu 105.17 321 *e*P Pdif 03 10 22.9 0.0
CDF pmax pmax
comp=Z,4.0nm,1.0s
CDF Champ du Feu 105.17 321 *e*P Pdif 03 10 22.9 0.0
comp=Z,4.4nm,1.0s
SUMG Summit 105.29 354 *e*PKP PKiKP 03 14 36.9 -0.4
GIVF Givet 106.07 323 *e*P Pdif 03 10 27.9 +1.0
BAIF Baives 106.46 323 *e*P Pdif 03 10 29.8 +1.2
COR Corvallis 106.57 43 PFAKE 03 14 50.0 +10
COR LR LR
comp=Z,875nm,21.0s,MS5.3
MBDF Montbardon 106.72 318 *e*P Pdif 03 10 29.7 -0.1
ORIF Oris-en-Rattie 107.26 318 *e*P Pdif 03 10 29.8 -2.3
comp=Z,7.1nm,0.8s
ORIF Oris-en-Rattie 107.26 318 *e*P Pdif 03 10 29.8 -2.3
ORIF pmax pmax
comp=Z,4.0nm,0.8s
ORIF Oris-en-Rattie 107.26 318 *e*P Pdif 03 10 29.8 -2.3
comp=Z,3.5nm,0.8s
HUMO Hull Mountain 107.44 44 *e*PKP PKiKP 03 14 42.3 +1.0
HUMO LR LR
comp=Z,494nm,21.0s,MS5.0
HUMO Hull Mountain 107.44 44 ⇑P PKiKP 03 14 42.5 +1.3
baz=107
LOR Lormes 107.73 321 *e*P Pdif 03 10 34.7 +0.5
comp=Z,10nm,1.0s
LOR Lormes 107.73 321 *e*P Pdif 03 10 34.7 +0.5
LOR pmax pmax
comp=Z,5.0nm,1.0s
LOR Lormes 107.73 321 *e*P Pdif 03 10 34.7 +0.5
comp=Z,5.1nm,1.0s
SMRF Simiane la Rot 107.78 317 *e*P Pdif 03 10 34.9 +0.4
YBH Yreka Blue Hor 107.89 45 PFAKE 03 14 50.0 +7.9
YBH LR LR
comp=Z,449nm,21.0s,MS5.0
M02C Callahan 107.89 46 ⇓P PKiKP 03 14 43.8 +1.7
baz=108
SMF Signal de Mont 107.98 320 *e*P Pdif 03 10 36.4 +1.1
comp=Z,14nm,1.1s
SMF Signal de Mont 107.98 320 *e*P Pdif 03 10 36.4 +1.1
SMF pmax pmax
comp=Z,7.0nm,1.1s
SMF Signal de Mont 107.98 320 *e*P Pdif 03 10 36.4 +1.1
comp=Z,6.9nm,1.1s
L04A Klamath Falls 108.33 45 ⇓P PKiKP 03 14 44.6 +1.6
baz=108
WDC Whiskeytown Da 108.37 46 PFAKE 03 15 00.0 +17
WDC LR LR
comp=Z,1μm,22.0s,MS5.4
M03C McCloud 108.45 46 ⇓P PKiKP 03 14 44.6 +1.5
baz=108
HOPS Hopland 108.46 48 PFAKE 03 15 00.0 +17
HOPS LR LR
comp=Z,1μm,20.0s,MS5.4
M04C Macdoel 108.49 45 ⇓P PKiKP 03 14 44.6 +1.3
baz=108
BGF Bois d'Agland 108.64 320 *e*P Pdif 03 10 39.2 +0.9
I06A Prineville 108.88 42 ⇓P PKiKP 03 14 45.0 +1.0
baz=109
EDM Edmonton 109.03 32 *e*PKP PKiKP 03 14 44.2 0.0
HATC Hat Creek Radi 109.07 46 ⇑P PKiKP 03 14 45.5 +1.1
baz=109
M05C Lookout 109.12 45 ⇓P PKiKP 03 14 45.5 +1.1
baz=109
TCF Toulx Ste Croi 109.16 320 *e*P Pdif 03 10 41.7 +1.1
comp=Z,11nm,1.1s
NEW Newport 109.17 37 *e*PKP PKiKP 03 14 46.2 +1.6
NEW LR LR
comp=Z,685nm,20.0s,MS5.2
MOD Modoc 109.53 44 PFAKE 03 15 00.0 +15
MOD LR LR
comp=Z,525nm,20.0s,MS5.1
OHCM Honcut 109.53 47 *e*PKP PKiKP 03 14 45.5 +0.2
O05C Quincy 109.74 47 ⇑P PKiKP 03 14 46.7 +1.1
baz=110
K07A Rock Creek Ran 109.98 43 ⇑P PKiKP 03 14 47.2 +1.1
baz=110
P05C Yuba Gap, Truc 110.19 47 ⇑P PKiKP 03 14 47.6 +1.2
baz=110
LAVA Lava Cap Winer 110.26 48 ⇓P PKiKP 03 14 47.7 +1.1
baz=110
SAO San Andreas Ge 110.36 50 PFAKE 03 15 00.0 +13
SAO LR LR
comp=Z,926nm,20.0s,MS5.4
PACP Pacheco Peak 110.40 50 ⇓P PKiKP 03 14 48.2 +1.4
baz=110
O06A Flanigan 110.46 46 P PKiKP 03 14 48.1 +1.2
baz=110,SNR=6.3
WVOR Wild Horse Val 110.50 43 *e*PKIKP PKiKP 03 14 47.8 +0.8
WVOR MLR MLR
comp=Z,705nm,19.0s,MS5.3
CMB Columbia Colle 110.76 48 PFAKE 03 15 00.0 +12
CMB LR LR
comp=Z,753nm,21.0s,MS5.2
CMB Columbia Colle 110.76 48 ⇓P PKiKP 03 14 49.0 +1.5
baz=111
R05C Kirkwood Meado 110.77 48 ⇓P PKiKP 03 14 49.0 +1.5
baz=111
U04C Hernandez Rese 110.99 50 ⇓P PKiKP 03 14 49.9 +2.0
baz=111
M08A Happy Creek Ra 111.04 44 ⇓P PKiKP 03 14 49.9 +1.8
baz=111
O07A Toulon 111.15 46 P PKiKP 03 14 49.6 +1.3
baz=111,SNR=5.8
S06C San Francisco 111.21 48 ⇑P PKiKP 03 14 49.9 +1.5
baz=111
R06C Coleville 111.30 48 ⇑P PKiKP 03 14 50.5 +1.9
baz=111
N08A GE Springer Mi 111.46 45 ⇑P PKiKP 03 14 50.4 +1.5
baz=111
MSO Missoula 111.74 38 PFAKE 03 15 00.0 +11
MSO LR LR
comp=Z,347nm,21.0s,MS4.9
CHMT Chamberlain Mo 112.12 37 *e*PKP PKiKP 03 14 49.9 -0.2
NVAR Mina Array Bea 112.17 47 PKiKP PKiKP 03 14 51.6 +1.4
comp=Z,2.6nm,0.7s,baz=318,slow=0.8,SNR=16
NVAR PKKPbc PKKPbc 03 25 42.0 +1.0
comp=Z,1.0nm,0.9s,baz=97,slow=4.7,SNR=3.6
BMN Battle Mountai 112.23 45 PFAKE 03 15 00.0 +10
BMN LR LR
comp=Z,663nm,20.0s,MS5.2
MNV Mina 112.28 47 PFAKE 03 15 00.0 +10
MNV LR LR
comp=Z,700nm,20.0s,MS5.2
Q08A Gabbs 112.30 47 ⇑P PKiKP 03 14 52.0 +1.6
baz=112
S08C White Mtn Res 112.59 48 ⇓P PKiKP 03 14 52.7 +1.7
baz=112
TIN Tinemaha 112.70 49 ⇑P PKiKP 03 14 52.8 +1.6
baz=113
M11A Holland Ranch, 112.84 44 ⇓P PKiKP 03 14 53.2 +1.7
baz=113
HLID Hailey 112.88 41 *e*PKP PKiKP 03 14 52.5 +0.9
HLID LR LR
comp=Z,626nm,21.0s,MS5.2
SNCC San Nicolas Is 112.92 53 PFAKE 03 15 00.0 +8.4
SNCC LR LR
comp=Z,1μm,21.0s,MS5.5
ISA Isabella 112.98 50 PFAKE 03 15 00.0 +8.2
ISA LR LR
comp=Z,138nm,20.0s,MS4.5
CWC Cottonwood Cre 113.03 49 ⇑P PKiKP 03 14 53.6 +1.8
baz=113
TPH Tonopah 113.09 47 PFAKE 03 15 00.0 +8.0
TPH LR LR
comp=Z,669nm,21.0s,MS5.2
N11A Elko Archery C 113.12 44 ⇓P PKiKP 03 14 53.5 +1.4
baz=113
S09A Goldfield 113.22 48 ⇓P PKiKP 03 14 53.7 +1.5
baz=113,SNR=7.7
DLMT Dillon 113.24 39 *e*PKP PKiKP 03 14 54.1 +1.8
MCMT McKenzie Canyo 113.33 39 *e*PKP PKiKP 03 14 53.9 +1.5
O11A Cowboy Ranch, 113.45 45 P PKiKP 03 14 54.1 +1.5
baz=113,SNR=7.8
DAC Darwin (Calif) 113.45 49 *e*PKIKP PKiKP 03 14 54.8 +2.2
DAC MLR MLR
comp=Z,619nm,20.0s,MS5.2
M12A Wells 113.45 43 ⇑P PKiKP 03 14 54.0 +1.4
baz=113,SNR=6.4
N12A Wells--Clov Va 113.59 44 ⇑P PKiKP 03 14 54.4 +1.5
baz=114,SNR=5.0
BOZ Bozeman (W) 113.71 38 *e*PKIKP PKiKP 03 14 53.4 +0.3
BOZ MLR MLR
comp=Z,423nm,20.0s,MS5.0
Q11A Duckwater 113.95 46 P PKiKP 03 14 55.1 +1.5
baz=114,SNR=9.3
M13A Montello 113.99 43 ⇓P PKiKP 03 14 55.0 +1.3
baz=114,SNR=7.0
P12A McGill 114.24 45 ⇓P PKiKP 03 14 55.5 +1.4
baz=114
GSC Goldstone 114.39 50 ⇓P PKiKP 03 14 55.9 +1.5
baz=114
YMR Madison River 114.59 39 PFAKE 03 15 10.0 +15
YMR LR LR
comp=Z,1μm,22.0s,MS5.5
HVU Hansel Valley 114.75 42 *e*PKIKP PKiKP 03 14 55.9 +0.8
LKWY Lake 114.99 39 PFAKE 03 15 10.0 +14
LKWY LR LR
comp=Z,735nm,21.0s,MS5.3
TUQ Turquoise Mtn. 115.02 50 ⇑P PKiKP 03 14 56.9 +1.3
baz=115
TPAW Teton Pass 115.16 40 *e*PKPdf PKiKP 03 14 58.4 +2.5
MOOW Moose Ponds 115.17 40 *e*PKP PKiKP 03 14 56.8 +0.9
PFO Pinyon Flat Ob 115.24 52 ⇓P PKiKP 03 14 57.2 +1.2
baz=115
REDW Red Top Meadow 115.29 40 *e*PKP PKPdf 03 14 57.0 +0.8
LOHW Long Hollow 115.33 40 *e*PKPdf PKPdf 03 14 57.2 +1.0
AHID Auburn Hatcher 115.41 41 PFAKE 03 15 10.0 +14
AHID LR LR
comp=Z,451nm,20.0s,MS5.1
DUG Dugway 115.41 44 *e*PKIKP PKPdf 03 14 57.4 +1.0
DUG MLR MLR
comp=Z,481nm,20.0s,MS5.1
HWUT Hardware Ranch 115.64 42 *e*PKPdf PKPdf 03 14 57.3 +0.4
HWUT LR LR
comp=Z,1μm,22.0s,MS5.4
W12A Cal Nev Ari 115.87 49 ⇓P PKPdf 03 14 58.7 +1.5
baz=116
ESDC Sonseca Array 116.01 316 PKP PKPdf 03 14 56.3 -1.2
comp=Z,1.3nm,0.8s,baz=12,slow=6.9,SNR=4.6
ESDC PP PP 03 15 55.3 -6.7
comp=Z,2.5nm,1.0s,baz=57,slow=6.8,SNR=4.1
ESLA Sonseca Array 116.01 316 PFAKE 03 15 10.0 +12
ESLA LR LR
comp=Z,3μm,20.0s,MS5.9
CCUT Cedar City 116.12 47 *e*PKPdf PKPdf 03 15 00.0 +2.3
MPU Maple Canyon 116.30 44 PFAKE 03 15 10.0 +12
MPU LR LR
comp=Z,871nm,21.0s,MS5.3
LAO LASA Array 116.38 35 PFAKE 03 15 10.0 +12
LAO LR LR
comp=Z,608nm,21.0s,MS5.2
PDAR Pinedale Array 116.41 40 PKP PKPdf 03 14 59.0 +0.6
comp=Z,2.8nm,0.7s,baz=33,slow=1.6,SNR=15

PDAR PKKPbc PKKPbc 03 25 25.9 -0.7
comp=Z,2.5nm,0.7s,baz=108,slow=4.6,SNR=8.1
PMSA Palmer Station 116.43 177 PFAKE
PMSA LR LR
comp=Z,2μm,19.0s,MS5.7
MVU Marysvale 116.55 45 PFAKE 03 15 10.0 +11
MVU LR LR
comp=Z,1μm,22.0s,MS5.4
MSU Marysvale 116.57 45 *e*PKIKP PKPdf 03 15 00.5 +1.9
MSU Marysvale 116.57 45 *e*PKPdf PKPdf 03 15 00.7 +2.0
Y12C Blythe 116.70 51 ⇑P PKPdf 03 15 00.4 +1.5
baz=117
GLA Glamis 116.71 52 ⇑P PKPdf 03 15 00.2 +1.3
baz=117
X13A Yucca 116.92 50 P PKPdf 03 15 01.1 +1.8
baz=117,SNR=9.4
Y13A Salome 117.21 51 ⇓P PKPdf 03 15 01.7 +1.8
baz=117
W14A Seligman 117.26 49 ⇓P PKPdf 03 15 01.9 +1.9
baz=117,SNR=9.2
X14A Yava 117.69 50 ⇓P PKPdf 03 15 02.6 +1.8
baz=118,SNR=8.2
Y14A Wickenburg 117.81 50 ⇓P PKPdf 03 15 02.5 +1.4
baz=118,SNR=8.3
W15A Williams 117.88 49 ⇓P PKPdf 03 15 03.4 +2.2
baz=118
Z14A Wintersburg 118.06 51 ⇓P PKPdf 03 15 03.6 +2.1
baz=118
RWWY Rawlins 118.45 40 *e*PKPdf PKPdf 03 15 02.9 +0.6
PV10 Paradox Valley 118.84 44 *e*PKPdf PKPdf 03 15 03.2 +0.2
115A Sonoran Desert 118.87 51 ⇑P PKPdf 03 15 05.2 +2.1
baz=119
TORD Torodi Ar. Bea 119.01 286 PKP PKPdf 03 15 03.3 0.0
comp=Z,9.4nm,0.7s,baz=52,slow=1.6,SNR=35
TORD PP PP 03 16 21.6 -1.3
comp=Z,3.0nm,1.0s,baz=52,slow=4.9,SNR=3.9
TORD PKKPbc PKKPbc 03 25 18.6 +1.3
comp=Z,1.6nm,0.6s,baz=283,slow=2.8,SNR=23
RSSD Black Hills 119.10 36 *e*PKIKP PKPdf 03 15 03.6 +0.1
PV01 Paradox Valley 119.28 44 *e*PKPdf PKPdf 03 15 05.3 +1.5
EVO Evora 119.34 316 *e*PKIKP PKPdf 03 15 03.9 -0.1
comp=Z,22nm,1.0s
116A Eloy 119.34 51 ⇑P PKPdf 03 15 05.6 +1.6
baz=119,SNR=5.9
ULM Lac du Bonnet 119.43 27 PKP PKPdf 03 15 02.8 -1.3
comp=Z,7.4nm,0.7s,baz=318,slow=1.9,SNR=22
ULM PKKPbc PKKPbc 03 25 14.9 -0.8
comp=Z,1.1nm,0.6s,baz=137,slow=2.4,SNR=3.7
SMCO Snowmass 119.87 42 *e*PKPdf PKPdf 03 15 07.0 +2.0
TUC Tucson 120.15 51 *e*PKIKP PKPdf 03 15 07.4 +1.9
TUC MLR MLR
comp=Z,514nm,21.0s,MS5.1
ISCO Idaho Springs 120.47 41 PFAKE 03 15 20.0 +14
ISCO LR LR
comp=Z,989nm,22.0s,MS5.4
LAZ Ladron 122.03 47 *e*PKPdf PKPdf 03 15 11.9 +2.8
LENM Lemitar 122.25 48 *e*PKPdf PKPdf 03 15 11.7 +2.1
ANMO Albuquerque 122.27 47 *e*PKIKP PKPdf 03 15 11.1 +1.5
ANMO MLR MLR
comp=Z,697nm,22.0s
Y22C IRIS PASSCAL I 122.34 48 ⇓P PKPdf 03 15 09.9 +0.2
baz=122
LPM Los Pinos Moun 122.44 47 *e*PKPdf PKPdf 03 15 11.1 +1.2
BNM Barren Site 122.52 47 *e*PKPdf PKPdf 03 15 12.2 +2.1
EYMN Ely 123.08 26 PFAKE 03 15 20.0 +8.9
EYMN LR LR
comp=Z,923nm,19.0s,MS5.5
SCHQ Schefferville 123.69 6 PKP PKPdf 03 15 11.7 -0.7
comp=Z,9.3nm,0.8s,baz=346,slow=0.6,SNR=20
SCHQ PP PP 03 16 53.1 -1.7
comp=Z,8.3nm,0.9s,baz=6.1,slow=9.3,SNR=4.9
SCHQ Schefferville 123.69 6 *e*PKPdf PKPdf 03 15 11.9 -0.4
SCHQ LR LR
comp=Z,2μm,21.0s,MS5.7
MNTX Cornudas Mount 124.56 49 *e*PKPdf PKPdf 03 15 15.4 +1.4
MNTX LR LR
comp=Z,679nm,22.0s,MS5.3
AMTX Amarillo 125.71 44 PFAKE 03 15 30.0 +14
AMTX LR LR
comp=Z,539nm,20.0s,MS5.2
USHA Ushuaia 125.89 173 PKP PKPdf 03 15 16.7 +0.2
comp=Z,9.9nm,0.9s,baz=51,slow=1.6,SNR=6.2
DBIC Dimbokro 126.27 279 PKP PKPdf 03 15 18.3 +1.0
comp=Z,8.1nm,0.7s,baz=52,slow=2.3,SNR=9.8
DBIC Dimbokro 126.27 279 PKP PKPdf 03 15 18.3 +1.0
DBIC LR LR
comp=Z,712nm,21.0s,MS5.3
LIC Lamto 126.49 279 *e*PKIKP PKPdf 03 15 16.3 -1.4
comp=Z,74nm,1.1s
JCT Junction City 129.34 48 *e*PKIKP PKPdf 03 15 24.2 +1.1
JCT MLR MLR
comp=Z,595nm,21.0s,MS5.3
CCM Cathedral Cave 130.40 35 PKIKP PKPdf 03 15 24.9 -0.2
CCM Cathedral Cave 130.40 35 *e*PKPdf PKPdf 03 15 26.0 +0.9
CCM LR LR
comp=Z,620nm,19.0s,MS5.3
FVM French Village 130.91 34 *e*PKIKP PKPdf 03 15 26.5 +0.4
MIAR Mount Ida 131.33 40 *e*PKIKP PKPdf 03 15 27.8 +0.9
MIAR MLR MLR
comp=Z,673nm,20.0s,MS5.3
UALR University of 131.96 39 *e*PKPdf PKPdf 03 15 29.7 +1.6
BLO Bloomington 132.10 30 *e*PKIKP PKPdf 03 15 29.1 +0.8
NATX Nacogdoches 132.32 43 PFAKE 03 15 40.0 +11
NATX LR LR
comp=Z,660nm,20.0s,MS5.3
HKT Hockley 132.53 46 *e*PKIKP PKPdf 03 15 31.2 +2.0
HKT *e* 03 15 42.8
HKT MLR MLR
comp=Z,559nm,19.0s,MS5.3
ERPA Erie 132.56 22 PFAKE 03 15 40.0 +11
ERPA LR LR
comp=Z,1μm,20.0s,MS5.6
NCB Newcomb 132.77 16 PFAKE 03 15 40.0 +10
NCB LR LR
comp=Z,996nm,19.0s,MS5.5
ACSO Alum Creek Sta 132.92 26 PFAKE 03 15 40.0 +10
ACSO LR LR
comp=Z,475nm,22.0s,MS5.2
WCI Wyandotte Cave 132.93 31 *e*PKIKP PKPdf 03 15 30.2 +0.3
WCI MLR MLR
comp=Z,605nm,19.0s,MS5.3
LBNH Lisbon 133.10 14 PFAKE 03 15 40.0 +10
LBNH LR LR
comp=Z,2μm,21.0s,MS5.8
WVT Waverly 133.68 34 PFAKE 03 15 40.0 +8.7
WVT LR LR
comp=Z,604nm,21.0s,MS5.3
BINY Binghamton 133.87 18 PFAKE 03 15 40.0 +8.3
BINY LR LR
comp=Z,1μm,21.0s,MS5.7
OXF Oxford 133.92 37 PKIKP PKPdf 03 15 33.2 +1.4
OXF Oxford 133.92 37 *e*PKPdf PKPdf 03 15 33.0 +1.3
OXF LR LR
comp=Z,489nm,20.0s,MS5.2
PLAL Pickwick Lake 134.37 35 *e*PKPdf PKPdf 03 15 33.4 +0.7
PLAL LR LR
comp=Z,631nm,20.0s,MS5.3
SSPA Standing Stone 134.62 21 *e*PKPdf PKPdf 03 15 33.0 -0.1
MCWV Mont Chateau 134.72 24 *e*PKPdf PKPdf 03 15 34.5 +1.2
MCWV LR LR
comp=Z,881nm,19.0s,MS5.5
HRV Harvard--Oak R 134.82 14 PFAKE 03 15 50.0 +17
HRV LR LR
comp=Z,962nm,20.0s,MS5.5
WES Weston 135.00 14 PFAKE 03 15 50.0 +16
WES LR LR
comp=Z,977nm,20.0s,MS5.5
SWET Sewanee 135.40 33 *e*PKPdf PKPdf 03 15 35.0 +0.5
MVL Millersville 135.73 20 *e*PKPdf PKPdf 03 15 35.9 +0.8
ELN Prospectdale 136.38 26 *e*PKPdf PKPdf 03 15 38.5 +2.1
LRAL Lakeview Retre 136.38 36 PFAKE 03 15 50.0 +14
LRAL LR LR
comp=Z,784nm,20.0s,MS5.4
CBN Corbin 136.94 22 *e*PKPdf PKPdf 03 15 39.5 +2.1
CBN LR LR
comp=Z,1μm,21.0s,MS5.6
PLCA Paso Flores 139.08 166 PKhKP 03 15 34.5
comp=Z,1.4nm,0.9s,baz=214,slow=3.2,SNR=2.9
PLCA PKP PKPdf 03 15 41.6 +0.3
comp=Z,2.1nm,0.7s,baz=351,slow=1.7,SNR=3.8
PLCA SKPbc SKPbc 03 19 18.1 +4.0
comp=Z,5.2nm,1.0s,baz=192,slow=3.2,SNR=4.6
PLCA Paso Flores 139.08 166 PKHKP 03 15 34.5
PLCA 03 15 41.7
TRQA Tornquist 143.16 175 *e*PKPdf PKPdf 03 15 47.4 -1.3
TRQA LR LR
comp=Z,1μm,20.0s,MS5.7
DWPF Disney 143.25 36 *e*PKPdf PKPdf 03 15 49.2 +0.3
DWPF LR LR
comp=Z,674nm,20.0s,MS5.4
TEIG Tepich 143.57 53 *e*PKPdf PKPdf 03 15 51.2 +1.8
TEIG LR LR
comp=Z,298nm,21.0s,MS5.0
LMEL Las Melosas 145.61 162 *e*P PKPab 03 15 54.6 +1.1
LMEL Las Melosas 145.61 162 *i*P PKPdf 03 15 54.7 +1.8
SCR San Cristobal 145.68 161⇓*e*P PKPab 03 15 55.4 +1.7
CLCH Cerro Calan 145.93 161 *e*P PKPab 03 15 54.8 +0.1
SOR Soroa 145.98 44 *e*P PKPdf 03 15 56.2 +2.7
BBSR BB Station 146.03 10 PFAKE 03 16 10.0 +16
BBSR LR LR
comp=Z,523nm,19.0s,MS5.3
FCH Farellones 146.07 162 *e*P PKPab 03 15 56.1 +0.9
MDZ Mendoza 146.92 163 *e*P PKPbc 03 16 01.0 +3.9
MDZ *e* 03 16 09.0
CMCH Combarbala 147.80 159⇓*i*P PKPbc 03 16 00.6 +1.1
CFAA Coronel Fontan 148.29 163 PKP PKPdf 03 15 58.8 +1.4
comp=Z,1.5nm,0.5s,baz=229,slow=3.3,SNR=30
CFAA PKPbc PKPbc 03 16 01.4 +0.6
comp=Z,3.4nm,0.5s,baz=175,slow=2.5,SNR=39
MGV Manicaragua 148.50 41 *e*P PKPdf 03 16 00.5 +2.8
CCCC Cccc 150.58 40 *e*P PKPbc 03 16 07.8 +1.2
HLGC Holguin 151.88 38 *e*P PKPbc 03 16 12.8 +3.3
CAM3 Guarapari 154.09 220 *e*P PKPbc 03 16 13.4 -0.9
CAM3 *i* 03 16 17.3
CAM3 *i* 03 16 25.9
CAM4 Nova Friburgo 154.10 215⇓*i*P PKPdf 03 16 09.0 +2.7
CAM4 *i* 03 16 10.7
CAM4 *i* 03 16 18.6
CAM4 *i* 03 16 26.7
CAM4 *i* 03 16 35.1
CAM4 *i* 03 16 43.8
CAM4 *i* 03 16 56.3
CPUP Villa Florida 155.01 182 PKP PKPdf 03 16 09.1 +1.5
comp=Z,1.9nm,0.6s,baz=143,slow=1.0,SNR=8.1
CPUP PKPbc PKPdf 03 16 19.6 +12
comp=Z,4.2nm,0.7s,baz=172,slow=1.9,SNR=5.8
CPUP PKPab PKPab 03 16 31.6 -0.4
comp=Z,11nm,0.8s,baz=183,slow=1.7,SNR=6.6
CPUP Villa Florida 155.01 182 PKIKP PKPdf 03 16 09.1 +1.5
CPUP 03 16 19.6
CPUP 03 16 31.6
CPUP pmax pmax
comp=Z,4.0nm,0.7s
CPUP Villa Florida 155.01 182 *e*PKPdf PKPdf 03 16 10.5 +2.9
CPUP *e*PKPbc PKPdf 03 16 19.2 +12
CPUP *e*PKPab PKPab 03 16 32.4 +0.4
CPUP LR LR
comp=Z,117nm,19.0s,MS4.7
LVC Limon Verde 156.28 155 PKP PKPdf 03 16 11.5 +2.2
comp=Z,4.3nm,1.0s,baz=217,slow=3.6,SNR=2.0
LVC PKPab PKPab 03 16 40.7 +3.3
comp=Z,7.9nm,0.7s,baz=239,slow=8.6,SNR=6.5
LVC Limon Verde 156.28 155 *e*PKPdf PKPdf 03 16 13.2 +3.9
LVC LR LR
comp=Z,1μm,20.0s,MS5.7
RCBR Riachuelo 157.36 258 PFAKE 03 16 20.0 +9.4
RCBR LR LR
comp=Z,1μm,21.0s,MS5.8
ATAH Atahualpa 158.98 106 PKP PKPdf 03 16 14.8 +2.2
comp=Z,10nm,0.8s,baz=106,slow=6.0,SNR=5.9
SJG San Juan 159.24 22 PFAKE 03 16 20.0 +7.1
SJG LR LR
comp=Z,632nm,22.0s,MS5.4
OTAV Otavalo 159.62 86 *e*PKPdf PKPdf 03 16 16.6 +3.2
OTAV LR LR
comp=Z,524nm,20.0s,MS5.4
ARE Arequipa 159.92 140 *e*PKIKP PKPdf 03 16 12.0 -1.7
LPAZ La Paz 162.06 147 PKP PKPdf 03 16 19.2 +3.2
comp=Z,4.3nm,1.0s,baz=28,slow=2.2,SNR=17
LPAZ PKPab PKPab 03 17 06.0 +3.5
comp=Z,4.4nm,0.6s,baz=198,slow=7.1,SNR=9.3
LPAZ La Paz 162.06 147 *e*PKPdf PKPdf 03 16 18.9 +2.9
LPAZ *e*PKPab PKPab 03 17 06.7 +4.2
LPAZ LR LR
comp=Z,606nm,22.0s
BDFB Brasilia 162.54 214 PKP PKPdf 03 16 17.2 +0.7
comp=Z,1.6nm,0.5s,baz=177,slow=6.1,SNR=4.2
BDFB PKPab PKPab 03 17 05.3 +0.7
comp=Z,8.0nm,0.6s,baz=170,slow=2.1,SNR=12
ROSC El Rosal 162.72 69 PKP PKPdf 03 16 18.7 +2.0
comp=Z,4.7nm,0.5s,baz=279,slow=21,SNR=7.0
SDV Santo Domingo 164.00 51 PKP PKPdf 03 16 18.7 +0.8
comp=Z,7.6nm,1.1s,baz=343,slow=3.1,SNR=2.5
SDV Santo Domingo 164.00 51 *e*PKPdf PKPdf 03 16 18.7 +0.9
SDV LR LR
comp=Z,756nm,22.0s
SIV San Ignacio 165.03 169 PKP PKPdf 03 16 20.2 +1.4
comp=Z,2.4nm,0.7s,baz=211,slow=1.8,SNR=18
SIV PKPab PKPab 03 17 16.5 +1.0
comp=Z,2.0nm,0.6s,baz=53,slow=5.1,SNR=4.1
SAML Samuel 170.81 147 *e*PKPdf PKPdf 03 16 23.6 +0.9
SAML *e*PKPab PKPab 03 17 42.7 +1.7
SAML LR LR
comp=Z,938nm,22.0s

*NEIC **16** 03:00:44.5, 1787N×6947W, h105km, MD3.8(RSPR), After RSPR.*

RSPR 16 03:00:44.5, 1787N×6947W, h105km±10km, MD3.8/7, MD3.8/7, 6C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**2.25**	**86**⇑	*e*P	Pn	03 01 19.6	-0.8
CRPR				*e*S	Sn	03 01 48.8	+0.7
MGP	**Maguayo**	**2.27**	**86**⇑	*i*P	Pn	03 01 20.1	-0.7
LSP	**Las Mesas**	**2.29**	**82**⇑	*e*P	Pn	03 01 21.0	0.0
LSP				*e*S	Sn	03 01 48.9	0.0
AOPR	**Arecibo Observ**	**2.63**	**79**⇑	*e*P	Pn	03 01 25.4	0.0
AOPR				*e*S	Sn	03 01 57.0	+0.1
OBIP	**Obispado Ponce**	**2.73**	**86**⇑	*e*P	Pn	03 01 26.7	0.0
OBIP				*e*S	Sn	03 01 59.4	0.0
ICM	**Isla Caja Muer**	**2.81**	**89**	*e*S	Sn	03 02 01.1	0.0
SJG	**San Juan**	**3.17**	**85**	*e*S	Sn	03 02 10.7	+1.0
SJG	**San Juan**	**3.17**	**85**	*e*S	Sn	03 02 09.6	-0.1
HUMP	**Col San Antoni**	**3.46**	**85**⇑	*e*P	Pn	03 01 37.1	+0.7
HUMP				*e*S	Sn	03 02 16.7	+0.1
CBYP	**Canovanas**	**3.46**	**83**	*e*S	Sn	03 02 16.6	0.0
MTP	**Monte Pirata**	**3.73**	**86**⇑	*e*P	Pn	03 01 41.0	+0.9
MTP				*e*S	Sn	03 02 24.4	+1.2

CASC 16 03:01:10.9±2.4, 1313N×8928W, h34km±5km, MD4.0, ML4.0, 6C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.56**	**5**	*e*P	x	03 01 21.5	
SNET				*e*S	x	03 01 31.0	
BOQS	**Boqueron**	**0.61**	**360**⇑	*i*P	x	03 01 29.5	
BOQS				*e*S	x	03 01 40.1	
SNVI	**San Vicente**	**0.65**	**41**⇓	*i*P	x	03 01 29.5	
SNVI				*e*S	x	03 01 39.2	
SBLS	**San Blas**	**0.79**	**335**⇓	*e*P	x	03 01 31.8	
SBLS				*e*S	x	03 01 43.7	
SNJE	**San Jose**	**0.81**	**337**⇓	*e*P	x	03 01 32.0	
SNJE				*e*S	x	03 01 44.8	
RTR	**El Retiro**	**0.85**	**335**⇓	*e*P	x	03 01 32.7	
RTR				*e*S	x	03 01 44.6	
BLLM	**Bellamira**	**1.06**	**73**⇑	*e*P	x	03 01 35.1	
BLLM				*e*S	x	03 01 49.5	
MTO2	**Montecristo 2**	**1.27**	**356**⇑	*e*P	x	03 01 37.7	
MTO2				*e*S	x	03 01 56.4	
CNCH	**Conchagua**	**1.42**	**84**⇓	*e*P	x	03 01 40.0	
CNCH				*e*S	x	03 01 57.3	
TER	**Terranova**	**1.80**	**311**	*e*P	Pn	03 01 40.1	+0.7
TER				*e*S	Sn	03 02 02.9	+1.8
FUG	**Fuego 3**	**2.01**	**311**⇓	*e*P	Pn	03 01 43.2	+0.9
CRIN	**San Cristobal**	**2.21**	**101**	*e*P	Pn	03 01 45.9	+0.7
CRIN				*e*S	Sn	03 02 12.5	+1.1
TP2	**Tecpan 2**	**2.36**	**314**⇑	*e*P	Pn	03 01 49.2	+2.0
LEON	**Leon**	**2.43**	**107**	*e*P	Pn	03 01 47.5	-0.7
JAT	**Jato**	**2.58**	**298**⇓	*e*P	Pn	03 01 50.5	+0.3
JAT				*e*S	Sn	03 02 21.7	+1.3
CNGN	**Cerro Negro**	**2.59**	**104**	*e*P	Pn	03 01 51.1	+0.7
CNGN				*e*S	Sn	03 02 21.1	+0.5
MIRN	**Miramar**	**2.59**	**105**	*e*P	Pn	03 01 50.2	-0.2
MOMJ	**Momotombo**	**2.76**	**105**⇓	*e*P	Pn	03 01 53.4	+0.6
COPN	**Copaltepe**	**2.79**	**109**	*e*P	Pn	03 01 52.7	-0.4
APYN	**Apoyeque**	**2.99**	**107**⇑	*e*P	Pn	03 01 56.4	+0.5
XAVN	**Gruta Xavier**	**3.04**	**108**	*e*P	Pn	03 01 55.1	-1.5
XAVN				*e*S	Sn	03 02 32.5	+0.7
MGAN	**Managua**	**3.11**	**108**	*e*P	Pn	03 01 56.5	-1.1
MGAN			⇑	*i*		03 02 41.4	
comp=N,294nm,0.5s							
TICN	**Ticuantepe**	**3.17**	**110**	*e*P	Pn	03 01 59.6	+1.4
TICN				*e*S	Sn	03 02 37.4	+2.6
APON	**Apoyo**	**3.36**	**111**⇓	*e*P	Pn	03 02 01.9	+1.0
SSNN	**San Juan del S**	**3.82**	**118**⇓	*e*P	Pn	03 02 09.6	+2.4
CONN	**Concepcion**	**3.89**	**113**	*e*P	Pn	03 02 08.7	+0.4

*IDC **16** 03:18:05.5±0.7, 135N×122.12E, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.3/20, mbtmp4.4/11, ML4.8/1, Error ellipse: s-maj=31.5km s-min=13.9km az=70.0*
*ISCJB **16** 03:18:08.5±0.3, 123N±005×12193E±008, h32km, mb4.6/29, MS4.6/3, Error ellipse: s-maj=12.3km s-min=5.7km az=124.1*
*MOS **16** 03:18:08.8±1.0, 134N×122.14E, h33km, mb5.0/10, Error ellipse: s-maj=21.0km s-min=10.1km az=117.1*
*BJI **16** 03:18:09.0, 084N×122.10E, h56km, mB5.5, mb4.7, Ms4.9, Msz4.5*
*NEIC **16** 03:18:10.1±0.3, 130N×12203E, mb4.8/14, Error ellipse: s-maj=10.3km s-min=5.1km az=56.0*

ISC 16 03:18:10.9±0.3, 124N±005×12200E±008, h34km, h34km±1.0km; pP-P, n57, σ0s99/52, mb4.6/29, MS4.6/3, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**5.11**	**306**	P	**Pn**	**03 19 21.7**	**-3.3**
KKM	**Kota Kinabalu**	**7.49**	**310**	P	**Pn**	**03 19 56.3**	**-1.3**
KKM	**Kota Kinabalu**	**7.49**	**310**	*e*Pn	**Pn**	**03 19 56.0**	**-1.7**
KSM	**Kuching**	**11.69**	**271**	*e*Pn	**Pn**	**03 20 54.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**19.55**	**170**	*e*P	**Pn**	**03 22 36.4**	**-0.7**
41nm,1.2s							
FITZ	**Fitzroy Crossi**	**19.55**	**170**	P	**Pn**	**03 22 36.8**	**-0.3**
2.1nm,0.3s,baz=1.3,slow=8.9,SNR=71							
MBWA	**Marble Bar**	**22.37**	**186**	*e*P	**P**	**03 23 05.3**	**-0.7**
31nm,1.3s,mb4.6							
PSI	**Prapat**	**23.11**	**274**	P	**P**	**03 23 15.5**	**+1.7**
1.8nm,0.3s,mb3.9,baz=84,slow=4.5,SNR=5.2							
WRA	**Warramunga Arr**	**24.28**	**151**	P	**P**	**03 23 24.9**	**-0.1**
17nm,0.9s,mb4.5,baz=327,slow=10,SNR=64							
WB2	**Warramunga Arr**	**24.29**	**151**	*e*P	**P**	**03 23 25.9**	**+0.9**
PMG	**Port Moresby**	**27.20**	**113**	*e*P	**P**	**03 23 50.2**	**-1.2**
PMG				pmax	pmax		
comp=Z,37nm,1.1s							
PMG	**Port Moresby**	**27.20**	**113**	*e*P	**P**	**03 23 50.2**	**-1.2**
comp=Z,37nm,1.1s,mb4.8							
AS31	**Alice Springs**	**27.33**	**156**	*e*P	**P**	**03 23 53.1**	**+0.6**
ASPA	**Alice Springs**	**27.33**	**156**	*e*P	**P**	**03 23 53.1**	**+0.6**
ASAR	**Alice Springs**	**27.33**	**156**	P	**P**	**03 23 53.2**	**+0.7**
comp=Z,3.9nm,0.5s,mb4.2,baz=344,slow=14,SNR=53							
KMI	**Kunming**	**30.16**	**323**	P	**P**	**03 24 19.4**	**+1.8**
KMI				AP	pP	03 24 28.8	+1.4
KMI				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.8							
NJ2	**Nanjing**	**30.79**	**355**	*e*P	**P**	**03 24 24.8**	**+1.6**
NJ2				AP	pP	03 24 33.9	+0.9
NJ2				XP	sP	03 24 39.8	+2.7
NJ2				PP	PP	03 25 25.6	-7.4
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
NJ2				AMB	AMB		
comp=Z,660nm,11.9s							
NJ2				LR	LR		
comp=N,2μm,15.4s,MS5.0							
NJ2				LR	LR		
comp=E,2μm,18.4s,MS5.0							
NJ2				LR	LR		
comp=Z,1μm,17.1s,MS4.6							
CTAO	**Charters Tower**	**31.86**	**133**	*e*P	**P**	**03 24 32.8**	**+0.2**
CTAO				pmax	pmax		
comp=Z,41nm,1.3s,mb5.1							
CTAO	**Charters Tower**	**31.86**	**133**	*e*P	**P**	**03 24 32.8**	**+0.2**
comp=Z,41nm,1.3s,mb5.1							
FORT	**Forrest**	**32.36**	**170**	*e*P	**P**	**03 24 36.6**	**-0.5**
comp=Z,28nm,0.7s,mb5.2							
CD2	**Chengdu**	**34.20**	**331**	*e*P	**P**	**03 24 53.0**	**-0.1**
CD2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.8							
NWAO	**Narrogin (SRO)**	**34.28**	**187**	P	**P**	**03 24 55.4**	**+1.6**
comp=Z,10nm,1.1s,mb4.7,baz=317,slow=11,SNR=5.0							
STKA	**Stephens Creek**	**37.81**	**152**⇑	*i*P	**P**	**03 25 23.0**	**-1.0**
comp=Z,13nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**37.81**	**152**	P	**P**	**03 25 23.0**	**-1.0**
comp=Z,18nm,0.9s,mb4.8,baz=322,slow=8.0,SNR=26							
MJAR	**Matsushiro Arr**	**38.20**	**21**	P	**P**	**03 25 25.9**	**-1.3**
comp=Z,3.3nm,0.9s,mb4.0,baz=188,slow=9.3,SNR=5.6							
HHC	**Hu-ho-hao-te**	**40.54**	**348**	*e*P	**P**	**03 25 47.8**	**+1.0**
HHC				AP	pP	03 25 57.5	+0.7
HHC				PP	PP	03 27 25.9	+5.4
HHC				PCP	PcP	03 27 47.9	-0.8
HHC				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.5							
HHC				AMB	AMB		
comp=Z,1μm,8.9s							
HHC				LR	LR		
comp=N,620nm,11.9s,MS4.8							
HHC				LR	LR		
comp=E,580nm,15.5s,MS4.8							
HHC				LR	LR		
comp=Z,490nm,15.5s,MS4.5							
JIRN	**Jiri**	**43.19**	**311**	*e*P	**P**	**03 26 09.0**	**+0.6**
comp=Z,28nm,0.8s,mb5.0							
GUN	**Gumba**	**43.55**	**311**	*e*P	**P**	**03 26 11.8**	**+0.4**
comp=Z,40nm,0.8s,mb5.2							
MDJ	**Mudanjiang**	**43.71**	**8**	P	**P**	**03 26 13.3**	**+0.6**
MDJ				AMB	AMB		
comp=Z,2μm,9.1s							
PKI	**Pulchoki**	**43.74**	**310**	*e*P	**P**	**03 26 12.7**	**-0.1**
KKN	**Kakani**	**43.95**	**310**	*e*P	**P**	**03 26 14.5**	**0.0**
comp=Z,22nm,0.9s,mb4.9							
KKN	**Kakani**	**43.95**	**310**	*e*P	**P**	**03 26 14.5**	**0.0**
KKN				pmax	pmax		
comp=Z,22nm,0.9s,mb4.9							
DMN	**Daman**	**43.99**	**310**	*e*P	**P**	**03 26 15.1**	**+0.2**
ULN	**Ulaanbaatar**	**48.22**	**347**	*e*P	**P**	**03 26 48.4**	**+0.3**
ULN				pmax	pmax		
comp=Z,13nm,1.0s,mb4.9							
ULN	**Ulaanbaatar**	**48.22**	**347**	*e*P	**P**	**03 26 48.4**	**+0.3**
comp=Z,13nm,1.0s,mb4.9							
SONM	**Songino Array**	**48.34**	**346**	P	**P**	**03 26 49.1**	**0.0**
comp=Z,8.5nm,0.8s,mb4.8,baz=164,slow=8.8,SNR=28							
ZAK	**Zakamensk**	**51.48**	**345**	*e*P	**P**	**03 27 13.1**	**+0.1**
ZAK				pmax	pmax		
comp=Z,13nm,1.7s,mb4.6							
WMQ	**Urumqi**	**52.22**	**329**	*e*P	**P**	**03 27 17.3**	**-1.2**
WMQ				LR	LR		
comp=N,190nm,19.0s,MS4.4							
WMQ				LR	LR		
comp=E,290nm,21.0s,MS4.4							
WMQ				LR	LR		
comp=Z,370nm,22.0s,MS4.4							
TLY	**Talaya**	**52.58**	**346**	*e*P	**P**	**03 27 22.7**	**+1.6**
TLY				*e*	pP	03 27 32.5	+1.1
TLY				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
MOY	**Mondy**	**53.27**	**344**	*e*P	**P**	**03 27 27.7**	**+1.5**
MOY				pmax	pmax		
comp=Z,27nm,2.9s,mb4.7							
MKAR	**Makanchi Array**	**57.04**	**328**	P	**P**	**03 27 53.6**	**+0.2**
comp=Z,1.0nm,0.7s,mb4.0,baz=125,slow=7.9,SNR=8.2							
BVAR	**Borovoye Array**	**66.91**	**329**	P	**P**	**03 28 58.0**	**-1.7**
comp=Z,1.6nm,0.8s,mb4.1,baz=134,slow=8.5,SNR=5.8							
CHKZ	**Chkalovo**	**67.14**	**330**	*e*P	**P**	**03 29 00.2**	**-1.0**
CHKZ				*e*PP	pP	03 29 09.3	-2.3
CHKZ				pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.1							
CHKZ	**Chkalovo**	**67.14**	**330**	*e*P	**P**	**03 29 00.2**	**-1.0**
comp=Z,1.7nm,1.0s,mb4.0							
CHKZ				*e*pP	pP	03 29 09.3	-2.4
ZRNK	**Zerenda**	**67.59**	**328**	*e*P	**P**	**03 29 03.4**	**-0.6**
ZRNK				*e*PP	pP	03 29 14.5	0.0
ZRNK				pmax	pmax		
comp=Z,11nm,1.3s,mb4.7							
ZRNK	**Zerenda**	**67.59**	**328**	*e*P	**P**	**03 29 03.4**	**-0.6**
comp=Z,11nm,1.3s,mb4.7							
ZRNK				*e*pP	pP	03 29 14.5	0.0
DRV	**Dumont d'Urvil**	**68.96**	**172**	R		03 29 00.0	
TIXI	**Tiksi**	**70.44**	**2**	*e*P	**P**	**03 29 20.0**	**-1.7**

TIXI pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
VNDA Vanda 81.61 172 P **P** 03 30 24.8 -0.5
comp=Z,1.6nm,0.9s,mb3.9,baz=316,slow=3.2,SNR=5.9
VNDA Vanda 81.61 172 P **P** 03 30 24.8 -0.5
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA Vanda 81.61 172 *e*P **P** 03 30 24.2 -1.1
comp=Z,1.7nm,0.9s,mb4.0
MCK McKinley 88.48 26 *e*P **P** 03 30 59.4 -0.4
MCK *e**PP pP 03 31 09.7 -0.9
MCK pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
MCK McKinley 88.48 26 *e*P **P** 03 30 59.4 -0.3
comp=Z,3.2nm,1.0s,mb4.5
MCK *e*pP pP 03 31 09.7 -0.9
TORD Torodi Ar. Bea 119.11 286 PKP PKPdf 03 36 56.2 0.0
comp=Z,0.6nm,0.7s,baz=54,slow=1.5,SNR=7.3
TORD Torodi Ar. Bea 119.11 286 PKP PKPdf 03 36 56.2 0.0
LPAZ La Paz 162.02 147 PKPab PKPab 03 38 58.3 +3.4
comp=Z,1.2nm,0.7s,baz=207,slow=3.9,SNR=7.0
BDFB Brasilia 162.62 214 PKPab PKPab 03 38 57.9 +0.3
comp=Z,3.4nm,1.1s,baz=162,slow=5.6,SNR=5.3

*IDC **16** 03:21:08.3±0.5, 094N×12167E, h0km, mb4.4/16, mb1 4.5/16, mb1mx4.4/22, mbtmp4.4/16, Error ellipse: s-maj=27.3km s-min=11.1km az=56.0*
*ISCJB **16** 03:21:10.6±2.0, 104N±005×12181E±008, h23km±14km, mb4.7/38, MS4.2/4, Error ellipse: s-maj=14.6km s-min=6.1km az=123.6*
*MOS **16** 03:21:11.6±1.1, 108N×12184E, h33km, mb5.0/11, Error ellipse: s-maj=18.9km s-min=9.2km az=117.3*
*BJI **16** 03:21:15.6, 085N×12205E, h83km, mB5.3, mb4.8, Ms4.6, Msz4.3*
*NEIC **16** 03:21:17.0±1.6, 099N×12170E, h66km±15km, mb4.8/14, Error ellipse: s-maj=15.2km s-min=6.1km az=57.0*
ISC 16 03:21:14.0±2.0, 102N±005×12180E±008, h32km±14km, h50km±3.0km: pP-P, n83, σ1°23/81, mb4.7/38, MS4.2/4, 13C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**5.10**	**310**	P	**Pn**	**03 22 26.6**	**-1.5**
KKM	**Kota Kinabalu**	**7.49**	**312**	P	**Pn**	**03 23 01.8**	**+0.8**
KKM	**Kota Kinabalu**	**7.49**	**312**	*e*Pn	**Pn**	**03 23 01.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.37**	**169**	↑*i*P	**Pn**	**03 25 38.6**	**+0.4**
21nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.37**	**169**	P	**Pn**	**03 25 37.9**	**-0.3**
3.6nm,0.3s,baz=4.5,slow=7.7,SNR=40							
KULM	**Kulim**	**21.54**	**282**	*e*P	**P**	**03 25 59.6**	**-0.9**
MBWA	**Marble Bar**	**22.13**	**185**	*e*P	**P**	**03 26 06.8**	**0.0**
25nm,1.4s,mb4.5							
PSI	**Prapat**	**22.93**	**275**	P	**P**	**03 26 14.6**	**-0.7**
8.5nm,0.7s,mb4.3,baz=115,slow=7.7,SNR=8.5							
PSI	**Prapat**	**22.93**	**275**	P	**P**	**03 26 14.6**	**-0.7**
WRA	**Warramunga Arr**	**24.18**	**150**	P	**P**	**03 26 27.3**	**-0.1**
13nm,0.4s,mb4.7,baz=338,slow=8.8,SNR=38							
WRA				PcP	PcP	03 30 07.2	-0.3
0.8nm,0.4s,baz=325,slow=2.2,SNR=8.1							
WB2	**Warramunga Arr**	**24.19**	**150**	*e*P	**P**	**03 26 27.6**	**+0.1**
AS31	**Alice Springs**	**27.21**	**155**	*e*P	**P**	**03 26 55.3**	**+0.5**
ASPA	**Alice Springs**	**27.21**	**155**	*e*P	**P**	**03 26 55.3**	**+0.5**
ASAR	**Alice Springs**	**27.21**	**155**	P	**P**	**03 26 55.1**	**+0.3**
8.0nm,0.5s,mb4.5,baz=344,slow=14,SNR=48							
ASAR				PcP	PcP	03 30 14.4	+0.1
2.1nm,0.3s,baz=347,slow=2.1,SNR=12							
ASAR				S	**S**	**03 31 32.9**	**+1.3**
0.7nm,0.7s,baz=339,slow=18,SNR=5.0							
ASAR				ScP	ScP	03 33 56.6	+4.3
0.7nm,0.8s,baz=342,slow=2.6,SNR=2.8							
ASAR	**Alice Springs**	**27.21**	**155**	P	**P**	**03 26 55.1**	**+0.3**
ASAR						03 30 14.5	
ASAR				S	**S**	**03 31 32.9**	**+1.3**
PMG	**Port Moresby**	**27.29**	**113**	P	**P**	**03 26 57.0**	**+1.4**
11nm,0.6s,mb4.6,baz=292,slow=11,SNR=5.3							
SSE	**Sheshan**	**29.92**	**359**	*e*P	**P**	**03 27 17.1**	**-1.9**
SSE				AMB	AMB		
comp=Z,20nm,0.6s,mb5.0							
SSE				AMB	AMB		
comp=Z,700nm,12.0s							
KMI	**Kunming**	**30.22**	**324**	P	**P**	**03 27 23.8**	**+2.2**
KMI				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
NJ2	**Nanjing**	**31.00**	**355**	*e*P	**P**	**03 27 30.3**	**+1.9**
NJ2				AP	pP	03 27 44.9	+7.2
NJ2				PP	PP	03 28 31.9	-6.8
NJ2				S	**S**	**03 32 31.0**	**-0.1**
NJ2				AMB	AMB		
comp=Z,20nm,1.3s,mb4.8							
NJ2				AMB	AMB		
comp=Z,520nm,10.1s							
NJ2				LR	LR		
comp=N,2μm,18.8s,MS4.8							
NJ2				LR	LR		
comp=E,1μm,16.6s,MS4.8							
NJ2				LR	LR		
comp=Z,560nm,18.7s,MS4.2							
FORT	**Forrest**	**32.17**	**170**	*e*P	**P**	**03 27 39.0**	**+0.2**
comp=Z,42nm,0.7s,mb5.4							
NWAO	**Narrogin (SRO)**	**34.03**	**187**	P	**P**	**03 27 54.5**	**-0.5**
comp=Z,7.1nm,0.8s,mb4.6,baz=36,slow=15,SNR=4.9							
CD2	**Chengdu**	**34.30**	**332**	*e*P	**P**	**03 27 58.3**	**+1.0**
CD2				AP	pP	03 28 13.3	+6.6
CD2				PP	PP	03 29 15.4	+0.1
CD2				S	**S**	**03 33 21.0**	**-1.5**
CD2				SS	SS	03 35 34.4	-17
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
CD2				AMB	AMB		
comp=Z,40nm,6.2s							
CD2				LR	LR		
comp=E,90nm,16.4s							
CD2				LR	LR		
comp=Z,120nm,18.2s,MS3.7							
STKA	**Stephens Creek**	**37.71**	**152**	*e*P	**P**	**03 28 25.0**	**-1.5**
comp=Z,13nm,0.7s,mb4.8							
STKA	**Stephens Creek**	**37.71**	**152**	P	**P**	**03 28 25.2**	**-1.3**
comp=Z,17nm,0.7s,mb4.9,baz=326,slow=8.9,SNR=20							
HHC	**Hu-ho-hao-te**	**40.72**	**348**	*e*P	**P**	**03 28 53.8**	**+2.1**
HHC				AP	pP	03 29 07.3	+6.1
HHC				PP	PP	03 30 32.3	+6.5
HHC				S	**S**	**03 35 01.9**	**+2.0**
HHC				SS	SS	03 37 59.4	-1.8
HHC				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.7							
HHC				AMB	AMB		
comp=Z,540nm,5.2s							
HHC				LR	LR		
comp=N,440nm,15.5s,MS4.5							
HHC				LR	LR		
comp=E,290nm,14.3s,MS4.5							
HHC				LR	LR		
comp=Z,340nm,15.5s,MS4.3							
GTA	**Gaotai**	**43.16**	**335**	*e*P	**P**	**03 29 12.3**	**+0.7**
JIRN	**Jiri**	**43.19**	**311**	*e*P	**P**	**03 29 12.6**	**+0.8**
comp=Z,16nm,0.4s,mb5.1							
GUN	**Gumba**	**43.55**	**311**	*e*P	**P**	**03 29 15.8**	**+1.1**
comp=Z,49nm,0.7s,mb5.3							
PKI	**Pulchoki**	**43.73**	**310**	*e*P	**P**	**03 29 16.8**	**+0.6**
comp=Z,14nm,0.5s,mb4.9							
PKI	**Pulchoki**	**43.73**	**310**	*e*P	**P**	**03 29 16.8**	**+0.6**
PKI				pmax	pmax		
comp=Z,14nm,0.5s,mb5.0							
KKN	**Kakani**	**43.94**	**311**	*e*P	**P**	**03 29 18.8**	**+0.9**
MDJ	**Mudanjiang**	**43.96**	**8**	P	**P**	**03 29 16.3**	**-1.7**
MDJ				AMB	AMB		
comp=Z,70nm,4.0s							
DMN	**Daman**	**43.98**	**310**	*e*P	**P**	**03 29 18.8**	**+0.6**
comp=Z,30nm,0.9s,mb5.0							
HIA	**Hailar**	**48.10**	**358**	↑*i*P	**P**	**03 29 51.1**	**+0.5**
ULN	**Ulaanbaatar**	**48.39**	**347**	↑*e*P	**P**	**03 29 54.0**	**+1.1**
ULN	**Ulaanbaatar**	**48.39**	**347**	*e*P	**P**	**03 29 52.8**	**0.0**
comp=Z,2.3nm,0.6s,mb4.4							
SONM	**Songino Array**	**48.51**	**346**	P	**P**	**03 29 54.4**	**+0.5**
comp=Z,2.0nm,0.7s,mb4.3,baz=165,slow=8.4,SNR=6.6							
SONM				PcP	PcP	03 31 18.5	-1.0
comp=Z,1.2nm,0.8s,baz=170,slow=5.4,SNR=3.0							
DZM	**Mont Dzumac**	**49.21**	**121**	P	**P**	**03 30 00.9**	**+1.7**
comp=Z,7.4nm,0.7s,mb4.8,baz=107,slow=19,SNR=5.1							
YSS	**Yuzh-Sakhalins**	**49.27**	**19**	↑*i*P	**P**	**03 29 57.4**	**-2.2**
YSS				pmax	pmax		
comp=Z,79nm,2.4s,mb5.3							
WMQ	**Urumqi**	**52.31**	**329**	*e*P	**P**	**03 30 21.8**	**-0.7**
WMQ				LR	LR		
comp=N,200nm,17.0s,MS4.3							
WMQ				LR	LR		
comp=E,130nm,19.0s,MS4.3							
WMQ				LR	LR		
comp=Z,220nm,19.0s,MS4.2							
MKAR	**Makanchi Array**	**57.13**	**329**	P	**P**	**03 30 57.4**	**0.0**
comp=Z,2.9nm,0.5s,mb4.5,baz=126,slow=8.4,SNR=16							
MKAR				PcP	PcP	03 31 50.8	-1.2
comp=Z,3.2nm,0.8s,baz=115,slow=5.5,SNR=6.3							
MKAR	**Makanchi Array**	**57.13**	**329**	P	**P**	**03 30 57.4**	**0.0**
MKAR				PcP	PcP	03 31 50.8	-1.2
KZA	**Kyzart**	**58.42**	**321**	P	**P**	**03 31 08.6**	**+2.0**
SNR=7.0							
TKM2	**Tokmak 2**	**58.65**	**322**	P	**P**	**03 31 09.2**	**+1.1**
SNR=6.7							
KBK	**Karagaybulak**	**58.92**	**321**	P	**P**	**03 31 11.7**	**+1.7**
SNR=6.6							
UCH	**Uchtor**	**58.97**	**320**	P	**P**	**03 31 12.3**	**+2.0**
SNR=5.8							
AAK	**Ala-Archa**	**59.19**	**321**	*c i*P	**P**	**03 31 12.1**	**+0.2**
AAK				pmax	pmax		
comp=Z,7.0nm,1.5s,mb4.5							
EKS2	**Erkin-Say**	**59.66**	**321**	P	**P**	**03 31 16.6**	**+1.6**
SNR=5.3							
YAK	**Yakutsk**	**61.15**	**4**	*c i*P	**P**	**03 31 23.9**	**-1.4**
YAK				pmax	pmax		
comp=Z,11nm,0.4s,mb5.3							
KURK	**Kurchatov**	**61.51**	**330**	*c i*P	**P**	**03 31 27.4**	**-0.3**
MA2	**Magadan**	**62.59**	**16**	*e*P	**P**	**03 31 34.5**	**-0.5**
MA2				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.9							
MA2	**Magadan**	**62.59**	**16**	*e*P	**P**	**03 31 34.5**	**-0.5**
comp=Z,6.5nm,0.6s,mb4.9							
WSAR	**Wadi Sarin**	**65.04**	**295**	P	**P**	**03 31 50.4**	**-0.7**
comp=Z,4.0nm,0.7s,mb4.6,baz=99,slow=5.5,SNR=5.0							
BVAR	**Borovoye Array**	**67.00**	**329**	P	**P**	**03 32 03.0**	**-0.7**
comp=Z,1.6nm,0.6s,mb4.2,baz=147,slow=8.8,SNR=7.6							
CHKZ	**Chkalovo**	**67.23**	**330**	*e*P	**P**	**03 32 04.1**	**-1.1**
CHKZ				pmax	pmax		
comp=Z,6.0nm,1.4s,mb4.4							
CHKZ	**Chkalovo**	**67.23**	**330**	*e*P	**P**	**03 32 04.1**	**-1.1**
comp=Z,6.4nm,1.4s,mb4.5							
ZRNK	**Zerenda**	**67.68**	**329**	*e*P	**P**	**03 32 07.1**	**-0.9**
ZRNK				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
ZRNK	**Zerenda**	**67.68**	**329**	*e*P	**P**	**03 32 07.1**	**-0.9**
comp=Z,6.4nm,1.0s,mb4.6							
TIXI	**Tiksi**	**70.67**	**2**	↑*i*P	**P**	**03 32 23.9**	**-2.6**
TIXI				*e**PP	pP	03 32 37.1	+0.6
BILL	**Bilibino**	**73.46**	**16**	↓*e*P	**P**	**03 32 55.1**	**+12**
BILL				*e*		03 35 26.5	
BILL				*e*S	S	03 42 10.5	0.0
BILL				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
ARU	**Arti**	**74.65**	**329**	↑*i*P	**P**	**03 32 48.8**	**-1.4**
ARU				*e*		03 35 31.0	
ARU				*e*PPP		03 37 15.9	
ARU				*e*S	S	03 42 22.8	-1.0
ARU				*e*SS	SS	03 47 15.7	+4.4
ARU				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.7							
VNDA Vanda 81.41 172 *e*P **P** 03 33 25.7 -2.0
comp=Z,1.2nm,0.6s,mb4.0,baz=331,slow=5.6,SNR=4.4
VNDA Vanda 81.41 172 *e*P **P** 03 33 25.7 -2.0
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 81.41 172 *e*P **P** 03 33 25.7 -2.0
comp=Z,1.6nm,0.8s,mb4.0
KIV Kislovodsk 81.46 314 ↑*e*P **P** 03 33 23.8 -4.1
KIV *e*S S 03 43 35.1 -2.0
KIV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KMBO Kilima Mbogo 84.57 269 P **P** 03 33 44.2 +0.2
comp=Z,1.4nm,0.6s,mb4.3,baz=66,slow=5.6,SNR=4.8
KMBO Kilima Mbogo 84.57 269 ↑*e*P **P** 03 33 44.9 +0.9
KMBO Kilima Mbogo 84.57 269 *e*P **P** 03 33 43.7 -0.3
comp=Z,2.6nm,0.9s,mb4.4
OBN Obninsk 86.44 325 ↑*e*P **P** 03 33 51.4 -1.9
OBN *e* 03 37 14.6
OBN *e*S 03 44 15.0
OBN pmax pmax
comp=Z,15nm,1.2s,mb5.1
BRTR Keskin Array B 87.94 310 P **P** 03 34 00.0 -0.6
comp=Z,0.6nm,0.8s,mb3.9,baz=121,slow=5.7,SNR=4.2
SYO Syowa Base 88.14 201 ↓*e*SP sP 03 34 15.8 +0.3
JOF Joensuu 89.33 333 *e*p **P** 03 34 02.8 -4.3
AKASG Malin Array Be 90.86 321 P **P** 03 34 12.4 -1.9
comp=Z,0.2nm,0.3s,mb4.0,baz=69,slow=5.0,SNR=5.0
AKASG Malin Array Be 90.86 321 *i* P **P** 03 34 13.8 -0.5
KAF Kangasniemi 91.69 332 *e*p **P** 03 34 14.3 -3.8
FINES FINESS Array B 91.86 331 P **P** 03 34 16.4 -2.5
comp=Z,1.5nm,0.7s,mb4.5,baz=48,slow=2.8,SNR=6.8
FINES FINESS Array B 91.86 331 P **P** 03 34 16.4 -2.5
TORD Torodi Ar. Bea 118.98 286 PKP PKPdf 03 39 58.6 -0.7
comp=Z,1.3nm,0.6s,baz=76,slow=1.4,SNR=20
ULM Lac du Bonnet 119.64 27 PKP PKPdf 03 39 58.7 -1.8
comp=Z,0.9nm,0.6s,baz=162,slow=20,SNR=3.1
ULM Lac du Bonnet 119.64 27 PKP PKPdf 03 39 58.7 -1.9
ANMO Albuquerque 122.46 47 ↑*i*PKIKP PKPdf 03 40 07.5 +1.5
LPAZ La Paz 161.94 148 PKPab PKPab 03 41 59.5 +1.5
comp=Z,2.3nm,0.6s,baz=196,slow=4.3,SNR=18
BDFB Brasilia 162.33 214 PKPab PKPab 03 42 00.2 +0.5
comp=Z,1.9nm,0.6s,baz=177,slow=0.5,SNR=5.0

CASC 16 03:34:37.0±1.7, 843N×8288W, h6km±6km, MD3.6, 1C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.43**	**89**	↓*i*P	Pg	03 34 44.4	-0.9
DVD				*e*S	Sg	03 34 52.6	+1.8
BRU	**Baru**	**0.49**	**40**	↓*i*P	Pg	03 34 47.5	+1.0
BRU				*e*S	Sg	03 34 56.4	+3.5
CNI	**Changuinola**	**1.05**	**20**	↓*i*P	Pg	03 34 56.4	-0.7
CNI				*e*S	Sg	03 35 10.6	0.0
BUS	**Buena Vista**	**1.42**	**322**	*e*P	Pn	03 35 02.8	-0.5
BUS				*e*S	Sb	03 35 23.0	+0.9
URSC	**Ursca**	**1.65**	**328**	*e*P	Pn	03 35 06.1	-0.5
URSC				*e*S	Sn	03 35 28.7	+0.5
PRS1	**Puriscal**	**2.09**	**318**	*e*P	Pn	03 35 12.4	-0.2
PRS1				*e*S	Sn	03 35 39.6	+0.6
AZU	**Azuero**	**2.66**	**104**	↓*e*P	Pn	03 35 22.8	+2.4
AZU				*e*S	Sn	03 35 53.8	+0.8
PTP	**Ponta Puerca**	**19.41**	**58**	↑*i*P		03 34 41.2	
PTP				*e*S		03 34 46.3	

ISC 16 03:35:13.4±1.0, 3819N±006×2717E±007, h15km±11km, n6, σ0°30/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.22**	**333**	*i* PG	**Pg**	**03 35 18.1**	**-0.2**
BLCB				*i* SG	**Sg**	**03 35 21.5**	**-0.2**
IZM	**Izmir**	**0.22**	**19**	PG	**Pg**	**03 35 18.7**	**+0.4**
URLA	**Izmir**	**0.48**	**291**	*i* P	**Pg**	**03 35 22.6**	**-0.4**
URLA				*i* S	**Sg**	**03 35 29.8**	**+0.3**
AYDN	**Tasoluk**	**0.77**	**133**	*i* P	**Pg**	**03 35 28.6**	**+0.2**
AYDN				*i* S	**Sg**	**03 35 38.4**	**-0.2**
AKS	**Akhisar**	**0.85**	**36**	PG	**Pg**	**03 35 30.0**	**+0.1**
MANT	**Manisa**	**1.13**	**74**	*i* P	**Pb**	**03 35 35.0**	**+0.4**
MANT				*i* S	**Sb**	**03 35 48.7**	**-0.4**

*NEIC **16** 03:50:55.0, 1566N×9878W, h22km, MD3.8(MEX), After MEX.*
MEX 16 03:50:56.1±0.7, 1574N×9879W, h22km±29km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.56**	**316**	*i* P	Pn	03 51 20.0	-2.5
ACX				*i* S	Sn	03 51 37.0	-5.0
UTMO	**Huajuapan**	**2.28**	**24**	*i* P	Pn	03 51 30.0	-2.4
UTMO				*i* S	Sn	03 51 57.3	-2.6
MEIG	**Mezcala**	**2.31**	**340**	*i* P	Pn	03 51 31.1	-1.8
MEIG				*i* S	Sn	03 51 57.8	-2.9
VHO	**Vista Hermosa**	**2.38**	**56**	*i* P	Pn	03 51 31.2	-2.6
VHO				*i* S	Sn	03 51 59.3	-2.9
VHO	**Vista Hermosa**	**2.38**	**56**	*i* P	Pn	03 51 31.1	-2.7
VHO				*i* S	Sn	03 51 59.1	-3.1
OXX	**Oaxaca**	**2.39**	**56**	*i* P	Pn	03 51 32.0	-1.9
OXX				*i* S	Sn	03 51 59.5	-3.1
HUIG	**Huatulco**	**2.58**	**89**	*i* P	Pn	03 51 32.8	-3.8
HUIG				*e*S	Sn	03 52 01.7	-5.6
HUIG	**Huatulco**	**2.58**	**89**	*i* P	Pn	03 51 32.7	-3.9
HUIG				*i* S	Sn	03 52 02.1	-5.2
CMIG	**Matias Romero**	**3.98**	**70**	*e*P	Pn	03 51 53.0	-2.9
CMIG				*i* S	Sn	03 52 39.2	-2.7
CMIG	**Matias Romero**	**3.98**	**70**	*e*P	Pn	03 51 52.5	-3.3
CMIG				*i* S	Sn	03 52 36.8	-5.0

*IDC **16** 04:02:33.3±0.5, 788S×156.16E, h0km, mb4.8/15, mb1 4.8/18, mb1mx4.8/19, mbtmp4.7/18, ML4.2/3, MS4.1/6, Ms1 4.0/6, ms1mx3.7/18, Error ellipse: s-maj=19.5km s-min=14.7km az=103.0*
*BJI **16** 04:02:36.9, 787S×156 65E, h53km, mB5.2, mb5.3, Ms4.8, Msz4.4*
*ISCJB **16** 04:02:38.4±0.2, 791S±004×156.12E±003, h45km, mb5.1/66, MS4.4/17, Error ellipse: s-maj=6.1km s-min=4.9km az=162.0*
*MOS **16** 04:02:38.4±0.9, 762S×156.12E, h33km, mb5.5/23, Error ellipse: s-maj=11.1km s-min=7.6km az=119.7*
*HRVD **16** 04:02:39.0±0.2, 799S×15627E, h17km, MW5.1/64, Centroid moment Tensor Solution. LP body waves: s34,c40;Mantle waves: s64,c101; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}4.28±.23; $M_{\theta\theta}$0.20±.15; $M_{\phi\phi}$-4.48±.15; $M_{r\theta}$0.52±.51; $M_{\theta\phi}$1.15±.11; $M_{\phi r}$-2.97±.39; Best double couple: $M_0$5.42900×10^16 NP1:φs345.00000°, δ28.00000°, λ86.00000°. NP2:φs169.00000°, δ62.00000°, λ92.00000°. Principal axes: T 5.1980, Plg73.0000°, Azm83.0000°; N 0.4650, Plg2.0000°, Azm348.0000°; P -5.6600, Plg17.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 04:02:39.0±0.8, 790S×156.19E, h38km±6km, mb5.2/26 Error ellipse: s-maj=5.4km s-min=4.9km az=136.0*
ISC 16 04:02:40.4±0.2, 793S±004×15617E±003, h47km, h47km±2.4km: pP-P, n306, σ0°93/192, mb5.1/66, MS4.4/17, 33C-35D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.02**	**112**	Pn	**Pn**	**04 03 38.0**	**-1.5**
47nm,0.3s,baz=262,slow=2.5,SNR=6.5							
HNR				Sn	**Sn**	**04 04 31.8**	**+6.5**
126nm,0.3s,baz=303,slow=1.8,SNR=8.6							
HNR				LR	LR	04 04 41.2	
comp=Z,2μm,18.7s,baz=350,slow=32							
HNR	**Honiara**	**4.02**	**112**	*e*Pn	**Pn**	**04 03 39.1**	**-0.4**
HNR				*e*Sn	**Sn**	**04 04 34.2**	**+8.9**
PMG	**Port Moresby**	**9.03**	**260**	Pn	**Pn**	**04 04 53.3**	**+5.2**
3.2nm,0.3s,baz=67,slow=7.0,SNR=7.9							
PMG	**Port Moresby**	**9.03**	**260**	*e*Pn	**Pn**	**04 04 48.0**	**0.0**
CTA	**Charters Tower**	**15.44**	**217**	*e*P	**Pn**	**04 06 21.9**	**+7.0**
28nm,1.1s							
CTA	**Charters Tower**	**15.44**	**217**	Pn	**Pn**	**04 06 13.0**	**-1.9**
0.4nm,0.3s,baz=12,slow=19,SNR=2.5							
CTA				LR	LR	04 11 19.8	
comp=Z,732nm,18.3s,baz=39,slow=34							
CTA	**Charters Tower**	**15.44**	**217**	P	**Pn**	**04 06 13.0**	**-1.9**
CTA				*e*P		04 06 21.9	
CTA				LR	LR	04 11 19.8	
CTAO	**Charters Tower**	**15.44**	**217**	*e*P	**Pn**	**04 06 21.2**	**+6.3**
CTAO				pmax	pmax		
comp=Z,88nm,1.3s							
CTAO	**Charters Tower**	**15.44**	**217**	*e*P	**Pn**	**04 06 21.2**	**+6.3**
comp=Z,88nm,1.3s							
DZM	**Mont Dzumac**	**17.20**	**146**	P	**Pn**	**04 06 37.2**	**0.0**
comp=Z,0.6nm,0.3s,baz=26,slow=16,SNR=6.8							
ARMA	**Armidale**	**22.78**	**190**	*e*P	**P**	**04 07 38.8**	**+0.1**
ARMA				*e*		04 07 47.1	
KAKA	**Kakadu**	**23.82**	**257**	*e*P	**P**	**04 07 49.2**	**+0.3**
comp=Z,34nm,0.8s,mb4.8							
GUMO	**Guam**	**24.14**	**332**	LR	LR	04 15 27.4	
comp=Z,246nm,20.9s,MS3.7,baz=119,slow=32							
WRAB	**Tennant Creek**	**24.27**	**238**	P	**P**	**04 07 54.0**	**+0.9**
comp=Z,201nm,0.8s,mb5.6,SNR=9.0							
WRAB	**Tennant Creek**	**24.27**	**238**	*d i*P	**P**	**04 07 54.0**	**+0.9**
WB2	**Warramunga Arr**	**24.27**	**238**	*e*P	**P**	**04 07 53.6**	**+0.5**
WB2				*e*pP		04 08 04.3	
WB2				*e*PCP	PcP	04 11 33.2	+1.0
WB2				*e*PCS	PcS	04 15 12.2	+0.2
WRA	**Warramunga Arr**	**24.28**	**238**	P	**P**	**04 07 53.7**	**+0.5**
comp=Z,15nm,0.7s,mb4.6,baz=62,slow=9.2,SNR=80							
WRA				PcP	PcP	04 11 33.4	+1.2
comp=Z,7.1nm,0.7s,baz=68,slow=2.9,SNR=17							
ASAR	**Alice Springs**	**26.46**	**231**	P	**P**	**04 08 12.7**	**-0.3**
comp=Z,1.6nm,0.8s,baz=65,slow=8.7,SNR=13							
ASAR				PcP	PcP	04 11 38.5	+1.4
comp=Z,2.5nm,0.8s,baz=82,slow=2.0,SNR=6.4							
ASPA	**Alice Springs**	**26.46**	**231**	*e*P	pP	04 08 31.2	+6.0
STKA	**Stephens Creek**	**27.42**	**208**	*e*P	**P**	**04 08 20.4**	**-1.2**
comp=Z,8.9nm,0.9s,mb4.3							
STKA				*e*	pP	04 08 28.8	-5.0
STKA	**Stephens Creek**	**27.42**	**208**	P	**P**	**04 08 20.7**	**-0.9**
comp=Z,12nm,0.9s,mb4.4,baz=23,slow=12,SNR=17							
STKA				LR	LR	04 17 59.7	
comp=Z,435nm,18.8s,MS4.0,baz=27,slow=34							
FITZ	**Fitzroy Crossi**	**31.36**	**248**	*e*P	**P**	**04 08 56.9**	**+0.4**
comp=Z,18nm,1.1s,mb4.8							
FITZ				*e*pP	pP	04 09 11.2	+2.3
FORT	**Forrest**	**34.74**	**225**	*e*P	**P**	**04 09 25.7**	**-0.3**
comp=Z,30nm,0.9s,mb5.2							
CBIJ	**Chichi jima**	**37.36**	**339**	P	**P**	**04 09 45.9**	**-2.5**
comp=Z,36nm,0.6s,mb5.4,baz=310,slow=14,SNR=4.6							
MBWA	**Marble Bar**	**37.53**	**246**	*e*P	**P**	**04 09 50.4**	**+0.6**
comp=Z,15nm,0.7s,mb4.8							
MBWA				*e*pP	pP	04 10 03.8	+1.4
TSM	**Tawau**	**40.09**	**286**	P	**P**	**04 10 10.1**	**-1.1**
KKM	**Kota Kinabalu**	**42.20**	**288**	P	**P**	**04 10 30.2**	**+1.7**
KKM	**Kota Kinabalu**	**42.20**	**288**	*e*P	**P**	**04 10 29.2**	**+0.7**
KLBR	**Kellerberrin**	**42.79**	**231**	*e*P	**P**	**04 10 32.7**	**-0.7**
comp=Z,7.5nm,0.5s,mb4.7							
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PPT	Papeete	53.62	106	eLR	LR	04 27 32.6
	comp=Z,853nm,32.2s,baz=270					
PPT	Papeete	53.62	106	LR	LR	04 31 09.4
	comp=Z,184nm,20.4s,MS4.1,baz=299,slow=32					
TBI	Tubuai	54.24	113	eLQ		04 25 33.3
TBI				eLR	LR	04 27 50.4
	comp=Z,802nm,34.5s,baz=287					
YSS	Yuzh-Sakhalins	55.93	349	eP	P	04 12 13.1 -0.5
YSS				pmax	pmax	
	comp=Z,16nm,0.5s,mb5.3					
YSS	Yuzh-Sakhalins	55.93	349	eP	P	04 12 13.1 -0.5
	comp=Z,16nm,0.5s,mb5.3					
KULM	Kulim	56.91	282	eP	P	04 12 21.0 +0.4
MDJ	Mudanjiang	57.53	338	P	P	04 12 24.8 -0.2
MDJ				AMB	AMB	
	comp=Z,20nm,1.1s,mb5.1					
MDJ				AMB	AMB	
	comp=Z,190nm,3.2s					
CN2	Changchun	58.53	334	eP	P	04 12 31.8 -0.1
CN2				eAP	pP	04 12 44.8 -0.3
CN2				eS	S	04 20 31.8 -0.4
CN2				SCS	ScS	04 22 13.5 -4.2
CN2				SS	SS	04 24 26.8 +1.6
CN2				AMB	AMB	
	comp=Z,40nm,1.0s,mb5.4					
CN2				AMB	AMB	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,600nm,22.0s,MS4.8					
CN2				LR	LR	
	comp=E,500nm,22.0s,MS4.8					
CN2				LR	LR	
	comp=Z,200nm,18.0s,MS4.3					
GYA	Guiyang	58.94	307	P	P	04 12 35.3 +0.5
GYA				S	S	04 20 30.6 -7.0
GYA				AMB	AMB	
	comp=Z,20nm,1.3s,mb5.0					
GYA				AMB	AMB	
	comp=Z,200nm,6.3s					
GYA				LR	LR	
	comp=N,150nm,11.4s,MS4.5					
GYA				LR	LR	
	comp=E,190nm,12.3s,MS4.5					
GYA				LR	LR	
	comp=Z,220nm,10.2s,MS4.6					
HABR	Khabarovsk	59.16	344	eP	P	04 12 36.4 +0.1
HABR				eS	S	04 20 41.0 +0.6
HABR				pmax	pmax	
	comp=Z,51nm,1.1s,mb5.5					
BJT	Baijiatuau	60.33	325	eP	P	04 12 44.3 -0.1
BJT				pmax	pmax	
	comp=Z,15nm,0.6s					
BJT	Baijiatuau	60.33	325	eP	P	04 12 44.3 -0.1
	comp=Z,15nm,0.6s,mb5.2					
KLR	Kul'dur	60.80	342	eP	P	04 12 43.7 -3.9
KLR				pmax	pmax	
	comp=E,58nm,2.0s					
KLR				pmax	pmax	
	comp=Z,100nm,2.0s,mb5.6					
XAN	Xi'an	61.18	316	P	P	04 12 51.8 +1.6
KMI	Kunming	61.50	304	P	P	04 12 54.9 +2.6
KMI				AP	pP	04 13 08.4 +2.8
KMI				XP	sP	04 13 14.0 +3.1
KMI				PCP	PcP	04 13 36.3 +2.4
KMI				PP	PP	04 15 13.0 +5.0
KMI				PPP		04 16 41.9
KMI				S	S	04 21 10.9 +0.5
KMI				XS	sS	04 21 34.9 +2.4
KMI				SCS	ScS	04 22 38.3 -1.6
KMI				SS	SS	04 25 15.1 +3.3
KMI				SSS		04 27 54.9
KMI				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb5.0					
KMI				AMB	AMB	
	comp=Z,210nm,12.2s					
KMI				LR	LR	
	comp=N,210nm,15.4s,MS4.6					
KMI				LR	LR	
	comp=E,210nm,11.2s,MS4.6					
KMI				LR	LR	
	comp=Z,200nm,16.8s					
CHTO	Chiang Mai	62.35	296	eP	P	04 12 58.7 +0.7
CHTO				pmax	pmax	
	comp=Z,16nm,1.1s,mb5.1					
CHTO	Chiang Mai	62.35	296	eP	P	04 12 58.7 +0.7
	comp=Z,16nm,1.1s,mb5.0					
TAOE	Nuku Hiva Isla	62.94	96	eLR	LR	04 31 46.3
	comp=Z,1μm,25.0s					
CD2	Chengdu	63.30	310	P	P	04 13 04.8 +0.5
CD2				AP	pP	04 13 18.8 +1.2
CD2				XP	sP	04 13 24.8 +1.8
CD2				PP	PP	04 15 24.0 +0.1
CD2				SCP	ScP	04 17 38.8 -0.8
CD2				PCS	PcS	04 17 45.0 +0.2
CD2				S	S	04 21 31.8 -1.2
CD2				XS	sS	04 21 54.3 -0.9
CD2				SCS	ScS	04 22 49.9 -3.6
CD2				SS	SS	04 25 40.4 +0.4
CD2				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb5.0					
CD2				AMB	AMB	
	comp=Z,80nm,10.8s					
CD2				LR	LR	
	comp=N,210nm,10.2s					
CD2				LR	LR	
	comp=Z,210nm,10.2s,MS4.6					
HHC	Hu-ho-hao-te	63.53	323	eP	P	04 13 07.6 +1.7
HHC				AP	pP	04 13 20.3 +1.1
HHC				XP	sP	04 13 26.0 +1.5
HHC				PCP	PcP	04 13 42.0 -0.1
HHC				PP	PP	04 15 30.6 +4.7
HHC				SCP		04 17 39.8
HHC				PCS		04 17 44.8
HHC				S	S	04 21 39.3 +3.4
HHC				XS	sS	04 22 01.0 +2.9
HHC				PS		04 22 05.0
HHC				SCS	ScS	04 22 54.6 -0.6
HHC				SS	SS	04 25 49.3 +5.7
HHC				AMB	AMB	
	comp=Z,20nm,0.9s,mb5.2					
HHC				AMB	AMB	
	comp=Z,160nm,4.1s					
HHC				LR	LR	
	comp=N,170nm,12.8s,MS4.7					
HHC				LR	LR	
	comp=E,280nm,14.6s,MS4.7					
HHC				LR	LR	
	comp=Z,190nm,14.9s,MS4.4					
BTO	Baotou	64.30	322	eP	P	04 13 10.3 -0.6
ATKA	Atka Island	65.05	20	eP	P	04 13 14.1 -1.7
HIA	Hailar	65.25	335	eP	P	04 13 17.3 +0.2
HIA				pmax	pmax	
	comp=Z,52nm,0.9s					
HIA	Hailar	65.25	335	eP	P	04 13 17.3 +0.1
	comp=Z,52nm,0.9s,mb5.6					
LZH	Lanzhou	65.79	315	eP	P	04 13 21.5 +0.9
LZH				AP	pP	04 13 34.5 +0.5
LZH				XP	sP	04 13 39.8 +0.5
LZH				PP	PP	04 15 49.0 +3.3
LZH				eS	S	04 22 03.3 -0.4
LZH				XS	sS	04 22 25.1 -1.0
LZH				eSS	SS	04 26 21.1 +2.3
LZH				AMB	AMB	
	comp=Z,20nm,1.0s,mb5.1					
LZH				AMB	AMB	
	comp=Z,120nm,5.6s					
LZH				LR	LR	
	comp=N,1μm,15.9s					
LZH				LR	LR	
	comp=Z,2μm,16.7s,MS5.4					
MA2	Magadan	67.42	357	eP	P	04 13 29.8 -1.2
MA2				pmax	pmax	
	comp=Z,56nm,0.8s,mb5.7					
MA2	Magadan	67.42	357	eP	P	04 13 29.8 -1.2
	comp=Z,56nm,0.8s,mb5.6					
RKT	Rikitea	67.52	112	eLR	LR	04 34 00.2
CLNS	Chul'man	69.46	342	eP	P	04 13 41.8 -1.9
CLNS				pmax	pmax	
	comp=E,12nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,80nm,0.9s,mb5.7					
CLNS				pmax	pmax	
	comp=N,30nm,1.0s					
VNDA	Vanda	69.62	179	P	P	04 13 43.5 -1.2
	comp=N,1.5nm,0.9s,baz=316,slow=9.7,SNR=5.5					
VNDA	Vanda	69.62	179	eP	P	04 13 43.8 -0.9
VNDA				pmax	pmax	
	comp=Z,2.0nm,1.0s					
VNDA	Vanda	69.62	179	eP	P	04 13 43.8 -1.0
	comp=Z,2.2nm,1.0s,mb4.0					
CIT	Chita	69.96	334	eP	P	04 13 48.0 +1.2
CIT				pmax	pmax	
	comp=Z,147nm,1.7s,mb5.6					
GTA	Gaotai	70.21	317	eP	P	04 13 49.4 +1.0
GTA				AP	pP	04 14 03.0 +1.2
GTA				XP	sP	04 14 08.3 +1.2
GTA				PP	PP	04 16 28.1 +4.0
GTA				PPP		04 18 08.1
GTA				S	S	04 22 56.6 +0.1
GTA				SS	SS	04 27 31.5 +4.4
GTA				AMB	AMB	
	comp=Z,10.0nm,1.3s,mb4.6					
GTA				AMB	AMB	
	comp=Z,140nm,5.3s					
GTA				LR	LR	
	comp=N,90nm,15.2s,MS4.3					
GTA				LR	LR	
	comp=E,120nm,15.6s,MS4.3					
GTA				LR	LR	
	comp=Z,180nm,18.6s,MS4.3					
ULN	Ulaanbaatar	70.41	327c	iP	P	04 13 50.4 +0.8
ULN	Ulaanbaatar	70.41	327	eP	P	04 13 50.3 +0.7
	comp=Z,60nm,1.1s,mb5.4					
SONM	Songino Array	70.75	327	P	P	04 13 52.4 +0.8
	comp=Z,24nm,0.9s,mb5.1,baz=136,slow=6.0,SNR=78					
YAK	Yakutsk	72.71	347c	iP	P	04 14 03.3 -0.1
YAK				pmax	pmax	
	comp=Z,88nm,1.1s,mb5.6					
YAK				pmax	pmax	
	comp=N,31nm,1.5s					
YAK				pmax	pmax	
	comp=E,16nm,1.5s					
YAK	Yakutsk	72.71	347	eP	P	04 14 02.8 -0.7
	comp=E,122nm,0.8s,mb5.9					
ZAK	Zakamensk	73.89	328⇑	iP	P	04 14 10.7 +0.3
ZAK				pmax	pmax	
	comp=Z,70nm,1.8s,mb5.3					
BOD	Bodaibo	73.91	338	eP	P	04 14 08.5 -2.0
BOD				pmax	pmax	
	comp=Z,39nm,1.3s,mb5.2					
TLY	Talaya	74.45	329	eP	P	04 14 13.9 +0.3
TLY				e	pP	04 14 23.0 -4.2
TLY				e		04 17 01.8
TLY				eS	sS	04 24 08.1 +0.4
TLY				pmax	pmax	
	comp=Z,49nm,1.8s,mb5.1					
TLY				MLR	MLR	
	comp=Z,111nm,19.0s,MS4.2					
IRK	Irkutsk	74.47	330	eP	P	04 14 10.0 -3.7
IRK				pmax	pmax	
	comp=Z,87nm,1.7s,mb5.4					
BOK	Bokaro	75.45	297	eP	P	04 14 19.0 -0.4
GAMB	Gambell	75.53	14	eP	P	04 14 19.1 -0.8
MOY	Mondy	75.81	328	eP	P	04 14 22.3 +0.8
MOY				pmax	pmax	
	comp=Z,69nm,1.9s,mb5.3					
BILL	Bilibino	76.12	4	eP	P	04 14 22.4 -0.8
BILL	Bilibino	76.12	4	eP	P	04 14 22.4 -0.9
JIRN	Jiri	76.26	301	eP	P	04 14 24.9 +0.9
VIS	Vishakhapatnam	76.28	290	eP	P	04 14 25.3 +1.1
VIS				AMb	AMB	04 14 32.0
	comp=Z,39nm,0.8s,mb5.4					
GUN	Gumba	76.59	301	eP	P	04 14 26.8 +0.9
	comp=Z,16nm,0.5s,mb5.2					
PKI	Pulchoki	76.90	301	eP	P	04 14 28.1 +0.5
KKN	Kakani	77.07	301	eP	P	04 14 28.8 +0.2
DMN	Daman	77.17	301	eP	P	04 14 29.8 +0.7
	comp=Z,52nm,1.0s,mb5.4					
SVW2	Sparrevohn	78.42	22	eP	P	04 14 35.5 -0.6
TTA	Tatalina	79.49	20	eP	P	04 14 40.7 -1.2
SLKM	Skilak Lake	80.11	24	eP	P	04 14 43.8 -1.5
WMQ	Urumqi	80.30	317	P	P	04 14 46.8 +0.5
WMQ				AMB	AMB	
	comp=Z,150nm,4.5s					
WMQ				LR	LR	
	comp=N,50nm,18.0s,MS4.2					
WMQ				LR	LR	
	comp=E,90nm,21.0s,MS4.2					
WMQ				LR	LR	
	comp=Z,90nm,21.0s,MS4.1					
HYB	Hyderabad	80.67	289	iP	P	04 14 49.0 +0.7
HYB	Hyderabad	80.67	289	eP	P	04 14 49.0 +0.7
NGP	Nagpur	80.97	293	eP	P	04 14 48.6 -1.3
NGP				AMb	AMB	04 14 48.8
	comp=Z,28nm,1.3s,mb5.0					
TIXI	Tiksi	81.44	352c	iP	P	04 14 50.7 -1.7
TIXI				pmax	pmax	
	comp=Z,39nm,1.7s,mb5.1					
SML	Sawmill	81.61	23	eP	P	04 14 51.9 -1.4
QSPA	South Pole Qui	82.05	180	eP	P	04 14 54.9 -0.7
	comp=Z,10.0nm,0.8s,mb4.8					
MCK	McKinley	82.49	22	eP	P	04 14 55.9 -2.0
AKL	Akola	82.74	292	ex	x	04 14 26.9
AKL				AMb	AMB	04 14 29.9
	comp=Z,38nm,1.4s,mb5.2					
BHPL	Bhopal	82.87	295	eP	P	04 14 59.1 -0.8
COLA	College	83.53	21c	iP	P	04 15 01.0 -2.3
COLA	College	83.53	21	eP	P	04 15 00.8 -2.5
	comp=Z,18nm,0.9s,mb5.2					
MAW	Mawson	83.99	203	P	P	04 15 05.2 -0.4
	comp=Z,3.0nm,0.7s,mb4.6,baz=93,slow=7.9,SNR=6.4					
MAW				LR	LR	04 48 04.5
	comp=Z,121nm,18.4s,MS4.3,baz=244,slow=32					
MENT	Mentasta	84.04	23	eP	P	04 15 08.0 +2.1
NDI	New Delhi	84.18	300	eP	P	04 15 05.5 -1.1
KAD	Karad	84.75	288	eP	P	04 15 08.7 -0.9
KAD				AMb	AMB	04 15 11.5
	comp=Z,74nm,1.1s,mb5.7					
MKAR	Makanchi Array	84.87	318	P	P	04 15 10.2 0.0
	comp=Z,33nm,0.7s,mb5.6,baz=100,slow=5.7,SNR=82					
ZAL	Zalesovo	85.61	326	P	P	04 15 12.9 -0.9
	comp=Z,4.0nm,0.6s,mb4.8,baz=357,slow=5.9,SNR=16					
AJM	Ajmer	85.98	297	eP	P	04 15 14.9 -0.7
AJM				AMb	AMB	04 15 17.3
	comp=Z,50nm,1.8s,mb5.4					
SKAG	Skagway	86.13	28	eP	P	04 15 16.1 -0.3
DAWY	Dawson	86.28	23	eP	P	04 15 16.8 -0.3
NVS	Novosibirsk	86.77	326	iP	P	04 15 17.2 -2.3
NVS				pmax	pmax	
	comp=N,15nm,2.3s					
NVS				pmax	pmax	
	comp=Z,29nm,2.3s,mb5.1					
NVS				pmax	pmax	
	comp=E,13nm,1.6s					
KURK	Kurchatov	88.28	322c	iP	P	04 15 25.6 -1.2
DLBC	Dease Lake	88.35	30	P	P	04 15 27.4 +0.3
	comp=E,0.9nm,0.3s,mb4.4,baz=211,slow=3.0,SNR=5.7					
M02C	Callahan	88.48	48	⇓P	P	04 15 28.2 +0.5
	baz=88					
YBH	Yreka Blue Hor	88.65	48	⇓P	P	04 15 28.9 +0.4
	baz=89					
M03C	McCloud	88.99	48	⇑P	P	04 15 30.2 +0.1
	baz=89					
ORV	Oroville	89.12	50	⇓P	P	04 15 31.1 +0.3
	baz=89					
PKD	Parkfield	89.21	54	⇑P	P	04 15 32.0 +0.8
	baz=89					
AAK	Ala-Archa	89.23	313c	iP	P	04 15 30.4 -0.8
AAK				pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.8					
M04C	Macdoel	89.30	48	⇑P	P	04 15 32.1 +0.5
	baz=89					
LAVA	Lava Cap Winer	89.56	51	⇑P	P	04 15 32.8 0.0
	baz=90					
O04C	Chester	89.58	49	⇓P	P	04 15 33.4 +0.5
	baz=90					
S05C	Merced	89.62	52	⇓P	P	04 15 33.5 +0.4
	baz=90					
P05C	Yuba Gap, Truc	89.76	50	⇑P	P	04 15 34.2 +0.5
	baz=90					
S06C	San Francisco	90.09	52	⇓P	P	04 15 35.7 +0.4
	baz=90					
INK	Inuvik	90.18	20	eP	P	04 15 33.7 -2.0
INK				pmax	pmax	
	comp=Z,10.0nm,1.3s					
INK	Inuvik	90.18	20	eP	P	04 15 33.7 -2.0
	comp=Z,10nm,1.3s,mb5.0					
O06A	Flanigan	90.50	50	⇑P	P	04 15 37.6 +0.5
	baz=90					
K06A	Valley Falls	90.65	47	⇓P	P	04 15 37.7 -0.2
	baz=91					
J06A	Christmas Vall	90.80	47	⇓P	P	04 15 38.2 -0.3
	baz=91,SNR=6.0					
ISA	Isabella	90.82	54	⇓P	P	04 15 38.4 -0.2
	baz=91					
I06A	Prineville	90.88	46	⇑P	P	04 15 38.6 -0.3
	baz=91					
M07A	Soldier Meadow	91.20	49	⇑P	P	04 15 40.7 +0.3
	baz=91,SNR=7.4					
O07A	Toulon	91.22	50	⇓P	P	04 15 40.8 +0.3
	baz=91					
CWC	Cottonwood Cre	91.25	54	⇓P	P	04 15 41.3 +0.6
	baz=91					
S08C	White Mtn Res	91.35	52	⇑P	P	04 15 41.8 +0.7
	baz=91					
K07A	Rock Creek Ran	91.35	47	⇓P	P	04 15 41.1 0.0
	baz=91					
NVAR	Mina Array Bea	91.39	52	P	P	04 15 42.3 +1.0
	comp=Z,6.4nm,1.0s,mb4.9,baz=237,slow=4.1,SNR=27					
MNV	Mina	91.50	52	eP	P	04 15 42.4 +0.6
MNV				pmax	pmax	
	comp=Z,14nm,1.1s,mb5.2					
MNV	Mina	91.50	52	eP	P	04 15 42.4 +0.6
	comp=Z,14nm,1.1s,mb5.2					
109C	Camp Elliot, M	91.51	57	⇓P	P	04 15 42.8 +0.9
	baz=92					
R08A	Mina	91.52	52	⇓P	P	04 15 42.3 +0.4
	baz=92					
DAC	Darwin (Calif)	91.62	54	eP	P	04 15 42.9 +0.5
DAC				pmax	pmax	
	comp=Z,22nm,1.1s,mb5.4					
DAC	Darwin (Calif)	91.62	54	eP	P	04 15 42.9 +0.6
	comp=Z,22nm,1.1s,mb5.4					
Q08A	Gabbs	91.74	51	⇑P	P	04 15 43.4 +0.5
	baz=92,SNR=7.3					
P08A	Dixie Valley	91.75	50	⇓P	P	04 15 43.5 +0.5
	baz=92					
M08A	Happy Creek Ra	91.80	49	⇑P	P	04 15 43.5 +0.4
	baz=92,SNR=6.4					
N08A	GE Springer Mi	91.88	49	P	P	04 15 44.2 +0.7
	baz=92,SNR=8.0					
GSC	Goldstone	92.11	55	⇓P	P	04 15 45.0 +0.4
	baz=92					
S09A	Goldfield	92.12	52	⇓P	P	04 15 45.1 +0.4
	baz=92,SNR=13					
PFO	Pinyon Flat Ob	92.16	57	⇓P	P	04 15 45.2 +0.3
	baz=92					
Q09A	Carvers	92.31	51	⇓P	P	04 15 45.9 +0.3
	baz=92					
L09A	Wilkinson Ranc	92.41	48	⇓P	P	04 15 46.3 +0.3
	baz=92					
M09A	Marrel Ranch,	92.48	49	⇓P	P	04 15 46.8 +0.4
	baz=92					
O09A	Fish Creek Ran	92.50	50	⇑P	P	04 15 46.9 +0.5
	baz=92,SNR=6.0					
TUQ	Turquoise Mtn.	92.84	55	⇓P	P	04 15 48.4 +0.4
	baz=93					
N10A	Dunphy	93.09	49	⇓P	P	04 15 49.6 +0.4
	baz=93					
M10A	I.L. Ranch, Tu	93.17	49	⇓P	P	04 15 50.1 +0.6
	baz=93					
GLA	Glamis	93.44	57	⇑P	P	04 15 51.1 +0.4
	baz=94					
Q11A	Duckwater	93.50	51	⇑P	P	04 15 51.6 +0.6
	baz=94,SNR=9.9					
O11A	Cowboy Ranch,	93.66	50	⇓P	P	04 15 52.2 +0.4
	baz=94,SNR=7.3					
CHKZ	Chkalovo	93.69	324	eP	P	04 15 49.4 -2.5
CHKZ				pmax	pmax	
	comp=Z,6.0nm,0.9s,mb5.0					
CHKZ	Chkalovo	93.69	324	eP	P	04 15 49.4 -2.5
	comp=Z,5.9nm,0.9s,mb5.0					
M11A	Holland Ranch,	93.72	49	⇑P	P	04 15 52.7 +0.7
	baz=94					
Y12C	Blythe	93.78	57	⇓P	P	04 15 53.0 +0.7
	baz=94					
P12A	McGill	94.15	51	⇓P	P	04 15 54.6 +0.6
	baz=94,SNR=5.4					
N12A	Wells--Clov Va	94.21	50	⇑P	P	04 15 54.8 +0.5
	baz=94,SNR=6.8					
Y13A	Salome	94.36	57	⇑P	P	04 15 55.3 +0.4
	baz=94					
M12A	Wells	94.37	49	⇓P	P	04 15 55.3 +0.3
	baz=94					
X13A	Yucca	94.44	56	⇓P	P	04 15 55.6 +0.3
	baz=94					
ZRNK	Zerenda	94.56	323	eP	P	04 15 53.6 -2.3
ZRNK				pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.8					
ZRNK	Zerenda	94.56	323	eP	P	04 15 53.6 -2.3
	comp=Z,2.6nm,0.7s,mb4.8					
N13A	West Wendover	94.84	50	⇑P	P	04 15 57.1 -0.1
	baz=95					
M13A	Montello	94.93	49	⇓P	P	04 15 57.8 +0.2
	baz=95					
W14A	Seligman	95.12	55	⇓P	P	04 15 59.0 +0.5
	baz=95					
X14A	Yava	95.20	56	⇓P	P	04 15 59.6 +0.8
	baz=95					
YKA	Yellowknife Ar	96.61	28	P	P	04 16 03.9 -1.4
	comp=Z,3.4nm,0.8s,mb4.8,baz=264,slow=4.5,SNR=14					
YKA	Yellowknife Ar	96.61	28	P	P	04 16 03.9 -1.4
YKW3	Yellowknife Ar	96.61	28	eP	P	04 16 04.0 -1.3
PDAR	Pinedale Array	98.46	48	P	P	04 16 13.2 -0.4
	comp=Z,1.4nm,0.9s,mb4.5,baz=276,slow=2.8,SNR=10					
OBN	Obninsk	113.16	327⇑	iPKIKP	PKiKP	04 21 13.6 +1.0
OBN				e		04 22 02.4
OBN				pmax	pmax	
	comp=Z,7.0nm,0.5s					
OBN				MLR	MLR	
	comp=Z,100nm,16.0s,MS4.5					
KMBO	Kilima Mbogo	118.44	264	iPKIKP	PKPdf	04 21 20.2 -2.5
KMBO				pmax	pmax	
	comp=Z,2.0nm,0.7s					
AKASG	Malin Array Be	118.97	324	PKP	PKPdf	04 21 23.4 -0.4
	comp=Z,5.2nm,0.7s,baz=62,slow=2.3,SNR=15					
AKASG				PP	PP	04 22 44.4 +1.0
	comp=Z,0.4nm,0.4s,baz=52,slow=7.4,SNR=7.2					
BR131	Keskin Array S	119.87	311	ePKPdf	PKPdf	04 21 25.5 0.0
BRTR	Keskin Array B	119.87	311	PKP	PKPdf	04 21 25.7 +0.2
	comp=Z,4.2nm,1.1s,baz=116,slow=3.4,SNR=12					
NOA	NORSAR Array B	120.96	341	PKP	PKPdf	04 21 26.9 -0.7
	comp=Z,2.1nm,1.0s,baz=38,slow=2.0,SNR=3.2					
NOA				PP	PP	04 22 53.7 -3.3
	comp=Z,1.5nm,0.9s,baz=43,slow=6.9,SNR=3.4					
NOA	NORSAR Array B	120.96	341	PKP	PKPdf	04 21 26.9 -0.7
NOA				PP	PP	04 22 53.7 -3.3
BURAR	Bucovina Array	122.69	323⇑	iP	PKPdf	04 21 32.1 +1.2
STHS	Stebnicka Huta	124.10	326	iPKP	PKPdf	04 21 34.9 +1.3
OKC	Ostrava-Krasne	125.54	328	ePKPDF	PKPdf	04 21 36.7 +0.3
PSZ	Piszkesteto	125.66	325	ePKIKP	PKPdf	04 21 36.9 +0.3
BZS	Buzias	125.83	322⇑	iP	PKPdf	04 21 37.3 +0.4
MORC	Moravsky Berou	125.89	328⇑	iP	PKPdf	04 21 37.8 +0.8
MORC	Moravsky Berou	125.89	328	ePKPdf	PKPdf	04 21 37.4 +0.3
VYHS	Vyhne	125.93	326	ePKP	PKPdf	04 21 37.8 +0.7
DPC	Dobruska-Polom	126.17	329	ePKPDF	PKPdf	04 21 38.3 +0.7
VTS	Vitosha	126.22	318⇑	iP	PKPdf	04 21 38.7 +1.0
UPC	Upice	126.23	330	ePKPDF	PKPdf	04 21 38.2 +0.5
LVC	Limon Verde	126.44	126	ePKPdf	PKPdf	04 21 39.1 +1.7
BSEG	Bad Segeberg	126.53	336	ePKPdf	PKPdf	04 21 39.1 +0.8
PVCC	Panska Ves	126.94	330	ePKPDF	PKPdf	04 21 39.3 +0.3
BRG	Berggiesshubel	127.02	331	ePKPdf	PKPdf	04 21 39.6 +0.4
BRG				ePP	PP	04 23 38.2 +0.5
BRG	Berggiesshubel	127.02	331	ePKP	PKPdf	04 21 39.7 +0.5
	comp=Z,6.2nm,0.9s					
ZST	Bratislava	127.05	327	ePKP	PKPdf	04 21 40.0 +0.7
CLL	Collm	127.18	332	ePKPdf	PKPdf	04 21 39.7 +0.2
CLL	Collm	127.18	332	iPKPdf	PKPdf	04 21 38.9 -0.6
	comp=Z,12nm,1.1s					
CLL				ix	x	04 21 45.9
CLL				Lm		05 17 00.0
	comp=Z,200nm,19.3s					
TREC	Trest	127.25	329	ePKPDF	PKPdf	04 21 40.2 +0.6
PRU	Pruhonice	127.30	330	ePKPDF	PKPdf	04 21 40.1 +0.4
PKSM	Moragy	127.30	324⇑	iP	PKPdf	04 21 40.6 +0.9
DIVS	Divcibare	127.58	321⇑	iPKP	PKPdf	04 21 40.2 -0.1
NRDL	Niedersach Rie	127.66	334	ePKPdf	PKPdf	04 21 41.0 +0.6
NRDL				ePP	PP	04 23 41.3 -0.6
CLZ	Clausthal	128.00	334	ePKPdf	PKPdf	04 21 41.7 +0.6
TANN	Tannenbergstha	128.03	331	ePKPdf	PKPdf	04 21 41.3 +0.2
MOX	Moxa	128.28	332	ePKPdf	PKPdf	04 21 41.5 -0.1
MOX				ePP	PP	04 23 44.2 -1.8
KHC	Kasperske Hory	128.33	329	ePK

MANZ	Manzenberg	128.49	331	ePKPdf	PKPdf	04 21 42.7 +0.7
ROTZ	Rotzenmuhle	128.59	331	ePKPdf	PKPdf	04 21 42.8 +0.6
WET	Wettzell	128.67	330	ePKPdf	PKPdf	04 21 43.0 +0.7
WET				ePP	PP	04 23 49.4 +0.8
IBBN	Ibbenburen	128.77	336	ePKPdf	PKPdf	04 21 43.1 +0.6
GRA1	Grafenberg Arr	129.11	331	ePKPdf	PKPdf	04 21 43.8 +0.6
GRA1				ePP	PP	04 23 51.5 0.0
GRF	Grafenberg Arr	129.11	331	ePKPdf	PKPdf	04 21 43.8 +0.6
GRF				ePP	PP	04 23 51.5 0.0
BUG	Bochum--Univer	129.62	335	ePKPdf	PKPdf	04 21 45.5 +1.3
BOJS	Bojanci	129.65	325	*i* PKPdf	PKPdf	04 21 44.4 +0.2
VISS	Visnje	129.71	325	ePKPdf	PKPdf	04 21 44.5 +0.2
ROSC	El Rosal	129.75	90	PKP	PKPdf	04 21 45.9 +1.5
	comp=Z,4.8nm,0.7s,baz=221,slow=6.9,SNR=4.2					
LPAZ	La Paz	129.99	119	PKP	PKPdf	04 21 46.6 +1.7
	comp=Z,4.7nm,0.9s,baz=351,slow=2.1,SNR=20					
LPAZ	La Paz	129.99	119	ePKPdf	PKPdf	04 21 46.6 +1.8
STU	Stuttgart	130.71	332	ePP	PP	04 24 03.4 +1.5
TSUM	Tsumeb	131.09	236	ePKPdf	PKPdf	04 21 49.0 +2.1
BFO	Black Forest	131.43	332	ePP	PP	04 24 06.7 +0.2
GIVF	Givet	131.65	336	ePKIKP	PKPdf	04 21 48.1 +0.1
CDF	Champ du Feu	131.86	332	ePKIKP	PKPdf	04 21 48.1 -0.3
HINF	Hinteralfeld	132.48	332	ePKIKP	PKPdf	04 21 49.4 -0.2
HAU	Haudompre	132.58	333	ePKIKP	PKPdf	04 21 50.7 +1.0
	comp=Z,12nm,0.9s					
MEZF	Maizieres J'vi	132.78	334	ePKIKP	PKPdf	04 21 51.1 +1.0
	comp=Z,22nm,1.0s					
CPUP	Villa Florida	132.91	137	PKP	PKPdf	04 21 51.1 +0.8
	comp=Z,2.7nm,0.8s,baz=47,slow=0.3,SNR=4.7					
SDV	Santo Domingo	133.72	85	ePKPdf	PKPdf	04 21 51.9 0.0
CABF	La Chapelle	133.72	332	ePKIKP	PKPdf	04 21 52.5 +0.6
	comp=Z,14nm,1.0s					
LPL	La Plagne	134.20	330	ePKIKP	PKPdf	04 21 53.2 +0.4
LPG	La Plagne	134.20	330	ePKIKP	PKPdf	04 21 53.3 +0.5
	comp=Z,14nm,1.1s					
LOR	Lormes	134.24	334	ePKIKP	PKPdf	04 21 53.5 +0.6
	comp=Z,9.6nm,0.9s					
SSF	Saint Saulge	134.56	334	ePKIKP	PKPdf	04 21 53.7 +0.2
SMF	Signal de Mont	134.73	333	ePKIKP	PKPdf	04 21 54.2 +0.4
	comp=Z,14nm,1.0s					
MBDF	Montbardon	134.74	329	ePKIKP	PKPdf	04 21 53.9 +0.1
	comp=Z,7.6nm,0.8s					
FLN	La Foliniere	134.79	338	ePKIKP	PKPdf	04 21 53.8 -0.1
	comp=Z,34nm,1.2s					
LDF	La Druitiere	134.80	338	ePKIKP	PKPdf	04 21 54.0 +0.1
AVF	Avril sur Loir	134.83	334	ePKIKP	PKPdf	04 21 54.2 +0.2
SBF	Sospel	135.00	328	ePKIKP	PKPdf	04 21 54.6 +0.3
PGF	Pioggiola	135.02	325	ePKIKP	PKPdf	04 21 54.4 +0.1
	comp=Z,34nm,1.0s					
ORIF	Oris-en-Rattie	135.05	330	ePKIKP	PKPdf	04 21 54.4 0.0
	comp=Z,11nm,0.9s					
BGF	Bois d'Agland	135.23	334	ePKIKP	PKPdf	04 21 55.1 +0.4
FRF	La Foret Royal	135.62	328	ePKIKP	PKPdf	04 21 55.3 -0.1
VIVF	Saint-Julien-l	135.68	331	ePKIKP	PKPdf	04 21 55.7 +0.1
	comp=Z,21nm,1.1s					
TCF	Toulx Ste Croi	135.72	334	ePKIKP	PKPdf	04 21 55.4 -0.2
	comp=Z,16nm,1.1s					
LMR	La Mourre	135.85	328	ePKIKP	PKPdf	04 21 55.7 -0.2
SMRF	Simiane la Rot	135.88	329	ePKIKP	PKPdf	04 21 56.4 +0.5
	comp=Z,14nm,1.0s					
MFF	Saint Martin d	136.44	336	ePKIKP	PKPdf	04 21 57.0 0.0
LASF	Ste Croix	136.65	331	ePKIKP	PKPdf	04 21 57.6 +0.2
RJF	Les Rejaudoux	136.79	334	ePKIKP	PKPdf	04 21 58.0 +0.4
SAML	Samuel	137.36	112	ePKPdf	PKPdf	04 21 59.1 +0.4
LFF	La Frestale	137.42	334	ePKIKP	PKPdf	04 21 58.9 +0.1
EPF	Esparros	139.10	333	ePKIKP	PKPdf	04 22 02.3 +0.4
ETSF	Etsaut	139.61	333	ePKIKP	PKPdf	04 22 03.8 +1.0
	comp=Z,21nm,1.0s					
GUD	Guadarrama	143.00	335	PKHKP		04 22 05.1
ESDC	Sonseca Array	143.72	334	PKP	PKPdf	04 22 08.6 -1.6
	comp=Z,1.9nm,0.8s,baz=31,slow=3.6,SNR=7.4					
ESDC				PP	PP	04 25 23.8 +0.8
	comp=Z,2.6nm,0.9s,baz=20,slow=6.1,SNR=5.5					
ESDC	Sonseca Array	143.72	334	P	PKPdf	04 22 07.9 -2.2
PVRL	Vila Real	143.84	339	ePKP	PKPdf	04 22 09.6 -0.8
EVIA	Vianos	143.88	331	PKIKP	PKPdf	04 22 09.7 -0.7
PVIS	Viseu	144.40	339	ePKP	PKPdf	04 22 10.5 -0.8
MTE	Manteigas	144.55	338	ePKP	PKPdf	04 22 11.2 -0.4
MTE	Manteigas	144.55	338	ePKPdf	PKPdf	04 22 10.9 -0.7
EHUE	Huescar	144.58	330	PKIKP	PKPdf	04 22 10.6 -1.1
CAM4	Nova Friburgo	144.75	149	⇓*i* P	PKPdf	04 22 10.3 -1.6
CAM4				*i*		04 22 12.1
CAM4				*i*		04 22 13.9
CAM4				*i*		04 22 18.5
CAM4				*i*		04 23 45.9
EQES	Quesada	144.82	331	P	PKPdf	04 22 11.6 -0.4
EBAN	Banos Encina	144.87	332	PKIKP	PKPdf	04 22 12.4 +0.2
PCBR	Castelo Branco	145.01	338	ePKP	PKPdf	04 22 12.3 -0.1
ENIJ	Nijar	145.04	329	PKIKP	PKPdf	04 22 12.0 -0.4
EADA	Adamuz	145.23	333	P	PKPbc	04 22 13.8 +1.3
PTOM	Tomar	145.55	339	ePKP	PKPdf	04 22 14.4 +1.1
EBAD	Badajoz	145.77	336	P	PKPdf	04 22 14.4 +0.7
ERON	Agron	145.80	331	P	PKPdf	04 22 14.0 +0.2
EGUA	Guajares	145.83	330	PKP2	PKPab	04 22 14.8 -0.1
ELOJ	Sierra Loja	145.86	331	PKP2	PKPab	04 22 14.9 -0.1
EVO	Evora	146.35	337	ePKIKP	PKPdf	04 22 15.3 +0.6
	comp=Z,78nm,1.4s					
EMIN	Mina Concepcio	146.47	335	P	PKPdf	04 22 18.1 +3.2
BDFB	Brasilia	146.50	134	PKPbc	PKPbc	04 22 16.8 +0.4
	comp=Z,12nm,0.9s,baz=186,slow=1.7,SNR=22					
EMIJ	Mijas	146.62	331	P	PKPdf	04 22 19.1 +3.9
ESPR	Espera	146.87	333	P	PKPdf	04 22 19.1 +3.5
EJIF	Jimena Fronter	147.04	332	PKP2	PKPab	04 22 19.6 +0.1
CAM3	Guarapari	147.13	150	⇑*i* P	PKPdf	04 22 19.2 +3.2
CAM3				*i*		04 22 23.7
CAM3				*i*		04 22 38.3
CAM3				*i*		04 22 51.9
PTEO	Sao Teotonio	147.49	337	ePKP	PKPdf	04 22 20.5 +3.9
TORD	Torodi Ar. Bea	154.38	284	PKP	PKPdf	04 22 28.1 +0.9
	comp=Z,1.4nm,0.9s,baz=2.9,slow=3.0,SNR=5.1					
TORD				PKPbc	PKPbc	04 22 36.3 +0.7
	comp=Z,4.6nm,0.8s,baz=82,slow=2.2,SNR=16					
TORD				PKPab	PKPab	04 22 50.6 +0.7
	comp=Z,8.0nm,1.0s,baz=75,slow=3.7,SNR=13					
DBIC	Dimbokro	161.13	267	PKPab	PKPab	04 23 21.1 +2.1
	comp=Z,16nm,0.9s,baz=58,slow=5.2,SNR=8.3					

ISCJB ***16*** *04:08:44.5±0.3, 4513N×002×646E±003, h9km, Error ellipse: s-maj=2.9km s-min=2.2km az=123.6*
STR ***16*** *04:08:44.9±0.8, 4519N×656E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ROM ***16*** *04:08:45.4±0.2, 4510N×655E, h9km, Md1.8/3, Ml1.4/2, Error ellipse: s-maj=2.8km s-min=1.8km az=86.0*
LDG ***16*** *04:08:46.1±0.1, 4513N×653E, h3km, Md2.1/3, Ml2.3/10, Error ellipse: s-maj=2.6km s-min=1.6km az=82.0*

ISC 16 04:08:45.5±0.3, 4513N±002×650E±003, h8km±5km, n30, σ0§76/42, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNI	Bardonecchia	0.15	120	⇑*i* Pg	Pg	04 08 48.4	-0.2
BNI				Sg	Sg	04 08 50.4	-0.3
	126nm,0.1s						
GDM	Grand'Maison	0.28	286	Pn	Pg	04 08 54.8	+3.8
LPG	La Plagne	0.41	26	e*P*g	Pg	04 08 53.8	+0.3
LPG				e*S*g	Sg	04 08 59.9	+1.0
	13nm,0.2s						
LPL	La Plagne	0.42	23	e*P*g	Pg	04 08 54.1	+0.4
	SNR=1.0						
LPL				e*S*g	Sg	04 09 00.1	+0.8
MBDF	Montbardon	0.44	154	e*P*g	Pg	04 08 53.4	-0.7
	SNR=1.0						
MBDF				e*S*g	Sg	04 08 59.8	-0.1
	7.9nm,0.2s						
ORIF	Oris-en-Rattie	0.48	245	e*P*g	Pg	04 08 54.5	-0.4
	SNR=1.0						
ORIF				e*S*g	Sg	04 09 00.6	-0.6
	77nm,0.3s,SNR=1.0						
RSP	Reno Superiore	0.54	87	Pg	Pg	04 08 55.9	0.0
RSP				Sg	Sg	04 09 03.4	+0.5
	19nm,0.2s						
GRN	Grenoble	0.54	283	Sg	Sg	04 09 04.6	+1.5
SURF	Saint Ours	0.68	161	Sg	Sg	04 09 08.7	+1.2
DOI	San Damiano	0.82	139	Pg	Pg	04 09 00.3	-0.9
DOI				Sg	Sg	04 09 11.5	-0.4
	5.0nm,0.2s						
STOF	St-Etienne Org	1.20	201	Sg	Sg	04 09 26.7	+2.5
TOUF	Mont Tournerai	1.23	154	Pn	Pn	04 09 08.3	-0.8
AUTN	L'Aution	1.31	149	Pn	Pn	04 09 10.3	+0.2
VIVF	Saint-Julien-l	1.32	259	e*P*g	Pg	04 09 11.4	+0.6
	SNR=1.0						
VIVF				e*S*g	Sg	04 09 28.5	+0.5
	7.6nm,0.2s,SNR=1.0						
SMRF	Simiane la Rot	1.32	210	e*P*g	Pg	04 09 11.9	+1.0
	SNR=1.0						
SMRF	Simiane la Rot	1.32	210	e*S*g	Sg	04 09 28.4	+0.3
	9.8nm,0.4s,SNR=1.0						
LUCF	Luceram	1.38	153	Pn	Pn	04 09 11.1	+0.1
SBF	Sospel	1.43	152	e*P*n	Pn	04 09 11.9	+0.1
	SNR=1.0						
SBF	Sospel	1.43	152	e*P*g	Pg	04 09 13.0	+0.1
	SNR=1.0						
SBF	Sospel	1.43	152	e*S*g	Sg	04 09 31.6	+0.1
	7.1nm,0.4s						
CABF	La Chapelle	1.51	349	e*P*n	Pn	04 09 14.5	+1.6
	SNR=1.0						
CABF				e*S*g	Sg	04 09 34.2	+0.1
	6.4nm,0.3s,SNR=1.0						
FRF	La Foret Royal	1.57	176	e*P*g	Pg	04 09 15.0	-0.6
	SNR=1.0						
FRF				e*S*g	Sg	04 09 35.7	-0.2
	3.9nm,0.2s,SNR=1.0						
LMR	La Mourre	1.79	180	e*P*n	Pn	04 09 16.5	-0.2
	SNR=1.0						
LMR	La Mourre	1.79	180	e*P*g	Pg	04 09 19.0	-0.8
	SNR=1.0						
LMR				e*S*g	Sg	04 09 42.3	-0.8
	2.6nm,0.3s						
SMF	Signal de Mont	2.40	310	e*P*g	Pg	04 09 31.0	-0.4
	SNR=1.0						
SMF				e*S*g	Sg	04 10 01.9	-0.6
	2.8nm,0.3s						
HINF	Hinteralfeld	2.70	5	e*S*g	Sg	04 10 11.1	-1.2
	1.6nm,0.2s						
AVF	Avril sur Loir	2.75	308	e*S*g	Sg	04 10 13.2	-0.7
	0.9nm,0.3s						
LOR	Lormes	2.82	320	e*P*g	Pg	04 09 39.1	-0.4
	SNR=1.0						
SSF	Saint Saulge	2.84	314	e*P*g	Pg	04 09 39.1	-0.8
	SNR=1.0						
BGF	Bois d'Agland	2.93	301	e*S*g	Sg	04 10 18.7	-0.8
	5.0nm,0.4s,SNR=1.0						

IDC 16 04:20:21.4±1.1, 1857N×11956E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, Error ellipse: s-maj=49.0km s-min=19.2km az=74.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	24.29	39	P	P	04 25 41.0	+0.6
	0.8nm,0.3s,baz=242,slow=13,SNR=5.6						
SONM	Songino Array	31.11	343	P	P	04 26 41.1	-0.4
	0.4nm,0.8s,baz=140,slow=7.5,SNR=2.5						
WRA	Warramunga Arr	40.93	159	P	P	04 28 05.7	+0.2
	3.5nm,0.9s,baz=340,slow=9.2,SNR=12						
MKAR	Makanchi Array	41.53	321	P	P	04 28 10.8	+0.3
	2.1nm,0.9s,baz=116,slow=8.2,SNR=5.1						
ASAR	Alice Springs	44.25	161	P	P	04 28 33.5	+1.0
	3.8nm,1.0s,baz=335,slow=7.1,SNR=21						
STKA	Stephens Creek	54.43	157	P	P	04 29 49.6	-0.8
	4.8nm,0.8s,baz=339,slow=7.2,SNR=8.1						

NEIC ***16*** *04:25:06.8, 3742S×177.13E, h150km, MG4.0(WEL), After WEL.*

WEL 16 04:25:06.8±0.4, 3738S×17715E, h145km±3km, ML3.8/17, 1C, Error ellipse: s-maj=4.4km s-min=3.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.88	182	PN	Pn	04 25 30.0	0.0
URZ				SN	Sn	04 25 47.9	+0.2
URZ	Urewera	0.88	182	e*P*	Pn	04 25 30.2	+0.2
MXZ	Matakaoa Point	0.94	101	PN	Pn	04 25 30.5	0.0
MXZ				SN	Sn	04 25 48.2	-0.4
MXZ	Matakaoa Point	0.94	101	P	Pn	04 25 30.6	+0.1
MXZ				S	Sn	04 25 48.2	-0.4
MWZ	Matawai	1.00	163	PN	Pn	04 25 31.3	+0.3
MWZ				e*S*N	Sn	04 25 50.4	+0.9
MWZ	Matawai	1.00	163	P	Pn	04 25 31.4	+0.4
KNZ	Kokohu	1.69	166	PN	Pn	04 25 38.2	+0.2
KNZ				SN	Sn	04 26 01.5	-0.4
KNZ	Kokohu	1.69	166	P	Pn	04 25 38.3	+0.3
BKZ	Black Stump Fm	1.85	196	PN	Pn	04 25 40.0	+0.1
BKZ	Black Stump Fm	1.85	196	e*P*	Pn	04 25 40.4	+0.5
FWVZ	Far West T-bar	2.25	213	PN	Pn	04 25 45.3	+0.7
FWVZ	Far West T-bar	2.25	213	e*P*	Pn	04 25 45.3	+0.7
WNVZ	Wahianoa	2.29	212	PN	Pn	04 25 45.6	+0.5
WNVZ	Wahianoa	2.29	212	P	Pn	04 25 45.7	+0.6
MOVZ	Moawhango	2.30	208	PN	Pn	04 25 45.0	-0.3
MOVZ	Moawhango	2.30	208	P	Pn	04 25 45.0	-0.2
PXZ	Pawanui	2.66	185	PN	Pn	04 25 48.9	-0.7
PXZ				SN	Sn	04 26 19.4	-3.1
TSZ	Takapari Road	2.83	199	⇑PN	Pn	04 25 51.0	-0.8
TSZ	Takapari Road	2.83	199	P	Pn	04 25 51.0	-0.8
BFZ	Birch Farm	3.37	192	PN	Pn	04 25 57.0	-1.6
BFZ	Birch Farm	3.37	192	e*P*	Pn	04 25 57.1	-1.6
MRZ	Mangatainoka R	3.50	200	PN	Pn	04 25 58.5	-1.8
MRZ				SN	Sn	04 26 37.7	-4.1
MRZ	Mangatainoka R	3.50	200	P	Pn	04 25 58.5	-1.8
TIWZ	Tintock	3.53	196	PN	Pn	04 25 59.2	-1.6
KIW	Kapiti Island	3.89	206	PN	Pn	04 26 03.4	-2.0
KIW	Kapiti Island	3.89	206	P	Pn	04 26 03.4	-2.0
MTW	Mount Morrison	3.98	198	P	Pn	04 26 04.0	-2.7
CAW	Cannon Point	4.06	203	P	Pn	04 26 05.2	-2.5
PAWZ	Paruwai Farm	4.21	198	P	Pn	04 26 06.8	-2.9
MSWZ	Moikau Station	4.29	200	P	Pn	04 26 07.8	-2.9
TCW	Tory Channel	4.43	209	P	Pn	04 26 09.7	-2.8
NNZ	Nelson	4.82	216	e*P*	Pn	04 26 15.1	-2.6
THZ	Tophouse	5.47	216	e*P*	Pn	04 26 23.1	-3.2
KHZ	Kahutara	5.74	208	e*P*	Pn	04 26 26.5	-3.5

ROM ***16*** *04:29:47.4±0.6, 4327N×1853E, h10km, Md3.2/6, Ml2.8/3, Error ellipse: s-maj=9.5km s-min=6.1km az=88.0*
ISCJB ***16*** *04:29:49.9±0.3, 4330N±002×1802E±002, h10km, Error ellipse: s-maj=3.1km s-min=2.3km az=63.5*
CSEM ***16*** *04:29:50.0±0.1, 4340N×1801E, h2km, MD3.2/6, Error ellipse: s-maj=3.7km s-min=2.5km az=23.0*
NEIC ***16*** *04:29:51.4, 4325N×1806E, h11km, MD2.7(PDG), ML2.8(ROM), After PDG.*
PDG ***16*** *04:29:51.4±0.2, 4325N×1806E, h11km*

ISC 16 04:29:51.2±0.3, 4329N±002×1803E±002, h10km, n32, σ1§21/58, 12C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.48	210	⇓*i* Pg	Pg	04 29 59.5	-1.0
STON				*i* Sg	Sg	04 30 07.7	+0.8
STON	Ston	0.48	210	*i* Sg	Sg	04 30 07.6	+0.8
BRY	Bratogost	0.54	135	⇑*i* Pg	Pg	04 30 00.9	-0.8
BRY				e*S*g	Sg	04 30 08.8	-0.1
TREB	Trebinje	0.62	157	P	Pg	04 30 01.8	-1.3
UPM	Unac-Piva	0.65	97	⇑*i* Pg	Pg	04 30 03.0	-0.8
UPM				e*S*g	Sg	04 30 13.5	+1.2
NKY	Niksic	0.85	123	⇑*i* Pg	Pg	04 30 06.2	-1.5
NKY				e*S*g	Sg	04 30 19.8	+1.0
HCY	Herceg Novi	0.91	157	e*P*g	Pg	04 30 07.5	-1.1
HCY				e*S*g	Sg	04 30 21.2	+0.7
PLE	Pljevlja	1.00	87	⇑*i* Pg	Pg	04 30 09.8	-0.7
PLE				e*S*g	Sg	04 30 24.8	+1.4
BBLS	Bajina Basta -	1.16	59	*i* Pg	Pg	04 30 13.1	-0.5
BBLS				Sg	Sg	04 30 29.1	+0.5
BUM	Brajici-Budva	1.18	147	⇑*i* Pg	Pg	04 30 12.2	-1.6
BUM				e*S*g	Sg	04 30 30.3	+1.3
BUM	Brajici-Budva	1.18	147	⇑*i* Pg	Pg	04 30 12.1	-1.7
BUM				e*S*g	Sg	04 30 30.3	+1.3
TTG	Podgorica	1.25	133	⇑*i* Pg	Pg	04 30 13.3	-1.9
TTG				e*S*g	Sg	04 30 32.9	+1.6
SJES	Sjenica	1.40	90	Pg	Pg	04 30 17.9	-0.1
SJES				Sg	Sg	04 30 37.5	+1.3
IVA	Berane	1.43	106	e*P*g	Pg	04 30 17.7	-1.0
IVA				e*S*g	Sg	04 30 39.0	+1.8
IVA	Berane	1.43	106	e*P*g	Pg	04 30 17.7	-1.0
IVA				e*S*g	Sg	04 30 39.0	+1.7
PVY	Plav	1.59	115	e*P*g	Pg	04 30 20.2	-1.5
PVY				e*S*g	Sg	04 30 42.5	+0.2
ULC	Ulcinj	1.60	145	e*P*g	Pg	04 30 19.6	-2.3
ULC				e*S*g	Sg	04 30 42.8	+0.2
DIVS	Divcibare	1.64	60	⇓*i* Pn	Pn	04 30 18.8	-1.2
DIVS				Sn	Sn	04 30 42.8	+1.6
FGMS	Monte Sant'Ang	2.20	225	Pn	Pn	04 30 29.0	+1.2
FGMS				Sn	Sn	04 30 58.6	+3.6
MSAG	Monte S. Angel	2.22	226	Pn	Pn	04 30 28.0	0.0
MSAG				Sn	Sn	04 30 58.9	+3.4
SGRT	San Giovanni R	2.28	229	Pn	Pn	04 30 29.8	+1.0
	47nm,0.6s						
NOCI	Noci	2.60	196	Pn	Pn	04 30 31.9	-1.3
NOCI				Sn	Sn	04 31 02.1	-2.7
	34nm,0.3s						
AMUR	Altamura	2.60	204	Pn	Pn	04 30 32.1	-1.2
	23nm,0.7s						
NVLJ	Novalja	2.61	300	*i* Pn	Pn	04 30 34.4	+0.9
NVLJ				*i* Sn	Sn	04 31 09.4	+4.2
VVLD	Villa Vallelon	3.55	248	Pn	Pn	04 30 47.1	+0.8
VVLD				Sn	Sn	04 31 30.9	+2.6
VOY	Vojsko	4.03	314	e*P*n	Pn	04 30 53.3	+0.4
VOY				*e*		04 31 03.0	
VOY				e*S*n	Sn	04 31 41.4	+1.2
OBKA	Obir	4.06	324	⇑*i* Pn	Pn	04 30 53.5	+0.1
OBKA				⇓*i* Sn	Sn	04 31 41.0	0.0
ARSA	Arzberg	4.34	337	⇑*i* Pn	Pn	04 30 56.5	-0.7
ARSA				⇑*i* Sn	Sn	04 31 46.4	-1.5
ARSA	Arzberg	4.34	337	⇑*i* Pn	Pn	04 30 56.5	-0.7
ARSA				*i* Sn	Sn	04 31 46.4	-1.5
PTCC	Patocco-Chiusa	4.56	315	Pn	Pn	04 31 00.4	+0.2
FVI	Forni Avoltri	4.98	313	Pn	Pn	04 31 07.0	+1.0
MOA	Molln	5.27	331	⇑*i* Pn	Pn	04 31 09.5	-0.5
MOA				⇓*i* Sn	Sn	04 32 09.6	-1.2

IDC 16 04:53:21.4±3.3, 1104S×11851E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.6/14, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=172.4km s-min=26.7km az=51.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.62	122	P	Pn	04 57 27.3	-1.0
	0.2nm,0.3s,baz=294,slow=14,SNR=12						
WRA				S	Sn	05 00 28.5	-17
	0.1nm,0.3s,baz=287,slow=23,SNR=3.5						
ASAR	Alice Springs	19.30	133	P	Pn	04 57 49.1	+0.3
	0.2nm,0.3s,baz=315,slow=13,SNR=7.4						
ASAR				S	Sn	05 01 09.7	-16
	0.1nm,0.3s,baz=305,slow=22,SNR=3.6						
SONM	Songino Array	59.59	351	P	P	05 03 27.3	+0.4
	0.4nm,0.7s,baz=170,slow=8.8,SNR=3.0						
MKAR	Makanchi Array	66.05	334	P	P	05 04 09.6	-0.3
	0.3nm,0.4s,baz=132,slow=8.3,SNR=3.8						

IGQ 16 05:25:49.5, 276S×7956W, h12km±8km, Mb4.0, Ms3.8, 6C-5D, Error ellipse: s-maj=15.2km s-min=3.6km az=53.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	1.66	42	P	Pn	05 26 19.6	+1.1
ARRY				S	Sn	05 26 41.3	+1.5
PATA	Patacocha	1.68	42	P	Pn	05 26 21.9	+3.2
PATA				S	Sn	05 26 45.2	+5.0
ULBA	Ulba	1.74	42	⇓P	Pn	05 26 22.6	+3.1
ULBA				S	Sn	05 26 44.7	+3.1
RUN5	Runtun	1.75	40	P	Pn	05 26 23.7	+4.0
RUN5				S	Sn	05 26 46.7	+4.7
PISA	Pisayambo	2.06	35	P	Pn	05 26 25.7	+1.8
PISA				S	Sn	05 26 53.2	+3.7
CAMI	Rancho Maria	2.32	27	⇑P	Pn	05 26 30.6	+3.1
NAS1	Nasa	2.37	27	⇓P	Pn	05 26 31.4	+3.1
TAMB	Tambo	2.37	30	⇓P	Pn	05 26 32.3	+4.0
VC1	Cotopaxi 1	2.40	29	⇑P	Pn	05 26 32.1	+3.5
VC1				S	Sn	05 27 06.8	+8.8
ANTI	Antisana	2.69	31	⇓P	Pn	05 26 35.4	+2.8
TERV	Terraza Guagua	2.74	20	⇑P	Pn	05 26 37.0	+3.7
TERV				S	Sn	05 27 10.8	+4.5
GGP	Refugio Guagua	2.74	21	⇑P	Pn	05 26 36.3	+2.9
GGP				S	Sn	05 27 10.3	+3.8
PINO	Pino	2.75	20	⇑P	Pn	05 26 36.9	+3.4
YANA	Yana	2.80	21	⇑P	Pn	05 26 36.8	+2.6
YANA				S	Sn	05 27 10.4	+2.5
CAYR	Refugio Cayamb	3.16	29	⇓P	Pn	05 26 45.8	+6.7
ANGU	Angureal	3.19	29	P	Pn	05 26 43.1	+3.6

BJI ***16*** *05:26:40.7, 4239S×17501E, h11km, mB5.1, mb5.1, Ms4.4, Msz4.4*
NEIC ***16*** *05:26:45.9, 4161S×17434E, h11km, ML4.0(WEL), After WEL.*

WEL 16 05:26:46.0±0.1, 4160S×17434E, h10km±1km, ML4.1/45, 5C-4D, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0, Cook Strait

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WTVZ	**West Tongariro**	**2.65**	**21**	P	Pn	05 27 32.6	+3.8
KATZ	**Kakaramea**	**2.81**	**22**	P	Pn	05 27 36.6	+5.6
BKZ	**Black Stump Fm**	**2.93**	**35**	P	Pn	05 27 38.5	+6.0
RATZ	**Rangitukua**	**2.94**	**22**	P	Pn	05 27 39.0	+6.4
WATZ	**Wairara**	**3.07**	**21**	P	Pn	05 27 41.5	+7.0
HIZ	**Hauiti**	**3.10**	**7**	*e*P	Pn	05 27 38.3	+3.4
NJ2	**Nanjing**	**89.34**	**316**	*e*P	P	05 39 43.4	+0.9
NJ2				AP	pP	05 39 47.4	+1.4
NJ2				XP	sP	05 39 51.0	+3.7
NJ2				AMB	AMB		
	comp=Z,70nm,5.8s						
NJ2				LR	LR		
	comp=Z,340nm,27.8s						
MDJ	**Mudanjiang**	**94.73**	**330**	P	P	05 40 09.1	+1.6
HHC	**Hu-ho-hao-te**	**99.83**	**317**	*e*P	Pdif	05 40 32.5	+2.0
HHC				AP		05 40 37.3	
HHC				XP		05 40 39.4	

NNC 16 05:29:28.3±38.0, 3697N×7014E, h196km±685km, mb2.0, mpv2.8, 5C, Error ellipse: s-maj=414.8km s-min=170.0km az=8.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.13**	**3**	⇑P	Pn	05 30 59.5	+2.4
	1.8nm,0.6s,baz=176,slow=12,SNR=13						
KK31				⇑S	Sn	05 32 09.0	+1.6
	2.0nm,0.3s,baz=192,slow=26,SNR=6.5						
TKM2	**Tokmak 2**	**7.27**	**34**	⇑P	Pn	05 31 10.0	-2.0
	0.1nm,0.6s						
TKM2				⇑S	Sn	05 32 32.7	-1.6
	0.2nm,0.8s						
AB31	**Akbulak array**	**14.34**	**332**	⇑P	Pn	05 32 43.4	+0.9
	0.3nm,0.6s,baz=172,slow=11,SNR=5.7						

*ISCJB **16** 05:29:41.8±0.3, 1921S×004×69.18W×005, h106km, mb4.2/29, Error ellipse: s-maj=7.3km s-min=6.0km az=119.8*
*BJI **16** 05:29:43.5, 1920S×69.10W, h106km, mB4.8*
*NEIC **16** 05:29:43.5±0.3, 1923S×69.15W, mb4.3/22, Error ellipse: s-maj=8.9km s-min=5.7km az=64.0*
*IDC **16** 05:29:43.4±0.5, 1930S×69.18W, h105km±4km, mb4.0/12, mb1 4.1/16, mb1mx4.0/22, mbtmp4.3/16, MS3.1/2, Ms1 3.1/2, ms1mx2.5/20, Error ellipse: s-maj=14.3km s-min=8.6km az=79.0*

ISC 16 05:29:43.9±0.3, 1926S±004×6917W±005, h108km, h108km±1.0km: pP-P, n55, σ0§98/53, mb4.2/29, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.11**	**19**	P	**Pn**	**05 30 35.3**	**+4.0**
	12nm,0.3s,baz=191,slow=7.9,SNR=196						
LPAZ	**La Paz**	**3.11**	**19**	*e*Pn	**Pn**	**05 30 34.9**	**+3.6**
LVC	**Limon Verde**	**3.35**	**176**	P	**Pn**	**05 30 34.1**	**-0.3**
	83nm,0.3s,baz=349,slow=8.6,SNR=222						
LVC				S	**Sn**	**05 31 11.6**	**-1.9**
	145nm,0.3s,baz=185,slow=21,SNR=15						
LVC				LR	LR	05 31 24.3	
	comp=Z,149nm,18.2s,baz=307,slow=30						
LVC	**Limon Verde**	**3.35**	**176**	*e*Pn	**Pn**	**05 30 33.8**	**-0.7**
LVC				*e*Sn	**Sn**	**05 31 01.7**	**-12**
SIV	**San Ignacio**	**8.37**	**68**	P	**Pn**	**05 31 42.2**	**-0.1**
	6.0nm,0.3s,baz=262,slow=11,SNR=192						
SIV				S	**Sn**	**05 33 14.3**	**-0.8**
	baz=341,slow=20,SNR=4.3						
SAML	**Samuel**	**11.77**	**30**	*e*Pn	**Pn**	**05 32 27.0**	**-1.2**
	6.8nm,0.8s						
CFAA	**Coronel Fontan**	**12.33**	**176**	P	**Pn**	**05 32 35.4**	**-0.1**
	0.2nm,0.3s,baz=0.8,slow=11,SNR=11						
CPUP	**Villa Florida**	**12.98**	**125**	P	**Pn**	**05 32 43.5**	**-0.7**
	4.9nm,0.3s,baz=285,slow=12,SNR=51						
CPUP	**Villa Florida**	**12.98**	**125**	*e*P	**Pn**	**05 32 43.1**	**-1.1**
	82nm,0.7s						
TRQA	**Tornquist**	**19.75**	**163**	*e*P	**P**	**05 34 05.1**	**0.0**
	123nm,1.1s						
BDFB	**Brasilia**	**20.49**	**83**	P	**P**	**05 34 12.8**	**-0.3**
	25nm,0.5s,baz=264,slow=12,SNR=13						
BDFB	**Brasilia**	**20.49**	**83**	P	**P**	**05 34 12.8**	**-0.3**
BAO	**Brasilia Array**	**20.52**	**83**	P	**P**	**05 34 15.0**	**+1.6**
OTAV	**Otavalo**	**21.41**	**334**	*e*P	**P**	**05 34 25.4**	**+2.6**
	4.6nm,0.7s,mb3.9						
PLCA	**Paso Flores**	**21.44**	**183**	P	**P**	**05 34 22.9**	**-0.4**
	7.4nm,1.0s,mb4.0,baz=355,slow=10,SNR=12						
PLCA	**Paso Flores**	**21.44**	**183**	*e*P	**P**	**05 34 23.7**	**+0.5**
	10nm,0.9s,mb4.2						
ROSC	**El Rosal**	**24.49**	**348**	LR	LR	05 44 25.4	
	comp=Z,88nm,19.6s,baz=163,slow=36						
CAM4	**Nova Friburgo**	**25.05**	**102**	⇑*i*P	**P**	**05 34 57.1**	**-0.8**
CAM4				*i*		05 34 59.0	
CAM4				*i*		05 35 02.0	
CAM4				*i*		05 35 03.4	
CAM3	**Guarapari**	**26.94**	**98**	(P)	**P**	**05 35 15.8**	**+0.8**
CAM3				*i*		05 35 17.7	
CAM3				*i*		05 35 19.8	
SDV	**Santo Domingo**	**28.00**	**357**	*e*P	**P**	**05 35 23.2**	**-1.2**
	1.7nm,0.4s,mb3.9						
RCBR	**Riachuelo**	**35.02**	**72**	*e*P	**P**	**05 36 28.0**	**+2.1**
	8.6nm,0.7s,mb4.7						
CMIG	**Matias Romero**	**44.09**	**323**	P	**P**	**05 37 41.0**	**-0.1**
	3.5nm,0.8s,mb4.1,baz=105,slow=6.1,SNR=6.1						
CMIG				pP	pP	05 38 05.9	-0.3
	3.2nm,0.7s,baz=107,slow=6.1,SNR=4.1						
HKT	**Hockley**	**55.26**	**332**	*e*P	**P**	**05 39 05.6**	**-0.2**
	6.5nm,1.2s,mb4.5						
SWET	**Sewanee**	**56.46**	**344**	*e*P	**P**	**05 39 13.2**	**-1.2**
SWET				*e*pP	pP	05 39 39.1	-1.4
PLAL	**Pickwick Lake**	**56.85**	**341**	*e*P	**P**	**05 39 15.3**	**-1.9**
	5.2nm,0.9s,mb4.6						
PLAL				*e*pP	pP	05 39 41.2	-2.0
PLAL				*e*		05 39 53.6	
JCT	**Junction City**	**57.57**	**329**	*e*P	**P**	**05 39 21.6**	**-0.6**
	3.0nm,0.5s,mb4.6						
WCI	**Wyandotte Cave**	**59.40**	**344**	P	**P**	**05 39 32.7**	**-2.2**
	3.4nm,0.6s,mb4.5						
WCI				*e*pP	pP	05 39 59.5	-1.7
FVM	**French Village**	**60.34**	**341**	*e*P	**P**	**05 39 41.1**	**-0.2**
	3.2nm,0.4s,mb4.7						
FVM				*e*pP	pP	05 40 05.9	-1.9
CCM	**Cathedral Cave**	**60.67**	**340**	*e*P	**P**	**05 39 43.1**	**-0.4**
	5.7nm,0.9s,mb4.6						
CCM				*e*pP	pP	05 40 08.8	-1.2
MNTX	**Cornudas Mount**	**61.42**	**325**	*e*P	**P**	**05 39 48.2**	**-0.4**
	2.5nm,0.9s,mb4.2						
SNAA	**Sanae**	**64.47**	**161**	P	**P**	**05 40 09.5**	**+0.7**
	1.6nm,0.8s,mb3.9,baz=274,slow=7.4,SNR=11						
ANMO	**Albuquerque**	**64.50**	**327**	*e*P	**P**	**05 40 09.7**	**+0.6**
	2.2nm,0.9s,mb4.0						
ANMO				*e*pP	pP	05 40 35.5	-0.3
ANMO				*e*		05 40 47.5	
SMCO	**Snowmass**	**68.04**	**329**	*e*P	**P**	**05 40 32.5**	**+0.8**
	2.6nm,0.8s,mb4.1						
DBIC	**Dimbokro**	**68.35**	**74**	P	**P**	**05 40 34.3**	**+0.8**
	10nm,0.8s,mb4.7,baz=232,slow=6.7,SNR=10						
DBIC	**Dimbokro**	**68.35**	**74**	*e*P	**P**	**05 40 34.2**	**+0.7**
	18nm,1.0s,mb4.8						
ARUT	**Antelope Range**	**70.37**	**324**	*e*P	**P**	**05 40 47.9**	**+1.9**
RSSD	**Black Hills**	**70.68**	**334**	*e*P	**P**	**05 40 48.5**	**+0.6**
	3.5nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**72.06**	**330**	P	**P**	**05 40 56.1**	**0.0**
	0.5nm,0.6s,mb3.5,baz=125,slow=7.6,SNR=4.7						
PDAR				pP	pP	05 41 23.4	+0.1
	0.9nm,0.8s,baz=127,slow=5.8,SNR=4.9						
HWUT	**Hardware Ranch**	**72.16**	**328**	*e*P	**P**	**05 40 57.3**	**+0.5**
	1.7nm,0.6s,mb4.0						
ULM	**Lac du Bonnet**	**73.11**	**342**	P	**P**	**05 41 00.9**	**-1.5**
	1.5nm,0.6s,mb4.0,baz=146,slow=7.0,SNR=5.6						
ULM				pP	pP	05 41 28.3	-1.4
	3.0nm,0.6s,baz=161,slow=5.4,SNR=6.9						
MOOW	**Moose Ponds**	**73.36**	**330**	*e*P	**P**	**05 41 04.7**	**+0.8**
	1.0nm,0.7s,mb3.8						
NVAR	**Mina Array Bea**	**73.59**	**322**	P	**P**	**05 41 05.1**	**-0.1**
	1.0nm,0.7s,mb3.6,baz=128,slow=6.3,SNR=7.6						
NVAR				pP	pP	05 41 32.6	+0.1
	0.6nm,0.6s,baz=141,slow=7.1,SNR=3.0						
HLID	**Hailey**	**75.02**	**328**	*e*P	**P**	**05 41 14.7**	**+1.1**
	2.8nm,0.9s,mb4.0						
HLID				*e*pP	pP	05 41 41.4	+0.4
BOZ	**Bozeman (W)**	**75.21**	**331**	*e*P	**P**	**05 41 14.5**	**-0.1**
	1.1nm,0.7s,mb3.7						
TORD	**Torodi Ar. Bea**	**76.84**	**71**	P	**P**	**05 41 24.1**	**+0.3**
	5.2nm,0.4s,mb4.6,baz=252,slow=5.3,SNR=74						
TORD				pP	pP	05 41 52.0	+0.7
	6.4nm,1.0s,baz=260,slow=5.5,SNR=3.8						
TORD				sP	sP	05 42 03.5	+0.5
	4.8nm,0.9s,baz=248,slow=5.3,SNR=2.6						
SYO	**Syowa Base**	**78.68**	**160**	⇓*e*P	**P**	**05 41 34.0**	**0.0**
SYO	**Syowa Base**	**78.68**	**160**	⇓*e*pP	pP	05 41 55.8	-5.9
TSUM	**Tsumeb**	**80.92**	**107**	*e*P	**P**	**05 41 46.6**	**+0.5**
	5.2nm,0.8s,mb4.4						
TSUM				*e*PcP	PcP	05 41 56.5	+4.1
EDM	**Edmonton**	**81.64**	**335**	*e*P	**P**	**05 41 49.0**	**-0.9**
ESDC	**Sonseca Array**	**84.41**	**45**	P	**P**	**05 42 04.6**	**+0.4**
	0.2nm,0.3s,mb3.4,baz=251,slow=4.5,SNR=5.1						
ESDC				pP	pP	05 42 34.4	+2.2
	0.3nm,0.3s,baz=250,slow=5.9,SNR=3.1						
BOSA	**Boshof**	**84.71**	**118**	P	**P**	**05 42 07.0**	**+1.3**
	1.8nm,0.5s,mb4.2,baz=278,slow=8.6,SNR=6.9						
YKA	**Yellowknife Ar**	**89.00**	**341**	P	**P**	**05 42 26.1**	**-0.3**
	4.2nm,0.6s,mb4.7,baz=134,slow=4.9,SNR=24						
YKA				pP	pP	05 42 53.7	-1.0
	2.2nm,0.6s,baz=132,slow=4.6,SNR=5.3						
YKA				sP	sP	05 43 04.0	-2.1
	2.4nm,0.6s,baz=132,slow=4.8,SNR=4.6						
SONM	**Songino Array**	**151.26**	**6**	PKPbc	PKPbc	05 49 25.5	+1.0
	2.3nm,0.6s,baz=285,slow=1.0,SNR=12						
SONM				pPKPbc	pPKPbc	05 49 54.2	+0.2
	5.3nm,0.8s,baz=309,slow=1.0,SNR=10						
HHC	**Hu-ho-hao-te**	**158.47**	**358**	*e*PKP	PKPdf	05 49 28.9	+0.5
HHC				APKP		05 49 55.6	
HHC				PKP2	PKPab	05 50 05.6	+2.0
HHC				PKS		05 53 00.9	
HHC				PP	PP	05 53 46.1	+2.0
HHC				SKS	SKSdf	05 56 23.3	-0.8
HHC				SKKS	SKKSac	06 00 23.0	+0.1
HHC				SS	SS	06 13 36.1	-0.3
HHC				LR	LR		
	comp=N,150nm,22.6s						
HHC				LR	LR		
	comp=E,200nm,16.6s						
HHC				LR	LR		
	comp=Z,80nm,15.5s						
NJ2	**Nanjing**	**165.36**	**332**	*e*PKP	PKPdf	05 49 35.9	+0.5

NEIC 16 05:33:56.0, 6004N×15256W, h102km, MG3.1(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.25**	**67**	P	Pn	05 34 18.5	-1.0
SEW	**Seward**	**1.56**	**86**	P	Pn	05 34 21.8	-1.3
SEW				S	Sn	05 34 42.1	-1.6
FIB	**Fire Island**	**1.63**	**45**	P	Pn	05 34 24.1	+0.1
RC01	**Rabbit Creek A**	**1.75**	**52**	P	Pn	05 34 24.3	-1.1
RC01				S	Sn	05 34 46.4	-1.4
SVW2	**Sparrevohn**	**1.83**	**307**	P	Pn	05 34 24.9	-1.6
KDAK	**Kodiak Island**	**2.26**	**180**	P	Pn	05 34 29.9	-2.2
PMR	**Palmer**	**2.29**	**46**	P	Pn	05 34 30.6	-1.8
PMR				S	Sn	05 34 57.2	-3.1
GHO	**Glory Hole Cre**	**2.48**	**44**	P	Pn	05 34 33.8	-1.2
SML	**Sawmill**	**2.72**	**47**	P	Pn	05 34 36.2	-1.9
MID	**Middleton Isla**	**3.21**	**98**	P	Pn	05 34 43.4	-1.2
TTA	**Tatalina**	**3.34**	**332**	P	Pn	05 34 44.5	-1.8
EYAK	**Cordova Ski Ar**	**3.43**	**78**	P	Pn	05 34 46.3	-1.2
DIV	**Divide**	**3.52**	**69**	P	Pn	05 34 47.1	-1.7
TRF	**Thorofare Moun**	**3.59**	**17**	P	Pn	05 34 48.6	-1.1
KTH	**Kantishna Hill**	**3.61**	**12**	P	Pn	05 34 50.0	+0.1
BMRM	**Bremner River**	**4.04**	**73**	P	Pn	05 34 53.7	-2.1
MCK	**McKinley**	**4.08**	**23**	P	Pn	05 34 55.5	-0.9
COLA	**College**	**5.32**	**22**	P	Pn	05 35 11.0	-2.0
IL11	**Eielson Array**	**5.40**	**27**	P	Pn	05 35 12.3	-1.9
PNL	**Peninsula**	**6.64**	**88**	P	Pn	05 35 29.5	-1.5
COLD	**Coldfoot**	**7.29**	**7**	P	Pn	05 35 38.3	-1.5
DAWY	**Dawson**	**7.38**	**51**	*e*Pn	Pn	05 35 39.6	-1.5
SKAG	**Skagway**	**8.72**	**86**	*e*P	Pn	05 35 59.6	+0.4
CRAG	**Craig**	**11.33**	**105**	*e*Pn	Pn	05 36 34.1	-0.5

*BJI **16** 05:35:49.4, 082N×12206E, h34km, mB5.6, mb5.3, Ms5.2, Msz5.0*
*IDC **16** 05:35:49.4±0.3, 124N×12176E, h0km, mb5.1/26, mb1 5.1/27, mb1mx5.1/29, mbtmp5.1/27, ML5.3/1, MS4.9/15, Ms1 4.9/15, ms1mx4.8/19, Error ellipse: s-maj=16.3km s-min=9.6km az=67.0*
*ISCJB **16** 05:35:53.0±0.2, 126N±002×12191E±003, h34km, mb5.3/108, MS5.0/52, Error ellipse: s-maj=4.0km s-min=3.0km az=173.9*
*MOS **16** 05:35:53.1±1.0, 130N×12186E, h33km, mb5.6/46, MS4.9/14, Error ellipse: s-maj=10.4km s-min=5.0km az=111.2*
*HRVD **16** 05:35:54.6±0.2, 128N×12186E, h30km, MW5.3/99, Centroid moment Tensor Solution. LP body waves: s84,c141;Mantle waves: s99,c157; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.11±.03; $M_{\theta\theta}$0.79±.02; $M_{\phi\phi}$0.32±.02; $M_{r\theta}$-0.68±.02; $M_{\phi\phi}$0.31±.01; $M_{\phi r}$-0.20±.03; Best double couple: $M_0$1.24600×10^{17} NP1:ϕ_s240.00000°, δ28.00000°, λ-98.00000°. NP2: ϕ_s69.00000°, δ62.00000°, λ-86.00000°. Principal axes: T 1.1610, Plg17.0000°, Azm156.0000°; N 0.1730, Plg4.0000°, Azm247.0000°; P -1.3320, Plg72.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 05:35:54.6±0.1, 124N×12182E, mb5.3/48, MW5.4 Error ellipse: s-maj=6.2km s-min=3.9km az=65.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.32; $M_{\theta\theta}$0.53; $M_{\phi\phi}$0.79; $M_{r\theta}$-0.54; $M_{\phi\theta}$0.40; $M_{\phi r}$-0.33; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s45.00000°, δ59.00000°, λ-82.00000°. NP2:ϕ_s210.00000°, δ32.00000°, λ-103.00000°. Principal axes: T 1.2200, Plg13.0000°, Azm129.0000°; N 0.2700, Plg7.0000°, Azm221.0000°; P -1.4900, Plg75.0000°, Azm337.0000°;*
NEIC Felt [III] at Gorontalo.

ISC 16 05:35:55.1±0.2, 122N±002×12192E±003, h36km, h36km±1.4km: pP-P, n393, σ1§13/328, mb5.3/108, MS5.0/52, 27C-35D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**2.97**	**225**	P	**Pn**	**05 36 39.0**	**-0.6**
	6μm,0.6s						
TARAI	**Tarakan**	**4.82**	**296**	P	**Pn**	**05 37 01.2**	**-3.9**
	3μm,1.0s						
CTBH	**Cotabato--PC H**	**6.40**	**21**	⇓*e*P	**Pn**	**05 37 24.0**	**-2.8**
IPIL	**Ipil**	**6.56**	**6**	*e*P	**Pn**	**05 37 27.2**	**-1.7**
PAGZ	**Pagadian**	**6.74**	**12**	*e*P	**Pn**	**05 37 29.1**	**-2.4**
DAV	**Davao City (W)**	**6.86**	**32**	*e*Pn	**Pn**	**05 37 33.7**	**+0.5**
	2μm,0.8s						
DAV				Sn	**Sn**	**05 38 50.6**	**+0.6**
MATI	**Mati**	**7.14**	**37**	*e*P	**Pn**	**05 37 35.9**	**-1.1**
BUKP	**Musuan**	**7.32**	**25**	*e*P	**Pn**	**05 37 38.2**	**-1.2**
BUKP				*e*S	**Sn**	**05 39 00.3**	**-0.9**
KKM	**Kota Kinabalu**	**7.44**	**310**	P	**Pn**	**05 37 40.2**	**-0.9**
KKM	**Kota Kinabalu**	**7.44**	**310**	⇓*i*Pn	**Pn**	**05 37 39.7**	**-1.4**
CGP	**Cagayan de Oro**	**7.70**	**21**	⇓*i*P	**Pn**	**05 37 44.5**	**-0.1**
AAI	**Ambon**	**7.94**	**128**	P	**Pn**	**05 37 53.7**	**+5.7**
	415nm,0.8s						
SNPH	**Sibulan**	**8.18**	**9**	*e*P	**Pn**	**05 37 51.0**	**-0.2**
BIPH	**Bislig**	**8.21**	**32**	⇓*i*P	**Pn**	**05 37 51.8**	**+0.1**
BATP	**Bataraza**	**8.57**	**332**	*e*P	**Pn**	**05 37 56.8**	**+0.2**
TBP	**Tagbilaran**	**8.63**	**13**	*e*P	**Pn**	**05 38 05.1**	**+7.7**
LLP	**Lapu-Lapu**	**9.26**	**13**	*e*P	**Pn**	**05 38 05.7**	**-0.4**
GUIM	**Jordan**	**9.37**	**4**	*e*P	**Pn**	**05 38 07.0**	**-0.6**
GUIM	**Jordan**	**9.37**	**4**	*e*P	**Pn**	**05 38 07.0**	**-0.5**
SWI	**Sorong**	**9.57**	**102**	P	**Pn**	**05 38 13.7**	**+3.5**
	319nm,0.8s						
CUYO	**Cuyo Island**	**9.61**	**355**	*e*P	**Pn**	**05 38 11.2**	**+0.4**
CUYO	**Cuyo Island**	**9.61**	**355**	*e*P	**Pn**	**05 38 11.3**	**+0.5**
KMMI	**Kalianget**	**11.42**	**224**	P	**Pn**	**05 38 41.4**	**+5.8**
	582nm,1.4s						
KSM	**Kuching**	**11.61**	**271**	*e*Pn	**Pn**	**05 38 37.9**	**-0.3**
PVCP	**Virac**	**12.49**	**10**	*e*P	**Pn**	**05 38 54.8**	**+4.5**
LUBP	**Lubang**	**12.54**	**352**	*e*P	**Pn**	**05 38 50.0**	**-1.0**
TGY	**Tagaytay City**	**12.84**	**356**	Pn	**Pn**	**05 38 56.2**	**+1.2**
	baz=180,slow=20,SNR=2.6						
KRKI	**Karangkates**	**13.26**	**225**	P	**Pn**	**05 39 06.8**	**+6.0**
	246nm,1.5s						
BALP	**Baler**	**14.43**	**359**	*e*P	**Pn**	**05 39 18.6**	**+1.8**
BALP	**Baler**	**14.43**	**359**	*e*P	**Pn**	**05 39 24.0**	**+7.2**
SCZP	**Santa Cruz**	**14.60**	**352**	*e*P	**Pn**	**05 39 25.2**	**+6.2**
SCZP	**Santa Cruz**	**14.60**	**352**	*e*P	**Pn**	**05 39 11.4**	**-7.6**
BJII	**Banjamegara**	**14.85**	**235**	P	**Pn**	**05 39 24.5**	**+2.1**
	536nm,1.5s						
BOLP	**Bolinao**	**15.19**	**353**	*e*P	**Pn**	**05 39 28.1**	**+1.3**
BOLP	**Bolinao**	**15.19**	**353**	*e*P	**Pn**	**05 39 31.8**	**+4.9**
CAUP	**Cauayan**	**15.62**	**360**	*e*P	**Pn**	**05 39 33.9**	**+1.4**
JCJI	**Jatiwangi**	**15.63**	**240**	P	**Pn**	**05 39 39.2**	**+6.6**
	537nm,1.0s						
LEM	**Lembang**	**16.36**	**241**	P	**Pn**	**05 39 46.2**	**+4.3**
	357nm,0.8s						
CVP	**Callao Caves**	**16.38**	**360**	*e*P	**Pn**	**05 39 45.0**	**+2.8**
APYP	**Conner**	**16.55**	**358**	*e*P	**Pn**	**05 39 45.0**	**+0.7**
APYP	**Conner**	**16.55**	**358**	*e*P	**Pn**	**05 39 46.8**	**+2.4**
KAKA	**Kakadu**	**17.34**	**143**	*e*P	**Pn**	**05 39 55.9**	**+1.7**
	104nm,0.6s						
SBJI	**Serang**	**17.37**	**245**	P	**Pn**	**05 39 57.5**	**+2.9**
	499nm,1.7s						
KGM	**Kluang**	**18.61**	**273**	P	**Pn**	**05 40 11.7**	**+2.0**
JAY	**Jayapura**	**19.14**	**101**	P	**Pn**	**05 40 21.5**	**+5.3**
	42nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.55**	**169**	⇑*i*P	**Pn**	**05 40 20.5**	**-0.5**
	188nm,1.1s						
FITZ				*e*S	**S**	**05 43 59.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**19.55**	**169**	P	**Pn**	**05 40 20.5**	**-0.5**
	7.1nm,0.3s,baz=3.5,slow=8.6,SNR=203						
FITZ				S	**S**	**05 43 57.7**	**-0.5**
	0.1nm,0.3s,baz=163,slow=19,SNR=4.7						
FITZ				LR	LR	05 48 47.7	
	comp=Z,3μm,19.5s,baz=211,slow=40						
KSI	**Kapahiang**	**19.91**	**256**	P	**Pn**	**05 40 25.1**	**-0.3**
	288nm,1.0s						
IPM	**Ipoh**	**21.11**	**279**	P	**P**	**05 40 36.9**	**+0.4**
QIZ	**Qiongzhong**	**21.29**	**327**	P	**P**	**05 40 37.8**	**-0.6**
QIZ				S	**S**	**05 44 32.3**	**-0.6**
QIZ				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.2						
QIZ				AMB	AMB		
	comp=Z,1μm,10.8s						
QIZ				LR	LR		
	comp=N,3μm,16.9s,MS4.7						
QIZ				LR	LR		
	comp=E,1μm,18.2s,MS4.7						
QIZ				LR	LR		
	comp=Z,4μm,17.5s,MS4.8						
QIZ	**Qiongzhong**	**21.29**	**327**	⇓*e*P	**P**	**05 40 37.7**	**-0.7**
	comp=Z,301nm,1.4s,mb5.4						
PPI	**Padang Panjang**	**21.59**	**266**	P	**P**	**05 40 43.5**	**+1.9**
	comp=Z,108nm,0.9s,mb5.3						
KULM	**Kulim**	**21.61**	**281**	*e*P	**P**	**05 40 40.8**	**-1.1**
HKC	**Hong Kong**	**22.27**	**341**	P	**P**	**05 40 50.0**	**+1.1**
MBWA	**Marble Bar**	**22.34**	**185**	*e*P	**P**	**05 40 48.8**	**-0.9**
	comp=Z,87nm,1.1s,mb5.1						
PSI	**Prapat**	**23.03**	**274**	P	**P**	**05 40 56.4**	**-0.6**
	comp=Z,30nm,0.8s,mb4.8,baz=90,slow=5.4,SNR=39						
PSI				S	**S**	**05 45 06.8**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=162,slow=19,SNR=3.4						
PSI	**Prapat**	**23.03**	**274**	P	**P**	**05 40 56.4**	**-0.6**
PSI				S	**S**	**05 45 06.8**	**+1.7**
GZH	**Guangzhou**	**23.28**	**340**	P	**P**	**05 41 02.1**	**+2.6**
GZH				S	**S**	**05 45 12.8**	**+3.8**
GZH				AMB	AMB		
	comp=Z,120nm,1.6s,mb5.1						
GZH				LR	LR		
	comp=N,2μm,17.7s,MS4.8						
GZH				LR	LR		
	comp=E,2μm,17.1s,MS4.8						
GZH				LR	LR		
	comp=Z,4μm,17.7s,MS5.0						
YHNB	**Yeheng**	**23.32**	**359**	*e*P	**P**	**05 40 59.1**	**-0.8**
QZH	**Quanzhou**	**23.80**	**352**	*i*PR	**P**	**05 41 04.0**	**-0.5**
QZH				S	**S**	**05 45 14.0**	**-3.6**
QZH				AMB	AMB		
	comp=Z,320nm,1.2s,mb5.6						
QZH				AMB	AMB		
	comp=Z,3μm,8.0s						
QZH				LR	LR		
	comp=N,4μm,17.9s,MS5.1						
QZH				LR	LR		
	comp=E,5μm,18.1s,MS5.1						
QZH				LR	LR		
	comp=Z,6μm,16.7s,MS5.2						
WRAB	**Tennant Creek**	**24.30**	**151**	P	**P**	**05 41 09.0**	**0.0**
	comp=Z,617nm,0.8s,mb6.1,SNR=28						
WRAB	**Tennant Creek**	**24.30**	**151**	*e*P	**P**	**05 41 08.9**	**-0.1**
WRA	**Warramunga Arr**	**24.30**	**151**	P	**P**	**05 41 08.9**	**-0.1**
	comp=Z,53nm,0.6s,mb5.2,baz=336,slow=8.6,SNR=250						
WRA				S	**S**	**05 45 26.4**	**+0.8**
	comp=Z,9.2nm,1.1s,baz=331,slow=16,SNR=4.6						
WRA				PKiKP	PKiKP	05 52 30.4	-0.1
	comp=Z,0.7nm,0.9s,baz=304,slow=1.5,SNR=5.0						
WRA	**Warramunga Arr**	**24.30**	**151**	P	**P**	**05 41 08.9**	**-0.1**
WRA				S	**S**	**05 45 26.4**	**+0.8**
WB2	**Warram

KMI SSS 05 48 57.3
KMI SCS ScS 05 52 34.0 -3.1
KMI AMB AMB
comp=Z,440nm,5.3s
KMI LR LR
comp=N,2μm,16.9s,MS4.9
KMI LR LR
comp=E,2μm,17.6s,MS4.9
KMI LR LR
comp=Z,2μm,19.1s,MS4.8
NJ2 Nanjing 30.80 355 *e*P **P** **05 42 10.1 +2.8**
NJ2 AP pP 05 42 19.3 +1.7
NJ2 PP PP 05 43 10.5 -6.6
NJ2 S **S** **05 47 09.0 +0.8**
NJ2 AMB AMB
comp=Z,110nm,1.3s,mb5.5
NJ2 AMB AMB
comp=Z,450nm,7.5s
NJ2 LR LR
comp=N,6μm,19.8s
NJ2 LR LR
comp=E,3μm,25.2s
NJ2 LR LR
comp=Z,2μm,18.0s,MS4.9
CTA Charters Tower 31.90 133 *e*P **P** **05 42 19.1 +2.2**
comp=Z,26nm,1.0s,mb5.0
CTA *e* 05 45 08.9
CTA Charters Tower 31.90 133 P **P** **05 42 19.1 +2.2**
comp=Z,34nm,0.9s,mb5.2,baz=317,slow=9.6,SNR=12
CTA PcP PcP 05 45 08.8 +2.0
comp=Z,5.0nm,0.8s,baz=287,slow=5.1,SNR=3.7
CTA Charters Tower 31.90 133 *e*P **P** **05 42 19.1 +2.2**
CTA *e* 05 45 08.9
CTA pmax pmax
comp=Z,26nm,1.0s
CTAO Charters Tower 31.90 133 *e*P **P** **05 42 18.3 +1.4**
CTAO pmax pmax
comp=Z,50nm,1.0s,mb5.3
CTAO Charters Tower 31.90 133 *e*P **P** **05 42 18.3 +1.4**
comp=Z,50nm,1.0s,mb5.3
CBIJ Chichi jima 32.25 35 P **P** **05 42 20.4 +0.3**
comp=Z,232nm,1.0s,mb6.0,baz=167,slow=2.9,SNR=13
FORT Forrest 32.35 170⇑ *i*P **P** **05 42 20.6 -0.3**
comp=Z,112nm,0.7s,mb5.8
KLBR Kellerberrin 32.87 187 *e*P **P** **05 42 24.2 -1.2**
comp=Z,31nm,0.7s,mb5.3
CD2 Chengdu 34.18 332 P **P** **05 42 36.6 -0.2**
CD2 PP PP 05 43 49.0 -5.6
CD2 S **S** **05 47 56.3 -4.4**
CD2 AMB AMB
comp=Z,60nm,0.7s,mb5.6
CD2 AMB AMB
comp=Z,320nm,6.2s
CD2 LR LR
comp=N,970nm,14.4s
CD2 LR LR
comp=Z,870nm,19.2s,MS4.5
NWAO Narrogin (SRO) 34.25 187 P **P** **05 42 36.6 -0.9**
comp=Z,52nm,0.8s,mb5.5,baz=7.2,slow=10,SNR=27
NWAO LR LR 05 56 28.8
comp=Z,2μm,21.2s,MS4.8,baz=345,slow=36
NWAO Narrogin (SRO) 34.25 187 P **P** **05 42 36.6 -0.8**
NWAO pmax pmax
comp=Z,52nm,0.8s
NWAO MLR MLR
comp=Z,2μm,21.2s
NWAO Narrogin (SRO) 34.25 187 *e*P **P** **05 42 35.8 -1.6**
comp=Z,46nm,0.8s,mb5.5
XAN Xi'an 34.84 341 P **P** **05 42 41.8 -0.8**
XAN S **S** **05 48 10.0 -1.0**
XAN LR LR
comp=N,1μm,20.0s,MS4.8
XAN LR LR
comp=E,920nm,15.2s,MS4.8
XAN LR LR
comp=Z,2μm,16.9s,MS5.0
DL2 Dalian 37.51 360 PR **P** **05 43 06.0 +0.7**
DL2 PP PP 05 44 34.0 +2.7
DL2 *e*S **S** **05 48 54.0 +2.3**
DL2 AMB AMB
comp=Z,540nm,5.0s
DL2 LR LR
comp=N,1μm,15.0s,MS4.8
DL2 LR LR
comp=E,520nm,15.0s,MS4.8
SHL Shillong 37.74 312 *i*P **P** **05 43 07.5 +0.2**
SHL AMb AMB 05 43 20.1
comp=Z,978nm,0.9s
SHL *e*PP PP 05 44 34.0 +0.2
SHL *e*x x 05 49 12.5
STKA Stephens Creek 37.83 152 *e*P **P** **05 43 06.7 -1.4**
comp=Z,57nm,0.8s,mb5.3
STKA Stephens Creek 37.83 152 P **P** **05 43 06.9 -1.2**
comp=Z,90nm,0.9s,mb5.5,baz=324,slow=8.3,SNR=82
STKA LR LR 05 59 54.2
comp=Z,2μm,21.4s,MS5.0,baz=333,slow=38
MAJO Matsushiro 38.24 21 *e*P **P** **05 43 10.2 -1.4**
MAJO pmax pmax
comp=Z,118nm,1.3s,mb5.5
MAJO Matsushiro 38.24 21 *e*P **P** **05 43 10.2 -1.4**
comp=Z,118nm,1.3s,mb5.5
MAT Matsushiro 38.24 21 P **P** **05 43 10.4 -1.2**
MAT S **S** **05 49 18.0 +15**
MAT Matsushiro 38.24 21 *e*P **P** **05 43 10.0 -1.6**
MAT pmax pmax
comp=Z,102nm,1.3s,mb5.4
MAT MLR MLR
comp=Z,2μm,22.0s,MS4.8
MAT Matsushiro 38.24 21 *e*P **P** **05 43 10.0 -1.6**
comp=Z,102nm,1.3s,mb5.4
MAT *e*S **S** **05 49 18.0 +15**
MAT LR LR
comp=Z,2μm,22.0s,MS4.8
MJAR Matsushiro Arr 38.24 21 P **P** **05 43 10.4 -1.2**
comp=Z,45nm,0.9s,mb5.2,baz=196,slow=8.9,SNR=64
MJAR ScP ScP 05 49 11.2 +1.0
comp=Z,2.9nm,0.8s,baz=195,slow=4.7,SNR=4.4
MJAR LR LR 05 56 40.5
comp=Z,2μm,21.4s,MS4.9,baz=200,slow=33
MJAR Matsushiro Arr 38.24 21 P **P** **05 43 10.4 -1.2**
MJAR 05 49 11.2
LZH Lanzhou 38.53 336 P **P** **05 43 14.8 +0.8**
LZH AP pP 05 43 24.9 +0.4
LZH XS sS 05 49 30.6 +6.0
LZH AMB AMB
comp=Z,50nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,290nm,4.3s
LZH LR LR
comp=E,3μm,15.2s
LZH LR LR
comp=Z,3μm,16.9s,MS5.2
CAL Calcutta 38.92 305 *e*x x 05 43 20.1
CAL *e*x x 05 44 44.6
BJT Baijiatuau 38.97 353⇓ *i*P **P** **05 43 17.9 +0.3**
BJT *e**PP pP 05 43 28.5 +0.4
BJT pmax pmax
comp=Z,75nm,1.2s
BJT Baijiatuau 38.97 353⇓ *i*P **P** **05 43 17.9 +0.2**
comp=Z,75nm,1.2s,mb5.3
BJT *e*pP pP 05 43 28.5 +0.4
ADE Adelaide 39.28 158 *e*P **P** **05 43 21.1 +0.8**
SNY Shenyang 40.45 2 PR **P** **05 43 29.9 -0.1**
SNY S **S** **05 49 36.9 +0.8**
SNY SS SS 05 52 31.0 -5.1
SNY AMB AMB
comp=Z,50nm,0.9s,mb5.2
SNY AMB AMB
comp=Z,1μm,3.8s
SNY LR LR
comp=N,2μm,19.2s,MS5.1
SNY LR LR
comp=E,2μm,18.9s,MS5.1
SNY LR LR
comp=Z,3μm,18.6s,MS5.1
HHC Hu-ho-hao-te 40.55 348 *e*P **P** **05 43 31.3 +0.5**
HHC AP pP 05 43 45.1 +3.8
HHC PP PP 05 45 08.9 +4.4
HHC PCP PcP 05 45 33.9 +1.3
HHC SCP ScP 05 49 19.3 +0.2
HHC AMB AMB
comp=Z,50nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,620nm,7.3s
HHC LR LR
comp=N,2μm,17.7s,MS5.1
HHC LR LR
comp=E,1μm,18.9s,MS5.1
HHC LR LR
comp=Z,2μm,19.0s,MS5.1
BTO Baotou 40.66 346 *e*P **P** **05 43 30.9 -0.8**
LSA Lhasa 40.73 317 P **P** **05 43 33.8 +1.6**
LSA AP pP 05 43 42.6 -0.2
LSA SCS ScS 05 53 29.0 -5.6
LSA AMB AMB
comp=Z,470nm,7.7s
LSA LR LR
comp=N,680nm,16.8s,MS4.8
LSA LR LR
comp=E,1μm,21.6s,MS4.8
LSA LR LR
comp=Z,2μm,16.8s,MS4.9
LSA Lhasa 40.73 317 *e*P **P** **05 43 33.2 +1.0**
LSA pmax pmax
comp=Z,20nm,0.6s,mb4.9
LSA Lhasa 40.73 317 *e*P **P** **05 43 33.2 +0.9**
comp=Z,20nm,0.6s,mb4.9
VIS Vishakhapatnam 41.30 296 *e*P **P** **05 43 37.2 +0.2**
VIS AMb AMB 05 43 42.1
comp=Z,93nm,2.1s,mb5.0
BOK Bokaro 41.49 306 *e*P **P** **05 43 37.7 -0.8**
BOK AMb AMB 05 43 43.4
comp=Z,68nm,1.6s,mb5.0
ARMA Armidale 42.31 141 *e*P **P** **05 43 47.8 +2.5**
CN2 Changchun 42.51 4 *e*P **P** **05 43 46.0 -0.9**
CN2 *e*PP PP 05 45 27.0 +1.2
CN2 *e*S **S** **05 50 07.0 +0.4**
CN2 *e*SS SS 05 53 10.5 -6.4
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,19.0s,MS5.1
CN2 LR LR
comp=E,2μm,19.0s,MS5.1
CN2 LR LR
comp=Z,1μm,19.0s,MS4.8
GTA Gaotai 43.03 335⇓ P **P** **05 43 52.3 +1.2**
GTA AP pP 05 44 02.1 +0.4
GTA PP PP 05 45 33.5 +2.2
GTA PCP PcP 05 45 42.8 +2.0
GTA PCS PcS 05 49 34.3 +1.1
GTA S **S** **05 50 16.8 +2.6**
GTA SS SS 05 53 23.1 -4.0
GTA AMB AMB
comp=Z,40nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,580nm,6.5s
GTA LR LR
comp=N,890nm,20.5s,MS4.8
GTA LR LR
comp=E,1μm,21.3s,MS4.8
GTA LR LR
comp=Z,1μm,21.7s,MS4.7
JIRN Jiri 43.14 311 *e*P **P** **05 43 52.5 +0.5**
comp=Z,95nm,0.7s,mb5.6
GUN Gumba 43.51 311 *e*P **P** **05 43 55.5 +0.6**
comp=Z,231nm,0.8s,mb6.0
PKI Pulchoki 43.69 310 *e*P **P** **05 43 56.6 +0.2**
comp=Z,74nm,0.9s,mb5.4
PKI Pulchoki 43.69 310 *e*P **P** **05 43 56.6 +0.2**
PKI pmax pmax
comp=Z,74nm,0.9s,mb5.4
MDJ Mudanjiang 43.74 8 P **P** **05 43 57.0 +0.2**
MDJ AP pP 05 44 11.3 +3.9
MDJ PP PP 05 45 41.8 +2.8
MDJ S **S** **05 50 25.8 +1.2**
MDJ SS SS 05 53 32.8 -8.2
MDJ SCS ScS 05 53 48.1 -5.0
MDJ AMB AMB
comp=Z,60nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,270nm,3.2s
MDJ LR LR
comp=N,1μm,19.4s,MS4.9
MDJ LR LR
comp=E,130nm,15.7s,MS4.9
MDJ LR LR
comp=Z,2μm,18.8s,MS5.0
MDJ Mudanjiang 43.74 8 *e*P **P** **05 43 57.0 +0.2**
comp=Z,54nm,0.8s,mb5.3
MDJ *e*pP pP 05 44 07.0 -0.4
KKN Kakani 43.90 310 *e*P **P** **05 43 58.4 +0.3**
comp=Z,101nm,0.9s,mb5.5
KKN Kakani 43.90 310 *e*P **P** **05 43 58.4 +0.3**
KKN pmax pmax
comp=Z,101nm,0.9s,mb5.5
DMN Daman 43.94 310 *e*P **P** **05 43 58.9 +0.5**
comp=Z,197nm,1.0s,mb5.8
TOO Toolangi 44.34 153 *e*P **P** **05 44 03.6 +2.0**
comp=Z,34nm,1.4s,mb4.9
TOO Toolangi 44.34 153 *e*P **P** **05 44 03.6 +2.0**
TOO pmax pmax
comp=Z,34nm,1.4s,mb4.9
CNB Canberra Magne 44.48 147 *e*P **P** **05 44 04.5 +1.8**
comp=Z,55nm,1.2s,mb5.2
HYB Hyderabad 45.56 293 *i*P **P** **05 44 11.5 +0.2**
JBP Jabalpur 46.15 301 *e*P **P** **05 44 15.0 -0.9**
JBP *e*x x 05 44 21.5
comp=Z,52nm,1.3s
JBP *e*x x 05 51 10.9
NGP Nagpur 46.24 298 *e*P **P** **05 44 14.8 -1.9**
NGP AMb AMB 05 44 19.2
comp=Z,49nm,1.3s,mb5.3
NGP *e*S **S** **05 51 00.1 -0.7**
ASAJ Asahikawa 46.50 21 P **P** **05 44 18.9 +0.2**
comp=Z,17nm,0.7s,mb5.1,baz=215,slow=9.2,SNR=5.8
ASAJ Asahikawa 46.50 21 P **P** **05 44 18.9 +0.2**
ASAJ pmax pmax
comp=Z,17nm,0.7s
HIA Hailar 47.90 358 *e*P **P** **05 44 29.7 +0.1**
HIA pmax pmax
comp=Z,110nm,1.4s
HIA Hailar 47.90 358 *e*P **P** **05 44 29.7 +0.1**
comp=Z,110nm,1.4s,mb5.7
AKL Akola 47.90 297 *e*x x 05 43 57.4
ULN Ulaanbaatar 48.22 347⇓ *i*P **P** **05 44 32.8 +0.7**
ULN pmax pmax
comp=Z,73nm,0.8s,mb5.8
ULN Ulaanbaatar 48.22 347⇓ *i*P **P** **05 44 32.8 +0.7**
comp=Z,73nm,0.8s,mb5.8
SONM Songino Array 48.34 346 P **P** **05 44 33.8 +0.8**
comp=Z,63nm,0.7s,mb5.8,baz=164,slow=9.1,SNR=546
SONM LR LR 06 07 16.2
comp=Z,2μm,18.1s,MS5.2,baz=162,slow=39
BHPL Bhopal 48.37 300 *e*P **P** **05 44 32.5 -0.8**
BHPL AMb AMB 05 44 34.5
comp=Z,49nm,0.7s,mb5.7
BHPL *e*x x 05 55 19.5
HABR Khabarovsk 48.42 12 *e*P **P** **05 44 34.9 +1.3**
HABR *e*S **S** **05 51 32.0 +0.3**
HABR pmax pmax
comp=Z,90nm,1.6s,mb5.5
HABR MLR MLR
comp=Z,777nm,16.2s,MS4.8
KLR Kul'dur 48.57 9 *e*P **P** **05 44 31.0 -3.7**
KLR *e* 05 46 26.0
KLR *e*S **S** **05 51 43.5 +10**
KLR *e* 05 54 21.5
KLR pmax pmax
comp=E,90nm,2.4s
KLR pmax pmax
comp=Z,240nm,2.4s,mb5.8
KLR MLR MLR
comp=N,1μm,16.0s
KLR MLR MLR
comp=Z,1μm,16.0s,MS5.0
LGTI Lohaghat 48.57 309 *i*P **P** **05 44 34.5 -0.3**
YSS Yuzh-Sakhalins 49.04 19 *e*P **P** **05 44 48.0 +10**
YSS *e* 05 46 03.0
YSS 05 46 34.0
YSS S **S** **05 51 53.0 +12**
YSS MLR MLR
comp=N,500nm,18.0s,MS4.7
YSS MLR MLR
comp=Z,600nm,18.0s,MS4.6
YSS MLR MLR
comp=E,600nm,19.0s,MS4.7
DZM Mont Dzumac 49.21 121 P **P** **05 44 42.4 +2.7**
comp=E,10nm,0.6s,mb5.0,baz=349,slow=8.4,SNR=15
KAD Karad 49.56 292 *e*P **P** **05 44 41.7 -0.7**
KAD AMb AMB 05 44 43.9
comp=Z,32nm,0.9s,mb5.3
POO Poona 50.17 293⇑ *i*P **P** **05 44 45.0 -2.0**
comp=Z,40nm,1.0s,mb5.4
NDI New Delhi 50.62 307 *e*P **P** **05 44 48.0 -2.4**
CIT Chita 51.11 353 *e*P **P** **05 44 55.0 +0.9**
CIT *e* pP 05 45 04.1 -0.7
CIT pmax pmax
comp=Z,231nm,1.8s,mb5.8
ZAK Zakamensk 51.48 345 *e*P **P** **05 44 57.0 +0.1**
ZAK pmax pmax
comp=Z,77nm,1.7s,mb5.4
AJM Ajmer 51.88 303 *e*P **P** **05 44 57.9 -1.9**
AJM AMb AMB 05 45 03.4
comp=Z,58nm,1.9s,mb5.2
WMQ Urumqi 52.20 329 P **P** **05 45 03.3 +1.1**
WMQ PP PP 05 47 02.5 +1.8
WMQ PPP 05 48 06.8
WMQ S **S** **05 52 23.8 -0.5**
WMQ SCS ScS 05 54 46.8 -2.4
WMQ SS SS 05 55 59.6 -2.3
WMQ AMB AMB
comp=Z,20nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,770nm,4.0s
WMQ LR LR
comp=N,2μm,17.0s,MS5.2
WMQ LR LR
comp=E,810nm,19.0s,MS5.2
WMQ LR LR
comp=Z,960nm,20.0s,MS4.8
TLY Talaya 52.58 346 P **P** **05 45 06.9 +1.9**
comp=Z,374nm,0.9s,mb6.3,SNR=19
TLY Talaya 52.58 346 *d i*P **P** **05 45 05.9 +0.9**
TLY *e* pP 05 45 15.3 -0.6
TLY *e* 05 47 10.9
TLY *e*S sS 05 52 44.1 -3.3
TLY pmax pmax
comp=Z,140nm,1.7s,mb5.6
TLY MLR MLR
comp=Z,1μm,18.0s,MS5.1
TLY Talaya 52.58 346 *i* Pr **P** **05 45 06.1 +1.1**
IRK Irkutsk 52.95 346 *e*P **P** **05 45 08.1 +0.3**
IRK pmax pmax
comp=Z,271nm,0.1s
MOY Mondy 53.26 344 *e*P **P** **05 45 11.0 +0.9**
MOY pmax pmax
comp=Z,39nm,1.4s,mb5.1
CLNS Chul'man 55.50 2 *e*P **P** **05 45 25.7 -0.6**
CLNS *e**PP pP 05 45 35.3 -1.9
CLNS *e* 05 46 25.5
CLNS *e* 05 47 32.9
CLNS *e*PPP 05 48 45.9
CLNS *e*S **S** **05 53 00.8 -8.2**
CLNS pmax pmax
comp=N,43nm,0.9s
CLNS pmax pmax
comp=Z,80nm,0.9s,mb5.8
CLNS pmax pmax
comp=E,25nm,1.0s
CLNS smax
comp=N,466nm,17.3s
CLNS smax
comp=Z,140nm,12.1s
CLNS smax
comp=E,248nm,14.4s
CLNS MLR MLR
comp=Z,800nm,17.0s,MS4.9
CLNS MLR MLR
comp=N,600nm,15.0s,MS4.8
CLNS MLR MLR
comp=E,300nm,15.0s,MS4.8
NIL Nilore 55.77 311 P **P** **05 45 28.2 -0.1**
comp=E,311nm,0.7s,SNR=5.2
KSH Kashi 56.55 318 *e*P **P** **05 45 34.9 +1.0**
KSH *e*AP pP 05 45 45.0 +0.2
KSH *e*PCP PcP 05 46 32.3 +2.2
KSH *e*PP PP 05 47 41.9 +2.0
KSH *e*PCS PcS 05 50 31.3 +0.5
KSH *e*S **S** **05 53 20.5 -2.5**
KSH AMB AMB
comp=Z,60nm,0.7s,mb5.7
KSH AMB AMB
comp=Z,1μm,3.6s
KSH LR LR
comp=N,1μm,6.5s
KSH LR LR
comp=E,570nm,5.7s
KSH LR LR
comp=Z,520nm,15.7s,MS4.7
BOD Bodaibo 56.78 355 *e*P **P** **05 45 35.5 0.0**
BOD pmax pmax
comp=Z,91nm,1.3s,mb5.7
MK31 Makanchi Array 57.01 329 P **P** **05 45 37.2 +0.1**
MK31 pmax pmax
comp=Z,24nm,0.9s,mb5.2
MKAR Makanchi Array 57.01 329 P **P** **05 45 37.4 +0.3**
comp=Z,17nm,0.9s,mb5.1,baz=127,slow=8.5,SNR=65
ULHL Ulahol 57.80 321 P **P** **05 45 44.3 +1.6**
SNR=13
KZA Kyzart 58.34 320 P **P** **05 45 48.0 +1.5**
SNR=44
TKM2 Tokmak 2 58.56 321 P **P** **05 45 48.9 +0.9**
SNR=37
KBK Karagaybulak 58.83 321 P **P** **05 45 51.0 +1.2**
SNR=31
UCH Uchtor 58.89 320 P **P** **05 45 51.5 +1.2**
SNR=42
AAK Ala-Archa 59.11 321 P **P** **05 45 52.5 +0.7**
SNR=24
AAK Ala-Archa 59.11 321 P **P** **05 45 51.0 -0.8**
comp=Z,215nm,1.0s,mb6.1,SNR=12
AAK Ala-Archa 59.11 321 *d i*P **P** **05 45 51.7 -0.1**
AAK pmax pmax
comp=Z,64nm,1.5s,mb5.4
AAK Ala-Archa 59.11 321 *i* Pr **P** **05 45 51.8 0.0**
FRU Bishkek 59.13 321 *e*P **P** **05 45 52.0 0.0**
FRU *e* 05 54 02.0
FRU pmax pmax
comp=Z,110nm,2.0s,mb5.5
CHMS Chumysh 59.13 321 P **P** **05 45 52.4 +0.5**
SNR=7.5
AML Almayashu 59.36 320 P **P** **05 45 55.4 +1.9**
SNR=12
USP Ospenovka 59.43 321 P **P** **05 45 54.7 +0.7**
SNR=43
EKS2 Erkin-Say 59.58 320 P **P** **05 45 56.2 +1.2**
SNR=31
PET Petropavlovsk 59.94 25 *d i*P **P** **05 45 55.9 -1.6**
PET *e*S **S** **05 54 09.1 +1.9**
PET *e*SS SS 05 58 08.3 +4.4
PET pmax pmax
comp=Z,500nm,3.0s
PET pmax pmax
comp=Z,400nm,13.6s
PET smax
comp=E,400nm,25.6s
PET smax
comp=N,300nm,22.4s
PET MLR MLR
comp=Z,600nm,20.0s,MS4.7
PET MLR MLR
comp=Z,500nm,16.0s
PET Petropavlovsk 59.94 25 *e*P **P** **05 45 56.8 -0.7**
comp=Z,38nm,0.9s,mb5.4
ZAL Zalesovo 60.76 336 P **P** **05 46 02.7 -0.4**
comp=Z,6.2nm,0.7s,mb4.9,baz=343,slow=7.7,SNR=32
ZAL LR LR 06 13 37.6
comp=Z,1μm,18.8s,MS5.0,baz=327,slow=37
ZAL Zalesovo 60.76 336 P **P** **05 46 02.7 -0.4**
ZAL LR LR 06 13 37.6
YAK Yakutsk 60.94 4 *e*P **P** **05 46 04.6 +0.2**
YAK *e**PP pP 05 46 13.8 -1.6
YAK *e* 05 46 43.5
YAK *e* 05 48 24.1
YAK *e*PPP 05 49 48.2
YAK *e*S **S** **05 54 29.9 +10**
YAK *e* 05 55 50.5
YAK pmax pmax
comp=Z,55nm,1.1s,mb5.6
YAK pmax pmax
comp=N,29nm,1.0s
YAK pmax pmax
comp=E,15nm,1.4s
YAK smax

comp=N,132nm,7.3s
YAK smax
comp=E,88nm,9.3s
YAK MLR MLR
comp=Z,417nm,18.0s,MS4.6
YAK MLR MLR
comp=N,440nm,24.0s
YAK MLR MLR
comp=E,327nm,16.0s
YAK Yakutsk 60.94 4 *e*P **P 05 46 03.1 -1.2**
comp=E,131nm,1.1s,mb6.0
YAK *e*pP pP 05 46 12.7 -2.7
KURK Kurchatov 61.39 330 P **P 05 46 07.7 +0.3**
comp=E,312nm,0.8s,SNR=24
KURK Kurchatov 61.39 330⇑*e*P **P 05 46 07.1 -0.3**
KK31 Karatay Array 61.89 320 *i* P **P 05 46 11.1 +0.3**
KK31 pmax pmax
comp=Z,45nm,0.9s,mb5.6
KKAR Karatay Array 61.89 320 *i* P **P 05 46 11.1 +0.3**
KKAR pmax pmax
comp=Z,42nm,1.0s,mb5.5
NVS Novosibirsk 62.05 336 *i* P **P 05 46 10.0 -1.8**
NVS pmax pmax
comp=E,32nm,1.4s
NVS pmax pmax
comp=Z,51nm,1.4s,mb5.5
NVS pmax pmax
comp=N,75nm,2.0s
MA2 Magadan 62.36 16 *e*P **P 05 46 14.1 +0.2**
MA2 pmax pmax
comp=Z,61nm,1.2s,mb5.6
MA2 Magadan 62.36 16 *e*P **P 05 46 14.1 +0.2**
comp=Z,61nm,1.2s,mb5.6
WSAR Wadi Sarin 65.06 295 P **P 05 46 31.5 -0.2**
comp=Z,9.6nm,0.9s,mb4.8,baz=103,slow=8.8,SNR=6.3
WSAR Wadi Sarin 65.06 295 P **P 05 46 31.5 -0.2**
BVA0 Borovoye Array 66.89 329 *i* P **P 05 46 43.2 -0.2**
BVA0 pmax pmax
comp=Z,21nm,1.8s,mb4.9
BVAR Borovoye Array 66.89 329 P **P 05 46 43.1 -0.4**
comp=Z,10nm,0.8s,mb4.9,baz=128,slow=9.6,SNR=57
BRVK Borovoye 66.96 329 P **P 05 46 43.3 -0.6**
comp=Z,131nm,1.0s,mb5.9,SNR=8.2
BRVK Borovoye 66.96 329 *i* Pr **P 05 46 43.6 -0.3**
CHKZ Chkalovo 67.12 330 P **P 05 46 44.4 -0.5**
CHKZ pmax pmax
comp=Z,91nm,1.8s,mb5.5
CHKZ Chkalovo 67.12 330⇓*i* P **P 05 46 44.3 -0.6**
comp=Z,63nm,1.5s,mb5.4
ZRNK Zerenda 67.56 329 P **P 05 46 47.4 -0.4**
ZRNK pmax pmax
comp=Z,150nm,1.9s,mb5.7
ZRNK Zerenda 67.56 329⇓*i* P **P 05 46 47.2 -0.6**
comp=Z,25nm,0.8s,mb5.3
ZRNK *e*pP pP 05 46 58.2 -0.7
ABKT Ailbek 68.78 310 P **P 05 46 56.5 +1.1**
comp=Z,291nm,0.8s,mb6.3,SNR=9.1
DRV Dumont d'Urvil 68.95 172 S S 05 56 07.0 +8.6
TIXI Tiksi 70.46 2 *i* P **P 05 47 04.3 -1.4**
TIXI Tiksi 70.46 2 *i* Pr **P 05 47 04.3 -1.4**
MIR Mirnyy 70.68 192 *e*P **P 05 47 08.5 +1.4**
MIR pmax pmax
comp=Z,195nm,1.0s,mb6.0
AB31 Akbulak array 71.11 322⇑*e*P **P 05 47 09.5 -0.2**
AKTK Aktyubinsk 72.69 323 P **P 05 47 18.9 -0.3**
AKTO Aktyubinsk 72.69 323 P **P 05 47 18.9 -0.3**
comp=Z,21nm,0.7s,mb5.2,baz=102,slow=7.2,SNR=89
BILL Bilibino 73.23 16*d* *i* P **P 05 47 21.5 -0.9**
BILL pmax pmax
comp=Z,17nm,1.3s,mb4.8
BILL MLR MLR
comp=Z,700nm,19.0s,MS5.0
BILL Bilibino 73.23 16 *e*P **P 05 47 21.4 -1.0**
comp=Z,41nm,1.7s,mb5.1
ATKA Atka Island 73.29 35⇓*i* P **P 05 47 22.5 -0.2**
ATKA *e*pP pP 05 47 33.9 -0.1
ARU Arti 74.53 329⇑*e*P **P 05 47 29.3 -0.7**
ORR Orenburg 75.02 324⇓*i* P **P 05 47 32.8 0.0**
ORR *i* pP 05 47 43.1 -0.9
ORR pmax pmax
comp=Z,100nm,1.2s,mb5.6
ORR MLR MLR
comp=Z,1μm,26.0s,MS5.1
MAK Makhachkala 77.79 314 *e*P **P 05 47 48.0 -0.5**
MAK *e*S S 05 57 33.0 -5.4
MAK pmax pmax
comp=Z,395nm,17.3s
UNV Unalaska Valle 78.22 35 *e*P **P 05 47 51.0 +0.1**
comp=Z,346nm,1.3s,mb6.1
GAMB Gambell 78.64 25⇓*i* P **P 05 47 53.4 +0.1**
GAMB *e*pP pP 05 48 04.0 -0.5
DGRG David-gareji 79.12 312 P **P 05 47 58.8 +3.0**
GNI Garni 79.42 311 *e*P **P 05 47 59.1 +1.7**
GNI pmax pmax
comp=Z,13nm,0.7s
GNI Garni 79.42 311 *e*P **P 05 47 59.1 +1.6**
comp=Z,13nm,0.7s,mb5.0
MTA Mtatsminda 79.58 312 P **P 05 47 58.6 +0.2**
MAW Mawson 79.78 200 P **P 05 47 59.2 -0.2**
comp=Z,1.8nm,0.6s,baz=26,slow=6.8,SNR=4.0
MAW LR LR 06 23 32.1
comp=Z,684nm,18.3s,MS5.0,baz=50,slow=36
ZEI Tsey 80.38 313 *e*P **P 05 48 02.8 +0.1**
ZEI *e**PP pP 05 48 18.8 +4.8
ZEI pmax pmax
comp=Z,34nm,0.9s,mb5.3
ONI Oni 80.68 313 P **P 05 48 03.8 -0.5**
VNDA Vanda 81.60 172 P **P 05 48 08.2 -0.9**
comp=Z,4.9nm,0.8s,mb4.5,baz=311,slow=5.9,SNR=21
VNDA LR LR 06 24 27.8
comp=Z,1μm,18.6s,MS5.3,baz=351,slow=36
VNDA Vanda 81.60 172 P **P 05 48 08.2 -0.9**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA MLR MLR
comp=Z,1μm,18.6s
VNDA Vanda 81.60 172 *e*P **P 05 48 07.8 -1.3**
comp=Z,5.8nm,0.8s,mb4.6
ARTV Artvin 81.66 311 *i* P **P 05 48 09.5 +0.1**
BNGL BINGOL 82.05 309 *i* P **P 05 48 10.8 -0.8**
MARD Mardin 82.21 307 *i* P **P 05 48 11.4 -1.0**
SOC Sochi 83.51 314*d* *i* P **P 05 48 17.8 -1.3**
SOC *e*S S 05 58 32.6 -5.5
SOC pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
MALT Malatya 84.13 308⇑*i* P **P 05 48 24.0 +1.7**
MALT Malatya 84.13 308 *e*P **P 05 48 23.0 +0.7**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MALT Malatya 84.13 308 *e*P **P 05 48 23.0 +0.7**
comp=Z,6.5nm,0.9s,mb4.8
KMBO Kilima Mbogo 84.69 269 P **P 05 48 26.1 +0.9**
comp=Z,11nm,0.8s,mb5.0,baz=57,slow=7.5,SNR=30
KMBO LR LR 06 26 01.9
comp=Z,530nm,19.1s,MS4.9,baz=95,slow=36
KMBO Kilima Mbogo 84.69 269 *e*P **P 05 48 26.3 +1.2**
KMBO *e**PP pP 05 48 36.9 +0.4
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO Kilima Mbogo 84.69 269 *e*P **P 05 48 26.3 +1.2**
comp=Z,8.6nm,0.9s,mb4.9
KMBO *e*pP pP 05 48 36.9 +0.4
GZT Gaziantep 84.77 307 *i* P **P 05 48 21.7 -3.8**
KLMR Klimovskoe 85.23 331 *e*P **P 05 48 24.0 -3.8**
KLMR pmax pmax
comp=Z,100nm,1.8s,mb5.6
TTA Tatalina 85.30 27 *e*P **P 05 48 30.1 +1.9**
SVW2 Sparrevohn 85.30 29 *e*P **P 05 48 29.2 +1.0**
MOS Moscow 85.78 326 *e*P **P 05 48 29.3 -1.2**
COBT Iskenderun 85.79 306 *i* P **P 05 48 28.3 -2.3**
OBN Obninsk 86.34 325*d* *i* P **P 05 48 32.4 -0.9**
OBN *i* S 05 58 58.5
OBN *e*SS SS 06 04 53.6 +7.5
OBN pmax pmax
comp=Z,83nm,1.8s,mb5.7
OBN Obninsk 86.34 325 *e*P **P 05 48 32.5 -0.8**
OBN LR LR
comp=Z,400nm,19.0s,MS4.8
EIL Elat 86.76 299 *e*P **P 05 48 36.6 +1.2**
comp=Z,348nm,1.4s,mb6.4
EIL *e*pP pP 05 48 46.5 -0.3
AVNT Avonos 86.95 309 *i* P **P 05 48 36.4 +0.1**
CTKT Corum 87.03 310 *i* P **P 05 48 33.3 -3.4**
SIM Simferopol' 87.59 315 P **P 05 48 40.3 +0.9**
SIM S 05 59 07.1
SIM pmax pmax
comp=Z,69nm,10.0s
BR131 Keskin Array S 87.90 310 *e*P **P 05 48 40.5 -0.3**
comp=Z,4.2nm,0.7s,mb4.8
BR131 *e*pP pP 05 48 50.5 -1.9
BRTR Keskin Array B 87.90 310 P **P 05 48 39.9 -1.0**
comp=Z,6.7nm,0.8s,mb4.9,baz=103,slow=5.6,SNR=25
BALT Daday 88.10 311 *i* P **P 05 48 41.4 -0.4**
APA Apatity 88.31 337⇓*e*P **P 05 48 42.5 -0.3**
APA *e*S 05 59 24.0
APA MLR MLR
comp=Z,1μm,20.0s,MS5.3
SYO Syowa Base 88.38 201⇑*e*P **P 05 48 41.8 -1.3**
PMR Palmer 88.43 29 *e*P **P 05 48 41.8 -1.6**
PMR pmax pmax
comp=Z,20nm,1.2s,mb5.2
PMR Palmer 88.43 29 *e*P **P 05 48 41.8 -1.6**
comp=Z,20nm,1.2s,mb5.2
MCK McKinley 88.53 26 *e*P **P 05 48 42.4 -1.5**
MCK pmax pmax
comp=Z,20nm,1.2s,mb5.3
MCK McKinley 88.53 26 *e*P **P 05 48 42.4 -1.4**
comp=Z,20nm,1.2s,mb5.3
SML Sawmill 88.81 28 *e*P **P 05 48 44.1 -1.1**
PPT Papeete 88.94 107 *e*S 05 59 31.2
comp=Z,897nm,26.5s
PPT Papeete 88.94 107 LR LR 06 26 54.8
comp=Z,275nm,18.1s,MS4.7,baz=167,slow=34
COLA College 89.00 25⇑*e*P **P 05 48 45.1 -1.0**
COLA College 89.00 25 *e*P **P 05 48 44.6 -1.5**
comp=Z,5.4nm,0.8s,mb4.9
JOF Jonsuu 89.20 333 *ep* **P 05 48 42.7 -4.3**
TBI Tubuai 89.21 113 *e*S 05 59 35.1
comp=Z,887nm,32.5s
TBI *e*LR LR 06 17 18.4
comp=Z,265nm,25.0s
ESKT Eskisehir 90.06 309 *i* P **P 05 48 49.3 -1.7**
DIV Divide 90.06 29 *e*P **P 05 48 49.8 -1.2**
comp=Z,15nm,0.7s,mb5.4
AKASG Malin Array Be 90.78 321 P **P 05 48 52.0 -2.3**
comp=Z,5.2nm,0.8s,mb4.9,baz=74,slow=4.5,SNR=28
AKASG Malin Array Be 90.78 321 *i* P **P 05 48 52.5 -1.9**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 91.12 340 P **P 05 48 54.0 -1.9**
comp=Z,3.0nm,0.7s,mb4.7,baz=90,slow=3.6,SNR=7.3
ARCES LR LR 06 33 39.2
comp=Z,779nm,18.7s,MS5.2,baz=102,slow=38
QSPA South Pole Qui 91.15 180 *e*P **P 05 48 55.5 -0.6**
comp=Z,9.1nm,0.9s,mb5.1
KAF Kangasniemi 91.56 332 *ep* **P 05 48 55.1 -2.9**
FINES FINESS Array B 91.74 331 P **P 05 48 56.4 -2.4**
comp=Z,3.5nm,0.7s,mb4.8,baz=117,slow=7.1,SNR=12
FINES FINESS Array B 91.74 331 *i* P **P 05 48 56.7 -2.1**
FINES pmax pmax
comp=Z,4.0nm,0.7s
BJO Bjornoya 92.23 345 AMS AMS 06 38 29.1
comp=Z,1μm,16.1s,MS5.4
KBS Kingsbay 92.59 350 AMS AMS 06 35 42.4
comp=Z,634nm,19.5s,MS5.1
DAWY Dawson 92.72 26 *e*P **P 05 49 03.5 +0.2**
DAWY *e*pP pP 05 49 15.3 +0.5
VRI Vrincioaia 92.76 316⇑*i* P **P 05 49 02.9 -0.6**
MLR Muntele Rosu 93.33 316⇑*i* P **P 05 49 06.4 +0.2**
BURAR Bucovina Array 93.63 318⇑*i* P **P 05 49 07.4 -0.2**
LSZ Lusaka 93.92 255 *e*P **P 05 49 09.2 +0.3**
LSZ *e**PP pP 05 49 20.2 -0.2
LSZ *e* 05 52 52.9
LSZ pmax pmax
comp=Z,22nm,1.4s,mb5.4
LSZ Lusaka 93.92 255 *e*P **P 05 49 09.2 +0.3**
comp=Z,22nm,1.4s,mb5.4
LSZ *e*pP pP 05 49 20.2 -0.1
LSZ *e*PP PP 05 52 52.9 -1.9
LVV L'vov 94.17 320 *e*P **P 05 49 09.0 -1.0**
INK Inuvik 94.23 21 *e*P **P 05 49 09.4 -0.9**
KWP Kalwaria 95.05 320 *e*P **P 05 49 13.7 -0.4**
SKAG Skagway 95.42 30 *e*P **P 05 49 17.9 +2.1**
comp=Z,42nm,1.4s,mb5.7
BOSA Boshof 96.44 242 LR LR 06 28 13.7
comp=Z,479nm,19.9s,MS5.0,baz=88,slow=33
OJC Ojcow 96.81 321 *e*P **P 05 49 21.5 -0.6**
NSS Namsos 97.38 336 AMS AMS 06 37 35.8
comp=Z,920nm,18.4s,MS5.3
OKC Ostrava-Krasne 97.93 321 AMS AMS 06 36 40.0
comp=Z,500nm,20.4s
MORC Moravsky Berou 98.33 321 *e*P **P 05 49 28.2 -0.7**
MORC *e**PP pP 05 49 38.6 -1.8
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.9
MORC Moravsky Berou 98.33 321 *e*P **P 05 49 28.2 -0.7**
comp=Z,3.4nm,0.8s,mb4.9
MORC *e*pP pP 05 49 38.6 -1.8
NB2 NORSAR Subarra 98.83 333 P **P 05 49 28.5 -2.7**
comp=Z,1.1nm,0.7s,mb4.5,baz=76,slow=4.6
NB2 NORSAR Subarra 98.83 333 P **P 05 49 28.5 -2.7**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.5
NOA NORSAR Array B 98.83 333 P **P 05 49 28.7 -2.5**
comp=Z,1.5nm,0.7s,mb4.6,baz=76,slow=4.5,SNR=6.6
NOA LR LR 06 39 23.1
comp=Z,594nm,18.7s,MS5.1,baz=30,slow=39
NOA NORSAR Array B 98.83 333 P **P 05 49 28.7 -2.5**
NOA LR LR 06 39 23.1
DPC Dobruska-Polom 98.97 321 AMS AMS 06 41 40.0
comp=Z,700nm,21.9s
MOL Molde 99.92 335 AMS AMS 06 39 38.8
comp=Z,1μm,18.5s,MS5.4
PRU Pruhonice 100.17 321 AMS AMS 06 38 00.0
comp=Z,600nm,19.4s
BRG Berggiesshubel 100.32 322 P PP 05 53 47.0 +2.9
BRG *e* 05 58 20.0
BRG *e* 06 02 46.0
BRG
comp=N,139nm,15.5s
BRG
comp=E,380nm,20.9s
BRG
comp=Z,296nm,17.5s
CLL Collm 100.78 323 *e*Pdiff Pdif 05 49 41.6 +1.8
CLL *e*PP PP 05 53 48.3 +0.7
CLL *e*PPP 05 56 07.8
CLL *e*PPPP 05 57 39.3
CLL *e*SKSac SKSac 06 00 14.6 -1.5
CLL *e*PS PS 06 02 52.4 +3.1
CLL *e*PPS 06 03 42.7
CLL *e*SS SS 06 08 32.7 +20
CLL *e*SSS 06 12 27.9
CLL *e*L 06 41 42.6
comp=Z,649nm,18.0s
CLL Collm 100.78 323 *e*Pdif Pdif 05 49 41.0 +1.2
CLL *e*PP PP 05 53 49.0 +1.4
CLL *e*PPP 05 56 01.0
CLL *e*PPPP 05 57 42.0
CLL *e*SKSac SKSac 06 00 12.0 -4.1
CLL *e*PS PS 06 02 48.0 -1.3
CLL *e*x x 06 04 24.0
CLL *e*SS SS 06 08 24.0 +12
CLL *e*SSS 06 12 18.0
CLL Collm 100.78 323 *e*Pdif Pdif 05 49 41.0 +1.2
CLL *e*PP PP 05 53 49.0 +1.4
CLL LR LR
comp=Z,600nm,16.1s,MS5.2
GERES GERESS Array B 100.99 320 P Pdif 05 49 40.3 -0.5
comp=Z,0.5nm,0.2s,baz=70,slow=4.4,SNR=7.4
GERES PKKPbc PKKPbc 06 05 54.4 +2.2
comp=Z,0.2nm,0.3s,baz=225,slow=1.7,SNR=4.0
KHC Kasperske Hory 100.99 321 AMS AMS 06 38 20.0
comp=Z,700nm,20.6s
KHC Kasperske Hory 100.99 321⇑*e*P Pdif 05 49 40.8 0.0
SNAA Sanae 101.56 195 P Pdif 05 49 43.1 -0.2
comp=Z,0.2nm,0.8s,baz=20,slow=11,SNR=3.4
SNAA Sanae 101.56 195 *e*Pdif Pdif 05 49 41.2 -2.1
comp=Z,1.5nm,1.1s
BER Bergen 101.76 333 AMS AMS 06 39 48.7
comp=Z,927nm,18.0s,MS5.3
GRF Grafenberg Arr 102.32 322 *e*PP PP 05 54 03.9 +4.7
RKT Rikitea 102.53 113 *e*LR LR 06 23 28.2
comp=Z,10μm,43.2s
YKA Yellowknife Ar 103.73 23 PKKPbc PKKPbc 06 05 44.4 +0.4
comp=Z,1.1nm,0.8s,baz=99,slow=1.6,SNR=4.0
G05A Wamic 107.64 41 ⇑P PKiKP 05 54 20.4 +2.2
baz=108
N02C Big Bar 107.71 46 ⇑P PKiKP 05 54 20.5 +2.3
baz=108
M02C Callahan 107.86 46 ⇓P PKiKP 05 54 20.7 +2.1
baz=108
S04C Ingram Canyon, 110.19 49 ⇓P PKiKP 05 54 24.5 +1.6
baz=110
LAVA Lava Cap Winer 110.23 48 ⇑P PKiKP 05 54 25.0 +2.0
baz=110
PACP Pacheco Peak 110.37 50 ⇑P PKiKP 05 54 25.0 +1.7
baz=110
O06A Flanigan 110.43 46 ⇑P PKiKP 05 54 25.2 +1.8
baz=110
O07A Toulon 111.11 46 ⇓P PKiKP 05 54 25.9 +1.2
baz=111
NVAR Mina Array Bea 112.14 47 PKiKP PKiKP 05 54 28.9 +2.2
comp=Z,1.3nm,0.7s,baz=248,slow=0.5,SNR=11
HLID Hailey 112.85 41 *e*PKP PKiKP 05 54 29.7 +1.8
S09A Goldfield 113.19 48 ⇓P PKiKP 05 54 30.6 +2.0
baz=113
O11A Cowboy Ranch, 113.42 45 ⇓P PKiKP 05 54 30.8 +1.7
baz=113
M12A Wells 113.42 43 ⇑P PKiKP 05 54 30.5 +1.4
baz=113
BOZ Bozeman (W) 113.68 38 *e*PKIKP PKiKP 05 54 30.3 +0.7
Q11A Duckwater 113.92 46 ⇑P PKiKP 05 54 32.0 +2.0
baz=114
P12A McGill 114.21 45 ⇑P PKiKP 05 54 32.5 +2.0
baz=114
HVU Hansel Valley 114.72 42 *e*PKIKP PKiKP 05 54 32.3 +0.8
PFO Pinyon Flat Ob 115.20 52 ⇓P PKiKP 05 54 35.0 +2.5
baz=115
REDW Red Top Meadow 115.26 40 *e*PKPdf 05 54 34.0
REDW *ep*PKPdf 05 54 44.2
LOHW Long Hollow 115.30 40 *e*PKPdf PKPdf 05 54 34.1 +1.4
DUG Dugway 115.38 44 *e*PKIKP PKPdf 05 54 33.8 +1.0
DUG *e* 05 54 44.7
HWUT Hardware Ranch 115.60 42 *e*PKPdf PKPdf 05 54 34.2 +0.9
LAO LASA Array 116.35 35 *e*PKPdf PKPdf 05 54 36.2 +1.5
PDAR Pinedale Array 116.37 40 PKP PKPdf 05 54 35.2 +0.5
comp=Z,1.2nm,0.7s,baz=20,slow=2.3,SNR=9.5
PDAR PKKPbc PKKPbc 06 05 02.9 -0.3
comp=Z,2.6nm,1.0s,baz=128,slow=4.4,SNR=10
MSU Marysvale 116.54 45 *e*PKIKP PKPdf 05 54 37.0 +1.9
Y12C Blythe 116.67 51 ⇓P PKPdf 05 54 37.9 +2.6
baz=117
GLA Glamis 116.68 52 ⇑P PKPdf 05 54 38.2 +2.9
baz=117
TMUT Trail Mountain 116.88 44 *e*PKPdf PKPdf 05 54 36.9 +1.2
X13A Yucca 116.89 50 ⇑P PKPdf 05 54 38.1 +2.4
baz=117
Y13A Salome 117.18 51 ⇓P PKPdf 05 54 39.3 +3.0
baz=117
W14A Seligman 117.22 49 ⇓P PKPdf 05 54 38.9 +2.5
baz=117
SRU San Rafael 117.44 44 *e*PKIKP PKPdf 05 54 37.5 +0.7
X14A Yava 117.65 50 ⇓P PKPdf 05 54 39.7 +2.5
baz=118
Y14A Wickenburg 117.77 50 ⇑P PKPdf 05 54 39.8 +2.4
baz=118
RWWY Rawlins 118.42 40 *e*PKPdf PKPdf 05 54 39.6 +1.0
RWWY *ep*PKPdf pPKPdf 05 54 49.1 -1.3
TORD Torodi Ar. Bea 119.04 286 PKP PKPdf 05 54 40.6 +0.7
comp=Z,4.5nm,0.8s,baz=56,slow=1.8,SNR=21
TORD PP PP 05 56 00.1 +0.4
comp=Z,0.9nm,0.9s,baz=60,slow=6.5,SNR=3.7
TORD PKKPbc PKKPbc 06 04 58.3 +4.6
comp=Z,1.1nm,0.6s,baz=252,slow=4.6,SNR=7.8
RSSD Black Hills 119.07 36 *e*PKIKP PKPdf 05 54 39.4 -0.5
PV01 Paradox Valley 119.25 44 *e*PKPdf PKPdf 05 54 41.5 +1.3
116A Eloy 119.31 51 ⇓P PKPdf 05 54 42.7 +2.3
baz=119
ULM Lac du Bonnet 119.41 27 PKP PKPdf 05 54 39.0 -1.5
comp=Z,4.1nm,0.9s,baz=92,slow=2.0,SNR=8.5
ULM PKKPbc PKKPbc 06 04 51.3 -1.0
comp=Z,1.1nm,0.7s,baz=116,slow=2.1,SNR=3.2
MVCO Mesa Verde 119.73 45 *e*PKPdf PKPdf 05 54 43.3 +2.1
SMCO Snowmass 119.84 42 *e*PKPdf PKPdf 05 54 42.4 +1.0
ISCO Idaho Springs 120.43 41 *e*PKIKP PKPdf 05 54 43.8 +1.3
ANMO Albuquerque 122.24 47 *e*PKIKP PKPdf 05 54 47.1 +1.1
BNM Barren Site 122.48 47 *e*PKPdf PKPdf 05 54 48.4 +1.9
EYMN Ely 123.05 26 *e*PKPdf PKPdf 05 54 47.1 -0.5
SCHQ Schefferville 123.67 6 PKP PKPdf 05 54 48.3 -0.4
comp=Z,2.9nm,0.8s,baz=328,slow=4.4,SNR=4.8
MNTX Cornudas Mount 124.53 50 *e*PKPdf PKPdf 05 54 50.9 +0.5
DBIC Dimbokro 126.31 279 PKP PKPdf 05 54 55.1 +1.3
comp=Z,9.4nm,0.8s,baz=119,slow=3.9,SNR=5.4
JCT Junction City 129.31 48 *e*PKIKP PKPdf 05 55 00.4 +0.9
CCM Cathedral Cave 130.37 35 *e*PKIKP PKPdf 05 55 01.7 +0.2
MIAR Mount Ida 131.30 40 *e*PKPdf PKPdf 05 55 03.9 +0.6
MIAR *e*SKPbc SKPbc 05 58 25.8 +0.4
BLO Bloomington 132.07 30 *e*PKIKP PKPdf 05 55 05.1 +0.3
ACSO Alum Creek Sta 132.89 26 *e*PKPdf PKPdf 05 55 07.6 +1.3
WCI Wyandotte Cave 132.91 31 *e*PKIKP PKPdf 05 55 05.9 -0.4
WCI *e* 05 55 17.8
PLAL Pickwick Lake 134.34 35 *e*PKPdf PKPdf 05 55 09.1 +0.1
PLAL *ep*PKPdf pPKPdf 05 55 19.9 -0.9
PLCA Paso Flores 139.08 165 PKP PKPdf 05 55 18.8 +0.9
comp=Z,2.5nm,0.9s,baz=227,slow=7.6,SNR=4.8
TRQA Tornquist 143.17 175 *e*PKPpre 05 55 23.3
TRQA *e*PKPdf PKPdf 05 55 25.6 +0.4
CLCH Cerro Calan 145.93 161⇑*i* P PKPdf 05 55 31.6 +1.7
SOR Soroa 145.95 44 *e*P PKPdf 05 55 32.1 +2.1
FCH Farellones 146.07 162⇑*i* P PKPdf 05 55 33.9 +3.7
MDZ Mendoza 146.92 163 *e*PKP2 PKPab 05 55 36.1 +1.1
CCCC Cccc 150.55 40 *e*P PKPbc 05 55 46.3 +3.4
CAM4 Nova Friburgo 154.13 215 (P) PKPdf 05 55 46.4 +3.6
CAM4 *i* 05 55 52.1
CAM4 *i* 05 56 05.1
CPUP Villa Florida 155.03 182 PKP PKPdf 05 55 46.4 +2.4
comp=Z,1.2nm,0.6s,baz=198,slow=1.4,SNR=4.1
CPUP PKPab PKPab 05 56 08.9 +0.4
comp=Z,1.7nm,0.6s,baz=120,slow=4.3,SNR=4.6
CPUP Villa Florida 155.03 182 PKP PKPdf 05 55 46.4 +2.4
CPUP PKPab PKPab 05 56 08.9 +0.4
LVC Limon Verde 156.27 154 *e*PKPab PKPab 05 56 14.4 +0.5
OTAV Otavalo 159.58 86 *e*PKPdf PKPdf 05 55 52.5 +2.7
LPAZ La Paz 162.05 147 PKP PKPdf 05 55 55.8 +3.3
comp=Z,3.7nm,0.9s,baz=50,slow=3.7,SNR=16
LPAZ PKPab PKPab 05 56 41.6 +2.6
comp=Z,4.4nm,0.7s,baz=213,slow=4.9,SNR=11
LPAZ La Paz 162.05 147 *e*PKPdf PKPdf 05 55 55.8 +3.3
BDFB Brasilia 162.57 214 PKP PKPdf 05 55 55.4 +2.4
comp=Z,3.7nm,1.1s,baz=104,slow=6.4,SNR=4.0
BDFB PKPab PKPab 05 56 41.7 +0.5
comp=Z,15nm,0.9s,baz=66,slow=3.3,SNR=17
ROSC El Rosal 162.68 69 PKP PKPdf 05 55 55.8 +2.7
comp=Z,2.3nm,0.7s,baz=112,slow=23,SNR=5.4
SDV Santo Domingo 163.96 51 PKP PKPdf 05 55 56.1 +1.8
comp=Z,3.1nm,0.7s,baz=41,slow=8.0,SNR=4.6
SDV Santo Domingo 163.96 51 *e*PKPdf PKPdf 05 55 55.6 +1.3
SAML Samuel 170.79 147 *e*PKPdf PKPdf 05 56 00.6 +1.3
SAML *e*PKPab PKPab 05 57 18.9 +1.4

NEIC ***16*** *05:44:54.3, 3469S×7227W, h24km, ML3.1(GUC), After GUC.*

GUC 16 05:44:54.3±0.8, 3469S×7227W, h24km±8km, MD3.8, ML3.1, 6C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.88**	**144**	*e*P	Pb	05 45 09.8	-1.1
TALC				*i* S	Sb	05 45 21.5	-0.6
TALC				AML	AML	05 45 22.1	
comp=E,2μm,0.1s							
TALC	**Talca**	**0.88**	**144**	*e*P	Pb	05 45 09.8	-1.1
TALC				*i* S	Sb	05 45 21.5	-0.6
NICH	**Los Niches**	**0.91**	**110**	*e*P	Pb	05 45 10.7	-0.7
NICH				*i* S	Sb	05 45 23.4	+0.4
LNV	**Longovilo**	**1.02**	**44**⇓*i* P		Pn	05 45 12.3	-0.8
LNV				*i* S	Sb	05 45 26.3	0.0
SFDO	**San Fernando**	**1.04**	**86**⇑*i* P		Pn	05 45 12.6	-0.7
SFDO				*i* S	Sb	05 45 26.6	-0.2
LNCH	**Linares**	**1.27**	**155**⇓*i* P		Pn	05 45 15.8	-0.8
LNCH				*i* S	Sn	05 45 33.1	+0.2
LNCH				AML	AML	05 45 39.6	
comp=E,715nm,0.5s							
LNCH	**Linares**	**1.27**	**155**⇓*i* P		Pn	05 45 15.8	-0.8
LNCH				*i* S	Sn	05 45 33.1	+0.2
LCCH	**Las Cruces**	**1.35**	**26**⇑*i* P		Pn	05 45 17.6	+0.1
LCCH				*e*S	Sn	05 45 34.8	+0.2
CACH	**El Canelo**	**1.50**	**68**⇓*i* P		Pn	05 45 20.5	+0.9
CACH				*i* S	Sn	05 45 40.3	+2.0
CHCH	**Chadas Angostu**	**1.54**	**61**⇓*i* P		Pn	05 45 20.9	+0.7
CHCH				*i* S	Sn	05 45 41.1	+1.7
CICH	**Cipreses**	**1.57**	**77**⇓*i* P		Pn	05 45 21.5	+0.8

CICH				*i* S	Sn	05 45 42.1	+1.9
RCDM	**Rinconada Maip**	**1.71**	**46**	*e*P	Pn	05 45 22.8	+0.3
RCDM				*e*S	Sn	05 45 45.2	+1.6
RCDM				AML	AML	05 45 47.7	
	comp=E,269nm,0.1s						
RCDM	**Rinconada Maip**	**1.71**	**46**	*e*P	Pn	05 45 22.8	+0.3
RCDM				*e*S	Sn	05 45 45.2	+1.6
ANTU	**Antumapu**	**1.76**	**51**	⇑*i*P	Pn	05 45 24.1	+0.9
ANTU				*i* S	Sn	05 45 46.9	+2.1
ANTU				AML	AML	05 45 51.1	
	comp=E,353nm,0.4s						
ANTU	**Antumapu**	**1.76**	**51**	⇑*i*P	Pn	05 45 24.1	+0.9
ANTU				*i* S	Sn	05 45 46.9	+2.1
PCH	**Pirque**	**1.81**	**54**	*i* P	Pn	05 45 25.3	+1.5
PCH				*e*S	Sn	05 45 48.1	+2.1
STL	**Santa Lucia**	**1.84**	**48**	AML	AML	05 45 53.8	
	comp=E,75nm,0.4s						
SJCH	**San Jose de Ma**	**1.90**	**57**	*e*P	Pn	05 45 26.1	+0.9
SJCH				AML	AML	05 45 52.0	
	comp=N,184nm,0.4s						
LMEL	**Las Melosas**	**1.91**	**64**	⇑*i*P	Pn	05 45 26.9	+1.7
LMEL				*i* S	Sn	05 45 51.5	+3.1
LMEL				AML	AML	05 45 55.7	
	comp=N,594nm,0.1s						
LMEL	**Las Melosas**	**1.91**	**64**	⇑*i*P	Pn	05 45 26.9	+1.7
LMEL				*i* S	Sn	05 45 51.5	+3.1
CCHI	**Chillan**	**1.91**	**175**	*e*P	Pn	05 45 27.0	+1.7
CCHI				*i* S	Sn	05 45 51.5	+3.0
CCHI				AML	AML	05 45 59.9	
	comp=N,253nm,0.4s						
CCHI	**Chillan**	**1.91**	**175**	*e*P	Pn	05 45 27.0	+1.7
CCHI				*i* S	Sn	05 45 51.5	+3.0
CLCH	**Cerro Calan**	**1.93**	**49**	⇓*i*P	Pn	05 45 27.0	+1.4
CLCH				*i* S	Sn	05 45 51.6	+2.5
CLCH				AML	AML	05 45 57.7	
	comp=E,255nm,0.5s						
CLCH				AML	AML	05 46 02.5	
	comp=N,357nm,0.4s						
PEL	**Peldehue**	**2.03**	**41**	*e*S	Sn	05 45 54.3	+2.8
FCH	**Farellones**	**2.13**	**51**	*e*P	Pn	05 45 30.2	+1.8
FCH				*i* S	Sn	05 45 56.0	+1.9
FCH				AML	AML	05 46 02.7	
	comp=N,194nm,0.1s						

KRSC 16 05:46:42.9±0.5, 6081N×16606E, h20km±4km, ML3.8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.38**	**180**	*i* P		05 46 51.0	
TILR				*e*S		05 46 57.6	
TILR				Smax			
	20μm,0.4s						
KAMR	**Kamenskoye**	**1.65**	**2**	*i* P		05 47 11.2	
KAMR				*e*S		05 47 31.9	
KAMR				Smax			
	1μm,1.3s						
OSSR	**Ossora**	**2.17**	**225**	*i* P		05 47 19.0	
OSSR				*i* S		05 47 45.2	
EVNR	**Evensk**	**3.46**	**292**	*e*P		05 47 36.3	
KBTR	**Krutoberegovo**	**4.92**	**202**	*i* P		05 47 58.5	
KBTR				*e*S		05 48 53.7	
BILL	**Bilibino**	**7.26**	**1**	P		05 48 29.9	
MA2	**Magadan**	**7.72**	**267**	*e*P		05 48 37.0	

PRE 16 05:58:41.6±1.2, 2137S×3307E, h5km, ML4.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.12**	**192**	*e*P	Pn	06 00 13.5	+0.8
POGA				*e*S	Sn	06 01 19.8	-3.3
POGA				AML	AML	06 02 00.3	
	comp=Z,24nm,0.5s						
LBTB	**Lobatse**	**7.77**	**241**	*e*P	Pn	06 00 36.4	+1.1
LBTB				*e*S	Sn	06 02 01.0	-2.7
LBTB				AML	AML	06 02 52.0	
	comp=Z,15nm,0.7s						
BOSA	**Boshof**	**10.11**	**223**	*e*P	Pn	06 01 08.2	+0.8
BOSA				*e*S	Sn	06 02 55.8	-5.3
BOSA				AML	AML	06 04 05.1	
	comp=Z,7.1nm,0.6s						

WEL 16 07:05:35.4±0.5, 3685S×17670E, h269km±5km, ML3.5/5, Error ellipse: s-maj=7.3km s-min=6.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.44**	**167**	PN	Pn	07 06 14.9	-0.2
URZ				*e*SN	S	07 06 46.1	-0.3
MWZ	**Matawai**	**1.62**	**156**	PN	Pn	07 06 16.6	+0.3
MWZ				*e*SN	S	07 06 48.3	-0.5
PUZ	**Puketiti**	**1.74**	**135**	*e*PN	Pn	07 06 17.4	+0.2
PUZ				*e*SN	S	07 06 48.8	-1.6
KNZ	**Kokohu**	**2.30**	**161**	PN	Pn	07 06 22.1	0.0
KNZ				SN	S	07 06 58.7	-0.4
WNVZ	**Wahianoa**	**2.62**	**199**	PN	Pn	07 06 25.6	+0.5
TSZ	**Takapari Road**	**3.25**	**190**	PN	Pn	07 06 31.0	-0.7
TSZ				*e*SN	S	07 07 14.2	-2.3
MRZ	**Mangatainoka R**	**3.90**	**193**	*e*SN	S	07 07 26.6	-2.9
TCW	**Tory Channel**	**4.74**	**203**	PN	Pn	07 06 46.8	-1.9
TUWZ	**Tuamarina**	**5.05**	**204**	*e*PN	Pn	07 06 50.1	-2.2

*JMA **16** 07:30:48.9±0.1, 3473N×14065E, h56km±1km, M3.2*
*NEIC **16** 07:30:48.9, 3473N×14065E, h56km, MG3.2(JMA), After JMA.*
*ISCJB **16** 07:30:49.1±0.6, 3468N±004×14059E±005, h54km±4km, mb3.7/4, Error ellipse: s-maj=8.4km s-min=5.6km az=85.1*
*IDC **16** 07:30:51.1±1.1, 3399N×13861E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/20, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=33.2km s-min=14.9km az=57.0*
ISC 16 07:30:50.4±0.5, 3467N±004×14056E±005, h45km±5km, n22, σ0§84/35, mb3.7/4, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.13**	**343**	⇑P	**Pn**	**07 30 57.2**	**-0.6**
BSO3				S	**Sn**	**07 31 03.9**	**+0.9**
BSO2	**Boso 2**	**0.18**	**64**	S	**Sn**	**07 31 04.4**	**+1.0**
BSO1	**Boso 1**	**0.35**	**93**	⇑P	**Pn**	**07 30 58.3**	**-1.2**
BSO1				S	**Sn**	**07 31 04.9**	**-1.1**
BSO4	**Boso 4**	**0.36**	**330**	⇓P	**Pn**	**07 30 59.6**	**-0.1**
BSO4				S	**Sn**	**07 31 07.3**	**+1.0**
KTR	**Katsuura**	**0.51**	**337**	S	**Sn**	**07 31 08.7**	**-0.7**
TATJ	**Tateyama 2**	**0.66**	**303**	P	**Pn**	**07 31 03.5**	**+0.2**
TATJ				S	**Sn**	**07 31 13.7**	**+1.0**
JIM2	**Oshima 3**	**0.93**	**273**	⇓P	**Pn**	**07 31 06.8**	**-0.2**
JIM2				S	**Sn**	**07 31 18.9**	**-0.3**
JMY	**Miyakejima3**	**1.05**	**236**	P	**Pn**	**07 31 09.5**	**+0.8**
KTJJ	**Kamata 2**	**1.25**	**282**	⇓P	**Pn**	**07 31 10.7**	**-0.8**
KTJJ				S	**Sn**	**07 31 25.8**	**-1.4**
JKO	**Kozu shima**	**1.27**	**248**	P	**Pn**	**07 31 12.7**	**+1.0**
JOD2	**Odawara 2**	**1.34**	**296**	⇓P	**Pn**	**07 31 12.0**	**-0.7**
JOD2				S	**Sn**	**07 31 27.4**	**-1.9**
JIZS	**Izushimoda**	**1.39**	**272**	⇓P	**Pn**	**07 31 13.1**	**-0.1**
JIZS				S	**Sn**	**07 31 30.2**	**-0.2**
JHJ	**Hachijo jima 2**	**1.68**	**203**	Pn	**Pn**	**07 31 17.8**	**+0.5**
	40nm,0.3s,baz=75,slow=13,SNR=10						
JHJ				Sn	**Sn**	**07 31 37.7**	**+0.1**
	92nm,0.3s,baz=256,slow=22,SNR=9.3						
MJAR	**Matsushiro Arr**	**2.67**	**315**	Pn	**Pn**	**07 31 31.5**	**+0.6**
	8.5nm,0.3s,baz=169,slow=14,SNR=31						
MJAR				Sn	**Sn**	**07 32 05.3**	**+3.3**
	9.3nm,0.3s,baz=199,slow=26,SNR=9.5						
MAJO	**Matsushiro**	**2.67**	**315**	*e*Pn	**Pn**	**07 31 30.9**	**0.0**
MAT	**Matsushiro**	**2.67**	**315**	P	**Pn**	**07 31 31.0**	**+0.1**
MAT				S	**Sn**	**07 32 02.2**	**+0.1**
MAT	**Matsushiro**	**2.67**	**315**	*e*P	**Pn**	**07 31 31.0**	**+0.1**
MAT				*e*S	**Sn**	**07 32 02.0**	**-0.1**
CBIJ	**Chichi jima**	**7.68**	**169**	Pn	**Pn**	**07 32 39.1**	**-0.5**
	8.2nm,0.3s,baz=299,slow=21,SNR=9.9						
CBIJ				Sn	**Sn**	**07 33 58.5**	**-6.8**
	7.9nm,0.3s,baz=294,slow=20,SNR=4.7						
SONM	**Songino Array**	**28.60**	**308**	P	**P**	**07 36 41.7**	**-0.6**
	0.2nm,0.4s,mb3.2,baz=98,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**44.82**	**304**	P	**P**	**07 39 00.9**	**+1.0**
	0.3nm,0.4s,mb3.5,baz=82,slow=9.7,SNR=8.1						
WRA	**Warramunga Arr**	**54.63**	**187**	P	**P**	**07 40 14.3**	**-0.1**
	1.8nm,0.7s,mb4.2,baz=1.0,slow=7.9,SNR=30						
ASAR	**Alice Springs**	**58.36**	**187**	P	**P**	**07 40 41.9**	**+1.0**
	0.5nm,0.5s,mb3.9,baz=18,slow=10,SNR=12						

*NIED **16** 07:33:00, 3470N×14060E, h47km, Mw4.5 Best double couple: M0:6.80000×10^15 NP1:φs346.00000°, δ69.00000°, λ87.00000°. NP2:φs175.00000°, δ21.00000°, λ98.00000°.*
*MOS **16** 07:33:18.8±0.8, 3464N×14066E, h44km, mb4.5/5, Error ellipse: s-maj=18.3km s-min=7.9km az=121.9*
*JMA **16** 07:33:19.9±0.1, 3472N×14065E, h55km±1km, M4.6*
JMA Felt I J1.
*BJI **16** 07:33:19.1, 3471N×14052E, h43km, mB4.7, mb4.7, Ms3.9, Msz3.7*
*ISCJB **16** 07:33:20.9±0.4, 3467N±003×14050E±004, h54km±3km, mb4.5/30, MS3.7/6, Error ellipse: s-maj=5.6km s-min=5.3km az=153.4*
*NEIC **16** 07:33:21.8±1.1, 3463N×14046E, h49km±8km, mb5.0/11, MW4.5(NIED), Error ellipse: s-maj=9.9km s-min=7.0km az=80.0*
NEIC Recorded [1 JMA] in Chiba, Shizuoka and Tokyo Prefectures.
*IDC **16** 07:33:22.6±1.7, 3469N×14051E, h55km±14km, mb4.0/14, mb1 4.2/16, mb1mx4.1/21, mbtmp4.3/16, MS3.7/5, Ms1 3.7/5, ms1mx3.1/32, Error ellipse: s-maj=20.1km s-min=6.5km az=79.0*
ISC 16 07:33:21.7±0.4, 3467N±003×14052E±004, h44km±3km, n93, σ0§93/104, mb4.5/30, MS3.7/6, 11C-14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.13**	**358**	⇑P	**Pn**	**07 33 28.3**	**-0.6**
BSO4	**Boso 4**	**0.35**	**335**	⇓P	**Pn**	**07 33 30.4**	**-0.4**
BSO4				S	**Sn**	**07 33 38.4**	**+1.2**
BSO1	**Boso 1**	**0.38**	**93**	⇑P	**Pn**	**07 33 29.3**	**-1.9**
KTR	**Katsuura**	**0.50**	**341**	⇑P	**Pn**	**07 33 31.9**	**-0.7**
KTR				S	**Sn**	**07 33 39.9**	**-0.5**
TATJ	**Tateyama 2**	**0.63**	**305**	⇓P	**Pn**	**07 33 34.6**	**+0.4**
TATJ				S	**Sn**	**07 33 44.9**	**+1.7**
JIM2	**Oshima 3**	**0.89**	**273**	⇓P	**Pn**	**07 33 37.8**	**0.0**
JIM2				S	**Sn**	**07 33 50.3**	**+0.7**
JMY	**Miyakejima3**	**1.02**	**234**	P	**Pn**	**07 33 40.2**	**+0.6**
KTJJ	**Kamata 2**	**1.22**	**282**	⇓P	**Pn**	**07 33 41.9**	**-0.4**
KTJJ				S	**Sn**	**07 33 56.8**	**-0.8**
JKO	**Kozu shima**	**1.24**	**247**	P	**Pn**	**07 33 43.1**	**+0.6**
JKO				S	**Sn**	**07 33 59.9**	**+1.9**
JOD2	**Odawara 2**	**1.31**	**297**	⇓P	**Pn**	**07 33 43.0**	**-0.5**
JOD2				S	**Sn**	**07 33 58.8**	**-1.0**
JIZS	**Izushimoda**	**1.35**	**272**	⇓P	**Pn**	**07 33 44.1**	**+0.1**
JIZS				S	**Sn**	**07 34 00.6**	**-0.1**
JHJ	**Hachijo jima 2**	**1.67**	**202**	P	**Pn**	**07 33 48.9**	**+0.5**
	269nm,0.3s,baz=324,slow=6.4,SNR=19						
JHJ				S	**Sn**	**07 34 10.1**	**+1.6**
	943nm,0.3s,baz=250,slow=23,SNR=12						
JHJ				LR	LR	07 34 16.0	
	comp=Z,1μm,19.6s,baz=82,slow=32						
MJAR	**Matsushiro Arr**	**2.65**	**315**	P	**Pn**	**07 34 02.2**	**+0.3**
	41nm,0.3s,baz=129,slow=18,SNR=54						
MJAR				S	**Sn**	**07 34 33.3**	**+0.6**
	27nm,0.3s,baz=120,slow=23,SNR=10						
MAJO	**Matsushiro**	**2.65**	**315**	*e*P	**Pn**	**07 34 01.8**	**-0.1**
MAT	**Matsushiro**	**2.65**	**315**	P	**Pn**	**07 34 01.8**	**-0.1**
MAT				S	**Sn**	**07 34 28.9**	**-3.8**
MAT	**Matsushiro**	**2.65**	**315**	*e*P	**Pn**	**07 34 02.0**	**+0.1**
MAT				*e*S	**Sn**	**07 34 29.0**	**-3.7**
CBIJ	**Chichi jima**	**7.69**	**169**	P	**Pn**	**07 35 09.2**	**-1.9**
	48nm,0.3s,baz=76,slow=21,SNR=43						
CBIJ				S	**Sn**	**07 36 30.1**	**-6.6**
	36nm,0.3s,baz=270,slow=22,SNR=6.3						
ASAJ	**Asahikawa**	**9.57**	**9**	P	**Pn**	**07 35 35.6**	**-1.1**
	2.9nm,0.3s,baz=194,slow=20,SNR=6.3						
ASAJ				S	**Sn**	**07 37 15.1**	**-7.8**
	0.6nm,0.3s,baz=16,slow=20,SNR=2.9						
ASAJ	**Asahikawa**	**9.57**	**9**	P	**Pn**	**07 35 35.7**	**-1.1**
ASAJ				S	**Sn**	**07 37 15.1**	**-7.8**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
JOW	**Kunigami**	**13.10**	**237**	LR	LR	07 41 03.9	
	comp=N,181nm,20.4s,baz=131,slow=35						
HHC	**Hu-ho-hao-te**	**23.64**	**294**	*e*P	**P**	**07 38 29.3**	**+0.5**
HHC				AP		07 38 43.3	
HHC				PP		07 39 02.9	
HHC				PCP	PcP	07 42 15.5	+3.1
HHC				*e*S	**S**	**07 42 34.8**	**-5.4**
HHC				XS	sS	07 42 58.3	-1.4
HHC				SS		07 43 25.1	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
HHC				AMB	AMB		
	comp=Z,40nm,3.5s						
HHC				LR	LR		
	comp=N,80nm,12.0s,MS3.6						
HHC				LR	LR		
	comp=E,130nm,14.2s,MS3.6						
HHC				LR	LR		
	comp=Z,140nm,14.2s,MS3.6						
XAN	**Xi'an**	**26.04**	**278**	P	**P**	**07 38 49.3**	**-1.3**
ULN	**Ulaanbaatar**	**28.16**	**308**	*e*P	**P**	**07 39 11.0**	**+1.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
ULN	**Ulaanbaatar**	**28.16**	**308**	*e*P	**P**	**07 39 11.0**	**+1.4**
	comp=Z,4.2nm,1.0s,mb4.0						
SONM	**Songino Array**	**28.57**	**308**	P	**P**	**07 39 13.0**	**-0.4**
	comp=Z,3.0nm,1.0s,mb4.0,baz=106,slow=8.6,SNR=12						
SONM				LR	LR	07 51 25.5	
	comp=Z,222nm,18.4s,MS3.8,baz=271,slow=38						
LZH	**Lanzhou**	**29.82**	**283**	*e*P	**P**	**07 39 23.9**	**-0.6**
LZH				AP	pP	07 39 31.8	-4.5
LZH				XP	sP	07 39 36.1	-5.5
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
GYA	**Guiyang**	**30.17**	**264**	P	**P**	**07 39 26.4**	**-1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2	**Chengdu**	**31.02**	**273**	P	**P**	**07 39 33.6**	**-1.4**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.0						
TLY	**Talaya**	**31.39**	**314**	*e*P	**P**	**07 39 38.9**	**+0.6**
GTA	**Gaotai**	**32.63**	**290**	P	**P**	**07 39 49.3**	**+0.1**
GTA				AP	pP	07 39 56.8	-4.3
GTA				XP	sP	07 40 00.3	-6.1
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
BILL	**Bilibino**	**36.49**	**16**	*e*P	**P**	**07 40 21.3**	**-1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.7						
WMQ	**Urumqi**	**41.30**	**299**	P	**P**	**07 41 03.8**	**+1.0**
WMQ				PP	PP	07 42 43.8	+5.1
WMQ				PCS	PcS	07 46 45.4	-6.5
WMQ				S	**S**	**07 47 12.9**	**-1.0**
WMQ				SS	SS	07 50 12.9	-5.6
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,40nm,4.5s						
WMQ				LR	LR		
	comp=N,90nm,30.0s						
ZAL	**Zalesovo**	**43.01**	**314**	P	**P**	**07 41 17.0**	**+0.3**
	comp=N,1.6nm,0.4s,mb4.1,baz=18,slow=7.6,SNR=9.8						
ZAL				PcP	PcP	07 43 06.0	-0.3
	comp=N,1.6nm,0.5s,baz=105,slow=3.3,SNR=3.3						
ZAL	**Zalesovo**	**43.01**	**314**	P	**P**	**07 41 17.0**	**+0.3**
ZAL				PcP	PcP	07 43 06.0	-0.3
MKAR	**Makanchi Array**	**44.79**	**304**	P	**P**	**07 41 31.1**	**+0.1**
	comp=N,1.5nm,0.3s,mb4.2,baz=83,slow=9.3,SNR=39						
MKAR	**Makanchi Array**	**44.79**	**304**	*e*P	**P**	**07 41 31.3**	**+0.3**
JIRN	**Jiri**	**46.54**	**277**	*e*P	**P**	**07 41 44.8**	**0.0**
	comp=N,48nm,0.7s,mb5.5						
GUN	**Gumba**	**46.70**	**277**	*e*P	**P**	**07 41 46.1**	**+0.1**
	comp=N,43nm,0.8s,mb5.4						
KURK	**Kurchatov**	**46.84**	**310**	*e*P	**P**	**07 41 46.3**	**-0.9**
PKI	**Pulchoki**	**47.21**	**277**	*e*P	**P**	**07 41 49.9**	**-0.1**
KKN	**Kakani**	**47.23**	**278**	*e*P	**P**	**07 41 50.1**	**-0.1**
	comp=N,35nm,0.8s,mb5.3						
KKN	**Kakani**	**47.23**	**278**	*e*P	**P**	**07 41 50.1**	**-0.1**
KKN				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.3						
DMN	**Daman**	**47.45**	**277**	*e*P	**P**	**07 41 51.3**	**-0.6**
	comp=Z,31nm,1.0s,mb5.2						
KAKA	**Kakadu**	**47.74**	**191**	⇓*i*P	**P**	**07 41 53.9**	**-0.3**
	comp=Z,53nm,0.8s,mb5.6						
AAK	**Ala-Archa**	**51.00**	**300**	*e*P	**P**	**07 42 18.5**	**-0.5**
CHKZ	**Chkalovo**	**51.41**	**314**	*e*P	**P**	**07 42 21.2**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**51.41**	**314**	*e*P	**P**	**07 42 21.2**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**52.48**	**314**	*e*P	**P**	**07 42 29.2**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**52.48**	**314**	*e*P	**P**	**07 42 29.2**	**-0.9**
	comp=Z,6.2nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**54.35**	**197**	*e*P	**P**	**07 42 43.9**	**+0.1**
	comp=Z,16nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**54.62**	**187**	*e*P	**P**	**07 42 45.1**	**-0.6**
WB2	**Warramunga Arr**	**54.63**	**187**	⇑*i*P	**P**	**07 42 44.8**	**-1.0**
WRA	**Warramunga Arr**	**54.63**	**187**	P	**P**	**07 42 45.2**	**-0.6**
	comp=Z,11nm,0.7s,mb5.0,baz=4.8,slow=7.6,SNR=80						
ARU	**Arti**	**57.66**	**319**	*e*P	**P**	**07 43 09.1**	**+1.7**
AS31	**Alice Springs**	**58.35**	**187**	*e*P	**P**	**07 43 12.2**	**-0.1**
ASAR	**Alice Springs**	**58.36**	**187**	P	**P**	**07 43 11.9**	**-0.3**
	comp=Z,4.5nm,0.8s,mb4.6,baz=10.0,slow=7.8,SNR=38						
ASPA	**Alice Springs**	**58.36**	**187**	*e*P	**P**	**07 43 12.2**	**-0.1**
AKTO	**Aktyubinsk**	**59.72**	**313**	LR	LR	08 12 53.0	
	comp=Z,58nm,18.8s,MS3.7,baz=0.0,slow=40						
STKA	**Stephens Creek**	**66.20**	**179**	*e*P	**P**	**07 44 02.2**	**-2.6**
	comp=Z,3.4nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**66.20**	**179**	P	**P**	**07 44 03.1**	**-1.7**
	comp=Z,3.8nm,0.8s,mb4.5,baz=344,slow=8.7,SNR=9.4						
JOF	**Joensuu**	**67.70**	**332**	*e*p	**P**	**07 44 12.4**	**-1.9**
D03A	**Wishkah Elem.**	**69.05**	**47**	⇑P	**P**	**07 44 22.4**	**-0.3**
	baz=69						
FINES	**FINESS Array B**	**70.56**	**332**	P	**P**	**07 44 30.7**	**-1.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=68,slow=7.7,SNR=4.2						
FINES	**FINESS Array B**	**70.56**	**332**	P	**P**	**07 44 30.7**	**-1.4**
EDM	**Edmonton**	**71.66**	**37**	*e*P	**P**	**07 44 38.4**	**-0.3**
KIV	**Kislovodsk**	**71.90**	**311**	*e*P	**P**	**07 44 40.5**	**+0.3**
GNI	**Garni**	**72.53**	**307**	LR	LR	08 19 35.4	
	comp=Z,63nm,18.9s,MS3.9,baz=155,slow=38						
GNI	**Garni**	**72.53**	**307**	*e*P	**P**	**07 44 44.4**	**+0.5**
O04C	**Chester**	**74.16**	**52**	⇓P	**P**	**07 44 55.2**	**+1.7**
	baz=74						
O06A	**Flanigan**	**75.06**	**51**	⇑P	**P**	**07 44 59.3**	**+0.6**
	baz=75						
AKASG	**Malin Array Be**	**75.72**	**322**	P	**P**	**07 45 01.8**	**-0.7**
	comp=Z,2.5nm,0.6s,mb4.3,baz=48,slow=5.8,SNR=14						
NB2	**NORSAR Subarra**	**76.08**	**337**	P	**P**	**07 45 03.9**	**-0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=42,slow=5.9						
NB2	**NORSAR Subarra**	**76.08**	**337**	P	**P**	**07 45 03.9**	**-0.6**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**76.08**	**337**	P	**P**	**07 45 04.0**	**-0.5**
	comp=Z,2.7nm,0.8s,mb4.2,baz=40,slow=5.7,SNR=11						
O09A	**Fish Creek Ran**	**76.74**	**50**	⇓P	**P**	**07 45 09.7**	**+1.4**
	baz=77						
NVAR	**Mina Array Bea**	**77.00**	**52**	P	**P**	**07 45 10.7**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.1,baz=274,slow=7.7,SNR=14						
Q08A	**Gabbs**	**77.00**	**52**	⇑P	**P**	**07 45 10.4**	**+0.6**
	baz=77						
M12A	**Wells**	**77.45**	**48**	⇓P	**P**	**07 45 13.9**	**+1.6**
	baz=77						
N12A	**Wells--Clov Va**	**77.70**	**49**	⇑P	**P**	**07 45 15.3**	**+1.6**
	baz=78						
O11A	**Cowboy Ranch,**	**77.73**	**50**	⇓P	**P**	**07 45 15.1**	**+1.3**
	baz=78						
S09A	**Goldfield**	**78.10**	**52**	⇑P	**P**	**07 45 16.5**	**+0.6**
	baz=78						
P12A	**McGill**	**78.58**	**50**	⇓P	**P**	**07 45 18.5**	**0.0**
	baz=78						
PDAR	**Pinedale Array**	**79.85**	**45**	P	**P**	**07 45 25.8**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=288,slow=2.7,SNR=7.6						
BRTR	**Keskin Array B**	**79.87**	**311**	P	**P**	**07 45 25.8**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=75,slow=2.8,SNR=8.4						
PFO	**Pinyon Flat Ob**	**80.97**	**55**	⇓P	**P**	**07 45 32.6**	**+1.1**
	baz=81						
ULM	**Lac du Bonnet**	**81.88**	**33**	P	**P**	**07 45 35.1**	**-1.1**
	comp=Z,3.0nm,1.1s,mb4.1,baz=346,slow=5.9,SNR=3.6						
X13A	**Yucca**	**82.15**	**53**	⇓P	**P**	**07 45 38.4**	**+0.7**
	baz=82						
W14A	**Seligman**	**82.28**	**52**	⇑P	**P**	**07 45 39.4**	**+1.0**
	baz=82						
VRAC	**Vranov**	**82.70**	**327**	LR	LR	08 23 53.9	
	comp=Z,33nm,20.0s,MS3.7,baz=147,slow=37						
PV10	**Paradox Valley**	**82.89**	**48**	*e*P	**P**	**07 45 43.3**	**+1.7**
GERES	**GERESS Array B**	**84.33**	**328**	P	**P**	**07 45 48.2**	**-0.7**
	comp=Z,0.5nm,0.3s,mb4.1,baz=39,slow=5.1,SNR=9.0						
SAML	**Samuel**	**146.42**	**46**	*e*PKPdf	PKPdf	07 52 57.4	+1.0
LPAZ	**La Paz**	**148.49**	**62**	PKPbc	PKPbc	07 53 04.8	+1.3
	comp=Z,2.6nm,0.8s,baz=341,slow=5.1,SNR=16						

IDC 16 07:38:22.5±2.0, 2520S×7011E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, MS3.6/1, Ms1 3.6/1, ms1mx3.0/23, Error ellipse: s-maj=61.3km s-min=37.4km az=75.0, Mid-Indian Ridge

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

0.2nm,0.3s,baz=153,slow=23,SNR=3.2
FINES Lg 08 05 24.3
0.3nm,0.3s,baz=142,slow=30,SNR=3.3
HFS Hagfors 14.09 311 Pn Pn 08 03 20.9 -4.9
0.1nm,0.3s,baz=84,slow=13,SNR=3.5
HFS Lg 08 07 29.7
0.2nm,0.3s,baz=149,slow=31,SNR=2.4
NOA NORSAR Array B 15.57 313 Pn Pn 08 03 38.3 -7.5
0.2nm,0.3s,baz=114,slow=13,SNR=3.1
ARCES ARCESS Array B 17.69 349 P Pn 08 04 12.0 -0.7
0.4nm,0.3s,baz=156,slow=8.9,SNR=12

NEIC 16 08:02:00.9±2.6,5144N×17681E,h10km,mb3.4/1, ML3.1(AEIC),Error ellipse: s-maj=54.6km s-min=11.6km az=202.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.56**	**91**	P	Pn	08 02 29.1	+0.4
AMKA				S	Sn	08 02 50.3	+1.2
SMY	**Shemya**	**2.12**	**309**	P	Pn	08 02 36.2	-0.2
SMY				S	Sn	08 03 02.6	-0.1
ATKA	**Atka Island**	**5.63**	**79**	P	Pn	08 03 24.2	-0.5
BILL	**Bilibino**	**17.43**	**347**	*e*P	Pn	08 06 04.1	-0.1
	2.5nm,0.7s						

WEL 16 08:02:50.0±0.1,4464S×16781E,h37km±1km,ML3.5/11, 3C-2D,Error ellipse: s-maj=1.5km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.09**	**110**	⇑PN	Pn	08 02 56.0	-0.3
MSZ				SN	Sn	08 03 00.7	+0.1
MLZ	**Mavora Lakes**	**0.75**	**160**	⇑PN	Pn	08 03 03.9	-0.3
MLZ				SN	Sn	08 03 14.6	+0.3
WKZ	**Wanaka**	**0.88**	**103**	⇓PN	Pn	08 03 05.6	-0.4
WKZ				SN	Sn	08 03 17.6	+0.1
JCZ	**Jackson Bay**	**0.89**	**51**	⇑PN	Pn	08 03 06.0	0.0
JCZ				SN	Sn	08 03 18.1	+0.5
DCZ	**Deep Cove**	**0.96**	**209**	PN	Pn	08 03 06.6	-0.3
DCZ				SN	Sn	08 03 19.5	+0.1
EAZ	**Earnscleugh**	**1.22**	**120**	PN	Pn	08 03 10.5	0.0
EAZ				*e*SN	Sn	08 03 24.7	-1.1
WHZ	**Wether Hill Ro**	**1.26**	**176**	PN	Pn	08 03 10.5	-0.6
WHZ				*e*SN	Sn	08 03 26.6	-0.1
LBZ	**Lake Benmore**	**1.72**	**82**	⇓PN	Pn	08 03 16.9	-0.5
FOZ	**Fox Glacier**	**1.73**	**52**	*e*PN	Pn	08 03 18.8	+1.2
TUZ	**Tuapeka**	**1.84**	**136**	PN	Pn	08 03 18.6	-0.5
ODZ	**Otahua Downs**	**2.06**	**102**	PN	Pn	08 03 21.0	-1.1
SYZ	**Scrubby Hill**	**2.11**	**154**	PN	Pn	08 03 22.2	-0.7
APZ	**The Paps**	**2.19**	**177**	PN	Pn	08 03 23.4	-0.6
HHSZ	**Highcliff Hill**	**2.33**	**123**	PN	Pn	08 03 25.3	-0.5
RPZ	**Rata Peaks**	**2.51**	**70**	PN	Pn	08 03 26.4	-1.9
WVZ	**Waitaha Valley**	**2.63**	**55**	PN	Pn	08 03 28.4	-1.6
LTZ	**Lake Taylor**	**3.73**	**62**	PN	Pn	08 03 42.9	-2.1
DSZ	**Denniston Nort**	**4.11**	**47**	PN	Pn	08 03 49.0	-1.4

*IDC **16** 08:10:49.8±1.2,4683N×15046E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.5/19,mbtmp3.5/4,Error ellipse: s-maj=40.8km s-min=34.2km az=111.0*
*ISCJB **16** 08:11:12.0±1.9,457N±03×1509E±03,h229km±26km, mb3.1/4,Error ellipse: s-maj=50.5km s-min=23.1km az=99.6*
*JMA **16** 08:11:12.3±0.6,4587N×15091E,h189km,M3.8*
ISC 16 08:11:13.5±1.9,457N±03×1508E±03,h228km±26km,n25, σ0°60/29,mb3.1/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.32**	**239**	P	Pn	08 12 19.5	-0.6
NEM2				*e*S	S	08 13 12.3	-0.6
JRA	**Rausu**	**4.42**	**249**	P	Pn	08 12 21.6	+0.2
JNK	**Nakash**	**4.84**	**246**	P	Pn	08 12 26.8	+0.2
JAK	**Akkeshi**	**5.16**	**241**	P	Pn	08 12 30.3	-0.2
JAK				*e*S	S	08 13 31.6	-0.1
JTKR	**Abashiri--Toko**	**5.21**	**253**	P	Pn	08 12 31.1	-0.1
JAR	**Ashorobuto**	**5.59**	**247**	P	Pn	08 12 36.7	+0.8
JOB	**Onbets**	**5.74**	**243**	P	Pn	08 12 38.1	+0.2
JOB				*e*S	S	08 13 45.5	+0.5
JKK2	**Kamakawa 2**	**6.03**	**255**	P	Pn	08 12 41.6	+0.1
ASAJ	**Asahikawa**	**6.05**	**258**	P	Pn	08 12 42.1	+0.3
JCH	**Churui**	**6.19**	**243**	P	Pn	08 12 43.4	-0.1
JCH				*e*S	S	08 13 54.9	-0.4
JEM	**Erimo**	**6.65**	**239**	P	Pn	08 12 50.6	+1.2
JBT2	**Biratori 2**	**6.74**	**247**	P	Pn	08 12 51.2	+0.6
JNBK	**Urakawa-nobuka**	**6.75**	**242**	P	Pn	08 12 50.1	-0.6
JNBK				*e*S	Sx	08 14 05.8	
JNB	**Noboribetsu**	**7.75**	**249**	P	Pn	08 13 03.9	+0.4
JKB	**Kayabe**	**8.04**	**245**	P	Pn	08 13 06.3	-0.9
JKB				*e*S	Sx	08 14 34.3	
JYM2	**Yakumo 2**	**8.35**	**248**	P	Pn	08 13 10.7	-0.5
JSR	**Shiriuchi**	**8.62**	**245**	P	Pn	08 13 14.1	-0.5
JANG	**Nango**	**8.64**	**235**	P	Pn	08 13 14.5	-0.4
JANG				*e*S	Sx	08 14 50.4	
JTM	**Tenmabayashi**	**8.64**	**239**	P	Pn	08 13 14.1	-0.9
JTM				*e*S	Sx	08 14 49.2	
JTH	**Tanohata**	**8.74**	**232**	P	Pn	08 13 16.6	+0.4
JRG	**Rokugo**	**9.80**	**234**	P	Pn	08 13 31.3	+1.6
MKAR	**Makanchi Array**	**46.01**	**297**	P	P	08 19 09.1	-5.0
	0.5nm,0.7s,mb3.0,baz=69,slow=8.0,SNR=4.8						
MKAR				PcP	PcP	08 20 47.6	+0.9
	0.3nm,0.6s,baz=74,slow=4.3,SNR=3.8						
PDAR	**Pinedale Array**	**66.65**	**52**	P	P	08 21 39.2	-0.3
	0.6nm,0.9s,mb3.2,baz=316,slow=3.8,SNR=4.1						
WRA	**Warramunga Arr**	**67.02**	**197**	P	P	08 21 49.9	+8.0
	0.4nm,0.7s,mb3.1,baz=16,slow=6.9,SNR=3.0						
ASAR	**Alice Springs**	**70.73**	**196**	P	P	08 22 14.6	+10
	0.4nm,0.6s,mb3.2,baz=11,slow=6.2,SNR=5.6						

*ISCJB **16** 08:46:45.3±0.5,2757N±005×11145W±007,h5km, mb4.1/10,MS3.8/13,Error ellipse: s-maj=9.9km s-min=4.3km az=107.2*
*NEIC **16** 08:46:46.0±0.9,2751N×11160W,h5km,mb4.4/5,Error ellipse: s-maj=17.4km s-min=9.7km az=72.0*
*IDC **16** 08:46:46.2±1.3,2754N×11137W,h0km,mb4.0/6, mb1 4.1/10,mb1mx4.0/22,mbtmp3.9/10,ML3.3/3,MS3.7/16, Ms1 3.7/16,ms1mx3.5/28,Error ellipse: s-maj=43.3km s-min=14.0km az=67.0*
ISC 16 08:46:47.3±1.9,2751N±005×11149W±007,h7km±14km, n84,σ1°48/76,mb4.1/10,MS3.8/13,27C-24D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**3.55**	**162**	Pn	Pn	08 47 41.2	-1.7
	3.0nm,0.3s,baz=345,slow=5.0,SNR=7.7						
LPIG				LR	LR	08 48 58.1	
	comp=Z,842nm,19.3s,baz=14,slow=37						
TUC	**Tucson**	**4.82**	**7**	*e*Pn	Pn	08 47 57.0	-3.3
116A	**Eloy**	**5.04**	**358**	⇑P	Pn	08 48 00.9	-2.3
	baz=5.1,SNR=16						
115A	**Sonoran Desert**	**5.21**	**353**	⇓P	Pn	08 48 03.5	-2.1
	baz=5.2						
115A				⇑S	Sn	08 49 06.3	+0.3
	baz=5.2						
Z14A	**Wintersburg**	**5.97**	**348**	⇓P	Pn	08 48 13.8	-2.2
	baz=6.0,SNR=11						
Z14A				⇑S	Sn	08 49 24.7	+0.1
	baz=6.0						
GLA	**Glamis**	**6.24**	**333**	*e*Pn	Pn	08 48 17.5	-2.2
GLA	**Glamis**	**6.24**	**333**	⇑P	Pn	08 48 18.0	-1.7
	baz=6.2,SNR=11						
GLA				⇑S	Sn	08 49 29.8	-1.4
	baz=6.2						
Y13A	**Salome**	**6.60**	**343**	⇓P	Pn	08 48 23.2	-1.5
	baz=6.6						
Y12C	**Blythe**	**6.75**	**338**	⇑P	Pn	08 48 25.0	-1.8
	baz=6.7,SNR=12						
MNTX	**Cornudas Mount**	**6.76**	**50**	*e*Pn	Pn	08 48 25.1	-1.8
	30nm,0.7s						
X14A	**Yava**	**7.04**	**350**	⇓P	Pn	08 48 28.7	-2.1
	baz=7.1,SNR=8.7						
X13A	**Yucca**	**7.34**	**345**	⇑P	Pn	08 48 33.2	-1.6
	baz=7.3						
W15A	**Williams**	**7.68**	**355**	⇑P	Pn	08 48 37.7	-1.8
	baz=7.7						
W14A	**Seligman**	**7.80**	**350**	⇑P	Pn	08 48 39.0	-2.2
	baz=7.8						
W12A	**Cal Nev Ari**	**8.29**	**340**	⇑P	Pn	08 48 46.5	-1.3
	baz=8.3						
ANMO	**Albuquerque**	**8.57**	**29**	Pn	Pn	08 48 54.3	+2.5
	0.1nm,0.3s,baz=212,slow=15,SNR=3.6						
ANMO				Lg		08 51 14.6	
	1.0nm,0.3s,baz=23,slow=20,SNR=8.3						
TUQ	**Turquoise Mtn.**	**8.76**	**335**	⇓P	Pn	08 48 54.0	-0.3
	baz=8.7						
GSC	**Goldstone**	**9.00**	**331**	⇓P	Pn	08 48 59.7	+2.1
	baz=9.0						
ISA	**Isabella**	**10.08**	**326**	⇓P	Pn	08 49 12.5	+0.1
	baz=10.0						
CWC	**Cottonwood Cre**	**10.52**	**330**	⇓P	Pn	08 49 15.7	-2.7
	baz=10						
JCT	**Junction City**	**10.65**	**71**	*e*Pn	Pn	08 49 20.8	+0.6
	28nm,0.9s						
S09A	**Goldfield**	**11.27**	**336**	⇑P	Pn	08 49 30.4	+1.7
	baz=11						
S08C	**White Mtn Res**	**11.45**	**332**	⇑P	Pn	08 49 29.7	-1.5
	baz=11						
Q11A	**Duckwater**	**11.83**	**344**	⇑P	Pn	08 49 37.2	+0.7
	baz=12						
NVAR	**Mina Array Bea**	**12.30**	**334**	Pn	Pn	08 49 45.9	+3.1
	0.1nm,0.3s,baz=150,slow=12,SNR=7.0						
R07C	**Lee Vining**	**12.31**	**331**	⇓P	Pn	08 49 42.4	-0.6
	baz=12						
S06C	**San Francisco**	**12.51**	**328**	⇓P	Pn	08 49 47.5	+1.9
	baz=12						
P11A	**Circle Ranch,**	**12.52**	**345**	⇓P	Pn	08 49 47.7	+1.8
	baz=12						
Q08A	**Gabbs**	**12.54**	**336**	⇑P	Pn	08 49 43.9	-2.1
	baz=12						
R06C	**Coleville**	**12.85**	**331**	⇑P	Pn	08 49 50.3	0.0
	baz=13						
O11A	**Cowboy Ranch,**	**13.06**	**346**	⇑P	Pn	08 49 53.6	+0.4
	baz=13						
R05C	**Kirkwood Meado**	**13.27**	**329**	⇓P	Pn	08 49 58.3	+2.1
	baz=13						
O09A	**Fish Creek Ran**	**13.48**	**341**	⇓P	Pn	08 50 01.8	+2.8
	baz=14						
LAVA	**Lava Cap Winer**	**13.63**	**328**	⇑P	Pn	08 50 03.6	+2.7
	baz=14						
N12A	**Wells--Clov Va**	**13.63**	**348**	⇓P	Pn	08 50 01.8	+0.9
	baz=14						
WCN	**Washoe City**	**13.63**	**332**	⇓P	Pn	08 50 04.4	+3.4
	baz=14						
M13A	**Montello**	**13.99**	**352**	⇑P	Pn	08 50 07.9	+1.9
	baz=14						
P05C	**Yuba Gap, Truc**	**14.00**	**329**	⇓P	Pn	08 50 08.7	+2.7
	baz=14						
O07A	**Toulon**	**14.03**	**336**	⇑P	Pn	08 50 07.5	+1.1
	baz=14						
N08A	**GE Springer Mi**	**14.33**	**339**	⇑P	Pn	08 50 11.2	+0.7
	baz=14						
M11A	**Holland Ranch,**	**14.33**	**347**	⇓P	Pn	08 50 11.9	+1.4
	baz=14						
O06A	**Flanigan**	**14.39**	**333**	⇓P	Pn	08 50 12.8	+1.5
	baz=14						
M10A	**I.L. Ranch, Tu**	**14.58**	**345**	⇑P	Pn	08 50 15.3	+1.3
	baz=15						
O05C	**Quincy**	**14.68**	**330**	⇓P	Pn	08 50 15.8	+0.5
	baz=15						
M08A	**Happy Creek Ra**	**15.02**	**340**	⇑P	Pn	08 50 19.6	-0.3
	baz=15						
O04C	**Chester**	**15.05**	**331**	⇑P	Pn	08 50 22.2	+1.8
	baz=15						
M07A	**Soldier Meadow**	**15.22**	**337**	⇓P	Pn	08 50 23.2	+0.6
	baz=15						
PDAR	**Pinedale Array**	**15.30**	**5**	Pn	Pn	08 50 25.9	+2.2
	baz=182,slow=9.0,SNR=6.0						
PDAR				Lg		08 54 49.0	
	0.0nm,0.3s,baz=192,slow=22,SNR=4.1						
PDAR	**Pinedale Array**	**15.30**	**5**	Pn	Pn	08 50 25.9	+2.2
PDAR				Lg		08 54 49.0	
L09A	**Wilkinson Ranc**	**15.34**	**342**	⇑P	Pn	08 50 25.4	+1.3
	baz=15						
M05C	**Lookout**	**15.94**	**333**	⇑P	Pn	08 50 32.1	+0.1
	baz=16						
M03C	**McCloud**	**16.27**	**330**	⇓P	Pn	08 50 35.2	-1.1
	baz=16						
K07A	**Rock Creek Ran**	**16.41**	**339**	⇑P	Pn	08 50 36.9	-1.2
	baz=16						
M04C	**Macdoel**	**16.57**	**332**	⇓P	Pn	08 50 40.0	-0.1
	baz=16						
M02C	**Callahan**	**16.70**	**329**	⇓P	Pn	08 50 40.6	-1.1
	baz=17						
K06A	**Valley Falls**	**16.84**	**337**	⇓P	Pn	08 50 42.4	-1.1
	baz=17						
MIAR	**Mount Ida**	**16.87**	**61**	*e*P	Pn	08 50 44.1	+0.3
	6.4nm,0.9s						
YBH	**Yreka Blue Hor**	**16.91**	**330**	LR	LR	08 57 00.2	
	comp=Z,217nm,18.7s,baz=151,slow=36						
J06A	**Christmas Vall**	**17.20**	**338**	⇑P	Pn	08 50 46.3	-1.8
	baz=17						
CMIG	**Matias Romero**	**18.51**	**121**	P	Pn	08 51 04.1	-0.1
	0.3nm,0.3s,baz=308,slow=10,SNR=8.5						
CMIG				LR	LR	08 59 56.8	
	comp=Z,70nm,18.3s,baz=285,slow=43						
CMIG	**Matias Romero**	**18.51**	**121**	P	Pn	08 51 04.1	-0.1
CMIG				LR	LR	08 59 56.8	
NEW	**Newport**	**21.18**	**350**	P	P	08 51 31.9	-1.4
	6.3nm,0.9s,mb3.9,baz=159,slow=11,SNR=7.0						
NEW				LR	LR	09 00 29.1	
	comp=Z,163nm,21.4s,MS3.4,baz=164,slow=39						
TEIG	**Tepich**	**22.41**	**104**	*e*P	P	08 51 45.7	-0.6
	14nm,1.1s,mb4.3						
ULM	**Lac du Bonnet**	**25.65**	**24**	P	P	08 52 18.4	+0.9
	1.8nm,1.0s,mb3.6,baz=204,slow=12,SNR=3.1						
ULM				LR	LR	09 02 13.1	
	comp=Z,90nm,20.9s,MS3.3,baz=339,slow=36						
EDM	**Edmonton**	**25.72**	**357**	*e*P	P	08 52 17.8	-0.4
BBB	**Bella Bella**	**27.62**	**338**	LR	LR	09 03 17.7	
	comp=Z,103nm,20.8s,MS3.4,baz=53,slow=36						
SADO	**Sadowa**	**31.02**	**48**	P	P	08 53 09.4	+3.9
	1.2nm,0.5s,mb4.0,baz=272,slow=11,SNR=3.7						
YKA	**Yellowknife Ar**	**35.05**	**357**	LR	LR	09 09 06.4	
	comp=Z,169nm,18.7s,MS3.8,baz=135,slow=38						
OTAV	**Otavalo**	**41.71**	**125**	P	P	08 54 37.6	+0.8
	8.8nm,1.3s,mb4.2						
SCHQ	**Schefferville**	**42.24**	**37**	P	P	08 54 43.0	+2.0
	5.8nm,1.0s,mb4.2,baz=260,slow=7.6,SNR=5.5						
SCHQ				LR	LR	09 12 52.7	
	comp=Z,122nm,21.1s,MS3.8,baz=102,slow=37						
SDV	**Santo Domingo**	**42.74**	**108**	P	P	08 54 44.7	-0.5
	5.9nm,0.8s,mb4.4,baz=8.6,slow=6.4,SNR=7.9						
SDV	**Santo Domingo**	**42.74**	**108**	*e*P	P	08 54 44.7	-0.5
	8.8nm,0.7s,mb4.6						
PPT	**Papeete**	**58.06**	**224**	LR	LR	09 16 38.3	
	comp=Z,154nm,20.8s,MS4.1,baz=324,slow=31						
LPAZ	**La Paz**	**60.52**	**131**	P	P	08 56 60.0	+1.9
	0.8nm,0.7s,mb4.0,baz=301,slow=9.6,SNR=4.9						
CPUP	**Villa Florida**	**74.69**	**131**	P	P	08 58 26.4	-1.1
	1.0nm,0.7s,mb3.9,baz=306,slow=8.7,SNR=3.3						
BDFB	**Brasilia**	**74.98**	**117**	LR	LR	09 34 19.1	
	comp=Z,81nm,19.2s,MS4.0,baz=232,slow=38						
PLCA	**Paso Flores**	**77.80**	**149**	P	P	08 58 45.6	+0.3
	2.3nm,0.9s,mb4.1,baz=324,slow=8.7,SNR=2.8						
PLCA	**Paso Flores**	**77.80**	**149**	P	P	08 58 45.4	+0.1
	4.1nm,1.0s,mb4.3						
ARCES	**ARCESS Array B**	**78.37**	**14**	LR	LR	09 34 44.3	
	comp=Z,50nm,19.6s,MS3.9,baz=272,slow=37						
FINES	**FINESS Array B**	**84.95**	**19**	LR	LR	09 38 46.8	
	comp=Z,58nm,21.1s,MS3.9,baz=353,slow=37						
GERES	**GERESS Array B**	**89.61**	**33**	LR	LR	09 40 20.5	
	comp=Z,62nm,20.0s,MS4.0,baz=292,slow=36						
HNR	**Honiara**	**93.03**	**261**	LR	LR	09 37 09.4	
	comp=Z,123nm,18.1s,MS4.4,baz=359,slow=32						
SONM	**Songino Array**	**97.63**	**335**	LR	LR	09 46 37.2	
	comp=Z,28nm,20.7s,MS3.7,baz=59,slow=37						
ZAL	**Zalesovo**	**97.68**	**350**	LR	LR	09 45 01.6	
	comp=Z,51nm,19.1s,MS4.0,baz=360,slow=36						

*IDC **16** 09:25:03.8±1.7,648S×13127E,h0km,mb4.0/2,mb1 4.6/5, mb1mx4.1/13,mbtmp4.4/5,ML4.6/3,Error ellipse: s-maj=72.1km s-min=24.7km az=72.0*
*NEIC **16** 09:25:05.2±1.1,648S×13138E,h10km,mb3.8/1,Error ellipse: s-maj=30.5km s-min=13.6km az=74.0*
*ISCJB **16** 09:25:07.6±1.2,675S±008×1307E±01,h33km,mb3.8/2, Error ellipse: s-maj=20.7km s-min=11.8km az=169.1*
ISC 16 09:25:09.7±1.2,669S±008×1308E±01,h35km,n12, σ1°02/17,mb3.8/2,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.19**	**165**	⇓*i*P	Pn	09 26 42.0	+3.4
	24nm,0.2s						
KAKA				*e*S	Sn	09 27 48.8	+0.7
FITZ	**Fitzroy Crossi**	**12.43**	**204**	*e*P	Pn	09 28 07.8	+3.8
	20nm,0.3s						
FITZ				*e*S	Sn	09 30 20.2	-0.9
FITZ	**Fitzroy Crossi**	**12.43**	**204**	Pn	Pn	09 28 07.8	+3.8
	4.3nm,0.3s,baz=33,slow=12,SNR=84						
FITZ				Sn	Sn	09 30 21.0	-0.1
	3.5nm,0.3s,baz=234,slow=19,SNR=12						
WRA	**Warramunga Arr**	**13.61**	**166**	Pn	Pn	09 28 19.0	-1.2
	2.2nm,0.3s,baz=350,slow=13,SNR=64						
WRA				Sn	Sn	09 30 44.1	-6.0
	3.2nm,0.3s,baz=354,slow=24,SNR=8.8						
WB2	**Warramunga Arr**	**13.61**	**166**	*e*P	Pn	09 28 19.0	-1.2
WB2				*e*S	Sn	09 30 41.3	-8.8
AS31	**Alice Springs**	**17.14**	**170**	*e*P	Pn	09 29 06.6	+0.2
AS31				*e*S	Sx	09 32 09.9	
ASAR	**Alice Springs**	**17.14**	**170**	P	Pn	09 29 07.2	+0.9
	2.0nm,0.3s,baz=347,slow=8.5,SNR=68						
ASAR				S	Sx	09 32 10.9	
	0.6nm,0.3s,baz=357,slow=26,SNR=5.2						
ASAR	**Alice Springs**	**17.14**	**170**	P	Pn	09 29 07.2	+0.9
ASAR				S	Sx	09 32 10.9	
ASPA	**Alice Springs**	**17.14**	**170**	*e*P	Pn	09 29 06.6	+0.2
ASPA				*e*S	Sx	09 32 09.9	
STKA	**Stephens Creek**	**27.00**	**160**	*e*P	P	09 30 47.8	-0.4
	4.8nm,2.0s,mb3.7						
STKA	**Stephens Creek**	**27.00**	**160**	P	P	09 30 47.8	-0.4
	1.2nm,0.5s,mb3.7,baz=344,slow=8.7,SNR=8.2						
MKAR	**Makanchi Array**	**68.42**	**326**	P	P	09 36 08.1	+0.2
	0.5nm,0.4s,mb3.9,baz=114,slow=8.8,SNR=6.9						

*IDC **16** 09:51:36.0±12.0,2001S×17750W,h380km±131km, mb3.5/5,mb1 3.8/5,mb1mx3.5/13,mbtmp4.3/5,Error ellipse: s-maj=66.0km s-min=38.7km az=139.0*
*ISCJB **16** 09:51:37.1±1.8,199S±04×1776W±03,h400km,mb4.0/8, Error ellipse: s-maj=63.4km s-min=21.4km az=114.0*
ISC 16 09:51:38.4±1.8,200S±04×1776W±03,h400km,n10, σ0°62/10,mb4.0/8,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.96**	**263**	⇓*i*P	P	09 57 47.1	+0.9
	20nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**38.41**	**244**	P	P	09 58 22.1	-1.2
	1.9nm,0.5s,mb3.7,baz=86,slow=12,SNR=12						
ASAR	**Alice Springs**	**45.05**	**256**	P	P	09 59 16.8	+0.4
	16nm,0.6s,mb4.5,baz=87,slow=8.5,SNR=354						
ASAR				PcP	PcP	10 00 49.2	0.0
	0.5nm,0.4s,baz=93,slow=4.1,SNR=4.5						
ASPA	**Alice Springs**	**45.06**	**256**	*e*P	P	09 59 16.6	+0.2
WB2	**Warramunga Arr**	**45.08**	**261**	*e*P	P	09 59 16.2	-0.4
WRA	**Warramunga Arr**	**45.09**	**261**	P	P	09 59 16.6	-0.1
	3.8nm,0.3s,mb4.2,baz=97,slow=5.4,SNR=421						
KAKA	**Kakadu**	**48.38**	**271**	*e*P	P	09 59 41.5	-0.3
	5.0nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.52**	**262**	*e*P	P	10 00 20.3	+0.8
	2.9nm,0.4s,mb3.9						
MJAR	**Matsushiro Arr**	**70.02**	**323**	P	P	10 02 07.5	-0.6
	0.7nm,0.4s,mb3.5,baz=158,slow=6.2,SNR=2.7						
NVAR	**Mina Array Bea**	**80.34**	**43**	P	P	10 03 06.6	+0.3
	0.4nm,0.6s,mb3.2,baz=228,slow=12,SNR=2.6						

*ISCJB **16** 10:26:33.2±0.4,5155N±002×707E±004,h0km,Error ellipse: s-maj=3.4km s-min=3.0km az=58.8*
*LDG **16** 10:26:35.6±0.2,5163N×696E,h1km,Ml2.8/5,Error ellipse: s-maj=4.5km s-min=3.2km az=33.0,Suspected Mining induced.*
*BUG **16** 10:26:35.5,5159N×702E,h1km,ML1.5*
*BNS **16** 10:26:35.2±0.6,5164N×698E,h1km,ML2.0*
*CSEM **16** 10:26:35.0±0.1,5166N×700E,h1km,ML2.7/4,Error ellipse: s-maj=3.9km s-min=1.7km az=83.0*
*BGR **16** 10:26:38.2±0.8,5157N×726E,h1km,ML2.1/4,Error ellipse: s-maj=8.9km s-min=5.6km az=92.0*
ISC 16 10:26:34.4±0.4,5160N±002×705E±003,h0km,n32, σ1°19/50,2D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.11**	**283**	Pg	Pg	10 26 37.2	+0.7
BZER				Sg	Sg	10 26 39.3	+1.3
BUG	**Bochum--Univer**	**0.21**	**138**	⇓*i*Pg	Pg	10 26 40.7	+2.3
LAUG	**Laupendahl**	**0.25**	**195**	*e*Pg	Pg	10 26 40.6	+1.4
WTSB	**Winterswijk**	**0.40**	**338**	*e*Pg	Pg	10 26 42.2	+0.2
	29nm,0.4s						
WTSB				*i* Sg	Sg	10 26 47.5	+0.2
HOBG	**Hohbusch**	**0.64**	**163**	*e*Pg	Pg	10 26 48.3	+1.7
IBBN	**Ibbenburen**	**0.84**	**31**	*e*Pg	Pg	10 26 50.5	+0.1
	SNR=4.3						
IBBN				*e*Sg	Sg	10 27 03.7	+2.5
	SNR=3.4						
STB	**Steinbach**	**1.01**	**187**	*e*Pg	Pg	10 26 55.3	+1.5
STB				*e*Sg	Sg	10 27 09.7	+2.8
	39nm,0.3s						
KLL	**Kalltalsperre**	**1.06**	**206**	*e*Pg	Pg	10 26 55.3	+0.7
HGN	**Heimansgroeve**	**1.09**	**221**	*e*Pn	Pn	10 26 55.7	-1.2
	2.9nm,0.4s						
HGN				⇓*i*Pg	Pg	10 26 56.6	+1.3
	18nm,0.2s						
HGN				*e*Sg	Sg	10 27 10.9	+1.5
MEM	**Membach**	**1.19**	**214**	P	Pg	10 26 57.3	+0.3
	comp=Z,32nm,0.0s						
MEM				S	Sg	10 27 14.4	+1.9
BGG	**Burgeitz**	**1.40**	**172**	*e*Pg	Pg	10 27 01.3	0.0
TNS	**Taunus Mts**	**1.64**	**147**	*e*Pg

s-min=13.0km az=96.0
JMA **16** 10:42:46.5±0.5, 40.35N×143.75E, h2km±4km, M4.9
BJI **16** 10:42:48.2, 40.37N×143.50E, h15km, mB5.2, mb5.0, Ms4.7, Msz4.5
ISCJB **16** 10:42:50.4±0.1, 40.35N±002×143.62E±002, h28km, mb5.0/166, MS4.4/41, Error ellipse: s-maj=3.4km s-min=2.4km az=136.2
NEIC **16** 10:42:51.8±0.1, 40.32N×143.67E, mb5.0/94, MW4.8(NIED), Error ellipse: s-maj=4.2km s-min=2.8km az=153.0
HRVD **16** 10:42:51.8±0.6, 40.34N×144.01E, h24km±2km, MW4.8/46, Centroid moment Tensor Solution. LP body waves: s13,c13;Mantle waves: s46,c60; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.29±.19; $M_{\theta\theta}$-0.02±.11; $M_{\phi\phi}$-1.27±.12; $M_{r\theta}$0.72±.15; $M_{\theta\phi}$-0.42±.06; $M_{\phi r}$1.36±.14; Best double couple: $M_0$2.04400×10^{16} NP1:ϕ_s187.00000°, δ21.00000°, λ73.00000°. NP2: ϕ_s25.00000°, δ70.00000°, λ96.00000°. Principal axes: T 2.0060, Plg65.0000°, Azm306.0000°; N 0.0800, Plg6.0000°, Azm203.0000°; P -2.0830, Plg24.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
MOS **16** 10:42:51.7±0.9, 40.45N×143.56E, h33km, mb5.2/83, MS4.4/24 Error ellipse: s-maj=7.6km s-min=4.3km az=111.5
SZGRF **16** 10:42:56.1, 40.91N×143.91E, h31km, mb4.9, MS4.5, Off east coast of Honshu, Japan

ISC 16 10:42:52.3±0.1, 40.39N±002×143.62E±002, h30km, h30km±.6km:pP-P, n487, σ0:90/504, mb5.0/166, MS4.4/41, 98C-35D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.42**	**252**	P		**Pn**	**Pn**	**10 43 14.4**	**-1.6**
JTH				*e*S			**Sn**	**10 43 34.5**	**+0.8**
MIYJ	**Miyakonagasawa**	**1.60**	**240**	P		**Pn**	**Pn**	**10 43 17.2**	**-1.4**
JANG	**Nango**	**1.61**	**270**	P		**Pn**	**Pn**	**10 43 17.5**	**-1.1**
ERM	**Erimo**	**1.66**	**348**	Pn		**Pn**	**Pn**	**10 43 18.9**	**-0.4**
	2μm,0.5s,SNR=17								
JEM	**Erimo**	**1.66**	**348**	P		**Pn**	**Pn**	**10 43 18.1**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.00**	**341**	P		**Pn**	**Pn**	**10 43 23.2**	**-0.8**
JOM	**Ohasama**	**2.01**	**244**	P		**Pn**	**Pn**	**10 43 23.5**	**-0.7**
JOM				*e*S			**Sn**	**10 43 50.6**	**+2.3**
JOT	**Ohata**	**2.19**	**298**	P		**Pn**	**Pn**	**10 43 26.4**	**-0.2**
JOT				*e*S			**Sn**	**10 43 54.6**	**+2.0**
JCH	**Churui**	**2.23**	**355**	P		**Pn**	**Pn**	**10 43 26.0**	**-1.2**
JCH				*e*S			**Sn**	**10 43 53.1**	**-0.6**
JMK	**Ichinoseki**	**2.34**	**233**	P		**Pn**	**Pn**	**10 43 27.6**	**-1.2**
JKB	**Kayabe**	**2.46**	**308**	P		**Pn**	**Pn**	**10 43 30.3**	**0.0**
JAK	**Akkeshi**	**2.72**	**17**	P		**Pn**	**Pn**	**10 43 31.8**	**-2.2**
JAK				S			**Sn**	**10 44 02.4**	**-3.5**
JFR	**Furan**	**2.87**	**345**	P		**Pn**	**Pn**	**10 43 36.1**	**+0.1**
JFR				*e*S			**Sn**	**10 44 12.1**	**+2.5**
JAR	**Ashorobuto**	**2.90**	**2**	P		**Pn**	**Pn**	**10 43 34.2**	**-2.3**
JAR				S			**Sn**	**10 44 07.9**	**-2.4**
JYK	**Kaneyama**	**2.92**	**241**	P		**Pn**	**Pn**	**10 43 36.2**	**-0.4**
JEW	**Eniwo**	**2.94**	**327**	P		**Pn**	**Pn**	**10 43 37.7**	**+0.8**
JEW				*e*S			**Sn**	**10 44 14.1**	**+3.0**
JMM	**Marumori**	**3.34**	**222**	P		**Pn**	**Pn**	**10 43 40.3**	**-2.2**
NEM2	**Nemuro 2**	**3.37**	**27**	P		**Pn**	**Pn**	**10 43 39.7**	**-3.1**
NEM2				S			**Sn**	**10 44 17.4**	**-4.4**
ASAJ	**Asahikawa**	**3.80**	**349**	Pn		**Pn**	**Pn**	**10 43 47.7**	**-1.1**
	4.1nm,0.3s,baz=200,slow=14,SNR=19								
ASAJ				Sn			**Sn**	**10 44 33.3**	**+0.9**
	22nm,0.3s,baz=331,slow=17,SNR=6.7								
ASAJ	**Asahikawa**	**3.80**	**349**	P		**Pn**	**Pn**	**10 43 47.7**	**-1.1**
ASAJ								10 44 33.3	
ASAJ				pmax		pmax			
	comp=Z,4.0nm,0.3s								
ASAJ				smax					
	comp=N,22nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**4.00**	**24**	*e*P		**Pn**	**Pn**	**10 43 48.5**	**-3.1**
YUK				*i* S			**Sn**	**10 44 30.4**	**-7.0**
YUK				pmax		pmax			
	comp=Z,350nm,0.4s								
YUK				pmax		pmax			
	comp=N,210nm,0.5s								
YUK				smax					
	comp=N,12μm,0.8s								
YUK				smax					
	comp=E,5μm,0.8s								
YUK				smax					
	comp=N,4μm,0.5s								
YUK				smax					
	comp=E,1μm,0.5s								
YUK				MLR		MLR			
	comp=Z,6μm,16.0s								
YUK				MLR		MLR			
	comp=N,3μm,14.0s								
YUK				MLR		MLR			
	comp=E,6μm,15.0s								
MAJO	**Matsushiro**	**5.73**	**230**	*e*P		**Pn**	**Pn**	**10 44 15.3**	**0.0**
MAJO				pmax		pmax			
	comp=Z,147nm,0.7s								
MAJO	**Matsushiro**	**5.73**	**230**	*e*Pn		**Pn**	**Pn**	**10 44 15.3**	**0.0**
	comp=Z,147nm,0.7s								
MAT	**Matsushiro**	**5.73**	**230**	P		**Pn**	**Pn**	**10 44 15.1**	**-0.2**
MAT				S			**Sn**	**10 45 20.0**	**+0.1**
MAT	**Matsushiro**	**5.73**	**230**	*e*P		**Pn**	**Pn**	**10 44 15.0**	**-0.3**
MAT				pmax		pmax			
	comp=Z,124nm,0.6s								
MJAR	**Matsushiro Arr**	**5.73**	**230**	Pn		**Pn**	**Pn**	**10 44 15.2**	**-0.1**
	comp=Z,7.8nm,0.3s,baz=37,slow=12,SNR=150								
KUR	**Kuril'sk**	**5.76**	**31**	⇑*i*P		**Pn**	**Pn**	**10 44 10.2**	**-5.5**
KUR				*i* S			**Sn**	**10 45 12.5**	**-8.2**
KUR				pmax		pmax			
	comp=Z,2μm,1.4s								
KUR				pmax		pmax			
	comp=N,750nm,1.0s								
KUR				pmax		pmax			
	comp=E,380nm,1.0s								
KUR				pmax		pmax			
	comp=Z,1μm,1.0s								
KUR				smax					
	comp=N,520nm,0.7s								
KUR				smax					
	comp=E,1μm,0.7s								
KUR				smax					
	comp=N,4μm,1.4s								
KUR				smax					
	comp=E,3μm,1.4s								
KUR				smax					
	comp=N,4μm,14.0s								
KUR				smax					
	comp=E,4μm,14.0s								
KUR				smax					
	comp=Z,3μm,14.0s								
YSS	**Yuzh-Sakhalins**	**6.59**	**355**	*e*P		**Pn**	**Pn**	**10 44 23.2**	**-3.9**
YSS				*e*S			**Sn**	**10 45 38.0**	**-3.2**
YSS				smax					
	comp=N,110nm,1.0s								
YSS				smax					
	comp=E,70nm,1.0s								
YSS				MLR		MLR			
	comp=Z,2μm,15.0s								
YSS				MLR		MLR			
	comp=N,2μm,16.0s								
YSS				MLR		MLR			
	comp=E,2μm,17.0s								
YSS	**Yuzh-Sakhalins**	**6.59**	**355**	*e*P		**Pn**	**Pn**	**10 44 26.5**	**-0.6**
	comp=E,73nm,0.8s								
JHJ	**Hachijo jima 2**	**7.88**	**204**	Pn		**Pn**	**Pn**	**10 44 40.8**	**-4.1**
	comp=E,25nm,0.3s,baz=25,slow=14,SNR=7.6								
JHJ				Sn			**Sn**	**10 46 05.4**	**-7.6**
	comp=E,43nm,0.3s,baz=27,slow=24,SNR=5.6								
UGL	**Uglegorsk**	**8.76**	**353**	P		**Pn**	**Pn**	**10 44 54.5**	**-2.3**
UGL				pmax		pmax			
	comp=Z,42nm,0.7s								
UGL				MLR		MLR			
	comp=N,2μm,15.0s								
UGL				MLR		MLR			
	comp=Z,2μm,15.0s								
UGL				MLR		MLR			
	comp=E,3μm,19.0s								
HABR	**Khabarovsk**	**10.13**	**326**	⇑*i*P		**Pn**	**Pn**	**10 45 16.6**	**+0.9**
HABR				S			**Sn**	**10 47 11.6**	**+3.3**
HABR				pmax		pmax			
	comp=Z,81nm,1.6s								
MDJ	**Mudanjiang**	**11.18**	**297**	P		**Pn**	**Pn**	**10 45 31.5**	**+1.5**
MDJ				AP				10 45 36.8	
MDJ				XP				10 45 41.3	
MDJ				S			**Sn**	**10 47 35.5**	**+1.6**
MDJ				XS				10 47 44.0	
MDJ				SS				10 47 50.3	
MDJ				SCS		ScS		10 58 28.1	-2.6
MDJ				AMB		AMB			
	comp=Z,100nm,0.8s								
MDJ				AMB		AMB			
	comp=Z,340nm,4.6s								
MDJ				LR		LR			
	comp=N,1μm,12.9s								
MDJ				LR		LR			
	comp=E,2μm,12.9s								
MDJ				LR		LR			
	comp=Z,3μm,13.2s								
MDJ	**Mudanjiang**	**11.18**	**297**	*e*Pn		**Pn**	**Pn**	**10 45 31.6**	**+1.6**
	comp=Z,94nm,0.9s								
KLR	**Kul'dur**	**12.20**	**320**	*e*P		**Pn**	**Pn**	**10 45 40.5**	**-3.4**
KLR				pmax		pmax			
	comp=E,76nm,1.4s								
KLR				pmax		pmax			
	comp=Z,76nm,1.4s								
KLR				MLR		MLR			
	comp=N,2μm,13.0s								
KLR				MLR		MLR			
	comp=E,1μm,13.0s								
KLR				MLR		MLR			
	comp=Z,4μm,13.0s								
CBIJ	**Chichi jima**	**13.32**	**186**	Pn		**Pn**	**Pn**	**10 45 52.9**	**-6.3**
	comp=Z,3.9nm,0.3s,baz=317,slow=18,SNR=5.4								
CBIJ				LR		LR		10 51 22.3	
	comp=Z,403nm,18.8s,baz=55,slow=39								
CN2	**Changchun**	**13.91**	**290**	*e*P		**Pn**	**Pn**	**10 46 08.3**	**+0.9**
CN2				*e*XP				10 46 19.8	
CN2				*e*S			**Sn**	**10 48 41.3**	**+0.5**
CN2				AMB		AMB			
	comp=Z,30nm,1.0s								
CN2				AMB		AMB			
	comp=Z,200nm,6.0s								
CN2				LR		LR			
	comp=N,2μm,13.0s								
CN2				LR		LR			
	comp=E,1μm,13.0s								
CN2				LR		LR			
	comp=Z,1μm,12.0s								
SNY	**Shenyang**	**15.18**	**282**	⇑P		**Pn**	**Pn**	**10 46 24.0**	**-0.4**
SNY				AMB		AMB			
	comp=Z,30nm,1.0s								
SNY				AMB		AMB			
	comp=Z,1μm,4.1s								
SNY				LR		LR			
	comp=E,1μm,13.8s								
SNY				LR		LR			
	comp=Z,1μm,13.8s								
DL2	**Dalian**	**17.00**	**272**	P		**Pn**	**Pn**	**10 46 48.0**	**+0.2**
DL2				*e*S			**Sn**	**10 49 52.0**	**-3.8**
DL2				AMB		AMB			
	comp=Z,540nm,5.0s								
DL2				LR		LR			
	comp=N,520nm,12.0s								
DL2				LR		LR			
	comp=E,950nm,12.0s								
JOW	**Kunigami**	**18.57**	**228**	P		**Pn**	**Pn**	**10 47 04.5**	**-2.7**
	comp=E,1.1nm,0.3s,baz=108,slow=18,SNR=8.9								
HIA	**Hailar**	**19.05**	**306**	*e*P		**Pn**	**Pn**	**10 47 10.9**	**-2.1**
HIA				pmax		pmax			
	comp=Z,33nm,0.8s								
HIA	**Hailar**	**19.05**	**306**	*e*P		**Pn**	**Pn**	**10 47 10.9**	**-2.1**
	comp=Z,33nm,0.8s								
MA2	**Magadan**	**19.72**	**11**	*e*P		**Pn**	**Pn**	**10 47 19.5**	**-1.5**
MA2				pmax		pmax			
	comp=Z,14nm,0.8s								
MA2	**Magadan**	**19.72**	**11**	*e*Pn		**Pn**	**Pn**	**10 47 19.4**	**-1.5**
	comp=Z,14nm,0.8s								
SSE	**Sheshan**	**20.39**	**250**	*e*P		**P**	**P**	**10 47 25.9**	**-0.7**
SSE				AP				10 47 34.0	
SSE				XP			sP	10 47 37.5	-1.0
SSE				S			**S**	**10 51 10.3**	**-3.1**
SSE				SCS			ScS	10 58 57.4	+1.8
SSE				AMB			AMB		
	comp=Z,40nm,0.8s								
SSE				AMB			AMB		
	comp=Z,120nm,8.1s								
SSE				LR			LR		
	comp=N,740nm,16.1s,MS4.2								
SSE				LR			LR		
	comp=E,220nm,16.1s,MS4.2								
SSE				LR			LR		
	comp=Z,590nm,15.1s,MS4.1								
CLNS	**Chul'man**	**20.48**	**330**	*e*P		**P**	**P**	**10 47 25.8**	**-1.8**
CLNS				*e*				10 47 39.5	
CLNS				*e*PPP				10 47 47.6	
CLNS				*e*S			**S**	**10 51 09.9**	**-5.3**
CLNS				*e*				10 51 37.6	
CLNS				*e*SS				10 51 58.3	
CLNS				pmax			pmax		
	comp=Z,48nm,0.9s								
CLNS				pmax			pmax		
	comp=N,23nm,1.0s								
CLNS				pmax			pmax		
	comp=E,14nm,0.8s								
CLNS				smax					
	comp=Z,29nm,9.8s								
CLNS				smax					
	comp=N,123nm,13.8s								
CLNS				smax					
	comp=E,169nm,12.5s								
CLNS				MLR			MLR		
	comp=N,1μm,13.0s,MS4.5								
CLNS				MLR			MLR		
	comp=Z,1μm,13.0s,MS4.5								
CLNS				MLR			MLR		
	comp=E,1μm,14.0s,MS4.5								
BJT	**Baijiatuau**	**20.94**	**278**	*e*P		**P**	**P**	**10 47 31.0**	**-1.6**
BJT				pmax			pmax		
	comp=Z,47nm,0.9s								
BJT	**Baijiatuau**	**20.94**	**278**	*e*P		**P**	**P**	**10 47 30.9**	**-1.6**
	comp=Z,47nm,0.9s								
TIA	**Tai'an**	**21.18**	**267**	*e*P		**P**	**P**	**10 47 32.1**	**-3.0**
TIA				AMB			AMB		
	comp=Z,40nm,1.0s,mb4.7								
NJ2	**Nanjing**	**21.59**	**255**	*e*P		**P**	**P**	**10 47 37.4**	**-2.2**
NJ2				AP				10 47 47.0	
NJ2				XP			sP	10 47 50.8	-0.8
NJ2				PP				10 48 04.6	
NJ2				PPP				10 48 11.6	
NJ2				S			**S**	**10 51 33.0**	**-4.1**
NJ2				XS			sS	10 51 45.0	-5.1
NJ2				AMB			AMB		
	comp=Z,50nm,0.8s,mb5.0								
NJ2				AMB			AMB		
	comp=Z,170nm,4.2s								
NJ2				LR			LR		
	comp=N,2μm,15.7s,MS4.7								
NJ2				LR			LR		
	comp=E,2μm,16.6s,MS4.7								
NJ2				LR			LR		
	comp=Z,790nm,19.1s,MS4.1								
YAK	**Yakutsk**	**23.26**	**343**	*d i*P		**P**	**P**	**10 47 56.0**	**-1.3**
YAK				*e**PP				10 48 06.0	
YAK				*e*PPP				10 48 26.0	
YAK				*e*				10 51 49.3	
YAK				*e*S			**S**	**10 51 58.8**	**-8.5**
YAK				*e*				10 59 01.7	
YAK				pmax			pmax		
	comp=Z,37nm,0.8s,mb4.9								
YAK				pmax			pmax		
	comp=N,12nm,1.0s								
YAK				pmax			pmax		
	comp=E,7.0nm,1.1s								
YAK				smax					
	comp=E,21nm,1.3s								
YAK				smax					
	comp=N,32nm,1.4s								
YAK				MLR			MLR		
	comp=N,430nm,14.0s,MS4.2								
YAK				MLR			MLR		
	comp=Z,489nm,14.0s,MS4.1								
YAK				MLR			MLR		
	comp=E,404nm,16.0s,MS4.2								
YAK	**Yakutsk**	**23.26**	**343**	*e*P		**P**	**P**	**10 47 56.5**	**-0.8**
	comp=E,70nm,0.8s,mb5.1								
CIT	**Chita**	**23.66**	**310**	*e*P		**P**	**P**	**10 47 59.3**	**-1.9**
CIT				*e*				10 48 06.6	
CIT				*e*S			**S**	**10 52 13.0**	**-0.8**
CIT				pmax			pmax		
	comp=Z,199nm,2.3s,mb5.1								
TATO	**Taipei**	**24.05**	**237**	*e*P		**P**	**P**	**10 48 04.3**	**-0.5**
	comp=Z,89nm,0.9s,mb5.2								
HHC	**Hu-ho-hao-te**	**24.27**	**282**	*e*P		**P**	**P**	**10 48 04.8**	**-1.9**
HHC				AP				10 48 14.4	
HHC				XP			sP	10 48 18.4	-0.7
HHC				PP				10 48 41.5	
HHC				PCP			PcP	10 51 42.9	-3.4
HHC				S			**S**	**10 52 20.5**	**-3.1**
HHC				XS			sS	10 52 36.4	-1.6
HHC				SS				10 53 16.9	
HHC				SCP			ScP	10 55 17.8	-4.9
HHC				PCS			PcS	10 55 22.4	-3.7
HHC				AMB			AMB		
	comp=Z,20nm,1.2s,mb4.4								
HHC				AMB			AMB		
	comp=Z,210nm,8.0s								
HHC				LR			LR		
	comp=N,400nm,15.2s,MS4.3								
HHC				LR			LR		
	comp=E,700nm,17.3s,MS4.3								
HHC				LR			LR		
	comp=Z,920nm,14.9s,MS4.4								
BTO	**Baotou**	**25.46**	**282**	*e*P		**P**	**P**	**10 48 14.6**	**-3.0**
WHN	**Wuhan**	**25.68**	**257**	*e*P		**P**	**P**	**10 48 19.5**	**-0.1**
WHN				LR			LR		
	comp=Z,2μm,17.2s,MS4.8								
BOD	**Bodaibo**	**25.76**	**323**	*e*P		**P**	**P**	**10 48 17.7**	**-2.6**
BOD				pmax			pmax		
	comp=Z,83nm,0.8s,mb5.3								
QZH	**Quanzhou**	**25.98**	**241**	P		**P**	**P**	**10 48 21.6**	**-0.7**
QZH				S			**S**	**10 52 49.0**	**-1.9**
QZH				LR			LR		
	comp=N,680nm,9.1s								
QZH				LR			LR		
	comp=E,630nm,10.2s								
ULN	**Ulaanbaatar**	**27.09**	**298**	*e*P		**P**	**P**	**10 48 32.7**	**+0.4**
ULN				pmax			pmax		
	comp=Z,13nm,0.8s,mb4.5								
ULN	**Ulaanbaatar**	**27.09**	**298**	*e*P		**P**	**P**	**10 48 32.7**	**+0.4**
	comp=Z,13nm,0.8s,mb4.5								
SONM	**Songino Array**	**27.53**	**298**	P		**P**	**P**	**10 48 36.8**	**+0.5**
	comp=Z,9.5nm,0.7s,mb4.5,baz=92,slow=9.2,SNR=61								
SONM				LR			LR	11 00 24.9	
	comp=Z,578nm,18.7s,MS4.2,baz=84,slow=38								
XAN	**Xi'an**	**28.22**	**268**	P		**P**	**P**	**10 48 41.8**	**-0.6**
XAN				S			**S**	**10 53 34.0**	**+7.7**
XAN				AMB			AMB		
	comp=Z,20nm,1.3s,mb4.6								
XAN				LR			LR		
	comp=N,210nm,18.2s,MS4.2								
XAN				LR			LR		
	comp=E,460nm,15.7s,MS4.2								
XAN				LR			LR		
	comp=Z,590nm,13.2s,MS4.4								
IRK	**Irkutsk**	**29.28**	**307**	*e*P		**P**	**P**	**10 48 52.1**	**+0.2**
IRK				pmax			pmax		
	comp=Z,100nm,0.1s								
TLY	**Talaya**	**29.60**	**306**	P		**P**	**P**	**10 48 54.5**	**-0.1**
	comp=Z,175nm,1.0s,mb5.7,SNR=7.8								
TLY	**Talaya**	**29.60**	**306**	*e*P		**P**	**P**	**10 48 55.3**	**+0.7**
TLY				*e*				10 49 52.2	
TLY				*e*S			**S**	**10 53 52.4**	**+4.5**
TLY				*e*SS			SS	10 55 27.7	-26
TLY				pmax			pmax		
	comp=Z,33nm,1.0s,mb5.0								
TLY				MLR			MLR		
	comp=Z,514nm,14.0s,MS4.3								
ZAK	**Zakamensk**	**29.71**	**303**	*e*P		**P**	**P**	**10 48 55.5**	**-0.1**
ZAK				pmax			pmax		
	comp=Z,23nm,2.0s,mb4.6								
BILL	**Bilibino**	**30.32**	**17**	*e*P		**P**	**P**	**10 49 00.4**	**-0.6**
BILL				pmax			pmax		
	comp=Z,21nm,0.9s,mb4.9								
BILL	**Bilibino**	**30.32**	**17**	*e*P		**P**	**P**	**10 49 00.4**	**-0.7**
	comp=Z,21nm,0.9s,mb4.9								
GZH	**Guangzhou**	**30.79**	**245**	P		**P**	**P**	**10 49 00.5**	**-4.7**
GZH				S			**S**	**10 54 01.1**	**-5.4**
GZH				LR			LR		
	comp=N,800nm,13.1s,MS4.6								
GZH				LR			LR		
	comp=E,450nm,12.8s,MS4.6								
GZH				LR			LR		
	comp=Z,1μm,13.2s,MS4.8								
LZH	**Lanzhou**	**31.35**	**275**	*e*P		**P**	**P**	**10 49 11.1**	**+1.0**
LZH				AP			pP	10 49 21.8	+2.9
LZH				S			**S**	**10 54 18.1**	**+2.8**
LZH				AMB			AMB		
	comp=Z,40nm,1.5s,mb5.0								
LZH				AMB			AMB		
	comp=Z,190nm,5.1s								
LZH				LR			LR		
	comp=N,1μm,14.0s								
LZH				LR			LR		
	comp=Z,2μm,15.5s,MS5.0								
TIXI	**Tiksi**	**32.20**	**351**	⇑*i*P		**P**	**P**	**10 49 16.1**	**-1.5**
TIXI				pmax			pmax		
	comp=Z,12nm,0.8s,mb4.8								
TIXI				MLR			MLR		
	comp=Z,500nm,16.0s,MS4.3								
GTA	**Gaotai**	**33.36**	**283**	P		**P**	**P**	**10 49 28.5**	**+0.7**
GTA				AP			pP	10 49 37.6	+1.0
GTA				XP			sP	10 49 42.3	+2.0
GTA				PP			PP	10 50 39.3	-4.2
GTA				PPP				10 50 56.9	
GTA				PCP			PcP	10 52 10.3	+1.3
GTA				S			**S**	**10 54 45.3**	**-1.4**
GTA				XS			sS	10 55 01.3	0.0
GTA				SCP			ScP	10 55 52.1	+0.9
GTA				PCS			PcS	10 55 55.6	+0.9
GTA				SS			SS	10 56 47.3	-24
GTA				SCS			ScS	10 59 50.8	-1.3
GTA				AMB			AMB		
	comp=Z,80nm,1.0s,mb5.6								
GTA				AMB			AMB		
	comp=Z,160nm,4.2s								
GTA				LR			LR		
	comp=N,480nm,14.9s,MS4.7								
GTA				LR			LR		
	comp=E,900nm,15.3s,MS4.7								
GTA				LR			LR		
	comp=Z,850nm,14.1s,MS4.6								
CD2	**Chengdu**	**33.50**	**266**	*e*P		**P**	**P**	**10 49 28.5**	**-0.5**
CD2				AP			pP	10 49 38.3	+0.5
CD2				XP			sP	10 49 42.1	+0.6
CD2				S			**S**	**10 54 46.4**	**-2.5**
CD2				XS			sS	10 55 02.4	-1.1
CD2				SS			SS	10 56 50.3	-24
CD2				AMB			AMB		
	comp=Z,20nm,1.1s,mb5.0								
CD2				AMB			AMB		
	comp=Z,100nm,5.6s								
CD2				LR			LR		
	comp=N,840nm,12.0s								
CD2				LR			LR		
	comp=Z,450nm,16.8s,MS4.3								
GYA	**Guiyang**	**33.57**	**257**	⇑*i*P		**P**	**P**	**10 49 29.4**	**-0.2**
GYA				AP			pP	10 49 36.8	-1.6
GYA				XP			sP	10 49 39.8	-2.3
GYA				PP			PP	10 50 44.4	-1.4
GYA				S			**S**	**10 54 54.5**	**+4.6**
GYA				SCP			ScP	10 55 48.3	-3.7
GYA				AMB			AMB		
	comp=Z,50nm,1.4s,mb5.2								
GYA				AMB			AMB		
	comp=Z,280nm,7.2s								
GYA				LR			LR		
	comp=N,950nm,14.7s,MS4.7								
GYA				LR			LR		
	comp=E,630nm,14.7s,MS4.7								
GYA				LR			LR		
	comp=Z,850nm,14.1s,MS4.6								
QIZ	**Qiongzhong**	**35.92**	**244**	P		**P**	**P**	**10 49 51.3**	**+1.4**
QIZ				S			**S**	**10 55 26.6**	**+0.4**
QIZ				AMB			AMB		
	comp=Z,10.0nm,1.5s,mb4.5								
QIZ				LR			LR		
	comp=N,360nm,15.2s,MS4.5								
QIZ				LR			LR		
	comp=E,430nm,13.1s,MS4.5								
QIZ				LR			LR		
	comp=Z,440nm,13.3s,MS4.4								
KRAR	**Krasnoyarsk**	**36.34**	**313**	*e*P		**P**	**P**	**10 49 53.4**	**-0.1**
KRAR				pmax			pmax		
	comp=Z,31nm,0.9s,mb5.2								
KMI	**Kunming**	**37.25**	**259**	⇑P		**P**	**P**

KMI PP PP 10 51 29.0 +2.6
KMI S **S** **10 55 46.3 -0.1**
KMI XS sS 10 56 00.9 -0.1
KMI PCS PcS 10 56 09.9 +1.2
KMI SS SS 10 58 17.0 -13
KMI SSS 10 58 48.1
KMI SCS ScS 11 00 12.0 -1.1
KMI AMB AMB
comp=Z,30nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,230nm,6.7s
KMI LR LR
comp=N,900nm,14.2s,MS4.8
KMI LR LR
comp=E,670nm,15.3s,MS4.8
KMI LR LR
comp=Z,830nm,15.8s,MS4.6
WMQ Urumqi 40.96 294 P **P** **10 50 33.1 +0.9**
WMQ XP sP 10 50 43.5 -1.3
WMQ PP PP 10 52 10.4 +3.4
WMQ S **S** **10 56 43.3 +1.0**
WMQ XS sS 10 56 55.3 -1.7
WMQ SS SS 10 59 40.8 -3.8
WMQ SCS ScS 11 00 35.3 +0.5
WMQ AMB AMB
comp=Z,40nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,190nm,3.8s
WMQ LR LR
comp=N,580nm,13.0s,MS4.8
WMQ LR LR
comp=E,750nm,14.0s,MS4.8
WMQ LR LR
comp=Z,380nm,17.0s,MS4.3
ZAL Zalesovo 41.03 310 P **P** **10 50 33.7 +0.9**
comp=Z,13nm,0.8s,mb4.6,baz=24,slow=9.4,SNR=68
ZAL LR LR 11 08 42.6
comp=Z,172nm,20.0s,MS3.9,baz=31,slow=38
ZAL Zalesovo 41.03 310 P **P** **10 50 33.7 +0.9**
ZAL LR LR 11 08 42.6
SVW2 Sparrevohn 41.82 39 *eP* **P** **10 50 38.3 -1.0**
NVS Novosibirsk 41.85 311 ⇑*iP* **P** **10 50 38.6 -0.9**
NVS *eS* **S** **10 56 46.6 -8.8**
NVS pmax pmax
comp=Z,45nm,1.6s,mb4.8
NVS pmax pmax
comp=N,13nm,1.7s
NVS pmax pmax
comp=E,45nm,1.9s
NVS smax
comp=N,14nm,1.6s
NVS smax
comp=E,12nm,1.8s
KDAK Kodiak Island 43.47 44 P **P** **10 50 51.1 -1.6**
comp=E,8.9nm,0.7s,mb4.6,baz=301,slow=2.5,SNR=5.2
LSA Lhasa 43.70 273 *eP* **P** **10 50 56.5 +2.0**
LSA *e*PP* pP 10 51 04.6 +1.1
LSA pmax pmax
comp=Z,13nm,0.7s,mb4.8
LSA Lhasa 43.70 273 *eP* **P** **10 50 56.5 +2.0**
comp=Z,13nm,0.7s,mb4.8
LSA *ep*P pP 10 51 04.6 +1.1
CHTO Chiang Mai 43.83 254 *eP* **P** **10 50 56.2 +0.6**
CHTO *e*PP* pP 10 51 04.7 +0.1
CHTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
CHTO Chiang Mai 43.83 254 *eP* **P** **10 50 56.1 +0.6**
comp=Z,10nm,0.8s,mb4.6
CHTO *ep*P pP 10 51 04.7 +0.1
MK31 Makanchi Array 43.88 300 P **P** **10 50 56.3 +0.3**
MK31 pmax pmax
comp=Z,37nm,0.9s,mb5.1
MKAR Makanchi Array 43.88 300 P **P** **10 50 55.9 0.0**
comp=Z,32nm,0.9s,mb5.1,baz=81,slow=10.0,SNR=112
MKAR Makanchi Array 43.88 300 P **P** **10 50 55.9 0.0**
MCK McKinley 44.90 36 *eP* **P** **10 51 03.9 -0.2**
MCK *e*PP* pP 10 51 13.2 +0.1
MCK pmax pmax
comp=Z,6μm,0.7s
MCK McKinley 44.90 36 *eP* **P** **10 51 03.9 -0.2**
comp=Z,6μm,0.7s
MCK *ep*P pP 10 51 13.2 +0.1
PMR Palmer 44.92 39 *eP* **P** **10 51 03.1 -1.2**
PMR *e*PP* pP 10 51 12.1 -1.2
PMR pmax pmax
comp=Z,11nm,1.0s,mb4.6
PMR Palmer 44.92 39 *eP* **P** **10 51 03.1 -1.1**
comp=Z,11nm,1.0s,mb4.6
PMR *ep*P pP 10 51 12.1 -1.2
KURK Kurchatov 45.29 306 P **P** **10 51 07.4 +0.2**
comp=Z,410nm,0.8s,SNR=32
KURK Kurchatov 45.29 306*c iP* **P** **10 51 06.9 -0.3**
COLA College 45.33 34 *eP* **P** **10 51 07.9 +0.4**
COLA *e*PP* pP 10 51 15.5 -1.1
COLA pmax pmax
comp=Z,12nm,0.9s,mb4.7
COLA College 45.33 34 *eP* **P** **10 51 07.9 +0.4**
comp=Z,12nm,0.9s,mb4.7
COLA *ep*P pP 10 51 15.5 -1.0
JIRN Jiri 48.49 273 *eP* **P** **10 51 32.5 +0.3**
comp=Z,34nm,0.8s,mb5.5
GUN Gumba 48.60 274 *eP* **P** **10 51 33.9 +0.9**
comp=Z,186nm,1.0s,mb6.1
KSM Kuching 49.11 227 *eP* **P** **10 51 38.0 +1.0**
KKN Kakani 49.12 274 *eP* **P** **10 51 37.6 +0.6**
comp=Z,43nm,0.7s,mb5.6
KKN Kakani 49.12 274 *eP* **P** **10 51 37.6 +0.6**
KKN pmax pmax
comp=Z,43nm,0.7s,mb5.6
PKI Pulchoki 49.13 274 *eP* **P** **10 51 37.8 +0.7**
CHKZ Chkalovo 49.33 311 *eP* **P** **10 51 38.6 -0.1**
CHKZ *e*PP* pP 10 51 46.8 -1.0
DMN Daman 49.34 274 *eP* **P** **10 51 39.6 +0.9**
comp=Z,39nm,0.9s,mb5.4
TKM2 Tokmak 2 49.61 297 P **P** **10 51 41.9 +1.1**
SNR=22
BVA0 Borovoye Array 49.64 311 *i P* **P** **10 51 41.4 +0.3**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BRVK Borovoye 49.70 311 P **P** **10 51 41.1 -0.4**
comp=Z,136nm,0.9s,mb6.0,SNR=6.9
KBK Karagaybulak 50.15 296 P **P** **10 51 45.8 +0.8**
SNR=20
KZA Kyzart 50.17 296 P **P** **10 51 46.8 +1.8**
SNR=14
USP Ospenovka 50.23 297 P **P** **10 51 45.8 +0.3**
SNR=8.3
FRU Bishkek 50.31 297 *eP* **P** **10 51 46.0 -0.1**
FRU pmax pmax
comp=Z,70nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,400nm,18.0s,MS4.5
ZRNK Zerenda 50.47 311 P **P** **10 51 47.6 +0.3**
ZRNK pmax pmax
comp=Z,45nm,1.1s,mb5.4
ZRNK Zerenda 50.47 311 *eP* **P** **10 51 47.3 0.0**
comp=Z,47nm,1.0s,mb5.5
AAK Ala-Archa 50.47 297*c iP* **P** **10 51 46.5 -0.8**
AAK pmax pmax
comp=Z,21nm,1.4s,mb5.0
AAK MLR MLR
comp=Z,300nm,16.0s,MS4.4
UCH Uchtor 50.61 296 P **P** **10 51 49.6 +1.2**
SNR=6.0
INK Inuvik 50.62 29 P **P** **10 51 47.8 -0.6**
comp=Z,3.6nm,0.8s,mb4.4,baz=281,slow=5.0,SNR=5.0
INK Inuvik 50.62 29 *eP* **P** **10 51 48.2 -0.2**
INK pmax pmax
comp=Z,9.0nm,0.8s
INK Inuvik 50.62 29 *eP* **P** **10 51 48.1 -0.3**
comp=Z,9.0nm,0.8s,mb4.8
EKS2 Erkin-Say 50.95 297 P **P** **10 51 50.6 -0.3**
SNR=7.9
AML Almayashu 51.21 296 P **P** **10 51 54.2 +1.3**
SNR=6.9
LGTI Lohaghat 52.10 279 *eP* **P** **10 52 01.0 +1.5**
KLP Kalpa 52.57 282 *eP* **P** **10 52 02.9 -0.1**
KLP AMb AMB 10 52 29.9
comp=Z,100nm,1.1s,mb5.7
KK31 Karatay Array 52.98 299 *i P* **P** **10 52 05.9 -0.2**
KK31 pmax pmax
comp=Z,20nm,1.0s,mb5.0
KKAR Karatay Array 52.98 299 P **P** **10 52 05.9 -0.2**
KKAR pmax pmax
comp=Z,21nm,1.1s,mb5.0

KAKA Kakadu 53.84 194 *eP* **P** **10 52 13.3 +0.9**
comp=Z,14nm,0.8s,mb4.9
BLSP Bilaspur 54.56 270 *eP* **P** **10 52 17.8 +0.2**
BLSP AMb AMB 10 52 19.0
comp=Z,30nm,0.8s,mb5.4
SOKR Solikamsk 54.75 322*c iP* **P** **10 52 26.0 +7.0**
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.4
SOKR MLR MLR
comp=Z,340nm,17.0s,MS4.5
NDI New Delhi 54.77 280 *eP* **P** **10 52 18.0 -1.1**
AYAN Aya Nagar 54.94 280 *eP* **P** **10 52 18.6 -1.8**
AYAN AMb AMB 10 52 21.6
comp=Z,20nm,1.1s,mb5.1
ARU Arti 55.02 318 P **P** **10 52 21.0 +0.1**
comp=Z,150nm,0.9s,mb6.0,SNR=5.6
ARU Arti 55.02 318*c iP* **P** **10 52 20.9 0.0**
ARU pmax pmax
comp=Z,73nm,2.7s,mb5.2
ARU MLR MLR
comp=Z,1μm,17.0s,MS5.0
SONA Sohna 55.09 279 *eP* **P** **10 52 20.2 -1.3**
SONA AMb AMB 10 52 21.7
comp=Z,19nm,0.2s,mb5.7
KUDL Kundal 55.60 280 *eP* **P** **10 52 24.4 -0.7**
KUDL AMb AMB 10 52 26.6
comp=Z,17nm,1.4s,mb4.9
KHET Khetri 56.15 280 *eP* **P** **10 52 27.8 -1.3**
KHET AMb AMB 10 52 30.2
comp=Z,15nm,1.4s,mb4.8
ALE Alert 56.65 4 P **P** **10 52 32.0 -0.6**
comp=Z,66nm,1.1s,mb5.6,SNR=6.5
AB31 Akbulak array 57.13 309 *i P* **P** **10 52 36.1 +0.1**
AB31 pmax pmax
comp=Z,15nm,0.7s,mb5.1
BHPL Bhopal 57.53 274 *eP* **P** **10 52 37.4 -1.5**
BHPL AMb AMB 10 52 40.5
comp=Z,28nm,1.2s,mb5.2
AKTO Aktyubinsk 57.74 311 LR LR 11 18 36.1
comp=Z,64nm,19.2s,MS3.8,baz=169,slow=37
AJM Ajmer 57.87 279 *ex* x 10 51 53.6
AJM AMb AMB 10 51 54.7
comp=Z,26nm,0.4s,mb5.6
RES Resolute Bay 58.92 15 *eP* **P** **10 52 48.6 +0.1**
RES *e*PP* pP 10 52 55.0 -2.8
RES pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
RES Resolute Bay 58.92 15 *eP* **P** **10 52 48.6 +0.1**
comp=Z,10nm,0.8s,mb4.9
RES *ep*P pP 10 52 55.0 -2.8
HYB Hyderabad 60.04 268 *i P* **P** **10 52 58.0 +1.7**
HYB Hyderabad 60.04 268 *eP* **P** **10 52 57.0 +0.7**
YKA Yellowknife Ar 60.05 32 P **P** **10 52 54.9 -1.4**
comp=Z,1.8nm,0.7s,mb4.2,baz=298,slow=7.5,SNR=4.9
YKA LR LR 11 22 29.6
comp=Z,55nm,18.9s,MS3.7,baz=0.0,slow=40
JASL Jaisalmer 60.44 281 *eP* **P** **10 52 59.4 +0.3**
WB2 Warramunga Arr 60.64 190 *eP* **P** **10 52 58.6 -1.8**
WRA Warramunga Arr 60.64 190 P **P** **10 52 58.0 -2.4**
comp=Z,4.9nm,0.8s,mb4.7,baz=7.6,slow=6.7,SNR=27
ARCES ARCESS Array B 61.47 339 P **P** **10 53 05.5 -0.5**
comp=Z,4.6nm,0.9s,mb4.6,baz=45,slow=7.0,SNR=6.8
ARCES LR LR 11 25 25.9
comp=Z,304nm,18.4s,MS4.5,baz=268,slow=42
KLMR Klimovskoe 61.85 327 *eP* **P** **10 53 04.0 -4.6**
KLMR pmax pmax
comp=Z,30nm,1.4s,mb5.2
DAG Danmarks Havn 62.58 355⇑*iP* **P** **10 53 12.8 -0.6**
comp=Z,5.9nm,0.9s,mb4.7
DAG Danmarks Havn 62.58 355⇑*iP* **P** **10 53 12.8 -0.6**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
POO Poona 62.97 272 *eP* **P** **10 53 14.5 -1.6**
KAD Karad 63.44 271 *eP* **P** **10 53 18.7 -0.5**
KAD AMb AMB 10 53 20.7
comp=Z,38nm,1.0s,mb5.5
JOF Joensuu 63.82 332 *ep* **P** **10 53 20.2 -1.5**
comp=Z,22nm,0.8s,mb5.2
E03A Lebam 63.82 50 ⇑P **P** **10 53 20.7 -1.0**
baz=64
ASAR Alice Springs 64.37 190 P **P** **10 53 23.6 -1.7**
comp=Z,3.1nm,0.9s,mb4.3,baz=6.8,slow=5.0,SNR=17
H04A Detroit Lake 65.64 51 ⇑P **P** **10 53 33.4 -0.1**
baz=65
EDM Edmonton 65.66 40 *eP* **P** **10 53 33.1 -0.6**
EDM *e*PP* pP 10 53 41.7 -1.4
K02A Glendale 65.90 54 ⇓P **P** **10 53 34.5 -0.7**
baz=66
KAF Kangasniemi 66.11 333 *ep* **P** **10 53 34.9 -1.7**
comp=Z,19nm,0.8s,mb5.2,baz=47,slow=6.1
KAF Kangasniemi 66.11 333 *eP* **P** **10 53 34.9 -1.7**
KAF pmax pmax
comp=Z,19nm,0.8s,mb5.2
OBN Obninsk 66.44 323*ceP* **P** **10 53 38.4 -0.3**
OBN *i* S S 11 02 19.0 -8.0
OBN *i* SS SS 11 06 44.4 +0.4
OBN pmax pmax
comp=Z,37nm,1.1s,mb5.3
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.6
NEW Newport 66.54 46 *eP* **P** **10 53 39.8 +0.5**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 66.54 46 *eP* **P** **10 53 39.8 +0.4**
comp=Z,9.6nm,1.0s,mb4.8
FINES FINESS Array B 66.65 332 P **P** **10 53 39.7 -0.3**
comp=Z,18nm,0.7s,mb5.2,baz=47,slow=8.4,SNR=66
FINES LR LR 11 27 01.9
comp=Z,228nm,19.0s,MS4.4,baz=358,slow=40
FINES FINESS Array B 66.65 332 P **P** **10 53 39.7 -0.3**
FINES LR LR 11 27 01.9
YBH Yreka Blue Hor 66.96 54 *eP* **P** **10 53 42.1 +0.1**
YBH pmax pmax
comp=Z,8.0nm,1.1s
YBH Yreka Blue Hor 66.96 54 *eP* **P** **10 53 42.1 +0.1**
comp=Z,8.1nm,1.1s,mb4.7
YBH Yreka Blue Hor 66.96 54 ⇓P **P** **10 53 42.7 +0.7**
baz=67
M02C Callahan 67.06 55 ⇓P **P** **10 53 42.7 +0.1**
baz=67
SUMG Summit 67.32 1 *eP* **P** **10 53 44.7 +0.3**
comp=Z,14nm,0.8s,mb5.0
M04C Macdoel 67.47 54 ⇓P **P** **10 53 45.5 +0.3**
baz=67
WDC Whiskeytown Da 67.71 55 ⇓P **P** **10 53 46.9 +0.1**
baz=68
O02C Red Bluff 67.78 56 ⇓P **P** **10 53 46.5 -0.7**
baz=68
M05C Lookout 68.13 54 ⇑P **P** **10 53 50.0 +0.5**
baz=68
HATC Hat Creek Radi 68.25 54 ⇑P **P** **10 53 50.3 +0.1**
baz=68
VSU Vasula 68.43 330 *eP* **P** **10 53 50.3 -1.0**
K07A Rock Creek Ran 68.52 52 ⇑P **P** **10 53 52.4 +0.5**
baz=68
M06C Likely Place G 68.64 54 ⇑P **P** **10 53 53.3 +0.7**
baz=68
WVOR Wild Horse Val 69.04 52 *eP* **P** **10 53 55.2 +0.1**
WVOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WVOR Wild Horse Val 69.04 52 *eP* **P** **10 53 55.2 +0.1**
comp=Z,9.6nm,1.0s,mb4.7
OHCM Honcut 69.09 56 *eP* **P** **10 53 54.6 -0.8**
OHCM *ep*P pP 10 54 03.7 -1.1
M07A Soldier Meadow 69.33 53 ⇓P **P** **10 53 57.6 +0.7**
baz=69
O06A Flanigan 69.64 54 ⇓P **P** **10 53 58.5 -0.3**
baz=69
M08A Happy Creek Ra 69.77 52 ⇑P **P** **10 54 00.4 +0.7**
baz=70
L09A Wilkinson Ranc 69.86 52 ⇑P **P** **10 54 00.9 +0.7**
baz=70
LAVA Lava Cap Winer 69.89 56 ⇑P **P** **10 54 00.1 -0.2**
baz=70
KIV Kislovodsk 70.01 311 P **P** **10 54 02.8 +1.7**
comp=Z,454nm,0.7s,SNR=5.4
KIV Kislovodsk 70.01 311 *eP* **P** **10 54 02.1 +1.0**
KIV pmax pmax
comp=Z,81nm,1.1s,mb5.6
ZEI Tsey 70.02 309 *eP* **P** **10 54 01.0 -0.1**
ZEI *e*PP* pP 10 54 10.1 -0.4
ZEI pmax pmax
comp=Z,30nm,0.7s,mb5.3
WCN Washoe City 70.19 55 ⇑P **P** **10 54 02.4 +0.2**
baz=70
O07A Toulon 70.23 54 ⇓P **P** **10 54 02.8 +0.3**

baz=70
N08A GE Springer Mi 70.32 53 ⇓P **P** **10 54 03.1 +0.1**
baz=70
HRY Holter Researc 70.35 45 *eP* **P** **10 54 03.6 +0.5**
CMB Columbia Colle 70.55 56 *eP* **P** **10 54 04.0 -0.4**
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CMB Columbia Colle 70.55 56 *eP* **P** **10 54 04.0 -0.3**
comp=Z,5.0nm,0.9s,mb4.4
DLMT Dillon 70.76 46 *eP* **P** **10 54 06.1 +0.5**
comp=Z,19nm,1.2s,mb4.9
M10A I.L. Ranch, Tu 70.84 52 ⇓P **P** **10 54 06.7 +0.5**
baz=71
HLID Hailey 70.85 49 *eP* **P** **10 54 06.3 +0.1**
comp=Z,5.5nm,0.9s,mb4.5
MCMT McKenzie Canyo 70.95 47 *eP* **P** **10 54 07.3 +0.5**
GNI Garni 71.08 307 *eP* **P** **10 54 08.9 +1.3**
GNI pmax pmax
comp=Z,27nm,1.4s
GNI MLR MLR
comp=Z,100nm,17.0s
BOZ Bozeman (W) 71.12 46 *eP* **P** **10 54 08.0 +0.2**
BOZ pmax pmax
comp=Z,15nm,1.0s,mb4.9
BOZ Bozeman (W) 71.12 46 *eP* **P** **10 54 08.0 +0.2**
comp=Z,15nm,1.0s,mb4.9
O09A Fish Creek Ran 71.26 53 ⇑P **P** **10 54 09.5 +0.8**
baz=71
M11A Holland Ranch, 71.34 51 ⇑P **P** **10 54 10.1 +0.9**
baz=71
Q08A Gabbs 71.60 54 ⇑P **P** **10 54 10.9 +0.2**
baz=71
NVAR Mina Array Bea 71.62 55 P **P** **10 54 11.1 +0.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=278,slow=8.8,SNR=17
MNV Mina 71.72 55 *eP* **P** **10 54 12.1 +0.7**
MNV *e*PP* pP 10 54 20.3 -0.6
MNV pmax pmax
comp=Z,11nm,1.3s,mb4.6
MNV Mina 71.72 55 *eP* **P** **10 54 12.1 +0.7**
comp=Z,10nm,1.3s,mb4.6
MNV *ep*P pP 10 54 20.3 -0.6
QLMT Earthquake Lak 71.74 46 *eP* **P** **10 54 11.8 +0.2**
NB2 NORSAR Subarra 71.75 338 P **P** **10 54 11.0 -0.6**
comp=Z,1.8nm,0.7s,mb4.1,baz=43,slow=6.2
NB2 NORSAR Subarra 71.75 338 P **P** **10 54 11.0 -0.6**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 71.75 338 P **P** **10 54 11.1 -0.6**
comp=Z,15nm,0.8s,mb5.0,baz=37,slow=6.0,SNR=54
NOA LR LR 11 29 43.4
comp=Z,165nm,18.7s,MS4.3,baz=25,slow=39
NOA NORSAR Array B 71.75 338 P **P** **10 54 11.1 -0.6**
NOA LR LR 11 29 43.4
M12A Wells 71.87 51 ⇓P **P** **10 54 13.1 +0.7**
baz=72
STKA Stephens Creek 71.93 182 *eP* **P** **10 54 09.3 -3.4**
comp=Z,2.6nm,0.9s,mb4.2
STKA Stephens Creek 71.93 182 P **P** **10 54 09.3 -3.4**
comp=Z,2.3nm,0.8s,mb4.2,baz=9.5,slow=12,SNR=3.5
SOC Sochi 71.94 312 *eP* **P** **10 54 13.0 +0.2**
SOC *e*S S 11 03 30.8 -1.1
SOC *e* 11 04 16.6
SOC pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
SOC MLR MLR
comp=Z,324nm,15.0s,MS4.7
O11A Cowboy Ranch, 72.22 52 ⇓P **P** **10 54 15.2 +0.8**
baz=72
S08C White Mtn Res 72.27 56 ⇓P **P** **10 54 15.0 +0.2**
baz=72
TPH Tonopah 72.52 55 *eP* **P** **10 54 16.8 +0.6**
TPH pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
TPH Tonopah 72.52 55 *eP* **P** **10 54 16.8 +0.5**
comp=Z,7.9nm,0.9s,mb4.6
IMW Indian Meadow 72.61 47 *eP* **P** **10 54 17.3 +0.5**
comp=Z,11nm,0.8s,mb4.8
IMW *ep*P pP 10 54 26.0 -0.2
DCID1 Drake Creek 72.66 47 *eP* **P** **10 54 17.4 +0.3**
AKASG Malin Array Be 72.69 323 P **P** **10 54 16.3 -1.0**
comp=Z,16nm,0.7s,mb5.1,baz=44,slow=5.8,SNR=94
AKASG Malin Array Be 72.69 323 *i P* **P** **10 54 16.8 -0.5**
AKASG pmax pmax
comp=Z,16nm,0.7s
AKASG Malin Array Be 72.69 323 P **P** **10 54 16.3 -1.0**
S09A Goldfield 72.73 55 ⇑P **P** **10 54 18.3 +0.8**
baz=72
MOOW Moose Ponds 72.81 47 *eP* **P** **10 54 18.4 +0.4**
comp=Z,11nm,1.1s,mb4.7
TPAW Teton Pass 72.86 47 *eP* **P** **10 54 18.8 +0.5**
comp=Z,9.8nm,1.3s,mb4.6
TPAW *ep*P pP 10 54 27.9 +0.1
HVU Hansel Valley 72.90 50 *eP* **P** **10 54 19.0 +0.5**
HVU *e*PP* pP 10 54 28.1 +0.1
HVU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
HVU Hansel Valley 72.90 50 *eP* **P** **10 54 18.9 +0.5**
comp=Z,8.7nm,0.8s,mb4.7
HVU *ep*P pP 10 54 28.1 +0.1
Q11A Duckwater 73.01 53 ⇓P **P** **10 54 18.9 -0.2**
baz=73
P12A McGill 73.08 52 ⇑P **P** **10 54 19.7 +0.2**
baz=73
LAO LASA Array 73.32 42 *eP* **P** **10 54 21.5 +0.5**
comp=Z,21nm,1.0s,mb5.0
LAO *ep*P pP 10 54 30.1 -0.4
KONO Kongsberg 73.35 338 *eP* **P** **10 54 20.6 -0.6**
HWUT Hardware Ranch 73.71 49 *eP* **P** **10 54 23.6 +0.4**
comp=Z,10nm,1.1s,mb4.7
HWUT *ep*P pP 10 54 32.2 -0.5
DUG Dugway 73.88 51 *eP* **P** **10 54 24.8 +0.5**
DUG *e*PP* pP 10 54 33.7 -0.1
DUG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
DUG Dugway 73.88 51 *eP* **P** **10 54 24.8 +0.6**
comp=Z,10nm,0.8s,mb4.8
DUG *ep*P pP 10 54 33.7 0.0
PDAR Pinedale Array 74.10 47 P **P** **10 54 25.1 -0.4**
comp=Z,1.9nm,0.7s,mb4.1,baz=308,slow=1.5,SNR=16
TCUT Toone Canyon 74.11 49 *eP* **P** **10 54 26.4 +0.8**
GSC Goldstone 74.49 57 ⇑P **P** **10 54 27.9 0.0**
baz=74
BORG Borgarnes 74.53 353 LR LR 11 25 32.5
comp=Z,32nm,21.9s,MS3.6,baz=352,slow=34
DAU Daniels Canyon 74.66 50 *eP* **P** **10 54 29.0 +0.2**
TUQ Turquoise Mtn. 74.97 56 ⇓P **P** **10 54 29.8 -0.8**
baz=75
ARUT Antelope Range 75.03 53 *eP* **P** **10 54 31.5 +0.5**
MSU Marysvale 75.33 52 *eP* **P** **10 54 33.6 +0.9**
UMR Umm Al-Rimmam 75.62 297 *eP* **P** **10 54 33.8 -0.5**
UMR AMb AMB 10 54 35.5
comp=Z,28nm,0.7s,mb5.3
LVV L'vov 75.67 324 *i P* **P** **10 54 34.6 0.0**
LVV MLR MLR
comp=N,100nm,16.0s,MS4.7
LVV MLR MLR
comp=E,300nm,16.0s,MS4.7
LVV MLR MLR
comp=Z,200nm,16.0s,MS4.5
MIB Mutribah 75.72 297 *eP* **P** **10 54 34.3 -0.7**
MIB AMb AMB 10 54 36.2
comp=Z,65nm,0.9s,mb5.6
ULM Lac du Bonnet 75.76 35 P **P** **10 54 33.4 -1.8**
comp=Z,1.8nm,0.6s,mb4.2,baz=322,slow=5.3,SNR=7.0
KBD Kabd 75.87 296 *eP* **P** **10 54 34.7 -1.1**
SRU San Rafael 75.93 50 *eP* **P** **10 54 36.5 +0.4**
SRU *e*PP* pP 10 54 45.5 -0.1
SRU pmax pmax
comp=Z,14nm,0.8s,mb4.9
SRU San Rafael 75.93 50 *eP* **P** **10 54 36.5 +0.4**
comp=Z,14nm,0.8s,mb5.0
SRU *ep*P pP 10 54 45.5 -0.1
QRN Al-Qurain 75.98 296 *eP* **P** **10 54 35.4 -1.0**
QRN AMb AMB 10 54 37.8
comp=Z,75nm,0.9s,mb5.6
MALT Malatya 76.05 309⇓*iP* **P** **10 54 38.8 +2.0**
MALT Malatya 76.05 309 *eP* **P** **10 54 38.3 +1.5**
comp=Z,25nm,1.1s,mb5.0
RDF Al-Radifah 76.12 296 *eP* **P** **10 54 36.9 -0.3**
RDF AMb AMB 10 54 39.8
comp=Z,65nm,1.1s,mb5.5
NAY Al-Naaiem 76.13 297 *eP* **P** **10 54 36.6 -0.7**
NAY AMb AMB 10 54 38.6
comp=Z,26nm,1.2s,mb5.0
RSSD Black Hills 76.19 43 *eP* **P** **10 54 37.7 +0.1**
RSSD pmax pmax

comp=Z,9.0nm,0.8s,mb4.8
RSSD Black Hills 76.19 43 *e*P **P 10 54 37.7 +0.1**
comp=Z,8.6nm,0.8s,mb4.7
X13A Yucca 76.83 56 ⇓P **P 10 54 41.5 +0.3**
baz=77
W14A Seligman 76.90 55 ⇑P **P 10 54 42.3 +0.6**
baz=77
Y12C Blythe 76.93 57 ⇑P **P 10 54 41.6 -0.1**
baz=77
CFR Carcaliu 77.06 319 ⇓*i*P **P 10 54 42.9 +0.4**
CFR Carcaliu 77.06 319 ⇓P **P 10 54 42.9 +0.4**
KOLS Kolonicke sedl 77.10 325 *e*P **P 10 54 41.2 -1.5**
KOLS Kolonicke sedl 77.10 325 *e*P **P 10 54 41.3 -1.4**
KOLS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KOLS Kolonicke sedl 77.10 325 *e*P **P 10 54 41.3 -1.4**
comp=Z,6.4nm,0.9s,mb4.5
STHS Stebnicka Huta 77.19 326 *i* P **P 10 54 43.8 +0.6**
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
STHS Stebnicka Huta 77.19 326 *i* P **P 10 54 43.8 +0.6**
comp=Z,7.2nm,0.9s,mb4.6
OJC Ojcow 77.20 327 *e*P **P 10 54 43.6 +0.3**
VRI Vrincioaia 77.27 320 ⇓*i*P **P 10 54 44.7 +1.0**
VRI Vrincioaia 77.27 320 ⇓P **P 10 54 44.6 +1.0**
PV10 Paradox Valley 77.28 50 *e*P **P 10 54 44.7 +0.9**
PV10 *e*pP pP 10 54 53.9 +0.6
PLOR Plostina 77.32 320 ⇓*i*P **P 10 54 45.0 +1.0**
TIRR Tirgusor 77.43 318 *e*P **P 10 54 44.6 0.0**
CRVS Cervenica-Dubn 77.48 325 *e*P **P 10 54 44.9 0.0**
X14A Yava 77.50 55 ⇓P **P 10 54 46.1 +1.1**
baz=77
PV01 Paradox Valley 77.72 50 *e*P **P 10 54 46.0 -0.2**
Y14A Wickenburg 77.78 56 ⇓P **P 10 54 47.0 +0.5**
baz=78
BSEG Bad Segeberg 77.83 334 *e*P **P 10 54 46.9 +0.1**
comp=Z,26nm,1.0s,mb5.1
BR131 Keskin Array S 77.90 312 *e*P **P 10 54 48.0 +0.8**
comp=Z,3.2nm,0.9s,mb4.2
BRTR Keskin Array B 77.90 312 P **P 10 54 47.8 +0.5**
comp=Z,4.7nm,1.0s,mb4.4,baz=99,slow=3.9,SNR=16
BRTR PP PP 10 57 43.4 +0.2
comp=Z,1.7nm,0.9s,baz=70,slow=7.2,SNR=4.7
MLR Muntele Rosu 77.92 320 P **P 10 54 47.5 +0.2**
comp=Z,4.5nm,1.0s,mb4.4,baz=34,slow=3.6,SNR=4.9
MLR Muntele Rosu 77.92 320 ⇓*i*P **P 10 54 48.3 +1.0**
MLR Muntele Rosu 77.92 320 ⇓P **P 10 54 48.3 +1.0**
SMCO Snowmass 77.95 49 *e*P **P 10 54 47.1 -0.4**
comp=Z,6.3nm,0.9s,mb4.5
KSP Ksiaz 78.14 329 *e*P **P 10 54 49.0 +0.5**
OKC Ostrava-Krasne 78.17 327 *e*P **P 10 54 48.6 -0.1**
OKC *e*pP pP 10 54 58.1 -0.2
OKC AMS AMS 11 34 10.0
comp=Z,400nm,13.1s
OKC Ostrava-Krasne 78.17 327 *e*P **P 10 54 48.6 -0.1**
OKC *e*pP pP 10 54 58.1 -0.2
ISCO Idaho Springs 78.30 47 *e*P **P 10 54 50.5 +1.1**
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ISCO Idaho Springs 78.30 47 *e*P **P 10 54 50.5 +1.1**
comp=Z,3.8nm,0.8s,mb4.4
VOIR 78.39 321 ⇑*i*P **P 10 54 50.8 +0.9**
VOIR 78.39 321 ⇑P **P 10 54 50.8 +0.8**
MORC Moravsky Berou 78.47 328 ⇓*i*P **P 10 54 51.3 +0.9**
MORC Moravsky Berou 78.47 328 *e*P **P 10 54 50.7 +0.4**
comp=Z,13nm,1.0s,mb4.8
UPC Upice 78.51 329 *e*P **P 10 54 50.8 +0.2**
DPC Dobruska-Polom 78.51 329 *e*P **P 10 54 51.1 +0.5**
DPC *e*pP pP 10 55 00.2 0.0
DPC AMS AMS 11 38 40.0
comp=Z,400nm,14.4s
PSZ Piszkesteto 78.91 325 ⇓*e*P **P 10 54 54.0 +1.2**
PSZ Piszkesteto 78.91 325 P **P 10 54 54.1 +1.3**
PSZ Piszkesteto 78.91 325 *e*P **P 10 54 53.7 +0.9**
comp=Z,20nm,0.9s,mb5.0
VYHS Vyhne 78.92 326 *i* P **P 10 54 53.3 +0.4**
VYHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
VYHS Vyhne 78.92 326 *i* P **P 10 54 53.3 +0.4**
comp=Z,6.4nm,1.0s,mb4.5
BRG Berggiesshubel 79.02 330 *e*P **P 10 54 53.3 -0.1**
comp=Z,4.6nm,0.9s,mb4.4
BRG
comp=N,148nm,16.4s
BRG
comp=E,376nm,19.0s
BRG
comp=Z,199nm,15.8s
CLL Collm 79.03 331 *e*P **P 10 54 53.0 -0.4**
comp=Z,23nm,0.9s,mb5.1
CLL Collm 79.03 331 ⇑*i*P **P 10 54 53.3 -0.1**
comp=Z,23nm,0.9s,mb5.1
CLL *i* pP pP 10 55 02.7 -0.3
CLL *e*sP sP 10 55 06.0 -0.5
CLL *e*S S 11 04 54.0 +3.6
CLL Collm 79.03 331 ⇑*i*P **P 10 54 53.3 -0.1**
CLL *i* *P pP 10 55 02.7 -0.3
CLL *e*S S 11 04 54.0 +3.6
CLL pmax pmax
comp=Z,23nm,0.9s,mb5.1
CLL MLR MLR
comp=Z,400nm,13.5s,MS4.9
CLL Collm 79.03 331 ⇑*i*P **P 10 54 53.3 -0.1**
comp=Z,23nm,0.9s,mb5.1
CLL *i* pP pP 10 55 02.7 -0.3
CLL *e*S S 11 04 54.0 +3.6
CLL LR LR
comp=Z,400nm,13.5s,MS4.9
KOLL Kolacno 79.04 326 *e*P **P 10 54 54.5 +1.0**
PVCC Panska Ves 79.06 330 *e*P **P 10 54 54.1 +0.5**
PVCC MLR MLR
comp=Z,100nm,13.7s,MS4.3
NRDL Niedersach Rie 79.09 333 *e*P **P 10 54 53.6 -0.2**
comp=Z,9.0nm,1.1s,mb4.6
VRAC Vranov 79.22 328 ⇓*i*P **P 10 54 55.5 +1.0**
VRAC Vranov 79.22 328 P **P 10 54 55.2 +0.7**
EYMN Ely 79.39 34 *e*P **P 10 54 54.7 -0.7**
comp=Z,11nm,0.8s,mb4.8
PRU Pruhonice 79.50 329 *e*P **P 10 54 56.2 +0.2**
PRU *e*pP pP 10 55 05.0 -0.6
PRU AMS AMS 11 34 10.0
comp=Z,300nm,16.3s
SZH Strazhica 79.54 319 *e*P **P 10 55 04.6 +8.4**
CLZ Clausthal 79.54 333 *e*P **P 10 54 56.5 +0.3**
comp=Z,17nm,0.9s,mb5.0
CLZ Clausthal 79.54 333 *e*P **P 10 54 56.5 +0.3**
CLZ pmax pmax
comp=Z,17nm,0.9s,mb5.0
SRO Srobarova 79.67 326 *e*P **P 10 54 57.8 +0.9**
SRO pmax pmax
comp=Z,34nm,1.0s,mb5.2
SRO Srobarova 79.67 326 *e*P **P 10 54 57.8 +0.9**
comp=Z,34nm,1.0s,mb5.2
TREC Trest 79.68 328 *e*P **P 10 54 57.1 +0.1**
BZS Buzias 79.88 323 ⇓*i*P **P 10 54 58.6 +0.5**
BZS Buzias 79.88 323 P **P 10 54 58.6 +0.5**
TANN Tannenbergstha 79.95 331 *e*P **P 10 54 58.6 +0.1**
comp=Z,4.0nm,0.8s,mb4.4
IBBN Ibbenburen 80.04 334 *e*P **P 10 54 58.7 -0.3**
comp=Z,21nm,0.9s,mb5.1
MOX Moxa 80.08 331 *e*P **P 10 54 59.1 0.0**
comp=Z,11nm,1.0s,mb4.7
MOX Moxa 80.08 331 *e*P **P 10 54 59.4 +0.3**
MOX
comp=Z,100nm,22.0s
MANZ Manzenberg 80.43 331 *e*P **P 10 55 01.2 +0.2**
comp=Z,8.0nm,0.9s,mb4.7
SOP Sopron 80.51 327 ⇑*e*P **P 10 55 02.7 +1.2**
UBBA Unterbreizbach 80.52 332 *e*P **P 10 55 02.3 +0.8**
KHC Kasperske Hory 80.56 329 *e*P **P 10 55 02.0 +0.2**
KHC *e*pP pP 10 55 10.2 -1.1
KHC AMS AMS 11 34 40.0
comp=Z,400nm,16.7s
ROTZ Rotzenmuhle 80.57 330 *e*P **P 10 55 02.3 +0.5**
comp=Z,12nm,1.0s,mb4.8
CONA Conrad Observa 80.61 327 ⇑*i*P **P 10 55 02.7 +0.7**
comp=Z,112nm,2.9s,mb5.3
DIM Dimitrovgrad 80.62 318 *e*P **P 10 55 03.1 +1.0**
GEC2 GERESS Array S 80.75 329 *e*P **P 10 55 02.7 0.0**
comp=Z,7.0nm,1.0s,mb4.5
GEC2 GERESS Array S 80.75 329 *e*P **P 10 55 02.7 0.0**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GERES GERESS Array B 80.75 329 P **P 10 55 02.7 0.0**
comp=Z,4.4nm,0.8s,mb4.4,baz=34,slow=5.0,SNR=27
GERES LR LR 11 35 17.4
comp=Z,356nm,18.2s,MS4.8,baz=349,slow=39
PKSM Moragy 80.77 325 ⇑*i*P **P 10 55 02.8 -0.1**
PKSM Moragy 80.77 325 ⇑P **P 10 55 02.8 -0.1**
WET Wettzell 80.82 330 *e*P **P 10 55 03.6 +0.5**
comp=Z,17nm,1.0s,mb4.9
WET Wettzell 80.82 330 *e*P **P 10 55 03.6 +0.5**
WET pmax pmax
comp=Z,17nm,1.0s,mb4.9
BUG Bochum-Univer 80.94 334 *e*P **P 10 55 03.4 -0.4**
comp=Z,16nm,0.9s,mb5.0
GRA1 Grafenberg Arr 81.00 331 *e*P **P 10 55 04.6 +0.5**
comp=Z,28nm,1.0s,mb5.2
GRA1 *e*pP pP 10 55 13.6 -0.1
GRA1 LR LR
comp=Z,200nm,21.0s,MS4.5
GRF Grafenberg Arr 81.00 331 *e*P **P 10 55 04.6 +0.5**
comp=Z,28nm,1.0s,mb5.2
GRF *e*pP pP 10 55 13.6 -0.1
GRF *e*L 11 35 45.4
comp=Z,215nm,21.0s
GRF Grafenberg Arr 81.00 331 *e*P **P 10 55 04.6 +0.5**
GRF *e**PP pP 10 55 13.6 -0.1
GRF pmax pmax
comp=Z,28nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,200nm,21.0s,MS4.5
ASF Jabal al Asfar 81.04 305 P **P 10 55 04.4 +0.1**
comp=Z,1.0nm,0.4s,mb4.1,baz=45,slow=1.4,SNR=3.2
ANMO Albuquerque 81.12 51 *e*P **P 10 55 05.1 +0.4**
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 81.12 51 *e*P **P 10 55 05.1 +0.3**
comp=Z,9.2nm,1.1s,mb4.6
ARSA Arzberg 81.29 327 ⇑*i*P **P 10 55 06.1 +0.5**
comp=Z,60nm,2.7s,mb5.0
RZN Rozhen 81.30 318 *e*P **P 10 55 07.1 +1.4**
VTS Vitosha 81.39 320 *e*P **P 10 55 06.8 +0.7**
VTS Vitosha 81.39 320 ⇓*i*P **P 10 55 07.4 +1.3**
BNM Barren Site 81.57 52 *e*P **P 10 55 08.7 +1.6**
GRUS Gruza 81.61 322 *i* P **P 10 55 07.2 -0.1**
SCHQ Schefferville 81.63 17 P **P 10 55 06.3 -1.1**
comp=Z,1.3nm,0.7s,mb4.0,baz=329,slow=5.9,SNR=4.3
SCHQ LR LR 11 37 20.5
comp=Z,100nm,18.1s,MS4.2,baz=99,slow=40
DIVS Divcibare 81.78 323 *i* P **P 10 55 08.7 +0.4**
GROS Grobnik 81.92 327 *e*P **P 10 55 08.9 -0.1**
KKB Krupnik 81.99 319 *e*P **P 10 55 10.0 +0.7**
GOLS Golise 82.23 326 *i* P **P 10 55 10.5 -0.1**
BBLS Bajina Basta - 82.23 323 *i* P **P 10 55 12.1 +1.6**
FUR Furstenfeldbru 82.24 330 *e*P **P 10 55 10.9 +0.3**
comp=Z,23nm,0.7s,mb5.2
FUR Furstenfeldbru 82.24 330 *e*P **P 10 55 10.9 +0.3**
FUR pmax pmax
comp=Z,23nm,0.7s,mb5.2
OBKA Obir 82.28 327 ⇑*i*P **P 10 55 11.0 +0.2**
comp=Z,96nm,2.5s,mb5.3,SNR=7.0
KBA Koelnbreinsper 82.31 328 ⇓*i*P **P 10 55 11.7 +0.7**
comp=Z,28nm,1.5s,mb5.0,SNR=14
KBA Koelnbreinsper 82.31 328 ⇓*i*P **P 10 55 11.7 +0.7**
KBA pmax pmax
comp=Z,28nm,1.5s,mb5.0
PDKS Podkum 82.45 327 *i* P **P 10 55 11.6 -0.1**
STU Stuttgart 82.51 332 *e*P **P 10 55 11.9 -0.1**
comp=Z,14nm,0.5s,mb5.2
STIP Stip 82.56 320 *i* P **P 10 55 12.7 +0.3**
VAY Valandovo 82.65 319 *i* P **P 10 55 12.7 -0.1**
SKO Skopje 82.72 320 *i* P **P 10 55 14.4 +1.3**
WTTA Wattenberg 82.84 329 ⇑*i*P **P 10 55 14.2 +0.4**
comp=Z,28nm,1.6s,mb5.0
WTTA Wattenberg 82.84 329 ⇑*i*P **P 10 55 14.2 +0.4**
WTTA pmax pmax
comp=Z,28nm,1.6s,mb5.0
GIVF Givet 82.89 335 *e*P **P 10 55 13.5 -0.5**
MOTA Moosalm 82.98 330 ⇑*i*P **P 10 55 14.8 +0.3**
comp=Z,20nm,1.1s,mb5.1
MOTA Moosalm 82.98 330 ⇑*i*P **P 10 55 14.8 +0.3**
MOTA pmax pmax
comp=Z,20nm,1.1s,mb5.1
BAIF Baives 83.13 335 *e*P **P 10 55 14.8 -0.4**
BFO Black Forest 83.19 332 *e*P **P 10 55 15.5 -0.1**
comp=Z,10.0nm,0.9s,mb4.8
BFO Black Forest 83.19 332 *e*P **P 10 55 15.5 -0.1**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DAVA Damuels 83.49 330 ⇑*i*P **P 10 55 17.3 +0.2**
comp=Z,21nm,1.4s,mb5.0
BIA Bitola 83.50 320 *i* P **P 10 55 16.5 -0.7**
CDF Champ du Feu 83.50 332 ⇑*i*P **P 10 55 17.1 -0.1**
comp=Z,21nm,0.9s,mb5.0
CDF Champ du Feu 83.50 332 ⇑*i*P **P 10 55 17.1 -0.1**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
CDF Champ du Feu 83.50 332 ⇑*i*P **P 10 55 17.1 -0.1**
comp=Z,10nm,0.9s,mb5.0
OHR Ohrid 83.69 320 *i* P **P 10 55 17.3 -0.8**
BRMO Bormio 83.98 330 P **P 10 55 20.0 +0.4**
comp=Z,10nm,0.9s,mb5.0
MNTX Cornudas Mount 84.02 53 *e*P **P 10 55 19.9 +0.1**
comp=Z,5.1nm,0.9s,mb4.7
HINF Hinteralfeld 84.16 332 *e*P **P 10 55 20.1 -0.4**
HAU Haudompre 84.17 333 ⇑*i*P **P 10 55 20.3 -0.3**
HAU *e*R
comp=Z,243nm,21.2s
HAU Haudompre 84.17 333 ⇑*i*P **P 10 55 20.3 -0.3**
HAU LR LR
comp=Z,240nm,21.3s,MS4.5
MEZF Maizieres J'vi 84.19 334 *e*P **P 10 55 20.8 +0.1**
comp=Z,15nm,0.7s,mb4.9
MEZF Maizieres J'vi 84.19 334 *e*P **P 10 55 20.8 +0.1**
comp=Z,15nm,0.7s,mb5.2
PPT Papeete 84.65 118 *e*LR LR 11 21 15.7
comp=Z,258nm,24.2s
MCGN Macugnaga 85.32 331 P **P 10 55 26.9 +0.5**
TAOE Nuku Hiva Isla 85.36 106 *e*LR LR 11 21 37.8
comp=Z,516nm,22.3s
CABF La Chapelle 85.46 332 ⇑*i*P **P 10 55 27.3 +0.2**
SNTG Esanatoglia 85.58 326 P **P 10 55 28.2 +0.5**
LOR Lormes 85.66 334 ⇑*i*P **P 10 55 27.9 -0.2**
comp=Z,50nm,1.0s,mb5.4
LOR *e*R
comp=Z,186nm,21.0s
LOR Lormes 85.66 334 ⇑*i*P **P 10 55 27.9 -0.2**
LOR pmax pmax
comp=Z,25nm,1.0s,mb5.4
LOR MLR MLR
comp=Z,190nm,21.0s,MS4.5
LOR Lormes 85.66 334 ⇑*i*P **P 10 55 27.9 -0.2**
comp=Z,25nm,1.0s,mb5.4
LOR LR LR
comp=Z,190nm,21.0s,MS4.5
FLN La Foliniere 85.72 337 ⇑*i*P **P 10 55 28.1 -0.3**
comp=Z,30nm,1.1s,mb5.1
FLN *e*R
comp=Z,129nm,21.0s
FLN La Foliniere 85.72 337 ⇑*i*P **P 10 55 28.1 -0.3**
FLN pmax pmax
comp=Z,15nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,130nm,21.0s,MS4.3
FLN La Foliniere 85.72 337 ⇑*i*P **P 10 55 28.1 -0.3**
comp=Z,15nm,1.1s,mb5.1
FLN LR LR
comp=Z,130nm,21.0s,MS4.3
LDF La Druitiere 85.77 337 *e*P **P 10 55 28.2 -0.4**
NRCA Norcia 85.85 326 P **P 10 55 29.5 +0.5**
comp=Z,18nm,1.0s,mb5.2
SSF Saint Saulge 85.96 334 ⇑*i*P **P 10 55 29.4 -0.2**
comp=Z,23nm,0.9s,mb5.1
SSF Saint Saulge 85.96 334 ⇑*i*P **P 10 55 29.4 -0.2**
SSF pmax pmax
comp=Z,11nm,0.9s,mb5.1
SSF Saint Saulge 85.96 334 ⇑*i*P **P 10 55 29.4 -0.2**
comp=Z,11nm,0.9s,mb5.1
HYF Humbligny 86.07 335 *e*P **P 10 55 30.4 +0.3**
LPL La Plagne 86.16 331 ⇑*i*P **P 10 55 30.9 +0.3**
comp=Z,38nm,0.9s,mb5.3
LPL La Plagne 86.16 331 ⇑*i*P **P 10 55 30.9 +0.3**
LPL pmax pmax
comp=Z,19nm,0.9s,mb5.3
LPL La Plagne 86.16 331 ⇑*i*P **P 10 55 30.9 +0.3**
comp=Z,19nm,0.9s,mb5.3
LPG La Plagne 86.17 331 ⇑*i*P **P 10 55 31.1 +0.5**
comp=Z,37nm,0.9s,mb5.3
LPG La Plagne 86.17 331 ⇑*i*P **P 10 55 31.1 +0.5**
LPG pmax pmax
comp=Z,19nm,0.9s,mb5.3
LPG La Plagne 86.17 331 ⇑*i*P **P 10 55 31.1 +0.5**
comp=Z,18nm,0.9s,mb5.3
GRR Gorron 86.17 337 ⇑*i*P **P 10 55 30.5 -0.1**
comp=Z,29nm,0.9s,mb5.2
GRR Gorron 86.17 337 ⇑*i*P **P 10 55 30.5 -0.1**
GRR pmax pmax
comp=Z,15nm,0.9s,mb5.2
GRR Gorron 86.17 337 ⇑*i*P **P 10 55 30.5 -0.1**
comp=Z,15nm,0.9s,mb5.2
SMF Signal de Mont 86.21 334 ⇑*i*P **P 10 55 30.7 -0.1**
comp=Z,44nm,1.0s,mb5.3
SMF Signal de Mont 86.21 334 ⇑*i*P **P 10 55 30.7 -0.1**
SMF pmax pmax
comp=Z,22nm,1.0s,mb5.3
SMF Signal de Mont 86.21 334 ⇑*i*P **P 10 55 30.7 -0.1**
comp=Z,22nm,1.0s,mb5.3
AVF Avril sur Loir 86.25 334 ⇑*i*P **P 10 55 31.0 0.0**
comp=Z,73nm,0.9s,mb5.6
AVF Avril sur Loir 86.25 334 ⇑*i*P **P 10 55 31.0 0.0**
AVF pmax pmax
comp=Z,36nm,0.9s,mb5.6
AVF Avril sur Loir 86.25 334 ⇑*i*P **P 10 55 31.0 0.0**
comp=Z,36nm,0.9s,mb5.6
BNI Bardonecchia 86.58 331 *e*P **P 10 55 33.0 +0.4**
BNI pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
BNI Bardonecchia 86.58 331 *e*P **P 10 55 33.0 +0.4**
comp=Z,10nm,0.8s,mb5.1
BGF Bois d'Agland 86.62 334 *e*P **P 10 55 32.9 +0.1**
SGMF Saint Gilles 86.78 338 *e*P **P 10 55 33.7 +0.1**
comp=Z,39nm,1.1s,mb5.2
SGMF Saint Gilles 86.78 338 *e*P **P 10 55 33.7 +0.1**
SGMF pmax pmax
comp=Z,19nm,1.1s,mb5.2
SGMF Saint Gilles 86.78 338 *e*P **P 10 55 33.7 +0.1**
comp=Z,20nm,1.1s,mb5.2
MBDF Montbardon 86.82 331 ⇑*i*P **P 10 55 34.3 +0.5**
comp=Z,13nm,0.8s,mb4.9
MBDF Montbardon 86.82 331 ⇑*i*P **P 10 55 34.3 +0.5**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
MBDF Montbardon 86.82 331 ⇑*i*P **P 10 55 34.3 +0.5**
comp=Z,6.7nm,0.8s,mb4.9
ROSF Rostrenen 86.91 339 *e*P **P 10 55 33.8 -0.4**
comp=Z,26nm,1.0s,mb5.1
ROSF Rostrenen 86.91 339 *e*P **P 10 55 33.8 -0.4**
ROSF pmax pmax
comp=Z,13nm,1.0s,mb5.1
ROSF Rostrenen 86.91 339 *e*P **P 10 55 33.8 -0.4**
comp=Z,13nm,1.0s,mb5.1
ORIF Oris-en-Rattie 86.98 331 ⇑*i*P **P 10 55 34.7 +0.1**
comp=Z,18nm,0.9s,mb5.0
ORIF *e*R
comp=Z,278nm,21.5s
ORIF Oris-en-Rattie 86.98 331 ⇑*i*P **P 10 55 34.7 +0.1**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
ORIF Oris-en-Rattie 86.98 331 ⇑*i*P **P 10 55 34.7 +0.1**
comp=Z,8.8nm,0.9s,mb5.0
TCF Toulx Ste Croi 87.07 334 ⇑*i*P **P 10 55 35.2 +0.2**
comp=Z,24nm,1.1s,mb5.0
TCF Toulx Ste Croi 87.07 334 ⇑*i*P **P 10 55 35.2 +0.2**
TCF pmax pmax
comp=Z,12nm,1.1s,mb5.0
TCF Toulx Ste Croi 87.07 334 ⇑*i*P **P 10 55 35.2 +0.2**
comp=Z,12nm,1.1s,mb5.0
CCM Cathedral Cave 87.18 40 *e*P **P 10 55 34.9 -0.6**
CCM *e**PP pP 10 55 44.3 -0.9
CCM pmax pmax
comp=Z,14nm,0.8s,mb5.2
CCM Cathedral Cave 87.18 40 *e*P **P 10 55 34.9 -0.7**
comp=Z,14nm,0.8s,mb5.2
CCM *e*pP pP 10 55 44.3 -0.9
QUIF Quistinic 87.26 338 *e*P **P 10 55 35.9 0.0**
VIVF Saint-Julien-l 87.47 332 *e*P **P 10 55 37.1 +0.1**
comp=Z,40nm,1.3s,mb5.2
VIVF Saint-Julien-l 87.47 332 *e*P **P 10 55 37.1 +0.1**
VIVF pmax pmax
comp=Z,20nm,1.3s,mb5.2
VIVF Saint-Julien-l 87.47 332 *e*P **P 10 55 37.1 +0.1**
comp=Z,20nm,1.3s,mb5.2
MFF Saint Martin d 87.55 336 ⇑*i*P **P 10 55 37.5 +0.2**
comp=Z,14nm,0.8s,mb4.9
MFF Saint Martin d 87.55 336 ⇑*i*P **P 10 55 37.5 +0.2**
MFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
MFF Saint Martin d 87.55 336 ⇑*i*P **P 10 55 37.5 +0.2**
comp=Z,7.0nm,0.8s,mb4.9
FRF La Foret Royal 87.86 330 *e*P **P 10 55 39.2 +0.4**
LMR La Mourre 88.11 330 *e*P **P 10 55 40.1 +0.1**
RJF Les Rejaudoux 88.17 334 ⇑*i*P **P 10 55 40.6 +0.3**
comp=Z,48nm,1.2s,mb5.3
RJF *e*R
comp=Z,215nm,17.0s
RJF Les Rejaudoux 88.17 334 ⇑*i*P **P 10 55 40.6 +0.3**
RJF pmax pmax
comp=Z,24nm,1.2s,mb5.3
RJF MLR MLR
comp=Z,220nm,17.0s,MS4.6
RJF Les Rejaudoux 88.17 334 ⇑*i*P **P 10 55 40.6 +0.3**
comp=Z,24nm,1.2s,mb5.3
RJF LR LR
comp=Z,220nm,17.0s,MS4.6
CAF Calviac 88.32 334 ⇑*i*P **P 10 55 41.8 +0.8**
comp=Z,42nm,1.1s,mb5.3
CAF Calviac 88.32 334 ⇑*i*P **P 10 55 41.8 +0.8**
CAF pmax pmax
comp=Z,21nm,1.1s,mb5.3
CAF Calviac 88.32 334 ⇑*i*P **P 10 55 41.8 +0.8**
comp=Z,21nm,1.1s,mb5.3
SOI Samo 88.34 321 P **P 10 55 40.9 -0.2**
LASF Ste Croix 88.44 332 *e*P **P 10 55 42.0 +0.4**
LFF La Frestale 88.75 335 ⇑*i*P **P 10 55 43.6 +0.6**
comp=Z,27nm,0.9s,mb5.3
LFF La Frestale 88.75 335 ⇑*i*P **P 10 55 43.6 +0.6**
LFF pmax pmax
comp=Z,13nm,0.9s,mb5.3
LFF La Frestale 88.75 335 ⇑*i*P **P 10 55 43.6 +0.6**
comp=Z,13nm,0.9s,mb5.3
TBI Tubuai 88.81 122 *e*LR LR 11 23 11.2
comp=Z,103nm,25.8s
MTLF Montolieu 89.66 333 *e*P **P 10 55 47.6 +0.3**
ETSF Etsaut 90.99 335 *e*P **P 10 55 54.1 +0.6**
comp=Z,6.4nm,0.7s,mb4.8
ETSF Etsaut 90.99 335 *e*P **P 10 55 54.1 +0.6**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
ETSF Etsaut 90.99 335 *e*P **P 10 55 54.1 +0.6**
comp=Z,3.2nm,0.7s,mb4.8
TORD Torodi Ar. Bea 116.09 318 PKP PKPdf 11 01 31.4 -1.0
comp=Z,0.7nm,0.9s,baz=351,slow=1.6,SNR=4.9
TORD PP PP 11 02 33.4 -3.8
comp=Z,3.6nm,1.0s,baz=45,slow=7.8,SNR=9.4
MAW Mawson 123.31 207 PKP PKPdf 11 01 43.8 -2.5
comp=Z,2.6nm,0.9s,baz=27,slow=5.2,SNR=4.0
BOSA Boshof 128.79 263 PKP PKPdf 11 01 56.0 -0.8
comp=Z,2.4nm,0.9s,baz=210,slow=6.3,SNR=4.0
QSPA South Pole Qui 130.13 180 *e*PKPdf PKPdf 11 01 57.2 -2.0
LPAZ La Paz 143.48 58 PKP PKPdf 11 02 22.4 -1.4
comp=Z,0.6nm,0.6s,baz=0.0,slow=7.1,SNR=3.1
VNA3 Neumayer Olymp 146.25 195 *e*PKPdf PKPdf 11 02 27.6 -1.1
VNA3 *e* 11 02 28.8
VNA3 *e* 11 02 29.9
VNA3 *e* 11 02 32.1
VNA3 *e* 11 02 37.8
VNA3 *e* 11 02 39.0
VNA3 *e* 11 02 43.4
VNA3 *e* 11 02 51.8
VNA3 *e* 11 02 56.0
VNA3 *e* 11 03 02.0
VNA3 *e* 11 03 08.5
VNA3 *e* 11 03 14.1
VNA3 *e* 11 03 33.2
VNA1 Neumayer--Stat 146.42 197 *e*PKPdf PKPdf 11 02 27.5 -1.4
VNA1 *e* 11 02 28.8
VNA1 *e* 11 02 30.3
VNA1 *e* 11 02 32.3
VNA1 *e* 11 02 37.6
VNA1 *e* 11 02 39.3

VNA1				*e*			11 02 43.7	
VNA1				*e*			11 02 51.8	
VNA1				*e*			11 03 07.7	
VNA1				*e*			11 03 14.4	
LVC	**Limon Verde**	**147.33**	**67**	PKPbc	PKPbc		11 02 31.1	-1.8
	comp=Z,2.5nm,0.8s,baz=297,slow=6.8,SNR=3.0							
SIV	**San Ignacio**	**147.58**	**49**	PKPbc	PKPbc		11 02 31.3	-2.3
	comp=Z,3.2nm,0.9s,baz=256,slow=3.4,SNR=12							
CFAA	**Coronel Fontan**	**152.89**	**81**	PKPbc	PKPbc		11 02 44.5	-2.0
	comp=Z,0.2nm,0.5s,baz=317,slow=4.5,SNR=6.5							
BDFB	**Brasilia**	**153.34**	**26**	PKPbc	PKPbc		11 02 46.0	-1.4
	comp=Z,2.3nm,0.7s,baz=274,slow=1.3,SNR=4.0							
BDFB	**Brasilia**	**153.34**	**26**	PKIKP	PKPdf		11 02 46.0	+6.1
BDFB				pmax	pmax			
	comp=Z,2.0nm,0.7s							
PLCA	**Paso Flores**	**154.13**	**102**	PKPbc	PKPbc		11 02 48.1	-1.0
	comp=Z,1.2nm,0.7s,baz=334,slow=6.0,SNR=4.3							
PLCA	**Paso Flores**	**154.13**	**102**	PKIKP	PKPdf		11 02 48.1	+7.1
PLCA				pmax	pmax			
	comp=Z,1.0nm,0.7s							

JMA 16 10:46:25.1±0.2, 3836N×14332E, h23km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.48**	**300**	P	Pn	10 46 50.9	+0.6
JIO	**Ouri**	**1.55**	**274**	P	Pn	10 46 51.8	+0.5
JIO				*e*S	Sn	10 47 11.3	+0.6
JMK	**Ichinoseki**	**1.75**	**290**	P	Pn	10 46 54.7	+0.7
JOM	**Ohasama**	**1.93**	**306**	P	Pn	10 46 57.6	+1.1
JMM	**Marumori**	**2.05**	**257**	P	Pn	10 46 58.7	+0.5
JMM				*e*S	Sn	10 47 23.1	0.0
JOU	**Okura**	**2.09**	**271**	P	Pn	10 46 59.9	+1.2
JOU				*e*S	Sn	10 47 25.9	+2.0
JFK	**Kawauchi**	**2.17**	**244**	P	Pn	10 47 00.4	+0.5
JYK	**Kaneyama**	**2.38**	**284**	P	Pn	10 47 04.4	+1.7
JFT	**Otama**	**2.50**	**251**	P	Pn	10 47 06.3	+1.9
JAG	**Ashikaga**	**3.63**	**239**	P	Pn	10 47 21.0	+1.1
JAG				*e*S	Sn	10 48 02.9	+0.8

*ISCJB **16** 11:00:42.0±1.0, 5144N±004×1603E±005, h0km, Error ellipse: s-maj=7.1km s-min=3.9km az=59.5*
*CSEM **16** 11:00:43.5±0.7, 5149N×1605E, h1km, ML2.9/4, Error ellipse: s-maj=9.8km s-min=6.4km az=31.0, Suspected Mining induced.*
*PRU **16** 11:00:43.0, 5150N×1611E, h0km*
*VIE **16** 11:00:45.0±0.5, 5130N×1608E, h0km, mb2.0/4, ML2.5/4, Error ellipse: s-maj=3.0km s-min=2.8km az=171.0 68 km WNW of Breslau Suspected Mining induced.*

ISC 16 11:00:41.9±1.0, 5153N±005×1611E±006, h0km, n13, σ0°80/27, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg	Pg	11 00 56.3	+1.1
KSP				*e*Sg	Sg	11 01 05.9	+1.7
UPC	**Upice**	**1.02**	**183**	*e*PG	Pg	11 01 02.3	+0.8
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG	Pg	11 01 05.0	+0.4
DPC				*e*SG	Sg	11 01 20.3	+0.3
	18nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG	Pg	11 01 09.1	+0.5
BRG	**Berggiesshubel**	**1.51**	**245**	PG	Pg	11 01 10.8	0.0
BRG				SG	Sg	11 01 31.4	+1.0
	18nm,0.4s						
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	Pn	11 01 14.6	0.0
PRU				*e*PG	Pg	11 01 16.6	-0.4
PRU				*e*SG	Sg	11 01 40.1	-0.7
	15nm,0.3s						
CLL	**Collm**	**1.96**	**265**	*i* Pn	Pn	11 01 15.5	-0.8
CLL				*i* Pg	Pg	11 01 18.6	-0.8
CLL				*i* Sg	Sg	11 01 44.6	-0.2
	comp=Z,10.0nm,0.6s						
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	Pg	11 01 22.0	-0.7
OKC				*e*SG	Sg	11 01 49.5	-0.9
	comp=Z,13nm,0.5s						
VRAC	**Vranov**	**2.24**	**172**	*e*Pn	Pn	11 01 21.2	+0.9
VRAC				*e*Sg	Sg	11 01 53.2	-0.7
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PG	Pg	11 01 35.9	-1.5
KHC				*e*SN	Sn	11 02 05.5	+0.8
KHC				*e*SG	Sg	11 02 13.9	-1.0
	comp=Z,6.0nm,0.7s						
MOX	**Moxa**	**2.97**	**254**	*e*PG	Pg	11 01 38.6	-0.2
MOX				*e*SG	Sg	11 02 18.4	+1.1
CONA	**Conrad Observa**	**3.60**	**183**	⇓*i*Pn	Pn	11 01 38.9	-0.1
CONA				⇑*i*Sg	Sg	11 02 37.3	-0.5
	comp=Z,3.3nm,0.3s						
MOA	**Molln**	**3.87**	**199**	⇑*i*Pn	Pn	11 01 43.5	+0.9
MOA				⇑*i*Sg	Sg	11 02 45.6	-0.6
	comp=Z,3.1nm,0.4s						

JMA 16 11:17:09.1±0.5, 3369N×14242E, h23km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.53**	**309**	P	Pn	11 17 35.8	+0.8
BSO1				S	Sn	11 17 56.3	+2.0
BSO3	**Boso 3**	**1.93**	**306**	P	Pn	11 17 41.6	+1.1
BSO3				S	Sn	11 18 06.9	+2.8
BSO4	**Boso 4**	**2.16**	**308**	P	Pn	11 17 45.3	+1.7
BSO4				S	Sn	11 18 12.6	+3.0
JHJ2	**Mitsune**	**2.25**	**256**	P	Pn	11 17 46.1	+1.2
JHJ2				*e*S	Sn	11 18 11.8	-0.2
CHOJ	**Chosi**	**2.38**	**328**	P	Pn	11 17 48.4	+1.7
TATJ	**Tateyama 2**	**2.48**	**303**	P	Pn	11 17 49.7	+1.6
TATJ				*e*S	Sn	11 18 19.3	+1.6
JIM2	**Oshima 3**	**2.68**	**293**	P	Pn	11 17 51.3	+0.5
JIM2				*e*S	Sn	11 18 21.6	-1.0
JYO	**Yokosk**	**2.74**	**305**	*e*S	Sn	11 18 24.9	+0.8
JHU	**Hanno**	**3.37**	**311**	P	Pn	11 18 02.5	+2.3
JHU				*e*S	Sn	11 18 41.2	+1.8
JAG	**Ashikaga**	**3.66**	**319**	S	Sn	11 18 47.5	+0.9
JYN	**Shimob**	**3.67**	**301**	P	Pn	11 18 06.9	+2.5
JYN				S	Sn	11 18 48.8	+1.8
JRY	**Ryogami san**	**3.71**	**310**	P	Pn	11 18 07.3	+2.3
JRY				S	Sn	11 18 49.4	+1.5
MAT	**Matsushiro**	**4.47**	**311**	P	Pn	11 18 18.0	+2.5
MAT				*e*S	Sn	11 19 08.4	+1.6

*MOS **16** 11:23:01.7±0.6, 783S×14767E, h73km, mb4.8/2, Error ellipse: s-maj=25.5km s-min=11.4km az=72.5*
*ISCJB **16** 11:23:03.3±1.2, 787S±006×14760E±009, h87km±10km, mb4.4/17, Error ellipse: s-maj=14.4km s-min=10.2km az=29.1*
*NEIC **16** 11:23:03.9±1.2, 789S×14765E, h78km±10km, mb4.7/8, Error ellipse: s-maj=10.8km s-min=9.2km az=74.0*
*IDC **16** 11:23:04.0±1.4, 782S×14755E, h76km±12km, mb4.1/11, mb1 4.2/13, mb1mx4.2/15, mbtmp4.5/13, MS3.6/6, Ms1 3.6/6, ms1mx3.3/16, Error ellipse: s-maj=19.8km s-min=11.1km az=107.0*

ISC 16 11:23:03.6±1.3, 787S±006×14769E±009, h75km±11km, n44, σ0°87/41, mb4.4/17, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.62**	**199**	P	Pn	11 23 29.9	-0.4
	347nm,0.3s,baz=10,slow=5.7,SNR=348						
PMG				S	Sn	11 23 51.8	+1.3
	923nm,0.3s,baz=150,slow=22,SNR=71						
PMG				LR	LR	11 24 12.4	
	comp=Z,458nm,20.4s,baz=225,slow=42						
PMG	**Port Moresby**	**1.62**	**199**	P	Pn	11 23 29.9	-0.4
PMG				S	Sn	11 23 51.8	+1.3
CTA	**Charters Tower**	**12.23**	**186**	*e*P	Pn	11 25 55.5	+0.7
	5.1nm,0.3s						
CTA	**Charters Tower**	**12.23**	**186**	P	Pn	11 25 55.4	+0.6
	1.7nm,0.3s,baz=2.6,slow=14,SNR=19						
CTA				S	Sn	11 28 07.0	-2.3
	1.2nm,0.3s,baz=298,slow=18,SNR=4.8						
CTA				LR	LR	11 30 21.4	
	comp=Z,289nm,18.6s,baz=18,slow=36						
CTA	**Charters Tower**	**12.23**	**186**	*e*P	Pn	11 25 55.5	+0.7
CTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KAKA	**Kakadu**	**15.76**	**251**	*e*P	Pn	11 26 40.6	-0.4
	comp=Z,16nm,0.6s						
WB2	**Warramunga Arr**	**17.64**	**226**	*e*P	Pn	11 27 04.0	-0.3
WB2				*e*		11 30 11.6	
WRA	**Warramunga Arr**	**17.65**	**226**	P	Pn	11 27 04.1	-0.3
	comp=Z,3.0nm,0.3s,baz=49,slow=11,SNR=85						
WRA				S	S	11 30 14.7	-8.9
	comp=Z,0.4nm,0.3s,baz=46,slow=23,SNR=12						
AS31	**Alice Springs**	**20.53**	**219**	*e*P	P	11 27 36.3	+0.5
ASAR	**Alice Springs**	**20.54**	**219**	P	P	11 27 36.4	+0.5
	comp=Z,12nm,0.6s,baz=53,slow=9.7,SNR=212						
ASAR				S	S	11 31 23.0	+1.6
	comp=Z,2.5nm,0.7s,baz=46,slow=23,SNR=5.2						
ASPA	**Alice Springs**	**20.54**	**219**	*e*P	P	11 27 36.3	+0.4
GUMO	**Guam**	**21.50**	**352**	LR	LR	11 34 36.8	
	comp=Z,109nm,21.3s,baz=216,slow=32						
BKM	**Butte a Klehm**	**22.26**	**118**	⇑*i*P	P	11 27 49.9	-4.4
BKM				S	sP	11 28 19.4	+0.2
ARMA	**Armidale**	**22.74**	**171**	*e*P	P	11 27 58.8	-0.6
DZM	**Mont Dzumac**	**22.93**	**130**	P	P	11 28 02.6	+1.3
	comp=Z,12nm,1.0s,mb4.2,baz=358,slow=10,SNR=3.7						
DZM				LR	LR	11 35 34.2	
	comp=Z,250nm,20.9s,baz=212,slow=32						
FITZ	**Fitzroy Crossi**	**23.75**	**242**	*e*P	P	11 28 08.1	-0.8
	comp=Z,12nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.75**	**242**	P	P	11 28 08.9	-0.1
	comp=Z,4.8nm,0.4s,mb4.1,baz=70,slow=7.9,SNR=42						
FITZ				LR	LR	11 37 53.8	
	comp=Z,115nm,19.9s,baz=75,slow=38						
STKA	**Stephens Creek**	**24.56**	**193**	*e*P	P	11 28 14.3	-2.0
	comp=Z,21nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**24.56**	**193**	P	P	11 28 14.5	-1.8
	comp=Z,23nm,0.6s,mb4.8,baz=22,slow=12,SNR=65						
STKA				LR	LR	11 38 41.8	
	comp=Z,205nm,18.6s,baz=22,slow=38						
FORT	**Forrest**	**29.27**	**216**	*e*P	P	11 28 58.5	-0.1
	comp=Z,25nm,0.6s,mb5.0						
TOO	**Toolangi**	**29.64**	**184**	*e*P	P	11 29 02.7	+0.8
	comp=Z,8.2nm,0.7s,mb4.5						
TOO	**Toolangi**	**29.64**	**184**	*e*P	P	11 29 02.7	+0.8
TOO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
MBWA	**Marble Bar**	**30.05**	**241**	*e*P	P	11 29 05.1	-0.5
	comp=Z,2.0nm,0.6s,mb3.9						
CBIJ	**Chichi jima**	**35.16**	**351**	P	P	11 29 48.5	-1.6
	comp=Z,26nm,0.5s,mb5.3,baz=150,slow=8.8,SNR=4.0						
KLBR	**Kellerberrin**	**36.53**	**226**	*e*P	P	11 30 01.7	-0.2
	comp=Z,6.0nm,0.3s,mb5.0						
NWAO	**Narrogin (SRO)**	**37.65**	**224**	P	P	11 30 10.7	-0.7
	comp=Z,6.3nm,0.6s,mb4.7,baz=57,slow=5.2,SNR=11						
MUN	**Mundaring**	**37.85**	**226**	*e*P	P	11 30 14.2	+1.2
JOW	**Kunigami**	**39.30**	**332**	LR	LR	11 43 49.0	
	comp=Z,49nm,19.3s,baz=341,slow=32						
MJAR	**Matsushiro Arr**	**45.06**	**349**	P	P	11 31 11.0	-0.9
	comp=Z,3.1nm,0.8s,mb4.1,baz=174,slow=7.8,SNR=34						
KS15	**Wonju Array Si**	**48.73**	**339**	*e*P	P	11 31 41.0	+0.4
SONM	**Songino Array**	**66.36**	**331**	P	P	11 33 45.3	+1.0
	comp=Z,0.9nm,0.8s,mb3.6,baz=140,slow=5.6,SNR=6.1						
ZAK	**Zakamensk**	**69.59**	**331**	*e*P	P	11 34 04.8	+0.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.1						
VNDA	**Vanda**	**70.02**	**177**	P	P	11 34 07.3	0.0
	comp=Z,5.2nm,0.7s,mb4.5,baz=329,slow=6.6,SNR=40						
MKAR	**Makanchi Array**	**79.36**	**321**	P	P	11 35 02.2	+0.9
	comp=Z,0.5nm,0.4s,mb3.7,baz=101,slow=7.7,SNR=10						
MKAR	**Makanchi Array**	**79.36**	**321**	P	P	11 35 02.2	+0.9
MAW	**Mawson**	**80.80**	**203**	P	P	11 35 08.9	-0.1
	comp=Z,1.6nm,0.6s,mb4.0,baz=95,slow=8.0,SNR=4.5						
ZAL	**Zalesovo**	**80.95**	**328**	P	P	11 35 10.2	+0.4
	comp=Z,1.0nm,0.3s,mb4.2,baz=281,slow=2.6,SNR=4.2						
QSPA	**South Pole Qui**	**82.11**	**180**	*e*P	P	11 35 15.8	-0.2
	comp=Z,13nm,0.6s,mb5.0						
SAML	**Samuel**	**144.99**	**118**	*e*PKPdf	PKPdf	11 42 31.2	-0.9
TORD	**Torodi Ar. Bea**	**146.18**	**282**	PKPbc	PKPbc	11 42 36.7	+1.4
	comp=Z,6.5nm,0.7s,baz=56,slow=3.1,SNR=44						
TORD	**Torodi Ar. Bea**	**146.18**	**282**	PKPbc	PKPbc	11 42 36.7	+1.4
BDFB	**Brasilia**	**151.94**	**146**	PKPbc	PKPbc	11 42 50.6	+0.7
	comp=Z,8.8nm,0.6s,baz=213,slow=1.6,SNR=11						
DBIC	**Dimbokro**	**152.75**	**269**	PKPbc	PKPbc	11 42 52.7	+1.0
	comp=Z,4.5nm,0.5s,baz=57,slow=1.5,SNR=8.2						
DBIC				PKPab	PKPab	11 43 03.3	+0.5
	comp=Z,2.2nm,0.5s,baz=79,slow=5.2,SNR=5.6						
DBIC	**Dimbokro**	**152.75**	**269**	PKPbc	PKPbc	11 42 52.7	+1.0
DBIC				PKPab	PKPab	11 43 03.3	+0.5

*ISCJB **16** 11:24:13.1±0.8, 4036N±005×14383E±008, h21km, mb3.5/3, Error ellipse: s-maj=10.3km s-min=4.3km az=67.3*
*JMA **16** 11:24:14.2±0.3, 4037N×14371E, h21km±5km, M3.4*
*IDC **16** 11:24:16.6±9.1, 4055N×143.12E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=169.3km s-min=35.3km az=108.0*

ISC 16 11:24:15.3±2.5, 4034N±006×14383E±010, h31km±25km, n17, σ0°89/23, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.56**	**256**	P	Pn	11 24 39.9	-1.0
JTH				*e*S	Sn	11 24 58.4	-1.6
MIYJ	**Miyakonagasawa**	**1.73**	**244**	P	Pn	11 24 42.9	-0.2
MIYJ				*e*S	Sn	11 25 03.6	-0.5
JANG	**Nango**	**1.77**	**272**	P	Pn	11 24 43.0	-0.7
JOM	**Ohasama**	**2.14**	**247**	P	Pn	11 24 48.9	+0.1
JCH	**Churui**	**2.30**	**351**	*e*S	Sn	11 25 18.6	+0.4
JOT	**Ohata**	**2.35**	**297**	*e*S	Sn	11 25 19.5	0.0
JMK	**Ichinoseki**	**2.45**	**236**	P	Pn	11 24 53.3	+0.2
JAK	**Akkeshi**	**2.73**	**13**	P	Pn	11 24 57.3	+0.4
JAK				*e*S	Sn	11 25 28.5	-0.3
JAR	**Ashorobuto**	**2.95**	**359**	P	Pn	11 24 59.8	-0.2
JAR				*e*S	Sn	11 25 33.1	-1.2
JYK	**Kaneyama**	**3.04**	**243**	P	Pn	11 25 01.8	+0.7
JEW	**Eniwo**	**3.07**	**325**	*e*S	Sn	11 25 38.9	+1.7
NEM2	**Nemuro 2**	**3.34**	**25**	P	Pn	11 25 05.8	+0.5
NEM2				*e*S	Sn	11 25 42.1	-1.8
ASAJ	**Asahikawa**	**3.88**	**347**	Pn	Pn	11 25 12.7	0.0
	1.0nm,0.3s,baz=184,slow=16,SNR=6.5						
ASAJ				Sn	Sn	11 26 02.3	+5.1
	0.6nm,0.3s,baz=270,slow=20,SNR=3.7						
MJAR	**Matsushiro Arr**	**5.82**	**231**	Pn	Pn	11 25 39.8	+0.4
	0.9nm,0.3s,baz=40,slow=12,SNR=13						
SONM	**Songino Array**	**27.70**	**298**	P	P	11 30 00.7	+0.1
	0.4nm,0.7s,mb3.2,baz=98,slow=8.5,SNR=4.2						
ZAL	**Zalesovo**	**41.19**	**310**	P	P	11 31 58.6	+1.7
	0.7nm,0.3s,mb3.8,baz=8.1,slow=7.1,SNR=2.9						
MKAR	**Makanchi Array**	**44.05**	**300**	P	P	11 32 21.5	+1.4
	0.7nm,0.6s,mb3.6,baz=72,slow=9.3,SNR=5.8						

WEL 16 11:43:44.6±0.1, 4160S×17434E, h12km, ML3.6/28, 3C-2D, Error ellipse: s-maj=0.8km s-min=0.7km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.17**	**213**	PG	Pg	11 43 48.5	0.0
CMWZ				SG	Sg	11 43 51.9	+0.7
TUWZ	**Tuamarina**	**0.34**	**300**	⇓PG	Pg	11 43 51.6	+0.1
TUWZ				SG	Sg	11 43 56.9	+0.7
BSWZ	**Blackbirch Sta**	**0.36**	**252**	PG	Pg	11 43 52.0	+0.1
BSWZ				*e*SG	Sg	11 43 57.3	+0.5
TCW	**Tory Channel**	**0.39**	**353**	⇑PG	Pg	11 43 52.4	0.0
SNZO	**South Karori**	**0.40**	**43**	⇑PG	Pg	11 43 52.7	+0.2
BHW	**Baring Head**	**0.44**	**64**	PG	Pg	11 43 53.5	+0.2
WEL	**Wellington**	**0.45**	**46**	PG	Pg	11 43 53.6	+0.1
MRW	**Makara Radio**	**0.46**	**36**	⇑PG	Pg	11 43 53.6	-0.1
MSWZ	**Moikau Station**	**0.71**	**75**	⇓P*	Pb	11 43 58.4	-0.4
CAW	**Cannon Point**	**0.74**	**48**	P*	Pb	11 43 58.6	-0.7
NNZ	**Nelson**	**0.82**	**298**	P*	Pb	11 43 59.9	-0.8
PAWZ	**Paruwai Farm**	**0.85**	**75**	P*	Pb	11 44 00.8	-0.4
KIW	**Kapiti Island**	**0.86**	**30**	P*	Pb	11 44 00.6	-0.8
KIW				SG	Sg	11 44 13.0	+0.7
DUWZ	**D'Urville Isla**	**0.86**	**338**	P*	Pb	11 44 00.7	-0.7
MTW	**Mount Morrison**	**0.98**	**63**	P*	Pb	11 44 03.3	-0.2
KHZ	**Kahutara**	**1.01**	**216**	P*	Pb	11 44 04.3	+0.3
TRWZ	**Traveller**	**1.03**	**79**	P*	Pb	11 44 04.0	-0.4
THZ	**Tophouse**	**1.09**	**261**	P*	Pb	11 44 04.8	-0.5
MRZ	**Mangatainoka R**	**1.33**	**45**	P*	Pb	11 44 08.8	-0.6
TIWZ	**Tintock**	**1.43**	**55**	P*	Pb	11 44 10.0	-1.2
QRZ	**Quartz Range**	**1.57**	**299**	*e*PN	Pn	11 44 13.1	+0.8
LTZ	**Lake Taylor**	**1.94**	**232**	PN	Pn	11 44 17.2	-0.2
TSZ	**Takapari Road**	**1.97**	**39**	PN	Pn	11 44 17.4	-0.4

ISC 16 11:59:47.1±0.9, 4609N±006×1368E±006, h0km, n5, σ0°69/8, 2C, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRE	**Drenchia**	**0.08**	**341**	⇑*i*Pg	Pg	11 59 48.3	-0.4
DRE				*i* Sg	Sg	11 59 50.5	+0.7
VOY	**Vojsko**	**0.16**	**113**	*e*Pg	Pg	11 59 49.9	-0.2
VOY				*e*Sg	Sg	11 59 52.8	+0.6
VOY				*e*(Rg)		11 59 59.6	
ROBS	**Robic**	**0.19**	**321**	*i* Pg	Pg	11 59 50.1	-0.7
COLI	**Coloredo**	**0.22**	**281**	⇑*i*Pg	Pg	11 59 50.2	-1.0
COLI				*i* Sg	Sg	11 59 55.1	+1.1
GORS	**Gorjuse**	**0.31**	**44**	*i* Pg	Pg	11 59 52.9	-0.1
GORS							
	comp=Z,11nm,0.2s						

*CSEM **16** 12:25:57.7±0.9, 3847N×2841W, h10km±3km, ML1.9, Error ellipse: s-maj=3.5km s-min=2.4km az=180.0, After PDA*
*PDA **16** 12:25:57.7±0.9, 3847N×2841W, h10km±3km, MD3.0, ML1.9, Error ellipse: s-maj=3.5km s-min=2.4km az=180.0*

SVSA 16 12:25:57.7±0.9, 3847N×2841W, h10km±3km, MD3.0, ML1.9, Error ellipse: s-maj=3.5km s-min=2.4km az=180.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.04**	**340**	*e*P	Pg	12 25 58.7	-0.9
PICO				*e*S	Sg	12 26 00.8	-0.1
PBOI	**Pico dos Bois**	**0.04**	**137**	*e*P	Pg	12 25 59.6	0.0
PBOI				*e*S	Sg	12 26 00.8	-0.1
PBOI							
	94nm,0.2s						
PCND	**Candelaria**	**0.04**	**276**	*i* P	Pg	12 25 59.6	0.0
PCND				*e*S	Sg	12 26 01.0	+0.1
PCND							
	244nm,0.1s						
PTEI	**Pico do Teixo**	**0.05**	**54**	*i* P	Pg	12 25 59.6	-0.1
PTEI				*e*S	Sg	12 26 01.1	0.0
PTEI							
	190nm,0.1s						
HOR	**Horta**	**0.18**	**290**	*e*P	Pg	12 26 00.9	-0.7
HOR				*e*S	Sg	12 26 04.0	-0.3
PID	**Ribeirinha**	**0.23**	**96**	*e*P	Pg	12 26 01.9	-0.5
CALA	**Caldeira**	**0.26**	**297**	*e*P	Pg	12 26 00.8	-2.1
CALA				*e*S	Sg	12 26 06.2	-0.2
PAMA	**Santo Amaro**	**0.28**	**40**	*i* P	Pg	12 26 03.0	-0.3
PAMA				*e*S	Sg	12 26 07.3	+0.2
PAMA							
	80nm,0.3s						
PIED	**Piedade**	**0.28**	**99**	*e*rx		12 26 03.6	
ROSA	**Rosais**	**0.29**	**27**	*e*P	Pg	12 26 02.7	-0.7
ROSA				*e*S	Sg	12 26 06.7	-0.6
PMAN	**Manadas**	**0.30**	**56**	*e*S	Sg	12 26 06.9	-0.9
PMAN							
	73nm,0.2s						
PTCA	**Ponta do Capel**	**0.33**	**292**	*e*rx		12 26 12.0	
PGRA	**Graciosa**	**0.66**	**31**	*e*P	Pg	12 26 08.5	-1.9
PGRA				*e*S	Sg	12 26 16.0	-3.0
PGRA							
	12nm,0.3s						

*IDC **16** 12:34:27.8±0.6, 2713S×17646W, h0km, mb4.5/10, mb1 4.7/12, mb1mx4.7/14, mbtmp4.5/12, ML4.7/2, MS4.4/12, Ms1 4.4/12, ms1mx4.0/18, Error ellipse: s-maj=20.6km s-min=16.5km az=124.0*
*BJI **16** 12:34:29.5, 2764S×17703W, h13km, mB4.9, mb5.1, Ms4.8, Msz4.5*
*ISCJB **16** 12:34:31.2±0.3, 2717S±006×17663W±007, h29km, mb4.8/28, MS4.4/14, Error ellipse: s-maj=10.6km s-min=7.2km az=88.9*
*NEIC **16** 12:34:32.5±0.2, 2711S×17661W, mb4.9/17, Error ellipse: s-maj=9.6km s-min=6.0km az=138.0*
*HRVD **16** 12:34:32.5±0.4, 2709S×17593W, h23km, MW5.0/61, Centroid moment Tensor Solution. LP body waves: s35,c39;Mantle waves: s61,c84; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.70±.22; $M_{\theta\theta}$-1.01±.15; $M_{\phi\phi}$-2.69±.14; $M_{r\theta}$-0.16±.24; $M_{\theta\phi}$-0.74±.09; $M_{\phi r}$2.16±.20; Best double couple: $M_0$3.95600×10^{16} NP1:ϕ_s207.00000°, δ30.00000°, λ106.00000°. NP2: ϕ_s9.00000°, δ61.00000°, λ81.00000°. Principal axes: T 4.3870, Plg72.0000°, Azm257.0000°; N -0.8620, Plg8.0000°, Azm13.0000°; P -3.5250, Plg16.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **16** 12:34:32.1±0.8, 2707S×17661W, h33km, mb5.0/11 Error ellipse: s-maj=17.5km s-min=12.8km az=65.0*

ISC 16 12:34:32.9±0.3, 2714S±006×17653W±007, h30km, h30km±1.4km: pP-P, n110, σ0°96/83, mb4.8/28, MS4.4/14, 3C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.43**	**210**	Pn	Pn	12 35 11.2	+0.5
	475nm,0.3s,baz=83,slow=20,SNR=23						
RAO				Sn	Sn	12 35 41.7	+2.3
	628nm,0.3s,baz=96,slow=22,SNR=8.3						
RAO				LR	LR	12 35 59.0	
	comp=Z,1μm,19.7s,baz=58,slow=37						
RAO	**Raoul Island**	**2.43**	**210**	P	Pn	12 35 11.2	+0.5
RAO						12 35 41.7	
RAO				pmax	pmax		
	comp=Z,475nm,0.3s						
RAO				smax			
	comp=N,628nm,0.3s					

RKT Rikitea 37.72 93 *e*LR LR 12 51 32.4
comp=Z,721nm,29.5s
TAOE Nuku Hiva Isla 38.89 69 *e*LR LR 12 52 11.9
comp=Z,1μm,26.3s
AS31 Alice Springs 44.68 263 *e*P **P 12 42 42.6 -0.4**
ASAR Alice Springs 44.68 263 P **P 12 42 42.5 -0.5**
comp=Z,3.4nm,0.7s,mb4.3,baz=93,slow=6.9,SNR=43
ASAR PcP PcP 12 44 25.4 +0.1
comp=Z,0.9nm,0.5s,baz=122,slow=3.1,SNR=4.5
ASPA Alice Springs 44.68 263 *e*P **P 12 42 42.6 -0.4**
WB2 Warramunga Arr 45.37 268 *e*P **P 12 42 47.4 -1.1**
WRA Warramunga Arr 45.38 268 P **P 12 42 48.0 -0.6**
comp=Z,4.6nm,0.7s,mb4.4,baz=104,slow=8.2,SNR=37
WRA PcP PcP 12 44 28.5 +0.9
comp=Z,2.3nm,0.9s,baz=104,slow=3.6,SNR=5.2
FORT Forrest 48.20 252 *e*P **P 12 43 09.9 -0.8**
comp=Z,19nm,0.8s,mb5.2
KAKA Kakadu 49.75 276 *e*P **P 12 43 22.0 -0.5**
comp=Z,11nm,0.6s,mb5.1
SBA Scott Base 51.38 184 *e*P **P 12 43 36.2 +1.4**
SBA pmax pmax
comp=Z,19nm,1.2s,mb4.9
SBA Scott Base 51.38 184 *e*P **P 12 43 36.2 +1.4**
comp=Z,19nm,1.2s,mb4.9
VNDA Vanda 51.46 186 P **P 12 43 35.7 +0.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=23,slow=6.5,SNR=7.6
VNDA LR LR 13 02 31.2
comp=Z,257nm,19.7s,MS4.3,baz=10,slow=33
FITZ Fitzroy Crossi 53.74 267 *e*P **P 12 43 52.2 -0.1**
comp=Z,7.2nm,0.9s,mb4.6
MBWA Marble Bar 57.93 261 *e*P **P 12 44 21.6 -0.8**
CASY Casey 58.62 207 ||*i*P **P 12 44 26.0 -1.1**
QSPA South Pole Qui 62.96 180 *e*P **P 12 44 56.6 -0.1**
comp=Z,30nm,0.8s,mb5.5
MIR Mirnyy 65.61 206 *d i*P **P 12 45 15.0 +1.0**
MIR pmax pmax
comp=Z,310nm,1.0s
KSM Kuching 75.73 279 *e*P **P 12 46 16.0 +0.4**
MAW Mawson 75.80 200 ⇑*i*P **P 12 46 16.1 0.0**
comp=Z,8.3nm,0.8s,mb4.7
MAW Mawson 75.80 200 P **P 12 46 16.3 +0.2**
comp=Z,8.2nm,0.7s,mb4.8,baz=134,slow=8.0,SNR=21
MAW LR LR 13 20 17.7
comp=Z,386nm,19.3s,MS4.7,baz=331,slow=36
MAW Mawson 75.80 200 P **P 12 46 16.3 +0.2**
MAW pmax pmax
comp=Z,8.0nm,0.7s
MAW MLR MLR
comp=Z,386nm,19.3s
MJAR Matsushiro Arr 76.34 324 P **P 12 46 19.6 +0.5**
comp=Z,5.4nm,0.9s,mb4.5,baz=162,slow=5.3,SNR=9.8
MJAR LR LR 13 14 36.3
comp=Z,134nm,20.8s,MS4.2,baz=65,slow=32
MAJO Matsushiro 76.34 324 *e*P **P 12 46 18.0 -1.1**
MAJO *e**PP pP 12 46 26.7 -1.8
MAJO pmax pmax
comp=Z,16nm,1.1s,mb4.9
MAJO Matsushiro 76.34 324 *e*P **P 12 46 18.0 -1.1**
comp=Z,16nm,1.1s,mb4.9
MAJO *e*pP pP 12 46 26.7 -1.8
MAT Matsushiro 76.34 324 P **P 12 46 20.4 +1.3**
MAT S S 12 56 00.0 -2.1
MAT Matsushiro 76.34 324 *e*P **P 12 46 20.0 +0.9**
MAT *e*S S 12 56 00.0 -2.1
MAT pmax pmax
comp=Z,15nm,1.3s,mb4.8
MAT Matsushiro 76.34 324 *e*P **P 12 46 20.0 +0.9**
comp=Z,15nm,1.3s,mb4.8
MAT *e*S S 12 56 00.0 -2.1
SYO Syowa Base 80.57 192 ⇑*e*P **P 12 46 40.2 -2.3**
SYO Syowa Base 80.57 192 ⇑*e*X **P 12 46 44.0 +1.5**
VNA1 Neumayer--Stat 82.13 176 *e*P **P 12 46 49.4 -1.4**
VNA1 *e* 12 46 55.3
VNA1 *e* 12 47 00.4
VNA1 *e* 12 47 04.2
VNA1 *e* 12 50 12.4
VNA1 *e* 12 50 22.3
VNA1 *e* 12 50 26.5
VNA1 *e*S S 12 57 04.3 +0.7
FALS False Pass 82.44 8 *e*P **P 12 46 51.8 -0.5**
SSE Sheshan 82.97 310 *e*P **P 12 46 56.1 +1.0**
SSE AP pP 12 47 06.0 +1.4
SSE XP sP 12 47 10.0 +2.0
SSE PP PP 12 50 06.3 +0.4
SSE S S 12 57 12.6 +0.5
SSE XS sS 12 57 28.9 +1.1
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,70nm,11.1s
SSE LR LR
comp=N,40nm,37.4s,MS3.8
SSE LR LR
comp=E,60nm,37.6s,MS3.8
SSE LR LR
comp=Z,100nm,37.1s,MS3.9
OHCM Honcut 83.71 40 *e*P **P 12 46 58.6 -0.4**
PLCA Paso Flores 83.78 133 P **P 12 46 57.8 -1.4**
comp=Z,4.1nm,1.0s,mb4.5,baz=215,slow=7.2,SNR=7.0
WDC Whiskeytown Da 83.97 38 *e*P **P 12 47 00.3 0.0**
WDC *e**PP pP 12 47 09.4 -0.4
WDC pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WDC Whiskeytown Da 83.97 38 *e*P **P 12 47 00.3 0.0**
comp=Z,7.7nm,0.9s,mb4.8
WDC *e*pP pP 12 47 09.4 -0.4
NVAR Mina Array Bea 84.97 42 P **P 12 47 05.3 0.0**
comp=Z,3.2nm,0.8s,mb4.5,baz=208,slow=7.0,SNR=15
NJ2 Nanjing 85.13 310 *e*P **P 12 47 06.5 +0.4**
NJ2 AP pP 12 47 14.6 -1.0
NJ2 XP sP 12 47 16.4 -2.7
NJ2 SKS 12 57 22.0
NJ2 S 12 57 32.0
NJ2 XS sS 12 57 43.0 -6.6
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,100nm,11.7s
NJ2 LR LR
comp=N,340nm,33.3s,MS4.7
NJ2 LR LR
comp=E,410nm,33.1s,MS4.7
NJ2 LR LR
comp=Z,350nm,32.8s,MS4.5
TUC Tucson 86.07 51 *e*P **P 12 47 11.5 +0.7**
TUC pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
TUC Tucson 86.07 51 *e*P **P 12 47 11.5 +0.7**
comp=Z,7.8nm,1.2s,mb4.8
PSI Prapat 86.41 275 LR LR 13 27 22.2
comp=Z,316nm,18.4s,MS4.8,baz=165,slow=37
MDJ Mudanjiang 86.69 325 P **P 12 47 14.4 +0.5**
MDJ AMB AMB
comp=Z,40nm,4.0s
WHN Wuhan 87.44 306 *e*P **P 12 47 19.5 +2.0**
CN2 Changchun 88.35 322 *e*P **P 12 47 23.4 +1.6**
CN2 *e*AP pP 12 47 34.5 +3.1
CN2 *e*S 12 58 04.4
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb5.0
CN2 LR LR
comp=N,200nm,18.0s,MS4.7
CN2 LR LR
comp=E,200nm,18.0s,MS4.7
CN2 LR LR
comp=Z,200nm,18.0s,MS4.6
MSU Marysvale 88.78 45 *e*P **P 12 47 24.2 +0.3**
KLR Kul'dur 88.89 329 *e*P **P 12 47 22.6 -1.8**
MNTX Cornudas Mount 89.53 54 *e*P **P 12 47 29.6 +2.2**
TMUT Trail Mountain 89.86 45 *e*P **P 12 47 29.5 +0.6**
SLKM Skilak Lake 89.94 13 *e*P **P 12 47 28.9 -0.4**
ANMO Albuquerque 90.53 51 *e*P **P 12 47 31.5 -0.5**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 90.53 51 *e*P **P 12 47 31.5 -0.5**
comp=Z,2.1nm,0.9s,mb4.5
GDL2 Guadalupe Moun 90.53 54 *e*P **P 12 47 31.8 -0.2**
MCMT McKenzie Canyo 92.16 40 *e*P **P 12 47 39.8 +0.2**
SMCO Snowmass 92.50 47 *e*P **P 12 47 40.3 -0.9**
DLMT Dillon 92.62 39 *e*P **P 12 47 41.0 -0.7**
comp=Z,4.8nm,1.0s,mb4.9
IMW Indian Meadow 92.71 41 *e*P **P 12 47 42.4 +0.2**
PDAR Pinedale Array 92.88 43 P **P 12 47 42.5 -0.4**
comp=Z,1.3nm,0.8s,mb4.4,baz=251,slow=1.9,SNR=11
PDAR LR LR 13 23 49.8
comp=Z,129nm,18.4s,MS4.4,baz=253,slow=32
FLWY Flagg Ranch 92.96 41 *e*P **P 12 47 43.6 +0.4**
QLMT Earthquake Lak 92.97 40 *e*P **P 12 47 44.1 +0.8**
BOZ Bozeman (W) 93.34 40 *e*P **P 12 47 44.8 -0.2**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
BOZ Bozeman (W) 93.34 40 *e*P **P 12 47 44.8 -0.3**
comp=Z,2.9nm,0.8s,mb4.8
KMI Kunming 93.52 296 P **P 12 47 47.3 +1.4**
KMI AP pP 12 47 55.3 -0.1
KMI XP sP 12 47 58.8 0.0
KMI PP PP 12 51 32.8 +2.3
KMI PPP 12 53 34.9
KMI SKS 12 58 15.4
KMI S 12 58 49.4
KMI XS sS 12 59 04.1 -4.0
KMI SS SS 13 05 09.8 +0.3
KMI SSS 13 08 47.8
KMI AMB AMB
comp=Z,20nm,3.1s
KMI LR LR
comp=Z,60nm,23.1s,MS4.0
CD2 Chengdu 95.45 302 *e*P **P 12 47 54.9 +0.2**
CD2 XP sP 12 48 06.1 -1.6
CD2 PP PP 12 51 48.5 +2.9
CD2 SKS 12 58 27.9
CD2 S 12 59 07.1
CD2 XS sS 12 59 20.6 -4.4
CD2 SS SS 13 05 39.8 +2.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 LR LR
comp=N,130nm,16.0s
CD2 LR LR
comp=Z,110nm,14.2s,MS4.5
RSSD Black Hills 96.99 44 *e*P **P 12 48 01.1 -0.6**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
RSSD Black Hills 96.99 44 *e*P **P 12 48 01.1 -0.6**
comp=Z,4.3nm,0.8s,mb4.9
LZH Lanzhou 97.82 306 *e*P **P 12 48 06.4 +0.9**
LZH AP pP 12 48 14.4 -0.6
LZH XP sP 12 48 17.6 -0.8
LZH PP PP 12 52 07.8 +4.0
LZH AMB AMB
comp=Z,20nm,1.4s,mb5.5
LPAZ La Paz 98.26 113 LR LR 13 25 09.6
comp=Z,91nm,20.0s,MS4.3,baz=178,slow=31
WMQ Urumqi 112.20 309 *e*PKP PKiKP 12 53 03.5 -2.1
MKAR Makanchi Array 116.64 311 PKP PKPdf 12 53 12.7 -1.4
comp=Z,0.4nm,0.3s,baz=158,slow=0.7,SNR=5.7
FFD Franklin Falls 118.53 53 *e*PKPdf PKPdf 12 53 18.0 +0.2
ZRNK Zerenda 125.77 317 *e*PKIKP PKPdf 12 53 31.0 -0.6
ARCES ARCESS Array B 135.66 349 PKP PKPdf 12 53 48.9 -1.5
comp=Z,2.9nm,0.8s,baz=90,slow=1.2,SNR=5.6
JOF Joensuu 139.82 341 *e*pkp PKPdf 12 53 56.9 -1.1
KAF Kangasniemi 141.87 343 *e*pkp PKPdf 12 54 00.3 -1.4
FINES FINESS Array B 142.49 342 PKhKP 12 53 57.3
comp=Z,1.7nm,0.7s,baz=48,slow=2.8,SNR=6.6
NB2 NORSAR Subarra 145.70 353 PKPa PKPbc 12 54 07.4 -1.4
comp=Z,2.3nm,0.8s,baz=9.5,slow=3.0
NOA NORSAR Array B 145.70 353 PKPbc PKPbc 12 54 07.5 -1.3
comp=Z,4.4nm,0.8s,baz=13,slow=4.4,SNR=12
NOA NORSAR Array B 145.70 353 PKP2 PKPab 12 54 07.5 -1.7
NOA pmax pmax
comp=Z,4.0nm,0.8s
NAO01 NORSAR Array S 145.93 354 *e*PKPdf PKPdf 12 54 09.4 +0.6
KONO Kongsberg 147.23 354 *e*PKP2 PKPab 12 54 13.1 -1.9
AKASG Malin Array Be 149.38 327 PKPbc PKPbc 12 54 17.9 -1.1
comp=Z,4.9nm,0.7s,baz=40,slow=3.4,SNR=28
AKASG Malin Array Be 149.38 327 PKP2 PKPbc 12 54 17.9 -1.0
AKASG pmax pmax
comp=Z,5.0nm,0.7s
BR131 Keskin Array S 152.00 304 *e*PKPab PKPab 12 54 34.6 +0.1
BRTR Keskin Array B 152.00 304 PKPbc PKPbc 12 54 23.8 -1.4
comp=Z,0.9nm,0.7s,baz=93,slow=2.5,SNR=5.0
BRTR PKPab PKPab 12 54 35.4 +0.8
comp=Z,2.5nm,0.7s,baz=104,slow=3.7,SNR=8.3
BRTR Keskin Array B 152.00 304 PKIKP PKPbc 12 54 23.8 -1.3
BRTR 12 54 35.4
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR pmax pmax
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 156.69 343 *e*PKPAB PKPab 12 54 56.5 +2.0
GERES GERESS Array B 156.92 343 PKPab PKPab 12 54 55.8 +0.4
comp=Z,0.2nm,0.2s,baz=1.9,slow=4.0,SNR=4.2
DBIC Dimbokro 158.16 157 PKP PKPdf 12 54 27.4 +0.4
comp=Z,7.5nm,1.0s,baz=172,slow=5.0,SNR=3.0
TORD Torodi Ar. Bea 165.98 173 PKP PKPdf 12 54 33.7 -1.2
comp=Z,0.8nm,0.7s,baz=306,slow=1.2,SNR=3.9
TORD PKPab PKPab 12 55 34.3 -0.8
comp=Z,5.5nm,0.8s,baz=185,slow=4.3,SNR=18

*ISCJB **16** 13:08:34.7±0.5, 4000N±002×2329E±004, h3km±8km, Error ellipse: s-maj=5.3km s-min=3.5km az=2.1*
*NEIC **16** 13:08:35.9, 3998N×2336E, h11km, MD3.0(ATH), After ATH.*
*ATH **16** 13:08:35.9, 3998N×2336E, h11km±7km, MD3.0/3*
*THE **16** 13:08:35.2, 3998N×2327E, h2km, ML2.5*
*CSEM **16** 13:08:35.9, 3998N×2336E, h11km, MD3.0/3, After ATH*
ISC 16 13:08:35.5±0.4, 3999N±002×2329E±004, h5km±10km, n14, σ0°92/23, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.31**	**101**	*e*Pg	**Pg**	**13 08 41.0**	**-0.4**
PLG	**Polygyros**	**0.41**	**17**	⇑*i*PB	**Pg**	**13 08 42.7**	**-0.6**
PLG				*e*SB	**Sg**	**13 08 48.8**	**+0.2**
LIT	**Litokhoron**	**0.62**	**281**	*e*Pg	**Pg**	**13 08 47.2**	**-0.2**
LIT				*e*Sg	**Sg**	**13 08 54.9**	**-0.5**
XOR	**Xorichti**	**0.62**	**187**	*e*Pg	**Pg**	**13 08 47.0**	**-0.4**
XOR				*e*Sg	**Sg**	**13 08 56.6**	**+1.1**
OUR	**Ouranopolis**	**0.64**	**57**	*e*Pg	**Pg**	**13 08 47.1**	**-0.5**
OUR				*e*Sg	**Sg**	**13 08 58.0**	**+2.0**
NEO	**Neokhori**	**0.68**	**184**	*e*PG	**Pg**	**13 08 48.9**	**+0.4**
NEO				*e*SB	**Sb**	**13 08 58.5**	**-0.9**
SOH	**Sokhos**	**0.84**	**4**	*e*Pg	**Pg**	**13 08 50.9**	**-0.7**
AOS	**Alonnisos**	**0.94**	**150**	*e*Pg	**Pg**	**13 08 52.1**	**-1.3**
AOS				*e*Sg	**Sg**	**13 09 05.5**	**0.0**
GRG	**Griva**	**1.18**	**325**	*e*Pg	**Pg**	**13 08 56.7**	**-1.4**
GRG				*e*Sg	**Sg**	**13 09 13.8**	**+0.3**
KNT	**Kendrikon**	**1.21**	**346**	*e*Pg	**Pg**	**13 08 58.0**	**-0.6**
KNT				*e*Sg	**Sg**	**13 09 16.2**	**+1.9**
AGG	**Agios Georgios**	**1.21**	**218**	*e*Pg	**Pg**	**13 08 57.8**	**-0.9**
AGG				*e*Sg	**Sg**	**13 09 16.0**	**+1.5**
LKR	**Lokris**	**1.35**	**190**	*e*PB	**Pb**	**13 09 01.8**	**+0.6**
NVR	**Nevrokopi**	**1.43**	**18**	*e*PB	**Pb**	**13 09 02.6**	**0.0**
EVR	**Evrytania**	**1.56**	**227**	*e*PB	**Pb**	**13 09 06.0**	**+1.2**

SKHL 16 13:13:35.5±0.9, 4870N×14221E, h10km, mb4.0/3, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**0.39**	**346**	*i* Pg	Pg	13 13 43.9	+0.7
UGL				*e*Pg	Pg	13 13 44.0	+0.8
UGL				AMB	AMB	13 13 44.5	
	300nm,0.2s						
UGL				*e*Sg	Sg	13 13 49.8	+1.4
UGL				A		13 13 51.0	
	2μm,0.5s						
UGL				A		13 13 51.0	
	2μm,0.5s						
UGL				A		13 13 51.0	
	930nm,0.5s						
UGL				A		13 13 51.0	
	7μm,0.3s						
UGL				A		13 13 51.0	
	5μm,0.3s						
UGL				A		13 13 51.0	
	3μm,0.2s						
YSS	**Yuzh-Sakhalins**	**1.79**	**168**	*e*Pg	Pg	13 14 09.8	+0.1
YSS				AMB	AMB	13 14 10.0	
	50nm,0.6s						
YSS				AMB	AMB	13 14 10.0	
	70nm,0.6s						
YSS				*i* Sg	Sg	13 14 36.0	+3.1
YSS				A		13 14 37.5	
	50nm,0.9s						
TYV	**Tymovskoe**	**2.19**	**7**	*e*P	Pn	13 14 15.0	+3.1
TYV				AMB	AMB	13 14 15.8	
	5.0nm,0.7s						
TYV				AMB	AMB	13 14 15.8	
	9.0nm,0.7s						
TYV				*e*Pb	Pb	13 14 19.0	+3.9
TYV				*e*Pg	Pg	13 14 21.0	+3.6
TYV				*e*Sg	Sg	13 14 48.2	+2.5
TYV				A		13 14 50.0	
	13nm,0.8s						
TYV				A		13 14 50.0	
	31nm,0.8s						
GRNR	**Gornyy**	**4.29**	**301**	*e*Pb	Pb	13 14 51.0	+0.1
GRNR				*e*Pg	Pg	13 15 00.5	+2.9

*IDC **16** 13:16:46.4±1.5, 860N×12699E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=112.7km s-min=19.7km az=72.0*
*ISCJB **16** 13:16:48.5±1.2, 840N±004×12690E±005, h8km±7km, mb3.8/8, Error ellipse: s-maj=8.2km s-min=6.5km az=129.7*
*MAN **16** 13:16:49.0, 839N×12695E, h7km, mb3.8, ML4.8, MS7.3*
MAN F BISLIG SURIGAO DEL SUR - INTENSITY II.
*NEIC **16** 13:16:48.1±0.8, 861N×12686E, h10km, mb4.4/3, Error ellipse: s-maj=25.5km s-min=11.5km az=76.0*
NEIC Felt [II PIVS] at Bislig.
ISC 16 13:16:48.6±1.2, 844N±004×12686E±005, h0km±6km, n27, σ1°30/36, mb3.9/8, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.56**	**243**	⇑*i*P	**Pg**	**13 17 00.3**	**+1.0**
BIPH				*i* S	**Sg**	**13 17 06.3**	**-0.2**
BUTP	**Butuan**	**1.34**	**293**	*e*P	**Pg**	**13 17 13.9**	**-0.4**
BUTP				*e*S	**Sg**	**13 17 27.9**	**-3.7**
MATI	**Mati**	**1.60**	**202**	*e*P	**Pn**	**13 17 16.6**	**-1.5**
DAV	**Davao City (W)**	**1.86**	**223**	P	**Pn**	**13 17 21.6**	**-0.1**
BUKP	**Musuan**	**1.87**	**253**	*e*P	**Pn**	**13 17 22.5**	**+0.7**
BUKP				*e*S	**Sn**	**13 17 46.5**	**+0.4**
SCPH	**Surigao**	**1.90**	**315**	*e*P	**Pn**	**13 17 22.8**	**+0.5**
SCPH				*e*S	**Sn**	**13 17 47.7**	**+0.7**
CGP	**Cagayan de Oro**	**2.15**	**271**	⇑*e*P	**Pn**	**13 17 14.7**	**-11**
CGP				*i* S	**Sn**	**13 17 51.0**	**-1.9**
KCP	**Kidapawan**	**2.26**	**231**	⇑*i*P	**Pn**	**13 17 28.3**	**+1.1**
KCP				*i* S	**Sn**	**13 17 56.0**	**+0.2**
MSLP	**Maasin**	**2.60**	**311**	*e*P	**Pn**	**13 17 33.7**	**+1.8**
TBP	**Tagbilaran**	**3.21**	**293**	*e*P	**Pg**	**13 17 49.5**	**-0.8**
TBP				*e*S	**Sg**	**13 18 29.7**	**-2.2**
PLP	**Palo**	**3.28**	**326**	*e*P	**Pn**	**13 17 42.4**	**+1.1**
PLP				*e*S	**Sn**	**13 18 25.3**	**+4.3**
LLP	**Lapu-Lapu**	**3.41**	**303**	||*e*P	**Pn**	**13 17 45.5**	**+2.4**
LLP				*e*S	**Sn**	**13 18 23.4**	**-0.8**
OCLP	**Ormoc**	**3.42**	**320**	*e*P	**Pn**	**13 17 42.6**	**-0.6**
DCPH	**Dipolog City**	**3.48**	**273**	⇑*e*P	**Pn**	**13 17 44.9**	**+0.9**
PAGZ	**Pagadian**	**3.50**	**261**	*e*P	**Pn**	**13 17 46.4**	**+2.1**
GUIM	**Jordan**	**4.74**	**298**	*e*P	**Pn**	**13 18 01.7**	**+0.4**
PVCP	**Virac**	**5.77**	**333**	*e*P	**Pn**	**13 18 25.0**	**+9.5**
OTRP	**Odiongan**	**6.15**	**310**	*e*P	**Pn**	**13 18 24.3**	**+3.6**
KAKA	**Kakadu**	**21.73**	**165**	*e*P	**P**	**13 21 42.0**	**+0.6**
	6.6nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**26.40**	**183**	*e*P	**P**	**13 22 27.8**	**+1.1**
	4.7nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**26.40**	**183**	P	**P**	**13 22 26.4**	**-0.3**
	2.4nm,0.6s,mb4.0,baz=39,slow=4.4,SNR=13						
WRA	**Warramunga Arr**	**29.15**	**165**	P	**P**	**13 22 49.5**	**-1.8**
	0.5nm,0.9s,mb3.4,baz=348,slow=9.2,SNR=4.1						
ASAR	**Alice Springs**	**32.64**	**168**	P	**P**	**13 23 21.2**	**-1.0**
	0.2nm,0.4s,mb3.4,baz=346,slow=7.0,SNR=11						
STKA	**Stephens Creek**	**42.49**	**161**	P	**P**	**13 24 45.6**	**+0.1**
	1.3nm,0.8s,mb3.7,baz=342,slow=15,SNR=3.2						
SONM	**Songino Array**	**42.93**	**340**	P	**P**	**13 24 46.3**	**-2.8**
	0.3nm,0.3s,mb3.5,baz=161,slow=9.3,SNR=3.8						
MKAR	**Makanchi Array**	**53.83**	**323**	P	**P**	**13 26 10.3**	**-2.9**
	0.3nm,0.4s,mb3.7,baz=120,slow=8.3,SNR=4.9						
ZRNK	**Zerenda**	**64.24**	**325**	*e*P	**P**	**13 27 22.0**	**-3.5**
	3.1nm,0.6s,mb4.7						

*NIED **16** 13:31:00, 4040N×14370E, h11km, Mw3.9 Best double couple: M0 7.58000×10^14 NP1:φ0=39.00000°, δ74.00000°, λ119.00000°. NP2:φ0=156.00000°, δ32.00000°, λ30.00000°.*
*IDC **16** 13:31:41.8±3.6, 4031N×14399E, h0km, mb3.9/7, mb1 3.8/9, mb1mx3.7/22, mbtmp3.8/9, ML3.2/2, Error ellipse: s-maj=75.5km s-min=34.9km az=121.0*
*ISCJB **16** 13:31:42.3±0.7, 4039N±004×14381E±008, h10km, mb3.8/8, Error ellipse: s-maj=9.8km s-min=3.5km az=61.0*
*MOS **16** 13:31:42.8±1.0, 4021N×14423E, h33km, mb4.4/1, Error ellipse: s-maj=20.3km s-min=12.2km az=81.8*
*NEIC **16** 13:31:43.8±2.2, 4035N×14391E, h10km, mb4.2/1, Error ellipse: s-maj=48.6km s-min=11.5km az=115.0*
*JMA **16** 13:31:44.5±0.2, 4039N×14369E, h20km, M3.5*
ISC 16 13:31:43.7±0.7, 4041N±004×14378E±008, h10km, n32, σ1°07/41, mb3.8/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.54**	**253**	P	**Pn**	**13 32 10.2**	**-1.0**
JTH				*e*S	**Sn**	**13 32 28.5**	**-2.8**
JEM	**Erimo**	**1.67**	**344**	P	**Pn**	**13 32 13.4**	**+0.4**
MIYJ	**Miyakonagasawa**	**1.72**	**242**	P	**Pn**	**13 32 13.3**	**-0.3**
MIYJ				*e*S	**Sn**	**13 32 34.4**	**-1.3**
JANG	**Nango**	**1.73**	**270**	P	**Pn**	**13 32 13.3**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.02**	**338**	P	**Pn**	**13 32 18.6**	**+0.8**
JOM	**Ohasama**	**2.13**	**245**	P	**Pn**	**13 32 19.2**	**-0.1**
JCH	**Churui**	**2.23**	**352**	*e*S	**Sn**	**13 32 47.2**	**-0.9**
JOT	**Ohata**	**2.29**	**296**	P	**Pn**	**13 32 21.8**	**+0.3**
JMK	**Ichinoseki**	**2.46**	**234**	P	**Pn**	**13 32 23.6**	**-0.1**
JMK				*e*S	**Sn**	**13 32 51.4**	**-2.4**
JKB	**Kayabe**	**2.55**	**306**	P	**Pn**	**13 32 26.0**	**+1.0**
JAK	**Akkeshi**	**2.67**	**15**	P	**Pn**	**13 32 27.2**	**+0.4**
JAK				*e*S	**Sn**	**13 32 58.3**	**-0.9**
JAR	**Ashorobuto**	**2.89**	**360**	P	**Pn**	**13 32 29.8**	**+0.1**
JAR				S	**Sn**	**13 33 02.9**	**-1.5**
JFR	**Furan**	**2.89**	**343**	*e*S	**Sn**	**13 33 05.1**	**+0.5**
JEW	**Eniwo**	**2.99**	**325**	*e*S	**Sn**	**13 33 08.9**	**+1.8**
JYK	**Kaneyama**	**3.03**	**242**	P	**Pn**	**13 32 32.0**	**+0.3**
ASAJ	**Asahikawa**	**3.81**	**347**	Pn	**Pn**	**13 32 43.9**	**+1.6**
	1.5nm,0.3s,baz=224,slow=7.7,SNR=14						
ASAJ				Sn	**Sn**	**13 33 24.7**	**-2.5**
	1.6nm,0.3s,baz=15,slow=23,SNR=5.3						
ASAJ	**Asahikawa**	**3.81**	**347**	P	**Pn**	**13 32 43.9**	**+1.6**
ASAJ						13 33 24.7	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.94**	**22**	*e*P	**Pn**	**13 32 44.3**	**+0.2**
YUK				*e*S	**Sn**	**13 33 29.5**	**-0.9**
YUK				smax			
	comp=N,350nm,0.4s						
YUK				smax			
	comp=E,200nm,0.5s						
KUR	**Kuril'sk**	**5.68**	**31**	P	**Pn**	**13 33 05.6**	**-2.5**
KUR				*e*S	**Sn**	**13 34 07.8**	**-5.5**
KUR				smax			
	comp=N,80nm,0.5s						
KUR				smax			
	comp=E,100nm,0.5s						
MJAR	**Matsushiro Arr**	**5.83**	**230**	Pn	**Pn**	**13 33 10.8**	**+0.6**
	comp=E,0.3nm,0.3s,baz=41,slow=12,SNR=12						
MAT	**Matsushiro**	**5.83**	**230**	P	**Pn**	**13 33 10.9**	**+0.7**
MAT				S	**Sn**	**13 34 17.3**	**+0.2**
MAT	**Matsushiro**	**5.83**	**230**	*e*P	**Pn**	**13 33 11.0**	**+0.8**
MAT				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAT	**Matsushiro**	**5.83**	**230**	*e*P	**Pn**	**13 33 11.0**	**+0.8**
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**27.64**	**298**	P	**P**	**13 37 32.3**	**+0.9**
	comp=Z,0.6nm,0.3s,mb3.8,baz=98,slow=9.6,SNR=4.2						
ZAL	**Zalesovo**	**41.12**	**310**	P	**P**	**13 39 29.6**	**+1.8**
	comp=Z,1.2nm,0.5s,mb3.8,baz=29,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**43.98**	**300**	P	**P**	**13 39 51.5**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.7,baz=82,slow=9.9,SNR=7.6						
CHKZ	**Chkalovo**	**49.42**	**311**	*e*P	**P**	**13 40 41.3**	**+7.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**49.42**	**311**	*e*P	**P**	**13 40 41.3**	**+7.6**
	comp=Z,1.9nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**49.73**	**311**	P	**P**	**13 40 36.7**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.7,baz=97,slow=6.7,SNR=2.6						
FINES	**FINESS Array B**	**66.69**	**332**	P	**P**	**13 42 35.1**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=86,slow=7.1,SNR=4.6						

NOA NORSAR Array B 71.78 338 P P 13 43 06.5 +0.2
comp=Z,0.3nm,0.7s,mb3.3,baz=22,slow=18,SNR=2.8
AKASG Malin Array Be 72.75 323 P P 13 43 12.6 +0.5
comp=Z,0.5nm,0.5s,mb3.8,baz=45,slow=5.6,SNR=6.4

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*IDC **16** 13:44:50.4±1.6, 858N×12690E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=131.1km s-min=18.8km az=74.0*
*ISCJB **16** 13:44:53.8±0.8, 844N±005×12709E±006, h33km, mb3.6/6, Error ellipse: s-maj=9.6km s-min=6.4km az=115.9*
ISC 16 13:44:55.9±0.8, 847N±006×12704E±007, h35km, n20, σ1§50/26, mb3.6/6, 1C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.73**	**247**	⇓*iP*	**Pn**	**13 45 05.0**	**-4.7**
BIPH				*i* S	**Sn**	**13 45 10.7**	**-8.9**
BUTP	**Butuan**	**1.49**	**290**	*e*P	**Pn**	**13 45 18.7**	**-1.5**
BUTP				*e*S	**Sn**	**13 45 36.0**	**-2.3**
MATI	**Mati**	**1.70**	**207**	*e*P	**Pn**	**13 45 21.2**	**-1.8**
MATI				*e*S	**Sn**	**13 45 39.5**	**-4.1**
SCPH	**Surigao**	**2.01**	**310**	*e*P	**Pn**	**13 45 27.8**	**+0.4**
SCPH				*e*S	**Sn**	**13 45 53.8**	**+2.5**
BUKP	**Musuan**	**2.05**	**253**	*e*P	**Pn**	**13 45 27.1**	**-0.6**
BUKP				*e*S	**Sn**	**13 45 52.1**	**0.0**
KCP	**Kidapawan**	**2.42**	**233**	⇑*iP*	**Pn**	**13 45 33.8**	**+0.9**
KCP				*i* S	**Sn**	**13 46 13.2**	**+12**
MSLP	**Maasin**	**2.72**	**308**	*e*P	**Pn**	**13 45 38.5**	**+1.5**
TBP	**Tagbilaran**	**3.37**	**291**	*e*P	**Pn**	**13 45 54.6**	**+8.7**
OCLP	**Ormoc**	**3.51**	**317**	*e*P	**Pn**	**13 45 37.5**	**-10**
LLP	**Lapu-Lapu**	**3.55**	**301**	⇓*e*P	**Pn**	**13 45 49.6**	**+1.2**
LLP				*e*S	**Sn**	**13 46 30.3**	**+1.2**
PAGZ	**Pagadian**	**3.68**	**261**	*e*P	**Pn**	**13 45 51.8**	**+1.6**
GUIM	**Jordan**	**4.89**	**296**	*e*P	**Pn**	**13 46 04.4**	**-2.4**
FITZ	**Fitzroy Crossi**	**26.44**	**183**	*e*P	**P**	**13 50 31.4**	**+2.0**
	4.6nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**26.44**	**183**	P	**P**	**13 50 30.2**	**+0.8**
	4.1nm,0.8s,mb4.0,baz=348,slow=10,SNR=7.7						
WRA	**Warramunga Arr**	**29.13**	**166**	P	**P**	**13 50 55.7**	**+2.3**
	0.3nm,0.9s,mb3.0,baz=346,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**32.63**	**168**	P	**P**	**13 51 24.2**	**-0.1**
	0.3nm,0.4s,mb3.6,baz=347,slow=7.4,SNR=8.4						
PBA	**Port Blair**	**33.91**	**278**	⇓*e*P	x	13 51 21.9	
PBA				*e*S	x	13 51 29.6	
PBA				*e*x	x	13 51 30.3	
	comp=N,481nm,0.2s						
PBA				*e*x	x	13 51 30.8	
	comp=E,695nm,0.5s						
SONM	**Songino Array**	**42.96**	**340**	P	**P**	**13 52 50.6**	**-0.9**
	comp=E,0.3nm,0.4s,mb3.4,baz=161,slow=9.7,SNR=3.5						
MKAR	**Makanchi Array**	**53.91**	**323**	P	**P**	**13 54 14.8**	**-1.0**
	comp=E,0.5nm,0.5s,mb3.7,baz=123,slow=8.6,SNR=4.3						
FINES	**FINESS Array B**	**87.83**	**332**	P	**P**	**13 57 39.2**	**-2.3**
	comp=E,0.9nm,0.9s,mb4.0,baz=57,slow=7.0,SNR=4.1						

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*IDC **16** 13:59:37.9±4.8, 1990N×12198E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=382.3km s-min=26.4km az=61.0*
*ISCJB **16** 13:59:38.1±1.5, 198N±0.1×1218E±03, h10km, mb3.4/3, Error ellipse: s-maj=47.0km s-min=17.8km az=157.7*
*MAN **16** 14:00:00.4, 18.10N×12069E, h9km, MS1.6*
ISC 16 13:59:40.3±1.6, 197N±02×1216E±04, h10km, n8, σ0§38/8, mb3.4/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.89**	**190**	*e*P	**Pn**	**14 00 12.1**	**-0.4**
CVP	**Callao Caves**	**2.02**	**174**	*e*P	**Pn**	**14 00 20.0**	**+5.5**
ABRA	**Dolores**	**2.23**	**202**	*e*P	**Pn**	**14 00 09.4**	**-7.9**
CAUP	**Cauayan**	**2.78**	**176**	*e*P	**Pn**	**14 00 29.6**	**+4.8**
BALP	**Baler**	**3.96**	**180**	*e*P	**Pn**	**14 00 41.7**	**+0.6**
WRA	**Warramunga Arr**	**41.35**	**162**	P	**P**	**14 07 26.1**	**-0.2**
	0.6nm,0.7s,mb3.4,baz=343,slow=8.7,SNR=5.0						
MKAR	**Makanchi Array**	**41.88**	**319**	P	**P**	**14 07 30.7**	**+0.1**
	0.7nm,0.7s,mb3.4,baz=116,slow=9.8,SNR=6.6						
ASAR	**Alice Springs**	**44.77**	**164**	P	**P**	**14 07 54.0**	**0.0**
	0.4nm,0.5s,mb3.5,baz=344,slow=6.8,SNR=17						

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*IDC **16** 14:11:21.9±1.1, 786S×15597E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.9/14, mbtmp4.0/6, ML4.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/20, Error ellipse: s-maj=27.4km s-min=26.0km az=168.0*
*NEIC **16** 14:11:22.4±0.8, 797S×15608E, h10km, mb4.4/4, Error ellipse: s-maj=21.3km s-min=16.7km az=167.0*
*ISCJB **16** 14:11:24.6±0.7, 79S±0.1×15594E±007, h33km, mb4.0/9, Error ellipse: s-maj=18.2km s-min=9.1km az=20.8*
ISC 16 14:11:26.8±0.7, 79S±01×15593E±007, h35km, n13, σ1§47/15, mb4.0/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.25**	**111**	Pn	**Pn**	**14 12 28.2**	**-0.7**
	16nm,0.3s,baz=267,slow=5.5,SNR=7.8						
HNR				Sn	**Sn**	**14 13 18.6**	**+1.4**
	25nm,0.3s,baz=273,slow=19,SNR=3.5						
HNR				LR	LR	14 13 52.5	
	comp=Z,158nm,21.4s,baz=355,slow=36						
HNR	**Honiara**	**4.25**	**111**	*e*Pn	**Pn**	**14 12 25.9**	**-3.0**
HNR				Sn	**Sn**	**14 13 18.6**	**+1.4**
HNR				LR	LR	14 13 52.5	
WB2	**Warramunga Arr**	**24.08**	**238**	*e*P	**P**	**14 16 40.8**	**+1.9**
WRA	**Warramunga Arr**	**24.09**	**238**	P	**P**	**14 16 41.3**	**+2.3**
	2.4nm,0.6s,mb3.8,baz=61,slow=9.3,SNR=26						
WRA				PcP	PcP	14 20 20.8	+1.2
	0.6nm,0.5s,baz=62,slow=2.7,SNR=6.6						
ASAR	**Alice Springs**	**26.29**	**231**	P	**P**	**14 16 59.8**	**+0.8**
	0.5nm,0.8s,mb3.1,baz=59,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**27.33**	**207**	P	**P**	**14 17 07.4**	**-0.9**
	1.6nm,0.7s,mb3.6,baz=42,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**27.33**	**207**	*e*P	**P**	**14 17 06.3**	**-1.9**
MBWA	**Marble Bar**	**37.33**	**245**	*e*P	**P**	**14 18 34.7**	**-1.0**
	4.0nm,1.1s,mb4.2						
NWAO	**Narrogin (SRO)**	**43.60**	**230**	P	**P**	**14 19 26.0**	**-1.5**
	15nm,1.2s,mb4.6						
SONM	**Songino Array**	**70.61**	**327**	P	**P**	**14 22 39.7**	**+1.3**
	0.6nm,0.4s,mb3.9,baz=140,slow=6.3,SNR=5.4						
BILL	**Bilibino**	**76.12**	**4**	*e*P	**P**	**14 23 09.1**	**-1.8**
	3.7nm,1.0s,mb4.3						
QSPA	**South Pole Qui**	**82.07**	**180**	*e*P	**P**	**14 23 42.1**	**-1.4**
	3.1nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**84.70**	**319**	P	**P**	**14 23 57.8**	**+0.8**
	1.6nm,0.8s,mb4.2,baz=102,slow=6.0,SNR=8.9						

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*NIED **16** 14:21:00, 34.70N×140.60E, h47km, Mw4.5 Best double couple: M0=5.52000×10^15 NP1:φs=349.00000°, δ69.00000°, λ88.00000°. NP2:φs=176.00000°, δ21.00000°, λ96.00000°.*
*MOS **16** 14:21:17.3±1.0, 3455N×14048E, h33km, mb4.7/15, Error ellipse: s-maj=12.9km s-min=6.5km az=114.8*
*JMA **16** 14:21:19.5±0.1, 3473N×14065E, h54km±2km, M4.6 Broadband fault plane solution: P waves. NP1: φs=173.00000°, δ28.00000°, λ79.00000°. NP2:φs=5.00000°, δ62.00000°, λ96.00000°. Principal axes: T Plg72.0000°, Azm288.0000°; N Plg5.0000°, Azm183.0000°; P Plg17.0000°, Azm91.0000°;*
JMA Felt II J1.
*ISCJB **16** 14:21:19.6±0.4, 3463N±003×14053E±004, h54km±3km, mb4.7/53, MS3.7/5 Error ellipse: s-maj=6.0km s-min=5.1km az=158.2*
*BJI **16** 14:21:20.9, 3460N×14040E, h47km, mB4.7, mb4.6, Ms3.7, Msz3.4*
*NEIC **16** 14:21:20.9±0.9, 3462N×14039E, h48km±7km, mb4.9/20, MW4.4(NIED), Error ellipse: s-maj=7.8km s-min=5.2km az=98.0*
NEIC Recorded [2 JMA] in Chiba and [1 JMA] in Kanagawa, Shizuoka and Tokyo Prefectures.
*IDC **16** 14:21:21.9±1.7, 3460N×14043E, h56km±13km, mb4.1/18, mb1 4.3/20, mb1mx4.2/25, mbtmp4.4/20, MS3.4/3, Ms1 3.4/3, ms1mx2.9/20, Error ellipse: s-maj=20.3km s-min=6.5km az=76.0*
ISC 16 14:21:20.6±0.4, 3464N±003×14053E±004, h44km±3km, n127, σ0§94/139, mb4.7/53, MS3.7/5, 9C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.16**	**354**	⇑P	**Pn**	**14 21 27.8**	**-0.3**
BSO1	**Boso 1**	**0.37**	**88**	⇑P	**Pn**	**14 21 28.7**	**-1.3**
BSO4	**Boso 4**	**0.38**	**336**	⇓P	**Pn**	**14 21 30.1**	**0.0**
BSO4				S	**Sn**	**14 21 37.8**	**+1.0**
KTR	**Katsuura**	**0.54**	**341**	⇓P	**Pn**	**14 21 31.3**	**-0.7**
KTR				S	**Sn**	**14 21 39.1**	**-1.0**
TATJ	**Tateyama 2**	**0.66**	**307**	⇓P	**Pn**	**14 21 34.2**	**+0.6**
TATJ				S	**Sn**	**14 21 44.2**	**+1.3**
JIM2	**Oshima 3**	**0.91**	**275**	⇓P	**Pn**	**14 21 37.4**	**+0.4**
JIM2				S	**Sn**	**14 21 49.6**	**+0.7**
JMY	**Miyakejima3**	**1.02**	**236**	P	**Pn**	**14 21 39.9**	**+1.5**
JKO	**Kozu shima**	**1.24**	**249**	⇓P	**Pn**	**14 21 42.7**	**+1.2**
KTJJ	**Kamata 2**	**1.24**	**284**	⇓P	**Pn**	**14 21 41.4**	**-0.1**
KTJJ				S	**Sn**	**14 21 56.2**	**-0.8**
JOD2	**Odawara 2**	**1.34**	**298**	⇓P	**Pn**	**14 21 42.6**	**-0.2**
JOD2				S	**Sn**	**14 21 58.3**	**-1.1**
JIZS	**Izushimoda**	**1.36**	**274**	⇓P	**Pn**	**14 21 43.7**	**+0.5**
JIZS				S	**Sn**	**14 22 00.4**	**+0.3**
JHJ	**Hachijo jima 2**	**1.64**	**202**	P	**Pn**	**14 21 48.4**	**+1.4**
	530nm,0.3s,baz=340,slow=6.6,SNR=207						
JHJ				S	**Sn**	**14 22 06.5**	**-0.4**
	1μm,0.3s,baz=72,slow=20,SNR=9.7						
MJAR	**Matsushiro Arr**	**2.68**	**316**	P	**Pn**	**14 22 00.9**	**-0.3**
	66nm,0.3s,baz=139,slow=5.6,SNR=231						
MJAR				S	**Sn**	**14 22 33.4**	**+1.0**
	79nm,0.3s,baz=148,slow=24,SNR=8.5						
MJAR				LR	LR	14 23 12.0	
	comp=Z,670nm,21.9s,baz=125,slow=42						
MJAR	**Matsushiro Arr**	**2.68**	**316**	P	**Pn**	**14 22 00.9**	**-0.3**
MJAR				S	**Sn**	**14 22 33.4**	**+1.0**
MJAR	**Matsushiro Arr**	**2.68**	**316**	P	**Pn**	**14 22 00.9**	**-0.3**
MJAR				S	**Sn**	**14 22 33.4**	**+1.0**
MJAR				LR	LR	14 23 12.0	
MAJO	**Matsushiro**	**2.68**	**316**	*e*Pn	**Pn**	**14 22 01.2**	**-0.1**
MAJO				*e*Sn	**Sn**	**14 22 17.6**	**-15**
MAT	**Matsushiro**	**2.68**	**316**	P	**Pn**	**14 22 01.4**	**+0.1**
MAT				S	**Sn**	**14 22 28.9**	**-3.6**
MAT	**Matsushiro**	**2.68**	**316**	*e*P	**Pn**	**14 22 01.0**	**-0.3**
MAT				*e*S	**Sn**	**14 22 29.0**	**-3.5**
CBIJ	**Chichi jima**	**7.66**	**169**	P	**Pn**	**14 23 08.8**	**-0.7**
	57nm,0.3s,baz=79,slow=14,SNR=86						
CBIJ				S	**Sn**	**14 24 28.7**	**-6.2**
	64nm,0.3s,baz=262,slow=22,SNR=6.2						
ASAJ	**Asahikawa**	**9.60**	**9**	P	**Pn**	**14 23 32.3**	**-3.8**
	3.3nm,0.3s,baz=209,slow=7.9,SNR=32						
ASAJ				S	**Sn**	**14 25 17.6**	**-5.0**
	2.7nm,0.3s,baz=125,slow=30,SNR=4.3						
ASAJ	**Asahikawa**	**9.60**	**9**	P	**Pn**	**14 23 32.3**	**-3.8**
ASAJ				S	**Sn**	**14 25 17.6**	**-5.0**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
KS15	**Wonju Array Si**	**10.61**	**289**	*e*Pn	**Pn**	**14 23 55.9**	**+5.9**
KS15				*e*		14 24 06.6	
YSS	**Yuzh-Sakhalins**	**12.41**	**7**	P	**Pn**	**14 24 14.3**	**-0.4**
YSS	**Yuzh-Sakhalins**	**12.41**	**7**	*e*P	**Pn**	**14 24 10.5**	**-4.2**
	comp=N,18nm,0.8s						
MDJ	**Mudanjiang**	**13.04**	**323**	P	**Pn**	**14 24 22.6**	**-0.6**
	comp=N,13nm,1.0s						
JOW	**Kunigami**	**13.10**	**237**	LR	LR	14 29 05.6	
	comp=N,128nm,21.7s,baz=231,slow=36						
NJ2	**Nanjing**	**18.29**	**268**	*e*P	**Pn**	**14 25 28.1**	**-2.9**
NJ2				PP		14 25 43.1	
NJ2				PPP		14 25 52.8	
NJ2				S	**S**	**14 28 42.0**	**-16**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
NJ2				LR	LR		
	comp=N,220nm,18.1s						
NJ2				LR	LR		
	comp=E,290nm,20.0s						
NJ2				LR	LR		
	comp=Z,250nm,25.5s						
YHNB	**Yeheng**	**19.36**	**244**	P	**Pn**	**14 25 39.1**	**-4.7**
MA2	**Magadan**	**25.84**	**12**	P	**P**	**14 26 50.2**	**+2.4**
MA2				*e*S	**S**	**14 31 16.7**	**+2.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
MA2				MLR	MLR		
	comp=Z,800nm,19.1s,MS4.3						
XAN	**Xi'an**	**26.05**	**278**	P	**P**	**14 26 48.6**	**-1.2**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**28.18**	**308**	*e*P	**P**	**14 27 08.5**	**-0.4**
ULN	**Ulaanbaatar**	**28.18**	**308**	*e*P	**P**	**14 27 08.2**	**-0.7**
	comp=Z,5.8nm,1.0s,mb4.2						
YAK	**Yakutsk**	**28.26**	**349**	*e*P	**P**	**14 27 10.4**	**+0.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
YAK	**Yakutsk**	**28.26**	**349**	P	**P**	**14 27 08.7**	**-0.9**
	comp=Z,10nm,0.6s,mb4.6						
SONM	**Songino Array**	**28.60**	**308**	P	**P**	**14 27 12.3**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.0,baz=111,slow=9.0,SNR=13						
SONM				LR	LR	14 39 15.9	
	comp=Z,160nm,19.7s,MS3.6,baz=92,slow=38						
GYA	**Guiyang**	**30.18**	**264**	P	**P**	**14 27 26.0**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CD2	**Chengdu**	**31.03**	**274**	P	**P**	**14 27 32.9**	**-1.2**
CD2				AP	pP	14 27 44.8	-1.2
CD2				PP	PP	14 28 35.8	-8.9
CD2				PCP	PcP	14 30 29.4	+0.3
CD2				S	**S**	**14 32 33.0**	**-3.0**
CD2				PCS	PcS	14 34 12.3	-0.9
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
CD2				AMB	AMB		
	comp=Z,90nm,8.2s						
CD2				LR	LR		
	comp=N,80nm,14.0s						
CD2				LR	LR		
	comp=Z,90nm,12.8s,MS3.6						
ZAK	**Zakamensk**	**31.25**	**312**	*e*P	**P**	**14 27 35.8**	**-0.3**
TLY	**Talaya**	**31.42**	**314**	*e*P	**P**	**14 27 42.8**	**+5.3**
GTA	**Gaotai**	**32.65**	**291**	P	**P**	**14 27 48.8**	**+0.5**
GTA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
BILL	**Bilibino**	**36.52**	**16**	⇑*e*P	**P**	**14 28 22.0**	**+0.3**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.2						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.6						
BILL	**Bilibino**	**36.52**	**16**	P	**P**	**14 28 21.8**	**+0.1**
	comp=Z,6.4nm,1.4s,mb4.3						
TIXI	**Tiksi**	**37.58**	**354**	*e*P	**P**	**14 28 31.0**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.9s,mb3.9						
WMQ	**Urumqi**	**41.33**	**299**	P	**P**	**14 29 04.4**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,100nm,4.0s						
WMQ				LR	LR		
	comp=N,70nm,25.0s,MS3.5						
WMQ				LR	LR		
	comp=E,30nm,20.0s,MS3.5						
WMQ				LR	LR		
	comp=Z,50nm,20.0s,MS3.4						
LSA	**Lhasa**	**41.76**	**277**	*e*P	**P**	**14 29 05.9**	**+0.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**41.76**	**277**	*e*P	**P**	**14 29 05.9**	**+0.4**
	comp=Z,5.6nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**43.04**	**314**	P	**P**	**14 29 15.4**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.1,baz=8.7,slow=7.1,SNR=10.0						
KSM	**Kuching**	**43.39**	**227**	*e*P	**P**	**14 29 16.9**	**-1.8**
NVS	**Novosibirsk**	**44.01**	**316**	*i* P	**P**	**14 29 24.5**	**+0.8**
NVS				*e*	pP	14 29 40.1	+4.2
NVS				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.3						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
MKAR	**Makanchi Array**	**44.82**	**304**	P	**P**	**14 29 30.2**	**+0.1**
	comp=E,3.3nm,0.4s,mb4.5,baz=83,slow=9.8,SNR=43						
MKAR	**Makanchi Array**	**44.82**	**304**	*i* P	**P**	**14 29 31.3**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
JIRN	**Jiri**	**46.56**	**277**	*e*P	**P**	**14 29 44.5**	**+0.6**
	comp=Z,73nm,0.7s,mb5.7						
GUN	**Gumba**	**46.72**	**277**	*e*P	**P**	**14 29 45.4**	**+0.3**
	comp=Z,60nm,0.8s,mb5.6						
KURK	**Kurchatov**	**46.88**	**310**	*c iP*	**P**	**14 29 45.9**	**-0.5**
KULM	**Kulim**	**47.01**	**241**	*e*P	**P**	**14 29 45.1**	**-2.3**
PKI	**Pulchoki**	**47.23**	**277**	*e*P	**P**	**14 29 49.2**	**+0.1**
	comp=Z,24nm,0.7s,mb5.2						
PKI	**Pulchoki**	**47.23**	**277**	*e*P	**P**	**14 29 49.2**	**+0.1**
PKI				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.2						
KKN	**Kakani**	**47.25**	**278**	*e*P	**P**	**14 29 49.3**	**0.0**
	comp=Z,42nm,0.7s,mb5.5						
KKN	**Kakani**	**47.25**	**278**	*e*P	**P**	**14 29 49.3**	**0.0**
KKN				pmax	pmax		
	comp=Z,43nm,0.7s,mb5.5						
DMN	**Daman**	**47.46**	**277**	*e*P	**P**	**14 29 50.9**	**-0.1**
	comp=Z,26nm,0.8s,mb5.2						
KAKA	**Kakadu**	**47.71**	**191**	*e*P	**P**	**14 29 53.3**	**+0.4**
	comp=Z,59nm,0.7s,mb5.7						
PSI	**Prapat**	**49.97**	**240**	P	**P**	**14 30 09.4**	**-0.7**
	comp=Z,3.3nm,0.5s,mb4.7,baz=348,slow=7.1,SNR=6.8						
TKM2	**Tokmak 2**	**50.17**	**300**	P	**P**	**14 30 13.1**	**+1.4**
	SNR=19						
KZA	**Kyzart**	**50.62**	**299**	P	**P**	**14 30 17.5**	**+2.4**
	SNR=8.1						
KBK	**Karagaybulak**	**50.70**	**300**	P	**P**	**14 30 16.9**	**+1.2**
	SNR=14						
USP	**Ospenovka**	**50.87**	**301**	P	**P**	**14 30 17.2**	**+0.3**
	SNR=8.8						
PMR	**Palmer**	**50.98**	**35**	P	**P**	**14 30 18.0**	**+0.2**
PMR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
PMR	**Palmer**	**50.98**	**35**	P	**P**	**14 30 18.0**	**+0.2**
	comp=Z,9.2nm,1.1s,mb4.6						
MCK	**McKinley**	**51.02**	**33**	P	**P**	**14 30 17.9**	**-0.3**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
MCK	**McKinley**	**51.02**	**33**	P	**P**	**14 30 17.9**	**-0.3**
	comp=Z,5.1nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**51.02**	**300**	*e*P	**P**	**14 30 17.5**	**-0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
SML	**Sawmill**	**51.35**	**35**	*e*P	**P**	**14 30 20.7**	**+0.1**
CHKZ	**Chkalovo**	**51.45**	**314**	*e*P	**P**	**14 30 19.9**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CHKZ	**Chkalovo**	**51.45**	**314**	*e*P	**P**	**14 30 19.9**	**-1.4**
	comp=Z,3.5nm,0.7s,mb4.4						
COLA	**College**	**51.49**	**31**	*e*P	**P**	**14 30 24.2**	**+2.6**
BVAR	**Borovoye Array**	**51.67**	**314**	P	**P**	**14 30 22.5**	**-0.5**
	comp=Z,2.1nm,0.5s,mb4.3,baz=75,slow=6.9,SNR=12						
BVAR				PcP	PcP	14 31 35.6	-0.5
	comp=Z,2.8nm,0.6s,baz=96,slow=2.8,SNR=6.4						
AML	**Almayashu**	**51.73**	**299**	P	**P**	**14 30 25.3**	**+1.9**
	SNR=6.2						
ZRNK	**Zerenda**	**52.51**	**314**	*e*P	**P**	**14 30 27.4**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**52.51**	**314**	*e*P	**P**	**14 30 27.4**	**-1.9**
	comp=Z,7.4nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**54.33**	**198**	⇑*iP*	**P**	**14 30 43.6**	**+1.0**
	comp=Z,20nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**54.59**	**187**	*e*P	**P**	**14 30 44.7**	**+0.2**
WB2	**Warramunga Arr**	**54.60**	**187**	⇑*iP*	**P**	**14 30 44.7**	**+0.2**
WRA	**Warramunga Arr**	**54.60**	**187**	P	**P**	**14 30 44.8**	**+0.2**
	comp=Z,12nm,0.4s,mb5.3,baz=0.3,slow=7.6,SNR=278						
ARU	**Arti**	**57.69**	**319**	⇑*iP*	**P**	**14 31 05.9**	**-0.7**
ARU				*e*		14 31 57.1	
ARU				*e*		14 33 11.5	
ARU				*e*S	**S**	**14 39 03.1**	**+1.1**
ARU				*e*SS	SS	14 42 47.7	-5.0
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
AS31	**Alice Springs**	**58.33**	**187**	⇑*iP*	**P**	**14 31 11.4**	**+0.4**
ASAR	**Alice Springs**	**58.33**	**187**	P	**P**	**14 31 11.4**	**+0.4**
	comp=Z,4.6nm,0.5s,mb4.8,baz=12,slow=9.0,SNR=110						
ASPA	**Alice Springs**	**58.33**	**187**	⇑*iP*	**P**	**14 31 11.4**	**+0.3**
MBWA	**Marble Bar**	**58.91**	**203**	*e*P	**P**	**14 31 14.7**	**-0.4**
	comp=Z,9.7nm,0.8s,mb4.9						
AKTK	**Aktyubinsk**	**59.75**	**313**	P	**P**	**14 31 20.8**	**-0.2**
AKTO	**Aktyubinsk**	**59.75**	**313**	P	**P**	**14 31 20.8**	**-0.2**
	comp=Z,2.4nm,0.6s,mb4.4,baz=68,slow=11,SNR=8.3						
ARCES	**ARCESS Array B**	**65.98**	**340**	P	**P**	**14 32 01.6**	**-0.7**
	comp=Z,6.9nm,1.1s,mb4.6,baz=56,slow=7.4,SNR=5.3						
FORT	**Forrest**	**66.12**	**192**	*e*P	**P**	**14 32 03.9**	**+0.6**
	comp=Z,21nm,0.5s,mb5.4						
STKA	**Stephens Creek**	**66.17**	**179**	*e*P	**P**	**14 32 02.2**	**-1.4**
	comp=Z,2.1nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**66.17**	**179**	P	**P**	**14 32 02.2**	**-1.3**
	comp=Z,4.0nm,0.8s,mb4.5,baz=330,slow=10.0,SNR=9.7						
STKA	**Stephens Creek**	**66.17**	**179**	*e*P	**P**	**14 32 01.5**	**-2.0**
JOF	**Joensuu**	**67.74**	**332**	*e*p	**P**	**14 32 12.6**	**-0.9**
OBN	**Obninsk**	**69.58**	**323**	⇓*e*P	**P**	**14 32 23.2**	**-1.8**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
KAF	**Kangasniemi**	**70.10**	**333**	*e*p	**P**	**14 32 27.3**	**-0.9**
FINES	**FINESS Array B**	**70.59**	**332**	P	**P**	**14 32 30.8**	**-0.5**
	comp=Z,2.7nm,1.1s,mb4.1,baz=87,slow=8.5,SNR=8.6						
NWAO	**Narrogin (SRO)**	**70.68**	**201**	*e*P	**P**	**14 32 31.5**	**-0.2**

ISC 16 14:39:17.9±0.7, 2406S±006×6668W±009, h191km±8km, n22, σ0°86/28, mb3.9/8, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.51**	**304**	P	**Pn**	**14 40 02.5**	**+1.2**
	105nm,0.3s,baz=130,slow=6.2,SNR=1083						
LVC				S	**Sn**	**14 40 35.6**	**+0.5**
	95nm,0.3s,baz=187,slow=5.7,SNR=26						
LVC	**Limon Verde**	**2.51**	**304**	P	**Pn**	**14 40 02.5**	**+1.2**
LVC				*e*Sn	**Sn**	**14 40 33.6**	**-1.5**
LVC				S	**Sn**	**14 40 35.6**	**+0.5**
CFAA	**Coronel Fontan**	**7.65**	**190**	P	**Pn**	**14 41 05.9**	**-0.6**
	0.1nm,0.3s,baz=354,slow=12,SNR=20						
CFAA				S	**Sn**	**14 42 26.6**	**-6.1**
	0.4nm,0.3s,baz=218,slow=14,SNR=17						
LPAZ	**La Paz**	**7.85**	**350**	P	**Pn**	**14 41 10.1**	**+1.0**
	1.1nm,0.3s,baz=194,slow=6.3,SNR=29						
LPAZ				S	**Sn**	**14 42 36.6**	**-0.8**
	0.5nm,0.3s,baz=302,slow=16,SNR=4.2						
LPAZ	**La Paz**	**7.85**	**350**	P	**Pn**	**14 41 10.1**	**+1.0**
LPAZ				*e*Sn	**Sn**	**14 42 33.0**	**-4.4**
LPAZ				S	**Sn**	**14 42 36.6**	**-0.8**
CPUP	**Villa Florida**	**8.76**	**107**	P	**Pn**	**14 41 21.6**	**+0.5**
	0.6nm,0.3s,baz=271,slow=11,SNR=13						
CPUP	**Villa Florida**	**8.76**	**107**	*e*Pn	**Pn**	**14 41 19.9**	**-1.2**
CPUP				*e*		14 41 28.8	
SIV	**San Ignacio**	**9.59**	**34**	P	**Pn**	**14 41 31.7**	**-0.2**
	1.5nm,0.3s,baz=229,slow=11,SNR=15						
SAML	**Samuel**	**15.39**	**13**	*e*Pn	**Pn**	**14 42 43.7**	**-1.5**
SAML				*e*		14 42 54.2	
PLCA	**Paso Flores**	**16.95**	**190**	P	**Pn**	**14 43 03.8**	**-0.2**
	0.2nm,0.3s,baz=352,slow=11,SNR=5.6						
PLCA	**Paso Flores**	**16.95**	**190**	*e*P	**Pn**	**14 43 02.7**	**-1.2**
	4.1nm,0.8s						
PLCA				P		14 43 03.8	
BDFB	**Brasilia**	**19.43**	**68**	P	**P**	**14 43 30.8**	**+1.1**
	1.0nm,0.3s,baz=243,slow=10,SNR=16						
QSPA	**South Pole Qui**	**66.15**	**180**	*e*P	**P**	**14 49 45.3**	**+0.5**
	6.1nm,0.5s,mb4.7						
DBIC	**Dimbokro**	**67.54**	**71**	P	**P**	**14 49 54.4**	**+0.9**
	8.8nm,1.2s,mb4.4,baz=225,slow=10.0,SNR=3.2						
VNDA	**Vanda**	**74.70**	**190**	P	**P**	**14 50 36.7**	**+0.2**
	3.5nm,1.3s,mb3.8						
TORD	**Torodi Ar. Bea**	**76.31**	**69**	P	**P**	**14 50 45.6**	**-0.1**
	0.6nm,0.5s,mb3.5,baz=257,slow=6.0,SNR=10						
PDAR	**Pinedale Array**	**77.34**	**329**	P	**P**	**14 50 51.5**	**+0.1**
	0.3nm,0.5s,mb3.2,baz=119,slow=6.7,SNR=4.8						
ULM	**Lac du Bonnet**	**78.37**	**341**	P	**P**	**14 50 55.6**	**-1.5**
	0.5nm,0.4s,mb3.5,baz=168,slow=7.7,SNR=5.0						
HLID	**Hailey**	**80.29**	**327**	*e*P	**P**	**14 51 08.0**	**+0.5**
	2.7nm,0.9s,mb3.9						
MAW	**Mawson**	**81.30**	**163**	P	**P**	**14 51 13.4**	**+0.6**
	2.1nm,0.7s,mb3.9,baz=224,slow=4.9,SNR=4.3						
MAW	**Mawson**	**81.30**	**163**	*e*P	**P**	**14 51 12.3**	**-0.5**
	2.7nm,0.7s,mb4.0						
MKAR	**Makanchi Array**	**146.38**	**40**	PKPbc	PKPbc	14 58 36.1	0.0
	2.3nm,0.7s,baz=296,slow=3.3,SNR=6.6						

NIED ***16*** *14:47:00, 3080N×14200E, h11km, Mw4.8 Best double couple: M0 1.70000×10^16 NP1:φs=54.00000°, δ74.00000°, λ126.00000°. NP2:φs=165.00000°, δ39.00000°, λ26.00000°.*
IDC ***16*** *14:47:03.6±0.5, 3064N×14167E, h0km, mb4.6/17, mb1 4.8/20, mb1mx4.7/23, mbtmp4.6/20, ML4.3/3, MS4.3/14, Ms1 4.3/14, ms1mx4.1/17, Error ellipse: s-maj=20.5km s-min=12.8km az=75.0*
ISCJB ***16*** *14:47:05.1±1.0, 3065N±002×14157E±004, h15km±6km, mb4.8/86, MS4.5/29, Error ellipse: s-maj=5.3km s-min=3.8km az=147.4*
JMA ***16*** *14:47:05.5±0.1, 3077N×14200E, h52km, M4.9*
BJI ***16*** *14:47:06.1, 3075N×14162E, h32km, mB4.7, mb4.7, Ms4.6, Msz4.4*
MOS ***16*** *14:47:07.1±0.8, 3067N×14159E, h33km, mb5.0/40, MS4.3/14, Error ellipse: s-maj=11.7km s-min=5.0km az=115.6*
NEIC ***16*** *14:47:09.1±1.9, 3070N×14156E, h34km±13km, mb4.8/42, MW4.8(NIED), Error ellipse: s-maj=6.0km s-min=4.2km az=113.0*
HRVD ***16*** *14:47:09.1±0.4, 3067N×14191E, h26km±1km, MW5.0/59, Centroid moment Tensor Solution. LP body waves: s31,c37;Mantle waves: s59,c96; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.98±.18; Mθθ0.08±.10; Mφφ-3.06±.12; Mrθ-0.02±.21; Mθφ0.30±.08; Mφr2.19±.18; Best double couple: M0 3.74200×10^16 NP1:φs=172.00000°, δ27.00000°, λ85.00000°. NP2:φs=358.00000°, δ63.00000°, λ93.00000°. Principal axes: T 3.6920, Plg72.0000°, Azm274.0000°; N 0.0990, Plg2.0000°, Azm176.0000°; P -3.7920, Plg18.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 14:47:07.5±1.1, 3068N±002×14160E±004, h22km±7km, h31km±2.3km: pP-P, n227, σ0°94/244, mb4.8/86, MS4.5/29, 10C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.86**	**328**	P	**Pn**	**14 47 51.3**	**-0.5**
JHJ2				S	**Sn**	**14 48 25.4**	**-0.1**
JHJ	**Hachijo jima 2**	**2.89**	**328**	Pn	**Pn**	**14 47 51.5**	**-0.6**
	88nm,0.3s,baz=171,slow=15,SNR=52						
JHJ				Sn	**Sn**	**14 48 23.6**	**-2.4**
	108nm,0.3s,baz=83,slow=21,SNR=4.0						
JHJ				LR	LR	14 48 53.0	
	comp=Z,3μm,19.7s,baz=307,slow=37						
CBIJ	**Chichi jima**	**3.60**	**172**	Pn	**Pn**	**14 48 01.3**	**-0.6**
	38nm,0.3s,baz=62,slow=9.0,SNR=29						
CBIJ				Sn	**Sn**	**14 48 40.8**	**-3.0**
	358nm,0.3s,baz=356,slow=22,SNR=15						
CBIJ	**Chichi jima**	**3.60**	**172**	P	**Pn**	**14 48 01.2**	**-0.7**
CBIJ				S	**Sn**	**14 48 41.0**	**-2.7**
JMY	**Miyakejima3**	**3.82**	**333**	P	**Pn**	**14 48 04.9**	**0.0**
BSO1	**Boso 1**	**4.00**	**353**	P	**Pn**	**14 48 06.1**	**-1.3**
JKO	**Kozu shima**	**4.07**	**330**	P	**Pn**	**14 48 08.5**	**+0.1**
JKO				S	**Sn**	**14 48 56.4**	**+1.0**
BSO3	**Boso 3**	**4.22**	**348**	P	**Pn**	**14 48 09.4**	**-0.9**
JOD2	**Odawara 2**	**5.04**	**336**	P	**Pn**	**14 48 21.1**	**-0.6**
JIE	**Ise**	**5.55**	**313**	P	**Pn**	**14 48 31.1**	**+2.4**
JRY	**Ryogami san**	**5.79**	**338**	P	**Pn**	**14 48 32.0**	**+0.1**
JRY				S	**Sn**	**14 49 37.3**	**-0.3**
MJAR	**Matsushiro Arr**	**6.50**	**335**	Pn	**Pn**	**14 48 42.6**	**+0.9**
	13nm,0.3s,baz=155,slow=10,SNR=134						
MJAR				Sn	**Sn**	**14 49 55.0**	**-0.1**
	6.1nm,0.3s,baz=141,slow=21,SNR=4.9						
MJAR				LR	LR	14 51 16.1	
	comp=Z,2μm,18.6s,baz=185,slow=39						
MJAR	**Matsushiro Arr**	**6.50**	**335**	P	**Pn**	**14 48 42.6**	**+0.9**
MJAR						14 49 55.0	
MAJO	**Matsushiro**	**6.50**	**335**	*e*P	**Pn**	**14 48 41.9**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,80nm,0.5s						
MAJO	**Matsushiro**	**6.50**	**335**	*e*Pn	**Pn**	**14 48 41.9**	**+0.2**
	comp=Z,80nm,0.5s						
MAT	**Matsushiro**	**6.50**	**335**	P	**Pn**	**14 48 42.9**	**+1.2**
MAT				S	**Sn**	**14 49 54.1**	**-1.1**
MAT	**Matsushiro**	**6.50**	**335**	P	**Pn**	**14 48 42.8**	**+1.1**
MAT				S	**Sn**	**14 49 55.8**	**+0.6**
MAT	**Matsushiro**	**6.50**	**335**	*e*P	**Pn**	**14 48 43.0**	**+1.3**
MAT				*e*S	**Sn**	**14 49 54.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,55nm,0.7s						
MAT	**Matsushiro**	**6.50**	**335**	*e*P	**Pn**	**14 48 43.0**	**+1.3**
	comp=Z,55nm,0.7s						
MAT				*e*S	**Sn**	**14 49 54.0**	**-1.2**
JMK	**Ichinoseki**	**8.26**	**358**	P	**Pn**	**14 49 03.3**	**-2.6**
JMK				S	**Sn**	**14 50 29.9**	**-8.7**
JOW	**Kunigami**	**12.30**	**255**	LR	LR	14 54 45.2	
	comp=Z,3μm,18.7s,baz=98,slow=37						
KS15	**Wonju Array Si**	**13.22**	**304**	*e*Pn	**Pn**	**14 50 16.1**	**+2.3**
ASAJ	**Asahikawa**	**13.44**	**3**	Pn	**Pn**	**14 50 11.8**	**-5.0**
	comp=Z,2.8nm,0.3s,baz=210,slow=8.7,SNR=19						
ASAJ				Sn	**Sn**	**14 52 34.1**	**-11**
	comp=Z,0.4nm,0.3s,baz=37,slow=20,SNR=3.5						
ASAJ				LR	LR	14 55 31.1	
	comp=Z,983nm,20.4s,baz=191,slow=38						
INCN	**Inchon**	**14.13**	**303**	*e*Pn	**Pn**	**14 50 30.1**	**+3.9**
	comp=Z,26nm,0.6s						
YSS	**Yuzh-Sakhalins**	**16.28**	**3⇑**	*e*P	**Pn**	**14 50 50.9**	**-3.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=N,900nm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**16.28**	**3**	*e*Pn	**Pn**	**14 50 50.4**	**-4.3**
	comp=Z,43nm,0.8s						
MDJ	**Mudanjiang**	**16.83**	**329**	P	**Pn**	**14 50 58.4**	**-3.2**
MDJ				AP	pP	14 51 06.9	-2.9
MDJ				XP	sP	14 51 13.0	+0.3
MDJ				S	**Sn**	**14 54 07.3**	**-0.6**
MDJ				XS	sS	14 54 21.3	-6.7
MDJ				SS		14 54 29.1	
MDJ				AMB	AMB		
	comp=Z,20nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,60nm,3.2s						
MDJ				LR	LR		
	comp=E,790nm,15.0s						
MDJ				LR	LR		
	comp=Z,1μm,15.5s						
MDJ	**Mudanjiang**	**16.83**	**329**	*e*Pn	**Pn**	**14 50 58.7**	**-2.8**
	comp=Z,18nm,0.8s						
GUMO	**Guam**	**17.27**	**169**	LR	LR	14 56 13.7	
	comp=Z,537nm,20.6s,baz=206,slow=32						
SSE	**Sheshan**	**17.53**	**277**	*e*P	**Pn**	**14 51 08.5**	**-1.8**
SSE				AP	pP	14 51 17.8	+0.3
SSE				XP	sP	14 51 21.9	+1.4
SSE				S	**Sn**	**14 54 21.8**	**-3.1**
SSE				SCS	ScS	15 03 00.0	-3.6
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE				AMB	AMB		
	comp=Z,90nm,8.4s						
SSE				LR	LR		
	comp=N,190nm,16.5s						
SSE				LR	LR		
	comp=E,1μm,16.5s						
SSE				LR	LR		
	comp=Z,2μm,16.1s						
SNY	**Shenyang**	**18.27**	**312**	P	**Pn**	**14 51 17.9**	**-1.5**
SNY				S	**Sn**	**14 54 43.8**	**+1.1**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s						
SNY				AMB	AMB		
	comp=Z,190nm,8.1s						
SNY				LR	LR		
	comp=N,1μm,14.4s						
SNY				LR	LR		
	comp=E,680nm,15.9s						
SNY				LR	LR		
	comp=Z,1μm,15.0s						
CN2	**Changchun**	**18.32**	**320**	*e*P	**Pn**	**14 51 19.4**	**-0.6**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				LR	LR		
	comp=N,500nm,14.0s						
CN2				LR	LR		
	comp=E,900nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
UGL	**Uglegorsk**	**18.38**	**1**	*e*P	**Pn**	**14 51 21.0**	**+0.2**
UGL				*e*S	**Sn**	**14 54 44.0**	**-1.5**
UGL				pmax	pmax		
	comp=Z,48nm,0.8s						
UGL				smax			
	comp=E,800nm,8.0s						
UGL				MLR	MLR		
	comp=N,900nm,17.0s						
UGL				MLR	MLR		
	comp=E,450nm,17.0s						
UGL				MLR	MLR		
	comp=Z,900nm,17.0s						
HABR	**Khabarovsk**	**18.46**	**346⇓**	*i*P	**Pn**	**14 51 22.6**	**+0.8**
HABR				*e*S	**Sn**	**14 54 49.4**	**+1.9**
HABR				pmax	pmax		
	comp=Z,79nm,1.2s						
HABR				MLR	MLR		
	comp=Z,799nm,13.5s						
TATO	**Taipei**	**18.66**	**257**	*e*Pn	**Pn**	**14 51 25.7**	**+1.5**
	comp=Z,88nm,0.9s						
YHNB	**Yeheng**	**18.88**	**256**	*e*P	**Pn**	**14 51 26.9**	**0.0**
NACB	**Ninganchiao**	**18.89**	**255**	P	**Pn**	**14 51 20.6**	**-6.4**
NJ2	**Nanjing**	**19.47**	**280**	*e*P	**Pn**	**14 51 36.1**	**+2.1**
NJ2				AP	pP	14 51 45.3	+6.4
NJ2				XP	sP	14 51 48.9	+7.1
NJ2				PP		14 51 54.9	
NJ2				PPP		14 52 01.8	
NJ2				S	**Sn**	**14 55 08.0**	**-3.8**
NJ2				XS	sS	14 55 20.0	-1.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,160nm,7.6s						
NJ2				LR	LR		
	comp=N,730nm,21.4s						
NJ2				LR	LR		
	comp=E,2μm,20.0s						
NJ2				LR	LR		
	comp=Z,1μm,19.5s						
KLR	**Kul'dur**	**19.98**	**341**	*e*P	**Pn**	**14 51 34.7**	**-5.3**
KLR				*e*S	**Sn**	**14 55 26.5**	**+2.5**
QZH	**Quanzhou**	**21.12**	**260**	P	**P**	**14 51 50.8**	**+0.2**
QZH				LR	LR		
	comp=N,2μm,20.9s,MS4.7						
QZH				LR	LR		
	comp=E,2μm,21.5s,MS4.7						
QZH				LR	LR		
	comp=Z,2μm,22.0s,MS4.5						
TIA	**Tai'an**	**21.13**	**292**	*e*P	**P**	**14 51 51.0**	**+0.3**
BJT	**Baijiatuau**	**22.68**	**301**	*e*P	**P**	**14 52 05.5**	**-1.8**
BJT				pmax	pmax		
	comp=Z,16nm,0.6s						
BJT	**Baijiatuau**	**22.68**	**301**	*e*P	**P**	**14 52 05.5**	**-1.8**
	comp=Z,16nm,0.6s,mb4.6						
SKR	**Severo-Kuril's**	**22.74**	**24**	*e*P	**P**	**14 52 16.0**	**+8.1**
SKR				*e*		14 56 10.0	
SKR				MLR	MLR		
	comp=N,1μm,10.0s,MS4.8						
SKR				MLR	MLR		
	comp=E,1μm,10.0s,MS4.8						
SKR				MLR	MLR		
	comp=Z,1μm,10.0s,MS4.6						
WHN	**Wuhan**	**23.44**	**277**	*e*P	**P**	**14 52 13.6**	**-1.6**
WHN				LR	LR		
	comp=Z,3μm,16.2s,MS4.8						
HIA	**Hailar**	**24.86**	**325**	*e*P	**P**	**14 52 27.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,61nm,1.0s						
HIA	**Hailar**	**24.86**	**325**	*e*P	**P**	**14 52 27.8**	**-0.4**
	comp=Z,61nm,1.0s,mb5.1						
HHC	**Hu-ho-hao-te**	**26.29**	**301**	*e*P	**P**	**14 52 40.9**	**-0.3**
HHC				AP	pP	14 52 46.0	-2.0
HHC				XP	sP	14 52 51.9	+1.2
HHC				XS	sS	14 57 20.9	-2.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
HHC				AMB	AMB		
	comp=Z,170nm,4.5s						
HHC				LR	LR		
	comp=N,680nm,15.3s,MS4.7						
HHC				LR	LR		
	comp=E,2μm,17.4s,MS4.7						
HHC				LR	LR		
	comp=Z,2μm,16.4s,MS4.7						
XAN	**Xi'an**	**27.74**	**286**	P	**P**	**14 52 53.8**	**-0.5**
XAN				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
CLNS	**Chul'man**	**28.64**	**341**	*e*P	**P**	**14 52 57.6**	**-4.7**
CLNS				*e**PP	pP	14 53 04.7	-4.4
CLNS				*e*		14 56 08.5	
CLNS				*e*S	**S**	**14 57 42.2**	**-7.5**
CLNS				*e*		14 59 39.0	
CLNS				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.9s						
CLNS				smax			
	comp=N,232nm,12.6s						
CLNS				smax			
	comp=Z,136nm,10.5s						
CLNS				smax			
	comp=E,171nm,13.9s						
CLNS				MLR	MLR		
	comp=Z,440nm,15.0s,MS4.2						
CLNS				MLR	MLR		
	comp=N,400nm,16.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,240nm,12.0s,MS4.2						
MA2	**Magadan**	**29.56**	**9**	*e*P	**P**	**14 53 13.8**	**+3.4**
MA2				*e*S	**S**	**14 58 04.2**	**+0.1**
MA2				*e*SSS		15 00 02.1	
MA2				MLR	MLR		
	comp=Z,5μm,18.1s,MS5.2						
MA2	**Magadan**	**29.56**	**9**	*e*P	**P**	**14 53 11.7**	**+1.3**
	comp=Z,6.3nm,0.7s,mb4.5						
MA2				*e*		14 53 31.3	
CIT	**Chita**	**29.66**	**324**	*e*P	**P**	**14 53 12.4**	**+1.1**
GYA	**Guiyang**	**30.89**	**271**	P	**P**	**14 53 21.1**	**-1.2**
GYA				AP	pP	14 53 30.6	+1.6
GYA				XP	sP	14 53 34.8	+3.0
GYA				PP	PP	14 54 26.9	-5.2
GYA				S	**S**	**14 58 30.9**	**+5.9**
GYA				XS	sS	14 58 44.0	+7.8
GYA				SCP	ScP	14 59 51.3	-8.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,200nm,8.7s						
GYA				LR	LR		
	comp=N,530nm,17.4s,MS4.4						
GYA				LR	LR		
	comp=E,560nm,17.3s,MS4.4						
GYA				LR	LR		
	comp=Z,780nm,16.8s,MS4.4						
QIZ	**Qiongzhong**	**30.96**	**255**	P	**P**	**14 53 22.5**	**-0.3**
QIZ				S	**S**	**14 58 24.8**	**-1.2**
QIZ				LR	LR		
	comp=E,440nm,16.5s						
QIZ				LR	LR		
	comp=Z,570nm,19.9s,MS4.2						
ULN	**Ulaanbaatar**	**31.45**	**313**	*e*P	**P**	**14 53 27.6**	**+0.5**
ULN	**Ulaanbaatar**	**31.45**	**313**	*e*P	**P**	**14 53 27.5**	**+0.3**
	comp=Z,16nm,0.8s,mb4.9						
LZH	**Lanzhou**	**31.85**	**290**	*e*P	**P**	**14 53 30.1**	**-0.6**
LZH				AP	pP	14 53 38.0	+0.6
LZH				XP	sP	14 53 41.1	+0.9
LZH				PP	PP	14 54 36.0	-6.7
LZH				S	**S**	**14 58 39.0**	**-1.0**
LZH				XS	sS	14 58 51.0	-0.1
LZH				*e*SS	SS	15 00 32.0	-25
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,150nm,4.8s						
LZH				LR	LR		
	comp=E,1μm,15.0s						
LZH				LR	LR		
	comp=Z,2μm,16.3s,MS4.8						
SONM	**Songino Array**	**31.85**	**313**	P	**P**	**14 53 31.5**	**+0.8**
	comp=Z,9.9nm,0.8s,mb4.7,baz=123,slow=8.7,SNR=50						
SONM				LR	LR	15 07 02.5	
	comp=Z,623nm,18.4s,MS4.3,baz=106,slow=38						
YAK	**Yakutsk**	**32.32**	**350**	*e*P	**P**	**14 53 33.3**	**-1.5**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
YAK				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.1						
YAK	**Yakutsk**	**32.32**	**350**	*e*P	**P**	**14 53 33.1**	**-1.7**
	comp=Z,14nm,0.8s,mb4.8						
CD2	**Chengdu**	**32.41**	**280**	*e*P	**P**	**14 53 34.9**	**-0.7**
CD2				AP	pP	14 53 44.4	+2.1
CD2				PP	PP	14 54 42.4	-6.5
CD2				S	**S**	**14 58 44.9**	**-3.8**
CD2				XS	sS	14 59 00.9	+1.0
CD2				SS	SS	15 00 42.3	-26
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,6.2s						
CD2				LR	LR		
	comp=E,100nm,16.2s						
CD2				LR	LR		
	comp=Z,90nm,14.8s,MS3.6						
KKM	**Kota Kinabalu**	**34.19**	**229**	*e*P	**P**	**14 53 52.1**	**+1.0**
ZAK	**Zakamensk**	**34.64**	**316**	*e*P	**P**	**14 53 54.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,27nm,1.8s,mb4.9						
KMI	**Kunming**	**34.67**	**271**	P	**P**	**14 53 57.0**	**+1.8**
KMI				AP	pP	14 54 07.1	+5.1
KMI				XP	sP	14 54 11.3	+6.5
KMI				PP	PP	14 55 14.3	+0.4
KMI				S	**S**	**14 59 22.9**	**-0.8**
KMI				XS	sS	14 59 40.1	+5.2
KMI				SS	SS	15 01 35.8	-18
KMI				SSS		15 02 02.8	
KMI				LR	LR		
	comp=N,250nm,16.7s,MS4.3						
KMI				LR	LR		
	comp=E,420nm,17.4s,MS4.3						
KMI				LR	LR		
	comp=Z,330nm,16.5s,MS4.2						
IRK	**Irkutsk**	**34.76**	**319**	*e*P	**P**	**14 53 56.0**	**0.0**
IRK				*e*		14 59 22.6	
IRK				pmax	pmax		
	comp=Z,177nm,0.8s						
TLY	**Talaya**	**34.90**	**318**	*e*P	**P**	**14 53 57.5**	**+0.3**
TLY				*e*		14 55 19.1	
TLY				*e*S	**S**	**14 59 27.4**	**+0.2**
TLY				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
TLY				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.6						
GTA	**Gaotai**	**35.05**	**296**	*e*P	**P**	**14 53 58.1**	**-0.4**
GTA				AP	pP	14 54 08.0	+2.7
GTA				XP	sP	14 54 11.8	+3.7
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
MOY	**Mondy**	**36.44**	**317**	*e*P	**P**	**14 54 11.4**	**+1.0**
MOY				pmax	pmax		
	comp=Z,33nm,2.1s,mb4.9						
BILL	**Bilibino**	**40.11**	**14**	*e*P	**P**	**14 54 40.8**	**-0.5**
BILL				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.4						
BILL				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.3						
BILL	**Bilibino**	**40.11**	**14**	*e*P	**P**	**14 54 39.3**	**-2.0**
	comp=Z,2.8nm,0.4s,mb4.3						
CHTO	**Chiang Mai**	**40.28**	**263**	*e*P	**P**	**14 54 42.3**	**-0.5**
CHTO				*e*		14 56 46.8	
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
CHTO	**Chiang Mai**	**40.28**	**263**	*e*P	**P**	**14 54 42.3**	**-0.4**
	comp=Z,6.8nm,0.8s,mb4.4						
CHTO				*e*PcP	PcP	14 56 46.8	+0.6
CHTO				*e*		14 56 58.6	
KSM	**Kuching**	**41.50**	**232**	*e*P	**P**	**14 54 54.0**	**+1.2**
TIXI	**Tiksi**	**41.61**	**354**	*e*P	**P**	**14 54 52.3**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
NIKO	**Nikolski**	**42.07**	**43**	P	**P**	**14 54 58.2**	**+0.7**
KRAR	**Krasnoyarsk**	**42.34**	**321**	*e*P	**P**	**14 54 59.7**	**0.0**
KRAR				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.9						
KRAR				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.2						
KAKA	**Kakadu**	**44.03**	**193**	*e*P	**P**	**14 55 13.0**	**-0.3**
	comp=Z,12nm,0.6s,mb4.8						
WMQ	**Urumqi**	**44.14**	**303**	*e*P	**P**	**14 55 15.0**	**+0.8**
WMQ				XP	sP	14 55 28.4	+4.5
WMQ				PP	PP	14 57 00.0	+2.8
WMQ				PPP		14 57 38.4	
WMQ				S	**S**	**15 01 44.5**	**-1.4**
WMQ				XS	sS	15 01 56.3	-1.0
WMQ				SS	SS	15 04 53.5	-10
WMQ				SCS	ScS	15 05 08.9	-2.6
WMQ				AMB	AMB		
	comp=Z,140nm,4.5s						
WMQ				LR	LR		
	comp=N,340nm,16.0s,MS4.5						
WMQ				LR	LR		
	comp=E,310nm,13.0s,MS4.5						
WMQ			

NVS pmax pmax
comp=Z,25nm,1.8s,mb4.9
NVS pmax pmax
comp=N,13nm,1.9s
NVS pmax pmax
comp=E,18nm,1.7s
NVS smax
comp=N,11nm,2.0s
NVS smax
comp=E,22nm,2.2s
MK31 Makanchi Array 47.86 307 P **P** 14 55 44.0 +0.5
MK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MKAR Makanchi Array 47.86 307 P **P** 14 55 43.9 +0.4
comp=Z,10nm,0.6s,mb5.0,baz=90,slow=9.5,SNR=112
JIRN Jiri 48.07 281 *eP* **P** 14 55 45.4 +0.2
comp=Z,76nm,0.8s,mb5.8
GUN Gumba 48.26 281 *eP* **P** 14 55 47.0 +0.4
comp=Z,36nm,0.5s,mb5.6
PKI Pulchoki 48.76 281 *eP* **P** 14 55 50.1 -0.4
comp=Z,12nm,0.6s,mb5.1
PKI Pulchoki 48.76 281 *eP* **P** 14 55 50.1 -0.4
PKI pmax pmax
comp=Z,12nm,0.6s,mb5.1
KKN Kakani 48.80 282 *eP* **P** 14 55 50.6 -0.2
comp=Z,35nm,0.8s,mb5.4
KKN Kakani 48.80 282 *eP* **P** 14 55 50.6 -0.2
KKN pmax pmax
comp=Z,35nm,0.8s,mb5.4
DMN Daman 49.00 281 *eP* **P** 14 55 52.0 -0.3
comp=Z,30nm,1.0s,mb5.3
KURK Kurchatov 50.16 312 *c iP* **P** 14 56 00.7 -0.5
CTAO Charters Tower 50.67 174 *eP* **P** 14 56 05.6 +0.6
CTAO pmax pmax
comp=Z,29nm,1.3s,mb5.0
CTAO Charters Tower 50.67 174 *eP* **P** 14 56 05.6 +0.5
comp=Z,29nm,1.3s,mb5.0
WRAB Tennant Creek 50.80 189 *eP* **P** 14 56 05.8 -0.2
WB2 Warramunga Arr 50.80 189⇑ *iP* **P** 14 56 05.9 -0.2
WRA Warramunga Arr 50.81 189 P **P** 14 56 05.9 -0.2
comp=Z,26nm,0.6s,mb5.4,baz=4.7,slow=7.5,SNR=251
FITZ Fitzroy Crossi 50.87 200⇑ *iP* **P** 14 56 06.8 +0.3
comp=Z,8.9nm,0.6s,mb4.9
KDAK Kodiak Island 51.85 38 P **P** 14 56 13.9 0.0
comp=Z,12nm,0.9s,mb4.8,baz=345,slow=4.7,SNR=3.8
TKM2 Tokmak 2 53.00 303 P **P** 14 56 23.7 +1.3
TKM2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KZA Kyzart 53.40 302 P **P** 14 56 27.7 +2.3
SNR=10
KBK Karagaybulak 53.52 303 P **P** 14 56 27.6 +1.4
SNR=12
FRU Bishkek 53.73 303 *eP* **P** 14 56 28.0 +0.3
USP Ospenovka 53.73 303 P **P** 14 56 28.5 +0.7
SNR=6.8
AAK Ala-Archa 53.85 303 *eP* **P** 14 56 28.0 -0.6
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MCK McKinley 53.91 31 P **P** 14 56 27.4 -1.7
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MCK McKinley 53.91 31 P **P** 14 56 27.4 -1.7
comp=Z,3.9nm,0.9s,mb4.3
UCH Uchtor 53.91 302 P **P** 14 56 30.7 +1.6
SNR=8.2
SML Sawmill 54.11 33 *eP* **P** 14 56 29.4 -1.2
EKS2 Erkin-Say 54.36 303 P **P** 14 56 33.4 +1.0
SNR=5.4
COLA College 54.44 30 *eP* **P** 14 56 32.6 -0.4
COLA College 54.44 30 P **P** 14 56 32.1 -0.9
comp=Z,4.4nm,0.8s,mb4.4
AS31 Alice Springs 54.53 189⇑ *iP* **P** 14 56 33.4 -0.2
ASAR Alice Springs 54.53 189 P **P** 14 56 33.5 -0.2
comp=Z,7.3nm,0.5s,mb5.0,baz=0.1,slow=5.3,SNR=355
ASPA Alice Springs 54.53 189⇑ *iP* **P** 14 56 33.4 -0.2
VOSK Vostochnaya 54.77 315 P **P** 14 56 35.1 -0.3
VOSK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CHKZ Chkalovo 54.90 317 P **P** 14 56 35.7 -0.6
CHKZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CHKZ Chkalovo 54.90 317 *eP* **P** 14 56 35.6 -0.7
comp=Z,8.6nm,0.7s,mb4.9
BVA0 Borovoye Array 55.10 316 *i P* **P** 14 56 37.5 -0.2
BVA0 pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
MBWA Marble Bar 55.66 205 *eP* **P** 14 56 41.6 -0.1
comp=Z,11nm,0.7s,mb5.0
ZRNK Zerenda 55.94 316 *eP* **P** 14 56 43.7 -0.1
ZRNK pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
ZRNK Zerenda 55.94 316 *eP* **P** 14 56 43.7 -0.1
comp=Z,8.3nm,0.5s,mb5.0
KK31 Karatay Array 56.62 304 *i P* **P** 14 56 49.2 +0.5
KK31 pmax pmax
comp=Z,17nm,0.7s,mb5.2
KKAR Karatay Array 56.62 304 *i P* **P** 14 56 49.2 +0.5
KKAR pmax pmax
comp=Z,13nm,0.8s,mb5.0
INK Inuvik 60.01 25 P **P** 14 57 10.7 -1.6
comp=Z,4.2nm,0.7s,mb4.5,baz=263,slow=5.5,SNR=5.5
INK Inuvik 60.01 25 P **P** 14 57 10.7 -1.6
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 60.01 25 *eP* **P** 14 57 10.2 -2.1
comp=Z,4.9nm,0.8s,mb4.6
ARU Arti 61.31 321 *c iP* **P** 14 57 21.1 -0.1
ARU pmax pmax
comp=Z,60nm,1.2s,mb5.6
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.5
STKA Stephens Creek 62.21 180 *eP* **P** 14 57 24.7 -2.5
comp=Z,5.9nm,0.8s,mb4.8
STKA Stephens Creek 62.21 180 P **P** 14 57 25.4 -1.8
comp=Z,5.4nm,0.8s,mb4.7,baz=348,slow=7.5,SNR=12
STKA LR LR 15 25 36.3
comp=Z,281nm,18.0s,MS4.5,baz=23,slow=37
STKA Stephens Creek 62.21 180 *eP* **P** 14 57 24.1 -3.2
AB31 Akbulak array 62.27 313 *i P* **P** 14 57 27.7 +0.1
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
FORT Forrest 62.45 193 *eP* **P** 14 57 28.7 -0.2
comp=Z,20nm,0.5s,mb5.5
AKTO Aktyubinsk 63.14 315 P **P** 14 57 33.1 -0.3
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
ORR Orenburg 64.76 317 *i P* **P** 14 57 43.9 -0.2
ORR pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
ORR MLR MLR
comp=Z,460nm,19.0s,MS4.7
KLBR Kellerberrin 65.93 202 *eP* **P** 14 57 51.2 -0.5
comp=Z,9.4nm,0.8s,mb4.9
NWAO Narrogin (SRO) 67.33 202 *eP* **P** 14 58 00.0 -0.6
APA Apatity 68.56 337 *eP* **P** 14 58 08.2 -0.1
KLMR Klimovskoe 69.25 329 *eP* **P** 14 58 12.3 -0.3
KLMR pmax pmax
comp=Z,20nm,0.8s,mb5.1
YKA Yellowknife Ar 69.25 29 P **P** 14 58 12.2 -0.4
comp=Z,1.6nm,0.8s,mb4.0,baz=290,slow=6.2,SNR=4.3
YKA Yellowknife Ar 69.25 29 P **P** 14 58 12.2 -0.4
ARCES ARCESS Array B 70.01 340 P **P** 14 58 17.1 -0.1
comp=Z,3.8nm,0.7s,mb4.5,baz=64,slow=8.4,SNR=13
ARCES LR LR 15 33 40.0
comp=Z,216nm,18.5s,MS4.4,baz=250,slow=40
ARE0 ARCESS Array S 70.01 340 *eP* **P** 14 58 16.9 -0.4
JOF Joensuu 71.66 333 *ep* **P** 14 58 26.7 -0.7
comp=Z,12nm,0.4s,mb5.2
DAG Danmarks Havn 72.11 355⇑ *iP* **P** 14 58 29.9 -0.1
comp=Z,7.8nm,1.2s,mb4.5
DAG Danmarks Havn 72.11 355⇑ *iP* **P** 14 58 29.9 -0.1
DAG pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
OBN Obninsk 73.32 325 *c iP* **P** 14 58 37.2 0.0
OBN *e* 15 01 25.6
OBN *eS* S 15 08 06.5 +1.9
OBN pmax pmax
comp=Z,45nm,2.6s,mb4.9
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.8
KAF Kangasniemi 74.04 334 *ep* **P** 14 58 40.6 -0.9
comp=Z,21nm,0.5s,mb5.3,baz=52,slow=5.5
KAF Kangasniemi 74.04 334 *eP* **P** 14 58 40.6 -0.9
KAF pmax pmax
comp=Z,21nm,0.5s,mb5.3
FINES FINESS Array B 74.53 333 P **P** 14 58 44.1 -0.2
comp=Z,7.1nm,0.4s,mb4.9,baz=61,slow=6.1,SNR=164
FINES LR LR 15 34 06.2
comp=Z,138nm,18.5s,MS4.3,baz=28,slow=38
KIV Kislovodsk 75.25 312 *eP* **P** 14 58 49.0 +0.5
KIV pmax pmax
comp=Z,18nm,0.8s,mb5.0
KIV MLR MLR
comp=Z,300nm,19.0s,MS4.6
GNI Garni 75.69 308 *eP* **P** 14 58 52.2 +1.2
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI MLR MLR
comp=Z,100nm,16.0s
VSU Vasula 76.03 331 *eP* **P** 14 58 52.9 0.0
SUMG Summit 77.03 0 *eP* **P** 14 58 58.3 -0.3
comp=Z,9.7nm,0.8s,mb4.8
CHMT Chamberlain Mo 77.57 43 *eP* **P** 14 59 01.4 -0.2
HRY Holter Researc 78.51 42 P **P** 14 59 03.5 -3.4
UMR Umm Al-Rimmam 78.57 298 *eP* **P** 14 59 07.4 +0.3
UMR AMb AMB 14 59 09.0
comp=Z,29nm,0.4s,mb5.5
HLID Hailey 78.63 46 *eP* **P** 14 59 08.0 +0.5
comp=Z,2.4nm,0.9s,mb4.1
NVAR Mina Array Bea 78.72 52 P **P** 14 59 08.2 +0.2
comp=Z,2.4nm,0.7s,mb4.2,baz=293,slow=5.3,SNR=20
MIB Mutribah 78.73 298 *eP* **P** 14 59 08.4 +0.4
MIB AMb AMB 14 59 13.8
comp=Z,42nm,0.7s,mb5.5
KBD Kabd 78.76 297 *eP* **P** 14 59 08.8 +0.6
KBD AMb AMB 14 59 10.2
comp=Z,98nm,0.5s
RDF Al-Radifah 79.00 297 *eP* **P** 14 59 09.9 +0.4
RDF AMb AMB 14 59 12.1
comp=Z,76nm,0.5s,mb5.8
NAY Al-Naaiem 79.07 297 *eP* **P** 14 59 10.2 +0.3
NAY AMb AMB 14 59 12.1
comp=Z,28nm,0.5s,mb5.4
BOZ Bozeman (W) 79.20 43 *eP* **P** 14 59 10.9 +0.3
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BOZ Bozemen (W) 79.20 43 *eP* **P** 14 59 10.9 +0.2
comp=Z,3.5nm,0.8s,mb4.3
AKASG Malin Array Be 79.44 323 P **P** 14 59 11.8 -0.2
comp=Z,2.2nm,0.3s,mb4.5,baz=50,slow=5.8,SNR=19
MARD Mardin 79.78 307 *i P* **P** 14 59 14.8 +1.1
NB2 NORSAR Subarra 80.11 338 P **P** 14 59 14.8 -0.8
comp=Z,8.2nm,0.7s,mb4.8,baz=40,slow=5.6
NB2 NORSAR Subarra 80.11 338 P **P** 14 59 14.8 -0.8
NB2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
NOA NORSAR Array B 80.11 338 P **P** 14 59 15.1 -0.5
comp=Z,7.0nm,0.7s,mb4.7,baz=42,slow=5.3,SNR=41
NOA LR LR 15 37 56.7
comp=Z,226nm,19.4s,MS4.5,baz=20,slow=38
SUW Suwalki 80.34 328 *eP* **P** 14 59 14.5 -2.3
IMW Indian Meadow 80.57 44 *eP* **P** 14 59 19.1 +1.0
comp=Z,5.5nm,0.8s,mb4.5
HVU Hansel Valley 80.60 47 *eP* **P** 14 59 18.8 +0.6
HVU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
HVU Hansel Valley 80.60 47 *eP* **P** 14 59 18.8 +0.6
comp=Z,6.1nm,0.8s,mb4.6
MOOW Moose Ponds 80.77 44 *eP* **P** 14 59 19.9 +0.8
TPAW Teton Pass 80.79 45 *eP* **P** 14 59 20.9 +1.7
comp=Z,5.9nm,0.8s,mb4.6
MALT Malatya 80.86 309 *eP* **P** 14 59 20.3 +0.7
MALT pmax pmax
comp=Z,14nm,1.3s,mb4.7
MALT Malatya 80.86 309 *eP* **P** 14 59 20.3 +0.8
comp=Z,14nm,1.3s,mb4.7
HWUT Hardware Ranch 81.45 47 *eP* **P** 14 59 23.6 +0.9
comp=Z,7.2nm,1.0s,mb4.6
BOYT Boyabat 81.47 313 *i P* **P** 14 59 24.1 +1.2
PPT Papeete 81.69 116 *eLR* LR 15 24 06.7
comp=Z,158nm,22.5s,baz=298
PPT Papeete 81.69 116 LR LR 15 29 54.3
comp=Z,158nm,20.2s,MS4.4,baz=317,slow=32
GZT Gaziantep 81.94 309 *i P* **P** 14 59 26.8 +1.4
PDAR Pinedale Array 82.04 45 P **P** 14 59 25.9 +0.1
comp=Z,1.5nm,0.7s,mb4.0,baz=299,slow=2.7,SNR=12
PDAR LR LR 15 30 01.4
comp=Z,118nm,21.6s,MS4.2,baz=143,slow=31
DAU Daniels Canyon 82.31 47 *eP* **P** 14 59 28.1 +0.9
BALT Daday 82.35 314 *i P* **P** 14 59 27.8 +0.3
CCUT Cedar City 82.51 51 *eP* **P** 14 59 30.1 +1.8
BRTR Keskin Array B 83.21 312 P **P** 14 59 32.5 +0.6
comp=Z,8.3nm,0.8s,mb4.8,baz=112,slow=3.7,SNR=12
SRU San Rafael 83.50 48 *eP* **P** 14 59 33.0 -0.4
SRU pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
SRU San Rafael 83.50 48 *eP* **P** 14 59 33.0 -0.4
comp=Z,5.0nm,0.7s,mb4.8
OJC Ojcow 84.41 327 *eP* **P** 14 59 38.2 +0.1
TAOE Nuku Hiva Isla 84.51 104 *eLR* LR 15 25 25.7
comp=Z,602nm,23.3s
MEST Erdemli 84.65 310 *i P* **P** 14 59 40.1 +0.8
ULM Lac du Bonnet 84.73 33 LR LR 15 35 21.1
comp=Z,90nm,20.0s,MS4.2,baz=316,slow=34
PV10 Paradox Valley 84.87 48 *eP* **P** 14 59 42.5 +2.0
TBI Tubuai 85.15 121 *eLR* LR 15 25 43.3
comp=Z,156nm,23.2s
PV01 Paradox Valley 85.31 48 *eP* **P** 14 59 43.3 +0.7
OKC Ostrava-Krasne 85.45 327 *eP* **P** 14 59 42.3 -1.0
MORC Moravsky Berou 85.78 327 *eP* **P** 14 59 45.0 +0.1
DPC Dobruska-Polom 85.93 328 *eP* **P** 14 59 45.9 +0.2
UPC Upice 85.96 329 *eP* **P** 14 59 45.7 -0.1
PVCC Panska Ves 86.58 329 *eP* **P** 14 59 49.3 +0.4
PRU Pruhonice 86.99 329 *ep* P pP 14 59 59.3 +1.0
KHC Kasperske Hory 88.04 329 *eP* **P** 14 59 55.5 -0.5
GERES GERESS Array B 88.20 329 P **P** 14 59 56.0 -0.7
comp=Z,1.1nm,0.7s,mb4.2,baz=38,slow=5.0,SNR=6.8
GERES LR LR 15 42 49.2
comp=Z,303nm,18.1s,MS4.8,baz=275,slow=38
GIVF Givet 90.91 334 *eP* **P** 15 00 09.0 -0.4
CDF Champ du Feu 91.29 332 *eP* **P** 15 00 10.7 -0.5
LPL La Plagne 93.81 330 *eP* **P** 15 00 23.0 +0.2
LPG La Plagne 93.81 330 *eP* **P** 15 00 23.0 +0.2
comp=Z,7.6nm,0.7s,mb4.9
LPG La Plagne 93.81 330 *eP* **P** 15 00 23.0 +0.2
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
LPG La Plagne 93.81 330 *eP* **P** 15 00 23.0 +0.2
comp=Z,3.8nm,0.7s,mb4.9
SSF Saint Saulge 93.89 333 *eP* **P** 15 00 22.7 -0.5
comp=Z,4.2nm,0.6s,mb4.8
SSF Saint Saulge 93.89 333 *eP* **P** 15 00 22.7 -0.5
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
SSF Saint Saulge 93.89 333 *eP* **P** 15 00 22.7 -0.5
comp=Z,2.1nm,0.6s,mb4.7
SMF Signal de Mont 94.10 332 *eP* **P** 15 00 23.6 -0.5
comp=Z,9.2nm,0.8s,mb4.9
SMF Signal de Mont 94.10 332 *eP* **P** 15 00 23.6 -0.5
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
SMF Signal de Mont 94.10 332 *eP* **P** 15 00 23.6 -0.5
comp=Z,4.6nm,0.8s,mb5.0
AVF Avril sur Loir 94.18 333 *eP* **P** 15 00 24.1 -0.4
comp=Z,9.1nm,0.7s,mb5.0
AVF Avril sur Loir 94.18 333 *eP* **P** 15 00 24.1 -0.4
AVF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
AVF Avril sur Loir 94.18 333 *eP* **P** 15 00 24.1 -0.4
comp=Z,4.6nm,0.7s,mb5.0
SBF Sospel 94.80 329 *eP* **P** 15 00 27.4 +0.1
TCF Toulx Ste Croi 95.04 333 *eP* **P** 15 00 28.1 -0.3
TORD Torodi Ar. Bea 121.82 312 PKP PKPdf 15 05 60.0 +0.3
comp=Z,0.8nm,0.5s,baz=14,slow=1.6,SNR=10
DBIC Dimbokro 130.90 313 PKP PKPdf 15 06 18.4 +1.4
comp=Z,1.8nm,0.5s,baz=344,slow=7.4,SNR=3.8
LPAZ La Paz 149.32 69 PKPbc PKPbc 15 06 55.5 +1.1
comp=Z,3.5nm,0.7s,baz=14,slow=3.9,SNR=13
LPAZ La Paz 149.32 69 *e*PKPbc PKPbc 15 06 56.1 +1.7
PLCA Paso Flores 152.16 120 PKPbc PKPbc 15 07 01.9 +0.8
comp=Z,1.1nm,0.6s,baz=224,slow=3.9,SNR=4.6

IDC 16 14:54:48.0±63.0, 1624S×17680W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, Error ellipse: s-maj=1179.0km s-min=171.8km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.79**	**240**	P	P	15 02 30.7	-0.3

2.6nm,1.1s,baz=85,slow=11,SNR=3.9

WRA Warramunga Arr 46.47 258 P P 15 03 17.2 +0.4
1.0nm,0.6s,baz=92,slow=7.3,SNR=24
ASAR Alice Springs 46.74 253 P P 15 03 19.6 +0.6
3.3nm,0.5s,baz=88,slow=7.7,SNR=140
ASPA Alice Springs 46.74 253 *eP* P 15 03 19.4 +0.5

IDC 16 15:00:38.1±1.5, 1881N×12112E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=157.8km s-min=21.2km az=65.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**31.34**	**341**	P	P	15 07 01.3	+1.1
WRA	**Warramunga Arr**	**40.64**	**161**	P	P	15 08 20.3	+0.5
MKAR	**Makanchi Array**	**42.27**	**320**	P	P	15 08 32.6	-0.7
ASAR	**Alice Springs**	**44.02**	**163**	P	P	15 08 48.6	+1.2
STKA	**Stephens Creek**	**54.09**	**158**	P	P	15 10 02.9	-1.6

0.4nm,0.4s,baz=340,slow=6.8,SNR=18
1.6nm,0.7s,baz=21,slow=8.6,SNR=4.0
0.7nm,0.8s,baz=114,slow=11,SNR=4.5

*IDC **16** 15:01:14.7±2.2, 3066N×14166E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.6/20, mbtmp3.7/7, ML3.3/3, Error ellipse: s-maj=104.9km s-min=17.6km az=74.0*
*ISCJB **16** 15:01:16.9±0.7, 3068N±006×1417E±02, h33km, mb3.7/4, Error ellipse: s-maj=28.1km s-min=4.2km az=146.7*
*JMA **16** 15:01:16.1±0.1, 3072N×14183E, h34km, M3.8*
ISC 16 15:01:17.9±2.6, 3065N±009×1416E±03, h22km±24km, n15, σ0°79/22, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.88**	**329**	P	**Pn**	**15 02 02.2**	**-0.2**
JHJ2				*e*S	**Sn**	**15 02 36.4**	**+0.1**
JHJ	**Hachijo jima 2**	**2.90**	**329**	Pn	**Pn**	**15 02 02.1**	**-0.6**
JHJ				Sn	**Sn**	**15 02 35.5**	**-1.4**
CBIJ	**Chichi jima**	**3.58**	**171**	Pn	**Pn**	**15 02 11.6**	**-0.5**
CBIJ				Sn	**Sn**	**15 02 50.9**	**-2.8**
CBIJ	**Chichi jima**	**3.58**	**171**	P	**Pn**	**15 02 12.0**	**-0.1**
CBIJ				*e*S	**Sn**	**15 02 53.4**	**-0.3**
BSO3	**Boso 3**	**4.24**	**348**	P	**Pn**	**15 02 20.6**	**-0.5**
JHU	**Hanno**	**5.53**	**340**	P	**Pn**	**15 02 39.9**	**+1.0**
JHU				*e*S	**Sn**	**15 03 41.5**	**-0.4**
JRY	**Ryogami san**	**5.80**	**338**	P	**Pn**	**15 02 44.0**	**+1.4**
JHO	**Hitachi**	**6.01**	**352**	P	**Pn**	**15 02 44.2**	**-1.2**
JHO				S	**Sn**	**15 03 48.9**	**-4.6**
JAG	**Ashikaga**	**6.03**	**344**	P	**Pn**	**15 02 46.3**	**+0.6**
MJAR	**Matsushiro Arr**	**6.51**	**335**	Pn	**Pn**	**15 02 51.9**	**-0.5**
MAT	**Matsushiro**	**6.51**	**335**	P	**Pn**	**15 02 53.0**	**+0.6**
MAT				S	**Sn**	**15 04 06.4**	**+0.4**
MKAR	**Makanchi Array**	**47.85**	**307**	P	**P**	**15 09 55.0**	**+0.9**
WRA	**Warramunga Arr**	**50.78**	**189**	P	**P**	**15 10 16.7**	**+0.4**
ASAR	**Alice Springs**	**54.50**	**189**	P	**P**	**15 10 44.5**	**+0.5**
FINES	**FINESS Array B**	**74.54**	**333**	P	**P**	**15 12 55.0**	**0.0**

1.0nm,0.3s,baz=149,slow=11,SNR=9.0
0.3nm,0.4s,mb3.6,baz=81,slow=8.9,SNR=3.4
0.6nm,0.5s,mb3.8,baz=5.4,slow=7.5,SNR=24
0.2nm,0.3s,mb3.6,baz=359,slow=5.3,SNR=17

*ISCJB **16** 15:12:56.3±0.6, 3735N±004×54.10E±005, h10km, Error ellipse: s-maj=6.4km s-min=4.9km az=116.2*
*THR **16** 15:12:56.1±0.9, 3746N×5405E, h14km±9km, ML4.3*
*CSEM **16** 15:12:56.5±0.1, 3734N×54.11E, h16km, ML3.8, Error ellipse: s-maj=2.8km s-min=1.5km az=154.0*
*TEH **16** 15:12:57.6, 3734N×5409E, h3km, Mn3.8*
ISC 16 15:12:56.8±0.9, 3733N±004×5407E±004, h1km±6km, n27, σ0°92/36, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**1.16**	**196**	*e*Pg	**Pg**	**15 13 19.0**	**-0.1**
IKIA				*e*Sg	**Sg**	**15 13 34.8**	**+0.7**
MRVT	**Maraveh tapeh**	**1.64**	**78**	*e*PG	**Pg**	**15 13 26.0**	**-2.2**
MRVT				AML	AML	15 13 51.5	
MRVT				AML	AML	15 13 51.7	
ISHM	**Shahmirzad**	**1.64**	**203**	*e*Pn	**Pn**	**15 13 27.5**	**+0.7**
ISHM				*e*Sn	**Sn**	**15 13 49.4**	**+0.9**
IANJ	**Anjiloo**	**1.86**	**184**	*e*Pn	**Pn**	**15 13 30.9**	**+1.1**
IANJ				*e*Sn	**Sn**	**15 13 54.8**	**+0.9**
IFIR	**Firoozkooh**	**1.99**	**213**	*e*Pn	**Pn**	**15 13 31.7**	**+0.2**
ILAS	**Lasjerd**	**2.14**	**205**	*e*Pn	**Pn**	**15 13 35.0**	**+1.4**
DAMV	**Damavand**	**2.40**	**226**	*e*Pn	**Pn**	**15 13 37.9**	**+0.8**
DAMV				AML	AML	15 14 15.9	
DAMV				AML	AML	15 14 17.8	
IDMV	**Damavand**	**2.40**	**224**	*e*Pn	**Pn**	**15 13 38.1**	**+0.9**
IAFJ	**Afjeh**	**2.40**	**233**	*e*Pn	**Pn**	**15 13 37.7**	**+0.5**
CHTH	**Charan**	**2.76**	**240**	*e*PN	**Pn**	**15 13 43.2**	**+1.0**
CHTH				*e*SG	**Sg**	**15 14 24.0**	**-1.5**
THKV	**Tehran--Karaj**	**2.93**	**242**	*e*PN	**Pn**	**15 13 45.5**	**+1.0**
THKV				AML	AML	15 14 32.0	
THKV				AML	AML	15 14 33.5	
IVRN	**Varamin**	**3.00**	**220**	*e*Pn	**Pn**	**15 13 45.3**	**-0.2**
IVRN				*e*Sn	**Sn**	**15 14 21.5**	**-0.6**
ISFR	**Esferayen**	**3.15**	**94**	*e*Pn	**Pn**	**15 13 47.7**	**+0.2**
IMHD	**Mahdasht**	**3.20**	**240**	*e*Pn	**Pn**	**15 13 48.8**	**+0.7**
IMHD				*e*Sn	**Sn**	**15 14 26.3**	**-0.5**
ISFB	**Sefidab**	**3.32**	**207**	*e*Pn	**Pn**	**15 13 49.6**	**-0.2**
ISFB				*e*Sn	**Sn**	**15 14 29.1**	**-0.8**
IEMG	**Emamqoli**	**3.65**	**87**	*e*Pn	**Pn**	**15 13 53.9**	**-0.4**
IRAZ	**Razeghan**	**3.86**	**241**	*e*Sn	**Sn**	**15 14 42.1**	**-1.0**
IKLH	**Kalahroud**	**4.49**	**208**	*e*Pn	**Pn**	**15 14 05.7**	**-0.2**
IZEF	**Zefreh**	**4.65**	**198**	*e*Pn	**Pn**	**15 14 07.3**	**-0.8**
IZEF				*e*Sn	**Sn**	**15 15 00.8**	**-1.9**
IMYA	**Miamay**	**4.94**	**100**	*e*Pn	**Pn**	**15 14 11.6**	**-0.4**
ICHK	**Chekchek**	**5.08**	**177**	*e*Pn	**Pn**	**15 14 13.9**	**-0.1**
GRMI	**Germi**	**5.09**	**289**	*e*PN	**Pn**	**15 14 13.2**	**-1.0**
IPIR	**Pirpir**	**5.32**	**210**	*e*Pn	**Pn**	**15 14 18.6**	**+1.3**
IPIR				*e*Sn	**Sn**	**15 15 16.6**	**-2.6**
IBST	**Bostanabad**	**5.72**	**276**	*e*Pn	**Pn**	**15 14 22.9**	**+0.1**
IBAF	**Bafgh**	**5.86**	**167**	*e*Pn	**Pn**	**15 14 24.5**	**-0.2**
IMEH	**Mehriz**	**5.94**	**176**	*e*Pn	**Pn**	**15 14 25.8**	**0.0**
IMRD	**Marand**	**6.75**	**284**	*e*Pn	**Pn**	**15 14 37.7**	**+0.7**

*BNS **16** 15:14:18.4±2.6, 5088N×869E, h1km, ML1.7*
*ISCJB **16** 15:14:20.8±0.3, 4936N±002×684E±003, h0km, Error ellipse: s-maj=3.0km s-min=2.2km az=14.7*
*STR **16** 15:14:22.6±0.3, 4937N×690E, h1km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **16** 15:14:22.8±0.1, 4938N×688E, h1km, Md2.9/1, Ml2.8/10, Error ellipse: s-maj=1.6km s-min=1.2km az=85.0, Suspected Mining induced.*
*CSEM **16** 15:14:22.4±0.1, 4938N×691E, h1km, ML2.7/9, Error ellipse: s-maj=1.4km s-min=1.1km az=106.0*
*NEIC **16** 15:14:22.6, 4937N×690E, h1km, ML2.5(STR), ML2.8(LDG), After STR.*
*BGR **16** 15:14:24.4±1.8, 4935N×706E, h1km, ML2.0/2, Error ellipse: s-maj=28.9km s-min=6.7km az=92.0*
ISC 16 15:14:21.9±0.3, 4937N±002×686E±003, h0km, n34, σ0°74/59, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**21**	Pg	**Pg**	**15 14 29.0**	**+0.2**
RUP				Sg	**Sg**	**15 14 34.2**	**+0.8**
ABH	**Alteburg**	**0.68**	**41**	Pg	**Pg**	**15 14 34.8**	**-0.1**
BGG	**Burgeitz**	**0.89**	**20**	*e*Pg	**Pg**	**15 14 39.5**	**+0.5**
BGG	**Burgeitz**	**0.89**	**20**	Pg	**Pg**	**15 14 39.5**	**+0.5**
HILG	**Hillesheim**	**0.93**	**353**	*e*Pg	**Pg**	**15 14 40.8**	**+1.0**
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pn	**Pn**	**15 14 41.9**	**-1.2**
CDF				*e*Sg	**Sg**	**15 14 54.1**	**+0.2**
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pg	**Pg**	**15 14 40.8**	**-0.2**
CDF				*e*Pn	**Pn**	**15 14 41.9**	**-1.2**
CDF				*e*Sg	**Sg**	**15 14 54.1**	**+0.2**

31nm,0.5s

CDF	**Champ du Feu**	**0.99 164**	*e*Pn	**Pn**	**15 14 41.9**	**-1.2**
CDF			*e*Sg	**Sg**	**15 14 54.1**	**+0.2**
16nm,0.5s						
WLS	**Welschbruch**	**1.01 161**	Pg	**Pg**	**15 14 42.2**	**+0.9**
WLS			Sg	**Sg**	**15 14 56.2**	**+1.8**
ECH	**Echery**	**1.17 170**	Pg	**Pg**	**15 14 44.9**	**+0.6**
ECH			Sg	**Sg**	**15 15 00.4**	**+0.9**
RFYF	**Reffroy**	**1.18 232**	*e*Pg	**Pg**	**15 14 45.6**	**+1.1**
RFYF	baz=46		*e*Sg	**Sg**	**15 15 00.5**	**+0.8**
49nm,0.5s						
RFYF	**Reffroy**	**1.18 232**	*e*Pg	**Pg**	**15 14 45.6**	**+1.1**
RFYF			*e*Sg	**Sg**	**15 15 00.5**	**+0.8**
24nm,0.5s						
THEF	**They Montfort**	**1.28 207**	Pn	**Pn**	**15 14 46.5**	**-0.6**
THEF			Sg	**Sg**	**15 15 03.8**	**+0.7**
TOD	**Tromm**	**1.29 79**	Pn	**Pn**	**15 14 46.1**	**-1.0**
TOD			Sg	**Sg**	**15 15 03.6**	**+0.3**
KLL	**Kalltalsperre**	**1.33 345**	*e*Pg	**Pg**	**15 14 47.3**	**0.0**
KLL			*e*Sg	**Sg**	**15 15 04.6**	**+0.1**
TNS	**Taunus Mts**	**1.34 50**	*e*Pg	**Pg**	**15 14 47.4**	**-0.1**
TNS	SNR=5.1		*e*Sg	**Sg**	**15 15 04.1**	**-0.7**
SNR=4.6						
HAU	**Haudompre**	**1.41 194**	*e*Pg	**Pg**	**15 14 47.9**	**-1.0**
HAU			*e*Sg	**Sg**	**15 15 07.5**	**+0.4**
15nm,0.2s						
HAU	**Haudompre**	**1.41 194**	*e*Pg	**Pg**	**15 14 47.9**	**-1.0**
HAU			*e*Sg	**Sg**	**15 15 07.5**	**+0.4**
7.3nm,0.2s						
BFO	**Black Forest**	**1.42 136**	*e*Pg	**Pg**	**15 14 48.7**	**-0.5**
BFO	SNR=7.0		*e*Sg	**Sg**	**15 15 06.4**	**-1.2**
SNR=5.7						
MEZF	**Maizieres J'vi**	**1.48 235**	*e*Sg	**Sg**	**15 15 09.6**	**+0.2**
19nm,0.5s						
MEZF	**Maizieres J'vi**	**1.48 235**	*e*Sg	**Sg**	**15 15 09.6**	**+0.2**
9.4nm,0.5s						
GIVF	**Givet**	**1.51 300**	*e*Pg	**Pg**	**15 14 50.9**	**0.0**
GIVF			*e*Sg	**Sg**	**15 15 10.4**	**-0.1**
10nm,0.3s						
GIVF	**Givet**	**1.51 300**	*e*Pg	**Pg**	**15 14 50.9**	**0.0**
GIVF			*e*Sg	**Sg**	**15 15 10.4**	**-0.1**
5.2nm,0.3s						
MOF	**Molkenrain**	**1.53 173**	Pn	**Pn**	**15 14 50.5**	**0.0**
MOF			Sg	**Sg**	**15 15 11.6**	**+0.6**
HINF	**Hinteralfeld**	**1.55 180**	*e*Pg	**Pg**	**15 14 51.1**	**-0.6**
HINF			*e*Sg	**Sg**	**15 15 12.0**	**+0.2**
50nm,0.3s						
HINF	**Hinteralfeld**	**1.55 180**	*e*Pg	**Pg**	**15 14 51.1**	**-0.6**
HINF			*e*Sg	**Sg**	**15 15 12.0**	**+0.2**
25nm,0.3s						
FELD	**Feldberg im Sc**	**1.68 153**	Pn	**Pn**	**15 14 52.1**	**-0.4**
BAIF	**Baives**	**1.86 293**	*e*Pg	**Pg**	**15 14 57.4**	**-0.1**
BAIF			*e*Sg	**Sg**	**15 15 21.4**	**-0.2**
6.7nm,0.3s						
BAIF	**Baives**	**1.86 293**	*e*Pg	**Pg**	**15 14 57.4**	**-0.1**
BAIF			*e*Sg	**Sg**	**15 15 21.4**	**-0.2**
3.3nm,0.3s						
CABF	**La Chapelle**	**2.81 191**	*e*Sg	**Sg**	**15 15 51.3**	**-0.8**
6.8nm,0.5s						
CABF	**La Chapelle**	**2.81 191**	*e*Sg	**Sg**	**15 15 51.3**	**-0.8**
3.4nm,0.5s						
LOR	**Lormes**	**2.91 225**	*e*Sn	**Sn**	**15 15 42.7**	**-2.3**
LOR			*e*Sg	**Sg**	**15 15 54.5**	**-0.7**
7.2nm,0.4s,baz=38						
LOR	**Lormes**	**2.91 225**	*e*Sn	**Sn**	**15 15 42.7**	**-2.3**
LOR			*e*Sg	**Sg**	**15 15 54.5**	**-0.7**
3.6nm,0.4s						
GEC2	**GERESS Array S**	**4.52 94**	*e*Pn	**Pn**	**15 15 31.8**	**+0.2**
SNR=4.6						

NEIC ***16*** *15:16:22.6, 1974N×6449W, h48km, MD3.7(RSPR), After RSPR.*

RSPR 16 15:16:22.6, 1974N×6449W, h48km±20km, MD3.7/16, MD3.7/16, 15C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**1.01 172**	⇓	*e*P	Pn	15 16 39.1	-1.3
ABV	**Anegada**	**1.01 172**		*e*S	Sn	15 16 52.5	-1.1
TBVI	**Tortola**	**1.33 185**	⇑	*e*P	Pn	15 16 44.1	-0.6
TBVI				*e*S	Sn	15 17 00.4	-0.8
MTP	**Monte Pirata**	**1.92 212**	⇑	*e*P	Pn	15 16 51.3	-1.6
MTP				*e*S	Sn	15 17 15.3	-0.5
CBYP	**Canovanas**	**1.95 222**	⇑	*e*P	Pn	15 16 50.8	-2.4
CBYP				*e*S	Sn	15 17 15.8	-0.7
HUMP	**Col San Antoni**	**2.04 219**	⇑	*e*P	Pn	15 16 52.8	-1.7
HUMP				*e*S	Sn	15 17 17.7	-1.1
CPD	**Cerro la Pandu**	**2.17 219**	⇑	*e*P	Pn	15 16 55.2	-1.0
CPD				*e*S	Sn	15 17 20.2	-1.5
SJG	**San Juan**	**2.26 224**	⇑	*e*P	Pn	15 16 56.2	-1.2
SJG				*e*S	Sn	15 17 23.8	-0.2
SJG	**San Juan**	**2.26 224**	⇑	*e*P	Pn	15 16 56.1	-1.3
SJG				*e*S	Sn	15 17 23.1	-1.0
AOPR	**Arecibo Observ**	**2.55 237**	⇑	*e*P	Pn	15 17 01.3	-0.1
AOPR				*e*S	Sn	15 17 30.1	-1.2
CELP	**Cerrillos**	**2.58 230**	⇑	*e*P	Pn	15 17 01.1	-0.8
CELP				*e*S	Sn	15 17 30.8	-1.2
OBIP	**Obispado Ponce**	**2.62 230**	⇑	*e*P	Pn	15 17 01.9	-0.5
OBIP				*e*S	Sn	15 17 33.0	+0.1
LRS	**Lares**	**2.65 238**	⇑	*e*P	Pn	15 17 02.3	-0.5
LRS				*e*S	Sn	15 17 33.4	-0.3
ICM	**Isla Caja Muer**	**2.66 227**	⇑	*e*P	Pn	15 17 03.2	+0.2
ICM				*e*S	Sn	15 17 34.0	+0.1
LSP	**Las Mesas**	**2.91 238**	⇑	*e*P	Pn	15 17 06.4	+0.1
LSP				*e*S	Sn	15 17 39.5	-0.6
MGP	**Maguayo**	**3.00 235**	⇑	*e*P	Pn	15 17 07.8	+0.1
MGP				*e*S	Sn	15 17 41.2	-1.3
CRPR	**Cabo Rojo, PR**	**3.02 236**	⇑	*e*P	Pn	15 17 07.5	-0.5
CRPR				*e*S	Sn	15 17 42.7	-0.2

IDC ***16*** *16:52:18.8±3.8, 2031N×12275E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=295.7km s-min=26.1km az=61.0*

ISCJB ***16*** *16:52:24.2±1.1, 190N±0.1×1199E±0.1, h7km, mb3.6/4, Error ellipse: s-maj=25.0km s-min=10.4km az=82.2*

MAN ***16*** *16:52:30.9, 1862N×12008E, h7km, mb2.9, ML4.3, MS1.7*

ISC 16 16:52:25.1±1.1, 190N±01×1199E±01, h7km, n12, σ1§31/13, mb3.6/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.95 133**	⇑	*i*P	**Pg**	**16 52 42.6**	**-0.7**
PIP				*e*S	**Sg**	**16 52 55.6**	**0.0**
ABRA	**Dolores**	**1.53 149**		*e*P	**Pn**	**16 52 51.9**	**-1.0**
APYP	**Conner**	**1.69 130**		*e*P	**Pn**	**16 52 54.7**	**-0.5**
CVP	**Callao Caves**	**2.23 124**		*e*P	**Pn**	**16 53 02.0**	**-0.5**
BOLP	**Bolinao**	**2.58 179**		*e*P	**Pn**	**16 53 08.4**	**+1.1**
CAUP	**Cauayan**	**2.73 137**		*e*P	**Pn**	**16 53 11.1**	**+1.8**
PALP	**Palanan**	**3.07 128**		*e*P	**Pn**	**16 53 16.3**	**+2.2**
BALP	**Baler**	**3.59 153**		*e*P	**Pn**	**16 53 22.5**	**+1.3**
WRA	**Warramunga Arr**	**41.19 159**		P	**P**	**17 00 08.0**	**-2.2**
0.4nm,0.6s,mb3.2,baz=345,slow=8.9,SNR=4.6							
MKAR	**Makanchi Array**	**41.41 321**		P	**P**	**17 00 12.9**	**+0.8**
0.6nm,0.8s,mb3.3,baz=110,slow=9.3,SNR=5.9							
ASAR	**Alice Springs**	**44.53 162**		P	**P**	**17 00 36.6**	**-0.7**
0.5nm,0.4s,mb3.7,baz=340,slow=7.0,SNR=8.7							
STKA	**Stephens Creek**	**54.67 157**		P	**P**	**17 01 51.8**	**-2.9**
0.9nm,0.4s,mb4.1,baz=325,slow=15,SNR=4.8							

MAN 16 17:07:29.4, 1045N×12661E, h11km, mb3.2, ML4.5, MS7.5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.29 239**		*e*P	Pn	17 07 52.0	-1.3
SCPH				*e*S	Sb	17 08 08.6	-1.6
BESP	**Borongan**	**1.62 315**		*e*P	Pn	17 07 57.2	-0.7
MSLP	**Maasin**	**1.75 260**		*e*P	Pn	17 07 59.5	-0.2
MSLP	**Maasin**	**1.75 260**		*e*P	Pn	17 08 00.6	+1.0
PLP	**Palo**	**1.75 294**		*i* P	Pn	17 07 59.3	-0.4
PLP				*e*S	Sn	17 08 23.0	+1.0
BUTP	**Butuan**	**1.76 214**		*e*P	Pn	17 07 59.2	-0.6
BUTP				*e*S	Sn	17 08 24.0	+1.7
BUTP	**Butuan**	**1.76 214**		*e*P	Pn	17 08 00.0	+0.1
OCLP	**Ormoc**	**2.05 287**		*e*P	Pn	17 08 05.2	+1.3
OCLP	**Ormoc**	**2.05 287**		*e*P	Pn	17 08 05.2	+1.4
BUKP	**Musuan**	**2.98 211**		*e*P	Pn	17 08 18.2	+1.7
BUKP	**Musuan**	**2.98 211**		*e*P	Pn	17 08 18.2	+1.7
PVCP	**Virac**	**3.94 323**		*e*P	Pn	17 08 28.4	-1.5
GUIM	**Jordan**	**3.96 273**		*e*P	Pn	17 08 30.5	+0.5
GUIM	**Jordan**	**3.96 273**		*e*P	Pn	17 08 30.9	+0.9

NIED ***16*** *17:10:00, 4040N×14380E, h14km, Mw5.5 Best double couple: M∘1.82000×10^17 NP1:φ∘s40.00000°, δ76.00000°, λ123.00000°. NP2:φ∘s149.00000°, δ36.00000°, λ24.00000°.*

IDC ***16*** *17:10:35.3±0.5, 4029N×14365E, h0km, mb4.9/20, mb1 5.0/22, mb1mx5.0/23, mbtmp4.9/22, ML4.6/2, MS5.2/10, Ms1 5.2/10, ms1mx4.6/19, Error ellipse: s-maj=16.9km s-min=12.7km az=97.0*

JMA ***16*** *17:10:35.4±0.2, 4037N×14378E, h11km, M5.7*

JMA Felt I J1.

ISCJB ***16*** *17:10:38.4±0.1, 4030N±002×14373E±002, h29km, mb5.6/301, MS5.5/71, Error ellipse: s-maj=3.0km s-min=1.8km az=123.7*

NEIC ***16*** *17:10:40.3±0.1, 4035N×14371E, mb5.6/164, MS5.6/14, MW5.5, MW5.4(NIED), Error ellipse: s-maj=3.6km s-min=2.4km az=163.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^17Nm; Mrr0.29; Mθθ0.23; Mφφ-0.52; Mrθ0.96; Mrφ-0.15; Mθφ1.80; Best double couple: M∘2.10000×10^17 NP1:φ∘s28.00000°, δ85.00000°, λ96.00000°. NP2:φ∘s158.00000°, δ8.00000°, λ40.00000°. Principal axes: T 2.0000, Plg50.0000°, Azm305.0000°; N 0.1900, Plg6.0000°, Azm208.0000°; P -2.1800, Plg39.0000°, Azm113.0000°;*

NEIC Felt [II] at Misawa. Recorded [1 JMA] in Akita, Aomori, Iwate and Miyagi. Also recorded [1 JMA] in south-central Hokkaido.

HRVD ***16*** *17:10:40.3±0.2, 4036N×14391E, h13km, MW5.5/99, Centroid moment Tensor Solution. LP body waves: s71,c130;Mantle waves: s99,c217; Half duration: 1§3 Moment tensor: Scale 10^17Nm; Mrr0.89±.02; Mθθ0.15±.01; Mφφ-1.03±.02; Mrθ0.65±.05; Mθφ-0.16±.01; Mφr1.51±.08; Best double couple: M∘1.91200×10^17 NP1:φ∘s171.00000°, δ17.00000°, λ60.00000°. NP2:φ∘s22.00000°, δ75.00000°, λ99.00000°. Principal axes: T 1.8620, Plg59.0000°, Azm303.0000°; N 0.1030, Plg8.0000°, Azm199.0000°; P -1.9620, Plg30.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***16*** *17:10:40.7, 4044N×143.16E, h30km, mB5.9, mb5.4, Ms5.7, Msz5.5*

MOS ***16*** *17:10:40.2±0.9, 4053N×14359E, h33km, mb5.8/112, MS5.5/49, Error ellipse: s-maj=6.9km s-min=3.4km az=111.8*

SZGRF ***16*** *17:10:41.0, 4080N×144.18E, h30km, mb5.7, MS5.8, Off east coast of Honshu, Japan*

BGS ***16*** *17:10:41.0, 4048N×144.20E, h33km, mb5.3*

ISC 16 17:10:40.5±0.1, 4040N±002×14368E±002, h31km, h31km±.6km:pP-P, n1049, σ0§87/1065, mb5.6/300, MS5.5/71, 297C-75D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.47 252**	⇑	P	**Pn**	**17 11 02.9**	**-1.9**
MIYJ	**Miyakonagasawa**	**1.65 241**	⇑	P	**Pn**	**17 11 05.6**	**-1.7**
JANG	**Nango**	**1.65 270**	⇑	P	**Pn**	**17 11 05.9**	**-1.5**
JANG				*e*S	**Sn**	**17 11 28.0**	**+0.5**
JEM	**Erimo**	**1.66 346**		P	**Pn**	**17 11 06.0**	**-1.4**
JNBK	**Urakawa-nobuka**	**2.00 340**	⇑	P	**Pn**	**17 11 11.2**	**-0.9**
JTM	**Tenmabayashi**	**2.02 282**	⇑	P	**Pn**	**17 11 12.0**	**-0.5**
JOM	**Ohasama**	**2.06 244**	⇑	P	**Pn**	**17 11 12.0**	**-0.9**
JOM				*e*S	**Sn**	**17 11 38.4**	**+0.9**
JCH	**Churui**	**2.22 354**		P	**Pn**	**17 11 13.5**	**-1.7**
JCH				*e*S	**Sn**	**17 11 40.9**	**-0.7**
JOT	**Ohata**	**2.22 297**	⇑	P	**Pn**	**17 11 14.5**	**-0.7**
JOT				*e*S	**Sn**	**17 11 42.3**	**+0.7**
JMK	**Ichinoseki**	**2.39 233**		P	**Pn**	**17 11 16.3**	**-1.2**
JMK				*e*S	**Sn**	**17 11 45.5**	**-0.2**
JKB	**Kayabe**	**2.49 307**	⇑	P	**Pn**	**17 11 18.4**	**-0.5**
JAK	**Akkeshi**	**2.70 16**	⇓	P	**Pn**	**17 11 19.8**	**-2.0**
JAK				*e*S	**Sn**	**17 11 51.6**	**-1.8**
JYW	**Yuwa**	**2.80 253**	⇑	P	**Pn**	**17 11 23.2**	**0.0**
JIW	**Iwasaki**	**2.81 275**	⇑	P	**Pn**	**17 11 23.5**	**+0.3**
JFR	**Furan**	**2.88 344**		P	**Pn**	**17 11 22.0**	**-2.2**
JAR	**Ashorobuto**	**2.89 1**	⇑	P	**Pn**	**17 11 22.2**	**-2.2**
JAR				S	**Sn**	**17 11 55.4**	**-2.7**
JEW	**Eniwo**	**2.95 326**	⇑	P	**Pn**	**17 11 25.1**	**-0.1**
JYK	**Kaneyama**	**2.96 241**		P	**Pn**	**17 11 24.7**	**-0.6**
NEM2	**Nemuro 2**	**3.34 27**		P	**Pn**	**17 11 28.0**	**-2.5**
NEM2				*e*S	**Sn**	**17 12 04.4**	**-4.7**
JMM	**Marumori**	**3.38 222**		P	**Pn**	**17 11 28.9**	**-2.3**
JMM				*e*S	**Sn**	**17 12 07.9**	**-2.4**
JYA	**Atsumi**	**3.56 241**	⇑	P	**Pn**	**17 11 33.1**	**-0.5**
JTKR	**Abashiri--Toko**	**3.57 3**	⇑	P	**Pn**	**17 11 31.8**	**-1.9**
ASAJ	**Asahikawa**	**3.80 348**		Pn	**Pn**	**17 11 36.0**	**-0.8**
21nm,0.3s,baz=193,slow=11,SNR=194							
ASAJ				Sn	**Sn**	**17 12 25.9**	**+5.5**
51nm,0.3s,baz=243,slow=31,SNR=5.6							
ASAJ	**Asahikawa**	**3.80 348**		P	**Pn**	**17 11 36.0**	**-0.8**
ASAJ						17 12 26.0	
ASAJ				pmax	pmax		
comp=Z,21nm,0.3s							
ASAJ				smax			
comp=N,51nm,0.3s							
JFT	**Otama**	**3.88 223**		P	**Pn**	**17 11 36.5**	**-1.5**
JAW	**Awa shima**	**3.94 242**	⇑	P	**Pn**	**17 11 38.6**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**3.97 23**		*e*P	**Pn**	**17 11 36.7**	**-2.6**
YUK				*i* S	**Sn**	**17 12 19.0**	**-5.8**
YUK				pmax	pmax		
comp=Z,940nm,0.3s							
YUK				pmax	pmax		
comp=N,770nm,0.5s							
YUK				pmax	pmax		
comp=E,350nm,0.4s							
YUK				smax			
comp=N,8μm,0.5s							
YUK				smax			
comp=E,4μm,0.5s							
YUK				MLR	MLR		
comp=N,34μm,16.0s							
YUK				MLR	MLR		
comp=Z,34μm,16.0s							
YUK				MLR	MLR		
comp=E,50μm,15.0s							
JNS	**Sasagawa**	**4.26 234**		P	**Pn**	**17 11 42.8**	**-0.4**
JFY	**Yanaizu**	**4.31 227**		P	**Pn**	**17 11 43.2**	**-0.7**
JHO	**Hitachi**	**4.50 214**		P	**Pn**	**17 11 43.3**	**-3.3**
JHK	**Hiroka**	**4.81 231**		P	**Pn**	**17 11 50.4**	**-0.4**
JSD	**Sado**	**4.83 242**	⇑	P	**Pn**	**17 11 50.5**	**-0.5**
JAG	**Ashikaga**	**5.18 221**		P	**Pn**	**17 11 54.3**	**-1.5**
JJN	**Nakama**	**5.43 234**	⇑	P	**Pn**	**17 11 59.6**	**+0.4**
JGK	**Kuni**	**5.51 227**	⇑	P	**Pn**	**17 12 00.4**	**+0.1**
KUR	**Kuril'sk**	**5.72 31**	⇑	*i*P	**Pn**	**17 11 58.5**	**-4.8**
KUR				S	**Sn**	**17 13 00.5**	**-7.4**
KUR				pmax	pmax		
comp=N,570nm,0.9s							
KUR				pmax	pmax		
comp=E,950nm,0.9s							
KUR				pmax	pmax		
comp=Z,2μm,0.9s							
KUR				smax			
comp=N,3μm,0.9s							
KUR				smax			
comp=E,990nm,0.9s							
KUR				smax			
comp=N,18μm,6.0s							
KUR				smax			
comp=E,20μm,6.0s							
JSZ	**Suzu**	**5.74 241**	⇑	P	**Pn**	**17 12 03.2**	**-0.3**
MJAR	**Matsushiro Arr**	**5.77 230**		Pn	**Pn**	**17 12 03.8**	**-0.2**
comp=E,14nm,0.3s,baz=39,slow=12,SNR=259							
MAJO	**Matsushiro**	**5.77 230**		*e*P	**Pn**	**17 12 03.6**	**-0.3**
MAJO				pmax	pmax		
comp=Z,444nm,0.8s							
MAJO	**Matsushiro**	**5.77 230**		*e*Pn	**Pn**	**17 12 03.6**	**-0.4**
comp=Z,444nm,0.8s							
MAT	**Matsushiro**	**5.77 230**		P	**Pn**	**17 12 03.5**	**-0.4**
MAT				S	**Sn**	**17 13 12.0**	**+2.9**
MAT	**Matsushiro**	**5.77 230**		P	**Pn**	**17 12 03.4**	**-0.5**
MAT	**Matsushiro**	**5.77 230**		*e*P	**Pn**	**17 12 04.0**	**+0.1**
MAT				*e*S	**Sn**	**17 13 13.0**	**+3.9**
MAT				pmax	pmax		
comp=Z,542nm,1.2s							
MAT	**Matsushiro**	**5.77 230**		*e*P	**Pn**	**17 12 04.0**	**+0.1**
MAT				*e*S	**Sn**	**17 13 13.0**	**+3.9**
JRY	**Ryogami san**	**5.77 222**		P	**Pn**	**17 12 02.1**	**-1.9**
JHG	**Hegura jima**	**5.84 246**		P	**Pn**	**17 12 04.7**	**-0.2**
JNG	**Nsakai**	**5.93 229**		P	**Pn**	**17 12 05.6**	**-0.5**
JTT	**Ttatey**	**6.26 235**		P	**Pn**	**17 12 11.1**	**+0.5**
JYN	**Shimob**	**6.36 221**		P	**Pn**	**17 12 11.4**	**-0.6**
JJH	**Hakui**	**6.42 239**		P	**Pn**	**17 12 13.0**	**+0.2**
JGN	**Niukaw**	**6.51 232**		P	**Pn**	**17 12 14.4**	**+0.2**
YSS	**Yuzh-Sakhalins**	**6.58 354**	⇑	*e*P	**Pn**	**17 12 14.0**	**-1.1**
YSS				*i* S	**Sn**	**17 13 26.0**	**-3.1**
YSS				pmax	pmax		
comp=Z,70nm,1.0s							
YSS				MLR	MLR		
comp=Z,26μm,15.0s							
YSS				MLR	MLR		
comp=N,29μm,14.0s							
YSS				MLR	MLR		
comp=E,19μm,17.0s							
YSS	**Yuzh-Sakhalins**	**6.58 354**		*e*P	**Pn**	**17 12 12.9**	**-2.2**
JIZS	**Izushimoda**	**6.84 215**		P	**Pn**	**17 12 16.6**	**-2.0**
JFM	**Mihama**	**7.79 234**		P	**Pn**	**17 12 31.9**	**+0.3**
JHJ	**Hachijo jima 2**	**7.91 204**		Pn	**Pn**	**17 12 29.7**	**-3.7**
comp=E,65nm,0.3s,baz=82,slow=19,SNR=36							
JHJ				Sn	**Sn**	**17 13 54.3**	**-7.5**
comp=E,91nm,0.3s,baz=46,slow=22,SNR=8.4							
JHJ				LR	LR	17 15 11.4	
comp=E,5μm,18.7s,baz=54,slow=36							
UGL	**Uglegorsk**	**8.75 353**	*c*	*i*P	**Pn**	**17 12 44.0**	**-0.8**
UGL				S	**Sn**	**17 14 22.0**	**-0.4**
UGL				pmax	pmax		
comp=Z,60nm,0.8s							
UGL				smax			
comp=N,1μm,6.0s							
UGL				smax			
comp=E,5μm,6.0s							
UGL				MLR	MLR		
comp=N,19μm,15.0s							
UGL				MLR	MLR		
comp=Z,22μm,15.0s							
UGL				MLR	MLR		
comp=E,27μm,18.0s							
VLA	**Vladivostok**	**9.22 291**	*d*	*i*P	**Pn**	**17 12 52.4**	**+1.1**
VLA				pmax	pmax		
comp=Z,373nm,1.4s							
VLA				MLR	MLR		
comp=Z,21μm,14.0s							
VLA	**Vladivostok**	**9.22 291**	*i*	Pr		17 12 52.5	
HABR	**Khabarovsk**	**10.15 325**	⇑	*i*P	**Pn**	**17 13 02.9**	**-1.1**
HABR				*e*S	**Sn**	**17 14 54.6**	**-2.2**
HABR				pmax	pmax		
comp=Z,324nm,1.5s							
HABR				MLR	MLR		
comp=Z,5μm,13.4s							
MDJ	**Mudanjiang**	**11.22 297**		P	**Pn**	**17 13 19.5**	**+0.9**
MDJ				AP		17 13 24.5	
MDJ				XP		17 13 27.1	
MDJ				S	**Sn**	**17 15 21.8**	**-1.1**
MDJ				XS		17 15 33.3	
MDJ				SS		17 15 37.1	
MDJ				AMB	AMB		
comp=Z,160nm,0.9s							
MDJ				AMB	AMB		
comp=Z,4μm,5.3s							
MDJ				LR	LR		
comp=N,19μm,10.8s							
MDJ				LR	LR		
comp=E,14μm,11.7s							
MDJ				LR	LR		
comp=Z,29μm,14.4s							
MDJ	**Mudanjiang**	**11.22 297**		*e*Pn	**Pn**	**17 13 19.5**	**+0.8**
comp=Z,192nm,1.0s							
KLR	**Kul'dur**	**12.22 320**	⇓	*i*P	**Pn**	**17 13 28.8**	**-3.5**
KLR				*e*		17 15 43.5	
KLR				pmax	pmax		
comp=E,440nm,1.8s							
KLR				pmax	pmax		
comp=Z,530nm,1.8s							
KLR				MLR	MLR		
comp=N,19μm,13.0s							
KLR				MLR	MLR		
comp=E,14μm,13.0s							
KLR				MLR	MLR		
comp=Z,46μm,13.0s							
KS15	**Wonju Array Si**	**12.65 262**	⇑	*i*P	**Pn**	**17 13 38.1**	**-0.2**
OKH	**Okha**	**13.16 358**		*e*P	**Pn**	**17 13 38.2**	**-7.0**
OKH				*e*S	**Sn**	**17 16 10.0**	**-0.5**
OKH				pmax	pmax		
comp=Z,2.0nm,12.0s							
OKH				pmax	pmax		
comp=N,1μm,10.0s							
OKH				smax			
comp=N,2μm,9.5s							
OKH				smax			
comp=E,2μm,9.5s							
OKH				MLR	MLR		
comp=Z,12μm,13.0s							
CBIJ	**Chichi jima**	**13.33 186**		Pn	**Pn**	**17 13 40.3**	**-7.2**
comp=Z,13nm,0.3s,baz=3.9,slow=6.0,SNR=13							
CBIJ				Sn	**Sn**	**17 15 59.0**	**-16**
comp=Z,18nm,0.3s,baz=113,slow=24,SNR=7.4							
SKR	**Severo-Kuril's**	**13.46 36**		*e*P	**Pn**	**17 13 41.7**	**-7.5**
SKR				pmax	pmax		
comp=E,130nm,1.0s							
SKR				pmax	pmax		
comp=Z,220nm,1.0s							
SKR				pmax	pmax		
comp=N,50nm,0.5s							
SKR				MLR	MLR		
comp=Z,12μm,14.0s							
INCN	**Inchon**	**13.59 263**		*e*Pn	**Pn**	**17 13 51.3**	**+0.3**
CN2	**Changchun**	**13.96 290**		*e*P	**Pn**	**17 13 54.3**	**-1.7**
CN2				*e*AP		17 14 01.3	
CN2				*e*S	**Sn**	**17 16 27.8**	**-2.0**
CN2				AMB	AMB		
comp=Z,10.0nm,1.5s							
CN2				AMB	AMB		
comp=Z,200nm,6.0s							
CN2				LR	LR		
comp=N,19μm,13.0s							
CN2				LR	LR		
comp=E,10μm,13.0s							
CN2				LR	LR		
comp=Z,15μm,12.0s							
SNY	**Shenyang**	**15.22 282**	⇑	P	**Pn**	**17 14 12.5**	**-0.6**
SNY				S	**Sn**	**17 17 02.0**	**+1.4**
SNY				AMB	AMB		
comp=Z,130nm,1.6s							
SNY				AMB	AMB		
comp=Z,1μm,3.8s							
SNY				LR	LR		
comp=E,14μm,13.8s							
SNY				LR	LR		
comp=Z,15μm,14.1s							
PET	**Petropavlovsk**	**16.23 34**	*c*	*i*P	**Pn**	**17 14 31.8**	**+5.7**
PET				pmax	pmax

SSE XP sP 17 15 25.1 -2.3
SSE S **S** **17 18 58.5 -3.9**
SSE SCS ScS 17 26 43.8 +0.1
SSE AMB AMB
comp=Z,30nm,1.8s
SSE AMB AMB
comp=Z,900nm,12.0s
SSE LR LR
comp=N,8μm,16.1s,MS5.2
SSE LR LR
comp=E,2μm,16.1s,MS5.2
SSE LR LR
comp=Z,7μm,15.1s,MS5.1
CLNS Chul'man 20.49 330 *e*P **P** **17 15 13.8 -2.0**
CLNS *e* 17 15 24.9
CLNS *e*PPP 17 15 35.4
CLNS *e*S **S** **17 18 51.7 -12**
CLNS *e*SS 17 19 27.8
CLNS *e* 17 19 28.0
CLNS pmax pmax
comp=Z,101nm,0.9s
CLNS pmax pmax
comp=N,105nm,1.2s
CLNS pmax pmax
comp=E,46nm,0.8s
CLNS smax
comp=E,2μm,12.3s
CLNS smax
comp=N,2μm,13.4s
CLNS MLR MLR
comp=E,7μm,13.0s,MS5.5
CLNS MLR MLR
comp=Z,13μm,13.0s,MS5.5
CLNS MLR MLR
comp=N,11μm,14.0s,MS5.5
BJT Baijiatuau 20.99 278 *e*P **P** **17 15 18.1 -3.1**
BJT pmax pmax
comp=Z,403nm,1.4s
BJT Baijiatuau 20.99 278 *e*P **P** **17 15 18.1 -3.0**
comp=Z,403nm,1.4s
TIA Tai'an 21.22 267 *e*P **P** **17 15 21.3 -2.4**
TIA S **S** **17 19 12.0 -5.9**
TIA AMB AMB
comp=Z,90nm,1.2s,mb5.0
TIA LR LR
comp=N,19μm,12.0s,MS5.8
TIA LR LR
comp=E,12μm,13.0s,MS5.8
NJ2 Nanjing 21.64 255 *e*P **P** **17 15 25.3 -2.9**
NJ2 AP 17 15 34.3
NJ2 XP sP 17 15 38.9 -1.5
NJ2 PP 17 15 49.0
NJ2 S **S** **17 19 24.0 -2.1**
NJ2 AMB AMB
comp=Z,300nm,1.1s,mb5.6
NJ2 AMB AMB
comp=Z,780nm,10.0s
NJ2 LR LR
comp=N,15μm,19.4s,MS5.6
NJ2 LR LR
comp=E,17μm,17.0s,MS5.6
NJ2 LR LR
comp=Z,9μm,17.3s,MS5.2
YAK Yakutsk 23.26 343*c i*P **P** **17 15 41.2 -4.2**
YAK pmax pmax
comp=Z,149nm,0.9s,mb5.4
YAK MLR MLR
comp=Z,10μm,15.0s,MS5.4
YAK Yakutsk 23.26 343⇑*i*P **P** **17 15 40.8 -4.6**
comp=Z,142nm,0.7s,mb5.5
YAK *e*Sn **S** **17 19 51.3 -4.0**
CIT Chita 23.69 309⇑*i*P **P** **17 15 46.4 -3.1**
CIT *e*S **S** **17 20 01.8 -0.4**
CIT pmax pmax
comp=Z,1μm,2.6s,mb5.9
TATO Taipei 24.10 237 *e*P **P** **17 15 52.0 -1.2**
comp=Z,78nm,0.8s,mb5.2
HHC Hu-ho-hao-te 24.31 282 *e*P **P** **17 15 52.8 -2.4**
HHC AP 17 16 02.8
HHC XP sP 17 16 06.3 -1.6
HHC PP 17 16 29.5
HHC PCP PcP 17 19 31.1 -3.3
HHC S **S** **17 20 07.9 -4.4**
HHC PCS PcS 17 23 10.3 -4.0
HHC AMB AMB
comp=Z,50nm,2.5s,mb4.5
HHC AMB AMB
comp=Z,2μm,8.2s
HHC LR LR
comp=N,5μm,13.7s,MS5.4
HHC LR LR
comp=E,8μm,15.2s,MS5.4
HHC LR LR
comp=Z,10μm,14.9s,MS5.4
YHNB Yeheng 24.39 237 *e*P **P** **17 15 52.7 -3.2**
NACB Ninganchiao 24.61 236 P **P** **17 15 54.8 -3.1**
BTO Baotou 25.51 282 *e*P **P** **17 16 04.6 -1.5**
BTO S **S** **17 20 25.4 -6.1**
BTO LR LR
comp=N,6μm,11.8s,MS5.6
BTO LR LR
comp=E,10μm,15.7s,MS5.6
WHN Wuhan 25.73 257 P **P** **17 16 06.8 -1.3**
WHN LR LR
comp=Z,25μm,15.0s,MS5.9
BOD Bodaibo 25.78 322 *e*P **P** **17 16 08.2 -0.3**
BOD pmax pmax
comp=Z,295nm,1.1s,mb5.7
QZH Quanzhou 26.02 241⇑*i*P **P** **17 16 10.5 -0.2**
QZH AP pP 17 16 20.3 +0.6
QZH S **S** **17 20 38.6 -1.0**
QZH AMB AMB
comp=Z,1μm,2.2s,mb6.1
QZH LR LR
comp=N,10μm,19.0s,MS5.6
QZH LR LR
comp=E,15μm,19.2s,MS5.6
QZH LR LR
comp=Z,10μm,13.7s
ULN Ulaanbaatar 27.13 298*c i*P **P** **17 16 20.9 +0.2**
ULN Ulaanbaatar 27.13 298⇑*i*P **P** **17 16 20.7 0.0**
comp=Z,117nm,1.4s,mb5.2
SONM Songino Array 27.57 298 P **P** **17 16 24.9 +0.3**
comp=Z,19nm,0.6s,mb4.9,baz=84,slow=6.9,SNR=90
SONM LR LR 17 28 13.3
comp=Z,6μm,18.8s,MS5.2,baz=84,slow=38
XAN Xi'an 28.27 268 P **P** **17 16 29.8 -1.1**
XAN S **S** **17 21 05.4 -10**
XAN AMB AMB
comp=Z,70nm,1.7s,mb5.0
XAN LR LR
comp=N,2μm,17.6s,MS5.2
XAN LR LR
comp=E,4μm,16.1s,MS5.2
XAN LR LR
comp=Z,6μm,13.8s,MS5.4
IRK Irkutsk 29.31 307 *e*P **P** **17 16 39.9 -0.3**
IRK *e* 17 17 32.6
IRK pmax pmax
comp=Z,322nm,1.7s,mb5.8
TLY Talaya 29.63 306 P **P** **17 16 43.6 +0.6**
comp=Z,349nm,1.7s,mb5.8,SNR=17
TLY Talaya 29.63 306 *e*P **P** **17 16 43.0 0.0**
TLY *e* 17 17 45.5
TLY *e*S **S** **17 21 42.3 +5.9**
TLY *e*SS SS 17 23 11.6 -31
TLY pmax pmax
comp=Z,161nm,1.7s,mb5.5
TLY MLR MLR
comp=Z,5μm,14.0s,MS5.3
TLY Talaya 29.63 306 *e*P **P** **17 16 42.8 -0.2**
ZAK Zakamensk 29.74 303⇑*i*P **P** **17 16 43.9 -0.1**
ZAK pmax pmax
comp=Z,116nm,2.0s,mb5.3
BILL Biiibino 30.30 17*c i*P **P** **17 16 48.1 -0.8**
BILL pmax pmax
comp=Z,178nm,1.7s,mb5.5
BILL MLR MLR
comp=Z,4μm,18.0s,MS5.1
BILL Biiibino 30.30 17 *e*P **P** **17 16 48.2 -0.7**
comp=Z,146nm,1.2s,mb5.6
ATKA Atka Island 30.97 53 *e*P **P** **17 16 52.8 -2.0**
MOY Mondy 31.27 306 *e*P **P** **17 16 57.2 -0.3**
MOY pmax pmax
comp=Z,204nm,2.9s,mb5.5

LZH Lanzhou 31.40 275⇑P **P** **17 16 58.5 -0.1**
LZH AP pP 17 17 05.3 -2.3
LZH XP sP 17 17 09.6 -1.8
LZH S **S** **17 22 08.1 +4.0**
LZH XS sS 17 22 18.0 -0.9
LZH AMB AMB
comp=Z,650nm,1.4s,mb6.3
LZH AMB AMB
comp=Z,2μm,4.7s
LZH LR LR
comp=N,16μm,13.6s
LZH LR LR
comp=Z,19μm,14.9s,MS5.9
GTA Gaotai 33.41 283 P **P** **17 17 16.9 +0.7**
GTA AP pP 17 17 26.8 +1.5
GTA PCP PcP 17 19 58.5 +1.3
GTA S **S** **17 22 31.3 -4.1**
GTA XS sS 17 22 48.8 -1.5
GTA SCP ScP 17 23 40.5 +1.2
GTA PCS PcS 17 23 44.6 +1.7
GTA SS SS 17 24 33.4 -27
GTA SCS ScS 17 27 39.3 -1.0
GTA AMB AMB
comp=Z,130nm,1.5s,mb5.6
GTA AMB AMB
comp=Z,1μm,8.4s
GTA LR LR
comp=N,5μm,14.5s,MS5.7
GTA LR LR
comp=E,9μm,16.0s,MS5.7
GTA LR LR
comp=Z,9μm,15.6s,MS5.6
CD2 Chengdu 33.55 266 P **P** **17 17 16.9 -0.6**
CD2 AP pP 17 17 27.0 +0.5
CD2 PP PP 17 18 25.6 -8.0
CD2 S **S** **17 22 26.4 -11**
CD2 SCP ScP 17 23 45.0 +5.2
CD2 AMB AMB
comp=Z,40nm,1.2s,mb5.2
CD2 AMB AMB
comp=Z,620nm,8.0s
CD2 LR LR
comp=N,9μm,12.6s
CD2 LR LR
comp=Z,4μm,15.0s,MS5.3
GYA Guiyang 33.62 257⇑*i*P **P** **17 17 17.8 -0.3**
GYA AP pP 17 17 27.4 +0.3
GYA PP PP 17 18 29.6 -4.8
GYA PPP 17 18 47.9
GYA S **S** **17 22 37.5 -1.2**
GYA XS sS 17 22 51.8 -1.8
GYA SCP ScP 17 23 39.4 -0.7
GYA SS SS 17 24 39.6 -25
GYA AMB AMB
comp=Z,140nm,1.4s,mb5.7
GYA AMB AMB
comp=Z,770nm,7.8s
GYA LR LR
comp=N,7μm,15.3s,MS5.6
GYA LR LR
comp=E,6μm,15.0s,MS5.6
GYA LR LR
comp=Z,8μm,16.5s,MS5.5
QIZ Qiongzhong 35.97 244 P **P** **17 17 39.4 +1.0**
QIZ AMB AMB
comp=Z,30nm,2.0s,mb4.9
QIZ AMB AMB
comp=Z,680nm,9.6s
QIZ LR LR
comp=N,3μm,18.5s,MS5.3
QIZ LR LR
comp=E,4μm,19.4s,MS5.3
QIZ LR LR
comp=Z,4μm,15.9s,MS5.3
KRAR Krasnoyarsk 36.37 313*c i*P **P** **17 17 41.8 0.0**
KRAR pmax pmax
comp=Z,268nm,1.3s,mb6.0
KRAR MLR MLR
comp=Z,4μm,14.0s,MS5.4
KMI Kunming 37.30 259⇑P **P** **17 17 49.9 +0.3**
KMI AP pP 17 17 58.8 0.0
KMI PP PP 17 19 16.8 +1.8
KMI PCP PcP 17 20 08.3 -0.3
KMI S **S** **17 23 35.0 -0.1**
KMI SS SS 17 26 01.1 -18
KMI SCS ScS 17 27 59.4 -2.0
KMI AMB AMB
comp=Z,120nm,1.7s,mb5.5
KMI AMB AMB
comp=Z,1μm,4.1s
KMI LR LR
comp=N,9μm,13.5s,MS5.8
KMI LR LR
comp=E,7μm,15.3s,MS5.8
KMI LR LR
comp=Z,9μm,15.9s,MS5.7
WMQ Urumqi 41.00 294 P **P** **17 18 21.1 +0.5**
WMQ XP sP 17 18 32.8 -0.7
WMQ PP PP 17 19 58.0 +2.6
WMQ PPP 17 20 27.9
WMQ PCS PcS 17 24 12.3 +1.1
WMQ S **S** **17 24 29.6 -1.2**
WMQ XS sS 17 24 44.0 -1.9
WMQ SS SS 17 27 24.9 -8.5
WMQ SCS ScS 17 28 21.0 -2.0
WMQ AMB AMB
comp=Z,80nm,1.5s,mb5.1
WMQ AMB AMB
comp=Z,1μm,5.0s
WMQ LR LR
comp=N,7μm,12.0s,MS5.9
WMQ LR LR
comp=E,8μm,14.0s,MS5.9
WMQ LR LR
comp=Z,5μm,17.5s,MS5.4
TTA Tatalina 41.66 37 *e*pP pP 17 18 34.8 -0.4
SVW2 Sparrevohn 41.78 40 *e*P **P** **17 18 26.7 -0.3**
NVS Novosibirsk 41.88 311⇑*i*P **P** **17 18 27.3 -0.5**
NVS *e* 17 20 10.2
NVS *i*S **S** **17 24 48.3 +4.5**
NVS *e*SS SS 17 27 47.1 -3.7
NVS *e*SSS 17 28 28.5
NVS pmax pmax
comp=Z,332nm,2.1s,mb5.6
NVS pmax pmax
comp=N,86nm,1.9s
NVS pmax pmax
comp=E,227nm,1.8s
NVS smax
comp=N,65nm,2.0s
NVS smax
comp=E,170nm,2.0s
UBT Ubonrachathani 41.90 245⇓P **P** **17 18 29.0 +1.0**
KKM Kota Kinabalu 42.15 223 P **P** **17 18 32.2 +2.2**
KKM Kota Kinabalu 42.15 223 P **P** **17 18 29.4 -0.6**
TSM Tawau 42.81 220 P **P** **17 18 37.1 +1.7**
KDAK Kodiak Island 43.43 44 P **P** **17 18 39.3 -1.1**
comp=E,11nm,0.8s,mb4.7,baz=302,slow=5.0,SNR=5.6
KDAK Kodiak Island 43.43 44 *e*P **P** **17 18 38.7 -1.7**
comp=E,35nm,0.9s,mb5.1
LSA Lhasa 43.74 273 P **P** **17 18 44.3 +1.4**
LSA XP sP 17 18 54.6 -1.3
LSA PP PP 17 20 28.0 +3.0
LSA S **S** **17 25 12.1 +0.9**
LSA SCS ScS 17 28 39.4 -0.5
LSA AMB AMB
comp=Z,40nm,1.6s,mb4.9
LSA AMB AMB
comp=Z,1μm,8.5s
LSA LR LR
comp=N,1μm,14.2s,MS5.4
LSA LR LR
comp=E,3μm,13.5s,MS5.4
LSA LR LR
comp=Z,4μm,12.7s,MS5.5
LSA Lhasa 43.74 273 *e*P **P** **17 18 44.1 +1.2**
LSA pmax pmax
comp=Z,346nm,1.6s,mb5.8
LSA Lhasa 43.74 273 *e*P **P** **17 18 44.1 +1.1**
comp=Z,346nm,1.6s,mb5.8
CHTO Chiang Mai 43.88 254 P **P** **17 18 44.5 +0.5**
CHTO pmax pmax
comp=Z,84nm,1.4s,mb5.3
CHTO Chiang Mai 43.88 254 *e*P **P** **17 18 44.2 +0.2**
comp=Z,84nm,1.4s,mb5.3

MK31 Makanchi Array 43.92 300 P **P** **17 18 44.1 -0.2**
MK31 pmax pmax
comp=Z,112nm,1.1s,mb5.5
MKAR Makanchi Array 43.92 300 P **P** **17 18 44.1 -0.2**
comp=Z,60nm,0.9s,mb5.3,baz=83,slow=9.0,SNR=158
MCK McKinley 44.86 36 *e*P **P** **17 18 51.8 0.0**
MCK McKinley 44.86 36 *e*P **P** **17 18 50.7 -1.1**
comp=Z,18nm,1.0s,mb4.9
PMR Palmer 44.88 39 *e*P **P** **17 18 51.8 -0.2**
PMR Palmer 44.88 39 *e*P **P** **17 18 51.0 -1.0**
comp=Z,27nm,0.9s,mb5.1
NST Nakhon Sawan 45.05 250 P **P** **17 18 54.0 +0.6**
SML Sawmill 45.24 38 *e*P **P** **17 18 54.6 -0.3**
SML *e**PP pP 17 19 03.5 -0.7
SML Sawmill 45.24 38 *e*P **P** **17 18 53.4 -1.5**
SML *e*pP pP 17 19 03.3 -0.9
SHL Shillong 45.28 267 *e*x x 17 20 50.3
COLA College 45.29 34 P **P** **17 18 55.7 +0.4**
COLA pmax pmax
comp=Z,41nm,1.0s,mb5.2
COLA College 45.29 34 *e*P **P** **17 18 54.9 -0.4**
COLA *e*pP pP 17 19 03.6 -1.0
KURK Kurchatov 45.33 306 P **P** **17 18 55.4 -0.1**
comp=Z,752nm,1.1s,mb6.4,SNR=86
KURK Kurchatov 45.33 306 P **P** **17 18 55.3 -0.2**
KURK pmax pmax
comp=Z,156nm,1.3s,mb5.7
KURK Kurchatov 45.33 306⇑*i*P **P** **17 18 55.2 -0.3**
DIV Divide 46.53 39 *e*P **P** **17 19 03.3 -1.8**
DIV *e*pP pP 17 19 14.5 +0.1
EYAK Cordova Ski Ar 46.62 40 *e*P **P** **17 19 04.7 -1.1**
EYAK *e*pP pP 17 19 14.6 -0.5
JIRN Jiri 48.53 273 *e*P **P** **17 19 21.4 +0.8**
comp=Z,214nm,1.1s,mb6.1
AAA Alma-Ata 48.60 297*c i*P **P** **17 19 20.1 -1.0**
AAA *e*S **S** **17 26 27.7 +6.8**
AAA pmax pmax
comp=Z,1μm,6.6s
AAA smax
comp=E,12μm,14.1s
AAA MLR MLR
comp=Z,7μm,14.9s,MS5.8
GUN Gumba 48.64 274 *e*P **P** **17 19 22.1 +0.6**
comp=Z,380nm,1.0s,mb6.4
DAWY Dawson 49.02 35 *e*P **P** **17 19 24.6 +0.3**
DAWY *e*pP pP 17 19 33.7 0.0
KSM Kuching 49.15 227 *e*P **P** **17 19 25.8 +0.5**
KKN Kakani 49.16 274 *e*P **P** **17 19 25.6 +0.2**
comp=Z,600nm,1.5s,mb6.4
KKN Kakani 49.16 274 *e*P **P** **17 19 25.6 +0.2**
KKN pmax pmax
comp=Z,600nm,1.5s,mb6.4
PKI Pulchoki 49.17 274 *e*P **P** **17 19 25.9 +0.4**
comp=Z,486nm,1.7s,mb6.2
PKI Pulchoki 49.17 274 *e*P **P** **17 19 25.9 +0.4**
PKI pmax pmax
comp=Z,486nm,1.7s,mb6.3
CHKZ Chkalovo 49.36 311⇑*i*P **P** **17 19 26.4 -0.6**
CHKZ *e**PP pP 17 19 34.0 -2.3
CHKZ *e*S **S** **17 26 32.3 +0.7**
DMN Daman 49.39 274 *e*P **P** **17 19 27.5 +0.4**
comp=Z,2μm,2.1s
VOSK Vostochnaya 49.41 310 P **P** **17 19 27.3 -0.1**
VOSK pmax pmax
comp=Z,276nm,1.6s,mb6.0
ULHL Ulahol 49.46 296 P **P** **17 19 27.9 +0.2**
SNR=29
CAL Calcutta 49.65 266 *e*P **P** **17 19 30.1 +0.9**
CAL *e*S **S** **17 26 38.2 +2.5**
TKM2 Tokmak 2 49.65 297 P **P** **17 19 29.8 +0.7**
SNR=68
TKM2 Tokmak 2 49.65 297 *i*P **P** **17 19 30.0 +0.8**
BVA0 Borovoye Array 49.67 311 *i*P **P** **17 19 29.4 +0.1**
BVA0 pmax pmax
comp=Z,42nm,1.5s,mb5.2
BRVK Borovoye 49.73 311 P **P** **17 19 30.7 +1.0**
comp=Z,340nm,1.4s,mb6.2,SNR=44
BRVK Borovoye 49.73 311⇑*i*P **P** **17 19 29.8 +0.1**
KBK Karagaybulak 50.19 297 P **P** **17 19 33.8 +0.6**
SNR=84
CHMS Chumysh 50.20 297 P **P** **17 19 33.4 +0.1**
SNR=17
KZA Kyzart 50.20 296 P **P** **17 19 34.8 +1.4**
SNR=50
USP Ospenovka 50.27 297 P **P** **17 19 33.9 +0.1**
SNR=28
FRU Bishkek 50.35 297 *i*P **P** **17 19 34.0 -0.5**
FRU *e* 17 26 47.0
FRU *e* 17 26 57.0
FRU pmax pmax
comp=Z,350nm,2.0s,mb6.0
FRU MLR MLR
comp=N,7μm,15.0s,MS5.9
FRU MLR MLR
comp=E,6μm,15.0s,MS5.9
FRU MLR MLR
comp=Z,6μm,15.0s,MS5.7
ZRNK Zerenda 50.50 311⇑*i*P **P** **17 19 35.5 -0.1**
ZRNK *e**PP pP 17 19 44.5 -0.4
ZRNK *e*S **S** **17 26 46.6 -0.8**
ZRNK pmax pmax
comp=Z,143nm,1.1s,mb5.9
ZRNK Zerenda 50.50 311⇑*i*P **P** **17 19 35.5 0.0**
comp=Z,143nm,1.1s,mb5.9
ZRNK *e*pP pP 17 19 44.5 -0.4
ZRNK *e*S **S** **17 26 46.6 -0.9**
AAK Ala-Archa 50.51 297 P **P** **17 19 36.0 +0.3**
SNR=23
AAK Ala-Archa 50.51 297 P **P** **17 19 35.9 +0.2**
comp=Z,211nm,1.2s,mb6.0,SNR=16
AAK Ala-Archa 50.51 297⇑*i*P **P** **17 19 35.0 -0.7**
INK Inuvik 50.59 29 P **P** **17 19 36.2 0.0**
comp=Z,9.8nm,0.8s,mb4.8,baz=264,slow=6.4,SNR=9.1
INK Inuvik 50.59 29 P **P** **17 19 36.3 +0.1**
INK pmax pmax
comp=Z,10.0nm,0.8s
INK Inuvik 50.59 29 *e*P **P** **17 19 36.2 0.0**
comp=Z,24nm,0.8s,mb5.2
UCH Uchtor 50.65 296 P **P** **17 19 37.3 +0.6**
SNR=20
KSH Kashi 50.71 292⇑*i*P **P** **17 19 36.8 -0.4**
KSH *e*AP pP 17 19 46.8 +0.3
KSH *e*XP sP 17 19 50.8 +0.6
KSH *e*PCP PcP 17 20 57.3 +3.2
KSH *e*PP PP 17 21 32.6 -0.7
KSH *e*PPP 17 22 27.8
KSH *e*SCP ScP 17 24 48.5 +0.5
KSH *e*PCS PcS 17 24 52.6 +1.1
KSH *e*XS sS 17 27 00.8 -5.0
KSH *e*SCS ScS 17 29 22.9 -2.8
KSH AMB AMB
comp=Z,150nm,1.0s,mb5.9
KSH LR LR
comp=N,21μm,14.5s,MS6.4
KSH LR LR
comp=E,13μm,14.1s,MS6.4
KSH LR LR
comp=Z,22μm,14.3s,MS6.3
EKS2 Erkin-Say 50.99 297 P **P** **17 19 39.3 0.0**
SNR=29
AML Almayashu 51.25 296 P **P** **17 19 42.9 +1.7**
SNR=16
KULM Kulim 52.05 240 *e*P **P** **17 19 47.4 +0.2**
PTH Pithoragarh 52.12 279 *e*P **P** **17 19 49.1 +1.4**
PTH *e*x x 17 20 28.6
IPM Ipoh 52.41 238 P **P** **17 19 50.2 +0.3**
KGM Kluang 52.84 234 P **P** **17 19 53.9 +0.9**
KK31 Karatay Array 53.02 299 *i*P **P** **17 19 54.0 -0.4**
KKAR Karatay Array 53.02 299 *i*P **P** **17 19 54.0 -0.4**
KKAR pmax pmax
comp=Z,187nm,1.4s,mb5.8
KAKA Kakadu 53.86 194 *e*P **P** **17 19 58.3 -2.3**
comp=Z,17nm,0.7s,mb5.1
BLSP Bilaspur 54.61 270 *e*P **P** **17 20 05.0 -1.0**
BLSP *e*P 17 20 05.8
SOKR Solikamsk 54.77 322*c i*P **P** **17 20 06.2 -1.0**
SOKR S **S** **17 27 46.8 +1.0**
SOKR pmax pmax
comp=Z,80nm,0.8s,mb5.8
SOKR MLR MLR
comp=Z,3μm,14.0s,MS5.5
NDI New Delhi 54.81 280 *e*P **P** **17 20 06.5 -1.0**
NDI *e*S **S** **17 27 48.0 +1.6**
DLBC Dease Lake 54.90 40 P **P** **17 20 09.2 +1.1**
comp=Z,2.0nm,0.7s,baz=289,slow=9.7,SNR=3.8

DLBC Dease Lake 54.90 40⇑ eP P 17 20 05.8 -2.3
DLBC epP pP 17 20 17.7 +0.1
ARU Arti 55.05 318 P P 17 20 09.5 +0.3
comp=Z,490nm,1.6s,mb6.3,SNR=27
ARU Arti 55.05 318⇑ iP P 17 20 09.1 -0.1
NIL Nilore 55.29 287 P P 17 20 12.7 +1.8
comp=Z,209nm,0.9s,mb6.2,SNR=8.3
JBP Jabalpur 55.67 272⇑ eP P 17 20 13.6 0.0
JBP eS S 17 27 58.6 +0.7
VIS Vishakhapatnam 56.26 265 ex x 17 20 10.0
ALE Alert 56.64 4 P P 17 20 21.0 +0.4
comp=Z,233nm,1.0s,mb6.2,SNR=13
AB31 Akbulak array 57.16 309 i P **P 17 20 24.4 +0.1**
AB31 pmax pmax
comp=Z,120nm,1.1s,mb5.8
AB31 Akbulak array 57.16 309 i P **P 17 20 24.5 +0.2**
NGP Nagpur 57.52 271 eP **P 17 20 26.3 -0.6**
NGP AMb AMB 17 20 26.8
comp=Z,110nm,1.3s,mb5.7
BHPL Bhopal 57.58 274 eP **P 17 20 27.1 -0.2**
BHPL AMb AMB 17 20 30.1
comp=Z,129nm,1.2s,mb5.8
KBS Kingsbay 57.65 350 eP **P 17 20 28.7 +1.0**
KBS AMb AMB 17 20 30.8
comp=Z,66nm,1.8s,mb5.4
KBS eS **S 17 28 25.4 +1.4**
KBS AMS AMS 17 49 19.6
comp=Z,742nm,17.0s,MS4.9
KBS Kingsbay 57.65 350⇑ eP P 17 20 27.4 -0.3
AJM Ajmer 57.91 279 eP **P 17 20 29.6 +0.1**
AJM AMb AMB 17 20 32.7
comp=Z,119nm,1.4s,mb5.7
RES Resolute Bay 58.90 15 P **P 17 20 36.3 -0.1**
RES pmax pmax
comp=Z,52nm,0.9s,mb5.6
RES Resolute Bay 58.90 15⇑ eP P 17 20 35.0 -1.5
RES epP pP 17 20 43.0 -2.9
ORR Orenburg 59.09 313⇑ iP **P 17 20 37.4 -0.4**
ORR 17 22 51.5
ORR PPP 17 24 15.6
ORR S **S 17 28 36.8 -6.0**
ORR pmax pmax
comp=Z,70nm,1.2s,mb5.6
ORR MLR MLR
comp=Z,4μm,18.0s,MS5.5
AKL Akola 59.33 272 ex x 17 20 07.7
AKL AMb AMB 17 20 10.9
comp=Z,155nm,1.4s,mb5.9
BJO Bjornoya 59.63 345 eS **S 17 28 51.7 +1.9**
BJO AMS AMS 17 51 31.8
comp=Z,4μm,18.5s,MS5.6
LVZ Lovozero 59.78 336 P **P 17 20 34.4 -8.1**
LVZ S **S 17 28 45.9 -5.8**
LVZ Lovozero 59.78 336 eP **P 17 20 42.6 +0.1**
YKW3 Yellowknife Ar 59.97 32 eP **P 17 20 39.7 -4.1**
YKW3 epP pP 17 20 51.5 -1.9
YKA Yellowknife Ar 60.01 32 P **P 17 20 44.3 +0.2**
comp=Z,3.0nm,0.7s,baz=300,slow=6.9,SNR=14
YKA LR LR 17 47 36.2
comp=Z,820nm,19.7s,MS4.9,baz=310,slow=37
YKA Yellowknife Ar 60.01 32 i P **P 17 20 44.2 +0.1**
YKA pmax pmax
comp=Z,30nm,0.7s
HYB Hyderabad 60.08 268⇑ iP **P 17 20 44.5 -0.1**
comp=Z,70nm,1.0s,mb5.7
HYB eS **S 17 29 00.0 +4.4**
HYB Hyderabad 60.08 268⇑ eP **P 17 20 44.5 -0.1**
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.7
APA Apatity 60.35 336⇓ iP **P 17 20 45.5 -1.0**
APA i *PP pP 17 20 53.5 -2.5
APA i 17 21 27.0
APA i 17 23 06.0
APA i PPP 17 24 28.0
APA i S **S 17 28 56.0 -3.1**
APA i 17 30 38.0
APA i SS SS 17 32 52.0 -4.9
APA pmax pmax
comp=Z,83nm,1.5s,mb5.5
FITZ Fitzroy Crossi 60.58 200 eP **P 17 20 47.8 -0.2**
comp=Z,32nm,0.9s,mb5.5
WRAB Tennant Creek 60.65 190 eP **P 17 20 46.6 -1.9**
WB2 Warramunga Arr 60.66 190 eP **P 17 20 47.1 -1.5**
WRA Warramunga Arr 60.66 190 P **P 17 20 47.3 -1.3**
comp=Z,9.2nm,0.7s,mb5.0,baz=9.0,slow=6.9,SNR=42
KEV Kevo 60.93 339 ep **P 17 20 49.1 -1.3**
comp=Z,27nm,1.0s,mb5.3
KEV Kevo 60.93 339 eP **P 17 20 49.1 -1.3**
KEV pmax pmax
comp=Z,27nm,1.0s,mb5.3
LATR Latur 61.01 270 eP **P 17 20 50.0 -1.0**
MDRS Chennai 61.45 263 ex x 17 20 45.0
MDRS ex x 17 22 14.0
MDRS ex x 17 26 52.0
MDRS ex x 17 29 02.0
ARCES ARCESS Array B 61.47 339 P **P 17 20 53.4 -0.7**
comp=Z,9.9nm,0.8s,mb5.0,baz=40,slow=8.4,SNR=15
ARCES LR LR 17 53 22.8
comp=Z,4μm,18.1s,MS5.6,baz=29,slow=42
ARE0 ARCESS Array S 61.47 339 eP **P 17 20 53.2 -0.9**
KLMR Klimovskoe 61.87 327c iP **P 17 20 56.1 -0.7**
KLMR e 17 23 10.5
KLMR eS **S 17 29 11.4 -6.9**
KLMR pmax pmax
comp=Z,150nm,1.5s,mb5.9
KLMR MLR MLR
comp=Z,3μm,17.0s,MS5.5
PECR Pechory 62.28 322 i P **P 17 20 59.0 -0.5**
PECR e 17 21 34.0
PECR e 17 23 13.2
PECR ePPP 17 24 53.4
PECR eS **S 17 29 23.6 +0.1**
PECR eSS SS 17 33 22.7 -4.3
PECR pmax pmax
comp=Z,260nm,2.0s,mb6.0
PECR smax
comp=E,500nm,10.0s
PECR smax
comp=N,500nm,8.0s
PECR MLR MLR
comp=E,3μm,15.0s,MS5.7
PECR MLR MLR
comp=Z,3μm,15.0s,MS5.6
PECR MLR MLR
comp=N,2μm,14.0s,MS5.7
DAG Danmarks Havn 62.57 355 i P **P 17 21 01.0 -0.4**
comp=N,35nm,1.0s,mb5.4
DAG Danmarks Havn 62.57 355 eP **P 17 21 01.0 -0.4**
DAG pmax pmax
comp=Z,35nm,1.0s,mb5.4
DAG Danmarks Havn 62.57 355 eP **P 17 21 01.0 -0.4**
comp=Z,35nm,1.0s,mb5.4
POO Poona 63.02 272⇑ iP **P 17 21 03.0 -1.4**
TRO Tromso 63.10 341 eP **P 17 21 03.2 -1.8**
TRO AMb AMB 17 21 06.3
comp=Z,93nm,2.1s,mb5.5
TRO eS **S 17 29 35.3 +1.4**
TRO AMS AMS 17 55 05.3
comp=Z,2μm,16.0s,MS5.4
TRO Tromso 63.10 341 eP **P 17 21 03.2 -1.8**
TRO pmax pmax
comp=Z,93nm,2.1s,mb5.5
TRO MLR MLR
comp=Z,2μm,16.0s,MS5.4
TRO Tromso 63.10 341 eP **P 17 21 03.2 -1.8**
comp=Z,93nm,2.1s,mb5.5
TRO LR LR
comp=Z,2μm,16.0s,MS5.4
BHJ Bhuj 63.47 279 eP **P 17 21 09.0 +1.6**
KAD Karad 63.49 271 eP **P 17 21 07.5 -0.1**
KAD AMb AMB 17 21 10.7
comp=Z,136nm,1.4s,mb5.9
BOM Bombay 63.59 273 eP **P 17 21 09.3 +1.1**
BOM AMb AMB 17 21 24.9
comp=Z,132nm,1.4s,mb5.8
B05A Bryant 63.72 48 ⇓P **P 17 21 08.3 -0.8**
baz=64
ABKT Ailbek 63.77 298 P **P 17 21 09.0 -0.4**
comp=Z,273nm,1.0s,mb6.2,SNR=18
JOF Joensuu 63.83 332 ep **P 17 21 08.8 -1.0**
comp=Z,55nm,1.0s,mb5.5
AS31 Alice Springs 64.38 190 eP **P 17 21 12.9 -0.5**
ASAR Alice Springs 64.39 190 P **P 17 21 12.8 -0.7**
comp=Z,4.6nm,0.7s,mb4.6,baz=6.0,slow=5.0,SNR=23
ASAR PKPPKP 17 50 08.9
comp=Z,1.2nm,1.0s,baz=222,slow=1.1,SNR=7.2
ASPA Alice Springs 64.39 190 eP **P 17 21 12.9 -0.6**
MBWA Marble Bar 65.18 205 eP **P 17 21 17.0 -1.6**
comp=Z,13nm,1.0s,mb4.9
J02A Umpqua 65.48 53 ⇑P P 17 21 19.2 -1.4
baz=65
H04A Detroit Lake 65.59 51 ⇓P P 17 21 20.2 -1.1
baz=65
MOS Moscow 65.61 323 eP **P 17 21 19.8 -1.6**
MOS i pP 17 21 29.0 -2.0
MOS e 17 21 51.1
MOS ePPP 17 25 20.0
MOS i S S 17 30 03.2 -1.6
MOS ePS 17 30 34.8
MOS e 17 31 12.2
MOS pmax pmax
comp=Z,192nm,1.8s,mb5.8
MOS MLR MLR
comp=Z,4μm,14.1s,MS5.7
EDM Edmonton 65.62 40⇑ iP **P 17 21 21.1 -0.4**
EDM ⇑epP pP 17 21 29.3 -1.8
G05A Wamic 65.80 51 ⇓P P 17 21 21.8 -0.9
baz=66
K02A Glendale 65.85 54 ⇓P P 17 21 20.9 -2.1
baz=66
L02A Cave Junction 66.12 54 ⇑P P 17 21 23.4 -1.3
baz=66
KAF Kangasniemi 66.13 333 ep **P 17 21 23.5 -1.2**
comp=Z,60nm,1.0s,mb5.6,baz=47,slow=6.1
KAF Kangasniemi 66.13 333 eP **P 17 21 23.5 -1.2**
KAF pmax pmax
comp=Z,60nm,1.0s,mb5.6
H05A Madras 66.18 51 ⇓P P 17 21 23.7 -1.4
baz=66
HAWA Hanford 66.20 49 epP pP 17 21 35.0 +0.1
HUMO Hull Mountain 66.27 54 ⇓P P 17 21 24.5 -1.2
baz=66
VRHR Novokhopersk 66.39 318 eP **P 17 21 26.0 -0.4**
VRHR e*SP sP 17 21 36.4 -3.3
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR MLR MLR
comp=E,4μm,16.0s,MS5.9
VRHR MLR MLR
comp=Z,8μm,16.0s,MS6.0
VRHR MLR MLR
comp=N,3μm,14.0s,MS5.9
OBN Obninsk 66.46 323 P **P 17 21 26.0 -0.9**
comp=N,454nm,1.2s,mb6.4,SNR=7.6
OBN Obninsk 66.46 323c iP **P 17 21 26.4 -0.5**
OBN e 17 23 49.3
OBN i S S 17 30 10.9 -4.3
OBN i SS SS 17 34 26.7 -5.6
OBN pmax pmax
comp=Z,205nm,1.8s,mb5.9
OBN MLR MLR
comp=Z,3μm,19.0s,MS5.6
NEW Newport 66.50 46 eP **P 17 21 27.3 +0.2**
NEW pmax pmax
comp=Z,40nm,1.2s
NEW Newport 66.50 46 eP **P 17 21 26.4 -0.7**
comp=Z,40nm,1.2s,mb5.3
NEW epP pP 17 21 35.7 -1.1
JCC Jacoby Creek 66.59 56 ⇑P P 17 21 27.5 -0.3
baz=66
FINES FINESS Array B 66.66 332 P **P 17 21 27.6 -0.5**
comp=Z,36nm,0.7s,mb5.5,baz=51,slow=7.6,SNR=127
FINES LR LR 17 54 50.0
comp=Z,2μm,18.6s,MS5.4,baz=44,slow=40
FINES FINESS Array B 66.66 332 P **P 17 21 27.6 -0.5**
FINES LR LR 17 54 50.0
KHMM Horse Mountain 66.75 56 eP **P 17 21 29.8 +1.0**
KHMM epP pP 17 21 39.1 +0.7
MOR8 Moi Rana 66.82 340⇓ iP **P 17 21 27.6 -1.6**
MOR8 AMb AMB 17 21 29.6
comp=Z,71nm,0.8s,mb5.7
MOR8 epP pP 17 21 38.1 -0.7
MOR8 Moi Rana 66.82 340⇓ iP **P 17 21 27.6 -1.6**
comp=Z,71nm,0.8s,mb5.8
TRD Trivandrum 66.83 261⇓ eP **P 17 21 29.0 -0.3**
TRD eP 17 21 30.7
TRD AMb AMB 17 21 47.7
comp=Z,61nm,0.5s,mb5.9
YBH Yreka Blue Hor 66.91 54 eP **P 17 21 30.8 +1.0**
YBH Yreka Blue Hor 66.91 54 ⇓P P 17 21 29.2 -0.6
baz=67
M02C Callahan 67.02 55 ⇓P P 17 21 30.5 +0.1
baz=67
K04A Chilquin 67.02 53 ⇑P P 17 21 30.7 +0.3
baz=67
N02C Big Bar 67.05 55 ⇓P P 17 21 30.8 +0.2
baz=67
JMIC Jan Mayen 67.13 350 eP **P 17 21 33.1 +1.9**
JMIC eS S 17 30 28.1 +4.8
JMIC eSS SS 17 34 46.8 +4.1
JMIC AMS AMS 17 55 11.5
comp=Z,769nm,17.4s,MS5.0
L04A Klamath Falls 67.17 54 ⇑P P 17 21 31.0 -0.4
baz=67
I06A Prineville 67.19 51 ⇓P P 17 21 30.9 -0.6
baz=67
VOR Voronezh 67.24 319 eP **P 17 21 30.5 -1.4**
VOR pmax pmax
comp=Z,170nm,1.8s,mb5.8
SUMG Summit 67.31 1 eP **P 17 21 32.4 +0.1**
M04C Macdoel 67.42 54 ⇑P P 17 21 33.0 0.0
baz=67
M03C McCloud 67.54 54 ⇑P P 17 21 33.4 -0.3
baz=67
VRSR Storozhevoye 67.56 319⇑ iP **P 17 21 33.8 -0.1**
VRSR e*PP pP 17 21 42.9 -0.6
VRSR e 17 22 01.8
VRSR e 17 24 02.7
VRSR eS S 17 30 22.0 -6.4
VRSR pmax pmax
comp=N,100nm,0.9s
VRSR pmax pmax
comp=Z,100nm,0.9s,mb5.8
VRSR pmax pmax
comp=E,100nm,1.0s
VRSR smax
comp=N,2.0nm,1.5s
VRSR smax
comp=E,2.0nm,1.4s
VRSR MLR MLR
comp=E,800nm,15.0s,MS5.3
VRSR MLR MLR
comp=Z,2μm,15.0s,MS5.4
VRSR MLR MLR
comp=N,800nm,11.0s,MS5.3
J06A Christmas Vall 67.62 52 ⇑P P 17 21 33.8 -0.5
baz=67
WDC Whiskeytown Da 67.67 55 eP **P 17 21 34.5 0.0**
WDC e*PP pP 17 21 42.9 -1.3
WDC pmax pmax
comp=Z,26nm,1.2s,mb5.1
WDC Whiskeytown Da 67.67 55 eP **P 17 21 34.5 0.0**
comp=Z,26nm,1.2s,mb5.1
WDC epP pP 17 21 42.9 -1.3
WDC Whiskeytown Da 67.67 55 ⇓P P 17 21 34.4 -0.2
baz=68
O02C Red Bluff 67.73 56 ⇑P P 17 21 34.4 -0.6
baz=68
WALA Waterton Lakes 67.77 44 epP pP 17 21 45.2 +0.4
MAK Makhachkala 67.78 308 eP **P 17 21 35.6 +0.3**
MAK e 17 21 56.4
MAK e 17 24 00.8
MAK eS S 17 30 34.6 +3.5
MAK e 17 31 27.2
MAK pmax pmax
comp=Z,206nm,2.0s,mb5.8
MAK MLR MLR
comp=Z,5μm,15.0s,MS5.9
K06A Valley Falls 67.81 52 ⇑P P 17 21 35.0 -0.4
baz=68
BSMT Bassoo Peak 68.01 45 eP **P 17 21 38.2 +1.5**
GASB Alder Springs 68.08 56 ⇑P P 17 21 37.4 +0.2
baz=68
M05C Lookout 68.09 54 ⇓P P 17 21 36.8 -0.4
baz=68
HATC Hat Creek Radi 68.20 55 ⇓P P 17 21 37.4 -0.5
baz=68
MOD Modoc 68.30 53 eP **P 17 21 39.1 +0.6**
comp=Z,34nm,1.3s,mb5.2
O03C Acorn Hollow, 68.32 56 ⇑P P 17 21 39.0 +0.3
baz=68
VSU Vasula 68.45 330⇑ iP **P 17 21 39.1 -0.3**
K07A Rock Creek Ran 68.48 52 ⇓P P 17 21 39.7 0.0
baz=68,SNR=11
M06C Likely Place G 68.59 54 ⇑P P 17 21 39.3 -1.0
baz=68
MNRC McLaughlin Nat 68.70 57 ⇑P P 17 21 41.2 +0.2
baz=68
O04C Chester 68.72 55 ⇑P P 17 21 40.6 -0.6
baz=68
NSS Namsos 68.75 340 eP **P 17 21 41.3 0.0**
NSS eS S 17 30 47.1 +4.4
NSS AMS AMS 17 56 54.2
comp=Z,4μm,18.0s,MS5.7
ELFS Eagle Lake Fie 68.77 54 ⇑P P 17 21 41.3 -0.2
baz=69
ORV Oroville 68.91 56 ⇓P P 17 21 41.8 -0.5
baz=69
SCO Scoresbysund 68.93 355 i P **P 17 21 42.2 -0.3**
comp=Z,3.9nm,0.9s
WVOR Wild Horse Val 69.00 52 eP **P 17 21 42.9 0.0**
WVOR pmax pmax
comp=Z,31nm,1.2s,mb5.1
WVOR Wild Horse Val 69.00 52 eP **P 17 21 42.9 +0.1**
comp=Z,30nm,1.2s,mb5.1
O05C Quincy 69.04 55 ⇓P P 17 21 42.7 -0.5
baz=69
OHCM Honcut 69.04 56 eP **P 17 21 47.6 +4.4**
GOF Gofitskoye 69.18 312 eP **P 17 21 43.5 -0.5**
GOF pmax pmax
comp=Z,100nm,0.7s,mb5.8
M07A Soldier Meadow 69.28 53 ⇑P P 17 21 44.3 -0.3
baz=69,SNR=8.8
CHMT Chamberlain Mo 69.41 46 eP **P 17 21 44.8 -0.6**
CHMT epP pP 17 21 54.7 -0.4
O06A Flanigan 69.60 54 ⇑P P 17 21 46.5 0.0
baz=69
BDM Black Diamond 69.60 57 ⇓P P 17 21 46.0 -0.7
baz=69
P05C Yuba Gap, Truc 69.61 55 ⇓P P 17 21 46.6 -0.1
baz=69
M08A Happy Creek Ra 69.73 53 ⇓P P 17 21 46.4 -1.0
baz=70
L09A Wilkinson Ranc 69.82 52 ⇓P P 17 21 47.7 -0.3
baz=70
P06A Stead Airport, 69.84 55 ⇑P P 17 21 47.7 -0.3
baz=70
LAVA Lava Cap Winer 69.85 56 ⇑P P 17 21 47.5 -0.6
baz=70
WENL Wente Brothers 69.87 57 ⇑P P 17 21 47.6 -0.6
baz=70
BNLO Ben Lomond 69.89 58 ⇓P P 17 21 47.7 -0.6
baz=70
FFC Flin Flon 69.92 34 P **P 17 21 48.1 -0.5**
comp=Z,101nm,0.8s,mb5.8,SNR=7.6
DGRG David-gareji 69.95 308 P **P 17 21 47.6 -1.2**
R04C Big Horse Ranc 70.02 57 ⇓P P 17 21 47.9 -1.2
baz=70
KIV Kislovodsk 70.04 311 P **P 17 21 50.3 +1.0**
comp=Z,959nm,1.1s,mb6.6,SNR=32
KIV Kislovodsk 70.04 311⇑ iP **P 17 21 50.2 +0.9**
KIV e 17 24 26.9
KIV i S S 17 31 00.3 +2.5
KIV pmax pmax
comp=Z,40nm,1.9s,mb5.0
KIV MLR MLR
comp=Z,4μm,18.0s,MS5.8
ZEI Tsey 70.05 309 eP **P 17 21 50.7 +1.4**
ZEI pmax pmax
comp=Z,57nm,1.0s,mb5.5
PAHR Pah Rah Range 70.14 55 eP **P 17 21 51.0 +1.1**
comp=Z,49nm,1.3s,mb5.3
WCN Washoe City 70.15 55 ⇑P P 17 21 48.8 -1.2
baz=70
MTA Mtatsminda 70.16 308 P **P 17 21 50.0 0.0**
O07A Toulon 70.19 54 ⇓P P 17 21 49.2 -1.0
baz=70,SNR=9.0
N08A GE Springer Mi 70.28 53 ⇓P P 17 21 50.0 -0.8
baz=70
R05C Kirkwood Meado 70.30 56 ⇑P P 17 21 50.1 -0.8
baz=70
HRY Holter Researc 70.31 45 eP **P 17 21 50.8 -0.1**
HRY epP pP 17 22 00.9 +0.3
M09A Marrel Ranch, 70.31 52 ⇓P P 17 21 49.6 -1.4
baz=70
ONI Oni 70.42 310 P **P 17 21 54.4 +2.8**
ONI S S 17 31 05.2 +2.8
CMB Columbia Colle 70.50 56 eP **P 17 21 51.6 -0.5**
CMB e*PP pP 17 22 01.7 -0.1
CMB e*PP pP 17 22 02.0 +0.2
CMB pmax pmax
comp=Z,38nm,1.2s,mb5.2
CMB Columbia Colle 70.50 56 eP **P 17 21 51.6 -0.5**
comp=Z,38nm,1.2s,mb5.2
CMB epP pP 17 22 01.7 -0.1
CMB epP pP 17 22 01.9 +0.1
CMB Columbia Colle 70.50 56 ⇑P P 17 21 51.2 -0.9
baz=70
LRM Limekiln Ridge 70.52 46 eP **P 17 21 52.7 +0.5**
PACP Pacheco Peak 70.53 58 ⇓P P 17 21 51.7 -0.6
baz=70
KZR Kazreti 70.57 308 P **P 17 21 53.6 +1.1**
AMRG 70.65 310 P **P 17 21 54.4 +1.4**
MNK Minsk 70.72 326 eP **P 17 21 52.0 -1.4**
MNK pmax pmax
comp=Z,450nm,1.2s,mb6.3
MNK MLR MLR
comp=Z,8μm,14.0s,MS6.1
DLMT Dillon 70.72 47 eP **P 17 21 54.0 +0.5**
HAST Hastings Reser 70.72 58 ⇓P P 17 21 53.3 -0.2
baz=70
HLID Hailey 70.80 49 eP **P 17 21 54.8 +0.8**
WAKR Walker 70.82 56 eP **P 17 21 53.3 -0.8**
WAKR epP pP 17 22 04.8 +1.0
MCMT McKenzie Canyo 70.91 47 eP **P 17 21 54.8 +0.1**
S06C San Francisco 70.93 56 ⇓P P 17 21 54.4 -0.3
baz=71
S05C Merced 70.94 57 ⇓P P 17 21 53.3 -1.5
baz=71
BMN Battle Mountai 71.04 53 eP **P 17 21 55.7 +0.3**
BMN e*PP pP 17 22 05.6 +0.5
BMN e*PP pP 17 22 05.7 +0.6
BMN pmax pmax
comp=Z,48nm,1.2s,mb5.3
BMN Battle Mountai 71.04 53 eP **P 17 21 55.7 +0.3**
comp=Z,48nm,1.2s,mb5.3
BMN epP pP 17 22 05.6 +0.5
BMN epP pP 17 22 05.7 +0.6
BOZ Bozeman (W) 71.08 46 eP **P 17 21 56.0 +0.4**
BOZ e*PP pP 17 22 05.4 +0.1
BOZ pmax pmax
comp=Z,54nm,1.1s,mb5.4
BOZ Bozeman (W) 71.08 46 eP **P 17 21 56.0 +0.4**
comp=Z,54nm,1.1s,mb5.4
BOZ epP pP 17 22 05.3 0.0
AKH Akhalkalaki 71.11 309 P **P 17 21 56.3 +0.5**
GNI Garni 71.11 307c iP **P 17 21 56.9 +1.1**
GNI pmax pmax
comp=Z,135nm,1.6s
GNI MLR MLR
comp=Z,2μm,19.0s
GNI Garni 71.11 307 eP **P 17 21 57.6 +1.7**
O09A Fish Creek Ran 71.22 53 ⇓P P 17 21 56.3 -0.2
baz=71
M11A Holland Ranch, 71.30 51 ⇑P P 17 21 56.5 -0.5
baz=71
R07C Lee Vining 71.31 56 ⇑P P 17 21 57.1 0.0
baz=71,SNR=9.8
MOL Molde 71.50 340 AMS AMS 17 58 40.9
comp=Z,3μm,17.0s,MS5.6
Q08A Gabbs 71.55 55 ⇑P P 17 21 57.5 -1.0
baz=71
NVAR Mina Array Bea 71.58 55 P **P 17 21 59.4 +0.7**
comp=Z,4.1nm,0.7s,mb4.5,baz=279,slow=8.3,SNR=21
V04C Ramage Ranch, 71.61 59 ⇑P P 17 21 58.5 -0.4
baz=71
PKD Parkfield 71.64 58 ⇓P P 17 21 58.8 -0.2
baz=71
MNV Mina 71.67 55 eP **P 17 21 59.4 +0.2**
QLMT Earthquake Lak 71.70 46 eP **P 17 22 00.1 +0.7**
R08A Mina 71.75 55 ⇑P P 17 21 59.1 -0.6
baz=72
NB2 NORSAR Subarra 71.76 338 P **P 17 21 59.3 -0.4**

comp=Z,74nm,1.0s,mb5.6,baz=37,slow=6.2
NB2 NORSAR Subarra 71.76 338 P P 17 21 59.3 -0.4
NB2 pmax pmax
comp=Z,74nm,1.0s,mb5.6
NOA NORSAR Array B 71.76 338 P P 17 21 59.1 -0.6
comp=Z,30nm,0.8s,mb5.3,baz=37,slow=6.0,SNR=138
NOA LR LR 17 57 31.4
comp=Z,2μm,19.3s,MS5.4,baz=350,slow=39
M12A Wells 71.83 51 ⇓P P 17 22 00.4 +0.3
baz=72,SNR=11
WBK Wadi Bani Khal 71.83 284 ⇑P P 17 22 01.3 +1.1
SNR=6.2
BIDO Bidbid 71.91 286 ⇑P P 17 22 01.1 +0.5
SNR=6.1
STKA Stephens Creek 71.94 182 *e*P **P 17 21 57.9 -2.9**
comp=Z,3.9nm,0.7s,mb4.5
STKA Stephens Creek 71.94 182 P P 17 21 58.5 -2.4
comp=Z,3.8nm,0.6s,mb4.5,baz=346,slow=7.3,SNR=13
STKA LR LR 17 51 29.8
comp=Z,841nm,19.1s,MS5.0,baz=6.3,slow=34
STKA Stephens Creek 71.94 182 *e*P **P 17 21 56.9 -4.0**
SOC Sochi 71.96 312*c i*P **P 17 22 00.8 -0.2**
SOC *e**PP pP 17 22 09.7 -1.0
SOC *e* 17 22 18.4
SOC *e*PPP 17 26 18.9
SOC *e*S S 17 31 22.2 +2.0
SOC pmax pmax
comp=Z,85nm,1.3s,mb5.5
SOC MLR MLR
comp=Z,3μm,17.0s,MS5.6
NAO01 NORSAR Array S 72.01 338 *e*P **P 17 22 00.8 -0.4**
comp=Z,15nm,0.7s,mb5.0
MTUM Tungsten Hills 72.07 56 *e*P **P 17 22 02.1 +0.5**
MTUM *e*pP pP 17 22 12.0 +0.7
N12A Wells--Clov Va 72.10 51 ⇓P P 17 22 01.8 0.0
baz=72
V05C Boulder Hill, 72.11 58 ⇑P P 17 22 01.3 -0.5
baz=72
O11A Cowboy Ranch, 72.17 52 ⇓P P 17 22 02.3 +0.1
baz=72
ARTV Artvin 72.17 309 *i* P **P 17 22 03.5 +1.3**
S08C White Mtn Res 72.23 56 ⇓P P 17 22 02.8 +0.2
baz=72
SMDO Samad 72.24 285 ⇑P P 17 22 03.0 +0.4
SNR=6.0
YFT Old Faithful 72.27 46 *e*P **P 17 22 05.8 +3.0**
FORT Forrest 72.29 194 *e*P **P 17 22 04.1 +1.2**
comp=Z,19nm,0.7s,mb5.1
M13A Montello 72.30 51 ⇓P P 17 22 02.5 -0.5
baz=72,SNR=9.4
SFJD Kangerlussuaq 72.37 6 *i* P **P 17 22 01.5 -1.9**
comp=Z,68nm,1.5s,mb5.3
SFJD
comp=Z,1μm,21.0s
SFJD Kangerlussuaq 72.37 6 *i* P **P 17 22 01.5 -1.9**
SFJD pmax pmax
comp=Z,68nm,1.5s,mb5.4
SFJD MLR MLR
comp=Z,1μm,21.0s,MS5.1
ANN Anapa 72.47 314*d i*P **P 17 22 03.0 -1.0**
ANN *i* *PP pP 17 22 10.6 -3.1
ANN *e* 17 24 46.9
ANN *e*PPP 17 26 29.5
ANN *e*S S 17 31 24.3 -1.6
ANN pmax pmax
comp=Z,120nm,1.9s,mb5.5
ANN MLR MLR
comp=Z,3μm,14.0s,MS5.7
HOQ Hoqain 72.47 286 ⇓P P 17 22 04.3 +0.3
SNR=9.4
TPH Tonopah 72.47 55 *e*P **P 17 22 03.9 -0.1**
TPH *e**PP pP 17 22 13.9 +0.2
TPH pmax pmax
comp=Z,60nm,1.3s,mb5.4
TPH Tonopah 72.47 55 *e*P **P 17 22 03.9 -0.1**
comp=Z,60nm,1.3s,mb5.4
TPH *e*pP pP 17 22 13.9 +0.2
P11A Circle Ranch, 72.47 53 ⇑P P 17 22 02.2 -1.8
baz=72
IMW Indian Meadow 72.56 47 *e*P **P 17 22 06.0 +1.5**
comp=Z,66nm,1.3s,mb5.4
FLWY Flagg Ranch 72.58 47 *e*P **P 17 22 05.8 +1.2**
comp=Z,67nm,1.4s,mb5.4
JMDO Jabal Madar 72.61 285 ⇑P P 17 22 05.3 +0.5
SNR=6.9
DCID1 Drake Creek 72.62 47 *e*pP pP 17 22 15.8 +1.2
S09A Goldfield 72.69 55 ⇓P P 17 22 05.1 -0.2
baz=72
AKASG Malin Array Be 72.71 323 P P 17 22 05.1 -0.3
comp=Z,44nm,0.8s,mb5.5,baz=42,slow=5.9,SNR=117
AKASG Malin Array Be 72.71 323 *i* P **P 17 22 05.0 -0.4**
AKASG pmax pmax
comp=Z,44nm,0.8s
MOOW Moose Ponds 72.77 47 *e*P **P 17 22 06.5 +0.7**
comp=Z,43nm,1.3s,mb5.2
MOOW *e*pP pP 17 22 16.0 +0.5
TPAW Teton Pass 72.81 47 *e*P **P 17 22 07.4 +1.4**
comp=Z,60nm,1.3s,mb5.4
HVU Hansel Valley 72.86 50 *e*P **P 17 22 07.2 +0.9**
CWC Cottonwood Cre 72.93 57 ⇓P P 17 22 06.6 -0.1
baz=73
REDW Red Top Meadow 72.95 47 *e*P **P 17 22 07.4 +0.5**
comp=Z,65nm,1.5s,mb5.3
Q11A Duckwater 72.97 53 ⇓P P 17 22 07.0 +0.1
baz=73
SUW Suwalki 73.00 328 *e*P **P 17 22 07.1 0.0**
SUW *e*pP pP 17 22 12.3 -4.5
SUW *e*S S 17 31 32.9 +0.9
SUW L 17 58 51.0
comp=Z,3.1nm,16.9s
SUW Suwalki 73.00 328 *e*P **P 17 22 06.7 -0.4**
comp=Z,160nm,1.4s,mb5.8
SUW *e*pP pP 17 22 12.3 -4.5
SUW *e*S S 17 31 32.9 +0.9
P12A McGill 73.03 52 ⇑P P 17 22 07.2 -0.1
baz=73
BSY Bisya 73.06 286 ⇓P P 17 22 08.0 +0.6
SNR=13
ISA Isabella 73.15 57 *e*P **P 17 22 09.9 +1.9**
ISA Isabella 73.15 57 ⇓P P 17 22 07.0 -1.0
baz=73
BGU Big Grassy Mou 73.25 50 *e*P **P 17 22 08.7 +0.1**
ERZM Erzurum 73.31 308 *i* P **P 17 22 11.0 +2.1**
HAKT HAKKARI 73.33 305 *i* P **P 17 22 09.5 +0.4**
DAC Darwin (Calif) 73.34 56 *e*P **P 17 22 08.5 -0.6**
DAC *e**PP pP 17 22 18.9 0.0
SPUT South Promonto 73.34 50 *e*pP pP 17 22 19.9 +1.0
KONO Kongsberg 73.36 338 *e*P **P 17 22 07.7 -1.6**
KONO *e*S S 17 31 37.6 +1.5
KONO Kongsberg 73.36 338 *e*P **P 17 22 09.3 0.0**
KONO Kongsberg 73.36 338 *e*P **P 17 22 09.4 +0.1**
HWUT Hardware Ranch 73.67 49 *e*P **P 17 22 11.9 +0.8**
comp=Z,47nm,1.4s,mb5.2
DUG Dugway 73.83 51 *e*P **P 17 22 13.0 +0.9**
DUG pmax pmax
comp=Z,25nm,0.9s,mb5.1
DUG Dugway 73.83 51 *e*P **P 17 22 13.0 +1.0**
comp=Z,25nm,0.9s,mb5.1
BER Bergen 73.92 340 *e*P **P 17 22 12.0 -0.6**
BER *e*S S 17 31 45.5 +3.1
BER AMS AMS 18 00 51.7
comp=Z,3μm,17.2s,MS5.7
NOQ North Oquirrh 73.95 50 *e*pP pP 17 22 23.5 +1.0
BNGL BINGOL 74.03 308 *i* P **P 17 22 14.9 +1.7**
PDAR Pinedale Array 74.06 47 P P 17 22 13.9 +0.5
comp=Z,3.3nm,0.6s,mb4.5,baz=292,slow=1.5,SNR=15
TCUT Toone Canyon 74.07 49 *e*P **P 17 22 13.6 +0.2**
TCUT *e*pP pP 17 22 23.6 +0.4
SIM Simferopol' 74.16 316*ce*P **P 17 22 14.8 +0.9**
SIM 17 25 02.2
SIM PPP 17 26 52.6
SIM *e*S S 17 31 47.2 +2.1
SIM pmax pmax
comp=Z,120nm,8.6s
MWC Mount Wilson 74.31 58 *e*P **P 17 22 18.4 +3.6**
MWC *e**PP pP 17 22 24.4 -0.1
MWC *e**PP pP 17 22 24.5 0.0
NLU North Lily Min 74.42 51 *e*P **P 17 22 16.2 +0.8**
NLU *e*pP pP 17 22 25.3 0.0
GSC Goldstone 74.44 57 *e*P **P 17 22 15.5 -0.1**
GSC *e**PP pP 17 22 25.2 -0.2
GSC *e**PP pP 17 22 25.5 +0.1
GSC Goldstone 74.44 57 ⇑P P 17 22 15.5 -0.1
baz=74
FMP Fort Macarthur 74.47 59 ⇓P P 17 22 15.7 0.0
baz=74
DAU Daniels Canyon 74.61 50 *e*P **P 17 22 16.0 -0.6**
DAU *e**PP pP 17 22 27.2 +0.9
BEST Besiri 74.63 307 *i* P **P 17 22 18.8 +2.1**
MPU Maple Canyon 74.64 50 *e*P **P 17 22 17.5 +0.7**
comp=Z,64nm,1.4s,mb5.4
SHPR Sheep Range 74.73 55 *e*P **P 17 22 18.4 +1.1**
TUQ Turquoise Mtn. 74.92 56 ⇑P P 17 22 18.1 -0.2
baz=75
ARUT Antelope Range 74.98 53 P P 17 22 19.1 +0.4
WAR Warsaw 75.18 328 *e*P **P 17 22 21.1 +1.2**
WAR *e*pP pP 17 22 28.9 -0.7
WAR *e*S S 17 31 56.5 0.0
WAR *e*sS sS 17 32 10.0 -2.6
WAR *e*SKS 17 32 21.5
WAR L 17 58 43.4
comp=Z,2.7nm,18.3s
CCUT Cedar City 75.18 53 *e*P **P 17 22 20.6 +0.7**
MSU Marysvale 75.29 52 *e*P **P 17 22 21.6 +1.1**
MARD Mardin 75.30 307 *i* P **P 17 22 21.8 +1.2**
BSD Bornholm Skovb 75.30 332 *i* P **P 17 22 20.9 +0.3**
comp=Z,52nm,1.0s,mb5.4
BSD *i* 17 25 10.5
BSD *i* S S 17 31 56.5 -1.4
BSD *e* 17 40 41.1
BSD
comp=Z,2μm,19.0s
BSD Bornholm Skovb 75.30 332 *i* P **P 17 22 20.9 +0.3**
comp=Z,52nm,1.0s,mb5.4
BSD *i* 17 25 10.5
BSD *i* S S 17 31 56.5 -1.4
BSD *e* 17 40 41.1
TMUT Trail Mountain 75.36 51 *e*P **P 17 22 22.3 +1.4**
TMUT *e*pP pP 17 22 31.0 +0.3
KIS Kishinev 75.47 320*c i*P **P 17 22 20.0 -1.5**
KIS *e* 17 25 12.0
KIS *e* 17 27 03.0
KIS *e*S S 17 32 00.0 +0.3
KIS *e* 17 32 18.0
KIS *e*PS 17 32 36.0
KIS pmax pmax
comp=Z,500nm,8.0s
KIS MLR MLR
comp=N,3μm,16.0s,MS5.8
KIS MLR MLR
comp=E,2μm,16.0s,MS5.8
KIS MLR MLR
comp=Z,5μm,16.0s,MS5.9
BHD Baghdad 75.58 301 *ex* x 17 22 22.0
BHD *ex* x 17 32 01.0
ELZG Elazig 75.63 308 *i* P **P 17 22 24.6 +2.1**
LVV L'vov 75.69 324 *i* P **P 17 22 22.9 +0.1**
LVV *e* pP 17 22 33.4 +0.8
LVV *i* S S 17 32 04.4 +2.2
LVV *e*PS 17 32 34.9
LVV *e*SS SS 17 36 55.9 +2.0
COP Copenhagen 75.70 334⇑ *i*P **P 17 22 23.1 +0.2**
comp=Z,29nm,0.8s,mb5.3
COP *i* pP 17 22 33.0 +0.4
COP *e* 17 25 13.1
COP *e* 17 26 50.4
COP *i* S S 17 32 06.3 +4.0
COP
comp=Z,770nm,18.0s
COP Copenhagen 75.70 334⇑ *i*P **P 17 22 23.1 +0.2**
COP *i* pP 17 22 33.0 +0.4
COP *e* 17 25 13.1
COP *i* S S 17 32 06.3 +4.0
COP pmax pmax
comp=Z,29nm,0.8s,mb5.3
COP MLR MLR
comp=Z,770nm,18.0s,MS5.0
ULM Lac du Bonnet 75.72 35 P P 17 22 22.3 -0.7
comp=Z,4.9nm,0.8s,mb4.5,baz=322,slow=6.7,SNR=12
PFO Pinyon Flat Ob 75.73 58 ⇓P P 17 22 22.8 -0.2
baz=76
MIB Mutribah 75.76 297 *e*P **P 17 22 22.7 -0.5**
MIB AMb AMB 17 22 25.1
comp=Z,145nm,0.9s,mb5.9
SRU San Rafael 75.88 51 *e*P **P 17 22 25.7 +1.8**
GKP Gorka Klasztor 75.89 330 *e*P **P 17 22 24.4 +0.4**
GKP *e*pP pP 17 22 29.2 -4.5
GKP *e*S S 17 32 05.3 +0.9
GKP L 17 59 32.2
comp=Z,3.4nm,17.6s
QRN Al-Qurain 76.02 296 *e*P **P 17 22 24.4 -0.3**
QRN AMb AMB 17 22 26.9
comp=Z,198nm,1.1s,mb6.0
MALT Malatya 76.08 309⇑ *i*P **P 17 22 26.6 +1.6**
MALT Malatya 76.08 309 *e*P **P 17 22 26.7 +1.7**
RWWY Rawlins 76.08 47 *e*P **P 17 22 24.8 -0.3**
comp=Z,59nm,1.4s,mb5.3
RWWY *e*pP pP 17 22 34.8 0.0
MUD Monsted U'grnd 76.13 336 *i* P **P 17 22 26.0 +0.7**
comp=Z,38nm,1.1s,mb5.2
MUD *i* pP 17 22 34.8 -0.2
MUD *i* 17 25 19.5
MUD *i* S S 17 32 09.1 +2.1
MUD
comp=Z,1μm,16.0s
MUD Monsted U'grnd 76.13 336 *i* P **P 17 22 26.0 +0.7**
comp=Z,38nm,1.1s,mb5.2
MUD *i* pP 17 22 34.8 -0.2
MUD *i* 17 25 19.5
MUD *i* S S 17 32 09.1 +2.1
RSSD Black Hills 76.15 43 *e*P **P 17 22 25.1 -0.3**
RSSD pmax pmax
comp=Z,42nm,1.3s,mb5.2
RSSD Black Hills 76.15 43 *e*P **P 17 22 25.1 -0.3**
comp=Z,42nm,1.3s,mb5.2
RDF Al-Radifah 76.16 296 *e*P **P 17 22 25.2 -0.3**
RDF AMb AMB 17 22 28.4
comp=Z,228nm,1.3s,mb5.9
NAY Al-Naaiem 76.17 297 *e*P **P 17 22 25.0 -0.5**
NAY AMb AMB 17 22 27.6
comp=Z,72nm,1.3s,mb5.5
KWP Kalwaria 76.41 325 *e*Pc 17 22 27.8
KWP *e*PcP PcP 17 22 35.8 -2.8
KWP *e*PP PP 17 25 16.8 -1.9
KWP *e*S S 17 32 11.5 +1.4
KWP L 18 00 22.9
comp=Z,4.8nm,16.7s
KWP Kalwaria 76.41 325⇑ *e*P **P 17 22 27.8 +0.9**
KWP *e*PcP PcP 17 22 35.8 -2.8
KWP *e*PP PP 17 25 16.8 -1.9
KWP *e*S S 17 32 11.5 +1.4
ATAB Bozova 76.71 308 *i* P **P 17 22 30.4 +1.8**
X13A Yucca 76.79 56 ⇓P P 17 22 28.8 -0.2
baz=77
BALT Daday 76.84 314 *i* P **P 17 22 31.1 +1.7**
W14A Seligman 76.86 55 ⇓P P 17 22 29.7 +0.3
baz=77
Y12C Blythe 76.89 57 ⇑P P 17 22 29.7 +0.1
baz=77
NWAO Narrogin (SRO) 76.95 203 P P 17 22 30.4 +0.4
NWAO pmax pmax
comp=Z,34nm,1.4s
NWAO Narrogin (SRO) 76.95 203 P P 17 22 30.4 +0.5
comp=Z,34nm,1.4s,mb5.1
CFR Carcaliu 77.08 319⇑ *i*P **P 17 22 31.2 +0.5**
CFR Carcaliu 77.08 319⇑ P **P 17 22 31.2 +0.5**
KOLS Kolonicke sedl 77.12 325 *e*P **P 17 22 31.4 +0.5**
KOLS *e* 17 22 38.3
KOLS *e*S S 17 32 18.1 +0.3
KOLS Kolonicke sedl 77.12 325 *e*P **P 17 22 31.4 +0.5**
comp=Z,90nm,2.0s,mb5.3
KOLS *e* 17 22 38.3
KOLS *e*S S 17 32 18.1 +0.3
KOLS LR LR
comp=Z,2μm,20.1s,MS5.5
GLA Glamis 77.13 58 *e*P **P 17 22 29.4 -1.6**
GLA Glamis 77.13 58⇑P **P 17 22 30.9 -0.1**
baz=77
STHS Stebnicka Huta 77.21 326 *i* P **P 17 22 33.2 +1.8**
comp=Z,49nm,1.5s,mb5.2
OJC Ojcow 77.21 327 *e*P **P 17 22 31.8 +0.4**
OJC *e*S S 17 32 19.2 +0.3
OJC L 18 00 29.1
comp=Z,14nm,18.1s
OJC Ojcow 77.21 327⇑ *i*P **P 17 22 31.8 +0.4**
OJC *e*S S 17 32 19.2 +0.3
OJC LR LR
comp=Z,14μm,18.1s,MS6.3
GZT Gaziantep 77.22 308 *i* P **P 17 22 32.7 +1.3**
PV10 Paradox Valley 77.24 50 *e*P **P 17 22 32.3 +0.7**
Y13A Salome 77.29 56 ⇓P P 17 22 32.2 +0.4
baz=77
VRI Vrincioaia 77.29 320⇑ *i*P **P 17 22 32.7 +0.8**
VRI Vrincioaia 77.29 320 P P 17 22 33.5 +1.7
UZH Uzhgorod 77.34 325*c i*P **P 17 22 31.0 -1.1**
UZH *e*S S 17 32 19.0 -1.2
PLOR Plostina 77.34 320⇑ *i*P **P 17 22 33.6 +1.5**
W15A Williams 77.38 55 ⇑P P 17 22 32.7 +0.3
baz=77
TIRR Tirgusor 77.45 318⇑ *i*P **P 17 22 33.3 +0.5**
TIRR Tirgusor 77.45 318 P P 17 22 34.1 +1.3
X14A Yava 77.46 55 ⇑P P 17 22 33.2 +0.4
baz=77
CRVS Cervenica-Dubn 77.50 325 *e*P **P 17 22 34.2 +1.2**
CRVS *e*S S 17 32 24.6 +2.7
CRVS Cervenica-Dubn 77.50 325 *e*P **P 17 22 34.2 +1.2**
CRVS *e*S S 17 32 24.6 +2.7
CRVS pmax pmax
comp=Z,46nm,1.8s,mb5.1
CRVS MLR MLR
comp=Z,2μm,20.1s,MS5.4
CRVS Cervenica-Dubn 77.50 325 *e*P **P 17 22 34.2 +1.2**
comp=Z,46nm,1.8s,mb5.1
CRVS *e*S S 17 32 24.6 +2.7
CRVS LR LR
comp=Z,2μm,20.1s,MS5.4
ELDT Eldivan 77.53 313 *i* P **P 17 22 34.1 +0.9**
OBR Brabster 77.55 343 *e*P **P 17 22 33.0 -0.3**
CDAG Cicekdag 77.58 312 *i* P **P 17 22 34.1 +0.6**
PV01 Paradox Valley 77.68 50 *e*P **P 17 22 34.3 +0.3**
Y14A Wickenburg 77.73 56 ⇓P P 17 22 34.3 0.0
baz=78
BSEG Bad Segeberg 77.84 334 *e*P **P 17 22 35.1 +0.2**
comp=Z,91nm,1.1s,mb5.6
BSEG *e*S S 17 32 25.9 +0.3
AVNT Avonos 77.87 311 *i* P **P 17 22 36.7 +1.6**
SMCO Snowmass 77.90 49 *e*P **P 17 22 36.2 +1.0**
BR131 Keskin Array S 77.93 312 *e*P **P 17 22 36.1 +0.6**
comp=Z,34nm,1.3s,mb5.1
BRTR Keskin Array B 77.93 312 P P 17 22 35.6 +0.2
comp=Z,13nm,1.0s,mb4.8,baz=51,slow=3.7,SNR=40
BRTR PP PP 17 25 31.8 +0.3
comp=Z,3.4nm,1.0s,baz=55,slow=4.7,SNR=4.6
OTO Tongue 77.93 344 *e*P **P 17 22 35.4 -0.1**
MLR Muntele Rosu 77.94 320⇓ *i*P **P 17 22 36.5 +1.0**
MLR Muntele Rosu 77.94 320 P P 17 22 36.3 +0.8
RAC Raciborz 77.98 328 *e*P **P 17 22 36.4 +0.7**
RAC *e*S S 17 32 31.5 +4.3
RAC L 17 56 21.9
comp=E,5.3nm,20.8s
RAC L 17 58 47.4
comp=N,4.7nm,16.1s
RAC L 18 00 44.6
comp=Z,3.7nm,18.6s
Z14A Wintersburg 78.14 56 ⇓P P 17 22 37.1 +0.6
baz=78
KSP Ksiaz 78.15 329 *e*Pc 17 22 37.4
KSP *e*pP pP 17 22 41.4 -5.1
KSP *e*PcP PcP 17 22 45.4 -0.7
KSP *e*PP PP 17 25 35.8 +2.4
KSP *e*S S 17 32 30.2 +1.2
KSP *e*SKS 17 32 49.7
KSP L 18 01 03.0
comp=Z,6.6nm,17.8s
KSP Ksiaz 78.15 329⇑ *e*P **P 17 22 37.1 +0.4**
KSP *e*pP pP 17 22 43.1 -3.4
KSP *e*PP PP 17 25 30.5 -2.9
KSP *e*S S 17 32 28.0 -1.0
OKC Ostrava-Krasne 78.19 327⇑ *i*P **P 17 22 37.5 +0.6**
OKC *e*pP pP 17 22 45.9 -0.8
OKC *e*S S 17 32 29.8 +0.4
OKC AMS AMS 18 02 10.0
comp=Z,3μm,13.9s
OKC Ostrava-Krasne 78.19 327⇑ *i*P **P 17 22 37.5 +0.6**
OKC *e*pP pP 17 22 45.9 -0.8
OKC *e*S S 17 32 29.8 +0.4
SGKT Sivrigoynuk 78.23 314 *i* P **P 17 22 38.2 +1.1**
KECS Kecovo 78.24 325 *i* P **P 17 22 37.5 +0.4**
KECS *e* 17 25 38.8
KECS pmax pmax
comp=Z,13nm,1.1s,mb4.8
KECS Kecovo 78.24 325 *i* P **P 17 22 37.5 +0.4**
comp=Z,13nm,1.1s,mb4.8
KECS *e*PP PP 17 25 38.8 +4.7
ISCO Idaho Springs 78.25 47 P P 17 22 38.3 +1.1
ISCO pmax pmax
comp=Z,24nm,1.3s,mb5.0
ISCO Idaho Springs 78.25 47 *e*P **P 17 22 37.7 +0.5**
ISCO *e*pP pP 17 22 47.0 0.0
ANTO Ankara 78.31 313 *e*P **P 17 22 37.8 +0.3**
ANTO pmax pmax
comp=Z,92nm,1.4s,mb5.5
ANTO Ankara 78.31 313 *e*P **P 17 22 37.8 +0.3**
comp=Z,92nm,1.4s,mb5.5
MVCO Mesa Verde 78.34 51 *e*P **P 17 22 36.2 -1.5**
LIKS Likavka 78.40 326 *e*P **P 17 22 39.2 +1.2**
LIKS pmax pmax
comp=Z,34nm,0.9s,mb5.3
LIKS Likavka 78.40 326 *e*P **P 17 22 39.2 +1.2**
comp=Z,34nm,0.9s,mb5.3
MVH1 Achvaich 78.41 343⇑ *e*P **P 17 22 37.6 -0.5**
VOIR 78.41 321⇓ *i*P **P 17 22 39.5 +1.4**
VOIR 78.41 321⇓ P **P 17 22 39.5 +1.4**
MORC Moravsky Berou 78.49 328 *e*P **P 17 22 39.2 +0.7**
MORC pmax pmax
comp=Z,51nm,1.1s,mb5.4
MORC Moravsky Berou 78.49 328 *e*P **P 17 22 39.1 +0.6**
comp=Z,51nm,1.1s,mb5.4
DRGR 78.52 323⇑ *i*P **P 17 22 39.2 +0.5**
DRGR 78.52 323 P P 17 22 39.2 +0.5
UPC Upice 78.53 329⇑ *i*P **P 17 22 39.3 +0.6**
UPC *e*pP pP 17 22 46.9 -1.6
DPC Dobruska-Polom 78.53 329⇑ *i*P **P 17 22 39.5 +0.8**
DPC *e*pP pP 17 22 48.1 -0.4
DPC *e*S S 17 32 33.4 +0.4
DPC AMS AMS 18 02 40.0
comp=Z,3μm,14.8s
COBT Iskenderun 78.56 308 *i* P **P 17 22 40.9 +1.9**
MME1 Meikle Cairn 78.68 342 *e*P **P 17 22 39.6 0.0**
HENT Hendek 78.69 314 *i* P **P 17 22 40.4 +0.7**
PRD Provadia 78.86 318 *i* P **P 17 22 41.5 +0.9**
PSZ Piszkesteto 78.93 325⇑ *i*P **P 17 22 41.8 +0.9**
PSZ Piszkesteto 78.93 325 P P 17 22 42.0 +1.1
PSZ Piszkesteto 78.93 325 *e*P **P 17 22 42.2 +1.3**
VYHS Vyhne 78.94 326 *i* P **P 17 22 41.7 +0.7**
VYHS *e*pP pP 17 22 49.7 -1.1
VYHS *e*S S 17 32 39.1 +1.7
VYHS Vyhne 78.94 326 *i* P **P 17 22 41.7 +0.7**
VYHS *e* pP 17 22 49.7 -1.1
VYHS *e*S S 17 32 39.1 +1.7
VYHS pmax pmax
comp=Z,80nm,1.8s,mb5.3
VYHS MLR MLR
comp=Z,2μm,15.4s,MS5.7
VYHS Vyhne 78.94 326 *i* P **P 17 22 41.7 +0.7**
comp=Z,80nm,1.8s,mb5.3
VYHS *e* pP 17 22 49.7 -1.1
VYHS *e*S S 17 32 39.1 +1.7
VYHS LR LR
comp=Z,2μm,15.4s,MS5.7
115A Sonoran Desert 79.03 56⇑P **P 17 22 41.5 +0.1**
baz=79
BRG Berggiesshubel 79.04 330 *e*P **P 17 22 41.6 +0.1**
comp=Z,58nm,1.4s,mb5.3
BRG *e*S S 17 32 38.5 0.0
BRG Berggiesshubel 79.04 330 *e*P **P 17 22 41.7 +0.2**
comp=Z,35nm,1.4s,mb5.1
BRG *e* 17 23 03.6
comp=Z,24nm,1.5s
BRG PP PP 17 25 41.0 +0.3
BRG S S 17 32 40.0 +1.5
BRG SS tx 17 44 11.0
BRG
comp=N,2μm,15.3s
BRG
comp=E,1μm,17.1s
BRG
comp=Z,2μm,15.3s
BRG Berggiesshubel 79.04 330 *e*P **P 17 22 41.7 +0.2**
BRG 17 25 41.0
BRG S S 17 32 40.0 +1.5
BRG pmax pmax
comp=Z,35nm,1.4s,mb5.1

BRG MLR MLR
comp=Z,2µm,15.3s,MS5.6
BRG Berggiesshubel 79.04 330 *e*P **P 17 22 41.7 +0.2**
comp=Z,35nm,1.4s,mb5.1
BRG *e* 17 23 03.6
BRG PP PP 17 25 41.0 +0.3
BRG S S 17 32 40.0 +1.5
BRG SS tx 17 44 11.0
BRG LR LR
comp=Z,2µm,15.3s,MS5.6
CLL Collm 79.04 331⇑*i*P **P 17 22 41.3 -0.2**
comp=Z,80nm,1.1s,mb5.6
CLL *e*pP pP 17 22 49.8 -1.5
CLL *e*PP PP 17 25 40.6 -0.2
CLL *e*PPP 17 27 27.3
CLL *e*S S 17 32 39.6 +1.1
CLL *e*ScS ScS 17 33 03.4 +1.8
CLL *e*PS 17 33 28.4
CLL *e*SS SS 17 37 47.8 +3.4
CLL *e*SSS 17 41 07.5
CLL *e*L 18 00 35.6
comp=Z,2µm,22.0s
CLL Collm 79.04 331⇑*i*P **P 17 22 41.2 -0.3**
comp=Z,79nm,1.1s,mb5.6
CLL *i* pP pP 17 22 49.7 -1.6
CLL *i* x x 17 23 07.6
CLL *i* x x 17 24 12.1
CLL *e*PPk 17 25 31.0
CLL *e*PPlp 17 25 40.0
CLL *e*(PPP) 17 27 21.0
CLL *e*S S 17 32 36.0 -2.5
CLL *e*ScS ScS 17 33 01.0 -0.6
CLL *e*PS 17 33 30.0
CLL *e*x x 17 34 09.0
CLL *e*(SS) 17 38 24.0
CLL *e*x x 17 42 24.0
CLL Collm 79.04 331⇑*i*P **P 17 22 41.2 -0.3**
CLL *i* *PP pP 17 22 49.7 -1.6
CLL *e*S S 17 32 36.0 -2.5
CLL pmax pmax
comp=Z,79nm,1.1s,mb5.6
CLL MLR MLR
comp=Z,4µm,14.9s,MS5.9
CLL Collm 79.04 331⇑*i*P **P 17 22 41.2 -0.3**
comp=Z,79nm,1.1s,mb5.6
CLL *i* pP pP 17 22 49.7 -1.6
CLL *e*S S 17 32 36.0 -2.5
CLL LR LR
comp=Z,4µm,14.9s,MS5.9
KAC Achnashellach 79.04 344⇑*e*P **P 17 22 42.2 +0.6**
KOLL Kolacno 79.06 326 *e*P **P 17 22 42.3 +0.7**
PVCC Panska Ves 79.07 330⇑*i*P **P 17 22 42.3 +0.6**
PVCC *e**PP pP 17 22 51.3 -0.2
PVCC *e*S S 17 32 39.0 +0.2
PVCC MLR MLR
comp=Z,2µm,15.2s,MS5.5
NRDL Niedersach Rie 79.10 333 *e*P **P 17 22 41.9 0.0**
comp=Z,189nm,2.1s,mb5.7
NRDL *e*S S 17 32 38.2 -1.0
VRAC Vranov 79.24 328⇑*i*P **P 17 22 43.3 +0.7**
VRAC Vranov 79.24 328 ⇑P **P 17 22 43.4 +0.8**
VRAC Vranov 79.24 328 P **P 17 22 43.6 +1.0**
KPL Plockton 79.26 344 *e*P **P 17 22 41.9 -0.9**
EYMN Ely 79.35 34 *e*P **P 17 22 43.2 -0.1**
comp=Z,32nm,1.0s,mb5.2
116A Eloy 79.45 56 ⇓P **P 17 22 43.9 +0.1**
baz=79
PRA Prague 79.49 330 ⇑P **P 17 22 45.0 +1.0**
PRU Pruhonice 79.52 329⇑*i*P **P 17 22 44.6 +0.5**
PRU *e*pP pP 17 22 53.2 -0.8
PRU *e*S S 17 32 40.1 -3.4
PRU AMS AMS 18 02 00.0
comp=Z,3µm,17.8s
SMOL Smolenice 79.52 327 *e*P **P 17 22 45.2 +1.1**
CLZ Clausthal 79.55 333 *e*P **P 17 22 44.7 +0.4**
comp=Z,176nm,1.6s,mb5.7
CLZ *e*S S 17 32 44.4 +0.5
CLZ Clausthal 79.55 333 *e*P **P 17 22 44.7 +0.4**
CLZ *e*S S 17 32 44.4 +0.5
CLZ pmax pmax
comp=Z,176nm,1.6s,mb5.7
KDHN Kadinhani 79.61 312 *i*P **P 17 22 45.0 +0.3**
ESKT Eskisehir 79.63 314 *i*P **P 17 22 44.7 -0.1**
BUD Budapest 79.64 325⇑*i*P **P 17 22 45.5 +0.7**
KAR1 Arisaig 79.69 344⇑*e*P **P 17 22 45.8 +0.7**
SRO Srobarova 79.69 326 *e*P **P 17 22 46.0 +0.9**
SRO pmax pmax
comp=Z,141nm,1.3s,mb5.7
SRO Srobarova 79.69 326 *e*P **P 17 22 46.0 +0.9**
comp=Z,141nm,1.3s,mb5.7
SRO2 Moca 79.69 326 *e*P **P 17 22 46.0 +0.9**
SRO2 pmax pmax
comp=Z,57nm,1.4s,mb5.3
TREC Trest 79.69 328⇑*i*P **P 17 22 45.7 +0.6**
TREC *e*pP pP 17 22 54.0 -0.9
TREC AMS AMS 18 02 10.0
comp=Z,3µm,16.1s
SRO1 Iza 79.76 326 *e*P **P 17 22 45.8 +0.3**
SRO1 pmax pmax
comp=Z,46nm,0.9s,mb5.4
MEST Erdemli 79.77 310 *i*P **P 17 22 45.8 +0.3**
ELBA Catalca 79.79 316 *i*P **P 17 22 45.4 -0.2**
JMB Yambol 79.81 318 *i*P **P 17 22 47.0 +1.3**
JMB Yambol 79.81 318 *e*P **P 17 22 46.3 +0.6**
ESY Stoneypath 79.87 341⇑*e*P **P 17 22 46.0 -0.1**
ESY AMb AMB 17 22 48.4
comp=Z,50nm,1.6s,mb5.2
BZS Buzias 79.90 323⇓*i*P **P 17 22 46.2 0.0**
BZS Buzias 79.90 323 P **P 17 22 46.4 +0.2**
ZST Bratislava 79.90 327 *e*P **P 17 22 46.8 +0.6**
ZST *e*S S 17 32 49.4 +1.8
ZST pmax pmax
comp=Z,28nm,1.1s,mb5.1
ZST MLR MLR
comp=Z,1µm,16.2s,MS5.2
ZST Bratislava 79.90 327 *e*P **P 17 22 46.8 +0.6**
comp=Z,28nm,1.1s,mb5.1
ZST *e*S S 17 32 49.4 +1.8
ZST LR LR
comp=Z,1µm,16.2s,MS5.2
TANN Tannenbergstha 79.96 331 *e*P **P 17 22 46.9 +0.3**
comp=Z,121nm,2.0s,mb5.5
TANN *e*S S 17 32 47.7 -0.6
WIT Witteveen 79.98 335 *e*P **P 17 22 47.5 +0.8**
comp=Z,472nm,2.0s,mb6.1
EAB Aberfoyle 80.03 343 *e*P **P 17 22 46.6 -0.4**
EAB AMb AMB 17 22 49.7
comp=Z,118nm,1.5s,mb5.6
IBBN Ibbenburen 80.05 334 *e*P **P 17 22 46.9 -0.2**
comp=Z,84nm,1.0s,mb5.6
IBBN *e*S S 17 32 49.0 -0.2
MOX Moxa 80.09 331 *e*P **P 17 22 47.4 +0.1**
comp=Z,123nm,1.8s,mb5.5
MOX *e*S S 17 32 48.7 -0.9
MOX Moxa 80.09 331 *e*P **P 17 22 47.2 -0.1**
comp=Z,144nm,2.0s,mb5.6
MOX
comp=Z,1µm,22.0s
MOX Moxa 80.09 331 *e*P **P 17 22 47.2 -0.1**
MOX pmax pmax
comp=Z,144nm,2.0s,mb5.6
MOX MLR MLR
comp=Z,1µm,22.0s,MS5.2
EAU Auchinoon 80.13 342 *e*P **P 17 22 47.2 -0.3**
EAU AMb AMB 17 22 50.2
comp=Z,83nm,1.7s,mb5.4
ECSD EROS,Sioux Fal 80.19 40 *e*P **P 17 22 46.7 -1.0**
TUC Tucson 80.20 56 *e*P **P 17 22 48.6 +0.8**
PGBU Glenifferbraes 80.41 342 *e*P **P 17 22 48.8 -0.1**
MANZ Manzenberg 80.44 331 *e*P **P 17 22 49.7 +0.5**
comp=Z,36nm,1.2s,mb5.2
MANZ *e*S S 17 32 51.9 -1.4
ERMK Ermenek 80.45 310 *i*P **P 17 22 43.5 -5.7**
SOP Sopron 80.53 327⇑*i*P **P 17 22 50.7 +1.1**
ESK Eskdalemuir 80.55 342⇑*e*P **P 17 22 50.3 +0.5**
ESK AMb AMB 17 22 52.4
comp=Z,36nm,1.6s,mb5.1
KHC Kasperske Hory 80.58 329⇑*i*P **P 17 22 50.2 +0.3**
KHC *e*pP pP 17 22 58.8 -0.9
KHC *e*S S 17 32 54.7 0.0
KHC AMS AMS 18 03 40.0
comp=Z,4µm,15.9s
ROTZ Rotzenmuhle 80.59 330 *e*P **P 17 22 50.6 +0.7**
comp=Z,206nm,1.9s,mb5.7
ROTZ *e*S S 17 32 55.4 +0.6
CONA Conrad Observa 80.63 327⇓*i*P **P 17 22 50.9 +0.8**
comp=Z,375nm,2.1s,mb6.0,SNR=30
DIM Dimitrovgrad 80.65 318 *i*P **P 17 22 51.5 +1.2**
WTSB Winterswijk 80.66 335⇑*i*P **P 17 22 50.2 -0.1**
comp=Z,69nm,1.3s,mb5.4
WTSB *e*pP pP 17 22 58.2 -2.0
ECK Cauldkaine Hil 80.66 341 *e*P **P 17 22 50.8 +0.5**
ECK AMb AMB 17 22 52.8
comp=Z,48nm,1.9s,mb5.1
GDZ Gediz 80.69 314 *i*P **P 17 22 50.7 +0.3**
GEC2 GERESS Array S 80.76 329 *e*P **P 17 22 51.0 +0.1**
comp=Z,39nm,1.2s,mb5.2
GEC2 *e*S S 17 32 57.1 +0.5
GEC2 GERESS Array S 80.76 329 *e*P **P 17 22 51.0 +0.1**
GEC2 *e*S S 17 32 57.1 +0.5
GEC2 pmax pmax
comp=Z,39nm,1.2s,mb5.2
GERES GERESS Array B 80.76 329 P **P 17 22 51.1 +0.2**
comp=Z,11nm,0.8s,mb4.8,baz=33,slow=5.1,SNR=62
GERES LR LR 18 02 56.3
comp=Z,4µm,18.2s,MS5.8,baz=11,slow=39
BHH Howats Hill 80.76 341⇑*e*P **P 17 22 50.7 -0.1**
PKSM Moragy 80.79 325⇑*i*P **P 17 22 50.7 -0.3**
PKSM Moragy 80.79 325 P **P 17 22 51.1 +0.1**
WET Wettzell 80.84 330 *e*P **P 17 22 51.8 +0.5**
comp=Z,86nm,1.3s,mb5.5
WET *e*S S 17 32 58.9 +1.4
WET Wettzell 80.84 330 *e*P **P 17 22 51.8 +0.5**
WET *e*S S 17 32 58.9 +1.4
WET pmax pmax
comp=Z,86nm,1.3s,mb5.5
BUG Bochum--Univer 80.95 334 *e*P **P 17 22 51.6 -0.3**
comp=Z,92nm,1.4s,mb5.5
BUG *e*S S 17 32 59.1 +0.5
PGB Panagyurishte 80.97 319 *i*P **P 17 22 52.4 +0.4**
BTOK Tokmak 81.00 315 *i*P **P 17 22 53.4 +1.3**
KDZ Kurdzhali 81.00 318 *i*P **P 17 22 52.4 +0.3**
GRA1 Grafenberg Arr 81.02 331 *e*P **P 17 22 52.8 +0.6**
comp=Z,148nm,1.3s,mb5.8
GRA1 *e*pP pP 17 23 01.5 -0.6
GRA1 *e*S S 17 33 00.6 +1.3
GRA1 LR LR
comp=Z,5µm,20.4s,MS5.8
GRF Grafenberg Arr 81.02 331 *e*P **P 17 22 52.8 +0.6**
comp=Z,148nm,1.3s,mb5.8
GRF *e*pP pP 17 23 01.5 -0.6
GRF *e*S S 17 33 00.6 +1.3
GRF *e*L 17 57 34.4
comp=Z,5µm,20.4s
GRF Grafenberg Arr 81.02 331 *e*P **P 17 22 52.8 +0.6**
GRF *e**PP pP 17 23 01.5 -0.6
GRF *e*S S 17 33 00.6 +1.3
GRF pmax pmax
comp=Z,148nm,1.3s,mb5.8
GRF MLR MLR
comp=Z,5µm,20.4s,MS5.8
GRF Grafenberg Arr 81.02 331 *e*P **P 17 22 52.8 +0.6**
GRF *e**PP pP 17 23 01.5 -0.6
GRF *e*S S 17 33 00.6 +1.3
GRF pmax pmax
comp=Z,148nm,1.3s,mb5.8
GRF MLR MLR
comp=Z,5µm,20.4s,MS5.8
PLD Plovdiv 81.03 319 *i*P **P 17 22 52.9 +0.6**
BEO Belgrade 81.04 323 *i*P **P 17 22 52.8 +0.5**
ANMO Albuquerque 81.08 51 *e*P **P 17 22 53.9 +1.3**
ANMO Albuquerque 81.08 51 *e*P **P 17 22 53.8 +1.2**
comp=Z,34nm,1.3s,mb5.1
SVIS Svilajnac 81.08 322 *i*P **P 17 22 52.2 -0.3**
GMK Mull of Kintyr 81.09 343⇑*e*P **P 17 22 52.5 -0.1**
BBO1 Bothel 81.09 341⇑*e*P **P 17 22 52.8 +0.1**
CKE Keswick 81.19 341⇑*e*P **P 17 22 52.9 -0.3**
ALN Alexandroupoli 81.22 317 *e*P **P 17 22 54.5 +1.1**
ARSA Arzberg 81.30 327 *i*P **P 17 22 54.4 +0.7**
comp=Z,304nm,2.5s,mb5.8,SNR=12
RDO Rodhopi 81.31 318 *e*P **P 17 22 54.3 +0.5**
LENM Lemitar 81.31 52 *e*pP pP 17 23 03.4 -0.2
GAL1 Galloway 81.32 342⇑*e*P **P 17 22 53.7 -0.1**
RZN Rozhen 81.33 318 *i*P **P 17 22 54.9 +1.0**
MOA Molln 81.34 328⇓*i*P **P 17 22 54.4 +0.4**
comp=Z,295nm,2.5s,mb5.8,SNR=24
XDE Dent Fell 81.36 341 *e*P **P 17 22 54.0 0.0**
XDE AMb AMB 17 22 56.1
comp=Z,64nm,1.5s,mb5.3
CSS Prodhromos 81.36 309 *e*P **P 17 22 52.8 -1.3**
comp=Z,41nm,1.1s,mb5.3
VTS Vitosha 81.41 320 *i*P **P 17 22 55.0 +0.7**
VTS Vitosha 81.41 320 *e*P **P 17 22 55.5 +1.2**
VTS Vitosha 81.41 320⇑*i*P **P 17 22 55.3 +1.0**
VTS Vitosha 81.41 320 P **P 17 22 55.4 +1.1**
LPM Los Pinos Moun 81.41 52 *e*P **P 17 22 55.4 +1.0**
LPM *e*pP pP 17 23 04.8 +0.6
GCL Cushendall 81.45 343⇑*e*P **P 17 22 54.6 0.0**
BNM Barren Site 81.53 52 *e*P **P 17 22 56.2 +1.3**
SCHQ Schefferville 81.61 17 P **P 17 22 55.6 +0.2**
comp=Z,5.7nm,0.8s,mb4.6,baz=257,slow=7.2,SNR=4.7
SCHQ LR LR 18 06 19.2
comp=Z,698nm,18.0s,MS5.1,baz=297,slow=41
GRUS Gruza 81.63 322 *i*P **P 17 22 55.2 -0.2**
DIVS Divcibare 81.81 323⇓*i*P **P 17 22 57.1 +0.7**
DIVS Divcibare 81.81 323 *e*P **P 17 22 56.5 +0.1**
LHO Holmfirth 81.82 340⇑*e*P **P 17 22 55.8 -0.7**
PERS Pernice 81.96 327 *e*P **P 17 22 57.5 +0.3**
PERS *e* pP 17 23 06.6 -0.5
TOD Tromm 81.97 332 *e*P **P 17 22 57.3 +0.1**
HGN Heimansgroeve 81.97 334⇑*i*P **P 17 22 56.9 -0.4**
comp=Z,63nm,1.7s,mb5.3
HGN *e*pP pP 17 23 05.8 -1.3
HGN *e*PP PP 17 26 12.5 +7.5
HGN *e*PPP 17 27 55.2
HGN *e*x x 17 29 38.0
HGN *i*S S 17 33 09.7 +0.6
HGN *e*SS SS 17 38 38.5 +10
WIM Isle of Man 81.97 342⇑*e*P **P 17 22 56.9 -0.4**
WIM AMb AMB 17 22 59.2
comp=Z,53nm,1.1s,mb5.4
NVR Nevrokopi 82.01 319 *e*P **P 17 22 57.9 +0.4**
KKB Krupnik 82.01 320 *i*P **P 17 22 57.7 +0.2**
BEBN Eben Emael 82.02 335 P **P 17 22 57.5 -0.1**
comp=Z,12nm,0.0s
BEBN AP pP 17 23 06.5 -0.9
BEBN XP sP 17 23 12.8 +1.8
MEM Membach 82.08 334 P **P 17 22 57.5 -0.3**
comp=Z,14nm,1.0s,mb4.8
MEM AP pP 17 23 05.7 -2.0
MEM Membach 82.08 334 XP sP 17 23 13.5 +2.2
ABH Alteburg 82.17 333 *e*P **P 17 22 58.3 0.0**
GMM Mts of Mourne 82.19 343⇑*e*P **P 17 22 58.3 -0.1**
BBLS Bajina Basta - 82.25 323 *i*P **P 17 22 59.9 +1.2**
FUR Furstenfeldbru 82.25 330 *e*P **P 17 22 59.1 +0.4**
comp=Z,102nm,1.0s,mb5.7
FUR *e*S S 17 33 13.8 +1.7
FUR Furstenfeldbru 82.25 330 *e*P **P 17 22 59.1 +0.4**
FUR *e*S S 17 33 13.8 +1.7
FUR pmax pmax
comp=Z,102nm,1.0s,mb5.7
KWE Weaver Farm 82.29 340 *e*P **P 17 22 58.9 -0.1**
OBKA Obir 82.30 327⇑*i*P **P 17 22 59.2 +0.2**
comp=Z,321nm,2.5s,mb5.8,SNR=21
PRK Paraskevi 82.31 316 *e*P **P 17 23 00.0 +1.0**
KBA Koelnbreinsper 82.33 328⇑*i*P **P 17 22 59.3 +0.2**
comp=Z,307nm,2.1s,mb5.9,SNR=22
KBA Koelnbreinsper 82.33 328⇑*i*P **P 17 22 59.3 +0.2**
KBA pmax pmax
comp=Z,307nm,2.1s,mb5.9
SISC Sisak 82.36 326 iP 17 22 59.3
KDAG Bornova 82.39 315 *i*P **P 17 23 00.4 +1.0**
LIA Limnos Island 82.41 317 *e*P **P 17 23 00.4 +0.9**
LEGS Legarje 82.42 327 *i*P **P 17 22 59.4 -0.2**
PDKS Podkum 82.47 327 *e*P **P 17 22 59.8 -0.1**
RUP Ruppelstein 82.49 333 *e*P **P 17 22 59.9 -0.1**
STU Stuttgart 82.52 332 *e*P **P 17 23 00.2 0.0**
comp=Z,62nm,1.0s,mb5.6
STU *e*S S 17 33 16.1 +1.3
STU Stuttgart 82.52 332 *e*P **P 17 23 00.9 +0.7**
STU pmax pmax
comp=Z,40nm,0.8s,mb5.5
STU Stuttgart 82.52 332 *e*P **P 17 23 00.9 +0.7**
comp=Z,40nm,0.8s,mb5.5
AYDN Tasoluk 82.59 314 *i*P **P 17 23 02.2 +1.7**
KNT Kendrikon 82.63 319 *e*P **P 17 23 00.8 +0.1**
WCB1 Church Bay 82.65 341 *e*P **P 17 23 00.4 -0.4**
SOH Sokhos 82.66 319 *e*P **P 17 23 00.9 0.0**
VAY Valandovo 82.68 319 *e*P **P 17 23 00.8 -0.1**
VAY Valandovo 82.68 319⇑*i*P **P 17 23 00.8 -0.2**
LJU Ljubljana 82.68 327 *e*P **P 17 23 00.6 -0.4**
LJU *e* pP 17 23 10.6 -0.2
WLF1 Llynfaes 82.69 341⇑*e*P **P 17 23 01.2 +0.1**
WLF1 AMb AMB 17 23 03.8
comp=Z,60nm,1.8s,mb5.3
DMUB Kingscourt 82.72 343⇑*i*P **P 17 23 01.3 +0.1**
SNF Seneffe 82.72 335 P **P 17 23 01.0 -0.2**
comp=Z,12nm,0.0s
SNF AP pP 17 23 09.9 -1.1
SNF XP sP 17 23 14.6 0.0
SKO Skopje 82.74 321 *e*P **P 17 23 02.7 +1.4**
SKO Skopje 82.74 321⇑*i*P **P 17 23 02.8 +1.5**
VISS Visnje 82.74 327 *e*P **P 17 23 00.7 -0.6**
SBD1 Bryn Du 82.76 341⇑*e*P **P 17 23 01.7 +0.3**
URLA Izmir 82.78 315 *i*P **P 17 23 01.1 -0.4**
BOJS Bojanci 82.81 326 *e*P **P 17 23 01.5 -0.1**
BOJS *e* pP 17 23 11.6 +0.1
BOJS *e*PP PP 17 26 11.4 -0.5
BOJS *e*S S 17 33 17.0 -0.8
WATA Walderalm 82.82 329⇓*i*P **P 17 23 02.0 +0.3**
comp=Z,63nm,1.4s,mb5.5
WATA Walderalm 82.82 329⇓*i*P **P 17 23 02.0 +0.3**
WATA pmax pmax
comp=Z,63nm,1.4s,mb5.5
WLF Walferdange 82.83 334 P **P 17 23 00.1 -1.7**
LANF Langenberg 82.84 332 *e*P **P 17 23 01.7 -0.1**
WTTA Wattenberg 82.85 329⇓*i*P **P 17 23 02.4 +0.5**
comp=Z,393nm,2.3s,mb6.0,SNR=24
WTTA Wattenberg 82.85 329⇓*i*P **P 17 23 02.4 +0.5**
WTTA pmax pmax
comp=Z,393nm,2.3s,mb6.0
PTCC Patocco-Chiusa 82.87 328 P **P 17 23 01.3 -0.7**
comp=Z,200nm,2.0s,mb5.8
GIVF Givet 82.90 335 *e*P **P 17 23 01.8 -0.3**
PLG Polygyros 82.95 318 *e*P **P 17 23 02.3 -0.1**
VOY Vojsko 82.95 327 *e*P **P 17 23 01.8 -0.6**
DOU Dourbes 82.98 335 P **P 17 23 00.5 -2.1**
comp=Z,6.1nm,1.2s,mb4.5
DOU AP pP 17 23 10.1 -2.2
DOU XP sP 17 23 18.0 +2.0
YRE Yr Eifl 82.98 341⇑*e*P **P 17 23 03.2 +0.7**
YRE AMb AMB 17 23 06.4
comp=Z,142nm,2.0s,mb5.7
MOTA Moosalm 82.99 330⇓*i*P **P 17 23 03.0 +0.4**
comp=Z,83nm,1.2s,mb5.7,SNR=19
MOTA Moosalm 82.99 330⇓*i*P **P 17 23 03.0 +0.4**
MOTA pmax pmax
comp=Z,83nm,1.2s,mb5.6
HLM1 Long Mynd 83.01 340⇑*e*P **P 17 23 02.6 -0.1**
HLM1 AMb AMB 17 23 06.6
comp=Z,56nm,1.8s,mb5.3
GMNA Gemona 83.02 328 P **P 17 23 02.1 -0.7**
comp=Z,103nm,0.8s,mb5.9
SEST Monte Rota 83.05 329 P **P 17 23 03.4 +0.5**
comp=Z,2µm,7.8s
CHOS Chios island 83.05 315 *e*P **P 17 23 03.3 +0.4**
SQTA Sankt Quirin 83.06 330⇑*i*P **P 17 23 03.3 +0.4**
comp=Z,91nm,1.4s,mb5.6
SQTA Sankt Quirin 83.06 330⇑*i*P **P 17 23 03.3 +0.4**
SQTA pmax pmax
comp=Z,91nm,1.4s,mb5.6
SMG Samos 83.12 315 *e*P **P 17 23 03.2 -0.1**
BAIF Baives 83.14 335 *e*P **P 17 23 03.1 -0.2**
comp=Z,38nm,1.0s,mb5.1
BAIF Baives 83.14 335 *e*P **P 17 23 03.1 -0.2**
BAIF pmax pmax
comp=Z,19nm,1.0s,mb5.1
BAIF Baives 83.14 335 *e*P **P 17 23 03.1 -0.2**
comp=Z,19nm,1.0s,mb5.1
DLF Lyons Farm 83.19 343⇑*i*P **P 17 23 03.9 +0.3**
DSB Dublin 83.20 342 *e*P **P 17 23 02.0 -1.7**
comp=Z,63nm,1.4s,mb5.5
BFO Black Forest 83.21 332 P **P 17 23 04.8 +1.1**
comp=Z,195nm,0.9s,mb6.1,SNR=11
BFO Black Forest 83.21 332 *e*P **P 17 23 03.8 +0.1**
comp=Z,250nm,2.0s,mb5.9
BFO *e*S S 17 33 21.7 -0.1
BFO Black Forest 83.21 332 *e*P **P 17 23 03.8 +0.1**
BFO *e*S S 17 33 21.7 -0.1
BFO pmax pmax
comp=Z,250nm,2.0s,mb5.9
SPAK Spaichingen-Ko 83.23 331 *e*P **P 17 23 04.3 +0.5**
DCN Croghan 83.32 343⇑*i*P **P 17 23 04.4 +0.1**
MENF Mencas 83.34 336 *e*P **P 17 23 04.0 -0.4**
HAE Alders End 83.36 340⇑*e*P **P 17 23 05.1 +0.6**
HAE AMb AMB 17 23 08.4
comp=Z,127nm,1.7s,mb5.7
WLS Welschbruch 83.48 332 *e*P **P 17 23 05.0 -0.1**
DAVA Damuels 83.51 330⇑*i*P **P 17 23 05.6 +0.3**
comp=Z,254nm,2.0s,mb6.0,SNR=17
HTR Trewern Hill 83.51 340⇑*e*P **P 17 23 05.3 0.0**
HTR AMb AMB 17 23 08.2
comp=Z,121nm,1.8s,mb5.7
CDF Champ du Feu 83.51 332⇑*i*P **P 17 23 05.3 0.0**
comp=Z,118nm,1.2s,mb5.6
CDF Champ du Feu 83.51 332⇑*i*P **P 17 23 05.3 0.0**
CDF pmax pmax
comp=Z,59nm,1.2s,mb5.6
CDF Champ du Feu 83.51 332⇑*i*P **P 17 23 05.3 0.0**
comp=Z,59nm,1.2s,mb5.6
MCH1 Michaelchurch 83.52 340 *e*P **P 17 23 05.8 +0.5**
LIBD Limburg 83.62 332 *e*P **P 17 23 06.2 +0.4**
AOS Alonnisos 83.62 317 *e*P **P 17 23 05.6 -0.3**
SLE Schleitheim 83.62 331⇑*i*P **P 17 23 02.5 -3.3**
comp=Z,320nm,2.2s,mb6.1
SLE Schleitheim 83.62 331⇑*i*P **P 17 23 05.9 +0.1**
LIT Litokhoron 83.63 319 *e*P **P 17 23 06.9 +1.0**
LIENZ Alp Oberkamor 83.65 331⇑*i*P **P 17 23 05.6 -0.4**
comp=Z,364nm,2.1s,mb6.1
LIENZ Alp Oberkamor 83.65 331⇑*i*P **P 17 23 06.4 +0.4**
FNA Florina 83.67 320 *e*P **P 17 23 08.0 +1.9**
FELD Feldberg im Sc 83.71 332 *e*P **P 17 23 06.3 0.0**
OHR Ohrid 83.71 320 *e*P **P 17 23 05.7 -0.6**
OHR Ohrid 83.71 320⇑*i*P **P 17 23 05.5 -0.7**
ECH Echery 83.72 332 *e*P **P 17 23 06.2 -0.2**
FLACH Flaach 83.76 331⇑*i*P **P 17 23 06.5 0.0**
WILA Wila 83.77 331⇑*i*P **P 17 23 06.4 -0.2**
comp=Z,322nm,2.2s,mb6.1
WILA Wila 83.77 331⇑*i*P **P 17 23 06.7 +0.1**
HGH Gray Hill 83.79 340⇑*e*P **P 17 23 07.2 +0.5**
HGH AMb AMB 17 23 09.3
comp=Z,74nm,1.7s,mb5.5
KZN Kozani 83.84 319 *e*P **P 17 23 06.7 -0.3**
CTI Castel Tesino 83.85 329 P **P 17 23 06.2 -0.8**
CTI pmax pmax
comp=Z,55nm,1.1s,mb5.6
CTI Castel Tesino 83.85 329 P **P 17 23 06.2 -0.8**
comp=Z,55nm,1.1s,mb5.6
NEO Neokhori 83.86 318 *e*P **P 17 23 06.7 -0.3**
PLONS Plons 83.89 331⇑*i*P **P 17 23 06.7 -0.5**
comp=Z,335nm,1.8s,mb6.2
PLONS Plons 83.89 331⇑*i*P **P 17 23 07.4 +0.2**
ZUR Zurich 83.92 331⇑*i*P **P 17 23 07.4 0.0**
comp=Z,315nm,2.2s,mb6.1
ZUR Zurich 83.92 331⇑*i*P **P 17 23 07.6 +0.2**
DAVOX Davos 83.93 330⇑*i*P **P 17 23 06.9 -0.5**
comp=Z,410nm,2.9s,mb6.0
DAVOX Davos 83.93 330⇑*i*P **P 17 23 08.0 +0.6**
SULZ Sulz-Cheisache 83.96 332⇑*i*P **P 17 23 07.5 -0.1**
comp=Z,553nm,2.1s,mb6.3
MNTX Cornudas Mount 83.97 53 *e*P **P 17 23 08.2 +0.5**
TIR Tirane 83.98 321 *e*P **P 17 23 07.8 +0.2**
BRMO Bormio 83.99 330 P **P 17 23 08.6 +0.9**
comp=Z,72nm,1.2s,mb5.7
EIL Elat 84.00 304 *e*P **P 17 23 08.9 +1.1**
MOF Molkenrain 84.04 332 *e*P **P 17 23 07.8 -0.2**
SWK Warminster 84.09 339⇑*e*P **P 17 23 09.0 +0.8**
THEF They Montfort 84.12 333 *e*P **P 17 23 08.3 -0.1**
HINF Hinteralfeld 84.17 332⇑*i*P **P 17 23 08.2 -0.4**
comp=Z,168nm,1.6s,mb5.6
HINF Hinteralfeld 84.17 332⇑*i*P **P 17 23 08.2 -0.4**
HINF pmax pmax
comp=Z,84nm,1.6s,mb5.6
HINF Hinteralfeld 84.17 332⇑*i*P **P 17 23 08.2 -0.4**
comp=Z,84nm,1.6s,mb5.6
BERNI Berninapass 84.18 330⇑*i*P **P 17 23 07.6 -1.1**
comp=Z,287nm,1.8s,mb6.1
BERNI Berninapass 84.18 330⇑*i*P **P 17 23 09.4 +0.7**
HAU Haudompre 84.19 333 *e*P **P 17 23 09.5 +0.8**
comp=Z,52nm,0.9s,mb5.3
HAU *e*R

comp=Z,2µm,22.2s
HAU Haudompre 84.19 333 *e*P **P 17 23 09.5 +0.8**
HAU pmax pmax
comp=Z,26nm,0.9s,mb5.4
HAU MLR MLR
comp=Z,2µm,22.3s,MS5.5
HAU Haudompre 84.19 333 *e*P **P 17 23 09.5 +0.8**
comp=Z,26nm,0.9s,mb5.4
HAU LR LR
comp=Z,2µm,22.3s,MS5.5
LLS Linth-Limmern 84.20 331⇑*i*P **P 17 23 08.5 -0.3**
comp=Z,294nm,2.5s,mb6.0
LLS Linth-Limmern 84.20 331⇑*i*P **P 17 23 09.1 +0.3**
MEZF Maizieres J'vi 84.20 334 *e*P **P 17 23 08.9 +0.1**
comp=Z,387nm,1.8s,mb5.9
MEZF Maizieres J'vi 84.20 334 *e*P **P 17 23 08.9 +0.1**
comp=Z,387nm,1.8s,mb6.2
BBS Basel-Blauen 84.23 332 *e*P **P 17 23 09.3 +0.3**
MUO Muotathal 84.24 331⇑*i*P **P 17 23 09.6 +0.6**
comp=Z,462nm,2.0s,mb6.3
MUO Muotathal 84.24 331⇑*i*P **P 17 23 09.3 +0.3**
BALST Balsthal 84.28 332⇑*i*P **P 17 23 09.2 0.0**
comp=Z,430nm,1.8s,mb6.3
APE Apeiranthos 84.30 315⇓*i*P **P 17 23 09.1 -0.2**
APE Apeiranthos 84.30 315⇓*i*P **P 17 23 09.1 -0.2**
VDL Val di Lei 84.33 330⇑*i*P **P 17 23 09.3 -0.2**
comp=Z,301nm,2.2s,mb6.0
VDL Val di Lei 84.33 330⇑*i*P **P 17 23 10.0 +0.5**
TUE Stuetta 84.39 330 P **P 17 23 09.1 -0.7**
comp=Z,130nm,2.0s,mb5.7
BOURR Bourrignon 84.39 332⇑*i*P **P 17 23 10.0 +0.2**
comp=Z,364nm,2.1s,mb6.1
BNALP Bannalp 84.40 331⇑*i*P **P 17 23 09.4 -0.4**
comp=Z,369nm,2.2s,mb6.1
BNALP Bannalp 84.40 331⇑*i*P **P 17 23 10.1 +0.3**
LKR Lokris 84.46 317 *e*P **P 17 23 09.2 -0.9**
KARP Karpathos 84.51 313 *e*P **P 17 23 10.3 -0.1**
AGG Agios Georgios 84.53 318 *e*P **P 17 23 10.2 -0.3**
HEX Exmoor 84.57 340⇑*e*P **P 17 23 10.7 +0.1**
LOMF Lomont 84.58 332 *e*P **P 17 23 10.9 +0.2**
HASLI Hasliberg 84.60 331⇑*i*P **P 17 23 10.3 -0.5**
comp=Z,613nm,2.2s,mb6.3
HASLI Hasliberg 84.60 331⇑*i*P **P 17 23 10.9 +0.1**
PPT Papeete 84.61 118 *e*S 17 33 34.0
comp=Z,993nm,28.8s
PPT *e*LQ 17 45 33.3
comp=Z,828nm,28.5s
PPT *e*LR LR 17 49 25.0
comp=Z,2µm,21.5s,baz=318
PPT Papeete 84.61 118 LR LR 17 54 26.5
comp=Z,1µm,19.4s,MS5.4,baz=284,slow=31
FUSIO Fusio 84.66 331⇑*i*P **P 17 23 10.1 -1.0**
comp=Z,330nm,1.7s,mb6.2
FUSIO Fusio 84.66 331⇑*i*P **P 17 23 11.5 +0.4**
JAN Janina 84.79 319 *e*P **P 17 23 12.9 +1.1**
HTL Hartland 84.82 340 *e*P **P 17 23 11.5 -0.4**
WIMIS Wimmis 84.87 331⇑*i*P **P 17 23 10.9 -1.3**
comp=Z,246nm,2.1s,mb6.0
WIMIS Wimmis 84.87 331⇑*i*P **P 17 23 12.2 0.0**
EVR Evrytania 84.87 318 *e*P **P 17 23 11.7 -0.5**
MUGIO Muggio 84.97 330⇑*i*P **P 17 23 11.5 -1.2**
comp=Z,497nm,2.4s,mb6.2
MUGIO Muggio 84.97 330⇑*i*P **P 17 23 12.0 -0.7**
TORNY Torny 85.02 332⇑*i*P **P 17 23 12.0 -0.9**
comp=Z,392nm,2.3s,mb6.1
TORNY Torny 85.02 332⇑*i*P **P 17 23 13.1 +0.2**
BRANT Les Verrieres 85.05 332⇑*i*P **P 17 23 12.2 -0.9**
comp=Z,306nm,2.2s,mb6.0
BRANT Les Verrieres 85.05 332⇑*i*P **P 17 23 13.4 +0.3**
PESA Pesaro 85.08 327 P **P 17 23 14.3 +1.0**
comp=Z,68nm,0.9s,mb5.8
LKBD Leukerbad 85.10 331⇑*i*P **P 17 23 13.1 -0.3**
comp=Z,196nm,1.9s,mb5.9
LKBD Leukerbad 85.10 331⇑*i*P **P 17 23 13.4 0.0**
DYA Yadsworthy 85.18 340⇑*e*P **P 17 23 13.4 -0.4**
SENIN Lac Senin 85.25 331⇑*i*P **P 17 23 13.4 -0.7**
comp=Z,336nm,2.4s,mb6.0
SENIN Lac Senin 85.25 331⇑*i*P **P 17 23 14.3 +0.2**
RSM Repubblica di 85.26 327 P **P 17 23 14.8 +0.7**
RSM pmax pmax
comp=Z,487nm,2.5s,mb6.2
RSM Repubblica di 85.26 327 P **P 17 23 14.8 +0.7**
comp=Z,486nm,2.5s,mb6.2
MMK Mattmark 85.26 331⇑*i*P **P 17 23 13.4 -0.7**
comp=Z,280nm,2.1s,mb6.0
MMK Mattmark 85.26 331⇑*i*P **P 17 23 14.7 +0.6**
KEK Kerkira 85.27 320 *e*P **P 17 23 13.9 -0.3**
TAOE Nuku Hiva Isla 85.32 106 *e*PP PP 17 26 17.9 -15
comp=Z,549nm,29.8s
TAOE Nuku Hiva Isla 85.32 106 *e*S 17 33 37.0
comp=Z,796nm,26.7s
TAOE *e*LR LR 17 49 47.9
comp=Z,4µm,20.5s,baz=316
MCGN Macugnaga 85.33 331 P **P 17 23 15.0 +0.5**
comp=Z,82nm,1.2s,mb5.7
AIGLE Aigle 85.39 332⇑*i*P **P 17 23 14.3 -0.5**
comp=Z,298nm,2.4s,mb6.0
AIGLE Aigle 85.39 332⇑*i*P **P 17 23 14.7 -0.1**
CING Cingoli 85.39 326 P **P 17 23 14.9 +0.1**
comp=Z,108nm,2.3s,mb5.6
ARV Arcevia 85.40 326 P **P 17 23 14.9 +0.1**
comp=Z,37nm,1.0s,mb5.5
GRYON Gryon 85.41 331⇑*i*P **P 17 23 14.7 -0.2**
comp=Z,141nm,1.4s,mb5.9
GRYON Gryon 85.41 331⇑*i*P **P 17 23 14.9 0.0**
DIX Grande Dixence 85.44 331⇑*i*P **P 17 23 14.7 -0.3**
comp=Z,237nm,2.2s,mb5.9
DIX Grande Dixence 85.44 331⇑*i*P **P 17 23 15.6 +0.6**
CABF La Chapelle 85.47 332 *e*P **P 17 23 15.3 +0.1**
comp=Z,242nm,1.8s,mb5.7
CABF La Chapelle 85.47 332 *e*P **P 17 23 15.3 +0.1**
CABF pmax pmax
comp=Z,121nm,1.8s,mb5.7
CABF La Chapelle 85.47 332 *e*P **P 17 23 15.3 +0.1**
comp=Z,121nm,1.8s,mb5.7
GIMEL Gimel 85.47 332⇑*i*P **P 17 23 14.9 -0.3**
comp=Z,271nm,2.6s,mb5.9
GIMEL Gimel 85.47 332⇑*i*P **P 17 23 15.4 +0.2**
OG01 Vacheresse 85.50 332 *e*P **P 17 23 15.4 +0.1**
CSA1 St Austell 85.51 340 *e*P **P 17 23 15.7 +0.3**
ZCCA Zocca 85.52 328 P **P 17 23 16.9 +1.5**
comp=Z,433nm,2.4s,mb6.3
FGMS Monte Sant'Ang 85.52 324 P **P 17 23 15.0 -0.4**
comp=Z,106nm,1.2s,mb6.0
SFI Santa Sofia 85.53 327 P **P 17 23 16.2 +0.7**
SFI pmax pmax
comp=Z,71nm,1.3s,mb5.7
SFI Santa Sofia 85.53 327 P **P 17 23 16.2 +0.7**
comp=Z,71nm,1.3s,mb5.7
SALAN Lac Salanfe 85.55 331⇑*i*P **P 17 23 15.4 -0.2**
comp=Z,242nm,2.3s,mb6.0
SALAN Lac Salanfe 85.55 331⇑*i*P **P 17 23 15.7 +0.1**
SNTG Esanatoglia 85.60 326 P **P 17 23 15.8 0.0**
comp=Z,51nm,1.1s,mb5.7
VMG Vicchio 85.61 328 P **P 17 23 16.1 +0.2**
comp=Z,106nm,1.0s,mb6.0
FNVD Fontana Vidola 85.61 328 P **P 17 23 17.3 +1.4**
comp=Z,48nm,0.3s,mb6.2
ORO Oropa 85.61 331 P **P 17 23 15.8 -0.1**
ORO pmax pmax
comp=Z,29nm,0.7s,mb5.6
ORO Oropa 85.61 331 P **P 17 23 15.8 -0.1**
comp=Z,28nm,0.7s,mb5.6
GSCL Gusciola 85.67 328 P **P 17 23 17.9 +1.7**
comp=Z,62nm,1.4s,mb5.7
LOR Lormes 85.67 334⇑*i*P **P 17 23 16.1 -0.1**
comp=Z,328nm,1.4s,mb6.1
LOR *e*R
comp=Z,2µm,21.0s
LOR Lormes 85.67 334⇑*i*P **P 17 23 16.1 -0.1**
LOR pmax pmax
comp=Z,164nm,1.4s,mb6.1
LOR MLR MLR
comp=Z,2µm,21.0s,MS5.5
LOR Lormes 85.67 334⇑*i*P **P 17 23 16.1 -0.1**
comp=Z,164nm,1.4s,mb6.1
LOR LR LR
comp=Z,2µm,21.0s,MS5.5
ERBM Eremo 85.69 328 P **P 17 23 18.1 +1.9**
comp=Z,133nm,1.5s,mb6.0
BADI Badiali 85.69 327 P **P 17 23 16.9 +0.6**
RLS Riolos of Patr 85.70 318 *e*P **P 17 23 17.3 +1.0**
RGNG Rignano Grg 85.72 324 P **P 17 23 16.9 +0.5**
CRE Caprese Michel 85.72 327 P **P 17 23 17.2 +0.8**
CRE pmax pmax
comp=Z,167nm,2.4s,mb5.8
CRE Caprese Michel 85.72 327 P **P 17 23 17.2 +0.8**
comp=Z,167nm,2.4s,mb5.8
FLN La Foliniere 85.73 337⇑*i*P **P 17 23 16.3 -0.2**
comp=Z,180nm,1.5s,mb5.8
FLN *e*R
comp=Z,2µm,21.0s
FLN La Foliniere 85.73 337⇑*i*P **P 17 23 16.3 -0.2**
FLN pmax pmax
comp=Z,90nm,1.5s,mb5.8
FLN MLR MLR
comp=Z,2µm,21.0s,MS5.4
FLN La Foliniere 85.73 337⇑*i*P **P 17 23 16.3 -0.2**
comp=Z,90nm,1.5s,mb5.8
FLN LR LR
comp=Z,2µm,21.0s,MS5.4
LAST Lasithi 85.73 314 *e*P **P 17 23 17.1 +0.6**
CCA1 Carnmenellis 85.75 341 *e*P **P 17 23 16.5 -0.1**
CRQ2 Rosemanowes 2 85.75 341⇑*e*P **P 17 23 16.5 -0.1**
CRQ2 AMb AMB 17 23 19.2
comp=Z,119nm,1.6s,mb5.9
MURB Monte Urbino 85.77 327 P **P 17 23 17.1 +0.4**
comp=Z,149nm,1.6s,mb6.0
LDF La Druitiere 85.78 337 *e*P **P 17 23 16.4 -0.3**
comp=Z,232nm,1.5s,mb5.9
LDF La Druitiere 85.78 337 *e*P **P 17 23 16.4 -0.3**
LDF pmax pmax
comp=Z,116nm,1.5s,mb5.9
LDF La Druitiere 85.78 337 *e*P **P 17 23 16.4 -0.3**
comp=Z,116nm,1.5s,mb5.9
BOB Bobbio (Coli) 85.78 329 P **P 17 23 15.8 -0.9**
BOB pmax pmax
comp=Z,98nm,1.5s,mb5.8
BOB Bobbio (Coli) 85.78 329 P **P 17 23 15.8 -0.9**
comp=Z,98nm,1.5s,mb5.8
JRS Jersey 85.81 338⇑*e*P **P 17 23 16.7 -0.2**
CMA1 Manaccan 85.82 340⇑*e*P **P 17 23 16.7 -0.2**
TERO Teramo 85.83 326 P **P 17 23 16.6 -0.4**
comp=Z,49nm,1.5s,mb5.5
CGH1 Goonhilly 85.86 340⇑*e*P **P 17 23 17.3 +0.2**
CPZ Penzance 85.86 341⇑*e*P **P 17 23 17.1 0.0**
NRCA Norcia 85.87 326 P **P 17 23 17.3 +0.1**
VLC Villacollemand 85.91 328 P **P 17 23 16.9 -0.5**
comp=Z,272nm,2.7s,mb6.0
SSF Saint Saulge 85.97 334⇑*i*P **P 17 23 17.7 0.0**
comp=Z,85nm,1.0s,mb5.6
SSF Saint Saulge 85.97 334⇑*i*P **P 17 23 17.7 0.0**
SSF pmax pmax
comp=Z,43nm,1.0s,mb5.6
SSF Saint Saulge 85.97 334⇑*i*P **P 17 23 17.7 0.0**
comp=Z,42nm,1.0s,mb5.6
CIGN Sant'Elia a Pi 86.04 324 P **P 17 23 18.0 0.0**
comp=Z,428nm,2.6s,mb6.2
VLS Valsamata 86.06 319 *e*P **P 17 23 17.5 -0.6**
RSL Roselend 86.07 331 *e*P **P 17 23 18.4 +0.3**
HYF Humbligny 86.08 335 *e*P **P 17 23 18.6 +0.4**
CSNT Castellina Chi 86.11 327 P **P 17 23 17.6 -0.8**
comp=Z,54nm,1.9s,mb5.5
ITM Ithomi 86.13 317 *e*P **P 17 23 17.7 -0.7**
AQU L'Aquila 86.14 325⇓*i*P **P 17 23 19.1 +0.6**
AQU L'Aquila 86.14 325 P **P 17 23 19.0 +0.5**
AQU L'Aquila 86.14 325 *e*P **P 17 23 19.2 +0.7**
FG5 Orsara di Pugl 86.17 324 P **P 17 23 19.5 +0.8**
FG5 pmax pmax
comp=Z,227nm,1.7s,mb6.1
FG5 Orsara di Pugl 86.17 324 P **P 17 23 19.5 +0.8**
comp=Z,227nm,1.7s,mb6.1
LPL La Plagne 86.17 331⇑*i*P **P 17 23 19.2 +0.5**
comp=Z,111nm,1.0s,mb5.8
LPL La Plagne 86.17 331⇑*i*P **P 17 23 19.2 +0.5**
LPL pmax pmax
comp=Z,55nm,1.0s,mb5.7
LPL La Plagne 86.17 331⇑*i*P **P 17 23 19.2 +0.5**
comp=Z,55nm,1.0s,mb5.7
GRR Gorron 86.18 337⇑*i*P **P 17 23 18.7 0.0**
comp=Z,280nm,1.4s,mb6.0
GRR Gorron 86.18 337⇑*i*P **P 17 23 18.7 0.0**
GRR pmax pmax
comp=Z,140nm,1.4s,mb6.0
GRR Gorron 86.18 337⇑*i*P **P 17 23 18.7 0.0**
comp=Z,140nm,1.4s,mb6.0
FG4 Candela 86.18 323 P **P 17 23 19.6 +0.9**
FG4 pmax pmax
comp=Z,86nm,0.9s,mb6.0
FG4 Candela 86.18 323 P **P 17 23 19.6 +0.9**
comp=Z,86nm,0.9s,mb6.0
LPG La Plagne 86.18 331⇑*i*P **P 17 23 19.4 +0.7**
comp=Z,142nm,1.0s,mb5.9
LPG La Plagne 86.18 331⇑*i*P **P 17 23 19.4 +0.7**
LPG pmax pmax
comp=Z,71nm,1.0s,mb5.8
LPG La Plagne 86.18 331⇑*i*P **P 17 23 19.4 +0.7**
comp=Z,71nm,1.0s,mb5.8
OG05 Jujurieux 86.18 332 *e*P **P 17 23 19.0 +0.3**
INTR Introdacqua 86.19 325 P **P 17 23 17.1 -1.7**
comp=Z,72nm,1.2s,mb5.8
SMF Signal de Mont 86.22 334⇑*i*P **P 17 23 19.0 +0.1**
comp=Z,533nm,1.6s,mb6.2
SMF Signal de Mont 86.22 334⇑*i*P **P 17 23 19.0 +0.1**
comp=Z,267nm,1.6s,mb6.2
CII Carovilli 86.25 325 P **P 17 23 20.3 +1.3**
comp=Z,257nm,1.9s,mb6.1
VAM Vamos 86.25 315 *e*P **P 17 23 19.7 +0.7**
AVF Avril sur Loir 86.26 334⇑*i*P **P 17 23 19.3 +0.2**
comp=Z,250nm,1.0s,mb6.1
AVF Avril sur Loir 86.26 334⇑*i*P **P 17 23 19.3 +0.2**
AVF pmax pmax
comp=Z,125nm,1.0s,mb6.1
AVF Avril sur Loir 86.26 334⇑*i*P **P 17 23 19.3 +0.2**
comp=Z,125nm,1.0s,mb6.1
RSP Reno Superiore 86.29 331 P **P 17 23 17.8 -1.4**
RSP pmax pmax
comp=Z,183nm,2.4s,mb5.9
RSP Reno Superiore 86.29 331 P **P 17 23 17.8 -1.4**
comp=Z,183nm,2.4s,mb5.9
RNI2 Rionero Sannit 86.33 325 P **P 17 23 20.0 +0.5**
comp=Z,395nm,2.2s,mb6.2
MIDA Miranda 86.34 325 P **P 17 23 19.5 0.0**
comp=Z,177nm,2.0s,mb6.0
PTRP Pietrapertosa 86.42 323 P **P 17 23 21.2 +1.3**
VVLD Villa Vallelon 86.43 325 P **P 17 23 19.5 -0.4**
comp=Z,183nm,2.2s,mb5.9
SDI San Donato 86.48 325 P **P 17 23 19.7 -0.5**
SDI pmax pmax
comp=Z,30nm,1.0s,mb5.5
SDI San Donato 86.48 325 P **P 17 23 19.7 -0.5**
comp=Z,30nm,1.0s,mb5.5
MRLC Muro Lucano 86.49 323 P **P 17 23 19.6 -0.6**
comp=Z,144nm,2.5s,mb5.8
BNI Bardonecchia 86.59 331 *e*P **P 17 23 21.1 +0.4**
BNI pmax pmax
comp=Z,23nm,0.9s,mb5.4
BNI Bardonecchia 86.59 331 *e*P **P 17 23 21.1 +0.3**
comp=Z,23nm,0.9s,mb5.4
ORI Oriolo Calabro 86.60 322 P **P 17 23 21.0 +0.2**
ORI pmax pmax
comp=Z,89nm,1.1s,mb5.9
ORI Oriolo Calabro 86.60 322 P **P 17 23 21.0 +0.2**
comp=Z,89nm,1.1s,mb5.9
BGF Bois d'Agland 86.64 334⇑*i*P **P 17 23 21.1 +0.2**
comp=Z,296nm,1.6s,mb6.0
BGF Bois d'Agland 86.64 334⇑*i*P **P 17 23 21.1 +0.2**
BGF pmax pmax
comp=Z,148nm,1.6s,mb6.0
BGF Bois d'Agland 86.64 334⇑*i*P **P 17 23 21.1 +0.2**
comp=Z,148nm,1.6s,mb6.0
GDM Grand'Maison 86.67 331 *e*P **P 17 23 21.8 +0.7**
SGO Sicignano 86.73 323 P **P 17 23 21.7 +0.3**
SGO pmax pmax
comp=Z,25nm,1.4s,mb5.2
SGO Sicignano 86.73 323 P **P 17 23 21.7 +0.3**
comp=Z,25nm,1.4s,mb5.2
RFI Roccamonfina 86.73 325 P **P 17 23 22.5 +1.1**
comp=Z,43nm,1.9s,mb5.3
GRN Grenoble 86.77 332 *e*P **P 17 23 22.4 +0.8**
SGMF Saint Gilles 86.79 338 *e*P **P 17 23 21.9 +0.2**
comp=Z,391nm,1.7s,mb6.1
SGMF Saint Gilles 86.79 338 *e*P **P 17 23 21.9 +0.2**
SGMF pmax pmax
comp=Z,196nm,1.7s,mb6.1
SGMF Saint Gilles 86.79 338 *e*P **P 17 23 21.9 +0.2**
comp=Z,196nm,1.7s,mb6.1
MBDF Montbardon 86.83 331 *e*P **P 17 23 21.7 -0.2**
comp=Z,52nm,1.0s,mb5.4
MBDF Montbardon 86.83 331 *e*P **P 17 23 21.7 -0.2**
MBDF pmax pmax
comp=Z,26nm,1.0s,mb5.4
MBDF Montbardon 86.83 331 *e*P **P 17 23 21.7 -0.2**
comp=Z,26nm,1.0s,mb5.4
PLDF La Plantade 86.89 333 *e*P **P 17 23 22.9 +0.7**
ROSF Rostrenen 86.92 339 *e*P **P 17 23 22.8 +0.5**
comp=Z,123nm,1.1s,mb5.7
ROSF Rostrenen 86.92 339 *e*P **P 17 23 22.8 +0.5**
comp=Z,62nm,1.1s,mb5.8
MGR Morigerati 86.96 323 P **P 17 23 20.6 -1.9**
ORIF Oris-en-Rattie 87.00 331⇑*i*P **P 17 23 23.1 +0.4**
comp=Z,62nm,1.0s,mb5.5
ORIF *e*R
comp=Z,3µm,21.2s
ORIF Oris-en-Rattie 87.00 331⇑*i*P **P 17 23 23.1 +0.4**
ORIF pmax pmax
comp=Z,31nm,1.0s,mb5.5
ORIF Oris-en-Rattie 87.00 331⇑*i*P **P 17 23 23.1 +0.4**
comp=Z,31nm,1.0s,mb5.5
SURF Saint Ours 87.03 331 *e*P **P 17 23 23.2 +0.4**
TCF Toulx Ste Croi 87.08 334⇑*i*P **P 17 23 23.5 +0.4**
comp=Z,316nm,1.6s,mb6.0
TCF Toulx Ste Croi 87.08 334⇑*i*P **P 17 23 23.5 +0.4**
TCF pmax pmax
comp=Z,158nm,1.6s,mb6.0
TCF Toulx Ste Croi 87.08 334⇑*i*P **P 17 23 23.5 +0.4**
comp=Z,158nm,1.6s,mb6.0
CCM Cathedral Cave 87.14 40 *e*P **P 17 23 22.6 -0.8**
comp=Z,25nm,0.9s,mb5.4
TIP Timpagrande 87.15 322 *e*P **P 17 23 23.4 0.0**
COLF Collangettes 87.25 333 *e*P **P 17 23 24.8 +0.8**
QUIF Quistinic 87.27 338⇑*i*P **P 17 23 24.2 +0.2**
comp=Z,64nm,1.2s,mb5.4
QUIF Quistinic 87.27 338⇑*i*P **P 17 23 24.2 +0.2**
comp=Z,32nm,1.2s,mb5.4
PYM Petit Puy Mans 87.29 334 *e*P **P 17 23 25.7 +1.6**
SBF Sospel 87.32 330 *e*P **P 17 23 23.6 -0.6**
comp=Z,28nm,0.8s,mb5.3
SBF Sospel 87.32 330 *e*P **P 17 23 23.6 -0.6**
comp=Z,14nm,0.8s,mb5.2
OG25 Le Caire 87.40 331 *e*P **P 17 23 23.4 -1.2**
VIVF Saint-Julien-I 87.49 332⇑*i*P **P 17 23 25.4 +0.3**
comp=Z,180nm,1.4s,mb5.8
VIVF Saint-Julien-I 87.49 332⇑*i*P **P 17 23 25.4 +0.3**
comp=Z,90nm,1.4s,mb5.8
MFF Saint Martin d 87.56 336⇑*i*P **P 17 23 25.8 +0.4**
comp=Z,148nm,1.3s,mb5.8
MFF Saint Martin d 87.56 336⇑*i*P **P 17 23 25.8 +0.4**
comp=Z,74nm,1.3s,mb5.8
FVM French Village 87.60 40 *e*pP pP 17 23 35.9 +0.4
LBL Lubilhac 87.66 333 *e*P **P 17 23 27.6 +1.7**
FRNF Fournols 87.76 334 *e*P **P 17 23 27.4 +1.0**
FRF La Foret Royal 87.87 330 *e*P **P 17 23 26.5 -0.4**
SMRF Simiane la Rot 87.92 331 *e*P **P 17 23 27.4 +0.3**
comp=Z,103nm,1.8s,mb5.5
SMRF Simiane la Rot 87.92 331 *e*P **P 17 23 27.4 +0.3**
comp=Z,103nm,1.8s,mb5.8
VILF Villemus 87.97 331 *e*P **P 17 23 28.8 +1.4**
LRYF La Roche-sur-Y 88.01 337 *e*P **P 17 23 27.8 +0.2**
TAVF Tavernes 88.05 331 *e*P **P 17 23 28.1 +0.4**
LMR La Mourre 88.12 330 *e*P **P 17 23 27.8 -0.3**
RJF Les Rejaudoux 88.18 334⇑*i*P **P 17 23 28.8 +0.4**
comp=Z,299nm,1.6s,mb6.0
RJF *e*R
comp=Z,2µm,17.5s
RJF Les Rejaudoux 88.18 334⇑*i*P **P 17 23 28.8 +0.4**
RJF pmax pmax
comp=Z,150nm,1.6s,mb6.0
RJF MLR MLR
comp=Z,2µm,17.5s,MS5.7
RJF Les Rejaudoux 88.18 334⇑*i*P **P 17 23 28.8 +0.4**
comp=Z,150nm,1.6s,mb6.0
RJF LR LR
comp=Z,2µm,17.5s,MS5.7
PRAF Pradon 88.22 331 *e*P **P 17 23 29.3 +0.8**
PUYF Puyloubier 88.25 331 *e*P **P 17 23 28.1 -0.6**
TREF Trevaresse 88.29 331 *e*P **P 17 23 28.8 -0.1**
CAF Calviac 88.33 334⇑*i*P **P 17 23 30.0 +0.9**
comp=Z,205nm,1.2s,mb5.9
CAF Calviac 88.33 334⇑*i*P **P 17 23 30.0 +0.9**
CAF pmax pmax
comp=Z,103nm,1.2s,mb5.9
CAF Calviac 88.33 334⇑*i*P **P 17 23 30.0 +0.9**
comp=Z,103nm,1.2s,mb5.9
SIUC Southern Illin 88.40 39 *e*P **P 17 23 30.6 +1.2**
LASF Ste Croix 88.45 332 *e*P **P 17 23 30.0 +0.3**
comp=Z,65nm,1.4s,mb5.4
LONY Lake Ozonia 88.64 26 *e*P **P 17 23 24.9 -5.7**
MIAR Mount Ida 88.66 44 *e*P **P 17 23 31.5 +0.9**
MIAR pmax pmax
comp=Z,34nm,1.4s,mb5.5
MIAR Mount Ida 88.66 44 *e*P **P 17 23 31.5 +0.8**
comp=Z,34nm,1.4s,mb5.5
LFF La Frestale 88.76 335⇑*i*P **P 17 23 31.7 +0.6**
comp=Z,271nm,1.5s,mb6.0
LFF La Frestale 88.76 335⇑*i*P **P 17 23 31.7 +0.6**
LFF pmax pmax
comp=Z,135nm,1.5s,mb6.0
LFF La Frestale 88.76 335⇑*i*P **P 17 23 31.7 +0.6**
comp=Z,135nm,1.5s,mb6.1
TBI Tubuai 88.77 122 *e*S 17 34 13.5
comp=Z,620nm,23.5s
TBI *e*LQ 17 47 14.0
comp=Z,417nm,27.5s
TBI *e*LR LR 17 51 06.3
comp=Z,860nm,32.2s,baz=313
MTLF Montolieu 89.67 333 *e*P **P 17 23 35.9 +0.5**
comp=Z,63nm,1.4s,mb5.5
MTLF Montolieu 89.67 333 *e*P **P 17 23 35.9 +0.5**
MTLF pmax pmax
comp=Z,31nm,1.4s,mb5.5
MTLF Montolieu 89.67 333 *e*P **P 17 23 35.9 +0.5**
comp=Z,31nm,1.4s,mb5.5
MLS Moulis 90.40 334 *e*P **P 17 23 39.2 +0.4**
EPF Esparros 90.59 334 *e*P **P 17 23 39.6 -0.1**
comp=Z,22nm,1.0s,mb5.2
EPF Esparros 90.59 334 *e*P **P 17 23 39.6 -0.1**
EPF pmax pmax
comp=Z,11nm,1.0s,mb5.1
EPF Esparros 90.59 334 *e*P **P 17 23 39.6 -0.1**
comp=Z,11nm,1.0s,mb5.2
SSPA Standing Stone 90.92 30 *e*P **P 17 23 41.7 +0.5**
SSPA *e*pP pP 17 23 51.7 +0.5
ETSF Etsaut 91.00 335 *e*P **P 17 23 42.4 +0.8**
comp=Z,30nm,0.9s,mb5.3
ETSF Etsaut 91.00 335 *e*P **P 17 23 42.4 +0.8**
ETSF pmax pmax
comp=Z,15nm,0.9s,mb5.3
ETSF Etsaut 91.00 335 *e*P **P 17 23 42.4 +0.8**
comp=Z,15nm,0.9s,mb5.3
SJPF Ste Jean 91.03 335 *e*P **P 17 23 42.4 +0.7**
comp=Z,26nm,1.2s,mb5.1
SJPF Ste Jean 91.03 335 *e*P **P 17 23 42.4 +0.7**
SJPF pmax pmax
comp=Z,13nm,1.2s,mb5.1
SJPF Ste Jean 91.03 335 *e*P **P 17 23 42.4 +0.7**
comp=Z,13nm,1.2s,mb5.1
ESDC Sonseca Array 95.01 336 P **P 17 23 59.8 -0.3**
comp=Z,2.4nm,0.8s,mb4.7,baz=10,slow=3.6,SNR=6.8
RKT Rikitea 98.41 113 *e*PS PS 17 37 09.0 -0.9
comp=Z,482nm,30.2s
RKT Rikitea 98.41 113 *e*SKSac SKSac 17 34 49.2 -1.9
comp=Z,409nm,25.2s
RKT *e*LR LR 17 55 26.7
comp=Z,794nm,25.5s
TORD Torodi Ar. Bea 116.11 318 PKP PKPdf 17 29 20.4 -0.1
comp=Z,1.5nm,0.8s,baz=9.4,slow=3.0,SNR=6.4
TORD PP PP 17 30 19.2 -6.2
comp=Z,11nm,1.2s,baz=27,slow=5.3,SNR=5.9
VNDA Vanda 118.19 176 PKP PKPdf 17 29 22.9 -1.6
comp=Z,0.7nm,0.7s,baz=330,slow=6.8,SNR=3.8
MAW Mawson 123.34 207 *e*P PKPdf 17 29 33.6 -0.7
comp=Z,3.2nm,0.9s
MAW *e* 17 29 42.6
MAW Mawson 123.34 207 PKP PKPdf 17 29 32.8 -1.5
comp=Z,3.4nm,0.9s,baz=330,slow=5.5,SNR=6.1
MAW Mawson 123.34 207 PKIKP PKPdf 17 29 32.8 -1.5
MAW pmax pmax
comp=Z,30nm,0.9s
DBIC Dimbokro 124.93 321 PKP PKPdf 17 29 38.0 +0.7
comp=Z,3.6nm,0.7s,baz=22,slow=4.0,SNR=6.7
LIC Lamto 125.40 321 *e*PKIKP PKPdf 17 29 38.5 +0.2
comp=Z,19nm,0.8s
LIC *e*R
comp=Z,1µm,22.8s
LIC Lamto 125.40 321 *e*PKPdf PKPdf 17 29 38.5 +0.2
LIC LR LR
comp=Z,640nm,22.8s,MS5.2

LBTB	Lobatse	126.70	267	*e*PKIKP	PKPdf	17 29 42.1	+1.3
BOSA	Boshof	128.84	263	PKP	PKPdf	17 29 46.0	+1.1
	comp=Z,1.7nm,0.9s,baz=169,slow=18,SNR=2.9						
BOSA	Boshof	128.84	263	PKP	PKPdf	17 29 46.0	+1.1
QSPA	South Pole Qui	130.14	180	*e*PKPdf	PKPdf	17 29 45.5	-1.8
LPAZ	La Paz	143.44	58	PKP	PKPdf	17 30 10.1	-1.8
	comp=Z,1.7nm,0.8s,baz=41,slow=7.7,SNR=7.3						
LPAZ	La Paz	143.44	58	*e*PKPdf	PKPdf	17 30 10.2	-1.6
VNA1	Neumayer--Stat	146.44	196	*e*PKPdf	PKPdf	17 30 17.4	+0.4
VNA1				*e*		17 30 19.1	
VNA1				*e*		17 30 23.0	
VNA1				*e*		17 30 27.2	
VNA1				*e*		17 30 29.6	
VNA1				*e*		17 30 34.4	
VNA1				*e*		17 30 49.9	
VNA1				*e*		17 31 04.9	
VNA1				*e*		17 31 10.2	
LVC	Limon Verde	147.28	67	*e*PKPdf	PKPdf	17 30 18.7	+0.3
BDFB	Brasilia	153.31	26	PKPbc	PKPbc	17 30 36.4	+1.0
	comp=Z,4.2nm,0.9s,baz=269,slow=2.4,SNR=6.2						
PLCA	Paso Flores	154.09	102	PKPbc	PKPbc	17 30 37.4	+0.3
	comp=Z,2.0nm,0.6s,baz=294,slow=3.0,SNR=5.9						
CPUP	Villa Florida	157.61	58	PKP	PKPdf	17 30 34.1	+0.4
	comp=Z,0.4nm,0.4s,baz=206,slow=4.6,SNR=2.8						

JMA 16 17:16:00.1±0.2, 4039N×14355E, h23km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.37**	**251**	P	Pn	17 16 24.1	+0.3
JTH				*e*S	Sn	17 16 40.2	-1.0
JANG	**Nango**	**1.55**	**270**	P	Pn	17 16 27.0	+0.7
JANG				*e*S	Sn	17 16 46.5	+0.7
MIYJ	**Miyakonagasawa**	**1.56**	**239**	P	Pn	17 16 27.1	+0.7
JEM	**Erimo**	**1.65**	**350**	P	Pn	17 16 28.5	+0.8
JEM				*e*S	Sn	17 16 48.3	+0.2
JOM	**Ohasama**	**1.96**	**243**	P	Pn	17 16 33.3	+1.4
JOM				*e*S	Sn	17 16 57.7	+1.9
JNBK	**Urakawa-nobuka**	**1.98**	**343**	*e*S	Sn	17 16 58.5	+2.2
JOT	**Ohata**	**2.14**	**298**	*e*S	Sn	17 17 02.8	+2.6
JCH	**Churui**	**2.23**	**356**	*e*S	Sn	17 17 02.0	-0.4
JMK	**Ichinoseki**	**2.30**	**232**	P	Pn	17 16 37.6	+1.0
JMK				*e*S	Sn	17 17 06.6	+2.4
JKB	**Kayabe**	**2.42**	**309**	*e*S	Sn	17 17 08.6	+1.5
JAK	**Akkeshi**	**2.74**	**18**	P	Pn	17 16 41.2	-1.5
JAK				*e*S	Sn	17 17 12.3	-2.8
JFR	**Furan**	**2.86**	**346**	*e*S	Sn	17 17 17.5	-0.5
JYK	**Kaneyama**	**2.87**	**240**	P	Pn	17 16 46.0	+1.6
JAR	**Ashorobuto**	**2.91**	**3**	P	Pn	17 16 43.7	-1.3
JAR				*e*S	Sn	17 17 16.4	-2.8
JMM	**Marumori**	**3.31**	**221**	P	Pn	17 16 49.7	-0.8
JMM				*e*S	Sn	17 17 29.3	+0.2

NIED ***16*** *17:27:00, 40.40N×14360E, h11km, Mw4.4 Best double couple: M0=4.46000×10^15 NP1:φ=9.00000°, δ=66.00000°, λ=82.00000°. NP2:φ=209.00000°, δ=25.00000°, λ=109.00000°.*
IDC ***16*** *17:27:04.3±0.8, 40.28N×143.74E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.8/21, mbtmp3.8/12, ML3.7/3, Error ellipse: s-maj=24.3km s-min=18.4km az=97.0*
ISCJB ***16*** *17:27:06.7±0.5, 40.34N±0.03×143.79E±0.05, h33km, mb3.7/9, Error ellipse: s-maj=6.4km s-min=3.5km az=51.1*
MOS ***16*** *17:27:06.3±1.0, 40.32N×143.88E, h33km, mb4.0/4, Error ellipse: s-maj=28.3km s-min=14.7km az=87.9*
JMA ***16*** *17:27:06.9±0.2, 40.39N×143.60E, h17km, M4.2*
ISC 16 17:27:08.5±0.5, 4037N±003×14376E±006, h35km, n36, σ1§23/50, mb3.7/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.51**	**254**	P	**Pn**	**17 27 31.9**	**-1.2**
JTH				*e*S	**Sn**	**17 27 49.2**	**-2.4**
MIYJ	**Miyakonagasawa**	**1.69**	**243**	P	**Pn**	**17 27 34.9**	**-0.5**
MIYJ				*e*S	**Sn**	**17 27 54.6**	**-1.2**
JANG	**Nango**	**1.71**	**271**	P	**Pn**	**17 27 34.7**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.06**	**339**	P	**Pn**	**17 27 40.6**	**+0.1**
JNBK				*e*S	**Sn**	**17 28 06.7**	**+1.7**
JOM	**Ohasama**	**2.10**	**246**	P	**Pn**	**17 27 42.6**	**+1.5**
JCH	**Churui**	**2.27**	**353**	P	**Pn**	**17 27 43.1**	**-0.3**
JCH				*e*S	**Sn**	**17 28 09.5**	**-0.6**
JOT	**Ohata**	**2.29**	**297**	P	**Pn**	**17 27 43.4**	**-0.4**
JOT				*e*S	**Sn**	**17 28 10.9**	**+0.1**
JMK	**Ichinoseki**	**2.42**	**235**	P	**Pn**	**17 27 45.5**	**0.0**
JKB	**Kayabe**	**2.56**	**307**	*e*S	**Sn**	**17 28 17.6**	**+0.2**
JAK	**Akkeshi**	**2.72**	**15**	P	**Pn**	**17 27 49.1**	**-0.6**
JAK				*e*S	**Sn**	**17 28 20.6**	**-0.7**
JAR	**Ashorobuto**	**2.93**	**0**	P	**Pn**	**17 27 51.5**	**-1.0**
JAR				*e*S	**Sn**	**17 28 24.1**	**-2.4**
JFR	**Furan**	**2.93**	**343**	P	**Pn**	**17 27 53.6**	**+1.1**
JFR				*e*S	**Sn**	**17 28 27.8**	**+1.3**
JYK	**Kaneyama**	**3.00**	**242**	P	**Pn**	**17 27 53.7**	**+0.2**
JEW	**Eniwo**	**3.02**	**326**	*e*S	**Sn**	**17 28 30.5**	**+1.8**
ASAJ	**Asahikawa**	**3.85**	**347**	Pn	**Pn**	**17 28 05.6**	**+0.5**
	2.1nm,0.3s,baz=193,slow=8.1,SNR=20						
ASAJ				Sn	**Sn**	**17 28 46.8**	**-2.3**
	6.5nm,0.3s,baz=180,slow=14,SNR=4.0						
ASAJ	**Asahikawa**	**3.85**	**347**	P	**Pn**	**17 28 05.6**	**+0.5**
ASAJ						17 28 46.8	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.98**	**22**	*e*P	**Pn**	**17 28 05.7**	**-1.4**
YUK				*e*S	**Sn**	**17 28 51.7**	**-0.8**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,370nm,0.5s						
YUK				smax			
	comp=E,350nm,0.4s						
YUK				smax			
	comp=N,1μm,0.6s						
KUR	**Kuril'sk**	**5.73**	**30**	*e*P	**Pn**	**17 28 27.8**	**-3.2**
KUR				*e*S	**Sn**	**17 29 30.0**	**-5.4**
KUR				pmax	pmax		
	comp=Z,130nm,0.5s						
KUR				smax			
	comp=N,140nm,0.5s						
KUR				smax			
	comp=E,140nm,0.5s						
MJAR	**Matsushiro Arr**	**5.79**	**231**	Pn	**Pn**	**17 28 32.5**	**+0.6**
	comp=E,2.2nm,0.3s,baz=32,slow=12,SNR=40						
MJAR	**Matsushiro Arr**	**5.79**	**231**	P	**Pn**	**17 28 32.5**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAT	**Matsushiro**	**5.79**	**231**	P	**Pn**	**17 28 32.6**	**+0.7**
MAT				S	**Sn**	**17 29 36.8**	**-0.3**
JHJ	**Hachijo jima 2**	**7.90**	**205**	Pn	**Pn**	**17 28 58.5**	**-2.3**
	comp=Z,15nm,0.3s,baz=331,slow=3.8,SNR=9.2						
JHJ				Sn	**Sn**	**17 30 20.9**	**-8.1**
	comp=Z,31nm,0.3s,baz=261,slow=22,SNR=8.2						
CBIJ	**Chichi jima**	**13.30**	**186**	Pn	**Pn**	**17 30 09.7**	**-5.0**
	comp=Z,1.9nm,0.3s,baz=287,slow=19,SNR=3.4						
CBIJ				Sn	**Sn**	**17 32 28.4**	**-13**
	comp=Z,2.3nm,0.3s,baz=287,slow=19,SNR=4.3						
SONM	**Songino Array**	**27.64**	**298**	P	**P**	**17 32 53.5**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.5,baz=93,slow=8.5,SNR=7.3						
SONM	**Songino Array**	**27.64**	**298**	P	**P**	**17 32 53.5**	**+0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**43.99**	**300**	P	**P**	**17 35 12.9**	**+0.6**
	comp=Z,2.0nm,1.0s,mb3.8,baz=76,slow=10,SNR=10						
MKAR	**Makanchi Array**	**43.99**	**300**	P	**P**	**17 35 12.9**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**60.63**	**190**	P	**P**	**17 37 15.8**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.8,baz=8.0,slow=6.9,SNR=4.9						
ASAR	**Alice Springs**	**64.36**	**190**	P	**P**	**17 37 41.2**	**+0.6**
	comp=Z,0.2nm,0.8s,mb3.2,baz=1.4,slow=5.6,SNR=4.3						
FINES	**FINESS Array B**	**66.72**	**332**	P	**P**	**17 37 56.8**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.9,baz=57,slow=7.0,SNR=7.7						
FINES	**FINESS Array B**	**66.72**	**332**	P	**P**	**17 37 56.8**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**71.55**	**55**	P	**P**	**17 38 28.3**	**+2.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=290,slow=6.6,SNR=4.5						
NOA	**NORSAR Array B**	**71.81**	**338**	P	**P**	**17 38 29.5**	**+2.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=37,slow=6.0,SNR=3.0						
NOA	**NORSAR Array B**	**71.81**	**338**	P	**P**	**17 38 29.5**	**+2.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.78**	**323**	P	**P**	**17 38 35.2**	**+1.9**
	comp=Z,0.4nm,0.3s,mb3.8,baz=43,slow=5.3,SNR=5.3						
PDAR	**Pinedale Array**	**74.04**	**47**	P	**P**	**17 38 42.1**	**+1.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=312,slow=1.0,SNR=5.2						

MAN 16 17:39:11.9, 947N×12569E, h13km, mb1.9, ML3.7, MS2.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.37**	**327**	*e*P	Pg	17 39 20.3	+0.9
SCPH				*e*S	Sg	17 39 30.4	+6.1
BUTP	**Butuan**	**0.50**	**188**	*e*P	Pg	17 39 22.4	+0.5
BUTP				*e*S	Sg	17 39 35.0	+6.4
MSLP	**Maasin**	**1.05**	**309**	*e*P	Pb	17 39 32.0	0.0
MSLP				*e*S	Sb	17 39 50.7	+5.1
BUKP	**Musuan**	**1.70**	**201**	*e*P	Pn	17 39 40.8	-0.5
MATI	**Mati**	**2.57**	**167**	*e*P	Pn	17 40 01.9	+8.6

ISCJB ***16*** *17:47:03.7±0.7, 39.13N±004×141.76E±009, h103km±4km, mb3.3/3, Error ellipse: s-maj=11.7km s-min=5.4km az=30.5*
IDC ***16*** *17:47:04.2±2.0, 39.25N×141.72E, h90km±19km, mb3.3/3, mb1 3.3/6, mb1mx3.2/22, mbtmp3.6/6, Error ellipse: s-maj=30.2km s-min=15.6km az=111.0*
JMA ***16*** *17:47:05.2±0.1, 39.14N×141.67E, h99km±1km, M3.3*
JMA Felt I J1.
ISC 16 17:47:04.7±0.7, 3913N±004×14175E±009, h99km±4km, n21, σ0§53/35, mb3.3/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.08**	**230**	P	**Pn**	**17 47 19.1**	**+0.7**
OFUJ				S	**Sn**	**17 47 29.3**	**+0.6**
JMK	**Ichinoseki**	**0.45**	**246**	P	**Pn**	**17 47 20.0**	**0.0**
JMK				*e*S	**Sn**	**17 47 31.4**	**0.0**
JOM	**Ohasama**	**0.49**	**314**	P	**Pn**	**17 47 20.5**	**+0.2**
JOM				*e*S	**Sn**	**17 47 32.0**	**+0.1**
JIO	**Ouri**	**0.75**	**205**	P	**Pn**	**17 47 22.4**	**0.0**
JIO				S	**Sn**	**17 47 35.1**	**-0.6**
JYK	**Kaneyama**	**1.10**	**259**	P	**Pn**	**17 47 26.3**	**+0.1**
JYK				S	**Sn**	**17 47 42.4**	**+0.1**
JOU	**Okura**	**1.15**	**228**	P	**Pn**	**17 47 26.8**	**+0.2**
JOU				S	**Sn**	**17 47 43.0**	**-0.1**
JANG	**Nango**	**1.25**	**352**	P	**Pn**	**17 47 27.8**	**0.0**
JANG				*e*S	**Sn**	**17 47 44.6**	**-0.7**
JAH	**Hinai**	**1.36**	**321**	P	**Pn**	**17 47 29.5**	**+0.4**
JAH				S	**Sn**	**17 47 48.0**	**+0.3**
JMM	**Marumori**	**1.47**	**211**	P	**Pn**	**17 47 30.1**	**-0.4**
JMM				S	**Sn**	**17 47 48.9**	**-1.2**
JYS	**Shiratake**	**1.60**	**236**	P	**Pn**	**17 47 32.3**	**+0.2**
JYS				S	**Sn**	**17 47 53.1**	**+0.1**
JYA	**Atsumi**	**1.68**	**252**	P	**Pn**	**17 47 33.1**	**0.0**
JYA				S	**Sn**	**17 47 54.3**	**-0.4**
JTM	**Tenmabayashi**	**1.73**	**343**	P	**Pn**	**17 47 33.9**	**+0.2**
JTM				S	**Sn**	**17 47 55.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.81**	**228**	P	**Pn**	**17 48 02.2**	**+0.9**
	0.6nm,0.3s,baz=32,slow=12,SNR=9.0						
MAT	**Matsushiro**	**3.82**	**228**	P	**Pn**	**17 48 02.1**	**+0.8**
MAT				*e*S	**Sn**	**17 48 49.1**	**+3.9**
ASAJ	**Asahikawa**	**5.02**	**7**	P	**Pn**	**17 48 17.4**	**-0.2**
	0.6nm,0.3s,baz=68,slow=24,SNR=7.2						
ASAJ				S	**Sn**	**17 49 10.7**	**-3.7**
	0.4nm,0.3s,baz=16,slow=31,SNR=3.9						
JHJ	**Hachijo jima 2**	**6.21**	**195**	P	**Pn**	**17 48 33.2**	**-0.6**
	4.6nm,0.3s,baz=90,slow=20,SNR=3.7						
JHJ				S	**Sn**	**17 49 37.9**	**-5.4**
	11nm,0.3s,baz=90,slow=23,SNR=9.8						
CBIJ	**Chichi jima**	**12.01**	**178**	S	**Sn**	**17 51 52.0**	**-12**
	2.7nm,0.3s,baz=294,slow=20,SNR=3.0						
SONM	**Songino Array**	**26.89**	**300**	P	**P**	**17 52 36.1**	**-0.1**
	0.4nm,0.5s,mb3.2,baz=93,slow=9.6,SNR=5.1						
MKAR	**Makanchi Array**	**43.26**	**300**	P	**P**	**17 54 55.7**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=84,slow=9.4,SNR=6.8						
FINES	**FINESS Array B**	**67.09**	**332**	pP	pP	17 58 07.5	-4.8
	0.7nm,0.9s,baz=70,slow=8.0,SNR=3.9						
PDAR	**Pinedale Array**	**76.01**	**46**	P	**P**	**17 58 41.5**	**+0.5**
	0.5nm,0.8s,mb3.3,baz=326,slow=4.7,SNR=3.1						

JMA 16 17:49:37.5±0.2, 4041N×14371E, h36km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.49**	**252**	P	Pn	17 50 02.6	+0.8
JTH				*e*S	Sn	17 50 20.1	+0.1
JEM	**Erimo**	**1.66**	**346**	P	Pn	17 50 06.4	+2.3
MIYJ	**Miyakonagasawa**	**1.67**	**241**	P	Pn	17 50 05.5	+1.2
MIYJ				*e*S	Sn	17 50 26.0	+1.5
JANG	**Nango**	**1.68**	**269**	P	Pn	17 50 05.5	+1.2
JOM	**Ohasama**	**2.08**	**244**	P	Pn	17 50 11.8	+1.9
JOM				*e*S	Sn	17 50 36.8	+2.2
JCH	**Churui**	**2.22**	**353**	*e*S	Sn	17 50 39.8	+1.9
JOT	**Ohata**	**2.24**	**297**	P	Pn	17 50 14.3	+2.2
JOT				*e*S	Sn	17 50 40.8	+2.3
JMK	**Ichinoseki**	**2.41**	**234**	P	Pn	17 50 16.0	+1.6
JKB	**Kayabe**	**2.50**	**307**	*e*S	Sn	17 50 48.1	+3.1
JAK	**Akkeshi**	**2.69**	**16**	P	Pn	17 50 19.3	+1.1
JAK				*e*S	Sn	17 50 49.9	+0.4
JAR	**Ashorobuto**	**2.88**	**1**	P	Pn	17 50 21.9	+1.0
JAR				*e*S	Sn	17 50 54.6	+0.2
JEW	**Eniwo**	**2.96**	**326**	*e*S	Sn	17 51 00.1	+3.8
JYK	**Kaneyama**	**2.98**	**241**	P	Pn	17 50 24.5	+2.2
NEM2	**Nemuro 2**	**3.32**	**27**	P	Pn	17 50 27.5	+0.6
NEM2				*e*S	Sn	17 51 03.8	-1.3
JMM	**Marumori**	**3.41**	**223**	P	Pn	17 50 28.7	+0.6

IDC ***16*** *18:10:35.5±2.8, 857N×126.64E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=205.9km s-min=29.1km az=66.0*
ISCJB ***16*** *18:10:39.7±1.5, 832N±004×126.74E±008, h24km±9km, mb3.3/3, Error ellipse: s-maj=13.1km s-min=6.3km az=142.5*
MAN ***16*** *18:10:40.8, 828N×126.57E, h12km, mb3.7, ML4.8, MS2.8*
ISC 16 18:10:40.8±1.4, 830N±004×12671E±007, h19km±6km, n18, σ1§08/27, mb3.3/3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.36**	**252**	↓*i*P	**Pg**	**18 10 48.1**	**-0.3**
BIPH				*i* S	**Sg**	**18 10 53.8**	**+0.2**
BUTP	**Butuan**	**1.26**	**302**	*e*P	**Pn**	**18 11 01.9**	**-1.4**
MATI	**Mati**	**1.42**	**198**	*e*P	**Pn**	**18 11 04.3**	**-1.2**
MATI				*e*S	**Sn**	**18 11 23.2**	**-0.3**
BUKP	**Musuan**	**1.68**	**256**	*e*P	**Pn**	**18 11 10.1**	**+1.0**
BUKP				*e*S	**Sn**	**18 11 34.9**	**+4.9**
SCPH	**Surigao**	**1.90**	**321**	*e*P	**Pn**	**18 11 10.7**	**-1.5**
SCPH				*e*S	**Sn**	**18 11 33.8**	**-1.7**
CGP	**Cagayan de Oro**	**2.00**	**275**	↑*e*P	**Pn**	**18 11 03.0**	**-10**
CGP				*i* S	**Sn**	**18 11 38.5**	**+0.6**
MSLP	**Maasin**	**2.58**	**315**	*e*P	**Pn**	**18 11 21.3**	**-0.1**
MSLP				*e*S	**Sn**	**18 11 52.1**	**-0.2**
TBP	**Tagbilaran**	**3.13**	**296**	*e*P	**Pn**	**18 11 37.6**	**+8.6**
TBP				*e*S	**Sn**	**18 12 12.4**	**+6.5**
PLP	**Palo**	**3.32**	**329**	*e*P	**Pn**	**18 11 33.8**	**+2.1**
PLP				*e*S	**Sn**	**18 12 11.1**	**+0.6**
PAGZ	**Pagadian**	**3.32**	**262**	*e*P	**Pn**	**18 11 36.6**	**+4.9**
DCPH	**Dipolog City**	**3.33**	**275**	↑*e*P	**Pn**	**18 11 32.5**	**+0.8**
LLP	**Lapu-Lapu**	**3.37**	**307**	↓*e*P	**Pn**	**18 11 33.1**	**+0.9**
LLP				*e*S	**Sn**	**18 12 12.1**	**+0.4**
OCLP	**Ormoc**	**3.43**	**323**	*e*P	**Pn**	**18 11 34.1**	**+1.0**
GUIM	**Jordan**	**4.67**	**300**	*e*P	**Pn**	**18 11 48.9**	**-1.3**
PVCP	**Virac**	**5.83**	**335**	*e*P	**Pn**	**18 12 12.9**	**+6.8**
WRA	**Warramunga Arr**	**29.05**	**165**	P	**P**	**18 16 41.5**	**+1.9**
	0.5nm,0.9s,mb3.2,baz=346,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**32.54**	**168**	P	**P**	**18 17 09.7**	**-0.7**
	0.2nm,0.4s,mb3.4,baz=347,slow=6.6,SNR=10						
MKAR	**Makanchi Array**	**53.85**	**323**	P	**P**	**18 19 58.5**	**-3.9**
	0.2nm,0.6s,mb3.2,baz=127,slow=7.1,SNR=3.3						

NEIC ***16*** *18:17:55.0, 3596N×1272E, h10km, ML3.4(ROM), After ROM.*
CSEM ***16*** *18:17:57.3±0.1, 3594N×1259E, h36km±4km, ML4.2/7, Error ellipse: s-maj=6.5km s-min=1.7km az=174.0*
TUN ***16*** *18:18:02.9, 3652N×1220E, h38km, MD3.6*

ROM 16 18:17:55.0±0.6, 3596N×1272E, h10km, Md3.0/11, Ml3.4/17, 2D, Error ellipse: s-maj=8.7km s-min=2.9km az=20.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTS	**Pantelleria**	**1.03**	**326**	Pg	Pg	18 18 14.3	-0.6
PTS				Sg	Sg	18 18 28.6	+0.3
	541nm,0.4s						
WDD	**Wield Dalam**	**1.47**	**93**	↓*i*Pg	Pg	18 18 23.5	+0.4
WDD				Sg	Sg	18 18 39.5	-2.6
	549nm,0.8s						
FAVR	**Favara**	**1.51**	**30**	Pn	Pn	18 18 23.8	+1.7
	391nm,0.4s						
CLTB	**Caltabellotta**	**1.67**	**14**	Pn	Pn	18 18 23.8	-0.4
	857nm,0.5s						
MBZ	**Menzel Bouzelf**	**1.81**	**294**	*i* P	Pn	18 18 23.8	-2.4
RAFF	**Raffo Rosso**	**1.83**	**46**	↓*i*Pn	Pn	18 18 26.8	+0.4
RAFF				Sn	Sn	18 18 50.2	+0.6
	269nm,0.8s						
HMDC	**Modica**	**1.94**	**58**	Pn	Pn	18 18 27.7	-0.3
HMDC				Sn	Sn	18 18 51.9	-0.5
	271nm,0.6s						
CORL	**Corleone**	**1.99**	**13**	Pn	Pn	18 18 29.3	+0.6
	219nm,0.6s						
HVZN	**Vizzini**	**2.02**	**52**	Pn	Pn	18 18 29.7	+0.7
HVZN				Sn	Sn	18 18 55.2	+0.9
	613nm,0.8s						
ERC	**Erice**	**2.08**	**357**	Pn	Pn	18 18 30.3	+0.4
ERC				Sn	Sn	18 18 54.5	-1.4
	211nm,0.4s						
PZI	**Palazzolo**	**2.10**	**58**	Pn	Pn	18 18 30.2	0.0
	73nm,0.1s						
ZGN	**Zaghouan**	**2.16**	**282**	*i* P	Pn	18 18 30.0	-1.0
HAVL	**Avola**	**2.18**	**62**	Pn	Pn	18 18 30.8	-0.5
HAVL				Sn	Sn	18 18 59.4	+1.0
	326nm,0.9s						
SSY	**Sortino**	**2.24**	**57**	Pn	Pn	18 18 32.7	+0.6
SSY				Sn	Sn	18 19 01.1	+1.3
	435nm,0.7s						
GIB	**Gibilmanna**	**2.28**	**27**	Pn	Pn	18 18 33.9	+1.2
	271nm,0.5s						
HAGA	**Augusta**	**2.36**	**55**	Pn	Pn	18 18 34.2	+0.4
	202nm,0.6s						
MNO	**Monte Soro**	**2.53**	**38**	Pn	Pn	18 18 38.1	+2.0
	109nm,0.4s						
TROT	**Trozza**	**2.57**	**262**	*i* P	Pn	18 18 38.4	+1.7
USI	**Ustica**	**2.77**	**7**	Pn	Pn	18 18 39.7	+0.3
	47nm,0.3s						
MMME	**Mongiuffi-Meli**	**2.83**	**45**	Pn	Pn	18 18 42.0	+1.8
	97nm,0.8s						
KRIT	**Krib**	**2.98**	**278**	*i* P	Pn	18 18 42.0	-0.3
VPL	**Vulcano Piano**	**3.02**	**36**	Pn	Pn	18 18 44.3	+1.5
	127nm,0.7s						
LLI	**Lipari**	**3.05**	**35**	Pn	Pn	18 18 44.5	+1.2
	437nm,0.6s						
MTTG	**Motta San Giov**	**3.13**	**48**	Pn	Pn	18 18 45.6	+1.2
	50nm,0.6s						
MSRU	**Castanea**	**3.20**	**43**	Pn	Pn	18 18 46.2	+0.8
	72nm,0.5s						
CEL	**Celeste**	**3.42**	**47**	Pn	Pn	18 18 49.7	+1.3
	43nm,0.6s						
GHAT	**Ghardimaou**	**3.61**	**280**	*i* P	Pn	18 18 49.0	-2.0
PLAC	**Placanica**	**3.87**	**49**	Pn	Pn	18 18 55.5	+0.9
	10.0nm,0.5s						
VSL	**Villasalto**	**4.42**	**324**	Pn	Pn	18 19 02.3	+0.2
	58nm,1.8s						

PRE 16 18:22:04.3±1.3, 2113S×3273E, h5km, ML3.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.13**	**221**	*e*P	Pn	18 23 35.9	+0.3
SLR				*e*S	Sn	18 24 43.6	-2.6
SLR				AML	AML	18 25 43.8	
	comp=Z,14nm,0.6s						
POGA	**Pongola**	**6.29**	**189**	*e*P	Pn	18 23 37.8	0.0
POGA				*e*S	Sn	18 24 47.2	-2.8
POGA				AML	AML	18 25 33.3	
	comp=Z,8.2nm,0.6s						
LBTB	**Lobatse**	**7.62**	**238**	*e*P	Pn	18 23 57.5	+1.6
LBTB				*e*S	Sn	18 25 19.8	-2.7
LBTB				AML	AML	18 26 25.6	
	comp=Z,6.5nm,0.7s						
BOSA	**Boshof**	**10.07**	**221**	*e*P	Pn	18 24 31.4	+1.9
BOSA				*e*S	Sn	18 26 17.7	-5.2
BOSA				AML	AML	18 27 36.7	
	comp=Z,2.2nm,0.6s						

ORF ***16*** *18:28:45.8, 4527N×146.02E, h30km, mb6.0*
SZGRF ***16*** *18:28:49.0, 4632N×146.11E, h33km, mb5.9, Northwest of Kuril Islands, Russia*
NIED ***16*** *18:29:00, 4620N×144.70E, h380km, Mw5.4 Best double couple: M0=1.44000×10^17 NP1:φ=40.00000°, δ=66.00000°, λ=103.00000°. NP2:φ=190.00000°, δ=27.00000°, λ=63.00000°.*
MOS ***16*** *18:29:28.1±0.8, 4663N×144.58E, h360km, mb5.5/96, Error ellipse: s-maj=6.4km s-min=3.4km az=108.4*
CSEM ***16*** *18:29:28.1, 4682N×144.52E, h354km, mb5.5*
BJI ***16*** *18:29:28.2, 4662N×144.46E, h359km, mB4.8, mb5.0*
IDC ***16*** *18:29:29.2±0.4, 4647N×144.67E, h365km

comp=N,1μm,0.6s
YSS pmax pmax
comp=E,2μm,0.5s
YSS smax
comp=N,9μm,1.3s
YSS smax
comp=E,9μm,1.2s
YSS Yuzh-Sakhalins 1.26 291 ⇓*i*Pn **Pn 18 30 19.3 -0.4**
YSS *e*S **S 18 30 51.4 -8.1**
JSE Soyaes 2.04 221 ⇑P **Pn 18 30 23.7 -0.3**
JSE S **S 18 31 06.3 -1.1**
JWK2 Keihoku 2.16 237 ⇑P **Pn 18 30 25.4 +0.5**
JWK2 S **S 18 31 08.8 -0.1**
JTKR Abashiri--Toko 2.57 189 ⇑P **Pn 18 30 27.0 -0.9**
JTKR *e*S **S 18 31 12.9 -1.5**
JRA Rausu 2.61 170 ⇑P **Pn 18 30 26.7 -1.5**
JMP Maruseppu 2.62 198 ⇑P **Pn 18 30 27.3 -1.0**
YUK Yuzh-Kuril'sk 2.66 158 *i* P **Pn 18 30 26.6 -2.0**
YUK AMB AMB 18 30 27.5
comp=E,18μm,1.0s
YUK AMB AMB 18 30 27.5
comp=E,2μm,1.0s
YUK AMB AMB 18 30 27.5
comp=E,80μm,1.0s
YUK AMB AMB 18 30 27.5
comp=E,4μm,0.4s
YUK AMB AMB 18 30 27.5
comp=E,2μm,0.4s
YUK AMB AMB 18 30 27.5
comp=E,17μm,0.4s
YUK *i* S **S 18 31 11.7 -4.0**
YUK A 18 31 16.0
comp=E,25μm,2.0s
YUK A 18 31 16.0
comp=E,52μm,2.0s
YUK A 18 31 23.8
comp=E,20μm,0.7s
YUK A 18 31 23.8
comp=E,20μm,0.7s
YUK Yuzh-Kuril'sk 2.66 158 ⇑*i*PN **Pn 18 30 26.6 -2.0**
YUK *i* S **S 18 31 11.7 -4.0**
YUK pmax pmax
comp=N,4μm,0.4s
YUK pmax pmax
comp=E,2μm,0.4s
YUK pmax pmax
comp=Z,17μm,0.4s
YUK smax
comp=N,25μm,1.0s
YUK smax
comp=E,52μm,2.0s
KUR Kuril'sk 2.69 117 *i* P **Pn 18 30 23.8 -5.1**
KUR *i* P 18 30 23.8
KUR AMB AMB 18 30 24.0
comp=E,2μm,1.0s
KUR AMB AMB 18 30 24.0
comp=E,3μm,1.0s
KUR AMB AMB 18 30 24.0
comp=E,12μm,1.0s
KUR AMB AMB 18 30 24.9
comp=E,1μm,0.9s
KUR AMB AMB 18 30 24.9
comp=E,1μm,0.9s
KUR AMB AMB 18 30 24.9
comp=E,5μm,0.9s
KUR *i* S **S 18 31 09.0 -7.1**
KUR A 18 31 10.0
comp=E,32μm,2.4s
KUR A 18 31 10.0
comp=E,20μm,2.4s
KUR A 18 31 10.0
comp=E,4μm,0.8s
KUR A 18 31 10.0
comp=E,2μm,0.8s
KUR A 18 31 12.0
comp=E,64μm,2.4s
KUR A 18 31 12.0
comp=E,42μm,2.4s
KUR Kuril'sk 2.69 117α *i*PN **Pn 18 30 23.8 -5.1**
KUR *i* S **S 18 31 09.0 -7.1**
KUR pmax pmax
comp=N,1μm,0.9s
KUR pmax pmax
comp=E,1μm,0.9s
KUR pmax pmax
comp=Z,5μm,0.9s
KUR smax
comp=N,4μm,0.8s
KUR smax
comp=E,2μm,0.8s
ASAJ Asahikawa 2.73 210 P **Pn 18 30 29.0 -0.2**
comp=E,524nm,0.3s,baz=348,slow=3.6,SNR=4240
ASAJ S **S 18 31 15.4 -1.4**
comp=E,36nm,0.3s,baz=330,slow=32,SNR=6.8
ASAJ Asahikawa 2.73 210 PN **Pn 18 30 29.0 -0.2**
ASAJ S **S 18 31 15.4 -1.4**
ASAJ pmax pmax
comp=Z,524nm,0.3s
ASAJ smax
comp=N,36nm,0.3s
JSS Shosan 2.80 222 ⇑P **Pn 18 30 29.9 +0.1**
JKK2 Kamakawa 2 2.91 205 ⇑P **Pn 18 30 30.0 -0.6**
JKK2 *e*S **S 18 31 18.2 -1.1**
JNK Nakash 2.93 177 ⇑P **Pn 18 30 28.8 -2.0**
JYG Yagishiri 2.99 227 ⇑P **Pn 18 30 30.9 -0.4**
JYG *e*S **S 18 31 19.4 -1.2**
UGL Uglegorsk 3.04 329 ⇓*i*P **Pn 18 30 31.3 -0.5**
UGL ⇓*i*P 18 30 31.3
UGL AMB AMB 18 30 32.0
comp=N,4μm,1.0s
UGL AMB AMB 18 30 32.0
comp=N,9μm,1.0s
UGL AMB AMB 18 30 32.0
comp=N,16μm,1.0s
UGL AMB AMB 18 30 32.0
comp=N,820nm,0.5s
UGL AMB AMB 18 30 32.0
comp=N,500nm,0.5s
UGL AMB AMB 18 30 32.0
comp=N,6μm,0.5s
UGL AMB AMB 18 30 32.0
comp=N,13μm,0.7s
UGL AMB AMB 18 30 32.0
comp=N,3μm,0.3s
UGL AMB AMB 18 30 32.0
comp=N,3μm,0.3s
UGL *i* S **S 18 31 19.8 -1.6**
UGL A 18 31 21.0
comp=N,4μm,1.0s
UGL A 18 31 21.0
comp=N,2μm,1.0s
UGL A 18 31 22.0
comp=N,22μm,3.0s
UGL A 18 31 22.0
comp=N,23μm,3.0s
UGL Uglegorsk 3.04 329 ⇓*i*PN **Pn 18 30 31.3 -0.5**
UGL *i* S **S 18 31 19.8 -1.6**
UGL pmax pmax
comp=N,820nm,0.5s
UGL pmax pmax
comp=E,500nm,0.5s
UGL pmax pmax
comp=Z,6μm,0.5s
UGL smax
comp=N,22μm,2.0s
UGL smax
comp=E,23μm,3.0s
JAR Ashorobuto 3.25 189 ⇑P **Pn 18 30 32.3 -1.3**
NEM2 Nemuro 2 3.27 164 ⇑P **Pn 18 30 29.9 -3.9**
NEM2 *e*S **S 18 31 17.5 -7.6**
JHR Hokuryu 3.38 216 ⇑P **Pn 18 30 34.7 -0.1**
JHR *e*S **S 18 31 26.7 -0.3**
JAB Ashibetsu 3.40 209 ⇑P **Pn 18 30 34.8 -0.2**
JAK Akkeshi 3.52 177 ⇑P **Pn 18 30 32.9 -3.1**
JAK *e*S **S 18 31 22.4 -6.8**
JFR Furan 3.60 202 ⇑P **Pn 18 30 36.1 -0.7**
JFR *e*S **S 18 31 29.0 -1.7**
JOB Onbets 3.63 187 ⇑P **Pn 18 30 35.1 -2.0**
JCH Churui 3.97 192 ⇑P **Pn 18 30 37.7 -2.7**
JCH *e*S **S 18 31 30.6 -6.6**
JBT2 Biratori 2 4.02 203 ⇑P **Pn 18 30 39.8 -1.1**
JSK Shakotan 4.25 223 ⇑P **Pn 18 30 43.2 +0.1**
JSK *e*S **S 18 31 40.7 -1.4**
JEW Eniwo 4.26 212 ⇑P **Pn 18 30 43.0 -0.2**
JEW *e*S **S 18 31 39.4 -2.9**
JNBK Urakawa-nobuka 4.41 197 ⇑P **Pn 18 30 42.2 -2.5**
JNBK *e*S **S 18 31 38.0 -7.1**
TYV Tymovskoe 4.52 345 *e*P **Pn 18 30 44.0 -1.9**
TYV AMB AMB 18 30 46.0
comp=E,308nm,0.8s
TYV AMB AMB 18 30 46.0
comp=E,540nm,0.8s
TYV AMB AMB 18 30 46.0
comp=E,800nm,1.0s
TYV AMB AMB 18 30 46.0
comp=E,1μm,1.0s
TYV *e*S **S 18 31 44.5 -2.7**
TYV A 18 31 46.0
comp=E,14μm,3.0s
TYV A 18 31 46.0
comp=E,8μm,3.0s
TYV A 18 31 48.0
comp=E,1μm,1.0s
TYV AMS AMS 18 34 23.0
comp=E,1μm,11.0s
TYV AMS AMS 18 34 23.0
comp=E,1μm,11.0s
TYV AMS AMS 18 34 23.0
comp=E,2μm,11.0s
ERM Erimo 4.59 192 Pn **Pn 18 30 45.5 -1.2**
comp=E,94μm,0.4s
JNB Noboribetsu 4.73 213 ⇑P **Pn 18 30 47.2 -0.9**
JSH Shimam 5.00 221 ⇑P **Pn 18 30 50.6 -0.3**
JKB Kayabe 5.24 209 ⇑P **Pn 18 30 51.3 -2.2**
JKB *e*S **S 18 31 53.7 -7.4**
JYM2 Yakumo 2 5.29 215 ⇑P **Pn 18 30 52.5 -1.5**
JOT Ohata 5.69 207 ⇑P **Pn 18 30 55.6 -2.8**
JOT *e*S **S 18 32 02.4 -7.7**
JOSM Okushiri--Mats 5.70 221 ⇑P **Pn 18 30 56.8 -1.7**
JOSM *e*S **S 18 32 04.5 -5.7**
JSI2 Shiura 2 6.19 210 ⇑P **Pn 18 31 01.6 -2.4**
JTM Tenmabayashi 6.23 205 ⇑P **Pn 18 31 01.2 -3.2**
JTM S **S 18 32 13.4 -7.7**
JANG Nango 6.50 200 ⇑P **Pn 18 31 03.9 -3.6**
JANG *e*S **S 18 32 18.2 -8.4**
HABR Khabarovsk 6.68 291 ⇓*i*PN **Pn 18 31 11.1 +1.6**
HABR pmax pmax
comp=Z,3μm,1.4s
JTH Tanohata 6.84 197 P **Pn 18 31 07.5 -3.8**
OKH Okha 7.12 353 ⇑*i*P **Pn 18 31 11.8 -2.7**
OKH ⇑*i*P 18 31 11.9
OKH AMB AMB 18 31 12.0
comp=Z,6μm,4.0s
OKH AMB AMB 18 31 12.0
comp=Z,2μm,2.0s
OKH AMB AMB 18 31 12.0
comp=Z,2μm,2.0s
OKH AMB AMB 18 31 12.3
comp=Z,4μm,1.0s
OKH ⇑*e*S **S 18 32 38.0 -1.5**
OKH *i* S **S 18 32 38.0 -1.5**
OKH A 18 32 39.8
comp=Z,5μm,12.0s
OKH A 18 32 39.8
comp=Z,22μm,6.4s
OKH AMS AMS 18 36 53.6
comp=Z,2μm,11.0s
OKH AMS AMS 18 36 53.6
comp=Z,2μm,9.0s
OKH AMS AMS 18 36 53.6
comp=Z,2μm,12.0s
OKH Okha 7.12 353 *i* PN **Pn 18 31 11.9 -2.6**
OKH *i* S **S 18 32 38.0 -1.5**
OKH pmax pmax
comp=Z,6μm,4.0s
OKH pmax pmax
comp=N,2μm,2.0s
OKH pmax pmax
comp=E,2μm,2.0s
OKH smax
comp=N,22μm,9.2s
OKH smax
comp=E,5μm,9.2s
OKH MLR MLR
comp=Z,2μm,11.0s
JOM Ohasama 7.41 199 ⇑P **Pn 18 31 15.3 -2.5**
JOM *e*S **S 18 32 37.7 -8.0**
JMK Ichinoseki 7.92 199 ⇑P **Pn 18 31 21.5 -2.3**
JMK *e*S **S 18 32 49.3 -7.3**
JYK Kaneyama 8.17 203 ⇑P **Pn 18 31 24.8 -1.9**
JYA Atsumi 8.65 206 ⇑P **Pn 18 31 30.9 -1.4**
SKR Severo-Kuril's 8.77 57κ *i*PN **Pn 18 31 28.0 -5.7**
SKR *i* S **S 18 33 04.5 -10**
SKR pmax pmax
comp=N,640nm,0.6s
SKR pmax pmax
comp=E,600nm,0.6s
SKR pmax pmax
comp=Z,1μm,0.6s
SKR smax
comp=N,2μm,1.0s
SKR smax
comp=E,1μm,1.0s
SKR smax
comp=Z,450nm,1.0s
SKR MLR MLR
comp=Z,2μm,10.0s
JYS Shirataka 8.90 203 ⇑P **Pn 18 31 34.3 -0.9**
JAW Awa shima 8.92 207 ⇑P **Pn 18 31 34.1 -1.4**
JAW S **S 18 33 12.5 -5.6**
KLR Kul'dur 8.98 292 ⇑*i*PN **Pn 18 31 34.2 -1.9**
KLR *i* S **S 18 33 18.0 -1.3**
KLR pmax pmax
comp=E,100nm,1.4s
KLR pmax pmax
comp=Z,960nm,1.4s
KLR smax
comp=N,6μm,9.0s
KLR smax
comp=E,2μm,9.0s
JNS Sasagawa 9.49 206 P **Pn 18 31 41.1 -1.0**
JNS S **S 18 33 24.9 -5.4**
JFK Kawauchi 9.52 198 P **Pn 18 31 41.4 -1.1**
VLA Vladivostok 9.56 254*c* *i*PN **Pn 18 31 43.0 0.0**
VLA pmax pmax
comp=Z,2μm,1.6s
JSD Sado 9.63 211 P **Pn 18 31 42.6 -1.2**
JSD S **S 18 33 28.6 -4.9**
JFY Yanaizu 9.76 203 P **Pn 18 31 44.8 -0.5**
ONAJ Iwakimizuishiy 9.79 198 P **Pn 18 31 44.6 -1.1**
JHK Hiroka 10.11 206 P **Pn 18 31 48.8 -0.6**
JSB Shiboa 10.12 201 P **Pn 18 31 49.2 -0.3**
JHG Hegura jima 10.31 216 P **Pn 18 31 51.5 -0.2**
JHG S **S 18 33 44.4 -3.7**
JHO Hitachi 10.31 198 P **Pn 18 31 50.4 -1.4**
JSZ Suzu 10.48 213 P **Pn 18 31 53.2 -0.6**
JKT Katashina 10.49 204 P **Pn 18 31 54.0 +0.2**
JJN Nakama 10.51 209 P **Pn 18 31 54.1 0.0**
MDJ Mudanjiang 10.61 265 P **Pn 18 31 54.8 -0.5**
MDJ S **S 18 33 54.5 -0.2**
MDJ SCS ScS 18 43 54.6 +2.3
MDJ AMB AMB
comp=Z,1μm,3.4s
MDJ Mudanjiang 10.61 265 *e*P **Pn 18 31 55.2 -0.1**
comp=Z,967nm,0.9s
JAG Ashikaga 10.75 202 P **Pn 18 31 56.6 -0.4**
JGK Kuni 10.85 206 P **Pn 18 31 58.5 +0.3**
MAJO Matsushiro 11.01 207 ⇑*i*PN **Pn 18 31 59.6 -0.3**
MAJO *e*S **S 18 34 01.3 -2.0**
MAT Matsushiro 11.01 207 P **Pn 18 31 59.6 -0.3**
MAT S **S 18 34 06.4 +3.1**
MAT Matsushiro 11.01 207 *e*PN **Pn 18 32 00.0 +0.1**
MAT *e*S **S 18 34 06.0 +2.7**
MAT pmax pmax
comp=Z,549nm,0.8s
MAT Matsushiro 11.01 207 *e*P **Pn 18 32 00.0 +0.1**
comp=Z,549nm,0.8s
MAT *e*S **S 18 34 06.0 +2.7**
MJAR Matsushiro Arr 11.01 207 P **Pn 18 31 59.9 0.0**
comp=Z,33nm,0.3s,baz=16,slow=12,SNR=953
MJAR S **S 18 33 57.9 -5.5**
baz=80,slow=37,SNR=2.9
MJAR ScP ScP 18 40 18.4 +0.8
comp=Z,0.2nm,0.3s,baz=31,slow=0.9,SNR=12
MJAR Matsushiro Arr 11.01 207 PN **Pn 18 31 59.9 0.0**
MJAR S **S 18 33 57.9 -5.4**
JJH Hakui 11.16 214 P **Pn 18 32 01.9 +0.1**
JNG Nsakai 11.16 208 P **Pn 18 32 01.8 0.0**
PET Petropavlovsk 11.24 49κ *i*PN **Pn 18 31 59.9 -2.8**
PET *e*S **S 18 33 58.6 -9.5**
PET pmax pmax
comp=Z,315nm,0.7s
PET pmax pmax
comp=N,316nm,0.9s
PET pmax pmax
comp=E,173nm,0.9s
PET smax
comp=E,1μm,1.4s
PET MLR MLR
comp=Z,1μm,11.0s
JTT Ttatey 11.24 211 P **Pn 18 32 02.5 -0.2**
JRY Ryogami san 11.29 204 P **Pn 18 32 02.6 -0.6**
JGN Niukaw 11.59 210 P **Pn 18 32 06.6 -0.2**
JNT Takato 11.64 206 P **Pn 18 32 07.2 -0.2**
JYN Shimob 11.87 204 P **Pn 18 32 09.4 -0.7**
JKG Kaga 11.90 214 P **Pn 18 32 10.6 +0.1**
JOD2 Odawara 2 11.95 202 P **Pn 18 32 09.4 -1.6**
JGF Kuroka 12.14 209 P **P 18 32 13.1 +0.8**
JNY Yasuok 12.20 206 P **P 18 32 13.4 +0.4**
JGM Miyama 12.27 211 P **P 18 32 15.1 +1.3**
JGM S **S 18 34 29.8 +0.7**
JIM2 Oshima 3 12.38 200 P **P 18 32 14.8 -0.2**
JAO Obara 12.48 208 P **P 18 32 16.6 +0.5**
JIZS Izushimoda 12.52 202 P **P 18 32 16.6 +0.1**
JFM Mihama 12.70 213 P **P 18 32 20.0 +1.5**
HMMJ Hamamatsu 2 12.71 206 P **P 18 32 18.1 -0.5**
JAA Atsumi 13.10 208 P **P 18 32 24.0 +1.1**
MA2 Magadan 13.62 14⇑*i*PN **Pn 18 32 27.6 -2.8**
MA2 *e*S **S 18 34 58.7 +2.5**
MA2 Magadan 13.62 14⇑*i*P **P 18 32 27.6 -1.0**
MA2 *e*S **S 18 34 58.7 +2.4**
MA2 *e*ScP ScP 18 40 20.5 -1.2
CN2 Changchun 13.70 265 *e*P **P 18 32 29.1 -0.4**
CN2 *e*XP 18 33 55.9
CN2 *e*S **S 18 34 53.3 -4.6**
CN2 SCP ScP 18 40 22.9 +1.1
CN2 SCS ScS 18 43 58.9 -0.1
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,12.0s
CN2 LR LR
comp=E,600nm,12.0s
CN2 LR LR
comp=Z,700nm,13.0s
JKN2 Miekihoku 13.75 210 P **P 18 32 31.1 +1.1**
JHJ Hachijo jima 2 13.85 197 P **P 18 32 33.5 +2.5**
comp=Z,120nm,0.3s,baz=350,slow=1.5,SNR=61
JHJ S **S 18 35 01.6 +0.7**
comp=Z,23nm,0.3s,baz=211,slow=23,SNR=4.0
KS15 Wonju Array Si 15.28 240⇓*e*P **P 18 32 48.1 +1.3**
JHM Kurahashi 15.33 221 P **P 18 32 48.6 +1.4**
SNY Shenyang 15.70 260 ⇓P **P 18 32 52.4 +1.2**
SNY S **S 18 35 34.9 -2.9**
SNY AMB AMB
comp=Z,170nm,0.8s
SNY AMB AMB
comp=Z,1μm,3.9s
SNY LR LR
comp=N,1μm,14.1s
SNY LR LR
comp=Z,730nm,15.1s
NRGR Nerungri 15.87 317 *i* P **P 18 32 54.0 +0.9**
NRGR S **S 18 35 41.9 +0.6**
NRGR smax
comp=E,87nm,0.5s
CLNS Chul'man 15.89 318 *e*P **P 18 32 53.9 +0.6**
CLNS *e*S **S 18 35 41.7 +0.1**
CLNS pmax pmax
comp=Z,205nm,0.9s
CLNS pmax pmax
comp=N,168nm,1.2s
CLNS pmax pmax
comp=E,119nm,1.1s
CLNS smax
comp=N,267nm,1.1s
CLNS smax
comp=E,276nm,1.0s
CLNS MLR MLR
comp=N,400nm,12.0s
CLNS MLR MLR
comp=E,300nm,12.0s
CLNS MLR MLR
comp=Z,500nm,12.0s
INCN Inchon 16.01 242⇓*e*P **P 18 32 56.3 +1.7**
comp=Z,357nm,1.0s
HIA Hailar 16.80 288 *e*P **P 18 33 01.9 -1.2**
HIA pmax pmax
comp=Z,83nm,0.8s
HIA Hailar 16.80 288 *e*P **P 18 33 01.9 -1.1**
comp=Z,84nm,0.8s
YAK Yakutsk 17.71 337*c* *i*P **P 18 33 10.2 -2.6**
YAK pmax pmax
comp=Z,523nm,0.8s
YAK Yakutsk 17.71 337⇑*i*P **P 18 33 10.1 -2.8**
comp=Z,543nm,0.8s
YAK *e*ScP ScP 18 40 28.8 -0.7
DL2 Dalian 18.39 254 P **P 18 33 21.0 +1.0**
DL2 S **S 18 36 30.0 -0.2**
DL2 AMB AMB
comp=Z,640nm,5.0s
CBIJ Chichi jima 19.46 186 P **P 18 33 30.9 -0.3**
comp=Z,14nm,0.3s,baz=306,slow=17,SNR=28
CIT Chita 20.82 297 *e*P **P 18 33 43.8 0.0**
CIT *e* 18 35 25.5
CIT *e* 18 37 10.2
CIT pmax pmax
comp=Z,215nm,1.0s
BJT Baijiatuau 21.54 263 *e*P **P 18 33 51.5 +1.1**
BJT pmax pmax
comp=Z,172nm,0.9s
BJT Baijiatuau 21.54 263 *e*P **P 18 33 51.5 +1.1**
comp=Z,172nm,0.9s,mb5.3
BOD Bodaibo 21.65 313 *e*P **P 18 33 50.0 -1.4**
BOD *e* 18 37 21.1
BOD pmax pmax
comp=Z,237nm,0.9s,mb5.4
TIA Tai'an 22.86 253 *e*P **P 18 34 03.8 +1.5**
JOW Kunigami 23.46 219 P **P 18 34 09.4 +1.6**
comp=Z,25nm,0.7s,mb4.6,baz=47,slow=8.6,SNR=7.6
SSE Sheshan 23.67 238 *e*P **P 18 34 10.3 +0.6**
SSE PCP PcP 18 37 40.6 -1.4
SSE S **S 18 37 57.3 +0.9**
SSE AMB AMB
comp=Z,40nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,70nm,4.7s
SSE LR LR
comp=N,50nm,18.4s
SSE LR LR
comp=E,80nm,18.4s
SSE LR LR
comp=Z,120nm,16.1s
BILL Bilibino 24.32 20*c* *i*P **P 18 34 12.7 -2.8**
BILL pmax pmax
comp=Z,150nm,1.3s,mb5.1
BILL Bilibino 24.32 20 *e*P **P 18 34 12.2 -3.3**
comp=Z,92nm,0.9s,mb5.0
HHC Hu-ho-hao-te 24.35 269 *e*P **P 18 34 17.8 +2.0**
HHC S **S 18 38 14.1 +7.0**
HHC AMB AMB
comp=Z,130nm,0.6s,mb5.3
HHC LR LR
comp=N,1μm,12.0s
HHC LR LR
comp=E,690nm,11.4s
HHC LR LR
comp=Z,660nm,13.7s
NJ2 Nanjing 24.39 243 *e*P **P 18 34 17.3 +1.2**
NJ2 PCP PcP 18 37 48.0 +4.4
NJ2 S **S 18 38 11.0 +3.2**
NJ2 SCP ScP 18 40 51.0 +5.0
NJ2 PCS PcS 18 41 25.0 +1.2
NJ2 AMB AMB
comp=Z,40nm,1.1s,mb4.6
NJ2 AMB AMB
comp=Z,200nm,10.0s
NJ2 LR LR
comp=N,480nm,12.3s
NJ2 LR LR
comp=E,780nm,11.1s
NJ2 LR LR
comp=Z,360nm,11.2s

ULN	**Ulaanbaatar**	**25.31 287**	⇑*e*P	**P**	**18 34 24.6 +0.2**
ULN			*e*		18 35 30.6
ULN			*e*		18 37 45.9
ULN			pmax	pmax	
	comp=Z,65nm,1.0s,mb4.8				
ULN	**Ulaanbaatar**	**25.31 287**	⇑*e*P	**P**	**18 34 24.6 +0.2**
	comp=Z,65nm,1.0s,mb4.8				
ULN			*e*PP	PP	18 35 30.6 -0.4
ULN			*e*PcP	PcP	18 37 45.9 +0.2
ULN			*e*ScP	ScP	18 40 50.0 +1.5
BTO	**Baotou**	**25.52 269**	*e*P	**P**	**18 34 27.4 +1.2**
SONM	**Songino Array**	**25.75 287**	P	**P**	**18 34 29.2 +0.9**
	comp=Z,17nm,0.7s,mb4.4,baz=84,slow=8.4,SNR=106				
SONM			pP		18 35 35.8
	comp=Z,30nm,1.1s,baz=76,slow=9.5,SNR=14				
SONM			PcP	PcP	18 37 47.3 +0.6
	comp=Z,9.5nm,0.8s,baz=134,slow=3.2,SNR=4.9				
SONM			ScP	ScP	18 40 51.1 +1.3
	comp=Z,15nm,0.8s,baz=125,slow=1.7,SNR=20				
SONM	**Songino Array**	**25.75 287**	P	**P**	**18 34 29.2 +0.9**
SONM			*PP		18 35 35.8
SONM					18 37 47.3
IRK	**Irkutsk**	**26.54 297**	*e*P	**P**	**18 34 33.9 -1.3**
IRK			*e*		18 38 41.0
IRK			pmax	pmax	
	comp=Z,63nm,0.8s,mb4.9				
TLY	**Talaya**	**26.97 296**	P	**P**	**18 34 39.8 +0.7**
	comp=Z,125nm,0.6s,mb5.3,SNR=8.6				
TLY	**Talaya**	**26.97 296**	*d i*P	**P**	**18 34 39.5 +0.4**
TLY			*e*		18 35 46.7
TLY			*e*		18 36 29.4
TLY			*e*S	**S**	**18 38 50.3 +2.0**
TLY			pmax	pmax	
	comp=Z,48nm,1.7s,mb4.5				
TLY			MLR	MLR	
	comp=Z,330nm,14.0s				
TLY	**Talaya**	**26.97 296**	P	**P**	**18 34 39.1 0.0**
ATKA	**Atka Island**	**27.23 63**	*e*P	**P**	**18 34 38.3 -3.0**
ZAK	**Zakamensk**	**27.34 293**	*e*P	**P**	**18 34 42.8 +0.4**
ZAK			pmax	pmax	
	comp=Z,34nm,1.6s,mb4.3				
WHN	**Wuhan**	**28.23 246**	*i* P	**P**	**18 34 51.4 +1.2**
MOY	**Mondy**	**28.61 296**	*e*P	**P**	**18 34 54.2 +0.7**
MOY			pmax	pmax	
	comp=Z,38nm,1.7s,mb4.3				
XAN	**Xi'an**	**29.59 258**	P	**P**	**18 35 03.3 +1.1**
XAN			AMB	AMB	
	comp=Z,20nm,1.5s				
QZH	**Quanzhou**	**29.84 233**	⇓*i*P	**P**	**18 35 06.3 +1.9**
QZH			S	**S**	**18 39 39.8 +6.6**
QZH			XS	sS	18 41 39.5 -0.8
QZH			AMB	AMB	
	comp=Z,80nm,0.9s,mb5.0				
TNA	**Tin City**	**31.64 36**	*e*P	**P**	**18 35 16.4 -3.6**
	comp=Z,81nm,1.1s,mb4.9				
LZH	**Lanzhou**	**31.93 266**	*e*P	**P**	**18 35 24.5 +2.0**
LZH			AP	pP	18 36 35.0 +2.8
LZH			PP	PP	18 36 52.0 +7.8
LZH			PCP	PcP	18 38 07.0 +4.6
LZH			S	**S**	**18 40 07.5 +1.9**
LZH			SCP	ScP	18 41 12.5 +3.0
LZH			*e*SS	SS	18 42 40.0 -2.2
LZH			SCS	ScS	18 45 10.0 +1.0
LZH			AMB	AMB	
	comp=Z,50nm,1.2s,mb4.6				
LZH			AMB	AMB	
	comp=Z,250nm,4.2s				
GUMO	**Guam**	**32.82 179**	P	**P**	**18 35 32.5 +2.4**
	comp=Z,84nm,1.0s,mb4.9,baz=50,slow=16,SNR=3.0				
KRAR	**Krasnoyarsk**	**32.94 306**	*e*P	**P**	**18 35 30.9 -0.3**
KRAR			pmax	pmax	
	comp=Z,176nm,1.3s,mb5.1				
GTA	**Gaotai**	**33.09 274**	P	**P**	**18 35 34.4 +2.0**
GTA			AP	pP	18 36 45.6 +3.2
GTA			PP	PP	18 37 02.4 +5.5
GTA			PCP	PcP	18 38 07.6 +1.9
GTA			S	**S**	**18 40 25.4 +2.1**
GTA			PCS	PcS	18 41 53.9 +2.2
GTA			SS	SS	18 43 01.8 -3.6
GTA			SCS	ScS	18 45 16.8 +1.9
GTA			AMB	AMB	
	comp=Z,200nm,0.5s,mb5.6				
GTA			AMB	AMB	
	comp=Z,250nm,9.9s				
GTA			LR	LR	
	comp=N,410nm,12.2s				
GTA			LR	LR	
	comp=E,870nm,16.7s				
GTA			LR	LR	
	comp=Z,250nm,14.8s				
CD2	**Chengdu**	**34.96 258**	P	**P**	**18 35 49.9 +1.5**
CD2			AP	pP	18 37 00.4 +1.5
CD2			PP	PP	18 37 22.1 +4.8
CD2			PCP	PcP	18 38 15.0 +3.9
CD2			S	**S**	**18 40 53.0 +1.2**
CD2			SCP	ScP	18 41 25.9 +5.7
CD2			PCS	PcS	18 42 01.0 +2.6
CD2			XS	sS	18 43 01.3 +0.7
CD2			SS	SS	18 43 40.0 -2.9
CD2			SCS	ScS	18 45 28.9 +3.9
CD2			AMB	AMB	
	comp=Z,60nm,0.6s,mb5.0				
CD2			AMB	AMB	
	comp=Z,110nm,10.8s				
CD2			LR	LR	
	comp=N,200nm,9.6s				
CD2			LR	LR	
	comp=Z,170nm,11.0s				
GYA	**Guiyang**	**35.94 249**	⇑*i*P	**P**	**18 35 57.5 +0.9**
GYA			AP	pP	18 37 10.6 +3.0
GYA			PCP	PcP	18 38 15.4 +1.4
GYA			S	**S**	**18 41 06.5 -0.2**
GYA			SCP	ScP	18 41 24.8 +1.0
GYA			PCS	PcS	18 42 02.9 +0.8
GYA			XS	sS	18 43 16.4 +0.5
GYA			SCS	ScS	18 45 30.8 +0.4
GYA			AMB	AMB	
	comp=Z,30nm,0.5s,mb4.8				
CHGN	**Chignik**	**35.96 53**	*e*P	**P**	**18 35 55.6 -1.2**
TTA	**Tatalina**	**36.55 41**	*e*P	**P**	**18 36 00.2 -1.5**
SVW2	**Sparrevohn**	**36.86 45**	*e*P	**P**	**18 36 03.3 -1.0**
TGY	**Tagaytay City**	**37.87 219**	P	**P**	**18 36 11.3 -1.4**
	comp=Z,58nm,0.6s,baz=302,slow=5.4,SNR=6.9				
ZAL	**Zalesovo**	**37.87 304**	P	**P**	**18 36 12.9 +0.2**
	comp=Z,15nm,0.4s,mb4.5,baz=38,slow=6.6,SNR=47				
ZAL			PcP	PcP	18 38 20.3 +0.4
	comp=Z,18nm,0.8s,baz=37,slow=3.5,SNR=13				
ZAL			ScP	ScP	18 41 32.6 +1.6
	comp=Z,3.5nm,0.8s,baz=32,slow=4.9,SNR=4.9				
NVS	**Novosibirsk**	**38.55 306**	⇑*i*P	**P**	**18 36 17.1 -1.2**
NVS			*i*	pP	18 37 32.3 +2.1
NVS			*i*		18 37 58.0
NVS			*i* PPP		18 38 21.2
NVS			*i* S	**S**	**18 41 42.6 -3.1**
NVS			*i*		18 45 43.7
NVS			pmax	pmax	
	comp=N,33nm,1.5s				
NVS			pmax	pmax	
	comp=Z,85nm,1.5s,mb4.8				
NVS			pmax	pmax	
	comp=E,114nm,1.6s				
NVS			smax		
	comp=N,57nm,1.6s				
NVS			smax		
	comp=E,176nm,1.9s				
KDAK	**Kodiak Island**	**38.84 50**	P	**P**	**18 36 19.0 -1.7**
	comp=E,21nm,0.5s,mb4.6,baz=303,slow=4.2,SNR=36				
KDAK			PcP	PcP	18 38 23.1 +0.1
	comp=E,31nm,0.9s,baz=21,slow=1.3,SNR=5.2				
KDAK			ScP	ScP	18 41 35.2 +0.5
	comp=E,32nm,1.2s,baz=191,slow=3.3,SNR=6.0				
KDAK	**Kodiak Island**	**38.84 50**	*e*P	**P**	**18 36 18.3 -2.3**
	comp=E,30nm,0.6s,mb4.7				
KDAK			*e*ScP	ScP	18 41 35.2 +0.4
WMQ	**Urumqi**	**39.39 287**	P	**P**	**18 36 26.5 +1.3**
WMQ			AP	pP	18 37 40.3 +2.9
WMQ			PP	PP	18 38 07.8 +2.7
WMQ			PCP	PcP	18 38 26.8 +2.0
WMQ			S	**S**	**18 41 59.8 +1.6**
WMQ			PCS	PcS	18 42 18.3 +3.1
WMQ			XS	sS	18 44 06.8 -2.3
WMQ			SS	SS	18 45 02.6 -7.6
WMQ			AMB	AMB	
	comp=Z,40nm,1.0s,mb4.6				
WMQ			AMB	AMB	
	comp=Z,220nm,5.0s				
KMI	**Kunming**	**39.42 252**	P	**P**	**18 36 26.5 +1.1**
KMI			AP	pP	18 37 41.4 +3.8
KMI			PCP	PcP	18 38 26.5 +1.7
KMI			SCP	ScP	18 41 37.4 +0.4
KMI			S	**S**	**18 41 59.8 +1.2**
KMI			PCS	PcS	18 42 15.8 +0.4
KMI			XS	sS	18 44 12.1 +2.6
KMI			SS	SS	18 45 04.5 -6.3
KMI			SCS	ScS	18 45 49.1 -1.3
KMI			SSS		18 46 12.4
KMI			AMB	AMB	
	comp=Z,10.0nm,1.5s				
KMI			AMB	AMB	
	comp=Z,200nm,8.1s				
KMI			LR	LR	
	comp=N,270nm,13.5s				
KMI			LR	LR	
	comp=E,180nm,15.7s				
KMI			LR	LR	
	comp=Z,230nm,13.7s				
MCK	**McKinley**	**39.67 40**	*e*P	**P**	**18 36 25.4 -2.1**
MCK			pmax	pmax	
	comp=Z,24nm,0.8s,mb4.5				
MCK	**McKinley**	**39.67 40**	*e*P	**P**	**18 36 25.4 -2.1**
	comp=Z,24nm,0.8s,mb4.5				
MCK			*e*ScP	ScP	18 41 38.4 +0.4
PMR	**Palmer**	**39.88 43**	*e*P	**P**	**18 36 27.5 -1.7**
PMR			pmax	pmax	
	comp=Z,12nm,0.4s,mb4.5				
PMR	**Palmer**	**39.88 43**	*e*P	**P**	**18 36 27.5 -1.7**
	comp=Z,12nm,0.4s,mb4.5				
COLA	**College**	**40.01 38**	⇑*i*P	**P**	**18 36 28.3 -1.9**
COLA			pmax	pmax	
	comp=Z,128nm,0.9s,mb5.2				
COLA	**College**	**40.01 38**	⇑*i*P	**P**	**18 36 28.3 -1.9**
	comp=Z,128nm,0.9s,mb5.2				
SML	**Sawmill**	**40.22 43**	⇑*i*P	**P**	**18 36 29.7 -2.2**
SML			*e**PP	pP	18 37 43.4 -1.1
SML	**Sawmill**	**40.22 43**	⇑*i*P	**P**	**18 36 29.7 -2.3**
SML			*e*pP	pP	18 37 43.4 -1.1
SML			*e*ScP	ScP	18 41 39.6 -0.5
DIV	**Divide**	**41.56 43**	⇑*i*P	**P**	**18 36 41.3 -1.4**
	comp=Z,192nm,0.9s,mb5.2				
DIV			*e*ScP	ScP	18 41 46.7 +1.2
MK31	**Makanchi Array**	**41.68 294**	P	**P**	**18 36 43.9 +0.2**
MK31			pmax	pmax	
	comp=Z,48nm,0.6s,mb4.8				
MKAR	**Makanchi Array**	**41.68 294**	P	**P**	**18 36 44.0 +0.3**
	comp=Z,67nm,0.6s,mb4.9,baz=75,slow=7.9,SNR=433				
MKAR			pP	pP	18 37 57.2 +0.4
	comp=Z,2.0nm,0.6s,baz=110,slow=8.3,SNR=1.0				
MKAR			PcP	PcP	18 38 32.9 +0.6
	comp=Z,11nm,0.7s,baz=61,slow=4.5,SNR=4.9				
MKAR			ScP	ScP	18 41 47.3 +1.4
	comp=Z,4.0nm,0.6s,baz=64,slow=3.7,SNR=6.0				
MKAR			S	**S**	**18 42 32.3 +0.5**
	comp=Z,4.7nm,1.1s,baz=61,slow=13,SNR=3.6				
MKAR	**Makanchi Array**	**41.68 294**	P	**P**	**18 36 44.0 +0.3**
MKAR			*PP	pP	18 37 57.2 +0.4
MKAR					18 38 32.9
MKAR			S	**S**	**18 42 32.3 +0.5**
EYAK	**Cordova Ski Ar**	**41.70 44**	*e*P	**P**	**18 36 42.6 -1.3**
MENT	**Mentasta**	**42.12 40**	*e*P	**P**	**18 36 46.4 -0.8**
KURK	**Kurchatov**	**42.45 301**	P	**P**	**18 36 49.6 -0.3**
	comp=Z,1μm,0.5s,mb6.2				
KURK	**Kurchatov**	**42.45 301**	*c i*P	**P**	**18 36 49.4 -0.5**
KURK	**Kurchatov**	**42.45 301**	P	**P**	**18 36 48.6 -1.3**
DAWY	**Dawson**	**43.76 38**	⇑*e*P	**P**	**18 36 57.9 -2.3**
LSA	**Lhasa**	**44.32 267**	P	**P**	**18 37 07.6 +3.0**
LSA	**Lhasa**	**44.32 267**	*e*P	**P**	**18 37 07.1 +2.5**
LSA			pmax	pmax	
	comp=Z,18nm,0.6s,mb4.4				
LSA	**Lhasa**	**44.32 267**	*e*P	**P**	**18 37 07.1 +2.5**
	comp=Z,18nm,0.6s,mb4.4				
INK	**Inuvik**	**45.01 31**	P	**P**	**18 37 07.9 -2.1**
	comp=Z,46nm,0.4s,mb5.0,baz=295,slow=7.3,SNR=122				
INK			PcP	PcP	18 38 43.2 -0.4
	comp=Z,13nm,0.7s,baz=212,slow=1.5,SNR=3.5				
INK			ScP	ScP	18 42 00.2 +0.7
	comp=Z,35nm,1.1s,baz=276,slow=2.7,SNR=15				
INK	**Inuvik**	**45.01 31**	⇑*i*P	**P**	**18 37 07.6 -2.3**
	comp=Z,165nm,1.0s,mb5.1				
INK			*e*ScP	ScP	18 41 59.6 +0.1
CHKZ	**Chkalovo**	**45.93 307**	P	**P**	**18 37 16.4 -0.7**
CHKZ			pmax	pmax	
	comp=Z,91nm,0.9s,mb4.9				
CHKZ	**Chkalovo**	**45.93 307**	⇑*i*P	**P**	**18 37 16.3 -0.8**
	comp=Z,123nm,0.8s,mb5.1				
VOSK	**Vostochnaya**	**46.10 306**	P	**P**	**18 37 17.9 -0.5**
VOSK			pmax	pmax	
	comp=Z,72nm,1.1s,mb4.7				
BVA0	**Borovoye Array**	**46.31 307**	*i* P	**P**	**18 37 19.7 -0.3**
BVA0			pmax	pmax	
	comp=Z,170nm,1.1s,mb5.1				
BVAR	**Borovoye Array**	**46.31 307**	P	**P**	**18 37 19.7 -0.4**
	comp=Z,45nm,0.7s,mb4.7,baz=66,slow=7.9,SNR=158				
BVAR			PcP	PcP	18 38 48.7 +0.5
	comp=Z,17nm,0.9s,baz=111,slow=2.1,SNR=6.6				
BVAR			ScP	ScP	18 42 05.7 +0.7
	comp=Z,12nm,0.6s,baz=69,slow=4.1,SNR=12				
BVAR			S	**S**	**18 43 36.1 -2.1**
	comp=Z,3.8nm,1.0s,baz=89,slow=19,SNR=5.8				
BVAR	**Borovoye Array**	**46.31 307**	P	**P**	**18 37 19.7 -0.3**
BVAR					18 38 48.7
BVAR			S	**S**	**18 43 36.1 -2.1**
BRVK	**Borovoye**	**46.36 307**	P	**P**	**18 37 20.0 -0.4**
	comp=Z,591nm,0.7s,mb5.8,SNR=66				
BRVK	**Borovoye**	**46.36 307**	P	**P**	**18 37 19.5 -0.9**
SHL	**Shillong**	**46.42 262**	*e*PN	**P**	**18 37 23.0 +2.1**
SHL			*ex*	x	18 38 37.0
SKAG	**Skagway**	**47.02 43**	*e*P	**P**	**18 37 25.2 -0.2**
	comp=Z,80nm,1.4s,mb4.8				
KKM	**Kota Kinabalu**	**47.10 220**	P	pP	18 38 45.3 +4.1
ZRNK	**Zerenda**	**47.11 307**	P	**P**	**18 37 25.9 -0.2**
ZRNK			pmax	pmax	
	comp=Z,38nm,0.6s,mb4.8				
ZRNK	**Zerenda**	**47.11 307**	⇑*i*P	**P**	**18 37 25.7 -0.5**
	comp=Z,102nm,0.7s,mb5.2				
ULHL	**Ulahol**	**47.58 291**	P	**P**	**18 37 31.1 +1.4**
	SNR=30				
TKM2	**Tokmak 2**	**47.66 292**	P	**P**	**18 37 32.4 +2.1**
	SNR=14				
TKM2	**Tokmak 2**	**47.66 292**	P	**P**	**18 37 32.0 +1.7**
TKM2			pmax	pmax	
	comp=Z,33nm,0.8s,mb4.6				
SIT	**Sitka**	**47.94 46**	*e*P	**P**	**18 37 32.2 -0.2**
SIT			pmax	pmax	
	comp=Z,220nm,1.6s,mb5.1				
SIT	**Sitka**	**47.94 46**	*e*P	**P**	**18 37 32.2 -0.2**
	comp=Z,220nm,1.6s,mb5.1				
TSM	**Tawau**	**47.96 217**	P	pP	18 38 50.1 +2.0
CHMS	**Chumysh**	**48.16 293**	P	**P**	**18 37 35.6 +1.4**
	SNR=9.8				
USP	**Ospenovka**	**48.19 293**	P	**P**	**18 37 35.4 +1.1**
	SNR=61				
KBK	**Karagaybulak**	**48.21 292**	P	**P**	**18 37 35.8 +1.3**
	SNR=44				
KZA	**Kyzart**	**48.30 291**	P	**P**	**18 37 37.5 +2.3**
	SNR=82				
FRU	**Bishkek**	**48.33 292**	⇑*i*P	**P**	**18 37 36.0 +0.6**
FRU			*e*	pP	18 38 55.0 +4.0
FRU			*e*		18 44 08.0
FRU			pmax	pmax	
	comp=Z,140nm,1.9s,mb4.9				
AAK	**Ala-Archa**	**48.51 292**	P	**P**	**18 37 37.8 +1.1**
	SNR=20				
AAK	**Ala-Archa**	**48.51 292**	P	**P**	**18 37 37.6 +0.9**
	comp=Z,172nm,0.5s,mb5.5,SNR=15				
AAK	**Ala-Archa**	**48.51 292**	*c i*P	**P**	**18 37 36.6 -0.1**
AAK			pmax	pmax	
	comp=Z,54nm,1.5s,mb4.6				
UCH	**Uchtor**	**48.70 292**	P	**P**	**18 37 39.8 +1.6**
	SNR=16				
EKS2	**Erkin-Say**	**48.95 293**	P	**P**	**18 37 41.5 +1.4**
	SNR=24				
JIRN	**Jiri**	**49.01 269**	*e*P	**P**	**18 37 42.3 +1.8**
	comp=Z,145nm,0.4s,mb5.5				
GUN	**Gumba**	**49.06 269**	*e*P	**P**	**18 37 42.4 +1.5**
	comp=Z,116nm,0.4s,mb5.4				
KSH	**Kashi**	**49.15 288**	*e*P	**P**	**18 37 42.8 +1.2**
KSH			*e*AP	pP	18 39 00.6 +3.1
KSH			*e*PCP	PcP	18 39 01.8 +3.3
KSH			*e*PP	PP	18 39 40.9 +1.4
KSH			*e*SCP	ScP	18 42 17.9 +0.9
KSH			*e*PCS	PcS	18 42 56.1 +0.6
KSH			*e*S	**S**	**18 44 16.4 -1.3**
KSH			*e*XS	sS	18 46 32.8 -0.9
KSH			*e*SCS	ScS	18 46 51.4 -1.4
KSH			*e*SS	SS	18 47 50.6 -3.7
KSH			AMB	AMB	
	comp=Z,150nm,0.8s,mb5.3				
KSH			AMB	AMB	
	comp=Z,450nm,3.0s				
KSH			LR	LR	
	comp=N,500nm,7.3s				
KSH			LR	LR	
	comp=E,550nm,6.7s				
KSH			LR	LR	
	comp=Z,900nm,13.7s				
AML	**Almayashu**	**49.27 292**	P	**P**	**18 37 44.8 +2.3**
	SNR=7.2				
KKN	**Kakani**	**49.55 269**	*e*P	**P**	**18 37 45.9 +1.3**
	comp=Z,71nm,0.5s,mb5.2				
KKN	**Kakani**	**49.55 269**	*e*P	**P**	**18 37 45.9 +1.3**
KKN			pmax	pmax	
	comp=Z,71nm,0.5s,mb5.2				
PKI	**Pulchoki**	**49.60 269**	*e*P	**P**	**18 37 46.3 +1.4**
	comp=Z,46nm,0.5s,mb5.0				
PKI	**Pulchoki**	**49.60 269**	*e*P	**P**	**18 37 46.3 +1.4**
PKI			pmax	pmax	
	comp=Z,47nm,0.5s,mb5.0				
DMN	**Daman**	**49.79 269**	*e*P	**P**	**18 37 47.8 +1.5**
	comp=Z,76nm,0.6s,mb5.1				
DLBC	**Dease Lake**	**49.94 43**	⇑*i*P	**P**	**18 37 47.7 +0.3**
DLBC			*e*ScP	ScP	18 42 22.4 +2.0
SOKR	**Solikamsk**	**50.46 319**	*c i*P	**P**	**18 37 50.2 -1.1**
SOKR			pmax	pmax	
	comp=Z,150nm,1.0s,mb5.2				
ALE	**Alert**	**50.51 4**	P	**P**	**18 37 49.0 -2.7**
	comp=Z,625nm,0.7s,mb6.0,SNR=30				
KKAR	**Karatay Array**	**50.79 295**	*e*P	**P**	**18 37 54.0 +0.2**
KKAR			pmax	pmax	
	comp=Z,120nm,0.5s,mb5.4				
ARU	**Arti**	**51.05 315**	P	**P**	**18 37 54.7 -0.9**
	comp=Z,1μm,0.9s,mb6.1,SNR=66				
ARU	**Arti**	**51.05 315**	*c i*P	**P**	**18 37 54.7 -0.9**
ARU			pmax	pmax	
	comp=Z,160nm,0.9s,mb5.2				
ARU	**Arti**	**51.05 315**	P	**P**	**18 37 53.9 -1.8**
BOK	**Bokaro**	**51.70 265**	*e*P	**P**	**18 38 01.2 +0.9**
KBS	**Kingsbay**	**51.74 350**	*e*P	**P**	**18 37 59.1 -1.6**
KBS			AMb	AMB	18 38 01.2
	comp=Z,116nm,1.3s,mb5.0				
KBS	**Kingsbay**	**51.74 350**	*e*P	**P**	**18 37 58.8 -1.9**
KBS	**Kingsbay**	**51.74 350**	*e*P	**P**	**18 37 58.5 -2.2**
	comp=Z,87nm,0.9s,mb5.1				
PTH	**Pithoragarh**	**51.96 275**	*e*P	**P**	**18 38 04.0 +1.7**
LGTI	**Lohaghat**	**52.00 275**	*i* P	**P**	**18 38 04.5 +1.9**
RES	**Resolute Bay**	**52.87 17**	⇑*i*P	**P**	**18 38 06.9 -2.0**
DLH	**Dalhousie**	**53.07 281**	*e*P	**P**	**18 38 09.0 -1.3**
KSM	**Kuching**	**53.86 224**	*e*P	**P**	**18 38 17.4 +1.4**
AB31	**Akbulak array**	**53.88 306**	*i* P	**P**	**18 38 16.1 -0.1**
AB31			pmax	pmax	
	comp=Z,14nm,0.5s,mb4.5				
NIL	**Nilore**	**54.25 283**	P	**P**	**18 38 20.5 +1.7**
	comp=Z,218nm,0.9s,mb5.5,SNR=9.0				
AKTK	**Aktyubinsk**	**54.32 308**	P	**P**	**18 38 18.8 -0.6**
AKTK			PcP	PcP	18 39 18.2 +0.3
AKTK			ScP	ScP	18 42 40.0 +0.5
AKTK			S	**S**	**18 45 26.5 -1.0**
AKTO	**Aktyubinsk**	**54.32 308**	P	**P**	**18 38 18.8 -0.6**
	comp=Z,21nm,0.8s,mb4.5,baz=67,slow=8.7,SNR=72				
AKTO			PcP	PcP	18 39 18.2 +0.3
	comp=Z,19nm,0.8s,baz=72,slow=5.0,SNR=7.0				
AKTO			ScP	ScP	18 42 40.0 +0.5
	comp=Z,10nm,0.8s,baz=69,slow=7.0,SNR=5.5				
AKTO			S	**S**	**18 45 26.5 -1.0**
	comp=Z,2.3nm,0.9s,baz=296,slow=15,SNR=7.9				
AKTO	**Aktyubinsk**	**54.32 308**	P	**P**	**18 38 18.8 -0.5**
AKTO					18 39 18.2
AKTO			S	**S**	**18 45 26.5 -1.1**
LVZ	**Lovozero**	**54.50 334**	P	**P**	**18 38 19.7 -0.9**
	comp=Z,576nm,0.8s,mb6.0,SNR=7.2				
LVZ	**Lovozero**	**54.50 334**	*e*P	**P**	**18 38 18.7 -1.9**
LVZ			pmax	pmax	
	comp=Z,123nm,1.2s,mb5.1				
YKW3	**Yellowknife Ar**	**54.53 34**	⇑*e*P	**P**	**18 38 18.6 -2.1**
YKW3			*e*ScP	ScP	18 42 41.2 +0.9
NDI	**New Delhi**	**54.56 276**	*e*P	**P**	**18 38 20.0 -1.0**
YKA	**Yellowknife Ar**	**54.57 34**	P	**P**	**18 38 19.3 -1.7**
	comp=Z,19nm,0.5s,mb4.7,baz=304,slow=7.1,SNR=113				
YKA			PcP	PcP	18 39 18.4 -0.5
	comp=Z,9.7nm,0.7s,baz=314,slow=3.5,SNR=15				
YKA			ScP	ScP	18 42 40.8 +0.3
	comp=Z,11nm,1.0s,baz=304,slow=4.5,SNR=12				
YKA	**Yellowknife Ar**	**54.57 34**	⇑*e*P	**P**	**18 38 19.2 -1.9**
YKA	**Yellowknife Ar**	**54.57 34**	P	**P**	**18 38 19.3 -1.7**
YKA			PcP	PcP	18 39 18.4 -0.5
YKA			ScP	ScP	18 42 40.8 +0.3
APA	**Apatity**	**55.08 334**	⇓*i*P	**P**	**18 38 23.0 -1.7**
APA			*i* *PP	pP	18 39 34.0 -8.7
APA			*i*		18 40 36.0
APA			*e*S	**S**	**18 45 34.0 -3.5**
APA			pmax	pmax	
	comp=Z,70nm,0.8s,mb5.0				
POHA	**Pohakuloa**	**55.37 98**	*e*P	**P**	**18 38 27.4 +0.6**
	comp=Z,342nm,0.5s,mb5.9				
BLSP	**Bilaspur**	**55.38 266**	*e*P	**P**	**18 38 27.1 +0.3**
ORR	**Orenburg**	**55.42 311**	⇑*i*P	**P**	**18 38 26.1 -1.0**
ORR			pmax	pmax	
	comp=Z,110nm,0.9s,mb5.2				
KEV	**Kevo**	**55.46 338**	*e*p	**P**	**18 38 25.0 -2.4**
	comp=Z,97nm,0.8s,mb5.2				
KEV	**Kevo**	**55.46 338**	*e*P	**P**	**18 38 25.0 -2.4**
KEV			pmax	pmax	
	comp=Z,97nm,0.8s,mb5.2				
PMG	**Port Moresby**	**55.71 177**	P	**P**	**18 38 28.3 -0.9**
	comp=Z,20nm,0.9s,mb4.4,baz=12,slow=6.3,SNR=4.0				
KULM	**Kulim**	**55.78 237**	*e*P	**P**	**18 38 31.2 +1.6**
KULM			*e*pP	pP	18 39 49.6 +1.7
ARCES	**ARCESS Array B**	**55.99 338**	P	**P**	**18 38 30.0 -1.1**
	comp=Z,51nm,0.9s,mb4.9,baz=37,slow=7.4,SNR=108				
ARCES			PcP	PcP	18 39 22.9 -1.5
	comp=Z,17nm,0.9s,baz=69,slow=4.0,SNR=6.3				
ARCES			ScP	ScP	18 42 46.1 -0.6
	comp=Z,5.0nm,0.8s,baz=347,slow=5.0,SNR=3.8				
ARCES	**ARCESS Array B**	**55.99 338**	P	**P**	**18 38 30.0 -1.1**
ARCES					18 39 22.9
ARE0	**ARCESS Array S**	**55.99 338**	⇑*e*P	**P**	**18 38 29.1 -2.1**
DAG	**Danmarks Havn**	**56.53 355**	⇓*i*P	**P**	**18 38 32.9 -2.0**
	comp=Z,200nm,1.0s,mb5.4				
DAG	**Danmarks Havn**	**56.53 355**	⇓*i*P	**P**	**18 38 32.9 -2.0**
DAG			pmax	pmax	
	comp=Z,200nm,1.0s,mb5.4				
KTK1	**Kautokeino**	**56.94 338**	⇑*i*P	**P**	**18 38 36.3 -1.4**
KTK1			AMb	AMB	18 38 38.5
	comp=Z,148nm,1.4s,mb5.1				
KTK1	**Kautokeino**	**56.94 338**	⇑*i*P	**P**	**18 38 36.3 -1.4**
	comp=Z,148nm,1.4s,mb5.1				
KLMR	**Klimovskoe**	**57.09 326**	*c i*P	**P**	**18 38 37.2 -1.6**
KLMR			pmax	pmax	
	comp=Z,120nm,1.3s,mb5.1				
HNR	**Honiara**	**57.38 162**	P	**P**	**18 38 41.2 +0.4**
	comp=Z,89nm,0.8s,mb5.2,baz=251,slow=0.4,

JOF Joensuu 58.76 331 *ep* **P 18 38 48.0 -2.2**
comp=Z,65nm,0.6s,mb5.2
JOF Joensuu 58.76 331 *ep* PcP 18 39 33.5 -1.9
PSI Prapat 58.79 236 P **P 18 38 52.4 +1.9**
comp=Z,7.6nm,0.7s,baz=7.7,slow=5.2,SNR=11
A05A Maple Falls 58.87 50 ⇓P **P 18 38 50.7 -0.3**
baz=58,SNR=8.9
D03A Wishkah Elem. 59.08 53 ⇑P **P 18 38 53.3 +0.9**
baz=59
CMW Cultus Mountai 59.20 51 P **P 18 38 53.6 +0.4**
B05A Bryant 59.31 51 ⇓P **P 18 38 54.0 +0.1**
baz=59,SNR=16
GNW Green Mountain 59.33 52 *eP* **P 18 38 54.9 +0.8**
JCW Jim Creek 59.44 51 P **P 18 38 54.9 +0.1**
E03A Lebam 59.54 53 ⇓P **P 18 38 56.1 +0.6**
baz=59,SNR=5.7
D04A Dobbs Creek Ra 59.62 52 ⇑P **P 18 38 57.0 +1.0**
baz=59
AKL Akola 59.87 269 *ex* x 18 38 26.5
AKL AMb AMB 18 38 27.8
comp=Z,56nm,0.2s,mb5.5
C05A Tolt Reservoir 59.87 51 ⇑P **P 18 38 57.8 0.0**
baz=60,SNR=16
F03A Seaside 59.91 54 ⇑P **P 18 38 58.7 +0.7**
baz=60
KAKA Kakadu 59.93 194 *eP* **P 18 38 58.7 +0.5**
comp=Z,15nm,0.7s,mb4.5
KAKA Kakadu 59.93 194 *eP* pP 18 40 16.5 -1.2
comp=Z,33nm,0.8s
LOF Lofoten 59.94 341 *eP* **P 18 38 58.2 0.0**
LOF AMb AMB 18 39 00.5
comp=Z,168nm,1.6s,mb5.2
LOF Lofoten 59.94 341 *eP* **P 18 38 58.2 0.0**
comp=Z,168nm,1.6s,mb5.2
E04A Onalaska 59.98 53 ⇑P **P 18 38 59.2 +0.7**
baz=60
D05A Enumclaw 60.01 52 ⇑P **P 18 38 59.3 +0.6**
baz=60,SNR=10
FMW Mount Fremont 60.34 52 P **P 18 39 01.4 +0.5**
LON Longmire 60.38 52 P **P 18 39 01.2 +0.1**
H02A Toledo 60.42 55 ⇑P **P 18 39 02.5 +1.0**
baz=60
E05A Randle 60.52 52 ⇓P **P 18 39 01.9 -0.2**
baz=60,SNR=7.8
F04A Amboy 60.54 53 ⇓P **P 18 39 02.6 +0.3**
baz=60,SNR=14
MTMW Mount Mitchell 60.60 53 P **P 18 39 03.4 +0.7**
EDM Edmonton 60.64 42⇑*iP* **P 18 39 02.1 -0.8**
TWW Teanaway 60.65 51 P **P 18 39 03.9 +0.9**
TBM Table Mountain 60.78 51 P **P 18 39 04.0 +0.1**
H03A Soap Creek Ran 60.82 55 ⇑P **P 18 39 05.1 +1.0**
baz=60
COR Corvallis 60.87 55 *eP* **P 18 39 05.2 +0.8**
COR pmax pmax
comp=Z,48nm,1.1s,mb4.8
COR Corvallis 60.87 55 *eP* **P 18 39 05.2 +0.8**
comp=Z,48nm,1.1s,mb4.8
I02A Mapleton 60.93 56 ⇓P **P 18 39 07.1 +2.2**
baz=61
G04A Mulino 60.95 54 ⇑P **P 18 39 05.5 +0.6**
baz=61
EBG Ellensburg 60.95 51 P **P 18 39 05.4 +0.5**
KAF Kangasniemi 60.99 332 *ep* **P 18 39 02.5 -2.8**
comp=Z,115nm,1.1s,mb5.2,baz=42,slow=6.4
KAF Kangasniemi 60.99 332 *ep* PcP 18 39 41.9 -2.5
KAF Kangasniemi 60.99 332 *eP* **P 18 39 02.5 -2.8**
KAF pmax pmax
comp=Z,115nm,1.1s,mb5.2
HYB Hyderabad 61.04 265 *i P* **P 18 39 06.0 +0.4**
HYB Hyderabad 61.04 265 *eP* **P 18 39 06.0 +0.4**
F05A White Salmon 61.10 53 ⇓P **P 18 39 06.5 +0.5**
baz=61,SNR=7.8
MOS Moscow 61.11 322 *eP* **P 18 39 05.1 -0.9**
MOS *e* 18 39 43.7
MOS *e**PP pP 18 40 24.7 -1.2
MOS *e* 18 41 25.2
MOS *eS* **S 18 46 51.6 -3.3**
MOS *e* 18 51 08.3
MOS pmax pmax
comp=Z,107nm,1.3s,mb5.1
EPH Ephrata 61.20 51 P **P 18 39 06.3 -0.3**
SUMG Summit 61.20 1⇑*iP* **P 18 39 06.0 -0.6**
comp=Z,361nm,0.8s,mb5.8
I03A Eugene 61.26 55 ⇓P **P 18 39 08.1 +1.1**
baz=61
TDH Tom, Dick, Har 61.28 53 P **P 18 39 07.8 +0.7**
K01A Sixes 61.30 57 ⇑P **P 18 39 08.0 +0.7**
baz=61
MOR8 Moi Rana 61.30 339⇑*iP* **P 18 39 04.5 -2.8**
MOR8 AMb AMB 18 39 06.4
comp=Z,308nm,1.0s,mb5.7
MOR8 Moi Rana 61.30 339⇑*iP* **P 18 39 04.5 -2.8**
comp=Z,308nm,1.0s,mb5.7
HOOD Mount Hood Mea 61.34 53 *eP* **P 18 39 08.3 +0.7**
H04A Detroit Lake 61.44 54 ⇓P **P 18 39 08.7 +0.4**
baz=61,SNR=18
VFP Flag Point 61.45 53 P **P 18 39 09.0 +0.8**
J02A Umpqua 61.47 56 P **P 18 39 09.4 +1.0**
baz=61,SNR=7.7
ABKT Ailbek 61.49 296 P **P 18 39 09.3 +0.8**
comp=Z,1μm,0.6s,SNR=85
FINES FINESS Array B 61.55 331 P **P 18 39 07.5 -1.5**
comp=Z,67nm,0.7s,mb5.3,baz=49,slow=7.6,SNR=281
FINES PcP PcP 18 39 45.9 -0.8
comp=Z,13nm,0.8s,baz=72,slow=6.2,SNR=5.8
FINES FINESS Array B 61.55 331 P **P 18 39 07.5 -1.5**
FINES PcP PcP 18 39 45.9 -0.8
G05A Wamic 61.58 53 P **P 18 39 09.7 +0.6**
baz=61,SNR=8.0
OD2 Odessa Site #2 61.65 50 P **P 18 39 09.3 -0.2**
HAWA Hanford 61.83 51⇑*iP* **P 18 39 10.8 0.0**
K02A Glendale 61.89 57 ⇑P **P 18 39 11.6 +0.5**
baz=62
NEW Newport 61.93 49⇑*iP* **P 18 39 10.7 -0.7**
NEW pmax pmax
comp=Z,82nm,1.1s
NEW Newport 61.93 49⇑*iP* **P 18 39 10.7 -0.7**
comp=Z,82nm,1.1s,mb5.2
OBN Obninsk 61.97 322 P **P 18 39 10.4 -1.3**
comp=Z,554nm,1.0s,mb6.0,SNR=6.6
OBN Obninsk 61.97 322*c iP* **P 18 39 10.4 -1.3**
OBN *i **PP pP 18 40 32.2 +0.3
OBN *e* 18 41 32.4
OBN pmax pmax
comp=Z,215nm,1.9s,mb5.3
OBN Obninsk 61.97 322 P **P 18 39 10.1 -1.6**
H05A Madras 61.99 54 ⇑P **P 18 39 12.4 +0.5**
baz=62,SNR=11
M01C Crescent City 62.09 58 ⇑P **P 18 39 13.3 +0.7**
baz=62
L02A Cave Junction 62.20 57 ⇓P **P 18 39 13.9 +0.7**
baz=62,SNR=5.9
I05A Bend 62.28 54 ⇑P **P 18 39 14.4 +0.7**
baz=62
HUMO Hull Mountain 62.30 56⇑*eP* **P 18 39 14.2 +0.3**
HUMO Hull Mountain 62.30 56 ⇑P **P 18 39 14.6 +0.7**
baz=62,SNR=8.6
VRHR Novokhopersk 62.33 316 *eP* **P 18 39 13.4 -0.7**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.8s
JCC Jacoby Creek 62.79 59 ⇑P **P 18 39 17.9 +0.8**
baz=62
SCO Scoresbysund 62.91 355 *i P* **P 18 39 16.6 -1.2**
comp=E,53nm,1.0s,mb5.0
KHMM Horse Mountain 62.93 58⇑*eP* **P 18 39 18.8 +0.8**
YBH Yreka Blue Hor 62.99 57 P **P 18 39 19.2 +0.8**
comp=E,21nm,0.9s,mb4.6,baz=359,slow=3.1,SNR=43
YBH Yreka Blue Hor 62.99 57⇑*iP* **P 18 39 19.2 +0.8**
YBH *ep*P pP 18 40 43.7 +4.8
YBH Yreka Blue Hor 62.99 57 ⇓P **P 18 39 19.2 +0.9**
baz=63,SNR=17
K04A Chilquin 63.00 56 ⇑P **P 18 39 19.1 +0.7**
baz=63
I06A Prineville 63.01 54 P **P 18 39 19.0 +0.5**
baz=63,SNR=17
MEF Metsahovi 63.01 331 ⇑P **P 18 39 15.4 -3.1**
WALA Waterton Lakes 63.05 46⇑*iP* **P 18 39 18.5 -0.3**
comp=E,77nm,1.0s,mb5.2
VOR Voronezh 63.06 318 *eP* **P 18 39 16.5 -2.3**
VOR pmax pmax
comp=Z,140nm,1.8s,mb5.2
M02C Callahan 63.12 57 ⇓P **P 18 39 20.1 +0.9**
baz=63,SNR=10
L04A Klamath Falls 63.18 56 ⇓P **P 18 39 20.2 +0.6**
baz=63,SNR=6.7
N02C Big Bar 63.22 58 ⇑P **P 18 39 20.2 +0.3**
baz=63
NSS Namsos 63.24 339 *eP* **P 18 39 17.5 -2.5**
LHEM Herd Peak 63.34 57 P **P 18 39 21.3 +0.7**
O01C Eel River Cons 63.35 59 ⇓P **P 18 39 21.4 +0.7**
baz=63
BSMT Bassoo Peak 63.39 48 *eP* **P 18 39 21.5 +0.5**
VRSR Storozhevoye 63.41 317⇑*iP* **P 18 39 20.1 -1.0**
VRSR *e* 18 41 42.4
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
M04C Macdoel 63.46 57 ⇑P **P 18 39 22.2 +0.8**
baz=63,SNR=23
J06A Christmas Vall 63.48 54 ⇓P **P 18 39 22.2 +0.6**
baz=63,SNR=20
VSU Vasula 63.50 329 *eP* **P 18 39 20.5 -1.2**
VSU Vasula 63.50 329 P **P 18 39 19.7 -2.0**
POO Poona 63.52 269 *eP* **P 18 39 21.5 -0.4**
M03C McCloud 63.62 57 ⇓P **P 18 39 22.9 +0.4**
baz=63
K06A Valley Falls 63.72 55 ⇓P **P 18 39 23.9 +0.8**
baz=63,SNR=34
WDC Whiskeytown Da 63.82 58 *eP* **P 18 39 24.1 +0.3**
WDC pmax pmax
comp=Z,240nm,1.0s,mb5.8
WDC Whiskeytown Da 63.82 58 *eP* **P 18 39 24.1 +0.4**
comp=Z,24nm,1.0s,mb4.8
WDC Whiskeytown Da 63.82 58 ⇑P **P 18 39 24.1 +0.3**
baz=64,SNR=8.4
O02C Red Bluff 63.93 58 ⇑P **P 18 39 25.3 +0.8**
baz=64,SNR=11
BOM Bombay 63.99 270 *ex* x 18 38 03.8
P01C Double 8 Ranch 64.06 59 ⇑P **P 18 39 25.7 +0.4**
baz=64
M05C Lookout 64.13 57 ⇓P **P 18 39 26.3 +0.5**
baz=64
KAD Karad 64.13 268 *eP* **P 18 39 26.6 +0.9**
KAD AMb AMB 18 39 27.5
comp=Z,82nm,0.5s,mb5.7
MOD Modoc 64.26 56⇑*iP* **P 18 39 26.7 +0.1**
comp=Z,77nm,1.3s,mb5.2
HATC Hat Creek Radi 64.30 57 ⇑P **P 18 39 27.4 +0.6**
baz=64,SNR=12
GASB Alder Springs 64.31 59 P **P 18 39 28.0 +1.1**
baz=64,SNR=10
K07A Rock Creek Ran 64.35 54 ⇓P **P 18 39 27.9 +0.7**
baz=64,SNR=57
O03C Acorn Hollow, 64.49 58 ⇑P **P 18 39 28.0 -0.1**
baz=64
HOPS Hopland 64.52 60 ⇑P **P 18 39 28.5 +0.2**
baz=64
MAK Makhachkala 64.56 306*c iP* **P 18 39 27.0 -1.5**
MAK *e* 18 39 57.4
MAK *e**PP pP 18 40 48.3 -1.2
MAK *e**SP sP 18 41 26.9 -3.0
MAK *e*PPP 18 43 35.4
MAK *eS* **S 18 47 35.3 -2.1**
MAK *e*SS SS 18 51 51.7 -4.2
MAK pmax pmax
comp=Z,164nm,0.9s,mb5.7
FFC Flin Flon 64.60 36 P **P 18 39 28.7 -0.1**
comp=Z,1μm,0.9s,SNR=85
M06C Likely Place G 64.62 56 ⇑P **P 18 39 29.3 +0.5**
baz=64
CHMT Chamberlain Mo 64.80 48⇑*iP* **P 18 39 29.6 -0.4**
O04C Chester 64.83 57 ⇓P **P 18 39 31.0 +0.7**
baz=64,SNR=18
ELFS Eagle Lake Fie 64.85 57 ⇓P **P 18 39 31.1 +0.7**
baz=64,SNR=14
WVOR Wild Horse Val 64.86 54 *eP* **P 18 39 30.8 +0.4**
WVOR pmax pmax
comp=Z,48nm,1.0s,mb5.1
WVOR Wild Horse Val 64.86 54 *eP* **P 18 39 30.8 +0.3**
comp=Z,48nm,1.0s,mb5.1
MNRC McLaughlin Nat 64.97 59 ⇑P **P 18 39 32.0 +0.8**
baz=65,SNR=6.0
ORV Oroville 65.09 58 ⇑P **P 18 39 31.4 -0.5**
baz=65,SNR=9.4
SUTB Sutter Buttes 65.13 59 ⇓P **P 18 39 31.7 -0.5**
baz=65
O05C Quincy 65.17 58 ⇑P **P 18 39 32.6 +0.2**
baz=65,SNR=6.1
M07A Soldier Meadow 65.24 55 ⇑P **P 18 39 33.6 +0.8**
baz=65,SNR=21
OHCM Honcut 65.24 58 *eP* **P 18 39 32.5 -0.4**
GOF Gofitskoye 65.60 310⇓*iP* **P 18 39 35.5 +0.3**
GOF pmax pmax
comp=Z,460nm,0.8s,mb6.3
M08A Happy Creek Ra 65.65 55 ⇓P **P 18 39 36.2 +0.7**
baz=65,SNR=18
HRY Holter Researc 65.66 47 *eP* **P 18 39 35.7 +0.2**
O06A Flanigan 65.67 57 ⇑P **P 18 39 35.9 +0.3**
baz=65,SNR=23
L09A Wilkinson Ranc 65.67 54 ⇓P **P 18 39 36.2 +0.6**
baz=65,SNR=23
P05C Yuba Gap, Truc 65.78 58 ⇑P **P 18 39 36.3 0.0**
baz=66,SNR=8.1
LRM Limekiln Ridge 65.94 48 *eP* **P 18 39 37.6 +0.3**
DOMB Dombas 66.05 339⇑*iP* **P 18 39 36.6 -1.3**
DOMB AMb AMB 18 39 38.8
comp=Z,177nm,1.2s,mb5.7
DOMB Dombas 66.05 339⇑*iP* **P 18 39 36.6 -1.3**
comp=Z,177nm,1.2s,mb5.7
LAVA Lava Cap Winer 66.06 58 ⇓P **P 18 39 37.9 -0.1**
baz=66,SNR=10
DLMT Dillon 66.18 49⇑*eP* **P 18 39 38.6 -0.2**
comp=Z,248nm,1.2s,mb5.8
M09A Marrel Ranch, 66.19 54 ⇓P **P 18 39 39.5 +0.7**
baz=66,SNR=8.9
O07A Toulon 66.22 56 ⇓P **P 18 39 39.6 +0.6**
baz=66,SNR=20
LCCM Lewis and Clar 66.22 48 P **P 18 39 39.1 +0.1**
PAHR Pah Rah Range 66.22 57⇑*iP* **P 18 39 39.2 +0.1**
comp=Z,44nm,0.9s,mb5.2
N08A GE Springer Mi 66.23 55 ⇓P **P 18 39 39.6 +0.4**
baz=66,SNR=14
SFJD Kangerlussuaq 66.24 6⇑*iP* **P 18 39 37.5 -1.7**
comp=Z,185nm,0.9s,mb5.8
SFJD *i* 18 47 14.0
SFJD Kangerlussuaq 66.24 6⇑*iP* **P 18 39 37.5 -1.7**
SFJD pmax pmax
comp=Z,186nm,0.9s,mb5.8
WCN Washoe City 66.28 57 ⇓P **P 18 39 39.9 +0.5**
baz=66,SNR=6.2
CTA Charters Tower 66.30 178 *eP* **P 18 39 39.2 -0.4**
comp=Z,6.5nm,1.2s
CTA Charters Tower 66.30 178 *eP* pP 18 40 59.5 -1.5
comp=Z,5.3nm,0.7s
CTA Charters Tower 66.30 178 *eP* **P 18 39 39.2 -0.4**
CTA pmax pmax
comp=Z,70nm,1.2s
NB2 NORSAR Subarra 66.34 337 P **P 18 39 38.5 -1.3**
comp=Z,139nm,0.8s,mb5.7,baz=32,slow=6.5
NB2 NORSAR Subarra 66.34 337 P **P 18 39 38.5 -1.3**
NB2 pmax pmax
comp=Z,139nm,0.8s,mb5.7
NOA NORSAR Array B 66.34 337 P **P 18 39 38.5 -1.3**
comp=Z,101nm,0.8s,mb5.6,baz=34,slow=6.2,SNR=399
NOA PcP PcP 18 40 05.5 -0.9
comp=Z,12nm,0.8s,baz=32,slow=3.1,SNR=5.4
NOA PP PP 18 42 07.9 -3.5
comp=Z,4.4nm,0.7s,baz=33,slow=6.3,SNR=3.4
NOA NORSAR Array B 66.34 337 P **P 18 39 38.5 -1.3**
NOA 18 40 05.5
NOA NORSAR Array B 66.34 337 P **P 18 39 38.5 -1.3**
NOA PcP PcP 18 40 05.5 -0.9
NOA PP PP 18 42 07.9 -3.5
HFA0 Hagfors New Ar 66.40 336 P **P 18 39 38.1 -2.1**
MCMT McKenzie Canyo 66.41 49 *eP* **P 18 39 39.8 -0.4**
HLID Hailey 66.43 51⇑*eP* **P 18 39 40.4 0.0**
comp=Z,24nm,1.1s,mb4.8
R05C Kirkwood Meado 66.48 58 P **P 18 39 41.2 +0.5**
baz=66,SNR=11
FITZ Fitzroy Crossi 66.52 200⇓*iP* **P 18 39 42.0 +1.1**
comp=Z,15nm,0.8s,mb4.8
FITZ Fitzroy Crossi 66.52 200 *eP* pP 18 41 01.6 -0.8
comp=Z,13nm,0.9s
KIV Kislovodsk 66.53 310 P **P 18 39 42.8 +1.8**
comp=Z,2μm,0.8s,SNR=82
KIV Kislovodsk 66.53 310*c iP* **P 18 39 41.8 +0.8**
KIV pmax pmax
comp=Z,457nm,1.1s,mb6.1
KIV Kislovodsk 66.53 310 P **P 18 39 41.0 0.0**
NAO01 NORSAR Array S 66.59 337⇑*eP* **P 18 39 39.5 -1.9**
comp=Z,72nm,0.8s,mb5.5
M10A I.L. Ranch, Tu 66.64 54 ⇓P **P 18 39 42.5 +0.8**
baz=66
ZEI Tsey 66.68 308 *eP* **P 18 39 42.3 +0.4**
ZEI *e**PP pP 18 41 02.8 -0.6
ZEI pmax pmax
comp=Z,182nm,1.1s,mb5.7
CMB Columbia Colle 66.74 59⇑*iP* **P 18 39 42.2 -0.1**
CMB pmax pmax
comp=Z,38nm,1.1s,mb5.0
CMB Columbia Colle 66.74 59⇑*iP* **P 18 39 42.2 -0.1**
comp=Z,38nm,1.1s,mb5.0
CMB Columbia Colle 66.74 59 ⇑P **P 18 39 42.4 +0.1**
baz=66,SNR=16
DGRG David-gareji 66.75 306 P **P 18 39 42.9 +0.5**
WRAB Tennant Creek 66.76 190 P **P 18 39 42.2 -0.2**
comp=Z,173nm,0.9s,mb5.8,SNR=15
WRAB Tennant Creek 66.76 190 *eP* **P 18 39 42.0 -0.4**
WB2 Warramunga Arr 66.77 190 *eP* **P 18 39 41.9 -0.6**
WB2 Warramunga Arr 66.77 190 *eP* pP 18 41 02.3 -1.7
WRA Warramunga Arr 66.77 190 P **P 18 39 42.6 +0.1**
comp=Z,24nm,0.7s,mb5.0,baz=8.0,slow=6.7,SNR=190
WRA PcP PcP 18 40 09.0 +0.8
comp=Z,2.2nm,0.5s,baz=6.9,slow=4.8,SNR=6.2
WRA pP pP 18 41 02.4 -1.6
comp=Z,27nm,1.0s,baz=9.1,slow=6.8,SNR=12
WRA ScP 18 43 36.0
comp=Z,8.2nm,1.2s,baz=6.2,slow=4.7,SNR=4.7
WRA PKPPKP 19 08 13.2
comp=Z,4.8nm,1.1s,baz=201,slow=2.6,SNR=5.9
WRA Warramunga Arr 66.77 190 P **P 18 39 42.6 +0.1**
WRA 18 40 09.0
WRA *PP pP 18 41 02.4 -1.6
PACP Pacheco Peak 66.89 60 ⇓P **P 18 39 43.6 +0.4**
baz=67,SNR=5.6
MTA Mtatsminda 66.91 307 P **P 18 39 44.0 +0.6**
BMN Battle Mountai 66.98 55⇑*iP* **P 18 39 44.2 +0.4**
BMN pmax pmax
comp=Z,41nm,0.9s,mb5.2
BMN Battle Mountai 66.98 55⇑*iP* **P 18 39 44.2 +0.4**
comp=Z,42nm,0.9s,mb5.2
P08A Dixie Valley 66.99 56 ⇑P **P 18 39 44.7 +0.8**
baz=67
WAKR Walker 66.99 58 *eP* **P 18 39 44.6 +0.8**
ONI Oni 67.05 308 P **P 18 39 45.1 +0.9**
M11A Holland Ranch, 67.11 54 P **P 18 39 45.9 +1.3**
baz=67,SNR=35
HAST Hastings Reser 67.14 61 ⇑P **P 18 39 44.6 -0.2**
baz=67
QLMT Earthquake Lak 67.14 48 *eP* **P 18 39 45.3 +0.5**
S06C San Francisco 67.16 59 ⇓P **P 18 39 45.1 +0.1**
baz=67,SNR=8.2
O09A Fish Creek Ran 67.17 55 ⇑P **P 18 39 45.7 +0.7**
baz=67,SNR=21
N10A Dunphy 67.19 55 ⇑P **P 18 39 46.0 +0.9**
baz=67
S05C Merced 67.23 59 ⇑P **P 18 39 45.1 -0.3**
baz=67
AMRG 67.26 308 P **P 18 39 47.4 +1.8**
T05C Eagle Field, D 67.33 60 ⇓P **P 18 39 46.4 +0.4**
baz=67
GCMT Greycliff 67.38 47 *eP* **P 18 39 46.6 +0.3**
R07C Lee Vining 67.49 58 ⇑P **P 18 39 47.9 +0.9**
baz=67,SNR=6.5
YMR Madison River 67.50 48 *eP* **P 18 39 47.3 +0.3**
comp=Z,58nm,1.0s,mb5.3
N11A Elko Archery C 67.55 54 ⇓P **P 18 39 47.9 +0.6**
baz=67
V03C Hunter Liggett 67.57 61 ⇑P **P 18 39 47.9 +0.5**
baz=67
M12A Wells 67.61 53 ⇑P **P 18 39 48.7 +1.0**
baz=67,SNR=26
U04C Hernandez Rese 67.62 60 ⇓P **P 18 39 48.4 +0.6**
baz=67
Q08A Gabbs 67.63 57 ⇑P **P 18 39 48.2 +0.4**
baz=67,SNR=12
NVAR Mina Array Bea 67.70 57 P **P 18 39 49.0 +0.7**
comp=Z,21nm,0.8s,mb4.9,baz=288,slow=6.4,SNR=107
NVAR PcP PcP 18 40 13.1 +1.0
comp=Z,5.8nm,0.8s,baz=283,slow=4.7,SNR=5.9
NVAR pP pP 18 41 09.6 -0.5
comp=Z,1.7nm,0.7s,baz=287,slow=6.5,SNR=1.5
NVAR Mina Array Bea 67.70 57 P **P 18 39 49.0 +0.7**
NVAR PcP PcP 18 40 13.1 +1.0
NVAR pP pP 18 41 09.6 -0.5
YFT Old Faithful 67.71 48⇑*eP* **P 18 39 49.9 +1.5**
MNV Mina 67.79 57⇑*iP* **P 18 39 49.0 +0.2**
MNV *e**PP pP 18 41 09.6 -1.1
MNV pmax pmax
comp=Z,22nm,0.9s,mb4.9
MNV Mina 67.79 57⇑*iP* **P 18 39 49.0 +0.2**
comp=Z,22nm,0.9s,mb4.9
MNV *ep*P pP 18 41 09.6 -1.1
KCC Kaiser Creek 67.85 59 ⇑P **P 18 39 49.4 +0.2**
baz=68
R08A Mina 67.87 57 ⇑P **P 18 39 49.9 +0.6**
baz=68,SNR=11
N12A Wells--Clov Va 67.92 54 ⇓P **P 18 39 50.5 +0.8**
baz=68,SNR=23
MLAC Mammoth Lakes 67.93 58 ⇑P **P 18 39 50.6 +1.0**
baz=68
KONO Kongsberg 67.95 337 *eP* **P 18 39 48.9 -0.9**
KONO Kongsberg 67.95 337⇑*iP* **P 18 39 48.5 -1.3**
KONO pmax pmax
comp=Z,93nm,1.4s,mb5.3
KONO Kongsberg 67.95 337⇑*iP* **P 18 39 48.5 -1.3**
comp=Z,93nm,1.4s,mb5.3
GNI Garni 67.98 305 *eP* **P 18 39 51.1 +1.1**
GNI Garni 67.98 305⇑*iP* **P 18 39 51.8 +1.8**
GNI pmax pmax
comp=Z,188nm,1.1s
GNI Garni 67.98 305⇑*iP* **P 18 39 51.8 +1.8**
comp=Z,188nm,1.1s,mb5.7
FLWY Flagg Ranch 68.04 49⇑*eP* **P 18 39 51.2 +0.8**
comp=Z,61nm,1.2s,mb5.2
PKD Parkfield 68.04 61 ⇑P **P 18 39 51.6 +1.2**
baz=68
IMW Indian Meadow 68.04 49⇑*iP* **P 18 39 51.2 +0.8**
comp=Z,49nm,0.9s,mb5.2
V04C Ramage Ranch, 68.05 61 ⇓P **P 18 39 52.1 +1.7**
baz=68
M13A Montello 68.06 53 ⇑P **P 18 39 51.0 +0.5**
baz=68,SNR=23
O11A Cowboy Ranch, 68.07 55 ⇓P **P 18 39 51.2 +0.6**
baz=68,SNR=18
Q09A Carvers 68.08 56 ⇑P **P 18 39 51.2 +0.5**
baz=68,SNR=5.2
DCID1 Drake Creek 68.12 49 *eP* **P 18 39 51.2 +0.3**
SUW Suwalki 68.16 327 *eP* **P 18 39 50.2 -0.9**
AKASG Malin Array Be 68.24 322 P **P 18 39 50.3 -1.3**
comp=Z,69nm,0.7s,mb5.5,baz=39,slow=6.2,SNR=256
AKASG pP pP 18 41 12.4 -1.2
comp=Z,1.1nm,0.4s,baz=38,slow=6.1,SNR=1.7
AKASG Malin Array Be 68.24 322 *i P* **P 18 39 50.7 -0.9**
AKASG pmax pmax
comp=Z,69nm,0.7s
MOOW Moose Ponds 68.25 49⇑*iP* **P 18 39 52.3 +0.7**
comp=Z,68nm,1.1s,mb5.3
MTUM Tungsten Hills 68.27 58 *eP* **P 18 39 51.9 +0.1**
TPAW Teton Pass 68.32 49 *eP* **P 18 39 53.2 +1.2**
comp=Z,88nm,1.1s,mb5.4
SOC Sochi 68.35 311*c iP* **P 18 39 52.4 +0.1**
SOC *e* 18 40 12.3
SOC *e**PP pP 18 41 15.6 +1.3
SOC *e* 18 42 38.7
SOC *eS* S 18 48 22.8 +0.3
SOC *e*SS SS 18 53 00.5 +6.1
SOC *e*SSS 18 56 11.2
SOC pmax pmax
comp=Z,139nm,1.1s,mb5.6
N13A West Wendover 68.38 53 ⇓P **P 18 39 53.0 +0.5**
baz=68,SNR=7.7
S08C White Mtn Res 68.41 58 P **P 18 39 53.5 +0.9**
baz=68,SNR=14
P11A Circle Ranch, 68.41 55 ⇑P **P 18 39 53.2 +0.6**
baz=68,SNR=6.4
TRD Trivandrum 68.44 259 *eP* **P 18 39 54.2 +1.4**
REDW Red Top Meadow 68.46 49⇑*eP* **P 18 39 53.6 +0.7**
comp=Z,109nm,1.3s,mb5.4
BORG Borgarnes 68.53 354 P **P 18 39 54.1 +0.7**
HVU Hansel Valley 68.53 52⇑*iP* **P 18 39 53.6 +0.2**

HVU pmax pmax
comp=Z,23nm,0.9s,mb4.9
HVU Hansel Valley 68.53 52⇑iP P 18 39 53.6 +0.2
comp=Z,23nm,0.9s,mb4.9
TPH Tonopah 68.57 57⇑iP P 18 39 53.8 +0.2
TPH pmax pmax
comp=Z,41nm,1.0s,mb5.1
TPH Tonopah 68.57 57⇑iP P 18 39 53.8 +0.2
comp=Z,41nm,1.0s,mb5.1
ANN Anapa 68.67 313ciP P 18 39 53.9 -0.3
ANN e 18 42 31.4
ANN eS S 18 48 27.7 +1.4
ANN e 18 49 14.9
ANN eSSS 18 56 16.7
ANN pmax pmax
comp=Z,140nm,1.2s,mb5.6
TIN Tinemaha 68.67 58 ⇑P P 18 39 54.8 +0.6
baz=68
AHID Auburn Hatcher 68.74 50 eP P 18 39 54.9 +0.2
comp=Z,28nm,0.8s,mb5.0
S09A Goldfield 68.81 57 ⇓P P 18 39 55.4 +0.3
baz=68,SNR=40
BCA Borcka 68.82 308 eP P 18 39 54.9 -0.2
P12A McGill 68.94 55 ⇑P P 18 39 56.4 +0.6
baz=69,SNR=41
Q11A Duckwater 68.94 56 ⇓P P 18 39 56.2 +0.3
baz=69,SNR=11
BGU Big Grassy Mou 68.98 52 eP P 18 39 56.4 +0.3
SPUT South Promonto 69.03 52 eP P 18 39 56.6 +0.1
CLDR Caldiran 69.13 305 eP P 18 39 58.8 +1.7
HWUT Hardware Ranch 69.30 51⇑iP P 18 39 58.2 +0.1
comp=Z,56nm,1.0s,mb5.2
HWUT epP pP 18 41 22.5 +2.2
ISA Isabella 69.47 60 eP P 18 39 58.3 -0.8
ISA pmax pmax
comp=Z,14nm,0.9s,mb4.7
ISA Isabella 69.47 60 eP P 18 39 58.3 -0.8
comp=Z,14nm,0.9s,mb4.7
ISA Isabella 69.47 60 ⇑P P 18 39 58.0 -1.1
baz=69
PDAR Pinedale Array 69.55 49 P P 18 39 59.6 0.0
comp=Z,45nm,0.7s,mb5.3,baz=290,slow=1.6,SNR=358
DAC Darwin (Calif) 69.57 59 eP P 18 39 59.8 +0.1
DAC pmax pmax
comp=Z,15nm,0.9s,mb4.7
DAC Darwin (Calif) 69.57 59 eP P 18 39 59.8 +0.1
comp=Z,15nm,0.9s,mb4.7
DUG Dugway 69.61 53⇑iP P 18 40 00.0 +0.1
DUG e*PP pP 18 41 20.8 -1.5
DUG pmax pmax
comp=Z,47nm,0.9s,mb5.2
DUG Dugway 69.61 53⇑iP P 18 40 00.0 +0.1
comp=Z,47nm,0.9s,mb5.2
DUG epP pP 18 41 20.8 -1.5
NOQ North Oquirrh 69.67 52⇑eP P 18 40 00.6 +0.3
comp=Z,184nm,1.2s,mb5.7
TCUT Toone Canyon 69.73 51⇑iP P 18 40 01.1 +0.4
VANB Van 69.81 305 eP P 18 40 02.4 +1.2
CTU Camp Tracy 69.84 52 eP P 18 40 01.3 0.0
comp=Z,33nm,0.9s,mb5.1
TVAN Van 69.84 305 iP P 18 40 03.6 +2.2
SEMD Semdilli 70.02 303 eP P 18 40 03.1 +0.7
ERZM Erzurum 70.03 307 iP P 18 40 04.4 +2.0
EZM Erzurum 70.03 307 eP P 18 40 04.4 +1.9
WAL1 Walls 70.06 343⇑eP P 18 40 01.5 -1.2
LRW Lerwick 70.08 343⇑eP P 18 40 01.9 -0.9
LRW AMb AMB 18 40 04.2
comp=Z,112nm,1.2s,mb5.5
BSD Bornholm Skovb 70.17 332⇑iP P 18 40 02.2 -1.1
comp=Z,117nm,0.8s,mb5.7
BSD Bornholm Skovb 70.17 332⇑iP P 18 40 02.2 -1.1
BSD pmax pmax
comp=Z,117nm,0.8s,mb5.7
NLU North Lily Min 70.18 53⇑iP P 18 40 03.7 +0.3
SIM Simferopol' 70.21 315ceP P 18 40 04.5 +0.9
SIM S S 18 48 40.3 -3.8
SIM pmax pmax
comp=Z,97nm,1.0s,mb5.5
DAU Daniels Canyon 70.31 52 eP P 18 40 04.9 +0.8
WAR Warsaw 70.36 327 eP P 18 40 05.0 +0.6
MPU Maple Canyon 70.38 52⇑eP P 18 40 05.1 +0.5
comp=Z,66nm,0.8s,mb5.4
ULM Lac du Bonnet 70.42 36 P P 18 40 03.7 -1.1
comp=Z,93nm,0.9s,mb5.5,baz=317,slow=6.6,SNR=167
ULM Lac du Bonnet 70.42 36 P P 18 40 03.7 -1.2
SNCC San Nicolas Is 70.48 62 ⇓P P 18 40 05.4 +0.2
baz=70
COP Copenhagen 70.48 333⇑iP P 18 40 04.5 -0.7
comp=Z,60nm,0.9s,mb5.3
COP Copenhagen 70.48 333⇑iP P 18 40 04.5 -0.7
COP pmax pmax
comp=Z,60nm,0.9s,mb5.3
AS31 Alice Springs 70.49 190 eP P 18 40 06.5 +1.2
AS31 epP pP 18 40 39.0 -49
ASAR Alice Springs 70.50 190 P P 18 40 06.3 +1.1
comp=Z,7.8nm,0.6s,mb4.6,baz=8.1,slow=6.5,SNR=242
ASAR PcP PcP 18 40 24.4 +0.5
comp=Z,2.0nm,0.6s,baz=9.0,slow=4.7,SNR=4.5
ASAR pP pP 18 41 26.8 -1.0
comp=Z,9.8nm,0.8s,baz=10,slow=5.5,SNR=9.0
ASAR PKPPKP 19 08 01.2
comp=Z,3.1nm,1.0s,baz=176,slow=3.7,SNR=12
ASAR Alice Springs 70.50 190 P P 18 40 06.4 +1.1
ASAR 18 40 24.4
ASAR *PP pP 18 41 26.8 -1.0
ASPA Alice Springs 70.50 190 eP P 18 40 06.5 +1.2
ASPA epP tx 18 40 39.0
ASPA Alice Springs 70.50 190 eP pP 18 41 28.6 +0.8
CUKT Cukurca 70.61 304 eP P 18 40 07.0 +1.0
GUMT Gumushane 70.67 309 eP P 18 40 07.5 +1.2
MWC Mount Wilson 70.70 61 eP P 18 40 06.7 +0.2
GSC Goldstone 70.71 59 eP P 18 40 06.7 +0.2
GSC e*PP pP 18 41 32.6 +3.4
GSC Goldstone 70.71 59 P P 18 40 06.8 +0.3
baz=70,SNR=13
WSAR Wadi Sarin 70.75 284 P P 18 40 08.6 +1.8
comp=Z,6.9nm,0.6s,mb4.6,baz=92,slow=2.6,SNR=11
MUD Monsted U'grnd 70.80 336⇑iP P 18 40 06.5 -0.6
comp=Z,48nm,0.7s,mb5.3
MUD Monsted U'grnd 70.80 336⇑iP P 18 40 06.5 -0.6
MUD pmax pmax
comp=Z,48nm,0.7s,mb5.3
BNGL BINGOL 70.81 307 iP P 18 40 09.1 +2.0
SHPR Sheep Range 70.84 57 eP P 18 40 07.9 +0.6
BIDO Bidbid 70.89 284 ⇑P P 18 40 09.0 +1.4
SNR=6.1
GKP Gorka Klasztor 70.91 330 eP P 18 40 07.4 -0.3
ARUT Antelope Range 70.93 55 eP P 18 40 08.2 +0.3
MBWA Marble Bar 70.97 204 eP P 18 40 08.4 +0.3
MBWA epP pP 18 41 32.1 +1.3
GRSN GIRESUNGRSN 70.98 310 iP P 18 40 08.5 +0.3
EZC Erzincan 70.99 308 eP P 18 40 10.2 +2.0
LVV L'vov 71.08 324 iP PcP 18 40 25.9 -0.5
LVV eS 18 49 18.8
DZM Mont Dzumac 71.09 158 eP P 18 40 11.1 +2.2
TMUT Trail Mountain 71.12 53⇑iP P 18 40 09.4 +0.4
MSU Marysvale 71.14 54 eP P 18 40 09.9 +0.8
TUQ Turquoise Mtn. 71.14 58 ⇑P P 18 40 09.6 +0.5
baz=71,SNR=17
CCUT Cedar City 71.14 55 eP P 18 40 09.5 +0.4
BTMT Batman 71.16 306 eP P 18 40 10.8 +1.6
KIS Kishinev 71.19 319ciP P 18 40 08.0 -1.4
KIS e 18 40 28.0
KIS e 18 42 10.0
KIS pmax pmax
comp=Z,1μm,1.0s
BINT Bingol 71.23 307 eP P 18 40 11.1 +1.4
RSSD Black Hills 71.37 45⇑iP P 18 40 09.9 -0.6
RSSD e*PP pP 18 41 30.1 -3.2
HOQ Hoqain 71.40 285 ⇑P P 18 40 11.4 +0.8
SNR=8.9
BEST Besiri 71.49 306 iP P 18 40 12.7 +1.5
RWWY Rawlins 71.54 49⇑iP P 18 40 11.2 -0.3
comp=Z,81nm,0.9s,mb5.5
SRU San Rafael 71.62 52⇑eP P 18 40 11.7 -0.3
SRU e*PP pP 18 41 33.5 -1.3
SRU pmax pmax
comp=Z,84nm,0.8s,mb5.5
SRU San Rafael 71.62 52⇑eP P 18 40 11.7 -0.3
comp=Z,84nm,0.8s,mb5.5
SRU epP pP 18 41 33.5 -1.3
KWP Kalwaria 71.76 324 ePc 18 40 13.4
OBR Brabster 71.89 343⇑eP P 18 40 12.7 -0.8
KVT Kavak 72.04 311 eP P 18 40 15.8 +1.3

BSY Bisya 72.04 284 ⇑P P 18 40 16.1 +1.6
SNR=9.3
ORE Reay 72.07 343⇑iP P 18 40 13.9 -0.7
PFO Pinyon Flat Ob 72.09 60 ⇓P P 18 40 14.6 -0.1
baz=72
ARQ Araqi 72.09 285 ⇑P P 18 40 15.7 +1.0
SNR=5.5
MARD Mardin 72.17 306 iP P 18 40 16.8 +1.6
OTO Tongue 72.24 343⇑eP P 18 40 14.8 -0.8
ELZG Elazig 72.33 307 iP P 18 40 18.1 +1.9
TOKT Tokat 72.33 310 eP P 18 40 16.5 +0.3
SVSK Karacayir 72.38 310 eP P 18 40 16.8 +0.4
BYBT Boyabat 72.42 312 eP P 18 40 17.7 +1.1
OJC Ojcow 72.44 326 eP P 18 40 16.9 +0.2
KOLS Kolonicke sedl 72.49 324 iP P 18 40 17.6 +0.6
KOLS pmax pmax
comp=Z,47nm,1.1s,mb5.1
KOLS Kolonicke sedl 72.49 324 iP P 18 40 17.6 +0.6
comp=Z,47nm,1.1s,mb5.1
SVST Sivas 72.51 310 iP P 18 40 19.1 +2.0
STHS Stebnicka Huta 72.52 325 iP P 18 40 17.6 +0.4
STHS pmax pmax
comp=Z,92nm,1.0s,mb5.5
STHS Stebnicka Huta 72.52 325 iP P 18 40 17.6 +0.4
comp=Z,92nm,1.0s,mb5.5
BAR Barrett 72.61 61 eP P 18 40 18.0 +0.3
BSEG Bad Segeberg 72.62 334 eP P 18 40 17.4 -0.4
comp=Z,84nm,1.0s,mb5.4
PHWY Pilot Hill 72.73 48 eP P 18 40 17.5 -0.9
MVH1 Achvaich 72.73 343⇑eP P 18 40 17.4 -1.0
RUE Ruedersdorf 72.74 331 eP P 18 40 18.1 -0.4
comp=Z,245nm,1.6s,mb5.7
MALT Malatya 72.77 308⇓iP P 18 40 20.4 +1.7
MALT Malatya 72.77 308⇑iP P 18 40 20.3 +1.6
MALT pmax pmax
comp=Z,119nm,1.0s,mb5.6
MALT Malatya 72.77 308⇑iP P 18 40 20.3 +1.6
comp=Z,119nm,1.0s,mb5.6
CRVS Cervenica-Dubn 72.84 325 iP P 18 40 20.1 +1.0
CRVS pmax pmax
comp=Z,43nm,1.3s,mb5.0
CRVS Cervenica-Dubn 72.84 325 iP P 18 40 20.1 +1.0
comp=Z,43nm,1.3s,mb5.0
MCD Coleburn Disti 72.86 342⇑eP P 18 40 18.2 -1.0
CFR Carcaliu 72.87 318⇓iP P 18 40 19.5 +0.2
CFR Carcaliu 72.87 318 ⇓P P 18 40 19.5 +0.2
NIE Niedzica 72.88 326 iPc 18 40 20.1
W14A Seligman 72.95 57 ⇓P P 18 40 20.6 +0.8
baz=73
X13A Yucca 72.95 58 ⇑P P 18 40 20.2 +0.4
baz=73
PV10 Paradox Valley 72.96 52 eP P 18 40 20.9 +1.1
VRI Vrincioaia 72.98 320⇑iP P 18 40 20.4 +0.5
VRI Vrincioaia 72.98 320 P P 18 40 20.7 +0.8
CTKT Corum 73.03 311 iP P 18 40 21.6 +1.4
PLOR Plostina 73.03 320⇑iP P 18 40 20.7 +0.5
MME1 Meikle Cairn 73.05 342⇑eP P 18 40 19.1 -1.1
TOS Tosya 73.12 312 eP P 18 40 21.3 +0.6
Y12C Blythe 73.14 59 ⇓P P 18 40 21.2 +0.4
baz=73,SNR=10
RAC Raciborz 73.15 327 eP P 18 40 21.4 +0.5
URFA Urfa 73.18 307 eP P 18 40 22.5 +1.5
KSP Ksiaz 73.23 329⇑eP P 18 40 21.3 0.0
KSP e 18 40 35.9
TIRR Tirgusor 73.30 318⇑iP P 18 40 22.0 +0.3
TIRR Tirgusor 73.30 318 eP P 18 40 21.6 -0.1
KAC Achnashellach 73.35 344⇑iP P 18 40 21.3 -0.7
OKC Ostrava-Krasne 73.37 327⇑iP P 18 40 22.3 +0.1
PV01 Paradox Valley 73.39 52 eP P 18 40 22.4 +0.1
CORM Corum 73.44 311 eP P 18 40 23.5 +1.0
W15A Williams 73.44 56 ⇓P P 18 40 23.7 +1.1
baz=73,SNR=17
GLA Glamis 73.45 59⇑eP P 18 40 22.8 +0.2
GLA Glamis 73.45 59 ⇓P P 18 40 23.0 +0.4
baz=73,SNR=7.2
SMCO Snowmass 73.49 50⇑eP P 18 40 23.1 +0.3
comp=Z,49nm,0.8s,mb5.3
SMCO epP pP 18 41 50.4 +4.2
UMR Umm Al-Rimmam 73.50 296 eP P 18 40 23.1 +0.2
UMR pmax pmax
comp=Z,132nm,0.5s,mb5.9
Y13A Salome 73.50 58 ⇑P P 18 40 23.4 +0.4
baz=73,SNR=6.6
MIB Mutribah 73.56 296 eP P 18 40 23.4 +0.1
MIB AMb AMB 18 40 24.9
comp=Z,121nm,0.6s,mb5.8
KECS Kecovo 73.56 325 iP P 18 40 23.4 +0.1
KECS pmax pmax
comp=Z,39nm,0.9s,mb5.1
KECS Kecovo 73.56 325 iP P 18 40 23.4 +0.1
comp=Z,39nm,0.9s,mb5.1
KPL Plockton 73.57 344⇑iP P 18 40 22.7 -0.6
X14A Yava 73.58 57 ⇓P P 18 40 24.4 +1.0
baz=73
UPC Upice 73.61 329⇑iP P 18 40 23.6 +0.1
MLR Muntele Rosu 73.62 320⇓iP P 18 40 24.1 +0.5
MLR Muntele Rosu 73.62 320 P P 18 40 24.5 +0.9
DPC Dobruska-Polom 73.62 328⇑iP P 18 40 24.2 +0.6
CANT Cankiri 73.64 312 eP P 18 40 22.6 -1.1
LIKS Likavka 73.65 326 iP P 18 40 25.0 +1.2
LIKS pmax pmax
comp=Z,146nm,0.9s,mb5.7
LIKS Likavka 73.65 326 iP P 18 40 25.0 +1.2
comp=Z,146nm,0.9s,mb5.7
SAFT Safranbolu 73.65 313 eP P 18 40 24.5 +0.8
MORC Moravsky Berou 73.65 327⇑iP P 18 40 24.1 +0.3
MORC Moravsky Berou 73.65 327⇑iP P 18 40 23.8 +0.1
comp=Z,185nm,1.0s,mb5.8
KSK Scoval 73.65 344⇑eP P 18 40 23.1 -0.7
ISCO Idaho Springs 73.75 49⇑iP P 18 40 24.9 +0.5
comp=Z,144nm,1.5s,mb5.5
BNN Bunyan 73.77 310 eP P 18 40 25.1 +0.7
KBD Kabd 73.78 295 eP P 18 40 24.7 +0.2
KBD AMb AMB 18 40 26.3
comp=Z,253nm,0.6s,mb6.1
ELDT Eldivan 73.83 312 iP P 18 40 26.1 +1.3
Y14A Wickenburg 73.90 58 P P 18 40 25.8 +0.6
baz=74,SNR=27
NRDL Niedersach Rie 73.92 333 eP P 18 40 24.8 -0.5
comp=Z,147nm,1.6s,mb5.5
GZT Gaziantep 73.93 307 iP P 18 40 27.1 +1.7
CDAG Cicekdag 73.98 311 iP P 18 40 26.8 +1.1
CLL Collm 73.99 331 eP P 18 40 24.9 -0.8
comp=Z,209nm,1.1s,mb5.8
CLL Collm 73.99 331⇑iP P 18 40 24.9 -0.8
comp=Z,206nm,1.1s,mb5.8
CLL Collm 73.99 331⇑iP P 18 40 24.9 -0.8
comp=Z,206nm,1.1s,mb5.8
KAR1 Arisaig 74.00 344⇑iP P 18 40 25.1 -0.6
DRGR 74.00 323⇑iP P 18 40 26.1 +0.3
DRGR 74.00 323 P P 18 40 26.4 +0.6
NAY Al-Naaiem 74.01 296 eP P 18 40 25.9 +0.1
NAY AMb AMB 18 40 28.1
comp=Z,65nm,1.4s,mb5.2
EYMN Ely 74.01 35⇑iP P 18 40 24.3 -1.5
comp=Z,223nm,1.0s,mb5.8
BRG Berggiesshubel 74.03 330 eP P 18 40 25.5 -0.5
comp=Z,77nm,1.2s,mb5.3
BRG Berggiesshubel 74.03 330 iP P 18 40 25.5 -0.4
comp=Z,47nm,1.2s,mb5.1
BRG i 18 43 16.0
comp=Z,24nm,1.4s
BRG Berggiesshubel 74.03 330 iP P 18 40 25.5 -0.5
BRG i 18 43 16.0
BRG pmax pmax
comp=Z,47nm,1.2s,mb5.1
RDF Al-Radifah 74.04 295 eP P 18 40 26.4 +0.4
RDF AMb AMB 18 40 27.9
comp=Z,143nm,0.7s,mb5.8
VOIR 74.06 320⇑iP P 18 40 26.9 +0.8
VOIR 74.06 320 ⇑P P 18 40 26.9 +0.8
MVCO Mesa Verde 74.10 53 eP P 18 40 26.6 +0.3
PVCC Panska Ves 74.10 329⇑iP P 18 40 26.4 0.0
VYHS Vyhne 74.20 326 iP P 18 40 27.5 +0.6
VYHS pmax pmax
comp=Z,80nm,1.1s,mb5.4
VYHS Vyhne 74.20 326 iP P 18 40 27.5 +0.6
comp=Z,80nm,1.1s,mb5.4
MTUR Matau 74.22 320 P P 18 40 28.1 +1.1
PSZ Piszkesteto 74.25 325⇑eP P 18 40 27.9 +0.7
PSZ Piszkesteto 74.25 325 P P 18 40 28.0 +0.8
PSZ Piszkesteto 74.25 325⇑iP P 18 40 27.7 +0.4
comp=Z,143nm,0.9s,mb5.7
ESY Stoneypath 74.26 341⇑iP P 18 40 26.5 -0.8

ESY AMb AMB 18 40 28.7
comp=Z,164nm,1.7s,mb5.5
BR131 Keskin Array S 74.28 312⇑iP P 18 40 28.0 +0.6
comp=Z,37nm,0.8s,mb5.2
BRTR Keskin Array B 74.28 312 P P 18 40 28.2 +0.8
comp=Z,42nm,0.8s,mb5.2,baz=73,slow=3.9,SNR=200
BRTR PP PP 18 43 21.3 +2.1
comp=Z,10nm,1.1s,baz=54,slow=6.3,SNR=7.0
KOLL Kolacno 74.30 326 iP P 18 40 28.1 +0.6
Z14A Wintersburg 74.34 58 ⇑P P 18 40 27.9 +0.2
baz=74
AVNT Avonos 74.35 310 iP P 18 40 29.7 +2.0
EAB Aberfoyle 74.38 343⇑iP P 18 40 27.3 -0.6
EAB AMb AMB 18 40 29.6
comp=Z,260nm,1.5s,mb5.8
EDI Edinburgh 74.38 342⇑iP P 18 40 27.1 -0.9
EDI ⇑iP 18 40 27.1
VRAC Vranov 74.39 328⇑iP P 18 40 28.4 +0.4
VRAC Vranov 74.39 328 P P 18 40 28.5 +0.5
CLZ Clausthal 74.40 332 eP P 18 40 28.1 0.0
comp=Z,259nm,1.3s,mb5.8
CLZ Clausthal 74.40 332 eP P 18 40 28.1 0.0
CLZ pmax pmax
comp=Z,259nm,1.3s,mb5.8
SGKT Sivrigoynuk 74.46 313 iP P 18 40 29.8 +1.4
BUC1 Bucharest 74.47 319 P P 18 40 29.0 +0.5
EAU Auchinoon 74.51 342⇑iP P 18 40 28.1 -0.6
EAU AMb AMB 18 40 29.8
comp=Z,250nm,1.3s,mb5.8
KAMT Kaman 74.51 311 eP P 18 40 29.2 +0.5
PCOU Corrie 74.52 342⇑eP P 18 40 28.3 -0.5
PRA Prague 74.53 329 ⇑P P 18 40 29.0 +0.2
PRU Pruhonice 74.56 329⇑iP P 18 40 29.0 0.0
ANTO Ankara 74.61 312 eP P 18 40 29.9 +0.7
ANTO Ankara 74.61 312 eP P 18 40 30.3 +1.0
ANTO pmax pmax
comp=Z,142nm,0.8s,mb5.8
ANTO Ankara 74.61 312 eP P 18 40 30.3 +1.0
comp=Z,142nm,0.8s,mb5.8
LOD Lodumlu 74.61 312 eP P 18 40 29.9 +0.6
KRUC Moravsky 74.66 328 P P 18 40 29.8 +0.2
WIT Witteveen 74.69 335⇑eP P 18 40 30.3 +0.6
comp=Z,713nm,1.4s,mb6.2
POB1 Observatory 74.72 342⇑eP P 18 40 29.5 -0.4
SMOL Smolenice 74.73 327 iP P 18 40 30.9 +1.0
PRD Provadia 74.73 318 iP P 18 40 30.4 +0.5
PGBU Glenifferbraes 74.76 342⇑iP P 18 40 29.7 -0.4
KOZT Kozan 74.78 309 eP P 18 40 31.1 +0.8
PMSU Muirshiel 74.78 343⇑iP P 18 40 29.5 -0.7
TREC Trest 74.80 328⇑iP P 18 40 30.6 +0.2
IBBN Ibbenburen 74.81 334 eP P 18 40 29.8 -0.6
comp=Z,188nm,1.3s,mb5.7
IBBN Ibbenburen 74.81 334 P P 18 40 29.3 -1.1
HENT Hendek 74.85 314 iP P 18 40 30.9 +0.2
TANN Tannenbergstha 74.93 331 eP P 18 40 30.9 -0.2
comp=Z,114nm,1.7s,mb5.3
ESK Eskdalemuir 74.95 342 P P 18 40 30.3 -0.9
comp=Z,655nm,0.7s,SNR=25
ESK Eskdalemuir 74.95 342⇑iP P 18 40 30.6 -0.6
ESK ⇑iP 18 40 30.6
ESK AMb AMB 18 40 32.0
comp=Z,192nm,1.7s,mb5.6
BUD Budapest 74.95 325⇑eP P 18 40 32.0 +0.8
SRO Srobarova 74.96 326 iP P 18 40 32.0 +0.8
SRO pmax pmax
comp=Z,311nm,1.1s,mb6.0
SRO Srobarova 74.96 326 iP P 18 40 32.0 +0.8
comp=Z,311nm,1.1s,mb6.0
SRO2 Moca 74.97 326 eP P 18 40 31.9 +0.6
SRO2 pmax pmax
comp=Z,155nm,1.1s,mb5.7
MOX Moxa 75.02 331 eP P 18 40 31.3 -0.3
comp=Z,119nm,1.2s,mb5.5
MOX Moxa 75.02 331 eP P 18 40 31.1 -0.5
comp=Z,133nm,1.4s,mb5.5
MOX Moxa 75.02 331 eP P 18 40 31.1 -0.5
MOX pmax pmax
comp=Z,133nm,1.4s,mb5.5
SRO1 Iza 75.03 326 eP P 18 40 32.5 +0.8
SRO1 pmax pmax
comp=Z,207nm,1.1s,mb5.8
ECK Cauldkaine Hil 75.06 341⇑iP P 18 40 31.1 -0.7
ECK AMb AMB 18 40 32.7
comp=Z,163nm,1.2s,mb5.7
ZST Bratislava 75.11 327 eP P 18 40 32.7 +0.6
ZST pmax pmax
comp=Z,90nm,1.1s,mb5.4
ZST Bratislava 75.11 327 eP P 18 40 32.7 +0.6
comp=Z,90nm,1.1s,mb5.4
ZST eS S 18 49 26.8 -12
BHH Howats Hill 75.16 341⇑iP P 18 40 31.8 -0.5
CEYT Ceyhan 75.17 308 eP P 18 40 31.8 -0.7
BWH Wardlaw 75.18 342⇑eP P 18 40 31.8 -0.7
115A Sonoran Desert 75.23 58 ⇑P P 18 40 33.5 +0.7
baz=75,SNR=13
COBT Iskenderun 75.25 308 iP P 18 40 34.4 +1.5
LWH Whinny Nab 75.27 340⇑eP P 18 40 32.6 -0.4
SZH Strazhica 75.36 318 iP P 18 40 33.8 +0.3
KARA Karaisali 75.36 309 eP P 18 40 32.5 -1.0
BDL Dobcross Hall 75.36 341⇑eP P 18 40 33.7 +0.2
WTSB Winterswijk 75.39 335⇑iP P 18 40 33.3 -0.4
comp=Z,158nm,1.2s,mb5.6
WTSB ePP PP 18 43 26.4 -2.1
BZS Buzias 75.40 322⇓iP P 18 40 33.8 +0.1
BZS Buzias 75.40 322 P P 18 40 34.0 +0.2
UBBA Unterbreizbach 75.40 332 eP P 18 40 33.1 -0.6
comp=Z,66nm,1.2s,mb5.2
MANZ Manzenberg 75.41 330 eP P 18 40 33.7 -0.1
comp=Z,66nm,1.2s,mb5.2
GMK Mull of Kintyr 75.42 343⇑eP P 18 40 33.1 -0.8
KLYT Kilyos 75.44 315 eP P 18 40 33.9 -0.1
BBO1 Bothel 75.49 341⇑iP P 18 40 33.9 -0.3
GCD Castle Douglas 75.53 342⇑eP P 18 40 33.6 -0.9
ROTZ Rotzenmuhle 75.56 330 eP P 18 40 34.9 +0.2
comp=Z,96nm,1.2s,mb5.4
CKE Keswick 75.60 341⇑iP P 18 40 34.5 -0.4
SCHQ Schefferville 75.62 18 P P 18 40 33.8 -1.2
comp=Z,49nm,0.6s,mb5.4,baz=349,slow=4.9,SNR=52
SCHQ Schefferville 75.62 18 eP P 18 40 33.5 -1.4
comp=Z,151nm,1.0s,mb5.7
KHC Kasperske Hory 75.63 329⇑iP P 18 40 35.2 +0.2
116A Eloy 75.64 58 ⇓P P 18 40 35.5 +0.4
baz=75
JMB Yambol 75.68 318 iP P 18 40 35.8 +0.5
JMB Yambol 75.68 318 eP P 18 40 35.8 +0.5
GAL1 Galloway 75.69 342⇑iP P 18 40 34.8 -0.6
KRTS Karatas 75.69 308 eP P 18 40 36.1 +0.8
BUG Bochum--Univer 75.71 334 eP P 18 40 34.9 -0.6
comp=Z,233nm,1.3s,mb5.8
ADVT Abdulvahap 75.73 314 eP P 18 40 35.7 +0.1
SOP Sopron 75.74 327⇑eP P 18 40 36.7 +1.1
SOP Sopron 75.74 327 P P 18 40 36.9 +1.3
XDE Dent Fell 75.76 341⇑eP P 18 40 35.2 -0.6
XDE AMb AMB 18 40 36.8
comp=Z,208nm,1.4s,mb5.7
GCL Cushendall 75.79 343⇑iP P 18 40 35.4 -0.5
CONA Conrad Observa 75.80 327 iP P 18 40 36.8 +0.9
comp=Z,290nm,1.4s,mb5.8,SNR=91
YLV Yalova 75.80 315 eP P 18 40 34.8 -1.2
CTT Catalca 75.82 316 eP P 18 40 36.5 +0.4
ELBA Catalca 75.82 316 iP P 18 40 36.6 +0.5
KIZT Kizilcal 75.82 312 eP P 18 40 36.5 +0.4
GEC2 GERESS Array S 75.82 329 eP P 18 40 35.9 -0.2
comp=Z,68nm,1.1s,mb5.3
GEC2 GERESS Array S 75.82 329 eP P 18 40 35.9 -0.2
GEC2 pmax pmax
comp=Z,68nm,1.1s,mb5.3
GERES GERESS Array B 75.82 329 P P 18 40 36.1 0.0
comp=Z,30nm,0.7s,mb5.1,baz=35,slow=4.9,SNR=272
CDU1 Dunnerdale 75.85 341⇑iP P 18 40 35.4 -0.9
WET Wettzell 75.86 330 eP P 18 40 36.6 +0.3
comp=Z,184nm,1.1s,mb5.7
WET Wettzell 75.86 330 eP P 18 40 36.6 +0.3
WET pmax pmax
comp=Z,184nm,1.1s,mb5.7
ESKT Eskisehir 75.86 313 iP P 18 40 36.6 +0.3
MERS Mersin 75.94 309 eP P 18 40 36.1 -0.7
GRA1 Grafenberg Arr 75.96 331 eP P 18 40 37.1 +0.2
comp=Z,245nm,1.0s,mb5.9
GRA1 ePP PP 18 43 32.6 -0.7
GRF Grafenberg Arr 75.96 331 eP P 18 40 37.1 +0.2
comp=Z,245nm,1.0s,mb5.9
GRF ePP PP 18 43 32.6 -0.7
GRF Grafenberg Arr 75.96 331 eP P 18 40 37.1 +0.2

GRF *e* 18 43 32.6
GRF pmax pmax
comp=Z,245nm,1.0s,mb5.9
GRF Grafenberg Arr 75.96 331 *eP* **P 18 40 37.1 +0.2**
GRF *e* 18 43 32.6
GRF pmax pmax
comp=Z,245nm,1.0s,mb5.9
KDHN Kadinhani 75.97 312 *iP* **P 18 40 37.4 +0.4**
EDRB Edirne 76.08 317 *eP* **P 18 40 37.7 +0.1**
ABA1 Baconsthorpe 76.14 338⇑ *eP* **P 18 40 37.5 -0.4**
PKSM Moragy 76.14 325⇑ *iP* **P 18 40 37.5 -0.4**
PKSM Moragy 76.14 325 P P 18 40 37.7 -0.1
GIM North Isle of 76.17 342⇑ *iP* **P 18 40 37.5 -0.6**
KONT Konya--Tatoy 76.28 311 *eP* **P 18 40 38.8 +0.2**
LHO Holmfirth 76.28 340⇑ *iP* **P 18 40 38.1 -0.5**
MEST Erdemli 76.35 309 *iP* **P 18 40 39.5 +0.5**
WIM Isle of Man 76.35 342⇑ *iP* **P 18 40 38.5 -0.5**
WIM AMb AMB 18 40 40.0
comp=Z,255nm,1.2s,mb5.8
AEU East Anglia Un 76.36 338 *eP* **P 18 40 38.9 -0.2**
TUC Tucson 76.36 57⇑ *eP* **P 18 40 39.2 +0.1**
TUC *e**PP pP 18 42 02.3 -0.9
TUC pmax pmax
comp=Z,200nm,1.1s,mb5.8
TUC Tucson 76.36 57⇑ *eP* **P 18 40 39.2 +0.1**
comp=Z,20nm,1.1s,mb4.8
TUC *ep*P pP 18 42 02.3 -0.9
TNS Taunus Mts 76.41 333 *eP* **P 18 40 39.1 -0.3**
comp=Z,137nm,1.1s,mb5.6
TNS Taunus Mts 76.41 333 *eP* **P 18 40 39.1 -0.3**
TNS pmax pmax
comp=Z,137nm,1.1s,mb5.6
MOA Molln 76.46 328⇑ *iP* **P 18 40 39.8 +0.2**
comp=Z,275nm,2.4s,mb5.6,SNR=55
KBI1 Birley Grange 76.47 340⇑ *iP* **P 18 40 39.2 -0.5**
ARSA Arzberg 76.49 327⇓ *iP* **P 18 40 40.4 +0.5**
comp=Z,234nm,1.8s,mb5.6,SNR=43
BEO Belgrade 76.53 323⇓ *iP* **P 18 40 39.9 -0.1**
BEO Belgrade 76.53 323 P P 18 40 39.8 -0.2
GMM Mts of Mourne 76.53 343⇑ *iP* **P 18 40 39.3 -0.8**
APAE Packway 76.58 338⇑ *eP* **P 18 40 40.6 +0.2**
SVIS Svilajnac 76.62 322⇑ *iP* **P 18 40 40.3 -0.3**
SVIS Svilajnac 76.62 322 P P 18 40 40.7 +0.1
MRMT Marmara Adasi 76.64 316 *eP* **P 18 40 40.7 0.0**
MFT Murefte 76.65 316 *eP* **P 18 40 40.5 -0.2**
BNT Bandirma 76.67 315 *eP* **P 18 40 41.1 +0.3**
HGN Heimansgroeve 76.71 334⇑ *iP* **P 18 40 40.5 -0.6**
comp=Z,150nm,1.2s,mb5.6
PGB Panagyurishte 76.72 319 *iP* **P 18 40 42.2 +1.1**
BEBN Eben Emael 76.76 335 P P 18 40 40.9 -0.4
comp=Z,55nm,0.9s,mb5.3
KWE Weaver Farm 76.76 340⇑ *iP* **P 18 40 41.0 -0.3**
RKY Sarkoy-Tekirda 76.78 316 *eP* **P 18 40 41.8 +0.4**
SIND Sindeldorf 76.80 332 P P 18 40 41.6 +0.1
MEM Membach 76.83 334 P P 18 40 41.2 -0.5
comp=Z,77nm,1.0s,mb5.4
PLD Plovdiv 76.83 318 *iP* **P 18 40 41.7 0.0**
TOD Tromm 76.83 332⇑ *eP* **P 18 40 41.6 -0.1**
ARMA Armidale 76.84 174 *eP* **P 18 40 43.8 +2.0**
FKH Fakeheh 76.85 306 *eP* **P 18 40 43.0 +1.1**
IKL Isikli 76.86 309 *eP* **P 18 40 41.7 -0.1**
KDZ Kurdzhali 76.86 318 *iP* **P 18 40 43.1 +1.2**
ANMO Albuquerque 76.88 53⇑ *iP* **P 18 40 42.5 +0.5**
ANMO *e**PP pP 18 42 09.0 +2.8
GDZ Gediz 76.88 314 *iP* **P 18 40 42.5 +0.6**
LAZ Ladron 76.91 54 *eP* **P 18 40 43.1 +1.0**
LAZ *ep*P pP 18 42 09.5 +3.2
ERMK Ermenek 76.97 310 *iP* **P 18 40 37.0 -5.4**
WME Myndd Eilian 76.97 341⇑ *eP* **P 18 40 41.8 -0.7**
ABH Alteburg 76.99 333⇑ *eP* **P 18 40 42.6 0.0**
WPM1 Penmaenmawr 77.01 341⇑ *eP* **P 18 40 42.1 -0.6**
WCB1 Church Bay 77.04 342⇑ *iP* **P 18 40 41.9 -0.9**
WCB1 AMb AMB 18 40 43.5
comp=Z,196nm,1.6s,mb5.6
DMUB Kingscourt 77.05 343⇑ *iP* **P 18 40 42.6 -0.3**
BTOK Tokmak 77.08 315 *iP* **P 18 40 43.6 +0.5**
WLF1 Llynfaes 77.09 341⇑ *iP* **P 18 40 42.1 -1.1**
WLF1 AMb AMB 18 40 45.6
comp=Z,160nm,1.6s,mb5.5
VTS Vitosha 77.12 320 *iP* **P 18 40 44.0 +0.7**
VTS Vitosha 77.12 320 *eP* **P 18 40 44.1 +0.8**
VTS Vitosha 77.12 320⇑ *iP* **P 18 40 44.2 +0.9**
UCC Uccle 77.14 335 ⇑P P 18 40 42.7 -0.7
ALN Alexandroupoli 77.15 317 *eP* **P 18 40 44.1 +0.6**
RZN Rozhen 77.15 318 *iP* **P 18 40 44.1 +0.6**
TCR Colchester 77.16 338⇑ *eP* **P 18 40 43.1 -0.4**
GROS Grobnik 77.16 327 *eP* **P 18 40 43.6 +0.1**
PERS Pernice 77.16 327 *iP* **P 18 40 43.7 +0.2**
YRC Rhoscolyn 77.17 342⇑ *eP* **P 18 40 42.6 -0.9**
GRUS Gruza 77.17 322 *iP* **P 18 40 43.3 -0.3**
LENM Lemitar 77.17 54 *eP* **P 18 40 45.5 +1.9**
YLL Llanberis 77.18 341⇑ *eP* **P 18 40 43.2 -0.5**
SBD1 Bryn Du 77.19 341⇑ *iP* **P 18 40 43.7 0.0**
SBD1 AMb AMB 18 40 45.7
comp=Z,442nm,1.6s,mb5.9
RDO Rodhopi 77.20 317 *eP* **P 18 40 44.5 +0.8**
FUR Furstenfeldbru 77.25 330 *eP* **P 18 40 44.1 +0.1**
comp=Z,288nm,1.1s,mb5.9
FUR Furstenfeldbru 77.25 330 *eP* **P 18 40 44.1 +0.1**
FUR pmax pmax
comp=Z,288nm,1.1s,mb5.9
LPM Los Pinos Moun 77.25 53 *eP* **P 18 40 44.8 +0.8**
TKTP Tekketepe 77.26 312 *iP* **P 18 40 44.5 +0.4**
HDH Heidenheim-Cha 77.26 331 P P 18 40 43.9 -0.2
RUP Ruppelstein 77.30 333⇑ *eP* **P 18 40 44.1 -0.2**
DIVS Divcibare 77.31 322⇓ *iP* **P 18 40 44.5 +0.2**
DIVS Divcibare 77.31 322 *eP* **P 18 40 44.3 0.0**
KTD Kalmit 77.31 332 P P 18 40 45.2 +0.8
CANB Canakkale 77.35 316 *eP* **P 18 40 45.1 +0.5**
BNM Barren Site 77.38 54 *eP* **P 18 40 45.3 +0.6**
YRE Yr Eifl 77.39 341⇑ *iP* **P 18 40 44.4 -0.4**
YRE AMb AMB 18 40 46.7
comp=Z,230nm,1.5s,mb5.7
SNF Seneffe 77.42 335 P P 18 40 44.5 -0.5
comp=Z,64nm,1.2s,mb5.2
STU Stuttgart 77.43 332 *eP* **P 18 40 44.7 -0.3**
comp=Z,200nm,1.0s,mb5.8
STU Stuttgart 77.43 332⇑ *iP* **P 18 40 44.7 -0.3**
comp=Z,167nm,0.9s,mb5.8
DOBS Dobrina 77.43 326 *iP* **P 18 40 44.8 -0.2**
KBA Koelnbreinsper 77.44 328 *iP* **P 18 40 45.7 +0.6**
comp=Z,331nm,1.2s,mb5.9,SNR=131
KBA Koelnbreinsper 77.44 328 *iP* **P 18 40 45.7 +0.6**
KBA pmax pmax
comp=Z,331nm,1.3s,mb5.9
HLM1 Long Mynd 77.47 340⇑ *iP* **P 18 40 44.9 -0.3**
HLM1 AMb AMB 18 40 46.5
comp=Z,218nm,1.2s,mb5.8
OBKA Obir 77.48 327 *iP* **P 18 40 45.4 +0.1**
comp=Z,282nm,2.2s,mb5.6,SNR=33
BHL Bhannes 77.52 306 *eP* **P 18 40 45.5 +0.1**
DLF Lyons Farm 77.54 343⇑ *iP* **P 18 40 45.2 -0.4**
DSB Dublin 77.56 343 *eP* **P 18 40 45.2 -0.5**
comp=Z,73nm,1.0s,mb5.4
GCIS Gornji Cirnik 77.61 326 *iP* **P 18 40 46.0 0.0**
SSP1 Stoney Pound 77.61 340⇑ *iP* **P 18 40 45.8 -0.2**
SSP1 AMb AMB 18 40 47.3
comp=Z,238nm,1.2s,mb5.8
WLF Walferdange 77.62 334 P P 18 40 45.9 -0.2
comp=Z,31nm,1.1s,mb5.3
GIVF Givet 77.63 335⇑ *iP* **P 18 40 45.3 -0.8**
comp=Z,199nm,1.0s,mb5.5
GIVF Givet 77.63 335⇑ *iP* **P 18 40 45.3 -0.8**
GIVF pmax pmax
comp=Z,99nm,1.0s,mb5.5
GIVF Givet 77.63 335⇑ *iP* **P 18 40 45.3 -0.8**
comp=Z,99nm,1.0s,mb5.5
DCN Croghan 77.65 343⇑ *iP* **P 18 40 45.8 -0.4**
SISC Sisak 77.65 325 iP 18 40 46.6
LEGS Legarje 77.66 326 *iP* **P 18 40 46.1 -0.1**
MMB Musomiste 77.68 319 *iP* **P 18 40 47.5 +1.1**
DOU Dourbes 77.70 335 P P 18 40 45.5 -1.0
comp=Z,37nm,1.1s,mb5.0
SKP1 Kophill 77.70 339⇑ *eP* **P 18 40 45.8 -0.7**
SKP1 ⇑*eP* 18 40 45.8
SKP1 Kophill 77.70 339 P P 18 40 45.8 -0.6
LANF Langenberg 77.70 332⇑ *eP* **P 18 40 46.3 -0.2**
SSW Stow on the Wo 77.73 339⇑ *eP* **P 18 40 46.9 +0.2**
SSW ⇑*eP* 18 40 46.9
SSW Stow on the Wo 77.73 339 P P 18 40 46.9 +0.3
BBLS Bajina Basta - 77.74 323 *iP* **P 18 40 47.8 +1.1**
TFO1 Folkestone 77.75 337⇑ *eP* **P 18 40 46.6 -0.2**
KKB Krupnik 77.75 319 *iP* **P 18 40 47.0 +0.2**

MANT Manisa 77.80 314 *iP* **P 18 40 47.5 +0.5**
NVR Nevrokopi 77.81 318 *eP* **P 18 40 47.8 +0.7**
HAE Alders End 77.83 340⇑ *iP* **P 18 40 46.9 -0.3**
HAE AMb AMB 18 40 48.5
comp=Z,307nm,1.2s,mb5.9
BAIF Baives 77.84 335⇑ *iP* **P 18 40 46.6 -0.7**
comp=Z,201nm,1.2s,mb5.4
BAIF Baives 77.84 335⇑ *iP* **P 18 40 46.6 -0.7**
BAIF pmax pmax
comp=Z,101nm,1.2s,mb5.4
BAIF Baives 77.84 335⇑ *iP* **P 18 40 46.6 -0.7**
comp=Z,101nm,1.2s,mb5.4
WATA Walderalm 77.86 329⇑ *iP* **P 18 40 47.9 +0.5**
comp=Z,170nm,1.1s,mb5.7,SNR=37
WATA Walderalm 77.86 329⇑ *iP* **P 18 40 47.9 +0.6**
WATA pmax pmax
comp=Z,170nm,1.1s,mb5.7
AKS Akhisar 77.87 314 *eP* **P 18 40 47.5 +0.1**
TSA1 Sevenoaks 77.89 338⇑ *eP* **P 18 40 47.9 +0.4**
WTTA Wattenberg 77.90 329⇑ *iP* **P 18 40 48.2 +0.6**
comp=Z,394nm,1.3s,mb6.0,SNR=67
WTTA Wattenberg 77.90 329⇑ *iP* **P 18 40 48.2 +0.6**
WTTA pmax pmax
comp=Z,394nm,1.3s,mb6.0
HTR Trewern Hill 77.96 340⇑ *iP* **P 18 40 47.8 -0.1**
HTR AMb AMB 18 40 49.2
comp=Z,329nm,1.3s,mb5.9
MCH1 Michaelchurch 77.98 340⇑ *iP* **P 18 40 47.8 -0.2**
MCH1 AMb AMB 18 40 49.2
comp=Z,303nm,1.0s,mb6.0
MENF Mencas 77.98 337⇑ *eP* **P 18 40 47.6 -0.4**
CSS Prodhromos 78.00 308 *eP* **P 18 40 46.4 -1.8**
CSS Prodhromos 78.00 308 *eP* **P 18 40 47.9 -0.2**
comp=Z,54nm,0.8s,mb5.3
PTCC Patocco-Chiusa 78.01 328 P P 18 40 47.4 -0.8
MOTA Moosalm 78.02 330 *iP* **P 18 40 48.6 +0.3**
comp=Z,222nm,1.1s,mb5.8,SNR=89
MOTA Moosalm 78.02 330 *iP* **P 18 40 48.6 +0.4**
MOTA pmax pmax
comp=Z,222nm,1.1s,mb5.8
BOJS Bojanci 78.06 326 *iP* **P 18 40 48.3 -0.2**
FVI Forni Avoltri 78.06 328 P P 18 40 47.7 -0.7
STKA Stephens Creek 78.06 183 *eP* **P 18 40 47.3 -1.2**
comp=Z,6.9nm,0.9s,mb4.4
STKA Stephens Creek 78.06 183 P P 18 40 47.5 -1.0
comp=Z,7.4nm,0.7s,mb4.5,baz=323,slow=7.5,SNR=14
STKA pP pP 18 42 09.9 -3.1
comp=Z,6.8nm,1.0s,baz=334,slow=6.8,SNR=4.9
GUT Gutenstein 78.07 331 P P 18 40 48.6 +0.1
UBR Ueberruh 78.07 330 P P 18 40 48.8 +0.3
SQTA Sankt Quirin 78.09 330⇑ *iP* **P 18 40 49.0 +0.4**
comp=Z,158nm,1.1s,mb5.7,SNR=54
SQTA Sankt Quirin 78.09 330⇑ *iP* **P 18 40 49.0 +0.4**
SQTA pmax pmax
comp=Z,158nm,1.1s,mb5.7
ROBS Robic 78.09 328 *eP* **P 18 40 47.3 -1.3**
BFO Black Forest 78.10 332 P P 18 40 48.7 0.0
comp=Z,612nm,0.9s,mb6.3,SNR=53
BFO Black Forest 78.10 332 *eP* **P 18 40 48.3 -0.4**
comp=Z,150nm,1.1s,mb5.6
BFO Black Forest 78.10 332 *eP* **P 18 40 48.3 -0.4**
BFO pmax pmax
comp=Z,150nm,1.1s,mb5.6
SRS Serrai 78.12 318 *eP* **P 18 40 48.8 +0.1**
VOY Vojsko 78.13 327 *eP* **P 18 40 47.7 -1.1**
VOY *e* 18 40 56.7
SEST Monte Rota 78.13 329 P P 18 40 48.4 -0.4
SCIA State Center 78.13 40 *eP* **P 18 40 48.0 -0.8**
SWN1 Swindon 78.14 339⇑ *iP* **P 18 40 48.8 -0.1**
SWN1 ⇑*eP* 18 40 48.9
SWN1 Swindon 78.14 339 P P 18 40 48.9 0.0
SPAK Spaichingen-Ko 78.15 331⇑ *eP* **P 18 40 49.0 +0.1**
GMNA Gemona 78.16 328 P P 18 40 48.3 -0.7
HGH Gray Hill 78.26 340⇑ *iP* **P 18 40 49.2 -0.4**
HGH AMb AMB 18 40 51.4
comp=Z,307nm,1.3s,mb5.9
TEB Eastbourne 78.28 338⇑ *eP* **P 18 40 50.1 +0.4**
STIP Stip 78.29 320 *eP* **P 18 40 49.6 -0.1**
PRK Paraskevi 78.33 316 *eP* **P 18 40 50.8 +0.9**
WLS Welschbruch 78.34 332⇑ *eP* **P 18 40 50.0 0.0**
LIA Limnos Island 78.34 317 *eP* **P 18 40 50.2 +0.2**
FORT Forrest 78.35 194 *eP* **P 18 40 50.8 +0.8**
comp=Z,26nm,0.6s,mb5.1
BRES Bressanone 78.35 329 P P 18 40 49.9 -0.1
LOS Limnos 78.36 317 *eP* **P 18 40 50.5 +0.4**
CDF Champ du Feu 78.37 332⇑ *iP* **P 18 40 49.8 -0.3**
comp=Z,396nm,1.0s,mb5.8
CDF Champ du Feu 78.37 332⇑ *iP* **P 18 40 49.8 -0.3**
comp=Z,198nm,1.0s,mb5.8
KNT Kendrikon 78.40 319 *eP* **P 18 40 50.7 +0.4**
SKO Skopje 78.40 320 *eP* **P 18 40 51.6 +1.3**
SKO Skopje 78.40 320⇑ *iP* **P 18 40 51.6 +1.3**
VAY Valandovo 78.42 319 *eP* **P 18 40 50.6 +0.2**
VAY Valandovo 78.42 319⇑ *iP* **P 18 40 50.5 +0.1**
SISB Singen-Schiene 78.45 331 P P 18 40 51.0 +0.4
ELL Elmali 78.45 312 *eP* **P 18 40 50.7 +0.1**
SOH Sokhos 78.46 318 *eP* **P 18 40 51.0 +0.4**
DAVA Damuels 78.49 330 *iP* **P 18 40 50.9 +0.1**
comp=Z,224nm,1.2s,mb5.8,SNR=55
LIBD Limburg 78.49 332 P P 18 40 51.5 +0.7
STEIN Stein am Rhein 78.50 331⇑ *iP* **P 18 40 48.2 -2.6**
comp=Z,598nm,1.4s,mb6.1
STEIN Stein am Rhein 78.50 331⇑ *iP* **P 18 40 50.7 -0.1**
KDAG Bornova 78.51 315 *iP* **P 18 40 51.1 +0.2**
IZM Izmir 78.51 315 *eP* **P 18 40 50.7 -0.2**
SLE Schleitheim 78.54 331⇑ *iP* **P 18 40 50.5 -0.5**
comp=Z,211nm,1.7s,mb5.6
KIZ Kirchzarten 78.56 332 P P 18 40 51.1 -0.1
OUR Ouranopolis 78.56 318 *eP* **P 18 40 51.3 +0.1**
ECH Echery 78.58 332⇑ *eP* **P 18 40 51.1 -0.2**
TRULL Truellikon 78.58 331⇑ *iP* **P 18 40 50.7 -0.6**
comp=Z,532nm,1.2s,mb6.1
TRULL Truellikon 78.58 331⇑ *iP* **P 18 40 51.0 -0.3**
SWK Warminster 78.58 339⇑ *iP* **P 18 40 51.2 -0.1**
SWK ⇑*iP* 18 40 51.3
SWK Warminster 78.58 339 P P 18 40 51.3 0.0
WEIN Weingarten 78.58 331⇑ *iP* **P 18 40 50.9 -0.4**
comp=Z,282nm,1.3s,mb5.8
WEIN Weingarten 78.58 331⇑ *iP* **P 18 40 51.0 -0.3**
FELD Feldberg im Sc 78.60 332⇑ *eP* **P 18 40 51.2 -0.2**
LIENZ Alp Oberkamor 78.61 331⇑ *iP* **P 18 40 51.0 -0.4**
comp=Z,293nm,1.6s,mb5.8
LIENZ Alp Oberkamor 78.61 331⇑ *iP* **P 18 40 51.4 0.0**
FLACH Flaach 78.68 331⇑ *iP* **P 18 40 51.6 -0.2**
WILA Wila 78.71 331⇑ *iP* **P 18 40 51.4 -0.5**
comp=Z,267nm,1.7s,mb5.7
WILA Wila 78.71 331⇑ *iP* **P 18 40 51.7 -0.2**
APPI Appiano 78.72 329 P P 18 40 51.0 -1.0
PLG Polygyros 78.78 318 *eP* **P 18 40 52.4 +0.1**
AYDN Tasoluk 78.78 314 *iP* **P 18 40 53.7 +1.4**
GRG Griva 78.79 319 *eP* **P 18 40 52.6 +0.2**
ZUR Zurich 78.86 331⇑ *iP* **P 18 40 51.7 -1.1**
comp=Z,452nm,1.8s,mb5.9
ZUR Zurich 78.86 331⇑ *iP* **P 18 40 52.5 -0.3**
PLONS Plons 78.86 331⇑ *iP* **P 18 40 51.9 -0.9**
comp=Z,403nm,1.4s,mb6.0
PLONS Plons 78.86 331⇑ *iP* **P 18 40 52.8 0.0**
SULZ Sulz-Cheisache 78.87 332⇑ *iP* **P 18 40 52.5 -0.3**
comp=Z,575nm,1.1s,mb6.2
SULZ Sulz-Cheisache 78.87 332⇑ *iP* **P 18 40 52.6 -0.2**
URLA Izmir 78.87 315 *iP* **P 18 40 53.1 +0.3**
MOF Molkenrain 78.91 332⇑ *eP* **P 18 40 52.7 -0.3**
DAVOX Davos 78.93 330⇑ *iP* **P 18 40 52.6 -0.5**
comp=Z,458nm,2.8s,mb5.7
DAVOX Davos 78.93 330⇑ *iP* **P 18 40 53.5 +0.4**
CTI Castel Tesino 78.94 329 P P 18 40 52.3 -0.9
THEF They Montfort 78.94 333⇑ *eP* **P 18 40 52.9 -0.3**
MEZF Maizieres J'vi 78.98 334⇑ *iP* **P 18 40 53.2 -0.2**
comp=Z,373nm,1.1s,mb5.8
MEZF Maizieres J'vi 78.98 334⇑ *iP* **P 18 40 53.2 -0.2**
comp=Z,373nm,1.0s,mb6.1
YER Yerkesik 78.98 313 *eP* **P 18 40 54.3 +0.8**
BRMO Bormio 79.02 330 P P 18 40 54.0 +0.4
HAU Haudompre 79.02 333⇑ *iP* **P 18 40 54.0 +0.4**
comp=Z,203nm,1.0s,mb5.5
HAU Haudompre 79.02 333⇑ *iP* **P 18 40 54.0 +0.4**
comp=Z,101nm,1.0s,mb5.5
PAIG Paliouri 79.03 318 *eP* **P 18 40 53.6 -0.1**
HINF Hinteralfeld 79.03 332⇑ *iP* **P 18 40 52.8 -0.9**
comp=Z,80nm,0.8s,mb5.2
HINF Hinteralfeld 79.03 332⇑ *iP* **P 18 40 52.8 -0.9**
HINF pmax pmax
comp=Z,40nm,0.8s,mb5.2
HINF Hinteralfeld 79.03 332⇑ *iP* **P 18 40 52.8 -0.9**
comp=Z,40nm,0.8s,mb5.2
HEX Exmoor 79.03 340⇑ *iP* **P 18 40 53.5 -0.1**
CHOS Chios island 79.11 315 *eP* **P 18 40 54.6 +0.4**
MLSB Milas 79.12 313 *eP* **P 18 40 53.2 -0.9**
BBS Basel-Blauen 79.12 332⇑ *eP* **P 18 40 54.1 -0.1**
LLS Linth-Limmern 79.17 331⇑ *iP* **P 18 40 52.8 -1.6**
comp=Z,295nm,2.0s,mb5.7
LLS Linth-Limmern 79.17 331⇑ *iP* **P 18 40 54.4 0.0**
BALST Balsthal 79.18 332⇑ *iP* **P 18 40 53.5 -1.0**
comp=Z,809nm,1.4s,mb6.3
BALST Balsthal 79.18 332⇑ *iP* **P 18 40 54.4 -0.1**
MUO Muotathal 79.19 331⇑ *iP* **P 18 40 54.4 -0.1**
comp=Z,401nm,1.6s,mb5.9
MUO Muotathal 79.19 331⇑ *iP* **P 18 40 54.5 0.0**
BERNI Berninapass 79.19 330⇑ *iP* **P 18 40 54.4 -0.2**
comp=Z,235nm,1.5s,mb5.7
BERNI Berninapass 79.19 330⇑ *iP* **P 18 40 55.0 +0.4**
BIA Bitola 79.22 320 *eP* **P 18 40 54.9 +0.2**
BIA Bitola 79.22 320 *eP* **P 18 40 54.6 -0.1**
HTL Hartland 79.25 341⇑ *iP* **P 18 40 54.7 -0.1**
SMG Samos 79.26 314 *eP* **P 18 40 55.0 +0.1**
STON Ston 79.27 323 P P 18 40 54.0 -1.0
BOURR Bourrignon 79.28 332⇑ *iP* **P 18 40 54.5 -0.5**
comp=Z,476nm,1.9s,mb5.9
BOURR Bourrignon 79.28 332⇑ *iP* **P 18 40 54.9 -0.1**
VDL Val di Lei 79.32 330⇑ *iP* **P 18 40 54.9 -0.4**
comp=Z,171nm,1.2s,mb5.6
VDL Val di Lei 79.32 330⇑ *iP* **P 18 40 55.6 +0.3**
BNALP Bannalp 79.34 331⇑ *iP* **P 18 40 55.3 -0.1**
comp=Z,273nm,1.5s,mb5.8
TUE Stuetta 79.38 330 P P 18 40 55.9 +0.4
OHR Ohrid 79.38 320 *eP* **P 18 40 55.2 -0.3**
OHR Ohrid 79.38 320⇑ *iP* **P 18 40 55.1 -0.4**
FNA Florina 79.39 320 *eP* **P 18 40 55.5 -0.2**
LIT Litokhoron 79.44 319 *eP* **P 18 40 55.5 -0.3**
LOMF Lomont 79.45 332⇑ *eP* **P 18 40 55.9 0.0**
BDRM Kayabasi 79.46 314 *iP* **P 18 40 56.7 +0.7**
AMTX Amarillo 79.50 50⇑ *iP* **P 18 40 56.0 -0.2**
comp=Z,65nm,0.8s,mb5.4
AOS Alonnisos 79.53 317 *eP* **P 18 40 56.6 +0.2**
HASLI Hasliberg 79.53 331⇑ *iP* **P 18 40 55.3 -1.1**
comp=Z,436nm,1.3s,mb6.0
HASLI Hasliberg 79.53 331⇑ *iP* **P 18 40 56.3 -0.1**
KZN Kozani 79.60 319 *eP* **P 18 40 56.4 -0.3**
TIR Tirane 79.60 321 *eP* **P 18 40 56.8 0.0**
FUSIO Fusio 79.62 331⇑ *iP* **P 18 40 55.6 -1.3**
comp=Z,321nm,1.4s,mb5.8
FUSIO Fusio 79.62 331⇑ *iP* **P 18 40 57.0 +0.1**
DYA Yadsworthy 79.65 340⇑ *iP* **P 18 40 56.5 -0.4**
XOR Xorichti 79.70 318 *eP* **P 18 40 57.0 -0.3**
SAL Salo 79.72 329 P P 18 40 57.0 -0.3
NEO Neokhori 79.73 318 *eP* **P 18 40 57.1 -0.3**
ARG Arkhangelos 79.78 313 *eP* **P 18 40 58.1 +0.4**
WIMIS Wimmis 79.79 331⇑ *iP* **P 18 40 56.3 -1.4**
comp=Z,179nm,1.7s,mb5.5
WIMIS Wimmis 79.79 331⇑ *iP* **P 18 40 57.4 -0.3**
MNTX Cornudas Mount 79.90 54 *eP* **P 18 40 58.1 -0.3**
comp=Z,37nm,1.0s,mb5.1
TORNY Torny 79.92 332⇑ *iP* **P 18 40 57.5 -0.9**
comp=Z,295nm,1.8s,mb5.7
TORNY Torny 79.92 332⇑ *iP* **P 18 40 58.2 -0.2**
BRANT Les Verrieres 79.92 332⇑ *iP* **P 18 40 57.4 -1.1**
comp=Z,236nm,1.7s,mb5.6
BRANT Les Verrieres 79.92 332⇑ *iP* **P 18 40 58.4 -0.1**
CSA1 St Austell 79.95 341⇑ *eP* **P 18 40 58.2 -0.4**
MUGIO Muggio 79.96 330⇑ *iP* **P 18 40 58.0 -0.7**
comp=Z,358nm,1.0s,mb6.1
LKBD Leukerbad 80.03 331⇑ *iP* **P 18 40 58.2 -0.8**
comp=Z,242nm,1.0s,mb5.9
LKBD Leukerbad 80.03 331⇑ *iP* **P 18 40 58.9 -0.1**
GDL2 Guadalupe Moun 80.09 53 *eP* **P 18 41 00.0 +0.7**
SENIN Lac Senin 80.16 331⇑ *iP* **P 18 40 58.4 -1.3**
comp=Z,255nm,1.6s,mb5.7
SENIN Lac Senin 80.16 331⇑ *iP* **P 18 40 59.7 0.0**
CCA1 Carnmenellis 80.18 341⇑ *iP* **P 18 40 59.5 -0.3**
CRQ2 Rosemanowes 2 80.18 341⇑ *iP* **P 18 40 59.5 -0.3**
MMK Mattmark 80.21 331⇑ *iP* **P 18 40 58.9 -1.1**
comp=Z,330nm,2.0s,mb5.7
MMK Mattmark 80.21 331⇑ *iP* **P 18 41 00.3 +0.3**
CMA1 Manaccan 80.25 341⇑ *eP* **P 18 40 59.9 -0.3**
CGW Gweek 80.26 341⇑ *iP* **P 18 40 59.9 -0.3**
MCGN Macugnaga 80.29 331 P P 18 41 00.7 +0.3
CGH1 Goonhilly 80.29 341⇑ *iP* **P 18 41 00.3 -0.1**
AIGLE Aigle 80.29 332⇑ *iP* **P 18 40 59.7 -0.7**
comp=Z,260nm,1.6s,mb5.7
AIGLE Aigle 80.29 332⇑ *iP* **P 18 41 00.1 -0.3**
PESA Pesaro 80.30 327 P P 18 41 00.8 +0.4
JLP Les Platons 80.31 339⇑ *eP* **P 18 41 00.7 +0.3**
GRYON Gryon 80.32 332⇑ *iP* **P 18 41 01.0 +0.4**
comp=Z,197nm,1.1s,mb5.8
GRYON Gryon 80.32 332⇑ *iP* **P 18 41 00.5 -0.1**
FLN La Foliniere 80.33 337⇑ *iP* **P 18 40 59.9 -0.7**
comp=Z,367nm,1.1s,mb5.7
FLN La Foliniere 80.33 337⇑ *iP* **P 18 40 59.9 -0.7**
FLN pmax pmax
comp=Z,183nm,1.1s,mb5.7
FLN La Foliniere 80.33 337⇑ *iP* **P 18 40 59.9 -0.7**
comp=Z,183nm,1.1s,mb5.7
AOI Ancona 80.34 326 P P 18 41 00.9 +0.3
CABF La Chapelle 80.34 332⇑ *iP* **P 18 41 00.3 -0.3**
comp=Z,136nm,1.2s,mb5.2
CABF La Chapelle 80.34 332⇑ *iP* **P 18 41 00.3 -0.3**
CABF pmax pmax
comp=Z,68nm,1.2s,mb5.2
CABF La Chapelle 80.34 332⇑ *iP* **P 18 41 00.3 -0.3**
comp=Z,68nm,1.2s,mb5.2
GIMEL Gimel 80.35 332⇑ *iP* **P 18 41 00.3 -0.4**
comp=Z,154nm,2.3s,mb5.3
GIMEL Gimel 80.35 332⇑ *iP* **P 18 41 00.5 -0.2**
JRS Jersey 80.35 338⇑ *iP* **P 18 41 00.5 -0.2**
JVM Valle D.L. Mar 80.36 339⇑ *iP* **P 18 41 00.4 -0.4**
LKR Lokris 80.36 317 *eP* **P 18 41 00.1 -0.7**
DIX Grande Dixence 80.37 331⇑ *iP* **P 18 41 00.5 -0.3**
comp=Z,213nm,1.1s,mb5.8
DIX Grande Dixence 80.37 331⇑ *iP* **P 18 41 01.2 +0.4**
JSA Saint Aubin 80.37 339⇑ *eP* **P 18 41 00.6 -0.2**
AGG Agios Georgios 80.38 318 *eP* **P 18 40 59.7 -1.1**
LDF La Druitiere 80.39 337⇑ *iP* **P 18 41 00.2 -0.7**
comp=Z,267nm,1.2s,mb5.5
LDF La Druitiere 80.39 337⇑ *iP* **P 18 41 00.2 -0.7**
LDF pmax pmax
comp=Z,134nm,1.2s,mb5.5
LDF La Druitiere 80.39 337⇑ *iP* **P 18 41 00.2 -0.7**
comp=Z,134nm,1.2s,mb5.5
OG01 Vacheresse 80.39 332 *eP* **P 18 41 01.0 +0.1**
APE Apeiranthos 80.41 315 *eP* **P 18 41 00.2 -0.8**
APE Apeiranthos 80.41 315 *eP* **P 18 41 00.1 -0.9**
APE Apeiranthos 80.41 315⇓ *iP* **P 18 41 00.4 -0.6**
LOR Lormes 80.45 334⇑ *iP* **P 18 41 00.6 -0.6**
comp=Z,334nm,1.1s,mb5.7
LOR Lormes 80.45 334⇑ *iP* **P 18 41 00.6 -0.6**
LOR pmax pmax
comp=Z,167nm,1.1s,mb5.7
LOR Lormes 80.45 334⇑ *iP* **P 18 41 00.6 -0.6**
comp=Z,167nm,1.1s,mb5.7
RSM Repubblica di 80.45 327 P P 18 41 02.0 +0.8
SALAN Lac Salanfe 80.46 332⇑ *iP* **P 18 41 00.5 -0.8**
comp=Z,277nm,1.8s,mb5.7
SALAN Lac Salanfe 80.46 332⇑ *iP* **P 18 41 01.2 -0.1**
JAN Janina 80.54 319 *eP* **P 18 41 02.2 +0.5**
EMV Vieux Emosson 80.56 332⇑ *iP* **P 18 41 01.2 -0.6**
comp=Z,168nm,0.9s,mb5.8
EMV Vieux Emosson 80.56 332⇑ *iP* **P 18 41 01.9 +0.1**
ORO Oropa 80.58 331 P P 18 41 01.5 -0.4
ARV Arcevia 80.64 326 P P 18 41 02.3 +0.1
CING Cingoli 80.64 326 P P 18 41 02.2 0.0
KVR Kavouri 80.66 316 *eP* **P 18 41 01.0 -1.3**
SFI Santa Sofia 80.70 327 P P 18 41 03.5 +1.0
EVR Evrytania 80.70 318 *eP* **P 18 41 02.0 -0.5**
SSF Saint Saulge 80.74 334⇑ *iP* **P 18 41 02.1 -0.6**
comp=Z,136nm,1.0s,mb5.3
SSF Saint Saulge 80.74 334⇑ *iP* **P 18 41 02.1 -0.6**
comp=Z,68nm,1.0s,mb5.3
FNVD Fontana Vidola 80.74 328 P P 18 41 03.9 +1.1
SEI Scarperia 80.75 328 P P 18 41 04.5 +1.7
comp=Z,629nm,0.8s,mb6.4
**VMG Vicchio

ERBM **Eremo** 80.78 329 P P 18 41 04.0 +1.0
HYF **Humbligny** 80.81 335 *e*P P 18 41 02.9 -0.2
BOB **Bobbio (Coli)** 80.82 329 P P 18 41 02.5 -0.7
SNTG **Esanatoglia** 80.84 326 P P 18 41 03.5 +0.2
NAIG **Nisos Aigina** 80.84 317 *e*P P 18 41 01.5 -1.8
IGT **Igoumenitsa** 80.87 320 *e*P P 18 41 03.2 -0.3
BADI **Badiali** 80.89 327 P P 18 41 04.2 +0.7
CRE **Caprese Michel** 80.91 327 P P 18 41 04.1 +0.5
FGMS **Monte Sant'Ang** 80.95 324 P P 18 41 03.6 -0.3
KEK **Kerkira** 80.96 320 *e*P P 18 41 03.7 -0.2
RSL **Roselend** 80.98 332⇑*e*P P 18 41 04.1 +0.1
SANT **Santorini** 80.99 314 *e*P P 18 41 02.4 -1.7
MURB **Monte Urbino** 80.99 327 P P 18 41 04.5 +0.4
SMF **Signal de Mont** 81.01 334⇑*i*P P 18 41 03.7 -0.5
comp=Z,527nm,1.1s,mb5.9
SMF **Signal de Mont** 81.01 334⇑*i*P P 18 41 03.7 -0.5
comp=Z,263nm,1.1s,mb5.9
VLC **Villacollemand** 81.02 328⇑*e*P P 18 41 03.8 -0.4
comp=Z,133nm,0.9s,mb5.7
BDI **Bagni Di Lucca** 81.02 328 P P 18 41 03.8 -0.4
AVF **Avril sur Loir** 81.03 334⇑*i*P P 18 41 03.9 -0.4
comp=Z,536nm,1.3s,mb5.8
AVF **Avril sur Loir** 81.03 334⇑*i*P P 18 41 03.9 -0.4
comp=Z,268nm,1.3s,mb5.8
OG05 **Jujurieux** 81.05 332 *e*P P 18 41 04.5 +0.2
EIL **Elat** 81.07 304⇑*i*P P 18 41 05.8 +1.3
comp=Z,3μm,1.3s
LPL **La Plagne** 81.09 331⇑*i*P P 18 41 04.9 +0.3
comp=Z,255nm,1.0s,mb5.6
LPL **La Plagne** 81.09 331⇑*i*P P 18 41 04.9 +0.3
comp=Z,127nm,1.0s,mb5.6
LPG **La Plagne** 81.11 331⇑*i*P P 18 41 05.1 +0.4
comp=Z,326nm,1.0s,mb5.7
LPG **La Plagne** 81.11 331⇑*i*P P 18 41 05.1 +0.4
comp=Z,163nm,1.0s,mb5.7
TERO **Teramo** 81.12 326 P P 18 41 04.9 +0.1
RGNG **Rignano Grg** 81.13 324 P P 18 41 04.5 -0.3
NRCA **Norcia** 81.13 326 P P 18 41 05.3 +0.5
LCI **Lecce** 81.19 321 P P 18 41 05.1 0.0
RSP **Reno Superiore** 81.24 331 P P 18 41 04.5 -0.9
CSNT **Castellina Chi** 81.28 328 P P 18 41 04.4 -1.2
SGMF **Saint Gilles** 81.33 338⇑*i*P P 18 41 05.7 -0.2
comp=Z,238nm,0.9s,mb5.6
SGMF **Saint Gilles** 81.33 338⇑*i*P P 18 41 05.7 -0.2
comp=Z,119nm,0.9s,mb5.6
PII **Pisa** 81.34 328 P P 18 41 04.8 -1.1
BGF **Bois d'Agland** 81.39 334⇑*i*P P 18 41 05.7 -0.4
comp=Z,137nm,1.1s,mb5.3
BGF **Bois d'Agland** 81.39 334⇑*i*P P 18 41 05.7 -0.4
comp=Z,69nm,1.1s,mb5.3
LKD **Levkas** 81.40 319 *e*P P 18 41 06.0 -0.1
KLBR **Kellerberrin** 81.40 203 *e*P pP 18 42 32.3 +0.8
comp=Z,18nm,0.8s
CIGN **Sant'Elia a Pi** 81.42 324 P P 18 41 06.7 +0.4
AQU **L'Aquila** 81.43 326⇓*i*P P 18 41 07.3 +0.9
AQU **L'Aquila** 81.43 326⇑*e*P P 18 41 06.4 0.0
comp=Z,146nm,1.0s,mb5.7
ROSF **Rostrenen** 81.44 339⇑*i*P P 18 41 06.4 0.0
comp=Z,258nm,0.8s,mb5.7
ROSF **Rostrenen** 81.44 339⇑*i*P P 18 41 06.4 0.0
comp=Z,129nm,0.8s,mb5.7
BNI **Bardonecchia** 81.52 331⇑*e*P P 18 41 06.7 -0.1
comp=Z,93nm,1.1s,mb5.5
INTR **Introdacqua** 81.52 325 P P 18 41 05.7 -1.1
RLS **Riolos of Patr** 81.55 318 *e*P P 18 41 07.2 +0.2
GDM **Grand'Maison** 81.57 332⇑*e*P P 18 41 07.6 +0.5
FG5 **Orsara di Pugl** 81.59 324 P P 18 41 07.7 +0.5
ZKR **Zakros** 81.60 313 *e*P P 18 41 07.6 +0.3
CII **Carovilli** 81.61 325 P P 18 41 07.7 +0.4
FIAM **Fiamignano** 81.61 326 P P 18 41 07.5 +0.2
FG4 **Candela** 81.61 324 P P 18 41 07.4 +0.1
OG22 **Abries** 81.64 331 *e*P P 18 41 07.3 -0.1
OG22 **Abries** 81.64 331⇑*e*P P 18 41 08.7 +1.3
OG22 **Abries** 81.64 331⇑*e*P P 18 41 08.7 +1.3
GRN **Grenoble** 81.66 332⇑*e*P P 18 41 08.2 +0.7
GRFL **Gerfalco** 81.67 328 P P 18 41 07.1 -0.5
MNS **Montasola** 81.68 326 P P 18 41 07.1 -0.6
PLDF **La Plantade** 81.68 334⇑*e*P P 18 41 07.9 +0.2
RNI2 **Rionero Sannit** 81.69 325 P P 18 41 08.3 +0.6
MIDA **Miranda** 81.70 325 P P 18 41 07.9 +0.2
FIN **Finale Ligure** 81.74 330 P P 18 41 07.1 -0.9
VVLD **Villa Vallelon** 81.75 325 P P 18 41 07.6 -0.4
MBDF **Montbardon** 81.78 331⇑*i*P P 18 41 07.7 -0.5
comp=Z,127nm,1.0s,mb5.4
MBDF **Montbardon** 81.78 331⇑*i*P P 18 41 07.7 -0.5
MBDF pmax pmax
comp=Z,64nm,1.0s,mb5.4
MBDF **Montbardon** 81.78 331⇑*i*P P 18 41 07.7 -0.5
comp=Z,64nm,1.0s,mb5.4
NPS **Neapolis** 81.79 314 *e*P P 18 41 07.4 -0.8
QUIF **Quistinic** 81.80 339⇑*i*P P 18 41 08.0 -0.3
comp=Z,274nm,1.2s,mb5.7
QUIF **Quistinic** 81.80 339⇑*i*P P 18 41 08.0 -0.3
QUIF pmax pmax
comp=Z,137nm,1.2s,mb5.7
QUIF **Quistinic** 81.80 339⇑*i*P P 18 41 08.0 -0.3
comp=Z,137nm,1.2s,mb5.7
SDI **San Donato** 81.82 325 P P 18 41 08.0 -0.3
TCF **Toulx Ste Croi** 81.82 335⇑*i*P P 18 41 08.2 -0.2
comp=Z,139nm,1.0s,mb5.4
TCF **Toulx Ste Croi** 81.82 335⇑*i*P P 18 41 08.2 -0.2
TCF pmax pmax
comp=Z,70nm,1.0s,mb5.5
TCF **Toulx Ste Croi** 81.82 335⇑*i*P P 18 41 08.2 -0.2
comp=Z,70nm,1.0s,mb5.4
PSB1 **Pescosannita** 81.83 324 P P 18 41 08.2 -0.2
VLS **Valsamata** 81.86 319 *e*P P 18 41 08.3 -0.3
PTRP **Pietrapertosa** 81.90 323 P P 18 41 09.5 +0.7
ORIF **Oris-en-Rattie** 81.91 332⇑*i*P P 18 41 08.9 +0.1
comp=Z,176nm,0.9s,mb5.6
ORIF **Oris-en-Rattie** 81.91 332⇑*i*P P 18 41 08.9 +0.1
ORIF pmax pmax
comp=Z,88nm,0.9s,mb5.6
ORIF **Oris-en-Rattie** 81.91 332⇑*i*P P 18 41 08.9 +0.1
comp=Z,88nm,0.9s,mb5.6
CERT **Cerreto** 81.94 326 P P 18 41 08.5 -0.5
LAST **Lasithi** 81.94 314 *e*P P 18 41 09.4 +0.4
VLI **Veliai** 81.94 316 *e*P P 18 41 07.0 -2.0
MRLC **Muro Lucano** 81.94 323 P P 18 41 08.8 -0.2
MTCE **Montecelio** 81.97 326 P P 18 41 08.5 -0.6
SURF **Saint Ours** 81.98 331⇑*e*P P 18 41 09.6 +0.4
ITM **Ithomi** 82.05 317 *e*P P 18 41 09.0 -0.5
XRY **Khrisi** 82.06 313 *e*P P 18 41 10.0 +0.4
COLF **Collangettes** 82.07 333⇑*e*P P 18 41 10.1 +0.5
PYM **Petit Puy Mans** 82.07 334 *e*P P 18 41 10.0 +0.4
RFI **Roccamonfina** 82.09 325 P P 18 41 10.5 +0.7
SLM **Saint Louis** 82.12 40 *e*P P 18 41 09.5 -0.4
comp=Z,99nm,0.9s,mb5.6
IMI **Imperia** 82.12 330 P P 18 41 09.8 -0.1
ORI **Oriolo Calabro** 82.12 322 P P 18 41 10.8 +0.9
CCM **Cathedral Cave** 82.14 41⇑*i*P P 18 41 08.9 -1.1
comp=Z,68nm,0.9s,mb5.5
SAOF **Saorge** 82.17 330 *e*P P 18 41 08.8 -1.3
SGO **Sicignano** 82.18 323 P P 18 41 10.0 -0.2
SLCN **Sala Consilina** 82.19 323 P P 18 41 10.3 0.0
MUN **Mundaring** 82.19 204 *e*P pP 18 42 35.8 +0.1
AUTN **L'Aution** 82.20 330 *e*P P 18 41 10.0 -0.3
RDP **Rocca di Papa** 82.20 326 P P 18 41 10.0 -0.3
MFF **Saint Martin d** 82.21 336⇑*i*P P 18 41 10.4 0.0
comp=Z,172nm,1.0s,mb5.5
MFF **Saint Martin d** 82.21 336⇑*i*P P 18 41 10.4 0.0
MFF pmax pmax
comp=Z,86nm,1.0s,mb5.5
MFF **Saint Martin d** 82.21 336⇑*i*P P 18 41 10.4 0.0
comp=Z,86nm,1.0s,mb5.5
TOLF **Tolfa** 82.22 326 P P 18 41 10.1 -0.3
VERF **Verneugheol** 82.23 334 *e*P P 18 41 10.5 0.0
KYTH **Kithira** 82.24 316 *e*P P 18 41 10.0 -0.6
TOUF **Mont Tournerai** 82.25 330 *e*P P 18 41 10.0 -0.6
SBF **Sospel** 82.31 330⇑*i*P P 18 41 10.1 -0.8
comp=Z,266nm,1.1s,mb5.7
SBF **Sospel** 82.31 330⇑*i*P P 18 41 10.1 -0.8
SBF pmax pmax
comp=Z,133nm,1.1s,mb5.7
SBF **Sospel** 82.31 330⇑*i*P P 18 41 10.1 -0.8
comp=Z,133nm,1.1s,mb5.7
LCHF **La Chataignera** 82.32 337⇑*e*P P 18 41 11.2 +0.3
LUCF **Luceram** 82.32 330 *e*P P 18 41 10.2 -0.7
OG25 **Le Caire** 82.33 331⇑*e*P P 18 41 10.1 -0.9
VIVF **Saint-Julien-I** 82.35 332⇑*i*P P 18 41 11.2 +0.1
comp=Z,233nm,1.1s,mb5.6
VIVF **Saint-Julien-I** 82.35 332⇑*i*P P 18 41 11.2 +0.1
VIVF pmax pmax
comp=Z,117nm,1.1s,mb5.6
VIVF **Saint-Julien-I** 82.35 332⇑*i*P P 18 41 11.2 +0.1
comp=Z,116nm,1.1s,mb5.6
VAM **Vamos** 82.38 315 *e*P P 18 41 11.6 +0.4
MVIF **Mont Vial** 82.38 330 *e*P P 18 41 10.5 -0.8
SIVA **Sivas** 82.39 314 *e*P P 18 41 11.3 0.0
OG26 **St.-Nazaire-De** 82.39 332⇑*e*P P 18 41 11.9 +0.6
OCF **Saint Nazaire** 82.40 332⇑*e*P P 18 41 11.9 +0.6
MGR **Morigerati** 82.43 323 P P 18 41 10.7 -0.8
CUC **Castrocucco** 82.45 323 P P 18 41 10.6 -1.0
REVF **Revere** 82.45 330 *e*P P 18 41 11.0 -0.6
LBL **Lubilhac** 82.46 333 *e*P P 18 41 12.3 +0.6
KARN **Karanos** 82.52 315 *e*P P 18 41 12.0 0.0
FRNF **Fournols** 82.53 334 *e*P P 18 41 12.6 +0.6
FVM **French Village** 82.57 41⇑*i*P P 18 41 11.4 -0.8
FVM pmax pmax
comp=Z,70nm,1.1s,mb5.4
FVM **French Village** 82.57 41⇑*i*P P 18 41 11.4 -0.8
comp=Z,70nm,1.1s,mb5.4
LRYF **La Roche-sur-Y** 82.62 337⇑*e*P P 18 41 12.7 +0.2
STOF **St-Etienne Org** 82.71 331⇑*e*P P 18 41 13.3 +0.4
TIP **Timpagrande** 82.73 322⇑*i*P P 18 41 13.1 0.0
SMRF **Simiane la Rot** 82.84 331⇑*i*P P 18 41 13.7 +0.1
comp=Z,56nm,1.1s,mb5.0
SMRF **Simiane la Rot** 82.84 331⇑*i*P P 18 41 13.7 +0.1
comp=Z,56nm,1.1s,mb5.3
FRF **La Foret Royal** 82.85 331⇑*i*P P 18 41 12.9 -0.7
comp=Z,206nm,1.5s,mb5.5
FRF **La Foret Royal** 82.85 331⇑*i*P P 18 41 12.9 -0.7
FRF pmax pmax
comp=Z,103nm,1.5s,mb5.4
FRF **La Foret Royal** 82.85 331⇑*i*P P 18 41 12.9 -0.7
comp=Z,103nm,1.5s,mb5.4
GVD **Gavdhos** 82.89 314 *e*P P 18 41 13.7 -0.1
GVD **Gavdhos** 82.89 314 *e*P P 18 41 13.5 -0.3
VILF **Villemus** 82.91 331 *e*P P 18 41 14.3 +0.4
PGF **Pioggiola** 82.92 329⇑*i*P P 18 41 13.4 -0.6
comp=Z,228nm,1.3s,mb5.5
PGF **Pioggiola** 82.92 329⇑*i*P P 18 41 13.4 -0.6
PGF pmax pmax
comp=Z,114nm,1.3s,mb5.5
PGF **Pioggiola** 82.92 329⇑*i*P P 18 41 13.4 -0.6
comp=Z,114nm,1.3s,mb5.5
RJF **Les Rejaudoux** 82.92 335⇑*i*P P 18 41 13.9 -0.1
comp=Z,76nm,0.8s,mb5.3
RJF **Les Rejaudoux** 82.92 335⇑*i*P P 18 41 13.9 -0.1
RJF pmax pmax
comp=Z,38nm,0.8s,mb5.3
RJF **Les Rejaudoux** 82.92 335⇑*i*P P 18 41 13.9 -0.1
comp=Z,38nm,0.8s,mb5.3
LONY **Lake Ozonia** 82.92 27 *e*P P 18 41 12.5 -1.6
MATF **Mathat** 82.96 336 *e*P P 18 41 14.5 +0.3
TAVF **Tavernes** 83.00 331⇑*e*P P 18 41 14.6 +0.2
FRNY **Flat Rock** 83.04 26 *e*P P 18 41 13.2 -1.4
CORF **Corte** 83.08 328 *e*P P 18 41 14.7 -0.1
LMR **La Mourre** 83.10 331⇑*i*P P 18 41 14.4 -0.5
comp=Z,329nm,1.2s,mb5.7
LMR **La Mourre** 83.10 331⇑*i*P P 18 41 14.4 -0.5
LMR pmax pmax
comp=Z,165nm,1.2s,mb5.7
LMR **La Mourre** 83.10 331⇑*i*P P 18 41 14.4 -0.5
comp=Z,165nm,1.2s,mb5.7
CAF **Calviac** 83.10 334⇑*i*P P 18 41 15.4 +0.5
comp=Z,121nm,0.8s,mb5.5
CAF **Calviac** 83.10 334⇑*i*P P 18 41 15.4 +0.5
CAF pmax pmax
comp=Z,61nm,0.8s,mb5.5
CAF **Calviac** 83.10 334⇑*i*P P 18 41 15.4 +0.5
comp=Z,60nm,0.8s,mb5.5
PRAF **Pradon** 83.13 332⇑*e*P P 18 41 15.7 +0.6
OLEF **Ile d'Oleron** 83.15 337 *e*P P 18 41 15.2 0.0
GRI **Girifalco** 83.17 322 P P 18 41 15.5 +0.2
PUYF **Puyloubier** 83.19 331⇑*e*P P 18 41 15.7 +0.3
TREF **Trevaresse** 83.22 331⇑*e*P P 18 41 16.2 +0.7
BLO **Bloomington** 83.28 37 *e*P P 18 41 14.8 -1.0
LASF **Ste Croix** 83.31 333⇑*i*P P 18 41 16.3 +0.3
comp=Z,152nm,1.2s,mb5.4
ERPA **Erie** 83.31 32⇑*e*P P 18 41 15.3 -0.7
comp=Z,102nm,0.6s,mb5.8
SIUC **Southern Illin** 83.33 40 *e*P P 18 41 15.8 -0.3
comp=Z,222nm,1.0s,mb6.0
BERF **Bertagne** 83.39 331 *e*P P 18 41 16.9 +0.5
GELF **Grande-Etoile** 83.42 331⇑*e*P P 18 41 16.9 +0.4
LFF **La Frestale** 83.48 335⇑*i*P P 18 41 17.2 +0.4
comp=Z,529nm,1.2s,mb5.9
LFF **La Frestale** 83.48 335⇑*i*P P 18 41 17.2 +0.4
LFF pmax pmax
comp=Z,264nm,1.2s,mb5.9
LFF **La Frestale** 83.48 335⇑*i*P P 18 41 17.2 +0.4
comp=Z,264nm,1.2s,mb5.9
OSPF **L'Ospedale** 83.62 328 *e*P P 18 41 17.5 0.0
NCB **Newcomb** 83.62 27⇑*i*P P 18 41 16.5 -1.0
comp=Z,66nm,1.0s,mb5.4
ALLY **Alegheny Colle** 83.67 32⇑*e*P P 18 41 17.2 -0.6
TOO **Toolangi** 83.71 179 *e*P P 18 41 19.7 +1.7
comp=Z,3.1nm,0.6s,mb4.3
TOO **Toolangi** 83.71 179 *e*P P 18 41 19.7 +1.7
TOO pmax pmax
comp=Z,30nm,0.6s,mb5.3
MIV **Mineville/With** 83.74 27 *e*P P 18 41 16.6 -1.5
ACSO **Alum Creek Sta** 83.82 35⇑*e*P P 18 41 17.9 -0.7
comp=Z,50nm,0.8s,mb5.4
CEL **Celeste** 83.87 322 P P 18 41 18.9 +0.1
MIAR **Mount Ida** 83.89 45⇑*i*P P 18 41 18.2 -0.7
MIAR pmax pmax
comp=Z,60nm,1.0s,mb5.4
MIAR **Mount Ida** 83.89 45⇑*i*P P 18 41 18.2 -0.7
comp=Z,60nm,1.0s,mb5.4
JCT **Junction City** 83.91 51⇑*i*P P 18 41 18.7 -0.3
JCT pmax pmax
comp=Z,58nm,0.8s,mb5.5
JCT **Junction City** 83.91 51⇑*i*P P 18 41 18.7 -0.2
comp=Z,58nm,0.8s,mb5.5
SOI **Samo** 83.95 322 P P 18 41 19.0 -0.2
PARMO **Parma** 83.96 41 P P 18 41 19.3 +0.1
SLNA **Salina** 84.06 323 P P 18 41 18.7 -1.0
LBNH **Lisbon** 84.08 25⇑*e*P P 18 41 19.1 -0.7
comp=Z,61nm,1.1s,mb5.3
MTTG **Motta San Giov** 84.17 322 P P 18 41 19.7 -0.6
WCI **Wyandotte Cave** 84.17 38⇑*e*P P 18 41 19.5 -0.8
WCI pmax pmax
comp=Z,59nm,0.8s,mb5.5
WCI **Wyandotte Cave** 84.17 38⇑*e*P P 18 41 19.5 -0.8
comp=Z,59nm,0.8s,mb5.5
ACCN **Adirondack Com** 84.32 27 *e*P P 18 41 20.0 -1.0
GNAR **Gosnell** 84.41 42⇑*e*P P 18 41 21.9 +0.4
comp=Z,2μm,1.2s
WVL **Waterville** 84.43 24 *e*P P 18 41 20.9 -0.6
comp=Z,33nm,0.9s,mb5.2
HBAR **Harrisburg** 84.45 42 *e*P P 18 41 22.0 +0.3
HNH **Hanover** 84.46 26⇑*e*P P 18 41 21.2 -0.5
comp=Z,9.1nm,1.3s,mb4.5
MTLF **Montolieu** 84.49 333⇑*i*P P 18 41 22.3 +0.4
comp=Z,270nm,1.3s,mb5.6
MTLF **Montolieu** 84.49 333⇑*i*P P 18 41 22.3 +0.4
comp=Z,135nm,1.3s,mb5.6
GLAT **Glass** 84.49 41 *e*P P 18 41 22.6 +0.7
USI **Ustica** 84.62 324 P P 18 41 22.2 -0.3
UTMT **University of** 84.62 41 *e*P P 18 41 22.3 -0.2
comp=Z,294nm,1.0s,mb6.1
BINY **Binghamton** 84.64 29⇑*i*P P 18 41 21.6 -1.0
comp=Z,73nm,1.1s,mb5.4
LRDF **Laroque-de-Fa** 84.75 333 *e*P P 18 41 24.1 +0.9
EMMW **East Machias** 84.89 22 *e*P P 18 41 23.4 -0.5
comp=Z,77nm,1.0s,mb5.5
SJAF **Saint Jean de** 85.05 333⇑*e*P P 18 41 25.0 +0.4
FILF **Fillols** 85.08 333 *e*P P 18 41 25.7 +0.9
CARF **Carcanieres** 85.09 333 *e*P P 18 41 25.5 +0.7
MLS **Moulis** 85.18 334⇑*e*P P 18 41 26.0 +0.7
SALF **Salau** 85.33 334⇑*e*P P 18 41 26.1 +0.1
EPF **Esparros** 85.34 334⇑*i*P P 18 41 25.9 -0.2
comp=Z,125nm,1.0s,mb5.4
EPF **Esparros** 85.34 334⇑*i*P P 18 41 25.9 -0.2
comp=Z,62nm,1.0s,mb5.4
MELF **Melles** 85.36 334 *e*P P 18 41 26.0 -0.1
SSPA **Standing Stone** 85.37 31⇑*e*P P 18 41 25.8 -0.4
comp=Z,52nm,0.9s,mb5.4
VALF **Valcebollere** 85.40 333⇑*e*P P 18 41 27.6 +1.3
LABF **Labassere** 85.40 335 *e*P P 18 41 26.2 -0.2
VSL **Villasalto** 85.44 327 *e*P P 18 41 26.4 -0.1
comp=Z,70nm,1.1s,mb5.4
REYF **Montagne du Re** 85.52 335 *e*P P 18 41 35.8 +8.9
RESF **Ens** 85.54 334⇑*e*P P 18 41 28.5 +1.4
VIEF **Viey** 85.57 335 *e*P P 18 41 27.9 +0.7
CGL **Cagliari Serpe** 85.58 327 P P 18 41 23.8 -3.4
NATX **Nacogdoches** 85.59 47⇑*e*P P 18 41 27.6 +0.3
comp=Z,150nm,1.0s,mb5.8
ATE **Arette** 85.59 335 *e*P P 18 41 29.1 +1.8
OSSF **Osses** 85.60 336 *e*P P 18 41 26.9 -0.4
EALK **Alkurruntz** 85.70 336 ⇑P P 18 41 27.8 0.0
comp=Z,194nm,1.6s,mb5.7
EBIE **Bielsa** 85.71 334 ⇑P P 18 41 29.2 +1.3
comp=Z,236nm,1.4s,mb5.8
SJPF **Ste Jean** 85.72 336 *e*P P 18 41 28.5 +0.6
comp=Z,40nm,0.9s,mb4.9
SJPF **Ste Jean** 85.72 336 *e*P P 18 41 28.5 +0.6
SJPF pmax pmax
comp=Z,20nm,0.9s,mb5.0
SJPF **Ste Jean** 85.72 336 *e*P P 18 41 28.5 +0.6
comp=Z,20nm,0.9s,mb5.0
LARF **Larrau** 85.72 335 *e*P P 18 41 28.2 +0.3
ETSF **Etsaut** 85.72 335⇑*i*P P 18 41 28.6 +0.7
comp=Z,45nm,0.6s,mb5.2
ETSF **Etsaut** 85.72 335⇑*i*P P 18 41 28.6 +0.7
comp=Z,22nm,0.6s,mb5.2
HRV **Harvard--Oak R** 85.77 26⇑*e*P P 18 41 27.7 -0.4
HRV pmax pmax
comp=Z,50nm,1.1s,mb5.3
HRV **Harvard--Oak R** 85.77 26⇑*e*P P 18 41 27.7 -0.5
comp=Z,50nm,1.1s,mb5.3
OXF **Oxford** 85.89 42⇑*i*P P 18 41 28.1 -0.6
comp=Z,312nm,1.3s,mb6.0
WES **Weston** 85.95 26 *e*P P 18 41 29.2 +0.2
WES pmax pmax
comp=Z,83nm,1.0s,mb5.5
WES **Weston** 85.95 26 *e*P P 18 41 29.2 +0.2
comp=Z,82nm,1.0s,mb5.5
EMIR **Miracle** 86.00 333 ⇑P P 18 41 29.8 +0.5
comp=Z,177nm,1.1s,mb5.8
PLAL **Pickwick Lake** 86.11 41⇑*i*P P 18 41 28.9 -0.9
comp=Z,45nm,1.0s,mb5.3
EGRA **Graus** 86.11 334 ⇑P P 18 41 30.9 +1.1
comp=Z,62nm,1.0s,mb5.4
PAL **Palisades** 86.39 28⇑*i*P P 18 41 30.1 -1.1
PAL pmax pmax
comp=Z,103nm,1.5s,mb5.4
PAL **Palisades** 86.39 28⇑*i*P P 18 41 30.1 -1.1
comp=Z,103nm,1.5s,mb5.4
BRNJ **Basking Ridge** 86.47 29 *e*P P 18 41 31.4 -0.1
MVL **Millersville** 86.47 30⇑*e*P P 18 41 30.8 -0.8
EARI **Arriondas** 86.62 338 P P 18 41 31.9 -0.4
comp=Z,34nm,1.0s,mb5.1
EPOB **Poblet** 86.64 333 ⇑P P 18 41 32.4 0.0
comp=Z,251nm,1.5s,mb5.8
ESAC **San Caprasio** 86.78 334 ⇑P P 18 41 34.0 +1.0
comp=Z,196nm,0.8s,mb6.0
SWET **Sewanee** 86.86 39⇑*i*P P 18 41 32.6 -0.8
FWV **Forest Hill** 86.95 34 *e*P P 18 41 33.5 -0.4
EPON **Pontenova** 87.08 340 ⇑P P 18 41 32.7 -1.7
comp=Z,140nm,1.5s,mb5.6
ERTA **Horta de San J** 87.24 334 ⇑P P 18 41 35.3 +0.2
comp=Z,208nm,1.7s,mb5.7
ELN **Prospectdale** 87.29 35 *e*P P 18 41 34.7 -0.7
EBR **Ebro Roquetas** 87.31 333 *e*P P 18 41 36.0 +0.5
BLA **Blacksburg** 87.43 34 *e*P P 18 41 35.4 -0.7
BLA pmax pmax
comp=Z,60nm,1.0s,mb5.4
BLA **Blacksburg** 87.43 34 *e*P P 18 41 35.4 -0.7
comp=Z,5.6nm,1.0s,mb4.3
ETOS **Mallorca** 87.52 331 P P 18 41 37.0 +0.5
comp=Z,198nm,1.7s,mb5.7
STS **Santiago** 87.83 341 P P 18 41 37.0 -0.9
STS pmax pmax
comp=Z,50nm,0.7s,mb5.5
STS **Santiago** 87.83 341 P P 18 41 37.0 -0.9
comp=Z,4.7nm,0.7s,mb4.4
EMAZ **Mazaricos** 87.86 341 P P 18 41 37.3 -0.8
comp=Z,22nm,1.2s,mb4.8
EMOS **Mosqueruela** 88.02 334 ⇑P P 18 41 39.1 +0.2
comp=Z,79nm,0.9s,mb5.5
ETOR **Torete** 88.07 335 ⇑P P 18 41 39.2 +0.1
ETOR pmax pmax
comp=Z,49nm,0.9s,mb5.3
ETOR **Torete** 88.07 335 ⇑P P 18 41 39.2 +0.1
comp=Z,49nm,0.9s,mb5.3
LRAL **Lakeview Retre** 88.22 41 *e*P P 18 41 39.2 -0.6
comp=Z,22nm,0.8s,mb5.0
ECAL **Calabor** 88.28 339 P P 18 41 39.6 -0.5
comp=Z,5.8nm,0.8s,mb4.5
PBRG **Braganca** 88.42 339 *e*P P 18 41 39.1 -1.6
comp=Z,26nm,1.7s,mb4.8
EIBI **Ibiza** 88.68 332 P P 18 41 43.1 +1.2
comp=Z,43nm,0.9s,mb5.3
ELOB **Lobios** 88.68 340 P P 18 41 40.2 -1.7
comp=Z,13nm,0.8s,mb4.8
PCAB **Cabril** 88.82 340 *e*P P 18 41 42.1 -0.5
comp=Z,35nm,1.7s,mb4.9
GUD **Guadarrama** 88.83 337 P P 18 41 41.6 -1.0
GUD pmax pmax
comp=Z,12nm,1.0s,mb4.7
GUD **Guadarrama** 88.83 337 P P 18 41 41.6 -1.0
comp=Z,12nm,1.0s,mb4.7
ECHE **Chera** 88.88 334 P P 18 41 44.6 +1.7
ECHE pmax pmax
comp=Z,28nm,1.1s,mb5.0
ECHE **Chera** 88.88 334 P P 18 41 44.6 +1.8
comp=Z,28nm,1.1s,mb5.0
EBEN **Beniarda** 89.47 333 ⇑P P 18 41 46.4 +0.7
comp=Z,132nm,1.3s,mb5.6
JSC **Jenkinsville** 89.64 36 *e*P P 18 41 46.1 -0.3
ESDC **Sonseca Array** 89.68 336 P P 18 41 45.9 -0.6
comp=Z,20nm,0.8s,mb5.1,baz=20,slow=3.7,SNR=60
ESDC **Sonseca Array** 89.68 336 ⇑P P 18 41 46.2 -0.3
comp=Z,30nm,0.7s,mb5.3
ESLA **Sonseca Array** 89.68 336 *e*P P 18 41 46.4 -0.2
PVIS **Viseu** 89.73 339 *e*P P 18 41 46.5 -0.3
comp=Z,35nm,1.7s,mb5.0
ETOB **Tobarra** 89.94 334 ⇑P P 18 41 48.0 +0.3
comp=Z,139nm,1.2s,mb5.8
MTE **Manteigas** 89.94 339 *e*P P 18 41 47.2 -0.6
comp=Z,34nm,1.8s,mb5.0
MTE **Manteigas** 89.94 339 *e*P P 18 41 46.7 -1.1
comp=Z,19nm,0.9s,mb5.0
PCBR **Castelo Branco** 90.45 339 *e*P P 18 41 49.3 -0.9
comp=Z,25nm,1.3s,mb5.0
EMUR **La Murta** 90.57 334 P P 18 41 50.4 -0.3
comp=Z,57nm,1.1s,mb5.4
PTOM **Tomar** 90.89 339 *e*P P 18 41 51.8 -0.4
comp=Z,16nm,1.5s,mb4.7
EBAN **Banos Encina** 91.03 335 P P 18 41 52.8 -0.1
EBAN pmax pmax
comp=Z,56nm,1.2s,mb5.4
EBAN **Banos Encina** 91.03 335 P P 18 41 52.8 -0.1
comp=Z,56nm,1.2s,mb5.4
EQES **Quesada** 91.16 335 ⇑P P 18 41 53.7 +0.2
comp=Z,86nm,1.1s,mb5.6
EADA **Adamuz** 91.25 336 ⇑P P 18 41 53.7 -0.1
comp=Z,98nm,1.2s,mb5.6
EBAD **Badajoz** 91.36 338 P P 18 41 52.1 -2.2
comp=Z,6.3nm,1.0s,mb4.5
ENIJ **Nijar** 91.67 334 P P 18 41 55.5 -0.3
ENIJ pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ENIJ **Nijar** 91.67 334 P P 18 41 55.5 -0.4
comp=Z,10nm,0.7s,mb4.9
EVO **Evora** 91.82 339 *e*P P 18 41 55.4 -1.1
comp=Z,24nm,1.2s,mb4.7
EBER **Berja** 91.95 334 P P 18 41 56.0 -1.0
comp=Z,130nm,1.6s,mb5.6
EMIN **Mina Concepcio** 92.20 337 P P 18 41 58.2 0.0
comp=Z,63nm,1.6s,mb5.3
ESPR **Espera** 92.82 337 P P 18 42 01.0 -0.1
comp=Z,85nm,1.4s,mb5.6
PTEO **Sao Teotonio** 92.94 339 *e*P P 18 41 59.0 -2.6
comp=Z,49nm,1.0s,mb5.5
EJIF **Jimena Fronter** 93.11 336 P P 18 42 02.6 +0.2
EJIF pmax pmax
comp=Z,20nm,0.8s,mb5.2
EJIF **Jimena Fronter** 93.11 336 P P 18 42 02.6 +0.2
comp=Z,20nm,0.8s,mb5.2
TORD **Torodi Ar. Bea** 111.86 321 Pdiff Pdif 18 43 27.0 +0.8
comp=Z,1.0nm,0.9s,baz=42,slow=1.5,SNR=4.2
TORD PKiKP PKiKP 18 47 20.1 -1.1
comp=Z,1.4nm,0.7s,baz=28,slow=2.0,SNR=13
TORD PP PP 18 48 02.4 -8.2
comp=Z,3.3nm,0.9s,baz=16,slow=7.4,SNR=6.4
TORD PKKPbc PKKPbc 18 58 14.7 +0.2
comp=Z,0.6nm,0.5s,baz=219,slow=2.4,SNR=9.7
SDV **Santo Domingo** 116.57 39 *e*PKPdf PKPdf 18 47 30.0 -0.1
DBIC **Dimbokro** 120.44 324 PKP PKPdf 18 47 37.5 -0.1
comp=Z,10nm,0.8s,baz=54,slow=3.2,SNR=14
LIC **Lamto** 120.92 324 *e*PKIKP PKPdf 18 47 38.2 -0.3
comp=Z,24nm,0.9s

VNDA	**Vanda**	**124.22 175**	PKP	PKPdf	18 47 43.5	-1.3
	comp=Z,2.7nm,0.8s,baz=314,slow=3.6,SNR=16					
VNDA			pPKP	pPKPdf	18 49 16.0	-0.9
	comp=Z,1.6nm,0.8s,baz=34,slow=6.6,SNR=3.8					
TSUM	**Tsumeb**	**128.92 284**	*e*PKPdf	PKPdf	18 47 55.2	+1.4
MAW	**Mawson**	**129.00 209**	PKP	PKPdf	18 47 53.9	-0.1
	comp=Z,2.7nm,0.7s,baz=86,slow=2.6,SNR=10					
MAW			SKPbc		18 50 39.4	
	comp=Z,15nm,1.0s,baz=64,slow=5.1,SNR=14					
BOSA	**Boshof**	**129.86 269**	PKP	PKPdf	18 47 54.6	-1.0
	comp=Z,3.0nm,0.8s,baz=52,slow=1.5,SNR=6.0					
BOSA			SKPbc	SKPbc	18 50 43.4	+1.2
	comp=Z,10.0nm,0.8s,baz=74,slow=3.4,SNR=12					
BOSA	**Boshof**	**129.86 269**	PKP	PKPdf	18 47 54.6	-1.0
BOSA			SKPbc	SKPbc	18 50 43.4	+1.2
SAML	**Samuel**	**135.74 41**	*e*PKPdf	PKPdf	18 48 06.9	+0.3
SYO	**Syowa Base**	**137.60 211**⇓	*e*PKPdf	PKPdf	18 48 10.8	+0.7
SYO	**Syowa Base**	**137.60 211**⇑	*e*PP	PP	18 51 07.2	+6.1
LPAZ	**La Paz**	**139.49 53**	PKhKP		18 48 08.2	
	comp=Z,0.9nm,0.6s,baz=2.8,slow=9.2,SNR=3.6					
LPAZ			PKP	PKPdf	18 48 15.0	+1.4
	comp=Z,6.0nm,0.8s,baz=334,slow=2.9,SNR=12					
LPAZ			SKPbc	SKPbc	18 51 14.3	+1.4
	comp=Z,8.9nm,1.2s,baz=10,slow=12,SNR=7.0					
LPAZ	**La Paz**	**139.49 53**	*e*PKPdf	PKPdf	18 48 14.8	+1.2
LVC	**Limon Verde**	**144.03 60**	SKPbc	SKPbc	18 51 24.4	+0.1
	comp=Z,9.0nm,1.0s,baz=279,slow=5.4,SNR=4.4					
LVC	**Limon Verde**	**144.03 60**	*e*PKPdf	PKPdf	18 48 21.6	-0.1
NVL	**N'lazarevskaya**	**146.86 206***c*	*i*PKP2	PKPab	18 48 27.7	-3.6
NVL			pmax	pmax		
	comp=Z,28nm,0.8s					
NVL			pmax	pmax		
	comp=N,16nm,1.2s					
NVL			pmax	pmax		
	comp=E,7.0nm,1.2s					
BDFB	**Brasilia**	**147.50 23**	PKP	PKPdf	18 48 28.2	+0.6
	comp=E,59nm,0.9s,baz=300,slow=1.9,SNR=34					
BDFB			PKPbc	PKPbc	18 48 31.3	+0.6
	comp=E,59nm,0.9s,baz=291,slow=1.7,SNR=28					
SNAA	**Sanae**	**150.45 200**	PKP	PKPdf	18 48 30.9	-1.4
	comp=E,2.8nm,0.6s,baz=70,slow=0.9,SNR=4.2					
SNAA			PKPbc	PKPbc	18 48 36.6	-1.3
	comp=E,2.6nm,0.5s,baz=167,slow=2.0,SNR=67					
SNAA			PKPab	PKPab	18 48 45.7	-0.3
	comp=E,2.1nm,0.5s,baz=215,slow=5.6,SNR=12					
SNAA			pPKPbc	pPKPbc	18 50 09.5	+0.1
	comp=E,2.4nm,0.8s,baz=152,slow=2.8,SNR=5.1					
SNAA	**Sanae**	**150.45 200**	PKIKP	PKPdf	18 48 30.9	-1.3
SNAA					18 48 45.7	
VNA1	**Neumayer--Stat**	**152.43 199**	*e*PKPdf	PKPdf	18 48 41.6	+6.4
VNA1			*e*		18 48 49.4	
VNA1			*e*		18 48 54.5	
VNA1			*e*		18 50 09.6	
VNA1			*e*		18 50 15.7	
VNA1			*e*		18 50 19.5	
VNA1			*e*		18 50 24.1	
VNA1			*e*		18 50 31.3	
VNA1			*e*		18 50 47.5	
VNA1			*e*		18 50 53.4	
CPUP	**Villa Florida**	**153.45 48**	PKP	PKPdf	18 48 36.7	0.0
	comp=E,0.7nm,0.4s,baz=71,slow=3.1,SNR=4.2					
CPUP			PKPbc	PKPbc	18 48 44.3	-0.4
	comp=E,5.1nm,0.7s,baz=329,slow=2.8,SNR=13					
CPUP			PKPab	PKPab	18 48 58.4	-0.3
	comp=E,16nm,0.9s,baz=317,slow=5.7,SNR=15					
CPUP	**Villa Florida**	**153.45 48**	*e*PKPdf	PKPdf	18 48 35.8	-0.9
CPUP			*e*PKPbc	PKPbc	18 48 44.4	-0.3
PLCA	**Paso Flores**	**154.14 90**	PKP	PKPdf	18 48 37.4	-0.3
	comp=E,2.7nm,1.0s,baz=231,slow=7.1,SNR=4.0					
PLCA			PKPbc	PKPbc	18 48 45.5	-0.6
	comp=E,3.5nm,0.7s,baz=273,slow=1.0,SNR=8.9					
PLCA			pPKPbc	pPKPbc	18 50 18.8	+0.9
	comp=E,4.0nm,0.8s,baz=269,slow=4.9,SNR=4.9					
PLCA	**Paso Flores**	**154.14 90**	PKP	PKPdf	18 48 37.4	-0.3
PLCA			PKPbc	PKPbc	18 48 45.5	-0.6
PLCA			pPKPbc	pPKPbc	18 50 18.8	+0.9

*NEIC **16** 18:33:22.6, 3038S×7141W, h46km±4km, MG4.1(GUC), After GUC.*

GUC 16 18:33:22.6±0.8, 3038S×7141W, h46km±4km, MD4.0, ML4.1, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.56**	**68**	*e*P	Pn	18 33 35.4	+1.0
TLL				*i* S	Sn	18 33 44.8	+2.0
TLL				AML	AML	18 33 45.1	
	comp=N,22μm,0.4s						
TLL	**Tololo Astrono**	**0.56**	**68**	*e*P	Pn	18 33 35.4	+1.0
TLL				*i* S	Sn	18 33 44.8	+2.0
VACH	**Vallenar**	**1.88**	**18**⇑	*i*P	Pn	18 33 53.1	+0.8
VACH				*i* S	Sn	18 34 16.0	+1.2
VACH				AML	AML	18 34 18.4	
	comp=E,3μm,0.5s						
VACH	**Vallenar**	**1.88**	**18**⇑	*i*P	Pn	18 33 53.1	+0.8
VACH				*i* S	Sn	18 34 16.0	+1.2
JACH	**Jahuel**	**2.40**	**163**⇓	*i*P	Pn	18 34 00.3	+0.9
FCH	**Farellones**	**3.09**	**162**⇓	*i*P	Pn	18 34 10.7	+1.8
FCH				*i* S	Sn	18 34 46.3	+1.7
FCH				AML	AML	18 34 48.4	
	comp=E,216nm,0.3s						
CLCH	**Cerro Calan**	**3.10**	**166**	*i* P	Pn	18 34 10.0	+1.1
CLCH				*i* S	Sn	18 34 46.2	+1.4
CLCH				AML	AML	18 35 16.1	
	comp=E,364nm,0.6s						
TACH	**Talagante**	**3.29**	**173**	*e*P	Pn	18 34 11.8	+0.2
TACH				*i* S	Sn	18 34 49.2	-0.3
PCH	**Pirque**	**3.32**	**167**	*e*P	Pn	18 34 13.2	+1.2
PCH				*i* S	Sn	18 34 51.2	+0.9
CHCH	**Chadas Angostu**	**3.60**	**170**	*i* P	Pn	18 34 16.5	+0.6
CHCH				*i* S	Sn	18 34 57.2	+0.1
LMEL	**Las Melosas**	**3.61**	**164**⇓	*i*P	Pn	18 34 17.3	+1.4
LMEL				*i* S	Sn	18 34 58.7	+1.4
LMEL				AML	AML	18 35 01.0	
	comp=N,278nm,0.1s						
LMEL	**Las Melosas**	**3.61**	**164**⇓	*i*P	Pn	18 34 17.3	+1.4
LMEL				*i* S	Sn	18 34 58.7	+1.4
CACH	**El Canelo**	**3.79**	**170**	*e*P	Pn	18 34 19.8	+1.3
CICH	**Cipreses**	**4.02**	**168**	*e*P	Pn	18 34 22.5	+0.9
SFDO	**San Fernando**	**4.24**	**176**	*i* P	Pn	18 34 25.6	+1.0

IDC 16 18:51:23.6±36.0, 1313S×17377E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/12, mbtmp4.0/4, Error ellipse: s-maj=657.3km s-min=116.1km az=74.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.90**	**232**	P	P	18 58 17.0	+0.2
	2.2nm,0.4s,baz=48,slow=7.6,SNR=8.5						
WRA	**Warramunga Arr**	**38.33**	**254**	P	P	18 58 46.7	+0.6
	0.3nm,0.3s,baz=89,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**39.13**	**249**	P	P	18 58 53.3	+0.5
	1.3nm,0.7s,baz=76,slow=8.9,SNR=22						
FITZ	**Fitzroy Crossi**	**46.52**	**257**	P	P	18 59 52.7	0.0
	2.4nm,1.0s,baz=71,slow=22,SNR=12						

WEL 16 18:59:24.0±0.4, 3698S×17984E, h33km, ML3.5/6, Error ellipse: s-maj=3.9km s-min=3.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.36**	**244**	PN	Pn	18 59 46.1	-0.5
MXZ				SN	Sn	19 00 02.2	-1.2
PUZ	**Puketiti**	**1.67**	**229**	PN	Pn	18 59 50.7	-0.2
MWZ	**Matawai**	**2.28**	**233**	PN	Pn	18 59 58.8	-0.5
MWZ				*e*SN	Sn	19 00 25.3	-1.0
URZ	**Urewera**	**2.52**	**239**	PN	Pn	19 00 02.1	-0.4
URZ				*e*SN	Sn	19 00 31.4	-0.8
KNZ	**Kokohu**	**2.66**	**219**	*e*PN	Pn	19 00 03.4	-1.2
KNZ				*e*SN	Sn	19 00 34.4	-1.3
KUZ	**Kuaotunu**	**3.32**	**273**	PN	Pn	19 00 12.8	-0.8
BKZ	**Black Stump Fm**	**3.43**	**229**	*e*PN	Pn	19 00 13.9	-1.2
BKZ				*e*SN	Sn	19 00 53.7	-0.9

IDC 16 19:00:48.1±7.3, 770S×12917E, h172km±78km, mb3.0/1, mb1 3.2/4, mb1mx3.0/14, mbtmp3.6/4, Error ellipse: s-maj=63.7km s-min=35.6km az=56.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.89**	**198**	P	Pn	19 03 20.5	+1.2
	0.4nm,0.3s,baz=46,slow=6.2,SNR=12						
FITZ				S	Sn	19 05 19.6	-0.5
	1.6nm,0.3s,baz=282,slow=22,SNR=8.8						
WRA	**Warramunga Arr**	**13.16**	**158**	P	Pn	19 03 47.7	-0.7
	0.3nm,0.3s,baz=341,slow=14,SNR=18						
WRA				S	Sn	19 06 08.2	-6.3
	1.0nm,0.3s,baz=333,slow=22,SNR=13						
ASAR	**Alice Springs**	**16.51**	**165**	P	Pn	19 04 30.5	+0.7
	0.1nm,0.3s,baz=335,slow=10,SNR=18						
ASAR				S	S	19 07 32.8	-0.2
	0.3nm,0.3s,baz=329,slow=14,SNR=6.0						
MKAR	**Makanchi Array**	**68.36**	**327**	P	P	19 11 31.0	+0.1
	0.2nm,0.4s,baz=123,slow=6.8,SNR=8.5						

*ISCJB **16** 19:00:51.3±1.6, 894N±007×7738W±004, h19km±12km, mb3.8/5, Error ellipse: s-maj=12.8km s-min=5.4km az=29.8*
*CASC **16** 19:00:54.3±1.8, 859N×7746W, h28km±8km, MD4.0, MW4.0, mb4.2(NEIC)*
*NEIC **16** 19:00:55.9±1.2, 888N×7740W, h47km±16km, mb4.2/1, Error ellipse: s-maj=18.5km s-min=11.1km az=208.0*
*IDC **16** 19:00:56.0±1.7, 902N×7733W, h44km±21km, mb3.6/4, mb1 3.9/8, mb1mx3.6/23, mbtmp4.0/8, ML3.5/4, Error ellipse: s-maj=25.0km s-min=12.0km az=25.0*

ISC 16 19:00:50.8±1.7, 898N±007×7740W±004, h0km±10km, n18, σ1§17/26, mb3.9/5, 3C-3D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD1	**Univ de Panama**	**0.74**	**235**⇓	*i*P	Pg	19 01 04.9	-0.1
UPD1				*e*S	Sg	19 01 13.9	-0.8
UPA	**Univ. de Panam**	**2.11**	**270**⇑	*i*P	Pn	19 01 28.1	+0.8
UPA				*e*S	Sn	19 01 53.4	-0.8
ACLA	**Agua Clara, Si**	**2.31**	**280**⇓	*e*P	Pn	19 01 30.6	+0.5
ACLA				*e*S	Sn	19 01 59.2	+0.1
ZANG	**Zanguenga, Cho**	**2.44**	**270**⇓	*e*P	Pn	19 01 31.6	-0.3
PINA	**Piqa, Costa Ab**	**2.64**	**276**⇓	*e*P	Pn	19 01 34.7	0.0
AZU	**Azuero**	**3.08**	**248**⇑	*e*P	Pn	19 01 38.4	-2.2
AZU				*e*S	Sn	19 02 13.5	-4.6
ROSC	**El Rosal**	**5.11**	**143**	P	Pn	19 02 09.5	+1.0
	5.0nm,0.3s,baz=288,slow=18,SNR=5.5						
ROSC				S	Sn	19 03 09.2	+1.0
	4.3nm,0.3s,baz=78,slow=22,SNR=3.1						
SDV	**Santo Domingo**	**6.69**	**90**	P	Pn	19 02 32.2	+1.9
	1.7nm,0.3s,baz=299,slow=9.8,SNR=10						
SDV				S	Sn	19 03 45.6	-1.4
	17nm,0.3s,baz=92,slow=17,SNR=10.0						
SDV	**Santo Domingo**	**6.69**	**90**	P	Pn	19 02 32.2	+1.9
SDV				S	Sn	19 03 45.6	-1.4
JTS	**JuntasAbangare**	**7.56**	**281**	P	Pn	19 02 43.6	+1.4
	3.1nm,0.3s,baz=94,slow=10,SNR=10						
JTS				S	Sn	19 04 09.8	+1.2
	0.3nm,0.3s,baz=197,slow=19,SNR=2.3						
OTAV	**Otavalo**	**8.75**	**187**	*e*P	Pn	19 02 57.9	-0.6
	14nm,0.9s						
CMIG	**Matias Romero**	**18.83**	**297**	P	Pn	19 05 14.4	+1.9
	0.5nm,0.3s,baz=66,slow=20,SNR=7.9						
LPAZ	**La Paz**	**26.73**	**160**	*e*P	P	19 06 35.4	+3.5
	15nm,2.1s,mb4.4						
SIV	**San Ignacio**	**29.61**	**147**	P	P	19 06 57.4	-0.2
	0.3nm,0.4s,mb3.4,baz=321,slow=13,SNR=3.8						
ULM	**Lac du Bonnet**	**43.91**	**343**	P	P	19 08 57.9	-1.3
	1.4nm,0.6s,mb3.8,baz=145,slow=9.1,SNR=3.1						
YKA	**Yellowknife Ar**	**59.82**	**341**	P	P	19 10 56.2	-1.6
	2.3nm,0.6s,mb4.4,baz=131,slow=7.3,SNR=16						
YKA	**Yellowknife Ar**	**59.82**	**341**	P	P	19 10 56.2	-1.6
TORD	**Torodi Ar. Bea**	**77.46**	**78**	P	P	19 12 46.8	-1.2
	0.3nm,0.5s,mb3.7,baz=278,slow=6.2,SNR=6.3						

*NIED **16** 19:04:00, 4040N×14370E, h11km, Mw4.1 Best double couple: M0:1.36000×10^15 NP1:φs=40.00000°, δ73.00000°, λ120.00000°. NP2:φs=156.00000°, δ34.00000°, λ31.00000°.*
*IDC **16** 19:04:07.1±0.8, 4033N×14388E, h0km, mb4.0/11, mb1 4.1/14, mb1mx4.0/22, mbtmp4.0/14, ML3.8/3, Error ellipse: s-maj=26.8km s-min=14.8km az=85.0*
*ISCJB **16** 19:04:08.4±1.5, 4037N±003×14390E±007, h24km±11km, mb4.1/18, Error ellipse: s-maj=9.2km s-min=4.1km az=44.0*
*JMA **16** 19:04:09.7±0.2, 4039N×14372E, h24km, M4.1*
*MOS **16** 19:04:09.6±1.0, 4039N×14388E, h33km, mb4.5/6, Error ellipse: s-maj=13.4km s-min=8.8km az=89.4*
*BJI **16** 19:04:11.7, 4057N×14383E, h50km, mb4.6*
*NEIC **16** 19:04:13.6±1.8, 4034N×14372E, h47km±15km, mb4.2/5, Error ellipse: s-maj=17.7km s-min=9.4km az=78.0*

ISC 16 19:04:09.1±1.7, 4040N±003×14388E±007, h15km±11km, n61, σ1§16/71, mb4.1/18, 1C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.61**	**254**	P	Pn	19 04 35.4	-1.5
JEM	**Erimo**	**1.71**	**342**	P	Pn	19 04 38.2	-0.1
JEM				*e*S	Sn	19 04 58.9	-0.9
MIYJ	**Miyakonagasawa**	**1.78**	**243**	P	Pn	19 04 38.1	-1.2
MIYJ				*e*S	Sn	19 04 58.7	-2.9
JANG	**Nango**	**1.80**	**270**	P	Pn	19 04 38.3	-1.3
JNBK	**Urakawa-nobuka**	**2.06**	**336**	P	Pn	19 04 43.8	+0.6
JOM	**Ohasama**	**2.19**	**246**	P	Pn	19 04 44.6	-0.3
JCH	**Churui**	**2.25**	**350**	P	Pn	19 04 45.8	+0.1
JCH				*e*S	Sn	19 05 12.8	-0.4
JOT	**Ohata**	**2.36**	**296**	P	Pn	19 04 46.8	-0.4
JMK	**Ichinoseki**	**2.51**	**236**	P	Pn	19 04 48.9	-0.4
JKB	**Kayabe**	**2.61**	**306**	P	Pn	19 04 50.5	-0.2
JAK	**Akkeshi**	**2.67**	**13**	P	Pn	19 04 51.9	+0.4
JAK				S	Sn	19 05 22.5	-1.0
JAR	**Ashorobuto**	**2.90**	**358**	P	Pn	19 04 54.5	-0.2
JAR				S	Sn	19 05 27.4	-1.8
JFR	**Furan**	**2.93**	**341**	P	Pn	19 04 56.3	+1.3
JEW	**Eniwo**	**3.04**	**324**	P	Pn	19 04 58.2	+1.5
JEW				*e*S	Sn	19 05 33.9	+1.1
JYK	**Kaneyama**	**3.09**	**243**	P	Pn	19 04 57.3	0.0
ASAJ	**Asahikawa**	**3.84**	**346**	Pn	Pn	19 05 08.7	+1.1
	3.9nm,0.3s,baz=190,slow=9.9,SNR=51						
ASAJ				Sn	Sn	19 05 54.2	+1.9
	6.8nm,0.3s,baz=308,slow=30,SNR=7.2						
ASAJ	**Asahikawa**	**3.84**	**346**	P	Pn	19 05 08.7	+1.1
ASAJ						19 05 54.2	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.92**	**21**	*e*P	Pn	19 05 09.4	+0.6
YUK				*e*S	Sn	19 05 52.5	-2.0
YUK				pmax	pmax		
	comp=Z,300nm,0.3s						
YUK				pmax	pmax		
	comp=N,220nm,0.5s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,400nm,0.5s						
KUR	**Kuril'sk**	**5.66**	**30**	*e*P	Pn	19 05 31.0	-1.5
KUR				*e*S	Sn	19 06 33.0	-4.2
KUR				pmax	pmax		
	comp=N,50nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,90nm,0.5s						
KUR				smax			
	comp=N,100nm,0.5s						
KUR				smax			
	comp=E,170nm,0.5s						
MAJO	**Matsushiro**	**5.88**	**231**	*e*P	Pn	19 05 36.4	+0.8
MAJO				pmax	pmax		
	comp=Z,25nm,0.6s						
MAJO	**Matsushiro**	**5.88**	**231**	*e*P	Pn	19 05 36.4	+0.8
	comp=Z,25nm,0.6s						
MAT	**Matsushiro**	**5.88**	**231**	P	Pn	19 05 36.3	+0.7
MAT				*e*S	Sn	19 06 43.8	+1.1
MAT	**Matsushiro**	**5.88**	**231**	*e*P	Pn	19 05 36.0	+0.4
MAT				pmax	pmax		
	comp=Z,41nm,1.8s						
MAT	**Matsushiro**	**5.88**	**231**	*e*P	Pn	19 05 36.0	+0.4
	comp=Z,41nm,1.8s						
MAT				*e*S	Sn	19 07 06.0	+23
MJAR	**Matsushiro Arr**	**5.88**	**231**	Pn	Pn	19 05 36.4	+0.8
	comp=Z,2.3nm,0.3s,baz=38,slow=12,SNR=49						
JHJ	**Hachijo jima 2**	**7.97**	**206**	Pn	Pn	19 06 01.9	-2.4
	comp=Z,7.3nm,0.3s,baz=128,slow=20,SNR=4.7						
JHJ				Sn	Sn	19 07 26.6	-7.6
	comp=Z,6.5nm,0.3s,baz=47,slow=24,SNR=3.0						
MDJ	**Mudanjiang**	**11.35**	**296**	P	Pn	19 06 52.8	+2.1
MDJ	**Mudanjiang**	**11.35**	**296**	*e*P	Pn	19 06 52.7	+2.0
	comp=Z,26nm,1.3s						
KLR	**Kul'dur**	**12.32**	**320**	*e*P	Pn	19 07 02.0	-1.9
HIA	**Hailar**	**19.21**	**306**	*e*P	Pn	19 08 31.3	-2.1
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HIA	**Hailar**	**19.21**	**306**	*e*P	Pn	19 08 31.3	-2.1
	comp=Z,4.7nm,0.6s						
CIT	**Chita**	**23.81**	**309**	*e*P	P	19 09 19.6	-1.7
ULN	**Ulaanbaatar**	**27.26**	**298**	*e*P	P	19 09 53.1	+0.4
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
ULN	**Ulaanbaatar**	**27.26**	**298**	*e*P	P	19 09 53.1	+0.4
	comp=Z,1.8nm,0.7s,mb3.7						
SONM	**Songino Array**	**27.70**	**298**	P	P	19 09 57.3	+0.7
	comp=Z,1.1nm,0.5s,mb3.7,baz=88,slow=8.9,SNR=9.1						
ZAK	**Zakamensk**	**29.87**	**303**	*e*P	P	19 10 15.4	-0.5
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.1s,mb3.9						
BILL	**Bilibino**	**30.26**	**17**	*e*P	P	19 10 20.6	+1.2
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
BILL	**Bilibino**	**30.26**	**17**	*e*P	P	19 10 20.6	+1.2
	comp=Z,5.6nm,1.2s,mb4.2						
GTA	**Gaotai**	**33.55**	**283**	*e*P	P	19 10 49.4	+1.1
GTA				AP	pP	19 10 56.6	+3.6
GYA	**Guiyang**	**33.77**	**257**⇓	*i*P	P	19 10 50.5	+0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
ZAL	**Zalesovo**	**41.18**	**310**	P	P	19 11 54.4	+1.5
	comp=Z,1.7nm,0.7s,mb3.8,baz=35,slow=9.9,SNR=9.3						
ZAL	**Zalesovo**	**41.18**	**310**	P	P	19 11 54.4	+1.5
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**44.05**	**300**	P	P	19 12 16.5	+0.3
	comp=Z,3.2nm,0.8s,mb4.1,baz=83,slow=8.9,SNR=24						
CHKZ	**Chkalovo**	**49.48**	**311**	*e*P	P	19 12 58.9	+0.2
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**49.48**	**311**	*e*P	P	19 12 58.9	+0.2
	comp=Z,4.8nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**50.61**	**311**	*e*P	P	19 13 07.6	+0.3
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**50.61**	**311**	*e*P	P	19 13 07.6	+0.3
	comp=Z,2.9nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**60.62**	**200**	P	P	19 14 18.8	-0.4
	comp=Z,1.6nm,0.8s,mb4.2,baz=83,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**60.68**	**190**	P	P	19 14 19.1	-0.5
	comp=Z,0.7nm,0.6s,mb4.0,baz=7.9,slow=6.9,SNR=9.4						
JOF	**Joensuu**	**63.91**	**332**	*ep*	P	19 14 40.7	-0.6
ASAR	**Alice Springs**	**64.41**	**190**	P	P	19 14 45.5	+0.9
	comp=Z,0.3nm,0.6s,mb3.5,baz=9.7,slow=10,SNR=6.9						
KAF	**Kangasniemi**	**66.20**	**333**	*ep*	P	19 14 54.1	-2.1
FINES	**FINESS Array B**	**66.73**	**332**	P	P	19 15 00.1	+0.6
	comp=Z,2.0nm,0.6s,mb4.3,baz=48,slow=7.5,SNR=15						
KIV	**Kislovodsk**	**70.16**	**311**⇑	*i*P	P	19 15 23.5	+2.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
NB2	**NORSAR Subarra**	**71.82**	**338**	P	P	19 15 31.5	+0.4
	comp=Z,1.2nm,0.7s,mb3.9,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**71.82**	**338**	P	P	19 15 31.6	+0.5
	comp=Z,1.8nm,0.7s,mb4.1,baz=37,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**72.81**	**323**	P	P	19 15 37.2	+0.3
	comp=Z,1.8nm,0.6s,mb4.2,baz=43,slow=5.9,SNR=12						
AKASG	**Malin Array Be**	**72.81**	**323**	P	P	19 15 37.2	+0.3
PDAR	**Pinedale Array**	**73.96**	**47**	P	P	19 15 45.9	+2.2
	comp=Z,0.6nm,0.6s,mb3.7,baz=266,slow=2.1,SNR=4.8						
GERES	**GERESS Array B**	**80.84**	**329**	P	P	19 16 22.3	0.0
	comp=Z,0.5nm,0.7s,mb3.6,baz=32,slow=6.3,SNR=5.2						
SIV	**San Ignacio**	**147.43**	**49**	PKPbc	PKPbc	19 23 51.7	-0.6
	comp=Z,0.7nm,0.5s,baz=287,slow=7.8,SNR=5.0						

*IDC **16** 19:11:39.8±1.4, 789S×11056E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/16, mbtmp3.9/5, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/23, Error ellipse: s-maj=63.5km s-min=23.6km az=50.0*
*ISCJB **16** 19:11:40.2±1.6, 79S±02×1106E±01, h10km±11km, mb4.0/6, Error ellipse: s-maj=37.5km s-min=8.1km az=76.1*
*NEIC **16** 19:11:41.3±0.9, 795S×11046E, h10km, mb3.7/2, Error ellipse: s-maj=39.0km s-min=12.1km az=55.0*

ISC 16 19:11:41.7±1.6, 81S±01×1104E±01, h12km±12km, n16, σ0§83/18, mb4.0/6, 1C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**0.27**	**339**⇓	*e*P	Pg	19 11 47.0	-0.2
YOGI				*e*S	Sg	19 11 51.0	+0.1
BJII	**Banjamegara**	**0.99**	**317**⇑	*i*P	Pg	19 12 00.3	-0.6
BJII				*i* S	Sg	19 12 14.6	+0.8
PSI	**Prapat**	**15.73**	**313**	LR	LR	19 21 14.6	
	comp=Z,65nm,19.5s,baz=242,slow=37						
MBWA	**Marble Bar**	**15.84**	**146**	*e*P	Pn	19

18nm,0.3s,baz=270,slow=2.4,SNR=170
MJAR Sn **Sn** **19 15 25.5 +1.1**
12nm,0.3s,baz=56,slow=15,SNR=6.4
MAJO Matsushiro 2.50 277 *e*P **Pn** **19 14 55.3 +0.7**
MAT Matsushiro 2.50 277 P **Pn** **19 14 54.9 +0.3**
MAT S **Sn** **19 15 25.4 +1.0**
MAT Matsushiro 2.50 277 *e*P **Pn** **19 14 55.0 +0.4**
MAT *e*S **Sn** **19 15 25.0 +0.6**
JHJ Hachijo jima 2 3.38 202 Pn **Pn** **19 15 08.7 +1.9**
14nm,0.3s,baz=273,slow=21,SNR=17
JHJ Sn **Sn** **19 15 46.2 -0.1**
23nm,0.3s,baz=58,slow=23,SNR=7.0
ASAJ Asahikawa 7.89 7 Pn **Pn** **19 16 09.2 +0.5**
1.0nm,0.3s,baz=272,slow=30,SNR=8.0
ASAJ Sn **Sn** **19 17 35.9 -1.6**
0.3nm,0.3s,baz=72,slow=20,SNR=2.7
CBIJ Chichi jima 9.19 175 Pn **Pn** **19 16 25.1 -1.4**
4.3nm,0.3s,baz=284,slow=17,SNR=6.7
CBIJ Sn **Sn** **19 18 01.2 -8.0**
3.4nm,0.3s,baz=293,slow=22,SNR=4.0
SONM Songino Array 28.13 305 P **P** **19 20 05.9 +0.2**
0.5nm,0.5s,mb3.4,baz=92,slow=9.8,SNR=4.9
ZAL Zalesovo 42.36 313 P **P** **19 22 08.5 +0.6**
1.3nm,0.6s,mb3.8,baz=1.6,slow=10,SNR=6.0
MKAR Makanchi Array 44.44 303 P **P** **19 22 25.0 +0.4**
0.3nm,0.6s,mb3.2,baz=89,slow=9.3,SNR=3.6
CHKZ Chkalovo 50.75 314 *e*P **P** **19 23 13.0 -0.7**
ZRNK Zerenda 51.84 313 *e*P **P** **19 23 20.9 -0.9**
WRA Warramunga Arr 56.30 188 P **P** **19 23 54.1 -0.2**
0.3nm,0.5s,mb3.6,baz=5.2,slow=7.7,SNR=6.0
AKASG Malin Array Be 74.83 322 P **P** **19 25 54.0 -0.1**
0.6nm,0.5s,mb3.8,baz=47,slow=5.4,SNR=6.4
NB2 NORSAR Subarra 74.84 337 P **P** **19 25 54.1 0.0**
comp=Z,0.6nm,0.7s,mb3.6,baz=41,slow=5.9
NOA NORSAR Array B 74.84 337 P **P** **19 25 53.8 -0.3**
comp=Z,0.4nm,0.7s,mb3.5,baz=44,slow=5.5,SNR=4.8
BRG Berggiesshubel 81.65 329 *e*(P) **P** **19 26 32.4 +0.6**
comp=Z,0.7nm,0.3s,mb4.0

IDC 16 19:26:57.2±1.9, 120N×12620E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=120.7km s-min=24.3km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.19**	**182**	*e*P	Pn	19 31 25.7	+2.4
	7.6nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.19**	**182**	P	Pn	19 31 24.6	+1.3
	0.1nm,0.3s,baz=356,slow=16,SNR=6.0						
WRA	**Warramunga Arr**	**22.48**	**160**	P	P	19 31 56.8	-1.2
	1.5nm,0.5s,baz=335,slow=11,SNR=19						
WB2	**Warramunga Arr**	**22.48**	**160**	*e*P	P	19 31 56.8	-1.2
ASPA	**Alice Springs**	**25.83**	**164**	*e*P	P	19 32 29.9	-0.2
ASAR	**Alice Springs**	**25.83**	**164**	P	P	19 32 30.8	+0.7
	0.7nm,0.5s,baz=345,slow=12,SNR=17						
MKAR	**Makanchi Array**	**59.34**	**326**	P	P	19 37 01.1	+0.1
	0.2nm,0.4s,baz=134,slow=6.2,SNR=5.5						

*ISCJB **16** 19:42:55.3±0.4, 4001N±002×2332E±004, h3km±8km, Error ellipse: s-maj=4.9km s-min=3.6km az=173.6*
*NEIC **16** 19:42:55.4, 4002N×2312E, h2km, MD2.6(ATH), After ATH.*
*THE **16** 19:42:55.8, 4001N×2331E, h10km, ML2.4*
*CSEM **16** 19:42:55.2±0.2, 4000N×2336E, h10km, MD2.6, Error ellipse: s-maj=7.3km s-min=3.7km az=88.0*
*ATH **16** 19:42:56.4, 3997N×2349E, h11km±6km, MD2.6/3*
ISC 16 19:42:56.0±0.5, 4000N±002×2332E±004, h12km±9km, n16, σ0§87/28, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.38**	**15**	⇑*i*PB	**Pg**	**19 43 04.0**	**+0.4**
PLG				*e*SB	**Sg**	**19 43 09.5**	**+0.7**
PLG	**Polygyros**	**0.38**	**15**	⇑*i*Pg	**Pg**	**19 43 03.4**	**-0.2**
PLG				*e*Sg	**Sg**	**19 43 09.5**	**+0.7**
OUR	**Ouranopolis**	**0.61**	**57**	*e*Pg	**Pg**	**19 43 07.8**	**0.0**
OUR				*e*Sg	**Sg**	**19 43 16.7**	**+0.8**
LIT	**Litokhoron**	**0.64**	**279**	*e*Pg	**Pg**	**19 43 07.8**	**-0.7**
LIT				*e*Sg	**Sg**	**19 43 17.8**	**+0.8**
XOR	**Xorichti**	**0.64**	**189**	*e*Pg	**Pg**	**19 43 08.7**	**+0.2**
THE	**Thessaloniki**	**0.68**	**337**	*e*Pg	**Pg**	**19 43 09.0**	**-0.3**
THE				*e*Sg	**Sg**	**19 43 17.8**	**-0.5**
NEO	**Neokhori**	**0.70**	**186**	*e*PB	**Pg**	**19 43 09.6**	**0.0**
NEO				*e*SB	**Sg**	**19 43 19.3**	**+0.5**
NEO	**Neokhori**	**0.70**	**186**	*e*Pg	**Pg**	**19 43 09.2**	**-0.4**
NEO				*e*Sg	**Sg**	**19 43 19.3**	**+0.5**
SOH	**Sokhos**	**0.82**	**2**	*e*Pg	**Pg**	**19 43 11.6**	**-0.3**
AOS	**Alonnisos**	**0.94**	**152**	*e*Pg	**Pg**	**19 43 12.9**	**-1.3**
AOS				*e*Sg	**Sg**	**19 43 26.8**	**+0.4**
GRG	**Griva**	**1.18**	**324**	*e*Pg	**Pg**	**19 43 17.8**	**-0.9**
GRG				*e*Sg	**Sg**	**19 43 34.2**	**+0.1**
KNT	**Kendrikon**	**1.20**	**345**	*e*Pg	**Pg**	**19 43 18.5**	**-0.6**
KNT				*e*Sg	**Sg**	**19 43 35.9**	**+1.2**
AGG	**Agios Georgios**	**1.24**	**218**	*e*Pg	**Pg**	**19 43 18.5**	**-1.4**
AGG				*e*Sg	**Sg**	**19 43 37.8**	**+1.7**
NVR	**Nevrokopi**	**1.41**	**17**	*e*PB	**Pb**	**19 43 22.9**	**+0.7**
VAY	**Valandovo**	**1.43**	**337**	*e*Pg	**Pg**	**19 43 22.5**	**-1.0**
FNA	**Florina**	**1.67**	**298**	*e*Pb	**Pb**	**19 43 25.1**	**-1.6**
FNA				*e*Sb	**Sb**	**19 43 49.2**	**+1.4**

*IDC **16** 19:44:10.3±1.1, 243N×9567E, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.9/21, mbtmp4.0/11, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx1.9/30, Error ellipse: s-maj=46.8km s-min=15.4km az=52.0*
*ISCJB **16** 19:44:12.7±3.3, 246N±009×958E±0.1, h28km±23km, mb4.3/18, MS3.6/2, Error ellipse: s-maj=19.5km s-min=11.5km az=103.0*
*BJI **16** 19:44:12.7, 247N×9583E, h32km, mB4.9, mb4.6, Ms3.8, Msz3.6*
*MOS **16** 19:44:13.9±0.8, 252N×9571E, h33km, mb4.9/4, Error ellipse: s-maj=20.3km s-min=12.6km az=114.1*
*NEIC **16** 19:44:15.0±0.5, 247N×9575E, h30km, mb4.7/7, Error ellipse: s-maj=13.1km s-min=6.5km az=223.0*
ISC 16 19:44:16.2±2.0, 250N±010×958E±01, h37km±17km, n33, σ0§70/34, mb4.3/18, MS3.6/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.16**	**84**	Pn	**Pn**	**19 45 03.6**	**+0.2**
	8.4nm,0.3s,baz=280,slow=6.9,SNR=20						
PSI				LR	LR	19 46 38.7	
	comp=Z,287nm,18.5s,baz=285,slow=46						
IPM	**Ipoh**	**5.60**	**69**	P	**Pn**	**19 45 36.8**	**-0.1**
KULM	**Kulim**	**5.60**	**60**	*e*P	**Pn**	**19 45 36.3**	**-0.6**
KGM	**Kluang**	**7.55**	**93**	P	**Pn**	**19 46 04.4**	**+0.6**
KMI	**Kunming**	**23.47**	**16**	P	**P**	**19 49 22.8**	**+0.2**
KMI				AP		19 49 29.4	
KMI				LR	LR		
	comp=N,80nm,10.0s,MS3.6						
KMI				LR	LR		
	comp=E,110nm,14.3s,MS3.6						
KMI				LR	LR		
	comp=Z,140nm,16.2s,MS3.5						
JIRN	**Jiri**	**26.65**	**341**	*e*P	**P**	**19 49 52.1**	**+0.7**
	comp=Z,48nm,0.7s,mb5.2						
PKI	**Pulchoki**	**26.83**	**339**	*e*P	**P**	**19 49 53.2**	**+0.1**
GUN	**Gumba**	**26.98**	**340**	*e*P	**P**	**19 49 55.1**	**+0.7**
	comp=Z,32nm,0.7s,mb5.0						
KKN	**Kakani**	**27.08**	**339**	*e*P	**P**	**19 49 55.6**	**+0.3**
	comp=Z,17nm,0.8s,mb4.6						
KKN	**Kakani**	**27.08**	**339**	*e*P	**P**	**19 49 55.6**	**+0.3**
KKN				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.6						
LSA	**Lhasa**	**27.41**	**351**	*e*P	**P**	**19 49 59.0**	**+0.7**
LSA	**Lhasa**	**27.41**	**351**	*e*P	**P**	**19 49 58.8**	**+0.5**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
LSA	**Lhasa**	**27.41**	**351**	*e*P	**P**	**19 49 58.8**	**+0.6**
	comp=Z,7.0nm,0.9s,mb4.2						
CD2	**Chengdu**	**29.25**	**14**	*e*P	**P**	**19 50 15.4**	**+0.7**
CD2				XP	sP	19 50 28.9	-0.6
CD2				PP	PP	19 51 11.3	-10
CD2				S	**S**	**19 55 05.8**	**+0.8**
CD2				XS	sS	19 55 21.6	-0.6
CD2				SS	SS	19 56 38.6	-31
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,4.8s						
CD2				LR	LR		
	comp=N,120nm,14.2s						
CD2				LR	LR		
	comp=Z,90nm,12.0s,MS3.6						
XAN	**Xi'an**	**33.69**	**20**	P	**P**	**19 50 52.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**35.84**	**126**	P	**P**	**19 51 12.0**	**-0.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=287,slow=11,SNR=4.7						
GTA	**Gaotai**	**36.92**	**5**	*e*P	**P**	**19 51 20.5**	**-1.0**
GTA				AP	pP	19 51 26.0	-6.0
GTA				XP	sP	19 51 29.5	-6.9
BJT	**Baijiatuau**	**41.68**	**24**	*e*P	**P**	**19 52 01.9**	**+0.7**
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	**Baijiatuau**	**41.68**	**24**	*e*P	**P**	**19 52 01.9**	**+0.7**
	comp=Z,18nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**43.93**	**122**	P	**P**	**19 52 20.0**	**+0.6**
	comp=Z,1.2nm,0.5s,mb3.9,baz=298,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**45.31**	**127**	P	**P**	**19 52 31.1**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.6,baz=301,slow=7.8,SNR=22						
MKAR	**Makanchi Array**	**45.66**	**347**	P	**P**	**19 52 33.1**	**-0.1**
	comp=Z,2.9nm,0.5s,mb4.5,baz=153,slow=9.1,SNR=55						
SONM	**Songino Array**	**46.08**	**10**	P	**P**	**19 52 36.1**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.2,baz=190,slow=9.3,SNR=14						
ZAL	**Zalesovo**	**52.06**	**352**	P	**P**	**19 53 22.4**	**+0.1**
	comp=Z,2.1nm,0.4s,mb4.4,baz=261,slow=3.8,SNR=7.6						
ZRNK	**Zerenda**	**54.96**	**341**	*e*P	**P**	**19 53 42.5**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**54.96**	**341**	*e*P	**P**	**19 53 42.5**	**-1.0**
	comp=Z,2.3nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**55.05**	**342**	*e*P	**P**	**19 53 43.7**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**55.05**	**342**	*e*P	**P**	**19 53 43.7**	**-0.5**
	comp=Z,4.3nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**55.28**	**132**	P	**P**	**19 53 44.8**	**-1.1**
	comp=Z,0.7nm,0.4s,mb4.1,baz=291,slow=8.6,SNR=3.1						
FINES	**FINESS Array B**	**78.20**	**333**	P	**P**	**19 56 10.8**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=126,slow=8.8,SNR=4.3						
ARCES	**ARCESS Array B**	**80.84**	**340**	P	**P**	**19 56 26.0**	**-0.2**
	comp=Z,3.7nm,1.0s,mb4.3,baz=78,slow=5.6,SNR=11						
ARCES	**ARCESS Array B**	**80.84**	**340**	P	**P**	**19 56 26.0**	**-0.2**
GERES	**GERESS Array B**	**82.91**	**319**	P	**P**	**19 56 38.3**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.5,baz=147,slow=5.7,SNR=3.0						

BJI 16 19:52:19.9, 4088N×9417E, h13km, mb4.1, ML3.8, Ms4.0, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.57**	**107**	P	Pn	19 53 30.8	+2.1
GTA				PG	Pg	19 53 41.8	-5.6
GTA				S	Sn	19 54 22.9	+1.3
GTA				SG	Sg	19 54 40.8	-5.8
GTA				Smax			
	comp=N,80nm,1.0s						
GTA				Smax			
	comp=E,70nm,0.9s						
WMQ	**Urumqi**	**5.63**	**304**	*e*P	Pn	19 53 45.1	+1.9
WMQ				S	Sn	19 54 47.5	-0.2
WMQ				SG	Sg	19 55 10.8	-10
WMQ				Smax			
	comp=N,140nm,0.7s						
WMQ				Smax			
	comp=E,140nm,0.6s						

*NIED **16** 19:53:00, 4030N×14360E, h14km, Mw4.4 Best double couple: M0=4.87000×10^15 NP1:φs=42.00000°, δ=74.00000°, λ=120.00000°. NP2:φs=157.00000°, δ=33.00000°, λ=30.00000°.*
*IDC **16** 19:53:30.9±0.7, 4026N×14374E, h0km, mb4.0/12, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML3.8/3, MS3.7/2, Ms1 3.7/2, ms1mx2.9/36, Error ellipse: s-maj=23.0km s-min=17.0km az=97.0*
*ISCJB **16** 19:53:31.7±1.2, 4036N±003×14374E±006, h15km±8km, mb4.3/33, MS3.9/4, Error ellipse: s-maj=8.3km s-min=4.3km az=61.3*
*JMA **16** 19:53:33.1±0.2, 4034N×14361E, h14km, M4.3*
*BJI **16** 19:53:33.5, 4048N×14348E, h14km, mB4.8, mb4.6, Ms4.0, Msz3.8*
*MOS **16** 19:53:33.5±1.2, 4031N×14382E, h33km, mb4.6/12, Error ellipse: s-maj=12.3km s-min=7.9km az=92.6*
*SZGRF **16** 19:53:36.5, 3961N×14294E, h33km, mb4.5, Near east coast of eastern Honshu, Japan*
*NEIC **16** 19:53:37.0±1.6, 4027N×14368E, h44km±14km, mb4.4/10, Error ellipse: s-maj=14.5km s-min=11.6km az=85.0*
ISC 16 19:53:33.2±1.5, 4038N±003×14370E±006, h14km±9km, n93, σ1§05/105, mb4.3/33, MS3.9/4, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.48**	**253**	P	**Pn**	**19 53 58.2**	**-1.2**
JTH				*e*S	**Sn**	**19 54 16.1**	**-2.4**
MIYJ	**Miyakonagasawa**	**1.66**	**242**	P	**Pn**	**19 54 00.9**	**-0.9**
JANG	**Nango**	**1.67**	**270**	P	**Pn**	**19 54 01.3**	**-0.7**
JANG				*e*S	**Sn**	**19 54 22.6**	**-0.7**
JEM	**Erimo**	**1.68**	**346**	P	**Pn**	**19 54 03.1**	**+0.9**
JNBK	**Urakawa-nobuka**	**2.03**	**340**	P	**Pn**	**19 54 07.7**	**+0.8**
JOM	**Ohasama**	**2.06**	**245**	P	**Pn**	**19 54 07.1**	**-0.3**
JCH	**Churui**	**2.24**	**354**	P	**Pn**	**19 54 10.3**	**+0.4**
JCH				*e*S	**Sn**	**19 54 37.6**	**+0.2**
JOT	**Ohata**	**2.25**	**297**	P	**Pn**	**19 54 10.1**	**+0.2**
JMK	**Ichinoseki**	**2.39**	**234**	P	**Pn**	**19 54 11.4**	**-0.5**
JKB	**Kayabe**	**2.52**	**308**	P	**Pn**	**19 54 14.6**	**+1.0**
JAK	**Akkeshi**	**2.71**	**16**	P	**Pn**	**19 54 16.2**	**-0.2**
JAK				*e*S	**Sn**	**19 54 47.3**	**-1.7**
JFR	**Furan**	**2.90**	**344**	P	**Pn**	**19 54 20.1**	**+1.2**
JAR	**Ashorobuto**	**2.91**	**1**	P	**Pn**	**19 54 18.5**	**-0.6**
JAR				*e*S	**Sn**	**19 54 51.8**	**-2.1**
JYK	**Kaneyama**	**2.97**	**242**	P	**Pn**	**19 54 19.9**	**+0.1**
JYK				*e*S	**Sn**	**19 54 55.9**	**+0.6**
JEW	**Eniwo**	**2.98**	**326**	*e*S	**Sn**	**19 54 57.0**	**+1.4**
ASAJ	**Asahikawa**	**3.82**	**348**	Pn	**Pn**	**19 54 32.6**	**+1.1**
	2.2nm,0.3s,baz=209,slow=9.7,SNR=14						
ASAJ				Sn	**Sn**	**19 55 15.7**	**-0.6**
	4.7nm,0.3s,baz=1.2,slow=30,SNR=5.7						
ASAJ	**Asahikawa**	**3.82**	**348**	P	**Pn**	**19 54 32.7**	**+1.1**
ASAJ						19 55 15.7	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.99**	**23**	*e*P	**Pn**	**19 54 33.7**	**-0.2**
YUK				*e*S	**Sn**	**19 55 17.5**	**-2.9**
YUK				pmax	pmax		
	comp=Z,180nm,0.5s						
YUK				pmax	pmax		
	comp=N,350nm,0.6s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
YUK				smax			
	comp=N,2μm,0.8s						
KUR	**Kuril'sk**	**5.73**	**31**	*e*P	**Pn**	**19 54 55.8**	**-2.1**
KUR				*e*S	**Sn**	**19 55 58.5**	**-5.0**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,90nm,0.5s						
KUR				smax			
	comp=N,150nm,0.5s						
KUR				smax			
	comp=E,140nm,0.5s						
MJAR	**Matsushiro Arr**	**5.77**	**230**	Pn	**Pn**	**19 54 58.8**	**+0.5**
	comp=E,2.8nm,0.3s,baz=36,slow=12,SNR=61						
MAJO	**Matsushiro**	**5.77**	**230**	*e*P	**Pn**	**19 54 58.9**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,51nm,0.6s						
MAJO	**Matsushiro**	**5.77**	**230**	*e*P	**Pn**	**19 54 58.9**	**+0.5**
	comp=Z,51nm,0.6s						
MAT	**Matsushiro**	**5.77**	**230**	P	**Pn**	**19 54 58.8**	**+0.4**
MAT				S	**Sn**	**19 56 09.9**	**+5.5**
MAT	**Matsushiro**	**5.77**	**230**	*e*P	**Pn**	**19 54 59.0**	**+0.6**
MAT				*e*S	**Sn**	**19 56 10.0**	**+5.6**
MAT				pmax	pmax		
	comp=Z,73nm,1.3s						
MAT	**Matsushiro**	**5.77**	**230**	*e*P	**Pn**	**19 54 59.0**	**+0.6**
	comp=Z,73nm,1.3s						
MAT				*e*S	**Sn**	**19 56 10.0**	**+5.6**
JHJ	**Hachijo jima 2 7.90 205**			Pn	**Pn**	**19 55 24.8**	**-2.9**
	comp=Z,19nm,0.3s,baz=115,slow=20,SNR=18						
JHJ				Sn	**Sn**	**19 56 49.5**	**-7.3**
	comp=Z,30nm,0.3s,baz=49,slow=22,SNR=6.7						
MDJ	**Mudanjiang 11.24 297**			*e*P	**Pn**	**19 56 16.3**	**+2.8**
	comp=Z,13nm,0.8s						
KLR	**Kul'dur 12.25 320**			*e*P	**Pn**	**19 56 25.0**	**-2.1**
CBIJ	**Chichi jima 13.31 186**			Pn	**Pn**	**19 56 35.0**	**-6.7**
	comp=Z,1.5nm,0.3s,baz=253,slow=19,SNR=4.9						
CBIJ				Sn	**Sn**	**19 58 52.9**	**-17**
	comp=Z,2.0nm,0.3s,baz=90,slow=23,SNR=2.6						
BJT	**Baijiatuau 21.01 278**			P	**P**	**19 58 14.8**	**-1.5**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuau 21.01 278**			P	**P**	**19 58 14.8**	**-1.4**
	comp=Z,9.1nm,0.6s,mb4.3						
YAK	**Yakutsk 23.29 343**			*e*P	**P**	**19 58 40.8**	**+0.2**
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				MLR	MLR		
	comp=E,100nm,15.0s,MS3.6						
YAK				MLR	MLR		
	comp=Z,130nm,15.0s,MS3.5						
YAK				MLR	MLR		
	comp=N,126nm,18.0s,MS3.6						
CIT	**Chita 23.71 309**			*e*P	**P**	**19 58 43.2**	**-1.6**
CIT				*e*		19 58 53.7	
CIT				pmax	pmax		
	comp=Z,42nm,2.5s,mb4.4						
SONM	**Songino Array 27.59 298**			LR	LR	20 10 59.2	
	comp=Z,150nm,20.0s,MS3.6,baz=245,slow=38						
BILL	**Bilibino 30.31 17**			*e*P	**P**	**19 59 43.1**	**-1.0**
BILL				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
BILL	**Bilibino 30.31 17**			*e*P	**P**	**19 59 43.1**	**-1.0**
	comp=Z,12nm,1.1s,mb4.5						
LZH	**Lanzhou 31.41 275**			*e*P	**P**	**19 59 55.0**	**+1.2**
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
CD2	**Chengdu 33.57 266**			*e*P	**P**	**20 00 12.5**	**-0.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
GYA	**Guiyang 33.63 257**			⇓*i*P	**P**	**20 00 13.5**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI	**Kunming 37.31 259**			P	**P**	**20 00 45.1**	**+0.2**
KMI				PP	PP	20 02 09.6	-0.4
KMI				S	**S**	**20 06 31.9**	**-0.1**
KMI				SS	SS	20 09 01.4	-14
KMI				AMB	AMB		
	comp=Z,60nm,6.3s						
KMI				LR	LR		
	comp=N,310nm,12.4s,MS4.5						
KMI				LR	LR		
	comp=E,360nm,14.2s,MS4.5						
KMI				LR	LR		
	comp=Z,520nm,12.2s,MS4.5						
ZAL	**Zalesovo 41.09 310**			P	**P**	**20 01 17.9**	**+1.4**
	comp=Z,2.3nm,0.7s,mb3.9,baz=21,slow=7.0,SNR=7.1						
KDAK	**Kodiak Island 43.43 44**			P	**P**	**20 01 35.9**	**+0.3**
	comp=Z,8.7nm,1.1s,mb4.4,baz=349,slow=9.6,SNR=2.8						
LSA	**Lhasa 43.76 273**			*e*P	**P**	**20 01 41.0**	**+2.8**
LSA	**Lhasa 43.76 273**			P	**P**	**20 01 39.5**	**+1.3**
LSA				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.6						
LSA	**Lhasa 43.76 273**			P	**P**	**20 01 39.5**	**+1.2**
	comp=Z,20nm,1.5s,mb4.6						
MKAR	**Makanchi Array 43.94 300**			P	**P**	**20 01 40.1**	**+0.4**
	comp=Z,7.1nm,1.0s,mb4.4,baz=82,slow=9.1,SNR=20						
KURK	**Kurchatov 45.35 306**			*i* P	**P**	**20 01 49.9**	**-1.0**
CHKZ	**Chkalovo 49.39 311**			*e*P	**P**	**20 02 21.7**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo 49.39 311**			*e*P	**P**	**20 02 21.6**	**-0.7**
	comp=Z,6.0nm,0.8s,mb4.7						
ZRNK	**Zerenda 50.52 311**			*e*P	**P**	**20 02 31.0**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ZRNK	**Zerenda 50.52 311**			*e*P	**P**	**20 02 31.0**	**0.0**
	comp=Z,7.9nm,1.0s,mb4.6						
AAK	**Ala-Archa 50.53 297**			*i* P	**P**	**20 02 30.0**	**-1.0**
ARU	**Arti 55.07 318**			*e*P	**P**	**20 03 05.3**	**+0.7**
WRA	**Warramunga Arr 60.64 190**			P	**P**	**20 03 42.5**	**-1.2**
	comp=Z,1.2nm,0.8s,mb4.1,baz=8.3,slow=6.9,SNR=7.8						
JOF	**Joensuu 63.86 332**			*e*p	**P**	**20 04 03.4**	**-1.8**
	comp=Z,1.7nm,0.6s,mb4.2						
ASAR	**Alice Sprngs 64.37 190**			P	**P**	**20 04 08.2**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=4.4,slow=5.6,SNR=5.5						
KAF	**Kangasniemi 66.15 333**			*e*p	**P**	**20 04 18.8**	**-1.4**
	comp=Z,1.5nm,0.6s,mb4.2,baz=45,slow=6.0						
KAF	**Kangasniemi 66.15 333**			*e*P	**P**	**20 04 18.8**	**-1.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B 66.69 332**			P	**P**	**20 04 23.5**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.3,baz=46,slow=6.7,SNR=12						
FINES	**FINESS Array B 66.69 332**			P	**P**	**20 04 23.5**	**-0.1**
JMIC	**Jan Mayen 67.16 350**			LR	LR	20 33 08.9	
	comp=Z,63nm,18.5s,MS3.9,baz=306,slow=35						
GOF	**Gofitskoye 69.20 312**			*e*P	**P**	**20 04 49.0**	**+10**
KIV	**Kislovodsk 70.06 311**			*i* P	**P**	**20 04 45.7**	**+1.0**
NVAR	**Mina Array Bea 71.58 55**			P	**P**	**20 04 55.2**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=295,slow=4.9,SNR=4.8						
NVAR	**Mina Array Bea 71.58 55**			P	**P**	**20 04 55.2**	**+1.3**
NB2	**NORSAR Subarra 71.78 338**			P	**P**	**20 04 55.5**	**+0.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=36,slow=6.2						
NB2	**NORSAR Subarra 71.78 338**			P	**P**	**20 04 55.5**	**+0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NOA	**NORSAR Array B 71.78 338**			P	**P**	**20 04 55.3**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.2,baz=36,slow=6.0,SNR=8.4						

*MOS **16** 19:55:17.3±0.9, 5658S×2631W, h52km, mb5.1/3, Error ellipse: s-maj=27.2km s-min=12.8km az=100.5*
*ISCJB **16** 19:55:21.6±1.8, 5660S±006×264W±0.1, h92km±17km, mb4.9/28, Error ellipse: s-maj=12.0km s-min=8.3km az=84.0*
*IDC **16** 19:55:23.4±0.5, 5665S×2652W, h97km±3km, mb4.7/18, mb1 4.7/19, mb1mx4.7/22, mbtmp5.0/19, MS4.0/4, Ms1 3.9/4, ms1mx3.4/12, Error ellipse: s-maj=13.6km s-min=9.1km az=15.0*
*NEIC **16** 19:55:26.1±1.8, 5664S×2644W, h122km±16km, mb5.0/10, Error ellipse: s-maj=7.8km s-min=6.1km az=208.0*
*BJI **16** 19:55:26.0, 5660S×2640W, h121km, mB5.1*
ISC 16 19:55:23.2±1.5, 5669S±006×264W±01, h94km±15km, n120, σ0°92/47, mb4.9/28, 14C-10D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.20**	**289**	Pn	**Pn**	**19 56 52.6**	**+0.5**
	835nm,0.6s,SNR=12						
VNA1	**Neumayer--Stat**	**16.04**	**158**	*e*Pn	**Pn**	**19 59 05.3**	**+2.1**
VNA1				*e*		19 59 06.6	
VNA1				*e*		19 59 09.2	
VNA1				*e*		19 59 11.7	
VNA1				*e*		19 59 14.1	
VNA1				*e*		19 59 21.1	
VNA1				*e*		19 59 28.2	
VNA1				*e*		19 59 53.9	
VNA1				*e*		20 00 23.6	
VNA1				*e*		20 01 01.1	
VNA1				*e*		20 01 03.2	
VNA1				*e*		20 07 18.3	
VNA1				*e*		20 07 21.8	
SNAA	**Sanae**	**17.98**	**156**	P	**Pn**	**19 59 26.1**	**-0.9**
	1.2nm,0.3s,baz=313,slow=9.4,SNR=199						
SNAA				S	**S**	**20 02 36.4**	**-11**
	0.2nm,0.3s,baz=312,slow=19,SNR=6.4						
SNAA				ScP	ScP	20 07 22.2	-1.5
	0.1nm,0.3s,baz=297,slow=1.5,SNR=9.5						
PMSA	**Palmer Station**	**19.80**	**231**	*e*P	**Pn**	**19 59 47.5**	**-1.0**
	146nm,1.0s						
NVL	**N'lazarevskaya**	**21.50**	**146**	*c i*P	**P**	**20 00 03.6**	**-0.7**
NVL				*e**PP		20 00 29.5	
NVL				*i* S	**S**	**20 03 56.6**	**-0.6**
NVL				*e**SS	sS	20 04 44.9	+17
NVL				pmax	pmax		
	comp=Z,91nm,1.5s,mb4.9						
USHA	**Ushuaia**	**23.43**	**257**	P	**P**	**20 00 23.6**	**-0.3**
	comp=Z,6.6nm,0.7s,mb4.1,baz=136,slow=1.9,SNR=4.2						
USHA				LR	LR	20 07 30.9	
	comp=Z,362nm,21.9s,baz=92,slow=31						
USHA				ScP	ScP	20 07 34.7	-2.3
	comp=Z,5.9nm,0.6s,baz=114,slow=6.6,SNR=5.2						
SYO	**Syowa Base**	**30.82**	**140**	⇓*e*P	**P**	**20 01 28.8**	**-1.3**
PLCA	**Paso Flores**	**32.52**	**280**	P	**P**	**20 01 45.2**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.8,baz=141,slow=6.5,SNR=2.9						
PLCA				pP	pP	20 02 04.7	-1.8
	comp=Z,4.0nm,0.8s,baz=146,slow=9.5,SNR=5.6						
PLCA				ScP	ScP	20 08 01.6	-3.2
	comp=Z,4.2nm,0.7s,baz=126,slow=3.1,SNR=10						
PLCA	**Paso Flores**	**32.52**	**280**	P	**P**	**20 01 45.2**	**+0.2**
PLCA				*PP	pP	20 02 04.7	-1.7
PLCA	**Paso Flores**	**32.52**	**280**	P	**P**	**20 01 45.2**	**+0.1**
PLCA				pP	pP	20 02 04.7	-1.8
PLCA				ScP	ScP	20 08 01.6	-3.2
QSPA	**South Pole Qui**	**33.56**	**180**	⇑*i*P	**P**	**20 01 54.7**	**+0.7**
	comp=Z,113nm,0.8s,mb5.8						
CPUP	**Villa Florida**	**37.55**	**311**	P	**P**	**20 02 27.5**	**-0.7**
	comp=Z,2.7nm,0.4s,mb4.4,baz=133,slow=6.8,SNR=14						
CPUP				PcP	PcP	20 04 42.9	-1.5
	comp=Z,2.0nm,0.5s,baz=83,slow=1.3,SNR=3.9						
CPUP				ScP	ScP	20 08 20.4	-2.7
	comp=Z,1.7nm,0.6s,baz=155,slow=3.2,SNR=5.0						
CFAA	**Coronel Fontan**	**38.20**	**293**	P	**P**	**20 02 31.9**	**-1.8**
	comp=Z,0.5nm,0.4s,mb3.7,baz=131,slow=3.7,SNR=6.9						
MAW	**Mawson**	**39.38**	**143**	⇑*i*P	**P**	**20 02 43.5**	**-0.1**
	comp=Z,8.7nm,0.7s,mb4.7						
MAW	**Mawson**	**39.38**	**143**	P	**P**	**20 02 43.5**	**-0.1**
	comp=Z,11nm,0.7s,mb4.8,baz=242,slow=8.5,SNR=25						
MAW				ScP	ScP	20 08 28.7	-1.3
	comp=Z,1.3nm,0.6s,baz=263,slow=8.1,SNR=3.2						
MAW	**Mawson**	**39.38**	**143**	⇑*i*P	**P**	**20 02 43.5**	**-0.1**
MAW				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SUR	**Sutherland**	**40.42**	**73**	P	**P**	**20 02 52.5**	**+0.4**
	comp=Z,11nm,0.7s,mb4.8,baz=199,slow=5.9,SNR=11						
BDFB	**Brasilia**	**44.13**	**329**	P	**P**	**20 03 23.0**	**+0.8**
	comp=Z,4.8nm,0.5s,mb4.5,baz=183,slow=2.5,SNR=9.1						
SBA	**Scott Base**	**45.47**	**184**	*e*P	**P**	**20 03 33.2**	**+0.4**
SBA				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
SBA	**Scott Base**	**45.47**	**184**	*e*P	**P**	**20 03 33.2**	**+0.4**
	comp=Z,20nm,0.8s,mb4.9						
BOSA	**Boshof**	**45.73**	**74**	P	**P**	**20 03 34.3**	**-0.7**
	comp=Z,25nm,1.0s,mb4.9,baz=219,slow=8.2,SNR=29						
BOSA				ScP	ScP	20 08 54.8	-0.8
	comp=Z,1.6nm,0.8s,baz=270,slow=3.0,SNR=2.6						
BOSA				LR	LR	20 18 13.7	
	comp=Z,227nm,22.0s,baz=220,slow=30						
VNDA	**Vanda**	**45.95**	**183**	P	**P**	**20 03 37.0**	**+0.3**
	comp=Z,32nm,0.7s,mb5.1,baz=188,slow=6.5,SNR=184						
VNDA				ScP	ScP	20 08 55.4	-1.1
	comp=Z,14nm,0.9s,baz=218,slow=3.7,SNR=22						
VNDA				LR	LR	20 21 02.2	
	comp=Z,130nm,19.0s,baz=165,slow=34						
LVC	**Limon Verde**	**45.98**	**300**	P	**P**	**20 03 37.4**	**+0.5**
	comp=Z,13nm,0.4s,mb5.0,baz=155,slow=7.0,SNR=22						
LVC				ScP	ScP	20 08 55.0	-1.6
	comp=Z,1.5nm,0.6s,baz=280,slow=1.3,SNR=3.8						
SIV	**San Ignacio**	**48.32**	**313**	P	**P**	**20 03 54.4**	**-0.7**
	comp=Z,4.4nm,0.6s,mb4.5,baz=160,slow=7.9,SNR=30						
SIV				ScP	ScP	20 09 04.2	-2.2
	comp=Z,7.7nm,0.9s,baz=151,slow=4.8,SNR=15						
LBTB	**Lobatse**	**48.81**	**72**	P	**P**	**20 03 58.2**	**-0.6**
	comp=Z,28nm,0.7s,mb5.3,baz=226,slow=8.5,SNR=82						
TSUM	**Tsumeb**	**49.64**	**60**	*e*P	**P**	**20 04 04.6**	**-0.6**
	comp=Z,53nm,1.2s,mb5.3						
LPAZ	**La Paz**	**51.09**	**305**	P	**P**	**20 04 17.2**	**+1.1**
	comp=Z,39nm,0.5s,mb5.7,baz=141,slow=4.7,SNR=170						
LPAZ				ScP	ScP	20 09 16.6	-1.7
	comp=Z,1.7nm,0.6s,baz=228,slow=2.8,SNR=4.7						
LPAZ	**La Paz**	**51.09**	**305**	P	**P**	**20 04 17.2**	**+1.1**
LPAZ				ScP	ScP	20 09 16.6	-1.7
CASY	**Casey**	**53.16**	**160**	*e*P	**P**	**20 04 31.3**	**-0.1**
MATP	**Matopo**	**54.09**	**71**	P	**P**	**20 04 37.4**	**-0.8**
	comp=Z,61nm,0.8s,mb5.7,baz=212,slow=7.1,SNR=152						
SAML	**Samuel**	**55.55**	**314**	*e*P	**P**	**20 04 48.1**	**-0.6**
	comp=Z,15nm,0.7s,mb5.1						
LSZ	**Lusaka**	**58.23**	**68**	P	**P**	**20 05 07.3**	**-0.3**
	comp=Z,50nm,0.8s,mb5.6,baz=206,slow=7.5,SNR=132						
DBIC	**Dimbokro**	**65.58**	**24**	P	**P**	**20 05 56.5**	**-0.5**
	comp=Z,27nm,0.6s,mb5.3,baz=172,slow=7.5,SNR=64						
DBIC				LR	LR	20 27 19.4	
	comp=Z,92nm,20.1s,baz=109,slow=29						
OPO	**Ambohidratompo**	**65.70**	**87**	P	**P**	**20 05 59.5**	**+1.8**
	comp=Z,12nm,0.9s,mb4.7,baz=204,slow=5.9,SNR=17						
OTAV	**Otavalo**	**70.36**	**303**	*e*P	**P**	**20 06 28.0**	**+1.2**
	comp=Z,7.3nm,0.6s,mb4.7						
TORD	**Torodi Ar. Bea**	**73.42**	**29**	P	**P**	**20 06 44.9**	**-0.2**
	comp=Z,122nm,0.7s,mb5.8,baz=200,slow=6.5,SNR=944						
TORD				pP	pP	20 07 10.5	+1.2
	comp=Z,18nm,1.0s,baz=198,slow=6.5,SNR=3.2						
SDV	**Santo Domingo**	**74.76**	**314**	*e*P	**P**	**20 06 52.7**	**-0.2**
	comp=Z,5.0nm,0.6s,mb4.4						
KMBO	**Kilima Mbogo**	**74.89**	**68**	P	**P**	**20 06 55.9**	**+2.2**
	comp=Z,6.8nm,0.9s,mb4.3,baz=207,slow=7.2,SNR=3.6						
KMBO	**Kilima Mbogo**	**74.89**	**68**	*e*P	**P**	**20 06 55.5**	**+1.8**
STKA	**Stephens Creek**	**91.20**	**170**	*e*P	**P**	**20 08 16.3**	**-1.4**
	comp=Z,6.2nm,1.9s,mb4.4						
STKA	**Stephens Creek**	**91.20**	**170**	P	**P**	**20 08 16.5**	**-1.2**
	comp=Z,2.6nm,0.6s,mb4.5,baz=179,slow=1.5,SNR=9.0						
STKA				PP	PP	20 11 51.5	-4.2
	comp=Z,2.7nm,0.7s,baz=179,slow=6.5,SNR=5.8						
ASPA	**Alice Springs**	**98.25**	**162**	*e*P	**P**	**20 08 51.2**	**+1.3**
ASAR	**Alice Springs**	**98.25**	**162**	P	**P**	**20 08 49.5**	**-0.4**
	comp=Z,3.3nm,0.7s,mb5.0,baz=194,slow=3.7,SNR=26						
ASAR				PP	PP	20 12 47.6	-2.9
	comp=Z,1.1nm,0.8s,baz=182,slow=9.1,SNR=4.7						
ASAR				PKKPbc	PKKPbc	20 25 18.1	-2.8
	comp=Z,0.4nm,0.7s,baz=14,slow=3.6,SNR=5.1						
ASAR	**Alice Springs**	**98.25**	**162**	P	**P**	**20 08 49.6**	**-0.3**
ASAR						20 12 47.7	
AS31	**Alice Springs**	**98.25**	**162**	*e*P	**P**	**20 08 51.2**	**+1.3**
WRA	**Warramunga Arr**	**101.97**	**162**	P	Pdif	20 09 07.8	+1.3
	comp=Z,0.6nm,0.6s,baz=195,slow=4.5,SNR=4.9						
WRA				PP	PP	20 13 18.6	-0.1
	comp=Z,1.4nm,1.0s,baz=186,slow=6.2,SNR=6.0						
WRA				PKKPbc	PKKPbc	20 25 08.6	-1.8
	comp=Z,0.2nm,0.6s,baz=357,slow=2.8,SNR=9.5						
WRA	**Warramunga Arr**	**101.97**	**162**	P	Pdif	20 09 07.8	+1.3
WRA						20 13 18.6	
SWET	**Sewanee**	**104.44**	**313**	*e*P	Pdif	20 09 18.4	+0.9
BRTR	**Keskin Array B**	**108.58**	**45**	PP	PP	20 14 03.6	-4.0
	comp=Z,0.9nm,1.0s,baz=197,slow=6.2,SNR=4.6						
GERES	**GERESS Array B**	**110.34**	**27**	PP	PP	20 14 17.9	-2.4
	comp=Z,1.0nm,0.9s,baz=210,slow=7.1,SNR=4.9						
KIV	**Kislovodsk**	**115.78**	**49**	⇑*i*PKIKP	PKPdf	20 13 50.9	-3.7
KIV				*e*		20 15 03.6	
KIV				*e*		20 17 26.2	
KIV						20 20 41.6	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
S09A	**Goldfield**	**120.93**	**292**	⇑P	PKPdf	20 14 04.3	-0.2
	baz=121						
ULM	**Lac du Bonnet**	**121.00**	**315**	PKP	PKPdf	20 14 01.4	-3.2
	comp=Z,2.2nm,0.5s,baz=157,slow=2.4,SNR=6.2						
Q11A	**Duckwater**	**121.00**	**294**	⇓P	PKPdf	20 14 04.3	-0.3
	baz=121						
NOA	**NORSAR Array B**	**121.06**	**20**	PKP	PKPdf	20 14 02.5	-2.3
	comp=Z,0.8nm,0.8s,baz=207,slow=2.0,SNR=3.5						
NOA				pPKP	pPKPdf	20 14 28.3	-2.5
	comp=Z,0.7nm,0.8s,baz=209,slow=2.0,SNR=2.5						
O11A	**Cowboy Ranch,**	**121.98**	**295**	⇑P	PKPdf	20 14 06.2	-0.3
	baz=122						
NVAR	**Mina Array Bea**	**122.03**	**292**	PKP	PKPdf	20 14 05.8	-0.8
	comp=Z,0.5nm,0.6s,baz=139,slow=3.9,SNR=3.8						
NVAR				SKP		20 17 31.2	
	comp=Z,0.9nm,0.8s,baz=147,slow=5.3,SNR=4.2						
M12A	**Wells**	**122.59**	**297**	⇓P	PKPdf	20 14 07.6	-0.1
	baz=123						
OBN	**Obninsk**	**122.60**	**37**	⇓*e*PKIKP	PKPdf	20 14 05.3	-2.4
OBN				*e*S	SKSdf	20 21 12.7	+1.6
OBN				*e*SS	tx	20 32 49.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
O07A	**Toulon**	**123.62**	**293**	⇑P	PKPdf	20 14 10.2	+0.5
	baz=124						
O06A	**Flanigan**	**124.11**	**292**	⇑P	PKPdf	20 14 10.6	0.0
	baz=124						
N07B	**Gerlach**	**124.13**	**294**	⇑P	PKPdf	20 14 10.6	0.0
	baz=124						
MCCM	**Marconi Confer**	**124.18**	**289**	⇓P	PKPdf	20 14 10.0	-0.7
	baz=124						
M08A	**Happy Creek Ra**	**124.33**	**295**	⇑P	PKPdf	20 14 11.0	0.0
	baz=124						
DMN	**Daman**	**124.36**	**91**	*e*P	PKPdf	20 14 10.2	-0.9
	comp=Z,19nm,0.9s						
DMN	**Daman**	**124.36**	**91**	*e*P	PKPdf	20 14 10.0	-1.1
	comp=Z,18nm,0.9s						
DMN	**Daman**	**124.36**	**91**	*e*P	PKPdf	20 14 10.0	-1.1
PKI	**Pulchoki**	**124.49**	**92**	*e*P	PKPdf	20 14 10.3	-1.1
PKI	**Pulchoki**	**124.49**	**92**	*e*P	PKPdf	20 14 10.3	-1.1
	comp=Z,22nm,1.0s						
KKN	**Kakani**	**124.59**	**91**	*e*P	PKPdf	20 14 10.2	-1.4
	comp=Z,26nm,1.1s						
KKN	**Kakani**	**124.59**	**91**	*e*P	PKPdf	20 14 10.2	-1.4
	comp=Z,25nm,1.1s						
M07A	**Soldier Meadow**	**124.69**	**294**	⇓P	PKPdf	20 14 11.9	+0.2
	baz=125						
FINES	**FINESS Array B**	**124.76**	**28**	PKP	PKPdf	20 14 09.4	-2.4
	comp=Z,3.2nm,0.8s,baz=165,slow=2.2,SNR=13						
FINES				pPKP	pPKPdf	20 14 35.5	-2.4
	comp=Z,2.0nm,0.6s,baz=129,slow=3.0,SNR=4.5						
O04C	**Chester**	**124.87**	**292**	⇑P	PKPdf	20 14 12.1	+0.1
	baz=125						
JIRN	**Jiri**	**124.99**	**92**	*e*P	PKPdf	20 14 11.9	-0.4
	comp=Z,30nm,0.7s						
JIRN	**Jiri**	**124.99**	**92**	*e*P	PKPdf	20 14 11.7	-0.6
	comp=Z,29nm,0.7s						
JIRN	**Jiri**	**124.99**	**92**	*e*P	PKPdf	20 14 11.7	-0.6
GUN	**Gumba**	**125.02**	**92**	*e*P	PKPdf	20 14 11.8	-0.6
	comp=Z,20nm,0.8s						
GUN	**Gumba**	**125.02**	**92**	*e*P	PKPdf	20 14 11.7	-0.7
	comp=Z,19nm,0.8s						
GUN	**Gumba**	**125.02**	**92**	*e*P	PKPdf	20 14 11.7	-0.7
KAF	**Kangasniemi**	**125.39**	**27**	*e*p	PKPdf	20 14 09.9	-3.2
HATC	**Hat Creek Radi**	**125.43**	**292**	⇓P	PKPdf	20 14 13.1	-0.1
	baz=126						
K07A	**Rock Creek Ran**	**125.69**	**295**	⇓P	PKPdf	20 14 13.4	-0.3
	baz=126						
K06A	**Valley Falls**	**126.27**	**294**	⇓P	PKPdf	20 14 14.0	-0.7
	baz=126						
M04C	**Macdoel**	**126.33**	**292**	⇓P	PKPdf	20 14 14.6	-0.3
	baz=126						
J06A	**Christmas Vall**	**126.55**	**295**	⇑P	PKPdf	20 14 14.9	-0.4
	baz=127						
M02C	**Callahan**	**126.56**	**291**	⇑P	PKPdf	20 14 14.9	-0.4
	baz=127						
JOF	**Joensuu**	**127.36**	**29**	*e*p	PKPdf	20 14 11.0	-5.8
AKTK	**Aktyubinsk**	**127.38**	**53**	PKP	PKPdf	20 14 15.5	-1.4
AKTO	**Aktyubinsk**	**127.38**	**53**	PKP	PKPdf	20 14 15.5	-1.4
	comp=Z,3.8nm,0.9s,baz=194,slow=0.5,SNR=14						
AAK	**Ala-Archa**	**129.80**	**71**	*i* PKIKP	PKPdf	20 14 19.3	-2.2
ARCES	**ARCESS Array B**	**131.39**	**22**	PKP	PKPdf	20 14 22.2	-2.3
	comp=Z,2.2nm,0.7s,baz=217,slow=3.1,SNR=17						
ARCES				pPKP	pPKPdf	20 14 48.7	-1.9
	comp=Z,5.7nm,1.1s,baz=196,slow=1.6,SNR=2.6						
ARCES				PP	PP	20 16 39.8	-4.1
	comp=Z,2.6nm,0.7s,baz=216,slow=6.0,SNR=6.2						
ARCES	**ARCESS Array B**	**131.39**	**22**	PKP	PKPdf	20 14 22.2	-2.3
ARCES				pPKP	pPKPdf	20 14 48.7	-1.9
ARCES				PP	PP	20 16 39.8	-4.1
ARU	**Arti**	**131.82**	**48**	*i* PKIKP	PKPdf	20 14 21.8	-3.5
ARU				*e*		20 21 26.5	
BVAR	**Borovoye Array**	**134.78**	**58**	PKHKP		20 14 18.5	
						20 14 29.5	
BVAR	**Borovoye Array**	**134.78**	**58**	PKHKP		20 14 18.5	
BVAR						20 14 29.5	
MKAR	**Makanchi Array**	**136.70**	**72**	PKP	PKPdf	20 14 33.9	-0.6
	comp=Z,1.8nm,0.6s,baz=221,slow=1.4,SNR=12						
MKAR				PP	PP	20 17 22.4	+4.8
	comp=Z,0.7nm,0.7s,baz=250,slow=3.6,SNR=3.9						
MKAR				SKPbc	SKPbc	20 17 54.9	-3.7
	comp=Z,4.8nm,1.1s,baz=259,slow=1.2,SNR=9.0						
MKAR	**Makanchi Array**	**136.70**	**72**	PKIKP	PKPdf	20 14 33.9	-0.6
MKAR						20 17 22.4	
MKAR	**Makanchi Array**	**136.70**	**72**	PKP	PKPdf	20 14 33.9	-0.6
MKAR				PP	PP	20 17 22.4	+4.8
MKAR				SKPbc	SKPbc	20 17 54.9	-3.7
YKA	**Yellowknife Ar**	**136.93**	**317**	PKP	PKPdf	20 14 32.7	-2.1
	comp=Z,3.7nm,0.7s,baz=130,slow=2.1,SNR=18						
YKA				pPKP	pPKPdf	20 14 59.7	-1.2
	comp=Z,1.3nm,0.6s,baz=127,slow=2.4,SNR=2.3						
YKA				SKPbc	SKPbc	20 17 55.3	-3.9
	comp=Z,5.0nm,0.9s,baz=124,slow=2.1,SNR=13						
YKA	**Yellowknife Ar**	**136.93**	**317**	PKP	PKPdf	20 14 32.7	-2.1
YKA				pPKP	pPKPdf	20 14 59.7	-1.2
YKA				SKPbc	SKPbc	20 17 55.3	-3.9
CD2	**Chengdu**	**137.09**	**105**	*e*PKP	PKPdf	20 14 32.9	-2.3
CD2				PP	PP	20 17 22.4	+2.4
CD2				PKS		20 18 07.8	
CD2				SKS	SKSdf	20 21 32.0	-5.4
CD2				SKKS	SKKSac	20 24 02.1	-3.7
CD2				PP	PP		
	comp=Z,90nm,9.0s						
KURK	**Kurchatov**	**137.30**	**65**	*i* PKIKP	PKPdf	20 14 35.6	0.0
NVS	**Novosibirsk**	**141.98**	**62**	*i* PKHKP		20 14 36.9	
NVS				pmax	pmax		
	comp=Z,13nm,1.4s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.3s						
ZAL	**Zalesovo**	**142.26**	**64**	SKPbc	SKPbc	20 18 10.9	-2.8
	comp=E,1.5nm,0.9s,baz=184,slow=7.6,SNR=4.8						
NJ2	**Nanjing**	**145.65**	**121**	*e*PKP	PKPdf	20 14 50.9	+0.4
NJ2				PKP2	PKPab	20 14 55.1	+3.7
NJ2				PP	PP	20 18 18.0	+5.9
NJ2				PP	PP		
	comp=Z,150nm,7.1s						
NJ2				LR	LR		
	comp=N,580nm,17.2s						
NJ2				LR	LR		
	comp=E,820nm,11.4s						
NJ2				LR	LR		
	comp=Z,320nm,11.5s						
SSE	**Sheshan**	**145.93**	**125**	*e*PKP	PKPdf	20 14 52.3	+1.3
INK	**Inuvik**	**146.56**	**320**	PKPbc	PKPbc	20 14 51.5	-2.2
	comp=Z,14nm,0.7s,baz=105,slow=4.5,SNR=15						
INK				pPKPbc	pPKPbc	20 15 16.4	-3.0
	comp=Z,11nm,0.7s,baz=119,slow=2.5,SNR=3.6						
INK				SKPbc	SKPbc	20 18 18.6	-5.2
	comp=Z,6.4nm,0.8s,baz=112,slow=3.1,SNR=3.6						
INK	**Inuvik**	**146.56**	**320**	PKPbc	PKPbc	20 14 51.5	-2.2
INK				pPKPbc	pPKPbc	20 15 16.4	-3.0
INK				SKPbc	SKPbc	20 18 18.6	-5.2
BTO	**Baotou**	**147.70**	**101**	*e*PKP	PKPdf	20 14 52.6	-1.3
HHC	**Hu-ho-hao-te**	**148.70**	**102**	*e*PKP	PKPdf	20 14 57.1	+1.5
EYAK	**Cordova Ski Ar**	**149.15**	**303**	*e*PKPbc	PKPbc	20 14 59.5	-1.0
MOY	**Mondy**	**149.47**	**77**	*e*PKP2	PKPab	20 14 59.5	-7.0
MOY				pmax	pmax		
	comp=Z,26nm,1.9s						
SONM	**Songino Array**	**150.35**	**87**	PKP	PKPdf	20 14 55.7	-2.5
	comp=Z,0.5nm,0.7s,baz=354,slow=1.4,SNR=3.1						
SONM				PKPbc	PKPbc	20 15 02.2	-1.4
	comp=Z,38nm,0.7s,baz=223,slow=3.3,SNR=137						
SONM				PKPab	PKPab	20 15 09.5	-0.6
	comp=Z,9.3nm,0.8s,baz=247,slow=4.0,SNR=7.7						
SONM				pPKP	pPKPdf	20 15 24.2	-0.1
	comp=Z,5.7nm,0.6s,baz=223,slow=3.7,SNR=2.7						
SONM				pPKPbc	pPKPbc	20 15 29.0	-0.5
	comp=Z,8.1nm,0.5s,baz=224,slow=3.4,SNR=4.0						
SONM	**Songino Array**	**150.35**	**87**	PKIKP	PKPdf	20 14 55.7	-2.5
SONM						20 15 09.5	
ULN	**Ulaanbaatar**	**150.73**	**88**	*e*PKIKP	PKPdf	20 15 02.6	+3.8
SML	**Sawmill**	**150.74**	**304**	*e*PKIKP	PKPdf	20 15 02.3	+3.5
COLA	**College**	**151.28**	**311**	*e*PKIKP	PKPdf	20 15 02.6	+3.0
KDAK	**Kodiak Island**	**151.47**	**295**	PKPbc	PKPbc	20 15 04.4	-1.7
	comp=Z,16nm,0.7s,baz=155,slow=0.9,SNR=20						
KDAK				pPKPbc	pPKPbc	20 15 29.6	-2.4
	comp=Z,9.4nm,0.7s,baz=45,slow=2.9,SNR=2.5						
MCK	**McKinley**	**151.50**	**308**	*e*PKIKP	PKPdf	20 15 04.2	+4.2

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*MOS **16** 20:06:23.9±0.9, 1893N×11978E, h33km, mb4.8/4, Error ellipse: s-maj=22.4km s-min=9.9km az=109.0*
*ISCJB **16** 20:06:23.4±0.3, 1898N±004×11987E±005, h30km, mb4.2/22, Error ellipse: s-maj=7.5km s-min=4.1km az=112.0*
*IDC **16** 20:06:24.7±0.5, 1892N×11986E, h28km±3km, mb3.9/16, mb1 4.0/17, mb1mx3.9/22, mbtmp4.1/17, ML4.5/1, Error ellipse: s-maj=24.9km s-min=9.3km az=70.0*
*NEIC **16** 20:06:24.9±0.3, 1897N×11993E, mb4.5/5, Error ellipse: s-maj=11.9km s-min=5.7km az=83.0*
*MAN **16** 20:06:27.2, 1882N×12009E, h14km, mb3.4, ML4.6, MS2.5*
*BJI **16** 20:06:29.0, 1942N×11961E, h29km, mB4.5, mb4.3, Ms3.8, Msz3.8*
ISC 16 20:06:25.3±0.3, 1902N±003×11997E±005, h31km, h31km±.8km:pP-P, n64, σ1°09/62, mb4.2/22, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.92**	**138**	⇑*i*P	**Pn**	**20 06 40.6**	**-1.6**
PIP				*e*S	**Sn**	**20 06 53.5**	**-0.8**
ABRA	**Dolores**	**1.53**	**153**	*e*P	**Sn**	**20 07 03.9**	**-5.5**
APYP	**Conner**	**1.67**	**134**	*e*P	**Sn**	**20 07 03.8**	**-8.8**
CVP	**Callao Caves**	**2.19**	**126**	*e*P	**Pn**	**20 07 01.0**	**+1.4**
BOLP	**Bolinao**	**2.63**	**181**	*e*P	**Pn**	**20 07 07.1**	**+1.6**
BCPH	**Baguio City Da**	**2.69**	**167**	*e*P	**Pn**	**20 07 05.0**	**-1.4**
	3μm,1.0s						
CAUP	**Cauayan**	**2.71**	**139**	*e*P	**Pn**	**20 07 08.5**	**+1.7**
BALP	**Baler**	**3.60**	**155**	*e*P	**Pn**	**20 07 20.1**	**+1.2**
TGY	**Tagaytay City**	**4.98**	**169**	Pn	**Pn**	**20 07 38.1**	**+0.2**
	18nm,0.3s,baz=243,slow=4.5,SNR=2.9						
NACB	**Ninganchiao**	**5.34**	**16**	*e*P	**Pn**	**20 07 42.1**	**-0.8**
YHNB	**Yeheng**	**5.77**	**13**	*e*P	**Pn**	**20 07 49.0**	**+0.2**
QZH	**Quanzhou**	**6.03**	**348**	P	**Pn**	**20 07 50.6**	**-1.7**
QZH				S	**Sn**	**20 08 58.3**

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ZAL                                pP    pP    20 14 39.3 -0.3
     comp=Z,2.0nm,0.6s,baz=269,slow=4.7,SNR=5.0
AS31 Alice Springs   44.55 162 eP    P     20 14 34.6 +0.4
ASPA Alice Springs   44.55 162 eP    P     20 14 34.6 +0.4
ASAR Alice Springs   44.55 162 P     P     20 14 34.5 +0.3
     comp=Z,1.9nm,0.8s,mb4.0,baz=339,slow=6.5,SNR=26
ASAR                               pP    pP    20 14 42.3 -1.2
     comp=Z,3.0nm,0.8s,baz=340,slow=7.3,SNR=14
ZRNK Zerenda         51.80 323 eP    P     20 15 31.6 +1.5
ZRNK                               pmax  pmax
     comp=Z,2.0nm,0.7s,mb4.2
ZRNK Zerenda         51.80 323 eP    P     20 15 31.6 +1.5
     comp=Z,2.0nm,0.7s,mb4.2
STKA Stephens Creek  54.69 157 eP    P     20 15 50.8 -0.6
     comp=Z,3.9nm,0.7s,mb4.5
STKA Stephens Creek  54.69 157 P     P     20 15 50.6 -0.8
     comp=Z,4.8nm,0.9s,mb4.5,baz=325,slow=8.2,SNR=7.0
STKA                               pP    pP    20 15 58.7 -2.2
     comp=Z,5.5nm,0.8s,baz=349,slow=8.2,SNR=5.6
AKTK Aktyubinsk      57.76 318 P     P     20 16 13.1 -0.2
AKTO Aktyubinsk      57.76 318 P     P     20 16 13.1 -0.2
     comp=Z,1.4nm,0.5s,mb4.2,baz=120,slow=8.6,SNR=6.1
JOF  Joensuu         72.65 331 ep    P     20 17 49.8 -0.1
ARCES ARCESS Array B 73.90 339 P     P     20 17 57.2  0.0
     comp=Z,2.1nm,0.9s,mb4.1,baz=95,slow=6.8,SNR=3.4
ARCES                              pP    pP    20 18 06.4 -0.7
     comp=Z,5.7nm,0.9s,baz=76,slow=7.5,SNR=4.4
ARCES ARCESS Array B 73.90 339 P     P     20 17 57.2  0.0
ARCES                              pP    pP    20 18 06.4 -0.7
KAF  Kangasniemi     75.08 331 ep    P     20 18 08.5 +4.4
FINES FINESS Array B 75.33 330 P     P     20 18 04.1 -1.4
     comp=Z,5.6nm,1.2s,mb4.4,baz=44,slow=8.8,SNR=6.1
FINES                              pP    pP    20 18 14.7 -0.7
     comp=Z,1.6nm,0.6s,baz=76,slow=8.0,SNR=4.2
AKASG Malin Array Be 75.99 319 P     P     20 18 08.1 -1.1
     comp=Z,0.6nm,0.5s,mb3.8,baz=66,slow=5.4,SNR=5.5
AKASG                              pP    pP    20 18 17.6 -1.5
     comp=Z,0.7nm,0.5s,baz=66,slow=5.5,SNR=2.3
MLR  Muntele Rosu    79.43 314 pP    pP    20 18 38.1 -0.2
     comp=Z,2.4nm,0.7s,baz=37,slow=5.1,SNR=3.6
HFS  Hagfors         81.50 331 P     P     20 18 40.9 +1.3
     comp=Z,1.3nm,0.7s,mb4.0,baz=91,slow=5.8,SNR=3.0
NB2  NORSAR Subarra  82.25 332 P     P     20 18 43.7 +0.2
     comp=Z,1.7nm,0.7s,mb4.1,baz=68,slow=5.1
NOA  NORSAR Array B  82.25 332 P     P     20 18 42.8 -0.7
     comp=Z,1.3nm,1.0s,mb3.8,baz=64,slow=5.2,SNR=2.9
NOA                                pP    pP    20 18 51.9 -1.6
     comp=Z,2.3nm,0.9s,baz=64,slow=5.1,SNR=7.4
BRG  Berggiesshubel  85.12 322 i P   pP    20 19 07.8 -0.3
     comp=Z,1.9nm,0.9s
BRG  Berggiesshubel  85.12 322 i P   pP    20 19 07.9 -0.3
BRG                                pmax  pmax
     comp=Z,2.0nm,0.9s,mb4.2
CLL  Collm           85.48 323 epP   pP    20 19 09.0 -1.0
GERES GERESS Array B 86.10 321 pP    pP    20 19 12.8 -0.3
     comp=Z,1.0nm,0.7s,baz=70,slow=4.4,SNR=6.1
YKA  Yellowknife Ar  88.15  22 P     P     20 19 12.9 -0.1
     comp=Z,0.5nm,0.7s,mb3.8,baz=330,slow=8.4,SNR=2.7
YKA                                pP    pP    20 19 21.7 -1.3
     comp=Z,2.1nm,0.8s,baz=314,slow=4.4,SNR=7.2
YKA  Yellowknife Ar  88.15  22 P     P     20 19 12.9 -0.1
YKA                                pP    pP    20 19 21.7 -1.3
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CSEM ***16*** *20:10:53.7±0.1,3997N×2331E,h8km,MD2.8,Error ellipse: s-maj=2.5km s-min=1.7km az=63.0*
ISCJB ***16*** *20:10:54.0±0.4,3999N±002×2331E±003,h11km±5km, Error ellipse: s-maj=4.5km s-min=3.4km az=146.0*
NEIC ***16*** *20:10:54.6,3996N×2349E,h19km,MD2.8(ATH),After ATH.*
THE ***16*** *20:10:54.8,4000N×2331E,h3km,ML2.6*
ATH ***16*** *20:10:55.1,3996N×2345E,h10km,MD2.8/3*
ISC 16 20:10:54.9±0.4,3999N±002×2333E±004,h12km±7km,n20, σ0§85/32,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.28**	**104**	*e*Pg	**Pg**	**20 11 00.8**	**+0.2**
PAIG				*e*Sg	**Sg**	**20 11 45.4**	**+0.9**
PLG	**Polygyros**	**0.39**	**13**	*e*PB	**Pg**	**20 11 02.6**	**0.0**
PLG				*e*SB	**Sg**	**20 11 08.6**	**+0.7**
OUR	**Ouranopolis**	**0.61**	**56**	*e*Pg	**Pg**	**20 11 07.0**	**+0.3**
OUR				*e*Sg	**Sg**	**20 11 15.3**	**+0.6**
XOR	**Xorichti**	**0.64**	**190**	*e*Pg	**Pg**	**20 11 06.7**	**-0.5**
LIT	**Litokhoron**	**0.65**	**280**	*e*Pg	**Pg**	**20 11 06.9**	**-0.6**
LIT				*e*Sg	**Sg**	**20 11 16.6**	**+0.5**
NEO	**Neokhori**	**0.69**	**187**	*e*PB	**Pg**	**20 11 08.0**	**-0.3**
NEO	**Neokhori**	**0.69**	**187**	*e*Pb	**Pg**	**20 11 06.7**	**-1.6**
NEO				*e*Sn	**Sg**	**20 11 18.3**	**+0.9**
THE	**Thessaloniki**	**0.70**	**337**	*e*Pg	**Pg**	**20 11 07.9**	**-0.5**
THE				*e*Sg	**Sg**	**20 11 17.9**	**+0.4**
SOH	**Sokhos**	**0.83**	**1**	*e*Pg	**Pg**	**20 11 10.5**	**-0.4**
AOS	**Alonnisos**	**0.93**	**152**	*e*Pg	**Pg**	**20 11 12.0**	**-0.8**
AOS				*e*Sg	**Sg**	**20 11 25.3**	**+0.5**
GRG	**Griva**	**1.19**	**324**	*e*Pg	**Pg**	**20 11 16.9**	**-1.0**
GRG				*e*Sg	**Sg**	**20 11 33.5**	**+0.1**
KNT	**Kendrikon**	**1.21**	**344**	*e*Pg	**Pg**	**20 11 17.3**	**-0.9**
KNT				*e*Sg	**Sg**	**20 11 34.1**	**+0.1**
AGG	**Agios Georgios**	**1.24**	**219**	*e*Pg	**Pg**	**20 11 17.7**	**-1.1**
AGG				*e*Sg	**Sg**	**20 11 36.3**	**+1.5**
LOS	**Limnos**	**1.35**	**92**	*e*Pg	**Pg**	**20 11 18.8**	**-2.0**
NVR	**Nevrokopi**	**1.42**	**17**	*e*PB	**Pb**	**20 11 22.1**	**+0.9**
VAY	**Valandovo**	**1.45**	**337**	*e*Pg	**Pn**	**20 11 20.9**	**0.0**
VAY	**Valandovo**	**1.45**	**337**	*e*Pg	**Pg**	**20 11 21.4**	**-1.3**
VAY				*e*Sg	**Sg**	**20 11 42.8**	**+1.4**
VAY	**Valandovo**	**1.45**	**337**	*e*Pg	**Pg**	**20 11 21.3**	**-1.4**
VAY				*e*Sg	**Sg**	**20 11 42.8**	**+1.4**
FNA	**Florina**	**1.69**	**299**	*e*Pb	**Pn**	**20 11 23.8**	**-0.4**
IGT	**Igoumenitsa**	**2.35**	**260**	*e*Pn	**Pn**	**20 11 34.8**	**+1.4**

MOS ***16*** *20:13:46.0±0.7,4897N×15728E,h5km,mb4.4/1,Error ellipse: s-maj=99.9km s-min=19.1km az=77.6*
KRSC 16 20:13:45.0±0.9,4878N×15679E,h41km±31km,ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.69**	**0**	*e*P	Pn	20 14 27.1	+1.4
PAU				*e*S	Sn	20 14 57.9	+0.8
PAU				Smax			
	680nm,0.1s						
MIPR	**Malaya Ipel'ka**	**3.50**	**360**	*i* P	Pn	20 14 38.2	+1.3
MIPR				*e*S	Sn	20 15 18.3	+1.3
RUS	**Russkaya**	**3.82**	**16**	P	Pn	20 14 42.9	+1.6
RUS				S	Sn	20 15 24.2	-0.7
RUS	**Russkaya**	**3.82**	**16**	*e*P	Pn	20 14 42.7	+1.4
RUS				*e*S	Sn	20 15 25.2	+0.3
GRL	**Gorelyy**	**3.86**	**12**	*e*P	Pn	20 14 44.3	+2.4
GRL				*e*S	Sn	20 15 28.1	+2.1
KRMR	**Karymshinskiy**	**4.14**	**11**	*e*P	Pn	20 14 47.8	+2.1
APC	**Apacha**	**4.16**	**3**	*e*P	Pn	20 14 47.8	+1.9
PET	**Petropavlovsk**	**4.41**	**15**	P	Pn	20 14 51.8	+2.4
PET				S	Sn	20 15 39.5	0.0
PET	**Petropavlovsk**	**4.41**	**15**	*e*PN	Pn	20 14 51.7	+2.3
PET				*e*S	Sn	20 15 41.4	+1.9
PET				pmax	pmax		
	comp=Z,100nm,3.2s						
PET				pmax	pmax		
	comp=Z,17nm,0.3s						
PET				smax			
	comp=N,100nm,0.4s						
PET				smax			
	comp=N,106nm,0.5s						
PET				smax			
	comp=E,56nm,0.4s						
PET				MLR	MLR		
	comp=Z,100nm,13.0s						
PET	**Petropavlovsk**	**4.41**	**15**	*e*P	Pn	20 14 51.8	+2.4
PET				*e*S	Sn	20 15 39.5	0.0
UGLR	**Uglovaya**	**4.62**	**15**	*i* P	Pn	20 14 55.1	+2.9
AVH	**Avacha**	**4.66**	**15**	*e*P	Pn	20 14 55.6	+2.8
SMAR	**Somma**	**4.67**	**15**	*e*P	Pn	20 14 55.3	+2.4
KOK	**Koryaka**	**4.67**	**14**	*i* P	Pn	20 14 56.4	+3.5
NLC	**Nalytchevo**	**4.68**	**19**	*i* P	Pn	20 14 54.1	+1.0
NLC				*e*S	Sn	20 15 45.3	-0.9
SDLR	**Sedlovina**	**4.69**	**16**	*i* P	Pn	20 14 55.6	+2.3
SDLR				*e*S	Sn	20 15 47.0	+0.5
SPN	**Mys Shipunski**	**4.78**	**24**	P	Pn	20 14 57.0	+2.5
SPN				S	Sn	20 15 49.2	+0.6
SPN	**Mys Shipunski**	**4.78**	**24**	*e*P	Pn	20 14 57.3	+2.8
SPN				*i* S	Sn	20 15 49.8	+1.2
GNL	**Ganaly**	**4.97**	**8**	*e*P	Pn	20 15 00.3	+3.2
MKZ	**Mys Kozlova**	**6.55**	**26**	P	Pn	20 15 20.0	+1.3
MKZ				S	Sn	20 16 28.6	-3.5
MKZ	**Mys Kozlova**	**6.55**	**26**	*e*P	Pn	20 15 20.2	+1.5
MKZ				*e*S	Sn	20 16 29.8	-2.3
KBTR	**Krutoberegovo**	**8.30**	**24**	P	Pn	20 15 44.9	+2.2
KBTR	**Krutoberegovo**	**8.30**	**24**	P	Pn	20 15 45.1	+2.4
KBTR				*e*S	Sn	20 17 13.6	-1.5

NIED ***16*** *20:19:00,4040N×14380E,h14km,Mw5.4 Best double couple: M0:1.28000×10^17 NP1:φs38.00000°,δ77.00000°, λ120.00000°. NP2:φs149.00000°,δ32.00000°,λ25.00000°.*
JMA ***16*** *20:19:17.1±0.2,4037N×14377E,h22km,M5.6*
JMA Felt II J1.
CSEM ***16*** *20:19:17.4,4036N×14368E,h10km,mb5.5*
BJI ***16*** *20:19:18.0,4038N×14335E,h11km,mB5.7,mb5.5,Ms5.5, Msz5.3*
ISCJB ***16*** *20:19:19.7±0.1,4033N±002×14366E±002,h29km, mb5.4/286,MS5.0/134,Error ellipse: s-maj=2.9km s-min=1.8km az=135.3*
IDC ***16*** *20:19:20.8±0.4,4027N×14365E,h28km±2km,mb4.8/32, mb1 4.9/36,mb1mx4.9/37,mbtmp5.0/36,ML4.3/4,MS5.0/12, Ms1 5.0/12,ms1mx4.5/29,Error ellipse: s-maj=10.5km s-min=10.3km az=63.0*
MOS ***16*** *20:19:21.2±0.8,4043N×14352E,h33km,mb5.7/105, MS5.3/51,Error ellipse: s-maj=7.1km s-min=3.6km az=111.9*
HRVD ***16*** *20:19:21.4±0.2,4038N×14396E,h15km,MW5.5/85, Centroid moment Tensor Solution. LP body waves: s55,c81;Mantle waves: s85,c155; Half duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr0.66±.02; Mθθ0.08±.01; Mφφ-0.74±.01; Mrθ0.71±.05; Mθφ-0.09±.01; Mφr1.94±.04; Best double couple: M0:2.18400×10^17 NP1:φs171.00000°, δ10.00000°,λ62.00000°. NP2:φs19.00000°,δ81.00000°, λ95.00000°. Principal axes: T 2.1620, Plg54.0000°, Azm295.0000°; N 0.0450, Plg5.0000°, Azm199.0000°; P -2.2070, Plg36.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***16*** *20:19:21.4±0.1,4033N×14361E,mb5.5/185,MS4.8/83, MW5.3(NIED) Error ellipse: s-maj=3.7km s-min=2.5km az=162.0*
NEIC Recorded [2 JMA] in Aomori, Iwate and Miyagi; [1 JMA] in Akita Prefectures. Also recorded [1 JMA] in southwestern Hokkaido and in the Shizunai area, Hokkaido.
SZGRF ***16*** *20:19:22.8,4060N×14458E,h32km,mb5.7,MS5.2,Off east coast of Honshu, Japan*
BGS ***16*** *20:19:24.6±1.4,4077N×14336E,h33km,mb5.2*
ISC 16 20:19:21.8±0.1,4041N±002×14361E±002,h30km, h30km±.4km:pP-P,n1080,σ0§86/1047,mb5.4/286, MS5.0/134,230C-77D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.42**	**251**	⇑P	**Pn**	**20 19 43.5**	**-2.0**
JTH				S	**Sn**	**20 20 03.0**	**-0.1**
JANG	**Nango**	**1.60**	**269**	⇑P	**Pn**	**20 19 46.6**	**-1.4**
MIYJ	**Miyakonagasawa**	**1.61**	**239**	⇑P	**Pn**	**20 19 46.3**	**-1.8**
MIYJ				*e*S	**Sn**	**20 20 06.8**	**-1.0**
ERM	**Erimo**	**1.64**	**348**	Pn	**Pn**	**20 19 47.9**	**-0.7**
	40μm,1.1s,SNR=30						
JEM	**Erimo**	**1.64**	**348**	P	**Pn**	**20 19 46.5**	**-2.1**
JTM	**Tenmabayashi**	**1.97**	**282**	⇑P	**Pn**	**20 19 52.7**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.98**	**341**	P	**Pn**	**20 19 51.6**	**-1.6**
OFUJ	**Ofunato**	**2.00**	**229**	P	**Pn**	**20 19 51.6**	**-1.9**
JOM	**Ohasama**	**2.01**	**243**	⇑P	**Pn**	**20 19 52.5**	**-1.2**
JOM				*e*S	**Sn**	**20 20 19.2**	**+1.4**
JOT	**Ohata**	**2.17**	**297**	⇑P	**Pn**	**20 19 55.3**	**-0.6**
JOT				*e*S	**Sn**	**20 20 24.2**	**+2.4**
JCH	**Churui**	**2.21**	**355**	P	**Pn**	**20 19 54.4**	**-2.0**
JCH				*e*S	**Sn**	**20 20 22.7**	**-0.1**
JAH	**Hinai**	**2.29**	**265**	⇑P	**Pn**	**20 19 57.2**	**-0.2**
JMK	**Ichinoseki**	**2.35**	**233**	⇑P	**Pn**	**20 19 56.8**	**-1.5**
JMK				*e*S	**Sn**	**20 20 27.1**	**+1.0**
JKB	**Kayabe**	**2.44**	**308**	P	**Pn**	**20 19 58.7**	**-0.9**
JKB				*e*S	**Sn**	**20 20 31.7**	**+3.2**
JSI2	**Shiura 2**	**2.52**	**286**	⇑P	**Pn**	**20 20 00.5**	**-0.1**
JAK	**Akkeshi**	**2.71**	**17**	P	**Pn**	**20 19 59.4**	**-3.9**
JAK				*e*S	**Sn**	**20 20 32.0**	**-3.1**
JYW	**Yuwa**	**2.75**	**253**	P	**Pn**	**20 20 03.8**	**-0.1**
JAR	**Ashorobuto**	**2.89**	**2**	⇑P	**Pn**	**20 20 02.7**	**-3.0**
JAR				S	**Sn**	**20 20 35.6**	**-3.9**
JYK	**Kaneyama**	**2.92**	**240**	P	**Pn**	**20 20 05.3**	**-0.8**
JMM	**Marumori**	**3.35**	**222**	P	**Pn**	**20 20 09.2**	**-2.9**
NEM2	**Nemuro 2**	**3.36**	**28**	P	**Pn**	**20 20 08.5**	**-3.7**
NEM2				*e*S	**Sn**	**20 20 45.6**	**-5.4**
JYS	**Shirataka**	**3.51**	**233**	P	**Pn**	**20 20 13.3**	**-1.0**
JYA	**Atsumi**	**3.52**	**240**	⇑P	**Pn**	**20 20 13.6**	**-0.8**
JOSM	**Okushiri--Mats**	**3.54**	**300**	P	**Pn**	**20 20 13.8**	**-0.9**
JTKR	**Abashiri--Toko**	**3.57**	**3**	⇑P	**Pn**	**20 20 12.6**	**-2.5**
JTKR				*e*S	**Sn**	**20 20 51.8**	**-4.4**
JHR	**Hokuryu**	**3.62**	**338**	P	**Pn**	**20 20 17.2**	**+1.5**
ASAJ	**Asahikawa**	**3.78**	**349**	Pn	**Pn**	**20 20 17.2**	**-0.8**
	12nm,0.3s,baz=214,slow=14,SNR=87						
ASAJ				Sn	**Sn**	**20 20 58.0**	**-3.5**
	49nm,0.3s,baz=185,slow=24,SNR=4.3						
ASAJ	**Asahikawa**	**3.78**	**349**	P	**Pn**	**20 20 17.2**	**-0.8**
ASAJ						20 20 58.0	
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				smax			
	comp=N,49nm,0.3s						
ONAJ	**Iwakimizuishiy**	**3.96**	**215**	P	**Pn**	**20 20 17.2**	**-3.3**
YUK	**Yuzh-Kuril'sk**	**3.99**	**24**	*e*P	**Pn**	**20 20 18.0**	**-2.9**
YUK				*i* S	**Sn**	**20 21 00.5**	**-6.1**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,230nm,0.5s						
YUK				pmax	pmax		
	comp=E,180nm,0.5s						
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=E,5μm,0.5s						
YUK				MLR	MLR		
	comp=Z,29μm,17.0s						
YUK				MLR	MLR		
	comp=N,17μm,16.0s						
YUK				MLR	MLR		
	comp=E,39μm,15.0s						
JFY	**Yanaizu**	**4.27**	**227**	⇑P	**Pn**	**20 20 23.5**	**-1.3**
JAG	**Ashikaga**	**5.14**	**221**	P	**Pn**	**20 20 34.6**	**-2.1**
JJN	**Nakama**	**5.39**	**234**	P	**Pn**	**20 20 40.1**	**0.0**
JSZ	**Suzu**	**5.70**	**241**	P	**Pn**	**20 20 43.9**	**-0.4**
MJAR	**Matsushiro Arr**	**5.73**	**229**	Pn	**Pn**	**20 20 44.4**	**-0.4**
	comp=E,23nm,0.3s,baz=38,slow=13,SNR=303						
MJAR	**Matsushiro Arr**	**5.73**	**229**	Pn	**Pn**	**20 20 44.4**	**-0.4**
MAJO	**Matsushiro**	**5.73**	**229**	P	**Pn**	**20 20 44.3**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,490nm,0.7s						
MAJO	**Matsushiro**	**5.73**	**229**	*e*P	**Pn**	**20 20 44.2**	**-0.6**
	comp=Z,489nm,0.7s						
MAT	**Matsushiro**	**5.73**	**229**	P	**Pn**	**20 20 44.1**	**-0.7**
MAT				*e*S	**Sn**	**20 21 56.6**	**+7.1**
MAT	**Matsushiro**	**5.73**	**229**	P	**Pn**	**20 20 44.2**	**-0.6**
MAT	**Matsushiro**	**5.73**	**229**	*e*P	**Pn**	**20 20 44.0**	**-0.8**
MAT				pmax	pmax		
	comp=Z,390nm,0.8s						
MAT	**Matsushiro**	**5.73**	**229**	*e*P	**Pn**	**20 20 44.0**	**-0.8**
	comp=Z,390nm,0.8s						
JRY	**Ryogami san**	**5.74**	**222**	P	**Pn**	**20 20 42.8**	**-2.1**
KUR	**Kuril'sk**	**5.75**	**32**	*e*P	**Pn**	**20 20 39.0**	**-6.0**
KUR				pmax	pmax		
	comp=N,2μm,1.0s						
KUR				pmax	pmax		
	comp=E,850nm,1.0s						
KUR				pmax	pmax		
	comp=Z,3μm,1.0s						
KUR				MLR	MLR		
	comp=N,22μm,14.0s						
KUR				MLR	MLR		
	comp=E,24μm,14.0s						
KUR				MLR	MLR		
	comp=Z,14μm,14.0s						
JHG	**Hegura jima**	**5.79**	**246**	P	**Pn**	**20 20 46.1**	**+0.4**
JNG	**Nsakai**	**5.89**	**229**	P	**Pn**	**20 20 46.6**	**-0.4**
JJH	**Hakui**	**6.37**	**239**	P	**Pn**	**20 20 53.7**	**+0.1**
JGN	**Niukaw**	**6.47**	**232**	P	**Pn**	**20 20 55.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**6.57**	**355**	*e*P	**Pn**	**20 20 55.0**	**-1.4**
YSS				*e*S	**Sn**	**20 22 08.0**	**-2.3**
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=N,18μm,15.0s						
YSS				MLR	MLR		
	comp=Z,16μm,15.0s						
YSS				MLR	MLR		
	comp=E,12μm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.57**	**355**	*e*P	**Pn**	**20 20 55.4**	**-0.9**
	comp=E,235nm,0.9s						
JNY	**Yasuok**	**6.79**	**224**	P	**Pn**	**20 20 58.5**	**-0.8**
JIZS	**Izushimoda**	**6.81**	**215**	P	**Pn**	**20 20 56.5**	**-3.1**
JKG	**Kaga**	**7.05**	**237**	P	**Pn**	**20 21 03.9**	**+1.0**
JHJ	**Hachijo jima 2**	**7.89**	**204**	Pn	**Pn**	**20 21 10.1**	**-4.5**
	comp=E,70nm,0.3s,baz=173,slow=3.6,SNR=42						
JHJ				Sn	**Sn**	**20 22 34.8**	**-8.0**
	comp=E,60nm,0.3s,baz=279,slow=19,SNR=4.7						
JHJ				LR	LR	20 23 52.0	
	comp=E,4μm,19.5s,baz=53,slow=35						
TSUJ	**Tsu 2**	**8.06**	**227**	P	**Pn**	**20 21 17.1**	**+0.4**
UGL	**Uglegorsk**	**8.74**	**353**	*e*P	**Pn**	**20 21 24.0**	**-2.1**
UGL				S	**Sn**	**20 23 06.0**	**+2.5**
UGL				pmax	pmax		
	comp=N,1μm,6.0s						
UGL				pmax	pmax		
	comp=Z,1μm,6.0s						
UGL				smax			
	comp=E,3μm,6.0s						
UGL				smax			
	comp=N,1μm,3.0s						
UGL				MLR	MLR		
	comp=N,11μm,15.0s						
UGL				MLR	MLR		
	comp=Z,13μm,15.0s						
UGL				MLR	MLR		
	comp=E,20μm,19.0s						
VLA	**Vladivostok**	**9.17**	**291**	*i* P	**Pn**	**20 21 34.1**	**+2.2**
VLA	**Vladivostok**	**9.17**	**291**	*i* Pr		20 21 34.1	
HABR	**Khabarovsk**	**10.12**	**326**	⇑*i*P	**Pn**	**20 21 44.7**	**-0.3**
HABR				*e*		20 23 37.0	
HABR				pmax	pmax		
	comp=Z,262nm,1.4s						
HABR				MLR	MLR		
	comp=Z,6μm,24.3s						
MDJ	**Mudanjiang**	**11.17**	**297**	P	**Pn**	**20 22 00.9**	**+1.6**
MDJ				AP		20 22 07.9	
MDJ				XP		20 22 12.3	
MDJ				S	**Sn**	**20 24 09.5**	**+6.4**
MDJ				XS		20 24 14.3	
MDJ				AMB	AMB		
	comp=Z,330nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,2μm,5.2s						
MDJ				LR	LR		
	comp=N,12μm,13.1s						
MDJ				LR	LR		
	comp=E,10μm,12.6s						
MDJ				LR	LR		
	comp=Z,20μm,14.4s						
MDJ	**Mudanjiang**	**11.17**	**297**	*e*P	**Pn**	**20 22 00.9**	**+1.5**
	comp=Z,312nm,0.9s						
KLR	**Kul'dur**	**12.18**	**320**	⇓*i*P	**Pn**	**20 22 10.0**	**-3.2**
KLR				*e*		20 24 35.5	
KLR				pmax	pmax		
	comp=E,400nm,1.8s						
KLR				pmax	pmax		
	comp=Z,490nm,1.8s						
KLR				MLR	MLR		
	comp=N,12μm,13.0s						
KLR				MLR	MLR		
	comp=E,8μm,13.0s						
KLR				MLR	MLR		
	comp=Z,28μm,13.0s						
KS15	**Wonju Array Si**	**12.60**	**261**	*e*P	**Pn**	**20 22 20.1**	**+1.2**
OKH	**Okha**	**13.16**	**358**	*e*P	**Pn**	**20 22 22.0**	**-4.5**
OKH				*e*S	**Sn**	**20 24 50.2**	**-1.6**
OKH				pmax	pmax		
	comp=Z,2μm,8.0s						
OKH				smax			
	comp=N,2μm,9.5s						
OKH				smax			
	comp=E,2μm,9.5s						
OKH				MLR	MLR		
	comp=Z,7μm,16.0s						
CBIJ	**Chichi jima**	**13.33**	**186**	Pn	**Pn**	**20 22 22.1**	**-6.9**
	comp=Z,8.1nm,0.3s,baz=74,slow=12,SNR=10						
CBIJ				Sn	**Sn**	**20 24 39.2**	**-17**
	comp=Z,6.1nm,0.3s,baz=300,slow=20,SNR=4.5						
SKR	**Severo-Kuril's**	**13.48**	**36**	*e*P	**Pn**	**20 22 23.2**	**-7.8**
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				MLR	MLR		
	comp=N,5μm,14.0s						
SKR				MLR	MLR		
	comp=E,10μm,14.0s						
SKR				MLR	MLR		
	comp=Z,7μm,14.0s						
INCN	**Inchon**	**13.53**	**263**	*e*P	**Pn**	**20 22 32.6**	**+0.9**
	comp=Z,222nm,1.5s						
CN2	**Changchun**	**13.90**	**290**	*e*P	**Pn**	**20 22 35.5**	**-1.2**
CN2				*e*S	**Sn**	**20 25 10.3**	**+0.3**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,11μm,13.0s						
CN2				LR	LR		
	comp=E,5μm,13.0s						
CN2				LR	LR		
	comp=Z,9μm,12.0s						
SNY	**Shenyang**	**15.17**	**282**	⇑P	**Pn**	**20 22 53.8**	**0.0**
SNY				S	**Sn**	**20 25 42.9**	**+2.1**
SNY				AMB	AMB		
	comp=Z,180nm,1.2s						
SNY				AMB	AMB		
	comp=Z,1μm,4.0s						
SNY				LR	LR		
	comp=N,3μm,15.9s						
SNY				LR	LR		
	comp=E,9μm,13.5s						
SNY				LR	LR		
	comp=Z,10μm,13.5s						
PET	**Petropavlovsk**	**16.25**	**34**	*de*P	**Pn**	**20 23 09.9**	**+2.0**
PET				*i* S	**Sn**	**20 26 15.1**	**+7.9**
PET				pmax	pmax		
	comp=Z,61nm,1.3s						
PET				smax			
	comp=E,2μm,9.7s						
PET				MLR	MLR		
	comp=Z,6μm,16.0s						
PET	**Petropavlovsk**	**16.25**	**34**	*e*P	**Pn**	**20 23 05.9**	**-2.0**
DL2	**Dalian**	**16.99**	**272**	⇑*i*P	**Pn**	**20 23 16.0**	**-1.2**
DL2				S	**Sn**	**20 26 22.0**	**-3.1**
DL2				AMB	AMB		
	comp=Z,2μm,5.0s						
DL2				LR	LR		
	comp=N,4μm,12.0s						
DL2				LR	LR		
	comp=E,7μm,12.0s						
JOW	**Kunigami**	**18.57**	**228**	Pn	**Pn**	**20 23 32.8**	**-3.9**
	comp=E,0.7nm,0.3s,baz=44,slow=11,SNR=4.9						
HIA	**Hailar**	**19

comp=Z,620nm,12.0s
SSE LR LR
comp=N,5μm,16.0s,MS5.0
SSE LR LR
comp=E,2μm,16.0s,MS5.0
SSE LR LR
comp=Z,4μm,15.2s,MS4.9
NRGR Nerungri 20.40 329 *e*P **P 20 23 55.9 -0.3**
NRGR S **S 20 27 35.1 -8.0**
NRGR smax
comp=E,6.0nm,0.2s
CLNS Chul'man 20.46 330 *e*P **P 20 23 54.7 -2.2**
CLNS *e*S **S 20 27 34.1 -10**
CLNS *e*SS 20 28 06.4
CLNS pmax pmax
comp=E,27nm,0.9s
CLNS pmax pmax
comp=Z,115nm,0.9s
CLNS pmax pmax
comp=N,82nm,1.0s
CLNS smax
comp=E,884nm,10.3s
CLNS smax
comp=N,626nm,12.7s
CLNS MLR MLR
comp=N,8μm,13.0s,MS5.4
CLNS MLR MLR
comp=Z,9μm,13.0s,MS5.3
CLNS MLR MLR
comp=E,7μm,14.0s,MS5.4
BJT Baijiatuau 20.93 278 *e*P **P 20 23 59.6 -2.4**
BJT pmax pmax
comp=Z,174nm,0.8s
BJT MLR MLR
comp=Z,5μm,20.0s
BJT Baijiatuau 20.93 278 *e*P **P 20 23 59.6 -2.4**
comp=Z,174nm,0.8s
BJT LR LR
comp=Z,5μm,20.0s,MS4.9
NJ2 Nanjing 21.59 255 *e*P **P 20 24 06.8 -2.3**
NJ2 AP 20 24 10.4
NJ2 XP sP 20 24 17.0 -4.1
NJ2 PP 20 24 30.8
NJ2 PPP 20 24 41.4
NJ2 S **S 20 28 05.0 -1.6**
NJ2 XS sS 20 28 15.0 -4.6
NJ2 AMB AMB
comp=Z,120nm,0.9s,mb5.3
NJ2 AMB AMB
comp=Z,750nm,12.0s
NJ2 LR LR
comp=N,12μm,16.2s,MS5.5
NJ2 LR LR
comp=E,11μm,16.6s,MS5.5
NJ2 LR LR
comp=Z,6μm,17.6s,MS5.0
YAK Yakutsk 23.24 343*c i*P **P 20 24 22.2 -4.4**
YAK *e**PP 20 24 30.7
YAK *e*PPP 20 24 55.5
YAK *e* 20 28 09.9
YAK *e*S **S 20 28 32.3 -4.2**
YAK *e*SS 20 29 12.1
YAK *e*SSS 20 29 31.3
YAK *e* 20 35 33.3
YAK pmax pmax
comp=Z,72nm,0.8s,mb5.2
YAK pmax pmax
comp=N,31nm,1.0s
YAK pmax pmax
comp=E,17nm,1.1s
YAK smax
comp=N,84nm,1.5s
YAK smax
comp=E,77nm,2.3s
YAK MLR MLR
comp=N,4μm,17.0s,MS5.0
YAK MLR MLR
comp=E,3μm,16.0s,MS5.0
YAK Yakutsk 23.24 343 *e*P **P 20 24 22.8 -3.8**
comp=E,206nm,0.9s,mb5.6
YAK *e* 20 28 32.5
YAK LR LR
comp=Z,3μm,21.0s,MS4.7
CIT Chita 23.64 309 *e*P **P 20 24 27.7 -2.8**
CIT *e* 20 24 36.1
CIT *e*S **S 20 28 43.8 +0.8**
CIT pmax pmax
comp=Z,915nm,2.6s,mb5.8
TATO Taipei 24.06 237 *e*P **P 20 24 34.0 -0.3**
comp=Z,145nm,0.8s,mb5.5
TATO LR LR
comp=Z,3μm,20.0s,MS4.8
SMY Shemya 24.11 49 PFAKE 20 24 50.0 +15
SMY LR LR
comp=Z,2μm,19.0s,MS4.7
HHC Hu-ho-hao-te 24.26 282 *e*P **P 20 24 33.9 -2.2**
HHC AP 20 24 38.1
HHC XP sP 20 24 41.0 -7.6
HHC PP 20 25 08.6
HHC PCP PcP 20 28 14.9 -0.8
HHC S **S 20 28 50.6 -2.3**
HHC XS sS 20 28 55.4 -12
HHC SS 20 29 39.4
HHC SCP ScP 20 31 52.6 +0.5
HHC PCS PcS 20 31 54.4 -1.1
HHC AMB AMB
comp=Z,20nm,0.5s,mb4.8
HHC AMB AMB
comp=Z,1μm,5.9s
HHC LR LR
comp=N,3μm,13.1s,MS5.2
HHC LR LR
comp=E,5μm,14.7s,MS5.2
HHC LR LR
comp=Z,7μm,15.5s,MS5.2
YHNB Yeheng 24.35 237 *e*P **P 20 24 34.0 -2.9**
NACB Ninganchiao 24.56 235 *e*P **P 20 24 36.0 -2.9**
BTO Baotou 25.46 281 *e*P **P 20 24 45.0 -2.0**
BTO S **S 20 29 06.8 -5.3**
BTO AMB AMB
comp=Z,100nm,0.9s,mb5.3
BTO LR LR
comp=N,4μm,11.8s,MS5.4
BTO LR LR
comp=E,7μm,14.3s,MS5.4
WHN Wuhan 25.68 257 *e*P **P 20 24 47.1 -1.9**
WHN LR LR
comp=Z,16μm,15.0s,MS5.7
BOD Bodaibo 25.74 323 *e*P **P 20 24 49.2 -0.4**
BOD pmax pmax
comp=Z,276nm,1.4s,mb5.6
QZH Quanzhou 25.98 241⇑*i*P **P 20 24 51.6 -0.2**
QZH S **S 20 29 20.3 -0.1**
QZH AMB AMB
comp=Z,230nm,1.2s,mb5.6
QZH AMB AMB
comp=Z,2μm,2.8s,mb6.2
QZH LR LR
comp=N,7μm,14.4s,MS5.4
QZH LR LR
comp=E,3μm,12.8s,MS5.4
QZH LR LR
comp=Z,7μm,13.8s,MS5.4
GUMO Guam 26.74 177 LR LR 20 35 43.3
comp=Z,1μm,18.4s,MS4.5,baz=6.8,slow=37
GUMO Guam 26.74 177 PFAKE 20 25 10.0 +11
GUMO LR LR
comp=Z,1.0nm,20.0s
ULN Ulaanbaatar 27.08 298⇑*i*P **P 20 25 02.2 +0.5**
ULN MLR MLR
comp=Z,5μm,19.0s,MS5.1
SONM Songino Array 27.52 298 P **P 20 25 05.7 0.0**
comp=Z,27nm,0.7s,mb5.0,baz=92,slow=9.3,SNR=128
SONM LR LR 20 36 54.5
comp=Z,4μm,18.9s,MS5.0,baz=88,slow=38
XAN Xi'an 28.22 268 P **P 20 25 10.8 -1.1**
XAN PP PP 20 25 59.8 -16
XAN AMB AMB
comp=Z,80nm,1.6s,mb5.1
XAN AMB AMB
comp=Z,860nm,9.8s
XAN LR LR
comp=N,1μm,18.1s,MS5.0
XAN LR LR
comp=E,3μm,15.4s,MS5.0
XAN LR LR
comp=Z,4μm,13.9s,MS5.2
IRK Irkutsk 29.27 307 *e*P **P 20 25 21.1 -0.1**
IRK pmax pmax
comp=Z,333nm,1.3s,mb5.9
TLY Talaya 29.58 306 P **P 20 25 24.5 +0.5**
comp=Z,593nm,1.1s,mb6.2,SNR=29
TLY Talaya 29.58 306 *e*P **P 20 25 23.8 -0.2**
TLY *e* 20 26 25.8
TLY *e*S **S 20 30 11.5 -5.6**
TLY pmax pmax
comp=Z,133nm,1.1s,mb5.6
TLY MLR MLR
comp=Z,4μm,14.0s,MS5.2
TLY Talaya 29.58 306⇑*i*P **P 20 25 24.3 +0.3**
ZAK Zakamensk 29.69 303 *e*P **P 20 25 25.3 +0.3**
ZAK pmax pmax
comp=Z,126nm,1.8s,mb5.3
BILL Bilibino 30.31 17 *e*P **P 20 25 29.0 -1.4**
BILL pmax pmax
comp=Z,94nm,1.8s,mb5.2
BILL MLR MLR
comp=Z,3μm,19.0s,MS4.9
BILL Bilibino 30.31 17 *e*P **P 20 25 28.6 -1.8**
comp=Z,89nm,0.9s,mb5.5
BILL LR LR
comp=Z,2μm,20.0s,MS4.8
HKC Hong Kong 30.74 243 P **P 20 25 36.0 +1.8**
MOY Mondy 31.22 306 *e*P **P 20 25 39.2 +0.7**
MOY pmax pmax
comp=Z,149nm,2.0s,mb5.5
LZH Lanzhou 31.34 275 *e*P **P 20 25 39.0 -0.5**
LZH AP pP 20 25 45.3 -3.1
LZH XP sP 20 25 49.8 -2.2
LZH S **S 20 30 48.3 +3.6**
LZH XS sS 20 30 58.0 -1.3
LZH AMB AMB
comp=Z,90nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,460nm,4.4s
LZH LR LR
comp=N,8μm,13.4s
LZH LR LR
comp=Z,9μm,14.6s,MS5.6
TIXI Tiksi 32.18 351 *e*P **P 20 25 42.3 -4.6**
TIXI *e*S **S 20 30 53.6 -4.2**
TIXI pmax pmax
comp=Z,20nm,1.0s,mb4.9
TIXI MLR MLR
comp=Z,7μm,17.0s,MS5.4
GTA Gaotai 33.35 283 P **P 20 25 57.6 +0.4**
GTA AP pP 20 26 02.3 -3.7
GTA XP sP 20 26 05.0 -4.7
GTA PP PP 20 27 08.0 -4.9
GTA PPP 20 27 24.3
GTA PCP PcP 20 28 38.8 +0.3
GTA S **S 20 31 16.6 +0.6**
GTA XS sS 20 31 24.6 -6.1
GTA SCP ScP 20 32 21.6 +0.9
GTA PCS PcS 20 32 25.4 +1.3
GTA SS SS 20 33 20.3 -20
GTA SCS ScS 20 36 21.3 -0.2
GTA AMB AMB
comp=Z,250nm,1.2s,mb6.0
GTA AMB AMB
comp=Z,1μm,4.6s
GTA LR LR
comp=N,3μm,14.1s,MS5.5
GTA LR LR
comp=E,6μm,15.6s,MS5.5
GTA LR LR
comp=Z,6μm,15.2s,MS5.5
CD2 Chengdu 33.50 266 P **P 20 25 58.1 -0.3**
CD2 AP pP 20 26 05.4 -1.9
CD2 XP sP 20 26 08.8 -2.2
CD2 PP PP 20 27 10.3 -4.2
CD2 PCP PcP 20 28 39.4 +0.5
CD2 S **S 20 31 16.8 -1.5**
CD2 XS sS 20 31 28.9 -4.0
CD2 SCP ScP 20 32 21.0 -0.2
CD2 PCS PcS 20 32 25.3 +0.7
CD2 SCS ScS 20 36 20.5 -1.7
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CD2 AMB AMB
comp=Z,420nm,3.6s
CD2 LR LR
comp=N,7μm,13.2s
CD2 LR LR
comp=Z,3μm,15.0s,MS5.1
GYA Guiyang 33.57 257⇑*i*P **P 20 25 58.9 -0.1**
GYA AP pP 20 26 08.4 +0.5
GYA PP PP 20 27 11.8 -3.4
GYA PPP 20 27 19.0
GYA S **S 20 31 20.8 +1.4**
GYA XS sS 20 31 34.1 +0.1
GYA SCP ScP 20 32 19.8 -1.6
GYA SS SS 20 33 23.4 -21
GYA AMB AMB
comp=Z,130nm,1.3s,mb5.7
GYA AMB AMB
comp=Z,530nm,7.8s
GYA LR LR
comp=N,5μm,16.7s,MS5.4
GYA LR LR
comp=E,4μm,15.6s,MS5.4
GYA LR LR
comp=Z,7μm,16.0s,MS5.5
UNV Unalaska Valle 35.74 51 PFAKE 20 26 30.0 +12
UNV LR LR
comp=Z,2μm,20.0s,MS5.0
QIZ Qiongzhong 35.92 244 P **P 20 26 20.8 +1.4**
QIZ S **S 20 31 55.8 +0.1**
QIZ XS sS 20 32 09.8 -0.5
QIZ AMB AMB
comp=Z,20nm,1.6s,mb4.8
QIZ AMB AMB
comp=Z,750nm,8.3s
QIZ LR LR
comp=N,2μm,16.3s,MS5.3
QIZ LR LR
comp=E,3μm,13.9s,MS5.3
QIZ LR LR
comp=Z,3μm,13.9s,MS5.2
QIZ Qiongzhong 35.92 244 PFAKE 20 26 30.0 +11
QIZ LR LR
comp=Z,2μm,21.0s,MS4.9
KRAR Krasnoyarsk 36.33 313*c i*P **P 20 26 22.9 +0.1**
KRAR pmax pmax
comp=Z,277nm,1.8s,mb5.9
KRAR MLR MLR
comp=Z,4μm,18.0s,MS5.2
DAV Davao City (W) 36.91 211 PFAKE 20 26 40.0 +12
DAV LR LR
comp=Z,2μm,20.0s,MS4.9
TNA Tin City 37.08 31 PFAKE 20 26 40.0 +11
TNA LR LR
comp=Z,735nm,19.0s,MS4.5
KMI Kunming 37.24 259⇑P **P 20 26 31.3 +0.7**
KMI AP pP 20 26 36.8 -2.7
KMI XP sP 20 26 39.3 -3.9
KMI PP PP 20 27 57.9 +2.1
KMI PPP 20 28 19.3
KMI PCP PcP 20 28 52.0 +2.1
KMI S **S 20 32 16.3 +0.5**
KMI XS sS 20 32 26.0 -4.5
KMI SCP ScP 20 32 37.1 +2.4
KMI PCS PcS 20 32 39.3 +1.1
KMI SS SS 20 34 47.3 -12
KMI SSS 20 35 18.1
KMI SCS ScS 20 36 42.5 -0.1
KMI AMB AMB
comp=Z,120nm,1.5s,mb5.5
KMI AMB AMB
comp=Z,930nm,3.1s
KMI LR LR
comp=N,6μm,14.8s,MS5.6
KMI LR LR
comp=E,5μm,15.3s,MS5.6
KMI LR LR
comp=Z,6μm,14.2s,MS5.5
WMQ Urumqi 40.95 294 P **P 20 27 02.3 +0.7**
WMQ XP sP 20 27 13.0 -1.3
WMQ PP PP 20 28 38.1 +1.8
WMQ PPP 20 29 11.8
WMQ PCS PcS 20 32 53.3 +0.8
WMQ S **S 20 33 12.8 +1.3**
WMQ XS sS 20 33 25.0 -1.4
WMQ SS SS 20 36 09.8 -4.1
WMQ SCS ScS 20 37 03.5 -0.7
WMQ AMB AMB
comp=Z,150nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,720nm,3.5s
WMQ LR LR
comp=N,4μm,12.0s,MS5.7
WMQ LR LR
comp=E,5μm,14.0s,MS5.7
WMQ LR LR
comp=Z,3μm,17.0s,MS5.2
ZAL Zalesovo 41.02 310 P **P 20 27 02.6 +0.5**
comp=Z,31nm,0.8s,mb5.0,baz=25,slow=9.3,SNR=143
TTA Tatalina 41.68 37 *e*P **P 20 27 07.8 +0.2**
SVW2 Sparrevohn 41.81 40 *e*P **P 20 27 09.7 +1.0**
NVS Novosibirsk 41.84 311 *i*P **P 20 27 08.4 -0.5**
NVS *e* 20 28 49.8
NVS *e*S **S 20 33 21.9 -2.8**
NVS pmax pmax
comp=Z,190nm,1.7s,mb5.5
NVS pmax pmax
comp=N,68nm,1.8s
NVS pmax pmax
comp=E,220nm,2.0s
NVS smax
comp=N,54nm,2.0s
NVS smax
comp=E,107nm,2.1s
UBT Ubonrachathani 41.85 244⇓P **P 20 27 10.0 +1.0**
KKM Kota Kinabalu 42.12 223 P **P 20 27 13.4 +2.2**
KKTK Khon Kaen 42.64 248 P **P 20 27 16.0 +0.6**
comp=E,864nm,0.6s
TSM Tawau 42.78 220 P **P 20 27 17.8 +1.2**
KDAK Kodiak Island 43.47 44 P **P 20 27 21.6 -0.5**
comp=E,284nm,0.9s,mb6.0,SNR=9.1
KDAK Kodiak Island 43.47 44 P **P 20 27 21.1 -1.1**
comp=E,38nm,0.9s,mb5.1,baz=287,slow=3.7,SNR=22
KDAK Kodiak Island 43.47 44 *e*P **P 20 27 20.9 -1.2**
comp=E,36nm,0.8s,mb5.2
KDAK LR LR
comp=Z,275nm,20.0s,MS4.2
LSA Lhasa 43.69 273 P **P 20 27 26.0 +2.1**
LSA AP pP 20 27 34.6 +1.7
LSA XP sP 20 27 38.4 +1.8
LSA PP PP 20 29 09.3 +3.5
LSA S **S 20 33 54.8 +2.9**
LSA SCS ScS 20 37 21.5 +0.5
LSA AMB AMB
comp=Z,30nm,1.3s,mb4.9
LSA AMB AMB
comp=Z,790nm,9.0s
LSA LR LR
comp=N,1μm,15.1s,MS5.2
LSA LR LR
comp=E,2μm,14.1s,MS5.2
LSA LR LR
comp=Z,3μm,12.3s,MS5.4
LSA Lhasa 43.69 273 *e*P **P 20 27 25.5 +1.6**
comp=Z,299nm,1.5s,mb5.8
MK31 Makanchi Array 43.87 300 P **P 20 27 24.6 -0.7**
MK31 pmax pmax
comp=Z,134nm,1.0s,mb5.6
MKAR Makanchi Array 43.87 300 P **P 20 27 24.7 -0.7**
comp=Z,86nm,0.9s,mb5.5,baz=81,slow=6.5,SNR=373
MKAR S **S 20 33 55.1 +0.6**
comp=Z,1.3nm,0.9s,baz=76,slow=18,SNR=2.7
MKAR Makanchi Array 43.87 300 P **P 20 27 24.7 -0.7**
MKAR S **S 20 33 55.1 +0.6**
MCK McKinley 44.89 36 P **P 20 27 33.8 +0.3**
MCK pmax pmax
comp=Z,150nm,0.9s,mb5.8
MCK McKinley 44.89 36 *e*P **P 20 27 33.1 -0.4**
comp=Z,15nm,0.9s,mb4.8
MCK LR LR
comp=Z,505nm,19.0s,MS4.5
PMR Palmer 44.91 39 P **P 20 27 33.0 -0.7**
PMR pmax pmax
comp=Z,26nm,0.8s,mb5.1
PMR Palmer 44.91 39 *e*P **P 20 27 32.9 -0.8**
comp=Z,26nm,0.8s,mb5.1
PMR LR LR
comp=Z,842nm,20.0s,MS4.7
NST Nakhon Sawan 45.00 250 P **P 20 27 35.0 +0.6**
SHL Shillong 45.22 267 *e*P **P 20 27 36.6 +0.4**
SHL *e*S **S 20 34 14.6 +0.4**
SML Sawmill 45.27 38 *e*P **P 20 27 35.8 -0.8**
KURK Kurchatov 45.28 306 P **P 20 27 35.8 -0.8**
comp=Z,1μm,0.8s,SNR=38
KURK Kurchatov 45.28 306⇑*i*P **P 20 27 35.8 -0.8**
COLA College 45.32 34 P **P 20 27 37.3 +0.4**
COLA pmax pmax
comp=Z,48nm,1.0s,mb5.3
COLA College 45.32 34 *e*P **P 20 27 37.1 +0.2**
comp=Z,48nm,0.9s,mb5.3
COLA LR LR
comp=Z,839nm,20.0s,MS4.7
DIV Divide 46.56 39 *e*P **P 20 27 46.4 -0.3**
comp=Z,136nm,1.0s,mb5.8
DIV LR LR
comp=Z,3μm,19.0s,MS5.2
EYAK Cordova Ski Ar 46.65 40 *e*P **P 20 27 47.4 0.0**
MENT Mentasta 47.30 36 *e*P **P 20 27 53.3 +0.9**
NNT Nongplab 47.37 247 P **P 20 27 55.0 +1.9**
JIRN Jiri 48.48 273 *e*P **P 20 28 02.3 +0.7**
comp=Z,147nm,0.8s,mb6.1
AAA Alma-Ata 48.55 297 *e*P **P 20 28 03.0 +0.8**
AAA *e*S **S 20 35 00.3 -1.4**
AAA pmax pmax
comp=Z,750nm,3.7s
AAA smax
comp=E,7μm,7.5s
AAA MLR MLR
comp=Z,5μm,15.7s,MS5.6
GUN Gumba 48.59 274 *e*P **P 20 28 02.8 +0.3**
comp=Z,508nm,1.1s,mb6.5
DAWY Dawson 49.05 35 *e*P **P 20 28 05.8 -0.2**
KKN Kakani 49.11 274 *e*P **P 20 28 07.0 +0.6**
KSM Kuching 49.12 227 *e*P **P 20 28 06.3 -0.3**
PKI Pulchoki 49.12 274 *e*P **P 20 28 06.5 0.0**
CHKZ Chkalovo 49.32 311 P **P 20 28 08.0 -0.1**
CHKZ pmax pmax
comp=Z,128nm,1.1s,mb5.9
CHKZ Chkalovo 49.32 311 *e*P **P 20 28 07.0 -1.0**
comp=Z,134nm,0.9s,mb6.0
DMN Daman 49.33 274 *e*P **P 20 28 08.8 +0.6**
comp=Z,311nm,1.2s,mb6.2
VOSK Vostochnaya 49.37 310 P **P 20 28 08.5 +0.1**
VOSK pmax pmax
comp=Z,202nm,1.3s,mb6.0
ULHL Ulahol 49.41 296 P **P 20 28 09.3 +0.6**
SNR=41
CAL Calcutta 49.59 266 *e*P **P 20 28 11.4 +1.2**
CAL *e*x x 20 35 26.0
CAL Calcutta 49.59 266 *e*P **P 20 28 11.4 +1.2**
CAL *e*x x 20 35 26.0
TKM2 Tokmak 2 49.60 297 P **P 20 28 10.9 +0.7**
TKM2 pmax pmax
comp=Z,146nm,0.9s,mb6.0
BVA0 Borovoye Array 49.63 311 *i*P **P 20 28 10.7 +0.3**
BVA0 pmax pmax
comp=Z,30nm,1.3s,mb5.2
BVAR Borovoye Array 49.63 311 P **P 20 28 10.9 +0.5**
comp=Z,34nm,0.9s,mb5.4,baz=79,slow=7.7,SNR=109
BVAR S **S 20 35 16.3 -0.5**
comp=Z,0.4nm,0.7s,baz=57,slow=16,SNR=2.2
PMG Port Moresby 49.67 175 P **P 20 28 08.8 -2.0**
comp=Z,12nm,0.8s,mb4.9,baz=302,slow=13,SNR=2.6
PMG Port Moresby 49.67 175 P **P 20 28 08.8 -2.0**
PMG LR LR
comp=Z,723nm,19.0s,MS4.7
BRVK Borovoye 49.68 311 P **P 20 28 11.0 +0.2**
comp=Z,562nm,1.1s,mb6.5,SNR=32
BRVK Borovoye 49.68 311⇑*i*P **P 20 28 10.8 0.0**
KBK Karagaybulak 50.14 296 P **P 20 28 15.7 +1.4**
SNR=131
CHMS Chumysh 50.15 297 P **P 20 28 14.6 +0.2**
SNR=22
KZA Kyzart 50.15 296 P **P 20 28 16.2 +1.8**
SNR=44
USP Ospenovka 50.22 297 P **P 20 28 14.9 0.0**
SNR=46
FRU Bishkek 50.30 297 *i*P **P 20 28 15.5 0.0**

FRU e pP 20 28 25.0 +0.3
FRU e 20 30 10.0
FRU e 20 35 29.0
FRU pmax pmax
comp=Z,270nm,2.0s,mb5.9
FRU MLR MLR
comp=N,4μm,15.0s,MS5.7
FRU MLR MLR
comp=E,4μm,15.0s,MS5.7
FRU MLR MLR
comp=Z,4μm,15.0s,MS5.5
ZRNK Zerenda 50.45 311 P **P 20 28 16.9 +0.2**
ZRNK pmax pmax
comp=Z,201nm,1.4s,mb6.0
ZRNK Zerenda 50.45 311 eP **P 20 28 16.0 -0.6**
comp=Z,104nm,0.9s,mb5.9
AAK Ala-Archa 50.46 297 P **P 20 28 17.7 +1.0**
SNR=20
AAK Ala-Archa 50.46 297 P **P 20 28 15.2 -1.5**
comp=Z,226nm,1.2s,mb6.1,SNR=16
AAK Ala-Archa 50.46 297⇑ i P **P 20 28 16.1 -0.6**
SNR=30
UCH Uchtor 50.60 296 P **P 20 28 18.9 +1.1**
INK Inuvik 50.61 29 P **P 20 28 18.4 +0.5**
comp=Z,8.8nm,0.7s,mb4.8,baz=296,slow=4.6,SNR=8.3
INK Inuvik 50.61 29 P **P 20 28 18.7 +0.9**
INK pmax pmax
comp=Z,29nm,1.0s
INK Inuvik 50.61 29 eP **P 20 28 17.8 0.0**
comp=Z,29nm,1.0s,mb5.2
SNG Songkhla 50.63 241 P **P 20 28 19.0 +1.0**
comp=Z,172nm,0.8s,mb6.0
KSH Kashi 50.66 292 eP **P 20 28 17.8 -0.4**
KSH eAP pP 20 28 27.4 0.0
KSH eXP sP 20 28 31.6 +0.6
KSH ePPP 20 31 12.0
KSH eSCP ScP 20 33 28.3 -0.9
KSH ePCS PcS 20 33 32.0 -0.7
KSH eS **S 20 35 28.0 -3.2**
KSH ePS 20 35 40.4
KSH eXS sS 20 35 44.3 -2.0
KSH eSCS ScS 20 38 02.8 -4.1
KSH eSS SS 20 38 58.4 -7.2
KSH AMB AMB
comp=Z,180nm,0.8s,mb6.0
KSH LR LR
comp=N,14μm,14.5s
KSH LR LR
comp=E,9μm,14.0s
KSH LR LR
comp=Z,15μm,14.1s
BOK Bokaro 50.76 269 eP **P 20 28 18.9 -0.1**
BOK AMb AMB 20 28 22.1
comp=Z,75nm,1.3s,mb5.5
EKS2 Erkin-Say 50.94 297 P **P 20 28 19.9 -0.4**
SNR=48
AML Almayashu 51.20 296 P **P 20 28 24.2 +1.9**
SNR=19
HNR Honiara 51.84 159 PFAKE 20 28 40.0 +13
HNR LR LR
comp=Z,1μm,21.0s,MS4.8
SKAG Skagway 51.99 40 eP **P 20 28 28.9 +0.7**
comp=Z,12nm,0.7s,mb4.9
SKAG LR LR
comp=Z,500nm,17.0s,MS4.6
KULM Kulim 52.00 239 eP **P 20 28 28.9 +0.6**
KULM epP pP 20 28 38.2 +0.7
PTH Pithoragarh 52.06 279 eP **P 20 28 30.2 +1.5**
PTH ex x 20 29 35.9
LGTI Lohaghat 52.09 279 i P **P 20 28 31.0 +2.1**
IPM Ipoh 52.37 238 P **P 20 28 31.7 +0.7**
SIT Sitka 52.73 43 PFAKE 20 28 50.0 +16
SIT LR LR
comp=Z,1μm,19.0s,MS4.9
KGM Kluang 52.80 234 P **P 20 28 36.3 +2.2**
KKAR Karatay Array 52.97 299 i P **P 20 28 35.0 -0.5**
KKAR pmax pmax
comp=Z,91nm,1.1s,mb5.6
SDNR Sundarnagar 53.53 283 eP **P 20 28 39.0 -0.6**
KAKA Kakadu 53.85 194 eP **P 20 28 41.3 -0.6**
comp=Z,46nm,0.9s,mb5.4
BLSP Bilaspur 54.56 270 eP **P 20 28 47.3 +0.2**
BLSP AMb AMB 20 28 48.9
comp=Z,90nm,1.0s,mb5.8
SOKR Solikamsk 54.74 322c i P **P 20 28 47.9 -0.5**
SOKR pmax pmax
comp=Z,120nm,1.1s,mb5.8
SOKR MLR MLR
comp=Z,2μm,17.0s,MS5.3
NDI New Delhi 54.76 280 eP **P 20 28 47.5 -1.1**
NDI ex x 20 36 33.0
DLBC Dease Lake 54.93 40 P **P 20 28 50.2 +0.5**
comp=Z,4.6nm,0.8s,mb4.6,baz=298,slow=5.8,SNR=5.7
DLBC Dease Lake 54.93 40 eP **P 20 28 50.2 +0.5**
DLBC epP pP 20 28 59.0 0.0
PSI Prapat 55.00 239 P **P 20 28 50.5 +0.3**
comp=Z,27nm,0.8s,mb5.4,baz=20,slow=4.5,SNR=29
ARU Arti 55.01 317 P **P 20 28 50.7 +0.4**
comp=Z,393nm,1.3s,mb6.3,SNR=22
ARU Arti 55.01 317⇑ i P **P 20 28 50.3 0.0**
ARU e 20 29 51.5
ARU e 20 30 50.0
ARU ePPP 20 32 02.0
ARU eS **S 20 36 30.3 -0.1**
ARU e 20 38 39.0
ARU pmax pmax
comp=Z,99nm,1.4s,mb5.7
ARU MLR MLR
comp=Z,6μm,16.0s,MS5.7
ARU MLR MLR
comp=N,1μm,15.0s,MS5.7
ARU MLR MLR
comp=E,5μm,16.5s,MS5.7
ARU Arti 55.01 317 eP **P 20 28 49.8 -0.5**
NIL Nilore 55.23 287 P **P 20 28 53.6 +1.6**
comp=E,248nm,1.1s,mb6.2,SNR=15
JBP Jabalpur 55.62 272⇑ eP **P 20 28 54.7 0.0**
JBP ex x 20 29 10.4
comp=Z,128nm,1.6s
JBP eS **S 20 36 39.6 +1.0**
VIS Vishakhapatnam 56.21 265 ex x 20 29 00.2
ALE Alert 56.64 4 P **P 20 29 02.6 +0.6**
comp=Z,326nm,1.1s,mb6.3,SNR=5.8
AB31 Akbulak array 57.11 309 i P **P 20 29 04.7 -0.7**
AB31 pmax pmax
comp=Z,45nm,0.8s,mb5.5
NGP Nagpur 57.47 271 eP **P 20 29 05.5 -2.4**
NGP ex x 20 36 58.4
BHPL Bhopal 57.52 274 i x **P 20 29 02.7 -5.6**
BHPL eP 20 29 07.7
BHPL AMb AMB 20 29 10.3
comp=Z,95nm,1.3s,mb5.7
BHPL i x x 20 29 21.4
KBS Kingsbay 57.63 350 eP **P 20 29 10.2 +1.2**
KBS eS **S 20 37 10.0 +4.7**
KBS AMS AMS 20 58 00.8
comp=Z,534nm,20.7s,MS4.6
KBS Kingsbay 57.63 350 P **P 20 29 09.6 +0.6**
KBS pmax pmax
comp=Z,89nm,1.1s,mb5.7
KBS Kingsbay 57.63 350 eP **P 20 29 09.3 +0.3**
comp=Z,89nm,1.1s,mb5.7
KBS epP pP 20 29 18.9 +0.6
KBS LR LR
comp=Z,942nm,19.0s,MS4.9
AKTK Aktyubinsk 57.73 311 P **P 20 29 08.9 -0.8**
AKTO Aktyubinsk 57.73 311 P **P 20 29 08.9 -0.8**
comp=Z,32nm,0.8s,mb5.4,baz=68,slow=13,SNR=54
AJM Ajmer 57.86 279 i P **P 20 29 10.0 -0.6**
AJM eP 20 29 10.7
AJM AMb AMB 20 29 21.9
FUNA Funafuti 58.73 138 PFAKE 20 29 30.0 +13
FUNA LR LR
comp=Z,13μm,19.0s,MS6.1
RES Resolute Bay 58.91 15 P **P 20 29 18.4 +0.5**
RES pmax pmax
comp=Z,68nm,1.0s,mb5.6
RES Resolute Bay 58.91 15 eP **P 20 29 17.5 -0.4**
comp=Z,68nm,1.0s,mb5.6
RES epP pP 20 29 24.3 -2.9
ORR Orenburg 59.05 313⇑ i P **P 20 29 18.2 -0.7**
ORR PPP 20 32 54.2
ORR pmax pmax
comp=Z,60nm,1.5s,mb5.4
ORR MLR MLR
comp=Z,2μm,18.0s,MS5.4
BJO Bjornoya 59.61 345 eS **S 20 37 32.6 +1.6**
BJO AMS AMS 21 00 12.7
comp=Z,3μm,16.7s,MS5.4
LVZ Lovozero 59.75 336 i P **P 20 29 23.4 -0.4**
YKW3 Yellowknife Ar 60.00 32 eP **P 20 29 24.7 -0.8**
HYB Hyderabad 60.03 268 i P **P 20 29 26.5 +0.8**
comp=Z,60nm,1.0s,mb5.6
HYB eS **S 20 37 36.0 -0.4**
HYB Hyderabad 60.03 268 eP **P 20 29 26.5 +0.8**
HYB eS **S 20 37 40.0 +3.6**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 60.03 268 eP **P 20 29 26.5 +0.8**
comp=Z,60nm,1.0s,mb5.6
HYB eS **S 20 37 40.0 +3.6**
YKA Yellowknife Ar 60.04 32 P **P 20 29 25.3 -0.4**
comp=Z,4.2nm,0.6s,mb4.6,baz=301,slow=6.3,SNR=19
YKA Yellowknife Ar 60.04 32 i P **P 20 29 25.2 -0.5**
YKA pmax pmax
comp=Z,40nm,0.6s
CTAO Charters Tower 60.23 177 PFAKE 20 29 40.0 +13
CTAO LR LR
comp=Z,798nm,21.0s,MS4.8
APA Apatity 60.33 336⇑ i P **P 20 29 27.2 -0.5**
APA i 20 30 08.0
APA i S **S 20 37 42.0 +1.8**
APA i 20 39 12.0
APA i SS SS 20 41 36.0 -2.0
APA pmax pmax
comp=Z,20nm,0.8s,mb5.2
FITZ Fitzroy Crossi 60.56 200 eP **P 20 29 28.9 -0.5**
comp=Z,22nm,1.0s,mb5.2
WRAB Tennant Creek 60.64 190 eP **P 20 29 31.6 +1.7**
WB2 Warramunga Arr 60.65 190 eP **P 20 29 28.1 -1.9**
WRA Warramunga Arr 60.66 190 P **P 20 29 28.4 -1.6**
comp=Z,10nm,0.9s,mb4.9,baz=8.9,slow=6.9,SNR=52
WRA PKPPKP 20 59 05.7
comp=Z,2.6nm,1.1s,baz=222,slow=1.4,SNR=5.3
KEV Kevo 60.90 339 eP **P 20 29 29.3 -2.4**
KEV pmax pmax
comp=Z,13nm,0.8s,mb5.1
KEV MLR MLR
comp=Z,2μm,20.0s,MS5.3
KEV Kevo 60.90 339 eP **P 20 29 29.3 -2.4**
comp=Z,13nm,0.8s,mb5.1
KEV LR LR
comp=Z,2μm,20.0s,MS5.3
LATR Latur 60.96 270 eP **P 20 29 32.0 0.0**
ARCES ARCESS Array B 61.45 339 P **P 20 29 34.8 -0.6**
comp=Z,8.2nm,0.9s,mb4.9,baz=30,slow=7.6,SNR=13
ARCES LR LR 21 01 55.2
comp=Z,2μm,18.3s,MS5.4,baz=29,slow=42
KLMR Klimovskoe 61.84 327 eP **P 20 29 37.2 -0.8**
KLMR eS **S 20 37 54.6 -4.8**
KLMR pmax pmax
comp=Z,100nm,1.4s,mb5.8
PECR Pechory 62.24 322 eP **P 20 29 40.7 0.0**
PECR e 20 30 16.0
PECR e 20 31 54.6
PECR eS **S 20 38 03.0 -1.5**
PECR eSS SS 20 42 04.0 -3.9
PECR pmax pmax
comp=Z,210nm,2.0s,mb5.9
PECR smax
comp=N,400nm,8.0s
PECR smax
comp=E,500nm,10.0s
PECR MLR MLR
comp=Z,2μm,16.0s,MS5.4
PECR MLR MLR
comp=E,2μm,15.0s
DAG Danmarks Havn 62.56 355⇑ i P **P 20 29 42.7 -0.1**
comp=E,13nm,1.0s,mb5.0
DAG Danmarks Havn 62.56 355⇑ i P **P 20 29 42.7 -0.1**
DAG pmax pmax
comp=Z,13nm,1.0s,mb5.0
OCWA Octopus Mounta 62.83 49 PFAKE 20 30 00.0 +15
OCWA LR LR
comp=Z,528nm,21.0s,MS4.7
TRO Tromso 63.08 341 eP **P 20 29 45.2 -1.1**
TRO eS **S 20 38 16.3 +1.2**
TRO AMS AMS 21 03 48.0
comp=Z,1μm,13.8s,MS5.3
KAD Karad 63.43 271 eP **P 20 29 49.1 +0.5**
KAD AMb AMB 20 29 59.5
comp=Z,128nm,0.9s,mb6.0
BOM Bombay 63.54 273 eP **P 20 29 49.8 +0.5**
BOM AMb AMB 20 30 17.3
comp=Z,108nm,1.1s,mb5.8
MBW Mount Baker 63.59 47 P **P 20 29 49.6 -0.1**
ABKT Ailbek 63.72 298 P **P 20 29 50.8 +0.3**
comp=Z,338nm,0.9s,mb6.4,SNR=26
B05A Bryant 63.76 48⇓ P **P 20 29 49.9 -0.8**
baz=64
JOF Joensuu 63.80 332 ep **P 20 29 49.6 -1.5**
comp=Z,33nm,0.8s,mb5.4
E03A Lebam 63.82 50⇑ P **P 20 29 51.3 +0.2**
baz=64
D04A Dobbs Creek Ra 63.97 49⇓ P **P 20 29 51.8 -0.3**
baz=64
C05A Tolt Reservoir 64.29 48⇑ P **P 20 29 53.8 -0.5**
baz=64
AS31 Alice Springs 64.38 190 eP **P 20 29 53.8 -1.0**
ASAR Alice Springs 64.38 190 P **P 20 29 53.1 -1.7**
comp=Z,5.6nm,1.0s,mb4.6,baz=3.0,slow=4.5,SNR=23
ASAR PKPPKP 20 58 56.6
comp=Z,2.8nm,1.1s,baz=187,slow=1.6,SNR=6.4
ASPA Alice Springs 64.38 190 eP **P 20 29 53.8 -1.1**
D05A Enumclaw 64.39 49⇓ P **P 20 29 54.7 -0.2**
baz=64
TDL Tradedollar La 64.71 50 P **P 20 29 58.2 +1.2**
F04A Amboy 64.82 50⇑ P **P 20 29 57.2 -0.5**
baz=65
E05A Randle 64.86 49⇓ P **P 20 29 57.2 -0.8**
baz=65
COR Corvallis 65.02 52 PFAKE 20 30 10.0 +11
COR LR LR
comp=Z,107nm,20.0s,MS4.0
MBWA Marble Bar 65.16 205 PFAKE 20 30 10.0 +10
MBWA LR LR
comp=Z,600nm,22.0s,MS4.8
TBM Table Mountain 65.20 48 P **P 20 30 00.8 +0.7**
K01A Sixes 65.27 54⇓ P **P 20 30 00.3 -0.4**
baz=65
WTV Waterville 65.27 48 P **P 20 30 00.8 +0.1**
EBG Ellensburg 65.36 49 P **P 20 30 01.8 +0.5**
I03A Eugene 65.37 52⇑ P **P 20 30 01.3 0.0**
baz=65
MOS Moscow 65.57 323 eP **P 20 30 00.4 -2.2**
MOS e pP 20 30 10.2 -1.8
MOS e 20 30 30.5
MOS e 20 32 25.5
MOS eS S 20 38 45.4 -0.5
MOS pmax pmax
comp=Z,180nm,1.7s,mb5.8
H04A Detroit Lake 65.63 51⇓ P **P 20 30 02.7 -0.3**
baz=66,SNR=5.0
EDM Edmonton 65.65 40 P **P 20 30 02.8 -0.3**
EDM Edmonton 65.65 40 eP **P 20 30 02.6 -0.5**
EDM epP pP 20 30 11.6 -0.9
BROR Big Rock Looko 65.70 52 P **P 20 30 03.8 +0.4**
KAF Kangasniemi 66.10 333 ep **P 20 30 04.3 -1.7**
comp=Z,42nm,1.0s,mb5.4,baz=45,slow=6.1
KAF Kangasniemi 66.10 333 eP **P 20 30 04.3 -1.7**
KAF pmax pmax
comp=Z,42nm,1.0s,mb5.4
L02A Cave Junction 66.16 54⇓ P **P 20 30 06.4 0.0**
baz=66
H05A Madras 66.22 51⇓ P **P 20 30 06.5 -0.3**
baz=66
HAWA Hanford 66.24 49 eP **P 20 30 07.1 +0.2**
comp=Z,2.6nm,1.5s
HAWA epP pP 20 30 15.1 -1.2
HAWA LR LR
comp=Z,33nm,19.0s
HUMO Hull Mountain 66.31 54 eP **P 20 30 08.9 +1.5**
comp=Z,7.0nm,1.0s,mb4.7
HUMO LR LR
comp=Z,401nm,22.0s,MS4.6
HUMO Hull Mountain 66.31 54⇓ P **P 20 30 07.1 -0.2**
baz=66
VRHR Novokhopersk 66.35 318 eP **P 20 30 07.7 +0.1**
VRHR e*SP sP 20 30 17.1 -3.5
VRHR eS S 20 38 49.9 -5.5
VRHR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.5s
VRHR smax
comp=N,370nm,15.8s
VRHR smax
comp=E,410nm,13.9s
VRHR MLR MLR
comp=Z,3μm,12.0s,MS5.8
VRHR MLR MLR
comp=E,3μm,15.0s
OBN Obninsk 66.43 323 P **P 20 30 08.9 +0.8**
comp=E,336nm,1.0s,mb6.3,SNR=5.6
OBN Obninsk 66.43 323c i P **P 20 30 07.6 -0.5**
OBN i S S 20 38 55.0 -1.3
OBN i SS SS 20 43 10.8 -2.4
OBN pmax pmax
comp=Z,276nm,1.0s,mb6.2
OBN Obninsk 66.43 323⇑ i P **P 20 30 07.7 -0.4**
OBN LR LR
comp=Z,3μm,21.0s,MS5.5
NEW Newport 66.53 46 P **P 20 30 08.7 -0.1**
comp=Z,11nm,0.9s,mb4.9,baz=320,slow=4.7,SNR=12
NEW Newport 66.53 46 P **P 20 30 08.8 0.0**
NEW pmax pmax
comp=Z,25nm,1.1s
NEW Newport 66.53 46 eP **P 20 30 08.2 -0.6**
comp=Z,25nm,1.1s,mb5.2
NEW LR LR
comp=Z,526nm,19.0s,MS4.8
FINES FINESS Array B 66.63 332 P **P 20 30 08.2 -1.2**
comp=Z,27nm,0.8s,mb5.3,baz=57,slow=7.0,SNR=85
FINES LR LR 21 03 31.3
comp=Z,2μm,18.4s,MS5.3,baz=44,slow=40
FINES FINESS Array B 66.63 332 i P **P 20 30 08.1 -1.3**
FINES pmax pmax
comp=Z,27nm,0.8s
JCC Jacoby Creek 66.64 56⇑ P **P 20 30 09.2 -0.3**
baz=66
TRD Trivandrum 66.78 261 eP **P 20 30 11.1 +0.7**
TRD AMb AMB 20 30 18.6
comp=Z,66nm,1.8s,mb5.4
KHMM Horse Mountain 66.79 56 eP **P 20 30 11.6 +1.2**
KHMM epP pP 20 30 20.7 +0.8
YBH Yreka Blue Hor 66.95 54 P **P 20 30 12.4 +1.0**
YBH pmax pmax
comp=Z,23nm,1.1s
YBH Yreka Blue Hor 66.95 54 eP **P 20 30 12.0 +0.5**
comp=Z,23nm,1.1s,mb5.1
YBH epP pP 20 30 20.1 -0.8
YBH LR LR
comp=Z,336nm,20.0s,MS4.6
YBH Yreka Blue Hor 66.95 54⇑ P **P 20 30 11.6 +0.2**
baz=67,SNR=7.5
M02C Callahan 67.06 55⇓ P **P 20 30 12.2 +0.1**
baz=67,SNR=6.8
N02C Big Bar 67.09 55⇓ P **P 20 30 12.3 -0.1**
baz=67
JMIC Jan Mayen 67.12 350 eP **P 20 30 13.1 +0.6**
JMIC eS S 20 39 05.6 +1.0
JMIC AMS AMS 21 03 52.8
comp=Z,480nm,17.4s,MS4.8
O01C Eel River Cons 67.15 56⇓ P **P 20 30 13.1 +0.4**
baz=67
VOR Voronezh 67.20 319 eP **P 20 30 11.5 -1.5**
VOR pmax pmax
comp=Z,120nm,2.0s,mb5.6
L04A Klamath Falls 67.21 54⇑ P **P 20 30 13.0 -0.1**
baz=67
I06A Prineville 67.23 51⇓ P **P 20 30 13.0 -0.2**
baz=67,SNR=5.5
SUMG Summit 67.31 1 eP **P 20 30 14.2 +0.4**
comp=Z,59nm,0.9s,mb5.6
SUMG epP pP 20 30 23.1 0.0
LHEM Herd Peak 67.31 54 P **P 20 30 14.9 +1.2**
M04C Macdoel 67.46 54⇑ P **P 20 30 14.8 +0.1**
baz=67,SNR=12
VRSR Storozhevoye 67.52 319 eP **P 20 30 14.6 -0.4**
VRSR e*PP pP 20 30 25.9 +1.4
VRSR pmax pmax
comp=N,100nm,0.9s
VRSR pmax pmax
comp=Z,100nm,0.9s,mb5.8
VRSR pmax pmax
comp=E,90nm,1.0s
VRSR MLR MLR
comp=N,50nm,15.0s,MS4.0
VRSR MLR MLR
comp=E,50nm,15.0s,MS4.0
VRSR MLR MLR
comp=Z,1μm,15.0s,MS5.2
M03C McCloud 67.58 54⇑ P **P 20 30 15.1 -0.3**
baz=67
J06A Christmas Vall 67.66 52⇓ P **P 20 30 15.7 -0.2**
baz=68
WDC Whiskeytown Da 67.71 55 P **P 20 30 16.6 +0.4**
WDC pmax pmax
comp=Z,19nm,1.0s,mb5.1
WDC Whiskeytown Da 67.71 55 eP **P 20 30 16.1 -0.1**
comp=Z,19nm,1.0s,mb5.1
WDC epP pP 20 30 23.8 -1.9
WDC LR LR
comp=Z,325nm,21.0s,MS4.5
WDC Whiskeytown Da 67.71 55⇓ P **P 20 30 16.0 -0.2**
baz=68,SNR=6.2
MAK Makhachkala 67.74 308ce P **P 20 30 16.6 +0.2**
MAK e 20 30 31.8
MAK e 20 32 42.9
MAK ePPP 20 34 18.9
MAK eS S 20 39 12.6 +0.5
MAK e 20 39 31.1
MAK eSS SS 20 43 32.1 -1.4
MAK pmax pmax
comp=Z,189nm,2.2s,mb5.7
MAK MLR MLR
comp=Z,3μm,13.0s,MS5.7
O02C Red Bluff 67.78 56⇓ P **P 20 30 16.4 -0.3**
baz=68,SNR=5.7
WALA Waterton Lakes 67.80 44 eP **P 20 30 16.7 -0.1**
comp=Z,16nm,0.9s,mb5.0
P01C Double 8 Ranch 67.83 57⇑ P **P 20 30 16.9 -0.1**
baz=68
K06A Valley Falls 67.85 52⇑ P **P 20 30 17.2 0.0**
baz=68,SNR=13
GASB Alder Springs 68.12 56⇓ P **P 20 30 18.5 -0.4**
baz=68
M05C Lookout 68.13 54⇑ P **P 20 30 18.8 -0.1**
baz=68,SNR=8.7
HATC Hat Creek Radi 68.25 54⇓ P **P 20 30 19.5 -0.1**
baz=68,SNR=5.5
HOPS Hopland 68.27 57 PFAKE 20 30 30.0 +10
HOPS LR LR
comp=Z,634nm,20.0s,MS4.8
MOD Modoc 68.34 53 eP **P 20 30 19.9 -0.3**
comp=Z,11nm,0.8s,mb4.9
MOD epP pP 20 30 28.4 -1.2
MOD LR LR
comp=Z,450nm,19.0s,MS4.7
VSU Vasula 68.42 330⇑ i P **P 20 30 20.4 -0.3**
K07A Rock Creek Ran 68.52 52⇑ P **P 20 30 21.2 -0.1**
baz=68,SNR=17
M06C Likely Place G 68.63 54⇓ P **P 20 30 22.0 0.0**
baz=68
NSS Namsos 68.73 340 eP **P 20 30 21.4 -1.2**
NSS AMS AMS 21 06 12.8
comp=Z,3μm,21.0s,MS5.5
MNRC McLaughlin Nat 68.74 57⇓ P **P 20 30 22.4 -0.3**
baz=69
O04C Chester 68.76 55⇑ P **P 20 30 22.8 0.0**
baz=69
ELFS Eagle Lake Fie 68.81 54⇑ P **P 20 30 23.3 +0.1**
baz=69,SNR=14
ORV Oroville 68.95 56⇓ P **P 20 30 23.2 -0.8**
baz=69,SNR=6.4
SUTB Sutter Buttes 68.95 56⇓ P **P 20 30 23.0 -1.0**
baz=69
WVOR Wild Horse Val 69.03 52 eP **P 20 30 24.8 +0.3**
WVOR e*PP pP 20 30 32.5 -1.5
WVOR pmax pmax
comp=Z,39nm,1.3s,mb5.2
WVOR MLR MLR
comp=Z,456nm,21.0s,MS4.7
WVOR Wild Horse Val 69.03 52 eP **P 20 30 24.8 +0.2**
comp=Z,39nm,1.3s,mb5.2

WVOR *e*pP pP 20 30 32.5 -1.5
WVOR LR LR
comp=Z,456nm,21.0s,MS4.7
O05C Quincy 69.08 55 ⇑P **P 20 30 24.3 -0.5**
baz=69
GOF Gofitskoye 69.14 312 *e*P **P 20 30 24.5 -0.7**
GOF pmax pmax
comp=Z,150nm,0.8s,mb6.0
M07A Soldier Meadow 69.32 53 ⇑P **P 20 30 26.4 +0.1**
baz=69,SNR=11
CHMT Chamberlain Mo 69.45 45 *e*P **P 20 30 26.9 -0.2**
O06A Flanigan 69.64 54 ⇑P **P 20 30 28.1 -0.2**
baz=70,SNR=15
P05C Yuba Gap, Truc 69.66 55 ⇓P **P 20 30 27.9 -0.4**
baz=70
JRSC Jasper Ridge 69.73 58 ⇓P **P 20 30 29.0 +0.2**
baz=70
M08A Happy Creek Ra 69.77 52 ⇑P **P 20 30 29.3 +0.2**
baz=70,SNR=9.1
L09A Wilkinson Ranc 69.86 52 ⇑P **P 20 30 29.6 0.0**
baz=70,SNR=6.8
LAVA Lava Cap Winer 69.89 56 ⇓P **P 20 30 29.4 -0.4**
baz=70,SNR=8.0
DGRG David-gareji 69.91 308 P **P 20 30 29.4 -0.5**
DGRG S tx 20 39 06.9
FFC Flin Flon 69.95 34 P **P 20 30 30.4 +0.2**
comp=Z,121nm,0.8s,mb5.9,SNR=9.4
KIV Kislovodsk 70.00 311 P **P 20 30 31.1 +0.6**
comp=Z,1μm,0.9s,SNR=57
KIV Kislovodsk 70.00 311⇑ *e*P **P 20 30 31.5 +1.0**
KIV *e**PP PP 20 33 13.6 +8.1
KIV *i* S S 20 39 41.8 +3.0
KIV pmax pmax
comp=Z,21nm,1.1s,mb5.0
ZEI Tsey 70.00 309 *e*P **P 20 30 31.0 +0.5**
ZEI *e**PP pP 20 30 40.1 +0.1
ZEI pmax pmax
comp=Z,44nm,0.8s,mb5.4
MTA Mtatsminda 70.11 308 P **P 20 30 31.6 +0.4**
MTA S S 20 39 40.9 +0.7
WCN Washoe City 70.19 55 ⇑P **P 20 30 31.5 -0.2**
baz=70
O07A Toulon 70.23 54 ⇑P **P 20 30 31.8 0.0**
baz=70,SNR=17
N08A GE Springer Mi 70.32 53 ⇑P **P 20 30 32.3 -0.1**
baz=70,SNR=10
HRY Holter Researc 70.34 45 *e*P **P 20 30 33.6 +1.0**
M09A Marrel Ranch, 70.35 52 ⇓P **P 20 30 32.5 -0.1**
baz=70
ONI Oni 70.38 309 P **P 20 30 33.4 +0.6**
IZAR Zarasai 70.48 328 *e*P **P 20 30 32.8 -0.6**
CMB Columbia Colle 70.54 56 *e*P **P 20 30 33.9 +0.1**
CMB *e**PP pP 20 30 41.7 -1.6
CMB pmax pmax
comp=Z,17nm,0.8s,mb5.0
CMB MLR MLR
comp=Z,368nm,21.0s,MS4.6
CMB Columbia Colle 70.54 56 *e*P **P 20 30 33.9 +0.1**
comp=Z,17nm,0.8s,mb5.0
CMB *e*pP pP 20 30 41.7 -1.6
CMB LR LR
comp=Z,368nm,21.0s,MS4.6
CMB Columbia Colle 70.54 56 ⇓P **P 20 30 33.6 -0.2**
baz=70,SNR=8.2
PACP Pacheco Peak 70.57 58 ⇑P **P 20 30 34.0 0.0**
baz=70,SNR=6.2
IDID Didziasalis 70.58 327 *e*P **P 20 30 33.2 -0.9**
IDID AMb AMB 20 30 46.0
comp=Z,814nm,1.1s,mb6.5
O08A Rochester Mine 70.59 53 ⇑P **P 20 30 33.7 -0.4**
baz=70
SAO San Andreas Ge 70.61 58 PFAKE 20 30 50.0 +16
SAO LR LR
comp=Z,460nm,19.0s,MS4.8
ISAL Salakas 70.65 328 *e*P **P 20 30 34.1 -0.4**
ISAL AMb AMB 20 30 46.7
comp=Z,1μm,1.3s
DLMT Dillon 70.76 46 *e*P **P 20 30 35.0 -0.1**
comp=Z,29nm,0.9s,mb5.2
HAST Hastings Reser 70.77 58 ⇓P **P 20 30 34.8 -0.4**
baz=71
IIGN Ignalina 70.77 328 *e*P **P 20 30 34.5 -0.6**
IIGN AMb AMB 20 30 47.3
comp=Z,1μm,1.1s
M10A I.L. Ranch, Tu 70.83 52 ⇑P **P 20 30 35.9 +0.4**
baz=71,SNR=5.5
HLID Hailey 70.84 49 *e*P **P 20 30 36.0 +0.4**
comp=Z,11nm,0.9s,mb4.8
HLID LR LR
comp=Z,511nm,19.0s,MS4.8
LCCM Lewis and Clar 70.86 46 P **P 20 30 35.9 +0.2**
S06C San Francisco 70.98 56 ⇓P **P 20 30 35.9 -0.6**
baz=71
S05C Merced 70.98 57 ⇑P **P 20 30 35.5 -1.0**
baz=71
T05C Eagle Field, D 71.03 58 ⇑P **P 20 30 36.5 -0.2**
baz=71
GNI Garni 71.07 307 P **P 20 30 37.9 +1.0**
comp=Z,14nm,0.8s,mb4.9,baz=0.7,slow=4.9,SNR=12
GNI Garni 71.07 307 *e*P **P 20 30 38.2 +1.2**
GNI pmax pmax
comp=Z,197nm,1.4s
GNI MLR MLR
comp=Z,1μm,19.0s
GNI Garni 71.07 307 *e*P **P 20 30 38.2 +1.2**
comp=Z,197nm,1.4s,mb5.8
GNI LR LR
comp=Z,1μm,19.0s,MS5.2
BMN Battle Mountai 71.08 53 *e*P **P 20 30 37.5 +0.4**
BMN *e**PP pP 20 30 45.0 -1.6
BMN pmax pmax
comp=Z,33nm,1.1s,mb5.2
BMN MLR MLR
comp=Z,366nm,19.0s,MS4.7
BMN Battle Mountai 71.08 53 *e*P **P 20 30 37.5 +0.4**
comp=Z,33nm,1.1s,mb5.2
BMN *e*pP pP 20 30 45.0 -1.5
BMN LR LR
comp=Z,366nm,19.0s,MS4.7
V03C Hunter Liggett 71.19 59 ⇓P **P 20 30 37.3 -0.4**
baz=71
O09A Fish Creek Ran 71.26 53 ⇑P **P 20 30 38.0 -0.1**
baz=71,SNR=14
U04C Hernandez Rese 71.28 58 ⇑P **P 20 30 38.1 -0.2**
baz=71
M11A Holland Ranch, 71.34 51 ⇓P **P 20 30 38.8 +0.2**
baz=71,SNR=14
R07C Lee Vining 71.36 56 ⇓P **P 20 30 38.9 +0.2**
baz=71,SNR=7.9
MOL Molde 71.48 340 AMS AMS 21 07 22.9
comp=Z,2μm,18.4s,MS5.4
T06C Millerton Lake 71.58 57 ⇓P **P 20 30 39.5 -0.6**
baz=71
Q08A Gabbs 71.59 54 ⇓P **P 20 30 39.9 -0.3**
baz=71,SNR=5.4
NVAR Mina Array Bea 71.62 55 P **P 20 30 41.0 +0.7**
comp=Z,8.8nm,0.8s,mb4.7,baz=296,slow=4.9,SNR=44
NVAR pP pP 20 30 48.6 -1.2
comp=Z,14nm,0.8s,baz=286,slow=6.5,SNR=18
KCC Kaiser Creek 71.65 56 ⇑P **P 20 30 40.2 -0.3**
baz=72
V04C Ramage Ranch, 71.66 59 ⇓P **P 20 30 40.1 -0.4**
baz=72
PKD Parkfield 71.69 58 ⇑P **P 20 30 40.3 -0.4**
baz=72
MNV Mina 71.71 55 *e*P **P 20 30 41.0 +0.1**
MNV pmax pmax
comp=Z,19nm,1.1s,mb4.9
MNV MLR MLR
comp=Z,393nm,20.0s,MS4.7
MNV Mina 71.71 55 *e*P **P 20 30 41.0 +0.1**
comp=Z,19nm,1.1s,mb4.9
MNV LR LR
comp=Z,393nm,20.0s,MS4.7
HFS Hagfors 71.71 336 P **P 20 30 39.9 -1.0**
comp=Z,26nm,0.9s,mb5.2,baz=52,slow=7.7,SNR=44
HFS pP pP 20 30 49.0 -1.4
comp=Z,35nm,0.8s,baz=66,slow=3.6,SNR=19
NB2 NORSAR Subarra 71.73 338 P **P 20 30 39.8 -1.2**
comp=Z,39nm,0.9s,mb5.3,baz=37,slow=6.2
NB2 NORSAR Subarra 71.73 338 P **P 20 30 39.8 -1.2**
NB2 pmax pmax
comp=Z,39nm,0.9s,mb5.3
NOA NORSAR Array B 71.73 338 P **P 20 30 39.9 -1.1**
comp=Z,24nm,0.8s,mb5.2,baz=37,slow=6.0,SNR=79
NOA pP pP 20 30 49.3 -1.2
comp=Z,48nm,0.9s,baz=35,slow=6.0,SNR=27
NOA LR LR 21 06 12.9
comp=Z,1μm,19.4s,MS5.2,baz=40,slow=39
NOA NORSAR Array B 71.73 338 P **P 20 30 39.9 -1.1**
NOA *PP pP 20 30 49.3 -1.2
QLMT Earthquake Lak 71.74 46 *e*P **P 20 30 42.2 +1.2**
DIGO Kars 71.74 308 *i* P **P 20 30 42.5 +1.5**
WBK Wadi Bani Khal 71.78 284 ⇑P **P 20 30 42.3 +1.1**
SNR=5.5
R08A Mina 71.79 55 ⇑P **P 20 30 41.2 -0.2**
baz=72
BIDO Bidbid 71.86 286 ⇓P **P 20 30 42.6 +0.9**
SNR=6.1
M12A Wells 71.87 51 ⇓P **P 20 30 41.7 -0.1**
baz=72,SNR=21
SOC Sochi 71.92 312*c i* P **P 20 30 41.9 -0.2**
SOC *i* *PP pP 20 30 51.6 0.0
SOC *e* 20 31 00.5
SOC *e*PPP 20 35 06.8
SOC *i* S S 20 39 59.0 -2.2
SOC *e* 20 40 43.8
SOC *e*SS SS 20 44 36.2 -1.7
SOC pmax pmax
comp=Z,73nm,1.6s,mb5.4
STKA Stephens Creek 71.94 182 *e*P **P 20 30 39.7 -2.6**
comp=Z,3.9nm,0.7s,mb4.5
STKA Stephens Creek 71.94 182 P **P 20 30 39.5 -2.8**
comp=Z,4.7nm,0.7s,mb4.5,baz=336,slow=6.9,SNR=16
STKA LR LR 21 00 10.6
comp=Z,658nm,20.3s,MS4.9,baz=8.7,slow=34
NAO01 NORSAR Array S 71.98 338 *e*P **P 20 30 42.2 -0.3**
comp=Z,30nm,0.9s,mb5.2
NAO01 *e*pP pP 20 30 51.1 -1.0
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.3
Q09A Carvers 72.08 54 ⇓P **P 20 30 43.2 +0.2**
baz=72
MTUM Tungsten Hills 72.11 56 *e*P **P 20 30 43.9 +0.7**
ARTV Artvin 72.13 309 *i* P **P 20 30 44.3 +0.9**
N12A Wells--Clov Va 72.14 51 ⇓P **P 20 30 43.5 +0.1**
baz=72,SNR=11
V05C Boulder Hill, 72.15 58 ⇑P **P 20 30 43.6 +0.1**
baz=72
O11A Cowboy Ranch, 72.21 52 ⇓P **P 20 30 43.9 0.0**
baz=72,SNR=9.9
S08C White Mtn Res 72.27 56 ⇓P **P 20 30 44.5 +0.3**
baz=72,SNR=9.3
FORT Forrest 72.28 194 *e*P **P 20 30 44.9 +0.6**
comp=Z,17nm,0.9s,mb5.0
YFT Old Faithful 72.30 46 P **P 20 30 46.4 +2.0**
M13A Montello 72.34 51 ⇓P **P 20 30 44.3 -0.3**
baz=72
SFJD Kangerlussuaq 72.37 6 *i* P **P 20 30 52.9 +8.1**
comp=Z,63nm,1.2s,mb5.4
SFJD *i* 20 40 05.9
HOQ Hoqain 72.42 286 ⇑P **P 20 30 45.4 +0.3**
SNR=9.5
ANN Anapa 72.42 314*c i* P **P 20 30 44.0 -1.2**
ANN *i* *PP pP 20 30 54.5 -0.2
ANN *e* 20 33 27.5
ANN *e*PPP 20 35 10.8
ANN *e*S S 20 40 06.2 -0.8
ANN *e* 20 40 43.7
ANN *e*SS SS 20 44 44.3 -1.3
ANN pmax pmax
comp=Z,95nm,1.6s,mb5.5
ANN MLR MLR
comp=N,3μm,18.0s,MS5.7
ANN MLR MLR
comp=E,2μm,18.0s,MS5.7
ANN MLR MLR
comp=Z,2μm,18.0s,MS5.5
LKWY Lake 72.47 46 PFAKE 20 31 00.0 +15
LKWY LR LR
comp=Z,726nm,19.0s,MS5.0
TIN Tinemaha 72.50 56 ⇑P **P 20 30 45.7 +0.1**
baz=72
TPH Tonopah 72.51 55 P **P 20 30 46.9 +1.2**
TPH pmax pmax
comp=Z,34nm,1.1s,mb5.2
TPH Tonopah 72.51 55 *e*P **P 20 30 46.3 +0.6**
comp=Z,34nm,1.2s,mb5.2
TPH LR LR
comp=Z,317nm,19.0s,MS4.6
P11A Circle Ranch, 72.51 53 ⇑P **P 20 30 45.5 -0.1**
baz=72
JMDO Jabal Madar 72.56 285 ⇓P **P 20 30 46.3 +0.3**
SNR=6.4
IMW Indian Meadow 72.60 47 *e*P **P 20 30 47.4 +1.2**
comp=Z,21nm,0.8s,mb5.1
FLWY Flagg Ranch 72.61 47 *e*P **P 20 30 47.7 +1.4**
comp=Z,96nm,1.6s,mb5.5
N13A West Wendover 72.63 51 ⇓P **P 20 30 46.5 +0.1**
baz=72
DCID1 Drake Creek 72.65 47 *e*P **P 20 30 47.7 +1.1**
AKASG Malin Array Be 72.67 323 P **P 20 30 45.4 -1.2**
comp=Z,32nm,0.8s,mb5.3,baz=43,slow=6.0,SNR=107
AKASG Malin Array Be 72.67 323 P **P 20 30 45.4 -1.2**
ASHO Ashiyiah 72.67 288 ⇑P **P 20 30 47.2 +0.6**
SNR=7.1
S09A Goldfield 72.73 55 ⇓P **P 20 30 46.8 -0.1**
baz=72,SNR=8.8
MOOW Moose Ponds 72.80 47 *e*P **P 20 30 48.4 +1.0**
comp=Z,34nm,1.3s,mb5.1
TPAW Teton Pass 72.85 47 *e*P **P 20 30 48.9 +1.2**
comp=Z,29nm,1.1s,mb5.1
HVU Hansel Valley 72.89 50 P **P 20 30 48.9 +1.0**
HVU pmax pmax
comp=Z,20nm,0.9s,mb5.0
HVU Hansel Valley 72.89 50 *e*P **P 20 30 48.1 +0.1**
comp=Z,20nm,0.9s,mb5.0
HVU *e*pP pP 20 30 58.1 +0.6
SUW Suwalki 72.96 328 *e*P **P 20 30 47.9 -0.5**
SUW *e*pP pP 20 30 57.5 -0.4
SUW L 21 07 31.9
comp=Z,2.2nm,16.9s
SUW Suwalki 72.96 328 *e*P **P 20 30 47.9 -0.5**
SUW *e*pP pP 20 30 57.5 -0.4
BSY Bisya 73.00 286 ⇑P **P 20 30 49.7 +1.2**
SNR=8.2
Q11A Duckwater 73.01 53 ⇑P **P 20 30 48.4 -0.2**
baz=73,SNR=7.0
P12A McGill 73.07 52 ⇑P **P 20 30 48.9 -0.1**
baz=73,SNR=14
ARQ Araqi 73.14 286 P **P 20 30 50.8 +1.3**
SNR=12
ISA Isabella 73.19 57 PFAKE 20 31 00.0 +10
ISA LR LR
comp=Z,92nm,20.0s,MS4.1
ISA Isabella 73.19 57 ⇓P **P 20 30 49.8 +0.1**
baz=73
AHID Auburn Hatcher 73.23 48 PFAKE 20 31 00.0 +10
AHID LR LR
comp=Z,328nm,20.0s,MS4.6
ERZM Erzurum 73.26 308 *i* P **P 20 30 43.1 -7.0**
BGU Big Grassy Mou 73.28 50 *e*P **P 20 30 50.6 +0.3**
HAKT HAKKARI 73.29 305 *i* P **P 20 30 51.1 +0.8**
LAO LASA Array 73.32 42 P **P 20 30 48.6 -1.8**
comp=Z,21nm,0.8s,mb5.1
LAO LR LR
comp=Z,688nm,20.0s,MS4.9
KONO Kongsberg 73.33 338 *e*P **P 20 30 50.7 +0.2**
KONO *e*S S 20 40 17.1 -0.2
KONO Kongsberg 73.33 338 P **P 20 30 50.9 +0.4**
KONO pmax pmax
comp=Z,21nm,1.2s,mb4.9
KONO Kongsberg 73.33 338 *e*P **P 20 30 50.0 -0.5**
comp=Z,21nm,1.3s,mb4.9
KONO *e*pP pP 20 30 59.2 -0.8
KONO LR LR
comp=Z,2μm,19.0s,MS5.3
DAC Darwin (Calif) 73.38 56 *e*P **P 20 30 51.1 +0.3**
DAC pmax pmax
comp=Z,14nm,1.0s,mb4.8
DAC Darwin (Calif) 73.38 56 *e*P **P 20 30 50.3 -0.5**
comp=Z,14nm,1.0s,mb4.8
DAC *e*pP pP 20 30 59.7 -0.6
DAC LR LR
comp=Z,443nm,21.0s,MS4.7
SPUT South Promonto 73.38 50 *e*P **P 20 30 51.4 +0.6**
HWUT Hardware Ranch 73.70 49 *e*P **P 20 30 53.2 +0.5**
comp=Z,16nm,0.9s,mb4.9
HWUT LR LR
comp=Z,462nm,19.0s,MS4.8
DUG Dugway 73.87 51 P **P 20 30 54.5 +0.8**
DUG pmax pmax
comp=Z,23nm,0.8s,mb5.2
DUG Dugway 73.87 51 *e*P **P 20 30 54.1 +0.4**
comp=Z,23nm,0.8s,mb5.2
DUG LR LR
comp=Z,354nm,20.0s,MS4.7
BER Bergen 73.90 340 *e*P **P 20 30 53.8 -0.1**
BER *e*S S 20 40 24.0 +0.3
BER AMS AMS 21 09 34.2
comp=Z,2μm,18.9s,MS5.5
SNCC San Nicolas Is 73.99 60 ⇓P **P 20 30 54.1 -0.3**
baz=74
BNGL BINGOL 73.99 308 *i* P **P 20 30 56.0 +1.6**
PDAR Pinedale Array 74.10 47 P **P 20 30 54.5 -0.6**
comp=Z,7.9nm,0.8s,mb4.7,baz=287,slow=2.9,SNR=47
PDAR pP pP 20 31 03.4 -1.2
comp=Z,9.5nm,0.8s,baz=294,slow=1.5,SNR=15
TCUT Toone Canyon 74.11 49 *e*P **P 20 30 54.5 -0.6**
SIM Simferopol' 74.12 316*ce*P **P 20 30 56.1 +1.0**
SIM 20 33 40.4
SIM PPP 20 35 28.3
SIM S S 20 40 28.3 +2.2
SIM pmax pmax
comp=Z,1μm,9.7s
SIM MLR MLR
comp=Z,2μm,17.0s,MS5.5
NLU North Lily Min 74.46 51 *e*P **P 20 30 57.6 +0.4**
MSL Mosul 74.46 304 *ex* x 20 30 58.0
MSL *i* x x 20 31 07.0
MSL *ex* x 20 33 50.0
MSL *ex* x 20 40 31.0
GSC Goldstone 74.49 57 ⇑P **P 20 30 56.9 -0.4**
baz=74,SNR=5.5
BEST Besiri 74.59 307 *i* P **P 20 30 59.8 +1.9**
DAU Daniels Canyon 74.65 50 P **P 20 30 59.6 +1.4**
DAU Daniels Canyon 74.65 50 *e*P **P 20 30 59.2 +1.0**
MPU Maple Canyon 74.68 50 PFAKE 20 31 10.0 +12
MPU LR LR
comp=Z,696nm,20.0s,MS5.0
TUQ Turquoise Mtn. 74.97 56 ⇑P **P 20 30 59.8 -0.3**
baz=75,SNR=5.5
WAR Warsaw 75.15 328 *e*P **P 20 31 02.0 +0.9**
WAR *e*pP pP 20 31 06.2 -4.5
WAR *e*S S 20 40 29.3 -8.4
WAR L 21 07 17.1
comp=Z,1.6nm,18.3s
CCUT Cedar City 75.22 53 *e*P **P 20 31 01.0 -0.6**
MARD Mardin 75.25 306 *i* P **P 20 31 02.7 +1.0**
BSD Bornholm Skovb 75.27 332⇑ *i* P **P 20 31 01.4 -0.4**
comp=Z,42nm,1.0s,mb5.3
BSD *i* pP 20 31 11.0 -0.4
BSD *e* 20 33 53.1
BSD *i* S S 20 40 39.1 +0.1
BSD *i* 20 41 19.5
BSD
comp=Z,1μm,20.0s
BSD Bornholm Skovb 75.27 332⇑ *i* P **P 20 31 01.4 -0.4**
comp=Z,42nm,1.0s,mb5.3
BSD *i* pP 20 31 11.0 -0.4
BSD *e* 20 33 53.1
BSD *i* S S 20 40 39.1 +0.1
BSD *i* 20 41 19.5
MSU Marysvale 75.33 52 P **P 20 31 03.3 +1.2**
MSU Marysvale 75.33 52 *e*P **P 20 31 03.1 +1.0**
KIS Kishinev 75.43 320 *e*P **P 20 31 00.0 -2.7**
KIS *e* 20 33 50.0
KIS *e*PPP 20 35 40.0
KIS *e*S S 20 40 39.0 -1.8
KIS *e* 20 41 40.0
BHD Baghdad 75.53 301 *ex* x 20 31 02.0
BHD *ex* x 20 31 12.0
BHD *ex* x 20 40 40.0
ELZG Elazig 75.58 308 *i* P **P 20 31 05.3 +1.7**
UMR Umm Al-Rimmam 75.61 297 *e*P **P 20 31 03.6 -0.1**
UMR AMb AMB 20 31 05.3
comp=Z,89nm,0.9s,mb5.7
LVV L'vov 75.66 324 *i* P **P 20 31 02.7 -1.3**
LVV *i* S S 20 40 47.7 +4.4
COP Copenhagen 75.67 334⇑ *i* P **P 20 31 04.3 +0.2**
comp=Z,36nm,0.9s,mb5.3
COP *i* pP 20 31 14.0 +0.3
COP *e* 20 33 57.0
COP *i* S S 20 40 44.6 +1.1
COP
comp=Z,500nm,18.0s
COP Copenhagen 75.67 334⇑ *i* P **P 20 31 04.3 +0.2**
COP *i* pP 20 31 14.0 +0.3
COP *e* 20 33 57.0
COP *i* S S 20 40 44.6 +1.1
COP pmax pmax
comp=Z,36nm,0.9s,mb5.3
COP MLR MLR
comp=Z,500nm,18.0s,MS4.9
MIB Mutribah 75.71 297 *e*P **P 20 31 03.8 -0.6**
MIB AMb AMB 20 31 06.0
comp=Z,166nm,0.9s,mb6.0
W12A Cal Nev Ari 75.72 56 ⇓P **P 20 31 03.8 -0.6**
baz=76
ULM Lac du Bonnet 75.75 35 P **P 20 31 03.1 -1.5**
comp=Z,5.2nm,0.7s,mb4.6,baz=307,slow=6.7,SNR=11
ULM LR LR 21 08 08.3
comp=Z,642nm,18.4s,MS5.0,baz=156,slow=39
PFO Pinyon Flat Ob 75.77 58 ⇓P **P 20 31 03.8 -0.8**
baz=76
109C Camp Elliot, M 75.80 59 ⇑P **P 20 31 04.2 -0.7**
baz=76
KBD Kabd 75.86 296 *e*P **P 20 31 04.1 -1.1**
KBD AMb AMB 20 31 07.2
comp=Z,346nm,1.1s,mb6.2
IAS Iasi 75.90 321 P **P 20 31 06.3 +0.9**
SRU San Rafael 75.92 50 P **P 20 31 06.1 +0.6**
SRU pmax pmax
comp=Z,23nm,0.8s,mb5.2
SRU San Rafael 75.92 50 *e*P **P 20 31 05.8 +0.3**
comp=Z,23nm,0.8s,mb5.2
SRU *e*pP pP 20 31 15.2 +0.1
QRN Al-Qurain 75.97 296 *e*P **P 20 31 05.8 0.0**
QRN AMb AMB 20 31 07.7
comp=Z,164nm,0.9s,mb5.9
BOYT Boyabat 76.03 313 *i* P **P 20 31 06.4 +0.3**
MALT Malatya 76.04 309⇓ *i* P **P 20 31 08.1 +1.9**
MALT Malatya 76.04 309 P **P 20 31 07.3 +1.1**
MALT pmax pmax
comp=Z,76nm,1.2s,mb5.5
MALT Malatya 76.04 309 *e*P **P 20 31 07.4 +1.2**
comp=Z,76nm,1.2s,mb5.5
MUD Monsted U'grnd 76.10 336⇑ *i* P **P 20 31 06.6 0.0**
comp=Z,20nm,1.0s,mb5.0
MUD *i* pP 20 31 15.7 -0.4
MUD *i* 20 34 06.7
MUD *i* 20 35 49.4
MUD *i* S S 20 40 52.4 +4.2
MUD
comp=Z,900nm,16.0s
MUD Monsted U'grnd 76.10 336⇑ *i* P **P 20 31 06.6 0.0**
comp=Z,20nm,1.0s,mb5.0
MUD *i* pP 20 31 15.7 -0.4
MUD *i* 20 34 06.7
MUD *i* 20 35 49.4
MUD *i* S S 20 40 52.4 +4.2
RDF Al-Radifah 76.11 296 *e*P **P 20 31 06.3 -0.3**
RDF AMb AMB 20 31 08.6
comp=Z,210nm,1.1s,mb6.0
RWWY Rawlins 76.12 47 *e*P **P 20 31 06.8 +0.1**
comp=Z,7.6nm,0.7s,mb4.7
NAY Al-Naaiem 76.12 297 *e*P **P 20 31 06.1 -0.6**
NAY AMb AMB 20 31 08.3
comp=Z,75nm,1.1s,mb5.5
KWP Kalwaria 76.38 325 *e*Pc **P 20 31 08.8 +0.7**
KWP *e*pP pP 20 31 16.7 -1.0
KWP L 21 08 29.7
comp=Z,2.5nm,17.6s
KWP Kalwaria 76.38 325⇑ *e*P **P 20 31 08.8 +0.7**
KWP *e*pP pP 20 31 16.7 -1.0
CTKT Corum 76.63 312 *i* P **P 20 31 10.4 +0.8**
ATAB Bozova 76.66 308 *i* P **P 20 31 11.4 +1.6**
BALT Daday 76.80 314 *i* P **P 20 31 12.4 +1.9**
X13A Yucca 76.83 56 ⇑P **P 20 31 10.3 -0.4**
baz=77,SNR=15
W14A Seligman 76.90 55 ⇑P **P 20 31 11.0 -0.1**
baz=77
Y12C Blythe 76.93 57 ⇓P **P 20 31 10.7 -0.5**
baz=77
NWAO Narrogin (SRO) 76.94 203 PFAKE 20 31 20.0 +8.7
NWAO LR LR
comp=Z,338nm,19.0s,MS4.7

CFR Carcaliu 77.05 319⇓ *i*P P 20 31 12.7 +0.8
KOLS Kolonicke sedl 77.08 325 *e*P P 20 31 12.8 +0.7
KOLS *e*S S 20 41 01.2 +2.2
KOLS Kolonicke sedl 77.08 325 *e*P P 20 31 12.8 +0.7
KOLS *e*S S 20 41 01.2 +2.2
KOLS pmax pmax
comp=Z,27nm,1.3s,mb5.0
KOLS MLR MLR
comp=Z,2µm,20.6s,MS5.3
KOLS Kolonicke sedl 77.08 325 *e*P P 20 31 12.8 +0.7
comp=Z,27nm,1.3s,mb5.0
KOLS *e*S S 20 41 01.2 +2.2
KOLS LR LR
comp=Z,2µm,20.6s,MS5.3
STHS Stebnicka Huta 77.17 326 *i*P P 20 31 13.1 +0.5
comp=Z,21nm,0.9s,mb5.1
STHS *e* 20 31 26.7
GLA Glamis 77.18 58⇓P P 20 31 12.2 -0.4
baz=77
GZT Gaziantep 77.18 308 *i*P P 20 31 14.8 +2.1
OJC Ojcow 77.18 327 *i*Pc P 20 31 12.8 +0.1
OJC *e*PcP PcP 20 31 22.1 -1.2
OJC *i*S S 20 41 00.1 +0.1
OJC L 21 09 10.2
comp=Z,10nm,18.2s
OJC Ojcow 77.18 327⇑*i*P P 20 31 12.8 +0.1
OJC *e*PcP PcP 20 31 22.2 -1.1
OJC *i*S S 20 41 00.1 +0.1
OJC LR LR
comp=Z,10µm,18.2s
VRI Vrincioaia 77.25 320⇓*i*P P 20 31 13.8 +0.7
VRI Vrincioaia 77.25 320 P P 20 31 14.1 +1.0
VRI Vrincioaia 77.25 320⇓P P 20 31 13.8 +0.7
PV10 Paradox Valley 77.28 50 *e*P P 20 31 14.3 +1.1
PV10 *e*pP pP 20 31 24.3 +1.5
UZH Uzhgorod 77.30 324*d*P P 20 31 13.0 -0.3
UZH *e*S S 20 40 55.0 -6.3
PLOR Plostina 77.30 320⇑*i*P P 20 31 14.3 +1.0
Y13A Salome 77.33 56⇑P P 20 31 13.2 -0.3
baz=77
TIRR Tirgusor 77.42 318 P P 20 31 14.9 +0.9
TIRR Tirgusor 77.42 318 *e*P P 20 31 13.7 -0.3
W15A Williams 77.42 54⇑P P 20 31 14.2 +0.2
baz=77,SNR=5.3
CRVS Cervenica-Dubn 77.47 325 *e*P P 20 31 14.1 -0.2
CRVS pmax pmax
comp=Z,26nm,1.5s,mb4.9
CRVS MLR MLR
comp=Z,2µm,22.6s,MS5.3
CRVS Cervenica-Dubn 77.47 325 *e*P P 20 31 14.1 -0.2
comp=Z,26nm,1.5s,mb4.9
CRVS LR LR
comp=Z,2µm,22.6s,MS5.3
ELDT Eldivan 77.49 313 *i*P P 20 31 15.5 +1.1
X14A Yava 77.50 55⇑P P 20 31 14.3 -0.2
baz=77
CDAG Cicekdag 77.54 312 *i*P P 20 31 15.2 +0.5
NIE Niedzica 77.57 326 *e*P P 20 31 16.5 +1.6
PV01 Paradox Valley 77.72 50 *e*P P 20 31 16.8 +1.1
Y14A Wickenburg 77.77 56⇓P P 20 31 15.7 -0.3
baz=78,SNR=11
BSEG Bad Segeberg 77.81 334 *e*P P 20 31 16.3 +0.1
comp=Z,270nm,3.7s
BSEG *e*S S 20 41 05.6 -1.2
AVNT Avonos 77.83 311 *i*P P 20 31 17.6 +1.3
BR131 Keskin Array S 77.89 312 *e*P P 20 31 16.9 +0.3
comp=Z,14nm,1.0s,mb4.8
BR131 *e*pP pP 20 31 26.6 +0.5
BR131 LR LR
comp=Z,373nm,20.0s,MS4.7
BRTR Keskin Array B 77.89 312 P P 20 31 17.4 +0.7
comp=Z,6.2nm,0.9s,mb4.5,baz=83,slow=4.1,SNR=41
BRTR pP pP 20 31 26.5 +0.3
comp=Z,11nm,1.0s,baz=123,slow=6.3,SNR=12
BRTR PP PP 20 34 11.0 -1.5
comp=Z,7.4nm,1.0s,baz=64,slow=4.7,SNR=5.7
MLR Muntele Rosu 77.91 320 P P 20 31 16.9 +0.2
comp=Z,9.5nm,0.9s,mb4.7,baz=25,slow=4.5,SNR=21
MLR Muntele Rosu 77.91 320⇑P P 20 31 17.6 +0.9
MLR Muntele Rosu 77.91 320 P P 20 31 17.7 +1.0
MLR Muntele Rosu 77.91 320⇑P P 20 31 17.6 +0.8
OTO Tongue 77.91 343 *e*P P 20 31 16.0 -0.8
SMCO Snowmass 77.94 49 *e*P P 20 31 17.5 +0.6
comp=Z,13nm,1.0s,mb4.8
RAC Raciborz 77.95 328 *e*P P 20 31 17.9 +0.9
RAC L 21 09 34.5
comp=Z,2.7nm,18.3s
RAO Raoul Island 77.96 146 PFAKE 20 31 30.0 +13
RAO LR LR
comp=Z,647nm,19.0s,MS5.0
KSP Ksiaz 78.12 329 *e*Pc P 20 31 18.6 +0.7
KSP *e*pP pP 20 31 24.0 -3.5
KSP *e*S S 20 41 11.5 +1.3
KSP L 21 09 44.7
comp=Z,4.3nm,18.1s
KSP Ksiaz 78.12 329⇑*e*P P 20 31 18.2 +0.3
KSP *e*pP pP 20 31 27.3 -0.2
KSP *e*PP PP 20 34 12.5 -2.0
KSP *e*S S 20 41 10.0 -0.2
KSP LR LR
comp=Z,5µm,18.1s,MS5.9
OKC Ostrava-Krasne 78.16 327 *e*P P 20 31 18.5 +0.4
OKC *e*pP pP 20 31 27.5 -0.2
OKC *e*S S 20 41 11.3 +0.7
OKC AMS AMS 21 10 40.0
comp=Z,2µm,13.7s
OKC Ostrava-Krasne 78.16 327 *e*P P 20 31 18.5 +0.4
OKC *e*pP pP 20 31 27.5 -0.2
OKC *e*S S 20 41 11.3 +0.7
Z14A Wintersburg 78.18 56⇓P P 20 31 17.9 -0.3
baz=78
SGKT Sivrigoynuk 78.19 314 *i*P P 20 31 19.4 +1.1
KECS Kecovo 78.21 325 *e*P P 20 31 18.5 +0.1
KECS *e* pP 20 31 28.2 +0.2
KECS pmax pmax
comp=Z,11nm,1.1s,mb4.7
KECS Kecovo 78.21 325 *e*P P 20 31 18.5 +0.1
comp=Z,11nm,1.1s,mb4.7
KECS *e* pP 20 31 28.2 +0.2
ANTO Ankara 78.26 313 *e*P P 20 31 19.4 +0.7
ANTO pmax pmax
comp=Z,29nm,0.9s,mb5.2
ANTO MLR MLR
comp=Z,711nm,19.0s,MS5.0
ANTO Ankara 78.26 313 *e*P P 20 31 19.4 +0.7
comp=Z,29nm,0.9s,mb5.2
ANTO LR LR
comp=Z,711nm,19.0s,MS5.0
ISCO Idaho Springs 78.29 47 *e*P P 20 31 19.6 +0.8
ISCO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ISCO MLR MLR
comp=Z,611nm,19.0s,MS5.0
ISCO Idaho Springs 78.29 47 *e*P P 20 31 19.6 +0.7
comp=Z,6.9nm,0.8s,mb4.6
ISCO LR LR
comp=Z,611nm,19.0s,MS5.0
LIKS Likavka 78.36 326 *e*P P 20 31 20.7 +1.4
comp=Z,41nm,1.1s,mb5.3
MVH1 Achvaich 78.39 343⇑*e*P P 20 31 19.2 -0.1
MORC Moravsky Berou 78.45 328 P P 20 31 20.7 +0.9
MORC Moravsky Berou 78.45 328 *e*P P 20 31 20.1 +0.3
comp=Z,56nm,1.2s,mb5.4
MORC *e*pP pP 20 31 29.3 -0.1
DRGR 78.48 323⇑*i*P P 20 31 20.4 +0.5
DRGR 78.48 323 P P 20 31 20.7 +0.8
DRGR 78.48 323⇑P P 20 31 20.4 +0.5
UPC Upice 78.50 329 *e*P P 20 31 20.9 +0.9
UPC *e*pP pP 20 31 29.8 +0.2
DPC Dobruska-Polom 78.50 329 *e*P P 20 31 20.6 +0.6
DPC *e*pP pP 20 31 30.2 +0.6
DPC *e*S S 20 41 15.3 +1.1
DPC AMS AMS 21 11 10.0
comp=Z,2µm,15.3s
COBT Iskenderun 78.52 308 *i*P P 20 31 21.9 +1.8
MME1 Meikle Cairn 78.66 342⇑*e*P P 20 31 19.8 -1.1
PRD Provadia 78.83 318 *i*P P 20 31 22.5 +0.7
PSZ Piszkesteto 78.89 325⇑*e*P P 20 31 23.0 +0.8
PSZ Piszkesteto 78.89 325 *e*P P 20 31 22.4 +0.3
comp=Z,57nm,1.1s,mb5.4
PSZ *e*pP pP 20 31 32.3 +0.5
VYHS Vyhne 78.91 326 *e*P P 20 31 22.2 0.0
VYHS *e*S S 20 41 19.9 +1.3
VYHS pmax pmax
comp=Z,93nm,2.2s,mb5.3
VYHS Vyhne 78.91 326 *e*P P 20 31 22.2 0.0
comp=Z,93nm,2.2s,mb5.3
VYHS *e*S S 20 41 19.9 +1.3
BRG Berggiesshubel 79.01 330 *e*P P 20 31 23.2 +0.4
comp=Z,244nm,3.2s
BRG *e*S S 20 41 18.9 -0.7
BRG Berggiesshubel 79.01 330 *e*P P 20 31 23.2 +0.4
comp=Z,21nm,1.3s,mb4.9
BRG *i* pP 20 31 31.8 -0.6
comp=Z,24nm,1.2s
BRG *e* 20 34 14.0
comp=Z,7.2nm,1.1s
BRG S S 20 41 22.0 +2.4
BRG *e* 20 55 40.5
comp=Z,1.6nm,1.0s
BRG
comp=N,920nm,16.0s
BRG
comp=E,3µm,18.0s
BRG
comp=Z,1µm,15.0s
BRG Berggiesshubel 79.01 330 *e*P P 20 31 23.2 +0.4
BRG *i* pP 20 31 31.8 -0.6
BRG S S 20 41 22.0 +2.4
BRG pmax pmax
comp=Z,21nm,1.3s,mb4.9
BRG MLR MLR
comp=Z,1µm,15.0s,MS5.4
BRG Berggiesshubel 79.01 330 *e*P P 20 31 23.2 +0.4
comp=Z,21nm,1.3s,mb4.9
BRG *i* pP 20 31 31.8 -0.6
BRG *e* 20 34 14.0
BRG S S 20 41 22.0 +2.4
BRG *e* 20 55 40.5
BRG LR LR
comp=Z,1µm,15.0s,MS5.4
CLL Collm 79.01 331⇑*i*P P 20 31 22.4 -0.4
comp=Z,43nm,1.0s,mb5.3
CLL *e*pP pP 20 31 31.6 -0.8
CLL *e*PP PP 20 34 21.2 -0.7
CLL *e*PPP 20 36 01.6
CLL *e*S S 20 41 19.7 0.0
CLL *e*ScS ScS 20 41 47.6 +4.8
CLL *e*SS SS 20 46 28.3 +2.9
CLL *e*SSSS 20 52 28.9
CLL *e*L 21 11 43.2
comp=Z,2µm,18.0s
CLL Collm 79.01 331⇑*i*P P 20 31 22.4 -0.4
comp=Z,43nm,1.0s,mb5.3
CLL *i* sP sP 20 31 31.5 -4.4
CLL *e*PP PP 20 34 23.0 +1.1
CLL *e*PPP 20 34 28.0
CLL *e*(PPP) 20 36 00.0
CLL *e*S S 20 41 20.0 +0.3
CLL *e*ScS ScS 20 41 48.0 +5.2
CLL *e*SS SS 20 46 36.0 +11
CLL *e*SSSS 20 52 36.0
CLL Collm 79.01 331⇑*i*P P 20 31 22.4 -0.4
CLL *i* *SP sP 20 31 31.5 -4.4
CLL *e*S S 20 41 20.0 +0.3
CLL pmax pmax
comp=Z,43nm,1.0s,mb5.3
CLL MLR MLR
comp=Z,3µm,15.0s,MS5.7
CLL Collm 79.01 331⇑*i*P P 20 31 22.4 -0.4
comp=Z,43nm,1.0s,mb5.3
CLL *i* sP sP 20 31 31.5 -4.4
CLL *e*S S 20 41 20.0 +0.3
CLL LR LR
comp=Z,3µm,15.0s,MS5.7
KAC Achnashellach 79.02 344 *e*P P 20 31 22.4 -0.5
KAC AMb AMB 20 31 27.3
comp=Z,47nm,2.1s,mb5.0
KOLL Kolacno 79.03 326 *e*P P 20 31 23.4 +0.5
KOLL *e*pP pP 20 31 33.5 +1.0
PVCC Panska Ves 79.04 330 *e*P P 20 31 22.7 -0.3
PVCC *e**PP pP 20 31 32.8 +0.2
PVCC MLR MLR
comp=Z,1µm,14.8s,MS5.3
115A Sonoran Desert 79.07 56⇓P P 20 31 22.7 -0.5
baz=79
NRDL Niedersach Rie 79.07 333 *e*P P 20 31 23.5 +0.3
comp=Z,248nm,3.3s
NRDL *e*S S 20 41 18.7 -1.7
VRAC Vranov 79.21 328 P P 20 31 24.4 +0.6
comp=Z,23nm,1.0s,mb5.1,baz=42,slow=4.9,SNR=54
VRAC pP pP 20 31 33.8 +0.3
comp=Z,33nm,1.0s,baz=10,slow=3.7,SNR=13
VRAC Vranov 79.21 328⇑P P 20 31 24.5 +0.6
VRAC Vranov 79.21 328 P P 20 31 24.4 +0.5
VRAC *PP pP 20 31 33.8 +0.3
VRAC pmax pmax
comp=Z,23nm,1.0s
VRAC Vranov 79.21 328⇑P P 20 31 24.4 +0.6
KPL Plockton 79.24 344 *e*P P 20 31 23.4 -0.7
KPL *e*P 20 31 23.4
EYMN Ely 79.38 34 *e*P P 20 31 23.8 -1.1
comp=Z,21nm,0.9s,mb5.1
EYMN LR LR
comp=Z,500nm,19.0s,MS4.9
PRA Prague 79.46 329 P P 20 31 26.0 +0.7
PRU Pruhonice 79.48 329 *e*P P 20 31 25.3 -0.1
PRU *e*pP pP 20 31 34.4 -0.6
PRU *e*S S 20 41 24.7 0.0
PRU AMS AMS 21 10 40.0
comp=Z,2µm,16.4s
SMOL Smolenice 79.48 327 *e*P P 20 31 26.4 +1.0
SMOL *e*pP pP 20 31 36.0 +1.0
116A Eloy 79.50 56⇓P P 20 31 25.5 0.0
baz=79,SNR=6.4
CLZ Clausthal 79.52 333 *e*P P 20 31 25.9 +0.3
comp=Z,292nm,2.9s,mb5.7
CLZ *e*pP pP 20 31 34.8 -0.4
CLZ *e*sP sP 20 31 40.6 +1.9
CLZ *e*S S 20 41 21.8 -3.3
CLZ Clausthal 79.52 333 *e*P P 20 31 25.9 +0.3
CLZ *e**PP pP 20 31 34.8 -0.4
CLZ *e**SP sP 20 31 40.6 +1.9
CLZ *e*S S 20 41 21.8 -3.3
CLZ pmax pmax
comp=Z,292nm,2.9s,mb5.7
KDHN Kadinhani 79.57 312 *i*P P 20 31 25.9 0.0
ESKT Eskisehir 79.59 314 *i*P P 20 31 25.7 -0.3
BUD Budapest 79.60 325⇑*e*P P 20 31 27.0 +0.9
SRO Srobarova 79.66 326 *e*P P 20 31 27.5 +1.2
SRO *e* pP 20 31 37.0 +1.1
SRO pmax pmax
comp=Z,93nm,1.1s,mb5.6
SRO Srobarova 79.66 326 *e*P P 20 31 27.5 +1.2
comp=Z,93nm,1.1s,mb5.6
SRO *e* pP 20 31 37.0 +1.1
SRO2 Moca 79.66 326 *e*P P 20 31 26.8 +0.4
SRO2 *e*pP pP 20 31 36.9 +0.9
SRO2 Moca 79.66 326 *e*P P 20 31 26.8 +0.4
SRO2 *e* pP 20 31 36.9 +0.9
SRO2 pmax pmax
comp=Z,33nm,0.9s,mb5.3
TREC Trest 79.66 328 *e*P P 20 31 26.5 +0.1
TREC *e*pP pP 20 31 36.3 +0.3
TREC AMS AMS 21 11 00.0
comp=Z,2µm,16.4s
KAR1 Arisaig 79.67 344⇑*e*P P 20 31 26.4 0.0
KAR1 AMb AMB 20 31 29.9
comp=Z,63nm,1.8s,mb5.2
MEST Erdemli 79.72 310 *i*P P 20 31 26.8 +0.1
SRO1 Iza 79.73 326 *e*P P 20 31 27.1 +0.4
SRO1 pmax pmax
comp=Z,71nm,0.9s,mb5.6
ELBA Catalca 79.75 316 *i*P P 20 31 27.2 +0.4
JMB Yambol 79.77 318 *i*P P 20 31 27.9 +0.9
JMB Yambol 79.77 318 *e*P P 20 31 27.4 +0.5
ESY Stoneypath 79.84 341 *e*P P 20 31 27.5 +0.1
BZS Buzias 79.86 323⇑*i*P P 20 31 27.5 0.0
BZS Buzias 79.86 323 P P 20 31 28.2 +0.7
BZS Buzias 79.86 323⇑P P 20 31 27.5 0.0
ZST Bratislava 79.87 327 *e*P P 20 31 28.1 +0.6
ZST *e*pP pP 20 31 37.8 +0.7
ZST *e*S S 20 41 30.7 +1.9
ZST Bratislava 79.87 327 *e*P P 20 31 28.1 +0.6
comp=Z,26nm,1.0s,mb5.1
ZST *e* pP 20 31 37.8 +0.7
ZST *e*S S 20 41 30.7 +1.9
ZST LR LR
comp=Z,600nm,16.2s,MS5.0
TANN Tannenbergstha 79.93 331 *e*P P 20 31 28.0 +0.2
comp=Z,272nm,4.2s
TANN *e*S S 20 41 28.6 -0.9
WIT Witteveen 79.95 335 *e*P P 20 31 28.8 +0.9
comp=Z,349nm,1.0s,mb6.3
WIT *e*pP pP 20 31 38.0 +0.5
EAB Aberfoyle 80.01 342⇑*e*P P 20 31 28.0 -0.2
IBBN Ibbenburen 80.03 334 *e*P P 20 31 28.4 +0.1
comp=Z,332nm,2.9s,mb5.8
IBBN *e*pP pP 20 31 37.4 -0.5
IBBN *e*sP sP 20 31 43.1 +1.6
IBBN *e*S S 20 41 29.1 -1.3
MOX Moxa 80.06 331 *e*P P 20 31 28.5 0.0
comp=Z,236nm,4.0s
MOX *e*S S 20 41 30.4 -0.4
MOX Moxa 80.06 331 *e*P P 20 31 29.1 +0.6
comp=Z,75nm,1.8s,mb5.3
MOX
comp=Z,700nm,21.0s
MOX Moxa 80.06 331 *e*P P 20 31 29.1 +0.6
MOX pmax pmax
comp=Z,75nm,1.8s,mb5.3
MOX MLR MLR
comp=Z,700nm,21.0s,MS5.0
EAU Auchinoon 80.11 342 *e*P P 20 31 28.7 -0.1
PCOU Corrie 80.14 342 *e*P P 20 31 28.8 -0.2
TUC Tucson 80.24 56 P P 20 31 30.0 +0.5
TUC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TUC Tucson 80.24 56 *e*P P 20 31 29.1 -0.4
comp=Z,10nm,1.0s,mb4.7
TUC LR LR
comp=Z,416nm,19.0s,MS4.8
PGBU Glenifferbraes 80.39 342 *e*P P 20 31 30.2 -0.1
PMSU Muirshiel 80.41 343 *e*P P 20 31 29.8 -0.6
MANZ Manzenberg 80.42 331 *e*P P 20 31 30.8 +0.4
comp=Z,189nm,3.2s
MANZ *e*S S 20 41 33.8 -0.7
SOP Sopron 80.50 327⇑*e*P P 20 31 31.8 +0.9
UBBA Unterbreizbach 80.50 332 *e*P P 20 31 30.9 0.0
comp=Z,203nm,3.2s
UBBA *e*S S 20 41 34.3 -1.1
EKA Eskdalemuir Ar 80.51 341 P P 20 31 31.4 +0.4
comp=Z,6.8nm,0.9s,mb4.6,baz=18,slow=4.5,SNR=25
EKA pP pP 20 31 39.9 -0.7
comp=Z,14nm,0.8s,baz=22,slow=4.0,SNR=19
EKA PP PP 20 34 39.9 +5.5
comp=Z,2.6nm,0.8s,baz=30,slow=6.7,SNR=3.9
ESK Eskdalemuir 80.53 342 *e*P P 20 31 30.6 -0.4
ESK *e*P 20 31 30.6
KHC Kasperske Hory 80.55 329 *e*P P 20 31 31.0 -0.1
KHC *e*pP pP 20 31 39.9 -0.9
KHC *e*S S 20 41 37.1 +1.2
KHC AMS AMS 21 12 30.0
comp=Z,3µm,15.8s
KHC Kasperske Hory 80.55 329*c i*P P 20 31 31.2 +0.1
ROTZ Rotzenmuhle 80.56 330 *e*P P 20 31 31.8 +0.6
comp=Z,273nm,2.7s,mb5.7
ROTZ *e*S S 20 41 37.3 +1.3
CONA Conrad Observa 80.59 327⇑*i*P P 20 31 32.2 +0.8
comp=Z,259nm,2.4s,mb5.7,SNR=34
DIM Dimitrovgrad 80.61 318 *i*P P 20 31 32.4 +0.9
WTSB Winterswijk 80.63 335⇑*e*P P 20 31 31.5 -0.1
comp=Z,44nm,1.2s,mb5.3
WTSB *e*pP pP 20 31 40.5 -0.7
GDZ Gediz 80.65 314 *i*P P 20 31 32.0 +0.4
GEC2 GERESS Array S 80.73 329 *e*P P 20 31 32.1 0.0
comp=Z,184nm,4.2s
GEC2 GERESS Array S 80.73 329 *e*P P 20 31 32.1 0.0
GEC2 pmax pmax
comp=Z,184nm,4.2s
GERES GERESS Array B 80.73 329 P P 20 31 31.6 -0.6
comp=Z,7.4nm,0.8s,mb4.7,baz=35,slow=4.9,SNR=62
GERES pP pP 20 31 41.2 -0.5
comp=Z,13nm,0.9s,baz=35,slow=4.9,SNR=15
GERES LR LR 21 11 37.7
comp=Z,3µm,18.4s,MS5.6,baz=10,slow=39
GERES GERESS Array B 80.73 329 P P 20 31 31.6 -0.5
GERES *PP pP 20 31 41.2 -0.5
PKSM Moragy 80.75 325⇓*i*P P 20 31 31.5 -0.7
PKSM Moragy 80.75 325 P P 20 31 32.6 +0.4
PKSM Moragy 80.75 325⇓P P 20 31 31.6 -0.7
WET Wettzell 80.81 330 *e*P P 20 31 33.0 +0.5
comp=Z,209nm,3.0s
WET *e*pP pP 20 31 42.1 -0.1
WET *e*sP sP 20 31 48.7 +3.0
WET *e*S S 20 41 40.0 +1.4
WET Wettzell 80.81 330 *e*P P 20 31 33.0 +0.5
WET *e**PP pP 20 31 42.1 -0.1
WET *e**SP sP 20 31 48.7 +3.0
WET *e*S S 20 41 40.0 +1.4
WET pmax pmax
comp=Z,209nm,3.0s
BUG Bochum--Univer 80.92 334 *e*P P 20 31 32.8 -0.3
comp=Z,224nm,3.0s
BUG *e*pP pP 20 31 42.1 -0.7
BUG *e*sP sP 20 31 48.8 +2.5
BUG *e*S S 20 41 39.8 0.0
PGB Panagyurishte 80.93 319 *i*P P 20 31 33.3 +0.1
KDZ Kurdzhali 80.96 318 *i*P P 20 31 33.3 -0.1
GRA1 Grafenberg Arr 80.99 331 *e*P P 20 31 34.0 +0.5
comp=Z,331nm,2.6s,mb5.8
GRA1 *e*pP pP 20 31 43.3 +0.2
GRA1 *e*sP sP 20 31 49.0 +2.4
GRA1 *e*S S 20 41 38.9 -1.6
GRA1 LR LR
comp=Z,1µm,18.7s,MS5.2
GRF Grafenberg Arr 80.99 331 *e*P P 20 31 34.0 +0.5
comp=Z,331nm,2.6s,mb5.8
GRF *e*pP pP 20 31 43.3 +0.2
GRF *e*sP sP 20 31 49.0 +2.4
GRF *e*S S 20 41 38.9 -1.6
GRF *e*L 21 14 14.4
comp=Z,1µm,18.7s
GRF Grafenberg Arr 80.99 331 *e*P P 20 31 34.0 +0.5
GRF *e**PP pP 20 31 43.3 +0.2
GRF *e**SP sP 20 31 49.0 +2.4
GRF *e*S S 20 41 38.9 -1.6
GRF pmax pmax
comp=Z,331nm,2.6s,mb5.8
GRF MLR MLR
comp=Z,1µm,18.7s,MS5.2
GRF Grafenberg Arr 80.99 331 *e*P P 20 31 34.0 +0.5
GRF *e**PP pP 20 31 43.3 +0.2
GRF *e**SP sP 20 31 49.0 +2.4
GRF *e*S S 20 41 38.9 -1.6
GRF pmax pmax
comp=Z,331nm,2.6s,mb5.8
GRF MLR MLR
comp=Z,1µm,18.7s,MS5.2
PLD Plovdiv 80.99 319 *i*P P 20 31 33.3 -0.2
BEO Belgrade 81.00 323 *i*P P 20 31 34.2 +0.6
SVIS Svilajnac 81.05 322 *i*P P 20 31 33.2 -0.6
GMK Mull of Kintyr 81.07 343 *e*P P 20 31 34.0 +0.1
BBO1 Bothel 81.07 341⇑*e*P P 20 31 34.4 +0.4
LAZ Ladron 81.09 52 *e*P P 20 31 35.4 +1.3
ANMO Albuquerque 81.12 51 *e*P P 20 31 34.7 +0.5
ANMO pmax pmax
comp=Z,14nm,1.0s
ANMO MLR MLR
comp=Z,343nm,20.0s
ANMO Albuquerque 81.12 51 *e*P P 20 31 34.7 +0.5
comp=Z,14nm,1.0s,mb4.8
ANMO LR LR
comp=Z,343nm,20.0s,MS4.7
CKE Keswick 81.17 341⇑*e*P P 20 31 34.7 +0.2
ALN Alexandroupoli 81.19 317 *e*P P 20 31 35.2 +0.6
RDO Rodhopi 81.27 318 *e*P P 20 31 35.5 +0.5
ARSA Arzberg 81.27 327⇓*i*P P 20 31 35.4 +0.4
comp=Z,181nm,2.5s,mb5.6,SNR=19
RZN Rozhen 81.29 318 *i*P P 20 31 36.8 +1.7
GAL1 Galloway 81.30 342⇑*e*P P 20 31 35.3 +0.1
MOA Molln 81.31 328⇑*i*P P 20 31 35.5 +0.3
comp=Z,171nm,2.6s,mb5.5,SNR=10
XDE Dent Fell 81.34 341⇑*e*P P 20 31 35.1 -0.2
XDE AMb AMB 20 31 48.6
comp=Z,41nm,1.2s,mb5.2
VTS Vitosha 81.37 320 *i*P P 20 31 36.0 +0.5
VTS Vitosha 81.37 320 *e*P P 20 31 36.3 +0.8
VTS Vitosha 81.37 320⇑*i*P P 20 31 36.2 +0.7
GCL Cushendall 81.44 343⇑*e*P P 20 31 36.1 +0.2
LPM Los Pinos Moun 81.45 52 *e*P P 20 31 37.2 +1.2
LPM *e*pP pP 20 31 46.3 +0.7

BNM Barren Site 81.57 52 *eP* **P 20 31 37.5 +1.0**
BNM *epP* pP 20 31 46.0 -0.1
MANT Manisa 81.58 314 *i* P **P 20 31 37.4 +0.8**
GRUS Gruza 81.59 322 *i* P **P 20 31 36.3 -0.4**
SCHQ Schefferville 81.62 17 P **P 20 31 37.1 +0.3**
comp=Z,5.0nm,0.9s,mb4.5,baz=333,slow=5.0,SNR=5.6
SCHQ LR LR 21 15 00.6
comp=Z,477nm,18.1s,MS4.9,baz=324,slow=41
DIVS Divcibare 81.77 323⇑*iP* **P 20 31 37.4 -0.3**
DIVS Divcibare 81.77 323 *eP* **P 20 31 37.3 -0.4**
GIM North Isle of 81.77 342⇑*eP* **P 20 31 38.0 +0.3**
LHO Holmfirth 81.80 340⇑*eP* **P 20 31 37.1 -0.7**
MMB Musomiste 81.86 319 *i* P **P 20 31 38.7 +0.6**
GROS Grobnik 81.91 327 *eP* **P 20 31 38.1 -0.2**
TOD Tromm 81.94 332 *eP* **P 20 31 38.8 +0.3**
HGN Heimansgroeve 81.94 334⇑*eP* **P 20 31 38.0 -0.5**
comp=Z,44nm,1.6s,mb5.1
HGN *epP* pP 20 31 47.5 -0.7
HGN *ePP* PP 20 34 49.8 +3.6
HGN *eS* S 20 41 52.2 +1.8
HGN *eSS* SS 20 47 19.1 +10
WIM Isle of Man 81.95 342 *eP* **P 20 31 38.7 +0.1**
NVR Nevrokopi 81.97 319 *eP* **P 20 31 39.0 +0.3**
KBI1 Birley Grange 81.97 340⇑*eP* **P 20 31 38.0 -0.7**
KKB Krupnik 81.97 319 *i* P **P 20 31 39.2 +0.5**
BEBN Eben Emael 82.00 335 P **P 20 31 38.8 -0.1**
BEBN AP pP 20 31 48.3 -0.1
MEM Membach 82.05 334 P **P 20 31 38.7 -0.4**
MEM AP pP 20 31 47.8 -1.0
comp=Z,14nm,1.1s
ABH Alteburg 82.14 333 *eP* **P 20 31 39.3 -0.3**
GMM Mts of Mourne 82.17 343⇑*eP* **P 20 31 39.6 -0.1**
DOBS Dobrina 82.17 327 *eP* **P 20 31 39.4 -0.3**
BBLS Bajina Basta - 82.22 323 *i* P **P 20 31 41.5 +1.5**
FUR Furstenfeldbru 82.22 330 *eP* **P 20 31 40.4 +0.4**
comp=Z,283nm,19.3s
FUR *eS* S 20 41 53.5 +0.3
OBKA Obir 82.27 327⇑*iP* **P 20 31 40.2 0.0**
comp=Z,158nm,2.5s,mb5.5,SNR=9.4
KWE Weaver Farm 82.27 340 *eP* **P 20 31 40.3 +0.1**
PRK Paraskevi 82.27 316 *eP* **P 20 31 40.2 -0.1**
KBA Koelnbreinsper 82.30 328⇑*iP* **P 20 31 40.9 +0.5**
comp=Z,189nm,2.3s,mb5.6,SNR=25
KBA Koelnbreinsper 82.30 328⇑*iP* **P 20 31 40.9 +0.5**
KBA pmax pmax
comp=Z,189nm,2.3s,mb5.6
SISC Sisak 82.32 326 *iP* **P 20 31 41.0 +0.5**
LIA Limnos Island 82.36 317 *eP* **P 20 31 40.5 -0.3**
UCC Uccle 82.42 335 P **P 20 31 40.6 -0.5**
UCC AP pP 20 31 49.1 -1.6
UCC XP sP 20 31 55.7 +1.5
CRES Cresnjev 82.43 326 *eP* **P 20 31 40.7 -0.4**
RUP Ruppelstein 82.47 333 *eP* **P 20 31 41.4 +0.1**
STU Stuttgart 82.49 332 *eP* **P 20 31 41.9 +0.5**
comp=Z,156nm,3.3s
STU *ePP* PP 20 34 54.1 +3.3
STU *eS* S 20 41 57.5 +1.5
STU Stuttgart 82.49 332 *eP* **P 20 31 41.4 0.0**
STU *e*PP pP 20 31 50.5 -0.6
STU pmax pmax
comp=Z,50nm,0.9s,mb5.4
STU Stuttgart 82.49 332 *eP* **P 20 31 41.4 0.0**
comp=Z,50nm,0.9s,mb5.5
STU *epP* pP 20 31 50.5 -0.6
AYDN Tasoluk 82.55 314 *i* P **P 20 31 43.3 +1.6**
STIP Stip 82.55 320 *eP* **P 20 31 41.9 +0.2**
KNT Kendrikon 82.59 319 *eP* **P 20 31 42.2 +0.2**
WCB1 Church Bay 82.63 341 *eP* **P 20 31 41.5 -0.6**
WCB1 AMb AMB 20 31 45.5
comp=Z,26nm,1.6s,mb5.0
PLE Pljevlja 82.64 323⇓*iP* **P 20 31 43.8 +1.6**
VAY Valandovo 82.64 319 *eP* **P 20 31 42.2 0.0**
VAY Valandovo 82.64 319⇑*iP* **P 20 31 42.2 0.0**
VAY *eX* pP 20 31 50.6 -1.2
LJU Ljubljana 82.65 327 *eP* **P 20 31 41.7 -0.6**
LJU *e* pP 20 31 50.7 -1.2
LJU *eS* S 20 41 55.8 -1.8
WLF1 Llynfaes 82.67 341 *eP* **P 20 31 41.4 -1.0**
WLF1 AMb AMB 20 31 44.8
comp=Z,41nm,1.9s,mb5.1
SNF Seneffe 82.70 335 P **P 20 31 42.1 -0.4**
SNF AP pP 20 31 51.1 -1.0
comp=Z,14nm,1.1s
SNF E 20 31 58.6
DMUB Kingscourt 82.70 343 *eP* **P 20 31 39.0 -3.5**
DMUB Kingscourt 82.70 343⇑*iP* **P 20 31 42.9 +0.4**
DMUB Kingscourt 82.70 343 *eP* pP 20 31 50.8 -1.3
DMUB Kingscourt 82.70 343⇑*iP* **P 20 31 42.9 +0.4**
DMUB *eP* pP 20 31 50.8 -1.3
SKO Skopje 82.70 320 *eP* **P 20 31 43.8 +1.2**
SKO Skopje 82.70 320⇑*iP* **P 20 31 44.0 +1.4**
SKO *eX* pP 20 31 53.7 +1.5
SBD1 Bryn Du 82.74 341⇑*eP* **P 20 31 42.6 -0.1**
SBD1 AMb AMB 20 31 48.5
comp=Z,73nm,2.1s,mb5.3
URLA Izmir 82.74 315 *i* P **P 20 31 41.0 -1.8**
IVA Berane 82.75 322⇓*iP* **P 20 31 43.3 +0.5**
BOJS Bojanci 82.77 326 *eP* **P 20 31 42.8 -0.1**
BOJS *e* pP 20 31 52.3 -0.2
BOJS *eS* S 20 41 58.4 -0.5
WATA Walderalm 82.79 329⇑*iP* **P 20 31 43.5 +0.6**
comp=Z,22nm,1.1s,mb5.1
WATA Walderalm 82.79 329⇑*iP* **P 20 31 43.5 +0.5**
WATA pmax pmax
comp=Z,22nm,1.1s,mb5.1
WLF Walferdange 82.81 334 P **P 20 31 42.8 -0.3**
WLF AP pP 20 31 53.0 +0.3
WLF XP sP 20 31 55.2 -1.0
comp=Z,11nm,1.1s
LANF Langenberg 82.82 332 *eP* **P 20 31 43.3 +0.2**
WTTA Wattenberg 82.82 329⇑*iP* **P 20 31 43.7 +0.6**
comp=Z,280nm,2.4s,mb5.9,SNR=14
WTTA Wattenberg 82.82 329⇑*iP* **P 20 31 43.7 +0.6**
WTTA pmax pmax
comp=Z,280nm,2.4s,mb5.9
PTCC Patocco-Chiusa 82.84 328 P **P 20 31 42.8 -0.4**
comp=Z,22nm,1.0s,mb5.2
GIVF Givet 82.87 335⇑*iP* **P 20 31 42.8 -0.6**
comp=Z,72nm,1.2s,mb5.3
GIVF Givet 82.87 335⇑*iP* **P 20 31 42.8 -0.6**
GIVF pmax pmax
comp=Z,36nm,1.2s,mb5.3
GIVF Givet 82.87 335⇑*iP* **P 20 31 42.8 -0.6**
comp=Z,36nm,1.2s,mb5.3
PLG Polygyros 82.91 318 *eP* **P 20 31 43.9 +0.3**
FVI Forni Avoltri 82.92 328 P **P 20 31 43.5 -0.1**
FVI pmax pmax
comp=Z,38nm,1.3s,mb5.3
FVI Forni Avoltri 82.92 328 P **P 20 31 43.5 -0.1**
comp=Z,38nm,1.3s,mb5.3
VOY Vojsko 82.92 327 *eP* **P 20 31 42.7 -0.9**
VOY *e* pP 20 31 52.3 -1.0
VOY *e* 20 32 01.6
VOY *e* 20 32 25.3
PVY Plav 82.93 322⇓*iP* **P 20 31 44.0 +0.3**
CEY Cerknica 82.93 327 *i* P **P 20 31 43.1 -0.6**
CEY *e* pP 20 31 52.5 -0.8
DOU Dourbes 82.95 335 P **P 20 31 43.3 -0.5**
DOU AP pP 20 31 52.8 -0.7
comp=Z,7.9nm,1.1s
DOU XP sP 20 31 59.0 +2.0
UPM Unac-Piva 82.96 323⇓*iP* **P 20 31 44.1 +0.3**
YRE Yr Eifl 82.96 341 *eP* **P 20 31 43.6 -0.3**
YRE AMb AMB 20 31 47.4
comp=Z,64nm,2.1s,mb5.3
MOTA Moosalm 82.96 330⇑*iP* **P 20 31 44.1 +0.3**
comp=Z,50nm,1.1s,mb5.5,SNR=14
MOTA Moosalm 82.96 330⇑*iP* **P 20 31 44.2 +0.3**
MOTA pmax pmax
comp=Z,50nm,1.1s,mb5.5
GMNA Gemona 82.99 328 P **P 20 31 43.7 -0.3**
comp=Z,186nm,1.0s,mb6.1
GRG Griva 83.00 319 *eP* **P 20 31 44.5 +0.4**
CHOS Chios island 83.01 315 *eP* **P 20 31 44.1 0.0**
SEST Monte Rota 83.02 329 P **P 20 31 42.5 -1.6**
SQTA Sankt Quirin 83.02 330⇑*iP* **P 20 31 44.4 +0.2**
comp=Z,43nm,1.3s,mb5.3,SNR=5.8
SQTA Sankt Quirin 83.02 330⇑*iP* **P 20 31 44.4 +0.2**
SQTA pmax pmax
comp=Z,43nm,1.3s,mb5.3
SMG Samos 83.08 314 *eP* **P 20 31 37.8 -6.7**
BAIF Baives 83.11 335⇑*iP* **P 20 31 44.1 -0.5**
comp=Z,49nm,1.2s,mb5.1
BAIF Baives 83.11 335⇑*iP* **P 20 31 44.1 -0.5**
BAIF pmax pmax
comp=Z,25nm,1.2s,mb5.1
BAIF Baives 83.11 335⇑*iP* **P 20 31 44.1 -0.5**
comp=Z,25nm,1.2s,mb5.1
PAIG Paliouri 83.12 318 *eP* **P 20 31 45.1 +0.4**
TFO1 Folkestone 83.13 337⇑*eP* **P 20 31 45.0 +0.2**
SSP1 Stoney Pound 83.14 340 *eP* **P 20 31 44.9 +0.1**
SKP1 Kophill 83.15 339⇑*eP* **P 20 31 44.6 -0.2**
DLF Lyons Farm 83.17 342 *eP* pP 20 31 52.7 -1.9
DLF Lyons Farm 83.17 342⇑*iP* **P 20 31 45.4 +0.4**
DLF *eP* pP 20 31 52.7 -1.9
BFO Black Forest 83.18 332 P **P 20 31 45.7 +0.7**
comp=Z,118nm,1.0s,mb5.9,SNR=11
BFO Black Forest 83.18 332 *eP* **P 20 31 45.0 0.0**
comp=Z,268nm,3.1s
BFO *epP* pP 20 31 54.2 -0.4
BFO *esP* sP 20 31 59.8 +1.7
BFO *eS* S 20 42 03.0 0.0
BFO Black Forest 83.18 332 *eP* **P 20 31 45.0 0.0**
BFO *e*PP pP 20 31 54.2 -0.4
BFO *e*SP sP 20 31 59.8 +1.7
BFO *eS* S 20 42 03.0 0.0
BFO pmax pmax
comp=Z,268nm,3.1s
DSB Dublin 83.18 342 *eP* **P 20 31 45.2 +0.2**
comp=Z,6.3nm,0.8s,mb4.7
DSB *epP* pP 20 31 53.9 -0.8
BDRM Kayabasi 83.22 314 *i* P **P 20 31 42.6 -2.6**
NKY Niksic 83.22 322⇓*iP* **P 20 31 44.7 -0.5**
SCIA State Center 83.24 39 *eP* **P 20 31 45.4 +0.1**
DCN Croghan 83.30 343 *eP* **P 20 31 42.5 -3.1**
DCN Croghan 83.30 343⇑*iP* **P 20 31 45.7 +0.1**
DCN Croghan 83.30 343 *eP* pP 20 31 53.6 -1.6
DCN Croghan 83.30 343⇑*iP* **P 20 31 45.7 +0.1**
DCN *eP* pP 20 31 53.6 -1.6
MENF Mencas 83.32 336 *eP* **P 20 31 45.2 -0.5**
HAE Alders End 83.34 340 *eP* **P 20 31 46.0 +0.1**
HAE AMb AMB 20 31 49.4
comp=Z,65nm,1.6s,mb5.4
BRY Bratogost 83.36 323⇓*iP* **P 20 31 45.0 -1.0**
TTG Podgorica 83.39 322⇓*iP* **P 20 31 45.6 -0.5**
ARG Arkhangelos 83.45 313 *eP* **P 20 31 48.6 +2.2**
WLS Welschbruch 83.46 332 *eP* **P 20 31 46.9 +0.5**
DAVA Damuels 83.48 330⇑*iP* **P 20 31 46.7 +0.2**
comp=Z,197nm,2.3s,mb5.7,SNR=15
CDF Champ du Feu 83.48 332⇑*iP* **P 20 31 46.3 -0.3**
comp=Z,110nm,1.2s,mb5.5
CDF Champ du Feu 83.48 332⇑*iP* **P 20 31 46.3 -0.3**
CDF pmax pmax
comp=Z,55nm,1.2s,mb5.5
CDF Champ du Feu 83.48 332⇑*iP* **P 20 31 46.3 -0.3**
comp=Z,55nm,1.2s,mb5.5
HTR Trewern Hill 83.49 340⇑*eP* **P 20 31 45.9 -0.7**
HTR AMb AMB 20 31 50.2
comp=Z,67nm,1.9s,mb5.4
MCH1 Michaelchurch 83.49 340⇑*eP* **P 20 31 46.2 -0.4**
MCH1 *eP* 20 31 46.2
MCH1 Michaelchurch 83.49 340 P **P 20 31 46.2 -0.4**
LIT Litokhoron 83.60 319 *eP* **P 20 31 46.7 -0.4**
SWN1 Swindon 83.61 339 *eP* **P 20 31 47.5 +0.3**
FNA Florina 83.64 320 *eP* **P 20 31 47.7 +0.3**
BUM Brajici-Budva 83.66 322⇓*iP* **P 20 31 47.4 -0.1**
OHR Ohrid 83.67 320 *eP* **P 20 31 46.8 -0.7**
OHR Ohrid 83.67 320⇑*eP* **P 20 31 46.8 -0.7**
OHR *eX* pP 20 31 56.6 -0.6
FELD Feldberg im Sc 83.68 332 *eP* **P 20 31 47.8 +0.2**
ECH Echery 83.69 332 *eP* **P 20 31 47.3 -0.3**
HCY Herceg Novi 83.74 322⇓*iP* **P 20 31 47.8 0.0**
ULC Ulcinj 83.76 322⇓*iP* **P 20 31 47.9 -0.1**
HGH Gray Hill 83.77 340 *eP* **P 20 31 47.7 -0.4**
HGH AMb AMB 20 31 48.9
comp=Z,43nm,1.2s,mb5.4
STON Ston 83.77 323⇑*iP* **P 20 31 46.7 -1.3**
KZN Kozani 83.80 319 *eP* **P 20 31 48.1 -0.1**
CTI Castel Tesino 83.81 329 P **P 20 31 48.1 -0.2**
CTI pmax pmax
comp=Z,53nm,1.2s,mb5.5
CTI Castel Tesino 83.81 329 P **P 20 31 48.1 -0.2**
comp=Z,53nm,1.2s,mb5.5
NEO Neokhori 83.82 318 *eP* **P 20 31 47.7 -0.6**
DAVOX Davos 83.90 330 P **P 20 31 49.1 +0.4**
comp=Z,20nm,1.1s,mb5.2,baz=308,slow=1.5,SNR=22
DAVOX pP pP 20 31 58.0 -0.3
comp=Z,27nm,1.0s,baz=23,slow=21,SNR=8.5
TIR Tirane 83.94 321 *eP* **P 20 31 49.0 +0.1**
EIL Elat 83.95 304 *eP* **P 20 31 49.1 +0.2**
comp=Z,757nm,1.1s
AMTX Amarillo 83.96 49 PFAKE 20 32 00.0 +11
AMTX LR LR
comp=Z,472nm,20.0s,MS4.9
BRMO Bormio 83.96 330 P **P 20 31 49.0 0.0**
MOF Molkenrain 84.01 332 *eP* **P 20 31 49.5 +0.2**
MNTX Cornudas Mount 84.02 53 *eP* **P 20 31 49.4 +0.1**
comp=Z,11nm,0.9s,mb5.0
MNTX *epP* pP 20 31 58.7 -0.2
MNTX LR LR
comp=Z,362nm,19.0s,MS4.8
SWK Warminster 84.06 339⇑*eP* **P 20 31 49.4 -0.2**
THEF They Montfort 84.09 333 *eP* **P 20 31 49.7 0.0**
HINF Hinteralfeld 84.14 332⇑*iP* **P 20 31 49.3 -0.6**
comp=Z,42nm,1.1s,mb5.2
HINF Hinteralfeld 84.14 332⇑*iP* **P 20 31 49.3 -0.6**
HINF pmax pmax
comp=Z,21nm,1.1s,mb5.2
HINF Hinteralfeld 84.14 332⇑*iP* **P 20 31 49.3 -0.6**
comp=Z,21nm,1.1s,mb5.2
HAU Haudompre 84.16 333 *eP* **P 20 31 50.5 +0.5**
comp=Z,67nm,1.0s,mb5.4
HAU *eR*
comp=Z,2μm,22.2s
HAU Haudompre 84.16 333 *eP* **P 20 31 50.5 +0.5**
HAU pmax pmax
comp=Z,34nm,1.0s,mb5.4
HAU MLR MLR
comp=Z,2μm,22.3s,MS5.3
HAU Haudompre 84.16 333 *eP* **P 20 31 50.5 +0.5**
comp=Z,34nm,1.0s,mb5.4
HAU LR LR
comp=Z,2μm,22.3s,MS5.3
MEZF Maizieres J'vi 84.18 334⇑*iP* **P 20 31 50.1 0.0**
comp=Z,67nm,1.1s,mb5.4
MEZF Maizieres J'vi 84.18 334⇑*iP* **P 20 31 50.1 0.0**
comp=Z,67nm,1.1s,mb5.7
BBS Basel-Blauen 84.20 332 *eP* **P 20 31 50.1 -0.1**
TUE Stuetta 84.36 330 P **P 20 31 51.2 +0.2**
comp=Z,53nm,1.2s,mb5.5
LKR Lokris 84.42 317 *eP* **P 20 31 50.1 -1.3**
AGG Agios Georgios 84.49 318 *eP* **P 20 31 51.4 -0.3**
LOMF Lomont 84.55 332 *eP* **P 20 31 52.0 0.0**
HEX Exmoor 84.55 340⇑*eP* **P 20 31 52.4 +0.4**
PPT Papeete 84.66 118 *eS* 20 42 11.3
comp=Z,1μm,34.2s
PPT *eLQ* 20 54 12.9
comp=Z,697nm,28.0s
PPT *eLR* LR 20 58 03.2
comp=Z,1μm,21.5s,baz=314
PPT Papeete 84.66 118 LR LR 21 03 07.7
comp=Z,1μm,19.0s,MS5.2,baz=326,slow=31
JAN Janina 84.75 319 *eP* **P 20 31 54.0 +1.0**
HTL Hartland 84.79 340⇑*eP* **P 20 31 53.2 0.0**
EVR Evrytania 84.83 318 *eP* **P 20 31 52.7 -0.7**
AOI Ancona 85.05 326 P **P 20 31 54.2 -0.3**
comp=Z,117nm,2.4s,mb5.6
IGT Igoumenitsa 85.11 320 *eP* **P 20 31 54.7 -0.1**
DYA Yadsworthy 85.16 340⇑*eP* **P 20 31 54.4 -0.6**
RSM Repubblica di 85.22 327 P **P 20 31 56.1 +0.7**
RSM pmax pmax
comp=Z,154nm,1.5s,mb5.9
RSM Repubblica di 85.22 327 P **P 20 31 56.1 +0.7**
comp=Z,154nm,1.5s,mb5.9
KEK Kerkira 85.23 320 *eP* **P 20 31 55.0 -0.4**
MCGN Macugnaga 85.30 331 P **P 20 31 56.6 +0.8**
comp=Z,49nm,1.0s,mb5.6
CING Cingoli 85.36 326 P **P 20 31 55.9 -0.2**
comp=Z,85nm,2.2s,mb5.5
ARV Arcevia 85.37 326 P **P 20 31 56.0 -0.1**
comp=Z,39nm,1.2s,mb5.4
TAOE Nuku Hiva Isla 85.37 106 *eLR* LR 20 58 32.5
comp=Z,2μm,20.8s,baz=309
CABF La Chapelle 85.44 332⇑*iP* **P 20 31 56.4 -0.1**
comp=Z,86nm,1.4s,mb5.4
CABF La Chapelle 85.44 332⇑*iP* **P 20 31 56.4 -0.1**
CABF pmax pmax
comp=Z,43nm,1.4s,mb5.4
CABF La Chapelle 85.44 332⇑*iP* **P 20 31 56.4 -0.1**
comp=Z,43nm,1.4s,mb5.4
OG01 Vacheresse 85.47 332 *eP* **P 20 31 56.6 0.0**
ZCCA Zocca 85.48 328 P **P 20 31 58.5 +1.8**
CSA1 St Austell 85.49 340⇑*eP* **P 20 31 56.8 +0.1**
CSA1 AMb AMB 20 31 58.2
comp=Z,45nm,1.1s,mb5.5
FGMS Monte Sant'Ang 85.49 324 P **P 20 31 56.7 0.0**
comp=Z,42nm,0.8s,mb5.6
SFI Santa Sofia 85.49 327 P **P 20 31 56.9 +0.2**
SFI pmax pmax
comp=Z,141nm,2.0s,mb5.8
SFI Santa Sofia 85.49 327 P **P 20 31 56.9 +0.2**
comp=Z,141nm,2.0s,mb5.8
NPS Neapolis 85.54 314 *eP* **P 20 31 57.0 0.0**
LCI Lecce 85.56 321 P **P 20 31 57.3 +0.2**
LCI pmax pmax
comp=Z,35nm,0.9s,mb5.6
LCI Lecce 85.56 321 P **P 20 31 57.3 +0.2**
comp=Z,35nm,0.9s,mb5.6
SNTG Esanatoglia 85.57 326 P **P 20 31 57.0 -0.1**
comp=Z,35nm,0.9s,mb5.6
VMG Vicchio 85.57 327 P **P 20 31 58.8 +1.7**
ORO Oropa 85.58 331 P **P 20 31 57.1 -0.1**
ORO pmax pmax
comp=Z,43nm,0.9s,mb5.7
ORO Oropa 85.58 331 P **P 20 31 57.1 -0.1**
comp=Z,43nm,0.9s,mb5.7
GSCL Gusciola 85.64 328 P **P 20 31 58.8 +1.3**
comp=Z,44nm,1.2s,mb5.6
LOR Lormes 85.65 334⇑*iP* **P 20 31 57.1 -0.4**
comp=Z,186nm,1.1s,mb5.9
LOR *eR*
comp=Z,1μm,21.0s
LOR Lormes 85.65 334⇑*iP* **P 20 31 57.1 -0.4**
LOR pmax pmax
comp=Z,93nm,1.1s,mb5.9
LOR MLR MLR
comp=Z,1μm,21.0s,MS5.4
LOR Lormes 85.65 334⇑*iP* **P 20 31 57.1 -0.4**
comp=Z,93nm,1.1s,mb5.9
LOR LR LR
comp=Z,1μm,21.0s,MS5.4
BADI Badiali 85.65 327 P **P 20 31 58.3 +0.8**
ERBM Eremo 85.65 328 P **P 20 31 58.0 +0.5**
comp=Z,57nm,0.9s,mb5.8
RLS Riolos of Patr 85.66 318 *eP* **P 20 31 57.6 0.0**
RGNG Rignano Grg 85.68 324 P **P 20 31 57.7 0.0**
LAST Lasithi 85.69 314 *eP* **P 20 31 58.8 +1.1**
FLN La Foliniere 85.71 337⇑*iP* **P 20 31 57.2 -0.6**
comp=Z,110nm,1.2s,mb5.7
FLN *eR*
comp=Z,979nm,19.8s
FLN La Foliniere 85.71 337⇑*iP* **P 20 31 57.2 -0.6**
FLN pmax pmax
comp=Z,55nm,1.2s,mb5.7
FLN MLR MLR
comp=Z,980nm,19.8s,MS5.2
FLN La Foliniere 85.71 337⇑*iP* **P 20 31 57.2 -0.6**
comp=Z,55nm,1.2s,mb5.7
FLN LR LR
comp=Z,980nm,19.8s,MS5.2
CRQ2 Rosemanowes 2 85.73 340 *eP* **P 20 31 58.1 +0.2**
CRQ2 AMb AMB 20 32 01.1
comp=Z,54nm,2.0s,mb5.4
MURB Monte Urbino 85.74 326 P **P 20 31 58.0 +0.1**
comp=Z,102nm,1.2s,mb5.9
BOB Bobbio (Coli) 85.75 329 P **P 20 31 57.0 -1.0**
BOB pmax pmax
comp=Z,72nm,1.1s,mb5.8
BOB Bobbio (Coli) 85.75 329 P **P 20 31 57.0 -1.0**
comp=Z,72nm,1.1s,mb5.8
LDF La Druitiere 85.75 337⇑*iP* **P 20 31 57.5 -0.5**
comp=Z,107nm,1.3s,mb5.6
LDF La Druitiere 85.75 337⇑*iP* **P 20 31 57.5 -0.5**
LDF pmax pmax
comp=Z,54nm,1.3s,mb5.6
LDF La Druitiere 85.75 337⇑*iP* **P 20 31 57.5 -0.5**
comp=Z,54nm,1.3s,mb5.6
JRS Jersey 85.79 338 *eP* **P 20 31 58.4 +0.2**
CMA1 Manaccan 85.80 340⇑*eP* **P 20 31 57.7 -0.5**
CMA1 AMb AMB 20 32 00.4
comp=Z,74nm,1.7s,mb5.6
TERO Teramo 85.80 325 P **P 20 31 58.1 -0.1**
comp=Z,38nm,1.1s,mb5.5
NRCA Norcia 85.84 326 P **P 20 31 58.6 +0.2**
comp=Z,37nm,0.9s,mb5.6
CPZ Penzance 85.84 341⇑*eP* **P 20 31 58.3 -0.2**
CPZ AMb AMB 20 32 01.8
comp=Z,35nm,1.6s,mb5.3
VLC Villacollemand 85.88 328 *eP* **P 20 31 58.8 +0.1**
comp=Z,18nm,0.9s,mb5.3
VLI Veliai 85.91 316 *eP* **P 20 31 56.7 -2.1**
SSF Saint Saulge 85.95 334⇑*iP* **P 20 31 58.7 -0.3**
comp=Z,124nm,1.1s,mb5.7
SSF Saint Saulge 85.95 334⇑*iP* **P 20 31 58.7 -0.3**
comp=Z,62nm,1.1s,mb5.8
CIGN Sant'Elia a Pi 86.00 324 P **P 20 31 59.2 -0.1**
comp=Z,118nm,1.4s,mb5.9
VLS Valsamata 86.02 319 *eP* **P 20 31 58.8 -0.5**
RSL Roselend 86.04 331 *eP* **P 20 31 59.6 +0.2**
HYF Humbligny 86.05 335 *eP* **P 20 31 59.7 +0.2**
ITM Ithomi 86.09 317 *eP* **P 20 31 59.0 -0.7**
AQU L'Aquila 86.10 325⇓*iP* **P 20 31 59.6 -0.1**
AQU L'Aquila 86.10 325 *eP* **P 20 32 00.4 +0.7**
AQU *e* 20 35 19.3
AQU pmax pmax
comp=Z,69nm,1.1s,mb5.8
AQU L'Aquila 86.10 325 *eP* **P 20 32 00.4 +0.7**
comp=Z,69nm,1.1s,mb5.8
AQU *ePP* PP 20 35 19.3 -0.9
LPL La Plagne 86.14 331 *eP* **P 20 32 00.2 +0.3**
comp=Z,140nm,1.0s,mb5.8
LPL La Plagne 86.14 331 *eP* **P 20 32 00.2 +0.3**
LPL pmax pmax
comp=Z,70nm,1.0s,mb5.8
LPL La Plagne 86.14 331 *eP* **P 20 32 00.2 +0.3**
comp=Z,70nm,1.0s,mb5.8
LPG La Plagne 86.15 331 *eP* **P 20 32 00.4 +0.4**
comp=Z,160nm,1.1s,mb5.9
LPG La Plagne 86.15 331 *eP* **P 20 32 00.4 +0.4**
LPG pmax pmax
comp=Z,80nm,1.1s,mb5.9
LPG La Plagne 86.15 331 *eP* **P 20 32 00.4 +0.4**
comp=Z,80nm,1.1s,mb5.9
GRR Gorron 86.15 337⇑*iP* **P 20 31 59.7 -0.3**
comp=Z,163nm,1.0s,mb5.9
GRR Gorron 86.15 337⇑*iP* **P 20 31 59.7 -0.3**
comp=Z,82nm,1.0s,mb5.9
OG05 Jujurieux 86.16 332 *eP* **P 20 32 00.6 +0.6**
INTR Introdacqua 86.16 325 P **P 20 31 58.2 -1.8**
comp=Z,49nm,0.8s,mb5.8
SIVA Sivas 86.16 314 *eP* **P 20 31 59.8 -0.3**
KYTH Kithira 86.18 316 *eP* **P 20 32 00.0 -0.1**
SMF Signal de Mont 86.20 334⇑*iP* **P 20 32 00.0 -0.2**
comp=Z,177nm,1.1s,mb5.9
SMF Signal de Mont 86.20 334⇑*iP* **P 20 32 00.0 -0.2**
comp=Z,89nm,1.1s,mb5.9
VAM Vamos 86.21 315 *eP* **P 20 32 01.5 +1.2**
CII Carovilli 86.22 325 P **P 20 32 00.7 +0.4**
comp=Z,119nm,1.5s,mb5.9
AVF Avril sur Loir 86.23 334⇑*iP* **P 20 32 00.3 -0.1**
comp=Z,213nm,1.0s,mb6.0
AVF Avril sur Loir 86.23 334⇑*iP* **P 20 32 00.3 -0.1**
comp=Z,107nm,1.0s,mb6.0
RSP Reno Superiore 86.26 331 P **P 20 31 58.4 -2.1**
FIAM Fiamignano 86.29 326 P **P 20 32 00.4 -0.3**
comp=Z,49nm,1.5s,mb5.5
RNI2 Rionero Sannit 86.30 325 P **P 20 31 59.8 -0.9**
comp=Z,175nm,1.5s,mb6.1
MIDA Miranda 86.30 324 P **P 20 32 00.5 -0.2**
comp=Z,165nm,2.0s,mb5.9
KARN Karanos 86.37 315 *eP* **P 20 32 00.9 -0.2**
PTRP Pietrapertosa 86.38 323 P **P 20 32 01.9 +0.8**
comp=Z,352nm,5.6s
MNS Montasola 86.39 326 P **P 20 32 00.0 -1.1**
comp=Z,35nm,1.7s,mb5.3
VVLD Villa Vallelon 86.40 325 P **P 20 32 00.7 -0.5**
comp=Z,74nm,1.4s,mb5.7
SDI San Donato 86.44 325 P **P 20 32 01.1 -0.3**
SDI pmax pmax
comp=Z,50nm,1.4s,mb5.5
SDI San Donato 86.44 325 P **P 20 32 01.1 -0.3**
comp=Z,50nm,1.4s,mb5.5
MRLC Muro Lucano 86.46 323 P **P 20 32 00.6 -0.9**

comp=Z,48nm,1.8s,mb5.4
BNI Bardonecchia 86.56 331 P **P 20 32 02.6 +0.6**
BNI pmax pmax
comp=Z,35nm,1.0s,mb5.5
BNI Bardonecchia 86.56 331 *e*P **P 20 32 02.5 +0.5**
comp=Z,35nm,0.9s,mb5.6
ORI Oriolo Calabro 86.56 322 P **P 20 32 02.8 +0.8**
comp=Z,1μm,5.0s
BGF Bois d'Agland 86.61 334⇑*i*P **P 20 32 02.1 -0.1**
comp=Z,84nm,1.3s,mb5.5
BGF Bois d'Agland 86.61 334⇑*i*P **P 20 32 02.1 -0.1**
BGF pmax pmax
comp=Z,42nm,1.3s,mb5.5
BGF Bois d'Agland 86.61 334⇑*i*P **P 20 32 02.1 -0.1**
comp=Z,42nm,1.3s,mb5.5
GRN Grenoble 86.74 332 *e*P **P 20 32 03.3 +0.4**
SGMF Saint Gilles 86.77 338⇑*i*P **P 20 32 03.0 0.0**
comp=Z,140nm,1.2s,mb5.8
SGMF Saint Gilles 86.77 338⇑*i*P **P 20 32 03.0 0.0**
comp=Z,70nm,1.2s,mb5.8
MBDF Montbardon 86.80 331 *e*P **P 20 32 02.7 -0.5**
comp=Z,93nm,1.2s,mb5.6
MBDF Montbardon 86.80 331 *e*P **P 20 32 02.7 -0.5**
MBDF pmax pmax
comp=Z,46nm,1.2s,mb5.6
MBDF Montbardon 86.80 331 *e*P **P 20 32 02.7 -0.5**
comp=Z,46nm,1.2s,mb5.6
PLDF La Plantade 86.86 333 *e*P **P 20 32 04.3 +0.8**
ROSF Rostrenen 86.89 339 *e*P **P 20 32 03.7 +0.1**
comp=Z,163nm,1.2s,mb5.8
ROSF Rostrenen 86.89 339 *e*P **P 20 32 03.7 +0.1**
ROSF pmax pmax
comp=Z,82nm,1.2s,mb5.8
ROSF Rostrenen 86.89 339 *e*P **P 20 32 03.7 +0.1**
comp=Z,82nm,1.2s,mb5.8
SADO Sadowa 86.92 29 LR LR 21 15 12.6
comp=Z,671nm,19.9s,MS5.0,baz=134,slow=38
ORIF Oris-en-Rattie 86.97 331 *e*P **P 20 32 04.0 0.0**
comp=Z,79nm,1.1s,mb5.6
ORIF *e*R
comp=Z,2μm,21.0s
ORIF Oris-en-Rattie 86.97 331 *e*P **P 20 32 04.0 0.0**
ORIF pmax pmax
comp=Z,39nm,1.1s,mb5.5
ORIF Oris-en-Rattie 86.97 331 *e*P **P 20 32 04.0 0.0**
comp=Z,39nm,1.1s,mb5.5
SURF Saint Ours 87.00 331 *e*P **P 20 32 04.5 +0.4**
TCF Toulx Ste Croi 87.06 334⇑*i*P **P 20 32 04.5 +0.1**
comp=Z,134nm,1.1s,mb5.8
TCF Toulx Ste Croi 87.06 334⇑*i*P **P 20 32 04.5 +0.1**
comp=Z,67nm,1.1s,mb5.8
TIP Timpagrande 87.12 321 *e*P **P 20 32 04.6 -0.1**
CCM Cathedral Cave 87.17 40 P **P 20 32 04.7 -0.3**
CCM pmax pmax
comp=Z,15nm,0.8s,mb5.3
CCM Cathedral Cave 87.17 40 *e*P **P 20 32 04.4 -0.5**
comp=Z,15nm,0.8s,mb5.3
CCM LR LR
comp=Z,127nm,19.0s,MS4.3
COLF Collangettes 87.23 333 *e*P **P 20 32 05.9 +0.7**
QUIF Quistinic 87.25 338⇑*i*P **P 20 32 05.2 -0.1**
comp=Z,69nm,1.4s,mb5.4
QUIF Quistinic 87.25 338⇑*i*P **P 20 32 05.2 -0.1**
QUIF pmax pmax
comp=Z,35nm,1.4s,mb5.4
QUIF Quistinic 87.25 338⇑*i*P **P 20 32 05.2 -0.1**
comp=Z,35nm,1.4s,mb5.4
OG25 Le Caire 87.37 331 *e*P **P 20 32 04.0 -1.9**
VIVF Saint-Julien-I 87.46 332⇑*i*P **P 20 32 06.3 -0.1**
comp=Z,86nm,1.1s,mb5.6
VIVF Saint-Julien-I 87.46 332⇑*i*P **P 20 32 06.3 -0.1**
VIVF pmax pmax
comp=Z,43nm,1.1s,mb5.6
VIVF Saint-Julien-I 87.46 332⇑*i*P **P 20 32 06.3 -0.1**
comp=Z,43nm,1.1s,mb5.6
MFF Saint Martin d 87.53 336⇑*i*P **P 20 32 06.8 +0.1**
comp=Z,170nm,1.2s,mb5.8
MFF Saint Martin d 87.53 336⇑*i*P **P 20 32 06.8 +0.1**
MFF pmax pmax
comp=Z,85nm,1.2s,mb5.8
MFF Saint Martin d 87.53 336⇑*i*P **P 20 32 06.8 +0.1**
comp=Z,85nm,1.2s,mb5.8
LBL Lubilhac 87.63 333 *e*P **P 20 32 06.7 -0.5**
LCHF La Chataignera 87.66 336 *e*P **P 20 32 07.7 +0.4**
LMR La Mourre 88.09 330 *e*P **P 20 32 08.8 -0.6**
comp=Z,101nm,1.3s,mb5.6
LMR La Mourre 88.09 330 *e*P **P 20 32 08.8 -0.6**
LMR pmax pmax
comp=Z,51nm,1.3s,mb5.6
LMR La Mourre 88.09 330 *e*P **P 20 32 08.8 -0.6**
comp=Z,50nm,1.3s,mb5.6
RJF Les Rejaudoux 88.15 334⇑*i*P **P 20 32 09.9 +0.2**
comp=Z,101nm,1.1s,mb5.7
RJF *e*R
comp=Z,2μm,17.2s
RJF Les Rejaudoux 88.15 334⇑*i*P **P 20 32 09.9 +0.2**
RJF pmax pmax
comp=Z,50nm,1.1s,mb5.7
RJF MLR MLR
comp=Z,2μm,17.3s,MS5.5
RJF Les Rejaudoux 88.15 334⇑*i*P **P 20 32 09.9 +0.2**
comp=Z,50nm,1.1s,mb5.7
RJF LR LR
comp=Z,2μm,17.3s,MS5.5
JCT Junction City 88.23 51 PFAKE 20 32 20.0 +10
JCT LR LR
comp=Z,447nm,19.0s,MS4.9
CAF Calviac 88.30 334⇑*i*P **P 20 32 11.0 +0.6**
comp=Z,126nm,1.1s,mb5.8
CAF Calviac 88.30 334⇑*i*P **P 20 32 11.0 +0.6**
comp=Z,63nm,1.1s,mb5.8
SOI Samo 88.33 321 P **P 20 32 10.5 0.0**
comp=Z,35nm,0.9s,mb5.6
LASF Ste Croix 88.42 332⇑*i*P **P 20 32 11.3 +0.3**
comp=Z,155nm,1.8s,mb5.6
MIAR Mount Ida 88.69 44 PFAKE 20 32 20.0 +7.8
MIAR LR LR
comp=Z,460nm,20.0s,MS4.9
LFF La Frestale 88.73 335⇑*i*P **P 20 32 12.8 +0.4**
comp=Z,109nm,1.0s,mb5.8
LFF La Frestale 88.73 335⇑*i*P **P 20 32 12.8 +0.4**
comp=Z,54nm,1.0s,mb5.8
TBI Tubuai 88.82 122 *e*S 20 42 52.0
comp=Z,426nm,24.5s
TBI *e*LQ 20 55 52.1
comp=Z,325nm,33.0s
ERPA Erie 88.86 31 PFAKE 20 32 20.0 +7.0
ERPA LR LR
comp=Z,646nm,19.0s,MS5.1
ACSO Alum Creek Sta 89.22 34 PFAKE 20 32 30.0 +15
ACSO LR LR
comp=Z,404nm,20.0s,MS4.8
NCB Newcomb 89.35 26 PFAKE 20 32 30.0 +15
NCB LR LR
comp=Z,736nm,19.0s,MS5.1
WCI Wyandotte Cave 89.40 37 PFAKE 20 32 30.0 +14
WCI LR LR
comp=Z,143nm,19.0s,MS4.4
MTLF Montolieu 89.64 333⇑*i*P **P 20 32 17.0 +0.3**
comp=Z,42nm,1.1s,mb5.4
MTLF Montolieu 89.64 333⇑*i*P **P 20 32 17.0 +0.3**
comp=Z,21nm,1.1s,mb5.4
LBNH Lisbon 89.87 25 PFAKE 20 32 30.0 +12
LBNH LR LR
comp=Z,850nm,19.0s,MS5.2
NATX Nacogdoches 90.22 46 PFAKE 20 32 30.0 +11
NATX LR LR
comp=Z,489nm,19.0s,MS5.0
BINY Binghamton 90.29 28 *e*P **P 20 32 20.4 +0.6**
comp=Z,21nm,1.1s,mb5.4
BINY *e* pP 20 32 30.2 +0.8
MLS Moulis 90.37 333 *e*P **P 20 32 20.3 +0.2**
EPF Esparros 90.56 334⇑*i*P **P 20 32 20.7 -0.3**
comp=Z,31nm,1.1s,mb5.2
EPF Esparros 90.56 334⇑*i*P **P 20 32 20.7 -0.3**
comp=Z,16nm,1.1s,mb5.2
RESF Ens 90.76 334 *e*P **P 20 32 23.3 +1.4**
OXF Oxford 90.87 41 PFAKE 20 32 30.0 +7.6
OXF LR LR
comp=Z,360nm,21.0s,MS4.8
HKT Hockley 90.93 48 PFAKE 20 32 30.0 +7.3
HKT LR LR
comp=Z,131nm,19.0s,MS4.4
EBIE Bielsa 90.93 334 P **P 20 32 23.9 +1.3**
comp=Z,86nm,1.9s,mb5.8
SSPA Standing Stone 90.94 30 *e*P **P 20 32 23.8 +1.1**
comp=Z,8.7nm,0.6s,mb5.3
ETSF Etsaut 90.97 335 *e*P **P 20 32 23.5 +0.6**
comp=Z,26nm,0.8s,mb5.3
ETSF Etsaut 90.97 335 *e*P **P 20 32 23.5 +0.6**
ETSF pmax pmax
comp=Z,13nm,0.8s,mb5.3
ETSF Etsaut 90.97 335 *e*P **P 20 32 23.5 +0.6**
comp=Z,13nm,0.8s,mb5.3
SJPF Ste Jean 91.00 335 *e*P **P 20 32 23.4 +0.4**
comp=Z,36nm,1.1s,mb5.3
SJPF Ste Jean 91.00 335 *e*P **P 20 32 23.4 +0.4**
SJPF pmax pmax
comp=Z,18nm,1.1s,mb5.3
SJPF Ste Jean 91.00 335 *e*P **P 20 32 23.4 +0.4**
comp=Z,18nm,1.1s,mb5.3
ELIZ Elizondo 91.05 335 P pP 20 32 32.8 -0.1
comp=Z,19nm,1.2s
EMIR Miracle 91.14 333 P pP 20 32 35.7 +2.3
PLAL Pickwick Lake 91.16 40 PFAKE 20 32 40.0 +16
PLAL LR LR
comp=Z,507nm,20.0s,MS5.0
EGRA Graus 91.31 334 P pP 20 32 33.9 -0.2
comp=Z,21nm,0.9s
EPOB Poblet 91.79 333 P pP 20 32 36.4 -0.1
comp=Z,20nm,0.9s
ESAC San Caprasio 92.00 334 P pP 20 32 37.5 +0.2
comp=Z,26nm,0.9s
EARI Arriondas 92.05 338 P pP 20 32 37.0 -0.6
comp=Z,9.4nm,1.0s
PAL Palisades 92.08 27 P **P 20 32 23.4 -4.6**
PAL pmax pmax
comp=Z,41nm,0.9s,mb5.8
ERTA Horta de San J 92.40 333 P pP 20 32 39.0 -0.3
comp=Z,13nm,0.9s
EBR Ebro Roquetas 92.47 333 *e*P pP 20 32 39.3 -0.2
ETOS Mallorca 92.56 331 P pP 20 32 40.0 0.0
comp=Z,29nm,1.0s
EPON Pontenova 92.57 339 P pP 20 32 38.9 -1.1
comp=Z,21nm,1.0s
EMOS Mosqueruela 93.21 333 P pP 20 32 43.5 +0.6
comp=Z,15nm,0.9s
ETOR Torete 93.33 335 P pP 20 32 43.9 +0.3
comp=Z,5.0nm,1.0s
ECHE Chera 94.07 333 P pP 20 32 46.0 -0.9
comp=Z,4.5nm,0.8s
GUD Guadarrama 94.16 336 P pP 20 32 47.5 +0.2
comp=Z,2.3nm,0.7s
ESDC Sonseca Array 94.98 335 P **P 20 32 41.8 +0.4**
comp=Z,1.2nm,0.8s,mb4.4,baz=6.0,slow=4.7,SNR=4.5
ESDC pP pP 20 32 50.7 -0.4
comp=Z,3.5nm,0.8s,baz=20,slow=4.2,SNR=8.1
ETOB Tobarra 95.12 333 P pP 20 32 52.6 +0.9
PVIS Viseu 95.20 339 *e*P **P 20 32 42.1 -0.2**
comp=Z,14nm,1.9s,mb5.1
MTE Manteigas 95.39 338 *e*P **P 20 32 43.5 +0.3**
comp=Z,23nm,1.4s,mb5.4
MTE Manteigas 95.39 338 *e*PP PP 20 36 36.7 +2.8
MTE *e*SKS 20 43 23.0
MTE Manteigas 95.39 338 *e*LQ 21 00 29.6
MTE *e*LR LR 21 08 55.0
comp=Z,658nm,20.0s
EVIA Vianos 95.45 334 P pP 20 32 53.8 +0.6
PCBR Castelo Branco 95.89 338 *e*P **P 20 32 46.0 +0.5**
comp=Z,7.5nm,1.5s,mb4.9
EQES Quesada 96.39 334 P pP 20 32 57.5 0.0
comp=Z,6.1nm,1.0s
EADA Adamuz 96.55 335 P pP 20 32 57.5 -0.8
comp=Z,3.9nm,1.1s
EBAD Badajoz 96.76 337 P pP 20 32 58.3 -0.9
comp=Z,4.1nm,1.0s
RKT Rikitea 98.46 113 *e*PS PS 20 45 47.0 -4.9
comp=Z,292nm,27.0s
RKT Rikitea 98.46 113 *e*SKSac SKSac 20 43 27.7 -5.2
comp=Z,260nm,28.0s
RKT *e*LR LR 21 04 04.2
comp=Z,498nm,25.0s
TORD Torodi Ar. Bea 116.08 318 PKP PKPdf 20 38 00.5 -1.3
comp=Z,0.7nm,0.7s,baz=1.0,slow=1.3,SNR=5.0
TORD pPKP pPKPdf 20 38 10.8 -1.0
comp=Z,2.8nm,0.9s,baz=354,slow=1.7,SNR=10
TORD PP PP 20 39 01.4 -5.2
comp=Z,8.3nm,1.0s,baz=40,slow=4.5,SNR=14
TORD Torodi Ar. Bea 116.08 318 PKP PKPdf 20 38 00.5 -1.3
TORD pPKP pPKPdf 20 38 10.8 -1.0
TORD PP PP 20 39 01.4 -5.2
VNDA Vanda 118.19 176 PKP PKPdf 20 38 03.5 -2.4
comp=Z,0.9nm,0.9s,baz=331,slow=5.0,SNR=5.1
SDV Santo Domingo 121.65 41 *e*PKPdf PKPdf 20 38 13.5 +1.0
MAW Mawson 123.32 207 PKP PKPdf 20 38 13.7 -2.1
comp=Z,2.9nm,0.8s,baz=360,slow=4.8,SNR=6.2
MAW Mawson 123.32 207 *e*PKPdf PKPdf 20 38 14.6 -1.2
DBIC Dimbokro 124.89 321 PKP PKPdf 20 38 18.7 -0.1
comp=Z,3.3nm,0.8s,baz=286,slow=0.8,SNR=3.7
DBIC pPKP pPKPdf 20 38 27.9 -0.9
comp=Z,13nm,1.1s,baz=104,slow=1.9,SNR=5.1
DBIC Dimbokro 124.89 321 PKP PKPdf 20 38 18.7 -0.1
DBIC pPKP pPKPdf 20 38 27.9 -0.9
LIC Lamto 125.36 321 *e*PKP1 PKPdf 20 38 26.6 +7.0
comp=Z,61nm,1.4s
LIC *e*R
comp=Z,905nm,22.8s
LIC Lamto 125.36 321 *e*PKP PKPdf 20 38 26.6 +7.0
LIC LR LR
comp=Z,450nm,22.8s,MS5.1
LBTB Lobatse 126.65 267 PKIKP PKPdf 20 38 23.3 +1.2
LBTB Lobatse 126.65 267 *e*PKPdf PKPdf 20 38 22.8 +0.7
LBTB *e*PP PP 20 40 18.1 -0.5
BOSA Boshof 128.79 263 PKP PKPdf 20 38 25.0 -1.2
comp=Z,2.0nm,0.9s,baz=175,slow=13,SNR=3.5
QSPA South Pole Qui 130.14 180 *e*P PKPdf 20 38 27.1 -1.7
SAML Samuel 140.64 45 *e*PKPpre 20 38 42.0
LPAZ La Paz 143.48 58 PKP PKPdf 20 38 51.1 -2.2
comp=Z,1.5nm,0.7s,baz=20,slow=11,SNR=7.5
LPAZ La Paz 143.48 58 PKIKP PKPdf 20 38 51.1 -2.2
LPAZ pmax pmax
comp=Z,20nm,0.7s
LPAZ La Paz 143.48 58 *e*PKPpre 20 38 51.2
SNAA Sanae 144.47 198 PKP PKPdf 20 38 50.8 -4.3
comp=Z,1.0nm,0.5s,baz=210,slow=4.3,SNR=32
VNA1 Neumayer--Stat 146.43 197 *e*PKPdf PKPdf 20 38 58.3 -0.1
VNA1 *e* 20 38 59.5
VNA1 *e* 20 39 00.9
VNA1 *e* 20 39 02.6
VNA1 *e* 20 39 04.4
VNA1 *e* 20 39 07.5
VNA1 *e* 20 39 11.0
VNA1 *e* 20 39 13.6
VNA1 *e* 20 39 17.5
VNA1 *e* 20 39 32.4
VNA1 *e* 20 39 37.7
VNA1 *e* 20 39 43.0
VNA1 *e* 20 39 58.9
VNA1 *e* 20 40 12.4
VNA1 *e* 20 40 16.9
VNA1 *e* 20 40 33.2
VNA1 *e* 20 40 48.7
LVC Limon Verde 147.33 67 *e*PKPbc PKPbc 20 39 03.5 +1.1
BDFB Brasilia 153.33 26 PKPbc PKPbc 20 39 17.5 +0.7
comp=Z,4.4nm,0.8s,baz=172,slow=0.7,SNR=4.2
PLCA Paso Flores 154.14 102 PKPbc PKPbc 20 39 19.1 +0.5
comp=Z,2.9nm,0.8s,baz=224,slow=3.5,SNR=9.1
CPUP Villa Florida 157.65 57 PKPab PKPab 20 39 45.0 -2.4
comp=Z,0.4nm,0.4s,baz=271,slow=5.0,SNR=3.1

IDC ***16*** *20:37:17.8±0.9,3020N×9466E,h0km,mb3.8/11, mb1 3.9/13,mb1mx3.8/23,mbtmp3.7/13,ML3.2/2,Error ellipse: s-maj=37.3km s-min=17.8km az=52.0*
ISCJB ***16*** *20:37:19.3±1.7,3038N±008×9487E±007,h25km±13km, mb3.9/12,Error ellipse: s-maj=13.3km s-min=10.2km az=145.9*
BJI ***16*** *20:37:20.4,2997N×9486E,h27km,ML3.5*
MOS ***16*** *20:37:21.4±1.1,3041N×9483E,h42km,mb3.9/2,Error ellipse: s-maj=12.6km s-min=11.5km az=117.7*
NEIC ***16*** *20:37:23.7±1.4,3034N×9481E,h42km±12km,mb3.6/2, Error ellipse: s-maj=13.5km s-min=10.6km az=113.0*
ISC 16 20:37:22.7±2.0,3044N±008×9486E±007,h31km±15km, n31,σ0°89/32,mb3.9/12,1D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.30**	**258**	PG	**Pb**	**20 38 15.9**	**-4.6**
LSA				SG	**Sb**	**20 39 00.1**	**0.0**
LSA				Smax			
	comp=N,30nm,0.7s						
LSA				Smax			
	comp=E,30nm,0.9s						
LSA	**Lhasa**	**3.30**	**258**	*e*P	**Pn**	**20 38 14.0**	**+1.9**
JIRN	**Jiri**	**8.08**	**252**	*e*P	**Pn**	**20 39 18.8**	**+1.0**
	comp=E,5.1nm,0.4s						
GUN	**Gumba**	**8.24**	**254**	*e*P	**Pn**	**20 39 20.1**	**0.0**
	comp=E,42nm,0.8s						
PKI	**Pulchoki**	**8.75**	**253**	*e*P	**Pn**	**20 39 26.8**	**-0.3**
	comp=E,18nm,0.8s						
PKI	**Pulchoki**	**8.75**	**253**	*e*P	**Pn**	**20 39 26.8**	**-0.3**
PKI				pmax	pmax		
	comp=Z,18nm,0.8s						
KKN	**Kakani**	**8.78**	**255**	*e*P	**Pn**	**20 39 26.6**	**-0.9**
	comp=Z,34nm,1.0s						
KKN	**Kakani**	**8.78**	**255**	*e*P	**Pn**	**20 39 26.6**	**-0.9**
KKN				pmax	pmax		
	comp=Z,34nm,1.0s						
DMN	**Daman**	**8.99**	**254**	*e*P	**Pn**	**20 39 29.2**	**-1.2**
	comp=Z,19nm,0.9s						
GYA	**Guiyang**	**11.12**	**108**	⇓*i*P	**Pn**	**20 39 59.9**	**+0.4**
MKAR	**Makanchi Array**	**19.01**	**333**	P	**Pn**	**20 41 42.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=143,slow=13,SNR=8.8						
SONM	**Songino Array**	**19.50**	**24**	P	**Pn**	**20 41 49.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=209,slow=10,SNR=7.8						
ULN	**Ulaanbaatar**	**19.76**	**25**	*e*P	**Pn**	**20 41 49.7**	**-2.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ULN	**Ulaanbaatar**	**19.76**	**25**	*e*P	**Pn**	**20 41 49.6**	**-2.1**
	comp=Z,5.1nm,1.1s						
ZAK	**Zakamensk**	**20.90**	**15**	*e*P	**P**	**20 42 02.8**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
ZAL	**Zalesovo**	**24.59**	**346**	P	**P**	**20 42 42.5**	**+2.6**
	comp=Z,1.0nm,0.6s,mb3.5,baz=300,slow=6.2,SNR=7.0						
BVAR	**Borovoye Array**	**28.77**	**329**	P	**P**	**20 43 18.6**	**+1.0**
	comp=Z,1.0nm,0.7s,mb3.6,baz=134,slow=11,SNR=9.6						
CHKZ	**Chkalovo**	**29.11**	**330**	P	**P**	**20 43 19.9**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
CHKZ	**Chkalovo**	**29.11**	**330**	P	**P**	**20 43 19.9**	**-0.7**
	comp=Z,1.2nm,1.0s,mb3.6						
BRTR	**Keskin Array B**	**50.09**	**298**	P	**P**	**20 46 14.6**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=72,slow=7.9,SNR=5.9						
AKASG	**Malin Array Be**	**52.00**	**313**	P	**P**	**20 46 28.9**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=77,slow=6.9,SNR=9.3						
AKASG	**Malin Array Be**	**52.00**	**313**	P	**P**	**20 46 28.9**	**-0.2**
FINES	**FINESS Array B**	**53.68**	**326**	P	**P**	**20 46 41.1**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=95,slow=15,SNR=2.7						
MLR	**Muntele Rosu**	**54.77**	**307**	P	**P**	**20 46 49.4**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.4,baz=141,slow=5.8,SNR=6.8						
NB2	**NORSAR Subarra**	**60.86**	**326**	P	**P**	**20 47 31.6**	**-0.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=80,slow=6.9						
NOA	**NORSAR Array B**	**60.86**	**326**	P	**P**	**20 47 31.4**	**-0.8**
	comp=Z,1.0nm,0.8s,mb4.0,baz=79,slow=6.8,SNR=7.3						
GERES	**GERESS Array B**	**62.22**	**312**	P	**P**	**20 47 41.3**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.7,baz=70,slow=5.0,SNR=5.2						
WRA	**Warramunga Arr**	**62.86**	**138**	P	**P**	**20 47 45.0**	**-0.6**
	comp=Z,0.7nm,0.9s,mb3.8,baz=323,slow=8.3,SNR=4.5						
ASAR	**Alice Springs**	**65.56**	**141**	P	**P**	**20 48 03.2**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=324,slow=6.4,SNR=6.6						
LSZ	**Lusaka**	**78.57**	**245**	*e*P	**P**	**20 49 21.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**86.13**	**283**	P	**P**	**20 50 01.4**	**+0.7**
	comp=Z,1.0nm,0.9s,mb4.0,baz=101,slow=4.0,SNR=5.2						

CSEM ***16*** *20:46:54.6±0.1,3996N×2329E,h5km,MD3.3,Error ellipse: s-maj=2.1km s-min=1.8km az=80.0*
MOS ***16*** *20:46:55.4±1.3,3995N×2328E,h10km,mb3.7/1,Error ellipse: s-maj=10.0km s-min=6.0km az=87.0*
NEIC ***16*** *20:46:55.6,4000N×2331E,h26km,MD2.7(SOF), MD3.3(ATH),After ATH.*
ATH ***16*** *20:46:55.6,4000N×2331E,h26km±1km,MD3.3/4*
ISCJB ***16*** *20:46:55.4±0.4,3999N±002×2330E±003,h4km±3km, Error ellipse: s-maj=3.5km s-min=2.8km az=156.8*
THE ***16*** *20:46:56.2,4000N×2331E,h9km,ML3.0*
SOF ***16*** *20:46:57.7,4021N×2301E,h2km,MD2.7*
ISC 16 20:46:56.3±0.3,3999N±002×2330E±003,h8km±3km,n34, σ1°07/54,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.30**	**103**	*e*Pg	**Pg**	**20 47 02.1**	**-0.1**
PAIG				*e*Sg	**Sg**	**20 47 06.6**	**+0.5**
PLG	**Polygyros**	**0.40**	**16**	⇑*i*PB	**Pg**	**20 47 03.9**	**-0.1**
PLG				*e*SB	**Sg**	**20 47 09.9**	**+0.7**
OUR	**Ouranopolis**	**0.62**	**57**	*e*Pg	**Pg**	**20 47 08.3**	**0.0**
OUR				*e*Sg	**Sg**	**20 47 17.0**	**+0.6**
LIT	**Litokhoron**	**0.63**	**280**	*e*Pg	**Pg**	**20 47 08.1**	**-0.3**
LIT				*e*Sg	**Sg**	**20 47 17.8**	**+1.1**
XOR	**Xorichti**	**0.63**	**188**	*e*Pg	**Pg**	**20 47 07.6**	**-0.8**
XOR				*e*Sg	**Sg**	**20 47 18.6**	**+1.9**
XOR	**Xorichti**	**0.63**	**188**	P	**Pg**	**20 47 07.6**	**-0.9**
XOR				S	**Sg**	**20 47 18.6**	**+1.9**
THE	**Thessaloniki**	**0.69**	**338**	*e*Pg	**Pg**	**20 47 09.2**	**-0.3**
THE				*e*Sg	**Sg**	**20 47 19.1**	**+0.6**
NEO	**Neokhori**	**0.69**	**185**	*e*PB	**Pg**	**20 47 08.7**	**-0.8**
NEO				*e*SN	**Sg**	**20 47 19.8**	**+1.3**
SOH	**Sokhos**	**0.83**	**3**	*e*Pg	**Pg**	**20 47 11.7**	**-0.5**
SOH				*e*Sg	**Sg**	**20 47 23.7**	**+0.7**
AOS	**Alonnisos**	**0.94**	**151**	*e*Pg	**Pg**	**20 47 13.2**	**-1.1**
AOS				*e*Sg	**Sg**	**20 47 27.2**	**+0.8**
AOS	**Alonnisos**	**0.94**	**151**	P	**Pg**	**20 47 13.1**	**-1.1**
AOS				S	**Sg**	**20 47 27.2**	**+0.8**
GRG	**Griva**	**1.18**	**325**	*e*Pg	**Pg**	**20 47 18.2**	**-0.8**
GRG				*e*Sg	**Sg**	**20 47 35.0**	**+0.8**
KNT	**Kendrikon**	**1.21**	**345**	*e*Pg	**Pg**	**20 47 18.6**	**-0.8**
KNT				*e*Sg	**Sg**	**20 47 35.3**	**+0.2**
KZN	**Kozani**	**1.21**	**285**	*e*PN	**Pn**	**20 47 18.3**	**-1.2**
KZN				*e*SN	**Sn**	**20 47 36.2**	**+0.1**
AGG	**Agios Georgios**	**1.23**	**218**	*e*Pg	**Pg**	**20 47 18.2**	**-1.6**
AGG				*e*Sg	**Sg**	**20 47 36.9**	**+1.1**
AGG	**Agios Georgios**	**1.23**	**218**	P	**Pn**	**20 47 18.2**	**-1.5**
AGG				S	**Sb**	**20 47 36.8**	**+1.2**
LOS	**Limnos**	**1.37**	**92**	*e*Pg	**Pg**	**20 47 20.5**	**-2.0**
NVR	**Nevrokopi**	**1.42**	**17**	*e*PN	**Pn**	**20 47 21.8**	**-0.5**
VAY	**Valandovo**	**1.44**	**338**	*e*Pg	**Pg**	**20 47 22.0**	**-1.8**
VAY	**Valandovo**	**1.44**	**338**	*e*Pn	**Pn**	**20 47 22.1**	**-0.5**
VAY				*e*Sn	**Sn**	**20 47 42.8**	**+1.2**
VAY	**Valandovo**	**1.44**	**338**	*e*Pn	**Pn**	**20 47 22.0**	**-0.6**
VAY				*e*Sn	**Sn**	**20 47 42.8**	**+1.2**
LIA	**Limnos Island**	**1.45**	**93**	*e*PN	**Pn**	**20 47 22.5**	**-0.2**
EVR	**Evrytania**	**1.58**	**228**	*e*PN	**Pn**	**20 47 24.4**	**-0.1**
MMB	**Musomiste**	**1.63**	**11**	*i* P	**Pn**	**20 47 26.2**	**+1.0**
FNA	**Florina**	**1.67**	**299**	*e*Pb	**Pb**	**20 47 24.4**	**-2.8**
FNA				*e*Sb	**Sb**	**20 47 47.0**	**-1.3**
BIA	**Bitola**	**1.82**	**305**	*e*Pn	**Pn**	**20 47 27.8**	**0.0**
KKB	**Krupnik**	**1.88**	**355**	*i* P	**Pn**	**20 47 28.8**	**+0.2**
STIP	**Stip**	**1.90**	**334**	*e*Pn	**Pn**	**20 47 30.2**	**+1.3**
STIP				*e*Sn	**Sg**	**20 48 03.9**	**+6.7**
RZN	**Rozhen**	**2.00**	**32**	*e*P	**Pn**	**20 47 30.7**	**+0.3**
RDO	**Rodhopi**	**2.06**	**55**	*e*PN	**Pn**	**20 47 30.0**	**-1.1**
ALN	**Alexandroupoli**	**2.28**	**66**	*e*Pn	**Pn**	**20 47 33.3**	**-0.9**
KDZ	**Kurdzhali**	**2.31**	**43**	*e*P	**Pn**	**20 47 38.4**	**+3.9**
VTS	**Vitosha**	**2.60**	**358**	*i* P	**Pn**	**20 47 41.0**	**+2.5**
SZH	**Strazhica**	**3.82**	**30**	*e*P	**Pn**	**20 47 57.7**	**+2.4**

ISCJB ***16*** *21:03:30.0±0.6,4369N±005×105.15W±006,h0km,mb4.9/1, Error ellipse: s-maj=7.1km s-min=6.0km az=114.2*
IDC ***16*** *21:03:30.1±1.9,4350N×10532W,h0km,mb4.3/1, mb1 4.1/3,mb1mx3.5/22,mbtmp4.0/3,ML3.4/2,Error ellipse: s-maj=48.1km s-min=8.1km az=153.0*
NEIC ***16*** *21:03:31.6±0.5,4362N×105.16W,h0km,ML3.2,Error ellipse: s-maj=8.9km s-min=6.1km az=148.0,Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.
ISC 16 21:03:31.6±0.5,4369N±005×10521W±006,h0km,n21, σ0°80/27,mb4.9/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**62**	*e*P	**Pg**	**21 03 50.8**	**+0.9**
PHWY	**Pilot Hill**	**2.39**	**185**	*e*P	**Pn**	**21 04 12.6**	**+0.6**
PHWY				*e*S	**Sn**	**21 04 42.0**	**0.0**
RWWY	**Rawlins**	**2.48**	**217**	*e*Pn	**Pn**	**21 04 14.6**	**+1.4**
RWWY				*e*Sn	**Sn**	**21 04 43.3**	**-1.0**
PDAR	**Pinedale Array**	**3.31**	**255**	Pn	**Pn**	**21 04 25.1**	**+0.5**
	3.6nm,0.3s,baz=78,slow=17,SNR=70						
PDAR				Pg	**Pg**	**21 04 30.3**	**-4.8**
	7.7nm,0.3s,baz=84,slow=18,SNR=70						
PDAR				Lg		21 05 10.5	

13nm,0.3s,baz=76,slow=29,SNR=17
ISCO Idaho Springs 3.89 185 *e*Pn **Pn 21 04 32.8 +0.1**
ISCO *e*Sn **Sn 21 05 28.1 +8.9**
FLWY Flagg Ranch 3.99 278 *e*Pn **Pn 21 04 34.4 +0.4**
MOOW Moose Ponds 4.02 273 Pn **Pn 21 04 34.2 -0.1**
REDW Red Top Meadow 4.12 267 *e*P **Pb 21 04 44.1 -0.8**
YFT Old Faithful 4.13 283 P **Pb 21 04 45.1 0.0**
IMW Indian Meadow 4.16 275 *e*Pn **Pn 21 04 37.7 +1.4**
TPAW Teton Pass 4.18 269 *e*Pn **Pn 21 04 37.3 +0.7**
TPAW *e*Pg **Pg 21 04 50.5 -1.2**
AHID Auburn Hatcher 4.40 260 *e*P **Pb 21 04 49.2 -0.7**
SMCO Snowmass 4.70 197 *e*Pg **Pg 21 04 57.6 -4.0**
HWUT Hardware Ranch 5.13 248 *e*Pn **Pn 21 04 50.6 +0.9**
8.0nm,0.5s
TCUT Toone Canyon 5.26 243 *e*Pn **Pn 21 04 51.8 +0.4**
DLMT Dillon 5.54 290 *e*Pn **Pn 21 04 55.9 +0.6**
9.0nm,0.9s
SRU San Rafael 6.07 223 *e*Pn **Pn 21 05 01.5 -1.1**
10.0nm,0.5s
SRU *e*Sg **Sg 21 06 37.8 -8.9**
ECSD EROS,Sioux Fal 6.23 87 Pn **Pn 21 05 04.2 -0.6**
MSU Marysvale 7.38 228 *e*Pn **Pn 21 05 20.5 0.0**
ULM Lac du Bonnet 9.15 41 Pn **Pn 21 05 44.1 -0.8**
0.9nm,0.3s,baz=229,slow=12,SNR=8.8
ULM Lg 21 08 19.1
0.2nm,0.3s,baz=182,slow=15,SNR=2.4
ARCES ARCESS Array B 61.45 18 P **P 21 13 48.8 -1.1**
14nm,1.3s,mb4.9,baz=322,slow=7.7,SNR=5.3

IDC 16 21:10:24.6±5.6,2254S×17770W,h0km,mb4.2/3,
mb1 4.4/3,mb1mx4.0/11,mbtmp4.2/3,Error ellipse:
s-maj=177.5km s-min=48.5km az=20.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.62**	**267**	*e*P	P	21 17 10.9	+4.2
	2.9nm,0.3s						
STKA	**Stephens Creek**	**37.20**	**247**	P	P	21 17 36.3	-1.2
	0.7nm,0.4s,baz=90,slow=8.1,SNR=5.1						
ASAR	**Alice Springs**	**44.36**	**259**	P	P	21 18 37.3	+0.7
	1.7nm,0.5s,baz=97,slow=7.6,SNR=20						
WB2	**Warramunga Arr**	**44.62**	**264**	*e*P	P	21 18 39.4	+0.7
WRA	**Warramunga Arr**	**44.64**	**264**	P	P	21 18 39.7	+0.9
	2.8nm,0.3s,baz=96,slow=8.4,SNR=47						
TORD	**Torodi Ar. Bea**	**170.64**	**176**	PKPab	PKPab	21 31 52.2	+0.1
	0.2nm,0.6s,baz=178,slow=4.7,SNR=5.9						

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*CSEM **16** 21:22:29.1±0.4,3668N×839W,h2km,ML1.8,Error ellipse: s-maj=9.4km s-min=6.4km az=28.0*
*INMG **16** 21:22:30.5±1.4,3670N×849W,h0km,ML1.8,Error ellipse: s-maj=9.1km s-min=4.8km az=54.0*
*IGIL **16** 21:22:33.4,3677N×857W,h2km,ML1.9*
MDD 16 21:22:31.5±1.5,3673N×847W,h12km±2km,mbLg1.7/6,
Error ellipse: s-maj=15.3km s-min=5.7km az=42.0,
PRXIMO,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.60**	**346**	*e*P	Pg	21 22 42.9	-0.2
MORF				*e*S	Sg	21 22 50.2	-0.8
MORF				*e*S	Sg	21 22 50.2	-0.8
MORF				AML	AML	21 22 52.1	
	comp=N,63nm,0.2s						
MORF	**Marmelete**	**0.60**	**346**	*e*P	Pg	21 22 42.9	-0.2
MORF				*e*S	Sg	21 22 50.2	-0.8
PTEO	**Sao Teotonio**	**0.84**	**346**	*e*P	Pg	21 22 46.4	-1.4
PTEO				*e*S	Sg	21 22 57.2	-1.6
PTEO							
	comp=N,17nm,0.2s						
EGRO	**El Granado**	**1.13**	**44**	Pg	Pg	21 22 51.3	-1.8
	comp=N,0.5nm,0.1s,SNR=19						
EGRO				Lg		21 23 07.2	
	comp=N,3.5nm,0.1s,SNR=11						
EGRO	**El Granado**	**1.13**	**44**	P	Pb	21 22 51.3	-1.6
	comp=N,0.5nm,0.1s,SNR=19						
EGRO				S	Sb	21 23 07.2	-0.3
	comp=N,3.5nm,0.1s,SNR=11						
PBEJ	**Beja**	**1.38**	**20**	*e*P	Pn	21 22 56.3	-0.3
PBEJ				*e*S	Sn	21 23 15.1	+0.2
PBEJ							
	comp=N,4.4nm,0.1s						
PBEJ	**Beja**	**1.38**	**20**	*e*P	Pn	21 22 56.3	-0.3
PBEJ				*e*S	Sn	21 23 15.1	+0.2
	comp=N,4.4nm,0.1s						
EMIN	**Mina Concepcio**	**1.77**	**53**	Pn	Pn	21 23 01.1	-0.9
	comp=N,0.1nm,0.1s,SNR=7.9						
EMIN				Lg		21 23 26.3	
	comp=N,0.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.77**	**53**	P	Pn	21 23 01.1	-0.8
	comp=N,0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	21 23 24.2	-0.2
	comp=N,0.9nm,0.1s,SNR=7.9						
MOE	**Montemor**	**1.80**	**3**	*e*Pn	Pn	21 23 02.0	-0.3
MOE				*e*Sn	Sn	21 23 25.9	+0.8
ESPR	**Espera**	**2.10**	**85**	Pn	Pn	21 23 04.7	-1.8
	comp=N,0.6nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	21 23 29.8	-2.8
	comp=N,1.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.10**	**85**	P	Pn	21 23 04.7	-1.8
	comp=N,0.6nm,0.1s,SNR=7.9						
PLOU	**Loures**	**2.22**	**346**	*e*Sn	Sn	21 23 34.0	-1.6
EBAD	**Badajoz**	**2.33**	**29**	Pn	Pn	21 23 09.1	-0.6
	comp=N,0.1nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	21 23 37.9	-0.4
	comp=N,2.1nm,0.5s,SNR=7.9						
EBAD				Lg		21 23 44.3	
	comp=N,1.3nm,0.1s,SNR=6.1						
EBAD	**Badajoz**	**2.33**	**29**	P	Pn	21 23 09.1	-0.6
	comp=N,0.1nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**2.89**	**1**	*e*Sg	Sg	21 24 01.7	-2.5
PTOM							
	comp=N,2.3nm,0.1s						
PTOM	**Tomar**	**2.89**	**1**	Lg		21 24 01.7	
	comp=N,1.1nm,0.1s						
EADA	**Adamuz**	**3.41**	**64**	Pn	Pn	21 23 22.5	-2.0
	comp=N,0.1nm,0.0s,SNR=7.9						
EADA				Sn	Sn	21 23 59.5	-5.5
	comp=N,0.7nm,0.1s,SNR=7.9						
EADA				Lg		21 24 16.9	
	comp=N,0.2nm,0.3s,SNR=7.9						

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*NEIC **16** 21:37:40.4,3178S×6998W,h154km,MG3.7(GUC),After GUC.*
GUC 16 21:37:40.4±0.8,3178S×6998W,h154km±5km,MD3.3,
ML3.7,13C-5D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.04**	**210**	⇓*i*P	Pn	21 38 06.4	+0.6
JACH				*i* S	Sn	21 38 25.8	+0.4
CMCH	**Combarbala**	**1.06**	**304**	*i* P	Pn	21 38 07.3	+1.2
CMCH				*i* S	Sn	21 38 27.2	+1.5
CMCH				AML	AML	21 38 29.7	
	comp=E,3μm,0.7s						
CMCH	**Combarbala**	**1.06**	**304**	*i* P	Pn	21 38 07.3	+1.2
CMCH				*i* S	Sn	21 38 27.2	+1.5
MDZ	**Mendoza**	**1.46**	**139**	⇓*i*P	Pn	21 38 05.5	-4.3
MDZ				*i* S	Sn	21 38 24.5	-7.8
ROCH	**El Roble**	**1.47**	**216**	⇑*i*P	Pn	21 38 11.1	+1.1
ROCH				*i* S	Sn	21 38 34.0	+1.3
PEL	**Peldehue**	**1.48**	**204**	⇓*i*P	Pn	21 38 10.7	+0.6
PEL				*i* S	Sn	21 38 33.0	+0.2
PEL				AML	AML	21 38 35.1	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**1.48**	**204**	⇓*i*P	Pn	21 38 10.7	+0.6
PEL				*i* S	Sn	21 38 33.0	+0.2
FCH	**Farellones**	**1.56**	**190**	⇑*i*P	Pn	21 38 10.6	-0.3
FCH				*i* S	Sn	21 38 34.9	+0.5
FCH				AML	AML	21 38 36.0	
	comp=N,564nm,0.2s						
OVCH	**Ovalle**	**1.57**	**318**	⇑*i*P	Pn	21 38 12.7	+1.7
OVCH				*i* S	Sn	21 38 36.4	+1.9
OVCH				AML	AML	21 38 39.2	
	comp=N,457nm,0.2s						
OVCH	**Ovalle**	**1.57**	**318**	⇑*i*P	Pn	21 38 12.7	+1.7
OVCH				*i* S	Sn	21 38 36.4	+1.9
CLCH	**Cerro Calan**	**1.68**	**196**	⇑*i*P	Pn	21 38 13.0	+0.8
CLCH				*i* S	Sn	21 38 37.0	+0.5
CLCH				AML	AML	21 38 41.7	
	comp=E,597nm,0.6s						
CLCH				AML	AML	21 38 42.4	
	comp=E,833nm,0.5s						
TLL	**Tololo Astrono**	**1.76**	**336**	⇑*i*P	Pn	21 38 14.5	+1.5
TLL				*i* S	Sn	21 38 39.6	+1.5
TLL				AML	AML	21 38 43.9	
	comp=N,696nm,0.6s						
TLL	**Tololo Astrono**	**1.76**	**336**	⇑*i*P	Pn	21 38 14.5	+1.5
TLL				*i* S	Sn	21 38 39.6	+1.5
ANTU	**Antumapu**	**1.87**	**197**	AML	AML	21 38 42.5	
	comp=E,655nm,0.5s						
PCH	**Pirque**	**1.89**	**194**	*i* P	Pn	21 38 15.3	+0.8
PCH				*i* S	Sn	21 38 41.9	+1.2
TACH	**Talagante**	**2.03**	**203**	⇑*i*P	Pn	21 38 16.8	+0.7
TACH				*i* S	Sn	21 38 44.3	+0.7
LMEL	**Las Melosas**	**2.07**	**185**	⇑*i*P	Pn	21 38 17.1	+0.5
LMEL				*i* S	Sn	21 38 45.5	+1.1
LMEL				AML	AML	21 38 53.2	
	comp=N,332nm,0.1s						
LMEL	**Las Melosas**	**2.07**	**185**	⇑*i*P	Pn	21 38 17.1	+0.5
LMEL				*i* S	Sn	21 38 45.5	+1.1
LCCH	**Las Cruces**	**2.16**	**218**	*e*P	Pn	21 38 18.1	+0.5
LCCH				*i* S	Sn	21 38 46.7	+0.5
CHCH	**Chadas Angostu**	**2.22**	**195**	⇑*i*P	Pn	21 38 19.0	+0.7
CHCH				*i* S	Sn	21 38 48.4	+0.9
CACH	**El Canelo**	**2.39**	**193**	⇑*i*P	Pn	21 38 21.5	+1.2
CACH				*i* S	Sn	21 38 52.5	+1.4
LNV	**Longovilo**	**2.48**	**209**	*i* P	Pn	21 38 21.9	+0.4
LNV				*i* S	Sn	21 38 53.2	+0.1
CICH	**Cipreses**	**2.56**	**188**	⇓*i*P	Pn	21 38 23.5	+1.1
CICH				*i* S	Sn	21 38 55.9	+1.0
LCO	**Las Campanas**	**2.83**	**347**	⇑*i*P	Pn	21 38 26.6	+0.8
LCO				*i* S	Sn	21 39 02.2	+1.4
SFDO	**San Fernando**	**2.96**	**197**	*i* P	Pn	21 38 27.8	+0.4
SFDO				*i* S	Sn	21 39 04.0	+0.3

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*ISCJB **16** 21:47:35.1±0.5,5282N±008×17369E±008,h85km±5km, mb4.5/69,Error ellipse: s-maj=13.5km s-min=7.6km az=159.8*
*MOS **16** 21:47:36.3±0.9,5289N×17359E,h90km,mb4.5/44,Error ellipse: s-maj=15.4km s-min=5.2km az=99.6*
*BJI **16** 21:47:36.2,5280N×17370E,h81km,mB4.8,mb4.7,Ms4.4, Msz4.1*
*IDC **16** 21:47:36.1±0.6,5277N×17373E,h84km±5km,mb4.2/17, mb1 4.4/18,mb1mx4.3/22,mbtmp4.6/18,Error ellipse: s-maj=16.5km s-min=11.6km az=142.0*
*NEIC **16** 21:47:36.3±0.3,5282N×17372E,mb4.5/36,Error ellipse: s-maj=7.6km s-min=4.5km az=185.0*
NEIC Felt on Shemya.
ISC 16 21:47:36.1±0.5,5285N±008×17373E±008,h82km±5km,
h81km±3.8km:pP-P,n190,σ0°77/190,mb4.5/69,13C-13D,
Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.25**	**118**	P	**Pn**	**21 47 48.4**	**0.0**
SMY				S	**Sn**	**21 47 57.3**	**-0.2**
AMKA	**Amchitka**	**3.74**	**111**	P	**Pn**	**21 48 32.1**	**+0.6**
AMKA				S	**Sn**	**21 49 10.2**	**-4.1**
ATKA	**Atka Island**	**7.40**	**90**	P	**Pn**	**21 49 22.2**	**+0.8**
MA2	**Magadan**	**14.39**	**307**	*e*P	**Pn**	**21 51 01.3**	**+5.6**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s						
BILL	**Bilibino**	**15.66**	**350**	*d* iP	**Pn**	**21 51 13.3**	**+1.4**
BILL				pmax	pmax		
	comp=Z,18nm,1.6s						
TTA	**Tatalina**	**18.80**	**46**	*e*P	**Pn**	**21 51 50.9**	**+0.6**
KDAK	**Kodiak Island**	**19.66**	**62**	P	**Pn**	**21 51 58.1**	**-2.3**
	comp=Z,4.6nm,0.3s,baz=278,slow=4.6,SNR=16						
SML	**Sawmill**	**22.05**	**51**	*e*P	**P**	**21 52 23.4**	**-0.6**
SML				*e*		21 52 47.7	
MCK	**McKinley**	**22.09**	**46**	*e*P	**P**	**21 52 24.5**	**+0.1**
MCK				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.5						
MCK	**McKinley**	**22.09**	**46**	*e*P	**P**	**21 52 24.5**	**+0.1**
	comp=Z,19nm,0.7s,mb4.5						
COLA	**College**	**22.80**	**43**	*e*P	**P**	**21 52 32.2**	**+0.3**
COLA				pmax	pmax		
	comp=Z,33nm,0.8s,mb4.7						
COLA	**College**	**22.80**	**43**	*e*P	**P**	**21 52 32.2**	**+0.3**
	comp=Z,33nm,0.8s,mb4.7						
HABR	**Khabarovsk**	**24.69**	**275**	P	**P**	**21 52 50.3**	**+0.9**
HABR				*e*S	**S**	**21 57 00.2**	**-5.0**
YAK	**Yakutsk**	**24.95**	**309**	*e*P	**P**	**21 52 51.5**	**-0.2**
YAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.6						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,19nm,1.3s						
YAK	**Yakutsk**	**24.95**	**309**	*e*P	**P**	**21 52 50.7**	**-1.0**
	comp=E,34nm,0.5s,mb5.0						
DAWY	**Dawson**	**26.31**	**46**	*e*P	**P**	**21 53 04.1**	**0.0**
TIXI	**Tiksi**	**27.09**	**331**	*e*P	**P**	**21 53 10.2**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.2						
INK	**Inuvik**	**29.01**	**38**	P	**P**	**21 53 28.1**	**0.0**
	comp=Z,2.8nm,0.3s,mb4.3,baz=306,slow=12,SNR=9.6						
INK	**Inuvik**	**29.01**	**38**	P	**P**	**21 53 28.1**	**0.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
INK	**Inuvik**	**29.01**	**38**	*e*P	**P**	**21 53 27.9**	**-0.1**
MDJ	**Mudanjiang**	**29.84**	**272**	P	**P**	**21 53 40.3**	**+4.8**
CN2	**Changchun**	**32.79**	**274**	*e*P	**P**	**21 54 06.5**	**+5.1**
YKA	**Yellowknife Ar**	**37.56**	**46**	P	**P**	**21 54 42.4**	**+0.1**
	comp=Z,7.1nm,0.6s,mb4.7,baz=289,slow=7.9,SNR=18						
YKA				pP	pP	21 55 00.7	-1.0
	comp=Z,1.8nm,0.8s,baz=289,slow=8.2,SNR=3.3						
TLY	**Talaya**	**41.34**	**298**	*e*P	**P**	**21 55 13.7**	**-0.1**
ULN	**Ulaanbaatar**	**41.45**	**291**	*e*P	**P**	**21 55 15.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**41.45**	**291**	*e*P	**P**	**21 55 15.0**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.0						
SONM	**Songino Array**	**41.84**	**291**	P	**P**	**21 55 18.7**	**+0.8**
	comp=Z,7.1nm,0.6s,mb4.6,baz=60,slow=8.0,SNR=42						
ZAK	**Zakamensk**	**42.21**	**296**	*e*P	**P**	**21 55 20.3**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.1						
HHC	**Hu-ho-hao-te**	**42.87**	**280**	*e*P	**P**	**21 55 31.5**	**+5.3**
HHC				AP	pP	21 55 46.8	+0.8
HHC				XP	sP	21 55 54.1	-1.4
HHC				PP	PP	21 57 13.8	+6.7
HHC				S	**S**	**22 01 50.4**	**+5.7**
HHC				XS	sS	22 02 15.8	-2.8
HHC				SS	SS	22 04 54.8	-4.1
HHC				AMB	AMB		
	comp=Z,100nm,7.5s						
HHC				LR	LR		
	comp=N,150nm,13.1s						
HHC				LR	LR		
	comp=E,110nm,11.9s						
HHC				LR	LR		
	comp=Z,130nm,13.1s						
SSE	**Sheshan**	**43.53**	**261**	*e*P	**P**	**21 55 30.5**	**-1.0**
SSE				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
SSE				AMB	AMB		
	comp=Z,110nm,12.0s						
NJ2	**Nanjing**	**44.26**	**264**	*e*P	**P**	**21 55 41.4**	**+4.1**
NJ2				AP	pP	21 55 55.9	-1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
KRAR	**Krasnoyarsk**	**44.60**	**308**	*e*P	**P**	**21 55 39.4**	**-0.7**
KRAR				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**49.62**	**309**	P	**P**	**21 56 18.4**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=35,slow=9.4,SNR=3.1						
NVS	**Novosibirsk**	**49.80**	**311**	*i* P	**P**	**21 56 18.6**	**-1.8**
NVS				pmax	pmax		
	comp=N,7.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
PDAR	**Pinedale Array**	**50.17**	**69**	P	**P**	**21 56 23.3**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=342,slow=2.2,SNR=9.3						
PDAR				pP	pP	21 56 43.8	+0.3
	comp=Z,1.8nm,0.7s,baz=316,slow=4.1,SNR=6.2						
GTA	**Gaotai**	**50.73**	**286**	*e*P	**P**	**21 56 28.6**	**+1.1**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
ULM	**Lac du Bonnet**	**52.63**	**54**	P	**P**	**21 56 41.5**	**-0.2**
	comp=Z,4.4nm,0.5s,mb4.7,baz=310,slow=8.6,SNR=14						
CD2	**Chengdu**	**54.20**	**275**	*e*P	**P**	**21 56 54.4**	**+1.3**
CD2				PP	PP	21 58 57.3	+1.7
CD2				S	**S**	**22 04 28.3**	**+4.3**
CD2				SS	SS	22 08 07.4	+0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,80nm,5.6s						
CD2				LR	LR		
	comp=N,150nm,18.0s						
CD2				LR	LR		
	comp=Z,100nm,15.6s						
KURK	**Kurchatov**	**54.59**	**309**	*d* iP	**P**	**21 56 55.5**	**-0.5**
WMQ	**Urumqi**	**54.62**	**298**	P	**P**	**21 56 56.6**	**+0.4**
KEV	**Kevo**	**55.33**	**347**	*e*p	**P**	**21 57 00.3**	**-1.0**
	comp=Z,3.9nm,0.5s,mb4.7						
KEV	**Kevo**	**55.33**	**347**	*e*P	**P**	**21 57 00.3**	**-1.0**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**55.44**	**303**	P	**P**	**21 57 01.2**	**-0.9**
	comp=Z,3.0nm,0.3s,mb4.8,baz=48,slow=6.9,SNR=120						
ARCES	**ARCESS Array B**	**55.74**	**347**	P	**P**	**21 57 03.2**	**-1.0**
	comp=Z,3.2nm,0.4s,mb4.7,baz=41,slow=8.2,SNR=46						
LVZ	**Lovozero**	**55.77**	**343**	*e*P	**P**	**21 57 03.4**	**-1.1**
LVZ				pmax	pmax		
	comp=Z,80nm,2.2s,mb5.4						
CHKZ	**Chkalovo**	**56.14**	**316**	*e*P	**P**	**21 57 05.7**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**56.14**	**316**	*e*P	**P**	**21 57 05.7**	**-1.4**
	comp=Z,6.3nm,0.7s,mb4.8						
EYMN	**Ely**	**56.32**	**54**	*e*P	**P**	**21 57 08.0**	**-0.3**
	comp=Z,3.8nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**57.34**	**316**	*e*P	**P**	**21 57 15.1**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
ZRNK	**Zerenda**	**57.34**	**316**	*e*P	**P**	**21 57 15.1**	**-0.5**
	comp=Z,11nm,0.6s,mb5.1						
ARU	**Arti**	**58.82**	**324**	⇑*i*P	**P**	**21 57 25.8**	**-0.1**
ARU				*e*PPP		22 01 01.7	
ARU				*e*S	**S**	**22 05 18.4**	**-6.6**
ARU				*e*		22 07 11.5	
ARU				*e*SS	SS	22 09 12.2	-7.2
ARU				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
JOF	**Joensuu**	**60.86**	**341**	*e*p	**P**	**21 57 38.9**	**-1.0**
	comp=Z,8.0nm,0.5s,mb5.0						
KLMR	**Klimovskoe**	**60.91**	**336**	*e*P	**P**	**21 57 40.1**	**-0.1**
KLMR				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.9						
SCHQ	**Schefferville**	**61.58**	**35**	P	**P**	**21 57 44.3**	**-0.4**
	comp=Z,7.7nm,0.6s,mb4.9,baz=312,slow=6.9,SNR=14						
SCHQ				pP	pP	21 58 07.1	+1.5
	comp=Z,3.8nm,0.6s,baz=317,slow=7.6,SNR=3.7						
AAK	**Ala-Archa**	**62.31**	**305**	*e*P	**P**	**21 57 48.8**	**-0.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KAF	**Kangasniemi**	**62.52**	**343**	*e*p	**P**	**21 57 49.8**	**-1.3**
	comp=Z,8.1nm,0.3s,mb5.1,baz=18,slow=6.0						
KAF	**Kangasniemi**	**62.52**	**343**	*e*P	**P**	**21 57 49.8**	**-1.3**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb5.1						
LSA	**Lhasa**	**62.61**	**284**	*e*P	**P**	**21 57 53.7**	**+2.1**
LSA				*e*PP	pP	21 58 13.8	+1.2
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**62.61**	**284**	*e*P	**P**	**21 57 53.7**	**+2.0**
	comp=Z,2.4nm,0.6s,mb4.3						
LSA				*e*pP	pP	21 58 13.8	+1.1
FINES	**FINESS Array B**	**63.19**	**343**	P	**P**	**21 57 54.6**	**-0.9**
	comp=Z,2.8nm,0.3s,mb4.7,baz=21,slow=6.5,SNR=75						
FINES	**FINESS Array B**	**63.19**	**343**	*i* P	**P**	**21 57 54.9**	**-0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ORR	**Orenburg**	**64.00**	**323**	P	**P**	**21 58 00.6**	**-0.2**
ORR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
NB2	**NORSAR Subarra**	**65.61**	**351**	P	**P**	**21 58 10.4**	**-0.9**
	comp=Z,9.7nm,0.9s,mb4.6,baz=11,slow=6.5						
NB2	**NORSAR Subarra**	**65.61**	**351**	P	**P**	**21 58 10.4**	**-0.9**
NB2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
NOA	**NORSAR Array B**	**65.61**	**351**	P	**P**	**21 58 10.7**	**-0.6**
	comp=Z,6.1nm,0.8s,mb4.5,baz=12,slow=6.5,SNR=29						
OBN	**Obninsk**	**66.72**	**335**	⇓*i*P	**P**	**21 58 18.1**	**-0.3**
OBN				*e*PP	pP	21 58 44.7	+5.1
OBN				*e*		22 00 51.3	
OBN				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
AKASG	**Malin Array Be**	**72.57**	**337**	P	**P**	**21 58 54.1**	**-0.2**
	comp=Z,9.7nm,0.4s,mb5.0,baz=23,slow=6.0,SNR=23						
KIV	**Kislovodsk**	**74.79**	**326**	*e*P	**P**	**21 59 06.5**	**-0.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
CLL	**Collm**	**74.96**	**348**	⇓*i*P	**P**	**21 59 07.6**	**-0.7**
	comp=Z,4.0nm,0.8s,mb4.2						
CLL	**Collm**	**74.96**	**348**	⇓*i*P	**P**	**21 59 07.6**	**-0.7**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
KWP	**Kalwaria**	**74.99**	**341**	*e*P	**P**	**21 59 09.5**	**+1.0**
BRG	**Berggiesshubel**	**75.26**	**347**	*e*P	**P**	**21 59 09.8**	**-0.2**
	comp=Z,1.5nm,0.8s,mb3.8						
BRG	**Berggiesshubel**	**75.26**	**347**	*e*P	**P**	**21 59 09.8**	**-0.2**
BRG				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
UPC	**Upice**	**75.31**	**346**	*e*P	**P**	**21 59 10.7**	**+0.4**
DPC	**Dobruska-Polom**	**75.42**	**345**	*e*P	**P**	**21 59 11.2**	**+0.3**
DPC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
DPC	**Dobruska-Polom**	**75.42**	**345**	*e*P	**P**	**21 59 11.2**	**+0.3**
	comp=Z,2.3nm,0.7s,mb4.0						
STHS	**Stebnicka Huta**	**75.48**	**342**	*e*P	**P**	**21 59 12.7**	**+1.4**
STHS				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.4						
STHS	**Stebnicka Huta**	**75.48**	**342**	*e*P	**P**	**21 59 12.7**	**+1.4**
	comp=Z,14nm,

TIRR	Tirgusor	78.59 335	⇑P		P	21 59 29.4 +0.6
FLN	La Foliniere	78.65 356	eP		P	21 59 29.0 0.0
LDF	La Druitiere	78.80 356	eP		P	21 59 29.6 -0.3
HAU	Haudompre	78.95 351	eP		P	21 59 31.3 +0.6
GRR	Gorron	79.04 356	eP		P	21 59 30.7 -0.5
	comp=Z,10nm,0.7s,mb4.5					
GRR	Gorron	79.04 356	eP		P	21 59 30.7 -0.5
GRR			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5					
GRR	Gorron	79.04 356	eP		P	21 59 30.7 -0.5
	comp=Z,5.2nm,0.7s,mb4.5					
PKSM	Moragy	79.04 343	⇑iP		P	21 59 31.0 -0.2
PKSM	Moragy	79.04 343	⇑P		P	21 59 31.0 -0.2
BZS	Buzias	79.04 340	⇓iP		P	21 59 31.7 +0.5
BZS	Buzias	79.04 340	⇓P		P	21 59 31.7 +0.5
HINF	Hinteralfeld	79.09 351	eP		P	21 59 30.8 -0.7
ROSF	Rostrenen	79.16 358	eP		P	21 59 31.5 -0.4
SGMF	Saint Gilles	79.23 357	eP		P	21 59 31.9 -0.3
	comp=Z,7.1nm,0.6s,mb4.4					
SGMF	Saint Gilles	79.23 357	eP		P	21 59 31.9 -0.3
SGMF			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4					
SGMF	Saint Gilles	79.23 357	eP		P	21 59 31.9 -0.3
	comp=Z,3.5nm,0.6s,mb4.4					
LOR	Lormes	79.89 353	eP		P	21 59 35.4 -0.4
	comp=Z,8.6nm,0.8s,mb4.3					
LOR	Lormes	79.89 353	eP		P	21 59 35.4 -0.4
LOR			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3					
LOR	Lormes	79.89 353	eP		P	21 59 35.4 -0.4
	comp=Z,4.3nm,0.8s,mb4.3					
HYF	Humbligny	79.97 354	eP		P	21 59 36.3 0.0
SSF	Saint Saulge	80.12 353	eP		P	21 59 37.5 +0.5
	comp=Z,2.8nm,0.5s,mb4.0					
SSF	Saint Saulge	80.12 353	eP		P	21 59 37.5 +0.5
SSF			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9					
SSF	Saint Saulge	80.12 353	eP		P	21 59 37.5 +0.5
	comp=Z,1.4nm,0.5s,mb4.0					
WRA	Warramunga Arr	80.13 217	P		P	21 59 36.6 -0.5
	comp=Z,4.0nm,0.8s,mb4.3,baz=33,slow=6.1,SNR=22					
WRA			pP	pP		21 59 58.8 -0.2
	comp=Z,1.1nm,0.7s,baz=32,slow=5.9,SNR=6.1					
CABF	La Chapelle	80.36 351	eP		P	21 59 38.2 -0.1
AVF	Avril sur Loir	80.40 353	eP		P	21 59 38.2 -0.4
	comp=Z,6.9nm,0.9s,mb4.2					
AVF	Avril sur Loir	80.40 353	eP		P	21 59 38.2 -0.4
AVF			pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1					
AVF	Avril sur Loir	80.40 353	eP		P	21 59 38.2 -0.4
	comp=Z,3.5nm,0.9s,mb4.2					
SMF	Signal de Mont	80.51 353	eP		P	21 59 38.8 -0.3
	comp=Z,5.0nm,0.6s,mb4.2					
SMF	Signal de Mont	80.51 353	eP		P	21 59 38.8 -0.3
SMF			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3					
SMF	Signal de Mont	80.51 353	eP		P	21 59 38.8 -0.3
	comp=Z,2.5nm,0.6s,mb4.2					
MFF	Saint Martin d	80.79 356	eP		P	21 59 40.4 -0.2
	comp=Z,6.0nm,0.8s,mb4.2					
MFF	Saint Martin d	80.79 356	eP		P	21 59 40.4 -0.2
MFF			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2					
MFF	Saint Martin d	80.79 356	eP		P	21 59 40.4 -0.2
	comp=Z,3.0nm,0.8s,mb4.2					
TCF	Toulx Ste Croi	80.98 354	eP		P	21 59 41.4 -0.2
	comp=Z,4.0nm,0.6s,mb4.1					
TCF	Toulx Ste Croi	80.98 354	eP		P	21 59 41.4 -0.2
TCF			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1					
TCF	Toulx Ste Croi	80.98 354	eP		P	21 59 41.4 -0.2
	comp=Z,2.0nm,0.6s,mb4.1					
LPG	La Plagne	81.40 351	eP		P	21 59 44.9 +1.0
	comp=Z,7.1nm,0.8s,mb4.2					
LPG	La Plagne	81.40 351	eP		P	21 59 44.9 +1.0
LPG			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3					
LPG	La Plagne	81.40 351	eP		P	21 59 44.9 +1.0
	comp=Z,3.5nm,0.8s,mb4.2					
BRTR	Keskin Array B	81.53 330	P		P	21 59 45.0 +0.4
	comp=Z,3.5nm,0.7s,mb4.3,baz=50,slow=2.8,SNR=26					
BRTR	Keskin Array B	81.53 330	iP		P	21 59 45.2 +0.6
BRTR			pmax	pmax		
	comp=Z,4.0nm,0.7s					
VTS	Vitosha	81.59 338	⇑iP		P	21 59 45.3 +0.4
VTS	Vitosha	81.59 338	⇑P		P	21 59 45.3 +0.4
ORIF	Oris-en-Rattie	82.06 351	eP		P	21 59 48.1 +0.8
	comp=Z,9.8nm,0.9s,mb4.4					
ORIF	Oris-en-Rattie	82.06 351	eP		P	21 59 48.1 +0.8
ORIF			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3					
ORIF	Oris-en-Rattie	82.06 351	eP		P	21 59 48.1 +0.8
	comp=Z,4.9nm,0.9s,mb4.3					
MBDF	Montbardon	82.16 351	eP		P	21 59 49.3 +1.4
	comp=Z,1.1nm,0.7s,mb4.5					
MBDF	Montbardon	82.16 351	eP		P	21 59 49.3 +1.4
MBDF			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5					
MBDF	Montbardon	82.16 351	eP		P	21 59 49.3 +1.4
	comp=Z,5.4nm,0.7s,mb4.5					
VIVF	Saint-Julien-l	82.22 352	eP		P	21 59 48.5 +0.3
	comp=Z,4.2nm,0.7s,mb4.1					
VIVF	Saint-Julien-l	82.22 352	eP		P	21 59 48.5 +0.3
VIVF			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1					
VIVF	Saint-Julien-l	82.22 352	eP		P	21 59 48.5 +0.3
	comp=Z,2.1nm,0.7s,mb4.1					
CAF	Calviac	82.34 354	eP		P	21 59 49.1 +0.3
	comp=Z,7.3nm,0.8s,mb4.2					
CAF	Calviac	82.34 354	eP		P	21 59 49.1 +0.3
CAF			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3					
CAF	Calviac	82.34 354	eP		P	21 59 49.1 +0.3
	comp=Z,3.7nm,0.8s,mb4.3					
LFF	La Frestale	82.41 355	eP		P	21 59 49.1 0.0
	comp=Z,7.9nm,0.7s,mb4.4					
LFF	La Frestale	82.41 355	eP		P	21 59 49.1 0.0
LFF			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4					
LFF	La Frestale	82.41 355	eP		P	21 59 49.1 0.0
	comp=Z,4.0nm,0.7s,mb4.4					
SMRF	Simiane la Rot	83.02 351	eP		P	21 59 53.5 +1.2
	comp=Z,16nm,1.0s,mb4.5					
SMRF	Simiane la Rot	83.02 351	eP		P	21 59 53.5 +1.2
	comp=Z,16nm,1.0s,mb4.8					
ASAR	Alice Springs	83.70 216	P		P	21 59 55.8 0.0
	comp=Z,1.3nm,0.5s,mb4.0,baz=22,slow=5.0,SNR=14					
ASAR			pP	pP		22 00 17.5 -0.3
	comp=Z,0.8nm,0.8s,baz=346,slow=2.6,SNR=3.0					
MTLF	Montolieu	83.91 354	eP		P	21 59 57.3 +0.4
	comp=Z,9.0nm,0.7s,mb4.4					
MTLF	Montolieu	83.91 354	eP		P	21 59 57.3 +0.4
MTLF			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5					
MTLF	Montolieu	83.91 354	eP		P	21 59 57.3 +0.4
	comp=Z,4.5nm,0.7s,mb4.4					
PGF	Pioggiola	84.07 349	eP		P	21 59 57.8 +0.1
SJPF	Ste Jean	84.32 356	eP		P	21 59 59.6 +0.6
	comp=Z,9.9nm,0.9s,mb4.3					
SJPF	Ste Jean	84.32 356	eP		P	21 59 59.6 +0.6
SJPF			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3					
SJPF	Ste Jean	84.32 356	eP		P	21 59 59.6 +0.6
	comp=Z,4.9nm,0.9s,mb4.3					
ETSF	Etsaut	84.50 356	eP		P	22 00 01.1 +1.2
	comp=Z,15nm,0.9s,mb4.6					
ETSF	Etsaut	84.50 356	eP		P	22 00 01.1 +1.2
ETSF			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6					
ETSF	Etsaut	84.50 356	eP		P	22 00 01.1 +1.2
	comp=Z,7.4nm,0.9s,mb4.6					
STKA	Stephens Creek	88.90 207	P		P	22 00 19.1 -2.2
	comp=Z,3.2nm,0.6s,mb4.5,baz=318,slow=7.0,SNR=9.4					
TORD	Torodi Ar. Bea	113.92 352	PKKPbc	PKKPbc		22 16 53.4 +6.2
	comp=Z,0.9nm,0.6s,baz=186,slow=3.6,SNR=6.2					
USHA	Ushuaia	144.32 119	PKP	PKPdf		22 06 59.9 -2.7
	comp=Z,2.4nm,0.7s,baz=257,slow=5.1,SNR=3.8					
MAW	Mawson	144.80 218	PKP	PKPdf		22 07 00.8 -2.6
	comp=Z,5.8nm,0.7s,baz=93,slow=3.4,SNR=14					
MAW			pPKP	pPKPdf		22 07 23.7 -2.9
	comp=Z,1.7nm,0.5s,baz=133,slow=3.7,SNR=3.0					
MAW	Mawson	144.80 218	PKIKP	PKPdf		22 07 00.8 -2.6
MAW						22 07 23.7
MAW			pmax	pmax		
	comp=Z,6.0nm,0.7s					
BOSA	Boshof	146.44 304	PKPbc	PKPbc		22 07 07.3 -0.4
	comp=Z,1.8nm,1.0s,baz=14,slow=4.2,SNR=3.2					
BOSA			pPKPbc	pPKPbc		22 07 29.8 -0.8
	comp=Z,1.2nm,0.7s,baz=0.0,slow=4.0,SNR=1.8					
SNAA	Sanae	161.04 183	PKPab	PKPab		22 08 06.9 -3.2
	comp=Z,0.1nm,0.5s,baz=217,slow=10,SNR=5.5					

*NEIC **16** 22:23:59.0, 3544S×7257W, h31km, ML3.3(GUC), After GUC.*

GUC 16 22:23:59.0±0.6, 3544S×7257W, h31km±1km, MD3.5, ML3.3, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCH	Constitucion	0.17	52	⇑iP	Pb	22 24 05.0	0.0
CTCH				i S	Sb	22 24 09.2	+0.1
CTCH				AML	AML	22 24 10.9	
	comp=N,13μm,0.3s						
CTCH	Constitucion	0.17	52	⇑iP	Pb	22 24 05.0	0.0
CTCH				i S	Sb	22 24 09.2	+0.1
CNCO	Chanco	0.30	174	⇑iP	Pb	22 24 06.5	0.0
CNCO				i S	Sb	22 24 11.8	+0.1
CNCO				AML	AML	22 24 12.4	
	comp=E,2μm,0.4s						
CNCO	Chanco	0.30	174	⇑iP	Pb	22 24 06.5	0.0
CNCO				i S	Sb	22 24 11.8	+0.1
TALC	Talca	0.77	88	i P	Pn	22 24 13.0	-0.7
TALC				i S	Sb	22 24 24.0	0.0
NICH	Los Niches	1.18	69	⇑iP	Pn	22 24 19.8	+0.4
NICH				i S	Sn	22 24 35.8	+1.4
SFDO	San Fernando	1.52	58	⇓iP	Pn	22 24 24.7	+0.7
SFDO				i S	Sn	22 24 45.0	+2.3
LNV	Longovilo	1.76	33	⇑iP	Pn	22 24 28.6	+1.3
LNV				i S	Sn	22 24 50.9	+2.3
CACH	El Canelo	2.09	52	i P	Pn	22 24 33.6	+1.7
CACH				i S	Sn	22 25 30.3	+3.6
CICH	Cipreses	2.09	58	⇑iP	Pn	22 24 33.7	+1.9
CICH				i S	Sn	22 24 59.6	+2.8
LCCH	Las Cruces	2.12	23	i P	Pn	22 24 33.6	+1.3
LCCH				i S	Sn	22 25 00.1	+2.5
LMEL	Las Melosas	2.52	52	AML	AML	22 25 20.0	
	comp=N,176nm,0.2s						
CLCH	Cerro Calan	2.64	40	AML	AML	22 25 32.6	
	comp=E,218nm,0.7s						
FCH	Farellones	2.83	43	AML	AML	22 25 32.0	
	comp=N,82nm,0.5s						

*NEIC **16** 22:34:35.6, 3872N×2276E, h19km, MD3.3(ATH), After ATH.*
*ATH **16** 22:34:35.6, 3872N×2276E, h19km±1km, MD3.3/9, ML3.2*
*ISCJB **16** 22:34:36.2±0.5, 3869N±003×2275E±004, h16km±7km, Error ellipse: s-maj=4.9km s-min=4.5km az=68.9*
*THE **16** 22:34:36.2, 3874N×2276E, h1km, ML3.0*
*CSEM **16** 22:34:37.7±0.1, 3874N×2281E, h40km, ML3.2, Error ellipse: s-maj=3.4km s-min=2.7km az=89.0*

ISC 16 22:34:35.9±0.5, 3871N±003×2275E±003, h10km±4km, n26, σ0°79/34, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.20	107	ePB	Pg	22 34 40.4	+0.2
LKR				eSB	Sg	22 34 44.4	+1.3
AGG	Agios Georgios	0.45	314	ePg	Pg	22 34 44.3	-0.5
AGG				eSg	Sg	22 34 50.6	-0.1
NEO	Neokhori	0.70	32	ePN	Pg	22 34 49.0	-0.5
NEO				eSN	Sg	22 34 59.1	+0.5
XOR	Xorichti	0.74	28	ePg	Pg	22 34 49.7	-0.5
XOR				eSg	Sg	22 35 00.4	+0.5
EVR	Evrytania	0.76	286	ePN	Pg	22 34 50.3	-0.4
EVR				eSN	Sg	22 35 01.7	+1.1
MGER	Gerania Oros	0.83	151	ePB	Pg	22 34 51.0	-0.9
AOS	Alonnisos	0.99	62	ePg	Pg	22 34 54.8	-0.3
AOS				eSg	Sg	22 35 08.6	+0.6
ATH	Athens Observa	1.06	134	ePN	Pn	22 34 55.5	-1.3
PTL	Penteli	1.10	127	ePN	Pn	22 34 56.5	-0.8
NAIG	Nisos Aigina	1.11	148	ePN	Pn	22 34 57.0	-0.6
RLS	Riolos of Patr	1.20	238	ePN	Pn	22 34 58.3	-0.4
LIT	Litokhoron	1.40	352	ePg	Pg	22 35 01.4	-1.4
LIT				eSg	Sg	22 35 21.8	+0.7
PAIG	Paliouri	1.41	30	ePg	Pg	22 35 01.2	-1.8
PAIG				eSg	Sg	22 35 21.3	-0.1
MEV	Metsovon	1.59	313	ePg	Pn	22 35 03.8	-0.4
LKD	Levkas	1.64	271	ePb	Pb	22 35 06.0	-0.3
ITM	Ithomi	1.66	203	ePN	Pn	22 35 06.5	+1.4
PLG	Polygyros	1.75	18	ePB	Pn	22 35 05.9	-0.3
OUR	Ouranopolis	1.88	30	ePb	Pn	22 35 08.1	0.0
THE	Thessaloniki	1.93	5	ePb	Pn	22 35 08.1	-0.6
VLI	Veliai	2.00	176	ePN	Pn	22 35 11.0	+1.3
SOH	Sokhos	2.16	12	ePn	Pn	22 35 12.7	+0.7
SOH	Sokhos	2.16	12	P	Pn	22 35 12.6	+0.7
GRG	Griva	2.26	353	ePn	Pn	22 35 13.5	+0.2
FNA	Florina	2.33	333	ePn	Pn	22 35 15.4	+1.2
KNT	Kendrikon	2.45	3	ePn	Pn	22 35 16.6	+0.6
CHOS	Chios island	2.61	96	ePn	Pn	22 35 18.7	+0.6

*ISCJB **16** 22:36:07.5±0.3, 4333N±002×1802E±003, h10km, Error ellipse: s-maj=3.7km s-min=2.0km az=70.5*
*CSEM **16** 22:36:07.2±0.1, 4347N×1806E, h2km, ML2.8, Error ellipse: s-maj=2.2km s-min=1.7km az=35.0*
*NEIC **16** 22:36:09.7, 4323N×1807E, h11km, ML2.8(PDG), After PDG.*
*PDG **16** 22:36:09.7±0.2, 4323N×1807E, h11km*
*PRU **16** 22:36:10.1, 4354N×1827E, h0km*

ISC 16 22:36:08.8±0.3, 4332N±002×1802E±003, h10km, n45, σ1°19/71, 15C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	Bratogost	0.57	137	⇑iPg	Pg	22 36 18.7	-1.1
BRY				eSg	Sg	22 36 26.8	-0.5
UPM	Unac-Piva	0.66	100	⇑iPg	Pg	22 36 20.8	-0.8
UPM				eSg	Sg	22 36 31.2	+0.9
NKY	Niksic	0.88	125	⇑iPg	Pg	22 36 24.1	-1.6
NKY				eSg	Sg	22 36 37.8	+0.6
HCY	Herceg Novi	0.94	158	⇓iPg	Pg	22 36 25.1	-1.7
HCY				eSg	Sg	22 36 39.3	+0.2
PLE	Pljevlja	1.01	89	ePg	Pg	22 36 27.8	-0.4
PLE				eSg	Sg	22 36 42.7	+1.5
BUM	Brajici-Budva	1.21	147	⇑iPg	Pg	22 36 30.6	-1.3
BUM				eSg	Sg	22 36 48.2	+0.6
BUM	Brajici-Budva	1.21	147	⇑iPg	Pg	22 36 30.6	-1.3
BUM				eSg	Sg	22 36 48.2	+0.6
TTG	Podgorica	1.27	134	⇑iPg	Pg	22 36 31.1	-2.2
TTG				eSg	Sg	22 36 50.9	+1.1
SJES	Sjenica	1.41	91	Sg	Sg	22 36 56.1	+2.0
SJES	Sjenica	1.41	91	Pg	Pg	22 36 35.9	+0.1
IVA	Berane	1.45	107	⇑iPg	Pg	22 36 35.6	-1.0
IVA				eSg	Sg	22 36 57.0	+1.6
PVY	Plav	1.61	116	ePg	Pg	22 36 38.1	-1.5
PVY				eSg	Sg	22 37 00.9	+0.4
ULC	Ulcinj	1.63	146	⇓iPg	Pg	22 36 38.0	-2.1
ULC				eSg	Sg	22 37 00.6	-0.6
DIVS	Divcibare	1.63	61	⇑iPn	Pn	22 36 36.7	-0.8
DIVS				Sn	Sn	22 37 01.5	+2.9
BCI	Bajram Curri	1.78	121	i Pn	Pn	22 36 41.6	+2.0
BCI				i Sn	Sn	22 37 07.1	+4.8
GRUS	Gruza	2.04	73	i Pn	Pn	22 36 42.3	-0.9
GRUS				Sg	Sg	22 37 15.3	+0.8
FGMS	Monte Sant'Ang	2.22	224	Pn	Pn	22 36 46.6	+1.0
MS1	Monte Sant'Ang	2.22	224	ePn	Pn	22 36 46.6	+0.9
FGSL	Fruska Gora	2.25	34	Pn	Pn	22 36 45.2	-0.8
RGNG	Rignano Grg	2.43	228	Pn	Pn	22 36 49.9	+1.3
NVLJ	Novalja	2.59	300	i Pn	Pn	22 36 50.9	+0.2
NVLJ				i Sn	Sn	22 37 24.0	+1.7
NVLJ	Novalja	2.59	300	i Pn	Pn	22 36 50.9	+0.2
NVLJ				i Sn	Sn	22 37 23.9	+1.7
SG1	Sgolgore (BA)	2.67	202	ePn	Pn	22 36 50.5	-1.3
PKSM	Moragy	2.93	9	⇓iP	Pn	22 36 53.9	-1.5
PKSM	Moragy	2.93	9	⇓ePn	Pn	22 36 53.9	-1.5
CII	Carovilli	3.17	241	Pn	Pn	22 36 59.3	+0.6
BZS	Buzias	3.45	47	⇓iP	Pn	22 37 01.3	-1.3
SDI	San Donato	3.50	244	Pn	Pn	22 37 03.7	+0.5
CING	Cingoli	3.52	273	Pn	Pn	22 37 03.5	+0.1
VVLD	Villa Vallelon	3.55	247	Pn	Pn	22 37 04.8	+0.9
VOY	Vojsko	4.00	314	ePn	Pn	22 37 11.2	+1.1
VOY				eSn	Sn	22 38 00.3	+3.3
OBKA	Obir	4.03	324	⇓iPn	Pn	22 37 11.0	+0.5
OBKA				⇑i Sn	Sn	22 37 56.7	-1.1
OBKA	Obir	4.03	324	⇓iPn	Pn	22 37 11.0	+0.5
OBKA				i Sn	Sn	22 37 56.7	-1.1
ARSA	Arzberg	4.31	337	⇓iPn	Pn	22 37 14.2	-0.2
ARSA				⇑i Sn	Sn	22 38 02.1	-2.5
PTCC	Patocco-Chiusa	4.53	315	Pn	Pn	22 37 17.8	+0.4
FVI	Forni Avoltri	4.96	313	Pn	Pn	22 37 24.6	+1.4
MOA	Molln	5.24	331	⇓iSn	Sn	22 38 26.1	-1.5
MOA	Molln	5.24	331	⇑iPn	Pn	22 37 26.7	-0.5
MOA				⇓iSn	Sn	22 38 31.6	+4.0
MOA	Molln	5.24	331	⇑iPn	Pn	22 37 26.7	-0.5
MOA				i Sn	Sn	22 38 26.1	-1.5
WTTA	Wattenberg	5.98	313	⇓iPn	Pn	22 37 38.0	+0.7
WTTA				⇓iSn	Sn	22 38 45.0	-0.9
WTTA	Wattenberg	5.98	313	Pn	Pn	22 37 38.0	+0.6
MOTA	Moosalm	6.32	312	⇑iSn	Sn	22 38 53.9	-0.3
MOTA	Moosalm	6.32	312	⇑iPn	Pn	22 37 42.9	+1.0
MOTA				⇓iSn	Sn	22 38 57.8	+3.6
MOTA	Moosalm	6.32	312	⇑iPn	Pn	22 37 42.9	+1.0
MOTA				i Sn	Sn	22 38 53.9	-0.3
KHC	Kasperske Hory	6.58	334	ePN	Pn	22 37 46.2	+0.7
KHC				eSN	Sn	22 38 57.0	-3.6

*IDC **16** 22:43:13.2±1.5, 281N×12937E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=103.3km s-min=18.4km az=72.0*
*ISCJB **16** 22:43:16.9±1.3, 27N±02×129.1E±06, h33km, mb4.0/5, Error ellipse: s-maj=82.6km s-min=16.5km az=149.1*
*NEIC **16** 22:43:18.8±1.2, 273N×12927E, h35km, Error ellipse: s-maj=76.2km s-min=15.7km az=75.0*

ISC 16 22:43:19.1±1.3, 27N±02×1293E±05, h35km, n7, σ1°02/7, mb3.9/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.01	190	P	P	22 47 59.6	+0.1
	1.4nm,0.8s,mb3.3,baz=23,slow=13,SNR=4.3						
WRA	Warramunga Arr	23.08	168	P	P	22 48 22.6	+1.0
	1.4nm,0.3s,mb3.9,baz=350,slow=10.0,SNR=8.9						
ASAR	Alice Springs	26.63	170	P	P	22 48 54.5	+0.3
	1.1nm,0.6s,mb3.5,baz=358,slow=8.5,SNR=8.5						
STKA	Stephens Creek	36.36	162	P	P	22 50 18.2	-1.5
	2.1nm,0.3s,mb4.5,baz=338,slow=7.8,SNR=9.3						
STKA	Stephens Creek	36.36	162	P	P	22 50 18.2	-1.5
SONM	Songino Array	49.07	340	P	P	22 52 04.0	+1.2
	0.4nm,0.5s,mb3.7,baz=149,slow=9.4,SNR=3.0						
MKAR	Makanchi Array	59.82	324	P	P	22 53 19.6	-1.2
	0.8nm,0.4s,mb4.1,baz=118,slow=8.3,SNR=25						

*ISCJB **16** 22:45:18.9±0.6, 3753N±003×2087E±005, h10km, Error ellipse: s-maj=5.9km s-min=3.9km az=101.7*
*NEIC **16** 22:45:18.8, 3754N×2095E, h12km, MD3.5(ATH), After ATH.*
*ATH **16** 22:45:18.8, 3754N×2095E, h12km±2km, MD3.5/13, ML3.6*
*THE **16** 22:45:18.5, 3751N×2082E, h3km, ML3.3*
*CSEM **16** 22:45:18.8±0.2, 3755N×2096E, h2km, ML3.6, Error ellipse: s-maj=4.4km s-min=2.6km az=41.0*

ISC 16 22:45:20.2±0.6, 3755N±003×2092E±005, h10km, n27, σ1°02/37, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.67	40	ePG	Pg	22 45 31.2	-2.0
RLS				eSB	Sg	22 45 41.3	-0.7
VLS	Valsamata	0.68	338	ePG	Pg	22 45 32.0	-1.4
VLS				eSB	Sg	22 45 42.9	+0.6
ITM	Ithomi	0.89	114	ePG	Pg	22 45 34.9	-2.4
LKD	Levkas	1.18	350	ePg	Pg	22 45 40.5	-2.4
LKD				eSg	Sg	22 45 59.3	+1.1
EVR	Evrytania	1.54	27	ePB	Pn	22 45 47.5	-0.2
VLI	Veliai	1.81	116	ePG	Pn	22 45 52.3	+0.8
AGG	Agios Georgios	1.85	37	ePb	Pn	22 45 51.2	-0.8
AGG				eSb	Sb	22 46 17.6	+0.4
MGER	Gerania Oros	1.91	76	ePN	Pn	22 45 53.0	+0.2
LKR	Lokris	1.98	56	ePN	Pn	22 45 53.8	0.0
IGT	Igoumenitsa	2.04	347	ePn	Pn	22 45 53.5	-1.0
IGT				eSn	Sn	22 46 20.2	+0.2
NAIG	Nisos Aigina	2.05	83	ePN	Pn	22 45 55.5	+0.7
KYTH	Kithira	2.12	126	ePN	Pn	22 45 56.5	+0.8
ATH	Athens Observa	2.26	78	ePN	Pn	22 45 58.5	+0.9
PTL	Penteli	2.39	77	ePB	Pn	22 45 59.0	-0.4
NEO	Neokhori	2.52	45	ePB	Pn	22 46 01.0	-0.3
XOR	Xorichti	2.55	44	ePn	Pn	22 46 01.4	-0.2
XOR				eSn	Sn	22 46 35.3	+2.6
LIT	Litokhoron	2.83	25	ePn	Pn	22 46 05.2	-0.3
LIT				eSn	Sn	22 46 41.3	+1.7
AOS	Alonnisos	2.84	54	ePn	Pn	22 46 05.2	-0.4
PAIG	Paliouri	3.21	41	ePn	Pn	22 46 09.7	-1.0
KARN	Karanos	3.23	131	ePn	Pn	22 46 10.6	-0.4
KARN				eSn	Sn	22 46 51.1	+1.7
PLG	Polygyros	3.44	34	ePN	Pn	22 46 13.5	-0.4
GRG	Griva	3.60	18	ePn	Pn	22 46 15.6	-0.3
OUR	Ouranopolis	3.67	40	ePn	Pn	22 46 16.4	-0.6
SOH	Sokhos	3.78	29	ePn	Pn	22 46 18.5	0.0
SOH				eSn	Sn	22 47 04.3	+1.2
KNT	Kendrikon	3.92	22	ePn	Pn	22 46 20.5	0.0
CUC	Castrocucco	4.67	303	Pn	Pn	22 46 32.4	+1.6
CUC				Sn	Sn	22 47 26.0	+0.9
SGO	Sicignano	5.30	306	Pn	Pn	22 46 38.9	-0.5

*LDG **

CAF			*e*Sn	Sn	23 13 14.9	-2.6
CAF			*e*Sg	Sg	23 13 20.6	-1.2
	1.9nm,0.2s					
CAF	**Calviac**	**1.85 360**	Pg	Pg	23 12 56.7	-1.2
CAF			Sn	Sn	23 13 14.9	-2.6
CAF			Lg		23 13 20.6	
	0.9nm,0.2s					
EPOB	**Poblet**	**1.88 203**	Pg	Pg	23 12 57.2	-1.2
	0.0nm,0.1s,SNR=7.9					
EPOB			Lg		23 13 20.8	
	1.1nm,0.2s,SNR=7.9					
ETSF	**Etsaut**	**1.94 266**	*e*Pn	Pn	23 12 53.9	-1.4
ETSF	**Etsaut**	**1.94 266**	*e*Pg	Pg	23 12 57.9	-1.7
ETSF			*e*Sn	Sn	23 13 17.1	-2.6
ETSF			*e*Sg	Sg	23 13 23.0	-1.7
	0.7nm,0.2s					
ETSF	**Etsaut**	**1.94 266**	Pn	Pn	23 12 53.9	-1.4
ETSF			Pg	Pg	23 12 57.9	-1.7
ETSF			Sn	Sn	23 13 17.1	-2.6
ETSF			Lg		23 13 23.0	
	0.3nm,0.2s					
LFF	**La Frestale**	**2.09 333**	*e*Sn	Sn	23 13 21.2	-2.3
LFF			*e*Sg	Sg	23 13 28.3	-1.4
	3.8nm,0.3s					
LFF	**La Frestale**	**2.09 333**	Sn	Sn	23 13 21.2	-2.3
LFF			Lg		23 13 28.3	
	1.9nm,0.3s					
ESAC	**San Caprasio**	**2.32 235**	Lg		23 13 36.4	
	6.1nm,0.3s,SNR=4.0					
ERTA	**Horta de San J**	**2.48 212**	Lg		23 13 40.7	
	0.8nm,0.2s,SNR=4.0					
VIVF	**Saint-Julien-I**	**2.59 46**	*e*Pn	Pn	23 13 02.7	-1.6
VIVF	**Saint-Julien-I**	**2.59 46**	*e*Pg	Pg	23 13 10.3	-1.7
VIVF			*e*Sg	Sg	23 13 43.9	-1.7
	1.8nm,0.2s					
VIVF	**Saint-Julien-I**	**2.59 46**	Pn	Pn	23 13 02.7	-1.6
VIVF			Pg	Pg	23 13 10.3	-1.7
VIVF			Lg		23 13 43.9	
	0.9nm,0.2s					

*NEIC **16** 23:26:55.9±1.9, 1471S×16708E, h208km±15km, mb4.2/10, Error ellipse: s-maj=16.7km s-min=10.7km az=208.0*
*IDC **16** 23:26:55.7±4.4, 1470S×167.16E, h213km±34km, mb3.8/7, mb1 3.9/8, mb1mx3.7/15, mbtmp4.4/8, Error ellipse: s-maj=37.9km s-min=20.3km az=42.0*
*ISCJB **16** 23:26:57.1±2.9, 148S±0.1×1670E±0.1, h229km±23km, mb4.0/11, Error ellipse: s-maj=27.0km s-min=16.5km az=77.9*

ISC 16 23:26:56.8±2.8, 148S±01×1671E±01, h214km±22km, n24, σ0$63/25, mb4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.30**	**185**	*e*P	**Pn**	**23 28 38.7**	**-2.3**
DZM				*e*S	**S**	**23 30 04.4**	**+0.3**
DZM	**Mont Dzumac**	**7.30**	**185**	P	**Pn**	**23 28 40.3**	**-0.7**
	6.0nm,0.3s,baz=34,slow=21,SNR=51						
DZM				S	**S**	**23 30 05.4**	**+1.4**
	0.3nm,0.3s,baz=343,slow=19,SNR=2.6						
PMG	**Port Moresby**	**20.19**	**283**	P	**P**	**23 31 15.6**	**+0.4**
	15nm,0.6s,baz=75,slow=13,SNR=4.2						
PMG	**Port Moresby**	**20.19**	**283**	*e*P	**P**	**23 31 15.2**	**0.0**
	28nm,0.9s						
CTA	**Charters Tower**	**20.56**	**252**	P	**P**	**23 31 19.3**	**+0.2**
	16nm,0.9s,baz=63,slow=8.3,SNR=6.1						
CTAO	**Charters Tower**	**20.56**	**252**	*e*P	**P**	**23 31 19.6**	**+0.6**
	16nm,1.0s						
STKA	**Stephens Creek**	**28.84**	**229**	*e*P	**P**	**23 32 35.6**	**+0.4**
	2.1nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**28.84**	**229**	P	**P**	**23 32 35.0**	**-0.2**
	2.4nm,0.4s,mb4.2,baz=50,slow=8.3,SNR=13						
WB2	**Warramunga Arr**	**31.63**	**256**	*e*P	**P**	**23 32 59.1**	**-0.6**
WRA	**Warramunga Arr**	**31.64**	**256**	P	**P**	**23 32 59.5**	**-0.3**
	3.0nm,0.5s,mb4.1,baz=86,slow=9.3,SNR=14						
AS31	**Alice Springs**	**32.49**	**249**	*e*P	**P**	**23 33 07.4**	**+0.2**
ASAR	**Alice Springs**	**32.49**	**249**	P	**P**	**23 33 07.3**	**+0.1**
	4.2nm,0.5s,mb4.2,baz=78,slow=9.3,SNR=81						
ASPA	**Alice Springs**	**32.50**	**249**	*e*P	**P**	**23 33 07.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.83**	**259**	*e*P	**P**	**23 34 09.9**	**+0.6**
	8.6nm,0.6s,mb4.4						
MBWA	**Marble Bar**	**45.36**	**255**	*e*P	**P**	**23 34 53.2**	**-0.5**
	5.4nm,0.7s,mb4.0						
NWAO	**Narrogin (SRO)**	**48.58**	**239**	P	**P**	**23 35 18.7**	**+0.2**
	16nm,1.1s,mb4.2						
VNDA	**Vanda**	**62.83**	**181**	P	**P**	**23 36 59.1**	**-0.6**
	0.9nm,0.8s,mb3.4,baz=335,slow=6.7,SNR=5.4						
VNDA	**Vanda**	**62.83**	**181**	*e*P	**P**	**23 36 59.2**	**-0.5**
	0.6nm,0.6s,mb3.4						
SBA	**Scott Base**	**63.11**	**180**	*e*P	**P**	**23 37 01.9**	**+0.4**
	3.3nm,0.8s,mb4.0						
QSPA	**South Pole Qui**	**75.27**	**180**	*e*P	**P**	**23 38 15.6**	**-0.6**
	1.5nm,0.6s,mb3.8						
MAW	**Mawson**	**81.79**	**202**	P	**P**	**23 38 51.8**	**0.0**
	1.3nm,0.6s,mb3.7						
MCMT	**McKenzie Canyo**	**93.39**	**45**	*e*P	**P**	**23 39 48.8**	**+1.2**
MKAR	**Makanchi Array**	**97.10**	**316**	P	**P**	**23 40 03.8**	**-0.7**
	0.4nm,0.7s,mb3.8,baz=92,slow=6.1,SNR=4.7						
ARCES	**ARCESS Array B**	**120.23**	**345**	PKP	PKPdf	23 45 20.1	-2.1
	1.4nm,0.8s,baz=80,slow=2.8,SNR=6.5						

*ISCJB **16** 23:46:34.3±6.9, 559S±0.1×274W±03, h102km±65km, mb4.2/10, Error ellipse: s-maj=31.1km s-min=15.5km az=108.1*
*NEIC **16** 23:46:39.7±3.5, 5596S×274.9W, h139km±31km, mb4.2/8, Error ellipse: s-maj=20.0km s-min=9.6km az=53.0*
*IDC **16** 23:46:39.3±6.0, 5603S×2762W, h131km±55km, mb3.9/7, mb1 4.1/8, mb1mx3.8/17, mbtmp4.4/8, Error ellipse: s-maj=30.1km s-min=14.7km az=52.0*

ISC 16 23:46:39.7±6.2, 560S±01×275W±03, h139km±60km, n24, σ0$67/16, mb4.1/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.84**	**156**	P	**P**	**23 50 48.3**	**-0.5**
	3.6nm,0.3s,baz=307,slow=11,SNR=624						
PMSA	**Palmer Station**	**19.82**	**229**	*e*P	**P**	**23 50 60.0**	**+0.6**
	88nm,1.2s						
QSPA	**South Pole Qui**	**34.24**	**180**	*e*P	**P**	**23 53 12.3**	**+0.1**
	11nm,0.5s,mb4.8						
CPUP	**Villa Florida**	**36.67**	**312**	PcP	PcP	23 55 52.3	-0.4
	0.8nm,0.5s,baz=125,slow=2.5,SNR=4.5						
MAW	**Mawson**	**40.27**	**144**	*e*P	**P**	**23 54 02.8**	**-0.2**
	3.0nm,0.6s,mb4.1						
MAW	**Mawson**	**40.27**	**144**	P	**P**	**23 54 03.1**	**+0.1**
	3.3nm,0.6s,mb4.2,baz=239,slow=9.2,SNR=11						
MAW				PcP	PcP	23 56 03.3	-0.7
	1.4nm,0.5s,baz=312,slow=3.3,SNR=2.9						
LVC	**Limon Verde**	**45.15**	**300**	P	**P**	**23 54 42.4**	**+0.1**
	2.1nm,0.4s,mb4.2,baz=200,slow=18,SNR=26						
LVC	**Limon Verde**	**45.15**	**300**	*e*P	**P**	**23 54 42.5**	**+0.3**
	2.3nm,0.3s,mb4.3						
SBA	**Scott Base**	**46.11**	**184**	*e*P	**P**	**23 54 50.3**	**+0.4**
	2.6nm,0.6s,mb4.0						
VNDA	**Vanda**	**46.61**	**183**	P	**P**	**23 54 53.7**	**-0.1**
	5.2nm,0.6s,mb4.3,baz=189,slow=5.9,SNR=78						
VNDA	**Vanda**	**46.61**	**183**	*e*P	**P**	**23 54 53.4**	**-0.4**
	5.3nm,0.6s,mb4.3						
SIV	**San Ignacio**	**47.44**	**314**	P	**P**	**23 54 59.0**	**-1.1**
	0.5nm,0.6s,mb3.3,baz=180,slow=8.1,SNR=3.0						
SIV				PcP	PcP	23 56 28.7	+0.4
	0.6nm,0.6s,baz=168,slow=13,SNR=4.3						
LPAZ	**La Paz**	**50.23**	**305**	P	**P**	**23 55 22.3**	**+0.9**
	0.8nm,0.4s,mb3.7,baz=162,slow=8.2,SNR=7.3						
LPAZ	**La Paz**	**50.23**	**305**	*e*P	**P**	**23 55 22.1**	**+0.7**
	1.0nm,0.4s,mb3.8						
SAML	**Samuel**	**54.66**	**315**	*e*P	**P**	**23 55 53.2**	**-0.9**
	1.1nm,0.7s,mb3.7						
TORD	**Torodi Ar. Bea**	**73.09**	**30**	P	**P**	**23 57 55.8**	**+1.2**
	3.3nm,0.7s,mb4.2,baz=199,slow=6.4,SNR=32						
TORD				pP	pP	23 58 27.3	-1.5
	1.3nm,0.6s,baz=200,slow=6.7,SNR=5.2						
ASAR	**Alice Springs**	**99.08**	**163**	P	**P**	**00 00 04.3**	**-0.5**
	1.0nm,0.6s,mb4.4,baz=186,slow=4.0,SNR=14						
ASAR				PP	PP	00 04 08.0	-0.8
	0.6nm,0.8s,baz=204,slow=9.0,SNR=4.5						
HWUT	**Hardware Ranch**	**120.27**	**300**	*e*PKPdf	PKPdf	00 05 12.9	-1.4
ARCES	**ARCESS Array B**	**130.96**	**22**	PKP	PKPdf	00 05 32.1	-2.5
	2.9nm,0.9s,baz=338,slow=1.3,SNR=7.5						
YKA	**Yellowknife Ar**	**136.04**	**318**	PKP	PKPdf	00 05 42.3	-1.8
	1.0nm,0.6s,baz=127,slow=2.2,SNR=7.7						
MKAR	**Makanchi Array**	**137.01**	**72**	PKP	PKPdf	00 05 46.5	+0.6
	0.2nm,0.6s,baz=270,slow=4.5,SNR=3.5						
INK	**Inuvik**	**145.67**	**321**	PKPbc	PKPbc	00 06 00.4	-1.6
	7.3nm,0.6s,baz=23,slow=0.4,SNR=7.1						
MCK	**McKinley**	**150.63**	**309**	*e*PKPbc	PKPbc	00 06 13.7	-1.4
SONM	**Songino Array**	**150.87**	**87**	PKPbc	PKPbc	00 06 15.2	-0.6
	5.6nm,0.6s,baz=220,slow=3.5,SNR=20						

*ISCJB **17** 00:13:43.5±1.5, 1373S±0.10×757W±0.1, h97km±16km, mb4.1/5, Error ellipse: s-maj=24.1km s-min=8.3km az=106.3*
*NEIC **17** 00:13:43.9±3.8, 1336S×7576W, h96km±31km, mb4.2/3, Error ellipse: s-maj=39.7km s-min=17.6km az=99.0*
NEIC Felt [II] at Ica.
*IDC **17** 00:13:44.6±2.2, 1395S×7584W, h91km±19km, mb3.9/3, mb1 3.7/7, mb1mx3.5/18, mbtmp4.0/7, Error ellipse: s-maj=29.7km s-min=14.0km az=56.0*

ISC 17 00:13:44.9±1.3, 1380S±010×758W±01, h92km±13km, n16, σ1$31/20, mb4.1/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**4.91**	**123**	*e*P	**Pn**	**00 15 00.0**	**+3.8**
ARE				*e*S	**Sn**	**00 15 52.0**	**+0.3**
ATAH	**Atahualpa**	**7.23**	**339**	P	**Pn**	**00 15 29.2**	**+1.3**
	0.5nm,0.3s,baz=348,slow=7.1,SNR=4.1						
ATAH				S	**Sn**	**00 16 47.5**	**-0.9**
	1.4nm,0.3s,baz=33,slow=17,SNR=2.0						
LPAZ	**La Paz**	**7.78**	**110**	P	**Pn**	**00 15 37.2**	**+1.9**
	0.7nm,0.3s,baz=301,slow=12,SNR=26						
LPAZ				S	**Sn**	**00 17 07.0**	**+5.2**
	0.2nm,0.3s,baz=210,slow=24,SNR=3.1						
LPAZ	**La Paz**	**7.78**	**110**	*e*Pn	**Pn**	**00 15 37.2**	**+1.9**
	7.3nm,0.8s						
LPAZ				S	**Sn**	**00 17 07.0**	**+5.2**
LVC	**Limon Verde**	**10.92**	**144**	P	**Pn**	**00 16 16.1**	**-2.0**
	0.6nm,0.3s,baz=312,slow=13,SNR=7.5						
LVC				S	**Sn**	**00 18 14.0**	**-4.3**
	1.0nm,0.3s,baz=188,slow=21,SNR=6.3						
LVC	**Limon Verde**	**10.92**	**144**	*e*Pn	**Pn**	**00 16 16.0**	**-2.0**
	1.9nm,0.3s						
LVC				S	**Sn**	**00 18 14.0**	**-4.3**
SAML	**Samuel**	**13.24**	**70**	*e*Pn	**Pn**	**00 16 46.1**	**-3.1**
	10nm,0.8s						
SIV	**San Ignacio**	**14.37**	**101**	P	**Pn**	**00 17 03.2**	**-0.6**
	0.1nm,0.3s,baz=277,slow=14,SNR=8.6						
SDV	**Santo Domingo**	**23.10**	**13**	*e*P	**P**	**00 18 36.9**	**-5.8**
	6.1nm,0.3s,mb4.4						
PLCA	**Paso Flores**	**27.22**	**171**	P	**P**	**00 19 18.5**	**-1.5**
	1.4nm,0.6s,mb3.6,baz=336,slow=11,SNR=7.1						
PLCA	**Paso Flores**	**27.22**	**171**	*e*P	**P**	**00 19 20.8**	**+0.7**
	1.6nm,0.6s,mb3.7						
DBIC	**Dimbokro**	**73.24**	**79**	P	**P**	**00 25 05.5**	**-0.6**
	3.8nm,1.0s,mb4.2,baz=302,slow=4.9,SNR=4.6						
QSPA	**South Pole Qui**	**76.35**	**180**	*e*P	**P**	**00 25 24.5**	**+0.6**
	6.2nm,1.3s,mb4.2						
TORD	**Torodi Ar. Bea**	**81.26**	**74**	P	**P**	**00 25 51.9**	**+1.0**
	2.3nm,0.8s,mb4.1,baz=254,slow=5.3,SNR=12						
TORD				pP	pP	00 26 16.3	+1.5
	0.9nm,0.7s,baz=268,slow=4.0,SNR=8.8						
ASAR	**Alice Springs**	**132.80**	**218**	PKP	PKPdf	00 32 51.1	+2.0
	0.4nm,0.5s,baz=117,slow=1.7,SNR=6.5						
SONM	**Songino Array**	**146.02**	**357**	PKPbc	PKPbc	00 33 15.4	+1.3
	1.0nm,0.4s,baz=306,slow=3.0,SNR=5.6						

*NEIC **17** 00:16:00.7, 3191S×7129W, h38km, MG3.0(GUC), After GUC.*

GUC 17 00:16:00.7±0.8, 3191S×7129W, h38km±4km, MD3.9, ML3.0, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.78**	**19**	↑*i*P	Pn	00 16 15.1	0.0
CMCH				*i*S	Sn	00 16 26.6	+1.1
CMCH				AML	AML	00 16 28.4	
	comp=N,2μm,0.1s						
CMCH	**Combarbala**	**0.78**	**19**	↑*i*P	Pn	00 16 15.1	0.0
CMCH				*i*S	Sn	00 16 26.6	+1.1
JACH	**Jahuel**	**0.97**	**143**	↑*i*P	Pn	00 16 18.7	+0.9
JACH				*i*S	Sn	00 16 32.6	+2.3
ROCH	**El Roble**	**1.08**	**167**	*e*P	Pn	00 16 19.2	-0.2
ROCH				*i*S	Sn	00 16 33.9	+0.8
OVCH	**Ovalle**	**1.30**	**3**	↓*i*P	Pn	00 16 23.7	+1.4
OVCH				*i*S	Sn	00 16 41.0	+2.4
OVCH				AML	AML	00 16 42.1	
	comp=N,447nm,0.2s						
OVCH	**Ovalle**	**1.30**	**3**	↓*i*P	Pn	00 16 23.7	+1.4
OVCH				*i*S	Sn	00 16 41.0	+2.4
PEL	**Peldehue**	**1.33**	**158**	*i*S	Sn	00 16 41.2	+2.0
CLCH	**Cerro Calan**	**1.61**	**157**	*e*P	Pn	00 16 27.8	+1.2
CLCH				*i*S	Sn	00 16 48.6	+2.5
CLCH				AML	AML	00 16 54.4	
	comp=N,280nm,0.5s						
CLCH				AML	AML	00 17 00.7	
	comp=E,198nm,0.4s						
FCH	**Farellones**	**1.65**	**149**	*e*P	Pn	00 16 28.9	+1.8
FCH				*i*S	Sn	00 16 49.4	+2.4
FCH				AML	AML	00 16 51.9	
	comp=E,226nm,0.3s						
TLL	**Tololo Astrono**	**1.79**	**14**	*e*P	Pn	00 16 31.0	+2.0
TLL				*i*S	Sn	00 16 53.8	+3.3
TLL				AML	AML	00 16 57.6	
	comp=N,271nm,0.3s						
TLL	**Tololo Astrono**	**1.79**	**14**	*e*P	Pn	00 16 31.0	+2.0
TLL				*i*S	Sn	00 16 53.8	+3.3
PCH	**Pirque**	**1.83**	**159**	*e*P	Pn	00 16 31.4	+1.8
CHCH	**Chadas Angostu**	**2.09**	**165**	↓*i*P	Pn	00 16 34.8	+1.7
LMEL	**Las Melosas**	**2.14**	**155**	*e*P	Pn	00 16 35.6	+1.8
LMEL				AML	AML	00 17 08.5	
	comp=N,195nm,0.1s						

IDC 17 00:29:31.8±2.5, 202N×12702E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=214.9km s-min=26.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.97**	**162**	P	P	00 34 36.8	-1.1
	1.2nm,0.5s,baz=341,slow=10,SNR=5.3						
WB2	**Warramunga Arr**	**22.98**	**162**	*e*P	P	00 34 36.3	-1.6
ASAR	**Alice Springs**	**26.39**	**166**	P	P	00 35 11.1	+1.2
	0.5nm,0.3s,baz=351,slow=15,SNR=8.9						
ASPA	**Alice Springs**	**26.39**	**166**	*e*P	P	00 35 10.5	+0.6
MKAR	**Makanchi Array**	**59.12**	**326**	P	P	00 39 34.3	+0.2
	0.4nm,0.6s,baz=120,slow=9.2,SNR=5.2						

CASC 17 00:34:36.8±3.0, 831N×8293W, h0km±6km, MD4.2, ML4.1, 4C-10D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.41**	**326**	↓*i*P	Pg	00 34 44.6	-0.1
ACR				*e*S	Sg	00 34 53.5	+3.4
DVD	**David**	**0.49**	**75**	↓*i*P	Pg	00 34 47.0	+0.8
CTCR	**Cotoan**	**0.61**	**17**	↓*i*P	Pg	00 34 49.5	+1.0
CTCR				*e*S	Sg	00 35 02.8	+6.5
BRU	**Baru**	**0.62**	**37**	↑*e*P	Pg	00 34 49.6	+1.0
CNI	**Changuinola**	**1.17**	**21**	↓*i*P	Pg	00 34 58.2	-1.1
CNI				*e*S	Sg	00 35 16.7	+2.1
BUS	**Buena Vista**	**1.48**	**327**	*e*P	Pn	00 35 02.9	-1.8
BUS				*e*S	Sg	00 35 24.4	0.0
URSC	**Urasca**	**1.73**	**331**	↓*e*P	Pn	00 35 06.4	-1.7
URSC				*e*S	Sn	00 35 31.4	+0.6
LCR2	**La Lucha 2**	**1.77**	**324**	*e*P	Pn	00 35 07.4	-1.3
LCR2				*e*S	Sn	00 35 34.9	+3.0
OCM	**Ochomogo**	**1.87**	**327**	↓*e*P	Pn	00 35 09.5	-0.5
OCM				*e*S	Sn	00 35 36.6	+2.2
OCM				AML	AML	00 35 43.0	
	comp=N,3μm,0.1s						
ICR	**Volcan Irazu**	**1.88**	**332**	*e*P	Pn	00 35 10.6	+0.4
VTU	**Volcan Turrial**	**1.89**	**334**	↑*e*P	Pn	00 35 10.0	-0.2
VTU				*e*S	Sn	00 35 35.7	+1.0
IRZ2	**Volcan Irazu 2**	**1.90**	**330**	↓*e*P	Pn	00 35 10.8	+0.3
SJS	**Escuela Geolog**	**1.96**	**326**	*e*P	Pn	00 35 12.3	+1.1
SJS				*e*S	Sn	00 35 39.7	+3.1
PRS1	**Puriscal**	**2.15**	**321**	↓*e*P	Pn	00 35 12.9	-0.9
PRS1				*e*S	Sn	00 35 42.6	+1.4
POA2	**Poas 2**	**2.27**	**325**	↓*e*P	Pn	00 35 16.6	+1.2
CGA2	**Cerro Gallo 2**	**2.27**	**318**	*e*P	Pn	00 35 15.3	-0.2
CGA2				*e*S	Sn	00 35 47.3	+3.1
EPA	**Esparza**	**2.34**	**316**	↑*e*P	Pn	00 35 16.8	+0.4
EPA				*e*S	Sn	00 35 48.4	+2.5
AZU	**Azuero**	**2.68**	**101**	↓*e*P	Pn	00 35 21.8	+0.6
FORC	**Fortuna**	**2.75**	**322**	*e*P	Pn	00 35 23.2	+1.2
VACR	**Volcan Arenal**	**2.75**	**321**	*e*P	Pn	00 35 24.2	+2.1
JTS	**JuntasAbangare**	**2.80**	**315**	AML	AML	00 36 10.1	
	comp=N,310nm,0.1s						
VCR	**Vista de Mar**	**3.22**	**304**	*e*P	Pn	00 35 27.9	-0.7
UPA	**Univ. de Panam**	**3.43**	**79**	*e*P	Pn	00 35 31.7	+0.2
RIN3	**Volcan Rincon**	**3.45**	**316**	*e*P	Pn	00 35 33.1	+1.3
PTP	**Ponta Puerca**	**19.51**	**58**	↑*i*P		00 34 40.8	

*ISCJB **17** 00:46:20.0±0.9, 1800N±004×14542E±008, h253km±9km, mb4.2/33, Error ellipse: s-maj=12.1km s-min=7.2km az=6.7*
*IDC **17** 00:46:20.1±1.4, 1801N×14552E, h247km±13km, mb3.9/13, mb1 4.0/16, mb1mx3.9/22, mbtmp4.5/16, Error ellipse: s-maj=20.5km s-min=8.9km az=83.0*
*NEIC **17** 00:46:20.2±1.2, 1800N×14551E, h243km±12km, mb4.4/19, Error ellipse: s-maj=9.5km s-min=6.4km az=94.0*

ISC 17 00:46:20.4±0.9, 1802N±004×14548E±008, h242km±9km, n59, σ0$98/57, mb4.2/33, 5C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.45**	**188**	P	**Pn**	**00 47 29.0**	**-0.1**
	60nm,0.3s,baz=94,slow=1.7,SNR=18						
GUMO				S	**S**	**00 48 23.7**	**-0.1**
	45nm,0.3s,baz=340,slow=22,SNR=3.9						
GUMO	**Guam**	**4.45**	**188**	P	**Pn**	**00 47 29.0**	**-0.1**
GUMO				S	**S**	**00 48 23.7**	**-0.1**
CBIJ	**Chichi jima**	**9.53**	**342**	P	**Pn**	**00 48 34.2**	**+1.2**
	4.4nm,0.3s,baz=278,slow=19,SNR=3.6						
JOW	**Kunigami**	**18.15**	**302**	P	**P**	**00 50 17.8**	**+2.8**
	3.5nm,0.3s,baz=109,slow=9.7,SNR=15						
MJAR	**Matsushiro Arr**	**19.53**	**342**	P	**P**	**00 50 28.6**	**-1.3**
	0.6nm,0.3s,baz=169,slow=9.2,SNR=4.4						
YHNB	**Yeheng**	**23.39**	**291**	*e*P	**P**	**00 51 08.8**	**+1.2**
ASAJ	**Asahikawa**	**26.13**	**355**	P	**P**	**00 51 30.7**	**-1.6**
	8.1nm,0.5s,mb4.6,baz=203,slow=6.3,SNR=4.4						
HNR	**Honiara**	**30.79**	**151**	P	**P**	**00 52 11.8**	**-1.7**
	169nm,1.1s,mb5.6						
KKM	**Kota Kinabalu**	**30.94**	**251**	*e*P	**P**	**00 52 14.1**	**-0.7**
KAKA	**Kakadu**	**33.14**	**204**	*e*P	**P**	**00 52 33.4**	**-0.6**
	18nm,0.6s,mb4.8						
CTAO	**Charters Tower**	**37.88**	**179**	*e*P	**P**	**00 53 14.5**	**+0.3**
	2.5nm,0.5s,mb4.0						
KSM	**Kuching**	**38.24**	**248**	*e*P	**P**	**00 53 17.3**	**+0.1**
WB2	**Warramunga Arr**	**39.28**	**197**	↑*i*P	**P**	**00 53 25.8**	**0.0**
WRA	**Warramunga Arr**	**39.28**	**197**	P	**P**	**00 53 26.0**	**+0.2**
	19nm,0.8s,mb4.7,baz=18,slow=9.0,SNR=48						
FITZ	**Fitzroy Crossi**	**40.86**	**210**	↑*i*P	**P**	**00 53 39.1**	**+0.4**
	21nm,0.7s,mb4.7						
MA2	**Magadan**	**41.67**	**4**	P	**P**	**00 53 43.4**	**-2.0**
	6.0nm,0.8s,mb4.1						
AS31	**Alice Springs**	**42.95**	**196**	↑*i*P	**P**	**00 53 55.7**	**+0.1**
ASAR	**Alice Springs**	**42.95**	**196**	P	**P**	**00 53 55.9**	**+0.2**
	5.1nm,0.6s,mb4.2,baz=21,slow=9.5,SNR=59						
ASAR				PcP	PcP	00 55 41.5	+0.1
	1.1nm,0.6s,baz=26,slow=2.8,SNR=4.9						
ASPA	**Alice Springs**	**42.95**	**196**	↑*i*P	**P**	**00 53 55.7**	**+0.1**
ULN	**Ulaanbaatar**	**43.17**	**322**	*e*P	**P**	**00 53 57.7**	**+0.3**
	1.3nm,0.5s,mb3.6						
SONM	**Songino Array**	**43.54**	**322**	P	**P**	**00 54 00.7**	**+0.3**
	1.2nm,0.6s,mb3.4,baz=132,slow=7.3,SNR=5.6						
DZM	**Mont Dzumac**	**44.82**	**152**	*e*P	**P**	**00 54 09.8**	**-0.6**
DZM	**Mont Dzumac**	**44.82**	**152**	P	**P**	**00 54 10.9**	**+0.5**
	19nm,0.6s,mb4.6,baz=352,slow=6.5,SNR=23						
YAK	**Yakutsk**	**45.34**	**350**	P	**P**	**00 54 13.7**	**-0.9**
	21nm,0.6s,mb4.7						
KULM	**Kulim**	**45.56**	**260**	*e*P	**P**	**00 54 18.5**	**+2.2**
MBWA	**Marble Bar**	**46.40**	**214**	*e*P	**P**	**00 54 23.1**	**+0.3**
	10.0nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**49.75**	**184**	*e*P	**P**	**00 54 45.3**	**-3.1**
	3.3nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**49.75**	**184**	P	**P**	**00 54 45.7**	**-2.7**
	3.3nm,0.4s,mb4.1,baz=357,slow=7.4,SNR=24						
STKA	**Stephens Creek**	**49.75**	**184**	*e*P	**P**	**00 54 45.2**	**-3.2**
FORT	**Forrest**	**51.33**	**199**	↑*i*P	**P**	**00 55 00.2**	**+0.1**
	16nm,0.4s,mb4.8						
BILL	**Bilibino**	**51.72**	**10**	P	**P**	**00 55 02.2**	**-0.7**
	5.8nm,0.8s,mb4.1						
KLBR	**Kellerberrin**	**56.05**	**209**	*e*P	**P**	**00 55 33.7**	**-0.5**
	16nm,0.8s,mb4.6						
MUN	**Mundaring**	**57.09

Ms1 4.0/1, ms1mx2.8/24, Error ellipse: s-maj=42.7km s-min=21.0km az=132.0, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**6.90**	**209**	Pn	Pn	01 13 35.9	-1.9
	0.7nm,0.3s,baz=38,slow=11,SNR=6.4						
CPUP				Sn	Sn	01 14 48.4	-8.6
	0.5nm,0.3s,baz=310,slow=17,SNR=2.7						
CPUP				Lg		01 15 37.8	
	1.1nm,0.3s,baz=341,slow=16,SNR=7.4						
BDFB	**Brasilia**	**7.07**	**50**	Pn	Pn	01 13 41.2	+1.1
	0.5nm,0.3s,baz=224,slow=12,SNR=4.4						
BDFB				Pg	Pg	01 14 08.9	-2.0
	0.7nm,0.3s,baz=165,slow=7.3,SNR=4.6						
BDFB				Sn	Sn	01 15 02.0	+0.8
	1.6nm,0.3s,baz=114,slow=16,SNR=4.9						
BDFB				Lg		01 15 48.8	
	4.1nm,0.3s,baz=88,slow=20,SNR=6.1						
SIV	**San Ignacio**	**8.27**	**300**	Pn	Pn	01 13 56.8	+0.2
	0.1nm,0.3s,baz=241,slow=14,SNR=2.9						
SIV				Pg	Pg	01 14 34.8	+0.9
	0.1nm,0.3s,baz=138,slow=17,SNR=3.1						
RPN	**Rapa Nui**	**51.12**	**251**	LR	LR	01 39 21.3	
	comp=Z,153nm,18.8s,baz=150,slow=32						
TORD	**Torodi Ar. Bea**	**63.75**	**63**	P	P	01 22 29.6	+0.6
	0.9nm,1.1s,baz=253,slow=10,SNR=3.6						

*ISCJB **17** 01:35:35.2±0.8, 1225N±0.10×872W±0.1, h95km±6km, mb3.9/4, Error ellipse: s-maj=21.5km s-min=7.2km az=92.1*
*IDC **17** 01:35:35.8±3.2, 1252N×8688W, h63km±63km, mb3.6/4, mb1 3.8/6, mb1mx3.4/19, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=97.1km s-min=20.1km az=38.0*
*NEIC **17** 01:35:36.4±1.0, 1238N×8702W, h79km±13km, Error ellipse: s-maj=28.3km s-min=11.8km az=47.0*
*CASC **17** 01:35:36.5±5.7, 1209N×8732W, h61km±69km, MD4.0, ML4.3*

ISC 17 01:35:35.8±0.8, 1220N±009×8726W±009, h86km±7km, n29, σ0§83/33, mb3.9/4, 3C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.42**	**59**	⇓iP		**01 35 48.6**	**-0.9**
LEON				eS		**01 36 00.6**	**+0.9**
CRIN	**San Cristobal**	**0.54**	**22**	⇓iP		**01 35 50.3**	**-0.1**
CRIN				eS		**01 36 01.4**	**0.0**
TEL3	**Telica 3**	**0.55**	**47**	eP		**01 35 50.4**	**-0.2**
TELN	**Telica**	**0.58**	**46**	⇓eP		**01 35 50.5**	**-0.3**
TELN				eS		**01 36 02.3**	**+0.3**
MIRN	**Miramar**	**0.59**	**66**	⇑iP		**01 35 50.5**	**-0.4**
CNGN	**Cerro Negro**	**0.63**	**61**	⇓eP		**01 35 51.0**	**-0.2**
CNGN				eS		**01 36 02.5**	**-0.2**
COPN	**Copaltepe**	**0.65**	**91**	⇑iP		**01 35 51.0**	**-0.4**
MOMJ	**Momotombo**	**0.73**	**73**	⇓eP		**01 35 51.9**	**-0.4**
MOMJ				eS		**01 36 05.0**	**+0.4**
APYN	**Apoyeque**	**0.89**	**87**	⇑eP		**01 35 54.1**	**+0.1**
XAVN	**Gruta Xavier**	**0.91**	**93**	⇓iP		**01 35 54.2**	**0.0**
XAVN				eS		**01 36 07.6**	**-0.4**
TISN	**Laguna Tiscapa**	**0.97**	**93**	eP		**01 35 55.1**	**+0.2**
TISN				eS		**01 36 08.2**	**-0.9**
MGAN	**Managua**	**0.99**	**93**	⇓eP		**01 35 55.2**	**+0.2**
MGAN				eS		**01 36 09.4**	**-0.2**
MGAN				i		01 36 10.1	
	comp=N,8μm,0.2s						
TICN	**Ticuantepe**	**1.02**	**99**	⇓eP		**01 35 55.8**	**+0.4**
TICN				eS		**01 36 10.9**	**+0.8**
APON	**Apoyo**	**1.20**	**103**	⇓eP		**01 35 57.6**	**0.0**
APON				eS		**01 36 17.0**	**+3.0**
CNCH	**Conchagua**	**1.21**	**332**	eP		01 36 12.7	
CNCH				eS		01 36 29.6	
BLLM	**Bellamira**	**1.56**	**322**	eP		01 36 17.6	
BLLM				eS		01 36 37.7	
VSM	**San Miguel**	**1.57**	**321**	eP		01 36 18.4	
VSM				eS		01 36 38.4	
LCBS	**La Ceiba**	**2.22**	**311**	eP		01 36 26.2	
LCBS				eS		01 36 52.0	
LFRS	**El Faro**	**2.26**	**309**	eP		01 36 26.5	
LFRS				eS		01 36 53.3	
LBRS	**Las Brisas**	**2.32**	**312**	eP		01 36 28.2	
LBRS				eS		01 36 54.6	
SBLS	**San Blas**	**2.82**	**306**	eP		01 36 35.3	
SBLS				eS		01 37 08.7	
SNJE	**San Jose**	**2.83**	**306**	eP		01 36 35.9	
SNJE				eS		01 37 08.7	
JTS	**JuntasAbangare**	**2.95**	**130**	P		**01 36 20.5**	**0.0**
	comp=N,8.0nm,0.3s,baz=331,slow=15,SNR=28						
JTS				S		**01 36 53.9**	**-1.1**
	comp=N,9.3nm,0.3s,baz=321,slow=20,SNR=4.8						
TEIG	**Tepich**	**8.04**	**353**	Pn		**01 37 28.6**	**-1.2**
	comp=N,19nm,1.5s						
CMIG	**Matias Romero**	**8.84**	**304**	P		**01 37 42.6**	**+2.0**
	comp=N,0.4nm,0.3s,baz=240,slow=2.5,SNR=4.9						
CMIG				S		**01 39 14.6**	**-3.9**
	comp=N,0.3nm,0.3s,baz=50,slow=3.6,SNR=2.6						
PDAR	**Pinedale Array**	**36.08**	**332**	P		**01 42 31.1**	**+2.0**
	comp=N,1.3nm,0.6s,mb4.0,baz=125,slow=9.8,SNR=11						
ULM	**Lac du Bonnet**	**38.60**	**351**	P		**01 42 49.5**	**-0.8**
	comp=N,1.0nm,0.4s,mb4.0,baz=171,slow=10,SNR=5.6						
SCHQ	**Schefferville**	**45.47**	**16**	P		**01 43 46.0**	**-0.3**
	comp=N,3.0nm,0.9s,mb4.0,baz=221,slow=9.3,SNR=5.9						
YKA	**Yellowknife Ar**	**53.90**	**345**	P		**01 44 50.6**	**+0.4**
	comp=N,0.3nm,0.5s,mb3.6,baz=136,slow=7.3,SNR=4.3						

*NEIC **17** 01:46:16.1, 1597N×9660W, h8km, MD4.1(MEX), After MEX.*

MEX 17 01:46:16.0±0.7, 1597N×9660W, h7km±7km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.52**	**113**	iP		Pg 01 46 25.6	-0.4
HUIG				iS		Sg 01 46 33.4	+0.7
VHO	**Vista Hermosa**	**1.10**	**353**	iP		Pg 01 46 34.2	-3.0
VHO				iS		Sg 01 46 48.5	-3.1
OXX	**Oaxaca**	**1.11**	**354**	iP		Pg 01 46 34.5	-2.9
OXX				iS		Sg 01 46 49.0	-2.8
PNIG	**Pinotepa**	**1.52**	**286**	iP		Pn 01 46 39.9	-3.7
PNIG				iS		Sn 01 46 58.7	-5.0
CMIG	**Matias Romero**	**1.99**	**56**	eP		Pn 01 46 46.0	-4.0
CMIG				iS		Sn 01 47 09.7	-5.4
UTMO	**Huajuapan**	**2.18**	**328**	eP		Pn 01 46 49.0	-3.6
UTMO				iS		Sn 01 47 15.3	-4.5
TUIG	**Tuzandepetl**	**2.93**	**45**	iP		Pn 01 47 00.8	-2.0
MEIG	**Mezcala**	**3.48**	**304**	eP		Pn 01 47 10.0	-0.5
MEIG				iS		Sn 01 47 48.3	-3.7
PPM	**Popocatepetl**	**3.64**	**328**	eP		Pn 01 47 14.7	+2.0
PPM				iS		Sn 01 47 59.3	+3.6
PPM	**Popocatepetl**	**3.64**	**328**	eP		Pn 01 47 16.6	+4.0
PPM				iS		Sn 01 47 59.3	+3.6
PLIG	**Platanillo**	**3.67**	**311**	iP		Pn 01 47 15.6	+2.4
PLIG				iS		Sn 01 47 53.3	-3.4
CAIG	**El Cayaco**	**3.68**	**287**	eP		Pn 01 47 10.0	-3.2
CAIG				iS		Sn 01 47 49.6	-7.1
CAIG	**El Cayaco**	**3.68**	**287**	iP		Pn 01 47 01.9	-11
YAIG	**Yautepec**	**3.72**	**321**	iP		Pn 01 47 22.2	+8.5
YAIG				iS		Sn 01 47 55.8	-2.0
LVIG	**Laguna Verde**	**3.74**	**3**	iP		Pn 01 47 22.1	+8.1
LVIG				iS		Sn 01 47 57.4	-0.9
CCIG	**Comitan**	**4.30**	**85**	iP		Pn 01 47 21.0	-0.8
CCIG				iS		Sn 01 48 08.4	-3.8
TEIG	**Tepich**	**8.98**	**61**	ePn		Pn 01 48 21.7	-4.3
	5.9nm,0.3s						
TEIG				eSn		Sn 01 49 55.8	-12

*ISCJB **17** 01:46:38.9±0.8, 477S±008×1492E±0.1, h617km±11km, mb4.1/18, Error ellipse: s-maj=16.5km s-min=11.6km az=175.8*
*IDC **17** 01:46:39.0±1.4, 472S×14931E, h596km±16km, mb3.2/7, mb1 3.5/9, mb1mx3.4/14, mbtmp4.3/9, Error ellipse: s-maj=21.6km s-min=14.6km az=80.0*
*BJI **17** 01:46:39.7, 470S×14920E, h606km, mB4.2, mb4.2*
*NEIC **17** 01:46:39.7±0.8, 472S×14925E, h606km±10km, mb4.3/15, Error ellipse: s-maj=11.1km s-min=7.5km az=76.0*

ISC 17 01:46:39.7±0.8, 476S±007×1493E±01, h603km±10km, n35, σ0§74/35, mb4.1/18, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07**	**204**	P		**01 48 13.5**	**+0.3**
	16nm,0.3s,baz=38,slow=4.6,SNR=51						
PMG				S		**01 49 28.9**	**-0.7**
	1.5nm,0.3s,baz=242,slow=17,SNR=9.2						
CTA	**Charters Tower**	**15.52**	**191**	eP		**01 49 53.4**	**+1.0**
	16nm,0.8s						
CTA	**Charters Tower**	**15.52**	**191**	P		**01 49 53.5**	**+1.1**
	1.0nm,0.3s,baz=0.9,slow=10,SNR=18						
CTAO	**Charters Tower**	**15.52**	**191**	eP		**01 49 53.4**	**+1.0**
	20nm,0.7s						
KAKA	**Kakadu**	**18.41**	**243**	eP		**01 50 18.4**	**-0.4**
	6.4nm,0.6s						
WB2	**Warramunga Arr**	**20.95**	**223**	eP		**01 50 41.9**	**+0.2**
WB2				eS		**01 53 55.0**	**-1.8**
WRA	**Warramunga Arr**	**20.96**	**223**	P		**01 50 42.0**	**+0.2**
	0.9nm,0.3s,baz=48,slow=8.9,SNR=6.5						
DZM	**Mont Dzumac**	**23.93**	**138**	P		**01 51 08.0**	**-0.2**
	3.1nm,0.5s,mb4.2,baz=265,slow=22,SNR=7.5						
AS31	**Alice Springs**	**23.94**	**217**	eP		**01 51 08.2**	**-0.1**
ASAR	**Alice Springs**	**23.94**	**217**	P		**01 51 08.3**	**0.0**
	1.9nm,0.6s,mb3.9,baz=52,slow=8.0,SNR=26						
ASPA	**Alice Springs**	**23.94**	**217**	eP		**01 51 08.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**26.64**	**238**	eP		**01 51 32.3**	**+0.3**
	9.3nm,1.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**26.64**	**238**	P		**01 51 32.3**	**+0.2**
	3.9nm,1.1s,mb4.0,baz=16,slow=4.3,SNR=9.4						
RAO	**Raoul Island**	**39.46**	**132**	P		**01 53 20.5**	**+0.9**
	306nm,0.6s						
YHNB	**Yeheng**	**39.90**	**318**	eP		**01 53 23.6**	**+0.6**
MJAR	**Matashiro Arr**	**42.37**	**347**	P		**01 53 41.6**	**-0.8**
	5.3nm,0.8s,mb4.1,baz=171,slow=8.9,SNR=13						
MAJO	**Matsushiro**	**42.37**	**347**	eP		**01 53 42.2**	**-0.3**
	6.8nm,0.8s,mb4.2						
QIZ	**Qiongzhong**	**45.45**	**303**	P		**01 54 06.5**	**+0.3**
	2.7nm,0.4s,mb4.1						
XAN	**Xi'an**	**54.21**	**318**	P		**01 55 09.9**	**-0.2**
LZH	**Lanzhou**	**58.79**	**318**	eP		**01 55 41.5**	**+0.2**
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.0						
HIA	**Hailar**	**59.62**	**338**	eP		**01 55 46.6**	**-0.2**
	comp=Z,8.0nm,0.4s,mb4.3						
GTA	**Gaotai**	**63.27**	**319**	eP		**01 56 11.3**	**+0.7**
MA2	**Magadan**	**64.14**	**1**	eP		**01 56 15.5**	**-0.6**
	comp=Z,5.2nm,0.5s,mb4.1						
ULN	**Ulaanbaatar**	**64.15**	**330**	eP		**01 56 16.7**	**+0.6**
	comp=Z,4.4nm,0.9s,mb3.8						
JIRN	**Jiri**	**68.77**	**302**	eP		**01 56 45.5**	**+0.9**
	comp=Z,6.9nm,0.6s,mb4.3						
GUN	**Gumba**	**69.11**	**302**	eP		**01 56 47.4**	**+0.8**
	comp=Z,25nm,0.7s,mb4.8						
PKI	**Pulchoki**	**69.41**	**302**	eP		**01 56 48.6**	**+0.2**
KKN	**Kakani**	**69.58**	**302**	eP		**01 56 49.8**	**+0.4**
	comp=Z,12nm,0.6s,mb4.5						
DMN	**Daman**	**69.67**	**302**	eP		**01 56 50.8**	**+0.8**
	comp=Z,22nm,0.8s,mb4.7						
VNDA	**Vanda**	**73.02**	**177**	P		**01 57 08.9**	**-0.5**
	comp=Z,2.7nm,0.7s,mb3.9,baz=323,slow=6.3,SNR=22						
MKAR	**Makanchi Array**	**78.00**	**320**	P		**01 57 37.0**	**0.0**
	comp=Z,1.7nm,0.4s,mb3.8,baz=96,slow=7.9,SNR=26						
CHKZ	**Chkalovo**	**87.11**	**324**	eP		**01 58 20.2**	**-2.4**
	comp=Z,1.7nm,0.8s,mb3.8						
ZRNK	**Zerenda**	**87.92**	**323**	eP		**01 58 24.4**	**-2.0**
	comp=Z,1.1nm,0.7s,mb3.7						
CPUP	**Villa Florida**	**139.76**	**142**	PKP	PKPdf	02 05 01.3	+1.3
	comp=Z,2.0nm,0.9s,baz=286,slow=3.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**146.94**	**287**	PKPbc	PKPbc	02 05 16.0	+0.4
	comp=Z,1.1nm,0.5s,baz=87,slow=2.7,SNR=62						

*IDC **17** 02:04:44.9±1.8, 2329N×12077E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, MS3.1/3, Ms1 3.1/3, ms1mx2.3/18, Error ellipse: s-maj=167.7km s-min=22.8km az=63.0*
*BJI **17** 02:04:47.6, 2299N×12004E, h10km, mB4.4, mb4.5, ML4.4, Ms4.0, Msz3.6*
*NEIC **17** 02:04:47.1±0.7, 2302N×12019E, h10km, mb3.9/1, ML4.6(TAP), Error ellipse: s-maj=17.3km s-min=12.0km az=112.0*
NEIC Recorded [5 TAP] in T'ai-nan; [2 TAP] in Chia-i and P'eng-hu; [1 TAP] in Chang-hua and P'ing-tung Counties.
*ISCJB **17** 02:04:50.0±1.4, 2308N±009×12021E±007, h43km±15km, mb3.7/5, MS2.9/2, Error ellipse: s-maj=15.4km s-min=9.0km az=52.9*

ISC 17 02:04:51.7±1.3, 2303N±009×12034E±007, h45km±15km, n18, σ1§16/20, mb3.7/5, MS2.9/2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**1.62**	**45**	ePn	**Pn**	**02 05 16.8**	**-0.9**
YHNB	**Yeheng**	**1.89**	**30**	ePn	**Pn**	**02 05 20.8**	**-0.6**
TATO	**Taipei**	**2.20**	**28**	ePn	**Pn**	**02 05 25.1**	**-0.7**
QZH	**Quanzhou**	**2.49**	**320**	P	**Pn**	**02 05 26.4**	**-3.3**
QZH				PG	**Pn**	**02 05 31.9**	**+2.2**
QZH				S	**Sn**	**02 05 52.3**	**-6.6**
QZH				Smax			
	comp=N,3μm,1.1s						
QZH				Smax			
	comp=E,2μm,1.0s						
QZH				LR	LR		
	comp=Z,1μm,9.2s						
NJ2	**Nanjing**	**9.09**	**352**	eP	**Pn**	**02 07 01.0**	**+0.8**
NJ2				AP		02 07 05.3	
NJ2				XP		02 07 08.3	
NJ2				S	**Sn**	**02 08 42.3**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,70nm,5.1s						
NJ2				Smax			
	comp=N,150nm,0.9s						
NJ2				Smax			
	comp=E,130nm,0.7s						
NJ2				LR	LR		
	comp=N,260nm,9.7s						
NJ2				LR	LR		
	comp=E,210nm,10.6s						
NJ2				LR	LR		
	comp=Z,260nm,9.2s						
WHN	**Wuhan**	**9.20**	**326**	eP	**Pn**	**02 07 01.8**	**0.0**
GYA	**Guiyang**	**12.89**	**288**	eP	**Pn**	**02 07 53.4**	**+1.2**
GYA				S	**Sn**	**02 10 12.1**	**-2.1**
GYA				LR	LR		
	comp=N,580nm,8.1s						
GYA				LR	LR		
	comp=E,570nm,13.5s						
GYA				LR	LR		
	comp=Z,340nm,10.2s						
CD2	**Chengdu**	**16.73**	**302**	P	**Pn**	**02 08 43.8**	**+1.1**
CD2				S	**S**	**02 11 42.3**	**-14**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CD2				LR	LR		
	comp=N,240nm,7.3s						
CD2				LR	LR		
	comp=Z,210nm,12.0s						
JHJ	**Hachijo jima 2**	**19.85**	**55**	LR	LR	02 16 14.3	
	comp=Z,61nm,19.8s,baz=82,slow=36						
SONM	**Songino Array**	**27.15**	**339**	LR	LR	02 22 25.4	
	comp=Z,45nm,20.9s,MS3.0,baz=176,slow=39						
ASAJ	**Asahikawa**	**27.88**	**36**	LR	LR	02 20 46.0	
	comp=Z,32nm,21.8s,MS2.9,baz=129,slow=35						
MKAR	**Makanchi Array**	**38.65**	**317**	P	**P**	**02 12 10.2**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.6,baz=112,slow=10,SNR=7.8						
WRA	**Warramunga Arr**	**44.84**	**161**	P	**P**	**02 13 00.5**	**-0.7**
	comp=Z,1.2nm,0.6s,mb3.9,baz=344,slow=9.0,SNR=3.9						
CHKZ	**Chkalovo**	**48.17**	**322**	eP	**P**	**02 13 26.5**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**48.25**	**163**	P	**P**	**02 13 30.1**	**+2.1**
	comp=Z,0.5nm,0.9s,mb3.5,baz=354,slow=14,SNR=5.7						
NB2	**NORSAR Subarra**	**78.88**	**332**	P	**P**	**02 16 49.5**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=65,slow=5.3						
NOA	**NORSAR Array B**	**78.88**	**332**	P	**P**	**02 16 50.0**	**-0.1**
	comp=Z,0.3nm,0.8s,mb3.3,baz=70,slow=5.1,SNR=2.5						
NOA	**NORSAR Array B**	**78.88**	**332**	P	**P**	**02 16 50.0**	**-0.1**

*HLW **17** 02:20:17.4, 3915N×2280E, h33km, Mb3.4*
*IDC **17** 02:20:22.6±1.1, 3879N×2272E, h0km, mb3.6/6, mb1 3.7/11, mb1mx3.6/26, mbtmp3.6/11, ML3.4/5, MS3.4/2, Ms1 3.4/2, ms1mx2.2/31, Error ellipse: s-maj=19.8km s-min=16.8km az=111.0*
*NEIC **17** 02:20:23.5, 3871N×2277E, h19km, ML4.0(ATH), After ATH.*
*ATH **17** 02:20:23.5, 3871N×2277E, h19km±1km, MD3.8/17, ML4.0*
*THE **17** 02:20:23.8, 3872N×2279E, h10km, ML3.7*
*CSEM **17** 02:20:23.6±0.1, 3875N×2285E, h2km, ML4.0, Error ellipse: s-maj=1.5km s-min=1.3km az=72.0*
*MOS **17** 02:20:23.7±0.6, 3878N×2279E, h10km, mb4.0/1, Error ellipse: s-maj=7.7km s-min=4.5km az=92.2*
*ISCJB **17** 02:20:23.1±0.6, 3872N±002×2279E±002, h6km±4km, mb3.5/6, MS4.1/1, Error ellipse: s-maj=3.3km s-min=2.7km az=20.4*

ISC 17 02:20:23.6±0.5, 3869N±002×2280E±002, h1km±4km, n130, σ1§22/153, mb3.6/6, MS4.1/1, 14C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.16**	**103**	ePB	**Pg**	**02 20 28.5**	**+1.8**
LKR				eSB	**Sg**	**02 20 32.4**	**+3.6**
AGG	**Agios Georgios**	**0.49**	**313**	ePg	**Pg**	**02 20 32.4**	**-0.7**
AGG				eSg	**Sg**	**02 20 38.9**	**-0.6**
AGG	**Agios Georgios**	**0.49**	**313**	P	**Pg**	**02 20 32.4**	**-0.6**
AGG				S	**Sg**	**02 20 40.9**	**+1.5**
AGG	**Agios Georgios**	**0.49**	**313**	P	**Pg**	**02 20 32.4**	**-0.6**
AGG				S	**Sg**	**02 20 40.9**	**+1.5**
NEO	**Neokhori**	**0.70**	**28**	ePN	**Pg**	**02 20 37.1**	**+0.1**
NEO				eSN	**Sg**	**02 20 47.0**	**+0.9**
XOR	**Xorichti**	**0.74**	**24**	ePg	**Pg**	**02 20 37.8**	**-0.1**
XOR				eSg	**Sg**	**02 20 48.6**	**+1.1**
XOR	**Xorichti**	**0.74**	**24**	P	**Pg**	**02 20 37.9**	**0.0**
XOR				S	**Sg**	**02 20 48.6**	**+1.1**
XOR	**Xorichti**	**0.74**	**24**	P	**Pg**	**02 20 37.9**	**0.0**
XOR				S	**Sg**	**02 20 48.6**	**+1.1**
MGER	**Gerania Oros**	**0.79**	**152**	⇓iPN	**Pg**	**02 20 39.0**	**+0.3**
EVR	**Evrytania**	**0.81**	**287**	ePN	**Pg**	**02 20 38.3**	**-0.7**
AOS	**Alonnisos**	**0.97**	**60**	ePg	**Pg**	**02 20 42.5**	**+0.3**
AOS				eSg	**Sg**	**02 20 56.6**	**+1.7**
AOS	**Alonnisos**	**0.97**	**60**	P	**Pg**	**02 20 42.5**	**+0.3**
AOS				S	**Sg**	**02 20 55.6**	**+0.7**
AOS	**Alonnisos**	**0.97**	**60**	P	**Pg**	**02 20 42.5**	**+0.3**
AOS				S	**Sg**	**02 20 55.6**	**+0.7**
ATH	**Athens Observa**	**1.02**	**134**	ePN	**Pn**	**02 20 44.0**	**-1.0**
PTL	**Penteli**	**1.05**	**127**	ePN	**Pn**	**02 20 44.0**	**-1.5**
NAIG	**Nisos Aigina**	**1.08**	**149**	ePN	**Pn**	**02 20 44.5**	**-1.3**
RLS	**Riolos of Patr**	**1.22**	**239**	ePN	**Pn**	**02 20 45.8**	**-2.0**
PAIG	**Paliouri**	**1.42**	**29**	ePg	**Pg**	**02 20 49.3**	**-1.4**
PAIG				eSg	**Sg**	**02 21 09.8**	**+0.8**
LIT	**Litokhoron**	**1.43**	**351**	ePg	**Pg**	**02 20 49.3**	**-1.7**
LIT				eSg	**Sg**	**02 21 09.6**	**0.0**
MEV	**Metsovon**	**1.64**	**312**	ePg	**Pn**	**02 20 53.7**	**+0.1**
ITM	**Ithomi**	**1.66**	**205**	ePN	**Pn**	**02 20 54.6**	**+0.8**
LKD	**Levkas**	**1.68**	**271**	ePb	**Pb**	**02 20 54.6**	**-0.7**
LKD				eSb	**Sb**	**02 21 17.6**	**+0.7**
PLG	**Polygyros**	**1.76**	**16**	⇑iPB	**Pn**	**02 20 53.9**	**-1.3**
JAN	**Janina**	**1.79**	**303**	ePN	**Pn**	**02 20 56.3**	**+0.6**
KZN	**Kozani**	**1.80**	**334**	ePN	**Pn**	**02 20 55.5**	**-0.3**
VLS	**Valsamata**	**1.81**	**254**	ePN	**Pn**	**02 20 56.5**	**+0.6**
OUR	**Ouranopolis**	**1.88**	**29**	ePb	**Pn**	**02 20 56.1**	**-0.8**
THE	**Thessaloniki**	**1.95**	**4**	ePb	**Pn**	**02 20 56.4**	**-1.4**
VLI	**Veliai**	**1.97**	**177**	ePB	**Pn**	**02 20 57.5**	**-0.6**
IGT	**Igoumenitsa**	**2.09**	**295**	ePn	**Pn**	**02 20 59.6**	**-0.2**
SOH	**Sokhos**	**2.17**	**11**	ePn	**Pn**	**02 21 00.4**	**-0.5**
SOH	**Sokhos**	**2.17**	**11**	P	**Pn**	**02 21 00.6**	**-0.4**
SOH	**Sokhos**	**2.17**	**11**	P	**Pn**	**02 21 00.6**	**-0.3**
LIA	**Limnos Island**	**2.21**	**56**	ePB	**Pn**	**02 21 00.9**	**-0.5**
LSK	**Leskovik**	**2.24**	**311**	iPn	**Pn**	**02 21 03.5**	**+1.6**
GRG	**Griva**	**2.29**	**352**	ePn	**Pn**	**02 21 01.0**	**-1.4**
GRG	**Griva**	**2.29**	**352**	P	**Pn**	**02 21 01.3**	**-1.2**
GRG	**Griva**	**2.29**	**352**	P	**Pn**	**02 21 01.3**	**-1.2**
FNA	**Florina**	**2.36**	**333**	ePn	**Pn**	**02 21 02.4**	**-1.1**
FNA	**Florina**	**2.36**	**333**	P	**Pn**	**02 21 03.0**	**-0.5**
FNA	**Florina**	**2.36**	**333**	P	**Pn**	**02 21 03.0**	**-0.5**
KYTH	**Kithira**	**2.41**	**175**	ePN	**Pn**	**02 21 04.5**	**+0.3**
KNT	**Kendrikon**	**2.47**	**2**	ePn	**Pn**	**02 21 04.6**	**-0.4**
SRN	**Sarande**	**2.48**	**300**	iPn	**Pn**	**02 21 06.5**	**+1.4**
SRS	**Serrai**	**2.50**	**14**	ePn	**Pn**	**02 21 04.7**	**-0.7**
SRS	**Serrai**	**2.50**	**14**	P	**Pn**	**02 21 04.8**	**-0.7**
SRS	**Serrai**	**2.50**	**14**	P	**Pn**	**02 21 04.8**	**-0.6**
CHOS	**Chios island**	**2.57**	**96**	ePn	**Pn**	**02 21 06.7**	**+0.3**
CHOS				eSn	**Sn**	**02 21 39.9**	**+1.5**
BIA	**Bitola**	**2.59**	**335**	ePn	**Pn**	**02 21 06.4**	**-0.3**
BIA	**Bitola**	**2.59**	**335**	ePn	**Pn**	**02 21 08.8**	**+2.1**
BIA	**Bitola**	**2.59**	**335**	ePn	**Pn**	**02 21 08.7**	**+2.1**
VAY	**Valandovo**	**2.64**	**356**	ePn	**Pn**	**02 21 06.2**	**-1.1**
VAY	**Valandovo**	**2.64**	**356**	⇑iPn	**Pn**	**02 21 06.2**	**-1.1**
VAY	**Valandovo**	**2.64**	**356**	P	**Pn**	**02 21 05.7**	**-1.6**
VAY	**Valandovo**	**2.64**	**356**	P	**Pn**	**02 21 05.7**	**-1.6**
VAY	**Valandovo**	**2.64**	**356**	⇑iPn	**Pn**	**02 21 06.2**	**-1.1**
APE	**Apeiranthos**	**2.70**	**126**	ePn	**Pn**	**02 21 08.3**	**+0.2**
APE				eSn	**Sn**	**02 21 43.4**	**+1.9**
APE	**Apeiranthos**	**2.70**	**126**	ePn	**Pn**	**02 21 08.9**	**+0.7**
PRK	**Paraskevi**	**2.77**	**77**	ePN	**Pn**	**02 21 09.8**	**+0.7**
NVR	**Nevrokopi**	**2.78**	**17**	ePN	**Pn**	**02 21 08.9**	**-0.4**
OHR	**Ohrid**	**2.87**	**328**	ePn	**Pn**	**02 21 10.5**	**0.0**
OHR	**Ohrid**	**2.87**	**328**	ePn	**Pn**	**02 21 10.3**	**-0.2**
**

RNI2	Rionero Sannit	7.27	297	Pn	Pn	02 22 13.1	+2.2
SLUM		7.45	164	⇑P	Pn	02 22 10.3	-3.1
SLUM				S	Sn	02 23 33.2	-5.4
CFR	Carcaliu	7.61	30	⇓iP	Pn	02 22 14.8	-0.8
CFR	Carcaliu	7.61	30	⇓P	Pn	02 22 14.8	-0.8
VVLD	Villa Vallelon	7.70	297	Pn	Pn	02 22 19.0	+2.1
	comp=Z,30nm,1.0s						
PLOR	Plostina	7.71	21	⇓iP	Pn	02 22 19.2	+2.2
VRI	Vrincioaia	7.74	21	⇑iP	Pn	02 22 19.1	+1.7
VRI	Vrincioaia	7.74	21	⇑P	Pn	02 22 19.1	+1.6
PKSM	Moragy	8.12	339	⇓iP	Pn	02 22 21.6	-1.0
PKSM	Moragy	8.12	339	⇓P	Pn	02 22 21.6	-1.0
BRTR	Keskin Array B	8.48	80	Pn	Pn	02 22 28.9	+1.2
	comp=Z,0.1nm,0.3s,baz=266,slow=12,SNR=3.6						
SWA2		9.68	166	⇑P	Pn	02 22 41.5	-2.4
SWA1		9.71	165	⇑P	Pn	02 22 41.9	-2.5
AWBH		11.52	152	P	Pn	02 23 06.6	-2.6
GERES	GERESS Array B	12.09	330	Pn	Pn	02 23 14.7	-2.2
	comp=Z,0.0nm,0.3s,baz=157,slow=14,SNR=4.3						
HFS	Hagfors	22.23	348	P	P	02 25 19.7	-1.9
	comp=Z,1.0nm,0.6s,mb3.4,baz=163,slow=11,SNR=6.4						
FINES	FINESS Array B	22.87	4	P	P	02 25 24.5	-4.0
	comp=Z,1.1nm,0.8s,mb3.4,baz=165,slow=15,SNR=4.7						
NOA	NORSAR Array B	23.52	346	P	P	02 25 32.4	-2.8
	comp=Z,0.6nm,0.7s,mb3.2,baz=155,slow=7.4,SNR=4.3						
EKA	Eskdalemuir Ar	24.08	322	P	P	02 25 38.9	-1.7
	comp=Z,3.2nm,0.7s,mb4.0,baz=115,slow=10,SNR=17						
TORD	Torodi Ar. Bea	31.58	222	P	P	02 26 46.6	-1.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=34,slow=9.8,SNR=16						
MKAR	Makanchi Array	43.51	59	P	P	02 28 27.2	-1.4
	comp=Z,0.4nm,0.4s,mb3.5,baz=285,slow=6.4,SNR=5.6						
PCRV	Puerto La Cruz	81.73	276	LR	LR	03 02 35.9	
	comp=Z,74nm,18.7s,MS4.1,baz=171,slow=31						

PRE 17 02:36:47.4±0.8, 2218S×3282E, h5km, ML3.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	Pongola	5.28	192	eP	Pn	02 38 07.2	+0.3
POGA				eS	Sn	02 39 05.3	-2.9
POGA				AML	AML	02 39 54.2	
	comp=Z,35nm,0.6s						
SLR	Silverton	5.46	229	eS	Sn	02 39 10.3	-2.2
SLR				AML	AML	02 40 08.9	
	comp=Z,60nm,0.6s						
LBTB	Lobatse	7.20	246	eP	Pn	02 38 34.2	+0.9
LBTB				eS	Sn	02 39 52.6	-2.9
LBTB				AML	AML	02 40 49.2	
	comp=Z,18nm,0.6s						
BOSA	Boshof	9.37	225	eP	Pn	02 39 04.6	+1.6
BOSA				eS	Sn	02 40 45.0	-3.8
BOSA				AML	AML	02 42 04.7	
	comp=Z,7.8nm,0.7s						

IDC 17 02:41:02.2±10.0, 2042S×17739W, h460km±103km, mb3.2/4, mb1 3.4/4, mb1mx3.2/12, mbtmp4.0/4, Error ellipse: s-maj=134.0km s-min=46.2km az=153.0

NEIC 17 02:41:04.7±4.8, 2040S×17746W, h492km±48km, mb3.9/4, Error ellipse: s-maj=69.1km s-min=23.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	Charters Tower	34.00	264	eP	P	02 47 07.1	+0.5
	3.3nm,0.6s						
STKA	Stephens Creek	38.28	244	P	P	02 47 41.7	-0.4
	0.6nm,0.3s,baz=78,slow=9.3,SNR=3.1						
STKA	Stephens Creek	38.28	244	P	P	02 47 41.7	-0.5
ASAR	Alice Springs	45.03	257	P	P	02 48 36.6	+1.0
	3.3nm,0.8s,baz=84,slow=8.7,SNR=27						
ASAR				PcP	PcP	02 50 07.7	+1.4
	0.6nm,0.5s,baz=108,slow=3.5,SNR=5.0						
WB2	Warramunga Arr	45.10	262	eP	P	02 48 36.3	+0.1
WRA	Warramunga Arr	45.11	262	P	P	02 48 36.5	+0.3
	0.9nm,0.3s,baz=97,slow=8.8,SNR=4.6						
FITZ	Fitzroy Crossi	53.54	262	eP	P	02 49 39.6	+1.0
	2.8nm,0.6s						
MBWA	Marble Bar	58.37	257	eP	P	02 50 12.5	+0.4
	2.6nm,0.7s						
COLA	College	88.00	12	eP	P	02 53 00.6	-1.2
	3.7nm,0.6s						
PDAR	Pinedale Array	88.55	43	P	P	02 53 05.2	+0.8
	0.2nm,0.6s,baz=242,slow=3.2,SNR=3.6						
ZRNK	Zerenda	120.17	320	ePKPdf	PKPdf	02 58 58.2	-1.0
AKASG	Malin Array Be	143.17	332	PKhKP		02 59 39.0	
	1.1nm,0.4s,baz=43,slow=4.1,SNR=10						
AKASG	Malin Array Be	143.17	332	PKP		02 59 39.0	
MALT	Malatya	144.27	308	ePKPdf	PKPdf	02 59 45.1	+0.9
KWP	Kalwaria	146.70	336	ePKPbc	PKPbc	02 59 51.1	+0.3
BR131	Keskin Array S	147.15	313	ePKPbc	PKPbc	02 59 52.0	-0.1
BRTR	Keskin Array B	147.15	313	PKPbc	PKPbc	02 59 52.5	+0.5
	1.2nm,0.6s,baz=135,slow=5.1,SNR=8.2						
CLL	Collm	148.08	348	i PKPbc	PKPbc	02 59 54.1	-0.3
	comp=Z,7.0nm,1.2s						
BRG	Berggiesshubel	148.29	346	eP	PKPbc	02 59 55.2	+0.3
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	150.24	345	PKPbc	PKPbc	03 00 00.2	+0.6
	comp=Z,1.8nm,0.8s,baz=4.8,slow=1.6,SNR=17						

ISCJB 17 03:06:13.9±0.4, 3851N±003×2154E±003, h13km, Error ellipse: s-maj=3.8km s-min=3.3km az=140.9
NEIC 17 03:06:13.0, 3853N×2148E, h13km, MD3.2(ATH), After ATH.
ATH 17 03:06:13.0, 3853N×2148E, h13km±2km, MD3.2/7
CSEM 17 03:06:13.2±0.1, 3854N×2145E, h0km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.9km az=100.0
THE 17 03:06:13.2, 3846N×2156E, h10km

ISC 17 03:06:13.4±0.6, 3851N±003×2151E±004, h1km±5km, n35, σ1§24/51, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.45	185	ePB	Pg	03 06 22.5	+0.5
RLS				eSB	Sg	03 06 29.7	+1.8
EVR	Evrytania	0.47	29	ePB	Pg	03 06 22.3	-0.1
EVR				eSB	Sg	03 06 29.2	+0.7
LKD	Levkas	0.71	287	ePg	Pg	03 06 26.7	-0.3
LKD				eSg	Sg	03 06 38.9	+2.8
LKD	Levkas	0.71	287	P	Pg	03 06 26.8	-0.2
LKD				S	Sg	03 06 39.0	+2.9
LKD	Levkas	0.71	287	P	Pg	03 06 26.8	-0.2
LKD				S	Sg	03 06 39.0	+2.9
VLS	Valsamata	0.80	246	ePB	Pb	03 06 28.1	-2.0
AGG	Agios Georgios	0.82	51	ePg	Pg	03 06 28.8	-0.3
AGG				eSg	Sg	03 06 40.7	+0.9
AGG	Agios Georgios	0.82	51	P	Pg	03 06 28.9	-0.2
AGG				S	Sg	03 06 42.9	+3.2
AGG	Agios Georgios	0.82	51	P	Pg	03 06 28.9	-0.2
AGG				S	Sg	03 06 42.9	+3.1
LKR	Lokris	1.17	82	ePN	Pn	03 06 35.1	-1.9
JAN	Janina	1.26	336	ePN	Pn	03 06 35.7	-2.5
MEV	Metsovon	1.30	350	ePg	Pg	03 06 38.3	0.0
MEV	Metsovon	1.30	350	P	Pg	03 06 39.7	+1.4
ITM	Ithomi	1.36	166	ePB	Pb	03 06 39.2	-0.6
IGT	Igoumenitsa	1.38	318	ePg	Pg	03 06 39.2	-0.6
IGT				eSg	Sg	03 07 01.0	+3.3
IGT	Igoumenitsa	1.38	318	P	Pn	03 06 39.5	-0.3
IGT				S	Sg	03 07 01.9	+4.2
IGT	Igoumenitsa	1.38	318	P	Pn	03 06 39.5	-0.3
MGER	Gerania Oros	1.47	110	ePB	Pb	03 06 41.5	-0.1
XOR	Xorichti	1.56	56	ePg	Pg	03 06 41.9	-1.5
XOR				eSg	Sg	03 07 03.2	-0.5
XOR	Xorichti	1.56	56	P	Pn	03 06 42.1	-0.3
XOR				S	Sn	03 07 05.1	+1.8
XOR	Xorichti	1.56	56	P	Pn	03 06 42.1	-0.3
XOR				S	Sn	03 07 05.1	+1.8
NAIG	Nisos Aigina	1.73	115	ePN	Pn	03 06 45.0	+0.4
LIT	Litokhoron	1.76	25	ePb	Pb	03 06 44.9	-0.3
LIT				eSb	Sb	03 07 08.3	-0.9
LIT	Litokhoron	1.76	25	P	Pn	03 06 44.9	-0.3
LIT				S	Sn	03 07 10.4	+2.1
LIT	Litokhoron	1.76	25	P	Pn	03 06 44.9	-0.2
LIT				S	Sn	03 07 10.4	+2.2
KEK	Kerkira	1.80	313	ePG	Pg	03 06 45.8	-2.1
VLI	Veliai	2.11	147	ePN	Pn	03 06 50.7	+0.8
FNA	Florina	2.28	357	ePn	Pn	03 06 52.4	+0.2
FNA	Florina	2.28	357	P	Pn	03 06 54.0	+1.8
FNA	Florina	2.28	357	P	Pn	03 06 54.0	+1.8
KNT	Kendrikon	2.86	21	ePn	Pn	03 07 00.3	+0.1
KNT	Kendrikon	2.86	21	P	Pn	03 07 00.9	+0.7
KNT	Kendrikon	2.86	21	P	Pn	03 07 00.9	+0.7
SRS	Serrai	3.06	31	ePn	Pn	03 07 02.9	-0.1
CHOS	Chios island	3.57	91	ePn	Pn	03 07 09.1	-0.8

IDC 17 03:28:42.5±2.1, 364N×12443E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=244.5km s-min=25.8km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.37	158	P	P	03 34 11.9	+0.5
	1.9nm,0.7s,baz=337,slow=10,SNR=6.6						
ASAR	Alice Springs	28.67	162	P	P	03 34 41.1	+0.1
	0.2nm,0.6s,baz=335,slow=7.7,SNR=4.4						
MKAR	Makanchi Array	56.34	326	P	P	03 38 25.4	+0.1
	0.6nm,0.5s,baz=122,slow=8.6,SNR=8.3						

ISCJB 17 03:36:50.9±0.3, 3874N±002×2280E±003, h10km, Error ellipse: s-maj=3.4km s-min=3.0km az=83.5
NEIC 17 03:36:50.8, 3870N×2276E, h19km, MD3.2(ATH), After ATH.
ATH 17 03:36:50.8, 3870N×2276E, h19km±1km, MD3.2/4
CSEM 17 03:36:52.0±0.1, 3870N×2280E, h10km, MD3.2, Error ellipse: s-maj=2.6km s-min=1.9km az=70.0
THE 17 03:36:52.0, 3880N×2279E, h1km, ML2.1

ISC 17 03:36:51.1±0.5, 3872N±003×2278E±003, h8km±4km, n25, σ0§96/37, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.19	112	ePB	Pg	03 36 55.3	+0.3
LKR				eSB	Sg	03 36 59.4	+1.8
AGG	Agios Georgios	0.46	311	ePg	Pg	03 36 59.3	-0.8
AGG				eSg	Sg	03 37 05.7	-0.4
NEO	Neokhori	0.68	31	ePN	Pg	03 37 04.5	+0.3
NEO				eSN	Sg	03 37 14.5	+1.4
XOR	Xorichti	0.72	27	ePg	Pg	03 37 04.9	-0.1
XOR				eSg	Sg	03 37 12.8	-1.6
EVR	Evrytania	0.78	285	ePN	Pg	03 37 05.6	-0.5
EVR				eSN	Sg	03 37 16.7	+0.4
MGER	Gerania Oros	0.83	152	ePB	Pg	03 37 06.0	-1.0
AOS	Alonnisos	0.97	62	ePg	Pg	03 37 10.3	+0.6
AOS				eSg	Sg	03 37 23.0	+0.7
ATH	Athens Observa	1.05	135	ePN	Pn	03 37 11.2	-0.9
NAIG	Nisos Aigina	1.11	150	ePN	Pn	03 37 11.8	-1.1
RLS	Riolos of Patr	1.22	238	ePN	Pn	03 37 13.2	-1.3
RLS				eSN	Sn	03 37 30.8	-0.4
PAIG	Paliouri	1.39	30	ePg	Pg	03 37 16.2	-1.6
PAIG				eSg	Sg	03 37 35.5	-0.4
LIT	Litokhoron	1.40	351	ePg	Pn	03 37 16.1	-0.8
LIT				eSg	Sg	03 37 36.1	+0.1
LKD	Levkas	1.66	270	ePb	Pb	03 37 22.0	0.0
LKD				eSb	Sb	03 37 44.8	+1.7
ITM	Ithomi	1.68	204	ePN	Pn	03 37 21.8	+1.1
PLG	Polygyros	1.73	17	ePN	Pn	03 37 22.0	+0.6
KZN	Kozani	1.76	334	ePN	Pn	03 37 22.3	+0.4
VLS	Valsamata	1.80	253	ePN	Pn	03 37 23.4	+1.0
OUR	Ouranopolis	1.86	30	ePb	Pn	03 37 23.0	-0.3
OUR				eSb	Sb	03 37 48.3	-0.4
VLI	Veliai	2.00	176	ePB	Pb	03 37 25.2	-2.6
SOH	Sokhos	2.14	12	ePn	Pn	03 37 27.0	-0.1
FNA	Florina	2.33	333	ePn	Pn	03 37 30.7	+1.1
KNT	Kendrikon	2.44	2	ePn	Pn	03 37 31.8	+0.6
SRS	Serrai	2.47	14	ePn	Pn	03 37 31.7	+0.1
APE	Apeiranthos	2.73	126	ePn	Pn	03 37 35.3	+0.1
KARN	Karanos	3.44	164	ePn	Pn	03 37 48.2	+3.3
KARN				eSn	Sn	03 38 30.3	+4.6

HRVD 17 03:45:54.9±0.3, 2019S×17383W, h87km±5km, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s28,c30;Mantle waves: s66,c85; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.32±.20; Mθθ=1.02±.17; Mφφ=1.34±.17; Mrθ=0.98±.10; Mrφ=1.41±.17; Mθφ=2.56±.09; Best double couple: M0=3.31200×10^16 NP1:φs67.00000°, δ34.00000°, λ-6.00000°. NP2: φs162.00000°, δ87.00000°, λ-124.00000°. Principal axes: T 3.2840, Plg33.0000°, Azm280.0000°; N 0.0560, Plg34.0000°, Azm164.0000°; P -3.3400, Plg39.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 17 03:45:54.9±1.6, 2003S×17447W, h38km±13km, mb4.9/41 Error ellipse: s-maj=9.2km s-min=5.4km az=147.0
MOS 17 03:45:56.7±2.8, 1944S×17480W, h33km, mb5.0/17, Error ellipse: s-maj=12.5km s-min=9.3km az=56.5
ISCJB 17 03:45:58.4±0.2, 2013S±005×17447W±005, h82km, mb4.8/58, Error ellipse: s-maj=8.5km s-min=4.0km az=103.7
BJI 17 03:45:59.7, 1905S×17520W, h38km, mB5.0, mb5.1, Ms4.9, Msz4.6
SZGRF 17 03:45:59.6, 2021S×17433W, h75km, Tonga Islands
IDC 17 03:46:01.9±2.5, 2001S×17459W, h94km±22km, mb4.5/12, mb1 4.7/13, mb1mx4.6/18, mbtmp4.9/13, MS3.9/13, Ms1 3.9/13, ms1mx3.7/20, Error ellipse: s-maj=19.5km s-min=11.5km az=150.0

ISC 17 03:46:00.2±0.2, 2016S±005×17443W±005, h84km, h84km±4.1km: pP-P, n416, σ0§81/242, mb4.8/58, 81C-58D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.71	23	P	Pn	03 47 27.9	-8.2
	26nm,0.3s,baz=346,slow=0.1,SNR=14						
AFI				S	Sn	03 48 34.1	-17
	43nm,0.3s,baz=51,slow=22,SNR=6.2						
AFI	Afiamalu	6.71	23	P	Pn	03 47 27.9	-8.2
AFI				S	Sn	03 48 34.1	-17
AFI				pmax	pmax		
	comp=Z,26nm,0.3s						
AFI				smax			
	comp=N,43nm,0.3s						
AFI	Afiamalu	6.71	23	ePn	Pn	03 47 26.7	-9.4
	comp=N,88nm,0.4s						
AFI				eSn	Sn	03 48 33.4	-18
RAO	Raoul Island	9.59	199	P	Pn	03 48 11.1	-4.2
	comp=N,54nm,0.3s,baz=316,slow=18,SNR=3.2						
RAO				S	Sn	03 49 57.0	-4.3
	comp=N,184nm,0.3s,baz=84,slow=22,SNR=11						
RAO				LR	LR	03 51 24.6	
	comp=N,608nm,20.4s,baz=32,slow=33						
RAR	Rarotonga	13.76	97	P	Pn	03 49 02.6	-8.9
	comp=N,15nm,0.3s,baz=258,slow=7.7,SNR=26						
RAR				S	Sn	03 51 18.3	-24
	comp=N,9.0nm,0.3s,baz=124,slow=18,SNR=6.5						
RAR				LR	LR	03 52 33.8	
	comp=N,1μm,19.3s,baz=300,slow=28						
DZM	Mont Dzumac	17.94	261	eP	Pn	03 50 06.5	+2.5
DZM	Mont Dzumac	17.94	261	P	Pn	03 50 06.9	+2.8
	comp=N,4.2nm,0.3s,baz=72,slow=17,SNR=37						
DZM				LR	LR	03 54 26.7	
	comp=N,152nm,21.8s,baz=293,slow=28						
NOUC	Port Laguerre	18.07	260	eP	Pn	03 50 07.7	+2.1
URZ	Urewera	19.47	200	P	Pn	03 50 20.6	-1.7
	comp=N,7.3nm,0.3s,baz=4.1,slow=5.0,SNR=32						
URZ				S	S	03 53 43.1	-13
	comp=N,2.7nm,0.3s,baz=178,slow=17,SNR=6.7						
BFZ	Birch Farm	21.95	199	SN	S	03 54 35.0	-9.3
MRZ	Mangatainoka R	22.15	200	eSN	S	03 54 36.9	-11
TUWZ	Tuamarina	23.39	202	eSN	S	03 55 06.4	-1.7
TBI	Tubuai	23.40	102	eLQ		03 55 40.9	
	comp=N,323nm,34.0s						
TBI				eLR	LR	03 56 23.3	
	comp=N,1μm,31.2s,baz=273						
QRZ	Quartz Range	23.41	206	PN	P	03 51 05.9	+4.2
NNZ	Nelson	23.41	204	PN	P	03 50 59.5	-2.1
PPT	Papeete	23.66	88	eLQ		03 55 34.4	
	comp=N,716nm,24.8s						
PPT				eLR	LR	03 56 23.3	
	comp=N,2μm,29.5s,baz=260						
PPT	Papeete	23.66	88	LR	LR	03 57 42.6	
	comp=N,194nm,20.8s,baz=262,slow=29						
THZ	Tophouse	24.07	204	PN	P	03 51 05.9	-1.6
DSZ	Denniston Nort	24.48	205	PN	P	03 51 13.2	+1.8
MQZ	McQueen's Vall	25.85	202	SN	S	03 55 53.9	+6.7
WVZ	Waitaha Valley	26.03	205	PN	P	03 51 26.4	+1.1
JCZ	Jackson Bay	27.66	207	PN	P	03 51 40.1	+0.1
ARMA	Armidale	32.23	245	eP	P	03 52 21.4	+1.0
TAOE	Nuku Hiva Isla	34.97	76	eLR	LR	04 01 35.3	
	comp=N,2μm,29.7s,baz=252						
CNB	Canberra Magne	35.20	237	eP	P	03 52 43.9	-2.3
	comp=N,56nm,1.2s,mb5.3						
RKT	Rikitea	36.72	102	eLR	LR	04 02 22.7	
	comp=N,958nm,31.0s						
CTA	Charters Tower	36.85	263	eP	P	03 53 00.4	+0.1
	comp=N,52nm,0.4s,mb5.8						
CTA	Charters Tower	36.85	263	P	P	03 53 00.6	+0.3
	comp=N,56nm,0.4s,mb5.8,baz=90,slow=10,SNR=208						
CTA	Charters Tower	36.85	263	P	P	03 53 00.6	+0.3
CTA				pmax	pmax		
	comp=Z,56nm,0.4s						
CTAO	Charters Tower	36.85	263	eP	P	03 53 00.4	+0.1
CTAO				pmax	pmax		
	comp=Z,54nm,0.4s,mb5.8						
CTAO	Charters Tower	36.85	263	eP	P	03 53 00.4	+0.1
	comp=Z,54nm,0.4s,mb5.8						
PMG	Port Moresby	38.55	280	P	P	03 53 14.7	+0.1
	comp=Z,53nm,0.9s,mb5.4,baz=81,slow=4.8,SNR=7.5						
PMG	Port Moresby	38.55	280	⇓iP	P	03 53 14.9	+0.3
PMG				pmax	pmax		
	comp=Z,118nm,1.3s						
PMG	Port Moresby	38.55	280	⇓iP	P	03 53 14.9	+0.3
	comp=Z,118nm,1.3s,mb5.6						
TOO	Toolangi	38.81	235	eP	P	03 53 17.3	+0.5
	comp=Z,14nm,0.9s,mb4.8						
TOO	Toolangi	38.81	235	eP	P	03 53 17.3	+0.5
TOO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
STKA	Stephens Creek	40.95	244	eP	P	03 53 32.3	-2.2
	comp=Z,13nm,1.2s,mb4.6						
STKA	Stephens Creek	40.95	244	P	P	03 53 32.1	-2.3
	comp=Z,5.3nm,0.4s,mb4.7,baz=87,slow=9.8,SNR=21						
STKA				LR	LR	04 07 42.9	
	comp=Z,333nm,20.7s,baz=276,slow=32						
AS31	Alice Springs	47.85	256	eP	P	03 54 29.3	-0.1
ASAR	Alice Springs	47.85	256	P	P	03 54 29.2	-0.3
	comp=Z,21nm,0.7s,mb5.1,baz=93,slow=7.7,SNR=112						
ASAR				PcP	PcP	03 55 58.5	+1.5
	comp=Z,3.2nm,0.6s,baz=104,slow=4.2,SNR=5.2						
ASAR				S	S	04 01 18.9	-1.2
	comp=Z,0.9nm,0.9s,baz=95,slow=16,SNR=5.0						
ASPA	Alice Springs	47.85	256	eP	P	03 54 29.3	-0.2
WB2	Warramunga Arr	47.95	261	eP	P	03 54 29.5	-0.7
WRAB	Tennant Creek	47.95	261	eP	P	03 54 29.6	-0.6
WRA	Warramunga Arr	47.96	261	P	P	03 54 28.8	-1.5
	comp=Z,19nm,0.8s,mb5.0,baz=94,slow=6.8,SNR=106						
WRA				S	S	04 01 20.6	-1.2
	comp=Z,0.4nm,0.3s,baz=96,slow=14,SNR=2.6						
KAKA	Kakadu	51.32	270	eP	P	03 54 54.9	-0.9
	comp=Z,20nm,0.5s,mb5.4						
GUMO	Guam	52.22	307	LR	LR	04 14 40.4	
	comp=Z,42nm,19.8s,baz=30,slow=33						
FORT	Forrest	52.50	246	eP	P	03 55 03.8	-0.8
	comp=Z,27nm,0.5s,mb5.5						
FITZ	Fitzroy Crossi	56.39	261	eP	P	03 55 33.1	+0.4
	comp=Z,12nm,0.5s,mb5.2						
FITZ	Fitzroy Crossi	56.39	261	P	P	03 55 33.2	+0.5
	comp=Z,7.3nm,0.5s,mb4.9,baz=109,slow=6.6,SNR=42						
SBA	Scott Base	58.45	185	eP	P	03 55 49.6	+2.3
	comp=Z,9.0nm,0.9s,mb4.8						
SBA				epP	pP	03 56 07.6	-0.7
VNDA	Vanda	58.57	186	P	P	03 55 50.2	+2.1
	comp=Z,2.2nm,0.8s,mb4.2,baz=22,slow=7.5,SNR=14						
VNDA	Vanda	58.57	186	eP	P	03 55 49.4	+1.3
	comp=Z,2.1nm,0.8s,mb4.2						
MBWA	Marble Bar	61.19	256	eP	P	03 56 04.6	-1.4
	comp=Z,28nm,1.0s,mb5.2						
KLBR	Kellerberrin	61.23	244	eP	P	03 56 06.4	+0.1
	comp=Z,27nm,0.9s,mb5.3						
KLBR				epP	pP	03 56 19.1	-8.4
MUN	Mundaring	62.48	244	eP	P	03 56 15.0	+0.3
CASY	Casey	65.70	205	eP	P	03 56 36.8	+1.0
QSPA	South Pole Qui	69.91	180	eP	P	03 57 02.9	+0.7
	comp=Z,11nm,0.8s,mb4.7						
MJAR	Matsushiro Arr	71.97	321	P	P	03 57 14.1	-0.6
	comp=Z,13nm,0.8s,mb4.8,baz=158,slow=5.7,SNR=40						
MJAR				LR	LR	04 25 20.9	
	comp=Z,52nm,19.5s,baz=75,slow=33						
MAJO	Matsushiro	71.97	321	eP	P	03 57 14.7	0.0
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
MAJO	Matsushiro	71.97	321	eP	P	03 57 14.7	0.0
	comp=Z,14nm,0.8s,mb4.8						
MAT	Matsushiro	71.97	321	P	P	03 57 14.5	-0.2
MAT				S	S	04 06 32.8	+3.4
MAT	Matsushiro	71.97	321	eP	P	03 57 15.0	+0.3
MAT				eS	S	04 06 33.0	+3.6
MAT				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
MAT	Matsushiro	71.97	321	eP	P	03 57 15.0	+0.3
	comp=Z,13nm,0.9s,mb4.8						
MAT				eS	S	04 06 33.0	+3.6
KKM	Kota Kinabalu	72.92	283	eP	P	03 57 20.9	+0.6
V04C	Ramage Ranch,	75.18	43	⇓P	P	03 57 34.3	+0.9
	baz=75						
HAST	Hastings Reser	75.22	42	⇓P	P	03 57 33.9	+0.3
	baz=75						
U04C	Hernandez Rese	75.69	42	⇑P	P	03 57 36.9	+0.5
	baz=76						
PACP	Pacheco Peak	75.77	41	⇑P	P	03 57 37.3	+0.4
	baz=76						
HOPS	Hopland	75.97	39	⇑P	P	03 57 39.0	+1.1
	baz=76						
MNRC	McLaughlin Nat	76.27	39	⇓P	P	03 57 40.9	+1.2
	baz=76						
O01C	Eel River Cons	76.29	38	⇓P	P	03 57 40.0	+0.2
	baz=76						
GASB	Alder Springs	76.60	39	⇓P	P	03 57 42.1	+0.5
	baz=77						
KSM	Kuching	76.69	277	eP	P	03 57 43.3	+1.3
ISA	Isabella	76.74	44	⇓P	P	03 57 42.1	-0.2
	baz=77						
PFO	Pinyon Flat

comp=Z,4.1nm,0.7s,mb4.3,baz=167,slow=3.2,SNR=10.0
YBH Yreka Blue Hor 77.97 37 ⇑P P 03 57 49.3 +0.1
baz=78
O04C Chester 77.99 39 ⇑P P 03 57 49.0 -0.3
baz=78
M03C McCloud 78.00 38 ⇓P P 03 57 49.2 -0.2
baz=78
S08C White Mtn Res 78.03 43 ⇑P P 03 57 49.9 +0.4
baz=78,SNR=7.8
HATC Hat Creek Radi 78.09 38 ⇓P P 03 57 50.7 +0.8
baz=78
WCN Washoe City 78.15 40 ⇓P P 03 57 50.2 0.0
baz=78
TUQ Turquoise Mtn. 78.29 45 ⇓P P 03 57 50.8 -0.2
baz=78
Y12C Blythe 78.29 47 ⇑P P 03 57 50.5 -0.5
baz=78
ELFS Eagle Lake Fie 78.39 39 ⇓P P 03 57 51.4 -0.1
baz=78
HUMO Hull Mountain 78.41 36 ⇓P P 03 57 51.9 +0.3
baz=78
M04C Macdoel 78.50 37 ⇑P P 03 57 52.0 -0.1
baz=79
NVAR Mina Array Bea 78.51 42 P P 03 57 51.9 -0.3
comp=Z,7.5nm,0.7s,mb4.6,baz=225,slow=8.8,SNR=50
R08A Mina 78.58 42 ⇓P P 03 57 52.4 -0.2
baz=79,SNR=8.1
MNV Mina 78.61 42 *eP* **P 03 57 51.9 -0.8**
MNV pmax pmax
comp=Z,14nm,1.0s,mb4.8
MNV Mina 78.61 42 *eP* **P 03 57 51.9 -0.8**
comp=Z,14nm,1.0s,mb4.8
M05C Lookout 78.62 38 ⇑P P 03 57 52.6 -0.2
baz=79
O06A Flanigan 78.64 40 ⇑P P 03 57 52.6 -0.3
baz=78,SNR=6.4
L04A Klamath Falls 78.72 37 ⇑P P 03 57 53.0 -0.3
baz=79
S09A Goldfield 78.77 43 ⇓P P 03 57 53.1 -0.5
baz=79,SNR=5.2
Y13A Salome 78.80 48 ⇑P P 03 57 53.9 +0.2
baz=79
M06C Likely Place G 78.91 38 ⇑P P 03 57 54.5 +0.2
baz=79
W12A Cal Nev Ari 78.92 46 ⇑P P 03 57 54.9 +0.5
baz=79
Q08A Gabbs 79.00 42 ⇑P P 03 57 54.3 -0.6
baz=79,SNR=6.0
Z14A Wintersburg 79.17 48 ⇓P P 03 57 55.9 +0.2
baz=79
O07A Toulon 79.21 40 ⇓P P 03 57 55.6 -0.4
baz=79,SNR=13
X13A Yucca 79.23 47 ⇑P P 03 57 56.5 +0.4
baz=79
115A Sonoran Desert 79.33 49 ⇑P P 03 57 56.9 +0.3
baz=79
P08A Dixie Valley 79.41 41 ⇑P P 03 57 57.3 +0.2
baz=80
Y14A Wickenburg 79.45 48 ⇓P P 03 57 57.2 -0.1
baz=80
Q09A Carvers 79.45 42 ⇓P P 03 57 57.0 -0.3
baz=80
N07B Gerlach 79.54 40 ⇑P P 03 57 57.5 -0.3
baz=80
116A Eloy 79.63 50 ⇓P P 03 57 58.3 0.0
baz=80
O08A Rochester Mine 79.73 40 ⇑P P 03 57 59.2 +0.4
baz=80
KDAK Kodiak Island 79.75 12 *eP* **P 03 57 58.0 -0.9**
comp=Z,8.4nm,0.8s,mb4.6
M07A Soldier Meadow 79.80 39 ⇑P P 03 57 59.4 +0.2
baz=80
X14A Yava 79.81 48 ⇑P P 03 57 59.4 +0.1
baz=80
N08A GE Springer Mi 80.04 40 ⇑P P 03 58 00.2 -0.3
baz=80,SNR=8.9
K06A Valley Falls 80.05 37 ⇑P P 03 58 00.4 -0.2
baz=80
SSE Sheshan 80.07 308 P P 03 58 00.8 +0.1
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,20nm,3.2s
W14A Seligman 80.08 47 ⇑P P 03 58 01.2 +0.5
baz=80
TUC Tucson 80.16 50 *eP* **P 03 58 01.5 +0.4**
TUC pmax pmax
comp=Z,13nm,1.4s,mb4.6
TUC Tucson 80.16 50 *eP* **P 03 58 01.5 +0.3**
comp=Z,13nm,1.4s,mb4.5
H04A Detroit Lake 80.19 35 ⇓P P 03 58 01.6 +0.3
baz=80
O09A Fish Creek Ran 80.25 41 ⇑P P 03 58 01.7 +0.1
baz=80
X15A Humboldt 80.28 48 ⇑P P 03 58 02.3 +0.5
baz=80
M08A Happy Creek Ra 80.30 39 ⇑P P 03 58 01.8 -0.1
baz=80
I05A Bend 80.35 36 ⇑P P 03 58 02.4 +0.2
baz=80
BMN Battle Mountai 80.38 41 *eP* **P 03 58 02.0 -0.3**
BMN pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
BMN Battle Mountai 80.38 41 *eP* **P 03 58 02.0 -0.3**
comp=Z,5.9nm,0.9s,mb4.4
J06A Christmas Vall 80.39 37 P P 03 58 02.7 +0.3
baz=80,SNR=5.6
Q11A Duckwater 80.43 43 ⇑P P 03 58 02.4 -0.2
baz=81,SNR=10
K07A Rock Creek Ran 80.56 38 ⇓P P 03 58 03.2 -0.1
baz=81,SNR=6.4
W15A Williams 80.63 47 ⇑P P 03 58 04.1 +0.5
baz=81
H05A Madras 80.69 35 ⇓P P 03 58 03.6 -0.4
baz=81
P11A Circle Ranch, 80.78 42 ⇓P P 03 58 04.3 -0.2
baz=81
I06A Prineville 80.80 36 ⇓P P 03 58 04.6 0.0
baz=81,SNR=5.2
M09A Marrel Ranch, 80.84 40 ⇑P P 03 58 05.0 +0.3
baz=81
F04A Amboy 80.89 34 ⇓P P 03 58 05.4 +0.3
baz=81
N10A Dunphy 80.99 41 ⇑P P 03 58 05.7 +0.1
baz=81
L09A Wilkinson Ranc 81.07 39 ⇑P P 03 58 05.8 -0.2
baz=81
O11A Cowboy Ranch, 81.17 42 ⇓P P 03 58 06.6 0.0
baz=81
P12A McGill 81.26 42 ⇓P P 03 58 06.9 -0.1
baz=81
F05A White Salmon 81.37 34 ⇑P P 03 58 08.1 +0.5
baz=82
N11A Elko Archery C 81.52 41 ⇓P P 03 58 08.4 0.0
baz=82
E05A Randle 81.65 34 ⇓P P 03 58 08.4 -0.7
baz=82
C04A Brinnon 81.81 32 ⇓P P 03 58 10.6 +0.7
baz=82
HABR Khabarovsk 81.84 329 *eP* **P 03 58 11.2 +1.1**
HABR *eS* S 04 08 17.1 +0.4
M11A Holland Ranch, 81.85 40 ⇓P P 03 58 10.4 +0.3
baz=82
D05A Enumclaw 81.95 33 ⇓P P 03 58 10.9 +0.3
baz=82
N12A Wells--Clov Va 81.97 41 ⇓P P 03 58 10.7 -0.1
baz=82
MDJ Mudanjiang 82.20 323 P P 03 58 13.3 +1.3
MDJ PP PP 04 01 20.4 -0.8
MDJ AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
MDJ AMB AMB
comp=Z,50nm,3.0s
MDJ LR LR
comp=E,70nm,34.4s
MDJ LR LR
comp=Z,50nm,26.9s
NJ2 Nanjing 82.27 308 *eP* **P 03 58 13.6 +1.3**
NJ2 XP sP 03 58 27.9 -16
NJ2 PP PP 04 01 24.0 +2.2
NJ2 S S 04 08 22.0 +0.9
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
NJ2 AMB AMB
comp=Z,80nm,11.9s
NJ2 LR LR
comp=N,540nm,26.8s
NJ2 LR LR
comp=E,540nm,23.6s
NJ2 LR LR
comp=Z,180nm,23.0s
M12A Wells 82.38 41 ⇑P P 03 58 12.7 -0.2
baz=82
C05A Tolt Reservoir 82.43 33 ⇓P P 03 58 13.3 +0.1
baz=83
MSU Marysvale 82.49 44 *eP* **P 03 58 14.3 +0.8**
N13A West Wendover 82.50 42 ⇑P P 03 58 13.2 -0.3
baz=83
B05A Bryant 82.60 32 ⇑P P 03 58 13.8 -0.3
baz=83
A04A Legoe Bay, Lum 82.60 32 ⇑P P 03 58 15.0 +1.0
baz=83
HAWA Hanford 82.72 35 *eP* **P 03 58 13.9 -0.8**
comp=Z,1.5nm,1.4s,mb3.6
SLKM Skilak Lake 82.75 12 *eP* **P 03 58 13.6 -1.2**
M13A Montello 82.81 41 ⇑P P 03 58 15.1 0.0
baz=83
MAW Mawson 83.00 199 *eP* **P 03 58 17.1 +1.0**
comp=Z,3.7nm,1.4s,mb4.0
MAW *ep*P pP 03 58 30.7 -7.7
MAW *es*P sP 03 58 36.8 -11
MAW Mawson 83.00 199 P **P 03 58 17.3 +1.2**
comp=Z,2.6nm,0.6s,mb4.2,baz=146,slow=9.7,SNR=6.7
MAW LR LR 04 35 10.7
comp=Z,72nm,21.9s,baz=241,slow=36
MAW Mawson 83.00 199 P **P 03 58 17.3 +1.2**
MAW pmax pmax
comp=Z,3.0nm,0.6s
MAW MLR MLR
comp=Z,72nm,21.9s
MNTX Cornudas Mount 83.85 53 *eP* **P 03 58 20.3 -0.1**
comp=Z,9.8nm,1.1s,mb4.5
MNTX *ep*P pP 03 58 44.1 +1.3
SRU San Rafael 83.90 45 *eP* **P 03 58 20.5 -0.2**
SRU pmax pmax
comp=Z,24nm,1.1s,mb4.9
SRU San Rafael 83.90 45 *eP* **P 03 58 20.5 -0.2**
comp=Z,24nm,1.1s,mb4.9
HLID Hailey 83.91 39 *eP* **P 03 58 20.8 0.0**
comp=Z,7.4nm,0.8s,mb4.6
HLID *ep*P pP 03 58 41.0 -2.2
PMR Palmer 83.95 12 *eP* **P 03 58 19.7 -1.3**
PMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
PMR Palmer 83.95 12 *eP* **P 03 58 19.6 -1.3**
comp=Z,8.1nm,1.0s,mb4.5
KLR Kul'dur 83.98 328 *eP* **P 03 58 18.2 -2.9**
BNM Barren Site 84.09 51 *eP* **P 03 58 22.5 +0.8**
CN2 Changchun 84.11 321 *eP* **P 03 58 22.9 +1.1**
CN2 *eS* 04 08 41.8
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
DAU Daniels Canyon 84.12 43 *eP* **P 03 58 22.5 +0.7**
SNY Shenyang 84.14 318 *eP* **P 03 58 22.6 +0.7**
SNY AMB AMB
comp=Z,40nm,8.8s
LPM Los Pinos Moun 84.17 50 *eP* **P 03 58 22.6 +0.5**
LPM *ep*P pP 03 58 46.6 +2.2
DIV Divide 84.23 14 *eP* **P 03 58 21.3 -1.1**
comp=Z,20nm,0.6s,mb5.1
MA2 Magdan 84.39 343 *eP* **P 03 58 22.1 -1.1**
TCUT Toone Canyon 84.40 43 *eP* **P 03 58 23.6 +0.4**
PV10 Paradox Valley 84.51 46 *eP* **P 03 58 23.8 -0.1**
HWUT Hardware Ranch 84.57 42 *eP* **P 03 58 23.6 -0.5**
comp=Z,1.3nm,0.5s,mb4.1
ANMO Albuquerque 84.60 50 *d iP* **P 03 58 24.4 +0.1**
ANMO Albuquerque 84.60 50 *eP* **P 03 58 24.3 0.0**
comp=Z,12nm,1.0s,mb4.8
ANMO *ep*P pP 03 58 48.4 +1.8
PV01 Paradox Valley 84.70 46 *eP* **P 03 58 24.6 -0.2**
WHN Wuhan 84.97 305 P **P 03 58 27.5 +1.4**
NEW Newport 85.17 34 *eP* **P 03 58 26.3 -0.8**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 85.17 34 *eP* **P 03 58 26.3 -0.8**
comp=Z,3.5nm,0.8s,mb4.3
SKAG Skagway 85.54 19 *eP* **P 03 58 29.2 +0.3**
MCMT McKenzie Canyo 85.56 39 *eP* **P 03 58 29.0 0.0**
MCK McKinley 85.95 11 *eP* **P 03 58 30.0 -1.0**
MCK pmax pmax
comp=Z,18nm,0.9s,mb5.0
MCK McKinley 85.95 11 *eP* **P 03 58 30.0 -1.0**
comp=Z,18nm,0.9s,mb5.0
DLMT Dillon 86.00 39 *eP* **P 03 58 31.6 +0.3**
comp=Z,6.4nm,1.0s,mb4.5
MENT Mentasta 86.28 14 *eP* **P 03 58 32.3 -0.3**
PDAR Pinedale Array 86.45 42 P **P 03 58 32.3 -1.1**
comp=Z,1.6nm,0.9s,mb4.0,baz=236,slow=3.2,SNR=12
PDAR LR LR 04 29 12.3
comp=Z,36nm,19.4s,baz=247,slow=30
BOZ Bozeman (W) 86.73 39 *eP* **P 03 58 34.5 -0.3**
BOZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BOZ Bozeman (W) 86.73 39 *eP* **P 03 58 34.5 -0.3**
comp=Z,4.1nm,1.1s,mb4.3
KULM Kulim 87.05 277 *eP* **P 03 58 37.8 +1.5**
PLCA Paso Flores 87.06 132 LR LR 04 28 17.0
comp=Z,122nm,18.6s,baz=357,slow=29
COLA College 87.19 11 *eP* **P 03 58 36.3 -0.8**
COLA College 87.19 11 *eP* **P 03 58 36.2 -0.9**
comp=Z,16nm,0.8s,mb5.0
SYO Syowa Base 87.77 192⇓ *eP* **P 03 58 38.0 -1.8**
SNAA Sanae 88.23 177 *eP* **P 03 58 42.6 +0.6**
comp=Z,2.3nm,0.9s,mb4.2
DAWY Dawson 88.25 15 *eP* **P 03 58 41.9 -0.2**
VNA1 Neumayer--Stat 88.92 175⇓ *iP* **P 03 58 46.0 +0.8**
VNA1 *e* 03 58 47.3
VNA1 *e* 03 58 55.1
VNA1 *e* pP 03 59 06.1 -1.7
VNA1 *e* pP 03 59 08.5 +0.7
BILL Bilibino 89.08 353 *eP* **P 03 58 45.6 -0.4**
BILL pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BILL Bilibino 89.08 353 *eP* **P 03 58 45.0 -1.0**
comp=Z,5.0nm,0.7s,mb4.7
GYA Guiyang 89.41 298 P **P 03 58 49.8 +2.3**
GYA SKS 04 09 13.6
GYA S 04 09 36.4
GYA AMB AMB
comp=Z,10.0nm,1.7s,mb4.6
GYA AMB AMB
comp=Z,210nm,7.8s
GYA LR LR
comp=N,240nm,21.8s
GYA LR LR
comp=E,350nm,22.4s
GYA LR LR
comp=Z,280nm,21.6s
EDM Edmonton 90.03 32 *eP* **P 03 58 49.4 -1.0**
HIA Hailar 90.39 323 *eP* **P 03 58 50.5 -1.6**
RSSD Black Hills 90.61 43 *eP* **P 03 58 51.5 -1.6**
comp=Z,4.3nm,1.0s,mb4.5
XAN Xi'an 90.61 306 P **P 03 58 52.9 -0.2**
HHC Hu-ho-hao-te 91.53 313 *eP* **P 03 58 57.4 0.0**
HHC PP PP 04 02 38.6 +2.2
HHC S 04 09 46.6
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.2
HHC AMB AMB
comp=Z,90nm,4.2s
HHC LR LR
comp=N,100nm,14.3s
HHC LR LR
comp=E,160nm,16.6s
HHC LR LR
comp=Z,60nm,19.0s
KMI Kunming 92.19 296 P **P 03 59 03.5 +3.0**
KMI AMB AMB
comp=Z,10.0nm,1.3s,mb4.9
YAK Yakutsk 93.08 337 *eP* **P 03 59 03.2 -1.4**
YAK pmax pmax
comp=Z,13nm,0.6s,mb5.4
INK Inuvik 93.10 14 *eP* **P 03 59 03.7 -0.9**
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 93.10 14 *eP* **P 03 59 03.7 -0.9**
comp=Z,3.8nm,0.7s,mb4.8
CD2 Chengdu 93.44 302 *eP* **P 03 59 05.4 -0.8**
CD2 PP PP 04 02 52.6 +1.2
CD2 S 04 10 06.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,40nm,9.5s
CD2 LR LR
comp=N,50nm,15.6s
CD2 LR LR
comp=Z,60nm,19.2s
YKA Yellowknife Ar 94.83 24 P **P 03 59 11.5 -1.1**
comp=Z,2.0nm,0.8s,mb4.6,baz=237,slow=4.2,SNR=10
YKA LR LR 04 32 42.4
comp=Z,61nm,20.3s,baz=180,slow=30
YKA Yellowknife Ar 94.83 24 P **P 03 59 11.5 -1.1**
YKA LR LR 04 32 42.4
YKW3 Yellowknife Ar 94.86 24 *eP* **P 03 59 12.0 -0.8**
LZH Lanzhou 95.24 306 *eP* **P 03 59 15.6 +1.1**
LZH *e*PP PP 04 03 08.8 +3.4
LZH SKS 04 09 47.3
LZH *eS* 04 10 23.6
LZH PS PS 04 11 53.5 +2.6
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,60nm,9.7s
LZH LR LR
comp=E,230nm,18.5s
LZH LR LR
comp=Z,390nm,19.8s
ULN Ulaanbaatar 97.31 318 *eP* **P 03 59 24.4 +0.5**
ULN pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
ULN Ulaanbaatar 97.31 318 *eP* **P 03 59 24.4 +0.5**
comp=Z,2.1nm,0.9s,mb4.6
ULM Lac du Bonnet 98.22 39 LR LR 04 36 40.7
comp=Z,70nm,20.9s,baz=262,slow=31
LPAZ La Paz 99.08 111 LR LR 04 32 46.8
comp=Z,115nm,20.0s,baz=57,slow=28
MKAR Makanchi Array 113.40 313 PKiKP PKiKP 04 04 27.7 -0.6
comp=Z,0.9nm,0.4s,baz=78,slow=1.0,SNR=10.0
MKAR Makanchi Array 113.40 313 PKPdf PKiKP 04 04 27.7 -0.6
CHKZ Chkalovo 120.74 321 *e*PKIKP PKPdf 04 04 41.3 -1.1
ZRNK Zerenda 121.80 320 *e*PKIKP PKPdf 04 04 43.6 -0.8
ARU Arti 126.80 326 *i* PKIKP PKPdf 04 04 52.9 -1.1
BOSA Boshof 127.92 202 PKP PKPdf 04 04 57.6 +1.5
comp=Z,2.0nm,0.7s,baz=62,slow=8.9,SNR=4.2
KEV Kevo 128.72 351 *e*pkp PKPdf 04 04 54.1 -3.6
AKTK Aktyubinsk 129.02 319 PKP PKPdf 04 04 57.6 -0.6
AKTO Aktyubinsk 129.02 319 PKP PKPdf 04 04 57.6 -0.6
comp=Z,0.5nm,0.4s,baz=289,slow=0.9,SNR=4.2
ARCES ARCESS Array B 129.15 351 PKP PKPdf 04 04 57.5 -0.9
comp=Z,6.3nm,0.5s,baz=13,slow=1.1,SNR=66
ARE0 ARCESS Array S 129.15 351 *e*PKPdf PKPdf 04 04 57.2 -1.3
JOF Joensuu 133.78 344 *e*pkp PKPdf 04 05 04.7 -2.5
KAF Kangasniemi 135.68 346 *e*pkp PKPdf 04 05 06.1 -4.7
FINES FINESS Array B 136.32 346 PKhKP 04 05 02.1
comp=Z,0.6nm,0.7s,baz=64,slow=4.4,SNR=6.9
FINES PKP PKPdf 04 05 12.3 +0.3
comp=Z,2.9nm,0.6s,baz=70,slow=2.6,SNR=6.0
FINES FINESS Array B 136.32 346 PKP 04 05 02.1
FINES PKP PKPdf 04 05 12.3 +0.3
LSZ Lusaka 138.35 214 *e*PKIKP PKPdf 04 05 16.9 +1.2
NB2 NORSAR Subarra 138.96 356 PKPb 04 05 06.5
comp=Z,1.1nm,0.9s,baz=6.3,slow=2.3
NOA NORSAR Array B 138.96 356 PKhKP 04 05 06.7
comp=Z,0.5nm,0.6s,baz=344,slow=2.3,SNR=7.0
NOA PKP PKPdf 04 05 18.2 +1.4
comp=Z,1.6nm,0.7s,baz=14,slow=4.0,SNR=11
HFS Hagfors 139.65 354 PKhKP 04 05 08.2
comp=Z,1.1nm,0.4s,baz=90,slow=4.4,SNR=20
HFS PKP PKPdf 04 05 19.6 +1.5
comp=Z,4.8nm,0.6s,baz=90,slow=2.2,SNR=13
GOF Gofitskoye 140.37 317 *e*PKHKP 04 05 10.4
KONO Kongsberg 140.45 357 *i* PKIKP PKPdf 04 05 21.9 +2.4
ANN Anapa 143.96 320 *i* PKHKP PKPdf 04 05 23.5 -2.3
ANN pmax pmax
comp=Z,39nm,1.0s
AKASG Malin Array Be 144.25 334 PKP PKPdf 04 05 24.1 -2.2
comp=Z,10.0nm,0.4s,baz=40,slow=4.4,SNR=63
EKA Eskdalemuir Ar 144.27 9 PKP PKPdf 04 05 23.9 -2.5
comp=Z,3.6nm,0.6s,baz=332,slow=2.8,SNR=25
MARD Mardin 144.96 307 *i* P PKPdf 04 05 27.4 -0.2
DMUB Kingscourt 144.99 13 *e*P PKPdf 04 05 26.0 -1.6
GRSN GIRESUNGRSN 145.35 314 *i* P PKPdf 04 05 28.5 +0.3
DCN Croghan 145.43 14 *e*P PKPdf 04 05 27.0 -1.3
DLF Lyons Farm 145.63 13 *e*P PKPdf 04 05 28.0 -0.7
SIM Simferopol' 145.81 323 *e*PKIKP PKPbc 04 05 31.9 +2.2
SIM pmax pmax
comp=Z,26nm,0.9s
ELZG Elazig 145.86 310 *i* P PKPdf 04 05 30.9 +1.8
BSEG Bad Segeberg 146.09 355 *e*PKPbc PKPbc 04 05 30.6 +0.1
MALT Malatya 146.34 310⇑ *i*P PKPbc 04 05 33.0 +1.8
MALT Malatya 146.34 310 *e*PKPbc PKPbc 04 05 32.6 +1.3
MALT *ep*PKPdf pPKPdf 04 05 52.1 -1.3
LVV L'vov 146.95 338 *e*PKIKP PKPdf 04 05 33.0 +2.1
BOYT Boyabat 147.32 317 *i* P PKPbc 04 05 35.1 +1.1
GZT Gaziantep 147.34 309 *i* P PKPbc 04 05 35.2 +1.2
NRDL Niedersach Rie 147.53 355 *e*PKPbc PKPbc 04 05 34.3 -0.3
CTKT Corum 147.81 316 *i* P PKPbc 04 05 36.2 +0.9
IBBN Ibbenburen 147.87 357 *e*PKPbc PKPbc 04 05 35.6 +0.1
CLZ Clausthal 148.16 354 *e*PKPbc PKPbc 04 05 36.5 +0.2
BALT Daday 148.22 318 *i* P PKPbc 04 05 37.3 +0.9
KSP Ksiaz 148.23 347 *e*PKP2 PKPbc 04 05 37.0 +0.5
STHS Stebnicka Huta 148.23 340 *e*PKP PKPbc 04 05 37.0 +0.5
CLL Collm 148.37 351 *e*PKPbc PKPbc 04 05 36.9 +0.1
CLL Collm 148.37 351⇑ *i*PKPbc PKPbc 04 05 36.9 +0.1
comp=Z,28nm,0.7s
CLL *i* PKPab PKPab 04 05 39.8 -0.4
comp=Z,13nm,0.6s
CLL *es*PKPab 04 05 57.0
CLL Collm 148.37 351⇑ *i*PKIKP PKPbc 04 05 36.9 +0.1
CLL *i* 04 05 39.8
UPC Upice 148.60 347 *e*PKP PKPdf 04 05 37.9 +4.2
CRVS Cervenica-Dubn 148.61 340 *e*PKP PKPbc 04 05 42.0 +4.6
COBT Iskenderun 148.63 308 *i* P PKPbc 04 05 38.6 +1.1
BRG Berggiesshubel 148.64 350 *e*PKPbc PKPbc 04 05 37.8 +0.3
BRG Berggiesshubel 148.64 350 *i* PKP PKPbc 04 05 38.0 +0.5
comp=Z,9.6nm,0.8s
DPC Dobruska-Polom 148.69 347⇑ *e*PKPB PKPbc 04 05 38.5 +0.9
OKC Ostrava-Krasne 148.74 344⇑ *e*PKPB PKPbc 04 05 37.9 +0.1
BUG Bochum--Univer 148.75 358 *e*PKPbc PKPbc 04 05 37.8 0.0
ELDT Eldivan 148.76 317 *i* P PKPbc 04 05 38.7 +0.9
CFR Carcaliu 148.85 328⇑ *i*P PKPbc 04 05 38.5 +0.5
CFR Carcaliu 148.85 328 ⇑P PKPbc 04 05 38.5 +0.5
PVCC Panska Ves 148.87 349⇑ *e*PKPB PKPbc 04 05 38.7 +0.6
MORC Moravsky Berou 148.94 345⇑ *i*P PKPbc 04 05 38.7 +0.4
MORC Moravsky Berou 148.94 345 *e*PKPbc PKPbc 04 05 38.4 +0.1
MORC *ep*PKPdf pPKPdf 04 05 59.3 +1.5
VRI Vrincioaia 149.01 331⇑ *i*P PKPbc 04 05 39.1 +0.6
VRI Vrincioaia 149.01 331 ⇑P PKPbc 04 05 39.1 +0.6
BR131 Keskin Array S 149.03 315 *e*PKPbc PKPbc 04 05 39.1 +0.6
BRTR Keskin Array B 149.03 315 PKP PKPdf 04 05 34.5 +0.1
comp=Z,4.8nm,0.6s,baz=150,slow=5.6,SNR=3.6
BRTR PKPbc PKPbc 04 05 39.1 +0.6
comp=Z,3.7nm,0.5s,baz=138,slow=4.4,SNR=27
BRTR Keskin Array B 149.03 315 PKIKP PKPbc 04 05 39.1 +0.6
BRTR pmax pmax
comp=Z,4.0nm,0.5s
MOX Moxa 149.20 352 *e*PKP PKPbc 04 05 39.1 +0.2
comp=Z,15nm,0.8s
UBBA Unterbreizbach 149.20 355 *e*PKPbc PKPbc 04 05 38.7 -0.2
TIRR Tirgusor 149.22 327⇑ *i*P PKPbc 04 05 39.4 +0.4
TIRR Tirgusor 149.22 327 ⇑P PKPbc 04 05 39.4 +0.5
KECS Kecovo 149.29 340 *e*PKP PKPbc 04 05 39.5 +0.4
KECS *e* 04 05 44.8
TANN Tannenbergstha 149.32 351 *e*PKPbc PKPbc 04 05 39.5 +0.3
PRU Pruhonice 149.39 349⇑ *e*PKPB PKPbc 04 05 39.9 +0.5
PRU *ex* x 04 06 00.5
UCC Uccle 149.41 2 PKPbc PKPbc 04 05 39.4 0.0
NKC Novy Kostel 149.50 351⇑ *e*PKPB PKPbc 04 05 40.0 +0.3
ANTO Ankara 149.51 316 *e*PKIKP PKPbc 04 05 40.3 +0.6
ASF Jabal al Asfar 149.55 300 PKPbc PKPbc 04 05 42.2 +2.4
comp=Z,7.8nm,0.9s,baz=321,slow=1.8,SNR=15
VRAC Vranov 149.60 346⇑ *i*P PKPbc 04 05 40.4 +0.5
MEM Membach 149.61 359 PKPbc PKPbc 04 05 38.8 -1.1
MEM PKPab PKPab 04 05 41.6 -3.7
MLR Muntele Rosu 149.65 331 PKPbc PKPbc 04 05 40.9 +0.9
comp=Z,3.8nm,0.3s,baz=298,slow=2.5,SNR=14
MLR Muntele Rosu 149.65 331⇑ *i*P PKPbc 04 05 40.2 +0.2
MLR Muntele Rosu 149.65 331 ⇑P PKPbc 04 05 40.2 +0.1
VYHS Vyhne 149.78 342 *i* PKP PKPbc 04 05 41.0 +0.7
VYHS *e* 04 06 00.6
MANZ Manzenberg 149.78 352 *e*PKPbc PKPbc 04 05 41.0 +0.6
MANZ *e*PKPab PKPab 04 05 46.8 +0.8
MANZ *ep*PKPbc pPKPbc 04 06 02.1 -1.7
KOLL Kolacno 149.82 343 *e*PKP PKPbc 04 05 41.0 +0.5
TREC Trest 149.86 347⇑ *e*PKPB PKPbc 04 05 40.7 +0.1

DRGR		149.97	336	⇓ *i*P	PKPbc	04 05 41.4	+0.6
DRGR		149.97	336	⇓P	PKPbc	04 05 41.4	+0.6
PSZ	Piszkesteto	149.97	341	⇓ *e*PKP/F	PKPbc	04 05 41.6	+0.8
PSZ	Piszkesteto	149.97	341	*e*PKPbc	PKPbc	04 05 40.7	-0.1
ROTZ	Rotzenmuhle	149.99	351	*e*PKPbc	PKPbc	04 05 41.4	+0.5
ROTZ				*ep*PKPbc	pPKPbc	04 06 02.2	-2.0
VOIR		150.10	332	⇑ *i*P	PKPbc	04 05 42.1	+1.0
VOIR		150.10	332	⇑P	PKPbc	04 05 42.1	+1.0
GIVF	Givet	150.12	1	*e*PKP1	PKPbc	04 05 41.5	+0.3
	comp=Z,41nm,0.7s						
DOU	Dourbes	150.12	1	PKPbc	PKPbc	04 05 40.9	-0.3
DOU				APKPbc		04 06 03.6	
SMOL	Smolenice	150.14	344	*i* PKP	PKPbc	04 05 42.7	+1.5
SMOL				*e*		04 05 48.7	
BAIF	Baives	150.15	2	*e*PKP1	PKPbc	04 05 41.6	+0.4
	comp=Z,32nm,0.8s						
HENT	Hendek	150.17	319	*i* P	PKPbc	04 05 39.7	-1.6
GRA1	Grafenberg Arr	150.19	353	*e*PKPbc	PKPbc	04 05 41.8	+0.5
GRA1				*e*PKPab	PKPab	04 05 47.7	+0.1
GRA1				*ep*PKPbc	pPKPbc	04 06 03.3	-1.4
GRF	Grafenberg Arr	150.19	353	*e*PKPbc	PKPbc	04 05 41.8	+0.5
GRF				*e*PKPab	PKPab	04 05 47.7	+0.1
GRF				*ep*PKPbc	pPKPbc	04 06 03.3	-1.4
GRF	Grafenberg Arr	150.19	353	*e*PKHKP	PKPbc	04 05 41.8	+0.5
GRF				*e*		04 05 47.7	
KHC	Kasperske Hory	150.39	349	⇑ *e*PKPB	PKPbc	04 05 42.2	+0.4
KHC				*e*PKPAB	PKPab	04 05 48.6	+0.1
KHC				*ep*PKP	pPKPdf	04 06 02.0	+1.9
KHC	Kasperske Hory	150.39	349	*e*PKHKP	PKPbc	04 05 42.2	+0.4
KHC				*e*		04 05 48.6	
WET	Wettzell	150.49	350	*e*PKPbc	PKPbc	04 05 41.8	-0.3
WET				*ep*PKPbc	pPKPbc	04 06 04.1	-1.4
ZST	Bratislava	150.52	344	*e*PKHKP	PKPbc	04 05 43.2	+1.1
ZST				MLR	MLR		
	comp=Z,500nm,11.4s						
MMAI	Mount Meron Ar	150.52	302	PKPbc	PKPbc	04 05 43.8	+1.7
	comp=Z,13nm,0.7s,baz=74,slow=6.2,SNR=26						
WLF	Walferdange	150.56	359	*e*PKPbc	PKPbc	04 05 42.8	+0.6
WLF				*e*PKPab	PKPab	04 05 49.8	+0.6
WLF	Walferdange	150.56	359	PKPbc	PKPbc	04 05 42.9	+0.7
WLF				APKPbc		04 06 04.8	
WLF	Walferdange	150.56	359	*e*PKPbc	PKPbc	04 05 43.0	+0.7
GEC2	GERESS Array S	150.64	349	*e*PKPbc	PKPbc	04 05 42.7	+0.3
GEC2				*ep*PKPbc	pPKPbc	04 06 03.9	-1.9
GERES	GERESS Array B	150.64	349	PKPbc	PKPbc	04 05 43.0	+0.6
	comp=Z,7.6nm,0.7s,baz=27,slow=1.7,SNR=72						
ERMK	Ermenek	151.02	310	*i* P	PKPdf	04 05 37.7	+0.3
FLN	La Foliniere	151.05	8	*e*PKP1	PKPbc	04 05 43.1	-0.3
	comp=Z,29nm,0.7s						
FLN				*e*R			
	comp=Z,65nm,21.0s						
CONA	Conrad Observa	151.07	346	⇑ *i*PKiKP	PKiKP	04 05 44.0	+0.1
	comp=Z,15nm,0.6s						
SOP	Sopron	151.13	345	⇓ *ep*PKP/F	PKPbc	04 05 44.3	+0.7
LANF	Langenberg	151.19	357	PKP	PKPbc	04 05 44.1	+0.4
SGMF	Saint Gilles	151.21	11	*e*PKP1	PKPbc	04 05 43.2	-0.6
	comp=Z,16nm,0.8s						
LDF	La Druitiere	151.26	8	*e*PKP1	PKPbc	04 05 43.6	-0.3
	comp=Z,18nm,0.7s						
STU	Stuttgart	151.31	355	*e*PKPbc	PKPbc	04 05 44.1	+0.1
STU				*ep*PKPbc	pPKPbc	04 06 05.1	-2.3
STU	Stuttgart	151.31	355	*e*PKPbc	PKPbc	04 05 43.8	-0.2
GRR	Gorron	151.36	9	*e*PKP1	PKPbc	04 05 43.9	-0.2
	comp=Z,27nm,0.6s						
BZS	Buzias	151.37	336	⇑ *i*P	PKPbc	04 05 44.1	0.0
BZS	Buzias	151.37	336	⇑P	PKPbc	04 05 44.1	0.0
QUIF	Quistinic	151.42	12	*e*PKP1	PKPbc	04 05 43.7	-0.5
MOA	Molln	151.49	348	⇑ *i*P	PKPbc	04 05 44.5	+0.1
	comp=Z,9.7nm,0.5s						
FUR	Furstenfeldbru	151.68	352	*e*PKPbc	PKPbc	04 05 45.1	+0.3
MEZF	Maizieres J'vi	151.72	1	*e*PKP1	PKPbc	04 05 45.2	+0.3
	comp=Z,29nm,0.8s						
CDF	Champ du Feu	151.78	358	*e*PKP1	PKPbc	04 05 45.4	+0.3
	comp=Z,22nm,0.7s						
ARSA	Arzberg	151.78	346	⇑ *i*P	PKPbc	04 05 45.1	0.0
	comp=Z,4.2nm,0.6s						
EIL	Elat	151.78	295	*e*PKPbc	PKPbc	04 05 46.2	+1.1
EIL				*ep*PKPdf	pPKPdf	04 06 06.4	+4.2
BFO	Black Forest	151.81	356	*e*PKPbc	PKPbc	04 05 45.2	+0.1
BFO				*ep*PKPbc	pPKPbc	04 06 06.4	-2.1
PKSM	Moragy	151.88	341	⇑ *i*P	PKPbc	04 05 45.1	-0.2
PKSM	Moragy	151.88	341	⇑P	PKPbc	04 05 45.1	-0.2
THEF	They Montfort	152.00	359	PKP	PKPbc	04 05 45.8	+0.3
HAU	Haudompre	152.21	359	*e*PKP1	PKPbc	04 05 47.2	+1.2
	comp=Z,25nm,0.6s						
HAU				*e*R			
	comp=Z,39nm,22.2s						
HINF	Hinteralfeld	152.39	358	*e*PKP1	PKPbc	04 05 46.4	0.0
	comp=Z,12nm,0.6s						
KBA	Koelnbreinsper	152.41	348	⇓ *i*P	PKPbc	04 05 46.9	+0.5
	comp=Z,8.8nm,0.5s						
WATA	Walderalm	152.45	351	⇑ *i*P	PKPbc	04 05 45.9	-0.7
	comp=Z,3.0nm,0.6s						
PERS	Pernice	152.46	346	*e*PKPbc	PKPbc	04 05 46.2	-0.4
PERS				*i* PKPab	PKPab	04 05 56.8	-0.3
MOTA	Moosalm	152.51	352	⇓ *i*P	PKPbc	04 05 46.7	0.0
	comp=Z,4.6nm,0.8s						
WTTA	Wattenberg	152.51	351	⇑ *i*P	PKPbc	04 05 46.9	+0.2
	comp=Z,37nm,0.5s						
SQTA	Sankt Quirin	152.62	352	⇓ *i*P	PKPbc	04 05 47.2	+0.3
	comp=Z,5.1nm,0.8s						
OBKA	Obir	152.71	346	⇑ *i*P	PKPbc	04 05 46.7	-0.4
	comp=Z,5.4nm,0.6s						
DAVA	Damuels	152.71	354	⇑ *i*P	PKPbc	04 05 47.8	+0.7
	comp=Z,14nm,0.9s						
HYF	Humbligny	152.85	4	*e*PKP1	PKPbc	04 05 47.9	+0.4
LOMF	Lomont	152.86	358	PKP	PKPbc	04 05 47.9	+0.4
LOR	Lormes	152.92	3	*e*PKP1	PKPbc	04 05 47.8	+0.2
	comp=Z,16nm,0.8s						
LOR				*e*R			
	comp=Z,69nm,22.2s						
SSF	Saint Saulge	153.11	3	*e*PKP1	PKPbc	04 05 48.3	+0.3
	comp=Z,18nm,0.8s						
CRES	Cresnjev	153.13	345	*i* PKPbc	PKPbc	04 05 48.2	+0.1
CRES				*i* PKPab	PKPab	04 05 59.4	-0.5
VTS	Vitosha	153.15	330	⇓ *i*P	PKPbc	04 05 48.3	+0.2
VTS	Vitosha	153.15	330	⇓P	PKPbc	04 05 48.3	+0.2
LJU	Ljubljana	153.15	346	*i* PKPbc	PKPbc	04 05 48.2	+0.1
MFF	Saint Martin d	153.21	9	*e*PKP1	PKPbc	04 05 48.1	-0.1
	comp=Z,8.6nm,0.8s						
VOY	Vojsko	153.30	347	*e*PKPbc	PKPbc	04 05 48.2	-0.2
AVF	Avril sur Loir	153.38	3	*e*PKP1	PKPbc	04 05 48.5	-0.1
	comp=Z,6.6nm,0.7s						
BOJS	Bojanci	153.49	345	*i* PKPbc	PKPbc	04 05 49.3	+0.5
SMF	Signal de Mont	153.54	3	*e*PKP1	PKPbc	04 05 49.1	+0.1
	comp=Z,5.6nm,0.8s						
BGF	Bois d'Agland	153.57	4	*e*PKP1	PKPbc	04 05 49.1	+0.1
	comp=Z,14nm,0.5s						
CABF	La Chapelle	153.61	359	*e*PKP1	PKPbc	04 05 49.8	+0.7
	comp=Z,6.4nm,0.5s						
TCF	Toulx Ste Croi	153.79	5	*e*PKP1	PKPbc	04 05 49.5	0.0
	comp=Z,9.4nm,0.8s						
KDAG	Bornova	153.87	319	*i* P	PKPbc	04 05 47.6	-2.0
RJF	Les Rejaudoux	154.70	7	*e*PKP1	PKPbc	04 05 51.4	0.0
RJF				*e*R			
	comp=Z,56nm,22.2s						
LPG	La Plagne	154.71	358	*e*PKP1	PKPbc	04 05 52.6	+1.1
	comp=Z,3.7nm,0.6s						
LFF	La Frestale	154.97	8	*e*PKP1	PKPbc	04 05 52.7	+0.7
CAF	Calviac	155.13	6	*e*PKP1	PKPdf	04 05 52.3	+8.9
BNI	Bardonecchia	155.16	358	*e*PKPbc	PKPdf	04 05 53.5	+10
BNI				*e*PKPab	PKPab	04 06 09.4	+0.9
VIVF	Saint-Julien-l	155.36	2	*e*PKP1	PKPdf	04 05 53.3	+10
	comp=Z,7.7nm,0.7s						
MBDF	Montbardon	155.48	358	*e*PKP1	PKPdf	04 05 53.6	+10
	comp=Z,8.3nm,0.8s						
EVO	Evora	158.24	30	*e*PKP2	PKPab	04 06 21.3	-0.6
	comp=Z,19nm,1.1s						
EVO				*e*R			
	comp=Z,72nm,22.2s						
LIC	Lamto	162.75	142	*e*PKP2	PKPab	04 06 43.0	+1.5
	comp=Z,50nm,1.5s						
MDT	Midelt	164.46	34	PKPab	PKPab	04 06 50.0	+1.0
	comp=Z,1.3nm,1.1s,baz=338,slow=9.2,SNR=3.5						
TORD	Torodi Ar. Bea	172.10	151	PKPab	PKPab	04 07 23.5	+0.7
	comp=Z,0.5nm,0.7s,baz=183,slow=4.2,SNR=4.9						

ISCJB ***17*** *04:08:35.4±1.0, 38.43N±004.0×21.52E±0.07, h1km±8km, Error ellipse: s-maj=9.6km s-min=5.5km az=59.1*
NEIC ***17*** *04:08:36.3, 38.56N×21.42E, h27km, MD3.0(ATH), After ATH.*
ATH ***17*** *04:08:36.3, 38.56N×21.42E, h27km, MD3.0/4*

CSEM ***17*** *04:08:37.1±0.2, 38.56N×21.49E, h5km, MD3.0, Error ellipse: s-maj=5.5km s-min=3.9km az=141.0*
THE ***17*** *04:08:38.2, 38.57N×21.51E, h10km*
ISC 17 04:08:37.8±0.6, 38.54N±003×21.48E±005, h7km±7km, n17, σ0.99/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.46**	**34**	*e*PB	**Pg**	**04 08 46.4**	**-0.2**
EVR				*e*SB	**Sg**	**04 08 53.4**	**+0.8**
RLS	**Riolos of Patr**	**0.48**	**182**	*e*PN	**Pg**	**04 08 47.0**	**0.0**
RLS				*e*SN	**Sg**	**04 08 54.7**	**+1.4**
LKD	**Levkas**	**0.67**	**285**	*e*Pg	**Pg**	**04 08 51.1**	**+0.4**
LKD				*e*Sg	**Sg**	**04 09 01.6**	**+2.1**
LKD	**Levkas**	**0.67**	**285**	P	**Pg**	**04 08 51.1**	**+0.4**
LKD				S	**Sg**	**04 09 05.3**	**+5.8**
LKD	**Levkas**	**0.67**	**285**	P	**Pg**	**04 08 51.1**	**+0.4**
LKD				S	**Sg**	**04 09 05.3**	**+5.8**
VLS	**Valsamata**	**0.79**	**243**	*e*PN	**Pg**	**04 08 51.5**	**-1.4**
AGG	**Agios Georgios**	**0.82**	**54**	*e*Pg	**Pg**	**04 08 53.4**	**-0.1**
AGG				*e*Sg	**Sg**	**04 09 04.4**	**+0.2**
AGG	**Agios Georgios**	**0.82**	**54**	P	**Pg**	**04 08 53.4**	**-0.1**
AGG				S	**Sg**	**04 09 08.3**	**+4.1**
AGG	**Agios Georgios**	**0.82**	**54**	P	**Pg**	**04 08 53.4**	**-0.1**
AGG				S	**Sg**	**04 09 08.3**	**+4.1**
LKR	**Lokris**	**1.19**	**84**	*e*PN	**Pn**	**04 08 59.7**	**-1.1**
LKR				*e*SN	**Sn**	**04 09 16.7**	**-0.5**
MEV	**Metsovon**	**1.26**	**351**	*e*Pg	**Pg**	**04 09 01.1**	**-0.8**
MEV	**Metsovon**	**1.26**	**351**	P	**Pn**	**04 09 02.7**	**+0.9**
MEV	**Metsovon**	**1.26**	**351**	P	**Pn**	**04 09 02.7**	**+1.0**
IGT	**Igoumenitsa**	**1.34**	**318**	*e*Pg	**Pg**	**04 09 02.8**	**-0.6**
LIT	**Litokhoron**	**1.75**	**26**	*e*Pb	**Pb**	**04 09 08.6**	**-1.5**
LIT				*e*Sb	**Sb**	**04 09 32.4**	**+0.3**
LIT	**Litokhoron**	**1.75**	**26**	P	**Pn**	**04 09 09.2**	**+0.7**
LIT				S	**Sn**	**04 09 34.1**	**+3.3**
LIT	**Litokhoron**	**1.75**	**26**	P	**Pn**	**04 09 09.1**	**+0.7**
LIT				S	**Sn**	**04 09 34.1**	**+3.2**

IDC 17 04:32:38.8±1.8, 56.95S×112.24E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=120.1km s-min=24.0km az=43.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.53**	**125**	*e*P	Pn	04 36 15.8	-3.2
	8.3nm,1.1s						
FITZ				*e*S	Sn	04 38 55.4	-16
WRA	**Warramunga Arr**	**23.71**	**118**	P	P	04 37 52.3	-0.1
	0.9nm,0.9s,baz=295,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**25.00**	**127**	P	P	04 38 04.7	+0.4
	0.4nm,0.5s,baz=303,slow=9.2,SNR=6.0						
MKAR	**Makanchi Array**	**62.14**	**337**	P	P	04 43 02.4	+0.8
	0.4nm,0.4s,baz=144,slow=7.6,SNR=7.2						
BRTR	**Keskin Array B**	**87.40**	**311**	P	P	04 45 27.6	-0.3
	0.6nm,0.7s,baz=118,slow=4.5,SNR=3.9						

IDC 17 04:37:09.2±1.4, 16.19S×178.67W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.1/13, mbtmp4.1/5, Error ellipse: s-maj=47.4km s-min=29.5km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.26**	**239**	P	P	04 44 38.5	-1.0
	2.7nm,0.5s,baz=85,slow=7.6,SNR=9.4						
WRA	**Warramunga Arr**	**44.72**	**258**	P	P	04 45 24.4	+0.3
	1.6nm,0.5s,baz=91,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**45.04**	**253**	P	P	04 45 28.0	+1.4
	13nm,0.6s,baz=88,slow=8.2,SNR=40						
VNDA	**Vanda**	**62.12**	**185**	P	P	04 47 31.8	-0.2
	0.2nm,0.3s,baz=59,slow=5.9,SNR=3.7						
NVAR	**Mina Array Bea**	**78.37**	**44**	P	P	04 49 11.9	+0.5
	0.4nm,0.8s,baz=224,slow=7.6,SNR=3.8						

IGIL ***17*** *04:37:14.9, 37.40N×14.30W, h0km, ML2.2*
MDD ***17*** *04:37:14.3±2.2, 37.31N×14.32W, h0km, mb4.2/11, Error ellipse: s-maj=19.7km s-min=16.7km az=67.0, PRXIMO*
INMG ***17*** *04:37:15.7±0.7, 37.10N×14.70W, h10km, ML2.3, Error ellipse: s-maj=5.9km s-min=4.9km az=100.0*
ISCJB ***17*** *04:37:17.0±1.1, 37.53N±005×13.91W±007, h10km, Error ellipse: s-maj=8.6km s-min=7.1km az=117.5*
CSEM ***17*** *04:37:18.4±0.5, 37.64N×13.79W, h10km, ML2.3, Error ellipse: s-maj=8.8km s-min=5.7km az=59.0*
ISC 17 04:37:18.3±1.1, 37.47N±005×13.98W±007, h10km, n37, σ0.90/65, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**4.05**	**68**	*e*Pn	**Pn**	**04 38 21.1**	**+0.7**
PLOU				*e*Sn	**Sn**	**04 39 10.5**	**+2.6**
PLOU							
	6.8nm,0.1s						
PTEO	**Sao Teotonio**	**4.18**	**87**	*e*Pn	**Pn**	**04 38 21.7**	**-0.3**
PTEO				*e*Sn	**Sn**	**04 39 10.8**	**-0.1**
PTEO							
	3.3nm,0.3s						
PTEO	**Sao Teotonio**	**4.18**	**87**	*e*P	**Pn**	**04 38 21.7**	**-0.3**
PTEO				*e*S	**Sn**	**04 39 10.8**	**-0.1**
MORF	**Marmelete**	**4.25**	**91**	*e*P	**Pn**	**04 38 22.3**	**-0.7**
MORF				*e*S	**Sn**	**04 39 11.6**	**-1.0**
MORF				*e*S	**Sn**	**04 39 11.7**	**-0.9**
MORF				AML	AML	04 39 16.3	
	comp=E,4.6nm,0.1s						
MORF	**Marmelete**	**4.25**	**91**	*e*P	**Pn**	**04 38 22.3**	**-0.7**
MORF				*e*S	**Sn**	**04 39 11.6**	**-1.0**
MOE	**Montemor**	**4.57**	**75**	*e*Pn	**Pn**	**04 38 27.7**	**+0.3**
MOE				*e*Sn	**Sn**	**04 39 20.0**	**-0.5**
PTOM	**Tomar**	**4.86**	**62**	*e*Pn	**Pn**	**04 38 32.4**	**+1.0**
PTOM				*e*Sn	**Sn**	**04 39 29.7**	**+1.9**
PTOM							
	comp=E,3.7nm,0.2s						
PBEJ	**Beja**	**4.87**	**82**	*e*Pn	**Pn**	**04 38 31.1**	**-0.5**
PBEJ				*e*Sn	**Sn**	**04 39 27.9**	**-0.2**
PBEJ							
	comp=E,1.6nm,0.2s						
EGRO	**El Granado**	**5.16**	**87**	Pn	**Pn**	**04 38 35.5**	**-0.1**
	comp=E,0.9nm,0.1s,SNR=17						
EGRO				Sn	**Sn**	**04 39 34.6**	**-0.6**
	comp=E,3.5nm,0.2s,SNR=5.0						
EGRO	**El Granado**	**5.16**	**87**	P	**Pn**	**04 38 35.5**	**-0.1**
	comp=E,0.9nm,0.1s,SNR=17						
EGRO				S	**Sn**	**04 39 34.6**	**-0.6**
	comp=E,3.5nm,0.2s,SNR=5.0						
PCBR	**Castelo Branco**	**5.61**	**63**	*e*Pn	**Pn**	**04 38 42.0**	**+0.3**
PCBR				*e*Sn	**Sn**	**04 39 47.2**	**+1.0**
EBAD	**Badajoz**	**5.64**	**75**	Pn	**Pn**	**04 38 42.2**	**+0.1**
	comp=E,3.7nm,0.1s,SNR=28						
EBAD				Sn	**Sn**	**04 39 46.3**	**-0.6**
	comp=E,2.2nm,0.1s,SNR=5.6						
EBAD	**Badajoz**	**5.64**	**75**	P	**Pn**	**04 38 42.2**	**+0.1**
	comp=E,3.7nm,0.1s,SNR=28						
EBAD				S	**Sn**	**04 39 46.3**	**-0.6**
	comp=E,2.2nm,0.1s,SNR=5.6						
PVIS	**Viseu**	**5.73**	**54**	*e*Pn	**Pn**	**04 38 44.4**	**+1.0**
MTE	**Manteigas**	**5.80**	**58**	*e*Sn	**Sn**	**04 39 52.2**	**+1.2**
MTE							
	comp=E,2.4nm,0.6s						
MTE	**Manteigas**	**5.80**	**58**	Sn	**Sn**	**04 39 52.2**	**+1.2**
	comp=E,1.2nm,0.6s						
EMIN	**Mina Concepcio**	**5.81**	**85**	Pn	**Pn**	**04 38 44.3**	**-0.1**
	comp=E,0.8nm,0.1s,SNR=11						
EMIN				Sn	**Sn**	**04 39 51.1**	**0.0**
	comp=E,1.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.81**	**85**	P	**Pn**	**04 38 44.3**	**-0.1**
	comp=E,0.8nm,0.1s,SNR=11						
EMIN				S	**Sn**	**04 39 51.1**	**0.0**
	comp=E,1.1nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**6.16**	**50**	*e*Sn	**Sn**	**04 40 00.9**	**+1.1**
PCAB	**Cabril**	**6.25**	**46**	*e*Pn	**Pn**	**04 38 51.2**	**+0.7**
PCAB				*e*Sn	**Sn**	**04 40 02.0**	**+0.1**
ELOB	**Lobios**	**6.33**	**44**	Pn	**Pn**	**04 38 51.9**	**+0.2**
	comp=E,1.2nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**04 40 02.8**	**-1.1**
	comp=E,0.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.33**	**44**	P	**Pn**	**04 38 51.9**	**+0.3**
	comp=E,1.2nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**04 40 02.8**	**-1.2**
	comp=E,0.9nm,0.1s,SNR=7.9						
ESPR	**Espera**	**6.51**	**93**	Pn	**Pn**	**04 38 54.8**	**+0.6**
	comp=E,0.5nm,0.1s,SNR=7.9						
ESPR				Sn	**Sn**	**04 40 07.7**	**-0.7**
	comp=E,5.4nm,0.3s,SNR=7.9						
ESPR	**Espera**	**6.51**	**93**	P	**Pn**	**04 38 54.8**	**+0.7**
	comp=E,0.5nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**04 40 07.7**	**-0.8**
	comp=E,5.4nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**6.67**	**33**	Pn	**Pn**	**04 38 55.9**	**-0.5**
	comp=E,0.6nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**04 40 09.5**	**-3.0**
	comp=E,1.6nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.67**	**33**	P	**Pn**	**04 38 55.9**	**-0.4**
	comp=E,0.6nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**04 40 09.5**	**-2.9**
	comp=E,1.6nm,0.1s,SNR=7.9						
STS	**Santiago**	**6.82**	**36**	Sn	**Sn**	**04 40 13.5**	**-2.4**
	SNR=4.0						
ECAL	**Calabor**	**7.14**	**49**	Pn	**Pn**	**04 39 03.3**	**+0.5**
	comp=E,3.4nm,0.3s,SNR=9.8						
ECAL				Sn	**Sn**	**04 40 24.2**	**+0.1**
	comp=E,2.9nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**7.14**	**49**	P	**Pn**	**04 39 03.3**	**+0.5**
	comp=E,3.4nm,0.3s,SNR=9.8						
EADA	**Adamuz**	**7.47**	**82**	Pn	**Pn**	**04 39 07.1**	**-0.2**
	comp=E,0.9nm,0.1s,SNR=11						
EADA				Sn	**Sn**	**04 40 31.8**	**-0.3**
	comp=E,0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.47**	**82**	P	**Pn**	**04 39 07.1**	**-0.2**
	comp=E,0.9nm,0.1s,SNR=11						
EADA				S	**Sn**	**04 40 31.8**	**-0.3**
	comp=E,0.8nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.83**	**40**	Pn	**Pn**	**04 39 11.3**	**-0.9**
	comp=E,0.4nm,0.3s,SNR=7.9						
EPON				Sn	**Sn**	**04 40 36.8**	**-4.0**
	comp=E,0.7nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.83**	**40**	P	**Pn**	**04 39 11.3**	**-0.9**
	comp=E,0.4nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**04 40 36.8**	**-4.1**
	comp=E,0.7nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**8.15**	**71**	Pn	**Pn**	**04 39 16.5**	**-0.1**
	comp=E,1.2nm,0.1s,baz=257,slow=13,SNR=11						
ESDC	**Sonseca Array**	**8.15**	**71**	P	**Pn**	**04 39 16.5**	**-0.1**
	comp=E,1.2nm,0.1s,SNR=11						
EQES	**Quesada**	**8.66**	**85**	Pn	**Pn**	**04 39 23.4**	**-0.2**
	comp=E,0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**8.66**	**85**	P	**Pn**	**04 39 23.4**	**-0.2**
	comp=E,0.4nm,0.2s,SNR=7.9						

IDC 17 04:48:07.0±11.0, 081S×137.00E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.7/12, mbtmp3.7/3, ML3.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/19, Error ellipse: s-maj=174.3km s-min=96.6km az=172.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.19**	**188**	P	Pn	04 52 31.9	-1.1
	0.1nm,0.3s,baz=10,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**22.92**	**187**	P	P	04 53 12.4	0.0
	0.8nm,0.4s,baz=21,slow=10,SNR=9.7						
JOW	**Kunigami**	**28.74**	**344**	LR	LR	05 04 26.3	
	comp=Z,121nm,21.3s,baz=147,slow=34						
STKA	**Stephens Creek**	**31.20**	**172**	P	P	04 54 28.6	+0.8
	2.7nm,0.8s,baz=357,slow=6.6,SNR=4.3						

NIED ***17*** *04:51:00, 40.10N×142.50E, h41km, Mw4.5 Best double couple: M0:6.50000×10^15 NP1:φs:20.00000°, δ:69.00000°, λ:96.00000°. NP2:φs:184.00000°, δ:21.00000°, λ:75.00000°.*
ISCJB ***17*** *04:51:33.8±0.2, 40.18N±002×142.47E±003, h45km, mb4.7/86, MS4.0/19, Error ellipse: s-maj=4.2km s-min=2.7km az=74.4*
BJI ***17*** *04:51:33.1, 40.22N×142.69E, h64km, mB4.6, mb4.8, Ms4.0, Msz3.8*
JMA ***17*** *04:51:34.3±0.1, 40.14N×142.46E, h35km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs:342.00000°, δ:31.00000°, λ:57.00000°. NP2: φs:198.00000°, δ:64.00000°, λ:108.00000°. Principal axes: T Plg66.0000°, Azm141.0000°; N Plg16.0000°, Azm10.0000°; P Plg17.0000°, Azm275.0000°;*
JMA Felt II J1.
IDC ***17*** *04:51:35.0±0.7, 40.14N×142.42E, h44km±5km, mb4.2/15, mb1 4.3/18, mb1mx4.2/23, mbtmp4.5/18, ML4.1/3, MS3.8/11, Ms1 3.8/11, ms1mx3.5/

JHJ	**Hachijo jima 2**	**7.34 198**	P	**Pn**	**04 53 20.8**	**+0.7**
	comp=Z,16nm,0.3s,baz=244,slow=22,SNR=7.4					
JHJ			S	**Sn**	**04 54 36.3**	**-5.7**
	comp=Z,13nm,0.3s,baz=62,slow=18,SNR=2.9					
HABR	**Khabarovsk**	**9.84 330**	*e*P	**Pn**	**04 53 58.5**	**+4.2**
HABR			*e*S	**Sn**	**04 55 42.8**	**-0.5**
MDJ	**Mudanjiang**	**10.48 299**	P	**Pn**	**04 54 06.8**	**+3.8**
MDJ			S	**Sn**	**04 56 03.5**	**+4.4**
MDJ			PCP	PcP	05 00 06.9	+1.7
MDJ			PCS	PcS	05 03 36.1	-2.7
MDJ			AMB	AMB		
	comp=Z,30nm,0.9s					
MDJ			AMB	AMB		
	comp=Z,40nm,3.1s					
MDJ			LR	LR		
	comp=N,300nm,17.3s					
MDJ			LR	LR		
	comp=E,320nm,19.6s					
MDJ			LR	LR		
	comp=Z,490nm,15.8s					
MDJ	**Mudanjiang**	**10.48 299**	*e*Pn	**Pn**	**04 54 06.3**	**+3.3**
	comp=Z,29nm,0.8s					
KS15	**Wonju Array Si**	**11.67 261**	Pn	**Pn**	**04 54 20.4**	**+1.1**
KLR	**Kul'dur**	**11.82 324**	*e*P	**Pn**	**04 54 19.2**	**-2.1**
KLR			MLR	MLR		
	comp=E,500nm,15.0s					
KLR			MLR	MLR		
	comp=Z,700nm,15.0s					
CBIJ	**Chichi jima**	**13.04 181**	P	**Pn**	**04 54 36.1**	**-1.7**
	comp=Z,3.8nm,0.3s,baz=94,slow=22,SNR=7.3					
CBIJ			S	**Sn**	**04 56 45.6**	**-16**
	comp=Z,2.3nm,0.3s,baz=283,slow=21,SNR=2.2					
CN2	**Changchun**	**13.14 292**	*e*P	**Pn**	**04 54 41.4**	**+2.0**
CN2			*e*XP		04 54 56.3	
CN2			*e*S	**Sn**	**04 57 06.4**	**+2.3**
CN2			AMB	AMB		
	comp=Z,10.0nm,0.6s					
CN2			LR	LR		
	comp=N,500nm,18.0s					
CN2			LR	LR		
	comp=E,400nm,18.0s					
CN2			LR	LR		
	comp=Z,300nm,18.0s					
SNY	**Shenyang**	**14.34 283**	*e*P	**Pn**	**04 55 00.0**	**+4.4**
SNY			AP		04 55 04.1	
SNY			PP		04 55 11.8	
SNY			S	**Sn**	**04 57 31.8**	**-1.3**
SNY			SS		04 57 53.8	
SNY			AMB	AMB		
	comp=Z,10.0nm,0.5s					
SNY			AMB	AMB		
	comp=Z,70nm,10.6s					
SNY			LR	LR		
	comp=E,320nm,15.5s					
SNY			LR	LR		
	comp=Z,290nm,17.8s					
HIA	**Hailar**	**18.46 307**	*e*P	**Pn**	**04 55 46.6**	**-1.1**
HIA			pmax	pmax		
	comp=Z,7.0nm,0.4s					
HIA	**Hailar**	**18.46 307**	*e*P	**Pn**	**04 55 46.6**	**-1.1**
	comp=Z,7.5nm,0.4s					
SSE	**Sheshan**	**19.46 249**	P	**Pn**	**04 55 59.9**	**+0.2**
SSE			XP	sP	04 56 17.9	+2.9
SSE			S	**S**	**04 59 35.3**	**-0.2**
SSE			XS	sS	04 59 54.1	+1.0
SSE			AMB	AMB		
	comp=Z,30nm,0.7s					
SSE			AMB	AMB		
	comp=Z,20nm,3.2s					
BJT	**Baijiatuau**	**20.07 278**	*e*P	**P**	**04 56 04.1**	**-0.7**
BJT			pmax	pmax		
	comp=Z,11nm,0.8s					
BJT	**Baijiatuau**	**20.07 278**	*e*P	**P**	**04 56 04.1**	**-0.8**
	comp=Z,10nm,0.8s					
MA2	**Magadan**	**20.13 12**	*e*P	**P**	**04 56 05.4**	**-0.1**
MA2			*e*		04 56 25.3	
MA2			pmax	pmax		
	comp=Z,60nm,0.5s					
MA2	**Magadan**	**20.13 12**	*e*P	**P**	**04 56 04.9**	**-0.6**
	comp=Z,6.1nm,0.5s					
CLNS	**Chul'man**	**20.23 331**	*e*P	**P**	**04 56 04.5**	**-2.0**
CLNS			pmax	pmax		
	comp=Z,15nm,0.7s					
CLNS			pmax	pmax		
	comp=N,13nm,0.9s					
CLNS			pmax	pmax		
	comp=E,6.0nm,0.8s					
NJ2	**Nanjing**	**20.65 254**	*e*P	**P**	**04 56 11.8**	**+0.7**
NJ2			PP		04 56 34.4	
NJ2			S	**S**	**04 59 57.0**	**-2.3**
NJ2			AMB	AMB		
	comp=Z,30nm,0.7s					
NJ2			AMB	AMB		
	comp=Z,40nm,5.7s					
NJ2			LR	LR		
	comp=N,350nm,12.0s					
NJ2			LR	LR		
	comp=E,160nm,19.6s					
NJ2			LR	LR		
	comp=Z,280nm,13.9s,MS3.8					
CIT	**Chita**	**23.11 311**	*e*P	**P**	**04 56 33.8**	**-3.5**
CIT			*e*		04 56 50.8	
CIT			pmax	pmax		
	comp=Z,56nm,1.3s,mb4.8					
YAK	**Yakutsk**	**23.23 345**	*e*P	**P**	**04 56 35.3**	**-3.3**
YAK			*e**PP		04 56 51.5	
YAK			*e*		04 57 01.1	
YAK			*e*S	**S**	**05 00 40.4**	**-6.5**
YAK			pmax	pmax		
	comp=N,12nm,1.1s					
YAK			pmax	pmax		
	comp=Z,32nm,1.1s,mb4.7					
YAK			pmax	pmax		
	comp=E,4.0nm,0.9s					
YAK			smax			
	comp=N,11nm,1.7s					
YAK			smax			
	comp=E,7.0nm,1.1s					
YAK			MLR	MLR		
	comp=Z,910nm,32.0s,MS4.0					
YAK			MLR	MLR		
	comp=N,293nm,39.0s					
YAK			MLR	MLR		
	comp=E,520nm,29.0s					
YAK	**Yakutsk**	**23.23 345**	*e*P	**P**	**04 56 35.0**	**-3.6**
	comp=E,52nm,0.8s,mb5.0					
HHC	**Hu-ho-hao-te**	**23.42 282**	*e*P	**P**	**04 56 38.6**	**-1.8**
HHC			AP		04 56 50.3	
HHC			PCP	PcP	05 00 26.6	+1.2
HHC			S	**S**	**05 00 43.0**	**-7.0**
HHC			AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7					
HHC			AMB	AMB		
	comp=Z,60nm,4.2s					
HHC			LR	LR		
	comp=N,90nm,11.9s					
HHC			LR	LR		
	comp=E,240nm,17.8s					
HHC			LR	LR		
	comp=Z,260nm,15.9s,MS3.8					
BOD	**Bodaibo**	**25.39 324**	*e*P	**P**	**04 56 57.5**	**-0.9**
BOD			pmax	pmax		
	comp=Z,27nm,0.7s,mb4.9					
ULN	**Ulaanbaatar**	**26.40 299***c*	*i*P	**P**	**04 57 07.0**	**-0.5**
ULN	**Ulaanbaatar**	**26.40 299**	*e*P	**P**	**04 57 06.8**	**-0.7**
	comp=Z,5.0nm,0.7s,mb4.2					
GUMO	**Guam**	**26.56 175**	LR	LR	05 07 04.7	
	comp=Z,88nm,18.5s,MS3.3,baz=230,slow=35					
SONM	**Songino Array**	**26.84 299**	P	**P**	**04 57 11.6**	**+0.1**
	comp=Z,5.3nm,0.7s,mb4.2,baz=105,slow=8.7,SNR=20					
SONM			LR	LR	05 08 22.9	
	comp=Z,240nm,18.7s,MS3.8,baz=232,slow=38					
TLY	**Talaya**	**29.00 306**	*e*P	**P**	**04 57 29.9**	**-0.8**
LZH	**Lanzhou**	**30.46 275**	*e*P	**P**	**04 57 45.3**	**+1.6**
LZH			AP	pP	04 57 57.3	+1.3
LZH			XP	sP	04 58 02.8	+1.3
LZH			PP	PP	04 58 45.4	-7.6
LZH			*e*S	**S**	**05 02 41.5**	**0.0**
LZH			*e*SS	SS	05 04 23.8	-29
LZH			AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7					
LZH			AMB	AMB		
	comp=Z,50nm,5.7s					
LZH			LR	LR		
	comp=E,510nm,13.5s					
LZH			LR	LR		
	comp=Z,740nm,17.3s,MS4.4					
BILL	**Bilibino**	**30.81 17**	*e*P	**P**	**04 57 46.3**	**-0.4**
BILL			pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6					
BILL	**Bilibino**	**30.81 17**	*e*P	**P**	**04 57 46.3**	**-0.3**
	comp=Z,5.5nm,0.6s,mb4.6					
GTA	**Gaotai**	**32.53 283**	*e*P	**P**	**04 58 03.3**	**+1.5**
GTA			AP	pP	04 58 15.8	+1.6
GTA			XP	sP	04 58 21.0	+1.3
GTA			PP	PP	04 59 11.4	-4.5
GTA			PCP	PcP	05 00 48.8	+1.2
GTA			S	**S**	**05 03 14.0**	**+0.3**
GTA			AMB	AMB		
	comp=Z,40nm,5.3s					
GTA			LR	LR		
	comp=N,100nm,20.1s,MS3.9					
GTA			LR	LR		
	comp=E,240nm,18.3s,MS3.9					
GTA			LR	LR		
	comp=Z,300nm,18.6s,MS4.0					
CD2	**Chengdu**	**32.58 266**	*e*P	**P**	**04 58 01.6**	**-0.7**
CD2			AP	pP	04 58 13.5	-1.1
CD2			PP	PP	04 59 10.6	-5.9
CD2			S	**S**	**05 03 12.1**	**-2.5**
CD2			SS	SS	05 05 10.1	-26
CD2			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8					
CD2			AMB	AMB		
	comp=Z,40nm,5.2s					
CD2			LR	LR		
	comp=N,80nm,14.4s					
CD2			LR	LR		
	comp=Z,90nm,20.4s					
GYA	**Guiyang**	**32.63 256⇑***i*P		**P**	**04 58 02.4**	**-0.3**
GYA			AP	pP	04 58 14.3	-0.8
GYA			S	**S**	**05 03 16.0**	**+0.6**
GYA			SCP	ScP	05 04 25.9	-2.1
GYA			SS	SS	05 05 15.5	-22
GYA			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8					
GYA			AMB	AMB		
	comp=Z,70nm,6.6s					
GYA			LR	LR		
	comp=N,380nm,17.2s,MS4.3					
GYA			LR	LR		
	comp=E,410nm,16.8s,MS4.3					
GYA			LR	LR		
	comp=Z,370nm,17.6s,MS4.1					
KRAR	**Krasnoyarsk**	**35.83 313**	*e*P	**P**	**04 58 30.0**	**-0.4**
KRAR			pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9					
KMI	**Kunming**	**36.31 258**	P	**P**	**04 58 35.0**	**+0.5**
KMI			AP	pP	04 58 47.8	+0.8
KMI			PP	PP	04 59 59.9	+2.2
KMI			S	**S**	**05 04 12.9**	**+0.8**
KMI			XS	sS	05 04 34.8	+1.9
KMI			SS	SS	05 06 40.0	-12
KMI			SSS		05 07 10.6	
KMI			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8					
KMI			LR	LR		
	comp=N,140nm,17.3s,MS3.9					
KMI			LR	LR		
	comp=E,120nm,18.0s,MS3.9					
KMI			LR	LR		
	comp=Z,190nm,17.3s,MS3.9					
WMQ	**Urumqi**	**40.22 294**	*e*P	**P**	**04 59 09.3**	**+1.9**
WMQ			AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5					
WMQ			AMB	AMB		
	comp=Z,70nm,4.5s					
WMQ			LR	LR		
	comp=N,20nm,22.0s					
WMQ			LR	LR		
	comp=E,40nm,30.0s					
WMQ			LR	LR		
	comp=Z,60nm,30.0s					
ZAL	**Zalesovo**	**40.48 310**	LR	LR	05 17 27.8	
	comp=Z,226nm,18.1s,MS4.1,baz=44,slow=38					
NVS	**Novosibirsk**	**41.32 311**	*e*P	**P**	**04 59 15.2**	**-1.2**
NVS			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3					
NVS			pmax	pmax		
	comp=N,10.0nm,1.5s					
LSA	**Lhasa**	**42.80 272**	P	**P**	**04 59 30.4**	**+1.9**
MK31	**Makanchi Array**	**43.20 299**	P	**P**	**04 59 31.4**	**-0.4**
MK31			pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9					
MKAR	**Makanchi Array**	**43.20 299**	P	**P**	**04 59 31.5**	**-0.3**
	comp=Z,8.8nm,0.8s,mb4.5,baz=83,slow=10.0,SNR=20					
MKAR	**Makanchi Array**	**43.20 299⇑***e*P		**P**	**04 59 31.7**	**-0.1**
KURK	**Kurchatov**	**44.69 306***c*	*i*P	**P**	**04 59 43.3**	**-0.4**
COLA	**College**	**46.03 34**	*e*P	**P**	**04 59 54.8**	**+0.5**
COLA	**College**	**46.03 34**	*e*P	**P**	**04 59 53.8**	**-0.5**
	comp=Z,4.7nm,0.6s,mb4.6					
JIRN	**Jiri**	**47.59 273**	*e*P	**P**	**05 00 07.5**	**+1.0**
	comp=Z,22nm,0.6s,mb5.4					
GUN	**Gumba**	**47.70 273**	*e*P	**P**	**05 00 08.3**	**+0.9**
	comp=Z,42nm,0.4s,mb5.8					
KKN	**Kakani**	**48.22 274**	*e*P	**P**	**05 00 12.2**	**+0.8**
	comp=Z,59nm,0.7s,mb5.7					
KKN	**Kakani**	**48.22 274**	*e*P	**P**	**05 00 12.2**	**+0.8**
KKN			pmax	pmax		
	comp=Z,59nm,0.7s,mb5.7					
PKI	**Pulchoki**	**48.23 273**	*e*P	**P**	**05 00 12.5**	**+1.0**
DMN	**Daman**	**48.45 273**	*e*P	**P**	**05 00 13.9**	**+0.8**
	comp=Z,17nm,0.7s,mb5.2					
CHKZ	**Chkalovo**	**48.80 311⇑***i*P		**P**	**05 00 15.5**	**-0.4**
CHKZ			pmax	pmax		
	comp=Z,16nm,0.4s,mb5.4					
CHKZ	**Chkalovo**	**48.80 311⇑***i*P		**P**	**05 00 15.5**	**-0.3**
	comp=Z,16nm,0.4s,mb5.4					
VOSK	**Vostochnaya**	**48.84 310**	P	**P**	**05 00 15.7**	**-0.4**
VOSK			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9					
TKM2	**Tokmak 2**	**48.90 296**	P	**P**	**05 00 17.0**	**+0.4**
TKM2			pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0					
BVA0	**Borovoye Array**	**49.10 311**	*i*P	**P**	**05 00 17.8**	**-0.4**
BVA0			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1					
BVAR	**Borovoye Array**	**49.10 311**	P	**P**	**05 00 18.2**	**0.0**
	comp=Z,15nm,0.4s,mb5.3,baz=69,slow=8.7,SNR=83					
BVAR			PcP	PcP	05 01 41.7	+0.5
	comp=Z,1.7nm,0.7s,baz=86,slow=4.8,SNR=2.0					
BVAR	**Borovoye Array**	**49.10 311**	P	**P**	**05 00 18.2**	**0.0**
BVAR			PcP	PcP	05 01 41.7	+0.5
DAWY	**Dawson**	**49.76 34**	*e*P	**P**	**05 00 23.4**	**+0.2**
AAK	**Ala-Archa**	**49.76 296**	*e*P	**P**	**05 00 22.2**	**-1.0**
AAK			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4					
ZRNK	**Zerenda**	**49.93 311⇑***i*P		**P**	**05 00 24.4**	**0.0**
ZRNK			pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2					
ZRNK	**Zerenda**	**49.93 311⇑***i*P		**P**	**05 00 24.4**	**-0.1**
	comp=Z,19nm,0.8s,mb5.2					
KULM	**Kulim**	**51.10 238**	*e*P	**P**	**05 00 33.8**	**+0.5**
INK	**Inuvik**	**51.25 28**	P	**P**	**05 00 34.8**	**+0.3**
	comp=Z,5.2nm,0.6s,mb4.6,baz=268,slow=5.2,SNR=5.6					
INK	**Inuvik**	**51.25 28**	P	**P**	**05 00 34.8**	**+0.4**
INK			pmax	pmax		
	comp=Z,5.0nm,0.6s					
INK	**Inuvik**	**51.25 28**	*e*P	**P**	**05 00 34.2**	**-0.3**
	comp=Z,7.1nm,0.7s,mb4.7					
INK			*e*pP	pP	05 00 43.0	-4.4
KK31	**Karatay Array**	**52.29 298**	*i*P	**P**	**05 00 41.6**	**-0.6**
KK31			pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6					
KKAR	**Karatay Array**	**52.29 298**	*i*P	**P**	**05 00 41.6**	**-0.6**
KKAR			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4					
ARU	**Arti**	**54.57 317**	*e*P	**P**	**05 00 58.8**	**-0.1**
ARU			pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2					
AB31	**Akbulak array**	**56.56 309**	*i*P	**P**	**05 01 12.7**	**-0.5**
AB31			pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9					
AKTO	**Aktyubinsk**	**57.21 311**	P	**P**	**05 01 16.8**	**-1.0**
AKTO			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4					
RES	**Resolute Bay**	**59.38 15**	*e*P	**P**	**05 01 31.9**	**-1.0**
RES			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7					
RES	**Resolute Bay**	**59.38 15**	*e*P	**P**	**05 01 31.9**	**-1.0**
	comp=Z,5.3nm,0.7s,mb4.7					
FITZ	**Fitzroy Crossi**	**60.04 198**	*e*P	**P**	**05 01 34.5**	**-2.9**
	comp=Z,7.4nm,0.9s,mb4.7					
WB2	**Warramunga Arr**	**60.27 189**	*e*P	**P**	**05 01 38.0**	**-1.0**
WB2			*e*pP	pP	05 01 52.1	-0.1
WRA	**Warramunga Arr**	**60.27 189**	P	**P**	**05 01 38.1**	**-0.9**
	comp=Z,2.7nm,0.6s,mb4.4,baz=7.2,slow=7.0,SNR=15					
YKA	**Yellowknife Ar**	**60.72 31**	P	**P**	**05 01 41.7**	**-0.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=299,slow=6.3,SNR=4.0					
YKA	**Yellowknife Ar**	**60.72 31**	P	**P**	**05 01 41.7**	**-0.3**
KEV	**Kevo**	**60.81 339**	*e*p	**P**	**05 01 41.1**	**-1.6**
	comp=Z,0.4nm,0.3s,mb4.0					
KEV	**Kevo**	**60.81 339**	*e*p	pP	05 01 54.2	-1.7
	comp=Z,4.1nm,0.7s					
ARCES	**ARCESS Array B**	**61.36 339**	P	**P**	**05 01 46.0**	**-0.4**
	comp=Z,4.6nm,0.8s,mb4.7,baz=51,slow=8.2,SNR=15					
ARCES			LR	LR	05 34 15.9	
	comp=Z,58nm,18.0s,MS3.8,baz=322,slow=42					
KLMR	**Klimovskoe**	**61.55 327**	*e*P	**P**	**05 01 46.2**	**-1.5**
KLMR			pmax	pmax		
	comp=Z,40nm,2.2s,mb5.2					
DAG	**Danmarks Havn**	**62.73 355⇑***i*P		**P**	**05 01 55.3**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.5					
DAG	**Danmarks Havn**	**62.73 355⇑***i*P		**P**	**05 01 55.3**	**-0.3**
DAG			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6					
JOF	**Joensuu**	**63.59 332**	*e*p	**P**	**05 01 59.9**	**-1.4**
	comp=Z,1.1nm,0.3s,mb4.4					
JOF	**Joensuu**	**63.59 332**	*e*p	**P**	**05 02 09.2**	**+7.9**
	comp=Z,6.1nm,0.7s,mb4.7					
ASAR	**Alice Springs**	**63.99 189**	P	**P**	**05 02 03.8**	**-0.2**
	comp=Z,1.6nm,0.8s,mb4.1,baz=10,slow=5.7,SNR=13					
MBWA	**Marble Bar**	**64.57 204**	*e*P	**P**	**05 02 07.1**	**-0.7**
	comp=Z,9.0nm,0.8s,mb4.8					
KAF	**Kangasniemi**	**65.90 332**	*e*p	**P**	**05 02 15.6**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.1,baz=46,slow=6.0					
KAF	**Kangasniemi**	**65.90 332**	*e*P	**P**	**05 02 15.6**	**-0.8**
KAF			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1					
OBN	**Obninsk**	**66.08 323**	*e*P	**P**	**05 02 17.0**	**-0.5**
OBN			*e**SP	sP	05 02 46.0	+10
OBN			*e*S	S	05 10 55.5	-6.8
OBN			pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0					
FINES	**FINESS Array B**	**66.42 332**	P	**P**	**05 02 19.1**	**-0.6**
	comp=Z,7.4nm,0.7s,mb4.8,baz=54,slow=7.5,SNR=43					
FINES			pP	pP	05 02 31.4	-1.8
	comp=Z,7.5nm,0.8s,baz=55,slow=7.2,SNR=12					
FINES			LR	LR	05 33 27.6	
	comp=Z,89nm,20.7s,MS4.0,baz=174,slow=38					
FINES	**FINESS Array B**	**66.42 332**	P	**P**	**05 02 19.1**	**-0.6**
FINES			pP	pP	05 02 31.4	-1.8
FINES			LR	LR	05 33 27.6	
VRSR	**Storozhevoye**	**67.10 318**	*e*P	**P**	**05 02 24.1**	**0.0**
VRSR			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5					
VRSR			pmax	pmax		
	comp=N,7.0nm,0.9s					
VRSR			pmax	pmax		
	comp=E,3.0nm,1.0s					
SUMG	**Summit**	**67.56 0**	*e*P	**P**	**05 02 27.5**	**+0.6**
	comp=E,17nm,0.9s,mb5.1					
SUMG			*e*pP	pP	05 02 41.1	+0.7
KIV	**Kislovodsk**	**69.47 311**	*e*P	**P**	**05 02 38.9**	**0.0**
KIV			pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2					
GNI	**Garni**	**70.49 306**	LR	LR	05 36 39.9	
	comp=Z,56nm,19.1s,MS3.8,baz=148,slow=38					
DLMT	**Dillon**	**71.58 46**	*e*P	**P**	**05 02 52.8**	**+1.1**
	comp=Z,8.6nm,1.0s,mb4.6					
DLMT			*e*pP	pP	05 03 05.8	+0.6
NB2	**NORSAR Subarra**	**71.61 337**	P	**P**	**05 02 51.2**	**-0.7**
	comp=Z,9.7nm,0.8s,mb4.8,baz=38,slow=6.2					
NB2	**NORSAR Subarra**	**71.61 337**	P	**P**	**05 02 51.2**	**-0.7**
NB2			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8					
NOA	**NORSAR Array B**	**71.61 337**	P	**P**	**05 02 51.5**	**-0.4**
	comp=Z,7.0nm,0.8s,mb4.7,baz=38,slow=6.0,SNR=53					
NOA			pP	pP	05 03 04.5	-0.9
	comp=Z,6.5nm,0.7s,baz=38,slow=6.0,SNR=11					
NOA			LR	LR	05 37 11.5	
	comp=Z,52nm,19.9s,MS3.8,baz=10.0,slow=38					
NAO01	**NORSAR Array S**	**71.86 337**	*e*P	**P**	**05 02 52.7**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.4					
NAO01			*e*pP	pP	05 03 05.8	-1.1
BOZ	**Bozeman (W)**	**71.93 45**	*e*P	**P**	**05 02 54.8**	**+1.0**
BOZ			*e**PP	pP	05 03 08.5	+1.2
BOZ			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
BOZ	**Bozeman (W)**	**71.93 45**	*e*P	**P**	**05 02 54.8**	**+1.0**
	comp=Z,5.9nm,0.9s,mb4.5					
BOZ			*e*pP	pP	05 03 08.5	+1.2
AKASG	**Malin Array Be**	**72.31 322**	P	**P**	**05 02 55.7**	**-0.4**
	comp=Z,4.9nm,0.6s,mb4.6,baz=44,slow=6.1,SNR=19					
AKASG			pP	pP	05 03 08.4	-1.2
	comp=Z,2.9nm,0.6s,baz=44,slow=6.0,SNR=4.7					
AKASG	**Malin Array Be**	**72.31 322**	P	**P**	**05 02 55.7**	**-0.4**
AKASG			pP	pP	05 03 08.4	-1.2
PDAR	**Pinedale Array**	**74.92 46**	P	**P**	**05 03 11.7**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=269,slow=1.6,SNR=6.6					
PDAR			pP	pP	05 03 25.6	+0.6
	comp=Z,0.5nm,0.4s,baz=24,slow=1.9,SNR=4.1					
PDAR			LR	LR	05 38 43.9	
	comp=Z,45nm,18.8s,MS3.8,baz=86,slow=38					
MALT	**Malatya**	**75.48 308**	*e*P	**P**	**05 03 15.9**	**+1.3**
MALT			pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7					
MALT	**Malatya**	**75.48 308**	*e*P	**P**	**05 03 15.9**	**+1.3**
	comp=Z,12nm,1.1s,mb4.7					
BOYT	**Boyabat**	**75.53 312**	*i*P	**P**	**05 03 15.7**	**+0.8**
KWP	**Kalwaria**	**76.05 324**	*e*P	**P**	**05 03 18.7**	**+0.8**
CTKT	**Corum**	**76.12 312**	*i*P	**P**	**05 03 18.7**	**+0.5**
BALT	**Daday**	**76.31 313**	*i*P	**P**	**05 03 19.5**	**+0.1**
ULM	**Lac du Bonnet**	**76.47 34**	P	**P**	**05 03 19.6**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=350,slow=6.1,SNR=3.0					
GZT	**Gaziantep**	**76.62 308**	*i*P	**P**	**05 03 22.0**	**+0.9**
STHS	**Stebnicka Huta**	**76.86 325**	*e*P	**P**	**05 03 23.6**	**+1.1**
STHS			pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2					
STHS	**Stebnicka Huta**	**76.86 325**	*e*P	**P**	**05 03 23.6**	**+1.1**
	comp=Z,3.3nm,0.9s,mb4.3					
OJC	**Ojcow**	**76.89 326**	*e*P	**P**	**05 03 23.1**	**+0.5**
RSSD	**Black Hills**	**76.98 43**	*e*P	**P**	**05 03 23.3**	**+0.1**
RSSD			*e**PP	pP	05 03 36.7	-0.1
RSSD			pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2					
RSSD	**Black Hills**	**76.98 43**	*e*P	**P**	**05 03 23.3**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.2					
RSSD			*e*pP	pP	05 03 36.7	0.0
ELDT	**Eldivan**	**76.98 312**	*i*P	**P**	**05 03 23.9**	**+0.7**
BR131	**Keskin Array S**	**77.38 312**	*e*P	**P**	**05 03 25.2**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0					
BRTR	**Keskin Array B**	**77.38 312**	P	**P**	**05 03 25.9**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=74,slow=4.5,SNR=11					
BSEG	**Bad Segeberg**	**77.63 333**	*e*P	**P**	**05 03 27.0**	**+0.2**
	comp=Z,6.0nm,0.7s,mb4.6					
SGKT	**Sivrigoymuk**	**77.70 313**	*i*P	**P**	**05 03 27.2**	**+0.1**
COBT	**Iskenderun**	**77.95 308**	*i*P	**P**	**05 03 29.8**	**+1.3**
MORC	**Moravsky Berou**	**78.17 327**	*e*P	**P**	**05 03 30.2**	**+0.4**
MORC			*e**PP	pP	05 03 42.9	-0.5
MORC			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
MORC	**Moravsky Berou**	**78.17 327**	*e*P	**P**	**05 03 30.2**	**+0.4**
	comp=Z,5.4nm,0.9s,mb4.5					
MORC			*e*pP	pP	05 03 42.9	-0.5

comp=Z,6.0nm,0.8s,mb4.6
CLL *i* pP pP 05 03 46.1 -0.7
CLL *i* sP sP 05 03 52.2 +0.2
CLL *e*PP PP 05 06 37.0 +5.2
CLL Collm 78.78 330 *i* P **P 05 03 32.7 -0.4**
CLL *i* *PP pP 05 03 46.1 -0.7
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 78.78 330 *i* P **P 05 03 32.7 -0.4**
comp=Z,6.0nm,0.8s,mb4.6
CLL *i* pP pP 05 03 46.1 -0.7
PVCC Panska Ves 78.79 329 *e*P **P 05 03 33.9 +0.7**
ESKT Eskisehir 79.10 313 *i* P **P 05 03 34.8 -0.1**
PRU Pruhonice 79.23 329 *e*P **P 05 03 36.0 +0.4**
PRU *e*pP pP 05 03 49.1 -0.2
PRU AMS AMS 05 41 10.0
comp=Z,100nm,18.1s
SRO Srobarova 79.35 325 *e*P **P 05 03 36.1 -0.1**
SRO pmax pmax
comp=Z,21nm,1.3s,mb4.9
SRO Srobarova 79.35 325 *e*P **P 05 03 36.1 -0.1**
comp=Z,21nm,1.3s,mb4.9
TREC Trest 79.39 328 *e*P **P 05 03 36.5 0.0**
KHC Kasperske Hory 80.29 329 *e*P **P 05 03 41.6 +0.2**
KHC *e*pP pP 05 03 54.8 -0.2
KHC AMS AMS 05 41 50.0
comp=Z,100nm,29.1s
KHC Kasperske Hory 80.29 329*c* *i*P **P 05 03 41.7 +0.3**
ROTZ Rotzenmuhle 80.32 330 *e*P **P 05 03 41.9 +0.4**
comp=Z,5.0nm,1.2s,mb4.3
GEC2 GERESS Array S 80.47 328 *e*P **P 05 03 42.1 -0.2**
comp=Z,2.0nm,0.7s,mb4.2
GEC2 GERESS Array S 80.47 328 *e*P **P 05 03 42.1 -0.2**
GEC2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
GERES GERESS Array B 80.47 328 P **P 05 03 42.5 +0.1**
comp=Z,2.0nm,0.7s,mb4.1,baz=42,slow=4.3,SNR=15
GERES pP pP 05 03 55.7 -0.3
comp=Z,2.2nm,0.9s,baz=46,slow=4.6,SNR=5.9
WET Wettzell 80.56 329 *e*P **P 05 03 43.2 +0.4**
comp=Z,4.0nm,1.2s,mb4.2
WET Wettzell 80.56 329 *e*P **P 05 03 43.2 +0.4**
WET pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
GRA1 Grafenberg Arr 80.76 330 *e*P **P 05 03 44.5 +0.7**
comp=Z,11nm,0.8s,mb4.8
GRA1 *e*pP pP 05 03 57.7 +0.2
GRF Grafenberg Arr 80.76 330 *e*P **P 05 03 44.5 +0.7**
comp=Z,11nm,0.8s,mb4.8
GRF *e*pP pP 05 03 57.7 +0.2
GRF Grafenberg Arr 80.76 330 *e*P **P 05 03 44.5 +0.7**
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.8
GRF Grafenberg Arr 80.76 330 *e*P **P 05 03 44.5 +0.7**
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.8
GROS Grobnik 81.61 326 *e*P **P 05 03 48.4 0.0**
GROS *i* pP pP 05 04 01.8 -0.3
PERS Pernice 81.64 326 *i* P **P 05 03 48.8 +0.3**
PERS *i* pP pP 05 04 02.2 -0.1
ANMO Albuquerque 81.97 51 *e*P **P 05 03 52.4 +2.1**
ANMO Albuquerque 81.97 51 *e*P **P 05 03 49.5 -0.8**
comp=Z,4.6nm,1.3s,mb4.2
ANMO *e*pP pP 05 04 05.0 +1.0
VISS Visnje 82.41 326 *i* P **P 05 03 52.3 -0.3**
VISS *e*pP pP 05 04 05.2 -1.1
JAVS Javornik 82.67 326 *e*P **P 05 03 53.2 -0.7**
BAIF Baives 82.94 334 *e*P **P 05 03 55.4 0.0**
BAIF *e*pP pP 05 04 08.3 -0.8
BFO Black Forest 82.96 331 *e*P **P 05 03 55.5 +0.1**
comp=Z,4.0nm,0.7s,mb4.6
BFO Black Forest 82.96 331 *e*P **P 05 03 55.5 +0.1**
BFO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
CDF Champ du Feu 83.28 332 *e*P **P 05 03 57.2 +0.1**
CDF *e*pP pP 05 04 10.3 -0.5
EIL Elat 83.33 303 *e*P **P 05 03 57.7 +0.3**
comp=Z,103nm,0.9s,mb5.9
HAU Haudompre 83.95 332 *e*P **P 05 04 00.5 0.0**
HAU *e*R
comp=Z,49nm,18.8s
HAU Haudompre 83.95 332 *e*P **P 05 04 00.5 0.0**
HAU LR LR
comp=Z,50nm,18.8s,MS3.9
MEZF Maizieres J'vi 83.99 333 *e*P **P 05 04 01.0 +0.3**
PMOR Pomariorio Ree 84.72 114 *e*T 06 37 44.6
comp=Z,7.3nm,0.2s
CABF La Chapelle 85.23 331 *e*P **P 05 04 07.4 +0.4**
PPT Papeete 85.34 117 *e*LR LR 05 30 32.1
comp=Z,111nm,23.0s
PPT Papeete 85.34 117 *e*T 06 38 29.9
comp=Z,4.7nm,0.3s
PPT Papeete 85.34 117 LR LR 05 40 41.6
comp=Z,182nm,18.3s,MS4.5,baz=344,slow=34
LOR Lormes 85.46 333 *e*P **P 05 04 08.1 0.0**
comp=Z,15nm,0.9s,mb4.8
LOR *e*pP pP 05 04 21.3 -0.6
LOR *e*R
comp=Z,62nm,19.5s
LOR Lormes 85.46 333 *e*P **P 05 04 08.1 0.0**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LOR MLR MLR
comp=Z,60nm,19.5s,MS4.0
LOR Lormes 85.46 333 *e*P **P 05 04 08.1 0.0**
comp=Z,7.6nm,0.9s,mb4.8
LOR *e*pP pP 05 04 21.3 -0.6
LOR LR LR
comp=Z,60nm,19.5s,MS4.0
LDF La Druitiere 85.61 336 *e*P **P 05 04 08.6 -0.3**
LDF *e*pP pP 05 04 21.8 -0.9
SSF Saint Saulge 85.76 333 *e*P **P 05 04 09.6 0.0**
comp=Z,12nm,0.9s,mb4.9
SSF Saint Saulge 85.76 333 *e*P **P 05 04 09.6 0.0**
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
SSF Saint Saulge 85.76 333 *e*P **P 05 04 09.6 0.0**
comp=Z,6.2nm,0.9s,mb4.8
LPL La Plagne 85.92 331 *e*P **P 05 04 10.8 +0.4**
LPG La Plagne 85.92 330 *e*P **P 05 04 10.9 +0.5**
comp=Z,14nm,0.7s,mb5.0
LPG *e*pP pP 05 04 24.2 0.0
LPG La Plagne 85.92 330 *e*P **P 05 04 10.9 +0.5**
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
LPG La Plagne 85.92 330 *e*P **P 05 04 10.9 +0.5**
comp=Z,7.1nm,0.7s,mb5.0
LPG *e*pP pP 05 04 24.2 0.0
SMF Signal de Mont 86.00 333 *e*P **P 05 04 11.0 +0.2**
GRR Gorron 86.02 336 *e*P **P 05 04 10.9 0.0**
comp=Z,16nm,0.9s,mb4.9
GRR Gorron 86.02 336 *e*P **P 05 04 10.9 0.0**
GRR pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
GRR Gorron 86.02 336 *e*P **P 05 04 10.9 0.0**
comp=Z,8.0nm,0.9s,mb5.0
AVF Avril sur Loir 86.05 333 *e*P **P 05 04 11.2 +0.1**
comp=Z,31nm,0.8s,mb5.3
AVF *e*pP pP 05 04 24.4 -0.5
AVF Avril sur Loir 86.05 333 *e*P **P 05 04 11.2 +0.1**
AVF pmax pmax
comp=Z,16nm,0.8s,mb5.3
AVF Avril sur Loir 86.05 333 *e*P **P 05 04 11.2 +0.1**
comp=Z,16nm,0.8s,mb5.3
AVF *e*pP pP 05 04 24.4 -0.5
BGF Bois d'Agland 86.43 333 *e*P **P 05 04 13.0 +0.1**
SGMF Saint Gilles 86.65 337 *e*P **P 05 04 13.9 -0.1**
comp=Z,7.5nm,0.7s,mb4.7
SGMF Saint Gilles 86.65 337 *e*P **P 05 04 13.9 -0.1**
SGMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
SGMF Saint Gilles 86.65 337 *e*P **P 05 04 13.9 -0.1**
comp=Z,3.8nm,0.7s,mb4.7
ORIF Oris-en-Rattie 86.74 331 *e*P **P 05 04 14.7 +0.2**
comp=Z,11nm,1.0s,mb4.7
ORIF *e*R
comp=Z,57nm,23.0s
ORIF Oris-en-Rattie 86.74 331 *e*P **P 05 04 14.7 +0.2**
ORIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
ORIF Oris-en-Rattie 86.74 331 *e*P **P 05 04 14.7 +0.2**
comp=Z,5.6nm,1.0s,mb4.8
ROSF Rostrenen 86.79 338 *e*P **P 05 04 15.2 +0.5**
ROSF *e*pP pP 05 04 28.4 -0.1
TCF Toulx Ste Croi 86.88 334 *e*P **P 05 04 15.5 +0.4**
TCF *e*pP pP 05 04 28.7 -0.2
QUIF Quistinic 87.13 338 *e*P **P 05 04 15.5 -0.9**
comp=Z,63nm,1.4s,mb5.4
QUIF Quistinic 87.13 338 *e*P **P 05 04 15.5 -0.9**
QUIF pmax pmax
comp=Z,31nm,1.4s,mb5.3
QUIF Quistinic 87.13 338 *e*P **P 05 04 15.5 -0.9**
comp=Z,31nm,1.4s,mb5.3
VIVF Saint-Julien-l 87.24 331 *e*P **P 05 04 17.2 +0.3**
VIVF *e*pP pP 05 04 30.3 -0.4
FRF La Foret Royal 87.60 330 *e*P **P 05 04 18.9 +0.3**
comp=Z,49nm,1.3s,mb5.3
FRF La Foret Royal 87.60 330 *e*P **P 05 04 18.9 +0.3**
FRF pmax pmax
comp=Z,24nm,1.3s,mb5.3
FRF La Foret Royal 87.60 330 *e*P **P 05 04 18.9 +0.3**
comp=Z,24nm,1.3s,mb5.3
LMR La Mourre 87.85 329 *e*P **P 05 04 19.9 +0.1**
RJF Les Rejaudoux 87.97 334 *e*P **P 05 04 20.9 +0.5**
RJF *e*R
comp=Z,77nm,22.0s
RJF Les Rejaudoux 87.97 334 *e*P **P 05 04 20.9 +0.5**
RJF LR LR
comp=Z,80nm,22.0s,MS4.1
CAF Calviac 88.12 333 *e*P **P 05 04 21.9 +0.8**
CAF *e*pP pP 05 04 35.2 +0.3
LASF Ste Croix 88.21 332 *e*P **P 05 04 21.9 +0.4**
comp=Z,39nm,1.3s,mb5.2
TBI Tubuai 89.46 121 *e*LR LR 05 32 14.8
comp=Z,63nm,24.8s
TBI Tubuai 89.46 121 *e*T 06 43 36.9
comp=Z,12nm,0.3s
EPF Esparros 90.38 333 *e*P **P 05 04 31.6 -0.1**
ETSF Etsaut 90.80 334 *e*P **P 05 04 33.6 0.0**
TORD Torodi Ar. Bea 115.64 317 PKP PKPdf 05 10 11.8 -0.6
comp=Z,0.2nm,0.4s,baz=4.8,slow=1.7,SNR=9.0
TORD Torodi Ar. Bea 115.64 317 PKP PKPdf 05 10 11.8 -0.7
VNA1 Neumayer--Stat 145.94 197 *e*PKPdf PKPdf 05 11 09.1 0.0
VNA1 *e* 05 11 12.4
VNA1 *e* 05 11 13.4
VNA1 *e* 05 11 21.4
VNA1 *e* 05 11 23.0
VNA1 *e* 05 11 26.9
VNA1 *e* 05 11 31.3
VNA1 *e* 05 11 41.7
LVC Limon Verde 148.26 66 *e*PKPbc PKPbc 05 11 17.6 +1.2

*CSEM **17** 04:52:34.2±0.2, 50.13N×18.43E, h1km, ML3.1/3, Error ellipse: s-maj=5.7km s-min=2.8km az=3.0*
*IPEC **17** 04:52:34.0±0.1, 50.11N×18.43E, h6km±1km, ML2.0/3, Error ellipse: s-maj=1.6km s-min=0.7km az=162.0*
*VIE **17** 04:52:35.9±0.8, 49.73N×18.44E, h0km, mb1.6/2, ML2.5/3, Error ellipse: s-maj=5.0km s-min=3.1km az=96.0 18 km SE of Ostrava Suspected Mining induced.*
*PRU **17** 04:52:35.0, 50.13N×18.35E, h0km*
WAR 17 04:52:34.4, 5008N×1842E, ML2.4, 1C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**271**	⇓*i*	Pg	Pg	04 52 37.8	+0.6
RAC					*e*Sg	Sg	04 52 40.9	+1.7
OKC	**Ostrava-Krasne**	**0.30**	**216**	*e*P	G	Pg	04 52 40.2	0.0
OKC					*e*SG	Sg	04 52 45.1	+1.0
MORC	**Moravsky Berou**	**0.65**	**242**	*e*Pg		Pg	04 52 46.3	-0.5
MORC					*e*Sg	Sg	04 52 55.4	+0.3
24nm,0.2s								
OJC	**Ojcow**	**0.90**	**80**	*e*Pg		Pg	04 52 50.6	-1.0
OJC					*e*Sg	Sg	04 53 02.6	-0.6
OJC	**Ojcow**	**0.90**	**80**	*e*Pg		Pg	04 52 50.5	-1.1
OJC					*e*Sg	Sg	04 53 02.5	-0.7
DPC	**Dobruska-Polom**	**1.38**	**282**	*e*P	G	Pg	04 52 59.3	-1.5
DPC					*e*SG	Sg	04 53 17.1	-1.6
DPC	**Dobruska-Polom**	**1.38**	**282**	*e*Pn		Pn	04 52 59.5	-1.4
DPC					*e*Sg	Sg	04 53 17.6	-1.1
NIE	**Niedzica**	**1.39**	**118**	*e*Pg		Pg	04 53 01.3	+0.2
NIE					*e*Sg	Sg	04 53 20.2	+1.0
VRAC	**Vranov**	**1.42**	**238**	*e*Pn		Pn	04 53 00.4	-1.0
VRAC					*e*Sg	Sg	04 53 18.8	-1.2
30nm,0.3s								
KOLL	**Kolacno**	**1.50**	**181**	*e*PN		Pn	04 53 02.9	+0.3
KOLL					*e*SN	Sn	04 53 23.8	+0.9
KOLL	**Kolacno**	**1.50**	**181**	*e*Pn		Pn	04 53 03.0	+0.4
KOLL					*e*Sn	Sn	04 53 23.8	+0.9
KSP	**Ksiaz**	**1.56**	**300**	*e*Pn		Pn	04 53 01.6	-1.8
KSP					*e*Pg	Pg	04 53 03.5	-0.8
KSP					*e*Sg	Sg	04 53 22.8	-1.8
UPC	**Upice**	**1.60**	**286**	*e*PG		Pg	04 53 03.6	-1.6
UPC					*e*SG	Sg	04 53 24.5	-1.5
VYHS	**Vyhne**	**1.61**	**170**	*e*PN		Pn	04 53 03.7	-0.4
VYHS					*e*SN	Sn	04 53 25.4	-0.1
VYHS	**Vyhne**	**1.61**	**170**	*e*Pn		Pn	04 53 03.5	-0.6
VYHS					*e*Sn	Sn	04 53 25.4	-0.1
KRUC	**Moravsky**	**1.67**	**233**	*e*Pn		Pn	04 53 04.1	-0.8
KRUC					*e*Sg	Sg	04 53 26.0	-2.0
12nm,0.3s								
STHS	**Stebnicka Huta**	**1.95**	**109**	*e*PN		Pn	04 53 11.4	+2.7
STHS					*e*SN	Sn	04 53 39.5	+5.7
KECS	**Kecovo**	**2.09**	**139**	*e*PN		Pn	04 53 14.6	+3.9
KECS					*e*		04 53 37.8	
CRVS	**Cervenica-Dubn**	**2.31**	**120**	*e*PG		Pg	04 53 16.7	-1.9
CRVS					*e*		04 53 48.0	
PRU	**Pruhonice**	**2.50**	**269**	*e*SG		Sg	04 53 50.5	-4.4
KOLS	**Kolonicke sedl**	**2.76**	**113**	*e*		Pn	04 53 13.9	-6.0
KOLS					*e*		04 53 27.9	
KOLS					*e*		04 54 13.5	
BRG	**Berggiesshubel**	**2.97**	**287**	SG		Sg	04 54 07.0	-2.8
2.3nm,0.4s								
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PG		Pg	04 53 36.0	-1.5
KHC					*e*SG	Sg	04 54 17.3	-2.9
MOA	**Molln**	**3.53**	**232**	⇑*i*	Sg	Sg	04 54 26.1	-1.8
comp=Z,5.7nm,0.6s								
CLL	**Collm**	**3.66**	**292**	*e*Sg		Sg	04 54 29.0	-3.0

*ISCJB **17** 04:56:37.3±0.4, 5028N±002×747E±003, h12km±3km, Error ellipse: s-maj=3.7km s-min=2.7km az=163.6*
*BGR **17** 04:56:38.8±0.4, 5032N×745E, h5km, ML1.6/4, Error ellipse: s-maj=5.6km s-min=4.4km az=117.0*
*LDG **17** 04:56:40.1±0.1, 5033N×742E, h10km, Ml2.4/11, Error ellipse: s-maj=1.8km s-min=1.1km az=60.0*
*BNS **17** 04:56:40.4±0.7, 5033N×740E, h10km±14km, ML1.4*
*STR **17** 04:56:40.0±0.8, 5030N×751E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 17 04:56:38.6±0.4, 5031N±002×745E±003, h17km±2km, n32, σ0=94/57, 4C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.13**	**215**	⇑*i*	Pg	**Pg**	**04 56 43.5**	**+1.0**
BGG					*e*Sg	**Sg**	**04 56 45.6**	**+0.6**
561nm,0.1s								
STB	**Steinbach**	**0.48**	**306**	⇓*e*	Pg	**Pg**	**04 56 49.2**	**+0.8**
STB					*e*Sg	**Sg**	**04 56 54.6**	**-0.3**
14nm,0.1s								
HILG	**Hillesheim**	**0.49**	**268**	⇑*i*	Pg	**Pg**	**04 56 49.2**	**+0.7**
HILG					*i* Sg	**Sg**	**04 56 55.8**	**+0.6**
36nm,0.3s								
TNS	**Taunus Mts**	**0.65**	**97**	*e*Pg		**Pg**	**04 56 52.4**	**+1.0**
SNR=11								
HOBG	**Hohbusch**	**0.68**	**354**	⇑*e*	Pg	**Pg**	**04 56 52.4**	**+0.4**
HOBG					*e*Sg	**Sg**	**04 57 02.0**	**+1.1**
35nm,0.5s								
KLL	**Kalltalsperre**	**0.80**	**295**	*e*Pg		**Pg**	**04 56 54.6**	**+0.3**
KLL					*e*Sg	**Sg**	**04 57 04.6**	**-0.3**
8.4nm,0.5s								
MEM	**Membach**	**0.97**	**289**	⇑P		**Pb**	**04 56 57.8**	**+0.8**
MEM					S	**Sb**	**04 57 10.3**	**+0.8**
comp=E,5.3nm,0.4s								
WLF	**Walferdange**	**1.06**	**233**	*e*Sg		**Sg**	**04 57 13.1**	**+0.1**
SNR=2.9								
HGN	**Heimansgroeve**	**1.07**	**296**	*i* Pg		**Pg**	**04 56 59.6**	**+0.3**
comp=E,4.4nm,0.2s								
HGN					*e*Sg	**Sg**	**04 57 13.1**	**-0.2**
LAUG	**Laupendahl**	**1.09**	**343**	*e*Pg		**Pg**	**04 56 59.1**	**-0.6**
LAUG					*e*Sg	**Sg**	**04 57 13.6**	**-0.5**
BUG	**Bochum--Univer**	**1.14**	**354**	*e*Pg		**Pg**	**04 57 00.2**	**-0.4**
SNR=1.8								
BUG					*e*Sg	**Sg**	**04 57 13.9**	**-1.7**
SNR=1.3								
LANF	**Langenberg**	**1.35**	**170**	Pg		**Pg**	**04 57 04.8**	**+0.1**
GIVF	**Givet**	**1.70**	**264**	*e*Pn		**Pn**	**04 57 08.0**	**+0.5**
GIVF	**Givet**	**1.70**	**264**	*e*Pg		**Pg**	**04 57 11.2**	**-0.1**
GIVF					*e*Sn	**Sn**	**04 57 27.6**	**-1.3**
GIVF					*e*Sg	**Sg**	**04 57 33.0**	**-0.5**
comp=E,6.7nm,0.2s								
UBBA	**Unterbreizbach**	**1.70**	**72**	*e*Sg		**Sg**	**04 57 32.1**	**-1.5**
SNR=2.1								
DOU	**Dourbes**	**1.85**	**264**	⇓P		**Pn**	**04 57 12.0**	**+2.5**
DOU				S		**Sn**	**04 57 34.2**	**+1.7**
comp=E,3.2nm,0.3s								
CDF	**Champ du Feu**	**1.90**	**183**	*e*Pn		**Pn**	**04 57 11.6**	**+1.3**
CDF	**Champ du Feu**	**1.90**	**183**	*e*P		**Pn**	**04 57 13.8**	**+3.5**
CDF	**Champ du Feu**	**1.90**	**183**	*e*Pg		**Pg**	**04 57 16.1**	**+0.9**
CDF					*e*Sn	**Sn**	**04 57 34.0**	**+0.1**
CDF					*e*Sg	**Sg**	**04 57 38.7**	**-1.2**
comp=E,3.3nm,0.3s								
BFO	**Black Forest**	**2.06**	**163**	*e*Sg		**Sg**	**04 57 43.8**	**-1.3**
SNR=1.4								
BAIF	**Baives**	**2.10**	**264**	*e*Pg		**Pg**	**04 57 18.1**	**-0.8**
BAIF					*e*Sn	**Sn**	**04 57 37.2**	**-1.5**
BAIF					*e*Sg	**Sg**	**04 57 44.3**	**-1.9**
comp=E,7.3nm,0.3s								
RFYF	**Reffroy**	**2.12**	**218**	*e*Pn		**Pn**	**04 57 14.2**	**+0.9**
RFYF					*e*Sn	**Sn**	**04 57 38.5**	**-0.7**
RFYF					*e*Sg	**Sg**	**04 57 46.6**	**-0.3**
comp=E,5.0nm,0.2s								
MEZF	**Maizieres J'vi**	**2.39**	**222**	*e*Sg		**Sg**	**04 57 55.4**	**-0.2**
comp=E,2.3nm,0.3s								
CLZ	**Clausthal**	**2.40**	**49**	*e*Sg		**Sg**	**04 57 55.1**	**-0.7**
SNR=3.2								
HAU	**Haudompre**	**2.42**	**198**	*e*Pn		**Pn**	**04 57 18.4**	**+1.0**
HAU	**Haudompre**	**2.42**	**198**	*e*P		**Pn**	**04 57 20.8**	**+3.4**
HAU	**Haudompre**	**2.42**	**198**	*e*Pg		**Pg**	**04 57 25.4**	**+0.4**
HAU					*e*Sn	**Sn**	**04 57 46.3**	**-0.2**
HAU					*e*Sg	**Sg**	**04 57 56.7**	**+0.3**
comp=E,2.5nm,0.2s								
HINF	**Hinteralfeld**	**2.53**	**189**	*e*Pg		**Pg**	**04 57 26.8**	**-0.3**
HINF					*e*Sn	**Sn**	**04 57 48.7**	**-0.5**
HINF					*e*Sg	**Sg**	**04 58 00.4**	**+0.5**
comp=E,2.8nm,0.3s								
SFTF	**Sexfontaines**	**2.63**	**218**	*e*Pn		**Pn**	**04 57 20.9**	**+0.6**
SFTF	**Sexfontaines**	**2.63**	**218**	*e*Pg		**Pg**	**04 57 29.0**	**-0.1**
SFTF					*e*Sg	**Sg**	**04 58 04.0**	**+0.7**
comp=E,2.0nm,0.2s								
CABF	**La Chapelle**	**3.81**	**194**	*e*Pn		**Pn**	**04 57 36.9**	**+0.4**
LOR	**Lormes**	**3.86**	**219**	*e*Pn		**Pn**	**04 57 38.3**	**+1.1**
baz=35								
LOR					*e*Sn	**Sn**	**04 58 20.0**	**-2.1**
LOR					*e*Sg	**Sg**	**04 58 40.7**	**-1.9**
comp=E,0.7nm,0.2s								

*ISCJB **17** 05:12:28.9±2.7, 630S±009×1553E±01, h187km±26km, mb4.2/15, Error ellipse: s-maj=20.4km s-min=12.4km az=63.0*
*NEIC **17** 05:12:31.5±3.3, 629S×15529E, h198km±31km, mb4.3/9, Error ellipse: s-maj=13.2km s-min=11.6km az=125.0*
*IDC **17** 05:12:34.2±2.8, 635S×15529E, h221km±27km, mb3.8/7, mb1 3.9/8, mb1mx3.8/13, mbtmp4.3/8, Error ellipse: s-maj=23.5km s-min=13.2km az=104.0*
ISC 17 05:12:33.1±2.4, 631S±009×1553E±01, h213km±24km, n24, σ0=67/24, mb4.2/15, 1C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.00**	**147**	P		**P**	**05 16 38.7**	**0.0**
0.7nm,0.3s,baz=70,slow=15,SNR=6.9								
KAKA	**Kakadu**	**23.44**	**253**	⇑*i*	P	**P**	**05 17 23.3**	**+0.1**
103nm,0.4s								
WB2	**Warramunga Arr**	**24.47**	**234**	*e*P		**P**	**05 17 33.0**	**+0.4**
WRA	**Warramunga Arr**	**24.48**	**234**	P		**P**	**05 17 33.1**	**+0.5**
18nm,0.5s,mb4.9,baz=59,slow=9.9,SNR=52								
WRA				S		**S**	**05 21 37.6**	**+0.6**
0.9nm,0.7s,baz=64,slow=15,SNR=2.9								
AS31	**Alice Springs**	**26.87**	**228**	*e*P		**P**	**05 17 54.2**	**+0.1**
ASAR	**Alice Springs**	**26.88**	**228**	P		**P**	**05 17 54.1**	**0.0**
4.4nm,0.3s,mb4.6,baz=58,slow=9.2,SNR=53								
ASAR				S		**S**	**05 22 13.9**	**-0.8**
1.2nm,1.0s,baz=58,slow=16,SNR=4.6								
ASPA	**Alice Springs**	**26.88**	**228**	*e*P		**P**	**05 17 54.2**	**0.0**
FITZ	**Fitzroy Crossi**	**31.24**	**245**	*e*P		**P**	**05 18 31.9**	**-0.8**
24nm,0.6s,mb5.0								
FORT	**Forrest**	**35.31**	**223**	⇓*i*	P	**P**	**05 19 07.7**	**-0.2**
17nm,0.4s,mb4.9								
MBWA	**Marble Bar**	**37.48**	**243**	*e*P		**P**	**05 19 25.8**	**-0.3**
17nm,0.8s,mb4.6								
KLBR	**Kellerberrin**	**43.18**	**230**	*e*P		**P**	**05 20 12.3**	**-0.5**
22nm,1.1s,mb4.5								
MUN	**Mundaring**	**44.53**	**230**	*e*P		**P**	**05 20 23.5**	**-0.1**
MJAR	**Matsushiro Arr**	**45.55**	**341**	P		**P**	**05 20 30.8**	**-0.8**
2.0nm,0.6s,mb3.6,baz=159,slow=8.3,SNR=5.8								
ULN	**Ulaanbaatar**	**68.61**	**327**	*e*P		**P**	**05 23 14.3**	**+1.3**
6.7nm,1.1s,mb4.2								
SONM	**Songino Array**	**68.94**	**327**	P		**P**	**05 23 16.4**	**+1.3**
4.3nm,0.5s,mb4.3,baz=140,slow=6.5,SNR=40								
VNDA	**Vanda**	**71.25**	**179**	P		**P**	**05 23 28.8**	**-0.3**
0.2nm,0.5s,baz=323,slow=8.1,SNR=3.9								
VNDA	**Vanda**	**71.25**	**179**	*e*P		**P**	**05 23 28.9**	**-0.1**
0.6nm,0.8s,mb3.3								
MCK	**McKinley**	**81.30**	**22**	*e*P		**P**	**05 24 25.6**	**0.0**
1.5nm,0.6s,mb3.8								
COLA	**College**	**82.33**	**21**	*e*P		**P**	**05 24 30.5**	**-0.4**
1.4nm,0.6s,mb3.8								
MKAR	**Makanchi Array**	**83.11**	**319**	P		**P**	**05 24 35.2**	**+0.2**
0.6nm,0.3s,mb3.8,baz=103,slow=5.5,SNR=7.4								
MAW	**Mawson**	**85.15**	**203**	P		**P**	**05 24 46.3**	**+1.1**
0.6nm,0.5s,mb3.6,baz=104,slow=6.3,SNR=3.7								
CHKZ	**Chkalovo**	**91.91**	**324**	*e*P		**P**	**05 25 15.6**	**-1.6**
0.9nm,0.7s,mb3.8								
GERES	**GERESS Array B**	**126.64**	**329**	PKP		PKPdf	05 31 11.7	+0.8
0.4nm,0.6s,baz=132,slow=2.0,SNR=3.8								
TORD	**Torodi Ar. Bea**	**153.16**	**287**	PKP		PKPdf	05 31 58.4	+0.6
0.2nm,0.6s,baz=20,slow=2.0,SNR=2.9								
TORD				PKPbc		PKPbc	05 32 05.7	+0.3
0.5nm,0.5s,baz=76,slow=2.3,SNR=15								

NNC 17 05:25:40.7±2.4, 5428N×8591E, h0km, mb3.8, mpv3.5, 7C-5D, Error ellipse: s-maj=19.5km s-min=12.3km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.71**	**234**	⇑Pn		Pn	05 27 06.9	+0.3
2.5nm,0.6s								
KURK					⇓Sn	Sn	05 28 15.3	+2.5
3.7nm,1.1s								
KURK					⇑Lg		05 28 43.8	
10nm,0.9s								
MK02	**Makanchi Array**	**7.86**	**198**	⇑Pn		Pn	05 27 34.9	-1.4
1.6nm,0.5s								
MK02					⇑Sn	Sn	05 29 06.0	+0.1
3.2nm,0.8s								
CHKZ	**Chkalovo**	**9.04**	**272**	⇑Pn		Pn	05 27 52.7	+0.3
2.4nm,1.3s								
CHKZ					⇑Sn	Sn	05 29 33.4	-1.5
4.8nm,1.1s								
VOSK	**Vostochnaya**	**9.04**	**266**	⇓Pn		Pn	05 27 53.3	+0.9
2.2nm,0.4s								
VOSK					⇑Sn	Sn	05 29 34.8	-0.1
14nm,0.8s								
BVA0	**Borovoye Array**	**9.31**	**269**	Pn		Pn	05 27 56.8	+0.7
0.2nm,0.5s,baz=84,slow=18,SNR=7.7								
BVA0					⇓Sn	Sn	05 29 41.6	+0.1
1.1nm,1.1s,baz=75,slow=22,SNR=8.0								
ZRNK	**Zerenda**	**10.14**	**269**	⇓Pn		Pn	05 28

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.23	344	*i* P	Pg	05 31 41.3	-0.2
URLA				*i* S	Sg	05 31 44.9	+0.2
SMG	Samos	0.45	164	⇑*i*PB	Pg	05 31 46.8	+1.2
IZM	Izmir	0.53	61	*i* PG	Pg	05 31 46.9	-0.2
IZM				*i* SG	Sg	05 31 54.0	0.0
KDAG	Bornova	0.53	60	*i* P	Pg	05 31 46.9	-0.2
KDAG				*i* S	Sg	05 31 54.7	+0.5
AYDN	Tasoluk	1.06	116	*i* P	Pg	05 31 57.2	0.0
AYDN				*i* S	Sg	05 32 11.4	+0.3
PRK	Paraskevi	1.15	344	*e*PN	Pn	05 31 58.2	-0.7
PRK				*e*SN	Sn	05 32 14.0	-0.7
AKS	Akhisar	1.16	50	*i* PG	Pb	05 31 57.6	-1.3
AYVA	Ayvalik	1.17	0	*i* P	Pb	05 31 57.2	-1.8
AYVA				*i* S	Sb	05 32 14.7	+0.5
BODT	Bodrum	1.19	155	PN	Pn	05 31 59.5	+0.1
MLSB	Milas	1.21	134	PN	Pn	05 31 59.5	-0.3
BDRM	Kayabasi	1.23	150	*i* P	Pn	05 31 59.8	-0.3
APE	Apeiranthos	1.40	221	*e*PN	Pn	05 32 02.0	-0.4
APE				*e*SN	Sn	05 32 20.5	-0.4
MANT	Manisa	1.52	76	*i* P	Pn	05 32 05.0	+1.0
MANT				*i* S	Sn	05 32 22.7	-1.1
DAT	Datca	1.58	153	*e*PN	Pn	05 32 04.7	-0.1
YER	Yerkesik	1.62	128	*e*PN	Pn	05 32 05.3	-0.1
EZN	Ezine	1.71	351	*e*PN	Pn	05 32 07.2	+0.7
BALB	Balikesir	1.77	32	*e*PN	Pn	05 32 07.7	+0.3
BOZC	Bozcaada	1.77	344	*i* P	Pn	05 32 06.3	-1.1
CANB	Canakkale	1.90	9	*e*PN	Pn	05 32 10.0	+0.8
DENT	Denizli	1.90	101	*e*PN	Pn	05 32 09.0	-0.2
BTOK	Tokmak	1.93	33	*i* P	Pn	05 32 10.1	+0.5
BTOK				*i* S	Sn	05 32 35.7	+1.7
DALT	Dalyan (Mudla)	2.07	131	*e*PN	Pn	05 32 12.1	+0.5
LIA	Limnos Island	2.11	327	*e*PB	Pn	05 32 12.0	-0.1
KHL	Karahalli	2.25	84	*e*PN	Pn	05 32 14.2	+0.2
EDC	Edincik	2.39	22	*e*PN	Pn	05 32 16.1	+0.2
GDZ	Gediz	2.39	66	*i* P	Pg	05 32 21.2	-1.5
GDZ				*i* S	Sb	05 32 48.4	-1.1
BNT	Bandirma	2.42	23	*e*PN	Pn	05 32 16.7	+0.4
FETY	Fethiye	2.44	127	*e*PN	Pn	05 32 16.9	+0.3
KCT	Karacabey	2.49	31	*e*PN	Pn	05 32 18.0	+0.6
MRMT	Marmara Adasi	2.56	16	*e*PN	Pn	05 32 17.9	-0.4
RKY	Sarkoy-Tekirda	2.57	9	*e*PN	Pn	05 32 18.6	+0.1
MFT	Murefte	2.69	10	*e*PN	Pn	05 32 21.2	+1.2
TKTP	Tekketepe	2.88	91	*i* P	Pn	05 32 22.3	-0.3
RDO	Rodhopi	3.13	344	*e*PN	Pn	05 32 26.5	+0.4
YLV	Yalova	3.20	40	*e*PN	Pn	05 32 27.9	+0.8

NIED ***17*** *05:49:00, 36.90N×138.30E, h11km, Mw3.7 Best double couple: M0=4.43000×10^14 NP1:*ϕ_s*=23.00000°,*δ*=64.00000°,* λ*=93.00000°. NP2:*ϕ_s*=197.00000°,*δ*=26.00000°,*λ*=84.00000°.*

JMA 17 05:49:03.9±0.1, 3694N×13819E, h19km±1km, M3.5, 1C-7D Broadband fault plane solution: P waves. NP1: ϕ_s=204.00000°, δ=21.00000°, λ=77.00000°. **NP2:**ϕ_s=38.00000°, δ=70.00000°, λ=95.00000°. **Principal axes:** T Plg=65.0000°, Azm=316.0000°; N Plg=5.0000°, Azm=216.0000°; P Plg=25.0000°, Azm=124.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	Nakama	0.16	352	⇓P	Pg	05 49 08.4	0.0
JJN				S	Sg	05 49 12.1	+0.6
MAT	Matsushiro	0.40	178	P	Pg	05 49 11.5	-0.7
MAT				S	Sg	05 49 16.8	-1.0
MAT	Matsushiro	0.40	178	P	Pg	05 49 11.4	-0.8
JGK	Kuni	0.52	136	P	Pg	05 49 14.3	-0.1
JNG	Nsakai	0.54	188	⇓P	Pg	05 49 13.8	-0.9
JNG				S	Sg	05 49 21.1	-0.9
JIZZ	Izumozaki	0.72	35	P	Pb	05 49 18.2	+0.3
JIZZ				*e*S	Sb	05 49 29.1	+1.7
JHK	Hiroka	0.73	65	⇓P	Pb	05 49 17.3	-0.7
JHK				*e*S	Sb	05 49 27.4	-0.2
JTT	Ttatey	0.77	244	P	Pb	05 49 19.1	+0.5
JSZ	Suzu	0.83	308	⇓P	Pb	05 49 18.9	-0.8
JSZ				S	Sb	05 49 30.5	-0.1
JKT	Katashina	0.87	101	⇓P	Pb	05 49 19.6	-0.7
JKT				*e*S	Sb	05 49 31.1	-0.4
JRY	Ryogami san	1.08	148	⇓P	Pb	05 49 23.0	-1.1
JRY				S	Sb	05 49 37.5	-0.3
JSD	Sado	1.10	3	⇑P	Pn	05 49 23.1	-1.1
JSD				*e*S	Sb	05 49 38.2	+0.1
JAG	Ashikaga	1.14	116	⇓P	Pn	05 49 24.3	-0.5

ISCJB ***17*** *06:04:28.3±0.4, 3406N±003×2559E±005, h65km±7km, mb3.3/7 Error ellipse: s-maj=7.8km s-min=4.7km az=120.6*
CSEM ***17*** *06:04:28.1±0.1, 3403N×2559E, h60km, MD3.5, Error ellipse: s-maj=4.0km s-min=1.8km az=54.0*
NEIC ***17*** *06:04:29.9±0.9, 3406N×2550E, h47km±8km, MD3.5(ATH), Error ellipse: s-maj=11.6km s-min=6.8km az=176.0*
IDC ***17*** *06:04:30.0±2.1, 3413N×2559E, h43km±22km, mb3.3/7, mb1 3.5/11, mb1mx3.4/24, mbtmp3.5/11, ML3.6/4, Error ellipse: s-maj=23.2km s-min=18.8km az=20.0*
THE ***17*** *06:04:32.2, 3426N×2547E, h14km*
HLW ***17*** *06:04:34.0, 3378N×2569E, h33km, Mb4.0*
ATH ***17*** *06:04:43.2, 3542N×2514E, h10km, MD3.5/3*

ISC 17 06:04:29.8±0.4, 3407N±003×2556E±005, h48km±7km, n43, σ0°94/53, mb3.4/7, 2C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	Lasithi	1.09	357	*e*Pg	Pn	06 04 49.6	+0.9
LAST				*e*Sg	Sn	06 05 02.4	-0.3
SIVA	Sivas	1.13	327	*e*Pg	Pn	06 04 49.0	-0.3
SIVA				*e*Sg	Sn	06 05 02.1	-1.5
ZKR	Zakros	1.18	27	*e*Pg	Pn	06 04 51.2	+1.3
NPS	Neapolis	1.20	2	*e*PB	Pn	06 04 51.0	+0.9
IDI	Anoyia	1.34	336	P	Pn	06 04 52.3	+0.3
	16nm,0.3s,baz=164,slow=16,SNR=47						
IDI				S	Sn	06 05 09.6	+1.0
	20nm,0.3s,baz=174,slow=16,SNR=7.8						
GVD	Gavdhos	1.44	303	*e*Pg	Pn	06 04 54.0	+0.6
GVD				*e*Sg	Sn	06 05 11.9	+0.8
VAM	Vamos	1.74	321	*e*PB	Pn	06 04 57.8	+0.2
KARN	Karanos	1.90	315	*e*Pb	Pn	06 05 00.1	+0.5
SANT	Santorini	2.30	358	*e*Pn	Pn	06 05 06.1	+0.9
THR3	Thira Island,	2.34	357	*e*Pn	Pn	06 05 06.0	+0.3
SLUM		2.58	187	⇑P	Pn	06 05 09.6	+0.5
APE	Apeiranthos	3.00	360	*e*Pn	Pn	06 05 14.5	-0.2
APE				*e*Sn	Sn	06 05 48.4	-1.0
APE	Apeiranthos	3.00	360	*e*Pb	Pn	06 05 14.8	+0.1
APE				S	Sn	06 05 48.4	-1.0
CHOS	Chios island	4.33	5	*e*Pn	Pn	06 05 34.3	+1.2
SWA1		4.79	178	P	Pn	06 05 39.4	+0.1
SWA1				S	Sn	06 06 27.7	-5.9
SWA2		4.81	181	⇑P	Pn	06 05 39.9	+0.3
HBRG	Burj al 'Arab	5.03	133	⇓P	Pn	06 05 42.5	-0.1
AGG	Agios Georgios	5.59	333	*e*Pn	Pn	06 05 51.7	+1.4
AGG				*e*Sn	Sn	06 06 53.7	+0.6
AWBH		6.40	153	P	Pn	06 06 01.1	-0.4
GLL	Jalalah	6.89	129	⇓P	Pn	06 06 07.9	-0.2
MMAI	Mount Meron Ar	8.29	95	P	Pn	06 06 25.6	-1.7
	1.0nm,0.3s,baz=280,slow=12,SNR=7.6						
MMAI				S	Sn	06 07 54.4	-5.1
	5.5nm,0.3s,baz=277,slow=20,SNR=9.2						
BRTR	Keskin Array B	8.59	47	P	Pn	06 06 30.4	-1.0
	0.1nm,0.3s,baz=229,slow=11,SNR=4.1						
SOI	Samo	8.67	300	Pn	Pn	06 06 31.7	-0.8
TIP	Timpagrande	8.72	308	*e*Pn	Pn	06 06 31.8	-1.4
TIP	Timpagrande	8.72	308	*e*Pn	Pn	06 06 31.8	-1.4
CEL	Celeste	8.86	301	Pn	Pn	06 06 34.3	-0.9
	23nm,0.5s						
MTTG	Motta San Giov	8.90	299	Pn	Pn	06 06 34.8	-0.9
HAVL	Avola	8.98	292	Pn	Pn	06 06 35.3	-1.5
HKAT	Jabal Katrina	9.09	125	P	Pn	06 06 38.0	-0.3
VAE	Valguarnera	9.67	294	S	Sn	06 08 28.1	-5.4
	3.0nm,0.3s,baz=218,slow=4.0,SNR=3.5						
ASF	Jabal al Asfar	9.70	98	P	Pn	06 06 46.9	+0.3
	0.2nm,0.3s,baz=100,slow=15,SNR=2.2						
ASF				S	Sn	06 08 28.6	-5.5
	0.3nm,0.3s,baz=284,slow=20,SNR=2.3						
AKASG	Malin Array Be	16.84	8	P	Pn	06 08 18.7	-3.4
	0.4nm,0.3s,baz=199,slow=10,SNR=3.3						
GERES	GERESS Array B	17.20	333	P	Pn	06 08 25.2	-1.4
	0.3nm,0.3s,baz=151,slow=12,SNR=22						
ESDC	Sonseca Array	24.21	292	P	P	06 09 42.7	+0.8
	0.2nm,0.3s,mb3.1,baz=75,slow=9.1,SNR=4.5						
HFS	Hagfors	27.21	347	P	P	06 10 09.3	+0.2
	0.5nm,0.5s,mb3.3,baz=145,slow=16,SNR=3.2						
NB2	NORSAR Subarra	28.54	345	P	P	06 10 20.4	-0.5
	comp=Z,0.3nm,0.5s,mb3.3,baz=156,slow=10						
NOA	NORSAR Array B	28.54	345	P	P	06 10 20.5	-0.3
	comp=Z,0.4nm,0.5s,mb3.4,baz=159,slow=9.9,SNR=4.1						
NOA	NORSAR Array B	28.54	345	P	P	06 10 20.5	-0.3
EKA	Eskdalemuir Ar	29.12	326	P	P	06 10 26.4	+0.3
	comp=Z,0.4nm,0.6s,mb3.3,baz=133,slow=11,SNR=3.9						
TORD	Torodi Ar. Bea	30.05	232	P	P	06 10 35.7	+1.4
	comp=Z,0.2nm,0.3s,mb3.3,baz=32,slow=8.5,SNR=7.9						
TORD	Torodi Ar. Bea	30.05	232	P	P	06 10 35.7	+1.4
ARCES	ARCESS Array B	35.52	360	P	P	06 11 20.4	-1.6
	comp=Z,1.4nm,0.9s,mb3.9,baz=183,slow=7.8,SNR=2.8						
MKAR	Makanchi Array	44.11	56	P	P	06 12 35.1	+1.7
	comp=Z,0.3nm,0.5s,mb3.3,baz=284,slow=6.9,SNR=5.3						

NEIC ***17*** *06:41:30.5, 3502S×7056W, h19km, ML2.5(GUC), After GUC.*

GUC 17 06:41:30.5±0.7, 3502S×7056W, h19km±3km, MD3.6, ML2.5, 4C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	San Fernando	0.55	317	⇓*i*P	Pg	06 41 41.0	-0.5
SFDO				*i* S	Sg	06 41 49.2	+0.3
CICH	Cipreses	0.70	9	⇑*i*P	Pb	06 41 43.5	-0.6
CICH				*i* S	Sb	06 41 53.7	+0.2
CACH	El Canelo	0.90	359	⇓*i*P	Pb	06 41 47.0	-0.5
CACH				*i* S	Sb	06 42 00.1	+1.0
CHCH	Chadas Angostu	1.08	356	*e*P	Pb	06 41 50.7	+0.1
CHCH				*i* S	Sb	06 42 05.6	+1.2
LMEL	Las Melosas	1.20	14	⇑*i*P	Pn	06 41 52.4	+0.1
LMEL				*i* S	Sb	06 42 09.2	+1.4
LMEL				AML	AML	06 42 10.2	
	comp=E,92nm,0.2s						
LMEL	Las Melosas	1.20	14	⇑*i*P	Pn	06 41 52.4	+0.1
LMEL				*i* S	Sb	06 42 09.2	+1.4
LNV	Longovilo	1.27	326	⇓*i*P	Pn	06 41 53.4	+0.1
LNV				*i* S	Sn	06 42 10.7	+0.9
PCH	Pirque	1.39	1	⇑*i*P	Pn	06 41 55.9	+1.0
PCH				*i* S	Sn	06 42 15.3	+2.6
TACH	Talagante	1.40	347	⇓*i*P	Pn	06 41 55.5	+0.6
TACH				*i* S	Sn	06 42 14.6	+1.8
ANTU	Antumapu	1.45	357	*e*P	Pn	06 41 57.0	+1.3
ANTU				*i* S	Sn	06 42 16.5	+2.4
ANTU				AML	AML	06 42 18.0	
	comp=E,174nm,0.3s						
ANTU	Antumapu	1.45	357	*e*P	Pn	06 41 57.0	+1.3
ANTU				*i* S	Sn	06 42 16.5	+2.4
CLCH	Cerro Calan	1.62	1	⇓*i*P	Pn	06 41 59.9	+1.9
CLCH				*e*S	Sn	06 42 21.8	+3.5
CLCH				AML	AML	06 42 26.1	
	comp=E,114nm,0.8s						
FCH	Farellones	1.70	7	*e*P	Pn	06 42 01.4	+2.3
FCH				*i* S	Sn	06 42 24.4	+4.1
FCH				AML	AML	06 42 26.4	
	comp=N,76nm,0.3s						
LCCH	Las Cruces	1.75	331	*e*P	Pn	06 42 00.8	+1.0
LCCH				*i* S	Sn	06 42 25.1	+3.5

ISCJB ***17*** *06:51:15.0±0.7, 3854N±004×2152E±008, h10km±13km, Error ellipse: s-maj=11.4km s-min=5.5km az=53.6*
NEIC ***17*** *06:51:14.4, 3855N×2144E, h19km, MD3.0(ATH), After ATH.*
ATH ***17*** *06:51:14.4, 3855N×2144E, h19km, MD3.0/4*
CSEM ***17*** *06:51:14.4, 3855N×2144E, h19km, MD3.0/4, After ATH*
THE ***17*** *06:51:17.1, 3871N×2146E, h10km*

ISC 17 06:51:15.5±0.7, 3853N±004×2150E±005, h10km±14km, n7, σ0°68/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.46	33	*e*PB	Pg	06 51 23.8	-0.6
EVR				*e*SB	Sg	06 51 30.8	+0.4
RLS	Riolos of Patr	0.47	183	*e*PB	Pg	06 51 24.4	-0.4
RLS				*e*SB	Sg	06 51 31.8	+0.7
LKD	Levkas	0.68	285	*e*Pg	Pg	06 51 28.2	-0.5
LKD				*e*Sg	Sg	06 51 38.9	+1.2
VLS	Valsamata	0.80	244	*e*PN	Pg	06 51 29.5	-1.4
AGG	Agios Georgios	0.82	53	*e*Pg	Pg	06 51 31.2	-0.1
AGG				*e*Sg	Sg	06 51 42.6	+0.7
ITM	Ithomi	1.39	166	*e*PN	Pn	06 51 41.4	+0.4
XOR	Xorichti	1.56	57	*e*Pg	Pg	06 51 45.5	0.0
XOR				*e*Sg	Sg	06 52 05.3	-0.5

ISCJB ***17*** *06:56:41.1±4.7, 3033S±05×1784W±07, h33km, mb4.2/3, Error ellipse: s-maj=113.2km s-min=9.5km az=78.8*
IDC ***17*** *06:56:41.8±5.0, 3030S×1780W, h48km±35km, mb4.0/3, mb1 4.2/3, mb1mx3.7/11, mbtmp4.3/3, Error ellipse: s-maj=64.6km s-min=23.4km az=135.0*

ISC 17 06:56:39.4±4.8, 305S±01×1778W±07, h35km, n12, σ0°77/9, mb4.2/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.21	357	P	Pn	06 57 00.1	+0.4
	219nm,0.3s,baz=76,slow=23,SNR=16						
RAO				S	Sn	06 57 14.0	-0.9
	531nm,0.3s,baz=105,slow=22,SNR=11						
URZ	Urewera	8.83	207	P	Pn	06 58 39.8	-4.7
	0.3nm,0.3s,baz=35,slow=20,SNR=6.1						
STKA	Stephens Creek	34.60	257	*e*P	P	07 03 24.9	0.0
	2.1nm,0.4s,mb4.4						
STKA	Stephens Creek	34.60	257	P	P	07 03 25.0	+0.1
	2.6nm,0.4s,mb4.5,baz=103,slow=12,SNR=10.0						
ASAR	Alice Springs	43.24	267	P	P	07 04 37.8	+0.5
	0.8nm,0.3s,mb3.9,baz=105,slow=7.3,SNR=16						
ASPA	Alice Springs	43.24	267	*e*P	P	07 04 37.4	+0.1
WB2	Warramunga Arr	44.22	272	*e*P	P	07 04 45.2	+0.1
WRA	Warramunga Arr	44.23	272	P	P	07 04 45.1	-0.1
	2.0nm,0.3s,mb4.3,baz=110,slow=8.1,SNR=49						
FINES	FINESS Array B	145.25	340	PKPbc	PKPbc	07 16 11.9	-1.2
	1.7nm,0.6s,baz=48,slow=4.1,SNR=12						
NB2	NORSAR Subarra	148.83	351	PKPa	PKPbc	07 16 22.3	-0.9
	comp=Z,0.5nm,0.6s,baz=28,slow=2.5						
NOA	NORSAR Array B	148.83	351	PKPbc	PKPbc	07 16 22.4	-0.8
	comp=Z,0.5nm,0.6s,baz=14,slow=4.2,SNR=5.0						
AKASG	Malin Array Be	151.43	323	PKPbc	PKPbc	07 16 28.8	-0.7
	comp=Z,1.5nm,0.7s,baz=50,slow=3.6,SNR=6.0						

WEL 17 07:19:50.7±0.1, 4159S×17435E, h12km, ML3.8/40, Error ellipse: s-maj=0.8km s-min=0.7km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.18	213	PG	Pg	07 19 54.7	-0.1
CMWZ				SG	Sg	07 19 59.3	+1.7
TUWZ	Tuamarina	0.34	298	PG	Pg	07 19 57.7	0.0
TUWZ				SG	Sg	07 20 03.2	+0.9
BSWZ	Blackbirch Sta	0.37	251	PG	Pg	07 19 58.1	0.0
BSWZ				SG	Sg	07 20 03.9	+0.7
TCW	Tory Channel	0.38	352	PG	Pg	07 19 58.4	0.0
TCW				SG	Sg	07 20 04.3	+0.7
SNZO	South Karori	0.39	44	PG	Pg	07 19 58.6	+0.1
SNZO				SG	Sg	07 20 04.8	+1.0
BHW	Baring Head	0.43	65	PG	Pg	07 19 59.5	+0.2
BHW				SG	Sg	07 20 06.2	+1.1
WEL	Wellington	0.44	46	PG	Pg	07 19 59.7	+0.2
WEL				SG	Sg	07 20 06.3	+0.9
MRW	Makara Radio	0.45	36	PG	Pg	07 19 59.5	-0.1
MSWZ	Moikau Station	0.70	76	P*	Pb	07 20 04.4	-0.5
CAW	Cannon Point	0.73	48	P*	Pb	07 20 04.5	-0.8
NNZ	Nelson	0.82	297	P*	Pb	07 20 06.0	-0.8
PAWZ	Paruwai Farm	0.84	76	P*	Pb	07 20 06.8	-0.5
KIW	Kapiti Island	0.84	30	P*	Pb	07 20 06.5	-0.8
DUWZ	D'Urville Isla	0.85	338	P*	Pb	07 20 06.8	-0.6
MTW	Mount Morrison	0.97	64	P*	Pb	07 20 09.3	-0.2
KHZ	Kahutara	1.02	216	P*	Pb	07 20 10.3	0.0
TRWZ	Traveller	1.03	80	P*	Pb	07 20 10.0	-0.4
THZ	Tophouse	1.09	261	P*	Pb	07 20 11.1	-0.5
TIWZ	Tintock	1.42	55	P*	Pb	07 20 15.7	-1.5
QRZ	Quartz Range	1.57	299	PN	Pn	07 20 13.6	-4.8
BFZ	Birch Farm	1.70	58	PN	Pn	07 20 18.8	-1.3

CASC 17 07:21:23.4±1.6, 1420N×9078W, h112km±10km, MD3.6, 1C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TER	Terranova	0.14	41	⇓*e*P	Pn	07 21 39.3	+0.5
TER				*e*S	Sn	07 21 51.6	+1.2
FUG	Fuego 3	0.26	346	⇓*i*P	Pn	07 21 39.8	+0.6
TP2	Tecpan 2	0.63	338	⇓*i*P	Pn	07 21 41.4	+0.1
TP2				*e*S	Sn	07 21 56.7	+1.8
JAT	Jato	0.84	278	⇑*e*P	Pn	07 21 43.8	+0.6
JAT				*e*S	Sn	07 21 57.8	-0.3
RBDL	Robledal	1.06	94	⇓*e*P	x	07 22 03.8	
RBDL				*e*S	x	07 22 21.2	
SNJE	San Jose	1.18	106	*e*P	x	07 22 04.6	
SNJE				*e*S	x	07 22 22.4	

NIED ***17*** *07:38:00, 40.10N×142.50E, h38km, Mw4.2 Best double couple: M0=1.92000×10^15 NP1:*ϕ_s*=29.00000°,*δ*77.00000°,* λ*107.00000°. NP2:*ϕ_s*=156.00000°,*δ*22.00000°,*λ*39.00000°.*
ISCJB ***17*** *07:38:02.1±0.6, 4019N±004×14258E±006, h43km±5km, mb4.3/26, MS3.4/6, Error ellipse: s-maj=8.7km s-min=4.9km az=57.1*
MOS ***17*** *07:38:03.0±0.9, 4021N×14270E, h55km, mb4.5/14, Error ellipse: s-maj=11.3km s-min=6.6km az=98.0*
JMA ***17*** *07:38:03.8±0.1, 4015N×14246E, h35km±1km, M3.8*
JMA Felt I J1.
IDC ***17*** *07:38:04.2±1.0, 4017N×14253E, h46km±6km, mb3.8/11, mb1 4.0/12, mb1mx3.9/17, mbtmp4.1/12, ML4.0/1, MS3.3/6, Ms1 3.3/6, ms1mx3.1/27, Error ellipse: s-maj=37.2km s-min=12.1km az=88.0*
NEIC ***17*** *07:38:10.4±1.2, 4067N×141.11E, mb4.4/5, Error ellipse: s-maj=33.0km s-min=13.0km az=99.0*
NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures.
BJI ***17*** *07:38:12.0, 4047N×140.95E, h35km, mB4.6, mb4.4, Ms3.6, Msz3.6*

ISC 17 07:38:03.5±0.6, 4017N±004×14253E±006, h38km±5km, h48km±2.5km: pP-P, n72, σ1°08/83, mb4.3/26, MS3.4/6, 6C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.56	246	⇓P	Pn	07 38 14.3	-0.7
JTH				S	Sn	07 38 22.1	-1.0
JANG	Nango	0.80	285	⇓P	Pn	07 38 17.8	-0.4
JANG				S	Sn	07 38 27.8	-1.1
MIYJ	Miyakonagasawa	0.81	223	⇓P	Pn	07 38 17.7	-0.6
MIYJ				S	Sn	07 38 27.2	-1.9
JKZ	Kuzumaki	0.94	259	⇓P	Pn	07 38 20.1	0.0
JKZ				S	Sn	07 38 31.5	-0.8
JOM	Ohasama	1.18	234	⇓P	Pn	07 38 23.8	+0.3
JOM				S	Sn	07 38 38.6	+0.3
JTM	Tenmabayashi	1.27	299	⇓P	Pn	07 38 25.2	+0.5
JTM				*e*S	Sn	07 38 40.7	+0.2
OFUJ	Ofunato	1.27	212	⇓P	Pn	07 38 25.0	+0.2
OFUJ				*e*S	Sn	07 38 40.9	+0.2
ASAJ	Asahikawa	3.94	1	P	Pn	07 39 03.5	+2.0
	7.1nm,0.3s,baz=206,slow=13,SNR=26						
ASAJ				S	Sn	07 39 47.4	+0.9
	8.5nm,0.3s,baz=192,slow=13,SNR=3.6						
ASAJ				LR	LR	07 41 00.1	
	comp=Z,346nm,21.8s,baz=188,slow=44						
ASAJ	Asahikawa	3.94	1	P	Pn	07 39 03.5	+2.0
ASAJ				S	Sn	07 39 47.4	+0.9
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				smax			
	comp=N,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,346nm,21.8s						
YUK	Yuzh-Kuril'sk	4.59	32	*e*P	Pn	07 39 10.9	+0.6
YUK				*i* S	Sn	07 39 59.5	-2.9
YUK				pmax	pmax		
	comp=Z,500nm,0.3s						
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=N,1200μm,0.5s						
YUK				smax			
	comp=E,690nm,0.5s						
MJAR	Matsushiro Arr	4.96	224	P	Pn	07 39 18.7	+3.3
	comp=E,6.9nm,0.3s,baz=33,slow=13,SNR=74						
MJAR				LR	LR	07 41 25.7	
	comp=E,197nm,20.2s,baz=35,slow=41						
MJAR	Matsushiro Arr	4.96	224	P	Pn	07 39 18.7	+3.2
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,197nm,20.2s						
MAJO	Matsushiro	4.96	224	*e*P	Pn	07 39 18.5	+3.0
MAT	Matsushiro	4.96	224	P	Pn	07 39 18.5	+3.0
MAT				*e*S	Sn	07 40 20.0	+8.4
MAT	Matsushiro	4.96	224	*e*P	Pn	07 39 19.0	+3.5
MAT				S	Sn	07 40 21.0	+9.4
KUR	Kuril'sk	6.41	36	*e*P	Pn	07 39 33.5	-1.8
KUR				*e*S	Sn	07 40 43.0	-4.2
KUR				pmax	pmax		
	comp=N,40nm,0.5s						
KUR				pmax	pmax		
	comp=E,30nm,0.5s						
KUR				pmax	pmax		
	comp=Z,60nm,0.5s						
KUR				smax			
	comp=N,140nm,0.5s						
KUR				smax			
	comp=E,200nm,0.5s						
YSS	Yuzh-Sakhalins	6.78	1	P	Pn	07 39 41.5	+1.0
MDJ	Mudanjiang	10.54	299	Pn

ZAL Zalesovo 40.53 310 P P 07 45 39.0 +0.2
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL MLR MLR
comp=Z,61nm,18.7s
MKAR Makanchi Array 43.26 300 P P 07 46 01.2 0.0
comp=Z,2.4nm,0.6s,mb4.1,baz=84,slow=9.7,SNR=27
MKAR Makanchi Array 43.26 300 *i* P **P 07 46 01.2 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 44.74 306*c i*P **P 07 46 12.7 -0.4**
COLA College 45.98 34⇑*e*P **P 07 46 24.6 +1.8**
CHKZ Chkalovo 48.85 311 *e*P **P 07 46 44.1 -1.1**
CHKZ pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
CHKZ Chkalovo 48.85 311 *e*P **P 07 46 44.1 -1.0**
comp=Z,7.8nm,0.4s,mb5.1
AAK Ala-Archa 49.82 296⇓*e*P **P 07 46 52.0 -0.6**
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
ZRNK Zerenda 49.98 311 *e*P **P 07 46 53.8 0.0**
ZRNK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ZRNK Zerenda 49.98 311 *e*P **P 07 46 53.8 +0.1**
comp=Z,6.3nm,0.8s,mb4.7
ZRNK *e*pP pP 07 46 59.9 -5.0
ARU Arti 54.62 317⇑*i*P **P 07 47 28.1 -0.1**
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
WRA Warramunga Arr 60.29 189 P **P 07 48 07.5 -0.6**
comp=Z,1.1nm,0.8s,mb4.0,baz=6.5,slow=6.8,SNR=7.1
WRA pP pP 07 48 21.7 +2.2
comp=Z,2.0nm,0.6s,baz=6.9,slow=6.9,SNR=9.4
WRA Warramunga Arr 60.29 189 P **P 07 48 07.5 -0.6**
WRA *PP pP 07 48 21.7 +2.2
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 60.67 31 pP pP 07 48 24.6 +2.5
comp=Z,0.6nm,0.5s,baz=306,slow=6.9,SNR=2.8
KEV Kevo 60.83 339 *e*p **P 07 48 10.1 -1.7**
comp=Z,0.4nm,0.3s,mb4.0
ARCES ARCESS Array B 61.38 339 P **P 07 48 15.3 -0.2**
comp=Z,2.6nm,0.9s,mb4.3,baz=46,slow=8.7,SNR=8.3
JOF Joensuu 63.62 332 *e*p **P 07 48 28.6 -1.9**
comp=Z,2.3nm,0.7s,mb4.3
ASAR Alice Springs 64.01 189 P **P 07 48 32.8 -0.3**
comp=Z,0.2nm,0.3s,mb3.6,baz=357,slow=6.3,SNR=5.5
KAF Kangasniemi 65.93 332 *e*p **P 07 48 44.5 -1.0**
comp=Z,2.1nm,0.7s,mb4.3,baz=46,slow=6.1
KAF Kangasniemi 65.93 332 *e*P **P 07 48 44.5 -1.0**
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
OBN Obninsk 66.12 323 *e*P **P 07 48 45.9 -0.8**
OBN *e**PP pP 07 49 09.6 +11
OBN *e* 07 51 11.8
OBN *e*S S 07 57 24.1 -8.3
OBN pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
FINES FINESS Array B 66.45 332 P **P 07 48 48.9 0.0**
comp=Z,3.1nm,0.7s,mb4.4,baz=50,slow=7.2,SNR=18
FINES pP pP 07 49 01.7 +1.3
comp=Z,2.5nm,0.7s,baz=53,slow=7.6,SNR=6.9
FINES FINESS Array B 66.45 332 *i* P **P 07 48 49.2 +0.3**
FINES pmax pmax
comp=Z,3.0nm,0.7s
VSU Vasula 68.20 329 *i* P **P 07 48 59.7 -0.2**
KIV Kislovodsk 69.52 311*de*P **P 07 49 09.7 +1.5**
KIV *i **PP pP 07 49 32.7 +13
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.8
GNI Garni 70.54 306 LR LR 08 23 10.5
comp=Z,19nm,19.8s,MS3.4,baz=194,slow=38
NB2 NORSAR Subarra 71.63 337 P **P 07 49 20.6 -0.4**
comp=Z,2.6nm,0.7s,mb4.3,baz=38,slow=6.2
NB2 NORSAR Subarra 71.63 337 P **P 07 49 20.6 -0.4**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
NOA NORSAR Array B 71.63 337 P **P 07 49 21.0 -0.1**
comp=Z,2.6nm,0.8s,mb4.2,baz=38,slow=6.0,SNR=19
NOA pP pP 07 49 34.0 +1.4
comp=Z,2.5nm,0.8s,baz=38,slow=6.1,SNR=7.6
NOA LR LR 08 23 31.9
comp=Z,20nm,19.4s,MS3.4,baz=350,slow=38
NOA NORSAR Array B 71.63 337 P **P 07 49 21.0 0.0**
NOA *PP pP 07 49 34.0 +1.4
ANN Anapa 71.99 314 *e*P **P 07 49 28.3 +5.1**
ANN pmax pmax
comp=Z,48nm,1.0s,mb5.4
AKASG Malin Array Be 72.35 322 P **P 07 49 23.7 -1.7**
comp=Z,1.2nm,0.5s,mb4.1,baz=44,slow=6.1,SNR=13
AKASG pP pP 07 49 37.4 +0.4
comp=Z,1.0nm,0.5s,baz=44,slow=5.6,SNR=4.3
AKASG Malin Array Be 72.35 322 *i* P **P 07 49 25.2 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
PDAR Pinedale Array 74.86 47 pP pP 07 49 54.7 +2.9
comp=Z,0.5nm,0.9s,baz=310,slow=4.2,SNR=2.8
BRTR Keskin Array B 77.42 312 P **P 07 49 55.3 +0.6**
comp=Z,0.8nm,0.8s,mb3.7,baz=40,slow=2.1,SNR=4.3
KHC Kasperske Hory 80.32 329 *e*P **P 07 50 11.5 +1.0**
KHC Kasperske Hory 80.32 329⇓*e*P **P 07 50 11.6 +1.1**
GERES GERESS Array B 80.50 329 P **P 07 50 11.3 -0.2**
comp=Z,0.4nm,0.3s,mb3.8,baz=51,slow=5.3,SNR=4.4

WEL 17 07:38:06.7±0.1, 41.59S×174.35E, h12km, ML3.7/35, Error ellipse: s-maj=0.8km s-min=0.7km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.19**	**213**	PG	Pg	07 38 10.7	-0.2
CMWZ				SG	Sg	07 38 15.2	+1.5
TUWZ	**Tuamarina**	**0.35**	**298**	PG	Pg	07 38 13.7	+0.1
TUWZ				SG	Sg	07 38 19.0	+0.6
BSWZ	**Blackbirch Sta**	**0.38**	**251**	PG	Pg	07 38 14.2	-0.1
BSWZ				SG	Sg	07 38 20.2	+0.9
TCW	**Tory Channel**	**0.38**	**352**	PG	Pg	07 38 14.4	0.0
TCW				SG	Sg	07 38 20.1	+0.6
SNZO	**South Karori**	**0.39**	**43**	PG	Pg	07 38 14.7	+0.2
SNZO				SG	Sg	07 38 20.9	+1.2
BHW	**Baring Head**	**0.43**	**65**	PG	Pg	07 38 15.5	+0.2
WEL	**Wellington**	**0.44**	**46**	PG	Pg	07 38 15.6	+0.2
MRW	**Makara Radio**	**0.45**	**36**	PG	Pg	07 38 15.5	-0.1
MSWZ	**Moikau Station**	**0.70**	**76**	P*	Pb	07 38 20.4	-0.4
CAW	**Cannon Point**	**0.72**	**48**	P*	Pb	07 38 20.5	-0.8
NNZ	**Nelson**	**0.82**	**297**	P*	Pb	07 38 22.1	-0.8
PAWZ	**Paruwai Farm**	**0.83**	**76**	P*	Pb	07 38 22.8	-0.4
KIW	**Kapiti Island**	**0.84**	**30**	P*	Pb	07 38 22.5	-0.8
DUWZ	**D'Urville Isla**	**0.85**	**338**	P*	Pb	07 38 22.9	-0.6
MTW	**Mount Morrison**	**0.97**	**64**	P*	Pb	07 38 25.3	-0.1
KHZ	**Kahutara**	**1.02**	**216**	P*	Pb	07 38 26.3	0.0
TRWZ	**Traveller**	**1.02**	**80**	P*	Pb	07 38 26.0	-0.4
THZ	**Tophouse**	**1.10**	**261**	P*	Pb	07 38 27.3	-0.3
MRZ	**Mangatainoka R**	**1.31**	**45**	P*	Pb	07 38 30.7	-0.7
TIWZ	**Tintock**	**1.42**	**55**	P*	Pb	07 38 31.7	-1.4
BFZ	**Birch Farm**	**1.70**	**58**	PN	Pn	07 38 34.9	-1.2
LTZ	**Lake Taylor**	**1.95**	**232**	PN	Pn	07 38 39.3	-0.3
TSZ	**Takapari Road**	**1.96**	**39**	PN	Pn	07 38 39.6	-0.1

*STR **17** 07:41:04.7±0.5, 43.11N×0.16W, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 07:41:06.0±0.1, 43.05N×0.16W, h5km, Md2.0/2, Ml2.0/4, Error ellipse: s-maj=1.6km s-min=0.9km az=174.0*
MDD 17 07:41:06.4±0.3, 43.07N×0.16W, h0km, mbLg1.3/6, Error ellipse: s-maj=2.9km s-min=1.3km az=8.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.17**	**269**	Pg	Pg	07 41 09.5	-0.2
REYF				Sg	Sg	07 41 12.2	+0.3
REYF	**Montagne du Re**	**0.17**	**269**	Pg	Pg	07 41 09.5	-0.2
REYF				Lg		07 41 12.1	
LABF	**Labassere**	**0.17**	**98**	Pg	Pg	07 41 09.3	-0.5
LABF				Sg	Sg	07 41 12.5	+0.5
LABF	**Labassere**	**0.17**	**98**	Pg	Pg	07 41 09.4	-0.4
LABF				Lg		07 41 12.3	
VIEF	**Viey**	**0.23**	**144**	Pg	Pg	07 41 10.7	-0.2
VIEF				Lg		07 41 14.0	
ETSF	**Etsaut**	**0.34**	**239**	*e*Pg	Pg	07 41 12.5	-0.5
ETSF				*e*Sg	Sg	07 41 16.7	-0.7
	18nm,0.3s						
ETSF	**Etsaut**	**0.34**	**239**	Pg	Pg	07 41 12.5	-0.5
ETSF				Lg		07 41 16.7	
	9.2nm,0.3s						
EPF	**Esparros**	**0.37**	**96**	*e*Pg	Pg	07 41 13.1	-0.4
EPF				*e*Sg	Sg	07 41 18.3	0.0
	7.0nm,0.2s						
EPF	**Esparros**	**0.37**	**96**	Pg	Pg	07 41 13.1	-0.4
EPF				Lg		07 41 18.3	
	3.5nm,0.2s						
FDAF	**Les Forges d'A**	**0.39**	**230**	Pg	Pg	07 41 13.5	-0.4
FDAF				Lg		07 41 19.2	
ATE	**Arette**	**0.40**	**272**	Pg	Pg	07 41 13.4	-0.6
ATE				Lg		07 41 18.9	
EBIE	**Bielsa**	**0.45**	**150**	Pg	Pg	07 41 14.5	-0.5
	0.3nm,0.1s,SNR=14						
EBIE				Lg		07 41 20.5	
	11nm,0.1s,SNR=7.9						
RESF	**Ens**	**0.45**	**126**	Pg	Pg	07 41 14.5	-0.6
RESF				Sg	Sg	07 41 21.0	0.0
RESF	**Ens**	**0.45**	**126**	Pg	Pg	07 41 14.8	-0.3
RESF				Lg		07 41 21.1	
MELF	**Melles**	**0.70**	**106**	Lg		07 41 29.0	
SJPF	**Ste Jean**	**0.78**	**273**	*e*Pg	Pg	07 41 21.0	-0.4
SJPF				*e*Sg	Sg	07 41 31.6	+0.1
	1.2nm,0.3s						
SJPF	**Ste Jean**	**0.78**	**273**	Pg	Pg	07 41 21.0	-0.4
SJPF				Lg		07 41 31.6	
	0.6nm,0.3s						
EGRA	**Graus**	**0.95**	**158**	Pg	Pg	07 41 23.9	-0.7
	0.4nm,0.1s,SNR=7.9						
EGRA				Lg		07 41 41.3	
	0.8nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.99**	**279**	Pg	Pg	07 41 24.8	-0.7
	0.1nm,0.2s,SNR=7.9						
EALK				Lg		07 41 39.2	
	5.0nm,0.5s,SNR=7.9						
ELIZ	**Elizondo**	**1.00**	**276**	Pg	Pg	07 41 26.2	+0.5
	0.1nm,0.3s,SNR=7.9						
ELIZ				Lg		07 41 38.8	
	0.4nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**190**	Pg	Pg	07 41 32.1	-0.6
	2.1nm,0.3s,SNR=7.9						
ESAC				Lg		07 41 51.3	
	8.6nm,0.2s,SNR=7.1						
MTLF	**Montolieu**	**1.76**	**80**	*e*Pg	Pg	07 41 38.8	-1.4
MTLF				*e*Sg	Sg	07 42 01.5	-1.5
	2.2nm,0.4s						
MTLF	**Montolieu**	**1.76**	**80**	Pg	Pg	07 41 38.8	-1.4
MTLF				Lg		07 42 01.5	
	1.1nm,0.4s						
EPOB	**Poblet**	**1.95**	**151**	Pg	Pg	07 41 41.7	-2.1
	0.1nm,0.4s,SNR=7.9						
EPOB				Lg		07 42 07.8	
	0.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.98**	**19**	*e*Pg	Pg	07 41 43.4	-0.9
LFF				*e*Sg	Sg	07 42 09.0	-0.9
	5.2nm,0.3s						
LFF	**La Frestale**	**1.98**	**19**	Pg	Pg	07 41 43.4	-0.9
LFF				Lg		07 42 09.0	
	2.6nm,0.3s						
CAF	**Calviac**	**2.45**	**40**	*e*Sg	Sg	07 42 23.8	-1.4
	1.8nm,0.3s						
CAF	**Calviac**	**2.45**	**40**	Lg		07 42 23.8	
	0.9nm,0.3s						
RJF	**Les Rejaudoux**	**2.54**	**28**	*e*Sg	Sg	07 42 26.1	-1.8
	1.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.54**	**28**	Lg		07 42 26.1	
	0.7nm,0.2s						

MAN 17 08:20:17.3, 875N×12532E, h14km, mb3.1, ML4.4, MS1.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.37**	**53**	*e*P	Pg	08 20 25.7	+0.9
CGP	**Cagayan de Oro**	**0.69**	**245⇑**	*i*P	Pg	08 20 30.7	0.0
CGP				*i* S	Sg	08 20 43.6	+3.9
BUKP	**Musuan**	**0.90**	**197**	*e*P	Pb	08 20 34.0	-0.6
BUKP				*e*S	Sg	08 20 48.9	+2.4

IDC 17 08:36:42.0±2.1, 572S×13095E, h0km, mb3.8/1, mb1 4.0/3, mb1mx3.7/12, mbtmp3.8/3, ML3.9/2, Error ellipse: s-maj=93.0km s-min=31.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.36**	**202**	Pn	Pn	08 39 48.0	-4.8
	0.3nm,0.3s,baz=87,slow=19,SNR=15						
FITZ				Sn	Sn	08 41 55.3	-27
	0.5nm,0.3s,baz=357,slow=23,SNR=6.8						
WRA	**Warramunga Arr**	**14.52**	**167**	Pn	Pn	08 40 08.7	0.0
	0.6nm,0.3s,baz=347,slow=11,SNR=15						
WRA				Sn	Sn	08 42 34.1	-16
	1.2nm,0.3s,baz=341,slow=21,SNR=10						
ASAR	**Alice Springs**	**18.07**	**171**	P	Pn	08 40 54.8	+0.4
	0.6nm,0.3s,baz=349,slow=11,SNR=14						
ASAR				S	Sn	08 44 00.4	-16
	0.2nm,0.3s,baz=350,slow=26,SNR=5.4						
MKAR	**Makanchi Array**	**67.69**	**326**	P	P	08 47 41.2	+0.2
	0.4nm,0.4s,baz=116,slow=6.6,SNR=5.4						

*MOS **17** 08:49:38.1±1.0, 626S×130.06E, h96km, mb4.8/11, Error ellipse: s-maj=21.1km s-min=7.6km az=106.8*
*ISCJB **17** 08:49:43.1±0.7, 636S±003×130.22E±008, h144km±8km, mb4.7/36, Error ellipse: s-maj=12.6km s-min=4.7km az=159.3*
*BJI **17** 08:49:43.8, 630S×130.10E, h132km, mB4.7, mb4.9*
*NEIC **17** 08:49:43.9±1.5, 629S×130.14E, h133km±15km, mb4.9/12, Error ellipse: s-maj=14.8km s-min=8.2km az=78.0*
*IDC **17** 08:49:43.7±3.4, 633S×130.16E, h131km±31km, mb4.2/9, mb1 4.4/11, mb1mx4.3/16, mbtmp4.8/11, Error ellipse: s-maj=25.5km s-min=11.5km az=73.0*
ISC 17 08:49:44.9±0.6, 647S±003×13035E±007, h151km±6km, h124km±6.8km; pP-P, n89, σ1$30/93, mb4.7/36, 7C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**2.52**	**71**	P	**Pn**	**08 50 28.4**	**+2.2**
	2μm,0.9s						
AAI	**Ambon**	**3.50**	**322**	P	**Pn**	**08 50 37.7**	**-1.0**
	246nm,0.8s						
SWI	**Sorong**	**5.64**	**9**	P	**Pn**	**08 51 03.2**	**-3.6**
	482nm,0.7s						
KAKA	**Kakadu**	**6.54**	**162⇓**	*i*P	**Pn**	**08 51 20.5**	**+1.8**
	597nm,0.6s						
KAKA				*e*S	**Sn**	**08 52 30.9**	**-1.3**
BAKI	**Biak**	**7.78**	**48**	P	**Pn**	**08 51 34.9**	**-0.4**
	3μm,1.0s						
FITZ	**Fitzroy Crossi**	**12.44**	**201**	*e*P	**Pn**	**08 52 35.2**	**-1.6**
	60nm,0.3s						
FITZ				*e*S	**Sn**	**08 54 46.2**	**-8.1**
FITZ	**Fitzroy Crossi**	**12.44**	**201**	P	**Pn**	**08 52 35.6**	**-1.2**
	13nm,0.3s,baz=30,slow=14,SNR=135						
FITZ				S	**Sn**	**08 54 41.8**	**-13**
	3.1nm,0.3s,baz=73,slow=14,SNR=3.3						
WRAB	**Tennant Creek**	**13.94**	**164***d*	*i*P	**Pn**	**08 52 55.1**	**-0.8**
WRA	**Warramunga Arr**	**13.94**	**164**	P	**Pn**	**08 52 54.9**	**-1.0**
	6.6nm,0.3s,baz=348,slow=12,SNR=181						
WRA				S	**Sn**	**08 55 24.2**	**-6.2**
	12nm,0.3s,baz=352,slow=21,SNR=7.4						
WB2	**Warramunga Arr**	**13.95**	**164**	*e*P	**Pn**	**08 52 54.2**	**-1.8**
WB2				*e*S	**Sn**	**08 55 22.4**	**-8.1**
TSM	**Tawau**	**16.41**	**310**	P	**Pn**	**08 53 28.7**	**+2.2**
AS31	**Alice Springs**	**17.44**	**169**	*e*P	**Pn**	**08 53 41.7**	**+2.9**
AS31				*e*S	**S**	**08 56 50.0**	**-1.3**
ASAR	**Alice Springs**	**17.44**	**169**	P	**Pn**	**08 53 40.9**	**+2.0**
	14nm,0.3s,baz=343,slow=9.9,SNR=599						
ASAR				S	**S**	**08 56 48.9**	**-2.4**
	5.2nm,0.3s,baz=350,slow=25,SNR=9.4						
ASAR	**Alice Springs**	**17.44**	**169**	P	**Pn**	**08 53 40.9**	**+2.0**
ASAR				S	**S**	**08 56 48.9**	**-2.4**
ASPA	**Alice Springs**	**17.44**	**169**	*e*P	**Pn**	**08 53 41.7**	**+2.8**
ASPA				*e*S	**S**	**08 56 50.0**	**-1.3**
MBWA	**Marble Bar**	**17.86**	**214**	*e*P	**Pn**	**08 53 44.7**	**+0.8**
	60nm,0.9s						
KKM	**Kota Kinabalu**	**18.80**	**311**	P	**P**	**08 53 51.9**	**-0.8**
CTA	**Charters Tower**	**20.53**	**133**	*e*P	**P**	**08 54 16.2**	**+4.8**
	8.1nm,1.0s						
CTA	**Charters Tower**	**20.53**	**133**	P	**P**	**08 54 16.0**	**+4.6**
	4.6nm,0.6s,baz=297,slow=13,SNR=7.6						
CTA	**Charters Tower**	**20.53**	**133**	*e*P	**P**	**08 54 16.2**	**+4.8**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TGY	**Tagaytay City**	**22.47**	**335**	P	**P**	**08 54 31.6**	**0.0**
	comp=Z,181nm,0.5s,baz=140,slow=7.9,SNR=5.9						
FORT	**Forrest**	**24.28**	**185**	*e*P	**P**	**08 54 50.4**	**+2.3**
	comp=Z,54nm,0.5s,mb5.3						
FORT				*e*S	tx	08 59 25.7	
STKA	**Stephens Creek**	**27.38**	**159⇓**	*i*P	**P**	**08 55 17.0**	**+1.0**
	comp=Z,4.2nm,0.6s,mb4.2						
STKA				*e*S	tx	09 00 41.8	
STKA	**Stephens Creek**	**27.38**	**159**	P	**P**	**08 55 17.1**	**+1.1**
	comp=Z,4.6nm,0.5s,mb4.3,baz=334,slow=9.1,SNR=23						
MUN	**Mundaring**	**28.61**	**206**	*e*P	**P**	**08 55 28.8**	**+1.9**
MUN				*e*S	tx	09 01 07.6	
NWAO	**Narrogin (SRO)**	**29.01**	**203**	P	**P**	**08 55 32.9**	**+2.3**
	comp=Z,4.2nm,0.4s,mb4.5,baz=28,slow=11,SNR=9.9						
PSI	**Prapat**	**32.70**	**285**	P	**P**	**08 56 00.8**	**-2.1**
	comp=Z,6.7nm,0.6s,mb4.5,baz=90,slow=5.2,SNR=4.1						
PSI	**Prapat**	**32.70**	**285**	P	**P**	**08 56 00.8**	**-2.1**
SSE	**Sheshan**	**38.37**	**347**	P	**P**	**08 56 51.3**	**+0.1**
SSE				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
SSE				AMB	AMB		
	comp=Z,40nm,4.5s						
NJ2	**Nanjing**	**39.84**	**345**	*e*P	**P**	**08 57 03.3**	**-0.2**
NJ2				PP	PP	08 58 40.1	+2.0
NJ2				S	**S**	**09 03 00.0**	**+3.4**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,50nm,4.1s						
NJ2				LR	LR		
	comp=N,160nm,14.0s						
NJ2				LR	LR		
	comp=E,120nm,15.9s						
NJ2				LR	LR		
	comp=Z,80nm,17.9s						
KMI	**Kunming**	**41.33**	**320**	P	**P**	**08 57 16.0**	**+0.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
MAT	**Matsushiro**	**43.41**	**9**	P	**P**	**08 57 30.6**	**-1.9**
MAT	**Matsushiro**	**43.41**	**9**	*e*P	**P**	**08 57 31.0**	**-1.5**
MAT				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
MAT	**Matsushiro**	**43.41**	**9**	*e*P	**P**	**08 57 31.0**	**-1.5**
	comp=Z,8.7nm,0.6s,mb4.6						
MJAR	**Matsushiro Arr**	**43.41**	**9**	P	**P**	**08 57 31.3**	**-1.3**
	comp=Z,7.0nm,0.6s,mb4.5,baz=187,slow=9.4,SNR=22						
CD2	**Chengdu**	**45.05**	**327**	*e*P	**P**	**08 57 44.9**	**-0.6**
CD2				AP	pP	08 58 15.1	-4.1
CD2				XP	sP	08 58 30.4	-5.7
CD2				PP	PP	08 59 32.4	-1.4
CD2				S	**S**	**09 04 11.4**	**-1.4**
CD2				XS	sS	09 05 02.9	-8.5
CD2				SS	SS	09 07 27.4	-10
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
CD2				AMB	AMB		
	comp=Z,80nm,6.2s						
CD2				LR	LR		
	comp=E,140nm,15.3s						
CD2				LR	LR		
	comp=Z,120nm,14.2s						
XAN	**Xi'an**	**45.11**	**335**	P	**P**	**08 57 44.4**	**-1.6**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
BJT	**Baijiatuau**	**48.07**	**345**	*e*P	**P**	**08 58 08.3**	**-0.7**
BJT				pmax	pmax		
	comp=Z,16nm,0.6s						
BJT	**Baijiatuau**	**48.07**	**345**	*e*P	**P**	**08 58 08.3**	**-0.7**
	comp=Z,16nm,0.6s,mb4.8						
LZH	**Lanzhou**	**49.10**	**331**	*e*P	**P**	**08 58 16.9**	**0.0**
LZH				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
VLA	**Vladivostok**	**49.37**	**1**	*i*P	**P**	**08 58 22.6**	**+3.6**
LSA	**Lhasa**	**52.06**	**316**	*e*P	**P**	**08 58 38.4**	**-0.7**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
LSA	**Lhasa**	**52.06**	**316**	*e*P	**P**	**08 58 38.4**	**-0.7**
	comp=Z,11nm,0.6s,mb4.7						
GTA	**Gaotai**	**53.68**	**331**	*e*P	**P**	**08 58 51.1**	**+0.1**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
YSS	**Yuzh-Sakhalins**	**54.32**	**10⇑**	*e*P	**P**	**08 59 01.3**	**+5.7**
YSS				pmax	pmax		
	comp=Z,24nm,2.3s,mb4.5						
JIRN	**Jiri**	**54.50**	**311**	*e*P	**P**	**08 58 56.9**	**0.0**
	comp=Z,50nm,0.7s,mb5.3						
HABR	**Khabarovsk**	**54.86**	**4**	*e*P	**P**	**08 58 59.4**	**-0.1**
HABR				*e*S	**S**	**09 06 31.6**	**+2.6**
GUN	**Gumba**	**54.87**	**311**	*e*P	**P**	**08 58 59.5**	**-0.1**
	comp=Z,120nm,0.7s,mb5.7						
PKI	**Pulchoki**	**55.05**	**310**	*e*P	**P**	**08 59 00.2**	**-0.6**
	comp=Z,36nm,0.7s,mb5.2						
KKN	**Kakani**	**55.26**	**310**	*e*P	**P**	**08 59 01.9**	**-0.5**
	comp=Z,56nm,0.7s,mb5.4						
DMN	**Daman**	**55.30**	**310**	*e*P	**P**	**08 59 02.4**	**-0.2**
	comp=Z,71nm,0.9s,mb5.4						
ULN	**Ulaanbaatar**	**57.87**	**342**	*e*P	**P**	**08 59 21.4**	**+0.6**
ULN				*e*		09 00 12.3	
ULN				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.2						
ULN	**Ulaanbaatar**	**57.87**	**342**	*e*P	**P**	**08 59 21.4**	**+0.5**
	comp=Z,22nm,0.6s,mb5.2						
ULN				*e*PcP	PcP	09 00 12.2	+0.7
SONM	**Songino Array**	**58.05**	**341**	P	**P**	**08 59 22.4**	**+0.4**
	comp=Z,7.1nm,0.6s,mb4.7,baz=161,slow=6.3,SNR=32						
ZAK	**Zakamensk**	**61.28**	**341**	*e*P	**P**	**08 59 44.2**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.2						
TLY	**Talaya**	**62.28**	**342***ce*P		**P**	**08 59 51.0**	**+0.2**
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
MOY	**Mondy**	**63.14**	**340**	*e*P	**P**	**08 59 57.6**	**+1.1**
MOY				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.7						
MA2	**Magadan**	**67.81**	**11**	*i*P	**P**	**09 00 31.3**	**+4.8**
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**09 00 27.8**	**+0.2**
	comp=Z,29nm,0.6s,mb5.2,baz=126,slow=7.7,SNR=234						
YAK	**Yakutsk**	**68.30**	**360**	*e*P	**P**	**09 00 29.2**	**-0.4**
YAK				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK	**Yakutsk**	**68.30**	**360**	*e*P	**P**	**09 00 29.0**	**-0.5**
	comp=E,26nm,0.6s,mb5.1						
KZA	**Kyzart**	**69.60**	**319**	P	**P**	**09 00 39.1**	**+1.5**
	SNR=20						
TKM2	**Tokmak 2**	**69.80**	**320**	P	**P**	**09 00 39.4**	**+0.6**
	SNR=13						
KBK	**Karagaybulak**	**70.08**	**320**	P	**P**	**09 00 41.8**	**+1.3**
	SNR=5.2						

BILL				pmax	pmax			
	comp=Z,8.0nm,2.5s,mb3.9							
ARU	**Arti**	**85.44**	**328**⇑	*e*P	**P**	**09 02 03.1**	**-2.4**	
ARU				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.7							
DAWY	**Dawson**	**95.88**	**26**	*e*P	**P**	**09 02 54.3**	**0.0**	
OBN	**Obninsk**	**97.43**	**325**⇑	*e*P	**P**	**09 02 58.1**	**-3.2**	
OBN				*e**PP	pP	09 03 29.8	-10	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb5.0							
ARCES	**ARCESS Array B**	**101.20**	**340**	P	Pdif	09 03 17.7	-0.4	
	comp=Z,1.3nm,0.8s,baz=57,slow=6.6,SNR=6.2							
ARCES	**ARCESS Array B**	**101.20**	**340**	P	Pdif	09 03 17.7	-0.4	
PDAR	**Pinedale Array**	**116.27**	**45**	PKP	PKPdf	09 08 11.7	+1.4	
	comp=Z,0.3nm,0.5s,baz=282,slow=1.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**129.04**	**282**	PKP	PKPdf	09 08 35.6	+0.8	
	comp=Z,0.7nm,0.6s,baz=78,slow=1.9,SNR=10							
SCHQ	**Schefferville**	**129.83**	**13**	PKP	PKPdf	09 08 37.2	+1.0	
	comp=Z,3.0nm,0.8s,baz=180,slow=1.0,SNR=3.5							
CPUP	**Villa Florida**	**146.56**	**167**	PKPbc	PKPbc	09 09 10.4	+1.9	
	comp=Z,3.2nm,0.7s,baz=195,slow=0.6,SNR=11							
LPAZ	**La Paz**	**150.92**	**141**	PKPbc	PKPbc	09 09 23.4	+3.7	
	comp=Z,2.1nm,0.4s,baz=77,slow=0.8,SNR=16							
LPAZ	**La Paz**	**150.92**	**141**	*e*PKPbc	PKPbc	09 09 23.9	+4.3	

ISCJB ***17*** *09:45:31.8±0.6, 4328N±002×1799E±004, h10km, Error ellipse: s-maj=4.1km s-min=3.3km az=156.0*
CSEM ***17*** *09:45:31.0±0.3, 4333N×1790E, h5km, ML2.6, Error ellipse: s-maj=4.7km s-min=3.3km az=98.0*
NEIC ***17*** *09:45:33.6, 4322N×1807E, h11km, ML2.6(PDG), After PDG.*
PDG ***17*** *09:45:33.6±0.2, 4322N×1807E, h11km±1km*
ISC 17 09:45:32.3±0.6,**4328N**±002×**1795E**±004,**h10**km,**n20,**
σ1§**19**/36,**9C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.45**	**204**	*i* Pg	**Pg**	**09 45 41.1**	**0.0**
STON				*i* Sg	**Sg**	**09 45 49.3**	**+2.2**
BRY	**Bratogost**	**0.58**	**131**	⇑*i* Pg	**Pg**	**09 45 42.6**	**-1.0**
BRY				*e*Sg	**Sg**	**09 45 51.1**	**0.0**
UPM	**Unac-Piva**	**0.70**	**96**	⇑*i* Pg	**Pg**	**09 45 44.9**	**-1.1**
UPM				*e*Sg	**Sg**	**09 45 55.5**	**+0.4**
UPM	**Unac-Piva**	**0.70**	**96**	⇑*i* Pg	**Pg**	**09 45 44.8**	**-1.2**
UPM				*e*Sg	**Sg**	**09 45 55.5**	**+0.3**
NKY	**Niksic**	**0.90**	**121**	⇑*i* Pg	**Pg**	**09 45 47.9**	**-1.8**
NKY				*e*Sg	**Sg**	**09 46 02.0**	**+0.7**
HCY	**Herceg Novi**	**0.93**	**154**	⇓*i* Pg	**Pg**	**09 45 49.3**	**-0.9**
HCY				*e*Sg	**Sg**	**09 46 04.0**	**+1.7**
PLE	**Pljevlja**	**1.05**	**87**	*e*Pg	**Pg**	**09 45 51.8**	**-0.8**
PLE				*e*Sg	**Sg**	**09 46 06.6**	**+0.3**
BUM	**Brajici-Budva**	**1.20**	**144**	⇑*i* Pg	**Pg**	**09 45 54.3**	**-1.2**
BUM				*e*Sg	**Sg**	**09 46 12.4**	**+1.3**
BBLS	**Bajina Basta -**	**1.21**	**61**	*i* Pg	**Pg**	**09 45 54.6**	**-1.0**
BBLS				Sg	**Sg**	**09 46 10.4**	**-0.9**
TTG	**Podgorica**	**1.29**	**131**	⇑*i* Pg	**Pg**	**09 45 55.3**	**-1.7**
TTG				*e*Sg	**Sg**	**09 46 14.9**	**+1.1**
IVA	**Berane**	**1.48**	**105**	*e*Pg	**Pg**	**09 45 59.5**	**-1.3**
IVA				*e*Sg	**Sg**	**09 46 21.1**	**+1.0**
BLY	**Banja Luka**	**1.57**	**340**	P	**Pn**	**09 46 01.1**	**+0.9**
BLY				S	**Sn**	**09 46 20.6**	**0.0**
ULC	**Ulcinj**	**1.63**	**144**	*e*Pg	**Pg**	**09 46 01.7**	**-1.9**
ULC				*e*Sg	**Sg**	**09 46 24.6**	**-0.2**
PVY	**Plav**	**1.64**	**114**	*e*Pg	**Pg**	**09 46 02.3**	**-1.4**
PVY				*e*Sg	**Sg**	**09 46 24.8**	**-0.2**
DIVS	**Divcibare**	**1.69**	**60**	⇑*i* Pn	**Pn**	**09 46 02.6**	**+0.7**
DIVS				Sn	**Sn**	**09 46 24.9**	**+1.3**
GRUS	**Gruza**	**2.10**	**72**	*i* Pn	**Pn**	**09 46 09.3**	**+1.8**
GRUS				Sg	**Sg**	**09 46 41.0**	**+1.3**
FGSL	**Fruska Gora**	**2.30**	**35**	Pn	**Pn**	**09 46 11.2**	**+0.9**
PKSM	**Moragy**	**2.97**	**9**	⇑P	**Pn**	**09 46 17.7**	**-1.8**
PKSM	**Moragy**	**2.97**	**9**	⇑P	**Pn**	**09 46 17.7**	**-1.8**
BZS	**Buzias**	**3.51**	**47**	⇓*i* P	**Pb**	**09 46 36.5**	**+1.9**

IDC ***17*** *09:54:00.7±2.1, 1445S×7350W, h81km±20km, mb4.1/7, mb1 4.0/13, mb1mx3.9/24, mbtmp4.3/13, Error ellipse: s-maj=27.8km s-min=12.6km az=60.0*
ISCJB ***17*** *09:54:01.6±1.2, 1454S±008×736W±0.1, h109km±12km, mb4.3/9, Error ellipse: s-maj=22.0km s-min=10.2km az=124.6*
MOS ***17*** *09:54:02.2±1.1, 1448S×7352W, h111km, mb5.0/1, Error ellipse: s-maj=28.6km s-min=15.2km az=134.2*
NEIC ***17*** *09:54:02.8±1.1, 1452S×7351W, h104km±10km, mb4.7/3, Error ellipse: s-maj=16.0km s-min=7.8km az=68.0*
ISC 17 09:54:01.0±0.8,**1448S**±008×**737W**±01,**h86**km±9km,**n26,**
σ1§**08**/27,**mb4.3**/9,**1C, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.89**	**133**	⇑*i* P	**Pn**	**09 54 45.8**	**+0.9**
ARE				*i* S	**Sn**	**09 55 19.5**	**+0.8**
LPAZ	**La Paz**	**5.65**	**109**	P	**Pn**	**09 55 24.2**	**+1.9**
	4.3nm,0.3s,baz=293,slow=11,SNR=109						
ATAH	**Atahualpa**	**8.76**	**328**	P	**Pn**	**09 56 04.5**	**-0.2**
	2.2nm,0.3s,baz=130,slow=7.6,SNR=10						
ATAH				S	**Sn**	**09 57 40.3**	**-1.4**
	1.2nm,0.3s,baz=265,slow=18,SNR=3.8						
LVC	**Limon Verde**	**9.27**	**152**	P	**Pn**	**09 56 10.0**	**-1.6**
	3.7nm,0.3s,baz=330,slow=9.4,SNR=67						
LVC				S	**Sn**	**09 57 47.4**	**-6.7**
	1.4nm,0.3s,baz=54,slow=21,SNR=5.7						
SIV	**San Ignacio**	**12.26**	**99**	P	**Pn**	**09 56 50.5**	**-1.9**
	0.4nm,0.3s,baz=281,slow=12,SNR=44						
OTAV	**Otavalo**	**15.37**	**342**	*e*Pn	**Pn**	**09 57 36.2**	**+3.3**
	19nm,1.1s						
CFAA	**Coronel Fontan**	**17.76**	**165**	P	**Pn**	**09 58 02.4**	**-0.1**
	0.1nm,0.3s,baz=335,slow=13,SNR=16						
CFAA	**Coronel Fontan**	**17.76**	**165**	P	**Pn**	**09 58 02.4**	**-0.1**
ROSC	**El Rosal**	**19.22**	**358**	P	**Pn**	**09 58 20.3**	**+0.3**
	0.5nm,0.3s,baz=271,slow=23,SNR=2.1						
CPUP	**Villa Florida**	**19.31**	**130**	P	**Pn**	**09 58 19.0**	**-2.0**
	0.4nm,0.3s,baz=292,slow=10,SNR=19						
CPUP	**Villa Florida**	**19.31**	**130**	P	**Pn**	**09 58 19.0**	**-2.0**
SDV	**Santo Domingo**	**23.41**	**8**	P	**P**	**09 59 02.3**	**+0.1**
	6.2nm,0.8s,mb4.0,baz=199,slow=2.3,SNR=4.9						
PLCA	**Paso Flores**	**26.30**	**175**	P	**P**	**09 59 28.8**	**+0.4**
	3.8nm,0.8s,mb3.9,baz=353,slow=11,SNR=6.2						
CMIG	**Matias Romero**	**37.71**	**326**	P	**P**	**10 01 10.3**	**+2.2**
	2.2nm,0.8s,mb4.1,baz=113,slow=7.1,SNR=4.4						
WCI	**Wyandotte Cave**	**53.75**	**348**	*e*P	**P**	**10 03 14.3**	**0.0**
WCI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
WCI	**Wyandotte Cave**	**53.75**	**348**	*e*P	**P**	**10 03 14.3**	**0.0**
	comp=Z,9.3nm,0.9s,mb4.8						
ULM	**Lac du Bonnet**	**67.34**	**345**	P	**P**	**10 04 46.4**	**-0.4**
	comp=Z,3.6nm,0.8s,mb4.3,baz=162,slow=3.8,SNR=7.6						
GCMT	**Greycliff**	**68.23**	**334**	P	**P**	**10 04 52.9**	**+0.5**
DBIC	**Dimbokro**	**71.40**	**78**	P	**P**	**10 05 11.3**	**-0.5**
	comp=Z,5.4nm,0.9s,mb4.4,baz=208,slow=10,SNR=5.4						
DBIC	**Dimbokro**	**71.40**	**78**	P	**P**	**10 05 11.3**	**-0.5**
EDM	**Edmonton**	**75.53**	**337**	*e*P	**P**	**10 05 36.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**79.51**	**73**	P	**P**	**10 05 58.0**	**-0.2**
	comp=Z,8.6nm,0.8s,mb4.6,baz=258,slow=5.1,SNR=36						
YKA	**Yellowknife Ar**	**83.12**	**342**	P	**P**	**10 06 17.1**	**-0.1**
	comp=Z,1.5nm,0.8s,mb3.9,baz=131,slow=6.0,SNR=6.2						
SUMG	**Summit**	**89.92**	**10**	*e*P	**P**	**10 06 50.4**	**-0.1**
	comp=Z,12nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**136.07**	**220**	PKP	PKPdf	10 13 12.9	+0.8
	comp=Z,1.4nm,0.9s,baz=132,slow=1.9,SNR=5.7						
SONM	**Songino Array**	**146.74**	**360**	PKPbc	PKPbc	10 13 33.7	+0.8
	comp=Z,4.1nm,0.9s,baz=331,slow=3.5,SNR=10						

SOF ***17*** *09:56:36.3, 3979N×2337E, h2km, MD3.0*
NEIC ***17*** *09:56:39.8, 3997N×2332E, h26km, MD3.0(SOF), MD3.3(ATH), After ATH.*
ATH ***17*** *09:56:39.8, 3997N×2332E, h26km±1km, MD3.3/6*
ISCJB ***17*** *09:56:39.9±0.5, 3998N±002×2333E±004, h6km±4km, Error ellipse: s-maj=4.8km s-min=3.8km az=22.2*
CSEM ***17*** *09:56:40.5±0.1, 3997N×2335E, h15km, MD3.3, Error ellipse: s-maj=2.9km s-min=1.6km az=114.0*
THE ***17*** *09:56:41.0, 3999N×2331E, h3km, ML3.2*
ISC 17 09:56:40.6±0.5,**3997N**±002×**2332E**±004,**h9**km±4km,**n27,**
σ0§**99**/40,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.42**	**14**	*e*PB	**Pg**	**09 56 48.4**	**-0.4**
XOR	**Xorichti**	**0.61**	**189**	*e*Pg	**Pg**	**09 56 52.8**	**+0.5**
OUR	**Ouranopolis**	**0.63**	**54**	*e*Pg	**Pg**	**09 56 53.0**	**+0.2**
LIT	**Litokhoron**	**0.65**	**282**	*e*Pg	**Pg**	**09 56 53.0**	**-0.1**
LIT				*e*Sg	**Sg**	**09 57 03.0**	**+1.4**
NEO	**Neokhori**	**0.66**	**186**	*e*PN	**Pg**	**09 56 53.1**	**-0.2**
THE	**Thessaloniki**	**0.72**	**338**	*e*Pg	**Pg**	**09 56 54.2**	**-0.3**
THE				*e*Sg	**Sg**	**09 57 04.1**	**+0.2**
SOH	**Sokhos**	**0.86**	**2**	*e*Pg	**Pg**	**09 56 56.7**	**-0.3**
SOH				*e*Sg	**Sg**	**09 57 08.8**	**+0.6**
AGG	**Agios Georgios**	**1.21**	**219**	*e*Pg	**Pg**	**09 57 03.3**	**-0.6**
AGG				*e*Sg	**Sg**	**09 57 22.5**	**+2.9**
GRG	**Griva**	**1.21**	**325**	*e*Pg	**Pg**	**09 57 03.1**	**-0.7**
GRG				*e*Sg	**Sg**	**09 57 19.8**	**+0.2**
KZN	**Kozani**	**1.23**	**287**	*e*PN	**Pn**	**09 57 03.7**	**-0.2**
KZN				*e*SN	**Sn**	**09 57 20.4**	**-0.3**
KNT	**Kendrikon**	**1.24**	**345**	*e*Pg	**Pg**	**09 57 03.9**	**-0.4**
KNT				*e*Sg	**Sg**	**09 57 21.3**	**+0.9**
LKR	**Lokris**	**1.33**	**191**	*e*PN	**Pn**	**09 57 04.5**	**-0.8**
NVR	**Nevrokopi**	**1.45**	**17**	*e*PN	**Pn**	**09 57 06.3**	**-0.5**
NVR				*e*SN	**Sn**	**09 57 25.4**	**-0.5**
VAY	**Valandovo**	**1.47**	**337**	*e*Pg	**Pg**	**09 57 06.4**	**-2.4**
VAY				*e*Sg	**Sg**	**09 57 28.2**	**+0.4**
VAY	**Valandovo**	**1.47**	**337**	*i* Pn	**Pn**	**09 57 06.8**	**-0.3**
VAY				*e*Sn	**Sn**	**09 57 26.4**	**-0.1**
VAY	**Valandovo**	**1.47**	**337**	*i* Pn	**Pn**	**09 57 06.8**	**-0.4**
VAY				*e*Sn	**Sn**	**09 57 26.4**	**-0.1**
EVR	**Evrytania**	**1.57**	**229**	*e*PN	**Pn**	**09 57 08.4**	**-0.1**
MMB	**Musomiste**	**1.65**	**11**	*i* P	**Pn**	**09 57 10.5**	**+0.8**
FNA	**Florina**	**1.69**	**300**	*e*Pb	**Pb**	**09 57 09.9**	**-2.0**
FNA				*e*Sb	**Sb**	**09 57 32.9**	**-0.3**
KKB	**Krupnik**	**1.91**	**355**	*i* P	**Pn**	**09 57 13.0**	**-0.2**
STIP	**Stip**	**1.93**	**334**	*e*Pn	**Pn**	**09 57 16.1**	**+2.6**
STIP	**Stip**	**1.93**	**334**	*e*Pn	**Pn**	**09 57 16.0**	**+2.5**
RZN	**Rozhen**	**2.02**	**31**	*i* P	**Pn**	**09 57 15.0**	**+0.2**
RDO	**Rodhopi**	**2.06**	**54**	*e*PB	**Pb**	**09 57 15.1**	**-3.0**
ALN	**Alexandroupoli**	**2.28**	**65**	*e*Pn	**Pn**	**09 57 18.6**	**+0.2**
ALN				*e*Sn	**Sn**	**09 57 48.6**	**+2.1**
KDZ	**Kurdzhali**	**2.32**	**43**	*i* P	**Pn**	**09 57 18.0**	**-0.8**
VTS	**Vitosha**	**2.63**	**358**	*i* P	**Pn**	**09 57 25.0**	**+1.9**

ISCJB ***17*** *10:00:13.2±1.9, 5180N×009×17688E±007, h3km±11km, mb4.2/24, MS3.7/19, Error ellipse: s-maj=15.7km s-min=7.7km az=177.0*
IDC ***17*** *10:00:14.3±0.8, 5190N×17682E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.9/23, mbtmp3.9/14, ML4.0/1, MS3.7/12, Ms1 3.7/12, ms1mx3.5/33, Error ellipse: s-maj=25.1km s-min=16.7km az=142.0*
BJI ***17*** *10:00:15.7, 5180N×17680E, h10km, mB4.8, mb4.7, Ms4.4, Msz4.0*
HRVD ***17*** *10:00:15.8±0.5, 5200N×17700E, h21km±2km, MW4.8/51, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s51,c68; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.32±.14; $M_{\theta\theta}$-1.13±.09; $M_{\phi\phi}$1.45±.10; $M_{r\theta}$0.24±.19; $M_{\theta\phi}$0.74±.07; $M_{\phi r}$0.75±.18; Best double couple: $M_0$1.62600×10^16 NP1:ϕ_s328.00000°, δ74.00000°, λ168.00000°. NP2: ϕ_s61.00000°, δ79.00000°, λ16.00000°. Principal axes: T 1.9230, Plg19.0000°, Azm285.0000°; N -0.5950, Plg70.0000°, Azm96.0000°; P -1.3280, Plg3.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *10:00:15.8±0.5, 5181N×17676E, h10km, mb4.4/5, ML4.3(AEIC) Error ellipse: s-maj=13.6km s-min=8.0km az=173.0*
MOS ***17*** *10:00:18.3±1.0, 5200N×17674E, h33km, mb4.6/10, Error ellipse: s-maj=18.2km s-min=12.3km az=103.7*
ISC 17 10:00:16.0±2.1,**5186N**±009×**17687E**±007,**h10**km±12km,
n58,σ1§**22**/57,**mb4.2**/24,**MS3.7**/19,**2C-2D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.91**	**298**	P	**Pn**	**10 00 49.0**	**+0.3**
SMY				S	**Sn**	**10 01 14.1**	**+1.3**
ATKA	**Atka Island**	**5.53**	**83**	*e*Pn	**Pn**	**10 01 38.2**	**-0.1**
PET	**Petropavlovsk**	**11.18**	**283**	*e*P	**Pn**	**10 02 56.1**	**+0.2**
PET				*e*S	**Sn**	**10 05 00.2**	**-0.7**
PET				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PET				smax			
	comp=E,49nm,0.9s						
PET				smax			
	comp=N,28nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,15.0s						
BILL	**Bilibino**	**17.03**	**346**	P	**Pn**	**10 04 13.2**	**-1.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s						
BILL	**Bilibino**	**17.03**	**346**	Pn	**Pn**	**10 04 13.2**	**-1.1**
	comp=Z,11nm,1.0s						
SVW2	**Sparrevohn**	**17.68**	**48**	P	**Pn**	**10 04 24.7**	**+2.5**
KDAK	**Kodiak Island**	**18.46**	**59**	P	**Pn**	**10 04 31.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=115,slow=18,SNR=3.1						
SML	**Sawmill**	**21.22**	**48**	P	**P**	**10 05 03.7**	**+1.8**
YSS	**Yuzh-Sakhalins**	**22.60**	**271**	P	**P**	**10 05 19.8**	**+3.1**
YSS				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.6						
ASAJ	**Asahikawa**	**24.03**	**265**	P	**P**	**10 05 31.8**	**+0.7**
	comp=Z,18nm,1.1s,mb4.4,baz=355,slow=4.0,SNR=3.7						
ASAJ				LR	LR	10 16 35.4	
	comp=Z,134nm,18.1s,MS3.5,baz=174,slow=41						
ASAJ	**Asahikawa**	**24.03**	**265**	P	**P**	**10 05 31.8**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,18nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,135nm,18.1s						
DAWY	**Dawson**	**25.64**	**45**	*e*P	**P**	**10 05 47.5**	**+1.9**
YAK	**Yakutsk**	**27.07**	**311**⇑	*e*P	**P**	**10 06 01.8**	**+3.2**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
KLR	**Kul'dur**	**28.45**	**283**	*e*P	**P**	**10 06 08.7**	**-2.3**
KLR				MLR	MLR		
	comp=N,700nm,18.0s						
INK	**Inuvik**	**28.64**	**36**	P	**P**	**10 06 13.0**	**+0.3**
	comp=N,1.3nm,0.7s,mb3.8,baz=165,slow=22,SNR=2.2						
DLBC	**Dease Lake**	**30.34**	**56**	LR	LR	10 18 41.7	
	comp=N,216nm,19.1s,MS3.8,baz=111,slow=36						
MDJ	**Mudanjiang**	**31.83**	**276**	P	**P**	**10 06 40.8**	**-0.1**
MDJ				PP	PP	10 07 52.3	-0.5
MDJ				PCP	PcP	10 09 31.5	-0.2
MDJ				S	**S**	**10 11 52.8**	**+1.5**
MDJ				SCP	ScP	10 13 14.4	-0.7
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,60nm,3.0s						
MDJ				LR	LR		
	comp=N,160nm,18.1s,MS3.8						
MDJ				LR	LR		
	comp=E,80nm,15.6s,MS3.8						
MDJ				LR	LR		
	comp=Z,100nm,15.0s,MS3.6						
CN2	**Changchun**	**34.81**	**277**	*e*P	**P**	**10 07 07.0**	**+0.1**
CN2				*e*S	**S**	**10 12 35.5**	**-1.9**
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.2						
CN2				LR	LR		
	comp=E,200nm,14.0s,MS4.2						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS4.0						
HIA	**Hailar**	**35.59**	**289**⇑	*e*P	**P**	**10 07 19.0**	**+5.4**
YKA	**Yellowknife Ar**	**36.85**	**46**	P	**P**	**10 07 23.0**	**-1.4**
	comp=Z,0.4nm,0.5s,mb3.5,baz=238,slow=9.4,SNR=2.9						
YKA				LR	LR	10 23 43.5	
	comp=Z,233nm,18.5s,MS4.0,baz=285,slow=38						
EDM	**Edmonton**	**40.92**	**59**	*e*P	**P**	**10 07 58.7**	**+0.3**
TLY	**Talaya**	**43.51**	**300**	*e*P	**P**	**10 08 23.9**	**+4.3**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
TLY				MLR	MLR		
	comp=Z,90nm,18.0s,MS3.7						
ULN	**Ulaanbaatar**	**43.61**	**294**⇓	*e*P	**P**	**10 08 25.1**	**+4.7**
SONM	**Songino Array**	**44.00**	**294**	P	**P**	**10 08 22.5**	**-1.0**
	comp=Z,1.0nm,0.6s,mb3.7,baz=56,slow=11,SNR=4.0						
SONM				PcP	PcP	10 10 07.4	-1.7
	comp=Z,0.5nm,0.5s,baz=35,slow=4.2,SNR=2.8						
SONM				LR	LR	10 28 42.6	
	comp=Z,120nm,18.9s,MS3.8,baz=258,slow=39						
SONM	**Songino Array**	**44.00**	**294**	P	**P**	**10 08 22.5**	**-1.1**
SONM						10 10 07.4	
SSE	**Sheshan**	**45.33**	**265**	P	**P**	**10 08 39.6**	**+5.5**
SSE				PCP	PcP	10 10 20.5	+6.8
SSE				S	**S**	**10 15 16.4**	**+1.7**
SSE				XS	sS	10 15 31.3	+11
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SSE				LR	LR		
	comp=N,60nm,20.9s,MS3.7						
SSE				LR	LR		
	comp=E,60nm,20.9s,MS3.7						
SSE				LR	LR		
	comp=Z,60nm,25.4s,MS3.4						
PDAR	**Pinedale Array**	**48.71**	**70**	P	**P**	**10 08 59.7**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.7,baz=358,slow=5.7,SNR=2.8						
PDAR				LR	LR	10 26 46.8	
	comp=Z,79nm,19.0s,MS3.7,baz=215,slow=33						
ULM	**Lac du Bonnet**	**51.65**	**55**	LR	LR	10 32 22.5	
	comp=Z,104nm,19.0s,MS3.9,baz=264,slow=37						
ZAL	**Zalesovo**	**51.73**	**311**	LR	LR	10 32 12.7	
	comp=Z,62nm,20.6s,MS3.6,baz=233,slow=37						
NVS	**Novosibirsk**	**51.89**	**313**	*e*P	**P**	**10 09 33.9**	**+9.2**
LZH	**Lanzhou**	**52.65**	**283**	*e*P	**P**	**10 09 31.6**	**+1.3**
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
GTA	**Gaotai**	**52.87**	**289**	*e*P	**P**	**10 09 33.3**	**+1.4**
GTA				AP	pP	10 09 37.5	+2.3
GTA				XP	sP	10 09 40.8	+4.4
GTA				PCP	PcP	10 10 40.4	-0.6
GTA				PP	PP	10 11 34.4	+3.0
GTA				PCS	PcS	10 14 40.1	+0.4
GTA				S	**S**	**10 17 02.3**	**+1.6**
GTA				XS	sS	10 17 15.1	+9.0
GTA				SCS	ScS	10 19 19.5	-2.2
GTA				AMB	AMB		
	comp=Z,40nm,7.2s						
GTA				LR	LR		
	comp=N,190nm,18.3s,MS4.3						
GTA				LR	LR		
	comp=E,130nm,18.2s,MS4.3						
GTA				LR	LR		
	comp=Z,110nm,16.7s,MS4.0						
CD2	**Chengdu**	**56.23**	**278**	*e*P	**P**	**10 09 54.8**	**-1.6**
ARCES	**ARCESS Array B**	**57.12**	**348**	P	**P**	**10 10 01.1**	**-1.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=28,slow=28,SNR=2.2						
ARCES				LR	LR	10 38 41.7	
	comp=Z,65nm,18.7s,MS3.8,baz=41,slow=40						
MKAR	**Makanchi Array**	**57.59**	**306**	P	**P**	**10 10 04.0**	**-1.9**
	comp=Z,0.6nm,0.4s,mb4.0,baz=52,slow=7.9,SNR=6.1						
MKAR	**Makanchi Array**	**57.59**	**306**	*i* P	**P**	**10 10 05.3**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**58.18**	**318**	*e*P	**P**	**10 10 09.8**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**58.18**	**318**	*e*P	**P**	**10 10 09.8**	**-0.4**
	comp=Z,3.2nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**59.38**	**318**	*e*P	**P**	**10 10 17.5**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**59.38**	**318**	*e*P	**P**	**10 10 17.5**	**-0.9**
	comp=Z,2.9nm,0.6s,mb4.5						
ARU	**Arti**	**60.73**	**326**	*de*P	**P**	**10 10 34.3**	**+6.5**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
KMI	**Kunming**	**60.99**	**274**	P	**P**	**10 10 30.3**	**+0.8**
KMI				AP	pP	10 10 32.8	0.0
KMI				PP	PP	10 12 47.8	+4.0
KMI				S	**S**	**10 18 44.8**	**-3.1**
KMI				SS	SS	10 22 48.3	+1.0
KMI				LR	LR		
	comp=Z,50nm,34.5s,MS3.4						
SCHQ	**Schefferville**	**61.26**	**36**	LR	LR	10 41 05.2	
	comp=Z,106nm,18.4s,MS4.0,baz=32,slow=40						
FINES	**FINESS Array B**	**64.67**	**345**	P	**P**	**10 10 52.9**	**-1.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=167,slow=35,SNR=2.5						
FINES				LR	LR	10 42 51.5	
	comp=Z,33nm,20.4s,MS3.5,baz=357,slow=40						
NB2	**NORSAR Subarra**	**66.87**	**352**	P	**P**	**10 11 13.3**	**+5.1**
	comp=Z,2.4nm,1.0s,mb4.2,baz=8.5,slow=6.5						
NOA	**NORSAR Array B**	**66.87**	**352**	P	**P**	**10 11 09.2**	**+1.0**
	comp=Z,0.5nm,0.8s,mb3.6,baz=10,slow=6.7,SNR=2.1						
NOA				LR	LR	10 42 19.4	
	comp=Z,22nm,20.3s,MS3.4,baz=35,slow=38						
OBN	**Obninsk**	**68.42**	**337**	*e*P	**P**	**10 11 24.4**	**+6.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
AKASG	**Malin Array Be**	**74.20**	**339**	P	**P**	**10 11 51.6**	**-1.3**
	comp=Z,

QUIF eSg Sg 10 06 37.8 -0.6
12nm,0.2s,SNR=1.0
QUIF Quistinic 1.75 316 ePn Pn 10 06 12.6 +0.1
QUIF ePg Pg 10 06 15.6 -0.1
QUIF eSg Sg 10 06 37.8 -0.6
QUIF Quistinic 1.75 316 ePg Pg 10 06 15.6 -0.1
SNR=1.0
QUIF eSg Sg 10 06 37.8 -0.6
6.2nm,0.2s,SNR=1.0
GRR Gorron 1.75 11 ePg Pg 10 06 16.2 +0.3
SNR=1.0
GRR eSn Sn 10 06 34.1 -0.8
SNR=1.0
GRR eSg Sg 10 06 38.4 -0.2
20nm,0.2s,SNR=1.0
GRR Gorron 1.75 11 ePn Pn 10 06 13.1 +0.5
GRR ePg Pg 10 06 16.2 +0.3
GRR eSn Sn 10 06 34.1 -0.8
GRR eSg Sg 10 06 38.4 -0.2
GRR Gorron 1.75 11 ePg Pg 10 06 16.2 +0.3
SNR=1.0
GRR eSn Sn 10 06 34.1 -0.8
SNR=1.0
GRR eSg Sg 10 06 38.4 -0.2
10nm,0.2s,SNR=1.0
SGMF Saint Gilles 1.78 333 ePg Pg 10 06 16.2 -0.1
SNR=1.0
SGMF eSn Sn 10 06 34.2 -1.3
SNR=1.0
SGMF eSg Sg 10 06 39.5 +0.1
6.7nm,0.2s,SNR=1.0
SGMF Saint Gilles 1.78 333 ePn Pn 10 06 13.2 +0.3
SGMF ePg Pg 10 06 16.2 -0.1
SGMF eSn Sn 10 06 34.2 -1.3
SGMF eSg Sg 10 06 39.5 +0.1
SGMF Saint Gilles 1.78 333 ePg Pg 10 06 16.2 -0.1
SNR=1.0
SGMF eSn Sn 10 06 34.2 -1.3
SNR=1.0
SGMF eSg Sg 10 06 39.5 +0.1
3.3nm,0.2s,SNR=1.0
LDF La Druitiere 2.10 23 ePg Pg 10 06 22.4 -0.1
SNR=1.0
LDF eSg Sg 10 06 49.1 -0.7
6.2nm,0.2s,SNR=1.0
LDF La Druitiere 2.10 23 ePn Pn 10 06 18.5 +1.1
LDF ePg Pg 10 06 22.4 -0.1
LDF eSg Sg 10 06 49.1 -0.7
LDF La Druitiere 2.10 23 ePg Pg 10 06 22.4 -0.1
SNR=1.0
LDF eSg Sg 10 06 49.1 -0.7
3.1nm,0.2s,SNR=1.0
ROSF Rostrenen 2.11 323 ePg Pg 10 06 22.2 -0.5
SNR=1.0
ROSF eSg Sg 10 06 48.8 -1.2
4.7nm,0.2s,SNR=1.0
ROSF Rostrenen 2.11 323 ePn Pn 10 06 17.9 +0.4
ROSF ePg Pg 10 06 22.2 -0.5
ROSF eSg Sg 10 06 48.8 -1.2
ROSF Rostrenen 2.11 323 ePg Pg 10 06 22.2 -0.5
SNR=1.0
ROSF eSg Sg 10 06 48.8 -1.2
2.3nm,0.2s,SNR=1.0
FLN La Foliniere 2.18 16 ePn Pn 10 06 18.3 -0.1
baz=194
FLN La Foliniere 2.18 16 ePg Pg 10 06 23.9 -0.1
baz=202,SNR=1.0
FLN eSg Sg 10 06 51.8 -0.4
10.0nm,0.3s,SNR=1.0
FLN La Foliniere 2.18 16 ePn Pn 10 06 18.3 -0.1
FLN ePg Pg 10 06 23.9 -0.1
FLN eSg Sg 10 06 51.8 -0.4
FLN La Foliniere 2.18 16 ePg Pg 10 06 23.9 -0.1
SNR=1.0
FLN eSg Sg 10 06 51.8 -0.4
5.0nm,0.3s,SNR=1.0
LFF La Frestale 2.27 139 ePg Pg 10 06 25.7 -0.1
SNR=1.0
LFF eSn Sn 10 06 46.8 -1.0
SNR=1.0
LFF eSg Sg 10 06 54.9 -0.4
10nm,0.3s,SNR=1.0
LFF La Frestale 2.27 139 ePn Pn 10 06 20.4 +0.7
LFF ePg Pg 10 06 25.7 -0.1
LFF eSn Sn 10 06 46.8 -1.0
LFF eSg Sg 10 06 54.9 -0.4
LFF La Frestale 2.27 139 ePg Pg 10 06 25.7 -0.1
SNR=1.0
LFF eSn Sn 10 06 46.8 -1.0
SNR=1.0
LFF eSg Sg 10 06 54.9 -0.4
5.1nm,0.3s,SNR=1.0
RJF Les Rejaudoux 2.43 123 ePg Pg 10 06 29.2 +0.4
RJF eSg Sg 10 07 00.3 -0.1
14nm,0.3s,SNR=1.0
RJF Les Rejaudoux 2.43 123 ePn Pn 10 06 22.5 +0.6
RJF ePg Pg 10 06 29.2 +0.4
RJF eSg Sg 10 07 00.3 -0.1
RJF Les Rejaudoux 2.43 123 ePg Pg 10 06 29.2 +0.4
RJF eSg Sg 10 07 00.3 -0.1
6.8nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 2.50 97 ePg Pg 10 06 30.6 +0.4
SNR=1.0
TCF eSn Sn 10 06 53.2 -0.2
SNR=1.0
TCF eSg Sg 10 07 02.6 0.0
10nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 2.50 97 ePn Pn 10 06 24.5 +1.6
TCF ePg Pg 10 06 30.6 +0.4
TCF eSn Sn 10 06 53.2 -0.2
TCF eSg Sg 10 07 02.6 0.0
TCF Toulx Ste Croi 2.50 97 ePg Pg 10 06 30.6 +0.4
SNR=1.0
TCF eSn Sn 10 06 53.2 -0.2
SNR=1.0
TCF eSg Sg 10 07 02.6 0.0
5.1nm,0.3s,SNR=1.0
HYF Humbligny 2.81 76 ePn Pn 10 06 27.5 +0.4
HYF eSg Sg 10 07 12.5 0.0
BGF Bois d'Agland 2.91 91 ePg Pg 10 06 37.5 -0.4
SNR=1.0
BGF eSn Sn 10 07 02.3 -1.1
SNR=1.0
BGF eSg Sg 10 07 15.4 -0.2
15nm,0.4s,SNR=1.0
BGF Bois d'Agland 2.91 91 ePn Pn 10 06 29.6 +1.2
BGF ePg Pg 10 06 37.5 -0.4
BGF eSn Sn 10 07 02.3 -1.1
BGF eSg Sg 10 07 15.4 -0.2
BGF Bois d'Agland 2.91 91 ePg Pg 10 06 37.5 -0.4
SNR=1.0
BGF eSn Sn 10 07 02.3 -1.1
SNR=1.0
BGF eSg Sg 10 07 15.4 -0.2
7.5nm,0.4s,SNR=1.0
CAF Calviac 2.97 125 ePn Pn 10 06 30.0 +0.7
SNR=1.0
CAF eSg Sg 10 07 15.0 -2.6
5.5nm,0.2s,SNR=1.0
CAF Calviac 2.97 125 ePn Pn 10 06 30.0 +0.7
SNR=1.0
CAF eSg Sg 10 07 15.0 -2.6
2.8nm,0.2s,SNR=1.0
AVF Avril sur Loir 3.25 86 ePn Pn 10 06 34.2 +1.1
SNR=1.0
AVF eSn Sn 10 07 09.6 -2.2
SNR=1.0
AVF eSg Sg 10 07 25.7 -0.9
3.1nm,0.4s
AVF Avril sur Loir 3.25 86 ePn Pn 10 06 34.2 +1.1
SNR=1.0
AVF eSn Sn 10 07 09.6 -2.2
SNR=1.0
AVF eSg Sg 10 07 25.7 -0.9
1.5nm,0.4s
SSF Saint Saulge 3.37 82 ePg Pg 10 06 45.8 -0.9
SNR=1.0
SSF eSg Sg 10 07 29.5 -0.9
2.2nm,0.3s
SSF Saint Saulge 3.37 82 ePn Pn 10 06 35.7 +0.9
SSF ePg Pg 10 06 45.8 -0.9
SSF eSg Sg 10 07 29.5 -0.9
SSF Saint Saulge 3.37 82 ePg Pg 10 06 45.8 -0.9
SNR=1.0
SSF eSg Sg 10 07 29.5 -0.9
1.1nm,0.3s

SJPF Ste Jean 3.56 178 ePg Pg 10 06 49.3 -1.1
SNR=1.0
SJPF eSg Sg 10 07 35.2 -1.3
1.5nm,0.3s
SJPF Ste Jean 3.56 178 ePg Pg 10 06 49.3 -1.1
SNR=1.0
SJPF eSg Sg 10 07 35.2 -1.3
0.8nm,0.3s
SMF Signal de Mont 3.59 89 ePg Pg 10 06 50.4 -0.6
SMF eSg Sg 10 07 36.7 -0.8
1.5nm,0.2s
SMF Signal de Mont 3.59 89 ePn Pn 10 06 38.3 +0.5
SMF ePg Pg 10 06 50.4 -0.6
SMF eSg Sg 10 07 36.7 -0.8
SMF Signal de Mont 3.59 89 ePg Pg 10 06 50.4 -0.6
SMF eSg Sg 10 07 36.7 -0.8
0.8nm,0.2s
LOR Lormes 3.63 79 ePn Pn 10 06 38.5 +0.1
baz=262
LOR Lormes 3.63 79 ePg Pg 10 06 51.0 -0.8
baz=261,SNR=1.0
LOR eSg Sg 10 07 38.1 -0.7
2.0nm,0.3s,SNR=1.0
LOR Lormes 3.63 79 ePn Pn 10 06 38.5 +0.1
LOR ePg Pg 10 06 51.0 -0.8
LOR eSg Sg 10 07 38.1 -0.7
LOR Lormes 3.63 79 ePg Pg 10 06 51.0 -0.8
SNR=1.0
LOR eSg Sg 10 07 38.1 -0.7
1.0nm,0.3s,SNR=1.0
ETSF Etsaut 3.81 171 ePg Pg 10 06 54.2 -1.1
ETSF eSg Sg 10 07 43.5 -1.3
0.6nm,0.2s
ETSF Etsaut 3.81 171 ePn Pn 10 06 41.5 +0.6
ETSF ePg Pg 10 06 54.2 -1.1
ETSF eSg Sg 10 07 43.5 -1.3
ETSF Etsaut 3.81 171 ePg Pg 10 06 54.2 -1.1
ETSF eSg Sg 10 07 43.5 -1.3
0.3nm,0.2s
EPF Esparros 3.84 161 ePg Pg 10 06 55.4 -0.3
SNR=1.0
EPF eSn Sn 10 07 23.5 -2.8
SNR=1.0
EPF eSg Sg 10 07 44.2 -1.2
1.2nm,0.2s
EPF Esparros 3.84 161 ePn Pn 10 06 41.6 +0.4
EPF ePg Pg 10 06 55.4 -0.3
EPF eSn Sn 10 07 23.5 -2.8
EPF eSg Sg 10 07 44.2 -1.2
EPF Esparros 3.84 161 ePg Pg 10 06 55.4 -0.3
SNR=1.0
EPF eSn Sn 10 07 23.5 -2.8
SNR=1.0
EPF eSg Sg 10 07 44.2 -1.2
0.6nm,0.2s
VIVF Saint-Julien-l 4.60 111 eSg Sg 10 08 08.4 -1.5
14nm,0.6s,SNR=1.0
VIVF Saint-Julien-l 4.60 111 eSg Sg 10 08 08.4 -1.5
7.1nm,0.6s,SNR=1.0
BAIF Baives 5.03 46 ePn Pn 10 06 58.4 +0.8
SNR=1.0
CABF La Chapelle 5.13 88 ePn Pn 10 07 00.2 +1.1
SMRF Simiane la Rot 5.59 116 ePn Pn 10 07 05.6 +0.3

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*TRN **17** 10:42:12.2, 19.16N×6477W, h3km, MD4.3, M4.6(FDF)*
*RSPR **17** 10:42:13.6, 19.11N×6442W, h101km±3km, MD4.2/12, MD4.2/12*
*ISCJB **17** 10:42:16.9±0.2, 1921N±002×6472W±002, h33km, mb4.3/40, MS3.8/6, Error ellipse: s-maj=3.4km s-min=2.4km az=94.7*
*NEIC **17** 10:42:19.6±0.4, 1899N×6479W, h50km±5km, mb4.6/23, MD4.2(RSPR), MD4.3(TRN), Error ellipse: s-maj=5.8km s-min=3.1km az=202.0*
NEIC Felt on Saint Croix and Saint Thomas.
*IDC **17** 10:42:21.2±1.6, 1900N×6482W, h70km±15km, mb3.8/20, mb1 4.0/23, mb1mx4.0/28, mbtmp4.2/23, MS3.9/9, Ms1 3.9/9, ms1mx3.5/26, Error ellipse: s-maj=13.5km s-min=11.5km az=46.0*
ISC 17 10:42:14.6±0.8, 1923N±002×6475W±002, h2km±4km, h45km±1.7km: pP-P, n198, σ1§04/216, mb4.3/40, MS3.8/6, 41C-18D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
ABV	**Anegada**	**0.64**	**141⇑**	ePP	**Pg**	**10 42 28.9**	**+2.2**	
TBVI	**Tortola**	**0.82**	**171⇑**	ePP	**Pg**	**10 42 30.5**	**+0.1**	
STVI	**Saint Thomas**	**0.89**	**193⇑**	ePP	**Pg**	**10 42 32.1**	**+0.5**	
CULB	**Culebra**	**1.06**	**211⇑**	ePP	**Pg**	**10 42 34.7**	**-0.2**	
MTP	**Monte Pirata**	**1.36**	**214⇓**	ePP	**Pn**	**10 42 39.1**	**-1.4**	
MTP				eSS	**Sg**	**10 42 58.8**	**+0.5**	
CBYP	**Canovanas**	**1.41**	**228⇑**	ePP	**Pn**	**10 42 40.0**	**-1.3**	
HUMP	**Col San Antoni**	**1.50**	**224⇓**	ePP	**Pn**	**10 42 41.2**	**-1.2**	
HUMP				eSS	**Sn**	**10 43 02.8**	**+0.3**	
CPD	**Cerro la Pandu**	**1.62**	**223**	ePP	**Pn**	**10 42 43.1**	**-1.0**	
CPD				eSS	**Sn**	**10 43 06.0**	**+0.5**	
SJG	**San Juan**	**1.73**	**230⇑**	ePP	**Pn**	**10 42 44.7**	**-0.9**	
SJG	**San Juan**	**1.73**	**230**	eSS	**Sn**	**10 43 08.2**	**0.0**	
SJG	**San Juan**	**1.73**	**230⇑**	ePP	**Pn**	**10 42 44.9**	**-0.7**	
SJG				eSS	**Sn**	**10 43 09.4**	**+1.2**	
SJG	**San Juan**	**1.73**	**230**	P	**Pn**	**10 42 44.6**	**-0.9**	
35nm,0.3s,baz=66,slow=9.4,SNR=43								
SJG				S	**Sn**	**10 43 06.4**	**-1.8**	
762nm,0.3s,baz=290,slow=14,SNR=14								
SJG	**San Juan**	**1.73**	**230⇑**	ePP	**Pn**	**10 42 44.7**	**-0.9**	
SJG				eSS	**Sn**	**10 43 08.2**	**0.0**	
STMA	**St. Maarten, A**	**1.95**	**127**	ePP	**Pn**	**10 42 47.9**	**-0.9**	
STMA				eSS	**Sn**	**10 43 11.4**	**-2.4**	
CELP	**Cerrillos**	**2.08**	**237⇑**	ePP	**Pn**	**10 42 49.7**	**-0.7**	
AOPR	**Arecibo Observ**	**2.08**	**245⇑**	ePP	**Pn**	**10 42 50.4**	**-0.1**	
AOPR				eSS	**Sn**	**10 43 18.6**	**+1.6**	
OBIP	**Obispado Ponce**	**2.12**	**236⇑**	ePP	**Pn**	**10 42 50.4**	**-0.6**	
OBIP				eSS	**Sn**	**10 43 18.9**	**+1.1**	
ICM	**Isla Caja Muer**	**2.14**	**232⇑**	ePP	**Pn**	**10 42 50.5**	**-0.7**	
ICM				eSS	**Sn**	**10 43 19.1**	**+0.7**	
SABS	**Saba**	**2.15**	**138**	ePP	**Pn**	**10 42 52.5**	**+1.2**	
SABS				eSS	**Sn**	**10 43 19.0**	**+0.5**	
SABT	**Saba**	**2.15**	**138**	ePP	**Pn**	**10 42 52.5**	**+1.2**	
SABT				eSS	**Sn**	**10 43 19.0**	**+0.5**	
LRS	**Lares**	**2.19**	**245⇑**	ePP	**Pn**	**10 42 51.2**	**-0.8**	
AGPR	**Aguadilla, PR**	**2.36**	**252⇑**	ePP	**Pn**	**10 42 54.1**	**-0.2**	
AGPR				eSS	**Sn**	**10 43 25.8**	**+2.0**	
STAT	**Sint Eustatius**	**2.41**	**135**	ePP	**Pn**	**10 42 58.6**	**+3.6**	
STAT				eSS	**Sn**	**10 43 25.5**	**+0.5**	
LSP	**Las Mesas**	**2.44**	**245⇑**	ePP	**Pn**	**10 42 54.9**	**-0.6**	
MPR	**Mayaguez**	**2.48**	**246⇑**	ePP	**Pn**	**10 42 55.5**	**-0.4**	
MPR	**Mayaguez**	**2.48**	**246**	eSS	**Sn**	**10 43 28.6**	**+1.9**	
MGP	**Maguayo**	**2.53**	**242⇑**	ePP	**Pn**	**10 42 56.2**	**-0.3**	
CRPR	**Cabo Rojo, PR**	**2.54**	**242⇑**	ePP	**Pn**	**10 42 56.6**	**-0.2**	
CRPR				eSS	**Sn**	**10 43 29.4**	**+1.1**	
CPB	**Codrington**	**3.19**	**119**	ePP	**Pn**	**10 43 07.1**	**+1.3**	
CPB				eSS	**Sn**	**10 43 46.9**	**+2.4**	
BPA	**Boggy Peak**	**3.50**	**128**	ePP	**Pn**	**10 43 08.6**	**-1.4**	
BPA				eSS	**Sn**	**10 43 52.6**	**+0.5**	
SEG	**Port Louis**	**4.18**	**132**	ePP	**Pn**	**10 43 17.7**	**-1.6**	
LZG	**Guadaloupe-1**	**4.18**	**137**	ePP	**Pn**	**10 43 16.5**	**-2.8**	
SCG	**Saint Claude**	**4.32**	**137**	ePP	**Pn**	**10 43 20.8**	**-0.5**	
SCG				eSS	**Sn**	**10 44 12.9**	**+0.7**	
PHG	**Guadaloupe-2**	**4.36**	**137**	ePP	**Pn**	**10 43 22.5**	**+0.7**	
DOG	**Dongo Capester**	**4.36**	**136**	ePP	**Pn**	**10 43 22.7**	**+0.8**	
TBG	**Guadaloupe-3**	**4.48**	**138**	ePP	**Pn**	**10 43 23.1**	**-0.3**	
DEG	**La Desirade**	**4.56**	**129**	ePP	**Pn**	**10 43 22.3**	**-2.2**	
MGG	**Marie-Galante**	**4.64**	**135**	ePP	**Pn**	**10 43 25.2**	**-0.4**	
BBL	**Barber's Block**	**4.83**	**139**	ePP	**Pn**	**10 43 28.5**	**+0.2**	
FDF	**Fort de France**	**5.64**	**142**	ePP	**Pn**	**10 43 42.5**	**+3.1**	
FDF				eSS	**Sn**	**10 44 50.8**	**+6.0**	
CRM	**Caravelle**	**5.77**	**140**	ePP	**Pn**	**10 43 41.2**	**+0.1**	
MVM	**Montagne Vaucl**	**5.93**	**141**	ePP	**Pn**	**10 43 45.0**	**+1.6**	
GRW	**Mount Saint Ca**	**7.63**	**157**	ePP	**Pn**	**10 44 07.6**	**+0.9**	
TPR	**Prospect**	**8.87**	**154**	ePP	**Pn**	**10 44 25.3**	**+1.7**	
MASC	**Masc**	**8.98**	**278**	ePG	**Pn**	**10 44 23.0**	**-2.2**	
MASC				eSG	**Sn**	**10 45 57.2**	**-10**	
comp=N,2.1nm,0.3s								
MASC				e				
comp=E,1.6nm,0.2s								
PCRV	**Puerto La Cruz**	**9.00**	**179**	P	**Pn**	**10 44 24.8**	**-0.6**	
comp=E,5.6nm,0.3s,baz=321,slow=4.2,SNR=14								
PCRV				S	**Sn**	**10 45 58.7**	**-8.7**	
comp=E,7.8nm,0.3s,baz=29,slow=4.6,SNR=4.0								
PCRV				LR	LR	10 47 55.1		
comp=E,504nm,21.9s,baz=167,slow=38								

TRN Trinidad (W) 9.12 159 eP Pn 10 44 26.1 -1.0
TBH Brigand Hill 9.39 157 eP Pn 10 44 33.6 +2.7
MOAC Moa 9.71 280 eP Pn 10 44 31.9 -3.3
MOAC eS Sn 10 46 14.4 -10
comp=N,1.3nm,0.2s
MOAC e
comp=E,1.7nm,0.4s
RCC Rio Carpintero 10.34 276 eP Pn 10 44 37.5 -6.4
RCC eS Sn 10 46 31.6 -8.8
comp=N,192nm,19.4s
RCC e
comp=E,157nm,17.8s
SDV Santo Domingo 11.75 210 P Pn 10 45 02.8 -0.4
comp=E,0.6nm,0.3s,baz=72,slow=8.3,SNR=14
SDV S Sn 10 47 10.0 -5.0
comp=E,2.9nm,0.3s,baz=351,slow=22,SNR=7.5
SDV LR LR 10 49 56.6
comp=E,738nm,18.5s,baz=33,slow=40
SDV Santo Domingo 11.75 210 ePn Pn 10 45 02.8 -0.4
SDV eSn Sn 10 47 02.2 -13
CCCC Cccc 12.37 281 eP Pn 10 45 02.7 -9.0
CCCC eS Sn 10 47 06.5 -24
comp=N,1.1nm,0.8s
CCCC e
comp=E,1.5nm,0.8s
ROSC El Rosal 17.07 214 P Pn 10 46 14.7 +0.5
comp=E,4.4nm,0.3s,baz=87,slow=7.4,SNR=21
ROSC LR LR 10 53 16.2
comp=E,936nm,20.6s,baz=39,slow=39
NHSC New Hope 19.53 318 ePn Pn 10 46 45.9 +1.5
comp=E,55nm,0.6s
COW Cow Castle Cre 20.04 318 eP P 10 46 51.8 +3.0
JSC Jenkinsville 20.98 319 eP P 10 46 59.3 +0.3
JTS JuntasAbangare 21.44 248 P P 10 47 02.3 -1.6
comp=E,13nm,0.7s,mb4.3,baz=60,slow=8.6,SNR=9.3
TEIG Tepich 22.16 277 eP P 10 47 11.3 -0.4
BLA Blacksburg 22.56 326 eP P 10 47 15.9 -0.1
comp=E,4.1nm,0.7s,mb4.0
BLA epP 10 47 31.9
SDMD Soldier's Deli 22.66 335 P P 10 47 19.7 +2.6
SDMD epP 10 47 34.6
ELN Prospectdale 22.75 325 eP P 10 47 18.7 +0.7
ELN epP 10 47 35.6
MVL Millersville 22.98 337 eP P 10 47 21.3 +0.8
PAL Palisades 23.08 342 P P 10 47 24.3 +2.9
PAL epP 10 47 40.1
OTAV Otavalo 23.16 217 eP P 10 47 21.0 -1.4
comp=E,32nm,0.9s,mb4.8
OTAV epP 10 47 32.9
HRV Harvard--Oak R 23.91 348 eP P 10 47 30.8 +1.0
HRV epP 10 47 51.3
SSPA Standing Stone 24.13 335 eP P 10 47 32.6 +0.9
LRAL Lakeview Retre 24.18 309 eP P 10 47 32.0 -0.2
comp=E,21nm,0.9s,mb4.6
LRAL epP 10 47 44.5
LRAL eS S 10 51 40.5 -11
PLAL Pickwick Lake 25.93 312 eP P 10 47 48.2 +0.1
comp=E,9.7nm,0.8s,mb4.4
ACSO Alum Creek Sta 26.14 327 eP P 10 47 49.9 -0.1
WCI Wyandotte Cave 26.63 320 eP P 10 47 54.6 +0.2
comp=E,11nm,0.9s,mb4.4
OXF Oxford 26.65 310 eP P 10 47 54.5 -0.1
SAML Samuel 28.04 177 eP P 10 48 03.7 -3.4
SADO Sadowa 28.15 338 LR LR 10 58 24.4
comp=E,158nm,19.4s,MS3.6,baz=263,slow=34
ATAH Atahualpa 29.32 209 LR LR 11 01 25.0
comp=E,478nm,20.2s,MS4.1,baz=238,slow=39
NATX Nacogdoches 29.64 301 eP P 10 48 25.3 +4.0
CCM Cathedral Cave 29.71 315 eP P 10 48 21.5 -0.5
comp=E,4.1nm,0.7s,mb4.3
CCM ePcP PcP 10 51 25.2 -0.9
MIAR Mount Ida 29.76 307 eP P 10 48 22.1 -0.3
MIAR epP pP 10 48 33.8 +11
LPAZ La Paz 35.45 186 P P 10 49 09.8 -2.4
comp=E,3.5nm,0.7s,mb4.4,baz=343,slow=7.1,SNR=11
LPAZ La Paz 35.45 186 eP P 10 49 08.6 -3.6
comp=E,8.2nm,1.0s,mb4.6
AMTX Amarillo 36.16 303 eP P 10 49 18.1 -0.2
comp=E,16nm,1.2s,mb4.8
AMTX epP pP 10 49 30.6 +12
BDFB Brasilia 38.36 153 P P 10 49 35.6 -1.3
comp=E,2.1nm,0.6s,mb4.0,baz=315,slow=10.0,SNR=3.1
MNTX Cornudas Mount 38.52 297 eP P 10 49 37.8 -0.5
comp=E,3.7nm,0.8s,mb4.2
ULM Lac du Bonnet 39.62 329 P P 10 49 48.1 +0.6
comp=E,1.1nm,0.5s,mb3.9,baz=123,slow=9.8,SNR=3.5
BNM Barren Site 39.97 300 eP P 10 49 51.0 +0.6
ANMO Albuquerque 39.99 302 P P 10 49 50.6 0.0
comp=E,1.3nm,0.7s,mb3.8,baz=116,slow=8.5,SNR=4.5
LPM Los Pinos Moun 40.00 301 eP P 10 49 50.5 -0.2
LAZ Ladron 40.43 301 eP P 10 49 54.3 0.0
ISCO Idaho Springs 40.60 309 eP P 10 49 56.0 +0.3
comp=E,6.5nm,0.8s,mb4.3
ISCO epP pP 10 50 08.3 +12
PHWY Pilot Hill 40.98 311 eP P 10 49 59.0 +0.2
SMCO Snowmass 41.42 308 eP P 10 50 02.5 0.0
comp=E,11nm,1.2s,mb4.4
LVC Limon Verde 41.78 186 eP P 10 50 01.0 -4.3
RWWY Rawlins 42.35 311 eP P 10 50 11.2 +1.2
comp=E,6.7nm,0.6s,mb4.5
PV01 Paradox Valley 42.36 306 eP P 10 50 10.8 +0.8
PV01 ePcP PcP 10 52 03.7 +0.2
PV10 Paradox Valley 42.77 306 eP P 10 50 13.7 +0.2
TUC Tucson 43.15 297 eP P 10 50 17.5 +1.0
116A Eloy 43.94 297 ⇓P P 10 50 24.0 +1.1
baz=44
SRU San Rafael 44.08 307 eP P 10 50 24.1 +0.1
PDAR Pinedale Array 44.34 312 P P 10 50 25.6 -0.5
comp=E,8.1nm,0.8s,mb4.5,baz=112,slow=8.7,SNR=62
PDAR PcP PcP 10 52 08.2 -2.0
comp=E,2.1nm,0.9s,baz=113,slow=4.2,SNR=3.2
115A Sonoran Desert 44.40 297 ⇑P P 10 50 27.6 +1.1
baz=44
X15A Humboldt 44.61 300 ⇑P P 10 50 27.9 -0.3
baz=45
TMUT Trail Mountain 44.63 307 eP P 10 50 28.9 +0.5
DAU Daniels Canyon 44.93 308 eP P 10 50 31.6 +0.8
Z14A Wintersburg 45.07 298 ⇑P P 10 50 31.6 -0.3
baz=45
MPU Maple Canyon 45.12 308 eP P 10 50 33.0 +0.8
X14A Yava 45.14 300 ⇓P P 10 50 32.7 +0.2
baz=45
Y14A Wickenburg 45.17 299 ⇓P P 10 50 32.4 -0.3
baz=45
MSU Marysvale 45.21 306 eP P 10 50 34.6 +1.6
TCUT Toone Canyon 45.21 309 eP P 10 50 33.6 +0.6
CTU Camp Tracy 45.36 309 eP P 10 50 34.6 +0.4
W14A Seligman 45.38 301 ⇓P P 10 50 34.7 +0.3
baz=45
REDW Red Top Meadow 45.43 312 eP P 10 50 34.5 -0.2
HWUT Hardware Ranch 45.45 310 eP P 10 50 34.6 -0.3
comp=E,9.0nm,0.8s,mb4.7
MOOW Moose Ponds 45.47 313 eP P 10 50 35.3 +0.2
comp=E,6.7nm,0.8s,mb4.5
TPAW Teton Pass 45.53 313 eP P 10 50 36.0 +0.4
comp=E,7.8nm,0.6s,mb4.8
FLWY Flagg Ranch 45.54 313 eP P 10 50 36.5 +0.8
comp=E,4.9nm,0.6s,mb4.6
IMW Indian Meadow 45.65 313 eP P 10 50 36.6 +0.2
comp=E,4.3nm,0.6s,mb4.6
Y13A Salome 45.84 299 ⇑P P 10 50 38.6 +0.6
baz=46
CPUP Villa Florida 45.85 171 P P 10 50 33.4 -4.7
comp=E,7.7nm,0.7s,mb4.7,baz=338,slow=7.3,SNR=24
CPUP LR LR 11 09 40.6
comp=E,58nm,19.2s,MS3.5,baz=179,slow=36
CPUP Villa Florida 45.85 171 eP P 10 50 33.5 -4.6
X13A Yucca 45.92 300 ⇑P P 10 50 37.8 -0.8
baz=46
CCUT Cedar City 45.96 304 eP P 10 50 38.6 -0.3
CCUT ePcP PcP 10 52 16.6 +0.8
DUG Dugway 46.04 308 eP P 10 50 40.0 +0.4
comp=E,8.9nm,1.2s,mb4.6
ARUT Antelope Range 46.06 304 P P 10 50 39.8 +0.1
QLMT Earthquake Lak 46.27 314 eP P 10 50 43.0 +1.6
BGU Big Grassy Mou 46.36 309 eP P 10 50 42.1 0.0
HVU Hansel Valley 46.37 310 eP P 10 50 42.2 0.0
GLA Glamis 46.61 298 ⇑P P 10 50 43.0 -1.0
baz=47
BOZ Bozeman (W) 46.66 315 eP P 10 50 44.7 +0.3
DLMT Dillon 47.22 315 eP P 10 50 49.6 +0.8
N13A West Wendover 47.22 308 ⇓P P 10 50 50.0 +1.2
baz=47
MCMT McKenzie Canyo 47.23 314 eP P 10 50 49.7 +0.8
M13A Montello 47.29 309 P P 10 50 49.7 +0.3

baz=47,SNR=11
P12A McGill 47.48 306 ⇑P **P 10 50 51.9 +1.1**
baz=48
TUQ Turquoise Mtn. 47.72 301 ⇑P **P 10 50 53.4 +0.7**
baz=48
N12A Wells--Clov Va 47.83 308 P **P 10 50 53.9 +0.3**
baz=48,SNR=8.2
M12A Wells 47.86 309 P **P 10 50 54.3 +0.5**
baz=48,SNR=7.6
Q11A Duckwater 47.94 305 ⇑P **P 10 50 55.0 +0.5**
baz=48
HLID Hailey 47.98 312 *e*P **P 10 50 54.4 -0.4**
HLID *ep*P pP 10 51 07.7 +12
O11A Cowboy Ranch, 48.16 307 P **P 10 50 57.0 +0.8**
baz=48,SNR=17
GSC Goldstone 48.43 300 ⇓P **P 10 50 58.3 +0.1**
baz=48
M11A Holland Ranch, 48.50 309 P **P 10 50 59.5 +0.7**
baz=49,SNR=13
109C Camp Elliot, M 48.51 297 ⇓P **P 10 50 57.2 -1.6**
baz=48
S09A Goldfield 49.01 304 ⇑P **P 10 51 01.5 -1.1**
baz=49
M10A I.L. Ranch, Tu 49.07 309 ⇑P **P 10 51 03.3 +0.2**
baz=49
O09A Fish Creek Ran 49.33 307 ⇓P **P 10 51 05.6 +0.5**
baz=49
BMN Battle Mountai 49.39 307 *e*P **P 10 51 06.2 +0.5**
comp=E,7.7nm,0.9s,mb4.7
Q08A Gabbs 49.71 305 ⇑P **P 10 51 07.4 -0.6**
baz=50
M09A Marrel Ranch, 49.73 308 ⇑P **P 10 51 08.8 +0.6**
baz=50
S08C White Mtn Res 49.74 303 ⇑P **P 10 51 08.0 -0.2**
baz=50
R08A Mina 49.78 304 ⇓P **P 10 51 06.9 -1.7**
baz=50,SNR=6.3
MNV Mina 49.83 304 *e*P **P 10 51 09.1 +0.1**
comp=E,6.0nm,0.9s,mb4.6
NVAR Mina Array Bea 49.95 304 P **P 10 51 09.6 -0.2**
comp=E,1.8nm,0.8s,mb4.2,baz=100,slow=7.7,SNR=16
NVAR PcP PcP 10 52 30.2 +0.2
comp=E,1.2nm,0.9s,baz=113,slow=2.3,SNR=2.2
L09A Wilkinson Ranc 50.00 309 ⇓P **P 10 51 09.8 -0.4**
baz=50,SNR=6.3
N08A GE Springer Mi 50.13 307 ⇑P **P 10 51 10.8 -0.4**
baz=50,SNR=5.9
M08A Happy Creek Ra 50.42 308 P **P 10 51 14.1 +0.6**
baz=50,SNR=6.1
O07A Toulon 50.61 307 P **P 10 51 15.4 +0.5**
baz=51,SNR=7.7
M07A Soldier Meadow 51.00 308 P **P 10 51 18.1 +0.3**
baz=51,SNR=7.8
NEW Newport 51.02 317 P **P 10 51 16.9 -1.1**
comp=E,7.3nm,0.7s,mb4.7,baz=112,slow=4.5
NEW Newport 51.02 317 *e*P **P 10 51 17.7 -0.3**
K07A Rock Creek Ran 51.26 310 ⇓P **P 10 51 19.4 -0.4**
baz=51
R05C Kirkwood Meado 51.36 305 ⇑P **P 10 51 20.3 -0.2**
baz=51
P05C Yuba Gap, Truc 51.83 305 ⇑P **P 10 51 23.2 -0.8**
baz=52
LAVA Lava Cap Winer 51.88 305 ⇑P **P 10 51 24.1 -0.3**
baz=52
M06C Likely Place G 51.95 308 ⇓P **P 10 51 24.1 -0.8**
baz=52
J06A Christmas Vall 52.01 310 ⇓P **P 10 51 24.6 -0.8**
baz=52
I06A Prineville 52.16 311 ⇑P **P 10 51 26.3 -0.2**
baz=52,SNR=5.9
OHCM Honcut 52.51 305 *e*P **P 10 51 29.7 +0.7**
ORV Oroville 52.54 305 ⇑P **P 10 51 28.1 -1.2**
baz=53
K04A Chilquin 53.06 309 ⇑P **P 10 51 32.2 -1.0**
baz=53
L04A Klamath Falls 53.12 309 ⇑P **P 10 51 33.1 -0.5**
baz=53
F05A White Salmon 53.38 313 ⇓P **P 10 51 35.2 -0.2**
baz=54
YBH Yreka Blue Hor 53.68 308 ⇓P **P 10 51 35.6 -2.1**
baz=54
H04A Detroit Lake 53.69 312 ⇓P **P 10 51 37.4 -0.4**
baz=54
HUMO Hull Mountain 53.96 309 ⇑P **P 10 51 37.7 -2.0**
baz=54
YKA Yellowknife Ar 55.05 334 P **P 10 51 45.4 -2.3**
comp=E,1.7nm,0.6s,mb4.2,baz=110,slow=7.4,SNR=6.7
YKA LR LR 11 14 15.7
comp=E,85nm,18.4s,MS3.9,baz=115,slow=35
MDT Midelt 55.06 63 P **P 10 51 49.0 +1.2**
comp=E,3.2nm,1.0s,mb4.3,baz=281,slow=12,SNR=3.0
ESDC Sonseca Array 55.66 55 P **P 10 51 52.7 +0.6**
comp=E,0.2nm,0.3s,mb3.6,baz=274,slow=5.8,SNR=6.5
DBIC Dimbokro 59.43 94 P **P 10 52 17.9 -0.8**
comp=E,1.7nm,0.8s,mb4.1,baz=169,slow=5.6,SNR=2.2
PLCA Paso Flores 59.89 185 P **P 10 52 18.4 -3.4**
comp=E,2.2nm,0.8s,mb4.2,baz=332,slow=13,SNR=3.0
PLCA LR LR 11 17 46.5
comp=E,147nm,21.8s,MS4.1,baz=3.4,slow=36
PLCA Paso Flores 59.89 185 P **P 10 52 18.4 -3.4**
PLCA LR LR 11 17 46.5
TORD Torodi Ar. Bea 63.78 84 P **P 10 52 46.8 -1.2**
comp=E,0.8nm,0.9s,mb3.8,baz=298,slow=7.0,SNR=3.3
INK Inuvik 64.46 337 P **P 10 52 50.3 -2.2**
comp=E,2.3nm,0.8s,mb4.3,baz=77,slow=8.8,SNR=2.6
INK Inuvik 64.46 337 *e*P **P 10 52 52.0 -0.5**
comp=E,6.8nm,0.9s,mb4.7
DAWY Dawson 66.17 332 *e*P **P 10 53 03.3 -0.2**
NOA NORSAR Array B 66.58 31 LR LR 11 18 37.2
comp=E,63nm,19.3s,MS3.8,baz=280,slow=33
MID Middleton Isla 69.39 327 *e*P **P 10 53 24.5 +0.6**
COLA College 69.85 333 *e*P **P 10 53 24.4 -2.3**
comp=E,2.6nm,0.8s,mb4.2
ARCES ARCESS Array B 72.25 22 P **P 10 53 39.0 -2.3**
comp=E,2.4nm,0.9s,mb4.1,baz=309,slow=11,SNR=4.0
FINES FINESS Array B 73.71 30 P **P 10 53 47.9 -2.0**
comp=E,0.4nm,0.7s,mb3.4,baz=347,slow=7.8,SNR=2.9
FINES FINESS Array B 73.71 30 P **P 10 53 47.9 -2.0**
AKASG Malin Array Be 77.82 40 P **P 10 54 10.9 -2.5**
comp=E,0.2nm,0.2s,mb3.6,baz=161,slow=14,SNR=2.7
BRTR Keskin Array B 84.14 50 P **P 10 54 45.6 -1.5**
comp=E,1.0nm,0.7s,mb4.0,baz=269,slow=6.2,SNR=3.8
CNB Canberra Magne 145.91 235 *e*P PKPdf 11 01 54.4 -0.6
comp=E,25nm,1.1s
TOO Toolangi 147.93 229 *e*P PKPdf 11 01 59.9 +1.6
comp=E,4.7nm,0.8s
STKA Stephens Creek 153.18 237 PKPbc PKPbc 11 02 10.2 -3.7
comp=E,3.1nm,0.8s,baz=44,slow=5.9,SNR=6.1
STKA PKPab PKPab 11 02 19.7 -5.8
comp=E,4.5nm,0.8s,baz=311,slow=3.2,SNR=6.1
WRA Warramunga Arr 162.00 265 PKP PKPdf 11 02 14.0 -3.4
comp=E,1.1nm,0.9s,baz=81,slow=1.0,SNR=5.4
WRA PKPab PKPab 11 03 01.0 -2.6
comp=E,0.9nm,0.7s,baz=83,slow=4.1,SNR=5.6
ASAR Alice Springs 162.08 252 PKPab PKPab 11 03 02.2 -1.7
comp=E,2.3nm,0.8s,baz=104,slow=4.4,SNR=12

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*ISCJB **17** 10:43:58.8±0.2, 184N±004×9777E±004, h15km, mb4.8/75, MS4.0/26, Error ellipse: s-maj=6.2km s-min=4.7km az=96.0*
*BJI **17** 10:43:58.7, 194N×9794E, h12km, mB4.7, mb4.8, Ms4.5, Msz4.2*
*NEIC **17** 10:44:00.6±0.2, 186N×9777E, mb4.9/25, Error ellipse: s-maj=7.5km s-min=5.2km az=224.0*
NEIC Felt [II] at Sibolga, Sumatra.
*MOS **17** 10:44:01.5±0.9, 200N×9791E, h33km, mb5.1/25, Error ellipse: s-maj=12.2km s-min=6.7km az=114.6*
*IDC **17** 10:44:07.7±1.8, 198N×9800E, h71km±15km, mb4.4/23, mb1 4.4/23, mb1mx4.3/26, mbtmp4.7/23, MS3.9/14, Ms1 3.9/14, ms1mx3.7/23, Error ellipse: s-maj=16.2km s-min=9.0km az=49.0*
ISC 17 10:44:01.2±0.2, 187N±004×9776E±004, h16km, h16km±1.4km: pP-P, n168, σ1°22/165, mb4.8/75, MS4.0/26, 6C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PSI	**Prapat**	**1.48**	**52**	P		**Pn**	**10 44 28.3**	**+1.1**
	206nm,0.3s,baz=221,slow=5.4,SNR=850							
TSI	**Tuntungan**	**1.81**	**26**	P		**Pn**	**10 44 34.0**	**+2.4**
	10μm,0.8s							
PPI	**Padang Panjang**	**3.51**	**131**	P		**Pn**	**10 44 59.4**	**+4.4**
	465nm,1.2s							
IPM	**Ipoh**	**4.17**	**51**	P		**Pn**	**10 45 05.7**	**+1.7**
BSI	**Banda Aceh**	**4.36**	**326**	P		**Pn**	**10 45 08.5**	**+1.8**
	161nm,0.7s							
KULM	**Kulim**	**4.46**	**40**	*e*Pn		**Pn**	**10 45 09.9**	**+1.9**
KGM	**Kluang**	**5.56**	**88**	P		**Pn**	**10 45 26.6**	**+3.4**
SNG	**Songkhla**	**5.99**	**28**	P		**Pn**	**10 45 30.0**	**+0.9**
	1μm,1.0s							
KSI	**Kapahiang**	**7.31**	**139**	P		**Pn**	**10 45 52.5**	**+5.2**
	166nm,0.3s							
NNT	**Nongplab**	**10.82**	**10**	P		**Pn**	**10 46 39.0**	**+3.6**
KSM	**Kuching**	**12.55**	**92**	*e*Pn		**Pn**	**10 46 59.2**	**+0.2**
KKTK	**Khon Kaen**	**15.21**	**19**	P		**Pn**	**10 47 40.0**	**+4.8**
KMMI	**Kalianget**	**18.45**	**119**	P		**Pn**	**10 48 21.3**	**+5.2**
	195nm,0.9s							
KKM	**Kota Kinabalu**	**18.87**	**77**	P		**Pn**	**10 48 22.7**	**+1.5**
KKM	**Kota Kinabalu**	**18.87**	**77**	*e*P		**Pn**	**10 48 20.6**	**-0.7**
TSM	**Tawau**	**20.23**	**83**	P		**P**	**10 48 36.5**	**+1.0**
QIZ	**Qiongzhong**	**20.76**	**34**	P		**P**	**10 48 41.8**	**+0.6**
QIZ				AP			10 48 45.9	
QIZ				XP		sP	10 48 48.5	+0.6
QIZ				S		**S**	**10 52 31.8**	**-0.5**
QIZ				AMB		AMB		
	comp=Z,10.0nm,1.1s							
QIZ				LR		LR		
	comp=N,320nm,21.2s							
QIZ				LR		LR		
	comp=Z,360nm,27.6s							
QIZ	**Qiongzhong**	**20.76**	**34**	*e*P		**P**	**10 48 40.8**	**-0.4**
	comp=Z,26nm,0.9s							
PCI	**Palu**	**22.25**	**97**	P		**P**	**10 48 59.6**	**+2.4**
	comp=Z,137nm,1.0s,mb5.3							
KMI	**Kunming**	**23.61**	**11**	P		**P**	**10 49 11.4**	**-0.1**
KMI				AP			10 49 14.8	
KMI				XP		sP	10 49 16.3	-2.1
KMI				PP			10 49 44.3	
KMI				PPP			10 49 54.5	
KMI				S		**S**	**10 53 23.3**	**-1.6**
KMI				XS		sS	10 53 28.9	-4.1
KMI				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.5							
KMI				AMB		AMB		
	comp=Z,80nm,5.6s							
KMI				LR		LR		
	comp=N,540nm,15.3s,MS4.2							
KMI				LR		LR		
	comp=E,240nm,15.3s,MS4.2							
KMI				LR		LR		
	comp=Z,680nm,16.5s,MS4.2							
GYA	**Guiyang**	**25.90**	**19**	⇓*i*P		**P**	**10 49 31.3**	**-1.0**
GYA				AP		pP	10 49 35.8	-1.4
GYA				XP		sP	10 49 38.8	-0.5
GYA				S		**S**	**10 53 59.3**	**-2.3**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.3							
GYA				AMB		AMB		
	comp=Z,90nm,6.0s							
GYA				LR		LR		
	comp=N,480nm,16.2s,MS4.3							
GYA				LR		LR		
	comp=E,460nm,16.0s,MS4.3							
GYA				LR		LR		
	comp=Z,540nm,17.0s,MS4.2							
JIRN	**Jiri**	**27.93**	**338**	*e*P		**P**	**10 49 51.8**	**+1.2**
	comp=Z,23nm,0.6s,mb5.0							
PKI	**Pulchoki**	**28.16**	**336**	*e*P		**P**	**10 49 56.7**	**+4.1**
	comp=Z,23nm,0.7s,mb4.9							
PKI	**Pulchoki**	**28.16**	**336**	*e*P		**P**	**10 49 56.7**	**+4.1**
PKI				pmax		pmax		
	comp=Z,23nm,0.7s,mb4.9							
GUN	**Gumba**	**28.27**	**337**	*e*P		**P**	**10 49 54.6**	**+0.9**
	comp=Z,32nm,0.5s,mb5.2							
DMN	**Daman**	**28.31**	**336**	*e*P		**P**	**10 49 58.9**	**+4.9**
LSA	**Lhasa**	**28.38**	**348**	P		**P**	**10 49 55.8**	**+1.2**
LSA	**Lhasa**	**28.38**	**348**	*e*P		**P**	**10 49 54.9**	**+0.3**
LSA				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.6							
LSA	**Lhasa**	**28.38**	**348**	*e*P		**P**	**10 49 54.9**	**+0.3**
	comp=Z,10nm,0.6s,mb4.6							
KKN	**Kakani**	**28.40**	**336**	*e*P		**P**	**10 49 57.6**	**+2.8**
CD2	**Chengdu**	**29.43**	**11**	⇓*i*P		**P**	**10 50 02.6**	**-1.4**
CD2				AP		pP	10 50 07.0	-1.9
CD2				XP		sP	10 50 09.6	-1.3
CD2				PP		PP	10 50 58.8	-12
CD2				S		**S**	**10 54 56.1**	**-1.2**
CD2				XS		sS	10 55 03.3	-2.2
CD2				SS		SS	10 56 29.5	-33
CD2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
CD2				AMB		AMB		
	comp=Z,40nm,5.2s							
CD2				LR		LR		
	comp=N,230nm,18.0s							
CD2				LR		LR		
	comp=Z,290nm,16.8s,MS4.0							
ENH	**Enshi**	**30.36**	**20**	*e*P		**P**	**10 50 11.9**	**-0.2**
MBWA	**Marble Bar**	**31.41**	**138**	*e*P		**P**	**10 50 22.2**	**+0.8**
	comp=Z,6.3nm,0.7s,mb4.5							
XAN	**Xi'an**	**33.66**	**17**	P		**P**	**10 50 39.1**	**-2.0**
XAN				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**33.88**	**127**	*e*P		**P**	**10 50 41.3**	**-1.7**
	comp=Z,18nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**33.88**	**127**	P		**P**	**10 50 41.5**	**-1.5**
	comp=Z,10.0nm,0.7s,mb4.9,baz=299,slow=7.8,SNR=34							
FITZ				LR		LR	11 04 29.1	
	comp=Z,99nm,19.6s,MS3.5,baz=294,slow=36							
LZH	**Lanzhou**	**34.51**	**9**	*e*P		**P**	**10 50 52.1**	**+3.6**
LZH				AP		pP	10 50 56.5	+3.0
LZH				XP		sP	10 50 59.3	+3.8
LZH				*e*S		**S**	**10 56 21.3**	**+4.9**
LZH				XS		sS	10 56 28.4	+3.7
LZH				AMB		AMB		
	comp=Z,20nm,1.3s,mb4.9							
LZH				AMB		AMB		
	comp=Z,100nm,5.6s							
LZH				LR		LR		
	comp=E,910nm,13.6s							
LZH				LR		LR		
	comp=Z,1μm,17.8s,MS4.7							
NJ2	**Nanjing**	**36.00**	**31**	*e*P		**P**	**10 51 03.0**	**+1.6**
NJ2				AP		pP	10 51 07.4	+1.0
NJ2				XP		sP	10 51 11.6	+3.2
NJ2				PP		PP	10 52 23.8	+0.6
NJ2				PPP			10 52 44.6	
NJ2				S		**S**	**10 56 40.0**	**+0.6**
NJ2				XS		sS	10 56 49.0	+1.3
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,40nm,6.0s							
NJ2				LR		LR		
	comp=N,510nm,16.4s,MS4.5							
NJ2				LR		LR		
	comp=E,260nm,13.9s,MS4.5							
NJ2				LR		LR		
	comp=Z,290nm,17.1s,MS4.1							
SSE	**Sheshan**	**36.55**	**35**	P		**P**	**10 51 06.0**	**0.0**
SSE				XP		sP	10 51 14.8	+1.8
SSE				PCP		PcP	10 53 26.9	-2.4
SSE				S		**S**	**10 56 50.5**	**+2.8**
SSE				XS		sS	10 57 01.0	+5.0
SSE				AMB		AMB		
	comp=Z,40nm,0.6s,mb5.4							
SSE				AMB		AMB		
	comp=Z,50nm,3.9s							
SSE				LR		LR		
	comp=N,180nm,15.0s,MS4.0							
SSE				LR		LR		
	comp=E,100nm,15.0s,MS4.0							
SSE				LR		LR		
	comp=Z,280nm,15.4s,MS4.2							
KAKA	**Kakadu**	**37.35**	**114**	*e*P		**P**	**10 51 11.5**	**-1.4**
	comp=Z,18nm,0.6s,mb5.1							
GTA	**Gaotai**	**37.41**	**3**	P		**P**	**10 51 13.6**	**+0.3**
GTA				AP		pP	10 51 17.5	-0.9
GTA				XP		sP	10 51 21.5	+1.1
GTA				S		**S**	**10 57 02.8**	**+1.9**
GTA				XS		sS	10 57 09.9	+0.8
GTA				SCP		ScP	10 57 15.8	-2.7
GTA				PCS		PcS	10 57 18.9	-1.5
GTA				SCS		ScS	11 01 27.4	+0.9
GTA				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.7							
GTA				AMB		AMB		
	comp=Z,40nm,5.3s							
GTA				LR		LR		
	comp=N,160nm,22.8s,MS4.1							
GTA				LR		LR		
	comp=E,340nm,22.1s,MS4.1							
GTA				LR		LR		
	comp=Z,150nm,22.8s,MS3.7							
MUN	**Mundaring 37.94**	**154**	*e*P		**P**		**10 51 21.5**	**+3.6**
KLBR	**Kellerberrin 38.32**	**152**	*e*P		**P**		**10 51 24.0**	**+3.0**
	comp=Z,19nm,0.9s,mb4.8							
JOW	**Kunigami 38.38**	**47**	P		**P**		**10 51 20.1**	**-1.4**
	comp=Z,17nm,0.8s,mb4.8,baz=219,slow=6.5,SNR=5.8							
JOW				LR		LR	11 06 39.9	
	comp=Z,118nm,21.8s,MS3.7,baz=257,slow=36							
NWAO	**Narrogin (SRO) 39.20**	**154**	P		**P**		**10 51 30.8**	**+2.3**
	comp=Z,21nm,0.8s,mb4.9,baz=338,slow=8.4,SNR=19							
NWAO				LR		LR	11 07 26.6	
	comp=Z,152nm,20.6s,MS3.8,baz=339,slow=36							
NWAO	**Narrogin (SRO) 39.20**	**154**	*e*P		**P**		**10 51 28.9**	**+0.5**
NWAO				pmax		pmax		
	comp=Z,17nm,0.9s							
NWAO	**Narrogin (SRO) 39.20**	**154**	*e*P		**P**		**10 51 28.9**	**+0.4**
	comp=Z,17nm,0.9s,mb4.8							
BJT	**Baijiatuau 41.49**	**21**	*e*P		**P**		**10 51 46.9**	**-0.5**
BJT				pmax		pmax		
	comp=Z,12nm,0.5s							
BJT	**Baijiatuau 41.49**	**21**	*e*P		**P**		**10 51 46.9**	**-0.5**
	comp=Z,12nm,0.5s,mb4.8							
WRA	**Warramunga Arr 41.92**	**123**	P		**P**		**10 51 50.1**	**-0.9**
	comp=Z,50nm,0.6s,mb5.3,baz=301,slow=9.2,SNR=269							
WRA				PcP		PcP	10 53 46.8	+0.5
	comp=Z,7.3nm,0.8s,baz=309,slow=2.7,SNR=6.1							
WRAB	**Tennant Creek 41.93**	**123**	*c i*P		**P**		**10 51 50.1**	**-0.9**
WB2	**Warramunga Arr 41.93**	**123**	*e*P		**P**		**10 51 49.9**	**-1.1**
WMQ	**Urumqi 42.72**	**349**	P		**P**		**10 51 57.8**	**+0.4**
WMQ				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,90nm,4.0s							
WMQ				LR		LR		
	comp=N,60nm,23.0s,MS4.0							
WMQ				LR		LR		
	comp=E,220nm,27.0s,MS4.0							
WMQ				LR		LR		
	comp=Z,80nm,27.0s,MS3.5							
JAY	**Jayapura 43.16**	**96**	P		**P**		**10 52 01.0**	**0.0**
	comp=Z,120nm,0.7s,mb5.7							
ASPA	**Alice Springs 43.36**	**128**	*e*P		**P**		**10 52 02.2**	**-0.4**
AS31	**Alice Springs 43.36**	**128**	*e*P		**P**		**10 52 02.2**	**-0.4**
ASAR	**Alice Springs 43.36**	**128**	P		**P**		**10 52 01.4**	**-1.2**
	comp=Z,10nm,0.7s,mb4.7,baz=298,slow=7.5,SNR=104							
ASAR				PcP		PcP	10 53 52.2	+1.1
	comp=Z,5.6nm,0.8s,baz=310,slow=2.9,SNR=12							
ASAR				S		**S**	**10 58 22.9**	**-6.9**
	comp=Z,2.1nm,0.9s,baz=292,slow=15,SNR=6.1							
FORT	**Forrest 43.44**	**141**	*e*P		**P**		**10 52 04.5**	**+1.3**
	comp=Z,27nm,0.4s,mb5.3							
KS15	**Wonju Array Si 44.95**	**34**	*e*P		**P**		**10 52 14.2**	**-1.2**
AAK	**Ala-Archa 45.61**	**336**	⇑*e*P		**P**		**10 52 22.0**	**+1.4**
AAK				pmax		pmax		
	comp=Z,13nm,2.5s,mb4.4							
FRU	**Bishkek 45.73**	**336**	*e*P		**P**		**10 52 25.0**	**+3.5**
SONM	**Songino Array 46.39**	**8**	P		**P**		**10 52 26.1**	**-0.6**
	comp=Z,10nm,0.7s,mb4.9,baz=192,slow=9.3,SNR=20							
SONM				PcP		PcP	10 54 01.6	+0.1
	comp=Z,3.7nm,0.7s,baz=188,slow=4.1,SNR=3.5							
SONM				LR		LR	11 14 07.9	
	comp=Z,288nm,18.1s,MS4.3,baz=26,slow=39							
SONM	**Songino Array 46.39**	**8**	P		**P**		**10 52 26.1**	**-0.6**
SONM							10 54 01.6	
ULN	**Ulaanbaatar 46.51**	**9**	*e*P		**P**		**10 52 27.5**	**-0.2**
ULN				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7							
ULN	**Ulaanbaatar 46.51**	**9**	*e*P		**P**		**10 52 27.5**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8							
MKAR	**Makanchi Array 46.73**	**345**	P		**P**		**10 52 28.9**	**-0.5**
	comp=Z,28nm,0.7s,mb5.3,baz=158,slow=7.5,SNR=231							
MKAR	**Makanchi Array 46.73**	**345**	*i* P		**P**		**10 52 29.5**	**+0.1**
MKAR				pmax		pmax		
	comp=Z,28nm,0.7s							
KK31	**Karatay Array 47.71**	**333**	*i* P		**P**		**10 52 37.2**	**+0.2**
KK31				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.5							
KKAR	**Karatay Array 47.71**	**333**	*i* P		**P**		**10 52 37.2**	**+0.2**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.2							
GUMO	**Guam 48.01**	**73**	LR		LR		11 10 53.5	
	comp=Z,60nm,21.2s,MS3.5,baz=241,slow=34							
CN2	**Changchun 48.45**	**27**	*e*P		**P**		**10 52 46.0**	**+3.2**
CN2			*e*XP		sP		10 52 53.0	+3.1
CN2			*e*S		**S**		**10 59 46.3**	**+3.3**
CN2			AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.9							
CN2			LR		LR			
	comp=N,200nm,15.0s,MS4.4							
CN2			LR		LR			
	comp=E,200nm,15.0s,MS4.4							
CN2			LR		LR			
	comp=Z,200nm,16.0s,MS4.2							
ZAK	**Zakamensk 48.56**	**5**	*e*P		**P**		**10 52 42.4**	**-1.2**
ZAK				pmax		pmax		
	comp=Z,15nm,1.8s,mb4.7							
CBIJ	**Chichi jima 49.38**	**55**	P		**P**		**10 52 48.5**	**-1.5**
	comp=Z,31nm,0.6s,mb5.5,baz=209,slow=19,SNR=3.8							
TLY	**Talaya 49.88**	**5**	*e*P		**P**		**10 52 53.3**	**-0.4**
TLY			*e*S		**S**		**10 59 55.9**	**-7.1**
TLY			pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
TLY			MLR		MLR			
	comp=Z,258nm,18.0s,MS4.3							
PMG	**Port Moresby 50.47**	**104**	P		**P**		**10 52 56.2**	**-2.0**
	comp=Z,20nm,0.7s,mb5.2,baz=357,slow=4.5,SNR=4.9							
MJAR	**Matsushiro Arr 50.82**	**42**	P		**P**		**10 52 59.0**	**-1.8**
	comp=Z,2.9nm,0.8s,mb4.2,baz=215,slow=6.1,SNR=6.7							
MJAR				LR		LR	11 13 44.7	
	comp=Z,86nm,21.4s,MS3.7,baz=245,slow=35							
MDJ	**Mudanjiang 51.01**	**29**	P		**P**		**10 53 03.8**	**+1.5**
MDJ			AP		pP		10 53 06.9	-0.5
MDJ			XP		sP		10 53 08.3	-1.1
MDJ			PCP		PcP		10 54 19.3	+1.1
MDJ			PP		PP		10 55 00.6	+1.8
MDJ			SCP		ScP		10 58 14.3	+0.5
MDJ			S		**S**		**11 00 22.3**	**+3.6**
MDJ			XS		sS		11 00 27.9	+0.7
MDJ			AMB		AMB			
	comp=Z,90nm,8.7s							
MDJ			LR		LR			
	comp=N,120nm,16.1s,MS4.2							
MDJ			LR		LR			
	comp=E,140nm,15.1s,MS4.2							
MDJ			LR		LR			
	comp=Z,190nm,17.2s,MS4.2							
CIT	**Chita 51.70**	**12**	*e*P		**P**		**10 53 07.4**	**0.0**
CTA	**Charters Tower 52.31**	**117**	*e*P		**P**		**10 53 11.9**	**0.0**
	comp=Z,15nm,0.8s,mb5.0							
CTA	**Charters Tower 52.31**	**117**	*e*P		**P**		**10 53 11.9**	**0.0**
CTA				pmax		pmax		
	comp=Z,15nm,0.8s							
CTAO	**Charters Tower 52.31**	**117**	*e*P		**P**		**10 53 12.7**	**+0.8**
ZAL	**Zalesovo 52.98**	**350**	P		**P**		**10 53 16.5**	**-0.4**
	comp=Z,19nm,0.5s,mb5.3,baz=317,slow=5.1,SNR=46							
STKA	**Stephens Creek 53.40**	**133**	*e*P		**P**		**10 53 18.0**	**-2.0**
	comp=Z,8.6nm,0.6s,mb4.9							
STKA	**Stephens Creek 53.40**	**133**	P		**P**		**10 53 18.1**	**-1.9**
	comp=Z,9.7nm,0.7s,mb4.9,baz=306,slow=7.6,SNR=45							
STKA				LR		LR	11 18 19.3	
	comp=Z,141nm,19.2s,MS4.0,baz=19,slow=38							
STKA	**Stephens Creek 53.40**	**133**	*e*P		**P**		**10 53 18.7**	**-1.3**
KRAR	**Krasnoyarsk 54.12**	**357**	⇓*e*P		**P**		**10 53 24.9**	**-0.4**
KRAR				pmax		pmax		
	comp=Z,41nm,1.3s,mb5.2							
NVS	**Novosibirsk 54.12**	**350**	⇑*i*P		**P**		**

KLR	**Kul'dur**	**55.41**	**26**	*e*P		**P**	**10 53 30.0**	**-4.6**
BVA0	**Borovoye Array**	**55.80**	**340**	*i* P		**P**	**10 53 36.4**	**-1.1**
BVA0				pmax		pmax		
comp=Z,3.0nm,0.9s,mb4.3								
ZRNK	**Zerenda**	**56.22**	**340**	*e*P		**P**	**10 53 39.8**	**-0.6**
ZRNK				pmax		pmax		
comp=Z,15nm,0.9s,mb5.0								
ZRNK	**Zerenda**	**56.22**	**340**	*e*P		**P**	**10 53 39.8**	**-0.6**
comp=Z,15nm,0.9s,mb5.0								
CHKZ	**Chkalovo**	**56.27**	**341**	*e*P		**P**	**10 53 40.4**	**-0.4**
CHKZ				pmax		pmax		
comp=Z,23nm,0.8s,mb5.3								
CHKZ	**Chkalovo**	**56.27**	**341**	*e*P		**P**	**10 53 40.4**	**-0.4**
comp=Z,23nm,0.8s,mb5.2								
AB31	**Akbulak array**	**57.19**	**331**	*i* P		**P**	**10 53 46.6**	**-0.7**
AB31				pmax		pmax		
comp=Z,1.0nm,0.3s,mb4.3								
ASAJ	**Asahikawa**	**57.79**	**37**	P		**P**	**10 53 50.5**	**-1.1**
comp=Z,3.9nm,0.4s,mb4.8,baz=282,slow=15,SNR=7.5								
BHD	**Baghdad**	**58.85**	**308**	*ex*		x	11 01 50.0	
BHD				*ex*		x	11 02 14.0	
AKTK	**Aktyubinsk**	**58.91**	**331**	P		**P**	**10 53 58.6**	**-0.7**
AKTO	**Aktyubinsk**	**58.91**	**331**	P		**P**	**10 53 58.6**	**-0.7**
comp=Z,1.5nm,0.3s,mb4.5,baz=116,slow=4.1,SNR=9.3								
YSS	**Yuzh-Sakhalins**	**59.48**	**34**	*e*P		**P**	**10 54 03.1**	**-0.2**
YSS				pmax		pmax		
comp=Z,51nm,1.1s,mb5.5								
YSS	**Yuzh-Sakhalins**	**59.48**	**34**	*e*P		**P**	**10 54 03.0**	**-0.3**
comp=Z,51nm,1.1s,mb5.5								
ARMA	**Armidale**	**60.48**	**127**	*e*P		**P**	**10 54 12.0**	**+1.8**
KMBO	**Kilima Mbogo**	**60.57**	**268**	P		**P**	**10 54 11.5**	**+0.7**
comp=Z,0.7nm,0.4s,mb4.2,baz=53,slow=19,SNR=4.5								
KMBO				LR		LR	11 16 13.2	
comp=Z,194nm,20.1s,MS4.2,baz=94,slow=32								
KMBO	**Kilima Mbogo**	**60.57**	**268**	*i* P		**P**	**10 54 14.6**	**+3.8**
KMBO				pmax		pmax		
comp=Z,1.0nm,0.4s								
MSL	**Mosul**	**60.91**	**311**	*ex*		x	11 01 45.5	
MSL				*ex*		x	11 02 06.5	
GNI	**Garni**	**61.20**	**316**	*de*P		**P**	**10 54 17.1**	**+2.0**
GNI				pmax		pmax		
comp=Z,9.0nm,0.8s								
GNI	**Garni**	**61.20**	**316**	*e*P		**P**	**10 54 14.7**	**-0.4**
GNI				*ep*P		pP	10 54 19.5	-0.9
ZEI	**Tsey**	**62.87**	**318**	*e*P		**P**	**10 54 24.5**	**-1.8**
ZEI				*e**PP		pP	10 54 39.7	+8.1
ZEI				pmax		pmax		
comp=Z,11nm,0.5s,mb5.2								
HNR	**Honiara**	**62.95**	**102**	*e*P		**P**	**10 54 28.5**	**+1.7**
KIV	**Kislovodsk**	**64.17**	**319**	*ce*P		**P**	**10 54 35.9**	**+1.0**
KIV				pmax		pmax		
comp=Z,9.0nm,1.0s,mb4.8								
ASF	**Jabal al Asfar**	**64.54**	**305**	LR		LR	11 24 36.3	
comp=Z,92nm,20.2s,MS4.0,baz=125,slow=38								
YAK	**Yakutsk**	**64.62**	**16**	*e*P		**P**	**10 54 36.3**	**-1.6**
YAK				*e**PP		pP	10 54 45.4	+2.3
YAK				*e*			10 56 58.5	
YAK				pmax		pmax		
comp=Z,25nm,0.8s,mb5.3								
YAK				pmax		pmax		
comp=N,9.0nm,1.2s								
YAK				pmax		pmax		
comp=E,4.0nm,1.0s								
YAK	**Yakutsk**	**64.62**	**16**	*e*P		**P**	**10 54 36.4**	**-1.4**
comp=E,66nm,0.8s,mb5.7								
MALT	**Malatya**	**65.10**	**312**	*e*P		**P**	**10 54 40.4**	**-0.6**
MALT				pmax		pmax		
comp=Z,4.0nm,0.8s,mb4.5								
MALT	**Malatya**	**65.10**	**312**	*e*P		**P**	**10 54 40.4**	**-0.5**
comp=Z,4.0nm,0.8s,mb4.5								
BR131	**Keskin Array S**	**69.08**	**312**	*e*P		**P**	**10 55 07.0**	**+0.7**
comp=Z,3.2nm,0.7s,mb4.4								
BRTR	**Keskin Array B**	**69.08**	**312**	P		**P**	**10 55 06.1**	**-0.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=127,slow=7.9,SNR=6.3								
VRSR	**Storozhevoye**	**69.32**	**325**	*e*P		**P**	**10 55 07.1**	**-0.7**
VRSR				pmax		pmax		
comp=Z,20nm,0.9s,mb5.0								
VRSR				pmax		pmax		
comp=N,10.0nm,0.7s								
VRSR				pmax		pmax		
comp=E,20nm,0.8s								
MA2	**Magadan**	**70.49**	**26**	*ce*P		**P**	**10 55 13.1**	**-1.8**
MA2				pmax		pmax		
comp=Z,40nm,1.3s,mb5.2								
MA2	**Magadan**	**70.49**	**26**	*e*P		**P**	**10 55 14.2**	**-0.7**
LSZ	**Lusaka**	**70.84**	**253**	LR		LR	11 21 42.9	
comp=Z,186nm,18.8s,MS4.4,baz=334,slow=32								
DZM	**Mont Dzumac**	**71.04**	**114**	P		**P**	**10 55 19.5**	**+1.1**
comp=Z,9.3nm,0.8s,mb4.8,baz=282,slow=16,SNR=3.9								
PET	**Petropavlovsk**	**71.36**	**34**	*i* P		**P**	**10 55 19.5**	**-0.8**
PET				pmax		pmax		
comp=Z,35nm,0.5s,mb5.5								
PET	**Petropavlovsk**	**71.36**	**34**	*e*P		**P**	**10 55 19.3**	**-0.9**
comp=Z,20nm,0.4s,mb5.4								
PET				*ep*P		pP	10 55 24.1	-1.5
OBN	**Obninsk**	**72.34**	**328⇓**	*e*P		**P**	**10 55 25.7**	**-0.4**
OBN				*e**PP		pP	10 55 41.5	+10
OBN				pmax		pmax		
comp=Z,8.0nm,0.6s,mb4.8								
OBN				MLR		MLR		
comp=Z,100nm,16.0s,MS4.2								
KLMR	**Klimovskoe**	**73.39**	**334**	*e*P		**P**	**10 55 30.6**	**-1.7**
KLMR				pmax		pmax		
comp=Z,20nm,1.5s,mb4.8								
MAW	**Mawson**	**73.49**	**193**	LR		LR	11 21 31.8	
comp=Z,111nm,19.2s,MS4.2,baz=58,slow=30								
TIRR	**Tirgusor**	**74.03**	**316**	*e*P		**P**	**10 55 35.6**	**-0.5**
TIRR				*e**PP		pP	10 55 40.6	-0.8
LBTB	**Lobatse**	**74.68**	**244**	*e*P		**P**	**10 55 41.1**	**+1.2**
LBTB				pmax		pmax		
comp=Z,6.0nm,1.3s,mb4.4								
LBTB	**Lobatse**	**74.68**	**244**	*e*P		**P**	**10 55 41.1**	**+1.2**
comp=Z,6.2nm,1.3s,mb4.4								
APE	**Apeiranthos**	**74.72**	**308⇑**	*i* P		**P**	**10 55 40.7**	**+0.6**
AKASG	**Malin Array Be**	**75.07**	**322**	P		**P**	**10 55 41.4**	**-0.8**
comp=Z,3.4nm,0.7s,mb4.4,baz=91,slow=5.1,SNR=19								
BOSA	**Boshof**	**75.60**	**240**	P		**P**	**10 55 47.4**	**+2.2**
comp=Z,2.7nm,0.9s,mb4.2,baz=127,slow=5.7,SNR=6.9								
BOSA				LR		LR	11 23 43.9	
comp=Z,122nm,20.1s,MS4.2,baz=259,slow=31								
BOSA	**Boshof**	**75.60**	**240**	*e*P		**P**	**10 55 46.3**	**+1.1**
MLR	**Muntele Rosu**	**75.96**	**316**	*ij*P		**P**	**10 55 48.7**	**+1.4**
APA	**Apatity**	**78.70**	**339**	*e*P		**P**	**10 56 00.0**	**-2.6**
SUW	**Suwalki**	**79.45**	**325**	*e*P		**P**	**10 56 06.9**	**+0.2**
FINES	**FINESS Array B**	**79.66**	**332**	P		**P**	**10 56 07.3**	**-0.6**
comp=Z,2.4nm,0.5s,mb4.4,baz=108,slow=6.4,SNR=25								
TIP	**Timpagrande**	**81.84**	**309**	*e*P		**P**	**10 56 19.4**	**-0.1**
ARCES	**ARCESS Array B**	**82.09**	**340**	P		**P**	**10 56 20.3**	**-0.5**
comp=Z,1.7nm,0.4s,mb4.3,baz=102,slow=4.6,SNR=37								
ARCES				LR		LR	11 38 02.5	
comp=Z,81nm,21.1s,MS4.1,baz=290,slow=39								
ARE0	**ARCESS Array S**	**82.09**	**340**	*e*P		**P**	**10 56 20.2**	**-0.7**
MORC	**Moravsky Berou**	**82.25**	**320**	*e*P		**P**	**10 56 22.0**	**+0.3**
MORC				pmax		pmax		
comp=Z,3.0nm,0.8s,mb4.3								
MORC	**Moravsky Berou**	**82.25**	**320**	*e*P		**P**	**10 56 22.0**	**+0.3**
comp=Z,3.0nm,0.8s,mb4.3								
URZ	**Urewera**	**82.80**	**129**	P		**P**	**10 56 24.1**	**-0.4**
comp=Z,11nm,0.9s,mb4.9,baz=22,slow=19,SNR=4.6								
GROS	**Grobnik**	**83.31**	**316**	*i* P		**P**	**10 56 28.3**	**+1.2**
PERS	**Pernice**	**83.58**	**317**	*i* P		**P**	**10 56 29.4**	**+0.9**
VISS	**Visnje**	**83.72**	**316**	*e*P		**P**	**10 56 30.4**	**+1.1**
GERES	**GERESS Array B**	**84.68**	**319**	P		**P**	**10 56 34.3**	**+0.1**
comp=Z,0.5nm,0.4s,mb4.0,baz=100,slow=6.1,SNR=6.8								
KHC	**Kasperske Hory**	**84.78**	**319**	*e*P		**P**	**10 56 39.5**	**+4.9**
CLL	**Collm**	**85.26**	**321**	*es*P		sP	10 56 46.0	+1.6
GRF	**Grafenberg Arr**	**86.33**	**319**	*e*PcP		PcP	10 56 47.7	+2.8
VNDA	**Vanda**	**86.37**	**169**	P		**P**	**10 56 42.1**	**-0.4**
comp=Z,0.3nm,0.6s,mb3.7,baz=350,slow=4.0,SNR=4.2								
NB2	**NORSAR Subarra**	**86.69**	**331**	P		**P**	**10 56 43.4**	**-0.8**
comp=Z,3.6nm,0.7s,mb4.7,baz=93,slow=5.1								
NB2	**NORSAR Subarra**	**86.69**	**331**	P		**P**	**10 56 43.4**	**-0.8**
NB2				pmax		pmax		
comp=Z,4.0nm,0.7s,mb4.8								
NOA	**NORSAR Array B**	**86.69**	**331**	P		**P**	**10 56 43.0**	**-1.1**
comp=Z,3.5nm,0.7s,mb4.7,baz=93,slow=4.9,SNR=25								
LPG	**La Plagne**	**89.39**	**315**	*e*P		**P**	**10 56 54.7**	**-2.3**
comp=Z,18nm,0.9s,mb5.1								
LPG	**La Plagne**	**89.39**	**315**	*e*P		**P**	**10 56 54.7**	**-2.3**
LPG				pmax		pmax		
comp=Z,9.0nm,0.9s,mb5.1								
LPG	**La Plagne**	**89.39**	**315**	*e*P		**P**	**10 56 54.7**	**-2.3**
comp=Z,9.0nm,0.9s,mb5.1								
DLMT	**Dillon**	**125.80**	**26**	*e*PKPdf		PKPdf	11 03 02.3	+0.2
NVAR	**Mina Array Bea**	**127.91**	**36**	PKP		PKPdf	11 03 07.8	+1.8
comp=Z,1.1nm,0.8s,baz=254,slow=0.3,SNR=10								
PDAR	**Pinedale Array**	**129.20**	**26**	PKP		PKPdf	11 03 08.6	0.0
comp=Z,0.6nm,0.8s,baz=253,slow=1.5,SNR=4.9								
PV10	**Paradox Valley**	**132.93**	**29**	*e*PKPdf		PKPdf	11 03 16.5	+0.9
LRAL	**Lakeview Retre**	**144.99**	**7**	*e*PKPdf		PKPdf	11 03 36.6	-0.9
CPUP	**Villa Florida**	**145.88**	**222**	PKPbc		PKPbc	11 03 40.8	+1.1
comp=Z,2.0nm,0.6s,baz=43,slow=2.5,SNR=7.7								
CPUP	**Villa Florida**	**145.88**	**222**	*e*PKPdf		PKPdf	11 03 40.3	+1.2

NIED ***17*** *10:46:00.4290N×14550E,h32km,Mw4.0 Best double couple: M0=1.32000×10^15^ NP1:φ=30.00000°,δ=60.00000°, λ=73.00000°. NP2:φ=241.00000°,δ=34.00000°,λ=117.00000°.*
MOS ***17*** *10:46:29.8±0.9,4273N×14565E,h48km,mb4.8/5,Error ellipse: s-maj=15.6km s-min=10.1km az=86.9*
ISCJB ***17*** *10:46:30.4±0.8,4279N±005×14558E±007,h44km±6km, mb4.3/10,MS4.1/1,Error ellipse: s-maj=11.1km s-min=5.6km az=83.0*
JMA ***17*** *10:46:32.7±0.1,4290N×14548E,h44km±1km,M3.8*
JMA Felt I J1.
NEIC ***17*** *10:46:32.8,4290N×14548E,h44km,mb4.5/3, MW4.0(NIED),After JMA.*
SKHL ***17*** *10:46:33.4±0.3,4300N×14550E,h33km,mb4.8/2*
IDC ***17*** *10:46:33.7±3.3,4276N×14545E,h55km±30km,mb4.0/7, mb1 4.1/9,mb1mx3.8/22,mbtmp4.2/9,ML3.9/2,MS3.6/2, Ms1 3.6/2,ms1mx2.6/22,Error ellipse: s-maj=39.6km s-min=27.5km az=177.0*

ISC 17 10:46:32.1±0.7,4286N±005×14554E±007,h40km±6km, n43,σ0°84/53,mb4.3/10,MS4.1/1,1C-2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.53**	**16**	P	**Pn**	**10 46 43.5**	**+0.3**
NEM2				S	**Sn**	**10 46 51.2**	**+0.1**
JAK	**Akkeshi**	**0.63**	**283**	P	**Pn**	**10 46 44.7**	**0.0**
JAK				*e*S	**Sn**	**10 46 53.6**	**0.0**
JNK	**Nakash**	**0.94**	**321**	P	**Pn**	**10 46 48.7**	**-0.2**
JNK				*e*S	**Sn**	**10 46 59.8**	**-1.3**
JRA	**Rausu**	**1.12**	**344**	P	**Pn**	**10 46 51.5**	**+0.2**
JRA				*e*S	**Sn**	**10 47 05.2**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**1.20**	**11**	*ij*P	**Pn**	**10 46 52.2**	**-0.2**
YUK				AMB	AMB	10 46 53.0	
2μm,0.8s							
YUK				AMB	AMB	10 46 54.0	
320nm,0.4s							
YUK				AMB	AMB	10 46 54.0	
250nm,0.4s							
YUK				AMB	AMB	10 46 54.0	
830nm,0.4s							
YUK				*i* S	**Sn**	**10 47 06.5**	**-1.0**
YUK				A		10 47 12.0	
16μm,0.8s							
YUK				A		10 47 12.0	
12μm,0.8s							
YUK				A		10 47 12.5	
9μm,0.6s							
YUK				A		10 47 12.5	
10μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**1.20**	**11**	*ij*PN	**Pn**	**10 46 52.2**	**-0.2**
YUK				*i* S	**Sn**	**10 47 06.5**	**-1.0**
YUK				pmax	pmax		
comp=Z,830nm,0.3s							
YUK				pmax	pmax		
comp=N,320nm,0.4s							
YUK				pmax	pmax		
comp=E,250nm,0.5s							
YUK				smax			
comp=N,9μm,0.5s							
YUK				smax			
comp=E,10μm,0.6s							
JOB	**Onbets**	**1.25**	**273**	P	**Pn**	**10 46 53.1**	**0.0**
JAR	**Ashorobuto**	**1.37**	**289**	P	**Pn**	**10 46 54.8**	**+0.1**
JTKR	**Abashiri--Toko**	**1.63**	**314**	P	**Pn**	**10 46 59.0**	**+0.7**
ASAJ	**Asahikawa**	**2.48**	**301**	P	**Pn**	**10 47 11.8**	**+1.8**
comp=E,20nm,0.3s,baz=136,slow=12,SNR=124							
ASAJ				LR	LR	10 48 24.8	
comp=E,426nm,18.8s,baz=152,slow=45							
ASAJ	**Asahikawa**	**2.48**	**301**	PN	**Pn**	**10 47 11.9**	**+1.9**
ASAJ				pmax	pmax		
comp=Z,20nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,426nm,18.8s							
KUR	**Kuril'sk**	**2.91**	**34**	*i* P	**Pn**	**10 47 15.0**	**-0.9**
KUR				AMB	AMB	10 47 33.4	
comp=Z,80nm,0.5s							
KUR				AMB	AMB	10 47 33.4	
comp=Z,100nm,0.5s							
KUR				*i* S	**Sn**	**10 47 50.0**	**+0.4**
KUR				A		10 47 51.3	
comp=Z,240nm,0.5s							
KUR				A		10 47 51.3	
comp=Z,330nm,0.5s							
KUR	**Kuril'sk**	**2.91**	**34⇑**	*i*PN	**Pn**	**10 47 15.0**	**-0.9**
KUR				*i* S	**Sn**	**10 47 50.0**	**+0.4**
KUR				pmax	pmax		
comp=N,100nm,0.5s							
KUR				pmax	pmax		
comp=E,80nm,0.5s							
KUR				pmax	pmax		
comp=Z,90nm,0.5s							
KUR				smax			
comp=N,240nm,0.5s							
KUR				smax			
comp=E,330nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.55**	**335**	*e*P	**Pn**	**10 47 39.6**	**+1.2**
YSS				*e*S	**Sn**	**10 48 26.2**	**-3.8**
YSS				AMS	AMS	10 49 33.0	
comp=E,200nm,15.0s							
YSS				*e*rx	rx	10 54 19.0	
MAJO	**Matsushiro**	**8.46**	**224**	*e*PN	**Pn**	**10 48 32.5**	**+0.4**
MAJO				pmax	pmax		
comp=Z,6.0nm,0.6s							
MAJO	**Matsushiro**	**8.46**	**224**	*e*Pn	**Pn**	**10 48 32.5**	**+0.4**
comp=Z,6.2nm,0.6s							
MAT	**Matsushiro**	**8.46**	**224**	P	**Pn**	**10 48 32.1**	**0.0**
MAT				*e*S	**Sn**	**10 50 05.3**	**-1.1**
MAT	**Matsushiro**	**8.46**	**224**	*e*PN	**Pn**	**10 48 32.0**	**-0.1**
MAT				pmax	pmax		
comp=Z,5.0nm,0.7s							
MAT	**Matsushiro**	**8.46**	**224**	*e*P	**Pn**	**10 48 32.0**	**-0.1**
comp=Z,4.8nm,0.7s							
MAT				S	**Sn**	**10 50 05.0**	**-1.4**
MJAR	**Matsushiro Arr**	**8.46**	**224**	P	**Pn**	**10 48 31.6**	**-0.6**
comp=Z,0.7nm,0.3s,baz=33,slow=13,SNR=15							
KLR	**Kul'dur**	**11.50**	**308**	*e*P	**Pn**	**10 49 16.0**	**+2.3**
EKMR	**Ekimchan**	**13.23**	**325**	*e*P	**Pn**	**10 49 33.8**	**-3.5**
SONM	**Songino Array**	**27.74**	**294**	P	**P**	**10 52 17.0**	**+0.2**
comp=Z,2.5nm,0.6s,mb4.0,baz=83,slow=8.6,SNR=4.4							
SONM	**Songino Array**	**27.74**	**294**	P	**P**	**10 52 17.0**	**+0.2**
SONM	**Songino Array**	**27.74**	**294**	P	**P**	**10 52 17.0**	**+0.2**
SVW2	**Sparrevohn**	**39.01**	**41**	*e*P	**P**	**10 53 53.8**	**-0.9**
MKAR	**Makanchi Array**	**43.96**	**298**	P	**P**	**10 54 35.7**	**+0.5**
comp=Z,3.0nm,0.8s,mb4.1,baz=81,slow=7.8,SNR=3.8							
INK	**Inuvik**	**47.77**	**30**	P	**P**	**10 55 05.5**	**+0.4**
comp=Z,1.5nm,0.5s,mb4.2,baz=259,slow=5.3,SNR=5.2							
PMG	**Port Moresby**	**52.03**	**178**	LR	LR	11 15 02.5	
comp=Z,170nm,18.7s,MS4.1,baz=43,slow=33							
APA	**Apatity**	**58.70**	**335**	*e*P	**P**	**10 56 29.5**	**+3.9**
JOF	**Joensuu**	**62.33**	**332**	*ep*	**P**	**10 56 49.9**	**-0.4**
comp=Z,1.8nm,0.5s,mb4.5							
KAF	**Kangasniemi**	**64.58**	**333**	*ep*	**P**	**10 57 04.3**	**-0.9**
comp=Z,3.4nm,0.6s,mb4.5,baz=44,slow=6.2							
KAF	**Kangasniemi**	**64.58**	**333**	*e*P	**P**	**10 57 04.3**	**-0.9**
KAF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
FINES	**FINESS Array B**	**65.13**	**333**	P	**P**	**10 57 08.5**	**-0.3**
comp=Z,4.0nm,0.5s,mb4.7,baz=50,slow=7.2,SNR=9.0							
NVAR	**Mina Array Bea**	**69.05**	**57**	P	**P**	**10 57 35.0**	**+1.3**
comp=Z,0.5nm,0.7s,mb3.5,baz=273,slow=9.3,SNR=4.6							
NVAR	**Mina Array Bea**	**69.05**	**57**	P	**P**	**10 57 35.0**	**+1.3**
NB2	**NORSAR Subarra**	**70.00**	**338**	P	**P**	**10 57 38.9**	**-0.6**
comp=Z,3.2nm,0.7s,mb4.4,baz=33,slow=6.5							
NB2	**NORSAR Subarra**	**70.00**	**338**	P	**P**	**10 57 38.9**	**-0.6**
NB2				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
NOA	**NORSAR Array B**	**70.00**	**338**	P	**P**	**10 57 39.2**	**-0.3**
comp=Z,3.1nm,0.7s,mb4.3,baz=35,slow=6.1,SNR=11							
NOA	**NORSAR Array B**	**70.00**	**338**	P	**P**	**10 57 39.2**	**-0.3**
AKASG	**Malin Array Be**	**71.59**	**323**	P	**P**	**10 57 49.0**	**-0.2**
comp=Z,2.5nm,0.5s,mb4.4,baz=41,slow=5.9,SNR=11							
CLL	**Collm**	**77.55**	**332**	*i* P	**P**	**10 58 24.1**	**+0.3**
comp=Z,4.0nm,0.7s,mb4.5							
CLL				*i* PcP	PcP	10 58 34.5	+0.6
CLL	**Collm**	**77.55**	**332**	*i* P	**P**	**10 58 24.1**	**+0.3**
CLL				*i*	pP	10 58 34.5	-1.4
CLL				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							

IDC 17 10:49:26.3±1.8,906S×12360E,h0km,mb3.7/1,mb1 4.1/4, mb1mx3.8/15,mbtmp3.9/4,ML4.2/2,Error ellipse: s-maj=136.5km s-min=27.3km az=62.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.21**	**168**	*e*P	Pn	10 51 40.7	+0.4
6.7nm,0.2s							
FITZ				*e*S	Sn	10 53 13.3	-11
FITZ	**Fitzroy Crossi**	**9.21**	**168**	Pn	Pn	10 51 40.4	0.0
1.9nm,0.3s,baz=7.2,slow=11,SNR=65							
FITZ				Sn	Sn	10 53 13.2	-11
4.5nm,0.3s,baz=110,slow=19,SNR=13							
KAKA	**Kakadu**	**9.41**	**113**	*e*P	Pn	10 51 50.0	+6.8
6.0nm,0.3s							
KAKA				*e*S	Sn	10 53 26.2	-3.5
WRA	**Warramunga Arr**	**15.00**	**137**	Pn	Pn	10 52 58.2	-1.3
baz=308,slow=9.4,SNR=1.8							
WRA				Sn	Sn	10 55 34.4	-12
1.1nm,0.3s,baz=307,slow=24,SNR=7.9							
WB2	**Warramunga Arr**	**15.01**	**137**	*e*P	Pn	10 53 02.0	+2.4
WB2				*e*S	Sn	10 55 32.5	-14
ASPA	**Alice Springs**	**17.55**	**147**	*e*P	Pn	10 53 34.0	+1.6
ASPA				*e*S	Sn	10 56 30.6	-18
ASAR	**Alice Springs**	**17.56**	**147**	P	Pn	10 53 33.8	+1.4
0.6nm,0.3s,baz=322,slow=12,SNR=4.5							
ASAR				S	Sn	10 56 35.0	-13
0.3nm,0.3s,baz=322,slow=24,SNR=8.3							
MKAR	**Makanchi Array**	**66.66**	**330**	P	P	11 00 18.9	+0.1
0.6nm,0.6s,baz=131,slow=8.4,SNR=4.9							

WEL 17 11:14:46.2±0.1,4158S×17435E,h15km±1km,ML3.7/40, 1C,Error ellipse: s-maj=0.7km s-min=0.6km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.20**	**210**	⇑PG	Pg	11 14 49.9	-0.9
CMWZ				*e*SG	Sg	11 14 54.5	+0.6
TUWZ	**Tuamarina**	**0.34**	**295**	PG	Pg	11 14 53.0	-0.2
TUWZ				*e*SG	Sg	11 14 58.7	+0.9
TCW	**Tory Channel**	**0.37**	**351**	P*	Pg	11 14 53.6	-0.1
TCW				*e*SG	Sg	11 14 59.3	+0.6
SNZO	**South Karori**	**0.38**	**45**	P*	Pg	11 14 53.8	0.0
SNZO				*e*SG	Sg	11 14 60.0	+1.0
BSWZ	**Blackbirch Sta**	**0.38**	**249**	P*	Pg	11 14 53.4	-0.5
BSWZ				*e*SG	Sg	11 14 59.0	-0.1
BHW	**Baring Head**	**0.43**	**67**	P*	Pg	11 14 54.7	-0.1
BHW				SG	Sg	11 15 01.2	+0.7
WEL	**Wellington**	**0.43**	**47**	P*	Pg	11 14 54.8	0.0
WEL				*e*SG	Sg	11 15 01.2	+0.6
MRW	**Makara Radio**	**0.44**	**37**	P*	Pg	11 14 54.7	-0.2
MSWZ	**Moikau Station**	**0.69**	**77**	P*	Pb	11 14 59.6	-0.5
CAW	**Cannon Point**	**0.71**	**49**	P*	Pb	11 14 59.7	-0.7
NNZ	**Nelson**	**0.81**	**296**	P*	Pb	11 15 01.3	-0.7
KIW	**Kapiti Island**	**0.83**	**31**	P*	Pb	11 15 01.7	-0.6
KIW				SG	Sg	11 15 13.7	+0.5
PAWZ	**Paruwai Farm**	**0.83**	**77**	P*	Pb	11 15 02.0	-0.4
DUWZ	**D'Urville Isla**	**0.84**	**337**	P*	Pb	11 15 02.0	-0.4
MTW	**Mount Morrison**	**0.96**	**65**	P*	Pb	11 15 04.5	-0.2
TRWZ	**Traveller**	**1.02**	**80**	P*	Pb	11 15 05.2	-0.4
KHZ	**Kahutara**	**1.03**	**215**	P*	Pb	11 15 05.6	-0.2
THZ	**Tophouse**	**1.10**	**260**	P*	Pb	11 15 06.5	-0.5
MRZ	**Mangatainoka R**	**1.30**	**46**	P*	Pb	11 15 09.9	-0.5
TIWZ	**Tintock**	**1.41**	**56**	P*	Pb	11 15 10.8	-1.4
BFZ	**Birch Farm**	**1.69**	**59**	PN	Pn	11 15 14.0	-1.2
TSZ	**Takapari Road**	**1.95**	**39**	PN	Pn	11 15 18.1	-0.6
LTZ	**Lake Taylor**	**1.96**	**231**	PN	Pn	11 15 18.5	-0.4

ISCJB ***17*** *11:15:45.3±0.4,3178N±004×11631W±002,h20km±5km, Error ellipse: s-maj=6.3km s-min=3.2km az=23.5*
ECX ***17*** *11:15:46.2±0.6,3180N×11628W,h6km±2km,MD3.7, ML3.8*

ISC 17 11:15:45.5±0.4,3177N±003×11629W±002,h12km±3km, n31,σ1°02/47,27C-12D,Baja California

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

S09A	**Goldfield**	**5.98**	**353**	⇑P	**Pn**	**11 17 16.6 +2.8**
	baz=5.9				
T05C	**Eagle Field, D**	**6.27**	**326**	⇓P	**Pn**	**11 17 20.1 +2.4**
	baz=6.2				

*CSEM **17** 11:51:26.7±1.2,3859N×2857W,h18km±8km,ML1.8,Error ellipse: s-maj=4.8km s-min=4.0km az=47.0,After PDA*
*PDA **17** 11:51:26.7±1.2,3859N×2857W,h18km±8km,MD3.0, ML1.8,Error ellipse: s-maj=4.8km s-min=4.0km az=47.0*
SVSA 17 11:51:26.7±1.2,3859N×2857W,h18km±8km,MD3.0, ML1.8,Error ellipse: s-maj=4.8km s-min=4.0km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.07**	**218**	*i* P	Pg	11 51 29.3	-0.8
HOR				*e*S	Sg	11 51 31.4	-1.0
HOR	**Horta**	**0.07**	**218**	*e*S	Sg	11 51 31.4	-1.0
CALA	**Caldeira**	**0.10**	**268**	*i* P	Pg	11 51 30.0	-0.4
CALA				*e*S	Sg	11 51 32.7	-0.1
CALA	**Caldeira**	**0.10**	**268**	*e*S	Sg	11 51 32.7	-0.1
PICO	**Pico**	**0.14**	**126**	*i* P	Pg	11 51 30.1	-0.7
PICO				*i* S	Sg	11 51 33.0	-0.6
PICO	**Pico**	**0.14**	**126**	*i* S	Sg	11 51 33.0	-0.6
PCND	**Candelaria**	**0.14**	**143**	*e*P	Pg	11 51 30.9	+0.1
PCND				*e*S	Sg	11 51 33.1	-0.5
PCND							
	172nm,0.1s						
PTCA	**Ponta do Capel**	**0.18**	**270**	*e*P	Pg	11 51 31.8	+0.5
PTCA				*e*S	Sg	11 51 35.2	+0.8
PTCA							
	35nm,0.1s						
PTCA	**Ponta do Capel**	**0.18**	**270**	*e*P	Pg	11 51 31.8	+0.5
PTCA				*e*S	Sg	11 51 35.2	+0.8
PTEI	**Pico do Teixo**	**0.19**	**118**	*e*S	Sg	11 51 34.1	-0.6
PTEI							
	87nm,0.1s						
PBOI	**Pico dos Bois**	**0.21**	**134**	*e*S	Sg	11 51 34.4	-0.9
PBOI							
	44nm,0.1s						
ROSA	**Rosais**	**0.29**	**62**	*i* P	Pg	11 51 32.0	-1.1
ROSA				*e*S	Sg	11 51 35.9	-1.5
ROSA	**Rosais**	**0.29**	**62**	*e*S	Sg	11 51 35.9	-1.5
PAMA	**Santo Amaro**	**0.32**	**73**	*e*P	Pg	11 51 32.8	-0.8
PAMA				*e*S	Sg	11 51 36.5	-1.7
PAMA							
	26nm,0.1s						
PMAN	**Manadas**	**0.38**	**83**	*e*S	Sg	11 51 38.1	-1.9
PMAN							
	36nm,0.1s						
PID	**Ribeirinha**	**0.38**	**112**	*e*P	Pg	11 51 33.0	-1.7
PID				*e*S	Sg	11 51 38.3	-1.7
PGRA	**Graciosa**	**0.64**	**46**	*e*P	Pg	11 51 36.7	-2.6
PGRA				*e*S	Sg	11 51 44.8	-3.1
PGRA							
	28nm,0.3s						
PGRA	**Graciosa**	**0.64**	**46**	*e*P	Pg	11 51 36.7	-2.6
PGRA				*e*S	Sg	11 51 44.8	-3.1

MAN 17 12:04:50.3,1834N×12110E,h1km,mb3.0,ML4.4,MS1.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.49**	**164**	*e*P	Pg	12 05 01.0	+1.3
APYP				*e*S	Sg	12 05 08.2	+2.0
ABRA	**Dolores**	**0.78**	**209**	*e*P	Pg	12 05 05.1	-0.2
SGCP	**Mt. Cagua**	**0.90**	**96**	*e*P	Pg	12 05 08.3	+0.8
SGCP				*e*S	Sg	12 05 21.0	+1.8
CAUP	**Cauayan**	**1.55**	**154**	*e*P	Pn	12 05 19.7	+0.7
PALP	**Palanan**	**1.79**	**135**	*e*P	Pn	12 05 22.3	0.0
BALP	**Baler**	**2.62**	**170**	*e*P	Pn	12 05 34.4	+0.6

*SZGRF **17** 12:13:43.3,3331N×2632E,h10km,mb4.4,Eastern Mediterranean Sea*
*ISCJB **17** 12:13:57.1±0.5,3423N±002×2508E±002,h22km±3km, mb4.6/118,MS3.8/28,Error ellipse: s-maj=3.0km s-min=2.0km az=39.8*
*ISK **17** 12:13:58.2,3421N×2504E,h67km,MD4.3,ML4.5*
*BJI **17** 12:13:59.2,3384N×2472E,h56km,mB4.8,mb4.7,Ms4.7, Msz4.4*
*CSEM **17** 12:13:59.1,3426N×2524E,h40km,mb4.5*
*THE **17** 12:13:59.7,3431N×2515E,h10km,ML4.5*
*NEIC **17** 12:14:00.1±1.0,3428N×2508E,h28km±7km,mb4.6/102, Error ellipse: s-maj=5.0km s-min=2.3km az=182.0*
*MOS **17** 12:14:00.1±1.1,3442N×2501E,h36km,mb4.8/52,Error ellipse: s-maj=4.5km s-min=2.5km az=110.3*
*IDC **17** 12:14:00.8±1.5,3435N×2510E,h30km±9km,mb4.4/19, mb1 4.4/28,mb1mx4.4/33,mbtmp4.5/28,ML4.0/9,MS3.8/16, Ms1 3.8/16,ms1mx3.6/33,Error ellipse: s-maj=12.1km s-min=10.7km az=113.0*
*SFS **17** 12:14:00.0,3428N×2509E,h29km,ML4.7*
*NIC **17** 12:14:02.2±0.4,3426N×2524E,h31km,mb4.6,ML4.1, MW4.0,Earthquake Crete, Greece 95 km S Moirai.*
*PDG **17** 12:14:04.4±0.3,3471N×2432E,h11km±11km*
*HLW **17** 12:14:05.1,3408N×2532E,h32km,Mb4.4*
ISC 17 12:14:00.2±0.6,3426N±002×2508E±001,h29km±4km, h33km±1.6km:pP-P,n680,σ1§21/744,mb4.6/118,MS3.8/28, 43C-29D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.79**	**344**	*e*Pg	**Pn**	**12 14 14.9**	**-0.4**
SIVA				*e*Sg	**Sn**	**12 14 26.4**	**+0.3**
XRY	**Khrisi**	**0.80**	**39**	*e*P	**Pn**	**12 14 13.0**	**-2.5**
LAST	**Lasithi**	**0.96**	**20**	*e*Pg	**Pn**	**12 14 16.9**	**-0.7**
LAST				*e*Sg	**Sn**	**12 14 30.3**	**0.0**
GVD	**Gavdhos**	**1.00**	**306**	*e*Pg	**Pn**	**12 14 18.7**	**+0.5**
GVD				*e*Sg	**Sn**	**12 14 35.4**	**+4.0**
GVD	**Gavdhos**	**1.00**	**306**	*e*P	**Pn**	**12 14 18.5**	**+0.2**
GVD	**Gavdhos**	**1.00**	**306**	*e*Pn	**Pn**	**12 14 18.6**	**+0.3**
GVD				*e*Sn	**Sn**	**12 14 34.4**	**+3.0**
GVD	**Gavdhos**	**1.00**	**306**	*e*Pn	**Pn**	**12 14 18.6**	**+0.3**
GVD				*e*Sn	**Sn**	**12 14 34.4**	**+3.0**
IDI	**Anoyia**	**1.04**	**351**	Pg	**Pn**	**12 14 18.6**	**-0.2**
	332nm,0.3s,baz=170,slow=18,SNR=106						
IDI				Lg		12 14 32.7	
	1μm,0.3s,baz=340,slow=18,SNR=31						
IDI				LR	LR	12 14 34.8	
	comp=Z,4μm,20.9s,baz=342,slow=36						
NPS	**Neapolis**	**1.09**	**24**	*e*P	**Pn**	**12 14 18.5**	**-1.0**
ZKR	**Zakros**	**1.27**	**47**	*e*Pg	**Pn**	**12 14 22.2**	**+0.3**
ZKR				*e*Sg	**Sn**	**12 14 40.2**	**+2.2**
VAM	**Vamos**	**1.35**	**328**	*e*P	**Pn**	**12 14 24.0**	**+0.9**
KARN	**Karanos**	**1.49**	**320**	*e*Pg	**Pn**	**12 14 26.8**	**+1.9**
THR1	**Thera Island**	**2.13**	**8**	*e*Pn	**Pn**	**12 14 34.8**	**+1.1**
SANT	**Santorini**	**2.13**	**8**	*e*Pn	**Pn**	**12 14 34.4**	**+0.7**
SANT	**Santorini**	**2.13**	**8**	*e*Pn	**Pn**	**12 14 33.9**	**+0.1**
KARP	**Karpathos**	**2.14**	**52**	*e*P	**Pn**	**12 14 36.8**	**+2.9**
KYTH	**Kithira**	**2.62**	**321**	*e*P	**Pn**	**12 14 42.8**	**+2.3**
SLUM		**2.76**	**178**	⇓P	**Pn**	**12 14 43.8**	**+1.3**
APE	**Apeiranthos**	**2.83**	**7**	*e*Pn	**Pn**	**12 14 44.0**	**+0.6**
APE	**Apeiranthos**	**2.83**	**7**	*c i*P	**Pn**	**12 14 43.3**	**-0.1**
APE	**Apeiranthos**	**2.83**	**7**	P	**Pn**	**12 14 43.7**	**+0.3**
APE	**Apeiranthos**	**2.83**	**7**	*i* P	**Pn**	**12 14 43.3**	**-0.1**
NISR	**Nisiros**	**2.88**	**35**	*e*P	**Pb**	**12 14 52.0**	**+1.1**
VLI	**Veliai**	**3.01**	**325**	*e*P	**Pn**	**12 14 46.8**	**+0.9**
ARG	**Arkhangelos**	**3.17**	**51**	*e*P	**Pn**	**12 14 49.8**	**+1.8**
ARG	**Arkhangelos**	**3.17**	**51**	P	**Pn**	**12 14 49.9**	**+1.9**
DAT	**Datca**	**3.20**	**39**	PN	**Pn**	**12 14 48.8**	**+0.3**
DAT				SN	**Sn**	**12 15 25.6**	**0.0**
BODT	**Bodrum**	**3.34**	**32**	PN	**Pn**	**12 14 51.1**	**+0.7**
HMAT	**Matruh**	**3.58**	**151**	P	**Pn**	**12 14 54.1**	**+0.3**
KVR	**Kavouri**	**3.72**	**344**	*e*P	**Pn**	**12 14 57.0**	**+1.4**
NAIG	**Nisos Aigina**	**3.72**	**340**	*e*P	**Pn**	**12 14 57.0**	**+1.3**
SMG	**Samos**	**3.73**	**22**	*e*P	**Pn**	**12 14 57.0**	**+1.3**
MLSB	**Milas**	**3.74**	**35**	PN	**Pn**	**12 14 56.4**	**+0.5**
MLSB	**Milas**	**3.74**	**35**	Pn	**Pn**	**12 14 57.0**	**+1.1**
DALT	**Dalyan (Mudla)**	**3.83**	**48**	PN	**Pn**	**12 14 58.4**	**+1.2**
DALT	**Dalyan (Mudla)**	**3.83**	**48**	Pn	**Pn**	**12 14 58.9**	**+1.7**
ATH	**Athens Observa**	**3.87**	**344**	*e*P	**Pn**	**12 14 58.0**	**+0.3**
YER	**Yerkesik**	**3.88**	**41**	PN	**Pn**	**12 14 58.8**	**+1.0**
ITM	**Ithomi**	**3.88**	**320**	*e*P	**Pn**	**12 14 59.5**	**+1.6**
ITM	**Ithomi**	**3.88**	**320**	P	**Pn**	**12 14 58.9**	**+1.0**
PTL	**Penteli**	**3.91**	**346**	*e*P	**Pn**	**12 14 59.0**	**+0.8**
MGER	**Gerania Oros**	**4.00**	**339**	*e*P	**Pn**	**12 15 00.5**	**+1.0**
FETY	**Fethiye**	**4.04**	**53**	PN	**Pn**	**12 15 00.3**	**+0.3**
AYDN	**Tasoluk**	**4.08**	**33**	*i* P	**Pn**	**12 15 02.8**	**+2.1**
CHOS	**Chios island**	**4.20**	**11**	*e*Pn	**Pn**	**12 15 02.5**	**+0.4**
URLA	**Izmir**	**4.27**	**16**	*i* P	**Pn**	**12 15 06.4**	**+3.2**
IZM	**Izmir**	**4.49**	**22**	PN	**Pn**	**12 15 06.1**	**-0.1**
IZM	**Izmir**	**4.49**	**22**	P	**Pn**	**12 15 07.2**	**+1.0**
KDAG	**Bornova**	**4.50**	**22**	*i* P	**Pn**	**12 15 07.8**	**+1.5**
ELL	**Elmali**	**4.66**	**56**	PN	**Pn**	**12 15 09.2**	**+0.7**
ELL	**Elmali**	**4.66**	**56**	Pn	**Pn**	**12 15 09.8**	**+1.3**
DENT	**Denizli**	**4.74**	**41**	PN	**Pn**	**12 15 10.0**	**+0.4**
DENT	**Denizli**	**4.74**	**41**	Pn	**Pn**	**12 15 07.9**	**-1.7**
SWA1		**5.01**	**174**	P	**Pn**	**12 15 14.7**	**+1.3**
SWA1				S	**Sn**	**12 16 05.9**	**-4.3**
SWA2		**5.01**	**176**	⇓P	**Pn**	**12 15 14.6**	**+1.2**
PRK	**Paraskevi**	**5.07**	**11**	*e*P	**Pn**	**12 15 15.0**	**+0.8**
MANT	**Manisa**	**5.07**	**33**	*i* P	**Pn**	**12 15 15.6**	**+1.4**
AKS	**Akhisar**	**5.11**	**25**	PN	**Pn**	**12 15 14.6**	**-0.1**
AKS	**Akhisar**	**5.11**	**25**	Pn	**Pn**	**12 15 15.0**	**+0.3**
AYVA	**Ayvalik**	**5.20**	**14**	*i* P	**Pn**	**12 15 16.6**	**+0.6**
AYVA	**Ayvalik**	**5.20**	**14**	*i* P	**Pn**	**12 15 16.6**	**+0.6**
AGG	**Agios Georgios**	**5.24**	**336**	*e*Pn	**Pn**	**12 15 18.3**	**+1.8**
ANTB	**Antalya**	**5.25**	**58**	*e*PN	**Pn**	**12 15 17.5**	**+0.8**
NEO	**Neokhori**	**5.25**	**344**	*e*P	**Pn**	**12 15 21.0**	**+4.3**
XOR	**Xorichti**	**5.32**	**344**	*e*Pn	**Pn**	**12 15 19.1**	**+1.5**
EVR	**Evrytania**	**5.34**	**331**	*e*P	**Pn**	**12 15 23.0**	**+5.1**
HBRG	**Burj al 'Arab**	**5.45**	**131**	⇓P	**Pn**	**12 15 19.9**	**+0.6**
BOZC	**Bozcaada**	**5.63**	**8**	*i* P	**Pn**	**12 15 25.6**	**+3.8**
TKTP	**Tekketepe**	**5.68**	**47**	*i* P	**Pn**	**12 15 23.3**	**+0.8**
LKD	**Levkas**	**5.70**	**322**	*e*Pn	**Pn**	**12 15 24.7**	**+1.9**
PAIG	**Paliouri**	**5.77**	**349**	*e*Pn	**Pn**	**12 15 25.1**	**+1.3**
BALB	**Balikesir**	**5.82**	**22**	*e*PN	**Pn**	**12 15 24.1**	**-0.4**
BALB	**Balikesir**	**5.82**	**22**	Pn	**Pn**	**12 15 24.9**	**+0.4**
BTOK	**Tokmak**	**5.98**	**22**	*i* P	**Pn**	**12 15 28.4**	**+1.7**
GDZ	**Gediz**	**5.98**	**35**	*i* P	**Pn**	**12 15 29.0**	**+2.3**
LIT	**Litokhoron**	**6.19**	**341**	*e*Pn	**Pn**	**12 15 30.8**	**+1.2**
ALFC	**Alevga**	**6.26**	**80**	P	**Pn**	**12 15 29.4**	**-1.1**
	8.4nm,0.2s						
ALFC				S	**Sn**	**12 16 37.1**	**-3.9**
ALT	**Altintas**	**6.27**	**39**	*e*PN	**Pn**	**12 15 30.3**	**-0.3**
JAN	**Janina**	**6.36**	**329**	*e*P	**Pn**	**12 15 32.0**	**+0.1**
SZAC	**Souni-Zanaja**	**6.46**	**83**	P	**Pn**	**12 15 34.1**	**+0.8**
SZAC				S	**Sn**	**12 16 43.7**	**-2.3**
BNT	**Bandirma**	**6.49**	**20**	*e*PN	**Pn**	**12 15 33.9**	**+0.2**
RKY	**Sarkoy-Tekirda**	**6.63**	**14**	*e*PN	**Pn**	**12 15 35.2**	**-0.4**
RKY	**Sarkoy-Tekirda**	**6.63**	**14**	Pn	**Pn**	**12 15 36.2**	**+0.6**
SOH	**Sokhos**	**6.69**	**349**	*e*Pn	**Pn**	**12 15 38.8**	**+2.3**
MFT	**Murefte**	**6.75**	**14**	*e*PN	**Pn**	**12 15 37.1**	**-0.1**
MFT	**Murefte**	**6.75**	**14**	Pn	**Pn**	**12 15 38.3**	**+1.1**
AWBH		**6.76**	**150**	P	**Pn**	**12 15 37.2**	**-0.2**
MAMC	**Mammari**	**6.76**	**80**	P	**Pn**	**12 15 36.9**	**-0.6**
SQR		**6.78**	**128**	P	**Pn**	**12 15 37.6**	**-0.1**
FYM	**Al Fayyum**	**6.81**	**130**	P	**Pn**	**12 15 38.3**	**+0.2**
ERMK	**Ermenek**	**6.82**	**67**	*i* P	**Pn**	**12 15 34.4**	**-3.9**
CSS	**Prodhromos**	**6.84**	**82**	P	**Pn**	**12 15 37.3**	**-1.2**
CSS				S	**Sn**	**12 16 51.9**	**-3.5**
AYT	**Al 'Ayyat**	**6.87**	**130**	P	**Pn**	**12 15 38.8**	**-0.1**
RDO	**Rodhopi**	**6.89**	**3**	*e*P	**Pn**	**12 15 41.0**	**+1.9**
RDO	**Rodhopi**	**6.89**	**3**	P	**Pn**	**12 15 40.7**	**+1.6**
KEK	**Kerkira**	**6.89**	**324**	*e*P	**Pn**	**12 15 40.0**	**+0.8**
KEK	**Kerkira**	**6.89**	**324**	P	**Pn**	**12 15 39.4**	**+0.2**
KONT	**Konya--Tatoy**	**6.95**	**56**	*e*PN	**Pn**	**12 15 39.5**	**-0.5**
KONT	**Konya--Tatoy**	**6.95**	**56**	Pn	**Pn**	**12 15 39.4**	**-0.6**
ESKT	**Eskisehir**	**7.00**	**40**	*i* P	**Pn**	**12 15 42.0**	**+1.4**
KDHN	**Kadinhani**	**7.09**	**51**	*i* P	**Pn**	**12 15 42.0**	**+0.1**
KIZT	**Kizilcal**	**7.16**	**48**	*e*PN	**Pn**	**12 15 42.5**	**-0.3**
KIZT	**Kizilcal**	**7.16**	**48**	Pn	**Pn**	**12 15 43.1**	**+0.3**
YLV	**Yalova**	**7.16**	**27**	*e*PN	**Pn**	**12 15 42.7**	**-0.2**
YLV	**Yalova**	**7.16**	**27**	Pn	**Pn**	**12 15 43.0**	**+0.1**
KOT	**Kottamia**	**7.17**	**125**	P	**Pn**	**12 15 43.0**	**-0.1**
HSAF	**As Saff**	**7.19**	**128**	P	**Pn**	**12 15 43.1**	**-0.2**
ADVT	**Abdulvahap**	**7.19**	**30**	*e*PN	**Pn**	**12 15 43.5**	**+0.1**
IKL	**Isikli**	**7.31**	**72**	*e*PN	**Pn**	**12 15 44.5**	**-0.5**
GLL	**Jalalah**	**7.32**	**128**	P	**Pn**	**12 15 44.7**	**-0.3**
VAY	**Valandovo**	**7.33**	**345**	*i* Pn	**Pn**	**12 15 53.5**	**+8.3**
HHAG	**Hagoal**	**7.34**	**124**	P	**Pn**	**12 15 45.4**	**0.0**
BIA	**Bitola**	**7.38**	**337**	*e*Pn	**Pn**	**12 15 47.1**	**+1.3**
OHR	**Ohrid**	**7.63**	**335**	*e*Pn	**Pn**	**12 15 51.5**	**+2.1**
KLYT	**Kilyos**	**7.65**	**23**	*e*PN	**Pn**	**12 15 49.8**	**+0.1**
EDRB	**Edirne**	**7.69**	**9**	*e*PN	**Pn**	**12 15 49.5**	**-0.7**
EDRB	**Edirne**	**7.69**	**9**	Pn	**Pn**	**12 15 51.1**	**+0.9**
MEST	**Erdemli**	**7.76**	**70**	*i* P	**Pn**	**12 15 51.5**	**+0.4**
MDU	**Mudurnu**	**7.89**	**36**	*e*PN	**Pn**	**12 15 52.3**	**-0.6**
MDU	**Mudurnu**	**7.89**	**36**	Pn	**Pn**	**12 15 52.7**	**-0.2**
SUZ		**7.92**	**122**	P	**Pn**	**12 15 51.8**	**-1.5**
HENT	**Hendek**	**8.02**	**33**	*i* P	**Pn**	**12 15 56.3**	**+1.6**
ZAF		**8.06**	**126**	P	**Pn**	**12 15 54.6**	**-0.7**
MERS	**Mersin**	**8.12**	**69**	*e*PN	**Pn**	**12 15 55.1**	**-1.0**
SKO	**Skopje**	**8.22**	**341**	*e*Pn	**Pn**	**12 16 07.9**	**+11**
LCI	**Lecce**	**8.22**	**320**	Pn	**Pn**	**12 15 57.2**	**-0.2**
LCI				Sn	**Sn**	**12 17 17.6**	**-12**
ZNM		**8.23**	**124**	⇑P	**Pn**	**12 15 57.4**	**-0.2**
ZNM				S	**Sn**	**12 17 21.1**	**-8.4**
SOI	**Samo**	**8.23**	**300**	Pn	**Pn**	**12 15 57.1**	**-0.5**
SOI				Sn	**Sn**	**12 17 21.4**	**-8.1**
JMB	**Yambol**	**8.28**	**8**	P	**Pn**	**12 16 00.5**	**+2.2**
TIP	**Timpagrande**	**8.29**	**309**	*e*Pn	**Pn**	**12 15 57.6**	**-0.8**
TIP				*e*Sn	**Sn**	**12 17 18.2**	**-13**
TIP	**Timpagrande**	**8.29**	**309**	*e*Pn	**Pn**	**12 15 57.6**	**-0.8**
ANTO	**Ankara**	**8.33**	**46**	*e*P	**Pn**	**12 15 59.7**	**+0.8**
ANTO				pmax	pmax		
	comp=Z,35nm,0.8s						
ANTO	**Ankara**	**8.33**	**46**	*e*Pn	**Pn**	**12 15 59.7**	**+0.8**
	comp=Z,35nm,0.8s						
ANTO	**Ankara**	**8.33**	**46**	*e*Pn	**Pn**	**12 15 59.7**	**+0.8**
	comp=Z,35nm,0.8s						
SGKT	**Sivrigoynuk**	**8.40**	**39**	*i* P	**Pn**	**12 16 02.1**	**+2.2**
CEL	**Celeste**	**8.42**	**301**	Pn	**Pn**	**12 16 00.5**	**+0.3**
CEL				Sn	**Sn**	**12 17 27.4**	**-6.9**
VTS	**Vitosha**	**8.45**	**351**	⇑*i*P	**Pn**	**12 16 02.4**	**+1.8**
VTS	**Vitosha**	**8.45**	**351**	⇑P	**Pn**	**12 16 02.4**	**+1.8**
MTTG	**Motta San Giov**	**8.46**	**299**	Pn	**Pn**	**12 16 00.6**	**-0.1**
MTTG				Sn	**Sn**	**12 17 22.0**	**-13**
HAVL	**Avola**	**8.54**	**291**	Pn	**Pn**	**12 16 01.0**	**-0.9**
HAVL				Sn	**Sn**	**12 17 27.7**	**-10**
AGST	**Augusta-Monte**	**8.55**	**293**	Pn	**Pn**	**12 16 00.7**	**-1.2**
AGST				Sn	**Sn**	**12 17 27.1**	**-10**
SCLL	**Scilla**	**8.55**	**300**	Pn	**Pn**	**12 16 02.1**	**+0.1**
SCLL				Sn	**Sn**	**12 17 26.6**	**-11**
KAMT	**Kaman**	**8.60**	**51**	*e*PN	**Pn**	**12 16 01.1**	**-1.5**
KAMT	**Kaman**	**8.60**	**51**	Pn	**Pn**	**12 16 01.6**	**-1.0**
SSY	**Sortino**	**8.64**	**292**	Pn	**Pn**	**12 16 02.1**	**-1.1**
SSY				Sn	**Sn**	**12 17 28.9**	**-11**
HNKL	**Nakhl**	**8.70**	**117**	P	**Pn**	**12 16 02.6**	**-1.3**
MMAI	**Mount Meron Ar**	**8.70**	**95**	Pn	**Pn**	**12 16 01.4**	**-2.6**
	comp=Z,8.2nm,0.3s,baz=269,slow=12,SNR=34						
MMAI				Sn	**Sn**	**12 17 32.6**	**-8.5**
	comp=Z,8.0nm,0.3s,baz=280,slow=11,SNR=3.7						
BR131	**Keskin Array S**	**8.75**	**49**	*e*Pn	**Pn**	**12 16 05.2**	**+0.5**
BR131	**Keskin Array S**	**8.75**	**49**	*e*Pn	**Pn**	**12 16 05.2**	**+0.4**
BRTR	**Keskin Array B**	**8.75**	**49**	Pn	**Pn**	**12 16 05.0**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=228,slow=13,SNR=30						
BRTR				Sn	**Sn**	**12 17 38.5**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=208,slow=21,SNR=2.5						
BRTR	**Keskin Array B**	**8.75**	**49**	*i* P	**Pn**	**12 16 05.5**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**8.75**	**49**	Pn	**Pn**	**12 16 05.0**	**+0.2**
BRTR				Sn	**Sn**	**12 17 38.5**	**-3.9**
HMDC	**Modica**	**8.81**	**291**	Pn	**Pn**	**12 16 04.6**	**-0.9**
HMDC				Sn	**Sn**	**12 17 34.5**	**-9.2**
KSDI	**Kefar Szold**	**8.88**	**94**	P	**Pn**	**12 16 08.6**	**+2.1**
GRB	**Gharib**	**8.89**	**130**	P	**Pn**	**12 16 05.7**	**-1.0**
HVZN	**Vizzini**	**8.92**	**292**	Pn	**Pn**	**12 16 06.4**	**-0.6**
HVZN				Sn	**Sn**	**12 17 37.6**	**-8.8**
PE1	**Pezze di Greco**	**8.92**	**319**	*e*Pn	**Pn**	**12 16 05.8**	**-1.3**
ULC	**Ulcinj**	**8.96**	**331**	⇑*i*Pn	**Pn**	**12 16 06.3**	**-1.2**
ULC				*e*Sn	**Sn**	**12 17 37.2**	**-10**
ULC	**Ulcinj**	**8.96**	**331**	⇑*i*Pn	**Pn**	**12 16 06.3**	**-1.2**
ULC				*e*Sn	**Sn**	**12 17 37.2**	**-10**
RCY	**Rachaya**	**8.96**	**92**	*e*Pn	**Pn**	**12 16 05.8**	**-1.9**
HWQ	**Hawqa**	**9.00**	**87**	*e*Pn	**Pn**	**12 16 07.3**	**-0.8**
ELDT	**Eldivan**	**9.10**	**44**	*i* P	**Pn**	**12 16 09.8**	**+0.4**
CEYT	**Ceyhan**	**9.11**	**69**	*e*PN	**Pn**	**12 16 08.2**	**-1.4**
CEYT	**Ceyhan**	**9.11**	**69**	Pn	**Pn**	**12 16 07.7**	**-1.9**
MNO	**Monte Soro**	**9.17**	**297**	P	**Pn**	**12 16 11.7**	**+1.3**
MNO				pmax	pmax		
	comp=Z,297nm,0.6s						
MNO	**Monte Soro**	**9.17**	**297**	Pn	**Pn**	**12 16 11.7**	**+1.3**
	comp=Z,296nm,0.6s						
RAFF	**Raffo Rosso**	**9.20**	**292**	Pn	**Pn**	**12 16 10.7**	**-0.2**
RAFF				Sn	**Sn**	**12 17 45.6**	**-7.8**
SAFT	**Safranbolu**	**9.21**	**39**	*e*PN	**Pn**	**12 16 10.3**	**-0.7**
VAE	**Valguarnera**	**9.23**	**293**	Pn	**Pn**	**12 16 12.6**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=70,slow=1.5,SNR=11						
VAE				Sn	**Sn**	**12 17 46.8**	**-7.4**
	comp=Z,5.9nm,0.3s,baz=79,slow=5.5,SNR=3.1						
PVY	**Plav**	**9.23**	**336**	⇑*i*Pn	**Pn**	**12 16 10.9**	**-0.4**
PVY				*e*Sn	**Sn**	**12 17 44.8**	**-9.4**
HTY	**Hatay**	**9.24**	**75**	*e*PN	**Pn**	**12 16 09.9**	**-1.5**
HTY	**Hatay**	**9.24**	**75**	Pn	**Pn**	**12 16 10.1**	**-1.3**
KOZT	**Kozan**	**9.30**	**67**	*e*PN	**Pn**	**12 16 11.0**	**-1.2**
TTG	**Podgorica**	**9.35**	**332**	⇑*i*Pn	**Pn**	**12 16 12.3**	**-0.6**
TTG				*e*Sn	**Sn**	**12 17 47.8**	**-9.2**
CUC	**Castrocucco**	**9.35**	**310**	Pn	**Pn**	**12 16 13.7**	**+0.8**
SG1	**Sgolgore (BA)**	**9.36**	**317**	*e*Pn	**Pn**	**12 16 11.7**	**-1.3**
BUM	**Brajici-Budva**	**9.38**	**331**	⇑*i*Pn	**Pn**	**12 16 12.6**	**-0.8**
BUM				*e*Sn	**Sn**	**12 17 48.5**	**-9.3**
COBT	**Iskenderun**	**9.40**	**73**	*i* P	**Pn**	**12 16 13.7**	**+0.1**
BAI	**Bari**	**9.43**	**319**	*e*Pn	**Pn**	**12 16 13.5**	**-0.5**
HDK1	**Dakhla**	**9.46**	**156**	P	**Pn**	**12 16 14.4**	**-0.1**
IVA	**Berane**	**9.51**	**336**	⇑*i*Pn	**Pn**	**12 16 13.9**	**-1.2**
IVA				*e*Sn	**Sn**	**12 17 51.6**	**-9.3**
PTRP	**Pietrapertosa**	**9.51**	**314**	Pn	**Pn**	**12 16 15.6**	**+0.4**
EIL	**Elat**	**9.55**	**116**	*e*Pn	**Pn**	**12 16 14.6**	**-1.1**
EIL				*e*Sn	**Sn**	**12 17 53.3**	**-8.6**
EIL	**Elat**	**9.55**	**116**	*e*Pn	**Pn**	**12 16 14.6**	**-1.1**
EIL				*e*Sn	**Sn**	**12 17 53.3**	**-8.7**
MGR	**Morigerati**	**9.60**	**310**	Pn	**Pn**	**12 16 16.0**	**-0.3**
CORM	**Corum**	**9.64**	**49**	*e*PN	**Pn**	**12 16 15.4**	**-1.5**
HCY	**Herceg Novi**	**9.67**	**330**	⇑*i*Pn	**Pn**	**12 16 15.6**	**-1.7**
HCY				*e*Sn	**Sn**	**12 17 54.4**	**-10**
GIB	**Gibilmanna**	**9.68**	**296**	Pn	**Pn**	**12 16 18.6**	**+1.1**
SLCN	**Sala Consilina**	**9.69**	**312**	Pn	**Pn**	**12 16 18.8**	**+1.2**
CDT	**Castel del Mon**	**9.75**	**317**	*e*Pn	**Pn**	**12 16 16.6**	**-1.8**
NKY	**Niksic**	**9.78**	**333**	⇑*i*Pn	**Pn**	**12 16 17.8**	**-1.0**
NKY				*e*Sn	**Sn**	**12 17 57.9**	**-10**
BNN	**Bunyan**	**9.80**	**59**	*e*PN	**Pn**	**12 16 17.9**	**-1.2**
GTR	**Jabal at Tayr**	**9.93

AKASG Malin Array Be 16.71 9 Pn **Pn 12 17 51.3 -0.8**
comp=Z,6.9nm,0.3s,baz=200,slow=11,SNR=51
AKASG Sn **Sn 12 20 58.8 +2.1**
baz=197,slow=23,SNR=6.4
AKASG ScP ScP 12 26 11.6 -1.2
comp=Z,0.3nm,0.3s,baz=231,slow=2.4,SNR=4.9
AKASG Malin Array Be 16.71 9 P **Pn 12 17 51.3 -0.8**
AKASG 12 20 58.8
AKASG Malin Array Be 16.71 9 Pn **Pn 12 17 51.3 -0.8**
AKASG Sn **Sn 12 20 58.8 +2.1**
AKASG ScP ScP 12 26 11.6 -1.2
KIV Kislovodsk 16.72 49⇑ *eP* **Pn 12 17 51.2 -1.0**
GNI Garni 16.72 64 Pn **Pn 12 17 53.1 +0.9**
comp=Z,1.3nm,0.3s,baz=133,slow=9.6,SNR=6.5
GNI LR LR 12 25 53.8
comp=Z,876nm,20.1s,baz=214,slow=43
GNI Garni 16.72 64 P **Pn 12 17 53.1 +0.9**
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI MLR MLR
comp=Z,876nm,20.1s
GNI Garni 16.72 64 *e*Pn **Pn 12 17 53.8 +1.5**
comp=Z,23nm,0.9s
GEC2 GERESS Array S 16.85 333 *e*P **Pn 12 17 56.5 +2.6**
comp=Z,25nm,0.9s
GEC2 *e*S rx 12 21 29.3
GEC2 GERESS Array S 16.85 333 *e*P **Pn 12 17 56.5 +2.6**
GEC2 pmax pmax
comp=Z,25nm,0.9s
GERES GERESS Array B 16.85 333 Pn **Pn 12 17 53.7 -0.2**
comp=Z,1.3nm,0.3s,baz=146,slow=12,SNR=53
GERES PcP PcP 12 22 40.7 +0.3
comp=Z,0.1nm,0.3s,baz=144,slow=0.8,SNR=4.0
GERES ScP ScP 12 26 11.9 -1.1
comp=Z,0.1nm,0.3s,baz=194,slow=2.2,SNR=4.9
ZEI Tsey 16.98 54 *e*P **Pn 12 18 03.2 +7.7**
DAVOX Davos 16.99 322 Pn **Pn 12 17 57.3 +1.7**
comp=Z,1.0nm,0.3s,baz=137,slow=13,SNR=14
DAVOX Sn **Sn 12 20 46.7 -17**
comp=Z,0.4nm,0.3s,baz=72,slow=16,SNR=2.6
LMR La Mourre 17.05 308 *e*P **Pn 12 17 54.9 -1.5**
FRF La Foret Royal 17.06 308 *e*P **Pn 12 17 54.6 -1.9**
comp=Z,24nm,0.9s
FRF La Foret Royal 17.06 308 *e*P **Pn 12 17 54.6 -1.9**
FRF pmax pmax
comp=Z,12nm,0.9s
FRF La Foret Royal 17.06 308 *e*P **Pn 12 17 54.6 -1.9**
comp=Z,12nm,0.9s
TUE Stuetta 17.07 320 P **Pn 12 17 59.1 +2.5**
KHC Kasperske Hory 17.13 334 *e*P **Pn 12 17 57.2 -0.2**
KHC *e*pP pP 12 18 10.5 +3.8
KHC *e*S **Sn 12 21 10.6 +3.6**
KHC *e*XS sS 12 21 30.1 +1.9
KHC AMS AMS 12 25 30.0
comp=Z,500nm,17.1s
KHC Kasperske Hory 17.13 334 *e*P **Pn 12 17 57.2 -0.2**
KHC *e*S **Sn 12 21 10.6 +3.6**
KHC Kasperske Hory 17.13 334 *e*P **Pn 12 17 57.2 -0.2**
KHC *e* 12 18 10.5
KHC *e*S **Sn 12 21 10.6 +3.6**
KHC *e* 12 21 30.1
FUR Furstenfeldbru 17.31 328 *e*P **Pn 12 18 00.8 +1.2**
comp=Z,68nm,1.0s
FUR Furstenfeldbru 17.31 328 *e*P **Pn 12 18 00.8 +1.2**
FUR pmax pmax
comp=Z,68nm,1.0s
DPC Dobruska-Polom 17.32 341 *e*P **Pn 12 18 00.1 +0.4**
DPC *e*S **Sn 12 21 12.3 +0.9**
DPC *e*XS sS 12 21 31.5 -0.4
DPC Dobruska-Polom 17.32 341 *e*P **Pn 12 18 00.1 +0.4**
DPC *e*S **Sn 12 21 12.3 +0.9**
DAVA Damuels 17.33 323 ⇓*i*P **Pn 12 18 00.7 +0.8**
SNR=8.0
DAVA ⇓*i*Sn **Sn 12 21 03.2 -8.7**
WET Wettzell 17.41 332 *e*P **Pn 12 18 02.4 +1.6**
comp=Z,44nm,1.2s
WET *e*S rx 12 21 36.4
WET Wettzell 17.41 332 *e*P **Pn 12 18 02.4 +1.6**
WET pmax pmax
comp=Z,44nm,1.2s
GOF Gofitskoye 17.50 47 *e*P **Pn 12 18 02.5 +0.6**
GOF pmax pmax
comp=Z,86nm,0.9s
PRU Pruhonice 17.52 337 *e*P **Pn 12 18 01.8 -0.5**
PRU *e*S **Sn 12 21 18.5 +2.0**
PRU AMS AMS 12 26 40.0
comp=Z,200nm,14.1s
PRU Pruhonice 17.52 337 *e*P **Pn 12 18 01.8 -0.5**
PRU *e*S **Sn 12 21 18.5 +2.0**
MBDF Montbardon 17.54 312 *e*P **Pn 12 18 01.0 -1.5**
comp=Z,19nm,0.8s
MBDF Montbardon 17.54 312 *e*P **Pn 12 18 01.0 -1.5**
MBDF pmax pmax
comp=Z,10.0nm,0.8s
MBDF Montbardon 17.54 312 *e*P **Pn 12 18 01.0 -1.5**
comp=Z,9.5nm,0.8s
UPC Upice 17.54 340 *e*P **Pn 12 18 01.8 -0.7**
BNI Bardonecchia 17.76 313 *e*P **Pn 12 18 07.1 +1.9**
BNI pmax pmax
comp=Z,8.0nm,0.9s
BNI Bardonecchia 17.76 313 *e*P **Pn 12 18 07.0 +1.8**
comp=Z,7.7nm,0.9s
BNI Bardonecchia 17.76 313 *e*P **Pn 12 18 07.1 +1.9**
comp=Z,8.0nm,0.9s
KSP Ksiaz 17.77 342 *e*P **Pn 12 18 05.8 +0.5**
KSP *e*S **Sn 12 21 26.0 +3.5**
SMRF Simiane la Rot 17.94 309 *e*P **Pn 12 18 06.1 -1.3**
comp=Z,15nm,0.8s
SMRF Simiane la Rot 17.94 309 *e*P **Pn 12 18 06.1 -1.3**
comp=Z,7.3nm,0.8s
LPG La Plagne 17.95 314 *e*P **Pn 12 18 06.6 -0.9**
LPL La Plagne 17.97 314 *e*P **Pn 12 18 06.8 -1.0**
PVCC Panska Ves 17.99 338 *e*P **Pn 12 18 08.9 +0.9**
PVCC AMS AMS 12 26 00.0
ROTZ Rotzenmuhle 18.17 332 *e*P **Pn 12 18 10.5 +0.3**
comp=Z,16nm,1.2s
ORIF Oris-en-Rattie 18.18 312 *e*P **Pn 12 18 08.7 -1.7**
ORIF *e*R
comp=Z,182nm,19.5s
MANZ Manzenberg 18.38 333 *e*P **Pn 12 18 12.7 -0.1**
comp=Z,15nm,1.1s
MANZ *e*S rx 12 21 56.1
NKC Novy Kostel 18.46 334 *e*P **Pn 12 18 12.6 -1.1**
BRG Berggiesshubel 18.48 337 *e*P **Pn 12 18 13.9 -0.1**
comp=Z,7.0nm,1.1s
BRG *e*S rx 12 21 54.8
BRG Berggiesshubel 18.48 337 *e*P **Pn 12 18 13.6 -0.5**
comp=Z,4.1nm,1.1s
BRG
comp=N,128nm,17.4s
BRG
comp=E,103nm,18.1s
BRG
comp=Z,121nm,12.4s
GRA1 Grafenberg Arr 18.50 331 *e*P **Pn 12 18 14.5 +0.3**
comp=Z,160nm,2.0s
GRF Grafenberg Arr 18.50 331 *e*P **Pn 12 18 14.5 +0.3**
comp=Z,160nm,2.0s
GRF Grafenberg Arr 18.50 331 *e*P **Pn 12 18 14.5 +0.3**
GRF pmax pmax
comp=Z,160nm,2.0s
GRF Grafenberg Arr 18.50 331 *e*P **Pn 12 18 14.5 +0.3**
GRF pmax pmax
comp=Z,160nm,2.0s
TANN Tannenbergstha 18.60 334 *e*P **Pn 12 18 15.4 -0.1**
comp=Z,17nm,1.0s
TANN *e*S rx 12 21 59.5
BBS Basel-Blauen 18.67 320 *e*P **Pn 12 18 16.3 0.0**
FELD Feldberg im Sc 18.67 322 *e*P **Pn 12 18 15.4 -0.9**
STU Stuttgart 18.70 326 *e*P **Pn 12 18 17.3 +0.6**
comp=Z,25nm,0.9s
STU Stuttgart 18.70 326 *e*P **Pn 12 18 16.6 -0.1**
STU pmax pmax
comp=Z,24nm,0.8s
STU Stuttgart 18.70 326 *e*P **Pn 12 18 16.6 0.0**
comp=Z,24nm,0.8s
STU Stuttgart 18.70 326 *e*P **Pn 12 18 16.6 -0.1**
comp=Z,24nm,0.8s
BFO Black Forest 18.81 323 *e*P **Pn 12 18 17.6 -0.4**
comp=Z,9.0nm,0.8s
BFO Black Forest 18.81 323 *e*P **Pn 12 18 17.6 -0.4**
BFO pmax pmax
comp=Z,9.0nm,0.8s
VIVF Saint-Julien-l 18.91 310 *e*P **Pn 12 18 17.5 -1.7**
comp=Z,33nm,1.1s
VIVF Saint-Julien-l 18.91 310 *e*P **Pn 12 18 17.5 -1.7**
VIVF pmax pmax
comp=Z,17nm,1.1s
VIVF Saint-Julien-l 18.91 310 *e*P **Pn 12 18 17.5 -1.7**
comp=Z,16nm,1.1s
CABF La Chapelle 18.95 316 *e*P **Pn 12 18 16.8 -2.9**
comp=Z,24nm,0.7s
CABF La Chapelle 18.95 316 *e*P **Pn 12 18 16.8 -2.9**
CABF pmax pmax
comp=Z,12nm,0.7s
CABF La Chapelle 18.95 316 *e*P **Pn 12 18 16.8 -2.9**
comp=Z,12nm,0.7s
LOMF Lomont 18.96 319 *e*P **Pn 12 18 19.1 -0.8**
MOX Moxa 19.10 333 *e*P **Pn 12 18 20.7 -0.8**
comp=Z,14nm,0.9s
MOX *e* 12 22 08.3
MOX
comp=Z,400nm,17.0s
MOX Moxa 19.10 333 *e*P **Pn 12 18 20.7 -0.8**
comp=Z,14nm,0.9s
MOX *e* 12 22 08.3
LASF Ste Croix 19.11 307 *e*P **Pn 12 18 19.4 -2.2**
comp=Z,47nm,1.1s
MOF Molkenrain 19.11 321 *e*P **Pn 12 18 21.1 -0.5**
CLL Collm 19.16 336⇑ *i*P **Pn 12 18 21.4 -0.8**
comp=Z,22nm,1.4s
CLL *i* sP sP 12 18 33.1 +0.2
CLL *i* (sPP) 12 18 47.8
CLL *i* x x 12 19 13.9
CLL *e*x x 12 19 51.0
CLL *e*S **Sn 12 21 54.0 -2.1**
CLL Collm 19.16 336⇑ *i*P **Pn 12 18 21.4 -0.8**
CLL *e*S **Sn 12 21 54.0 -2.1**
CLL pmax pmax
comp=Z,22nm,1.4s
CLL Collm 19.16 336⇑ *i*P **Pn 12 18 21.4 -0.8**
comp=Z,22nm,1.4s
CLL *i* sP sP 12 18 33.1 +0.2
CLL *e*S **Sn 12 21 54.0 -2.1**
CLL Collm 19.16 336 *e*P **Pn 12 18 21.4 -0.8**
comp=Z,22nm,1.4s
HINF Hinteralfeld 19.23 320 *e*P **Pn 12 18 21.7 -1.4**
comp=Z,22nm,0.8s
HINF Hinteralfeld 19.23 320 *e*P **Pn 12 18 21.7 -1.4**
HINF pmax pmax
comp=Z,11nm,0.8s
HINF Hinteralfeld 19.23 320 *e*P **Pn 12 18 21.7 -1.4**
comp=Z,11nm,0.8s
ECH Echery 19.33 322 *e*P **Pn 12 18 23.6 -0.6**
WLS Welschbruch 19.35 322 *e*P **Pn 12 18 21.9 -2.6**
MIB Mutribah 19.38 97 *e*P **Pn 12 18 25.0 +0.2**
MIB AMb AMB 12 18 30.1
comp=Z,42nm,0.6s
MIB Mutribah 19.38 97 *e*P **Pn 12 18 24.4 -0.4**
CDF Champ du Feu 19.39 322 *e*P **Pn 12 18 23.2 -1.8**
comp=Z,22nm,0.9s
CDF Champ du Feu 19.39 322 *e*P **Pn 12 18 23.2 -1.8**
CDF pmax pmax
comp=Z,11nm,0.9s
CDF Champ du Feu 19.39 322 *e*P **Pn 12 18 23.2 -1.8**
comp=Z,11nm,0.9s
TOD Tromm 19.47 327 *e*P **Pn 12 18 25.4 -0.6**
NAY Al-Naaiem 19.49 99 *e*P **Pn 12 18 26.1 0.0**
NAY AMb AMB 12 18 33.1
comp=Z,20nm,0.9s
NAY Al-Naaiem 19.49 99 *e*P **Pn 12 18 25.6 -0.5**
LANF Langenberg 19.50 324 *e*P **Pn 12 18 25.8 -0.6**
MAK Makhachkala 19.52 57⇑ *e*P **Pn 12 18 23.7 -2.8**
HAU Haudompre 19.62 320 *e*P **Pn 12 18 25.3 -2.4**
HAU *e*R
comp=Z,344nm,19.2s
UMR Umm Al-Rimmam 19.77 98 *e*P **Pn 12 18 29.3 -0.2**
UMR AMb AMB 12 18 33.5
comp=Z,53nm,0.6s
UMR Umm Al-Rimmam 19.77 98 *e*P **Pn 12 18 27.9 -1.6**
SUW Suwalki 19.80 357 *e*P **Pn 12 18 27.7 -2.1**
VRSR Storozhevoye 19.80 27 *e*P **Pn 12 18 28.7 -1.2**
VRSR *e*S **Sn 12 21 59.6 -12**
VRSR pmax pmax
comp=Z,10.0nm,14.4s
VRSR smax
comp=N,6.0nm,1.0s
VRSR smax
comp=E,3.0nm,0.8s
VRSR MLR MLR
comp=Z,10.0nm,14.0s
VRSR MLR MLR
comp=N,10.0nm,15.0s
VRSR MLR MLR
comp=E,10.0nm,13.0s
VRSR Storozhevoye 19.80 27 *e*P **Pn 12 18 28.7 -1.2**
comp=E,10.0nm,14.4s
RDF Al-Radifah 19.85 99 *e*P **Pn 12 18 28.2 -2.3**
MTLF Montolieu 19.94 304 *e*P **Pn 12 18 28.2 -3.4**
comp=E,14nm,0.8s
MTLF Montolieu 19.94 304 *e*P **Pn 12 18 28.2 -3.4**
MTLF pmax pmax
comp=Z,7.0nm,0.8s
MTLF Montolieu 19.94 304 *e*P **Pn 12 18 28.2 -3.4**
comp=Z,6.8nm,0.8s
THEF They Montfort 19.95 320 *e*P **Pn 12 18 30.4 -1.2**
LBL Lubilhac 19.98 310 *e*P **Pn 12 18 32.3 +0.3**
EMIR Miracle 20.01 299 P **P 12 18 30.9 +0.4**
comp=Z,38nm,1.2s
EMIR Miracle 20.01 299 P **P 12 18 30.9 +0.4**
comp=Z,38nm,1.2s
TNS Taunus Mts 20.08 328 P **P 12 18 32.1 +0.9**
PLDF La Plantade 20.08 312 *e*P **P 12 18 31.1 -0.2**
EPOB Poblet 20.21 298 P **P 12 18 33.9 +1.3**
comp=Z,37nm,1.2s
VOR Voronezh 20.23 26 P **P 12 18 31.0 -1.8**
VOR *e**SP sP 12 18 50.5 +6.0
VOR S **S 12 22 12.5 -5.7**
VOR pmax pmax
comp=Z,40nm,1.2s
VOR smax
comp=N,120nm,1.3s
VOR smax
comp=E,170nm,1.3s
VOR smax
comp=Z,90nm,1.3s
VOR Voronezh 20.23 26 P **P 12 18 31.0 -1.8**
comp=Z,40nm,1.2s
ABH Alteburg 20.25 326 *e*P **P 12 18 33.1 +0.1**
SMF Signal de Mont 20.28 314 *e*P **P 12 18 32.8 -0.6**
comp=Z,16nm,0.6s
SMF Signal de Mont 20.28 314 *e*P **P 12 18 32.8 -0.6**
SMF pmax pmax
comp=Z,8.0nm,0.6s
SMF Signal de Mont 20.28 314 *e*P **P 12 18 32.8 -0.6**
comp=Z,8.0nm,0.6s
MNK Minsk 20.33 5 *e*P **P 12 18 32.0 -2.0**
RUP Ruppelstein 20.35 325 *e*P **P 12 18 34.2 0.0**
SALF Salau 20.48 302 *e*P **P 12 18 37.4 +1.8**
CLZ Clausthal 20.53 333 *e*P **P 12 18 35.9 -0.2**
comp=Z,17nm,0.8s
CLZ Clausthal 20.53 333 *e*P **P 12 18 35.9 -0.2**
CLZ pmax pmax
comp=Z,17nm,0.8s
EBR Ebro Roquetas 20.53 296 *e*Ts 12 18 51.0
LOR Lormes 20.59 315 *e*P **P 12 18 35.9 -0.8**
comp=Z,13nm,0.6s
LOR *e*R
comp=Z,90nm,19.0s
LOR Lormes 20.59 315 *e*P **P 12 18 35.9 -0.8**
LOR pmax pmax
comp=Z,6.0nm,0.6s
LOR MLR MLR
comp=Z,90nm,19.0s,MS3.2
LOR Lormes 20.59 315 *e*P **P 12 18 35.9 -0.8**
comp=Z,6.3nm,0.6s
LOR LR LR
comp=Z,90nm,19.0s,MS3.2
MEZF Maizieres J'vi 20.61 320 *e*P **P 12 18 36.2 -0.8**
comp=Z,92nm,1.0s
MEZF Maizieres J'vi 20.61 320 *e*P **P 12 18 36.2 -0.8**
comp=Z,46nm,1.0s
CAF Calviac 20.62 308 *e*P **P 12 18 36.4 -0.7**
comp=Z,30nm,1.0s
CAF Calviac 20.62 308 *e*P **P 12 18 36.4 -0.7**
CAF pmax pmax
comp=Z,15nm,1.0s
CAF Calviac 20.62 308 *e*P **P 12 18 36.4 -0.7**
comp=Z,15nm,1.0s
AVF Avril sur Loir 20.64 314 *e*P **P 12 18 36.2 -1.1**
comp=Z,19nm,0.9s
AVF Avril sur Loir 20.64 314 *e*P **P 12 18 36.2 -1.1**
AVF pmax pmax
comp=Z,10.0nm,0.9s
AVF Avril sur Loir 20.64 314 *e*P **P 12 18 36.2 -1.1**
comp=Z,9.7nm,0.9s
ERTA Horta de San J 20.68 296 P **P 12 18 38.7 +1.1**
comp=Z,35nm,1.5s
ERTA Horta de San J 20.68 296 P **P 12 18 38.7 +1.0**
comp=Z,35nm,1.5s
SSF Saint Saulge 20.69 315 *e*P **P 12 18 37.1 -0.7**
comp=Z,12nm,0.7s
SSF Saint Saulge 20.69 315 *e*P **P 12 18 37.1 -0.7**
SSF pmax pmax
comp=Z,6.0nm,0.7s
SSF Saint Saulge 20.69 315 *e*P **P 12 18 37.1 -0.7**
comp=Z,6.2nm,0.7s
WLF Walferdange 20.77 324 P **P 12 18 39.1 +0.4**
comp=Z,11nm,0.7s
WLF E 12 18 43.3
WLF AP 12 18 45.2
WLF S 12 18 47.4
WLF XP sP 12 18 50.6 +0.2
WLF PNPN 12 18 55.8
WLF Walferdange 20.77 324 *e*P **P 12 18 38.0 -0.7**
WLF pmax pmax
comp=Z,32nm,1.0s
WLF Walferdange 20.77 324 *e*P **P 12 18 38.0 -0.7**
comp=Z,32nm,1.0s
WLF Walferdange 20.77 324 *e*P **P 12 18 39.4 +0.7**
comp=Z,16nm,0.7s
EBEN Beniarda 20.80 290 P **P 12 18 40.4 +1.3**
comp=Z,41nm,0.8s
EBEN Beniarda 20.80 290 P **P 12 18 40.4 +1.4**
comp=Z,41nm,0.8s
BGF Bois d'Agland 20.84 313 *e*P **P 12 18 38.4 -1.0**
comp=Z,77nm,0.8s
BGF Bois d'Agland 20.84 313 *e*P **P 12 18 38.4 -1.0**
BGF pmax pmax
comp=Z,39nm,0.8s
BGF Bois d'Agland 20.84 313 *e*P **P 12 18 38.4 -1.0**
comp=Z,39nm,0.8s
EGRA Graus 20.96 300 P **P 12 18 40.1 -0.6**
comp=Z,14nm,0.8s
EGRA Graus 20.96 300 P **P 12 18 40.1 -0.6**
comp=Z,14nm,0.8s
RESF Ens 21.10 301 *e*P **P 12 18 43.8 +1.6**
TCF Toulx Ste Croi 21.10 312 *e*P **P 12 18 41.4 -0.9**
comp=Z,22nm,0.8s,mb4.2
TCF Toulx Ste Croi 21.10 312 *e*P **P 12 18 41.4 -0.9**
TCF pmax pmax
comp=Z,11nm,0.8s,mb4.2
TCF Toulx Ste Croi 21.10 312 *e*P **P 12 18 41.4 -0.9**
comp=Z,11nm,0.8s,mb4.2
RJF Les Rejaudoux 21.13 308 *e*P **P 12 18 41.6 -1.0**
comp=Z,48nm,0.8s,mb4.6
RJF *e*R
comp=Z,181nm,18.2s
RJF Les Rejaudoux 21.13 308 *e*P **P 12 18 41.6 -1.0**
RJF pmax pmax
comp=Z,24nm,0.8s,mb4.6
RJF MLR MLR
comp=Z,180nm,18.3s,MS3.5
RJF Les Rejaudoux 21.13 308 *e*P **P 12 18 41.6 -1.0**
comp=Z,24nm,0.8s,mb4.6
RJF LR LR
comp=Z,180nm,18.3s,MS3.5
NRDL Niedersach Rie 21.15 334 *e*P **P 12 18 42.6 -0.2**
comp=Z,17nm,1.0s,mb4.3
EPF Esparros 21.16 302 *e*P **P 12 18 41.9 -1.0**
EMOS Mosqueruela 21.18 294 P **P 12 18 46.0 +2.9**
comp=Z,34nm,1.6s,mb4.4
EMOS Mosqueruela 21.18 294 P **P 12 18 46.0 +2.9**
comp=Z,34nm,1.6s,mb4.4
EBIE Bielsa 21.20 301 ⇓P **P 12 18 44.6 +1.3**
comp=Z,32nm,0.6s,mb4.8
EBIE Bielsa 21.20 301 ⇓P **P 12 18 44.7 +1.3**
comp=Z,32nm,0.6s,mb4.8
ESAC San Caprasio 21.42 298 P **P 12 18 46.4 +0.6**
comp=Z,16nm,0.5s,mb4.6
ESAC San Caprasio 21.42 298 P **P 12 18 46.3 +0.6**
comp=Z,16nm,0.5s,mb4.6
ECHE Chera 21.46 292 P **P 12 18 47.0 +0.9**
ECHE pmax pmax
comp=Z,28nm,0.8s,mb4.6
ECHE Chera 21.46 292 P **P 12 18 47.0 +0.9**
comp=Z,28nm,0.8s,mb4.6
MEM Membach 21.47 325 P **P 12 18 46.3 +0.1**
comp=Z,23nm,0.9s,mb4.5
MEM AP 12 18 51.8
MEM Membach 21.47 325 P **P 12 18 46.2 0.0**
BUG Bochum--Univer 21.48 328 *e*P **P 12 18 46.7 +0.4**
comp=Z,22nm,0.9s,mb4.5
BUG Bochum--Univer 21.48 328 P **P 12 18 46.5 +0.2**
LFF La Frestale 21.50 307 *e*P **P 12 18 45.5 -1.0**
comp=Z,68nm,1.1s,mb4.6
LFF La Frestale 21.50 307 *e*P **P 12 18 45.5 -1.0**
LFF pmax pmax
comp=Z,34nm,1.1s,mb4.6
LFF La Frestale 21.50 307 *e*P **P 12 18 45.5 -1.0**
comp=Z,34nm,1.1s,mb4.6
EMUR La Murta 21.55 287 P **P 12 18 47.1 0.0**
comp=Z,2.5nm,0.3s,mb4.1
EMUR La Murta 21.55 287 P **P 12 18 47.2 +0.1**
comp=Z,2.5nm,0.3s,mb4.1
HGN Heimansgroeve 21.61 326 *e*P **P 12 18 48.1 +0.4**
comp=Z,18nm,1.2s,mb4.4
HGN *e*x x 12 18 55.6
HGN *e*S S 12 22 23.1 -22
BEBN Eben Emael 21.75 325 AP pP 12 18 56.3 -0.9
ETSF Etsaut 21.76 301 *e*P **P 12 18 48.2 -1.1**
comp=Z,24nm,0.7s,mb4.4
ETSF Etsaut 21.76 301 *e*P **P 12 18 48.2 -1.1**
ETSF pmax pmax
comp=Z,12nm,0.7s,mb4.4
ETSF Etsaut 21.76 301 *e*P **P 12 18 48.2 -1.1**
comp=Z,12nm,0.7s,mb4.4
DOU Dourbes 21.82 323 P **P 12 18 49.2 -0.8**
comp=Z,9.4nm,0.9s,mb4.2
DOU AP 12 18 59.4
DOU XP sP 12 19 02.4 +0.7
ETOB Tobarra 21.83 289 P **P 12 18 50.3 +0.2**
comp=Z,8.0nm,0.9s,mb4.2
ETOB Tobarra 21.83 289 P **P 12 18 50.3 +0.2**
comp=Z,8.0nm,0.9s,mb4.2
IBBN Ibbenburen 21.91 331 *e*P **P 12 18 50.8 -0.2**
comp=Z,28nm,0.9s,mb4.7
IBBN Ibbenburen 21.91 331 P **P 12 18 50.2 -0.8**
BAIF Baives 21.99 322 *e*P **P 12 18 50.4 -1.4**
comp=Z,46nm,0.9s,mb4.6
BAIF Baives 21.99 322 *e*P **P 12 18 50.4 -1.4**
BAIF pmax pmax
comp=Z,23nm,0.9s,mb4.6
BAIF Baives 21.99 322 *e*P **P 12 18 50.4 -1.4**
comp=Z,23nm,0.9s,mb4.6
BSD Bornholm Skovb 22.02 344 *i*P **P 12 18 49.6 -2.6**
comp=Z,21nm,1.0s,mb4.5
BSD Bornholm Skovb 22.02 344 *e*P **P 12 18 49.6 -2.6**
BSD pmax pmax
comp=Z,21nm,1.0s,mb4.5
BSD Bornholm Skovb 22.02 344 *e*P **P 12 18 49.6 -2.6**
comp=Z,21nm,1.0s,mb4.5
SNF Seneffe 22.23 323 P **P 12 18 54.8 +0.3**
SNF XP sP 12 19 10.1 +3.9
SNF Seneffe 22.23 323 P **P 12 18 54.7 +0.3**
BSEG Bad Segeberg 22.26 337 *e*P **P 12 18 53.9 -0.8**
comp=Z,36nm,1.1s,mb4.7
SJPF Ste Jean 22.28 301 *e*P **P 12 18 53.3 -1.7**
comp=Z,14nm,0.8s,mb4.2
SJPF Ste Jean 22.28 301 *e*P **P 12 18 53.3 -1.7**
SJPF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
SJPF Ste Jean 22.28 301 *e*P **P 12 18 53.3 -1.7**
comp=Z,7.1nm,0.8s,mb4.2
ENIJ Nijar 22.32 285 P **P 12 18 56.8 +1.5**
ENIJ pmax pmax
comp=Z,20nm,0.5s,mb4.8
ENIJ Nijar 22.32 285 P **P 12 18 56.8 +1.5**
comp=Z,20nm,0.5s,mb4.8
OBN Obninsk 22.34 18⇑ *e*P **P 12 18 55.5 0.0**
OBN *e**PP 12 19 08.4
OBN *e*S **S 12 22 51.8 -7.9**
OBN pmax pmax
comp=Z,75nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,400nm,20.0s,MS3.8
OBN Obninsk 22.34 18 *e*P **P 12 18 55.5 0.0**

comp=Z,75nm,1.2s,mb5.0
UCC Uccle 22.38 324 P **P 12 18 56.9 +0.9**
UCC PNPN 12 19 13.2
ETOR Torete 22.44 295 P **P 12 18 57.1 +0.5**
ETOR pmax pmax
comp=Z,10.0nm,0.5s,mb4.5
ETOR Torete 22.44 295 P **P 12 18 57.1 +0.5**
comp=Z,10.0nm,0.5s,mb4.5
EALK Alkurruntz 22.51 301 P **P 12 19 00.1 +2.8**
comp=Z,7.6nm,0.9s,mb4.1
ELIZ Elizondo 22.51 301 P **P 12 18 59.8 +2.4**
ELIZ pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
ELIZ Elizondo 22.51 301 P **P 12 18 59.8 +2.4**
comp=Z,7.5nm,0.7s,mb4.2
ELIZ Elizondo 22.51 301 P **P 12 18 59.8 +2.4**
comp=Z,8.0nm,0.7s,mb4.3
EVIA Vianos 22.58 289 P **P 12 18 59.1 +1.0**
EVIA pmax pmax
comp=Z,16nm,0.6s,mb4.6
EVIA Vianos 22.58 289 P **P 12 18 59.1 +1.0**
comp=Z,16nm,0.6s,mb4.6
EVIA Vianos 22.58 289 P **P 12 18 59.1 +1.0**
comp=Z,16nm,0.6s,mb4.6
EHUE Huescar 22.62 287 P **P 12 19 00.4 +1.8**
EHUE pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
EHUE Huescar 22.62 287 P **P 12 19 00.4 +1.8**
comp=Z,2.7nm,0.4s,mb4.0
EHUE Huescar 22.62 287 P **P 12 19 00.4 +1.8**
comp=Z,3.0nm,0.4s,mb4.1
MFF Saint Martin d 22.71 310 *e*P **P 12 18 57.5 -2.0**
comp=Z,15nm,0.5s,mb4.4
MFF Saint Martin d 22.71 310 *e*P **P 12 18 57.5 -2.0**
MFF pmax pmax
comp=Z,7.0nm,0.5s,mb4.3
MFF Saint Martin d 22.71 310 *e*P **P 12 18 57.5 -2.0**
comp=Z,7.3nm,0.5s,mb4.4
EBER Berja 22.87 285 P **P 12 19 03.0 +1.8**
comp=Z,57nm,1.1s,mb4.9
EBER Berja 22.87 285 P **P 12 19 03.0 +1.8**
comp=Z,57nm,1.1s,mb4.9
EQES Quesada 23.00 287 P **P 12 19 03.0 +0.5**
comp=Z,22nm,0.9s,mb4.6
EQES Quesada 23.00 287 P **P 12 19 03.0 +0.4**
comp=Z,22nm,0.9s,mb4.6
MOS Moscow 23.17 18 *e*P **P 12 19 00.8 -3.5**
MOS *e*S **S 12 23 06.7 -7.1**
MOS pmax pmax
comp=Z,27nm,1.0s,mb4.6
MOS Moscow 23.17 18 *e*P **P 12 19 00.8 -3.5**
comp=Z,27nm,1.0s,mb4.6
LDF La Druitiere 23.57 315 *e*P **P 12 19 05.7 -2.6**
comp=Z,19nm,0.7s,mb4.3
LDF La Druitiere 23.57 315 *e*P **P 12 19 05.7 -2.6**
LDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.3
LDF La Druitiere 23.57 315 *e*P **P 12 19 05.7 -2.6**
comp=Z,9.4nm,0.7s,mb4.3
EBAN Banos Encina 23.57 288 P **P 12 19 08.9 +0.6**
EBAN pmax pmax
comp=Z,13nm,0.6s,mb4.5
EBAN Banos Encina 23.57 288 P **P 12 19 08.9 +0.5**
comp=Z,13nm,0.6s,mb4.5
EBAN Banos Encina 23.57 288 P **P 12 19 08.9 +0.6**
comp=Z,13nm,0.6s,mb4.5
LRYF La Roche-sur-Y 23.59 309 *e*P **P 12 19 08.8 +0.3**
ESDC Sonseca Array 23.77 292 P **P 12 19 09.9 -0.2**
comp=Z,11nm,0.8s,mb4.3,baz=83,slow=9.2,SNR=48
ESDC Sonseca Array 23.77 292 P **P 12 19 10.3 +0.1**
comp=Z,11nm,0.8s,mb4.3
ESDC Sonseca Array 23.77 292 P **P 12 19 10.3 +0.1**
comp=Z,11nm,0.8s,mb4.3
ESLA Sonseca Array 23.77 292 *e*P **P 12 19 10.4 +0.3**
comp=Z,7.6nm,1.1s,mb4.0
ESLA Sonseca Array 23.77 292 *e*P **P 12 19 10.4 +0.2**
comp=Z,7.6nm,1.1s,mb4.0
FLN La Foliniere 23.86 315 *e*P **P 12 19 08.6 -2.4**
comp=Z,31nm,0.7s,mb4.5
FLN *e*R
comp=Z,111nm,18.2s
FLN La Foliniere 23.86 315 *e*P **P 12 19 08.6 -2.4**
FLN pmax pmax
comp=Z,16nm,0.7s,mb4.6
FLN MLR MLR
comp=Z,110nm,18.3s,MS3.4
FLN La Foliniere 23.86 315 *e*P **P 12 19 08.6 -2.4**
comp=Z,16nm,0.7s,mb4.5
FLN LR LR
comp=Z,110nm,18.3s,MS3.4
GRR Gorron 23.91 314 *e*P **P 12 19 08.7 -2.7**
comp=Z,25nm,0.7s,mb4.5
GRR Gorron 23.91 314 *e*P **P 12 19 08.7 -2.7**
GRR pmax pmax
comp=Z,13nm,0.7s,mb4.5
GRR Gorron 23.91 314 *e*P **P 12 19 08.7 -2.7**
comp=Z,13nm,0.7s,mb4.5
GUD Guadarrama 24.00 294 P **P 12 19 13.1 +0.8**
GUD pmax pmax
comp=Z,28nm,0.7s,mb4.8
GUD Guadarrama 24.00 294 P **P 12 19 13.1 +0.8**
comp=Z,28nm,0.7s,mb4.8
GUD Guadarrama 24.00 294 P **P 12 19 13.1 +0.8**
comp=Z,28nm,0.7s,mb4.8
EADA Adamuz 24.19 288 P **P 12 19 14.9 +0.9**
comp=Z,6.1nm,0.6s,mb4.2
EADA Adamuz 24.19 288 P **P 12 19 14.9 +0.9**
comp=Z,6.1nm,0.6s,mb4.2
VSU Vasula 24.24 2⇑ *e*P **P 12 19 13.1 -1.3**
EMIJ Mijas 24.40 284 P **P 12 19 16.5 +0.6**
comp=Z,31nm,0.7s,mb4.8
EMIJ Mijas 24.40 284 P **P 12 19 16.5 +0.6**
comp=Z,31nm,0.7s,mb4.8
MUD Monsted U'grnd 24.73 339 *i* P **P 12 19 19.4 +0.5**
comp=Z,38nm,1.1s,mb4.8
MUD
comp=Z,110nm,18.0s
MDT Midelt 24.75 275 P **P 12 19 20.2 +1.1**
comp=Z,10nm,0.8s,mb4.4,baz=89,slow=12,SNR=17
MDT LR LR 12 31 39.7
comp=Z,196nm,20.0s,MS3.6,baz=291,slow=43
SGMF Saint Gilles 24.88 313 *e*P **P 12 19 17.9 -2.4**
comp=Z,62nm,0.8s,mb4.9
SGMF Saint Gilles 24.88 313 *e*P **P 12 19 17.9 -2.4**
SGMF pmax pmax
comp=Z,31nm,0.8s,mb4.9
SGMF Saint Gilles 24.88 313 *e*P **P 12 19 17.9 -2.4**
comp=Z,31nm,0.8s,mb4.9
LIJA Lijar 24.88 285 *i* P **P 12 19 20.2 -0.1**
EJIF Jimena Fronter 24.96 284 P **P 12 19 22.8 +1.8**
EJIF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
EJIF Jimena Fronter 24.96 284 P **P 12 19 22.8 +1.7**
comp=Z,6.7nm,0.5s,mb4.4
EJIF Jimena Fronter 24.96 284 P **P 12 19 22.8 +1.8**
comp=Z,6.7nm,0.5s,mb4.4
QUIF Quistinic 25.12 311 *e*P **P 12 19 21.1 -1.4**
comp=Z,75nm,0.8s,mb5.0
QUIF Quistinic 25.12 311 *e*P **P 12 19 21.1 -1.4**
QUIF pmax pmax
comp=Z,37nm,0.8s,mb5.0
QUIF Quistinic 25.12 311 *e*P **P 12 19 21.1 -1.4**
comp=Z,37nm,0.8s,mb5.0
EARI Arriondas 25.17 300 P **P 12 19 24.0 +1.1**
comp=Z,11nm,0.8s,mb4.4
EARI Arriondas 25.17 300 P **P 12 19 24.0 +1.1**
comp=Z,11nm,0.8s,mb4.4
ESPR Espera 25.25 285 P **P 12 19 22.8 -0.8**
comp=Z,17nm,0.9s,mb4.6
ESPR Espera 25.25 285 P **P 12 19 22.8 -0.8**
comp=Z,17nm,0.9s,mb4.6
ROSF Rostrenen 25.35 312 *e*P **P 12 19 22.9 -1.6**
comp=Z,16nm,0.6s,mb4.4
ROSF Rostrenen 25.35 312 *e*P **P 12 19 22.9 -1.6**
ROSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.4
ROSF Rostrenen 25.35 312 *e*P **P 12 19 22.9 -1.6**
comp=Z,8.1nm,0.6s,mb4.4
EMIN Mina Concepcio 25.86 287 P **P 12 19 31.5 +2.4**
comp=Z,16nm,0.7s,mb4.7
EMIN Mina Concepcio 25.86 287 P **P 12 19 31.5 +2.4**
comp=Z,16nm,0.7s,mb4.7
MEF Metsahovi 25.98 359 P **P 12 19 28.6 -1.6**
PBRG Braganca 26.07 296 *e*P **P 12 19 31.1 +0.1**
comp=Z,28nm,1.4s,mb4.6
ECAL Calabor 26.08 297 P **P 12 19 31.6 +0.5**
comp=Z,14nm,0.6s,mb4.7

EBAD Badajoz 26.11 289 P **P 12 19 31.8 +0.4**
comp=Z,27nm,0.5s,mb5.0
EBAD Badajoz 26.11 289 P **P 12 19 31.8 +0.4**
comp=Z,27nm,0.5s,mb5.0
PCBR Castelo Branco 26.48 292 *e*P **P 12 19 36.3 +1.5**
comp=Z,19nm,1.3s,mb4.5
PCBR Castelo Branco 26.48 292 *e*P **P 12 19 37.1 +2.3**
EGRO El Granado 26.51 287 P **P 12 19 35.0 -0.1**
comp=Z,22nm,1.0s,mb4.6
EGRO El Granado 26.51 287 P **P 12 19 35.0 0.0**
comp=Z,22nm,1.0s,mb4.6
MTE Manteigas 26.56 293 *e*P **P 12 19 37.2 +1.7**
comp=Z,19nm,1.4s,mb4.4
PBEJ Beja 26.79 288 *e*P **P 12 19 40.1 +2.5**
comp=Z,24nm,1.1s,mb4.6
PBEJ Beja 26.79 288 *e*P **P 12 19 40.9 +3.3**
PVIS Viseu 26.84 294 *e*P **P 12 19 40.2 +2.2**
comp=Z,12nm,1.0s,mb4.4
PVIS Viseu 26.84 294 *e*P **P 12 19 40.1 +2.1**
EVO Evora 26.89 289 *e*P **P 12 19 38.3 -0.2**
comp=Z,24nm,0.9s,mb4.4
EVO *e*R
comp=Z,108nm,22.0s
HFS Hagfors 26.94 347 P **P 12 19 37.8 -1.1**
comp=Z,6.3nm,0.7s,mb4.3,baz=161,slow=9.4,SNR=14
HFS S **S 12 24 13.8 -0.3**
comp=Z,3.7nm,0.9s,baz=167,slow=14,SNR=4.3
HFS LR LR 12 31 30.5
comp=Z,168nm,21.1s,MS3.6,baz=165,slow=39
HFS Hagfors 26.94 347 P **P 12 19 37.8 -1.1**
HFS S **S 12 24 13.8 -0.3**
HFA0 Hagfors New Ar 26.95 347 P **P 12 19 38.2 -0.8**
PCAB Cabril 27.01 296 *e*P **P 12 19 40.4 +0.8**
comp=Z,27nm,1.1s,mb4.7
PTOM Tomar 27.20 291 *e*P **P 12 19 41.5 +0.2**
comp=Z,21nm,1.1s,mb4.6
FINES FINESS Array B 27.21 1 P **P 12 19 39.4 -2.0**
comp=Z,7.0nm,0.8s,mb4.3,baz=160,slow=11,SNR=16
FINES PcP PcP 12 23 00.9 -0.1
comp=Z,1.3nm,0.5s,baz=149,slow=2.9,SNR=6.4
FINES LR LR 12 31 27.3
comp=Z,182nm,22.0s,MS3.6,baz=335,slow=39
FINES FINESS Array B 27.21 1 P **P 12 19 39.4 -2.0**
FINES 12 23 00.9
FINES FINESS Array B 27.21 1 P **P 12 19 39.4 -2.0**
FINES PcP PcP 12 23 00.9 -0.1
FINES LR LR 12 31 27.3
KONO Kongsberg 27.37 343⇑ *i*P **P 12 19 42.4 -0.4**
KONO Kongsberg 27.37 343 P **P 12 19 41.2 -1.6**
KONO Kongsberg 27.37 343 P **P 12 19 41.2 -1.6**
PTEO Sao Teotonio 27.49 287 *e*P **P 12 19 44.3 +0.4**
comp=Z,42nm,1.5s,mb4.7
PTEO Sao Teotonio 27.49 287 *e*P **P 12 19 44.2 +0.3**
ORR Orenburg 27.53 42 *e*P **P 12 19 44.0 -0.2**
ORR S **S 12 24 28.3 +4.9**
ORR pmax pmax
comp=Z,60nm,1.3s,mb5.1
KAF Kangasniemi 27.89 1 *e*p **P 12 19 42.6 -4.8**
comp=Z,5.6nm,0.7s,mb4.3
KAF Kangasniemi 27.89 1 *e*P **P 12 19 42.6 -4.8**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
NAO01 NORSAR Array S 28.14 345 *e*P **P 12 19 47.7 -2.0**
comp=Z,5.5nm,0.5s,mb4.4
NAO01 NORSAR Array S 28.14 345 *e*P **P 12 19 47.7 -2.0**
comp=Z,5.5nm,0.5s,mb4.4
KLMR Klimovskoe 28.20 15 *e*P **P 12 19 48.4 -1.9**
KLMR pmax pmax
comp=Z,30nm,1.4s,mb4.7
NB2 NORSAR Subarra 28.25 346 P **P 12 19 50.0 -0.7**
comp=Z,2.1nm,0.6s,mb3.9,baz=158,slow=10
NB2 NORSAR Subarra 28.25 346 P **P 12 19 50.0 -0.7**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
NOA NORSAR Array B 28.25 346 P **P 12 19 49.6 -1.0**
comp=Z,2.2nm,0.7s,mb3.9,baz=158,slow=10.0,SNR=16
NOA LR LR 12 32 14.8
comp=Z,83nm,19.0s,MS3.4,baz=175,slow=39
EKA Eskdalemuir Ar 28.74 326 P **P 12 19 54.8 -0.3**
comp=Z,5.6nm,0.8s,mb4.3,baz=129,slow=8.5,SNR=30
EKA PcP PcP 12 23 05.1 +0.4
comp=Z,1.4nm,0.8s,baz=104,slow=3.0,SNR=5.0
EKA ScP ScP 12 26 43.0 -1.0
comp=Z,0.8nm,0.8s,baz=141,slow=3.2,SNR=4.3
EKA Eskdalemuir Ar 28.74 326 P **P 12 19 54.8 -0.2**
EKA 12 23 05.1
ESK Eskdalemuir 28.75 326 P **P 12 19 56.3 +1.2**
AKTK Aktyubinsk 28.92 46 P **P 12 19 56.0 -0.6**
AKTK LR LR 12 35 20.3
AKTO Aktyubinsk 28.92 46 P **P 12 19 56.0 -0.6**
comp=Z,1.5nm,0.4s,mb4.0,baz=253,slow=9.7,SNR=7.5
AKTO LR LR 12 35 20.3
comp=Z,242nm,19.4s,MS3.8,baz=0.0,slow=44
JOF Joensuu 28.95 6 *e*p **P 12 19 53.3 -3.6**
comp=Z,1.9nm,0.4s,mb4.2
TORD Torodi Ar. Bea 29.86 231 P **P 12 20 05.8 +0.8**
comp=Z,34nm,0.6s,mb5.3,baz=32,slow=8.6,SNR=219
TORD Torodi Ar. Bea 29.86 231 P **P 12 20 05.8 +0.8**
WSAR Wadi Sarin 31.27 102 LR LR 12 34 14.1
comp=Z,86nm,21.5s,MS3.4,baz=158,slow=39
ARU Arti 31.82 36 *i*/*P* **P 12 20 21.2 -1.1**
ARU *e* 12 21 23.8
ARU *e* 12 23 12.3
ARU *e*S **S 12 25 25.2 -5.6**
ARU *e*SS SS 12 27 14.2 -34
ARU *e* 12 30 43.1
ARU pmax pmax
comp=Z,13nm,0.8s,mb4.8
ARU Arti 31.82 36 P **P 12 20 20.9 -1.4**
SOKR Solikamsk 32.76 30 *c i*P **P 12 20 30.4 -0.1**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.3
SGF Sodankyl 33.24 1 P **P 12 20 33.9 -0.7**
APA Apatity 33.70 6 *e*P **P 12 20 37.0 -1.7**
APA pmax pmax
comp=Z,14nm,0.8s,mb4.9
APA MLR MLR
comp=Z,600nm,14.0s,MS4.5
ARCES ARCESS Array B 35.33 0 P **P 12 20 51.5 -1.3**
comp=Z,2.5nm,0.5s,mb4.4,baz=177,slow=8.9,SNR=23
ARCES PcP PcP 12 23 22.2 -0.5
comp=Z,1.5nm,0.5s,baz=187,slow=3.6,SNR=5.1
ARCES LR LR 12 36 31.6
comp=Z,281nm,19.2s,MS4.0,baz=178,slow=38
ARCES ARCESS Array B 35.33 0 P **P 12 20 51.5 -1.3**
ARCES 12 23 22.2
ARE0 ARCESS Array S 35.33 0 *e*P **P 12 20 51.0 -1.8**
KEV Kevo 35.57 1 *e*p **P 12 20 50.5 -4.3**
comp=Z,2.3nm,0.6s,mb4.3
KEV Kevo 35.57 1 *e*P **P 12 20 50.5 -4.3**
KEV pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda 36.19 45 *e*P **P 12 21 00.3 +0.2**
ZRNK pmax pmax
comp=Z,17nm,1.0s,mb4.9
ZRNK Zerenda 36.19 45 *e*P **P 12 21 00.3 +0.2**
comp=Z,17nm,1.0s,mb4.9
BRVK Borovoye 36.97 45 *i*/*P* **P 12 21 07.0 +0.2**
KMBO Kilima Mbogo 37.01 159 LR LR 12 36 42.3
comp=Z,103nm,19.1s,MS3.6,baz=99,slow=37
BVAR Borovoye Array 37.02 45 P **P 12 21 06.8 -0.4**
comp=Z,2.7nm,0.8s,mb4.1,baz=256,slow=6.0,SNR=16
CHKZ Chkalovo 37.29 44 *e*P **P 12 21 09.2 -0.4**
CHKZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
CHKZ Chkalovo 37.29 44 *e*P **P 12 21 09.2 -0.4**
comp=Z,10nm,1.0s,mb4.6
CHKZ Chkalovo 37.29 44 *e*P **P 12 21 09.2 -0.4**
comp=Z,10nm,1.0s,mb4.6
DBIC Dimbokro 38.96 232 P **P 12 21 24.2 +0.6**
comp=Z,26nm,1.1s,mb4.8,baz=28,slow=11,SNR=12
DBIC Dimbokro 38.96 232 *e*P **P 12 21 24.3 +0.7**
DBIC pmax pmax
comp=Z,16nm,1.0s
DBIC Dimbokro 38.96 232 *e*P **P 12 21 24.3 +0.7**
comp=Z,16nm,1.0s,mb4.7
DBIC Dimbokro 38.96 232 *e*P **P 12 21 24.3 +0.7**
comp=Z,16nm,1.0s,mb4.7
AAK Ala-Archa 39.12 63 *e*P **P 12 21 25.2 +0.2**
FRU Bishkek 39.20 62 *e*P **P 12 21 26.5 +0.9**
FRU pmax pmax
comp=Z,45nm,2.1s,mb4.8
LIC Lamto 39.40 232 *e*P **P 12 21 27.6 +0.3**
comp=Z,49nm,1.0s,mb4.9
LIC *e*R
comp=Z,490nm,20.0s

LIC Lamto 39.40 232 *e*P **P 12 21 27.6 +0.3**
comp=Z,25nm,1.0s,mb4.9
LIC LR LR
comp=Z,240nm,20.0s,MS4.0
JMIC Jan Mayen 40.93 344 LR LR 12 40 08.5
comp=Z,75nm,19.4s,MS3.6,baz=104,slow=38
SCO Scoresbysund 44.15 339 *i* P **P 12 22 06.2 +0.1**
comp=Z,6.5nm,0.8s,mb4.4
SCO Scoresbysund 44.15 339 *e*P **P 12 22 06.2 +0.1**
SCO pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
SCO Scoresbysund 44.15 339 *e*P **P 12 22 06.2 +0.1**
comp=Z,6.5nm,0.8s,mb4.4
MKAR Makanchi Array 44.33 56 P **P 12 22 07.8 +0.3**
comp=Z,8.4nm,0.8s,mb4.5,baz=275,slow=6.0,SNR=56
MKAR Makanchi Array 44.33 56 P **P 12 22 07.8 +0.2**
NVS Novosibirsk 44.78 44 *e*P **P 12 22 10.6 -0.5**
NVS *e*PPP 12 23 56.0
NVS pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
NVS pmax pmax
comp=E,8.0nm,0.7s
KBS Kingsbay 45.11 356 *e*P **P 12 22 13.7 -0.1**
KBS Kingsbay 45.11 356 *e*P **P 12 22 13.2 -0.6**
comp=E,9.8nm,0.6s,mb4.8
KBS Kingsbay 45.11 356 *e*P **P 12 22 13.2 -0.6**
comp=E,9.8nm,0.6s,mb4.8
ZAL Zalesovo 45.67 46 P **P 12 22 17.4 -0.8**
comp=E,4.4nm,0.6s,mb4.6,baz=199,slow=7.5,SNR=16
ZAL LR LR 12 46 19.2
comp=E,105nm,18.4s,MS3.8,baz=200,slow=42
DAG Danmarks Havn 46.91 347 *i*/*P* **P 12 22 27.6 -0.4**
comp=E,4.1nm,0.7s,mb4.5
DAG Danmarks Havn 46.91 347 *e*P **P 12 22 27.6 -0.4**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
DAG Danmarks Havn 46.91 347 *e*P **P 12 22 27.6 -0.4**
comp=Z,4.1nm,0.7s,mb4.5
WMQ Urumqi 48.52 59 *e*P **P 12 22 42.0 +1.6**
WMQ LR LR
comp=N,90nm,25.0s,MS3.8
WMQ LR LR
comp=E,80nm,24.0s,MS3.8
WMQ LR LR
comp=Z,110nm,29.0s,MS3.7
SUMG Summit 49.80 339 *e*P **P 12 22 50.5 +0.3**
comp=Z,6.0nm,0.8s,mb4.7
SUMG Summit 49.80 339 *e*P **P 12 22 50.5 +0.3**
comp=Z,5.9nm,0.8s,mb4.7
KRAR Krasnoyarsk 50.25 43⇑ *e*P **P 12 22 53.7 0.0**
KRAR pmax pmax
comp=Z,19nm,0.5s,mb5.4
DMN Daman 51.28 80 *e*P **P 12 23 03.0 +1.6**
comp=Z,52nm,1.0s,mb5.4
KKN Kakani 51.35 80 *e*P **P 12 23 03.1 +1.2**
PKI Pulchoki 51.54 80 *e*P **P 12 23 04.9 +1.5**
GUN Gumba 51.79 79 *e*P **P 12 23 06.1 +0.9**
comp=Z,65nm,1.0s,mb5.5
JIRN Jiri 52.14 80 *e*P **P 12 23 09.0 +1.1**
comp=Z,34nm,1.0s,mb5.2
TSUM Tsumeb 53.64 189 P **P 12 23 20.0 +1.1**
comp=Z,16nm,1.3s,mb4.8
TSUM Tsumeb 53.64 189 P **P 12 23 20.0 +1.1**
comp=Z,16nm,1.3s,mb4.8
LSA Lhasa 55.35 75 *e*P **P 12 23 32.9 +1.6**
TLY Talaya 57.27 47 *e*P **P 12 23 46.8 +1.8**
TLY *e* 12 23 57.6
TLY *e* 12 25 48.0
TLY *e* 12 33 30.2
TLY pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
TLY MLR MLR
comp=Z,83nm,19.0s,MS3.9
TLY Talaya 57.27 47 *i*/*P* **P 12 23 46.2 +1.2**
ZAK Zakamensk 57.39 48 *e*P **P 12 23 46.7 +0.8**
ZAK pmax pmax
comp=Z,15nm,1.7s,mb4.8
GTA Gaotai 58.45 61 *e*P **P 12 23 54.8 +1.5**
GTA PP PP 12 26 06.8 +4.1
GTA SCP ScP 12 28 42.3 +0.4
GTA PCS PcS 12 28 46.5 +1.2
GTA S **S 12 31 54.4 -0.2**
GTA SCS ScS 12 33 36.3 -4.6
GTA AMB AMB
comp=Z,20nm,5.7s
GTA LR LR
comp=N,50nm,16.7s,MS4.0
GTA LR LR
comp=E,80nm,12.9s,MS4.0
GTA LR LR
comp=Z,70nm,11.8s,MS4.0
SONM Songino Array 60.11 50 P **P 12 24 05.9 +1.2**
comp=Z,4.7nm,0.8s,mb4.6,baz=276,slow=8.7,SNR=22
SONM LR LR 12 56 40.6
comp=Z,102nm,19.7s,MS4.0,baz=260,slow=43
SONM Songino Array 60.11 50 P **P 12 24 05.9 +1.2**
SONM LR LR 12 56 40.6
ULN Ulaanbaatar 60.52 50 *e*P **P 12 24 09.1 +1.5**
ULN pmax pmax
comp=Z,11nm,0.9s,mb5.0
ULN Ulaanbaatar 60.52 50 *e*P **P 12 24 09.1 +1.6**
comp=Z,11nm,0.9s,mb5.0
TIXI Tiksi 62.03 20⇑ *e*P **P 12 24 17.8 0.0**
BOSA Boshof 62.53 180 P **P 12 24 22.1 +1.0**
comp=Z,9.3nm,0.9s,mb4.9,baz=26,slow=6.9,SNR=6.9
BOSA LR LR 12 53 58.2
comp=Z,98nm,18.3s,MS4.0,baz=195,slow=38
BOSA Boshof 62.53 180 P **P 12 24 22.1 +1.0**
BOSA pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
BOSA MLR MLR
comp=Z,98nm,18.3s,MS4.0
BOSA Boshof 62.53 180 *e*P **P 12 24 21.2 0.0**
comp=Z,11nm,0.9s,mb5.0
BOSA Boshof 62.53 180 *e*P **P 12 24 21.2 +0.1**
comp=Z,11nm,0.9s,mb5.0
LZH Lanzhou 62.66 63 *e*P **P 12 24 23.3 +1.3**
LZH AP pP 12 24 32.8 +1.7
LZH XP sP 12 24 38.6 +4.0
LZH PP PP 12 26 42.5 +2.6
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,60nm,7.4s
LZH LR LR
comp=E,360nm,16.7s
LZH LR LR
comp=Z,490nm,18.9s,MS4.7
SCHQ Schefferville 63.83 320 P **P 12 24 29.8 0.0**
comp=Z,5.4nm,0.6s,mb4.8,baz=66,slow=6.9,SNR=14
SCHQ Schefferville 63.83 320 *e*P **P 12 24 29.9 +0.2**
comp=Z,6.2nm,0.6s,mb4.8
SCHQ Schefferville 63.83 320 *e*P **P 12 24 29.9 +0.1**
comp=Z,6.2nm,0.6s,mb4.8
RES Resolute Bay 64.52 345 *e*P **P 12 24 30.6 -3.7**
RES pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
RES Resolute Bay 64.52 345 *e*P **P 12 24 30.6 -3.7**
comp=Z,3.6nm,0.9s,mb4.4
CD2 Chengdu 64.78 69⇑ *i*/*P* **P 12 24 34.3 -1.6**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.2s
HHC Hu-ho-hao-te 66.20 56 *e*P **P 12 24 46.3 +1.2**
HHC AP pP 12 24 56.3 +2.0
HHC PCP PcP 12 25 16.4 +1.2
HHC PP PP 12 27 13.3 +2.3
HHC S S 12 33 29.8 -2.3
HHC SCS ScS 12 34 35.3 -4.2
HHC AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
HHC AMB AMB
comp=Z,100nm,4.5s
HHC LR LR
comp=N,90nm,16.7s,MS4.2
HHC LR LR
comp=E,60nm,13.1s,MS4.2
HHC LR LR
comp=Z,70nm,17.8s,MS3.9
KMI Kunming 66.61 75 P **P 12 24 47.6 -0.2**
KMI LR LR
comp=Z,30nm,22.7s,MS3.5
YAK Yakutsk 66.69 30 *e*P **P 12 24 47.4 -0.9**
HIA Hailar 67.71 45 *e*P **P 12 24 56.2 +1.4**
HIA pmax pmax

comp=Z,5.0nm,0.6s
HIA Hailar 67.71 45 *e*P **P 12 24 56.2 +1.4**
comp=Z,5.4nm,0.6s,mb4.8
GYA Guiyang 69.09 72 P **P 12 25 05.0 +1.6**
GYA PP PP 12 27 37.6 +1.5
GYA S S 12 34 05.8 -0.9
GYA PS 12 34 31.4
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
GYA AMB AMB
comp=Z,70nm,6.9s
GYA LR LR
comp=N,150nm,6.0s
GYA LR LR
comp=E,200nm,6.6s
GYA LR LR
comp=Z,260nm,6.6s
SNY Shenyang 73.69 50 ⇑P **P 12 25 32.8 +1.6**
SNY AP pP 12 25 42.8 +2.3
SNY XP sP 12 25 47.3 +3.4
SNY S S 12 34 56.8 -3.1
SNY LR LR
comp=N,150nm,32.1s
SNY LR LR
comp=Z,100nm,23.0s
CN2 Changchun 73.83 48 *e*P **P 12 25 31.8 -0.2**
CN2 *e*AP pP 12 25 42.9 +1.6
CN2 *e*S S 12 34 58.3 -3.2
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 LR LR
comp=Z,200nm,21.0s,MS4.4
BILL Bilibino 73.95 14⇓*e*P **P 12 25 32.8 +0.1**
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BILL Bilibino 73.95 14 P **P 12 25 31.1 -1.6**
comp=Z,8.3nm,1.3s,mb4.5
KLR Kul'dur 74.49 41 *e*P **P 12 25 33.7 -2.1**
NJ2 Nanjing 75.55 61 *e*P **P 12 25 44.3 +2.4**
NJ2 AP pP 12 25 52.4 +1.2
NJ2 PCP PcP 12 25 58.0 +3.2
NJ2 S S 12 35 23.0 +2.3
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,100nm,6.4s
NJ2 LR LR
comp=N,170nm,17.2s,MS4.5
NJ2 LR LR
comp=E,110nm,15.3s,MS4.5
NJ2 LR LR
comp=Z,80nm,14.6s,MS4.2
MDJ Mudanjiang 75.88 45 P **P 12 25 43.5 -0.3**
MDJ PCP PcP 12 25 56.1 -0.1
MDJ PP PP 12 28 32.6 -1.6
MDJ S S 12 35 21.8 -2.5
MDJ AMB AMB
comp=Z,20nm,3.6s
MDJ LR LR
comp=N,30nm,27.5s
MDJ LR LR
comp=E,30nm,21.2s
MDJ LR LR
comp=Z,40nm,21.2s
MA2 Magadan 76.33 25⇑*e*P **P 12 25 46.9 +0.5**
SSE Sheshan 77.74 61 P **P 12 25 52.9 -1.4**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,50nm,3.8s
YKA Yellowknife Ar 78.28 342 P **P 12 25 57.7 +0.4**
comp=Z,0.4nm,0.5s,mb3.6,baz=32,slow=5.2,SNR=4.0
YKA Yellowknife Ar 78.28 342 P **P 12 25 57.7 +0.4**
DAWY Dawson 81.24 353 *e*P **P 12 26 13.3 -0.1**
YSS Yuzh-Sakhalins 81.68 38⇑*e*P **P 12 26 16.7 +1.0**
SVW2 Sparrevohn 84.99 0 *e*P **P 12 26 33.4 +0.7**
BDFB Brasilia 85.30 248 P **P 12 26 36.5 +2.2**
comp=Z,3.2nm,0.8s,mb4.5,baz=44,slow=7.4,SNR=5.4
BDFB LR LR 13 06 55.8
comp=Z,29nm,18.1s,MS3.7,baz=80,slow=37
MAT Matsushiro 85.98 48 P **P 12 26 39.1 +1.5**
MAT *e*S 12 37 07.6
MAT Matsushiro 85.98 48 P **P 12 26 37.0 -0.6**
MAT S 12 37 08.0
MJAR Matsushiro Arr 85.98 48 P **P 12 26 38.6 +1.0**
comp=Z,3.9nm,0.8s,mb4.7,baz=306,slow=4.7,SNR=10
MJAR LR LR 13 12 36.4
comp=Z,119nm,20.6s,MS4.3,baz=320,slow=41
FVM French Village 86.47 314 *e*P **P 12 26 40.5 +0.4**
FVM pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
FVM French Village 86.47 314 *e*P **P 12 26 40.5 +0.5**
comp=Z,6.3nm,0.9s,mb4.8
CCM Cathedral Cave 86.90 315 *e*P **P 12 26 42.5 +0.3**
CCM pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
CCM Cathedral Cave 86.90 315 *e*P **P 12 26 42.5 +0.3**
comp=Z,6.4nm,0.9s,mb4.8
PLAL Pickwick Lake 87.00 311 *e*P **P 12 26 40.8 -1.8**
comp=Z,4.3nm,1.0s,mb4.6
LRAL Lakeview Retre 87.56 309 *e*P **P 12 26 45.9 +0.6**
comp=Z,10.0nm,0.9s,mb5.0
WRA Warramunga Arr 116.55 97 PKP PKPdf 12 32 41.0 -0.3
comp=Z,0.5nm,0.7s,baz=316,slow=1.3,SNR=7.3
ASAR Alice Springs 117.95 101 PKP PKPdf 12 32 43.9 0.0
comp=Z,0.7nm,0.9s,baz=308,slow=1.3,SNR=6.2
QSPA South Pole Qui 124.11 180 *e*P PKPdf 12 32 54.9 -0.9

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*ISCJB **17** 12:18:23.1±0.8, 1394S×009×3169E±009, h10km, mb3.8/5, Error ellipse: s-maj=16.2km s-min=7.7km az=90.9*
*IDC **17** 12:18:24.6±1.4, 1368S×3194E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/23, mbtmp3.9/7, ML3.8/2, Error ellipse: s-maj=37.9km s-min=32.9km az=79.0*
*NEIC **17** 12:18:25.7±0.7, 1367S×3202E, h10km, Error ellipse: s-maj=18.9km s-min=8.8km az=123.0*
ISC 17 12:18:25.4±0.8, 1385S±009×3167E±009, h10km, n14, σ1§12/21, mb3.8/5, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**3.66**	**247**	*e*Pn	**Pn**	**12 19 29.0**	**+7.0**
LSZ				*e*Sn	**Sn**	**12 20 04.4**	**-0.9**
LBTB	**Lobatse**	**12.50**	**206**	*e*Pn	**Pn**	**12 21 27.5**	**+4.2**
	7.1nm,0.5s						
LBTB				*e*Sn	**Sn**	**12 23 42.1**	**-0.4**
KMBO	**Kilima Mbogo**	**13.79**	**24**	Pn	**Pn**	**12 21 38.4**	**-2.6**
	0.3nm,0.3s,baz=225,slow=20,SNR=3.3						
KMBO				Lg		12 25 20.5	
	0.4nm,0.3s,baz=102,slow=18,SNR=5.8						
KMBO	**Kilima Mbogo**	**13.79**	**24**	Pn	**Pn**	**12 21 36.3**	**-4.7**
KMBO				Pn	**Pn**	**12 21 38.4**	**-2.6**
KMBO				Lg		12 25 20.5	
TSUM	**Tsumeb**	**14.51**	**247**	*e*Pn	**Pn**	**12 21 55.9**	**+5.1**
	3.2nm,0.5s						
TSUM				*e*Sn	**Sn**	**12 24 32.0**	**+0.2**
BOSA	**Boshof**	**15.86**	**201**	Pn	**Pn**	**12 22 12.3**	**+3.7**
	0.3nm,0.3s,baz=32,slow=15,SNR=5.5						
BOSA				Sn	**Sn**	**12 24 59.5**	**-5.0**
	0.2nm,0.3s,baz=80,slow=7.4,SNR=1.7						
BOSA				Lg		12 26 43.7	
	0.4nm,0.3s,baz=121,slow=9.7,SNR=2.5						
BOSA	**Boshof**	**15.86**	**201**	Pn	**Pn**	**12 22 12.3**	**+3.7**
BOSA				*e*Pn	**Pn**	**12 22 12.7**	**+4.0**
BOSA				Sn	**Sn**	**12 24 59.5**	**-5.0**
BOSA				Lg		12 26 43.7	
TORD	**Torodi Ar. Bea**	**40.01**	**311**	P	**P**	**12 26 02.2**	**+1.8**
	4.5nm,0.7s,mb4.3,baz=123,slow=7.9,SNR=26						
TORD	**Torodi Ar. Bea**	**40.01**	**311**	P	**P**	**12 26 02.2**	**+1.8**
BRTR	**Keskin Array B**	**53.32**	**2**	P	**P**	**12 27 44.1**	**-0.5**
	0.5nm,0.7s,mb3.5,baz=156,slow=9.5,SNR=3.2						
GERES	**GERESS Array B**	**64.41**	**347**	P	**P**	**12 29 02.4**	**+0.6**
	0.3nm,0.4s,mb3.7,baz=137,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**75.48**	**33**	P	**P**	**12 30 08.8**	**-1.0**
	0.4nm,0.4s,mb3.7,baz=234,slow=6.2,SNR=4.0						
MKAR	**Makanchi Array**	**75.48**	**33**	P	**P**	**12 30 08.8**	**-1.0**
WRA	**Warramunga Arr**	**96.88**	**112**	P	**P**	**12 31 57.7**	**+0.9**
	0.2nm,0.5s,mb3.8,baz=248,slow=2.5,SNR=4.6						

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*IDC **17** 12:21:35.9±1.8, 4271N×8621E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/20, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=108.9km s-min=19.0km az=54.0*
*ISCJB **17** 12:21:36.4±1.4, 4258N±009×8603E±009, h15km, mb3.4/2, Error ellipse: s-maj=13.5km s-min=9.7km az=150.4*
*BJI **17** 12:21:39.1, 4260N×8589E, h15km, ML3.5*
ISC 17 12:21:38.7±4.7, 426N±01×861E±03, h20km±29km, n4, σ1§02/6, mb3.4/2, 1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.72**	**43**⇓	*i*PG	**Pg**	**12 22 11.5**	**-0.3**
WMQ				SG	**Sg**	**12 22 34.3**	**+0.2**
WMQ				Smax			
	comp=N,310nm,0.5s						
WMQ				Smax			
	comp=E,390nm,0.5s						
MKAR	**Makanchi Array**	**5.01**	**329**	Pn	**Pn**	**12 22 53.5**	**+0.7**
	comp=E,1.8nm,0.3s,baz=148,slow=14,SNR=9.9						
MKAR				Sn	**Sn**	**12 23 50.3**	**+0.1**
	comp=E,2.9nm,0.3s,baz=160,slow=16,SNR=4.7						
MKAR				Lg		12 24 09.7	
	comp=E,10nm,0.3s,baz=144,slow=30,SNR=12						
ARCES	**ARCESS Array B**	**40.66**	**332**	P	**P**	**12 29 16.4**	**-1.2**
	comp=E,0.8nm,0.7s,mb3.5,baz=90,slow=9.7,SNR=3.7						
WRA	**Warramunga Arr**	**76.45**	**134**	P	**P**	**12 33 27.4**	**+0.5**
	comp=E,0.4nm,0.9s,mb3.3,baz=302,slow=2.8,SNR=4.9						

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*ATH **17** 12:38:49.7, 4138N×2254E, h17km, MD3.3/4*
*SKO **17** 12:38:54.8, 41.11N×2308E, h3km*
*ISCJB **17** 12:38:55.7±0.4, 41.19N±002×2303E±004, h10km±5km, Error ellipse: s-maj=4.8km s-min=3.5km az=132.7*
*CSEM **17** 12:38:55.5±0.1, 4124N×2305E, h2km, MD3.3, Error ellipse: s-maj=4.0km s-min=2.4km az=27.0*
*NEIC **17** 12:38:56.2±1.7, 41.16N×2304E, h15km, MD2.9(SOF), MD3.3(ATH), Error ellipse: s-maj=21.9km s-min=11.0km az=79.0*
*SOF **17** 12:38:56.6, 4122N×2306E, h15km, MD2.9*
*THE **17** 12:38:56.6, 41.18N×2303E, h10km, ML3.0*
ISC 17 12:38:56.5±0.4, 4118N±002×2304E±003, h10km±5km, n29, σ0§76/41, 2C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.11**	**260**	*e*Pg	**Pg**	**12 38 58.8**	**-0.3**
VAY	**Valandovo**	**0.38**	**292**	*e*Pg	**Pg**	**12 39 03.3**	**-0.6**
VAY				*e*Sg	**Sg**	**12 39 08.8**	**-0.2**
VAY	**Valandovo**	**0.38**	**292**⇑	*i*Pg	**Pg**	**12 39 03.4**	**-0.5**
VAY				*e*Sg	**Sg**	**12 39 08.8**	**-0.2**
VAY	**Valandovo**	**0.38**	**292**⇑	*i*Pg	**Pg**	**12 39 03.3**	**-0.6**
VAY				*e*Sg	**Sg**	**12 39 08.7**	**-0.2**
SOH	**Sokhos**	**0.43**	**146**	*e*Pg	**Pg**	**12 39 04.5**	**-0.4**
SOH				*e*Sg	**Sg**	**12 39 11.2**	**+0.6**
GRG	**Griva**	**0.53**	**245**	*e*Pg	**Pg**	**12 39 06.7**	**-0.1**
GRG				*e*Sg	**Sg**	**12 39 14.4**	**+0.7**
THE	**Thessaloniki**	**0.55**	**186**	*e*Pg	**Pg**	**12 39 07.0**	**-0.2**
THE				*e*Sg	**Sg**	**12 39 14.3**	**-0.1**
NVR	**Nevrokopi**	**0.65**	**75**	*e*PN	**Pg**	**12 39 08.6**	**-0.3**
MMB	**Musomiste**	**0.66**	**52**	*i*Pg	**Pg**	**12 39 09.0**	**-0.2**
KKB	**Krupnik**	**0.69**	**3**	*i*Pg	**Pg**	**12 39 09.6**	**-0.1**
STIP	**Stip**	**0.82**	**309**	*i*Pg	**Pg**	**12 39 12.2**	**0.0**
STIP				*e*Sg	**Sg**	**12 39 24.0**	**+1.0**
STIP	**Stip**	**0.82**	**309**	*i*Pg	**Pg**	**12 39 12.2**	**-0.1**
STIP				*e*Sg	**Sg**	**12 39 23.9**	**+1.0**
PLG	**Polygyros**	**0.86**	**159**	*e*PN	**Pn**	**12 39 12.3**	**-2.4**
OUR	**Ouranopolis**	**1.11**	**139**	*e*Pg	**Pg**	**12 39 17.1**	**-0.7**
OUR				*e*Sg	**Sg**	**12 39 34.0**	**+1.8**
LIT	**Litokhoron**	**1.16**	**201**	*e*Pg	**Pg**	**12 39 17.7**	**-1.0**
LIT				*e*Sg	**Sg**	**12 39 34.9**	**+1.2**
BIA	**Bitola**	**1.30**	**263**	*e*Pg	**Pg**	**12 39 20.9**	**-0.6**
BIA	**Bitola**	**1.30**	**263**	*e*Pg	**Pg**	**12 39 20.9**	**-0.6**
FNA	**Florina**	**1.32**	**253**	*e*Pg	**Pg**	**12 39 21.1**	**-0.7**
RZN	**Rozhen**	**1.36**	**68**	*i*P	**Pn**	**12 39 22.3**	**+0.8**
VTS	**Vitosha**	**1.42**	**5**	*e*Pg	**Pg**	**12 39 23.4**	**-0.2**
VTS				*e*Sg	**Sg**	**12 39 42.2**	**+0.2**
VTS	**Vitosha**	**1.42**	**5**	*i*P	**Pn**	**12 39 23.0**	**+0.7**
OHR	**Ohrid**	**1.69**	**268**	*e*Pg	**Pg**	**12 39 29.4**	**+0.5**
XOR	**Xorichti**	**1.82**	**176**	*e*Pb	**Pb**	**12 39 28.3**	**-1.5**
KDZ	**Kurdzhali**	**1.85**	**75**	*i*P	**Pn**	**12 39 27.5**	**-0.8**
RDO	**Rodhopi**	**1.89**	**90**	*e*PN	**Pn**	**12 39 28.8**	**0.0**
LIA	**Limnos Island**	**2.08**	**127**	*e*PN	**Pn**	**12 39 31.8**	**+0.4**
LIA				*e*SN	**Sn**	**12 40 02.8**	**+5.4**
AGG	**Agios Georgios**	**2.22**	**194**	*e*Pn	**Pn**	**12 39 34.3**	**+0.9**
ALN	**Alexandroupoli**	**2.29**	**96**	*e*Pn	**Pn**	**12 39 34.7**	**+0.3**
DIVS	**Divcibare**	**3.68**	**323**	*e*Pn	**Pn**	**12 39 53.9**	**+0.5**

IDC 17 13:07:02.4±2.1, 588S×12913E, h0km, mb3.7/1, mb1 4.1/3, mb1mx3.7/13, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=121.2km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.87**	**161**	Pn	Pn	13 10 34.4	+0.6
	0.8nm,0.3s,baz=339,slow=11,SNR=32						
WRA				Sn	Sn	13 13 06.2	-13
	0.7nm,0.3s,baz=337,slow=23,SNR=9.2						
ASAR	**Alice Springs**	**18.27**	**166**	P	Pn	13 11 17.1	-0.2
	0.7nm,0.3s,baz=344,slow=9.9,SNR=91						
ASAR				S	Sn	13 14 23.1	-19
	0.0nm,0.3s,baz=212,slow=33,SNR=3.2						
MKAR	**Makanchi Array**	**66.82**	**327**	P	P	13 17 56.1	+0.2
	0.5nm,0.7s,baz=125,slow=7.7,SNR=4.9						

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*MAN **17** 13:57:50.5, 1199N×12409E, h56km, mb3.6, ML4.8, MS5.4*
*ISCJB **17** 13:57:51.2±0.4, 1194N±004×12405E±005, h59km±10km, mb3.8/3, Error ellipse: s-maj=9.5km s-min=5.5km az=105.6*
*IDC **17** 13:57:54.2±13.0, 1199N×12464E, h54km±104km, mb3.6/3, mb1 3.9/4, mb1mx3.5/17, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=265.7km s-min=36.5km az=61.0*
ISC 17 13:57:52.4±0.4, 1194N±004×12407E±005, h46km±11km, n25, σ0§93/26, mb3.8/3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**1.03**	**149**	*e*P	**Pn**	**13 58 08.9**	**-1.6**
PLP	**Palo**	**1.18**	**131**	*e*P	**Pn**	**13 58 11.4**	**-1.0**
PLP				*e*S	**Sn**	**13 58 28.0**	**+0.7**
BESP	**Borongan**	**1.39**	**104**	*e*P	**Pn**	**13 58 16.1**	**+0.9**
PVCP	**Virac**	**1.65**	**3**	*i*P	**Pn**	**13 58 17.9**	**-0.9**
PVCP	**Virac**	**1.65**	**3**	*e*P	**Pn**	**13 58 17.8**	**-1.0**
PVCP				*e*S	**Sn**	**13 58 40.0**	**+1.2**
AUQP	**San Andres**	**1.93**	**315**	*e*P	**Pn**	**13 58 24.1**	**+1.4**
GUIM	**Jordan**	**1.95**	**228**	*e*P	**Pn**	**13 58 23.0**	**0.0**
MSLP	**Maasin**	**1.96**	**157**	*e*P	**Pn**	**13 58 22.6**	**-0.5**
OTRP	**Odiongan**	**2.04**	**282**	*e*P	**Pn**	**13 58 24.0**	**-0.2**
SCPH	**Surigao**	**2.56**	**147**	*e*P	**Pn**	**13 58 31.5**	**+0.1**
BOAC	**Boac**	**2.64**	**305**	*e*P	**Pn**	**13 58 31.2**	**-1.3**
CUYO	**Cuyo Island**	**3.18**	**250**	*e*P	**Pn**	**13 58 39.9**	**+0.1**
POLP	**Polilio Island**	**3.46**	**323**	*e*P	**Pn**	**13 58 42.3**	**-1.3**
TGY	**Tagaytay City**	**3.73**	**305**	P	**Pn**	**13 58 55.5**	**+8.1**
	15nm,0.3s,baz=173,slow=6.8,SNR=4.5						
BUSP	**Coron**	**3.79**	**271**	*e*P	**Pn**	**13 58 48.6**	**+0.5**
PAGZ	**Pagadian**	**4.12**	**189**	*e*P	**Pn**	**13 58 52.7**	**-0.1**
LUBP	**Lubang**	**4.13**	**296**	*e*P	**Pn**	**13 58 54.3**	**+1.4**
BUKP	**Musuan**	**4.16**	**166**	*e*P	**Pn**	**13 58 54.7**	**+1.4**
BALP	**Baler**	**4.48**	**328**	*e*P	**Pn**	**13 58 56.5**	**-1.3**
ENPP	**El Nido**	**4.61**	**261**	*e*P	**Pn**	**13 58 59.9**	**+0.4**
CAUP	**Cauayan**	**5.43**	**337**	*e*P	**Pn**	**13 59 10.9**	**+0.2**
WRA	**Warramunga Arr**	**33.26**	**162**	P	**P**	**14 04 24.9**	**-0.3**
	0.6nm,0.9s,mb3.5,baz=342,slow=8.8,SNR=5.6						
WRA				PcP	PcP	14 07 07.2	+0.5
	0.8nm,0.7s,baz=340,slow=3.2,SNR=6.3						
ASAR	**Alice Springs**	**36.67**	**165**	P	**P**	**14 04 55.8**	**+1.1**
	0.5nm,0.4s,mb3.7,baz=344,slow=6.6,SNR=19						
ASAR				PcP	PcP	14 07 17.9	+1.2
	0.6nm,0.8s,baz=352,slow=4.3,SNR=5.0						
STKA	**Stephens Creek**	**46.69**	**159**	P	**P**	**14 06 15.7**	**-0.8**
	2.9nm,0.9s,mb4.2,baz=350,slow=7.1,SNR=5.5						
MKAR	**Makanchi Array**	**49.40**	**323**	PcP	PcP	14 08 01.6	+2.4
	1.0nm,0.8s,baz=104,slow=4.9,SNR=6.1						

MAN 17 14:05:31.8, 1190N×12405E, h2km, mb2.4, ML4.0, MS6.5, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**1.01**	**147**	*e*P	Pg	14 05 51.5	+0.4
PLP	**Palo**	**1.17**	**129**	*e*P	Pg	14 05 54.3	+0.1
PLP				*i*S	Sg	14 06 12.1	+2.7
PVCP	**Virac**	**1.69**	**4**	*e*P	Pn	14 06 02.2	-0.1
GUIM	**Jordan**	**1.91**	**229**	*e*P	Pn	14 06 06.3	+1.0
MSLP	**Maasin**	**1.93**	**155**	*e*P	Pn	14 06 05.3	-0.2
OTRP	**Odiongan**	**2.03**	**283**	*e*P	Pn	14 06 07.1	+0.1
CUYO	**Cuyo Island**	**3.15**	**251**	*e*P	Pn	14 06 22.9	+0.6

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*NEIC **17** 14:09:09.6, 1757N×10147W, h42km, MD3.9(MEX), After MEX.*
MEX 17 14:09:09.3±0.5, 1757N×10149W, h42km±4km, MD3.9, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.05**	**30**	*e*P	Pn	14 09 14.4	-1.6
ZIIG				*i*S	Sn	14 09 19.1	-1.5
ZIIG	**Zihuatanejo**	**0.05**	**30**⇓	*i*P	Pn	14 09 14.8	-1.2
ZIIG				*i*S	Sn	14 09 19.1	-1.5
CAIG	**El Cayaco**	**1.28**	**114**	*e*P	Pn	14 09 29.7	-0.9
CAIG				*i*S	Sn	14 09 43.7	-2.8
ACX	**Acapulco**	**1.66**	**115**	*i*P	Pn	14 09 37.3	+1.5
ACX				*i*S	Sn	14 09 54.0	-1.9
MEIG	**Mezcala**	**1.82**	**78**	*i*P	Pn	14 09 36.9	-1.2
MEIG				*i*S	Sn	14 09 58.3	-1.6
PLIG	**Platanillo**	**2.06**	**66**	*e*P	Pn	14 09 40.2	-1.2
PLIG				*i*S	Sn	14 10 03.7	-2.2
MOIG	**Morelia**	**2.12**	**8**	*i*P	Pn	14 09 41.1	-1.1
MOIG				*i*S	Sn	14 10 05.7	-1.7
PPM	**Popocatepetl**	**3.10**	**61**	*e*P	Pn	14 09 54.7	-1.0
PPM				*i*S	Sn	14 10 30.7	-0.8
SFJM	**Santa Fe**	**3.25**	**333**	*i*P	Pn	14 09 58.7	+0.9
TUIG	**Tuzandepetl**	**6.75**	**85**	*i*P	Pn	14 10 48.8	+3.1

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*CSEM **17** 14:09:27.5±0.4, 1241N×4027E, h2km, ML3.8, Error ellipse: s-maj=13.6km s-min=6.5km az=176.0*
DHMR 17 14:09:24.4±2.4, 1226N×4005E, h11km±139km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FURI	**Furi**	**3.60**	**202**	*e*PN	Pn	14 11 37.9	+18
FURI				*e*S	Sn	14 11 31.6	+29
TRBA	**At Turbah**	**4.08**	**76**	*i*P	Pn	14 10 28.9	+2.2
TRBA				*i*S	Sn	14 11 19.9	+5.4
TRBA				AML	AML	14 11 29.1	
	comp=Z,331nm,0.6s						
TRBA	**At Turbah**	**4.08**	**76**	*i*P	Pn	14 10 28.9	+2.2
TRBA				*i*S	Sn	14 11 19.9	+5.4
	comp=Z,166nm,0.6s						
UDYN	**Al 'Udayn**	**4.18**	**66**	*i*P	Pn	14 10 30.8	+2.8
UDYN				*i*S	Sn	14 11 23.2	+6.4
DHBB	**Dhamar BB**	**4.81**	**61**	*i*P	Pn	14 10 37.3	+0.6
DHBB				*i*S	Sn	14 11 34.0	+1.7
HAJJ	**Hajjah**	**4.85**	**45**	*i*P	Pn	14 10 37.7	+0.4
HAJJ				*i*S	Sn	14 11 34.3	+0.9
LBOS		**5.31**	**72**	*i*P	Pn	14 10 44.0	+0.4
LBOS				*i*S	Sn	14 11 46.5	+1.7
BDHA	**Al Bayda'**	**5.64**	**72**	*i*S	Sn	14 11 54.0	+1.2
JAWL	**J.Aulia**	**7.92**	**293**	*i*S	Sn	14 13 48.0	+59
SLAT	**Slait**	**7.99**	**297**	*i*S	Sn	14 13 51.8	+61
MRKH	**Merkhyat**	**8.20**	**296**	*i*S	Sn	14 14 00.9	+65

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*MOS **17** 14:12:23.9±2.1, 3744N×7018E, h33km, mb4.1/1, Error ellipse: s-maj=26.9km s-min=10.5km az=99.7*
*NEIC **17** 14:12:25.0±1.1, 3765N×7034E, h10km, mb3.7/2, Error ellipse: s-maj=20.3km s-min=14.1km az=154.0*
*IDC **17** 14:12:24.0±2.3, 3754N×7040E, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.6/22, mbtmp3.7/8, ML3.5/4, MS3.2/2, Ms1 3.2/2, ms1mx2.7/22, Error ellipse: s-maj=41.8km s-min=22.0km az=145.0*
*ISCJB **17** 14:12:32.8±1.0, 3803N±006×704E±0.1, h80km±14km, mb3.9/7, Error ellipse: s-maj=16.6km s-min=9.2km az=163.1*
ISC 17 14:12:34.3±0.8, 3805N±006×704E±01, h81km±13km, n28, σ1§38/26, mb3.9/7, 1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.38**	**164**	P	**Pn**	**14 13 39.4**	**+1.0**
CHCP	**Chirah Chowk**	**4.95**	**151**	P	**Pn**	**14 13 45.4**	**-0.7**
KK31	**Karatay Array**	**5.05**	**1**	Pn	**Pn**	**14 13 48.0**	**+0.5**
	1.1nm,0.3s,baz=180,slow=12,SNR=30						
KK31				⇓Lg		14 15 12.3	
	20nm,0.6s,baz=170,slow=25,SNR=12						
THW	**Thamme Wali**	**5.35**	**168**	P	**Pn**	**14 13 51.9**	**+0.3**
MKAR	**Makanchi Array**	**12.37**	**41**	Pn	**Pn**	**14 15 27.1**	**-0.2**
	0.1nm,0.3s,baz=222,slow=12,SNR=10						
ZRNK	**Zerenda**	**14.94**	**357**	*e*P	**Pn**	**14 16 01.2**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZRNK	**Zerenda**	**14.94**	**357**	*e*Pn	**Pn**	**14 16 01.1**	**+0.2**
	comp=Z,4.4nm,0.9s						
BVAR	**Borovoye Array**	**14.98**	**360**	Pn	**Pn**	**14 16 00.9**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=165,slow=12,SNR=7.8						
AKTK	**Aktyubinsk**	**15.22**	**328**	Pn	**Pn**	**14 16 02.6**	**-1.9**
AKTO	**Aktyubinsk**	**15.22**	**328**	Pn	**Pn**	**14 16 02.6**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=139,slow=11,SNR=3.0						
ORR	**Orenburg**	**17.49**	**326**	*e*P	**Pn**	**14 16 33.6**	**+0.9**
ORR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAL	**Zalesovo**	**18.71**	**27**	P	**Pn**	**14 16 48.2**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=251,slow=7.6,SNR=3.3						
ZAL	**Zalesovo**	**18.71**	**27**	P	**Pn**	**14 16 48.2**	**+0.7**
ARU	**Arti**	**20.02**	**341**	*e*P	**P**	**14 17 02.2**	**+1.7**
GNI	**Garni**	**20.02**	**284**	LR	LR	14 26 25.1	
	comp=Z,31nm,18.3s,baz=356,slow=42						
JOF	**Joensuu**	**34.30**	**329**	*e*p	**P**	**14 19 09.1**	**-3.7**
	comp=Z,1.3nm,0.8s,mb3.8						
FINES	**FINESS Array B**	**35.95**	**325**	P	**P**	**14 19 29.2**	**+2.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=130,slow=10.0,SNR=7.6						
GVD	**Gavdhos**	**37.12**	**280**	P	**P**	**14 19 36.8**	**-0.1**
MORC	**Moravsky Berou**	**39.09**	**305**	P	**P**	**14 19 47.8**	**-5.6**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
MORC	**Moravsky Berou**	**39.09**	**305**	P	**P**	**14 19 47.8**	**-5.6**
	comp=Z,1.2nm,0.7s,mb3.8						
ARCES	**ARCESS Array B**	**39.54**	**337**	P	**P**	**14 19 59.1**	**+1.9**
	comp=Z,2.3nm,0.7s,mb4.1,baz=106,slow=8.9,SNR=13						
TIP	**Timpagrande**	**41.43**	**289**	*e*P	**P**	**14 20 09.8**	**-2.9**
NB2	**NORSAR Subarra**	**42.87**	**322**	P	**P**	**14 20 25.9**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.4,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**42.87**	**322**	P	**P**	**14 20 25.9**	**+1.4**
	comp=Z,0.5nm,0.6s,mb3.4,baz=96,slow=8.0,SNR=3

ASAR Alice Springs 38.99 196 P **P 14 22 06.0 +0.7**
0.5nm,0.6s,mb3.2,baz=17,slow=9.8,SNR=13
HIA Hailar 40.89 335 P **P 14 22 16.8 -4.2**
STKA Stephens Creek 45.72 184 P **P 14 22 58.6 -1.0**
2.1nm,0.8s,mb3.5,baz=347,slow=6.3,SNR=4.0
ULN Ulaanbaatar 46.19 325 *eP* **P 14 23 02.3 -1.0**
4.2nm,1.3s,mb3.6
SONM Songino Array 46.55 325 P **P 14 23 06.7 +0.7**
0.6nm,0.7s,mb3.1,baz=135,slow=7.2,SNR=5.8
LSA Lhasa 52.02 297 *eP* **P 14 23 47.9 +0.5**
5.2nm,0.6s,mb4.1
MKAR Makanchi Array 61.37 316 P **P 14 24 53.2 0.0**
0.8nm,0.5s,mb3.6,baz=90,slow=9.0,SNR=9.9
MKAR Makanchi Array 61.37 316 P **P 14 24 53.2 0.0**
BVAR Borovoye Array 69.76 322 P **P 14 25 46.8 -0.1**
1.8nm,0.5s,mb3.9,baz=109,slow=7.4,SNR=11
ZRNK Zerenda 70.59 321 *eP* **P 14 25 51.5 -0.4**
2.5nm,1.0s,mb3.8

SZGRF ***17*** *14:33:12.0, 950N×41.76E, h33km, mb4.6, Ethiopia*
ISCJB ***17*** *14:33:30.1±0.4, 1215N±004×4052E±003, h10km, mb4.3/31, MS3.8/6, Error ellipse: s-maj=6.6km s-min=4.2km az=123.1*
DHMR ***17*** *14:33:30.1±1.7, 1212N×4028E, h35km±109km, ML4.4*
IDC ***17*** *14:33:31.2±1.3, 1230N×4068E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/25, mbtmp4.0/16, ML4.1/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/20, Error ellipse: s-maj=28.8km s-min=13.0km az=21.0*
CSEM ***17*** *14:33:32.3±0.1, 1248N×4050E, h10km, mb4.4/21, Error ellipse: s-maj=6.5km s-min=2.7km az=25.0*
NEIC ***17*** *14:33:32.4±0.8, 1224N×4051E, h10km, mb4.4/17, Error ellipse: s-maj=17.7km s-min=11.3km az=204.0*
ISC 17 14:33:32.4±0.3, 1220N±004×4051E±003, h10km, n82, σ1§23/82, mb4.2/31, MS3.8/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.38**	**106**	Pn		**Pn 14 34 11.2**	**-0.3**
	47nm,0.3s,baz=287,slow=11,SNR=27						
ATD				Lg		14 34 42.2	
	28nm,0.3s,baz=78,slow=22,SNR=16						
ATD				LR	LR	14 34 42.7	
	comp=Z,745nm,20.6s,baz=305,slow=32						
ATD	**Arta Tunnel**	**2.38**	**106**	Pn		**Pn 14 34 11.2**	**-0.3**
ATD				Lg		14 34 42.2	
ATD				LR	LR	14 34 42.7	
ATD	**Arta Tunnel**	**2.38**	**106**	Pn		**Pn 14 34 11.2**	**-0.4**
TRBA	**At Turbah**	**3.66**	**73**	*eP*		**Pn 14 34 30.9**	**+1.7**
TRBA				*i* S		**Sn 14 35 16.6**	**+4.3**
TRBA				AML	AML	14 35 26.6	
	comp=Z,2μm,0.7s						
TRBA	**At Turbah**	**3.66**	**73**	*eP*		**Pn 14 34 30.9**	**+1.8**
TRBA				*i* S		**Sn 14 35 16.6**	**+4.2**
	comp=Z,789nm,0.7s						
FURI	**Furi**	**3.75**	**209**	*e*PN		**Pg 14 34 42.6**	**-1.6**
FURI				*e*S		**Sg 14 35 32.7**	**-0.1**
UDYN	**Al 'Udayn**	**3.80**	**62**	*eP*		**Pn 14 34 32.5**	**+1.5**
UDYN				*i* S		**Sn 14 35 21.1**	**+5.4**
UDYN				AML	AML	14 35 39.2	
	comp=Z,1μm,0.8s						
DHBB	**Dhamar BB**	**4.45**	**58**	*eP*		**Pn 14 34 39.1**	**-0.8**
DHBB				*i* S		**Sn 14 35 33.2**	**+1.4**
HAJJ	**Hajjah**	**4.59**	**40**	*eP*		**Pn 14 34 39.7**	**-2.2**
HAJJ				*i* S		**Sn 14 35 34.6**	**-0.7**
LBOS		**4.91**	**70**	*eP*		**Pn 14 34 44.2**	**-2.1**
LBOS				*i* S		**Sn 14 35 43.0**	**-0.1**
BDHA	**Al Bayda'**	**5.23**	**70**	*i* P		**Pn 14 34 48.9**	**-1.9**
BDHA				*i* S		**Sn 14 35 52.4**	**+1.3**
BDHA	**Al Bayda'**	**5.23**	**70**	*i* P		**Pn 14 34 48.8**	**-1.9**
BDHA				*i* S		**Sn 14 35 52.4**	**+1.3**
JAWL	**J.Aulia**	**8.36**	**292**	*i* S		Sx 14 37 54.2	
SLAT	**Slait**	**8.41**	**296**	*i* S		Sx 14 37 54.2	
MRKH	**Merkhyat**	**8.63**	**295**	*i* S		Sx 14 37 59.9	
KMBO	**Kilima Mbogo**	**13.63**	**194**	Lg		14 40 47.1	
	comp=Z,0.1nm,0.3s,baz=66,slow=17,SNR=3.9						
KMBO				LR	LR	14 42 00.2	
	comp=Z,428nm,21.5s,baz=277,slow=37						
ASF	**Jabal al Asfar**	**20.15**	**351**	P		**P 14 38 08.0**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=54,slow=6.1,SNR=8.1						
ASF				LR	LR	14 44 30.4	
	comp=Z,71nm,20.9s,baz=115,slow=33						
WSAR	**Wadi Sarin**	**20.43**	**55**	P		**P 14 38 09.8**	**0.0**
	comp=Z,6.4nm,0.8s,baz=253,slow=14,SNR=3.0						
WSAR				LR	LR	14 46 58.0	
	comp=Z,767nm,19.1s,MS4.1,baz=321,slow=40						
WSAR	**Wadi Sarin**	**20.43**	**55**	P		**P 14 38 09.8**	**0.0**
WSAR				LR	LR	14 46 58.0	
MMAI	**Mount Meron Ar**	**21.24**	**348**	P		**P 14 38 19.6**	**+1.1**
	comp=Z,4.0nm,0.9s,baz=145,slow=5.1,SNR=5.7						
BHD	**Baghdad**	**21.27**	**9**	*ex*		x 14 38 17.0	
BHD				*ex*		x 14 45 05.0	
CSS	**Prodhromos**	**23.58**	**345**	P		**P 14 38 41.9**	**-1.5**
	comp=Z,9.8nm,0.9s,mb4.2						
CSS	**Prodhromos**	**23.58**	**345**	P		**P 14 38 41.8**	**-1.6**
	comp=Z,9.8nm,0.9s,mb4.2						
MSL	**Mosul**	**24.09**	**5**	*ex*		x 14 38 52.0	
MALT	**Malatya**	**26.07**	**356**	*eP*		**P 14 39 05.8**	**-0.2**
	comp=Z,9.1nm,1.0s,mb4.3						
MALT	**Malatya**	**26.07**	**356**	*eP*		**P 14 39 05.8**	**-0.2**
	comp=Z,9.1nm,1.0s,mb4.3						
IDI	**Anoyia**	**26.99**	**331**	LR	LR	14 50 20.6	
	comp=Z,53nm,18.9s,MS3.1,baz=271,slow=37						
BR131	**Keskin Array S**	**28.08**	**349**	*eP*		**P 14 39 24.6**	**+0.5**
	comp=Z,5.7nm,1.0s,mb4.2						
BR131	**Keskin Array S**	**28.08**	**349**	*eP*		**P 14 39 24.6**	**+0.5**
	comp=Z,5.7nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**28.08**	**349**	P		**P 14 39 24.3**	**+0.2**
	comp=Z,3.3nm,1.0s,mb3.9,baz=178,slow=11,SNR=15						
GNI	**Garni**	**28.09**	**7**	P		**P 14 39 25.0**	**+0.9**
	comp=Z,2.4nm,0.3s,mb4.3,baz=336,slow=20,SNR=2.2						
GNI				LR	LR	14 50 29.6	
	comp=Z,111nm,19.8s,MS3.5,baz=40,slow=36						
GNI	**Garni**	**28.09**	**7**	P		**P 14 39 25.0**	**+0.8**
TIP	**Timpagrande**	**34.14**	**326**	P		**P 14 40 16.7**	**-0.8**
TIP	**Timpagrande**	**34.14**	**326**	P		**P 14 40 16.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**37.86**	**276**	P		**P 14 40 51.6**	**+2.3**
	comp=Z,1.1nm,0.9s,mb3.6,baz=74,slow=6.6,SNR=7.5						
AKASG	**Malin Array Be**	**39.48**	**349**	P		**P 14 41 02.2**	**-0.8**
	comp=Z,1.4nm,0.8s,mb3.8,baz=169,slow=7.2,SNR=8.8						
BOJS	**Bojanci**	**39.54**	**332**	*eP*		**P 14 41 04.6**	**+1.1**
PSZ	**Piszkesteto**	**39.56**	**338**	*eP*		**P 14 41 04.2**	**+0.6**
	comp=Z,7.2nm,0.9s,mb4.4						
PSZ	**Piszkesteto**	**39.56**	**338**	*eP*		**P 14 41 04.2**	**+0.6**
	comp=Z,7.2nm,0.9s,mb4.4						
KOLS	**Kolonicke sedl**	**39.62**	**341**	*eP*		**P 14 41 05.0**	**+0.8**
KOLS	**Kolonicke sedl**	**39.62**	**341**	*eP*		**P 14 41 05.1**	**+0.9**
GROS	**Grobnik**	**40.16**	**333**	*eP*		**P 14 41 09.9**	**+1.3**
GROS	**Grobnik**	**40.16**	**333**	*eP*		**P 14 41 09.9**	**+1.3**
VYHS	**Vyhne**	**40.43**	**338**	*eP*		**P 14 41 09.5**	**-1.4**
	comp=Z,28nm,2.5s,mb4.5						
PERS	**Pernice**	**40.46**	**333**	*eP*		**P 14 41 12.8**	**+1.6**
ZST	**Bratislava**	**40.85**	**336**	*eP*		**P 14 41 15.0**	**+0.7**
ZST	**Bratislava**	**40.85**	**336**	*eP*		**P 14 41 15.1**	**+0.8**
	comp=Z,6.5nm,1.0s,mb4.2						
MORC	**Moravsky Berou**	**41.97**	**338**	*eP*		**P 14 41 21.0**	**-2.6**
	comp=Z,4.3nm,1.2s,mb4.0						
MORC	**Moravsky Berou**	**41.97**	**338**	*eP*		**P 14 41 21.0**	**-2.5**
	comp=Z,4.3nm,1.2s,mb4.0						
GEC2	**GERESS Array S**	**42.77**	**334**	*eP*		**P 14 41 30.4**	**+0.4**
	comp=Z,11nm,1.3s,mb4.4						
GERES	**GERESS Array B**	**42.77**	**334**	P		**P 14 41 30.1**	**+0.1**
	comp=Z,0.5nm,0.3s,mb3.8,baz=142,slow=7.1,SNR=7.3						
WET	**Wettzell**	**43.35**	**334**	*eP*		**P 14 41 33.9**	**-0.8**
	comp=Z,4.0nm,1.3s,mb4.0						
ROTZ	**Rotzenmuhle**	**44.10**	**334**	*eP*		**P 14 41 40.7**	**-0.1**
	comp=Z,6.0nm,1.4s,mb4.1						
BRG	**Berggiesshubel**	**44.23**	**336**	*eP*		**P 14 41 41.4**	**-0.4**
	comp=Z,5.0nm,1.1s,mb4.2						
MANZ	**Manzenberg**	**44.31**	**334**	*eP*		**P 14 41 41.8**	**-0.7**
	comp=Z,4.0nm,0.9s,mb4.2						
GRA1	**Grafenberg Arr**	**44.48**	**333**	*eP*		**P 14 41 43.4**	**-0.4**
	comp=Z,16nm,1.6s,mb4.5						
GRF	**Grafenberg Arr**	**44.48**	**333**	*eP*		**P 14 41 43.4**	**-0.4**
	comp=Z,16nm,1.6s,mb4.5						
TANN	**Tannenbergstha**	**44.48**	**335**	*eP*		**P 14 41 43.2**	**-0.6**
	comp=Z,17nm,1.8s,mb4.5						
CLL	**Collm**	**44.94**	**336**	*i* P		**P 14 41 48.8**	**+1.3**
	comp=Z,5.0nm,1.1s,mb4.3						
MOX	**Moxa**	**45.01**	**334**	*eP*		**P 14 41 47.8**	**-0.3**
	comp=Z,4.0nm,1.3s,mb4.1						
DBIC	**Dimbokro**	**45.04**	**267**	LR	LR	15 00 01.6	
	comp=Z,113nm,18.4s,MS3.8,baz=73,slow=35						
DBIC	**Dimbokro**	**45.04**	**267**	P		**P 14 41 44.0**	**-4.3**
	comp=Z,45nm,1.8s,mb5.0						
DBIC	**Dimbokro**	**45.04**	**267**	P		**P 14 41 44.0**	**-4.3**
	comp=Z,45nm,1.8s,mb5.0						
MDT	**Midelt**	**46.04**	**304**	P		**P 14 41 58.3**	**+2.1**
	comp=Z,2.3nm,1.0s,mb4.1,baz=118,slow=9.2,SNR=3.9						
ZRNK	**Zerenda**	**46.60**	**23**	*eP*		**P 14 41 59.7**	**-0.8**
	comp=Z,4.1nm,1.1s,mb4.3						
ZRNK	**Zerenda**	**46.60**	**23**	*eP*		**P 14 41 59.7**	**-0.9**
	comp=Z,4.1nm,1.1s,mb4.3						
ESDC	**Sonseca Array**	**47.78**	**313**	P		**P 14 42 11.0**	**+1.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=112,slow=8.9,SNR=4.5						
ESLA	**Sonseca Array**	**47.78**	**313**	*eP*		**P 14 42 09.6**	**-0.2**
	comp=Z,9.3nm,1.7s,mb4.5						
ESLA	**Sonseca Array**	**47.78**	**313**	*eP*		**P 14 42 09.6**	**-0.2**
	comp=Z,9.3nm,1.7s,mb4.5						
SFS	**San Fernando**	**48.34**	**308**	P		**P 14 42 14.6**	**+0.4**
MKAR	**Makanchi Array**	**49.19**	**37**	P		**P 14 42 18.9**	**-1.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=230,slow=4.6,SNR=12						
FINES	**FINESS Array B**	**50.27**	**351**	P		**P 14 42 27.3**	**-1.6**
	comp=Z,1.8nm,0.9s,mb4.1,baz=108,slow=4.2,SNR=6.5						
FINES	**FINESS Array B**	**50.27**	**351**	P		**P 14 42 27.3**	**-1.6**
NB2	**NORSAR Subarra**	**53.24**	**343**	P		**P 14 42 50.3**	**-0.8**
	comp=Z,7.6nm,1.2s,mb4.5,baz=144,slow=7.4						
NOA	**NORSAR Array B**	**53.24**	**343**	P		**P 14 42 49.0**	**-2.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=141,slow=7.3,SNR=5.0						
ZAL	**Zalesovo**	**54.33**	**31**	P		**P 14 42 58.1**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.9,baz=278,slow=7.1,SNR=4.7						
SONM	**Songino Array**	**64.89**	**43**	P		**P 14 44 11.2**	**-0.7**
	comp=Z,1.1nm,0.9s,mb3.9,baz=237,slow=4.8,SNR=5.2						
SONM				LR	LR	15 16 54.5	
	comp=Z,120nm,19.2s,MS4.1,baz=63,slow=40						
MBWA	**Marble Bar**	**84.53**	**113**	*eP*		**P 14 46 08.4**	**+2.7**
	comp=Z,23nm,1.6s,mb5.1						
MBWA	**Marble Bar**	**84.53**	**113**	*eP*		**P 14 46 08.4**	**+2.7**
	comp=Z,23nm,1.6s,mb5.1						
NWAO	**Narrogin (SRO)**	**85.69**	**125**	*eP*		**P 14 46 13.6**	**+2.1**
	comp=Z,67nm,1.6s,mb5.6						
NWAO	**Narrogin (SRO)**	**85.69**	**125**	*eP*		**P 14 46 13.6**	**+2.1**
	comp=Z,67nm,1.6s,mb5.6						
BDFB	**Brasilia**	**91.83**	**254**	LR	LR	15 23 11.4	
	comp=Z,55nm,20.9s,MS4.0,baz=214,slow=32						

ISCJB ***17*** *14:36:30.3±2.2, 88S±0.1×1227E±0.2, h63km±24km, mb3.6/1, Error ellipse: s-maj=29.6km s-min=12.9km az=124.5*
IDC ***17*** *14:36:45.3±5.9, 789S×12468E, h196km±58km, mb3.1/1, mb1 3.4/3, mb1mx3.1/14, mbtmp3.9/3, Error ellipse: s-maj=232.3km s-min=14.4km az=60.0*
ISC 17 14:36:36.0±1.8, 89S±01×1229E±0.2, h114km±15km, n7, σ1§16/12, mb3.4/1, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.54**	**164**	*eP*		**Pn 14 38 48.7**	**-1.6**
	7.6nm,0.6s						
FITZ				*e*S		**Sn 14 40 37.0**	**+1.5**
KAKA	**Kakadu**	**10.10**	**113**	*eP*		**Pn 14 38 59.0**	**+1.1**
	7.0nm,0.5s						
WRA	**Warramunga Arr**	**15.59**	**136**	P		**Pn 14 40 08.6**	**-0.7**
	0.7nm,0.3s,baz=319,slow=14,SNR=41						
WRA				S		**S 14 43 00.7**	**-8.7**
	0.5nm,0.3s,baz=312,slow=23,SNR=6.9						
WB2	**Warramunga Arr**	**15.60**	**136**	*eP*		**Pn 14 40 08.5**	**-0.9**
WB2				*e*S		**S 14 42 58.2**	**-11**
ASPA	**Alice Springs**	**18.07**	**146**	*eP*		**P 14 40 42.6**	**+4.0**
ASPA				*e*S		**S 14 44 00.7**	**+0.9**
ASAR	**Alice Springs**	**18.08**	**146**	P		**P 14 40 42.9**	**+4.3**
	0.7nm,0.3s,baz=324,slow=12,SNR=74						
ASAR				S		**S 14 43 58.6**	**-1.2**
	0.2nm,0.3s,baz=322,slow=22,SNR=8.5						
MKAR	**Makanchi Array**	**66.18**	**331**	P		**P 14 47 11.9**	**+0.6**
	0.5nm,0.7s,mb3.4,baz=127,slow=7.7,SNR=6.1						

SZGRF ***17*** *14:45:07.3, 1162N×4179E, h33km, mb4.5, Ethiopia*
MOS ***17*** *14:45:10.6±0.7, 1198N×4053E, h10km, mb4.8/32, Error ellipse: s-maj=13.9km s-min=4.9km az=110.9*
CSEM ***17*** *14:45:10.4±0.3, 1192N×4046E, h10km, mb4.6/42, Ms3.3*
ISCJB ***17*** *14:45:11.5±0.3, 1209N±004×4055E±003, h10km, mb4.4/55, MS3.6/8, Error ellipse: s-maj=6.6km s-min=4.1km az=141.6*
IDC ***17*** *14:45:12.5±1.4, 1220N×4061E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.1/23, mbtmp4.1/14, ML4.4/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/20, Error ellipse: s-maj=31.6km s-min=13.3km az=21.0*
DHMR ***17*** *14:45:12.1±1.5, 1230N×4025E, h39km±9km, ML4.6*
BJI ***17*** *14:45:15.9, 1240N×4080E, h10km, mb4.4*
NEIC ***17*** *14:45:15.9±1.9, 1240N×4080E, h10km, mb4.6/38, Error ellipse: s-maj=41.2km s-min=12.2km az=218.0*
ISC 17 14:45:13.8±0.4, 1215N±005×4053E±003, h10km, n176, σ0§98/178, mb4.4/55, MS3.6/8, 12C-6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.35**	**105**	Pn		**Pn 14 45 52.8**	**+0.4**
	108nm,0.3s,baz=288,slow=10,SNR=42						
ATD				Lg		14 46 24.5	
	59nm,0.3s,baz=74,slow=22,SNR=13						
TRBA	**At Turbah**	**3.66**	**72⇑**	*i*P		**Pn 14 46 12.8**	**+2.3**
TRBA				*i* S		**Sn 14 46 58.0**	**+4.3**
TRBA				AML	AML	14 47 15.0	
	comp=N,2μm,0.6s						
TRBA	**At Turbah**	**3.66**	**72⇑**	*i*P		**Pn 14 46 12.8**	**+2.3**
TRBA				*i* S		**Sn 14 46 58.0**	**+4.3**
	comp=N,1μm,0.6s						
FURI	**Furi**	**3.71**	**210**	*e*PN		**Pn 14 46 08.1**	**-3.0**
FURI				*e*SN		**Sg 14 47 13.8**	**+1.0**
FURI	**Furi**	**3.71**	**210**	*e*PN		**Pg 14 46 20.2**	**-4.6**
FURI				*e*S		**Sg 14 47 13.8**	**+1.0**
UDYN	**Al 'Udayn**	**3.81**	**61⇓**	*i*P		**Pn 14 46 13.9**	**+1.4**
UDYN				*i* S		**Sn 14 47 00.9**	**+3.6**
UDYN				AML	AML	14 47 21.2	
	comp=Z,2μm,0.8s						
DHBB	**Dhamar BB**	**4.46**	**57⇑**	*i*P		**Pn 14 46 19.8**	**-1.8**
DHBB				*i* S		**Sn 14 47 12.9**	**-0.6**
HAJJ	**Hajjah**	**4.62**	**40⇑**	*i*P		**Pn 14 46 20.7**	**-3.0**
LBOS		**4.91**	**69⇑**	*i*P		**Pn 14 46 25.7**	**-1.9**
LBOS				*i* S		**Sn 14 47 25.9**	**+1.4**
BDHA	**Al Bayda'**	**5.24**	**69⇑**	*i*P		**Pn 14 46 30.5**	**-1.6**
BDHA				*i* S		**Sn 14 47 33.5**	**+1.0**
JAWL	**J.Aulia**	**8.40**	**292**	*i* S		Sx 14 49 34.9	
SLAT	**Slait**	**8.46**	**297**	*i* S		Sx 14 49 35.8	
MRKH	**Merkhyat**	**8.68**	**295**	*i* S		Sx 14 49 41.5	
KMBO	**Kilima Mbogo**	**13.58**	**194**	Lg		14 52 27.9	
	comp=Z,0.1nm,0.3s,baz=80,slow=18,SNR=3.1						
KMBO				LR	LR	14 53 31.0	
	comp=Z,226nm,21.6s,baz=84,slow=36						
EIL	**Elat**	**18.19**	**344**	Pn		**Pn 14 49 18.1**	**-8.3**
	comp=Z,122nm,1.0s						
EIL	**Elat**	**18.19**	**344**	Pn		**Pn 14 49 18.1**	**-8.3**
	comp=Z,122nm,1.0s						
ASF	**Jabal al Asfar**	**20.21**	**351**	P		**P 14 49 50.2**	**+1.4**
	comp=Z,4.7nm,0.8s,baz=72,slow=3.0,SNR=7.4						
WSAR	**Wadi Sarin**	**20.45**	**55**	P		**P 14 49 49.1**	**-2.2**
	comp=Z,5.5nm,0.8s,baz=146,slow=8.9,SNR=3.7						
WSAR				LR	LR	14 58 39.7	
	comp=Z,507nm,19.0s,MS3.9,baz=187,slow=40						
MMAI	**Mount Meron Ar**	**21.30**	**348**	P		**P 14 50 01.5**	**+0.9**
	comp=Z,6.0nm,0.8s,mb4.0,baz=159,slow=9.8,SNR=8.9						
CSS	**Prodhromos**	**23.64**	**345**	*eP*		**P 14 50 26.7**	**+1.4**
	comp=Z,13nm,1.0s,mb4.3						
CSS	**Prodhromos**	**23.64**	**345**	*eP*		**P 14 50 26.7**	**+1.4**
	comp=Z,13nm,1.0s,mb4.3						
MALT	**Malatya**	**26.13**	**356**	*eP*		**P 14 50 49.0**	**+1.1**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
MALT	**Malatya**	**26.13**	**356**	*eP*		**P 14 50 49.0**	**+1.0**
	comp=Z,7.6nm,1.1s,mb4.1						
MALT	**Malatya**	**26.13**	**356**	*eP*		**P 14 50 49.0**	**+1.1**
	comp=Z,7.6nm,1.1s,mb4.1						
IDI	**Anoyia**	**27.05**	**331**	LR	LR	15 02 53.4	
	comp=Z,37nm,20.9s,MS2.9,baz=149,slow=39						
GVD	**Gavdhos**	**27.08**	**329**	P		**P 14 50 57.0**	**+0.4**
	comp=Z,31nm,1.0s,mb4.8						
GVD	**Gavdhos**	**27.08**	**329**	P		**P 14 50 57.0**	**+0.5**
	comp=Z,31nm,1.0s,mb4.8						
BRTR	**Keskin Array B**	**28.14**	**349**	P		**P 14 51 07.0**	**+1.0**
	comp=Z,4.0nm,0.9s,mb4.0,baz=173,slow=11,SNR=25						
BRTR	**Keskin Array B**	**28.14**	**349⇑**	*eP*		**P 14 51 07.5**	**+1.5**
BR131	**Keskin Array S**	**28.14**	**349**	*eP*		**P 14 51 07.2**	**+1.1**
	comp=Z,3.4nm,0.9s,mb4.0						
BR131	**Keskin Array S**	**28.14**	**349**	*eP*		**P 14 51 07.2**	**+1.2**
	comp=Z,3.4nm,0.9s,mb4.0						
GNI	**Garni**	**28.14**	**7**	LR	LR	15 02 01.7	
	comp=Z,62nm,21.7s,MS3.2,baz=24,slow=36						
GNI	**Garni**	**28.14**	**7**	P		**P 14 51 09.5**	**+3.5**
SOC	**Sochi**	**31.33**	**359**	*d i*P		**P 14 51 36.2**	**+1.9**
SOC				*e*		14 52 39.5	
SOC				*e*S		**S 14 56 51.8**	**+11**
SOC				*e*SSS		14 58 57.2	
SOC				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
SOC				MLR	MLR		
	comp=Z,390nm,22.0s,MS4.0						
SOC	**Sochi**	**31.33**	**359**	*i* P		**P 14 51 36.2**	**+1.9**
	comp=Z,16nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**31.75**	**3**	*de*P		**P 14 51 38.8**	**+0.8**
KIV				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.6						
KIV				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.5						
KIV	**Kislovodsk**	**31.75**	**3**	*eP*		**P 14 51 38.8**	**+0.8**
	comp=Z,100nm,20.0s						
TORD	**Torodi Ar. Bea**	**37.88**	**276**	P		**P 14 52 32.7**	**+1.8**
	comp=Z,1.5nm,0.7s,mb3.8,baz=89,slow=7.2,SNR=8.7						
TORD	**Torodi Ar. Bea**	**37.88**	**276**	P		**P 14 52 32.7**	**+1.8**
AQU	**L'Aquila**	**38.24**	**327**	*eP*		**P 14 52 34.9**	**+1.0**
AQU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
AQU	**L'Aquila**	**38.24**	**327**	*eP*		**P 14 52 34.9**	**+1.0**
	comp=Z,8.9nm,0.8s,mb4.5						
AQU	**L'Aquila**	**38.24**	**327**	*eP*		**P 14 52 34.9**	**+1.0**
	comp=Z,9.0nm,0.8s,mb4.5						
AKASG	**Malin Array Be**	**39.54**	**349**	P		**P 14 52 44.2**	**-0.7**
	comp=Z,2.4nm,0.8s,mb4.0,baz=171,slow=7.2,SNR=8.3						
AKASG	**Malin Array Be**	**39.54**	**349**	P		**P 14 52 44.2**	**-0.7**
BOJS	**Bojanci**	**39.60**	**332**	*eP*		**P 14 52 46.2**	**+0.9**
PSZ	**Piszkesteto**	**39.62**	**338**	*eP*		**P 14 52 45.2**	**-0.3**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
PSZ	**Piszkesteto**	**39.62**	**338**	*eP*		**P 14 52 45.2**	**-0.3**
	comp=Z,4.5nm,0.8s,mb4.2						
PSZ	**Piszkesteto**	**39.62**	**338**	*eP*		**P 14 52 45.2**	**-0.3**
	comp=Z,4.0nm,0.8s,mb4.2						
CRES	**Cresnjev**	**39.75**	**332**	*eP*		**P 14 52 47.7**	**+1.0**
KECS	**Kecovo**	**39.89**	**339**	*eP*		**P 14 52 47.2**	**-0.6**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
KECS	**Kecovo**	**39.89**	**339**	*eP*		**P 14 52 47.2**	**-0.6**
	comp=Z,2.9nm,1.0s,mb4.0						
CRVS	**Cervenica-Dubn**	**39.92**	**340**	*eP*		**P 14 52 51.9**	**+3.9**
	comp=Z,3.1nm,0.9s,mb4.0						
PDKS	**Podkum**	**40.14**	**332**	*eP*		**P 14 52 50.9**	**+1.1**
STHS	**Stebnicka Huta**	**40.44**	**341**	*eP*		**P 14 52 52.5**	**+0.2**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
STHS	**Stebnicka Huta**	**40.44**	**341**	*eP*		**P 14 52 52.5**	**+0.2**
	comp=Z,3.0nm,1.0s,mb4.0						
JAVS	**Javornik**	**40.45**	**331**	*eP*		**P 14 52 52.5**	**+0.2**
VYHS	**Vyhne**	**40.49**	**338**	*i* P		**P 14 52 53.2**	**+0.5**
VYHS				pmax	pmax		
	comp=Z,28nm,2.3s,mb4.6						
VYHS	**Vyhne**	**40.49**	**338**	*i* P		**P 14 52 53.2**	**+0.5**
	comp=Z,28nm,2.3s,mb4.6						
PGF	**Pioggiola**	**40.82**	**324**	*eP*		**P 14 52 55.2**	**-0.2**
CADS	**Cadrg**	**40.85**	**331**	*eP*		**P 14 52 56.4**	**+0.7**
ZST	**Bratislava**	**40.91**	**336**	*eP*		**P 14 52 56.7**	**+0.5**
ZST				pmax	pmax		
	comp=Z,35nm,2.1s,mb4.6						
ZST	**Bratislava**	**40.91**	**336**	*eP*		**P 14 52 56.7**	**+0.5**
	comp=Z,35nm,2.1s,mb4.6						
ORR	**Orenburg**

comp=Z,9.0nm,1.2s,mb4.5
CLL *i* x x 14 53 46.8
CLL Collm 45.00 336⇑ *i*P **P 14 53 28.8 -0.6**
CLL pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
DBIC Dimbokro 45.06 267 LR LR 15 14 09.4
comp=Z,72nm,18.8s,MS3.6,baz=80,slow=38
HINF Hinterlfeld 45.34 328 *e*P **P 14 53 31.5 -0.5**
comp=Z,11nm,0.9s,mb4.4
HINF Hinterlfeld 45.34 328 *e*P **P 14 53 31.5 -0.5**
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
HINF Hinterlfeld 45.34 328 *e*P **P 14 53 31.5 -0.5**
comp=Z,5.3nm,0.9s,mb4.4
MTLF Montolieu 45.35 321 *e*P **P 14 53 32.4 +0.3**
CDF Champ du Feu 45.51 329 *e*P **P 14 53 32.8 -0.6**
comp=Z,15nm,1.0s,mb4.6
CDF Champ du Feu 45.51 329 *e*P **P 14 53 32.8 -0.6**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CDF Champ du Feu 45.51 329 *e*P **P 14 53 32.8 -0.6**
comp=Z,7.3nm,1.0s,mb4.5
SMF Signal de Mont 46.23 325 *e*P **P 14 53 38.5 -0.6**
comp=Z,12nm,1.0s,mb4.5
SMF Signal de Mont 46.23 325 *e*P **P 14 53 38.5 -0.6**
SMF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SMF Signal de Mont 46.23 325 *e*P **P 14 53 38.5 -0.6**
comp=Z,5.8nm,1.0s,mb4.5
ARU Arti 46.34 14 *de*P **P 14 53 39.8 -0.1**
ARU pmax pmax
comp=Z,26nm,1.7s,mb4.9
ARU Arti 46.34 14 *e*P **P 14 53 39.8 -0.1**
comp=Z,26nm,1.7s,mb4.9
AVF Avril sur Loir 46.59 325 *e*P **P 14 53 41.0 -0.9**
comp=Z,10nm,1.0s,mb4.4
AVF Avril sur Loir 46.59 325 *e*P **P 14 53 41.0 -0.9**
AVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
AVF Avril sur Loir 46.59 325 *e*P **P 14 53 41.0 -0.9**
comp=Z,5.1nm,1.0s,mb4.4
LOR Lormes 46.59 326 *e*P **P 14 53 41.3 -0.6**
comp=Z,14nm,1.1s,mb4.5
LOR *e*R
comp=Z,47nm,20.0s
LOR Lormes 46.59 326 *e*P **P 14 53 41.3 -0.6**
LOR pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
LOR MLR MLR
comp=Z,50nm,20.0s,MS3.5
LOR Lormes 46.59 326 *e*P **P 14 53 41.3 -0.6**
comp=Z,7.0nm,1.1s,mb4.5
LOR LR LR
comp=Z,50nm,20.0s,MS3.5
ZRNK Zerenda 46.64 23 *e*P **P 14 53 38.3 -4.0**
ZRNK pmax pmax
comp=Z,16nm,1.7s,mb4.7
ZRNK Zerenda 46.64 23 *e*P **P 14 53 38.3 -4.0**
comp=Z,16nm,1.7s,mb4.7
SSF Saint Saulge 46.66 326 *e*P **P 14 53 41.6 -0.8**
MEZF Maizieres J'vi 46.70 328 *e*P **P 14 53 42.7 -0.1**
comp=Z,23nm,0.8s,mb4.8
MEZF Maizieres J'vi 46.70 328 *e*P **P 14 53 42.7 -0.1**
comp=Z,12nm,0.8s,mb4.8
BGF Bois d'Agland 46.74 325 *e*P **P 14 53 42.9 -0.2**
ETSF Etsaut 46.89 319 *e*P **P 14 53 45.4 +1.1**
TCF Toulx Ste Croi 46.95 324 *e*P **P 14 53 45.0 +0.3**
LFF La Frestale 47.09 322 *e*P **P 14 53 46.5 +0.7**
comp=Z,17nm,0.9s,mb4.7
LFF La Frestale 47.09 322 *e*P **P 14 53 46.5 +0.7**
LFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LFF La Frestale 47.09 322 *e*P **P 14 53 46.5 +0.7**
comp=Z,8.3nm,0.9s,mb4.7
VSU Vasula 47.39 350 *e*P **P 14 53 49.2 +1.1**
SJPF Ste Jean 47.42 319 *e*P **P 14 53 49.6 +1.2**
comp=Z,23nm,1.1s,mb4.7
SJPF Ste Jean 47.42 319 *e*P **P 14 53 49.6 +1.2**
SJPF pmax pmax
comp=Z,11nm,1.1s,mb4.7
SJPF Ste Jean 47.42 319 *e*P **P 14 53 49.6 +1.2**
comp=Z,11nm,1.1s,mb4.7
CHKZ Chkalovo 47.82 24 *e*P **P 14 53 47.3 -4.2**
CHKZ pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
CHKZ Chkalovo 47.82 24 *e*P **P 14 53 47.2 -4.3**
comp=Z,2.2nm,1.0s,mb4.1
ESDC Sonseca Array 47.83 313 P **P 14 53 50.9 -0.7**
comp=Z,1.6nm,0.7s,mb4.1,baz=118,slow=5.8,SNR=6.4
ESLA Sonseca Array 47.83 313 *e*P **P 14 53 50.3 -1.3**
comp=Z,1.3nm,1.1s,mb3.9
BAIF Baives 48.11 329 *e*P **P 14 53 52.9 -0.9**
MFF Saint Martin d 48.49 323 *e*P **P 14 53 57.9 +1.2**
KLMR Klimovskoe 48.63 359 *e*P **P 14 53 55.9 -1.8**
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.9
KLMR Klimovskoe 48.63 359 *e*P **P 14 53 55.9 -1.8**
comp=Z,20nm,1.5s,mb4.9
MKAR Makanchi Array 49.23 37 P **P 14 54 01.8 -0.5**
comp=Z,1.6nm,0.8s,mb4.1,baz=238,slow=6.1,SNR=16
MKAR Makanchi Array 49.23 37⇑ *e*P **P 14 54 02.2 -0.1**
KURK Kurchatov 49.41 31 *e*P **P 14 54 03.9 +0.2**
LDF La Druitiere 49.54 325 *e*P **P 14 54 05.2 +0.5**
FLN La Foliniere 49.83 325 *e*P **P 14 54 06.6 -0.4**
comp=Z,15nm,0.9s,mb4.7
FLN La Foliniere 49.83 325 *e*P **P 14 54 06.6 -0.4**
FLN pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
FLN La Foliniere 49.83 325 *e*P **P 14 54 06.6 -0.4**
comp=Z,7.4nm,0.9s,mb4.7
GRR Gorron 49.84 325 *e*P **P 14 54 07.3 +0.3**
FINES FINESS Array B 50.33 351 P **P 14 54 10.1 -0.7**
comp=Z,1.5nm,0.8s,mb4.1,baz=167,slow=9.2,SNR=6.8
FINES FINESS Array B 50.33 351 P **P 14 54 10.1 -0.7**
NB2 NORSAR Subarra 53.30 343 P **P 14 54 31.8 -1.1**
comp=Z,8.9nm,1.1s,mb4.6,baz=141,slow=7.9
NB2 NORSAR Subarra 53.30 343 P **P 14 54 31.8 -1.1**
NB2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
NOA NORSAR Array B 53.30 343 P **P 14 54 32.3 -0.6**
comp=Z,2.6nm,0.8s,mb4.2,baz=142,slow=7.4,SNR=10
ZAL Zalesovo 54.36 31 P **P 14 54 39.9 -0.8**
comp=Z,1.7nm,0.7s,mb4.1,baz=247,slow=8.0,SNR=9.6
GTA Gaotai 58.73 51 *e*P **P 14 55 12.4 +0.7**
GTA AP pP 14 55 17.3 +2.4
GTA XP sP 14 55 20.1 +3.9
CD2 Chengdu 60.96 61 *e*P **P 14 55 27.1 0.0**
SONM Songino Array 64.92 43 P **P 14 55 54.6 +1.1**
comp=Z,1.2nm,0.8s,mb4.0,baz=258,slow=7.9,SNR=7.5
ULN Ulaanbaatar 65.36 43 P **P 14 55 56.4 +0.1**
ULN pmax pmax
comp=Z,20nm,1.1s,mb5.1
ULN Ulaanbaatar 65.36 43 P **P 14 55 56.4 +0.1**
comp=Z,20nm,1.1s,mb5.1
HIA Hailar 73.87 42 P **P 14 56 46.8 -2.0**
HIA pmax pmax
comp=Z,10.0nm,1.3s
HIA Hailar 73.87 42 P **P 14 56 46.8 -2.0**
comp=Z,10nm,1.3s,mb4.6
HIA Hailar 73.87 42 P **P 14 56 46.8 -2.0**
comp=Z,10.0nm,1.3s,mb4.6
TIXI Tiksi 78.04 19⇑ *i*P **P 14 57 11.2 -1.4**
TIXI pmax pmax
comp=Z,7.0nm,2.5s,mb4.2
TIXI Tiksi 78.04 19 *i*P **P 14 57 11.2 -1.4**
comp=Z,7.0nm,2.5s,mb4.2
MAW Mawson 81.17 172 P **P 14 57 38.4 +8.8**
comp=Z,16nm,1.4s,mb4.8

DHMR 17 14:52:26.1±0.6, 1258N×4033E, h12km±43km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.75**	**80**	*i* P		Pn	14 53 26.3	+2.5
TRBA				*i* S		Sn	14 54 13.8	+6.0
TRBA				AML		AML	14 54 25.7	
comp=N,283nm,0.5s								
TRBA	**At Turbah**	**3.75**	**80**	*i* P		Pn	14 53 26.3	+2.5
TRBA				*i* S		Sn	14 54 13.9	+6.0
comp=N,142nm,0.5s								
FURI	**Furi**	**4.00**	**204**	*e*PN		Pn	14 53 21.9	-5.3
FURI				*e*SG		Sg	14 54 34.4	-0.3
DHBB	**Dhamar BB**	**4.42**	**63**	*i* P		Pn	14 53 35.9	+2.9
DHBB				*i* S		Sn	14 54 29.8	+5.4
LBOS		**4.96**	**74**	*i* P		Pn	14 53 40.9	+0.5
LBOS				*i* S		Sn	14 54 39.3	+1.6

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*IDC **17** 14:58:24.0±1.0, 139N×12235E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, ML4.5/1, Error ellipse: s-maj=63.7km s-min=16.5km az=73.0*
*NEIC **17** 14:58:25.0±8.5, 125N×12195E, h11km±55km, mb4.2/7, Error ellipse: s-maj=29.2km s-min=9.3km az=67.0*
*ISCJB **17** 14:58:26.8±0.6, 1.1N±01×121.6E±02, h33km, mb4.1/11, Error ellipse: s-maj=28.1km s-min=7.2km az=115.6*
ISC 17 14:58:29.2±0.6, 11N±01×1217E±02, h35km, n22, σ0°94/22, mb4.1/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSM	**Tawau**	**4.93**	**310**	P		**Pn**	**14 59 39.4**	**-1.3**
KKM	**Kota Kinabalu**	**7.32**	**312**	P		**Pn**	**15 00 14.3**	**+0.8**
KKM	**Kota Kinabalu**	**7.32**	**312**	*e*Pn		**Pn**	**15 00 13.9**	**+0.4**
KAKA	**Kakadu**	**17.41**	**142**	*e*P		**Pn**	**15 02 32.2**	**+3.0**
5.4nm,0.5s								
FITZ	**Fitzroy Crossi**	**19.48**	**169**	*e*P		**Pn**	**15 02 54.7**	**+0.3**
5.9nm,0.3s								
FITZ	**Fitzroy Crossi**	**19.48**	**169**	P		**Pn**	**15 02 54.8**	**+0.4**
1.2nm,0.3s,baz=8.5,slow=10,SNR=59								
MBWA	**Marble Bar**	**22.20**	**185**	P		**P**	**15 03 21.1**	**-1.2**
5.0nm,1.0s,mb3.9								
WRA	**Warramunga Arr**	**24.33**	**150**	P		**P**	**15 03 43.3**	**-0.3**
2.2nm,0.6s,mb3.8,baz=338,slow=8.8,SNR=42								
WB2	**Warramunga Arr**	**24.34**	**150**	*e*P		**P**	**15 03 43.4**	**-0.2**
AS31	**Alice Springs**	**27.35**	**155**	*e*P		**P**	**15 04 10.9**	**+0.1**
ASPA	**Alice Springs**	**27.35**	**155**	*e*P		**P**	**15 04 10.9**	**+0.1**
ASAR	**Alice Springs**	**27.35**	**155**	P		**P**	**15 04 11.2**	**+0.4**
1.4nm,0.5s,mb3.7,baz=344,slow=14,SNR=41								
FORT	**Forrest**	**32.29**	**170**	*e*P		**P**	**15 04 55.2**	**+0.7**
10.0nm,0.7s,mb4.8								
STKA	**Stephens Creek**	**37.85**	**152**	*e*P		**P**	**15 05 40.9**	**-1.6**
2.5nm,0.8s,mb4.0								
STKA	**Stephens Creek**	**37.85**	**152**	P		**P**	**15 05 40.8**	**-1.7**
3.4nm,0.7s,mb4.2,baz=312,slow=9.3,SNR=5.1								
STKA	**Stephens Creek**	**37.85**	**152**	*e*P		**P**	**15 05 40.3**	**-2.2**
MJAR	**Matsushiro Arr**	**38.45**	**22**	P		**P**	**15 05 43.0**	**-4.5**
1.0nm,0.8s,mb3.6,baz=198,slow=11,SNR=4.9								
ULN	**Ulaanbaatar**	**48.27**	**347**	*e*P		**P**	**15 07 06.5**	**-0.2**
1.4nm,0.8s,mb4.0								
SONM	**Songino Array**	**48.39**	**346**	P		**P**	**15 07 07.8**	**+0.2**
3.4nm,0.7s,mb4.5,baz=165,slow=9.0,SNR=13								
MKAR	**Makanchi Array**	**56.98**	**329**	P		**P**	**15 08 11.5**	**+0.4**
0.4nm,0.6s,mb3.6,baz=125,slow=8.5,SNR=7.1								
ZRNK	**Zerenda**	**67.53**	**329**	*e*P		**P**	**15 09 21.6**	**-0.2**
1.0nm,0.5s,mb4.1								
KMBO	**Kilima Mbogo**	**84.43**	**269**	P		**P**	**15 10 59.7**	**+1.7**
7.8nm,1.4s,mb4.7								

IDC 17 15:01:37.1±10.0, 1975S×17751W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.1/12, mbtmp4.1/5, MS3.8/2, Ms1 3.8/2, ms1mx3.1/14, Error ellipse: s-maj=264.7km s-min=46.2km az=118.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**35.64**	**282**	LR	LR	15 21 06.9	
comp=Z,133nm,18.0s,baz=16,slow=33							
STKA	**Stephens Creek**	**38.54**	**243**	P		P	15 09 01.1	-0.1
1.2nm,0.5s,baz=80,slow=12,SNR=3.9							
ASAR	**Alice Springs**	**45.15**	**256**	P		P	15 09 56.1	+0.8
3.4nm,0.6s,baz=96,slow=7.5,SNR=55							
WRA	**Warramunga Arr**	**45.17**	**261**	P		P	15 09 56.5	+1.0
1.7nm,0.6s,baz=98,slow=7.9,SNR=37							
FITZ	**Fitzroy Crossi**	**53.59**	**262**	P		P	15 10 59.4	-0.5
0.9nm,0.4s,baz=90,slow=8.1,SNR=12							
MJAR	**Matsushiro Arr**	**69.88**	**323**	P		P	15 12 49.8	0.0
1.1nm,0.6s,baz=153,slow=4.5,SNR=4.2							
MAW	**Mawson**	**82.43**	**200**	LR	LR	15 48 50.8	
comp=Z,65nm,21.4s,baz=231,slow=34							

CSEM 17 15:10:31.5, 3838N×2382E, h10km, MD3.5/3, After ATH, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.70**	**293**	*e*Pg	Pg	15 10 44.7	-0.3
EVR	**Evrytania**	**1.66**	**289**	*e*Pb	Pb	15 11 03.0	+0.8
ITM	**Ithomi**	**1.92**	**232**	*e*Pn	Pn	15 11 06.4	+2.2

IDC 17 15:11:01.0±2.0, 680S×12903E, h0km, mb3.7/1, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=79.2km s-min=27.8km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.71**	**196**	Pn	Pn	15 13 48.2	-1.1
1.0nm,0.3s,baz=21,slow=12,SNR=49							
FITZ				Sn	Sn	15 15 41.2	-19
0.7nm,0.3s,baz=117,slow=24,SNR=3.6							
WRA	**Warramunga Arr**	**14.04**	**159**	Pn	Pn	15 14 22.2	+1.0
0.3nm,0.3s,baz=339,slow=13,SNR=15							
WRA				Sn	Sn	15 16 42.6	-15
0.5nm,0.3s,baz=330,slow=22,SNR=6.5							
ASAR	**Alice Springs**	**17.41**	**165**	P	Pn	15 15 06.1	+0.8
0.7nm,0.3s,baz=345,slow=11,SNR=46							
ASAR				S	Sn	15 18 03.7	-16
0.1nm,0.3s,baz=14,slow=31,SNR=3.9							
STKA	**Stephens Creek**	**27.57**	**156**	P		P	15 16 44.8	-4.8
0.5nm,0.3s,baz=344,slow=6.0,SNR=4.9							
MKAR	**Makanchi Array**	**67.54**	**327**	P		P	15 21 59.3	+0.2
0.4nm,0.5s,baz=122,slow=7.2,SNR=6.2							

IGQ 17 15:25:00.3, 234S×7793W, h15km±4km, Mb4.1, Ms3.9, 9C-9D, Error ellipse: s-maj=8.0km s-min=5.0km az=142.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATA	**Patacocha**	**0.97**	**329**	⇓P		Pb	15 25 19.1	+0.2
ARRY	**Arrayan**	**0.98**	**328**	⇑P		Pb	15 25 18.9	-0.1
ULBA	**Ulba**	**1.00**	**332**	⇓P		Pb	15 25 19.7	+0.3
RUN5	**Runtun**	**1.04**	**332**	⇓P		Pb	15 25 20.1	+0.1
CUSU	**Cusua**	**1.05**	**328**	⇓P		Pb	15 25 20.2	0.0
JUIV	**Juive**	**1.05**	**330**	⇑P		Pb	15 25 19.5	-0.8
JUIV				S		Sb	15 25 35.4	+1.5
IGUA	**Igualata**	**1.10**	**320**	⇑P		Pb	15 25 22.3	+1.2
IGUA				S		Sb	15 25 36.0	+0.8
PISA	**Pisayambo**	**1.35**	**340**	⇑P		Pn	15 25 25.5	+0.9
PISA				S		Sn	15 25 42.5	+0.2
TAMB	**Tambo**	**1.69**	**345**	⇑P		Pn	15 25 31.1	+1.8
TAMB				S		Sn	15 25 52.5	+1.8
CAMI	**Rancho Maria**	**1.75**	**341**	⇓P		Pn	15 25 32.9	+2.8
VC1	**Cotopaxi 1**	**1.75**	**344**	⇓P		Pn	15 25 32.5	+2.3
NAS1	**Nasa**	**1.78**	**342**	P		Pn	15 25 33.5	+2.9
NAS1				S		Sn	15 25 57.7	+4.8
QIL1	**Quilotoa**	**1.79**	**326**	P		Pn	15 25 33.8	+3.2
QIL1				S		Sn	15 25 58.5	+5.4
LAV3	**Lava3-Reventad**	**2.25**	**8**	⇑P		Pn	15 25 38.0	+1.1
LAV3				S		Sn	15 26 10.0	+5.5
GGP	**Refugio Guagua**	**2.25**	**343**	P		Pn	15 25 41.9	+4.9
TERV	**Terraza Guagua**	**2.25**	**343**	⇓P		Pn	15 25 42.0	+4.9
TERV				S		Sn	15 26 13.1	+8.5
PINO	**Pino**	**2.27**	**343**	⇓P		Pn	15 25 42.5	+5.2
CONE	**Cono NE Rev Vo**	**2.27**	**7**	⇓P		Pn	15 25 38.1	+0.8
CONE				S		Sn	15 26 10.2	+5.1
YANA	**Yana**	**2.30**	**344**	⇑P		Pn	15 25 41.3	+3.7
YANA				S		Sn	15 26 13.0	+7.4
ANGU	**Angureal**	**2.37**	**358**	⇑P		Pn	15 25 41.2	+2.5
COTA	**Cotacachi**	**2.69**	**351**	⇑P		Pn	15 25 49.1	+6.1
COTA				S		Sn	15 26 27.8	+12

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*IDC **17** 15:26:48.1±1.1, 384S×13100E, h0km, mb3.9/5, mb1 4.1/7, mb1mx4.0/15, mbtmp4.0/7, ML4.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/17, Error ellipse: s-maj=68.6km s-min=19.5km az=66.0*
*ISCJB **17** 15:26:52.8±0.8, 4.12S±006×1309E±0.1, h33km, mb4.0/8, MS3.3/1, Error ellipse: s-maj=16.8km s-min=7.5km az=151.0*
*NEIC **17** 15:26:54.0±1.0, 379S×13108E, h40km, mb4.2/6, Error ellipse: s-maj=28.1km s-min=12.9km az=60.0*
ISC 17 15:26:58.7±1.5, 420S±006×1308E±01, h81km±13km, n22, σ1°38/29, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.61**	**169**	*e*P		**Pn**	**15 28 58.9**	**-1.5**
24nm,0.8s								
KAKA				*e*S		**Sn**	**15 30 35.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.72**	**200**	*e*P		**Pn**	**15 30 22.0**	**-0.5**
15nm,0.8s								
FITZ				*e*S		**Sn**	**15 33 06.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**14.72**	**200**	Pn		**Pn**	**15 30 21.5**	**-1.0**
0.5nm,0.3s,baz=28,slow=13,SNR=45								
FITZ				Sn		**Sn**	**15 33 03.9**	**-0.6**
0.2nm,0.3s,baz=54,slow=19,SNR=4.2								
WRA	**Warramunga Arr**	**16.02**	**168**	Pn		**Pn**	**15 30 34.5**	**-4.5**
0.3nm,0.3s,baz=341,slow=14,SNR=37								
WRA				Sn		**Sn**	**15 33 30.3**	**-5.7**
0.5nm,0.3s,baz=357,slow=23,SNR=5.5								
WB2	**Warramunga Arr**	**16.02**	**168**	*e*P		**Pn**	**15 30 37.0**	**-2.1**
WB2				*e*S		**S**	**15 33 32.3**	**-13**
AS31	**Alice Springs**	**19.58**	**172**	*e*P		**Pn**	**15 31 23.9**	**+1.7**
AS31				*e*S		**S**	**15 34 56.2**	**-0.6**
ASAR	**Alice Springs**	**19.58**	**172**	P		**Pn**	**15 31 23.3**	**+1.1**
0.7nm,0.3s,baz=350,slow=11,SNR=81								
ASAR				S		**S**	**15 34 54.8**	**-2.0**
0.2nm,0.3s,baz=355,slow=26,SNR=5.9								
ASPA	**Alice Springs**	**19.58**	**172**	*e*P		**Pn**	**15 31 23.9**	**+1.7**
ASPA				*e*S		**S**	**15 34 56.2**	**-0.6**
MBWA	**Marble Bar**	**20.01**	**212**	*e*P		**Pn**	**15 31 28.8**	**+1.6**
4.7nm,0.6s								
KSM	**Kuching**	**21.26**	**285**	*e*P		**P**	**15 31 37.1**	**-1.1**
CTA	**Charters Tower**	**21.80**	**138**	*e*P		**P**	**15 31 43.7**	**-0.3**
8.6nm,0.9s,mb4.1								
CTA	**Charters Tower**	**21.80**	**138**	P		**P**	**15 31 43.7**	**-0.3**
6.0nm,1.0s,mb3.9,baz=309,slow=13,SNR=4.4								
FORT	**Forrest**	**26.57**	**185**	*e*P		**P**	**15 32 33.2**	**+4.2**
13nm,0.7s,mb4.6								
STKA	**Stephens Creek**	**29.33**	**161**	*e*P		**P**	**15 32 54.4**	**+0.7**
2.0nm,0.9s,mb3.8								
STKA	**Stephens Creek**	**29.33**	**161**	P		**P**	**15 32 54.2**	**+0.6**
2.8nm,0.9s,mb3.9,baz=340,slow=12,SNR=8.4								
STKA	**Stephens Creek**	**29.33**	**161**	*e*P		**P**	**15 32 54.0**	**+0.3**
SONM	**Songino Array**	**56.08**	**340**	LR		LR	16 03 34.0	
comp=Z,24nm,18.9s,baz=310,slow=40								
MKAR	**Makanchi Array**	**66.36**	**326**	P		**P**	**15 37 38.7**	**-0.1**
0.6nm,0.8s,mb3.5,baz=115,slow=8.4,SNR=6.4								
VNDA	**Vanda**	**75.11**	**173**	P		**P**	**15 38 33.6**	**+1.7**
0.7nm,0.8s,mb3.5,baz=323,slow=5.1,SNR=3.7								
SBA	**Scott Base**	**75.99**	**173**	P		**P**	**15 38 39.4**	**+2.5**
2.1nm,1.1s,mb3.8								
BVAR	**Borovoye Array**	**76.15**	**327**	P		**P**	**15 38 35.8**	**-2.0**
0.7nm,0.8s,mb3.4,baz=129,slow=3.9,SNR=4.0								
MAW	**Mawson**	**77.84**	**201**	P		**P**	**15 38 51.5**	**+4.2**
2.0nm,0.7s,mb4.0								

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*MOS **17** 15:36:34.7±2.5, 3350N×4890E, h10km, mb4.6/1, Error ellipse: s-maj=21.4km s-min=13.5km az=117.4*
*IDC **17** 15:36:35.8±1.4, 3354N×4881E, h0km, mb3.5/7, mb1 3.8/10, mb1mx3.7/22, mbtmp3.7/10, ML3.8/3, MS2.7/1, Ms1 2.8/1, ms1mx2.2/19, Error ellipse: s-maj=30.6km s-min=20.7km az=175.0*
*NEIC **17** 15:36:37.5, 3375N×4889E, h14km, mb4.4/1, ML3.9(THR), After THR.*
*THR **17** 15:36:37.7±1.1, 3371N×4894E, h14km±10km, ML3.9*
*KISR **17** 15:36:38.1±1.4, 3352N×4909E, h34km, ML3.3*
*CSEM **17** 15:36:39.7±0.0, 3361N×4882E, h40km, ML3.8, Error ellipse: s-maj=1.1km s-min=0.9km az=93.0*
*TEH **17** 15:36:40.5, 3358N×4880E, h27km, Mn3.8*
*ISCJB **17** 15:36:40.3±0.3, 3360N±002×4887E±002, h62km±6km, mb3.5/9, Error ellipse: s-maj=3.7km s-min=3.3km az=116.2*
ISC 17 15:36:41.6±0.3, 3363N±002×4885E±002, h54km±6km, n66, σ1°23/88, mb3.5/9, MS2.7/1, 1C-3D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKOM	**Komasi**	**1.24**	**296**	*e*Sg		**Sn**	**15 37 19.0**	**+0.8**
ASAO	**Ashtian**	**1.34**	**46**	*e*PG		**Pn**	**15 37 00.5**	**-3.4**
ASAO				*e*SG		**Sn**	**15 37 17.4**	**-3.1**
ASAO				AML		AML	15 37 21.7	
comp=N,2μm,0.8s								
ASAO	**Ashtian**	**1.34**	**46**	Pg		**Pn**	**15 37 00.0**	**-3.9**
ASAO				Sg		**Sn**	**15 37 17.0**	**-3.6**
SHGR	**Shooshtar-Gavs**	**1.52**	**182**	*e*PG		**Pn**	**15 37 06.6**	**+0.2**
SHGR				AML		AML	15 37 33.7	
comp=N,2μm,1.4s								
SHGR				AML		AML	15 37 33.9	
comp=E,2μm,0.8s								
SHGR	**Shooshtar-Gavs**	**1.52**	**182**	Pg		**Pn**	**15 37 07.0**	**+0.6**
SNGE	**Sanandaj**	**1.92**	**320**	*e*PG		**Pn**	**15 37 12.4**	**+0.6**
SNGE				*e*Sg		**Sn**	**15 37 38.4**	**+3.6**
SNGE	**Sanandaj**	**1.92**	**320**	Pg		**Pn**	**15 37 11.0**	**-0.8**
IPIR	**Pirpir**	**1.95**	**118**	*e*Pn		**Pn**	**15 37 10.7**	**-1.6**
IPIR				*e*Sn		**Sn**	**15 37 35.4**	**-0.2**
IRAZ	**Razeghan**	**1.98**	**26**	*e*Pn		**Pn**	**15 37 13.9**	**+1.3**
IRAZ				*e*Sn		**Sn**	**15 37 36.6**	**+0.3**
IGHG	**Ghaleghazi**	**2.02**	**291**	*e*Pn		**Pn**	**15 37 12.4**	**-0.8**
IGHG				*e*Sn		**Sn**	**15 37 36.6**	**-0.7**
ILIN	**Laeen**	**2.02**	**310**	*e*Pn		**Pn**	**15 37 15.1**	**+1.8**
ILIN				*e*Sn		**Sn**	**15 37 37.2**	**-0.2**
IKLH	**Kalahroud**	**2.30**	**97**	*e*Pn		**Pn**	**15 37 16.5**	**-0.5**
IKLH				*e*Sn		**Sn**	**15 37 45.6**	**+1.5**
IDHR	**Dehrash**	**2.31**	**298**	*e*Pn		**Pn**	**15 37 17.9**	**+0.8**
IDHR				*e*Sn		**Sn**	**15 37 43.5**	**-0.8**
IMHD	**Mahdasht**	**2.54**	**36**	*e*Pn		**Pn**	**15 37 20.6**	**+0.3**
IMHD				*e*Sn		**Sn**	**15 37 48.7**	**-1.2**
IVRN	**Varamin**	**2.74**	**59**	*e*Pn		**Pn**	**15 37 23.2**	**+0.1**
IVRN				*e*Sn		**Sn**	**15 37 54.9**	**-0.1**
THKV	**Tehran--Karaj**	**2.82**	**36**	*e*PN		**Pn**	**15 37 22.9**	**-1.3**
THKV	**Tehran--Karaj**	**2.82**	**36**	Pn		**Pn**	**15 37 22.0**	**-2.2**
ISFB	**Sefidab**	**2.90**	**75**	*e*Pn		**Pn**	**15 37 26.4**	**+1.1**
ISFB				*e*Sn		**Sn**	**15 37 58.5**	**-0.4**
IGZV	**Gazvin**	**2.97**	**22**	*e*Pn		**Pn**	**15 37 26.5**	**+0.3**
IGZV				*e*Sn		**Sn**	**15 38 00.3**	**-0.2**
IZEF	**Zefreh**	**3.00**	**103**	*e*Pn		**Pn**	**15 37 27.2**	**+0.6**
IZEF				*e*Sn		**Sn**	**15 38 00.7**	**-0.7**
IAFJ	**Afjeh**	**3.24**	**46**	*e*Pn		**Pn**	**15 37 31.1**	**+1.3**
IAFJ				*e*S

comp=Z,0.5nm,0.3s,baz=325,slow=14,SNR=7.3
BR131 Keskin Array S 13.63 301 P **Pn 15 39 53.9 +1.8**
comp=Z,6.3nm,1.5s
BR131 Keskin Array S 13.63 301 P **Pn 15 39 53.9 +1.8**
comp=Z,6.3nm,1.5s
BRTR Keskin Array B 13.63 301 Pn **Pn 15 39 51.6 -0.5**
comp=Z,0.1nm,0.3s,baz=107,slow=12,SNR=5.1
ABTO Aybut 16.69 165 ⇓P **Pn 15 40 28.2 -3.6**
SNR=6.3
RBK Rabkut 16.76 162 ⇓P **Pn 15 40 30.1 -2.5**
SNR=16
ORR Orenburg 18.48 12 *e*P **Pn 15 40 54.3 +0.6**
ORR pmax pmax
comp=Z,10.0nm,1.5s
ORR Orenburg 18.48 12 *e*P **Pn 15 40 54.3 +0.6**
comp=Z,10.0nm,1.5s
IDI Anoyia 19.82 282 P **Pn 15 41 07.4 -2.3**
comp=Z,0.9nm,0.3s,baz=74,slow=12,SNR=9.7
IDI Anoyia 19.82 282 P **Pn 15 41 07.3 -2.3**
MLR Muntele Rosu 21.18 311 P **P 15 41 25.0 +2.6**
comp=Z,1.2nm,0.6s,mb3.4,baz=137,slow=16,SNR=3.0
AKASG Malin Array Be 22.31 326 P **P 15 41 35.0 +0.7**
comp=Z,0.2nm,0.3s,mb3.0,baz=134,slow=9.9,SNR=8.1
AKASG Malin Array Be 22.31 326 P **P 15 41 35.0 +0.7**
BVAR Borovoye Array 24.75 32 P **P 15 41 58.6 +0.6**
comp=Z,1.6nm,0.7s,mb3.6,baz=224,slow=6.2,SNR=9.0
TIP Timpagrande 26.33 291 P **P 15 42 10.3 -2.0**
TIP *e* 15 42 28.9
MKAR Makanchi Array 28.49 53 P **P 15 42 34.8 +3.2**
comp=Z,0.2nm,0.5s,mb3.0,baz=250,slow=9.3,SNR=2.8
GERES GERESS Array B 30.18 311 P **P 15 42 47.0 +0.5**
comp=Z,0.2nm,0.3s,mb3.3,baz=113,slow=6.5,SNR=3.4
FINES FINESS Array B 31.45 339 P **P 15 42 58.7 +0.9**
comp=Z,0.9nm,0.9s,mb3.6,baz=147,slow=11,SNR=4.4
FINES FINESS Array B 31.45 339 P **P 15 42 58.7 +0.9**
NOA NORSAR Array B 36.57 330 P **P 15 43 39.5 -2.7**
comp=Z,0.6nm,0.7s,mb3.5,baz=121,slow=8.4,SNR=3.9
NOA LR LR 15 59 18.3
comp=Z,12nm,19.5s,MS2.7,baz=60,slow=37
ULN Ulaanbaatar 45.28 54 P **P 15 44 52.7 -1.1**
ULN pmax pmax
comp=Z,10.0nm,2.0s,mb4.3
ULN Ulaanbaatar 45.28 54 P **P 15 44 52.7 -1.1**
comp=Z,9.6nm,2.0s,mb4.3
ULN Ulaanbaatar 45.28 54 P **P 15 44 52.7 -1.1**
comp=Z,10.0nm,2.0s,mb4.3
TORD Torodi Ar. Bea 47.37 256 P **P 15 45 11.7 +1.5**
comp=Z,0.4nm,0.5s,mb3.6,baz=72,slow=6.3,SNR=9.8

IDC 17 15:40:04.6±1.5,1242N×4071E,h0km,mb3.5/4,mb1 3.6/5, mb1mx3.5/20,mbtmp3.5/5,ML3.8/1,MS3.3/1,Ms1 3.3/1, ms1mx2.5/15,Error ellipse: s-maj=39.6km s-min=15.0km az=26.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.27**	**113**	Pn	Pn	15 40 44.3	+1.0
	24nm,0.3s,baz=73,slow=21,SNR=13						
ATD				Lg		15 41 15.7	
	10.0nm,0.3s,baz=284,slow=23,SNR=15						
KMBO	**Kilima Mbogo**	**13.89**	**195**	Lg		15 47 24.8	
	0.0nm,0.3s,baz=57,slow=22,SNR=3.0						
WSAR	**Wadi Sarin**	**20.15**	**55**	LR	LR	15 53 30.3	
	comp=Z,81nm,19.8s,baz=356,slow=40						
BRTR	**Keskin Array B**	**27.91**	**348**	P	P	15 45 57.0	+0.8
	1.1nm,1.1s,baz=166,slow=7.0,SNR=6.9						
MKAR	**Makanchi Array**	**48.90**	**37**	P	P	15 48 53.0	+0.8
	0.5nm,0.9s,baz=232,slow=6.4,SNR=5.1						

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*DHMR **17** 15:42:53.4±2.2, 1224N×4030E, h6km±125km, ML4.2*
*ISCJB **17** 15:42:57.4±0.9, 1230N±010×4050E±005, h10km, mb3.6/7, MS3.4/1, Error ellipse: s-maj=13.9km s-min=6.5km az=170.8*
*IDC **17** 15:42:57.6±1.6, 1231N×4067E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/22, mbtmp3.7/7, ML4.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/19, Error ellipse: s-maj=37.7km s-min=15.4km az=25.0*
*CSEM **17** 15:42:57.4±0.3, 1249N×4050E, h2km, mb3.9/1, Error ellipse: s-maj=12.8km s-min=6.7km az=179.0*
*NEIC **17** 15:42:59.1±1.1, 1229N×4062E, h10km, mb3.9/1, Error ellipse: s-maj=24.5km s-min=14.1km az=207.0*

ISC 17 15:42:58.5±0.9,122N±01×4048E±005,h10km,n26, σ1$20/28,mb3.6/7,MS3.4/1,1C-6D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.42**	**106**	Pn	**Pn**	**15 43 37.5**	**-0.6**
	44nm,0.3s,baz=67,slow=22,SNR=13						
ATD				Lg		15 44 08.8	
	25nm,0.3s,baz=275,slow=22,SNR=9.6						
TRBA	**At Turbah**	**3.68**	**74**	⇓*i*P	**Pn**	**15 43 55.7**	**+0.2**
TRBA				*i* S	**Sn**	**15 44 44.8**	**+5.8**
TRBA				AML	AML	15 45 03.3	
	comp=N,716nm,0.7s						
TRBA	**At Turbah**	**3.68**	**74**	⇓*i*P	**Pn**	**15 43 55.7**	**+0.2**
TRBA				*i* S	**Sn**	**15 44 43.7**	**+4.7**
	comp=N,358nm,0.7s						
UDYN	**Al 'Udayn**	**3.81**	**63**	⇓*i*P	**Pn**	**15 43 57.7**	**+0.4**
UDYN				*i* S	**Sn**	**15 44 47.5**	**+5.3**
UDYN				AML	AML	15 45 04.5	
	comp=Z,958nm,0.7s						
ADEN	**Aden**	**4.43**	**82**	*i* S	**Sn**	**15 44 58.1**	**+0.7**
DHBB	**Dhamar BB**	**4.46**	**58**	⇓*i*P	**Pn**	**15 44 03.8**	**-2.4**
DHBB				*i* S	**Sn**	**15 44 58.8**	**+0.6**
HAJJ	**Hajjah**	**4.59**	**41**	⇓*i*P	**Pn**	**15 44 04.8**	**-3.2**
HAJJ				*i* S	**Sn**	**15 45 00.9**	**-0.4**
HAJJ	**Hajjah**	**4.59**	**41**	⇓*i*P	**Pn**	**15 44 04.8**	**-3.2**
HAJJ				*i* S	**Sn**	**15 45 00.9**	**-0.5**
LBOS		**4.92**	**70**	⇑*i*P	**Pn**	**15 44 10.6**	**-1.9**
LBOS				*i* S	**Sn**	**15 45 11.1**	**+1.5**
BDHA	**Al Bayda'**	**5.25**	**70**	*i* S	**Sn**	**15 45 18.4**	**+0.7**
JAWL	**J.Aulia**	**8.33**	**292**	*i* S	Sx	15 47 20.0	
SLAT	**Slait**	**8.38**	**296**	*i* S	Sx	15 47 19.4	
MRKH	**Merkhyat**	**8.60**	**295**	*i* S	Sx	15 47 24.5	
KMBO	**Kilima Mbogo**	**13.65**	**194**	LR	LR	15 50 53.1	
	comp=Z,46nm,21.4s,baz=99,slow=34						
MALT	**Malatya**	**26.05**	**356**	P	**P**	**15 48 33.6**	**+1.6**
	comp=Z,2.9nm,1.0s,mb3.8						
MALT	**Malatya**	**26.05**	**356**	P	**P**	**15 48 33.6**	**+1.7**
BRTR	**Keskin Array B**	**28.05**	**349**	P	**P**	**15 48 51.4**	**+1.4**
	comp=Z,1.2nm,0.9s,mb3.5,baz=171,slow=10,SNR=6.4						
TORD	**Torodi Ar. Bea**	**37.83**	**276**	P	**P**	**15 50 17.8**	**+2.6**
	comp=Z,0.6nm,0.8s,mb3.4,baz=98,slow=7.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**37.83**	**276**	P	**P**	**15 50 17.8**	**+2.6**
AKTK	**Aktyubinsk**	**40.72**	**17**	P	**P**	**15 50 38.9**	**-0.5**
AKTK	**Aktyubinsk**	**40.72**	**17**	P	**P**	**15 50 38.9**	**-0.5**
AKTO	**Aktyubinsk**	**40.72**	**17**	P	**P**	**15 50 38.9**	**-0.5**
	comp=Z,1.2nm,0.8s,mb3.6,baz=228,slow=11,SNR=5.1						
GERES	**GERESS Array B**	**42.74**	**334**	P	**P**	**15 50 55.5**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.3,baz=126,slow=6.8,SNR=4.4						
BOSA	**Boshof**	**43.19**	**200**	LR	LR	16 09 39.3	
	comp=Z,49nm,18.6s,MS3.4,baz=20,slow=37						
BVAR	**Borovoye Array**	**47.19**	**24**	P	**P**	**15 51 30.2**	**-1.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=237,slow=8.1,SNR=3.9						
MKAR	**Makanchi Array**	**49.19**	**37**	P	**P**	**15 51 46.5**	**-0.3**
	comp=Z,0.8nm,0.9s,mb3.7,baz=236,slow=6.0,SNR=5.6						

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*NEIC **17** 15:51:20.3, 2741S×70.16W, h100km, MG3.8(GUC), After GUC.*

GUC 17 15:51:20.3±0.3,2741S×7016W,h100km±2km,MD3.4, ML3.8,1C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.18**	**287**	⇑*i*P	Pn	15 51 34.5	+0.1
CPCH				*i* S	Sn	15 51 45.4	+0.4
CPCH				AML	AML	15 51 45.8	
	comp=N,18μm,0.2s						
CDCH	**Caldera**	**0.69**	**299**	⇓*i*P	Pn	15 51 37.7	+0.1
CDCH				*i* S	Sn	15 51 50.8	+0.3
CRCH	**Chaqaral**	**1.14**	**339**	*e*P	Pn	15 51 42.5	+0.2
CRCH				*i* S	Sn	15 51 59.2	+0.3
CRCH				AML	AML	15 52 00.6	
	comp=N,887nm,0.7s						
CRCH	**Chaqaral**	**1.14**	**339**	*e*P	Pn	15 51 42.5	+0.2
CRCH				*i* S	Sn	15 51 59.2	+0.3
VACH	**Vallenar**	**1.27**	**205**	*i* P	Pn	15 51 44.0	+0.2
VACH				*i* S	Sn	15 52 02.2	+0.6
VACH				AML	AML	15 52 04.4	
	comp=E,2μm,0.3s						
VACH	**Vallenar**	**1.27**	**205**	*i* P	Pn	15 51 44.0	+0.2
VACH				*i* S	Sn	15 52 02.2	+0.6

CASC 17 15:54:21.7±1.9,1362N×9054W,h31km±6km,MD3.6, 1C-8D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.87**	**340**	⇓*e*P	Pn	15 54 38.4	+0.5
RTR	**El Retiro**	**0.91**	**72**	⇓*e*P	x	15 54 58.9	
RTR				*e*S	x	15 55 12.9	
SBLS	**San Blas**	**0.91**	**76**	⇓*e*P	x	15 54 58.6	
SBLS				*e*S	x	15 55 11.6	
SNJE	**San Jose**	**0.94**	**75**	⇓*i*P	x	15 54 59.1	
SNJE				*e*S	x	15 55 12.1	
RBDL	**Robledal**	**0.96**	**59**	⇓*e*P	x	15 55 00.0	
RBDL				*e*S	x	15 55 14.3	
BOQS	**Boqueron**	**1.23**	**85**	*e*P	x	15 55 03.1	
BOQS				*e*S	x	15 55 19.4	
TP2	**Tecpan 2**	**1.25**	**338**	⇓*e*P	Pn	15 54 43.7	+0.7
TP2				*e*S	Sn	15 55 01.2	+2.5
JAT	**Jato**	**1.27**	**303**	*e*P	Pn	15 54 43.5	+0.2
MTO2	**Montecristo 2**	**1.38**	**56**	⇓*e*P	x	15 55 06.0	
MTO2				*e*S	x	15 55 24.7	
LFU	**La Fuente**	**1.39**	**85**	*e*P	x	15 55 05.5	
LFU				*e*S	x	15 55 22.7	
LFRS	**El Faro**	**1.43**	**90**	⇓*e*P	x	15 55 05.6	
LFRS				*e*S	x	15 55 24.1	
LCBS	**La Ceiba**	**1.52**	**89**	⇑*e*P	x	15 55 07.4	
LCBS				*e*S	x	15 55 26.7	
SNVI	**San Vicente**	**1.65**	**90**	*e*P	x	15 55 09.0	
SNVI				*e*S	x	15 55 30.8	

IDC 17 16:01:01.6±61.0,1739S×17582W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.9/11,mbtmp4.1/3,Error ellipse: s-maj=1151.0km s-min=163.0km az=80.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.04**	**241**	P	P	16 08 47.3	+0.7
	1.0nm,0.6s,baz=90,slow=10,SNR=8.9						
WRA	**Warramunga Arr**	**47.15**	**259**	P	P	16 09 35.5	-0.2
	0.3nm,0.3s,baz=97,slow=8.1,SNR=20						
ASAR	**Alice Springs**	**47.30**	**254**	P	P	16 09 37.4	+0.5
	6.5nm,0.5s,baz=88,slow=8.3,SNR=144						

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*NEIC **17** 16:09:21.6, 1910N×6470W, h2km, MD3.5(RSPR), After RSPR.*

RSPR 17 16:09:21.6,1910N×6470W,h2km±1km,MD3.5/7,MD3.5/7, 17C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.50**	**136**	⇑*e*P	Pg	16 09 31.7	+0.5
ABV	**Anegada**	**0.50**	**136**	*e*S	Sg	16 09 39.2	+1.4
TBVI	**Tortola**	**0.69**	**173**	⇑*e*P	Pg	16 09 34.4	-0.3
TBVI				*e*S	Sg	16 09 44.7	+1.0
STVI	**Saint Thomas**	**0.78**	**199**	⇑*e*P	Pg	16 09 36.2	-0.2
MTP	**Monte Pirata**	**1.28**	**219**	⇑*e*P	Pg	16 09 43.0	-3.2
MTP				*e*S	Sg	16 10 00.4	-2.5
CBYP	**Canovanas**	**1.37**	**233**	⇑*e*P	Pn	16 09 44.3	-3.4
CBYP				*e*S	Sg	16 10 02.6	-2.9
HUMP	**Col San Antoni**	**1.44**	**229**	⇑*e*P	Pn	16 09 45.3	-3.4
HUMP				*e*S	Sb	16 10 04.6	-3.4
CPD	**Cerro la Pandu**	**1.56**	**228**	⇑*e*P	Pn	16 09 47.7	-2.6
CPD				*e*S	Sn	16 10 07.6	-3.5
SJG	**San Juan**	**1.69**	**235**	⇑*e*P	Pn	16 09 48.8	-3.3
SJG				*e*S	Sn	16 10 10.8	-3.4
SJG	**San Juan**	**1.69**	**235**	⇑*e*P	Pn	16 09 48.9	-3.1
SJG				*e*S	Sn	16 10 10.4	-3.8
CELP	**Cerrillos**	**2.05**	**241**	⇑*e*P	Pn	16 09 53.9	-3.2
CELP				*e*S	Sn	16 10 19.7	-3.5
AOPR	**Arecibo Observ**	**2.08**	**249**	⇑*e*P	Pn	16 09 55.1	-2.4
AOPR				*e*S	Sn	16 10 20.2	-3.7
OBIP	**Obispado Ponce**	**2.09**	**240**	⇑*e*P	Pn	16 09 55.2	-2.4
OBIP				*e*S	Sn	16 10 20.7	-3.4
ICM	**Isla Caja Muer**	**2.10**	**236**	⇑*e*P	Pn	16 09 55.3	-2.4
ICM				*e*S	Sn	16 10 20.6	-3.8
LRS	**Lares**	**2.18**	**249**	⇑*e*P	Pn	16 09 56.2	-2.6
LRS				*e*S	Sn	16 10 22.6	-3.9
LSP	**Las Mesas**	**2.44**	**248**	⇑*e*P	Pn	16 09 59.9	-2.4
LSP				*e*S	Sn	16 10 29.1	-3.7
MGP	**Maguayo**	**2.51**	**245**	⇑*e*P	Pn	16 10 00.5	-2.9
CRPR	**Cabo Rojo, PR**	**2.53**	**245**	⇑*e*P	Pn	16 10 00.5	-3.1
CRPR				*e*S	Sn	16 10 31.3	-3.7

MAN 17 16:19:48.2,1358N×12065E,h89km,MS6.7,1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.31**	**105**	*e*P	Pn	16 20 03.6	+2.1
LUBP	**Lubang**	**0.42**	**291**	*e*P	Pn	16 20 03.8	+1.6
TGY	**Tagaytay City**	**0.59**	**28**	⇓*e*P	Pn	16 20 06.0	+2.5
BOAC	**Boac**	**1.17**	**96**	*e*P	Pn	16 20 10.1	+0.3
POLP	**Polilio Island**	**1.69**	**48**	*e*P	Pn	16 20 17.2	+0.8
BALP	**Baler**	**2.33**	**23**	*e*P	Pn	16 20 25.8	+1.1

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*SZGRF **17** 16:20:30.5, 11.12N×4147E, h33km, mb4.7, Ethiopia*
*DHMR **17** 16:20:35.5±0.9, 1201N×4024E, h36km±5km, ML4.6*
*IDC **17** 16:20:38.9±1.1, 1227N×4060E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/22, mbtmp4.1/13, ML4.4/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/21, Error ellipse: s-maj=27.5km s-min=13.5km az=22.0*
*ISCJB **17** 16:20:38.9±0.4, 1231N±005×4056E±003, h10km, mb4.4/38, MS3.6/8, Error ellipse: s-maj=7.8km s-min=4.2km az=174.0*
*MOS **17** 16:20:38.5±1.0, 1228N×4050E, h10km, mb4.8/22, Error ellipse: s-maj=17.1km s-min=6.0km az=98.3*
*NEIC **17** 16:20:40.5±0.5, 1232N×4054E, h10km, mb4.5/22, Error ellipse: s-maj=11.4km s-min=9.3km az=60.0*
*CSEM **17** 16:20:41.7±0.1, 1232N×4056E, h30km, mb4.5/27, Error ellipse: s-maj=4.4km s-min=2.6km az=178.0*

ISC 17 16:20:40.6±0.4,1229N±005×4053E±003,h10km,n122, σ1$09/119,mb4.4/38,MS3.6/8,8C-3D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.39**	**108**	Pn	**Pn**	**16 21 19.5**	**-0.3**
	90nm,0.3s,baz=289,slow=10,SNR=36						
ATD				LR	LR	16 21 40.6	
	comp=Z,704nm,21.2s,baz=275,slow=27						
ATD				Lg		16 21 51.5	
	51nm,0.3s,baz=252,slow=22,SNR=12						
TRBA	**At Turbah**	**3.62**	**75**	*e*P	**Pn**	**16 21 36.6**	**-0.1**
TRBA				*i* S	**Sn**	**16 22 23.7**	**+4.3**
TRBA				AML	AML	16 22 36.2	
	comp=N,2μm,0.6s						
TRBA	**At Turbah**	**3.62**	**75**	*e*P	**Pn**	**16 21 36.6**	**-0.1**
TRBA				*i* S	**Sn**	**16 22 23.7**	**+4.3**
	comp=N,961nm,0.6s						
UDYN	**Al 'Udayn**	**3.74**	**63**	*i* P	**Pn**	**16 21 39.0**	**+0.6**
UDYN				*i* S	**Sn**	**16 22 28.3**	**+5.9**
UDYN				AML	AML	16 22 46.3	
	comp=Z,2μm,0.7s						
FURI	**Furi**	**3.83**	**209**	*e*PN	**Pn**	**16 21 40.8**	**+1.1**
FURI	**Furi**	**3.83**	**209**	*e*S	**Sb**	**16 22 39.6**	**+4.8**
ADEN	**Aden**	**4.37**	**83**	*e*P	**Pn**	**16 21 43.5**	**-3.6**
ADEN				*i* S	**Sn**	**16 22 38.1**	**0.0**
HAJJ	**Hajjah**	**4.51**	**41**	*e*P	**Pn**	**16 21 46.5**	**-2.4**
HAJJ				*i* S	**Sn**	**16 22 43.4**	**+1.9**
LBOS		**4.86**	**71**	⇑*i*P	**Pn**	**16 21 51.3**	**-2.4**
LBOS				*i* S	**Sn**	**16 22 51.4**	**+1.4**
BDHA	**Al Bayda'**	**5.18**	**71**	*e*P	**Pn**	**16 21 56.0**	**-2.2**
BDHA				*i* S	**Sn**	**16 22 59.0**	**+1.0**
JAWL	**J.Aulia**	**8.35**	**291**	*i* S	Sx	16 24 57.8	
SLAT	**Slait**	**8.40**	**296**	*i* S	Sx	16 25 01.4	
MUKL	**Al Mukalla**	**8.55**	**74**	*i* S	**Sn**	**16 24 21.0**	**-0.1**
MRKH	**Merkhyat**	**8.62**	**294**	*i* S	Sx	16 25 07.0	
KMBO	**Kilima Mbogo**	**13.72**	**194**	LR	LR	16 29 08.9	
	comp=Z,213nm,21.4s,baz=88,slow=37						
EIL	**Elat**	**18.05**	**344**	*e*Pn	**Pn**	**16 24 48.4**	**-3.2**
	comp=Z,142nm,1.1s						
ASF	**Jabal al Asfar**	**20.07**	**351**	P	**P**	**16 25 15.6**	**+1.5**
	comp=Z,6.0nm,0.9s,baz=12,slow=2.2,SNR=12						
WSAR	**Wadi Sarin**	**20.36**	**55**	LR	LR	16 34 05.7	
	comp=Z,399nm,18.5s,MS3.8,baz=299,slow=40						
MMAI	**Mount Meron Ar**	**21.16**	**348**	P	**P**	**16 25 27.1**	**+1.2**
	comp=Z,7.6nm,0.9s,mb4.0,baz=166,slow=10,SNR=8.4						
CSS	**Prodhromos**	**23.50**	**345**	*e*P	**P**	**16 25 50.1**	**-0.7**
	comp=Z,18nm,1.1s,mb4.4						
CSS	**Prodhromos**	**23.50**	**345**	*e*P	**P**	**16 25 50.1**	**-0.7**
	comp=Z,18nm,1.1s,mb4.4						
MALT	**Malatya**	**25.98**	**356**	*e*P	**P**	**16 26 15.5**	**+2.0**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
MALT	**Malatya**	**25.98**	**356**	*e*P	**P**	**16 26 15.5**	**+2.0**
	comp=Z,8.4nm,1.1s,mb4.2						
IDI	**Anoyia**	**26.93**	**331**	LR	LR	16 37 28.9	
	comp=Z,71nm,18.1s,MS3.3,baz=305,slow=37						
GNI	**Garni**	**28.00**	**7**	LR	LR	16 37 35.5	
	comp=Z,57nm,20.1s,MS3.1,baz=320,slow=36						
GNI	**Garni**	**28.00**	**7**	⇑*e*P	**P**	**16 26 35.3**	**+3.7**
GNI				pmax	pmax		
	comp=Z,16nm,1.3s						
BR131	**Keskin Array S**	**28.00**	**349**	*e*P	**P**	**16 26 32.8**	**+1.2**
	comp=Z,16nm,1.3s,mb4.5						
BR131	**Keskin Array S**	**28.00**	**349**	*e*P	**P**	**16 26 32.8**	**+1.2**
	comp=Z,16nm,1.3s,mb4.5						
BRTR	**Keskin Array B**	**28.00**	**349**	P	**P**	**16 26 33.1**	**+1.5**
	comp=Z,4.7nm,1.0s,mb4.1,baz=165,slow=10,SNR=32						
SOC	**Sochi**	**31.19**	**359**	*e*P	**P**	**16 27 00.8**	**+0.9**
SOC				*e*		16 27 58.8	
SOC				*e*S	**S**	**16 32 13.4**	**+7.5**
SOC				*e*SS	SS	16 34 11.2	-7.9
SOC				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.0						
SOC	**Sochi**	**31.19**	**359**	*e*P	**P**	**16 27 00.8**	**+0.9**
	comp=Z,16nm,0.7s,mb5.0						
KIV	**Kislovodsk**	**31.61**	**3**	⇑*e*P	**P**	**16 27 04.9**	**+1.4**
KIV				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.4						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
KIV	**Kislovodsk**	**31.61**	**3**	*e*P	**P**	**16 27 04.9**	**+1.4**
	comp=Z,100nm,17.0s						
ANN	**Anapa**	**32.51**	**356**	*e*P	**P**	**16 27 16.9**	**+5.5**
ANN				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.6						
TORD	**Torodi Ar. Bea**	**37.87**	**276**	P	**P**	**16 27 58.8**	**+1.1**
	comp=Z,2.9nm,0.9s,mb4.0,baz=93,slow=6.0,SNR=15						
TORD				PcP	PcP	16 30 15.1	+1.2
	comp=Z,1.1nm,1.0s,baz=92,slow=3.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**37.87**	**276**	P	**P**	**16 27 58.8**	**+1.1**
TORD				PcP	PcP	16 30 15.1	+1.2
AQU	**L'Aquila**	**38.12**	**327**	P	**P**	**16 27 56.2**	**-3.6**
AQU				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
AQU	**L'Aquila**	**38.12**	**327**	P	**P**	**16 27 56.2**	**-3.6**
	comp=Z,19nm,1.0s,mb4.8						
TSUM	**Tsumeb**	**38.61**	**216**	P	**P**	**16 28 04.0**	**+0.1**
	comp=Z,5.6nm,1.1s,mb4.2						
TSUM	**Tsumeb**	**38.61**	**216**	P	**P**	**16 28 04.0**	**+0.1**
	comp=Z,5.6nm,1.1s,mb4.2						
AKASG	**Malin Array Be**	**39.40**	**349**	P	**P**	**16 28 09.7**	**-0.9**
	comp=Z,1.5nm,0.8s,mb3.8,baz=170,slow=7.2,SNR=14						
AKASG				PcP	PcP	16 30 17.5	-1.1
	comp=Z,0.1nm,0.3s,baz=193,slow=3.7,SNR=4.7						
AKASG	**Malin Array Be**	**39.40**	**349**	P	**P**	**16 28 09.7**	**-0.9**
AKASG				PcP	PcP	16 30 17.5	-1.1
AKASG	**Malin Array Be**	**39.40**	**349**	PcP	PcP	16 30 17.5	-1.1
BOJS	**Bojanci**	**39.48**	**332**	*e*P	**P**	**16 28 12.1**	**+0.9**
PSZ	**Piszkesteto**	**39.49**	**338**	*e*P	**P**	**16 28 08.9**	**-2.3**
PSZ				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.7						
PSZ	**Piszkesteto**	**39.49**	**338**	*e*P	**P**	**16 28 08.9**	**-2.3**
	comp=Z,21nm,1.4s,mb4.7						
PSZ	**Piszkesteto**	**39.49**	**338**	*e*P	**P**	**16 28 08.9**	**-2.3**
	comp=Z,21nm,1.4s,mb4.7						
CRES	**Cresnjev**	**39.63**	**332**	*e*P	**P**	**16 28 13.5**	**+1.1**
KECS	**Kecovo**	**39.76**	**339**	*e*P	**P**	**16 28 14.0**	**+0.5**
KECS				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
KECS	**Kecovo**	**39.76**	**339**	*e*P	**P**	**16 28 14.0**	**+0.5**
	comp=Z,2.1nm,1.1s,mb3.8						
LBTB	**Lobatse**	**39.84**	**201**	P	**P**	**16 28 15.0**	**+0.8**
LBTB				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
LBTB	**Lobatse**	**39.84**	**201**	P	**P**	**16 28 15.0**	**+0.9**
	comp=Z,3.8nm,1.2s,mb4.0						
LBTB	**Lobatse**	**39.84**	**201**	P	**P**	**16 28 15.0**	**+0.8**
	comp=Z,4.0nm,1.2s,mb4.0						
STHS	**Stebnicka Huta**	**40.30**	**341**	*e*P	**P**	**16 28 18.9**	**+0.9**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
STHS	**Stebnicka Huta**	**40.30**	**341**	*e*P	**P**	**16 28 18.9**	**+0.9**
	comp=Z,3.0nm,0.9s,mb4.0						
JAVS	**Javornik**	**40.32**	**331**	*e*P	**P**	**16 28 19.1**	**+1.0**
VYHS	**Vyhne**	**40.36**	**338**	*i* P	**P**	**16 28 18.9**	**+0.4**
VYHS				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.4						
VYHS	**Vyhne**	**40.36**	**338**	*i* P	**P**	**16 28 18.9**	**+0.4**
	comp=Z,11nm,1.5s,mb4.4						
PERS	**Pernice**	**40.40**	**333**	*e*P	**P**	**16 28 19.9**	**+1.2**
KOLL	**Kolacno**	**40.59**	**337**	*e*P	**P**	**16 28 20.8**	**+0.4**
ZST	**Bratislava**	**40.78**	**336**	*e*P	**P**	**16 28 22.8**	**+0.8**
ZST				pmax	pmax		
	comp=Z,42nm,2.1s,mb4.7						
ZST	**Bratislava**	**40.78**	**336**	*e*

CLL	Collm	44.87	336	⇑iP	P	16 28 54.4	-0.7
CLL				pmax	pmax		
comp=Z,8.0nm,1.3s,mb4.4							
MOX	Moxa	44.95	334	eP	P	16 28 55.0	-0.7
comp=Z,12nm,1.6s,mb4.5							
MOX	Moxa	44.95	334	eP	P	16 28 55.0	-0.7
MOX				pmax	pmax		
comp=Z,12nm,1.6s,mb4.5							
DBIC	Dimbokro	45.07	267	LR	LR	16 47 08.1	
comp=Z,51nm,18.3s,MS5.5,baz=80,slow=35							
ARU	Arti	46.20	14	⇓iP	P	16 29 05.6	0.0
ARU				e		16 30 34.4	
ARU				e		16 30 57.1	
ARU				eS	S	16 36 00.2	+8.3
ARU				pmax	pmax		
comp=Z,11nm,1.1s,mb4.7							
ARU	Arti	46.20	14	iP	P	16 29 05.6	0.0
comp=Z,11nm,1.1s,mb4.7							
ZRNK	Zerenda	46.51	23	eP	P	16 29 07.5	-0.6
ZRNK				pmax	pmax		
comp=Z,10.0nm,1.4s,mb4.5							
ZRNK	Zerenda	46.51	23	eP	P	16 29 07.5	-0.6
comp=Z,9.9nm,1.4s,mb4.5							
ZRNK	Zerenda	46.51	23	eP	P	16 29 07.5	-0.6
comp=Z,10.0nm,1.4s,mb4.5							
CHKZ	Chkalovo	47.69	24	eP	P	16 29 16.7	-0.6
CHKZ				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.4							
CHKZ	Chkalovo	47.69	24	eP	P	16 29 16.7	-0.6
comp=Z,5.3nm,1.3s,mb4.4							
CHKZ	Chkalovo	47.69	24	eP	P	16 29 16.7	-0.6
comp=Z,5.0nm,1.3s,mb4.4							
ESDC	Sonseca Array	47.74	313	P	P	16 29 18.2	+0.5
comp=Z,0.2nm,0.3s,mb3.6,baz=113,slow=8.6,SNR=7.4							
ESLA	Sonseca Array	47.74	313	eP	P	16 29 18.0	+0.3
comp=Z,12nm,1.8s,mb4.6							
KLMR	Klimovskoe	48.48	359	eP	P	16 29 22.1	-1.3
KLMR				pmax	pmax		
comp=Z,20nm,1.8s,mb4.8							
KLMR	Klimovskoe	48.48	359	eP	P	16 29 22.1	-1.3
comp=Z,20nm,1.8s,mb4.8							
MKAR	Makanchi Array	49.11	37	P	P	16 29 28.0	-0.2
comp=Z,2.3nm,0.9s,mb4.2,baz=232,slow=6.0,SNR=16							
KURK	Kurchatov	49.28	31	deP	P	16 29 29.5	-0.1
KURK	Kurchatov	49.28	31	eP	P	16 29 29.5	-0.1
FINES	FINESS Array B	50.19	351	P	P	16 29 35.6	-0.9
comp=Z,2.6nm,1.0s,mb4.2,baz=156,slow=9.8,SNR=7.5							
KONO	Kongsberg	52.56	341	eP	P	16 29 52.1	-2.1
NB2	NORSAR Subarra	53.16	343	P	P	16 29 57.5	-1.2
comp=Z,17nm,1.4s,mb4.8,baz=139,slow=7.9							
NB2	NORSAR Subarra	53.16	343	P	P	16 29 57.5	-1.2
NB2				pmax	pmax		
comp=Z,17nm,1.4s,mb4.8							
NOA	NORSAR Array B	53.16	343	P	P	16 29 57.4	-1.3
comp=Z,2.2nm,0.9s,mb4.1,baz=142,slow=7.4,SNR=5.1							
NOA	NORSAR Array B	53.16	343	P	P	16 29 57.4	-1.3
ZAL	Zalesovo	54.24	31	P	P	16 30 06.1	-0.5
comp=Z,1.1nm,0.7s,mb3.9,baz=251,slow=6.8,SNR=8.3							
KRAR	Krasnoyarsk	59.31	31	eP	P	16 30 41.4	-1.2
SONM	Songino Array	64.81	43	P	P	16 31 20.1	+0.6
comp=Z,2.6nm,1.2s,mb4.2,baz=235,slow=6.7,SNR=13							
SONM				LR	LR	17 03 17.0	
comp=Z,90nm,19.8s,MS4.0,baz=256,slow=40							
ULN	Ulaanbaatar	65.25	43	⇓eP	P	16 31 18.9	-3.5
FITZ	Fitzroy Crossi	89.20	109	LR	LR	17 06 35.7	
comp=Z,66nm,21.7s,MS4.0,baz=175,slow=31							

*ISCJB **17** 16:22:13.1±0.2,4574N±002×11185W±002,h10km, mb3.8/7,Error ellipse: s-maj=2.5km s-min=2.1km az=116.3*
*IDC **17** 16:22:13.1±0.7,4567N×11189W,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.7/23,mbtmp3.8/8,ML3.2/2,MS2.9/2, Ms1 2.8/2,ms1mx2.5/28,Error ellipse: s-maj=14.2km s-min=9.7km az=81.0*
*NEIC **17** 16:22:13.5,4560N×11191W,h11km,mb3.9/3, ML3.8(BUT),MW3.8(SLM),After BUT.*
NEIC Felt [IV] at Harrison, [III] at Pony and [II] at Livingston. Felt at Anaconda, Bozeman, Butte, Cardwell, Ennis, Gallatin Gateway, Helena, Manhattan, Sheridan, Virginia City and Whitehall.

ISC 17 16:22:14.4±0.2,4575N±002×11177W±002,h10km,n121, σ1°32/151,mb3.8/7,28C-23D,Montana

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOZ	Bozeman (W)	0.14	136	ePg	Pg	Pg	16 22 17.3	-0.3
BOZ				eSg	Sg	Sg	16 22 19.4	-0.4
LRM	Limekiln Ridge	0.48	279	ePg	Pg	Pg	16 22 21.2	-2.7
BGMT	Barton Gulch	0.55	200	⇑iP	Pg	Pg	16 22 20.9	-4.2
SXM	Sixmile	0.56	44	⇑iP	Pg	Pg	16 22 27.5	+2.2
BZMT	Bozeman Pass	0.69	98	⇑iP	Pg	Pg	16 22 28.3	+0.6
DLMT	Dillon	0.70	237	ePg	Pg	Pg	16 22 23.6	-4.3
ELMT	Elliston	0.87	333	eP	Pg	Pg	16 22 32.3	+1.1
QLMT	Earthquake Lak	0.95	165	ePg	Pg	Pg	16 22 29.2	-3.5
HRY	Holter Researc	0.96	357	ePg	Pg	Pg	16 22 34.1	+1.2
MSMT	Mission Creek	1.00	96	⇑iP	Pg	Pg	16 22 33.7	+0.1
BEMT	Mount Belmont	1.07	339	eP	Pg	Pg	16 22 35.1	+0.1
CRMT	Chrome Mountai	1.18	104	⇑iP	Pb	Pg	16 22 36.2	-0.6
MCMT	McKenzie Canyo	1.20	220	ePg	Pg	Pg	16 22 32.5	-4.9
YMR	Madison River	1.22	152	ePg	Pg	Pg	16 22 34.9	-3.0
YMR				eSg	Sg	Sg	16 22 50.7	-3.0
CMI	Centennial Mou	1.23	175	⇓eP	Pn	Pn	16 22 33.7	-3.9
BPMT	Black Pine Rid	1.36	301	⇑iP	Pn	Pn	16 22 38.8	-0.5
STMT	Stillwater Min	1.39	104	⇑eP	Pn	Pn	16 22 39.7	-0.1
YFT	Old Faithful	1.46	153	ePn	Pn	Pn	16 22 39.4	-1.4
GCMT	Greycliff	1.47	88	ePg	Pg	Pg	16 22 42.1	-0.5
LKWY	Lake	1.53	140	ePn	Pn	Pn	16 22 42.2	+0.5
CHMT	Chamberlain Mo	1.55	319	ePn	Pn	Pn	16 22 42.4	+0.3
OVMT	Ovando	1.57	328	⇓eP	Pn	Pn	16 22 42.8	+0.5
FLWY	Flagg Ranch	1.83	155	ePn	Pn	Pn	16 22 45.3	-0.6
FLWY				eSn	Sn	Sn	16 23 09.4	+0.2
IMW	Indian Meadow	1.94	162	ePn	Pn	Pn	16 22 46.6	-0.8
IMW				eSn	Sn	Sn	16 23 10.9	-1.0
MOOW	Moose Ponds	2.13	160	ePn	Pn	Pn	16 22 49.3	-0.7
MOOW				eSn	Sn	Sn	16 23 16.6	+0.1
DCID1	Drake Creek	2.19	169	ePn	Pn	Pn	16 22 50.6	-0.3
DCID1				eSn	Sn	Sn	16 23 17.7	-0.4
TPAW	Teton Pass	2.33	165	ePn	Pn	Pn	16 22 52.6	-0.2
TPAW				eSn	Sn	Sn	16 23 20.4	-1.1
FBMT	Ferry Basin	2.47	313	⇓eP	Pn	Pn	16 22 54.7	0.0
REDW	Red Top Meadow	2.47	164	ePn	Pn	Pn	16 22 55.6	+0.8
BLMT	Blacktail Moun	2.88	323	⇓eP	Pn	Pn	16 23 01.3	+0.9
HLID	Hailey	2.89	222	ePn	Pn	Pn	16 22 58.4	-2.1
HLID				eSn	Sn	Sn	16 23 35.4	+0.2
BHMT	Big Hole Peak	2.90	310	eP	Pn	Pn	16 23 01.5	+0.8
BSMT	Bassoo Peak	2.95	316	ePn	Pn	Pn	16 23 02.7	+1.3
AHID	Auburn Hatcher	3.02	171	ePn	Pn	Pn	16 23 00.8	-1.5
AHID				eSn	Sn	Sn	16 23 39.6	+1.0
PDAR	Pinedale Array	3.38	151	Pn	Pn	Pn	16 23 10.4	+3.3
2.3nm,0.3s,baz=346,slow=16,SNR=68								
PDAR				Lg			16 23 56.4	
2.7nm,0.3s,baz=346,slow=18,SNR=8.2								
PDAR				LR	LR		16 24 38.6	
comp=Z,129nm,18.4s,baz=162,slow=43								
WALA	Waterton Lakes	3.62	337	ePn	Pn	Pn	16 23 14.4	+3.9
WALA				ePg	Pg	Pg	16 23 23.1	-0.6
WALA				eSg	Sg	Sg	16 24 09.4	-1.2
LAO	LASA Array	3.96	74	ePn	Pn	Pn	16 23 15.8	+0.6
LAO				ePg	Pg	Pg	16 23 28.1	-2.2
LAO				eSn	Sn	Sn	16 24 05.8	+4.1
HVU	Hansel Valley	4.03	191	ePn	Pn	Pn	16 23 18.6	+2.4
HVU				eSn	Sn	Sn	16 24 13.6	+10
HWUT	Hardware Ranch	4.14	178	ePn	Pn	Pn	16 23 20.9	+3.2
NEW	Newport	4.44	306	ePn	Pn	Pn	16 23 20.5	-1.4
NEW				ePg	Pg	Pg	16 23 35.7	-3.8
NEW				eSn	Sn	Sn	16 24 12.6	-1.1
NEW				eSg	Sg	Sg	16 24 31.1	-6.0
SPUT	South Promonto	4.47	187	ePn	Pn	Pn	16 23 16.9	-5.3
SPUT				eS	Sb	Sb	16 24 25.2	-1.6
TCUT	Toone Canyon	4.64	177	ePn	Pn	Pn	16 23 22.8	-1.7
M13A	Montello	4.72	202	⇓P	Pn	Pn	16 23 27.8	+2.2
baz=4.5,SNR=14								
M13A				⇑S	Sb	Sb	16 24 32.7	-1.4
baz=4.5								
M12A	Wells	4.90	209	⇓P	Pn	Pn	16 23 29.1	+1.1
baz=4.7,SNR=15								
M12A				⇑S	Sb	Sb	16 24 38.1	-1.1
baz=4.7								
BGU	Big Grassy Mou	4.91	191	ePn	Pn	Pn	16 23 30.6	+2.4
BGU				eSn	Sn	Sn	16 24 27.7	+2.6
CTU	Camp Tracy	5.05	180	ePn	Pn	Pn	16 23 26.8	-3.4
NOQ	North Oquirrh	5.10	183	ePn	Pn	Pn	16 23 31.5	+0.6
NOQ				eS	Sb	Sb	16 24 46.1	+1.0
N13A	West Wendover	5.20	201	⇓P	Pn	Pn	16 23 33.1	+0.8
baz=5.0,SNR=20								
N13A				⇓S	Sb	Sb	16 24 45.4	-2.6
baz=5.0								
M11A	Holland Ranch,	5.21	215	⇓P	Pn	Pn	16 23 33.6	+1.2
baz=5.0								
M11A				⇑S	Sb	Sb	16 24 45.6	-2.7
baz=5.0								
RWWY	Rawlins	5.23	139	ePn	Pn	Pn	16 23 27.6	-5.0
DAU	Daniels Canyon	5.35	176	ePn	Pn	Pn	16 23 35.4	+1.2
HAWA	Hanford	5.44	280	ePn	Pn	Pn	16 23 34.5	-1.1
N12A	Wells--Clov Va	5.45	207	⇑P	Pn	Pn	16 23 37.6	+2.0
baz=5.3								
N12A				⇑S	Sb	Sb	16 24 51.4	-3.5
baz=5.3								
DUG	Dugway	5.60	188	ePn	Pn	Pn	16 23 35.3	-2.5
34nm,0.8s								
L09A	Wilkinson Ranc	5.66	231	⇓P	Pn	Pn	16 23 39.7	+1.1
baz=5.5								
RSSD	Black Hills	5.73	104	ePn	Pn	Pn	16 23 39.5	0.0
RSSD				eS	Sb	Sb	16 25 00.5	-2.6
MPU	Maple Canyon	5.73	179	ePn	Pn	Pn	16 23 40.5	+1.0
NLU	North Lily Min	5.80	182	ePn	Pn	Pn	16 23 38.8	-1.6
WVOR	Wild Horse Val	5.95	239	ePn	Pn	Pn	16 23 41.3	-1.2
72nm,1.0s								
M09A	Marrel Ranch,	5.98	226	⇑P	Pn	Pn	16 23 43.1	+0.2
baz=5.8,SNR=8.5								
K07A	Rock Creek Ran	6.18	243	⇑P	Pn	Pn	16 23 44.8	-0.9
baz=6.0								
I06A	Prineville	6.27	256	⇑P	Pn	Pn	16 23 44.9	-2.1
baz=6.1								
I06A				⇑S	Sn	Sn	16 25 02.3	+3.7
baz=6.1								
O11A	Cowboy Ranch,	6.30	208	⇑P	Pn	Pn	16 23 49.1	+1.8
baz=6.1								
PHWY	Pilot Hill	6.39	132	ePn	Pn	Pn	16 23 48.0	-0.5
PNT	Penticton	6.40	307	eP	Pn	Pn	16 23 47.1	-1.7
M08A	Happy Creek Ra	6.44	230	⇓P	Pn	Pn	16 23 49.6	+0.3
baz=6.3								
TMUT	Trail Mountain	6.46	176	ePn	Pn	Pn	16 23 51.1	+1.6
J06A	Christmas Vall	6.49	250	⇑P	Pn	Pn	16 23 49.4	-0.6
baz=6.3								
BMN	Battle Mountai	6.65	219	ePn	Pn	Pn	16 23 52.4	+0.3
47nm,1.2s								
BMN				ePb	Pb	Pb	16 24 03.5	-6.5
P12A	McGill	6.69	201	⇓P	Pn	Pn	16 23 53.9	+1.2
baz=6.5								
SRU	San Rafael	6.70	172	ePn	Pn	Pn	16 23 54.0	+1.2
G05A	Wamic	6.73	269	⇓P	Pn	Pn	16 23 49.1	-4.2
baz=6.6								
G05A				⇑S	Sn	Sn	16 25 11.5	+1.5
baz=6.6								
K06A	Valley Falls	6.76	247	⇑P	Pn	Pn	16 23 52.6	-1.2
baz=6.6								
F05A	White Salmon	6.78	275	⇓P	Pn	Pn	16 23 48.6	-5.3
baz=6.7								
F05A				⇓S	Sn	Sn	16 25 11.1	0.0
baz=6.7								
N08A	GE Springer Mi	6.80	225	⇑P	Pn	Pn	16 23 55.7	+1.5
baz=6.6								
O09A	Fish Creek Ran	6.85	217	⇑P	Pn	Pn	16 23 56.8	+2.0
baz=6.7								
M07A	Soldier Meadow	6.92	234	⇓P	Pn	Pn	16 23 56.6	+0.7
baz=6.7								
HOOD	Mount Hood Mea	6.96	270	ePn	Pn	Pn	16 23 57.8	+1.4
HOOD				eSg	Sg	Sg	16 25 52.6	-5.0
E05A	Randle	6.99	280	⇓S	Sn	Sn	16 25 13.7	-2.6
baz=6.9								
LON	Longmire	7.04	282	ePn	Pn	Pn	16 23 56.9	-0.5
C05A	Tolt Reservoir	7.09	289	⇑S	Sn	Sn	16 25 15.5	-3.3
baz=7.0								
N07B	Gerlach	7.23	229	⇓P	Pn	Pn	16 24 01.9	+1.8
baz=7.0								
MSU	Marysvale	7.24	183	ePn	Pn	Pn	16 23 59.9	-0.3
MVU	Marysvale	7.25	183	ePn	Pn	Pn	16 24 00.3	0.0
MOD	Modoc	7.27	241	ePn	Pn	Pn	16 24 01.1	+0.4
H04A	Detroit Lake	7.44	265	⇓P	Pn	Pn	16 24 01.4	-1.6
baz=7.3								
SMCO	Snowmass	7.46	150	ePn	Pn	Pn	16 24 03.9	+0.7
Q11A	Duckwater	7.47	204	⇓P	Pn	Pn	16 24 06.8	+3.4
baz=7.3								
ISCO	Idaho Springs	7.47	141	ePn	Pn	Pn	16 24 04.9	+1.4
B05A	Bryant	7.50	293	⇓S	Sn	Sn	16 25 23.6	-5.2
baz=7.4								
EDM	Edmonton	7.55	353	ePn	Pn	Pn	16 24 04.1	-0.4
M06C	Likely Place G	7.80	237	⇑P	Pn	Pn	16 24 08.0	+0.1
baz=7.6								
PV01	Paradox Valley	7.97	162	ePn	Pn	Pn	16 24 11.1	+0.8
ARUT	Antelope Range	8.05	189	ePn	Pn	Pn	16 24 11.2	-0.2
M05C	Lookout	8.10	241	⇑P	Pn	Pn	16 24 12.3	+0.2
baz=7.9								
O06A	Flanigan	8.13	229	⇑P	Pn	Pn	16 24 14.4	+2.0
baz=7.9								
COR	Corvallis	8.23	266	ePn	Pn	Pn	16 24 17.4	+3.5
PAHR	Pah Rah Range	8.24	226	ePn	Pn	Pn	16 24 09.7	-4.3
HATC	Hat Creek Radi	8.61	239	⇑P	Pn	Pn	16 24 21.2	+2.1
baz=8.4								
MNV	Mina	8.71	215	Pn	Pn	Pn	16 24 18.2	-2.3
O04C	Chester	8.72	235	⇓P	Pn	Pn	16 24 22.6	+2.1
baz=8.5								
NVAR	Mina Array Bea	8.78	216	Pn	Pn	Pn	16 24 22.0	+0.7
baz=34,slow=13								
MVCO	Mesa Verde	8.88	163	ePn	Pn	Pn	16 24 22.1	-0.6
YBH	Yreka Blue Hor	8.88	247	⇑P	Pn	Pn	16 24 23.2	+0.4
baz=8.7								
S09A	Goldfield	8.99	209	⇓P	Pn	Pn	16 24 26.7	+2.4
baz=8.8								
ULM	Lac du Bonnet	11.56	61	Pn	Pn	Pn	16 24 58.5	-0.9
0.3nm,0.3s,baz=252,slow=14,SNR=5.8								
ULM				Lg			16 28 11.4	
1.1nm,0.3s,baz=163,slow=18,SNR=4.9								
ULM				LR	LR		16 29 55.4	
comp=Z,64nm,20.5s,baz=326,slow=40								
ULM	Lac du Bonnet	11.56	61	Pn	Pn	Pn	16 24 58.5	-0.9
ULM				Lg			16 28 11.3	
ULM				LR	LR		16 29 55.4	
PTRM	Twissleman Ran	11.94	215	ePn	Pn	Pn	16 25 04.5	-0.2
MNTX	Cornudas Mount	14.88	158	ePn	Pn	Pn	16 25 45.2	+0.5
7.2nm,1.0s								
YKA	Yellowknife Ar	16.86	355	Pn	Pn	Pn	16 26 08.9	-1.6
baz=179,slow=13,SNR=6.3								
MIAR	Mount Ida	17.81	123	P	Pn	Pn	16 26 22.2	-0.1
2.7nm,0.7s								
JCT	Junction City	17.89	144	ePn	Pn	Pn	16 26 23.1	-0.2
13nm,1.0s								
LRAL	Lakeview Retre	22.86	115	eP	P	P	16 27 18.2	+0.4
6.8nm,0.8s,mb4.1								
UNV	Unalaska Valle	35.45	303	eP	P	P	16 29 09.4	-1.4
NOA	NORSAR Array B	64.02	27	P	P	P	16 32 49.9	+1.8
0.9nm,0.9s,mb3.8,baz=314,slow=6.6,SNR=3.6								
FINES	FINESS Array B	67.87	20	P	P	P	16 33 12.5	-0.4
1.2nm,0.8s,mb4.0,baz=1.9,slow=5.7,SNR=5.2								
ESDC	Sonseca Array	73.22	50	P	P	P	16 33 46.5	+1.0
0.6nm,0.5s,mb3.8,baz=317,slow=6.3,SNR=5.5								
SONM	Songino Array	80.99	335	P	P	P	16 34 30.4	+1.2
0.4nm,0.6s,mb3.5,baz=34,slow=5.4,SNR=4.3								
BVAR	Borovoye Array	81.59	359	P	P	P	16 34 31.4	-1.0
0.9nm,0.7s,mb3.8,baz=341,slow=3.1,SNR=8.0								
MKAR	Makanchi Array	87.02	350	P	P	P	16 34 59.6	-0.4
0.4nm,0.9s,mb3.7,baz=16,slow=6.3,SNR=4.2								
WRA	Warramunga Arr	120.59	272	PKP	PKPdf		16 41 05.8	-0.5
0.4nm,0.7s,baz=38,slow=2.6,SNR=4.6								

*ISCJB **17** 16:22:40.8±0.6,3998N±003×2329E±004,h8km±6km, Error ellipse: s-maj=5.6km s-min=4.2km az=38.4*
*NEIC **17** 16:22:41.1,3995N×2322E,h31km,MD3.4(ATH),After ATH.*
*ATH **17** 16:22:41.1,3995N×2322E,h31km±2km,MD3.4/4*
*THE **17** 16:22:41.9,4000N×2330E,h9km*
*CSEM **17** 16:22:41.1±0.2,3999N×2298E,h15km,MD3.4,Error ellipse: s-maj=12.7km s-min=3.5km az=86.0*

ISC 17 16:22:41.5±0.6,3997N±003×2329E±004,h14km±5km,n14, σ0°64/25,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLG	Polygyros	0.42	16	ePB	Pg	Pg	16 22 50.6	+0.7
LIT	Litokhoron	0.63	282	ePg	Pg	Pg	16 22 53.8	0.0
LIT				eSg	Sg	Sg	16 23 03.0	+0.9
OUR	Ouranopolis	0.64	56	ePg	Pg	Pg	16 22 53.9	-0.2
OUR				eSg	Sg	Sg	16 23 02.7	+0.2
NEO	Neokhori	0.67	184	ePN	Pg	Pg	16 22 54.5	0.0
THE	Thessaloniki	0.70	339	ePg	Pg	Pg	16 22 54.5	-0.7
THE				eSg	Sg	Sg	16 23 04.6	+0.1
SOH	Sokhos	0.85	3	ePg	Pg	Pg	16 22 57.4	-0.6
SOH				eSg	Sg	Sg	16 23 09.5	+0.4
GRG	Griva	1.19	326	ePg	Pg	Pg	16 23 03.8	-0.7
GRG				eSg	Sg	Sg	16 23 20.1	0.0
AGG	Agios Georgios	1.21	218	ePg	Pg	Pg	16 23 04.5	-0.2
AGG				eSg	Sg	Sg	16 23 21.6	+1.1
KNT	Kendrikon	1.22	346	ePg	Pg	Pg	16 23 04.2	-0.9
KNT				eSg	Sg	Sg	16 23 21.0	0.0
LKR	Lokris	1.34	190	ePN	Pn	Pn	16 23 04.9	-0.9
NVR	Nevrokopi	1.44	17	ePN	Pn	Pn	16 23 07.9	+0.7
NVR				eSN	Sn	Sn	16 23 26.8	+0.9
VAY	Valandovo	1.45	338	ePn	Pn	Pn	16 23 07.4	+0.1
VAY				eSg	Sg	Sg	16 23 28.5	+0.1
VAY	Valandovo	1.45	338	ePn	Pn	Pn	16 23 07.4	+0.1
VAY				eSg	Sg	Sg	16 23 28.4	0.0
FNA	Florina	1.67	300	ePb	Pb	Pb	16 23 10.5	-1.5
FNA				eSb	Sb	Sb	16 23 33.1	+0.2

*ISCJB **17** 16:23:27.8±0.4,4000N±002×2333E±004,h8km±5km, Error ellipse: s-maj=5.5km s-min=3.1km az=160.3*
*NEIC **17** 16:23:27.4,3995N×2353E,h5km,MD3.0(ATH),After ATH.*
*ATH **17** 16:23:27.8,3997N×2343E,h18km±4km,MD3.0/3*
*CSEM **17** 16:23:27.5±0.1,4001N×2319E,h8km,MD3.0,Error ellipse: s-maj=6.6km s-min=2.3km az=91.0*
*THE **17** 16:23:28.8,4000N×2331E,h4km,ML3.3*

ISC 17 16:23:28.7±0.4,3999N±002×2331E±004,h8km±4km,n31, σ0°94/44,11C-3D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLG	Polygyros	0.40	15	ePB	Pg	Pg	16 23 35.5	-1.0
PLG				eSB	Sg	Sg	16 23 41.5	-0.3
OUR	Ouranopolis	0.62	56	ePg	Pg	Pg	16 23 41.0	+0.2
XOR	Xorichti	0.63	188	ePg	Pg	Pg	16 23 41.3	+0.4
XOR				eSg	Sg	Sg	16 23 50.0	+0.9
LIT	Litokhoron	0.64	280	ePg	Pg	Pg	16 23 40.8	-0.2
LIT				eSg	Sg	Sg	16 23 50.6	+1.2
NEO	Neokhori	0.69	186	ePN	Pg	Pg	16 23 41.0	-0.9
NEO				eSN	Sg	Sg	16 23 50.7	-0.2
NEO	Neokhori	0.69	186	ePg	Pg	Pg	16 23 40.4	-1.5
NEO				eSb	Sg	Sg	16 23 50.7	-0.2
THE	Thessaloniki	0.69	338	ePg	Pg	Pg	16 23 41.7	-0.4
SOH	Sokhos	0.83	2	ePg	Pg	Pg	16 23 44.3	-0.4
AOS	Alonnisos	0.93	151	ePg	Pg	Pg	16 23 45.9	-0.7
AOS				eSg	Sg	Sg	16 23 59.6	+0.9
GRG	Griva	1.19	325	ePg	Pg	Pg	16 23 50.9	-0.6
GRG				eSg	Sg	Sg	16 24 07.4	+0.4
KNT	Kendrikon	1.21	345	ePg	Pg	Pg	16 23 51.5	-0.5
KNT				eSg	Sg	Sg	16 24 08.8	+1.0
AGG	Agios Georgios	1.23	218	ePg	Pg	Pg	16 23 51.8	-0.5
AGG				eSg	Sg	Sg	16 24 10.7	+2.4
LKR	Lokris	1.36	190	ePb	Pb	Pb	16 23 53.4	-1.0
NVR	Nevrokopi	1.42	17	ePN	Pn	Pn	16 23 54.6	-0.2
NVR				eSN	Sn	Sn	16 24 14.1	+0.4
VAY	Valandovo	1.44	337	ePn	Pn	Pn	16 23 54.9	-0.3
VAY				eSg	Sg	Sg	16 24 15.7	+0.5
VAY	Valandovo	1.44	337	ePn	Pn	Pn	16 23 54.8	-0.3
VAY				eSg	Sg	Sg	16 24 15.6	+0.4
FNA	Florina	1.68	299	ePb	Pb	Pb	16 23 57.6	-2.2
FNA				eSb	Sb	Sb	16 24 20.2	-0.9
VTS	Vitosha	2.60	358	⇓iP	Sn	Sn	16 24 43.2	+0.4
APE	Apeiranthos	3.40	148	⇑iP	Pn	Pn	16 24 21.1	-0.9
APE	Apeiranthos	3.40	148	⇑P	Pn	Pn	16 24 21.1	-0.9
VOIR		5.59	13	⇑iP	Pn	Pn	16 24 53.7	+1.5
VOIR		5.59	13	⇑P	Pn	Pn	16 24 53.7	+1.5
BZS	Buzias	5.76	348	⇓iP	Pn	Pn	16 24 53.6	-0.9
BZS	Buzias	5.76	348	⇓P	Pn	Pn	16 24 53.6	-0.8
MLR	Muntele Rosu	5.83	19	⇑iP	Pn	Pn	16 24 56.3	+0.9
MLR	Muntele Rosu	5.83	19	⇑P	Pn	Pn	16 24 56.3

ISC 17 16:53:09.9±0.8, 1209N±010×4044E±003, h10km, n93, σ1§03/90, mb4.1/27, MS3.5/6, 8C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.42**	**103**	Pn	**Pn**	**16 53 49.9**	**+0.3**
	32nm,0.3s,baz=242,slow=23,SNR=58						
ATD				Lg		16 54 22.8	
	79nm,0.3s,baz=110,slow=23,SNR=21						
ATD	**Arta Tunnel**	**2.42**	**103**	Pn	**Pn**	**16 53 49.8**	**+0.3**
TRBA	**At Turbah**	**3.76**	**72**	*e*P	**Pn**	**16 54 07.1**	**-0.8**
TRBA				*i* S	**Sn**	**16 54 57.8**	**+5.5**
TRBA				AML	AML	16 55 06.6	
	comp=N,1μm,0.6s						
UDYN	**Al 'Udayn**	**3.91**	**61**	*e*P	**Pn**	**16 54 10.4**	**+0.3**
UDYN				*i* S	**Sn**	**16 55 00.9**	**+4.9**
UDYN				AML	AML	16 55 16.9	
	comp=Z,2μm,0.8s						
ADEN	**Aden**	**4.49**	**81**	*e*P	**Pn**	**16 54 15.9**	**-2.1**
ADEN				*i* S	**Sn**	**16 55 12.1**	**+1.8**
HAJJ	**Hajjah**	**4.72**	**40**	*e*P	**Pn**	**16 54 17.0**	**-4.1**
HAJJ				*i* S	**Sn**	**16 55 15.2**	**-0.8**
LBOS		**5.01**	**69**	*e*P	**Pn**	**16 54 22.2**	**-3.0**
LBOS				*i* S	**Sn**	**16 55 23.6**	**+0.5**
BDHA	**Al Bayda'**	**5.34**	**69**	*e*P	**Pn**	**16 54 26.2**	**-3.4**
BDHA				*i* S	**Sn**	**16 55 32.3**	**+1.1**
JAWL	**J.Aulia**	**8.34**	**293**	*i* S	Sx	16 57 29.2	
SLAT	**Slait**	**8.40**	**297**	*i* S	Sx	16 57 30.6	
MRKH	**Merkhyat**	**8.62**	**296**	*i* S	Sx	16 57 35.2	
MUKL	**Al Mukalla**	**8.70**	**73**	*i* S	**Sn**	**16 56 54.2**	**+0.3**
KMBO	**Kilima Mbogo**	**13.51**	**194**	LR	LR	17 02 10.2	
	comp=Z,110nm,19.2s,baz=88,slow=39						
EIL	**Elat**	**18.22**	**345**	P	**Pn**	**16 57 18.0**	**-4.9**
	comp=Z,232nm,1.3s						
EIL	**Elat**	**18.22**	**345**	P	**Pn**	**16 57 18.0**	**-4.9**
	comp=Z,232nm,1.3s						
ASF	**Jabal al Asfar**	**20.25**	**351**	P	**P**	**16 57 46.6**	**+1.2**
	comp=Z,6.6nm,0.7s,baz=67,slow=1.7,SNR=8.6						
WSAR	**Wadi Sarin**	**20.55**	**55**	LR	LR	17 06 35.9	
	comp=Z,250nm,20.0s,MS3.6,baz=10,slow=40						
MMAI	**Mount Meron Ar**	**21.34**	**348**	P	**P**	**16 57 58.0**	**+1.0**
	comp=Z,1.1nm,0.6s,mb3.4,baz=150,slow=10,SNR=4.1						
MALT	**Malatya**	**26.18**	**356**	*e*P	**P**	**16 58 45.7**	**+1.2**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
MALT	**Malatya**	**26.18**	**356**	*e*P	**P**	**16 58 45.7**	**+1.2**
	comp=Z,6.3nm,1.1s,mb4.1						
MALT	**Malatya**	**26.18**	**356**	*e*P	**P**	**16 58 45.7**	**+1.2**
	comp=Z,6.0nm,1.1s,mb4.0						
BRTR	**Keskin Array B**	**28.18**	**349**	P	**P**	**16 59 03.0**	**+0.5**
	comp=Z,1.8nm,0.9s,mb3.7,baz=163,slow=9.0,SNR=9.9						
BRTR	**Keskin Array B**	**28.18**	**349**	⇑*e*P	**P**	**16 59 03.7**	**+1.2**
BR131	**Keskin Array S**	**28.18**	**349**	P	**P**	**16 59 03.2**	**+0.7**
	comp=Z,13nm,1.4s,mb4.3						
BR131	**Keskin Array S**	**28.18**	**349**	P	**P**	**16 59 03.2**	**+0.7**
	comp=Z,13nm,1.4s,mb4.3						
GNI	**Garni**	**28.21**	**7**	LR	LR	17 10 07.8	
	comp=Z,45nm,21.3s,MS3.0,baz=349,slow=36						
GNI	**Garni**	**28.21**	**7**	⇑*e*P	**P**	**16 59 03.8**	**+1.1**
GNI				pmax	pmax		
	comp=Z,17nm,1.3s						
GNI	**Garni**	**28.21**	**7**	*e*P	**P**	**16 59 03.8**	**+1.1**
	comp=Z,17nm,1.3s,mb4.5						
LSZ	**Lusaka**	**29.77**	**204**	LR	LR	17 11 46.4	
	comp=Z,130nm,21.7s,MS3.5,baz=36,slow=37						
KIV	**Kislovodsk**	**31.81**	**3**	*e*P	**P**	**16 59 35.9**	**+1.3**
KIV				*e*		17 02 18.9	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
KIV	**Kislovodsk**	**31.81**	**3**	*e*P	**P**	**16 59 35.9**	**+1.3**
	comp=Z,4.0nm,1.2s,mb4.1						
TIP	**Timpagrande**	**34.19**	**326**	P	**P**	**16 59 56.5**	**+1.1**
TIP	**Timpagrande**	**34.19**	**326**	P	**P**	**16 59 56.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**37.80**	**276**	P	**P**	**17 00 29.3**	**+3.0**
	comp=Z,1.1nm,0.8s,mb3.6,baz=95,slow=6.7,SNR=8.0						
AKASG	**Malin Array Be**	**39.58**	**349**	P	**P**	**17 00 39.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=170,slow=7.4,SNR=6.5						
AKASG	**Malin Array Be**	**39.58**	**349**	*i* P	**P**	**17 00 40.7**	**-0.6**
BOJS	**Bojanci**	**39.61**	**332**	*e*P	**P**	**17 00 41.0**	**-0.6**
PSZ	**Piszkesteto**	**39.64**	**338**	*e*P	**P**	**17 00 41.5**	**-0.3**
PSZ				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
PSZ	**Piszkesteto**	**39.64**	**338**	*e*P	**P**	**17 00 41.5**	**-0.3**
	comp=Z,6.6nm,1.1s,mb4.3						
PSZ	**Piszkesteto**	**39.64**	**338**	*e*P	**P**	**17 00 41.5**	**-0.3**
	comp=Z,7.0nm,1.1s,mb4.3						
CRES	**Cresnjev**	**39.76**	**333**	*e*P	**P**	**17 00 44.0**	**+1.1**
GOLS	**Golise**	**39.83**	**333**	*e*P	**P**	**17 00 44.4**	**+1.1**
STHS	**Stebnicka Huta**	**40.46**	**341**	*e*P	**P**	**17 00 47.6**	**-1.0**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.9						
STHS	**Stebnicka Huta**	**40.46**	**341**	*e*P	**P**	**17 00 47.6**	**-1.0**
	comp=Z,3.0nm,1.3s,mb3.9						
VYHS	**Vyhne**	**40.51**	**338**	*e*P	**P**	**17 00 49.4**	**+0.4**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.0						
VYHS	**Vyhne**	**40.51**	**338**	*e*P	**P**	**17 00 49.4**	**+0.4**
	comp=Z,6.0nm,1.6s,mb4.0						
VOJS	**Vojsko**	**40.64**	**331**	*e*P	**P**	**17 00 51.0**	**+0.9**
ZST	**Bratislava**	**40.93**	**336**	*e*P	**P**	**17 00 53.1**	**+0.6**
ZST				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.3						
ZST	**Bratislava**	**40.93**	**336**	*e*P	**P**	**17 00 53.1**	**+0.6**
	comp=Z,12nm,1.6s,mb4.3						
VRAC	**Vranov**	**42.02**	**337**	*e*P	**P**	**17 01 01.5**	**0.0**
MORC	**Moravsky Berou**	**42.05**	**338**	P	**P**	**17 01 00.2**	**-1.5**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
MORC	**Moravsky Berou**	**42.05**	**338**	P	**P**	**17 01 00.2**	**-1.5**
	comp=Z,1.8nm,0.8s,mb3.8						
MORC	**Moravsky Berou**	**42.05**	**338**	P	**P**	**17 01 00.2**	**-1.5**
	comp=Z,2.0nm,0.8s,mb3.8						
AAK	**Ala-Archa**	**42.40**	**38**	*ce*P	**P**	**17 01 04.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.6						
AAK	**Ala-Archa**	**42.40**	**38**	*e*P	**P**	**17 01 04.8**	**+0.3**
	comp=Z,3.0nm,1.7s,mb3.6						
GERES	**GERESS Array B**	**42.84**	**334**	P	**P**	**17 01 07.7**	**-0.4**
	comp=Z,1.5nm,0.8s,mb3.8,baz=139,slow=7.1,SNR=12						
DPC	**Dobruska-Polom**	**42.97**	**337**	*e*P	**P**	**17 01 08.9**	**-0.3**
OBN	**Obninsk**	**43.03**	**357**	⇓*e*P	**P**	**17 01 08.6**	**-1.0**
OBN				pmax	pmax		
	comp=Z,24nm,1.7s,mb4.7						
OBN	**Obninsk**	**43.03**	**357**	*e*P	**P**	**17 01 08.6**	**-1.0**
	comp=Z,24nm,1.7s,mb4.7						
BOSA	**Boshof**	**43.04**	**200**	LR	LR	17 19 09.7	
	comp=Z,107nm,19.7s,MS3.7,baz=9.7,slow=36						
KHC	**Kasperske Hory**	**43.11**	**334**	*e*P	**P**	**17 01 09.4**	**-0.9**
KHC	**Kasperske Hory**	**43.11**	**334**	⇑*e*P	**P**	**17 01 09.8**	**-0.5**
KHC	**Kasperske Hory**	**43.11**	**334**	*e*P	**P**	**17 01 09.8**	**-0.5**
UPC	**Upice**	**43.22**	**337**	*e*P	**P**	**17 01 10.9**	**-0.2**
PRU	**Pruhonice**	**43.38**	**336**	*e*P	**P**	**17 01 11.3**	**-1.1**
MOS	**Moscow**	**43.60**	**358**	*e*P	**P**	**17 01 14.0**	**-0.3**
BRG	**Berggiesshubel**	**44.31**	**336**	*e*(P)	**P**	**17 01 17.5**	**-2.4**
	comp=Z,3.1nm,1.2s,mb3.9						
BRG	**Berggiesshubel**	**44.31**	**336**	P	**P**	**17 01 17.5**	**-2.4**
BRG				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.9						
CLL	**Collm**	**45.02**	**336**	⇑*i*P	**P**	**17 01 24.9**	**-0.7**
	comp=Z,13nm,1.5s,mb4.5						
CLL				*i* x	x	17 01 44.5	
CLL	**Collm**	**45.02**	**336**	⇑*i*P	**P**	**17 01 24.9**	**-0.7**
CLL				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.5						
ARU	**Arti**	**46.41**	**14**	*e*P	**P**	**17 01 36.2**	**-0.4**
ZRNK	**Zerenda**	**46.73**	**23**	*e*P	**P**	**17 01 38.5**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
ZRNK	**Zerenda**	**46.73**	**23**	*e*P	**P**	**17 01 38.5**	**-0.6**
	comp=Z,10.0nm,1.7s,mb4.5						
ZRNK	**Zerenda**	**46.73**	**23**	*e*P	**P**	**17 01 38.5**	**-0.6**
	comp=Z,10.0nm,1.7s,mb4.5						
BVAR	**Borovoye Array**	**47.33**	**24**	P	**P**	**17 01 43.3**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=188,slow=7.2,SNR=4.6						
ESDC	**Sonseca Array**	**47.81**	**313**	P	**P**	**17 01 48.8**	**+1.3**
	comp=Z,0.2nm,0.3s,mb3.6,baz=120,slow=8.3,SNR=4.8						
ESLA	**Sonseca Array**	**47.81**	**313**	P	**P**	**17 01 48.6**	**+1.1**
	comp=Z,1.2nm,1.0s,mb3.9						
ESLA	**Sonseca Array**	**47.81**	**313**	P	**P**	**17 01 48.6**	**+1.1**
	comp=Z,1.1nm,1.0s,mb3.8						
KLMR	**Klimovskoe**	**48.68**	**359**	*e*P	**P**	**17 01 46.6**	**-7.7**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
MKAR	**Makanchi Array**	**49.32**	**37**	P	**P**	**17 01 58.6**	**-0.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=229,slow=5.6,SNR=7.7						
MKAR	**Makanchi Array**	**49.32**	**37**	⇑*e*P	**P**	**17 01 58.9**	**-0.3**
KURK	**Kurchatov**	**49.50**	**31**	*e*P	**P**	**17 01 59.9**	**-0.7**
FINES	**FINESS Array B**	**50.37**	**351**	LR	LR	17 24 26.9	
	comp=Z,24nm,18.8s,MS3.2,baz=353,slow=37						
FINES	**FINESS Array B**	**50.37**	**351**	*i* P	**P**	**17 02 07.4**	**+0.2**
FINES				pmax	pmax		
	comp=Z,6.0nm,1.3s						
FINES	**FINESS Array B**	**50.37**	**351**	*i* P	**P**	**17 02 07.4**	**+0.2**
	comp=Z,6.0nm,1.3s,mb4.5						
NB2	**NORSAR Subarra**	**53.33**	**343**	P	**P**	**17 02 27.9**	**-1.3**
	comp=Z,18nm,1.7s,mb4.7,baz=140,slow=7.9						
NB2	**NORSAR Subarra**	**53.33**	**343**	P	**P**	**17 02 27.9**	**-1.3**
NB2				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.7						
NOA	**NORSAR Array B**	**53.33**	**343**	P	**P**	**17 02 28.0**	**-1.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=142,slow=7.4,SNR=5.0						
KRAR	**Krasnoyarsk**	**59.53**	**31**	⇓*e*P	**P**	**17 03 14.1**	**+0.7**
KRAR				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.3						
KRAR	**Krasnoyarsk**	**59.53**	**31**	*e*P	**P**	**17 03 14.1**	**+0.7**
	comp=Z,19nm,0.6s,mb5.3						
SONM	**Sognino Array**	**65.02**	**43**	P	**P**	**17 03 50.5**	**+0.3**
	comp=Z,0.6nm,0.9s,mb3.6,baz=207,slow=9.6,SNR=6.0						
SONM				LR	LR	17 36 31.1	
	comp=Z,54nm,18.1s,MS3.8,baz=240,slow=40						
TIXI	**Tiksi**	**78.12**	**19**	⇑*e*P	**P**	**17 05 08.1**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
TIXI	**Tiksi**	**78.12**	**19**	*e*P	**P**	**17 05 08.1**	**-1.1**
	comp=Z,20nm,1.3s,mb4.9						

*IDC **17** 17:02:54.4±1.4, 1543S×17368W, h0km, mb4.5/6, mb1 4.6/6, mb1mx4.3/12, mbtmp4.5/6, MS3.6/2, Ms1 3.6/2, ms1mx3.3/13, Error ellipse: s-maj=39.9km s-min=32.2km az=95.0*

*NEIC **17** 17:02:55.3±0.5, 1530S×17361W, h10km, mb4.7/10, Error ellipse: s-maj=18.7km s-min=12.4km az=118.0*

*ISCJB **17** 17:02:57.0±0.7, 153S±0.1×1737W±0.1, h33km, mb4.5/14, MS4.0/1, Error ellipse: s-maj=19.9km s-min=15.2km az=54.3*

*MOS **17** 17:02:58.0±1.4, 1530S×17369W, h33km, mb4.7/6, Error ellipse: s-maj=31.2km s-min=22.4km az=68.5*

ISC 17 17:02:58.9±0.7, 153S±01×1735W±01, h35km, n37, σ1§13/30, mb4.5/14, MS4.0/1, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**51**	Pn	**Pn**	**17 03 23.4**	**-9.3**
	86nm,0.3s,baz=32,slow=2.8,SNR=142						
AFI				Sn	**Sn**	**17 03 42.6**	**-16**
	798nm,0.3s,baz=240,slow=20,SNR=34						
AFI				LR	LR	17 03 57.7	
	comp=Z,681nm,21.9s,baz=25,slow=27						
AFI	**Afiamalu**	**2.19**	**51**	Pn	**Pn**	**17 03 23.4**	**-9.3**
AFI				*e*Sn	**Sn**	**17 03 41.4**	**-17**
AFI				LR	LR	17 03 57.7	
URZ	**Urewera**	**24.32**	**198**	P	**P**	**17 08 11.6**	**-1.5**
	8.1nm,0.7s,mb4.3,baz=5.5,slow=3.7,SNR=4.1						
TAOE	**Nuku Hiva Isla**	**33.24**	**83**	*e*LR	LR	17 18 09.4	
	268nm,21.8s						
STKA	**Stephens Creek**	**43.98**	**240**	*e*P	**P**	**17 11 01.0**	**-1.6**
	3.5nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**43.98**	**240**	P	**P**	**17 11 01.1**	**-1.5**
	4.7nm,0.6s,mb4.4,baz=88,slow=8.0,SNR=10						
WB2	**Warramunga Arr**	**49.73**	**257**	*e*P	**P**	**17 11 47.7**	**+0.1**
WRA	**Warramunga Arr**	**49.74**	**257**	P	**P**	**17 11 48.1**	**+0.5**
	2.4nm,0.5s,mb4.5,baz=90,slow=6.8,SNR=88						
WRA				PcP	PcP	17 13 09.5	+1.2
	1.5nm,0.8s,baz=87,slow=3.5,SNR=6.1						
AS31	**Alice Springs**	**50.02**	**252**	⇓*i*P	**P**	**17 11 50.2**	**+0.4**
ASAR	**Alice Springs**	**50.02**	**252**	P	**P**	**17 11 50.1**	**+0.3**
	11nm,0.6s,mb5.0,baz=91,slow=7.5,SNR=190						
ASPA	**Alice Springs**	**50.02**	**252**	⇓*i*P	**P**	**17 11 50.2**	**+0.4**
FORT	**Forrest**	**55.35**	**243**	*e*P	**P**	**17 12 27.9**	**-1.3**
	14nm,0.6s,mb5.2						
MBWA	**Marble Bar**	**63.27**	**254**	P	**P**	**17 13 25.8**	**+1.9**
SBA	**Scott Base**	**63.34**	**185**	*e*P	**P**	**17 13 25.6**	**+1.2**
SBA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
SBA	**Scott Base**	**63.34**	**185**	*e*P	**P**	**17 13 25.6**	**+1.2**
	comp=Z,4.7nm,0.9s,mb4.6						
VNDA	**Vanda**	**63.46**	**186**	P	**P**	**17 13 25.7**	**+0.6**
	comp=Z,1.9nm,0.9s,mb4.2,baz=14,slow=4.5,SNR=8.5						
VNDA	**Vanda**	**63.46**	**186**	*e*P	**P**	**17 13 25.6**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNDA	**Vanda**	**63.46**	**186**	*e*P	**P**	**17 13 25.6**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.4						
CASY	**Casey**	**70.44**	**205**	*e*P	**P**	**17 14 02.4**	**-7.2**
	comp=Z,9.9nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**73.33**	**330**	P	**P**	**17 14 28.4**	**+1.5**
YSS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**73.33**	**330**	P	**P**	**17 14 28.4**	**+1.5**
	comp=Z,11nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**74.74**	**180**	*e*P	**P**	**17 14 35.6**	**+0.5**
	comp=Z,6.3nm,0.8s,mb4.6						
MA2	**Magadan**	**80.03**	**342**	*e*P	**P**	**17 15 02.8**	**-1.9**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MA2	**Magadan**	**80.03**	**342**	*e*P	**P**	**17 15 02.8**	**-1.9**
	comp=Z,9.3nm,0.9s,mb4.7						
ANMO	**Albuquerque**	**80.84**	**50**	P	**P**	**17 15 10.0**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ANMO	**Albuquerque**	**80.84**	**50**	P	**P**	**17 15 10.0**	**+0.9**
	comp=Z,2.6nm,1.2s,mb4.0						
MCK	**McKinley**	**81.05**	**11**	P	**P**	**17 15 09.1**	**-1.1**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MCK	**McKinley**	**81.05**	**11**	P	**P**	**17 15 09.1**	**-1.1**
	comp=Z,2.5nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**82.28**	**42**	LR	LR	17 48 02.0	
	comp=Z,55nm,18.8s,MS4.0,baz=331,slow=33						
MAW	**Mawson**	**87.84**	**199**	P	**P**	**17 15 43.7**	**-0.9**
	comp=Z,2.2nm,0.7s,mb4.5,baz=74,slow=8.0,SNR=3.7						
KMBO	**Kilima Mbogo**	**145.46**	**244**	PKPbc	PKPbc	17 22 33.8	+0.6
	comp=Z,1.5nm,0.6s,baz=49,slow=22,SNR=3.7						
GRA1	**Grafenberg Arr**	**145.48**	**355**	*e*PKP	PKPdf	17 22 34.0	+0.9
GRF	**Grafenberg Arr**	**145.48**	**355**	*e*PKIKP	PKPdf	17 22 34.0	+0.9
KHC	**Kasperske Hory**	**145.76**	**352**	*e*PKP	PKPdf	17 22 34.5	+0.9
BR131	**Keskin Array S**	**146.00**	**321**	*e*PKPdf	PKPdf	17 22 36.0	+2.0
BRTR	**Keskin Array B**	**146.00**	**321**	PKPbc	PKPbc	17 22 36.1	+1.3
	comp=Z,6.6nm,0.9s,baz=108,slow=2.7,SNR=36						
GERES	**GERESS Array B**	**146.03**	**351**	PKPbc	PKPbc	17 22 35.3	+0.4
	comp=Z,0.3nm,0.5s,baz=5.7,slow=4.0,SNR=6.2						

*PRU **17** 17:07:45.8, 4313N×1849E, h0km*

*ISCJB **17** 17:07:48.3±0.4, 4334N±002×1797E±002, h11km±3km, Error ellipse: s-maj=2.7km s-min=2.6km az=55.5*

*LDG **17** 17:07:49.5±0.2, 4328N×1805E, h10km, MI3.7/3, Error ellipse: s-maj=6.5km s-min=3.5km az=26.0*

*NEIC **17** 17:07:49.6, 4330N×1805E, h18km, ML3.4(PDG), After PDG.*

*PDG **17** 17:07:49.6±0.8, 4330N×1805E, h18km±2km*

*CSEM **17** 17:07:49.5±0.1, 4341N×1803E, h10km, ML3.4, Error ellipse: s-maj=1.5km s-min=1.1km az=20.0*

ISC 17 17:07:49.4±0.4, 4332N±002×1798E±002, h9km±3km, n137, σ1§27/183, 20C-20D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.49**	**204**	⇓*i*Pg	**Pg**	**17 07 58.5**	**-0.5**
STON				*i* Sg	**Sg**	**17 08 06.6**	**+1.1**
STON	**Ston**	**0.49**	**204**	*i* Sg	**Sg**	**17 08 06.5**	**+1.0**
BRY	**Bratogost**	**0.59**	**135**	⇑*i*Pg	**Pg**	**17 07 59.9**	**-1.0**
BRY				*e*Sg	**Sg**	**17 08 08.6**	**0.0**
TREB	**Trebinje**	**0.66**	**156**	P	**Pg**	**17 08 00.7**	**-1.5**
UPM	**Unac-Piva**	**0.69**	**100**	⇑*i*Pg	**Pg**	**17 08 02.2**	**-0.6**
UPM				*e*Sg	**Sg**	**17 08 12.0**	**+0.2**
NKY	**Niksic**	**0.91**	**124**	⇑*i*Pg	**Pg**	**17 08 05.3**	**-1.5**
NKY				*e*Sg	**Sg**	**17 08 19.1**	**+0.5**
HCY	**Herceg Novi**	**0.95**	**156**	⇓*i*Pg	**Pg**	**17 08 06.4**	**-1.4**
HCY				*e*Sg	**Sg**	**17 08 20.9**	**+0.7**
PLE	**Pljevlja**	**1.03**	**89**	⇑*i*Pg	**Pg**	**17 08 08.5**	**-0.8**
PLE				*e*Sg	**Sg**	**17 08 23.5**	**+0.8**
BBLS	**Bajina Basta -**	**1.18**	**62**	*i* Pg	**Pg**	**17 08 12.0**	**0.0**
BBLS				Sg	**Sg**	**17 08 27.8**	**+0.6**
BUM	**Brajici-Budva**	**1.23**	**146**	⇓*i*Pg	**Pg**	**17 08 11.8**	**-1.2**
BUM				*e*Sg	**Sg**	**17 08 29.8**	**+0.9**
TTG	**Podgorica**	**1.30**	**133**	⇓*i*Pg	**Pg**	**17 08 12.2**	**-2.1**
TTG				*e*Sg	**Sg**	**17 08 32.1**	**+0.9**
SJES	**Sjenica**	**1.44**	**91**	Pg	**Pg**	**17 08 16.8**	**-0.2**
SJES				Sg	**Sg**	**17 08 37.3**	**+1.7**
IVA	**Berane**	**1.48**	**107**	*e*Pg	**Pg**	**17 08 16.2**	**-1.6**
IVA				*e*Sg	**Sg**	**17 08 36.5**	**-0.4**
BLY	**Banja Luka**	**1.54**	**338**	P	**Pn**	**17 08 17.6**	**+0.6**
BLY				S	**Sn**	**17 08 40.0**	**+2.9**
PVY	**Plav**	**1.64**	**116**	*e*Pn	**Pn**	**17 08 18.2**	**-0.1**
PVY				*e*Sn	**Sn**	**17 08 40.1**	**+0.6**
ULC	**Ulcinj**	**1.65**	**145**	*e*Pn	**Pn**	**17 08 18.6**	**0.0**
ULC				*e*Sn	**Sn**	**17 08 41.0**	**+1.1**
DIVS	**Divcibare**	**1.65**	**61**	⇑*i*Pn	**Pn**	**17 08 17.9**	**-0.7**
DIVS				Sn	**Sn**	**17 08 42.3**	**+2.3**
DIVS	**Divcibare**	**1.65**	**61**	*e*P	**Pn**	**17 08 18.2**	**-0.4**
BCI	**Bajram Curri**	**1.81**	**121**	*i* Sg	**Sg**	**17 08 48.7**	**+1.1**
GRUS	**Gruza**	**2.07**	**73**	*i* Pn	**Pn**	**17 08 23.5**	**-0.8**
GRUS				Sg	**Sg**	**17 08 58.7**	**+2.8**
FGMS	**Monte Sant'Ang**	**2.20**	**224**	Pn	**Pn**	**17 08 25.9**	**-0.2**
MS1	**Monte Sant'Ang**	**2.21**	**224**	*e*Pn	**Pn**	**17 08 26.0**	**-0.2**
FGSL	**Fruska Gora**	**2.26**	**35**	Pn	**Pn**	**17 08 26.4**	**-0.5**
RGNG	**Rignano Grg**	**2.42**	**228**	Pn	**Pn**	**17 08 28.6**	**-0.5**
SVIS	**Svilajnac**	**2.54**	**66**	*i* Pn	**Pn**	**17 08 30.4**	**-0.5**
PE1	**Pezze di Greco**	**2.55**	**189**	*e*Pn	**Pn**	**17 08 29.1**	**-1.8**
NVLJ	**Novalja**	**2.56**	**300**	*i* Pn	**Pn**	**17 08 31.8**	**+0.7**
NVLJ				*i* Sn	**Sn**	**17 09 04.9**	**+2.5**
NVLJ	**Novalja**	**2.56**	**300**	*i* Pn	**Pn**	**17 08 31.8**	**+0.7**
NVLJ				*i* Sn	**Sn**	**17 09 04.8**	**+2.4**
CDT	**Castel del Mon**	**2.57**	**210**	*e*Pn	**Pn**	**17 08 29.8**	**-1.4**
RHK3	**Tenkes**	**2.57**	**4**	⇑*i*P	**Pn**	**17 08 30.5**	**-0.7**
SG1	**Sgolgore (BA)**	**2.66**	**202**	*e*Pn	**Pn**	**17 08 30.8**	**-1.7**
CIGN	**Sant'Elia a Pi**	**2.82**	**235**	Pn	**Pn**	**17 08 34.4**	**-0.2**
FG5	**Orsara di Pugl**	**2.86**	**225**	Pn	**Pn**	**17 08 36.3**	**+1.1**
SKO	**Skopje**	**2.89**	**117**	*e*P	**Pn**	**17 08 37.8**	**+2.2**
SKO	**Skopje**	**2.89**	**117**	*e*Pn	**Pn**	**17 08 37.6**	**+2.0**
BOJS	**Bojanci**	**2.93**	**319**	*i* Pn	**Pn**	**17 08 37.2**	**+1.1**
BOJS				*i* Sn	**Sn**	**17 09 13.8**	**+2.5**
PKSM	**Moragy**	**2.93**	**9**	⇑*i*P	**Pn**	**17 08 35.0**	**-1.1**
PKSM	**Moragy**	**2.93**	**9**	⇑P	**Pn**	**17 08 35.0**	**-1.1**
PKSM	**Moragy**	**2.93**	**9**	⇓*i*Pn	**Pn**	**17 08 35.0**	**-1.1**
OHR	**Ohrid**	**3.05**	**136**	*e*Pn	**Pn**	**17 08 44.9**	**+7.1**
CRES	**Cresnjev**	**3.08**	**325**	*i* Pn	**Pn**	**17 08 39.2**	**+0.9**
PTRP	**Pietrapertosa**	**3.14**	**208**	Pn	**Pn**	**17 08 38.8**	**-0.3**
CII	**Carovilli**	**3.15**	**241**	Pn	**Pn**	**17 08 40.9**	**+1.7**
MRLC	**Muro Lucano**	**3.16**	**217**	Pn	**Pn**	**17 08 38.7**	**-0.7**
AOI	**Ancona**	**3.19**	**276**	Pn	**Pn**	**17 08 40.8**	**+1.0**
AOI				Sn	**Sn**	**17 09 17.9**	**-0.1**
MIDA	**Miranda**	**3.23**	**240**	Pn	**Pn**	**17 08 40.9**	**+0.7**
RNI2	**Rionero Sannit**	**3.26**	**241**	Pn

STU	Stuttgart	8.18	315	*e*Pn	Pn	17 09 48.4 +0.1
MBDF	Montbardon	8.20	284	*e*Pn	Pn	17 09 46.4 -2.1
FRF	La Foret Royal	8.25	276	*e*Pn	Pn	17 09 48.0 -1.2
BNI	Bardonecchia	8.30	286	*e*Pn	Pn	17 09 47.7 -2.3
BNI				*e*Sn	Sn	17 11 17.6 -6.3
LPG	La Plagne	8.33	289	*e*Pn	Pn	17 09 48.8 -1.5
LPG				*e*Sn	Sn	17 11 17.7 -6.7
	comp=Z,5.3nm,0.5s					
LPL	La Plagne	8.34	289	*e*Pn	Pn	17 09 48.9 -1.6
LPL				*e*Sn	Sn	17 11 17.9 -6.9
	comp=Z,6.4nm,0.4s					
LMR	La Mourre	8.36	274	*e*Pn	Pn	17 09 49.6 -1.2
ORIF	Oris-en-Rattie	8.85	285	*e*Pn	Pn	17 09 57.1 -0.3
HINF	Hinteralfeld	9.00	304	*e*Pn	Pn	17 09 58.7 -0.8
CDF	Champ du Feu	9.03	308	*e*Pn	Pn	17 09 59.1 -0.9
CABF	La Chapelle	9.05	295	*e*Pn	Pn	17 09 59.5 -0.7
VIVF	Saint-Julien-l	9.70	284	*e*Pn	Pn	17 10 06.8 -2.3
SMF	Signal de Mont	10.55	293	*e*Pn	Pn	17 10 18.7 -2.1
MALT	Malatya	16.26	101	Pn	Pn	17 11 37.3 -0.7

DHMR 17 17:17:36.6±0.3, 1148N×4056E, h2km±881km, ML3.9, 1C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	3.89	63⇓	*e*P	Pn	17 18 40.0	+2.6
TRBA				*i* S	Sn	17 19 29.3	+5.8
TRBA				AML	AML	17 19 43.6	
	comp=N,515nm,0.7s						
TRBA	At Turbah	3.89	63	*i* P	Pn	17 18 40.0	+2.7
TRBA				*i* S	Sn	17 19 31.4	+7.9
	comp=N,258nm,0.7s						
UDYN	Al 'Udayn	4.14	53	*e*P	Pn	17 18 43.7	+2.8
UDYN				*i* S	Sn	17 19 35.8	+5.9
UDYN				AML	AML	17 19 51.4	
	comp=E,331nm,0.8s						
LBOS		5.16	62⇑	*e*P	Pn	17 18 57.1	+2.3
LBOS				*i* S	Sn	17 19 59.9	+5.1
BDHA	Al Bayda'	5.48	63	*i* S	Sn	17 20 07.6	+4.8
BDHA	Al Bayda'	5.48	63	*i* S	Sn	17 20 08.2	+5.4
JAWL	J.Aulia	8.70	296	*i* S	Sn	17 22 01.9	+40
SLAT	Slait	8.80	300	*i* S	Sn	17 22 05.5	+41
MRKH	Merkhyat	9.00	299	*i* S	Sn	17 22 10.4	+41

WEL 17 17:20:18.0±0.2, 3793S×17741E, h54km±2km, ML3.5/4, Error ellipse: s-maj=1.1km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.41	216	P*	Pn	17 20 28.1	-0.4
URZ				S*	Sn	17 20 35.5	-0.6
MWZ	Matawai	0.41	167	P*	Pn	17 20 28.3	-0.3
MWZ				S*	Sn	17 20 36.6	+0.4
WIZ	White Island	0.44	336	P*	Pn	17 20 28.3	-0.5
EDRZ	Edgecumbe	0.56	251	P*	Pn	17 20 30.2	0.0
EDRZ				S*	Sn	17 20 39.7	+0.6
MARZ	Manawahe	0.58	264	P*	Pn	17 20 29.9	-0.6
MARZ				S*	Sn	17 20 40.1	+0.6
PUZ	Puketiti	0.68	102	PN	Pn	17 20 31.7	0.0
TAZ	Tarawera	0.77	247	P*	Pn	17 20 33.2	+0.3
MXZ	Matakaoa Point	0.80	63	P*	Pn	17 20 33.3	+0.1
TGRZ	Tauranga	0.93	282	P*	Pn	17 20 34.5	-0.4
KNZ	Kokohu	1.11	169	*e*PN	Pn	17 20 37.0	-0.2
BKZ	Black Stump Fm	1.43	210	*e*P*	Pn	17 20 41.4	-0.2
KUZ	Kuaotunu	1.79	311	PN	Pn	17 20 45.7	-0.8
NGZ	Ngauruhoe	1.89	228	P*	Pn	17 20 48.2	+0.4
TUVZ	Tukino	1.92	225	P*	Pn	17 20 48.4	+0.1
WPVZ	Whakapapa	1.94	228	*e*P*	Pn	17 20 48.9	+0.4
MOVZ	Moawhango	1.97	221	P*	Pn	17 20 48.6	-0.3
FWVZ	Far West T-bar	1.97	227	*e*P*	Pn	17 20 49.3	+0.4
WNVZ	Wahianoa	1.99	225	P*	Pn	17 20 49.5	+0.3
TRVZ	Turoa	2.00	226	P*	Pn	17 20 49.7	+0.3
MTVZ	Mangateitei	2.10	226	P*	Pn	17 20 51.6	+0.8
PXZ	Pawanui	2.14	191	*e*PN	Pn	17 20 49.2	-2.1
TSZ	Takapari Road	2.41	208	*e*PN	Pn	17 20 53.8	-1.1
WAZ	Wanganui	2.63	225	*e*PN	Pn	17 20 58.6	+0.6

ISCJB 17 17:23:00.4±0.9, 1089N±006×6233W±003, h78km±10km, Error ellipse: s-maj=9.6km s-min=5.6km az=167.5
FUNV 17 17:23:00.8, 1096N×6226W, h72km, MW2.4
TRN 17 17:23:01.8, 1084N×6225W, h74km, MD2.9
NEIC 17 17:23:01.8, 1084N×6225W, h73km, MD2.9(TRN), After TRN.

ISC 17 17:23:01.1±0.9, 1089N±006×6233W±003, h75km±10km, n10, σ0°69/19, 1C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.26	157⇑	*i*P	Pn	17 23 12.4	-0.1
GUIV				*e*S	Sn	17 23 20.8	-0.1
ITEV	Isla Los Testi	0.92	301	⇓*i*P	Pn	17 23 17.9	-1.0
ITEV				*e*S	Sn	17 23 31.3	-0.6
CRUV	Carupano	0.92	257	⇓*i*P	Pn	17 23 19.0	+0.2
CRUV				*e*S	Sn	17 23 32.6	+0.6
TRN	Trinidad (W)	0.94	105	*e*P	Pn	17 23 19.1	0.0
TRN				*e*S	Sn	17 23 31.4	-1.1
GUNV	Guanoco	0.94	220	*e*P	Pn	17 23 19.3	+0.2
GUNV				*e*S	Sn	17 23 33.2	+0.7
TBH	Brigand Hill	1.30	108	*e*P	Pn	17 23 23.8	+0.1
TBH				*e*S	Sn	17 23 41.6	+1.0
GRW	Mount Saint Ca	1.42	27	*e*P	Pn	17 23 25.8	+0.6
GRW				*e*S	Sn	17 23 44.5	+1.1
TPR	Prospect	1.55	79	*e*P	Pn	17 23 27.0	+0.1
TPR				*e*S	Sn	17 23 45.4	-0.9
PCRV	Puerto La Cruz	2.38	253	*e*P	Pn	17 23 38.4	+0.5
BAUV	El Baul	5.95	252	*e*P	Pn	17 24 25.6	-1.0
BAUV				*e*S	Sn	17 25 29.0	-4.4

TRN 17 17:35:19.8, 1021N×6033W, h18km, MD3.5
NEIC 17 17:35:19.8, 1022N×6033W, h18km, MD3.5(TRN), After TRN.
ISCJB 17 17:35:21.7±1.4, 106N±01×6073W±008, h118km±8km, Error ellipse: s-maj=23.0km s-min=10.4km az=136.7
FUNV 17 17:35:22.1, 1059N×6049W, h77km, MW3.2

ISC 17 17:35:22.8±1.5, 104N±01×6069W±008, h97km±9km, n13, σ1°17/21, 2C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	Brigand Hill	0.38	280	⇑*i*P	Pn	17 35 35.4	-2.1
TBH				*e*S	Sn	17 35 45.7	-2.7
TRN	Trinidad (W)	0.74	288	*e*P	Pn	17 35 40.3	0.0
TRN				*e*S	Sn	17 35 56.8	+3.3
BOT	Bacolet	0.74	358	*e*P	Pn	17 35 39.9	-0.4
BOT				*e*S	Sn	17 35 53.7	+0.2
TPP	Pointe-a-Pierr	0.76	262	*e*S	Sn	17 35 56.2	+2.4
TPR	Prospect	0.77	353	*e*P	Pn	17 35 40.2	-0.4
GUIV	Guiria	1.53	279	*e*P	Pn	17 35 49.2	0.0
GUIV				*e*S	Sn	17 36 09.6	+0.3
GRW	Mount Saint Ca	1.98	331	*e*P	Pn	17 35 57.1	+2.2
GUNV	Guanoco	2.23	264	⇑*i*P	Pn	17 35 59.6	+1.3
GUNV				*e*S	Sn	17 36 26.3	+0.9
CRUV	Carupano	2.52	276	*e*P	Pn	17 36 01.6	-0.5
ITEV	Isla Los Testi	2.58	291	*e*P	Pn	17 36 02.3	-0.5
ITEV				*e*S	Sn	17 36 32.6	-0.9
PCRV	Puerto La Cruz	3.90	267	*e*P	Pn	17 36 20.9	+0.4
PCRV				*e*S	Sn	17 37 04.1	-1.0
CUPV	Cœpira	5.03	266	*e*P	Pn	17 36 36.4	+0.5
CUPV				*e*S	Sn	17 37 31.4	-1.4
BAUV	El Baul	7.40	259	*e*P	Pn	17 37 08.1	+0.1

IDC 17 17:42:17.3±2.0, 5.17N×12563E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=191.4km s-min=23.6km az=64.0
MAN 17 17:42:24.7, 499N×12640E, h82km, mb3.9, ML4.9, MS5.9
ISCJB 17 17:42:29.7±1.0, 55N±01×1263E±0.1, h139km±15km, mb3.5/4, Error ellipse: s-maj=29.8km s-min=16.5km az=94.3

ISC 17 17:42:30.9±1.1, 54N±01×1263E±01, h127km±16km, n10, σ0°92/13, mb3.5/4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.54	359	*e*P	Pn	17 42 56.7	-2.5
MATI				*e*S	Sn	17 43 21.7	+0.9
KCP	Kidapawan	2.00	323	⇓*i*P	Pn	17 43 05.1	+0.4
KCP				*i* S	Sn	17 43 32.0	+1.5
BUKP	Musuan	2.75	334	*e*P	Pn	17 43 13.2	-1.0
CGP	Cagayan de Oro	3.43	333	⇓*e*P	Pn	17 43 23.3	+0.3
CGP				*i* S	Sn	17 44 03.1	-0.2
PAGZ	Pagadian	3.78	310	*e*P	Pn	17 43 27.0	-0.6
IPIL	Ipil	4.39	303	*e*P	Pn	17 43 35.1	-0.7
WRA	Warramunga Arr	26.39	163	P	P	17 47 56.7	+1.3
	0.8nm,0.5s,mb3.4,baz=340,slow=10,SNR=11						
ASAR	Alice Springs	29.83	166	P	P	17 48 25.9	0.0
	0.2nm,0.6s,mb2.9,baz=344,slow=7.3,SNR=4.2						
STKA	Stephens Creek	39.83	159	P	P	17 49 51.4	-0.3
	1.6nm,1.0s,mb3.8,baz=340,slow=14,SNR=2.6						
MKAR	Makanchi Array	55.95	325	P	P	17 51 55.9	+0.1
	0.6nm,0.5s,mb3.9,baz=121,slow=7.3,SNR=12						

NEIC 17 17:52:16.0±1.4, 5152N×1620E, h5km, ML2.5(SZGRF), Error ellipse: s-maj=15.2km s-min=5.9km az=211.0
ISCJB 17 17:52:16.0±0.7, 5139N±003×1607E±004, h0km, Error ellipse: s-maj=5.2km s-min=2.9km az=41.9
IPEC 17 17:52:16.9±0.3, 5148N×1617E, h8km±1km, ML1.9/3, Error ellipse: s-maj=2.3km s-min=0.9km az=30.0
WAR 17 17:52:17.9, 5145N×1608E, ML2.4, Mining Induced
CSEM 17 17:52:17.7±0.2, 5144N×1614E, h2km, ML2.9/8, Error ellipse: s-maj=2.9km s-min=1.9km az=15.0
VIE 17 17:52:18.3±0.4, 5133N×1610E, h0km, mb2.1/4, ML2.5/4, Error ellipse: s-maj=2.3km s-min=2.2km az=170.0 69 km WNW of Breslau Suspected Mining induced.
PRU 17 17:52:19.8, 5134N×1610E, h0km

ISC 17 17:52:16.4±0.7, 5146N±004×1611E±004, h0km, n26, σ0°86/55, 3C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	169	*i* Pgd	Pg	17 52 29.3	+0.9
KSP				*i* Sg	Sg	17 52 37.8	+1.2
KSP	Ksiaz	0.63	169	⇓*i*Pg	Pg	17 52 29.3	+0.9
KSP				*e*Sg	Sg	17 52 37.8	+1.2
KSP	Ksiaz	0.63	169	*e*Pg	Pg	17 52 29.2	+0.8
KSP				*e*Sg	Sg	17 52 37.8	+1.2
UPC	Upice	0.96	184	*e*PG	Pg	17 52 35.2	+0.5
DPC	Dobruska-Polom	1.12	173	*e*PG	Pg	17 52 38.0	+0.1
DPC				*e*SG	Sg	17 52 52.4	0.0
	17nm,0.4s						
PVCC	Panska Ves	1.35	227	*e*Pg	Pg	17 52 42.5	+0.2
PVCC				*e*Sg	Sg	17 53 01.1	+1.3
BRG	Berggiesshubel	1.49	248	PN	Pn	17 52 43.5	-0.8
BRG				PG	Pg	17 52 44.8	-0.1
BRG				SG	Sg	17 53 04.7	+0.5
	18nm,0.3s						
BRG	Berggiesshubel	1.49	248	*e*Pn	Pn	17 52 44.7	+0.3
BRG				*e*Sg	Sg	17 53 04.0	-0.2
PRU	Pruhonice	1.78	215	*e*PN	Pn	17 52 47.9	-0.5
PRU				*e*PG	Pg	17 52 49.7	-0.8
PRU				*e*SG	Sg	17 53 13.0	-0.6
	9.0nm,0.3s						
MORC	Moravsky Berou	1.92	151	*e*Pn	Pn	17 52 49.7	-0.6
MORC				*e*Sn	Sn	17 53 10.1	-5.0
MORC	Moravsky Berou	1.92	151	*e*Pn	Pn	17 52 49.7	-0.6
MORC				*e*Sn	Sn	17 53 10.1	-5.0
MORC				*e*Sg	Sg	17 53 16.7	-1.3
	11nm,0.4s						
CLL	Collm	1.96	267	*i* Pn	Pn	17 52 50.2	-0.6
CLL				*e*Pg	Pg	17 52 53.0	-0.9
CLL				*i* Sg	Sg	17 53 19.2	0.0
	comp=Z,9.0nm,0.4s						
OKC	Ostrava-Krasne	2.08	141	*e*PG	Pg	17 52 55.4	-0.8
OKC				*e*SG	Sg	17 53 22.2	-1.0
VRAC	Vranov	2.18	172	*e*Pn	Pn	17 52 54.5	+0.7
VRAC				*e*Sg	Sg	17 53 25.4	-0.9
	comp=Z,5.6nm,0.2s						
KRUC	Moravsky	2.41	176	*e*Pg	Pg	17 53 01.1	-1.5
KRUC				*e*Sg	Sg	17 53 33.4	-0.4
	comp=Z,5.2nm,0.4s						
NKC	Novy Kostel	2.63	244	*e*PN	Pn	17 53 00.2	+0.2
NKC				*e*SG	Sg	17 53 41.2	+0.4
	comp=Z,17nm,0.2s						
OJC	Ojcow	2.65	117	*e*Pg	Pg	17 53 07.5	+0.4
OJC				*e*Sg	Sg	17 53 44.0	+2.6
KHC	Kasperske Hory	2.84	216	*e*PN	Pn	17 53 03.5	+0.5
KHC				*e*PG	Pg	17 53 08.9	-2.0
KHC				*e*SN	Sn	17 53 33.5	-4.4
KHC				*e*SG	Sg	17 53 46.3	-1.4
	comp=Z,5.3nm,0.4s						
KHC	Kasperske Hory	2.84	216	*e*Pn	Pn	17 53 03.2	+0.2
KHC	Kasperske Hory	2.84	216	*e*Pg	Pg	17 53 09.1	-1.8
KHC				*e*Sn	Sn	17 53 33.5	-4.4
KHC				*e*Sg	Sg	17 53 46.3	-1.4
	comp=Z,5.3nm,0.4s						
MOX	Moxa	2.95	256	*e*PN	Pn	17 53 04.9	+0.4
MOX				*e*PG	Pg	17 53 12.7	-0.3
MOX				*e*SG	Sg	17 53 52.0	+0.7
GEC2	GERESS Array S	3.04	212	*e*Pn	Pn	17 53 06.8	+1.0
WET	Wettzell	3.11	223	*e*Pn	Pn	17 53 06.9	+0.2
WET	Wettzell	3.11	223	*e*Pn	Pn	17 53 06.8	+0.1
CONA	Conrad Observa	3.54	183	⇓*i*Pn	Pn	17 53 12.9	+0.3
CONA				⇑*i*Sg	Sg	17 54 11.3	+1.2
	comp=Z,4.1nm,0.3s						
MOA	Molln	3.81	199	⇑*i*Pn	Pn	17 53 17.0	+0.7
MOA				⇑*i*Sg	Sg	17 54 19.9	+1.1
	comp=Z,1.9nm,0.2s						

BJI 17 18:09:24.6, 0.10N×9747E, h30km, mB4.7, mb4.6, Ms3.7, Msz3.6
IDC 17 18:09:29.3±0.9, 100N×9698E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/21, mbtmp3.9/12, MS3.3/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=29.5km s-min=16.3km az=50.0
ISCJB 17 18:09:32.6±0.6, 1.11N±008×9723E±007, h33km, mb4.3/34, MS3.6/4, Error ellipse: s-maj=12.2km s-min=9.7km az=47.5
MOS 17 18:09:32.8±1.1, 1.18N×97.16E, h33km, mb4.6/13, Error ellipse: s-maj=16.0km s-min=8.7km az=98.3
NEIC 17 18:09:34.0±0.5, 109N×97.16E, h30km, mb4.7/11, Error ellipse: s-maj=12.6km s-min=8.8km az=217.0

ISC 17 18:09:35.1±0.6, 114N±008×9726E±007, h35km, (h28km±7.0km:pP-P), n59, σ1°18/63, mb4.3/34, MS3.6/4, 6C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.34	45	Pn	Pn	18 10 11.7	+0.6
	2.5nm,0.3s,baz=203,slow=6.9,SNR=25						
PSI				Sn	Sn	18 10 45.5	+6.9
	3.5nm,0.3s,baz=214,slow=6.9,SNR=5.5						
PSI				LR	LR	18 11 01.6	
	comp=Z,365nm,20.3s,baz=300,slow=36						
PSI	Prapat	2.34	45	P	Pn	18 10 11.7	+0.6
PSI						18 10 45.5	
KULM	Kulim	5.33	39	*e*Pn	Pn	18 10 52.7	+0.5
KULM				*e*		18 10 59.1	
KKM	Kota Kinabalu	19.53	75	*e*P	Pn	18 14 00.6	-0.4
KMI	Kunming	24.42	12	P	P	18 14 52.3	+2.0
KMI				AP		18 14 58.4	
KMI				XP	sP	18 15 00.8	-3.7
KMI				PP		18 15 33.1	
KMI				S	S	18 19 18.0	+10
KMI				XS	sS	18 19 28.1	+3.8
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
KMI				AMB	AMB		
	comp=Z,60nm,4.7s						
KMI				LR	LR		
	comp=N,260nm,14.4s,MS3.9						
KMI				LR	LR		
	comp=E,80nm,15.1s,MS3.9						
KMI				LR	LR		
	comp=Z,270nm,14.2s,MS3.9						
GYA	Guiyang	26.75	19	P	P	18 15 13.5	+2.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
JIRN	Jiri	28.42	339	*e*P	P	18 15 28.0	+1.7
PKI	Pulchoki	28.63	338	*e*P	P	18 15 32.4	+4.2
	comp=Z,7.0nm,0.4s,mb4.7						
PKI	Pulchoki	28.63	338	*e*P	P	18 15 32.4	+4.2
PKI				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.7						
GUN	Gumba	28.76	339	*e*P	P	18 15 30.9	+1.5
	comp=Z,23nm,0.8s,mb5.0						
DMN	Daman	28.78	337	*e*P	P	18 15 33.7	+4.2
	comp=Z,35nm,1.4s,mb4.9						
KKN	Kakani	28.88	338	*e*P	P	18 15 31.3	+0.9
	comp=Z,24nm,1.0s,mb4.9						
KKN	Kakani	28.88	338	*e*P	P	18 15 31.3	+0.9
KKN				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
LSA	Lhasa	28.99	349	P	P	18 15 32.0	+0.6
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LSA	Lhasa	28.99	349	P	P	18 15 32.0	+0.7
	comp=Z,2.4nm,0.6s,mb4.1						
CD2	Chengdu	30.24	11	*e*P	P	18 15 44.1	+1.6
CD2				AP	pP	18 15 53.8	+1.3
CD2				XP	sP	18 15 57.8	+1.0
CD2				PP	PP	18 16 43.6	-7.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	33.85	126	LR	LR	18 29 24.0	
	comp=Z,91nm,19.5s,MS3.5,baz=272,slow=35						
NJ2	Nanjing	36.88	31	*e*P	P	18 16 37.3	-2.9
NJ2				AP	pP	18 16 46.9	-3.5
NJ2				XP	sP	18 16 50.3	-4.3
NJ2				S	S	18 22 20.0	-2.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,80nm,4.0s						
NJ2				LR	LR		
	comp=N,230nm,15.4s,MS4.1						
NJ2				LR	LR		
	comp=E,130nm,19.3s,MS4.1						
NJ2				LR	LR		
	comp=Z,150nm,11.5s						
SSE	Sheshan	37.43	35	P	P	18 16 42.6	-2.2
SSE				XP	sP	18 16 55.3	-3.9
SSE				PP	PP	18 18 08.9	-1.6
SSE				PCP	PcP	18 18 59.1	-3.9
SSE				S	S	18 22 31.4	+0.6
SSE				XS	sS	18 22 46.5	-1.1
SSE				SS	SS	18 25 16.6	+1.0
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,30nm,3.1s						
SSE				LR	LR		
	comp=N,30nm,19.1s,MS3.2						
SSE				LR	LR		
	comp=E,20nm,19.3s,MS3.2						
SSE				LR	LR		
	comp=Z,30nm,19.8s,MS3.1						
GTA	Gaotai	38.16	3	*e*P	P	18 16 51.4	+0.4
GTA				AP	pP	18 16 56.3	-4.9
WRA	Warramunga Arr	41.95	122	P	P	18 17 23.5	+1.0
	comp=Z,1.5nm,0.7s,mb3.7,baz=300,slow=9.1,SNR=16						
ASAR	Alice Springs	43.31	127	P	P	18 17 35.0	+1.6
	comp=Z,1.2nm,0.9s,mb3.6,baz=302,slow=7.9,SNR=10						
KS15	Wonju Array Si	45.83	34	*e*P	P	18 17 48.2	-5.4
AAK	Ala-Archa	46.08	337	⇓*e*P	P	18 17 56.2	+0.7
AAK				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb4.1						
SONM	Songino Array	47.18	8	P	P	18 18 05.0	+0.8
	comp=Z,1.9nm,0.8s,mb4.0,baz=185,slow=8.2,SNR=15						
ULN	Ulaanbaatar	47.31	9	⇑*i*P	P	18 18 05.7	+0.5
ULN	Ulaanbaatar	47.31	9	*e*P	P	18 18 05.0	-0.2
	comp=Z,3.0nm,1.2s,mb4.1						
MKAR	Makanchi Array	47.31	346	P	P	18 18 05.4	+0.2
	comp=Z,1.7nm,0.5s,mb4.2,baz=159,slow=8.4,SNR=32						
TLY	Talaya	50.65	5	⇑*e*P	P	18 18 29.0	-1.7
HIA	Hailar	51.68	19	*e*P	P	18 18 39.1	+0.6
HIA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HIA	Hailar	51.68	19	*e*P	P	18 18 39.1	+0.6
	comp=Z,4.3nm,0.7s,mb4.5						
KURK	Kurchatov	51.86	345	*d i*P	P	18 18 40.2	+0.3
STKA	Stephens Creek	53.27	132	P	P	18 18 50.2	-0.1
	comp=Z,2.8nm,0.9s,mb4.2,baz=320,slow=7.0,SNR=5.1						
STKA	Stephens Creek	53.27	132	*e*P	P	18 18 49.8	-0.5
ZAL	Zalesovo	53.62	351	P	P	18 18 53.5	+0.7
	comp=Z,2.7nm,0.7s,mb4.3,baz=298,slow=6.4,SNR=14						
KRAR	Krasnoyarsk	54.81	357	⇑*e*P	P	18 19 01.9	+0.4
KRAR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
KLR	Kul'dur	56.28	27	*e*P	P	18 19 10.0	-2.1
ZRNK	Zerenda	56.73	340	*e*P	P	18 19 13.5	-1.7
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
ZRNK	Zerenda	56.73	340	*e*P	P	18 19 13.5	-1.8
	comp=Z,2.9nm,1.2s,mb4.2						
CHKZ	Chkalovo	56.80	341	*e*P	P	18 19 15.0	-0.8
CHKZ				*e*		18 19 21.5	
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
CHKZ	Chkalovo	56.80	341	*e*P	P	18 19 15.0	-0.7
	comp=Z,6.9nm,1.0s,mb4.6						
CHKZ				*e*		18 19 21.5	
AKTK	Aktyubinsk	59.31	332	P	P	18 19 32.5	-0.8
AKTO	Aktyubinsk	59.31	332	P	P	18 19 32.5	-0.9
	comp=Z,1.0nm,0.5s,mb4.1,baz=134,slow=1.7,SNR=6.7						
YSS	Yuzh-Sakhalins	60.37	34	P	P	18 19 39.9	-0.7
YSS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
YSS	Yuzh-Sakhalins	60.37	34	P	P	18 19 39.9	-0.7
	comp=Z,8.6nm,1.0s,mb4.7						
ARU	Arti	63.26	337	⇓*i*P	P	18 19 58.1	-2.0
ARU				*e*		18 22 13.3	
ARU				*e*PPP		18 23 45.6	
ARU				*e*S	S	18 28 28.3	-1.2
ARU				*e*SS	SS	18 32 34.3	-1.8
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
KIV	Kislovodsk	64.39	319	⇑*e*P	P	18 20 07.2	-0.3
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
YAK	Yakutsk	65.46	16	*c i*P	P	18 20 13.7	-0.8
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
YAK	Yakutsk	65.46	16	*e*P	P	18 20 13.5	-1.0
	comp=Z,12nm,1.0s,mb4.9						
ANN	Anapa	68.18	318	*e*P	P	18 20 40.6	+8.8
ANN				pmax	pmax		
	comp=Z,112nm,1.3s						
BRTR	Keskin Array B	69.19	312	*i* P	P	18 20 39.2	+1.1
OBN	Obninsk	72.70	328	⇑*e*P	P	18 21 00.0	+0.6
OBN				pmax	pmax		
	comp=Z,15nm,2.5s,m

s-maj=31.6km s-min=29.6km az=173.0
MOS ***17*** *18:30:47.8±2.8, 38.28N×70.15E, h33km, mb3.9/3, Error ellipse: s-maj=50.1km s-min=21.3km az=69.7*
NNC ***17*** *18:30:49.8±1.2, 38.80N×70.10E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=9.9km s-min=4.7km az=1.0*
ISCJB ***17*** *18:30:50.5±2.2, 38.6N±0.1×70.2E±0.1, h58km±20km, mb3.7/3, Error ellipse: s-maj=21.6km s-min=10.5km az=57.4*

ISC 17 18:30:49.3±2.8, 3840N±009×7005E±008, h33km±23km, n22, σ1§32/25, mb3.7/3, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.71**	**4**	⇓Pn	**Pn**	**18 31 59.4**	**+1.3**
	2.9nm,0.3s,baz=170,slow=11,SNR=116						
KK31				⇑Sn	**Sn**	**18 32 54.8**	**+3.1**
	5.4nm,0.5s,baz=170,slow=27,SNR=5.6						
EKS2	**Erkin-Say**	**5.12**	**33**	P	**Pn**	**18 32 07.1**	**+3.4**
	SNR=12						
UCH	**Uchtor**	**5.13**	**40**	P	**Pn**	**18 32 03.4**	**-0.4**
	SNR=13						
KZA	**Kyzart**	**5.42**	**46**	P	**Pn**	**18 32 07.3**	**-0.4**
	SNR=7.4						
AAK	**Ala-Archa**	**5.42**	**37**	P	**Pn**	**18 32 08.0**	**+0.2**
	SNR=8.4						
FRU	**Bishkek**	**5.63**	**37**	*e*PN	**Pn**	**18 32 16.0**	**+5.3**
FRU				*e*		18 32 29.0	
FRU				*e*S	Sn	18 33 38.0	+24
FRU				pmax	pmax		
	comp=Z,30nm,1.7s						
FRU				smax			
	comp=E,200nm,1.7s						
KBK	**Karagaybulak**	**5.66**	**40**	P	**Pn**	**18 32 11.3**	**+0.3**
	SNR=11						
CHMS	**Chumysh**	**5.82**	**36**	P	**Pn**	**18 32 12.4**	**-0.9**
	SNR=9.1						
USP	**Ospenovka**	**5.92**	**33**	P	**Pn**	**18 32 16.4**	**+1.7**
	SNR=12						
TKM2	**Tokmak 2**	**6.18**	**41**	P	**Pn**	**18 32 21.4**	**+3.2**
	SNR=14						
TKM2	**Tokmak 2**	**6.18**	**41**	⇓Pn	**Pn**	**18 32 18.5**	**+0.2**
	comp=E,0.8nm,0.6s						
TKM2				⇓Sn	**Sn**	**18 33 26.9**	**-0.9**
	comp=E,1.2nm,0.7s						
MKAR	**Makanchi Array**	**12.31**	**43**	Pn	**Pn**	**18 33 40.4**	**-1.8**
	comp=E,0.1nm,0.3s,baz=226,slow=13,SNR=12						
AB31	**Akbulak array**	**13.06**	**329**	⇑Pn	**Pn**	**18 33 52.4**	**-0.1**
	comp=E,0.9nm,0.3s,baz=148,slow=15,SNR=48						
AB31				Sn	**Sn**	**18 36 15.5**	**-1.1**
	comp=E,1.6nm,0.5s,baz=149,slow=22,SNR=3.7						
AKTO	**Aktyubinsk**	**14.77**	**328**	⇓Pn	**Pn**	**18 34 14.7**	**-1.0**
AKTO				⇓Sn	**Sn**	**18 36 57.2**	**-0.9**
	comp=E,0.1nm,1.0s						
ZAL	**Zalesovo**	**18.54**	**28**	P	**Pn**	**18 35 00.8**	**-2.6**
	comp=E,0.3nm,0.3s,baz=248,slow=12,SNR=4.2						
MSL	**Mosul**	**21.51**	**273**	*ex*	x	18 47 29.5	
MSL				*ex*	x	18 47 49.5	
FINES	**FINESS Array B**	**35.49**	**325**	P	**P**	**18 37 44.1**	**+1.3**
	comp=E,0.8nm,0.7s,mb3.8,baz=90,slow=8.0,SNR=4.4						
FINES	**FINESS Array B**	**35.49**	**325**	P	**P**	**18 37 44.1**	**+1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**39.11**	**337**	P	**P**	**18 38 14.9**	**+1.5**
	comp=Z,1.1nm,0.8s,mb3.6,baz=108,slow=8.6,SNR=5.0						
ARCES	**ARCESS Array B**	**39.11**	**337**	P	**P**	**18 38 14.9**	**+1.5**
ARCES				pmax	pmax		
	comp=E,1.0nm,0.8s						
WRA	**Warramunga Arr**	**83.63**	**121**	P	**P**	**18 43 13.9**	**-0.5**
	comp=Z,0.6nm,1.0s,mb3.7,baz=326,slow=5.0,SNR=2.8						
WRA	**Warramunga Arr**	**83.63**	**121**	P	**P**	**18 43 13.9**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						

NIED ***17*** *19:07:00, 27.40N×130.10E, h5km, Mw4.5 Best double couple: M0 6.61000×10^15 NP1:φ=207.00000°, δ=65.00000°, λ=-87.00000°. NP2:φ=20.00000°, δ=26.00000°, λ=-96.00000°.*
BJI ***17*** *19:07:54.9, 27.36N×130.33E, h22km, mB4.4, mb4.4, Ms4.2, Msz4.1*
IDC ***17*** *19:07:55.7±0.5, 27.49N×130.04E, h0km, mb4.5/21, mb1 4.6/25, mb1mx4.5/28, mbtmp4.5/25, ML4.0/4, MS3.8/11, Ms1 3.8/11, ms1mx3.5/25, Error ellipse: s-maj=15.2km s-min=11.2km az=80.0*
ISCJB ***17*** *19:07:56.0±0.9, 27.43N±0.02×130.13E±0.03, h14km±5km, mb4.7/73, MS4.1/22, Error ellipse: s-maj=4.2km s-min=3.3km az=94.3*
HRVD ***17*** *19:07:57.1±0.9, 27.42N×130.28E, h20km±1km, MW4.8/44, Centroid moment Tensor Solution. LP body waves: s5,c5;Mantle waves: s44,c66; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.68±.19; Mθθ 0.38±.10; Mφφ 1.30±.12; Mrθ-0.21±.22; Mrφ 0.59±.06; Mθφ 0.05±.19; Best double couple: M0 1.64800×10^16 NP1:φ=199.00000°, δ=45.00000°, λ=-100.00000°. NP2:φ=33.00000°, δ=46.00000°, λ=-81.00000°. Principal axes: T 1.5900, Plg1.0000°, Azm116.0000°; N 0.1170, Plg7.0000°, Azm206.0000°; P -1.7060, Plg83.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *19:07:57.1±2.2, 27.51N×130.09E, h8km±14km, mb4.8/49, MW4.5(NIED) Error ellipse: s-maj=6.0km s-min=4.7km az=115.0*
JMA ***17*** *19:07:58.5±0.1, 27.45N×130.13E, h46km, M4.5*
MOS ***17*** *19:07:59.2±1.4, 27.54N×130.18E, h33km, mb4.8/31, MS4.3/8, Error ellipse: s-maj=10.0km s-min=5.8km az=102.9*
SZGRF ***17*** *19:08:05.2, 26.88N×129.54E, h41km, mb5.0, Ryukyu Islands, Japan*

ISC 17 19:07:57.9±0.9, 2746N±002×13005E±003, h13km±5km, n213, σ1§26/235, mb4.7/73, MS4.1/22, 26C-12D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.86**	**355**	P	**Pg**	**19 08 14.7**	**+0.2**
JAM	**Amami Oshima**	**1.03**	**338**	P	**Pb**	**19 08 17.1**	**-0.4**
JAM				S	**Sb**	**19 08 30.2**	**-0.7**
JTK	**Tokunoshima**	**1.03**	**289**	P	**Pb**	**19 08 18.1**	**+0.6**
JTK				*e*S	**Sb**	**19 08 31.4**	**+0.5**
JOW	**Kunigami**	**1.70**	**249**	Pn	**Pn**	**19 08 27.5**	**+0.3**
	371nm,0.3s,baz=96,slow=17,SNR=508						
JOW				Sn	**Sn**	**19 08 48.8**	**0.0**
	272nm,0.3s,baz=72,slow=20,SNR=30						
JOW				LR	LR	19 09 16.2	
	comp=Z,662nm,21.8s,baz=67,slow=48						
JOW	**Kunigami**	**1.70**	**249**	P	**Pn**	**19 08 27.4**	**+0.2**
JOW				S	**Sn**	**19 08 48.6**	**-0.2**
JOW	**Kunigami**	**1.70**	**249**	Pn	**Pn**	**19 08 27.5**	**+0.3**
JOW				Sn	**Sn**	**19 08 48.8**	**0.0**
JOW				LR	LR	19 09 16.2	
JIH	**Iheya**	**1.90**	**258**	P	**Pn**	**19 08 30.4**	**+0.4**
JIH				S	**Sn**	**19 08 53.7**	**-0.1**
JMZ	**Minamidaito 2**	**1.94**	**147**	P	**Pn**	**19 08 28.6**	**-1.9**
JMZ				*e*S	**Sn**	**19 08 50.7**	**-4.0**
JNN	**Nakanoshima**	**2.38**	**356**	P	**Pn**	**19 08 37.3**	**+0.7**
JNN				*e*S	**Sn**	**19 09 03.6**	**-2.0**
JJT2	**Tamagusuku 2**	**2.44**	**238**	P	**Pn**	**19 08 37.9**	**+0.5**
JJT2				S	**Sn**	**19 09 08.2**	**+1.1**
NAH1	**Naha**	**2.45**	**240**	P	**Pn**	**19 08 38.4**	**+0.9**
NAH1				S	**Sn**	**19 09 06.8**	**-0.5**
JAGN	**Aguni-jima**	**2.65**	**252**	P	**Pn**	**19 08 40.3**	**0.0**
JAGN				*e*S	**Sn**	**19 09 11.9**	**-0.3**
JKE	**Kume jima 2**	**3.12**	**250**	P	**Pn**	**19 08 46.3**	**-0.5**
JKE				*e*S	**Sn**	**19 09 23.2**	**-0.8**
JOGS	**Gusukube**	**4.96**	**238**	P	**Pn**	**19 09 12.2**	**+0.1**
JOGS				*e*S	**Sn**	**19 10 08.1**	**-1.2**
JMJ	**Miyako jima 2**	**5.02**	**239**	P	**Pn**	**19 09 12.9**	**0.0**
JTJ	**Tarama**	**5.57**	**241**	P	**Pn**	**19 09 19.1**	**-1.3**
JTJ				*e*S	**Sn**	**19 10 21.6**	**-2.6**
JIJ	**Ishigaki jima**	**6.14**	**241**	P	**Pn**	**19 09 26.2**	**-2.1**
JKRS	**Kuro-shima**	**6.32**	**241**	P	**Pn**	**19 09 28.7**	**-2.0**
IRIF	**Iriomote-Funau**	**6.48**	**243**	P	**Pn**	**19 09 30.9**	**-2.1**
TATO	**Taipei**	**8.07**	**254**	**Pn**	**Pn**	**19 09 56.9**	**+2.0**
YHNB	**Yeheng**	**8.28**	**252**	*e*Pn	**Pn**	**19 09 56.9**	**-0.8**
NACB	**Ninganchiao**	**8.29**	**249**	*e*Pn	**Pn**	**19 09 55.1**	**-2.7**
SSE	**Sheshan**	**8.54**	**297**	P	**Pn**	**19 10 04.1**	**+2.8**
SSE				XP		19 10 09.9	
SSE				AMB	AMB		
	comp=Z,30nm,0.6s						
SSE				AMB	AMB		
	comp=Z,30nm,3.1s						
SSE				LR	LR		
	comp=N,240nm,17.1s						
SSE				LR	LR		
	comp=E,580nm,17.0s						
SSE				LR	LR		
	comp=Z,670nm,14.5s						
JHJ	**Hachijo jima 2**	**10.13**	**54**	Pn	**Pn**	**19 10 22.9**	**0.0**
	comp=Z,34nm,0.3s,baz=248,slow=23,SNR=9.3						
INCN	**Inchon**	**10.40**	**345**	Pn	**Pn**	**19 10 28.3**	**+1.5**
CBIJ	**Chichi jima**	**10.80**	**89**	Pn	**Pn**	**19 10 31.4**	**-0.9**
	comp=Z,7.4nm,0.3s,baz=125,slow=21,SNR=9.4						
CBIJ				Sn	**Sn**	**19 12 26.7**	**-6.3**
	comp=Z,3.1nm,0.3s,baz=288,slow=20,SNR=3.8						
CBIJ				LR	LR	19 13 48.2	
	comp=Z,269nm,21.5s,baz=291,slow=33						
MAJO	**Matsushiro**	**11.40**	**35**	*e*P	**Pn**	**19 10 39.7**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MAJO	**Matsushiro**	**11.40**	**35**	*e*Pn	**Pn**	**19 10 39.7**	**-0.7**
	comp=Z,4.1nm,0.4s						
MAT	**Matsushiro**	**11.40**	**35**	P	**Pn**	**19 10 39.5**	**-0.8**
MAT				S	**Sn**	**19 12 54.6**	**+7.1**
MAT	**Matsushiro**	**11.40**	**35**	*e*P	**Pn**	**19 10 40.0**	**-0.3**
MJAR	**Matsushiro Arr**	**11.40**	**35**	Pn	**Pn**	**19 10 40.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=248,slow=13,SNR=24						
MJAR				LR	LR	19 14 57.5	
	comp=Z,227nm,19.6s,baz=200,slow=37						
CN2	**Changchun**	**16.73**	**348**	*e*P	**Pn**	**19 11 55.9**	**+4.0**
CN2				*e*XP	sP	19 12 05.6	+6.1
CN2				*e*S	**Sn**	**19 15 01.6**	**+4.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,500nm,13.0s						
CN2				LR	LR		
	comp=E,500nm,13.0s						
CN2				LR	LR		
	comp=Z,600nm,13.0s						
BJT	**Baijiatuau**	**17.01**	**321**	*e*P	**Pn**	**19 11 55.7**	**+0.3**
BJT				pmax	pmax		
	comp=Z,56nm,0.9s						
BJT	**Baijiatuau**	**17.01**	**321**	*e*Pn	**Pn**	**19 11 55.7**	**+0.3**
	comp=Z,56nm,0.9s						
MDJ	**Mudanjiang**	**17.13**	**359**	P	**Pn**	**19 11 56.8**	**-0.1**
MDJ				AP	pP	19 12 01.3	-1.0
MDJ				S	**Sn**	**19 15 08.6**	**+1.4**
MDJ				SCS	ScS	19 23 55.1	-0.3
MDJ				AMB	AMB		
	comp=Z,30nm,3.3s						
MDJ				LR	LR		
	comp=N,220nm,15.8s						
MDJ				LR	LR		
	comp=E,140nm,12.7s						
MDJ				LR	LR		
	comp=Z,310nm,14.5s						
XAN	**Xi'an**	**19.29**	**295**	P	**Pn**	**19 12 22.8**	**-0.6**
XAN				S	**Sn**	**19 16 04.8**	**+5.2**
XAN				LR	LR		
	comp=N,260nm,12.6s						
XAN				LR	LR		
	comp=E,510nm,14.1s						
XAN				LR	LR		
	comp=Z,810nm,13.4s						
ASAJ	**Asahikawa**	**19.45**	**28**	P	**Pn**	**19 12 23.9**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=220,slow=16,SNR=3.5						
ASAJ				LR	LR	19 20 07.8	
	comp=Z,214nm,19.9s,baz=49,slow=38						
GUMO	**Guam**	**19.54**	**132**	LR	LR	19 18 58.6	
	comp=Z,129nm,18.4s,baz=70,slow=34						
HHC	**Hu-ho-hao-te**	**20.25**	**316**	*e*P	**P**	**19 12 34.0**	**+1.1**
HHC				AP		19 12 38.1	
HHC				XP	sP	19 12 41.0	+2.7
HHC				PP		19 12 54.1	
HHC				S	**S**	**19 16 15.1**	**-4.7**
HHC				PCP	PcP	19 16 47.1	+0.6
HHC				PCS	PcS	19 20 24.5	+0.4
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s						
HHC				AMB	AMB		
	comp=Z,70nm,3.3s						
HHC				LR	LR		
	comp=N,350nm,14.9s,MS3.9						
HHC				LR	LR		
	comp=E,190nm,13.9s,MS3.9						
HHC				LR	LR		
	comp=Z,360nm,14.9s,MS3.9						
QIZ	**Qiongzhong**	**20.35**	**250**	P	**P**	**19 12 36.4**	**+2.4**
QIZ				S	**S**	**19 16 20.5**	**-1.3**
QIZ				LR	LR		
	comp=N,190nm,12.8s						
QIZ				LR	LR		
	comp=Z,230nm,15.5s,MS3.6						
GYA	**Guiyang**	**20.87**	**273**	⇓*i*P	**P**	**19 12 40.6**	**+1.1**
GYA				AP		19 12 45.3	
GYA				XP	sP	19 12 47.8	+2.8
GYA				S	**S**	**19 16 28.9**	**-3.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s						
GYA				AMB	AMB		
	comp=Z,110nm,6.0s						
GYA				LR	LR		
	comp=N,310nm,14.6s,MS4.1						
GYA				LR	LR		
	comp=E,580nm,14.6s,MS4.1						
GYA				LR	LR		
	comp=Z,610nm,13.7s,MS4.1						
KLR	**Kul'dur**	**21.78**	**3**	*e*P	**P**	**19 12 43.0**	**-6.4**
YSS	**Yuzh-Sakhalins**	**21.88**	**24**	*e*P	**P**	**19 12 49.0**	**-1.5**
YSS	**Yuzh-Sakhalins**	**21.88**	**24**	*e*P	**P**	**19 12 49.6**	**-0.9**
	comp=Z,34nm,1.2s,mb4.7						
CD2	**Chengdu**	**23.19**	**285**	⇓*i*P	**P**	**19 13 02.8**	**-1.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
CD2				AMB	AMB		
	comp=Z,40nm,3.9s						
CD2				LR	LR		
	comp=N,470nm,13.2s						
CD2				LR	LR		
	comp=Z,600nm,13.2s,MS4.2						
LZH	**Lanzhou**	**23.83**	**298**	*e*P	**P**	**19 13 09.8**	**-0.9**
LZH				AP		19 13 13.6	
LZH				XP	sP	19 13 16.3	0.0
LZH				PP		19 13 43.3	
LZH				*e*S	**S**	**19 17 21.8**	**-4.2**
LZH				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,140nm,4.7s						
LZH				LR	LR		
	comp=E,610nm,12.5s						
LZH				LR	LR		
	comp=Z,1μm,13.4s,MS4.5						
KMI	**Kunming**	**24.58**	**271**	P	**P**	**19 13 18.3**	**+0.8**
KMI				AP		19 13 21.8	
KMI				XP	sP	19 13 23.4	+0.3
KMI				PP		19 13 53.9	
KMI				S	**S**	**19 17 35.4**	**-2.7**
KMI				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,280nm,14.0s,MS4.1						
KMI				LR	LR		
	comp=E,320nm,11.8s,MS4.1						
KMI				LR	LR		
	comp=Z,280nm,13.4s,MS3.9						
ULN	**Ulaanbaatar**	**27.14**	**325**	*e*P	**P**	**19 13 39.2**	**-1.5**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**27.14**	**325**	*e*P	**P**	**19 13 39.2**	**-1.5**
	comp=Z,6.2nm,0.9s,mb4.1						
SONM	**Songino Array**	**27.46**	**324**	P	**P**	**19 13 43.4**	**-0.2**
	comp=Z,3.2nm,0.6s,mb4.0,baz=136,slow=10,SNR=24						
SONM				LR	LR	19 26 03.7	
	comp=Z,208nm,18.8s,MS3.7,baz=126,slow=40						
GTA	**Gaotai**	**27.77**	**303**	*e*P	**P**	**19 13 45.3**	**-1.1**
GTA				XP	sP	19 13 52.8	+0.8
GTA				S	**S**	**19 18 26.9**	**-1.9**
GTA				PCS	PcS	19 20 45.9	+1.3
GTA				SCS	ScS	19 24 34.8	-0.3
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,30nm,4.6s						
GTA				LR	LR		
	comp=N,470nm,16.4s,MS4.4						
GTA				LR	LR		
	comp=E,500nm,13.7s,MS4.4						
GTA				LR	LR		
	comp=Z,560nm,14.8s,MS4.3						
PET	**Petropavlovsk**	**33.20**	**32**	⇑*e*P	**P**	**19 14 33.7**	**-0.6**
PET				pmax	pmax		
	comp=Z,18nm,2.5s,mb4.6						
LSA	**Lhasa**	**34.13**	**283**	P	**P**	**19 14 46.0**	**+3.6**
LSA	**Lhasa**	**34.13**	**283**	*e*P	**P**	**19 14 42.6**	**+0.2**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**34.13**	**283**	*e*P	**P**	**19 14 42.6**	**+0.2**
	comp=Z,4.3nm,0.6s,mb4.6						
YAK	**Yakutsk**	**34.57**	**360**	*e*P	**P**	**19 14 46.4**	**+0.1**
YAK				*e*		19 14 59.5	
YAK				*e*		19 17 20.2	
YAK				*e*S	**S**	**19 20 14.1**	**-0.9**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
YAK				pmax	pmax		
	comp=N,3.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,1.0nm,1.1s						
YAK				smax			
	comp=N,6.0nm,1.3s						
YAK				smax			
	comp=E,5.0nm,1.5s						
YAK				MLR	MLR		
	comp=Z,116nm,15.0s,MS3.7						
YAK				MLR	MLR		
	comp=N,61nm,13.0s,MS3.8						
YAK				MLR	MLR		
	comp=E,101nm,16.0s,MS3.8						
YAK	**Yakutsk**	**34.57**	**360**	*e*P	**P**	**19 14 44.4**	**-1.8**
	comp=E,20nm,0.6s,mb5.2						
MA2	**Magadan**	**35.13**	**18**	P	**P**	**19 14 45.0**	**-6.1**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MA2	**Magadan**	**35.13**	**18**	P	**P**	**19 14 45.0**	**-6.2**
	comp=Z,8.8nm,1.0s,mb4.6						
KULM	**Kulim**	**35.62**	**237**	P	**P**	**19 14 56.1**	**+0.9**
WMQ	**Urumqi**	**37.65**	**307**	*e*P	**P**	**19 15 11.6**	**-1.0**
WMQ				S	**S**	**19 21 00.5**	**-1.5**
WMQ				SCS	ScS	19 25 25.6	+0.1
WMQ				AMB	AMB		
	comp=Z,20nm,3.8s						
WMQ				LR	LR		
	comp=N,120nm,16.0s,MS4.0						
WMQ				LR	LR		
	comp=E,160nm,16.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,180nm,16.0s,MS4.0						
JIRN	**Jiri**	**38.73**	**281**	*e*P	**P**	**19 15 23.2**	**+1.5**
	comp=Z,9.9nm,0.3s,mb5.0						
GUN	**Gumba**	**38.95**	**281**	*e*P	**P**	**19 15 25.1**	**+1.5**
	comp=Z,23nm,0.4s,mb5.3						
PKI	**Pulchoki**	**39.43**	**281**	*e*P	**P**	**19 15 27.9**	**+0.4**
KKN	**Kakani**	**39.50**	**281**	*e*P	**P**	**19 15 29.0**	**+0.9**
	comp=Z,50nm,0.7s,mb5.3						
KKN	**Kakani**	**39.50**	**281**	*e*P	**P**	**19 15 29.0**	**+0.9**
KKN				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.3						
DMN	**Daman**	**39.68**	**281**	*e*P	**P**	**19 15 30.8**	**+1.1**
MKAR	**Makanchi Array**	**41.95**	**310**	P	**P**	**19 15 47.1**	**-1.3**
	comp=Z,1.4nm,0.5s,mb3.9,baz=93,slow=11,SNR=40						
ZAL	**Zalesovo**	**42.29**	**321**	P	**P**	**19 15 49.6**	**-1.5**
	comp=Z,1.7nm,0.4s,mb4.0,baz=6.1,slow=6.1,SNR=6.4						
ZAL				LR	LR	19 36 28.6	
	comp=Z,100nm,18.8s,MS3.7,baz=0.9,slow=40						
TIXI	**Tiksi**	**44.24**	**359**	⇓*e*P	**P**	**19 16 06.4**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
KURK	**Kurchatov**	**45.07**	**315**	*c*eP	**P**	**19 16 11.7**	**-1.8**
FITZ	**Fitzroy Crossi**	**45.49**	**186**	*e*P	**P**	**19 16 17.3**	**+0.5**
	comp=Z,7.1nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**45.49**	**186**	P	**P**	**19 16 17.4**	**+0.6**
	comp=Z,3.3nm,0.7s,mb4.3,baz=9.5,slow=4.7,SNR=8.4						
BILL	**Bilibino**	**46.00**	**18**	*e*P	**P**	**19 16 19.9**	**-1.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BILL	**Bilibino**	**46.00**	**18**	*e*P	**P**	**19 16 19.9**	**-1.0**
	comp=Z,5.6nm,1.0s,mb4.5						
HNR	**Honiara**	**46.73**	**138**	LR	LR	19 35 58.8	
	comp=Z,74nm,18.2s,MS3.7,baz=90,slow=36						
AAK	**Ala-Archa**	**47.12**	**304**	⇓*e*P	**P**	**19 16 27.8**	**-1.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.1						
WRAB	**Tennant Creek**	**47.29**	**174**	⇑*i*P	**P**	**19 16 30.7**	**-0.3**
WRA	**Warramunga Arr**	**47.30**	**175**	P	**P**	**19 16 31.2**	**+0.1**
	comp=Z,4.6nm,0.8s,mb4.5,baz=354,slow=8.5,SNR=38						
WB2	**Warramunga Arr**	**47.30**	**174**	*e*P	**P**	**19 16 31.1**	**0.0**
MBWA	**Marble Bar**	**49.35**	**193**	*e*P	**P**	**19 16 47.3**	**+0.4**
	comp=Z,17nm,0.9s,mb5.1						
CTA	**Charters Tower**	**49.80**	**160**	*e*P	**P**	**19 16 51.4**	**+1.1**
	comp=Z,9.5nm,0.7s,mb4.9						
CTA	**Charters Tower**	**49.80**	**160**	P	**P**	**19 16 51.5**	**+1.2**
	comp=Z,14nm,0.8s,mb5.1,baz=328,slow=7.9,SNR=11						
CTA	**Charters Tower**	**49.80**	**160**	P	**P**	**19 16 51.5**	**+1.2**
CTA				pmax	pmax		
	comp=Z,15nm,0.8s						
CTAO	**Charters Tower**	**49.80**	**160**	*e*P	**P**	**19 16 51.5**	**+1.2**
CTAO				*e*		19 17 00.8	
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
CTAO	**Charters Tower**	**49.80**	**160**	*e*P	**P**	**19 16 51.5**	**+1.2**
	comp=Z,17nm,0.8s,mb5.1						
CTAO				*e*		19 17 00.8	
CHKZ	**Chkalovo**	**50.40**	**318**	*e*P	**P**	**19 16 52.5**	**-2.3**
CHKZ				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
CHKZ	**Chkalovo**	**50.40**	**318**	*e*P	**P**	**19 16 52.5**	**-2.3**
	comp=Z,2.7nm,1.0s,mb4.2						
BVAR	**Borovoye Array**	**50.46**	**317**	P	**P**	**19 16 54.2**	**-1.1**
	comp=Z,2.8nm,0.6s,mb4.5,baz=86,slow=9.1,SNR=28						
BVAR				PcP	PcP	19 18 11.8	-1.6
	comp=Z,1.9nm,0.8s,baz=122,slow=5.4,SNR=2.7						
AS31	**Alice Springs**	**50.96**	**175**	⇑*i*P	**P**	**19 16 59.8**	**+0.7**
ASAR	**Alice Springs**	**50.96**	**175**	P	**P**	**19 16 59.9**	**+0.8**
	comp=Z,2.4nm,0.5s,mb4.4,baz=7.7,slow=13,SNR=49						
ASAR				PcP	PcP	19 18 15.8	+0.5
	comp=Z,2.6nm,0.8s,baz=356,slow=3.9,SNR=7.3						
ASPA	**Alice Springs**	**50.96**	**175**	⇑*i*P	**P**	**19 16 59.8**	**+0.7**
ZRNK	**Zerenda**	**51.28**	**317**	*e*P	**P**	**19 17 00.0**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**51.28**	**317**	*e*P	**P**	**19 17 00.0**	**-1.5**
	comp=Z,5.7nm,0.7s,mb4.6						
POO	**Poona**	**52.13**	**273**	*e*P	**P**	**19 17 07.0**	**-0.8**
ARU	**Arti**	**57.45**	**321**	*e*P	**P**	**19 17 42.5**	**-3.9**
ARU				*e*S	**S**	**19 25 36.3**	**-6.8**
ARU				*e*S

MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
MCK McKinley 61.80 30 *e*P **P 19 18 15.5 -0.9**
comp=Z,7.0nm,1.0s,mb4.8
COLA College 62.17 29 P **P 19 18 18.7 -0.2**
SML Sawmill 62.28 32 *e*P **P 19 18 17.6 -2.0**
ARPS Mount Arapiles 64.84 170 *e*P **P 19 18 36.8 +0.3**
comp=Z,25nm,0.8s,mb5.3
DAWY Dawson 65.92 29 *e*P **P 19 18 41.7 -1.7**
KLMR Klimovskoe 66.68 328 *e*P **P 19 18 49.0 +0.6**
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.9
INK Inuvik 67.12 24 P **P 19 18 48.9 -2.3**
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 67.12 24 P **P 19 18 48.9 -2.3**
comp=Z,6.4nm,1.1s,mb4.6
KBS Kingsbay 68.34 349⇑ *e*P **P 19 18 59.8 +0.9**
KEV Kevo 68.89 339 *e*p **P 19 19 01.7 -0.6**
comp=Z,1.8nm,0.3s,mb4.5
KEV Kevo 68.89 339 *e*P **P 19 19 01.7 -0.6**
KEV pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
ARCES ARCESS Array B 69.46 339 P **P 19 19 05.6 -0.2**
comp=Z,1.9nm,0.5s,mb4.3,baz=72,slow=8.0,SNR=27
ARCES LR LR 19 55 08.9
comp=Z,69nm,18.5s,MS3.9,baz=46,slow=41
ARE0 ARCESS Array S 69.46 339 *e*P **P 19 19 05.3 -0.6**
GNI Garni 69.50 305*c i*P **P 19 19 14.3 +8.2**
GNI pmax pmax
comp=Z,8.0nm,1.2s
KIV Kislovodsk 69.71 310*c i*P **P 19 19 07.4 0.0**
KIV pmax pmax
comp=Z,24nm,1.7s,mb4.8
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.2
JOF Joensuu 69.76 331 *e*p **P 19 19 06.7 -1.0**
comp=Z,10nm,0.8s,mb4.8
OBN Obninsk 69.86 322⇑ *e*P **P 19 19 09.7 +1.4**
OBN *e* 19 19 28.1
OBN *e* 19 21 41.6
OBN *e*SS SS 19 32 44.5 -1.8
OBN pmax pmax
comp=Z,14nm,1.7s,mb4.6
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
KAF Kangasniemi 72.21 331 *e*p **P 19 19 20.9 -1.7**
comp=Z,6.0nm,0.7s,mb4.6,baz=65,slow=5.8
KAF Kangasniemi 72.21 331 *e*P **P 19 19 20.9 -1.7**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FINES FINESS Array B 72.59 331 P **P 19 19 24.6 -0.2**
comp=Z,8.7nm,0.4s,mb5.1,baz=70,slow=5.5,SNR=165
FINES LR LR 19 54 02.9
comp=Z,34nm,20.5s,MS3.6,baz=61,slow=38
FINES FINESS Array B 72.59 331 P **P 19 19 24.6 -0.2**
FINES LR LR 19 54 02.9
VSU Vasula 73.58 328⇑ *i*P **P 19 19 31.9 +1.2**
RES Resolute Bay 74.04 11 *e*P **P 19 19 32.8 -0.6**
RES pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
RES Resolute Bay 74.04 11 *e*P **P 19 19 32.8 -0.5**
comp=Z,3.9nm,0.8s,mb4.4
MALT Malatya 74.73 305 *e*P **P 19 19 36.2 -1.2**
MALT pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
MALT Malatya 74.73 305 *e*P **P 19 19 36.2 -1.2**
comp=Z,10nm,1.3s,mb4.6
AKASG Malin Array Be 75.65 320 P **P 19 19 42.6 -0.1**
comp=Z,4.7nm,0.4s,mb4.8,baz=62,slow=6.3,SNR=22
YKA Yellowknife Ar 76.73 26 P **P 19 19 48.5 -0.3**
comp=Z,2.9nm,0.8s,mb4.3,baz=299,slow=5.6,SNR=11
YKA Yellowknife Ar 76.73 26 P **P 19 19 48.5 -0.3**
SUW Suwalki 77.41 325 P **P 19 19 50.2 -2.4**
BR131 Keskin Array S 77.56 308 *e*P **P 19 19 54.0 +0.5**
comp=Z,3.9nm,0.8s,mb4.4
BRTR Keskin Array B 77.56 308 P **P 19 19 54.8 +1.3**
comp=Z,2.5nm,0.7s,mb4.2,baz=112,slow=4.3,SNR=14
BRTR Keskin Array B 77.56 308 *i*P **P 19 19 54.7 +1.2**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
CFR Carcaliu 78.78 315⇑ *i*P **P 19 20 03.1 +2.8**
CFR Carcaliu 78.78 315⇑ P **P 19 20 03.1 +2.8**
NB2 NORSAR Subarra 78.93 334 P **P 19 20 00.3 -0.8**
comp=Z,5.9nm,0.6s,mb4.7,baz=51,slow=5.6
NB2 NORSAR Subarra 78.93 334 P **P 19 20 00.3 -0.8**
NB2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
NOA NORSAR Array B 78.93 334 P **P 19 20 00.8 -0.3**
comp=Z,6.7nm,0.6s,mb4.7,baz=51,slow=5.5,SNR=30
NOA NORSAR Array B 78.93 334 P **P 19 20 00.8 -0.3**
NAO01 NORSAR Array S 79.17 334 *e*P **P 19 20 02.2 -0.2**
comp=Z,6.1nm,0.8s,mb4.6
VRI Vrincioaia 79.34 316⇑ *i*P **P 19 20 07.2 +3.9**
VRI Vrincioaia 79.34 316⇑ P **P 19 20 07.2 +3.9**
BURAR Bucovina Array 79.41 318⇑ *i*P **P 19 20 06.9 +3.2**
BURAR Bucovina Array 79.41 318⇑ P **P 19 20 06.9 +3.2**
KWP Kalwaria 79.85 321 *e*P **P 19 20 06.9 +0.8**
KWP pmax pmax
comp=Z,25nm,1.0s,mb5.1
KWP Kalwaria 79.85 321 *e*P **P 19 20 06.9 +0.7**
comp=Z,25nm,1.0s,mb5.1
SUMG Summit 79.92 357 *e*P **P 19 20 07.2 +0.7**
comp=Z,4.5nm,0.5s,mb4.7
MLR Muntele Rosu 80.00 316⇓ *i*P **P 19 20 10.4 +3.5**
MLR Muntele Rosu 80.00 316⇓ P **P 19 20 10.4 +3.5**
STHS Stebnicka Huta 80.78 321 *e*P **P 19 20 14.9 +3.8**
comp=Z,4.9nm,0.9s,mb4.4
CRVS Cervenica-Dubn 80.93 321 *e*P **P 19 20 16.7 +4.8**
comp=Z,2.8nm,0.7s,mb4.3
OJC Ojcow 81.15 322 *e*P **P 19 20 14.1 +1.0**
KECS Kecovo 81.70 321 *e*P **P 19 20 21.3 +5.3**
comp=Z,3.7nm,0.9s,mb4.3
OKC Ostrava-Krasne 82.25 323 *e*P **P 19 20 22.1 +3.2**
MORC Moravsky Berou 82.61 323⇑ *i*P **P 19 20 22.7 +1.9**
MORC Moravsky Berou 82.61 323 *e*P **P 19 20 21.9 +1.1**
MORC *e* 19 20 33.0
MORC pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
MORC Moravsky Berou 82.61 323 *e*P **P 19 20 21.9 +1.1**
comp=Z,10nm,1.4s,mb4.7
MORC *e* 19 20 33.0
VYHS Vyhne 82.61 321 *i*P **P 19 20 22.0 +1.2**
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VYHS Vyhne 82.61 321 *i*P **P 19 20 22.0 +1.2**
comp=Z,4.3nm,0.9s,mb4.5
EDM Edmonton 82.69 33 *e*P **P 19 20 20.7 -0.5**
KOLL Kolacno 82.81 322 *i*P **P 19 20 23.6 +1.8**
DPC Dobruska-Polom 82.93 324 *e*P **P 19 20 23.4 +1.0**
UPC Upice 83.00 324 *e*P **P 19 20 23.2 +0.4**
SRO Srobarova 83.28 321 *e*P **P 19 20 28.5 +4.2**
comp=Z,5.9nm,0.6s,mb4.8
SRO1 Iza 83.36 321 *e*pP pP 19 20 28.1 -0.9
SMOL Smolenice 83.38 322 *e*pP pP 19 20 28.9 -0.2
VRAC Vranov 83.38 323⇑ *i*P **P 19 20 26.4 +1.6**
VRAC Vranov 83.38 323⇑ P **P 19 20 26.4 +1.6**
PVCC Panska Ves 83.74 325 *e*P **P 19 20 27.8 +1.2**
PVCC MLR MLR
comp=Z,100nm,17.5s,MS4.2
ZST Bratislava 83.74 322 *e*P **P 19 20 30.8 +4.2**
comp=Z,10nm,1.4s,mb4.8
BRG Berggiesshubel 83.85 325 *e*P **P 19 20 28.0 +0.8**
comp=Z,18nm,0.3s,mb5.6
BRG
comp=N,75nm,13.6s
BRG
comp=E,45nm,16.5s
BRG
comp=Z,103nm,14.0s
PKSM Moragy 83.98 319⇓ *i*P **P 19 20 31.2 +3.3**
PKSM Moragy 83.98 319⇓ P **P 19 20 31.2 +3.3**
CLL Collm 84.06 326⇑ *i*P **P 19 20 28.8 +0.5**
comp=Z,9.0nm,1.3s,mb4.7
CLL *i*pP pP 19 20 31.8 -0.8
CLL *i*x x 19 20 34.7
CLL *i*x x 19 20 41.4
CLL *e*S 19 30 54.0
CLL Collm 84.06 326⇑ *i*P **P 19 20 28.8 +0.5**
CLL *e*S 19 30 54.0
CLL pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
CLL MLR MLR
comp=Z,400nm,14.9s,MS4.9
CLL Collm 84.06 326⇑ *i*P **P 19 20 28.8 +0.5**
comp=Z,9.0nm,1.3s,mb4.7
CLL *i*pP pP 19 20 31.8 -0.8
CLL *e*S 19 30 54.0
CLL LR LR
comp=Z,400nm,14.9s,MS4.9
PRU Pruhonice 84.07 324 *e*P **P 19 20 28.8 +0.5**
PRU AMS AMS 20 02 10.0
comp=Z,200nm,16.3s
CONA Conrad Observa 84.57 322⇑ *i*P **P 19 20 32.7 +1.9**
comp=Z,12nm,0.8s,mb5.1
NKC Novy Kostel 85.00 325 *e*P **P 19 20 35.2 +2.2**
NKC AMS AMS 20 03 00.0
comp=Z,200nm,12.4s
KHC Kasperske Hory 85.09 324 *e*P **P 19 20 33.9 +0.5**
KHC *e*x x 19 20 47.3
KHC AMS AMS 20 02 10.0
comp=Z,200nm,16.7s
ARSA Arzberg 85.16 322⇓ *i*P **P 19 20 35.3 +1.5**
comp=Z,7.7nm,1.2s,mb4.7
MOX Moxa 85.17 326 *e*P **P 19 20 37.6 +3.8**
MOX LR LR
comp=Z,200nm,15.0s,MS4.6
GERES GERESS Array B 85.19 324 P **P 19 20 33.7 -0.2**
comp=Z,2.7nm,0.8s,mb4.4,baz=57,slow=4.9,SNR=18
GERES LR LR 20 02 13.9
comp=Z,96nm,19.1s,MS4.2,baz=283,slow=38
GERES GERESS Array B 85.19 324 P **P 19 20 33.7 -0.3**
GERES pmax pmax
comp=Z,30nm,0.8s
GERES MLR MLR
comp=Z,97nm,19.1s
MOA Molln 85.49 323⇑ *i*P **P 19 20 36.2 +0.7**
comp=Z,7.0nm,0.9s,mb4.8
GRA1 Grafenberg Arr 85.96 325 *e*P **P 19 20 41.1 +3.3**
comp=Z,15nm,1.3s,mb5.1
GRA1 *e*pP pP 19 20 53.5 +11
GRF Grafenberg Arr 85.96 325 *e*P **P 19 20 41.1 +3.3**
comp=Z,15nm,1.3s,mb5.1
GRF *e*pP pP 19 20 53.5 +11
GRF Grafenberg Arr 85.96 325 *e*P **P 19 20 41.1 +3.3**
GRF *e**PP pP 19 20 53.5 +11
GRF pmax pmax
comp=Z,15nm,1.3s,mb5.1
GRF Grafenberg Arr 85.96 325 *e*P **P 19 20 41.1 +3.3**
GRF *e**PP pP 19 20 53.5 +11
GRF pmax pmax
comp=Z,15nm,1.3s,mb5.1
PDKS Podkum 86.15 321 *e*P **P 19 20 42.3 +3.6**
BOJS Bojanci 86.33 320 *e*P **P 19 20 43.2 +3.6**
KBA Koelnbreinsper 86.45 322⇑ *i*P **P 19 20 42.6 +2.4**
comp=Z,9.3nm,1.1s,mb5.0
KBA Koelnbreinsper 86.45 322⇑ *i*P **P 19 20 42.6 +2.4**
KBA pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
CADS Cadrg 86.75 321 *e*P **P 19 20 44.5 +2.8**
VOJS Vojsko 86.79 321 *e*P **P 19 20 44.9 +3.0**
MOTA Moosalm 87.49 323⇓ *i*P **P 19 20 48.5 +3.2**
comp=Z,4.6nm,1.0s,mb4.7
MOTA Moosalm 87.49 323⇓ *i*P **P 19 20 48.5 +3.2**
MOTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
DAVA Damuels 88.17 324⇓ *i*P **P 19 20 51.5 +3.0**
comp=Z,7.1nm,0.7s,mb5.0
TIP Timpagrande 89.11 314 *e*P **P 19 20 56.6 +3.6**
AQU L'Aquila 89.29 319 *e*P **P 19 20 58.0 +4.2**
AQU pmax pmax
comp=Z,12nm,0.9s,mb5.2
AQU L'Aquila 89.29 319 *e*P **P 19 20 58.0 +4.2**
comp=Z,12nm,0.9s,mb5.2
PPT Papeete 89.76 110 LR LR 19 56 21.3
comp=Z,213nm,20.6s,MS4.6,baz=317,slow=32
PDAR Pinedale Array 91.19 39 P **P 19 21 03.4 +0.7**
comp=Z,2.6nm,0.8s,mb4.6,baz=349,slow=1.8,SNR=19
ULM Lac du Bonnet 92.59 27 P **P 19 21 07.8 -1.3**
comp=Z,5.5nm,1.0s,mb4.9,baz=357,slow=3.8,SNR=3.5
TORD Torodi Ar. Bea 115.69 302 PKP PKPdf 19 26 40.1 +0.2
comp=Z,0.3nm,0.8s,baz=29,slow=1.7,SNR=5.5

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*ISCJB **17** 19:20:25.5±0.6, 147S±01×663E±01, h10km, mb4.2/13, MS3.5/1, Error ellipse: s-maj=20.0km s-min=16.9km az=115.2*
*MOS **17** 19:20:25.8±0.4, 1464S×6630E, h10km, mb4.6/2, Error ellipse: s-maj=38.7km s-min=29.4km az=91.8*
*IDC **17** 19:20:26.2±1.6, 1462S×6630E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/21, mbtmp4.0/7, MS3.5/1, Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=57.9km s-min=24.0km az=48.0*
*NEIC **17** 19:20:27.9±0.5, 1475S×6628E, h10km, mb4.5/5, Error ellipse: s-maj=18.7km s-min=16.3km az=223.0*
ISC 17 19:20:27.7±0.6, 147S±01×663E±01, h10km, n19, σ0§85/17, mb4.2/13, MS3.5/1, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**40.38**	**243**	LR	LR	19 42 50.9	
comp=Z,59nm,18.3s,MS3.5,baz=4.7,slow=33							
TSUM	**Tsumeb**	**46.70**	**257**	P	**P**	**19 28 55.9**	**-0.8**
3.8nm,0.9s,mb4.3							
MBWA	**Marble Bar**	**51.06**	**105**	*e*P	**P**	**19 29 26.0**	**-4.1**
12nm,1.2s,mb4.7							
MKAR	**Makanchi Array**	**62.86**	**12**	P	**P**	**19 30 53.7**	**-0.1**
0.8nm,0.6s,mb4.0,baz=211,slow=8.4,SNR=13							
AB31	**Akbulak array**	**63.90**	**355**	P	**P**	**19 30 59.7**	**-1.0**
1.5nm,0.6s,mb4.2,baz=187,slow=6.2,SNR=14							
ASAR	**Alice Springs**	**63.99**	**109**	P	**P**	**19 31 01.9**	**+0.6**
1.2nm,0.7s,mb4.0,baz=277,slow=6.5,SNR=14							
WRA	**Warramunga Arr**	**64.80**	**105**	P	**P**	**19 31 07.8**	**+1.3**
2.2nm,0.7s,mb4.3,baz=270,slow=5.9,SNR=21							
AKTK	**Aktyubinsk**	**65.24**	**354**	P	**P**	**19 31 09.7**	**+0.3**
AKTO	**Aktyubinsk**	**65.24**	**354**	P	**P**	**19 31 09.7**	**+0.3**
2.0nm,0.8s,mb4.2,baz=161,slow=9.8,SNR=4.2							
ZRNK	**Zerenda**	**67.40**	**2**	*e*P	**P**	**19 31 22.9**	**-0.3**
ZRNK				*e*		19 31 28.1	
ZRNK				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.2							
ZRNK	**Zerenda**	**67.40**	**2**	*e*P	**P**	**19 31 22.9**	**-0.3**
comp=Z,2.4nm,0.9s,mb4.2							
ZRNK				*e*		19 31 28.1	
STKA	**Stephens Creek**	**70.04**	**119**	P	**P**	**19 31 38.1**	**-1.6**
ZAL	**Zalesovo**	**70.16**	**12**	P	**P**	**19 31 39.5**	**-1.0**
comp=Z,1.2nm,0.3s,mb4.4,baz=290,slow=9.7,SNR=3.0							
SONM	**Songino Array**	**71.78**	**27**	P	**P**	**19 31 50.9**	**+0.5**
comp=Z,0.6nm,0.6s,mb3.7,baz=209,slow=6.6,SNR=6.5							
DBIC	**Dimbokro**	**73.65**	**282**	P	**P**	**19 32 02.1**	**+0.7**
DBIC				pmax	pmax		
comp=Z,6.0nm,1.0s							
DBIC	**Dimbokro**	**73.65**	**282**	P	**P**	**19 32 02.1**	**+0.7**
comp=Z,5.6nm,1.0s,mb4.5							
QSPA	**South Pole Qui**	**75.39**	**180**	*e*P	**P**	**19 32 11.4**	**-0.1**
comp=Z,5.6nm,1.0s,mb4.5							
QSPA				*e*		19 32 16.8	
ESDC	**Sonseca Array**	**84.71**	**313**	P	**P**	**19 33 03.2**	**+1.3**
comp=Z,0.4nm,0.5s,mb3.8,baz=123,slow=5.3,SNR=4.9							
PDAR	**Pinedale Array**	**151.79**	**354**	PKPbc	PKPbc	19 40 23.1	+0.5
comp=Z,1.4nm,0.7s,baz=57,slow=5.5,SNR=11							
PDAR				PKPab	PKPab	19 40 29.2	-2.3
comp=Z,0.9nm,0.7s,baz=291,slow=1.3,SNR=5.7							

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*ISCJB **17** 19:20:29.8±0.2, 4936N×001×681E±003, h0km, Error ellipse: s-maj=2.5km s-min=1.8km az=35.9*
*BNS **17** 19:20:30.9±0.7, 4933N×697E, h1km, ML1.9*
*STR **17** 19:20:31.3±0.2, 4937N×688E, h1km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 19:20:31.9±0.1, 4938N×691E, h1km, Md3.0/1, Ml3.0/14, Error ellipse: s-maj=2.0km s-min=1.7km az=98.0, Suspected Mining induced.*
*NEIC **17** 19:20:31.3, 4937N×688E, h1km, ML2.5(STR), ML3.0(LDG), After STR.*
*CSEM **17** 19:20:31.6±0.1, 4938N×692E, h1km, ML3.0/13, Error ellipse: s-maj=1.4km s-min=0.9km az=95.0*
*BGR **17** 19:20:32.0±1.3, 4935N×689E, h1km, ML2.2/2, Error ellipse: s-maj=20.0km s-min=7.8km az=92.0*
ISC 17 19:20:30.8±0.2, 4936N±001×685E±002, h0km, n63, σ1§02/121, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**22**	Pg	**Pg**	**19 20 38.2**	**+0.4**
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	**Pg**	**19 20 42.3**	**+1.1**
ABH	**Alteburg**	**0.69**	**41**	Pg	**Pg**	**19 20 43.9**	**-0.1**
LANF	**Langenberg**	**0.74**	**121**	Pg	**Pg**	**19 20 45.0**	**+0.1**
KTD	**Kalmit**	**0.81**	**93**	Pg	**Pg**	**19 20 46.8**	**+0.5**
BGG	**Burgeitz**	**0.90**	**20**	*e*Pg	**Pg**	**19 20 48.4**	**+0.4**
BGG				*e*Sg	**Sg**	**19 21 00.8**	**+1.1**
HILG	**Hillesheim**	**0.94**	**353**	*e*Pg	**Pg**	**19 20 49.4**	**+0.7**
HILG				*e*Sg	**Sg**	**19 21 03.7**	**+2.9**
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pn	**Pn**	**19 20 51.2**	**-0.8**
SNR=1.0							
CDF				*e*Sg	**Sg**	**19 21 03.4**	**+0.7**
28nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pg	**Pg**	**19 20 50.0**	**+0.2**
CDF				*e*Pn	**Pn**	**19 20 51.2**	**-0.8**
CDF				*e*Sg	**Sg**	**19 21 03.4**	**+0.7**
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pn	**Pn**	**19 20 51.2**	**-0.8**
SNR=1.0							
CDF				*e*Sg	**Sg**	**19 21 03.4**	**+0.7**
14nm,0.2s,SNR=1.0							
WLS	**Welschbruch**	**1.01**	**160**	Pg	**Pg**	**19 20 50.3**	**+0.2**
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**19 20 54.2**	**+1.1**
baz=42							
RFYF				*e*Sg	**Sg**	**19 21 10.3**	**+2.1**
55nm,0.2s							
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**19 20 54.2**	**+1.1**
RFYF				*e*Sg	**Sg**	**19 21 10.3**	**+2.1**
28nm,0.2s							
ECH	**Echery**	**1.17**	**170**	Pn	**Pn**	**19 20 53.4**	**-1.0**
ECH				Sg	**Sg**	**19 21 09.6**	**+1.3**
STB	**Steinbach**	**1.23**	**360**	*e*Pg	**Pg**	**19 20 54.1**	**-0.3**
STB				*e*Sg	**Sg**	**19 21 10.7**	**+0.4**
25nm,1.0s							
THEF	**They Montfort**	**1.27**	**207**	Pn	**Pn**	**19 20 55.4**	**-0.4**
THEF				Sg	**Sg**	**19 21 12.9**	**+1.2**
TOD	**Tromm**	**1.30**	**79**	Pn	**Pn**	**19 20 54.5**	**-1.7**
TOD				Sg	**Sg**	**19 21 13.1**	**+0.6**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**19 20 55.8**	**-0.5**
KLL				*e*Sg	**Sg**	**19 21 13.6**	**+0.1**
15nm,0.8s							
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pn	**Pn**	**19 20 56.1**	**-0.7**
SNR=1.3							
TNS				*e*Sg	**Sg**	**19 21 14.6**	**+0.6**
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**19 20 59.1**	**+1.5**
HAU				*e*Sg	**Sg**	**19 21 16.7**	**+0.9**
36nm,0.2s							
HAU	**Haudompre**	**1.40**	**194**	*e*Pn	**Pn**	**19 20 57.8**	**+0.3**
HAU				*e*Pg	**Pg**	**19 20 59.1**	**+1.5**
HAU				*e*Sg	**Sg**	**19 21 16.7**	**+0.9**
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**19 20 59.1**	**+1.5**
HAU				*e*Sg	**Sg**	**19 21 16.7**	**+0.9**
18nm,0.2s							
BFO	**Black Forest**	**1.43**	**136**	*e*Pn	**Pn**	**19 20 58.2**	**+0.3**
SNR=4.0							
BFO				*e*Sg	**Sg**	**19 21 15.8**	**-0.8**
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pn	**Pn**	**19 20 58.8**	**+0.4**
baz=51,SNR=1.0							
MEZF				*e*Sn	**Sn**	**19 21 17.5**	**-0.8**
SNR=1.0							
MEZF				*e*Sg	**Sg**	**19 21 19.7**	**+1.8**
17nm,0.3s,SNR=1.0							
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pn	**Pn**	**19 20 58.8**	**+0.4**
SNR=1.0							
MEZF				*e*Sn	**Sn**	**19 21 17.5**	**-0.8**
SNR=1.0							
MEZF				*e*Sg	**Sg**	**19 21 19.7**	**+1.8**
8.6nm,0.3s,SNR=1.0							
HGN	**Heimansgroeve**	**1.52**	**338**	*e*Pn	**Pn**	**19 20 58.6**	**-0.6**
2.3nm,0.2s							
HGN				*e*Pg	**Pg**	**19 21 00.7**	**+0.8**
14nm,0.3s							
HGN				*e*Sg	**Sg**	**19 21 19.5**	**-0.2**
MOF	**Molkenrain**	**1.53**	**173**	Pn	**Pn**	**19 20 59.0**	**-0.3**
MOF				Sg	**Sg**	**19 21 20.9**	**+1.1**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**19 21 00.8**	**+0.3**
SNR=1.0							
HINF				*e*Sg	**Sg**	**19 21 21.3**	**+0.7**
58nm,0.2s,SNR=1.0							
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pn	**Pn**	**19 20 58.4**	**-1.2**
HINF				*e*Pg	**Pg**	**19 21 00.8**	**+0.3**
HINF				*e*Sg	**Sg**	**19 21 21.3**	**+0.7**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**19 21 00.8**	**+0.3**
SNR=1.0							
HINF				*e*Sg	**Sg**	**19 21 21.3**	**+0.7**
29nm,0.2s,SNR=1.0							
HOBG	**Hohbusch**	**1.65**	**11**	*e*Pg	**Pg**	**19 21 00.2**	**-2.2**
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pg	**Pg**	**19 21 01.3**	**-1.4**
baz=59							
SFTF				*e*Sg	**Sg**	**19 21 25.4**	**+1.1**
20nm,0.3s							
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pg	**Pg**	**19 21 01.3**	**-1.4**
SFTF				*e*Sg	**Sg**	**19 21 25.4**	**+1.1**
10nm,0.3s							
FELD	**Feldberg im Sc**	**1.68**	**152**	Pn	**Pn**	**19 21 01.1**	**-0.2**
BAIF	**Baives**	**1.85**	**293**	*e*Pg	**Pg**	**19 21 06.6**	**+0.4**
BAIF				*e*Sg	**Sg**	**19 21 31.0**	**+0.8**
12nm,0.4s,SNR=1.0							
BAIF	**Baives**	**1.85**	**293**	*e*Pn	**Pn**	**19 21 02.7**	**-1.0**
BAIF				*e*Pg	**Pg**	**19 21 06.6**	**+0.4**
BAIF				*e*Sg	**Sg**	**19 21 31.0**	**+0.8**
BAIF	**Baives**	**1.85**	**293**	*e*Pg	**Pg**	**19 21 06.6**	**+0.4**
BAIF				*e*Sg	**Sg**	**19 21 31.0**	**+0.8**
6.2nm,0.4s,SNR=1.0							
LOMF	**Lomont**	**2.02**	**180**	Pn	**Pn**	**19 21 05.5**	**-0.5**
CABF	**La Chapelle**	**2.80**	**191**	*e*Pg	**Pg**	**19 21 25.7**	**+1.2**
SNR=1.0							
CABF				*e*Sg	**Sg**	**19 22 00.3**	**-0.5**
32nm,0.9s							
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**19 21 16.4**	**-0.4**
CABF				*e*Pg	**Pg**	**19 21 25.7**	**+1.2**
CABF				*e*Sg	**Sg**	**19 22 00.3**	**-0.5**
CABF	**La Chapelle**	**2.80**	**191**	*e*Pg	**Pg**	**19 21 25.7**	**+1.2**
SNR=1.0							
CABF				*e*Sg	**Sg**	**19 22 00.3**	**-0.5**
16nm,0.9s							
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**19 21 17.4**	**-0.7**
baz=50,SNR=1.0							
LOR				*e*Sn	**Sn**	**19 21 52.6**	**-1.0**
SNR=1.0							
LOR				*e*Sg	**Sg**	**19 22 04.7**	**+0.9**
9.2nm,0.3s,SNR=1.0							
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**19 21 17.4**	**-0.7**
SNR=1.0							
LOR				*e*Sn	**Sn**	**19 21 52.6**	**-1.0**
SNR=1.0							
LOR				*e*Sg	**Sg**	**19 22 04.7**	**+0.9**
4.6nm,0.3s,SNR=1.0							
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pg	**Pg**	**19 21 33.5**	**+1.2**
SNR=1.0							
SSF				*e*Sn	**Sn**	**19 22 00.0**	**-1.4**
17nm,0.7s,SNR=1.0							
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**19 21 22.0**	**-0.4**
SSF				*e*Pg	**Pg**	**19 21 33.5**	**+1.2**
SSF				*e*Sn	**Sn**	**19 22 00.0**	**-1.4**
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pg	**Pg**	**19 21 33.5**	**+1.2**
SNR=1.0							
SSF				*e*Sn	**Sn**	**19 22 00.0**	**-1.4**
8.5nm,0.7s,SNR=1.0							
MOX	**Moxa**	**3.33**	**66**	*e*(Sg)	**Sg**	**19 22 17.3**	**-0.6**
MOX	**Moxa**	**3.33**	**66**	(SG)	**Sg**	**19 22 17.3**	**-0.6**
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**19 21 23.5**	**-1.4**
SNR=1.0							
SMF				*e*Sn	**Sn**	**19 22 03.7**	**-2.1**
SNR=1.0							
SMF				*e*Sg	**Sg**	**19 22 19.8**	**+0.2**
7.0nm,0.4s,SNR=1.0							
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**19 21 23.5**	**-1.4**
SNR=1.0							
SMF				*e*Sn	**Sn**	**19 22 03.7**	**-2.1**
SNR=1.0							
SMF				*e*Sg	**Sg**	**19 22 19.8**	**+0.2**
3.5nm,0.4s,SNR=1.0							
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	**Pn**	**19 21 23.9**	**-2.3**
SNR=1.0							
AVF				*e*Sn	**Sn**	**19 22 05.2**	**-2.9**
5.4nm,0.5s,SNR=1.0							
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	**Pn**	**19 21 23.9**	**-2.3**
SNR=1.0							
AVF				*e*Sn	**Sn**	**19 22 05.2**	**-2.9**
2.7nm,0.5s,SNR=1.0							
BGF	**Bois d'Agland**	**3.89

GEC2	GERESS Array S	4.53	94	*e*Pn	Pn	19 21 40.7	+0.1
	SNR=3.0						
LDF	La Druitiere	4.65	263	*e*Pn	Pn	19 21 42.6	+0.3
LDF				*e*Pg	Pg	19 22 01.7	+1.7
FLN	La Foliniere	4.86	266	*e*Pn	Pn	19 21 44.1	-1.0
	baz=79,SNR=1.0						
FLN	La Foliniere	4.86	266	*e*Pg	Pg	19 22 02.2	-1.6
	baz=79,SNR=1.0						
FLN	La Foliniere	4.86	266	*e*Pn	Pn	19 21 44.1	-1.0
FLN				*e*Pg	Pg	19 22 02.2	-1.6
GRR	Gorron	5.18	262	*e*Pg	Pg	19 22 09.2	-0.8
	SNR=1.0						
SGMF	Saint Gilles	6.31	263	*e*Pn	Pn	19 22 05.2	+0.1
	SNR=1.0						

ISK ***17*** *19:39:38.9, 3798N×2706E, h22km, MD3.1*
CSEM ***17*** *19:39:38.8±0.1, 3795N×27.17E, h10km, MD3.2, Error ellipse: s-maj=2.6km s-min=1.6km az=87.0*
ISCJB ***17*** *19:39:39.1±0.5, 3793N±002×27.18E±003, h3km±5km, Error ellipse: s-maj=4.3km s-min=3.5km az=163.3*
ATH ***17*** *19:39:41.0, 3790N×2705E, h5km±2km, MD3.2/4*
NEIC ***17*** *19:39:42.6, 3789N×2671E, h5km, MD3.2(ATH), After ATH.*

ISC 17 19:39:39.7±0.4, 3793N±002×2716E±003, h8km±4km, n29, σ0§96/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.34	229	⇑*i*PG	Pg	19 39 46.5	+0.3
SMG				*e*SG	Sg	19 39 50.4	-0.2
BLCB	Balcova	0.47	349	*i* PG	Pg	19 39 48.2	-0.5
BLCB				*i* SG	Sg	19 39 54.3	-0.5
IZM	Izmir	0.48	10	*i* PG	Pg	19 39 48.6	-0.3
IZM				*i* SG	Sg	19 39 56.0	+0.8
KDAG	Bornova	0.48	10	*i* P	Pg	19 39 48.6	-0.4
KDAG				*i* S	Sg	19 39 56.0	+0.7
URLA	Izmir	0.62	314	*i* P	Pg	19 39 51.2	-0.4
URLA				*i* S	Sg	19 39 59.6	-0.1
AYDN	Tasoluk	0.63	115	*i* P	Pg	19 39 52.5	+0.6
AYDN				*i* S	Sg	19 40 00.8	+0.7
MLSB	Milas	0.80	142	*i* PG	Pg	19 39 55.8	+0.8
BODT	Bodrum	0.87	172	*i* PG	Pg	19 39 57.1	+0.7
BDRM	Kayabasi	0.89	165	*i* P	Pg	19 39 57.5	+0.8
AKS	Akhisar	1.08	28	PG	Pg	19 39 59.6	-0.8
YER	Yerkesik	1.19	131	PN	Pn	19 40 02.3	-0.4
MANT	Manisa	1.24	63	*i* P	Pn	19 40 03.7	+0.4
MANT				*i* S	Sb	19 40 18.3	-1.2
DAT	Datca	1.24	164	PN	Pn	19 40 03.3	-0.1
AYVA	Ayvalik	1.43	345	*i* P	Pn	19 40 05.9	0.0
AYVA				*i* S	Sn	19 40 27.9	+3.0
PRK	Paraskevi	1.49	332	*e*PB	Pb	19 40 09.0	+1.4
PRK				*e*SB	Sb	19 40 29.5	+2.8
PRK	Paraskevi	1.49	332	*e*Pn	Pn	19 40 07.7	+0.9
PRK				*e*Sb	Sb	19 40 28.3	+1.6
DENT	Denizli	1.50	96	*e*PN	Pn	19 40 06.5	-0.3
APE	Apeiranthos	1.55	237	*e*PB	Pb	19 40 09.0	+0.3
APE	Apeiranthos	1.55	237	*e*Pb	Pn	19 40 06.3	-1.3
DALT	Dalyan (Mudla)	1.65	134	*e*PN	Pn	19 40 08.5	-0.5
BALB	Balikesir	1.80	18	*e*PN	Pn	19 40 09.4	-1.7
BTOK	Tokmak	1.96	20	*i* P	Pn	19 40 14.9	+1.7
BTOK				*i* S	Sn	19 40 39.0	+1.0
BTOK	Tokmak	1.96	20	*i* S	Sn	19 40 39.0	+1.1
FETY	Fethiye	2.00	129	*e*PN	Pn	19 40 13.5	-0.4
CANB	Canakkale	2.09	358	*e*PN	Pn	19 40 12.7	-2.3
GDZ	Gediz	2.16	57	*i* P	Pg	19 40 20.9	-0.2
GDZ				*i* S	Sg	19 40 48.9	-0.2
LIA	Limnos Island	2.50	323	*e*PN	Pn	19 40 25.2	+4.5
LIA	Limnos Island	2.50	323	*e*Pg	Pg	19 40 26.2	-1.4
RKY	Sarkoy-Tekirda	2.76	0	*e*PN	Pn	19 40 22.8	-1.4

IDC ***17*** *19:45:32.4±52.0, 2504S×178.15W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/10, mbtmp4.1/3, Error ellipse: s-maj=940.7km s-min=170.4km az=90.0*

NEIC 17 19:45:10.6±2.0, 2565S×17477W, h10km, mb4.5/2, 2D, Error ellipse: s-maj=96.8km s-min=31.5km az=158.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.56	250	P	P	19 52 33.4	-0.1
	2.4nm,1.1s,baz=90,slow=14,SNR=3.5						
STKA	Stephens Creek	38.56	250	*e*P	P	19 52 33.3	-0.2
AS31	Alice Springs	46.45	261	⇓*i*P	P	19 53 38.2	+0.5
ASAR	Alice Springs	46.45	261	P	P	19 53 38.2	+0.5
	1.5nm,0.5s,baz=89,slow=7.1,SNR=83						
ASPA	Alice Springs	46.46	261	⇓*i*P	P	19 53 38.2	+0.5
WB2	Warramunga Arr	47.02	266	*e*P	P	19 53 41.9	-0.2
WRA	Warramunga Arr	47.03	266	P	P	19 53 42.3	+0.1
	2.4nm,0.6s,baz=104,slow=7.9,SNR=74						
KAKA	Kakadu	51.19	274	*e*P	P	19 54 14.6	+0.6
	6.1nm,0.8s						
FITZ	Fitzroy Crossi	55.43	265	*e*P	P	19 54 47.3	+2.1
	6.2nm,1.7s						
KSM	Kuching	77.07	278	P	P	19 57 04.5	+0.5
BRG	Berggiesshubel	153.94	347	*e*(P)	PKPdf	20 05 02.0	-0.3
	1.3nm,0.6s						
BRG	Berggiesshubel	153.94	347	P	PKPdf	20 05 02.0	-0.3

NIED ***17*** *19:46:00, 2690N×13000E, h8km, Mw3.8 Best double couple: M0≡5.80000×10^14 NP1:φs≡166.00000°, δ67.00000°, λ-113.00000°. NP2:φs≡32.00000°, δ32.00000°, λ-48.00000°.*

JMA 17 19:46:16.2±0.1, 2691N×12996E, h44km, M3.7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	1.25	314	P	Pn	19 46 37.8	+0.6
JTK				*e*S	Sn	19 46 53.1	+0.2
JZK	Kikaishima	1.40	0	P	Pn	19 46 40.4	+1.2
JOW	Kunigami	1.51	267	P	Pn	19 46 41.7	+1.0
JOW				S	Sn	19 46 59.6	+0.4
JAM	Amami Oshima	1.53	348	P	Pn	19 46 41.5	+0.5
JAM				S	Sn	19 46 59.5	-0.2
JMZ	Minamidaito 2	1.57	134	P	Pn	19 46 42.2	+0.6
JMZ				*e*S	Sn	19 47 00.9	+0.2
JIH	Iheya	1.78	274	P	Pn	19 46 45.6	+1.1
JIH				S	Sn	19 47 06.3	+0.4
JJT2	Tamagusuku 2	2.12	249	P	Pn	19 46 50.4	+1.2
JJT2				*e*S	Sn	19 47 15.9	+1.5
NAH1	Naha	2.15	251	P	Pn	19 46 50.8	+1.2
NAH1				*e*S	Sn	19 47 15.5	+0.5
JAGN	Aguni-jima	2.45	263	P	Pn	19 46 54.6	+0.9
JAGN				*e*S	Sn	19 47 22.7	+0.3
JKE	Kume jima 2	2.90	259	P	Pn	19 47 00.5	+0.7
JKE				*e*S	Sn	19 47 33.2	-0.2
JNN	Nakanoshima	2.92	359	*e*S	Sn	19 47 34.8	+0.8
JOGS	Gusukube	4.63	243	P	Pn	19 47 24.2	+0.6
JOGS				*e*S	Sn	19 48 14.8	-1.2

ISCJB ***17*** *19:59:46.0±0.5, 3186S±005×1797E±0.1, h378km±7km, mb3.8/9, Error ellipse: s-maj=18.5km s-min=6.1km az=35.3*
NEIC ***17*** *19:59:46.0±0.8, 3182S×17991E, h375km±7km, mb3.9/8, Error ellipse: s-maj=16.8km s-min=9.7km az=105.0*
IDC ***17*** *19:59:46.5±0.8, 3180S×17985E, h377km±8km, mb3.6/5, mb1 3.8/7, mb1mx3.7/13, mbtmp4.5/7, Error ellipse: s-maj=17.2km s-min=11.6km az=128.0*

ISC 17 19:59:47.1±0.5, 3188S±005×1796E±01, h365km±7km, n103, σ1§37/101, mb3.8/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.36	40	P	Pn	20 00 48.8	-1.9
	71nm,0.3s,baz=288,slow=19,SNR=3.2						
RAO				S	S	20 01 40.8	-1.3
	133nm,0.3s,baz=90,slow=19,SNR=4.7						
RAO	Raoul Island	3.36	40	*e*Pn	Pn	20 00 47.9	-2.9
MXZ	Matakaoa Point	5.78	191	PN	Pn	20 01 16.8	+0.9
MXZ				SN	S	20 02 27.8	-0.1
MXZ	Matakaoa Point	5.78	191	*e*P	Pn	20 01 18.2	+2.4
WIZ	White Island	5.99	199	P	Pn	20 01 23.1	+4.9
PUZ	Puketiti	6.28	190	PN	Pn	20 01 23.8	+2.3
PUZ				SN	S	20 02 39.1	+0.8
PUZ	Puketiti	6.28	190	*e*P	Pn	20 01 22.3	+0.8
MWZ	Matawai	6.67	194	PN	Pn	20 01 27.7	+1.7
MWZ				SN	S	20 02 48.4	+2.0
MWZ	Matawai	6.67	194	*e*P	Pn	20 01 27.7	+1.8
URZ	Urewera	6.70	197	P	Pn	20 01 26.3	0.0
	16nm,0.3s,baz=284,slow=3.5,SNR=58						
URZ				S	S	20 02 47.2	+0.2
	64nm,0.3s,baz=81,slow=23,SNR=16						
URZ	Urewera	6.70	197	PN	Pn	20 01 26.7	+0.5
URZ				SN	S	20 02 47.8	+0.9
URZ	Urewera	6.70	197	*e*P	Pn	20 01 26.7	+0.5
PATZ	Paeroa	7.05	202	PN	Pn	20 01 35.5	+5.1
KNZ	Kokohu	7.30	192	PN	Pn	20 01 36.4	+3.1
KNZ	Kokohu	7.30	192	P	Pn	20 01 34.9	+1.6
BKZ	Black Stump Fm	7.71	199	PN	Pn	20 01 39.9	+1.9
BKZ	Black Stump Fm	7.71	199	*e*P	Pn	20 01 38.4	+0.4
BKZ				S	S	20 03 08.0	-0.5
NGZ	Ngauruhoe	7.99	203	PN	Pn	20 01 43.8	+2.6
NGZ	Ngauruhoe	7.99	203	P	Pn	20 01 43.5	+2.3
TUVZ	Tukino	8.05	203	PN	Pn	20 01 44.9	+2.9
TUVZ	Tukino	8.05	203	P	Pn	20 01 43.6	+1.6
FWVZ	Far West T-bar	8.08	203	PN	Pn	20 01 44.2	+1.9
FWVZ	Far West T-bar	8.08	203	*e*P	Pn	20 01 44.2	+1.9
WNVZ	Wahianoa	8.13	203	PN	Pn	20 01 46.1	+3.2
MOVZ	Moawhango	8.15	202	PN	Pn	20 01 45.7	+2.6
MOVZ				SN	S	20 03 16.4	-1.5
PKVZ	Pokaka	8.18	204	PN	Pn	20 01 46.4	+2.9
VRZ	Vera Road	8.25	207	PN	Pn	20 01 47.1	+2.7
VRZ	Vera Road	8.25	207	*e*P	Pn	20 01 47.1	+2.8
PXZ	Pawanui	8.44	195	*e*PN	Pn	20 01 46.0	-0.5
PXZ				SN	S	20 03 19.7	-4.5
PKE	Pukeiti	8.63	211	PN	Pn	20 01 54.3	+5.6
PKE	Pukeiti	8.63	211	P	Pn	20 01 54.5	+5.8
TSZ	Takapari Road	8.69	199	*e*PN	Pn	20 01 48.0	-1.4
TSZ	Takapari Road	8.69	199	P	Pn	20 01 49.5	0.0
WAZ	Wanganui	8.72	204	PN	Pn	20 01 52.4	+2.5
WAZ	Wanganui	8.72	204	P	Pn	20 01 52.5	+2.7
BFZ	Birch Farm	9.20	196	*e*PN	Pn	20 01 56.2	+0.7
MRZ	Mangatainoka R	9.36	199	*e*PN	Pn	20 01 55.1	-2.2
MRZ	Mangatainoka R	9.36	199	*e*P	Pn	20 01 55.8	-1.5
TIWZ	Tintock	9.38	198	*e*PN	Pn	20 01 57.5	-0.1
KIW	Kapiti Island	9.74	202	*e*PN	Pn	20 02 01.4	-0.5
CAW	Cannon Point	9.92	200	PN	Pn	20 02 03.4	-0.5
CAW	Cannon Point	9.92	200	P	Pn	20 02 03.6	-0.4
TRWZ	Traveller	10.02	197	SN	S	20 03 56.7	-1.8
DUWZ	D'Urville Isla	10.03	206	*e*PN	Pn	20 02 04.7	-0.6
DUWZ				SN	S	20 03 54.5	-4.2
MRW	Makara Radio	10.14	202	*e*PN	Pn	20 02 05.1	-1.4
MRW	Makara Radio	10.14	202	P	Pn	20 02 05.7	-0.9
MSWZ	Moikau Station	10.15	199	P	Pn	20 02 06.0	-0.7
WEL	Wellington	10.17	201	P	Pn	20 02 06.9	0.0
SNZO	South Karori	10.21	201	P	Pn	20 02 06.3	-1.1
SNZO				*e*S	S	20 03 58.2	-4.5
TCW	Tory Channel	10.26	203	P	Pn	20 02 07.3	-0.7
TUWZ	Tuamarina	10.57	204	*e*PN	Pn	20 02 09.6	-2.1
NNZ	Nelson	10.59	207	*e*P	Pn	20 02 09.8	-2.1
NNZ				S	S	20 04 06.9	-4.1
CMWZ	Cape Campbell	10.76	202	SN	S	20 04 12.3	-2.5
BSWZ	Blackbirch Sta	10.85	204	*e*PN	Pn	20 02 13.8	-1.1
BSWZ	Blackbirch Sta	10.85	204	P	Pn	20 02 14.6	-0.3
THZ	Tophouse	11.24	207	*e*PN	Pn	20 02 17.6	-2.0
THZ	Tophouse	11.24	207	*e*P	Pn	20 02 17.7	-1.9
KHZ	Kahutara	11.59	203	PN	Pn	20 02 21.1	-2.6
KHZ	Kahutara	11.59	203	*e*P	Pn	20 02 21.5	-2.2
LTZ	Lake Taylor	12.36	206	*e*PN	Pn	20 02 31.9	-0.8
LTZ	Lake Taylor	12.36	206	*e*P	P	20 02 31.9	0.0
MQZ	McQueen's Vall	13.03	203	*e*P	P	20 02 39.2	-0.2
WVZ	Waitaha Valley	13.21	210	*e*PN	Pn	20 02 39.8	-3.0
WVZ	Waitaha Valley	13.21	210	*e*P	P	20 02 41.5	+0.1
FOZ	Fox Glacier	14.06	211	*e*PN	Pn	20 02 49.9	-2.7
FOZ	Fox Glacier	14.06	211	*e*P	P	20 02 50.7	0.0
JCZ	Jackson Bay	14.88	212	*e*PN	P	20 02 58.8	-0.8
JCZ	Jackson Bay	14.88	212	*e*P	P	20 02 59.3	-0.3
ODZ	Otahua Downs	14.90	206	*e*P	P	20 03 01.2	+1.4
EAZ	Earnscleugh	15.57	208	*e*PN	P	20 03 06.7	-0.5
ARMA	Armidale	23.99	266	*e*P	P	20 04 33.9	+3.8
CTA	Charters Tower	32.09	283	*e*P	P	20 05 43.4	+1.9
	3.3nm,0.3s,mb4.0						
CTA	Charters Tower	32.09	283	P	P	20 05 43.5	+2.0
	5.4nm,0.4s,mb4.1,baz=102,slow=12,SNR=12						
CTAO	Charters Tower	32.09	283	*e*P	P	20 05 43.2	+1.7
	9.0nm,0.7s,mb4.1						
STKA	Stephens Creek	32.19	260	*e*P	P	20 05 42.6	+0.2
	3.0nm,0.9s,mb3.5						
STKA	Stephens Creek	32.19	260	P	P	20 05 42.8	+0.5
	2.7nm,0.6s,mb3.7,baz=96,slow=11,SNR=14						
AS31	Alice Springs	41.04	270	*e*P	P	20 06 56.3	+0.1
ASAR	Alice Springs	41.04	270	P	P	20 06 56.5	+0.4
	2.6nm,0.5s,mb3.8,baz=106,slow=7.3,SNR=56						
ASAR				ScP	ScP	20 11 57.9	-4.4
	0.4nm,0.6s,baz=111,slow=3.6,SNR=4.2						
ASAR				S	S	20 12 40.4	-0.4
	0.6nm,0.9s,baz=116,slow=14,SNR=4.9						
ASPA	Alice Springs	41.04	270	*e*P	P	20 06 56.3	+0.1
WB2	Warramunga Arr	42.16	275	*e*P	P	20 07 05.1	0.0
WRA	Warramunga Arr	42.16	275	P	P	20 07 05.2	0.0
	5.4nm,0.3s,mb4.1,baz=112,slow=8.0,SNR=138						
WRA				ScP	ScP	20 12 03.9	-2.9
	0.7nm,0.6s,baz=109,slow=3.7,SNR=9.1						
SBA	Scott Base	46.42	184	*e*P	P	20 07 40.1	+1.5
	1.4nm,0.6s,mb3.3						
VNDA	Vanda	46.43	185	P	P	20 07 39.1	+0.5
	0.5nm,0.6s,mb2.8,baz=6.5,slow=8.4,SNR=6.9						
VNDA	Vanda	46.43	185	*e*P	P	20 07 39.0	+0.3
	0.6nm,0.7s,mb2.8						
FITZ	Fitzroy Crossi	50.36	272	*e*P	P	20 08 08.8	+0.5
	8.5nm,1.3s,mb3.8						
CASY	Casey	52.88	208	*e*P	P	20 08 25.5	-1.2
	3.8nm,0.6s,mb3.9						
QSPA	South Pole Qui	58.23	180	*e*P	P	20 09 05.2	+0.8
	11nm,0.6s,mb4.4						
KSM	Kuching	73.33	282	P	P	20 10 39.0	-0.8
MKAR	Makanchi Array	117.17	310	PKP	PKPdf	20 17 46.3	-2.9
	0.2nm,0.4s,baz=122,slow=0.3,SNR=7.0						
KEV	Kevo	139.08	346	*e*pkp	PKPdf	20 18 28.9	-1.9
ARCES	ARCESS Array B	139.57	346	PKhKP		20 18 22.2	
	1.4nm,0.8s,baz=48,slow=1.7,SNR=14						
ARCES				PKP	PKPdf	20 18 28.0	-3.6
	1.1nm,0.6s,baz=54,slow=2.3,SNR=6.3						
JOF	Joensuu	143.00	336	*e*pkp	PKPdf	20 18 30.9	-6.9
	1.5nm,0.3s						
KAF	Kangasniemi	145.21	338	*e*pkp	PKPdf	20 18 37.4	-4.2
	5.0nm,0.5s,baz=44,slow=2.9						
FINES	FINESS Array B	145.78	338	PKPbc	PKPbc	20 18 40.7	-3.1
	8.9nm,0.5s,baz=48,slow=4.4,SNR=199						
FINES	FINESS Array B	145.78	338	PKPbc	PKPbc	20 18 40.7	-3.1
NB2	NORSAR Subarra	149.85	349	PKPa		20 18 51.0	
	comp=Z,2.4nm,0.4s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.85	349	PKPbc	PKPbc	20 18 51.6	-2.9
	comp=Z,2.5nm,0.4s,baz=17,slow=4.2,SNR=24						
NOA				PKPab	PKPab	20 18 58.0	-3.4
	comp=Z,2.4nm,0.6s,baz=23,slow=4.2,SNR=12						
AKASG	Malin Array Be	151.17	319	PKPbc	PKPbc	20 18 54.8	-2.7
	comp=Z,1.1nm,0.4s,baz=68,slow=2.1,SNR=8.9						
BRTR	Keskin Array B	151.46	295	PKPbc	PKPbc	20 18 56.0	-2.3
	comp=Z,0.4nm,0.4s,baz=155,slow=3.2,SNR=4.8						
BRTR				PKPab	PKPab	20 19 06.5	-1.6
	comp=Z,0.4nm,0.6s,baz=183,slow=5.6,SNR=3.1						
BRTR	Keskin Array B	151.46	295	PKPbc	PKPbc	20 18 56.0	-2.3
BRTR				PKPab	PKPab	20 19 06.5	-1.6
CLL	Collm	158.23	337	*i* PKPab	PKPab	20 19 35.0	-2.1
GERES	GERESS Array B	160.00	332	PKPab	PKPab	20 19 42.6	-2.2
	comp=Z,0.3nm,0.6s,baz=54,slow=6.8,SNR=4.4						
TORD	Torodi Ar. Bea	161.26	186	PKPab	PKPab	20 19 49.0	-1.4
	comp=Z,0.2nm,0.4s,baz=167,slow=3.2,SNR=5.8						

ISCJB ***17*** *20:01:10.2±0.4, 4333N±001×1797E±002, h3km±3km, Error ellipse: s-maj=2.4km s-min=2.2km az=78.8*
LDG ***17*** *20:01:10.9±0.2, 4329N×1805E, h10km, Ml3.8/8, Error ellipse: s-maj=5.7km s-min=2.7km az=24.0*
THE ***17*** *20:01:10.5, 4338N×1758E, h22km, ML3.4*
CSEM ***17*** *20:01:10.4±0.1, 4339N×1809E, h5km, ML3.9/4, Error ellipse: s-maj=1.5km s-min=1.0km az=49.0*
PDG ***17*** *20:01:11.6±0.6, 4325N×1798E, h11km±1km*
NEIC ***17*** *20:01:11.6, 4325N×1798E, h11km, ML3.5(PDG), After PDG.*
PRU ***17*** *20:01:14.9, 4346N×1783E, h0km*

ISC 17 20:01:11.1±0.4, 4332N±001×1797E±002, h1km±3km, n144, σ1§28/197, 32C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.48	204	⇓*i*Pg	Pg	20 01 20.9	+0.5
STON				*i* Sg	Sg	20 01 29.0	+2.3
STON	Ston	0.48	204	*i* Sg	Sg	20 01 28.9	+2.2
BRY	Bratogost	0.59	134	⇑*i*Pg	Pg	20 01 22.0	-0.5
BRY				*e*Sg	Sg	20 01 30.0	-0.1
TREB	Trebinje	0.66	155	P	Pg	20 01 22.7	-1.1
UPM	Unac-Piva	0.70	99	⇑*i*Pg	Pg	20 01 24.2	-0.3
UPM				*e*Sg	Sg	20 01 34.5	+1.0
NKY	Niksic	0.91	123	⇑*i*Pg	Pg	20 01 27.4	-1.1
NKY				*e*Sg	Sg	20 01 41.2	+0.9
HCY	Herceg Novi	0.95	156	⇑*i*Pg	Pg	20 01 28.6	-0.8
HCY				*e*Sg	Sg	20 01 42.3	+0.6
PLE	Pljevlja	1.04	89	⇑*i*Pg	Pg	20 01 30.7	-0.4
PLE				*e*Sg	Sg	20 01 46.9	+2.3
BBLS	Bajina Basta -	1.19	62	*i* Pg	Pg	20 01 34.0	+0.2
BBLS				Sg	Sg	20 01 50.2	+1.0
BUM	Brajici-Budva	1.22	146	⇑*i*Pg	Pg	20 01 33.5	-1.1
BUM				*e*Sg	Sg	20 01 51.3	+0.8
TTG	Podgorica	1.30	133	⇓*i*Pg	Pg	20 01 34.2	-1.9
TTG				*e*Sg	Sg	20 01 54.3	+1.4
SJES	Sjenica	1.44	91	Pg	Pg	20 01 39.5	+0.7
SJES				Sg	Sg	20 01 57.8	+0.3
IVA	Berane	1.48	107	⇑*i*Pg	Pg	20 01 38.6	-1.0
IVA				*e*Sg	Sg	20 02 00.2	+1.5
BLY	Banja Luka	1.54	339	P	Pn	20 01 39.7	0.0
BLY				S	Sn	20 02 01.8	+1.5
PVY	Plav	1.64	115	⇑*i*Pn	Pn	20 01 41.1	0.0
PVY				*e*Sn	Sn	20 02 04.0	+1.2
ULC	Ulcinj	1.65	145	⇓*i*Pn	Pn	20 01 41.0	-0.2
ULC				*e*Sn	Sn	20 02 03.7	+0.6
DIVS	Divcibare	1.66	61	⇓*i*Pn	Pn	20 01 40.0	-1.4
DIVS				Sn	Sn	20 02 02.7	-0.6
DIVS	Divcibare	1.66	61	*e*Pb	Pb	20 01 40.1	-2.5
DIVS				*e*Sb	Sb	20 02 03.5	-0.5
BCI	Bajram Curri	1.81	121	*i* Pn	Pn	20 01 44.8	+1.3
GRUS	Gruza	2.08	73	*e*Pn	Pn	20 01 45.5	-1.6
KKS	Kukesi	2.19	124	*i* Pn	Pn	20 01 51.2	+2.6
KKS				*i* Sn	Sn	20 02 22.6	+6.3
FGMS	Monte Sant'Ang	2.19	224	Pn	Pn	20 01 48.3	-0.4
MS1	Monte Sant'Ang	2.20	224	*e*Pn	Pn	20 01 50.6	+1.8
FGSL	Fruska Gora	2.27	35	Pn	Pn	20 01 47.7	-2.0
BEO	Belgrade	2.34	49	*e*Pn	Pg	20 01 57.4	+1.4
BEO				*e*Sn	Sb	20 02 24.7	+1.2
RGNG	Rignano Grg	2.41	228	Pn	Pn	20 01 50.8	-0.8
TIR	Tirane	2.42	144	*e*Pn	Pn	20 01 51.6	-0.2
TIR				*e*Sn	Sn	20 02 22.7	+0.7
PE1	Pezze di Greco	2.54	189	*e*Pn	Pn	20 01 51.3	-2.2
SVIS	Svilajnac	2.55	66	⇑*i*Pn	Pg	20 02 04.6	+4.5
SVIS				Sn	Sg	20 02 34.3	+1.1
NVLJ	Novalja	2.56	300	*i* Pn	Pn	20 01 54.3	+0.5
NVLJ				*i* Sn	Sn	20 02 27.3	+1.8
NVLJ	Novalja	2.56	300	*i* Pn	Pn	20 01 54.2	+0.5
NVLJ				*i* Sn	Sn	20 02 27.3	+1.8
CDT	Castel del Mon	2.56	210	*e*Pn	Pn	20 01 52.4	-1.4
FG2	Serracapriola	2.56	235	Pn	Pn	20 01 54.6	+0.8
RHK3	Tenkes	2.58	4	⇑*i*P	Pn	20 01 52.7	-1.3
SG1	Sgolgore (BA)	2.65	202	*e*Pn	Pn	20 01 53.1	-1.9
FG4	Candela	2.84	221	Pn	Pn	20 01 58.2	+0.6
FG5	Orsara di Pugl	2.85	226	Pn	Pn	20 01 57.8	0.0
SKO	Skopje	2.89	116	*e*Pn	Pn	20 01 59.5	+1.2
SKO	Skopje	2.89	116	*e*Pn	Pn	20 01 59.9	+1.6
BOJS	Bojanci	2.93	319	*i* Pn	Pn	20 01 59.6	+0.8
BOJS				*e*Sn	Sn	20 02 35.4	+0.8
BOJS							
	comp=Z,146nm,0.7s						
BOJS	Bojanci	2.93	319	Pn	Pn	20 01 59.6	+0.8
BOJS				*e*Sn	Sn	20 02 35.4	+0.8
	comp=Z,146nm,0.7s						
PKSM	Moragy	2.94	9	⇓P	Pn	20 01 57.1	-1.8
PKSM	Moragy	2.94	9	⇓*i*Pn	Pn	20 01 57.2	-1.7
LCI	Lecce	2.98	178	Pn	Pn	20 01 57.3	-2.2
OHR	Ohrid	3.04	135	*e*Pn	Pn	20 01 59.4	-1.0
OHR				*e*Sn	Sn	20 02 38.5	+1.0
OHR	Ohrid	3.04	135	*e*Pn	Pg	20 02 07.7	-1.9

WTTA	**Wattenberg**	**5.96 314**	⇑*i*Pn	**Pn**	**20 02 41.5**	**+1.0**
	SNR=13					
WTTA			⇑*i*Sn	**Sn**	**20 03 51.6**	**+2.2**
WTTA	**Wattenberg**	**5.96 314**	Pn	**Pn**	**20 02 41.5**	**+1.0**
	comp=Z,12nm,6.0s					
WATA	**Walderalm**	**6.04 314**	⇑*i*Sn	**Sn**	**20 03 54.2**	**+2.9**
WATA	**Walderalm**	**6.04 314**	⇑*i*Pn	**Pn**	**20 02 42.6**	**+1.0**
	SNR=16					
WATA			⇑*i*Sn	**Sn**	**20 03 54.2**	**+2.9**
WATA	**Walderalm**	**6.04 314**	Pn	**Pn**	**20 02 42.6**	**+1.1**
	comp=Z,15nm,7.0s					
SQTA	**Sankt Quirin**	**6.16 312**	⇑*i*Sn	**Sn**	**20 03 57.0**	**+2.6**
SQTA	**Sankt Quirin**	**6.16 312**	⇓*i*Pn	**Pn**	**20 02 44.3**	**+1.0**
	SNR=9.5					
SQTA			⇑*i*Sn	**Sn**	**20 03 57.0**	**+2.6**
SQTA	**Sankt Quirin**	**6.16 312**	Pn	**Pn**	**20 02 44.3**	**+1.0**
	comp=Z,9.0nm,5.0s					
MOTA	**Moosalm**	**6.29 312**	⇑*i*Pn	**Pn**	**20 04 00.2**	**+2.6**
MOTA	**Moosalm**	**6.29 312**	⇑*i*Pn	**Pn**	**20 02 46.5**	**+1.5**
	SNR=22					
MOTA			⇑*i*Sn	**Sn**	**20 04 00.2**	**+2.6**
MOTA	**Moosalm**	**6.29 312**	Pn	**Pn**	**20 02 46.5**	**+1.4**
	comp=Z,22nm,1.0s					
ALN	**Alexandroupoli**	**6.47 109**	*e*Pn	**Pn**	**20 02 48.4**	**+0.8**
KHC	**Kasperske Hory**	**6.56 334**	*e*PN	**Pn**	**20 02 49.5**	**+0.7**
KHC			*ex*	x	20 03 03.5	
KHC			*e*SN	**Sn**	**20 04 00.1**	**-4.1**
KHC			*ex*	x	20 04 07.0	
PGF	**Pioggiola**	**6.63 266**	*e*Pn	**Pn**	**20 02 46.0**	**-3.6**
DPC	**Dobruska-Polom**	**7.13 351**	*e*SN	**Sn**	**20 04 15.0**	**-3.1**
SBF	**Sospel**	**7.67 278**	*e*Pn	**Pn**	**20 03 00.5**	**-3.4**
SBF			*e*Sn	**Sn**	**20 04 23.6**	**-7.8**
	comp=Z,27nm,0.7s					
MBDF	**Montbardon**	**8.19 284**	*e*Pn	**Pn**	**20 03 08.6**	**-2.5**
MBDF			*e*Sn	**Sn**	**20 04 37.6**	**-6.7**
	comp=Z,11nm,0.7s					
FRF	**La Foret Royal**	**8.24 276**	*e*Pn	**Pn**	**20 03 09.1**	**-2.7**
LPG	**La Plagne**	**8.32 289**	*e*Pn	**Pn**	**20 03 10.8**	**-2.1**
LPG			*e*Sn	**Sn**	**20 04 39.1**	**-8.4**
	comp=Z,12nm,0.6s					
LPL	**La Plagne**	**8.34 289**	*e*Pn	**Pn**	**20 03 11.3**	**-1.8**
LPL			*e*Sn	**Sn**	**20 04 40.0**	**-7.9**
	comp=Z,18nm,0.7s					
LMR	**La Mourre**	**8.36 274**	*e*Pn	**Pn**	**20 03 10.0**	**-3.4**
MOX	**Moxa**	**8.52 332**	*e*PN	**Pn**	**20 03 17.1**	**+1.5**
CLL	**Collm**	**8.68 339**	*i* (Sn)	**Sn**	**20 05 05.3**	**+9.1**
CLL			*e*Sg	**Sg**	**20 06 01.0**	**+11**
ORIF	**Oris-en-Rattie**	**8.84 285**	*e*Pn	**Pn**	**20 03 17.9**	**-2.2**
ORIF			*e*Sn	**Sn**	**20 04 52.4**	**-7.9**
	comp=Z,16nm,0.7s					
HINF	**Hinteralfeld**	**9.00 304**	*e*Pn	**Pn**	**20 03 18.7**	**-3.5**
HINF			*e*Sn	**Sn**	**20 04 54.7**	**-9.5**
	comp=Z,9.1nm,0.6s					
HINF	**Hinteralfeld**	**9.00 304**	*e*Pn	**Pn**	**20 03 18.7**	**-3.5**
HINF			*e*Sn	**Sn**	**20 04 54.7**	**-9.5**
	comp=Z,4.6nm,0.6s					
CDF	**Champ du Feu**	**9.03 308**	*e*Pn	**Pn**	**20 03 21.6**	**-1.0**
CABF	**La Chapelle**	**9.04 295**	*e*Pn	**Pn**	**20 03 19.9**	**-2.9**
HAU	**Haudompre**	**9.39 304**	*e*Sn	**Sn**	**20 05 04.0**	**-10**
	comp=Z,11nm,0.6s					
HAU	**Haudompre**	**9.39 304**	*e*Sn	**Sn**	**20 05 04.0**	**-10**
	comp=Z,5.4nm,0.6s					
VIVF	**Saint-Julien-l**	**9.69 284**	*e*Pn	**Pn**	**20 03 28.9**	**-2.8**
SMF	**Signal de Mont**	**10.55 293**	*e*Sn	**Sn**	**20 05 32.2**	**-10**
	comp=Z,7.6nm,0.7s					
SMF	**Signal de Mont**	**10.55 293**	*e*Sn	**Sn**	**20 05 32.2**	**-10**
	comp=Z,3.8nm,0.7s					

MOS ***17*** *20:09:23.8±1.8, 4333N×1792E, h10km, mb4.0/1, Error ellipse: s-maj=6.1km s-min=4.4km az=117.1*
CSEM ***17*** *20:09:25.9±0.1, 4336N×18.15E, h20km, ML3.8/3, Error ellipse: s-maj=1.6km s-min=1.4km az=21.0*
LDG ***17*** *20:09:25.3±0.1, 4328N×1804E, h10km, Ml3.7/8, Error ellipse: s-maj=4.6km s-min=2.4km az=26.0*
ISCJB ***17*** *20:09:26.1±0.4, 4332N±002×1800E±002, h21km±4km, Error ellipse: s-maj=2.7km s-min=2.4km az=78.6*
NEIC ***17*** *20:09:26.1, 4329N×1810E, h23km, ML3.5(PDG), After PDG.*
PDG ***17*** *20:09:26.1±0.7, 4329N×18.10E, h23km±1km*
PRU ***17*** *20:09:28.9, 4360N×1811E, h0km*

ISC 17 20:09:25.8±0.4, 4329N±002×1802E±002, h8km±4km, n142, σ1§33/192, 19C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.48**	**209**	⇓*i*Pg	**Pg**	**20 09 35.0**	**-0.1**
STON				*i* Sg	**Sg**	**20 09 43.2**	**+1.8**
BRY	**Bratogost**	**0.55**	**135**	⇑*i*Pg	**Pg**	**20 09 36.1**	**-0.2**
BRY				*e*Sg	**Sg**	**20 09 44.9**	**+1.4**
TREB	**Trebinje**	**0.62**	**157**	P	**Pg**	**20 09 36.7**	**-1.1**
UPM	**Unac-Piva**	**0.66**	**97**	⇑*i*Pg	**Pg**	**20 09 38.2**	**-0.3**
UPM				*e*Sg	**Sg**	**20 09 48.1**	**+1.0**
NKY	**Niksic**	**0.86**	**123**	⇑*i*Pg	**Pg**	**20 09 41.5**	**-0.9**
NKY				*e*Sg	**Sg**	**20 09 54.8**	**+1.2**
HCY	**Herceg Novi**	**0.91**	**157**	⇑*i*Pg	**Pg**	**20 09 42.6**	**-0.7**
HCY				*e*Sg	**Sg**	**20 09 57.2**	**+2.0**
PLE	**Pljevlja**	**1.01**	**87**	⇑*i*Pg	**Pg**	**20 09 44.6**	**-0.6**
PLE				*e*Sg	**Sg**	**20 09 59.7**	**+1.5**
BBLS	**Bajina Basta -**	**1.17**	**60**	*i* Pg	**Pg**	**20 09 48.3**	**+0.1**
BBLS				Sg	**Sg**	**20 10 04.2**	**+0.8**
BUM	**Brajici-Budva**	**1.18**	**146**	⇑*i*Pg	**Pg**	**20 09 47.8**	**-0.7**
BUM				*e*Sg	**Sg**	**20 10 05.7**	**+1.9**
TTG	**Podgorica**	**1.25**	**133**	⇓*i*Pg	**Pg**	**20 09 48.3**	**-1.6**
TTG				*e*Sg	**Sg**	**20 10 07.3**	**+1.1**
SJES	**Sjenica**	**1.41**	**90**	Pg	**Pg**	**20 09 52.4**	**-0.4**
IVA	**Berane**	**1.44**	**106**	⇓*i*Pg	**Pg**	**20 09 51.8**	**-1.6**
IVA				*e*Sg	**Sg**	**20 10 10.9**	**-1.2**
BLY	**Banja Luka**	**1.58**	**338**	P	**Pn**	**20 09 53.7**	**-0.4**
BLY				S	**Sn**	**20 10 15.8**	**+1.1**
PVY	**Plav**	**1.59**	**115**	⇑*i*Pg	**Pg**	**20 09 53.5**	**-2.9**
PVY				*e*Sg	**Sg**	**20 10 14.8**	**-2.3**
ULC	**Ulcinj**	**1.61**	**145**	⇓*i*Pg	**Pg**	**20 09 54.2**	**-2.5**
ULC				*e*Sg	**Sg**	**20 10 15.8**	**-1.7**
DIVS	**Divcibare**	**1.65**	**60**	⇓*i*Pn	**Pn**	**20 09 53.9**	**-1.0**
DIVS				Sn	**Sn**	**20 10 10.8**	**-5.5**
DIVS	**Divcibare**	**1.65**	**60**	*e*P	**Pn**	**20 09 54.0**	**-0.9**
GRUS	**Gruza**	**2.05**	**72**	*i* Pn	**Pn**	**20 09 59.4**	**-1.2**
GRUS				Sg	**Sg**	**20 10 34.4**	**+2.8**
KKS	**Kukesi**	**2.14**	**124**	*i* Pn	**Pg**	**20 10 05.6**	**-1.3**
KKS				*i* Sn	**Sg**	**20 10 36.8**	**+2.2**
FGMS	**Monte Sant'Ang**	**2.20**	**225**	Pn	**Pn**	**20 10 03.3**	**+0.7**
FGSL	**Fruska Gora**	**2.27**	**34**	Pn	**Pn**	**20 10 01.4**	**-2.2**
TIR	**Tirane**	**2.38**	**144**	*e*P	**Pn**	**20 10 05.5**	**+0.4**
RGNG	**Rignano Grg**	**2.42**	**229**	Pn	**Pn**	**20 10 03.9**	**-1.7**
SISC	**Sisak**	**2.48**	**332**	*e*Pn	**Pn**	**20 10 06.2**	**-0.3**
SISC				Sn	**Sn**	**20 10 38.1**	**+1.2**
SISC	**Sisak**	**2.48**	**332**	*e*Pn	**Pn**	**20 10 06.1**	**-0.4**
NVLJ	**Novalja**	**2.61**	**300**	*i* Pn	**Pn**	**20 10 08.5**	**+0.3**
NVLJ				*i* Sn	**Sn**	**20 10 41.5**	**+1.5**
CIGN	**Sant'Elia a Pi**	**2.82**	**236**	Pn	**Pn**	**20 10 11.1**	**-0.1**
FG4	**Candela**	**2.84**	**222**	Pn	**Pn**	**20 10 12.6**	**+1.1**
SKO	**Skopje**	**2.85**	**116**	*e*P	**Pn**	**20 10 13.9**	**+2.3**
SKO	**Skopje**	**2.85**	**116**	*e*Pn	**Pn**	**20 10 13.8**	**+2.2**
SKO	**Skopje**	**2.85**	**116**	*e*Pn	**Pn**	**20 10 13.7**	**+2.2**
FG5	**Orsara di Pugl**	**2.86**	**226**	Pn	**Pn**	**20 10 11.6**	**-0.1**
LCI	**Lecce**	**2.95**	**179**	Pn	**Pn**	**20 10 11.5**	**-1.5**
PKSM	**Moragy**	**2.96**	**8**	⇓*i*Pn	**Pn**	**20 10 11.3**	**-1.7**
BOJS	**Bojanci**	**2.97**	**319**	*i* Pn	**Pn**	**20 10 13.6**	**+0.3**
BOJS				*e*Sn	**Sn**	**20 10 49.4**	**+0.3**
BOJS							
	comp=Z,107nm,0.7s						
OHR	**Ohrid**	**3.00**	**136**	*e*P	**Pn**	**20 10 14.8**	**+1.1**
OHR	**Ohrid**	**3.00**	**136**	*e*Pn	**Pg**	**20 10 22.2**	**-1.1**
MRLC	**Muro Lucano**	**3.15**	**218**	Pn	**Pn**	**20 10 15.2**	**-0.6**
CII	**Carovilli**	**3.16**	**242**	Pn	**Pn**	**20 10 17.1**	**+1.3**
AOI	**Ancona**	**3.23**	**276**	Pn	**Pn**	**20 10 16.5**	**-0.3**
MIDA	**Miranda**	**3.23**	**241**	Pn	**Pn**	**20 10 17.4**	**+0.6**
RNI2	**Rionero Sannit**	**3.27**	**242**	Pn	**Pn**	**20 10 18.3**	**+1.0**
INTR	**Introdacqua**	**3.29**	**249**	Pn	**Pn**	**20 10 16.5**	**-1.1**
PKS9	**Tamasi**	**3.30**	**3**	⇑*e*P	**Pn**	**20 10 16.6**	**-1.2**
TERO	**Teramo**	**3.31**	**260**	Pn	**Pn**	**20 10 17.9**	**0.0**
BIA	**Bitola**	**3.34**	**132**	*e*Pn	**Pn**	**20 10 22.3**	**+3.9**
SGO	**Sicignano**	**3.39**	**217**	Pn	**Pn**	**20 10 18.2**	**-0.8**
SLCN	**Sala Consilina**	**3.40**	**212**	Pn	**Pn**	**20 10 18.0**	**-1.1**
ORI	**Oriolo Calabro**	**3.43**	**201**	Pn	**Pn**	**20 10 19.9**	**+0.4**
STIP	**Stip**	**3.47**	**116**	*e*Pn	**Pn**	**20 10 21.1**	**+1.0**
STIP	**Stip**	**3.47**	**116**	*e*Pn	**Pn**	**20 10 21.0**	**+0.9**
BZS	**Buzias**	**3.47**	**47**	⇑*i*P	**Pg**	**20 10 32.2**	**-0.1**
PKS6	**Bocsa**	**3.49**	**18**	*e*S	**Sn**	**20 10 58.6**	**-3.2**
	comp=Z,1.2nm,0.3s						
SDI	**San Donato**	**3.49**	**245**	Pn	**Pn**	**20 10 20.6**	**+0.3**
CING	**Cingoli**	**3.52**	**273**	Pn	**Pn**	**20 10 20.7**	**-0.1**
CING				Sn	**Sn**	**20 11 01.1**	**-1.5**
AQU	**L'Aquila**	**3.52**	**256**	⇓*i*P	**Pn**	**20 10 23.0**	**+2.2**
FNA	**Florina**	**3.54**	**134**	*e*P	**Pn**	**20 10 23.0**	**+1.9**
VVLD	**Villa Vallelon**	**3.54**	**248**	Pn	**Pn**	**20 10 21.1**	**0.0**
RFI	**Roccamonfina**	**3.59**	**238**	Pn	**Pn**	**20 10 24.1**	**+2.3**
NRCA	**Norcia**	**3.62**	**264**	Pn	**Pn**	**20 10 22.1**	**-0.1**
MGR	**Morigerati**	**3.65**	**211**	Pn	**Pn**	**20 10 21.5**	**-1.1**
CUC	**Castrocucco**	**3.68**	**207**	Pn	**Pn**	**20 10 22.2**	**-0.8**
CUC				Sn	**Sn**	**20 11 05.2**	**-1.4**
ARV	**Arcevia**	**3.71**	**275**	Pn	**Pn**	**20 10 23.1**	**-0.2**
SNTG	**Esanatoglia**	**3.71**	**271**	Pn	**Pn**	**20 10 23.2**	**-0.2**
SNTG				Sn	**Sn**	**20 11 04.8**	**-2.4**
LJU	**Ljubljana**	**3.71**	**319**	*e*Pn	**Pn**	**20 10 24.2**	**+0.7**
FIAM	**Fiamignano**	**3.75**	**256**	Pn	**Pn**	**20 10 25.6**	**+1.7**
VTS	**Vitosha**	**3.88**	**99**	*e*P	**Pn**	**20 10 27.2**	**+1.5**
VTS	**Vitosha**	**3.88**	**99**	⇓*i*P	**Pn**	**20 10 27.0**	**+1.3**
VTS	**Vitosha**	**3.88**	**99**	⇓P	**Pn**	**20 10 27.0**	**+1.3**
VAY	**Valandovo**	**3.91**	**119**	*e*Pn	**Pn**	**20 10 27.3**	**+1.2**
CERT	**Cerreto**	**3.95**	**252**	Pn	**Pn**	**20 10 28.1**	**+1.4**
GRG	**Griva**	**4.01**	**124**	*e*P	**Pn**	**20 10 29.1**	**+1.6**
MURB	**Monte Urbino**	**4.01**	**272**	Pn	**Pn**	**20 10 28.0**	**+0.5**
MURB				Sn	**Sn**	**20 11 14.4**	**-0.3**
VOY	**Vojsko**	**4.02**	**314**	*e*Pn	**Pn**	**20 10 28.6**	**+0.9**
MNS	**Montasola**	**4.03**	**259**	Pn	**Pn**	**20 10 28.4**	**+0.7**
MNS				S	**Sn**	**20 11 15.8**	**+0.7**
OBKA	**Obir**	**4.05**	**324**	⇓*i*Pn	**Pn**	**20 10 28.6**	**+0.4**
OBKA				⇓*i*Sn	**Sn**	**20 11 17.6**	**+1.8**
OBKA	**Obir**	**4.05**	**324**	⇓*i*Pn	**Pn**	**20 10 28.6**	**+0.4**
OBKA				*i* Sn	**Sn**	**20 11 17.6**	**+1.8**
PKSG		**4.11**	**4**	⇑*e*P	**Pn**	**20 10 27.7**	**-1.2**
IGT	**Igoumenitsa**	**4.14**	**154**	*e*P	**Pn**	**20 10 28.7**	**-0.6**
KNT	**Kendrikon**	**4.20**	**119**	*e*P	**Pn**	**20 10 31.7**	**+1.6**
TIP	**Timpagrande**	**4.21**	**193**	P	**Pn**	**20 10 29.7**	**-0.6**
TIP	**Timpagrande**	**4.21**	**193**	P	**Pn**	**20 10 29.7**	**-0.6**
CADS	**Cadrg**	**4.23**	**315**	*e*Pn	**Pn**	**20 10 31.2**	**+0.7**
ARSA	**Arzberg**	**4.33**	**337**	⇓*i*Pn	**Pn**	**20 10 31.4**	**-0.6**
	SNR=31						
ARSA				⇑*i*Sn	**Sn**	**20 11 22.6**	**-0.1**
ARSA	**Arzberg**	**4.33**	**337**	⇓*i*Pn	**Pn**	**20 10 31.4**	**-0.6**
ARSA				*i* Sn	**Sn**	**20 11 22.6**	**-0.1**
ARSA	**Arzberg**	**4.33**	**337**	Pn	**Pn**	**20 10 31.4**	**-0.6**
	comp=Z,30nm,7.0s						
ARSA				Sn	**Sn**	**20 11 22.6**	**-0.1**
CRE	**Caprese Michel**	**4.43**	**276**	Pn	**Pn**	**20 10 34.6**	**+1.3**
SRO1	**Iza**	**4.48**	**2**	*e*SN	**Sn**	**20 11 25.0**	**-1.2**
SFI	**Santa Sofia**	**4.52**	**280**	Pn	**Pn**	**20 10 35.6**	**+1.0**
GMNA	**Gemona**	**4.53**	**313**	Pn	**Pn**	**20 10 36.5**	**+1.9**
PTCC	**Patocco-Chiusa**	**4.55**	**315**	Pn	**Pn**	**20 10 35.5**	**+0.6**
LIT	**Litokhoron**	**4.62**	**132**	*e*P	**Pn**	**20 10 37.4**	**+1.5**
GRI	**Girifalco**	**4.62**	**196**	Pn	**Pn**	**20 10 35.7**	**-0.2**
VMG	**Vicchio**	**4.75**	**280**	Pn	**Pn**	**20 10 38.5**	**+0.9**
PSZ	**Piszkesteto**	**4.81**	**15**	*i* Pnc		20 10 37.0	
PSZ				*e*Sg	**Sg**	**20 12 02.6**	**+2.2**
CONA	**Conrad Observa**	**4.88**	**343**	⇓*i*Pn	**Pn**	**20 10 39.0**	**-0.5**
CONA				⇑*i*Sn	**Sn**	**20 11 34.9**	**-1.2**
SEI	**Scarperia**	**4.89**	**281**	Pn	**Pn**	**20 10 41.7**	**+2.1**
ZST	**Bratislava**	**4.95**	**353**	*e*SN	**Sn**	**20 11 35.9**	**-1.9**
FVI	**Forni Avoltri**	**4.97**	**313**	Pn	**Pn**	**20 10 42.5**	**+1.7**
LKD	**Levkas**	**4.99**	**156**	*e*P	**Pn**	**20 10 39.9**	**-1.1**
VYHS	**Vyhne**	**5.24**	**6**	*e*PN	**Pn**	**20 10 43.0**	**-1.4**
VYHS				*e*SN	**Sn**	**20 11 40.3**	**-4.6**
MOA	**Molln**	**5.27**	**331**	⇓*i*Sn	**Sn**	**20 11 45.0**	**-0.7**
MOA	**Molln**	**5.27**	**331**	⇓*i*Pn	**Pn**	**20 10 44.5**	**-0.2**
	SNR=18						
MOA				⇓*i*Sn	**Sn**	**20 11 45.0**	**-0.7**
MOA	**Molln**	**5.27**	**331**	Pn	**Pn**	**20 10 44.5**	**-0.3**
	comp=Z,18nm,2.0s						
KOLL	**Kolacno**	**5.30**	**3**	*e*PN	**Pn**	**20 10 44.4**	**-0.8**
KOLL				*e*SN	**Sn**	**20 11 42.4**	**-4.0**
CTI	**Castel Tesino**	**5.31**	**303**	Pn	**Pn**	**20 10 45.2**	**-0.2**
AGG	**Agios Georgios**	**5.36**	**141**	*e*P	**Pn**	**20 10 46.7**	**+0.6**
SEST	**Monte Rota**	**5.37**	**312**	Pn	**Pn**	**20 10 47.2**	**+1.0**
SOI	**Samo**	**5.42**	**197**	Pn	**Pn**	**20 10 46.6**	**-0.3**
PII	**Pisa**	**5.47**	**277**	Pn	**Pn**	**20 10 47.6**	**+0.1**
KECS	**Kecovo**	**5.47**	**17**	*e*PN	**Pn**	**20 10 47.1**	**-0.5**
BGLD	**Berchtesgaden**	**5.61**	**323**	⇑*i*Pn	**Pn**	**20 10 51.1**	**+1.7**
APPI	**Appiano**	**5.78**	**306**	Pn	**Pn**	**20 10 52.1**	**+0.2**
WTTA	**Wattenberg**	**6.00**	**314**	⇓*i*Pn	**Pn**	**20 10 55.6**	**+0.6**
WTTA				⇓*i*Sn	**Sn**	**20 12 05.9**	**+2.1**
WATA	**Walderalm**	**6.08**	**314**	⇑*i*Pn	**Pn**	**20 10 56.4**	**+0.5**
WATA				⇑*i*Sn	**Sn**	**20 12 07.9**	**+2.1**
CRVS	**Cervenica-Dubn**	**6.10**	**22**	*e*PN	**Pn**	**20 10 55.0**	**-1.3**
SQTA	**Sankt Quirin**	**6.21**	**312**	⇑*i*Sn	**Sn**	**20 12 11.1**	**+2.2**
SQTA	**Sankt Quirin**	**6.21**	**312**	⇑*i*Pn	**Pn**	**20 10 58.3**	**+0.6**
	SNR=9.9						
SQTA				⇑*i*Sn	**Sn**	**20 12 11.1**	**+2.2**
SQTA	**Sankt Quirin**	**6.21**	**312**	Pn	**Pn**	**20 10 58.3**	**+0.6**
	comp=Z,9.0nm,9.0s						
SQTA				*i* S	**Sn**	**20 12 11.1**	**+2.2**
MOTA	**Moosalm**	**6.34**	**312**	⇑*i*Pn	**Pn**	**20 11 00.4**	**+0.9**
	SNR=14						
MOTA				⇓*i*Sn	**Sn**	**20 12 14.6**	**+2.5**
MOTA	**Moosalm**	**6.34**	**312**	Pn	**Pn**	**20 11 00.4**	**+0.9**
	comp=Z,13nm,9.0s						
MOTA				Sn	**Sn**	**20 12 14.6**	**+2.5**
STHS	**Stebnicka Huta**	**6.52**	**19**	*e*PN	**Pn**	**20 11 02.5**	**+0.5**
KHC	**Kasperske Hory**	**6.60**	**334**	*e*PN	**Pn**	**20 11 03.8**	**+0.6**
KHC				*ex*	x	20 11 13.5	
KHC				*e*SN	**Sn**	**20 12 13.9**	**-4.7**
PGF	**Pioggiola**	**6.66**	**267**	*e*Pn	**Pn**	**20 11 01.3**	**-2.7**
SBF	**Sospel**	**7.71**	**278**	*e*Pn	**Pn**	**20 11 15.5**	**-2.8**
SBF				*e*Sn	**Sn**	**20 12 37.9**	**-7.9**
	comp=Z,16nm,0.5s						
MBDF	**Montbardon**	**8.23**	**284**	*e*Pn	**Pn**	**20 11 21.9**	**-3.6**
MBDF				*e*Sn	**Sn**	**20 12 50.7**	**-8.0**
	comp=Z,5.2nm,0.5s						
FRF	**La Foret Royal**	**8.28**	**276**	*e*Pn	**Pn**	**20 11 23.0**	**-3.2**
LPG	**La Plagne**	**8.37**	**289**	*e*Pn	**Pn**	**20 11 24.8**	**-2.5**
LPG				*e*Sn	**Sn**	**20 12 53.3**	**-8.7**
	comp=Z,16nm,0.8s						
LPL	**La Plagne**	**8.38**	**289**	*e*Sn	**Sn**	**20 12 53.9**	**-8.5**
	comp=Z,7.9nm,0.5s						
LMR	**La Mourre**	**8.39**	**274**	*e*Pn	**Pn**	**20 11 24.6**	**-3.1**
MOX	**Moxa**	**8.56**	**332**	*e*PN	**Pn**	**20 11 30.8**	**+0.8**
ORIF	**Oris-en-Rattie**	**8.88**	**285**	*e*Pn	**Pn**	**20 11 31.7**	**-2.8**
ORIF				*e*Sn	**Sn**	**20 13 07.1**	**-7.6**
	comp=Z,15nm,0.8s						
HINF	**Hinteralfeld**	**9.04**	**304**	*e*Pn	**Pn**	**20 11 33.8**	**-2.8**
HINF				*e*Sn	**Sn**	**20 13 09.7**	**-9.0**
	comp=Z,6.1nm,0.6s						
HINF	**Hinteralfeld**	**9.04**	**304**	*e*Pn	**Pn**	**20 11 33.8**	**-2.8**
HINF				*e*Sn	**Sn**	**20 13 09.7**	**-9.0**
	comp=Z,3.0nm,0.6s						
SMRF	**Simiane la Rot**	**9.05**	**279**	*e*Pn	**Pn**	**20 11 33.6**	**-3.1**
CDF	**Champ du Feu**	**9.08**	**308**	*e*Pn	**Pn**	**20 11 35.1**	**-2.0**
CABF	**La Chapelle**	**9.09**	**296**	*e*Pn	**Pn**	**20 11 35.3**	**-1.9**
HAU	**Haudompre**	**9.43**	**304**	*e*Pn	**Pn**	**20 11 38.6**	**-3.4**
HAU				*e*Sn	**Sn**	**20 13 19.3**	**-8.9**
	comp=Z,8.1nm,0.6s						
HAU	**Haudompre**	**9.43**	**304**	*e*Pn	**Pn**	**20 11 38.6**	**-3.4**
HAU				*e*Sn	**Sn**	**20 13 19.3**	**-8.9**
	comp=Z,4.1nm,0.6s						
VIVF	**Saint-Julien-l**	**9.73**	**284**	*e*Pn	**Pn**	**20 11 43.2**	**-2.9**
SMF	**Signal de Mont**	**10.59**	**293**	*e*Pn	**Pn**	**20 11 55.1**	**-2.7**
SMF				*e*Sn	**Sn**	**20 13 46.5**	**-10**
	comp=Z,5.5nm,0.6s						
SMF	**Signal de Mont**	**10.59**	**293**	*e*Pn	**Pn**	**20 11 55.1**	**-2.7**
SMF				*e*Sn	**Sn**	**20 13 46.5**	**-10**
	comp=Z,2.8nm,0.6s						

ISCJB ***17*** *20:10:54.8±0.6, 305S±0.1×775E±02, h10km, mb3.9/12, MS3.5/1, Error ellipse: s-maj=20.0km s-min=17.4km az=123.8*
IDC ***17*** *20:10:55.2±0.7, 3038S×7751E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/18, mbtmp3.9/9, MS3.5/1, Ms1 3.5/1, ms1mx2.6/21, Error ellipse: s-maj=24.7km s-min=21.4km az=19.0*
NEIC ***17*** *20:10:56.5±0.5, 3040S×77.49E, h10km, mb4.2/3, Error ellipse: s-maj=17.4km s-min=15.0km az=66.0*

ISC 17 20:10:56.6±0.6, 304S±01×775E±02, h10km, n14, σ0§89/12, mb3.9/12, MS3.5/1, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**33.77**	**105**	LR	LR	20 27 45.0	
	comp=Z,92nm,21.1s,MS3.5,baz=190,slow=30						
LSZ	**Lusaka**	**47.52**	**277**	P	**P**	**20 19 32.7**	**+0.7**
	2.8nm,0.6s,mb4.5,baz=120,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**50.25**	**97**	P	**P**	**20 19 53.4**	**+0.4**
	2.3nm,0.7s,mb4.3,baz=254,slow=6.3,SNR=24						
WRA	**Warramunga Arr**	**52.02**	**92**	P	**P**	**20 20 06.5**	**+0.4**
	4.0nm,1.1s,mb4.3,baz=249,slow=7.5,SNR=12						
SNAA	**Sanae**	**58.42**	**201**	P	**P**	**20 20 52.7**	**+0.3**
	0.4nm,0.7s,mb3.6,baz=121,slow=8.4,SNR=12						
VNDA	**Vanda**	**59.33**	**165**	P	**P**	**20 20 58.4**	**-0.3**
	0.2nm,0.7s,mb3.3,baz=290,slow=8.6,SNR=4.7						
QSPA	**South Pole Qui**	**59.73**	**180**	*e*P	**P**	**20 21 00.7**	**-0.8**
	3.7nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**76.96**	**3**	P	**P**	**20 22 48.7**	**-0.7**
	1.0nm,0.8s,mb3.8,baz=185,slow=7.3,SNR=12						
BRTR	**Keskin Array B**	**80.81**	**327**	P	**P**	**20 23 10.8**	**+0.3**
	0.5nm,0.7s,mb3.6,baz=123,slow=6.1,SNR=4.5						
SONM	**Songino Array**	**82.10**	**19**	P	**P**	**20 23 19.0**	**+1.7**
	0.4nm,0.7s,mb3.5,baz=193,slow=4.6,SNR=3.5						
ZRNK	**Zerenda**	**83.34**	**355**	*e*P	**P**	**20 23 23.2**	**-0.5**
	0.8nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**83.95**	**356**	*e*P	**P**	**20 23 24.5**	**-2.3**
	1.0nm,0.8s,mb4.0						
TORD	**Torodi Ar. Bea**	**84.70**	**288**	P	**P**	**20 23 31.0**	**+0.3**
	0.9nm,0.8s,mb3.9,baz=114,slow=5.2,SNR=5.1						
SCHQ	**Schefferville**	**144.78**	**324**	PKP	PKPdf	20 30 31.9	-1.7
	1.7nm,0.4s,baz=243,slow=14,SNR=7.4						

NEIC ***17*** *20:17:10.7, 3402N×2506E, h5km, MD3.4(ATH), After ATH.*
ATH ***17*** *20:17:10.8, 3402N×2506E, h5km, MD3.4/3*
ISCJB ***17*** *20:17:13.5±0.7, 3419N±004×2520E±009, h10km, Error ellipse: s-maj=10.6km s-min=5.8km az=149.7*
CSEM ***17*** *20:17:13.2±0.3, 3415N×2503E, h2km, MD3.4, Error ellipse: s-maj=12.8km s-min=6.7km az=90.0*
HLW ***17*** *20:17:14.0, 3443N×2437E, h33km, Mb3.1*

**ISC

IDC 17 20:42:09.3±7.1, 572S×15174E, h75km±55km, mb3.9/5, mb1 4.0/6, mb1mx3.7/13, mbtmp4.2/6, ML3.0/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/12, Error ellipse: s-maj=52.3km s-min=33.0km az=95.0, New British region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.83**	**231**	P	Pn	20 43 34.6	+1.4
	2.7nm,0.3s,baz=41,slow=13,SNR=4.5						
PMG				S	Sn	20 44 38.1	-0.4
	8.6nm,0.3s,baz=155,slow=24,SNR=8.8						
CTA	**Charters Tower**	**15.24**	**200**	LR	LR	20 51 03.9	
	comp=Z,132nm,19.8s,baz=273,slow=35						
DZM	**Mont Dzumac**	**21.60**	**140**	LR	LR	20 52 13.5	
	comp=Z,251nm,21.2s,baz=216,slow=28						
WRA	**Warramunga Arr**	**22.05**	**229**	P	P	20 46 57.9	+0.2
	7.3nm,0.6s,baz=53,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**24.76**	**222**	P	P	20 47 24.9	+1.1
	11nm,0.8s,baz=54,slow=9.5,SNR=34						
STKA	**Stephens Creek**	**27.70**	**199**	P	P	20 47 50.6	+0.3
	0.9nm,0.4s,baz=30,slow=14,SNR=3.1						
FITZ	**Fitzroy Crossi**	**28.29**	**242**	P	P	20 47 56.1	+0.5
	3.3nm,0.5s,baz=82,slow=12,SNR=4.9						
ASAJ	**Asahikawa**	**50.28**	**351**	LR	LR	21 13 37.6	
	comp=Z,37nm,18.5s,baz=3.2,slow=38						
SONM	**Songino Array**	**66.54**	**329**	P	P	20 52 51.4	+0.2
	0.3nm,0.6s,baz=156,slow=7.0,SNR=3.2						
GERES	**GERESS Array B**	**124.27**	**328**	PKP	PKPdf	21 00 58.9	-0.6
	0.2nm,0.5s,baz=73,slow=4.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.56**	**286**	PKPbc	PKPbc	21 01 51.3	+1.2
	3.0nm,0.7s,baz=82,slow=2.6,SNR=23						
BDFB	**Brasilia**	**151.14**	**138**	PKPbc	PKPbc	21 01 54.2	+0.4
	0.7nm,0.3s,baz=270,slow=1.0,SNR=4.2						

MOS 17 20:46:01.0±1.5, 4318N×4462E, h9km, mb3.5/1, Error ellipse: s-maj=27.3km s-min=23.8km az=99.6, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.18**	**128**	*i* Pg	Pg	20 46 05.0	+0.2
BTKR	**Batakoyurt**	**0.20**	**344**	*i* Pg	Pg	20 46 05.2	+0.1
ARNR	**Ardon**	**0.25**	**272**	*i* Pg	Pg	20 46 06.0	0.0
KORR	**Kora**	**0.41**	**257**	*i* Pg	Pg	20 46 09.1	0.0
KORR				*i* Sg	Sg	20 46 15.0	+0.4
LACR	**Lac**	**0.43**	**214**	*i* Pg	Pg	20 46 09.4	+0.1
LACR				*i* Sg	Sg	20 46 15.5	+0.5

*ISCJB **17** 21:01:03.2±1.3, 258N±02×663E±0.1, h10km, mb3.5/6, Error ellipse: s-maj=32.5km s-min=15.0km az=132.4*
*IDC **17** 21:01:03.8±3.4, 2580N×6643E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/22, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=74.4km s-min=30.6km az=154.0*
*NEIC **17** 21:01:04.9±1.1, 2576N×6641E, h10km, mb3.7/1, Error ellipse: s-maj=28.8km s-min=13.1km az=158.0*

ISC 17 21:01:05.3±1.3, 258N±02×664E±01, h10km, n8, σ0§68/9, mb3.4/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.49**	**252**	Pn	**Pn**	**21 02 54.4**	**-0.2**
	0.6nm,0.3s,baz=20,slow=10,SNR=10						
WSAR				Sn	**Sn**	**21 04 11.0**	**-8.6**
	2.0nm,0.3s,baz=262,slow=13,SNR=7.7						
LSA	**Lhasa**	**22.26**	**74**	*e*P	**P**	**21 06 02.4**	**0.0**
	1.4nm,0.5s,mb3.6						
MKAR	**Makanchi Array**	**24.47**	**27**	P	**P**	**21 06 22.9**	**-1.5**
	0.5nm,0.6s,mb3.1,baz=218,slow=10.0,SNR=7.3						
BVAR	**Borovoye Array**	**27.34**	**5**	P	**P**	**21 06 50.3**	**-0.1**
	0.3nm,0.4s,mb3.2,baz=166,slow=8.6,SNR=2.7						
SONM	**Songino Array**	**38.28**	**44**	P	**P**	**21 08 26.6**	**+0.9**
	0.6nm,0.7s,mb3.4,baz=239,slow=8.4,SNR=3.5						
FINES	**FINESS Array B**	**44.74**	**334**	P	**P**	**21 09 19.2**	**+0.4**
	0.2nm,0.4s,mb3.3,baz=111,slow=7.7,SNR=5.6						
ARCES	**ARCESS Array B**	**49.82**	**342**	P	**P**	**21 09 58.7**	**+0.4**
	1.5nm,0.9s,mb4.0,baz=138,slow=7.4,SNR=6.9						
ARCES	**ARCESS Array B**	**49.82**	**342**	P	**P**	**21 09 58.7**	**+0.4**

*ATH **17** 21:03:28.4, 3945N×1993E, h27km±3km, MD2.8/4*
*ISCJB **17** 21:03:29.6±0.9, 3952N±004×1994E±008, h27km±5km, Error ellipse: s-maj=10.0km s-min=7.2km az=175.1*
*THE **17** 21:03:29.4, 3950N×1991E, h16km*
*CSEM **17** 21:03:29.2±0.1, 3961N×1988E, h40km, MD2.8, Error ellipse: s-maj=5.0km s-min=3.5km az=63.0*

ISC 17 21:03:29.8±0.8, 3953N±004×1995E±008, h26km±5km, n11, σ0§89/19, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.22**	**328**	*e*PB	**Pb**	**21 03 35.6**	**-0.2**
KEK				*e*SB	**Sb**	**21 03 40.5**	**+0.6**
IGT	**Igoumenitsa**	**0.29**	**89**	*e*Pg	**Pb**	**21 03 35.9**	**-1.0**
IGT				*e*Sg	**Sb**	**21 03 41.7**	**+0.1**
SRN	**Sarande**	**0.35**	**6**	*i* Pg	**Pb**	**21 03 37.6**	**-0.1**
SRN				*i* Sg	**Sb**	**21 03 44.4**	**+1.3**
JAN	**Janina**	**0.71**	**79**	*e*PN	**Pn**	**21 03 43.0**	**-1.2**
JAN				*e*SN	**Sn**	**21 03 53.5**	**-0.7**
LKD	**Levkas**	**0.98**	**146**	*e*Pg	**Pn**	**21 03 47.3**	**-0.7**
LKD				*e*Sg	**Sb**	**21 04 01.4**	**+0.7**
MEV	**Metsovon**	**1.02**	**75**	*e*Pg	**Pn**	**21 03 48.9**	**+0.5**
MEV				*e*Sg	**Sn**	**21 04 03.1**	**+1.2**
VLS	**Valsamata**	**1.44**	**160**	*e*PN	**Pn**	**21 03 54.0**	**-0.2**
EVR	**Evrytania**	**1.57**	**112**	*e*PN	**Pn**	**21 03 56.2**	**+0.2**
FNA	**Florina**	**1.66**	**41**	*e*Pb	**Pb**	**21 03 58.5**	**-1.3**
FNA				*e*Sb	**Sb**	**21 04 19.1**	**-1.2**
AGG	**Agios Georgios**	**1.91**	**104**	*e*Pb	**Pn**	**21 04 01.3**	**+0.5**
LIT	**Litokhoron**	**2.04**	**73**	*e*Pn	**Pn**	**21 04 02.5**	**0.0**
LIT				*e*Sn	**Sn**	**21 04 30.0**	**+2.9**

*ISCJB **17** 21:08:21.5±0.7, 474N±01×1467E±02, h482km±10km, mb3.5/9, Error ellipse: s-maj=23.0km s-min=12.7km az=56.4*
*MOS **17** 21:08:22.2±0.7, 4788N×14645E, h463km, mb3.5/4, Error ellipse: s-maj=30.5km s-min=19.0km az=91.0*
*NEIC **17** 21:08:23.6±1.1, 4788N×14647E, h456km±13km, MG3.0(JMA), Error ellipse: s-maj=26.9km s-min=18.9km az=131.0*
*IDC **17** 21:08:23.7±1.9, 4763N×14659E, h480km±34km, mb3.0/7, mb1 3.1/9, mb1mx2.9/20, mbtmp3.9/9, Error ellipse: s-maj=46.2km s-min=23.0km az=158.0*
*JMA **17** 21:08:23.7±0.5, 4728N×14677E, h472km, M3.7*

ISC 17 21:08:22.5±0.8, 473N±01×1467E±02, h490km±11km, n34, σ1§30/41, mb3.5/9, 1C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.72**	**264**	⇑PN	**P**	**21 09 29.0**	**-1.8**
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS	**Yuzh-Sakhalins**	**2.72**	**264**	*e*P	**P**	**21 09 28.9**	**-1.9**
JRA	**Rausu**	**3.54**	**199**	P	**P**	**21 09 37.3**	**+0.7**
JSE	**Soyaes**	**3.70**	**232**	P	**P**	**21 09 38.3**	**+0.5**
JTKR	**Abashiri--Toko**	**3.87**	**211**	P	**P**	**21 09 40.4**	**+1.3**
JWK2	**Keihoku**	**3.88**	**241**	P	**P**	**21 09 40.0**	**+0.8**
NEM2	**Nemuro 2**	**4.00**	**190**	P	**P**	**21 09 39.7**	**-0.5**
NEM2				*e*S	**S**	**21 10 40.6**	**-2.9**
ASAJ	**Asahikawa**	**4.29**	**224**	P	**P**	**21 09 43.9**	**+1.2**
	comp=Z,3.2nm,0.3s,baz=38,slow=4.0,SNR=27						
ASAJ	**Asahikawa**	**4.29**	**224**	PN	**P**	**21 09 43.9**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JAR	**Ashorobuto**	**4.51**	**208**	P	**P**	**21 09 45.7**	**+1.2**
JAR				*e*S	**S**	**21 10 50.4**	**-1.1**
JAK	**Akkeshi**	**4.54**	**199**	P	**P**	**21 09 44.9**	**+0.1**
JAK				*e*S	**S**	**21 10 49.9**	**-2.0**
JCH	**Churui**	**5.25**	**208**	*e*S	**S**	**21 11 01.2**	**-2.5**
JNBK	**Urakawa-nobuka**	**5.76**	**211**	P	**P**	**21 09 56.7**	**+0.7**
JNBK				*e*S	**S**	**21 11 10.0**	**-2.4**
JEW	**Eniwo**	**5.81**	**222**	P	**P**	**21 09 58.3**	**+1.8**
JSK	**Shakotan**	**5.91**	**230**	P	**P**	**21 09 58.7**	**+1.2**
JKB	**Kayabe**	**6.76**	**219**	P	**P**	**21 10 06.7**	**+0.8**
JKB				*e*S	**S**	**21 11 28.9**	**-1.7**
JOT	**Ohata**	**7.17**	**216**	P	**P**	**21 10 11.1**	**+1.0**
JOT				*e*S	**S**	**21 11 36.6**	**-1.7**
JOSM	**Okushiri--Mats**	**7.33**	**227**	P	**P**	**21 10 14.0**	**+2.3**
JOM	**Ohasama**	**8.76**	**209**	P	**P**	**21 10 30.5**	**+3.9**
JOM				*e*S	**S**	**21 12 09.9**	**+1.4**
JMK	**Ichinoseki**	**9.26**	**208**	P	**P**	**21 10 37.1**	**+5.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**12.47**	**213**	P	**P**	**21 11 11.8**	**+5.8**
	comp=Z,0.6nm,0.3s,baz=12,slow=12,SNR=11						
SONM	**Songino Array**	**26.99**	**286**	P	**P**	**21 13 24.6**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.2,baz=84,slow=8.9,SNR=5.3						
MKAR	**Makanchi Array**	**42.75**	**294**	P	**P**	**21 15 36.1**	**+0.3**
	comp=Z,1.1nm,0.5s,mb3.5,baz=68,slow=7.4,SNR=20						
INK	**Inuvik**	**43.52**	**32**	P	**P**	**21 15 41.8**	**-0.1**
	comp=Z,1.1nm,0.3s,mb3.7,baz=296,slow=5.2,SNR=6.2						
BVAR	**Borovoye Array**	**47.07**	**307**	P	**P**	**21 16 08.8**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.1,baz=34,slow=6.9,SNR=5.0						
BVAR				PcP	PcP	21 17 31.4	-0.1
	comp=Z,0.2nm,0.3s,baz=51,slow=3.0,SNR=3.3						
ARCES	**ARCESS Array B**	**55.81**	**339**	P	**P**	**21 17 11.6**	**-0.9**
	comp=Z,3.7nm,1.1s,mb3.6,baz=45,slow=7.8,SNR=3.7						
JOF	**Joensuu**	**58.81**	**331**	*e*p	**P**	**21 17 31.2**	**-1.9**
	comp=Z,1.3nm,0.3s,mb3.7						
JOF	**Joensuu**	**58.81**	**331**	*e*P	**P**	**21 17 31.2**	**-1.9**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.6						
KAF	**Kangasniemi**	**61.01**	**332**	*e*p	**P**	**21 17 42.8**	**-4.9**
	comp=Z,0.4nm,0.3s,mb3.3						
FINES	**FINESS Array B**	**61.58**	**332**	P	**P**	**21 17 50.6**	**-0.8**
	comp=Z,1.4nm,0.5s,mb3.6,baz=47,slow=7.2,SNR=31						
FINES	**FINESS Array B**	**61.58**	**332**	P	**P**	**21 17 50.6**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**66.18**	**338**	P	**P**	**21 18 20.3**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.3,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**66.18**	**338**	P	**P**	**21 18 20.4**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=31,slow=6.5,SNR=4.0						
NOA	**NORSAR Array B**	**66.18**	**338**	P	**P**	**21 18 20.4**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						

MAN 17 21:11:06.2, 1451N×12459E, h32km, mb2.6, ML4.1, MS1.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.00**	**205**	*i* P	Pn	21 11 23.7	-0.2
PVCP				*i* S	Sn	21 11 34.2	-2.7
PVCP	**Virac**	**1.00**	**205**	*e*P	Pn	21 11 23.7	-0.2
GQP	**Guinayangan**	**2.16**	**254**	⇓*i*P	Pn	21 11 40.7	+0.7
GQP				*i* S	Sn	21 12 03.5	-2.1
POLP	**Polilio Island**	**2.58**	**275**	*e*P	Pn	21 11 48.1	+2.5
POLP				*e*S	Sn	21 12 17.1	+1.3
BOAC	**Boac**	**2.86**	**249**	*e*P	Pn	21 11 50.6	+1.1
BALP	**Baler**	**3.16**	**293**	*e*P	Pn	21 11 52.0	-1.6
CAUP	**Cauayan**	**3.60**	**313**	*e*P	Pn	21 12 00.6	+0.9

*CSEM **17** 21:11:37.1±0.9, 3860N×2861W, h14km±9km, ML1.6, Error ellipse: s-maj=5.8km s-min=5.4km az=158.0, After PDA*
*PDA **17** 21:11:37.1±0.9, 3860N×2861W, h14km±9km, MD2.8, ML1.6, Error ellipse: s-maj=5.8km s-min=5.4km az=158.0*

SVSA 17 21:11:37.1±0.9, 3860N×2861W, h14km±9km, MD2.8, ML1.6, Error ellipse: s-maj=5.8km s-min=5.4km az=158.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.07**	**192**	*e*P	Pg	21 11 39.4	-0.5
CALA	**Caldeira**	**0.07**	**259**	*i* P	Pg	21 11 39.7	-0.2
CALA				*e*S	Sg	21 11 41.7	-0.2
CALA	**Caldeira**	**0.07**	**259**	*e*S	Sg	21 11 41.7	-0.2
PCND	**Candelaria**	**0.17**	**137**	*e*rx		21 11 45.3	
PICO	**Pico**	**0.17**	**123**	*e*P	Pg	21 11 40.6	-0.6
PICO				*e*S	Sg	21 11 44.0	-0.1
ROSA	**Rosais**	**0.32**	**67**	*e*P	Pg	21 11 43.1	-0.5
ROSA				*e*S	Sg	21 11 46.8	-1.2
PMAN	**Manadas**	**0.41**	**85**	*e*P	Pg	21 11 44.2	-1.1
PMAN				*e*S	Sg	21 11 49.0	-1.9
PMAN							
	28nm,0.1s						
PMAN	**Manadas**	**0.41**	**85**	*e*P	Pg	21 11 44.2	-1.1
PMAN				*e*S	Sg	21 11 49.0	-1.9
PID	**Ribeirinha**	**0.42**	**111**	*e*P	Pg	21 11 44.2	-1.2
SRBC	**Serra Branca**	**0.63**	**45**	*e*rx		21 11 46.4	

PRE 17 21:26:55.0±1.4, 2111S×3337E, h5km, ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.43**	**194**	*e*P	Pn	21 28 31.2	+0.8
POGA				*e*S	Sn	21 29 40.5	-3.7
POGA				AML	AML	21 30 28.5	
	comp=Z,34nm,0.6s						
SLR	**Silverton**	**6.56**	**224**	*e*P	Pn	21 28 33.8	+1.8
SLR				*e*S	Sn	21 29 45.2	-2.0
SLR				AML	AML	21 30 29.1	
	comp=Z,92nm,0.5s						
KSR	**Koster**	**7.58**	**230**	*e*P	Pn	21 28 47.5	+1.3
KSR				*e*S	Sn	21 30 09.8	-2.7
KSR				AML	AML	21 30 57.2	
	comp=Z,26nm,0.6s						
LBTB	**Lobatse**	**8.14**	**240**	*e*P	Pn	21 28 55.5	+1.6
LBTB				*e*S	Sn	21 30 22.8	-3.4
LBTB				AML	AML	21 31 12.6	
	comp=Z,31nm,0.7s						
SWZ	**Schweizer**	**9.51**	**229**	*e*P	Pn	21 29 13.3	+0.8
SWZ				*e*S	Sn	21 30 54.6	-5.1
SWZ				AML	AML	21 31 59.1	
	comp=Z,18nm,0.5s						
BOSA	**Boshof**	**10.49**	**223**	*e*P	Pn	21 29 26.7	+0.7
BOSA				*e*S	Sn	21 31 18.4	-5.4
BOSA				AML	AML	21 32 23.7	
	comp=Z,14nm,0.8s						
SUR	**Sutherland**	**15.85**	**222**	*e*P	Pn	21 30 41.0	+2.2

*IDC **17** 21:32:59.3±1.7, 149N×12265E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=149.5km s-min=24.7km az=71.0*
*ISCJB **17** 21:33:01.7±1.0, 11N±02×1217E±03, h33km, mb3.5/4, Error ellipse: s-maj=58.0km s-min=13.3km az=116.7*
*NEIC **17** 21:33:03.8±0.9, 120N×12186E, h35km, Error ellipse: s-maj=51.0km s-min=12.2km az=58.0*

ISC 17 21:33:04.0±1.0, 11N±02×1218E±03, h35km, n6, σ0§77/6, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.39**	**312**	*e*Pn	**Pn**	**21 34 49.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.48**	**169**	P	**Pn**	**21 37 29.6**	**+0.4**
	0.3nm,0.3s,baz=21,slow=8.9,SNR=12						
WRA	**Warramunga Arr**	**24.29**	**150**	P	**P**	**21 38 18.4**	**+0.3**
	0.8nm,0.6s,mb3.3,baz=337,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**27.32**	**155**	P	**P**	**21 38 45.7**	**+0.3**
	0.4nm,0.5s,mb3.2,baz=344,slow=14,SNR=12						
STKA	**Stephens Creek**	**37.82**	**152**	P	**P**	**21 40 15.9**	**-1.2**
	3.7nm,1.2s,mb4.0,baz=338,slow=11,SNR=2.8						
SONM	**Songino Array**	**48.41**	**346**	P	**P**	**21 41 42.9**	**+0.3**
	0.6nm,0.7s,mb3.7,baz=176,slow=8.8,SNR=4.0						

*ISCJB **17** 21:53:06.6±0.7, 4175N±007×3966E±0.1, h10km, mb3.9/6, MS3.1/2, Error ellipse: s-maj=16.1km s-min=8.7km az=133.4*
*IDC **17** 21:53:07.3±1.1, 4145N×3969E, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.5/24, mbtmp3.7/8, ML3.5/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/19, Error ellipse: s-maj=29.9km s-min=19.3km az=65.0*
*NEIC **17** 21:53:08.7±0.9, 4135N×3973E, h10km, mb4.2/1, Error ellipse: s-maj=24.0km s-min=14.9km az=89.0*

ISC 17 21:53:08.6±0.7, 417S±007×396E±01, h10km, n15, σ0§82/13, mb3.9/6, MS3.1/2, Kenya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**3.84**	**322**	Pn	**Pn**	**21 54 07.7**	**0.0**
	3.2nm,0.3s,baz=123,slow=17,SNR=50						
KMBO				Sn	**Sn**	**21 54 52.3**	**-0.6**
	26nm,0.3s,baz=47,slow=24,SNR=8.9						
KMBO				Lg		21 55 08.4	
	109nm,0.3s,baz=47,slow=22,SNR=27						
LSZ	**Lusaka**	**15.76**	**225**	Pn	**Pn**	**21 56 49.8**	**-0.8**
	0.1nm,0.3s,baz=32,slow=19,SNR=2.3						
LSZ				Lg		22 01 26.1	
	0.2nm,0.3s,baz=96,slow=6.7,SNR=7.0						
LSZ				LR	LR	22 03 19.9	
	comp=Z,76nm,19.1s,baz=90,slow=39						
ATD	**Arta Tunnel**	**15.92**	**12**	LR	LR	22 03 51.7	
	comp=Z,41nm,18.1s,baz=178,slow=41						
OPO	**Ambohidratompo**	**16.11**	**153**	Pn	**Pn**	**21 56 53.9**	**-1.2**
	0.8nm,0.3s,baz=312,slow=15,SNR=8.6						
MATP	**Matopo**	**19.45**	**213**	P	**Pn**	**21 57 37.7**	**+1.3**
	0.1nm,0.3s,baz=32,slow=17,SNR=3.9						
MATP	**Matopo**	**19.45**	**213**	P	**Pn**	**21 57 37.7**	**+1.3**
LBTB	**Lobatse**	**24.73**	**212**	P	**P**	**21 58 34.8**	**+4.8**
	1.6nm,0.6s,mb3.7,baz=31,slow=12,SNR=3.8						
TSUM	**Tsumeb**	**26.19**	**233**	LR	LR	22 10 45.4	
	comp=Z,52nm,18.1s,MS3.1,baz=314,slow=40						
WSAR	**Wadi Sarin**	**32.96**	**33**	LR	LR	22 13 46.0	
	comp=Z,35nm,20.6s,MS3.0,baz=67,slow=38						
CSS	**Prodhromos**	**39.37**	**352**	*e*P	**P**	**22 00 37.7**	**-0.5**
	4.1nm,0.6s,mb4.3						
GERES	**GERESS Array B**	**57.43**	**340**	P	**P**	**22 02 58.8**	**+1.4**
	0.6nm,0.9s,mb3.6,baz=147,slow=5.9,SNR=6.5						
MKAR	**Makanchi Array**	**63.17**	**31**	P	**P**	**22 03 36.4**	**-0.3**
	0.6nm,0.8s,mb3.8,baz=233,slow=6.5,SNR=5.3						
MKAR	**Makanchi Array**	**63.17**	**31**	P	**P**	**22 03 36.4**	**-0.3**
ARCES	**ARCESS Array B**	**74.18**	**355**	P	**P**	**22 04 45.6**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=162,slow=5.0,SNR=5.9						
WRA	**Warramunga Arr**	**93.02**	**110**	P	**P**	**22 06 23.0**	**+0.6**
	0.4nm,0.6s,mb4.0,baz=267,slow=2.3,SNR=6.0						

*ISCJB **17** 22:55:19.4±1.3, 47S±0.1×146.1E±0.2, h33km, mb3.6/5, Error ellipse: s-maj=28.5km s-min=14.1km az=163.0*
*IDC **17** 22:55:23.2±5.9, 479S×146.13E, h54km±67km, mb3.4/5, mb1 3.8/8, mb1mx3.7/12, mbtmp3.9/8, ML3.9/3, Error ellipse: s-maj=65.4km s-min=29.0km az=108.0*
*NEIC **17** 22:55:31.1±1.6, 556S×14563E, h35km, mb4.1/1, Error ellipse: s-maj=23.9km s-min=18.5km az=46.0*

ISC 17 22:55:22.0±1.3, 476S±010×1460E±02, h35km, n16, σ0§81/16, mb3.6/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.75**	**166**	P	**Pn**	**22 56 31.9**	**+0.8**
	2.7nm,0.3s,baz=216,slow=14,SNR=21						
PMG				S	**Sn**	**22 57 15.5**	**-9.4**
	21nm,0.3s,baz=69,slow=22,SNR=19						
CTA	**Charters Tower**	**15.23**	**179**	P	**Pn**	**22 58 53.6**	**-0.8**
	3.7nm,0.6s						
CTA	**Charters Tower**	**15.23**	**179**	P	**Pn**	**22 58 53.8**	**-0.6**
	0.5nm,0.3s,baz=4.9,slow=14,SNR=6.2						
CTAO	**Charters Tower**	**15.23**	**179**	*e*Pn	**Pn**	**22 58 53.5**	**-0.8**
	8.9nm,0.8s						
KAKA	**Kakadu**	**15.55**	**239**	*e*P	Px	22 59 09.0	
	19nm,1.5s						
WB2	**Warramunga Arr**	**18.87**	**216**	*e*P	**Pn**	**22 59 40.4**	**+0.5**
WRA	**Warramunga Arr**	**18.88**	**216**	P	**Pn**	**22 59 40.5**	**+0.5**
	1.9nm,0.3s,baz=44,slow=9.8,SNR=29						
AS31	**Alice Springs**	**22.12**	**211**	*e*P	**P**	**23 00 13.5**	**-0.8**
ASAR	**Alice Springs**	**22.12**	**211**	P	**P**	**23 00 13.3**	**-0.9**
	4.1nm,0.5s,mb4.1,baz=48,slow=8.3,SNR=46						
ASPA	**Alice Springs**	**22.12**	**211**	*e*P	**P**	**23 00 13.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**23.91**	**235**	*e*P	**P**	**23 00 34.2**	**+1.7**
	7.6nm,1.2s,mb4.0						
FITZ	**Fitzroy Crossi**	**23.91**	**235**	P	**P**	**23 00 33.7**	**+1.2**
	2.1nm,0.5s,mb3.8,baz=73,slow=14,SNR=13						
STKA	**Stephens Creek**	**27.29**	**188**	P	**P**	**23 01 03.5**	**+0.4**
	1.5nm,0.9s,mb3.5,baz=2.1,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**27.29**	**188**	P	**P**	**23 01 03.5**	**+0.4**
SONM	**Songino Array**	**62.85**	**331**	P	**P**	**23 05 44.7**	**+0.5**
	0.1nm,0.3s,mb3.4,baz=142,slow=7.3,SNR=2.8						
MKAR	**Makanchi Array**	**75.92**	**321**	P	**P**	**23 07 04.1**	**-0.9**
	0.1nm,0.4s,mb3.1,baz=112,slow=6.9,SNR=3.1						

*ISCJB **17** 22:59:00.2±0.4, 3999N±002×2331E±003, h7km±4km, Error ellipse: s-maj=4.4km s-min=3.3km az=21.7*
*NEIC **17** 22:59:00.0, 3997N×2335E, h21km, MD3.4(ATH), After ATH.*
*ATH **17** 22:59:00.0, 3997N×2335E, h21km, MD3.4/6*
*CSEM **17** 22:59:00.2±0.1, 3999N×2332E, h5km, MD3.4, Error ellipse: s-maj=2.3km s-min=1.6km az=119.0*
*THE **17** 22:59:01.3, 3998N×2330E, h8km, ML3.3*

ISC 17 22:59:00.9±0.4, 3998N±002×2331E±003, h8km±4km, n42, σ0§91/53, 11C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.29**	**101**	*e*Pg	**Pg**	**22 59 07.2**	**+0.6**
PAIG				*e*Sg	**Sg**	**22 59 11.7**	**+1.3**
PLG	**Polygyros**	**0.41**	**14**	⇑*i*PB	**Pg**	**22 59 08.3**	**-0.5**
PLG				*e*SB	**Sg**	**22 59 14.0**	**-0.2**
XOR	**Xorichti**	**0.62**	**189**	*e*Pg	**Pg**	**22 59 12.9**	**0.0**
XOR				*e*Sg	**Sg**	**22 59 22.0**	**+1.0**
LIT	**Litokhoron**	**0.64**	**281**	*e*Pg	**Pg**	**22 59 13.4**	**+0.1**
LIT				*e*Sg	**Sg**	**22 59 22.9**	**+1.1**
NEO	**Neokhori**	**0.68**	**186**	*e*PN	**Pg**	**22 59 13.2**	**-0.8**
NEO				*e*SN	**Sg**	**22 59 22.5**	**-0.3**
THE	**Thessaloniki**	**0.70**	**338**	*e*Pg	**Pg**	**22 59 14.2**	**-0.2**
SOH	**Sokhos**	**0.84**	**2**	*e*Pg	**Pg**	**22

ZKR	**Zakros**	**1.28**	**45**	*e*Pg	**Pg**	**23 06 08.1**	**-1.4**
ZKR				*e*Sg	**Sg**	**23 06 27.1**	**+0.9**
VAM	**Vamos**	**1.41**	**328**	*e*PB	**Pb**	**23 06 11.0**	**-0.1**
VAM				*e*SB	**Sb**	**23 06 32.0**	**+2.9**
KARN	**Karanos**	**1.54**	**321**	*e*Pg	**Pg**	**23 06 11.6**	**-2.8**
KARN				*e*Sg	**Sg**	**23 06 33.0**	**-1.3**
KARP	**Karpathos**	**2.15**	**51**	*e*PN	**Pn**	**23 06 22.7**	**+2.0**
SLUM		**2.71**	**178**	⇓P	**Pn**	**23 06 29.4**	**+1.0**
VLI	**Veliai**	**3.06**	**325**	*e*PN	**Pn**	**23 06 34.8**	**+1.5**
HMAT	**Matruh**	**3.53**	**151**	⇓P	**Pn**	**23 06 39.3**	**-0.4**
SWA1		**4.96**	**174**	⇓P	**Pn**	**23 07 00.2**	**+0.9**
SWA1				S	**Sn**	**23 07 55.0**	**-1.7**
SWA2		**4.96**	**176**	P	**Pn**	**23 07 00.2**	**+0.8**
AWBH		**6.71**	**150**	⇓P	**Pn**	**23 07 22.9**	**-0.4**

*IDC **17** 23:05:56.1±3.4, 271S×1406 8E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.7/10, mbtmp3.7/4, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/13, Error ellipse: s-maj=101.6km s-min=29.1km az=93.0*
*ISCJB **17** 23:06:01.6±1.4, 29S±01×1405E±02, h33km, mb4.3/2, Error ellipse: s-maj=31.0km s-min=14.6km az=35.2*
*NEIC **17** 23:06:01.6±2.0, 288S×1408 3E, h35km, mb4.6/2, Error ellipse: s-maj=45.2km s-min=15.7km az=88.0*

ISC 17 23:06:03.2±1.4, 29S±01×1406E±02, h35km, n10, σ0§88/10, mb4.2/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.66**	**219**	*e*P	**Pn**	**23 09 00.4**	**-0.3**
KAKA	13nm,0.4s						
				*e*S	**Sn**	**23 11 19.9**	**-0.6**
WB2	**Warramunga Arr**	**18.00**	**199**	*e*P	**Pn**	**23 10 10.9**	**+0.5**
WRA	**Warramunga Arr**	**18.00**	**200**	P	**Pn**	**23 10 10.4**	**0.0**
	0.6nm,0.3s,baz=21,slow=12,SNR=8.8						
FITZ	**Fitzroy Crossi**	**21.06**	**223**	*e*P	**P**	**23 10 45.2**	**+1.0**
	5.9nm,0.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**21.06**	**223**	P	**P**	**23 10 43.8**	**-0.4**
	2.9nm,0.6s,mb3.8,baz=55,slow=17,SNR=4.0						
ASAR	**Alice Springs**	**21.63**	**197**	P	**P**	**23 10 49.7**	**-0.5**
	1.0nm,0.7s,baz=30,slow=9.9,SNR=8.1						
NWAO	**Narrogin (SRO)**	**37.04**	**214**	P	**P**	**23 13 10.5**	**+0.9**
	46nm,1.5s,mb5.1						
KULM	**Kulim**	**40.77**	**281**	*e*P	**P**	**23 13 42.2**	**+1.4**
SONM	**Songino Array**	**58.75**	**334**	LR	LR	23 41 34.7	
	comp=Z,31nm,18.5s,baz=57,slow=36						
MKAR	**Makanchi Array**	**71.14**	**322**	P	**P**	**23 17 16.3**	**-1.8**
	0.4nm,0.7s,mb3.5,baz=104,slow=7.6,SNR=5.0						

*IDC **17** 23:22:45.8±2.2, 264N×9340E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=59.0km s-min=28.4km az=43.0*
*ISCJB **17** 23:22:48.7±1.4, 26N±02×934E±01, h33km, mb3.5/3, Error ellipse: s-maj=30.4km s-min=14.7km az=17.8*
*NEIC **17** 23:22:51.2±5.8, 268N×9348E, h36km±42km, Error ellipse: s-maj=63.3km s-min=21.9km az=55.0*

ISC 17 23:22:50.8±1.4, 27N±02×934E±01, h35km, n6, σ0§57/8, mb3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.56**	**88**	Pn	**Pn**	**23 24 10.0**	**-0.9**
PSI	2.8nm,0.3s,baz=274,slow=11,SNR=14						
				Sn	**Sn**	**23 25 14.2**	**+0.6**
	3.7nm,0.3s,baz=256,slow=23,SNR=5.0						
PSI	**Prapat**	**5.56**	**88**	Pn	**Pn**	**23 24 10.0**	**-0.9**
PSI				Sn	**Sn**	**23 25 14.2**	**+0.6**
KKM	**Kota Kinabalu**	**23.03**	**81**	P	**P**	**23 27 52.3**	**-0.5**
MKAR	**Makanchi Array**	**45.01**	**349**	P	**P**	**23 31 03.1**	**+0.3**
	0.4nm,0.5s,mb3.5,baz=165,slow=8.8,SNR=5.7						
WRA	**Warramunga Arr**	**46.06**	**121**	P	**P**	**23 31 11.7**	**+0.6**
	0.5nm,0.5s,mb3.7,baz=298,slow=8.7,SNR=2.7						
ASAR	**Alice Springs**	**47.34**	**126**	P	**P**	**23 31 21.0**	**-0.1**
	0.2nm,0.5s,mb3.3,baz=302,slow=7.8,SNR=3.5						

*NEIC **17** 23:25:03.8, 3408N×2515E, h24km, MD3.2(ATH), After ATH.*
*ATH **17** 23:25:04.0, 3405N×2522E, h31km, MD3.2/3*
*ISCJB **17** 23:25:07.7±0.7, 3420N±005×254E±0.1, h33km, Error ellipse: s-maj=16.9km s-min=6.2km az=153.2*
*CSEM **17** 23:25:07.4±0.0, 3420N×2535E, h25km, ML3.0, Error ellipse: s-maj=3.0km s-min=1.0km az=92.0*
*HLW **17** 23:25:09.2, 3431N×2523E, h33km, Mb3.0*

ISC 17 23:25:09.0±0.7, 3425N±005×254E±01, h35km, n9, σ0§96/11, 1C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.68**	**23**	*e*PN	**Pn**	**23 25 21.2**	**-0.8**
NPS	**Neapolis**	**1.03**	**11**	*e*PN	**Pn**	**23 25 27.3**	**+0.4**
GVD	**Gavdhos**	**1.21**	**299**	*e*Pn	**Pn**	**23 25 23.1**	**-6.3**
GVD	**Gavdhos**	**1.21**	**299**	*e*Pn	**Pn**	**23 25 23.1**	**-6.3**
VAM	**Vamos**	**1.50**	**320**	*e*PN	**Pn**	**23 25 32.0**	**-1.4**
VAM				*e*SN	**Sn**	**23 25 52.5**	**+0.7**
SLUM		**2.76**	**183**	P	**Pn**	**23 25 51.2**	**+0.6**
SWA1		**4.98**	**177**	P	**Pn**	**23 26 22.0**	**+0.7**
SWA1				S	**Sn**	**23 27 15.8**	**-1.9**
SWA2		**5.00**	**179**	⇑P	**Pn**	**23 26 22.0**	**+0.6**
AWBH		**6.64**	**152**	⇓P	**Pn**	**23 26 44.8**	**+0.8**

*ISCJB **17** 23:26:58.6±0.7, 3875N±003×2278E±005, h5km±6km, Error ellipse: s-maj=6.4km s-min=5.0km az=163.1*
*NEIC **17** 23:26:59.3, 3878N×2276E, h13km, ML3.2(ATH), After ATH.*
*ATH **17** 23:26:59.3, 3878N×2276E, h13km±3km, MD3.2/7, ML3.2*
*CSEM **17** 23:26:59.3, 3878N×2276E, h13km, MD3.2/7, After ATH*
*THE **17** 23:27:01.0, 3883N×2275E, h4km, ML3.0*

ISC 17 23:26:59.1±0.6, 3874N±003×2277E±005, h8km±6km, n14, σ0§95/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.20**	**115**	*e*PG	**Pg**	**23 27 03.9**	**+0.7**
AGG	**Agios Georgios**	**0.44**	**310**	*e*Pg	**Pg**	**23 27 07.7**	**-0.1**
AGG				*e*Sg	**Sg**	**23 27 14.1**	**+0.5**
NEO	**Neokhori**	**0.67**	**32**	*e*PB	**Pb**	**23 27 11.8**	**-1.3**
XOR	**Xorichti**	**0.71**	**28**	*e*Sg	**Sg**	**23 27 22.6**	**+0.6**
EVR	**Evrytania**	**0.77**	**284**	*e*PB	**Pb**	**23 27 14.0**	**-0.8**
ATH	**Athens Observa**	**1.07**	**135**	*e*PG	**Pg**	**23 27 19.5**	**-0.1**
ATH				*e*SN	**Sn**	**23 27 36.0**	**+0.5**
ATH	**Athens Observa**	**1.07**	**135**	*e*Pb	**Pb**	**23 27 18.2**	**-1.7**
ATH				*e*Sn	**Sn**	**23 27 36.0**	**+0.5**
RLS	**Riolos of Patr**	**1.23**	**237**	*e*PN	**Pn**	**23 27 21.8**	**-0.8**
PAIG	**Paliouri**	**1.38**	**30**	*e*Pg	**Pg**	**23 27 24.6**	**-1.0**
PAIG				*e*Sg	**Sg**	**23 27 44.3**	**+0.7**
ITM	**Ithomi**	**1.69**	**203**	*e*PG	**Pg**	**23 27 31.6**	**0.0**
PLG	**Polygyros**	**1.72**	**18**	*e*PB	**Pb**	**23 27 29.8**	**-1.1**
VLI	**Veliai**	**2.02**	**176**	*e*PN	**Pn**	**23 27 35.8**	**+2.3**
FNA	**Florina**	**2.31**	**333**	*e*Pn	**Pn**	**23 27 38.7**	**+1.2**
KNT	**Kendrikon**	**2.42**	**2**	*e*Pn	**Pn**	**23 27 40.1**	**+1.0**
KNT				*e*Sn	**Sn**	**23 28 08.9**	**-0.1**

*ISCJB **17** 23:28:22.5±0.9, 3418N±005×252E±0.1, h5km, Error ellipse: s-maj=17.7km s-min=6.9km az=25.8*
*CSEM **17** 23:28:22.9±0.2, 3413N×2521E, h5km, MD3.2, Error ellipse: s-maj=7.7km s-min=3.9km az=99.0*
*ATH **17** 23:28:23.3, 3420N×2511E, h5km, MD3.2/3*
*HLW **17** 23:28:31.3, 3383N×2606E, h33km, Mb2.8*

ISC 17 23:28:23.3±2.2, 3423N±007×252E±01, h5km±22km, n7, σ0§43/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.78**	**35**	*e*PB	**Pb**	**23 28 39.0**	**-0.4**
XRY				*e*SB	**Sb**	**23 28 50.5**	**+0.2**
NPS	**Neapolis**	**1.09**	**20**	*e*PG	**Pg**	**23 28 44.5**	**+0.2**
VAM	**Vamos**	**1.41**	**327**	*e*PB	**Pb**	**23 28 50.0**	**0.0**
SLUM		**2.74**	**179**	P	**Pn**	**23 29 08.7**	**+0.8**
SWA1		**4.98**	**174**	P	**Pn**	**23 29 38.1**	**-0.6**
SWA2		**4.98**	**177**	P	**Pn**	**23 29 38.7**	**-0.1**
SWA2				S	**Sn**	**23 30 27.4**	**-9.3**
AWBH		**6.71**	**150**	P	**Pn**	**23 29 57.5**	**-5.0**

*ISCJB **17** 23:31:49.3±0.7, 3849N±003×2152E±004, h5km±6km, Error ellipse: s-maj=5.7km s-min=4.2km az=74.5*
*NEIC **17** 23:31:49.4, 3852N×2153E, h17km, MD3.1(ATH), After ATH.*
*ATH **17** 23:31:49.2, 3851N×2150E, h16km±3km, MD3.0/9, ML2.8*
*THE **17** 23:31:49.1, 3843N×2153E, h10km, ML2.9*
*CSEM **17** 23:31:49.8±0.2, 3854N×2153E, h5km, ML2.8, Error ellipse: s-maj=5.3km s-min=4.5km az=66.0*

ISC 17 23:31:50.3±0.6, 3849N±003×2154E±004, h7km±5km, n22, σ1§14/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.44**	**187**	*e*PB	**Pg**	**23 31 58.7**	**-0.1**
RLS				*e*SB	**Sg**	**23 32 05.7**	**+1.2**
EVR	**Evrytania**	**0.47**	**26**	*e*PB	**Pg**	**23 31 58.6**	**-0.9**
LKD	**Levkas**	**0.73**	**287**	*e*Pg	**Pg**	**23 32 02.9**	**-1.4**
LKD				*e*Sg	**Sg**	**23 32 15.1**	**+1.3**
VLS	**Valsamata**	**0.81**	**247**	*e*Pn	**Pg**	**23 32 04.1**	**-1.8**
VLS				*e*Sn	**Sg**	**23 32 17.3**	**+0.9**
AGG	**Agios Georgios**	**0.81**	**49**	*e*Pg	**Pg**	**23 32 05.5**	**-0.5**
AGG				*e*Sg	**Sg**	**23 32 18.2**	**+1.6**
LKR	**Lokris**	**1.16**	**82**	*e*PN	**Pn**	**23 32 11.1**	**-1.8**
JAN	**Janina**	**1.28**	**336**	*e*PN	**Pn**	**23 32 13.2**	**-1.4**
MEV	**Metsovon**	**1.31**	**350**	*e*Pg	**Pg**	**23 32 14.9**	**-0.6**
MEV				*e*Sg	**Sg**	**23 32 34.5**	**+1.9**
ITM	**Ithomi**	**1.35**	**167**	*e*PN	**Pn**	**23 32 15.6**	**+0.1**
IGT	**Igoumenitsa**	**1.40**	**318**	*e*Pg	**Pg**	**23 32 15.0**	**-2.1**
IGT				*e*Sg	**Sg**	**23 32 36.3**	**+0.9**
NEO	**Neokhori**	**1.55**	**58**	*e*PN	**Pn**	**23 32 18.0**	**-0.2**
LIT	**Litokhoron**	**1.77**	**24**	*e*Pb	**Pb**	**23 32 21.1**	**-1.9**
LIT				*e*Sb	**Sb**	**23 32 45.4**	**0.0**
ATH	**Athens Observa**	**1.79**	**106**	*e*PN	**Pn**	**23 32 22.0**	**+0.4**
KEK	**Kerkira**	**1.82**	**313**	*e*PN	**Pn**	**23 32 22.0**	**0.0**
VLI	**Veliai**	**2.09**	**147**	*e*PN	**Pn**	**23 32 26.5**	**+0.8**
PAIG	**Paliouri**	**2.20**	**49**	*e*Pn	**Pn**	**23 32 26.0**	**-1.2**
PAIG				*e*Sn	**Sn**	**23 32 57.2**	**+2.6**
GRG	**Griva**	**2.55**	**15**	*e*Pn	**Pn**	**23 32 32.5**	**+0.5**
SOH	**Sokhos**	**2.72**	**30**	*e*Pn	**Pn**	**23 32 35.1**	**+0.8**
KNT	**Kendrikon**	**2.87**	**21**	*e*Pn	**Pn**	**23 32 36.9**	**+0.5**
SLCN	**Sala Consilina**	**4.95**	**294**	Pg	**Pn**	**23 33 05.8**	**+0.8**
SGO	**Sicignano**	**5.24**	**295**	Pn	**Pn**	**23 33 09.7**	**+0.7**
FGMS	**Monte Sant'Ang**	**5.35**	**309**	Pn	**Pn**	**23 33 09.7**	**-0.9**

CASC 17 23:38:57.3±2.2, 871N×8303W, h34km±4km, MD3.8, ML3.4, 6C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.14**	**249**	⇓*e*P	Pb	23 39 03.7	+0.2
CTCR	**Cotoan**	**0.33**	**55**	⇑*i*P	Pb	23 39 05.9	+0.4
CTCR				*e*S	Sb	23 39 12.6	+1.5
BRU	**Baru**	**0.48**	**78**	⇑*e*P	Pb	23 39 08.3	+0.7
BRU				*e*S	Sb	23 39 17.4	+2.7
DVD	**David**	**0.64**	**115**	⇑*e*P	Pn	23 39 09.5	-0.4
DVD				*e*S	Sn	23 39 19.1	+0.3
CNI	**Changuinola**	**0.87**	**36**	⇑*i*P	Pn	23 39 13.8	+0.7
CNI				*e*S	Sn	23 39 25.3	+0.7
BUS	**Buena Vista**	**1.11**	**320**	⇑*e*P	Pn	23 39 15.8	-0.6
BUS				*e*S	Sn	23 39 31.4	+1.0
LCR2	**La Lucha 2**	**1.41**	**317**	⇑*e*P	Pn	23 39 20.0	-0.5
LCR2				*e*S	Sn	23 39 38.0	+0.2
ICR	**Volcan Irazu**	**1.49**	**328**	*e*P	Pn	23 39 21.9	+0.2
OCM	**Ochomogo**	**1.50**	**322**	⇓*i*P	Pn	23 39 21.9	+0.2
OCM				*e*S	Sn	23 39 41.9	+1.9
OCM				AML	AML	23 39 43.1	
	comp=N,610nm,0.5s						
PRS1	**Puriscal**	**1.79**	**315**	⇓*e*P	Pn	23 39 25.3	-0.5
PRS1				*e*S	Sn	23 39 47.3	0.0
CGA2	**Cerro Gallo 2**	**1.92**	**313**	*e*P	Pn	23 39 27.5	-0.1
EPA	**Esparza**	**2.00**	**310**	*i*P	Pn	23 39 28.9	+0.3
CAO	**Cobano**	**2.27**	**296**	*e*P	Pn	23 39 31.3	-1.1
FORC	**Fortuna**	**2.38**	**318**	*e*P	Pn	23 39 35.3	+1.4
JTS	**JuntasAbangare**	**2.46**	**310**	*i*P	Pn	23 39 36.1	+1.1
JTS				*e*S	Sn	23 40 05.5	+1.6
JTS				AML	AML	23 40 11.1	
	comp=N,114nm,0.7s						

*NEIC **17** 23:44:59.9, 3405N×2503E, h5km, MD3.3(ATH), After ATH.*
*ATH **17** 23:44:59.9, 3405N×2504E, h7km, MD3.3/3*
*CSEM **17** 23:45:03.2±0.3, 34.17N×2506E, h10km, ML3.3, Error ellipse: s-maj=13.0km s-min=6.5km az=86.0*
*ISCJB **17** 23:45:04.3±0.7, 3427N±005×252E±0.1, h33km, Error ellipse: s-maj=14.1km s-min=6.3km az=166.3*
*HLW **17** 23:45:04.2, 3447N×2537E, h33km, Mb3.3*

ISC 17 23:45:05.8±0.7, 3432N±005×252E±01, h35km, n10, σ0§65/12, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.70**	**37**	*e*PB	**Pn**	**23 45 18.5**	**-0.7**
NPS	**Neapolis**	**1.01**	**20**	*e*PB	**Pn**	**23 45 24.0**	**+0.6**
NPS				*e*SB	**Sn**	**23 45 41.5**	**+5.1**
GVD	**Gavdhos**	**1.05**	**300**	*e*P	**Pn**	**23 45 23.3**	**-0.7**
GVD	**Gavdhos**	**1.05**	**300**	*e*P	**Pn**	**23 45 23.3**	**-0.7**
VAM	**Vamos**	**1.36**	**324**	*e*PB	**Pn**	**23 45 28.5**	**+0.2**
SLUM		**2.82**	**180**	⇓P	**Pn**	**23 45 49.0**	**+0.7**
HMAT	**Matruh**	**3.59**	**153**	P	**Pn**	**23 45 58.8**	**-0.2**
SWA1		**5.06**	**175**	P	**Pn**	**23 46 19.9**	**+0.8**
SWA1				S	**Sn**	**23 47 15.2**	**-1.1**
SWA2		**5.06**	**177**	P	**Pn**	**23 46 19.8**	**+0.6**
AWBH		**6.77**	**151**	P	**Pn**	**23 46 42.4**	**-0.2**

*IDC **17** 23:58:44.6±1.2, 3917N×7280E, h0km, mb3.5/7, mb1 3.6/10, mb1mx3.5/22, mbtmp3.4/10, ML3.1/3, Error ellipse: s-maj=22.5km s-min=18.3km az=177.0*
*MOS **17** 23:58:48.3±1.2, 3942N×7270E, h33km, mb3.8/1, Error ellipse: s-maj=24.4km s-min=14.1km az=93.0*
*NEIC **17** 23:58:50.4±0.8, 3939N×7274E, h35km, mb3.5/1, Error ellipse: s-maj=16.3km s-min=12.6km az=174.0*
*ISCJB **17** 23:58:53.9±2.5, 396N±02×728E±0.1, h83km±20km, mb3.3/8, Error ellipse: s-maj=31.6km s-min=14.6km az=20.2*

ISC 17 23:58:55.2±2.5, 396N±02×727E±01, h79km±20km, n24, σ1§00/24, mb3.3/8, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.64**	**16**	P	**Pn**	**23 59 36.0**	**+0.4**
	SNR=22						
UCH	**Uchtor**	**2.96**	**26**	P	**Pn**	**23 59 40.1**	**+0.2**
	SNR=23						
KZA	**Kyzart**	**3.13**	**37**	P	**Pn**	**23 59 42.2**	**0.0**
	SNR=18						
EKS2	**Erkin-Say**	**3.17**	**14**	P	**Pn**	**23 59 43.2**	**+0.5**
	SNR=16						
AAK	**Ala-Archa**	**3.32**	**23**	P	**Pn**	**23 59 45.7**	**+0.9**
	SNR=20						
KBK	**Karagaybulak**	**3.49**	**28**	P	**Pn**	**23 59 47.9**	**+0.8**
	SNR=13						
CHMS	**Chumysh**	**3.73**	**23**	P	**Pn**	**23 59 50.8**	**+0.5**
	SNR=13						
ULHL	**Ulahol**	**3.75**	**44**	P	**Pn**	**23 59 50.4**	**-0.3**
	SNR=7.5						
USP	**Ospenovka**	**3.90**	**19**	P	**Pn**	**23 59 53.1**	**+0.4**
	SNR=8.1						
TKM2	**Tokmak 2**	**3.96**	**32**	P	**Pn**	**23 59 53.9**	**+0.3**
	SNR=12						
MKAR	**Makanchi Array**	**10.02**	**41**	Pn	**Pn**	**00 01 14.7**	**-1.5**
	0.0nm,0.3s,baz=229,slow=11,SNR=10						
BVAR	**Borovoye Array**	**13.54**	**354**	Pn	**Pn**	**00 02 00.9**	**-2.8**
	0.2nm,0.3s,baz=155,slow=12,SNR=5.2						
AKTK	**Aktyubinsk**	**15.01**	**321**	Pn	**Pn**	**00 02 21.6**	**-1.2**
AKTO	**Aktyubinsk**	**15.01**	**321**	Pn	**Pn**	**00 02 21.6**	**-1.2**
	0.1nm,0.3s,baz=119,slow=14,SNR=4.6						
NVS	**Novosibirsk**	**16.81**	**21**	*e*P	**Pn**	**00 02 43.3**	**-2.2**
SONM	**Songino Array**	**25.52**	**60**	P	**P**	**00 04 16.6**	**+0.4**
	0.7nm,1.0s,mb3.0,baz=250,slow=9.4,SNR=5.0						
MALT	**Malatya**	**26.63**	**278**	P	**P**	**00 04 26.0**	**-0.3**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
MALT	**Malatya**	**26.63**	**278**	P	**P**	**00 04 26.0**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.4						
FINES	**FINESS Array B**	**35.76**	**323**	P	**P**	**00 05 46.8**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=111,slow=11,SNR=9.8						
ARCES	**ARCESS Array B**	**38.86**	**336**	P	**P**	**00 06 14.3**	**+1.6**
	comp=Z,1.1nm,0.9s,mb3.7,baz=113,slow=9.3,SNR=5.2						
GERES	**GERESS Array B**	**42.34**	**303**	P	**P**	**00 06 43.3**	**+1.9**
	comp=Z,0.3nm,0.4s,mb3.3,baz=72,slow=8.6,SNR=4.0						
NOA	**NORSAR Array B**	**42.80**	**321**	P	**P**	**00 06 45.4**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.1,baz=99,slow=8.9,SNR=2.3						
TORD	**Torodi Ar. Bea**	**67.17**	**268**	P	**P**	**00 09 40.7**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.3,baz=52,slow=5.2,SNR=6.7						
WRA	**Warramunga Arr**	**82.50**	**123**	P	**P**	**00 11 08.1**	**-0.9**
	comp=Z,0.1nm,0.3s,mb3.1,baz=303,slow=8.8,SNR=2.7						

*THE **18** 00:00:49.8, 3833N×2154E, h10km, ML2.5*
*NEIC **18** 00:00:51.2, 3850N×2150E, h20km, MD3.0(ATH), After ATH.*
*ATH **18** 00:00:51.2, 3849N×2147E, h17km±2km, MD3.0/6*
*CSEM **18** 00:00:51.3, 3850N×2150E, h20km, MD3.0/6, After ATH*
*ISCJB **18** 00:00:52.4±0.6, 3847N±004×2150E±004, h17km±8km, Error ellipse: s-maj=7.2km s-min=4.6km az=113.6*

ISC 18 00:00:51.9±0.6, 3846N±003×2153E±004, h8km±5km, n20, σ0§93/28, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.40**	**187**	*e*PB	**Pg**	**00 01 00.3**	**+0.6**
EVR	**Evrytania**	**0.51**	**26**	*e*PB	**Pg**	**00 01 01.0**	**-0.8**
EVR				*e*SB	**Sg**	**00 01 08.1**	**-0.4**
LKD	**Levkas**	**0.73**	**290**	*e*Pg	**Pg**	**00 01 04.7**	**-1.3**
LKD				*e*Sg	**Sg**	**00 01 16.5**	**+1.0**
VLS	**Valsamata**	**0.79**	**250**	*e*Pb	**Pg**	**00 01 05.9**	**-1.2**
VLS				*e*Sn	**Sg**	**00 01 18.5**	**+1.2**
AGG	**Agios Georgios**	**0.85**	**48**	*e*Pg	**Pg**	**00 01 07.3**	**-0.9**
AGG				*e*Sg	**Sg**	**00 01 20.5**	**+1.3**
LKR	**Lokris**	**1.17**	**80**	*e*PN	**Pn**	**00 01 14.0**	**-0.6**
JAN	**Janina**	**1.31**	**337**	*e*PN	**Pn**	**00 01 15.2**	**-1.3**
ITM	**Ithomi**	**1.31**	**166**	*e*PN	**Pn**	**00 01 17.3**	**+0.7**
IGT	**Igoumenitsa**	**1.42**	**320**	*e*Pg	**Pn**	**00 01 17.0**	**-1.1**
IGT				*e*Sg	**Sg**	**00 01 39.1**	**+1.4**
NEO	**Neokhori**	**1.57**	**57**	*e*PN	**Pn**	**00 01 20.0**	**-0.2**
NEO	**Neokhori**	**1.57**	**57**	*e*Pb	**Pn**	**00 01 18.7**	**-1.5**
XOR	**Xorichti**	**1.59**	**54**	*e*Pb	**Pn**	**00 01 19.8**	**-0.5**
XOR				*e*Sb	**Sb**	**00 01 42.1**	**+0.4**
LIT	**Litokhoron**	**1.81**	**24**	*e*Pb	**Pn**	**00 01 22.9**	**-0.4**
LIT				*e*Sb	**Sb**	**00 01 49.4**	**+1.4**
KEK	**Kerkira**	**1.84**	**314**	*e*PN	**Pn**	**00 01 23.5**	**-0.3**
VLI	**Veliai**	**2.06**	**147**	*e*PN	**Pn**	**00 01 28.0**	**+1.1**
PAIG	**Paliouri**	**2.23**	**48**	*e*Pn	**Pn**	**00 01 28.3**	**-0.9**
PAIG				*e*Sn	**Sn**	**00 01 58.5**	**+1.6**
FNA	**Florina**	**2.33**	**357**	*e*Pn	**Pn**	**00 01 31.0**	**+0.4**
GRG	**Griva**	**2.59**	**15**	*e*Pn	**Pn**	**00 01 34.4**	**+0.3**
SOH	**Sokhos**	**2.75**	**30**	*e*Pn	**Pn**	**00 01 36.0**	**-0.3**
KNT	**Kendrikon**	**2.90**	**21**	*e*Pn	**Pn**	**00 01 38.1**	**-0.3**

*ISCJB **18** 00:03:19.3±0.9, 4048N±006×1234E±0.1, h5km±7km, mb3.8/4, Error ellipse: s-maj=17.8km s-min=5.0km az=66.8*
*BJI **18** 00:03:25.0, 4063N×12277E, h16km, mB4.2, mb4.1, ML4.0, Ms3.8, Msz3.6*
*IDC **18** 00:03:25.8±3.7, 4126N×123.12E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/18, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=113.4km s-min=52.2km az=24.0*

ISC 18 00:03:22.7±0.8, 4060N±007×1230E±01, h6km±8km, n10, σ1§03/15, mb3.8/4, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**1.30**	**19**	⇑PG	**Pg**	**00 03 48.4**	**+0.8**
SNY				SG	**Sg**	**00 04 05.3**	**+0.9**
SNY				Smax			
	comp=N,2μm,0.3s						
SNY				Smax			
	comp=E,1μm,0.4s						
DL2	**Dalian**	**2.00**	**213**	P	**Pn**	**00 03 57.9**	**+0.8**
DL2				PG	**Pg**	**00 04 00.8**	**-0.3**
DL2				SG	**Sg**	**00 04 27.5**	**+0.5**
DL2				Smax			
	comp=N,1μm,0.5s						
DL2				Smax			
	comp=E,680nm,0.6s						
CN2	**Changchun**	**3.67**	**29**	*e*PG	**Pg**	**00 04 28.8**	**-4.3**
CN2				*e*SG	**Sg**	**00 05 20.3**	**-0.5**
CN2				Smax			
	comp=N,100nm,0.8s						
CN2				Smax			
	comp=E,100nm,0.8s						
MDJ	**Mudanjiang**	**6.30**	**48**	PG	**Pg**	**00 05 21.8**	**-1.6**
MDJ				SG	**Sg**	**00 06 45.3**	**+0.3**
MDJ				Smax			
	comp=N,150nm,0.8s						
MDJ				Smax			
	comp=E,130nm,0.9s						
SONM	**Songino Array**	**13.92**	**307**	Pn	**Pn**	**00 06 40.2**	**-0.4**
	comp=E,0.1nm,0.3s,baz=117,slow=13,SNR=3.7						
SONM				Lg		00 10 37.9	
	comp=E,0.1nm,0.3s,baz=112,slow=27,SNR=3.6						
LZH	**Lanzhou**	**15.69**	**259**	*e*P	**Pn**	**00 07 01.8**	**-2.6**
LZH				*e*PP		00 07 14.3	
LZH				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH				AMB	AMB		
	comp=Z,40nm,4.3s						
LZH				LR	LR		
	comp=N,270nm,8.5s						
LZH

FLWY	Flagg Ranch	1.84	154	ePn	Pn	00 06 04.1 -1.9
SLMT	Seeley Lake	1.90	323	eP	Pn	00 06 06.0 -0.8
IMW	Indian Meadow	1.95	161	⇓iPn	Pn	00 06 05.4 -2.1
IMW				eSn	Sn	00 06 30.0 -1.8
PCMT	Pistol Creek	2.13	315	eP	Pn	00 06 09.2 -0.7
MOOW	Moose Ponds	2.13	159	⇓iPn	Pn	00 06 08.1 -1.9
MOOW				eSn	Sn	00 06 36.5 +0.1
DCID1	Drake Creek	2.19	168	⇓ePn	Pn	00 06 09.1 -1.7
DCID1				eSn	Sn	00 06 37.6 -0.3
TPAW	Teton Pass	2.33	164	ePn	Pn	00 06 10.4 -2.3
TPAW				iPg	Pg	00 06 12.6 -6.6
TPAW				eSg	Sg	00 06 41.8 -7.7
TPAW				eSn	Sn	00 06 43.1 +1.7
FBMT	Ferry Basin	2.45	314	⇓eP	Pn	00 06 13.6 -0.8
REDW	Red Top Meadow	2.48	164	ePn	Pn	00 06 13.0 -1.7
REDW				eSg	Sg	00 06 47.3 -6.7
YBMT	Yellow Bay	2.61	325	eP	Pn	00 06 16.8 +0.3
MKMT	Mink Peak	2.66	302	eP	Pn	00 06 16.2 -1.0
EGMT	Eagleton	2.68	31	⇑iPn	Pn	00 06 18.2 +0.6
EGMT				eSn	Sn	00 06 50.4 +0.4
HLID	Hailey	2.86	221	ePn	Pn	00 06 17.3 -2.7
HLID				eSn	Sn	00 06 55.7 +1.3
BLMT	Blacktail Moun	2.87	323	eP	Pn	00 06 20.2 +0.1
BHMT	Big Hole Peak	2.89	311	eP	Pn	00 06 20.2 -0.1
BSMT	Bassoo Peak	2.94	317	ePn	Pn	00 06 21.3 +0.2
BSMT				eSn	Sn	00 06 56.0 -0.4
AHID	Auburn Hatcher	3.02	170	ePn	Pn	00 06 22.6 +0.4
AHID				eSn	Sn	00 06 58.5 +0.2
BW06	Boulder Array	3.39	151	ePn	Pn	00 06 27.5 +0.3
BW06				eSn	Sn	00 07 16.0 +8.7
PDAR	Pinedale Array	3.39	151	Pn	Pn	00 06 29.4 +2.2
	4.8nm,0.3s,baz=346,slow=13,SNR=109					
PDAR				Lg		00 07 15.7
	5.1nm,0.3s,baz=344,slow=25,SNR=7.6					
WALA	Waterton Lakes	3.61	337	ePn	Pn	00 06 32.0 +1.7
WALA				eSn	Sn	00 07 17.3 +4.4
LAO	LASA Array	3.99	74	ePn	Pn	00 06 38.0 +2.5
LAO				eSg	Sg	00 07 38.4 -4.4
HVU	Hansel Valley	4.02	190	ePn	Pn	00 06 35.4 -0.5
HWUT	Hardware Ranch	4.14	177	ePn	Pn	00 06 38.7 +1.1
NEW	Newport	4.42	307	Pn	Pn	00 06 40.5 -1.0
	5.9nm,0.3s,baz=136,slow=12,SNR=36					
NEW				Lg		00 07 50.2
	90nm,0.3s,baz=61,slow=21,SNR=16					
NEW	Newport	4.42	307	ePn	Pn	00 06 40.5 -1.0
SPUT	South Promonto	4.46	186	ePn	Pn	00 06 42.0 +0.1
TCUT	Toone Canyon	4.63	176	ePn	Pn	00 06 45.0 +0.7
TCUT				eSn	Sn	00 07 40.1 +2.0
M13A	Montello	4.70	202	⇑P	Pn	00 06 42.5 -2.8
	baz=4.5					
M12A	Wells	4.88	209	⇑P	Pn	00 06 45.7 -2.0
	baz=4.7					
BGU	Big Grassy Mou	4.89	191	ePn	Pn	00 06 45.5 -2.5
BGU				eSn	Sn	00 07 38.4 -6.1
CTU	Camp Tracy	5.05	179	ePn	Pn	00 06 51.2 +1.2
NOQ	North Oquirrh	5.09	183	ePn	Pn	00 06 51.7 +1.0
N13A	West Wendover	5.19	201	⇑P	Pn	00 06 50.6 -1.4
	baz=5.0					
M11A	Holland Ranch,	5.19	215	⇓P	Pn	00 06 51.3 -0.7
	baz=5.0					
RWWY	Rawlins	5.25	139	ePn	Pn	00 06 53.2 +0.4
	128nm,0.8s					
DAU	Daniels Canyon	5.34	175	ePn	Pn	00 06 55.7 +1.6
DAU				eSn	Sb	00 08 14.5 +2.6
HAWA	Hanford	5.41	280	ePn	Pn	00 06 53.4 -1.7
	26nm,0.7s					
N12A	Wells--Clov Va	5.42	207	⇑P	Pn	00 06 56.7 +1.5
	baz=5.3					
ELK	Elko	5.59	208	ePn	Pn	00 06 58.5 +1.0
DUG	Dugway	5.59	188	ePn	Pn	00 06 58.5 +1.0
L09A	Wilkinson Ranc	5.64	231	⇓P	Pn	00 06 56.0 -2.2
	baz=5.5					
N11A	Elko Archery C	5.69	212	⇑P	Pn	00 07 00.6 +1.6
	baz=5.5					
MPU	Maple Canyon	5.72	179	ePn	Pn	00 07 00.8 +1.4
RSSD	Black Hills	5.75	104	ePn	Pn	00 07 01.7 +1.9
	11nm,0.6s					
NLU	North Lily Min	5.79	182	ePn	Pn	00 07 00.6 +0.3
WVOR	Wild Horse Val	5.92	238	ePn	Pn	00 07 01.2 -0.9
	163nm,1.0s					
M09A	Marrel Ranch,	5.95	225	⇓P	Pn	00 07 00.4 -2.1
	baz=5.8					
K07A	Rock Creek Ran	6.16	243	⇓P	Pn	00 07 03.8 -1.5
	baz=6.0					
I06A	Prineville	6.24	256	⇑P	Pn	00 07 04.8 -1.6
	baz=6.1					
O11A	Cowboy Ranch,	6.28	208	⇓P	Pn	00 07 08.1 +1.1
	baz=6.1					
PNT	Penticton	6.38	307	eP	Pn	00 07 09.1 +0.7
PHWY	Pilot Hill	6.40	132	ePn	Pn	00 07 07.8 -0.9
PHWY				ePg	Pg	00 07 29.1 -8.0
PHWY				eSg	Sg	00 08 51.7 -8.4
M08A	Happy Creek Ra	6.41	230	⇑P	Pn	00 07 07.7 -1.2
	baz=6.3					
TMUT	Trail Mountain	6.46	176	ePn	Pn	00 07 10.4 +0.9
TMUT				ePg	Pg	00 07 36.1 -2.1
TMUT				eSg	Sg	00 09 01.0 -0.7
J06A	Christmas Vall	6.46	250	⇑P	Pn	00 07 08.3 -1.2
	baz=6.3					
BMN	Battle Mountai	6.62	219	ePn	Pn	00 07 12.8 +1.1
SRU	San Rafael	6.69	171	ePn	Pn	00 07 13.3 +0.6
G05A	Wamic	6.70	269	⇓P	Pn	00 07 11.3 -1.6
	baz=6.6					
K06A	Valley Falls	6.73	247	⇓P	Pn	00 07 12.1 -1.2
	baz=6.6					
H05A	Madras	6.75	264	⇓P	Pn	00 07 14.4 +1.0
	baz=6.6					
F05A	White Salmon	6.75	275	⇓P	Pn	00 07 13.4 0.0
	baz=6.7					
N08A	GE Springer Mi	6.77	225	⇓P	Pn	00 07 12.5 -1.2
	baz=6.6					
O09A	Fish Creek Ran	6.82	217	⇑P	Pn	00 07 13.1 -1.4
	baz=6.7					
M07A	Soldier Meadow	6.89	233	⇑P	Pn	00 07 13.9 -1.5
	baz=6.7					
HOOD	Mount Hood Mea	6.93	270	ePb	Pb	00 07 40.8 +6.0
E05A	Randle	6.96	280	⇑P	Pn	00 07 14.9 -1.4
	baz=6.9					
LON	Longmire	7.01	282	ePn	Pn	00 07 15.8 -1.2
C05A	Tolt Reservoir	7.07	290	⇑P	Pn	00 07 18.4 +0.6
	baz=7.0					
D05A	Enumclaw	7.18	285	⇑P	Pn	00 07 19.3 -0.1
	baz=7.1					
MSU	Marysvale	7.23	182	ePn	Pn	00 07 21.4 +1.4
MVU	Marysvale	7.24	183	ePb	Pb	00 07 34.9 -5.3
MOD	Modoc	7.24	241	ePn	Pn	00 07 20.4 +0.2
H04A	Detroit Lake	7.41	265	⇑P	Pn	00 07 22.7 +0.2
	baz=7.3					
SMCO	Snowmass	7.47	150	ePn	Pn	00 07 23.7 +0.4
B05A	Bryant	7.47	293	⇑P	Pn	00 07 23.7 +0.3
	baz=7.4					
ISCO	Idaho Springs	7.48	140	ePn	Pn	00 07 24.3 +0.7
EDM	Edmonton	7.55	353	ePn	Pn	00 07 23.4 -1.1
EDM				ePg	Pn	00 07 56.9 +32
EDM				eSg	Sn	00 09 32.4 +42
PV10	Paradox Valley	7.64	163	ePn	Pn	00 07 25.2 -0.5
M06C	Likely Place G	7.77	237	⇑P	Pn	00 07 28.0 +0.6
	baz=7.6					
GNW	Green Mountain	7.80	287	ePn	Pn	00 07 27.8 0.0
PV01	Paradox Valley	7.97	161	ePn	Pn	00 07 29.3 -1.0
ARUT	Antelope Range	8.04	189	ePn	Pn	00 07 32.8 +1.6
M05C	Lookout	8.07	240	⇓P	Pn	00 07 31.7 +0.1
	baz=7.9					
O06A	Flanigan	8.10	229	⇑P	Pn	00 07 34.8 +2.8
	baz=7.9					
H03A	Soap Creek Ran	8.18	267	⇑P	Pn	00 07 32.6 -0.4
	baz=8.1					
E03A	Lebam	8.20	280	⇑P	Pn	00 07 37.0 +3.6
	baz=8.1					
F03A	Seaside	8.21	276	⇓P	Pn	00 07 36.1 +2.7
	baz=8.1					
PAHR	Pah Rah Range	8.21	225	Pn	Pn	00 07 35.8 +2.3
Q08A	Gabbs	8.23	216	⇓P	Pn	00 07 36.0 +2.1
	baz=8.1					
CCUT	Cedar City	8.27	189	ePn	Pn	00 07 34.0 -0.2
CCUT				eSn	Sn	00 09 01.1 -6.4
M04C	Macdoel	8.27	245	⇑P	Pn	00 07 34.9 +0.6
	baz=8.1					
J03A	Ideyld Park	8.31	257	⇑P	Pn	00 07 39.3 +4.4
	baz=8.2					
HATC	Hat Creek Radi	8.59	238	⇓P	Pn	00 07 39.5 +0.8
	baz=8.4					
HUMO	Hull Mountain	8.60	253	ePn	Pn	00 07 39.0 +0.1
HUMO	Hull Mountain	8.60	253	⇑P	Pn	00 07 38.6 -0.3
	baz=8.5					
TPH	Tonopah	8.65	210	ePn	Pn	00 07 40.3 +0.7
H02A	Toledo	8.67	267	⇓P	Pn	00 07 45.7 +5.8
	baz=8.6					
MNV	Mina	8.69	215	ePn	Pn	00 07 41.7 +1.6
J02A	Umpqua	8.73	258	⇑P	Pn	00 07 44.1 +3.6
	baz=8.6					
O05C	Quincy	8.84	232	⇓P	Pn	00 07 45.5 +3.4
	baz=8.7					
YBH	Yreka Blue Hor	8.85	247	Pn	Pn	00 07 41.7 -0.6
	0.1nm,0.3s,baz=54,slow=7.7,SNR=7.3					
YBH				LR	LR	00 10 53.2
	comp=Z,122nm,19.4s,baz=68,slow=37					
YBH	Yreka Blue Hor	8.85	247	⇑P	Pn	00 07 42.5 +0.3
	baz=8.7					
MVCO	Mesa Verde	8.88	163	ePn	Pn	00 07 41.6 -1.0
K02A	Glendale	8.89	255	⇓P	Pn	00 07 45.8 +3.0
	baz=8.8					
S09A	Goldfield	8.97	209	⇑P	Pn	00 07 46.2 +2.3
	baz=8.8					
L02A	Cave Junction	9.23	251	⇓P	Pn	00 07 50.0 +2.6
	baz=9.1					
TPNV	Topopah Spring	9.39	202	Pn	Pn	00 07 47.1 -2.7
S08C	White Mtn Res	9.51	212	⇑P	Pn	00 07 53.4 +2.1
	baz=9.4					
SHPR	Sheep Range	9.57	196	ePn	Pn	00 07 53.8 +1.7
OHCM	Honcut	9.58	232	ePn	Pn	00 07 54.4 +2.0
N02C	Big Bar	9.72	244	⇓P	Pn	00 07 58.5 +4.3
	baz=9.6					
SUTB	Sutter Buttes	9.83	232	⇓P	Pn	00 07 58.2 +2.6
	baz=9.7					
CMB	Columbia Colle	10.00	223	ePn	Pn	00 07 55.3 -2.7
	9.2nm,1.0s					
CMB	Columbia Colle	10.00	223	⇓P	Pn	00 08 00.6 +2.5
	baz=9.8					
ANMO	Albuquerque	11.52	157	Pn	Pn	00 08 18.6 -0.3
	0.1nm,0.3s,baz=333,slow=6.3,SNR=3.4					
ULM	Lac du Bonnet	11.59	61	Pn	Pn	00 08 17.2 -2.5
	0.8nm,0.3s,baz=262,slow=12,SNR=11					
ULM				LR	LR	00 13 14.9
	comp=Z,135nm,20.9s,baz=162,slow=39					
GLA	Glamis	12.88	191	ePn	Pn	00 08 39.4 +1.9
TUC	Tucson	13.44	176	ePn	Pn	00 08 48.6 +3.6
EYMN	Ely	14.08	74	ePn	Pn	00 08 48.5 -5.3
	12nm,0.9s					
EYMN				eSn	Sn	00 11 20.0 -10
GDL2	Guadalupe Moun	14.70	154	ePn	Pn	00 09 10.6 +8.4
MNTX	Cornudas Mount	14.88	158	Pn	Pn	00 09 04.8 0.0
	18nm,1.1s					
DLBC	Dease Lake	16.86	325	Pn	Pn	00 09 36.0 +5.6
	0.2nm,0.3s,baz=141,slow=18,SNR=3.1					
DLBC	Dease Lake	16.86	325	Pn	Pn	00 09 36.0 +5.6
YKA	Yellowknife Ar	16.86	356	Pn	Pn	00 09 26.8 -3.6
	baz=177,slow=13,SNR=23					
YKW3	Yellowknife Ar	16.93	356	ePn	Pn	00 09 30.1 -1.2
YKW3				eSn	Sn	00 12 41.3 +2.0
CCM	Cathedral Cave	17.10	109	ePn	Pn	00 09 29.9 -3.5
FVM	French Village	17.68	108	ePn	Pn	00 09 35.0 -5.6
	7.4nm,0.9s					
JCT	Junction City	17.90	144	ePn	Pn	00 09 42.2 -1.1
	28nm,1.2s					
BLO	Bloomington	19.73	100	ePn	Pn	00 10 05.0 -0.6
WVT	Waverly	20.44	110	eP	P	00 10 10.2 -1.6
	5.8nm,0.8s					
PLAL	Pickwick Lake	20.96	112	eP	P	00 10 17.2 -0.2
	6.1nm,0.3s					
ACSO	Alum Creek Sta	21.73	94	eP	P	00 10 24.5 -1.2
	15nm,1.0s,mb4.4					
SADO	Sadowa	22.94	81	P	P	00 10 40.2 +1.7
	12nm,1.1s,mb4.2,baz=298,slow=11,SNR=5.0					
SADO				LR	LR	00 19 18.0
	comp=Z,54nm,18.5s,MS3.0,baz=296,slow=36					
SSPA	Standing Stone	25.13	90	eP	P	00 10 58.6 -0.8
	7.5nm,1.0s,mb4.2					
SCHQ	Schefferville	29.68	56	P	P	00 11 39.1 -1.0
	2.5nm,0.7s,mb4.0,baz=274,slow=7.7,SNR=7.6					
SCHQ				LR	LR	00 23 41.7
	comp=Z,106nm,20.0s,MS3.5,baz=209,slow=36					
ARCES	ARCESS Array B	60.84	16	P	P	00 15 46.6 -0.1
	2.7nm,0.8s,mb4.5,baz=343,slow=3.8,SNR=7.1					
NB2	NORSAR Subarra	64.03	27	P	P	00 16 07.2 -0.9
	comp=Z,2.0nm,0.7s,mb4.3,baz=313,slow=6.9					
NOA	NORSAR Array B	64.03	27	P	P	00 16 09.7 +1.6
	comp=Z,1.7nm,0.7s,mb4.2,baz=313,slow=6.7,SNR=7.3					
HFS	Hagfors	65.52	27	P	P	00 16 18.1 +0.3
	comp=Z,2.6nm,0.8s,mb4.3,baz=345,slow=5.1,SNR=6.8					
KAF	Kangasniemi	67.36	20	ep	P	00 16 30.7 +1.1
	comp=Z,1.5nm,0.8s,mb4.1,baz=327,slow=6.7					
ROSF	Rorenen	67.47	43	eP	P	00 16 31.8 +1.5
JOF	Joensuu	67.77	17	ep	P	00 16 31.3 -0.9
QUIF	Quistinic	67.82	43	eP	P	00 16 33.8 +1.3
	comp=Z,73nm,1.8s,mb5.1					
SGMF	Saint Gilles	67.87	43	eP	P	00 16 34.3 +1.5
FINES	FINESS Array B	67.89	20	P	P	00 16 31.8 -1.2
	comp=Z,1.2nm,0.6s,mb4.1,baz=331,slow=4.3,SNR=13					
FLN	La Foliniere	68.49	41	eP	P	00 16 37.9 +1.2
GRR	Gorron	68.58	42	eP	P	00 16 38.5 +1.2
LDF	La Druitiere	68.78	41	eP	P	00 16 39.8 +1.3
	comp=Z,18nm,1.3s,mb4.6					
BAIF	Baives	69.65	38	eP	P	00 16 44.6 +0.7
	comp=Z,1.8nm,0.6s,mb3.9					
SSF	Saint Saulge	71.57	41	eP	P	00 16 56.8 +1.2
LOR	Lormes	71.57	40	eP	P	00 16 57.0 +1.4
	comp=Z,6.3nm,0.9s,mb4.3					
LOR				eR		
	comp=Z,43nm,22.0s					
LOR	Lormes	71.57	40	eP	P	00 16 57.0 +1.4
	comp=Z,3.2nm,0.9s,mb4.2					
LOR				LR	LR	
	comp=Z,40nm,22.0s,MS3.6					
BGF	Bois d'Agland	71.64	41	eP	P	00 16 56.8 +0.8
	comp=Z,5.2nm,0.7s,mb4.2					
BGF	Bois d'Agland	71.64	41	eP	P	00 16 56.8 +0.8
	comp=Z,2.6nm,0.7s,mb4.3					
AVF	Avril sur Loir	71.70	41	eP	P	00 16 58.0 +1.6
	comp=Z,5.8nm,1.0s,mb4.2					
AVF	Avril sur Loir	71.70	41	eP	P	00 16 58.0 +1.6
	comp=Z,2.9nm,1.0s,mb4.2					
EVO	Evora	71.83	53	eP	P	00 16 53.0 -4.2
	comp=Z,99nm,1.9s,mb5.1					
LFF	La Frestale	71.83	44	eP	P	00 16 58.2 +1.0
RJF	Les Rejaudoux	71.94	43	eP	P	00 16 58.8 +1.0
	comp=Z,11nm,1.2s,mb4.4					
RJF				eR		
	comp=Z,52nm,17.8s					
SMF	Signal de Mont	72.03	41	eP	P	00 16 59.6 +1.2
SJPF	Ste Jean	72.19	46	eP	P	00 17 00.3 +0.9
	comp=Z,14nm,1.2s,mb4.5					
CDF	Champ du Feu	72.21	38	eP	P	00 17 00.0 +0.5
	comp=Z,2.2nm,0.6s,mb4.0					
CAF	Calviac	72.48	43	eP	P	00 17 02.3 +1.2
	comp=Z,4.3nm,0.8s,mb4.1					
ETSF	Etsaut	72.69	46	eP	P	00 17 03.8 +1.5
EPF	Esparros	73.04	45	eP	P	00 17 05.6 +1.2
CABF	La Chapelle	73.07	40	eP	P	00 17 05.8 +1.2
	comp=Z,7.1nm,0.9s,mb4.3					
CABF	La Chapelle	73.07	40	eP	P	00 17 05.8 +1.2
	comp=Z,3.5nm,0.9s,mb4.3					
ESDC	Sonseca Array	73.25	50	P	P	00 17 05.5 -0.1
	comp=Z,1.0nm,0.8s,mb3.8,baz=312,slow=6.9,SNR=7.1					
LPAZ	La Paz	73.30	136	P	P	00 17 05.7 -0.2
	comp=Z,0.4nm,0.7s,mb3.5,baz=74,slow=7.4,SNR=3.2					
LPL	La Plagne	74.20	40	eP	P	00 17 12.7 +1.5
LPG	La Plagne	74.22	40	eP	P	00 17 12.8 +1.5
ORIF	Oris-en-Rattie	74.27	41	eP	P	00 17 13.0 +1.4
ORIF				eR		
	comp=Z,30nm,19.8s					
GERES	GERESS Array B	74.50	34	P	P	00 17 12.7 -0.2
	comp=Z,0.3nm,0.7s,mb3.3,baz=316,slow=5.6,SNR=4.9					
GERES				LR	LR	00 50 25.3
	comp=Z,39nm,19.8s,MS3.7,baz=219,slow=36					
MDJ	Mudanjiang	74.92	320	P	P	00 17 11.8 -3.6
MDJ				AMB	AMB	
	comp=Z,20nm,4.8s					
FRF	La Foret Royal	75.67	41	eP	P	00 17 20.8 +1.1
LMR	La Mourre	75.78	42	eP	P	00 17 21.3 +1.0
	comp=Z,51nm,1.2s,mb5.0					
SBF	Sospel	75.79	41	eP	P	00 17 21.1 +0.7
	comp=Z,25nm,0.8s,mb4.9					
MJAR	Matsushiro Arr	76.68	309	P	P	00 17 24.4 -1.1
	comp=Z,1.4nm,0.7s,mb4.0,baz=44,slow=5.3,SNR=7.1					
CN2	Changchun	77.40	321	eP	P	00 17 27.1 -2.4
PGF	Pioggiola	77.53	41	eP	P	00 17 31.1 +0.9
AKASG	Malin Array Be	78.19	24	P	P	00 17 34.2 +0.3
	comp=Z,0.4nm,0.4s,mb3.7,baz=321,slow=5.8,SNR=4.6					
SONM	Songino Array	80.98	335	P	P	00 17 49.1 0.0
	comp=Z,1.2nm,0.9s,mb3.8,baz=28,slow=5.5,SNR=6.1					
BVAR	Borovoye Array	81.59	359	P	P	00 17 51.3 -1.0
	comp=Z,1.2nm,0.6s,mb4.0,baz=246,slow=40,SNR=8.5					
ZRNK	Zerenda	81.68	360	eP	P	00 17 51.5 -1.3
	comp=Z,3.0nm,0.9s,mb4.2					
HHC	Hu-ho-hao-te	85.47	328	eP	P	00 18 10.8 -1.5
HHC				AP	pP	00 18 15.6 -0.5
HHC				XP	sP	00 18 18.0 +0.5
HHC				PP	PP	00 21 28.9 -1.6
HHC				SKS		00 28 31.3
HHC				S		00 28 38.3
HHC				AMB	AMB	
	comp=Z,90nm,4.8s					
HHC				LR	LR	
	comp=N,100nm,16.7s,MS4.4					
HHC				LR	LR	
	comp=E,80nm,19.0s,MS4.4					
HHC				LR	LR	
	comp=Z,40nm,16.6s,MS3.9					
MKAR	Makanchi Array	87.02	350	P	P	00 18 17.6 -2.3
	comp=Z,1.1nm,0.9s,mb4.1,baz=17,slow=4.5,SNR=5.4					
WMQ	Urumqi	89.16	346	eP	P	00 18 28.8 -1.3
NJ2	Nanjing	90.00	319	eP	P	00 18 33.9 -0.1
NJ2				AP	pP	00 18 37.3 -0.5
NJ2				XP	sP	00 18 40.9 +1.7
NJ2				SKS		00 29 01.0
NJ2				S		00 29 25.0
NJ2				XS	sS	00 29 34.0 +0.9
NJ2				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb5.2					
NJ2				AMB	AMB	
	comp=Z,200nm,8.2s					
NJ2				LR	LR	
	comp=Z,500nm,31.4s,MS4.8					
LZH	Lanzhou	92.42	332	eP	P	00 18 42.5 -2.8
LZH				ePP	PP	00 22 25.6 -0.5
LZH				AMB	AMB	
	comp=Z,10.0nm,1.5s,mb4.9					
LZH				AMB	AMB	
	comp=Z,40nm,9.6s					
LZH				LR	LR	
	comp=E,120nm,18.5s					
LZH				LR	LR	
	comp=Z,180nm,19.7s,MS4.5					
CD2	Chengdu	97.17	330	eP	P	00 19 03.1 -3.8
WRA	Warramunga Arr	120.56	272	PKP	PKPdf	00 24 24.3 -1.9
	comp=Z,1.1nm,0.7s,baz=43,slow=2.0,SNR=4.6					
ASAR	Alice Springs	123.30	269	PKP	PKPdf	00 24 29.8 -1.7
	comp=Z,0.6nm,0.8s,baz=69,slow=3.0,SNR=4.4					

ATH ***18*** *00:08:19.8, 34.18N×2505E, h9km±1km, MD3.6/5*
NEIC ***18*** *00:08:20.0, 34.19N×2504E, h7km, MD3.6(ATH), After ATH.*
ISCJB ***18*** *00:08:23.2±0.4, 3426N±003×2522E±005, h52km±8km, mb3.5/4, Error ellipse: s-maj=7.4km s-min=5.2km az=158.9*
IDC ***18*** *00:08:23.6±5.7, 34.35N×25.14E, h31km±46km, mb3.5/4, mb1 3.3/8, mb1mx3.2/22, mbtmp3.4/8, ML3.7/3, Error ellipse: s-maj=23.7km s-min=20.5km az=83.0*
CSEM ***18*** *00:08:23.3±0.1, 3427N×2529E, h40km, MD3.6, Error ellipse: s-maj=3.4km s-min=1.8km az=80.0*
HLW ***18*** *00:08:25.0, 3429N×25.17E, h33km, Mb3.4*

ISC 18 00:08:24.4±0.4, 3427N±003×2520E±005, h43km±9km, n29, σ1°28/38, mb3.5/4, 3C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IDI	Anoyia	1.05	346	Pn	Pn	Pn	00 08 40.7	-1.9
	19nm,0.3s,baz=180,slow=16,SNR=147							
IDI					Sn	Sn	00 08 54.8	-1.3
	93nm,0.3s,baz=93,slow=18,SNR=23							
NPS	Neapolis	1.05	19	ePB	Pn	Pn	00 08 41.6	-1.0
NPS				eSB	Sn	Sn	00 08 57.4	+1.3
GVD	Gavdhos	1.08	302	⇓ePn	Pn	Pn	00 08 40.9	-2.1
GVD				eSn	Sn	Sn	00 08 57.1	+0.2
GVD	Gavdhos	1.08	302	⇓ePn	Pn	Pn	00 08 40.9	-2.2
GVD				eSn	Sn	Sn	00 08 57.1	+0.3
VAM	Vamos	1.40	324	ePB	Pn	Pn	00 08 46.3	-1.2
VAM				eSB	Sn	Sn	00 09 06.0	+1.2
KARP	Karpathos	2.06	51	ePN	Pn	Pn	00 08 59.0	+2.5
KARP	Karpathos	2.06	51	ePg	Pn	Pn	00 09 00.8	+4.3
SLUM		2.77	180	⇓P	Pn	Pn	00 09 06.9	+0.7
SLUM				S	Sn	Sn	00 09 38.8	+0.4
APE	Apeiranthos	2.81	5	ePB	Pn	Pn	00 09 08.6	+1.8
VLI	Veliai	3.06	324	ePN	Pn	Pn	00 09 10.8	+0.5
ARG	Arkhangelos	3.09	50	ePN	Pn	Pn	00 09 13.5	+2.9
DAT	Datca	3.13	38	ePN	Pn	Pn	00 09 09.7	-1.5
HMAT	Matruh	3.55	153	⇑P	Pn	Pn	00 09 17.2	+0.3
DALT	Dalyan (Mudla)	3.75	47	ePN	Pn	Pn	00 09 20.0	+0.3
YER	Yerkesik	3.81	40	ePN	Pn	Pn	00 09 22.0	+1.5
FETY	Fethiye	3.96	52	ePN	Pn	Pn	00 09 22.8	+0.3
ELL	Elmali	4.57	56	ePN	Pn	Pn	00 09 30.8	-0.1
SWA1		5.01	175	⇓P	Pn	Pn	00 09 37.7	+0.7
SWA1				S	Sn	Sn	00 10 31.1	-2.5
SWA1		5.01	175	P	Pn	Pn	00 09 37.7	+0.7
SWA1				S	Sn	Sn	00 10 31.0	-2.6
SWA2		5.01	177	⇑P	Pn	Pn	00 09 37.3	+0.3
HBRG	Burj al 'Arab	5.38	132	⇑P	Pn	Pn	00 09 42.9	+0.8
MMAI	Mount Meron Ar	8.60	96	Pn	Pn	Pn	00 10 25.

*THE **18** 00:25:47.0, 37.74N×2138E, h10km, ML2.8*
ISC 18 00:25:45.9±1.0, **3768N**±004×**2134E**±006, **h3**km±6km, **n20**, σ0°92/25, **1D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.40**	**15**	⇓*i*PB	**Pg**	**00 25 53.2**	**-0.3**
RLS				*e*SB	**Sg**	**00 25 59.2**	**+0.6**
ITM	**Ithomi**	**0.68**	**137**	*e*PN	**Pg**	**00 25 58.8**	**-0.1**
VLS	**Valsamata**	**0.78**	**310**	*e*PN	**Pg**	**00 26 00.7**	**-0.1**
LKD	**Levkas**	**1.17**	**332**	*e*Pg	**Pg**	**00 26 07.2**	**-1.0**
LKD				*e*Sg	**Sg**	**00 26 25.2**	**+1.9**
EVR	**Evrytania**	**1.29**	**16**	*e*PN	**Pn**	**00 26 09.3**	**-1.5**
AGG	**Agios Georgios**	**1.55**	**30**	*e*Pg	**Pg**	**00 26 14.6**	**-1.1**
AGG				*e*Sg	**Sg**	**00 26 36.2**	**+0.4**
VLI	**Veliai**	**1.59**	**126**	*e*PN	**Pn**	**00 26 15.1**	**+0.2**
LKR	**Lokris**	**1.63**	**53**	*e*PN	**Pn**	**00 26 14.9**	**-0.5**
ATH	**Athens Observa**	**1.90**	**80**	*e*PN	**Pn**	**00 26 19.2**	**0.0**
IGT	**Igoumenitsa**	**2.02**	**337**	*e*Pb	**Pn**	**00 26 20.3**	**-0.4**
IGT				*e*Sb	**Sb**	**00 26 47.5**	**-1.1**
XOR	**Xorichti**	**2.23**	**40**	*e*Pn	**Pn**	**00 26 23.4**	**-0.2**
KEK	**Kerkira**	**2.37**	**330**	*e*Pn	**Pn**	**00 26 21.4**	**-4.2**
AOS	**Alonnisos**	**2.49**	**52**	*e*Pn	**Pn**	**00 26 26.4**	**-0.9**
LIT	**Litokhoron**	**2.58**	**20**	*e*Pn	**Pn**	**00 26 29.6**	**+1.0**
LIT				*e*Sn	**Sn**	**00 27 01.0**	**+0.6**
PAIG	**Paliouri**	**2.90**	**38**	*e*Pn	**Pn**	**00 26 32.1**	**-0.7**
KARN	**Karanos**	**3.07**	**137**	*e*Pn	**Pn**	**00 26 38.1**	**+2.9**
FNA	**Florina**	**3.10**	**0**	*e*Pn	**Pn**	**00 26 37.2**	**+1.5**
GRG	**Griva**	**3.38**	**14**	*e*Pn	**Pn**	**00 26 39.3**	**-0.1**
KNT	**Kendrikon**	**3.69**	**19**	*e*Pn	**Pn**	**00 26 44.5**	**+0.8**
CHOS	**Chios island**	**3.79**	**78**	*e*Pn	**Pn**	**00 26 45.2**	**0.0**

*THE **18** 00:30:05.4, 38.32N×2157E, h10km*
*ISCJB **18** 00:30:06.9±0.8, 38.44N×005×2155E±004, h9km±7km, Error ellipse: s-maj=8.4km s-min=4.7km az=134.1*
*NEIC **18** 00:30:06.8, 38.51N×2147E, h19km, MD2.7(ATH), After ATH.*
*ATH **18** 00:30:06.8, 38.51N×2147E, h19km±2km, MD2.7/4*
*CSEM **18** 00:30:06.8, 38.51N×2147E, h19km, MD2.7/4, After ATH*
ISC 18 00:30:07.2±0.7, **3842N**±005×**2156E**±004, **h10**km±7km, **n12**, σ0°93/18, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.37**	**192**	*e*PB	**Pg**	**00 30 15.9**	**+1.4**
EVR	**Evrytania**	**0.53**	**21**	*e*PB	**Pg**	**00 30 16.5**	**-1.0**
EVR				*e*SB	**Sg**	**00 30 23.6**	**-0.9**
LKD	**Levkas**	**0.77**	**292**	*e*Pg	**Pg**	**00 30 20.6**	**-1.4**
LKD				*e*Sg	**Sg**	**00 30 32.9**	**+0.8**
VLS	**Valsamata**	**0.80**	**253**	*e*PN	**Pg**	**00 30 21.8**	**-0.9**
VLS				*e*SN	**Sg**	**00 30 33.0**	**-0.1**
AGG	**Agios Georgios**	**0.85**	**45**	*e*Pg	**Pg**	**00 30 22.9**	**-0.6**
AGG				*e*Sg	**Sg**	**00 30 36.0**	**+1.5**
LKR	**Lokris**	**1.15**	**78**	*e*PN	**Pn**	**00 30 29.7**	**+0.4**
IGT	**Igoumenitsa**	**1.47**	**320**	*e*Pg	**Pn**	**00 30 33.0**	**-0.6**
IGT				*e*Sg	**Sg**	**00 30 55.8**	**+1.4**
XOR	**Xorichti**	**1.58**	**53**	*e*Pb	**Pb**	**00 30 36.0**	**-0.5**
XOR				*e*Sb	**Sb**	**00 30 57.3**	**+0.7**
LIT	**Litokhoron**	**1.82**	**23**	*e*Pb	**Pn**	**00 30 38.3**	**-0.3**
PAIG	**Paliouri**	**2.23**	**47**	*e*Pn	**Pn**	**00 30 43.0**	**-1.1**
FNA	**Florina**	**2.36**	**357**	*e*Pn	**Pn**	**00 30 47.1**	**+1.1**
KNT	**Kendrikon**	**2.92**	**20**	*e*Pn	**Pn**	**00 30 54.0**	**+0.2**

*ISCJB **18** 00:59:43.3±0.7, 2498S×007×17983E±008, h495km±9km, mb4.4/21, Error ellipse: s-maj=11.6km s-min=10.3km az=135.4*
*MOS **18** 00:59:43.7±1.3, 2498S×17986E, h499km, mb5.1/4, Error ellipse: s-maj=16.7km s-min=13.5km az=170.2*
*IDC **18** 00:59:43.8±0.9, 2504S×17979E, h480km±9km, mb4.0/8, mb1 3.9/13, mb1mx3.9/17, mbtmp4.8/13, Error ellipse: s-maj=13.5km s-min=10.9km az=14.0*
*NEIC **18** 00:59:44.5±0.8, 2496S×17988E, h498km±9km, mb4.6/18, Error ellipse: s-maj=10.9km s-min=9.4km az=178.0*
ISC 18 00:59:44.3±0.7, **2505S**±007×**17989E**±008, **h493**km±9km, **n63**, σ0°87/54, **mb4.4**/21, **1C-7D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.62**	**155**	P	**P**	**01 01 08.3**	**+0.9**
112nm,0.3s,baz=72,slow=19,SNR=3.6							
RAO				S	**S**	**01 02 14.0**	**-1.1**
77nm,0.3s,baz=270,slow=20,SNR=2.6							
RAO	**Raoul Island**	**4.62**	**155**	P	**P**	**01 01 08.3**	**+0.9**
RAO				S	**S**	**01 02 14.0**	**-1.1**
DZM	**Mont Dzumac**	**12.68**	**281**	P	**P**	**01 02 30.4**	**+0.4**
1.5nm,0.3s,baz=85,slow=14,SNR=8.2							
URZ	**Urewera**	**13.38**	**189**	P	**P**	**01 02 37.5**	**+0.1**
1.4nm,0.3s,baz=278,slow=6.6,SNR=6.4							
URZ				S	**S**	**01 04 59.5**	**-0.7**
2.3nm,0.3s,baz=211,slow=20,SNR=8.0							
AFI	**Afiamalu**	**13.58**	**37**	P	**P**	**01 02 39.3**	**-0.2**
3.3nm,0.3s,baz=67,slow=17,SNR=3.8							
AFI	**Afiamalu**	**13.58**	**37**	*e*P	**P**	**01 02 39.4**	**-0.1**
AFI				pmax	pmax		
comp=Z,48nm,1.0s							
AFI	**Afiamalu**	**13.58**	**37**	*e*P	**P**	**01 02 39.4**	**-0.2**
comp=Z,48nm,1.0s							
RAR	**Rarotonga**	**19.09**	**83**	P	**P**	**01 03 35.1**	**+0.3**
comp=Z,1.6nm,0.3s,baz=74,slow=14,SNR=3.2							
HNR	**Honiara**	**24.52**	**306**	P	**P**	**01 04 23.5**	**-0.3**
comp=Z,166nm,0.9s,mb5.5,baz=73,slow=3.1,SNR=4.3							
HNR	**Honiara**	**24.52**	**306**	*e*P	**P**	**01 04 23.5**	**-0.3**
HNR				pmax	pmax		
comp=Z,102nm,0.7s,mb5.4							
HNR	**Honiara**	**24.52**	**306**	*e*P	**P**	**01 04 23.5**	**-0.4**
comp=Z,102nm,0.7s,mb5.4							
ARMA	**Armidale**	**25.55**	**252**	*e*P	**P**	**01 04 35.3**	**+2.4**
CTA	**Charters Tower**	**31.40**	**272**	⇓*i*P	**P**	**01 05 25.4**	**+1.4**
comp=Z,43nm,0.5s,mb5.1							
CTA	**Charters Tower**	**31.40**	**272**	⇓*i*P	**P**	**01 05 25.4**	**+1.4**
CTA				pmax	pmax		
comp=Z,43nm,0.5s							
CTAO	**Charters Tower**	**31.40**	**272**	⇓*i*P	**P**	**01 05 25.4**	**+1.4**
CTAO				pmax	pmax		
comp=Z,51nm,0.8s,mb5.0							
CTAO	**Charters Tower**	**31.40**	**272**	⇓*i*P	**P**	**01 05 25.4**	**+1.4**
comp=Z,51nm,0.8s,mb5.0							
TOO	**Toolangi**	**31.75**	**239**	*e*P	**P**	**01 05 27.9**	**+0.9**
comp=Z,4.4nm,0.5s,mb4.1							
TOO	**Toolangi**	**31.75**	**239**	*e*P	**P**	**01 05 27.9**	**+0.9**
TOO				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.1							
STKA	**Stephens Creek**	**34.22**	**250**	*e*P	**P**	**01 05 46.7**	**-1.2**
comp=Z,4.9nm,0.4s,mb4.3							
STKA	**Stephens Creek**	**34.22**	**250**	P	**P**	**01 05 47.0**	**-1.0**
comp=Z,4.3nm,0.4s,mb4.2,baz=95,slow=10,SNR=42							
PMG	**Port Moresby**	**34.79**	**291**	*e*P	**P**	**01 05 52.8**	**0.0**
PMG				pmax	pmax		
comp=Z,45nm,1.0s							
PMG	**Port Moresby**	**34.79**	**291**	*e*P	**P**	**01 05 52.8**	**+0.1**
comp=Z,45nm,1.0s,mb4.8							
AS31	**Alice Springs**	**41.76**	**262**	*e*P	**P**	**01 06 49.8**	**+0.2**
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**01 06 50.2**	**+0.6**
comp=Z,14nm,0.7s,mb4.5,baz=84,slow=8.9,SNR=97							
ASAR				ScP	ScP	01 11 40.0	+2.6
comp=Z,0.9nm,0.8s,baz=93,slow=4.4,SNR=4.4							
ASAR				S	**S**	**01 12 31.1**	**+0.5**
comp=Z,0.6nm,0.8s,baz=95,slow=12,SNR=4.3							
ASPA	**Alice Springs**	**41.76**	**262**	*e*P	**P**	**01 06 49.8**	**+0.2**
WB2	**Warramunga Arr**	**42.23**	**267**	*e*P	**P**	**01 06 53.3**	**0.0**
WRA	**Warramunga Arr**	**42.24**	**267**	P	**P**	**01 06 53.5**	**+0.2**
comp=Z,18nm,0.5s,mb4.7,baz=104,slow=8.0,SNR=46							
WRA				ScP	ScP	01 11 41.6	+2.2
comp=Z,2.8nm,0.8s,baz=99,slow=3.9,SNR=8.8							
WRA				S	**S**	**01 12 36.6**	**-0.9**
comp=Z,2.4nm,0.9s,baz=101,slow=14,SNR=6.2							
FORT	**Forrest**	**45.83**	**251**	⇓*i*P	**P**	**01 07 20.5**	**-0.7**
comp=Z,21nm,0.5s,mb4.8							
KAKA	**Kakadu**	**46.32**	**276**	*e*P	**P**	**01 07 24.7**	**-0.3**
comp=Z,9.3nm,0.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**50.65**	**267**	*e*P	**P**	**01 07 57.5**	**+0.2**
comp=Z,24nm,0.6s,mb4.7							
SBA	**Scott Base**	**53.23**	**183**	*e*P	**P**	**01 08 18.2**	**+2.3**
SBA				pmax	pmax		
comp=Z,5.0nm,1.1s,mb3.8							
SBA	**Scott Base**	**53.23**	**183**	*e*P	**P**	**01 08 18.2**	**+2.3**
comp=Z,5.0nm,1.1s,mb3.8							
VNDA	**Vanda**	**53.23**	**185**	P	**P**	**01 08 15.9**	**0.0**
comp=Z,2.3nm,0.7s,mb3.6,baz=260,slow=6.1,SNR=14							
VNDA				ScP	ScP	01 12 26.8	+0.9
comp=Z,0.7nm,0.8s,baz=90,slow=0.8,SNR=3.7							
KLBR	**Kellerberrin**	**54.46**	**248**	*e*P	**P**	**01 08 23.5**	**-1.1**
comp=Z,24nm,0.8s,mb4.6							
NWAO	**Narrogin (SRO)**	**54.68**	**246**	P	**P**	**01 08 25.5**	**-0.6**
NWAO				pmax	pmax		
comp=Z,25nm,1.3s							
NWAO	**Narrogin (SRO)**	**54.68**	**246**	P	**P**	**01 08 25.5**	**-0.6**
comp=Z,25nm,1.3s,mb4.4							
MBWA	**Marble Bar**	**55.08**	**261**	*e*P	**P**	**01 08 28.8**	**-0.2**
comp=Z,3.9nm,0.6s,mb3.9							
MUN	**Mundaring**	**55.69**	**247**	*e*P	**P**	**01 08 31.8**	**-1.4**
CASY	**Casey**	**59.04**	**206**	⇓*i*P	**P**	**01 08 55.5**	**-0.6**
CASY	**Casey**	**59.04**	**206**	*e*P	**P**	**01 08 54.6**	**-1.5**
comp=Z,9.1nm,0.8s,mb4.2							
QSPA	**South Pole Qui**	**65.04**	**180**	*e*P	**P**	**01 09 36.4**	**+1.2**
comp=Z,1.9nm,0.6s,mb3.9							
MJAR	**Matsushiro Arr**	**72.79**	**326**	P	**P**	**01 10 21.8**	**-0.2**
comp=Z,3.2nm,0.8s,mb3.9,baz=156,slow=5.7,SNR=9.2							
MAW	**Mawson**	**76.64**	**201**	*e*P	**P**	**01 10 44.5**	**+0.8**
comp=Z,2.4nm,0.6s,mb3.9							
MAW	**Mawson**	**76.64**	**201**	P	**P**	**01 10 43.6**	**-0.1**
comp=Z,3.0nm,0.6s,mb4.0,baz=151,slow=7.6,SNR=11							
MAW	**Mawson**	**76.64**	**201**	*e*P	**P**	**01 10 44.0**	**+0.3**
MAW				pmax	pmax		
comp=Z,4.0nm,0.7s							
MAW	**Mawson**	**76.64**	**201**	*e*P	**P**	**01 10 44.0**	**+0.3**
comp=Z,4.1nm,0.7s,mb4.1							
USHA	**Ushuaia**	**81.39**	**147**	P	**P**	**01 11 09.1**	**+0.1**
comp=Z,11nm,1.1s,mb4.3,baz=312,slow=3.7,SNR=3.2							
HIA	**Hailar**	**91.28**	**325**	P	**P**	**01 11 55.1**	**-1.5**
HIA				pmax	pmax		
comp=Z,4.0nm,0.4s							
HIA	**Hailar**	**91.28**	**325**	P	**P**	**01 11 55.0**	**-1.5**
comp=Z,4.5nm,0.4s,mb4.8							
ARCES	**ARCESS Array B**	**132.99**	**348**	PKP	PKPdf	01 18 01.6	-1.4
comp=Z,2.5nm,0.9s,baz=17,slow=0.9,SNR=6.1							
ARCES				SKPbc	SKPbc	01 20 45.0	+0.6
comp=Z,2.8nm,0.7s,baz=26,slow=3.1,SNR=12							
FINES	**FINESS Array B**	**139.50**	**341**	PKhKP		01 18 06.0	
comp=Z,0.2nm,0.5s,baz=76,slow=4.0,SNR=6.1							
FINES				PKP	PKPdf	01 18 14.6	-0.5
comp=Z,0.4nm,0.7s,baz=46,slow=4.0,SNR=4.8							
FINES				SKPbc	SKPbc	01 21 04.4	+0.5
comp=Z,4.2nm,0.8s,baz=85,slow=4.2,SNR=20							
NB2	**NORSAR Subarra**	**143.20**	**351**	PKPa		01 18 18.8	
comp=Z,0.4nm,0.6s,baz=15,slow=3.5							
NB2	**NORSAR Subarra**	**143.20**	**351**	⇑PKPab	PKPdf	01 18 18.8	-2.9
NOA	**NORSAR Array B**	**143.20**	**351**	PKhKP		01 18 18.5	
comp=Z,0.7nm,0.7s,baz=15,slow=2.4,SNR=5.5							
NOA				PKP	PKPdf	01 18 21.4	-0.4
comp=Z,0.7nm,0.9s,baz=16,slow=2.4,SNR=3.2							
AKASG	**Malin Array Be**	**145.88**	**326**	PKPbc	PKPbc	01 18 27.2	-0.8
comp=Z,3.0nm,0.6s,baz=46,slow=4.4,SNR=19							
ASF	**Jabal al Asfar**	**146.87**	**291**	PKPbc	PKPbc	01 18 32.9	+2.1
comp=Z,4.1nm,0.8s,baz=322,slow=4.3,SNR=6.3							
MMAI	**Mount Meron Ar**	**148.07**	**293**	PKPbc	PKPbc	01 18 35.7	+1.8
comp=Z,3.8nm,0.5s,baz=66,slow=4.9,SNR=20							
BR131	**Keskin Array S**	**148.18**	**306**	*e*PKPbc	PKPbc	01 18 34.6	+0.4
BRTR	**Keskin Array B**	**148.18**	**306**	PKPbc	PKPbc	01 18 34.6	+0.4
comp=Z,1.1nm,0.7s,baz=131,slow=3.1,SNR=11							
ANTO	**Ankara**	**148.75**	**306**	*e*PKP2	PKPbc	01 18 36.3	+0.7
KWP	**Kalwaria**	**149.72**	**330**	*e*PKP2	PKPbc	01 18 38.1	+0.2
MLR	**Muntele Rosu**	**150.75**	**321**	PKPbc	PKPbc	01 18 39.9	-0.5
comp=Z,1.0nm,0.5s,baz=27,slow=4.5,SNR=3.7							
CLL	**Collm**	**151.92**	**342**	⇓*i*PKPbc	PKPbc	01 18 43.6	+0.6
comp=Z,9.0nm,1.5s							

*IDC **18** 01:08:01.5±6.5, 2480S×17932W, h303km±59km, mb4.1/7, mb1 4.2/7, mb1mx4.0/11, mbtmp4.7/7, Error ellipse: s-maj=25.7km s-min=16.8km az=53.0*
*MOS **18** 01:08:07.8±3.0, 2505S×17970E, h313km, mb4.9/4, Error ellipse: s-maj=24.1km s-min=15.6km az=26.1*
*BJI **18** 01:08:08.8, 2490S×17950W, h384km, mb4.6*
*NEIC **18** 01:08:09.8±4.1, 2485S×17948W, h385km±39km, mb4.6/13, Error ellipse: s-maj=24.5km s-min=14.3km az=51.0*
*ISCJB **18** 01:08:12.1±5.4, 250S±01×1799W±02, h402km±53km, mb4.5/16, Error ellipse: s-maj=34.7km s-min=15.3km az=130.1*
ISC 18 01:08:13.0±4.5, **250S**±01×**1798W**±02, **h400**km±43km, **n65**, σ0°86/36, **mb4.5**/16, **9D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**16.91**	**194**	*e*P	**P**	**01 11 45.5**	**-0.5**
41nm,0.9s							
HNR	**Honiara**	**24.73**	**305**	*e*P	**P**	**01 13 01.1**	**+0.9**
HNR				pmax	pmax		
comp=Z,59nm,0.7s,mb5.1							
HNR	**Honiara**	**24.73**	**305**	*e*P	**P**	**01 13 01.1**	**+1.0**
comp=Z,59nm,0.7s,mb5.1							
ARMA	**Armidale**	**25.85**	**251**	*e*P	**P**	**01 13 13.0**	**+2.8**
CTA	**Charters Tower**	**31.70**	**272**	⇓*i*P	**P**	**01 14 03.0**	**+1.6**
comp=Z,26nm,0.5s,mb4.8							
CTA	**Charters Tower**	**31.70**	**272**	⇓*i*P	**P**	**01 14 03.0**	**+1.6**
CTA				pmax	pmax		
comp=Z,26nm,0.5s							
CTAO	**Charters Tower**	**31.70**	**272**	*e*P	**P**	**01 14 03.1**	**+1.7**
CTAO				pmax	pmax		
comp=Z,37nm,0.6s,mb4.9							
CTAO	**Charters Tower**	**31.70**	**272**	*e*P	**P**	**01 14 03.1**	**+1.7**
comp=Z,37nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**34.52**	**250**	⇓*i*P	**P**	**01 14 24.6**	**-0.9**
comp=Z,3.0nm,0.4s,mb4.0							
STKA	**Stephens Creek**	**34.52**	**250**	P	**P**	**01 14 24.7**	**-0.8**
comp=Z,3.6nm,0.5s,mb4.0,baz=94,slow=10,SNR=18							
PMG	**Port Moresby**	**35.05**	**290**	*e*P	**P**	**01 14 28.7**	**-1.3**
PMG				pmax	pmax		
comp=Z,33nm,1.0s							
PMG	**Port Moresby**	**35.05**	**290**	*e*P	**P**	**01 14 28.7**	**-1.3**
comp=Z,33nm,1.0s,mb4.6							
AS31	**Alice Springs**	**42.07**	**262**	⇓*i*P	**P**	**01 15 27.9**	**+0.3**
ASAR	**Alice Springs**	**42.07**	**262**	P	**P**	**01 15 27.9**	**+0.4**
comp=Z,7.7nm,0.6s,mb4.2,baz=83,slow=8.2,SNR=56							
ASPA	**Alice Springs**	**42.07**	**262**	⇓*i*P	**P**	**01 15 27.9**	**+0.3**
WB2	**Warramunga Arr**	**42.54**	**267**	⇓*i*P	**P**	**01 15 31.0**	**-0.3**
WRA	**Warramunga Arr**	**42.55**	**267**	P	**P**	**01 15 31.3**	**-0.1**
comp=Z,19nm,0.6s,mb4.6,baz=103,slow=8.0,SNR=45							
FORT	**Forrest**	**46.13**	**251**	*e*P	**P**	**01 15 58.5**	**-0.8**
comp=Z,22nm,0.6s,mb4.7							
KAKA	**Kakadu**	**46.62**	**276**	*e*P	**P**	**01 16 02.3**	**-0.8**
comp=Z,10nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**50.96**	**266**	*e*P	**P**	**01 16 35.4**	**-0.2**
comp=Z,25nm,0.7s,mb4.5							
VNDA	**Vanda**	**53.32**	**185**	P	**P**	**01 16 52.3**	**-0.4**
comp=Z,0.3nm,0.3s,baz=5.0,slow=6.5,SNR=8.1							
MBWA	**Marble Bar**	**55.39**	**261**	*e*P	**P**	**01 17 06.9**	**-0.6**
comp=Z,2.5nm,0.5s,mb3.7							
CASY	**Casey**	**59.23**	**206**	⇓*i*P	**P**	**01 17 33.3**	**-0.6**
CASY	**Casey**	**59.23**	**206**	*e*P	**P**	**01 17 33.2**	**-0.7**
comp=Z,76nm,1.8s,mb4.7							
RPN	**Rapa Nui**	**62.53**	**109**	P	**P**	**01 17 50.3**	**-5.6**
comp=Z,32nm,0.4s,mb5.2,baz=88,slow=6.5,SNR=4.5							
QSPA	**South Pole Qui**	**65.10**	**180**	*e*P	**P**	**01 18 14.1**	**+1.7**
comp=Z,3.6nm,0.8s,mb4.0							
MJAR	**Matsushiro Arr**	**72.91**	**326**	P	**P**	**01 18 58.9**	**-0.9**
comp=Z,6.8nm,0.9s,mb4.2,baz=161,slow=5.5,SNR=18							
MAJO	**Matsushiro**	**72.91**	**326**	*e*P	**P**	**01 18 59.4**	**-0.4**
MAJO				pmax	pmax		
comp=Z,131nm,0.8s,mb5.5							
MAJO	**Matsushiro**	**72.91**	**326**	*e*P	**P**	**01 18 59.4**	**-0.5**
comp=Z,131nm,0.8s,mb5.5							
MAT	**Matsushiro**	**72.91**	**326**	P	**P**	**01 18 59.7**	**-0.1**
MAT	**Matsushiro**	**72.91**	**326**	*e*P	**P**	**01 19 00.0**	**+0.2**
MAW	**Mawson**	**76.81**	**200**	*e*P	**P**	**01 19 22.1**	**+0.2**
comp=Z,2.2nm,0.6s,mb4.0							
MAW	**Mawson**	**76.81**	**200**	P	**P**	**01 19 22.1**	**+0.2**
comp=Z,1.2nm,0.5s,mb3.8,baz=123,slow=7.2,SNR=9.9							
MAW	**Mawson**	**76.81**	**200**	*e*P	**P**	**01 19 22.1**	**+0.2**
MAW				pmax	pmax		
comp=Z,20nm,0.6s							
CN2	**Changchun**	**84.88**	**324**	*e*P	**P**	**01 20 04.5**	**+0.5**
XAN	**Xi'an**	**89.57**	**308**	P	**P**	**01 20 26.9**	**+0.6**
MKAR	**Makanchi Array**	**113.03**	**312**	PKiKP	PKiKP	01 26 01.2	-2.2
comp=Z,0.3nm,0.5s,baz=68,slow=1.0,SNR=4.7							
AKTK	**Aktyubinsk**	**129.22**	**316**	PKP	PKPdf	01 26 32.9	-1.5
AKTO	**Aktyubinsk**	**129.22**	**316**	PKP	PKPdf	01 26 32.9	-1.5
comp=Z,0.6nm,0.5s,baz=49,slow=4.3,SNR=4.6							
ARCES	**ARCESS Array B**	**132.99**	**348**	PKhKP		01 26 32.4	
comp=Z,1.6nm,0.9s,baz=70,slow=1.1,SNR=5.0							
ARCES				PKP	PKPdf	01 26 38.6	-2.9
comp=Z,1.0nm,0.6s,baz=34,slow=0.3,SNR=5.1							
FINES	**FINESS Array B**	**139.54**	**341**	PKhKP		01 26 43.6	
comp=Z,0.5nm,0.5s,baz=81,slow=3.2,SNR=11							
FINES				PKP	PKPdf	01 26 52.2	-1.4
comp=Z,0.5nm,0.4s,baz=97,slow=3.6,SNR=5.5							
FINES	**FINESS Array B**	**139.54**	**341**	PKP	PKPdf	01 26 52.2	-1.4
NB2	**NORSAR Subarra**	**143.18**	**351**	PKPa	PKPdf	01 26 56.0	-4.2
comp=Z,2.5nm,0.8s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**143.18**	**351**	PKP	PKPdf	01 26 56.4	-3.8
comp=Z,4.6nm,0.8s,baz=15,slow=4.9,SNR=18							
HFS	**Hagfors**	**143.65**	**349**	PKP	PKPdf	01 26 57.6	-3.4
comp=Z,9.3nm,0.5s,baz=67,slow=3.9,SNR=46							
AKASG	**Malin Array Be**	**145.99**	**327**	PKPbc	PKPbc	01 27 04.9	-1.7
comp=Z,5.4nm,0.6s,baz=44,slow=4.1,SNR=25							
ASF	**Jabal al Asfar**	**147.13**	**291**	PKPbc	PKPbc	01 27 10.0	+0.2
comp=Z,5.2nm,0.8s,baz=297,slow=2.5,SNR=8.1							
MMAI	**Mount Meron Ar**	**148.32**	**293**	PKPbc	PKPbc	01 27 12.8	0.0
comp=Z,5.8nm,0.5s,baz=72,slow=5.4,SNR=26							
BRTR	**Keskin Array B**	**148.39**	**306**	PKPbc	PKPbc	01 27 11.9	-1.1
comp=Z,2.7nm,0.8s,baz=128,slow=2.0,SNR=4.0							
EKA	**Eskdalemuir Ar**	**149.59**	**4**	PKPbc	PKPbc	01 27 14.2	-1.7
comp=Z,0.7nm,0.6s,baz=355,slow=4.0,SNR=6.2							
OJC	**Ojcow**	**150.60**	**334**	*e*PX	PKPbc	01 27 17.3	-1.0
STHS	**Stebnicka Huta**	**150.62**	**331**	*i*PKIKP	PKPbc	01 27 18.3	-0.1
STHS				pmax	pmax		
comp=Z,3.0nm,0.6s							
MLR	**Muntele Rosu**	**150.89**	**321**	PKPbc	PKPbc	01 27 17.9	-1.1
comp=Z,2.4nm,0.8s,baz=317,slow=4.0,SNR=6.3							
NIE	**Niedzica**	**151.01**	**332**	*e*PX	PKPbc	01 27 19.5	+0.2
UPC	**Upice**	**151.75**	**338**	*e*PKPbc	PKPbc	01 27 20.2	-0.8
UPC				*e*PKPab	PKPab	01 27 31.9	+0.3
DPC	**Dobruska-Polom**	**151.78**	**338**	*e*PKPbc	PKPbc	01 27 20.5	-0.5
DPC				*e*PKPab	PKPab	01 27 32.0	+0.2
CLL	**Collm**	**151.95**	**343**	*i*PKPbc	PKPbc	01 27 20.6	-0.8
comp=Z,10.0nm,0.9s							
CLL				⇓*i*PKPab	PKPab	01 27 32.6	+0.1
CLL	**Collm**	**151.95**	**343**	⇓*i*PKIKP	PKPbc	01 27 20.6	-0.8
CLL				*i*		01 27 32.6	
CLL				pmax	pmax		
comp=Z,10.0nm,0.9s							
BRG	**Berggiesshubel**	**152.08**	**341**	*e*PKP	PKPbc	01 27 21.1	-0.6
comp=Z,2.6nm,0.6s							
BRG				*e*		01 27 32.8	
comp=Z,2.4nm,0.9s							
PVCC	**Panska Ves**	**152.19**	**340**	*e*PKPbc	PKPbc	01 27 21.0	-1.0
PVCC				*e*PKPab	PKPab	01 27 33.6	+0.1
TREC	**Trest**	**152.96**	**338**	*e*PKPbc	PKPbc	01 27 22.6	-1.0
TREC				*e*PKPab	PKPab	01 27 36.4	-0.4
KHC	**Kasperske Hory**	**153.73**	**340**	*e*PKPbc	PKPbc	01 27 24.7	-0.6
KHC				*e*PKPab	PKPab	01 27 40.3	+0.3
GERES	**GERESS Array B**	**153.94**	**339**	PKPbc	PKPbc	01 27 25.1	-0.6
comp=Z,0.3nm,0.6s,baz=81,slow=1.8,SNR=4.6							
GERES				PKPab	PKPab	01 27 40.5	-0.4
comp=Z,0.7nm,0.6s,baz=31,slow=3.1,SNR=7.0							
DAVOX	**Dav

DPC Dobruska-Polom 17.31 341 *eP* **Pn 01 23 44.3 +1.9**
WET Wettzell 17.40 332 *eP* **Pn 01 23 44.4 +0.9**
comp=Z,6.0nm,1.0s
WET Wettzell 17.40 332 *eP* **Pn 01 23 44.4 +0.9**
WET pmax pmax
comp=Z,6.0nm,1.0s
GOF Gofitskoye 17.48 47 *eP* **Pn 01 23 42.0 -2.5**
ROTZ Rotzenmuhle 18.16 332 *eP* **Pn 01 23 54.1 +1.2**
comp=Z,1.0nm,0.8s
MANZ Manzenberg 18.38 333 *eP* **Pn 01 23 54.4 -1.1**
comp=Z,8.0nm,1.7s
BRG Berggiesshubel 18.48 337 *eP* **Pn 01 23 56.1 -0.6**
comp=Z,2.0nm,0.7s
GRA1 Grafenberg Arr 18.50 331 *eP* **Pn 01 23 56.3 -0.6**
comp=Z,7.0nm,1.0s
GRF Grafenberg Arr 18.50 331 *eP* **Pn 01 23 56.3 -0.6**
comp=Z,7.0nm,1.0s
GRF Grafenberg Arr 18.50 331 *eP* **Pn 01 23 56.3 -0.6**
GRF pmax pmax
comp=Z,7.0nm,1.0s
GRF Grafenberg Arr 18.50 331 *eP* **Pn 01 23 56.3 -0.6**
GRF pmax pmax
comp=Z,7.0nm,1.0s
TANN Tannenbergstha 18.60 334 *eP* **Pn 01 23 57.6 -0.6**
comp=Z,4.0nm,0.9s
MOX Moxa 19.10 333 *eP* **Pn 01 24 02.7 -1.5**
comp=Z,3.0nm,1.0s
CLL Collm 19.16 336 *e*(P) **Pn 01 24 04.0 -0.9**
CLL *ex* x 01 24 09.0
CLL Collm 19.16 336 *eP* **Pn 01 24 00.0 -4.9**
CLZ Clausthal 20.53 333 *eP* **P 01 24 17.2 -1.6**
comp=Z,3.0nm,1.0s
CLZ Clausthal 20.53 333 *eP* **P 01 24 17.2 -1.6**
CLZ pmax pmax
comp=Z,3.0nm,1.0s
WLF Walferdange 20.77 323 *eP* **P 01 24 24.0 +2.6**
comp=Z,9.0nm,1.0s
NRDL Niedersach Rie 21.15 334 *eP* **P 01 24 25.6 +0.1**
comp=Z,3.0nm,0.9s,mb3.6
BSEG Bad Segeberg 22.26 337 *eP* **P 01 24 36.5 -0.8**
comp=Z,7.0nm,1.1s,mb4.0
OBN Obninsk 22.32 18 ⇑P **P 01 24 40.0 +1.9**
OBN 01 25 07.0
OBN pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
OBN Obninsk 22.32 18 P **P 01 24 40.0 +1.9**
comp=Z,6.0nm,1.0s,mb4.0
ESDC Sonseca Array 23.78 292 P **P 01 24 52.4 -0.5**
comp=Z,1.0nm,0.7s,mb3.4,baz=88,slow=8.7,SNR=9.2
MDT Midelt 24.77 275 LR LR 01 37 52.2
comp=Z,39nm,18.7s,baz=92,slow=44
HFS Hagfors 26.93 347 P **P 01 25 19.7 -1.8**
comp=Z,1.1nm,0.6s,mb3.5,baz=186,slow=13,SNR=4.3
FINES FINESS Array B 27.20 1 P **P 01 25 21.3 -2.6**
comp=Z,0.9nm,0.7s,mb3.4,baz=166,slow=12,SNR=4.7
FINES FINESS Array B 27.20 1 P **P 01 25 21.3 -2.6**
FINES pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 28.25 346 P **P 01 25 31.6 -1.6**
comp=Z,0.4nm,0.7s,mb3.1,baz=154,slow=7.8,SNR=3.2
EKA Eskdalemuir Ar 28.74 326 P **P 01 25 36.6 -1.0**
comp=Z,0.8nm,0.8s,mb3.5,baz=135,slow=8.3,SNR=3.8
TORD Torodi Ar. Bea 29.88 231 P **P 01 25 48.5 +0.7**
comp=Z,3.8nm,0.6s,mb4.3,baz=34,slow=8.9,SNR=56
ARU Arti 31.81 36⇑*eP* **P 01 26 05.4 +0.7**
ARU pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
ARU Arti 31.81 36 *eP* **P 01 26 05.4 +0.7**
comp=Z,3.0nm,1.0s,mb4.1
ARCES ARCESS Array B 35.32 0 P **P 01 26 35.8 +0.5**
comp=Z,0.9nm,0.6s,mb3.9,baz=183,slow=11,SNR=5.8
ARCES ARCESS Array B 35.32 0 P **P 01 26 35.8 +0.5**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 35.32 0 P **P 01 26 35.8 +0.5**
comp=Z,1.0nm,0.6s,mb3.9
AAK Ala-Archa 39.11 63⇑*eP* **P 01 27 08.1 +0.7**
AAK pmax pmax
comp=Z,4.0nm,2.5s,mb3.7
AAK Ala-Archa 39.11 63 *eP* **P 01 27 08.1 +0.7**
comp=Z,4.0nm,2.5s,mb3.7
KURK Kurchatov 41.79 50 *eP* **P 01 27 29.1 -0.5**
MKAR Makanchi Array 44.32 56 P **P 01 27 49.7 -0.3**
comp=Z,1.0nm,0.7s,mb3.6,baz=282,slow=6.3,SNR=10
MKAR Makanchi Array 44.32 56 *i* P **P 01 27 50.5 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 44.32 56 *i* P **P 01 27 50.5 +0.5**
comp=Z,1.0nm,0.7s,mb3.6
SONM Songino Array 60.10 50 P **P 01 29 48.1 +0.9**
comp=Z,1.1nm,0.8s,mb3.9,baz=280,slow=8.9,SNR=4.3
SONM Songino Array 60.10 50 P **P 01 29 48.1 +0.9**
SONM pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 60.50 50 *eP* **P 01 29 52.3 +2.3**
TIXI Tiksi 62.02 20⇑*eP* **P 01 30 02.9 +2.6**
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
TIXI Tiksi 62.02 20 *eP* **P 01 30 02.9 +2.6**
comp=Z,2.0nm,1.0s,mb4.2
BOSA Boshof 62.54 180 P **P 01 30 04.2 +0.4**
comp=Z,2.0nm,0.7s,mb4.3,baz=355,slow=5.2,SNR=4.7
BOSA Boshof 62.54 180 P **P 01 30 04.2 +0.4**
BOSA pmax pmax
comp=Z,2.0nm,0.7s,mb4.4

NEIC ***18*** *01:22:43.8±0.3,46.18N×279E,h31km±3km,ML2.5(STR), ML2.6(LDG),Error ellipse: s-maj=3.5km s-min=2.7km az=116.0*
CSEM ***18*** *01:22:43.7±0.0,46.18N×280E,h12km,ML2.6/29,Error ellipse: s-maj=0.8km s-min=0.6km az=133.0*
STR ***18*** *01:22:45.3±0.5,46.14N×274E,h10km±1km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 01:22:43.9±0.0,4618N×279E,h16km,Md3.0/4,Ml2.6/29, Error ellipse: s-maj=0.9km s-min=0.7km az=121.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGF	**Bois d'Agland**	**0.38**	**5**	*eP*g	Pg	01 22 52.0	+0.3
BGF				*eS*g	Sg	01 22 57.2	+0.2
133nm,0.3s,SNR=1.0							
BGF	**Bois d'Agland**	**0.38**	**5**	*eP*g	Pg	01 22 52.0	+0.3
BGF				*eS*g	Sg	01 22 57.2	+0.2
67nm,0.3s,SNR=1.0							
TCF	**Toulx Ste Croi**	**0.42**	**285**	*eP*n	Pg	01 22 53.8	+1.4
SNR=1.0							
TCF				*eS*g	Sg	01 22 58.3	+0.2
110nm,0.2s,SNR=1.0							
TCF	**Toulx Ste Croi**	**0.42**	**285**	*eP*g	Pg	01 22 52.7	+0.3
TCF				*eP*n	Pg	01 22 53.8	+1.4
TCF				*eS*g	Sg	01 22 58.3	+0.2
TCF	**Toulx Ste Croi**	**0.42**	**285**	*eP*n	Pg	01 22 53.8	+1.4
SNR=1.0							
TCF				*eS*g	Sg	01 22 58.3	+0.2
55nm,0.2s,SNR=1.0							
PYM	**Petit Puy Mans**	**0.45**	**161**	Pg	Pg	01 22 53.8	+0.8
PYM				Sg	Sg	01 23 00.3	+1.2
CFF	**Clermont-Ferra**	**0.47**	**152**	Pg	Pg	01 22 54.4	+1.1
CFF				Sg	Sg	01 23 01.2	+1.5
VERF	**Verneugheol**	**0.48**	**207**	Pg	Pg	01 22 54.0	+0.5
VERF				Sg	Sg	01 23 00.6	+0.6
AVF	**Avril sur Loir**	**0.72**	**32**	*eP*n	Pn	01 22 58.3	-1.2
SNR=1.0							
AVF				*eS*g	Sg	01 23 07.1	-0.5
40nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**0.72**	**32**	*eP*g	Pg	01 22 57.9	-0.1
AVF				*eS*g	Sg	01 23 07.1	-0.5
AVF	**Avril sur Loir**	**0.72**	**32**	*eP*n	Pn	01 22 58.3	-1.2
SNR=1.0							
AVF				*eS*g	Sg	01 23 07.1	-0.5
20nm,0.3s,SNR=1.0							
FRNF	**Fournols**	**0.81**	**192**	Pg	Pg	01 22 59.2	-0.4
FRNF				Sg	Sg	01 23 10.3	0.0
SMF	**Signal de Mont**	**0.86**	**57**	*eP*n	Pn	01 22 59.9	-1.5
SNR=1.0							
SMF	**Signal de Mont**	**0.86**	**57**	*eP*g	Pg	01 23 00.6	-0.1
SNR=1.0							
SMF				*eS*g	Sg	01 23 11.6	-0.4
12nm,0.2s,SNR=1.0							
SMF	**Signal de Mont**	**0.86**	**57**	*eP*g	Pg	01 23 00.6	-0.1
SNR=1.0							
SMF				*eS*g	Sg	01 23 11.6	-0.4
6.2nm,0.2s,SNR=1.0							
SSF	**Saint Saulge**	**1.01**	**29**	*eP*g	Pg	01 23 03.0	-0.5
SSF				*eS*n	Sn	01 23 14.9	-2.4
SNR=1.0							
SSF				*eS*g	Sg	01 23 15.7	-1.0
58nm,0.2s,SNR=1.0							
SSF	**Saint Saulge**	**1.01**	**29**	*eP*n	Pn	01 23 01.8	-1.6
SSF				*eP*g	Pg	01 23 03.0	-0.5
SSF				*eS*n	Sn	01 23 14.9	-2.4
SSF				*eS*g	Sg	01 23 15.7	-1.0
SSF	**Saint Saulge**	**1.01**	**29**	*eP*g	Pg	01 23 03.0	-0.5
SSF				*eS*n	Sn	01 23 14.9	-2.4
SNR=1.0							
SSF				*eS*g	Sg	01 23 15.7	-1.0
29nm,0.2s,SNR=1.0							
HYF	**Humbligny**	**1.10**	**354**	*eP*g	Pg	01 23 04.7	-0.4
HYF				*eS*g	Sg	01 23 19.1	-0.3
RJF	**Les Rejaudoux**	**1.25**	**226**	*eP*g	Pg	01 23 07.4	-0.6
RJF				*eS*n	Sn	01 23 20.7	-2.5
SNR=1.0							
RJF				*eS*g	Sg	01 23 23.4	-0.9
44nm,0.3s,SNR=1.0							
RJF	**Les Rejaudoux**	**1.25**	**226**	*eP*n	Pn	01 23 05.5	-1.2
RJF				*eP*g	Pg	01 23 07.4	-0.6
RJF				*eS*n	Sn	01 23 20.7	-2.5
RJF				*eS*g	Sg	01 23 23.4	-0.9
RJF	**Les Rejaudoux**	**1.25**	**226**	*eP*g	Pg	01 23 07.4	-0.6
RJF				*eS*n	Sn	01 23 20.7	-2.5
SNR=1.0							
RJF				*eS*g	Sg	01 23 23.4	-0.9
22nm,0.3s,SNR=1.0							
LOR	**Lormes**	**1.31**	**33**	*eP*n	Pn	01 23 06.0	-1.6
baz=216,SNR=1.0							
LOR	**Lormes**	**1.31**	**33**	*eP*	Pn	01 23 08.1	+0.5
baz=215,SNR=1.0							
LOR	**Lormes**	**1.31**	**33**	*eP*g	Pg	01 23 08.7	-0.5
LOR				*eS*n	Sn	01 23 22.4	-2.4
SNR=1.0							
LOR				*eS*g	Sg	01 23 25.0	-1.3
16nm,0.2s,baz=204,SNR=1.0							
LOR	**Lormes**	**1.31**	**33**	*eP*n	Pn	01 23 06.0	-1.6
LOR				*eP*		01 23 08.1	
LOR				*eP*g	Pg	01 23 08.7	-0.5
LOR				*eS*n	Sn	01 23 22.4	-2.4
LOR				*eS*g	Sg	01 23 25.0	-1.3
LOR	**Lormes**	**1.31**	**33**	*eP*	Pn	01 23 08.1	+0.5
SNR=1.0							
LOR	**Lormes**	**1.31**	**33**	*eP*g	Pg	01 23 08.7	-0.5
LOR				*eS*n	Sn	01 23 22.4	-2.4
SNR=1.0							
LOR				*eS*g	Sg	01 23 25.0	-1.3
8.0nm,0.2s,SNR=1.0							
CAF	**Calviac**	**1.35**	**203**	*eP*g	Pg	01 23 09.2	-0.8
CAF				*eS*n	Sn	01 23 23.3	-2.4
SNR=1.0							
CAF				*eS*g	Sg	01 23 26.7	-0.9
30nm,0.2s							
CAF	**Calviac**	**1.35**	**203**	*eP*n	Pn	01 23 06.3	-1.8
CAF				*eP*g	Pg	01 23 09.2	-0.8
CAF				*eS*n	Sn	01 23 23.3	-2.4
CAF				*eS*g	Sg	01 23 26.7	-0.9
CAF	**Calviac**	**1.35**	**203**	*eP*g	Pg	01 23 09.2	-0.8
CAF				*eS*n	Sn	01 23 23.3	-2.4
SNR=1.0							
CAF				*eS*g	Sg	01 23 26.7	-0.9
15nm,0.2s							
VIVF	**Saint-Julien-l**	**1.87**	**134**	*eP*g	Pg	01 23 18.8	-1.0
VIVF				*eS*n	Sn	01 23 35.8	-2.7
SNR=1.0							
VIVF				*eS*g	Sg	01 23 41.7	-2.4
13nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**1.87**	**134**	*eP*n	Pn	01 23 13.9	-1.3
VIVF				*eP*g	Pg	01 23 18.8	-1.0
VIVF				*eS*n	Sn	01 23 35.8	-2.7
VIVF				*eS*g	Sg	01 23 41.7	-2.4
VIVF	**Saint-Julien-l**	**1.87**	**134**	*eP*g	Pg	01 23 18.8	-1.0
VIVF				*eS*n	Sn	01 23 35.8	-2.7
SNR=1.0							
VIVF				*eS*g	Sg	01 23 41.7	-2.4
6.4nm,0.3s,SNR=1.0							
LFF	**La Frestale**	**1.90**	**230**	*eP*g	Pg	01 23 19.4	-1.0
LFF				*eS*n	Sn	01 23 36.4	-2.9
LFF				*eS*g	Sg	01 23 43.0	-2.1
24nm,0.3s,SNR=1.0							
LFF	**La Frestale**	**1.90**	**230**	*eP*n	Pn	01 23 14.3	-1.4
LFF				*eP*g	Pg	01 23 19.4	-1.0
LFF				*eS*n	Sn	01 23 36.4	-2.9
LFF				*eS*g	Sg	01 23 43.0	-2.1
LFF	**La Frestale**	**1.90**	**230**	*eP*g	Pg	01 23 19.4	-1.0
LFF				*eS*n	Sn	01 23 36.4	-2.9
LFF				*eS*g	Sg	01 23 43.0	-2.1
12nm,0.3s,SNR=1.0							
MFF	**Saint Martin d**	**2.08**	**283**	*eP*g	Pg	01 23 22.3	-1.5
SNR=1.0							
MFF				*eS*n	Sn	01 23 40.2	-3.4
SNR=1.0							
MFF				*eS*g	Sg	01 23 49.0	-1.8
6.0nm,0.2s,SNR=1.0							
MFF	**Saint Martin d**	**2.08**	**283**	*eP*n	Pn	01 23 17.2	-0.9
MFF				*eP*g	Pg	01 23 22.3	-1.5
MFF				*eS*n	Sn	01 23 40.2	-3.4
MFF				*eS*g	Sg	01 23 49.0	-1.8
MFF	**Saint Martin d**	**2.08**	**283**	*eP*g	Pg	01 23 22.3	-1.5
SNR=1.0							
MFF				*eS*n	Sn	01 23 40.2	-3.4
SNR=1.0							
MFF				*eS*g	Sg	01 23 49.0	-1.8
3.0nm,0.2s,SNR=1.0							
LASF	**Ste Croix**	**2.23**	**160**	*eP*g	Pg	01 23 25.4	-1.3
SNR=1.0							
LASF				*eS*n	Sn	01 23 44.0	-3.4
LASF				*eS*g	Sg	01 23 52.8	-2.9
1.7nm,0.2s,SNR=1.0							
LASF	**Ste Croix**	**2.23**	**160**	*eP*n	Pn	01 23 19.2	-1.0
LASF				*eP*g	Pg	01 23 25.4	-1.3
LASF				*eS*n	Sn	01 23 44.0	-3.4
LASF				*eS*g	Sg	01 23 52.8	-2.9
LASF	**Ste Croix**	**2.23**	**160**	*eP*g	Pg	01 23 25.4	-1.3
SNR=1.0							
LASF				*eS*n	Sn	01 23 44.0	-3.4
LASF				*eS*g	Sg	01 23 52.8	-2.9
0.9nm,0.2s,SNR=1.0							
CABF	**La Chapelle**	**2.32**	**78**	*eP*g	Pg	01 23 27.0	-1.4
CABF				*eS*n	Sn	01 23 46.6	-3.0
SNR=1.0							
CABF				*eS*g	Sg	01 23 57.1	-1.4
1.6nm,0.3s,SNR=1.0							
CABF	**La Chapelle**	**2.32**	**78**	*eP*n	Pn	01 23 20.3	-1.1
CABF				*eP*g	Pg	01 23 27.0	-1.4
CABF				*eS*n	Sn	01 23 46.6	-3.0
CABF				*eS*g	Sg	01 23 57.1	-1.4
CABF	**La Chapelle**	**2.32**	**78**	*eP*g	Pg	01 23 27.0	-1.4
CABF				*eS*n	Sn	01 23 46.6	-3.0
SNR=1.0							
CABF				*eS*g	Sg	01 23 57.1	-1.4
0.8nm,0.3s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**2.51**	**119**	*eP*g	Pg	01 23 30.5	-1.5
ORIF				*eS*n	Sn	01 23 51.2	-3.0
ORIF				*eS*g	Sg	01 24 03.0	-1.5
5.0nm,0.4s							
ORIF	**Oris-en-Rattie**	**2.51**	**119**	*eP*n	Pn	01 23 22.2	-1.8
ORIF				*eP*g	Pg	01 23 30.5	-1.5
ORIF				*eS*n	Sn	01 23 51.2	-3.0
ORIF				*eS*g	Sg	01 24 03.0	-1.5
ORIF	**Oris-en-Rattie**	**2.51**	**119**	*eP*g	Pg	01 23 30.5	-1.5
ORIF				*eS*g	Sg	01 24 03.0	-1.5
2.5nm,0.4s							
SFTF	**Sexfontaines**	**2.54**	**36**	*eP*g	Pg	01 23 30.9	-1.7
SFTF				*eS*n	Sn	01 23 51.5	-3.5
SFTF				*eS*g	Sg	01 24 03.8	-1.8
4.6nm,0.2s							
SFTF	**Sexfontaines**	**2.54**	**36**	*eP*n	Pn	01 23 22.9	-1.5
SFTF				*eP*g	Pg	01 23 30.9	-1.7
SFTF				*eS*n	Sn	01 23 51.5	-3.5
SFTF				*eS*g	Sg	01 24 03.8	-1.8
SFTF	**Sexfontaines**	**2.54**	**36**	*eP*g	Pg	01 23 30.9	-1.7
SFTF				*eS*n	Sn	01 23 51.5	-3.5
SFTF				*eS*g	Sg	01 24 03.8	-1.8
2.3nm,0.2s							
MEZF	**Maizieres J'vi**	**2.79**	**33**	*eP*	Pn	01 23 29.0	+1.2
baz=210							
MEZF	**Maizieres J'vi**	**2.79**	**33**	*eP*g	Pg	01 23 36.0	-1.3
baz=210,SNR=1.0							
MEZF				*eS*n	Sn	01 23 56.1	-5.0
SNR=1.0							
MEZF				*eS*g	Sg	01 24 09.6	-3.8
10nm,0.3s,SNR=1.0							
MEZF	**Maizieres J'vi**	**2.79**	**33**	*eP*n	Pn	01 23 25.8	-2.0
MEZF				*eP*		01 23 29.0	
MEZF				*eP*g	Pg	01 23 36.0	-1.3
MEZF				*eS*n	Sn	01 23 56.1	-5.0
MEZF				*eS*g	Sg	01 24 09.6	-3.8
MEZF	**Maizieres J'vi**	**2.79**	**33**	*eP*	Pn	01 23 29.0	+1.2
MEZF	**Maizieres J'vi**	**2.79**	**33**	*eP*g	Pg	01 23 36.0	-1.3
SNR=1.0							
MEZF				*eS*n	Sn	01 23 56.1	-5.0
SNR=1.0							
MEZF				*eS*g	Sg	01 24 09.6	-3.8
5.1nm,0.3s,SNR=1.0							
MTLF	**Montolieu**	**2.87**	**188**	*eP*g	Pg	01 23 36.4	-2.4
MTLF				*eS*g	Sg	01 24 13.1	-2.9
3.7nm,0.3s,SNR=1.0							
MTLF	**Montolieu**	**2.87**	**188**	*eP*n	Pn	01 23 27.5	-1.4
MTLF				*eP*g	Pg	01 23 36.4	-2.4
MTLF				*eS*g	Sg	01 24 13.1	-2.9
MTLF	**Montolieu**	**2.87**	**188**	*eP*g	Pg	01 23 36.4	-2.4
MTLF				*eS*g	Sg	01 24 13.1	-2.9
1.9nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**3.04**	**52**	*eP*g	Pg	01 23 40.0	-2.1
SNR=1.0							
HAU				*eS*n	Sn	01 24 03.4	-3.9
HAU				*eS*g	Sg	01 24 19.4	-2.1
5.7nm,0.3s							
HAU	**Haudompre**	**3.04**	**52**	*eP*n	Pn	01 23 29.8	-1.5
HAU				*eP*g	Pg	01 23 40.0	-2.1
HAU				*eS*n	Sn	01 24 03.4	-3.9
HAU				*eS*g	Sg	01 24 19.4	-2.1
HAU	**Haudompre**	**3.04**	**52**	*eP*g	Pg	01 23 40.0	-2.1
SNR=1.0							
HAU				*eS*n	Sn	01 24 03.4	-3.9
HAU				*eS*g	Sg	01 24 19.4	-2.1
2.8nm,0.3s							
RFYF	**Reffroy**	**3.05**	**36**	*eP*g	Pg	01 23 40.2	-2.2
baz=212							
RFYF				*eS*g	Sg	01 24 21.1	-0.9
8.9nm,0.2s							
RFYF	**Reffroy**	**3.05**	**36**	*eP*g	Pg	01 23 40.2	-2.2
RFYF				*eS*g	Sg	01 24 21.1	-0.9
4.4nm,0.2s							
LDF	**La Druitiere**	**3.12**	**322**	*eP*n	Pn	01 23 30.6	-1.9
LDF				*eS*n	Sn	01 24 05.3	-4.2
LDF				*eS*g	Sg	01 24 21.8	-2.5
2.9nm,0.3s,SNR=1.0							
LDF	**La Druitiere**	**3.12**	**322**	*eP*n	Pn	01 23 30.6	-1.9
LDF				*eS*n	Sn	01 24 05.3	-4.2
LDF				*eS*g	Sg	01 24 21.8	-2.5
1.5nm,0.3s,SNR=1.0							
HINF	**Hinteralfeld**	**3.23**	**58**	*eP*g	Pg	01 23 43.1	-2.6
HINF				*eS*n	Sn	01 24 08.1	-3.8
SNR=1.0							
HINF				*eS*g	Sg	01 24 24.7	-2.8
2.8nm,0.3s,SNR=1.0							
HINF	**Hinteralfeld**	**3.23**	**58**	*eP*n	Pn	01 23 31.3	-2.6
HINF				*eP*g	Pg	01 23 43.1	-2.6
HINF				*eS*n	Sn	01 24 08.1	-3.8
HINF				*eS*g	Sg	01 24 24.7	-2.8
HINF	**Hinteralfeld**	**3.23**	**58**	*eP*g	Pg	01 23 43.1	-2.6
HINF				*eS*n	Sn	01 24 08.1	-3.8
SNR=1.0							
HINF				*eS*g	Sg	01 24 24.7	-2.8
1.4nm,0.3s,SNR=1.0							
GRR	**Gorron**	**3.33**	**313**	*eP*g	Pg	01 23 45.7	-2.0
SNR=1.0							
GRR				*eS*n	Sn	01 24 10.1	-4.3
SNR=1.0							
GRR				*eS*g	Sg	01 24 28.1	-2.7
1.9nm,0.2s,SNR=1.0							
GRR	**Gorron**	**3.33**	**313**	*eP*g	Pg	01 23 45.7	-2.0
SNR=1.0							
GRR				*eS*n	Sn	01 24 10.1	-4.3
SNR=1.0							
GRR				*eS*g	Sg	01 24 28.1	-2.7
0.9nm,0.2s,SNR=1.0							
FLN	**La Foliniere**	**3.41**	**321**	*eP*g	Pg	01 23 47.1	-2.1
baz=141							
FLN				*eS*n	Sn	01 24 12.0	-4.5
baz=137							
FLN				*eS*g	Sg	01 24 30.4	-3.0
2.7nm,0.3s,baz=132,SNR=1.0							
FLN	**La Foliniere**	**3.41**	**321**	*eP*n	Pn	01 23 34.7	-1.7
FLN				*eP*g	Pg	01 23 47.1	-2.1
FLN				*eS*n	Sn	01 24 12.0	-4.5
FLN				*eS*g	Sg	01 24 30.4	-3.0
FLN	**La Foliniere**	**3.41**	**321**	*eP*g	Pg	01 23 47.1	-2.1
FLN				*eS*n	Sn	01 24 12.0	-4.5
FLN				*eS*g	Sg	01 24 30.4	-3.0
1.4nm,0.3s,SNR=1.0							
EPF	**Esparros**	**3.60**	**210**	*eP*g	Pg	01 23 50.2	-2.7
EPF				*eS*n	Sn	01 24 16.5	-4.7
EPF				*eS*g	Sg	01 24 36.3	-3.3
2.5nm,0.2s,SNR=1.0							
EPF	**Esparros**	**3.60**	**210**	*eP*n	Pn	01 23 36.8	-2.2
EPF				*eP*g	Pg	01 23 50.2	-2.7
EPF				*eS*n	Sn	01 24 16.5	-4.7
EPF				*eS*g	Sg	01 24 36.3	-3.3
EPF	**Esparros**	**3.60**	**210**	*eP*g	Pg	01 23 50.2	-2.7
EPF				*eS*g	Sg	01 24 36.3	-3.3
1.2nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**3.78**	**52**	*eP*g	Pg	01 23 54.1	-2.2
SNR=1.0							
CDF				*eS*n	Sn	01 24 21.1	-4.5
CDF				*eS*g	Sg	01 24 41.8	-3.5
1.8nm,0.3s,SNR=1.0							
CDF	**Champ du Feu**	**3.78**	**52**	*eP*n	Pn	01 23 39.3	-2.2
CDF				*eP*g	Pg	01 23 54.1	-2.2
CDF				*eS*n	Sn	01 24 21.1	-4.5
CDF				*eS*g	Sg	01 24 41.8	-3.5
CDF	**Champ du Feu**	**3.78**	**52**	*eP*g	Pg	01 23 54.1	-2.2
SNR=1.0							
CDF				*eS*n	Sn	01 24 21.1	-4.5
CDF				*eS*g	Sg	01 24 41.8	-3.5
0.9nm,0.3s,SNR=1.0							
BAIF	**Baives**	**4.00**	**13**	*eP*n	Pn	01 23 43.1	-1.4
SNR=1.0							
BAIF				*eS*g	Sg	01 24 48.8	-3.5
0.9nm,0.3s							
BAIF	**Baives**	**4.00**	**13**	*eP*n	Pn	01 23 43.1	-1.4
SNR=1.0							
BAIF				*eS*g	Sg	01 24 48.8	-3.5
0.4nm,0.3s							
ETSF	**Etsaut**	**4.06**	**217**	*eP*n	Pn	01 23 43.3	-2.1
ETSF				*eS*n	Sn	01 24 26.0	-6.6
ETSF				*eS*g	Sg	01 24 51.3	-3.0
0.5nm,0.2s							
ETSF	**Etsaut**	**4.06**	**217**	*eS*g	Sg	01 24 51.3	-3.0
0.2nm,0.2s							
SGMF	**Saint Gilles**	**4.20**	**302**	*eP*n	Pn	01 23 45.3	-1.9
SNR=1.0							
SGMF				*eS*n	Sn	01 24 30.3	-5.6
SGMF				*eS*g	Sg	01 24 55.0	-3.6
0.8nm,0.3s							
SGMF	**Saint Gilles**	**4.20**	**302**	*eP*n	Pn	01 23 45.3	-1.9
SNR=1.0							

ROSF eSn Sn 01 24 41.4 -6.0
ROSF eSg Sg 01 25 09.6 -4.0
0.9nm,0.3s
ROSF Rostrenen 4.66 300 eP Pn 01 23 55.7 +2.1
ROSF eSn Sn 01 24 41.4 -6.0
ROSF eSg Sg 01 25 09.6 -4.0
0.4nm,0.3s

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*ISCJB **18** 01:31:43.5±0.9, 741S±008×1290E±02, h100km, mb3.9/6, Error ellipse: s-maj=25.8km s-min=8.8km az=148.4*
*IDC **18** 01:31:43.7±4.8, 733S×12893E, h86km±50km, mb3.7/4, mb1 3.9/7, mb1mx3.7/14, mbtmp4.1/7, ML4.2/3, Error ellipse: s-maj=46.2km s-min=25.1km az=86.0*
*NEIC **18** 01:31:44.1±2.5, 731S×12879E, h89km±25km, mb4.4/2, Error ellipse: s-maj=26.4km s-min=17.4km az=84.0*
ISC 18 01:31:44.1±2.7, 73S±01×1287E±02, h87km±27km, n12, σ1§12/17, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 126nm,0.4s	**6.50**	**146**	eP	Px	01 33 21.1	
KAKA				eS	Sx	01 34 30.0	
FITZ	**Fitzroy Crossi** 1.3nm,0.3s,baz=34,slow=11,SNR=51	**11.15**	**195**	P	**Pn**	**01 34 19.6**	**-0.9**
FITZ				S	**Sn**	**01 36 12.4**	**-11**
WRA	**Warramunga Arr** 1.5nm,0.3s,baz=334,slow=14,SNR=19	**13.70**	**157**	P	**Pn**	**01 34 54.0**	**-0.5**
WRA				S	**Sn**	**01 37 14.9**	**-10**
AS31	**Alice Springs**	**17.02**	**164**	eP	**Pn**	**01 35 38.7**	**+2.2**
AS31				eS	**S**	**01 38 36.7**	**-13**
ASPA	**Alice Springs**	**17.02**	**164**	eP	**Pn**	**01 35 38.7**	**+2.2**
ASPA				eS	**S**	**01 38 36.7**	**-13**
ASAR	**Alice Springs** 0.6nm,0.3s,baz=335,slow=9.8,SNR=45	**17.02**	**164**	P	**Pn**	**01 35 36.5**	**0.0**
ASAR				S	**S**	**01 38 34.8**	**-15**
FORT	**Forrest** 10nm,0.8s,mb4.2	**23.37**	**181**	eP	**P**	**01 36 43.9**	**-1.0**
FORT				eS	**S**	**01 41 00.5**	**+9.4**
KLBR	**Kellerberrin** 32nm,1.5s,mb4.5	**26.25**	**202**	eP	**P**	**01 37 11.3**	**+0.2**
STKA	**Stephens Creek** 1.2nm,0.8s,mb3.5,baz=314,slow=14,SNR=2.8	**27.24**	**156**	P	**P**	**01 37 18.2**	**-1.7**
NWAO	**Narrogin (SRO)** 4.7nm,0.6s,mb4.2,baz=20,slow=9.4,SNR=6.8	**27.65**	**201**	P	**P**	**01 37 23.9**	**+0.3**
MJAR	**Matsushiro Arr** 1.0nm,0.8s,mb3.6,baz=178,slow=7.0,SNR=4.2	**44.50**	**11**	P	**P**	**01 39 46.3**	**-0.6**
MKAR	**Makanchi Array** 0.6nm,0.6s,mb3.6,baz=126,slow=7.7,SNR=8.8	**67.79**	**327**	P	**P**	**01 42 33.6**	**+1.0**

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*ATH **18** 01:36:45.3, 3424N×2484E, h17km, MD3.4/4*
*CSEM **18** 01:36:45.3±0.3, 3425N×2493E, h8km±1km, ML3.3, Error ellipse: s-maj=15.0km s-min=5.5km az=82.0*
*ISCJB **18** 01:36:46.6±2.5, 3423N±006×249E±02, h19km±27km, Error ellipse: s-maj=24.3km s-min=10.0km az=175.5*
*HLW **18** 01:36:50.9, 3426N×2525E, h33km, Mb3.3*
ISC 18 01:36:47.2±2.5, 3427N±006×249E±02, h16km±18km, n9, σ1§16/11, 1C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.87**	**46**	ePN	**Pg**	**01 37 03.2**	**-0.9**
NPS	**Neapolis**	**1.14**	**29**	ePN	**Pn**	**01 37 08.1**	**-0.3**
VAM	**Vamos**	**1.29**	**332**	ePN	**Pn**	**01 37 09.6**	**-0.8**
KARP	**Karpathos**	**2.23**	**54**	ePN	**Pn**	**01 37 25.0**	**+1.6**
SLUM		**2.78**	**175**	⇓P	**Pn**	**01 37 32.5**	**+1.6**
SLUM				S	**Sn**	**01 38 03.0**	**-1.1**
HMAT	**Matruh**	**3.65**	**149**	⇓P	**Pn**	**01 37 42.8**	**-0.2**
SWA2		**5.03**	**175**	⇓P	**Pn**	**01 38 03.0**	**+1.1**
SWA1		**5.03**	**172**	⇓P	**Pn**	**01 38 02.9**	**+1.0**
SWA1				S	**Sn**	**01 38 56.5**	**-3.2**
AWBH		**6.83**	**149**	⇑P	**Pn**	**01 38 25.8**	**-0.8**

IDC 18 01:46:56.2±1.2, 1139N×13977E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, MS3.6/2, Ms1 3.6/2, ms1mx3.0/22, Error ellipse: s-maj=67.1km s-min=22.7km az=87.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** comp=Z,122nm,20.3s,baz=1.7,slow=37	**5.44**	**66**	LR	LR	01 50 15.1	
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=5.8,slow=9.5,SNR=3.0	**31.59**	**190**	P	P	01 53 20.4	-0.1
ASAR	**Alice Springs** 0.5nm,0.7s,baz=16,slow=12,SNR=4.8	**35.31**	**189**	P	P	01 53 53.8	+0.8
RAO	**Raoul Island** comp=Z,216nm,20.4s,baz=150,slow=34	**57.43**	**136**	LR	LR	02 19 01.8	
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=111,slow=6.3,SNR=3.8	**59.69**	**318**	P	P	01 57 03.2	+0.9
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=103,slow=11,SNR=4.3	**68.60**	**323**	P	P	01 58 01.9	+1.0
YKA	**Yellowknife Ar** 0.7nm,0.7s,baz=295,slow=4.9,SNR=5.1	**87.07**	**27**	P	P	01 59 44.5	+0.8
ARCES	**ARCESS Array B** 1.7nm,0.6s,baz=72,slow=7.8,SNR=12	**87.60**	**341**	P	P	01 59 45.0	-1.3
FINES	**FINESS Array B** 0.7nm,0.7s,baz=72,slow=6.2,SNR=7.2	**90.99**	**334**	P	P	02 00 00.7	-1.5

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*ISCJB **18** 01:54:24.1±0.5, 1289N±007×5822E±008, h10km, mb4.4/37, MS3.7/8, Error ellipse: s-maj=11.1km s-min=9.0km az=64.4*
*IDC **18** 01:54:24.6±0.7, 1285N×5842E, h0km, mb4.0/17, mb1 4.0/19, mb1mx4.0/27, mbtmp4.0/19, ML3.8/2, MS3.7/9, Ms1 3.7/9, ms1mx3.6/17, Error ellipse: s-maj=18.6km s-min=15.2km az=124.0*
*BJI **18** 01:54:25.8, 1290N×5830E, h10km, mb4.4, Ms4.3, Msz4.0*
*CSEM **18** 01:54:25.0±0.2, 1261N×5821E, h27km, mb4.7/22, Ms3.4, Error ellipse: s-maj=7.9km s-min=4.1km az=147.0*
*NEIC **18** 01:54:25.9±0.5, 1287N×5833E, h10km, mb4.6/22, Error ellipse: s-maj=11.2km s-min=8.6km az=126.0*
ISC 18 01:54:26.2±0.5, 1286N±006×5828E±007, h10km, (h34km±2.4km: pP-P), n112, σ0§88/109, mb4.4/37, MS3.7/8, 7C-5D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHFO	**Wadi Hawf**	**6.65**	**320**	⇑P	**Pn**	**01 56 06.6**	**+2.7**
JMDO	**Jabal Madar** SNR=9.2	**9.46**	**359**	⇓P	**Pn**	**01 56 41.6**	**-0.9**
BSYO	**Bisya** SNR=9.3	**9.87**	**354**	P	**Pn**	**01 56 48.9**	**+0.8**
BSY	**Bisya** SNR=9.3	**9.89**	**354**	⇑P	**Pn**	**01 56 48.9**	**+0.6**
SMDO	**Samad** SNR=9.3	**10.15**	**359**	⇑P	**Pn**	**01 56 51.2**	**-0.7**
WSAR	**Wadi Sarin** 0.6nm,0.3s,baz=85,slow=14,SNR=25	**10.33**	**2**	Pn	**Pn**	**01 56 54.5**	**+0.1**
WSAR	0.3nm,0.3s,baz=271,slow=18,SNR=1.9			Sn	**Sn**	**01 58 42.9**	**-7.3**
WSAR	comp=Z,960nm,19.7s,baz=92,slow=35			LR	LR	02 00 25.1	
WSAR	**Wadi Sarin**	**10.33**	**2**	Pn	**Pn**	**01 56 54.5**	**+0.1**
WSAR				Sn	**Sn**	**01 58 42.9**	**-7.3**
WSAR				LR	LR	02 00 25.1	
WSAR	**Wadi Sarin**	**10.33**	**2**	Pn	**Pn**	**01 56 54.5**	**+0.1**
WSAR				Sn	**Sn**	**01 58 42.9**	**-7.3**
ATD	**Arta Tunnel** 0.5nm,0.3s,baz=85,slow=12,SNR=5.0	**15.14**	**267**	Pn	**Pn**	**01 58 03.0**	**+3.0**
KMBO	**Kilima Mbogo** 6.6nm,0.8s,mb4.2,baz=50,slow=12,SNR=18	**25.07**	**238**	P	**P**	**01 59 54.0**	**+3.4**
KMBO	comp=Z,75nm,21.2s,MS3.2,baz=97,slow=36			LR	LR	02 09 19.7	
ASF	**Jabal al Asfar** 3.3nm,1.1s,mb3.8,baz=117,slow=11,SNR=3.4	**27.46**	**318**	P	**P**	**02 00 14.9**	**+2.5**
ASF	comp=Z,222nm,18.9s,MS3.8,baz=7.2,slow=38			LR	LR	02 11 37.0	
KSH	**Kashi**	**30.81**	**27**	P	**P**	**02 00 45.9**	**+3.8**
MALT	**Malatya** 5.3nm,1.0s,mb4.3	**30.89**	**329**	eP	**P**	**02 00 43.4**	**+0.6**
MALT				epP	pP	02 00 53.2	+7.4
MALT				esP	sP	02 00 57.5	+10
MALT	**Malatya** 5.3nm,1.0s,mb4.3	**30.89**	**329**	eP	**P**	**02 00 43.4**	**+0.6**
BR131	**Keskin Array S** 1.6nm,0.8s,mb4.0	**34.47**	**325**	eP	**P**	**02 01 15.2**	**+1.1**
BR131	**Keskin Array S** 1.6nm,0.8s,mb4.0	**34.47**	**325**	eP	**P**	**02 01 15.2**	**+1.1**
BRTR	**Keskin Array B** 1.8nm,1.1s,mb3.9,baz=132,slow=8.7,SNR=9.4	**34.47**	**325**	P	**P**	**02 01 15.3**	**+1.2**
ANTO	**Ankara** 6.4nm,0.9s,mb4.5	**35.04**	**325**	eP	**P**	**02 01 21.2**	**+2.1**
ANTO	**Ankara** 6.4nm,0.9s,mb4.5	**35.04**	**325**	eP	**P**	**02 01 21.2**	**+2.1**
AKTK	**Aktyubinsk**	**37.47**	**360**	P	**P**	**02 01 40.4**	**+0.5**
AKTK	**Aktyubinsk**	**37.47**	**360**	P	**P**	**02 01 40.3**	**+0.5**
AKTO	**Aktyubinsk** 6.0nm,0.9s,mb4.4,baz=178,slow=8.4,SNR=20	**37.47**	**360**	P	**P**	**02 01 40.4**	**+0.5**
IDI	**Anoyia** 7.6nm,0.9s,mb4.4,baz=112,slow=8.6,SNR=3.3	**37.50**	**312**	P	**P**	**02 01 40.7**	**+0.6**
MKAR	**Makanchi Array** 0.7nm,0.8s,mb3.5,baz=221,slow=7.2,SNR=5.7	**39.40**	**26**	P	**P**	**02 01 56.0**	**0.0**
LSZ	**Lusaka** 1.6nm,0.8s,mb3.7,baz=62,slow=12,SNR=4.5	**40.84**	**228**	P	**P**	**02 02 10.9**	**+2.9**
ZRNK	**Zerenda** 2.9nm,0.9s,mb3.9	**40.90**	**10**	eP	**P**	**02 02 09.0**	**+0.5**
ZRNK				epP	pP	02 02 19.6	+8.0
ZRNK	**Zerenda** 2.9nm,0.9s,mb3.9	**40.90**	**10**	eP	**P**	**02 02 09.0**	**+0.5**
BVAR	**Borovoye Array** 0.3nm,0.6s,baz=198,slow=9.3,SNR=5.1	**41.22**	**11**	P	**P**	**02 02 12.6**	**+1.5**
CHKZ	**Chkalovo** 6.1nm,1.0s,mb4.2	**41.88**	**11**	eP	**P**	**02 02 16.6**	**+0.1**
CHKZ	**Chkalovo** 6.1nm,1.0s,mb4.2	**41.88**	**11**	eP	**P**	**02 02 16.6**	**+0.1**
VRI	**Vrincioaia**	**42.36**	**327**	⇓iP	**P**	**02 02 26.2**	**+5.7**
VRI	**Vrincioaia**	**42.36**	**327**	⇓P	**P**	**02 02 26.2**	**+5.7**
PLOR	**Plostina**	**42.40**	**327**	⇓iP	**P**	**02 02 26.1**	**+5.4**
MLR	**Muntele Rosu**	**42.54**	**326**	⇑iP	**P**	**02 02 26.0**	**+4.1**
MLR	**Muntele Rosu**	**42.54**	**326**	⇑P	**P**	**02 02 25.9**	**+4.0**
MATP	**Matopo** 2.7nm,1.0s,mb3.9,baz=29,slow=9.7,SNR=4.3	**44.18**	**222**	P	**P**	**02 02 35.7**	**+0.5**
MATP	**Matopo**	**44.18**	**222**	P	**P**	**02 02 35.7**	**+0.5**
AKASG	**Malin Array Be** 0.2nm,0.4s,baz=127,slow=7.7,SNR=4.6	**44.54**	**334**	P	**P**	**02 02 37.7**	**-0.3**
AKASG	**Malin Array Be**	**44.54**	**334**	P	**P**	**02 02 37.7**	**-0.3**
BZS	**Buzias**	**45.04**	**324**	⇓iP	**P**	**02 02 43.1**	**+1.1**
BZS	**Buzias**	**45.04**	**324**	⇑P	**P**	**02 02 43.1**	**+1.1**
BZS	**Buzias**	**45.04**	**324**	⇑P	**P**	**02 02 43.1**	**+1.1**
KWP	**Kalwaria** 2.1nm,0.6s,mb4.2	**46.86**	**329**	P	**P**	**02 02 56.7**	**+0.3**
KWP	**Kalwaria** 2.1nm,0.6s,mb4.2	**46.86**	**329**	P	**P**	**02 02 56.7**	**+0.3**
GYA	**Guiyang**	**47.27**	**66**	P	**P**	**02 03 00.9**	**+1.4**
GYA	comp=Z,10.0nm,1.0s,mb4.7			AMB	AMB		
MORC	**Moravsky Berou** comp=Z,9.0nm,1.5s,mb4.6	**49.65**	**326**	eP	**P**	**02 03 16.8**	**-1.2**
MORC				epP	pP	02 03 25.0	+3.9
MORC				esP	sP	02 03 29.1	+6.7
MORC	**Moravsky Berou** comp=Z,9.0nm,1.5s,mb4.6	**49.65**	**326**	eP	**P**	**02 03 16.8**	**-1.1**
MORC				epP	pP	02 03 25.0	+3.9
GERES	**GERESS Array B** comp=Z,50nm,18.0s,MS3.6,baz=284,slow=39	**51.33**	**324**	LR	LR	02 28 00.2	
PGF	**Pioggiola**	**51.75**	**315**	eP	**P**	**02 03 33.5**	**-0.3**
CLL	**Collm** comp=Z,30nm,2.2s	**52.92**	**326**	*i* (sP)	sP	02 03 49.8	+2.9
SONM	**Songino Array** comp=Z,1.1nm,0.7s,mb3.9,baz=237,slow=7.4,SNR=7.3	**52.98**	**39**	P	**P**	**02 03 43.2**	**+0.3**
SBF	**Sospel** comp=Z,48nm,1.2s,mb5.0	**53.27**	**316**	eP	**P**	**02 03 45.0**	**0.0**
SBF	**Sospel** comp=Z,24nm,1.2s,mb5.0	**53.27**	**316**	eP	**P**	**02 03 45.0**	**0.0**
FRF	**La Foret Royal** comp=Z,94nm,1.5s,mb5.2	**53.71**	**315**	eP	**P**	**02 03 47.9**	**-0.4**
FRF	**La Foret Royal** comp=Z,47nm,1.5s,mb5.2	**53.71**	**315**	eP	**P**	**02 03 47.9**	**-0.4**
LMR	**La Mourre**	**53.73**	**315**	eP	**P**	**02 03 47.6**	**-0.8**
FINES	**FINESS Array B** comp=Z,2.3nm,1.0s,mb4.1,baz=133,slow=9.7,SNR=4.2	**53.81**	**342**	P	**P**	**02 03 47.9**	**-1.1**
FINES				LR	LR	02 29 28.1	
MBDF	**Montbardon** comp=Z,40nm,19.1s,MS3.5,baz=270,slow=39	**54.00**	**316**	eP	**P**	**02 03 50.5**	**+0.1**
LPG	**La Plagne** comp=Z,13nm,0.9s,mb4.6	**54.27**	**317**	eP	**P**	**02 03 52.0**	**-0.4**
LPG	**La Plagne** comp=Z,6.3nm,0.9s,mb4.6	**54.27**	**317**	eP	**P**	**02 03 52.0**	**-0.4**
LPL	**La Plagne** comp=Z,12nm,0.8s,mb4.6	**54.29**	**317**	eP	**P**	**02 03 51.9**	**-0.6**
LPL	**La Plagne** comp=Z,5.9nm,0.8s,mb4.6	**54.29**	**317**	eP	**P**	**02 03 51.9**	**-0.6**
SMRF	**Simiane la Rot**	**54.58**	**315**	eP	**P**	**02 03 54.4**	**-0.2**
ORIF	**Oris-en-Rattie** comp=Z,21nm,1.3s,mb4.7	**54.66**	**316**	eP	**P**	**02 03 54.8**	**-0.4**
ORIF	comp=Z,72nm,22.8s			eR			
ORIF	**Oris-en-Rattie** comp=Z,10nm,1.3s,mb4.7	**54.66**	**316**	eP	**P**	**02 03 54.8**	**-0.4**
CDF	**Champ du Feu**	**54.99**	**321**	eP	**P**	**02 03 56.8**	**-0.8**
HINF	**Hinteralfeld**	**55.03**	**320**	eP	**P**	**02 03 57.2**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,0.7s,mb4.1,baz=94,slow=7.4,SNR=11	**55.03**	**277**	P	**P**	**02 03 58.5**	**+0.6**
CABF	**La Chapelle** comp=Z,21nm,1.0s,mb4.8	**55.09**	**318**	eP	**P**	**02 03 58.2**	**-0.1**
CABF	**La Chapelle** comp=Z,10nm,1.0s,mb4.8	**55.09**	**318**	eP	**P**	**02 03 58.2**	**-0.1**
LASF	**Ste Croix**	**55.79**	**315**	eP	**P**	**02 04 03.0**	**-0.3**
MEZF	**Maizieres J'vi**	**56.40**	**320**	eP	**P**	**02 04 07.4**	**-0.3**
SMF	**Signal de Mont**	**56.56**	**318**	eP	**P**	**02 04 08.9**	**0.0**
LOR	**Lormes** comp=Z,3.9nm,0.8s,mb4.2	**56.75**	**319**	eP	**P**	**02 04 10.3**	**+0.1**
LOR	comp=Z,56nm,18.5s			eR			
LOR	**Lormes** comp=Z,2.0nm,0.8s,mb4.2	**56.75**	**319**	eP	**P**	**02 04 10.3**	**+0.1**
SSF	**Saint Saulge**	**56.91**	**318**	eP	**P**	**02 04 10.6**	**-0.7**
AVF	**Avril sur Loir**	**56.93**	**318**	eP	**P**	**02 04 11.3**	**-0.2**
BGF	**Bois d'Agland** comp=Z,14nm,0.9s,mb4.7	**57.19**	**317**	eP	**P**	**02 04 13.0**	**-0.3**
BGF	**Bois d'Agland** comp=Z,7.2nm,0.9s,mb4.7	**57.19**	**317**	eP	**P**	**02 04 13.0**	**-0.3**
CAF	**Calviac**	**57.26**	**315**	eP	**P**	**02 04 13.0**	**-0.8**
BAIF	**Baives** comp=Z,18nm,1.2s,mb4.7	**57.46**	**322**	eP	**P**	**02 04 14.9**	**-0.3**
BAIF	**Baives** comp=Z,8.8nm,1.2s,mb4.7	**57.46**	**322**	eP	**P**	**02 04 14.9**	**-0.3**
TCF	**Toulx Ste Croi** comp=Z,12nm,1.2s,mb4.5	**57.53**	**317**	eP	**P**	**02 04 15.6**	**-0.1**
TCF	**Toulx Ste Croi** comp=Z,5.8nm,1.2s,mb4.5	**57.53**	**317**	eP	**P**	**02 04 15.6**	**-0.1**
RJF	**Les Rejaudoux**	**57.73**	**316**	eP	**P**	**02 04 16.4**	**-0.7**
RJF	comp=Z,52nm,19.8s			eR			
EPF	**Esparros**	**58.00**	**313**	eP	**P**	**02 04 18.8**	**-0.2**
LFF	**La Frestale** comp=Z,12nm,1.0s,mb4.6	**58.17**	**315**	eP	**P**	**02 04 19.8**	**-0.4**
LFF	**La Frestale** comp=Z,6.1nm,1.0s,mb4.6	**58.17**	**315**	eP	**P**	**02 04 19.8**	**-0.4**
ETSF	**Etsaut**	**58.61**	**313**	eP	**P**	**02 04 23.1**	**-0.2**
NOA	**NORSAR Array B** comp=Z,43nm,18.8s,MS3.6,baz=75,slow=39	**58.90**	**335**	LR	LR	02 32 25.1	
SJPF	**Ste Jean** comp=Z,32nm,1.6s,mb4.8	**59.14**	**313**	eP	**P**	**02 04 26.8**	**-0.1**
SJPF	**Ste Jean** comp=Z,16nm,1.6s,mb4.8	**59.14**	**313**	eP	**P**	**02 04 26.8**	**-0.1**
MFF	**Saint Martin d**	**59.19**	**317**	eP	**P**	**02 04 26.7**	**-0.6**
LDF	**La Druitiere**	**59.70**	**319**	eP	**P**	**02 04 30.3**	**-0.5**
GRR	**Gorron**	**60.11**	**319**	eP	**P**	**02 04 33.5**	**-0.2**
LUBP	**Lubang**	**60.16**	**81**	eP	**P**	**02 04 27.9**	**-6.1**
ARCES	**ARCESS Array B** comp=Z,55nm,19.6s,MS3.7,baz=24,slow=39	**60.30**	**347**	LR	LR	02 33 40.7	
ESDC	**Sonseca Array** comp=Z,0.4nm,0.6s,mb3.7,baz=57,slow=4.7,SNR=3.4	**60.58**	**308**	P	**P**	**02 04 36.1**	**-0.8**
SGMF	**Saint Gilles**	**61.18**	**318**	eP	**P**	**02 04 40.5**	**-0.4**
QUIF	**Quistinic**	**61.50**	**318**	eP	**P**	**02 04 42.8**	**-0.3**
ROSF	**Rostrenen** comp=Z,43nm,1.4s,mb5.1	**61.66**	**318**	eP	**P**	**02 04 43.4**	**-0.8**
ROSF	**Rostrenen** comp=Z,22nm,1.4s,mb5.1	**61.66**	**318**	eP	**P**	**02 04 43.4**	**-0.8**
DBIC	**Dimbokro** comp=Z,6.1nm,0.8s,mb4.8,baz=90,slow=8.5,SNR=3.9	**62.40**	**271**	P	**P**	**02 04 49.8**	**+0.6**
DBIC	**Dimbokro** comp=Z,6.2nm,0.6s,mb4.9	**62.40**	**271**	eP	**P**	**02 04 48.2**	**-0.9**
DBIC				epP	pP	02 04 58.7	+6.2
DBIC	**Dimbokro** comp=Z,6.2nm,0.6s,mb4.9	**62.40**	**271**	eP	**P**	**02 04 48.2**	**-1.0**
LIC	**Lamto** comp=Z,116nm,1.5s,mb5.5	**62.65**	**270**	eP	**P**	**02 04 49.2**	**-1.7**
LIC	**Lamto** comp=Z,58nm,1.5s,mb5.5	**62.65**	**270**	eP	**P**	**02 04 49.2**	**-1.7**
EVO	**Evora**	**63.59**	**307**	eP	**P**	**02 04 56.7**	**-0.4**
NWAO	**Narrogin (SRO)** comp=Z,91nm,21.0s,MS4.0,baz=12,slow=31	**72.34**	**131**	LR	LR	02 32 07.7	
MAW	**Mawson** comp=Z,110nm,18.4s,MS4.2,baz=243,slow=31	**80.31**	**178**	LR	LR	02 36 12.8	
WRA	**Warramunga Arr** comp=Z,1.5nm,0.9s,mb3.9,baz=301,slow=4.1,SNR=6.2	**81.60**	**113**	P	**P**	**02 06 43.7**	**-0.6**
ASAR	**Alice Springs** comp=Z,2.7nm,0.8s,mb4.2,baz=291,slow=5.3,SNR=23	**82.31**	**116**	P	**P**	**02 06 47.5**	**-0.5**

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*MOS **18** 01:59:49.9±1.8, 3766N×7276E, h33km, mb3.8/1, Error ellipse: s-maj=50.0km s-min=20.5km az=99.5*
*ISCJB **18** 01:59:59.3±0.9, 3795N±005×73.1E±02, h118km±16km, mb3.5/4, Error ellipse: s-maj=21.7km s-min=5.3km az=146.4*
*IDC **18** 01:59:59.2±6.6, 3814N×7303E, h84km±69km, mb3.3/4, mb1 3.4/7, mb1mx3.1/23, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=72.1km s-min=47.5km az=97.0*
*NNC **18** 02:00:09.8±3.8, 3888N×7312E, h190km±50km, mb2.3, mpv3.1, Error ellipse: s-maj=46.7km s-min=21.8km az=15.0*
ISC 18 02:00:00.6±0.8, 3797N±005×731E±02, h115km±15km, n25, σ1§04/30, mb3.5/4, 1C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=12	**4.18**	**6**	P	**Pn**	**02 01 03.1**	**+0.6**
UCH	**Uchtor** SNR=16	**4.39**	**14**	P	**Pn**	**02 01 05.6**	**+0.3**
KZA	**Kyzart** SNR=11	**4.43**	**22**	P	**Pn**	**02 01 06.0**	**+0.2**
EKS2	**Erkin-Say** SNR=15	**4.71**	**6**	P	**Pn**	**02 01 10.1**	**+0.5**
AAK	**Ala-Archa** SNR=8.5	**4.78**	**13**	P	**Pn**	**02 01 11.1**	**+0.6**
ULHL	**Ulahol** SNR=5.4	**4.91**	**29**	P	**Pn**	**02 01 12.6**	**+0.3**
CHMS	**Chumysh** SNR=6.1	**5.18**	**14**	P	**Pn**	**02 01 16.8**	**+0.9**
TKM2	**Tokmak 2** 0.7nm,0.7s	**5.31**	**21**	⇓P	**Pn**	**02 01 16.8**	**-0.8**
KK31	**Karatay Array** 2.6nm,0.2s,baz=156,slow=13,SNR=74	**5.48**	**340**	⇑P	**Pn**	**02 01 19.4**	**-0.5**
KK31	74nm,0.7s,baz=154,slow=22,SNR=36			⇓S	**Sn**	**02 02 14.9**	**-6.9**
SDNR	**Sundarnagar**	**7.21**	**152**	ex	x	02 02 10.0	
SDNR				eS	**Sn**	**02 03 02.5**	**-1.1**
KLP	**Kalpa**	**7.71**	**145**	eP	**Pn**	**02 01 52.1**	**+2.0**
KLP				eS	**Sn**	**02 03 15.2**	**-0.5**
KLP	comp=N,96nm,0.4s			AML	AML	02 03 18.2	
KLP	comp=E,165nm,0.4s			AML	AML	02 03 19.4	
NDI	**New Delhi**	**9.89**	**158**	ex	x	01 59 44.0	
AYAN	**Aya Nagar**	**10.05**	**159**	eP	**Pn**	**02 02 22.7**	**+0.8**
AYAN				eS	**Sn**	**02 04 07.8**	**-4.8**
AYAN	comp=Z,17nm,0.4s			AML	AML	02 04 12.3	
KHET	**Khetri**	**10.13**	**166**	eP	**Pn**	**02 02 22.5**	**-0.4**
KHET				eS	**Sn**	**02 04 09.8**	**-4.7**
KHET	comp=N,7.9nm,0.2s			AML	AML	02 04 16.7	
KHET	comp=E,10nm,0.2s			AML	AML	02 04 16.8	
SONA	**Sohna**	**10.26**	**160**	eP	**Pn**	**02 02 25.3**	**+0.7**
SONA				eS	**Sn**	**02 04 14.3**	**-3.3**
SONA	comp=E,50nm,0.6s			AML	AML	02 04 21.3	
SONA	comp=N,72nm,0.4s			AML	AML	02 04 24.1	
MKAR	**Makanchi Array** comp=N,0.2nm,0.3s,baz=207,slow=10,SNR=4.1	**11.14**	**35**	P	**Pn**	**02 02 34.4**	**-1.9**
AB31	**Akbulak array** comp=N,1.2nm,0.5s,baz=134,slow=13,SNR=23	**14.72**	**324**	⇓P	**Pn**	**02 03 21.5**	**-1.6**
AB31	comp=N,2.4nm,0.6s,baz=133,slow=22,SNR=13			⇓S	**Sn**	**02 05 54.7**	**-11**
BVAR	**Borovoye Array** comp=N,0.1nm,0.3s,baz=162,slow=10,SNR=2.8	**15.17**	**354**	P	**Pn**	**02 03 24.6**	**-4.1**
AKTO	**Aktyubinsk** comp=N,0.9nm,0.3s,baz=131,slow=9.6,SNR=12	**16.44**	**324**	P	**Pn**	**02 03 43.1**	**-1.3**
AKTO	**Aktyubinsk** comp=Z,1.0nm,0.3s	**16.44**	**324**	P	**Pn**	**02 03 43.1**	**-1.3**
AKTO				pmax	pmax		
FINES	**FINESS Array B** comp=Z,0.8nm,1.0s,mb3.6,baz=101,slow=9.9,SNR=5.5	**37.22**	**324**	P	**P**	**02 07 01.0**	**+0.3**
FINES	**FINESS Array B** comp=Z,1.0nm,1.0s	**37.22**	**324**	P	**P**	**02 07 01.0**	**+0.3**
FINES				pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,0.3nm,0.4s,mb3.4,baz=106,slow=7.7,SNR=7.3	**40.44**	**336**	P	**P**	**02 07 27.6**	**+0.1**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.7s,mb3.3,baz=92,slow=7.7,SNR=3.8	**44.22**	**322**	P	**P**	**02 07 58.0**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.5s,mb3.9,baz=48,slow=5.6,SNR=30	**67.39**	**269**	P	**P**	**02 10 45.8**	**+2.2**

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*ISCJB **18** 02:06:02.4±0.3, 3871S±004×17579E±005, h165km±2km, mb3.8/6, Error ellipse: s-maj=7.7km s-min=5.0km az=65.4*
*NEIC **18** 02:06:02.8±0.3, 3871S×17580E, h164km±2km, mb4.1/2, Error ellipse: s-maj=8.7km s-min=4.4km az=123.0*
NEIC Felt at Waipawa and Whakatane.
*IDC **18** 02:06:03.2±0.5, 3822S×17622E, h170km±6km, mb3.4/4, mb1 3.6/4, mb1mx3.5/10, mbtmp3.9/4, Error ellipse: s-maj=30.9km s-min=18.8km az=32.0*
*BJI **18** 02:06:04.5, 3964S×17569E, h181km, mb4.6*
*WEL **18** 02:06:04.3±0.2, 3856S×17585E, h151km±1km, ML4.9/24, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*
WEL Felt from Bay of Plenty to Hawke's Bay, maximum reported intensity MM 3.
ISC 18 02:06:03.1±0.3, 3871S±004×17582E±005, h163km±2km, n148, σ1§09/151, mb3.8/6, 11C-3D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.06**	**265**	⇑PN	**Pn**	**02 06 24.7**	**0.0**
WATZ	**Wairara**	**0.06**	**265**	P	**Pn**	**02 06 24.7**	**0.0**
WHTZ	**Whakaora**	**0.12**	**

MOVZ	Moawhango	0.70	184	P	Pn	02 06 27.8 +0.9
MOVZ				S	Sn	02 06 44.5 -0.7
TAZ	Tarawera	0.72	49	PN	Pn	02 06 26.5 -0.5
TAZ	Tarawera	0.72	49	P	Pn	02 06 26.5 -0.5
MTVZ	Mangateitei	0.73	201	PN	Pn	02 06 28.2 +1.1
HIZ	Hauiti	0.78	284	⇑PN	Pn	02 06 27.1 -0.3
HIZ				SN	Sn	02 06 44.7 -1.3
LIRZ	Lichensteins R	0.83	33	PN	Pn	02 06 26.9 -0.8
LIRZ	Lichensteins R	0.83	33	P	Pn	02 06 26.9 -0.9
VRZ	Vera Road	0.93	243	⇓PN	Pn	02 06 29.1 +0.6
EDRZ	Edgecumbe	0.94	51	PN	Pn	02 06 27.7 -0.9
EDRZ	Edgecumbe	0.94	51	P	Pn	02 06 27.7 -0.9
TOZ	Tahuroa Road	1.00	346	⇓PN	Pn	02 06 28.0 -1.0
TOZ	Tahuroa Road	1.00	346	P	Pn	02 06 28.0 -1.1
TGRZ	Tauranga	1.03	20	PN	Pn	02 06 28.1 -1.2
TGRZ	Tauranga	1.03	20	P	Pn	02 06 28.1 -1.2
URZ	Urewera	1.11	67	P	Pn	02 06 29.0 -0.9
	191nm,0.3s,baz=261,slow=5.9,SNR=764					
URZ				S	Sn	02 06 47.2 -3.4
	1μm,0.3s,baz=119,slow=18,SNR=153					
URZ	Urewera	1.11	67	⇑PN	Pn	02 06 29.0 -0.9
URZ	Urewera	1.11	67	P	Pn	02 06 29.0 -0.9
WAZ	Wanganui	1.23	211	PN	Pn	02 06 32.2 +1.2
WAZ	Wanganui	1.23	211	P	Pn	02 06 32.4 +1.4
RAEZ	Rainy Point	1.25	242	PN	Pn	02 06 32.4 +1.2
RAEZ	Rainy Point	1.25	242	P	Pn	02 06 32.4 +1.2
TSZ	Takapari Road	1.36	175	⇑PN	Pn	02 06 33.7 +1.5
TSZ	Takapari Road	1.36	175	P	Pn	02 06 33.7 +1.5
MWZ	Matawai	1.39	75	PN	Pn	02 06 32.2 -0.4
MWZ	Matawai	1.39	75	P	Pn	02 06 32.2 -0.3
NEZ	North Egmont	1.45	247	PN	Pn	02 06 34.5 +1.3
NEZ	North Egmont	1.45	247	P	Pn	02 06 34.5 +1.4
KNZ	Kokohu	1.48	103	PN	Pn	02 06 34.1 +0.7
KNZ				SN	Sn	02 06 55.9 -0.9
KNZ	Kokohu	1.48	103	P	Pn	02 06 34.1 +0.7
KNZ				S	Sn	02 06 55.9 -0.9
PKE	Pukeiti	1.51	250	PN	Pn	02 06 34.4 +0.8
PKE	Pukeiti	1.51	250	P	Pn	02 06 34.4 +0.7
PXZ	Pawanui	1.56	149	PN	Pn	02 06 35.7 +1.5
NRZ	Ngariki Road	1.60	246	PN	Pn	02 06 35.4 +0.8
NRZ	Ngariki Road	1.60	246	P	Pn	02 06 35.4 +0.8
WIZ	White Island	1.60	43	PN	Pn	02 06 33.2 -1.4
WIZ	White Island	1.60	43	P	Pn	02 06 33.2 -1.4
NWEZ	Newall Road	1.62	249	PN	Pn	02 06 35.8 +0.9
NWEZ	Newall Road	1.62	249	P	Pn	02 06 35.8 +1.0
KUZ	Kuaotunu	1.96	358	PN	Pn	02 06 36.9 -1.5
KUZ	Kuaotunu	1.96	358	P	Pn	02 06 36.9 -1.6
MRZ	Mangatainoka R	1.96	185	⇑PN	Pn	02 06 39.5 +1.0
MRZ	Mangatainoka R	1.96	185	P	Pn	02 06 39.5 +0.9
BFZ	Birch Farm	2.00	171	⇑PN	Pn	02 06 40.2 +1.2
BFZ	Birch Farm	2.00	171	P	Pn	02 06 40.2 +1.2
PUZ	Puketiti	2.02	73	⇓PN	Pn	02 06 38.6 -0.6
PUZ	Puketiti	2.02	73	P	Pn	02 06 38.6 -0.6
TIWZ	Tintock	2.07	179	PN	Pn	02 06 40.8 +1.1
KIW	Kapiti Island	2.27	198	PN	Pn	02 06 42.5 +0.5
KIW	Kapiti Island	2.27	198	P	Pn	02 06 42.5 +0.5
MXZ	Matakaoa Point	2.27	61	PN	Pn	02 06 41.4 -0.6
MXZ	Matakaoa Point	2.27	61	P	Pn	02 06 41.4 -0.7
MTW	Mount Morrison	2.46	186	PN	Pn	02 06 44.8 +0.5
MTW	Mount Morrison	2.46	186	P	Pn	02 06 44.8 +0.4
CAW	Cannon Point	2.47	193	PN	Pn	02 06 44.9 +0.5
CAW	Cannon Point	2.47	193	P	Pn	02 06 44.9 +0.5
DUWZ	D'Urville Isla	2.55	214	PN	Pn	02 06 45.5 +0.1
MRW	Makara Radio	2.66	198	PN	Pn	02 06 47.0 +0.2
MRW	Makara Radio	2.66	198	P	Pn	02 06 47.0 +0.2
PAWZ	Paruwai Farm	2.69	186	PN	Pn	02 06 47.5 +0.4
PAWZ	Paruwai Farm	2.69	186	P	Pn	02 06 47.5 +0.4
TRWZ	Traveller	2.69	182	PN	Pn	02 06 47.7 +0.5
WEL	Wellington	2.70	197	PN	Pn	02 06 47.4 +0.2
WEL	Wellington	2.70	197	P	Pn	02 06 47.4 +0.2
SNZO	South Karori	2.74	198	PN	Pn	02 06 47.7 0.0
SNZO	South Karori	2.74	198	P	Pn	02 06 47.7 0.0
MSWZ	Moikau Station	2.74	189	PN	Pn	02 06 47.9 +0.2
MSWZ	Moikau Station	2.74	189	P	Pn	02 06 47.9 +0.2
TCW	Tory Channel	2.77	205	PN	Pn	02 06 48.1 0.0
BHW	Baring Head	2.80	195	PN	Pn	02 06 48.5 +0.1
BHW	Baring Head	2.80	195	P	Pn	02 06 48.5 +0.1
NNZ	Nelson	3.13	216	P	Pn	02 06 52.0 -0.6
CMWZ	Cape Campbell	3.28	201	P	Pn	02 06 55.0 +0.6
QRZ	Quartz Range	3.30	229	P	Pn	02 06 53.6 -1.1
THZ	Tophouse	3.78	215	*eP*	Pn	02 06 59.8 -1.0
KHZ	Kahutara	4.09	204	P	Pn	02 07 04.4 -0.4
DSZ	Dennistoun Nort	4.32	224	P	Pn	02 07 06.0 -1.8
LTZ	Lake Taylor	4.88	212	*eP*	Pn	02 07 13.5 -1.6
CRLZ	Canterbury Las	5.43	205	*eP*	Pn	02 07 20.3 -2.0
MQZ	McQueen's Vall	5.54	204	P	Pn	02 07 21.3 -2.4
WVZ	Waitaha Valley	5.82	220	*eP*	Pn	02 07 24.5 -3.0
RPZ	Rata Peaks	6.16	214	*eP*	Pn	02 07 30.5 -1.5
FOZ	Fox Glacier	6.70	222	*eP*	Pn	02 07 35.8 -3.4
LBZ	Lake Benmore	7.07	215	*eP*	Pn	02 07 42.0 -2.1
ODZ	Otahua Downs	7.42	210	*eP*	Pn	02 07 46.6 -2.0
JCZ	Jackson Bay	7.54	222	*eP*	Pn	02 07 48.0 -2.3
WKZ	Wanaka	7.95	218	*eP*	Pn	02 07 53.5 -2.2
EAZ	Earnscleugh	8.12	215	*eP*	Pn	02 07 55.2 -2.8
MSZ	Milford Sound	8.39	222	*eP*	Pn	02 07 59.6 -1.9
TUZ	Tuapeka	8.57	210	*eP*	Pn	02 08 02.4 -1.5
MLZ	Mavora Lakes	8.74	218	*eP*	Pn	02 08 05.1 -1.0
AS31	Alice Springs	38.52	280	*eP*	P	02 13 11.0 +1.5
ASAR	Alice Springs	38.52	280	P	P	02 13 11.1 +1.6
	2.4nm,0.3s,mb4.3,baz=113,slow=5.8,SNR=78					
ASPA	Alice Springs	38.52	280	*eP*	P	02 13 11.0 +1.5
VNDA	Vanda	39.38	185	P	P	02 13 20.9 +4.2
	0.3nm,0.5s,mb3.1,baz=358,slow=6.0,SNR=4.0					
WB2	Warramunga Arr	40.29	286	*eP*	P	02 13 25.2 +1.0
WRA	Warramunga Arr	40.30	286	P	P	02 13 24.7 +0.4
	0.5nm,0.4s,mb3.5,baz=123,slow=7.2,SNR=13					
CASY	Casey	45.42	211	*eP*	P	02 14 06.6 +1.2
	1.7nm,0.6s,mb3.9					
FITZ	Fitzroy Crossi	48.02	281	*eP*	P	02 14 24.3 -1.3
	4.4nm,0.8s,mb4.1					
FITZ	Fitzroy Crossi	48.02	281	P	P	02 14 27.4 +1.8
	0.7nm,0.3s,mb3.8,baz=133,slow=19,SNR=17					
QSPA	South Pole Qui	51.42	180	*eP*	P	02 14 55.3 +4.0
	3.6nm,0.5s,mb4.3					
QSPA				*e*PcP	PcP	02 16 04.9 +1.4
CD2	Chengdu	96.38	305	*eP*	P	02 19 15.5 +2.1
CD2				PP	PP	02 23 13.0 +3.9
CD2				SKS		02 29 36.5
CD2				S		02 30 20.0
WMQ	Urumqi	114.27	307	*e*PKP	PKiKP	02 24 24.5 +1.3
MKAR	Makanchi Array	119.05	308	PKP	PKPdf	02 24 30.4 -2.0
	0.4nm,0.6s,baz=212,slow=2.3,SNR=5.4					
CHKZ	Chkalovo	128.50	313	*e*PKPdf	PKPdf	02 24 48.9 -1.6
ZRNK	Zerenda	129.25	312	*e*PKPdf	PKPdf	02 24 50.4 -1.5
ARCES	ARCESS Array B	145.29	342	PKP	PKPdf	02 25 19.8 -1.5
	1.1nm,0.4s,baz=55,slow=3.6,SNR=26					
JOF	Joensuu	147.70	330	*e*pkp	PKPdf	02 25 26.1 +0.7
DBIC	Dimbokro	148.10	179	PKPbc	PKPbc	02 25 30.4 +0.9
	6.3nm,0.9s,baz=191,slow=13,SNR=11					
KAF	Kangasniemi	150.07	331	*e*pkp	PKPdf	02 25 31.8 +2.6
	baz=49,slow=2.3					
FINES	FINESS Array B	150.56	330	PKPbc	PKPbc	02 25 33.7 -1.8
	0.7nm,0.3s,baz=53,slow=2.8,SNR=15					
FINES				PKPab	PKPab	02 25 40.0 -2.8
	0.5nm,0.5s,baz=72,slow=4.1,SNR=6.0					
FINES	FINESS Array B	150.56	330	PKPbc	PKPbc	02 25 33.7 -1.8
FINES				PKPab	PKPab	02 25 40.0 -2.8
BR131	Keskin Array S	150.82	284	*e*PKPdf	PKPdf	02 25 31.9 +1.5
BR131				*e*PKPbc	PKPbc	02 25 35.6 -0.5
BRTR	Keskin Array B	150.82	284	PKPbc	PKPbc	02 25 35.4 -0.7
	1.5nm,0.7s,baz=142,slow=5.8,SNR=11					
BRTR				PKPab	PKPab	02 25 43.7 -0.2
	0.7nm,0.7s,baz=146,slow=6.9,SNR=4.6					
AKASG	Malin Array Be	153.63	308	PKPbc	PKPbc	02 25 40.1 -2.3
	0.2nm,0.2s,baz=70,slow=1.9,SNR=4.1					
TORD	Torodi Ar. Bea	154.02	193	PKPbc	PKPbc	02 25 42.6 -0.7
	0.3nm,0.4s,baz=167,slow=3.2,SNR=16					
TORD				PKPab	PKPab	02 25 58.2 +0.9
	1.4nm,0.6s,baz=155,slow=4.7,SNR=14					

ATH ***18*** *02:10:24.4, 34.20N×25.19E, h18km, MD3.1/3*
NEIC ***18*** *02:10:24.4, 34.20N×25.19E, h18km, MD3.1(ATH), After ATH.*
ISCJB ***18*** *02:10:27.4±0.6, 34.28N±0.04×252E±0.1, h33km, Error ellipse: s-maj=14.0km s-min=5.7km az=179.2*
CSEM ***18*** *02:10:27.1±0.1, 34.27N×25.29E, h25km, ML2.9, Error ellipse: s-maj=3.3km s-min=1.4km az=87.0*
HLW ***18*** *02:10:31.7, 34.19N×25.46E, h33km, Mb2.9*
ISC 18 02:10:28.4±0.6**, 3432N**±004×**252E**±01**, h35**km**, n11,** σ**1**§**25**/14**, 3C-2D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.69**	**36**	*e*PN	**Pn**	**02 10 39.8**	**-1.9**
NPS	**Neapolis**	**1.00**	**20**	*e*PN	**Pn**	**02 10 44.9**	**-1.1**
NPS				*e*SN	**Sn**	**02 11 00.5**	**+1.6**
GVD	**Gavdhos**	**1.06**	**300**	*e*Pn	**Pn**	**02 10 45.4**	**-1.3**
GVD	**Gavdhos**	**1.06**	**300**	*e*Pn	**Pn**	**02 10 45.4**	**-1.4**
VAM	**Vamos**	**1.37**	**323**	*e*PN	**Pn**	**02 10 52.0**	**+1.0**
SLUM		**2.82**	**180**	⇑P	**Pn**	**02 11 12.5**	**+1.6**
SLUM				S	**Sn**	**02 11 42.6**	**-1.0**
HMAT	**Matruh**	**3.59**	**153**	⇓P	**Pn**	**02 11 21.6**	**+0.1**
HMAT	**Matruh**	**3.59**	**153**	P	**Pn**	**02 11 21.6**	**+0.1**
SWA1		**5.06**	**175**	⇑P	**Pn**	**02 11 42.7**	**+1.0**
SWA1				S	**Sn**	**02 12 35.3**	**-3.6**
SWA2		**5.06**	**178**	⇑P	**Pn**	**02 11 42.8**	**+1.0**
AWBH		**6.76**	**151**	⇓P	**Pn**	**02 12 04.8**	**-0.4**

IDC 18 02:14:12.3±3.3**, 5725S**×**14986E, h0**km**, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.8**/9**, mbtmp3.6**/3**, MS4.0**/2**, Ms1 4.0**/2**, ms1mx3.3**/11**, Error ellipse: s-maj=243.0km s-min=28.3km az=76.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.78**	**173**	P	P	02 18 53.7	-1.2
	2.1nm,1.1s,baz=346,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**35.49**	**334**	P	P	02 21 10.4	-0.2
	0.4nm,0.7s,baz=164,slow=9.3,SNR=5.4						
WRA	**Warramunga Arr**	**38.99**	**336**	P	P	02 21 39.5	-0.8
	1.4nm,1.0s,baz=166,slow=7.4,SNR=2.9						
AFI	**Afiamalu**	**52.10**	**50**	LR	LR	02 43 35.9	
	comp=Z,100nm,18.8s,baz=102,slow=34						
RPN	**Rapa Nui**	**73.15**	**114**	LR	LR	02 48 55.0	
	comp=Z,140nm,19.8s,baz=272,slow=28						
AKASG	**Malin Array Be**	**145.48**	**285**	PKPbc	PKPbc	02 33 50.2	-2.2
	0.2nm,0.3s,baz=113,slow=1.2,SNR=2.4						
FINES	**FINESS Array B**	**151.81**	**302**	PKPbc	PKPbc	02 34 08.2	-0.8
	1.0nm,0.7s,baz=86,slow=6.0,SNR=8.2						

IDC 18 02:18:42.6±2.8**, 659S**×**15424E, h0**km**, mb3.7**/4**, mb1 4.0**/5**, mb1mx3.9**/12**, mbtmp3.8**/5**, ML3.4**/1**, Error ellipse: s-maj=87.0km s-min=28.7km az=117.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.55**	**248**	Pn	Pn	02 20 34.2	+0.3
	3.4nm,0.3s,baz=74,slow=7.3,SNR=8.2						
PMG				Sn	Sn	02 21 54.5	-5.6
	1.3nm,0.3s,baz=63,slow=18,SNR=3.6						
WRA	**Warramunga Arr**	**23.44**	**234**	P	P	02 23 54.5	+0.9
	1.4nm,0.9s,baz=60,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**25.89**	**227**	P	P	02 24 16.2	+0.1
	1.7nm,0.8s,baz=58,slow=9.2,SNR=15						
SONM	**Songino Array**	**68.59**	**328**	P	P	02 29 47.7	+0.5
	0.4nm,0.5s,baz=133,slow=6.1,SNR=4.3						
MKAR	**Makanchi Array**	**82.60**	**319**	P	P	02 31 07.8	+0.1
	0.3nm,0.6s,baz=112,slow=5.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**152.19**	**286**	PKPbc	PKPbc	02 38 41.0	+0.8
	0.9nm,0.8s,baz=86,slow=1.8,SNR=6.4						

CSEM ***18*** *02:29:54.0±0.5, 38.62N×28.61W, h5km±4km, ML0.9, Error ellipse: s-maj=2.5km s-min=1.5km az=155.0, After PDA*
PDA ***18*** *02:29:54.0±0.5, 38.62N×28.61W, h5km±4km, MD2.8, ML0.9, Error ellipse: s-maj=2.5km s-min=1.5km az=155.0*
SVSA 18 02:29:54.0±0.5**, 3862N**×**2861W, h5**km±4**km, MD2.8, ML0.9, Error ellipse: s-maj=2.5km s-min=1.5km az=155.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.09**	**241**	*e*P	Pg	02 29 55.7	-0.1
CALA				*e*S	Sg	02 29 57.4	+0.4
HOR	**Horta**	**0.10**	**191**	*e*P	Pg	02 29 55.8	-0.2
PICO	**Pico**	**0.19**	**130**	*e*P	Pg	02 29 57.7	0.0
PICO				*e*S	Sg	02 30 00.2	+0.1
PCND	**Candelaria**	**0.19**	**143**	*e*rx		02 30 01.1	
ROSA	**Rosais**	**0.30**	**71**	*e*P	Pg	02 29 59.4	-0.4
ROSA				*e*S	Sg	02 30 03.6	-0.2
PMAN	**Manadas**	**0.41**	**88**	*e*S	Sg	02 30 06.7	-0.4
PMAN							
	4.1nm,0.2s						

ISCJB ***18*** *02:29:55.2±0.6, 43.32N±0.002×18.01E±0.04, h5km±5km, Error ellipse: s-maj=4.6km s-min=3.7km az=46.1*
NEIC ***18*** *02:29:57.4, 43.27N×18.08E, h9km, MD2.6(PDG), ML2.5(ROM), After PDG.*
PDG ***18*** *02:29:57.4±0.2, 43.27N×18.08E, h9km*
CSEM ***18*** *02:29:58.6±1.1, 42.88N×18.47E, h10km, MD3.2/5, ML2.5/4, Error ellipse: s-maj=15.0km s-min=14.4km az=178.0, After ROM*
ROM ***18*** *02:29:58.6±1.1, 42.88N×18.47E, h10km, Md3.2/5, Ml2.5/4, Error ellipse: s-maj=15.0km s-min=14.4km az=178.0*
SKO ***18*** *02:30:24.6, 42.19N×20.64E, h25km*
ISC 18 02:29:56.4±0.6**, 4332N**±002×**1801E**±004**, h5**km±5**km, n33,** σ**1**§**32**/59**, 8C-8D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.50**	**207**	*i* Pg	**Pg**	**02 30 05.3**	**-0.7**
STON				*i* Sg	**Sg**	**02 30 13.4**	**+0.8**
STON	**Ston**	**0.50**	**207**	*i* (Pg)	**Pg**	**02 30 09.4**	**+3.3**
STON				*i* Sg	**Sg**	**02 30 17.4**	**+4.9**
BRY	**Bratogost**	**0.57**	**137**	⇑*i*Pg	**Pg**	**02 30 06.6**	**-0.8**
BRY				*e*Sg	**Sg**	**02 30 15.0**	**+0.2**
UPM	**Unac-Piva**	**0.67**	**100**	⇑*i*Pg	**Pg**	**02 30 08.8**	**-0.5**
UPM				*e*Sg	**Sg**	**02 30 18.6**	**+0.7**
NKY	**Niksic**	**0.88**	**125**	⇓*i*Pg	**Pg**	**02 30 12.1**	**-1.2**
NKY				*e*Sg	**Sg**	**02 30 25.6**	**+0.8**
HCY	**Herceg Novi**	**0.94**	**157**	⇓*i*Pg	**Pg**	**02 30 13.3**	**-1.1**
HCY				*e*Sg	**Sg**	**02 30 27.4**	**+0.7**
PLE	**Pljevlja**	**1.01**	**89**	⇓*i*Pg	**Pg**	**02 30 15.1**	**-0.7**
PLE				*e*Sg	**Sg**	**02 30 30.1**	**+1.2**
BBLS	**Bajina Basta -**	**1.16**	**61**	*i* Pg	**Pg**	**02 30 18.1**	**-0.4**
BBLS				Sg	**Sg**	**02 30 36.4**	**+2.9**
BUM	**Brajici-Budva**	**1.21**	**147**	⇑*i*Pg	**Pg**	**02 30 18.8**	**-0.7**
BUM				*e*Sg	**Sg**	**02 30 36.5**	**+1.2**
TTG	**Podgorica**	**1.28**	**134**	⇓*i*Pg	**Pg**	**02 30 19.2**	**-1.7**
TTG				*e*Sg	**Sg**	**02 30 39.2**	**+1.7**
IVA	**Berane**	**1.45**	**107**	⇑*i*Pg	**Pg**	**02 30 23.6**	**-0.7**
IVA				*e*Sg	**Sg**	**02 30 44.8**	**+1.7**
PVY	**Plav**	**1.61**	**116**	⇑*i*Pg	**Pg**	**02 30 26.0**	**-1.3**
PVY				*e*Sg	**Sg**	**02 30 49.1**	**+0.8**
DIVS	**Divcibare**	**1.63**	**61**	⇑*i*Pn	**Pn**	**02 30 24.4**	**-1.4**
DIVS				Sn	**Sn**	**02 30 48.1**	**+1.0**
ULC	**Ulcinj**	**1.63**	**146**	⇓*i*Pg	**Pg**	**02 30 26.6**	**-1.1**
ULC				*e*Sg	**Sg**	**02 30 49.2**	**+0.3**
GRUS	**Gruza**	**2.05**	**73**	*i* Pn	**Pn**	**02 30 29.7**	**-1.8**
GRUS				Sg	**Sg**	**02 31 04.7**	**+2.6**
FGMS	**Monte Sant'Ang**	**2.21**	**224**	Pg	**Pg**	**02 30 36.7**	**-2.1**
	41nm,0.7s						
MSAG	**Monte S. Angel**	**2.23**	**225**	Pn	**Pn**	**02 30 36.1**	**+2.1**
MSAG				Sn	**Sn**	**02 31 03.8**	**+1.8**
	54nm,0.5s						
SGRT	**San Giovanni R**	**2.29**	**228**	Pn	**Pn**	**02 30 38.1**	**+3.3**
SGRT				Sn	**Sn**	**02 31 04.4**	**+1.0**
	33nm,0.5s						
RGNG	**Rignano Grg**	**2.43**	**228**	Pn	**Pn**	**02 30 38.0**	**+1.2**
NVLJ	**Novalja**	**2.59**	**300**	*i* Pn	**Pn**	**02 30 39.2**	**+0.3**
NVLJ				*i* Sn	**Sn**	**02 31 11.9**	**+1.2**
NOCI	**Noci**	**2.62**	**196**	Pn	**Pn**	**02 30 37.6**	**-1.8**
NOCI				Sn	**Sn**	**02 31 08.2**	**-3.4**
	17nm,0.4s						
AMUR	**Altamura**	**2.63**	**204**	Pn	**Pn**	**02 30 37.8**	**-1.6**
AMUR				Sn	**Sn**	**02 31 07.8**	**-3.9**
	12nm,0.5s						
BOJS	**Bojanci**	**2.95**	**319**	*e*Pn	**Pn**	**02 30 44.0**	**+0.1**
BOJS				*e*Sn	**Sn**	**02 31 19.4**	**-0.2**
BOJS							
	comp=Z,8.0nm,0.4s						
OHR	**Ohrid**	**3.03**	**136**	*e*Pn	**Pn**	**02 30 45.8**	**+0.9**
CRES	**Cresnjev**	**3.10**	**325**	*e*Pn	**Pn**	**02 30 46.2**	**+0.2**
CRES				*e*Sn	**Sn**	**02 31 23.3**	**-0.1**
VISS	**Visnje**	**3.36**	**319**	*e*Pn	**Pn**	**02 30 50.5**	**+0.9**
BIA	**Bitola**	**3.37**	**132**	*e*Pn	**Pn**	**02 30 48.8**	**-0.8**
BZS	**Buzias**	**3.46**	**47**	⇑*i*P	**Pg**	**02 31 02.1**	**-0.5**
BZS				S	**Sn**	**02 31 28.6**	**-3.5**
BZS	**Buzias**	**3.46**	**47**	P	**Pg**	**02 31 02.1**	**-0.5**
BZS				S	**Sn**	**02 31 28.6**	**-3.6**
STIP	**Stip**	**3.49**	**116**	*e*Pn	**Pn**	**02 30 48.0**	**-3.3**
OBKA	**Obir**	**4.03**	**324**	⇑*i*Pn	**Pn**	**02 30 58.6**	**-0.1**
OBKA				⇓*i*Sn	**Sn**	**02 31 47.9**	**+1.6**
DRGR		**4.81**	**42**	S	**Sn**	**02 32 00.7**	**-4.9**
MOA	**Molln**	**5.24**	**331**	⇓*i*Pn	**Pn**	**02 31 14.6**	**-0.8**
MOA				⇓*i*Sn	**Sn**	**02 32 15.6**	**-0.5**

JMA 18 02:43:34.9±0.5**, 4427N**×**14831E, h0**km**, M3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.07**	**245**	P	Pn	02 44 11.4	+0.6
NEM2				*e*S	Sn	02 44 37.9	+0.6
JNK	**Nakash**	**2.68**	**256**	*e*S	Sn	02 44 52.6	+0.1
JAR	**Ashorobuto**	**3.43**	**255**	P	Pn	02 44 32.0	+2.4
JCH	**Churui**	**3.96**	**247**	P	Pn	02 44 39.0	+2.1
JNBK	**Urakawa-nobuka**	**4.52**	**246**	P	Pn	02 44 45.8	+1.2

BJI ***18*** *02:44:05.4, 51.84N×177.07E, h8km, mB4.5, mb4.6, Ms4.5, Msz4.2*
ISCJB ***18*** *02:44:08.5±0.5, 52.07N±0.009×177.05E±0.08, h10km, mb3.8/5, MS3.8/3, Error ellipse: s-maj=14.1km s-min=5.8km az=34.1*
IDC ***18*** *02:44:08.2±1.3, 51.37N×178.01E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, MS3.5/1, Ms1 3.5/1, ms1mx3.0/13, Error ellipse: s-maj=55.7km s-min=29.8km az=140.0*
NEIC ***18*** *02:44:09.9, 52.10N×177.09E, h6km, mb3.8/2, ML4.0(AEIC), After AEIC.*
ISC 18 02:44:09.7±0.5**, 5204N**±010×**17706E**±008**, h10**km**, n16,** σ**0**§**96**/18**, mb3.8**/5**, MS3.8**/3**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.54**	**114**	P	**Pn**	**02 44 37.4**	**+0.2**
AMKA				S	**Sn**	**02 44 58.0**	**+0.8**
SMY	**Shemya**	**1.94**	**292**	P	**Pn**	**02 44 42.8**	**0.0**
SMY				S	**Sn**	**02 45 08.3**	**+1.2**
ATKA	**Atka Island**	**5.39**	**85**	P	**Pn**	**02 45 30.7**	**+0.6**
BILL	**Bilibino**	**16.89**	**346**	*e*P	**Pn**	**02 48 06.0**	**0.0**
	4.1nm,0.8s						
KDAK	**Kodiak Island**	**18.27**	**60**	*e*P	**Pn**	**02 48 21.3**	**-1.9**
	15nm,1.0s						
DAWY	**Dawson**	**25.42**	**45**	*e*P	**P**	**02 49 38.0**	**+0.6**
MDJ	**Mudanjiang**	**31.93**	**276**	P	**P**	**02 50 33.9**	**-1.6**
MDJ				AMB	AMB		
	comp=Z,30nm,6.3s						
CN2	**Changchun**	**34.90**	**277**	*e*P	**P**	**02 50 59.5**	**-1.8**
YKA	**Yellowknife Ar**	**36.64**	**46**	P	**P**	**02 51 16.2**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.4,baz=279,slow=8.4,SNR=3.5						
YKA				LR	LR	03 07 41.2	
	comp=Z,68nm,18.1s,MS3.5,baz=320,slow=38						
YKA	**Yellowknife Ar**	**36.64**	**46**	P	**P**	**02 51 16.2**	**-0.1**
YKA				LR	LR	03 07 41.2	
SONM	**Songino Array**	**44.04**	**294**	P	**P**	**02 52 23.5**	**+6.0**
	comp=Z,0.4nm,0.6s,mb3.4,baz=59,slow=7.0,SNR=3.5						
NJ2	**Nanjing**	**46.24**	**268**	*e*P	**P**	**02 52 36.0**	**+1.0**
LZH	**Lanzhou**	**52.73**	**283**	*e*P	**P**	**02 53 24.8**	**+0.3**
LZH				AP	pP	02 53 25.8	-1.9
LZH				XP	sP	02 53 27.3	-1.6
LZH				*e*PP	PP	02 55 24.5	+0.8
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,40nm,7.2s						
LZH				LR	LR		
	comp=E,310nm,15.2s						
LZH				LR	LR		
	comp=Z,390nm,18.3s,MS4.5						
WMQ	**Urumqi**	**56.80

4.2nm,0.5s,mb4.4
MBWA Marble Bar 34.47 240 *e*P **P 02 51 16.7 -1.1**
2.3nm,0.5s,mb4.2
MJAR Matsushiro Arr 43.25 345 P **P 02 52 26.1 -4.8**
2.6nm,0.8s,mb3.9,baz=172,slow=10,SNR=9.6
MDJ Mudanjiang 53.24 341 P **P 02 53 49.3 +1.8**
MDJ AMB AMB
comp=Z,30nm,7.2s
MA2 Magadan 64.53 360 *e*P **P 02 55 04.3 -1.2**
comp=Z,7.7nm,0.7s,mb4.6
ULN Ulaanbaatar 65.50 329 P **P 02 55 12.6 +0.8**
comp=Z,1.6nm,0.3s,mb4.3
SONM Songino Array 65.83 329 P **P 02 55 14.3 +0.5**
comp=Z,1.3nm,0.6s,mb3.9,baz=148,slow=4.7,SNR=8.1
SONM pP pP 02 55 43.8 -3.3
comp=Z,0.8nm,0.8s,baz=121,slow=4.3,SNR=2.3
SONM Songino Array 65.83 329 P **P 02 55 14.3 +0.5**
SONM pP pP 02 55 43.8 -3.3
VNDA Vanda 72.53 178 P **P 02 55 54.0 -1.1**
comp=Z,0.8nm,0.9s,mb3.5,baz=311,slow=7.1,SNR=3.9
BILL Bilibino 73.80 6 *e*P **P 02 56 01.8 -0.8**
comp=Z,5.6nm,0.9s,mb4.3
WMQ Urumqi 74.98 318 *e*P **P 02 56 09.8 +0.4**
MKAR Makanchi Array 79.60 319 P **P 02 56 34.6 -0.5**
comp=Z,0.2nm,0.3s,mb3.3,baz=96,slow=6.3,SNR=3.6
MKAR pP pP 02 57 04.6 -4.9
comp=Z,0.2nm,0.3s,baz=134,slow=4.2,SNR=2.4
MCK McKinley 81.78 23 *e*P **P 02 56 45.2 -1.6**
comp=Z,3.5nm,0.7s,mb4.1
QSPA South Pole Qui 84.80 180 *e*P **P 02 57 01.5 -0.7**
comp=Z,6.6nm,1.2s,mb4.2
YKA Yellowknife Ar 96.45 28 LR LR 03 39 31.3
comp=Z,32nm,18.1s,baz=105,slow=34
OHC O'Higgins 108.23 167 ⇑P PKiKP 03 02 58.2 +3.1
GERES GERESS Array B 123.55 328 PKP PKPdf 03 03 23.9 -0.4
comp=Z,0.2nm,0.4s,baz=52,slow=2.2,SNR=3.8
LPAZ La Paz 135.58 119 PKP PKPdf 03 03 48.9 +1.8
comp=Z,0.7nm,0.7s,baz=218,slow=2.3,SNR=4.8
TORD Torodi Ar. Bea 148.96 287 PKPbc PKPbc 03 04 14.1 -0.8
comp=Z,1.2nm,0.8s,baz=78,slow=2.2,SNR=9.2
TORD pPKPbc pPKPbc 03 04 48.2 -3.2
comp=Z,0.9nm,0.6s,baz=71,slow=2.0,SNR=2.8
TORD Torodi Ar. Bea 148.96 287 PKPbc PKPbc 03 04 14.1 -0.8
TORD pPKPbc pPKPbc 03 04 48.2 -3.2
BDFB Brasilia 151.86 138 PKPbc PKPbc 03 04 21.1 -0.7
comp=Z,2.1nm,0.6s,baz=194,slow=6.1,SNR=4.3

IDC 18 02:45:30.3±43.0, 1927S×17886W, h642km±417km, mb3.1/3, mb1 3.3/3, mb1mx2.9/12, mbtmp4.2/3, Error ellipse: s-maj=387.6km s-min=192.2km az=107.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.82**	**263**	P	P	02 51 14.6	+0.9
	2.8nm,0.5s,baz=94,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**43.98**	**261**	P	P	02 52 43.6	+0.5
	0.9nm,0.3s,baz=96,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**44.02**	**256**	P	P	02 52 43.5	+0.1
	1.4nm,0.5s,baz=90,slow=8.3,SNR=9.2						
AKASG	**Malin Array Be**	**141.55**	**331**	PKP	PKPdf	03 03 49.1	-0.9
	0.9nm,0.5s,baz=37,slow=3.4,SNR=6.8						

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*ISCJB **18** 02:58:10.9±0.9, 3260N±005×478E±0.1, h10km, Error ellipse: s-maj=14.2km s-min=6.1km az=34.1*
*CSEM **18** 02:58:10.5±0.1, 3266N×4785E, h10km, ML2.7, Error ellipse: s-maj=4.5km s-min=2.8km az=85.0*
*KISR **18** 02:58:10.8±0.7, 3213N×4538E, h34km, ML2.7*
*THR **18** 02:58:11.3±0.3, 3269N×4787E, h14km±10km, ML3.1*
ISC 18 02:58:12.0±0.9, 3261N±005×478E±01, h10km, n13, σ1$04/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.96**	**121**	*e*PG	**Pg**	**02 58 29.6**	**-0.9**
SHGR				AML	AML	02 58 57.4	
	comp=E,474nm,0.5s						
SHGR	**Shooshtar-Gavs**	**0.96**	**121**	*e*Pg	**Pg**	**02 58 29.5**	**-0.9**
	SNR=92						
SNGE	**Sanandaj**	**2.51**	**351**	*e*PN	**Pn**	**02 58 52.8**	**0.0**
SNGE				AML	AML	02 59 31.5	
	comp=E,62nm,0.1s						
SNGE				AML	AML	02 59 39.7	
	comp=N,98nm,0.7s						
ASAO	**Ashtian**	**2.66**	**43**	*e*PN	**Pn**	**02 58 54.8**	**-0.1**
ASAO				AML	AML	02 59 41.5	
	comp=N,76nm,0.6s						
ASAO				AML	AML	02 59 42.1	
	comp=E,88nm,0.7s						
MIB	**Mutribah**	**2.83**	**189**	*e*P	**Pn**	**02 58 57.5**	**+0.3**
MIB				*e*S	**Sn**	**02 59 31.9**	**+0.5**
MIB				AML	AML	02 59 42.1	
	comp=Z,22nm,0.5s						
MIB	**Mutribah**	**2.83**	**189**	*e*P	**Pn**	**02 58 57.9**	**+0.6**
MIB				*e*S	**Sn**	**02 59 34.9**	**+3.5**
MIB	**Mutribah**	**2.83**	**189**	*e*P	**Pn**	**02 58 57.5**	**+0.2**
MIB				*e*S	**Sn**	**02 59 31.9**	**+0.5**
NAY	**Al-Naaiem**	**3.39**	**189**	*e*P	**Pn**	**02 59 03.0**	**-1.9**
NAY				*e*S	**Sn**	**02 59 43.1**	**-2.2**
NAY	**Al-Naaiem**	**3.39**	**189**	*e*P	**Pn**	**02 59 04.6**	**-0.3**
NAY	**Al-Naaiem**	**3.39**	**189**	*e*P	**Pn**	**02 59 03.0**	**-1.9**
NAY				*e*S	**Sn**	**02 59 43.1**	**-2.1**
KBD	**Kabd**	**3.43**	**182**	*e*P	**Pn**	**02 59 05.8**	**+0.4**
KBD				*e*S	**Sn**	**02 59 48.2**	**+2.1**
RDF	**Al-Radifah**	**3.68**	**184**	*e*P	**Pn**	**02 59 09.0**	**0.0**
RDF				AML	AML	02 59 51.9	
	comp=Z,15nm,0.4s						
RDF				*e*S	**Sn**	**02 59 52.5**	**+0.1**
NASN	**Na'in**	**4.20**	**86**	*e*PN	**Pn**	**02 59 16.8**	**+0.8**

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*PGC **18** 03:02:51.7, 4738N×12297W, h26km±5km, ML2.3/21, 54km southwest of Seattle, Wa North of Olympia, Washington.*
*ISCJB **18** 03:02:52.2±0.2, 4744N±001×12285W±002, h27km, Error ellipse: s-maj=2.4km s-min=1.6km az=150.3*
*PNSN **18** 03:02:52.5, 4744N×12289W, h27km, MD2.8, Fault plane solution: NP1:φs85.00000°, δ45.00000°, NP2: φs279.00000°, δ46.00000°, Principal axes: T Plg83.0000°, Azm269.0000°; P Plg0.0000°, Azm2.0000°;*
*NEIC **18** 03:02:52.5, 4744N×12289W, h27km, MD2.8(SEA), After SEA.*
ISC 18 03:02:52.6±0.2, 4743N±001×12285W±002, h27km, n113, σ1$01/143, 24C-36D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMW	**Gold Mountain**	**0.12**	**21**	⇑P	**Pb**	**03 02 56.6**	**-1.0**
GNW	**Green Mountain**	**0.13**	**8**	⇑P	**Pb**	**03 02 56.7**	**-1.0**
HDW	**Hoodsport**	**0.26**	**328**	⇓P	**Pb**	**03 02 58.1**	**-1.1**
MEW	**McNeil Island**	**0.27**	**149**	⇓P	**Pb**	**03 02 59.3**	**+0.1**
KITP	**Kitsap County**	**0.29**	**32**	P	**Pb**	**03 02 59.5**	**0.0**
C04A	**Brinnon**	**0.30**	**345**	⇑P	**Pb**	**03 02 58.4**	**-1.3**
	baz=0.3						
C04A				⇑S	**Sb**	**03 03 03.2**	**-1.4**
	baz=0.3						
D04A	**Dobbs Creek Ra**	**0.32**	**174**	P	**Pb**	**03 02 59.9**	**-0.1**
	baz=0.3,SNR=147						
D04A				⇓S	**Sb**	**03 03 06.4**	**+1.2**
	baz=0.3						
SMW	**South Mountain**	**0.35**	**252**	⇑P	**Pb**	**03 02 59.9**	**-0.5**
SMW				S	**Sb**	**03 03 06.0**	**+0.1**
EGRN	**Evergreen Coll**	**0.37**	**194**	⇓P	**Pb**	**03 03 00.1**	**-0.6**
KIMB	**Kimball Elemen**	**0.40**	**69**	P	**Pb**	**03 03 01.7**	**+0.5**
CPW	**Capitol Peak**	**0.50**	**203**	⇑P	**Pb**	**03 03 02.0**	**-0.7**
PCEP	**Pierce County**	**0.50**	**130**	P	**Pb**	**03 03 02.2**	**-0.6**
PCFR	**Pierce County**	**0.52**	**147**	⇑P	**Pb**	**03 03 02.4**	**-0.9**
GHW	**Garrison Hill**	**0.56**	**134**	⇓P	**Pb**	**03 03 03.0**	**-0.8**
BLN	**Blyn Mountain**	**0.58**	**352**	⇓P	**Pb**	**03 03 02.8**	**-1.4**
BEVT	**Boeing Everett**	**0.63**	**39**	⇓P	**Pb**	**03 03 04.4**	**-0.5**
EARN	**East Ridge Ele**	**0.63**	**60**	P	**Pb**	**03 03 04.7**	**-0.3**
D05A	**Enumclaw**	**0.63**	**112**	P	**Pb**	**03 03 04.8**	**-0.3**
	baz=0.7,SNR=29						
D05A				⇓S	**Sb**	**03 03 13.7**	**+0.1**
	baz=0.7						
RRHS	**Rochester High**	**0.65**	**192**	P	**Pb**	**03 03 04.5**	**-0.8**
PCMD	**Pierce County**	**0.66**	**145**	⇓P	**Pb**	**03 03 04.4**	**-1.1**
ELW	**Echo Lake**	**0.67**	**84**	P	**Pb**	**03 03 05.0**	**-0.6**
BLH	**Bald Hill**	**0.69**	**54**	P	**Pb**	**03 03 04.8**	**-1.1**
OSD	**Olympics--Snow**	**0.69**	**304**	P	**Pb**	**03 03 05.6**	**-0.5**
D03A	**Wishkah Elem.**	**0.70**	**244**	⇓P	**Pb**	**03 03 06.0**	**-0.1**
	baz=0.7,SNR=15						
D03A				⇓S	**Sb**	**03 03 16.6**	**+1.2**
	baz=0.7						
WISH	**Wishkah**	**0.70**	**244**	P	**Pb**	**03 03 06.1**	**-0.1**
RMW	**Rattlesnake Mo**	**0.71**	**87**	P	**Pb**	**03 03 05.5**	**-0.9**
GSM	**Grass Mountain**	**0.76**	**107**	P	**Pb**	**03 03 06.4**	**-0.7**
B04A	**Port Angeles**	**0.77**	**325**	⇑P	**Pb**	**03 03 06.6**	**-0.7**
	baz=0.7,SNR=84						
B04A				⇓S	**Sb**	**03 03 16.9**	**-0.4**
	baz=0.7						
LCW	**Lucas Creek**	**0.77**	**172**	⇓P	**Pb**	**03 03 06.2**	**-1.1**
RVC	**Mount Rainier-**	**0.77**	**129**	⇓P	**Pb**	**03 03 06.5**	**-0.9**
HTW	**Haystack Looko**	**0.82**	**63**	⇑P	**Pb**	**03 03 06.9**	**-1.4**
C05A	**Tolt Reservoir**	**0.83**	**71**	P	**Pb**	**03 03 07.0**	**-1.4**
	baz=0.8,SNR=10						
C05A				⇑S	**Sb**	**03 03 18.3**	**-0.8**
	baz=0.8						
ON2	**Olympics--Nort**	**0.84**	**229**	⇓P	**Pb**	**03 03 07.8**	**-0.8**
E04A	**Onalaska**	**0.85**	**174**	⇑P	**Pb**	**03 03 07.7**	**-1.0**
	baz=0.9,SNR=8.6						
E04A				⇑S	**Sb**	**03 03 20.1**	**+0.5**
	baz=0.9						
LMW	**Ladd Mountain**	**0.85**	**153**	⇓P	**Pb**	**03 03 07.7**	**-1.1**
STW	**Striped Peak**	**0.91**	**323**	⇑P	**Pn**	**03 03 09.4**	**-0.1**
FMW	**Mount Fremont**	**0.95**	**121**	⇓P	**Pn**	**03 03 09.1**	**-1.0**
RCS	**Mount Rainier-**	**0.95**	**126**	⇓P	**Pn**	**03 03 09.2**	**-0.9**
OCWA	**Octopus Mounta**	**0.95**	**290**	*e*Pn	**Pn**	**03 03 10.1**	**0.0**
ATES	**Arlington Traf**	**0.97**	**33**	P	**Pn**	**03 03 09.1**	**-1.2**
RCM	**Mount Rainier-**	**0.97**	**128**	⇓P	**Pn**	**03 03 09.6**	**-0.8**
B05A	**Bryant**	**0.97**	**31**	P	**Pn**	**03 03 09.2**	**-1.3**
	baz=1.0,SNR=80						
B05A				⇓S	**Sb**	**03 03 21.7**	**-1.5**
	baz=1.0						
JCW	**Jim Creek**	**0.98**	**39**	⇓P	**Pn**	**03 03 09.2**	**-1.4**
LON	**Longmire**	**0.99**	**133**	⇓P	**Pn**	**03 03 09.6**	**-1.1**
BMW	**Boistfort Moun**	**0.99**	**195**	⇓P	**Pn**	**03 03 09.8**	**-0.9**
E03A	**Lebam**	**1.01**	**209**	P	**Pn**	**03 03 10.2**	**-0.7**
	baz=1.0,SNR=318						
E03A				⇑S	**Sb**	**03 03 24.5**	**+0.4**
	baz=1.0						
OBC	**Olympics--Boni**	**1.02**	**307**	P	**Pn**	**03 03 11.8**	**+0.6**
VGZ	**Gonzales**	**1.03**	**342**	P	**Pn**	**03 03 09.9**	**-1.4**
VGZ				S	**Sn**	**03 03 23.1**	**-1.8**
VGZ				Trac		03 03 25.9	
	comp=Z,62nm,0.3s						
KOSW	**Kosmos**	**1.07**	**155**	⇑P	**Pn**	**03 03 11.1**	**-0.7**
CMW	**Cultus Mountai**	**1.11**	**26**	⇓P	**Pn**	**03 03 11.7**	**-0.7**
E05A	**Randle**	**1.15**	**139**	P	**Pn**	**03 03 12.2**	**-0.7**
	baz=1.2,SNR=448						
E05A				⇑S	**Sn**	**03 03 27.3**	**-0.4**
	baz=1.2						
WPW	**White Pass**	**1.16**	**129**	⇑P	**Pn**	**03 03 12.7**	**-0.3**
TDL	**Tradedollar La**	**1.17**	**158**	⇓P	**Pn**	**03 03 12.5**	**-0.6**
ERK	**Elk Rock**	**1.18**	**163**	⇓P	**Pn**	**03 03 12.4**	**-0.8**
GLK	**Glacier Lake**	**1.22**	**135**	⇑P	**Pn**	**03 03 13.5**	**-0.2**
MCW	**Mount Constitu**	**1.25**	**1**	P	**Pn**	**03 03 13.7**	**-0.5**
STD	**Studebaker Rid**	**1.27**	**160**	P	**Pn**	**03 03 14.1**	**-0.5**
FL2	**Flat Top 2**	**1.28**	**164**	P	**Pn**	**03 03 14.3**	**-0.5**
PGC	**Sidney**	**1.28**	**342**	P	**Pn**	**03 03 13.9**	**-0.9**
PGC				S	**Sn**	**03 03 31.1**	**+0.1**
PGC				Trac		03 03 33.3	
	comp=Z,27nm,0.2s						
PGC	**Sidney**	**1.28**	**342**	*e*Pn	**Pn**	**03 03 13.7**	**-1.0**
PGC				*e*Sn	**Sn**	**03 03 30.8**	**-0.3**
RVW	**Rose Valley**	**1.28**	**177**	⇓P	**Pn**	**03 03 14.3**	**-0.5**
SOSW	**Source of Smit**	**1.28**	**157**	P	**Pn**	**03 03 14.4**	**-0.3**
A04A	**Legoe Bay, Lum**	**1.29**	**4**	⇓P	**Pn**	**03 03 14.3**	**-0.6**
	baz=1.3,SNR=14						
SHW	**Mount Saint He**	**1.31**	**161**	P	**Pn**	**03 03 14.9**	**-0.2**
LZB	**Mount Lazard**	**1.35**	**331**	⇓P	**Pn**	**03 03 15.1**	**-0.6**
LZB				S	**Sn**	**03 03 32.5**	**-0.1**
LZB				Trac		03 03 33.6	
	comp=Z,14nm,0.3s						
RPW	**Rockport**	**1.36**	**41**	⇓P	**Pn**	**03 03 15.6**	**-0.1**
SNB	**Saturna Island**	**1.36**	**351**	P	**Pn**	**03 03 15.7**	**-0.2**
SNB				S	**Sn**	**03 03 34.5**	**+1.6**
SNB				Trac		03 03 37.1	
	comp=Z,7.0nm,0.2s						
JLK	**June Lake**	**1.37**	**159**	P	**Pn**	**03 03 15.8**	**-0.1**
WRW	**Wenatchee Ridg**	**1.40**	**72**	P	**Pn**	**03 03 16.8**	**+0.5**
NLO	**Nicolai Mounta**	**1.41**	**197**	P	**Pn**	**03 03 16.7**	**+0.3**
CDFW	**Cedar Flats**	**1.43**	**157**	⇑P	**Pn**	**03 03 16.8**	**+0.1**
MTMW	**Mount Mitchell**	**1.47**	**162**	P	**Pn**	**03 03 17.6**	**+0.3**
MBW	**Mount Baker**	**1.50**	**25**	⇓P	**Pn**	**03 03 18.1**	**+0.4**
F04A	**Amboy**	**1.53**	**169**	⇑P	**Pn**	**03 03 18.4**	**+0.3**
	baz=1.5,SNR=175						
F04A				⇑S	**Sn**	**03 03 37.6**	**+0.4**
	baz=1.5						
ASR	**Mount Adams--S**	**1.55**	**146**	P	**Pn**	**03 03 18.9**	**+0.6**
NAC	**Naches**	**1.55**	**116**	P	**Pn**	**03 03 20.0**	**+1.6**
TBM	**Table Mountain**	**1.56**	**99**	P	**Pn**	**03 03 20.0**	**+1.5**
PFB	**Port Renfrew**	**1.56**	**318**	P	**Pn**	**03 03 18.4**	**-0.2**
PFB				S	**Sn**	**03 03 36.5**	**-1.5**
PFB				Trac		03 03 40.8	
	comp=Z,11nm,0.3s						
F03A	**Seaside**	**1.58**	**198**	⇓P	**Pn**	**03 03 19.3**	**+0.5**
	baz=1.6,SNR=20						
GOBB	**Galiano Island**	**1.58**	**344**	P	**Pn**	**03 03 19.7**	**+0.9**
GOBB				S	**Sn**	**03 03 39.5**	**+1.1**
GOBB				Trac		03 03 45.0	
	comp=Z,13nm,0.2s						
EBG	**Ellensburg**	**1.64**	**108**	P	**Pn**	**03 03 21.4**	**+1.7**
A05A	**Maple Falls**	**1.65**	**18**	⇑P	**Pn**	**03 03 20.6**	**+0.8**
	baz=1.6						
VDB	**Vedder Mountai**	**1.67**	**17**	P	**Pn**	**03 03 20.7**	**+0.6**
VDB				S	**Sn**	**03 03 42.1**	**+1.4**
VDB				Trac		03 03 44.6	
	comp=Z,70nm,0.2s						
VDB	**Vedder Mountai**	**1.67**	**17**	P	**Pn**	**03 03 20.7**	**+0.6**
ETW	**Entiat**	**1.72**	**83**	P	**Pn**	**03 03 22.8**	**+2.1**
GULW	**Guler Mountain**	**1.74**	**150**	P	**Pn**	**03 03 22.4**	**+1.4**
F05A	**White Salmon**	**1.82**	**148**	⇓P	**Pn**	**03 03 23.4**	**+1.2**
	baz=1.8,SNR=49						
HNB	**Haney**	**1.85**	**6**	P	**Pn**	**03 03 23.1**	**+0.5**
HNB				S	**Sn**	**03 03 46.8**	**+1.6**
HNB				Trac		03 03 50.9	
	comp=Z,62nm,0.4s						
CBSW	**Chelan Butte S**	**1.94**	**78**	P	**Pn**	**03 03 25.4**	**+1.7**
NLLB	**Nanaimo Lost L**	**1.95**	**338**	P	**Pn**	**03 03 24.4**	**+0.5**
NLLB				S	**Sn**	**03 03 47.0**	**-0.5**
NLLB				Trac		03 03 47.8	
	comp=Z,10.0nm,0.2s						
VLMM	**Larch Mountain**	**1.98**	**163**	⇓P	**Pn**	**03 03 26.1**	**+1.8**
PGO	**Gresham**	**1.98**	**172**	⇓P	**Pn**	**03 03 26.1**	**+1.7**
MGB	**Mount Grey**	**2.00**	**323**	P	**Pn**	**03 03 24.8**	**+0.3**
MGB				Trac		03 03 53.7	
	comp=Z,20nm,0.4s						
BIB	**Bowen Island**	**2.00**	**351**	P	**Pn**	**03 03 25.5**	**+1.0**
BIB				S	**Sn**	**03 03 49.7**	**+1.0**
BIB				Trac		03 03 56.1	
	comp=Z,15nm,0.3s						
HOPB	**Hope**	**2.18**	**25**	P	**Pn**	**03 03 29.0**	**+2.0**
HOPB				S	**Sn**	**03 03 55.7**	**+2.6**
HOPB				Trac		03 03 59.0	
	comp=Z,21nm,0.4s						
EPH	**Ephrata**	**2.21**	**91**	P	**Pn**	**03 03 28.5**	**+1.0**
G04A	**Mulino**	**2.24**	**173**	⇑P	**Pn**	**03 03 29.8**	**+2.0**
	baz=2.3,SNR=14						
WPB	**Watts Point**	**2.24**	**354**	P	**Pn**	**03 03 28.8**	**+0.9**
WPB				S	**Sn**	**03 03 56.2**	**+1.6**
WPB				Trac		03 04 02.6	
	comp=Z,10.0nm,0.3s						
ALB	**Alberni**	**2.27**	**325**	P	**Pn**	**03 03 29.5**	**+1.2**
ALB				Trac		03 04 05.1	
	comp=Z,9.9nm,0.4s						
SHB	**Sechelt**	**2.27**	**343**	P	**Pn**	**03 03 29.0**	**+0.7**
SHB				S	**Sn**	**03 03 55.5**	**0.0**
SHB				Trac		03 03 57.1	
	comp=Z,28nm,0.3s						
OZB	**Mount Ozzard**	**2.34**	**312**	P	**Pn**	**03 03 29.5**	**+0.3**
OZB				S	**Sn**	**03 03 55.2**	**-1.9**
OZB				Trac		03 03 56.1	
	comp=Z,7.0nm,0.2s						
WAH2	**Wahluke Slope**	**2.34**	**106**	P	**Pn**	**03 03 30.7**	**+1.4**
G05A	**Wamic**	**2.44**	**154**	⇑P	**Pn**	**03 03 34.0**	**+3.4**
	baz=2.5,SNR=7.0						
TXB	**Texada**	**2.50**	**336**	P	**Pn**	**03 03 31.4**	**0.0**
TXB				S	**Sn**	**03 04 00.3**	**-0.7**
TXB				Trac		03 04 10.1	
	comp=Z,24nm,0.5s						
HAWA	**Hanford**	**2.50**	**113**	*e*Pn	**Pn**	**03 03 32.8**	**+1.3**
BTB	**Buttle Lake**	**2.70**	**320**	P	**Pn**	**03 03 36.5**	**+2.2**
BTB				Trac		03 04 19.7	
	comp=Z,9.0nm,0.3s						
H03A	**Soap Creek Ran**	**2.77**	**186**	⇓P	**Pn**	**03 03 37.1**	**+1.9**
	baz=2.8,SNR=18						
H04A	**Detroit Lake**	**2.79**	**170**	⇓P	**Pn**	**03 03 37.5**	**+2.1**
	baz=2.8,SNR=48						
PNT	**Penticton**	**2.87**	**48**	P	**Pn**	**03 03 35.9**	**-0.6**
PNT				S	**Sn**	**03 04 09.9**	**-0.1**
PNT				Trac		03 04 22.6	
	comp=Z,9.0nm,0.2s						
LLLB	**Lillooet**	**3.24**	**11**	P	**Pn**	**03 03 42.9**	**+1.2**
LLLB				S	**Sn**	**03 04 21.0**	**+1.6**
LLLB				Trac		03 04 38.1	
	comp=Z,7.0nm,0.5s						
NCRB	**Newcastle Ridg**	**3.65**	**326**	Trac		03 04 49.8	
	comp=Z,4.0nm,0.5s						
WOSB	**Woss**	**3.67**	**319**	P	**Pn**	**03 03 49.4**	**+1.8**
NEW	**Newport**	**3.95**	**76**	*e*Pn	**Pn**	**03 03 51.5**	**+0.2**
NEW				*e*Sg	**Sn**	**03 04 53.8**	**+17**

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*CSEM **18** 03:03:25.8±1.7, 3860N×2855W, h5km±7km, ML1.1, Error ellipse: s-maj=5.4km s-min=3.5km az=159.0, After PDA*
*PDA **18** 03:03:25.8±1.7, 3860N×2855W, h5km±7km, MD2.9, ML1.1, Error ellipse: s-maj=5.4km s-min=3.5km az=159.0*
SVSA 18 03:03:25.8±1.7, 3860N×2855W, h5km±7km, MD2.9, ML1.1, Error ellipse: s-maj=5.4km s-min=3.5km az=159.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**219**	*e*P	Pg	03 03 27.5	-0.4
HOR				*i* S	Sg	03 03 29.5	+0.2
CALA	**Caldeira**	**0.12**	**260**	*e*P	Pg	03 03 28.3	0.0
CALA				*e*S	Sg	03 03 30.3	+0.4
PICO	**Pico**	**0.14**	**136**	*e*P	Pg	03 03 28.6	-0.1
PICO				*e*S	Sg	03 03 30.4	-0.2
PCND	**Candelaria**	**0.15**	**153**	*e*P	Pg	03 03 29.6	+0.8
PCND				*e*S	Sg	03 03 32.3	+1.5
PCND							
	22nm,0.1s						
PTEI	**Pico do Teixo**	**0.19**	**125**	*e*S	Sg	03 03 33.5	+1.5
PTEI							
	14nm,0.1s						
PTCA	**Ponta do Capel**	**0.19**	**265**	*e*S	Sg	03 03 33.8	+1.6
PTCA							
	13nm,0.1s						
PBOI	**Pico dos Bois**	**0.22**	**140**	*e*S	Sg	03 03 33.7	+0.8
PBOI							
	10nm,0.1s						
ROSA	**Rosais**	**0.27**	**64**	*e*P	Pg	03 03 31.0	0.0
ROSA				*e*S	Sg	03 03 34.3	-0.3
PAMA	**Santo Amaro**	**0.30**	**75**	*e*P	Pg	03 03 31.9	+0.3
PAMA				*e*S	Sg	03 03 36.8	+1.2
PAMA							
	14nm,0.1s						
PMAN	**Manadas**	**0.36**	**85**	*e*P	Pg	03 03 32.4	-0.4
PMAN				*e*S	Sg	03 03 37.0	-0.6
PMAN							
	34nm,0.1s						
PMAN	**Manadas**	**0.36**	**85**	*e*P	Pg	03 03 32.4	-0.4
PMAN				*e*S	Sg	03 03 37.0	-0.6
PID	**Ribeirinha**	**0.38**	**115**	*e*P	Pg	03 03 32.6	-0.4
PID				*e*S	Sg	03 03 37.7	-0.2
SRBC	**Serra Branca**	**0.59**	**42**	*e*rx		03 03 34.7	

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*TIF **18** 03:04:53.5, 4248N×4381E, h8km±2km*
*ISCJB **18** 03:04:54.6±0.4, 4246N±002×4386E±004, h8km, Error ellipse: s-maj=4.0km s-min=3.0km az=177.6*
*MOS **18** 03:04:55.0±0.6, 4252N×4397E, h8km, mb4.4/1, Error ellipse: s-maj=15.1km s-min=6.2km az=89.3*
ISC 18 03:04:54.9±0.4, 4245N±002×4385E±004, h8km, n18, σ1$23/35, 3C-6D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.32**	**6**	⇓*i*PG	**Pg**	**03 05 00.7**	**-0.6**
ZEI				*e*		03 05 06.3	
ZEI				pmax	pmax		
	comp=Z,94nm,0.1s						
ZEI				smax			
	comp=N,327nm,0.1s						
ONI	**Oni**	**0.32**	**294**	P	**Pg**	**03 04 59.6**	**-1.7**
ONI				S	**Sg**	**03 05 04.4**	**-1.3**
LACR	**Lac**	**0.50**	**41**	⇓*i*PG	**Pg**	**03 05 03.4**	**-1.2**
LACR				*i* S	**Sg**	**03 05 10.9**	**-0.2**
GOR	**Gori**	**0.50**	**158**	P	**Pg**	**03 05 04.8**	**+0.1**
GOR				S	**Sg**	**03 05 13.4**	**+2.1**
KORR	**Kora**	**0.66**	**14**	⇑*i*PG	**Pg**	**03 05 06.7**	**-0.9**
KORR				*i* S	**Sg**	**03 05 16.6**	**+0.5**
ARNR	**Ardon**	**0.80**	**23**	⇓*i*PG	**Pg**	**03 05 09.4**	**-1.0**
ARNR				*e*S	**Sg**	**03 05 21.3**	**+0.5**
VLKR	**Vladikavkaz**	**0.85**	**45**	*e*PG	**Pg**	**03 05 10.0**	**-1.3**
VLKR				*e*S	**Sg**	**03 05 22.3**	**-0.1**
SNJR	**Sundja**	**0.94**	**49**	*e*PG	**Pg**	**03 05 11.6**	**-1.4**
SNJR				*e*S	**Sg**	**03 05 25.0**	**-0.2**
KMSR	**Komsomolskaya**	**0.97**	**19**	*e*PG	**Pg**	**03 05 12.7**	**-1.0**
KMSR				*e*S	**Sg**	**03 05 27.0**	**+0.7**
TBLG	**Delisi**	**0.98**	**137**	P	**Pg**	**03 05 13.7**	**0.0**
TBLG				S	**Sg**	**03 05 28.7**	**+2.3**
TBLG	**Delisi**	**0.98**	**137**	*e*PG	**Pg**	**03 05 14.0**	**+0.3**
TBLG				*e*S	**Sg**	**03 05 29.0**	**+2.6

LIA	**Limnos Island**	**1.89**	**322**	*e*Pb	**Pb**	**03 19 53.7**	**-1.8**
LIA				*e*Sn	**Sn**	**03 20 14.9**	**-1.9**
DENT	**Denizli**	**1.96**	**109**	PN	**Pn**	**03 19 54.1**	**+0.1**
EDC	**Edincik**	**2.13**	**25**	PN	**Pn**	**03 19 56.8**	**+0.3**
BNT	**Bandirma**	**2.16**	**26**	PN	**Pn**	**03 19 57.0**	**+0.2**
DALT	**Dalyan (Mudla)**	**2.25**	**136**	PN	**Pn**	**03 19 58.3**	**+0.2**
GDZ	**Gediz**	**2.28**	**72**	*i* P	**Pg**	**03 20 05.0**	**0.0**
GDZ				*i* S	**Sg**	**03 20 38.1**	**+3.5**
MRMT	**Marmara Adasi**	**2.30**	**17**	*e*PN	**Pn**	**03 19 58.3**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.30**	**9**	*e*Pn	**Pn**	**03 19 59.0**	**+0.2**
MFT	**Murefte**	**2.42**	**11**	*e*PN	**Pn**	**03 19 59.7**	**-0.6**
FETY	**Fethiye**	**2.60**	**132**	*e*PN	**Pn**	**03 20 03.7**	**+0.9**
TKTP	**Tekketepe**	**2.88**	**96**	*i* P	**Pg**	**03 20 16.3**	**-0.1**
TKTP				*i* S	**Sg**	**03 20 58.0**	**+4.3**
YLV	**Yalova**	**2.99**	**43**	*e*PN	**Pn**	**03 20 08.1**	**-0.1**
EDRB	**Edirne**	**3.43**	**1**	*e*PN	**Pn**	**03 20 14.4**	**+0.1**

*NNC **18** 03:25:47.5±1.3, 4202N×7727E, h0km, mb3.3, mpv3.2, Error ellipse: s-maj=7.9km s-min=5.5km az=144.0*
*ISCJB **18** 03:25:48.1±1.4, 4202N±008×7743E±008, h12km, Error ellipse: s-maj=11.6km s-min=7.9km az=129.8*
*KNET **18** 03:25:48.7±0.7, 4209N×77.19E, h12km±3km, ml3.0, Error ellipse: s-maj=6.2km s-min=3.6km az=33.0*

ISC 18 03:25:50.0±1.4, 4209N±008×7734E±008, h12km, n15, σ1§40/19, 9C-16D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.83**	**282**	⇑P	**Pg**	**03 26 03.0**	**-3.0**
	57nm,0.2s,SNR=346						
ULHL				⇓S	**Sg**	**03 26 14.4**	**-2.4**
	298nm,0.2s						
KNDC	**Almaty**	**1.17**	**347**	⇑P	**Pb**	**03 26 10.3**	**-1.8**
	95nm,0.3s						
KNDC				⇓S	**Sb**	**03 26 27.3**	**+0.2**
	262nm,0.3s						
TKM2	**Tokmak 2**	**1.54**	**304**	⇓P	**Pn**	**03 26 15.8**	**-1.4**
	24nm,0.1s,SNR=36						
TKM2				⇓S	**Sn**	**03 26 36.6**	**-0.4**
	210nm,0.1s						
TKM2	**Tokmak 2**	**1.54**	**304**	⇓P	**Pn**	**03 26 15.7**	**-1.5**
	0.8nm,0.3s						
TKM2				⇑S	**Sn**	**03 26 36.5**	**-0.5**
	7.3nm,0.3s						
KZA	**Kyzart**	**1.55**	**270**	⇓P	**Pn**	**03 26 16.0**	**-1.5**
	13nm,0.2s,SNR=22						
KBK	**Karagaybulak**	**1.86**	**289**	⇓P	**Pn**	**03 26 21.4**	**-0.3**
	15nm,0.2s,SNR=15						
KBK				⇓S	**Sn**	**03 26 46.2**	**+1.1**
	129nm,0.2s						
UCH	**Uchtor**	**2.10**	**275**	⇑P	**Pn**	**03 26 25.8**	**+0.8**
	6.9nm,0.2s,SNR=16						
UCH				⇑S	**Sn**	**03 26 53.1**	**+1.9**
	46nm,0.3s						
CHMS	**Chumysh**	**2.12**	**296**	⇓P	**Pn**	**03 26 25.1**	**-0.1**
	4.2nm,0.1s,SNR=6.2						
CHMS				⇑S	**Sn**	**03 26 53.6**	**+2.1**
	61nm,0.2s						
USP	**Ospenovka**	**2.40**	**300**	⇑P	**Pn**	**03 26 29.3**	**+0.1**
	8.5nm,0.2s,SNR=14						
USP				⇓S	**Sn**	**03 27 02.0**	**+3.5**
	66nm,0.4s						
KK31	**Karatay Array**	**5.14**	**284**	⇑Pg	**Pb**	**03 27 21.0**	**+1.1**
	1.7nm,0.6s,baz=90,slow=31,SNR=11						
KK31				⇓Lg		03 28 29.8	
	5.3nm,0.6s,baz=94,slow=28,SNR=8.1						
MK05	**Makanchi Array**	**5.89**	**35**	⇓Pn	**Pn**	**03 27 18.4**	**+1.3**
	1.5nm,0.7s,baz=212,slow=13						
MK05				⇓Lg		03 28 53.4	
	2.7nm,0.6s,baz=217,slow=23						
KURK	**Kurchatov**	**8.68**	**5**	⇓Lg		03 30 25.3	
	4.7nm,0.8s						
BVA0	**Borovoye Array**	**11.90**	**339**	⇑Lg		03 32 06.3	
	0.9nm,1.6s,baz=141,slow=28,SNR=5.2						
ZRNK	**Zerenda**	**12.23**	**336**	⇓Lg		03 32 16.8	
	3.9nm,1.2s						
CHKZ	**Chkalovo**	**12.44**	**341**	⇓Lg		03 32 23.6	
	3.1nm,1.1s						

WEL 18 03:43:16.8±0.1, 4099S×17617E, h33km, ML3.5/29, 5C-1D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIWZ	**Tintock**	**0.30**	**314**	⇓P*	Pb	03 43 24.4	-0.2
TIWZ				S*	Sb	03 43 29.7	-0.1
BFZ	**Birch Farm**	**0.31**	**10**	⇑P*	Pb	03 43 24.8	+0.1
BFZ				S*	Sb	03 43 30.4	+0.3
MTW	**Mount Morrison**	**0.54**	**251**	P*	Pb	03 43 27.9	0.0
MRZ	**Mangatainoka R**	**0.56**	**306**	⇑P*	Pb	03 43 27.9	-0.4
MRZ				S*	Sb	03 43 35.8	-0.3
PAWZ	**Paruwai Farm**	**0.69**	**235**	⇑P*	Pb	03 43 30.2	-0.2
PAWZ				S*	Sb	03 43 39.9	+0.3
MSWZ	**Moikau Station**	**0.82**	**238**	P*	Pb	03 43 31.7	-0.9
MSWZ				S*	Sb	03 43 42.7	-0.6
CAW	**Cannon Point**	**0.84**	**261**	P*	Pb	03 43 32.3	-0.7
CAW				S*	Sb	03 43 43.0	-1.1
TSZ	**Takapari Road**	**0.94**	**350**	P*	Pb	03 43 33.7	-1.0
TSZ				S*	Sb	03 43 45.5	-1.3
KIW	**Kapiti Island**	**0.97**	**277**	P*	Pb	03 43 34.3	-0.8
KIW				S*	Sb	03 43 46.1	-1.4
BHW	**Baring Head**	**1.07**	**246**	P*	Pb	03 43 35.1	-1.7
PXZ	**Pawanui**	**1.09**	**29**	P*	Pb	03 43 35.3	-1.8
WEL	**Wellington**	**1.10**	**254**	P*	Pb	03 43 35.8	-1.5
MRW	**Makara Radio**	**1.14**	**257**	⇑P*	Pb	03 43 36.3	-1.6
MRW				S*	Sb	03 43 50.5	-2.0
SNZO	**South Karori**	**1.15**	**253**	⇑P*	Pb	03 43 36.4	-1.8
SNZO				S*	Sb	03 43 50.1	-2.7
TCW	**Tory Channel**	**1.45**	**260**	PN	Pn	03 43 40.6	-0.2
TCW				S*	Sb	03 43 57.7	-3.6
WAZ	**Wanganui**	**1.53**	**323**	PN	Pn	03 43 44.3	+2.5
MTVZ	**Mangateitei**	**1.69**	**341**	PN	Pn	03 43 46.0	+2.0
WNVZ	**Wahianoa**	**1.72**	**345**	PN	Pn	03 43 45.8	+1.5
DUWZ	**D'Urville Isla**	**1.72**	**275**	PN	Pn	03 43 45.2	+0.8
TUWZ	**Tuamarina**	**1.74**	**255**	PN	Pn	03 43 43.4	-1.3
TRVZ	**Turoa**	**1.75**	**344**	PN	Pn	03 43 46.6	+1.8
BKZ	**Black Stump Fm**	**1.84**	**8**	PN	Pn	03 43 46.1	0.0
WPVZ	**Whakapapa**	**1.84**	**345**	PN	Pn	03 43 47.9	+1.7

*BJI **18** 03:45:04.4, 3467S×6982W, h107km, mB4.4*
*ISCJB **18** 03:45:05.5±0.3, 3432S±003×7050W±006, h114km±2km, mb4.1/20, Error ellipse: s-maj=7.9km s-min=3.8km az=36.4*
*GUC **18** 03:45:06.3±0.9, 3431S×7054W, h107km±4km, ML4.6*
*IDC **18** 03:45:06.6±1.8, 3427S×7042W, h110km±16km, mb3.7/9, mb1 3.7/13, mb1mx3.7/20, mbtmp4.0/13, Error ellipse: s-maj=25.4km s-min=12.0km az=101.0*
*NEIC **18** 03:45:06.3±0.2, 3431S×7047W, h108km±1km, mb4.1/18, Error ellipse: s-maj=5.6km s-min=3.3km az=98.0*
NEIC Felt [III] at Santiago; [II] at Illapel, Rancagua and San Antonio.

ISC 18 03:45:06.5±0.3, 3432S±003×7052W±005, h109km±2km, n85, σ0§71/109, mb4.1/20, 15C-24D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.08**	**93**	⇑*i*P	**Pn**	**03 45 21.4**	**-0.2**
CACH	**El Canelo**	**0.21**	**342**	⇓*i*P	**Pn**	**03 45 21.7**	**-0.1**
CHCH	**Chadas Angostu**	**0.40**	**344**	⇑*i*P	**Pn**	**03 45 22.3**	**-0.3**
SFDO	**San Fernando**	**0.50**	**234**	⇓*i*P	**Pn**	**03 45 23.4**	**+0.1**
LMEL	**Las Melosas**	**0.54**	**30**	⇓*i*P	**Pn**	**03 45 23.5**	**+0.1**
LMEL				*i* S	**Sn**	**03 45 37.0**	**+0.8**
LMEL				AML	AML	03 45 44.9	
	comp=E,17μm,0.1s						
LMEL	**Las Melosas**	**0.54**	**30**	⇓*i*P	**Pn**	**03 45 23.5**	**+0.1**
LMEL				*i* S	**Sn**	**03 45 37.0**	**+0.8**
SJCH	**San Jose de Ma**	**0.69**	**12**	⇓*i*P	**Pn**	**03 45 24.1**	**-0.5**
SJCH				*i* S	**Sn**	**03 45 38.3**	**0.0**
SJCH				AML	AML	03 45 40.8	
	comp=N,15μm,0.5s						
SJCH	**San Jose de Ma**	**0.69**	**12**	⇓*i*P	**Pn**	**03 45 24.1**	**-0.5**
SJCH				*i* S	**Sn**	**03 45 38.3**	**0.0**
PCH	**Pirque**	**0.69**	**1**	⇑*i*P	**Pn**	**03 45 24.9**	**+0.2**
YECH	**El Yeso**	**0.74**	**29**	⇓*i*P	**Pn**	**03 45 25.6**	**+0.4**
YECH				*i* S	**Sn**	**03 45 40.4**	**+1.2**
TACH	**Talagante**	**0.75**	**332**	*e*P	**Pn**	**03 45 25.1**	**-0.1**
ANTU	**Antumapu**	**0.75**	**353**	⇓*i*P	**Pn**	**03 45 25.3**	**+0.1**
ANTU				*i* S	**Sn**	**03 45 39.7**	**+0.4**
ANTU				AML	AML	03 45 40.3	
	comp=N,72μm,0.5s						
ANTU	**Antumapu**	**0.75**	**353**	⇓*i*P	**Pn**	**03 45 25.3**	**+0.1**
ANTU				*i* S	**Sn**	**03 45 39.7**	**+0.4**
LNV	**Longovilo**	**0.82**	**296**	⇑*i*P	**Pn**	**03 45 25.5**	**-0.3**
FSR	**Penalolen**	**0.83**	**360**	⇓*i*P	**Pn**	**03 45 26.2**	**+0.2**
FSR				*i* S	**Sn**	**03 45 41.0**	**+0.3**
FSR				AML	AML	03 45 41.9	
	comp=N,41μm,0.1s						
FSR	**Penalolen**	**0.83**	**360**	⇓*i*P	**Pn**	**03 45 26.2**	**+0.2**
FSR				*i* S	**Sn**	**03 45 41.0**	**+0.3**
SAN	**Santiago**	**0.87**	**352**	⇑*i*P	**Pn**	**03 45 26.4**	**+0.1**
SAN				*i* S	**Sn**	**03 45 41.3**	**+0.1**
SAN				AML	AML	03 45 42.5	
	comp=E,16μm,0.4s						
SAN	**Santiago**	**0.87**	**352**	⇑*i*P	**Pn**	**03 45 26.4**	**+0.1**
SAN				*i* S	**Sn**	**03 45 41.3**	**+0.1**
STL	**Santa Lucia**	**0.88**	**353**	⇓*i*P	**Pn**	**03 45 25.8**	**-0.6**
STL				*i* S	**Sn**	**03 45 41.0**	**-0.5**
STL				AML	AML	03 45 41.8	
	comp=E,39μm,0.3s						
DSCH	**Colegio Aleman**	**0.92**	**358**	⇑*i*P	**Pn**	**03 45 26.2**	**-0.6**
DSCH				*i* S	**Sn**	**03 45 41.7**	**-0.3**
DSCH				AML	AML	03 45 43.7	
	comp=N,4μm,0.3s						
DSCH	**Colegio Aleman**	**0.92**	**358**	⇑*i*P	**Pn**	**03 45 26.2**	**-0.6**
DSCH				*i* S	**Sn**	**03 45 41.7**	**-0.3**
CLCH	**Cerro Calan**	**0.92**	**359**	*e*P	**Pn**	**03 45 26.7**	**0.0**
CLCH				*i* S	**Sn**	**03 45 42.5**	**+0.4**
CLCH				AML	AML	03 45 43.8	
	comp=E,32μm,0.3s						
CLCH				AML	AML	03 45 44.4	
	comp=E,39μm,0.3s						
FCH	**Farellones**	**1.00**	**11**	⇓*i*P	**Pn**	**03 45 28.2**	**+0.5**
FCH				*i* S	**Sn**	**03 45 44.9**	**+1.3**
FCH				AML	AML	03 45 46.6	
	comp=N,14μm,0.4s						
PEL	**Peldehue**	**1.18**	**353**	⇓*i*P	**Pn**	**03 45 29.8**	**+0.2**
PEL				*i* S	**Sn**	**03 45 47.3**	**+0.4**
PEL				AML	AML	03 45 49.3	
	comp=E,36μm,0.4s						
PEL	**Peldehue**	**1.18**	**353**	⇓*i*P	**Pn**	**03 45 29.8**	**+0.2**
PEL				*i* S	**Sn**	**03 45 47.3**	**+0.4**
LCCH	**Las Cruces**	**1.21**	**314**	⇓*i*P	**Pn**	**03 45 29.6**	**-0.2**
ROCH	**El Roble**	**1.40**	**343**	⇓*i*P	**Pn**	**03 45 32.3**	**+0.2**
TALC	**Talca**	**1.42**	**220**	⇑*i*P	**Pn**	**03 45 31.9**	**-0.3**
TALC				*i* S	**Sn**	**03 45 51.3**	**-0.4**
TALC				AML	AML	03 45 52.8	
	comp=E,14μm,0.4s						
TALC	**Talca**	**1.42**	**220**	⇑*i*P	**Pn**	**03 45 31.9**	**-0.3**
TALC				*i* S	**Sn**	**03 45 51.3**	**-0.4**
IHA	**Instituto Hidr**	**1.59**	**324**	⇑*i*P	**Pn**	**03 45 34.6**	**+0.3**
IHA				*i* S	**Sn**	**03 45 55.0**	**-0.5**
JACH	**Jahuel**	**1.63**	**358**	⇓*i*P	**Pn**	**03 45 35.0**	**+0.2**
LNCH	**Linares**	**1.77**	**210**	⇑*i*P	**Pn**	**03 45 36.5**	**0.0**
LNCH				*i* S	**Sn**	**03 45 59.8**	**+0.4**
LNCH				AML	AML	03 46 01.2	
	comp=E,3μm,0.7s						
LNCH	**Linares**	**1.77**	**210**	⇑*i*P	**Pn**	**03 45 36.5**	**0.0**
LNCH				*i* S	**Sn**	**03 45 59.8**	**+0.4**
MDZ	**Mendoza**	**2.00**	**45**	*e*P	**Pn**	**03 45 39.6**	**+0.2**
MDZ				*e*		03 45 51.3	
MDZ				S	**Sn**	**03 46 08.3**	**+3.8**
CNCO	**Chanco**	**2.17**	**229**	⇑*i*P	**Pn**	**03 45 41.4**	**-0.2**
CNCO				*i* S	**Sn**	**03 46 07.9**	**-0.7**
CNCO				AML	AML	03 46 12.5	
	comp=E,3μm,0.4s						
CNCO	**Chanco**	**2.17**	**229**	⇑*i*P	**Pn**	**03 45 41.4**	**-0.2**
CNCO				*i* S	**Sn**	**03 46 07.9**	**-0.7**
CCHI	**Chillan**	**2.61**	**209**	⇓*i*P	**Pn**	**03 45 47.7**	**+0.4**
CCHI				*i* S	**Sn**	**03 46 18.7**	**0.0**
CCHI				AML	AML	03 46 31.6	
	comp=N,843nm,0.5s						
CCHI	**Chillan**	**2.61**	**209**	⇓*i*P	**Pn**	**03 45 47.7**	**+0.4**
CCHI				*i* S	**Sn**	**03 46 18.7**	**0.0**
CMCH	**Combarbala**	**3.16**	**353**	⇓*i*P	**Pn**	**03 45 53.6**	**-1.0**
CMCH				*i* S	**Sn**	**03 46 29.9**	**-1.8**
CFAA	**Coronel Fontan**	**3.32**	**36**	P	**Pn**	**03 45 56.2**	**-0.4**
	comp=N,2.0nm,0.3s,baz=211,slow=14,SNR=227						
CFAA				S	**Sn**	**03 46 34.2**	**-1.2**
	comp=N,8.0nm,0.3s,baz=72,slow=13,SNR=10						
CFAA	**Coronel Fontan**	**3.32**	**36**	P	**Pn**	**03 45 56.2**	**-0.4**
CFAA				S	**Sn**	**03 46 34.2**	**-1.2**
TLL	**Tololo Astrono**	**4.14**	**357**	*i* P	**Pn**	**03 46 07.4**	**-0.3**
PLCA	**Paso Flores**	**6.41**	**180**	P	**Pn**	**03 46 38.0**	**-0.3**
	comp=N,0.7nm,0.3s,baz=12,slow=9.4,SNR=9.4						
PLCA	**Paso Flores**	**6.41**	**180**	*e*Pn	**Pn**	**03 46 37.9**	**-0.4**
	comp=N,7.3nm,0.8s						
TRQA	**Tornquist**	**7.85**	**121**	*e*Pn	**Pn**	**03 46 56.6**	**-1.3**
	comp=N,52nm,1.0s						
LVC	**Limon Verde**	**11.74**	**7**	P	**Pn**	**03 47 48.3**	**-2.2**
	comp=N,0.2nm,0.3s,baz=191,slow=16,SNR=6.4						
LVC	**Limon Verde**	**11.74**	**7**	*e*P	**Pn**	**03 47 50.7**	**+0.3**
	comp=N,1.7nm,0.6s						
LPAZ	**La Paz**	**18.08**	**7**	P	**P**	**03 49 10.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=190,slow=12,SNR=5.6						
LPAZ	**La Paz**	**18.08**	**7**	*e*P	**P**	**03 49 11.6**	**+2.1**
	comp=N,2.2nm,0.7s						
SIV	**San Ignacio**	**20.13**	**27**	P	**P**	**03 49 31.0**	**-0.7**
	comp=N,2.1nm,0.7s,baz=220,slow=10,SNR=11						
USHA	**Ushuaia**	**20.57**	**177**	P	**P**	**03 49 37.1**	**+0.6**
	comp=N,4.1nm,0.5s,baz=204,slow=14,SNR=13						
BDFB	**Brasilia**	**27.49**	**53**	P	**P**	**03 50 41.3**	**-1.2**
	comp=N,2.0nm,0.5s,mb3.9,baz=257,slow=7.9,SNR=6.9						
SNAA	**Sanae**	**50.82**	**158**	P	**P**	**03 53 55.5**	**-0.3**
	comp=N,0.8nm,0.5s,mb4.0,baz=264,slow=9.4,SNR=21						
QSPA	**South Pole Qui**	**55.92**	**180**	⇓*i*P	**P**	**03 54 34.0**	**+0.9**
	comp=N,12nm,1.0s,mb4.9						
TEIG	**Tepich**	**56.81**	**340**	*e*P	**P**	**03 54 39.3**	**-0.1**
	comp=N,3.1nm,0.6s,mb4.5						
VNDA	**Vanda**	**64.04**	**191**	P	**P**	**03 55 29.1**	**+0.6**
	comp=N,0.7nm,0.6s,mb3.6,baz=130,slow=6.0,SNR=5.7						
VNDA	**Vanda**	**64.04**	**191**	*e*P	**P**	**03 55 29.7**	**+1.2**
	comp=N,0.9nm,0.8s,mb3.6						
SYO	**Syowa Base**	**65.11**	**158**	⇓*e*P	**P**	**03 55 32.8**	**-2.7**
SWET	**Sewanee**	**70.66**	**347**	*e*P	**P**	**03 56 10.1**	**-0.2**
WVT	**Waverly**	**71.92**	**345**	*e*P	**P**	**03 56 17.5**	**-0.3**
	comp=N,12nm,0.6s,mb4.9						
WVT				*e*pP	pP	03 56 45.5	+0.2
WVT				*e*sP	sP	03 56 57.1	0.0
MNTX	**Cornudas Mount**	**73.41**	**329**	*e*P	**P**	**03 56 26.3**	**-0.3**
CCM	**Cathedral Cave**	**74.53**	**343**	*e*P	**P**	**03 56 32.8**	**-0.4**
	comp=N,6.9nm,0.9s,mb4.4						
AMTX	**Amarillo**	**74.76**	**334**	*e*P	**P**	**03 56 34.8**	**+0.3**
	comp=N,3.5nm,0.6s,mb4.3						
ANMO	**Albuquerque**	**76.67**	**330**	*e*P	**P**	**03 56 46.1**	**+0.7**
	comp=N,0.9nm,0.5s,mb3.8						
BOSA	**Boshof**	**78.81**	**117**	P	**P**	**03 56 58.0**	**+0.8**
	comp=N,3.0nm,0.5s,mb4.4,baz=259,slow=4.2,SNR=3.9						
SMCO	**Snowmass**	**80.54**	**332**	*e*P	**P**	**03 57 08.2**	**+1.7**
	comp=N,3.6nm,0.9s,mb4.2						
SRU	**San Rafael**	**81.91**	**330**	*e*P	**P**	**03 57 14.4**	**+0.6**
	comp=N,1.7nm,0.7s,mb4.0						
TORD	**Torodi Ar. Bea**	**83.14**	**69**	P	**P**	**03 57 20.0**	**-0.2**
	comp=N,1.1nm,0.7s,mb3.8,baz=262,slow=5.4,SNR=17						
TORD	**Torodi Ar. Bea**	**83.14**	**69**	P	**P**	**03 57 20.0**	**-0.2**
DUG	**Dugway**	**83.78**	**329**	*e*P	**P**	**03 57 24.2**	**+0.7**
	comp=N,0.9nm,0.5s,mb3.9						
RSSD	**Black Hills**	**83.82**	**336**	*e*P	**P**	**03 57 22.9**	**-0.8**
	comp=N,2.3nm,0.8s,mb4.1						
HWUT	**Hardware Ranch**	**84.44**	**330**	*e*P	**P**	**03 57 25.8**	**-1.0**
	comp=N,2.0nm,0.7s,mb4.1						
BW06	**Boulder Array**	**84.62**	**332**	*e*P	**P**	**03 57 28.4**	**+0.7**
	comp=N,1.2nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**84.62**	**332**	P	**P**	**03 57 27.5**	**-0.2**
	comp=N,1.1nm,0.7s,mb3.9,baz=151,slow=5.3,SNR=11						
NVAR	**Mina Array Bea**	**84.87**	**324**	P	**P**	**03 57 30.3**	**+1.3**
	comp=N,0.9nm,0.7s,mb3.8,baz=147,slow=5.1,SNR=5.7						
ELK	**Elko**	**85.29**	**328**	*e*P	**P**	**03 57 31.2**	**+0.1**
	comp=N,2.4nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**117.84**	**205**	PKP	PKPdf	04 03 39.4	-0.6
	comp=N,0.1nm,0.3s,baz=152,slow=2.7,SNR=4.5						
BRTR	**Keskin Array B**	**120.89**	**61**	PKP	PKPdf	04 03 44.9	-1.0
	comp=N,0.1nm,0.3s,baz=185,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**121.08**	**208**	PKP	PKPdf	04 03 46.2	0.0
	comp=N,0.5nm,0.4s,baz=163,slow=1.7,SNR=12						
ARCES	**ARCESS Array B**	**123.77**	**25**	PKP	PKPdf	04 03 50.1	-1.3
	comp=N,1.0nm,0.7s,baz=247,slow=4.4,SNR=5.1						
ZRNK	**Zerenda**	**145.87**	**44**	*e*PKPbc	PKPbc	04 04 32.7	-0.4
CHKZ	**Chkalovo**	**146.56**	**43**	*e*PKPbc	PKPbc	04 04 35.0	-0.1
WMQ	**Urumqi**	**160.65**	**54**	*e*PKP	PKPdf	04 04 52.1	-1.3
MDJ	**Mudanjiang**	**161.42**	**310**	PKP	PKPdf	04 04 51.5	-2.7
MDJ				XPKP		04 05 32.3	

CASC 18 03:57:35.7±1.4, 1128N×8576W, h170km±5km, MD3.5, 2C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.09**	**275**	*e*P	Pn	03 57 58.2	0.0
MADN	**Villa Maderas**	**0.26**	**61**	⇑*e*P	Pn	03 57 59.6	+1.1
CONN	**Concepcion**	**0.31**	**25**	*e*P	Pn	03 57 58.8	+0.2
APON	**Apoyo**	**0.70**	**335**	*e*P	Pn	03 58 00.8	+0.4
LIM1	**Limonal**	**0.76**	**139**	⇑*e*P	Pn	03 58 00.8	0.0
LIM1				*e*S	Sn	03 58 20.9	+1.0
VCR	**Vista de Mar**	**1.15**	**174**	*e*S	Sn	03 58 26.5	+1.4
CGA2	**Cerro Gallo 2**	**1.79**	**134**	*e*P	Pn	03 58 11.1	+1.3
CGA2				*e*S	Sn	03 58 36.8	+0.7
PRS1	**Puriscal**	**1.92**	**132**	*e*P	Pn	03 58 12.6	+1.4
LCR2	**La Lucha 2**	**2.31**	**131**	*e*P	Pn	03 58 17.1	+1.6
LCR2				*e*S	Sn	03 58 47.6	+1.2
BUS	**Buena Vista**	**2.61**	**131**	*e*P	Pn	03 58 21.2	+2.0
BUS				*e*S	Sn	03 58 55.4	+2.6

*CSEM **18** 04:18:24.6±1.8, 3880N×2774W, h8km±13km, ML1.4, Error ellipse: s-maj=5.4km s-min=4.5km az=78.0, After PDA*
*PDA **18** 04:18:24.6±1.8, 3880N×2774W, h8km±13km, MD2.6, ML1.4, Error ellipse: s-maj=5.4km s-min=4.5km az=78.0*

SVSA 18 04:18:24.6±1.8, 3880N×2774W, h8km±13km, MD2.6, ML1.4, Error ellipse: s-maj=5.4km s-min=4.5km az=78.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.30**	**321**	*e*P	Pg	04 18 29.8	-0.7
PGRA				*e*S	Sg	04 18 33.8	-0.7
PGRA							
	29nm,0.1s						
PGRA	**Graciosa**	**0.30**	**321**	*e*P	Pg	04 18 29.8	-0.7
PGRA				*e*S	Sg	04 18 33.8	-0.7
PMAN	**Manadas**	**0.32**	**239**	*e*P	Pg	04 18 30.1	-0.7
PMAN				*e*S	Sg	04 18 34.3	-0.8
PMAN							
	87nm,0.1s						
PMAN	**Manadas**	**0.32**	**239**	*e*P	Pg	04 18 30.1	-0.7
PMAN				*e*S	Sg	04 18 34.3	-0.8
PSBA	**Serra de Santa**	**0.33**	**95**	*e*S	Sg	04 18 34.6	-0.8
PSBA							
	16nm,0.2s						
SRBC	**Serra Branca**	**0.34**	**316**	*e*P	Pg	04 18 30.3	-0.9
SRBC				*e*S	Sg	04 18 35.0	-0.7
STGR	**Santa Cruz**	**0.35**	**324**	*e*P	Pg	04 18 31.5	0.0
STGR				*e*S	Sg	04 18 36.3	+0.2
STGR							
	25nm,0.1s						
STGR	**Santa Cruz**	**0.35**	**324**	*e*P	Pg	04 18 31.5	0.0
STGR				*e*S	Sg	04 18 36.3	+0.2
PAMA	**Santo Amaro**	**0.36**	**252**	*e*S	Sg	04 18 36.1	-0.4
PAMA							
	13nm,0.1s						
PVIA	**Vitoria**	**0.36**	**319**	*e*P	Pg	04 18 31.2	-0.5
PVIA				*e*S	Sg	04 18 36.1	-0.4
PVIA							
	14nm,0.1s						
PPAD	**Pico dos Padre**	**0.37**	**105**	*e*S	Sg	04 18 37.8	+1.2
PPAD							
	8.0nm,0.1s						
ROSA	**Rosais**	**0.40**	**259**	*e*P	Pg	04 18 31.6	-0.8
ROSA				*e*S	Sg	04 18 36.2	-1.4
PID	**Ribeirinha**	**0.46**	**220**	*e*P	Pg	04 18 33.0	-0.5
PTEI	**Pico do Teixo**	**0.57**	**238**	*e*S	Sg	04 18 44.3	+1.3
PTEI							
	16nm,0.2s						
PICO	**Pico**	**0.61**	**241**	*e*P	Pg	04 18 35.2	-1.2
PICO				*e*S	Sg	04 18 42.1	-2.3
PBOI	**Pico dos Bois**	**0.61**	**234**	*e*S	Sg	04 18 43.6	-0.8
PBOI							
	8.4nm,0.1s						
PCND	**Candelaria**	**0.65**	**

SONA	**Sohna**	**9.95 153**	*e*P	**Pn**	**04 32 32.6**	**0.0**
SONA			*e*S	**Sn**	**04 34 17.0**	**-5.8**
SONA			AML	AML	04 34 21.3	
	comp=E,44nm,0.6s					
SONA			AML	AML	04 34 21.9	
	comp=N,45nm,0.6s					
MKAR	**Makanchi Array**	**12.19 35**	P	**Pn**	**04 33 02.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=224,slow=8.1,SNR=3.3					
KURK	**Kurchatov**	**14.25 17⇑**	*e*P	**Pn**	**04 33 30.7**	**+2.3**
KKN	**Kakani**	**14.63 126**	*e*Pn	**Pn**	**04 33 32.6**	**-0.5**
KKN			*e*Sn	**Sn**	**04 36 07.5**	**-7.9**
	comp=N,31nm,0.7s					
DMN	**Daman**	**14.64 127**	*e*Pn	**Pn**	**04 33 32.5**	**-0.8**
DMN			*e*Sn	**Sn**	**04 36 08.2**	**-7.6**
	comp=N,95nm,1.0s					
AB31	**Akbulak array**	**14.84 328**	P	**Pn**	**04 33 33.1**	**-2.7**
	comp=N,0.7nm,0.3s,baz=150,slow=11,SNR=64					
PKI	**Pulchoki**	**14.86 127**	*e*Pn	**Pn**	**04 33 35.6**	**-0.4**
GUN	**Gumba**	**14.94 125**	*e*Pn	**Pn**	**04 33 36.3**	**-0.7**
JIRN	**Jiri**	**15.31 125**	*e*Pn	**Pn**	**04 33 41.3**	**-0.3**
JIRN			*e*Sn	**Sn**	**04 36 23.1**	**-8.6**
	comp=N,24nm,0.5s					
BVAR	**Borovoye Array**	**15.80 356**	P	**Pn**	**04 33 45.5**	**-2.1**
	comp=N,0.5nm,0.3s,baz=172,slow=12,SNR=10.0					
BVAR			S	**S**	**04 36 31.3**	**-12**
	comp=N,0.1nm,0.3s,baz=165,slow=23,SNR=5.6					
ZRNK	**Zerenda**	**15.82 353**	*e*P	**Pn**	**04 33 48.2**	**+0.3**
ZRNK			pmax	pmax		
	comp=Z,3.0nm,0.9s					
ZRNK	**Zerenda**	**15.82 353**	*e*P	**Pn**	**04 33 48.2**	**+0.3**
	comp=Z,3.1nm,0.9s					
ZRNK			*e*		04 34 03.6	
CHKZ	**Chkalovo**	**16.44 357**	*e*P	**Pn**	**04 33 56.1**	**+0.7**
CHKZ			pmax	pmax		
	comp=Z,1.0nm,0.6s					
CHKZ	**Chkalovo**	**16.44 357**	*e*P	**Pn**	**04 33 56.1**	**+0.7**
	comp=Z,0.7nm,0.6s					
AKTK	**Aktyubinsk**	**16.55 327**	P	**Pn**	**04 33 55.4**	**-1.3**
AKTK			S	**S**	**04 36 45.4**	**-16**
AKTO	**Aktyubinsk**	**16.55 327**	⇑P	**Pn**	**04 33 56.4**	**-0.4**
	comp=Z,0.1nm,0.7s					
AKTO	**Aktyubinsk**	**16.55 327**	P	**Pn**	**04 33 55.4**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=130,slow=13,SNR=19					
AKTO			S	**S**	**04 36 45.4**	**-16**
	comp=Z,0.3nm,0.3s,baz=137,slow=10,SNR=5.1					
AKTO	**Aktyubinsk**	**16.55 327**	P	**Pn**	**04 33 55.4**	**-1.4**
AKTO			S	**S**	**04 36 45.4**	**-15**
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
ZAL	**Zalesovo**	**18.86 24**	P	**P**	**04 34 23.1**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=255,slow=8.2,SNR=3.1					
ARU	**Arti**	**21.19 339**	*i*P	**P**	**04 34 46.4**	**-0.6**
ARU			*e*S	**S**	**04 38 38.3**	**+4.2**
ARU			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7					
GNI	**Garni**	**21.45 286**	P	**P**	**04 34 49.7**	**0.0**
	comp=Z,4.9nm,0.5s,mb4.1,baz=143,slow=22,SNR=3.5					
KIV	**Kislovodsk**	**23.17 296**	*i*P	**P**	**04 35 03.7**	**-2.9**
OBN	**Obninsk**	**29.90 318**	⇑P	**P**	**04 36 06.0**	**-1.0**
OBN			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3					
BRTR	**Keskin Array B**	**29.99 287**	P	**P**	**04 36 08.8**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=97,slow=7.7,SNR=3.9					
BRTR	**Keskin Array B**	**29.99 287**	*i*P	**P**	**04 36 09.6**	**+1.9**
AKASG	**Malin Array Be**	**33.11 308**	P	**P**	**04 36 35.3**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=80,slow=7.3,SNR=8.7					
AKASG	**Malin Array Be**	**33.11 308**	*i*P	**P**	**04 36 35.5**	**+0.4**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.5s					
JOF	**Joensuu**	**35.62 329**	*e*p	**P**	**04 36 57.3**	**+0.6**
FINES	**FINESS Array B**	**37.31 325**	P	**P**	**04 37 11.6**	**+0.5**
	comp=Z,1.2nm,0.4s,mb3.8,baz=117,slow=9.7,SNR=20					
FINES	**FINESS Array B**	**37.31 325**	*i*P	**P**	**04 37 11.8**	**+0.8**
FINES			pmax	pmax		
	comp=Z,1.0nm,0.4s					
KAF	**Kangasniemi**	**37.43 326**	*e*p	**P**	**04 37 12.4**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.6,baz=110,slow=8.5					
KAF	**Kangasniemi**	**37.43 326**	*e*P	**P**	**04 37 12.4**	**+0.4**
KAF			pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8					
ARCES	**ARCESS Array B**	**40.75 337**	P	**P**	**04 37 40.5**	**+0.9**
	comp=Z,1.1nm,0.5s,mb3.8,baz=112,slow=8.1,SNR=21					
ARCES	**ARCESS Array B**	**40.75 337**	P	**P**	**04 37 40.5**	**+0.9**
YAK	**Yakutsk**	**42.87 36**	*ce*P	**P**	**04 38 02.0**	**+5.2**
YAK			pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7					
NB2	**NORSAR Subarra**	**44.26 323**	P	**P**	**04 38 08.1**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=93,slow=7.9					
NOA	**NORSAR Array B**	**44.26 323**	P	**P**	**04 38 08.0**	**+0.1**
	comp=Z,1.5nm,0.8s,mb3.7,baz=94,slow=7.7,SNR=9.2					
ESDC	**Sonseca Array**	**57.82 298**	P	**P**	**04 39 48.8**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.6,baz=58,slow=7.5,SNR=8.3					
TORD	**Torodi Ar. Bea**	**66.55 269**	P	**P**	**04 40 47.8**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=50,slow=5.7,SNR=15					

*NEIC **18** 04:31:55.2, 3581S×17997E, h121km, MG4.0(WEL), After WEL.*

WEL 18 04:31:55.6±0.6, 3580S×17961E, h131km±9km, ML4.0/9, Error ellipse: s-maj=7.7km s-min=5.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.05**	**210**	PN	Pn	04 32 30.5	+0.3
MXZ				SN	Sn	04 32 56.1	-0.6
MXZ	**Matakaoa Point**	**2.05**	**210**	P	Pn	04 32 30.6	+0.4
PUZ	**Puketiti**	**2.51**	**205**	PN	Pn	04 32 37.0	+0.9
PUZ				SN	Sn	04 33 06.5	-0.6
PUZ	**Puketiti**	**2.51**	**205**	P	Pn	04 32 37.2	+1.2
PUZ				S	Sn	04 33 07.4	+0.3
WIZ	**White Island**	**2.60**	**228**	PN	Pn	04 32 37.4	+0.3
WIZ	**White Island**	**2.60**	**228**	P	Pn	04 32 37.7	+0.6
MWZ	**Matawai**	**3.03**	**213**	PN	Pn	04 32 43.4	+0.8
MWZ	**Matawai**	**3.03**	**213**	P	Pn	04 32 43.6	+1.0
URZ	**Urewera**	**3.17**	**218**	PN	Pn	04 32 44.8	+0.4
URZ	**Urewera**	**3.17**	**218**	P	Pn	04 32 45.2	+0.8
KUZ	**Kuaotunu**	**3.28**	**252**	*e*PN	Pn	04 32 46.3	+0.4
TAZ	**Tarawera**	**3.47**	**225**	*e*PN	Pn	04 32 50.1	+1.7
TAZ	**Tarawera**	**3.47**	**225**	P	Pn	04 32 50.8	+2.4
KNZ	**Kokohu**	**3.56**	**205**	PN	Pn	04 32 49.2	-0.4
KNZ	**Kokohu**	**3.56**	**205**	P	Pn	04 32 49.3	-0.3
BKZ	**Black Stump Fm**	**4.17**	**216**	*e*PN	Pn	04 32 57.6	-0.1
BKZ	**Black Stump Fm**	**4.17**	**216**	*e*P	Pn	04 32 58.1	+0.4
KRVZ	**Karewarewa**	**4.56**	**223**	PN	Pn	04 33 04.0	+1.2
WPVZ	**Whakapapa**	**4.69**	**222**	*e*PN	Pn	04 33 05.5	+0.9
WPVZ	**Whakapapa**	**4.69**	**222**	*e*P	Pn	04 33 05.9	+1.4
FWVZ	**Far West T-bar**	**4.72**	**222**	*e*PN	Pn	04 33 05.6	+0.6
FWVZ	**Far West T-bar**	**4.72**	**222**	P	Pn	04 33 06.3	+1.3
MOVZ	**Moawhango**	**4.73**	**219**	*e*PN	Pn	04 33 04.4	-0.7
MOVZ	**Moawhango**	**4.73**	**219**	P	Pn	04 33 04.8	-0.3
PXZ	**Pawanui**	**4.75**	**206**	*e*PN	Pn	04 33 04.1	-1.3
WNVZ	**Wahianoa**	**4.75**	**221**	*e*PN	Pn	04 33 05.5	+0.1
WNVZ	**Wahianoa**	**4.75**	**221**	P	Pn	04 33 06.1	+0.8
TSZ	**Takapari Road**	**5.14**	**213**	*e*PN	Pn	04 33 09.6	-1.0
TSZ	**Takapari Road**	**5.14**	**213**	*e*P	Pn	04 33 09.9	-0.6
BFZ	**Birch Farm**	**5.54**	**208**	*e*PN	Pn	04 33 15.3	-0.8
BFZ	**Birch Farm**	**5.54**	**208**	*e*P	Pn	04 33 14.6	-1.4
MRZ	**Mangatainoka R**	**5.80**	**212**	PN	Pn	04 33 17.7	-1.7
MRZ	**Mangatainoka R**	**5.80**	**212**	*e*P	Pn	04 33 18.0	-1.4
KIW	**Kapiti Island**	**6.26**	**215**	*e*PN	Pn	04 33 22.7	-2.9
KIW	**Kapiti Island**	**6.26**	**215**	P	Pn	04 33 23.6	-2.0
CAW	**Cannon Point**	**6.38**	**213**	*e*PN	Pn	04 33 24.4	-2.9
CAW	**Cannon Point**	**6.38**	**213**	P	Pn	04 33 25.1	-2.2
TCW	**Tory Channel**	**6.83**	**216**	*e*PN	Pn	04 33 30.0	-3.3
TCW	**Tory Channel**	**6.83**	**216**	P	Pn	04 33 30.6	-2.7
TUWZ	**Tuamarina**	**7.16**	**217**	*e*PN	Pn	04 33 34.0	-3.8
NNZ	**Nelson**	**7.29**	**220**	*e*PN	Pn	04 33 36.8	-2.6
NNZ	**Nelson**	**7.29**	**220**	*e*P	Pn	04 33 37.5	-1.9
QRZ	**Quartz Range**	**7.49**	**226**	*e*PN	Pn	04 33 38.8	-3.4
QRZ	**Quartz Range**	**7.49**	**226**	*e*P	Pn	04 33 39.2	-3.0
THZ	**Tophouse**	**7.93**	**219**	*e*PN	Pn	04 33 44.8	-3.3
THZ	**Tophouse**	**7.93**	**219**	*e*P	Pn	04 33 45.7	-2.4
KHZ	**Kahutara**	**8.12**	**214**	*e*PN	Pn	04 33 47.4	-3.3
KHZ	**Kahutara**	**8.12**	**214**	*e*P	Pn	04 33 49.1	-1.5
LTZ	**Lake Taylor**	**8.99**	**217**	*e*PN	Pn	04 33 58.1	-4.3
LTZ	**Lake Taylor**	**8.99**	**217**	*e*P	Pn	04 33 59.2	-3.2

IDC 18 04:33:46.0±76.0, 1772S×17817E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.9/10, mbtmp4.1/3, Error ellipse: s-maj=1356.0km s-min=164.2km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.88**	**240**	P	P	04 40 48.1	+0.5
	1.3nm,0.9s,baz=90,slow=4.0,SNR=2.9						
WRA	**Warramunga Arr**	**41.46**	**260**	P	P	04 41 34.3	-0.1
	0.4nm,0.3s,baz=96,slow=7.8,SNR=5.9						
ASAR	**Alice Springs**	**41.70**	**254**	P	P	04 41 36.9	+0.5
	2.7nm,0.3s,baz=88,slow=8.0,SNR=30						

*IDC **18** 04:39:16.7±0.8, 2231S×17508W, h0km, mb4.0/7, mb1 4.3/9, mb1mx4.2/14, mbtmp4.1/9, ML4.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/23, Error ellipse: s-maj=29.5km s-min=18.3km az=112.0*

*NEIC **18** 04:39:17.6±0.4, 2229S×17501W, h10km, mb4.9/3, Error ellipse: s-maj=17.0km s-min=7.2km az=115.0*

*ISCJB **18** 04:39:19.4±0.6, 2230S±008×175.1W±02, h33km, mb4.3/10, Error ellipse: s-maj=22.6km s-min=8.1km az=42.3*

*MOS **18** 04:39:19.4±1.6, 2233S×17500W, h33km, mb5.2/3, Error ellipse: s-maj=31.9km s-min=14.7km az=68.9*

ISC 18 04:39:21.3±0.6, 2226S±008×1750W±02, h35km, n34, σ1$09/21, mb4.3/10, 1C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.44**	**200**	Pn	**Pn**	**04 41 05.0**	**-2.3**
	131nm,0.3s,baz=30,slow=20,SNR=4.1						
RAO				Sn	**Sn**	**04 42 31.7**	**+1.3**
	60nm,0.3s,baz=78,slow=23,SNR=2.9						
AFI	**Afiamalu**	**8.86**	**21**	Pn	**Pn**	**04 41 25.6**	**-1.1**
	5.9nm,0.3s,baz=59,slow=8.9,SNR=4.5						
AFI				Sn	**Sn**	**04 42 52.7**	**-13**
	3.1nm,0.3s,baz=73,slow=23,SNR=2.0						
RAR	**Rarotonga**	**14.19**	**89**	Pn	**Pn**	**04 42 26.6**	**-13**
	5.2nm,0.3s,baz=254,slow=4.3,SNR=11						
RAR				LR	LR	04 46 30.6	
	comp=Z,233nm,19.0s,baz=125,slow=30						
URZ	**Urewera**	**17.32**	**201**	P	**Pn**	**04 43 19.3**	**-1.0**
	1.8nm,0.3s,baz=357,slow=6.4,SNR=6.4						
RKT	**Rikitea**	**36.86**	**99**	eLR	LR	04 55 48.7	
	206nm,28.0s						
STKA	**Stephens Creek**	**39.60**	**247**	P	**P**	**04 46 48.8**	**-0.4**
	1.1nm,0.4s,mb3.9,baz=101,slow=12,SNR=8.9						
STKA	**Stephens Creek**	**39.60**	**247**	*e*P	**P**	**04 46 49.5**	**+0.2**
ASAR	**Alice Springs**	**46.86**	**258**	P	**P**	**04 47 48.2**	**+0.3**
	2.5nm,0.9s,mb4.1,baz=97,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**47.14**	**263**	P	**P**	**04 47 50.2**	**+0.1**
	0.7nm,0.3s,mb4.0,baz=94,slow=8.3,SNR=11						
VNDA	**Vanda**	**56.43**	**186**	P	**P**	**04 48 59.0**	**-0.3**
	0.6nm,0.7s,mb3.7,baz=29,slow=6.3,SNR=3.5						
MJAR	**Matsushiro Arr**	**73.29**	**322**	P	**P**	**04 50 51.0**	**+1.9**
	1.4nm,0.5s,mb4.2,baz=159,slow=6.0,SNR=7.1						
MAW	**Mawson**	**80.84**	**199**	P	**P**	**04 51 31.8**	**+0.3**
	1.5nm,0.5s,mb4.2,baz=136,slow=8.4,SNR=11						
MSU	**Marysvale**	**84.36**	**45**	*e*P	**P**	**04 51 51.3**	**+1.5**
SRU	**San Rafael**	**85.76**	**45**	*e*P	**P**	**04 51 57.7**	**+0.9**
SRU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.7						
SRU	**San Rafael**	**85.76**	**45**	*e*P	**P**	**04 51 57.7**	**+0.9**
	comp=Z,4.9nm,1.1s,mb4.7						
TTA	**Tatalina**	**86.23**	**9**	*e*P	**P**	**04 51 58.2**	**-0.9**
TTA				pmax	pmax		
	comp=Z,13nm,1.3s,mb5.0						
TTA	**Tatalina**	**86.23**	**9**	*e*P	**P**	**04 51 58.2**	**-0.9**
	comp=Z,12nm,1.3s,mb5.0						
MA2	**Magadan**	**86.24**	**343**	*e*P	**P**	**04 51 57.9**	**-1.3**
MA2				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.3						
MA2	**Magadan**	**86.24**	**343**	*e*P	**P**	**04 51 57.9**	**-1.4**
	comp=Z,28nm,1.4s,mb5.3						
PDAR	**Pinedale Array**	**88.36**	**42**	P	**P**	**04 52 10.1**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.8,baz=155,slow=4.2,SNR=4.0						
ARCES	**ARCESS Array B**	**131.13**	**351**	PKP	PKPdf	04 58 29.6	+0.2
	comp=Z,1.9nm,1.0s,baz=350,slow=6.6,SNR=5.0						
KMBO	**Kilima Mbogo**	**140.89**	**238⇑**	*e*PKHKP		04 58 37.2	
AKASG	**Malin Array Be**	**145.88**	**332**	PKPbc	PKPbc	04 58 57.0	+0.1
	comp=Z,0.7nm,0.4s,baz=40,slow=3.4,SNR=6.2						
BRTR	**Keskin Array B**	**150.09**	**312**	PKPbc	PKPbc	04 59 08.8	+0.7
	comp=Z,0.6nm,0.7s,baz=133,slow=5.2,SNR=5.3						
CLL	**Collm**	**150.35**	**350**	*i* PKPbc	PKPbc	04 59 10.1	+1.3
	comp=Z,14nm,1.4s						
CLL	**Collm**	**150.35**	**350**	*i* P	PKPbc	04 59 10.1	+1.3
CLL				*i*		04 59 25.3	
BRG	**Berggiesshubel**	**150.60**	**348**	*e*P	PKPbc	04 59 10.4	+1.0
	comp=Z,5.9nm,1.5s						
MOX	**Moxa**	**151.20**	**351**	*e*P	PKPbc	04 59 12.6	+1.8
	comp=Z,13nm,1.8s						
GRA1	**Grafenberg Arr**	**152.19**	**351**	*e*PKP	PKPab	04 59 25.3	+2.4
GRF	**Grafenberg Arr**	**152.19**	**351**	*e*PKP2	PKPab	04 59 25.3	+2.4
GERES	**GERESS Array B**	**152.59**	**347**	PKPbc	PKPbc	04 59 14.8	+0.8
	comp=Z,0.2nm,0.6s,baz=335,slow=6.0,SNR=4.5						
GERES				PKPab	PKPab	04 59 26.1	+1.6
	comp=Z,0.3nm,0.7s,baz=57,slow=4.9,SNR=4.4						
GERES	**GERESS Array B**	**152.59**	**347**	PKP2	PKPab	04 59 26.1	+1.6
DBIC	**Dimbokro**	**161.81**	**147**	PKPab	PKPab	05 00 07.2	+2.9
	comp=Z,5.3nm,1.0s,baz=305,slow=2.3,SNR=3.1						
DBIC	**Dimbokro**	**161.81**	**147**	PKP2	PKPab	05 00 07.2	+2.9
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.0s						

*NEIC **18** 04:39:28.3, 3088S×7166W, h10km, ML3.3(GUC), After GUC.*

GUC 18 04:39:28.3±0.7, 3088S×7166W, h10km±7km, MD4.0, ML3.3, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.48**	**56**	⇓*i*P	Pg	04 39 38.6	+0.9
OVCH				*i* S	Sg	04 39 46.2	+2.1
OVCH				AML	AML	04 39 46.8	
	comp=N,4μm,0.4s						
CMCH	**Combarbala**	**0.64**	**117**	⇑*i*P	Pg	04 39 40.7	+0.1
CMCH				*i* S	Sg	04 39 50.5	+1.5
CMCH				AML	AML	04 39 51.0	
	comp=E,2μm,0.2s						
CMCH	**Combarbala**	**0.64**	**117**	⇑*i*P	Pg	04 39 40.7	+0.1
CMCH				*i* S	Sg	04 39 50.5	+1.5
TLL	**Tololo Astrono**	**1.03**	**46**	*e*P	Pg	04 39 47.5	-0.6
TLL				*i* S	Sg	04 40 01.6	+0.2
TLL				AML	AML	04 40 06.3	
	comp=N,2μm,0.3s						
TLL	**Tololo Astrono**	**1.03**	**46**	*e*P	Pg	04 39 47.5	-0.6
TLL				*i* S	Sg	04 40 01.6	+0.2
JACH	**Jahuel**	**2.01**	**153**	*i* P	Pn	04 40 02.6	+0.4
LCO	**Las Campanas**	**2.04**	**24**	*e*P	Pn	04 40 01.4	-1.3
LCO				*i* S	Sn	04 40 28.3	+0.1
CLCH	**Cerro Calan**	**2.68**	**159**	*e*P	Pn	04 40 12.8	+1.4
CLCH				AML	AML	04 40 56.2	
	comp=E,323nm,0.5s						
PCH	**Pirque**	**2.90**	**161**	*i* P	Pn	04 40 15.9	+1.5
CACH	**El Canelo**	**3.35**	**165**	*i* P	Pn	04 40 22.3	+1.7

*MOS **18** 04:46:39.0±0.6, 530S×12534E, h514km, mb4.4/9, Error ellipse: s-maj=19.2km s-min=11.0km az=102.9*

*BJI **18** 04:46:39.8, 541S×12550E, h534km, mB4.2, mb4.3*

*ISCJB **18** 04:46:40.6±1.0, 536S±005×12546E±008, h538km±15km, mb4.3/25, Error ellipse: s-maj=12.6km s-min=6.3km az=126.6*

*NEIC **18** 04:46:41.0±0.7, 542S×12540E, h531km±10km, mb4.6/14, Error ellipse: s-maj=8.5km s-min=5.7km az=66.0*

*IDC **18** 04:46:43.0±1.5, 545S×12548E, h562km±20km, mb3.5/8, mb1 3.4/11, mb1mx3.3/19, mbtmp4.4/11, Error ellipse: s-maj=17.0km s-min=9.4km az=75.0*

ISC 18 04:46:41.7±0.9, 547S±005×12550E±008, h541km±12km, n61, σ0$84/68, mb4.3/25, 1C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.94**	**137**	⇓*i*P	**P**	**04 48 59.6**	**+0.8**
	37nm,0.6s						
KAKA				*e*S	**S**	**04 50 41.5**	**-10**
FITZ	**Fitzroy Crossi**	**12.56**	**179**	*e*P	**P**	**04 49 25.8**	**-0.2**
	5.7nm,0.4s						
FITZ				*e*S	**S**	**04 51 39.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**12.56**	**179**	P	**P**	**04 49 25.9**	**0.0**
	0.9nm,0.3s,baz=21,slow=11,SNR=18						
FITZ				S	**S**	**04 51 42.3**	**+1.0**
	0.2nm,0.3s,baz=156,slow=20,SNR=2.2						
KKM	**Kota Kinabalu**	**14.72**	**321**	P	**P**	**04 49 55.5**	**+7.1**
KKM	**Kota Kinabalu**	**14.72**	**321**	*e*P	**P**	**04 49 47.7**	**-0.6**
MBWA	**Marble Bar**	**16.57**	**199**	*e*P	**P**	**04 50 05.7**	**-1.2**
	13nm,0.6s						
KSM	**Kuching**	**16.67**	**294**	*e*P	**P**	**04 50 05.9**	**-1.8**
WRA	**Warramunga Arr**	**16.76**	**150**	P	**P**	**04 50 09.5**	**+0.9**
	1.9nm,0.3s,baz=328,slow=11,SNR=86						
WRA				S	**S**	**04 52 56.8**	**-0.6**
	baz=336,slow=16,SNR=3.2						
WB2	**Warramunga Arr**	**16.77**	**150**	*e*P	**P**	**04 50 08.8**	**+0.1**
WB2				*e*S	**S**	**04 52 57.1**	**-0.4**
ASAR	**Alice Springs**	**19.82**	**157**	P	**P**	**04 50 38.5**	**+1.9**
	0.5nm,0.3s,baz=335,slow=10,SNR=17						
ASAR				S	**S**	**04 53 46.0**	**-1.0**
	baz=342,slow=12,SNR=5.6						
ASAR				ScP	ScP	04 57 11.2	-2.3
	0.3nm,0.3s,baz=346,slow=2.6,SNR=6.4						
ASAR	**Alice Springs**	**19.82**	**157**	P	**P**	**04 50 38.5**	**+2.0**
ASAR				S	**S**	**04 53 46.0**	**-1.1**
KGM	**Kluang**	**23.37**	**288**	P	**P**	**04 51 09.5**	**+1.1**
GUMO	**Guam**	**26.98**	**45**	P	**P**	**04 51 39.9**	**-0.4**
	32nm,0.4s,mb5.3,baz=347,slow=12,SNR=4.0						
KULM	**Kulim**	**27.02**	**293**	*e*P	**P**	**04 51 39.9**	**-0.8**
PSI	**Prapat**	**27.79**	**287**	P	**P**	**04 51 46.2**	**-1.2**
	27nm,0.8s,mb4.9,baz=102,slow=4.4,SNR=30						
PSI	**Prapat**	**27.79**	**287**	P	**P**	**04 51 46.2**	**-1.2**
NWAO	**Narrogin (SRO)**	**28.39**	**195**	P	**P**	**04 51 53.2**	**+0.6**
	4.9nm,0.6s,mb4.3,baz=41,slow=7.9,SNR=4.1						
STKA	**Stephens Creek**	**30.29**	**152**	*e*P	**P**	**04 52 08.8**	**-0.3**
	1.0nm,0.8s,mb3.4						
STKA	**Stephens Creek**	**30.29**	**152**	P	**P**	**04 52 08.8**	**-0.2**
	1.5nm,0.7s,mb3.6,baz=317,slow=12,SNR=5.1						
CD2	**Chengdu**	**41.72**	**331**	*e*P	**P**	**04 53 42.5**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
MJAR	**Matsushiro Arr**	**43.45**	**15**	P	**P**	**04 53 56.6**	**-0.4**
	comp=Z,13nm,0.8s,mb4.5,baz=193,slow=8.8,SNR=36						
MAJO	**Matsushiro**	**43.45**	**15**	*e*P	**P**	**04 53 56.4**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
MAJO	**Matsushiro**	**43.45**	**15**	*e*P	**P**	**04 53 56.4**	**-0.6**
	comp=Z,7.5nm,0.8s,mb4.3						
MAT	**Matsushiro**	**43.45**	**15**	P	**P**	**04 53 56.5**	**-0.5**
MAT	**Matsushiro**	**43.45**	**15**	*e*P	**P**	**04 53 57.0**	**0.0**
MAT				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
MAT	**Matsushiro**	**43.45**	**15**	*e*P	**P**	**04 53 57.0**	**0.0**
	comp=Z,12nm,0.7s,mb4.5						
MDJ	**Mudanjiang**	**49.99**	**4**	P	**P**	**04 54 47.1**	**+0.8**
MDJ				PCP	PcP	04 55 53.5	-3.0
MDJ				AP	pP	04 56 24.6	-3.2
MDJ				PP	PP	04 56 49.5	+0.9
MDJ				XP	sP	04 57 22.4	-4.7
MDJ				PCS	PcS	04 59 55.3	+0.8
MDJ				S	**S**	**05 01 21.8**	**+4.9**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,40nm,6.7s						
JIRN	**Jiri**	**50.25**	**313**	*e*P	**P**	**04 54 48.4**	**+0.2**
	comp=Z,13nm,0.4s,mb4.7						
GTA	**Gaotai**	**50.57**	**334**	*e*P	**P**	**04 54 51.3**	**+0.8**
GUN	**Gumba**	**50.61**	**313**	*e*P	**P**	**04 54 51.0**	**+0.1**
	comp=Z,36nm,0.4s,mb5.0						
PKI	**Pulchoki**	**50.77**	**312**	*e*P	**P**	**04 54 51.9**	**-0.1**
	comp=Z,15nm,0.4s,mb4.7						
PKI	**Pulchoki**	**50.77**	**312**	*e*P	**P**	**04 54 51.9**	**-0.1**
PKI				pmax	pmax		
	comp=Z,15nm,0.4s,mb4.7						
KKN	**Kakani**	**50.98**	**313**	*e*P	**P**	**04 54 53.5**	**-0.1**
	comp=Z,16nm,0.4s,mb4.7						
KKN	**Kakani**	**50.98**	**313**	*e*P	**P**	**04 54 53.5**	**-0.1**
KKN				pmax	pmax		
	comp=Z,16nm,0.4s,mb4.7						
DMN	**Daman**	**51.01**	**312**	*e*P	**P**	**04 54 53.8**	**0.0**
	comp=Z,15nm,0.4

7.2nm,0.3s,baz=196,slow=4.6,SNR=33
PCRV S **Sn** **05 03 14.1 +2.2**
5.7nm,0.3s,baz=261,slow=15,SNR=2.1
PCRV Lg 05 04 27.8
8.8nm,0.3s,baz=294,slow=16,SNR=4.0
ATAH Atahualpa 12.74 205 P **Pn** **05 01 58.2 -1.0**
0.7nm,0.3s,baz=40,slow=5.7,SNR=6.2
JTS JuntasAbangare 13.09 296 P **Pn** **05 02 08.1 +4.2**
0.1nm,0.3s,baz=359,slow=2.7,SNR=3.8
JTS LR LR 05 06 35.1
comp=Z,317nm,18.9s,baz=111,slow=36
JTS JuntasAbangare 13.09 296 *e*P **Pn** **05 02 07.0 +3.1**
SJG San Juan 14.99 26 P **Pn** **05 02 25.1 -4.3**
2.6nm,0.3s,baz=206,slow=18,SNR=6.5
SJG LR LR 05 08 57.0
comp=Z,765nm,19.2s,baz=90,slow=40
SJG San Juan 14.99 26 P **Pn** **05 02 25.1 -4.4**
SJG pmax pmax
comp=Z,3.0nm,0.3s
SJG MLR MLR
comp=Z,765nm,19.2s
SJG San Juan 14.99 26 *e*Pn **Pn** **05 02 24.7 -4.8**
comp=Z,16nm,0.6s
MTP Monte Pirata 15.24 28 *e*Pn **Pn** **05 02 29.4 -3.3**
SAML Samuel 16.69 144 *e*Pn **Pn** **05 02 49.9 -1.4**
comp=Z,113nm,1.2s
SAML *e*Sn **Sn** **05 05 51.8 -3.7**
LPAZ La Paz 21.35 167 P **P** **05 03 45.0 +1.0**
comp=Z,13nm,0.9s,mb4.3,baz=340,slow=14,SNR=57
LPAZ LR LR 05 12 40.9
comp=Z,300nm,19.6s,MS3.7,baz=118,slow=38
LPAZ La Paz 21.35 167 *e*P **P** **05 03 45.2 +1.1**
comp=Z,1.7nm,0.8s,mb3.4
TEIG Tepich 21.46 318 *e*P **P** **05 03 44.5 -0.7**
comp=Z,12nm,0.9s,mb4.2
SIV San Ignacio 23.67 150 P **P** **05 04 09.5 +1.3**
comp=Z,11nm,0.7s,mb4.4,baz=325,slow=9.2,SNR=74
CMIG Matias Romero 24.74 302 P **P** **05 04 12.9 -5.0**
comp=Z,3.2nm,1.2s,mb3.7,baz=32,slow=15,SNR=2.2
CMIG LR LR 05 15 11.2
comp=Z,225nm,18.7s,MS3.7,baz=112,slow=40
LVC Limon Verde 27.38 172 P **P** **05 04 41.9 +0.2**
comp=Z,8.3nm,0.7s,mb4.4,baz=3.3,slow=4.7,SNR=9.7
LVC Limon Verde 27.38 172 *e*P **P** **05 04 42.5 +0.7**
comp=Z,8.1nm,1.1s,mb4.2
BDFB Brasilia 31.93 130 P **P** **05 05 24.2 +2.2**
comp=Z,4.0nm,0.6s,mb4.4,baz=302,slow=8.0,SNR=9.7
BDFB LR LR 05 19 19.0
comp=Z,387nm,21.2s,MS4.1,baz=309,slow=38
FWV Forest Hill 33.55 349 *e*P **P** **05 05 34.8 -1.5**
WVT Waverly 34.18 338 *e*P **P** **05 05 42.4 +0.7**
WVT pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WVT Waverly 34.18 338 *e*P **P** **05 05 42.4 +0.7**
comp=Z,9.2nm,1.0s,mb4.7
BLO Bloomington 36.49 342 *e*P **P** **05 06 01.7 +0.1**
BLO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BLO Bloomington 36.49 342 *e*P **P** **05 06 01.7 +0.1**
comp=Z,9.6nm,0.9s,mb4.7
FVM French Village 36.79 337 *e*P **P** **05 06 04.0 -0.1**
FVM pmax pmax
comp=Z,14nm,0.7s,mb4.9
FVM French Village 36.79 337 *e*P **P** **05 06 04.0 -0.1**
comp=Z,14nm,0.7s,mb4.9
CCM Cathedral Cave 37.18 336 *e*P **P** **05 06 06.8 -0.6**
CCM pmax pmax
comp=Z,14nm,0.8s,mb4.8
CCM Cathedral Cave 37.18 336 *e*P **P** **05 06 06.8 -0.7**
comp=Z,14nm,0.8s,mb4.8
AMTX Amarillo 40.11 322 *e*P **P** **05 06 29.9 -2.1**
comp=Z,16nm,0.9s,mb4.8
MNTX Cornudas Mount 40.56 315 *e*P **P** **05 06 35.4 -0.3**
comp=Z,4.8nm,1.0s,mb4.1
ANMO Albuquerque 43.19 319 P **P** **05 06 55.3 -1.8**
comp=Z,1.7nm,0.9s,mb3.8,baz=144,slow=8.7,SNR=3.0
ANMO Albuquerque 43.19 319 *e*P **P** **05 06 58.3 +1.1**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 43.19 319 *e*P **P** **05 06 58.3 +1.1**
comp=Z,3.7nm,1.0s,mb4.1
LAZ Ladron 43.32 317 *e*P **P** **05 06 59.2 +1.0**
TRQA Tornquist 43.70 167 *e*P **P** **05 07 01.1 -0.2**
comp=Z,5.7nm,0.8s,mb4.3
TUC Tucson 44.76 313 *e*P **P** **05 07 08.0 -1.8**
TUC pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
TUC Tucson 44.76 313 *e*P **P** **05 07 08.0 -1.8**
comp=Z,2.0nm,0.8s,mb4.0
PLCA Paso Flores 45.20 177 P **P** **05 07 10.5 -2.8**
comp=Z,3.3nm,0.6s,mb4.3,baz=358,slow=7.2,SNR=6.9
PLCA LR LR 05 27 08.1
comp=Z,132nm,18.4s,MS3.9,baz=92,slow=37
PLCA Paso Flores 45.20 177 *e*P **P** **05 07 12.9 -0.4**
PLCA pmax pmax
comp=Z,7.0nm,0.9s
PLCA Paso Flores 45.20 177 *e*P **P** **05 07 12.9 -0.4**
comp=Z,6.8nm,0.9s,mb4.5
ISCO Idaho Springs 45.71 325 *e*P **P** **05 07 17.9 +0.6**
ISCO pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
ISCO Idaho Springs 45.71 325 *e*P **P** **05 07 17.9 +0.6**
comp=Z,6.8nm,1.2s,mb4.5
MVCO Mesa Verde 45.85 320 *e*P **P** **05 07 19.2 +0.7**
EYMN Ely 45.97 343 *e*P **P** **05 07 19.9 +0.6**
comp=Z,9.0nm,0.9s,mb4.7
SMCO Snowmass 46.11 323 *e*P **P** **05 07 22.2 +1.7**
comp=Z,8.9nm,1.4s,mb4.5
PV01 Paradox Valley 46.45 321 *e*P **P** **05 07 24.0 +0.8**
PHWY Pilot Hill 46.63 326 *e*P **P** **05 07 25.6 +1.0**
RSSD Black Hills 47.85 330 *e*P **P** **05 07 34.3 +0.2**
RSSD pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
RSSD Black Hills 47.85 330 *e*P **P** **05 07 34.3 +0.2**
comp=Z,5.1nm,1.1s,mb4.5
SRU San Rafael 48.26 321 *e*P **P** **05 07 37.5 +0.3**
SRU pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
SRU San Rafael 48.26 321 *e*P **P** **05 07 37.5 +0.3**
comp=Z,8.2nm,1.1s,mb4.7
MSU Marysvale 48.99 319 *e*P **P** **05 07 43.8 +1.0**
ULM Lac du Bonnet 49.36 341 P **P** **05 07 41.1 -4.5**
comp=Z,1.8nm,0.9s,mb4.1,baz=187,slow=8.1,SNR=1.7
ULM LR LR 05 28 45.1
comp=Z,130nm,19.1s,MS4.0,baz=164,slow=36
DAU Daniels Canyon 49.48 322 *e*P **P** **05 07 47.0 +0.4**
BW06 Boulder Array 49.90 325 *e*P **P** **05 07 50.3 +0.5**
comp=Z,5.2nm,1.1s,mb4.5
PDAR Pinedale Array 49.90 325 P **P** **05 07 45.9 -3.8**
comp=Z,0.5nm,0.4s,mb3.9,baz=139,slow=4.3,SNR=4.8
PDAR LR LR 05 31 16.4
comp=Z,37nm,19.8s,MS3.4,baz=307,slow=39
TCUT Toone Canyon 49.99 322 *e*P **P** **05 07 51.1 +0.7**
SCHQ Schefferville 50.30 5 P **P** **05 07 50.8 -2.0**
comp=Z,2.0nm,0.5s,mb4.4,baz=224,slow=10,SNR=5.2
SCHQ LR LR 05 27 47.3
comp=Z,81nm,20.9s,MS3.7,baz=78,slow=34
DUG Dugway 50.33 320 *e*P **P** **05 07 53.8 +0.8**
DUG pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
DUG Dugway 50.33 320 *e*P **P** **05 07 53.8 +0.8**
comp=Z,3.4nm,1.0s,mb4.3
HWUT Hardware Ranch 50.37 323 *e*P **P** **05 07 52.9 -0.4**
comp=Z,5.4nm,1.0s,mb4.5
BGU Big Grassy Mou 50.88 321 *e*P **P** **05 07 57.7 +0.6**
REDW Red Top Meadow 51.01 325 *e*P **P** **05 07 58.9 +0.7**
comp=Z,9.2nm,0.8s,mb4.8
TPAW Teton Pass 51.15 325 *e*P **P** **05 07 59.6 +0.4**
comp=Z,6.9nm,0.9s,mb4.6
MOOW Moose Ponds 51.19 325 *e*P **P** **05 07 59.9 +0.5**
comp=Z,3.5nm,0.8s,mb4.3
IMW Indian Meadow 51.39 325 *e*P **P** **05 08 01.4 +0.4**
comp=Z,4.4nm,0.7s,mb4.5
GCMT Greycliff 51.90 328 *e*P **P** **05 08 04.4 -0.4**
QLMT Earthquake Lak 52.25 326 *e*P **P** **05 08 09.0 +1.7**
BOZ Bozeman (W) 52.87 327 *e*P **P** **05 08 11.4 -0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BOZ Bozeman (W) 52.87 327 *e*P **P** **05 08 11.4 -0.5**
comp=Z,3.3nm,0.8s,mb4.3
MCMT McKenzie Canyo 53.04 325 *e*P **P** **05 08 13.8 +0.6**
HLID Hailey 53.22 323 *e*P **P** **05 08 15.0 +0.5**
comp=Z,3.3nm,1.0s,mb4.2
WVOR Wild Horse Val 55.23 320 *e*P **P** **05 08 28.3 -0.9**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
WVOR Wild Horse Val 55.23 320 *e*P **P** **05 08 28.3 -0.9**
comp=Z,3.9nm,0.8s,mb4.5
NEW Newport 57.45 327 P **P** **05 08 40.0 -5.0**
comp=Z,0.6nm,0.4s,mb4.0,baz=113,slow=13,SNR=2.4
NEW Newport 57.45 327 *e*P **P** **05 08 44.9 -0.1**
NEW pmax pmax
comp=Z,1.0nm,0.4s
NEW Newport 57.45 327 *e*P **P** **05 08 44.9 -0.1**
comp=Z,1.0nm,0.4s,mb4.2
YBH Yreka Blue Hor 57.59 317 P **P** **05 08 41.0 -5.0**
comp=Z,1.2nm,0.7s,mb4.0,baz=153,slow=8.5,SNR=2.5
EDM Edmonton 58.59 333 *e*P **P** **05 08 51.5 -1.5**
YKW3 Yellowknife Ar 65.38 340 *e*P **P** **05 09 39.1 +0.5**
DBIC Dimbokro 67.83 85 P **P** **05 09 54.7 +0.5**
comp=Z,2.4nm,0.6s,mb4.4,baz=254,slow=6.8,SNR=7.9
SUMG Summit 71.11 10 *e*P **P** **05 10 12.9 -1.5**
comp=Z,27nm,1.0s,mb5.1
TORD Torodi Ar. Bea 74.10 78 P **P** **05 10 32.2 0.0**
comp=Z,0.5nm,0.5s,mb3.7,baz=282,slow=6.3,SNR=9.0
TORD Torodi Ar. Bea 74.10 78 P **P** **05 10 32.2 0.0**
INK Inuvik 75.10 340 *e*P **P** **05 10 38.1 +0.1**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 75.10 340 *e*P **P** **05 10 38.1 +0.1**
comp=Z,3.0nm,0.7s,mb4.3
DAWY Dawson 75.65 335 *e*P **P** **05 10 40.1 -1.0**
COLA College 79.39 335 *e*P **P** **05 11 01.4 -0.7**
MCK McKinley 79.64 334 *e*P **P** **05 11 02.7 -0.7**
MCK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MCK McKinley 79.64 334 *e*P **P** **05 11 02.7 -0.7**
comp=Z,4.7nm,1.1s,mb4.3
DAVOX Davos 81.78 44 LR LR 05 43 41.8
comp=Z,41nm,19.6s,MS3.8,baz=268,slow=33
NOA NORSAR Array B 83.18 29 LR LR 05 44 15.9
comp=Z,28nm,21.6s,MS3.6,baz=270,slow=33
GERES GERESS Array B 84.39 42 P **P** **05 11 28.3 0.0**
comp=Z,0.2nm,0.4s,mb3.6,baz=284,slow=5.4,SNR=4.3
VNA1 Neumayer--Stat 86.22 162 *e*P **P** **05 11 37.5 +0.1**
VNA1 *e* pP 05 11 47.4 -3.2
VNA1 *e* pP 05 11 51.3 +0.7
ARCES ARCESS Array B 88.67 20 P **P** **05 11 47.0 -2.3**
comp=Z,1.6nm,0.9s,mb4.3,baz=278,slow=3.6,SNR=4.6
FINES FINESS Array B 90.31 28 LR LR 05 45 29.3
comp=Z,44nm,20.3s,MS3.9,baz=0.3,slow=31
BILL Bilibino 96.72 341 *e*P **P** **05 12 25.2 -1.2**
BILL pmax pmax
comp=Z,10.0nm,2.1s,mb4.9
BOSA Boshof 99.47 118 LR LR 05 52 37.2
comp=Z,90nm,18.1s,MS4.3,baz=188,slow=32
MKAR Makanchi Array 124.33 20 PKP PKPdf 05 17 52.2 -2.4
comp=Z,0.4nm,0.5s,baz=315,slow=2.6,SNR=4.6
CN2 Chengdu 128.99 343 *e*PKP PKPdf 05 18 03.3 -0.3
HHC Hu-ho-hao-te 134.54 355 *e*PKP PKPdf 05 18 12.3 -1.8
HHC XPKP 05 18 26.8
HHC PP PP 05 20 47.6 +0.6
HHC PKS 05 21 45.9
HHC SKS SKSdf 05 25 18.9 -2.7
HHC SKKS SKKSac 05 27 34.8 -4.1
HHC PP PP
comp=Z,60nm,5.7s
HHC LR LR
comp=N,60nm,14.3s
HHC LR LR
comp=E,130nm,25.0s
HHC LR LR
comp=Z,80nm,21.4s
LZH Lanzhou 139.38 4 *e*PKP PKPdf 05 18 22.5 -0.5
LZH XPKP 05 18 37.0
LZH LR LR
comp=N,140nm,18.5s
LZH LR LR
comp=Z,220nm,20.3s,MS4.9
NJ2 Nanjing 141.80 344 *e*PKP PKPdf 05 18 27.0 -0.4
CD2 Chengdu 144.52 5 *e*PKP PKPdf 05 18 29.4 -2.8
AS31 Alice Springs 147.87 231 *e*PKP PKPdf 05 18 38.7 +0.8
ASAR Alice Springs 147.87 231 PKPbc PKPbc 05 18 38.4 -2.4
comp=Z,3.7nm,0.5s,baz=119,slow=3.7,SNR=57
ASPA Alice Springs 147.87 231 *e*PKP PKPdf 05 18 38.7 +0.8
GYA Guiyang 149.09 1 *e*PKP PKPdf 05 18 38.0 -1.9
WB2 Warramunga Arr 149.31 238 *e*PKP PKPbc 05 18 42.2 -2.4
WRA Warramunga Arr 149.32 238 PKP PKPdf 05 18 38.8 -1.4
comp=Z,8.3nm,0.5s,baz=110,slow=2.7,SNR=86
WRA PKPbc PKPbc 05 18 42.4 -2.2
comp=Z,8.3nm,0.5s,baz=109,slow=2.7,SNR=161
MUN Mundaring 151.46 197 *e*PKP PKPab 05 18 54.9 -3.2
MUN *ep*PKP pPKPdf 05 19 04.9 +7.7
MUN Mundaring 151.46 197 *e*PKIKP PKPbc 05 18 48.4 -1.3
MUN *e* PKPab 05 18 54.9 -3.2
MUN *e* 05 19 04.9

TIF ***18*** *05:24:54.3, 4273N×4332E, h20km±2km*
MOS 18 05:24:55.0±0.8, 4270N×4345E, h18km, mb4.0/1, 4C-4D, Error ellipse: s-maj=15.1km s-min=8.5km az=77.4, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.22**	**25**	↓*i*PG	Pg	05 25 00.2	-0.1
DIGR				*i* S	Sg	05 25 04.3	+0.4
ZEI	**Tsey**	**0.34**	**78**	*e*PG	Pg	05 25 03.4	+1.2
ZEI				*i* S	Sg	05 25 09.8	+2.8
KORR	**Kora**	**0.60**	**49**	↓*i*PG	Pg	05 25 07.3	+0.5
KORR				*i* S	Sg	05 25 16.4	+1.5
LACR	**Lac**	**0.64**	**78**	↑*i*PG	Pg	05 25 08.6	+1.0
LACR				*i* S	Sg	05 25 18.8	+2.7
ARNR	**Ardon**	**0.78**	**51**	*e*PG	Pg	05 25 10.6	+0.3
ARNR				*e*S	Sb	05 25 22.1	+1.8
KMSR	**Komsomolskaya**	**0.91**	**42**	*e*PG	Pg	05 25 12.7	-0.1
KMSR				*e*S	Sb	05 25 25.9	+1.8
BTKR	**Batakoyurt**	**1.05**	**50**	*e*PG	Pg	05 25 15.1	-0.2
BTKR				*e*S	Sb	05 25 30.1	+2.2
KUBR	**Kubataba**	**1.10**	**358**	↑*i*PG	Pg	05 25 16.2	-0.1
KUBR				*i* S	Sb	05 25 31.7	+2.2
SHAR	**Shatzhatmas**	**1.19**	**332**	↓*i*PG	Pg	05 25 15.9	-2.1
SHAR				*i* S	Sb	05 25 30.2	-1.9
PYA	**Pyatigorsk**	**1.36**	**348**	↓*e*PG	Pg	05 25 20.0	-1.3
PYA				*e*S	Sn	05 25 37.6	+0.8
KIV	**Kislovodsk**	**1.38**	**336**	↑*i*PG	Pg	05 25 19.4	-2.1
KIV				*i* S	Sn	05 25 36.6	-0.4
BEYR	**Belyy Ugol+**	**1.39**	**341**	↑*i*PG	Pg	05 25 19.9	-2.0
BEYR				*i* S	Sn	05 25 36.7	-0.7
MTA	**Mtatsminda**	**1.42**	**135**	P	Pn	05 25 03.4	-16
MTA				S	Sn	05 25 09.8	-28

CSEM ***18*** *05:48:53.9±0.2, 4278N×720W, h10km, ML1.2, Error ellipse: s-maj=5.4km s-min=3.3km az=122.0*
INMG ***18*** *05:48:54.0±1.1, 4280N×721W, h0km±16km, ML1.2, Error ellipse: s-maj=2.7km s-min=1.8km az=93.0*
MDD 18 05:48:53.9±0.4, 4281N×722W, h0km, mbLg1.3/9, Error ellipse: s-maj=5.2km s-min=2.3km az=97.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.52**	**5**	Pg	Pg	05 49 03.6	-0.3
	0.5nm,0.1s,SNR=10						
EPON				Lg		05 49 10.4	
	3.6nm,0.1s,SNR=15						
EPON	**Pontenova**	**0.52**	**5**	Pg	Pg	05 49 03.6	-0.3
	0.5nm,0.1s,SNR=10						
ECAL	**Calabor**	**0.94**	**158**	Pg	Pg	05 49 11.4	-0.4
	1.3nm,0.3s,SNR=14						
ECAL				Lg		05 49 24.2	
	6.1nm,0.4s,SNR=12						
ECAL	**Calabor**	**0.94**	**158**	Pg	Pg	05 49 11.4	-0.5
	1.3nm,0.3s,SNR=14						
STS	**Santiago**	**0.98**	**275**	Lg		05 49 25.4	
	9.7nm,1.0s,SNR=7.9						
PBRG	**Braganca**	**1.06**	**161**	*e*P	Pg	05 49 13.4	-0.9
PBRG				*e*S	Sg	05 49 27.2	-0.9
ELOB	**Lobios**	**1.13**	**214**	Pg	Pg	05 49 14.5	-1.0
	6.6nm,1.1s,SNR=9.5						
ELOB				Lg		05 49 29.8	
	6.9nm,1.0s,SNR=8.2						
ELOB	**Lobios**	**1.13**	**214**	Pg	Pg	05 49 14.5	-1.1
	6.6nm,1.1s,SNR=9.5						
PCAB	**Cabril**	**1.25**	**209**	*e*P	Pg	05 49 17.7	-0.2
PCAB				*e*S	Sg	05 49 34.1	-0.1
PCAB							
	4.1nm,0.1s						
PCAB	**Cabril**	**1.25**	**209**	*e*P	Pg	05 49 17.7	-0.2
PCAB				*e*S	Sg	05 49 34.1	-0.1
	4.1nm,0.1s						
EMAZ	**Mazaricos**	**1.30**	**277**	Pg	Pg	05 49 18.4	-0.5
	0.6nm,0.2s,SNR=4.0						
EMAZ				Lg		05 49 35.2	
	20nm,2.1s,SNR=8.5						
EMAZ	**Mazaricos**	**1.30**	**277**	Pg	Pg	05 49 18.4	-0.5
	0.6nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**1.55**	**71**	Pg	Pg	05 49 22.6	-1.1
	1.1nm,0.7s,SNR=7.3						
EARI				Lg		05 49 42.9	
	1.4nm,0.3s						
EARI	**Arriondas**	**1.55**	**71**	Pg	Pg	05 49 22.6	-1.0
	1.1nm,0.7s,SNR=7.3						
PVRL	**Vila Real**	**1.58**	**194**	*e*P	Pn	05 49 21.6	-1.5
PVRL				*e*S	Sn	05 49 42.5	-1.7
PVRL							
	3.7nm,0.1s						
PVRL	**Vila Real**	**1.58**	**194**	*e*P	Pn	05 49 21.6	-1.5
PVRL				*e*S	Sn	05 49 42.5	-1.7
	3.7nm,0.1s						
PVIS	**Viseu**	**2.15**	**194**	*e*Sg	Sg	05 50 02.0	-1.1
MTE	**Manteigas**	**2.42**	**186**	*e*Sg	Sg	05 50 11.0	-0.7

ISCJB ***18*** *05:49:37.5±0.5, 3976N×002×2356E±005, h11km±6km, Error ellipse: s-maj=6.6km s-min=4.0km az=18.2*
ATH ***18*** *05:49:37.5, 3978N×2321E, h30km±1km, MD3.0/3*
THE ***18*** *05:49:38.0, 3976N×2356E, h6km*
CSEM ***18*** *05:49:37.5, 3978N×2321E, h30km, MD3.0/3, After ATH*
ISC 18 05:49:37.8±0.5, 3975N±002×2358E±005, h15km±5km, n12, σ0°65/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.19**	**24**	*e*Pg	**Pg**	**05 49 42.5**	**+0.3**
PAIG				*e*Sg	**Sg**	**05 49 44.7**	**-0.6**
XOR	**Xorichti**	**0.49**	**218**	*e*Pg	**Pg**	**05 49 47.3**	**-0.1**
XOR				*e*Sg	**Sg**	**05 49 53.8**	**-0.1**
NEO	**Neokhori**	**0.52**	**212**	*e*PB	**Pg**	**05 49 47.9**	**-0.2**
NEO				*e*SB	**Sg**	**05 49 55.2**	**+0.2**
AOS	**Alonnisos**	**0.63**	**158**	*e*Pg	**Pg**	**05 49 49.8**	**-0.2**
AOS				*e*Sg	**Sg**	**05 49 59.3**	**+0.9**
PLG	**Polygyros**	**0.63**	**351**	*e*PN	**Pg**	**05 49 50.0**	**-0.1**
PLG				*e*SN	**Sg**	**05 49 58.7**	**+0.2**
LIT	**Litokhoron**	**0.91**	**293**	*e*Pg	**Pg**	**05 49 55.1**	**-0.2**
LIT				*e*Sg	**Sg**	**05 50 07.3**	**+0.1**
SOH	**Sokhos**	**1.08**	**351**	*e*Pg	**Pg**	**05 49 57.3**	**-1.4**
SOH				*e*Sg	**Sg**	**05 50 14.2**	**+1.4**
LOS	**Limnos**	**1.17**	**81**	*e*Pg	**Pn**	**05 49 59.5**	**-0.2**
LKR	**Lokris**	**1.19**	**202**	*e*PN	**Pn**	**05 49 58.8**	**-1.1**
AGG	**Agios Georgios**	**1.21**	**233**	*e*Pg	**Pn**	**05 50 01.0**	**+0.8**
SRS	**Serrai**	**1.36**	**1**	*e*Pg	**Pn**	**05 50 03.1**	**+0.8**
KNT	**Kendrikon**	**1.50**	**340**	*e*Pg	**Pn**	**05 50 03.6**	**-0.6**

NEIC 18 06:07:43.4, 5210N×17709E, h6km, ML3.5(AEIC)**, After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.56**	**117**	P	Pn	06 08 11.0	-0.7
AMKA				S	Sn	06 08 31.1	-1.0
SMY	**Shemya**	**1.94**	**290**	*e*Pn	Pn	06 08 14.4	-2.5
SMY				P		06 08 15.7	
SMY				S	Sn	06 08 41.3	-0.2
ATKA	**Atka Island**	**5.37**	**85**	P	Pn	06 09 05.6	+1.5
SVW2	**Sparrevohn**	**17.41**	**48**	*e*Pn	Pn	06 11 44.8	-2.2
DIV	**Divide**	**22.06**	**51**	*e*P	P	06 12 40.7	+1.8

STR ***18*** *06:12:56.8±0.1, 4315N×109W, h8km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***18*** *06:12:57.2±0.0, 4300N×107W, h2km, Md1.8/2, Ml1.1/1, Error ellipse: s-maj=0.3km s-min=0.0km az=26.0*
MDD 18 06:12:57.8±0.2, 4313N×107W, h0km, mbLg0.9/4, Error ellipse: s-maj=2.6km s-min=1.2km az=13.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.11**	**145**	Pg	Pg	06 13 00.3	+0.5
LARF				Sg	Sg	06 13 03.1	+1.8
LARF	**Larrau**	**0.11**	**145**	Pg	Pg	06 13 00.4	+0.5
LARF				Lg		06 13 03.0	
SJPF	**Ste Jean**	**0.11**	**263**	*e*Pg	Pg	06 13 00.4	+0.5
SJPF				*e*Sg	Sg	06 13 02.6	+1.2
	4.8nm,0.2s						
SJPF	**Ste Jean**	**0.11**	**263**	Pg	Pg	06 13 00.4	+0.5
SJPF				Lg		06 13 02.6	
	2.4nm,0.2s						
ORDF	**Ordiarp**	**0.13**	**49**	Pg	Pg	06 13 00.4	+0.1
ORDF				Sg	Sg	06 13 03.0	+1.0
ORDF	**Ordiarp**	**0.13**	**49**	Pg	Pg	06 13 00.4	+0.1
ORDF				Lg		06 13 03.1	
OSSF	**Osses**	**0.19**	**313**	Pg	Pg	06 13 01.1	-0.3
OSSF				Sg	Sg	06 13 04.0	+0.2
OSSF	**Osses**	**0.19**	**313**	Pg	Pg	06 13 01.1	-0.3
OSSF				Lg		06 13 04.1	
ATE	**Arette**	**0.28**	**99**	Pg	Pg	06 13 02.4	-0.6
ATE				Lg		06 13 06.8	
EALK	**Alkurruntz**	**0.33**	**286**	Pg	Pg	06 13 03.6	-0.6
	2.3nm,0.4s,SNR=14						
EALK				Lg		06 13 08.3	
	1.3nm,0.1s,SNR=12						
ELIZ	**Elizondo**	**0.34**	**276**	Pg	Pg	06 13 03.6	-0.6
	1.0nm,0.3s,SNR=7.4						
ELIZ				Lg		06 13 08.3	
	1.8nm,0.1s,SNR=14						
IUSE	**Utxeti**	**0.39**	**243**	Lg		06 13 10.3	
	1.5nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.44**	**121**	*e*Pg	Pg	06 13 04.8	-1.4
ETSF				*e*Sg	Sg	06 13 09.9	-2.0
	3.0nm,0.2s						
ETSF	**Etsaut**	**0.44**	**121**	Pg	Pg	06 13 04.8	-1.4
ETSF				Lg		06 13 09.9	
	1.5nm,0.2s						
EBIE	**Bielsa**	**1.00**	**116**	Pg	Pg	06 13 15.9	-1.0
	0.2nm,0.4s,SNR=7.9						
EBIE				Lg		06 13 27.0	
	4.9nm,0.8s,SNR=7.9						
EPF	**Esparros**	**1.04**	**95**	*e*Sg	Sg	06 13 30.0	-1.2
	0.3nm,0.2s						
EPF	**Esparros**	**1.04**	**95**	Lg		06 13 30.0	
	0.2nm,0.2s						

IDC ***18*** *06:24:10.4±1.2, 174N×12586E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, Error ellipse: s-maj=129.4km s-min=13.2km az=69.0*
ISCJB ***18*** *06:24:14.0±1.0, 17N±02×1253E±05, h33km, mb4.1/4, Error ellipse: s-maj=80.5km s-min=13.6km az=139.6*
ISC 18 06:24:16.1±1.0, 17N±02×1255E±05, h35km, n7, σ0°87/9, mb4.1/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.62**	**180**	*e*P	**Pn**	**06 28 43.3**	**+0.2**
	3.7nm,0.4s						
WRA	**Warramunga Arr**	**23.13**	**159**	P	**P**	**06 29 18.7**	**-0.4**
	5.0nm,0.3s,mb4.4,baz=335,slow=11,SNR=78						
WRA				S	**S**	**06 33 26.6**	**-1.3**
	0.8nm,0.7s,baz=342,slow=18,SNR=4.0						
WB2	**Warramunga Arr**	**23.13**	**158**	*e*P	**P**	**06 29 18.5**	**-0.7**
ASAR	**Alice Springs**	**26.44**	**163**	P	**P**	**06 29 50.5**	**+0.8**
	3.7nm,0.5s,mb4.2,baz=339,slow=11,SNR=40						
ASAR				S	**S**	**06 34 29.5**	**+8.5**
	1.4nm,0.9s,baz=345,slow=21,SNR=7.4						
ASPA	**Alice Springs**	**26.44**	**163**	*e*P	**P**	**06 29 50.8**	**+1.1**
SONM	**Songino Array**	**48.90**	**343**	P	**P**	**06 32 59.3**	**+0.8**
	0.5nm,0.5s,mb3.8,baz=175,slow=7.2,SNR=2.8						
MKAR	**Makanchi Array**	**58.60**	**327**	P	**P**	**06 34 08.2**	**-1.2**
	0.6nm,0.4s,mb3.9,baz=119,slow=8.4,SNR=10						

ISCJB ***18*** *06:31:46.8±0.3, 3640N×003×2873E±004, h63km±5km, mb3.8/3, Error ellipse: s-maj=5.6km s-min=4.0km az=129.0*
CSEM ***18*** *06:31:46.0±0.1, 3642N×2876E, h50km±1km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.4km az=70.0*
NEIC ***18*** *06:31:47.9, 3650N×2862E, h55km, MG3.5(ATH), After ATH.*
ATH ***18*** *06:31:47.9, 3650N×2862E, h55km±2km, MD3.5/8*

*IDC **18** 06:31:47.6±1.9, 3642N×2862E, h42km±23km, mb3.7/3, mb1 3.6/7, mb1mx3.3/22, mbtmp3.6/7, ML3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/27, Error ellipse: s-maj=27.5km s-min=13.9km az=152.0*
*ISK **18** 06:31:48.7, 3656N×2865E, h46km, MD3.3*
*HLW **18** 06:31:48.3, 3636N×2872E, h33km, Mb3.9*

ISC 18 06:31:48.3±0.3, 3644N±003×2870E±004, h52km±6km, n57, σ0°76/69, mb3.8/3, 15C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	Dalyan (Mudla)	0.33	351	*i* PG	Pn	06 31 57.3	-0.5
DALT				*i* SG	Sn	06 32 03.2	-1.4
FETY	Fethiye	0.36	58	*i* PG	Pn	06 31 57.9	-0.2
ARG	Arkhangelos	0.52	244	⇓*i*P	Pn	06 32 00.3	+0.5
ARG				*e*S	Sn	06 32 08.9	+0.8
KSL	Kastellorizon	0.77	112	*e*P	Pn	06 32 04.6	+1.6
YER	Yerkesik	0.77	334	*i* PG	Pn	06 32 02.7	-0.3
DAT	Datca	0.95	288	*i* PG	Pn	06 32 05.2	-0.2
ELL	Elmali	1.02	72	PG	Pn	06 32 08.1	+1.8
MLSB	Milas	1.13	319	PG	Pn	06 32 07.9	+0.1
BDRM	Kayabasi	1.19	302	*i* P	Pn	06 32 09.1	+0.5
BDRM				*i* S	Sn	06 32 23.8	+0.2
BODT	Bodrum	1.28	299	PN	Pn	06 32 09.1	-0.7
DENT	Denizli	1.34	11	PN	Pn	06 32 10.1	-0.5
AYDN	Tasoluk	1.38	332	*i* P	Pn	06 32 12.1	+0.9
AYDN				*i* S	Sn	06 32 28.8	+0.4
KARP	Karpathos	1.54	235	*e*P	Pn	06 32 14.5	+1.2
KARP				*e*S	Sn	06 32 32.6	+0.5
SMG	Samos	1.96	311	*e*P	Pn	06 32 18.8	-0.2
SMG				*e*S	Sn	06 32 41.2	-1.2
KHL	Karahalli	1.99	19	*e*PN	Pn	06 32 19.3	-0.2
TKTP	Tekketepe	2.05	38	*i* P	Pn	06 32 25.1	+4.8
TKTP				*i* S	Sn	06 32 50.0	+5.3
IZM	Izmir	2.26	330	PN	Pn	06 32 22.6	-0.6
BLCB	Balcova	2.35	326	PN	Pn	06 32 24.5	+0.1
AKS	Akhisar	2.53	344	PN	Pn	06 32 26.1	-0.8
NPS	Neapolis	2.77	246	*e*P	Pn	06 32 30.5	+0.3
ALT	Altintas	2.84	23	*e*PN	Pn	06 32 31.5	+0.4
XRY	Khrisi	2.91	238	*e*P	Pn	06 32 33.4	+1.4
IDI	Anoyia	3.30	251	P	Pn	06 32 36.9	-0.5
	6.1nm,0.3s,baz=98,slow=11,SNR=44						
IDI				S	Sn	06 33 13.0	-2.5
	4.5nm,0.3s,baz=304,slow=21,SNR=7.0						
IDI	Anoyia	3.30	251	P	Pn	06 32 36.9	-0.6
IDI				S	Sn	06 33 12.9	-2.6
PRK	Paraskevi	3.40	326	*e*P	Pn	06 32 39.0	+0.2
LIA	Limnos Island	4.43	322	*e*P	Pn	06 32 54.0	+1.1
BR131	Keskin Array S	5.09	48	*e*Pn	Pn	06 33 05.4	+3.5
BRTR	Keskin Array B	5.09	48	P	Pn	06 33 03.1	+1.2
	0.1nm,0.3s,baz=222,slow=16,SNR=3.1						
SLUM		5.73	211	⇑P	Pn	06 33 10.9	+0.2
SLUM				S	Sn	06 34 10.1	-4.9
HBRG	Burj al 'Arab	5.93	170	⇑P	Pn	06 33 13.3	-0.2
MMAI	Mount Meron Ar	6.49	120	P	Pn	06 33 20.6	-0.6
	4.6nm,0.3s,baz=309,slow=12,SNR=14						
MMAI				S	Sn	06 34 30.6	-3.2
	22nm,0.3s,baz=297,slow=18,SNR=21						
AMAG	Maghara	6.90	146	⇑P	Pn	06 33 26.3	-0.4
HNAT	Natroun	6.98	166	⇑P	Pn	06 33 27.9	0.0
KOT	Kottamia	7.00	157	⇑P	Pn	06 33 27.9	-0.3
KOT				S	Sn	06 34 41.0	-5.5
FYM	Al Fayyum	7.01	163	⇑P	Pn	06 33 28.3	0.0
AYT	Al 'Ayyat	7.03	162	⇑P	Pn	06 33 28.3	-0.2
HHAG	Hagoal	7.07	155	⇑P	Pn	06 33 29.1	0.0
HSAF	As Saff	7.21	160	⇑P	Pn	06 33 30.9	-0.2
GLL	Jalalah	7.29	159	⇑P	Pn	06 33 31.9	-0.3
SUZ		7.44	151	⇑P	Pn	06 33 34.0	-0.1
SWA1		7.59	200	⇑P	Pn	06 33 36.1	-0.1
SWA1				S	Sn	06 34 55.2	-5.6
SWA2		7.68	202	⇓P	Pn	06 33 37.5	0.0
HBNS	Bani Suwayf	7.76	163	⇑P	Pn	06 33 38.3	-0.3
ZAF		7.84	155	⇑P	Pn	06 33 39.6	0.0
HNKL	Nakhl	7.86	144	⇑P	Pn	06 33 39.6	-0.3
ZNM		7.87	152	P	Pn	06 33 39.2	-0.9
ASF	Jabal al Asfar	8.01	120	S	Sn	06 35 16.7	+5.7
	0.7nm,0.3s,baz=311,slow=17,SNR=4.9						
HKAT	Jabal Katrina	9.07	149	⇓P	Pn	06 33 56.9	+0.3
HKAT	Jabal Katrina	9.07	149	P	Pn	06 33 56.8	+0.3
HDK1	Dakhla	10.88	177	⇓P	Pn	06 34 21.7	+0.4
VAE	Valguarnera	11.48	279	LR	LR	06 39 17.0	
	comp=Z,77nm,19.0s,baz=319,slow=39						
GERES	GERESS Array B	16.56	323	P	Pn	06 35 37.8	+0.9
	0.1nm,0.3s,baz=123,slow=9.7,SNR=4.6						
FINES	FINESS Array B	25.08	357	P	P	06 37 07.1	-0.8
	0.8nm,0.5s,mb3.5,baz=155,slow=12,SNR=10						
TORD	Torodi Ar. Bea	33.54	233	P	P	06 38 23.0	0.0
	0.6nm,0.4s,mb3.9,baz=35,slow=8.9,SNR=16						
TORD	Torodi Ar. Bea	33.54	233	P	P	06 38 23.0	0.0
DBIC	Dimbokro	42.63	234	P	P	06 39 39.5	0.0
	3.7nm,1.1s,mb4.0,baz=41,slow=9.0,SNR=2.9						
DBIC	Dimbokro	42.63	234	P	P	06 39 39.5	0.0

*ISCJB **18** 06:31:48.3±0.7, 521N±0.1×177.1E±0.1, h4km, mb3.6/4, Error ellipse: s-maj=20.0km s-min=6.5km az=40.2*
*IDC **18** 06:31:48.2±1.4, 5178N×17738E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/20, mbtmp3.6/4, Error ellipse: s-maj=59.6km s-min=32.6km az=126.0*
*NEIC **18** 06:31:49.6, 5205N×17708E, h4km, ML3.7(AEIC), After AEIC.*

ISC 18 06:31:49.1±0.7, 520N±01×1771E±01, h4km, n8, σ0°67/10, mb3.6/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.52	113	P	Pn	06 32 17.2	+0.1
AMKA				S	Sn	06 32 38.0	+0.7
SMY	Shemya	1.96	293	P	Pn	06 32 22.9	-0.2
SMY				S	Sn	06 32 48.8	+0.6
ATKA	Atka Island	5.39	84	P	Pn	06 33 10.5	+0.2
DAWY	Dawson	25.45	45	*e*P	P	06 37 17.4	-0.7
YKA	Yellowknife Ar	36.67	46	P	P	06 38 56.1	-0.8
	0.4nm,0.8s,mb3.3,baz=281,slow=7.9,SNR=3.3						
BVAR	Borovoye Array	58.73	317	P	P	06 41 49.3	+1.3
	0.4nm,0.5s,mb3.8,baz=64,slow=6.6,SNR=2.9						
WRA	Warramunga Arr	80.74	220	P	P	06 44 02.9	-0.8
	0.4nm,0.6s,mb3.5,baz=30,slow=5.7,SNR=6.5						
ASAR	Alice Springs	84.27	219	P	P	06 44 21.6	-0.5
	0.4nm,0.7s,mb3.7,baz=25,slow=5.6,SNR=5.9						

JMA 18 06:43:05.6±0.6, 4600N×15102E, h30km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	4.59	237	P	Pn	06 44 12.1	-0.9
NEM2				*e*S	Sn	06 45 01.2	-4.1
JRA	Rausu	4.67	246	P	Pn	06 44 16.1	+2.1
JNK	Nakash	5.09	244	P	Pn	06 44 21.5	+1.7
JNK				*e*S	Sn	06 45 18.1	+0.5
JAK	Akkeshi	5.43	239	P	Pn	06 44 23.8	-0.7
JAK				*e*S	Sn	06 45 21.9	-4.0
JTKR	Abashiri--Toko	5.44	251	P	Pn	06 44 27.0	+2.4
JAR	Ashorobuto	5.84	245	P	Pn	06 44 32.3	+2.3
JAR				*e*S	Sn	06 45 37.1	+1.2
JOB	Onbets	6.00	242	*e*S	Sn	06 45 38.7	-1.3
JKK2	Kamakawa 2	6.25	253	P	Pn	06 44 38.6	+2.9
JCH	Churui	6.45	241	*e*S	Sn	06 45 46.6	-4.5
JKB	Kayabe	8.29	244	*e*S	Sn	06 46 29.6	-6.8
JTM	Tenmabayashi	8.92	238	*e*S	Sn	06 46 43.2	-8.6

*ISCJB **18** 06:45:23.8±0.7, 1666N×006×9405W×004, h128km±9km, Error ellipse: s-maj=11.1km s-min=4.5km az=36.9*
*NEIC **18** 06:45:25.3, 1662N×9404W, h134km, mb4.2/2, MD4.3(MEX), After MEX.*
*MEX **18** 06:45:25.1±1.1, 1668N×9404W, h136km±13km, MD4.3*
*CASC **18** 06:45:27.8±2.7, 1655N×9374W, h134km, MD4.4, mb4.2(NEIC)*

ISC 18 06:45:24.6±0.8, 1667N±006×9404W±003, h127km±10km, n17, σ1°18/32, 3D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.91	298	*i* P	Pn	06 45 46.6	+0.2
CMIG				*i* S	Sn	06 46 03.2	+0.4
SCX	San Cristobal	1.35	87	*i* P	Pn	06 45 50.7	-0.1
SCX				*i* S	Sn	06 46 11.7	+1.0
TUIG	Tuzandepetl	1.41	345	*e*P	Pn	06 45 50.7	-0.7
TUIG				*i* S	Sn	06 46 10.8	-1.0
TUIG	Tuzandepetl	1.41	345	*e*P	Pn	06 45 50.0	-1.4
TUIG				*i* S	Sn	06 46 07.8	-4.0
CCIG	Comitan	1.87	102	⇓*i*P	Pn	06 45 57.1	+0.3
CCIG				*i* S	Sn	06 46 21.0	-0.4
EVV	El Vigia	2.17	325	*i* P	Pn	06 45 59.5	-1.0
EVV				*i* S	Sn	06 46 30.0	+2.0
EVV	El Vigia	2.17	325	*i* P	Pn	06 45 59.5	-1.0
EVV				*i* S	Sn	06 46 23.5	-4.5
HUIG	Huatulco	2.18	246	*i* P	Pn	06 45 58.8	-1.8
HUIG				*i* S	Sn	06 46 28.2	+0.1
OXX	Oaxaca	2.60	279	*i* P	Pn	06 46 06.7	+0.8
OXX				*i* S	Sn	06 46 35.7	-2.0
VHO	Vista Hermosa	2.61	279	*i* P	Pn	06 46 06.7	+0.7
VHO				*i* S	Sn	06 46 38.3	+0.5
JAT	Jato	3.29	135	⇓*e*P	Pn	06 46 17.6	+2.6
JAT				*e*S	Sn	06 46 50.7	-3.1
TP2	Tecpan 2	3.46	122	⇓*e*P	Pn	06 46 16.6	-0.5
TP2				*e*S	Sn	06 46 58.3	+0.6
PPM	Popocatepetl	4.97	299	*e*P	Pn	06 46 38.8	+1.5
PPM				*i* S	Sn	06 47 34.0	+0.1
MEIG	Mezcala	5.47	284	*e*P	Pn	06 46 44.5	+0.6
MEIG				*i* S	Sn	06 47 45.4	-0.4
PLIG	Platanillo	5.48	289	*i* P	Pn	06 46 44.8	+0.7
PLIG				*i* S	Sn	06 47 49.2	+3.2
ACX	Acapulco	5.63	273	*e*P	Pn	06 46 44.7	-1.4
TEIG	Tepich	6.52	56	*e*P	Pn	06 46 54.6	-3.5
	9.3nm,0.4s						

*IDC **18** 07:22:45.3±7.9, 3582N×6954E, h92km±72km, mb3.6/11, mb1 3.8/14, mb1mx3.7/22, mbtmp4.0/14, ML4.0/3, Error ellipse: s-maj=36.9km s-min=16.9km az=13.0*
*MOS **18** 07:22:49.2±0.8, 3624N×6939E, h119km, mb4.3/6, Error ellipse: s-maj=13.1km s-min=7.3km az=99.2*
*ISCJB **18** 07:22:50.3±0.6, 3626N±003×6948E±007, h135km±8km, mb3.8/14, Error ellipse: s-maj=8.9km s-min=4.5km az=153.3*
*BJI **18** 07:22:52.5, 3651N×6940E, h144km, mb4.5*
*NEIC **18** 07:22:53.1±1.8, 3619N×6955E, h157km±20km, mb4.3/9, Error ellipse: s-maj=13.6km s-min=7.2km az=47.0*
*NNC **18** 07:22:55.4±4.8, 3668N×6922E, h109km±55km, mb3.3, mpv3.8, Error ellipse: s-maj=36.1km s-min=24.0km az=13.0*

ISC 18 07:22:51.3±0.6, 3625N±003×6948E±007, h130km±8km, n88, σ0°92/107, mb3.8/14, 6C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.13	140	P	Pn	07 23 41.0	+1.4
THW	Thamme Wali	3.92	151	P	Pn	07 23 50.3	+0.4
CHCP	Chirah Chowk	4.04	129	⇑P	Pn	07 23 52.8	+1.2
DRP	Derazinda	4.53	172	⇓P	Pn	07 23 59.5	+1.4
SARP	Sargodha	5.06	148	P	Pn	07 24 05.3	+0.1
KSH	Kashi	6.08	56	P	Pn	07 24 21.5	+2.6
KSH				S	Sn	07 25 31.8	+4.6
KSH				Smax			
	comp=N,170nm,0.6s						
KSH				Smax			
	comp=E,190nm,0.5s						
DLH	Dalhousie	6.51	123	*e*P	Pn	07 24 24.0	-0.7
AML	Almayashu	6.72	28	P	Pn	07 24 27.9	+0.4
	SNR=7.6						
KK31	Karatay Array	6.89	6	⇓P	Pn	07 24 29.2	-0.6
	comp=E,6.6nm,0.5s,baz=184,slow=13,SNR=112						
KK31				⇑S	Sn	07 25 42.1	-4.6
	comp=E,83nm,0.6s,baz=192,slow=22						
UCH	Uchtor	7.13	32	P	Pn	07 24 33.4	+0.4
	SNR=86						
EKS2	Erkin-Say	7.21	26	P	Pn	07 24 34.2	+0.1
	SNR=16						
KZA	Kyzart	7.34	36	P	Pn	07 24 36.2	+0.4
	SNR=30						
AAK	Ala-Archa	7.46	30	P	Pn	07 24 37.8	+0.4
	SNR=16						
AAK	Ala-Archa	7.46	30	*d i*PN	Pn	07 24 36.6	-0.9
AAK				pmax	pmax		
	comp=Z,11nm,0.6s						
KBK	Karagaybulak	7.67	32	P	Pn	07 24 41.0	+0.8
	SNR=12						
FRU	Bishkek	7.68	30	*e*PN	Pn	07 24 40.0	-0.4
FRU				pmax	pmax		
	comp=Z,32nm,1.5s						
SDNR	Sundarnagar	7.82	125	*e*P	Pn	07 24 43.0	+0.7
SDNR				*e*S	Sn	07 26 03.6	-5.7
CHMS	Chumysh	7.87	29	P	Pn	07 24 42.8	-0.2
	SNR=24						
ULHL	Ulahol	7.96	39	P	Pn	07 24 44.5	+0.4
	SNR=15						
USP	Ospenovka	8.00	27	P	Pn	07 24 44.0	-0.8
	SNR=9.0						
TKM2	Tokmak 2	8.16	33	P	Pn	07 24 46.9	-0.1
	SNR=29						
TKM2	Tokmak 2	8.16	33	⇑P	Pn	07 24 46.8	-0.2
	comp=Z,1.2nm,0.5s						
TKM2				⇓S	Sn	07 26 15.8	-1.7
	comp=Z,2.3nm,0.9s						
SMLA	Simla	8.19	126	*e*P	Pn	07 24 46.0	-1.2
SMLA				*e*S	Sn	07 26 13.7	-4.5
SMLA				AML	AML	07 26 18.6	
	comp=E,209nm,0.7s						
SMLA				AML	AML	07 26 20.1	
	comp=N,144nm,0.3s						
KLP	Kalpa	8.67	120	*e*P	Pn	07 24 52.6	-1.1
KLP				*e*S	Sn	07 26 23.9	-6.0
KLP				AML	AML	07 26 26.8	
	comp=N,120nm,0.5s						
KLP				AML	AML	07 26 28.2	
	comp=E,243nm,0.5s						
KHET	Khetri	9.75	145	*e*P	Pn	07 25 07.7	-0.6
KHET				*e*x	x	07 26 47.6	
KHET				*e*S	Sn	07 26 48.4	-7.6
BHGR	Bahadurgarh	9.82	138	*e*P	Pn	07 25 08.8	-0.4
NDI	New Delhi	9.98	137	*e*P	Pn	07 25 10.0	-1.2
NDI				*e*S	Sn	07 26 53.0	-8.4
AYAN	Aya Nagar	10.08	138	*e*P	Pn	07 25 10.8	-1.8
AYAN				*e*S	Sn	07 26 57.1	-6.8
JOSI	Joshimath	10.15	121	*e*P	Pn	07 25 14.0	+0.4
JOSI				*e*S	Sn	07 26 55.6	-10
JOSI				AML	AML	07 26 58.1	
	comp=N,224nm,0.8s						
JOSI				AML	AML	07 27 00.4	
	comp=E,131nm,0.9s						
SONA	Sohna	10.24	139	*e*P	Pn	07 25 14.0	-0.8
SONA				*e*S	Sn	07 27 00.2	-7.7
SONA				*e*S	Sn	07 27 01.1	-6.7
SONA				AML	AML	07 27 03.7	
	comp=N,131nm,0.5s						
SONA				AML	AML	07 27 04.1	
	comp=E,77nm,0.3s						
SONA				*e*x	x	07 27 07.3	
	comp=E,99nm,0.4s						
SONA				*e*x	x	07 27 07.5	
	comp=N,155nm,0.5s						
AJM	Ajmer	10.69	154	*e*S	Sn	07 27 10.8	-7.8
LGTI	Lohaghat	11.31	124	*e*S	Sn	07 27 24.0	-9.5
MKAR	Makanchi Array	14.23	38	P	Pn	07 26 07.0	+0.1
	comp=N,0.2nm,0.3s,baz=224,slow=15,SNR=14						
MK05	Makanchi Array	14.23	38	⇓P	Pn	07 26 11.1	+4.3
	comp=N,10.0nm,0.7s						
AB31	Akbulak array	14.75	335	P	Pn	07 26 11.3	-2.0
	comp=N,1.4nm,0.4s,baz=147,slow=12,SNR=59						
AB31				S	Sn	07 28 48.6	-7.9
	comp=N,4.2nm,0.5s,baz=168,slow=22,SNR=8.7						
DMN	Daman	15.80	119	*e*P	Pn	07 26 26.6	+0.1
KKN	Kakani	15.82	118	*e*P	Pn	07 26 26.6	-0.1
KURK	Kurchatov	15.89	22	⇑P	Pn	07 26 29.2	+1.6
	comp=N,5.9nm,0.8s						
KURK	Kurchatov	15.89	22	*e*P	Pn	07 26 23.7	-3.8
PKI	Pulchoki	16.04	118	*e*P	Pn	07 26 30.2	+0.8
	comp=N,26nm,0.6s						
PKI	Pulchoki	16.04	118	*e*P	Pn	07 26 30.2	+0.8
PKI				pmax	pmax		
	comp=Z,26nm,0.6s						
GUN	Gumba	16.18	116	*e*P	Pn	07 26 31.1	0.0
	comp=Z,11nm,0.4s						
AKTK	Aktyubinsk	16.42	333	P	Pn	07 26 33.2	-0.8
AKTK				S	S	07 29 27.6	-9.4
AKTO	Aktyubinsk	16.42	333	⇓P	Pn	07 26 33.7	-0.3
	comp=Z,0.2nm,1.0s						
AKTO	Aktyubinsk	16.42	333	P	Pn	07 26 33.2	-0.8
	comp=Z,0.7nm,0.3s,baz=137,slow=14,SNR=14						
AKTO				S	S	07 29 27.6	-9.4
	comp=Z,0.4nm,0.3s,baz=12,slow=21,SNR=8.0						
AKTO	Aktyubinsk	16.42	333	P	Pn	07 26 33.2	-0.8
AKTO				S	S	07 29 27.6	-9.5
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JIRN	Jiri	16.55	116	*e*P	Pn	07 26 35.8	+0.2
	comp=Z,25nm,0.4s						
ZRNK	Zerenda	16.70	359	*e*P	Pn	07 26 36.6	-0.9
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVA0	Borovoye Array	16.79	2	⇑P	Pn	07 26 39.3	+0.8
	comp=Z,0.2nm,0.4s						
BVAR	Borovoye Array	16.79	2	P	Pn	07 26 39.0	+0.4
	comp=Z,1.0nm,0.3s,baz=165,slow=11,SNR=20						
BVAR				S	S	07 29 36.3	-9.3
	comp=Z,0.2nm,0.3s,baz=175,slow=19,SNR=3.8						
CHKZ	Chkalovo	17.45	2	⇓P	Pn	07 26 45.3	-1.1
	comp=Z,1.4nm,0.6s						
CHKZ	Chkalovo	17.45	2	*e*P	Pn	07 26 45.4	-1.1
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CHKZ	Chkalovo	17.45	2	*e*P	Pn	07 26 45.4	-1.0
	comp=Z,2.1nm,0.5s						
GNI	Garni	19.81	289	P	P	07 27 14.5	+3.0
	comp=Z,1.5nm,0.3s,baz=353,slow=15,SNR=8.8						
GNI	Garni	19.81	289	*d i*P	P	07 27 15.5	+4.0
GNI				pmax	pmax		
	comp=Z,32nm,1.3s						
GNI	Garni	19.81	289	*e*P	P	07 27 12.0	+0.5
GNI				P		07 27 14.6	
ZAL	Zalesovo	20.65	26	P	P	07 27 21.8	+1.2
	comp=Z,24nm,0.4s,baz=249,slow=8.0,SNR=57						
ZAL	Zalesovo	20.65	26	P	P	07 27 21.8	+1.2
NVS	Novosibirsk	20.87	23	*e*P	P	07 27 23.0	+0.1
NVS				pmax	pmax		
	comp=Z,35nm,1.0s						
NVS				pmax	pmax		
	comp=N,35nm,1.2s						
ARU	Arti	21.50	343	⇑*i*P	P	07 27 30.0	+0.4
ARU				*e*		07 28 00.3	
ARU				*e*S	S	07 31 29.7	+9.3
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
GOF	Gofitskoye	21.83	302	*e*P	P	07 27 23.9	-9.2
GTA	Gaotai	24.11	73	*e*P	P	07 27 56.5	+1.7
ANN	Anapa	25.68	299	*e*P	P	07 28 04.7	-4.4
ANN				*e**PP	pP	07 28 50.6	+14
ANN				*e*S	S	07 32 34.3	+6.3
ANN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
BRTR	Keskin Array B	28.34	288	P	P	07 28 33.9	+1.0
	comp=Z,0.3nm,0.5s,mb3.3,baz=99,slow=31,SNR=3.5						
OBN	Obninsk	29.34	320	P	P	07 28 42.0	+0.3
SONM	Songino Array	29.49	55	P	P	07 28 43.9	+0.9
	comp=Z,0.6nm,0.5s,mb3.6,baz=268,slow=9.2,SNR=3.6						
AKASG	Malin Array Be	32.15	309	P	P	07 29 06.5	0.0
	comp=Z,1.6nm,0.5s,mb4.0,baz=82,slow=7.5,SNR=24						
AKASG	Malin Array Be	32.15	309	*i* P	P	07 29 06.8	+0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	Joensuu	35.48	331	*e*p	P	07 29 35.1	-0.1
FINES	FINESS Array B	37.01	327	P	P	07 29 48.7	+0.5
	comp=Z,1.4nm,0.5s,mb3.8,baz=113,slow=10.0,SNR=16						
FINES	FINESS Array B	37.01	327	P	P	07 29 48.7	+0.5
KAF	Kangasniemi	37.18	328	*e*p	P	07 29 49.4	-0.2
	comp=Z,1.4nm,0.4s,mb3.9,baz=113,slow=8.6						
KAF	Kangasniemi	37.18	328	*e*P	P	07 29 49.4	-0.2
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KEV	Kevo	40.59	339	*e*p	P	07 30 17.9	-0.1
KEV	Kevo	40.59	339	*e*P	P	07 30 17.4	-0.6
	comp=Z,142nm,3.0s						
ARCES	ARCESS Array B	40.91	338	P	P	07 30 21.3	+0.6
	comp=Z,1.7nm,0.5s,mb3.9,baz=112,slow=7.8,SNR=23						
BRG	Berggiesshubel	41.82	308	*e*P	P	07 30 29.0	+1.0
	comp=Z,2.0nm,0.6s,mb4.0						
BRG	Berggiesshubel	41.82	308	*e*P	P	07 30 29.0	+0.9
BRG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
GERES	GERESS Array B	42.07	305	P	P	07 30 30.8	+0.7
	comp=Z,0.4nm,0.6s,mb3.2,baz=82,slow=10.0,SNR=4.5						
NB2	NORSAR Subarra	43.85	323	P	P	07 30 44.0	-0.4
	comp=Z,3.1nm,0.5s,mb4.2,baz=98,slow=7.9						
NB2	NORSAR Subarra	43.85	323	P	P	07 30 44.0	-0.4
NB2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
NOA	NORSAR Array B	43.85	323	P	P	07 30 43.9	-0.5
	comp=Z,3.5nm,0.6s,mb4.2,baz=98,slow=8.0,SNR=21						
NOA	NORSAR Array B	43.85	323	P	P	07 30 43.9	-0.5
WLF	Walferdange	46.90	307	*e*P	P	07 31 07.9	-0.6
TORD	Torodi Ar. Bea	64.48	268	P	P	07 33 12.8	-1.1
	comp=Z,1.0nm,0.6s,mb3.8,baz=47,slow=6.0,SNR=12						
TORD	Torodi Ar. Bea	64.48	268	P	P	07 33 12.8	-1.1
WRA	Warramunga Arr	82.91	121	P	P	07 34 57.3	-4.1
	comp=Z,0.4nm,0.8s,mb3.2,baz=328,slow=4.6,SNR=3.4						
ASAR	Alice Springs	85.12	124	P	P	07 35 10.6	-2.1
	comp=Z,0.2nm,0.5s,mb3.1,baz=314,slow=4.0,SNR=4.6						

*ISCJB **18** 07:24:34.9±0.3, 4631N±001×258E±002, h15km±2km, Error ellipse: s-maj=2.9km s-min=2.2km az=57.2*
*STR **18** 07:24:37.4±0.5, 4626N×261E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **18** 07:24:37.4, 4626N×261E, h10km, ML2.4(STR), ML2.5(LDG), After STR.*
*CSEM **18** 07:24:37.1±0.0, 4629N×261E, h12km, ML2.5/21, Error ellipse: s-maj=0.6km s-min=0.5km az=112.0*
*LDG **18** 07:24:37.1±0

4.9nm,0.2s,SNR=1.0
COLF Collangettes 1.09 135 Pn **Pn 07 24 56.9 +0.6**
COLF Sg **Sg 07 25 11.9 +0.4**
LBL Lubilhac 1.16 157 Pg **Pg 07 24 58.9 +0.5**
LBL Sg **Sg 07 25 13.7 +0.1**
RJF Les Rejaudoux 1.25 218 *e*Pg **Pg 07 25 00.4 +0.3**
SNR=1.0
RJF *e*Sn **Sn 07 25 14.9 +0.2**
SNR=1.0
RJF *e*Sg **Sg 07 25 16.6 +0.2**
26nm,0.2s
RJF Les Rejaudoux 1.25 218 *e*Pn **Pn 07 24 58.8 +0.4**
RJF *e*Pg **Pg 07 25 00.4 +0.3**
RJF *e*Sn **Sn 07 25 14.9 +0.2**
RJF *e*Sg **Sg 07 25 16.6 +0.2**
RJF Les Rejaudoux 1.25 218 *e*Pg **Pg 07 25 00.4 +0.3**
SNR=1.0
RJF *e*Sn **Sn 07 25 14.9 +0.2**
SNR=1.0
RJF *e*Sg **Sg 07 25 16.6 +0.2**
13nm,0.2s
LOR Lormes 1.30 41 *e*Pn **Pn 07 24 59.8 +0.6**
baz=224,SNR=1.0
LOR Lormes 1.30 41 *e*Pg **Pg 07 25 01.6 +0.5**
baz=222
LOR *e*Sn **Sn 07 25 16.2 +0.1**
SNR=1.0
LOR *e*Sg **Sg 07 25 18.4 +0.2**
9.7nm,0.2s
LOR Lormes 1.30 41 *e*Pn **Pn 07 24 59.8 +0.6**
LOR *e*Pg **Pg 07 25 01.6 +0.5**
LOR *e*Sn **Sn 07 25 16.2 +0.1**
LOR *e*Sg **Sg 07 25 18.4 +0.2**
LOR Lormes 1.30 41 *e*Pg **Pg 07 25 01.6 +0.5**
baz=222
LOR *e*Sn **Sn 07 25 16.2 +0.1**
SNR=1.0
LOR *e*Sg **Sg 07 25 18.4 +0.2**
4.8nm,0.2s
CAF Calviac 1.42 195 *e*Pg **Pg 07 25 03.6 +0.2**
CAF *e*Sg **Sg 07 25 21.8 -0.1**
18nm,0.2s
CAF Calviac 1.42 195 *e*Pn **Pn 07 25 01.0 +0.2**
CAF *e*Pg **Pg 07 25 03.6 +0.2**
CAF *e*Sg **Sg 07 25 21.8 -0.1**
CAF Calviac 1.42 195 *e*Pg **Pg 07 25 03.6 +0.2**
CAF *e*Sg **Sg 07 25 21.8 -0.1**
9.0nm,0.2s
LFF La Frestale 1.88 224 *e*Pg **Pg 07 25 12.1 0.0**
SNR=1.0
LFF *e*Sn **Sn 07 25 29.8 -0.5**
SNR=1.0
LFF *e*Sg **Sg 07 25 36.9 +0.3**
8.4nm,0.3s,SNR=1.0
LFF La Frestale 1.88 224 *e*Pn **Pn 07 25 07.6 +0.5**
LFF *e*Pg **Pg 07 25 12.1 0.0**
LFF *e*Sn **Sn 07 25 29.8 -0.5**
LFF *e*Sg **Sg 07 25 36.9 +0.3**
LFF La Frestale 1.88 224 *e*Pg **Pg 07 25 12.1 0.0**
SNR=1.0
LFF *e*Sn **Sn 07 25 29.8 -0.5**
SNR=1.0
LFF *e*Sg **Sg 07 25 36.9 +0.3**
4.2nm,0.3s,SNR=1.0
MFF Saint Martin d 1.92 280 *e*Pg **Pg 07 25 12.4 -0.5**
MFF *e*Sg **Sg 07 25 37.7 -0.1**
8.8nm,0.2s
MFF Saint Martin d 1.92 280 *e*Pn **Pn 07 25 08.1 +0.4**
MFF *e*Pg **Pg 07 25 12.4 -0.5**
MFF *e*Sg **Sg 07 25 37.7 -0.1**
MFF Saint Martin d 1.92 280 *e*Pg **Pg 07 25 12.4 -0.5**
MFF *e*Sg **Sg 07 25 37.7 -0.1**
4.4nm,0.2s
VIVF Saint-Julien-l 2.05 134 *e*Pg **Pg 07 25 15.1 -0.2**
SNR=1.0
VIVF *e*Sg **Sg 07 25 41.2 -0.8**
4.3nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 2.05 134 *e*Pn **Pn 07 25 09.4 -0.1**
VIVF *e*Pg **Pg 07 25 15.1 -0.2**
VIVF *e*Sg **Sg 07 25 41.2 -0.8**
VIVF Saint-Julien-l 2.05 134 *e*Pg **Pg 07 25 15.1 -0.2**
SNR=1.0
VIVF *e*Sg **Sg 07 25 41.2 -0.8**
2.2nm,0.2s,SNR=1.0
LASF Ste Croix 2.39 158 *e*Pg **Pg 07 25 21.5 -0.4**
LASF *e*Sg **Sg 07 25 52.1 -0.8**
4.4nm,0.3s
LASF Ste Croix 2.39 158 *e*Pn **Pn 07 25 14.5 +0.3**
LASF *e*Pg **Pg 07 25 21.5 -0.4**
LASF *e*Sg **Sg 07 25 52.1 -0.8**
LASF Ste Croix 2.39 158 *e*Pg **Pg 07 25 21.5 -0.4**
LASF *e*Sg **Sg 07 25 52.1 -0.8**
2.2nm,0.3s
CABF La Chapelle 2.44 81 *e*Pg **Pg 07 25 22.3 -0.4**
SNR=1.0
CABF *e*Sg **Sg 07 25 53.5 -0.8**
2.3nm,0.3s,SNR=1.0
CABF La Chapelle 2.44 81 *e*Pg **Pg 07 25 22.3 -0.4**
SNR=1.0
CABF *e*Sg **Sg 07 25 53.5 -0.8**
1.1nm,0.3s,SNR=1.0
SFTF Sexfontaines 2.53 40 *e*Pg **Pg 07 25 24.1 -0.5**
SFTF *e*Sg **Sg 07 25 56.4 -1.0**
4.7nm,0.3s
SFTF Sexfontaines 2.53 40 *e*Pg **Pg 07 25 24.1 -0.5**
SFTF *e*Sg **Sg 07 25 56.4 -1.0**
2.3nm,0.3s
ORIF Oris-en-Rattie 2.69 120 *e*Pg **Pg 07 25 26.9 -0.6**
ORIF *e*Sg **Sg 07 26 01.3 -1.0**
2.0nm,0.3s
ORIF Oris-en-Rattie 2.69 120 *e*P **Pn 07 25 21.0 +2.8**
ORIF *e*Pg **Pg 07 25 26.9 -0.6**
ORIF *e*Sg **Sg 07 26 01.3 -1.0**
ORIF Oris-en-Rattie 2.69 120 *e*Pg **Pg 07 25 26.9 -0.6**
ORIF *e*Sg **Sg 07 26 01.3 -1.0**
1.0nm,0.3s
MEZF Maizieres J'vi 2.77 36 *e*Pg **Pg 07 25 28.4 -0.6**
baz=220
MEZF *e*Sg **Sg 07 26 04.3 -0.6**
4.7nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 2.77 36 *e*Pg **Pg 07 25 28.4 -0.6**
baz=220
MEZF *e*Sg **Sg 07 26 04.3 -0.6**
2.3nm,0.3s,SNR=1.0
LDF La Druitiere 2.95 322 *e*Sn **Sn 07 25 55.5 -1.2**
SNR=1.0
LDF *e*Sg **Sg 07 26 09.3 -1.4**
1.8nm,0.3s,SNR=1.0
LDF La Druitiere 2.95 322 *e*Sn **Sn 07 25 55.5 -1.2**
SNR=1.0
LDF *e*Sg **Sg 07 26 09.3 -1.4**
0.9nm,0.3s,SNR=1.0
MTLF Montolieu 2.97 185 *e*Sg **Sg 07 26 09.7 -1.6**
4.2nm,0.3s
MTLF Montolieu 2.97 185 *e*Sg **Sg 07 26 09.7 -1.6**
2.1nm,0.3s
LPG La Plagne 3.01 104 *e*Sg **Sg 07 26 11.5 -1.2**
1.2nm,0.3s
LPG La Plagne 3.01 104 *e*Sg **Sg 07 26 11.5 -1.2**
0.6nm,0.3s
RFYF Reffroy 3.04 39 *e*Sg **Sg 07 26 12.5 -1.2**
4.5nm,0.2s
RFYF Reffroy 3.04 39 *e*Sg **Sg 07 26 12.5 -1.2**
2.2nm,0.2s
GRR Gorron 3.15 313 *e*Pn **Pn 07 25 25.0 +0.5**
GRR *e*Sn **Sn 07 26 00.4 -1.2**
SNR=1.0
GRR *e*Sg **Sg 07 26 16.3 -0.7**
1.3nm,0.2s
GRR Gorron 3.15 313 *e*Pn **Pn 07 25 25.0 +0.5**
GRR *e*Sn **Sn 07 26 00.4 -1.2**
SNR=1.0
GRR *e*Sg **Sg 07 26 16.3 -0.7**
0.6nm,0.2s
FLN La Foliniere 3.23 321 *e*Pn **Pn 07 25 25.7 0.0**
EPF Esparros 3.64 207 *e*Sg **Sg 07 26 31.8 -1.1**
2.5nm,0.2s,SNR=1.0
EPF Esparros 3.64 207 *e*Sg **Sg 07 26 31.8 -1.1**
1.2nm,0.2s,SNR=1.0
BAIF Baives 3.92 15 *e*P **Pn 07 25 39.1 +4.0**
BAIF Baives 3.92 15 *e*Pn **Pn 07 25 35.3 +0.2**
BAIF *e*P 07 25 39.1
BAIF Baives 3.92 15 *e*P **Pn 07 25 39.1 +4.0**
SGMF Saint Gilles 4.02 301 *e*Pn **Pn 07 25 36.8 +0.3**
ETSF Etsaut 4.08 215 *e*Pn **Pn 07 25 38.0 +0.7**
ETSF *e*Sg **Sg 07 26 44.9 -1.9**
1.3nm,0.3s
ETSF Etsaut 4.08 215 *e*Pn **Pn 07 25 38.0 +0.7**
ETSF *e*Sg **Sg 07 26 44.9 -1.9**
0.6nm,0.3s
QUIF Quistinic 4.25 294 *e*Pn **Pn 07 25 40.1 +0.3**
ROSF Rostrenen 4.48 299 *e*Pn **Pn 07 25 43.2 +0.3**

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*ISCJB **18** 07:31:07.0±0.5, 4151N×0.003×2371E±0.004, h10km±5km, Error ellipse: s-maj=4.9km s-min=4.5km az=129.9*
*NEIC **18** 07:31:07.2±0.7, 4149N×2370E, h11km±10km, MD2.8(SOF), MD3.1(ATH), Error ellipse: s-maj=10.7km s-min=6.2km az=54.0*
*SOF **18** 07:31:07.4, 4153N×2372E, h15km, MD2.8*
*CSEM **18** 07:31:07.2±0.1, 4155N×2368E, h2km, MD3.1, Error ellipse: s-maj=4.4km s-min=2.3km az=55.0*
*THE **18** 07:31:08.6, 4146N×2372E, h13km, ML2.9*
*SKO **18** 07:31:08.8, 4149N×2362E, h4km*
*ATH **18** 07:31:08.9, 4145N×2381E, h13km±1km, MD3.1/3*

ISC 18 07:31:07.3±0.5, 4151N×0.003×2373E±0.004, h13km±4km, n18, σ0.78/28, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.08**	**0**	Pg	**Pg**	**07 31 10.0**	**-0.1**
NVR	**Nevrokopi**	**0.19**	**148**	*e*PG	**Pg**	**07 31 12.0**	**+0.4**
NVR				*e*SG	**Sg**	**07 31 14.6**	**0.0**
SRS	**Serrai**	**0.41**	**195**	*e*Pg	**Pg**	**07 31 15.6**	**+0.1**
SRS				*e*Sg	**Sg**	**07 31 21.6**	**+0.7**
KKB	**Krupnik**	**0.60**	**307**	Pg	**Pg**	**07 31 18.6**	**-0.5**
KNT	**Kendrikon**	**0.71**	**241**	*e*Pg	**Pg**	**07 31 20.8**	**-0.4**
KNT				*e*Sg	**Sg**	**07 31 32.7**	**+2.1**
SOH	**Sokhos**	**0.74**	**202**	*e*Pg	**Pg**	**07 31 21.3**	**-0.5**
SOH				*e*Sg	**Sg**	**07 31 31.5**	**-0.1**
RZN	**Rozhen**	**0.76**	**76**	P	**Pg**	**07 31 23.1**	**+1.0**
VAY	**Valandovo**	**0.89**	**258**	*e*Pg	**Pg**	**07 31 25.1**	**+0.5**
VAY	**Valandovo**	**0.89**	**258**	*i* Pg	**Pg**	**07 31 22.8**	**-1.8**
VAY				*e*Sg	**Sg**	**07 31 35.0**	**-1.2**
GRG	**Griva**	**1.14**	**241**	*e*Pg	**Pg**	**07 31 29.2**	**-0.2**
GRG				*e*Sg	**Sg**	**07 31 44.7**	**+0.4**
VTS	**Vitosha**	**1.15**	**340**	P	**Pb**	**07 31 29.4**	**+0.4**
VTS				Pg	**Pg**	**07 31 30.2**	**+0.8**
VTS	**Vitosha**	**1.15**	**340**	*e*Pg	**Pg**	**07 31 29.9**	**+0.4**
PLG	**Polygyros**	**1.16**	**191**	*e*PB	**Pb**	**07 31 29.3**	**+0.1**
PLG				*e*SB	**Sb**	**07 31 44.4**	**+0.4**
RDO	**Rodhopi**	**1.41**	**104**	*e*PG	**Pg**	**07 31 34.0**	**-0.5**
RDO				*e*SB	**Sb**	**07 31 52.5**	**+1.1**
PAIG	**Paliouri**	**1.58**	**181**	*e*Pg	**Pn**	**07 31 35.0**	**0.0**
PAIG				*e*Sg	**Sn**	**07 31 54.8**	**-0.5**
ALN	**Alexandroupoli**	**1.85**	**109**	*e*Pb	**Pb**	**07 31 39.6**	**-1.4**
LIA	**Limnos Island**	**1.96**	**145**	*e*PG	**Pg**	**07 31 43.4**	**-1.5**
XOR	**Xorichti**	**2.18**	**191**	*e*Pn	**Pn**	**07 31 43.7**	**+0.4**

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*ISCJB **18** 08:05:22.4±0.7, 1824N×14534E±0.008, h299km±7km, mb4.2/38, Error ellipse: s-maj=11.7km s-min=5.6km az=174.9*
*MOS **18** 08:05:22.7±1.0, 1824N×14532E, h304km, mb4.4/13, Error ellipse: s-maj=19.6km s-min=8.8km az=96.1*
*BJI **18** 08:05:22.3, 1816N×14536E, h314km, mB4.2, mb4.3*
*NEIC **18** 08:05:24.9±0.3, 1824N×14538E, mb4.4/15, Error ellipse: s-maj=12.1km s-min=7.0km az=98.0*
*IDC **18** 08:05:25.9±0.9, 1827N×14542E, h320km±8km, mb3.8/15, mb1 3.7/18, mb1mx3.7/23, mbtmp4.4/18, Error ellipse: s-maj=16.9km s-min=8.0km az=89.0*

ISC 18 08:05:22.8±0.7, 1827N×0.004×14539E±0.008, h288km±7km, h313km±2.1km: pP-P, n78, σ1.9±05/82, mb4.2/38, 8C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.68**	**186**	P	**Pn**	**08 06 36.6**	**+0.5**
	50nm,0.3s,baz=346,slow=9.6,SNR=12						
GUMO				S	**S**	**08 07 33.2**	**-1.6**
	112nm,0.3s,baz=16,slow=21,SNR=11						
GUMO	**Guam**	**4.68**	**186**	P	**Pn**	**08 06 36.6**	**+0.5**
GUMO				S	**S**	**08 07 33.2**	**-1.6**
CBIJ	**Chichi jima**	**9.27**	**342**	P	**Pn**	**08 07 33.3**	**+1.4**
	3.3nm,0.3s,baz=319,slow=20,SNR=3.0						
CBIJ				S	**S**	**08 09 14.8**	**-2.2**
	4.9nm,0.3s,baz=270,slow=20,SNR=3.6						
JOW	**Kunigami**	**17.94**	**301**	P	**P**	**08 09 14.2**	**+1.7**
	1.1nm,0.3s,baz=121,slow=15,SNR=3.8						
MJAR	**Matsushiro Arr**	**19.27**	**342**	P	**P**	**08 09 25.8**	**-0.9**
	0.4nm,0.3s,baz=161,slow=9.0,SNR=7.5						
SSE	**Sheshan**	**25.36**	**305**	P	**P**	**08 10 24.0**	**-0.1**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,20nm,7.4s						
SSE				LR	LR		
	comp=N,60nm,19.9s						
SSE				LR	LR		
	comp=E,60nm,19.8s						
SSE				LR	LR		
	comp=Z,50nm,17.7s						
ASAJ	**Asahikawa**	**25.88**	**355**	P	**P**	**08 10 29.8**	**+1.1**
	comp=Z,4.0nm,0.7s,mb3.9,baz=211,slow=12,SNR=4.3						
PMG	**Port Moresby**	**27.55**	**176**	P	**P**	**08 10 42.5**	**-1.1**
	comp=Z,21nm,0.9s,mb4.6,baz=328,slow=15,SNR=3.2						
NJ2	**Nanjing**	**27.57**	**305**	*e*P	**P**	**08 10 43.3**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
NJ2				AMB	AMB		
	comp=Z,50nm,5.6s						
NJ2				LR	LR		
	comp=N,140nm,20.0s						
NJ2				LR	LR		
	comp=E,70nm,22.9s						
NJ2				LR	LR		
	comp=Z,90nm,22.0s						
WHN	**Wuhan**	**30.69**	**299**	*e*P	**P**	**08 11 12.1**	**+0.9**
HABR	**Khabarovsk**	**31.28**	**347**	*e*P	**P**	**08 11 18.4**	**+2.1**
HABR				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
CTA	**Charters Tower**	**38.13**	**179**	*e*P	**P**	**08 12 15.3**	**+0.7**
	comp=Z,9.6nm,1.6s,mb4.0						
CTA	**Charters Tower**	**38.13**	**179**	P	**P**	**08 12 14.8**	**+0.1**
	comp=Z,2.6nm,0.3s,mb4.1,baz=337,slow=8.3,SNR=7.7						
CTA	**Charters Tower**	**38.13**	**179**	*e*P	**P**	**08 12 15.3**	**+0.7**
CTA				pmax	pmax		
	comp=Z,10.0nm,1.6s						
WRAB	**Tennant Creek**	**39.48**	**196**	*e*P	**P**	**08 12 26.3**	**+0.5**
WB2	**Warramunga Arr**	**39.49**	**196**	↑*i*P	**P**	**08 12 26.6**	**+0.7**
WRA	**Warramunga Arr**	**39.49**	**196**	P	**P**	**08 12 26.6**	**+0.7**
	comp=Z,21nm,0.5s,mb4.8,baz=5.5,slow=8.8,SNR=322						
WRA				PcP	PcP	08 14 27.2	0.0
	comp=Z,1.8nm,0.6s,baz=14,slow=3.6,SNR=5.4						
WRA				ScP	ScP	08 17 45.3	-2.7
	comp=Z,0.9nm,0.8s,baz=17,slow=4.0,SNR=4.5						
WRA				S	**S**	**08 18 04.8**	**-1.2**
	comp=Z,3.8nm,1.0s,baz=23,slow=17,SNR=4.6						
WRA	**Warramunga Arr**	**39.49**	**196**	P	**P**	**08 12 26.6**	**+0.7**
WRA						08 14 27.2	
WRA				S	**S**	**08 18 04.8**	**-1.2**
CD2	**Chengdu**	**39.67**	**297**	*e*P	**P**	**08 12 26.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**41.03**	**209**	↑*i*P	**P**	**08 12 39.3**	**+0.9**
	comp=Z,9.7nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**42.93**	**322**	↑*e*P	**P**	**08 12 54.7**	**+1.0**
AS31	**Alice Springs**	**43.16**	**195**	*e*P	**P**	**08 12 55.9**	**+0.4**
ASAR	**Alice Springs**	**43.16**	**195**	P	**P**	**08 12 56.0**	**+0.4**
	comp=Z,4.9nm,0.3s,mb4.2,baz=14,slow=7.0,SNR=97						
ASAR				PcP	PcP	08 14 39.8	+0.4
	comp=Z,1.1nm,0.6s,baz=34,slow=4.5,SNR=5.4						
ASAR				ScP	ScP	08 17 59.6	-2.9
	comp=Z,0.5nm,0.8s,baz=16,slow=2.7,SNR=4.3						
ASAR				S	**S**	**08 18 58.5**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=17,slow=19,SNR=8.1						
ASAR	**Alice Springs**	**43.16**	**195**	P	**P**	**08 12 56.0**	**+0.4**
ASAR						08 14 39.8	
ASAR				S	**S**	**08 18 58.6**	**-1.2**
ASPA	**Alice Springs**	**43.16**	**195**	*e*P	**P**	**08 12 55.9**	**+0.3**
SONM	**Songino Array**	**43.30**	**322**	P	**P**	**08 12 58.0**	**+1.4**
	comp=Z,1.4nm,0.6s,mb3.4,baz=134,slow=7.6,SNR=7.4						
SONM				pP	pP	08 14 02.0	+6.4
	comp=Z,1.5nm,0.8s,baz=139,slow=10.0,SNR=2.6						
DZM	**Mont Dzumac**	**45.08**	**152**	P	**P**	**08 13 10.5**	**-0.1**
	comp=Z,16nm,0.9s,mb4.3,baz=263,slow=21,SNR=6.6						
YAK	**Yakutsk**	**45.09**	**350**	*e*P	**P**	**08 13 10.1**	**-0.6**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.1						
MBWA	**Marble Bar**	**46.55**	**214**	*e*P	**P**	**08 13 23.1**	**+0.9**
	comp=Z,5.0nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**49.99**	**184**	P	**P**	**08 13 45.3**	**-2.9**
	comp=Z,2.9nm,0.5s,mb3.8,baz=6.4,slow=6.5,SNR=6.8						
BILL	**Bilibino**	**51.49**	**10**	P	**P**	**08 14 00.0**	**+0.6**
BILL					pP	08 15 03.0	+2.5
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
FORT	**Forrest**	**51.53**	**199**	↑*i*P	**P**	**08 14 00.1**	**+0.4**
	comp=Z,20nm,0.5s,mb4.7						
TIXI	**Tiksi**	**54.26**	**354**	↑*e*P	**P**	**08 14 18.5**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.4						
KLBR	**Kellerberrin**	**56.22**	**208**	*e*P	**P**	**08 14 33.7**	**+0.3**
	comp=Z,11nm,0.7s,mb4.4						
MUN	**Mundaring**	**57.26**	**210**	*e*P	**P**	**08 14 40.5**	**-0.2**
ZAL	**Zalesovo**	**58.19**	**323**	P	**P**	**08 14 47.9**	**+0.8**
	comp=Z,1.6nm,0.3s,mb3.9,baz=358,slow=6.3,SNR=4.9						
ZAL				pP	pP	08 15 56.7	+6.8
	comp=Z,1.4nm,0.8s,baz=6.9,slow=7.1,SNR=3.0						
ZAL	**Zalesovo**	**58.19**	**323**	P	**P**	**08 14 47.9**	**+0.8**
ZAL				pP	pP	08 15 56.7	+6.8
MKAR	**Makanchi Array**	**58.55**	**314**	P	**P**	**08 14 50.1**	**+0.5**
	comp=Z,1.5nm,0.5s,mb3.7,baz=92,slow=8.0,SNR=22						
MKAR				pP	pP	08 15 59.9	+7.4
	comp=Z,1.1nm,0.6s,baz=96,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	**58.55**	**314**	↑*e*P	**P**	**08 14 51.2**	**+1.6**
KDAK	**Kodiak Island**	**59.88**	**33**	P	**P**	**08 14 58.7**	**+0.1**
	comp=Z,1.8nm,0.3s,mb4.1,baz=180,slow=4.0,SNR=3.1						
KDAK	**Kodiak Island**	**59.88**	**33**	P	**P**	**08 14 58.7**	**+0.1**
KURK	**Kurchatov**	**61.40**	**318**	↑*e*P	**P**	**08 15 09.6**	**+0.8**
ZRNK	**Zerenda**	**67.46**	**320**	*e*P	**P**	**08 15 48.1**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**67.46**	**320**	*e*P	**P**	**08 15 48.0**	**+0.2**
	comp=Z,2.9nm,0.6s,mb4.2						
INK	**Inuvik**	**69.88**	**23**	P	**P**	**08 16 02.2**	**-0.5**
	comp=Z,5.2nm,0.6s,mb4.4,baz=280,slow=7.4,SNR=13						
INK	**Inuvik**	**69.88**	**23**	*e*P	**P**	**08 16 02.3**	**-0.5**
INK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK	**Inuvik**	**69.88**	**23**	*e*P	**P**	**08 16 02.3**	**-0.5**
	comp=Z,5.8nm,0.7s,mb4.4						
DLBC	**Dease Lake**	**71.81**	**33**	*e*P	**P**	**08 16 13.4**	**-0.9**
ARU	**Arti**	**73.25**	**325**	↑*i*P	**P**	**08 16 22.2**	**-0.5**
ARU				*e*		08 19 13.1	
ARU				*e*PPP		08 20 57.4	
ARU				*e*S	ScS	08 26 04.4	+0.9
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
HUMO	**Hull Mountain**	**79.05**	**49**	*e*P	**P**	**08 16 56.9**	**+1.6**
	comp=Z,6.0nm,0.6s,mb4.5						
RES	**Resolute Bay**	**79.91**	**14**	*e*P	**P**	**08 16 59.4**	**-0.5**
MOD	**Modoc**	**81.14**	**49**	*e*P	**P**	**08 17 06.2**	**-0.2**
	comp=Z,6.9nm,0.9s,mb4.4						
CMB	**Columbia Colle**	**82.19**	**53**	*e*P	**P**	**08 17 12.3**	**+0.4**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
CMB	**Columbia Colle**	**82.19**	**53**	*e*P	**P**	**08 17 12.3**	**+0.5**
	comp=Z,6.8nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**82.81**	**342**	P	**P**	**08 17 13.9**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.2,baz=78,slow=7.4,SNR=18						
JOF	**Joensuu**	**84.28**	**335**	*e*p	**P**	**08 17 19.8**	**-2.7**
HLID	**Hailey**	**84.74**	**46**	*e*P	**P**	**08 17 25.0**	**+0.3**
HLID				*e*pP	pP	08 18 38.4	+5.7
ELK	**Elko**	**85.12**	**49**	*e*P	**P**	**08 17 27.3**	**+0.6**
ELK				*e**PP	pP	08 18 40.0	+5.3
ELK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ELK	**Elko**	**85.12**	**49**	*e*P	**P**	**08 17 27.3**	**+0.6**
	comp=Z,9.9nm,1.1s,mb4.5						
ELK				*e*pP	pP	08 18 40.0	+5.3
TPNV	**Topopah Spring**	**85.65**	**53**	*e*P	**P**	**08 17 29.7**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
TPNV	**Topopah Spring**	**85.65**	**53**	*e*P	**P**	**08 17 29.6**	**+0.4**
	comp=Z,7.8nm,0.6s,mb4.7						
KIV	**Kislovodsk**	**86.30**	**315**	*e*P	**P**	**08 17 39.2**	**+6.8**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
KIV				MLR	MLR		
	comp=Z,26nm,18.0s						
KAF	**Kangasniemi**	**86.69**	**336**	*e*p	**P**	**08 17 31.6**	**-2.7**
	comp=Z,2.1nm,0.6s,mb4.1,baz=54,slow=4.6						
KAF	**Kangasniemi**	**86.69**	**336**	*e*P	**P**	**08 17 31.6**	**-2.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
DUG	**Dugway**	**87.05**	**49**	*e*P	**P**	**08 17 36.6**	**+0.6**
DUG				*e**PP	pP	08 18 50.0	+5.7
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
DUG	**Dugway**	**87.05**	**49**	*e*P	**P**	**08 17 36.6**	**+0.6**
	comp=Z,5.0nm,0.9s,mb4.3						
DUG				*e*pP	pP	08 18 50.0	+5.7
FLWY	**Flagg Ranch**	**87.06**	**44**	*e*P	**P**	**08 17 36.4**	**+0.4**
	comp=Z,3.1nm,0.7s,mb4.2						
FLWY				*e*pP	pP	08 18 50.3	+5.9
FINES	**FINESS Array B**	**87.15**	**335**	P	**P**	**08 17 34.1**	**-2.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=72,slow=6.2,SNR=15						
FINES	**FINESS Array B**	**87.15**	**335**	*i* P	**P**	**08 17 34.4**	**-2.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CCUT	**Cedar City**	**87.61**	**51**	*e*P	**P**	**08 17 39.6**	**+1.0**
DAU	**Daniels Canyon**	**88.07**	**48**	*e*P	**P**	**08 17 40.3**	**-0.5**
DAU				*e**PP	pP	08 18 55.4	+6.0
PDAR	**Pinedale Array**	**88.33**	**45**	P	**P**	**08 17 41.8**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=202,slow=2.0,SNR=9.0						
AKASG	**Malin Array Be**	**91.49**	**325**	*i* P	**P**	**08 17 53.0**	**-3.7**
NOA	**NORSAR Array B**	**92.87**	**340**	P	**P**	**08 18 01.6**	**-1.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=46,slow=4.9,SNR=2.8						
BRTR	**Keskin Array B**	**94.20**	**314**	P	**P**	**08 18 07.5**	**-1.7**
	comp=Z,0.7nm,0.8s,mb3.7,baz=134,slow=5.3,SNR=3.9						
LPAZ	**La Paz**	**147.96**	**92**	PKP	PKPdf	08 24 31.7	+1.0
	comp=Z,3.0nm,0.6s,baz=316,slow=3.8,SNR=6.6						
LPAZ				PKPbc	PKPbc	08 24 35.7	+1.6
	comp=Z,3.0nm,0.6s,baz=302,slow=2.8,SNR=6.8						
LPAZ	**La Paz**	**147.96**	**92**	PKP	PKPdf	08 24 31.7	+1.0
LPAZ				PKPbc	PKPbc	08 24 35.7	+1.6
SAML	**Samuel**	**150.76**	**75**	*e*PKPbc	PKPbc	08 24 41.0	0.0
SAML				*e*PKPab	PKPab	08 24 48.8	-0.4

MAN 18 08:06:48.1, 1453N×12053E, h19km, mb3.0, ML4.4, MS6.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.57**	**137**	*e*P	Pb	08 06 59.9	+0.3
TGY				*i* S	Sg	08 07 11.4	+4.1
LUBP	**Lubang**	**0.83**	**200**	*e*P	Pb	08 06 56.7	-7.3
PGP	**Puerto Galera**	**1.10**	**158**	*e*P	Pn	08 07 00.8	-7.7
POLP	**Polilio Island**	**1.38**	**81**	*e*P	Pn	08 07 10.7	-1.5
BALP	**Baler**	**1.57**	**40**	*e*P	Pn	08 07 15.5	+0.5
BOAC	**Boac**	**1.66**	**130**	*e*P	Sn	08 07 33.1	-3.7
**BOLP

SONM Songino Array 27.96 332 P P **08 20 32.3 +1.5**
0.2nm,0.4s,mb3.1,baz=131,slow=11,SNR=3.6
MKAR Makanchi Array 40.96 314 P P **08 22 22.2 -0.8**
0.5nm,0.4s,mb3.5,baz=101,slow=11,SNR=5.7
WRA Warramunga Arr 44.74 168 P P **08 22 53.5 -0.1**
0.7nm,0.9s,mb3.5,baz=348,slow=8.8,SNR=4.5
ASAR Alice Springs 48.30 169 P P **08 23 22.4 +0.8**
0.2nm,0.4s,mb3.5,baz=358,slow=7.3,SNR=4.9

IDC 18 08:44:03.0±59.0, 2431S×17850W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/11, mbtmp4.0/3, Error ellipse: s-maj=1068.0km s-min=150.2km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.85**	**249**	P	P	08 51 03.1	-1.2
	1.5nm,0.5s,baz=89,slow=10,SNR=11						
ASAR	**Alice Springs**	**43.32**	**261**	P	P	08 52 07.2	+0.7
	0.7nm,0.4s,baz=91,slow=8.3,SNR=9.2						
WRA	**Warramunga Arr**	**43.74**	**266**	P	P	08 52 11.2	+1.2
	1.3nm,0.5s,baz=101,slow=8.2,SNR=34						

*ISCJB **18** 09:18:49.4±0.8, 3800N±004×14026E±006, h126km±5km, mb3.5/2, Error ellipse: s-maj=8.3km s-min=6.0km az=81.8*
*IDC **18** 09:18:50.4±6.5, 3834N×13937E, h163km±32km, mb2.9/2, mb1 3.2/3, mb1mx2.9/19, mbtmp3.3/3, Error ellipse: s-maj=73.6km s-min=54.0km az=33.0*
*JMA **18** 09:18:50.3±0.1, 3801N×14025E, h121km±1km, M2.9*
ISC 18 09:18:50.2±0.8, 3801N±004×14026E±006, h123km±5km, n17, σ0°51/31, mb3.5/2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYS	**Shiratake**	**0.27**	**324**	P	**Pn**	**09 19 07.4**	**+0.1**
JYS				S	**Sn**	**09 19 20.3**	**0.0**
JMM	**Marumori**	**0.44**	**108**	P	**Pn**	**09 19 08.0**	**-0.1**
JMM				S	**Sn**	**09 19 21.2**	**-0.4**
JOU	**Okura**	**0.48**	**41**	P	**Pn**	**09 19 08.6**	**+0.3**
JOU				S	**Sn**	**09 19 22.5**	**+0.5**
JFT	**Otama**	**0.49**	**173**	P	**Pn**	**09 19 08.6**	**+0.2**
JFT				*e*S	**Sn**	**09 19 22.0**	**-0.1**
JYA	**Atsumi**	**0.73**	**324**	P	**Pn**	**09 19 10.1**	**+0.1**
JYA				S	**Sn**	**09 19 25.1**	**+0.1**
JFY	**Yanaizu**	**0.74**	**217**	P	**Pn**	**09 19 10.3**	**+0.1**
JFY				S	**Sn**	**09 19 25.0**	**-0.3**
JNS	**Sasagawa**	**0.77**	**256**	P	**Pn**	**09 19 10.2**	**-0.2**
JNS				S	**Sn**	**09 19 25.4**	**-0.3**
JFK	**Kawauchi**	**0.80**	**143**	P	**Pn**	**09 19 10.4**	**-0.2**
JFK				S	**Sn**	**09 19 25.4**	**-0.7**
JYK	**Kaneyama**	**0.91**	**5**	P	**Pn**	**09 19 11.7**	**+0.1**
JYK				S	**Sn**	**09 19 27.9**	**0.0**
JAW	**Awa shima**	**0.92**	**300**	P	**Pn**	**09 19 11.6**	**0.0**
JAW				S	**Sn**	**09 19 27.8**	**-0.1**
JMK	**Ichinoseki**	**1.21**	**38**	P	**Pn**	**09 19 14.7**	**+0.2**
JSD	**Sado**	**1.58**	**272**	P	**Pn**	**09 19 18.2**	**-0.5**
JSD				S	**Sn**	**09 19 39.0**	**-1.5**
JOM	**Ohasama**	**1.67**	**28**	P	**Pn**	**09 19 20.2**	**+0.4**
JOM				S	**Sn**	**09 19 42.5**	**+0.2**
MAT	**Matsushiro**	**2.20**	**229**	P	**Pn**	**09 19 26.6**	**+0.4**
MAT				S	**Sn**	**09 19 54.7**	**+0.9**
MJAR	**Matsushiro Arr**	**2.20**	**229**	P	**Pn**	**09 19 26.8**	**+0.6**
	3.2nm,0.3s,baz=30,slow=13,SNR=64						
MJAR				S	**Sn**	**09 19 54.8**	**+1.0**
	0.7nm,0.3s,baz=24,slow=22,SNR=6.2						
WRA	**Warramunga Arr**	**57.91**	**187**	P	**P**	**09 28 28.6**	**-0.7**
	0.3nm,0.8s,mb3.4,baz=2.9,slow=7.6,SNR=7.4						
ASAR	**Alice Springs**	**61.63**	**187**	P	**P**	**09 28 50.9**	**-3.9**
	0.2nm,0.3s,mb3.6,baz=3.9,slow=5.8,SNR=6.2						

IDC 18 09:37:01.2±31.0, 1699S×17806W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, Error ellipse: s-maj=594.7km s-min=143.7km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.36**	**240**	P	P	09 44 32.6	+0.3
	0.5nm,0.4s,baz=94,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**45.13**	**259**	P	P	09 45 19.7	+0.3
	0.3nm,0.3s,baz=96,slow=7.9,SNR=22						
ASAR	**Alice Springs**	**45.36**	**253**	P	P	09 45 22.1	+1.0
	2.7nm,0.4s,baz=88,slow=8.1,SNR=45						
FITZ	**Fitzroy Crossi**	**53.51**	**260**	P	P	09 46 23.2	-0.3
	2.4nm,0.9s,baz=101,slow=5.2,SNR=4.0						

*ISCJB **18** 09:45:25.9±0.6, 2085S±005×6756W±008, h165km±7km, mb4.1/6, Error ellipse: s-maj=12.4km s-min=7.1km az=43.1.*
*NEIC **18** 09:45:26.7±0.6, 2080S×6765W, h159km±7km, mb4.0/1, Error ellipse: s-maj=11.7km s-min=7.6km az=99.0*
*IDC **18** 09:45:26.5±0.7, 2084S×6760W, h155km±8km, mb3.7/5, mb1 3.9/10, mb1mx3.7/20, mbtmp4.3/10, Error ellipse: s-maj=15.4km s-min=8.3km az=109.0*
ISC 18 09:45:27.0±0.6, 2085S±005×6756W±008, h157km±6km, n23, σ0°97/24, mb4.1/6, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.16**	**215**	P	**Pn**	**09 46 05.3**	**+0.9**
	82nm,0.3s,baz=22,slow=7.8,SNR=725						
LVC				S	**Sn**	**09 46 32.6**	**-0.5**
	61nm,0.3s,baz=231,slow=21,SNR=34						
LPAZ	**La Paz**	**4.57**	**353**	P	**Pn**	**09 46 36.2**	**+1.4**
	2.4nm,0.3s,baz=144,slow=8.3,SNR=64						
LPAZ				S	**Sn**	**09 47 28.8**	**+1.0**
	1.6nm,0.3s,baz=316,slow=14,SNR=4.9						
ARE	**Arequipa**	**5.74**	**319**	*e*P	**Pn**	**09 46 47.0**	**-3.3**
ARE				*e*S	**Sn**	**09 47 47.0**	**-8.4**
SIV	**San Ignacio**	**7.83**	**53**	P	**Pn**	**09 47 18.3**	**+0.3**
	5.1nm,0.3s,baz=244,slow=12,SNR=159						
SIV				S	**Sn**	**09 48 44.2**	**-1.2**
	0.2nm,0.3s,baz=316,slow=20,SNR=9.1						
CFAA	**Coronel Fontan**	**10.73**	**183**	P	**Pn**	**09 47 55.7**	**-0.7**
	0.1nm,0.3s,baz=343,slow=11,SNR=11						
CFAA				S	**Sn**	**09 49 46.9**	**-8.3**
	0.1nm,0.3s,baz=142,slow=20,SNR=5.0						
CFAA	**Coronel Fontan**	**10.73**	**183**	P	**Pn**	**09 47 55.7**	**-0.7**
CFAA				S	**Sn**	**09 49 46.9**	**-8.3**
SAML	**Samuel**	**12.56**	**20**	*e*Pn	**Pn**	**09 48 19.2**	**-1.1**
	4.8nm,0.8s						
BDFB	**Brasilia**	**19.27**	**78**	P	**P**	**09 49 41.0**	**+1.5**
	2.3nm,0.3s,baz=268,slow=9.7,SNR=20						
PLCA	**Paso Flores**	**19.98**	**187**	P	**P**	**09 49 47.8**	**+0.6**
	0.7nm,0.3s,baz=7.7,slow=11,SNR=16						
SDV	**Santo Domingo**	**29.70**	**354**	P	**P**	**09 51 16.8**	**-1.4**
	1.4nm,0.4s,mb4.1,baz=201,slow=8.6,SNR=4.7						
USHA	**Ushuaia**	**33.94**	**181**	P	**P**	**09 51 54.7**	**-0.4**
	6.2nm,1.1s,mb4.3,baz=339,slow=16,SNR=3.8						
DBIC	**Dimbokro**	**67.34**	**73**	P	**P**	**09 56 05.3**	**+0.3**
	5.9nm,0.7s,mb4.5,baz=220,slow=8.0,SNR=11						
PV01	**Paradox Valley**	**70.19**	**327**	*e*P	**P**	**09 56 22.7**	**0.0**
MSU	**Marysvale**	**72.37**	**325**	*e*P	**P**	**09 56 35.9**	**+0.1**
PDAR	**Pinedale Array**	**74.19**	**329**	P	**P**	**09 56 46.0**	**-0.5**
	0.5nm,0.4s,mb3.6,baz=125,slow=8.1,SNR=8.6						
NVAR	**Mina Array Bea**	**75.77**	**321**	P	**P**	**09 56 56.2**	**+0.7**
	0.6nm,0.9s,mb3.2,baz=179,slow=4.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**75.95**	**70**	P	**P**	**09 56 56.7**	**+0.2**
	20nm,0.5s,mb5.0,baz=256,slow=5.4,SNR=381						
TORD	**Torodi Ar. Bea**	**75.95**	**70**	P	**P**	**09 56 56.7**	**+0.2**
STKA	**Stephens Creek**	**120.60**	**209**	PKP	PKPdf	10 03 59.2	-0.8
	2.1nm,1.1s,baz=151,slow=8.4,SNR=3.1						
ASAR	**Alice Springs**	**131.06**	**206**	PKP	PKPdf	10 04 20.4	+0.4
	0.3nm,0.4s,baz=128,slow=1.9,SNR=5.6						
WRA	**Warramunga Arr**	**134.14**	**209**	PKP	PKPdf	10 04 26.0	+0.2
	0.6nm,0.8s,baz=162,slow=1.8,SNR=6.9						
MKAR	**Makanchi Array**	**144.37**	**36**	PKP	PKPdf	10 04 43.7	-0.7
	0.7nm,0.4s,baz=316,slow=3.3,SNR=8.8						
MKAR	**Makanchi Array**	**144.37**	**36**	PKP	PKPdf	10 04 43.7	-0.7

IDC 18 09:51:08.9±8.8, 285N×12916E, h182km±91km, mb3.5/7, mb1 3.7/7, mb1mx3.4/17, mbtmp4.0/7, Error ellipse: s-maj=46.4km s-min=17.4km az=82.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.11**	**189**	*e*P	P	09 55 39.3	+0.2
	21nm,3.3s						
FITZ	**Fitzroy Crossi**	**21.11**	**189**	P	P	09 55 38.6	-0.5
	1.6nm,0.6s,baz=308,slow=12,SNR=9.1						
WRA	**Warramunga Arr**	**23.21**	**168**	P	P	09 56 00.7	+1.1
	2.1nm,0.5s,baz=337,slow=11,SNR=37						
WB2	**Warramunga Arr**	**23.22**	**168**	*e*P	P	09 56 01.1	+1.5
ASAR	**Alice Springs**	**26.76**	**170**	P	P	09 56 32.2	+0.7
	2.7nm,0.5s,baz=355,slow=8.0,SNR=54						
MJAR	**Matsushiro Arr**	**34.55**	**13**	P	P	09 57 40.0	0.0
	0.5nm,0.5s,baz=162,slow=7.9,SNR=3.4						
STKA	**Stephens Creek**	**36.50**	**162**	*e*P	P	09 57 56.0	-0.5
	1.0nm,0.3s						
STKA	**Stephens Creek**	**36.50**	**162**	P	P	09 57 56.0	-0.5
	1.2nm,0.4s,baz=344,slow=8.4,SNR=19						
MKAR	**Makanchi Array**	**59.66**	**324**	P	P	10 00 54.3	+0.5
	0.8nm,0.5s,baz=113,slow=9.3,SNR=7.6						
ARCES	**ARCESS Array B**	**92.10**	**340**	P	P	10 03 56.2	-1.1
	1.7nm,0.9s,baz=79,slow=6.3,SNR=5.5						

*NEIC **18** 10:15:25.2±3.3, 559S×14780E, h71km±21km, mb4.3/2, Error ellipse: s-maj=31.8km s-min=19.9km az=209.0*
*ISCJB **18** 10:15:26.7±2.5, 58S±01×1477E±02, h77km±22km, mb4.1/4, Error ellipse: s-maj=31.5km s-min=22.1km az=22.9*
*IDC **18** 10:15:30.4±2.8, 595S×14750E, h86km±27km, mb3.9/3, mb1 4.2/6, mb1mx3.7/14, mbtmp4.3/6, Error ellipse: s-maj=44.3km s-min=18.4km az=112.0*
ISC 18 10:15:31.4±2.1, 60S±01×1475E±02, h86km±18km, n14, σ0°79/16, mb4.1/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.41**	**186**	P	**Pn**	**10 16 21.6**	**-0.7**
	28nm,0.3s,baz=29,slow=8.2,SNR=69						
PMG				S	**Sn**	**10 17 01.8**	**+0.2**
	33nm,0.3s,baz=11,slow=24,SNR=3.7						
CTA	**Charters Tower**	**14.06**	**185**	P	**Pn**	**10 18 47.5**	**+0.9**
	0.2nm,0.3s,baz=14,slow=16,SNR=4.5						
CTA	**Charters Tower**	**14.06**	**185**	P	**Pn**	**10 18 47.5**	**+0.9**
KAKA	**Kakadu**	**16.29**	**245**	*e*P	**Pn**	**10 19 15.8**	**+1.0**
	7.8nm,0.4s						
WB2	**Warramunga Arr**	**18.86**	**221**	*e*P	**Pn**	**10 19 44.8**	**-1.3**
WRA	**Warramunga Arr**	**18.87**	**221**	P	**Pn**	**10 19 45.5**	**-0.7**
	2.1nm,0.3s,baz=48,slow=11,SNR=165						
WRA				S	**S**	**10 23 13.6**	**-1.0**
	0.1nm,0.3s,baz=38,slow=21,SNR=4.2						
AS31	**Alice Springs**	**21.91**	**215**	*e*P	**P**	**10 20 17.9**	**+0.5**
ASAR	**Alice Springs**	**21.91**	**215**	P	**P**	**10 20 17.9**	**+0.4**
	4.0nm,0.5s,mb4.0,baz=50,slow=8.9,SNR=108						
ASAR				S	**S**	**10 24 16.4**	**+1.9**
	1.3nm,0.8s,baz=30,slow=22,SNR=6.3						
ASPA	**Alice Springs**	**21.91**	**215**	*e*P	**P**	**10 20 17.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**24.50**	**239**	*e*P	**P**	**10 20 42.8**	**+0.3**
	20nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.50**	**239**	P	**P**	**10 20 43.2**	**+0.7**
	10.0nm,0.3s,mb4.6,baz=63,slow=11,SNR=115						
STKA	**Stephens Creek**	**26.34**	**191**	P	**P**	**10 20 58.5**	**-0.6**
	1.0nm,0.7s,mb3.3,baz=7.6,slow=15,SNR=2.3						
MBWA	**Marble Bar**	**30.83**	**238**	*e*P	**P**	**10 21 38.5**	**-0.6**
	2.7nm,0.5s,mb4.2						
TORD	**Torodi Ar. Bea**	**145.57**	**284**	PKPbc	PKPbc	10 34 57.5	-2.3
	0.2nm,0.3s,baz=82,slow=2.9,SNR=7.7						

*IDC **18** 10:30:03.5±1.2, 538S×142.18E, h0km, mb4.0/5, mb1 4.1/8, mb1mx4.0/13, mbtmp4.0/8, ML3.7/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/15, Error ellipse: s-maj=38.0km s-min=19.5km az=88.0*
*ISCJB **18** 10:30:06.6±0.5, 546S±006×142.15E±0.10, h33km, mb4.3/12, MS3.0/1, Error ellipse: s-maj=13.7km s-min=8.5km az=15.1*
*MOS **18** 10:30:06.2±0.8, 545S×142.13E, h33km, mb4.6/6, Error ellipse: s-maj=23.7km s-min=15.2km az=104.2*
*NEIC **18** 10:30:06.9±4.6, 542S×142.18E, h22km±33km, mb4.5/8, Error ellipse: s-maj=14.2km s-min=13.6km az=181.0*
ISC 18 10:30:08.6±0.5, 545S±005×14219E±009, h35km, n32, σ0°89/34, mb4.3/12, MS3.0/1, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.31**	**129**	Pn	**Pn**	**10 31 39.8**	**+0.8**
	0.3nm,0.3s,baz=307,slow=15,SNR=2.0						
KAKA	**Kakadu**	**12.02**	**232**	*e*P	**Pn**	**10 32 56.5**	**-0.8**
	18nm,0.4s						
CTA	**Charters Tower**	**15.08**	**165**	LR	LR	10 38 09.6	
	comp=Z,53nm,20.1s,baz=46,slow=32						
WB2	**Warramunga Arr**	**16.30**	**207**	*e*P	**Pn**	**10 33 54.7**	**+0.1**
WRA	**Warramunga Arr**	**16.30**	**207**	Pn	**Pn**	**10 33 53.0**	**-1.8**
	0.3nm,0.3s,baz=30,slow=13,SNR=23						
WRA				Lg		10 38 44.9	
	0.7nm,0.3s,baz=29,slow=30,SNR=4.6						
AS31	**Alice Springs**	**19.79**	**203**	*e*P	**Pn**	**10 34 37.8**	**+0.4**
AS31				*e*S	**S**	**10 38 06.5**	**-10**
ASAR	**Alice Springs**	**19.79**	**203**	P	**Pn**	**10 34 37.2**	**-0.2**
	0.3nm,0.3s,baz=32,slow=9.5,SNR=48						
ASAR				S	**S**	**10 38 16.9**	**+0.1**
	0.2nm,0.3s,baz=14,slow=28,SNR=4.7						
ASAR	**Alice Springs**	**19.79**	**203**	P	**Pn**	**10 34 37.2**	**-0.2**
ASAR				S	**S**	**10 38 16.9**	**+0.1**
ASPA	**Alice Springs**	**19.79**	**203**	*e*P	**Pn**	**10 34 37.8**	**+0.3**
ASPA				*e*S	**S**	**10 38 06.5**	**-10**
FITZ	**Fitzroy Crossi**	**20.48**	**231**	*e*P	**P**	**10 34 44.9**	**+1.7**
	10.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.48**	**231**	P	**P**	**10 34 44.1**	**+0.9**
	6.1nm,0.8s,baz=47,slow=7.4,SNR=9.6						
FITZ				LR	LR	10 42 35.3	
	comp=Z,76nm,21.9s,MS3.0,baz=339,slow=37						
STKA	**Stephens Creek**	**26.30**	**181**	P	**P**	**10 35 40.0**	**-0.7**
	1.6nm,1.0s,mb3.5,baz=320,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**26.30**	**181**	P	**P**	**10 35 39.4**	**-1.3**
KKM	**Kota Kinabalu**	**28.33**	**293**	*e*P	**P**	**10 36 01.1**	**+2.2**
ULN	**Ulaanbaatar**	**61.41**	**334**	*e*P	**P**	**10 40 21.7**	**+0.5**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**61.41**	**334**	*e*P	**P**	**10 40 21.7**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.4						
SONM	**Songino Array**	**61.68**	**333**	P	**P**	**10 40 23.2**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.9,baz=154,slow=5.6,SNR=4.4						
CASY	**Casey**	**64.59**	**194**	*e*P	**P**	**10 40 42.6**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.3						
ZAK	**Zakamensk**	**64.94**	**334**	*e*P	**P**	**10 40 43.1**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
MKAR	**Makanchi Array**	**74.07**	**322**	P	**P**	**10 41 41.0**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=108,slow=7.8,SNR=11						
BVAR	**Borovoye Array**	**83.53**	**325**	P	**P**	**10 42 32.7**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.4,baz=104,slow=6.3,SNR=17						
CHKZ	**Chkalovo**	**83.60**	**325**	*e*P	**P**	**10 42 32.7**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.5						
CHKZ	**Chkalovo**	**83.60**	**325**	*e*P	**P**	**10 42 32.7**	**-0.5**
	comp=Z,5.2nm,1.3s,mb4.5						
ZRNK	**Zerenda**	**84.31**	**324**	*e*P	**P**	**10 42 36.7**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
ZRNK	**Zerenda**	**84.31**	**324**	*e*P	**P**	**10 42 36.7**	**-0.1**
	comp=Z,4.9nm,1.1s,mb4.5						
QSPA	**South Pole Qui**	**84.51**	**180**	*e*P	**P**	**10 42 38.7**	**+0.9**
	comp=Z,6.9nm,1.1s,mb4.7						
MCK	**McKinley**	**85.69**	**25**	*e*P	**P**	**10 42 42.4**	**-1.4**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
MCK	**McKinley**	**85.69**	**25**	*e*P	**P**	**10 42 42.4**	**-1.4**
	comp=Z,2.7nm,0.8s,mb4.5						
COLA	**College**	**86.54**	**24**	*e*P	**P**	**10 42 47.3**	**-0.6**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
COLA	**College**	**86.54**	**24**	*e*P	**P**	**10 42 47.3**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.4						
DAWY	**Dawson**	**89.82**	**26**	*e*P	**P**	**10 43 04.7**	**+1.1**
DAWY				*e*pP	pP	10 43 11.0	-3.7
DBIC	**Dimbokro**	**147.21**	**274**	PKPbc	PKPbc	10 49 49.7	+1.7
	comp=Z,3.7nm,0.8s,baz=70,slow=4.7,SNR=5.3						

*IDC **18** 10:33:54.0±0.8, 2928S×17787W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.2/11, mbtmp4.3/5, MS3.9/6, Ms1 3.9/6, ms1mx3.6/13, Error ellipse: s-maj=30.9km s-min=6.5km az=44.0*
*NEIC **18** 10:33:55.5±1.8, 2959S×17781W, h9km±10km, mb4.7/4, Error ellipse: s-maj=18.1km s-min=11.4km az=98.0*
*ISCJB **18** 10:33:58.9±1.5, 2977S±009×178.1W±02, h33km, mb4.4/8, MS3.9/4, Error ellipse: s-maj=28.6km s-min=12.5km az=178.8*
*MOS **18** 10:33:59.1±1.9, 2929S×17791W, h42km, mb5.2/2, Error ellipse: s-maj=25.0km s-min=21.3km az=117.9*
ISC 18 10:34:00.3±1.4, 2969S±009×1779W±02, h35km, n35, σ1°00/20, mb4.4/8, MS3.9/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.44**	**359**	Pn	**Pn**	**10 34 02.4**	**-7.7**
	5μm,0.3s,baz=102,slow=8.1,SNR=167						
RAO				Sn	**Sn**	**10 34 06.6**	**-10**
	15μm,0.3s,baz=54,slow=19,SNR=78						
RAO	**Raoul Island**	**0.44**	**359**	Pn	**Pn**	**10 34 02.4**	**-7.7**
RAO				Sn	**Sn**	**10 34 06.6**	**-10**
URZ	**Urewera**	**9.49**	**204**	Pn	**Pn**	**10 36 13.0**	**-1.5**
	0.5nm,0.3s,baz=240,slow=20,SNR=4.4						
URZ				Sn	**Sn**	**10 38 00.7**	**+0.8**
	1.4nm,0.3s,baz=161,slow=22,SNR=7.9						
DZM	**Mont Dzumac**	**15.99**	**295**	LR	LR	10 42 08.4	
	comp=Z,965nm,21.0s,baz=198,slow=31						
RAR	**Rarotonga**	**18.41**	**67**	LR	LR	10 42 19.5	
	comp=Z,316nm,20.4s,baz=261,slow=28						
TBI	**Tubuai**	**26.18**	**83**	*e*LQ		10 44 42.8	
	463nm,25.8s						
TBI				*e*LR	LR	10 46 05.1	
	572nm,28.5s,baz=242						
PPT	**Papeete**	**28.54**	**71**	LR	LR	10 48 26.8	
	comp=Z,77nm,21.2s,MS3.3,baz=149,slow=31						
HNR	**Honiara**	**28.91**	**310**	LR	LR	10 49 15.7	
	comp=Z,223nm,18.5s,MS3.8,baz=270,slow=32						
CTA	**Charters Tower**	**33.77**	**278**	P	**P**	**10 40 39.2**	**+0.6**
	10nm,0.9s,mb4.8,baz=115,slow=11,SNR=4.1						
CTA	**Charters Tower**	**33.77**	**278**	P	**P**	**10 40 39.2**	**+0.5**
CTAO	**Charters Tower**	**33.77**	**278**	*e*P	**P**	**10 40 38.5**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.3						
CTAO	**Charters Tower**	**33.77**	**278**	*e*P	**P**	**10 40 38.5**	**-0.2**
	comp=Z,53nm,1.4s,mb5.3						
STKA	**Stephens Creek**	**34.72**	**256**	*e*P	**P**	**10 40 44.9**	**-2.0**
	comp=Z,5.7nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**34.72**	**256**	P	**P**	**10 40 46.9**	**0.0**
	comp=Z,2.9nm,0.6s,mb4.4,baz=100,slow=9.8,SNR=6.8						
STKA				LR	LR	10 54 41.8	
	comp=Z,267nm,18.5s,MS4.0,baz=27,slow=36						
STKA	**Stephens Creek**	**34.72**	**256**	*e*P	**P**	**10 40 45.9**	**-1.0**
RKT	**Rikitea**	**38.84**	**91**	*e*LR	LR	10 51 51.1	
	comp=Z,357nm,26.2s						
ASAR	**Alice Springs**	**43.23**	**266**	P	**P**	**10 41 58.5**	**+0.5**
	comp=Z,3.9nm,0.7s,mb4.3,baz=98,slow=7.4,SNR=6.5						
WRA	**Warramunga Arr**	**44.16**	**271**	P	**P**	**10 42 05.8**	**+0.3**
	comp=Z,3.5nm,0.8s,mb4.2,baz=110,slow=8.0,SNR=6.7						
SBA	**Scott Base**	**48.75**	**184**	*e*P	**P**	**10 42 43.3**	**+1.8**
SBA				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.7						
SBA	**Scott Base**	**48.75**	**184**	*e*P	**P**	**10 42 43.3**	**+1.8**
	comp=Z,14nm,1.6s,mb4.7						
VNDA	**Vanda**	**48.81**	**186**	P	**P**	**10 42 41.8**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=0.2,slow=6.5,SNR=3.9						
CASY	**Casey**	**55.80**	**208**	*e*P	**P**	**10 43 32.5**	**-1.4**
	comp=Z,3.8nm,1.0s,mb4.4						
MBWA	**Marble Bar**	**56.39**	**263**	*e*P	**P**	**10 43 38.6**	**+0.6**
	comp=Z,7.5nm,1.0s,mb4.7						
PLCA	**Paso Flores**	**82.93**	**133**	LR	LR	11 14 59.3	
	comp=Z,135nm,18.5s,MS4.3,baz=188,slow=30						
CHKZ	**Chkalovo**	**125.85**	**317**	*e*PKIKP	PKPdf	10 52 56.6	-1.7
BVAR	**Borovoye Array**	**125.95**	**316**	PKP	PKPdf	10 52 57.3	-1.3
	comp=Z,1.6nm,0.7s,baz=80,slow=1.8,SNR=8.6						
ZRNK	**Zerenda**	**126.79**	**316**	*e*PKIKP	PKPdf	10 52 58.7	-1.4
ARCES	**ARCESS Array B**	**137.92**	**348**	PKP	PKPdf	10 53 20.0	-1.1
	comp=Z,2.2nm,0.8s,baz=27,slow=3.3,SNR=6.3						
FINES	**FINESS Array B**	**144.51**	**340**	PKP	PKPdf	10 53 29.9	-3.0
	comp=Z,3.3nm,0.6s,baz=68,slow=3.2,SNR=26						
FINES	**FINESS Array B**	**144.51**	**340**	PKP	PKPdf	10 53 29.9	-3.0
NB2	**NORSAR Subarra**	**148.06**	**352**	PKPd	PKPdf	10 53 40.2	+1.3
	comp=Z,3.5nm,1.2s,baz=202,slow=1.9						
NOA	**NORSAR Array B**	**148.06**	**352**	PKPbc	PKPbc	10 53 40.8	-1.3
	comp=Z,1.5nm,0.7s,baz=15,slow=4.3,SNR=4.8						
AKASG	**Malin Array Be**	**150.78**	**324**	PKPbc	PKPbc	10 53 47.8	-1.1
	comp=Z,2.0nm,0.5s,baz=48,slow=2.6,SNR=14						
BRTR	**Keskin Array B**	**152.33**	**300**	PKPbc	PKPbc	10 53 52.0	-0.5
	comp=Z,0.5nm,0.5s,baz=191,slow=2.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**163.53**	**179**	PKPab	PKPab	10 54 51.9	+1.1
	comp=Z,1.5nm,0.8s

n322,σ0568/199, mb4.3/42, 58C-58D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.41**	**55**	P	**P**	**11 24 15.4**	**-1.2**
	11nm,0.3s,baz=58,slow=2.8,SNR=18						
AFI	**Afiamalu**	**7.41**	**55**	*e*Pn	**P**	**11 24 15.5**	**-1.1**
URZ	**Urewera**	**20.38**	**191**	P	**P**	**11 26 17.3**	**-2.4**
	7.5nm,0.8s,baz=315,slow=17,SNR=4.2						
CNB	**Canberra Magne**	**33.50**	**233**	⇓*i*P	**P**	**11 28 15.3**	**+1.5**
	16nm,0.5s,mb4.9						
CTA	**Charters Tower**	**33.74**	**261**	*e*P	**P**	**11 28 17.2**	**+1.4**
	7.9nm,1.0s,mb4.3						
CTA	**Charters Tower**	**33.74**	**261**	*e*P	**P**	**11 28 17.2**	**+1.4**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CTAO	**Charters Tower**	**33.74**	**261**	*e*P	**P**	**11 28 16.8**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
CTAO	**Charters Tower**	**33.74**	**261**	*e*P	**P**	**11 28 16.8**	**+1.0**
	comp=Z,7.0nm,0.9s,mb4.3						
PMG	**Port Moresby**	**34.86**	**280**	P	**P**	**11 28 25.5**	**+0.4**
	comp=Z,46nm,1.2s,mb5.0,baz=74,slow=7.4,SNR=3.7						
TOO	**Toolangi**	**37.23**	**231**	*e*P	**P**	**11 28 45.3**	**+0.8**
	comp=Z,11nm,0.7s,mb4.5						
TOO	**Toolangi**	**37.23**	**231**	*e*P	**P**	**11 28 45.3**	**+0.8**
TOO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**38.78**	**242**	⇓*i*P	**P**	**11 28 56.6**	**-0.4**
	comp=Z,11nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**38.78**	**242**	P	**P**	**11 28 56.6**	**-0.4**
	comp=Z,12nm,0.7s,mb4.5,baz=92,slow=9.0,SNR=35						
STKA				PcP	PcP	11 30 51.0	-1.5
	comp=Z,1.7nm,0.6s,baz=67,slow=4.6,SNR=3.0						
WB2	**Warramunga Arr**	**44.91**	**260**	*e*P	**P**	**11 29 45.6**	**+0.6**
WRAB	**Tennant Creek**	**44.91**	**260**	*e*P	**P**	**11 29 42.5**	**-2.5**
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**11 29 45.9**	**+0.8**
	comp=Z,5.1nm,0.6s,mb4.2,baz=98,slow=6.9,SNR=177						
WRA				PcP	PcP	11 31 13.5	+0.4
	comp=Z,1.4nm,0.4s,baz=90,slow=3.7,SNR=9.0						
WRA				S	**S**	**11 35 38.3**	**-2.0**
	comp=Z,2.4nm,1.1s,baz=98,slow=13,SNR=7.2						
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**11 29 45.9**	**+0.8**
WRA						11 31 13.5	
AS31	**Alice Springs**	**45.04**	**255**	⇓*i*P	**P**	**11 29 46.9**	**+0.9**
ASAR	**Alice Springs**	**45.04**	**255**	P	**P**	**11 29 47.0**	**+1.0**
	comp=Z,23nm,1.0s,mb4.7,baz=95,slow=7.3,SNR=304						
ASAR				PcP	PcP	11 31 13.7	+0.1
	comp=Z,3.4nm,0.4s,baz=104,slow=3.9,SNR=17						
ASAR				S	**S**	**11 35 42.1**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=90,slow=16,SNR=31						
ASAR	**Alice Springs**	**45.04**	**255**	P	**P**	**11 29 47.0**	**+1.0**
ASAR						11 31 13.7	
ASPA	**Alice Springs**	**45.04**	**255**	⇓*i*P	**P**	**11 29 46.9**	**+0.9**
KAKA	**Kakadu**	**47.93**	**269**	*e*P	**P**	**11 30 08.7**	**+0.9**
	comp=Z,19nm,1.4s,mb4.4						
FORT	**Forrest**	**50.18**	**245**	⇓*i*P	**P**	**11 30 24.2**	**-0.1**
	comp=Z,6.8nm,0.3s,mb4.6						
MBWA	**Marble Bar**	**58.33**	**256**	*e*P	**P**	**11 31 21.1**	**-0.2**
	comp=Z,3.8nm,0.4s,mb3.9						
KLBR	**Kellerberrin**	**58.99**	**244**	*e*P	**P**	**11 31 25.2**	**-0.5**
	comp=Z,17nm,1.0s,mb4.1						
SBA	**Scott Base**	**60.10**	**184**	*e*P	**P**	**11 31 33.2**	**+0.2**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.7						
SBA	**Scott Base**	**60.10**	**184**	*e*P	**P**	**11 31 33.2**	**+0.2**
	comp=Z,2.9nm,0.6s,mb3.7						
VNDA	**Vanda**	**60.14**	**185**	P	**P**	**11 31 33.1**	**-0.1**
	comp=Z,0.9nm,0.5s,mb3.3,baz=11,slow=6.2,SNR=11						
VNDA	**Vanda**	**60.14**	**185**	*e*P	**P**	**11 31 32.7**	**-0.5**
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VNDA	**Vanda**	**60.14**	**185**	*e*P	**P**	**11 31 32.7**	**-0.5**
	comp=Z,1.3nm,0.6s,mb3.3						
MUN	**Mundaring**	**60.28**	**243**	*e*P	**P**	**11 31 34.8**	**+0.6**
CASY	**Casey**	**65.98**	**205**	*e*P	**P**	**11 32 09.8**	**-0.7**
QSPA	**South Pole Qui**	**71.81**	**180**	*e*P	**P**	**11 32 44.8**	**-0.7**
	comp=Z,11nm,0.6s,mb4.6						
KSM	**Kuching**	**73.08**	**277**	*e*P	**P**	**11 32 54.2**	**+1.5**
KS15	**Wonju Array Si**	**75.20**	**318**	*e*P	**P**	**11 33 04.6**	**-0.1**
SSE	**Sheshan**	**76.23**	**310**	P	**P**	**11 33 09.3**	**-1.0**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
SSE				AMB	AMB		
	comp=Z,10.0nm,3.2s						
PACP	**Pacheco Peak**	**76.67**	**43**	⇓P	**P**	**11 33 12.5**	**-0.3**
	baz=77						
109C	**Camp Elliot, M**	**77.27**	**49**	⇓P	**P**	**11 33 16.0**	**0.0**
	baz=77						
MWC	**Mount Wilson**	**77.31**	**47**	*e*P	**P**	**11 33 16.3**	**+0.1**
GASB	**Alder Springs**	**77.31**	**41**	⇓P	**P**	**11 33 16.1**	**-0.1**
	baz=78						
S05C	**Merced**	**77.49**	**44**	⇑P	**P**	**11 33 17.0**	**-0.2**
	baz=78						
Q04C	**Lincoln**	**77.67**	**42**	⇓P	**P**	**11 33 18.2**	**0.0**
	baz=78						
T06C	**Millerton Lake**	**77.71**	**44**	⇑P	**P**	**11 33 18.1**	**-0.3**
	baz=78						
ISA	**Isabella**	**77.80**	**46**	⇑P	**P**	**11 33 18.9**	**+0.1**
	baz=78						
CMB	**Columbia Colle**	**77.85**	**43**	*e*P	**P**	**11 33 19.1**	**0.0**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
CMB	**Columbia Colle**	**77.85**	**43**	*e*P	**P**	**11 33 19.1**	**0.0**
	comp=Z,6.6nm,0.8s,mb4.1						
CMB	**Columbia Colle**	**77.85**	**43**	⇑P	**P**	**11 33 19.0**	**-0.1**
	baz=78,SNR=5.2						
WDC	**Whiskeytown Da**	**77.98**	**40**	⇓P	**P**	**11 33 19.7**	**-0.1**
	baz=78						
ORV	**Oroville**	**78.01**	**41**	⇓P	**P**	**11 33 19.7**	**-0.3**
	baz=78						
PFO	**Pinyon Flat Ob**	**78.12**	**49**	⇑P	**P**	**11 33 20.7**	**+0.1**
	baz=78						
R05C	**Kirkwood Meado**	**78.42**	**43**	⇓P	**P**	**11 33 22.3**	**+0.1**
	baz=79						
NJ2	**Nanjing**	**78.42**	**309**	*e*P	**P**	**11 33 23.0**	**+0.8**
NJ2				PCP	PcP	11 33 32.5	+3.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
NJ2				AMB	AMB		
	comp=Z,40nm,4.6s						
P05C	**Yuba Gap, Truc**	**78.43**	**42**	⇑P	**P**	**11 33 22.3**	**+0.1**
	baz=79						
CWC	**Cottonwood Cre**	**78.49**	**45**	⇑P	**P**	**11 33 22.6**	**+0.1**
	baz=79						
YBH	**Yreka Blue Hor**	**78.57**	**39**	⇓P	**P**	**11 33 23.1**	**+0.2**
	baz=79						
O05C	**Quincy**	**78.61**	**41**	⇓P	**P**	**11 33 23.2**	**0.0**
	baz=79						
M03C	**McCloud**	**78.64**	**40**	⇑P	**P**	**11 33 23.3**	**0.0**
	baz=79						
MTUM	**Tungsten Hills**	**78.66**	**44**	*e*P	**P**	**11 33 23.5**	**0.0**
O04C	**Chester**	**78.72**	**41**	⇓P	**P**	**11 33 23.9**	**+0.2**
	baz=79						
WAKR	**Walker**	**78.73**	**43**	*e*P	**P**	**11 33 24.6**	**+0.8**
R06C	**Coleville**	**78.73**	**43**	⇓P	**P**	**11 33 24.0**	**+0.2**
	baz=79						
R07C	**Lee Vining**	**78.75**	**44**	⇑P	**P**	**11 33 24.2**	**+0.3**
	baz=79						
GSC	**Goldstone**	**78.75**	**47**	⇓P	**P**	**11 33 23.8**	**-0.1**
	baz=79						
HATC	**Hat Creek Radi**	**78.78**	**40**	⇑P	**P**	**11 33 24.2**	**+0.2**
	baz=79						
HUMO	**Hull Mountain**	**78.95**	**38**	⇑P	**P**	**11 33 25.2**	**+0.2**
	baz=79						
WCN	**Washoe City**	**78.97**	**42**	⇓P	**P**	**11 33 25.3**	**+0.2**
	baz=79,SNR=8.1						
GLA	**Glamis**	**79.00**	**50**	*e*P	**P**	**11 33 25.9**	**+0.7**
GLA	**Glamis**	**79.00**	**50**	⇑P	**P**	**11 33 25.7**	**+0.5**
	baz=79,SNR=5.2						
S08C	**White Mtn Res**	**79.00**	**44**	⇓P	**P**	**11 33 25.9**	**+0.7**
	baz=79,SNR=7.5						
P06A	**Stead Airport,**	**79.09**	**42**	⇓P	**P**	**11 33 26.1**	**+0.4**
	baz=79						
M04C	**Macdoel**	**79.12**	**39**	⇓P	**P**	**11 33 26.1**	**+0.2**
	baz=79						
M05C	**Lookout**	**79.29**	**40**	⇑P	**P**	**11 33 27.0**	**+0.2**
	baz=79						
I02A	**Mapleton**	**79.30**	**37**	⇓P	**P**	**11 33 26.9**	**+0.1**
	baz=80						
L04A	**Klamath Falls**	**79.32**	**39**	⇓P	**P**	**11 33 27.0**	**+0.1**
	baz=80						
Q07A	**Schurz**	**79.38**	**43**	⇓P	**P**	**11 33 27.4**	**+0.2**
	baz=80						
O06A	**Flanigan**	**79.41**	**42**	⇓P	**P**	**11 33 27.6**	**+0.2**
	baz=80,SNR=7.0						
NVAR	**Mina Array Bea**	**79.42**	**44**	P	**P**	**11 33 27.6**	**+0.2**
	comp=Z,4.5nm,0.7s,mb3.9,baz=231,slow=11,SNR=40						
TUQ	**Turquoise Mtn.**	**79.44**	**47**	⇑P	**P**	**11 33 27.5**	**0.0**
	baz=80						
MNV	**Mina**	**79.53**	**44**	*e*P	**P**	**11 33 28.4**	**+0.4**
MNV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
MNV	**Mina**	**79.53**	**44**	*e*P	**P**	**11 33 28.4**	**+0.4**
	comp=Z,7.3nm,0.9s,mb4.0						
Y12C	**Blythe**	**79.58**	**49**	⇑P	**P**	**11 33 28.3**	**+0.1**
	baz=80						
M06C	**Likely Place G**	**79.60**	**40**	⇓P	**P**	**11 33 28.6**	**+0.2**
	baz=80,SNR=5.8						
K04A	**Chilquin**	**79.67**	**39**	⇓P	**P**	**11 33 28.8**	**0.0**
	baz=80						
S09A	**Goldfield**	**79.76**	**45**	⇑P	**P**	**11 33 29.0**	**-0.2**
	baz=80						
Q08A	**Gabbs**	**79.91**	**43**	P	**P**	**11 33 30.0**	**0.0**
	baz=80,SNR=7.8						
TPNV	**Topopah Spring**	**80.00**	**46**	*e*P	**P**	**11 33 30.7**	**+0.2**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.8						
TPNV	**Topopah Spring**	**80.00**	**46**	*e*P	**P**	**11 33 30.7**	**+0.2**
	comp=Z,3.8nm,0.9s,mb3.7						
O07A	**Toulon**	**80.01**	**42**	⇓P	**P**	**11 33 30.6**	**0.0**
	baz=80,SNR=6.3						
Y13A	**Salome**	**80.10**	**50**	P	**P**	**11 33 31.6**	**+0.6**
	baz=80,SNR=7.3						
R09A	**Tonopah**	**80.14**	**44**	⇓P	**P**	**11 33 31.1**	**-0.1**
	baz=80						
P08A	**Dixie Valley**	**80.26**	**43**	⇓P	**P**	**11 33 32.1**	**+0.2**
	baz=80						
N07B	**Gerlach**	**80.30**	**41**	⇑P	**P**	**11 33 31.9**	**-0.1**
	baz=80						
Q09A	**Carvers**	**80.38**	**44**	⇑P	**P**	**11 33 32.5**	**+0.1**
	baz=80						
SNY	**Shenyang**	**80.47**	**320**	⇑P	**P**	**11 33 38.1**	**+5.2**
SNY				AMB	AMB		
	comp=Z,20nm,7.8s						
X13A	**Yucca**	**80.49**	**49**	⇓P	**P**	**11 33 33.4**	**+0.3**
	baz=81						
M07A	**Soldier Meadow**	**80.52**	**41**	⇓P	**P**	**11 33 33.4**	**+0.2**
	baz=81,SNR=6.5						
Z14A	**Wintersburg**	**80.52**	**50**	⇑P	**P**	**11 33 33.7**	**+0.5**
	baz=81						
H04A	**Detroit Lake**	**80.65**	**37**	⇑P	**P**	**11 33 33.3**	**-0.5**
	baz=81						
K06A	**Valley Falls**	**80.67**	**39**	⇑P	**P**	**11 33 33.9**	**0.0**
	baz=81						
115A	**Sonoran Desert**	**80.73**	**51**	⇓P	**P**	**11 33 34.7**	**+0.4**
	baz=81						
Y14A	**Wickenburg**	**80.77**	**50**	⇓P	**P**	**11 33 34.7**	**+0.2**
	baz=81,SNR=5.4						
G04A	**Mulino**	**80.81**	**36**	⇓P	**P**	**11 33 34.2**	**-0.5**
	baz=81						
N08A	**GE Springer Mi**	**80.83**	**42**	⇑P	**P**	**11 33 34.8**	**0.0**
	baz=81,SNR=10						
I05A	**Bend**	**80.87**	**38**	⇑P	**P**	**11 33 35.1**	**+0.1**
	baz=81						
J06A	**Christmas Vall**	**80.99**	**39**	⇑P	**P**	**11 33 35.4**	**-0.2**
	baz=81,SNR=5.6						
E03A	**Lebam**	**81.03**	**35**	⇓P	**P**	**11 33 35.4**	**-0.4**
	baz=81						
M08A	**Happy Creek Ra**	**81.05**	**41**	⇓P	**P**	**11 33 36.1**	**+0.3**
	baz=81						
116A	**Eloy**	**81.06**	**52**	⇑P	**P**	**11 33 36.6**	**+0.6**
	baz=81						
O09A	**Fish Creek Ran**	**81.10**	**43**	⇓P	**P**	**11 33 36.2**	**0.0**
	baz=81,SNR=5.9						
X14A	**Yava**	**81.11**	**49**	⇓P	**P**	**11 33 36.7**	**+0.6**
	baz=81,SNR=6.8						
H05A	**Madras**	**81.18**	**37**	⇓P	**P**	**11 33 36.4**	**-0.1**
	baz=81						
K07A	**Rock Creek Ran**	**81.21**	**40**	⇓P	**P**	**11 33 36.9**	**+0.2**
	baz=81,SNR=7.3						
F04A	**Amboy**	**81.28**	**36**	⇑P	**P**	**11 33 36.6**	**-0.5**
	baz=81						
W14A	**Seligman**	**81.33**	**49**	⇓P	**P**	**11 33 38.0**	**+0.7**
	baz=81,SNR=7.5						
I06A	**Prineville**	**81.36**	**38**	⇑P	**P**	**11 33 37.8**	**+0.3**
	baz=82,SNR=9.0						
Q11A	**Duckwater**	**81.40**	**44**	P	**P**	**11 33 37.8**	**+0.1**
	baz=82,SNR=11						
WVOR	**Wild Horse Val**	**81.44**	**40**	*e*P	**P**	**11 33 38.0**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
WVOR	**Wild Horse Val**	**81.44**	**40**	*e*P	**P**	**11 33 38.0**	**+0.1**
	comp=Z,9.9nm,1.0s,mb4.2						
E04A	**Onalaska**	**81.52**	**35**	⇑P	**P**	**11 33 38.4**	**+0.1**
	baz=82						
X15A	**Humboldt**	**81.58**	**50**	P	**P**	**11 33 39.4**	**+0.8**
	baz=82,SNR=8.2						
M09A	**Marrel Ranch,**	**81.61**	**41**	⇑P	**P**	**11 33 39.2**	**+0.4**
	baz=82						
TUC	**Tucson**	**81.63**	**52**	*e*P	**P**	**11 33 39.9**	**+1.1**
TUC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
TUC	**Tucson**	**81.63**	**52**	*e*P	**P**	**11 33 39.9**	**+1.0**
	comp=Z,6.2nm,0.9s,mb4.1						
P11A	**Circle Ranch,**	**81.70**	**44**	⇓P	**P**	**11 33 39.2**	**0.0**
	baz=82						
F05A	**White Salmon**	**81.78**	**36**	⇓P	**P**	**11 33 39.4**	**-0.2**
	baz=82						
L09A	**Wilkinson Ranc**	**81.81**	**41**	⇓P	**P**	**11 33 39.9**	**+0.1**
	baz=82,SNR=7.2						
N10A	**Dunphy**	**81.83**	**42**	⇑P	**P**	**11 33 39.9**	**0.0**
	baz=82						
W15A	**Williams**	**81.89**	**49**	⇑P	**P**	**11 33 41.0**	**+0.8**
	baz=82						
B04A	**Port Angeles**	**82.01**	**33**	⇓P	**P**	**11 33 40.5**	**-0.3**
	baz=82						
E05A	**Randle**	**82.02**	**35**	⇓P	**P**	**11 33 40.3**	**-0.5**
	baz=82						
O11A	**Cowboy Ranch,**	**82.07**	**43**	⇓P	**P**	**11 33 41.3**	**+0.2**
	baz=82,SNR=8.5						
C04A	**Brinnon**	**82.08**	**34**	⇑P	**P**	**11 33 41.0**	**-0.1**
	baz=82						
P12A	**McGill**	**82.22**	**44**	⇑P	**P**	**11 33 41.9**	**+0.1**
	baz=82						
M10A	**I.L. Ranch, Tu**	**82.24**	**42**	⇑P	**P**	**11 33 42.4**	**+0.5**
	baz=82,SNR=7.1						
D05A	**Enumclaw**	**82.28**	**35**	⇑P	**P**	**11 33 42.2**	**0.0**
	baz=82						
CCUT	**Cedar City**	**82.29**	**46**	*e*P	**P**	**11 33 42.6**	**+0.4**
N11A	**Elko Archery C**	**82.38**	**43**	⇑P	**P**	**11 33 42.7**	**+0.1**
	baz=82						
ELK	**Elko**	**82.66**	**43**	*e*P	**P**	**11 33 44.1**	**0.0**
ELK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ELK	**Elko**	**82.66**	**43**	*e*P	**P**	**11 33 44.1**	**+0.1**
	comp=Z,6.4nm,0.9s,mb4.2						
M11A	**Holland Ranch,**	**82.67**	**42**	⇓P	**P**	**11 33 44.4**	**+0.3**
	baz=83,SNR=5.9						
C05A	**Tolt Reservoir**	**82.74**	**35**	⇑P	**P**	**11 33 44.0**	**-0.4**
	baz=83						
TTA	**Tatalina**	**82.75**	**10**	*e*P	**P**	**11 33 43.7**	**-0.8**
A04A	**Legoe Bay, Lum**	**82.83**	**33**	⇑P	**P**	**11 33 44.9**	**0.0**
	baz=83,SNR=5.3						
PMR	**Palmer**	**82.85**	**13**	*e*P	**P**	**11 33 42.7**	**-2.3**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
PMR	**Palmer**	**82.85**	**13**	*e*P	**P**	**11 33 42.7**	**-2.2**
	comp=Z,4.0nm,0.5s,mb4.2						
N12A	**Wells--Clov Va**	**82.85**	**43**	⇑P	**P**	**11 33 45.1**	**+0.1**
	baz=83,SNR=9.2						
B05A	**Bryant**	**82.87**	**34**	⇓P	**P**	**11 33 44.9**	**-0.2**
	baz=83						
M12A	**Wells**	**83.22**	**43**	P	**P**	**11 33 46.9**	**+0.1**
	baz=83,SNR=6.1						
N13A	**West Wendover**	**83.39**	**43**	⇓P	**P**	**11 33 47.7**	**0.0**
	baz=84						
MSU	**Marysvale**	**83.58**	**46**	*e*P	**P**	**11 33 48.6**	**0.0**
MAW	**Mawson**	**83.66**	**200**	*e*P	**P**	**11 33 48.3**	**-0.7**
	comp=Z,2.0nm,0.4s,mb4.0						
MAW	**Mawson**	**83.66**	**200**	P	**P**	**11 33 48.5**	**-0.5**
	comp=Z,2.8nm,0.5s,mb4.0,baz=109,slow=2.9,SNR=16						
MAW	**Mawson**	**83.66**	**200**	*e*P	**P**	**11 33 48.3**	**-0.7**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.4s						
M13A	**Montello**	**83.68**	**43**	⇑P	**P**	**11 33 49.1**	**0.0**
	baz=84,SNR=8.1						
HLID	**Hailey**	**84.66**	**41**	*e*P	**P**	**11 33 54.1**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.0						
MCK	**McKinley**	**84.79**	**13**	P	**P**	**11 33 51.9**	**-2.7**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
MCK	**McKinley**	**84.79**	**13**	P	**P**	**11 33 51.9**	**-2.6**
	comp=Z,2.8nm,0.7s,mb4.0						
SRU	**San Rafael**	**85.00**	**46**	*e*P	**P**	**11 33 55.8**	**+0.3**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
SRU	**San Rafael**	**85.00**	**46**	*e*P	**P**	**11 33 55.8**	**+0.2**
	comp=Z,3.8nm,0.6s,mb4.2						
LAZ	**Ladron**	**85.29**	**52**	*e*P	**P**	**11 33 57.3**	**+0.3**
MNTX	**Cornudas Mount**	**85.48**	**55**	*e*P	**P**	**11 33 58.2**	**+0.3**
	comp=Z,5.7nm,1.1s,mb4.1						
BNM	**Barren Site**	**85.57**	**52**	*e*P	**P**	**11 33 58.3**	**0.0**
NEW	**Newport**	**85.58**	**36**	*e*P	**P**	**11 33 57.2**	**-1.1**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NEW	**Newport**	**85.58**	**36**	*e*P	**P**	**11 33 57.2**	**-1.2**
	comp=Z,1.4nm,0.5s,mb3.9						
PV10	**Paradox Valley**	**85.69**	**47**	*e*P	**P**	**11 33 58.6**	**-0.2**
LTX	**Lajitas**	**85.88**	**57**	*e*P	**P**	**11 34 00.7**	**+1.0**
LTX				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.6						
LTX	**Lajitas**	**85.88**	**57**	*e*P	**P**	**11 34 00.7**	**+1.0**
	comp=Z,20nm,1.2s,mb4.6						
PV01	**Paradox Valley**	**85.90**	**48**	*e*P	**P**	**11 33 59.6**	**-0.2**
COLA	**College**	**86.03**	**12**	*i*P	**P**	**11 33 58.1**	**-2.3**
COLA	**College**	**86.03**	**12**	*e*P	**P**	**11 33 58.0**	**-2.5**
	comp=Z,4.9nm,0.6s,mb4.3						
ANMO	**Albuquerque**	**86.03**	**51**	⇑*i*P	**P**	**11 33 59.1**	**-1.4**
ANMO	**Albuquerque**	**86.03**	**51**	*e*P	**P**	**11 34 00.7**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ANMO	**Albuquerque**	**86.03**	**51**	*e*P	**P**	**11 34 00.7**	**+0.3**
	comp=Z,4.6nm,0.9s,mb4.1						
MCMT	**McKenzie Canyo**	**86.27**	**40**	*e*P	**P**	**11 34 01.7**	**+0.1**
BSMT	**Bassoo Peak**	**86.67**	**37**	*e*P	**P**	**11 34 03.0**	**-0.5**
DLMT	**Dillon**	**86.69**	**40**	*e*P	**P**	**11 34 03.7**	**+0.1**
	comp=Z,6.8nm,0.8s,mb4.4						
TPAW	**Teton Pass**	**86.80**	**42**	*e*P	**P**	**11 34 04.0**	**-0.1**
	comp=Z,4.5nm,0.8s,mb4.2						
REDW	**Red Top Meadow**	**86.80**	**42**	*e*P	**P**	**11 34 04.3**	**+0.2**
	comp=Z,8.1nm,1.3s,mb4.3						
BILL	**Bilibino**	**86.80**	**354**	*e*P	**P**	**11 34 02.2**	**-1.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
BILL	**Bilibino**	**86.80**	**354**	*e*P	**P**	**11 34 02.2**	**-1.9**
	comp=Z,1.5nm,0.4s,mb4.1						
IMW	**Indian Meadow**	**87.00**	**42**	*e*P	**P**	**11 34 05.3**	**+0.3**
	comp=Z,8.5nm,0.8s,mb4.5						
LRM	**Limekiln Ridge**	**87.01**	**40**	*e*P	**P**	**11 34 05.2**	**+0.1**
MOOW	**Moose Ponds**	**87.06**	**42**	*e*P	**P**	**11 34 06.8**	**+1.5**
QLMT	**Earthquake Lak**	**87.15**	**41**	*e*P	**P**	**11 34 06.4**	**+0.7**
DAWY	**Dawson**	**87.32**	**16**	*e*P	**P**	**11 34 05.7**	**-0.8**
PDAR	**Pinedale Array**	**87.36**	**43**	P	**P**	**11 34 06.2**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.2,baz=224,slow=2.2,SNR=33						
SMCO	**Snowmass**	**87.49**	**47**	*e*P	**P**	**11 34 07.3**	**0.0**
RWWY	**Rawlins**	**88.42**	**45**	*e*P	**P**	**11 34 11.6**	**0.0**
SYO	**Syowa Base**	**88.90**	**193**	⇑*e*P	**P**	**11 34 11.5**	**-2.4**
SYO	**Syowa Base**	**88.90**	**193**	⇓epP	pP	11 36 20.8	-3.0
AMTX	**Amarillo**	**89.59**	**53**	*e*P	**P**	**11 34 16.9**	**-0.2**
EDM	**Edmonton**	**90.25**	**33**	*e*P	**P**	**11 34 18.4**	**-1.7**
LAO	**LASA Array**	**91.24**	**41**	*e*P	**P**	**11 34 25.3**	**+0.6**
	comp=Z,7.3nm,0.8s,mb4.7						
RSSD	**Black Hills**	**91.56**	**44**	*e*P	**P**	**11 34 25.9**	**-0.3**
INK	**Inuvik**	**92.12**	**15**	*e*P	**P**	**11 34 26.4**	**-2.3**
INK				pmax	pmax		
	comp=Z,13nm,1.6s						
INK	**Inuvik**	**92.12**	**15**	*e*P	**P**	**11 34 26.4**	**-2.3**
	comp=Z,13nm,1.6s,mb4.7						
YKW3	**Yellowknife Ar**	**94.52**	**25**	*e*P	**P**	**11 34 38.2**	**-1.5**
TIXI	**Tiksi**	**96.57**	**345**	*e*P	**P**	**11 34 47.2**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.4						
MKAR	**Makanchi Array**	**109.62**	**314**	PKiKP	PKiKP	11 39 44.1	-1.7
	comp=Z,0.6nm,0.4s,baz=232,slow=1.4,SNR=4.7						
CHKZ	**Chkalovo**	**117.13**	**321**	*e*PKIKP	PKPdf	11 39 58.0	-2.2
SUMG	**Summit**	**120.98**	**13**	*e*PKPdf	PKPdf	11 40 06.6	-1.0
ARU	**Arti**	**123.33**	**326**	*i* PKIKP	PKPdf	11 40 09.8	-2.3
ARCES	**ARCESS Array B**	**126.71**	**350**	PKP	PKPdf	11 40 16.6	-1.9
	comp=Z,2.2nm,0.4s,baz=12,slow=1.5,SNR=37						
ARCES		

MOA	Molln	148.81	344⇑	iP	PKPbc	11 41 00.7	-2.5
	comp=Z,3.9nm,0.8s						
PKSM	Moragy	148.88	337⇑	iP	PKPbc	11 41 02.4	-1.0
PKSM	Moragy	148.88	337⇑	P	PKPbc	11 41 02.4	-1.0
STU	Stuttgart	148.99	351	ePKPbc	PKPbc	11 41 03.2	-0.4
KDZ	Kurdzhali	149.25	324	ePKHKP	PKPbc	11 41 03.0	-1.3
FLN	La Foliniere	149.50	3	ePKP1	PKPbc	11 41 03.5	-1.3
	comp=Z,11nm,0.5s						
BFO	Black Forest	149.55	352	ePKPbc	PKPbc	11 41 04.2	-0.8
CDF	Champ du Feu	149.60	353	ePKP1	PKPbc	11 41 04.1	-1.0
	comp=Z,20nm,0.9s						
LDF	La Druitiere	149.69	3	ePKP1	PKPbc	11 41 03.8	-1.5
	comp=Z,9.8nm,0.5s						
ROSF	Rostrenen	149.69	7	ePKP1	PKPbc	11 41 03.7	-1.6
MEZF	Maizieres J'vi	149.72	356	ePKP1	PKPbc	11 41 04.6	-0.8
	comp=Z,18nm,0.9s						
KBA	Koelnbreinsper	149.76	344⇑	iP	PKPbc	11 41 04.3	-1.2
	comp=Z,10nm,0.8s						
VTS	Vitosha	149.76	328	ePKHKP	PKPbc	11 41 05.0	-0.5
SGMF	Saint Gilles	149.85	6	ePKP1	PKPbc	11 41 04.1	-1.6
	comp=Z,37nm,1.0s						
GRR	Gorron	149.85	4	ePKP1	PKPbc	11 41 04.4	-1.3
	comp=Z,23nm,0.6s						
WATA	Walderalm	149.94	347⇑	iP	PKPbc	11 41 04.2	-1.6
	comp=Z,6.0nm,0.5s						
GRUS	Gruza	149.96	332	i PKP	PKPbc	11 41 05.1	-0.8
WTTA	Wattenberg	149.99	347⇑	iP	PKPbc	11 41 05.4	-0.6
	comp=Z,16nm,0.6s						
MOTA	Moosalm	150.03	348⇑	iP	PKPbc	11 41 04.3	-1.8
	comp=Z,5.9nm,0.7s						
DIVS	Divcibare	150.10	333	i PKP	PKPbc	11 41 05.9	-0.4
HAU	Haudompre	150.11	354	ePKP1	PKPbc	11 41 06.1	-0.2
	comp=Z,13nm,0.6s						
QUIF	Quistinic	150.12	7	ePKP1	PKPbc	11 41 04.9	-1.4
	comp=Z,12nm,0.8s						
SQTA	Sankt Quirin	150.12	347⇓	iP	PKPbc	11 41 04.7	-1.6
	comp=Z,9.0nm,0.7s						
MMB	Musomiste	150.21	326	ePKIKP	PKPbc	11 41 05.0	-1.5
DAVA	Damuels	150.32	349⇑	iP	PKPbc	11 41 06.5	-0.2
	comp=Z,15nm,1.1s						
BBLS	Bajina Basta -	150.53	334	i PKP	PKPbc	11 41 07.5	+0.3
VAY	Valandovo	151.01	327	ePKP	PKPdf	11 41 04.8	+2.9
LOR	Lormes	151.02	357	ePKP1	PKPbc	11 41 07.4	-0.9
	comp=Z,13nm,0.6s						
SSF	Saint Saulge	151.24	358	ePKP1	PKPbc	11 41 07.9	-0.9
	comp=Z,12nm,0.7s						
CABF	La Chapelle	151.51	354	ePKP1	PKPbc	11 41 09.0	-0.5
	comp=Z,11nm,0.8s						
AVF	Avril sur Loir	151.51	358	ePKP1	PKPbc	11 41 08.1	-1.4
	comp=Z,5.7nm,0.9s						
MFF	Saint Martin d	151.67	3	ePKP1	PKPbc	11 41 08.5	-1.3
	comp=Z,11nm,0.5s						
BGF	Bois d'Agland	151.76	359	ePKP1	PKPbc	11 41 09.0	-1.0
	comp=Z,11nm,0.7s						
BIA	Bitola	151.87	328	ePKP	PKPdf	11 41 05.4	+2.2
TCF	Toulx Ste Croi	152.04	360	ePKP1	PKPbc	11 41 09.5	-1.1
	comp=Z,10nm,0.8s						
OHR	Ohrid	152.07	329	ePKP	PKPdf	11 41 06.3	+2.9
LPL	La Plagne	152.52	353	ePKP1	PKPbc	11 41 11.4	-0.3
LPG	La Plagne	152.54	353	ePKP1	PKPbc	11 41 11.6	-0.1
BNI	Bardonecchia	152.99	353	ePKPbc	PKPbc	11 41 12.8	+0.1
RJF	Les Rejaudoux	153.02	1	ePKP1	PKPbc	11 41 11.7	-1.1
ORIF	Oris-en-Rattie	153.21	354	ePKP1	PKPbc	11 41 12.6	-0.6
MBDF	Montbardon	153.29	352	ePKP1	PKPbc	11 41 13.2	-0.1
	comp=Z,9.7nm,0.7s						
LFF	La Frestale	153.37	2	ePKP1	PKPbc	11 41 12.3	-1.2
CAF	Calviac	153.40	360	ePKP1	PKPbc	11 41 12.6	-1.0
LASF	Ste Croix	154.20	357	ePKP1	PKPbc	11 41 14.5	-0.8
	comp=Z,23nm,1.2s						
TIP	Timpagrande	155.50	331	ePKPdf	PKPdf	11 41 07.3	-0.9
ESDC	Sonseca Array	158.04	12	PKPab	PKPab	11 41 48.4	-0.7
	comp=Z,0.3nm,0.5s,baz=359,slow=4.4,SNR=4.6						
LIC	Lamto	166.24	149	ePKIKP	PKPdf	11 41 18.2	-1.3
	comp=Z,58nm,1.6s						
TORD	Torodi Ar. Bea	174.92	177	PKP	PKPdf	11 41 22.6	-1.5
	comp=Z,1.9nm,1.0s,baz=52,slow=0.3,SNR=6.5						
TORD				PKPab	PKPab	11 43 02.5	-1.1
	comp=Z,0.7nm,0.7s,baz=166,slow=4.2,SNR=4.7						
TORD	Torodi Ar. Bea	174.92	177	PKP	PKPdf	11 41 22.6	-1.5
TORD				PKPab	PKPab	11 43 02.5	-1.2

*INMG **18** 11:28:02.8±0.9, 4219N×700W, h0km, ML0.9, Error ellipse: s-maj=2.8km s-min=1.8km az=64.0*

MDD 18 11:28:03.2±0.6, 4216N×702W, h0km, mbLg1.3/4, Error ellipse: s-maj=6.2km s-min=3.2km az=20.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECAL	Calabor	0.30	136	Pg	Pg	11 28 08.8	-0.2
	5.0nm,0.4s,SNR=21						
ECAL				Lg		11 28 13.0	
	12nm,0.1s,SNR=7.9						
PBRG	Braganca	0.41	150	ePg	Pg	11 28 10.7	-0.4
PBRG				eSg	Sg	11 28 15.9	-0.5
PBRG							
	3.8nm,0.1s						
ELOB	Lobios	0.83	250	Pg	Pg	11 28 18.9	-0.2
	5.2nm,0.9s,SNR=7.6						
ELOB				Lg		11 28 29.6	
	0.3nm,0.2s,SNR=5.0						
PCAB	Cabril	0.88	239	eP	Pg	11 28 19.1	-0.9
PCAB				eS	Sg	11 28 31.7	+0.3
PCAB							
	4.0nm,0.1s						
EPON	Pontenova	1.17	355	Lg		11 28 39.1	
	0.4nm,0.3s,SNR=7.9						
PVIS	Viseu	1.59	205	eS	Sn	11 28 52.6	-1.1
EMAZ	Mazaricos	1.65	299	Lg		11 28 54.9	
	0.6nm,0.1s,SNR=7.9						

*IDC **18** 12:04:00.5±1.3, 2928S×17791W, h0km, mb4.6/4, mb1 4.7/4, mb1mx4.2/12, mbtmp4.6/4, MS3.8/7, Ms1 3.8/7, ms1mx3.6/17, Error ellipse: s-maj=31.8km s-min=8.7km az=94.0*

NEIC 18 12:04:01.9±1.7, 2954S×17779W, h15km, Error ellipse: s-maj=35.4km s-min=19.1km az=96.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.31	338	Pn	Pg	12 04 08.3	+0.1
	4μm,0.3s,baz=101,slow=4.1,SNR=141						
RAO				Sn	Sg	12 04 13.4	+0.8
	10μm,0.3s,baz=60,slow=23,SNR=52						
RAO	Raoul Island	0.31	338	ePg	Pg	12 04 08.2	-0.1
RAO				Pn	Pg	12 04 08.3	+0.1
RAO				Sn	Sg	12 04 13.4	+0.8
URZ	Urewera	9.68	205	LR	LR	12 09 26.2	
	comp=Z,201nm,19.1s,baz=58,slow=33						
DZM	Mont Dzumac	16.02	294	LR	LR	12 12 26.1	
	comp=Z,645nm,21.0s,baz=204,slow=32						
RAR	Rarotonga	18.25	67	LR	LR	12 13 52.7	
	comp=Z,282nm,18.8s,baz=225,slow=32						
TBI	Tubuai	26.06	83	eLR	LR	12 16 25.1	
	221nm,25.8s						
PPT	Papeete	28.39	72	eLR	LR	12 17 22.2	
	182nm,25.5s						
PPT	Papeete	28.39	72	LR	LR	12 19 27.3	
	comp=Z,138nm,18.8s,baz=230,slow=33						
HNR	Honiara	28.89	309	LR	LR	12 18 54.5	
	comp=Z,156nm,18.4s,baz=178,slow=31						
CTA	Charters Tower	33.85	278	P	P	12 10 45.2	+1.5
	7.2nm,1.1s,baz=114,slow=6.6,SNR=3.2						
CTA				LR	LR	12 22 25.8	
	comp=Z,200nm,19.4s,baz=114,slow=33						
STKA	Stephens Creek	34.86	256	P	P	12 10 52.4	0.0
	4.2nm,0.8s,baz=93,slow=7.6,SNR=6.3						
STKA				LR	LR	12 23 45.6	
	comp=Z,152nm,19.2s,baz=164,slow=34						
STKA	Stephens Creek	34.86	256	eP	P	12 10 52.3	-0.1
STKA				LR	LR	12 23 45.6	
RKT	Rikitea	38.74	91	eLR	LR	12 22 12.0	
	366nm,36.0s						
AS31	Alice Springs	43.34	266	eP	P	12 12 04.1	+0.8
ASAR	Alice Springs	43.34	266	P	P	12 12 03.4	+0.1
	5.3nm,1.0s,baz=111,slow=7.6,SNR=24						
ASPA	Alice Springs	43.35	266	eP	P	12 12 04.1	+0.7
WB2	Warramunga Arr	44.24	271	eP	P	12 12 09.9	-0.7
WRA	Warramunga Arr	44.26	271	P	P	12 12 10.7	0.0
	9.4nm,1.0s,baz=109,slow=8.0,SNR=21						
FINES	FINESS Array B	144.40	340	PKP	PKPdf	12 23 35.1	-2.3
	1.0nm,0.6s,baz=18,slow=0.6,SNR=8.1						
BRTR	Keskin Array B	152.34	300	PKPbc	PKPbc	12 23 59.6	+2.5
	0.5nm,0.5s,baz=134,slow=7.0,SNR=3.9						

*NEIC **18** 12:06:27.5, 4447S×16744E, h12km, ML4.7(WEL), After WEL.*
NEIC Felt at Te Anau.

WEL 18 12:06:27.5±0.3, 4447S×16745E, h12km, ML4.6/25, Error ellipse: s-maj=2.6km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	Milford Sound	0.40	120	P*	Pg	12 06 36.3	+0.9
MSZ				S*	Sg	12 06 40.9	+0.1
MSZ	Milford Sound	0.40	120	P	Pg	12 06 36.3	+0.9
MSZ				S	Sg	12 06 40.9	+0.2
MLZ	Mavora Lakes	1.01	150	P*	Pb	12 06 46.1	-0.9
MLZ				S*	Sb	12 06 58.9	-1.4
MLZ	Mavora Lakes	1.01	150	P	Pb	12 06 46.1	-0.9
MLZ				S	Sg	12 06 58.9	-1.4
JCZ	Jackson Bay	1.02	68	P*	Pb	12 06 46.4	-0.7
JCZ				S*	Sb	12 06 58.5	-2.0
JCZ	Jackson Bay	1.02	68	P	Pb	12 06 46.4	-0.8
JCZ				S	Sb	12 06 58.5	-2.1
DCZ	Deep Cove	1.02	192	P*	Pb	12 06 45.9	-1.3
DCZ				S*	Sb	12 06 58.2	-2.4
DCZ	Deep Cove	1.02	192	P	Pb	12 06 45.9	-1.3
DCZ				S	Sb	12 06 58.2	-2.4
WKZ	Wanaka	1.18	108	P*	Pb	12 06 48.9	-0.8
WKZ	Wanaka	1.18	108	P	Pb	12 06 48.9	-0.9
WHZ	Wether Hill Ro	1.46	166	PN	Pn	12 06 53.0	-0.7
WHZ	Wether Hill Ro	1.46	166	P	Pn	12 06 53.0	-0.7
EAZ	Earnscleugh	1.53	120	PN	Pn	12 06 54.1	-0.4
EAZ	Earnscleugh	1.53	120	P	Pn	12 06 54.1	-0.5
FOZ	Fox Glacier	1.86	61	PN	Pn	12 06 58.0	-1.2
LBZ	Lake Benmore	1.96	88	PN	Pn	12 06 59.2	-1.4
TUZ	Tuapeka	2.14	135	PN	Pn	12 07 01.9	-1.1
ODZ	Otahua Downs	2.35	105	PN	Pn	12 07 04.4	-1.5
SYZ	Scrubby Hill	2.38	151	PN	Pn	12 07 05.6	-0.7
APZ	The Paps	2.39	171	PN	Pn	12 07 05.6	-0.9
HHSZ	Highcliff Hill	2.64	123	PN	Pn	12 07 08.9	-1.0
WVZ	Waitaha Valley	2.76	61	PN	Pn	12 07 08.7	-2.8
SNZO	South Karori	6.20	62	ePn	Pn	12 08 00.2	+1.4
SNZO				eS	Sn	12 09 01.1	-8.5

IDC 18 12:06:42.5±1.8, 2926S×17796W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/11, mbtmp3.7/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/19, Error ellipse: s-maj=235.6km s-min=8.7km az=171.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.03	79	Pn	Pg	12 06 50.8	+7.7
	880nm,0.3s,baz=76,slow=21,SNR=6.7						
RAO				Sn	Sg	12 06 55.4	+12
	2μm,0.3s,baz=77,slow=22,SNR=7.8						
ASAR	Alice Springs	43.22	266	P	P	12 14 45.5	+0.2
	0.8nm,0.8s,baz=107,slow=7.8,SNR=5.5						
WRA	Warramunga Arr	44.11	271	P	P	12 14 52.6	+0.1
	0.7nm,0.6s,baz=110,slow=8.0,SNR=7.1						
RPN	Rapa Nui	59.71	106	LR	LR	12 34 54.2	
	comp=Z,78nm,21.4s,baz=20,slow=28						
ARCES	ARCESS Array B	137.49	348	PKP	PKPdf	12 26 09.7	+1.5
	1.0nm,0.7s,baz=57,slow=3.3,SNR=9.0						
FINES	FINESS Array B	144.09	341	PKP	PKPdf	12 26 17.5	-2.6
	0.7nm,0.6s,baz=35,slow=4.7,SNR=4.1						

*NEIC **18** 12:10:29.8, 27.17S×71.18W, h24km, ML3.2(GUC), After GUC.*

GUC 18 12:10:29.8±1.0, 2717S×7118W, h24km±16km, MD3.5, ML3.2, 5C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	Caldera	0.32	73	iP	Pb	12 10 37.1	+0.1
CDCH				i S	Sb	12 10 42.3	+0.3
CPCH	Copiapo	0.76	105	iP	Pb	12 10 43.0	-1.3
CPCH				i S	Sb	12 10 54.7	+0.5
CPCH				AML	AML	12 10 56.7	
	comp=E,4μm,0.1s						
CPCH	Copiapo	0.76	105	iP	Pb	12 10 43.0	-1.3
CPCH				i S	Sb	12 10 54.7	+0.5
CRCH	Chaqaral	0.96	31	iP	Pb	12 10 47.0	-0.7
CRCH				i S	Sb	12 10 59.6	-0.3
CRCH				AML	AML	12 11 02.5	
	comp=N,587nm,0.2s						
CRCH	Chaqaral	0.96	31	iP	Pb	12 10 47.0	-0.7
CRCH				i S	Sb	12 10 59.6	-0.3
LCO	Las Campanas	1.88	167	iP	Pn	12 11 02.4	+1.9
LCO				i S	Sn	12 11 26.6	+3.2

*IDC **18** 12:29:01.4±1.0, 2331S×17586W, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.1/12, mbtmp4.1/6, MS3.8/5, Ms1 3.8/5, ms1mx3.3/17, Error ellipse: s-maj=35.7km s-min=26.0km az=99.0*
*ISCJB **18** 12:29:12.8±0.8, 235S±01×176.1W±02, h100km, mb4.5/17, Error ellipse: s-maj=20.8km s-min=15.7km az=152.4*
*BJI **18** 12:29:18.0, 2354S×17583W, h149km, mB4.9, mb4.8*
*NEIC **18** 12:29:20.8±0.6, 2359S×17625W, h150km, mb4.5/11, Error ellipse: s-maj=16.6km s-min=15.6km az=117.0*
*MOS **18** 12:29:23.7±0.6, 2445S×17695W, h131km, mb4.6/5, Error ellipse: s-maj=26.4km s-min=20.9km az=164.3*

ISC 18 12:29:14.0±0.9, 235S±01×1760W±02, h100km, n65, σ1°23/34, mb4.5/17, 5D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	10.29	23	Pn	Pn	12 31 22.5	-16
	2.4nm,0.3s,baz=66,slow=19,SNR=4.8						
AFI				Sn	Sn	12 33 11.3	-21
	3.3nm,0.3s,baz=7.4,slow=20,SNR=3.2						
RAR	Rarotonga	15.14	85	LR	LR	12 37 12.5	
	comp=Z,302nm,20.6s,baz=43,slow=33						
URZ	Urewera	15.89	200	LR	LR	12 37 32.2	
	comp=Z,284nm,18.5s,baz=22,slow=32						
DZM	Mont Dzumac	16.29	271	LR	LR	12 36 49.9	
	comp=Z,234nm,19.9s,baz=26,slow=29						
PPT	Papeete	25.38	82	LR	LR	12 43 01.3	
	comp=Z,183nm,18.8s,baz=259,slow=33						
CTA	Charters Tower	35.19	268	eP	P	12 35 59.7	+1.4
	7.3nm,0.7s,mb4.6						
CTA	Charters Tower	35.19	268	eP	P	12 35 59.7	+1.4
CTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTAO	Charters Tower	35.19	268	eP	P	12 35 59.3	+1.0
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
CTAO	Charters Tower	35.19	268	eP	P	12 35 59.2	+1.0
	comp=Z,5.4nm,0.5s,mb4.6						
STKA	Stephens Creek	38.32	248	eP	P	12 36 23.8	-1.1
	comp=Z,1.9nm,0.6s,mb4.1						
STKA	Stephens Creek	38.32	248	P	P	12 36 24.4	-0.5
	comp=Z,1.0nm,0.6s,mb3.9,baz=138,slow=9.6,SNR=3.9						
STKA				LR	LR	12 51 37.0	
	comp=Z,278nm,19.1s,baz=122,slow=35						
AS31	Alice Springs	45.76	259	iP	P	12 37 25.9	+0.6
ASAR	Alice Springs	45.76	259	P	P	12 37 25.8	+0.5
	comp=Z,3.6nm,0.8s,mb4.1,baz=92,slow=8.2,SNR=35						
ASAR				PcP	PcP	12 39 03.1	+1.7
	comp=Z,1.0nm,0.7s,baz=117,slow=4.6,SNR=4.1						
ASPA	Alice Springs	45.76	259	iP	P	12 37 25.9	+0.6
WB2	Warramunga Arr	46.12	264	eP	P	12 37 27.0	-1.2
WRA	Warramunga Arr	46.13	264	P	P	12 37 28.2	-0.1
	comp=Z,4.3nm,0.8s,mb4.2,baz=92,slow=8.5,SNR=61						
FORT	Forrest	49.93	249	eP	P	12 37 56.8	-0.7
	comp=Z,6.4nm,0.7s,mb4.7						
KAKA	Kakadu	49.97	273	eP	P	12 37 57.7	-0.1
	comp=Z,51nm,1.8s,mb5.2						
FITZ	Fitzroy Crossi	54.56	264	eP	P	12 38 31.2	-0.5
	comp=Z,5.8nm,0.9s,mb4.6						
SBA	Scott Base	55.06	184	eP	P	12 38 36.0	+0.6
SBA				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.9						
SBA	Scott Base	55.06	184	eP	P	12 38 36.0	+0.7
	comp=Z,20nm,1.5s,mb4.9						
VNDA	Vanda	55.15	186	P	P	12 38 36.6	+0.6
	comp=Z,0.7nm,0.8s,mb3.7,baz=5.6,slow=6.2,SNR=2.8						
VNDA	Vanda	55.15	186	P	P	12 38 36.4	+0.4
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VNDA	Vanda	55.15	186	P	P	12 38 36.4	+0.4
	comp=Z,3.4nm,1.0s,mb4.3						
QSPA	South Pole Qui	66.62	180	eP	P	12 39 52.2	-1.5
	comp=Z,4.6nm,1.0s,mb4.3						
MJAR	Matsushiro Arr	73.70	323	P	P	12 40 36.7	-0.2
	comp=Z,1.5nm,0.9s,mb3.7,baz=153,slow=5.3,SNR=5.8						
MJAR	Matsushiro Arr	73.70	323	P	P	12 40 36.7	-0.2
YSS	Yuzh-Sakhalins	79.38	333	eP	P	12 41 09.9	+1.0
YSS				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
YSS	Yuzh-Sakhalins	79.38	333	eP	P	12 41 09.9	+1.0
	comp=Z,15nm,0.8s,mb4.9						
MAW	Mawson	79.42	199	P	P	12 41 10.0	+0.8
	comp=Z,1.6nm,0.8s,mb3.9,baz=135,slow=11,SNR=2.6						
MDJ	Mudanjiang	84.02	324	P	P	12 41 34.8	+1.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,50nm,5.6s						
MDJ				LR	LR		
	comp=N,20nm,27.0s						
MDJ				LR	LR		
	comp=E,20nm,21.9s						
MDJ				LR	LR		
	comp=Z,30nm,21.1s						
MDJ	Mudanjiang	84.02	324	eP	P	12 41 35.2	+2.0
	comp=Z,6.5nm,0.9s,mb4.5						
CN2	Changchun	85.79	322	eP	P	12 41 43.1	+1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
KLR	Kul'dur	86.03	329	eP	P	12 41 41.2	-2.1
XAN	Xi'an	91.42	307	P	P	12 42 10.6	+1.8
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
HHC	Hu-ho-hao-te	92.76	314	eP	P	12 42 17.4	+2.4
HHC				PP	PP	12 46 05.8	+7.6
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.3						
HHC				AMB	AMB		
	comp=Z,70nm,3.7s						
CD2	Chengdu	93.97	302	eP	P	12 42 18.6	-1.9
WMQ	Urumqi	110.28	310	ePKP	PKiKP	12 47 33.5	-0.7
ARCES	ARCESS Array B	132.16	350	PKP	PKPdf	12 48 18.7	+2.7
	comp=Z,1.7nm,0.7s,baz=343,slow=2.5,SNR=4.6						
FINES	FINESS Array B	139.13	344	PKP	PKPdf	12 48 30.2	+1.2
	comp=Z,0.5nm,0.6s,baz=86,slow=7.8,SNR=3.7						
FINES	FINESS Array B	139.13	344	PKP	PKPdf	12 48 30.2	+1.2
AKASG	Malin Array Be	146.51	331	PKPbc	PKPbc	12 48 43.0	-0.6
	comp=Z,1.3nm,0.5s,baz=38,slow=4.1,SNR=5.7						
AKASG	Malin Array Be	146.51	331	PKPbc	PKPbc	12 48 43.0	-0.6
MALT	Malatya	147.20	305	ePKHKP		12 48 47.6	
BRTR	Keskin Array B	150.21	310	PKPbc	PKPbc	12 48 54.0	+0.7
	comp=Z,1.2nm,0.7s,baz=116,slow=2.9,SNR=8.1						
BRTR				PKPab	PKPab	12 49 02.2	+2.6
	comp=Z,1.5nm,0.8s,baz=84,slow=3.8,SNR=6.1						
STHS	Stebnicka Huta	150.77	337	ePKP	PKPbc	12 48 55.5	+0.9
STHS				e		12 49 05.1	
STHS	Stebnicka Huta	150.77	337	eP	PKPbc	12 48 55.5	+0.9
STHS				e		12 49 05.2	
KOLS	Kolonicke sedl	150.78	335	ePKP	PKPab	12 49 01.9	-0.1
KOLS				e		12 49 21.9	
MMAI	Mount Meron Ar	150.87	296	PKPbc	PKPbc	12 48 56.5	+1.7
	comp=Z,0.7nm,0.3s,baz=39,slow=3.2,SNR=4.1						
MMAI				PKPab	PKPab	12 49 04.4	+2.0
	comp=Z,6.4nm,0.8s,baz=91,slow=6.0,SNR=7.2						
KSP	Ksiaz	151.06	344	eP	PKPbc	12 48 55.6	+0.4
KSP				e		12 49 07.8	
CLL	Collm	151.35	348⇓	iPKPbc	PKPbc	12 48 55.9	0.0
	comp=Z,8.0nm,0.9s						
CLL				i (PKiKP)		12 49 03.2	
CLL				i PKPab	PKPab	12 49 07.9	+3.5
	comp=Z,11nm,0.8s						
CLL	Collm	151.35	348⇓	iPKIKP	PKPbc	12 48 55.9	0.0
CLL				i		12 48 59.3	
CLL	Collm	151.35	348⇓	iP	PKPbc	12 48 55.9	0.0
CLL				i		12 48 59.3	
CLL				i		12 49 03.2	
CLL				i		12 49 07.9	
UPC	Upice	151.44	344	ePKPbc	PKPbc	12 48 56.6	+0.5
UPC				ePKPab	PKPab	12 49 04.9	+0.2
OKC	Ostrava-Krasne	151.45	341	ePKPbc	PKPbc	12 48 57.0	+0.9
DPC	Dobruska-Polom	151.50	343	ePKPbc	PKPbc	12 48 56.4	+0.2
DPC				ePKPab	PKPab	12 49 08.8	+3.8
BRG	Berggiesshubel	151.58	347	i PKP	PKPbc	12 48 56.7	+0.3
	comp=Z,3.8nm,0.7s						
BRG				i		12 49 08.8	
	comp=Z,6.4nm,0.7s						
MORC	Moravsky Berou	151.68	341	ePKIKP	PKPbc	12 48 57.0	+0.3
PVCC	Panska Ves	151.76	346	ePKPbc	PKPbc	12 48 57.5	+0.7
PVCC				ePKPab	PKPab	12 49 09.3	+3.2
NKC	Novy Kostel	152.48	348	ePKPbc	PKPbc	12 48 57.1	-1.4
SMOL	Smolenice	152.84	340	ePKP	PKPdf	12 48 52.6	+0.6
GRA1	Grafenberg Arr	153.22	350	ePKP	PKPab	12 49 11.3	-0.9
KHC	Kasperske Hory	153.30	346	ePKPab	PKPab	12 49 10.2	-2.4
KHC				ex	x	12 49 24.5	
GERES	GERESS Array B	153.54	346	PKPbc	PKPbc	12 49 00.1	-0.6
	comp=Z,0.6nm,0.9s,baz=354,slow=2.7,SNR=4.6						
GERES				PKPab	PKPab	12 49 12.4	-1.1
	comp=Z,0.9nm,0.7s,baz=11,slow=1.4,SNR=7.3						
TORD	Torodi Ar. Bea	169.50	167	PKP	PKPdf	12 49 18.3	+8.8
	comp=Z,0.7nm,0.8s,baz=316,slow=1.8,SNR=4.1						
TORD				PKPab	PKPab	12 50 33.5	+10

1.9nm,0.2s,SNR=9.5
ELIZ Lg 12 59 06.7
0.8nm,0.1s,SNR=7.9
EALK Alkurruntz 0.49 319 Pg Pg 12 59 00.3 -1.0
2.3nm,0.6s,SNR=6.7
EALK Lg 12 59 07.6
2.5nm,0.1s,SNR=8.4
EPF Esparros 1.05 79 *e*Pg Pg 12 59 06.7 -5.2
EPF *e*Sg Sg 12 59 18.2 -7.4
0.4nm,0.2s
EPF Esparros 1.05 79 Pg Pg 12 59 06.7 -5.2
EPF Lg 12 59 18.2
0.2nm,0.2s
ESAC San Caprasio 1.21 158 Pg Pg 12 59 10.0 -4.9
SNR=7.9
ESAC Lg 12 59 30.0
4.4nm,0.4s,SNR=7.9
EMIR Miracle 2.14 115 Pn Pn 12 59 24.4 -2.4
SNR=7.9

*ISK **18** 13:04:08.1,3825N×2676E,h24km,MD3.3*
*ISCJB **18** 13:04:09.1±0.5,3829N±003×2674E±004,h22km±4km, Error ellipse: s-maj=6.2km s-min=4.4km az=115.6*
*CSEM **18** 13:04:09.5±0.1,3829N×2688E,h30km,MD3.3, Error ellipse: s-maj=3.9km s-min=2.2km az=60.0*
*NEIC **18** 13:04:10.1,3836N×2650E,h22km,MD3.3(ISK), MD3.4(ATH), After ATH.*
*ATH **18** 13:04:10.1,3836N×2650E,h22km±2km,MD3.4/5*
ISC 18 13:04:09.1±0.5,3828N±003×2673E±004,h19km±3km,n30, σ1§24/41,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.14**	**308**	*i* P	**Pg**	**13 04 13.5**	**+0.2**
URLA				*i* S	**Sg**	**13 04 15.7**	**-0.3**
BLCB	**Balcova**	**0.27**	**66**	*i* PG	**Pg**	**13 04 14.8**	**-0.3**
BLCB				*i* SG	**Sg**	**13 04 18.8**	**-0.4**
IZM	**Izmir**	**0.43**	**74**	*i* PG	**Pg**	**13 04 18.4**	**+0.4**
IZM				*i* SG	**Sg**	**13 04 24.5**	**+0.5**
KDAG	**Bornova**	**0.44**	**73**	*i* P	**Pg**	**13 04 18.5**	**+0.4**
KDAG				*i* S	**Sg**	**13 04 25.0**	**+0.8**
SMG	**Samos**	**0.57**	**172**	*e*PN	**Pn**	**13 04 23.6**	**+1.3**
SMG				*e*SN	**Sg**	**13 04 34.1**	**+5.9**
AYVA	**Ayvalik**	**1.03**	**358**	*i* P	**Pb**	**13 04 27.8**	**-0.6**
AYVA				*i* S	**Sb**	**13 04 41.4**	**-0.1**
PRK	**Paraskevi**	**1.03**	**340**	*e*PN	**Pn**	**13 04 27.5**	**-1.1**
PRK				*e*SN	**Sn**	**13 04 40.3**	**-2.3**
AKS	**Akhisar**	**1.04**	**54**	PG	**Pg**	**13 04 28.1**	**-1.2**
AYDN	**Tasoluk**	**1.10**	**124**	*i* P	**Pn**	**13 04 32.0**	**+2.5**
AYDN				*i* S	**Sb**	**13 04 48.0**	**+4.6**
MLSB	**Milas**	**1.28**	**139**	*e*PN	**Pn**	**13 04 30.4**	**-1.6**
BODT	**Bodrum**	**1.30**	**159**	*e*PN	**Pn**	**13 04 30.5**	**-1.7**
BDRM	**Kayabasi**	**1.33**	**155**	*i* P	**Pn**	**13 04 37.8**	**+5.0**
BDRM				*i* S	**Sn**	**13 04 56.5**	**+6.5**
MANT	**Manisa**	**1.45**	**81**	*i* P	**Pn**	**13 04 38.1**	**+3.7**
MANT				*i* S	**Sn**	**13 04 56.4**	**+3.5**
APE	**Apeiranthos**	**1.54**	**219**	*e*PN	**Pn**	**13 04 38.0**	**+2.5**
EZN	**Ezine**	**1.58**	**349**	*e*PN	**Pn**	**13 04 35.5**	**-0.6**
BALB	**Balikesir**	**1.63**	**33**	*e*PN	**Pn**	**13 04 36.5**	**-0.3**
BOZC	**Bozcaada**	**1.65**	**342**	*i* P	**Pn**	**13 04 39.2**	**+2.1**
BOZC				*i* S	**Sn**	**13 04 59.6**	**+1.8**
YER	**Yerkesik**	**1.68**	**132**	*e*PN	**Pn**	**13 04 36.7**	**-0.8**
DAT	**Datca**	**1.69**	**156**	*e*PN	**Pn**	**13 04 35.8**	**-1.8**
CANB	**Canakkale**	**1.76**	**8**	*e*PN	**Pn**	**13 04 37.8**	**-0.8**
DENT	**Denizli**	**1.89**	**105**	*e*PN	**Pn**	**13 04 39.5**	**-0.9**
LIA	**Limnos Island**	**2.02**	**324**	*e*PN	**Pn**	**13 04 42.7**	**+0.5**
DALT	**Dalyan (Mudla)**	**2.13**	**134**	*e*PN	**Pn**	**13 04 42.8**	**-1.0**
EDC	**Edincik**	**2.25**	**23**	*e*PN	**Pn**	**13 04 45.3**	**0.0**
BNT	**Bandirma**	**2.27**	**24**	*e*PN	**Pn**	**13 04 45.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.43**	**8**	*e*PN	**Pn**	**13 04 48.0**	**+0.1**
FETY	**Fethiye**	**2.49**	**130**	*e*PN	**Pn**	**13 04 47.9**	**-0.7**
MFT	**Murefte**	**2.54**	**9**	*e*PN	**Pn**	**13 04 48.4**	**-1.0**
RDO	**Rodhopi**	**3.01**	**343**	*e*PN	**Pn**	**13 04 57.5**	**+1.7**
YLV	**Yalova**	**3.07**	**41**	*e*PN	**Pn**	**13 04 57.1**	**+0.5**

*NIED **18** 13:12:00,4360N×14720E,h14km,Mw3.6 Best double couple: M0:2.83000×10^14 NP1:φ0=271.00000°,δ80.00000°, λ-113.00000°. NP2:φ0=159.00000°,δ25.00000°, λ-24.00000°.*
JMA 18 13:12:45.3±0.2,4362N×14720E,h29km±4km,M4.1,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.09**	**257**	P	Pn	13 13 04.9	+0.3
NEM2				*e*S	Sn	13 13 19.0	+0.3
JRA	**Rausu**	**1.54**	**283**	P	Pn	13 13 11.5	+0.7
JNK	**Nakash**	**1.80**	**270**	P	Pn	13 13 15.3	+0.9
JNK				*e*S	Sn	13 13 37.5	+1.2
JAK	**Akkeshi**	**1.93**	**252**	P	Pn	13 13 16.9	+0.7
JAK				*e*S	Sn	13 13 40.9	+1.4
JTKR	**Abashiri--Toko**	**2.41**	**279**	P	Pn	13 13 24.4	+1.7
JAR	**Ashorobuto**	**2.52**	**264**	P	Pn	13 13 26.1	+1.9
JAR				*e*S	Sn	13 13 55.9	+1.9
JOB	**Onbets**	**2.56**	**255**	P	Pn	13 13 26.1	+1.3
JOB				*e*S	Sn	13 13 56.7	+1.7
JMP	**Maruseppu**	**2.81**	**279**	P	Pn	13 13 30.1	+1.9
JCH	**Churui**	**2.98**	**252**	P	Pn	13 13 31.8	+1.2
JKK2	**Kamakawa 2**	**3.24**	**276**	P	Pn	13 13 36.9	+2.8
ASAJ	**Asahikawa**	**3.37**	**280**	P	Pn	13 13 38.8	+2.9
JEM	**Erimo**	**3.38**	**243**	P	Pn	13 13 39.9	+3.8
JFR	**Furan**	**3.39**	**264**	P	Pn	13 13 39.3	+3.1
JFR				*e*S	Sn	13 14 17.8	+2.4
JNBK	**Urakawa-nobuka**	**3.53**	**249**	P	Pn	13 13 39.4	+1.3
JSE	**Soyaes**	**3.57**	**294**	P	Pn	13 13 40.1	+1.3

IDC 18 13:33:19.1±2.9,3234S×17750W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.9/11,mbtmp4.0/4,ML3.5/1,MS3.7/1, Ms1 3.6/1,ms1mx3.0/25,Error ellipse: s-maj=69.6km s-min=34.8km az=124.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.37**	**215**	Pn	Pn	13 35 08.4	+0.6
	0.7nm,0.3s,baz=252,slow=16,SNR=4.4						
URZ				Sn	Sn	13 36 30.8	-1.3
	1.8nm,0.3s,baz=174,slow=20,SNR=14						
STKA	**Stephens Creek**	**34.50**	**260**	P	P	13 40 08.8	0.0
	0.8nm,0.7s,baz=108,slow=11,SNR=2.3						
STKA				LR	LR	13 53 38.1	
	comp=Z,129nm,19.8s,baz=126,slow=35						
ASAR	**Alice Springs**	**43.46**	**269**	P	P	13 41 24.4	+0.6
	1.8nm,0.8s,baz=102,slow=7.5,SNR=19						
WRA	**Warramunga Arr**	**44.62**	**274**	P	P	13 41 33.2	0.0
	2.1nm,0.6s,baz=112,slow=8.1,SNR=40						
FINES	**FINESS Array B**	**147.11**	**339**	PKPbc	PKPbc	13 53 02.3	-1.6
	1.8nm,0.7s,baz=56,slow=3.4,SNR=13						

*IDC **18** 13:37:48.4±1.7,079N×9707E,h0km,mb3.7/6,mb1 3.8/7, mb1mx3.6/21,mbtmp3.6/7,ML2.8/1,Error ellipse: s-maj=52.1km s-min=21.1km az=57.0*
*ISCJB **18** 13:37:51.5±1.2,09N±0.1×97.1E±02,h33km,mb3.6/6,Error ellipse: s-maj=22.7km s-min=17.1km az=140.7*
*NEIC **18** 13:37:53.0±0.9,082N×97.13E,h30km,Error ellipse: s-maj=17.6km s-min=13.1km az=68.0*
ISC 18 13:37:54.1±1.2,09N±01×972E±02,h35km,n10,σ0§42/11, mb3.6/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.58**	**43**	Pn	**Pn**	**13 38 33.0**	**-0.4**
	1.6nm,0.3s,baz=214,slow=4.3,SNR=6.3						
PSI				Sn	**Sn**	**13 39 18.8**	**+15**
	0.2nm,0.3s,baz=175,slow=20,SNR=1.8						
KULM	**Kulim**	**5.58**	**38**	*e*P	**Pn**	**13 39 14.8**	**+0.2**
WRA	**Warramunga Arr**	**41.89**	**122**	P	**P**	**13 45 41.3**	**+0.3**
	0.5nm,0.9s,mb3.1,baz=303,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**43.23**	**127**	P	**P**	**13 45 51.6**	**-0.3**
	0.3nm,0.7s,mb3.1,baz=306,slow=8.9,SNR=7.4						
SONM	**Songino Array**	**47.44**	**8**	P	**P**	**13 46 25.6**	**+0.3**
	0.3nm,0.3s,mb3.6,baz=183,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**47.53**	**346**	P	**P**	**13 46 26.2**	**+0.2**
	1.0nm,0.7s,mb3.9,baz=160,slow=7.5,SNR=8.8						
MKAR	**Makanchi Array**	**47.53**	**346**	P	**P**	**13 46 26.2**	**+0.2**
ZAL	**Zalesovo**	**53.85**	**351**	P	**P**	**13 47 14.1**	**+0.5**
	1.3nm,0.3s,mb4.3,baz=299,slow=5.7,SNR=5.1						
ZAL	**Zalesovo**	**53.85**	**351**	P	**P**	**13 47 14.1**	**+0.5**
BVAR	**Borovoye Array**	**56.53**	**341**	P	**P**	**13 47 32.1**	**-0.9**

0.3nm,0.4s,mb3.7,baz=163,slow=5.6,SNR=3.8

*GRAL **18** 13:45:22.3±3.6,3263N×3518E,h0km±999km,MD3.1*
*GII **18** 13:45:28.4±0.8,3291N×3545E,h0km,ML2.3/4*
*ISCJB **18** 13:45:29.8±0.6,3294N±003×3541E±008,h10km,Error ellipse: s-maj=9.3km s-min=3.5km az=27.9*
ISC 18 13:45:30.3±0.6,3294N±003×3541E±008,h10km,n11, σ1§26/16,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMA0B	**Mount Meron ar**	**0.07**	**359**	Pg	**Pg**	**13 45 31.1**	**-1.3**
MMA0B				Sg	**Sg**	**13 45 33.6**	**-0.5**
MMC7	**Mount Meron ar**	**0.08**	**353**	Pg	**Pg**	**13 45 31.3**	**-1.2**
KSDI	**Kefar Szold**	**0.33**	**41**	Pg	**Pg**	**13 45 35.5**	**-1.2**
KSDI				Sg	**Sg**	**13 45 42.2**	**+1.0**
KSDI	**Kefar Szold**	**0.33**	**41**	Pg	**Pg**	**13 45 36.6**	**-0.1**
KSDI				Sg	**Sg**	**13 45 41.7**	**+0.5**
OFRI	**'Ofer**	**0.48**	**228**	Sg	**Sg**	**13 45 47.3**	**+1.4**
MMLI	**Mount Malkishu**	**0.51**	**178**	Sg	**Sg**	**13 45 47.3**	**+0.6**
MATL	**Matirih**	**0.55**	**353**	*e*Pg	**Pg**	**13 45 35.3**	**-5.6**
HMDT	**Nahal Hemdat**	**0.70**	**172**	Sg	**Sg**	**13 45 53.3**	**+0.5**
BHL	**Bhannes**	**0.98**	**12**	*e*Pg	**Pg**	**13 45 48.1**	**-1.1**
BHL				*e*Sg	**Sg**	**13 46 04.3**	**+2.4**
MKRJ	**Makawir**	**1.40**	**172**	Pn	**Pn**	**13 45 54.5**	**-1.4**
HWQ	**Hawqa**	**1.41**	**19**	*e*Pg	**Pg**	**13 45 53.3**	**-3.9**
HWQ				*e*Sg	**Sg**	**13 46 17.3**	**+1.8**

NEIC 18 13:50:29.0,5365N×16363W,h10km,ML2.5(AEIC),After AEIC.,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.22**	**6**	P	Pn	13 50 49.8	-2.3
FALS				S	Sb	13 51 06.0	-1.8
AKUT	**Akutan**	**1.36**	**292**	*e*P	Pn	13 50 51.6	-2.4
AKUT				*e*S	Sb	13 51 09.3	-2.5
AKLV	**Akutan Long Va**	**1.47**	**292**	P	Pn	13 50 53.3	-2.1
AKLV				S	Sn	13 51 12.1	-2.6
UNV	**Unalaska Valle**	**1.72**	**278**	P	Pn	13 50 56.1	-2.7
SDPT	**Sand Point**	**2.51**	**46**	P	Pn	13 51 07.9	-1.9
SDPT				S	Sn	13 51 37.0	-3.4
AMKA	**Amchitka**	**10.65**	**265**	*e*Pn	Pn	13 53 01.1	-0.4

*ISCJB **18** 13:54:12.0±2.4,3046S±0.10×1793W±04,h400km,mb2.9/2, Error ellipse: s-maj=45.7km s-min=12.5km az=170.9*
*IDC **18** 13:54:22.0±8.3,3099S×17988W,h464km±102km,mb2.6/2, mb1 3.0/3,mb1mx2.7/11,mbtmp3.7/3,Error ellipse: s-maj=101.5km s-min=37.6km az=9.0*
ISC 18 13:54:15.9±2.3,3065S±010×1796W±04,h400km,n9, σ0§62/10,mb2.9/2,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**7.61**	**193**	PN	**Pn**	**13 56 06.3**	**-0.1**
PUZ				SN	**S**	**13 57 36.4**	**-0.4**
MWZ	**Matawai**	**8.02**	**196**	PN	**Pn**	**13 56 10.3**	**-0.7**
URZ	**Urewera**	**8.05**	**199**	P	**P**	**13 56 12.5**	**+0.7**
	2.6nm,0.3s,baz=347,slow=10,SNR=30						
URZ				S	**S**	**13 57 47.3**	**+1.2**
	1.8nm,0.3s,baz=58,slow=21,SNR=11						
KNZ	**Kokohu**	**8.64**	**194**	PN	**Pn**	**13 56 18.7**	**+0.5**
BFZ	**Birch Farm**	**10.55**	**197**	PN	**Pn**	**13 56 40.2**	**-0.1**
BFZ				SN	**S**	**13 58 37.0**	**-1.0**
ASAR	**Alice Springs**	**41.69**	**268**	P	**P**	**14 01 27.4**	**0.0**
	0.2nm,0.5s,mb2.7,baz=104,slow=7.2,SNR=7.8						
WRA	**Warramunga Arr**	**42.70**	**273**	P	**P**	**14 01 35.3**	**-0.2**
	0.5nm,0.5s,mb3.1,baz=111,slow=8.0,SNR=14						
KAF	**Kangasniemi**	**144.30**	**339**	*e*pkp	PKPdf	14 13 02.7	-2.3
	baz=43,slow=3.2						
FINES	**FINESS Array B**	**144.88**	**339**	PKPbc	PKPdf	14 13 05.0	-1.0
	1.1nm,0.4s,baz=56,slow=4.8,SNR=17						

*IDC **18** 13:59:15.4±1.2,1974S×17477W,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.9/14,mbtmp3.8/6,ML2.5/1,MS3.6/3, Ms1 3.6/3,ms1mx3.1/19,Error ellipse: s-maj=39.9km s-min=25.0km az=124.0*
*ISCJB **18** 13:59:17.0±4.6,197S±02×1747W±03,h33km±50km, mb3.8/5,MS3.6/3,Error ellipse: s-maj=45.0km s-min=28.5km az=44.2*
*NEIC **18** 13:59:21.0±2.7,1966S×17472W,h42km±25km,mb3.8/1, Error ellipse: s-maj=36.0km s-min=20.6km az=130.0*
ISC 18 13:59:20.3±7.4,197S±02×1747W±02,h33km±56km,n16, σ0§78/12,mb3.8/5,MS3.6/3,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.38**	**26**	Pn	**Pn**	**14 00 52.1**	**+0.2**
	5.4nm,0.3s,baz=187,slow=23,SNR=20						
AFI				Sn	**Sn**	**14 02 02.5**	**-1.1**
	14nm,0.3s,baz=76,slow=18,SNR=5.3						
AFI	**Afiamalu**	**6.38**	**26**	*e*Pn	**Pn**	**14 00 52.4**	**+0.4**
AFI				*e*Sn	**Sn**	**14 01 56.7**	**-6.9**
URZ	**Urewera**	**19.83**	**199**	P	**Pn**	**14 03 43.0**	**-6.9**
	1.1nm,0.3s,baz=153,slow=23,SNR=6.5						
STKA	**Stephens Creek**	**40.95**	**244**	P	**P**	**14 06 57.9**	**-1.8**
	0.6nm,0.5s,mb3.5,baz=82,slow=7.2,SNR=4.3						
STKA				LR	LR	14 23 01.3	
	comp=Z,138nm,18.2s,MS3.9,baz=204,slow=35						
STKA	**Stephens Creek**	**40.95**	**244**	*e*P	**P**	**14 06 59.1**	**-0.5**
STKA				LR	LR	14 23 01.4	
ASAR	**Alice Springs**	**47.74**	**256**	P	**P**	**14 07 53.5**	**-0.4**
	0.8nm,0.5s,mb4.0,baz=100,slow=7.8,SNR=17						
WRA	**Warramunga Arr**	**47.80**	**261**	P	**P**	**14 07 54.7**	**+0.3**
	0.7nm,0.6s,mb3.9,baz=95,slow=5.7,SNR=19						
VNDA	**Vanda**	**59.01**	**186**	P	**P**	**14 09 16.8**	**+0.1**
	0.3nm,0.3s,mb3.8,baz=36,slow=7.5,SNR=6.0						
VNDA	**Vanda**	**59.01**	**186**	*e*P	**P**	**14 09 17.1**	**+0.4**
	0.7nm,0.9s,mb3.7						
CBIJ	**Chichi jima**	**62.53**	**317**	LR	LR	14 32 37.0	
	comp=Z,17nm,18.0s,MS3.3,baz=73,slow=32						
MJAR	**Matsushiro Arr**	**71.46**	**322**	P	**P**	**14 10 38.6**	**+1.2**
	0.6nm,0.5s,mb3.8,baz=79,slow=0.7,SNR=6.5						
ASAJ	**Asahikawa**	**74.55**	**330**	LR	LR	14 36 35.4	
	comp=Z,54nm,21.6s,MS3.8,baz=80,slow=30						
ARCES	**ARCESS Array B**	**128.65**	**351**	PKP	PKPdf	14 18 23.9	0.0
	0.8nm,0.6s,baz=349,slow=1.2,SNR=7.7						
AKASG	**Malin Array Be**	**143.73**	**334**	PKP	PKPdf	14 18 49.5	-2.3
	1.3nm,0.4s,baz=39,slow=4.4,SNR=10						
BRG	**Berggiesshubel**	**148.14**	**350**	*e*(P)	PKPbc	14 19 07.2	+4.6
	2.8nm,1.3s						
GERES	**GERESS Array B**	**150.13**	**349**	PKPbc	PKPbc	14 19 06.6	-0.9
	0.2nm,0.5s,baz=211,slow=2.3,SNR=4.1						

MAN 18 14:01:24.4,1618N×12241E,h12km,mb2.6,ML4.1,MS2.6, 1C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.88**	**1**	⇓*e*P	Pg	14 01 41.3	-0.2
PALP				*e*S	Sg	14 01 55.9	+2.9
PALP	**Palanan**	**0.88**	**1**	*e*P	Pg	14 01 41.0	-0.4
PALP				*e*S	Sg	14 01 54.6	+1.6
BALP	**Baler**	**0.91**	**242**	*e*P	Pg	14 01 41.2	-0.9
CAUP	**Cauayan**	**0.95**	**324**	*e*P	Pg	14 01 42.1	-0.7
PCPH	**Palayan**	**1.41**	**245**	⇓*e*P	Pn	14 01 49.1	-0.7
POLP	**Polilio Island**	**1.51**	**198**	*e*P	Sn	14 02 09.9	-1.0
CVP	**Callao Caves**	**1.62**	**340**	*e*P	Pn	14 01 52.0	-0.8
BCPH	**Baguio City Da**	**1.77**	**277**	⇑*e*P	Pn	14 01 55.6	+0.8
BCPH				*i* S	Sn	14 02 21.7	+4.4
APYP	**Conner**	**2.02**	**326**	*e*P	Pn	14 01 57.7	-0.6
ABRA	**Dolores**	**2.19**	**312**	*e*P	Pn	14 02 01.0	+0.4

*IDC **18** 14:07:26.5±1.1,662N×7754W,h0km,mb4.1/2,mb1 4.1/5, mb1mx3.8/20,mbtmp4.2/5,ML3.9/3,Error ellipse: s-maj=32.0km s-min=26.9km az=20.0*
*ISCJB **18** 14:07:28.5±0.7,692N±005×7758W±004,h46km±19km, mb3.9/3,Error ellipse: s-maj=8.9km s-min=6.3km az=20.0*
*CASC **18** 14:07:28.8±1.2,688N×7758W,h44km±27km,MD3.9, mb3.8(NEIC)*
*NEIC **18** 14:07:32.6±1.3,665N×7771W,h40km±14km,mb3.8/1, Error ellipse: s-maj=21.2km s-min=11.3km az=224.0*
ISC 18 14:07:30.5±0.6,694N±005×7760W±004,h36km±19km,n18, σ0§96/23,mb3.9/3,1C-1D,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**2.79**	**288**	⇓*i*P	**Pn**	**14 08 11.9**	**-0.7**
AZU				*e*S	**Sn**	**14 08 44.2**	**-0.7**
UPA	**Univ. de Panam**	**2.79**	**317**	⇑*e*P	**Pn**	**14 08 12.1**	**-0.6**
UPA				*e*S	**Sn**	**14 08 45.7**	**+0.6**
TOLC	**Tolima**	**3.24**	**136**	*e*P	**Pn**	**14 08 20.2**	**+1.4**
ROSC	**El Rosal**	**3.85**	**122**	Pn	**Pn**	**14 08 28.7**	**+1.6**
	11nm,0.3s,baz=305,slow=9.6,SNR=16						
ROSC				Sn	**Sn**	**14 09 15.9**	**+4.7**
	3.2nm,0.3s,baz=352,slow=20,SNR=2.8						
ROSC	**El Rosal**	**3.85**	**122**	*e*P	**Pn**	**14 08 28.7**	**+1.5**
OCAC	**Ocana**	**4.43**	**73**	*e*P	**Pn**	**14 08 34.7**	**-0.4**
OCAC				*e*S	**Sn**	**14 09 25.4**	**-0.1**
OTAV	**Otavalo**	**6.71**	**187**	*e*Pn	**Pn**	**14 09 05.9**	**-0.6**
	12nm,0.8s						
OTAV				*e*Sn	**Sn**	**14 10 20.6**	**-1.1**
SDV	**Santo Domingo**	**7.16**	**74**	Pn	**Pn**	**14 09 12.3**	**-0.3**
	4.0nm,0.3s,baz=282,slow=4.0,SNR=15						
SDV				Sn	**Sn**	**14 10 31.2**	**-1.5**
	12nm,0.3s,baz=282,slow=18,SNR=8.2						
SDV	**Santo Domingo**	**7.16**	**74**	*e*Pn	**Pn**	**14 09 12.0**	**-0.6**
SDV				*e*Sn	**Sn**	**14 10 31.3**	**-1.4**
JTS	**JuntasAbangare**	**8.00**	**295**	Pn	**Pn**	**14 09 25.8**	**+1.7**
	0.5nm,0.3s,baz=112,slow=17,SNR=3.8						
PCRV	**Puerto La Cruz**	**13.21**	**75**	Pn	**Pn**	**14 10 35.9**	**+0.4**
	0.9nm,0.3s,baz=337,slow=5.2,SNR=4.4						
SAML	**Samuel**	**21.34**	**137**	*e*P	**P**	**14 12 15.5**	**+1.2**
	4.2nm,0.9s,mb3.8						
SIV	**San Ignacio**	**28.05**	**144**	P	**P**	**14 13 17.5**	**-0.8**
	1.6nm,0.7s,mb3.8,baz=319,slow=11,SNR=11						
BW06	**Boulder Array**	**45.46**	**327**	P	**P**	**14 15 50.9**	**+5.0**
SCHQ	**Schefferville**	**48.53**	**8**	P	**P**	**14 16 14.3**	**+4.4**
	2.9nm,0.9s,mb4.3,baz=174,slow=9.2,SNR=3.6						
SCHQ	**Schefferville**	**48.53**	**8**	P	**P**	**14 16 14.3**	**+4.4**
ASAR	**Alice Springs**	**145.49**	**238**	PKPbc	PKPbc	14 27 05.5	+0.8
	0.3nm,0.6s,baz=115,slow=3.8,SNR=11						
WRA	**Warramunga Arr**	**146.44**	**244**	PKPbc	PKPbc	14 27 10.0	+2.4
	0.4nm,0.7s,baz=102,slow=3.0,SNR=5.8						

*ISCJB **18** 14:07:44.7±1.2,199S±02×1744W±02,h33km,mb3.8/5, Error ellipse: s-maj=35.1km s-min=15.4km az=73.7*
*IDC **18** 14:07:44.1±3.6,1972S×17474W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.8/14,mbtmp3.8/4,ML2.2/1,MS3.7/1, Ms1 3.7/1,ms1mx2.7/22,Error ellipse: s-maj=157.7km s-min=28.0km az=138.0*
*NEIC **18** 14:07:46.5±0.8,1989S×17452W,h25km,mb4.0/2,Error ellipse: s-maj=33.4km s-min=14.3km az=133.0*
ISC 18 14:07:47.3±1.1,198S±02×1744W±02,h35km,n14, σ1§25/10,mb3.8/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.41**	**24**	Pn	**Pn**	**14 09 20.3**	**+1.1**
	3.0nm,0.3s,baz=195,slow=18,SNR=4.6						
AFI				Sn	**Sn**	**14 10 27.9**	**-3.2**
	2.4nm,0.3s,baz=42,slow=21,SNR=3.1						
AFI	**Afiamalu**	**6.41**	**24**	*e*Pn	**Pn**	**14 09 19.8**	**+0.5**
AFI				Sn	**Sn**	**14 10 27.9**	**-3.2**
RAR	**Rarotonga**	**13.79**	**98**	LR	LR	14 14 35.0	
	comp=Z,289nm,19.3s,baz=48,slow=29						
CTAO	**Charters Tower**	**36.90**	**263**	P	**P**	**14 14 51.9**	**-0.7**
STKA	**Stephens Creek**	**41.10**	**244**	P	**P**	**14 15 28.5**	**+0.8**
	0.5nm,0.5s,mb3.4,baz=92,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**47.94**	**256**	P	**P**	**14 16 22.1**	**-0.3**
	1.1nm,0.9s,mb3.9,baz=101,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**48.02**	**261**	P	**P**	**14 16 23.2**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=96,slow=5.7,SNR=12						
SBA	**Scott Base**	**58.78**	**185**	*e*P	**P**	**14 17 40.6**	**-1.3**
	1.4nm,0.8s,mb4.0						
HLID	**Hailey**	**83.66**	**39**	*e*P	**P**	**14 20 15.1**	**+2.8**
	0.6nm,0.6s,mb3.9						
AKASG	**Malin Array Be**	**143.97**	**334**	PKP	PKPdf	14 27 18.0	-1.0
	0.6nm,0.4s,baz=41,slow=4.4,SNR=8.6						
AKASG	**Malin Array Be**	**143.97**	**334**	PKP	PKPdf	14 27 18.0	-1.0
CLL	**Collm**	**148.05**	**351**	*e*PKPbc	PKPbc	14 27 31.0	+1.9
CLL				*e*pPKPbc	pPKPbc	14 27 37.0	-3.5
BRTR	**Keskin Array B**	**148.80**	**316**	PKPbc	PKPbc	14 27 33.1	+2.0
	0.3nm,0.4s,baz=115,slow=3.9,SNR=3.0						
GERES	**GERESS Array B**	**150.32**	**349**	PKPbc	PKPbc	14 27 37.0	+2.2
	0.6nm,0.9s,baz=29,slow=3.8,SNR=3.9						

IDC 18 14:24:35.6±1.6,2478N×14168E,h201km±26km,mb3.2/5, mb1 3.2/7,mb1mx3.0/19,mbtmp3.7/7,Error ellipse: s-maj=68.2km s-min=14.6km az=75.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.35**	**11**	P	Pn	14 25 19.6	+1.8
	24nm,0.3s,baz=280,slow=22,SNR=49						
CBIJ				S	Sn	14 25 51.2	+0.4
	139nm,0.3s,baz=292,slow=22,SNR=56						
MJAR	**Matsushiro Arr**	**12.09**	**347**	P	Pn	14 27 21.3	-0.2
	0.3nm,0.3s,baz=168,slow=7.7,SNR=4.6					

*TIF **18** 14:45:29.7, 4244N×4572E, h14km±2km*
*ISCJB **18** 14:45:30.3±0.4, 4242N±003×4571E±003, h10km, Error ellipse: s-maj=4.4km s-min=2.7km az=5.9*
*MOS **18** 14:45:31.4±1.8, 4239N×4575E, h33km, mb3.8/1, Error ellipse: s-maj=14.6km s-min=9.9km az=31.8*
*CSEM **18** 14:45:31.4, 4239N×4575E, h33km, mb3.8, After OBN*

ISC 18 14:45:30.8±0.5, 4240N±004×4572E±003, h10km, n18, σ1§34/33, 1C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.46**	**54**	⇓*i*PG	**Pg**	**14 45 38.5**	**-1.3**
BTLR				*i* S	**Sg**	**14 45 45.5**	**-0.4**
BTLR				pmax	pmax		
	comp=Z,57nm,0.2s						
BTLR	**Botlikh**	**0.46**	**54**	*i* Pg	**Pg**	**14 45 38.5**	**-1.3**
	comp=Z,57nm,0.2s						
BTLR				*i* Sg	**Sg**	**14 45 45.5**	**-0.4**
XNZR	**Khunzakh**	**0.75**	**78**	⇓*i*PG	**Pg**	**14 45 47.5**	**+2.3**
XNZR				*i* S	**Sg**	**14 45 58.5**	**+3.5**
XNZR				pmax	pmax		
	comp=Z,73nm,0.2s						
XNZR	**Khunzakh**	**0.75**	**78**	*i* Pg	**Pg**	**14 45 47.5**	**+2.3**
	comp=Z,73nm,0.2s						
XNZR				*i* Sg	**Sg**	**14 45 58.5**	**+3.5**
UNCR	**Uncukul**	**0.86**	**68**	Pg	**Pg**	**14 45 47.8**	**+0.4**
UNCR				*i* Sg	**Sg**	**14 45 59.8**	**+1.2**
SNJR	**Sundja**	**0.95**	**316**	*e*PG	**Pg**	**14 45 49.8**	**+0.7**
SNJR				*e*Sg	**Sg**	**14 46 04.2**	**+2.8**
KRNR	**Karanay**	**0.98**	**63**	⇑*i*PG	**Pg**	**14 45 48.2**	**-1.5**
KRNR				*i* S	**Sg**	**14 46 01.8**	**-0.6**
TBLG	**Delisi**	**0.98**	**228**	P	**Pg**	**14 45 50.1**	**+0.3**
TBLG				S	**Sg**	**14 46 03.6**	**+1.0**
TBLG	**Delisi**	**0.98**	**228**	*e*Pg	**Pg**	**14 45 50.0**	**+0.2**
TBLG				*e*Sg	**Sg**	**14 46 03.8**	**+1.2**
VLKR	**Vladikavkaz**	**1.00**	**311**	*e*Pg	**Pg**	**14 45 50.1**	**-0.1**
VLKR				*e*Sg	**Sg**	**14 46 04.6**	**+1.4**
KMKR	**Kumukh**	**1.06**	**104**	*e*PG	**Pg**	**14 45 50.0**	**-1.2**
KMKR				*e*S	**Sg**	**14 46 06.0**	**+1.0**
KMKR				pmax	pmax		
	comp=Z,19nm,0.2s						
KMKR	**Kumukh**	**1.06**	**104**	*e*Pg	**Pg**	**14 45 50.0**	**-1.2**
	comp=Z,19nm,0.2s						
KMKR				*e*Sg	**Sg**	**14 46 06.0**	**+1.0**
LACR	**Lac**	**1.13**	**293**	*i* Pg	**Pg**	**14 45 49.6**	**-3.0**
BTKR	**Batakoyurt**	**1.30**	**319**	*e*Pg	**Pg**	**14 45 55.8**	**0.0**
BTKR				*i* Sg	**Sg**	**14 46 14.6**	**+1.8**
ARNR	**Ardon**	**1.32**	**307**	*e*Pg	**Pg**	**14 45 54.6**	**-1.6**
ARNR				*e*Sg	**Sg**	**14 46 12.4**	**-1.0**
ZEI	**Tsey**	**1.39**	**286**	*e*Pg	**Pg**	**14 45 53.0**	**-4.6**
KMSR	**Komsomolskaya**	**1.43**	**313**	*i* Pg	**Pg**	**14 45 57.2**	**-1.1**
KMSR				*e*Sg	**Sg**	**14 46 16.9**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.65**	**288**	*e*Pn	**Pn**	**14 45 57.5**	**-2.4**

*IDC **18** 14:58:01.2±1.2, 5169N×17638E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/20, mbtmp3.6/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/18, Error ellipse: s-maj=40.7km s-min=29.8km az=134.0*
*ISCJB **18** 14:58:02.5±0.5, 518N±0.1×17702E±008, h33km, mb3.5/5, MS3.9/2, Error ellipse: s-maj=16.3km s-min=5.6km az=30.6*
*BJI **18** 14:58:02.7, 5190N×17700E, h28km, mB4.5, mb4.1, Ms4.4, Msz4.3*
*NEIC **18** 14:58:02.7, 5189N×17704E, h28km, mb3.6/1, ML3.6(AEIC), After AEIC.*
*MOS **18** 14:58:04.3±1.9, 5181N×17654E, h33km, mb3.7/1, Error ellipse: s-maj=45.8km s-min=24.3km az=108.5*

ISC 18 14:58:04.0±0.5, 518N±01×17703E±008, h35km, n19, σ0§87/20, mb3.5/5, MS3.9/2, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.48**	**107**	P	**Pn**	**14 58 27.6**	**-0.6**
AMKA				S	**Sn**	**14 58 45.3**	**-1.0**
SMY	**Shemya**	**2.02**	**298**	P	**Pn**	**14 58 34.9**	**-0.6**
SMY				S	**Sn**	**14 58 59.6**	**+0.2**
ATKA	**Atka Island**	**5.43**	**83**	P	**Pn**	**14 59 22.7**	**+0.2**
NIKO	**Nikolski**	**8.71**	**77**	*e*Pn	**Pn**	**15 00 11.3**	**+3.8**
UNV	**Unalaska Valle**	**10.17**	**72**	*e*Pn	**Pn**	**15 00 28.7**	**+1.3**
BILL	**Biiibino**	**17.09**	**346**	P	**Pn**	**15 01 59.8**	**-0.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL	**Biiibino**	**17.09**	**346**	P	**Pn**	**15 01 59.8**	**-0.3**
	comp=Z,4.6nm,1.0s						
DLBC	**Dease Lake**	**30.28**	**56**	LR	LR	15 17 23.4	
	comp=Z,83nm,18.3s,MS3.4,baz=36,slow=38						
MDJ	**Mudanjiang**	**31.94**	**276**	P	**P**	**15 04 25.0**	**-1.3**
MDJ				AP	pP	15 04 37.8	+1.4
MDJ				XP	sP	15 04 43.3	+2.7
MDJ				AMB	AMB		
	comp=Z,30nm,5.2s						
CN2	**Changchun**	**34.91**	**278**	*e*P	**P**	**15 04 53.0**	**+0.8**
YKA	**Yellowknife Ar**	**36.80**	**46**	P	**P**	**15 05 13.8**	**+5.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=282,slow=9.3,SNR=5.8						
YKA	**Yellowknife Ar**	**36.80**	**46**	P	**P**	**15 05 13.8**	**+5.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**44.11**	**294**	P	**P**	**15 06 09.1**	**+0.3**
	comp=Z,0.1nm,0.3s,mb3.0,baz=58,slow=6.8,SNR=3.8						
NJ2	**Nanjing**	**46.21**	**268**	*e*P	**P**	**15 06 29.1**	**+3.6**
LZH	**Lanzhou**	**52.76**	**283**	*e*P	**P**	**15 07 14.8**	**-0.6**
LZH				AP	pP	15 07 28.5	+2.6
LZH				XP	sP	15 07 33.8	+3.8
LZH				PP	PP	15 09 15.5	+0.7
LZH				AMB	AMB		
	comp=Z,40nm,7.1s						
LZH				LR	LR		
	comp=N,210nm,15.5s						
LZH				LR	LR		
	comp=Z,290nm,18.4s,MS4.4						
WMQ	**Urumqi**	**56.89**	**300**	*e*P	**P**	**15 07 45.3**	**0.0**
MKAR	**Makanchi Array**	**57.69**	**306**	P	**P**	**15 07 50.0**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.4,baz=37,slow=5.6,SNR=4.4						
WRA	**Warramunga Arr**	**80.60**	**220**	P	**P**	**15 10 13.5**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=31,slow=5.7,SNR=9.2						
ASAR	**Alice Springs**	**84.12**	**219**	P	**P**	**15 10 32.4**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=26,slow=5.4,SNR=11						

*ISCJB **18** 15:12:50.8±0.7, 1542S±007×699W±0.1, h243km±8km, mb4.0/16, Error ellipse: s-maj=16.5km s-min=11.1km az=141.3*
*IDC **18** 15:12:51.3±0.9, 1539S×6989W, h234km±8km, mb3.9/8, mb1 4.0/11, mb1mx3.7/21, mbtmp4.4/11, Error ellipse: s-maj=17.3km s-min=12.6km az=73.0*
*NEIC **18** 15:12:51.9±0.7, 1540S×6986W, h240km±7km, mb4.2/11, Error ellipse: s-maj=12.3km s-min=7.8km az=79.0*

ISC 18 15:12:51.7±0.7, 1540S±007×699W±01, h234km±8km, n34, σ0§89/31, mb4.0/16, 1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.93**	**118**	P	**Pn**	**15 13 34.0**	**+1.8**
	18nm,0.3s,baz=309,slow=8.1,SNR=590						
LPAZ				S	**S**	**15 14 05.0**	**+1.0**
	30nm,0.3s,baz=211,slow=22,SNR=54						
LPAZ	**La Paz**	**1.93**	**118**	⇓*i*Pn	**Pn**	**15 13 33.9**	**+1.6**
LPAZ				*e*S	**S**	**15 14 01.7**	**-2.4**
LVC	**Limon Verde**	**7.24**	**173**	P	**Pn**	**15 14 34.8**	**-0.5**
	6.1nm,0.3s,baz=6.3,slow=9.0,SNR=102						
LVC				S	**S**	**15 15 51.3**	**-6.9**
	38nm,0.3s,baz=335,slow=24,SNR=20						
LVC	**Limon Verde**	**7.24**	**173**	*e*Pn	**Pn**	**15 14 34.1**	**-1.2**
LVC				S	**S**	**15 15 51.3**	**-6.9**
SIV	**San Ignacio**	**8.54**	**95**	P	**Pn**	**15 14 51.6**	**-0.2**
	0.5nm,0.3s,baz=277,slow=12,SNR=41						
SAML	**Samuel**	**9.18**	**47**	*e*P	**Pn**	**15 15 00.1**	**0.0**
	4.7nm,0.9s						
ATAH	**Atahualpa**	**11.78**	**314**	P	**Pn**	**15 15 31.5**	**-1.3**
	0.3nm,0.3s,baz=140,slow=17,SNR=2.6						
CFAA	**Coronel Fontan**	**16.21**	**175**	P	**P**	**15 16 26.6**	**+0.9**
	0.2nm,0.3s,baz=344,slow=14,SNR=12						
OTAV	**Otavalo**	**17.68**	**331**	*e*Pn	**Pn**	**15 16 44.3**	**+0.2**
	2.6nm,0.8s						
PLCA	**Paso Flores**	**25.25**	**181**	P	**P**	**15 17 55.5**	**-0.9**
	1.8nm,0.6s,mb3.9,baz=29,slow=5.3,SNR=3.2						
ANMO	**Albuquerque**	**60.91**	**326**	*e*P	**P**	**15 22 39.9**	**0.0**
	0.7nm,0.5s,mb3.5						
ISCO	**Idaho Springs**	**64.20**	**330**	*e*P	**P**	**15 23 02.1**	**+0.6**
	1.1nm,0.7s,mb3.6						
SMCO	**Snowmass**	**64.39**	**329**	*e*P	**P**	**15 23 04.0**	**+1.3**
	4.0nm,0.7s,mb4.2						
RSSD	**Black Hills**	**66.92**	**334**	*e*P	**P**	**15 23 19.6**	**+0.7**
	3.7nm,0.4s,mb4.4						
DBIC	**Dimbokro**	**68.06**	**76**	P	**P**	**15 23 25.9**	**-0.2**
	3.9nm,0.4s,mb4.4,baz=231,slow=5.4,SNR=24						
DBIC	**Dimbokro**	**68.06**	**76**	*e*P	**P**	**15 23 25.6**	**-0.5**
	4.4nm,0.5s,mb4.3						
SNAA	**Sanae**	**68.34**	**162**	P	**P**	**15 23 28.4**	**+0.7**
	0.6nm,0.6s,mb3.4,baz=273,slow=7.2,SNR=27						
PDAR	**Pinedale Array**	**68.38**	**330**	P	**P**	**15 23 28.0**	**-0.1**
	1.8nm,0.5s,mb4.0,baz=123,slow=8.5,SNR=21						
HWUT	**Hardware Ranch**	**68.53**	**328**	*e*P	**P**	**15 23 29.2**	**+0.3**
	4.5nm,0.6s,mb4.3						
ULM	**Lac du Bonnet**	**69.24**	**343**	P	**P**	**15 23 31.6**	**-1.6**
	6.7nm,0.3s,mb4.7,baz=152,slow=6.1,SNR=28						
REDW	**Red Top Meadow**	**69.45**	**329**	*e*P	**P**	**15 23 35.1**	**+0.5**
	3.8nm,0.6s,mb4.2						
TPAW	**Teton Pass**	**69.60**	**329**	*e*P	**P**	**15 23 36.4**	**+0.9**
	3.0nm,0.7s,mb4.0						
IMW	**Indian Meadow**	**69.89**	**330**	*e*P	**P**	**15 23 38.0**	**+0.7**
	4.7nm,0.5s,mb4.4						
TORD	**Torodi Ar. Bea**	**76.30**	**72**	P	**P**	**15 24 14.1**	**-0.7**
	1.6nm,0.5s,mb3.9,baz=273,slow=5.2,SNR=18						
EDM	**Edmonton**	**77.86**	**335**	*e*P	**P**	**15 24 22.2**	**-1.2**
YKA	**Yellowknife Ar**	**85.14**	**341**	P	**P**	**15 25 00.5**	**-1.0**
	1.9nm,0.5s,mb4.1,baz=134,slow=5.0,SNR=40						
DLBC	**Dease Lake**	**88.37**	**333**	P	**P**	**15 25 17.1**	**0.0**
	1.1nm,0.5s,mb4.0,baz=107,slow=9.7,SNR=5.2						
ZRNK	**Zerenda**	**130.54**	**32**	*e*PKPdf	PKPdf	15 31 33.4	-1.1
ASAR	**Alice Springs**	**134.73**	**211**	PKP	PKPdf	15 31 43.0	+0.7
	0.3nm,0.7s,baz=131,slow=1.7,SNR=6.7						
MKAR	**Makanchi Array**	**141.07**	**31**	PKhKP		15 31 48.0	
	0.2nm,0.4s,baz=343,slow=2.3,SNR=5.6						
MKAR				PKP	PKPdf	15 31 54.0	0.0
	0.4nm,0.5s,baz=334,slow=2.6,SNR=4.8						
MJAR	**Matsushiro Arr**	**147.30**	**315**	PKPbc	PKPbc	15 32 08.6	+1.1
	4.5nm,0.6s,baz=96,slow=2.2,SNR=26						
MAT	**Matsushiro**	**147.30**	**315**	PKP	PKPbc	15 32 08.4	+0.9
MAT	**Matsushiro**	**147.30**	**315**	*e*PKP	PKPbc	15 32 08.0	+0.5
SONM	**Songino Array**	**147.51**	**5**	PKPbc	PKPbc	15 32 07.0	-1.0
	2.4nm,0.7s,baz=317,slow=1.9,SNR=15						

*ISCJB **18** 15:30:54.8±0.5, 3699N±005×290E±006, h10km, Error ellipse: s-maj=8.1km s-min=4.4km az=88.2*
*CSEM **18** 15:30:54.5±0.1, 3696N×300E, h2km, ML3.0, Error ellipse: s-maj=4.0km s-min=2.6km az=41.0*
*CRAAG **18** 15:30:54.7, 3679N×293E, Ml3.0*
*MDD **18** 15:30:56.1±0.5, 3689N×297E, h0km, mb3.5/2, Error ellipse: s-maj=8.8km s-min=4.7km az=46.0, PRXIMO*
*NEIC **18** 15:30:59.9, 3718N×280E, h0km, MG3.4(MDD), After MDD.*

ISC 18 15:30:55.8±0.6, 3700N±004×294E±006, h10km, n25, σ1§55/39, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.21**	**158**	P	**Pg**	**15 30 56.8**	**-3.4**
ABMS	**Boumerdes**	**0.50**	**120**	P	**Pg**	**15 31 05.2**	**-0.3**
EMHD	**Djebel Mahouad**	**0.80**	**179**	P	**Pg**	**15 31 10.7**	**-0.4**
ADJB	**Djebel Djouab**	**0.93**	**154**	P	**Pg**	**15 31 10.4**	**-3.3**
EBNR	**Beni Rached**	**1.33**	**238**	P	**Pn**	**15 31 25.6**	**+5.2**
AKF	**Akfadou**	**1.36**	**105**	P	**Pn**	**15 31 19.7**	**-1.1**
EIBI	**Ibiza**	**2.38**	**329**	P	**Pn**	**15 31 36.1**	**+1.2**
	3.4nm,0.2s,SNR=14						
EIBI				S	**Sn**	**15 32 03.7**	**-0.4**
	3.5nm,0.1s,SNR=7.7						
EIBI	**Ibiza**	**2.38**	**329**	P	**Pn**	**15 31 36.1**	**+1.3**
	3.4nm,0.2s,SNR=14						
EIBI				S	**Sn**	**15 32 03.7**	**-0.4**
	3.5nm,0.1s,SNR=7.7						
ETOS	**Mallorca**	**2.77**	**358**	P	**Pn**	**15 31 41.6**	**+1.5**
	0.9nm,0.1s,SNR=6.6						
ETOS				S	**Sn**	**15 32 12.1**	**-1.4**
	1.9nm,0.1s,SNR=4.7						
ETOS	**Mallorca**	**2.77**	**358**	P	**Pn**	**15 31 41.6**	**+1.5**
	0.9nm,0.1s,SNR=6.6						
ETOS				S	**Sn**	**15 32 12.1**	**-1.4**
	1.9nm,0.1s,SNR=4.7						
EBEN	**Beniarda**	**3.02**	**305**	P	**Pn**	**15 31 45.1**	**+1.4**
	0.9nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	**15 32 18.4**	**-1.5**
	1.4nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.02**	**305**	P	**Pn**	**15 31 45.1**	**+1.4**
	0.9nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	**15 32 18.4**	**-1.5**
	1.4nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.43**	**285**	P	**Pn**	**15 31 51.0**	**+1.8**
	1.8nm,0.4s,SNR=4.0						
EMUR				S	**Sn**	**15 32 29.4**	**-0.5**
	2.2nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**3.43**	**285**	P	**Pn**	**15 31 51.0**	**+1.8**
	1.8nm,0.4s,SNR=4.0						
EMUR				S	**Sn**	**15 32 29.4**	**-0.5**
	2.2nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**3.91**	**296**	P	**Pn**	**15 31 58.3**	**+2.5**
	0.8nm,0.1s,SNR=7.5						
ETOB				S	**Sn**	**15 32 40.1**	**-1.7**
	2.7nm,0.6s						
ETOB	**Tobarra**	**3.91**	**296**	P	**Pn**	**15 31 58.3**	**+2.4**
	0.8nm,0.1s,SNR=7.5						
ECHE	**Chera**	**4.01**	**311**	P	**Pn**	**15 31 59.3**	**+2.0**
	0.7nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**15 32 44.0**	**-0.4**
	SNR=7.9						
EMOS	**Mosqueruela**	**4.29**	**323**	P	**Pn**	**15 32 02.5**	**+1.5**
	0.8nm,0.2s,SNR=7.0						
EMOS				S	**Sn**	**15 32 50.1**	**-1.0**
	1.2nm,0.3s						
EMOS	**Mosqueruela**	**4.29**	**323**	P	**Pn**	**15 32 02.5**	**+1.5**
EMOS				S	**Sn**	**15 32 48.7**	**-2.4**
EMOS	**Mosqueruela**	**4.29**	**323**	P	**Pn**	**15 32 02.5**	**+1.5**
	0.8nm,0.2s,SNR=7.0						
ERTA	**Horta de San J**	**4.44**	**334**	S	**Sn**	**15 32 52.2**	**-2.7**
	2.1nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**4.44**	**334**	P	**Pn**	**15 32 04.4**	**+1.2**
ERTA				S	**Sn**	**15 32 52.2**	**-2.7**
ERTA	**Horta de San J**	**4.44**	**334**	P	**Pn**	**15 32 04.4**	**+1.3**
EQES	**Quesada**	**4.85**	**281**	P	**Pn**	**15 32 11.1**	**+2.4**
	0.6nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**15 33 03.4**	**-1.6**
	1.3nm,0.5s,SNR=7.9						
EQES	**Quesada**	**4.85**	**281**	P	**Pn**	**15 32 11.1**	**+2.3**
	0.6nm,0.3s,SNR=7.9						

*NEIC **18** 15:39:07.0, 27.16S×7122W, h20km, ML3.9(GUC), After GUC.*

GUC 18 15:39:07.0±0.7, 2716S×7122W, h20km±7km, MD4.0, ML3.9, 6C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.36**	**77**	⇓*i*P	Pb	15 39 14.6	-0.2
CDCH				*i* S	Sb	15 39 20.0	0.0
CPCH	**Copiapo**	**0.80**	**105**	⇑*i*P	Pb	15 39 21.7	-0.5
CPCH				*i* S	Sb	15 39 32.9	+0.3
CRCH	**Chaqaral**	**0.97**	**34**	⇑*i*P	Pb	15 39 24.4	-0.7
CRCH				*i* S	Sb	15 39 36.9	-0.7
CRCH				AML	AML	15 39 39.9	
	comp=N,3μm,0.2s						
CRCH	**Chaqaral**	**0.97**	**34**	⇑*i*P	Pb	15 39 24.4	-0.7
CRCH				*i* S	Sb	15 39 36.9	-0.7
VACH	**Vallenar**	**1.47**	**164**	⇑*i*P	Pn	15 39 33.9	+1.5
VACH				*i* S	Sn	15 39 52.5	+1.5
VACH				AML	AML	15 39 58.5	
	comp=N,3μm,0.5s						
VACH	**Vallenar**	**1.47**	**164**	⇑*i*P	Pn	15 39 33.9	+1.5
VACH				*i* S	Sn	15 39 52.5	+1.5
LCO	**Las Campanas**	**1.90**	**166**	⇑*i*P	Pn	15 39 39.5	+1.2
LCO				*i* S	Sn	15 40 04.6	+2.9
TLL	**Tololo Astrono**	**3.02**	**173**	*i* P	Pn	15 39 55.5	+1.8
TLL				*e*S	Sn	15 40 32.2	+3.0
TLL				AML	AML	15 40 48.1	
	comp=N,734nm,0.8s						
TLL	**Tololo Astrono**	**3.02**	**173**	*i* P	Pn	15 39 55.5	+1.8
TLL				*e*S	Sn	15 40 32.2	+3.0
LVC	**Limon Verde**	**4.99**	**25**	*e*Pn	Pn	15 40 21.0	+0.3
LVC				*e*S	Sn	15 41 31.9	+14

IDC 18 15:41:16.6±4.0, 1202N×14558E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/27, Error ellipse: s-maj=158.1km s-min=23.8km az=80.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.71**	**336**	Pn	Pn	15 41 47.8	+0.1
	40nm,0.3s,baz=187,slow=1.3,SNR=78						
GUMO				Sn	Sn	15 42 05.6	-4.6
	97nm,0.3s,baz=165,slow=23,SNR=38						
PMG	**Port Moresby**	**21.34**	**176**	LR	LR	15 52 18.0	
	comp=Z,91nm,20.9s,baz=15,slow=31						
WRA	**Warramunga Arr**	**33.63**	**199**	P	P	15 47 59.4	+0.6
	0.7nm,0.7s,baz=20,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**37.26**	**198**	P	P	15 48 30.9	+0.9
	0.1nm,0.3s,baz=40,slow=7.8,SNR=7.2						
STKA	**Stephens Creek**	**43.81**	**185**	P	P	15 49 23.4	-0.9
	0.8nm,0.4s,baz=6.7,slow=9.0,SNR=8.6						

*IDC **18** 16:04:56.5±0.8, 2013S×17460W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.2/17, mbtmp4.2/9, ML4.4/1, MS3.5/3, Ms1 3.5/3, ms1mx3.2/20, Error ellipse: s-maj=31.6km s-min=19.7km az=134.0*
*NEIC **18** 16:04:58.3±0.5, 2009S×17447W, h15km, mb4.5/8, Error ellipse: s-maj=18.0km s-min=10.4km az=126.0*
*ISCJB **18** 16:04:59.8±0.6, 2017S±0.1×1746W±0.1, h33km, mb4.3/12, MS3.6/2, Error ellipse: s-maj=16.9km s-min=12.2km az=70.6*
*MOS **18** 16:05:03.9±2.7, 2020S×175.11W, h33km, mb4.6/6, Error ellipse: s-maj=22.3km s-min=17.9km az=153.2*

ISC 18 16:05:01.4±0.6, 2009S±009×1745W±01, h35km, n61, σ1§26/35, mb4.3/12, MS3.6/2, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.66**	**23**	Pn	**Pn**	**16 06 34.3**	**-2.5**
	11nm,0.3s,baz=68,slow=10,SNR=5.1						
AFI				Sn	**Sn**	**16 07 41.9**	**-10**
	3.9nm,0.3s,baz=49,slow=19,SNR=4.4						
AFI				LR	LR	16 08 50.7	
	comp=Z,222nm,20.0s,baz=203,slow=35						
AFI				T		16 13 33.8	
	3.9nm,0.3s,baz=241,slow=23,SNR=4.9						
AFI	**Afiamalu**	**6.66**	**23**	*e*Pn	**Pn**	**16 06 34.1**	**-2.6**
AFI				Sn	**Sn**	**16 07 41.9**	**-10**
AFI				LR	LR	16 08 50.7	
RAR	**Rarotonga**	**13.81**	**97**	Pn	**Pn**	**16 08 03.6**	**-11**
	4.6nm,0.3s,baz=257,slow=11,SNR=12						
RAR				T		16 22 30.5	
	12nm,0.3s,baz=239,slow=12,SNR=4.0						
DZM	**Mont Dzumac**	**17.91**	**260**	P	**Pn**	**16 09 09.5**	**+1.8**
	0.5nm,0.3s,baz=82,slow=19,SNR=3.9						
URZ	**Urewera**	**19.52**	**200**	P	**Pn**	**16 09 24.7**	**-2.5**
	1.0nm,0.3s,baz=317,slow=5.3,SNR=6.3						
SNZO	**South Karori**	**23.07**	**201**	*e*P	**P**	**16 10 00.5**	**-3.3**
TBI	**Tubuai**	**23.46**	**102**	*e*LQ		16 14 32.5	
	411nm,28.2s						
TBI				*e*LR	LR	16 15 40.0	
	163nm,28.8s						
PPT	**Papeete**	**23.70**	**88**	*e*LR	LR	16 15 45.4	
	216nm,26.2s						
PPT	**Papeete**	**23.70**	**88**	LR	LR	16 17 26.6	
	comp=Z,114nm,18.1s,MS3.4,baz=143,slow=32						
CTA	**Charters Tower**	**36.82**	**263**	*e*P	**P**	**16 12 06.8**	**+0.8**
	6.9nm,1.2s,mb4.4						
CTA	**Charters Tower**	**36.82**	**263**	P	**P**	**16 12 06.0**	**0.0**
	6.8nm,0.7s,mb4.6,baz=108,slow=8.8,SNR=10						
CTA	**Charters Tower**	**36.82**	**263**	*e*P	**P**	**16 12 06.8**	**+0.8**
CTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CTAO	**Charters Tower**	**36.82**	**263**	*e*P	**P**	**16 12 06.8**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
CTAO	**Charters Tower**	**36.82**	**263**	*e*P	**P**	**16 12 06.8**	**+0.8**
	comp=Z,4.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**40.94**	**244**	*e*P	**P**	**16 12 38.1**	**-2.4**
	comp=Z,1.3nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**40.94**	**244**	P	**P**	**16 12 38.5**	**-2.0**
	comp=Z,1.6nm,0.7s,mb3.8,baz=92,slow=9.7,SNR=9.2						
AS31	**Alice Springs**	**47.83**	**256**	*e*P	**P**	**16 13 34.9**	**-0.6**
ASAR	**Alice Springs**	**47.83**	**256**	P	**P**	**16 13 34.9**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.3,baz=96,slow=7.5,SNR=56						
ASAR				PcP	PcP	16 15 04.8	+0.9
	comp=Z,0.8nm,0.7s,baz=110,slow=4.4,SNR=4.6						
ASPA	**Alice Springs**	**47.83**	**256**	*e*P	**P**	**16 13 34.9**	**-0.6**
WB2	**Warramunga Arr**	**47.92**	**261**	*e*P	**P**	**16 13 36.6**	**+0.4**
WRA	**Warramunga Arr**	**47.93**	**261**	P	**P**	**16 13 35.6**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.3,baz=97,slow=5.9,SNR=36						
SBA	**Scott Base**	**58.52**	**185**	*e*P	**P**	**16 14 56.1**	**+1.9**
SBA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
SBA	**Scott Base**	**58.52**	**185**	*e*P	**P**	**16 14 56.1**	**+1.9**
	comp=Z,3.7nm,0.8s,mb4.5						
VNDA	**Vanda**	**58.63**	**186**	P	**P**	**16 14 55.6**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.9,baz=353

comp=Z,1.4nm,0.5s,baz=76,slow=7.0,SNR=5.3
GERES GERESS Array B 150.56 349 PKPbc PKPbc 16 24 50.4 +0.9
comp=Z,0.8nm,0.6s,baz=29,slow=3.0,SNR=6.8

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*ISCJB **18** 16:20:36.8±0.4, 4988N±002×1837E±003, h0km, Error ellipse: s-maj=3.5km s-min=2.3km az=39.8*
*IPEC **18** 16:20:36.5±0.3, 4986N×1859E, h0km, ML2.0/3, Error ellipse: s-maj=2.3km s-min=2.0km az=145.0*
*VIE **18** 16:20:39.2±0.7, 4970N×1838E, h0km, mb2.0/4, ML2.4/4, Error ellipse: s-maj=4.5km s-min=2.6km az=91.0 17 km SSE of Ostrava Suspected Mining induced.*
*PRU **18** 16:20:39.4, 4986N×1837E, h0km*
*CSEM **18** 16:20:39.5±0.2, 4985N×1839E, h1km, ML2.9/6, Error ellipse: s-maj=3.5km s-min=2.2km az=20.0*

ISC 18 16:20:37.9±0.3,**4987N**±002×**1842E**±003,**h0**km,**n31**, σ1§**01**/63,**1C-3D,Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.18**	**261**	*e*PG	**Pg**	**16 20 42.9**	**+1.6**
OKC				*e*SG	**Sg**	**16 20 46.3**	**+2.7**
318nm,0.7s							
OKC	**Ostrava-Krasne**	**0.18**	**261**	*e*Pg	**Pg**	**16 20 42.6**	**+1.3**
OKC				*e*Sg	**Sg**	**16 20 46.3**	**+2.7**
318nm,0.7s							
RAC	**Raciborz**	**0.26**	**326**	*e*Pg	**Pg**	**16 20 44.6**	**+1.7**
RAC				*e*Sg	**Sg**	**16 20 49.9**	**+3.6**
MORC	**Moravsky Berou**	**0.57**	**262**	*e*Pg	**Pg**	**16 20 49.5**	**+0.6**
MORC				*e*Sg	**Sg**	**16 20 57.5**	**+1.2**
25nm,0.2s							
LIKS	**Likavka**	**0.93**	**151**	*e*PN	**Pn**	**16 20 57.6**	**-0.6**
LIKS				*e*SN	**Sn**	**16 21 11.8**	**-0.4**
OJC	**Ojcow**	**0.96**	**68**	*e*Pg	**Pg**	**16 20 55.4**	**-0.8**
OJC				*e*Sg	**Sg**	**16 21 08.2**	**-0.4**
KOLL	**Kolacno**	**1.29**	**181**	*e*PN	**Pn**	**16 21 02.5**	**-0.6**
KOLL				*e*SN	**Sn**	**16 21 20.4**	**-0.6**
KOLL	**Kolacno**	**1.29**	**181**	*e*Pn	**Pn**	**16 21 02.5**	**-0.6**
KOLL				*e*Sn	**Sn**	**16 21 20.5**	**-0.5**
NIE	**Niedzica**	**1.31**	**109**	*e*Pg	**Pg**	**16 21 02.8**	**-0.2**
NIE				*e*Sg	**Sg**	**16 21 21.8**	**+1.9**
VRAC	**Vranov**	**1.31**	**246**	*e*Pg	**Pg**	**16 21 02.9**	**-0.1**
VRAC				*e*Sg	**Sg**	**16 21 21.0**	**+1.0**
17nm,0.2s							
VYHS	**Vyhne**	**1.40**	**169**	*e*PN	**Pn**	**16 21 04.1**	**-0.5**
VYHS				*e*SN	**Sn**	**16 21 23.0**	**-0.8**
DPC	**Dobruska-Polom**	**1.44**	**291**	*e*PG	**Pg**	**16 21 04.9**	**-0.5**
DPC				*e*SG	**Sg**	**16 21 25.2**	**+1.2**
18nm,0.3s							
DPC	**Dobruska-Polom**	**1.44**	**291**	*e*Pg	**Pg**	**16 21 04.9**	**-0.5**
DPC				*e*Sg	**Sg**	**16 21 24.8**	**+0.8**
SMOL	**Smolenice**	**1.50**	**206**	*e*PN	**Pn**	**16 21 05.8**	**-0.2**
SMOL				*e*SN	**Sn**	**16 21 26.7**	**+0.4**
KRUC	**Moravsky**	**1.55**	**239**	*e*Pn	**Pn**	**16 21 06.2**	**-0.4**
KRUC				*e*Sg	**Sg**	**16 21 27.4**	**-0.1**
15nm,0.3s							
UPC	**Upice**	**1.68**	**293**	*e*PG	**Pg**	**16 21 09.5**	**-0.5**
UPC				*e*SG	**Sg**	**16 21 32.8**	**+1.1**
KSP	**Ksiaz**	**1.68**	**307**	*e*Pn	**Pn**	**16 21 08.0**	**-0.4**
KSP				*e*Pg	**Pg**	**16 21 09.1**	**-0.9**
KSP				*e*Sg	**Sg**	**16 21 32.5**	**+0.7**
ZST	**Bratislava**	**1.88**	**208**	*e*PN	**Pn**	**16 21 11.5**	**+0.2**
ZST				*e*SN	**Sn**	**16 21 35.8**	**+0.1**
STHS	**Stebnicka Huta**	**1.89**	**103**	*e*PN	**Pn**	**16 21 13.8**	**+2.4**
STHS				*e*SN	**Sn**	**16 21 41.0**	**+5.1**
KECS	**Kecovo**	**1.94**	**135**	*e*	**Pn**	**16 21 11.0**	**-1.0**
KECS	**Kecovo**	**1.94**	**135**	*e*PN	**Pn**	**16 21 13.9**	**+1.9**
KECS				*e*SN	**Sn**	**16 21 37.4**	**+0.4**
CRVS	**Cervenica-Dubn**	**2.21**	**115**	*e*PN	**Pn**	**16 21 19.1**	**+3.3**
CRVS				*e*SN	**Sn**	**16 21 48.6**	**+4.8**
PVCC	**Panska Ves**	**2.56**	**286**	*e*PG	**Pg**	**16 21 25.6**	**-1.4**
CONA	**Conrad Observa**	**2.57**	**222**	⇓*i*Pn	**Pn**	**16 21 20.1**	**-0.6**
CONA				⇓*i*Sg	**Sg**	**16 22 00.6**	**+0.2**
3.1nm,0.3s							
CONA	**Conrad Observa**	**2.57**	**222**	Pn	**Pn**	**16 21 20.1**	**-0.6**
CONA				Sg	**Sg**	**16 22 00.6**	**+0.2**
3.1nm,0.3s							
KOLS	**Kolonicke sedl**	**2.68**	**109**	*e*PG	**Pg**	**16 21 29.8**	**+0.5**
BRG	**Berggiesshubel**	**3.04**	**291**	PG	**Pg**	**16 21 34.1**	**-2.0**
BRG				SG	**Sg**	**16 22 15.2**	**-0.3**
4.3nm,0.6s							
KHC	**Kasperske Hory**	**3.24**	**259**	*e*PN	**Pn**	**16 21 30.1**	**+0.2**
KHC				*e*PG	**Pg**	**16 21 37.6**	**-2.4**
KHC				*e*SG	**Sg**	**16 22 22.3**	**+0.3**
6.8nm,0.4s							
MOA	**Molln**	**3.40**	**235**	⇑*i*Pn	**Pn**	**16 21 31.6**	**-0.6**
MOA				⇓*i*Sg	**Sg**	**16 22 27.3**	**0.0**
comp=Z,5.1nm,0.5s							
CLL	**Collm**	**3.74**	**295**	*i* Pn	**Pg**	**16 21 48.3**	**-1.3**
CLL				*e*Sn	**Sn**	**16 22 21.0**	**-0.6**
CLL				*e*Sg	**Sg**	**16 22 38.0**	**-0.1**
comp=Z,17nm,1.2s							
NKC	**Novy Kostel**	**3.87**	**278**	*e*PN	**Pn**	**16 21 38.3**	**-0.2**
NKC				*e*PG	**Pg**	**16 21 48.6**	**-3.4**
NKC				*e*SG	**Sg**	**16 22 41.7**	**-0.4**
comp=Z,5.8nm,0.4s							

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*ISCJB **18** 16:25:02.5±0.5, 3877N±003×2279E±004, h10km, Error ellipse: s-maj=4.9km s-min=4.6km az=108.3*
*NEIC **18** 16:25:03.0, 3871N×2278E, h15km±3km, MD3.2/8, ML3.3(ATH), After ATH.*
*ATH **18** 16:25:03.0, 3871N×2278E, h15km±3km, MD3.2/8, ML3.3*
*THE **18** 16:25:03.6, 3881N×2276E, h10km, ML2.8*
*CSEM **18** 16:25:03.0, 3871N×2278E, h15km, MD3.2/8, After ATH*

ISC 18 16:25:02.8±0.5,**3874N**±003×**2279E**±004,**h10**km,**n14**, σ0§**98**/18,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.46**	**309**	*e*Pg	**Pg**	**16 25 10.6**	**-1.1**
AGG				*e*Sg	**Sg**	**16 25 16.9**	**-0.8**
NEO	**Neokhori**	**0.66**	**31**	*e*PN	**Pg**	**16 25 16.2**	**+0.5**
XOR	**Xorichti**	**0.70**	**27**	*e*Pg	**Pg**	**16 25 16.1**	**-0.3**
XOR				*e*Sg	**Sg**	**16 25 25.8**	**+0.2**
EVR	**Evrytania**	**0.78**	**283**	*e*PN	**Pg**	**16 25 18.0**	**+0.1**
MGER	**Gerania Oros**	**0.84**	**153**	*e*PB	**Pb**	**16 25 18.0**	**-1.5**
AOS	**Alonnisos**	**0.96**	**63**	*e*Pg	**Pg**	**16 25 21.2**	**0.0**
AOS				*e*Sg	**Sg**	**16 25 34.8**	**+1.1**
ATH	**Athens Observa**	**1.06**	**136**	*e*PN	**Pn**	**16 25 23.0**	**-0.7**
PTL	**Penteli**	**1.09**	**129**	*e*PN	**Pn**	**16 25 24.0**	**-0.2**
NAIG	**Nisos Aigina**	**1.12**	**150**	*e*PN	**Pn**	**16 25 24.0**	**-0.6**
LIT	**Litokhoron**	**1.38**	**351**	*e*Pg	**Pg**	**16 25 27.8**	**-1.6**
LIT				*e*Sg	**Sg**	**16 25 47.3**	**0.0**
ITM	**Ithomi**	**1.70**	**204**	*e*PN	**Pn**	**16 25 33.5**	**+1.0**
VLS	**Valsamata**	**1.81**	**253**	*e*PN	**Pn**	**16 25 36.5**	**+2.4**
IGT	**Igoumenitsa**	**2.07**	**293**	*e*Pn	**Pn**	**16 25 39.2**	**+1.7**
FNA	**Florina**	**2.31**	**332**	*e*Pn	**Pn**	**16 25 41.5**	**+0.6**

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*NEIC **18** 16:35:33.2, 3162S×6700W, h150km, MG4.3(GUC), After GUC.*

GUC 18 16:35:33.3±0.7,**3166S×6727W,h208**km±46km,**ML4.3,**
6C-3D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.81**	**227**	⇑*i*P	Pn	16 36 08.5	-2.0
MDZ				*i*		16 36 34.4	
MDZ				*i* S	Sn	16 36 43.6	+4.1
JACH	**Jahuel**	**3.00**	**249**	*e*P	Pn	16 36 24.9	+1.6
FCH	**Farellones**	**3.05**	**236**	*e*P	Pn	16 36 25.2	+1.4
FCH				*i* S	Sn	16 37 05.2	+1.8
FCH				AML	AML	16 37 07.5	
comp=N,149nm,0.3s							
CMCH	**Combarbala**	**3.22**	**278**	⇓*i*P	Pn	16 36 27.0	+1.1
CMCH				*i* S	Sn	16 37 07.9	+0.7
CMCH				AML	AML	16 37 10.6	
comp=E,699nm,0.7s							
CMCH	**Combarbala**	**3.22**	**278**	⇓*i*P	Pn	16 36 27.0	+1.1
CMCH				*i* S	Sn	16 37 07.9	+0.7
PEL	**Peldehue**	**3.24**	**242**	⇑*i*P	Pn	16 36 27.2	+1.1
PEL				*i* S	Sn	16 37 08.3	+0.6
PEL				AML	AML	16 37 12.1	
comp=N,330nm,0.3s							
PEL	**Peldehue**	**3.24**	**242**	⇑*i*P	Pn	16 36 27.2	+1.1
PEL				*i* S	Sn	16 37 08.3	+0.6
CLCH	**Cerro Calan**	**3.26**	**237**	⇑*i*P	Pn	16 36 27.5	+1.2
CLCH				*i* S	Sn	16 37 09.0	+1.1
CLCH				AML	AML	16 37 12.3	
comp=E,331nm,0.6s							

PCH	**Pirque**	**3.36**	**234**	*i* P	Pn	16 36 28.8	+1.3
TLL	**Tololo Astrono**	**3.38**	**295**	⇑*i*P	Pn	16 36 29.6	+1.9
TLL				*i* S	Sn	16 37 12.1	+1.6
TLL				AML	AML	16 37 19.0	
comp=N,197nm,0.5s							
TLL	**Tololo Astrono**	**3.38**	**295**	⇑*i*P	Pn	16 36 29.6	+1.9
TLL				*i* S	Sn	16 37 12.1	+1.6
CHCH	**Chadas Angostu**	**3.64**	**231**	*i* P	Pn	16 36 32.8	+1.8
TACH	**Talagante**	**3.68**	**236**	⇓*i*P	Pn	16 36 32.2	+0.9
CACH	**El Canelo**	**3.72**	**228**	*e*P	Pn	16 36 33.5	+1.6

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*ISCJB **18** 16:54:52.6±0.4, 1775S±007×4175E±006, h10km, mb4.4/49, MS4.0/2, Error ellipse: s-maj=10.0km s-min=8.0km az=110.4*
*MOS **18** 16:54:52.9±1.2, 1771S×4171E, h10km, mb4.8/31, Error ellipse: s-maj=12.8km s-min=7.4km az=106.8*
*IDC **18** 16:54:52.4±0.7, 1766S×4183E, h0km, mb3.9/13, mb1 4.0/18, mb1mx4.0/26, mbtmp3.9/18, ML3.7/5, MS3.4/6, Ms1 3.4/6, ms1mx3.1/30, Error ellipse: s-maj=19.2km s-min=17.0km az=128.0*
*BJI **18** 16:54:53.4, 1756S×4162E, h9km, mB5.5, mb5.0, Ms4.9, Msz4.4*
*NEIC **18** 16:54:54.4±0.3, 1778S×4175E, h10km, mb4.6/32, Error ellipse: s-maj=8.2km s-min=7.0km az=139.0*
*LDG **18** 16:54:56.1±0.7, 1702S×4202E, h10km, Mb4.7/22, Ms3.9/3, Error ellipse: s-maj=55.3km s-min=6.1km az=28.0*
*SZGRF **18** 16:55:00.7, 1696S×4058E, h22km, mb4.6, Mozambique*

ISC 18 16:54:54.5±0.4,**1776S**±006×**4177E**±006,**h10**km,
(h19km±1.4km:**pP-P),n149,**σ1§**06**/132,**mb4.4**/49,**MS4.0**/2,
1C-2D,Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.22**	**100**	Pn	**Pn**	**16 56 11.7**	**-0.9**
21nm,0.3s,baz=269,slow=13,SNR=221							
OPO				Sn	**Sn**	**16 57 07.4**	**-5.4**
15nm,0.3s,baz=218,slow=10,SNR=5.6							
MATP	**Matopo**	**12.82**	**256**	Pn	**Pn**	**16 57 55.5**	**-1.3**
0.2nm,0.3s,baz=79,slow=15,SNR=8.0							
MATP				Sn	**Sn**	**17 00 06.8**	**-13**
0.5nm,0.3s,baz=156,slow=19,SNR=3.7							
MATP				LR	LR	17 03 27.3	
comp=Z,261nm,18.0s,baz=112,slow=40							
LSZ	**Lusaka**	**13.25**	**279**	Pn	**Pn**	**16 58 01.7**	**-1.0**
0.2nm,0.3s,baz=100,slow=15,SNR=6.3							
LSZ				Sn	**Sn**	**17 00 17.7**	**-12**
0.1nm,0.3s,baz=102,slow=14,SNR=2.1							
LSZ				LR	LR	17 03 03.4	
comp=Z,247nm,19.2s,baz=255,slow=37							
LSZ	**Lusaka**	**13.25**	**279**	*e*Pn	**Pn**	**16 58 00.5**	**-2.2**
LSZ				Sn	**Sn**	**17 00 17.7**	**-12**
LSZ				LR	LR	17 03 03.4	
LBTB	**Lobatse**	**16.69**	**242**	Pn	**Pn**	**16 58 48.8**	**+0.3**
0.2nm,0.3s,baz=60,slow=12,SNR=4.9							
LBTB				Sn	**Sn**	**17 01 38.4**	**-15**
0.3nm,0.3s,baz=186,slow=9.2,SNR=3.5							
LBTB				LR	LR	17 05 08.2	
comp=Z,87nm,18.8s,baz=80,slow=37							
LBTB	**Lobatse**	**16.69**	**242**	*e*P	**Pn**	**16 58 48.1**	**-0.3**
LBTB				pmax	pmax		
comp=Z,12nm,1.0s							
LBTB	**Lobatse**	**16.69**	**242**	*e*Pn	**Pn**	**16 58 48.0**	**-0.4**
comp=Z,12nm,1.0s							
KMBO	**Kilima Mbogo**	**17.11**	**344**	LR	LR	17 05 56.7	
comp=Z,106nm,19.1s,baz=91,slow=39							
KMBO	**Kilima Mbogo**	**17.11**	**344**	P	**Pn**	**16 58 51.2**	**-2.6**
KMBO				pmax	pmax		
comp=Z,8.0nm,1.5s							
KMBO	**Kilima Mbogo**	**17.11**	**344**	P	**Pn**	**16 58 51.2**	**-2.6**
comp=Z,8.5nm,1.5s							
BOSA	**Boshof**	**18.61**	**232**	P	**Pn**	**16 59 13.2**	**+1.0**
comp=Z,0.1nm,0.3s,baz=53,slow=13,SNR=7.4							
BOSA				LR	LR	17 06 19.1	
comp=Z,103nm,18.8s,baz=192,slow=37							
BOSA	**Boshof**	**18.61**	**232**	*e*P	**Pn**	**16 59 11.5**	**-0.7**
BOSA				pmax	pmax		
comp=Z,21nm,1.4s							
BOSA	**Boshof**	**18.61**	**232**	*e*Pn	**Pn**	**16 59 11.5**	**-0.7**
comp=Z,21nm,1.4s							
TSUM	**Tsumeb**	**22.98**	**263**	P	**P**	**16 59 60.0**	**+0.8**
comp=Z,4.2nm,1.1s,mb3.8,baz=100,slow=16,SNR=2.7							
TSUM				LR	LR	17 09 01.8	
comp=Z,108nm,19.2s,MS3.3,baz=123,slow=37							
TSUM	**Tsumeb**	**22.98**	**263**	P	**P**	**16 59 59.6**	**+0.4**
comp=Z,6.1nm,0.9s,mb4.0							
TSUM				LR	LR	17 09 01.8	
SUR	**Sutherland**	**23.85**	**228**	P	**P**	**17 00 09.1**	**+1.1**
comp=Z,29nm,0.8s,mb4.8,baz=60,slow=9.2,SNR=21							
SUR	**Sutherland**	**23.85**	**228**	P	**P**	**17 00 09.1**	**+1.1**
TORD	**Torodi Ar. Bea**	**50.07**	**305**	P	**P**	**17 03 49.4**	**-0.1**
comp=Z,1.7nm,0.9s,mb4.1,baz=133,slow=8.0,SNR=10							
MAW	**Mawson**	**51.63**	**170**	P	**P**	**17 03 59.4**	**-1.8**
comp=Z,0.8nm,0.7s,mb3.8,baz=312,slow=15,SNR=2.5							
DBIC	**Dimbokro**	**52.04**	**294**	P	**P**	**17 04 04.6**	**+0.3**
comp=Z,0.6nm,0.3s,mb3.9,baz=110,slow=12,SNR=3.1							
MALT	**Malatya**	**55.86**	**357**	*e*P	**P**	**17 04 32.5**	**+0.3**
MALT				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
MALT	**Malatya**	**55.86**	**357**	*e*P	**P**	**17 04 32.5**	**+0.3**
comp=Z,3.3nm,0.8s,mb4.4							
BRTR	**Keskin Array B**	**57.69**	**353**	P	**P**	**17 04 44.6**	**-0.6**
comp=Z,0.9nm,0.9s,mb3.8,baz=177,slow=7.4,SNR=5.4							
SNAA	**Sanae**	**59.85**	**195**	P	**P**	**17 05 01.0**	**+0.8**
comp=Z,0.4nm,1.0s,mb3.4,baz=122,slow=15,SNR=3.0							
TIP	**Timpagrande**	**61.28**	**338**	*e*P	**P**	**17 05 10.4**	**+0.4**
KIV	**Kislovodsk**	**61.42**	**1**	*e*P	**P**	**17 05 15.6**	**+4.7**
KIV				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.6							
ANN	**Anapa**	**62.38**	**357**	*e*P	**P**	**17 05 11.9**	**-5.5**
ANN				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.5							
LSA	**Lhasa**	**67.03**	**46**	*e*P	**P**	**17 05 47.9**	**+0.2**
LSA				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
LSA	**Lhasa**	**67.03**	**46**	*e*P	**P**	**17 05 47.9**	**+0.1**
comp=Z,4.2nm,0.9s,mb4.5							
AAK	**Ala-Archa**	**67.23**	**26**	*e*P	**P**	**17 05 53.1**	**+4.1**
AAK				pmax	pmax		
comp=Z,3.0nm,1.2s,mb4.2							
SRO	**Srobarova**	**68.58**	**343**	*e*P	**P**	**17 05 57.9**	**+0.4**
SRO				pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.6							
SRO	**Srobarova**	**68.58**	**343**	*e*P	**P**	**17 05 57.9**	**+0.4**
comp=Z,9.1nm,1.2s,mb4.6							
KECS	**Kecovo**	**68.63**	**345**	*e*P	**P**	**17 06 03.3**	**+5.5**
KECS				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
KECS	**Kecovo**	**68.63**	**345**	*e*P	**P**	**17 06 03.3**	**+5.5**
comp=Z,3.5nm,1.0s,mb4.2							
AKASG	**Malin Array Be**	**69.05**	**351**	P	**P**	**17 05 58.4**	**-2.0**
comp=Z,0.2nm,0.3s,mb3.5,baz=182,slow=6.3,SNR=3.7							
AKASG	**Malin Array Be**	**69.05**	**351**	P	**P**	**17 05 58.4**	**-2.0**
VYHS	**Vyhne**	**69.06**	**344**	*e*P	**P**	**17 06 06.0**	**+5.5**
VYHS				pmax	pmax		
comp=Z,5.0nm,1.4s,mb4.2							
VYHS	**Vyhne**	**69.06**	**344**	*e*P	**P**	**17 06 06.0**	**+5.5**
comp=Z,4.6nm,1.4s,mb4.2							
MBDF	**Montbardon**	**69.89**	**334**	*e*P	**P**	**17 06 07.3**	**+1.7**
comp=Z,24nm,1.0s,mb4.8							
MBDF	**Montbardon**	**69.89**	**334**	*e*P	**P**	**17 06 07.3**	**+1.7**
MBDF				pmax	pmax		
comp=Z,12nm,1.0s,mb4.8							
MBDF	**Montbardon**	**69.89**	**334**	*e*P	**P**	**17 06 07.3**	**+1.7**
comp=Z,12nm,1.0s,mb4.8							
ORIF	**Oris-en-Rattie**	**70.42**	**334**	*e*P	**P**	**17 06 10.7**	**+1.8**
comp=Z,11nm,1.0s,mb4.5							
ORIF	**Oris-en-Rattie**	**70.42**	**334**	*e*P	**P**	**17 06 10.7**	**+1.8**
ORIF				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.5							
ORIF	**Oris-en-Rattie**	**70.42**	**334**	*e*P	**P**	**17 06 10.7**	**+1.8**
comp=Z,5.5nm,1.0s,mb4.4							
OKC	**Ostrava-Krasne**	**70.47**	**344**	*e*P	**P**	**17 06 14.7**	**+5.5**
LPG	**La Plagne**	**70.52**	**335**	*e*P	**P**	**17 06 09.6**	**+0.1**
comp=Z,8.8nm,0.8s,mb4.5							
LPG	**La Plagne**	**70.52**	**335**	*e*P	**P**	**17 06 09.6**	**+0.1**
LPG				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
LPG	**La Plagne**	**70.52**	**335**	*e*P	**P**	**17 06 09.6**	**+0.1**
comp=Z,4.4nm,0.8s,mb4.4							
LPL	**La Plagne**	**70.55**	**335**	*e*P	**P**	**17 06 09.6**	**-0.1**
comp=Z,8.0nm,0.8s,mb4.4							
LPL	**La Plagne**	**70.55**	**335**	*e*P	**P**	**17 06 09.6**	**-0.1**
LPL				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
LPL	**La Plagne**	**70.55**	**335**	*e*P	**P**	**17 06 09.6**	**-0.1**
comp=Z,4.0nm,0.8s,mb4.4							
MORC	**Moravsky Berou**	**70.58**	**344**	*e*P	**P**	**17 06 08.6**	**-1.2**
MORC				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.4							
MORC	**Moravsky Berou**	**70.58**	**344**	*e*P	**P**	**17 06 08.6**	**-1.3**
comp=Z,5.8nm,1.1s,mb4.4							
LASF	**Ste Croix**	**70.62**	**332**	*e*P	**P**	**17 06 09.6**	**-0.5**
comp=Z,17nm,1.2s,mb4.5							
GERES	**GERESS Array B**	**70.86**	**341**	P	**P**	**17 06 10.4**	**-1.2**
comp=Z,2.6nm,1.1s,mb4.1,baz=142,slow=6.8,SNR=11							
VIVF	**Saint-Julien-l**	**70.88**	**333**	*e*P	**P**	**17 06 12.7**	**+1.0**
KHC	**Kasperske Hory**	**71.15**	**341**	*e*P	**P**	**17 06 17.9**	**+4.6**
KHC	**Kasperske Hory**	**71.15**	**341**	*e*P	**P**	**17 06 17.0**	**+3.7**
ESDC	**Sonseca Array**	**71.30**	**324**	P	**P**	**17 06 14.3**	**+0.1**
comp=Z,0.6nm,0.6s,mb3.7,baz=116,slow=3.9,SNR=3.9							
DPC	**Dobruska-Polom**	**71.43**	**343**	*e*P	**P**	**17 06 14.1**	**-0.9**
EPF	**Esparros**	**71.47**	**329**	*e*P	**P**	**17 06 16.1**	**+0.8**
UPC	**Upice**	**71.66**	**343**	*e*P	**P**	**17 06 21.8**	**+5.4**
CABF	**La Chapelle**	**71.70**	**335**	*e*P	**P**	**17 06 17.0**	**+0.4**
comp=Z,26nm,1.0s,mb4.8							
CABF	**La Chapelle**	**71.70**	**335**	*e*P	**P**	**17 06 17.0**	**+0.4**
CABF				pmax	pmax		
comp=Z,13nm,1.0s,mb4.8							
CABF	**La Chapelle**	**71.70**	**335**	*e*P	**P**	**17 06 17.0**	**+0.4**
comp=Z,13nm,1.0s,mb4.8							
ETSF	**Etsaut**	**71.81**	**329**	*e*P	**P**	**17 06 18.0**	**+0.7**
comp=Z,11nm,1.1s,mb4.4							
ETSF	**Etsaut**	**71.81**	**329**	*e*P	**P**	**17 06 18.0**	**+0.7**
ETSF				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.4							
ETSF	**Etsaut**	**71.81**	**329**	*e*P	**P**	**17 06 18.0**	**+0.7**
comp=Z,5.4nm,1.1s,mb4.4							
CAF	**Calviac**	**72.09**	**332**	*e*P	**P**	**17 06 20.0**	**+1.0**
GRA1	**Grafenberg Arr**	**72.39**	**340**	*e*P	**P**	**17 06 20.3**	**-0.5**
comp=Z,6.0nm,1.1s,mb4.4							
GRA1				*e*pP	pP	17 06 26.6	+2.5
GRF	**Grafenberg Arr**	**72.39**	**340**	*e*P	**P**	**17 06 20.3**	**-0.5**
comp=Z,6.0nm,1.1s,mb4.4							
GRF				*e*pP	pP	17 06 26.6	+2.5
comp=Z,6.0nm,1.1s							
GRF	**Grafenberg Arr**	**72.39**	**340**	*e*P	**P**	**17 06 20.3**	**-0.5**
GRF				*e**PP	pP	17 06 26.6	+2.5
GRF				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.4							
GRF	**Grafenberg Arr**	**72.39**	**340**	*e*P	**P**	**17 06 20.3**	**-0.5**
GRF				*e**PP	pP	17 06 26.6	+2.5
GRF				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.4							
RJF	**Les Rejaudoux**	**72.63**	**331**	*e*P	**P**	**17 06 22.9**	**+0.7**
SMF	**Signal de Mont**	**72.65**	**334**	*e*P	**P**	**17 06 22.4**	**0.0**
comp=Z,20nm,1.0s,mb4.7							
SMF	**Signal de Mont**	**72.65**	**334**	*e*P	**P**	**17 06 22.4**	**0.0**
SMF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7							
SMF	**Signal de Mont**	**72.65**	**334**	*e*P	**P**	**17 06 22.4**	**0.0**
comp=Z,9.9nm,1.0s,mb4.7							
CDF	**Champ du Feu**	**72.71**	**337**	*e*P	**P**	**17 06 22.2**	**-0.5**
comp=Z,17nm,1.3s,mb4.5							
CDF	**Champ du Feu**	**72.71**	**337**	*e*P	**P**	**17 06 22.2**	**-0.5**
CDF				pmax	pmax		
comp=Z,8.0nm,1.3s,mb4.5							
CDF	**Champ du Feu**	**72.71**	**337**	*e*P	**P**	**17 06 22.2**	**-0.5**
comp=Z,8.4nm,1.3s,mb4.5							
LFF	**La Frestale**	**72.71**	**331**	*e*P	**P**	**17 06 23.5**	**+0.8**
OBN	**Obninsk**	**72.72**	**357**	⇑P	**P**	**17 06 24.4**	**+1.7**
OBN				pmax	pmax		
comp=Z,6.0nm,1.2s,mb4.4							
HAU	**Haudompre**	**72.73**	**336**	*e*P	**P**	**17 06 23.6**	**+0.8**
comp=Z,20nm,0.9s,mb4.7							
HAU	**Haudompre**	**72.73**	**336**	*e*P	**P**	**17 06 23.6**	**+0.8**
HAU				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
HAU	**Haudompre**	**72.73**	**336**	*e*P	**P**	**17 06 23.6**	**+0.8**
comp=Z,10nm,0.9s,mb4.8							
AVF	**Avril sur Loir**	**72.98**	**333**	*e*P	**P**	**17 06 24.4**	**+0.1**
comp=Z,14nm,1.0s,mb4.6							
AVF	**Avril sur Loir**	**72.98**	**333**	*e*

ASAR Alice Springs 84.93 113 P **P** **17 07 30.2 +0.4**
comp=N,1.1nm,0.9s,mb4.0,baz=248,slow=5.7,SNR=7.7
HHC Hu-ho-hao-te 87.01 45 *e*P **P** **17 07 42.0 +1.9**
HHC AP pP 17 07 46.8 +3.3
HHC XP sP 17 07 49.1 +4.5
HHC PP PP 17 11 07.8 +4.5
HHC SKS 17 18 06.3
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,70nm,3.8s
HHC LR LR
comp=N,230nm,20.2s,MS4.6
HHC LR LR
comp=E,130nm,20.2s,MS4.6
HHC LR LR
comp=Z,230nm,21.4s,MS4.5
ULN Ulaanbaatar 87.47 38 *e*P **P** **17 07 46.5 +4.2**
NJ2 Nanjing 88.81 56 *e*P **P** **17 07 52.4 +3.7**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
HIA Hailar 95.68 40 *e*P **P** **17 08 25.0 +4.5**
SNY Shenyang 95.74 48 PR **P** **17 08 16.8 -3.9**
SNY AMB AMB
comp=Z,10.0nm,0.5s,mb5.5
SNY AMB AMB
comp=Z,70nm,4.4s
BOZ Bozeman (W) 144.47 327 PKIKP PKPdf 17 14 29.0 -2.1
YFT Old Faithful 144.84 325 *e*PKPdf PKPdf 17 14 33.7 +2.0
DLMT Dillon 145.16 328 *e*PKPdf PKPdf 17 14 32.8 +0.5
PDAR Pinedale Array 145.16 322 PKPbc PKPbc 17 14 31.6 -0.3
comp=Z,2.6nm,1.1s,baz=81,slow=4.7,SNR=14
IMW Indian Meadow 145.25 324 *e*PKPdf PKPdf 17 14 32.8 +0.3
SMCO Snowmass 145.48 315 *e*PKPdf PKPdf 17 14 33.6 +0.8
TPAW Teton Pass 145.52 324 *e*PKPdf PKPdf 17 14 33.7 +0.8
MCMT McKenzie Canyo 145.65 327 *e*PKPdf PKPdf 17 14 34.5 +1.3
AHID Auburn Hatcher 146.06 323 *e*PKPdf PKPdf 17 14 35.2 +1.3
LTX Lajitas 146.40 296 *e*PKP2 PKPab 17 14 36.0 -0.6
HWUT Hardware Ranch 147.05 322 *e*PKPdf PKPdf 17 14 37.0 +1.5
MNTX Cornudas Mount 147.24 301 *e*PKPdf PKPdf 17 14 37.1 +1.3
TCUT Toone Canyon 147.26 321 *e*PKPdf PKPdf 17 14 37.3 +1.4
BNM Barren Site 147.40 306 *e*PKPbc PKPbc 17 14 39.2 +0.7
LAZ Ladron 147.70 307 *e*PKPbc PKPbc 17 14 39.8 +0.5
SRU San Rafael 147.87 317 *e*PKP2 PKPbc 17 14 38.5 -1.3
TMUT Trail Mountain 148.21 318 *e*PKPdf PKPdf 17 14 38.2 +0.8
DUG Dugway 148.67 321 *e*PKIKP PKPdf 17 14 39.3 +1.1
MSU Marysvale 149.27 318 *e*PKIKP PKPdf 17 14 41.5 +2.4
TUC Tucson 151.32 306 *e*PKIKP PKPdf 17 14 42.9 +0.5
TUC *e* 17 14 49.8
TUC *e* 17 14 56.4

NEIC ***18*** *16:56:43.5±1.4,2961S×17755W,h15km,mb3.9/2,Error ellipse: s-maj=32.9km s-min=13.9km az=61.0*
IDC 18 16:56:46.3±2.4,2923S×17783W,h21km±30km,mb3.9/3, mb1 4.1/3,mb1mx3.8/10,mbtmp4.0/3,Error ellipse: s-maj=164.4km s-min=17.0km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.08**	**254**	Pn	Pb	16 56 52.4	+2.1
	2μm,0.3s,baz=83,slow=23,SNR=120						
RAO				Sn	Sb	16 56 56.2	+3.3
	3μm,0.3s,baz=72,slow=19,SNR=48						
RAO	**Raoul Island**	**0.08**	**254**	*e*P	Pb	16 56 52.3	+2.0
RAO				Sn	Sb	16 56 56.2	+3.3
STKA	**Stephens Creek**	**34.90**	**255**	*e*P	P	17 03 35.2	-1.1
	3.4nm,1.6s						
STKA	**Stephens Creek**	**34.90**	**255**	P	P	17 03 35.8	-0.5
	1.4nm,0.6s,baz=128,slow=10.0,SNR=8.3						
AS31	**Alice Springs**	**43.33**	**266**	*e*P	P	17 04 47.4	+0.7
ASAR	**Alice Springs**	**43.33**	**266**	P	P	17 04 47.5	+0.7
	1.7nm,0.9s,baz=99,slow=6.6,SNR=20						
ASPA	**Alice Springs**	**43.33**	**266**	*e*P	P	17 04 47.4	+0.6
WB2	**Warramunga Arr**	**44.20**	**271**	*e*P	P	17 04 54.7	+1.0
WRA	**Warramunga Arr**	**44.21**	**271**	P	P	17 04 54.8	+1.0
	3.3nm,1.0s,baz=110,slow=7.9,SNR=19						
VNDA	**Vanda**	**49.27**	**186**	*e*P	P	17 05 27.4	-6.1
	0.3nm,0.4s						
FINES	**FINESS Array B**	**144.10**	**341**	PKP	PKPdf	17 16 19.2	-1.1
	1.0nm,0.6s,baz=5.4,slow=2.9,SNR=8.5						
FINES	**FINESS Array B**	**144.10**	**341**	PKP	PKPdf	17 16 19.2	-1.1

ISCJB ***18*** *16:56:51.4±0.8, 1480N±005×9395W±004, h40km±9km, mb3.7/12, Error ellipse: s-maj=8.7km s-min=5.0km az=58.5*
CASC ***18*** *16:56:52.9±2.0, 1484N×9359W, h133km±80km, MD4.4, mb4.0(NEIC)*
NEIC ***18*** *16:56:52.3±1.0, 1480N×9394W, h31km±7km, mb4.0/7, MD4.4(MEX), Error ellipse: s-maj=10.6km s-min=6.6km az=50.0*
IDC ***18*** *16:56:52.4±6.4, 1477N×9407W, h33km±48km, mb3.5/6, mb1 3.7/8, mb1mx3.5/21, mbtmp3.8/8, ML3.6/2, Error ellipse: s-maj=62.0km s-min=15.9km az=59.0*
MEX ***18*** *16:56:54.0±0.8, 1479N×9397W, h15km±19km, MD4.4*
ISC 18 16:56:53.1±0.7,1483N±005×9393W±004,h36km±9km,n34, σ1§14/41,mb3.7/12,1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.25**	**50**	⇓*i*P	**Pn**	**16 57 28.0**	**+0.1**
CCIG				*e*S	**Sn**	**16 57 56.0**	**+1.6**
SCX	**San Cristobal**	**2.27**	**33**	*i* P	**Pn**	**16 57 29.2**	**+1.1**
SCX				*i* S	**Sn**	**16 57 55.7**	**+0.9**
JAT	**Jato**	**2.28**	**103**	*e*P	**Pn**	**16 57 27.1**	**-1.2**
HUIG	**Huatulco**	**2.30**	**294**	*i* P	**Pn**	**16 57 28.6**	**+0.1**
HUIG				*i* S	**Sn**	**16 57 54.1**	**-1.5**
CMIG	**Matias Romero**	**2.42**	**338**	Pn	**Pn**	**16 57 29.9**	**-0.3**
	18nm,0.3s,baz=140,slow=10,SNR=124						
CMIG				Sn	**Sn**	**16 57 57.7**	**-0.9**
	71nm,0.3s,baz=146,slow=18,SNR=19						
CMIG	**Matias Romero**	**2.42**	**338**	Pn	**Pn**	**16 57 29.9**	**-0.3**
CMIG				Sn	**Sn**	**16 57 57.7**	**-1.0**
TP2	**Tecpan 2**	**2.81**	**91**	*e*P	**Pn**	**16 57 35.2**	**-0.4**
TP2				*e*S	**Sn**	**16 58 07.9**	**-0.3**
FUG	**Fuego 3**	**3.01**	**97**	*e*P	**Pn**	**16 57 35.3**	**-3.0**
TUIG	**Tuzandepetl**	**3.22**	**352**	*e*P	**Pn**	**16 57 41.7**	**+0.6**
TUIG				*e*S	**Sn**	**16 58 18.6**	**+0.4**
VHO	**Vista Hermosa**	**3.50**	**310**	*i* P	**Pn**	**16 57 45.9**	**+0.9**
VHO				*e*S	**Sn**	**16 58 26.3**	**+1.2**
SCIG		**4.88**	**32**	*i* P	**Pn**	**16 58 04.7**	**+0.7**
SCIG				*i* S	**Sn**	**16 58 57.2**	**-2.0**
TEIG	**Tepich**	**7.61**	**44**	*e*Pn	**Pn**	**16 58 39.5**	**-1.9**
	22nm,0.4s						
TEIG				*e*Sn	**Sn**	**16 59 54.8**	**-12**
JTS	**JuntasAbangare**	**9.86**	**116**	Pn	**Pn**	**16 59 13.8**	**+1.6**
	0.4nm,0.3s,baz=295,slow=19,SNR=2.5						
JCT	**Junction City**	**16.48**	**342**	Pn	**Pn**	**17 00 41.1**	**-0.4**
	8.7nm,0.3s						
LRAL	**Lakeview Retre**	**19.18**	**18**	*e*P	**Pn**	**17 01 14.4**	**-0.3**
	11nm,1.0s						
MIAR	**Mount Ida**	**19.63**	**1**	*e*P	**Pn**	**17 01 18.8**	**-1.3**
	4.2nm,0.7s						
OTAV	**Otavalo**	**21.08**	**132**	*e*P	**P**	**17 01 35.6**	**+1.3**
	1.5nm,0.8s,mb3.4						
AMTX	**Amarillo**	**21.15**	**342**	*e*P	**P**	**17 01 36.1**	**+1.2**
	8.1nm,0.8s,mb4.1						
AMTX				*e*		17 01 43.6	
ROSC	**El Rosal**	**21.68**	**115**	P	**P**	**17 01 43.2**	**+2.5**
	3.2nm,0.4s,mb4.1,baz=90,slow=20,SNR=5.5						
ROSC	**El Rosal**	**21.68**	**115**	*e*P	**P**	**17 01 41.5**	**+0.8**
WVT	**Waverly**	**21.90**	**13**	P	**P**	**17 01 43.5**	**+0.5**
	4.4nm,1.0s,mb3.8						
BNM	**Barren Site**	**22.40**	**331**	*e*pP	pP	17 01 56.7	-1.1
LAZ	**Ladron**	**22.84**	**331**	P	**P**	**17 01 52.5**	**-0.5**
ANMO	**Albuquerque**	**22.99**	**333**	P	**P**	**17 01 58.0**	**+3.4**
	0.8nm,0.7s,mb3.3,baz=180,slow=5.1,SNR=3.6						
ANMO	**Albuquerque**	**22.99**	**333**	P	**P**	**17 01 58.0**	**+3.4**
NVAR	**Mina Array Bea**	**31.86**	**322**	P	**P**	**17 03 18.8**	**+4.1**
	1.0nm,0.7s,mb3.8,baz=137,slow=8.1,SNR=9.4						
SAML	**Samuel**	**38.57**	**126**	*e*P	**P**	**17 04 09.6**	**-2.8**
	3.0nm,1.2s,mb3.9						
LPAZ	**La Paz**	**40.07**	**140**	P	**P**	**17 04 25.4**	**+0.6**
	0.4nm,0.6s,mb3.4,baz=309,slow=6.5,SNR=3.5						
SIV	**San Ignacio**	**44.63**	**132**	P	**P**	**17 05 00.9**	**-1.1**
	1.7nm,1.0s,mb3.8,baz=313,slow=9.4,SNR=7.4						
YKA	**Yellowknife Ar**	**49.80**	**348**	P	**P**	**17 05 41.6**	**-0.7**
	0.8nm,0.7s,mb3.9,baz=155,slow=7.2,SNR=12						
CFAA	**Coronel Fontan**	**52.34**	**152**	P	**P**	**17 06 01.6**	**+0.3**
	0.2nm,0.7s,mb3.1,baz=296,slow=3.8,SNR=5.4						
ARCES	**ARCESS Array B**	**85.93**	**18**	P	**P**	**17 09 29.6**	**+0.2**
	0.6nm,0.7s,mb4.0,baz=306,slow=4.2,SNR=7.6						
WRA	**Warramunga Arr**	**133.78**	**256**	PKP	PKPdf	17 16 07.0	+0.9
	0.3nm,0.7s,baz=90,slow=2.1,SNR=4.7						
ASAR	**Alice Springs**	**134.17**	**251**	PKP	PKPdf	17 16 07.2	+0.4
	0.2nm,0.7s,baz=116,slow=2.2,SNR=4.5						

IDC 18 17:02:23.8±5.5,3042N×14136E,h0km,mb3.1/2, mb1 3.4/4,mb1mx3.2/18,mbtmp3.2/4,ML3.0/2,Error ellipse: s-maj=282.5km s-min=24.7km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.00**	**334**	Pn	Pn	17 03 12.7	0.0
	3.8nm,0.3s,baz=61,slow=19,SNR=2.7						
JHJ				Sn	Sn	17 03 46.0	-3.4
	7.1nm,0.3s,baz=73,slow=20,SNR=7.2						
MJAR	**Matsushiro Arr**	**6.64**	**337**	Pn	Pn	17 04 02.2	-0.5
	0.4nm,0.3s,baz=154,slow=8.5,SNR=4.5						
WRA	**Warramunga Arr**	**50.53**	**189**	P	P	17 11 23.8	-0.1
	0.3nm,0.7s,baz=6.8,slow=7.8,SNR=4.8						
ASAR	**Alice Springs**	**54.26**	**188**	P	P	17 11 51.8	+0.2
	0.1nm,0.6s,baz=4.1,slow=5.0,SNR=4.9						

IDC ***18*** *17:10:49.4±0.7, 124N×9708E, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.3/24, mbtmp4.4/18, ML3.9/1, MS4.5/1, Ms1 4.5/1, ms1mx2.8/19, Error ellipse: s-maj=23.9km s-min=13.3km az=43.0*
BJI ***18*** *17:10:50.9, 108N×9726E, h30km, mB4.9, mb4.9, Ms4.7, Msz4.6*
ISCJB ***18*** *17:10:52.6±0.3, 126N±004×97.10E±004, h31km, mb4.8/69, MS4.5/20, Error ellipse: s-maj=6.9km s-min=5.1km az=68.9*
MOS ***18*** *17:10:53.3±1.1, 137N×97.11E, h33km, mb5.2/23, MS4.5/5, Error ellipse: s-maj=12.0km s-min=6.5km az=102.4*
NEIC ***18*** *17:10:53.5±0.3, 121N×9708E, mb4.9/13, Error ellipse: s-maj=9.4km s-min=5.8km az=218.0*
ISC 18 17:10:55.4±0.3,129N±005×9712E±004,h35km, h32km±2.2km:pP-P,n127,σ1§06/139,mb4.8/69,MS4.5/20, 11C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.35**	**50**	Pn	**Pn**	**17 11 30.5**	**-1.0**
	33nm,0.3s,baz=239,slow=7.2,SNR=127						
TSI	**Tuntungan**	**2.63**	**33**	P	**Pn**	**17 11 35.5**	**+0.2**
	998nm,1.2s						
PPI	**Padang Panjang**	**3.71**	**118**	P	**Pn**	**17 11 50.4**	**+0.3**
	267nm,1.0s						
BSI	**Banda Aceh**	**4.56**	**337**	P	**Pn**	**17 12 10.0**	**+8.1**
	111nm,1.0s						
IPM	**Ipoh**	**5.03**	**51**	P	**Pn**	**17 12 09.3**	**+1.0**
KULM	**Kulim**	**5.32**	**41**	⇑*i*P	**Pn**	**17 12 11.5**	**-0.7**
KGM	**Kluang**	**6.24**	**83**	P	**Pn**	**17 12 26.8**	**+1.8**
SNG	**Songkhla**	**6.81**	**31**	P	**Pn**	**17 12 32.0**	**-0.8**
	882nm,1.0s						
KSM	**Kuching**	**13.19**	**89**	*e*Pn	**Pn**	**17 14 02.7**	**+2.6**
KSM				*e*		17 14 12.3	
KKTK	**Khon Kaen**	**15.98**	**20**	⇓P	**Pn**	**17 14 40.0**	**+2.6**
	247nm,0.9s						
KKM	**Kota Kinabalu**	**19.63**	**76**	P	**Pn**	**17 15 22.9**	**+0.5**
KKM	**Kota Kinabalu**	**19.63**	**76**	*e*P	**Pn**	**17 15 21.2**	**-1.2**
TSM	**Tawau**	**20.94**	**81**	P	**P**	**17 15 35.8**	**+0.7**
QIZ	**Qiongzhong**	**21.60**	**34**	P	**P**	**17 15 41.8**	**-0.3**
QIZ				*e*S	**S**	**17 19 36.6**	**-2.8**
QIZ				XS	sS	17 19 51.6	-2.6
QIZ				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
QIZ				LR	LR		
	comp=N,630nm,14.7s,MS4.2						
QIZ				LR	LR		
	comp=E,420nm,13.5s,MS4.2						
QIZ				LR	LR		
	comp=Z,590nm,16.2s,MS4.1						
PCI	**Palu**	**22.82**	**95**	P	**P**	**17 15 54.4**	**-0.7**
	comp=Z,37nm,1.2s,mb4.7						
HYB	**Hyderabad**	**24.30**	**312**	*i* P	**P**	**17 16 11.0**	**+1.6**
HYB				*e*S	**S**	**17 20 40.0**	**+14**
HYB	**Hyderabad**	**24.30**	**312**	*e*P	**P**	**17 16 11.0**	**+1.6**
KMI	**Kunming**	**24.31**	**12**	P	**P**	**17 16 10.3**	**+0.7**
KMI				AP		17 16 16.4	
KMI				XP	sP	17 16 19.0	-4.8
KMI				PP		17 16 48.9	
KMI				PPP		17 17 00.0	
KMI				S	**S**	**17 20 31.9**	**+5.5**
KMI				XS	sS	17 20 42.5	-0.3
KMI				AMB	AMB		
	comp=Z,60nm,1.3s,mb4.9						
KMI				AMB	AMB		
	comp=Z,270nm,4.8s						
KMI				LR	LR		
	comp=N,2μm,16.1s,MS4.7						
KMI				LR	LR		
	comp=E,1μm,13.9s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,14.2s,MS4.7						
SHL	**Shillong**	**24.66**	**349**	*i* P	**P**	**17 16 13.5**	**+0.7**
SHL				*ex*	x	17 26 34.0	
GYA	**Guiyang**	**26.66**	**19**	⇑*i*P	**P**	**17 16 30.3**	**-0.5**
GYA				S	**S**	**17 21 10.6**	**+7.0**
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
GYA				AMB	AMB		
	comp=Z,110nm,6.3s						
GYA				LR	LR		
	comp=N,1μm,15.0s,MS4.6						
GYA				LR	LR		
	comp=E,590nm,15.6s,MS4.6						
GYA				LR	LR		
	comp=Z,2μm,14.3s,MS4.7						
JIRN	**Jiri**	**28.24**	**339**	*e*P	**P**	**17 16 46.6**	**+1.6**
	comp=Z,117nm,1.0s,mb5.5						
PKI	**Pulchoki**	**28.45**	**338**	*e*P	**P**	**17 16 48.0**	**+1.2**
	comp=Z,126nm,1.5s,mb5.3						
PKI	**Pulchoki**	**28.45**	**338**	*e*P	**P**	**17 16 48.0**	**+1.2**
PKI				pmax	pmax		
	comp=Z,126nm,1.5s,mb5.3						
GUN	**Gumba**	**28.58**	**339**	*e*P	**P**	**17 16 49.7**	**+1.7**
	comp=Z,66nm,0.7s,mb5.5						
DMN	**Daman**	**28.59**	**337**	*e*P	**P**	**17 16 49.5**	**+1.3**
	comp=Z,42nm,1.1s,mb5.1						
KKN	**Kakani**	**28.69**	**338**	*e*P	**P**	**17 16 50.2**	**+1.2**
	comp=Z,54nm,1.0s,mb5.2						
KKN	**Kakani**	**28.69**	**338**	*e*P	**P**	**17 16 50.2**	**+1.2**
KKN				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.2						
LSA	**Lhasa**	**28.82**	**349**	P	**P**	**17 16 51.4**	**+1.2**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**28.82**	**349**	*e*P	**P**	**17 16 51.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
LSA	**Lhasa**	**28.82**	**349**	*e*P	**P**	**17 16 51.4**	**+1.2**
	comp=Z,16nm,0.8s,mb4.8						
CD2	**Chengdu**	**30.13**	**11**	*e*P	**P**	**17 17 01.4**	**-0.4**
CD2				AP	pP	17 17 11.9	+0.1
CD2				XP	sP	17 17 16.9	+0.8
CD2				PP	PP	17 18 01.8	-8.3
CD2				S	**S**	**17 21 56.4**	**-1.8**
CD2				XS	sS	17 22 16.5	+1.7
CD2				SS	SS	17 23 38.9	-28
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=E,730nm,14.4s						
CD2				LR	LR		
	comp=Z,640nm,13.2s,MS4.4						
QZH	**Quanzhou**	**31.36**	**40**	*e*P	**P**	**17 17 14.3**	**+1.7**
QZH				S	**S**	**17 22 21.6**	**+4.1**
QZH				LR	LR		
	comp=N,1μm,12.8s,MS4.8						
QZH				LR	LR		
	comp=E,1μm,17.4s,MS4.8						
QZH				LR	LR		
	comp=Z,1μm,13.3s,MS4.8						
MBWA	**Marble Bar**	**31.41**	**136**	*e*P	**P**	**17 17 13.4**	**+0.3**
LGTI	**Lohaghat**	**32.29**	**332**	*i* P	**P**	**17 17 21.0**	**+0.2**
WHN	**Wuhan**	**33.38**	**28**	P	**P**	**17 17 30.3**	**0.0**
FITZ	**Fitzroy Crossi**	**34.04**	**126**	*e*P	**P**	**17 17 35.7**	**-0.4**
	comp=Z,4.1nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**34.04**	**126**	P	**P**	**17 17 35.3**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.3,baz=250,slow=22,SNR=9.1						
FITZ				LR	LR	17 33 36.7	
	comp=Z,689nm,19.6s,MS4.4,baz=36,slow=40						
XAN	**Xi'an**	**34.41**	**17**	P	**P**	**17 17 36.9**	**-2.3**
XAN				S	**S**	**17 22 56.8**	**-8.0**
XAN				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
XAN				LR	LR		
	comp=N,520nm,15.0s,MS4.4						
XAN				LR	LR		
	comp=E,290nm,15.6s,MS4.4						
XAN				LR	LR		
	comp=Z,930nm,14.7s,MS4.7						
LZH	**Lanzhou**	**35.18**	**9**	⇑P	**P**	**17 17 45.0**	**-1.0**
LZH				AP	pP	17 17 56.3	+0.2
LZH				XP	sP	17 18 01.8	+1.5
LZH				PP	PP	17 19 05.5	-0.6
LZH				*e*S	**S**	**17 23 16.3**	**-0.5**
LZH				XS	sS	17 23 35.1	+1.5
LZH				SS	SS	17 25 34.8	-16
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,80nm,5.1s						
LZH				LR	LR		
	comp=N,590nm,12.7s						
LZH				LR	LR		
	comp=Z,830nm,16.8s,MS4.6						
NJ2	**Nanjing**	**36.83**	**32**	*e*P	**P**	**17 18 00.5**	**+0.4**
NJ2				AP	pP	17 18 09.5	-0.8
NJ2				XP	sP	17 18 15.0	+0.5
NJ2				PP	PP	17 19 25.3	+1.0
NJ2				S	**S**	**17 23 42.0**	**-0.1**
NJ2				XS	sS	17 23 57.0	-1.8
NJ2				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,90nm,5.1s						
NJ2				LR	LR		
	comp=N,1μm,16.0s,MS4.9						
NJ2				LR	LR		
	comp=E,630nm,14.9s,MS4.9						
NJ2				LR	LR		
	comp=Z,650nm,15.0s,MS4.5						
SSE	**Sheshan**	**37.39**	**35**	P	**P**	**17 18 05.0**	**+0.2**
SSE				AP	pP	17 18 13.8	-1.2
SSE				XP	sP	17 18 18.3	-0.9
SSE				PP	PP	17 19 29.9	-0.5
SSE				S	**S**	**17 23 50.1**	**-0.4**
SSE				XS	sS	17 24 05.5	-1.8
SSE				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
SSE				AMB	AMB		
	comp=Z,70nm,6.7s						
SSE				LR	LR		
	comp=N,490nm,17.4s,MS4.4						
SSE				LR	LR		
	comp=E,250nm,17.4s,MS4.4						
SSE				LR	LR		
	comp=Z,990nm,18.1s,MS4.7						
GTA	**Gaotai**	**38.02**	**3**	*e*P	**P**	**17 18 10.3**	**+0.1**
GTA				AP	pP	17 18 20.1	-0.3
GTA				XP	sP	17 18 24.0	-0.6
GTA				PCP	PcP	17 20 22.0	-3.1
GTA				SCP	ScP	17 24 05.3	-4.7
GTA				PCS	PcS	17 24 10.6	-3.4
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
GTA				AMB	AMB		
	comp=Z,90nm,4.9s						
GTA				LR	LR		
	comp=N,430nm,13.7s,MS4.5						
GTA				LR	LR		
	comp=E,380nm,14.8s,MS4.5						
GTA				LR	LR		
	comp=Z,460nm,14.1s,MS4.4						
JOW	**Kunigami**	**39.24**	**47**	P	**P**	**17 18 20.9**	**+0.6**
	comp=Z,35nm,0.6s,mb5.3,baz=229,slow=5.7,SNR=23						
HHC	**Hu-ho-hao-te**	**41.50**	**17**	*e*P	**P**	**17 18 40.6**	**+1.6**
HHC				AP	pP	17 18 50.3	+1.0
HHC				XP	sP	17 18 54.4	+0.9
HHC				PP	PP	17 20 19.8	+4.5
HHC				PCP	PcP	17 20 37.6	+1.4
HHC				S	**S**	**17 24 53.6**	**+1.4**
HHC				XS	sS	17 25 10.6	+1.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
HHC				AMB	AMB		
	comp=Z,110nm,4.3s						
HHC				LR	LR		
	comp=N,610nm,13.1s,MS4.7						
HHC				LR	LR		
	comp=E,450nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=Z,610nm,15.5s,MS4.6						
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**17 18 44.3**	**-0.1**
	comp=Z,3.3nm,0.5s,mb4.2,baz=303,slow=9.0,SNR=56						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P	**P**	**17 18 47.3**	**+2.9**
WB2	**Warramunga Arr**	**42.16**	**122**	*e*P	**P**	**17 18 44.3**	**-0.1**
WB2				*e*PP	PP	17 20 28.6	+6.2
BJT	**Baijiatuau**	**42.27**	**22**	*e*P	**P**	**17 18 46.4**	**+1.1**
BJT				pmax	pmax		
	comp=Z,20nm,0.6s						
BJT	**Baijiatuau**	**42.27**	**22**	*e*P	**P**	**17 18 46.4**	**+1.1**
	comp=Z,20nm,0.6s,mb4.9						
WMQ	**Urumqi**	**43.18**	**350**	*e*P	**P**	**17 18 53.6**	**+0.9**
WMQ				AP	pP	17 19 04.3	+1.3
WMQ				PP	PP	17 20 36.8	+3.5
WMQ				S	**S**	**17 25 16.3**	**-0.6**
WMQ				XS	sS	17 25 37.3	+3.4
WMQ				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,40nm,3.8s						
WMQ				LR	LR		
	comp=N,140nm,24.0s,MS4.1						
WMQ				LR	LR		
	comp=E,240nm,25.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,110nm,25.0s,MS3.7						
ASPA	**Alice Springs**	**43.51**	**127**	*e*P	**P**	**17 18 55.4**	**0.0**
ASPA				*e*PP	PP	17 20 38.1	+1.2
AS31	**Alice Springs**	**43.51**	**127**	*e*P	**P**	**17 18 55.4**	**0.0**
AS31				*e*PP	PP	17 20 38.1	+1.2
ASAR	**Alice Springs**	**43.51**	**127**	P	**P**	**17 18 54.9**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.1,baz=300,slow=7.8,SNR=62						
ASAR				PcP	PcP	17 20 44.1	+1.3
	comp=Z,1.4nm,0.8s,baz=300,slow=4.1,SNR=4.3						
UCH	**Uchtor**	**45.54**	**336**	P	**P**	**17 19 13.5**	**+1.9**
	SNR=12						
TKM2	**Tokmak 2**	**45.71**	**338**	P	**P**	**17 19 14.4**	**+1.4**
	SNR=7.2						
TKM2	**Tokmak 2**	**45.71**	**338**	P	**P**	**17 19 13.0**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.9						
KBK	**Karagaybulak**	**45.73**	**337**	P	**P**	**17 19 14.6**	**+1.5**
	SNR=8.0						
KS15	**Wonju Array Si**	**45.79**	**35**	*e*P	**P**	**17 19 13.6**	**0.0**
AAK	**Ala-Archa**	**45.89**	**337**

comp=Z,10.0nm,0.6s,mb5.0
ZAK Zakamensk 49.20 5 *e*P **P 17 19 38.7 -1.3**
ZAK pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
CN2 Changchun 49.27 27 *e*P **P 17 19 39.8 -0.8**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 LR LR
comp=N,500nm,17.0s,MS4.7
CN2 LR LR
comp=E,500nm,17.0s,MS4.7
CN2 LR LR
comp=Z,600nm,17.0s,MS4.7
CBIJ Chichi jima 50.24 55 P **P 17 19 46.0 -2.0**
comp=Z,23nm,0.6s,mb5.4,baz=278,slow=19,SNR=4.2
TLY Talaya 50.52 5 *e*P **P 17 19 50.9 +0.8**
TLY *e*S **S 17 27 13.2 +12**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TLY MLR MLR
comp=Z,309nm,15.0s,MS4.4
IRK Irkutsk 51.13 6 *e*P **P 17 19 52.7 -2.0**
IRK pmax pmax
comp=Z,23nm,1.6s,mb4.9
HIA Hailar 51.59 19 *e*P **P 17 19 58.2 +0.1**
HIA pmax pmax
comp=Z,9.0nm,0.7s
HIA Hailar 51.59 19 *e*P **P 17 19 58.2 +0.1**
comp=Z,8.8nm,0.7s,mb4.8
MJAR Matsushiro Arr 51.68 42 P **P 17 19 58.1 -0.7**
comp=Z,3.2nm,0.9s,mb4.2,baz=223,slow=6.5,SNR=12
MDJ Mudanjiang 51.83 29 P **P 17 20 00.8 +0.9**
MDJ XP sP 17 20 13.6 -1.0
MDJ PCS PcS 17 25 10.9 +0.3
MDJ AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
MDJ AMB AMB
comp=Z,70nm,6.8s
MDJ LR LR
comp=N,90nm,29.1s,MS4.1
MDJ LR LR
comp=E,250nm,27.4s,MS4.1
MDJ LR LR
comp=Z,390nm,22.9s,MS4.4
VLA Vladivostok 51.94 32 *e*P **P 17 19 58.9 -1.8**
VLA pmax pmax
comp=Z,65nm,1.7s,mb5.3
CIT Chita 52.41 13 *e*P **P 17 20 04.4 +0.2**
CIT *e* pP 17 20 13.1 -1.6
CIT *e* 17 22 03.8
CIT pmax pmax
comp=Z,37nm,1.5s,mb5.1
STKA Stephens Creek 53.47 132 *e*P **P 17 20 11.3 -0.8**
comp=Z,3.2nm,0.6s,mb4.4
STKA Stephens Creek 53.47 132 P **P 17 20 11.3 -0.7**
comp=Z,4.3nm,0.6s,mb4.5,baz=307,slow=8.0,SNR=16
NVS Novosibirsk 54.58 350 *e*P **P 17 20 18.5 -1.6**
NVS *e*S **S 17 27 47.7 -10**
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s,mb4.9
NVS pmax pmax
comp=E,18nm,1.5s
NVS smax
comp=N,15nm,1.9s
VOSK Vostochnaya 55.70 341 P **P 17 20 26.6 -1.6**
VOSK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KLR Kul'dur 56.21 27 *e*P **P 17 20 28.8 -3.1**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,36nm,1.0s,mb5.4
ZRNK Zerenda 56.54 340 *e*P **P 17 20 32.9 -1.4**
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZRNK Zerenda 56.54 340 *e*P **P 17 20 32.9 -1.3**
comp=Z,5.4nm,0.8s,mb4.6
CHKZ Chkalovo 56.62 341 *e*P **P 17 20 34.0 -0.8**
CHKZ pmax pmax
comp=Z,17nm,0.8s,mb5.1
CHKZ Chkalovo 56.62 341 *e*P **P 17 20 34.0 -0.8**
comp=Z,17nm,0.8s,mb5.1
HABR Khabarovsk 57.22 29 *e*P **P 17 20 38.6 -0.5**
HABR *e*S **S 17 28 33.3 +0.9**
HABR pmax pmax
comp=Z,19nm,1.2s,mb5.0
AB31 Akbulak array 57.40 332 *i* P **P 17 20 39.8 -0.5**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
AKTK Aktyubinsk 59.12 332 P **P 17 20 51.3 -1.0**
AKTO Aktyubinsk 59.12 332 P **P 17 20 51.3 -1.0**
comp=Z,3.1nm,0.6s,mb4.5,baz=128,slow=7.1,SNR=21
YSS Yuzh-Sakhalins 60.32 34 *e*P **P 17 21 01.0 +0.4**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,400nm,16.0s,MS4.7
YSS Yuzh-Sakhalins 60.32 34 *e*P **P 17 21 00.5 -0.1**
comp=Z,17nm,1.0s,mb5.0
ORR Orenburg 61.45 331 *i* P **P 17 21 07.7 -0.6**
ORR pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
ARU Arti 63.07 337⇑ *e*P **P 17 21 18.0 -1.1**
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
KIV Kislovodsk 64.19 319 *e*P **P 17 21 25.8 -0.7**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
YAK Yakutsk 65.36 16*c i*P **P 17 21 33.3 -0.8**
YAK *i* *PP pP 17 21 41.4 -3.5
YAK *e* 17 24 00.6
YAK *e*S S 17 30 36.3 +21
YAK *e*SS sS 17 30 54.5 +21
YAK *e* 17 31 29.2
YAK pmax pmax
comp=Z,29nm,1.0s,mb5.3
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK smax
comp=E,3.0nm,1.6s
YAK MLR MLR
comp=E,224nm,16.0s
YAK MLR MLR
comp=Z,218nm,16.0s,MS4.5
YAK MLR MLR
comp=N,227nm,23.0s
YAK Yakutsk 65.36 16 *e*P **P 17 21 33.2 -0.9**
comp=N,50nm,0.8s,mb5.6
YAK *e* pP 17 21 40.7 -4.2
SOC Sochi 66.00 318 *e*P **P 17 21 32.8 -5.5**
SOC *e*S S 17 30 19.9 -3.7
SOC *e* 17 31 27.4
SOC pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ANN Anapa 67.98 318 *e*P **P 17 21 54.1 +3.3**
ANN *e*S S 17 30 53.5 +6.0
ANN pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
BR131 Keskin Array S 69.00 312 *e*P **P 17 21 56.5 -0.7**
comp=Z,0.9nm,0.5s,mb4.0
BRTR Keskin Array B 69.00 312 P **P 17 21 56.6 -0.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=138,slow=6.7,SNR=7.9
MA2 Magadan 71.29 26 *e*P **P 17 22 11.3 +0.1**
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
PET Petropavlovsk 72.20 34⇑ *e*P **P 17 22 16.4 -0.3**
PET pmax pmax
comp=Z,30nm,1.3s,mb5.1
OBN Obninsk 72.50 328⇓ *e*P **P 17 22 18.3 -0.2**
OBN *e* pP 17 22 25.8 -3.6
OBN 17 22 37.8
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
TIXI Tiksi 73.12 10⇑ *e*P **P 17 22 20.7 -1.4**
TIXI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KLMR Klimovskoe 73.64 334 *e*P **P 17 22 23.1 -2.1**
KLMR pmax pmax
comp=Z,20nm,2.9s,mb4.5
AKASG Malin Array Be 75.14 322 P **P 17 22 32.7 -1.2**
comp=Z,1.1nm,0.5s,mb4.0,baz=94,slow=5.0,SNR=5.3
AKASG Malin Array Be 75.14 322 P **P 17 22 32.7 -1.2**
MLR Muntele Rosu 75.95 317 P **P 17 22 39.3 +0.7**
comp=Z,1.8nm,0.8s,mb4.0,baz=39,slow=5.0,SNR=4.1
LVV L'vov 78.15 321 *e*P **P 17 22 50.6 -0.4**
FINES FINESS Array B 79.89 333 P **P 17 23 00.1 -0.4**
comp=Z,1.7nm,0.6s,mb4.2,baz=104,slow=7.0,SNR=11
SYO Syowa Base 80.06 198⇓ *e*PcP PcP 17 23 07.0 -1.7
BILL Bilibino 81.11 21 P **P 17 23 09.0 +2.0**
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.8
ARCES ARCESS Array B 82.43 340 P **P 17 23 14.2 +0.2**
comp=Z,1.2nm,0.5s,mb4.1,baz=96,slow=5.7,SNR=17
GERES GERESS Array B 84.70 319 P **P 17 23 25.9 +0.3**
comp=Z,1.2nm,0.8s,mb4.1,baz=101,slow=4.2,SNR=13
KHC Kasperske Hory 84.80 319 *e*P **P 17 23 26.1 0.0**
GRA1 Grafenberg Arr 86.37 320 *e*PKP **P 17 23 34.5 +0.6**
GRF Grafenberg Arr 86.37 320 *e*P **P 17 23 34.5 +0.6**
NB2 NORSAR Subarra 86.89 331 P **P 17 23 36.1 -0.4**
comp=Z,0.8nm,0.8s,mb4.0,baz=92,slow=5.1
NB2 NORSAR Subarra 86.89 331 P **P 17 23 36.1 -0.4**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
NOA NORSAR Array B 86.89 331 P **P 17 23 35.8 -0.7**
comp=Z,1.3nm,0.8s,mb4.2,baz=96,slow=4.8,SNR=3.9
NVAR Mina Array Bea 128.76 36 PKP PKPdf 17 29 58.9 -0.1
comp=Z,0.5nm,0.8s,baz=276,slow=3.5,SNR=3.7
JCT Junction City 144.53 26 *e*PKIKP PKPdf 17 30 26.8 -1.2

IDC 18 17:15:23.8±8.4, 609S×15175E, h62km±60km, mb3.6/6, mb1 3.8/7, mb1mx3.7/14, mbtmp4.0/7, ML2.8/1, Error ellipse: s-maj=80.9km s-min=31.8km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.61**	**234**	P	Pn	17 16 43.8	-0.9
	1.7nm,0.3s,baz=34,slow=7.6,SNR=13						
PMG				S	Sn	17 17 50.0	+2.2
	3.7nm,0.3s,baz=130,slow=18,SNR=5.9						
WRA	**Warramunga Arr**	**21.81**	**229**	P	P	17 20 10.5	-0.3
	1.9nm,0.7s,baz=52,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**24.50**	**223**	P	P	17 20 37.4	+0.2
	4.9nm,0.8s,baz=55,slow=8.9,SNR=22						
FITZ	**Fitzroy Crossi**	**28.13**	**243**	P	P	17 21 10.0	+0.1
	2.4nm,0.6s,baz=106,slow=16,SNR=7.1						
SONM	**Songino Array**	**66.86**	**329**	P	P	17 26 10.2	+1.0
	0.5nm,0.6s,baz=140,slow=8.1,SNR=3.9						
MKAR	**Makanchi Array**	**80.61**	**319**	P	P	17 27 30.4	+0.7
	0.6nm,1.0s,baz=106,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**89.64**	**323**	P	P	17 28 14.0	-0.8
	0.5nm,0.6s,baz=94,slow=4.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.68**	**286**	PKPbc	PKPbc	17 35 07.1	+0.7
	1.8nm,0.7s,baz=76,slow=2.7,SNR=9.3						

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*IDC **18** 17:17:04.5±0.6, 3.11S×139.65E, h0km, mb4.6/13, mb1 4.6/15, mb1mx4.6/17, mbtmp4.6/15, ML4.3/2, MS4.8/7, Ms1 4.8/7, ms1mx4.2/15, Error ellipse: s-maj=23.0km s-min=13.4km az=84.0*

*BJI **18** 17:17:07.9, 3.10S×140.07E, h51km, mB5.1, mb4.8, Ms4.8, Msz4.6*

*MOS **18** 17:17:08.3±1.3, 306S×139.51E, h35km, mb5.0/17, MS4.6/4, Error ellipse: s-maj=14.0km s-min=7.2km az=107.5*

*ISCJB **18** 17:17:08.2±1.0, 3.11S±004×139.71E±005, h39km±8km, mb4.8/52, MS4.6/17, Error ellipse: s-maj=9.4km s-min=5.6km az=149.5*

*HRVD **18** 17:17:10.3±0.2, 302S×139.83E, h27km, MW5.2/82, Centroid moment Tensor Solution. LP body waves: s68,c102; Mantle waves: s82,c129; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76±.02; $M_{\theta\theta}$-0.40±.01; $M_{\phi\phi}$-0.35±.02; $M_{r\theta}$-0.38±.03; $M_{\theta\phi}$0.46±.01; $M_{r\phi}$0.08±.03; Best double couple: $M_0$0.88700×10^{17} NP1:ϕ_s148.00000°, δ35.00000°, λ113.00000°. NP2: ϕ_s300.00000°, δ58.00000°, λ74.00000°. Principal axes: T 0.8720, Plg72.0000°, Azm171.0000°; N 0.0300, Plg13.0000°, Azm308.0000°; P -0.9020, Plg12.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **18** 17:17:10.3±1.3, 3.10S×139.62E, h41km±12km, mb4.9/23 Error ellipse: s-maj=9.0km s-min=6.8km az=71.0*

ISC 18 17:17:10.9±0.8, 310S±003×139.70E±005, h44km±7km, h48km±6.1km; pP-P, n121, σ1§16/130, mb4.8/52, MS4.6/17, 2C-3D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.17**	**60**	P	**Pn**	**17 17 23.1**	**-7.6**
	5μm,0.6s						
BAKI	**Biak**	**4.06**	**298**	P	**Pn**	**17 18 09.7**	**-0.7**
	2μm,0.8s						
MMPI	**Merauke**	**5.37**	**173**	P	**Pn**	**17 18 31.8**	**+3.3**
	1μm,0.8s						
SWI	**Sorong**	**8.72**	**285**	P	**Pn**	**17 19 15.7**	**+1.3**
	176nm,0.7s						
PMG	**Port Moresby**	**9.71**	**131**	Pn	**Pn**	**17 19 30.0**	**+2.1**
	1.2nm,0.3s,baz=306,slow=4.0,SNR=4.8						
PMG	**Port Moresby**	**9.71**	**131**	*e*P	**Pn**	**17 19 32.2**	**+4.3**
PMG	**Port Moresby**	**9.71**	**131**	*e*Pn	**Pn**	**17 19 29.5**	**+1.7**
KAKA	**Kakadu**	**11.95**	**217**	*e*P	**Pn**	**17 19 57.6**	**-0.9**
	171nm,0.4s						
KAKA				*e*S	**Sn**	**17 22 07.3**	**-3.0**
MATI	**Mati**	**16.72**	**307**	*e*P	**Pn**	**17 21 02.4**	**+0.5**
WB2	**Warramunga Arr**	**17.53**	**197**	*e*P	**Pn**	**17 21 09.5**	**-2.5**
WB2				*e*S	**S**	**17 24 16.3**	**-16**
WRA	**Warramunga Arr**	**17.54**	**197**	P	**Pn**	**17 21 09.5**	**-2.5**
	2.4nm,0.3s,baz=18,slow=13,SNR=26						
WRA				S	**S**	**17 24 16.8**	**-16**
	0.3nm,0.3s,baz=16,slow=21,SNR=4.7						
WRA	**Warramunga Arr**	**17.54**	**197**	P	**Pn**	**17 21 09.5**	**-2.5**
WRA				S	**S**	**17 24 16.8**	**-16**
CTA	**Charters Tower**	**18.05**	**160**	*e*P	**Pn**	**17 21 22.0**	**+3.6**
	19nm,1.2s						
CTA				*e*S	**S**	**17 24 43.9**	**+0.8**
CTA	**Charters Tower**	**18.05**	**160**	P	**Pn**	**17 21 16.8**	**-1.6**
	0.2nm,0.3s,baz=312,slow=14,SNR=2.2						
CTA				LR	LR	17 28 34.8	
	comp=Z,5μm,21.4s,baz=344,slow=38						
CTA	**Charters Tower**	**18.05**	**160**	*e*P	**Pn**	**17 21 22.0**	**+3.6**
CTA				*e*S	**S**	**17 24 43.9**	**+0.8**
CTA				LR	LR	17 28 34.8	
CTAO	**Charters Tower**	**18.05**	**160**	P	**Pn**	**17 21 18.9**	**+0.5**
BUKP	**Musuan**	**18.22**	**307**	*e*P	**Pn**	**17 21 21.2**	**+0.8**
SCPH	**Surigao**	**19.08**	**312**⇓	*e*P	**Pn**	**17 21 30.8**	**-0.1**
PCI	**Palu**	**19.96**	**276**	P	**Pn**	**17 21 42.0**	**+0.7**
	240nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.30**	**222**	*e*P	**P**	**17 21 43.9**	**+1.0**
	68nm,1.1s						
FITZ				*e*S	**S**	**17 25 17.4**	**-11**
FITZ	**Fitzroy Crossi**	**20.30**	**222**	P	**P**	**17 21 43.6**	**+0.7**
	43nm,1.0s,baz=50,slow=12,SNR=16						
FITZ				S	**S**	**17 25 26.1**	**-1.9**
	42nm,0.8s,baz=147,slow=11,SNR=5.9						
HNR	**Honiara**	**21.08**	**108**	P	**P**	**17 21 51.3**	**-0.1**
	43nm,0.6s,mb5.0,baz=259,slow=2.4,SNR=5.6						
HNR	**Honiara**	**21.08**	**108**	*e*P	**P**	**17 21 51.7**	**+0.3**
HNR				pmax	pmax		
	comp=Z,48nm,0.8s,mb4.9						
HNR	**Honiara**	**21.08**	**108**	*e*P	**P**	**17 21 51.7**	**+0.4**
	comp=Z,48nm,0.8s,mb4.9						
AS31	**Alice Springs**	**21.19**	**195**	*e*P	**P**	**17 21 52.5**	**-0.1**
AS31				*e*S	**S**	**17 25 47.5**	**+1.7**
ASAR	**Alice Springs**	**21.20**	**195**	P	**P**	**17 21 51.9**	**-0.8**
	comp=Z,21nm,0.5s,mb4.7,baz=18,slow=8.8,SNR=48						
ASAR				S	**S**	**17 25 42.2**	**-3.6**
	comp=Z,2.8nm,0.8s,baz=6.2,slow=30,SNR=3.5						
ASPA	**Alice Springs**	**21.20**	**195**	*e*P	**P**	**17 21 52.5**	**-0.1**
ASPA				*e*S	**S**	**17 25 47.5**	**+1.7**
KKM	**Kota Kinabalu**	**25.15**	**291**	*e*P	**P**	**17 22 32.3**	**+0.4**
KMMI	**Kalianget**	**25.92**	**260**	P	**P**	**17 22 44.9**	**+6.1**
	comp=Z,135nm,1.1s,mb5.4						
MBWA	**Marble Bar**	**26.45**	**226**	*e*P	**P**	**17 22 44.8**	**+1.2**
	comp=Z,15nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**28.68**	**177**	*e*P	**P**	**17 23 01.0**	**-2.6**
	comp=Z,3.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.68**	**177**	P	**P**	**17 23 02.5**	**-1.1**
	comp=Z,5.0nm,0.6s,mb4.4,baz=344,slow=7.5,SNR=13						
STKA				LR	LR	17 35 42.4	
	comp=Z,4μm,18.9s,MS5.0,baz=351,slow=39						
FORT	**Forrest**	**29.64**	**201**	*e*P	**P**	**17 23 12.4**	**+0.3**
	comp=Z,13nm,0.6s,mb4.8						
KSM	**Kuching**	**29.73**	**278**	P	**P**	**17 23 11.2**	**-1.7**
JOW	**Kunigami**	**31.74**	**340**	LR	LR	17 33 40.7	
	comp=Z,816nm,21.6s,MS4.4,baz=350,slow=31						
YHNB	**Yeheng**	**32.85**	**328**	*e*P	**P**	**17 23 39.7**	**-0.6**
CNB	**Canberra Magne**	**33.28**	**166**	*e*P	**P**	**17 23 44.9**	**+0.8**
	comp=Z,19nm,1.2s,mb4.9						
TOO	**Toolangi**	**34.71**	**172**	*e*P	**P**	**17 23 58.5**	**+2.0**
	comp=Z,2.1nm,0.6s,mb4.2						
TOO	**Toolangi**	**34.71**	**172**	*e*P	**P**	**17 23 58.5**	**+2.0**
TOO				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
JHJ	**Hachijo jima 2**	**36.02**	**0**	LR	LR	17 36 41.1	
	comp=Z,2μm,19.2s,MS4.8,baz=235,slow=33						
NWAO	**Narrogin (SRO)**	**36.37**	**213**	P	**P**	**17 24 10.1**	**-0.7**
	comp=Z,5.0nm,0.8s,mb4.5,baz=36,slow=8.7,SNR=2.9						
QIZ	**Qiongzhong**	**36.69**	**308**	P	**P**	**17 24 13.3**	**-0.2**
QIZ				*e*S	**S**	**17 29 56.4**	**+2.6**
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
QIZ				LR	LR		
	comp=E,390nm,20.4s						
QIZ				LR	LR		
	comp=Z,510nm,26.0s						
KSI	**Kapahiang**	**37.04**	**268**	P	**P**	**17 24 24.8**	**+8.3**
	comp=Z,48nm,0.8s,mb5.4						
SSE	**Sheshan**	**38.31**	**334**	P	**P**	**17 24 26.1**	**-1.1**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,90nm,10.3s						
PPI	**Padang Panjang**	**39.36**	**273**	P	**P**	**17 24 36.3**	**+0.3**
	comp=Z,93nm,0.9s,mb5.5						
MJAR	**Matsushiro Arr**	**39.46**	**358**	P	**P**	**17 24 36.1**	**-0.8**
	comp=Z,1.6nm,0.7s,mb3.9,baz=174,slow=7.1,SNR=7.3						
NJ2	**Nanjing**	**40.18**	**332**	*e*P	**P**	**17 24 43.3**	**+0.5**
NJ2				AP	pP	17 24 57.5	+2.7
NJ2				PP	PP	17 26 20.9	+5.2
NJ2				S	**S**	**17 30 45.0**	**-1.4**
NJ2				XS	sS	17 31 12.0	+5.6
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,80nm,5.1s						
NJ2				LR	LR		
	comp=N,1μm,22.0s						
NJ2				LR	LR		
	comp=E,1μm,16.7s						
NJ2				LR	LR		
	comp=Z,720nm,18.1s,MS4.6						
SNG	**Songkhla**	**40.31**	**285**	P	**P**	**17 24 44.0**	**+0.1**
	comp=Z,54nm,0.8s,mb5.3						
PSI	**Prapat**	**41.17**	**278**	P	**P**	**17 24 51.2**	**+0.2**
	comp=Z,38nm,0.8s,mb5.1,baz=95,slow=5.3,SNR=38						
KS15	**Wonju Array Si**	**41.80**	**346**	*e*P	**P**	**17 24 55.7**	**-0.5**
NST	**Nakhon Sawan**	**43.35**	**297**	P	**P**	**17 25 09.0**	**+0.3**
KMI	**Kunming**	**45.52**	**310**	P	**P**	**17 25 26.8**	**+0.7**
KMI				LR	LR		
	comp=N,230nm,20.7s,MS4.4						
KMI				LR	LR		
	comp=E,370nm,20.7s,MS4.4						
KMI				LR	LR		
	comp=Z,560nm,20.1s,MS4.5						
VLA	**Vladivostok**	**46.55**	**352**	*e*P	**P**	**17 25 32.2**	**-1.9**
VLA				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
ASAJ	**Asahikawa**	**47.08**	**3**	P	**P**	**17 25 38.1**	**-0.2**
	comp=Z,5.2nm,0.9s,mb4.5,baz=208,slow=17,SNR=2.7						
CD2	**Chengdu**	**48.13**	**317**	*e*P	**P**	**17 25 46.4**	**0.0**
CD2				AP	pP	17 26 01.9	+3.2
CD2				PP	PP	17 27 38.9	0.0
CD2				S	**S**	**17 32 40.1**	**-2.1**
CD2				XS	sS	17 33 05.6	+3.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				LR	LR		
	comp=E,260nm,21.6s						
CD2				LR	LR		
	comp=Z,260nm,19.2s,MS4.2						
MDJ	**Mudanjiang**	**48.36**	**350**	P	**P**	**17 25 47.1**	**-1.1**
MDJ				AP	pP	17 26 00.9	+0.5
MDJ				XP	sP	17 26 08.3	+2.8
MDJ				SCP	ScP	17 31 00.8	-4.5
MDJ				S	**S**	**17 32 43.4**	**-2.0**
MDJ				XS	sS	17 33 08.3	+2.6
MDJ				AMB	AMB		
	comp=Z,90nm,8.7s						
MDJ				LR	LR		
	comp=N,390nm,20.0s,MS4.5						
MDJ				LR	LR		
	comp=E,240nm,19.3s,MS4.5						
MDJ				LR	LR		
	comp=Z,410nm,20.0s,MS4.4						
CN2	**Changchun**	**48.42**	**346**	*e*P	**P**	**17 25 48.3**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**49.92**	**3**	*e*P	**P**	**17 26 01.8**	**+1.7**
HHC	**Hu-ho-hao-te**	**50.73**	**332**	*e*P	**P**	**17 26 08.6**	**+2.4**
HHC				PCP	PcP	17 27 24.9	+2.0
HHC				PP	PP	17 28 05.6	+3.1
HHC				S	**S**	**17 33 18.8**	**+0.3**
HHC				XS	sS	17 33 44.8	+5.8
HHC				SCS	ScS	17 35 49.6	-3.7
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,160nm,5.0s						
HHC				LR	LR		
	comp=N,450nm,21.4s,MS4.6						
HHC				LR	LR		
	comp=E,350nm,20.2s,MS4.6						
HHC				LR	LR		
	comp=Z,670nm,17.8s,MS4.7						
BTO	**Baotou**	**51.27**	**331**	*e*P	**P**	**17 26 10.0**	**-0.3**
LZH	**Lanzhou**	**51.39**	**323**	*e*P	**P**	**17 26 12.3**	**+1.1**
LZH				PP	PP	17 28 11.6	+3.1
LZH				*e*S	**S**	**17 33 26.5**	**-1.1**
LZH				XS	sS	17 33 53.3	+5.2
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,90nm,7.3s						
LZH				LR	LR		
	comp=N,410nm,16.3s						
LZH				LR	LR		
	comp=Z,690nm,18.5s,MS4.7						
HABR	**Khabarovsk**	**51.52**	**356**	*e*P	**P**	**17 26 08.2**	**-4.0**
HABR				*e*S	**S**	**17 33 21.7**	**-7.8**
KLR	**Kul'dur**	**52.58**	**353**	*e*P	**P**	**17 26 16.8**	**-3.2**
KLR				MLR	MLR		
	comp=N,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,900nm,14.0s,MS5.0						
HIA	**Hailar**	**54.95**	**344**	*e*P	**P**	**17 26 37.2**	**-0.2**
GTA	**Gaotai**	**55.97**	**323**	*e*P	**P**	**17 26 46.8**	**+2.1**
GTA				AP	pP	17 26 56.0	-1.2
GTA				XP	sP	17 27 00.4	-1.8
GTA				SCP	ScP	17 31 31.8	-6.5
GTA				PCS	PcS	17 31 35.8	-7.4
GTA				SCS	ScS	17 36 30.4	+0.2
GTA				AMB	AMB		
	comp=Z,70nm,6.8s						
GTA				LR	LR		
	comp=N,190nm,20.9s,MS4.4						
GTA				LR	LR		
	comp=E,260nm,20.2s,MS4.4						
GTA				LR	LR		
	comp=Z,230nm,19.4s,MS4.3						
LSA	**Lhasa**	**56.72**	**309**	*e*P	**P**	**17 26 52.1**	**+2.0**
LSA	**Lhasa**	**56.72**	**309**	*e*P	**P**	**17 26 50.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
LSA	**Lhasa**	**56.72**	**309**	*e*P	**P**	**17 26 50.9**	**+0.8**
	comp=Z,8.3nm,0.8s,mb4.8						
PET	**Petropavlovsk**	**58.15**	**13***d i*P		**P**	**17 27 03.7**	**+3.5**
PET				*e*S	**S**	**17 35 01.2**	**+2.8**
PET				*e*SS	SS	17 38 50.7	+0.3
PET				*e*SSS		17 41 12.5	
PET				pmax	pmax		
	comp=Z,100nm,15.0s						
PET				pmax	pmax		
	comp=Z,100nm,14.8s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.2						
PET				MLR	MLR		

comp=Z,200nm,22.0s
ULN Ulaanbaatar 58.23 335 *c iP* **P 17 27 01.2 +0.5**
ULN Ulaanbaatar 58.23 335 *eP* **P 17 27 01.1 +0.4**
comp=Z,4.6nm,0.8s,mb4.6
SONM Songino Array 58.49 334 P **P 17 27 03.1 +0.6**
comp=Z,1.1nm,0.6s,mb4.1,baz=158,slow=6.1,SNR=7.0
SONM LR LR 17 51 03.3
comp=Z,724nm,20.6s,MS4.8,baz=145,slow=35
CIT Chita 59.23 342 *eP* **P 17 27 07.4 -0.2**
CIT pmax pmax
comp=Z,41nm,2.3s,mb5.0
JIRN Jiri 59.87 304 *eP* **P 17 27 12.7 +0.6**
comp=Z,24nm,0.7s,mb5.4
GUN Gumba 60.22 305 *eP* **P 17 27 15.1 +0.7**
comp=Z,42nm,0.7s,mb5.6
PKI Pulchoki 60.48 304 *eP* **P 17 27 16.4 +0.2**
comp=Z,19nm,0.7s,mb5.2
PKI Pulchoki 60.48 304 *eP* **P 17 27 16.4 +0.2**
PKI pmax pmax
comp=Z,19nm,0.7s,mb5.2
KKN Kakani 60.67 304 *eP* **P 17 27 17.5 0.0**
comp=Z,47nm,0.8s,mb5.7
KKN Kakani 60.67 304 *eP* **P 17 27 17.5 0.0**
KKN pmax pmax
comp=Z,47nm,0.8s,mb5.7
DMN Daman 60.75 304 *eP* **P 17 27 18.6 +0.6**
comp=Z,37nm,0.7s,mb5.6
ZAK Zakamensk 61.76 334 *eP* **P 17 27 24.6 -0.3**
ZAK pmax pmax
comp=Z,18nm,1.9s,mb4.9
TLY Talaya 62.58 336 *eP* **P 17 27 39.4 +9.0**
TLY *e*PPP 17 31 17.9
TLY *e*S **S 17 35 57.9 +2.9**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,288nm,19.0s,MS4.5
YAK Yakutsk 65.41 355 *eP* **P 17 27 48.4 -0.5**
YAK *e*PP pP 17 27 58.5 -3.1
YAK *e* 17 28 15.1
YAK *e*S S 17 36 31.3 +1.2
YAK *e*SS sS 17 36 53.5 +2.3
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.9
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.8s
YAK pmax pmax
comp=Z,20nm,1.2s,mb5.0
YAK smax
comp=N,54nm,10.2s
YAK smax
comp=E,45nm,10.2s
YAK Yakutsk 65.41 355 *eP* **P 17 27 48.3 -0.7**
comp=E,21nm,0.8s,mb5.2
WMQ Urumqi 65.93 321 *eP* **P 17 27 54.1 +1.8**
CASY Casey 66.30 192 *eP* **P 17 27 52.7 -2.0**
comp=E,19nm,0.8s,mb5.2
KRAR Krasnoyarsk 70.17 334 *eP* **P 17 28 21.1 +2.2**
KRAR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MKAR Makanchi Array 70.70 322 P **P 17 28 21.9 -0.2**
comp=Z,5.9nm,0.8s,mb4.6,baz=110,slow=7.9,SNR=40
PPT Papeete 70.70 107 *e*LR LR 17 49 58.1
comp=Z,493nm,24.5s
MIR Mirnyy 71.13 198 *d iP* **P 17 28 26.0 +1.2**
MIR pmax pmax
comp=Z,20nm,1.5s,mb4.8
TBI Tubuai 71.19 113 *e*SS SS 17 42 18.4 +5.1
comp=Z,116nm,32.0s
TBI *e*LR LR 17 50 12.1
comp=Z,333nm,30.2s
BILL Bilibino 73.38 10 P **P 17 28 38.0 -0.2**
BILL *e* 17 28 53.8
BILL pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
BILL MLR MLR
comp=Z,400nm,16.0s,MS4.8
NVS Novosibirsk 74.02 330 *eP* **P 17 28 39.2 -2.8**
NVS pmax pmax
comp=N,6.0nm,1.3s
NVS pmax pmax
comp=E,5.0nm,1.3s
NVS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
AAK Ala-Archa 74.17 316 *eP* **P 17 28 43.6 +0.8**
AAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
TIXI Tiksi 74.95 356 *eP* **P 17 28 46.8 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,2.5s,mb4.1
VNDA Vanda 75.31 175 P **P 17 28 49.2 -0.1**
comp=Z,8.4nm,0.8s,mb4.7,baz=326,slow=6.9,SNR=42
VNDA LR LR 18 01 45.4
comp=Z,900nm,20.0s,MS5.1,baz=345,slow=36
VNDA Vanda 75.31 175 *eP* **P 17 28 49.2 -0.2**
VNDA pmax pmax
comp=Z,11nm,1.0s
VNDA Vanda 75.31 175 *eP* **P 17 28 49.1 -0.2**
comp=Z,11nm,1.0s,mb4.8
SBA Scott Base 76.06 174 *eP* **P 17 28 54.8 +1.1**
SBA pmax pmax
comp=Z,45nm,1.8s,mb5.1
SBA Scott Base 76.06 174 *eP* **P 17 28 54.8 +1.1**
comp=Z,45nm,1.8s,mb5.1
BVAR Borovoye Array 80.19 325 P **P 17 29 16.1 -0.6**
comp=Z,4.0nm,0.6s,mb4.5,baz=114,slow=7.2,SNR=21
CHKZ Chkalovo 80.28 326 *eP* **P 17 29 15.6 -1.4**
CHKZ pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
CHKZ Chkalovo 80.28 326 *eP* **P 17 29 15.6 -1.4**
comp=Z,6.5nm,1.1s,mb4.5
ZRNK Zerenda 80.97 325 *eP* **P 17 29 20.0 -0.8**
ZRNK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
ZRNK Zerenda 80.97 325 *eP* **P 17 29 20.0 -0.8**
comp=Z,9.3nm,1.1s,mb4.6
MAW Mawson 82.13 202 P **P 17 29 26.1 -0.8**
comp=Z,3.4nm,0.8s,mb4.3,baz=70,slow=4.6,SNR=7.2
MAW LR LR 18 03 56.7
comp=Z,518nm,19.9s,MS4.9,baz=179,slow=34
MAW Mawson 82.13 202 *eP* **P 17 29 26.8 -0.1**
MAW pmax pmax
comp=Z,15nm,1.4s
MAW Mawson 82.13 202 *eP* **P 17 29 26.8 -0.1**
comp=Z,15nm,1.4s,mb4.7
SML Sawmill 84.29 27 *eP* **P 17 29 37.3 -0.7**
RKT Rikiteа 84.50 113 *e*LR LR 17 56 22.2
comp=Z,384nm,22.5s
COLA College 85.42 24 *eP* **P 17 29 42.1 -1.6**
COLA pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
COLA College 85.42 24 *eP* **P 17 29 42.1 -1.6**
comp=Z,5.6nm,1.0s,mb4.7
QSPA South Pole Qui 86.85 180 *eP* **P 17 29 50.3 -0.4**
comp=Z,19nm,1.0s,mb5.3
ARU Arti 87.66 327 *eP* **P 17 29 59.0 +4.3**
ARU pmax pmax
comp=Z,5.0nm,1.7s,mb4.5
DAWY Dawson 88.79 26 *eP* **P 17 29 59.4 -0.6**
SYO Syowa Base 90.74 201 *e*PcP PcP 17 30 11.5 +1.3
DBIC Dimbokro 144.51 277 PKP PKPdf 17 36 42.3 -0.1
comp=Z,6.8nm,0.5s,baz=75,slow=4.5,SNR=11
DBIC Dimbokro 144.51 277 *e*PKP PKPdf 17 36 41.8 -0.6
ROSC El Rosal 146.01 86 PKPbc PKPbc 17 36 48.9 +3.0
comp=Z,5.2nm,0.5s,baz=86,slow=18,SNR=4.4
LPAZ La Paz 146.42 126 PKPbc PKPbc 17 36 49.4 +2.4
comp=Z,1.5nm,0.7s,baz=285,slow=3.3,SNR=5.9
SDV Santo Domingo 149.31 78 *e*PKPdf PKPdf 17 36 50.9 +0.5

MAN 18 17:20:43.8, 735N×12725E, h24km, MS6.8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**2.28**	**315**	*eP*	Pn	17 21 13.1	-6.7
MSLP	**Maasin**	**3.64**	**320**	*eP*	Pn	17 21 38.5	-0.1

NEIC ***18*** *17:48:30.8, 2769S×6908W, h118km, MG3.6(GUC), After GUC.*
GUC 18 17:48:30.8±1.3, 2769S×6908W, h118km±35km, ML3.6, 2C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.18**	**286**	⇓*iP*	Pn	17 48 54.9	+0.4
CPCH				*i* S	Sn	17 49 12.9	+0.4
CPCH				AML	AML	17 49 15.3	
	comp=N,6μm,0.1s						
CPCH	**Copiapo**	**1.18**	**286**	⇓*iP*	Pn	17 48 54.9	+0.4
CPCH				*i* S	Sn	17 49 12.9	+0.4
CDCH	**Caldera**	**1.67**	**291**	⇑*iP*	Pn	17 49 01.1	+0.9
CDCH				*i* S	Sn	17 49 22.4	-0.1
CDCH				AML	AML	17 49 24.2	
	comp=E,299nm,0.1s						
CDCH	**Caldera**	**1.67**	**291**	⇑*iP*	Pn	17 49 01.1	+0.9
CDCH				*i* S	Sn	17 49 22.4	-0.1
VACH	**Vallenar**	**1.73**	**239**	⇓*iP*	Pn	17 49 01.8	+1.0
VACH				*i* S	Sn	17 49 24.6	+0.9
VACH				AML	AML	17 49 25.3	
	comp=N,2μm,0.1s						
VACH	**Vallenar**	**1.73**	**239**	⇓*iP*	Pn	17 49 01.8	+1.0
VACH				*i* S	Sn	17 49 24.6	+0.9
CRCH	**Chaqaral**	**1.92**	**314**	AML	AML	17 49 31.7	
	comp=E,259nm,0.2s						
LCO	**Las Campanas**	**1.95**	**227**	⇓*iP*	Pn	17 49 04.2	+0.8
LCO				*i* S	Sn	17 49 30.2	+1.7
TLL	**Tololo Astrono**	**2.90**	**211**	*eP*	Pn	17 49 16.5	+0.8
TLL				*i* S	Sn	17 49 51.2	+1.0
TLL				AML	AML	17 49 58.9	
	comp=N,95nm,0.9s						
TLL	**Tololo Astrono**	**2.90**	**211**	*eP*	Pn	17 49 16.5	+0.8
TLL				*i* S	Sn	17 49 51.2	+1.0
CEN1	**Los Morros**	**4.40**	**346**	*i* S	Sn	17 50 22.4	-3.5
CEN1				AML	AML	17 50 45.4	
	comp=N,21nm,1.0s						

IDC 18 18:05:56.0±1.9, 307S×13965E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/10, mbtmp3.7/4, Error ellipse: s-maj=68.6km s-min=30.4km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.29**	**222**	P	P	18 10 33.7	+0.4
	1.0nm,0.3s,baz=31,slow=15,SNR=8.2						
ASAR	**Alice Springs**	**21.21**	**195**	P	P	18 10 43.4	0.0
	1.4nm,0.5s,baz=24,slow=9.5,SNR=32						
MKAR	**Makanchi Array**	**70.65**	**322**	P	P	18 17 13.6	+0.2
	0.2nm,0.6s,baz=104,slow=7.2,SNR=5.3						
VNDA	**Vanda**	**75.34**	**175**	P	P	18 17 41.0	-0.3
	1.2nm,0.8s,baz=324,slow=6.6,SNR=8.3						

ISCJB ***18*** *18:12:05.2±0.5, 3.13S±004×13951E±008, h33km, mb4.4/18, MS3.7/3, Error ellipse: s-maj=11.8km s-min=6.1km az=179.3*
BJI ***18*** *18:12:05.1, 3.10S×13950E, h35km, mB4.9, mb4.8*
NEIC ***18*** *18:12:07.2±0.5, 307S×13951E, h35km, mb4.4/15, Error ellipse: s-maj=13.0km s-min=7.3km az=71.0*
IDC ***18*** *18:12:08.2±3.7, 306S×13953E, h44km±35km, mb4.2/6, mb1 4.3/8, mb1mx4.2/10, mbtmp4.4/8, ML3.7/2, MS3.7/5, Ms1 3.7/5, ms1mx3.1/21, Error ellipse: s-maj=28.9km s-min=19.6km az=62.0*
ISC 18 18:12:07.6±0.5, 309S±004×13957E±008, h35km, n44, σ1§09/42, mb4.4/18, MS3.7/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.81**	**130**	P	**Pn**	**18 14 26.8**	**+0.7**
	2.1nm,0.3s,baz=308,slow=11,SNR=9.0						
PMG	**Port Moresby**	**9.81**	**130**	*e*Pn	**Pn**	**18 14 26.8**	**+0.7**
	54nm,0.8s						
PMG				*e*		18 14 33.8	
KAKA	**Kakadu**	**11.88**	**216**	*eP*	**Pn**	**18 14 54.0**	**-0.4**
	87nm,0.5s						
KAKA				*e*S	**Sn**	**18 17 06.3**	**+0.6**
GUMO	**Guam**	**17.38**	**17**	LR	LR	18 22 39.8	
	comp=Z,148nm,18.2s,baz=94,slow=36						
WRAB	**Tennant Creek**	**17.50**	**197**	*e*Pn	**Pn**	**18 16 06.8**	**-1.9**
	32nm,0.7s						
WB2	**Warramunga Arr**	**17.51**	**197**	*eP*	**Pn**	**18 16 07.0**	**-1.9**
WB2				*e*S	**S**	**18 19 17.3**	**-13**
CTA	**Charters Tower**	**18.11**	**159**	*eP*	**Pn**	**18 16 18.2**	**+1.9**
	6.8nm,0.7s						
CTA	**Charters Tower**	**18.11**	**159**	P	**Pn**	**18 16 18.8**	**+2.5**
	0.3nm,0.3s,baz=342,slow=14,SNR=4.5						
CTA				LR	LR	18 23 30.9	
	comp=Z,355nm,22.0s,baz=349,slow=38						
CTAO	**Charters Tower**	**18.11**	**159**	*eP*	**Pn**	**18 16 18.4**	**+2.1**
FITZ	**Fitzroy Crossi**	**20.23**	**221**	*eP*	**P**	**18 16 40.5**	**+1.0**
	29nm,0.8s						
FITZ				*e*S	**S**	**18 20 23.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**20.23**	**221**	P	**P**	**18 16 39.9**	**+0.4**
	20nm,0.9s,baz=62,slow=12,SNR=22						
AS31	**Alice Springs**	**21.18**	**195**	*eP*	**P**	**18 16 49.0**	**-0.8**
AS31				*e*S	**S**	**18 20 45.2**	**+1.9**
ASAR	**Alice Springs**	**21.18**	**195**	P	**P**	**18 16 49.2**	**-0.6**
	8.9nm,0.7s,mb4.2,baz=24,slow=9.5,SNR=28						
ASPA	**Alice Springs**	**21.18**	**195**	*eP*	**P**	**18 16 49.0**	**-0.8**
ASPA				*e*S	**S**	**18 20 45.2**	**+1.8**
KKM	**Kota Kinabalu**	**25.03**	**291**	P	**P**	**18 17 28.1**	**-0.1**
MBWA	**Marble Bar**	**26.37**	**225**	*eP**	**P**	**18 17 41.5**	**+1.1**
	5.6nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**28.70**	**176**	*eP*	**P**	**18 17 57.5**	**-3.8**
	2.0nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**28.70**	**176**	P	**P**	**18 17 57.4**	**-3.9**
	2.4nm,0.8s,mb4.0,baz=8.1,slow=14,SNR=6.9						
STKA				LR	LR	18 30 37.6	
	comp=Z,308nm,18.6s,MS3.9,baz=12,slow=39						
FORT	**Forrest**	**29.61**	**200**	*eP*	**P**	**18 18 12.4**	**+3.0**
	12nm,0.7s,mb4.7						
JOW	**Kunigami**	**31.68**	**341**	LR	LR	18 28 36.1	
	comp=Z,54nm,20.6s,MS3.2,baz=115,slow=31						
NWAO	**Narrogin (SRO)**	**36.32**	**213**	LR	LR	18 35 02.2	
	comp=Z,229nm,18.4s,MS4.0,baz=28,slow=38						
PSI	**Prapat**	**41.05**	**278**	P	**P**	**18 19 47.3**	**-0.2**
	12nm,0.8s,mb4.6,baz=132,slow=8.0,SNR=10						
CD2	**Chengdu**	**48.04**	**317**	*eP*	**P**	**18 20 43.4**	**+0.1**
CN2	**Changchun**	**48.37**	**346**	*eP*	**P**	**18 20 45.4**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
GTA	**Gaotai**	**55.88**	**323**	*eP*	**P**	**18 21 44.8**	**+3.1**
GTA				AP	pP	18 21 50.0	-2.3
GTA				XP	sP	18 21 53.5	-2.9
LSA	**Lhasa**	**56.62**	**309**	*eP*	**P**	**18 21 48.4**	**+1.5**
	comp=Z,4.4nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**58.17**	**335**	P	**P**	**18 21 57.9**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.1						
SONM	**Songino Array**	**58.43**	**334**	P	**P**	**18 21 59.5**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.6,baz=145,slow=5.3,SNR=2.6						
JIRN	**Jiri**	**59.76**	**305**	*eP*	**P**	**18 22 09.7**	**+0.8**
GUN	**Gumba**	**60.11**	**305**	*eP*	**P**	**18 22 12.0**	**+0.7**
KKN	**Kakani**	**60.56**	**304**	*eP*	**P**	**18 22 14.4**	**0.0**
	comp=Z,19nm,0.9s,mb5.2						
DMN	**Daman**	**60.64**	**304**	*eP*	**P**	**18 22 15.3**	**+0.4**
	comp=Z,14nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**70.61**	**322**	P	**P**	**18 23 18.6**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=109,slow=8.4,SNR=19						
KURK	**Kurchatov**	**74.52**	**325**	*eP*	**P**	**18 23 41.5**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.1						
VNDA	**Vanda**	**75.33**	**175**	P	**P**	**18 23 46.5**	**-0.7**
	comp=Z,4.5nm,0.7s,mb4.5,baz=329,slow=6.5,SNR=28						
VNDA	**Vanda**	**75.33**	**175**	*eP*	**P**	**18 23 46.4**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.4						
SBA	**Scott Base**	**76.09**	**174**	*eP*	**P**	**18 23 51.8**	**+0.2**
	comp=Z,5.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**80.88**	**325**	*eP*	**P**	**18 24 14.8**	**-3.2**
	comp=Z,1.3nm,0.9s,mb3.9						
MAW	**Mawson**	**82.10**	**202**	P	**P**	**18 24 24.1**	**-0.3**
	comp=Z,2.0nm,0.9s,mb4.0,baz=345,slow=1.6,SNR=4.0						
QSPA	**South Pole Qui**	**86.86**	**180**	*eP*	**P**	**18 24 47.8**	**-0.7**
	comp=Z,13nm,1.3s,mb5.0						
DBIC	**Dimbokro**	**144.39**	**277**	PKP	PKPdf	18 31 39.4	-0.6
	comp=Z,2.3nm,0.5s,baz=173,slow=3.3,SNR=9.2						
LPAZ	**La Paz**	**146.53**	**126**	PKPbc	PKPbc	18 31 46.7	+1.6
	comp=Z,0.8nm,0.6s,baz=140,slow=0.9,SNR=6.1						
LPAZ	**La Paz**	**146.53**	**126**	PKPbc	PKPbc	18 31 46.7	+1.6
SDV	**Santo Domingo**	**149.43**	**78**	PKPbc	PKPbc	18 31 52.6	-0.3
	comp=Z,1.5nm,0.5s,baz=20,slow=5.2,SNR=4.1						

ISCJB ***18*** *18:16:16.6±0.5, 3842N±002×2672E±003, h12km±3km, Error ellipse: s-maj=4.4km s-min=3.7km az=116.3*
CSEM ***18*** *18:16:16.2±0.1, 3843N×2675E, h8km, MD3.3, Error ellipse: s-maj=1.8km s-min=1.2km az=48.0*
ISK ***18*** *18:16:16.4, 3842N×2675E, h14km, MD3.3*
NEIC ***18*** *18:16:16.9, 3837N×2657E, h25km, MD3.3(ISK), MD3.5(ATH), After ATH.*
ATH ***18*** *18:16:16.9, 3837N×2657E, h25km±1km, MD3.5/5*
ISC 18 18:16:17.0±0.4, 3842N±002×2671E±003, h13km±3km, n33, σ0§83/45, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.11**	**238**	*i* P	**Pg**	**18 16 20.2**	**+0.1**
URLA				*i* S	**Sg**	**18 16 22.6**	**+0.3**
BLCB	**Balcova**	**0.26**	**97**	PG	**Pg**	**18 16 21.7**	**-0.8**
BLCB				SG	**Sg**	**18 16 25.7**	**-0.5**
IZM	**Izmir**	**0.43**	**92**	*i* PG	**Pg**	**18 16 25.2**	**-0.4**
IZM				*i* SG	**Sg**	**18 16 31.6**	**+0.1**
KDAG	**Bornova**	**0.44**	**92**	*i* P	**Pg**	**18 16 25.3**	**-0.4**
KDAG				*i* S	**Sg**	**18 16 31.9**	**+0.3**
SMG	**Samos**	**0.71**	**172**	*e*PN	**Pn**	**18 16 30.5**	**-2.3**
SMG				*e*SN	**Sg**	**18 16 40.9**	**+0.6**
AYVA	**Ayvalik**	**0.89**	**359**	*i* P	**Pg**	**18 16 34.1**	**-0.2**
AYVA				*i* S	**Sg**	**18 16 48.3**	**+2.4**
PRK	**Paraskevi**	**0.90**	**338**	*e*PN	**Pn**	**18 16 34.4**	**-0.9**
PRK				*e*SN	**Sn**	**18 16 47.1**	**-1.0**
AKS	**Akhisar**	**0.98**	**61**	PG	**Pg**	**18 16 34.9**	**-1.0**
AKS				SG	**Sg**	**18 16 48.6**	**-0.1**
AYDN	**Tasoluk**	**1.19**	**129**	*i* P	**Pn**	**18 16 38.8**	**-0.6**
AYDN				*i* S	**Sb**	**18 16 54.7**	**-0.1**
MLSB	**Milas**	**1.40**	**143**	*e*PN	**Pn**	**18 16 42.7**	**+0.4**
BODT	**Bodrum**	**1.43**	**160**	*e*PN	**Pn**	**18 16 42.4**	**-0.3**
EZN	**Ezine**	**1.44**	**348**	*e*PN	**Pn**	**18 16 43.1**	**+0.3**
MANT	**Manisa**	**1.45**	**86**	*i* P	**Pn**	**18 16 44.6**	**+1.6**
BDRM	**Kayabasi**	**1.47**	**156**	*i* P	**Pn**	**18 16 44.1**	**+0.9**
BDRM				*i* S	**Sn**	**18 17 03.2**	**+1.0**
BOZC	**Bozcaada**	**1.51**	**340**	*i* P	**Pn**	**18 16 44.5**	**+0.7**
BOZC				*i* S	**Sn**	**18 17 02.4**	**-1.0**
BALB	**Balikesir**	**1.52**	**36**	*e*PN	**Pn**	**18 16 44.0**	**0.0**
CANB	**Canakkale**	**1.62**	**10**	*e*PN	**Pn**	**18 16 45.3**	**0.0**
APE	**Apeiranthos**	**1.64**	**215**	*e*PN	**Pn**	**18 16 45.0**	**-0.5**
YER	**Yerkesik**	**1.79**	**135**	*e*PN	**Pn**	**18 16 47.1**	**-0.4**
DAT	**Datca**	**1.82**	**157**	*e*PN	**Pn**	**18 16 47.8**	**-0.2**
LIA	**Limnos Island**	**1.90**	**322**	*e*PN	**Pn**	**18 16 49.5**	**+0.4**
DENT	**Denizli**	**1.95**	**109**	*e*PN	**Pn**	**18 16 49.5**	**-0.3**
EDC	**Edincik**	**2.12**	**25**	*e*PN	**Pn**	**18 16 51.8**	**-0.4**
BNT	**Bandirma**	**2.15**	**25**	*e*PN	**Pn**	**18 16 52.3**	**-0.3**
KHL	**Karahalli**	**2.21**	**92**	*e*PN	**Pn**	**18 16 53.9**	**+0.5**
KCT	**Karacabey**	**2.25**	**34**	*e*PN	**Pn**	**18 16 54.3**	**+0.4**
DALT	**Dalyan (Mudla)**	**2.25**	**136**	*e*PN	**Pn**	**18 16 54.3**	**+0.4**
GDZ	**Gediz**	**2.27**	**72**	*i* P	**Pg**	**18 16 60.0**	**-0.6**
GDZ				*i* S	**Sg**	**18 17 32.3**	**+2.4**
RKY	**Sarkoy-Tekirda**	**2.30**	**9**	*e*PN	**Pn**	**18 16 54.9**	**+0.3**
FETY	**Fethiye**	**2.59**	**133**	*e*PN	**Pn**	**18 16 59.3**	**+0.7**
TKTP	**Tekketepe**	**2.87**	**96**	*i* P	**Pb**	**18 17 07.6**	**-0.5**
RDO	**Rodhopi**	**2.87**	**342**	*e*PN	**Pn**	**18 17 03.7**	**+1.2**
ESKT	**Eskisehir**	**3.41**	**70**	*i* P	**Pg**	**18 17 20.8**	**-1.6**

MAN 18 18:24:46.6, 657N×12658E, h32km, mb2.3, ML3.9, MS6.7, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.49**	**319**	*eP*	Pb	18 24 57.9	+1.0
MATI				*e*S	Sb	18 25 07.0	+2.9
KCP	**Kidapawan**	**1.54**	**286**	⇓*eP*	Pn	18 25 13.1	+1.3
KCP				*i* S	Sn	18 25 30.9	+0.1
BIPH	**Bislig**	**1.62**	**352**	⇑*eP*	Pn	18 25 13.4	+0.5
BIPH				*i* S	Sn	18 25 34.9	+2.4
BUKP	**Musuan**	**1.99**	**311**	*eP*	Pn	18 25 17.6	-0.4
BUTP	**Butuan**	**2.57**	**338**	*eP*	Pn	18 25 26.9	+1.0
CGP	**Cagayan de Oro**	**2.65**	**315**	*i* S	Sn	18 25 54.0	-4.0
SCPH	**Surigao**	**3.37**	**341**	⇑*eP*	Pn	18 25 40.2	+3.3

BJI ***18*** *18:27:59.1, 3303N×3982W, h5km, mB6.0, mb5.4, Ms6.0, Msz5.7*
CSEM ***18*** *18:27:59.5±0.0, 3302N×3971W, h6km, mb5.5/99, Ms5.4, Mw5.9, Error ellipse: s-maj=2.1km s-min=0.9km az=174.0*
IGIL ***18*** *18:27:59.7, 3303N×3968W, h10km, mb5.3*
ISCJB ***18*** *18:28:00.0±0.1, 3300N±003×3970W±001, h9km, mb5.4/332, MS5.7/184, Error ellipse: s-maj=4.4km s-min=1.5km az=169.9*
CRAAG ***18*** *18:28:00.6, 3303N×3968W, Mb5.8*
MOS ***18*** *18:28:00.6±0.8, 3307N×3971W, h10km, mb5.8/139, MS5.7/57, Error ellipse: s-maj=8.8km s-min=2.9km az=138.8*
IDC ***18*** *18:28:00.7±0.3, 3303N×3967W, h0km, mb5.1/52, mb1 5.1/52, mb1mx5.1/52, mbtmp5.1/52, MS5.5/29, Ms1 5.5/29, ms1mx5.5/32, Error ellipse: s-maj=10.4km s-min=6.9km az=151.0*
SZGRF ***18*** *18:28:01.1, 3266N×4019W, h33km, mb5.3, MS5.7, Northern Mid-Atlantic Ridge*
HRVD ***18*** *18:28:02.2±0.1, 3297N×3975W, h12km, MW6.0/105, Centroid moment Tensor Solution. LP body waves: s83,c153;Mantle waves: s105,c385; Half duration: 2±3 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.03±.01; $M_{\theta\theta}$0.07±.01; $M_{\phi\phi}$0.96±.01; $M_{r\theta}$-0.04±.02; $M_{r\phi}$0.42±.01; $M_{\theta\phi}$-0.23±.02; Best double couple: $M_0$1.10600×10^{18} NP1:ϕ_s205.00000°, δ39.00000°, λ-85.00000°. NP2: ϕ_s19.00000°, δ51.00000°, λ-94.00000°. Principal axes: T 1.1560, Plg6.0000°, Azm112.0000°; N -0.0990, Plg3.0000°, Azm21.0000°; P -1.0570, Plg83.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***18*** *18:28:02.1±0.1, 3303N×3970W, h9km, mb5.5/229, ME5.7, MS5.8/129, MW5.9 Error ellipse: s-maj=4.0km s-min=1.6km az=175.0, Moment Tensor Solution. s65 Moment tensor: Scale 10^{17}Nm; M_{rr}-6.00; $M_{\theta\theta}$0.43; $M_{\phi\phi}$5.57; $M_{r\theta}$-2.35; $M_{\theta\phi}$2.91; $M_{\phi r}$-4.34; Best double couple: $M_0$8.10000×10^{17} NP1:ϕ_s27.00000°, δ64.00000°, λ-87.00000°. NP2:ϕ_s201.00000°, δ26.00000°, λ-96.00000°. Principal axes: T 8.5500, Plg19.0000°, Azm115.0000°; N -0.8600, Plg2.0000°, Azm206.0000°; P -7.6800, Plg71.0000°, Azm303.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
SFS ***18*** *18:28:02.0, 3290N×3960W, h10km, ML5.9*
BGS ***18*** *18:28:11.7, 3404N×3906W, h10km, mb5.8*
PDA ***18*** *18:28:31.5, 3304N×3668W, h10km, mb5.8*
ISC 18 18:28:02.2±0.1, 3302N±003×3966W±001, h9km, h9km±1.5km:pP-P, n1490, σ1§01/1594, mb5.4/332, MS5.7/184, 211C-156D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**10.48**	**55**	*e*	**Pn**	**18 30 37.6**	**+5.0**
PCED	**Cedros**	**10.51**	**55**	*eP*	**Pn**	**18 30 36.7**	**+3.8**
	144nm,1.0s						
HOR	**Horta**	**10.51**	**55**	*e*	**Pn**	**18 30 35.4**	**+2.4**
PICO	**Pico**	**10.64**	**56**	*eP*	**Pn**	**18 30 36.6**	**+1.9**
PID	**Ribeirinha**	**10.82**	**57**	*eP*	**Pn**	**18 30 39.0**	**+1.7**
ROSA	**Rosais**	**10.87**	**55**	*eP*	**Pn**	**18 30 40.2**	**+2.3**
PMAN	**Manadas**	**10.93**	**56**	*eP*	**Pn**	**18 30 42.5**	**+3.7**
	338nm,1.0s						
SRBC	**Serra Branca**	**11.15**	**54**	*e*	**Pn**	**18 30 37.6**	**-4.2**
PGRA	**Graciosa**	**11.19**	**54**	*eP*	**Pn**	**

EHIG Higuera 19.29 98 P Pn 18 32 25.8 -2.5
670nm,1.1s
EHIG Higuera 19.29 98 P Pn 18 32 25.8 -2.4
670nm,1.1s
CHIE El Hierro 19.44 100 P Pn 18 32 29.0 -1.1
159nm,1.0s
CHIE El Hierro 19.44 100 P Pn 18 32 29.0 -1.1
159nm,1.0s
PMPS Porto Santo 19.55 84 *e*P **Pn 18 32 30.5 -0.9**
303nm,1.2s
EGOM La Gomera 19.91 98 P Pn 18 32 33.9 -1.8
2µm,2.0s
EGOM La Gomera 19.91 98 P Pn 18 32 33.9 -1.8
2µm,2.0s
CCAN Las Canadas 20.39 97 P P 18 32 40.4 +1.1
938nm,1.2s
CCAN Las Canadas 20.39 97 P P 18 32 40.4 +1.1
938nm,1.2s
EBAJ Bajamar 20.51 96 P P 18 32 41.3 +0.7
4µm,2.6s
EBAJ Bajamar 20.51 96 P P 18 32 41.3 +0.7
4µm,2.6s
BBSR BB Station 21.07 275 *e*P **P 18 32 46.0 -0.7**
3µm,2.5s,mb6.1
BBSR LR LR
comp=Z,31µm,22.0s,MS5.6
BBSR BB Station 21.07 275 *e*P **P 18 32 46.0 -0.7**
comp=Z,3µm,2.5s,mb6.1
EOSO Osorio 21.32 97 P P 18 32 48.8 -0.5
comp=Z,2µm,2.2s,mb6.0
EOSO Osorio 21.32 97 P P 18 32 48.8 -0.5
comp=Z,2µm,2.2s,mb6.0
CFTV Fuerteventura 22.44 95 P P 18 33 01.7 +0.4
comp=Z,145nm,1.2s,mb5.3
EFAM Famara 22.69 93 P P 18 33 04.2 +0.2
comp=Z,813nm,1.9s,mb5.8
EFAM Famara 22.69 93 P P 18 33 04.2 +0.2
comp=Z,813nm,1.9s,mb5.8
LIS Lisbon 25.30 68 *e*P **P 18 33 26.4 -2.5**
LIS AMb AMB 18 37 42.5
comp=E,133nm,0.6s
LIS *e*S **S 18 37 53.6 -1.4**
LIS *e*S **S 18 37 53.7 -1.3**
LIS Lisbon 25.30 68 *e*P **P 18 33 26.4 -2.6**
LIS *e*S **S 18 37 53.6 -1.4**
PLOU Loures 25.31 68 *e*P **P 18 33 30.1 +1.0**
comp=E,129nm,1.2s,mb5.3
PLOU Loures 25.31 68 *e*P **P 18 33 30.7 +1.6**
PTEO Sao Teotonio 25.59 71 *e*P **P 18 33 32.4 +0.8**
comp=E,224nm,1.4s,mb5.5
MORF Marmelete 25.65 72 *e*P **P 18 33 29.8 -2.3**
MORF *e*S **S 18 37 59.4 -1.1**
MORF *e*S **S 18 37 59.4 -1.1**
MORF AMb AMB 18 38 03.4
comp=N,39nm,1.5s
MORF Marmelete 25.65 72 *e*P **P 18 33 29.8 -2.3**
MORF *e*S **S 18 37 59.4 -1.1**
MOE Montemor 25.91 69 *e*P **P 18 33 36.1 +1.5**
MOE Montemor 25.91 69 *e*P **P 18 33 36.0 +1.4**
PTOM Tomar 25.94 66 *e*P **P 18 33 35.9 +1.1**
comp=N,134nm,1.6s,mb5.2
EMAZ Mazaricos 26.01 59 P P 18 33 34.5 -0.9
comp=N,171nm,1.4s,mb5.4
EMAZ Mazaricos 26.01 59 P P 18 33 34.5 -0.9
comp=N,171nm,1.4s,mb5.4
EVO Evora 26.18 69 *e*P **P 18 33 35.3 -1.7**
comp=N,475nm,1.5s,mb5.5
EVO *e*R
comp=N,6µm,20.0s
PBEJ Beja 26.28 70 *e*P **P 18 33 37.9 0.0**
comp=N,71nm,1.7s,mb4.9
STS Santiago 26.30 59 P P 18 33 37.6 -0.5
STS pmax pmax
comp=Z,43nm,0.9s,mb5.0
STS Santiago 26.30 59 P P 18 33 37.6 -0.5
comp=Z,42nm,0.9s,mb5.0
PVIS Viseu 26.44 64 *e*P **P 18 33 40.5 +1.1**
comp=Z,164nm,1.5s,mb5.3
PVIS Viseu 26.44 64 *e*P **P 18 33 40.4 +1.0**
ELOB Lobios 26.48 61 P P 18 33 38.8 -0.9
comp=Z,146nm,1.9s,mb5.2
ELOB Lobios 26.48 61 P P 18 33 38.8 -0.9
comp=Z,146nm,1.9s,mb5.2
PCAB Cabril 26.48 62 *e*P **P 18 33 38.3 -1.4**
comp=Z,66nm,1.4s,mb5.0
PCAB Cabril 26.48 62 *e*P **P 18 33 39.4 -0.3**
EGRO El Granado 26.58 71 P P 18 33 40.7 +0.2
comp=Z,238nm,1.5s,mb5.5
EGRO El Granado 26.58 71 P P 18 33 40.7 +0.1
comp=Z,238nm,1.5s,mb5.5
WES Weston 26.61 300 PFAKE 18 33 50.0 +9.1
WES LR LR
comp=Z,14µm,20.0s,MS5.5
PVRL Vila Real 26.65 63 *e*P **P 18 33 41.0 -0.2**
comp=Z,168nm,1.6s,mb5.3
MTE Manteigas 26.67 65 *e*P **P 18 33 41.4 0.0**
comp=Z,102nm,1.0s,mb5.3
MTE *e*S **S 18 38 18.5 +1.8**
MTE Manteigas 26.67 65 *e*P **P 18 33 41.2 -0.3**
comp=Z,99nm,1.4s,mb5.2
PCBR Castelo Branco 26.67 66 *e*P **P 18 33 41.5 +0.1**
comp=Z,63nm,1.4s,mb5.0
PCBR Castelo Branco 26.67 66 *e*P **P 18 33 41.3 -0.1**
HRV Harvard--Oak R 26.81 300 *e*P **P 18 33 43.3 +0.6**
HRV LR LR
comp=Z,87nm,1.4s,mb5.1
comp=Z,18µm,20.0s,MS5.6
HRV Harvard--Oak R 26.81 300 *e*P **P 18 33 43.3 +0.7**
comp=Z,87nm,1.4s,mb5.1
EBAD Badajoz 26.97 68 P P 18 33 44.3 +0.2
comp=Z,380nm,1.8s,mb5.6
EBAD Badajoz 26.97 68 P P 18 33 44.3 +0.2
comp=Z,380nm,1.8s,mb5.6
EMIN Mina Concepcio 27.22 71 P P 18 33 46.5 +0.1
comp=Z,267nm,1.5s,mb5.5
EMIN Mina Concepcio 27.22 71 P P 18 33 46.5 +0.1
comp=Z,267nm,1.5s,mb5.5
QUA2 Belchertown 27.35 299 *e*P **P 18 33 46.1 -1.4**
comp=Z,51nm,1.2s,mb4.9
QUA2 Belchertown 27.35 299 *e*P **P 18 33 46.1 -1.4**
comp=Z,51nm,1.2s,mb4.9
EPON Pontenova 27.40 58 P P 18 33 47.9 0.0
comp=Z,125nm,1.6s,mb5.2
EPON Pontenova 27.40 58 P P 18 33 47.9 0.0
comp=Z,125nm,1.6s,mb5.2
LBNH Lisbon 27.42 304 P P 18 33 48.9 +0.8
LBNH pmax pmax
comp=Z,51nm,1.2s,mb4.9
LBNH MLR MLR
comp=Z,17µm,20.0s,MS5.6
LBNH Lisbon 27.42 304 PFAKE 18 34 00.0 +12
LBNH LR LR
comp=Z,14µm,20.0s,MS5.5
PBRG Braganca 27.44 62 *e*P **P 18 33 48.5 +0.1**
comp=Z,116nm,1.5s,mb5.2
ECAL Calabor 27.46 62 P P 18 33 48.8 +0.2
comp=Z,230nm,1.9s,mb5.4
ECAL Calabor 27.46 62 P P 18 33 48.8 +0.2
comp=Z,230nm,1.9s,mb5.4
HNH Hanover 27.56 302 P P 18 33 48.5 -0.8
comp=Z,7.3nm,1.5s
HNH Hanover 27.56 302 P P 18 33 48.5 -0.9
comp=Z,7.3nm,1.5s
ESPR Espera 27.89 73 P P 18 33 52.2 -0.1
comp=Z,32nm,0.5s,mb5.2
SJG San Juan 28.03 245 P P 18 33 53.1 -0.4
comp=Z,25nm,0.9s,mb4.8,baz=60,slow=5.4,SNR=4.9
SJG S **S 18 38 40.8 +2.8**
comp=Z,8.5nm,0.3s,baz=225,slow=15,SNR=7.8
SJG LR LR 18 42 32.9
comp=Z,11µm,21.5s,MS5.4,baz=6.9,slow=31
SJG San Juan 28.03 245 P P 18 33 53.1 -0.5
SJG S **S 18 38 40.8 +2.7**
SJG pmax pmax
comp=Z,25nm,0.9s
SJG smax
comp=N,9.0nm,0.3s
SJG MLR MLR
comp=Z,11µm,21.5s
SJG San Juan 28.03 245 *e*P **P 18 33 53.8 +0.2**
comp=Z,241nm,2.0s,mb5.5
SJG LR LR
comp=Z,16µm,22.0s,MS5.6
EJIF Jimena Fronter 28.22 73 P P 18 33 55.7 +0.4
EJIF pmax pmax
comp=Z,54nm,1.1s,mb5.1
EJIF Jimena Fronter 28.22 73 P P 18 33 55.7 +0.5
comp=Z,54nm,1.1s,mb5.1
EJIF Jimena Fronter 28.22 73 P P 18 33 55.7 +0.4
comp=Z,54nm,1.1s,mb5.1
VAL Valentia 28.48 40 *e*P **P 18 33 54.0 -3.6**
VAL *i* S **S 18 38 55.6 +10**
ACCN Adirondack Com 28.48 301 *e*P **P 18 33 58.5 +0.8**
ACCN Adirondack Com 28.48 301 *e*P **P 18 33 58.5 +0.8**
FRNY Flat Rock 28.71 304 *e*P **P 18 33 59.3 -0.3**
EMIJ Mijas 28.77 73 P P 18 34 00.4 +0.2
comp=Z,163nm,1.4s,mb5.6
EMIJ Mijas 28.77 73 P P 18 34 00.4 +0.2
comp=Z,163nm,1.4s,mb5.6
EARI Arriondas 28.79 59 P P 18 34 01.4 +1.1
comp=Z,243nm,1.6s,mb5.7
EARI Arriondas 28.79 59 P P 18 34 01.4 +1.1
comp=Z,243nm,1.6s,mb5.7
EADA Adamuz 28.87 70 P P 18 34 01.2 +0.1
comp=Z,234nm,2.0s,mb5.6
EADA Adamuz 28.87 70 P P 18 34 01.2 +0.1
comp=Z,234nm,2.0s,mb5.6
SCHQ Schefferville 28.98 327 P P 18 34 01.0 -1.0
comp=Z,12nm,0.6s,mb4.8,baz=131,slow=8.9,SNR=26
SCHQ LR LR 18 45 27.5
comp=Z,9µm,18.1s,MS5.4,baz=134,slow=36
SCHQ Schefferville 28.98 327 *e*P **P 18 34 01.3 -0.8**
comp=Z,83nm,1.2s,mb5.3
SCHQ Schefferville 28.98 327 *e*P **P 18 34 01.3 -0.8**
comp=Z,83nm,1.2s,mb5.3
NCB Newcomb 28.98 302 *e*P **P 18 34 00.9 -1.2**
comp=Z,50nm,1.5s,mb5.0
NCB LR LR
comp=Z,15µm,21.0s,MS5.6
NCB Newcomb 28.98 302 *e*P **P 18 34 00.9 -1.2**
comp=Z,50nm,1.5s,mb5.0
GUD Guadarrama 29.27 65 P P 18 34 04.7 +0.1
GUD pmax pmax
comp=Z,54nm,1.5s,mb5.1
GUD Guadarrama 29.27 65 P P 18 34 04.7 +0.1
comp=Z,54nm,1.5s,mb5.0
MDT Midelt 29.34 81 P P 18 34 04.8 -0.5
comp=Z,14nm,1.0s,mb4.7,baz=294,slow=9.0,SNR=12
MDT LR LR 18 43 03.4
comp=Z,28µm,21.3s,MS5.8,baz=288,slow=31
LONY Lake Ozonia 29.36 303 P P 18 34 04.5 -0.9
comp=Z,54nm,1.8s,mb5.0
LONY Lake Ozonia 29.36 303 P P 18 34 04.5 -0.9
comp=Z,54nm,1.8s,mb5.0
ESDC Sonseca Array 29.37 67 P P 18 34 05.0 -0.5
comp=Z,5.6nm,0.8s,mb4.4,baz=265,slow=8.1,SNR=45
ESDC Sonseca Array 29.37 67 P P 18 34 05.5 -0.1
comp=Z,14nm,1.2s,mb4.6
ESDC Sonseca Array 29.37 67 P P 18 34 05.4 -0.1
comp=Z,14nm,1.2s,mb4.6
ESLA Sonseca Array 29.37 67 *e*P **P 18 34 05.0 -0.5**
comp=Z,58nm,1.7s,mb5.0
ESLA LR LR
comp=Z,40µm,20.0s,MS6.0
ESLA Sonseca Array 29.37 67 *e*P **P 18 34 05.1 -0.4**
comp=Z,58nm,1.7s,mb5.0
EBAN Banos Encina 29.50 70 P P 18 34 06.2 -0.5
EBAN pmax pmax
comp=Z,13nm,0.8s,mb4.7
EBAN Banos Encina 29.50 70 P P 18 34 06.2 -0.5
comp=Z,12nm,0.8s,mb4.7
EBAN Banos Encina 29.50 70 P P 18 34 06.2 -0.5
comp=Z,12nm,0.8s,mb4.7
TRN Trinidad (W) 29.93 227 *e*P **P 18 34 12.9 +2.5**
BINY Binghamton 30.02 298 *e*P **P 18 34 11.1 -0.1**
comp=Z,263nm,2.1s,mb5.6
BINY LR LR
comp=Z,21µm,20.0s,MS5.8
BINY Binghamton 30.02 298 *e*P **P 18 34 11.1 -0.1**
comp=Z,263nm,2.1s,mb5.6
EQES Quesada 30.07 70 P P 18 34 11.8 0.0
comp=Z,149nm,2.1s,mb5.3
EQES Quesada 30.07 70 P P 18 34 11.8 +0.1
comp=Z,149nm,2.1s,mb5.3
MVL Millersville 30.15 294 *e*P **P 18 34 10.8 -1.6**
MVL Millersville 30.15 294 *e*P **P 18 34 10.8 -1.6**
EBER Berja 30.26 72 P P 18 34 15.3 +1.9
comp=Z,120nm,1.4s,mb5.4
EBER Berja 30.26 72 P P 18 34 15.3 +1.9
comp=Z,120nm,1.4s,mb5.4
MELI Melilla 30.37 75 *i* S **S 18 39 12.8 -2.0**
EHUE Huescar 30.45 70 P P 18 34 15.9 +0.8
EHUE pmax pmax
comp=Z,12nm,1.1s,mb4.5
EHUE Huescar 30.45 70 P P 18 34 15.9 +0.9
comp=Z,12nm,1.1s,mb4.5
EHUE Huescar 30.45 70 P P 18 34 15.9 +0.8
comp=Z,12nm,1.1s,mb4.5
EVIA Vianos 30.50 69 P P 18 34 15.7 +0.2
EVIA pmax pmax
comp=Z,41nm,1.0s,mb5.1
EVIA Vianos 30.50 69 P P 18 34 15.7 +0.2
comp=Z,41nm,1.0s,mb5.1
EVIA Vianos 30.50 69 P P 18 34 15.7 +0.2
comp=Z,41nm,1.0s,mb5.1
CGW Gweek 30.55 46 *e*P **P 18 34 16.5 +0.5**
CCA1 Carnmenellis 30.58 46⇑ *e*P **P 18 34 16.1 -0.1**
DCN Croghan 30.74 39⇑ *i*P **P 18 34 14.8 -2.9**
ENIJ Nijar 30.80 72 P P 18 34 19.4 +1.2
ENIJ pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
ENIJ Nijar 30.80 72 P P 18 34 19.4 +1.2
comp=Z,8.5nm,0.8s,mb4.6
ENIJ Nijar 30.80 72 P P 18 34 19.4 +1.2
comp=Z,8.5nm,0.8s,mb4.6
ETOR Torete 30.87 64 P P 18 34 20.4 +1.6
ETOR pmax pmax
comp=Z,27nm,1.2s,mb5.0
ETOR Torete 30.87 64 P P 18 34 20.4 +1.6
comp=Z,27nm,1.2s,mb5.0
ETOR Torete 30.87 64 P P 18 34 20.4 +1.6
comp=Z,27nm,1.2s,mb5.0
CBN Corbin 30.95 290 PFAKE 18 34 30.0 +11
CBN LR LR
comp=Z,27µm,22.0s,MS5.9
DLF Lyons Farm 31.12 39 *e*P **P 18 34 18.2 -2.8**
QUIF Quistinic 31.17 51 *e*P **P 18 34 20.8 -0.6**
comp=Z,190nm,1.5s,mb5.4
QUIF Quistinic 31.17 51 *e*P **P 18 34 20.8 -0.6**
QUIF pmax pmax
comp=Z,95nm,1.5s,mb5.4
QUIF Quistinic 31.17 51 *e*P **P 18 34 20.8 -0.6**
comp=Z,95nm,1.5s,mb5.4
DMUB Kingscourt 31.20 38⇑ *i*P **P 18 34 18.8 -2.9**
ROSF Rostrenen 31.21 50 *e*P **P 18 34 21.4 -0.4**
comp=Z,182nm,1.3s,mb5.5
ROSF Rostrenen 31.21 50 *e*P **P 18 34 21.4 -0.4**
ROSF pmax pmax
comp=Z,91nm,1.3s,mb5.5
ROSF Rostrenen 31.21 50 *e*P **P 18 34 21.4 -0.4**
comp=Z,91nm,1.3s,mb5.5
ETOB Tobarra 31.25 69 P P 18 34 22.5 +0.4
comp=Z,247nm,2.4s,mb5.6
ETOB Tobarra 31.25 69 P P 18 34 22.5 +0.4
comp=Z,247nm,2.4s,mb5.6
HTL Hartland 31.32 44 *e*P **P 18 34 22.9 +0.1**
SSPA Standing Stone 31.34 295 *e*P **P 18 34 21.3 -1.6**
comp=Z,83nm,1.7s,mb5.3
SSPA LR LR
comp=Z,6µm,20.0s,MS5.2
SSPA Standing Stone 31.34 295 *e*P **P 18 34 21.3 -1.7**
comp=Z,83nm,1.7s,mb5.3
ELIZ Elizondo 31.43 60 P P 18 34 24.0 +0.2
ELIZ pmax pmax
comp=Z,29nm,1.2s,mb5.0
ELIZ Elizondo 31.43 60 P P 18 34 24.0 +0.2
comp=Z,29nm,1.2s,mb5.0
ELIZ Elizondo 31.43 60 P P 18 34 24.0 +0.2
comp=Z,29nm,1.2s,mb5.0
DYA Yadsworthy 31.45 46⇑ *e*P **P 18 34 23.9 0.0**
EALK Alkurruntz 31.45 60 P P 18 34 24.4 +0.5
comp=Z,245nm,2.1s,mb5.7
EALK Alkurruntz 31.45 60 P P 18 34 24.4 +0.4
comp=Z,245nm,2.1s,mb5.7
EMUR La Murta 31.52 70 P P 18 34 25.3 +0.8
comp=Z,211nm,2.0s,mb5.6
EMUR La Murta 31.52 70 P P 18 34 25.3 +0.8
comp=Z,211nm,2.0s,mb5.6
OSSF Osses 31.64 60 *e*P **P 18 34 25.1 -0.5**
SGMF Saint Gilles 31.65 50 *e*P **P 18 34 25.3 -0.4**
comp=Z,246nm,1.2s,mb5.6
SGMF Saint Gilles 31.65 50 *e*P **P 18 34 25.3 -0.4**
SGMF pmax pmax
comp=Z,123nm,1.2s,mb5.6
SGMF Saint Gilles 31.65 50 *e*P **P 18 34 25.3 -0.4**
comp=Z,123nm,1.2s,mb5.6
SJPF Ste Jean 31.65 60 *e*P **P 18 34 25.6 -0.1**
comp=Z,305nm,1.4s,mb5.6
SJPF Ste Jean 31.65 60 *e*P **P 18 34 25.6 -0.1**
SJPF pmax pmax
comp=Z,153nm,1.4s,mb5.6
SJPF Ste Jean 31.65 60 *e*P **P 18 34 25.6 -0.1**
comp=Z,153nm,1.4s,mb5.6
ECHE Chera 31.68 67 P P 18 34 26.6 +0.7
ECHE pmax pmax
comp=Z,52nm,1.1s,mb5.3
ECHE Chera 31.68 67 P P 18 34 26.6 +0.7
comp=Z,52nm,1.1s,mb5.3
CART Cartagena 31.72 71 *e*P **P 18 34 24.6 -1.7**
comp=Z,64nm,1.1s,mb5.4
CART Cartagena 31.72 71 *e*P **P 18 34 24.6 -1.7**
comp=Z,64nm,1.1s,mb5.4
HEX Exmoor 31.74 45⇑ *e*P **P 18 34 26.4 -0.1**
LARF Larrau 31.82 60 *e*P **P 18 34 27.6 +0.5**
GMM Mts of Mourne 31.86 38⇑ *e*P **P 18 34 27.1 -0.4**
ORDF Ordiarp 31.87 60 *e*P **P 18 34 30.6 +3.0**
OLEF Ile d'Oleron 31.95 55 *e*P **P 18 34 30.0 +1.7**
ATE Arette 32.03 60 *e*P **P 18 34 29.5 +0.5**
EMOS Mosqueruela 32.06 65 P P 18 34 30.3 +1.0
comp=Z,341nm,2.3s,mb5.8
ESAC San Caprasio 32.11 63 P P 18 34 29.2 -0.5
comp=Z,431nm,2.1s,mb5.9
ESAC San Caprasio 32.11 63 P P 18 34 29.2 -0.5
comp=Z,431nm,2.1s,mb5.9
ETSF Etsaut 32.12 61 *e*P **P 18 34 29.7 -0.1**
comp=Z,284nm,1.5s,mb5.6
ETSF Etsaut 32.12 61 *e*P **P 18 34 29.7 -0.1**
ETSF pmax pmax
comp=Z,142nm,1.5s,mb5.6
ETSF Etsaut 32.12 61 *e*P **P 18 34 29.7 -0.1**
comp=Z,142nm,1.5s,mb5.6
REYF Montagne du Re 32.25 60 *e*P **P 18 34 31.1 +0.1**
EBEN Beniarda 32.28 69 P P 18 34 32.1 +0.9
comp=Z,281nm,2.2s,mb5.7
EBEN Beniarda 32.28 69 P P 18 34 32.1 +0.9
comp=Z,281nm,2.2s,mb5.7
PCRV Puerto La Cruz 32.33 231 P P 18 34 31.5 -0.2
comp=Z,12nm,0.9s,mb4.7,baz=36,slow=4.8,SNR=4.4
HTR Trewern Hill 32.42 43⇑ *e*P **P 18 34 32.4 0.0**
HTR AMb AMB 18 34 36.0
comp=Z,206nm,1.4s,mb5.8
HGH Gray Hill 32.53 44⇑ *e*P **P 18 34 33.3 -0.1**
HGH AMb AMB 18 34 38.0
comp=Z,153nm,1.4s,mb5.7
VIEF Viey 32.54 61 *e*P **P 18 34 34.8 +1.3**
MCH1 Michaelchurch 32.55 43⇑ *e*P **P 18 34 33.2 -0.3**
SADO Sadowa 32.59 303 P P 18 34 34.0 +0.1
comp=Z,15nm,0.7s,mb5.0,baz=129,slow=7.9,SNR=9.4
SADO PcP PcP 18 37 19.4 -0.8
comp=Z,10nm,1.1s,baz=36,slow=8.7,SNR=2.8
SADO Sadowa 32.59 303 PcP PcP 18 37 19.4 -0.8
LABF Labassere 32.59 60 *e*P **P 18 34 34.4 +0.5**
EBIE Bielsa 32.62 61 P P 18 34 35.1 +1.0
comp=Z,160nm,1.5s,mb5.7
EBIE Bielsa 32.62 61 P P 18 34 35.1 +0.9
comp=Z,160nm,1.5s,mb5.7
SSP1 Stoney Pound 32.64 43⇑ *e*P **P 18 34 34.2 -0.2**
ERTA Horta de San J 32.69 64 P P 18 34 35.4 +0.6
comp=Z,329nm,2.3s,mb5.9
ERTA Horta de San J 32.69 64 P P 18 34 35.4 +0.6
comp=Z,329nm,2.3s,mb5.9
SWK Warminster 32.69 45⇑ *e*P **P 18 34 35.3 +0.5**
EGRA Graus 32.72 62 P P 18 34 36.4 +1.3
comp=Z,193nm,1.6s,mb5.8
EGRA Graus 32.72 62 P P 18 34 36.4 +1.4
comp=Z,193nm,1.6s,mb5.8
SBD1 Bryn Du 32.74 42⇑ *e*P **P 18 34 35.0 -0.2**
RESF Ens 32.77 61 *e*P **P 18 34 36.3 +0.8**
GRR Gorron 32.78 50 *e*P **P 18 34 35.3 -0.3**
comp=Z,161nm,1.3s,mb5.5
GRR Gorron 32.78 50 *e*P **P 18 34 35.3 -0.3**
GRR pmax pmax
comp=Z,81nm,1.3s,mb5.5
GRR Gorron 32.78 50 *e*P **P 18 34 35.3 -0.3**
comp=Z,81nm,1.3s,mb5.5
EPF Esparros 32.78 61 *e*P **P 18 34 34.5 -1.1**
comp=Z,373nm,1.5s,mb5.8
EPF Esparros 32.78 61 *e*P **P 18 34 34.5 -1.1**
EPF pmax pmax
comp=Z,186nm,1.5s,mb5.8
EPF Esparros 32.78 61 *e*P **P 18 34 34.5 -1.1**
comp=Z,186nm,1.5s,mb5.8
GAL1 Galloway 32.79 38⇑ *e*P **P 18 34 35.5 -0.1**
EBR Ebro Roquetas 32.80 65 *e*P **P 18 34 37.3 +1.5**
HLM1 Long Mynd 32.80 42⇑ *e*P **P 18 34 35.6 -0.2**
MCWV Mont Chateau 32.84 293 *e*P **P 18 34 36.9 +0.8**
comp=Z,65nm,1.6s,mb5.3
MCWV LR LR
comp=Z,19µm,21.0s,MS5.8
MCWV Mont Chateau 32.84 293 *e*P **P 18 34 36.9 +0.8**
comp=Z,65nm,1.6s,mb5.3
MFF Saint Martin d 32.89 54 *e*P **P 18 34 36.4 -0.1**
comp=Z,167nm,1.1s,mb5.6
MFF Saint Martin d 32.89 54 *e*P **P 18 34 36.4 -0.1**
MFF pmax pmax
comp=Z,83nm,1.1s,mb5.6
MFF Saint Martin d 32.89 54 *e*P **P 18 34 36.4 -0.1**
comp=Z,83nm,1.1s,mb5.6
ERPA Erie 32.98 298 *e*P **P 18 34 37.4 +0.1**
comp=Z,35nm,0.9s,mb5.3
ERPA LR LR
comp=Z,22µm,20.0s,MS5.9
SIW Isle of Wight 33.07 46⇑ *e*P **P 18 34 38.7 +0.6**
ALLY Alegheny Colle 33.08 297 *e*P **P 18 34 38.0 -0.1**
ALLY Alegheny Colle 33.08 297 *e*P **P 18 34 38.0 -0.2**
SWN1 Swindon 33.08 45 *e*P **P 18 34 38.5 +0.3**
MELF Melles 33.08 61 *e*P **P 18 34 38.8 +0.6**
MELF Melles 33.08 61 *e*P **P 18 34 38.9 +0.7**
FLN La Foliniere 33.11 50 *e*P **P 18 34 38.3 -0.2**
comp=Z,171nm,1.3s,mb5.5
FLN *e*R
comp=Z,16µm,18.5s
FLN La Foliniere 33.11 50 *e*P **P 18 34 38.3 -0.2**
FLN pmax pmax
comp=Z,86nm,1.3s,mb5.5
FLN MLR MLR
comp=Z,16µm,18.5s,MS5.8
FLN La Foliniere 33.11 50 *e*P **P 18 34 38.3 -0.2**
comp=Z,86nm,1.3s,mb5.5
FLN LR LR
comp=Z,16µm,18.5s,MS5.8
SSW Stow on the Wo 33.20 44⇑ *e*P **P 18 34 39.6 +0.3**
KAR1 Arisaig 33.25 34⇑ *e*P **P 18 34 39.4 -0.4**
EPOB Poblet 33.26 64 P P 18 34 40.2 +0.4
comp=Z,177nm,1.9s,mb5.7
EPOB Poblet 33.26 64 P P 18 34 40.2 +0.5
comp=Z,177nm,1.9s,mb5.7
LFF La Frestale 33.26 57 *e*P **P 18 34 39.3 -0.5**
comp=Z,269nm,1.4s,mb5.7
LFF La Frestale 33.26 57 *e*P **P 18 34 39.3 -0.5**
LFF pmax pmax
comp=Z,135nm,1.4s,mb5.7
LFF La Frestale 33.26 57 *e*P **P 18 34 39.3 -0.5**
comp=Z,135nm,1.4s,mb5.7
XDE Dent Fell 33.27 39⇑ *e*P **P 18 34 39.1 -0.7**
XDE AMb AMB 18 34 44.1
comp=Z,281nm,1.5s,mb6.0
LDF La Druitiere 33.31 50 *e*P **P 18 34 39.7 -0.5**
MLS Moulis 33.33 61 *e*P **P 18 34 40.6 +0.2**
PGBU Glenifferbraes 33.35 36 *e*P **P 18 34 40.6 0.0**
CDU1 Dunnerdale 33.35 39⇑ *e*P **P 18 34 39.9 -0.7**
SALF Salau 33.39 61 *e*P **P 18 34 40.9 0.0**
BLA Blacksburg 33.42 289 *e*P **P 18 34 41.6 +0.4**
BLA pmax pmax
comp=Z,50nm,1.4s,mb5.2
BLA MLR MLR
comp=Z,2µm,21.0s,MS4.8
BLA Blacksburg 33.42 289 *e*P **P 18 34 41.6 +0.4**
comp=Z,63nm,1.4s,mb5.3
BLA LR LR
comp=Z,25µm,21.0s,MS5.9
BLA Blacksburg 33.42 289 *e*P **P 18 34 41.6 +0.4**
comp=Z,63nm,1.4s,mb5.3
BWH Wardlaw 33.48 38⇑ *e*P **P 18 34 40.5 -1.2**
EIBI Ibiza 33.49 68 P P 18 34 42.7 +0.9
comp=Z,232nm,1.7s,mb5.8
EIBI Ibiza 33.49 68 P P 18 34 42.7 +0.9
comp=Z,232nm,1.7s,mb5.8
BBO1 Bothel 33.49 39⇑ *e*P **P 18 34 41.9 +0.1**
CKE Keswick 33.51 39⇑ *e*P **P 18 34 42.1 +0.2**

EANR 'Ain N'Sour 33.55 73 P **P 18 34 45.0 +2.7**
KPL Plockton 33.56 33 *e*P **P 18 34 41.9 -0.5**
KWE Weaver Farm 33.57 42⇑ *e*P **P 18 34 41.7 -0.8**
EAB Aberfoyle 33.60 36⇑ *e*P **P 18 34 42.2 -0.6**
EAB AMb AMB 18 34 46.5
comp=Z,164nm,1.4s,mb5.8
EMIR Miracle 33.60 63 P **P 18 34 44.0 +1.2**
comp=Z,244nm,1.6s,mb5.9
BHH Howats Hill 33.66 38⇑ *e*P **P 18 34 42.9 -0.4**
ELN Prospectdale 33.69 289 *e*P **P 18 34 44.1 +0.6**
ELN Prospectdale 33.69 289 *e*P **P 18 34 44.1 +0.6**
BORG Borgarnes 33.69 14 P **P 18 34 44.8 +1.2**
comp=Z,510nm,1.6s,mb6.2,SNR=9.0
BORG Borgarnes 33.69 14 P **P 18 34 44.6 +1.1**
comp=Z,50nm,1.0s,mb5.4,baz=192,slow=6.0,SNR=12
BORG LR LR 18 45 12.9
comp=Z,1μm,21.6s,MS4.6,baz=220,slow=31
BORG Borgarnes 33.69 14 *e*P **P 18 34 45.0 +1.5**
comp=Z,246nm,1.5s,mb5.9
BORG Borgarnes 33.69 14 *e*P **P 18 34 45.0 +1.4**
comp=Z,246nm,1.5s,mb5.9
FWV Forest Hill 33.70 290 P **P 18 34 43.8 +0.1**
FWV Forest Hill 33.70 290 P **P 18 34 43.8 +0.2**
SKP1 Kophill 33.73 45⇑ *e*P **P 18 34 43.4 -0.5**
ECHA Ech Chlef 33.74 73 P **P 18 34 42.0 -2.0**
ECK Cauldkaine Hil 33.75 38⇑ *e*P **P 18 34 43.4 -0.7**
ECK AMb AMB 18 34 47.7
comp=Z,243nm,1.3s,mb6.0
LHO Holmfirth 33.76 41⇑ *e*P **P 18 34 43.8 -0.3**
ESK Eskdalemuir 33.77 38 P **P 18 34 43.3 -0.9**
comp=Z,490nm,1.4s,mb6.2,SNR=15
ESK Eskdalemuir 33.77 38⇑ *e*P **P 18 34 43.5 -0.7**
ESK AMb AMB 18 34 47.9
comp=Z,167nm,1.3s,mb5.8
ESK Eskdalemuir 33.77 38 *e*P **P 18 34 43.5 -0.8**
comp=Z,155nm,1.3s,mb5.8
ESK Eskdalemuir 33.77 38 *e*P **P 18 34 43.5 -0.7**
comp=Z,155nm,1.3s,mb5.8
ETRT Tiaret 33.79 74 P **P 18 34 47.0 +2.6**
EKA Eskdalemuir Ar 33.80 38 P **P 18 34 43.2 -1.2**
comp=Z,102nm,1.2s,mb5.6,baz=248,slow=8.0,SNR=38
EKA PcP PcP 18 37 22.6 -1.0
comp=Z,4.1nm,0.7s,baz=259,slow=2.4,SNR=8.5
EKA Eskdalemuir Ar 33.80 38 P **P 18 34 43.2 -1.3**
EKA Eskdalemuir Ar 33.80 38 PcP PcP 18 37 22.5 -1.1
KAC Achnashellach 33.80 33⇑ *e*P **P 18 34 44.5 0.0**
NHSC New Hope 33.81 281 PFAKE 18 34 50.0 +5.4
NHSC LR LR
comp=Z,18μm,22.0s,MS5.7
KBI1 Birley Grange 33.84 42⇑ *e*P **P 18 34 44.2 -0.6**
RJF Les Rejaudoux 33.85 57 *e*P **P 18 34 44.2 -0.7**
comp=Z,309nm,1.5s,mb5.7
RJF *e*R
comp=Z,19μm,19.5s
RJF Les Rejaudoux 33.85 57 *e*P **P 18 34 44.2 -0.7**
RJF pmax pmax
comp=Z,155nm,1.5s,mb5.7
RJF MLR MLR
comp=Z,19μm,19.5s,MS5.8
RJF Les Rejaudoux 33.85 57 *e*P **P 18 34 44.2 -0.7**
comp=Z,155nm,1.5s,mb5.7
RJF LR LR
comp=Z,19μm,19.5s,MS5.8
EBNR Beni Rached 33.86 73 P **P 18 34 46.0 +1.0**
EAU Auchinoon 33.88 37⇑ *e*P **P 18 34 44.8 -0.4**
EAU AMb AMB 18 34 49.0
comp=Z,297nm,1.4s,mb6.0
VALF Valcebollere 33.98 62 *e*P **P 18 34 44.2 -1.9**
EDI Edinburgh 34.05 37⇑ *e*P **P 18 34 45.4 -1.3**
EDI AMb AMB 18 34 50.3
comp=Z,127nm,1.4s,mb5.7
CARF Carcanieres 34.06 61 *e*P **P 18 34 46.9 +0.1**
MTLF Montolieu 34.18 60 *e*P **P 18 34 47.4 -0.4**
comp=Z,165nm,1.2s,mb5.5
MTLF Montolieu 34.18 60 *e*P **P 18 34 47.4 -0.4**
MTLF pmax pmax
comp=Z,83nm,1.2s,mb5.5
MTLF Montolieu 34.18 60 *e*P **P 18 34 47.4 -0.4**
comp=Z,82nm,1.2s,mb5.5
ESY Stoneypath 34.33 37⇑ *e*P **P 18 34 48.5 -0.6**
ESY AMb AMB 18 34 52.0
comp=Z,200nm,1.4s,mb5.9
LRDF Laroque-de-Fa 34.39 61 *e*P **P 18 34 48.8 -0.8**
FILF Fillols 34.39 62 *e*P **P 18 34 49.0 -0.6**
TCF Toulx Ste Croi 34.45 55 *e*P **P 18 34 49.8 -0.3**
comp=Z,200nm,1.1s,mb5.7
TCF Toulx Ste Croi 34.45 55 *e*P **P 18 34 49.8 -0.3**
TCF pmax pmax
comp=Z,100nm,1.1s,mb5.7
TCF Toulx Ste Croi 34.45 55 *e*P **P 18 34 49.8 -0.3**
comp=Z,100nm,1.1s,mb5.7
JSC Jenkinsville 34.48 284 *e*P **P 18 34 50.7 +0.3**
VERF Verneugheol 34.57 56 *e*P **P 18 34 51.0 -0.2**
FRNF Fournols 34.59 57 *e*P **P 18 34 51.3 0.0**
ETOS Mallorca 34.59 66 P **P 18 34 53.1 +1.7**
comp=Z,173nm,1.5s,mb5.8
ETOS Mallorca 34.59 66 P **P 18 34 53.1 +1.7**
comp=Z,173nm,1.5s,mb5.8
SFJD Kangerlussuaq 34.63 352 P **P 18 34 51.1 -0.6**
comp=Z,19nm,1.0s,mb5.0,baz=127,slow=13,SNR=3.1
SFJD LR LR 18 45 15.4
comp=Z,8μm,20.8s,MS5.4,baz=153,slow=30
SFJD Kangerlussuaq 34.63 352 *i* P **P 18 34 49.5 -2.2**
comp=Z,70nm,1.4s,mb5.4
SFJD *e*S **S 18 40 25.5 +4.4**
SFJD
comp=Z,4μm,22.0s
SFJD Kangerlussuaq 34.63 352 *i* P **P 18 34 49.5 -2.2**
SFJD *e*S **S 18 40 25.5 +4.4**
SFJD pmax pmax
comp=Z,70nm,1.4s,mb5.4
SFJD MLR MLR
comp=Z,4μm,22.0s,MS5.1
SJAF Saint Jean de 34.63 62 *e*P **P 18 34 51.9 +0.2**
LWH Whinny Nab 34.71 40⇑ *e*P **P 18 34 51.7 -0.7**
MCD Coleburn Disti 34.80 34⇑ *e*P **P 18 34 53.0 -0.1**
MME1 Meikle Cairn 34.80 35⇑ *e*P **P 18 34 52.2 -1.0**
BGF Bois d'Agland 34.92 55 *e*P **P 18 34 53.6 -0.6**
comp=Z,113nm,1.2s,mb5.4
BGF Bois d'Agland 34.92 55 *e*P **P 18 34 53.6 -0.6**
BGF pmax pmax
comp=Z,57nm,1.2s,mb5.4
BGF Bois d'Agland 34.92 55 *e*P **P 18 34 53.6 -0.6**
comp=Z,57nm,1.2s,mb5.4
PYM Petit Puy Mans 34.94 56 *e*P **P 18 34 55.8 +1.5**
EMHD Djebel Mahouad 35.01 73 P **P 18 34 56.0 +1.0**
LBL Lubilhac 35.05 57 *e*P **P 18 34 55.8 +0.5**
AGO Saint Agoulin 35.06 55 *e*P **P 18 34 55.7 +0.3**
MENF Mencas 35.20 48 *e*P **P 18 34 56.7 +0.1**
ACSO Alum Creek Sta 35.23 294 *e*P **P 18 34 57.2 +0.3**
comp=Z,106nm,1.4s,mb5.6
ACSO LR LR
comp=Z,21μm,22.0s,MS5.9
ACSO Alum Creek Sta 35.23 294 *e*P **P 18 34 57.2 +0.3**
comp=Z,106nm,1.4s,mb5.6
AVF Avril sur Loir 35.30 54 *e*P **P 18 34 56.8 -0.6**
comp=Z,60nm,1.3s,mb5.1
AVF Avril sur Loir 35.30 54 *e*P **P 18 34 56.8 -0.6**
AVF pmax pmax
comp=Z,30nm,1.3s,mb5.1
AVF Avril sur Loir 35.30 54 *e*P **P 18 34 56.8 -0.6**
comp=Z,30nm,1.3s,mb5.1
PLDF La Plantade 35.39 56 *e*P **P 18 34 58.5 +0.3**
COLF Collangettes 35.39 56 *e*P **P 18 34 58.4 +0.1**
LASF Ste Croix 35.40 59 *e*P **P 18 34 57.1 -1.3**
comp=Z,136nm,1.2s,mb5.4
LASF Ste Croix 35.40 59 *e*P **P 18 34 57.1 -1.3**
comp=Z,68nm,1.2s,mb5.4
SSF Saint Saulge 35.44 54 *e*P **P 18 34 58.0 -0.6**
comp=Z,143nm,1.4s,mb5.4
SSF Saint Saulge 35.44 54 *e*P **P 18 34 58.0 -0.6**
SSF pmax pmax
comp=Z,72nm,1.4s,mb5.4
SSF Saint Saulge 35.44 54 *e*P **P 18 34 58.0 -0.6**
comp=Z,72nm,1.4s,mb5.4
SMF Signal de Mont 35.61 55 *e*P **P 18 34 59.8 -0.4**
comp=Z,200nm,1.2s,mb5.6
SMF Signal de Mont 35.61 55 *e*P **P 18 34 59.8 -0.4**
SMF pmax pmax
comp=Z,100nm,1.2s,mb5.6
SMF Signal de Mont 35.61 55 *e*P **P 18 34 59.8 -0.4**
comp=Z,100nm,1.2s,mb5.6
FRB Frobisher Bay 35.62 338 P **P 18 34 59.2 -1.0**
comp=Z,27nm,0.7s,mb5.3,baz=135,slow=7.3,SNR=22
FRB Frobisher Bay 35.62 338 P **P 18 34 59.2 -1.0**

LOR Lormes 35.70 53 *e*P **P 18 35 00.4 -0.5**
comp=Z,114nm,1.2s,mb5.4
LOR *e*R
comp=Z,7μm,18.8s
LOR Lormes 35.70 53 *e*P **P 18 35 00.4 -0.5**
LOR pmax pmax
comp=Z,57nm,1.2s,mb5.4
LOR MLR MLR
comp=Z,7μm,18.8s,MS5.4
LOR Lormes 35.70 53 *e*P **P 18 35 00.4 -0.5**
comp=Z,57nm,1.2s,mb5.4
LOR LR LR
comp=Z,7μm,18.8s,MS5.4
VIVF Saint-Julien-I 36.03 58 *e*P **P 18 35 02.9 -0.9**
comp=Z,141nm,1.6s,mb5.3
VIVF Saint-Julien-I 36.03 58 *e*P **P 18 35 02.9 -0.9**
VIVF pmax pmax
comp=Z,70nm,1.6s,mb5.3
VIVF Saint-Julien-I 36.03 58 *e*P **P 18 35 02.9 -0.9**
comp=Z,70nm,1.6s,mb5.3
DWPF Disney 36.13 274 PFAKE 18 35 10.0 +5.4
DWPF LR LR
comp=Z,4μm,20.0s,MS5.2
PRAF Pradon 36.34 59 *e*P **P 18 35 08.1 +1.7**
BAIF Baives 36.38 49 *e*P **P 18 35 06.1 -0.7**
comp=Z,270nm,1.3s,mb5.7
BAIF Baives 36.38 49 *e*P **P 18 35 06.1 -0.7**
BAIF pmax pmax
comp=Z,135nm,1.3s,mb5.7
BAIF Baives 36.38 49 *e*P **P 18 35 06.1 -0.7**
comp=Z,135nm,1.3s,mb5.7
GOGA Godfrey 36.45 283 *e*P **P 18 35 07.9 +0.6**
GOGA pmax pmax
comp=Z,72nm,1.2s,mb5.5
GOGA MLR MLR
comp=Z,17μm,21.0s,MS5.8
GOGA Godfrey 36.45 283 *e*P **P 18 35 07.9 +0.5**
comp=Z,54nm,1.2s,mb5.4
GOGA LR LR
comp=Z,13μm,21.0s,MS5.7
GOGA Godfrey 36.45 283 *e*P **P 18 35 07.9 +0.6**
comp=Z,54nm,1.2s,mb5.4
TREF Trevaresse 36.49 60 *e*P **P 18 35 09.2 +1.5**
GELF Grande-Etoile 36.52 60 *e*P **P 18 35 09.2 +1.3**
SNF Seneffe 36.52 48 P **P 18 35 06.9 -1.1**
comp=Z,27nm,1.2s,mb5.0
UCC Uccle 36.62 48 ⇓P **P 18 35 08.1 -0.7**
DOU Dourbes 36.63 49 P **P 18 35 08.5 -0.4**
DOU AP pP 18 35 10.0 -1.7
SMRF Simiane la Rot 36.64 59 *e*P **P 18 35 08.6 -0.3**
comp=Z,177nm,1.5s,mb5.4
SMRF Simiane la Rot 36.64 59 *e*P **P 18 35 08.6 -0.3**
comp=Z,88nm,1.5s,mb5.4
MEZF Maizieres J'vi 36.67 52 *e*P **P 18 35 08.8 -0.4**
comp=Z,337nm,1.3s,mb5.7
MEZF Maizieres J'vi 36.67 52 *e*P **P 18 35 08.8 -0.4**
comp=Z,169nm,1.3s,mb5.7
BERF Bertagne 36.71 60 *e*P **P 18 35 10.9 +1.4**
PUYF Puyloubier 36.72 60 *e*P **P 18 35 09.0 -0.6**
VILF Villemus 36.74 59 *e*P **P 18 35 12.3 +2.5**
GRN Grenoble 36.81 57 *e*P **P 18 35 11.6 +1.2**
WAL1 Walls 36.87 31⇑ *e*P **P 18 35 10.1 -0.7**
STOF St-Etienne Org 36.88 59 *e*P **P 18 35 10.2 -0.8**
ORIF Oris-en-Rattie 36.89 58 *e*P **P 18 35 10.6 -0.5**
comp=Z,76nm,1.5s,mb5.0
ORIF *e*R
comp=Z,8μm,19.2s
ORIF Oris-en-Rattie 36.89 58 *e*P **P 18 35 10.6 -0.5**
ORIF pmax pmax
comp=Z,38nm,1.5s,mb5.0
ORIF Oris-en-Rattie 36.89 58 *e*P **P 18 35 10.6 -0.5**
comp=Z,38nm,1.5s,mb5.0
SET Setif 36.97 72 P **P 18 35 11.0 -0.8**
TAVF Tavernes 36.98 60 *e*P **P 18 35 13.5 +1.7**
LRW Lerwick 36.99 31⇑ *e*P **P 18 35 11.3 -0.7**
GDM Grand'Maison 37.08 57 *e*P **P 18 35 14.2 +1.6**
CABF La Chapelle 37.15 55 *e*P **P 18 35 13.1 -0.2**
comp=Z,162nm,1.2s,mb5.4
CABF La Chapelle 37.15 55 *e*P **P 18 35 13.1 -0.2**
CABF pmax pmax
comp=Z,81nm,1.2s,mb5.4
CABF La Chapelle 37.15 55 *e*P **P 18 35 13.1 -0.2**
comp=Z,81nm,1.2s,mb5.4
THEF They Montfort 37.25 52 *e*P **P 18 35 13.9 -0.2**
DFRA Djebel Bou Aff 37.30 72 P **P 18 35 18.0 +3.4**
LMR La Mourre 37.30 60 *e*P **P 18 35 13.5 -1.1**
comp=Z,145nm,1.3s,mb5.3
LMR La Mourre 37.30 60 *e*P **P 18 35 13.5 -1.1**
LMR pmax pmax
comp=Z,73nm,1.3s,mb5.3
LMR La Mourre 37.30 60 *e*P **P 18 35 13.5 -1.1**
comp=Z,73nm,1.3s,mb5.3
SDV Santo Domingo 37.34 237 P **P 18 35 15.6 +0.7**
comp=Z,147nm,1.0s,mb5.8,baz=63,slow=4.6,SNR=41
SDV Santo Domingo 37.34 237 P **P 18 35 15.6 +0.7**
SDV LR LR
comp=Z,5μm,22.0s,MS5.2
FRF La Foret Royal 37.41 60 *e*P **P 18 35 14.4 -1.1**
comp=Z,255nm,1.4s,mb5.5
FRF La Foret Royal 37.41 60 *e*P **P 18 35 14.4 -1.1**
FRF pmax pmax
comp=Z,127nm,1.4s,mb5.6
FRF La Foret Royal 37.41 60 *e*P **P 18 35 14.4 -1.1**
comp=Z,127nm,1.4s,mb5.5
BEBN Eben Emael 37.45 48 P **P 18 35 15.7 -0.1**
HAU Haudompre 37.46 53 *e*P **P 18 35 16.2 +0.3**
comp=Z,213nm,1.5s,mb5.5
HAU *e*R
comp=Z,6μm,18.2s
HAU Haudompre 37.46 53 *e*P **P 18 35 16.2 +0.3**
HAU pmax pmax
comp=Z,107nm,1.5s,mb5.5
HAU MLR MLR
comp=Z,6μm,18.3s,MS5.5
HAU Haudompre 37.46 53 *e*P **P 18 35 16.2 +0.3**
comp=Z,106nm,1.5s,mb5.5
HAU LR LR
comp=Z,6μm,18.3s,MS5.5
BNI Bardonecchia 37.47 57 *e*P **P 18 35 17.2 +1.2**
BNI pmax pmax
comp=Z,125nm,1.4s,mb5.5
BNI Bardonecchia 37.47 57 *e*P **P 18 35 17.2 +1.3**
comp=Z,125nm,1.4s,mb5.5
BNI Bardonecchia 37.47 57 *e*P **P 18 35 17.2 +1.2**
comp=Z,125nm,1.4s,mb5.5
MBDF Montbardon 37.52 58 *e*P **P 18 35 17.1 +0.7**
comp=Z,97nm,1.1s,mb5.1
MBDF Montbardon 37.52 58 *e*P **P 18 35 17.1 +0.7**
MBDF pmax pmax
comp=Z,49nm,1.1s,mb5.2
MBDF Montbardon 37.52 58 *e*P **P 18 35 17.1 +0.7**
comp=Z,49nm,1.1s,mb5.1
LPL La Plagne 37.52 57 *e*P **P 18 35 15.8 -0.7**
comp=Z,53nm,1.1s,mb4.9
LPL La Plagne 37.52 57 *e*P **P 18 35 15.8 -0.7**
LPL pmax pmax
comp=Z,27nm,1.1s,mb4.9
LPL La Plagne 37.52 57 *e*P **P 18 35 15.8 -0.7**
comp=Z,27nm,1.1s,mb4.9
LPG La Plagne 37.54 57 *e*P **P 18 35 16.3 -0.3**
comp=Z,71nm,1.2s,mb5.0
LPG La Plagne 37.54 57 *e*P **P 18 35 16.3 -0.3**
LPG pmax pmax
comp=Z,36nm,1.2s,mb5.0
LPG La Plagne 37.54 57 *e*P **P 18 35 16.3 -0.3**
comp=Z,36nm,1.2s,mb5.0
SURF Saint Ours 37.54 58 *e*P **P 18 35 18.8 +2.2**
WLF Walferdange 37.55 50 *e*P **P 18 35 16.4 -0.3**
comp=Z,118nm,1.4s,mb5.4
WLF *e*S **S 18 41 09.3 +3.4**
WLF Walferdange 37.55 50 P **P 18 35 16.3 -0.4**
WLF AP pP 18 35 18.8 -0.7
comp=Z,24nm,1.3s
WLF Walferdange 37.55 50 *e*P **P 18 35 16.4 -0.3**
WLF pmax pmax
comp=Z,109nm,1.4s,mb5.4
WLF Walferdange 37.55 50 *e*P **P 18 35 16.4 -0.3**
comp=Z,109nm,1.4s,mb5.4
HGN Heimansgroeve 37.60 48⇑ *i*P **P 18 35 17.7 +0.6**
comp=Z,36nm,1.4s,mb4.9
HGN *e*PP PP 18 36 44.1 +1.3
HGN *i* S **S 18 41 09.3 +2.7**
HGN *e*SS SS 18 43 53.3 +1.9
HGN *e*P 18 49 38.2
comp=Z,40nm,2.4s
MEM Membach 37.62 48 P **P 18 35 16.7 -0.6**

EMV Vieux Emosson 37.67 56 ⇑P **P 18 35 18.9 +1.2**
LOMF Lomont 37.72 54 *e*P **P 18 35 18.2 +0.1**
MVIF Mont Vial 37.78 59 *e*P **P 18 35 22.1 +3.5**
CASM Ain Smara 37.83 72 P **P 18 35 19.0 -0.1**
TOUF Mont Tournerai 37.85 59 *e*P **P 18 35 17.0 -2.2**
DOI San Damiano 37.85 58 P **P 18 35 20.7 +1.5**
RSP Reno Superiore 37.88 57 P **P 18 35 20.9 +1.4**
STV Sta Anna Valdi 37.90 59 P **P 18 35 22.3 +2.6**
STV Sta Anna Valdi 37.90 59 P **P 18 35 20.0 +0.3**
REVF Revere 37.93 60 *e*P **P 18 35 22.4 +2.5**
MOF Molkenrain 37.97 53 *e*P **P 18 35 19.6 -0.7**
SBF Sospel 37.98 59 *e*P **P 18 35 19.4 -0.9**
comp=Z,101nm,1.1s,mb5.2
SBF Sospel 37.98 59 *e*P **P 18 35 19.4 -0.9**
SBF pmax pmax
comp=Z,51nm,1.1s,mb5.2
SBF Sospel 37.98 59 *e*P **P 18 35 19.4 -0.9**
comp=Z,50nm,1.1s,mb5.2
ECH Echery 38.03 52 *e*P **P 18 35 20.2 -0.5**
DIX Grande Dixence 38.03 56 ⇑P **P 18 35 22.0 +1.3**
SAOF Saorge 38.07 59 *e*P **P 18 35 20.9 -0.2**
SWET Sewanee 38.11 287 *e*P **P 18 35 21.3 -0.1**
SWET Sewanee 38.11 287 *e*P **P 18 35 21.3 -0.1**
CDF Champ du Feu 38.12 52 *e*P **P 18 35 20.9 -0.6**
comp=Z,102nm,1.1s,mb5.2
CDF Champ du Feu 38.12 52 *e*P **P 18 35 20.9 -0.6**
CDF pmax pmax
comp=Z,51nm,1.1s,mb5.2
CDF Champ du Feu 38.12 52 *e*P **P 18 35 20.9 -0.6**
comp=Z,51nm,1.1s,mb5.2
RUP Ruppelstein 38.14 50 *e*P **P 18 35 21.4 -0.3**
WLS Welschbruch 38.18 52 *e*P **P 18 35 21.6 -0.4**
BBS Basel-Blauen 38.19 54 *e*P **P 18 35 21.4 -0.7**
LKBD Leukerbad 38.20 55 ⇓P **P 18 35 23.2 +1.1**
IMI Imperia 38.31 59 P **P 18 35 25.7 +2.6**
WTSB Winterswijk 38.36 46⇓*e*P **P 18 35 23.0 -0.5**
comp=Z,121nm,1.7s,mb5.4
ORO Oropa 38.41 57 P **P 18 35 25.0 +1.1**
MMK Mattmark 38.41 56 ⇑P **P 18 35 25.8 +1.8**
MCGN Macugnaga 38.42 56 P **P 18 35 25.7 +1.6**
WIT Witteveen 38.45 45 *e*P **P 18 35 24.9 +0.6**
comp=Z,536nm,2.1s,mb5.9
ABH Alteburg 38.48 50 *e*P **P 18 35 25.2 +0.7**
LANF Langenberg 38.54 51 *e*P **P 18 35 25.7 +0.7**
FIN Finale Ligure 38.54 59 P **P 18 35 26.0 +1.0**
BUG Bochum--Univer 38.55 47 *e*P **P 18 35 24.5 -0.6**
comp=Z,186nm,1.6s,mb5.6
BUG *e*S **S 18 41 25.1 +4.1**
BUG Bochum--Univer 38.55 47 P **P 18 35 24.3 -0.8**
FELD Feldberg im Sc 38.56 53 *e*P **P 18 35 24.7 -0.5**
FELD Feldberg im Sc 38.56 53 *e*P **P 18 35 24.8 -0.4**
SULZ Sulz-Cheisache 38.60 54 ⇑P **P 18 35 25.7 +0.1**
KTD Kalmit 38.76 51 *e*P **P 18 35 28.4 +1.5**
SCO Scoresbysund 38.76 9 *i* P **P 18 35 26.7 -0.2**
comp=Z,15nm,1.0s,mb4.7
SCO Scoresbysund 38.76 9 *e*P **P 18 35 26.7 -0.2**
SCO pmax pmax
comp=Z,15nm,1.0s,mb4.7
SCO Scoresbysund 38.76 9 *e*P **P 18 35 26.7 -0.2**
comp=Z,15nm,1.0s,mb4.7
BFO Black Forest 38.82 52 P **P 18 35 27.7 +0.3**
comp=Z,213nm,1.3s,mb5.7,SNR=22
BFO Black Forest 38.82 52 *e*P **P 18 35 27.4 +0.1**
comp=Z,60nm,1.2s,mb5.2
BFO *e*S **S 18 41 29.9 +4.9**
BFO Black Forest 38.82 52 *e*P **P 18 35 27.4 +0.1**
BFO *e*S **S 18 41 29.9 +4.9**
BFO pmax pmax
comp=Z,60nm,1.2s,mb5.2
SLE Schleitheim 38.88 53 ⇑P **P 18 35 28.9 +1.0**
ZUR Zurich 38.91 54 ⇑P **P 18 35 28.7 +0.6**
MUO Muotathal 38.92 54 ⇑P **P 18 35 29.3 +1.1**
IBBN Ibbenburen 39.00 46 *e*P **P 18 35 28.3 -0.6**
comp=Z,176nm,1.4s,mb5.6
IBBN *e*S **S 18 41 32.2 +4.4**
IBBN Ibbenburen 39.00 46 P **P 18 35 28.1 -0.8**
TNS Taunus Mts 39.10 49 P **P 18 35 29.5 -0.2**
PGF Pioggiola 39.15 61 *e*P **P 18 35 29.1 -1.0**
LLS Linth-Limmern 39.17 55 ⇑P **P 18 35 31.2 +0.9**
TOD Tromm 39.26 50 *e*P **P 18 35 31.0 0.0**
CORF Corte 39.27 62 *e*P **P 18 35 31.6 +0.4**
TUE Stuetta 39.39 55 P **P 18 35 32.8 +0.7**
LRAL Lakeview Retre 39.42 283 *e*P **P 18 35 31.6 -0.8**
comp=Z,74nm,1.4s,mb5.2
LRAL LR LR
comp=Z,13μm,21.0s,MS5.8
LRAL Lakeview Retre 39.42 283 *e*P **P 18 35 31.6 -0.8**
comp=Z,74nm,1.4s,mb5.2
BOB Bobbio (Coli) 39.43 58 P **P 18 35 33.7 +1.2**
STU Stuttgart 39.43 52 *e*P **P 18 35 32.2 -0.3**
comp=Z,40nm,1.1s,mb5.1
STU *e*S **S 18 41 38.1 +3.9**
STU Stuttgart 39.43 52 *e*P **P 18 35 32.0 -0.5**
STU pmax pmax
comp=Z,35nm,0.9s,mb5.1
STU Stuttgart 39.43 52 *e*P **P 18 35 32.0 -0.5**
comp=Z,35nm,0.9s,mb5.1
STU Stuttgart 39.43 52 *e*P **P 18 35 32.0 -0.5**
comp=Z,35nm,0.9s,mb5.1
WVT Waverly 39.47 288 *e*P **P 18 35 32.1 -0.7**
WVT pmax pmax
comp=Z,37nm,1.4s,mb4.9
WVT MLR MLR
comp=Z,22μm,22.0s,MS6.0
WVT Waverly 39.47 288 *e*P **P 18 35 32.1 -0.8**
comp=Z,37nm,1.4s,mb4.9
WVT LR LR
comp=Z,22μm,22.0s,MS6.0
WVT Waverly 39.47 288 *e*P **P 18 35 32.1 -0.7**
comp=Z,37nm,1.4s,mb4.9
SUMG Summit 39.63 1 *e*P **P 18 35 33.3 -0.8**
comp=Z,71nm,0.7s,mb5.5
SUMG Summit 39.63 1 *e*P **P 18 35 33.3 -0.8**
comp=Z,71nm,0.7s,mb5.5
DAVOX Davos 39.77 55 P **P 18 35 36.5 +1.2**
comp=Z,14nm,0.8s,mb4.7,baz=296,slow=9.6,SNR=15
DAVOX LR LR 18 49 25.7
comp=Z,9μm,19.1s,MS5.6,baz=268,slow=32
DAVA Damuels 39.79 54⇓*i*P **P 18 35 35.8 +0.3**
comp=Z,538nm,3.4s,SNR=28
PLAL Pickwick Lake 39.88 287 P **P 18 35 34.7 -1.5**
comp=Z,88nm,1.6s,mb5.2
PLAL LR LR
comp=Z,34μm,20.0s,MS6.2
PLAL Pickwick Lake 39.88 287 P **P 18 35 34.7 -1.5**
comp=Z,88nm,1.6s,mb5.2
BER Bergen 40.02 33 *e*P **P 18 35 36.1 -1.2**
BER AMb AMB 18 35 41.7
comp=Z,153nm,1.1s,mb5.6
BER *e*S **S 18 41 46.1 +3.0**
BER *e*SS SS 18 44 45.9 +5.9
BER AMS AMS 18 52 19.4
comp=Z,2μm,16.4s,MS5.0
BER Bergen 40.02 33 *e*P **P 18 35 36.1 -1.3**
BER pmax pmax
comp=Z,153nm,1.1s,mb5.6
BER MLR MLR
comp=Z,2μm,16.4s,MS5.0
BER Bergen 40.02 33 *e*P **P 18 35 36.1 -1.2**
comp=Z,153nm,1.1s,mb5.6
BER LR LR
comp=Z,2μm,16.4s,MS5.0
BER Bergen 40.02 33 *e*P **P 18 35 36.1 -1.3**
comp=Z,153nm,1.1s,mb5.6,SNR=26
BER *e*S **S 18 41 46.1 +3.0**
SNR=27
BER *e*SS SS 18 44 45.9 +5.8
SNR=37
BRMO Bormio 40.10 55 P **P 18 35 38.8 +0.8**
ERBM Eremo 40.12 59 P **P 18 35 40.8 +2.6**
SAL Salo 40.19 57 P **P 18 35 39.7 +0.9**
PII Pisa 40.22 60 P **P 18 35 39.3 +0.2**
GSCL Gusciola 40.25 59 P **P 18 35 40.2 +0.9**
BDI Bagni Di Lucca 40.26 59 P **P 18 35 39.3 -0.1**
NRDL Niedersach Rie 40.45 46 *e*P **P 18 35 40.8 -0.2**
comp=Z,234nm,1.4s,mb5.7
NRDL *e*S **S 18 41 54.3 +4.7**
CLZ Clausthal 40.52 47 *e*P **P 18 35 41.2 -0.3**
comp=Z,162nm,1.3s,mb5.5
CLZ *e*S **S 18 41 54.7 +4.1**
CLZ Clausthal 40.52 47 *e*P **P 18 35 41.2 -0.3**
CLZ *e*S **S 18 41 54.7 +4.1**
CLZ pmax pmax
comp=Z,162nm,1.3s,mb5.5

ZCCA Zocca 40.52 59 P **P 18 35 42.8 +1.2**
GRFL Gerfalco 40.57 60 P **P 18 35 42.8 +0.8**
MOTA Moosalm 40.62 54⇓*iP* **P 18 35 42.5 +0.1**
comp=Z,81nm,1.3s,mb5.2,SNR=37
MOTA Moosalm 40.62 54⇓*iP* **P 18 35 42.5 +0.1**
MOTA pmax pmax
comp=Z,81nm,1.3s,mb5.2
APPI Appiano 40.69 55 P **P 18 35 43.3 +0.4**
SQTA Sankt Quirin 40.69 54⇓*iP* **P 18 35 43.3 +0.4**
comp=Z,120nm,1.2s,mb5.4,SNR=27
SQTA Sankt Quirin 40.69 54⇓*iP* **P 18 35 43.3 +0.4**
SQTA pmax pmax
comp=Z,120nm,1.2s,mb5.4
MUD Monsted U'grnd 40.70 40⇑*iP* **P 18 35 44.0 +1.0**
comp=Z,43nm,1.0s,mb5.0
MUD *i* S **S 18 41 55.2 +1.9**
MUD *i* 18 45 03.5
MUD
comp=Z,5µm,19.0s
MUD Monsted U'grnd 40.70 40⇑*iP* **P 18 35 44.0 +1.0**
comp=Z,43nm,1.0s,mb5.0
MUD *i* S **S 18 41 55.2 +1.9**
MUD *i* 18 45 03.5
MUD Monsted U'grnd 40.70 40⇑*iP* **P 18 35 44.0 +1.0**
comp=Z,43nm,1.0s,mb5.0
MUD *i* S **S 18 41 55.2 +1.9**
FUR Furstenfeldbru 40.77 53 P **P 18 35 44.6 +1.0**
CSNT Castellina Chi 40.79 60 P **P 18 35 43.2 -0.5**
BSEG Bad Segeberg 40.81 44 *eP* **P 18 35 43.8 -0.1**
comp=Z,435nm,1.2s,mb6.0
BSEG *eS* **S 18 41 57.7 +2.8**
GRA1 Grafenberg Arr 40.83 50 *eP* **P 18 35 43.8 -0.3**
comp=Z,56nm,1.4s,mb5.0
GRA1 *e*PP PP 18 37 23.0 +4.9
GRA1 *eS* **S 18 42 00.1 +4.9**
GRA1 *e*SS SS 18 45 10.6 +14
GRA1 LR LR
comp=Z,11µm,21.7s,MS5.7
GRF Grafenberg Arr 40.83 50 *eP* **P 18 35 43.8 -0.3**
comp=Z,56nm,1.4s,mb5.0
GRF *e*PP PP 18 37 23.0 +4.9
GRF *eS* **S 18 42 00.1 +4.9**
GRF *e*SS SS 18 45 10.6 +14
GRF *e*L 18 49 24.0
comp=Z,11µm,21.7s
GRF Grafenberg Arr 40.83 50 *eP* **P 18 35 43.8 -0.3**
GRF *e* 18 37 23.0
GRF *eS* **S 18 42 00.1 +4.9**
GRF pmax pmax
comp=Z,56nm,1.4s,mb5.0
GRF MLR MLR
comp=Z,11µm,21.7s,MS5.7
GRF Grafenberg Arr 40.83 50 *eP* **P 18 35 43.8 -0.3**
GRF *e* 18 37 23.0
GRF *eS* **S 18 42 00.1 +4.9**
GRF pmax pmax
comp=Z,56nm,1.4s,mb5.0
GRF MLR MLR
comp=Z,11µm,21.7s,MS5.7
GRF Grafenberg Arr 40.83 50 *eP* **P 18 35 43.8 -0.3**
comp=Z,56nm,1.4s,mb5.0
GRF *e*PP PP 18 37 23.0 +4.9
GRF *eS* **S 18 42 00.1 +4.9**
GRF *e*SS SS 18 45 10.7 +14
GRF LR LR
comp=Z,11µm,21.7s,MS5.7
WATA Walderalm 40.94 54⇓*iP* **P 18 35 44.9 -0.2**
comp=Z,66nm,1.2s,mb5.1,SNR=20
WATA Walderalm 40.94 54⇓*iP* **P 18 35 44.9 -0.1**
WATA pmax pmax
comp=Z,66nm,1.2s,mb5.1
VMG Vicchio 40.95 59 P **P 18 35 45.2 +0.1**
CTI Castel Tesino 40.98 56 P **P 18 35 44.8 -0.5**
WTTA Wattenberg 40.98 54⇓*iP* **P 18 35 45.6 +0.2**
comp=Z,728nm,3.7s,SNR=29
WTTA Wattenberg 40.98 54⇓*iP* **P 18 35 45.6 +0.3**
WTTA pmax pmax
comp=Z,73nm,3.7s
BRES Bressanone 41.04 55 P **P 18 35 45.7 -0.1**
OXF Oxford 41.05 286 P **P 18 35 48.1 +2.2**
OXF pmax pmax
comp=Z,40nm,0.7s,mb5.2
OXF Oxford 41.05 286 PFAKE 18 36 00.0 +14
OXF LR LR
comp=Z,33µm,21.0s,MS6.2
MOX Moxa 41.16 49 *eP* **P 18 35 46.4 -0.4**
comp=Z,41nm,1.3s,mb4.9
MOX *eS* **S 18 42 04.4 +4.3**
MOX Moxa 41.16 49 *eP* **P 18 35 46.7 -0.1**
comp=Z,75nm,1.6s,mb5.1
MOX
comp=Z,15µm,21.0s
MOX Moxa 41.16 49 *eP* **P 18 35 46.7 -0.1**
MOX pmax pmax
comp=Z,75nm,1.6s,mb5.1
MOX MLR MLR
comp=Z,15µm,21.0s,MS5.8
SFI Santa Sofia 41.17 59 P **P 18 35 47.7 +0.8**
FVM French Village 41.21 292 P **P 18 35 47.0 -0.3**
FVM pmax pmax
comp=Z,43nm,1.1s,mb5.0
FVM French Village 41.21 292 *eP* **P 18 35 47.0 -0.3**
comp=Z,47nm,1.1s,mb5.0
FVM French Village 41.21 292 *eP* **P 18 35 47.0 -0.3**
comp=Z,47nm,1.1s,mb5.0
CRE Caprese Michel 41.26 60 P **P 18 35 47.9 +0.3**
SEST Monte Rota 41.37 55 P **P 18 35 49.6 +1.0**
TOLF Tolfa 41.40 62 P **P 18 35 50.0 +1.2**
MANZ Manzenberg 41.42 50 *eP* **P 18 35 49.0 0.0**
comp=Z,70nm,1.6s,mb5.0
MANZ *eS* **S 18 42 10.3 +6.3**
ROTZ Rotzenmuhle 41.47 50 *eP* **P 18 35 49.0 -0.4**
comp=Z,62nm,1.8s,mb4.9
ROTZ *eS* **S 18 42 10.0 +5.3**
BADI Badiali 41.48 60 P **P 18 35 49.2 -0.2**
JMIC Jan Mayen 41.58 15 P **P 18 35 50.3 +0.1**
comp=Z,20nm,0.7s,mb4.9,baz=129,slow=19,SNR=2.1
JMIC LR LR 18 49 54.3
comp=Z,2µm,19.8s,MS4.9,baz=228,slow=32
JMIC Jan Mayen 41.58 15 *eP* **P 18 35 51.8 +1.6**
JMIC *eS* **S 18 42 05.6 -0.7**
JMIC Jan Mayen 41.58 15 P **P 18 35 50.3 0.0**
JMIC *eS* **S 18 42 05.6 -0.7**
SNR=27
DBIC Dimbokro 41.59 121 P **P 18 35 50.0 -0.4**
comp=Z,34nm,1.1s,mb4.9,baz=292,slow=9.4,SNR=16
DBIC PP PP 18 37 20.4 -6.1
comp=Z,9.4nm,1.0s,baz=254,slow=12,SNR=2.1
DBIC LR LR 18 50 40.7
comp=Z,12µm,20.6s,MS5.8,baz=293,slow=33
DBIC Dimbokro 41.59 121 *eP* **P 18 35 49.9 -0.5**
DBIC pmax pmax
comp=Z,27nm,1.0s
DBIC MLR MLR
comp=Z,12µm,21.0s
DBIC Dimbokro 41.59 121 *eP* **P 18 35 49.9 -0.5**
comp=Z,27nm,1.0s,mb4.8
DBIC LR LR
comp=Z,12µm,21.0s,MS5.8
DBIC Dimbokro 41.59 121 *eP* **P 18 35 49.9 -0.5**
comp=Z,27nm,1.0s,mb4.8
RSM Repubblica di 41.60 59 P **P 18 35 55.5 +5.0**
NKC Novy Kostel 41.66 50 *eP* **P 18 35 51.3 +0.4**
NKC *eS* **S 18 42 10.7 +3.2**
NKC *e*SS SS 18 45 29.9 +17
NKC AMS AMS 18 49 50.0
comp=Z,15µm,18.9s
NKC Novy Kostel 41.66 50 *eP* **P 18 35 51.3 +0.4**
NKC *eS* **S 18 42 10.7 +3.2**
NKC MLR MLR
comp=Z,15µm,18.9s,MS5.9
NKC Novy Kostel 41.66 50 *eP* **P 18 35 51.3 +0.4**
NKC *eS* **S 18 42 10.7 +3.2**
NKC *e*SS SS 18 45 29.9 +17
TANN Tannenbergstha 41.68 49 *eP* **P 18 35 50.8 -0.3**
comp=Z,57nm,1.5s,mb5.0
TANN *eS* **S 18 42 13.4 +5.6**
MURB Monte Urbino 41.70 60 P **P 18 35 50.5 -0.7**
FVI Forni Avoltri 41.76 55 P **P 18 35 51.3 -0.4**
LIC Lamto 41.78 122⇑*iP* **P 18 35 51.2 -0.7**
comp=Z,112nm,1.0s,mb5.1
LIC *e*R
comp=Z,13µm,18.2s
LIC Lamto 41.78 122⇑*iP* **P 18 35 51.2 -0.7**
comp=Z,56nm,1.0s,mb5.2
LIC LR LR
comp=Z,7µm,18.3s,MS5.5
LIC Lamto 41.78 122⇑*iP* **P 18 35 51.2 -0.7**
comp=Z,56nm,1.0s,mb5.1
KONO Kongsberg 41.78 35 *eP* **P 18 35 51.8 -0.1**
KONO *eS* **S 18 42 08.4 -1.0**
KONO *e*SS SS 18 45 21.1 +5.9
KONO Kongsberg 41.78 35 P **P 18 35 52.4 +0.5**
KONO pmax pmax
comp=Z,100nm,1.2s,mb5.3
KONO Kongsberg 41.78 35 *eP* **P 18 35 51.5 -0.4**
comp=Z,105nm,1.3s,mb5.3
KONO LR LR
comp=Z,6µm,22.0s,MS5.4
KONO Kongsberg 41.78 35 *eP* **P 18 35 51.5 -0.4**
comp=Z,105nm,1.3s,mb5.3
KONO *eS* **S 18 42 08.4 -1.0**
KONO SNR=27
KONO *e*SS SS 18 45 21.0 +5.8
SNR=37
HBAR Harrisburg 41.83 288 P **P 18 35 51.9 -0.5**
HBAR Harrisburg 41.83 288 P **P 18 35 51.9 -0.4**
CCM Cathedral Cave 41.84 292 P **P 18 35 51.8 -0.6**
CCM pmax pmax
comp=Z,120nm,1.8s,mb5.2
CCM Cathedral Cave 41.84 292 *eP* **P 18 35 52.6 +0.2**
comp=Z,125nm,1.8s,mb5.2
CCM LR LR
comp=Z,5µm,21.0s,MS5.4
CCM Cathedral Cave 41.84 292 *eP* **P 18 35 52.6 +0.2**
comp=Z,125nm,1.8s,mb5.2
MOL Molde 41.84 31 *eP* **P 18 35 53.5 +1.1**
WET Wettzell 41.88 51 *eP* **P 18 35 52.1 -0.6**
comp=Z,80nm,1.9s,mb5.0
WET *eS* **S 18 42 16.0 +5.3**
WET Wettzell 41.88 51 *eP* **P 18 35 52.1 -0.6**
WET *eS* **S 18 42 16.0 +5.3**
WET pmax pmax
comp=Z,80nm,1.9s,mb5.0
MNS Montasola 41.88 61 P **P 18 35 53.8 +1.1**
RDP Rocca di Papa 41.96 62 P **P 18 35 54.9 +1.5**
ARV Arcevia 41.98 60 P **P 18 35 52.7 -0.9**
SNTG Esanatoglia 42.00 60 P **P 18 35 52.9 -0.8**
GMNA Gemona 42.08 56 P **P 18 35 53.5 -0.8**
CLL Collm 42.09 48 *eP* **P 18 35 53.8 -0.7**
comp=Z,88nm,1.4s,mb5.2
CLL *eS* **S 18 42 18.9 +5.0**
CLL Collm 42.09 48 *i P* **P 18 35 54.1 -0.4**
comp=Z,87nm,1.4s,mb5.2
CLL *e*(sP) sP 18 36 02.0 +3.5
CLL *eS* **S 18 42 15.0 +1.1**
CLL *e*SS SS 18 45 36.0 +15
CLL Collm 42.09 48 *i P* **P 18 35 54.1 -0.4**
CLL *eS* **S 18 42 15.0 +1.1**
CLL pmax pmax
comp=Z,87nm,1.4s,mb5.2
CLL MLR MLR
comp=Z,15µm,20.4s,MS5.8
CLL Collm 42.09 48 *i P* **P 18 35 54.1 -0.4**
comp=Z,87nm,1.4s,mb5.2
CLL *eS* **S 18 42 15.0 +1.1**
CLL LR LR
comp=Z,15µm,20.4s,MS5.8
CLL Collm 42.09 48 *i P* **P 18 35 54.1 -0.4**
comp=Z,87nm,1.4s,mb5.2
CLL *eS* **S 18 42 15.0 +1.1**
CERT Cerreto 42.14 62 P **P 18 35 55.7 +0.8**
KBA Koelnbreinsper 42.15 54⇓*iP* **P 18 35 54.5 -0.3**
comp=Z,431nm,3.6s,SNR=22
KBA Koelnbreinsper 42.15 54⇓*iP* **P 18 35 54.5 -0.4**
KBA pmax pmax
comp=Z,431nm,3.6s
PTCC Patocco-Chiusa 42.16 55 P **P 18 35 54.4 -0.6**
CING Cingoli 42.18 60 P **P 18 35 54.9 -0.3**
FIAM Fiamignano 42.21 62 P **P 18 35 56.7 +1.3**
COP Copenhagen 42.33 42⇑*iP* **P 18 35 57.7 +1.3**
comp=Z,87nm,1.2s,mb5.3
COP *i* S **S 18 42 23.1 +5.7**
COP *i* 18 45 33.6
COP
comp=Z,2µm,17.0s
COP Copenhagen 42.33 42⇑*iP* **P 18 35 57.7 +1.3**
COP *i* S **S 18 42 23.1 +5.7**
COP pmax pmax
comp=Z,87nm,1.2s,mb5.3
COP MLR MLR
comp=Z,2µm,17.0s,MS5.0
KHC Kasperske Hory 42.33 51 *eP* **P 18 35 56.0 -0.4**
KHC *e*PP PP 18 37 46.0 +12
KHC *eS* **S 18 42 14.4 -3.1**
KHC *e*SS SS 18 45 39.5 +13
KHC AMS AMS 18 48 40.0
comp=Z,10µm,27.5s
KHC Kasperske Hory 42.33 51 *eP* **P 18 35 56.0 -0.4**
KHC *e* 18 37 46.0
KHC *eS* **S 18 42 14.4 -3.1**
KHC MLR MLR
comp=Z,10µm,27.5s,MS5.6
ERC Erice 42.36 68 P **P 18 35 57.8 +1.2**
GEC2 GERESS Array S 42.41 52 *eP* **P 18 35 56.1 -0.9**
comp=Z,110nm,2.0s,mb5.1
GEC2 *eS* **S 18 42 24.3 +5.7**
GEC2 GERESS Array S 42.41 52 *eP* **P 18 35 56.1 -0.9**
GEC2 *eS* **S 18 42 24.3 +5.7**
GEC2 pmax pmax
comp=Z,110nm,2.0s,mb5.1
GERES GERESS Array B 42.41 52 P **P 18 35 56.8 -0.2**
comp=Z,2.8nm,0.8s,baz=266,slow=7.6,SNR=18
GERES PcP PcP 18 37 50.3 +0.2
comp=Z,4.9nm,1.0s,baz=239,slow=4.2,SNR=5.1
GERES LR LR 18 50 19.2
comp=Z,5µm,22.0s,MS5.4,baz=259,slow=32
GERES GERESS Array B 42.41 52 P **P 18 35 56.8 -0.2**
GERES 18 37 50.3
GERES GERESS Array B 42.41 52 PcP PcP 18 37 50.3 +0.2
AQU L'Aquila 42.41 61⇑*iP* **P 18 35 57.5 +0.4**
AQU L'Aquila 42.41 61⇑P **P 18 35 57.6 +0.5**
AQU L'Aquila 42.41 61 *eP* **P 18 35 56.8 -0.3**
comp=Z,63nm,1.0s,mb5.2
AQU L'Aquila 42.41 61 *eP* **P 18 35 56.8 -0.3**
comp=Z,63nm,1.0s,mb5.2
TORD Torodi Ar. Bea 42.53 108 P **P 18 35 57.5 -0.5**
comp=Z,138nm,1.1s,mb5.6,baz=303,slow=3.5,SNR=143
TERO Teramo 42.54 61 P **P 18 35 58.2 +0.1**
VOY Vojsko 42.54 56 *eP* **P 18 35 57.8 -0.3**
VOY *e* 18 36 04.7
VOY *e* 18 36 26.3
VOY *e* 18 36 40.8
VOY *e* 18 38 22.4
VVLD Villa Vallelon 42.62 62 P **P 18 35 59.1 +0.3**
RGN Rugen 42.65 43 *eP* **P 18 35 59.1 +0.1**
comp=Z,269nm,1.4s,mb5.8
RGN Rugen 42.65 43 *eP* **P 18 35 59.1 +0.1**
comp=Z,269nm,1.4s,mb5.8
BRG Berggiesshubel 42.65 49 *eP* **P 18 35 58.4 -0.6**
comp=Z,96nm,1.5s,mb5.3
BRG *eS* **S 18 42 27.8 +5.6**
BRG Berggiesshubel 42.65 49 *eP* **P 18 35 59.1 +0.1**
comp=Z,58nm,1.5s,mb5.1
BRG *i* 18 36 12.9
comp=Z,62nm,1.7s
BRG PP PP 18 37 34.0 -3.9
BRG S **S 18 42 18.0 -4.2**
BRG SCS ScS 18 45 49.0 -12
BRG
comp=N,7µm,19.9s
BRG
comp=E,2µm,23.6s
BRG
comp=Z,10µm,19.3s
BRG Berggiesshubel 42.65 49 *eP* **P 18 35 59.1 +0.1**
BRG 18 37 34.0
BRG S **S 18 42 18.0 -4.2**
BRG pmax pmax
comp=Z,58nm,1.5s,mb5.1
BRG MLR MLR
comp=Z,10µm,19.3s,MS5.7
BRG Berggiesshubel 42.65 49 *eP* **P 18 35 59.1 +0.1**
comp=Z,58nm,1.5s,mb5.1
BRG *i* 18 36 12.9
BRG PP PP 18 37 34.0 -3.9
BRG S **S 18 42 18.0 -4.2**
BRG ScS ScS 18 45 49.0 -12
BRG LR LR
comp=Z,10µm,19.3s,MS5.7
RUE Ruedersdorf 42.68 46 *eP* **P 18 35 59.1 -0.1**
comp=Z,301nm,1.4s,mb5.8
RUE Ruedersdorf 42.68 46 *eP* **P 18 35 59.1 -0.1**
comp=Z,301nm,1.4s,mb5.8
USI Ustica 42.71 67 P **P 18 36 00.8 +1.3**
NAO01 NORSAR Array S 42.75 34 *eP* **P 18 35 59.5 -0.3**
comp=Z,131nm,1.3s,mb5.5
NAO01 LR LR
comp=Z,3µm,19.0s,MS5.3
NAO01 NORSAR Array S 42.75 34 *eP* **P 18 35 59.5 -0.3**
comp=Z,131nm,1.3s,mb5.5
ROSC El Rosal 42.77 237 P **P 18 36 00.5 +0.5**
comp=Z,8.9nm,0.7s,mb4.6,baz=102,slow=17,SNR=7.1
ROSC LR LR 18 52 00.9
comp=Z,10µm,21.6s,MS5.7,baz=15,slow=34
MOA Molln 42.77 53⇑*iP* **P 18 35 59.0 -0.9**
comp=Z,858nm,5.6s,SNR=41
SDI San Donato 42.78 62 P **P 18 36 00.1 0.0**
INTR Introdacqua 42.82 62 P **P 18 36 00.1 -0.3**
SCIA State Center 42.83 298 *eP* **P 18 36 00.4 0.0**
comp=Z,174nm,1.3s,mb5.6
SCIA State Center 42.83 298 *eP* **P 18 36 00.4 0.0**
comp=Z,174nm,1.3s,mb5.6
CEY Cerknica 42.92 56 P **P 18 36 02.2 +1.0**
PRA Prague 42.92 50 P **P 18 36 03.5 +2.3**
comp=Z,24nm,1.5s,mb4.7
PRA *e*x x 18 36 15.0
PRA *e*x x 18 36 26.0
CLTB Caltabellotta 42.93 68 P **P 18 36 02.3 +1.1**
RFI Roccamonfina 42.96 63 P **P 18 36 03.7 +2.2**
NB2 NORSAR Subarra 42.96 34 P **P 18 36 01.3 -0.2**
comp=Z,111nm,1.1s,mb5.5,baz=253,slow=8.6
NB2 NORSAR Subarra 42.96 34 P **P 18 36 01.3 -0.2**
NB2 pmax pmax
comp=Z,111nm,1.1s,mb5.5
NOA NORSAR Array B 42.96 34 P **P 18 36 01.2 -0.4**
comp=Z,64nm,1.1s,mb5.3,baz=254,slow=8.3,SNR=45
NOA PcP PcP 18 37 51.1 -0.8
comp=Z,1.8nm,0.7s,baz=66,slow=3.1,SNR=4.0
NOA LR LR 18 52 08.0
comp=Z,2µm,18.5s,MS5.1,baz=250,slow=34
NOA NORSAR Array B 42.96 34 P **P 18 36 01.2 -0.3**
NOA 18 37 51.2
NOA NORSAR Array B 42.96 34 P **P 18 36 01.2 -0.4**
NOA PcP PcP 18 37 51.1 -0.8
NOA LR LR 18 52 08.0
NOA NORSAR Array B 42.96 34 PcP PcP 18 37 51.2 -0.8
LJU Ljubljana 42.98 56 *i P* **P 18 36 01.4 -0.3**
LJU *eS* **S 18 42 30.3 +3.3**
LJU *e*SS SS 18 45 39.5 +0.8
LJU *e* 18 46 40.8
LJU Ljubljana 42.98 56 *i P* **P 18 36 01.4 -0.3**
LJU *eS* **S 18 42 30.3 +3.3**
LJU *e*SS SS 18 45 39.5 +0.7
OBKA Obir 42.98 55⇓*iP* **P 18 36 00.9 -0.8**
comp=Z,385nm,3.3s,SNR=29
PVCC Panska Ves 43.03 49 *eP* **P 18 36 02.4 +0.3**
PVCC *eS* **S 18 42 30.1 +2.3**
PVCC *e*SS SS 18 45 52.9 +13
PVCC AMS AMS 18 51 00.0
comp=Z,6µm,18.8s
PVCC Panska Ves 43.03 49 *eP* **P 18 36 02.4 +0.3**
PVCC *eS* **S 18 42 30.1 +2.3**
PVCC MLR MLR
comp=Z,6µm,18.8s,MS5.5
PVCC Panska Ves 43.03 49 *eP* **P 18 36 02.4 +0.3**
PVCC *eS* **S 18 42 30.1 +2.3**
RNI2 Rionero Sannit 43.04 62 P **P 18 36 03.8 +1.7**
MIDA Miranda 43.12 62 P **P 18 36 02.7 -0.1**
CII Carovilli 43.15 62 P **P 18 36 04.5 +1.5**
NVLJ Novalja 43.30 58 *i P* **P 18 36 04.1 -0.2**
PERS Pernice 43.37 55 *eP* **P 18 36 03.3 -1.5**
BOJS Bojanci 43.51 57 *eP* **P 18 36 05.8 -0.2**
BOJS *eS* **S 18 42 37.4 +2.6**
PSB1 Pescosannita 43.59 63 P **P 18 36 07.1 +0.5**
TREC Trest 43.59 51 *eP* **P 18 36 06.5 -0.1**
TREC *e*PP PP 18 37 56.5 +8.6
TREC *eS* **S 18 42 39.3 +3.4**
TREC *e*SS SS 18 45 58.4 +7.7
TREC AMS AMS 18 49 10.0
comp=Z,7µm,20.7s
CIGN Sant'Elia a Pi 43.60 62 P **P 18 36 08.0 +1.3**
ARSA Arzberg 43.63 54⇓*iP* **P 18 36 05.5 -1.4**
comp=Z,350nm,4.5s,SNR=22
DOBS Dobrina 43.63 56 *eP* **P 18 36 05.5 -1.5**
BSD Bornholm Skovb 43.64 43⇓*iP* **P 18 36 06.3 -0.7**
comp=Z,146nm,1.3s,mb5.5
BSD *i* S **S 18 42 40.9 +4.2**
BSD *i* 18 45 57.4
BSD
comp=Z,7µm,18.0s
BSD Bornholm Skovb 43.64 43⇓*iP* **P 18 36 06.3 -0.7**
comp=Z,146nm,1.3s,mb5.5
BSD *i* S **S 18 42 40.9 +4.2**
BSD *i* 18 45 57.4
CRES Cresnjev 43.64 56 P **P 18 36 07.2 +0.2**
CONA Conrad Observa 43.84 53⇓*iP* **P 18 36 07.7 -0.9**
comp=Z,511nm,4.4s,SNR=16
VAE Valguarnera 43.88 68 P **P 18 36 10.1 +1.2**
comp=Z,4.7nm,0.3s,mb4.7,baz=341,slow=6.4,SNR=2.9
VAE LR LR 18 50 54.6
comp=Z,10µm,20.7s,MS5.7,baz=92,slow=31
VAE Valguarnera 43.88 68 P **P 18 36 10.1 +1.2**
RAFF Raffo Rosso 43.89 69 P **P 18 36 10.1 +1.1**
HFS Hagfors 43.90 35 P **P 18 36 08.5 -0.6**
comp=Z,24nm,0.8s,mb5.0,baz=243,slow=6.5,SNR=27
HFS LR LR 18 52 36.5
comp=Z,5µm,18.8s,MS5.5,baz=225,slow=34
FG5 Orsara di Pugl 43.92 63 P **P 18 36 10.6 +1.3**
UPC Upice 43.95 49 *eP* **P 18 36 09.4 -0.1**
UPC *e*PP PP 18 37 54.4 +2.6
UPC *eS* **S 18 42 45.3 +4.1**
SLNA Salina 44.01 67 P **P 18 36 10.2 +0.2**
SGO Sicignano 44.05 64 P **P 18 36 10.4 +0.1**
RGNG Rignano Grg 44.11 62 P **P 18 36 10.5 -0.3**
FG4 Candela 44.13 63 P **P 18 36 10.8 -0.1**
KSP Ksiaz 44.14 49 *eP* **P 18 36 11.3 +0.3**
KSP *e*pP pP 18 36 12.7 -1.2
KSP *eS* **S 18 42 50.0 +6.0**
KSP L 18 50 04.1
comp=Z,24nm,28.5s
KSP Ksiaz 44.14 49⇓*eP* **P 18 36 10.9 -0.1**
KSP *eS* **S 18 42 47.2 +3.2**
KSP *e*SS SS 18 46 05.5 +4.1
KSP LR LR
comp=Z,32µm,21.5s,MS6.2
DPC Dobruska-Polom 44.15 50 *eP* **P 18 36 11.0 -0.1**
DPC *e*PP PP 18 37 58.3 +4.4
DPC *eS* **S 18 42 48.6 +4.5**
DPC *e*SS SS 18 46 11.2 +10
DPC AMS AMS 18 51 00.0
comp=Z,12µm,20.3s
MRLC Muro Lucano 44.16 63 P **P 18 36 12.6 +1.4**
KRUC Moravsky 44.18 52 P **P 18 36 11.2 -0.2**
ULM Lac du Bonnet 44.30 310 P **P 18 36 11.7 -0.6**
comp=Z,9.4nm,0.7s,mb4.6,baz=80,slow=8.8,SNR=12
ULM LR LR 18 54 54.0
comp=Z,14µm,18.4s,MS5.9,baz=88,slow=36
ULM Lac du Bonnet 44.30 310 P **P 18 36 11.6 -0.7**
WDD Wield Dalam 44.30 71 P **P 18 36 14.3 +2.0**
SISC Sisak 44.30 57 e(P) 18 36 12.8
VRAC Vranov 44.31 51 P **P 18 36 12.1 -0.3**
comp=Z,11nm,0.8s,mb4.7,baz=270,slow=8.9,SNR=41
VRAC LR LR 18 51 05.9
comp=Z,5µm,21.3s,MS5.4,baz=250,slow=31
VRAC Vranov 44.31 51⇓*iP* **P 18 36 13.4 +1.0**
VRAC Vranov 44.31 51 P **P 18 36 11.9 -0.5**
SOP Sopron 44.32 54⇑*eP* **P 18 36 12.9 +0.4**
SOP Sopron 44.32 54 P **P 18 36 12.8 +0.3**
SLCN Sala Consilina 44.32 64 P **P 18 36 13.8 +1.3**
MIAR Mount Ida 44.39 288 *eP* **P 18 36 12.8 -0.2**
MIAR pmax pmax
comp=Z,144nm,1.6s,mb5.5
MIAR MLR MLR
comp=Z,23µm,20.0s,MS6.1
MIAR Mount Ida 44.39 288 *eP* **P 18 36 12.8 -0.2**
comp=Z,144nm,1.6s,mb5.5
MIAR LR LR
comp=Z,23µm,20.0s,MS6.1
MIAR Mount Ida 44.39 288 *eP* **P 18 36 12.8 -0.2**
comp=Z,144nm,1.6s,mb5.5
NSS Namsos 44.39 29 *eP* **P 18 36 10.3 -2.8**
NSS AMb AMB 18 36 17.5
comp=Z,154nm,2.1s,mb5.4

NSS AMS AMS 18 51 24.7
comp=Z,3μm,22.7s,MS5.1
NSS Namsos 44.39 29 *eP* **P 18 36 10.3 -2.8**
comp=Z,154nm,2.1s,mb5.4
NSS LR LR
comp=Z,3μm,22.7s,MS5.1
NSS Namsos 44.39 29 *eP* **P 18 36 10.3 -2.8**
comp=Z,154nm,2.1s,mb5.4,SNR=25
CUC Castrocucco 44.52 65 P **P 18 36 13.4 -0.7**
AGST Augusta-Monte 44.56 68 P **P 18 36 14.5 +0.1**
ZST Bratislava 44.67 53 *eP* **P 18 36 15.5 +0.2**
ZST *ePP* PP 18 37 58.4 -1.1
ZST Bratislava 44.67 53 *eP* **P 18 36 15.5 +0.2**
ZST *e* 18 37 58.4
ZST pmax pmax
comp=Z,65nm,1.5s,mb5.2
ZST MLR MLR
comp=Z,800nm,21.0s,MS4.6
ZST Bratislava 44.67 53 *eP* **P 18 36 15.5 +0.2**
comp=Z,65nm,1.5s,mb5.2
ZST *ePP* PP 18 37 58.4 -1.1
ZST LR LR
comp=Z,800nm,21.0s,MS4.6
ZST Bratislava 44.67 53 *eP* **P 18 36 15.5 +0.2**
comp=Z,65nm,1.5s,mb5.2
ZST Bratislava 44.67 53 *ePP* PP 18 37 58.4 -1.1
GKP Gorka Klasztor 44.83 46 *eP* **P 18 36 16.9 +0.4**
GKP *epP* pP 18 36 19.0 -0.4
GKP *eS* **S 18 42 57.6 +3.6**
GKP *es*S sS 18 43 01.2 +2.5
GKP L 18 51 00.9
comp=Z,14nm,27.6s
GKP Gorka Klasztor 44.83 46 *eP* **P 18 36 16.9 +0.4**
GKP *epP* pP 18 36 19.0 -0.4
SMOL Smolenice 44.88 52 *eP* **P 18 36 16.9 0.0**
CEL Celeste 44.88 67 P **P 18 36 16.0 -1.0**
DAG Danmarks Havn 44.90 7⇑*iP* **P 18 36 16.5 -0.6**
comp=Z,16nm,1.0s,mb4.8
DAG Danmarks Havn 44.90 7⇑*iP* **P 18 36 16.5 -0.6**
DAG pmax pmax
comp=Z,16nm,1.0s,mb4.8
MORC Moravsky Berou 44.93 50⇓*iP* **P 18 36 17.3 0.0**
MORC Moravsky Berou 44.93 50 P **P 18 36 17.5 +0.2**
MORC Moravsky Berou 44.93 50 *eP* **P 18 36 16.8 -0.5**
comp=Z,52nm,1.3s,mb5.2
MORC Moravsky Berou 44.93 50 *eP* **P 18 36 16.8 -0.5**
comp=Z,52nm,1.3s,mb5.2
TEIG Tepich 44.93 266 *eP* **P 18 36 19.4 +2.0**
comp=Z,70nm,1.1s,mb5.4
TEIG LR LR
comp=Z,18μm,20.0s,MS6.0
GRI Girifalco 45.18 66 P **P 18 36 19.7 +0.4**
OKC Ostrava-Krasne 45.32 50 *eP* **P 18 36 20.6 +0.2**
OKC *ePP* PP 18 38 02.2 -4.2
OKC *eS* **S 18 43 01.6 +0.5**
OKC *eSS* SS 18 46 27.2 +2.9
OKC AMS AMS 18 50 30.0
comp=Z,5μm,23.1s
OKC Ostrava-Krasne 45.32 50 *eP* **P 18 36 20.6 +0.2**
OKC *e* 18 38 02.2
OKC *eS* **S 18 43 01.6 +0.5**
OKC MLR MLR
comp=Z,5μm,23.1s,MS5.4
OKC Ostrava-Krasne 45.32 50 *eP* **P 18 36 20.6 +0.2**
OKC *ePP* PP 18 38 02.2 -4.2
OKC *eS* **S 18 43 01.6 +0.5**
OKC *eSS* SS 18 46 27.2 +2.9
RAC Raciborz 45.35 50 *eP* **P 18 36 21.0 +0.3**
RAC *epP* pP 18 36 22.5 -1.0
RAC *eS* **S 18 43 06.2 +4.7**
RAC L 18 50 02.4
comp=N,6.5nm,18.2s
RAC L 18 50 34.5
comp=E,11nm,26.7s
RAC L 18 50 42.6
comp=Z,11nm,27.6s
RAC L 18 52 51.8
comp=Z,8.0nm,18.5s
RAC Raciborz 45.35 50 *eP* **P 18 36 21.0 +0.3**
RAC *eS* **S 18 43 06.2 +4.7**
RAC LR LR
comp=Z,8μm,18.5s,MS5.7
TIP Timpagrande 45.38 65 *eP* **P 18 36 19.2 -1.7**
SRO1 Iza 45.44 53 *eP* **P 18 36 22.0 +0.6**
SRO1 pmax pmax
comp=Z,55nm,1.0s,mb5.3
SRO Srobarova 45.50 53 *eP* **P 18 36 22.1 +0.3**
SRO pmax pmax
comp=Z,109nm,1.3s,mb5.5
SRO Srobarova 45.50 53 *eP* **P 18 36 22.1 +0.3**
comp=Z,109nm,1.3s,mb5.5
STON Ston 45.51 60⇑*iP* **P 18 36 21.9 0.0**
STON Ston 45.51 60 P **P 18 36 23.2 +1.3**
KOLL Kolacno 45.52 52 *eP* **P 18 36 21.3 -0.7**
SRO2 Moca 45.55 53 *eP* **P 18 36 21.8 -0.5**
SRO2 pmax pmax
comp=Z,34nm,1.0s,mb5.2
VYHS Vyhne 45.81 52 *eP* **P 18 36 23.4 -0.9**
VYHS *e* 18 38 03.8
VYHS *eS* **S 18 43 08.9 +0.7**
VYHS Vyhne 45.81 52 *eP* **P 18 36 23.4 -0.9**
VYHS *ePP* PP 18 38 03.8 -7.8
VYHS *eS* **S 18 43 08.9 +0.7**
VYHS LR LR
comp=Z,3μm,22.2s,MS5.2
PKSM Moragy 45.83 55⇓*iP* **P 18 36 23.8 -0.7**
PKSM Moragy 45.83 55⇓P **P 18 36 23.8 -0.7**
BUD Budapest 45.99 54⇑*eP* **P 18 36 26.5 +0.7**
NATX Nacogdoches 46.01 284 *eP* **P 18 36 26.4 +0.5**
comp=Z,125nm,1.3s,mb5.7
NATX LR LR
comp=Z,13μm,22.0s,MS5.8
LCI Lecce 46.20 64 P **P 18 36 27.5 +0.1**
OJC Ojcow 46.38 50 *eP* **P 18 36 28.6 -0.2**
OJC *ePP* PP 18 38 14.6 -3.0
OJC *eS* **S 18 43 17.0 +0.7**
OJC L 18 52 46.0
comp=Z,45nm,21.0s
PSZ Piszkesteto 46.55 53⇓*eP* **P 18 36 29.7 -0.5**
PSZ Piszkesteto 46.55 53⇓*iP* **P 18 36 31.9 +1.7**
PSZ Piszkesteto 46.55 53 *eP* **P 18 36 29.5 -0.7**
PSZ pmax pmax
comp=Z,76nm,1.4s,mb5.4
PSZ Piszkesteto 46.55 53 *eP* **P 18 36 29.5 -0.7**
comp=Z,76nm,1.4s,mb5.4
NIE Niedzica 46.74 51 *eP* **P 18 36 32.8 +1.2**
KECS Kecovo 46.91 52 *eP* **P 18 36 34.1 +1.1**
KECS pmax pmax
comp=Z,80nm,1.2s,mb5.5
KECS Kecovo 46.91 52 *eP* **P 18 36 34.1 +1.1**
comp=Z,8.3nm,1.2s,mb4.5
DIVS Divcibare 47.00 58⇑*iP* **P 18 36 33.2 -0.5**
WAR Warsaw 47.10 47 *eP* **P 18 36 34.6 +0.1**
WAR *epP* pP 18 36 36.3 -1.1
WAR *eS* **S 18 43 31.6 +4.9**
WAR L 18 51 39.3
comp=Z,11nm,28.5s
WAR Warsaw 47.10 47 *eP* **P 18 36 34.6 +0.1**
WAR *epP* pP 18 36 36.3 -1.1
JTS JuntasAbangare 47.32 252 P **P 18 36 36.1 0.0**
comp=Z,31nm,1.0s,mb5.2,baz=26,slow=4.5,SNR=13
JTS JuntasAbangare 47.32 252 *iP* **P 18 36 36.0 -0.2**
JTS JuntasAbangare 47.32 252 *eP* **P 18 36 36.4 +0.2**
comp=Z,63nm,1.2s,mb5.4
JTS JuntasAbangare 47.32 252 *eP* **P 18 36 36.4 +0.2**
comp=Z,63nm,1.2s,mb5.4
STHS Stebnicka Huta 47.35 51 *iP* **P 18 36 37.3 +0.9**
STHS pmax pmax
comp=Z,28nm,1.1s,mb5.1
STHS Stebnicka Huta 47.35 51 *iP* **P 18 36 37.3 +0.9**
comp=Z,28nm,1.1s,mb5.1
SAML Samuel 47.37 212 *eP* **P 18 36 34.7 -1.9**
comp=Z,168nm,1.5s,mb5.8
SAML LR LR
comp=Z,11μm,20.0s,MS5.8
SAML Samuel 47.37 212 *eP* **P 18 36 34.7 -1.9**
comp=Z,168nm,1.5s,mb5.8
HKT Hockley 47.52 282 *eP* **P 18 36 37.2 -0.5**
HKT pmax pmax
comp=Z,238nm,2.1s,mb5.8
HKT MLR MLR
comp=Z,2μm,21.0s,MS5.1
HKT Hockley 47.52 282 *eP* **P 18 36 37.2 -0.6**
comp=Z,238nm,2.1s,mb5.8
HKT LR LR
comp=Z,224nm,21.0s
HKT Hockley 47.52 282 *eP* **P 18 36 37.2 -0.5**
comp=Z,238nm,2.1s,mb5.8
CRVS Cervenica-Dubn 47.52 52 *eP* **P 18 36 40.0 +2.2**
CRVS *ePP* PP 18 38 26.1 -3.0
CRVS *e* 18 43 39.3
CRVS Cervenica-Dubn 47.52 52 *eP* **P 18 36 40.0 +2.2**
CRVS *e* 18 38 26.2
CRVS *eS* **S 18 43 39.3 +6.6**
CRVS pmax pmax
comp=Z,28nm,1.4s,mb5.1
CRVS MLR MLR
comp=Z,2μm,24.3s,MS5.0
CRVS Cervenica-Dubn 47.52 52 *eP* **P 18 36 40.0 +2.2**
comp=Z,28nm,1.4s,mb5.1
CRVS *ePP* PP 18 38 26.2 -2.9
CRVS *eS* **S 18 43 39.3 +6.6**
CRVS LR LR
comp=Z,2μm,24.3s,MS5.0
CRVS Cervenica-Dubn 47.52 52 *eP* **P 18 36 40.0 +2.2**
comp=Z,28nm,1.4s,mb5.1
CRVS Cervenica-Dubn 47.52 52 *ePP* PP 18 38 26.2 -2.9
BZS Buzias 47.95 56⇓*iP* **P 18 36 41.1 0.0**
BZS Buzias 47.95 56⇓P **P 18 36 41.1 0.0**
IGT Igoumenitsa 48.03 64 *eP* **P 18 36 41.5 -0.1**
KOLS Kolonicke sedl 48.06 51 *eP* **P 18 36 43.8 +1.9**
KOLS *eS* **S 18 43 43.0 +2.7**
KOLS Kolonicke sedl 48.06 51 *eP* **P 18 36 43.8 +1.9**
KOLS *eS* **S 18 43 43.0 +2.7**
KOLS pmax pmax
comp=Z,34nm,1.5s,mb5.2
KOLS MLR MLR
comp=Z,3μm,21.8s,MS5.2
KOLS Kolonicke sedl 48.06 51 *eP* **P 18 36 43.8 +1.9**
comp=Z,34nm,1.5s,mb5.2
KOLS *eS* **S 18 43 43.0 +2.7**
KOLS LR LR
comp=Z,3μm,21.8s,MS5.2
KOLS Kolonicke sedl 48.06 51 *eP* **P 18 36 43.8 +1.9**
comp=Z,34nm,1.5s,mb5.2
OHR Ohrid 48.07 62 *eP* **P 18 36 43.1 +1.2**
FFC Flin Flon 48.08 316 P **P 18 36 41.4 -0.6**
comp=Z,152nm,1.1s,mb5.9,SNR=13
FFC Flin Flon 48.08 316 *eP* **P 18 36 41.5 -0.5**
FFC pmax pmax
comp=Z,28nm,1.0s,mb5.2
FFC Flin Flon 48.08 316 *eP* **P 18 36 41.5 -0.5**
comp=Z,28nm,1.0s,mb5.2
FFC Flin Flon 48.08 316 *eP* **P 18 36 41.5 -0.5**
comp=Z,28nm,1.0s,mb5.2
UZH Uzhgorod 48.09 52 *eP* **P 18 36 42.0 -0.2**
UZH *eS* **S 18 43 38.0 -2.8**
KWP Kalwaria 48.28 51 *eP* **P 18 36 44.4 +0.7**
KWP *epP* pP 18 36 46.2 -0.3
KWP *eS* **S 18 43 50.3 +6.8**
KWP *eS*S sS 18 43 56.9 +8.7
KWP L 18 52 25.5
comp=Z,9.9nm,26.4s
KWP Kalwaria 48.28 51 *eP* **P 18 36 44.4 +0.7**
KWP *epP* pP 18 36 46.2 -0.3
KWP *eS* **S 18 43 50.3 +6.8**
KWP *eS*S sS 18 43 56.9 +8.7
KWP Kalwaria 48.28 51 *eP* **P 18 36 44.4 +0.7**
KWP *epP* pP 18 36 46.2 -0.3
SUW Suwalki 48.38 45 *eP* **P 18 36 43.4 -1.0**
SUW *epP* pP 18 36 45.3 -2.0
SUW *eS* **S 18 43 46.5 +1.6**
SUW L 18 53 16.3
comp=Z,12nm,25.8s
SUW Suwalki 48.38 45 *eP* **P 18 36 43.4 -1.0**
SUW *epP* pP 18 36 45.3 -2.0
SUW *eS* **S 18 43 46.5 +1.6**
SUW Suwalki 48.38 45 *eP* **P 18 36 43.4 -1.0**
SUW *epP* pP 18 36 45.3 -2.0
SKO Skopje 48.38 61 *eP* **P 18 36 46.0 +1.6**
JAN Janina 48.39 64 *eP* **P 18 36 47.0 +2.5**
LKD Levkas 48.44 65 *eP* **P 18 36 46.8 +1.9**
BOLS Boljevac 48.45 58⇑*iP* **P 18 36 44.0 -0.9**
BIA Bitola 48.47 62 *eP* **P 18 36 44.5 -0.6**
BIA Bitola 48.47 62 P **P 18 36 46.5 +1.4**
VLS Valsamata 48.52 66 *eP* **P 18 36 48.0 +2.6**
FNA Florina 48.56 62 *eP* **P 18 36 46.3 +0.5**
DRGR 48.56 54⇑*iP* **P 18 36 47.0 +1.2**
DRGR 48.56 54 P **P 18 36 45.7 -0.1**
TRO Tromso 48.60 23 *eP* **P 18 36 44.6 -1.5**
TRO AMb AMB 18 36 50.3
comp=Z,204nm,0.9s,mb6.2
TRO *eS* **S 18 43 50.0 +2.0**
TRO AMS AMS 18 58 30.4
comp=Z,851nm,17.5s,MS4.8
TRO Tromso 48.60 23 *eP* **P 18 36 44.6 -1.5**
TRO pmax pmax
comp=Z,204nm,0.9s,mb6.2
TRO MLR MLR
comp=Z,8μm,17.5s,MS5.8
TRO Tromso 48.60 23 *eP* **P 18 36 44.6 -1.5**
comp=Z,204nm,0.9s,mb6.2
TRO LR LR
comp=Z,850nm,17.5s,MS4.8
TRO Tromso 48.60 23 *eP* **P 18 36 44.6 -1.5**
comp=Z,204nm,0.9s,mb6.2,SNR=24
TRO *eS* **S 18 43 50.0 +2.1**
SNR=25
OTAV Otavalo 48.92 236 *eP* **P 18 36 48.5 0.0**
comp=Z,192nm,1.4s,mb5.9
OTAV LR LR
comp=Z,6μm,22.0s,MS5.5
OTAV Otavalo 48.92 236 *eP* **P 18 36 48.5 -0.1**
comp=Z,192nm,1.4s,mb5.9
STIP Stip 48.98 61 *eP* **P 18 36 48.0 -1.0**
BAO Brasilia Array 49.03 191 P **P 18 36 50.0 +0.6**
BDFB Brasilia 49.04 191 P **P 18 36 49.1 -0.4**
comp=Z,34nm,0.8s,mb5.5,baz=356,slow=7.1,SNR=41
BDFB LR LR 18 56 05.1
comp=Z,5μm,18.0s,MS5.6,baz=3.0,slow=34
LVV L'vov 49.13 50 *eP* **P 18 36 50.0 -0.1**
LVV *eS* **S 18 43 48.0 -7.3**
LVV MLR MLR
comp=Z,2μm,15.0s,MS5.3
EVR Evrytania 49.28 65 *eP* **P 18 36 54.5 +3.2**
GRG Griva 49.29 62 *eP* **P 18 36 51.3 -0.1**
VAY Valandovo 49.34 61 *eP* **P 18 36 52.2 +0.5**
VAY Valandovo 49.34 61 P **P 18 36 52.9 +1.2**
RES Resolute Bay 49.45 343 *eP* **P 18 36 51.7 -0.9**
RES pmax pmax
comp=Z,77nm,1.1s,mb5.7
RES Resolute Bay 49.45 343 *eP* **P 18 36 51.7 -0.8**
comp=Z,2μm,1.1s
RES Resolute Bay 49.45 343 *eP* **P 18 36 51.7 -0.9**
comp=Z,2μm,1.1s
LIT Litokhoron 49.53 63 *eP* **P 18 36 54.3 +1.1**
VTS Vitosha 49.56 60 *iP* **P 18 36 53.0 -0.4**
VTS Vitosha 49.56 60⇓*iP* **P 18 36 53.6 +0.2**
KKB Krupnik 49.61 61 *iP* **P 18 36 54.0 +0.2**
KNT Kendrikon 49.61 62 *eP* **P 18 36 53.7 -0.1**
AGG Agios Georgios 49.65 64 *eP* **P 18 36 54.5 +0.3**
THE Thessaloniki 49.77 62 *eP* **P 18 36 55.6 +0.6**
SOH Sokhos 50.02 62 *eP* **P 18 36 58.7 +1.8**
FINES FINESS Array B 50.09 35 P **P 18 36 56.8 -0.7**
comp=Z,36nm,0.9s,mb5.4,baz=253,slow=4.5,SNR=91
FINES LR LR 18 56 08.7
comp=Z,4μm,19.1s,MS5.5,baz=250,slow=34
SRS Serrai 50.13 62 *eP* **P 18 36 57.8 -0.1**
MMB Musomiste 50.14 61 *iP* **P 18 36 59.0 +1.2**
BURAR Bucovina Array 50.16 53⇓*iP* **P 18 36 59.1 +1.1**
BURAR Bucovina Array 50.16 53⇓P **P 18 36 59.1 +1.2**
PLG Polygyros 50.19 63 *eP* **P 18 37 00.0 +1.8**
BJO1 Bjornoya 50.22 17 *eP* **P 18 37 03.0 +4.5**
BJO1 LR LR
comp=Z,1μm,17.9s,MS5.0
XOR Xorichti 50.22 64 *eP* **P 18 36 58.1 -0.4**
KAF Kangasniemi 50.24 34 *ep* **P 18 36 57.1 -1.5**
comp=Z,90nm,0.8s,mb5.8,baz=266,slow=7.7
KAF Kangasniemi 50.24 34 *eP* **P 18 36 57.1 -1.5**
KAF pmax pmax
comp=Z,90nm,0.8s,mb5.8
ALE Alert 50.25 356 P **P 18 36 57.4 -1.3**
comp=Z,108nm,0.8s,mb5.9,SNR=7.2
NEO Neokhori 50.26 64 *eP* **P 18 37 01.5 +2.7**
PGB Panagyurishte 50.26 60 *iP* **P 18 36 58.0 -0.8**
BJO Bjornoya 50.27 17 *eP* **P 18 37 03.0 +4.2**
BJO *eS* **S 18 44 11.6 +0.3**
BJO AMS AMS 18 53 28.4
comp=Z,1μm,17.9s,MS5.0
BJO Bjornoya 50.27 17 *eP* **P 18 37 03.0 +4.2**
SNR=23
BJO *eS* **S 18 44 11.6 +0.3**
SNR=25
VSU Vasula 50.34 39 *iP* **P 18 36 58.3 -1.1**
VSU Vasula 50.34 39 *iPr* 18 36 58.3
RSSD Black Hills 50.36 303 *eP* **P 18 36 58.6 -0.9**
RSSD pmax pmax
comp=Z,80nm,0.9s,mb5.8
RSSD MLR MLR
comp=Z,2μm,22.0s,MS5.1
RSSD Black Hills 50.36 303 *eP* **P 18 36 58.6 -1.0**
comp=Z,6.9nm,0.9s,mb4.7
RSSD LR LR
comp=Z,2μm,22.0s,MS5.1
RSSD Black Hills 50.36 303 *eP* **P 18 36 58.6 -0.9**
comp=Z,6.9nm,0.9s,mb4.7
VOIR 50.37 56⇑*iP* **P 18 36 59.7 +0.1**
VOIR 50.37 56⇑P **P 18 36 59.7 +0.1**
JCT Junction City 50.60 284 P **P 18 37 00.7 -0.6**
JCT pmax pmax
comp=Z,77nm,1.2s,mb5.5
JCT Junction City 50.60 284 *eP* **P 18 37 00.6 -0.7**
comp=Z,78nm,1.2s,mb5.5
JCT LR LR
comp=Z,14μm,20.0s,MS6.0
JCT Junction City 50.60 284 *eP* **P 18 37 00.6 -0.7**
comp=Z,77nm,1.2s,mb5.5
VLI Velial 50.69 67 *eP* **P 18 37 05.0 +3.0**
KBS Kingsbay 50.73 11 *eP* **P 18 37 02.7 +0.4**
KBS *eS* **S 18 44 17.2 -0.5**
KBS Kingsbay 50.73 11⇑*eP* **P 18 37 02.0 -0.3**
KBS Kingsbay 50.73 11 *eP* **P 18 37 03.3 +1.0**
comp=Z,38nm,1.3s,mb5.2
KBS LR LR
comp=Z,1μm,19.0s,MS5.0
KBS Kingsbay 50.73 11 *eP* **P 18 37 03.3 +1.0**
comp=Z,38nm,1.3s,mb5.2
KBS *eS* **S 18 44 17.2 -0.5**
SNR=25
PLD Plovdiv 50.74 60 *iP* **P 18 37 03.0 +0.6**
AMTX Amarillo 50.74 290 *eP* **P 18 37 01.4 -1.0**
comp=Z,94nm,1.1s,mb5.6
AMTX LR LR
comp=Z,18μm,21.0s,MS6.1
AMTX Amarillo 50.74 290 *eP* **P 18 37 01.4 -1.0**
comp=Z,94nm,1.1s,mb5.6
ARCES ARCESS Array B 50.82 24 P **P 18 37 01.9 -1.1**
comp=Z,16nm,0.9s,mb5.0,baz=261,slow=6.0,SNR=33
RZN Rozhen 50.84 61 *iP* **P 18 37 03.0 -0.1**
KMPD K-Podol'skiy 50.85 52 P **P 18 37 02.0 -1.2**
MLR Muntele Rosu 50.98 56 P **P 18 37 03.3 -0.9**
comp=Z,50nm,1.1s,mb5.4,baz=317,slow=5.6,SNR=21
MLR LR LR 18 56 12.7
comp=Z,4μm,20.2s,MS5.5,baz=270,slow=33
MLR Muntele Rosu 50.98 56⇑*iP* **P 18 37 04.7 +0.5**
MLR Muntele Rosu 50.98 56 P **P 18 37 03.3 -0.9**
MLR pmax pmax
comp=Z,50nm,1.1s
MLR MLR MLR
comp=Z,4μm,20.3s
MLR Muntele Rosu 50.98 56⇑P **P 18 37 04.7 +0.5**
MNK Minsk 51.09 44 *eP* **P 18 37 03.0 -2.0**
MNK *e* 18 44 24.0
MNK *e* 18 44 28.0
MNK pmax pmax
comp=Z,90nm,1.1s,mb5.6
MNK pmax pmax
comp=E,74nm,1.4s
KEV Kevo 51.37 24 *ep* **P 18 37 04.8 -2.3**
comp=E,52nm,1.4s,mb5.3
KEV Kevo 51.37 24 P **P 18 37 06.3 -0.8**
KEV pmax pmax
comp=Z,52nm,1.1s,mb5.4
LAO LASA Array 51.44 306 *eP* **P 18 37 07.3 -0.3**
comp=Z,82nm,1.0s,mb5.6
LAO LR LR
comp=Z,11μm,21.0s,MS5.8
LAO LASA Array 51.44 306 *eP* **P 18 37 07.3 -0.3**
comp=Z,82nm,1.0s,mb5.6
RDO Rodhopi 51.56 61 *eP* **P 18 37 11.5 +2.9**
PHWY Pilot Hill 51.97 299 *eP* **P 18 37 08.2 -3.4**
ALN Alexandroupoli 51.99 61 *eP* **P 18 37 11.6 -0.2**
JMB Yambol 52.03 59 P **P 18 37 12.1 +0.1**
VAM Vamos 52.03 68 *eP* **P 18 37 15.0 +2.9**
GVD Gavdhos 52.11 69 *eP* **P 18 37 14.0 +1.3**
comp=Z,75nm,1.3s,mb5.5
GVD Gavdhos 52.11 69 *eP* **P 18 37 14.0 +1.3**
comp=Z,75nm,1.3s,mb5.5
EDRB Edirne 52.28 60 *eP* **P 18 37 12.5 -1.5**
KIEV Kiev 52.33 49 P **P 18 37 14.0 -0.3**
AKASG Malin Array Be 52.34 49 P **P 18 37 13.1 -1.2**
comp=Z,104nm,1.1s,mb5.7,baz=273,slow=7.3,SNR=63
ISCO Idaho Springs 52.45 297 *eP* **P 18 37 15.4 +0.2**
comp=Z,20nm,0.8s,mb5.1
ISCO LR LR
comp=Z,19μm,21.0s,MS6.1
ISCO Idaho Springs 52.45 297 *eP* **P 18 37 15.4 +0.2**
comp=Z,20nm,0.8s,mb5.1
PRD Provadia 52.45 58 *iP* **P 18 37 14.0 -1.2**
CFR Carcaliu 52.56 56⇑*iP* **P 18 37 15.2 -0.8**
CFR Carcaliu 52.56 56⇑P **P 18 37 15.2 -0.8**
PRK Paraskevi 52.57 63 *eP* **P 18 37 20.0 +3.9**
JOF Joensuu 52.59 33 *ep* **P 18 37 13.6 -2.6**
comp=Z,160nm,1.2s,mb5.8
JOF Joensuu 52.59 33 *eP* **P 18 37 13.6 -2.6**
JOF pmax pmax
comp=Z,160nm,1.2s,mb5.8
IDI Anoyia 52.61 68 P **P 18 37 17.2 +0.9**
comp=Z,90nm,1.2s,mb5.6,baz=293,slow=9.3,SNR=16
KIS Kishinev 52.67 53 *eP* **P 18 37 16.0 -0.8**
KIS *e* 18 39 16.0
KIS *e*PPP 18 40 16.0
KIS *eS* **S 18 44 41.0 -3.5**
KIS *e*PS 18 44 52.0
KIS *eSS* SS 18 48 14.0 -8.8
KIS pmax pmax
comp=Z,1μm,6.0s
KIS pmax pmax
comp=Z,900nm,9.0s
SANT Santorini 52.73 67 *eP* **P 18 37 15.9 -1.3**
comp=Z,321nm,1.4s,mb6.1
SANT Santorini 52.73 67 *eP* **P 18 37 15.9 -1.4**
comp=Z,321nm,1.4s,mb6.1
SIV San Ignacio 52.86 206 P **P 18 37 18.0 -0.2**
comp=Z,14nm,0.8s,mb4.9,baz=41,slow=6.9,SNR=18
RKY Sarkoy-Tekirda 52.88 61 *eP* **P 18 37 16.5 -1.8**
TIRR Tirgusor 52.90 56⇑*iP* **P 18 37 17.1 -1.4**
TIRR Tirgusor 52.90 56 P **P 18 37 19.1 +0.6**
TIRR Tirgusor 52.90 56 *eP* **P 18 37 17.1 -1.4**
comp=Z,83nm,1.4s,mb5.5
TIRR Tirgusor 52.90 56 *eP* **P 18 37 17.1 -1.4**
comp=Z,83nm,1.4s,mb5.5
URLA Izmir 53.05 64 *iP* **P 18 37 19.9 +0.3**
RWWY Rawlins 53.16 300 *eP* **P 18 37 20.7 +0.3**
comp=Z,47nm,1.0s,mb5.4
RWWY Rawlins 53.16 300 *eP* **P 18 37 20.7 +0.3**
comp=Z,47nm,1.0s,mb5.4
BLCB Balcova 53.38 64 *eP* **P 18 37 22.3 +0.3**
APA Apatity 53.51 27⇑*iP* **P 18 37 21.5 -1.5**
APA *i* 18 38 30.0
APA *eS* **S 18 45 00.0 +4.2**
APA *eSS* SS 18 48 32.0 -4.0
APA pmax pmax
comp=Z,72nm,1.2s,mb5.5
APA MLR MLR
comp=Z,3μm,20.0s,MS5.4
BNT Bandirma 53.51 61 *eP* **P 18 37 22.9 -0.1**
IZM Izmir 53.54 64 *eP* **P 18 37 19.6 -3.6**
EGMT Eagleton 53.56 308 *eP* **P 18 37 22.5 -0.8**
comp=Z,116nm,1.3s,mb5.7
EGMT LR LR
comp=Z,13μm,21.0s,MS6.0
EGMT Eagleton 53.56 308 *eP* **P 18 37 22.5 -0.9**
comp=Z,116nm,1.3s,mb5.7
SMCO Snowmass 53.62 297 *eP* **P 18 37 24.1 +0.2**
comp=Z,53nm,1.3s,mb5.3
SMCO Snowmass 53.62 297 *eP* **P 18 37 24.1 +0.3**
comp=Z,53nm,1.3s,mb5.3
BALB Balikesir 53.67 62 *eP* **P 18 37 25.6 +1.4**
ELBA Catalca 53.68 60 *iP* **P 18 37 22.5 -1.8**
BTOK Tokmak 53.75 62 *iP* **P 18 37 24.6 -0.1**
GCMT Greycliff 53.95 306 *eP* **P 18 37 26.0 -0.2**
GCMT Greycliff 53.95 306 *eP* **P 18 37 26.0 -0.2**

LVZ	Lovozero	53.98	27	P	P	18 37 27.3	+0.8
	comp=Z,170nm,1.4s,mb5.8,SNR=5.2						
LVZ	Lovozero	53.98	27	P	P	18 37 23.6	-2.9
LVZ				S	S	18 45 00.6	-1.7
LVZ				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.2						
LVZ				pmax	pmax		
	comp=N,10.0nm,1.5s						
LVZ				pmax	pmax		
	comp=E,25nm,1.5s						
LVZ				smax			
	comp=N,1μm,9.2s						
LVZ				smax			
	comp=E,2μm,12.9s						
LVZ	Lovozero	53.98	27⇑	eP	P	18 37 27.4	+0.9
KLYT	Kilyos	54.10	60	eP	P	18 37 26.9	-0.5
LTX	Lajitas	54.14	284	eP	P	18 37 27.3	-0.3
LTX				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
LTX				MLR	MLR		
	comp=Z,23μm,21.0s,MS6.2						
LTX	Lajitas	54.14	284	eP	P	18 37 27.3	-0.3
	comp=Z,13nm,0.8s,mb4.9						
LTX				LR	LR		
	comp=Z,25μm,21.0s,MS6.2						
LTX	Lajitas	54.14	284	eP	P	18 37 27.3	-0.3
	comp=Z,13nm,0.8s,mb4.9						
ISK	Istanbul-Kandi	54.16	60	eP	P	18 37 26.9	-0.9
ATAH	Atahualpa	54.21	230	P	P	18 37 29.8	+1.7
	comp=Z,46nm,1.0s,mb5.4,baz=41,slow=5.1,SNR=14						
ATAH				LR	LR	18 59 07.1	
	comp=Z,3μm,21.6s,MS5.3,baz=323,slow=34						
MLSB	Milas	54.24	65	eP	P	18 37 27.2	-1.1
KARP	Karpathos	54.30	67	eP	P	18 37 30.0	+1.3
YKA	Yellowknife Ar	54.43	327	P	P	18 37 28.6	-1.1
	comp=Z,5.4nm,0.8s,mb4.6,baz=84,slow=7.3,SNR=37						
YKA				LR	LR	18 59 35.0	
	comp=Z,11μm,21.5s,MS5.9,baz=85,slow=35						
YKW3	Yellowknife Ar	54.43	327	eP	P	18 37 28.2	-1.5
YKW3	Yellowknife Ar	54.43	327	eP	P	18 37 28.2	-1.5
ANMO	Albuquerque	54.47	292	P	P	18 37 30.8	+0.8
	comp=Z,7.2nm,1.1s,mb4.5,baz=93,slow=8.5,SNR=19						
ANMO	Albuquerque	54.47	292	P	P	18 37 30.8	+0.8
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ANMO	Albuquerque	54.47	292	eP	P	18 37 30.5	+0.5
	comp=Z,46nm,1.6s,mb5.2						
ANMO				LR	LR		
	comp=Z,17μm,20.0s,MS6.1						
YLV	Yalova	54.52	61	eP	P	18 37 27.5	-2.9
BW06	Boulder Array	54.58	302	eP	P	18 37 30.0	-0.9
	comp=Z,100nm,1.2s,mb5.7						
BW06				LR	LR		
	comp=Z,9μm,19.0s,MS5.9						
BW06	Boulder Array	54.58	302	eP	P	18 37 30.0	-0.8
	comp=Z,100nm,1.2s,mb5.7						
PDAR	Pinedale Array	54.58	302	P	P	18 37 30.1	-0.7
	comp=Z,25nm,0.8s,mb5.3,baz=80,slow=5.1,SNR=149						
PDAR				LR	LR	18 59 54.0	
	comp=Z,8μm,18.5s,MS5.8,baz=120,slow=35						
PDAR	Pinedale Array	54.58	302	P	P	18 37 30.1	-0.7
PDAR				LR	LR	18 59 54.0	
PDAR	Pinedale Array	54.58	302	P	P	18 37 30.1	-0.7
YER	Yerkesik	54.68	65	eP	P	18 37 29.1	-2.5
MNTX	Cornudas Mount	54.69	288	eP	P	18 37 30.6	-1.0
	comp=Z,67nm,1.8s,mb5.4						
MNTX				LR	LR		
	comp=Z,20μm,22.0s,MS6.2						
MNTX	Cornudas Mount	54.69	288	eP	P	18 37 30.6	-1.0
	comp=Z,67nm,1.8s,mb5.4						
LKWY	Lake	54.74	304	P	P	18 37 33.5	+1.6
LKWY				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.6						
LKWY				MLR	MLR		
	comp=Z,17μm,20.0s,MS6.1						
LKWY	Lake	54.74	304	P	P	18 37 33.5	+1.5
	comp=Z,47nm,0.9s,mb5.5						
LKWY				LR	LR		
	comp=Z,14μm,20.0s,MS6.0						
LKWY	Lake	54.74	304	P	P	18 37 33.5	+1.6
	comp=Z,47nm,0.9s,mb5.5						
LPM	Los Pinos Moun	54.81	291	eP	P	18 37 30.8	-1.7
LPM	Los Pinos Moun	54.81	291	eP	P	18 37 30.8	-1.7
ADVT	Abdulvahap	54.83	61	eP	P	18 37 32.3	-0.3
ARG	Arkhangelos	54.84	66	eP	P	18 37 34.5	+1.8
BNM	Barren Site	54.86	291	eP	P	18 37 33.6	+0.8
BNM	Barren Site	54.86	291	eP	P	18 37 33.6	+0.8
EDM	Edmonton	54.89	315	P	P	18 37 32.5	-0.5
EDM	Edmonton	54.89	315	eP	P	18 37 32.0	-1.0
GDZ	Gediz	55.01	63	i P	P	18 37 33.5	-0.5
YFT	Old Faithful	55.07	304	eP	P	18 37 35.8	+1.5
YMR	Madison River	55.10	305	P	P	18 37 34.8	+0.2
	comp=Z,139nm,1.1s,mb5.9						
YMR				LR	LR		
	comp=Z,9μm,22.0s,MS5.8						
YMR	Madison River	55.10	305	P	P	18 37 34.8	+0.2
	comp=Z,139nm,1.1s,mb5.9						
Y22C	IRIS PASSCAL I	55.11	291	⇓P	P	18 37 35.6	+0.9
	baz=55						
Y22C				⇑S	S	18 45 21.4	+3.9
	baz=55						
LENM	Lemitar	55.12	291	eP	P	18 37 34.6	-0.2
LENM	Lemitar	55.12	291	eP	P	18 37 34.6	-0.1
LAZ	Ladron	55.17	291	eP	P	18 37 34.8	-0.3
LAZ	Ladron	55.17	291	eP	P	18 37 34.8	-0.3
MOOW	Moose Ponds	55.18	303	eP	P	18 37 34.7	-0.4
	comp=Z,16nm,0.9s,mb5.0						
MOOW	Moose Ponds	55.18	303	eP	P	18 37 34.7	-0.4
	comp=Z,16nm,0.9s,mb5.0						
HRY	Holter Researc	55.21	307	eP	P	18 37 35.1	-0.3
HRY	Holter Researc	55.21	307	eP	P	18 37 35.1	-0.3
IMW	Indian Meadow	55.27	304	eP	P	18 37 35.9	0.0
	comp=Z,126nm,1.1s,mb5.9						
IMW	Indian Meadow	55.27	304	eP	P	18 37 35.9	+0.1
	comp=Z,126nm,1.1s,mb5.9						
BOZ	Bozeman (W)	55.33	306	P	P	18 37 35.8	-0.4
BOZ				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.3						
BOZ	Bozeman (W)	55.33	306	eP	P	18 37 35.7	-0.5
	comp=Z,37nm,1.3s,mb5.2						
BOZ				LR	LR		
	comp=Z,10μm,20.0s,MS5.9						
BOZ	Bozeman (W)	55.33	306	eP	P	18 37 35.7	-0.5
	comp=Z,37nm,1.3s,mb5.2						
MVCO	Mesa Verde	55.34	295	eP	P	18 37 37.1	+0.7
	comp=Z,110nm,1.4s,mb5.7						
MVCO	Mesa Verde	55.34	295	eP	P	18 37 37.1	+0.8
	comp=Z,110nm,1.4s,mb5.7						
REDW	Red Top Meadow	55.35	303	eP	P	18 37 36.4	0.0
	comp=Z,127nm,1.2s,mb5.8						
QLMT	Earthquake Lak	55.38	305	eP	P	18 37 37.1	+0.4
QLMT	Earthquake Lak	55.38	305	eP	P	18 37 37.1	+0.5
TPAW	Teton Pass	55.39	303	eP	P	18 37 37.0	+0.4
	comp=Z,98nm,1.1s,mb5.8						
FETY	Fethiye	55.44	66	eP	P	18 37 36.4	-0.6
ALT	Altintas	55.49	62	eP	P	18 37 37.4	0.0
DCID1	Drake Creek	55.52	303	eP	P	18 37 38.5	+0.9
DCID1	Drake Creek	55.52	303	eP	P	18 37 38.5	+0.9
AHID	Auburn Hatcher	55.68	302	P	P	18 37 34.5	-4.2
	comp=Z,126nm,1.4s,mb5.8						
AHID				LR	LR		
	comp=Z,8μm,19.0s,MS5.8						
MDU	Mudurnu	55.90	61	eP	P	18 37 40.1	-0.2
ESKT	Eskisehir	55.90	62	i P	P	18 37 39.7	-0.7
TKTP	Tekketepe	55.95	64	i P	P	18 37 39.5	-1.2
OBN	Obninsk	56.03	42	P	P	18 37 40.7	-0.5
	comp=Z,1μm,1.1s,SNR=26						
OBN	Obninsk	56.03	42κ	iP	P	18 37 40.3	-0.9
OBN				i	pP	18 37 42.3	-1.9
OBN				i		18 37 46.2	
OBN				i		18 38 38.4	
OBN				e		18 39 52.5	
OBN				i S	S	18 45 30.7	+1.0
OBN				i PS		18 45 44.1	
OBN				i		18 47 34.1	
OBN				i SS	SS	18 49 14.6	-1.1
OBN				pmax	pmax		
	comp=Z,378nm,1.2s,mb6.3						
OBN				MLR	MLR		
	comp=Z,9μm,18.0s,MS5.9						
OBN	Obninsk	56.03	42	eP	P	18 37 40.4	-0.8
	comp=Z,448nm,1.3s,mb6.3						
OBN	Obninsk	56.03	42	eP	P	18 37 40.4	-0.8
	comp=Z,448nm,1.3s,mb6.3						
OBN				i S	S	18 45 30.7	+1.0
ELL	Elmali	56.04	65	eP	P	18 37 37.1	-4.2
WALA	Waterton Lakes	56.05	310	eP	P	18 37 39.5	-1.9
	comp=Z,57nm,1.1s,mb5.5						
WALA	Waterton Lakes	56.05	310	eP	P	18 37 39.5	-1.9
	comp=Z,57nm,1.1s,mb5.5						
DLMT	Dillon	56.05	306	eP	P	18 37 41.5	0.0
	comp=Z,54nm,0.9s,mb5.6						
DLMT	Dillon	56.05	306	eP	P	18 37 41.5	+0.1
	comp=Z,54nm,0.9s,mb5.6						
LPAZ	La Paz	56.08	213	P	P	18 37 42.4	+0.8
	comp=Z,22nm,0.8s,mb5.2,baz=15,slow=12,SNR=20						
LPAZ				LR	LR	19 00 03.0	
	comp=Z,6μm,20.5s,MS5.7,baz=22,slow=34						
LPAZ	La Paz	56.08	213	P	P	18 37 42.4	+0.8
LPAZ				LR	LR	19 00 03.0	
CHMT	Chamberlain Mo	56.12	308	eP	P	18 37 41.2	-0.7
SRU	San Rafael	56.29	298	eP	P	18 37 43.0	-0.1
SRU				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
SRU	San Rafael	56.29	298	eP	P	18 37 43.0	-0.2
	comp=Z,21nm,0.8s,mb5.2						
SRU	San Rafael	56.29	298	eP	P	18 37 43.0	-0.1
	comp=Z,21nm,0.8s,mb5.2						
HWUT	Hardware Ranch	56.33	301	PFAKE		18 37 50.0	+6.6
HWUT				LR	LR		
	comp=Z,8μm,19.0s,MS5.8						
MCMT	McKenzie Canyo	56.36	305	eP	P	18 37 43.7	+0.1
MCMT	McKenzie Canyo	56.36	305	eP	P	18 37 43.7	+0.1
SGKT	Sivrigoynuk	56.48	60	i P	P	18 37 43.0	-1.5
MOS	Moscow	56.50	41α	i P	P	18 37 44.9	+0.2
MOS				e		18 38 43.5	
MOS				e		18 39 49.0	
MOS				eS	S	18 45 37.9	+1.8
MOS				pmax	pmax		
	comp=Z,500nm,1.7s,mb6.3						
MOS				pmax	pmax		
	comp=Z,203nm,1.4s,mb6.0						
MOS				MLR	MLR		
	comp=N,4μm,19.0s,MS5.8						
MOS				MLR	MLR		
	comp=E,6μm,19.0s,MS5.8						
MOS				MLR	MLR		
	comp=Z,10μm,19.0s,MS5.9						
MSO	Missoula	56.59	308	PFAKE		18 38 00.0	+15
MSO				LR	LR		
	comp=Z,11μm,22.0s,MS5.9						
KLMR	Klimovskoe	56.62	35d	i P	P	18 37 44.0	-1.5
KLMR				eS	S	18 45 33.8	-3.8
KLMR				pmax	pmax		
	comp=Z,220nm,1.2s,mb6.1						
KLMR				pmax	pmax		
	comp=Z,170nm,5.8s						
KLMR				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.7						
SIM	Simferopol'	56.73	55	eP	P	18 37 46.9	+0.6
SAFT	Safranbolu	56.75	59	eP	P	18 37 45.0	-1.3
MPU	Maple Canyon	56.84	299	eP	P	18 37 47.1	+0.1
	comp=Z,50nm,1.3s,mb5.4						
MPU				LR	LR		
	comp=Z,29μm,20.0s,MS6.4						
MPU	Maple Canyon	56.84	299	eP	P	18 37 47.1	+0.1
	comp=Z,50nm,1.3s,mb5.4						
KIZT	Kizilcal	56.86	62	eP	P	18 37 45.4	-1.8
SPUT	South Promonto	57.05	301	eP	P	18 37 48.2	-0.3
KDHN	Kadinhani	57.15	62	i P	P	18 37 47.8	-1.4
BALT	Daday	57.17	59	i P	P	18 37 47.8	-1.5
ANTO	Ankara	57.23	61	eP	P	18 37 46.2	-3.6
ANTO	Ankara	57.23	61	P	P	18 37 49.4	-0.4
ANTO				pmax	pmax		
	comp=Z,63nm,1.3s,mb5.5						
ANTO	Ankara	57.23	61	eP	P	18 37 46.4	-3.4
	comp=Z,64nm,1.3s,mb5.5						
ANTO				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
ELDT	Eldivan	57.51	60	i P	P	18 37 51.1	-0.6
KONT	Konya--Tatoy	57.51	63	eP	P	18 37 50.0	-1.8
DUG	Dugway	57.65	300	PFAKE		18 38 00.0	+7.3
DUG				LR	LR		
	comp=Z,18μm,19.0s,MS6.2						
MSU	Marysvale	57.70	298	eP	P	18 37 53.6	+0.5
HLID	Hailey	57.79	304	P	P	18 37 53.8	0.0
	comp=Z,43nm,1.4s,mb5.3						
HLID				LR	LR		
	comp=Z,10μm,21.0s,MS5.9						
BR131	Keskin Array S	57.90	61	eP	P	18 37 54.3	-0.2
	comp=Z,20nm,1.1s,mb5.1						
BR131				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
BR131	Keskin Array S	57.90	61	eP	P	18 37 54.3	-0.2
	comp=Z,20nm,1.1s,mb5.1						
BRTR	Keskin Array B	57.90	61	P	P	18 37 54.0	-0.4
	comp=Z,27nm,1.2s,mb5.1,baz=286,slow=4.5,SNR=54						
BRTR	Keskin Array B	57.90	61⇑	eP	P	18 37 54.0	-0.5
BRTR	Keskin Array B	57.90	61	P	P	18 37 54.0	-0.5
KAMT	Kaman	58.06	61	eP	P	18 37 55.3	-0.4
PAYG	Puerto Ayora	58.23	245	PFAKE		18 38 10.0	+13
PAYG				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
M13A	Montello	58.27	301	⇑P	P	18 37 56.5	-0.6
	baz=58						
M13A				⇑S	S	18 46 02.7	+3.4
	baz=58						
VOR	Voronezh	58.29	46	eP	P	18 37 56.0	-1.2
VOR				pmax	pmax		
	comp=N,110nm,1.6s						
VOR				pmax	pmax		
	comp=Z,250nm,1.6s,mb6.0						
VOR				pmax	pmax		
	comp=E,250nm,1.5s						
BOYT	Boyabat	58.29	58	i P	P	18 37 57.4	+0.1
NEW	Newport	58.31	310	LR	LR	19 01 48.2	
	comp=E,18μm,21.5s,MS6.2,baz=66,slow=35						
NEW	Newport	58.31	310	eP	P	18 37 55.8	-1.6
NEW				pmax	pmax		
	comp=Z,60nm,1.0s						
NEW				MLR	MLR		
	comp=Z,22μm,22.0s						
NEW	Newport	58.31	310	eP	P	18 37 55.8	-1.6
	comp=Z,58nm,1.0s,mb5.6						
NEW				LR	LR		
	comp=Z,18μm,22.0s,MS6.1						
NEW	Newport	58.31	310	eP	P	18 37 55.8	-1.6
	comp=Z,58nm,1.0s,mb5.6						
ERMK	Ermenek	58.35	64	i P	P	18 37 50.3	-7.4
N13A	West Wendover	58.45	301	⇑P	P	18 37 58.2	-0.2
	baz=58						
N13A				⇓S	S	18 46 05.4	+3.7
	baz=58						
CTKT	Corum	58.45	59	i P	P	18 37 57.9	-0.5
CDAG	Cicekdag	58.47	61	i P	P	18 37 57.7	-0.8
CORM	Corum	58.48	60	eP	P	18 37 59.4	+0.9
TUC	Tucson	58.76	290	eP	P	18 38 00.7	+0.2
TUC				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
TUC				MLR	MLR		
	comp=Z,17μm,22.0s,MS6.1						
TUC	Tucson	58.76	290	eP	P	18 38 00.7	+0.2
	comp=Z,20nm,1.3s,mb5.0						
TUC				LR	LR		
	comp=Z,17μm,22.0s,MS6.1						
TUC	Tucson	58.76	290	eP	P	18 38 00.7	+0.2
	comp=Z,20nm,1.3s,mb5.0						
M12A	Wells	58.79	302	⇑P	P	18 38 00.6	-0.2
	baz=59,SNR=9.0						
M12A				⇑S	S	18 46 08.4	+2.4
	baz=59						
ARUT	Antelope Range	58.88	297	eP	P	18 38 01.3	-0.1
W15A	Williams	58.89	294	⇓P	P	18 38 02.7	+1.3
	baz=59						
W15A				⇓S	S	18 46 13.0	+5.7
	baz=59						
CCUT	Cedar City	58.90	297	eP	P	18 38 02.0	+0.4
CCUT	Cedar City	58.90	297	eP	P	18 38 02.0	+0.5
ANN	Anapa	59.04	54	eP	P	18 38 00.9	-1.6
ANN				eS	S	18 46 09.3	0.0
ANN				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.7						
ANN				MLR	MLR		
	comp=N,3μm,21.0s,MS5.5						
ANN				MLR	MLR		
	comp=E,2μm,21.0s,MS5.5						
ANN				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.5						
N12A	Wells--Clov Va	59.05	301	⇓P	P	18 38 02.3	-0.3
	baz=59						
N12A				⇓S	S	18 46 14.4	+5.0
	baz=59						
IKL	Isikli	59.08	65	eP	P	18 37 59.5	-3.2
X15A	Humboldt	59.11	293	P	P	18 38 04.1	+1.2
	baz=59,SNR=20						
X15A				⇓S	S	18 46 16.0	+5.8
	baz=59						
KVT	Kavak	59.21	59	eP	P	18 38 03.7	0.0
ELK	Elko	59.23	301	eP	P	18 38 03.3	-0.5
ELK				pmax	pmax		
	comp=Z,38nm,1.5s						
ELK				MLR	MLR		
	comp=Z,8μm,21.0s						
ELK	Elko	59.23	301	eP	P	18 38 03.3	-0.5
	comp=Z,38nm,1.5s,mb5.2						
ELK				LR	LR		
	comp=Z,8μm,21.0s,MS5.8						
ELK	Elko	59.23	301	eP	P	18 38 03.3	-0.5
	comp=Z,38nm,1.5s,mb5.2						
CSS	Prodhromos	59.25	66	eP	P	18 38 02.4	-1.6
CSS	Prodhromos	59.25	66	eP	P	18 38 04.8	+0.9
	comp=Z,22nm,1.0s,mb5.1						
CSS	Prodhromos	59.25	66	eP	P	18 38 04.8	+0.9
	comp=Z,22nm,1.0s,mb5.1						
116A	Eloy	59.39	291	⇓P	P	18 38 05.4	+0.5
	baz=59						
116A				⇑S	S	18 46 18.3	+4.5
	baz=59						
M11A	Holland Ranch,	59.41	302	⇓P	P	18 38 05.2	+0.2
	baz=59,SNR=9.0						
M11A				⇓S	S	18 46 17.6	+3.5
	baz=59						
P12A	McGill	59.41	300	⇑P	P	18 38 05.0	-0.1
	baz=59,SNR=7.9						
P12A				⇓S	S	18 46 19.0	+4.9
	baz=59						
MERS	Mersin	59.49	64	eP	P	18 38 05.6	0.0
W14A	Seligman	59.50	294	⇓P	P	18 38 07.3	+1.7
	baz=59						
W14A				⇑S	S	18 46 20.1	+4.8
	baz=59						
N11A	Elko Archery C	59.57	301	⇑P	P	18 38 05.7	-0.4
	baz=59						
N11A				⇑S	S	18 46 19.0	+2.9
	baz=59						
X14A	Yava	59.62	294	P	P	18 38 07.5	+1.0
	baz=59,SNR=18						
X14A				⇓S	S	18 46 23.3	+6.6
	baz=59						
115A	Sonoran Desert	59.75	291	⇓P	P	18 38 07.9	+0.5
	baz=60						
115A				⇑S	S	18 46 22.9	+4.4
	baz=60						
KARA	Karaisali	59.76	63	eP	P	18 38 05.6	-1.8
BNN	Bunyan	59.80	61	eP	P	18 38 03.1	-4.6
Y14A	Wickenburg	59.89	293	⇓P	P	18 38 08.9	+0.5
	baz=60,SNR=12						
Y14A				⇓S	S	18 46 26.3	+6.0
	baz=60						
PECR	Pechory	59.91	40	i P	P	18 38 06.0	-2.5
PECR				eS	S	18 46 20.0	-0.5
PECR				pmax	pmax		
	comp=Z,2μm,1.4s						
PECR				pmax	pmax		
	comp=Z,1μm,7.0s						
PECR				smax			
	comp=E,1μm,9.0s						
PECR				smax			
	comp=N,800nm,12.0s						
PECR				MLR	MLR		
	comp=N,1μm,17.0s,MS5.7						
PECR				MLR	MLR		
	comp=E,5μm,17.0s,MS5.7						
PECR				MLR	MLR		
	comp=Z,9μm,17.0s,MS6.0						
M10A	I.L. Ranch, Tu	59.91	302	⇑P	P	18 38 08.4	-0.1
	baz=60,SNR=6.6						
M10A				⇑S	S	18 46 24.6	+4.0
	baz=60						
VRHR	Novokhopersk	59.92	46	eP	P	18 38 08.1	-0.4
VRHR				eS	S	18 46 19.4	-1.3
VRHR				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.8						
VRHR				pmax	pmax		
	comp=N,30nm,0.6s						
VRHR				pmax	pmax		
	comp=E,110nm,1.0s						
VRHR				smax			
	comp=N,530nm,11.6s						
VRHR				smax			
	comp=E,790nm,10.9s						
P11A	Circle Ranch,	59.99	300	⇑P	P	18 38 09.1	+0.1
	baz=60						
P11A				⇓S	S	18 46 26.6	+5.0
	baz=60						
Z14A	Wintersburg	60.07	292	⇓P	P	18 38 09.8	+0.2
	baz=60						
Z14A				⇑S	S	18 46 27.8	+5.3
	baz=60						
N10A	Dunphy	60.15	301	⇑P	P	18 38 10.1	-0.1
	baz=60,SNR=6.5						
N10A				⇑S	S	18 46 26.6	+2.9
	baz=60						
Q11A	Duckwater	60.16	299	⇑P	P	18 38 10.0	-0.2
	baz=60,SNR=6.5						
Q11A				⇓S	S	18 46 26.7	+2.9
	baz=60						
KRTS	Karatas	60.24	64	eP	P	18 38 11.4	+0.7
KOZT	Kozan	60.26	62	eP	P	18 38 08.4	-2.4
SVSK	Karacayir	60.28	60	eP	P	18 38 09.4	-1.6
X13A	Yucca	60.30	294	⇑P	P	18 38 11.7	+0.6
	baz=60,SNR=16						
X13A				⇓S	S	18 46 31.5	+6.0
	baz=60						
CEYT	Ceyhan	60.36	63	eP	P	18 38 05.2	-6.3
HAWA	Hanford	60.42	308	eP	P	18 38 11.7	-0.3
	comp=E,82nm,1.2s,mb5.6						
HAWA				LR	LR		
	comp=Z,11μm,21.0s,MS6.0						
HAWA	Hanford	60.42	308	eP	P	18 38 11.6	-0.4
	comp=Z,82nm,1.2s,mb5.6						
L09A	Wilkinson Ranc	60.55	303	⇑P	P	18 38 12.9	0.0
	baz=60,SNR=16						
L09A				⇑S	S	18 46 32.8	+4.0
	baz=60						
Y13A	Salome	60.58	293	⇑P	P	18 38 13.7	+0.6
	baz=60						
Y13A				⇑S	S	18 46 34.2	+5.0
	baz=60						
M09A	Marrel Ranch,	60.59	302	⇓P	P	18 38 13.4	+0.2
	baz=60						
M09A				⇑S	S	18 46 32.4	+3.1
	baz=60						
NEE	Needles	60.80	294	⇓P	P	18 38 14.8	+0.2
	baz=61						
O09A	Fish Creek Ran	60.83	301	P	P	18 38 14.9	+0.2
	baz=61,SNR=15						
O09A				⇓S	S	18 46 35.4	+3.1
	baz=61						
W12A	Cal Nev Ari	60.83	295	⇑P	P	18 38 15.4	+0.7
	baz=61						
W12A				⇓S	S	18 46 37.6	+5.3
	baz=61						
GRSN	GIRESUNGRSN	60.85	58	i P	P	18 38 14.8	-0.2
TBM	Table Mountain	60.87	310	P	P	18 38 14.7	-0.3
TBM	Table Mountain	60.87	310	P	P	18 38 14.7	-0.4
COBT	Iskenderun	60.92	63	i P	P	18 38 14.3	-1.1
EBG	Ellensburg	60.93	309	P	P	18 38 15.3	-0.2
EBG	Ellensburg	60.93	309	P	P	18 38 15.3	-0.2
SOC	Sochi	60.98	55d	i P	P	18 38 15.4	-0.4
SOC				e		18 38 54.8	
SOC				e		18 40 33.3	
SOC				eS	S	18 46 34.9	+0.7
SOC				e*SS	sS	18 46 53.3	+14
SOC				e		18 47 58.2	
SOC				eSS	SS	18 50 37.0	+3.5
SOC				pmax	pmax		
	comp=Z,63nm,1.5s,mb5.5				

comp=Z,11µm,20.0s,MS6.0
WVOR Wild Horse Val 61.09 304 *e*P **P 18 38 16.0 -0.5**
comp=Z,63nm,1.2s,mb5.6
WVOR LR LR
comp=Z,8µm,20.0s,MS5.9
WVOR Wild Horse Val 61.09 304 *e*P **P 18 38 16.0 -0.5**
comp=Z,63nm,1.2s,mb5.6
Y12C Blythe 61.14 293 ⇓P **P 18 38 17.6 +0.7**
Y12C ⇓S **S 18 46 41.5 +5.2**
baz=61
INK Inuvik 61.16 335 P **P 18 38 16.4 -0.6**
comp=Z,36nm,1.0s,mb5.5,baz=65,slow=7.8,SNR=60
INK Inuvik 61.16 335 P **P 18 38 16.4 -0.6**
INK pmax pmax
comp=Z,36nm,1.0s
INK Inuvik 61.16 335 *e*P **P 18 38 16.3 -0.7**
comp=Z,5µm,1.2s
INK Inuvik 61.16 335 *e*P **P 18 38 16.3 -0.7**
comp=Z,5µm,1.2s
M08A Happy Creek Ra 61.24 303 ⇑P **P 18 38 16.6 -0.9**
baz=61
M08A ⇓S **S 18 46 39.9 +2.4**
baz=61
A05A Maple Falls 61.25 312 ⇓P **P 18 38 17.6 -0.1**
baz=61
A05A ⇑S **S 18 46 40.6 +2.9**
baz=61
TPNV Topopah Spring 61.27 297 *e*P **P 18 38 18.3 +0.5**
TPNV pmax pmax
comp=Z,67nm,1.1s,mb5.7
TPNV MLR MLR
comp=Z,25µm,21.0s,MS6.3
TPNV Topopah Spring 61.27 297 *e*P **P 18 38 18.3 +0.5**
comp=Z,66nm,1.1s,mb5.7
TPNV LR LR
comp=Z,20µm,21.0s,MS6.3
TPNV Topopah Spring 61.27 297 *e*P **P 18 38 18.3 +0.5**
comp=Z,66nm,1.1s,mb5.7
Q09A Carvers 61.28 300 ⇓P **P 18 38 17.7 -0.1**
baz=61
Q09A ⇓S **S 18 46 41.3 +3.2**
baz=61
N08A GE Springer Mi 61.29 302 ⇑P **P 18 38 17.9 -0.1**
baz=61,SNR=7.0
N08A ⇑S **S 18 46 41.4 +3.2**
baz=61
C05A Tolt Reservoir 61.41 310 ⇑P **P 18 38 16.6 -2.1**
baz=61
C05A ⇓S **S 18 46 40.7 +0.9**
baz=61
BHL Bhannes 61.42 66 *e*P **P 18 38 19.1 +0.3**
K07A Rock Creek Ran 61.43 304 ⇓P **P 18 38 19.0 +0.2**
baz=61,SNR=24
K07A ⇑S **S 18 46 42.9 +3.0**
baz=61
O08A Rochester Mine 61.48 301 ⇓P **P 18 38 18.6 -0.6**
baz=61
VTHM Trough 61.49 307 P **P 18 38 20.0 +0.7**
VTHM Trough 61.49 307 P **P 18 38 20.0 +0.8**
B05A Bryant 61.49 311 ⇓P **P 18 38 16.7 -2.6**
baz=61
B05A ⇑S **S 18 46 41.9 +1.1**
baz=61
MMAI Mount Meron Ar 61.57 67 P **P 18 38 19.9 +0.1**
comp=Z,65nm,1.2s,mb5.6,baz=297,slow=3.7,SNR=26
TUQ Turquoise Mtn. 61.58 296 ⇓P **P 18 38 20.5 +0.7**
baz=61
TUQ ⇓S **S 18 46 46.9 +5.0**
baz=61
GZT Gaziantep 61.59 62 *i*P **P 18 38 19.0 -1.0**
P08A Dixie Valley 61.63 301 ⇑P **P 18 38 18.7 -1.5**
baz=61
GLA Glamis 61.64 293 P **P 18 38 20.8 +0.6**
baz=62,SNR=19
GLA ⇑S **S 18 46 48.0 +5.4**
baz=62
I06A Prineville 61.66 306 ⇓P **P 18 38 19.9 -0.5**
baz=62
I06A ⇑S **S 18 46 47.7 +4.7**
baz=62
LPIG La Paz 61.66 282 P **P 18 38 21.4 +1.0**
comp=Z,39nm,0.9s,mb5.5,baz=37,slow=13
S09A Goldfield 61.71 298 ⇓P **P 18 38 20.1 -0.6**
baz=62,SNR=9.9
S09A ⇓S **S 18 46 46.0 +2.5**
baz=62
A04A Legoe Bay, Lum 61.73 312 ⇓S **S 18 46 42.1 -1.7**
baz=62
D05A Enumclaw 61.77 310 ⇓P **P 18 38 19.7 -1.4**
baz=62
D05A ⇓S **S 18 46 46.9 +2.7**
baz=62
M07A Soldier Meadow 61.82 303 ⇓P **P 18 38 21.0 -0.4**
baz=62
M07A ⇑S **S 18 46 48.4 +3.5**
baz=62
Q08A Gabbs 61.82 300 ⇓P **P 18 38 20.4 -1.1**
baz=62,SNR=14
Q08A ⇑S **S 18 46 47.4 +2.5**
baz=62
E05A Randle 61.82 309 ⇓P **P 18 38 19.8 -1.7**
baz=62
E05A ⇑S **S 18 46 47.3 +2.4**
baz=62
F05A White Salmon 61.85 308 ⇑P **P 18 38 21.1 -0.6**
baz=62,SNR=14
F05A ⇓S **S 18 46 50.3 +5.0**
baz=62
J06A Christmas Vall 61.86 305 ⇓P **P 18 38 21.3 -0.5**
baz=62,SNR=7.8
J06A ⇓S **S 18 46 50.1 +4.7**
baz=62
MALT Malatya 61.88 61 ⇓*i*P **P 18 38 22.0 +0.1**
MALT Malatya 61.88 61 P **P 18 38 22.1 +0.2**
MALT Malatya 61.88 61 *e*P **P 18 38 21.4 -0.5**
comp=Z,109nm,1.4s,mb5.8
MALT Malatya 61.88 61 *e*P **P 18 38 21.4 -0.5**
comp=Z,109nm,1.4s,mb5.8
N07B Gerlach 61.89 302 ⇓P **P 18 38 21.4 -0.6**
baz=62,SNR=9.6
N07B ⇑S **S 18 46 49.2 +3.5**
baz=62
LVC Limon Verde 61.97 211 PFAKE 18 38 30.0 +7.5
LVC LR LR
comp=Z,5µm,19.0s,MS5.7
G05A Wamic 61.97 308 ⇑P **P 18 38 22.1 -0.4**
baz=62
G05A ⇑S **S 18 46 52.9 +6.0**
baz=62
O07A Toulon 62.04 302 ⇓P **P 18 38 22.1 -0.8**
baz=62,SNR=13
O07A ⇓S **S 18 46 53.4 +5.7**
baz=62
K06A Valley Falls 62.08 305 ⇑P **P 18 38 23.0 -0.2**
baz=62,SNR=9.4
K06A ⇑S **S 18 46 53.0 +4.8**
baz=62
H05A Madras 62.11 307 ⇑P **P 18 38 24.0 +0.6**
baz=62,SNR=6.1
H05A ⇑S **S 18 46 53.1 +4.5**
baz=62
R08A Mina 62.14 299 ⇑P **P 18 38 22.5 -1.1**
baz=62
R08A ⇑S **S 18 46 52.0 +3.1**
baz=62
MNV Mina 62.14 299 P **P 18 38 23.0 -0.6**
MNV pmax pmax
comp=Z,38nm,1.1s,mb5.4
MNV Mina 62.14 299 *e*P **P 18 38 23.1 -0.5**
comp=Z,38nm,1.1s,mb5.4
MNV LR LR
comp=Z,20µm,20.0s,MS6.3
MNV Mina 62.14 299 *e*P **P 18 38 23.1 -0.5**
comp=Z,38nm,1.1s,mb5.4
NVAR Mina Array Bea 62.25 300 P **P 18 38 24.4 0.0**
baz=72,slow=5.8
P07A Fallon 62.27 301 ⇑P **P 18 38 24.1 -0.4**
baz=62
GSC Goldstone 62.30 296 ⇑P **P 18 38 25.5 +0.8**
baz=62,SNR=13
GSC ⇑S **S 18 46 57.3 +6.4**
baz=62
I05A Bend 62.31 306 P **P 18 38 26.2 +1.4**
baz=62,SNR=18
MOD Modoc 62.43 304 *e*P **P 18 38 25.4 -0.1**
comp=Z,64nm,1.3s,mb5.6
MOD LR LR
comp=Z,8µm,20.0s,MS5.9
MOD Modoc 62.43 304 *e*P **P 18 38 25.5 -0.1**
comp=Z,64nm,1.3s,mb5.6
B04A Port Angeles 62.44 311 ⇓P **P 18 38 24.8 -0.8**
baz=62
B04A ⇓S **S 18 46 55.7 +2.9**
baz=62
F04A Amboy 62.47 309 ⇑S **S 18 46 55.8 +2.7**
baz=62
URFA Urfa 62.49 62 *e*P **P 18 38 21.3 -4.7**
S08C White Mtn Res 62.49 299 ⇑P **P 18 38 26.5 +0.5**
baz=62,SNR=8.0
S08C ⇓S **S 18 46 58.6 +5.2**
baz=62
EIL Elat 62.54 71 *e*P **P 18 38 26.5 +0.2**
comp=Z,2µm,1.4s
EIL Elat 62.54 71 *e*P **P 18 38 26.5 +0.2**
comp=Z,2µm,1.4s
PAHR Pah Rah Range 62.57 301 *e*P **P 18 38 25.9 -0.6**
comp=Z,76nm,1.3s,mb5.7
PFO Pinyon Flat Ob 62.68 294 P **P 18 38 28.2 +0.9**
comp=Z,178nm,1.2s,mb6.1,SNR=9.2
PFO Pinyon Flat Ob 62.68 294 *e*P **P 18 38 27.7 +0.5**
PFO pmax pmax
comp=Z,58nm,1.3s,mb5.5
PFO Pinyon Flat Ob 62.68 294 *e*P **P 18 38 27.7 +0.5**
comp=Z,57nm,1.3s,mb5.5
PFO Pinyon Flat Ob 62.68 294 *e*P **P 18 38 27.7 +0.5**
comp=Z,57nm,1.3s,mb5.5
PFO Pinyon Flat Ob 62.68 294 P **P 18 38 27.9 +0.7**
baz=62,SNR=14
PFO ⇑S **S 18 47 01.3 +5.5**
baz=62
TIN Tinemaha 62.70 298 ⇓P **P 18 38 27.7 +0.3**
baz=62
TIN ⇓S **S 18 47 00.6 +4.5**
baz=62
DLBC Dease Lake 62.72 324 P **P 18 38 27.8 +0.3**
comp=Z,7.7nm,1.0s,mb4.8,baz=76,slow=7.3,SNR=7.4
DLBC Dease Lake 62.72 324 *e*P **P 18 38 27.4 -0.1**
GOF Gofitskoye 62.72 52 ⇑*i*P **P 18 38 27.1 -0.4**
GOF *e*S **S 18 46 59.9 +3.6**
GOF pmax pmax
comp=Z,50nm,0.7s,mb5.8
O06A Flanigan 62.72 302 ⇓P **P 18 38 27.3 -0.2**
baz=62,SNR=6.0
O06A ⇑S **S 18 46 58.3 +2.0**
baz=62
H04A Detroit Lake 62.75 307 ⇑P **P 18 38 27.2 -0.5**
baz=62
H04A ⇓S **S 18 46 57.6 +1.1**
baz=62
G04A Mulino 62.75 308 ⇓P **P 18 38 26.7 -1.1**
baz=62
G04A ⇓S **S 18 46 56.2 -0.5**
baz=62
M06C Likely Place G 62.81 303 ⇑P **P 18 38 28.3 +0.2**
baz=63,SNR=9.1
M06C ⇓S **S 18 47 01.2 +3.8**
baz=63
OBC Olympics--Boni 62.81 311 P **P 18 38 29.1 +0.9**
OBC Olympics--Boni 62.81 311 P **P 18 38 29.1 +1.0**
CWC Cottonwood Cre 62.83 297 ⇑P **P 18 38 29.2 +1.0**
baz=63
KIV Kislovodsk 62.87 54 P **P 18 38 29.9 +1.4**
comp=Z,186nm,1.3s,mb6.1,SNR=16
KIV Kislovodsk 62.87 54 *e*P **P 18 38 28.6 +0.1**
KIV *e* 18 40 45.4
KIV *e*S **S 18 46 55.1 -3.1**
KIV pmax pmax
comp=Z,55nm,1.2s,mb5.6
KIV pmax pmax
comp=Z,774nm,5.2s
KIV MLR MLR
comp=Z,2µm,18.0s,MS5.4
KIV Kislovodsk 62.87 54 P **P 18 38 28.3 -0.2**
comp=Z,49nm,1.3s,mb5.5
KIV Kislovodsk 62.87 54 P **P 18 38 28.3 -0.2**
comp=Z,49nm,1.3s,mb5.5
R07C Lee Vining 62.92 299 ⇓P **P 18 38 29.2 +0.4**
baz=63,SNR=26
R07C ⇓S **S 18 47 01.2 +2.4**
baz=63
D03A Wishkah Elem. 62.93 310 ⇑P **P 18 38 29.0 +0.1**
baz=63
D03A ⇑S **S 18 47 02.0 +3.1**
baz=63
MLAC Mammoth Lakes 62.94 299 ⇑P **P 18 38 29.3 +0.3**
baz=63
P06A Stead Airport, 62.95 301 ⇓P **P 18 38 28.7 -0.3**
baz=63
OCWA Octopus Mounta 62.98 311 PFAKE 18 38 40.0 +11
OCWA LR LR
comp=Z,32µm,21.0s,MS6.5
WCN Washoe City 62.98 301 ⇓P **P 18 38 29.2 -0.1**
baz=63
WCN ⇓S **S 18 46 59.3 -0.3**
baz=63
E03A Lebam 62.99 310 ⇓P **P 18 38 28.5 -0.9**
baz=63
E03A ⇓S **S 18 47 03.2 +3.5**
baz=63
BCA Borcka 63.04 56 *e*P **P 18 38 20.3 -9.3**
ASF Jabal al Asfar 63.06 68 P **P 18 38 30.7 +1.0**
comp=Z,44nm,1.2s,mb5.4,baz=185,slow=1.2,SNR=29
BROR Big Rock Looko 63.07 307 P **P 18 38 30.0 +0.2**
BROR Big Rock Looko 63.07 307 P **P 18 38 30.0 +0.2**
C03A Quillayute Air 63.15 311 ⇓P **P 18 38 30.6 +0.2**
baz=63
K04A Chilquin 63.17 305 ⇑P **P 18 38 30.6 +0.1**
baz=63
K04A ⇑S **S 18 47 02.8 +0.9**
baz=63
ELFS Eagle Lake Fie 63.20 303 ⇑P **P 18 38 30.7 0.0**
baz=63,SNR=16
ELFS ⇓S **S 18 47 05.3 +3.1**
baz=63
M05C Lookout 63.22 303 ⇑P **P 18 38 31.0 +0.2**
baz=63,SNR=12
M05C ⇓S **S 18 47 06.3 +3.7**
baz=63
ARTV Artvin 63.35 57 *i*P **P 18 38 31.5 -0.2**
KCC Kaiser Creek 63.41 299 ⇓P **P 18 38 31.9 -0.1**
baz=63
KCC ⇑S **S 18 47 09.1 +4.3**
baz=63
ISA Isabella 63.42 297 PFAKE 18 38 40.0 +7.9
ISA LR LR
comp=Z,3µm,22.0s,MS5.4
ISA Isabella 63.42 297 ⇓P **P 18 38 33.2 +1.1**
baz=63
ISA ⇑S **S 18 47 10.8 +5.8**
baz=63
EZM Erzurum 63.42 58 *e*P **P 18 38 31.0 -1.2**
ERZM Erzurum 63.42 58 *i*P **P 18 38 33.0 +0.8**
L04A Klamath Falls 63.44 305 ⇑P **P 18 38 32.2 -0.1**
baz=63
L04A ⇓S **S 18 47 08.5 +3.2**
baz=63
R05C Kirkwood Meado 63.44 300 ⇑P **P 18 38 32.3 0.0**
baz=63
109C Camp Elliot, M 63.47 293 ⇑P **P 18 38 32.9 +0.4**
baz=63
109C ⇑S **S 18 47 08.8 +3.2**
baz=63
H03A Soap Creek Ran 63.48 308 ⇑P **P 18 38 32.5 -0.1**
baz=63
H03A ⇑S **S 18 47 10.3 +4.5**
baz=63
COR Corvallis 63.52 307 *e*P **P 18 38 33.2 +0.4**
COR pmax pmax
comp=Z,78nm,1.0s,mb5.7
COR MLR MLR
comp=Z,3µm,22.0s,MS5.4
COR Corvallis 63.52 307 *e*P **P 18 38 33.2 +0.4**
comp=Z,78nm,1.0s,mb5.7
COR LR LR
comp=Z,3µm,22.0s,MS5.4
COR Corvallis 63.52 307 *e*P **P 18 38 33.2 +0.4**
comp=Z,78nm,1.0s,mb5.7
M04C Macdoel 63.55 304 ⇑P **P 18 38 33.3 +0.3**
baz=63
M04C ⇑S **S 18 47 10.7 +4.1**
baz=63
O04C Chester 63.56 302 ⇑P **P 18 38 33.0 0.0**
baz=63
O04C ⇑S **S 18 47 07.8 +1.0**
baz=63
O05C Quincy 63.57 302 ⇑P **P 18 38 32.8 -0.4**
baz=63
O05C ⇑S **S 18 47 07.8 +0.9**
baz=63
S06C San Francisco 63.59 299 ⇑P **P 18 38 33.8 +0.5**
baz=63
S06C ⇓S **S 18 47 10.3 +3.2**
baz=63
P05C Yuba Gap, Truc 63.60 301 ⇓P **P 18 38 33.0 -0.4**
baz=63
P05C ⇑S **S 18 47 08.8 +1.5**
baz=63
BNGL BINGOL 63.63 59 *i*P **P 18 38 33.5 -0.1**
HATC Hat Creek Radi 63.64 303 ⇑P **P 18 38 33.2 -0.4**
baz=63,SNR=11
HATC ⇑S **S 18 47 10.6 +2.9**
baz=63
BUOR Burton Butte 63.64 305 P **P 18 38 34.4 +0.7**
BUOR Burton Butte 63.64 305 P **P 18 38 34.4 +0.8**
BBOR Butler Butte 63.72 306 P **P 18 38 33.7 -0.4**
BBOR Butler Butte 63.72 306 P **P 18 38 33.7 -0.4**
I03A Eugene 63.73 307 ⇑P **P 18 38 33.8 -0.4**
baz=64
I03A ⇓S **S 18 47 11.1 +2.3**
baz=64
T06C Millerton Lake 63.82 299 ⇑P **P 18 38 34.3 -0.5**
baz=64
T06C ⇓S **S 18 47 11.8 +1.9**
baz=64
LHEM Herd Peak 63.87 304 P **P 18 38 35.5 +0.4**
LHEM Herd Peak 63.87 304 P **P 18 38 35.5 +0.4**
ONI Oni 63.89 55 P **P 18 38 35.3 0.0**
ONI S **S 18 47 11.5 +0.6**
LAVA Lava Cap Winer 63.90 301 ⇓P **P 18 38 35.0 -0.3**
baz=64
LAVA ⇑S **S 18 47 12.3 +1.4**
baz=64
CMB Columbia Colle 63.92 300 *e*P **P 18 38 35.0 -0.5**
CMB pmax pmax
comp=Z,53nm,1.4s,mb5.4
CMB MLR MLR
comp=Z,19µm,20.0s,MS6.3
CMB Columbia Colle 63.92 300 *e*P **P 18 38 35.0 -0.4**
comp=Z,54nm,1.4s,mb5.4
CMB LR LR
comp=Z,19µm,20.0s,MS6.3
CMB Columbia Colle 63.92 300 *e*P **P 18 38 35.0 -0.5**
comp=Z,54nm,1.4s,mb5.4
CMB Columbia Colle 63.92 300 ⇓P **P 18 38 35.1 -0.3**
baz=64
CMB ⇑S **S 18 47 14.0 +2.8**
baz=64
M03C McCloud 63.93 304 ⇓P **P 18 38 34.6 -0.9**
baz=64,SNR=9.6
M03C ⇓S **S 18 47 13.3 +1.9**
baz=64
H02A Toledo 63.95 308 ⇓P **P 18 38 34.2 -1.4**
baz=64
H02A ⇑S **S 18 47 14.2 +2.5**
baz=64
MARD Mardin 63.98 61 *i*P **P 18 38 32.6 -3.3**
HUMO Hull Mountain 64.01 305 *e*P **P 18 38 34.9 -1.2**
comp=Z,8.7nm,0.6s,mb5.0
HUMO LR LR
comp=Z,6µm,22.0s,MS5.8
HUMO Hull Mountain 64.01 305 *e*P **P 18 38 34.8 -1.3**
comp=Z,8.7nm,0.6s,mb5.0
HUMO Hull Mountain 64.01 305 ⇑P **P 18 38 34.8 -1.2**
baz=64,SNR=6.6
HUMO ⇓S **S 18 47 14.6 +2.2**
baz=64
OSI Osito Adit 64.02 296 ⇑P **P 18 38 36.7 +0.6**
baz=64,SNR=6.6
OSI ⇓S **S 18 47 15.5 +3.1**
baz=64
FMP Fort Macarthur 64.05 295 ⇓P **P 18 38 36.2 -0.1**
baz=64
FMP ⇑S **S 18 47 17.3 +4.5**
baz=64
I02A Mapleton 64.09 307 ⇑P **P 18 38 36.1 -0.4**
baz=64
I02A ⇑S **S 18 47 15.8 +2.5**
baz=64
BEST Besiri 64.12 60 *i*P **P 18 38 36.8 +0.1**
ZEI Tsey 64.13 54 *e*P **P 18 38 38.9 +2.1**
ZEI *e*PP pP 18 38 45.3 +5.5
ZEI *e* 18 40 56.7
ORV Oroville 64.14 302 ⇑P **P 18 38 35.7 -1.2**
baz=64,SNR=14
ORV ⇓S **S 18 47 16.2 +2.2**
baz=64
S05C Merced 64.14 299 ⇑P **P 18 38 36.6 -0.3**
baz=64
S05C ⇓S **S 18 47 17.1 +3.1**
baz=64
J02A Umpqua 64.15 306 ⇓P **P 18 38 36.1 -0.9**
baz=64
J02A ⇓S **S 18 47 16.3 +2.2**
baz=64
YBH Yreka Blue Hor 64.17 304 P **P 18 38 36.2 -0.9**
comp=Z,3.1nm,0.6s,mb4.5,baz=67,slow=7.2,SNR=7.3
YBH LR LR 19 05 44.3
comp=Z,7µm,21.7s,MS5.8,baz=67,slow=35
YBH Yreka Blue Hor 64.17 304 ⇓S **S 18 47 15.6 +1.3**
baz=64
R04C Big Horse Ranc 64.23 300 ⇑P **P 18 38 37.5 0.0**
baz=64
R04C ⇑S **S 18 47 16.1 +0.9**
baz=64
K02A Glendale 64.32 306 ⇑P **P 18 38 37.3 -0.8**
baz=64
K02A ⇓S **S 18 47 16.4 +0.2**
baz=64
Q04C Lincoln 64.33 301 ⇑P **P 18 38 37.3 -0.9**
baz=64
O03C Acorn Hollow, 64.35 302 ⇑P **P 18 38 37.6 -0.7**
baz=64
U05C Westside ANR, 64.38 298 ⇑P **P 18 38 37.3 -1.1**
baz=64
M02C Callahan 64.39 304 ⇓P **P 18 38 37.2 -1.4**
baz=64
M02C ⇑S **S 18 47 17.9 +0.8**
baz=64
V05C Boulder Hill, 64.40 297 ⇑P **P 18 38 37.5 -1.1**
baz=64
SUTB Sutter Buttes 64.47 302 ⇓P **P 18 38 38.0 -1.0**
baz=64,SNR=7.3
SUTB ⇑S **S 18 47 20.0 +1.9**
baz=64
WDC Whiskeytown Da 64.49 303 *e*P **P 18 38 38.2 -1.0**
WDC pmax pmax
comp=Z,13nm,0.9s,mb5.0
WDC MLR MLR
comp=Z,6µm,21.0s,MS5.8
WDC Whiskeytown Da 64.49 303 *e*P **P 18 38 38.2 -1.0**
comp=Z,13nm,0.9s,mb5.0
WDC LR LR
comp=Z,6µm,21.0s,MS5.8
WDC Whiskeytown Da 64.49 303 *e*P **P 18 38 38.2 -1.0**
comp=Z,13nm,0.9s,mb5.0
WDC Whiskeytown Da 64.49 303 ⇑P **P 18 38 37.6 -1.6**
baz=64
WDC ⇓S **S 18 47 17.7 -0.6**
baz=64
T05C Eagle Field, D 64.57 299 ⇓P **P 18 38 38.9 -0.8**
baz=64
L02A Cave Junction 64.62 305 ⇑P **P 18 38 39.5 -0.5**
baz=64
L02A ⇑S **S 18 47 23.2 +3.3**
baz=64
DIGO Kars 64.66 57 *i*P **P 18 38 41.4 +1.1**
S04C Ingram Canyon, 64.81 300 ⇑P **P 18 38 40.3 -1.0**
baz=65
S04C ⇓S **S 18 47 28.4 +6.1**
baz=65
O02C Red Bluff 64.82 303 ⇓P **P 18 38 39.9 -1.4**
baz=65
PKD Parkfield 64.85 298 ⇑P **P 18 38 40.9 -0.6**
baz=65
U04C Hernandez Rese 64.86 298 ⇓P **P 18 38 40.3 -1.3**
baz=65,SNR=12
U04C ⇓S **S 18 47 24.9 +2.0**
baz=65
Q03C Winters 64.86 301 ⇑P **P 18 38 41.5 -0.2**
baz=65
DAWY Dawson 64.87 331 *e*P **P 18 38 41.7 0.0**

SKAG	**Skagway**	**64.92**	**326**	*e*P		**P**	**18 38 42.3**	**+0.3**
	comp=Z,106nm,2.0s,mb5.5							
SKAG				LR		LR		
	comp=Z,9μm,18.0s,MS6.0							
N02C	**Big Bar**	**64.94**	**304**	⇓P		**P**	**18 38 41.0**	**-1.1**
	baz=65,SNR=8.3							
N02C				⇓S		**S**	**18 47 22.9**	**-0.9**
	baz=65							
PACP	**Pacheco Peak**	**64.98**	**299**	⇓S		**S**	**18 47 28.7**	**+4.4**
	baz=65							
BDM	**Black Diamond**	**65.03**	**300**	⇑P		**P**	**18 38 41.2**	**-1.5**
	baz=65							
BDM				⇑S		S	18 47 25.9	+1.0
	baz=65							
MNRC	**McLaughlin Nat**	**65.08**	**301**	⇑P		**P**	**18 38 42.0**	**-1.0**
	baz=65							
MNRC				⇓S		S	18 47 28.6	+3.0
	baz=65							
M01C	**Crescent City**	**65.10**	**305**	⇓P		**P**	**18 38 42.3**	**-0.9**
	baz=65							
M01C				⇑S		S	18 47 27.1	+1.3
	baz=65							
TBLG	**Delisi**	**65.10**	**55**	P		**P**	**18 38 44.1**	**+0.9**
TBLG	**Delisi**	**65.10**	**55**	*e*P		**P**	**18 38 44.1**	**+0.9**
MTA	**Mtatsminda**	**65.15**	**55**	P		**P**	**18 38 43.3**	**-0.2**
MTA				S		S	18 47 32.1	+5.7
SNCC	**San Nicolas Is**	**65.18**	**295**	PFAKE			18 38 50.0	+6.3
SNCC				LR		LR		
	comp=Z,9μm,21.0s,MS6.0							
SAO	**San Andreas Ge**	**65.19**	**299**	PFAKE			18 38 50.0	+6.2
SAO				LR		LR		
	comp=Z,14μm,20.0s,MS6.2							
SOKR	**Solikamsk**	**65.24**	**34***d*	*i*P		**P**	**18 38 42.0**	**-2.1**
SOKR				S		S	18 47 27.9	+0.3
SOKR				pmax		pmax		
	comp=Z,200nm,1.1s,mb6.1							
SOKR				MLR		MLR		
	comp=Z,4μm,16.0s,MS5.7							
CVS	**Carmenet Viney**	**65.30**	**301**	⇑S		S	18 47 31.6	+3.3
	baz=65							
V03C	**Hunter Liggett**	**65.34**	**298**	⇑S		S	18 47 32.6	+3.8
	baz=65							
VANB	**Van**	**65.38**	**59**	*e*P		**P**	**18 38 41.0**	**-4.0**
HAST	**Hastings Reser**	**65.42**	**299**	⇑S		S	18 47 33.1	+3.4
	baz=65							
JCC	**Jacoby Creek**	**65.44**	**304**	⇑S		S	18 47 29.3	-0.7
	baz=65							
HOPS	**Hopland**	**65.48**	**302**	*e*P		**P**	**18 38 46.3**	**+0.7**
	comp=Z,184nm,1.2s,mb6.0							
HOPS				LR		LR		
	comp=Z,6μm,20.0s,MS5.8							
HOPS	**Hopland**	**65.48**	**302**	*e*P		**P**	**18 38 46.3**	**+0.6**
	comp=Z,184nm,1.2s,mb6.0							
HOPS	**Hopland**	**65.48**	**302**	⇓P		**P**	**18 38 45.0**	**-0.7**
	baz=65							
HOPS				⇑S		S	18 47 34.3	+3.7
	baz=65							
P01C	**Double 8 Ranch**	**65.48**	**302**	⇓S		S	18 47 31.2	+0.6
	baz=65							
O01C	**Eel River Cons**	**65.56**	**303**	⇑P		**P**	**18 38 46.3**	**+0.1**
	baz=65							
O01C				⇓S		S	18 47 33.2	+1.7
	baz=65							
BNLO	**Ben Lomond**	**65.58**	**300**	⇑S		S	18 47 35.7	+4.0
	baz=65							
DGRG	**David-gareji**	**65.65**	**55**	P		**P**	**18 38 47.2**	**+0.5**
DGRG				S		S	18 47 23.7	-8.8
GNI	**Garni**	**65.72**	**57**	*e*P		**P**	**18 38 39.4**	**-7.9**
GNI	**Garni**	**65.72**	**57**	P		**P**	**18 38 46.8**	**-0.4**
	comp=Z,68nm,1.1s,mb5.6,baz=62,slow=2.5,SNR=14							
GNI				LR		LR	19 07 48.7	
	comp=Z,907nm,19.7s,MS5.0,baz=311,slow=36							
GNI	**Garni**	**65.72**	**57**	P		**P**	**18 38 46.8**	**-0.4**
GNI				pmax		pmax		
	comp=Z,68nm,1.1s							
GNI				MLR		MLR		
	comp=Z,907nm,19.7s							
GNI	**Garni**	**65.72**	**57**	*e*P		**P**	**18 38 48.1**	**+0.9**
	comp=Z,224nm,1.5s,mb6.0							
GNI				LR		LR		
	comp=Z,1μm,19.0s,MS5.2							
GNI	**Garni**	**65.72**	**57**	*e*P		**P**	**18 38 48.1**	**+0.9**
	comp=Z,224nm,1.5s,mb6.0							
SIT	**Sitka**	**65.86**	**323**	PFAKE			18 39 00.0	+12
SIT				LR		LR		
	comp=Z,27μm,21.0s,MS6.4							
HAKT	**HAKKARI**	**66.03**	**60**	*i*P		**P**	**18 38 48.8**	**-0.4**
CUKT	**Cukurca**	**66.08**	**60**	*e*P		**P**	**18 38 43.8**	**-5.7**
MSL	**Mosul**	**66.09**	**61**	*ex*		x	18 38 50.5	
MSL				*ex*		x	18 47 42.0	
MAK	**Makhachkala**	**66.50**	**53**	*i*P		**P**	**18 38 48.5**	**-3.7**
MAK				*e*PPP			18 42 51.8	
MAK				*e*S		S	18 47 34.6	-8.3
MAK				pmax		pmax		
	comp=Z,180nm,1.6s,mb5.8							
MAK				MLR		MLR		
	comp=Z,2μm,19.0s,MS5.3							
SEMD	**Semdilli**	**66.70**	**60**	*e*P		**P**	**18 38 46.6**	**-6.9**
ARU	**Arti**	**67.41**	**37**	P		**P**	**18 38 57.1**	**-0.9**
	comp=Z,390nm,1.1s,mb6.3,SNR=29							
ARU	**Arti**	**67.41**	**37**	*e*P		**P**	**18 38 56.5**	**-1.5**
ARU				pmax		pmax		
	comp=Z,173nm,1.4s,mb5.9							
ARU	**Arti**	**67.41**	**37**	*e*P		**P**	**18 38 56.5**	**-1.5**
	comp=Z,173nm,1.4s,mb5.9							
ARU	**Arti**	**67.41**	**37**	*e*P		**P**	**18 38 56.5**	**-1.5**
	comp=Z,173nm,1.4s,mb5.9							
ORR	**Orenburg**	**67.43**	**42**	*i*P		**P**	**18 38 57.2**	**-0.9**
ORR				S		S	18 47 54.3	+0.1
ORR				pmax		pmax		
	comp=Z,150nm,1.1s,mb5.9							
COLA	**College**	**67.76**	**334**	P		**P**	**18 39 00.6**	**+0.4**
COLA				pmax		pmax		
	comp=Z,20nm,1.1s,mb5.1							
COLA	**College**	**67.76**	**334**	*e*P		**P**	**18 38 59.8**	**-0.5**
	comp=Z,20nm,1.1s,mb5.1							
COLA				LR		LR		
	comp=Z,6μm,22.0s,MS5.8							
COLA	**College**	**67.76**	**334**	*e*P		**P**	**18 38 59.8**	**-0.4**
	comp=Z,20nm,1.1s,mb5.1							
BHD	**Baghdad**	**68.33**	**64**	*ex*		x	18 39 04.0	
BHD				*ex*		x	18 48 05.0	
MCK	**McKinley**	**68.76**	**333**	*e*P		**P**	**18 39 05.8**	**-0.7**
MCK				pmax		pmax		
	comp=Z,30nm,1.1s,mb5.1							
MCK				MLR		MLR		
	comp=Z,3μm,20.0s,MS5.6							
MCK	**McKinley**	**68.76**	**333**	*e*P		**P**	**18 39 05.8**	**-0.7**
	comp=Z,30nm,1.1s,mb5.1							
MCK				LR		LR		
	comp=Z,3μm,20.0s,MS5.6							
MCK	**McKinley**	**68.76**	**333**	*e*P		**P**	**18 39 05.8**	**-0.7**
	comp=Z,3μm,20.0s							
SML	**Sawmill**	**69.54**	**331**	*e*P		**P**	**18 39 12.0**	**+0.7**
CFAA	**Coronel Fontan**	**69.72**	**206**	P		**P**	**18 39 12.6**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=56,slow=7.0,SNR=5.7							
CFAA	**Coronel Fontan**	**69.72**	**206**	P		**P**	**18 39 12.6**	**+0.2**
AKTK	**Aktyubinsk**	**69.81**	**42**	P		**P**	**18 39 12.8**	**-0.2**
AKTK	**Aktyubinsk**	**69.81**	**42**	P		**P**	**18 39 12.8**	**-0.2**
AKTO	**Aktyubinsk**	**69.81**	**42**	P		**P**	**18 39 12.8**	**-0.2**
	comp=Z,88nm,0.9s,mb5.7,baz=302,slow=6.5,SNR=176							
AKTO	**Aktyubinsk**	**69.81**	**42**	P		**P**	**18 39 12.4**	**-0.6**
AKTO				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.1							
PMR	**Palmer**	**69.98**	**331**	*e*P		**P**	**18 39 14.1**	**+0.1**
PMR				pmax		pmax		
	comp=Z,92nm,1.0s,mb5.7							
PMR				MLR		MLR		
	comp=Z,5μm,20.0s,MS5.8							
PMR	**Palmer**	**69.98**	**331**	*e*P		**P**	**18 39 14.1**	**+0.1**
	comp=Z,92nm,1.0s,mb5.7							
PMR				LR		LR		
	comp=Z,5μm,20.0s,MS5.8							
PMR	**Palmer**	**69.98**	**331**	*e*P		**P**	**18 39 14.1**	**+0.1**
	comp=Z,5μm,20.0s							
SLKM	**Skilak Lake**	**71.02**	**331**	*e*P		**P**	**18 39 21.2**	**+0.8**
AB31	**Akbulak array**	**71.46**	**43**	P		**P**	**18 39 22.6**	**-0.5**
AB31				pmax		pmax		
	comp=Z,67nm,1.1s,mb5.5							
AB31	**Akbulak array**	**71.46**	**43**	⇑*e*P		**P**	**18 39 22.7**	**-0.4**
MIB	**Mutribah**	**72.16**	**66**	*e*P		**P**	**18 39 26.6**	**-0.6**
MIB				AMb		AMB	18 39 30.5	
	comp=Z,173nm,1.2s,mb5.9							
NAY	**Al-Naaiem**	**72.34**	**66**	*e*P		**P**	**18 39 27.8**	**-0.6**
NAY				AMb		AMB	18 39 32.3	
	comp=Z,120nm,1.2s,mb5.7							
UMR	**Umm Al-Rimmam**	**72.56**	**66**	*e*P		**P**	**18 39 29.3**	**-0.3**
UMR				AMb		AMB	18 39 33.7	
	comp=Z,178nm,1.4s,mb5.8							
KBD	**Kabd**	**72.72**	**66**	*e*P		**P**	**18 39 30.5**	**-0.1**
KBD				AMb		AMB	18 39 34.3	
	comp=Z,520nm,1.2s,mb6.3							
RDF	**Al-Radifah**	**72.73**	**66**	*e*P		**P**	**18 39 30.1**	**-0.5**
RDF				AMb		AMB	18 39 34.2	
	comp=Z,153nm,1.1s,mb5.8							
SVW2	**Sparrevohn**	**72.81**	**333**	*e*P		**P**	**18 39 30.5**	**-0.6**
KDAK	**Kodiak Island**	**73.58**	**329**	PFAKE			18 39 50.0	+14
KDAK				LR		LR		
	comp=Z,1μm,19.0s,MS5.3							
TRQA	**Tornquist**	**73.70**	**198**	PFAKE			18 39 50.0	+14
TRQA				LR		LR		
	comp=Z,2μm,20.0s,MS5.5							
TNA	**Tin City**	**73.94**	**340**	P		**P**	**18 39 40.2**	**+2.4**
	comp=Z,24nm,1.1s,mb5.0							
TNA				LR		LR		
	comp=Z,2μm,22.0s,MS5.3							
MBAR	**Mbarara**	**73.97**	**101**	*i* Pr			18 39 37.5	
MBAR	**Mbarara**	**73.97**	**101**	*i* P		**P**	**18 39 37.5**	**-0.4**
ZRNK	**Zerenda**	**74.39**	**37**	P		**P**	**18 39 40.1**	**-0.3**
ZRNK				pmax		pmax		
	comp=Z,97nm,1.2s,mb5.6							
ZRNK	**Zerenda**	**74.39**	**37**	*e*P		**P**	**18 39 40.0**	**-0.4**
	comp=Z,97nm,1.3s,mb5.6							
ZRNK	**Zerenda**	**74.39**	**37**	P		**P**	**18 39 40.1**	**-0.3**
	comp=Z,97nm,1.2s,mb5.6							
CHKZ	**Chkalovo**	**74.77**	**35**	P		**P**	**18 39 42.2**	**-0.4**
CHKZ				pmax		pmax		
	comp=Z,200nm,1.5s,mb5.8							
CHKZ	**Chkalovo**	**74.77**	**35**	*e*P		**P**	**18 39 42.1**	**-0.5**
	comp=Z,197nm,1.5s,mb5.8							
CHKZ	**Chkalovo**	**74.77**	**35**	P		**P**	**18 39 42.2**	**-0.4**
	comp=Z,200nm,1.5s,mb5.8							
BRVK	**Borovoye**	**74.96**	**36**	P		**P**	**18 39 43.3**	**-0.4**
	comp=Z,410nm,1.4s,mb6.2,SNR=29							
BRVK	**Borovoye**	**74.96**	**36**	P		**P**	**18 39 42.4**	**-1.3**
BRVK				pmax		pmax		
	comp=Z,46nm,1.3s,mb5.2							
BRVK	**Borovoye**	**74.96**	**36**	*e*P		**P**	**18 39 43.5**	**-0.2**
	comp=Z,112nm,1.2s,mb5.7							
BRVK	**Borovoye**	**74.96**	**36**	*e*P		**P**	**18 39 43.5**	**-0.2**
	comp=Z,112nm,1.2s,mb5.7							
BVA0	**Borovoye Array**	**75.03**	**36**	*i* P		**P**	**18 39 43.9**	**-0.2**
BVA0				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.8							
BVA0	**Borovoye Array**	**75.03**	**36**	*i* P		**P**	**18 39 43.9**	**-0.2**
	comp=Z,13nm,1.1s,mb4.8							
BVAR	**Borovoye Array**	**75.03**	**36**	P		**P**	**18 39 44.1**	**-0.1**
	comp=Z,40nm,0.8s,mb5.4,baz=289,slow=4.5,SNR=134							
TIXI	**Tiksi**	**75.31**	**4**	*i* Pr			18 39 45.6	
TIXI	**Tiksi**	**75.31**	**4**	*i* P		**P**	**18 39 45.6**	**-0.1**
TSUM	**Tsumeb**	**75.39**	**125**	*e*P		**P**	**18 39 46.2**	**+0.1**
	comp=Z,48nm,1.6s,mb5.2							
TSUM				LR		LR		
	comp=Z,6μm,21.0s,MS5.9							
TSUM	**Tsumeb**	**75.39**	**125**	*e*P		**P**	**18 39 46.2**	**0.0**
	comp=Z,48nm,1.6s,mb5.2							
VOSK	**Vostochnaya**	**75.50**	**36**	P		**P**	**18 39 46.2**	**-0.6**
VOSK				pmax		pmax		
	comp=Z,73nm,1.1s,mb5.5							
VOSK	**Vostochnaya**	**75.50**	**36**	P		**P**	**18 39 46.2**	**-0.6**
	comp=Z,73nm,1.1s,mb5.5							
VAN	**Vannovskaya**	**75.97**	**54**	*i* P		**P**	**18 39 51.0**	**+1.5**
VAN				*i* S		S	18 49 34.8	+2.2
ABKT	**Ailbek**	**75.99**	**54**	P		**P**	**18 39 49.7**	**+0.1**
	comp=Z,173nm,1.2s,mb5.9,SNR=8.6							
BILL	**Bilibino**	**77.39**	**350**κ	*i* P		**P**	**18 39 57.0**	**-0.5**
BILL				*i*			18 40 02.2	
BILL				*e*			18 40 09.3	
BILL				*i*			18 42 52.4	
BILL				*i* S		S	18 49 58.4	+10
BILL				pmax		pmax		
	comp=Z,200nm,2.1s,mb5.7							
BILL				pmax		pmax		
	comp=Z,83nm,2.5s,mb5.2							
BILL	**Bilibino**	**77.39**	**350**	*e*P		**P**	**18 39 57.2**	**-0.4**
	comp=Z,68nm,1.5s,mb5.4							
BILL				LR		LR		
	comp=Z,2μm,19.0s,MS5.4							
BILL	**Bilibino**	**77.39**	**350**	*i* P		**P**	**18 39 57.0**	**-0.5**
	comp=Z,83nm,2.5s,mb5.2							
PLCA	**Paso Flores**	**78.73**	**203**	P		**P**	**18 40 04.2**	**-0.8**
	comp=Z,14nm,0.8s,mb4.9,baz=31,slow=5.3,SNR=7.5							
PLCA				LR		LR	19 15 08.9	
	comp=Z,1μm,20.5s,MS5.3,baz=16,slow=36							
PLCA	**Paso Flores**	**78.73**	**203**	P		**P**	**18 40 04.3**	**-0.7**
PLCA				pmax		pmax		
	comp=Z,74nm,1.5s							
PLCA				MLR		MLR		
	comp=Z,2μm,21.0s							
PLCA	**Paso Flores**	**78.73**	**203**	P		**P**	**18 40 04.3**	**-0.7**
	comp=Z,74nm,1.5s,mb5.4							
PLCA				LR		LR		
	comp=Z,2μm,21.0s,MS5.5							
KMBO	**Kilima Mbogo**	**79.65**	**98**	P		**P**	**18 40 12.3**	**+2.3**
	comp=Z,14nm,1.2s,mb4.8,baz=305,slow=5.8,SNR=14							
KMBO				LR		LR	19 16 39.7	
	comp=Z,11μm,18.7s,MS6.2,baz=284,slow=37							
KMBO	**Kilima Mbogo**	**79.65**	**98**	⇑*e*P		**P**	**18 40 12.3**	**+2.3**
KMBO	**Kilima Mbogo**	**79.65**	**98**	*e*P		**P**	**18 40 12.7**	**+2.6**
	comp=Z,32nm,1.4s,mb5.1							
KMBO				LR		LR		
	comp=Z,7μm,19.0s,MS6.0							
NVS	**Novosibirsk**	**79.72**	**30**	⇓*i*P		**P**	**18 40 09.3**	**-1.1**
NVS				pmax		pmax		
	comp=N,27nm,1.5s							
NVS				pmax		pmax		
	comp=Z,96nm,1.5s,mb5.5							
NVS				pmax		pmax		
	comp=E,12nm,1.2s							
KURK	**Kurchatov**	**80.47**	**35**	P		**P**	**18 40 14.4**	**0.0**
	comp=E,411nm,1.3s,mb6.2,SNR=88							
KURK	**Kurchatov**	**80.47**	**35**	*e*P		**P**	**18 40 13.4**	**-1.0**
KURK				pmax		pmax		
	comp=Z,106nm,1.2s,mb5.7							
KURK	**Kurchatov**	**80.47**	**35**	*e*P		**P**	**18 40 13.4**	**-1.1**
	comp=Z,106nm,1.2s,mb5.6							
KURK	**Kurchatov**	**80.47**	**35**	*e*P		**P**	**18 40 13.4**	**-1.0**
	comp=Z,106nm,1.2s,mb5.6							
LSZ	**Lusaka**	**80.57**	**115**	*e*P		**P**	**18 40 14.5**	**-0.5**
	comp=Z,54nm,1.4s,mb5.3							
LSZ				*e*PP		PP	18 43 17.5	-0.9
LSZ				LR		LR		
	comp=Z,10μm,22.0s,MS6.1							
LSZ	**Lusaka**	**80.57**	**115**	*e*P		**P**	**18 40 14.5**	**-0.5**
	comp=Z,54nm,1.4s,mb5.3							
LSZ	**Lusaka**	**80.57**	**115**	*e*PP		PP	18 43 17.5	-0.9
BANOM	**Banah**	**80.95**	**65**	⇑P		**P**	**18 40 16.8**	**-0.2**
	SNR=5.4							
ASHO	**Ashiyiah**	**81.42**	**66**	⇑P		**P**	**18 40 19.2**	**-0.3**
	SNR=9.9							
UNV	**Unalaska Valle**	**82.05**	**331**	PFAKE			18 40 30.0	+7.2
UNV				LR		LR		
	comp=Z,13μm,22.0s,MS6.2							
ARQ	**Araqi**	**82.50**	**67**	⇑P		**P**	**18 40 25.4**	**+0.2**
	SNR=20							
KRAR	**Krasnoyarsk**	**82.54**	**25**	*e*P		**P**	**18 40 24.3**	**-1.1**
KRAR				pmax		pmax		
	comp=Z,89nm,1.7s,mb5.5							
HOQ	**Hoqain**	**82.98**	**67**	⇓P		**P**	**18 40 27.0**	**-0.6**
	SNR=37							
EKS2	**Erkin-Say**	**83.12**	**43**	P		**P**	**18 40 29.2**	**+0.8**
	SNR=38							
ABTO	**Aybut**	**83.14**	**74**	⇑P		**P**	**18 40 29.0**	**+0.5**
	SNR=12							
BSY	**Bisya**	**83.35**	**67**	⇑P		**P**	**18 40 29.2**	**-0.4**
	SNR=14							
AML	**Almayashu**	**83.41**	**43**	P		**P**	**18 40 31.8**	**+1.9**
	SNR=5.8							
CHMS	**Chumysh**	**83.47**	**42**	P		**P**	**18 40 31.2**	**+1.0**
	SNR=23							
FRU	**Bishkek**	**83.49**	**42**	*e*P		**P**	**18 40 30.0**	**-0.3**
FRU				pmax		pmax		
	comp=Z,705nm,2.5s,mb6.2							
FRU				MLR		MLR		
	comp=Z,4μm,20.0s,MS5.8							
AAK	**Ala-Archa**	**83.55**	**43**	P		**P**	**18 40 31.7**	**+1.1**
	SNR=12							
AAK	**Ala-Archa**	**83.55**	**43**	P		**P**	**18 40 30.8**	**+0.2**
	comp=Z,134nm,1.4s,mb5.9,SNR=13							
AAK	**Ala-Archa**	**83.55**	**43***d*	*i*P		**P**	**18 40 30.0**	**-0.6**
AAK				pmax		pmax		
	comp=Z,27nm,1.3s,mb5.2							
AAK	**Ala-Archa**	**83.55**	**43**	*e*P		**P**	**18 40 30.3**	**-0.3**
	comp=Z,31nm,1.1s,mb5.3							
AAK	**Ala-Archa**	**83.55**	**43**	*e*P		**P**	**18 40 30.3**	**-0.3**
	comp=Z,31nm,1.1s,mb5.3							
RBK	**Rabkut**	**83.79**	**73**	⇓P		**P**	**18 40 32.2**	**+0.4**
	SNR=7.8							
KBK	**Karagaybulak**	**83.80**	**42**	P		**P**	**18 40 33.0**	**+1.1**
	SNR=26							
UCH	**Uchtor**	**83.82**	**43**	P		**P**	**18 40 33.7**	**+1.7**
	SNR=80							
SMDO	**Samad**	**83.83**	**67**	⇓P		**P**	**18 40 32.3**	**+0.2**
	SNR=16							
TKM2	**Tokmak 2**	**83.99**	**42**	P		**P**	**18 40 33.8**	**+0.9**
	SNR=45							
TKM2	**Tokmak 2**	**83.99**	**42**	P		**P**	**18 40 33.3**	**+0.4**
TKM2				pmax		pmax		
	comp=Z,112nm,1.4s,mb5.8							
WSAR	**Wadi Sarin**	**84.18**	**66**	P		**P**	**18 40 35.4**	**+1.5**
	comp=Z,86nm,1.2s,mb5.8,baz=299,slow=4.2,SNR=16							
KZA	**Kyzart**	**84.34**	**43**	P		**P**	**18 40 36.3**	**+1.6**
	SNR=57							
AAA	**Alma-Ata**	**84.51**	**41**	*i* P		**P**	**18 40 36.8**	**+1.3**
AAA				pmax		pmax		
	comp=Z,1μm,9.5s							
AAA				MLR		MLR		
	comp=Z,4μm,19.4s,MS5.8							
LBTB	**Lobatse**	**84.78**	**124**	*e*P		**P**	**18 40 37.4**	**+0.5**
	comp=Z,43nm,1.4s,mb5.4							
LBTB				LR		LR		
	comp=Z,8μm,22.0s,MS6.0							
LBTB	**Lobatse**	**84.78**	**124**	*e*P		**P**	**18 40 37.3**	**+0.4**
	comp=Z,43nm,1.4s,mb5.4							
ULHL	**Ulahol**	**84.79**	**42**	P		**P**	**18 40 38.0**	**+1.0**
	SNR=14							
YAK	**Yakutsk**	**84.89**	**5***d*	*i*P		**P**	**18 40 37.3**	**-0.2**
YAK				*e*		pP	18 40 40.4	-0.1
YAK				*e*			18 43 57.5	
YAK				*e*PPP			18 45 51.5	
YAK				*e*S			18 50 59.5	
YAK				*e*SSS			19 00 14.1	
YAK				pmax		pmax		
	comp=N,40nm,1.7s							
YAK				pmax		pmax		
	comp=Z,57nm,1.7s,mb5.4							
YAK				pmax		pmax		
	comp=E,8.0nm,1.3s							
YAK				smax				
	comp=N,27nm,9.3s							
YAK				MLR		MLR		
	comp=E,456nm,21.0s,MS5.0							
YAK				MLR		MLR		
	comp=Z,564nm,21.0s,MS4.9							
YAK				MLR		MLR		
	comp=N,432nm,20.0s,MS5.0							
YAK	**Yakutsk**	**84.89**	**5**	*e*P		**P**	**18 40 36.1**	**-1.3**
	comp=N,72nm,1.0s,mb5.8							
YAK				LR		LR		
	comp=Z,965nm,19.0s,MS5.2							
YAK	**Yakutsk**	**84.89**	**5**	*e*P		**P**	**18 40 36.1**	**-1.4**
	comp=Z,72nm,1.0s,mb5.8							
MK31	**Makanchi Array**	**84.92**	**36**	P		**P**	**18 40 36.4**	**-1.2**
MK31				pmax		pmax		
	comp=Z,105nm,1.3s,mb5.8							
MKAR	**Makanchi Array**	**84.92**	**36**	P		**P**	**18 40 37.0**	**-0.6**
	comp=Z,24nm,1.0s,mb5.3,baz=328,slow=4.3,SNR=48							
MKAR				PKKP		PKKPbc	18 58 42.4	-2.9
	comp=Z,0.6nm,0.8s,baz=126,slow=3.7,SNR=5.4							
KSH	**Kashi**	**86.41**	**44**	*e*P		**P**	**18 40 44.8**	**-0.2**
KSH				*e*AP		pP	18 40 49.8	+1.7
KSH				*e*XP		sP	18 40 51.8	+2.6
KSH				*e*PP		PP	18 44 08.9	+2.7
KSH				*e*PPP			18 46 02.9	
KSH				*e*SKS			18 51 08.5	
KSH				*e*S			18 51 17.8	
KSH				*e*XS		sS	18 51 27.4	+1.3
KSH				*e*PS			18 52 21.5	
KSH				*e*SS		SS	18 57 02.4	+1.6
KSH				AMB		AMB		
	comp=Z,40nm,0.4s,mb6.0							
KSH				AMB		AMB		
	comp=Z,1μm,3.1s							
KSH				LR		LR		
	comp=N,9μm,21.4s,MS6.3							
KSH				LR		LR		
	comp=E,7μm,17.2s,MS6.3							
KSH				LR		LR		
	comp=Z,7μm,20.6s,MS6.0							
BOD	**Bodaibo**	**86.84**	**14**	*e*P		**P**	**18 40 46.4**	**-0.7**
BOD				pmax		pmax		
	comp=Z,85nm,1.5s,mb5.8							
BOSA	**Boshof**	**86.86**	**127**	P		**P**	**18 40 48.7**	**+1.5**
	comp=Z,5.0nm,1.0s,mb4.7,baz=291,slow=3.2,SNR=5.2							
BOSA				LR		LR	19 14 07.7	
	comp=Z,6μm,21.8s,MS6.0,baz=320,slow=32							
BOSA	**Boshof**	**86.86**	**127**	*e*P		**P**	**18 40 47.0**	**-0.2**
BOSA				pmax		pmax		
	comp=Z,84nm,2.0s,mb5.6							
BOSA				MLR		MLR		
	comp=Z,6μm,21.0s,MS6.0							
BOSA	**Boshof**	**86.86**	**127**	*e*P		**P**	**18 40 47.0**	**-0.2**
	comp=Z,84nm,2.0s,mb5.6							
BOSA				LR		LR		
	comp=Z,6μm,21.0s,MS6.0							
MA2	**Magadan**	**87.35**	**355**	*e*P		**P**	**18 40 48.4**	**-1.2**
MA2				*e*S			18 51 26.2	
MA2				pmax		pmax		
	comp=Z,500nm,4.2s							
MA2				MLR		MLR		
	comp=Z,18μm,20.8s,MS6.5							
MA2	**Magadan**	**87.35**	**355**	*e*P		**P**	**18 40

SONM 18 45 06.3
ULN Ulaanbaatar 94.13 22 P **P 18 41 21.4 +0.2**
ULN pmax pmax
comp=Z,57nm,1.6s,mb5.8
ULN Ulaanbaatar 94.13 22 *e*P **P 18 41 21.1 -0.1**
comp=Z,57nm,1.6s,mb5.8
ULN LR LR
comp=Z,1μm,21.0s,MS5.3
ULN Ulaanbaatar 94.13 22 *e*P **P 18 41 21.1 -0.1**
comp=Z,57nm,1.6s,mb5.8
SKR Severo-Kuril's 95.50 350 *e*P **P 18 41 26.0 -1.5**
SKR pmax pmax
comp=Z,1μm,8.0s
HIA Hailar 96.05 13 *e*P **P 18 41 28.8 -1.2**
HIA pmax pmax
comp=Z,15nm,1.2s
HIA MLR MLR
comp=Z,2μm,20.0s
HIA Hailar 96.05 13 *e*P **P 18 41 28.8 -1.2**
comp=Z,15nm,1.2s,mb5.3
HIA LR LR
comp=Z,2μm,20.0s,MS5.5
HIA Hailar 96.05 13 *e*P **P 18 41 28.8 -1.2**
comp=Z,15nm,1.2s,mb5.3
KLR Kul'dur 97.76 6 *e*P **P 18 41 32.8 -4.9**
KLR pmax pmax
comp=Z,90nm,2.4s,mb5.9
GTA Gaotai 98.73 31 *e*P **P 18 41 41.9 -0.2**
GTA AP pP 18 41 46.4 +1.2
GTA XP sP 18 41 49.4 +3.2
GTA PP PP 18 45 44.3 +1.2
GTA PPP 18 47 51.3
GTA AMB AMB
comp=Z,10.0nm,1.8s,mb5.0
GTA AMB AMB
comp=Z,140nm,5.7s
GTA LR LR
comp=N,1μm,19.8s,MS5.6
GTA LR LR
comp=E,2μm,18.3s,MS5.6
GTA LR LR
comp=Z,2μm,17.1s,MS5.8
PMSA Palmer Station 99.33 190 PFAKE 18 41 50.0 +5.2
PMSA LR LR
comp=Z,2μm,19.0s,MS5.7
POHA Pohakuloa 99.39 301 PFAKE 18 42 00.0 +15
POHA LR LR
comp=Z,6μm,22.0s,MS6.1
KKN Kakani 100.06 48 *e*P Pdif 18 41 50.0 +2.0
comp=Z,29nm,1.3s
KKN Kakani 100.06 48 *e*P Pdif 18 41 50.0 +2.0
KKN pmax pmax
comp=Z,29nm,1.3s
KIP Kipapa 100.07 304 PFAKE 18 42 00.0 +12
KIP LR LR
comp=Z,4μm,20.0s,MS6.0
DMN Daman 100.08 48 *e*P Pdif 18 41 49.5 +1.4
PKI Pulchoki 100.30 48 *e*P Pdif 18 41 49.5 +0.4
GUN Gumba 100.35 47 *e*P Pdif 18 41 51.4 +2.1
comp=Z,62nm,1.1s
YSS Yuzh-Sakhalins 100.37 358 *e*P Pdif 18 41 50.0 +0.6
YSS *e*PPP 18 48 08.0
YSS S Sdif 18 53 18.0 -7.6
YSS *e*SS SS 19 00 17.0 -3.4
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.5
YSS MLR MLR
comp=N,1μm,19.0s
YSS Yuzh-Sakhalins 100.37 358 *e*P Pdif 18 41 48.8 -0.6
JIRN Jiri 100.72 47 *e*P Pdif 18 41 52.7 +1.8
HHC Hu-ho-hao-te 101.84 22 *e*P Pdif 18 41 54.3 -1.6
HHC AP 18 41 59.0
HHC PP PP 18 46 05.3 -1.4
HHC AMB AMB
comp=Z,200nm,5.8s
HHC LR LR
comp=N,2μm,16.3s,MS5.9
HHC LR LR
comp=E,2μm,17.5s,MS5.9
HHC LR LR
comp=Z,3μm,19.0s,MS5.8
MDJ Mudanjiang 102.12 8 P Pdif 18 41 55.1 -2.0
MDJ AMB AMB
comp=Z,100nm,6.8s
MDJ LR LR
comp=N,500nm,31.7s,MS4.9
MDJ LR LR
comp=E,360nm,30.7s,MS4.9
MDJ LR LR
comp=Z,880nm,28.8s,MS5.1
MDJ Mudanjiang 102.12 8 PFAKE 18 42 10.0 +13
MDJ LR LR
comp=Z,2μm,22.0s,MS5.5
LSA Lhasa 102.14 42 PFAKE 18 42 10.0 +13
LSA LR LR
comp=Z,4μm,22.0s,MS5.8
CN2 Changchun 102.35 11 *e*P Pdif 18 41 57.3 -0.9
CN2 *e*PP PP 18 46 08.0 -2.5
CN2 AMB AMB
comp=Z,10.0nm,1.2s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,20.0s,MS5.5
CN2 LR LR
comp=E,1μm,20.0s,MS5.5
CN2 LR LR
comp=Z,2μm,21.0s,MS5.5
TAOE Nuku Hiva Isla 103.54 268 *e*PP PP 18 46 15.8 -3.6
comp=Z,609nm,25.7s
TAOE Nuku Hiva Isla 103.54 268 *e*PS PS 18 55 27.8 -1.4
comp=Z,2μm,27.0s
TAOE Nuku Hiva Isla 103.54 268 *e*LR LR 19 15 57.8
comp=Z,15μm,27.3s
BJT Baijiatuau 103.96 19 PFAKE 18 42 20.0 +15
BJT LR LR
comp=Z,3μm,19.0s,MS5.8
DL2 Dalian 106.36 15 *e*PDIF Pdif 18 42 11.3 -4.7
DL2 PP PP 18 46 40.3 -0.1
DL2 SS SS 19 01 44.5 +1.5
DL2 PP PP
comp=Z,300nm,7.4s
DL2 LR LR
comp=N,530nm,15.0s,MS5.4
DL2 LR LR
comp=E,730nm,15.0s,MS5.4
DL2 LR LR
comp=Z,970nm,18.5s,MS5.4
RKT Rikitea 106.46 253 *e*LQ 19 12 50.5
comp=Z,2μm,35.2s
RKT Rikitea 106.46 253 *e*PS PS 18 55 51.9 -7.8
comp=Z,1μm,28.0s
RKT Rikitea 106.46 253 *e*SS SS 19 01 42.7 -1.7
comp=Z,1μm,25.8s
RKT *e*LR LR 19 17 20.2
comp=Z,3μm,32.5s
MIDW Midway 107.06 322 PFAKE 18 46 40.0 +11
MIDW LR LR
comp=Z,5μm,20.0s,MS6.1
CD2 Chengdu 107.62 33 *e*PDIF Pdif 18 42 19.6 -2.0
CD2 PP PP 18 46 50.3 +0.7
CD2 PP PP
comp=Z,160nm,8.8s
CD2 LR LR
comp=N,1μm,18.0s
CD2 LR LR
comp=Z,2μm,18.0s,MS5.7
INCN Inchon 108.70 11 PFAKE 18 46 40.0 +8.4
INCN LR LR
comp=Z,2μm,21.0s,MS5.5
ENH Enshi 110.61 28 PFAKE 18 46 50.0 +15
ENH LR LR
comp=Z,111nm,20.0s
MAJO Matsushiro 110.77 2 PFAKE 18 46 50.0 +14
MAJO LR LR
comp=Z,990nm,20.0s,MS5.4
MJAR Matsushiro Arr 110.77 2 PKKPbc PKKPbc 18 57 31.1 -2.5
comp=Z,0.8nm,0.7s,baz=187,slow=2.5,SNR=4.4
KMI Kunming 111.99 37 PKP PKiKP 18 46 35.0 -2.8
NJ2 Nanjing 112.17 20 *e*PKP PKiKP 18 46 34.6 -3.6
NJ2 PP PP 18 47 24.0 +1.4
NJ2 PP PP
comp=Z,240nm,8.3s
NJ2 LR LR
comp=N,3μm,19.4s,MS6.0
NJ2 LR LR
comp=E,3μm,18.8s,MS6.0
NJ2 LR LR
comp=Z,4μm,19.5s,MS6.0
SSE Sheshan 113.71 18 PKP PKiKP 18 46 41.8 +0.7
SSE PP PP 18 47 37.8 +4.3
SSE PP PP
comp=Z,190nm,11.3s
SSE LR LR
comp=N,980nm,19.3s,MS5.7
SSE LR LR
comp=E,1μm,19.2s,MS5.7
SSE LR LR
comp=Z,2μm,19.3s,MS5.7
PPT Papeete 115.83 265 *e*PP PP 18 47 42.2 -6.3
comp=Z,113nm,26.5s
PPT Papeete 115.83 265 *e*PS PS 18 57 28.8 -0.6
comp=Z,2μm,26.0s
PPT Papeete 115.83 265 *e*SS SS 19 03 51.9 +2.4
comp=Z,2μm,27.0s
PPT *e*LR LR 19 21 41.1
comp=Z,6μm,31.0s
TBI Tubuai 118.38 259 *e*PS PS 18 57 56.9 +4.4
comp=Z,999nm,28.0s
TBI Tubuai 118.38 259 *e*SS SS 19 04 23.2 +0.5
comp=Z,568nm,28.2s
TBI *e*LR LR 19 22 51.3
comp=Z,3μm,25.0s
TATO Taipei 119.59 20 PFAKE 18 47 00.0 +7.6
TATO LR LR
comp=Z,2μm,21.0s,MS5.6
QIZ Qiongzhong 120.60 34 PKP PKPdf 18 46 49.6 -4.8
QIZ PP PP 18 48 21.8 +0.2
QIZ LR LR
comp=N,860nm,18.5s,MS5.5
QIZ LR LR
comp=E,680nm,17.6s,MS5.5
QIZ LR LR
comp=Z,1μm,17.6s,MS5.7
QIZ Qiongzhong 120.60 34 PFAKE 18 47 00.0 +5.6
QIZ LR LR
comp=Z,1μm,19.0s,MS5.5
WAKE Wake Island 122.23 330 PFAKE 18 47 10.0 +13
WAKE LR LR
comp=Z,4μm,21.0s,MS6.0
QSPA South Pole Qui 122.92 180 *e*PKPdf PKPdf 18 46 56.4 -2.4
MAW Mawson 124.81 153 *e*P PKPdf 18 46 59.9 -2.5
comp=Z,6.3nm,0.9s
MAW Mawson 124.81 153 PKP PKPdf 18 47 00.5 -2.0
comp=Z,7.1nm,0.8s,baz=281,slow=8.6,SNR=12
PSI Prapat 127.08 56 PKP PKPdf 18 47 07.7 +0.9
comp=Z,6.2nm,0.8s,baz=347,slow=3.1,SNR=5.1
VNDA Vanda 134.38 186 PKP PKPdf 18 47 20.1 -0.5
comp=Z,4.1nm,0.9s,baz=277,slow=2.9,SNR=11
VNDA PP PP 18 49 57.3 +4.8
comp=Z,2.5nm,1.1s,baz=183,slow=4.9,SNR=3.6
VNDA Vanda 134.38 186 PKP PKPdf 18 47 20.1 -0.5
VNDA PP PP 18 49 57.3 +4.8
VNDA LR LR
comp=Z,2μm,21.0s,MS5.8
MIR Mirnyy 136.46 155 *d i*PKIKP PKPdf 18 47 34.0 +10
MIR pmax pmax
comp=Z,200nm,2.0s
FUNA Funafuti 136.64 295 PFAKE 18 47 40.0 +15
FUNA LR LR
comp=Z,16μm,19.0s
DAV Davao City (W) 137.73 22 PFAKE 18 47 40.0 +13
DAV LR LR
comp=Z,868nm,20.0s,MS5.5
CASY Casey 142.27 161 *e*P PKPdf 18 47 28.8 -6.3
HNR Honiara 150.36 318 PFAKE 18 48 00.0 +11
HNR LR LR
comp=Z,2μm,20.0s,MS6.0
SNZO South Karori 151.54 243 PFAKE 18 48 00.0 +9.5
SNZO LR LR
comp=Z,3μm,22.0s,MS6.0
PMG Port Moresby 155.67 343 PFAKE 18 48 10.0 +14
PMG LR LR
comp=Z,3μm,21.0s,MS6.1
MBWA Marble Bar 158.22 62 PFAKE 18 48 10.0 +10
MBWA LR LR
comp=Z,3μm,22.0s,MS6.0
FITZ Fitzroy Crossi 160.12 45 PKPab PKPab 18 48 41.5 -0.4
comp=Z,11nm,1.1s,baz=263,slow=6.2,SNR=5.0
NWAO Narrogin (SRO) 160.61 96 PFAKE 18 48 10.0 +7.6
NWAO LR LR
comp=Z,2μm,20.0s
WB2 Warramunga Arr 165.92 24 *e*P PKPdf 18 48 06.5 -1.0
CTAO Charters Tower 166.08 336 PFAKE 18 48 20.0 +12
CTAO LR LR
comp=Z,6μm,22.0s
AS31 Alice Springs 169.09 33 *e*P PKPdf 18 48 09.8 0.0
ASPA Alice Springs 169.09 33 *e*P PKPdf 18 48 09.8 0.0
ASPA Alice Springs 169.09 33 *e*P PKPab 18 49 21.2 -0.2
ASAR Alice Springs 169.10 33 PKP PKPdf 18 48 09.9 +0.1
comp=Z,4.2nm,0.9s,baz=73,slow=0.3,SNR=16
ASAR PKPab PKPab 18 49 21.4 0.0
comp=Z,12nm,1.1s,baz=335,slow=4.8,SNR=16
ASAR PP PP 18 53 11.8 +1.0
comp=Z,3.6nm,1.1s,baz=341,slow=4.6,SNR=4.7
ASAR Alice Springs 169.10 33 PKP2 PKPab 18 49 21.4 0.0
ASAR 18 53 11.8
ASAR pmax pmax
comp=Z,12nm,1.1s
ASAR pmax pmax
comp=Z,4.0nm,1.2s
FORT Forrest 169.32 81 *e*P PKPab 18 49 22.6 +0.2
comp=Z,18nm,0.8s
ARMA Armidale 170.04 282 *e*P PKPab 18 49 27.9 +2.3
TOO Toolangi 173.81 221 *e*P PKPdf 18 48 12.4 +0.3
comp=Z,5.3nm,1.1s
TOO Toolangi 173.81 221 *e*P PKPab 18 49 41.4 -0.9
comp=Z,3.5nm,0.9s
STKA Stephens Creek 178.44 317 *e*P PKPdf 18 48 10.9 -2.2
comp=Z,4.0nm,1.1s
STKA Stephens Creek 178.44 317 PKP PKPdf 18 48 11.3 -1.8
comp=Z,4.4nm,1.0s,baz=73,slow=2.0,SNR=7.2
STKA PP PP 18 53 54.9 -1.4
comp=Z,2.2nm,1.1s,baz=32,slow=12,SNR=2.3

ISCJB ***18*** *18:33:33.4±0.3,2964S±002×6947W±006,h114km±5km, mb4.3/12, Error ellipse: s-maj=9.3km s-min=3.2km az=169.9*
BJI ***18*** *18:33:33.9,2960S×6940W,h102km,mB4.7*
NEIC ***18*** *18:33:33.9±0.4,2962S×6936W,h103km±5km,mb4.6/9, Error ellipse: s-maj=9.9km s-min=4.2km az=87.0*
GUC ***18*** *18:33:33.9±0.9,2965S×6968W,h131km±16km,ML4.9*
IDC ***18*** *18:33:34.5±1.7,2960S×6935W,h104km±12km,mb4.1/8, mb1 4.0/13,mb1mx3.9/21,mbtmp4.3/13, Error ellipse: s-maj=26.9km s-min=11.9km az=86.0*
ISC 18 18:33:34.5±0.3,**2963S**±002×**6946W**±006,**h108**km±5km, **n65**,σ0=**85**/81,**mb4.3**/12,**12C-13D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.25**	**299**	⇓*i*P		**Pn**	**18 33 58.7 +0.4**
LCO				*i* S		**Sn**	**18 34 16.7 +0.5**
TLL	**Tololo Astrono**	**1.28**	**245**	⇑*i*P		**Pn**	**18 33 59.2 +0.6**
TLL				*i* S		**Sn**	**18 34 18.1 +1.2**
TLL				AML	AML	18 34 19.8	
TLL	**Tololo Astrono**	**1.28**	**245**	⇑*i*P		**Pn**	**18 33 59.2 +0.6**
TLL				*i* S		**Sn**	**18 34 18.1 +1.2**
VACH	**Vallenar**	**1.55**	**312**	⇓*i*P		**Pn**	**18 34 01.9 +0.1**
VACH				*i* S		**Sn**	**18 34 22.6 +0.1**
VACH				AML	AML	18 34 24.9	
VACH	**Vallenar**	**1.55**	**312**	⇓*i*P		**Pn**	**18 34 01.9 +0.1**
VACH				*i* S		**Sn**	**18 34 22.6 +0.1**
OVCH	**Ovalle**	**1.80**	**237**	⇑*i*P		**Pn**	**18 34 04.1 -0.7**
OVCH				*i* S		**Sn**	**18 34 26.6 -1.3**
OVCH				AML	AML	18 34 28.1	
OVCH	**Ovalle**	**1.80**	**237**	⇑*i*P		**Pn**	**18 34 04.1 -0.7**
OVCH				*i* S		**Sn**	**18 34 26.6 -1.3**
CMCH	**Combarbala**	**2.04**	**221**	⇓*i*P		**Pn**	**18 34 07.1 -0.8**
CMCH				*i* S		**Sn**	**18 34 32.3 -1.0**
CMCH				AML	AML	18 34 32.9	
CMCH	**Combarbala**	**2.04**	**221**	⇓*i*P		**Pn**	**18 34 07.1 -0.8**
CMCH				*i* S		**Sn**	**18 34 32.3 -1.0**
CFAA	**Coronel Fontan**	**2.23**	**152**	P		**Pn**	**18 34 10.8 +0.5**
CFAA				S		**Sn**	**18 34 38.0 +0.2**

comp=N,13nm,0.3s,baz=332,slow=14,SNR=319
comp=N,34nm,0.3s,baz=238,slow=23,SNR=17

CPCH	**Copiapo**	**2.40**	**341**	⇓*i*P		**Pn**	**18 34 12.8 +0.3**
CPCH				*i* S		**Sn**	**18 34 42.6 +0.9**
CDCH	**Caldera**	**2.82**	**334**	⇑*i*P		**Pn**	**18 34 17.7 -0.3**
CDCH				*e*S		**Sn**	**18 34 50.7 -0.8**
CDCH				AML	AML	18 34 58.3	
CDCH	**Caldera**	**2.82**	**334**	⇑*i*P		**Pn**	**18 34 17.7 -0.3**
CDCH				*e*S		**Sn**	**18 34 50.7 -0.8**
JACH	**Jahuel**	**3.19**	**197**	⇓*i*P		**Pn**	**18 34 23.5 +0.6**
MDZ	**Mendoza**	**3.28**	**171**	⇓*i*P		**Pn**	**18 34 25.3 +1.1**
MDZ				*e*			18 34 56.4
MDZ				*i* S		**Sn**	**18 35 04.5 +2.0**
CRCH	**Chaqaral**	**3.43**	**342**	⇓*i*P		**Pn**	**18 34 26.7 +0.6**
CRCH				*e*S		**Sn**	**18 35 05.8 -0.3**
CRCH				AML	AML	18 35 14.6	
CRCH	**Chaqaral**	**3.43**	**342**	⇓*i*P		**Pn**	**18 34 26.7 +0.6**
CRCH				*e*S		**Sn**	**18 35 05.8 -0.3**
ROCH	**El Roble**	**3.58**	**201**	*e*P		**Pn**	**18 34 27.6 -0.6**
PEL	**Peldehue**	**3.66**	**196**	⇑*i*P		**Pn**	**18 34 28.5 -0.6**
PEL				*i* S		**Sn**	**18 35 11.3 -0.1**
PEL				AML	AML	18 35 22.8	
PEL	**Peldehue**	**3.66**	**196**	⇑*i*P		**Pn**	**18 34 28.5 -0.6**
PEL				*i* S		**Sn**	**18 35 11.3 -0.1**
FCH	**Farellones**	**3.75**	**191**	*e*P		**Pn**	**18 34 31.3 +0.9**
FCH				*i* S		**Sn**	**18 35 14.6 +0.8**
CLCH	**Cerro Calan**	**3.87**	**194**	⇓*i*P		**Pn**	**18 34 32.1 +0.1**
CLCH				*i* S		**Sn**	**18 35 16.5 +0.1**
ANTU	**Antumapu**	**4.05**	**194**	⇑*i*P		**Pn**	**18 34 34.9 +0.4**
ANTU				*i* S		**Sn**	**18 35 21.0 0.0**
SJCH	**San Jose de Ma**	**4.07**	**191**	*e*S		**Sn**	**18 35 21.5 +0.1**
PCH	**Pirque**	**4.08**	**192**	⇓*i*P		**Pn**	**18 34 34.5 -0.3**
LMEL	**Las Melosas**	**4.25**	**188**	⇑*i*P		**Pn**	**18 34 37.2 +0.1**
LMEL				*i* S		**Sn**	**18 35 24.9 -0.9**
CHCH	**Chadas Angostu**	**4.41**	**193**	⇑*i*P		**Pn**	**18 34 38.9 -0.4**
CHCH				*i* S		**Sn**	**18 35 28.8 -0.7**
CICH	**Cipreses**	**4.75**	**190**	*e*P		**Pn**	**18 34 44.2 +0.3**
CICH				*i* S		**Sn**	**18 35 37.8 +0.1**
LVC	**Limon Verde**	**7.01**	**4**	P		**Pn**	**18 35 13.2 -1.3**
	comp=E,2.8nm,0.3s,baz=184,slow=18,SNR=32						
LVC	**Limon Verde**	**7.01**	**4**	*e*Pn		**Pn**	**18 35 12.8 -1.7**
	comp=E,26nm,0.6s						
TRQA	**Tornquist**	**10.45**	**145**	*e*P		**Pn**	**18 35 58.9 -2.3**
	comp=E,14nm,0.7s						
PLCA	**Paso Flores**	**11.11**	**184**	P		**Pn**	**18 36 10.4 +0.4**
	comp=E,0.1nm,0.3s,baz=350,slow=16,SNR=2.8						
PLCA	**Paso Flores**	**11.11**	**184**	*e*P		**Pn**	**18 36 10.6 +0.6**
LPAZ	**La Paz**	**13.34**	**6**	P		**Pn**	**18 36 39.1 -0.3**
	comp=E,0.4nm,0.3s,baz=189,slow=7.9,SNR=23						
LPAZ	**La Paz**	**13.34**	**6**	*e*Pn		**Pn**	**18 36 38.8 -0.6**
	comp=E,4.5nm,0.8s						
SIV	**San Ignacio**	**15.61**	**31**	P		**Pn**	**18 37 06.6 -1.8**
	comp=E,0.2nm,0.3s,baz=216,slow=14,SNR=5.8						
EFI	**East Falkland**	**23.60**	**162**	P		**P**	**18 38 33.5 -1.9**
USHA	**Ushuaia**	**25.20**	**179**	P		**P**	**18 38 50.1 +0.2**
	comp=E,9.5nm,0.9s,mb4.2,baz=10,slow=6.7,SNR=12						
PMSA	**Palmer Station**	**35.32**	**176**	*e*P		**P**	**18 40 16.7 -2.6**
	comp=E,16nm,0.7s,mb5.0						
TEIG	**Tepich**	**52.78**	**338**	*e*P		**P**	**18 42 38.8 +0.3**
	comp=E,3.2nm,0.6s,mb4.5						
VNA1	**Neumayer--Stat**	**52.87**	**159**	*e*Pdiff		**P**	**18 42 39.6 +0.5**
VNA1				*e*			18 42 41.8
VNA1				*e*			18 42 43.2
SNAA	**Sanae**	**54.83**	**159**	P		**P**	**18 42 53.1 -0.3**
	comp=E,3.8nm,0.6s,mb4.6,baz=282,slow=7.8,SNR=139						
QSPA	**South Pole Qui**	**60.59**	**180**	Pdiff		**P**	**18 43 34.1 +0.3**
QSPA	**South Pole Qui**	**60.59**	**180**	*e*P		**P**	**18 43 34.1 +0.4**
	comp=E,11nm,0.7s,mb5.0						
VNDA	**Vanda**	**68.79**	**190**	P		**P**	**18 44 27.9 +1.0**
	comp=E,0.9nm,0.7s,mb3.7,baz=148,slow=3.8,SNR=5.9						
VNDA	**Vanda**	**68.79**	**190**	P		**P**	**18 44 27.9 +1.0**
SYO	**Syowa Base**	**69.12**	**159**	⇑*e*P		**P**	**18 44 27.9 -1.1**
SYO	**Syowa Base**	**69.12**	**159**	⇓*e*PcP		PcP	18 44 48.8 -3.4
DBIC	**Dimbokro**	**71.69**	**71**	P		**P**	**18 44 45.5 +1.0**
	comp=E,1.8nm,0.5s,mb4.2,baz=211,slow=12,SNR=9.2						
DBIC	**Dimbokro**	**71.69**	**71**	*e*P		**P**	**18 44 45.3 +0.7**
	comp=E,1.9nm,0.5s,mb4.2						
ANMO	**Albuquerque**	**73.10**	**329**	P		**P**	**18 44 54.8 +1.8**
	comp=E,0.5nm,0.5s,mb3.6,baz=153,slow=6.8,SNR=4.2						
MAW	**Mawson**	**76.72**	**163**	P		**P**	**18 45 13.8 0.0**
	comp=E,3.2nm,0.5s,mb4.3,baz=214,slow=7.3,SNR=12						
TSUM	**Tsumeb**	**78.27**	**105**	*e*P		**P**	**18 45 23.4 +1.0**
	comp=E,4.6nm,0.8s,mb4.3						
BOSA	**Boshof**	**80.13**	**117**	P		**P**	**18 45 33.1 +0.5**
	comp=E,3.5nm,0.5s,mb4.4,baz=272,slow=3.4,SNR=14						
BOSA	**Boshof**	**80.13**	**117**	*e*P		**P**	**18 45 32.8 +0.3**
	comp=E,3.0nm,0.5s,mb4.4						
TOA0	**Torodi Ar. Sit**	**80.63**	**69**	*e*P		**P**	**18 45 35.3 +0.1**
TORD	**Torodi Ar. Bea**	**80.63**	**69**	P		**P**	**18 45 35.7 +0.5**
	comp=E,3.9nm,0.6s,mb4.4,baz=277,slow=5.4,SNR=52						
TORD	**Torodi Ar. Bea**	**80.63**	**69**	P		**P**	**18 45 35.7 +0.5**
WB2	**Warramunga Arr**	**125.63**	**208**	*e*P		Pdif	18 49 06.5 +5.2
PSI	**Prapat**	**151.13**	**155**	PKPbc	PKPbc	18 53 14.4 -0.5	
	comp=E,5.1nm,0.5s,baz=174,slow=9.2,SNR=5.4						
MKAR	**Makanchi Array**	**152.17**	**44**	PKPbc	PKPbc	18 53 17.5 +0.2	
	comp=E,1.5nm,0.7s,baz=278,slow=2.4,SNR=6.9						
MKAR				PKPab	PKPab	18 53 27.9 +0.6	
	comp=E,1.3nm,0.6s,baz=270,slow=4.9,SNR=5.3						
MKAR	**Makanchi Array**	**152.17**	**44**	PKPbc	PKPbc	18 53 17.5 +0.2	
MKAR				PKPab	PKPab	18 53 27.9 +0.5	
WMQ	**Urumqi**	**156.95**	**46**	*e*PKP	PKPdf	18 53 16.1 -1.1	
HHC	**Hu-ho-hao-te**	**168.78**	**356**	*e*PKP	PKPdf	18 53 28.4 -0.2	
HHC				APKP		18 53 55.4	
HHC				XPKP		18 54 06.0	
HHC				PKP2	PKPab	18 54 41.5 +1.9	
HHC				PKS		18 57 02.1	
HHC				PP	PP	18 58 31.8 +2.9	
HHC				SKS	SKSdf	19 00 20.0 -2.3	
HHC				SKKS	SKKSac	19 05 06.3 +0.4	
HHC				SS	SS	19 19 14.0 +0.8	
HHC				PP	PP		
	comp=Z,170nm,9.0s						
HHC				LR	LR		
	comp=N,640nm,17.3s						
HHC				LR	LR		
	comp=E,440nm,18.2s						
HHC				LR	LR		
	comp=Z,500nm,13.1s						
CD2	**Chengdu**	**174.00**	**76**	*e*PKP	PKPdf	18 53 29.6 -1.6	

ISCJB ***18*** *18:37:49.1±1.0,5319N±003×16070W±003,h1km±5km, mb5.1/12,MS4.8/23, Error ellipse: s-maj=5.0km s-min=2.4km az=41.2*
MOS ***18*** *18:37:50.8±0.9,5327N×16060W,h10km,mb5.3/96, MS4.6/10, Error ellipse: s-maj=7.9km s-min=3.8km az=90.0*
BJI ***18*** *18:37:51.4,5362N×16097W,h10km,mB5.2,mb5.0,Ms5.0, Ms24.6*
HRVD ***18*** *18:37:52.1±0.3,5313N×16060W,h12km,MW5.3/68, Centroid moment Tensor Solution. LP body waves: s25,c35;Mantle waves: s68,c117; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.69±.02; Mθθ0.78±.02; Mφφ-0.08±.02; Mrθ-0.54±.06; Mφθ0.21±.02; Mφr0.21±.07; Best double couple: M0 0.96100×10^17 NP1:φs236.00000°,δ32.00000°,λ-127.00000°. NP2: φs98.00000°,δ65.00000°,λ-69.00000°. Principal axes: T 0.9710, Plg17.0000°, Azm172.0000°; N -0.0200, Plg19.0000°, Azm268.0000°; P -0.9520, Plg64.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***18*** *18:37:52.1±0.2,5323N×16063W,h10km,mb5.1/122, ML4.7(AEIC),ML4.8(PMR) Error ellipse: s-maj=4.5km s-min=2.5km az=194.0*
IDC ***18*** *18:37:53.4±4.9,5319N×16062W,h20km±32km,mb4.6/32, mb1 4.7/35,mb1mx4.7/36,mbtmp4.7/35,ML4.5/3,MS4.8/7, Ms1 4.8/7,ms1mx4.2/40, Error ellipse: s-maj=15.3km s-min=9.8km az=164.0*
SZGRF ***18*** *18:37:55.8,5335N×160.17W,h33km,mb5.2,South of Alaska*
ISC 18 18:37:52.8±1.0,**5328N**±003×**16068W**±003,**h14**km±6km, **h15**km±2.5km:**pP-P,n668**,σ0=**84**/675,**mb5.0**/212,**MS4.8**/23, **75C-60D,South of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**2.08**	**3**	P		**Pn**	**18 38 26.3 -0.8**

SDPT S Sn 18 38 53.1 +0.3
FALS False Pass 2.26 315 P Pn 18 38 29.5 -0.2
FALS S Sn 18 38 57.6 +0.3
AKUT Akutan 3.15 288 P Pn 18 38 42.2 +0.3
AKUT S Sn 18 39 17.7 -1.6
AKLV Akutan Long Va 3.26 288 P Pn 18 38 43.4 -0.1
CHGN Chignik 3.30 23 eP Pn 18 38 43.5 -0.5
UNV Unalaska Valle 3.52 282 P Pn 18 38 46.5 -0.5
UNV S Sn 18 39 26.7 -1.7
OKCD Okmok Cone D 4.46 275 P Pn 18 38 59.8 -0.1
OKCE Okmok Cone E 4.49 275 P Pn 18 39 00.6 +0.2
NIKO Nikolski 4.93 270 P Pn 18 39 05.6 -0.9
NIKO S Sn 18 40 00.0 -3.3
KDAK Kodiak Island 6.44 42 Pn Pn 18 39 24.8 -2.3
22nm,0.3s,baz=226,slow=7.7,SNR=81
KDAK Sn Sn 18 40 34.9 -5.5
16nm,0.3s,baz=348,slow=21,SNR=8.0
SPIA Saint Paul Isl 6.72 309 P Pn 18 39 32.5 +1.5
ATKA Atka Island 8.28 268 P Pn 18 39 51.9 -0.4
SVW2 Sparrevohn 8.31 17 eP Pn 18 39 54.7 +1.9
SEW Seward 9.20 38 P Pn 18 40 03.0 -2.1
SLKM Skilak Lake 9.22 34 P Pn 18 40 04.5 -0.8
RC01 Rabbit Creek A 9.81 33 P Pn 18 40 12.1 -1.3
TTA Tatalina 9.98 12 eP Pn 18 40 16.6 +0.8
MID Middleton Isla 10.05 47 eP Pn 18 40 16.9 +0.2
SML Sawmill 10.80 33 eP Pn 18 40 25.3 -1.6
EYAK Cordova Ski Ar 10.92 42 ePn Pn 18 40 26.3 -2.2
MCK McKinley 12.12 26 eP Pn 18 40 43.6 -1.4
TNA Tin City 12.84 346 P Pn 18 40 55.5 +0.6
22nm,0.8s
MENT Mentasta 13.14 36 eP Pn 18 40 59.8 +0.8
COLA College 13.32 24 eP Pn 18 41 00.0 -1.5
COLA College 13.32 24 ePn Pn 18 40 57.5 -4.0
SIT Sitka 14.93 65 eP Pn 18 41 23.2 -0.2
SIT pmax pmax
comp=Z,127nm,1.1s
SIT Sitka 14.93 65 ePn Pn 18 41 23.2 -0.2
comp=Z,127nm,1.1s
SIT e 18 41 30.2
SKAG Skagway 15.28 56 eP Pn 18 41 30.6 +2.6
comp=Z,14nm,0.4s
DAWY Dawson 15.37 37 ePn Pn 18 41 27.9 -1.3
CRAG Craig 16.16 71 ePn Pn 18 41 40.4 +0.9
DLBC Dease Lake 17.86 61 P Pn 18 42 03.3 +2.5
comp=Z,0.5nm,0.3s,baz=272,slow=12,SNR=20
DLBC Dease Lake 17.86 61 ePn Pn 18 42 00.7 -0.1
BBB Bella Bella 19.66 80 P Pn 18 42 19.4 -3.2
comp=Z,0.2nm,0.3s,baz=286,slow=14,SNR=3.9
BBB LR LR 18 47 46.5
comp=Z,2µm,20.5s,baz=34,slow=30
INK Inuvik 19.79 30 P Pn 18 42 22.4 -1.7
comp=Z,2.7nm,0.3s,baz=238,slow=12,SNR=94
INK S Sn 18 46 05.1 -1.1
comp=Z,0.3nm,0.3s,baz=237,slow=30,SNR=11
INK LR LR 18 50 26.6
comp=Z,2µm,19.4s,baz=50,slow=38
INK Inuvik 19.79 30 P Pn 18 42 22.4 -1.7
INK S Sn 18 46 05.1 -1.1
INK pmax pmax
comp=Z,3.0nm,0.3s
INK MLR MLR
comp=Z,2µm,19.4s
INK Inuvik 19.79 30 eP Pn 18 42 22.0 -2.1
BILL Bilibino 21.53 326 eP P 18 42 41.7 +0.3
PET Petropavlovsk 24.16 286 eP P 18 43 08.8 +0.3
PET pmax pmax
comp=Z,194nm,1.6s,mb5.3
PET Petropavlovsk 24.16 286 eP P 18 43 08.8 +0.3
comp=Z,194nm,1.6s,mb5.3
VDB Vedder Mountai 24.36 84 P P 18 43 10.1 -0.1
A05A Maple Falls 24.38 84 ⇓P P 18 43 10.6 +0.2
baz=24,SNR=5.2
E03A Lebam 24.61 91 ⇓P P 18 43 12.2 -0.4
baz=24
B05A Bryant 24.69 86 ⇓P P 18 43 13.5 +0.2
baz=25,SNR=9.3
JCW Jim Creek 24.82 86 P P 18 43 15.9 +1.5
C05A Tolt Reservoir 25.19 87 ⇓P P 18 43 17.6 -0.3
baz=25
D05A Enumclaw 25.25 88 ⇓P P 18 43 18.0 -0.4
baz=25,SNR=9.5
GSM Grass Mountain 25.36 88 P P 18 43 20.7 +1.3
FMW Mount Fremont 25.56 88 P P 18 43 22.8 +1.6
F04A Amboy 25.61 91 ⇓P P 18 43 21.7 0.0
baz=26
YKW3 Yellowknife Ar 25.62 50 eP P 18 43 22.3 +0.5
YKW3 e 18 43 31.9
YKA Yellowknife Ar 25.62 51 P P 18 43 21.4 -0.4
comp=Z,16nm,0.9s,mb4.5,baz=271,slow=8.9,SNR=95
H03A Soap Creek Ran 25.75 94 ⇑P P 18 43 22.5 -0.4
baz=26
G04A Mulino 25.95 93 ⇓P P 18 43 24.6 -0.2
baz=26
I03A Eugene 26.15 96 ⇑P P 18 43 26.6 +0.1
baz=26
F05A White Salmon 26.21 90 ⇑P P 18 43 27.5 +0.4
baz=26
EBG Ellensburg 26.24 88 P P 18 43 29.0 +1.7
J02A Umpqua 26.31 97 ⇓P P 18 43 28.6 +0.5
baz=26
H04A Detroit Lake 26.41 93 ⇑P P 18 43 28.8 -0.1
baz=26,SNR=11
G05A Wamic 26.63 92 ⇑P P 18 43 31.2 +0.4
baz=26
FRIS Frissel Point 26.72 94 P P 18 43 32.4 +0.7
H05A Madras 27.00 93 ⇓P P 18 43 34.6 +0.4
baz=27
MA2 Magadan 27.05 303 eP P 18 43 35.2 +0.6
MA2 pmax pmax
comp=Z,14nm,0.6s,mb4.7
MA2 Magadan 27.05 303 eP P 18 43 35.2 +0.6
comp=Z,14nm,0.6s,mb4.7
HAWA Hanford 27.11 88 eP P 18 43 35.4 +0.2
HUMO Hull Mountain 27.12 98 eP P 18 43 36.5 +1.1
comp=Z,194nm,1.2s,mb5.5
HUMO Hull Mountain 27.12 98 ⇑P P 18 43 36.0 +0.6
baz=27
I05A Bend 27.24 93 ⇑P P 18 43 36.9 +0.5
baz=27
NEW Newport 27.66 83 P P 18 43 39.8 -0.4
comp=Z,12nm,0.7s,mb4.6,baz=301,slow=9.3,SNR=18
NEW Newport 27.66 83 P P 18 43 39.8 -0.3
NEW pmax pmax
comp=Z,12nm,0.7s
NEW Newport 27.66 83 eP P 18 43 39.5 -0.6
comp=Z,223nm,1.2s,mb5.7
NEW e 18 43 48.7
YBH Yreka Blue Hor 27.80 99 P P 18 43 42.2 +0.9
comp=Z,8.2nm,0.7s,mb4.5,baz=284,slow=4.5,SNR=18
YBH Yreka Blue Hor 27.80 99 P P 18 43 42.2 +0.8
YBH pmax pmax
comp=Z,8.0nm,0.7s
YBH Yreka Blue Hor 27.80 99 eP P 18 43 42.1 +0.8
comp=Z,15nm,0.7s,mb4.7
YBH e 18 43 52.1
YBH Yreka Blue Hor 27.80 99 ⇓P P 18 43 42.1 +0.7
baz=28,SNR=5.9
EDM Edmonton 27.91 71 eP P 18 43 42.3 -0.1
M02C Callahan 27.92 100 ⇓P P 18 43 43.2 +0.7
baz=28,SNR=5.1
I06A Prineville 28.00 93 ⇑P P 18 43 43.2 0.0
baz=28
N02C Big Bar 28.01 101 ⇑P P 18 43 43.8 +0.5
baz=28,SNR=6.8
L04A Klamath Falls 28.02 98 ⇑P P 18 43 43.5 +0.2
baz=28
O01C Eel River Cons 28.14 103 ⇑P P 18 43 45.0 +0.6
baz=28
M04C Macdoel 28.28 98 ⇓P P 18 43 45.8 +0.1
baz=28,SNR=7.8
J06A Christmas Vall 28.43 94 ⇓P P 18 43 47.2 +0.3
baz=28,SNR=19
M03C McCloud 28.43 99 ⇓P P 18 43 47.1 +0.1
baz=28
WDC Whiskeytown Da 28.61 101 eP P 18 43 49.2 +0.6
WDC pmax pmax
comp=Z,11nm,0.7s,mb4.7
WDC Whiskeytown Da 28.61 101 eP P 18 43 49.2 +0.6
comp=Z,11nm,0.7s,mb4.7
WDC Whiskeytown Da 28.61 101 ⇑P P 18 43 48.9 +0.3
baz=28
K06A Valley Falls 28.63 95 ⇑P P 18 43 49.1 +0.4
baz=28,SNR=24
O02C Red Bluff 28.72 102 ⇓P P 18 43 49.7 +0.2
baz=29
M05C Lookout 28.95 98 ⇑P P 18 43 51.9 +0.2
baz=29,SNR=8.0
HATC Hat Creek Radi 29.10 99 ⇑P P 18 43 53.5 +0.5
baz=29
GASB Alder Springs 29.10 102 ⇓P P 18 43 53.6 +0.6
baz=29
MOD Modoc 29.13 97 eP P 18 43 52.6 -0.6
BSMT Bassoo Peak 29.24 82 P P 18 43 55.0 +0.8
O03C Acorn Hollow, 29.28 101 ⇓P P 18 43 55.2 +0.6
baz=29
K07A Rock Creek Ran 29.29 94 ⇓P P 18 43 54.9 +0.3
baz=29,SNR=12
M06C Likely Place G 29.45 98 ⇑P P 18 43 56.5 +0.5
baz=29,SNR=7.3
O04C Chester 29.63 100 ⇑P P 18 43 58.2 +0.5
baz=30,SNR=9.6
ELFS Eagle Lake Fie 29.66 99 ⇑P P 18 43 58.3 +0.4
baz=30,SNR=5.8
WVOR Wild Horse Val 29.81 94 eP P 18 43 59.8 +0.6
ORV Oroville 29.88 101 ⇓P P 18 44 00.2 +0.3
baz=30
SUTB Sutter Buttes 29.92 102 ⇓P P 18 44 00.6 +0.4
baz=30
O05C Quincy 29.96 100 ⇓P P 18 44 00.9 +0.2
baz=30,SNR=14
M07A Soldier Meadow 30.11 96 ⇑P P 18 44 02.1 +0.2
baz=30,SNR=14
MSO Missoula 30.24 83 eP P 18 44 02.7 -0.3
comp=Z,5.6nm,0.6s,mb4.5
O06A Flanigan 30.48 99 P P 18 44 05.5 +0.3
baz=30,SNR=15
M08A Happy Creek Ra 30.55 95 ⇑P P 18 44 05.8 0.0
baz=30,SNR=11
P05C Yuba Gap, Truc 30.57 101 ⇓P P 18 44 06.1 +0.1
baz=30
N07B Gerlach 30.61 97 ⇓P P 18 44 06.2 -0.1
baz=30,SNR=14
CHMT Chamberlain Mo 30.61 83 eP P 18 44 05.4 -0.9
L09A Wilkinson Ranc 30.63 94 ⇑P P 18 44 06.5 0.0
baz=30,SNR=9.3
P06A Stead Airport, 30.75 100 ⇑P P 18 44 07.8 +0.3
baz=31
LAVA Lava Cap Winer 30.85 102 P P 18 44 08.9 +0.5
baz=31,SNR=9.2
PAHR Pah Rah Range 31.04 99 eP P 18 44 10.2 +0.1
comp=Z,3µm,1.2s
PAHR e 18 44 20.4
O07A Toulon 31.05 98 ⇓P P 18 44 10.4 +0.3
baz=31,SNR=16
N08A GE Springer Mi 31.11 96 ⇓P P 18 44 10.7 0.0
baz=31,SNR=10
M09A Marrel Ranch, 31.12 95 ⇓P P 18 44 10.8 -0.1
baz=31,SNR=9.6
R05C Kirkwood Meado 31.28 101 ⇑P P 18 44 12.6 +0.4
baz=31
O08A Rochester Mine 31.39 97 ⇑P P 18 44 13.2 0.0
baz=31
P07A Fallon 31.43 99 ⇑P P 18 44 13.8 +0.2
baz=31
CMB Columbia Colle 31.54 103 eP P 18 44 14.2 -0.3
CMB pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
CMB Columbia Colle 31.54 103 eP P 18 44 14.2 -0.3
comp=Z,10nm,0.8s,mb4.7
CMB Columbia Colle 31.54 103 ⇑P P 18 44 14.7 +0.2
baz=31
HRY Holter Researc 31.55 82 eP P 18 44 13.9 -0.8
M10A I.L. Ranch, Tu 31.61 94 ⇑P P 18 44 14.7 -0.4
baz=32,SNR=7.2
HLID Hailey 31.69 89 eP P 18 44 15.5 -0.3
DLMT Dillon 31.80 85 eP P 18 44 16.1 -0.7
P08A Dixie Valley 31.82 98 ⇑P P 18 44 17.0 0.0
baz=32
Q07A Schurz 31.87 100 ⇓P P 18 44 17.6 +0.2
baz=32
MCMT McKenzie Canyo 31.93 86 eP P 18 44 17.7 -0.3
MCMT e 18 44 27.9
S06C San Francisco 31.95 102 ⇓P P 18 44 18.4 +0.3
baz=32
HAST Hastings Reser 31.98 106 ⇑P P 18 44 18.9 +0.5
baz=32
S05C Merced 32.03 103 ⇑P P 18 44 19.1 +0.2
baz=32
O09A Fish Creek Ran 32.05 96 ⇓P P 18 44 18.9 0.0
baz=32,SNR=16
M11A Holland Ranch, 32.11 93 ⇑P P 18 44 19.7 +0.1
baz=32
N10A Dunphy 32.11 95 ⇑P P 18 44 19.7 +0.2
baz=32,SNR=6.1
EGMT Eagleton 32.14 78 eP P 18 44 18.5 -1.3
EGMT ePcP PcP 18 47 07.4 -1.2
BOZ Bozeman (W) 32.22 84 eP P 18 44 20.2 -0.3
BOZ pmax pmax
comp=Z,12nm,0.7s,mb4.8
BOZ Bozeman (W) 32.22 84 eP P 18 44 20.2 -0.3
comp=Z,12nm,0.7s,mb4.8
BOZ e 18 44 30.9
R07C Lee Vining 32.29 101 ⇑P P 18 44 21.2 +0.2
baz=32,SNR=8.0
Q08A Gabbs 32.44 99 P P 18 44 22.9 +0.5
baz=32,SNR=15
N11A Elko Archery C 32.51 94 ⇓P P 18 44 23.0 -0.1
baz=32
MNV Mina 32.59 100 eP P 18 44 23.7 0.0
MNV e 18 44 34.4
M12A Wells 32.64 93 ⇓P P 18 44 24.3 +0.1
baz=32,SNR=14
R08A Mina 32.67 100 ⇑P P 18 44 24.5 +0.1
baz=32
QLMT Earthquake Lak 32.78 85 P P 18 44 26.0 +0.6
ELK Elko 32.86 94 eP P 18 44 26.2 +0.1
ELK e 18 44 36.2
Q09A Carvers 32.91 98 ⇑P P 18 44 26.6 +0.1
baz=33
N12A Wells--Clov Va 32.91 93 ⇑P P 18 44 26.4 -0.1
baz=33,SNR=19
M13A Montello 33.13 92 ⇓P P 18 44 28.0 -0.4
baz=33,SNR=15
YMR Madison River 33.15 85 eP P 18 44 28.7 +0.1
comp=Z,6.1nm,0.6s,mb4.7
S08C White Mtn Res 33.20 101 ⇓P P 18 44 29.2 +0.1
baz=33,SNR=9.4
RES Resolute Bay 33.24 26 eP P 18 44 28.9 -0.5
P11A Circle Ranch, 33.30 96 ⇓P P 18 44 29.8 -0.1
baz=33
GCMT Greycliff 33.32 82 eP P 18 44 30.5 +0.4
N13A West Wendover 33.41 93 ⇑P P 18 44 30.3 -0.7
baz=33,SNR=7.2
S09A Goldfield 33.61 100 ⇓P P 18 44 32.5 -0.2
baz=34,SNR=13
HVU Hansel Valley 33.71 90 eP P 18 44 33.2 -0.3
HVU pmax pmax
comp=Z,17nm,0.8s,mb5.0
HVU Hansel Valley 33.71 90 eP P 18 44 33.2 -0.4
comp=Z,17nm,0.8s,mb5.0
HVU e 18 44 43.4
Q11A Duckwater 33.80 97 ⇓P P 18 44 34.1 -0.2
baz=34,SNR=13
TPAW Teton Pass 33.81 86 eP P 18 44 35.4 +1.0
P12A McGill 33.85 95 ⇑P P 18 44 34.9 +0.1
baz=34,SNR=14
CWC Cottonwood Cre 33.97 102 ⇑P P 18 44 35.6 -0.2
baz=34
BGU Big Grassy Mou 34.07 92 eP P 18 44 36.3 -0.3
ISA Isabella 34.27 104 ⇓P P 18 44 38.4 -0.1
baz=34
SBC Santa Barbara 34.42 107 ⇑P P 18 44 39.6 -0.1
baz=34
HWUT Hardware Ranch 34.54 90 eP P 18 44 41.8 +1.1
comp=Z,3.8nm,0.6s,mb4.5
DUG Dugway 34.65 93 eP P 18 44 41.6 -0.1
TPNV Topopah Spring 34.70 100 eP P 18 44 42.4 +0.3
TPNV e 18 44 52.8
TIXI Tiksi 34.70 328 eP P 18 44 42.0 -0.1
TIXI pmax pmax
comp=Z,27nm,2.5s,mb4.7
OSI Osito Adit 34.87 105 ⇑P P 18 44 43.5 0.0
baz=35
TCUT Toone Canyon 34.93 90 P P 18 44 43.2 -0.8
PDAR Pinedale Array 35.06 86 P P 18 44 44.8 -0.4
comp=Z,5.7nm,0.6s,mb4.7,baz=312,slow=4.2,SNR=46
NLU North Lily Min 35.24 92 eP P 18 44 46.4 -0.4
DAU Daniels Canyon 35.45 91 eP P 18 44 49.2 +0.6
MPU Maple Canyon 35.47 92 eP P 18 44 49.3 +0.6
comp=Z,8.5nm,0.8s,mb4.7
GSC Goldstone 35.50 103 ⇑P P 18 44 49.1 +0.1
baz=35,SNR=9.3
ARUT Antelope Range 35.81 96 eP P 18 44 51.5 -0.2
TUQ Turquoise Mtn. 35.93 102 ⇑P P 18 44 52.5 -0.1
baz=36
YSS Yuzh-Sakhalins 35.98 283 eP P 18 44 51.2 -2.0
YSS pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
CCUT Cedar City 36.02 96 eP P 18 44 53.6 +0.2
CCUT e 18 45 03.3
MSU Marysvale 36.10 94 eP P 18 44 54.5 +0.4
TMUT Trail Mountain 36.18 92 eP P 18 44 54.9 +0.1
YAK Yakutsk 36.52 312 eP P 18 44 56.5 -1.2
YAK e*PP pP 18 45 05.5 +3.5
YAK e 18 46 21.2
YAK ePPP 18 46 35.3
YAK i 18 47 18.1
YAK eS S 18 50 39.3 -0.2
YAK e 18 55 12.1
YAK pmax pmax
comp=Z,27nm,1.0s,mb5.0
YAK pmax pmax
comp=N,10.0nm,1.9s
YAK pmax pmax
comp=E,27nm,1.7s
YAK smax
comp=N,62nm,9.7s
YAK smax
comp=E,70nm,7.2s
YAK MLR MLR
comp=N,249nm,13.0s,MS4.5
YAK MLR MLR
comp=Z,319nm,13.0s,MS4.3
YAK MLR MLR
comp=E,428nm,14.0s,MS4.5
YAK Yakutsk 36.52 312 eP P 18 44 56.8 -0.9
comp=E,44nm,0.6s,mb5.5
W12A Cal Nev Ari 36.64 101 ⇑P P 18 44 58.4 -0.4
baz=36
SRU San Rafael 36.71 92 eP P 18 44 59.2 -0.1
SRU pmax pmax
comp=Z,21nm,0.8s,mb5.0
SRU San Rafael 36.71 92 eP P 18 44 59.2 -0.1
comp=Z,21nm,0.8s,mb5.0
PFO Pinyon Flat Ob 36.90 104 eP P 18 45 00.5 -0.5
PFO pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
PFO Pinyon Flat Ob 36.90 104 eP P 18 45 00.5 -0.5
comp=Z,9.0nm,0.7s,mb4.7
PFO Pinyon Flat Ob 36.90 104 ⇓P P 18 45 00.6 -0.4
baz=37
109C Camp Elliot, M 37.04 106 ⇑P P 18 45 02.1 -0.1
baz=37
RSSD Black Hills 37.58 81 eP P 18 45 05.8 -0.9
RSSD e 18 45 16.0
ASAJ Asahikawa 37.63 279 P P 18 45 06.7 -0.4
comp=Z,11nm,0.9s,mb4.6,baz=305,slow=9.7,SNR=5.5
ASAJ Asahikawa 37.63 279 P P 18 45 06.7 -0.4
ASAJ pmax pmax
comp=Z,11nm,0.9s
X13A Yucca 37.75 101 ⇓P P 18 45 08.1 0.0
baz=38,SNR=9.7
W14A Seligman 37.76 99 ⇓P P 18 45 07.9 -0.4
baz=38,SNR=6.8
Y12C Blythe 37.93 102 P P 18 45 09.7 -0.1
baz=38,SNR=14
GLA Glamis 38.25 103 ⇑P P 18 45 12.2 -0.2
baz=38,SNR=9.5
W15A Williams 38.26 98 ⇓P P 18 45 12.7 +0.2
baz=38,SNR=8.3
Y13A Salome 38.30 101 ⇑P P 18 45 12.5 -0.3
baz=38,SNR=8.2
X14A Yava 38.39 100 ⇑P P 18 45 13.6 +0.1
baz=38,SNR=24
Y14A Wickenburg 38.69 100 ⇑P P 18 45 15.9 -0.3
baz=39,SNR=17
X15A Humboldt 38.76 99 ⇑P P 18 45 16.6 -0.1
baz=39,SNR=9.9
SMCO Snowmass 38.80 89 eP P 18 45 15.8 -1.2
comp=Z,12nm,1.1s,mb4.5
ULM Lac du Bonnet 38.99 67 P P 18 45 17.3 -1.3
comp=Z,19nm,0.6s,mb5.0,baz=298,slow=8.3,SNR=36
Z14A Wintersburg 39.13 101 ⇓P P 18 45 19.5 -0.3
baz=39
MVCO Mesa Verde 39.15 93 P P 18 45 19.0 -1.0
ISCO Idaho Springs 39.22 87 eP P 18 45 20.7 +0.2
HABR Khabarovsk 39.62 290 ⇓P P 18 45 23.8 0.0
HABR eS S 18 51 26.4 0.0
HABR pmax pmax
comp=Z,66nm,1.6s,mb5.1
HABR MLR MLR
comp=Z,264nm,13.3s,MS4.2
115A Sonoran Desert 40.02 101 ⇓P P 18 45 27.3 0.0
baz=40,SNR=14
116A Eloy 40.44 101 ⇑P P 18 45 30.5 -0.2
baz=40,SNR=8.5
KLR Kul'dur 41.06 293 eP P 18 45 30.4 -5.4
KLR e 18 45 31.0
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,56nm,1.8s,mb4.9
KLR MLR MLR
comp=Z,1µm,15.0s,MS4.8
TUC Tucson 41.16 100 eP P 18 45 35.7 -0.9
TUC pmax pmax
comp=Z,16nm,1.0s,mb4.6
TUC Tucson 41.16 100 eP P 18 45 35.7 -0.9
comp=Z,16nm,1.0s,mb4.6
TUC e 18 45 46.1
LAZ Ladron 41.86 95 eP P 18 45 42.5 +0.1
ANMO Albuquerque 41.89 94 P P 18 45 42.2 -0.4
comp=Z,4.1nm,0.9s,mb4.0,baz=324,slow=8.7,SNR=7.4
ANMO PcP PcP 18 47 37.5 -0.6
comp=Z,3.9nm,0.7s,baz=290,slow=4.1,SNR=6.7
ANMO Albuquerque 41.89 94 ⇑eP P 18 45 42.2 -0.4
ANMO Albuquerque 41.89 94 eP P 18 45 42.1 -0.6
comp=Z,10nm,1.1s,mb4.4
LENM Lemitar 42.12 95 eP P 18 45 45.0 +0.5
LPM Los Pinos Moun 42.23 94 eP P 18 45 44.8 -0.6
LPM e 18 45 55.5
BNM Barren Site 42.34 95 eP P 18 45 46.3 +0.1
VLA Vladivostok 44.49 285 eP P 18 46 03.0 -0.6
VLA pmax pmax
comp=Z,58nm,1.7s,mb5.0
VLA MLR MLR
comp=Z,600nm,26.0s,MS4.4
MNTX Cornudas Mount 44.80 96 eP P 18 46 04.7 -1.4
comp=Z,13nm,0.7s,mb4.9
MDJ Mudanjiang 44.90 288 P P 18 46 06.3 -0.6
MDJ AP pP 18 46 09.5 -1.8
MDJ PCP PcP 18 47 48.6 +0.3
MDJ PCS PcS 18 51 42.3 +0.3
MDJ S S 18 52 43.5 -0.9
MDJ XS sS 18 52 49.1 -2.4
MDJ AMB AMB
comp=Z,150nm,7.6s
MDJ LR LR
comp=N,230nm,19.8s,MS4.2
MDJ LR LR
comp=E,170nm,20.9s,MS4.2
MDJ LR LR
comp=Z,220nm,19.5s,MS4.1
MAJO Matsushiro 44.96 274 eP P 18 46 07.0 -0.4
MAJO pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
MAJO Matsushiro 44.96 274 eP P 18 46 07.0 -0.3
comp=Z,6.5nm,0.6s,mb4.6
MAJO e 18 46 18.1
MAT Matsushiro 44.96 274 P P 18 46 07.5 +0.1
MAT S S 18 52 44.0 -1.2
MAT Matsushiro 44.96 274 eP P 18 46 08.0 +0.6
MAT eS S 18 52 45.0 -0.2
MAT pmax pmax
comp=Z,23nm,1.1s,mb4.9
MAT Matsushiro 44.96 274 eP P 18 46 08.0 +0.6
comp=Z,23nm,1.1s,mb4.9
MAT eS S 18 52 45.0 -0.2
MJAR Matsushiro Arr 44.96 274 P P 18 46 06.7 -0.6
comp=Z,2.4nm,0.6s,mb4.2,baz=37,slow=7.4,SNR=14
MJAR Matsushiro Arr 44.96 274 P P 18 46 06.7 -0.6
BOD Bodaibo 45.43 312 eP P 18 46 11.7 +0.5
BOD pmax pmax
comp=Z,33nm,0.6s,mb5.3
HIA Hailar 47.52 299 eP P 18 46 24.8 -2.7
LTX Lajitas 47.53 97 eP P 18 46 27.1 -0.5
LTX pmax pmax
comp=Z,47nm,0.8s,mb5.6

LTX	**Lajitas**	**47.53**	**97**	*e*P	**P**	**18 46 27.1**	**-0.5**
	comp=Z,47nm,0.8s,mb5.6						
LTX				*e*		18 46 37.1	
CN2	**Changchun**	**47.76**	**290**	*e*P	**P**	**18 46 28.9**	**-0.5**
CN2				*e*XP	sP	18 46 38.4	+3.0
CN2				*e*S	**S**	**18 53 24.1**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,19.0s,MS4.5						
CN2				LR	LR		
	comp=E,400nm,19.0s,MS4.5						
CN2				LR	LR		
	comp=Z,400nm,21.0s,MS4.4						
KBS	**Kingsbay**	**47.98**	**2**	*e*P	**P**	**18 46 31.3**	**+0.2**
KBS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
KBS	**Kingsbay**	**47.98**	**2**	*e*P	**P**	**18 46 31.2**	**+0.2**
	comp=Z,30nm,0.9s,mb5.3						
DAG	**Danmarks Havn**	**48.00**	**11**	*i*P	**P**	**18 46 31.1**	**-0.1**
	comp=Z,8.2nm,0.7s,mb4.9						
DAG	**Danmarks Havn**	**48.00**	**11⇓**	*e*P	**P**	**18 46 31.1**	**-0.1**
DAG				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
DAG	**Danmarks Havn**	**48.00**	**11⇓**	*e*P	**P**	**18 46 31.1**	**-0.1**
	comp=Z,8.2nm,0.7s,mb4.9						
SUMG	**Summit**	**48.24**	**20**	*e*P	**P**	**18 46 33.8**	**+0.7**
	comp=Z,12nm,0.7s,mb5.0						
CCM	**Cathedral Cave**	**48.90**	**79**	*e*P	**P**	**18 46 35.1**	**-3.1**
CCM				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
CCM	**Cathedral Cave**	**48.90**	**79**	*e*P	**P**	**18 46 35.1**	**-3.1**
	comp=Z,9.6nm,0.7s,mb4.9						
CIT	**Chita**	**49.00**	**305**	*e*P	**P**	**18 46 39.9**	**+0.9**
CIT				pmax	pmax		
	comp=Z,78nm,1.8s,mb5.4						
JCT	**Junction City**	**49.01**	**93**	*e*P	**P**	**18 46 37.3**	**-1.8**
JCT				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
JCT	**Junction City**	**49.01**	**93**	*e*P	**P**	**18 46 37.3**	**-1.7**
	comp=Z,124nm,0.6s,mb6.1						
SFJD	**Kangerlussuaq**	**49.13**	**29**	*i* P	**P**	**18 46 40.0**	**+0.1**
	comp=Z,16nm,0.9s,mb5.0						
SFJD	**Kangerlussuaq**	**49.13**	**29**	*i* P	**P**	**18 46 40.0**	**+0.1**
SFJD				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
CBIJ	**Chichi jima**	**49.25**	**261**	P	**P**	**18 46 40.2**	**-0.6**
	comp=Z,82nm,0.6s,mb6.0,baz=317,slow=10,SNR=8.5						
FVM	**French Village**	**49.43**	**78**	P	**P**	**18 46 41.2**	**-1.0**
FVM				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
FVM	**French Village**	**49.43**	**78**	P	**P**	**18 46 41.2**	**-1.1**
	comp=Z,8.2nm,0.9s,mb4.8						
MIAR	**Mount Ida**	**49.89**	**84**	*e*P	**P**	**18 46 43.7**	**-2.1**
MIAR				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.3						
MIAR	**Mount Ida**	**49.89**	**84**	*e*P	**P**	**18 46 43.7**	**-2.1**
	comp=Z,19nm,0.6s,mb5.3						
MIAR				*e*		18 46 54.2	
SNY	**Shenyang**	**50.07**	**289**	⇓P	**P**	**18 46 48.0**	**+0.9**
SNY				AP	pP	18 46 53.1	+1.6
SNY				XP	sP	18 46 55.3	+2.1
SNY				PP	PP	18 48 43.4	+1.2
SNY				S	**S**	**18 53 57.6**	**-0.3**
SNY				XS	sS	18 54 09.1	+4.0
SNY				AMB	AMB		
	comp=Z,30nm,2.4s,mb4.9						
SNY				AMB	AMB		
	comp=Z,290nm,8.3s						
SNY				LR	LR		
	comp=N,1μm,16.2s,MS5.1						
SNY				LR	LR		
	comp=E,1μm,16.8s,MS5.1						
SNY				LR	LR		
	comp=Z,2μm,19.2s,MS5.0						
KS15	**Wonju Array Si**	**50.49**	**282**	*e*P	**P**	**18 46 49.4**	**-0.9**
SCHQ	**Schefferville**	**51.03**	**48**	P	**P**	**18 46 53.0**	**-1.3**
	comp=Z,7.5nm,0.7s,mb4.8,baz=318,slow=8.8,SNR=17						
NATX	**Nacogdoches**	**51.19**	**87**	*e*P	**P**	**18 46 54.6**	**-1.0**
	comp=Z,48nm,0.7s,mb5.5						
NATX				*e*		18 47 04.5	
HKT	**Hockley**	**51.78**	**90**	*e*P	**P**	**18 46 59.0**	**-1.0**
HKT				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
HKT	**Hockley**	**51.78**	**90**	*e*P	**P**	**18 46 59.0**	**-0.9**
	comp=Z,22nm,0.9s,mb5.1						
HKT				*e*		18 47 09.2	
WVT	**Waverly**	**52.21**	**78**	*e*P	**P**	**18 47 00.8**	**-2.4**
WVT				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
WVT	**Waverly**	**52.21**	**78**	*e*P	**P**	**18 47 00.8**	**-2.4**
	comp=Z,21nm,0.8s,mb5.1						
WVT				*e*		18 47 11.3	
PLAL	**Pickwick Lake**	**52.86**	**79**	*e*P	**P**	**18 47 05.3**	**-2.7**
	comp=Z,7.8nm,0.6s,mb4.8						
IRK	**Irkutsk**	**53.27**	**310**	*e*P	**P**	**18 47 11.7**	**+0.7**
IRK				pmax	pmax		
	comp=Z,73nm,1.9s,mb5.3						
MSNY	**Massena**	**53.52**	**62**	*e*P	**P**	**18 47 10.8**	**-2.1**
MSNY				*e*		18 47 21.0	
LONY	**Lake Ozonia**	**53.92**	**62**	*e*P	**P**	**18 47 13.2**	**-2.6**
LONY				*e*		18 47 22.0	
TLY	**Talaya**	**53.93**	**310**	*e*P	**P**	**18 47 16.5**	**+0.6**
TLY				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2						
TLY				MLR	MLR		
	comp=Z,583nm,17.0s,MS4.7						
TLY	**Talaya**	**53.93**	**310**	*e*P	**P**	**18 47 16.2**	**+0.3**
	comp=Z,26nm,1.6s,mb4.9						
LRAL	**Lakeview Retre**	**54.86**	**80**	*e*P	**P**	**18 47 19.9**	**-2.7**
	comp=Z,6.1nm,0.7s,mb4.7						
ULN	**Ulaanbaatar**	**54.89**	**305⇑**	*e*P	**P**	**18 47 23.0**	**+0.2**
ZAK	**Zakamensk**	**54.98**	**309**	*e*P	**P**	**18 47 22.7**	**-0.8**
ZAK				*e*		18 48 25.7	
ZAK				pmax	pmax		
	comp=Z,31nm,1.8s,mb5.0						
MOY	**Mondy**	**55.15**	**311**	*e*P	**P**	**18 47 26.3**	**+1.6**
MOY				pmax	pmax		
	comp=Z,50nm,2.7s,mb5.1						
SONM	**Songino Array**	**55.23**	**305**	P	**P**	**18 47 25.9**	**+0.6**
	comp=Z,8.0nm,0.6s,mb4.9,baz=46,slow=6.2,SNR=36						
SONM				PcP	PcP	18 48 26.4	+0.2
	comp=Z,2.4nm,0.6s,baz=81,slow=2.5,SNR=4.2						
ACCN	**Adirondack Com**	**55.24**	**62**	*e*P	**P**	**18 47 23.7**	**-1.7**
ACCN				*e*		18 47 33.4	
FWV	**Forest Hill**	**55.28**	**72**	P	**P**	**18 47 23.7**	**-2.0**
KRAR	**Krasnoyarsk**	**55.52**	**319**	*e*P	**P**	**18 47 25.4**	**-2.0**
KRAR				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
KRAR				MLR	MLR		
	comp=Z,800nm,21.0s,MS4.8						
ELN	**Prospectdale**	**55.56**	**72**	*e*P	**P**	**18 47 25.4**	**-2.3**
BLA	**Blacksburg**	**55.76**	**72**	*e*P	**P**	**18 47 27.3**	**-1.8**
BLA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
BLA	**Blacksburg**	**55.76**	**72**	*e*P	**P**	**18 47 27.3**	**-1.9**
	comp=Z,0.8nm,0.7s						
KEV	**Kevo**	**57.15**	**357**	*e*p	**P**	**18 47 38.1**	**-0.9**
HHC	**Hu-ho-hao-te**	**57.40**	**296**	*e*P	**P**	**18 47 41.3**	**+0.5**
HHC				AP	pP	18 47 51.3	+6.1
HHC				PCP	PcP	18 48 35.3	+0.7
HHC				PP	PP	18 49 48.9	+0.8
HHC				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
HHC				AMB	AMB		
	comp=Z,270nm,4.3s						
HHC				LR	LR		
	comp=N,360nm,16.6s,MS4.7						
HHC				LR	LR		
	comp=E,340nm,19.0s,MS4.7						
HHC				LR	LR		
	comp=Z,280nm,19.0s,MS4.4						
ARCES	**ARCESS Array B**	**57.41**	**357**	P	**P**	**18 47 40.8**	**-0.1**
	comp=Z,3.9nm,0.6s,mb4.6,baz=11,slow=6.4,SNR=17						
BTO	**Baotou**	**58.40**	**297**	*e*P	**P**	**18 47 47.9**	**+0.1**
LVZ	**Lovozero**	**58.60**	**353**	*e*P	**P**	**18 47 49.4**	**+0.2**
LVZ				pmax	pmax		
	comp=Z,51nm,2.5s,mb5.1						
SSE	**Sheshan**	**58.88**	**281**	P	**P**	**18 47 51.3**	**+0.2**
SSE				XP	sP	18 47 55.8	-1.5
SSE				PP	PP	18 50 00.3	-1.0
SSE				S	**S**	**18 55 54.1**	**-2.4**
SSE				SCS	ScS	18 57 41.8	+1.1
SSE				SS	SS	18 59 47.8	-2.2
SSE				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,80nm,5.7s						
SSE				LR	LR		
	comp=N,120nm,20.4s,MS4.2						
SSE				LR	LR		
	comp=E,140nm,20.3s,MS4.2						
SSE				LR	LR		
	comp=Z,160nm,17.9s,MS4.2						
NJ2	**Nanjing**	**59.55**	**284**	*e*P	**P**	**18 47 58.0**	**+2.2**
NJ2				AP	pP	18 48 03.0	+2.7
NJ2				XP	sP	18 48 05.4	+3.5
NJ2				PCP	PcP	18 48 45.3	+2.2
NJ2				S	**S**	**18 56 04.0**	**-1.2**
NJ2				XS	sS	18 56 12.0	-0.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,150nm,8.0s						
NJ2				LR	LR		
	comp=N,620nm,17.4s,MS5.1						
NJ2				LR	LR		
	comp=E,1μm,21.2s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,22.0s,MS5.2						
NVS	**Novosibirsk**	**60.03**	**323**	*e*P	**P**	**18 47 58.0**	**-1.1**
NVS				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.2						
NVS				pmax	pmax		
	comp=N,22nm,1.6s						
NVS				pmax	pmax		
	comp=E,19nm,1.6s						
WHN	**Wuhan**	**63.27**	**286**	*e*P	**P**	**18 48 22.4**	**+1.4**
JOF	**Joensuu**	**63.76**	**354**	*e*p	**P**	**18 48 22.4**	**-1.8**
XAN	**Xi'an**	**63.77**	**292**	P	**P**	**18 48 24.3**	**+0.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,2.0s,mb4.5						
GTA	**Gaotai**	**64.61**	**302**	P	**P**	**18 48 30.0**	**+0.2**
GTA				AP	pP	18 48 34.4	+0.2
GTA				PP	PP	18 50 52.9	+1.1
GTA				PPP		18 52 24.6	
GTA				SCP		18 53 05.1	
GTA				S	**S**	**18 57 07.1**	**-2.0**
GTA				XS	sS	18 57 14.3	-2.1
GTA				SCS	ScS	18 58 20.3	-3.6
GTA				SS	SS	19 01 19.9	+0.2
GTA				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
GTA				AMB	AMB		
	comp=Z,290nm,6.5s						
GTA				LR	LR		
	comp=N,2μm,21.3s,MS5.3						
GTA				LR	LR		
	comp=E,1μm,21.7s,MS5.3						
GTA				LR	LR		
	comp=Z,2μm,22.8s,MS5.2						
KAF	**Kangasniemi**	**64.82**	**356**	*e*p	**P**	**18 48 29.9**	**-1.2**
	comp=Z,5.8nm,0.5s,mb4.9,baz=0.8,slow=6.2						
KAF	**Kangasniemi**	**64.82**	**356**	*e*P	**P**	**18 48 29.9**	**-1.2**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
LZH	**Lanzhou**	**65.01**	**297**	*e*P	**P**	**18 48 32.6**	**+0.2**
LZH				AP	pP	18 48 37.1	+0.3
LZH				XP	sP	18 48 40.3	+1.8
LZH				PP	PP	18 50 57.1	+1.8
LZH				S	S	18 57 11.5	-2.5
LZH				XS	sS	18 57 18.6	-2.8
LZH				PS		18 57 32.8	
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,160nm,7.2s						
LZH				LR	LR		
	comp=E,1μm,16.3s						
LZH				LR	LR		
	comp=Z,2μm,18.6s,MS5.3						
KURK	**Kurchatov**	**65.02**	**323**	*e*P	**P**	**18 48 32.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
KURK	**Kurchatov**	**65.02**	**323**	*e*P	**P**	**18 48 32.3**	**-0.1**
	comp=Z,7.5nm,0.6s,mb4.9						
KLMR	**Klimovskoe**	**65.08**	**349**	*e*P	**P**	**18 48 29.1**	**-3.7**
KLMR				pmax	pmax		
	comp=Z,50nm,1.9s,mb5.2						
CHKZ	**Chkalovo**	**65.21**	**329**	*e*P	**P**	**18 48 33.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**65.21**	**329**	*e*P	**P**	**18 48 33.3**	**-0.4**
	comp=Z,5.8nm,0.6s,mb4.8						
FINES	**FINESS Array B**	**65.50**	**356**	P	**P**	**18 48 34.6**	**-0.9**
	comp=Z,3.0nm,0.8s,mb4.4,baz=1.4,slow=8.0,SNR=25						
BVA0	**Borovoye Array**	**65.84**	**329**	*i* P	**P**	**18 48 37.8**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**65.84**	**329**	P	**P**	**18 48 38.0**	**+0.3**
	comp=Z,17nm,0.6s,mb5.3,baz=41,slow=6.4,SNR=82						
BRVK	**Borovoye**	**65.84**	**329**	*e*P	**P**	**18 48 38.0**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
BRVK	**Borovoye**	**65.84**	**329**	*e*P	**P**	**18 48 38.0**	**+0.3**
	comp=Z,24nm,1.1s,mb5.2						
NB2	**NORSAR Subarra**	**65.84**	**4**	P	**P**	**18 48 37.0**	**-0.8**
	comp=Z,58nm,1.7s,mb5.3,baz=355,slow=6.5						
NB2	**NORSAR Subarra**	**65.84**	**4**	P	**P**	**18 48 37.0**	**-0.8**
NB2				pmax	pmax		
	comp=Z,58nm,1.7s,mb5.3						
NOA	**NORSAR Array B**	**65.84**	**4**	P	**P**	**18 48 37.4**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.5,baz=356,slow=6.3,SNR=19						
NOA				LR	LR	19 15 31.0	
	comp=Z,255nm,20.9s,MS4.4,baz=335,slow=34						
VOSK	**Vostochnaya**	**65.91**	**328**	P	**P**	**18 48 37.5**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
ARU	**Arti**	**66.01**	**337**	*e*P	**P**	**18 48 38.0**	**-0.9**
ARU				*e*		18 49 07.8	
ARU				*e*		18 51 04.6	
ARU				*e*S	S	18 57 25.1	-1.2
ARU				*e*		18 58 30.9	
ARU	**Arti**	**66.01**	**337**	*e*P	**P**	**18 48 38.2**	**-0.6**
	comp=Z,16nm,0.6s,mb5.2						
ZRNK	**Zerenda**	**66.33**	**330**	*e*P	**P**	**18 48 41.0**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.4						
ZRNK	**Zerenda**	**66.33**	**330**	*e*P	**P**	**18 48 41.0**	**+0.2**
	comp=Z,25nm,0.6s,mb5.4						
MK31	**Makanchi Array**	**66.83**	**318**	P	**P**	**18 48 42.2**	**-1.9**
MK31				pmax	pmax		
	comp=Z,89nm,1.8s,mb5.5						
MKAR	**Makanchi Array**	**66.83**	**318**	P	**P**	**18 48 43.6**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.4,baz=48,slow=6.2,SNR=24						
HFS	**Hagfors**	**66.85**	**3**	P	**P**	**18 48 43.4**	**-0.8**
	comp=Z,12nm,0.7s,mb5.1,baz=60,slow=4.1,SNR=31						
WMQ	**Urumqi**	**66.95**	**313**	P	**P**	**18 48 45.4**	**+0.6**
WMQ				PCP	PcP	18 49 12.8	-0.5
WMQ				PP	PP	18 51 11.5	-0.8
WMQ				SCP		18 53 13.5	
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,200nm,5.0s						
WMQ				LR	LR		
	comp=N,4μm,18.0s,MS5.8						
WMQ				LR	LR		
	comp=E,2μm,19.0s,MS5.8						
WMQ				LR	LR		
	comp=Z,4μm,23.0s,MS5.6						
KONO	**Kongsberg**	**67.15**	**5⇑**	*e*P	**P**	**18 48 47.4**	**+1.3**
VSU	**Vasula**	**68.45**	**356**	*e*P	**P**	**18 48 52.8**	**-1.5**
CD2	**Chengdu**	**68.98**	**294**	*e*P	**P**	**18 48 54.5**	**-3.1**
CD2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
CD2				AMB	AMB		
	comp=Z,150nm,5.6s						
EKA	**Eskdalemuir Ar**	**70.17**	**13**	P	**P**	**18 49 04.7**	**-0.3**
	comp=Z,6.2nm,0.6s,mb4.7,baz=339,slow=4.2,SNR=24						
GYA	**Guiyang**	**70.77**	**288⇑**	*i*P	**P**	**18 49 08.9**	**+0.3**
GYA				AP	pP	18 49 13.6	+0.5
GYA				XP	sP	18 49 15.9	+1.1
GYA				PP	PP	18 51 47.3	+1.9
GYA				S	S	18 58 21.8	-1.1
GYA				SKS		18 59 06.8	
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=N,410nm,18.9s,MS4.8						
GYA				LR	LR		
	comp=E,390nm,19.0s,MS4.8						
GYA				LR	LR		
	comp=Z,420nm,18.6s,MS4.7						
DMUB	**Kingscourt**	**70.98**	**16⇑**	*i*P	**P**	**18 49 10.2**	**+0.3**
OBN	**Obninsk**	**71.03**	**350**	*oe*P	**P**	**18 49 09.6**	**-0.6**
OBN				*i*		18 49 26.1	
OBN				*e*		18 58 33.6	
OBN				pmax	pmax		
	comp=Z,100nm,1.6s,mb5.5						
OBN				pmax	pmax		
	comp=Z,52nm,1.7s,mb5.2						
OBN				MLR	MLR		
	comp=Z,900nm,17.0s,MS5.1						
ORR	**Orenburg**	**71.33**	**338**	*e*P	**P**	**18 49 12.1**	**+0.1**
ORR				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
DCN	**Croghan**	**71.46**	**16⇑**	*i*P	**P**	**18 49 09.0**	**-3.8**
DLF	**Lyons Farm**	**71.63**	**16⇑**	*i*P	**P**	**18 49 09.3**	**-4.5**
AKTK	**Aktyubinsk**	**71.64**	**335**	P	**P**	**18 49 14.0**	**+0.1**
AKTO	**Aktyubinsk**	**71.64**	**335**	P	**P**	**18 49 14.0**	**+0.1**
	comp=Z,7.7nm,0.7s,mb4.7,baz=22,slow=5.0,SNR=34						
AB31	**Akbulak array**	**72.21**	**333**	P	**P**	**18 49 17.0**	**-0.3**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
TKM2	**Tokmak 2**	**72.68**	**320**	P	**P**	**18 49 21.3**	**+1.2**
	SNR=13						
TKM2	**Tokmak 2**	**72.68**	**320**	P	**P**	**18 49 20.0**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,67nm,1.6s,mb5.3						
USP	**Ospenovka**	**72.80**	**321**	P	**P**	**18 49 22.2**	**+1.3**
	SNR=9.9						
BSEG	**Bad Segeberg**	**72.89**	**6**	*e*P	**P**	**18 49 21.6**	**+0.2**
	comp=Z,17nm,1.0s,mb4.9						
CHMS	**Chumysh**	**72.94**	**321**	P	**P**	**18 49 22.6**	**+1.0**
	SNR=12						
FRU	**Bishkek**	**73.13**	**321**	*e*P	**P**	**18 49 23.8**	**+1.0**
FRU				pmax	pmax		
	comp=Z,120nm,1.8s,mb5.5						
KBK	**Karagaybulak**	**73.16**	**320**	P	**P**	**18 49 23.9**	**+0.9**
	SNR=14						
AAK	**Ala-Archa**	**73.35**	**321**	P	**P**	**18 49 25.6**	**+1.5**
	SNR=7.0						
AAK	**Ala-Archa**	**73.35**	**321⇑**	*e*P	**P**	**18 49 24.4**	**+0.3**
AAK				pmax	pmax		
	comp=Z,35nm,1.6s,mb5.0						
AAK	**Ala-Archa**	**73.35**	**321**	*e*P	**P**	**18 49 23.4**	**-0.7**
	comp=Z,48nm,1.6s,mb5.2						
KZA	**Kyzart**	**73.53**	**320**	P	**P**	**18 49 26.4**	**+1.2**
	SNR=7.4						
EKS2	**Erkin-Say**	**73.59**	**321**	P	**P**	**18 49 26.2**	**+0.7**
	SNR=16						
UCH	**Uchtor**	**73.69**	**321**	P	**P**	**18 49 27.6**	**+1.5**
	SNR=7.8						
WIT	**Witteveen**	**73.75**	**8**	*e*P	**P**	**18 49 28.6**	**+2.2**
KMI	**Kunming**	**74.02**	**290**	P	**P**	**18 49 28.0**	**0.0**
KMI				S	S	18 58 58.3	-1.9
NRDL	**Niedersach Rie**	**74.31**	**6**	*e*P	**P**	**18 49 29.8**	**+0.1**
	comp=Z,42nm,1.5s,mb5.2						
IBBN	**Ibbenburen**	**74.34**	**7**	*e*P	**P**	**18 49 30.0**	**+0.1**
	comp=Z,23nm,1.1s,mb5.0						
KK31	**Karatay Array**	**74.41**	**324**	*i* P	**P**	**18 49 29.9**	**-0.4**
KK31				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
KKAR	**Karatay Array**	**74.41**	**324**	*i* P	**P**	**18 49 29.9**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
WTSB	**Winterswijk**	**74.60**	**8**	*e*P	**P**	**18 49 31.4**	**0.0**
	comp=Z,37nm,1.3s,mb5.2						
CLZ	**Clausthal**	**74.98**	**6**	*e*P	**P**	**18 49 34.0**	**+0.4**
	comp=Z,22nm,1.1s,mb5.0						
CLZ	**Clausthal**	**74.98**	**6**	*e*P	**P**	**18 49 34.0**	**+0.4**
CLZ				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
BUG	**Bochum--Univer**	**75.16**	**8**	*e*P	**P**	**18 49 34.4**	**-0.2**
	comp=Z,94nm,1.9s,mb5.4						
CLL	**Collm**	**75.65**	**4**	*e*P	**P**	**18 49 37.2**	**-0.2**
	comp=Z,13nm,1.0s,mb4.8						
CLL	**Collm**	**75.65**	**4**	*i* P	**P**	**18 49 36.9**	**-0.5**
CLL				*i*		18 49 45.5	
CLL				*e*		18 49 53.0	
CLL				pmax	pmax		
	comp=Z,51nm,1.7s,mb5.2						
CLL	**Collm**	**75.65**	**4**	*i* P	**P**	**18 49 36.9**	**-0.5**
	comp=Z,51nm,1.7s,mb5.2						
CLL				*i*		18 49 45.5	
CLL				*e*		18 49 53.0	
SNF	**Seneffe**	**75.81**	**10**	AP	pP	18 49 39.2	-3.7
MEM	**Membach**	**75.88**	**9**	AP	pP	18 49 40.0	-3.3
AKASG	**Malin Array Be**	**76.06**	**354**	P	**P**	**18 49 38.9**	**-0.9**
	comp=Z,13nm,0.5s,mb5.1,baz=7.3,slow=5.5,SNR=54						
BRG	**Berggiesshubel**	**76.12**	**4**	*e*P	**P**	**18 49 40.1**	**0.0**
	comp=Z,46nm,1.7s,mb5.1						
KSP	**Ksiaz**	**76.22**	**2**	*e*P	**P**	**18 49 40.7**	**0.0**
MOX	**Moxa**	**76.25**	**5**	*e*P	**P**	**18 49 40.9**	**+0.1**
	comp=Z,14nm,0.9s,mb4.9						
MOX	**Moxa**	**76.25**	**5**	*e*P	**P**	**18 49 40.4**	**-0.4**
	comp=Z,68nm,1.9s,mb5.2						
MOX	**Moxa**	**76.25**	**5**	*e*P	**P**	**18 49 40.4**	**-0.4**
MOX				pmax	pmax		
	comp=Z,68nm,1.9s,mb5.2						
BAIF	**Baives**	**76.25**	**10**	*e*P	**P**	**18 49 40.5**	**-0.4**
	comp=Z,16nm,0.8s,mb4.7						
BAIF	**Baives**	**76.25**	**10**	*e*P	**P**	**18 49 40.5**	**-0.4**
BAIF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BAIF	**Baives**	**76.25**	**10**	*e*P	**P**	**18 49 40.5**	**-0.4**
	comp=Z,7.9nm,0.8s,mb4.7						
DOU	**Dourbes**	**76.25**	**10**	P	**P**	**18 49 40.0**	**-0.9**
DOU				AP	pP	18 49 41.9	-3.5
DOU				XP	sP	18 49 43.6	-3.5
PVCC	**Panska Ves**	**76.49**	**3**	*e*P	**P**	**18 49 42.5**	**+0.3**
PMG	**Port Moresby**	**76.49**	**233**	P	**P**	**18 49 41.5**	**-0.7**
	comp=Z,12nm,0.8s,mb4.9,baz=46,slow=7.4,SNR=4.6						
TANN	**Tannenbergstha**	**76.52**	**5**	*e*P	**P**	**18 49 42.6**	**+0.2**
	comp=Z,40nm,1.8s,mb5.0						
UPC	**Upice**	**76.55**	**2**	*e*P	**P**	**18 49 42.7**	**+0.1**
LSA	**Lhasa**	**76.63**	**302**	P	**P**	**18 49 44.6**	**+1.6**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0

GRF pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRF Grafenberg Arr 77.17 5 *eP* **P 18 49 46.5 +0.4**
comp=Z,16nm,0.9s,mb5.0
GRF *e*PKKP PKKPbc 19 09 12.4 +20
LVV L'vov 77.20 357 *eP* **P 18 49 46.6 +0.4**
OKC Ostrava-Krasne 77.25 1 *eP* **P 18 49 46.1 -0.4**
GRR Gorron 77.27 14 *eP* **P 18 49 45.9 -0.7**
comp=Z,29nm,0.7s,mb5.0
GRR Gorron 77.27 14 *eP* **P 18 49 45.9 -0.7**
GRR pmax pmax
comp=Z,15nm,0.7s,mb5.0
GRR Gorron 77.27 14 *eP* **P 18 49 45.9 -0.7**
comp=Z,15nm,0.7s,mb5.0
MORC Moravsky Berou 77.31 1⇓ *iP* **P 18 49 46.3 -0.5**
MORC Moravsky Berou 77.31 1 P **P 18 49 47.1 +0.3**
MORC Moravsky Berou 77.31 1 *eP* **P 18 49 46.2 -0.6**
QUIF Quistinic 77.38 15 *eP* **P 18 49 46.8 -0.5**
STHS Stebnicka Huta 77.67 359 *i* P **P 18 49 49.9 +1.1**
STHS pmax pmax
comp=Z,15nm,0.6s,mb5.1
STHS Stebnicka Huta 77.67 359 *i* P **P 18 49 49.9 +1.1**
comp=Z,15nm,0.6s,mb5.1
NIE Niedzica 77.67 359 *eP* **P 18 49 49.9 +1.0**
TREC Trest 77.75 3 *eP* **P 18 49 49.5 +0.2**
VRAC Vranov 77.76 2 P **P 18 49 49.7 +0.3**
comp=Z,6.7nm,0.6s,mb4.8,baz=2.8,slow=5.5,SNR=17
VRAC LR LR 19 26 36.5
comp=Z,997nm,18.8s,MS5.2,baz=349,slow=38
VRAC Vranov 77.76 2⇓ *iP* **P 18 49 47.6 -1.8**
VRAC Vranov 77.76 2 P **P 18 49 49.8 +0.4**
WET Wettzell 77.81 4 *eP* **P 18 49 50.1 +0.5**
comp=Z,43nm,1.6s,mb5.1
WET Wettzell 77.81 4 *eP* **P 18 49 50.1 +0.5**
WET pmax pmax
comp=Z,43nm,1.6s,mb5.1
KHC Kasperske Hory 77.85 4 *eP* **P 18 49 50.3 +0.4**
KHC x x 18 50 07.0
KHC Kasperske Hory 77.85 4 *eP* **P 18 49 50.3 +0.4**
KHC *e* 18 50 07.0
MEZF Maizieres J'vi 77.87 10 *eP* **P 18 49 49.9 -0.1**
STU Stuttgart 77.96 7 *eP* **P 18 49 50.4 -0.1**
KOLS Kolonicke sedl 78.13 358 *eP* **P 18 49 55.0 +3.6**
KOLS pmax pmax
comp=Z,24nm,1.7s,mb4.8
KOLS Kolonicke sedl 78.13 358 *eP* **P 18 49 55.0 +3.6**
comp=Z,24nm,1.7s,mb4.8
GEC2 GERESS Array S 78.14 4 *eP* **P 18 49 51.7 +0.2**
comp=Z,8.0nm,1.0s,mb4.6
GEC2 GERESS Array S 78.14 4 *eP* **P 18 49 51.7 +0.2**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GERES GERESS Array B 78.14 4 P **P 18 49 51.5 0.0**
comp=Z,2.9nm,0.6s,mb4.4,baz=359,slow=4.1,SNR=35
GERES LR LR 19 26 53.2
comp=Z,747nm,18.4s,MS5.0,baz=293,slow=38
CDF Champ du Feu 78.17 8 *eP* **P 18 49 51.4 -0.2**
comp=Z,40nm,1.2s,mb4.9
CDF Champ du Feu 78.17 8 *eP* **P 18 49 51.4 -0.2**
CDF pmax pmax
comp=Z,20nm,1.2s,mb4.9
CDF Champ du Feu 78.17 8 *eP* **P 18 49 51.4 -0.2**
comp=Z,20nm,1.2s,mb4.9
WLS Welschbruch 78.17 8 *eP* **P 18 49 51.8 +0.1**
CRVS Cervenica-Dubn 78.18 359 *eP* **P 18 49 54.7 +3.0**
CRVS pmax pmax
comp=Z,13nm,1.6s,mb4.6
CRVS Cervenica-Dubn 78.18 359 *eP* **P 18 49 54.7 +3.0**
comp=Z,13nm,1.6s,mb4.6
CRVS Cervenica-Dubn 78.18 359 *e* **P 18 49 54.7 +3.0**
THEF They Montfort 78.24 9 *eP* **P 18 49 51.6 -0.4**
BFO Black Forest 78.34 7 *eP* **P 18 49 52.4 -0.2**
comp=Z,10.0nm,0.8s,mb4.8
BFO Black Forest 78.34 7 *eP* **P 18 49 52.4 -0.2**
BFO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ECH Echery 78.35 8 *eP* **P 18 49 52.3 -0.4**
HAU Haudompre 78.49 9 *eP* **P 18 49 54.0 +0.6**
comp=Z,14nm,0.9s,mb4.6
HAU Haudompre 78.49 9 *eP* **P 18 49 54.0 +0.6**
HAU pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HAU Haudompre 78.49 9 *eP* **P 18 49 54.0 +0.6**
comp=Z,6.9nm,0.9s,mb4.6
KOLL Kolacno 78.51 1 *eP* **P 18 49 54.1 +0.5**
SMOL Smolenice 78.57 1 *eP* **P 18 49 54.3 +0.4**
VYHS Vyhne 78.60 0 *eP* **P 18 49 54.0 0.0**
VYHS pmax pmax
comp=Z,28nm,1.7s,mb4.9
VYHS Vyhne 78.60 0 *eP* **P 18 49 54.0 0.0**
comp=Z,28nm,1.7s,mb4.9
KECS Kecovo 78.61 359 *eP* **P 18 49 54.5 +0.4**
KECS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KECS Kecovo 78.61 359 *eP* **P 18 49 54.5 +0.4**
comp=Z,5.5nm,0.7s,mb4.6
FUR Furstenfeldbru 78.70 5 *eP* **P 18 49 54.8 +0.2**
MOF Molkenrain 78.71 8 *eP* **P 18 49 55.2 +0.6**
FELD Feldberg im Sc 78.76 8 *eP* **P 18 49 55.0 +0.1**
ZST Bratislava 78.88 2 *eP* **P 18 49 56.4 +0.8**
ZST pmax pmax
comp=Z,21nm,1.4s,mb4.9
ZST Bratislava 78.88 2 *eP* **P 18 49 56.4 +0.8**
comp=Z,21nm,1.4s,mb4.9
LOR Lormes 78.97 11 *eP* **P 18 49 55.5 -0.5**
comp=Z,22nm,0.8s,mb4.8
LOR Lormes 78.97 11 *eP* **P 18 49 55.5 -0.5**
LOR pmax pmax
comp=Z,11nm,0.8s,mb4.8
LOR Lormes 78.97 11 *eP* **P 18 49 55.5 -0.5**
comp=Z,11nm,0.8s,mb4.8
MFF Saint Martin d 79.12 14 *eP* **P 18 49 56.5 -0.4**
comp=Z,76nm,0.7s,mb5.4
MFF Saint Martin d 79.12 14 *eP* **P 18 49 56.5 -0.4**
MFF pmax pmax
comp=Z,38nm,0.7s,mb5.4
MFF Saint Martin d 79.12 14 *eP* **P 18 49 56.5 -0.4**
comp=Z,38nm,0.7s,mb5.4
CONA Conrad Observa 79.12 2⇓ *iP* **P 18 49 57.2 +0.2**
comp=Z,38nm,1.7s,mb5.0,SNR=17
BBS Basel-Blauen 79.13 8 *eP* **P 18 49 57.3 +0.4**
SSF Saint Saulge 79.13 11 *eP* **P 18 49 56.5 -0.4**
comp=Z,19nm,0.7s,mb4.8
SSF Saint Saulge 79.13 11 *eP* **P 18 49 56.5 -0.4**
SSF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SSF Saint Saulge 79.13 11 *eP* **P 18 49 56.5 -0.4**
comp=Z,9.5nm,0.7s,mb4.8
PSZ Piszkesteto 79.18 360⇑ *eP* **P 18 49 58.3 +1.1**
PSZ Piszkesteto 79.18 360⇓ *iP* **P 18 49 59.0 +1.8**
PSZ Piszkesteto 79.18 360 *eP* **P 18 49 57.8 +0.6**
PSZ pmax pmax
comp=Z,54nm,1.8s,mb5.2
PSZ Piszkesteto 79.18 360 P **P 18 49 59.0 +1.8**
PSZ Piszkesteto 79.18 360 *eP* **P 18 49 57.8 +0.6**
comp=Z,54nm,1.8s,mb5.2
LOMF Lomont 79.18 9 *eP* **P 18 49 57.6 +0.4**
SRO2 Moca 79.33 1 *eP* **P 18 49 59.5 +1.5**
BURAR Bucovina Array 79.36 356⇓ *iP* **P 18 49 58.1 -0.1**
BURAR Bucovina Array 79.36 356⇓ **P 18 49 58.1 -0.1**
AVF Avril sur Loir 79.38 11 *eP* **P 18 49 57.6 -0.7**
SOP Sopron 79.39 2⇑ *eP* **P 18 50 00.1 +1.8**
DAVA Damuels 79.49 7⇑ *iP* **P 18 49 59.9 +1.0**
comp=Z,15nm,1.6s,mb4.7
MOTA Moosalm 79.51 6⇑ *iP* **P 18 49 58.9 -0.1**
comp=Z,29nm,1.3s,mb5.0
MOTA Moosalm 79.51 6⇑ *iP* **P 18 49 59.0 0.0**
MOTA pmax pmax
comp=Z,29nm,1.3s,mb5.0
WATA Walderalm 79.54 5⇓ *iP* **P 18 49 59.2 0.0**
comp=Z,30nm,1.4s,mb5.0
WATA Walderalm 79.54 5⇓ *iP* **P 18 49 59.2 0.0**
WATA pmax pmax
comp=Z,30nm,1.4s,mb5.0
BGF Bois d'Agland 79.55 11 *eP* **P 18 49 58.6 -0.6**
comp=Z,25nm,0.8s,mb4.9
BGF Bois d'Agland 79.55 11 *eP* **P 18 49 58.6 -0.6**
BGF pmax pmax
comp=Z,13nm,0.8s,mb4.9
BGF Bois d'Agland 79.55 11 *eP* **P 18 49 58.6 -0.6**
comp=Z,13nm,0.8s,mb4.9
SMF Signal de Mont 79.58 11 *eP* **P 18 49 58.9 -0.5**
comp=Z,56nm,1.3s,mb5.0
SMF Signal de Mont 79.58 11 *eP* **P 18 49 58.9 -0.5**
SMF pmax pmax
comp=Z,28nm,1.3s,mb5.0
SMF Signal de Mont 79.58 11 *eP* **P 18 49 58.9 -0.5**
comp=Z,28nm,1.3s,mb5.0
SHL Shillong 79.59 299 *eP* **P 18 50 00.0 +0.5**
WTTA Wattenberg 79.62 5⇑ *iP* **P 18 50 00.2 +0.6**
comp=Z,45nm,1.7s,mb5.1
WTTA Wattenberg 79.62 5⇑ *iP* **P 18 50 00.2 +0.6**
WTTA pmax pmax
comp=Z,45nm,1.7s,mb5.1
SQTA Sankt Quirin 79.64 6⇑ *iP* **P 18 50 00.1 +0.4**
comp=Z,34nm,1.3s,mb5.1
SQTA Sankt Quirin 79.64 6⇑ *iP* **P 18 50 00.1 +0.4**
SQTA pmax pmax
comp=Z,34nm,1.3s,mb5.1
TCF Toulx Ste Croi 79.74 12 *eP* **P 18 49 59.6 -0.6**
comp=Z,9.9nm,0.7s,mb4.6
TCF Toulx Ste Croi 79.74 12 *eP* **P 18 49 59.6 -0.6**
TCF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
TCF Toulx Ste Croi 79.74 12 *eP* **P 18 49 59.6 -0.6**
comp=Z,4.9nm,0.7s,mb4.5
ARSA Arzberg 79.79 3⇑ *iP* **P 18 50 01.3 +0.8**
comp=Z,21nm,1.4s,mb4.9
CABF La Chapelle 79.85 9 *eP* **P 18 50 00.8 0.0**
KBA Koelnbreinsper 79.89 4⇑ *iP* **P 18 50 02.0 +0.9**
comp=Z,69nm,1.7s,mb5.3,SNR=15
KBA Koelnbreinsper 79.89 4⇑ *iP* **P 18 50 02.0 +0.9**
KBA pmax pmax
comp=Z,69nm,1.7s,mb5.3
GOF Gofitskoye 79.95 343 *eP* **P 18 50 00.9 -0.5**
GOF pmax pmax
comp=Z,50nm,0.6s,mb5.6
DAVOX Davos 79.99 7 P **P 18 50 02.5 +0.8**
comp=Z,5.4nm,0.6s,mb4.7,baz=346,slow=12,SNR=14
DAVOX LR LR 19 24 04.3
comp=Z,1µm,18.5s,MS5.3,baz=62,slow=35
PLDF La Plantade 80.22 11 *eP* **P 18 50 02.9 0.0**
DRGR 80.26 358 P **P 18 50 04.0 +0.9**
BRMO Bormio 80.33 6 P **P 18 50 04.7 +1.3**
comp=Z,35nm,1.7s,mb5.0
PYM Petit Puy Mans 80.36 12 *eP* **P 18 50 03.7 +0.1**
OBKA Obir 80.50 3 *i* P **P 18 50 04.8 +0.5**
comp=Z,45nm,0.6s,mb5.6,SNR=37
PTCC Patocco-Chiusa 80.56 4 P **P 18 50 05.3 +0.6**
comp=Z,52nm,1.7s,mb5.2
RJF Les Rejaudoux 80.61 13 *eP* **P 18 50 04.2 -0.8**
comp=Z,30nm,0.9s,mb4.9
RJF Les Rejaudoux 80.61 13 *eP* **P 18 50 04.2 -0.8**
RJF pmax pmax
comp=Z,15nm,0.9s,mb4.9
RJF Les Rejaudoux 80.61 13 *eP* **P 18 50 04.2 -0.8**
comp=Z,15nm,0.9s,mb4.9
MCGN Macugnaga 80.67 8 P **P 18 50 06.5 +1.2**
comp=Z,16nm,0.7s,mb5.0
GUN Gumba 80.74 305 *eP* **P 18 50 06.2 +0.6**
JIRN Jiri 80.79 304 *eP* **P 18 50 06.6 +0.7**
comp=Z,125nm,0.7s,mb5.9
CTI Castel Tesino 80.83 5 P **P 18 50 06.2 +0.1**
CTI pmax pmax
comp=Z,55nm,1.6s,mb5.2
CTI Castel Tesino 80.83 5 P **P 18 50 06.2 +0.1**
comp=Z,55nm,1.6s,mb5.2
LFF La Frestale 80.87 13 *eP* **P 18 50 05.7 -0.6**
comp=Z,58nm,0.6s,mb5.4
LFF La Frestale 80.87 13 *eP* **P 18 50 05.7 -0.6**
LFF pmax pmax
comp=Z,29nm,0.6s,mb5.4
LFF La Frestale 80.87 13 *eP* **P 18 50 05.7 -0.6**
comp=Z,29nm,0.6s,mb5.4
PKSM Moragy 80.88 0⇓ *iP* **P 18 50 06.6 +0.2**
PKSM Moragy 80.88 0 P **P 18 50 06.5 +0.1**
LBL Lubilhac 80.90 11 *eP* **P 18 50 06.5 0.0**
CAF Calviac 81.06 12 *eP* **P 18 50 06.8 -0.6**
ANN Anapa 81.07 347 *eP* **P 18 50 05.3 -2.1**
ANN pmax pmax
comp=Z,50nm,1.0s,mb5.4
ANN MLR MLR 19 28 03.9
comp=Z,600nm,20.0s,MS5.0
KIV Kislovodsk 81.08 343 *eP* **P 18 50 07.9 +0.4**
KIV pmax pmax
comp=Z,17nm,0.6s,mb5.2
KIV Kislovodsk 81.08 343 *eP* **P 18 50 07.9 +0.4**
comp=Z,17nm,0.6s,mb5.2
EMAZ Mazaricos 81.10 21 P **P 18 50 08.7 +1.1**
comp=Z,840nm,4.7s
EPON Pontenova 81.11 19 P **P 18 50 08.9 +1.3**
comp=Z,1µm,7.5s
KKN Kakani 81.13 305 *eP* **P 18 50 07.9 +0.1**
comp=Z,38nm,0.6s,mb5.5
KKN Kakani 81.13 305 *eP* **P 18 50 07.9 +0.1**
KKN pmax pmax
comp=Z,38nm,0.6s,mb5.5
PKI Pulchoki 81.25 305 *eP* **P 18 50 08.6 +0.2**
comp=Z,53nm,0.5s,mb5.7
PKI Pulchoki 81.25 305 *eP* **P 18 50 08.6 +0.2**
PKI pmax pmax
comp=Z,53nm,0.5s,mb5.7
STS Santiago 81.25 20 P **P 18 50 09.6 +1.2**
KLP Kalpa 81.28 312 *eP* **P 18 50 08.6 0.0**
KLP AMb AMB 18 50 11.7
comp=Z,44nm,1.9s,mb5.1
DMN Daman 81.37 305 *eP* **P 18 50 09.5 +0.5**
comp=Z,63nm,0.6s,mb5.7
VIVF Saint-Julien-l 81.44 10 *eP* **P 18 50 09.2 -0.2**
comp=Z,11nm,0.9s,mb4.5
VIVF Saint-Julien-l 81.44 10 *eP* **P 18 50 09.2 -0.2**
VIVF pmax pmax
comp=Z,50nm,0.9s,mb5.4
VIVF Saint-Julien-l 81.44 10 *eP* **P 18 50 09.2 -0.2**
comp=Z,5.4nm,0.9s,mb4.5
MLR Muntele Rosu 81.44 355 P **P 18 50 11.0 +1.6**
comp=Z,2.6nm,0.6s,mb4.3,baz=127,slow=0.5,SNR=12
MLR LR LR 19 28 03.9
comp=Z,755nm,18.1s,MS5.1,baz=212,slow=37
MLR Muntele Rosu 81.44 355⇓ *iP* **P 18 50 10.9 +1.5**
MLR Muntele Rosu 81.44 355 P **P 18 50 11.2 +1.8**
BNI Bardonecchia 81.45 9 P **P 18 50 06.6 -2.8**
BNI pmax pmax
comp=Z,43nm,1.3s,mb5.2
BNI Bardonecchia 81.45 9 P **P 18 50 06.6 -2.8**
comp=Z,43nm,1.3s,mb5.2
BZS Buzias 81.46 358⇓ *iP* **P 18 50 09.4 -0.1**
BZS Buzias 81.46 358 P **P 18 50 10.0 +0.5**
EARI Arriondas 81.51 18 P **P 18 50 11.1 +1.3**
comp=Z,1µm,8.6s
BOB Bobbio (Coli) 81.96 7 P **P 18 50 13.3 +1.2**
BOB pmax pmax
comp=Z,39nm,0.7s,mb5.5
BOB Bobbio (Coli) 81.96 7 P **P 18 50 13.3 +1.2**
comp=Z,39nm,0.7s,mb5.4
ZEI Tsey 82.02 342 *eP* **P 18 50 14.7 +2.3**
ZEI *e* 18 53 17.4
ZEI pmax pmax
comp=N,19nm,0.7s
SMLA Simla 82.11 313 *eP* **P 18 50 12.7 -0.2**
LASF Ste Croix 82.11 11 *eP* **P 18 50 13.0 +0.1**
comp=N,13nm,0.9s,mb4.6
EALK Alkurruntz 82.22 15 P **P 18 50 13.2 -0.3**
comp=N,2µm,8.5s
ELIZ Elizondo 82.27 15 P **P 18 50 13.5 -0.3**
TIRR Tirgusor 82.33 353⇑ *iP* **P 18 50 13.6 -0.4**
TIRR Tirgusor 82.33 353 P **P 18 50 13.9 -0.1**
TIRR Tirgusor 82.33 353 *eP* **P 18 50 13.6 -0.5**
TIRR *e* 18 50 24.6
ELOB Lobios 82.33 20 P **P 18 50 16.9 +2.8**
comp=N,1µm,7.8s
LARF Larrau 82.48 15 *eP* **P 18 50 15.2 +0.4**
PCAB Cabril 82.49 20 *eP* **P 18 50 15.9 +1.0**
comp=N,43nm,1.3s,mb5.2
ECAL Calabor 82.53 19 P **P 18 50 17.3 +2.2**
comp=N,153nm,4.1s
MTLF Montolieu 82.64 12 *eP* **P 18 50 15.4 -0.3**
comp=N,22nm,0.7s,mb5.0
MTLF Montolieu 82.64 12 *eP* **P 18 50 15.4 -0.3**
MTLF pmax pmax
comp=Z,11nm,0.7s,mb5.0
MTLF Montolieu 82.64 12 *eP* **P 18 50 15.4 -0.3**
comp=Z,11nm,0.7s,mb5.0
PBRG Braganca 82.66 19 *eP* **P 18 50 16.2 +0.4**
comp=Z,38nm,1.6s,mb5.2
ETSF Etsaut 82.68 15 *eP* **P 18 50 16.0 +0.1**
comp=Z,28nm,0.8s,mb5.0
ETSF Etsaut 82.68 15 *eP* **P 18 50 16.0 +0.1**
ETSF pmax pmax
comp=Z,14nm,0.8s,mb5.0
ETSF Etsaut 82.68 15 *eP* **P 18 50 16.0 +0.1**
comp=Z,14nm,0.8s,mb5.0
EPF Esparros 82.68 14 *eP* **P 18 50 15.0 -0.9**
comp=Z,18nm,1.0s,mb4.8
EPF Esparros 82.68 14 *eP* **P 18 50 15.0 -0.9**
EPF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
EPF Esparros 82.68 14 *eP* **P 18 50 15.0 -0.9**
comp=Z,8.9nm,1.0s,mb4.8
SEI Scarperia 82.80 6 P **P 18 50 18.2 +1.7**
comp=Z,176nm,0.6s
MLS Moulis 82.86 13 *eP* **P 18 50 16.3 -0.5**
RESF Ens 82.90 14 *eP* **P 18 50 17.5 +0.5**
VMG Vicchio 82.91 6 P **P 18 50 18.8 +1.7**
comp=Z,69nm,0.6s,mb5.9
PTO Porto 82.92 21 *eP* **P 18 50 17.0 -0.1**
comp=Z,46nm,1.5s,mb5.3
PVRL Vila Real 82.97 20 *eP* **P 18 50 17.6 +0.2**
comp=Z,57nm,1.8s,mb5.3
SFI Santa Sofia 82.98 5 P **P 18 50 18.5 +1.1**
SFI pmax pmax
comp=Z,189nm,2.0s,mb5.8
SFI Santa Sofia 82.98 5 P **P 18 50 18.5 +1.1**
comp=Z,189nm,2.0s,mb5.8
EBIE Bielsa 82.99 14 P **P 18 50 17.7 +0.2**
comp=Z,8.4nm,0.6s,mb5.0
BOLS Boljevac 83.24 358⇓ *iP* **P 18 50 18.0 -0.7**
KKR Kurukshetra 83.26 313 *eP* **P 18 50 18.6 -0.3**
BADI Badiali 83.39 5 P **P 18 50 21.2 +1.6**
comp=Z,668nm,6.3s
ARV Arcevia 83.44 5 P **P 18 50 21.6 +1.8**
comp=Z,116nm,1.8s,mb5.6
PVIS Viseu 83.47 20 *eP* **P 18 50 20.1 +0.1**
comp=Z,51nm,1.4s,mb5.4
EGRA Graus 83.50 14 P **P 18 50 20.2 +0.1**
comp=Z,15nm,0.6s,mb5.2
SNTG Esanatoglia 83.69 5 P **P 18 50 21.5 +0.4**
comp=Z,53nm,1.2s,mb5.5
ESAC San Caprasio 83.84 15 P **P 18 50 22.1 +0.2**
comp=Z,148nm,2.3s,mb5.7
MTE Manteigas 83.85 20 *eP* **P 18 50 22.1 +0.2**
comp=Z,42nm,1.0s,mb5.5
ROSC El Rosal 83.95 90 P **P 18 50 22.7 +0.3**
comp=Z,3.2nm,0.5s,mb4.8,baz=270,slow=20,SNR=4.0
PGF Pioggiola 84.13 8 *eP* **P 18 50 23.3 -0.1**
comp=Z,62nm,0.8s,mb5.5
PGF Pioggiola 84.13 8 *eP* **P 18 50 23.3 -0.1**
PGF pmax pmax
comp=Z,31nm,0.8s,mb5.5
PGF Pioggiola 84.13 8 *eP* **P 18 50 23.3 -0.1**
comp=Z,31nm,0.8s,mb5.5
BOK Bokaro 84.14 302 *eP* **P 18 50 24.1 +0.7**
BOK AMb AMB 18 50 26.4
comp=Z,34nm,1.4s,mb5.3
GUD Guadarrama 84.28 18 P **P 18 50 24.5 +0.4**
GUD pmax pmax
comp=Z,13nm,0.9s,mb5.1
GUD Guadarrama 84.28 18 P **P 18 50 24.5 +0.4**
comp=Z,13nm,0.9s,mb5.1
GNI Garni 84.38 341 P **P 18 50 26.1 +1.5**
comp=Z,3.6nm,0.4s,mb4.9,baz=71,slow=6.4,SNR=3.1
GNI Garni 84.38 341 *eP* **P 18 50 26.3 +1.7**
GNI pmax pmax
comp=Z,41nm,1.7s
GNI MLR MLR
comp=Z,900nm,21.0s
AYAN Aya Nagar 84.39 312 *eP* **P 18 50 24.8 +0.1**
AYAN AMb AMB 18 50 27.0
comp=Z,29nm,1.2s,mb5.3
CORF Corte 84.39 8 *eP* **P 18 50 25.2 +0.5**
PCBR Castelo Branco 84.40 20 *eP* **P 18 50 25.0 +0.3**
comp=Z,26nm,0.9s,mb5.3
EPOB Poblet 84.44 14 P **P 18 50 25.0 +0.1**
comp=Z,7.5nm,0.7s,mb4.9
VTS Vitosha 84.45 357 P **P 18 50 25.0 0.0**
ETOR Torete 84.47 16 P **P 18 50 26.1 +1.0**
ETOR pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
ETOR Torete 84.47 16 P **P 18 50 26.1 +1.0**
comp=Z,5.6nm,1.1s,mb4.6
AQU L'Aquila 84.61 4 *eP* **P 18 50 26.0 +0.2**
AQU pmax pmax
comp=Z,15nm,0.6s,mb5.3
AQU L'Aquila 84.61 4 *eP* **P 18 50 26.0 +0.3**
comp=Z,15nm,0.6s,mb5.3
SONA Sohna 84.61 311 *eP* **P 18 50 25.5 -0.3**
BOYT Boyabat 84.72 348 *i* P **P 18 50 27.1 +0.7**
GRSN GIRESUNGRSN 84.75 346 *i* P **P 18 50 26.1 -0.4**
KUDL Kundal 84.97 312 *eP* **P 18 50 27.2 -0.4**
KUDL AMb AMB 18 50 30.0
comp=Z,64nm,1.9s,mb5.4
AGRA Agra 85.09 310 *eP* **P 18 50 27.6 -0.6**
VVLD Villa Vallelon 85.10 4 P **P 18 50 29.0 +0.8**
comp=Z,585nm,5.1s
OTAV Otavalo 85.15 96 *eP* **P 18 50 26.9 -1.6**
comp=Z,7.8nm,0.7s,mb5.0
EMOS Mosqueruela 85.17 15 P **P 18 50 29.1 +0.5**
comp=Z,567nm,4.7s
ERZM Erzurum 85.25 343 *i* P **P 18 50 29.4 +0.4**
ESDC Sonseca Array 85.25 18 P **P 18 50 29.4 +0.4**
comp=Z,3.6nm,0.5s,mb4.8,baz=340,slow=4.4,SNR=37
ESDC Sonseca Array 85.25 18 P **P 18 50 29.0 0.0**
comp=Z,3.3nm,0.5s,mb4.7
SDI San Donato 85.27 4 P **P 18 50 28.8 -0.3**
SDI pmax pmax
comp=Z,23nm,0.8s,mb5.4
SDI San Donato 85.27 4 P **P 18 50 28.8 -0.3**
comp=Z,23nm,0.8s,mb5.4
CII Carovilli 85.27 4 P **P 18 50 30.1 +1.0**
comp=Z,136nm,1.8s,mb5.8
KHET Khetri 85.33 312 *eP* **P 18 50 29.0 -0.4**
KHET AMb AMB 18 50 32.5
comp=Z,38nm,1.2s,mb5.4
CTKT Corum 85.52 348 *i* P **P 18 50 31.9 +1.5**
EBAD Badajoz 85.54 20 P **P 18 50 31.7 +1.3**
comp=Z,357nm,5.4s
EVO Evora 85.54 21 *eP* **P 18 50 29.0 -1.5**
comp=Z,30nm,1.2s,mb5.1
ELDT Eldivan 85.81 349 *i* P **P 18 50 34.3 +2.5**
SGKT Sivrigoynuk 85.88 350 *i* P **P 18 50 32.3 +0.2**
KNT Kendrikon 85.88 357 *eP* **P 18 50 32.7 +0.6**
SRS Serrai 85.91 357 *eP* **P 18 50 32.4 +0.1**
ALN Alexandroupoli 86.02 355 *eP* **P 18 50 32.7 -0.1**
FNA Florina 86.29 358 *eP* **P 18 50 33.9 -0.3**
SGO Sicignano 86.47 3 P **P 18 50 34.6 -0.4**
SGO pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
SGO Sicignano 86.47 3 P **P 18 50 34.6 -0.4**
comp=Z,8.5nm,1.1s,mb4.9
ANTO Ankara 86.50 350 *eP* **P 18 50 35.5 +0.3**
ANTO pmax pmax
comp=Z,48nm,1.3s,mb5.6
ANTO Ankara 86.50 350 *eP* **P 18 50 35.5 +0.3**
comp=Z,48nm,1.3s,mb5.6
BR131 Keskin Array S 86.54 349 *eP* **P 18 50 35.7 +0.3**
comp=Z,4.2nm,0.6s,mb4.8
BRTR Keskin Array B 86.54 349 P **P 18 50 35.6 +0.2**
comp=Z,6.4nm,0.8s,mb4.9,baz=35,slow=2.1,SNR=42
EMIN Mina Concepcio 86.56 20 P **P 18 50 36.5 +1.0**
comp=Z,1µm,7.6s
EADA Adamuz 86.60 19 P **P 18 50 36.5 +0.8**
comp=Z,4.0nm,0.6s,mb4.8
LCI Lecce 86.75 1 P **P 18 50 36.8 +0.4**
LCI pmax pmax
comp=Z,18nm,0.6s,mb5.5
LCI Lecce 86.75 1 P **P 18 50 36.8 +0.4**
comp=Z,18nm,0.6s,mb5.5
LIT Litokhoron 86.95 358 *eP* **P 18 50 37.2 -0.2**
ESKT Eskisehir 87.04 351 *i* P **P 18 50 37.6 -0.2**
AJM Ajmer 87.23 312 *eP* **P 18 50 37.9 -0.8**
AJM AMb AMB 18 50 40.8
comp=Z,26nm,1.2s,mb5.3
MALT Malatya 87.29 345 *eP* **P 18 50 39.9 +0.9**
MALT pmax pmax
comp=Z,15nm,1.4s,mb5.0
MALT Malatya 87.29 345 *eP* **P 18 50 39.9 +0.8**
comp=Z,16nm,1.4s,mb5.0
BLSP Bilaspur 87.42 304 *eP* **P 18 50 39.4 -0.3**
BLSP AMb AMB 18 50 41.6
comp=Z,33nm,2.3s,mb5.2
IGT Igoumenitsa 87.56 359 *eP* **P 18 50 40.3 0.0**
XOR Xorichti 87.67 357 *eP* **P 18 50 40.1 -0.7**
TIP Timpagrande 87.89 2 *eP* **P 18 50 41.3 -0.6**
AGG Agios Georgios 88.03 358 *eP* **P 18 50 41.4 -1.2**
EMIJ Mijas 88.11 19 P **P 18 50 43.9 +1.0**
comp=Z,4.5nm,0.5s,mb5.0
EBER Berja 88.14 18 P **P 18 50 45.1 +2.0**

GZT	**Gaziantep**	88.36	346	*i* P		**P**	18 50 44.1	-0.1
BHPL	**Bhopal**	88.75	309	*e*P		**P**	18 50 46.0	+0.1
NGP	**Nagpur**	89.75	306	*e*P		**P**	18 50 49.1	-1.6
VIS	**Vishakhapatnam**	90.51	301	*e*P		**P**	18 50 53.2	-1.1
VIS				AMb	AMB		18 50 57.3	
	comp=Z,33nm,1.5s,mb5.4							
MDT	**Midelt**	91.77	20	P		**P**	18 50 59.4	-0.7
	comp=Z,2.5nm,0.7s,mb4.6,baz=341,slow=7.2,SNR=4.0							
BHJ	**Bhuj**	92.21	315	*e*P		**P**	18 51 02.0	-0.1
HYB	**Hyderabad**	93.17	305	*i* P		**P**	18 51 06.0	-0.6
HYB				*e*SKS			19 01 16.0	
HYB	**Hyderabad**	93.17	305	*e*P		**P**	18 51 06.0	-0.6
ASF	**Jabal al Asfar**	93.54	345	P		**P**	18 51 09.6	+1.3
	comp=Z,0.9nm,0.5s,mb4.5,baz=152,slow=4.0,SNR=4.2							
POO	**Poona**	94.48	309	*e*P		**P**	18 51 09.0	-3.6
ASAR	**Alice Springs**	95.17	237	P		**P**	18 51 13.8	-1.9
	comp=Z,0.9nm,0.6s,mb4.4,baz=24,slow=3.9,SNR=9.6							
ASAR				PKKP	PKKPbc		19 08 08.1	-1.4
	comp=Z,0.5nm,0.5s,baz=204,slow=2.2,SNR=9.9							
STKA	**Stephens Creek**	98.48	227	P		**P**	18 51 27.5	-3.2
	comp=Z,0.8nm,0.7s,mb4.3,baz=14,slow=17,SNR=2.1							
STKA	**Stephens Creek**	98.48	227	P		**P**	18 51 27.5	-3.2
TORD	**Torodi Ar. Bea**	112.13	19	PKiKP	PKiKP		18 56 26.1	-1.7
	comp=Z,0.2nm,0.5s,baz=341,slow=2.7,SNR=5.6							
TORD				PKKP	PKKPbc		19 07 34.2	+15
	comp=Z,1.1nm,0.8s,baz=156,slow=3.9,SNR=7.3							
KMBO	**Kilima Mbogo**	125.93	338	PKP	PKPdf		18 56 53.6	-0.7
	comp=Z,1.0nm,0.5s,baz=18,slow=20,SNR=5.4							
KMBO	**Kilima Mbogo**	125.93	338	⇑*i*PKIKP	PKPdf		18 56 55.0	+0.7
LSZ	**Lusaka**	141.44	346	PKhKP			18 57 17.5	
	comp=Z,1.6nm,0.5s,baz=30,slow=3.1,SNR=9.0							
QSPA	**South Pole Qui**	143.05	180	*e*P	PKPdf		18 57 26.4	+0.2
TSUM	**Tsumeb**	145.96	3	*e*PKP	PKPdf		18 57 30.5	-0.7
MATP	**Matopo**	146.45	344	PKPbc	PKPbc		18 57 32.5	-1.0
	comp=Z,4.0nm,0.5s,baz=353,slow=3.6,SNR=16							
LBTB	**Lobatse**	151.38	348	PKP	PKPdf		18 57 40.6	+0.6
	comp=Z,4.2nm,0.8s,baz=301,slow=5.9,SNR=3.1							
LBTB				PKPbc	PKPbc		18 57 45.4	-0.6
	comp=Z,3.0nm,0.5s,baz=312,slow=2.8,SNR=15							
LBTB	**Lobatse**	151.38	348	*e*PKPdf	PKPdf		18 57 39.3	-0.7
LBTB				*e*PKPbc	PKPbc		18 57 45.2	-0.9
BOSA	**Boshof**	154.97	348	PKPbc	PKPbc		18 57 53.7	-0.3
	comp=Z,3.3nm,0.9s,baz=357,slow=1.4,SNR=5.3							

*IDC **18** 18:49:18.7±0.8,2024S×17446W,h0km,mb4.2/6, mb1 4.3/7,mb1mx4.2/15,mbtmp4.2/7,ML4.4/1,Error ellipse: s-maj=32.0km s-min=21.2km az=129.0*
*ISCJB **18** 18:49:20.2±2.6,202S±0.1×1738W±0.1,h60km±33km, mb4.2/9,Error ellipse: s-maj=20.9km s-min=17.1km az=170.7*
*MOS **18** 18:49:21.9±1.3,2002S×17444W,h33km,mb4.7/4,Error ellipse: s-maj=25.8km s-min=18.0km az=50.5*
*NEIC **18** 18:49:25.7±0.5,2021S×17452W,h50km,mb4.6/6,Error ellipse: s-maj=17.0km s-min=13.3km az=121.0*

ISC 18 18:49:21.0±1.7,2029S±009×1739W±01,h37km±23km,n36, σ1§10/28,mb4.2/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	6.66	18	Pn	**Pn**	18 50 56.8	+0.6
	11nm,0.3s,baz=199,slow=16,SNR=21						
AFI				Sn	**Sn**	18 52 06.5	-4.4
	9.7nm,0.3s,baz=68,slow=19,SNR=3.8						
AFI				T		18 57 49.6	
	7.8nm,0.3s,baz=35,slow=21,SNR=5.6						
AFI	**Afiamalu**	6.66	18	*e*Pn	**Pn**	18 50 56.8	+0.5
AFI				*e*Sn	**Sn**	18 52 10.1	-0.8
RAR	**Rarotonga**	13.24	96	Pn	**Pn**	18 52 25.9	-0.5
	3.4nm,0.3s,baz=233,slow=12,SNR=10						
RAR				Sn	**Sn**	18 54 41.1	-11
	1.0nm,0.3s,baz=80,slow=17,SNR=2.7						
RAR				T		19 06 27.0	
	13nm,0.3s,baz=91,slow=16,SNR=6.8						
RAR	**Rarotonga**	13.24	96	Pn	**Pn**	18 52 25.9	-0.5
RAR				Sn	**Sn**	18 54 41.1	-11
DZM	**Mont Dzumac**	18.42	261	P	**Pn**	18 53 34.9	+1.5
	0.8nm,0.3s,baz=51,slow=17,SNR=5.8						
URZ	**Urewera**	19.53	202	P	**Pn**	18 53 46.7	0.0
	1.0nm,0.3s,baz=34,slow=15,SNR=4.9						
CTA	**Charters Tower**	37.34	263	*e*P	**P**	18 56 29.0	-0.8
	4.2nm,0.6s,mb4.5						
CTA	**Charters Tower**	37.34	263	P	**P**	18 56 29.6	-0.2
	3.5nm,0.5s,mb4.5,baz=106,slow=14,SNR=9.8						
CTA	**Charters Tower**	37.34	263	*e*P	**P**	18 56 29.0	-0.8
CTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CTAO	**Charters Tower**	37.34	263	*e*P	**P**	18 56 29.5	-0.3
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
CTAO	**Charters Tower**	37.34	263	*e*Pn	**P**	18 56 29.5	-0.3
	comp=Z,7.9nm,0.8s,mb4.6						
STKA	**Stephens Creek**	41.35	245	*e*P	**P**	18 57 02.3	-0.9
	comp=Z,5.4nm,1.5s,mb4.0						
STKA	**Stephens Creek**	41.35	245	P	**P**	18 57 02.1	-1.1
	comp=Z,3.8nm,0.9s,mb4.0,baz=84,slow=9.7,SNR=10						
AS31	**Alice Springs**	48.31	256	*e*P	**P**	18 57 58.1	-0.5
ASAR	**Alice Springs**	48.31	256	P	**P**	18 57 57.5	-1.1
	comp=Z,1.6nm,0.5s,mb4.3,baz=93,slow=7.7,SNR=34						
ASPA	**Alice Springs**	48.31	256	*e*P	**P**	18 57 58.1	-0.6
WRAB	**Tennant Creek**	48.43	261	*e*P	**P**	18 57 59.1	-0.5
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	48.43	261	*e*P	**P**	18 57 59.1	-0.5
	comp=Z,2.5nm,0.5s,mb4.5						
SBA	**Scott Base**	58.37	185	*e*P	**P**	18 59 17.8	+5.3
SBA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SBA	**Scott Base**	58.37	185	*e*P	**P**	18 59 17.8	+5.3
	comp=Z,4.1nm,0.9s,mb4.5						
VNDA	**Vanda**	58.49	186	P	**P**	18 59 16.5	+3.1
	comp=Z,1.1nm,1.0s,mb3.9,baz=350,slow=6.1,SNR=3.5						
QSPA	**South Pole Qui**	69.78	180	*e*P	**P**	19 00 30.5	+3.1
	comp=Z,7.7nm,0.9s,mb4.6						
MJAR	**Matsushiro Arr**	72.39	321	P	**P**	19 00 44.8	+1.6
	comp=Z,1.8nm,0.5s,mb4.2,baz=154,slow=5.9,SNR=12						
NVAR	**Mina Array Bea**	78.27	41	P	**P**	19 01 22.9	+5.9
	comp=Z,1.0nm,0.7s,mb3.9,baz=224,slow=8.8						
ARCES	**ARCESS Array B**	129.35	351	PKP	PKPdf		19 08 27.4	+2.0
	comp=Z,1.0nm,0.7s,baz=37,slow=0.5,SNR=9.5						
FINES	**FINESS Array B**	136.57	346	PKP	PKPdf		19 08 41.8	+2.7
	comp=Z,0.3nm,0.6s,baz=303,slow=3.9,SNR=3.9						
EKA	**Eskdalemuir Ar**	144.32	9	PKP	PKPdf		19 08 54.4	+1.3
	comp=Z,1.1nm,0.6s,baz=336,slow=2.4,SNR=6.9						
AKASG	**Malin Array Be**	144.59	334	PKP	PKPdf		19 08 54.0	+0.5
	comp=Z,4.4nm,0.5s,baz=38,slow=4.3,SNR=41						
CLL	**Collm**	148.57	352	*i* PKPbc	PKPbc		19 09 07.2	+3.3
CLL				*i* PKPab	PKPab		19 09 10.0	+2.6
	comp=Z,5.0nm,0.7s							
CLL				*i* (pPKPbc)			19 09 18.5	
DPC	**Dobruska-Polom**	148.93	347	*e*PKPbc	PKPbc		19 09 09.6	+4.8
BR131	**Keskin Array S**	149.47	315	*e*PKPbc	PKPbc		19 09 09.1	+2.9
BRTR	**Keskin Array B**	149.47	315	PKPbc	PKPbc		19 09 08.7	+2.5
	comp=Z,0.9nm,0.6s,baz=142,slow=4.2,SNR=8.2							
VYHS	**Vyhne**	150.05	343	*e*PKP	PKPbc		19 09 10.9	+3.3
KHC	**Kasperske Hory**	150.61	350	*e*PKPbc	PKPbc		19 09 12.0	+3.1
GERES	**GERESS Array B**	150.86	350	PKPbc	PKPbc		19 09 12.9	+3.4
	comp=Z,0.7nm,0.6s,baz=30,slow=2.4,SNR=11							
MMAI	**Mount Meron Ar**	151.01	302	PKPbc	PKPbc		19 09 13.6	+3.7
	comp=Z,1.9nm,0.6s,baz=56,slow=6.1,SNR=6.7							

*ISCJB **18** 18:49:40.5±0.3,44.10N±002×780E±002,h12km±2km, Error ellipse: s-maj=3.1km s-min=2.6km az=109.5*
*CSEM **18** 18:49:40.2±0.1,44.11N×783E,h5km,ML2.6/10,Error ellipse: s-maj=1.4km s-min=1.2km az=116.0*
*ROM **18** 18:49:40.0±0.2,44.12N×780E,h5km±4km,Md2.2/5,Error ellipse: s-maj=4.0km s-min=2.4km az=161.0*
*NEIC **18** 18:49:40.0,44.12N×780E,h5km,MD2.2(ROM), ML2.6(STR),ML2.7(LDG),After ROM.*
*GEN **18** 18:49:41.0,4409N×779E,h7km,ML2.0*
*LDG **18** 18:49:41.2±0.1,4406N×784E,h5km,Md2.4/2,Ml2.7/10, Error ellipse: s-maj=2.5km s-min=1.4km az=104.0*
*STR **18** 18:49:42.6±0.6,4409N×774E,h5km±1km,Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 18:49:40.8±0.3,4408N±002×783E±002,h13km±2km,n63, σ0§75/128,2C,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONE	**Monesi**	0.05	264	P	**Pg**	18 49 42.5	-0.8
RORO		0.17	81	P	**Pg**	18 49 45.6	+0.7
IMI	**Imperia**	0.18	165	⇑*i*Pg	**Pg**	18 49 45.2	+0.2
IMI				Sg	**Sg**	18 49 48.0	+0.1
ROB	**Roburent**	0.21	9	P	**Pg**	18 49 45.4	-0.1
SAOF	**Saorge**	0.22	243	Pg	**Pg**	18 49 45.2	-0.4
SAOF				Sg	**Sg**	18 49 48.2	-0.7
NEGI	**Negi**	0.25	200	P	**Pg**	18 49 46.4	+0.2
AUTN	**L'Aution**	0.30	253	Pg	**Pg**	18 49 46.9	-0.1
AUTN				Sg	**Sg**	18 49 50.4	-0.8
AUTN	**L'Aution**	0.30	253	Pg	**Pg**	18 49 46.9	-0.1
AUTN				Sg	**Sg**	18 49 50.4	-0.8
AUTN				Sg	**Sg**	18 49 51.0	-0.2
FIN	**Finale Ligure**	0.30	65	⇑*i*Pg	**Pg**	18 49 47.2	+0.1
FIN				Sg	**Sg**	18 49 51.8	+0.6
ENR	**Entracque**	0.33	296	P	**Pg**	18 49 47.0	-0.5
SBF	**Sospel**	0.36	232	*e*Pg	**Pg**	18 49 48.2	+0.1
SBF				*e*Sg	**Sg**	18 49 52.8	-0.1
	177nm,0.3s						
SBF	**Sospel**	0.36	232	*e*Pg	**Pg**	18 49 48.2	+0.1
SBF				*e*Sg	**Sg**	18 49 52.8	-0.1
	89nm,0.3s						
STV	**Sta Anna Valdi**	0.40	294	Pg	**Pg**	18 49 48.1	-0.6
STV				Sg	**Sg**	18 49 53.1	-0.9
LUCF	**Luceram**	0.40	241	Sg	**Sg**	18 49 54.3	+0.2
TOUF	**Mont Tournerai**	0.42	261	Sg	**Sg**	18 49 54.9	0.0
TOUF	**Mont Tournerai**	0.42	261	Pg	**Pg**	18 49 49.2	0.0
TOUF				Sg	**Sg**	18 49 54.9	0.0
QLNO	**Quiliano**	0.44	57	Pg	**Pg**	18 49 49.8	+0.2
QLNO				Sg	**Sg**	18 49 55.8	+0.2
REVF	**Revere**	0.48	224	Pg	**Pg**	18 49 51.3	+1.1
REVF				Sg	**Sg**	18 49 58.7	+2.1
MVIF	**Mont Vial**	0.52	249	Sg	**Sg**	18 49 58.0	0.0
MVIF	**Mont Vial**	0.52	249	Pg	**Pg**	18 49 51.2	+0.1
MVIF				Sg	**Sg**	18 49 58.0	0.0
DOI	**San Damiano**	0.59	315	Pg	**Pg**	18 49 52.6	+0.2
DOI				Sg	**Sg**	18 49 59.9	-0.3
PZZ	**Prazzo**	0.67	309	P	**Pg**	18 49 53.3	-0.5
PCP	**Pian Castagno**	0.69	48	P	**Pg**	18 49 54.1	-0.1
SURF	**Saint Ours**	0.83	299	Pg	**Pg**	18 49 56.2	-0.7
SURF				Sg	**Sg**	18 50 07.5	-0.2
MBDF	**Montbardon**	0.99	311	*e*Pg	**Pg**	18 49 59.0	-1.0
MBDF				*e*Sg	**Sg**	18 50 13.3	+0.4
	30nm,0.3s						
MBDF	**Montbardon**	0.99	311	*e*Pg	**Pg**	18 49 59.0	-1.0
MBDF				*e*Sg	**Sg**	18 50 13.3	+0.4
	15nm,0.3s						
FRF	**La Foret Royal**	1.00	239	*e*Pn	**Pn**	18 50 00.3	-0.2
	SNR=1.0						
FRF				*e*Sg	**Sg**	18 50 12.7	-0.5
	48nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	1.00	239	*e*Pg	**Pg**	18 49 59.9	-0.2
FRF				*e*Pn	**Pn**	18 50 00.3	-0.2
FRF				*e*Sg	**Sg**	18 50 12.7	-0.5
FRF	**La Foret Royal**	1.00	239	*e*Pn	**Pn**	18 50 00.3	-0.2
	SNR=1.0						
FRF				*e*Sg	**Sg**	18 50 12.7	-0.5
	24nm,0.2s,SNR=1.0						
FENE	**Fenestrelle**	1.09	330	P	**Pb**	18 50 00.7	-0.8
RRL	**Cesana Torines**	1.12	319	P	**Pb**	18 50 01.4	-0.6
RSP	**Reno Superiore**	1.14	339	P	**Pb**	18 50 01.3	-1.1
LMR	**La Mourre**	1.21	232	*e*Pg	**Pg**	18 50 03.9	-0.3
LMR				*e*Sg	**Sg**	18 50 19.1	-0.9
	38nm,0.2s						
LMR	**La Mourre**	1.21	232	*e*Pn	**Pn**	18 50 03.3	-0.1
LMR				*e*Pg	**Pg**	18 50 03.9	-0.3
LMR				*e*Sg	**Sg**	18 50 19.1	-0.9
LMR	**La Mourre**	1.21	232	*e*Pg	**Pg**	18 50 03.9	-0.3
LMR				*e*Sg	**Sg**	18 50 19.1	-0.9
	19nm,0.2s						
TAVF	**Tavernes**	1.36	251	Pn	**Pn**	18 50 06.8	+1.4
TAVF				Sg	**Sg**	18 50 26.0	+1.3
STOF	**St-Etienne Org**	1.39	267	Pn	**Pn**	18 50 09.2	+3.4
STOF				Sg	**Sg**	18 50 29.9	+4.4
VILF	**Villemus**	1.54	262	Pn	**Pn**	18 50 08.9	+1.0
VILF				Sg	**Sg**	18 50 32.3	+1.8
LPG	**La Plagne**	1.61	332	*e*Pn	**Pn**	18 50 09.5	+0.7
	SNR=1.0						
LPG	**La Plagne**	1.61	332	*e*Pg	**Pg**	18 50 11.5	-0.2
LPG				*e*Sn	**Sn**	18 50 29.6	+0.2
LPG				*e*Sg	**Sg**	18 50 33.5	+1.0
	4.3nm,0.3s,SNR=1.0						
LPG	**La Plagne**	1.61	332	*e*P	**Pn**	18 50 08.0	-0.8
LPG				*e*Pn	**Pn**	18 50 09.5	+0.7
LPG				*e*Pg	**Pg**	18 50 11.5	-0.2
LPG				*e*Sn	**Sn**	18 50 29.6	+0.2
LPG				*e*Sg	**Sg**	18 50 33.5	+1.0
LPG	**La Plagne**	1.61	332	*e*Pn	**Pn**	18 50 09.5	+0.7
	SNR=1.0						
LPG	**La Plagne**	1.61	332	*e*Pg	**Pg**	18 50 11.5	-0.2
LPG				*e*Sn	**Sn**	18 50 29.6	+0.2
LPG				*e*Sg	**Sg**	18 50 33.5	+1.0
	2.2nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	1.62	302	*e*Pg	**Pg**	18 50 12.1	+0.1
ORIF				*e*Sn	**Sn**	18 50 29.8	0.0
ORIF				*e*Sg	**Sg**	18 50 33.5	+0.4
	9.8nm,0.3s						
ORIF	**Oris-en-Rattie**	1.62	302	*e*Pn	**Pn**	18 50 09.9	+0.9
ORIF				*e*Pg	**Pg**	18 50 12.1	+0.1
ORIF				*e*Sn	**Sn**	18 50 29.8	0.0
ORIF				*e*Sg	**Sg**	18 50 33.5	+0.4
ORIF	**Oris-en-Rattie**	1.62	302	*e*Pg	**Pg**	18 50 12.1	+0.1
ORIF				*e*Sn	**Sn**	18 50 29.8	0.0
ORIF				*e*Sg	**Sg**	18 50 33.5	+0.4
	4.9nm,0.3s						
SMRF	**Simiane la Rot**	1.63	267	*e*Pg	**Pg**	18 50 11.7	-0.4
SMRF				*e*Sn	**Sn**	18 50 29.1	-0.8
SMRF				*e*Sg	**Sg**	18 50 33.1	-0.1
	50nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	1.63	267	*e*P	**Pn**	18 50 10.7	+1.6
SMRF				*e*Pg	**Pg**	18 50 11.7	-0.4
SMRF				*e*Sn	**Sn**	18 50 29.1	-0.8
SMRF				*e*Sg	**Sg**	18 50 33.1	-0.1
SMRF	**Simiane la Rot**	1.63	267	*e*Pg	**Pg**	18 50 11.7	-0.4
SMRF				*e*Sn	**Sn**	18 50 29.1	-0.8
SMRF				*e*Sg	**Sg**	18 50 33.1	-0.1
	25nm,0.4s,SNR=1.0						
LPL	**La Plagne**	1.63	332	*e*Pn	**Pn**	18 50 09.5	+0.4
	SNR=1.0						
LPL	**La Plagne**	1.63	332	*e*Pg	**Pg**	18 50 11.9	-0.2
LPL				*e*Sn	**Sn**	18 50 30.1	+0.2
LPL				*e*Sg	**Sg**	18 50 34.1	+0.8
	6.3nm,0.4s						
LPL	**La Plagne**	1.63	332	*e*P	**Pn**	18 50 07.8	-1.3
LPL				*e*Pn	**Pn**	18 50 09.5	+0.4
LPL				*e*Pg	**Pg**	18 50 11.9	-0.2
LPL				*e*Sn	**Sn**	18 50 30.1	+0.2
LPL				*e*Sg	**Sg**	18 50 34.1	+0.8
LPL	**La Plagne**	1.63	332	*e*Pn	**Pn**	18 50 09.5	+0.4
	SNR=1.0						
LPL	**La Plagne**	1.63	332	*e*Pg	**Pg**	18 50 11.9	-0.2
LPL				*e*Sn	**Sn**	18 50 30.1	+0.2
LPL				*e*Sg	**Sg**	18 50 34.1	+0.8
	3.2nm,0.4s						
PUYF	**Puyloubier**	1.64	251	Pn	**Pn**	18 50 10.2	+1.0
PUYF				Sg	**Sg**	18 50 33.1	-0.3
PGF	**Pioggiola**	1.76	150	*e*Pn	**Pn**	18 50 09.7	-1.2
PGF				*e*Sn	**Sn**	18 50 31.1	-2.0
	5.8nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	1.76	150	*e*Pn	**Pn**	18 50 09.7	-1.2
PGF				*e*Sn	**Sn**	18 50 31.1	-2.0
	2.9nm,0.3s,SNR=1.0						
GELF	**Grande-Etoile**	1.87	249	Pn	**Pn**	18 50 13.2	+0.7
VIVF	**Saint-Julien-l**	2.39	290	*e*Pg	**Pg**	18 50 25.9	-0.7
VIVF				*e*Sn	**Sn**	18 50 48.5	-0.1
	4.8nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	2.39	290	*e*Pn	**Pn**	18 50 19.7	+0.2
VIVF				*e*Pg	**Pg**	18 50 25.9	-0.7
VIVF				*e*Sn	**Sn**	18 50 48.5	-0.1
VIVF	**Saint-Julien-l**	2.39	290	*e*Pg	**Pg**	18 50 25.9	-0.7
VIVF				*e*Sn	**Sn**	18 50 48.5	-0.1
	2.4nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	2.86	271	*e*Sn	**Sn**	18 50 58.8	-1.5
	0.9nm,0.2s						
LASF	**Ste Croix**	2.86	271	*e*Sn	**Sn**	18 50 58.8	-1.5
	0.4nm,0.2s						

*ISCJB **18** 18:55:47.8±0.7,3849N±003×2054E±006,h10km,Error ellipse: s-maj=7.3km s-min=4.2km az=154.4*
*NEIC **18** 18:55:48.1,3850N×2056E,h9km,MD3.3(ATH),After ATH.*
*ATH **18** 18:55:48.0,3850N×2055E,h11km±3km,MD3.4/6*
*THE **18** 18:55:48.5,3849N×2053E,h10km*
*CSEM **18** 18:55:48.1,3850N×2056E,h9km,MD3.3/5,After ATH*

ISC 18 18:55:48.6±0.7,3850N±003×2057E±006,h10km,n15, σ1§30/20,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	0.22	17	*e*Pg	**Pg**	18 55 52.5	-0.7
LKD				*e*Sg	**Sg**	18 55 56.1	-0.2
VLS	**Valsamata**	0.32	177	*e*PB	**Pg**	18 55 54.6	-0.4
VLS				*e*SB	**Sg**	18 56 00.1	+0.8
RLS	**Riolos of Patr**	0.83	121	*e*PG	**Pg**	18 56 03.6	-1.1
RLS				*e*SB	**Sb**	18 56 15.7	-0.7
IGT	**Igoumenitsa**	1.05	350	*e*Pg	**Pg**	18 56 08.0	-0.9
IGT				*e*Sg	**Sg**	18 56 25.0	+2.5
EVR	**Evrytania**	1.06	66	*e*PB	**Pb**	18 56 08.2	-0.8
EVR	**Evrytania**	1.06	66	*e*Pg	**Pg**	18 56 07.7	-1.3
JAN	**Janina**	1.18	11	*e*PB	**Pb**	18 56 10.5	-0.6
JAN	**Janina**	1.18	11	*e*Pb	**Pb**	18 56 11.5	+0.4
KEK	**Kerkira**	1.35	334	*e*PG	**Pg**	18 56 13.1	-1.5
AGG	**Agios Georgios**	1.48	69	*e*Pg	**Pg**	18 56 15.0	-1.9
AGG				*e*Sg	**Sg**	18 56 38.1	+2.0
ITM	**Ithomi**	1.70	140	*e*PN	**Pn**	18 56 20.0	+1.7
ITM	**Ithomi**	1.70	140	*e*Pn	**Pn**	18 56 20.6	+2.3
XOR	**Xorichti**	2.22	66	*e*Pn	**Pn**	18 56 27.4	+1.9
FNA	**Florina**	2.37	15	*e*Pn	**Pn**	18 56 27.5	-0.1
GRG	**Griva**	2.84	29	*e*Pn	**Pn**	18 56 35.7	+1.8

IDC 18 18:58:17.7±3.1,373S×13158E,h0km,mb3.7/2,mb1 4.0/3, mb1mx3.7/12,mbtmp4.0/3,ML4.8/1,MS3.8/1,Ms1 3.8/1, ms1mx3.6/13,Error ellipse: s-maj=268.4km s-min=26.4km az=69.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	16.34	171	*e*P	Pn	19 02 15.4	+6.9
ASAR	**Alice Springs**	19.95	174	P	Pn	19 02 51.9	-1.0
	2.8nm,0.3s,baz=345,slow=11,SNR=261						
ASPA	**Alice Springs**	19.95	174	*e*P	Pn	19 02 51.9	-1.0
HNR	**Honiara**	28.73	103	LR	LR	19 16 13.6	
	comp=Z,188nm,18.2s,baz=356,slow=37						
STKA	**Stephens Creek**	29.54	163	P	P	19 04 23.9	0.0
	0.3nm,0.3s,baz=352,slow=7.1,SNR=3.5						
MKAR	**Makanchi Array**	66.40	325	P	P	19 09 08.7	+0.2
	0.4nm,0.4s,baz=115,slow=8.6,SNR=10						

*ISCJB **18** 19:06:23.6±0.5,3296N±010×396W±0.1,h10km,mb4.1/20, MS4.6/3,Error ellipse: s-maj=14.6km s-min=12.0km az=109.4*
*MOS **18** 19:06:23.9±1.5,3289N×3943W,h10km,mb4.4/4,Error ellipse: s-maj=28.8km s-min=12.3km az=62.6*
*IDC **18** 19:06:23.9±0.8,3304N×3957W,h0km,mb4.0/14, mb1 4.1/14,mb1mx3.9/28,mbtmp4.0/14,Error ellipse: s-maj=22.8km s-min=18.4km az=161.0*
*NEIC **18** 19:06:25.2±0.4,3298N×3957W,h10km,mb4.3/1,Error ellipse: s-maj=12.7km s-min=9.9km az=137.0*
*CSEM **18** 19:06:26.1±0.1,3301N×3966W,h33km,mb4.3/1,Error ellipse: s-maj=6.2km s-min=5.2km az=20.0*

ISC 18 19:06:25.5±0.5,3298N±010×396W±01,h10km,n33, σ0§88/33,mb4.1/20,MS4.6/3,3C,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	37.40	237	P	**P**	19 13 40.0	+1.4
	7.8nm,1.0s,mb4.5,baz=71,slow=13,SNR=3.4						
SDV	**Santo Domingo**	37.40	237	*e*P	**P**	19 13 39.7	+1.1
SDV	**Santo Domingo**	37.40	237	*e*P	**P**	19 13 39.7	+1.1
TOA0	**Torodi Ar. Sit**	42.43	108	*e*P	**P**	19 14 20.8	+0.4
TOA0	**Torodi Ar. Sit**	42.43	108	*e*P	**P**	19 14 20.8	+0.4
TORD	**Torodi Ar. Bea**	42.43	108	P	**P**	19 14 20.4	-0.1

AKASG	Malin Array Be	52.31	49	P	P	19 23 34.1	-1.2
	1.3nm,0.7s,mb4.0,baz=273,slow=6.9,SNR=11						
YKA	Yellowknife Ar	54.38	327	P	P	19 23 50.3	-0.2
	0.5nm,1.0s,mb3.4,baz=88,slow=6.9,SNR=3.1						
PDAR	Pinedale Array	54.54	302	P	P	19 23 51.5	-0.2
	2.7nm,1.0s,mb4.2,baz=90,slow=7.4,SNR=7.8						
LPAZ	La Paz	56.11	213	P	P	19 24 01.3	-1.6
	0.3nm,0.5s,mb3.6,baz=37,slow=5.1,SNR=3.3						
LPAZ	La Paz	56.11	213	*eP*	P	19 24 03.0	+0.1
LPAZ	La Paz	56.11	213	*eP*	P	19 24 03.0	0.0
BRTR	Keskin Array B	57.88	61	P	P	19 24 15.5	0.0
	0.6nm,0.7s,mb3.7,baz=319,slow=3.6,SNR=3.7						
INK	Inuvik	61.10	335	P	P	19 24 37.3	-0.4
	2.4nm,1.1s,mb4.2,baz=25,slow=5.1,SNR=3.0						
AKTK	Aktyubinsk	69.78	42	P	P	19 25 34.1	+0.2
AKTO	Aktyubinsk	69.78	42	P	P	19 25 34.1	+0.2
	1.6nm,0.9s,mb4.0,baz=294,slow=7.1,SNR=6.2						
BVAR	Borovoye Array	75.00	36	P	P	19 26 05.2	+0.2
	1.2nm,0.8s,mb3.9,baz=289,slow=4.5,SNR=7.1						
MKAR	Makanchi Array	84.88	36	P	P	19 26 58.4	-0.2
	0.4nm,0.7s,mb3.6,baz=264,slow=3.7,SNR=4.7						

MAN 18 19:19:58.7,1720N×12268E,h35km,mb2.7,ML4.2,MS7.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	Palanan	0.28	241	*eP*	Pn	19 20 07.3	+1.0
PALP				*eS*	Sn	19 20 12.3	+0.8
CAUP	Cauayan	0.86	253	*eP*	Pn	19 20 15.5	+1.3
APYP	Conner	1.52	296	*eP*	Pn	19 20 23.9	+0.5

*ISCJB **18** 19:30:02.0±0.6,3422N±004×13638E±004,h35km±8km, Error ellipse: s-maj=7.6km s-min=4.5km az=131.3*
*JMA **18** 19:30:02.1,3424N×13636E,h37km,M3.6 Broadband fault plane solution: P waves. NP1:φ≈122.00000°, δ51.00000°,λ156.00000°. NP2:φ≈227.00000°,δ72.00000°, λ42.00000°. Principal axes: T Plg42.0000°, Azm92.0000°; N Plg45.0000°, Azm247.0000°; P Plg13.0000°, Azm350.0000°;*
JMA Felt I J1.

ISC 18 19:30:02.1±0.5,3421N±004×13637E±004,h33km±3km, n11,σ0≈63/21,6C-3D,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	Miekihoku	0.09	290	⇑P	Pb	19 30 08.0	+0.3
JKN2				S	Sb	19 30 12.0	+0.4
JIE	Ise	0.33	57	⇓P	Pb	19 30 10.3	+0.1
JIE				S	Sb	19 30 15.8	+0.1
TSUJ	Tsu 2	0.50	4	⇓P	Pb	19 30 12.2	-0.5
TSUJ				S	Sb	19 30 19.4	-0.5
JWY	Kouya	0.65	271	⇑P	Pn	19 30 14.9	0.0
JWY				S	Sb	19 30 23.5	-0.3
JHE	Heguri	0.72	308	⇑P	Pn	19 30 15.2	-0.8
JHE				S	Sn	19 30 25.0	-0.9
JAA	Atsumi	0.77	56	⇑P	Pn	19 30 16.2	-0.4
JAA				S	Sn	19 30 26.4	-0.6
JWZ	Kozaga	0.87	219	⇓P	Pn	19 30 18.2	+0.2
JWZ				S	Sn	19 30 29.9	+0.3
JWM	Minabe	0.92	247	⇑P	Pn	19 30 18.4	-0.3
JWM				S	Sn	19 30 31.0	+0.3
TK01	Tokai 1	1.10	113	S	Sn	19 30 34.4	-1.0
JAJ2	Tsuna	1.25	280	⇑P	Pn	19 30 23.5	+0.3
JAJ2				S	Sn	19 30 39.2	+0.3
MAT	Matsushiro	2.77	32	P	Pn	19 30 45.6	+1.5
MAT				S	Sn	19 31 18.0	+1.6

GUC 18 19:47:09.4±0.4,3252S×6830W,h0km±6km,MD3.6,ML3.2, 2C-3D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	Farellones	1.86	244	*iP*	Pn	19 47 42.0	-0.5
FCH				*i*S	Sn	19 48 07.3	+0.6
FCH				AML	AML	19 48 08.1	
	comp=N,262nm,0.2s						
JACH	Jahuel	1.94	265	*eP*	Pn	19 47 43.9	+0.3
JACH				*i*S	Sn	19 48 10.6	+1.8
CLCH	Cerro Calan	2.08	244	⇓*iP*	Pn	19 47 46.0	+0.5
CLCH				*e*S	Sn	19 48 13.7	+1.7
CLCH				AML	AML	19 48 17.6	
	comp=N,311nm,0.5s						
PEL	Peldehue	2.10	252	⇑*iP*	Pn	19 47 46.3	+0.4
PEL				*i*S	Sn	19 48 14.3	+1.7
PEL				AML	AML	19 48 21.6	
	comp=E,193nm,0.5s						
PCH	Pirque	2.16	239	⇓*iP*	Pn	19 47 47.3	+0.7
PCH				*i*S	Sn	19 48 16.3	+2.2
ROCH	El Roble	2.33	258	*iP*	Pn	19 47 50.3	+1.4
ROCH				*i*S	Sn	19 48 21.4	+3.2
CHCH	Chadas Angostu	2.43	234	⇓*iP*	Pn	19 47 51.5	+1.2
CHCH				*i*S	Sn	19 48 23.8	+3.1
TACH	Talagante	2.49	242	*iP*	Pn	19 47 52.3	+1.1
CACH	El Canelo	2.50	230	*iP*	Pn	19 47 52.9	+1.5
CACH				*i*S	Sn	19 48 26.1	+3.6
CICH	Cipreses	2.53	224	⇑*iP*	Pn	19 47 53.0	+1.3
CICH				*i*S	Sn	19 48 26.0	+2.9

*ATH **18** 19:52:15.9,4016N×1968E,h9km±2km, MD3.4/4*
*NEIC **18** 19:52:15.9,4016N×1968E,h4km,MD3.3(ATH), ML2.6(ROM),After ATH.*
*ROM **18** 19:52:16.1±0.2,4010N×2001E,h10km,Md2.9/4,Ml2.6/3, Error ellipse: s-maj=2.9km s-min=2.0km az=90.0*
*SKO **18** 19:52:16.4,3995N×1987E,h1km*
*CSEM **18** 19:52:16.5±0.2,4016N×1970E,h1km±6km,MD2.9/4,Error ellipse: s-maj=5.3km s-min=1.7km az=16.0*
*ISCJB **18** 19:52:16.7±0.5,4012N±002×1980E±003,h1km±4km, Error ellipse: s-maj=4.0km s-min=3.4km az=34.4*
*THE **18** 19:52:16.6,4012N×1975E,h10km*

ISC 18 19:52:17.6±0.5,4011N±002×1980E±003,h5km±4km,n27, σ1≈17/44,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	Tepelena	0.24	41	*i*Pg	Pg	19 52 20.8	-1.6
TPE				*i*Sg	Sg	19 52 25.4	-0.2
SRN	Sarande	0.28	146	*i*Pg	Pg	19 52 22.1	-0.9
SRN				*i*Sg	Sg	19 52 26.9	+0.3
KEK	Kerkira	0.40	180	Pg	Pg	19 52 24.7	-0.6
KEK				Sg	Sg	19 52 31.7	+1.2
	316nm,0.3s						
KEK	Kerkira	0.40	180	*e*Pg	Pg	19 52 24.6	-0.7
KEK				*e*Sg	Sg	19 52 31.3	+0.8
LSK	Leskovik	0.61	86	*i*Pg	Pg	19 52 27.3	-2.1
LSK				*i*Sg	Sg	19 52 37.0	-0.4
IGT	Igoumenitsa	0.71	144	*e*Pg	Pg	19 52 30.3	-0.9
IGT				*e*Sg	Sg	19 52 41.8	+1.4
JAN	Janina	0.93	119	*e*PB	Pg	19 52 35.4	0.0
JAN				*e*SB	Sg	19 52 49.4	+2.0
SCTE	Santa Cesarea	1.02	268	Pg	Pg	19 52 37.6	+0.3
SCTE				Sg	Sg	19 52 53.7	+3.2
	144nm,0.7s						
MEV	Metsovon	1.15	106	*e*Pg	Pg	19 52 38.9	-0.7
MEV				*e*Sg	Sg	19 52 56.4	+1.9
TIR	Tirane	1.24	2	Pg	Pg	19 52 39.3	-2.1
	116nm,0.7s						
OHR	Ohrid	1.26	37	*e*Pn	Pn	19 52 41.8	-0.1
OHR				*e*Sg	Sg	19 52 58.9	+0.9
LCI	Lecce	1.31	280	Pn	Pn	19 52 42.5	-0.1
LCI				Sn	Sg	19 53 02.6	+2.8
	28nm,0.3s						
FNA	Florina	1.38	60	*e*Pg	Pg	19 52 42.4	-1.6
FNA				*e*Sg	Sg	19 53 03.2	+1.3
BIA	Bitola	1.47	51	*e*Pn	Pn	19 52 43.8	-1.0
BIA				*e*Sg	Sg	19 53 06.2	+1.1
LKD	Levkas	1.55	155	*e*Pg	Pg	19 52 45.5	-1.8
LKD				*e*Sg	Sg	19 53 07.4	0.0
EVR	Evrytania	1.96	127	*e*PN	Pb	19 52 52.8	-1.0
VLS	Valsamata	2.02	162	*e*PN	Pb	19 52 54.0	-0.9
VLS	Valsamata	2.02	162	*e*Pg	Pb	19 52 55.3	+0.4
LIT	Litokhoron	2.06	89	*e*Pn	Pn	19 52 52.5	-0.4
LIT				*e*Sn	Sn	19 53 20.9	+1.8
GRG	Griva	2.15	66	*e*Pn	Pn	19 52 54.6	+0.4
SKO	Skopje	2.24	33	*e*Pn	Pn	19 52 57.1	+1.8
SKO				*e*Sg	Sg	19 53 30.3	+0.8
AGG	Agios Georgios	2.24	118	*e*Pn	Pn	19 52 54.2	-1.1
AGG				*e*Sn	Sn	19 53 24.0	+0.7
STIP	Stip	2.40	48	*e*Pn	Pn	19 52 58.0	+0.3
VAY	Valandovo	2.43	59	*e*Pn	Pn	19 52 57.9	-0.1
TIP	Timpagrande	2.53	249	*e*P	Pn	19 52 58.5	-0.9
KNT	Kendrikon	2.58	65	*e*Pn	Pn	19 52 59.3	-0.8
PAIG	Paliouri	2.98	92	*e*Pn	Pn	19 53 05.2	-0.4

*SZGRF **18** 19:53:11.5,6008N×15042W,h33km,mb4.4,Kenai Peninsula, Alaska, United States*
*BJI **18** 19:53:21.0,6216N×15049W,h50km,mB5.1,mb4.9,Ms4.8, Msz4.5*
*MOS **18** 19:53:22.6±0.9,6215N×15044W,h55km,mb4.8/52,Error ellipse: s-maj=11.7km s-min=4.7km az=96.1*
*ISCJB **18** 19:53:23.6±0.3,6207N±002×15052W±005,h64km±2km, mb4.6/99,Error ellipse: s-maj=4.4km s-min=2.6km az=95.0*
*IDC **18** 19:53:25.8±0.6,6210N×15053W,h68km±4km,mb3.9/17, mb1 4.2/21,mb1mx4.2/23,mbtmp4.3/21,MS3.9/6, Ms1 3.9/6,ms1mx3.5/25,Error ellipse: s-maj=16.6km s-min=10.4km az=27.0*
*NEIC **18** 19:53:25.9,6193N×15043W,h61km,mb4.6/71, ML4.7(AEIC),ML4.9(PMR),After AEIC.*
NEIC Felt [III] at Anchorage, Chugiak, Eagle River, Palmer, Talkeetna, Wasilla and Willow. Felt at Cantwell, Elmendorf AFB and Trapper Creek.

ISC 18 19:53:24.7±0.3,6211N±002×15049W±005,h60km±3km, h65km±1.3km:pP-P,n401,σ0≈94/397,mb4.6/99,MS4.4/9, 63C-47D,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	Glory Hole Cre	0.81	114	P	Pn	19 53 40.1	-0.1
PMR	Palmer	0.83	128	P	Pn	19 53 39.2	-1.2
PMR				S	Sn	19 53 50.4	-1.6
FIB	Fire Island	0.96	171	P	Pn	19 53 41.4	-0.7
SML	Sawmill	1.06	106	P	Pn	19 53 43.0	-0.5
SML				S	Sn	19 53 57.2	-0.2
RC01	Rabbit Creek A	1.08	160	P	Pn	19 53 41.8	-2.0
RC01				S	Sn	19 53 54.9	-3.1
TRF	Thorofare Moun	1.35	4	P	Pn	19 53 50.6	+3.3
TRF				S	Sn	19 54 09.7	+5.4
KTH	Kantishna Hill	1.46	352	P	Pn	19 53 52.4	+3.5
KTH				S	Sn	19 54 12.2	+5.2
SLKM	Skilak Lake	1.61	175	P	Pn	19 53 48.6	-2.2
MCK	McKinley	1.78	23	P	Pn	19 53 56.3	+3.2
SEW	Seward	2.07	165	P	Pn	19 53 55.0	-2.1
SVW2	Sparrevohn	2.64	250	P	Pn	19 54 04.7	0.0
TTA	Tatalina	2.69	290	P	Pn	19 54 07.2	+1.7
EYAK	Cordova Ski Ar	2.77	122	P	Pn	19 54 04.4	-2.2
EYAK				S	Sn	19 54 36.9	-2.0
COLA	College	3.02	22	P	Pn	19 54 12.7	+2.7
COLA				S	Sn	19 54 47.3	+2.4
IL13	Eielson Array	3.08	29	P	Pn	19 54 13.3	+2.5
MENT	Mentasta	3.25	72	*e*P	Pn	19 54 14.0	+0.9
GCSA	Galena City Sc	3.91	315	P	Pn	19 54 25.1	+2.9
KDAK	Kodiak Island	4.47	195	P	Pn	19 54 27.2	-2.6
	6.6nm,0.3s,baz=19,slow=9.1,SNR=24						
KDAK				S	Sn	19 55 31.6	+11
	64nm,0.3s,baz=144,slow=19,SNR=6.2						
KDAK	Kodiak Island	4.47	195	P	Pn	19 54 27.3	-2.5
COLD	Coldfoot	5.14	1	P	Pn	19 54 42.3	+3.2
COLD				S	Sn	19 55 40.9	+3.8
DAWY	Dawson	5.41	64	P	Pn	19 54 43.8	+1.1
PNL	Peninsula	5.94	109	P	Pn	19 54 49.2	-0.8
WHY	Whitehorse	7.63	94	P	Pn	19 55 11.9	-1.3
SKAG	Skagway	7.88	103	P	Pn	19 55 16.0	-0.5
TNA	Tin City	8.44	302	P	Pn	19 55 27.1	+3.0
SDPT	Sand Point	8.53	222	P	Pn	19 55 25.1	-0.3
SIT	Sitka	9.20	117	P	Pn	19 55 31.8	-2.7
INK	Inuvik	9.43	41	P	Pn	19 55 39.3	+1.6
	2.8nm,0.3s,baz=230,slow=16,SNR=71						
INK				S	Sn	19 57 28.8	+6.6
	3.6nm,0.3s,baz=216,slow=16,SNR=3.7						
INK				LR	LR	19 59 39.9	
	comp=Z,561nm,18.1s,baz=104,slow=40						
INK	Inuvik	9.43	41	⇑*e*P	Pn	19 55 38.1	+0.4
INK				pmax	pmax		
	comp=Z,63nm,0.7s						
INK	Inuvik	9.43	41	⇑*e*P	Pn	19 55 38.1	+0.4
	comp=Z,63nm,0.7s						
GAMB	Gambell	9.80	289	*e*P	Pn	19 55 44.9	+2.2
DLBC	Dease Lake	10.79	101	P	Pn	19 55 55.7	-0.6
	comp=Z,2.4nm,0.3s,baz=314,slow=13,SNR=13						
DLBC				LR	LR	20 00 55.4	
	comp=Z,357nm,21.5s,baz=326,slow=42						
DLBC	Dease Lake	10.79	101	P	Pn	19 55 55.2	-1.1
CRAG	Craig	11.17	119	*e*P	Pn	19 55 59.3	-2.2
AKUT	Akutan	11.34	232	*e*Pn	Pn	19 56 03.5	-0.3
UNV	Unalaska Valle	11.83	233	*e*P	Pn	19 56 10.7	+0.1
	comp=Z,274nm,1.2s						
BBB	Bella Bella	15.60	119	P	Pn	19 57 00.5	-0.3
	comp=Z,0.6nm,0.3s,baz=268,slow=13,SNR=5.9						
BBB				LR	LR	20 01 56.5	
	comp=Z,482nm,19.5s,baz=222,slow=33						
YKW3	Yellowknife Ar	16.53	73	*e*P	Pn	19 57 11.5	-1.0
YKA	Yellowknife Ar	16.56	73	P	Pn	19 57 12.1	-0.8
	baz=283,slow=10,SNR=70						
YKA				LR	LR	20 03 50.8	
	comp=Z,302nm,21.5s,baz=330,slow=38						
BILL	Bilibino	18.81	307	P	Pn	19 57 45.0	+4.6
BILL				pmax	pmax		
	comp=Z,12nm,1.2s						
BILL	Bilibino	18.81	307	P	Pn	19 57 40.7	+0.3
	comp=Z,17nm,1.0s						
A04A	Legoe Bay, Lum	20.48	118	⇓P	P	19 57 57.7	+0.2
	baz=20,SNR=5.5						
A05A	Maple Falls	20.52	117	⇑P	P	19 57 58.3	+0.4
	baz=20						
B05A	Bryant	21.09	118	⇓P	P	19 58 04.3	+0.2
	baz=21,SNR=8.6						
EDM	Edmonton	21.48	97	*e*P	P	19 58 07.2	-1.0
HTW	Haystack Looko	21.59	118	P	P	19 58 11.9	+2.5
C05A	Tolt Reservoir	21.71	118	⇑P	P	19 58 10.6	0.0
	baz=22,SNR=8.3						
E03A	Lebam	21.87	123	⇑P	P	19 58 12.5	+0.1
	baz=22						
D05A	Enumclaw	21.98	120	⇓P	P	19 58 13.9	+0.3
	baz=22,SNR=11						
E04A	Onalaska	22.17	122	⇓P	P	19 58 15.7	+0.1
	baz=22						
F03A	Seaside	22.38	124	⇑P	P	19 58 18.1	+0.3
	baz=22						
WTV	Waterville	22.43	116	P	P	19 58 19.4	+1.1
WPW	White Pass	22.56	120	P	P	19 58 22.1	+2.4
E05A	Randle	22.59	120	⇑P	P	19 58 20.3	+0.4
	baz=22						
F04A	Amboy	22.83	122	⇓P	P	19 58 23.0	+0.4
	baz=23						
MTMW	Mount Mitchell	22.84	122	P	P	19 58 23.9	+1.3
RES	Resolute Bay	22.87	34	*e*P	P	19 58 22.3	-0.6
RES				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.6						
RES	Resolute Bay	22.87	34	*e*P	P	19 58 22.3	-0.6
	comp=Z,25nm,0.9s,mb4.6						
OD2	Odessa Site #2	23.20	115	P	P	19 58 26.2	-0.2
NEW	Newport	23.21	111	P	P	19 58 26.7	+0.2
	comp=Z,9.9nm,0.8s,mb4.3,baz=319,slow=7.6,SNR=15						
NEW				LR	LR	20 07 50.6	
	comp=Z,462nm,18.1s,MS4.0,baz=349,slow=37						
NEW	Newport	23.21	111	P	P	19 58 25.3	-1.2
NEW				pmax	pmax		
	comp=Z,29nm,1.3s						
NEW	Newport	23.21	111	P	P	19 58 25.3	-1.3
	comp=Z,29nm,1.3s,mb4.5						
MDW	Midway	23.37	117	P	P	19 58 27.9	0.0
GBB	Gable Butte	23.43	117	P	P	19 58 28.4	-0.1
GBL	Gable Mountain	23.50	117	P	P	19 58 29.1	-0.1
PRW	Prosser	23.72	118	P	P	19 58 31.7	+0.6
H04A	Detroit Lake	23.96	124	⇓P	P	19 58 32.9	-0.4
	baz=24						
WALA	Waterton Lakes	24.06	106	*e*P	P	19 58 33.3	-0.9
	comp=Z,33nm,1.1s,mb4.7						
I03A	Eugene	24.14	126	⇓P	P	19 58 34.3	-0.7
	baz=24						
H05A	Madras	24.36	122	⇑P	P	19 58 36.6	-0.4
	baz=24						
FRIS	Frissel Point	24.39	124	P	P	19 58 38.0	+0.8
J02A	Umpqua	24.54	127	⇑P	P	19 58 38.8	+0.2
	baz=24						
K01A	Sixes	24.69	129	⇑P	P	19 58 40.0	0.0
	baz=24						
I05A	Bend	24.76	123	⇑P	P	19 58 41.2	+0.6
	baz=25,SNR=7.4						
K02A	Glendale	25.09	128	⇑P	P	19 58 43.0	-0.6
	baz=25,SNR=5.7						
I06A	Prineville	25.36	122	⇓P	P	19 58 46.5	+0.4
	baz=25						
HUMO	Hull Mountain	25.43	127	*e*P	P	19 58 47.2	+0.5
	comp=Z,9.7nm,0.9s,mb4.3						
HUMO	Hull Mountain	25.43	127	⇑P	P	19 58 47.7	+1.0
	baz=25,SNR=5.1						
L02A	Cave Junction	25.58	129	⇑P	P	19 58 48.4	+0.4
	baz=25						
MSO	Missoula	25.71	110	*e*P	P	19 58 48.6	-0.6
	comp=Z,4.5nm,0.7s,mb4.1						
K04A	Chilquin	25.89	126	⇑P	P	19 58 51.7	+0.8
	baz=26						
FFC	Flin Flon	25.90	84	*e*P	P	19 58 51.7	+0.8
FFC				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.5						
FFC	Flin Flon	25.90	84	*e*P	P	19 58 51.7	+0.8
	comp=Z,15nm,1.0s,mb4.5						
CHMT	Chamberlain Mo	25.95	109	*e*P	P	19 58 50.8	-0.6
J06A	Christmas Vall	25.96	123	P	P	19 58 52.2	+0.7
	baz=26,SNR=11						
L04A	Klamath Falls	26.20	126	⇓P	P	19 58 54.4	+0.7
	baz=26						
YBH	Yreka Blue Hor	26.28	128	P	P	19 58 55.1	+0.8
	comp=Z,9.9nm,0.9s,mb4.3,baz=8.5,slow=2.9,SNR=11						
YBH	Yreka Blue Hor	26.28	128	*e*P	P	19 58 55.0	+0.6
YBH				pmax	pmax		
	comp=Z,14nm,1.0s						
YBH	Yreka Blue Hor	26.28	128	*e*P	P	19 58 55.0	+0.6
	comp=Z,14nm,1.0s,mb4.5						
YBH	Yreka Blue Hor	26.28	128	⇑P	P	19 58 55.3	+1.0
	baz=26,SNR=5.9						
K06A	Valley Falls	26.30	123	⇓P	P	19 58 55.5	+0.9
	baz=26,SNR=7.2						
M02C	Callahan	26.52	129	⇑P	P	19 58 57.9	+1.4
	baz=26						
M04C	Macdoel	26.56	127	⇓P	P	19 58 58.0	+1.1
	baz=26,SNR=5.9						
EGMT	Eagleton	26.70	103	*e*P	P	19 58 57.7	-0.5
	comp=Z,48nm,1.1s,mb4.9						
HRY	Holter Researc	26.74	107	*e*P	P	19 58 58.4	-0.1
K07A	Rock Creek Ran	26.79	122	⇓P	P	19 58 59.9	+0.9
	baz=27,SNR=12						
N02C	Big Bar	26.85	130	⇑P	P	19 59 00.4	+0.8
	baz=27						
M05C	Lookout	27.18	126	⇓P	P	19 59 03.0	+0.5
	baz=27						
WVOR	Wild Horse Val	27.25	121	*e*P	P	19 59 03.5	+0.4
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
WVOR	Wild Horse Val	27.25	121	*e*P	P	19 59 03.5	+0.3
	comp=Z,9.6nm,1.0s,mb4.3						
O01C	Eel River Cons	27.27	131	⇓P	P	19 59 04.4	+1.1
	baz=27						
WDC	Whiskeytown Da	27.34	129	*e*P	P	19 59 04.5	+0.6
WDC				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.7						
WDC	Whiskeytown Da	27.34	129	*e*P	P	19 59 04.5	+0.6
	comp=Z,36nm,1.5s,mb4.7						
WDC	Whiskeytown Da	27.34	129	⇑P	P	19 59 04.4	+0.5
	baz=27,SNR=5.7						
DLMT	Dillon	27.43	110	P	P	19 59 04.5	-0.2
	comp=Z,8.1nm,0.8s,mb4.3						
HATC	Hat Creek Radi	27.53	127	⇑P	P	19 59 06.1	+0.5
	baz=27						
M06C	Likely Place G	27.58	125	P	P	19 59 06.9	+0.9
	baz=27,SNR=9.8						
O02C	Red Bluff	27.60	130	⇓P	P	19 59 07.0	+0.7
	baz=27						
MA2	Magadan	27.89	292	*e*P	P	19 59 08.7	-0.1
MA2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
M07A	Soldier Meadow	27.92	123	⇓P	P	19 59 10.1	+1.0
	baz=28,SNR=7.3						
ELFS	Eagle Lake Fie	27.98	126	⇑P	P	19 59 10.2	+0.6
	baz=28						
L09A	Wilkinson Ranc	27.99	121	⇑P	P	19 59 10.4	+0.7
	baz=28						
P01C	Double 8 Ranch	28.04	131	⇑P	P	19 59 10.4	+0.2
	baz=28						
O03C	Acorn Hollow,	28.04	129	⇑P	P	19 59 10.7	+0.6
	baz=28						
PET	Petropavlovsk	28.04	275	*e*P	P	19 59 11.2	+1.0
PET				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
GASB	Alder Springs	28.10	130	⇑P	P	19 59 11.4	+0.7
	baz=28						
O04C	Chester	28.11	127	⇓P	P	19 59 11.6	+0.8
	baz=28,SNR=5.6						
M08A	Happy Creek Ra	28.18	122	⇑P	P	19 59 12.3	+0.8
	baz=28,SNR=5.3						
QLMT	Earthquake Lak	28.37	109	*e*P	P	19 59 13.6	+0.5
GCMT	Greycliff	28.41	106	*e*P	P	19 59 14.3	+0.8
O05C	Quincy	28.48	127	⇑P	P	19 59 14.8	+0.7
	baz=28						
N07B	Gerlach	28.52	124	⇓P	P	19 59 15.1	+0.6
	baz=28,SNR=9.2						
HOPS	Hopland	28.55	131	⇑P	P	19 59 15.1	+0.3
	baz=28						
M09A	Marrel Ranch,	28.58	121	⇓P	P	19 59 15.5	+0.5
	baz=28						
ORV	Oroville	28.62	129	⇑P	P	19 59 15.4	+0.1
	baz=28						
O06A	Flanigan	28.72	126	⇑P	P	19 59 16.4	+0.1
	baz=28,SNR=6.7						
SUTB	Sutter Buttes	28.80	129	⇑P	P	19 59 17.2	+0.3
	baz=29						
N08A	GE Springer Mi	28.85	123	⇑P	P	19 59 17.9	+0.5
	baz=29,SNR=7.9						
M10A	I.L. Ranch, Tu	28.87	120	⇑P	P	19 59 17.9	+0.4
	baz=29						
MNRC	McLaughlin Nat	28.88	131	⇑P	P	19 59 18.1	+0.5
	baz=29						
O07A	Toulon	29.09	124	⇓P	P	19 59 20.0	+0.5
	baz=29,SNR=12						
P06A	Stead Airport,	29.11	126	⇑P	P	19 59 19.9	+0.2
	baz=29						
P05C	Yuba Gap, Truc	29.18	128	⇓P	P	19 59 20.2	-0.1
	baz=29,SNR=7.7						
O08A	Rochester Mine	29.26	123	⇑P	P	19 59 21.6	+0.6
	baz=29						
LAO	LASA Array	29.31	101	*e*P	P	19 59 21.6	+0.1
	com

R07C Lee Vining 30.82 127 ⇑P P 19 59 34.9 0.0
baz=31
PDAR Pinedale Array 30.83 110 P P 19 59 35.3 +0.4
comp=Z,3.0nm,0.8s,mb4.2,baz=325,slow=7.4,SNR=23
PDAR PcP PcP 20 02 30.4 -0.3
comp=Z,2.6nm,0.8s,baz=151,slow=0.9,SNR=6.5
PDAR LR LR 20 11 42.1
comp=Z,409nm,18.2s,MS4.1,baz=350,slow=36
P11A Circle Ranch, 30.85 121 ⇑P P 19 59 35.0 -0.1
baz=31
MNV Mina 30.87 125 eP P 19 59 35.8 +0.6
MNV pmax pmax
comp=Z,20nm,1.2s,mb4.8
MNV Mina 30.87 125 eP P 19 59 35.8 +0.6
comp=Z,20nm,1.2s,mb4.8
HWUT Hardware Ranch 30.89 113 eP P 19 59 34.7 -0.6
comp=Z,3.4nm,0.9s,mb4.2
R08A Mina 30.95 125 ⇓P P 19 59 36.2 +0.2
baz=31,SNR=6.1
PACP Pacheco Peak 30.96 131 ⇑P P 19 59 36.3 +0.3
baz=31
S05C Merced 31.00 129 ⇓P P 19 59 36.3 -0.1
baz=31
P12A McGill 31.26 120 ⇑P P 19 59 39.1 +0.4
baz=31
T05C Eagle Field, D 31.28 130 ⇑P P 19 59 39.3 +0.5
baz=31
HAST Hastings Reser 31.42 132 ⇓P P 19 59 39.9 -0.1
baz=31
Q11A Duckwater 31.49 121 ⇓P P 19 59 41.5 +0.8
baz=31
DUG Dugway 31.52 116 eP P 19 59 40.7 -0.3
DUG pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
DUG Dugway 31.52 116 eP P 19 59 40.7 -0.3
comp=Z,5.7nm,0.8s,mb4.5
ULM Lac du Bonnet 31.63 86 P P 19 59 43.1 +1.2
comp=Z,3.6nm,1.0s,mb4.2,baz=296,slow=12,SNR=2.2
S08C White Mtn Res 31.67 126 ⇓P P 19 59 42.3 -0.1
baz=32,SNR=9.8
S09A Goldfield 31.85 124 ⇑P P 19 59 43.8 0.0
baz=32,SNR=13
PKD Parkfield 32.18 130 ⇓P P 19 59 46.7 -0.1
baz=32
RSSD Black Hills 32.26 102 eP P 19 59 48.0 +0.5
RSSD pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
RSSD Black Hills 32.26 102 eP P 19 59 48.0 +0.5
comp=Z,6.8nm,0.6s,mb4.7
V05C Boulder Hill, 32.47 130 ⇑P P 19 59 49.5 +0.2
baz=32
TPNV Topopah Spring 32.90 124 eP P 19 59 53.0 0.0
TPNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TPNV Topopah Spring 32.90 124 eP P 19 59 53.0 -0.1
comp=Z,6.0nm,0.9s,mb4.5
ISA Isabella 33.18 128 ⇑P P 19 59 55.5 -0.1
baz=33
MSU Marysvale 33.20 117 eP P 19 59 56.5 +0.8
SRU San Rafael 33.40 115 eP P 19 59 57.8 +0.4
SRU pmax pmax
comp=Z,16nm,0.9s,mb5.0
SRU San Rafael 33.40 115 eP P 19 59 57.8 +0.5
comp=Z,16nm,0.9s,mb5.0
SBC Santa Barbara 33.82 131 ⇑P P 20 00 00.9 -0.2
baz=34
OSI Osito Adit 34.02 129 ⇑P P 20 00 02.8 0.0
baz=34
GSC Goldstone 34.13 126 ⇑P P 20 00 04.1 +0.4
baz=34,SNR=12
TUQ Turquoise Mtn. 34.35 125 ⇑P P 20 00 05.3 -0.3
baz=34
W12A Cal Nev Ari 34.88 124 ⇓P P 20 00 10.2 0.0
baz=35
SNCC San Nicolas Is 34.97 131 ⇑P P 20 00 10.9 0.0
baz=35
YAK Yakutsk 35.17 306 eP P 20 00 12.2 -0.5
YAK pmax pmax
comp=Z,24nm,1.0s,mb5.1
YAK Yakutsk 35.17 306 eP P 20 00 12.2 -0.6
comp=Z,24nm,1.0s,mb5.1
W14A Seligman 35.66 121 ⇑P P 20 00 17.8 +0.9
baz=36,SNR=7.0
PFO Pinyon Flat Ob 35.76 127 eP P 20 00 17.9 +0.1
PFO pmax pmax
comp=Z,19nm,1.2s,mb4.9
PFO Pinyon Flat Ob 35.76 127 eP P 20 00 17.9 +0.1
comp=Z,19nm,1.2s,mb4.9
PFO Pinyon Flat Ob 35.76 127 ⇓P P 20 00 17.7 -0.1
baz=36,SNR=8.2
MVCO Mesa Verde 35.86 114 eP P 20 00 18.4 -0.2
X13A Yucca 35.91 123 ⇓P P 20 00 19.4 +0.3
baz=36
W15A Williams 36.02 120 ⇑P P 20 00 20.9 +0.9
baz=36
109C Camp Elliot, M 36.16 128 ⇓P P 20 00 21.5 +0.3
baz=36
Y12C Blythe 36.38 124 ⇓P P 20 00 23.3 +0.3
baz=36,SNR=7.6
X14A Yava 36.39 122 ⇑P P 20 00 24.0 +0.8
baz=36,SNR=11
Y13A Salome 36.59 124 ⇓P P 20 00 24.9 0.0
baz=36,SNR=7.1
X15A Humboldt 36.63 121 ⇓P P 20 00 25.5 +0.3
baz=36
Y14A Wickenburg 36.80 122 ⇓P P 20 00 27.3 +0.6
baz=37,SNR=6.1
GLA Glamis 36.88 125 ⇓P P 20 00 27.5 +0.2
baz=37,SNR=9.8
Z14A Wintersburg 37.33 123 ⇑P P 20 00 31.6 +0.5
baz=37,SNR=5.6
SUMG Summit 37.97 27 eP P 20 00 37.7 +1.2
comp=Z,9.8nm,0.6s,mb4.7
DAG Danmarks Havn 38.13 16⇑iP P 20 00 38.2 +0.3
comp=Z,4.0nm,0.6s,mb4.3
DAG Danmarks Havn 38.13 16⇑iP P 20 00 38.2 +0.3
DAG pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
115A Sonoran Desert 38.20 122 ⇑P P 20 00 38.7 +0.3
baz=38
116A Eloy 38.53 122 ⇓P P 20 00 41.5 +0.2
baz=38
ANMO Albuquerque 38.64 114 P P 20 00 42.4 +0.2
comp=Z,2.1nm,0.9s,mb3.9,baz=326,slow=9.4,SNR=8.8
ANMO PcP PcP 20 02 54.1 +0.8
comp=Z,3.7nm,0.9s,baz=291,slow=2.5,SNR=4.6
ANMO Albuquerque 38.64 114 P P 20 00 42.4 +0.2
ANMO PcP PcP 20 02 54.1 +0.8
LAZ Ladron 38.82 115 eP P 20 00 44.3 +0.6
TUC Tucson 39.12 121 eP P 20 00 46.9 +0.7
TUC pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
TUC Tucson 39.12 121 eP P 20 00 46.9 +0.7
comp=Z,7.3nm,1.3s,mb4.2
BNM Barren Site 39.26 115 eP P 20 00 48.0 +0.7
SCHQ Schefferville 41.42 60 P P 20 01 05.0 -0.2
comp=Z,1.9nm,0.6s,mb3.9,baz=320,slow=10,SNR=6.3
KLR Kul'dur 42.96 290 eP P 20 01 12.7 -5.1
MIAR Mount Ida 44.76 101 eP P 20 01 31.4 -0.8
MIAR pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
MIAR Mount Ida 44.76 101 eP P 20 01 31.4 -0.8
comp=Z,9.9nm,1.0s,mb4.6
JCT Junction City 45.36 110 eP P 20 01 36.9 0.0
JCT pmax pmax
comp=Z,39nm,1.1s,mb5.2
JCT Junction City 45.36 110 eP P 20 01 36.9 0.0
comp=Z,39nm,1.1s,mb5.2
FRNY Flat Rock 45.90 75 eP P 20 01 39.2 -1.9
WVT Waverly 46.14 94 eP P 20 01 42.5 -0.6
WVT pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
WVT Waverly 46.14 94 eP P 20 01 42.5 -0.6
comp=Z,4.6nm,0.8s,mb4.5
PLAL Pickwick Lake 46.96 95 eP P 20 01 48.2 -1.3
comp=Z,11nm,1.0s,mb4.7
SSPA Standing Stone 47.19 82 P P 20 01 50.2 -1.1
comp=Z,11nm,1.4s,mb4.6
HIA Hailar 48.08 298 eP P 20 01 57.1 -1.1
KEV Kevo 48.41 1 ep P 20 02 00.2 -0.5
ELN Prospectdale 48.57 87 eP P 20 02 01.4 -0.6
ARCES ARCESS Array B 48.61 2 P P 20 02 02.4 +0.1
comp=Z,2.0nm,0.7s,mb4.3,baz=353,slow=7.5,SNR=10
ARCES PcP PcP 20 03 26.2 -0.9
comp=Z,2.8nm,0.5s,baz=0.0,slow=2.5,SNR=8.4
ARCES ARCESS Array B 48.61 2 P P 20 02 02.4 +0.1
ARCES PcP PcP 20 03 26.2 -0.9

LRAL Lakeview Retre 49.07 96 eP P 20 02 05.0 -0.8
comp=Z,4.1nm,0.9s,mb4.5
MJAR Matsushiro Arr 49.87 274 P P 20 02 11.5 -0.3
comp=Z,1.5nm,0.7s,mb4.2,baz=355,slow=9.7,SNR=9.7
MJAR pP pP 20 02 29.0 +1.6
comp=Z,4.8nm,1.0s,baz=10,slow=6.4,SNR=8.6
MJAR PcP PcP 20 03 31.0 -0.6
comp=Z,4.2nm,0.8s,baz=28,slow=2.7,SNR=11
MAT Matsushiro 49.87 274 P P 20 02 12.2 +0.3
MAT Matsushiro 49.87 274 eP P 20 02 12.0 +0.1
CN2 Changchun 49.92 290 eP P 20 02 11.5 -0.7
CN2 eS S 20 09 15.3 -2.8
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
JSC Jenkinsville 50.73 90 eP P 20 02 17.8 -0.6
KRAR Krasnoyarsk 52.28 321 eP P 20 02 27.9 -2.1
KRAR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ZAK Zakamensk 53.57 310 eP P 20 02 38.6 -0.9
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KS15 Wonju Array Si 53.93 283 eP P 20 02 42.1 0.0
ULN Ulaanbaatar 54.26 306 eP P 20 02 44.8 +0.3
ULN pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ULN Ulaanbaatar 54.26 306 eP P 20 02 44.8 +0.3
comp=Z,8.6nm,0.6s,mb4.9
SONM Songino Array 54.53 306 P P 20 02 47.5 +1.0
comp=Z,12nm,0.8s,mb5.0,baz=34,slow=7.4,SNR=115
SONM pP pP 20 03 04.8 +2.5
comp=Z,11nm,0.9s,baz=35,slow=7.1,SNR=9.1
JOF Joensuu 55.28 359 ep P 20 02 51.2 -0.7
NVS Novosibirsk 56.02 326 eP P 20 03 03.0 +5.8
NVS pmax pmax
comp=E,18nm,1.3s
NVS pmax pmax
comp=Z,27nm,1.3s,mb5.1
NVS pmax pmax
comp=N,15nm,1.4s
KAF Kangasniemi 56.08 2 ep P 20 02 57.2 -0.4
NB2 NORSAR Subarra 56.38 11 P P 20 02 58.6 -1.2
comp=Z,2.6nm,0.8s,mb4.3,baz=349,slow=7.4
NB2 NORSAR Subarra 56.38 11 P P 20 02 58.6 -1.2
NB2 pmax pmax
comp=Z,30nm,0.8s,mb5.4
NOA NORSAR Array B 56.38 11 P P 20 02 58.8 -1.0
comp=Z,1.5nm,0.7s,mb4.1,baz=350,slow=7.2,SNR=8.7
ZAL Zalesovo 56.40 324 P P 20 03 00.1 +0.2
comp=Z,2.0nm,0.5s,mb4.4,baz=89,slow=8.0,SNR=10
ZAL pP pP 20 03 16.6 +0.8
comp=Z,7.4nm,0.8s,baz=75,slow=8.3,SNR=17
FINES FINESS Array B 56.74 2 P P 20 03 01.1 -1.2
comp=Z,1.5nm,0.7s,mb4.1,baz=1.6,slow=7.6,SNR=12
FINES pP pP 20 03 19.2 +1.0
comp=Z,2.7nm,0.6s,baz=356,slow=8.2,SNR=6.4
KLMR Klimovskoe 57.12 354 eP P 20 03 04.0 -1.0
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
HHC Hu-ho-hao-te 58.29 298 eP P 20 03 15.3 +2.1
HHC AP pP 20 03 31.1 +2.0
HHC PCP PcP 20 04 05.6 +1.8
HHC PP PP 20 05 26.5 +3.8
HHC PCS PcS 20 08 05.3 0.0
HHC S S 20 11 10.8 -0.1
HHC XS sS 20 11 37.6 -0.2
HHC SS SS 20 15 04.4 +0.9
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,410nm,10.3s
HHC LR LR
comp=N,280nm,15.5s,MS4.6
HHC LR LR
comp=E,230nm,15.5s,MS4.6
HHC LR LR
comp=Z,220nm,16.7s,MS4.3
ARU Arti 59.64 342⇓iP P 20 03 22.2 -0.3
ARU i pP 20 03 38.1 -0.4
ARU e 20 04 07.5
ARU e 20 05 33.5
ARU ePPP 20 07 00.4
ARU eS S 20 11 29.8 +1.3
ARU eSS SS 20 15 24.8 0.0
ARU pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ARU Arti 59.64 342 eP P 20 03 21.9 -0.7
comp=Z,12nm,0.6s,mb5.1
ARU e pP 20 03 38.2 -0.3
CHKZ Chkalovo 60.10 333 eP P 20 03 24.6 -1.1
CHKZ e pP 20 03 40.5 -1.2
CHKZ pmax pmax
comp=Z,20nm,1.1s,mb5.1
CHKZ Chkalovo 60.10 333 eP P 20 03 24.6 -1.1
comp=Z,20nm,1.1s,mb5.0
CHKZ e pP 20 03 40.5 -1.1
BRVK Borovoye 60.75 333 eP P 20 03 29.1 -1.0
BRVK e pP 20 03 45.0 -1.1
BRVK pmax pmax
comp=Z,19nm,1.1s,mb5.1
BRVK Borovoye 60.75 333 eP P 20 03 29.1 -1.0
comp=Z,19nm,1.1s,mb5.1
BRVK e pP 20 03 45.0 -1.1
BVA0 Borovoye Array 60.76 333 iP P 20 03 29.2 -1.0
BVA0 pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
KURK Kurchatov 60.95 327 eP P 20 03 30.3 -1.2
KURK e pP 20 03 48.3 +0.8
KURK pmax pmax
comp=Z,21nm,1.0s,mb5.2
KURK Kurchatov 60.95 327 eP P 20 03 30.3 -1.2
comp=Z,21nm,1.0s,mb5.2
KURK e pP 20 03 48.3 +0.7
ZRNK Zerenda 61.12 334 eP P 20 03 31.4 -1.2
ZRNK e pP 20 03 47.7 -0.9
ZRNK pmax pmax
comp=Z,31nm,1.2s,mb5.3
ZRNK Zerenda 61.12 334 eP P 20 03 31.4 -1.2
comp=Z,31nm,1.2s,mb5.3
ZRNK e pP 20 03 47.7 -0.9
SSE Sheshan 62.27 284 P P 20 03 41.4 +1.0
SSE AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
SSE AMB AMB
comp=Z,70nm,10.4s
NJ2 Nanjing 62.52 287 eP P 20 03 41.4 -0.6
NJ2 AP pP 20 03 55.3 -2.8
NJ2 XP sP 20 04 04.5 -0.3
NJ2 PCP PcP 20 04 18.9 -1.8
NJ2 S S 20 12 05.0 0.0
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.4
NJ2 AMB AMB
comp=Z,170nm,10.0s
NJ2 LR LR
comp=N,500nm,20.1s,MS4.9
NJ2 LR LR
comp=E,590nm,18.3s,MS4.9
NJ2 LR LR
comp=Z,210nm,16.0s,MS4.4
OBN Obninsk 62.99 355 P P 20 03 45.0 -0.2
OBN e*PP pP 20 04 01.7 +0.5
OBN e*SP sP 20 04 10.6 +2.6
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
OBN Obninsk 62.99 355 P P 20 03 45.1 -0.1
comp=Z,12nm,0.6s,mb5.2
OBN epP pP 20 04 01.8 +0.5
MKAR Makanchi Array 63.53 322 P P 20 03 47.1 -1.7
comp=Z,1.0nm,0.3s,mb4.3,baz=37,slow=6.6,SNR=18
MKAR pP pP 20 04 05.5 +0.6
comp=Z,17nm,0.8s,baz=40,slow=6.3,SNR=39
MKAR Makanchi Array 63.53 322 P P 20 03 47.1 -1.7
MKAR pP pP 20 04 05.5 +0.6
GTA Gaotai 64.20 306 eP P 20 03 53.6 +0.5
GTA AP pP 20 04 10.5 +1.2
GTA XP sP 20 04 17.3 +1.3
GTA PP PP 20 06 17.1 +2.3
GTA PPP 20 07 49.9
GTA SCP 20 08 24.5
GTA PCS 20 08 30.6
GTA S S 20 12 27.1 +1.1
GTA XS sS 20 12 54.4 +1.2
GTA SCS ScS 20 13 38.3 -3.6

GTA AMB AMB
comp=Z,370nm,8.4s
GTA LR LR
comp=N,190nm,17.9s,MS4.5
GTA LR LR
comp=E,170nm,16.0s,MS4.5
GTA LR LR
comp=Z,330nm,15.6s,MS4.6
WMQ Urumqi 64.57 317 eP P 20 03 57.8 +2.3
LZH Lanzhou 65.50 301 eP P 20 04 02.0 +0.4
LZH AP pP 20 04 18.5 +0.7
LZH XP sP 20 04 25.4 +0.9
LZH PP PP 20 06 28.3 +2.0
LZH AMB AMB
comp=Z,20nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,50nm,7.4s
LZH LR LR
comp=N,370nm,15.8s
LZH LR LR
comp=Z,490nm,18.2s,MS4.8
AKTO Aktyubinsk 65.53 340 P P 20 04 00.7 -1.1
CLL Collm 66.17 11 eP P 20 04 06.0 +0.1
AB31 Akbulak array 66.36 339 iP P 20 04 06.3 -0.8
AB31 pmax pmax
comp=Z,20nm,0.6s,mb5.3
BAIF Baives 66.38 18 eP P 20 04 06.5 -0.7
BRG Berggiesshubel 66.69 11 eP P 20 04 10.0 +0.8
comp=Z,1.9nm,1.0s,mb4.1
BRG Berggiesshubel 66.69 11 eP P 20 04 10.0 +0.8
BRG pmax pmax
comp=Z,20nm,1.0s,mb5.1
MOX Moxa 66.70 12 eP P 20 04 10.1 +0.8
ROSF Rostrenen 66.83 23 eP P 20 04 09.0 -1.1
comp=Z,8.0nm,0.8s,mb4.5
ROSF Rostrenen 66.83 23 eP P 20 04 09.0 -1.1
ROSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ROSF Rostrenen 66.83 23 eP P 20 04 09.0 -1.1
comp=Z,4.0nm,0.8s,mb4.5
SGMF Saint Gilles 67.04 23 eP P 20 04 10.5 -0.9
comp=Z,25nm,1.2s,mb4.8
SGMF Saint Gilles 67.04 23 eP P 20 04 10.5 -0.9
SGMF pmax pmax
comp=Z,12nm,1.2s,mb4.8
SGMF Saint Gilles 67.04 23 eP P 20 04 10.5 -0.9
comp=Z,12nm,1.2s,mb4.8
LDF La Druitiere 67.13 21 eP P 20 04 11.3 -0.7
comp=Z,31nm,1.4s,mb4.8
LDF La Druitiere 67.13 21 eP P 20 04 11.3 -0.7
LDF pmax pmax
comp=Z,15nm,1.4s,mb4.8
LDF La Druitiere 67.13 21 eP P 20 04 11.3 -0.7
comp=Z,15nm,1.4s,mb4.8
GRR Gorron 67.21 21 eP P 20 04 11.4 -1.1
QUIF Quistinic 67.25 23 eP P 20 04 11.9 -0.9
AKASG Malin Array Be 67.54 0 P P 20 04 13.8 -0.8
comp=Z,1.4nm,0.4s,mb4.4,baz=0.1,slow=6.4,SNR=22
AKASG Malin Array Be 67.54 0 P P 20 04 13.8 -0.8
GRA1 Grafenberg Arr 67.60 13 eP P 20 04 15.5 +0.5
comp=Z,4.0nm,1.1s,mb4.4
GRF Grafenberg Arr 67.60 13 eP P 20 04 15.5 +0.5
comp=Z,4.0nm,1.1s,mb4.4
GRF Grafenberg Arr 67.60 13 eP P 20 04 15.5 +0.5
GRF pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
GRF Grafenberg Arr 67.60 13 eP P 20 04 15.5 +0.5
GRF pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
PRU Pruhonice 67.62 10 eP P 20 04 11.0 -4.1
PRU ex x 20 04 39.8
MORC Moravsky Berou 68.06 8 P P 20 04 17.0 -0.9
MORC e*PP pP 20 04 34.7 +0.6
MORC pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
MORC Moravsky Berou 68.06 8 P P 20 04 17.0 -0.9
comp=Z,3.5nm,1.0s,mb4.3
MORC epP pP 20 04 34.7 +0.5
KHC Kasperske Hory 68.38 11 eP P 20 04 20.5 +0.6
KHC ex x 20 04 28.0
CDF Champ du Feu 68.40 16 eP P 20 04 19.2 -0.8
STHS Stebnicka Huta 68.63 6 eP P 20 04 22.7 +1.3
STHS e pP 20 04 41.0 +3.3
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
STHS Stebnicka Huta 68.63 6 eP P 20 04 22.7 +1.3
comp=Z,3.3nm,0.7s,mb4.4
STHS e pP 20 04 41.0 +3.3
GERES GERESS Array B 68.68 11 P P 20 04 22.5 +0.8
comp=Z,0.4nm,0.4s,mb3.7,baz=333,slow=4.7,SNR=7.2
USP Ospenovka 68.92 326 P pP 20 04 41.3 +1.8
SNR=9.2
TKM2 Tokmak 2 68.95 325 P pP 20 04 41.9 +2.2
SNR=11
LOR Lormes 69.05 18 eP P 20 04 23.0 -1.1
comp=Z,2.7nm,0.5s,mb4.2
LOR Lormes 69.05 18 eP P 20 04 23.0 -1.1
LOR pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
LOR Lormes 69.05 18 eP P 20 04 23.0 -1.1
comp=Z,1.4nm,0.4s,mb4.2
MFF Saint Martin d 69.06 21 eP P 20 04 22.9 -1.2
CHMS Chumysh 69.10 326 P pP 20 04 42.8 +2.1
SNR=10
KOLS Kolonicke sedl 69.16 5 e P 20 04 30.9 +6.2
SSF Saint Saulge 69.20 19 eP P 20 04 24.0 -1.0
comp=Z,14nm,1.0s,mb4.5
SSF Saint Saulge 69.20 19 eP P 20 04 24.0 -1.0
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SSF Saint Saulge 69.20 19 eP P 20 04 24.0 -1.0
comp=Z,7.0nm,1.0s,mb4.5
KBK Karagaybulak 69.37 326 P pP 20 04 44.6 +2.3
SNR=12
ULHL Ulahol 69.40 325 P pP 20 04 44.5 +2.0
SNR=11
VYHS Vyhne 69.42 8 eP P 20 04 26.5 +0.2
AVF Avril sur Loir 69.44 19 eP P 20 04 25.3 -1.2
comp=Z,4.2nm,0.6s,mb4.2
AVF Avril sur Loir 69.44 19 eP P 20 04 25.3 -1.2
AVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
AVF Avril sur Loir 69.44 19 eP P 20 04 25.3 -1.2
comp=Z,2.1nm,0.6s,mb4.2
AAK Ala-Archa 69.51 326 P pP 20 04 45.3 +2.1
SNR=8.1
AAK Ala-Archa 69.51 326⇑eP P 20 04 26.1 -0.8
AAK e*PP pP 20 04 43.6 +0.4
AAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
AAK Ala-Archa 69.51 326 eP P 20 04 26.0 -0.8
comp=Z,4.7nm,1.1s,mb4.3
AAK e pP 20 04 43.9 +0.7
KECS Kecovo 69.52 6 eP P 20 04 27.8 +0.8
KECS e pP 20 04 45.3 +2.0
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 69.52 6 eP P 20 04 27.8 +0.8
comp=Z,2.5nm,1.0s,mb4.1
KECS e pP 20 04 45.3 +2.0
BGF Bois d'Agland 69.59 19 eP P 20 04 26.5 -0.9
comp=Z,6.6nm,0.8s,mb4.3
BGF Bois d'Agland 69.59 19 eP P 20 04 26.5 -0.9
BGF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BGF Bois d'Agland 69.59 19 eP P 20 04 26.5 -0.9
comp=Z,3.3nm,0.8s,mb4.3
JTS JuntasAbangare 69.62 107 eP P 20 04 27.2 -0.3
SMF Signal de Mont 69.66 19 eP P 20 04 26.7 -1.1
comp=Z,17nm,1.1s,mb4.6
SMF Signal de Mont 69.66 19 eP P 20 04 26.7 -1.1
SMF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
SMF Signal de Mont 69.66 19 eP P 20 04 26.7 -1.1
comp=Z,8.4nm,1.1s,mb4.6
EKS2 Erkin-Say 69.67 327 P P 20 04 28.4 +0.5
SNR=11
TCF Toulx Ste Croi 69.75 20 eP P 20 04 27.3 -1.1
KZA Kyzart 69.83 325 P pP 20 04 47.7 +2.5
SNR=6.6
UCH Uchtor 69.88 326 P pP 20 04 48.0 +2.5
SNR=6.7
CABF La Chapelle 70.01 17 eP P 20 04 29.3 -0.7
CD2 Chengdu 70.04 298 eP P 20 04 30.3 +0.1
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8

BURAR	**Bucovina Array**	70.58	3	⇓*i*P	P	20 04 33.8	+0.4
RJF	**Les Rejaudoux**	70.60	21	*e*P	P	20 04 32.3	-1.3
LFF	**La Frestale**	70.82	21	*e*P	P	20 04 33.9	-1.0
	comp=Z,9.7nm,0.9s,mb4.4						
LFF	**La Frestale**	70.82	21	*e*P	P	20 04 33.9	-1.0
LFF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
LFF	**La Frestale**	70.82	21	*e*P	P	20 04 33.9	-1.0
	comp=Z,4.8nm,0.9s,mb4.4						
CAF	**Calviac**	71.06	20	*e*P	P	20 04 35.4	-0.9
LPL	**La Plagne**	71.17	17	*e*P	P	20 04 35.8	-1.2
LPG	**La Plagne**	71.19	17	*e*P	P	20 04 36.1	-1.1
VIVF	**Saint-Julien-l**	71.53	18	*e*P	P	20 04 38.2	-1.0
	comp=Z,14nm,1.1s,mb4.5						
VIVF	**Saint-Julien-l**	71.53	18	*e*P	P	20 04 38.2	-1.0
VIVF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
VIVF	**Saint-Julien-l**	71.53	18	*e*P	P	20 04 38.2	-1.0
	comp=Z,7.2nm,1.1s,mb4.5						
ORIF	**Oris-en-Rattie**	71.64	17	*e*P	P	20 04 38.9	-1.0
MBDF	**Montbardon**	71.95	17	*e*P	P	20 04 40.8	-0.9
LASF	**Ste Croix**	72.17	19	*e*P	P	20 04 42.3	-0.7
SJPF	**Ste Jean**	72.24	23	*e*P	P	20 04 42.1	-1.4
SMRF	**Simiane la Rot**	72.52	18	*e*P	P	20 04 43.7	-1.4
ETSF	**Etsaut**	72.57	23	*e*P	P	20 04 44.5	-0.9
	comp=Z,13nm,1.2s,mb4.4						
ETSF	**Etsaut**	72.57	23	*e*P	P	20 04 44.5	-0.9
ETSF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
ETSF	**Etsaut**	72.57	23	*e*P	P	20 04 44.5	-0.9
	comp=Z,6.3nm,1.2s,mb4.4						
EPF	**Esparros**	72.61	22	*e*P	P	20 04 44.6	-1.0
MTLF	**Montolieu**	72.62	21	*e*P	P	20 04 44.8	-0.9
	comp=Z,20nm,1.4s,mb4.6						
MTLF	**Montolieu**	72.62	21	*e*P	P	20 04 44.8	-0.9
MTLF				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
MTLF	**Montolieu**	72.62	21	*e*P	P	20 04 44.8	-0.9
	comp=Z,9.9nm,1.4s,mb4.5						
GYA	**Guiyang**	72.70	294	*e*P	P	20 04 41.8	-4.4
GYA				AP	pP	20 04 58.3	-4.3
GYA				XP	sP	20 05 05.3	-4.0
GYA				PP	PP	20 07 23.6	-4.9
GYA				S	S	20 13 55.1	-12
GYA				SKS		20 14 38.4	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
GYA				AMB	AMB		
	comp=Z,70nm,3.8s						
GYA				LR	LR		
	comp=N,210nm,18.6s,MS4.6						
GYA				LR	LR		
	comp=E,240nm,18.4s,MS4.6						
GYA				LR	LR		
	comp=Z,200nm,18.9s,MS4.4						
SBF	**Sospel**	72.89	17	*e*P	P	20 04 45.8	-1.5
	comp=Z,151nm,1.6s,mb5.4						
SBF	**Sospel**	72.89	17	*e*P	P	20 04 45.8	-1.5
SBF				pmax	pmax		
	comp=Z,75nm,1.6s,mb5.4						
SBF	**Sospel**	72.89	17	*e*P	P	20 04 45.8	-1.5
	comp=Z,75nm,1.6s,mb5.4						
FRF	**La Foret Royal**	73.08	17	*e*P	P	20 04 47.1	-1.3
LMR	**La Mourre**	73.28	17	*e*P	P	20 04 48.3	-1.3
	comp=Z,109nm,1.6s,mb5.2						
LMR	**La Mourre**	73.28	17	*e*P	P	20 04 48.3	-1.3
LMR				pmax	pmax		
	comp=Z,55nm,1.6s,mb5.2						
LMR	**La Mourre**	73.28	17	*e*P	P	20 04 48.3	-1.3
	comp=Z,55nm,1.6s,mb5.2						
KIV	**Kislovodsk**	73.76	350	*e*P	P	20 04 53.0	+0.6
KIV				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
KIV	**Kislovodsk**	73.76	350	P	P	20 04 52.0	-0.4
	comp=Z,13nm,0.9s,mb4.8						
PGF	**Pioggiola**	74.39	16	*e*P	P	20 04 55.2	-0.9
ESDC	**Sonseca Array**	75.02	26	P	P	20 04 59.9	+0.1
	comp=Z,1.1nm,0.7s,mb3.9,baz=342,slow=5.0,SNR=10						
ESDC				pP	pP	20 05 19.1	+2.9
	comp=Z,2.9nm,0.7s,baz=341,slow=5.8,SNR=11						
ESLA	**Sonseca Array**	75.02	26	*e*P	P	20 05 01.7	+1.9
	comp=Z,3.6nm,1.1s,mb4.2						
ESLA				*e*pP	pP	20 05 18.4	+2.2
ESLA				*e*sP	sP	20 05 25.6	+2.7
EVO	**Evora**	75.23	30	*e*P	P	20 04 59.5	-1.4
	comp=Z,12nm,0.9s,mb4.5						
KMI	**Kunming**	75.55	296	P	P	20 05 07.3	+4.5
KMI				AP	pP	20 05 20.8	+1.5
KMI				PP	PP	20 07 55.4	+2.8
KMI				S	S	20 14 39.1	+0.3
KMI				LR	LR		
	comp=Z,220nm,24.8s,MS4.4						
LSA	**Lhasa**	76.08	308	*e*P	P	20 05 07.8	+2.0
LSA	**Lhasa**	76.08	308	*e*P	P	20 05 07.5	+1.7
LSA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
LSA	**Lhasa**	76.08	308	*e*P	P	20 05 07.5	+1.7
	comp=Z,13nm,1.0s,mb4.8						
BR131	**Keskin Array S**	78.46	357	P	P	20 05 19.4	+0.3
	comp=Z,2.1nm,0.8s,mb4.1						
BRTR	**Keskin Array B**	78.46	357	P	P	20 05 19.6	+0.5
	comp=Z,1.5nm,0.9s,mb3.9,baz=20,slow=3.9,SNR=9.3						
BRTR				pP	pP	20 05 38.2	+2.5
	comp=Z,2.4nm,0.8s,baz=15,slow=2.8,SNR=8.1						
GUN	**Gumba**	79.61	311	*e*P	P	20 05 26.1	+0.7
	comp=Z,14nm,0.7s,mb5.0						
JIRN	**Jiri**	79.72	311	*e*P	P	20 05 26.8	+0.8
	comp=Z,19nm,0.6s,mb5.2						
KKN	**Kakani**	79.93	312	*e*P	P	20 05 27.5	+0.4
	comp=Z,11nm,0.5s,mb5.0						
KKN	**Kakani**	79.93	312	*e*P	P	20 05 27.5	+0.4
KKN				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.0						
PKI	**Pulchoki**	80.08	312	*e*P	P	20 05 28.2	+0.2
	comp=Z,7.6nm,0.5s,mb4.8						
PKI	**Pulchoki**	80.08	312	*e*P	P	20 05 28.2	+0.2
PKI				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
DMN	**Daman**	80.15	312	*e*P	P	20 05 28.8	+0.4
	comp=Z,14nm,0.6s,mb5.0						
KMBO	**Kilima Mbogo**	118.89	351	PKP	PKPdf	20 12 05.8	-0.5
	comp=Z,0.4nm,0.4s,baz=14,slow=4.2,SNR=5.0						
KMBO	**Kilima Mbogo**	118.89	351	⇑*i*PKIKP	PKPdf	20 12 06.6	+0.3
VNDA	**Vanda**	142.42	195	PKhKP		20 12 44.4	
	comp=Z,0.5nm,0.5s,baz=348,slow=4.1,SNR=5.8						
LBTB	**Lobatse**	142.82	6	PKIKP	PKPdf	20 12 47.1	-4.2
BOSA	**Boshof**	146.38	7	PKPbc	PKPbc	20 12 56.8	-2.0
	comp=Z,7.2nm,0.6s,baz=344,slow=3.0,SNR=19						
BOSA				pPKPbc	pPKPbc	20 13 16.3	+0.2
	comp=Z,26nm,0.9s,baz=350,slow=3.6,SNR=13						
BOSA	**Boshof**	146.38	7	*e*PKPdf	PKPdf	20 12 58.1	+0.6
CASY	**Casey**	146.80	227	*e*PKPdf	PKPdf	20 12 56.9	-1.3
QSPA	**South Pole Qui**	151.92	180	*e*P	PKPdf	20 13 10.3	+4.0
VNA1	**Neumayer--Stat**	162.93	136	*e*PKPdf	PKPab	20 14 07.1	-2.5
VNA1				*e*		20 14 08.3	
VNA1				*e*		20 14 11.4	
VNA1				*e*		20 14 13.4	
VNA1				*e*		20 14 26.7	
MAW	**Mawson**	164.94	234	PKPab	PKPab	20 14 15.7	-2.8
	comp=Z,1.2nm,0.5s,baz=98,slow=7.4,SNR=4.6						

CSEM ***18*** *20:05:10.9±0.1, 4331N×1791E, h2km, ML3.2, Error ellipse: s-maj=1.8km s-min=1.2km az=42.0*
ISCJB ***18*** *20:05:11.6±0.2, 4333N±002×1798E±002, h10km, Error ellipse: s-maj=2.7km s-min=1.7km az=81.1*
NEIC ***18*** *20:05:12.0, 4328N×1798E, h11km, ML3.2(PDG), After PDG.*
PDG ***18*** *20:05:12.0±0.3, 4328N×1798E, h11km±1km*
PRU ***18*** *20:05:15.4, 4368N×1827E, h0km*
SKO ***18*** *20:05:21.8, 4304N×1819E, h7km*
ISC 18 20:05:12.0±0.5,**4333N**±002×**1797E**±002,**h0**km±3km,**n72,** σ**1**§**16**/113,**16C-12D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.50**	**203**	⇓*i*Pg	**Pg**	**20 05 21.1**	**-0.5**
STON				*i* Sg	**Sg**	**20 05 29.4**	**+1.3**
BRY	**Bratogost**	**0.60**	**135**	⇑*i*Pg	**Pg**	**20 05 22.6**	**-1.0**
BRY				*e*Sg	**Sg**	**20 05 31.4**	**-0.1**
BRY	**Bratogost**	**0.60**	**135**	⇑*i*Pg	**Pg**	**20 05 22.5**	**-1.1**
BRY				*e*Sg	**Sg**	**20 05 31.4**	**0.0**
TREB	**Trebinje**	**0.68**	**155**	P	**Pg**	**20 05 23.1**	**-1.9**
TREB				S	**Sg**	**20 05 33.8**	**+0.1**
UPM	**Unac-Piva**	**0.70**	**100**	⇑*i*Pg	**Pg**	**20 05 24.8**	**-0.6**
UPM				*e*Sg	**Sg**	**20 05 35.4**	**+0.9**
NKY	**Niksic**	**0.92**	**124**	⇑*i*Pg	**Pg**	**20 05 28.1**	**-1.5**
NKY				*e*Sg	**Sg**	**20 05 42.1**	**+0.6**
NKY	**Niksic**	**0.92**	**124**	⇑*i*Pg	**Pg**	**20 05 28.0**	**-1.6**
NKY				*e*Sg	**Sg**	**20 05 42.1**	**+0.6**
HCY	**Herceg Novi**	**0.97**	**156**	⇑*i*Pg	**Pg**	**20 05 29.2**	**-1.4**
HCY				*e*Sg	**Sg**	**20 05 43.8**	**+0.7**
PLE	**Pljevlja**	**1.04**	**90**	*e*Pg	**Pg**	**20 05 31.3**	**-0.6**
PLE				*e*Sg	**Sg**	**20 05 47.0**	**+1.6**
BBLS	**Bajina Basta -**	**1.18**	**63**	*i* Pg	**Pg**	**20 05 35.4**	**+0.8**
BBLS				Sg	**Sg**	**20 05 50.9**	**+1.0**
BUM	**Brajici-Budva**	**1.24**	**146**	⇑*i*Pg	**Pg**	**20 05 34.3**	**-1.5**
BUM				*e*Sg	**Sg**	**20 05 52.8**	**+1.0**
TTG	**Podgorica**	**1.31**	**133**	⇑*i*Pg	**Pg**	**20 05 34.7**	**-2.4**
TTG				*e*Sg	**Sg**	**20 05 55.1**	**+1.0**
SJES	**Sjenica**	**1.44**	**92**	Pn	**Pn**	**20 05 40.2**	**+0.9**
SJES				Sg	**Sg**	**20 06 00.2**	**+1.8**
IVA	**Berane**	**1.49**	**107**	*e*Pg	**Pn**	**20 05 39.2**	**-0.8**
IVA				*e*Sg	**Sg**	**20 06 00.4**	**+0.6**
PVY	**Plav**	**1.65**	**116**	*e*Pn	**Pn**	**20 05 42.0**	**-0.1**
PVY				*e*Sn	**Sn**	**20 06 04.8**	**+0.8**
DIVS	**Divcibare**	**1.66**	**62**	⇑*i*Pn	**Pn**	**20 05 40.4**	**-1.9**
DIVS				Sn	**Sn**	**20 06 04.1**	**-0.1**
ULC	**Ulcinj**	**1.67**	**145**	*e*Pn	**Pn**	**20 05 41.5**	**-0.9**
ULC				*e*Sn	**Sn**	**20 06 04.6**	**+0.2**
GRUS	**Gruza**	**2.07**	**74**	*i* Pn	**Pg**	**20 05 52.9**	**+1.2**
GRUS				Sn	**Sn**	**20 06 15.0**	**+0.5**
GRUS	**Gruza**	**2.07**	**74**	Sn	**Sn**	**20 06 15.0**	**+0.5**
FGMS	**Monte Sant'Ang**	**2.20**	**223**	Pn	**Pn**	**20 05 51.4**	**+1.6**
RGNG	**Rignano Grg**	**2.42**	**228**	Pn	**Pn**	**20 05 54.0**	**+1.3**
NVLJ	**Novalja**	**2.55**	**300**	*i* Pn	**Pn**	**20 05 56.3**	**+1.7**
NVLJ				*i* Sn	**Sb**	**20 06 30.6**	**+0.2**
NVLJ	**Novalja**	**2.55**	**300**	*i* Pn	**Pn**	**20 05 56.2**	**+1.6**
SKO	**Skopje**	**2.90**	**117**	*e*Pn	**Pb**	**20 06 04.1**	**-0.4**
BOJS	**Bojanci**	**2.91**	**319**	*e*Pn	**Pn**	**20 05 59.9**	**+0.4**
BOJS				*e*Sn	**Sn**	**20 06 36.4**	**+1.2**
BOJS							
	comp=Z,36nm,0.5s						
BOJS	**Bojanci**	**2.91**	**319**	Pn	**Pn**	**20 05 59.9**	**+0.4**
BOJS				*e*Sn	**Sn**	**20 06 36.4**	**+1.2**
PKSM	**Moragy**	**2.92**	**9**	⇓*i*P	**Pn**	**20 05 57.7**	**-1.9**
PKSM	**Moragy**	**2.92**	**9**	⇓*i*Pn	**Pn**	**20 05 57.6**	**-2.0**
PKSM				*e*Sn	**Sg**	**20 06 44.8**	**-1.0**
GCIS	**Gornji Cirnik**	**3.03**	**327**	*e*Pn	**Pn**	**20 06 02.1**	**+0.9**
OHR	**Ohrid**	**3.06**	**136**	*e*Pn	**Pb**	**20 06 07.0**	**-0.3**
OHR				*e*Sn	**Sn**	**20 06 38.9**	**+0.1**
CRES	**Cresnjev**	**3.07**	**325**	*e*Pn	**Pn**	**20 06 02.0**	**+0.3**
CRES				*e*Sn	**Sn**	**20 06 38.7**	**-0.4**
CII	**Carovilli**	**3.15**	**241**	Pn	**Pn**	**20 06 03.6**	**+0.8**
MRLC	**Muro Lucano**	**3.17**	**216**	Pn	**Pn**	**20 06 01.5**	**-1.5**
PKS9	**Tamasi**	**3.26**	**4**	⇑*i*P	**Pn**	**20 06 03.3**	**-1.0**
BIA	**Bitola**	**3.40**	**132**	*e*Pn	**Pb**	**20 06 11.5**	**-1.6**
BIA				*e*Sn	**Sn**	**20 06 48.0**	**+0.7**
SGO	**Sicignano**	**3.41**	**216**	Pn	**Pn**	**20 06 06.6**	**+0.3**
SLCN	**Sala Consilina**	**3.42**	**211**	Pn	**Pn**	**20 06 04.8**	**-1.7**
BZS	**Buzias**	**3.47**	**48**	⇑*i*P	**Pn**	**20 06 04.8**	**-2.4**
SDI	**San Donato**	**3.47**	**244**	Pn	**Pn**	**20 06 08.1**	**+0.9**
STIP	**Stip**	**3.52**	**116**	*e*Pn	**Pn**	**20 06 12.7**	**+4.7**
STIP				*e*Sn	**Sn**	**20 06 52.1**	**+1.9**
VVLD	**Villa Vallelon**	**3.52**	**247**	Pn	**Pn**	**20 06 07.8**	**-0.1**
NRCA	**Norcia**	**3.59**	**264**	Pn	**Pn**	**20 06 09.1**	**+0.3**
FNA	**Florina**	**3.60**	**134**	*e*P	**Pn**	**20 06 11.9**	**+2.9**
FNA				*e*S	**Pg**	**20 06 23.5**	**+2.6**
MGR	**Morigerati**	**3.67**	**210**	Pn	**Pn**	**20 06 07.9**	**-2.0**
SNTG	**Esanatoglia**	**3.67**	**270**	Pn	**Pn**	**20 06 09.5**	**-0.4**
CUC	**Castrocucco**	**3.71**	**206**	Pn	**Pn**	**20 06 08.7**	**-1.7**
VAY	**Valandovo**	**3.96**	**119**	*e*Pn	**Pn**	**20 06 19.2**	**+5.3**
VOY	**Vojsko**	**3.96**	**314**	*e*Pn	**Pn**	**20 06 14.8**	**+0.8**
VOY				*e*		20 06 24.7	
VOY				*e*Sn	**Sn**	**20 07 03.2**	**+2.1**
OBKA	**Obir**	**4.00**	**324**	⇑*i*Pn	**Pn**	**20 06 14.7**	**+0.2**
OBKA				⇑*i*Sn	**Sn**	**20 07 01.7**	**-0.2**
GRG	**Griva**	**4.06**	**124**	*e*P	**Pn**	**20 06 15.4**	**+0.1**
GRG				*e*S	**Pg**	**20 06 30.1**	**+0.2**
PKSG		**4.07**	**4**	⇑*i*P	**Pn**	**20 06 14.2**	**-1.2**
TIP	**Timpagrande**	**4.25**	**193**	*e*Pn	**Pn**	**20 06 16.1**	**-1.8**
TIP	**Timpagrande**	**4.25**	**193**	*e*Pn	**Pn**	**20 06 16.1**	**-1.8**
KNT	**Kendrikon**	**4.26**	**119**	*e*P	**Pn**	**20 06 17.7**	**-0.3**
KNT				*e*S	**Pg**	**20 06 34.4**	**+0.8**
ARSA	**Arzberg**	**4.28**	**337**	⇓*i*Pn	**Pn**	**20 06 18.1**	**-0.3**
ARSA				⇑*i*Sn	**Sn**	**20 07 07.7**	**-1.2**
CRE	**Caprese Michel**	**4.39**	**276**	Pn	**Pn**	**20 06 21.5**	**+1.7**
SRS	**Serrai**	**4.73**	**116**	*e*P	**Pn**	**20 06 24.8**	**+0.3**
FVI	**Forni Avoltri**	**4.92**	**313**	Pn	**Pn**	**20 06 28.8**	**+1.7**
SMOL	**Smolenice**	**5.20**	**356**	*e*SN	**Sn**	**20 07 29.2**	**-2.3**
VYHS	**Vyhne**	**5.20**	**6**	*e*PN	**Pn**	**20 06 29.5**	**-1.4**
VYHS				*e*SN	**Sn**	**20 07 26.1**	**-5.5**
MOA	**Molln**	**5.21**	**331**	⇓*i*Pn	**Pn**	**20 06 30.8**	**-0.3**
MOA				⇓*i*Sn	**Sn**	**20 07 31.0**	**-0.8**
MOA	**Molln**	**5.21**	**331**	⇓*i*Pn	**Pn**	**20 06 30.8**	**-0.3**
MOA				*i* Sn	**Sn**	**20 07 31.0**	**-0.8**
KOLL	**Kolacno**	**5.25**	**3**	*e*PN	**Pn**	**20 06 30.6**	**-1.1**
KOLL				*e*SN	**Sn**	**20 07 27.8**	**-5.2**
KOLL	**Kolacno**	**5.25**	**3**	*e*Pn	**Pn**	**20 06 30.6**	**-1.1**
KOLL				*e*Sn	**Sn**	**20 07 27.9**	**-5.1**
CTI	**Castel Tesino**	**5.26**	**303**	Pn	**Pn**	**20 06 31.0**	**-0.8**
	comp=Z,21nm,0.5s						
AGG	**Agios Georgios**	**5.42**	**141**	*e*P	**Pn**	**20 06 32.7**	**-1.3**
PAIG	**Paliouri**	**5.47**	**127**	*e*P	**Pn**	**20 06 30.5**	**-4.2**
XOR	**Xorichti**	**5.58**	**133**	*e*P	**Pn**	**20 06 34.1**	**-2.2**
WTTA	**Wattenberg**	**5.95**	**314**	⇓*i*Pn	**Pn**	**20 06 42.0**	**+0.7**
WTTA				⇓*i*Sn	**Sn**	**20 07 51.3**	**+1.3**
WATA	**Walderalm**	**6.02**	**314**	⇓*i*Pn	**Pn**	**20 06 43.4**	**+1.1**
WATA				⇑*i*Sn	**Sn**	**20 07 52.3**	**+0.3**
MOTA	**Moosalm**	**6.28**	**312**	⇓*i*Pn	**Pn**	**20 06 46.9**	**+1.1**
	SNR=7.0						
MOTA				⇓*i*Sn	**Sn**	**20 07 59.2**	**+0.9**
KHC	**Kasperske Hory**	**6.55**	**334**	*e*PN	**Pn**	**20 06 50.4**	**+0.9**
KHC				*ex*	x	20 07 00.0	
KHC				*e*SN	**Sn**	**20 08 00.0**	**-4.8**

KRSC ***18*** *20:07:47.6±1.0, 4865N×15676E, h53km±25km, ML4.7*
IDC ***18*** *20:07:48.6±1.0, 4936N×15590E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.9/20, mbtmp3.9/13, ML4.0/1, MS4.3/2, Ms1 4.3/2, ms1mx3.4/24, Error ellipse: s-maj=27.2km s-min=21.1km az=149.0*
ISCJB ***18*** *20:07:49.7±1.4, 4904N±006×1560E±01, h25km±9km, mb4.2/43, MS4.3/2, Error ellipse: s-maj=15.0km s-min=4.8km az=82.3*
MOS ***18*** *20:07:52.4±1.0, 4928N×15569E, h33km, mb4.6/25, MS4.1/6, Error ellipse: s-maj=13.4km s-min=7.0km az=100.9*
BJI ***18*** *20:07:54.7, 4920N×15570E, h41km, mB4.5, mb4.2, Ms4.2, Msz4.1*
NEIC ***18*** *20:07:54.8±0.5, 4924N×15573E, mb4.3/27, Error ellipse: s-maj=13.2km s-min=5.6km az=136.0*
SZGRF ***18*** *20:07:58.9, 4940N×15399E, h44km, mb4.6, Kuril Islands, Russia*
ISC 18 20:07:53.2±0.8,**4910N**±007×**1559E**±01,**h38**km±5km, **h43**km±.8km:**pP-P,n152,**σ**1**§**12**/140,**mb4.2**/43,**MS4.3/2, 4C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.59**	**4**	*e*PN	**Pn**	**20 08 16.5**	**-2.3**
SKR				*i* S	**Sn**	**20 08 39.9**	**+1.8**
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				pmax	pmax		
	comp=N,1μm,3.0s						
SKR				pmax	pmax		
	comp=E,1μm,3.0s						
SKR				smax			
	comp=N,1μm,0.5s						
SKR				smax			
	comp=E,920nm,0.5s						
SKR				smax			
	comp=N,3μm,2.0s						
SKR				smax			
	comp=E,3μm,2.0s						
PAU	**Pauzhetka**	**2.44**	**13**	*e*P	**Pn**	**20 08 31.5**	**+1.1**
PAU				*e*S	**Sn**	**20 09 03.4**	**+4.4**
PAU				Smax			
	comp=E,1μm,0.3s						
MIPR	**Malaya Ipel'ka**	**3.22**	**9**	*e*P	**Pn**	**20 08 43.1**	**+1.9**
GRL	**Gorelyy**	**3.71**	**21**	*i* P	**Pn**	**20 08 48.6**	**+0.6**
GRL				*e*S	**Sn**	**20 09 33.5**	**+3.0**
RUS	**Russkaya**	**3.72**	**25**	*e*P	**Pn**	**20 08 47.0**	**-1.0**
RUS				*e*S	**Sn**	**20 09 30.6**	**0.0**
APC	**Apacha**	**3.91**	**11**	*e*P	**Pn**	**20 08 52.7**	**+2.1**
KRMR	**Karymshinskiy**	**3.98**	**20**	*i* P	**Pn**	**20 08 53.1**	**+1.4**
PET	**Petropavlovsk**	**4.29**	**23**	*e*PN	**Pn**	**20 08 55.7**	**-0.2**
PET				*e*S	**Sn**	**20 09 45.8**	**+1.2**
PET				pmax	pmax		
	comp=Z,53nm,0.6s						
PET				smax			
	comp=N,246nm,0.5s						
PET				smax			
	comp=E,157nm,0.5s						
PET				MLR	MLR		
	comp=Z,700nm,19.0s						
PET	**Petropavlovsk**	**4.29**	**23**	*e*Pn	**Pn**	**20 08 55.4**	**-0.5**
PET				*e*Sn	**Sn**	**20 09 38.4**	**-6.2**
PET	**Petropavlovsk**	**4.29**	**23**	*e*P	**Pn**	**20 08 56.1**	**+0.2**
PET				*e*S	**Sn**	**20 09 45.2**	**+0.6**
UGLR	**Uglovaya**	**4.50**	**23**	*e*P	**Pn**	**20 08 59.5**	**+0.7**
AVH	**Avacha**	**4.53**	**22**	*e*P	**Pn**	**20 09 00.6**	**+1.4**
KOK	**Koryaka**	**4.53**	**21**	*i* P	**Pn**	**20 09 00.6**	**+1.4**
SMAR	**Somma**	**4.54**	**22**	*e*P	**Pn**	**20 09 00.2**	**+0.8**
SDLR	**Sedlovina**	**4.58**	**23**	P	**Pn**	**20 08 59.6**	**-0.2**
NLC	**Nalytchevo**	**4.61**	**26**	*e*P	**Pn**	**20 08 58.4**	**-1.9**
NLC				*e*S	**Sn**	**20 09 50.6**	**-1.9**
SPN	**Mys Shipunski**	**4.76**	**31**	*e*P	**Pn**	**20 09 01.0**	**-1.4**
SPN				*e*S	**Sn**	**20 09 54.1**	**-2.2**
GNL	**Ganaly**	**4.77**	**15**	P	**Pn**	**20 09 04.3**	**+1.8**
MKZ	**Mys Kozlova**	**6.54**	**31**	*i* P	**Pn**	**20 09 24.8**	**-2.0**
MKZ				*e*S	**Sn**	**20 10 35.2**	**-4.9**
KUR	**Kuril'sk**	**6.72**	**238**	*e*PN	**Pn**	**20 09 26.0**	**-3.3**
KUR				pmax	pmax		
	comp=N,60nm,0.8s						
KUR				pmax	pmax		
	comp=E,60nm,0.8s						
KUR				pmax	pmax		
	comp=Z,150nm,0.8s						
ESO	**Esso**	**7.04**	**13**	P	**Pn**	**20 09 35.6**	**+1.9**
KMNR	**Kamenistaya**	**7.17**	**20**	P	**Pn**	**20 09 35.6**	**+0.2**
KBTR	**Krutoberegovo**	**8.26**	**28**	*e*P	**Pn**	**20 09 48.8**	**-1.5**
KBTR				*e*S	**Sn**	**20 11 18.7**	**-3.6**
BKI	**Bering**	**8.68**	**41**	S	**Sn**	**20 11 17.7**	**-15**
YSS	**Yuzh-Sakhalins**	**9.09**	**261**	*e*PN	**Pn**	**20 10 06.0**	**+4.2**
YSS	**Yuzh-Sakhalins**	**9.09**	**261**	*e*Pn	**Pn**	**20 10 00.8**	**-1.0**
UGL	**Uglegorsk**	**9.10**	**275**	*e*PN		20 10 17.0	
UGL				pmax	pmax		
	comp=Z,32nm,0.6s						
UGL				MLR	MLR		
	comp=E,1μm,16.0s						
UGL				MLR	MLR		
	comp=Z,1μm,16.0s						
UGL				MLR	MLR		
	comp=N,1μm,14.0s						
ASAJ	**Asahikawa**	**10.44**	**246**	Pn	**Pn**	**20 10 20.9**	**+0.6**
	comp=N,1.3nm,0.3s,baz=88,slow=19,SNR=8.9						
ASAJ	**Asahikawa**	**10.44**	**246**	PN	**Pn**	**20 10 20.9**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**10.92**	**346**	*e*PN		20 10 39.6	
MA2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2	**Magadan**	**10.92**	**346**	*e*Pn	**Pn**	**20 10 20.6**	**-6.2**
KAMR	**Kamenskoye**	**14.55**	**19**	P	**Pn**	**20 11 15.9**	**-0.5**
KLR	**Kul'dur**	**15.81**	**280**	*e*P	**Pn**	**20 11 33.0**	**+0.2**
KLR				MLR	MLR		
	comp=N,600nm,14.0s						
KLR				MLR	MLR		
	comp=E,800nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s						
MJAR	**Matsushiro Arr**	**18.01**	**232**	P	**Pn**	**20 11 57.1**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=23,slow=11,SNR=7.4						
MAJO	**Matsushiro**	**18.02**	**232**	*e*P	**Pn**	**20 12 00.5**	**0.0**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	**Matsushiro**	**18.02**	**232**	*e*Pn	**Pn**	**20 12 00.5**	**0.0**
	comp=Z,4.2nm,0.6s						
MDJ	**Mudanjiang**	**18.52**

SUMG Summit 58.21 5 *eP* **P 20 17 43.9 +0.5**
comp=Z,2.8nm,0.8s,mb4.3
SUMG *e* pP 20 17 56.1 +1.4
JOF Joensuu 60.05 334 *ep* **P 20 17 54.8 -1.4**
PDAR Pinedale Array 61.85 56 P **P 20 18 07.8 -0.5**
comp=Z,0.3nm,0.4s,mb3.8,baz=280,slow=5.4,SNR=3.2
KAF Kangasniemi 62.09 336 *ep* **P 20 18 08.7 -1.3**
comp=Z,0.4nm,0.3s,mb4.0,baz=31,slow=7.0
FINES FINESS Array B 62.71 335 P **P 20 18 13.0 -1.1**
comp=Z,1.2nm,0.5s,mb4.3,baz=38,slow=7.7,SNR=24
NB2 NORSAR Subarra 66.59 342 P **P 20 18 39.3 -0.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=24,slow=6.2
NB2 NORSAR Subarra 66.59 342 P **P 20 18 39.3 -0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
NOA NORSAR Array B 66.59 342 P **P 20 18 38.3 -1.2**
comp=Z,0.7nm,0.6s,mb3.9,baz=25,slow=6.6,SNR=3.7
KIV Kislovodsk 70.49 315 *eP* **P 20 18 56.3 -7.5**
KIV pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
AKASG Malin Array Be 70.62 327 P **P 20 19 03.6 -1.0**
comp=Z,0.8nm,0.5s,mb3.9,baz=32,slow=6.4,SNR=7.5
OJC Ojcow 74.15 332 *eP* **P 20 19 25.9 +0.3**
STHS Stebnicka Huta 74.40 331 *eP* **P 20 19 27.7 +0.6**
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
STHS Stebnicka Huta 74.40 331 *eP* **P 20 19 27.7 +0.6**
comp=Z,5.0nm,1.0s,mb4.4
KOLS Kolonicke sedl 74.50 330 *eP* **P 20 19 28.3 +0.7**
BURAR Bucovina Array 74.64 328⇑*iP* **P 20 19 28.8 +0.3**
NRDL Niedersach Rie 74.70 339 *eP* **P 20 19 29.3 +0.5**
comp=Z,2.0nm,0.8s,mb4.1
DPC Dobruska-Polom 75.05 335 *eP* **P 20 19 31.7 +0.9**
DPC *ep*P pP 20 19 43.7 +1.2
DPC AMS AMS 20 56 20.0
comp=Z,200nm,14.2s
ASAR Alice Springs 75.06 201 P **P 20 19 33.4 +2.5**
comp=Z,0.4nm,0.8s,mb3.4,baz=11,slow=6.6,SNR=4.1
CLL Collm 75.08 337 *eP* **P 20 19 31.0 0.0**
comp=Z,5.0nm,0.7s,mb4.5
CLL Collm 75.08 337⇑*iP* **P 20 19 30.9 -0.1**
comp=Z,9.0nm,0.9s,mb4.7
CLL *ep*P pP 20 19 43.0 +0.3
CLL Collm 75.08 337⇑*iP* **P 20 19 30.9 -0.1**
CLL *e* pP 20 19 43.0 +0.3
CLL pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MORC Moravsky Berou 75.21 334 *eP* **P 20 19 32.4 +0.6**
MORC *e* pP 20 19 44.5 +1.1
MORC pmax pmax
comp=Z,13nm,1.2s,mb4.7
MORC Moravsky Berou 75.21 334 *eP* **P 20 19 32.4 +0.6**
comp=Z,13nm,1.2s,mb4.7
MORC *e*PcP PcP 20 19 44.5 -0.6
BRG Berggiesshubel 75.23 336 *eP* **P 20 19 31.8 -0.1**
comp=Z,4.0nm,1.2s,mb4.2
BRG Berggiesshubel 75.23 336 *eP* **P 20 19 31.9 0.0**
comp=Z,2.9nm,1.1s,mb4.1
BRG Berggiesshubel 75.23 336 *eP* **P 20 19 31.9 0.0**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
CLZ Clausthal 75.24 339 *eP* **P 20 19 32.4 +0.5**
comp=Z,7.0nm,0.9s,mb4.6
CLZ Clausthal 75.24 339 *eP* **P 20 19 32.4 +0.5**
CLZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
IBBN Ibbenburen 75.41 340 *eP* **P 20 19 33.5 +0.6**
comp=Z,6.0nm,1.0s,mb4.5
KECS Kecovo 75.46 331 *eP* **P 20 19 33.7 +0.5**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 75.46 331 *eP* **P 20 19 33.7 +0.5**
comp=Z,1.9nm,0.8s,mb4.1
VYHS Vyhne 75.97 332 *eP* **P 20 19 36.3 +0.2**
VYHS *e* pP 20 19 48.1 +0.3
VYHS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
VYHS Vyhne 75.97 332 *eP* **P 20 19 36.3 +0.2**
comp=Z,2.1nm,0.9s,mb4.1
VYHS *e* pP 20 19 48.1 +0.3
TANN Tannenbergstha 76.03 337 *eP* **P 20 19 37.1 +0.6**
comp=Z,3.0nm,1.2s,mb4.1
MOX Moxa 76.04 338 *eP* **P 20 19 36.5 0.0**
comp=Z,4.0nm,0.7s,mb4.5
MOX Moxa 76.04 338 *eP* **P 20 19 36.8 +0.3**
NKC Novy Kostel 76.20 337 *eP* **P 20 19 38.1 +0.7**
NKC AMS AMS 20 58 00.0
comp=Z,100nm,15.3s
UBBA Unterbreizbach 76.28 339 *eP* **P 20 19 38.2 +0.4**
comp=Z,2.0nm,0.8s,mb4.1
BUG Bochum--Univer 76.33 340 *eP* **P 20 19 39.2 +1.1**
comp=Z,4.0nm,0.7s,mb4.5
MANZ Manzenberg 76.52 337 *eP* **P 20 19 39.6 +0.4**
comp=Z,100nm,4.6s
ROTZ Rotzenmuhle 76.69 337 *eP* **P 20 19 40.7 +0.5**
comp=Z,5.0nm,1.0s,mb4.4
MALT Malatya 76.91 314 *eP* **P 20 19 42.9 +1.5**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MALT Malatya 76.91 314 *eP* **P 20 19 42.9 +1.5**
comp=Z,6.0nm,0.9s,mb4.5
KHC Kasperske Hory 76.91 336 *eP* **P 20 19 42.3 +0.9**
KHC *ep*P pP 20 19 53.9 +0.8
KHC AMS AMS 20 57 20.0
comp=Z,200nm,14.4s
GRA1 Grafenberg Arr 77.02 337 *eP* **P 20 19 42.3 +0.3**
comp=Z,9.0nm,0.9s,mb4.7
GRA1 *ep*P pP 20 19 55.1 +1.4
GRF Grafenberg Arr 77.02 337 *eP* **P 20 19 42.3 +0.3**
comp=Z,9.0nm,0.9s,mb4.7
GRF *ep*P pP 20 19 55.1 +1.4
GRF Grafenberg Arr 77.02 337 *eP* **P 20 19 42.3 +0.3**
GRF *e**PP pP 20 19 55.1 +1.4
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GRF Grafenberg Arr 77.02 337 *eP* **P 20 19 42.3 +0.3**
GRF *e**PP pP 20 19 55.1 +1.4
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
WET Wettzell 77.09 336 *eP* **P 20 19 42.9 +0.5**
comp=Z,5.0nm,0.9s,mb4.4
WET Wettzell 77.09 336 *eP* **P 20 19 42.9 +0.5**
WET pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 77.14 335 *eP* **P 20 19 43.1 +0.4**
comp=Z,2.0nm,0.8s,mb4.1
GEC2 GERESS Array S 77.14 335 *eP* **P 20 19 43.1 +0.4**
GEC2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
GERES GERESS Array B 77.14 335 P **P 20 19 43.3 +0.6**
comp=Z,0.9nm,0.6s,mb3.9,baz=45,slow=5.8,SNR=12
BZS Buzias 77.61 329⇓*iP* **P 20 19 45.5 +0.2**
BR131 Keskin Array S 77.94 318 *eP* **P 20 19 47.8 +0.6**
comp=Z,3.3nm,1.0s,mb4.2
BR131 *e*PcP PcP 20 19 58.0 +1.1
BRTR Keskin Array B 77.94 318 P **P 20 19 46.8 -0.4**
comp=Z,3.3nm,1.0s,mb4.2,baz=63,slow=3.0,SNR=17
BAIF Baives 78.28 342 *eP* pP 20 20 00.6 -0.2
comp=Z,8.4nm,0.9s
BFO Black Forest 78.99 339 *eP* **P 20 19 53.4 +0.4**
comp=Z,4.0nm,1.1s,mb4.3
BFO Black Forest 78.99 339 *eP* **P 20 19 53.4 +0.4**
BFO pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
CDF Champ du Feu 79.16 339 *eP* pP 20 20 05.9 +0.2
comp=Z,7.7nm,0.9s
MEZF Maizieres J'vi 79.58 341 *eP* pP 20 20 08.0 +0.1
HAU Haudompre 79.76 340 *eP* pP 20 20 09.1 +0.2
FLN La Foliniere 80.42 344 *eP* pP 20 20 12.8 +0.3
comp=Z,16nm,0.9s
LDF La Druitiere 80.52 344 *eP* pP 20 20 13.4 +0.4
comp=Z,28nm,1.3s
GRR Gorron 80.84 345 *eP* pP 20 20 14.7 -0.1
comp=Z,21nm,0.9s
LOR Lormes 81.00 341 *eP* pP 20 20 15.7 +0.1
SSF Saint Saulge 81.28 341 *eP* pP 20 20 17.2 +0.1
comp=Z,6.9nm,1.0s
ROSF Rostrenen 81.30 346 *eP* pP 20 20 17.3 +0.1
comp=Z,16nm,0.8s
AVF Avril sur Loir 81.56 341 *eP* pP 20 20 17.0 -1.6
comp=Z,4.1nm,0.8s
SMF Signal de Mont 81.60 341 *eP* pP 20 20 18.9 +0.1
comp=Z,25nm,1.2s
LPL La Plagne 82.01 339 *eP* pP 20 20 21.1 +0.1
LPG La Plagne 82.03 339 *eP* pP 20 20 21.3 +0.3
TCF Toulx Ste Croi 82.28 342 *eP* pP 20 20 22.2 -0.2
comp=Z,11nm,1.2s
MFF Saint Martin d 82.44 344 *eP* pP 20 20 23.2 0.0
MBDF Montbardon 82.75 338 *eP* pP 20 20 24.8 0.0
ORIF Oris-en-Rattie 82.78 339 *eP* pP 20 20 24.9 -0.1
comp=Z,16nm,1.1s
VIVF Saint-Julien-l 83.11 340 *eP* pP 20 20 26.2 -0.5
RJF Les Rejaudoux 83.36 342 *eP* pP 20 20 28.0 0.0
comp=Z,4.4nm,0.8s
CAF Calviac 83.61 342 *eP* pP 20 20 29.2 -0.1
LFF La Frestale 83.87 343 *eP* pP 20 20 30.4 -0.2

IDC ***18*** *20:09:50.8±1.3, 2.18N×96.34E, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.9/8, ML2.8/1, Error ellipse: s-maj=39.7km s-min=24.5km az=40.0*
NEIC ***18*** *20:09:55.4±0.7, 2.20N×96.32E, h30km, mb4.1/5, Error ellipse: s-maj=16.8km s-min=10.3km az=29.0*
ISCJB ***18*** *20:09:58.9±4.9, 24N±02×96.6E±03, h73km±40km, mb4.0/12, Error ellipse: s-maj=59.1km s-min=17.7km az=117.2*
ISC 18 20:09:59.0±5.0, 23N±02×965E±03, h58km±41km, n17, σ0.98/17, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.45**	**78**	Pn	**Pn**	**20 10 36.5**	**-0.2**
1.9nm,0.3s,baz=294,slow=5.7,SNR=13							
IPM	**Ipoh**	**4.99**	**64**	P	**Pn**	**20 11 12.6**	**+1.3**
KULM	**Kulim**	**5.08**	**54**	*e*Pn	**Pn**	**20 11 13.2**	**+0.6**
KGM	**Kluang**	**6.80**	**92**	P	**Pn**	**20 11 34.0**	**-2.2**
LSA	**Lhasa**	**27.73**	**350**	*eP*	**P**	**20 15 42.9**	**+1.0**
2.7nm,0.4s,mb4.2							
WRAB	**Tennant Creek**	**43.20**	**123**	P	**P**	**20 17 56.1**	**+1.8**
ASAR	**Alice Springs**	**44.60**	**128**	P	**P**	**20 18 04.7**	**-0.8**
0.3nm,0.6s,mb3.3,baz=294,slow=8.5,SNR=4.3							
MKAR	**Makanchi Array**	**46.02**	**346**	P	**P**	**20 18 16.9**	**+0.2**
1.6nm,0.4s,mb4.3,baz=159,slow=9.1,SNR=30							
SONM	**Songino Array**	**46.16**	**9**	P	**P**	**20 18 17.1**	**-0.7**
0.6nm,0.5s,mb3.8,baz=190,slow=9.4,SNR=6.9							
SONM				PcP	PcP	20 19 54.0	+1.1
0.6nm,0.9s,baz=164,slow=5.9,SNR=3.7							
KURK	**Kurchatov**	**50.56**	**345**	*eP*	**P**	**20 18 51.6**	**-0.1**
1.0nm,0.6s,mb3.9							
ZAL	**Zalesovo**	**52.37**	**351**	P	**P**	**20 19 06.0**	**+0.9**
3.1nm,0.5s,mb4.5,baz=319,slow=5.4,SNR=11							
BVAR	**Borovoye Array**	**55.00**	**341**	P	**P**	**20 19 23.5**	**-0.9**
1.4nm,0.7s,mb4.1,baz=148,slow=8.7,SNR=8.1							
BRVK	**Borovoye**	**55.06**	**341**	*eP*	**P**	**20 19 24.1**	**-0.8**
0.7nm,0.4s,mb4.0							
ZRNK	**Zerenda**	**55.39**	**340**	*eP*	**P**	**20 19 26.5**	**-0.8**
0.9nm,0.6s,mb4.0							
CHKZ	**Chkalovo**	**55.48**	**342**	*eP*	**P**	**20 19 27.7**	**-0.1**
2.1nm,0.6s,mb4.3							
FINES	**FINESS Array B**	**78.72**	**333**	P	**P**	**20 21 54.5**	**-0.7**
0.4nm,0.7s,mb3.5,baz=27,slow=8.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**94.18**	**283**	P	**P**	**20 23 12.9**	**+1.4**
0.5nm,0.6s,mb4.1,baz=163,slow=2.6,SNR=8.0							

IDC ***18*** *20:30:37.3±0.9, 5181N×17697E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, ML3.9/1, MS4.2/3, Ms1 4.2/3, ms1mx3.6/26, Error ellipse: s-maj=33.0km s-min=18.2km az=156.0*
BJI ***18*** *20:30:38.7, 5261N×17662E, h5km, mB4.6, mb4.6, Ms4.3, Msz4.1*
NEIC ***18*** *20:30:39.4, 5194N×177.11E, h5km, mb3.9/3, ML4.1(AEIC), After AEIC.*
ISCJB ***18*** *20:30:41.9±0.9, 5189N±009×17704E±007, h43km±9km, mb4.0/12, MS4.2/5, Error ellipse: s-maj=14.8km s-min=6.9km az=23.9*
ISC 18 20:30:42.8±0.9, 5186N±009×17702E±007, h39km±9km, n22, σ1.904/24, mb4.0/12, MS4.2/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.50**	**108**	P	**Pn**	**20 31 06.5**	**-0.7**
AMKA				S	**Sn**	**20 31 26.4**	**+0.8**
SMY	**Shemya**	**2.00**	**297**	P	**Pn**	**20 31 13.4**	**-0.6**
SMY				S	**Sn**	**20 31 38.0**	**+0.3**
ATKA	**Atka Island**	**5.43**	**83**	P	**Pn**	**20 32 01.2**	**-0.1**
BILL	**Bilibino**	**17.05**	**346**	*eP*	**Pn**	**20 34 39.5**	**+1.3**
25nm,1.4s							
TTA	**Tatalina**	**18.12**	**42**	*e*Pn	**Pn**	**20 34 50.4**	**-1.0**
8.2nm,1.2s							
KDAK	**Kodiak Island**	**18.38**	**59**	P	**Pn**	**20 34 53.0**	**-1.6**
0.4nm,0.3s,baz=270,slow=16,SNR=3.5							
ASAJ	**Asahikawa**	**24.13**	**265**	P	**P**	**20 35 55.2**	**+0.2**
9.0nm,0.8s,mb4.2,baz=34,slow=12,SNR=4.8							
ASAJ				LR	LR	20 44 07.8	
comp=Z,290nm,19.9s,MS3.8,baz=180,slow=34							
DAWY	**Dawson**	**25.57**	**45**	*eP*	**P**	**20 36 09.4**	**+1.3**
INK	**Inuvik**	**28.59**	**36**	P	**P**	**20 36 36.4**	**+1.2**
1.1nm,0.8s,mb3.6,baz=218,slow=8.5,SNR=3.3							
CN2	**Changchun**	**34.90**	**278**	*eP*	**P**	**20 37 30.3**	**-0.3**
YKA	**Yellowknife Ar**	**36.78**	**46**	P	**P**	**20 37 46.6**	**-0.1**
1.0nm,0.8s,mb3.7,baz=281,slow=7.3,SNR=8.7							
SONM	**Songino Array**	**44.09**	**294**	P	**P**	**20 38 45.5**	**-1.6**
0.4nm,0.7s,mb3.2,baz=238,slow=43,SNR=3.7							
NJ2	**Nanjing**	**46.21**	**268**	*eP*	**P**	**20 39 06.0**	**+2.1**
NJ2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.7							
PDAR	**Pinedale Array**	**48.62**	**70**	P	**P**	**20 39 22.1**	**-0.6**
comp=Z,0.7nm,1.0s,mb3.6,baz=303,slow=4.0,SNR=3.1							
LZH	**Lanzhou**	**52.74**	**283**	*eP*	**P**	**20 39 53.5**	**-0.2**
LZH				*e*PP	PP	20 41 54.3	+1.1
LZH				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.6							
LZH				AMB	AMB		
comp=Z,40nm,7.5s							
LZH				LR	LR		
comp=N,200nm,15.2s							
LZH				LR	LR		
comp=Z,310nm,18.3s,MS4.4							
GTA	**Gaotai**	**52.96**	**289**	*eP*	**P**	**20 39 56.6**	**+1.3**
GTA				AP	pP	20 40 00.8	-5.8
GTA				XP	sP	20 40 03.9	-7.3
GTA				PP	PP	20 41 56.0	+0.8
GTA				PPP		20 42 59.5	
GTA				SCP	ScP	20 45 02.6	+4.4
GTA				PCS	PcS	20 45 04.6	+2.1
GTA				S	**S**	**20 47 20.0**	**-2.0**
GTA				SCS	ScS	20 49 43.4	+1.6
GTA				LR	LR		
comp=N,100nm,15.6s,MS4.1							
GTA				LR	LR		
comp=E,100nm,15.2s,MS4.1							
GTA				LR	LR		
comp=Z,120nm,16.7s,MS4.0							
KURK	**Kurchatov**	**56.77**	**311**	*eP*	**P**	**20 40 22.4**	**-0.6**
comp=Z,1.3nm,0.9s,mb4.0							
MKAR	**Makanchi Array**	**57.67**	**306**	P	**P**	**20 40 27.8**	**-1.5**
comp=Z,0.3nm,0.6s,mb3.5,baz=47,slow=7.3,SNR=4.0							
AKASG	**Malin Array Be**	**74.23**	**339**	P	**P**	**20 42 17.4**	**+1.7**
comp=Z,0.4nm,0.5s,mb3.6,baz=24,slow=5.5,SNR=4.8							
CTA	**Charters Tower**	**76.52**	**210**	LR	LR	21 11 57.2	
comp=Z,240nm,18.3s,MS4.5,baz=216,slow=32							
ASAR	**Alice Springs**	**84.15**	**219**	P	**P**	**20 43 10.3**	**+0.5**
comp=Z,1.4nm,0.8s,mb4.2,baz=27,slow=5.2,SNR=13							
STKA	**Stephens Creek**	**88.98**	**210**	P	**P**	**20 43 33.0**	**-0.4**
comp=Z,2.2nm,0.8s,mb4.6,baz=348,slow=5.5,SNR=6.9							
STKA				LR	LR	21 16 53.2	
comp=Z,171nm,20.6s,MS4.5,baz=24,slow=31							

ISCJB ***18*** *20:49:06.9±0.5, 3290N±009×3961W±009, h10km, mb4.2/24, MS4.2/2, Error ellipse: s-maj=14.9km s-min=9.5km az=119.3*
MOS ***18*** *20:49:06.8±1.2, 3286N×3962W, h10km, mb4.4/12, Error ellipse: s-maj=36.3km s-min=9.0km az=55.7*
IDC ***18*** *20:49:07.0±0.7, 3294N×3961W, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.9/24, mbtmp4.1/10, MS4.3/1, Ms1 4.3/1, ms1mx3.4/17, Error ellipse: s-maj=27.3km s-min=16.8km az=140.0*
NEIC ***18*** *20:49:08.6±0.4, 3289N×3961W, h10km, mb4.3/11, Error ellipse: s-maj=13.5km s-min=8.7km az=150.0*
CSEM ***18*** *20:49:10.1±0.1, 3295N×3970W, h33km, mb4.2/15, Error ellipse: s-maj=6.1km s-min=4.7km az=164.0*
ISC 18 20:49:08.9±0.5, 3295N±009×3961W±009, h10km, n67, σ0.90/64, mb4.2/24, MS4.2/2, 3C-1D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLA	**Sonseca Array**	**29.36**	**67**	*eP*	**P**	**20 55 10.4**	**-1.5**
0.4nm,0.8s,mb3.2							
ESLA	**Sonseca Array**	**29.36**	**67**	*eP*	**P**	**20 55 10.4**	**-1.6**
0.4nm,0.8s,mb3.2							
BORG	**Borgarnes**	**33.75**	**14**	P	**P**	**20 55 50.6**	**0.0**
BORG	**Borgarnes**	**33.75**	**14**	P	**P**	**20 55 50.6**	**0.0**
ESK	**Eskdalemuir**	**33.80**	**38**	P	**P**	**20 55 49.2**	**-1.8**
NHSC	**New Hope**	**33.87**	**282**	*eP*	**P**	**20 55 50.8**	**-0.8**
SDV	**Santo Domingo**	**37.34**	**237**	P	**P**	**20 56 22.2**	**+0.8**
7.3nm,0.9s,mb4.5,baz=52,slow=5.2,SNR=9.4							
SUMG	**Summit**	**39.70**	**1**	*eP*	**P**	**20 56 42.2**	**+0.9**
3.2nm,0.6s,mb4.2							
SUMG	**Summit**	**39.70**	**1**	*eP*	**P**	**20 56 42.2**	**+0.9**
3.2nm,0.6s,mb4.2							
KONO	**Kongsberg**	**41.82**	**35**	*eP*	**P**	**20 57 00.2**	**+1.4**
AQU	**L'Aquila**	**42.41**	**61**	*eP*	**P**	**20 57 02.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**42.47**	**108**	P	**P**	**20 57 04.2**	**+0.2**
2.2nm,0.8s,mb3.8,baz=306,slow=6.7,SNR=22							
TORD	**Torodi Ar. Bea**	**42.47**	**108**	P	**P**	**20 57 04.2**	**+0.2**
RGN	**Rugen**	**42.67**	**43**	*eP*	**P**	**20 57 05.0**	**-0.7**
RGN	**Rugen**	**42.67**	**43**	*eP*	**P**	**20 57 05.0**	**-0.7**
NB2	**NORSAR Subarra**	**43.00**	**34**	P	**P**	**20 57 09.0**	**+0.6**
comp=Z,1.2nm,0.9s,mb3.6,baz=254,slow=8.6							
NB2	**NORSAR Subarra**	**43.00**	**34**	P	**P**	**20 57 09.0**	**+0.6**
NB2				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.5							
NOA	**NORSAR Array B**	**43.00**	**34**	P	**P**	**20 57 08.3**	**0.0**
comp=Z,2.9nm,1.0s,mb4.0,baz=253,slow=8.1,SNR=4.8							
NOA	**NORSAR Array B**	**43.00**	**34**	P	**P**	**20 57 08.3**	**-0.1**
MORC	**Moravsky Berou**	**44.94**	**50**	*eP*	**P**	**20 57 25.6**	**+1.6**
MORC				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.9							
MORC	**Moravsky Berou**	**44.94**	**50**	*eP*	**P**	**20 57 25.6**	**+1.6**
comp=Z,1.0nm,0.5s,mb3.9							
PSZ	**Piszkesteto**	**46.56**	**53**	*eP*	**P**	**20 57 37.5**	**+0.7**
KWP	**Kalwaria**	**48.30**	**50**	*eP*	**P**	**20 57 52.6**	**+2.3**
BDFB	**Brasilia**	**48.98**	**191**	P	**P**	**20 57 55.4**	**-0.1**
comp=Z,4.9nm,1.0s,mb4.5,baz=16,slow=11,SNR=3.9							
FINES	**FINESS Array B**	**50.13**	**35**	P	**P**	**20 58 03.6**	**-0.7**
comp=Z,2.0nm,0.8s,mb4.2,baz=270,slow=5.1,SNR=11							
KAF	**Kangasniemi**	**50.28**	**34**	*ep*	**P**	**20 58 05.2**	**-0.2**
VSU	**Vasula**	**50.37**	**39**	*eP*	**P**	**20 58 05.4**	**-0.7**
AKASG	**Malin Array Be**	**52.35**	**49**	P	**P**	**20 58 20.4**	**-0.6**
comp=Z,0.6nm,0.4s,mb3.9,baz=273,slow=7.1,SNR=14							
JOF	**Joensuu**	**52.62**	**33**	*ep*	**P**	**20 58 22.0**	**-1.0**
YKA	**Yellowknife Ar**	**54.52**	**327**	LR	LR	21 19 54.6	
comp=Z,270nm,19.5s,MS4.3,baz=0.0,slow=34							
PDAR	**Pinedale Array**	**54.66**	**302**	P	**P**	**20 58 37.7**	**-0.2**
comp=Z,1.8nm,0.8s,mb4.1,baz=67,slow=8.4,SNR=14							
IMW	**Indian Meadow**	**55.35**	**304**	*eP*	**P**	**20 58 43.3**	**+0.4**
comp=Z,8.5nm,1.1s,mb4.7							
LPAZ	**La Paz**	**56.04**	**214**	P	**P**	**20 58 47.5**	**-0.3**
comp=Z,1.8nm,1.0s,mb4.0,baz=29,slow=13,SNR=5.6							
OBN	**Obninsk**	**56.05**	**42**	*ceP*	**P**	**20 58 48.9**	**+0.9**
OBN				*e*		20 58 54.3	
OBN				MLR	MLR		
comp=Z,100nm,16.0s,MS4.0							
OBN	**Obninsk**	**56.05**	**42**	*eP*	**P**	**20 58 48.9**	**+0.9**
KLMR	**Klimovskoe**	**56.66**	**35**	*eP*	**P**	**20 58 52.4**	**+0.1**
KLMR				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.7							
KLMR	**Klimovskoe**	**56.66**	**35**	*eP*	**P**	**20 58 52.4**	**+0.1**
comp=Z,6.0nm,0.8s,mb4.7							
BRTR	**Keskin Array B**	**57.89**	**61**	P	**P**	**20 59 00.7**	**-0.3**
comp=Z,1.1nm,0.9s,mb3.9,baz=262,slow=6.0,SNR=9.8							
INK	**Inuvik**	**61.24**	**335**	*eP*	**P**	**20 59 24.1**	**0.0**
INK				pmax	pmax		
comp=Z,6.0nm,1.2s							
INK	**Inuvik**	**61.24**	**335**	*eP*	**P**	**20 59 24.1**	**0.0**
comp=Z,6.2nm,1.2s,mb4.6							
INK	**Inuvik**	**61.24**	**335**	*eP*	**P**	**20 59 24.1**	**0.0**
comp=Z,6.0nm,1.2s,mb4.6							
MALT	**Malatya**	**61.88**	**61**	*eP*	**P**	**20 59 29.6**	**+1.2**
MALT				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.3							
MALT	**Malatya**	**61.88**	**61**	*eP*	**P**	**20 59 29.6**	**+1.2**
comp=Z,1.8nm,0.8s,mb4.2							
MALT	**Malatya**	**61.88**	**61**	*eP*	**P**	**20 59 29.6**	**+1.2**
comp=Z,2.0nm,0.8s,mb4.3							
KIV	**Kislovodsk**	**62.88**	**54**	*eP*	**P**	**20 59 35.0**	**-0.1**
KIV				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.4							
KIV	**Kislovodsk**	**62.88**	**54**	*eP*	**P**	**20 59 35.0**	**-0.1**
comp=Z,3.0nm,1.0s,mb4.4							
ARU	**Arti**	**67.44**	**37**⇓*iP*		**P**	**21 00 04.1**	**-0.6**
ARU				*e*		21 02 28.6	
ARU				*e*PPP		21 04 09.7	
ARU				*e*S	S	21 08 56.5	-4.2
ARU				*e*SSS		21 16 27.0	
ARU				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
ARU	**Arti**	**67.44**	**37**	*eP*	**P**	**21 00 04.6**	**-0.1**
comp=Z,6.4nm,1.1s,mb4.6							
ARU	**Arti**	**67.44**	**37**	*eP*	**P**	**21 00 04.6**	**-0.1**
comp=Z,6.4nm,1.1s,mb4.6							
ZRNK	**Zerenda**	**74.42**	**37**	*eP*	**P**	**21 00 47.4**	**+0.3**
ZRNK				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.3							
ZRNK	**Zerenda**	**74.42**	**37**	*eP*	**P**	**21 00 47.4**	**+0.3**
comp=Z,4.0nm,1.1s,mb4.3							
CHKZ	**Chkalovo**	**74.80**	**35**	*eP*	**P**	**21 00 50.1**	**+0.8**
CHKZ				*e*		21 01 02.8	
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0							
CHKZ	**Chkalovo**	**74.80**	**35**	*eP*	**P**	**21 00 50.1**	**+0.8**
comp=Z,2.1nm,0.9s,mb4.1							
CHKZ				*e*PcP	PcP	21 01 02.8	-0.6
CHKZ	**Chkalovo**	**74.80**	**35**	*eP*	**P**	**21 00 50.1**	**+0.8**
comp=Z,2.0nm,0.9s,mb4.0							
CHKZ	**Chkalovo**	**74.80**	**35**	*e*PcP	PcP	21 01 02.8	-0.6
BRVK	**Borovoye**	**75.00**	**36**	*eP*	**P**	**21 00 51.1**	**+0.6**
BRVK				*e*		21 03 37.3	
BRVK				pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.0							
BRVK	**Borovoye**	**75.00**	**36**	*eP*	**P**	**21 00 51.1**	**+0.6**
comp=Z,2.3nm,1.0s,mb4.1							
BRVK				*e*PP	PP	21 03 37.3	-0.9
BRVK	**Borovoye**	**75.00**	**36**	*eP*	**P**	**21 00 51.1**	**+0.6**
comp=Z,2.3nm,1.0s,mb4.1							
BRVK	**Borovoye**	**75.00**	**36**	*e*PP	PP	21 03 37.3	-0.9
KURK	**Kurchatov**	**80.50**	**35**	*eP*	**P**	**21 01 18.7**	**-2.5**
KURK				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.4							
KURK	**Kurchatov**	**80.50**	**35**	*eP*	**P**	**21 01 18.7**	**-2.5**
comp=

	1.2nm,0.4s,SNR=7.9						
EMUR				Sn	Sn	20 50 54.8	-1.6
	2.2nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**2.65**	**336**	Pn	**Pn**	**20 50 30.2**	**+1.6**
	0.8nm,0.3s,SNR=8.9						
EBEN				Sn	Sn	20 50 58.9	-2.1
	1.0nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**2.65**	**336**	Pn	**Pn**	**20 50 30.2**	**+1.6**
	0.8nm,0.3s,SNR=8.9						
EIBI	**Ibiza**	**2.74**	**3**	Pn	**Pn**	**20 50 30.4**	**+0.5**
	0.8nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	20 51 01.0	-2.1
	8.2nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**2.74**	**3**	Pn	**Pn**	**20 50 30.4**	**+0.6**
	0.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.19**	**318**	Pn	**Pn**	**20 50 37.4**	**+1.4**
	0.8nm,0.1s,SNR=18						
ETOB				Sn	Sn	20 51 14.5	+0.3
	1.2nm,0.1s,SNR=5.0						
ETOB	**Tobarra**	**3.19**	**318**	Pn	**Pn**	**20 50 37.4**	**+1.4**
	0.8nm,0.1s,SNR=18						
ETOB				Sn	Sn	20 51 14.5	+0.3
	1.2nm,0.1s,SNR=5.0						
EBER	**Berja**	**3.31**	**282**	Pn	**Pn**	**20 50 37.3**	**-0.4**
	1.0nm,0.1s,SNR=4.5						
EBER				Sn	Sn	20 51 15.9	-1.5
	0.9nm,0.1s,SNR=5.0						
EBER	**Berja**	**3.31**	**282**	Pn	**Pn**	**20 50 37.3**	**-0.5**
	1.0nm,0.1s,SNR=4.5						
EBER				Sn	Sn	20 51 15.9	-1.4
	0.9nm,0.1s,SNR=5.0						
EQES	**Quesada**	**3.70**	**295**	Pn	**Pn**	**20 50 44.8**	**+1.6**
	1.1nm,0.2s,SNR=7.2						
EQES				Sn	Sn	20 51 27.9	+0.9
	1.1nm,0.2s,SNR=4.9						
EQES	**Quesada**	**3.70**	**295**	Pn	**Pn**	**20 50 44.8**	**+1.7**
	1.1nm,0.2s,SNR=7.2						
EQES				Sn	Sn	20 51 27.9	+0.9
	1.1nm,0.2s,SNR=4.9						
ETOS	**Mallorca**	**3.71**	**20**	Pn	**Pn**	**20 50 43.7**	**+0.4**
	SNR=4.0						
ETOS				Sn	Sn	20 51 26.2	-0.9
	SNR=4.0						
ETOS	**Mallorca**	**3.71**	**20**	Pn	**Pn**	**20 50 43.7**	**+0.5**
	SNR=4.0						
ETOS				Sn	Sn	20 51 26.2	-0.9
	SNR=4.0						
EQUE	**Quentar**	**3.80**	**285**	Pn	**Pn**	**20 50 45.6**	**+1.1**
	1.4nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**4.26**	**343**	Pn	**Pn**	**20 50 52.5**	**+1.7**
	0.3nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	20 51 38.8	-2.0
	0.5nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.26**	**343**	Pn	**Pn**	**20 50 52.5**	**+1.7**
	0.3nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**4.37**	**297**	Pn	**Pn**	**20 50 54.0**	**+1.8**
	0.4nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**4.94**	**294**	Pn	**Pn**	**20 51 00.5**	**+0.3**
	SNR=4.0						
EADA	**Adamuz**	**4.94**	**294**	Pn	**Pn**	**20 51 00.5**	**+0.3**

*ISCJB **18** 21:00:16.3±0.9, 356S±008×1399E±01, h33km, mb4.0/4, Error ellipse: s-maj=18.3km s-min=9.9km az=38.5*
*NEIC **18** 21:00:19.7±2.9, 370S×13981E, h38km±25km, mb4.1/7, Error ellipse: s-maj=22.6km s-min=15.4km az=52.0*

ISC 18 21:00:20.5±2.2, 37S±01×1397E±01, h45km±21km, n12, σ0°86/18, mb4.0/4, 1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.53**	**218**	⇓*iP*		**Pn**	**21 03 02.6**	**+0.3**
	54nm,0.6s						
KAKA				*e*S		**Sn**	**21 05 15.3**	**+5.7**
WRAB	**Tennant Creek**	**17.00**	**198**	*e*Pn		**Pn**	**21 04 14.3**	**-0.6**
	18nm,0.8s						
WRAB				*e*Sn		**Sn**	**21 07 24.3**	**+1.5**
WB2	**Warramunga Arr**	**17.01**	**198**	*e*P		**Pn**	**21 04 14.4**	**-0.6**
WB2				*e*S		**S**	**21 07 26.0**	**-5.2**
CTAO	**Charters Tower**	**17.51**	**159**	P		**Pn**	**21 04 20.4**	**-0.9**
	9.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.91**	**223**	*e*P		**Pn**	**21 04 48.1**	**-2.1**
	16nm,0.8s						
FITZ				*e*S		**S**	**21 08 29.1**	**-0.7**
AS31	**Alice Springs**	**20.66**	**195**	*e*P		**P**	**21 04 57.1**	**+0.7**
AS31				*e*S		**S**	**21 08 51.4**	**+6.7**
ASPA	**Alice Springs**	**20.66**	**195**	*e*P		**P**	**21 04 57.1**	**+0.7**
ASPA				*e*S		**S**	**21 08 51.4**	**+6.6**
MBWA	**Marble Bar**	**26.09**	**227**	*e*P		**P**	**21 05 50.4**	**+0.6**
	3.1nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**28.11**	**177**	P		**P**	**21 06 07.8**	**-0.2**
KURK	**Kurchatov**	**75.09**	**325**	*e*P		**P**	**21 11 58.1**	**+0.5**
	0.6nm,0.5s,mb3.8						
CHKZ	**Chkalovo**	**80.77**	**326**	P		**P**	**21 12 29.5**	**+0.3**
	0.6nm,0.7s,mb3.6						
QSPA	**South Pole Qui**	**86.28**	**180**	P		**P**	**21 12 51.0**	**-6.4**
	2.3nm,0.8s,mb4.5						

DHMR 18 21:11:29.0±1.3, 1179N×4335E, h16km±12km, ML4.1, 1C-5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.62**	**27**	⇑*e*P		**Pn**	**21 11 58.7**	**+1.8**
TRBA				*i* S		Sn	21 12 20.6	+3.2
TRBA				AML		AML	21 12 26.7	
	comp=Z,3μm,0.6s						
ADEN	**Aden**	**1.88**	**58**	⇓*e*P		Pn	21 12 01.4	+1.0
ADEN				*i* S		Sn	21 12 27.3	+3.5
ADEN				AML		AML	21 12 40.2	
	comp=N,2μm,0.7s						
ADEN	**Aden**	**1.88**	**58**	⇓*e*P		Pn	21 12 01.4	+1.0
ADEN				*i* S		Sn	21 12 27.3	+3.5
	comp=N,1μm,0.7s						
UDYN	**Al 'Udayn**	**2.25**	**15**	*i* S		Sn	21 12 37.3	+4.3
UDYN				AML		AML	21 12 50.5	
	comp=N,2μm,0.4s						
LBOS		**2.78**	**42**	⇓*e*P		Pn	21 12 15.6	+2.7
LBOS				*i* S		Sn	21 12 52.7	+6.6
BDHA	**Al Bayda'**	**3.07**	**45**	⇓*e*P		Pn	21 12 19.5	+2.7
BDHA				*i* S		Sn	21 12 59.7	+6.5
HAJJ	**Hajjah**	**3.90**	**4**	⇓*e*P		Pn	21 12 31.1	+2.9
HAJJ				*i* S		Sn	21 13 19.5	+5.9
FURI	**Furi**	**5.42**	**238**	*e*PN		Pn	21 12 58.8	+10
FURI				*e*S		Sb	21 14 14.7	+6.6

JMA 18 21:24:58.3±0.1, 2871N×12910E, h42km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.54**	**124**	P		Pn	21 25 09.3	-0.3
JAM				S		Sn	21 25 17.5	0.0
JZK	**Kikaishima**	**0.86**	**117**	P		Pn	21 25 13.9	-0.1
JZK				S		Sn	21 25 25.9	+0.5
JTK	**Tokunoshima**	**0.93**	**188**	P		Pn	21 25 15.2	+0.3
JTK				S		Sn	21 25 27.5	+0.5
JNN	**Nakanoshima**	**1.31**	**31**	P		Pn	21 25 20.9	+0.7
JNN				S		Sn	21 25 38.0	+1.5
JIH	**Iheya**	**1.95**	**211**	P		Pn	21 25 29.8	+1.0
JIH				S		Sn	21 25 52.9	+0.8
JKC	**Kuchinoerabu**	**1.99**	**28**	P		Pn	21 25 30.6	+1.2
JKC				S		Sn	21 25 54.1	+1.0
JOW	**Kunigami**	**2.01**	**202**	P		Pn	21 25 29.9	+0.2
JOW				S		Sn	21 25 53.8	+0.2
JTN	**Tanegashima 3**	**2.54**	**40**	P		Pn	21 25 39.0	+2.1
JTN				S		Sn	21 26 06.9	+0.3
JAGN	**Aguni-jima**	**2.68**	**218**	P		Pn	21 25 40.1	+1.2
JAGN				S		Sn	21 26 11.2	+1.1
JJT2	**Tamagusuku 2**	**2.83**	**205**	P		Pn	21 25 42.3	+1.3
JJT2				S		Sn	21 26 14.6	+0.8
JKE	**Kume jima 2**	**3.14**	**221**	P		Pn	21 25 46.3	+1.1
JKE				S		Sn	21 26 22.3	+0.8

CASC 18 21:25:16.4±2.7, 1282N×8851W, h73km±999km, MD3.7, 3C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.65**	**21**	⇑*e*P		x	21 26 03.6
VSM				*e*S		x	21 26 14.7
BLLM	**Bellamira**	**0.67**	**23**	⇓*e*P		x	21 26 03.7
BLLM				*e*S		x	21 26 15.3
CNCH	**Conchagua**	**0.80**	**55**	*e*P		x	21 26 06.2
CNCH				*e*S		x	21 26 19.9
SNVI	**San Vicente**	**0.85**	**338**	*e*P		x	21 26 04.6
SNVI				*e*S		x	21 26 16.8
LCBS	**La Ceiba**	**0.95**	**331**	⇓*e*P		x	21 26 05.5
LCBS				*e*S		x	21 26 18.2
CRIN	**San Cristobal**	**1.43**	**95**	*e*P		Pn	21 25 41.5	+1.1
SBLS	**San Blas**	**1.48**	**313**	⇓*e*P		x	21 26 12.8
SBLS				*e*S		x	21 26 32.2
RTR	**El Retiro**	**1.54**	**314**	*e*P		x	21 26 33.4
LEON	**Leon**	**1.63**	**104**	*e*P		Pn	21 25 43.0	-0.1
LEON				*e*S		Sn	21 26 03.2	-0.1
RBDL	**Robledal**	**1.72**	**318**	⇑*e*P		x	21 26 16.1
RBDL				*e*S		x	21 26 37.0
CNGN	**Cerro Negro**	**1.79**	**100**	*e*P		Pn	21 25 45.7	+0.4
MOMJ	**Momotombo**	**1.96**	**102**	*e*P		Pn	21 25 47.3	-0.3
COPN	**Copaltepe**	**1.98**	**109**	⇓*e*P		Pn	21 25 47.0	-0.7
COPN				*e*S		Sn	21 26 12.3	+0.7
APYN	**Apoyeque**	**2.19**	**105**	*e*P		Pn	21 25 50.8	+0.2
TICN	**Ticuantepe**	**2.36**	**109**	⇑*e*P		Pn	21 25 54.8	+2.0
TICN				*e*S		Sn	21 26 20.9	+0.1

*NEIC **18** 21:47:33.1, 2881S×7037W, h96km, MG3.8(GUC), After GUC.*

GUC 18 21:47:33.1±0.8, 2881S×7037W, h96km±8km, ML3.8, 6C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.35**	**235**	*e*P		Pn	21 47 48.1	+0.6
LCO				*i* S		Sn	21 47 59.6	+1.5
VACH	**Vallenar**	**0.41**	**304**	*e*P		Pn	21 47 48.3	+0.5
VACH				*i* S		Sn	21 47 59.6	+0.9
VACH				AML		AML	21 48 00.7	
	comp=N,15μm,0.1s						
VACH	**Vallenar**	**0.41**	**304**	*e*P		Pn	21 47 48.3	+0.5
VACH				*i* S		Sn	21 47 59.6	+0.9
TLL	**Tololo Astrono**	**1.40**	**196**	⇑*i*P		Pn	21 47 59.5	+1.6
TLL				*i* S		Sn	21 48 19.0	+2.3
TLL				AML		AML	21 48 20.5	
	comp=E,1μm,0.4s						
TLL	**Tololo Astrono**	**1.40**	**196**	⇑*i*P		Pn	21 47 59.5	+1.6
TLL				*i* S		Sn	21 48 19.0	+2.3
CPCH	**Copiapo**	**1.45**	**1**	⇑*i*P		Pn	21 47 59.2	+0.7
CPCH				*i* S		Sn	21 48 17.9	+0.3
CDCH	**Caldera**	**1.78**	**347**	*e*P		Pn	21 48 02.8	+0.2
CMCH	**Combarbala**	**2.42**	**193**	⇑*i*P		Pn	21 48 11.5	+0.6
CMCH				*i* S		Sn	21 48 40.6	+0.6
CMCH				AML		AML	21 48 44.5	
	comp=N,661nm,0.6s						
CMCH	**Combarbala**	**2.42**	**193**	⇑*i*P		Pn	21 48 11.5	+0.6
CMCH				*i* S		Sn	21 48 40.6	+0.6
CRCH	**Chaqaral**	**2.47**	**355**	⇑*i*P		Pn	21 48 11.7	+0.1
CRCH				AML		AML	21 48 46.7	
	comp=E,264nm,0.6s						
FCH	**Farellones**	**4.50**	**179**	*e*P		Pn	21 48 40.8	+1.9
FCH				*i* S		Sn	21 49 31.7	+1.5

MOS 18 21:59:22.3±0.5, 4326N×4576E, h52km, mb3.7/1, 1D, Error ellipse: s-maj=42.2km s-min=14.7km az=171.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.72**	**255**	*i* P		Pn	21 59 37.6	+1.2
SNJR				*i* S		Sn	21 59 48.8	+2.2
VLKR	**Vladikavkaz**	**0.82**	**255**	*e*P		Pn	21 59 39.0	+1.3
VLKR				*e*S		Sn	21 59 51.1	+2.2
TRKR	**Terskaya**	**0.88**	**302**	*e*P		Pn	21 59 39.8	+1.3
TRKR				*e*S		Sn	21 59 52.4	+2.1
BTKR	**Batakoyurt**	**0.90**	**278**	*e*P		Pn	21 59 40.0	+1.3
BTKR				*e*S		Sn	21 59 52.8	+2.1
KMSR	**Komsomolskaya**	**1.08**	**276**	*i* P		Pn	21 59 42.4	+1.3
KMSR				*i* S		Sn	21 59 57.1	+2.1
ARNR	**Ardon**	**1.08**	**267**	*e*P		Pn	21 59 42.5	+1.3
ARNR				*e*S		Sn	21 59 57.2	+2.0
LACR	**Lac**	**1.16**	**248**	*i* P		Pn	21 59 43.6	+1.4
LACR				*i* S		Sn	21 59 59.1	+2.2
KORR	**Kora**	**1.25**	**263**	⇓*i*P		Pn	21 59 44.8	+1.4
KORR				*e*S		Sn	22 00 01.2	+2.0
KORR	**Kora**	**1.25**	**263**	*e*S		Sn	22 00 01.2	+2.0
ZEI	**Tsey**	**1.45**	**251**	*e*P		Pn	21 59 47.5	+1.4
ZEI				*e*S		Sn	22 00 05.8	+1.8
ZEI	**Tsey**	**1.45**	**251**	*e*S		Sn	22 00 05.8	+1.8

*IDC **18** 22:05:22.4±1.0, 4133S×7548W, h0km, mb4.1/7, mb1 4.2/9, mb1mx4.1/16, mbtmp4.0/9, ML4.5/1, MS4.0/4, Ms1 3.9/4, ms1mx3.4/16, Error ellipse: s-maj=34.6km s-min=20.2km az=108.0*
*ISCJB **18** 22:05:24.9±4.8, 4128S±007×754W±02, h25km±33km, mb4.2/16, MS4.3/3, Error ellipse: s-maj=21.6km s-min=10.6km az=24.8*
*NEIC **18** 22:05:28.8±2.5, 4127S×7543W, h40km±21km, mb4.4/11, Error ellipse: s-maj=26.5km s-min=10.3km az=85.0*

ISC 18 22:05:23.1±4.6, 4133S±007×756W±01, h4km±28km, n32, σ0°95/28, mb4.2/16, MS4.3/3, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.85**	**83**	Pn		**Pn**	**22 06 23.1**	**0.0**
	8.4nm,0.3s,baz=261,slow=11,SNR=94						
PLCA				Sn		**Sn**	**22 07 11.8**	**+3.1**
	5.0nm,0.3s,baz=355,slow=21,SNR=2.6						
PLCA				LR		LR	22 08 10.1	
	comp=Z,423nm,21.9s,baz=269,slow=44						
CFAA	**Coronel Fontan**	**11.36**	**34**	Pn		**Pn**	**22 08 05.3**	**-0.8**
	0.1nm,0.3s,baz=202,slow=11,SNR=8.6						
CFAA				Sn		**Sn**	**22 10 12.3**	**-1.2**
	0.1nm,0.3s,baz=281,slow=20,SNR=4.7						
CFAA	**Coronel Fontan**	**11.36**	**34**	Pn		**Pn**	**22 08 05.3**	**-0.8**
CFAA				Sn		**Sn**	**22 10 12.3**	**-1.2**
EFI	**East Falkland**	**15.85**	**137**	*e*Pn		**Pn**	**22 09 11.3**	**+4.3**
	30nm,0.6s						
LVC	**Limon Verde**	**19.49**	**19**	P		**Pn**	**22 09 56.0**	**+3.8**
	0.1nm,0.3s,baz=201,slow=14,SNR=2.2						
LVC	**Limon Verde**	**19.49**	**19**	*e*P		**Pn**	**22 09 54.0**	**+1.7**
	4.5nm,0.8s						
LPAZ	**La Paz**	**25.77**	**17**	P		**P**	**22 11 00.6**	**+5.7**
	1.6nm,1.0s,mb3.5,baz=154,slow=11,SNR=5.3						
SIV	**San Ignacio**	**28.19**	**31**	P		**P**	**22 11 17.2**	**+0.5**
	2.3nm,1.1s,mb3.7,baz=215,slow=11,SNR=6.9						
NNA	**Nana**	**29.25**	**357**	*e*P		**P**	**22 11 25.4**	**-0.7**
	9.1nm,0.6s,mb4.7						
SAML	**Samuel**	**34.06**	**22**	*e*P		**P**	**22 12 08.7**	**+0.2**
	1.1nm,0.4s,mb4.1						
BDFB	**Brasilia**	**34.96**	**51**	P		**P**	**22 12 16.0**	**-0.3**
	3.9nm,0.8s,mb4.4,baz=154,slow=2.0,SNR=4.5						
OTAV	**Otavalo**	**41.45**	**356**	*e*P		**P**	**22 13 11.6**	**+0.7**
	0.4nm,0.4s,mb3.4						
VNA1	**Neumayer--Stat**	**44.19**	**154**	*e*		**P**	**22 13 39.1**	**+6.0**
VNA1				*e*		pP	22 13 41.6	+7.3
SNAA	**Sanae**	**45.99**	**155**	P		**P**	**22 13 46.1**	**-1.3**
	1.1nm,0.9s,mb3.8,baz=295,slow=5.1,SNR=12						
QSPA	**South Pole Qui**	**48.92**	**180**	*e*P		**P**	**22 14 10.4**	**+0.2**
	9.7nm,0.9s,mb4.8						
SDV	**Santo Domingo**	**50.17**	**6**	*e*P		**P**	**22 14 20.3**	**+0.5**
	1.7nm,0.4s,mb4.4						
VNDA	**Vanda**	**56.36**	**193**	P		**P**	**22 15 05.6**	**+0.2**
	1.0nm,0.9s,mb3.8,baz=126,slow=5.3,SNR=4.1						
VNDA	**Vanda**	**56.36**	**193**	*e*P		**P**	**22 15 05.5**	**+0.1**
	0.9nm,0.8s,mb3.9						
PPT	**Papeete**	**66.71**	**267**	LR		LR	22 38 41.6	
	comp=Z,143nm,19.6s,MS4.2,baz=293,slow=30						
MAW	**Mawson**	**66.94**	**164**	LR		LR	22 44 45.0	
	comp=Z,81nm,18.8s,MS4.0,baz=245,slow=35						
CASY	**Casey**	**72.62**	**183**	*e*P		**P**	**22 16 51.1**	**-0.6**
	2.7nm,0.6s,mb4.3						
BBSR	**BB Station**	**74.02**	**10**	*e*P		**P**	**22 16 58.5**	**-1.4**
BOSA	**Boshof**	**79.11**	**118**	P		**P**	**22 17 28.8**	**0.0**
	3.9nm,0.8s,mb4.4,baz=302,slow=3.0,SNR=7.5						
ANMO	**Albuquerque**	**81.04**	**335**	*e*P		**P**	**22 17 41.0**	**+1.8**
	4.6nm,1.1s,mb4.3						
HWUT	**Hardware Ranch**	**88.75**	**334**	*e*P		**P**	**22 18 18.8**	**+0.8**
	4.9nm,0.9s,mb4.8						
PDAR	**Pinedale Array**	**89.15**	**336**	P		**P**	**22 18 19.7**	**-0.2**
	1.3nm,0.8s,mb4.3,baz=124,slow=2.7,SNR=6.9						
TORD	**Torodi Ar. Bea**	**89.26**	**72**	P		**P**	**22 18 19.8**	**-0.6**
	1.0nm,0.9s,mb4.1,baz=220,slow=4.2,SNR=3.9						
DZM	**Mont Dzumac**	**94.70**	**235**	LR		LR	22 54 07.4	
	comp=Z,226nm,18.2s,MS4.7,baz=188,slow=31						
GERES	**GERESS Array B**	**119.18**	**49**	PKP		PKPdf	22 24 12.7	-0.7
	0.3nm,0.8s,baz=197,slow=1.4,SNR=6.0						
BRTR	**Keskin Array B**	**127.58**	**67**	PKP		PKPdf	22 24 27.9	-1.6
	0.7nm,0.8s,baz=181,slow=4.9,SNR=4.0						
ARU	**Arti**	**146.97**	**47**	*e*PKPdf		PKPdf	22 25 05.8	+0.8
MKAR	**Makanchi Array**	**163.20**	**64**	PKP		PKPdf	22 25 26.2	-0.6
	0.4nm,0.9s,baz=42,slow=2.0,SNR=4.0						
MKAR				PKPab		PKPab	22 26 15.9	-1.2
	1.3nm,0.9s,baz=278,slow=4.2,SNR=10						

CASC 18 22:18:57.8±3.6, 1306N×9162W, h5km±28km, MD4.3, 6C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TER	**Terranova**	**1.53**	**36**	⇓*e*P		Pn	22 19 24.6	-1.1
TER				*e*S		Sn	22 19 46.5	+0.5
FUG	**Fuego 3**	**1.57**	**29**	⇑*i*P		Pn	22 19 25.9	-0.5
TP2	**Tecpan 2**	**1.81**	**19**	⇑*e*P		Pn	22 19 29.3	-0.2
SBLS	**San Blas**	**2.09**	**68**	⇑*e*P		x	22 20 06.2
SBLS				*e*S		x	22 20 33.4
SNJE	**San Jose**	**2.11**	**67**	*e*P		x	22 20 07.0
SNJE				*e*S		x	22 20 37.4
RBDL	**Robledal**	**2.15**	**61**	⇑*e*P		x	22 20 07.4
RBDL				*e*S		x	22 20 35.6
LFRS	**El Faro**	**2.55**	**77**	⇑*e*P		x	22 20 13.8
LFRS				*e*S		x	22 20 47.2
MTO2	**Montecristo 2**	**2.56**	**58**	*e*P		x	22 20 13.0
MTO2				*e*S		x	22 20 47.8
LCBS	**La Ceiba**	**2.63**	**77**	⇑*e*P		x	22 20 15.1
LCBS				*e*S		x	22 20 46.4
SNVI	**San Vicente**	**2.76**	**78**	*e*P		x	22 20 17.0
SNVI				*e*S		x	22 20 51.2

*SZGRF **18** 22:22:51.8, 477N×9533E, h50km, mb4.7, Northern Sumatera, Indonesia*
*MOS **18** 22:22:53.1±0.8, 551N×9439E, h33km, mb4.9/64, Error ellipse: s-maj=12.3km s-min=4.8km az=117.5*
*BJI **18** 22:22:53.9, 523N×9448E, h57km, mB4.7, mb4.9, Ms3.7, Msz3.5*
*ISCJB **18** 22:22:54.7±0.2, 543N±004×9437E±003, h48km, mb4.7/108, MS3.6/10, Error ellipse: s-maj=6.7km s-min=3.7km az=51.8*
*IDC **18** 22:22:55.7±1.9, 537N×9429E, h46km±17km, mb4.3/14, mb1 4.4/15, mb1mx4.2/21, mbtmp4.6/15, ML4.4/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/23, Error ellipse: s-maj=23.9km s-min=10.1km az=43.0*
*NEIC **18** 22:22:56.2±0.2, 541N×9432E, mb4.7/62, Error ellipse: s-maj=8.5km s-min=4.2km az=36.0*

ISC 18 22:22:56.8±0.2, 543N±004×9432E±003, h50km, h50km±1.1km: pP-P, n252, σ0°90/259, mb4.7/108, MS3.6/10, 17C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.65**	**55**	P		**Pn**	**22 24 07.3**	**+2.8**
PSI	**Prapat**	**5.28**	**120**	P		**Pn**	**22 24 13.5**	**+0.5**
	12nm,0.3s,baz=288,slow=10,SNR=39						
PSI				S		**Sn**	**22 25 14.0**	**+1.4**
	9.3nm,0.3s,baz=124,slow=5.3,SNR=2.3						
PSI				LR		LR	22 26 42.6	
	comp=Z,397nm,18.3s,baz=293,slow=43						
PSI	**Prapat**	**5.28**	**120**	P		**Pn**	**22 24 13.5**	**+0.4**
PSI				S		**Sn**	**22 25 14.0**	**+1.4**
PSI	**Prapat**	**5.28**	**120**	P		**Pn**	**22 24 13.5**	**+0.5**
PSI				S		**Sn**	**22 25 14.0**	**+1.4**
PSI				LR		LR	22 26 42.6	
KULM	**Kulim**	**6.30**	**91**	*e*Pn		**Pn**	**22 24 26.9**	**-0.1**
KULM				*e*Sn		**Sn**	**22 25 37.8**	**+0.1**
SNG	**Songkhla**	**6.49**	**74**	P		**Pn**	**22 24 30.0**	**+0.3**
	598nm,1.0s						
IPM	**Ipoh**	**6.74**	**98**	P		**Pn**	**22 24 33.0**	**-0.2**
KGM	**Kluang**	**9.60**	**110**	P		**Pn**	**22 25 12.5**	**+0.3**
VIS	**Vishakhapatnam**	**16.27**	**320**	*e*P		**Pn**	**22 26 43.1**	**+1.3**
VIS				*e*P			22 26 43.3	
VIS				AMb		AMB	22 26 47.0	
	comp=Z,16nm,0.5s						
VIS				*ex*		x	22 29 30.8	
KSM	**Kuching**	**16.43**	**103**	*e*P		**Pn**	**22 26 46.2**	**+2.4**
BOK	**Bokaro**	**19.98**	**337**	*e*P		**Pn**	**22 27 26.2**	**-0.7**
BOK				AMb		AMB	22 27 28.8	
	comp=Z,64nm,1.2s						
SHL	**Shillong**	**20.16**	**354**	*e*P		**P**	**22 27 29.6**	**+2.8**
QIZ	**Qiongzhong**	**20.29**	**47**	P		**P**	**22 27 26.4**	**-1.8**
QIZ				S		**S**	**22 31 07.3**	**-5.5**
QIZ				AMB		AMB		
	comp=Z,20nm,1.2s						
QIZ				LR		LR		
	comp=N,260nm,15.2s						
QIZ				LR		LR		
	comp=Z,260nm,19.5s,MS3.6						
BLSP	**Bilaspur**	**20.36**	**326**	*e*P		**P**	**22 27 30.6**	**+1.6**
BLSP				AMb		AMB	22 27 33.3	
	comp=Z,22nm,0.7s						
KMI	**Kunming**	**21.18**	**22**	P		**P**	**22 27 39.5**	**+1.7**
KMI				AP			22 27 46.3	
KMI				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.5						
KMI				LR		LR		
	comp=N,140nm,20.2s						
KMI				LR		LR		
	comp=E,140nm,15.1s						
KMI				LR		LR		
	comp=Z,120nm,18.7s,MS3.3						
NGP	**Nagpur**	**21.53**	**318**	*e*P		**P**	**22 27 40.9**	**-0.7**
NGP				AMb

NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,80nm,10.2s
NJ2 LR LR
comp=N,320nm,18.6s,MS4.2
NJ2 LR LR
comp=E,270nm,18.4s,MS4.2
NJ2 LR LR
comp=Z,160nm,14.6s,MS3.9
SSE Sheshan 35.88 41 P **P 22 29 50.8 -1.0**
SSE AP pP 22 29 59.5 -5.5
SSE PP PP 22 31 11.8 -2.2
SSE S **S 22 35 25.8 -0.4**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,50nm,6.4s
SSE LR LR
comp=N,50nm,22.3s,MS3.4
SSE LR LR
comp=E,60nm,22.2s,MS3.4
SSE LR LR
comp=Z,80nm,20.9s,MS3.5
WMQ Urumqi 38.67 352 P **P 22 30 16.3 +0.8**
WMQ AMB AMB
comp=Z,110nm,4.5s
WMQ LR LR
comp=N,30nm,22.0s,MS3.4
WMQ LR LR
comp=E,70nm,26.0s,MS3.4
WMQ LR LR
comp=Z,60nm,21.0s,MS3.4
JOW Kunigami 38.72 53 P **P 22 30 16.6 +0.6**
comp=Z,11nm,0.4s,mb4.9,baz=246,slow=5.2,SNR=23
FITZ Fitzroy Crossi 38.75 128 *eP* **P 22 30 14.7 -1.4**
comp=Z,9.1nm,0.6s,mb4.7
FITZ Fitzroy Crossi 38.75 128 P **P 22 30 14.5 -1.6**
comp=Z,4.7nm,0.6s,mb4.4,baz=316,slow=3.3,SNR=10
FITZ S **S 22 36 10.4 +0.6**
comp=Z,1.5nm,0.7s,baz=267,slow=18,SNR=3.0
BJT Baijiatuau 39.65 27 *eP* **P 22 30 25.0 +1.3**
BJT *e**PP pP 22 30 37.2 +0.3
BJT pmax pmax
comp=Z,8.0nm,0.6s
BJT Baijiatuau 39.65 27 *eP* **P 22 30 25.0 +1.4**
comp=Z,8.1nm,0.6s,mb4.6
BJT *ep*P pP 22 30 37.2 +0.3
ULHL Ulahol 40.03 339 P **P 22 30 29.3 +2.5**
SNR=11
UCH Uchtor 40.65 337 P **P 22 30 32.6 +0.7**
SNR=11
TKM2 Tokmak 2 40.85 339 P **P 22 30 32.3 -1.2**
SNR=7.4
KBK Karagaybulak 40.86 338 P **P 22 30 34.9 +1.3**
SNR=13
AAK Ala-Archa 41.01 338 *eP* **P 22 30 35.9 +1.0**
AAK *e**PP pP 22 30 46.6 -1.6
AAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
AAK Ala-Archa 41.01 338 *eP* **P 22 30 35.9 +1.0**
comp=Z,8.9nm,0.9s,mb4.4
AAK *ep*P pP 22 30 46.6 -1.6
FRU Bishkek 41.13 338 *eP* **P 22 30 37.0 +1.1**
EKS2 Erkin-Say 41.31 337 P **P 22 30 38.4 +1.1**
SNR=8.1
USP Ospenovka 41.55 338 P **P 22 30 39.7 +0.4**
SNR=11
KAKA Kakadu 41.95 116 *eP* **P 22 30 41.3 -1.2**
comp=Z,39nm,1.6s,mb4.8
MK31 Makanchi Array 42.49 348 P **P 22 30 46.1 -0.9**
MK31 pmax pmax
comp=Z,18nm,0.6s,mb4.9
MKAR Makanchi Array 42.49 348 P **P 22 30 47.2 +0.2**
comp=Z,34nm,0.7s,mb5.1,baz=167,slow=8.0,SNR=386
MKAR Makanchi Array 42.49 348 P **P 22 30 47.2 +0.2**
KK31 Karatay Array 43.02 334 *i* P **P 22 30 50.8 -0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
KKAR Karatay Array 43.02 334 *i* P **P 22 30 50.8 -0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
SONM Songino Array 43.49 12 P **P 22 30 54.7 -0.4**
comp=Z,14nm,0.9s,mb4.7,baz=192,slow=7.8,SNR=87
SONM PcP PcP 22 32 42.1 -0.2
comp=Z,2.5nm,0.6s,baz=202,slow=3.6,SNR=9.1
SONM ScP ScP 22 36 30.6 +1.1
comp=Z,0.6nm,0.7s,baz=219,slow=3.6,SNR=4.6
SONM LR LR 22 52 06.5
comp=Z,73nm,19.5s,MS3.6,baz=208,slow=40
SONM Songino Array 43.49 12 P **P 22 30 54.7 -0.4**
SONM 22 32 42.1
ULN Ulaanbaatar 43.66 12 *eP* **P 22 30 55.7 -0.7**
ULN *e**PP pP 22 31 08.2 -1.6
ULN pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
ULN Ulaanbaatar 43.66 12 *eP* **P 22 30 55.7 -0.7**
comp=Z,7.8nm,1.0s,mb4.4
ULN *ep*P pP 22 31 08.2 -1.7
KS15 Wonju Array Si 44.17 39 *eP* **P 22 31 00.6 +0.1**
KS15 *ep*P pP 22 31 13.2 -0.8
ZAK Zakamensk 45.42 8 *eP* **P 22 31 09.8 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.6s,mb4.0
WRAB Tennant Creek 46.74 124 *eP* **P 22 31 20.4 -0.4**
WRAB *e**PP pP 22 31 33.0 -1.3
WRAB pmax pmax
comp=Z,24nm,0.6s,mb5.3
WRAB Tennant Creek 46.74 124 *eP* **P 22 31 20.4 -0.4**
comp=Z,24nm,0.6s,mb5.3
WRAB *ep*P pP 22 31 33.0 -1.3
WB2 Warramunga Arr 46.74 124⇑ *iP* **P 22 31 20.4 -0.4**
TLY Talaya 46.74 8 *eP* **P 22 31 20.2 -0.7**
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KURK Kurchatov 47.01 346 *eP* **P 22 31 23.3 +0.4**
KURK *e**PP pP 22 31 37.1 +0.6
KURK pmax pmax
comp=Z,22nm,0.6s,mb5.3
KURK Kurchatov 47.01 346 *eP* **P 22 31 23.3 +0.4**
comp=Z,22nm,0.6s,mb5.3
KURK *ep*P pP 22 31 37.1 +0.6
ASPA Alice Springs 48.24 128 *eP* **P 22 31 31.9 -0.6**
AS31 Alice Springs 48.24 128 *eP* **P 22 31 31.9 -0.6**
ASAR Alice Springs 48.24 128 P **P 22 31 32.1 -0.4**
comp=Z,6.4nm,0.6s,mb4.8,baz=300,slow=7.5,SNR=68
ZAL Zalesovo 48.97 353 P **P 22 31 38.9 +0.8**
comp=Z,17nm,0.5s,mb5.3,baz=301,slow=6.0,SNR=63
CIT Chita 49.09 16 *eP* **P 22 31 38.7 -0.3**
CIT *e* pP 22 31 51.5 -1.1
CIT pmax pmax
comp=Z,25nm,0.9s,mb5.2
NVS Novosibirsk 50.07 352⇑ *iP* **P 22 31 45.4 -1.1**
NVS *e*S **S 22 38 52.5 -1.5**
NVS pmax pmax
comp=N,13nm,0.7s
NVS pmax pmax
comp=Z,16nm,0.7s,mb5.2
NVS pmax pmax
comp=E,8.0nm,0.5s
NVS smax
comp=N,9.0nm,1.5s
NVS smax
comp=E,8.0nm,1.9s
KRAR Krasnoyarsk 50.45 359 *eP* **P 22 31 48.2 -1.1**
KRAR pmax pmax
comp=Z,12nm,0.8s,mb5.0
MJAR Matsushiro Arr 50.68 46 LR LR 22 55 53.7
comp=Z,94nm,18.5s,MS3.8,baz=225,slow=39
VOSK Vostochnaya 50.90 342 P **P 22 31 52.3 -0.4**
VOSK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BVA0 Borovoye Array 51.34 342 *i* P **P 22 31 55.6 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRVK Borovoye 51.41 342 *eP* **P 22 31 56.2 -0.3**
BRVK *e**PP pP 22 32 09.5 -0.7
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRVK Borovoye 51.41 342 *eP* **P 22 31 56.2 -0.3**
comp=Z,7.7nm,0.8s,mb4.7
BRVK *ep*P pP 22 32 09.5 -0.8
ZRNK Zerenda 51.73 341 *eP* **P 22 31 58.7 -0.2**
ZRNK *e**PP pP 22 32 12.0 -0.6
ZRNK pmax pmax
comp=Z,12nm,0.9s,mb4.8
ZRNK Zerenda 51.73 341 *eP* **P 22 31 58.7 -0.2**
comp=Z,12nm,0.9s,mb4.8
ZRNK *ep*P pP 22 32 12.0 -0.6
CHKZ Chkalovo 51.84 342 *eP* **P 22 31 59.9 +0.2**
CHKZ *e**PP pP 22 32 13.9 +0.5
CHKZ pmax pmax
comp=Z,25nm,0.6s,mb5.3
CHKZ Chkalovo 51.84 342 *eP* **P 22 31 59.9 +0.2**
comp=Z,24nm,0.6s,mb5.3
CHKZ *ep*P pP 22 32 13.9 +0.5
AB31 Akbulak array 52.45 332 *i* P **P 22 32 04.1 -0.2**
AB31 pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
KLR Kul'dur 53.89 30 *eP* **P 22 32 11.7 -3.2**
HABR Khabarovsk 55.09 32 *eP* **P 22 32 20.5 -3.1**
HABR *e*S **S 22 40 01.8 -0.8**
GNI Garni 56.28 315 *eP* **P 22 32 37.3 +5.2**
GNI pmax pmax
comp=Z,23nm,1.3s
KMBO Kilima Mbogo 57.37 265 LR LR 22 53 24.5
comp=Z,89nm,18.4s,MS3.9,baz=277,slow=32
ARU Arti 58.20 338⇑ *iP* **P 22 32 45.0 -0.6**
ARU *e* 22 33 33.5
ARU *e* 22 34 50.7
ARU *e*S **S 22 40 46.8 +3.2**
ARU *e*SS SS 22 44 41.6 +5.8
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ARU Arti 58.20 338 *eP* **P 22 32 45.3 -0.3**
comp=Z,3.7nm,0.6s,mb4.6
ARU *ep*P pP 22 32 58.8 -0.7
STKA Stephens Creek 58.31 133 *eP* **P 22 32 44.0 -2.4**
comp=Z,3.9nm,0.7s,mb4.5
STKA Stephens Creek 58.31 133 P **P 22 32 43.1 -3.3**
comp=Z,4.1nm,0.7s,mb4.6,baz=314,slow=8.3,SNR=14
YSS Yuzh-Sakhalins 58.60 37 *eP* **P 22 32 47.9 -0.5**
YSS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KIV Kislovodsk 59.25 319 *eP* **P 22 32 52.5 -0.4**
KIV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KIV Kislovodsk 59.25 319 *eP* **P 22 32 52.5 -0.4**
comp=Z,5.5nm,0.8s,mb4.6
SOC Sochi 61.08 317 *eP* **P 22 33 03.4 -2.0**
SOC *e* 22 33 42.4
SOC *e*S **S 22 41 21.0 +0.3**
SOC *e* 22 42 54.4
SOC *e*SS SS 22 45 26.9 +5.9
SOC pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
YAK Yakutsk 62.24 18 *eP* **P 22 33 12.1 -1.2**
YAK pmax pmax
comp=Z,11nm,1.1s,mb4.9
ANN Anapa 63.05 318 *eP* pP 22 33 32.2 -0.5
ANN *e*S sS 22 42 16.9 +7.8
ANN pmax pmax
comp=Z,53nm,1.4s,mb5.5
BR131 Keskin Array S 64.16 312 *eP* **P 22 33 25.7 -0.3**
comp=Z,2.2nm,0.7s,mb4.3
BRTR Keskin Array B 64.16 312 P **P 22 33 25.4 -0.7**
comp=Z,2.4nm,0.6s,mb4.4,baz=127,slow=7.5,SNR=27
BRTR Keskin Array B 64.16 312 *i* P **P 22 33 25.6 -0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 67.53 328κ *eP* **P 22 33 46.5 -1.2**
OBN *e* pP 22 34 01.3 -0.6
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
KLMR Klimovskoe 68.72 335 *eP* **P 22 33 53.8 -1.3**
KLMR pmax pmax
comp=Z,10.0nm,1.9s,mb4.4
MA2 Magadan 68.84 27⇑ *eP* **P 22 33 55.3 -0.5**
MA2 pmax pmax
comp=Z,12nm,0.9s,mb4.8
TIXI Tiksi 69.58 11⇑ *eP* **P 22 33 57.5 -2.9**
TIXI pmax pmax
comp=Z,13nm,1.1s,mb4.8
AKASG Malin Array Be 70.17 322 P **P 22 34 02.1 -2.0**
comp=Z,3.2nm,0.5s,mb4.5,baz=93,slow=5.5,SNR=17
MLR Muntele Rosu 71.04 316‖ *iP* **P 22 34 10.1 +0.7**
BURAR Bucovina Array 71.97 318‖ *iP* **P 22 34 15.1 +0.1**
JOF Joensuu 73.12 335 *ep* **P 22 34 20.4 -1.4**
KWP Kalwaria 74.00 320 *eP* **P 22 34 27.3 +0.3**
BOSA Boshof 74.46 238 P **P 22 34 30.8 +1.2**
comp=Z,4.2nm,1.1s,mb4.3,baz=117,slow=2.8,SNR=5.1
SUW Suwalki 74.58 325 *eP* **P 22 34 29.7 -0.7**
CRVS Cervenica-Dubn 74.68 319 *eP* **P 22 34 31.7 +0.8**
STHS Stebnicka Huta 74.90 320 *eP* **P 22 34 32.2 0.0**
STHS *e* pP 22 34 46.5 -0.1
STHS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
STHS Stebnicka Huta 74.90 320 *eP* **P 22 34 32.2 0.0**
comp=Z,4.7nm,0.7s,mb4.5
STHS *e* pP 22 34 46.5 -0.1
FINES FINESS Array B 74.94 332 P **P 22 34 31.6 -0.8**
comp=Z,3.6nm,0.7s,mb4.4,baz=104,slow=8.0,SNR=22
FINES LR LR 23 14 04.3
comp=Z,32nm,18.6s,MS3.6,baz=4.4,slow=41
KAF Kangasniemi 75.03 333 *ep* **P 22 34 31.7 -1.3**
comp=Z,4.3nm,0.7s,mb4.5,baz=104,slow=5.3
KAF Kangasniemi 75.03 333 *eP* **P 22 34 31.7 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KECS Kecovo 75.25 319 *eP* **P 22 34 34.0 -0.2**
KECS *e* pP 22 34 48.6 0.0
KECS pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KECS Kecovo 75.25 319 *eP* **P 22 34 34.0 -0.2**
comp=Z,2.1nm,0.6s,mb4.2
KECS *e* pP 22 34 48.6 0.0
NIE Niedzica 75.50 320 *eP* **P 22 34 36.8 +1.1**
OJC Ojcow 75.95 320 *eP* **P 22 34 38.4 +0.2**
VYHS Vyhne 76.34 318 *i* P **P 22 34 40.6 +0.2**
VYHS pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
VYHS Vyhne 76.34 318 *i* P **P 22 34 40.6 +0.2**
comp=Z,5.3nm,1.6s,mb4.2
OKC Ostrava-Krasne 76.96 320 *eP* **P 22 34 44.6 +0.7**
MORC Moravsky Berou 77.34 320⇑ *iP* **P 22 34 46.5 +0.4**
MORC Moravsky Berou 77.34 320 *eP* **P 22 34 46.6 +0.5**
MORC *e**PP pP 22 35 01.1 +0.6
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MORC Moravsky Berou 77.34 320 *eP* **P 22 34 46.6 +0.5**
comp=Z,2.5nm,0.6s,mb4.3
MORC *ep*P pP 22 35 01.1 +0.6
ZST Bratislava 77.45 318 *eP* **P 22 34 47.3 +0.6**
ZST *e* 22 34 54.0
ZST pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ZST Bratislava 77.45 318 *eP* **P 22 34 47.3 +0.6**
comp=Z,10nm,0.8s,mb4.8
ZST *e* 22 34 54.0
ARCES ARCESS Array B 77.61 340 P **P 22 34 47.0 -0.6**
comp=Z,1.5nm,0.5s,mb4.2,baz=103,slow=6.8,SNR=16
DPC Dobruska-Polom 78.18 320 *eP* **P 22 34 51.7 +1.0**
BILL Bilibino 78.28 21 *eP* **P 22 34 50.5 -0.8**
BILL *e**PP pP 22 35 04.9 -0.8
BILL pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
BILL Bilibino 78.28 21 *eP* **P 22 34 50.5 -0.8**
comp=Z,4.5nm,0.4s,mb4.8
BILL *ep*P pP 22 35 04.9 -0.8
UPC Upice 78.39 320 *eP* **P 22 34 52.9 +1.0**
ARSA Arzberg 78.43 317⇑ *iP* **P 22 34 52.8 +0.7**
comp=Z,9.5nm,1.4s,mb4.5
TREC Trest 78.62 319 *eP* **P 22 34 53.7 +0.5**
PVCC Panska Ves 79.31 320 *eP* **P 22 34 57.9 +0.9**
MOA Molln 79.32 318⇑ *iP* **P 22 34 57.0 0.0**
comp=Z,3.2nm,0.8s,mb4.3
BSD Bornholm Skovb 79.51 325 *i* P **P 22 34 57.3 -0.7**
comp=Z,16nm,0.9s,mb5.0
BSD Bornholm Skovb 79.51 325 *i* P **P 22 34 57.3 -0.7**
BSD pmax pmax
comp=Z,16nm,0.9s,mb5.0
BRG Berggiesshubel 79.74 321 *eP* **P 22 34 59.5 +0.2**
comp=Z,6.0nm,0.7s,mb4.6
BRG *ep*P pP 22 35 13.9 +0.1
BRG Berggiesshubel 79.74 321 *eP* **P 22 34 59.7 +0.4**
comp=Z,3.5nm,0.7s,mb4.4
BRG *e* pP 22 35 14.0 +0.2
comp=Z,2.2nm,0.9s
BRG Berggiesshubel 79.74 321 *eP* **P 22 34 59.7 +0.4**
BRG *e* pP 22 35 14.0 +0.2
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
GEC2 GERESS Array S 79.76 319 *eP* **P 22 34 59.9 +0.5**
comp=Z,11nm,0.8s,mb4.8
GEC2 GERESS Array S 79.76 319 *eP* **P 22 34 59.9 +0.5**
GEC2 pmax pmax
comp=Z,11nm,0.8s,mb4.8
GERES GERESS Array B 79.76 319 P **P 22 34 59.9 +0.5**
comp=Z,7.3nm,0.7s,mb4.7,baz=96,slow=5.1,SNR=93
KHC Kasperske Hory 79.86 319 *eP* **P 22 35 00.3 +0.4**
WET Wettzell 80.32 319 *eP* **P 22 35 02.7 +0.3**
comp=Z,6.0nm,0.9s,mb4.5
WET *ep*P pP 22 35 17.5 +0.6
WET Wettzell 80.32 319 *eP* **P 22 35 02.7 +0.3**
WET *e**PP pP 22 35 17.5 +0.6
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLL Collm 80.36 321 *eP* **P 22 35 02.4 -0.2**
comp=Z,4.0nm,1.0s,mb4.3
CLL Collm 80.36 321 *i* P **P 22 35 02.4 -0.2**
comp=Z,5.0nm,1.0s,mb4.4
CLL Collm 80.36 321 *i* P **P 22 35 02.4 -0.2**
CLL pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TANN Tannenbergstha 80.65 320 *eP* **P 22 35 04.4 +0.2**
comp=Z,2.0nm,0.7s,mb4.2
ROTZ Rotzenmuhle 80.78 319 *eP* **P 22 35 05.7 +0.8**
comp=Z,7.0nm,0.8s,mb4.6
MANZ Manzenberg 80.86 320 *eP* **P 22 35 06.2 +0.9**
comp=Z,10.0nm,1.1s,mb4.7
MANZ *ep*P pP 22 35 20.5 +0.7
WTTA Wattenberg 81.07 317⇑ *iP* **P 22 35 06.3 -0.1**
comp=Z,6.6nm,0.6s,mb4.8
WTTA Wattenberg 81.07 317⇑ *iP* **P 22 35 06.3 -0.1**
WTTA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
WATA Walderalm 81.12 317⇑ *iP* **P 22 35 06.2 -0.5**
comp=Z,4.3nm,1.2s,mb4.2
WATA Walderalm 81.12 317⇑ *iP* **P 22 35 06.2 -0.5**
WATA pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
MOX Moxa 81.20 320 *eP* **P 22 35 07.2 +0.1**
comp=Z,3.0nm,0.7s,mb4.3
SQTA Sankt Quirin 81.36 317⇑ *iP* **P 22 35 07.6 -0.4**
comp=Z,3.4nm,0.8s,mb4.3
SQTA Sankt Quirin 81.36 317⇑ *iP* **P 22 35 07.6 -0.4**
SQTA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
GRA1 Grafenberg Arr 81.42 319 *eP* **P 22 35 09.0 +0.7**
comp=Z,8.0nm,0.8s,mb4.7
GRA1 *ep*P pP 22 35 23.5 +0.7
GRF Grafenberg Arr 81.42 319 *eP* **P 22 35 09.0 +0.7**
comp=Z,8.0nm,0.8s,mb4.7
GRF *ep*P pP 22 35 23.5 +0.7
GRF Grafenberg Arr 81.42 319 *eP* **P 22 35 09.0 +0.7**
GRF *e**PP pP 22 35 23.5 +0.7
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GRF Grafenberg Arr 81.42 319 *eP* **P 22 35 09.0 +0.7**
GRF *e**PP pP 22 35 23.5 +0.7
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MOTA Moosalm 81.44 317⇑ *iP* **P 22 35 08.0 -0.4**
comp=Z,4.2nm,0.9s,mb4.4
MOTA Moosalm 81.44 317⇑ *iP* **P 22 35 08.0 -0.4**
MOTA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
NB2 NORSAR Subarra 81.93 331 P **P 22 35 09.9 -1.1**
comp=Z,0.1nm,0.6s,baz=94,slow=6.5
NOA NORSAR Array B 81.93 331 P **P 22 35 10.1 -0.9**
comp=Z,1.3nm,0.8s,mb3.9,baz=95,slow=5.4,SNR=4.5
CLZ Clausthal 82.02 321 *eP* **P 22 35 11.7 +0.3**
comp=Z,7.0nm,0.9s,mb4.6
CLZ Clausthal 82.02 321 *eP* **P 22 35 11.7 +0.3**
CLZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BSEG Bad Segeberg 82.11 324 *eP* **P 22 35 12.1 +0.2**
comp=Z,10.0nm,0.8s,mb4.8
NRDL Niedersach Rie 82.20 322 *eP* **P 22 35 12.5 +0.1**
comp=Z,4.0nm,1.0s,mb4.3
NRDL *ep*P pP 22 35 27.2 +0.3
DAVA Damuels 82.27 317⇑ *iP* **P 22 35 13.3 +0.5**
comp=Z,7.0nm,1.1s,mb4.5
BFO Black Forest 83.31 318 *eP* **P 22 35 17.9 -0.2**
comp=Z,5.0nm,0.9s,mb4.5
BFO Black Forest 83.31 318 *eP* **P 22 35 17.9 -0.2**
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
IBBN Ibbenburen 83.64 322 *eP* **P 22 35 20.1 +0.3**
comp=Z,8.0nm,0.6s,mb5.0
IBBN *ep*P pP 22 35 34.5 +0.1
CDF Champ du Feu 84.01 318 *eP* **P 22 35 21.1 -0.6**
comp=Z,6.5nm,0.7s,mb4.5
CDF Champ du Feu 84.01 318 *eP* **P 22 35 21.1 -0.6**
CDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
CDF Champ du Feu 84.01 318 *eP* **P 22 35 21.1 -0.6**
comp=Z,3.3nm,0.7s,mb4.6
LPG La Plagne 84.46 315 *eP* **P 22 35 24.3 +0.3**
comp=Z,9.6nm,0.6s,mb4.8
LPG La Plagne 84.46 315 *eP* **P 22 35 24.3 +0.3**
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LPG La Plagne 84.46 315 *eP* **P 22 35 24.3 +0.3**
comp=Z,4.8nm,0.6s,mb4.8
LPL La Plagne 84.47 315 *eP* **P 22 35 24.3 +0.2**
comp=Z,17nm,0.8s,mb4.9
LPL La Plagne 84.47 315 *eP* **P 22 35 24.3 +0.2**
LPL pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LPL La Plagne 84.47 315 *eP* **P 22 35 24.3 +0.2**
comp=Z,8.4nm,0.8s,mb4.9
MBDF Montbardon 84.47 314 *eP* **P 22 35 24.3 +0.2**
comp=Z,4.6nm,0.6s,mb4.5
MBDF Montbardon 84.47 314 *eP* **P 22 35 24.3 +0.2**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
MBDF Montbardon 84.47 314 *eP* **P 22 35 24.3 +0.2**
comp=Z,2.3nm,0.6s,mb4.5
FRF La Foret Royal 84.61 313 *eP* **P 22 35 24.8 0.0**
comp=Z,9.2nm,0.7s,mb4.8
FRF La Foret Royal 84.61 313 *eP* **P 22 35 24.8 0.0**
FRF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
FRF La Foret Royal 84.61 313 *eP* **P 22 35 24.8 0.0**
comp=Z,4.6nm,0.6s,mb4.8
HAU Haudompre 84.65 318 *eP* **P 22 35 25.4 +0.5**
comp=Z,16nm,0.7s,mb5.0
HAU Haudompre 84.65 318 *eP* **P 22 35 25.4 +0.5**
HAU pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
HAU Haudompre 84.65 318 *eP* **P 22 35 25.4 +0.5**
comp=Z,8.1nm,0.7s,mb5.0
CABF La Chapelle 84.88 316 *eP* **P 22 35 26.1 0.0**
comp=Z,6.4nm,0.6s,mb4.6
CABF La Chapelle 84.88 316 *eP* **P 22 35 26.1 0.0**
CABF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
CABF La Chapelle 84.88 316 *eP* **P 22 35 26.1 0.0**
comp=Z,3.2nm,0.6s,mb4.6
ORIF Oris-en-Rattie 85.10 315 *eP* **P 22 35 26.7 -0.5**
comp=Z,1.3nm,1.1s,mb4.7
ORIF Oris-en-Rattie 85.10 315 *eP* **P 22 35 26.7 -0.5**
ORIF pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
ORIF Oris-en-Rattie 85.10 315 *eP* **P 22 35 26.7 -0.5**
comp=Z,6.6nm,1.1s,mb4.7
BAIF Baives 85.95 320 *eP* **P 22 35 31.4 -0.1**
comp=Z,10.0nm,0.8s,mb4.8
BAIF Baives 85.95 320 *eP* **P 22 35 31.4 -0.1**
BAIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
BAIF Baives 85.95 320 *eP* **P 22 35 31.4 -0.1**
comp=Z,5.0nm,0.8s,mb4.8
VIVF Saint-Julien-I 85.96 315 *eP* **P 22 35 31.4 -0.1**
LOR Lormes 86.37 317 *eP* **P 22 35 33.1 -0.4**
comp=Z,7.9nm,0.7s,mb4.8
LOR Lormes 86.37 317 *eP* **P 22 35 33.1 -0.4**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
LOR Lormes 86.37 317 *eP* **P 22 35 33.1 -0.4**
comp=Z,4.0nm,0.7s,mb4.8
SMF Signal de Mont 86.42 316 *eP* **P 22 35 33.3 -0.5**
comp=Z,11nm,0.8s,mb4.8
SMF Signal de Mont 86.42 316 *eP* **P 22 35 33.3 -0.5**
SMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
SMF Signal de Mont 86.42 316 *eP* **P 22 35 33.3 -0.5**

comp=Z,5.7nm,0.8s,mb4.8
SSF Saint Saulge 86.62 317 *e*P **P 22 35 34.4 -0.4**
comp=Z,5.7nm,0.7s,mb4.6
SSF Saint Saulge 86.62 317 *e*P **P 22 35 34.4 -0.4**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
SSF Saint Saulge 86.62 317 *e*P **P 22 35 34.4 -0.4**
comp=Z,2.8nm,0.7s,mb4.6
AVF Avril sur Loir 86.75 317 *e*P **P 22 35 34.9 -0.5**
comp=Z,15nm,1.2s,mb4.8
AVF Avril sur Loir 86.75 317 *e*P **P 22 35 34.9 -0.5**
AVF pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
AVF Avril sur Loir 86.75 317 *e*P **P 22 35 34.9 -0.5**
comp=Z,7.5nm,1.2s,mb4.8
BGF Bois d'Agland 87.11 316 *e*P **P 22 35 37.2 +0.1**
comp=Z,9.1nm,0.9s,mb4.7
BGF Bois d'Agland 87.11 316 *e*P **P 22 35 37.2 +0.1**
BGF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
BGF Bois d'Agland 87.11 316 *e*P **P 22 35 37.2 +0.1**
comp=Z,4.6nm,0.9s,mb4.7
CAF Calviac 87.80 315 *e*P **P 22 35 40.7 +0.2**
MTLF Montolieu 87.84 313 *e*P **P 22 35 40.8 +0.1**
RJF Les Rejaudoux 88.15 315 *e*P **P 22 35 42.5 +0.4**
comp=Z,6.0nm,0.7s,mb4.6
RJF Les Rejaudoux 88.15 315 *e*P **P 22 35 42.5 +0.4**
RJF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
RJF Les Rejaudoux 88.15 315 *e*P **P 22 35 42.5 +0.4**
comp=Z,3.0nm,0.7s,mb4.6
LDF La Druitiere 88.91 319 *e*P **P 22 35 45.5 -0.2**
comp=Z,7.2nm,0.8s,mb4.8
LDF La Druitiere 88.91 319 *e*P **P 22 35 45.5 -0.2**
LDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
LDF La Druitiere 88.91 319 *e*P **P 22 35 45.5 -0.2**
comp=Z,3.6nm,0.8s,mb4.8
FLN La Foliniere 89.12 319 *e*P **P 22 35 46.5 -0.2**
comp=Z,12nm,0.8s,mb5.0
FLN La Foliniere 89.12 319 *e*P **P 22 35 46.5 -0.2**
FLN pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
FLN La Foliniere 89.12 319 *e*P **P 22 35 46.5 -0.2**
comp=Z,5.9nm,0.8s,mb5.0
MFF Saint Martin d 89.16 317 *e*P **P 22 35 46.8 -0.1**
comp=Z,1.7nm,0.5s,mb4.3
MFF Saint Martin d 89.16 317 *e*P **P 22 35 46.8 -0.1**
MFF pmax pmax
comp=Z,1.0nm,0.5s,mb4.4
MFF Saint Martin d 89.16 317 *e*P **P 22 35 46.8 -0.1**
comp=Z,0.9nm,0.5s,mb4.4
ETSF Etsaut 89.91 313 *e*P **P 22 35 51.1 +0.7**
comp=Z,5.0nm,0.7s,mb4.6
ETSF Etsaut 89.91 313 *e*P **P 22 35 51.1 +0.7**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
ETSF Etsaut 89.91 313 *e*P **P 22 35 51.1 +0.7**
comp=Z,2.5nm,0.7s,mb4.7
SGMF Saint Gilles 90.56 318 *e*P **P 22 35 53.3 -0.1**
QUIF Quistinic 91.01 318 *e*P **P 22 35 55.2 -0.3**
comp=Z,11nm,0.7s,mb5.0
QUIF Quistinic 91.01 318 *e*P **P 22 35 55.2 -0.3**
QUIF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
QUIF Quistinic 91.01 318 *e*P **P 22 35 55.2 -0.3**
comp=Z,5.6nm,0.7s,mb5.0
ROSF Rostrenen 91.02 319 *e*P **P 22 35 55.5 0.0**
comp=Z,20nm,1.0s,mb5.1
ROSF Rostrenen 91.02 319 *e*P **P 22 35 55.5 0.0**
ROSF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
ROSF Rostrenen 91.02 319 *e*P **P 22 35 55.5 0.0**
comp=Z,9.8nm,1.0s,mb5.1
ESDC Sonseca Array 92.92 310 P **P 22 36 05.3 +1.0**
comp=Z,0.4nm,0.6s,mb4.0,baz=60,slow=4.2,SNR=5.8
PDAR Pinedale Array 127.35 22 PKP PKPdf 22 41 56.1 +0.4
comp=Z,1.3nm,0.9s,baz=3.8,slow=2.2,SNR=9.7
PDAR Pinedale Array 127.35 22 PKP PKPdf 22 41 56.1 +0.4
JCT Junction City 141.81 20 *e*PKIKP PKPdf 22 42 23.5 +0.8

*IDC **18** 22:26:11.5±1.0, 1761S×17334W, h0km, mb4.3/4, mb1 4.5/6, mb1mx4.2/15, mbtmp4.5/6, ML3.6/2, Error ellipse: s-maj=34.3km s-min=23.5km az=123.0*
*ISCJB **18** 22:26:14.5±0.5, 1771S±008×17326W±0.10, h33km, mb4.4/9, Error ellipse: s-maj=13.8km s-min=10.9km az=57.9*
*NEIC **18** 22:26:19.5±0.6, 1808S×17367W, h35km, mb4.6/5, Error ellipse: s-maj=24.3km s-min=21.4km az=136.0*
*MOS **18** 22:26:20.2±1.8, 1852S×17390W, h33km, mb4.7/5, Error ellipse: s-maj=28.1km s-min=19.0km az=135.5*
ISC 18 22:26:14.5±4.2, 1765S±007×1733W±0.1, h21km±30km, n41, σ0§87/24, mb4.4/9, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.98**	**21**	Pn	**Pn**	**22 27 14.8**	**+0.6**
	26nm,0.3s,baz=226,slow=2.7,SNR=28						
AFI				Sn	**Sn**	**22 27 56.7**	**-3.6**
	133nm,0.3s,baz=38,slow=21,SNR=12						
RAR	**Rarotonga**	**13.21**	**108**	Pn	**Pn**	**22 29 20.3**	**-0.4**
	3.1nm,0.3s,baz=270,slow=3.6,SNR=11						
RAR				Sn	**Sn**	**22 31 33.7**	**-13**
	1.3nm,0.3s,baz=110,slow=22,SNR=4.1						
URZ	**Urewera**	**22.20**	**200**	P	**P**	**22 31 10.2**	**+0.9**
	14nm,0.4s,mb4.7,baz=25,slow=2.5,SNR=17						
CTAO	**Charters Tower**	**38.33**	**260**	*e*P	**P**	**22 33 33.8**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
CTAO	**Charters Tower**	**38.33**	**260**	*e*P	**P**	**22 33 33.8**	**+0.1**
	comp=Z,4.7nm,0.7s,mb4.3						
TAU	**Tasmania Unive**	**41.79**	**224**	*e*P	**P**	**22 34 03.3**	**+0.9**
WB2	**Warramunga Arr**	**49.49**	**259**	*e*P	**P**	**22 35 02.5**	**-0.8**
WRAB	**Tennant Creek**	**49.49**	**259**	*e*P	**P**	**22 35 01.8**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
WRAB	**Tennant Creek**	**49.49**	**259**	*e*P	**P**	**22 35 01.8**	**-1.5**
	comp=Z,5.3nm,0.5s,mb4.8						
ASAR	**Alice Springs**	**49.58**	**254**	P	**P**	**22 35 03.9**	**-0.1**
	comp=Z,4.5nm,0.5s,mb4.7,baz=88,slow=8.5,SNR=30						
ASAR				PcP	PcP	22 36 26.1	+0.7
	comp=Z,1.0nm,0.9s,baz=104,slow=3.8,SNR=4.3						
SBA	**Scott Base**	**61.03**	**185**	*e*P	**P**	**22 36 26.3**	**-0.2**
SBA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
SBA	**Scott Base**	**61.03**	**185**	*e*P	**P**	**22 36 26.3**	**-0.2**
	comp=Z,3.7nm,0.8s,mb4.6						
VNDA	**Vanda**	**61.17**	**186**	P	**P**	**22 36 26.0**	**-1.4**
MJAR	**Matsushiro Arr**	**70.74**	**320**	P	**P**	**22 37 28.9**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=156,slow=6.2,SNR=10						
PMSA	**Palmer Station**	**82.08**	**156**	P	**P**	**22 38 33.1**	**-0.2**
MA2	**Magadan**	**82.33**	**342**	P	**P**	**22 38 34.4**	**-0.2**
PDAR	**Pinedale Array**	**83.84**	**42**	P	**P**	**22 38 43.5**	**+1.0**
	comp=Z,0.4nm,0.8s,mb3.6,baz=258,slow=4.1,SNR=3.9						
COLA	**College**	**84.53**	**11**	*e*P	**P**	**22 38 46.5**	**+0.6**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
COLA	**College**	**84.53**	**11**	*e*P	**P**	**22 38 46.5**	**+0.6**
	comp=Z,6.8nm,0.8s,mb4.8						
BILL	**Bilibino**	**86.74**	**352**	P	**P**	**22 38 58.0**	**+1.1**
HIA	**Hailar**	**89.06**	**323**	*e*P	**P**	**22 39 08.8**	**+0.8**
SNAA	**Sanae**	**90.67**	**177**	*e*P	**P**	**22 39 15.5**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.9						
KMBO	**Kilima Mbogo**	**144.63**	**241**	PKP	PKPdf	22 45 50.1	+0.6
	comp=Z,2.6nm,0.9s,baz=62,slow=9.6,SNR=4.9						
CLL	**Collm**	**146.05**	**353**	*i*PKPbc	PKPbc	22 45 54.0	+1.3
	comp=Z,13nm,1.0s						
BRG	**Berggiesshubel**	**146.36**	**352**	*e*P	PKPbc	22 45 55.4	+1.7
	comp=Z,2.8nm,1.0s						
VYHS	**Vyhne**	**147.69**	**345**	*e*PKP	PKPbc	22 45 58.9	+1.5
KOLL	**Kolacno**	**147.72**	**345**	*e*PKP	PKPbc	22 45 59.7	+2.2
GRA1	**Grafenberg Arr**	**147.83**	**355**	*e*PKP	PKPbc	22 46 01.9	+4.1
GRF	**Grafenberg Arr**	**147.83**	**355**	*e*PKIKP	PKPbc	22 46 01.9	+4.1
BR131	**Keskin Array S**	**147.96**	**319**	*e*PKP	PKPbc	22 45 59.5	+1.3
BRTR	**Keskin Array B**	**147.96**	**319**	PKPbc	PKPbc	22 45 58.9	+0.7
	comp=Z,1.7nm,0.8s,baz=103,slow=2.7,SNR=12						
GERES	**GERESS Array B**	**148.37**	**351**	PKPbc	PKPbc	22 45 59.0	-0.2
	comp=Z,0.8nm,0.8s,baz=90,slow=2.8,SNR=7.9						
FLN	**La Foliniere**	**148.41**	**9**	*e*PKP1	PKPbc	22 46 00.4	+1.1
LDF	**La Druitiere**	**148.63**	**9**	*e*PKP1	PKPbc	22 46 00.8	+0.9
	comp=Z,10nm,1.0s						
GRR	**Gorron**	**148.72**	**10**	*e*PKP1	PKPbc	22 46 01.3	+1.2
	comp=Z,4.0nm,0.6s						
CDF	**Champ du Feu**	**149.31**	**359**	*e*PKP1	PKPbc	22 46 03.2	+1.6
	comp=Z,3.3nm,0.8s						
HAU	**Haudompre**	**149.72**	**1**	*e*PKP1	PKPbc	22 46 05.1	+2.5
LOR	**Lormes**	**150.36**	**4**	*e*PKP1	PKPbc	22 46 05.8	+1.6
SSF	**Saint Saulge**	**150.54**	**5**	*e*PKP1	PKPbc	22 46 06.3	+1.7
	comp=Z,10nm,1.0s						
AVF	**Avril sur Loir**	**150.80**	**5**	*e*PKP1	PKPbc	22 46 06.4	+1.2
	comp=Z,5.0nm,1.0s						
CABF	**La Chapelle**	**151.11**	**1**	*e*PKP1	PKPbc	22 46 08.1	+2.2
	comp=Z,7.8nm,1.0s						

*ISCJB **18** 22:49:55.8±0.4, 726S±005×14501E±007, h33km, mb4.3/14, MS3.4/1, Error ellipse: s-maj=10.3km s-min=6.3km az=133.9*
*MOS **18** 22:49:55.7±0.9, 722S×14501E, h33km, mb4.7/3, Error ellipse: s-maj=20.1km s-min=10.3km az=99.1*
*BJI **18** 22:49:56.7, 720S×14490E, h35km, mb4.7*
*NEIC **18** 22:49:57.8±0.6, 722S×14495E, h35km, mb4.5/8, Error ellipse: s-maj=15.5km s-min=9.6km az=84.0*
*IDC **18** 22:49:57.9±4.7, 728S×14505E, h37km±44km, mb3.8/6, mb1 4.0/8, mb1mx3.9/11, mbtmp4.0/8, ML4.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/22, Error ellipse: s-maj=32.4km s-min=21.2km az=90.0*
ISC 18 22:49:54.2±5.0, 725S±006×14505E±008, h10km±30km, n43, σ1§04/43, mb4.3/14, MS3.4/1, 1C, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.99**	**136**	Pn	**Pn**	**22 50 41.7**	**0.0**
	4.3nm,0.3s,baz=304,slow=6.9,SNR=12						
PMG				Sn	**Sn**	**22 51 17.3**	**-0.2**
	16nm,0.3s,baz=94,slow=3.8,SNR=6.4						
CTA	**Charters Tower**	**12.81**	**175**	*e*P	**Pn**	**22 53 00.3**	**+3.9**
	11nm,1.2s						
CTA	**Charters Tower**	**12.81**	**175**	Pn	**Pn**	**22 52 58.8**	**+2.4**
	0.5nm,0.3s,baz=352,slow=10,SNR=3.5						
CTA	**Charters Tower**	**12.81**	**175**	*e*P	**Pn**	**22 53 00.3**	**+3.9**
CTA				pmax	pmax		
	comp=Z,11nm,1.2s						
CTAO	**Charters Tower**	**12.81**	**175**	*e*P	**Pn**	**22 52 59.6**	**+3.2**
KAKA	**Kakadu**	**13.54**	**245**	↑*i*P	**Pn**	**22 53 04.2**	**-2.2**
	comp=Z,55nm,0.6s						
WRAB	**Tennant Creek**	**16.32**	**218**	*e*P	**Pn**	**22 53 42.7**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,54nm,0.8s						
WRAB	**Tennant Creek**	**16.32**	**218**	*e*Pn	**Pn**	**22 53 42.6**	**-0.8**
	comp=Z,54nm,0.8s						
WRAB				*e*PcP	PcP	22 58 36.4	-0.3
WB2	**Warramunga Arr**	**16.33**	**218**	*e*P	**Pn**	**22 53 42.3**	**-1.2**
AS31	**Alice Springs**	**19.51**	**212**	*e*P	**Pn**	**22 54 23.8**	**+1.0**
ASAR	**Alice Springs**	**19.51**	**212**	P	**Pn**	**22 54 23.8**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=39,slow=11,SNR=171						
ASPA	**Alice Springs**	**19.52**	**212**	*e*P	**Pn**	**22 54 23.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.76**	**238**	*e*P	**P**	**22 54 45.4**	**-0.5**
	comp=Z,18nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**21.76**	**238**	P	**P**	**22 54 45.9**	**0.0**
	comp=Z,8.1nm,0.7s,mb4.2,baz=100,slow=9.8,SNR=13						
FITZ				LR	LR	23 04 01.7	
	comp=Z,149nm,21.5s,MS3.4,baz=66,slow=39						
STKA	**Stephens Creek**	**24.71**	**187**	*e*P	**P**	**22 55 14.2**	**-1.2**
	comp=Z,5.8nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**24.71**	**187**	P	**P**	**22 55 14.1**	**-1.4**
	comp=Z,7.6nm,0.8s,mb4.3,baz=356,slow=9.4,SNR=10						
MBWA	**Marble Bar**	**28.10**	**238**	*e*P	**P**	**22 55 48.5**	**+2.4**
	comp=Z,9.7nm,1.1s,mb4.3						
NACB	**Ningancheo**	**38.72**	**324**	P	**P**	**22 57 17.8**	**-0.5**
YHNB	**Yeheng**	**39.23**	**325**	P	**P**	**22 57 21.9**	**-0.7**
MJAR	**Matsushiro Arr**	**44.03**	**352**	P	**P**	**22 58 03.2**	**+1.2**
	comp=Z,1.1nm,0.9s,mb3.6,baz=180,slow=9.7,SNR=4.2						
KULM	**Kulim**	**46.02**	**284**	*e*P	**P**	**22 58 17.3**	**-0.4**
COCO	**West Island**	**47.72**	**260**	*e*P	**P**	**22 58 31.0**	**-0.1**
CD2	**Chengdu**	**54.79**	**316**	*e*P	**P**	**22 59 24.8**	**+0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KLR	**Kul'dur**	**57.44**	**350**	*e*P	**P**	**22 59 38.0**	**-5.1**
LZH	**Lanzhou**	**57.92**	**321**	*e*P	**P**	**22 59 47.5**	**+1.0**
LZH				AP	pP	22 59 56.5	+6.7
LZH				XP	sP	22 59 59.6	+8.6
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
GTA	**Gaotai**	**62.48**	**322**	*e*P	**P**	**23 00 18.9**	**+1.1**
LSA	**Lhasa**	**63.46**	**308**	P	**P**	**23 00 25.3**	**+1.1**
CASY	**Casey**	**63.55**	**195**	*e*P	**P**	**23 00 26.0**	**+1.2**
	comp=Z,1.4nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**64.29**	**333**	*e*P	**P**	**23 00 30.4**	**+0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**64.29**	**333**	*e*P	**P**	**23 00 30.4**	**+0.7**
	comp=Z,2.3nm,0.7s,mb4.3						
SONM	**Songino Array**	**64.57**	**332**	P	**P**	**23 00 31.6**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=161,slow=3.7,SNR=8.3						
ZAK	**Zakamensk**	**67.83**	**333**	*e*P	**P**	**23 00 52.1**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
VNDA	**Vanda**	**70.79**	**176**	P	**P**	**23 01 11.2**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=320,slow=6.9,SNR=4.2						
SBA	**Scott Base**	**71.47**	**175**	*e*P	**P**	**23 01 13.4**	**-1.5**
MKAR	**Makanchi Array**	**77.24**	**321**	P	**P**	**23 01 47.8**	**-0.7**
	comp=Z,1.2nm,0.7s,mb3.9,baz=104,slow=6.4,SNR=12						
MAW	**Mawson**	**80.35**	**203**	P	**P**	**23 02 04.4**	**-1.2**
KURK	**Kurchatov**	**81.06**	**324**	*e*P	**P**	**23 02 08.3**	**-1.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
KURK	**Kurchatov**	**81.06**	**324**	*e*P	**P**	**23 02 08.3**	**-1.1**
	comp=Z,6.1nm,1.4s,mb4.3						
QSPA	**South Pole Qui**	**82.72**	**180**	*e*P	**P**	**23 02 19.2**	**+1.1**
	comp=Z,7.6nm,1.0s,mb4.7						
MCK	**McKinley**	**86.15**	**24**	*e*P	**P**	**23 02 33.9**	**-1.6**
CHKZ	**Chkalovo**	**86.70**	**325**	*e*P	**P**	**23 02 37.7**	**-0.5**
ZRNK	**Zerenda**	**87.42**	**324**	P	**P**	**23 02 41.7**	**0.0**
TORD	**Torodi Ar. Bea**	**143.49**	**282**	PKP	PKPdf	23 09 26.9	-2.1
	comp=Z,0.7nm,0.7s,baz=83,slow=3.4,SNR=5.1						

*IDC **18** 23:02:31.0±1.1, 2017S×17423W, h0km, mb4.3/6, mb1 4.5/8, mb1mx4.2/17, mbtmp4.4/8, ML3.7/2, MS3.5/3, Ms1 3.5/3, ms1mx3.2/24, Error ellipse: s-maj=47.0km s-min=19.9km az=150.0*
*ISCJB **18** 23:02:33.1±1.8, 20.14S±007×174.12W±0.10, h33km±19km, mb4.5/11, MS3.4/1, Error ellipse: s-maj=16.7km s-min=10.5km az=51.6*
*MOS **18** 23:02:36.8±3.3, 2067S×17435W, h33km, mb5.1/6, Error ellipse: s-maj=26.6km s-min=13.8km az=7.5*
*NEIC **18** 23:02:36.1±0.5, 2012S×174.16W, h35km, mb4.9/7, Error ellipse: s-maj=19.5km s-min=10.9km az=161.0*
ISC 18 23:02:36.9±1.3, 2010S±007×1741W±0.1, h49km±15km, n43, σ1§10/29, mb4.5/11, MS3.4/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.53**	**20**	Pn	**Pn**	**23 04 09.2**	**-1.1**
	14nm,0.3s,baz=186,slow=4.5,SNR=19						
AFI				Sn	**Sn**	**23 05 15.1**	**-8.3**
	55nm,0.3s,baz=231,slow=22,SNR=10						
AFI				LR	LR	23 06 26.9	
	comp=Z,154nm,19.4s,baz=347,slow=36						
RAO	**Raoul Island**	**9.77**	**200**	Sn	**Sn**	**23 06 42.5**	**-0.4**
	82nm,0.3s,baz=265,slow=23,SNR=4.4						
RAR	**Rarotonga**	**13.41**	**97**	Pn	**Pn**	**23 05 44.8**	**+0.4**
	2.1nm,0.3s,baz=261,slow=13,SNR=4.9						
RAR				Sn	**Sn**	**23 07 59.0**	**-13**
	2.5nm,0.3s,baz=90,slow=18,SNR=2.7						
DZM	**Mont Dzumac**	**18.31**	**260**	P	**Pn**	**23 06 48.6**	**+1.4**
	0.7nm,0.3s,baz=81,slow=18,SNR=5.8						
DZM				LR	LR	23 12 23.5	
	comp=Z,260nm,20.3s,baz=72,slow=33						
URZ	**Urewera**	**19.66**	**201**	P	**Pn**	**23 07 05.0**	**+1.6**
	3.8nm,0.3s,baz=317,slow=4.0,SNR=15						
URZ				S	**S**	**23 10 29.2**	**-11**
	1.2nm,0.3s,baz=311,slow=22,SNR=4.8						
PPT	**Papeete**	**23.29**	**88**	LR	LR	23 16 01.1	
	comp=Z,125nm,18.3s,MS3.4,baz=263,slow=34						
CTA	**Charters Tower**	**37.22**	**263**	P	**P**	**23 09 43.3**	**-0.2**
	5.7nm,0.5s,mb4.7,baz=96,slow=10,SNR=11						
CTAO	**Charters Tower**	**37.22**	**263**	*e*P	**P**	**23 09 43.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.7						
CTAO	**Charters Tower**	**37.22**	**263**	*e*P	**P**	**23 09 43.8**	**+0.2**
	comp=Z,5.4nm,0.4s,mb4.7						
PMG	**Port Moresby**	**38.90**	**280**	*e*P	**P**	**23 09 56.1**	**-1.5**
PMG				pmax	pmax		
	comp=Z,17nm,0.8s						
PMG	**Port Moresby**	**38.90**	**280**	*e*P	**P**	**23 09 56.1**	**-1.5**
	comp=Z,17nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**41.30**	**244**	P	**P**	**23 10 15.8**	**-1.7**
	comp=Z,1.0nm,0.5s,mb3.7,baz=51,slow=9.8,SNR=5.7						
ASAR	**Alice Springs**	**48.22**	**256**	P	**P**	**23 11 12.5**	**-0.1**
	comp=Z,2.2nm,0.4s,mb4.5,baz=97,slow=7.9,SNR=29						
WB2	**Warramunga Arr**	**48.32**	**261**	*e*P	**P**	**23 11 12.6**	**-0.8**
WRAB	**Tennant Creek**	**48.32**	**261**	*e*P	**P**	**23 11 13.6**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.3s,mb5.2						
WRAB	**Tennant Creek**	**48.32**	**261**	*e*P	**P**	**23 11 13.6**	**+0.2**
	comp=Z,7.1nm,0.3s,mb5.2						
FITZ	**Fitzroy Crossi**	**56.76**	**261**	P	**P**	**23 12 16.1**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.4,baz=287,slow=18,SNR=14						
QSPA	**South Pole Qui**	**69.97**	**180**	*e*P	PcP	23 14 05.9	+0.7
MJAR	**Matsushiro Arr**	**72.15**	**321**	P	**P**	**23 13 57.1**	**+0.8**
	comp=Z,3.2nm,0.6s,mb4.4,baz=158,slow=5.8,SNR=7.5						
MAJO	**Matsushiro**	**72.16**	**321**	*e*P	**P**	**23 13 57.2**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
MAJO	**Matsushiro**	**72.16**	**321**	*e*P	**P**	**23 13 57.2**	**+0.8**
	comp=Z,4.7nm,0.5s,mb4.7						
KKM	**Kota Kinabalu**	**73.26**	**283**	*e*P	**P**	**23 14 04.1**	**+1.1**
NVAR	**Mina Array Bea**	**78.23**	**42**	P	**P**	**23 14 34.5**	**+3.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=228,slow=9.4,SNR=4.5						
MAW	**Mawson**	**83.17**	**199**	P	**P**	**23 14 55.1**	**-2.6**
BJT	**Baijiatuan**	**88.25**	**314**	*e*P	**P**	**23 15 22.9**	**0.0**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.3s						
BJT	**Baijiatuan**	**88.25**	**314**	*e*P	**P**	**23 15 22.9**	**+0.1**
	comp=Z,3.6nm,0.3s,mb5.1						
SNAA	**Sanae**	**88.27**	**177**	*e*P	**P**	**23 15 22.8**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**88.27**	**177**	*e*P	**P**	**23 15 22.8**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**129.14**	**351**	PKP	PKPdf	23 21 40.1	+0.6
	comp=Z,0.6nm,0.5s,baz=27,slow=1.4,SNR=5.5						
FINES	**FINESS Array B**	**136.35**	**346**	PKP	PKPdf	23 21 55.2	+2.2
	comp=Z,1.4nm,1.0s,baz=29,slow=4.4,SNR=6.2						
FINES	**FINESS Array B**	**136.35**	**346**	PKP	PKPdf	23 21 55.2	+2.2
AKASG	**Malin Array Be**	**144.36**	**334**	PKP	PKPdf	23 22 06.6	-0.9
	comp=Z,0.8nm,0.3s,baz=43,slow=4.4,SNR=14						
SIM	**Simferopol'**	**145.99**	**323**	*i* PKP2	PKPab	23 22 14.6	+2.9
SIM				pmax	pmax		
	comp=Z,40nm,15.5s						
MALT	**Malatya**	**146.58**	**310**	*e*PKP2	PKPab	23 22 15.8	+1.8
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**148.37**	**352**	*e*PKPbc	PKPbc	23 22 20.0	+2.2
	comp=Z,6.0nm,1.0s						
CLL				*e*PKiKP	PKiKP	23 22 22.0	+2.6
BRG	**Berggiesshubel**	**148.65**	**350**	*e*P	PKPbc	23 22 20.3	+1.8
	comp=Z,1.3nm,0.9s						
BR131	**Keskin Array S**	**149.24**	**316**	*e*PKPdf	PKPdf	23 22 17.6	+1.9
BR131				*e*PKPab	PKPab	23 22 26.6	+2.0
BRTR	**Keskin Array B**	**149.24**	**316**	PKPbc	PKPbc	23 22 21.1	+1.1
	comp=Z,0.5nm,0.5s,baz=139,slow=4.9,SNR=6.7						
GRA1	**Grafenberg Arr**	**150.18**	**353**	*e*PKP	PKPbc	23 22 24.3	+2.0
GRF	**Grafenberg Arr**	**150.18**	**353**	*e*PKIKP	PKPbc	23 22 24.3	+2.0
KHC	**Kasperske Hory**	**150.40**	**350**	*e*PKPbc	PKPbc	23 22 21.5	-1.3
KHC				x	x	23 22 24.5	
KHC	**Kasperske Hory**	**150.40**	**350**	*e*P	PKPbc	23 22 21.5	-1.3
KHC				*e*		23 22 24.5	
GERES	**GERESS Array B**	**150.65**	**350**	PKPbc	PKPbc	23 22 24.8	+1.4
	comp=Z,0.6nm,0.6s,baz=40,slow=2.3,SNR=8.3						

*NIED **18** 23:04:00.44.10N×14820E, h62km, Mw3.8 Best double couple: M0:4.79000×10^14 NP1:φ=141.00000°, δ76.00000°, λ-143.00000°. NP2:φ=41.00000°, δ54.00000°, λ-18.00000°.*
JMA 18 23:04:09.5±0.3, 4408N×14819E, h0km, M4.4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.91**	**249**	P	Pn	23 04 43.7	+0.4
NEM2				*e*S	Sn	23 05 08.6	+0.5
JRA	**Rausu**	**2.22**	**267**	P	Pn	23 04 48.2	+0.7
JRA				*e*S	Sn	23 05 16.8	+1.2
JNK	**Nakash**	**2.56**	**260**	P	Pn	23 04 53.2	+1.0
JNK				*e*S	Sn	23 05 25.1	+1.0
JAK	**Akkeshi**	**2.76**	**248**	P	Pn	23 04 55.9	+0.9
JAK				*e*S	Sn	23 05 29.7	+0.7
JTKR	**Abashiri--Toko**	**3.09**	**269**	P	Pn	23 05 01.5	+2.0
JAR	**Ashorobuto**	**3.30**	**258**	P	Pn	23 05 04.3	+1.9
JAR				*e*S	Sn	23 05 44.6	+2.3
JCH	**Churui**	**3.81**	**249**	P	Pn	23 05 10.6	+1.1
JKK2	**Kamakawa 2**	**3.93**	**269**

ASPA	Alice Springs	21.96 199	eP	P	23 13 22.9	+1.4
TGY	Tagaytay City	26.63 310	P	P	23 14 07.0	+0.7
	comp=Z,102nm,0.3s,baz=162,slow=9.6,SNR=2.9					
MBWA	Marble Bar	28.03 228	eP	P	23 14 18.5	-0.4
	comp=Z,26nm,1.0s,mb4.8					
STKA	Stephens Creek	28.81 180	eP	P	23 14 24.4	-1.4
	comp=Z,5.9nm,0.8s,mb4.4					
STKA	Stephens Creek	28.81 180	P	P	23 14 23.8	-2.0
	comp=Z,6.2nm,0.8s,mb4.4,baz=348,slow=9.0,SNR=15					
STKA	Stephens Creek	28.81 180	eP	P	23 14 24.4	-1.3
FORT	Forrest	30.56 204	eP	P	23 14 41.7	+0.4
	comp=Z,74nm,0.7s,mb5.6					
DZM	Mont Dzumac	30.66 130	P	P	23 14 42.6	+0.4
	comp=Z,18nm,0.9s,mb4.9,baz=315,slow=11,SNR=5.7					
KSM	Kuching	31.68 278	eP	P	23 14 51.0	-0.1
YHNB	Yeheng	33.78 325	eP	P	23 15 09.4	-0.1
TOO	Toolangi	34.66 175	eP	P	23 15 19.2	+2.0
	comp=Z,6.3nm,1.0s,mb4.5					
TOO	Toolangi	34.66 175	eP	P	23 15 19.2	+2.0
TOO			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5					
SSE	Sheshan	39.06 332	P	P	23 15 54.8	+0.2
SSE			S	S	23 21 52.9	-0.2
SSE			AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9					
SSE			AMB	AMB		
	comp=Z,40nm,4.7s					
SSE			LR	LR		
	comp=N,100nm,20.2s,MS4.0					
SSE			LR	LR		
	comp=E,230nm,20.2s,MS4.0					
SSE			LR	LR		
	comp=Z,150nm,19.1s,MS3.8					
MJAR	Matsushiro Arr	39.39 356	P	P	23 15 54.3	-3.0
	comp=Z,1.7nm,0.7s,mb3.9,baz=183,slow=6.1,SNR=3.7					
MJAR			LR	LR	23 28 39.1	
	comp=Z,128nm,21.3s,MS3.7,baz=140,slow=31					
MAJO	Matsushiro	39.39 356	eP	P	23 15 58.7	+1.4
TAU	Tasmania Unive	40.14 174	P	P	23 16 02.4	-1.2
NJ2	Nanjing	40.98 330	eP	P	23 16 10.1	-0.4
NJ2			AP	pP	23 16 24.9	+8.9
NJ2			PP	PP	23 17 46.4	+1.3
NJ2			S	S	23 22 19.0	-2.8
NJ2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6					
NJ2			AMB	AMB		
	comp=Z,80nm,5.3s					
NJ2			LR	LR		
	comp=N,370nm,17.8s,MS4.5					
NJ2			LR	LR		
	comp=E,510nm,21.5s,MS4.5					
NJ2			LR	LR		
	comp=Z,260nm,21.9s,MS4.0					
KULM	Kulim	41.80 281	eP	P	23 16 16.7	-0.6
PSI	Prapat	43.13 277	P	P	23 16 26.6	-1.4
	comp=Z,58nm,1.0s,mb5.3,baz=100,slow=3.2,SNR=29					
GYA	Guiyang	44.70 313	P	P	23 16 41.5	+0.8
GYA			AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5					
XAN	Xi'an	47.99 323	P	P	23 17 05.8	-0.8
BJT	Baijiatuau	48.72 334	P	P	23 17 12.1	-0.1
CD2	Chengdu	49.37 316	eP	P	23 17 17.6	+0.5
CD2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0					
YSS	Yuzh-Sakhalins	49.67 1⇑	eP	P	23 17 19.6	+0.2
YSS			pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9					
YSS	Yuzh-Sakhalins	49.67 1	P	P	23 17 18.9	-0.5
HHC	Hu-ho-hao-te	51.51 331	eP	P	23 17 38.1	+4.8
HHC			AP	pP	23 17 45.3	+6.4
HHC			XP	sP	23 17 51.9	+11
HHC			S	S	23 24 51.3	-1.6
HHC			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9					
HHC			AMB	AMB		
	comp=Z,110nm,3.6s					
LZH	Lanzhou	52.47 321	⇓P	P	23 17 41.3	+0.8
LZH			AMB	AMB		
	comp=Z,30nm,1.5s,mb5.0					
LZH			AMB	AMB		
	comp=Z,50nm,6.9s					
LZH			LR	LR		
	comp=E,340nm,15.4s					
LZH			LR	LR		
	comp=Z,440nm,18.5s,MS4.5					
KLR	Kul'dur	52.65 352	eP	P	23 17 37.8	-4.0
HIA	Hailar	55.34 343	d iP	P	23 18 00.1	-1.4
GTA	Gaotai	57.03 322	eP	P	23 18 14.5	+0.9
GTA			PP	PP	23 20 26.8	+6.5
GTA			SCP	ScP	23 22 59.3	-8.0
GTA			PCS	PcS	23 23 01.6	-7.8
GTA			S	S	23 26 10.5	+3.1
GTA			AMB	AMB		
	comp=Z,80nm,5.7s					
GTA			LR	LR		
	comp=N,90nm,19.8s,MS4.1					
GTA			LR	LR		
	comp=E,90nm,16.7s,MS4.1					
GTA			LR	LR		
	comp=Z,110nm,14.1s,MS4.1					
LSA	Lhasa	58.17 308	eP	P	23 18 23.1	+1.5
LSA	Lhasa	58.17 308	eP	P	23 18 23.6	+2.0
LSA			pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0					
LSA	Lhasa	58.17 308	eP	P	23 18 23.6	+2.0
	comp=Z,22nm,1.4s,mb5.0					
ULN	Ulaanbaatar	58.94 333	eP	P	23 18 27.5	+0.6
ULN			pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5					
ULN	Ulaanbaatar	58.94 333	eP	P	23 18 27.4	+0.5
	comp=Z,5.9nm,1.1s,mb4.5					
SONM	Songino Array	59.21 333	P	P	23 18 28.2	-0.6
	comp=Z,1.7nm,1.1s,mb4.0,baz=146,slow=5.8,SNR=7.9					
SONM			LR	LR	23 46 34.9	
	comp=Z,173nm,18.3s,MS4.2,baz=132,slow=39					
CIT	Chita	59.70 340	eP	P	23 18 32.5	+0.3
CIT			pmax	pmax		
	comp=Z,38nm,2.0s,mb5.1					
JIRN	Jiri	61.42 304	eP	P	23 18 44.5	+0.6
PALK	Pallekele	61.70 280	P	P	23 18 45.9	+0.1
GUN	Gumba	61.76 304	eP	P	23 18 46.9	+0.7
	comp=Z,67nm,1.3s,mb5.6					
PKI	Pulchoki	62.04 303	eP	P	23 18 48.3	+0.2
KKN	Kakani	62.22 303	eP	P	23 18 49.5	+0.2
	comp=Z,36nm,1.0s,mb5.5					
KKN	Kakani	62.22 303	eP	P	23 18 49.5	+0.2
KKN			pmax	pmax		
	comp=Z,36nm,1.0s,mb5.5					
DMN	Daman	62.30 303	eP	P	23 18 50.3	+0.4
	comp=Z,67nm,1.2s,mb5.6					
ZAK	Zakamensk	62.47 333	eP	P	23 18 50.5	-0.5
ZAK			pmax	pmax		
	comp=Z,20nm,1.6s,mb5.0					
MA2	Magadan	62.71 5	P	P	23 18 52.6	0.0
TLY	Talaya	63.25 335	eP	P	23 18 57.2	+1.0
TLY			eSS	SS	23 31 30.5	-2.9
TLY			pmax	pmax		
	comp=Z,12nm,1.7s,mb4.8					
TLY			MLR	MLR		
	comp=Z,126nm,18.0s,MS4.1					
TLY	Talaya	63.25 335	eP	P	23 18 56.1	-0.1
MOY	Mondy	64.40 333	eP	P	23 19 04.7	+0.9
CASY	Casey	66.92 193	eP	P	23 19 19.9	-0.1
	comp=Z,14nm,1.1s,mb4.9					
WMQ	Urumqi	67.04 321	eP	P	23 19 21.1	+0.3
WMQ			PCP	PcP	23 19 49.8	+0.8
WMQ			PP	PP	23 21 52.5	+4.0
WMQ			S	S	23 28 09.6	-4.1
WMQ			SS	SS	23 32 27.6	-4.9
WMQ			AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8					
WMQ			AMB	AMB		
	comp=Z,100nm,4.0s					
WMQ			LR	LR		
	comp=N,70nm,22.0s,MS3.9					
WMQ			LR	LR		
	comp=E,40nm,22.0s,MS3.9					
WMQ			LR	LR		
	comp=Z,40nm,24.0s,MS3.5					
PPT	Papeete	68.85 108	eLR	LR	23 41 07.6	
	comp=Z,102nm,22.0s					
PPT	Papeete	68.85 108	LR	LR	23 48 02.5	
	comp=Z,134nm,18.1s,MS4.2,baz=234,slow=34					
TBI	Tubuai	69.44 114	eLR	LR	23 41 23.6	
	comp=Z,146nm,30.8s					
POO	Poona	70.04 291	⇓iP	P	23 19 37.0	-2.5
	comp=Z,25nm,1.0s,mb5.1					
MKAR	Makanchi Array	71.78 321	P	P	23 19 50.1	0.0
	comp=Z,8.7nm,0.9s,mb4.7,baz=108,slow=7.8,SNR=64					
MIR	Mirnyy	71.93 198	d iP	P	23 19 53.0	+2.0
MIR			pmax	pmax		
	comp=Z,275nm,1.0s					
BILL	Bilibino	72.85 9	⇓eP	P	23 19 55.5	-1.0
BILL			e		23 20 07.7	
BILL			pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4					
BILL			MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1					
ZAL	Zalesovo	73.63 329	P	P	23 20 00.5	-0.6
	comp=Z,2.1nm,0.8s,mb4.1,baz=353,slow=7.0,SNR=11					
ZAL	Zalesovo	73.63 329	P	P	23 20 00.5	-0.6
ULHL	Ulahol	74.08 315	P	P	23 20 04.6	+0.9
	SNR=5.5					
KZA	Kyzart	74.73 315	P	P	23 20 08.8	+1.3
	SNR=21					
TKM2	Tokmak 2	74.75 316	P	P	23 20 08.3	+0.7
	SNR=8.1					
NVS	Novosibirsk	74.87 329	eP	P	23 20 06.4	-1.9
NVS			e		23 29 42.4	
NVS			pmax	pmax		
	comp=Z,19nm,1.5s,mb4.8					
NVS			pmax	pmax		
	comp=N,9.0nm,1.4s					
NVS			pmax	pmax		
	comp=E,12nm,1.3s					
TIXI	Tiksi	74.90 356	⇑eP	P	23 20 06.6	-1.9
TIXI			pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9					
UCH	Uchtor	75.29 315	P	P	23 20 12.4	+1.6
	SNR=14					
VNDA	Vanda	75.33 176	P	P	23 20 10.8	-0.2
	comp=Z,3.8nm,0.8s,mb4.4,baz=336,slow=4.8,SNR=20					
VNDA			LR	LR	23 50 00.8	
	comp=Z,170nm,21.6s,MS4.3,baz=347,slow=33					
VNDA	Vanda	75.33 176	P	P	23 20 10.8	-0.2
VNDA			pmax	pmax		
	comp=Z,4.0nm,0.8s					
VNDA			MLR	MLR		
	comp=Z,170nm,21.6s					
VNDA	Vanda	75.33 176	eP	P	23 20 10.6	-0.4
	comp=Z,9.1nm,1.2s,mb4.6					
AAK	Ala-Archa	75.43 315	P	P	23 20 15.0	+3.5
	SNR=5.2					
AAK	Ala-Archa	75.43 315	eP	P	23 20 11.3	-0.2
AAK			pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5					
AAK	Ala-Archa	75.43 315	eP	P	23 20 11.3	-0.2
	comp=Z,8.1nm,1.3s,mb4.5					
KURK	Kurchatov	75.61 324	eP	P	23 20 12.3	-0.3
KURK			pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8					
KURK	Kurchatov	75.61 324	eP	P	23 20 12.3	-0.3
	comp=Z,13nm,1.1s,mb4.8					
USP	Ospenovka	75.62 316	P	P	23 20 12.9	+0.2
	SNR=12					
EKS2	Erkin-Say	75.94 315	P	P	23 20 15.7	+1.2
	SNR=10					
SBA	Scott Base	76.05 175	eP	P	23 20 15.1	0.0
SBA			pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6					
SBA	Scott Base	76.05 175	eP	P	23 20 15.1	0.0
	comp=Z,7.9nm,1.1s,mb4.6					
CHKZ	Chkalovo	81.25 325	eP	P	23 20 42.9	-0.8
CHKZ			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
CHKZ	Chkalovo	81.25 325	eP	P	23 20 42.9	-0.8
	comp=Z,5.4nm,0.9s,mb4.5					
BRVK	Borovoye	81.26 325	eP	P	23 20 43.9	+0.1
BRVK			e	pP	23 20 51.0	+1.4
BRVK			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6					
BRVK	Borovoye	81.26 325	eP	P	23 20 43.9	+0.1
	comp=Z,6.9nm,0.9s,mb4.6					
BRVK			ePcP	PcP	23 20 51.0	+1.0
ZRNK	Zerenda	81.97 324	eP	P	23 20 47.5	0.0
ZRNK			e	pP	23 20 54.7	+1.4
ZRNK			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7					
ZRNK	Zerenda	81.97 324	eP	P	23 20 47.5	-0.1
	comp=Z,8.3nm,0.9s,mb4.7					
ZRNK			ePcP	PcP	23 20 54.7	+1.6
PMR	Palmer	82.80 27	eP	P	23 20 49.8	-2.0
PMR			pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9					
PMR	Palmer	82.80 27	eP	P	23 20 49.8	-2.0
	comp=Z,18nm,1.4s,mb4.9					
MAW	Mawson	83.06 202	P	P	23 20 53.3	+0.1
	comp=Z,11nm,1.0s,mb4.8,baz=56,slow=4.5,SNR=15					
MAW			LR	LR	23 55 00.4	
	comp=Z,97nm,20.6s,MS4.2,baz=69,slow=34					
MAW	Mawson	83.06 202	eP	P	23 20 53.3	+0.1
MAW			pmax	pmax		
	comp=Z,11nm,0.8s					
MAW	Mawson	83.06 202	eP	P	23 20 53.3	+0.1
	comp=Z,11nm,0.8s,mb4.9					
MCK	McKinley	83.61 25	eP	P	23 20 55.8	-0.2
MCK			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5					
MCK	McKinley	83.61 25	eP	P	23 20 55.8	-0.3
	comp=Z,3.2nm,0.8s,mb4.5					
COLA	College	84.44 24	eP	P	23 20 59.7	-0.5
QSPA	South Pole Qui	87.03 180	eP	P	23 21 13.2	+0.1
DAWY	Dawson	87.76 26	eP	P	23 21 17.4	+0.7
ARU	Arti	88.60 327	⇑iPKHKP		23 21 17.4	
ARU			pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.5					
ARU	Arti	88.60 327	⇑iP	P	23 21 17.4	-3.2
ARU			e		23 24 45.7	
ARU			eS		23 31 43.3	
ARU			eSS	SS	23 37 53.6	-3.5
ARU			pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.5					
INK	Inuvik	90.75 22	LR	LR	23 57 40.8	
	comp=Z,108nm,21.2s,MS4.3,baz=268,slow=32					
KIV	Kislovodsk	98.50 314	ePKIKP	P	23 22 07.6	+1.4
KIV	Kislovodsk	98.50 314	eP	P	23 22 07.6	+1.4
KIV	Kislovodsk	98.50 314	eP	P	23 22 07.5	+1.4
YKA	Yellowknife Ar	98.89 27	LR	LR	00 01 06.9	
	comp=Z,146nm,21.6s,MS4.4,baz=0.0,slow=32					
OBN	Obninsk	101.02 326	P	Pdif	23 22 22.0	+4.7
OBN			MLR	MLR		
	comp=Z,100nm,19.0s,MS4.3					
ROSC	El Rosal	144.01 86	PKP	PKPdf	23 28 03.6	+0.4
	comp=Z,4.3nm,0.4s,baz=62,slow=21,SNR=7.3					
LPAZ	La Paz	144.89 124	PKP	PKPdf	23 28 06.2	+1.5
	comp=Z,9.7nm,0.9s,baz=262,slow=2.6,SNR=27					
LPAZ	La Paz	144.89 124	PKP	PKPdf	23 28 06.2	+1.5
LPAZ			ePKPdf	PKPdf	23 28 06.6	+1.9
DBIC	Dimbokro	146.47 278	PKPbc	PKPbc	23 28 09.1	+0.3
	comp=Z,20nm,0.8s,baz=64,slow=4.6,SNR=16					
SDV	Santo Domingo	147.32 78	ePKPdf	PKPdf	23 28 10.6	+1.7

*ISCJB **18** 23:08:39.6±1.2, 4206N±006×2146E±004, h8km±6km,*
Error ellipse: s-maj=10.0km s-min=5.3km az=164.2
*THE **18** 23:08:41.3, 4220N×2134E, h21km*
ISC 18 23:08:38.8±1.6, 4213N±007×2143E±005, h2km±9km, n13, σ0=61/25, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	Skopje	0.16	177	i Pg	Pg	23 08 42.8	+0.9
SKO				i Sg	Sg	23 08 44.6	+0.6
SKO				eLg		23 08 44.8	
	comp=N,1μm,0.2s						
SKO				eLg		23 08 44.8	
	comp=E,2μm,0.3s						
KOZJ	Kozjak Brana	0.31	215	⇓iPg	Pg	23 08 45.2	+0.5
KOZJ				i Sg	Sg	23 08 49.0	+0.3
BELI	Belica	0.46	195	ePg	Pg	23 08 48.4	+0.7
BELI				i		23 08 48.7	
BELI				i		23 08 53.8	
BELI				i Sg	Sg	23 08 54.1	+0.4
STIP	Stip	0.71	127	i Pg	Pg	23 08 52.1	-0.4
STIP				i Sg	Sg	23 09 02.3	+0.5
STIP				eLg		23 09 02.7	
	comp=N,23nm,0.3s						
STIP				eLg		23 09 03.7	
	comp=E,11nm,0.4s						
BIA	Bitola	1.11	184	i Pg	Pg	23 08 59.6	-0.6
BIA				i Sg	Sg	23 09 13.3	-1.3
BIA				eLg		23 09 13.4	
	comp=N,48nm,0.4s						
BIA				eLg		23 09 13.5	
	comp=E,80nm,0.4s						
OHR	Ohrid	1.12	205	i Pg	Pg	23 08 59.6	-0.7
OHR				i Sg	Sg	23 09 14.3	-0.7
OHR				eLg		23 09 14.5	
	comp=E,90nm,0.5s						
VAY	Valandovo	1.18	133	i Pg	Pg	23 09 01.5	+0.1
VAY				i Sg	Sg	23 09 16.0	-0.6
VAY				eLg		23 09 16.6	
	comp=E,12nm,0.6s						
VAY				eLg		23 09 17.0	
	comp=N,12nm,0.5s						
FNA	Florina	1.35	182	ePg	Pg	23 09 04.1	-0.5
FNA				eSg	Sg	23 09 22.3	+0.2
GRG	Griva	1.38	148	ePg	Pg	23 09 04.8	-0.6
GRG				eSg	Sg	23 09 24.1	+0.9
KNT	Kendrikon	1.47	131	ePg	Pg	23 09 06.3	-0.6
KNT				eSg	Sg	23 09 26.1	+0.1
SRS	Serrai	1.91	121	ePn	Pn	23 09 13.1	+0.6
SRS				eSn	Sn	23 09 36.7	-0.4
LIT	Litokhoron	2.18	158	ePn	Pn	23 09 16.7	+0.5
DIVS	Divcibare	2.23	332	i Pn	Pn	23 09 26.6	+10
DIVS				Sn	Sn	23 09 55.6	+11

*NEIC **18** 23:11:11.3, 46.13N×281E, h10km, ML2.2(LDG),*
ML2.5(STR), After STR.
*STR **18** 23:11:11.3±0.6, 46.13N×281E, h10km±1km, Ml2.5, Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 18 23:11:10.3±0.1, 4619N×279E, h16km, Md2.6/3, Ml2.2/14,
Error ellipse: s-maj=1.2km s-min=0.9km az=110.0,
France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGF	Bois d'Agland	0.38	6	ePn	Pg	23 11 18.5	+0.5
	SNR=1.0						
BGF				eSg	Sg	23 11 23.6	+0.4
	43nm,0.2s,SNR=1.0						
BGF	Bois d'Agland	0.38	6	ePg	Pg	23 11 18.4	+0.4
BGF				eSg	Sg	23 11 23.6	+0.4
TCF	Toulx Ste Croi	0.41	285	ePg	Pg	23 11 19.0	+0.3
TCF				eSg	Sg	23 11 24.5	+0.1
	40nm,0.2s						
PYM	Petit Puy Mans	0.46	161	Pg	Pg	23 11 20.0	+0.5
PYM				Sg	Sg	23 11 26.5	+0.7
CFF	Clermont-Ferra	0.48	152	Pg	Pg	23 11 20.5	+0.6
VERF	Verneugheol	0.48	206	Pg	Pg	23 11 20.2	+0.2
VERF				Sg	Sg	23 11 26.8	+0.3
PLDF	La Plantade	0.62	110	Pg	Pg	23 11 22.7	+0.2
PLDF				Sg	Sg	23 11 31.1	+0.4
AVF	Avril sur Loir	0.72	33	ePn	Pn	23 11 24.7	-1.1
	SNR=1.0						
AVF				eSg	Sg	23 11 33.4	-0.5
	11nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	0.72	33	ePg	Pg	23 11 24.2	-0.2
AVF				ePn	Pn	23 11 24.7	-1.1
AVF				eSg	Sg	23 11 33.4	-0.5
FRNF	Fournols	0.81	191	Pg	Pg	23 11 25.9	-0.2
FRNF				Sg	Sg	23 11 36.4	-0.5
SMF	Signal de Mont	0.86	57	ePg	Pg	23 11 26.7	-0.3
SMF				eSg	Sg	23 11 37.7	-0.7
	3.7nm,0.2s,SNR=1.0						
SMF	Signal de Mont	0.86	57	ePn	Pn	23 11 26.0	-1.7
SMF				ePg	Pg	23 11 26.7	-0.3
SMF				eSg	Sg	23 11 37.7	-0.7
COLF	Collangettes	0.92	136	Pg	Pg	23 11 26.7	-1.4
COLF				Sg	Sg	23 11 39.8	-0.4
LBL	Lubilhac	1.00	161	Pg	Pg	23 11 28.2	-1.6
LBL				Sg	Sg	23 11 42.6	-0.3
SSF	Saint Saulge	1.01	29	ePg	Pg	23 11 29.2	-0.6
SSF				eSg	Sg	23 11 41.8	-1.2
	19nm,0.2s,SNR=1.0						
SSF	Saint Saulge	1.01	29	ePn	Pn	23 11 28.0	-1.7
SSF				ePg	Pg	23 11 29.2	-0.6
SSF				eSg	Sg	23 11 41.8	-1.2
HYF	Humbligny	1.09	355	ePg	Pg	23 11 31.0	-0.3
HYF				eSg	Sg	23 11 45.5	-0.1
RJF	Les Rejaudoux	1.25	226	ePg	Pg	23 11 33.6	-0.9
	SNR=1.0						
RJF				eSg	Sg	23 11 49.6	-1.2
	9.3nm,0.2s						
RJF	Les Rejaudoux	1.25	226	ePn	Pn	23 11 31.9	-1.2
RJF				ePg	Pg	23 11 33.6	-0.9
RJF				eSg	Sg	23 11 49.6	-1.2
LOR	Lormes	1.31	34	ePn	Pn	23 11 32.3	-1.6
	baz=217,SNR=1.0						
LOR	Lormes	1.31	34	ePg	Pg	23 11 34.5	-1.1
	baz=215						
LOR				eSn	Sn	23 11 48.8	-2.3
	SNR=1.0						
LOR				eSg	Sg	23 11 51.3	-1.3
	7.5nm,0.3s						
LOR	Lormes	1.31	34	ePn	Pn	23 11 32.3	-1.6
LOR				ePg	Pg	23 11 34.5	-1.1
LOR				eSn	Sn	23 11 48.8	-2.3
LOR				eSg	Sg	23 11 51.3	-1.3
CAF	Calviac	1.36	202	ePg	Pg	23 11 35.5	-1.0
	SNR=1.0						
CAF				eSn	Sn	23 11 49.5	-2.8
CAF				eSg	Sg	23 11 52.9	-1.3
	12nm,0.2s						
CAF	Calviac	1.36	202	ePn	Pn	23 11 32.7	-1.9
CAF				ePg	Pg	23 11 35.5	-1.0
CAF				eSn	Sn	23 11 49.5	-2.8
CAF				eSg	Sg	23 11 52.9	-1.3
VIVF	Saint-Julien-l	1.88	134	ePg	Pg	23 11 45.2	-1.1
	SNR=1.0						
VIVF				eSn	Sn	23 12 02.0	-3.0
VIVF				eSg	Sg	23 12 08.1	-2.6
	4.1nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-l	1.88	134	ePn	Pn	23 11 40.1	-1.6
VIVF				ePg	Pg	23 11 45.2	-1.1
VIVF				eSn	Sn	23 12 02.0	-3.0
VIVF				eSg	Sg	23 12 08.1	-2.6
LFF	La Frestale	1.90	230	ePg	Pg	23 11 45.8	-1.1
LFF				eSg	Sg	23 12 10.1	-1.5
	6.2nm,0.4s,SNR=1.0						
LFF	La Frestale	1.90	230	ePn	Pn	23 11 40.6	-1.5
LFF				ePg	Pg	23 11 45.8	-1.1
LFF				eSg	Sg	23 12 10.1	-1.5
MFF	Saint Martin d	2.07	283	ePg	Pg	23 11 48.9	-1.2
	SNR=1.0						
MFF				eSn	Sn	23 12 06.2	-3.7
	SNR=1.0						
MFF				eSg	Sg	23 12 14.9	-2.1
	3.4nm,0.2s,SNR=1.0						
MFF	Saint Martin d	2.07	283	ePn	Pn	23 11 43.5	-0.9
MFF				ePg	Pg	23 11 48.9	-1.2
MFF				eSn	Sn	23 12 06.2	-3.7
MFF				eSg	Sg	23 12 14.9	-2.1
LASF	Ste Croix	2.24	160	ePg	Pg	23 11 52.1	-1.2
	SNR=1.0						
LASF				eSn	Sn	23 12 10.1	-3.9
LASF				eSg	Sg	23 12 19.1	-3.2
	1.1nm,0.3s						
LASF	Ste Croix	2.24	160	ePn	Pn	23 11 45.7	-1.0
LASF				ePg	Pg	23 11 52.1	-1.2
LASF				eSn	Sn	23 12 10.1	-3.9
LASF				eSg	Sg	23 12 19.1	-3.2
CABF	La Chapelle	2.32	78	ePn	Pn	23 11 46.5	-1.3
	SNR=1.0						
CABF				eSg	Sg	23 12 23.5	-1.5
	0.5nm,0.3s						
SFTF	Sexfontaines	2.54	36	ePg	Pg	23 11 57.2	-1.8
	baz=225						
SFTF				eSg	Sg	23 12 30.0	-1.9
	1.6nm,0.2s						
SFTF	Sexfontaines	2.54	36	ePn	Pn	23 11 49.3	-1.5
SFTF				ePg	Pg	23 11 57.2	-1.8
SFTF				eSg	Sg	23 12 30.0	-1.9
MEZF	Maizieres J'vi	2.78	33	ePg	Pg	23 12 02.3	-1.3
	baz=218						
MEZF				eSg	Sg	23 12 36.1	-3.6
	4.4nm,0.4s						
MTLF

FLN	La Foliniere	3.40	320	eSn	Sn	23 12 38.1	-4.6
EPF	Esparros	3.61	210	eSn	Sn	23 12 42.9	-4.8
QUIF	Quistinic	4.42	295	eSn	Sn	23 13 03.0	-4.9

IDC 18 23:21:24.6±2.4, 462N×9386E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, ML3.3/1, MS3.9/3, Ms1 3.9/3, ms1mx3.3/15, Error ellipse: s-maj=114.8km s-min=25.7km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.37	109	Pn	Pn	23 22 46.8	+0.8
	1.0nm,0.3s,baz=284,slow=11,SNR=3.2						
MKAR	Makanchi Array	43.19	348	P	P	23 29 27.2	0.0
	0.3nm,0.4s,baz=157,slow=8.3,SNR=8.1						
ASAR	Alice Springs	48.11	128	P	P	23 30 06.5	+0.4
	0.5nm,0.6s,baz=299,slow=7.9,SNR=6.1						
ZAL	Zalesovo	49.72	353	LR	LR	23 52 23.8	
	comp=Z,103nm,19.8s,baz=350,slow=37						
FINES	FINESS Array B	75.45	333	P	P	23 33 10.3	-0.1
	0.7nm,0.7s,baz=95,slow=4.8,SNR=5.6						
FINES				LR	LR	00 11 31.1	
	comp=Z,80nm,18.3s,baz=84,slow=40						
NOA	NORSAR Array B	82.42	331	LR	LR	00 17 32.9	
	comp=Z,57nm,18.6s,baz=50,slow=41						

IDC 19 00:39:50.8±2.6, 1869S×17573W, h0km, mb4.1/3, mb1 4.3/4, mb1mx4.0/14, mbtmp4.1/4, ML2.4/1, Error ellipse: s-maj=132.0km s-min=30.8km az=144.0
ISCJB 19 00:39:53.3±3.3, 187S±08×1757W±07, h33km, mb4.0/5, Error ellipse: s-maj=148.0km s-min=15.5km az=102.7
NEIC 19 00:39:56.0±5.6, 1865S×17567W, h40km±51km, mb3.9/2, Error ellipse: s-maj=111.4km s-min=21.9km az=157.0
ISC 19 00:39:55.5±3.4, 188S±08×1756W±07, h35km, n7, σ0§34/7, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.05	38	Pn	Pn	00 41 22.5	0.0
	5.6nm,0.3s,baz=45,slow=20,SNR=7.1						
AFI				Sn	Sn	00 42 16.3	-14
	17nm,0.3s,baz=67,slow=21,SNR=12						
CTAO	Charters Tower	35.97	261	P	P	00 46 53.3	+0.4
	0.8nm,0.5s,mb3.9						
STKA	Stephens Creek	40.60	243	P	P	00 47 31.9	+0.1
	0.6nm,0.3s,mb3.7,baz=108,slow=3.2,SNR=3.7						
WRA	Warramunga Arr	47.13	260	P	P	00 48 23.5	-0.7
	0.7nm,0.4s,mb4.0,baz=97,slow=6.8,SNR=6.8						
ASAR	Alice Springs	47.16	255	P	P	00 48 24.6	+0.2
	3.0nm,0.5s,mb4.5,baz=89,slow=8.6,SNR=43						
MBWA	Marble Bar	60.48	256	P	P	00 50 01.8	0.0
	0.5nm,0.5s,mb3.8						
TORD	Torodi Ar. Bea	173.83	154	PKP	PKPdf	01 00 02.6	+1.4
	1.0nm,1.1s,baz=212,slow=5.3,SNR=3.5						

IDC 19 00:46:50.2±7.6, 4950N×15571E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.9/5, ML3.8/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/26, Error ellipse: s-maj=181.2km s-min=43.6km az=134.0
ISCJB 19 00:46:51.4±2.5, 490N±02×1559E±04, h40km±15km, mb3.8/5, MS3.7/1, Error ellipse: s-maj=57.6km s-min=12.5km az=71.9
MOS 19 00:46:56.2±0.8, 4976N×15484E, h32km, mb4.0/4, Error ellipse: s-maj=38.4km s-min=18.8km az=69.1
ISC 19 00:46:54.0±2.3, 491N±02×1559E±04, h48km±13km, n16, σ1§11/15, mb3.8/5, MS3.7/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.60	5	ePN	Pn	00 47 17.8	-2.0
PET	Petropavlovsk	4.31	23	ePN	Pn	00 47 56.4	-0.5
PET				eS	Sn	00 48 47.9	+2.0
PET				pmax	pmax		
	comp=Z,24nm,0.7s						
PET				smax			
	comp=E,111nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
ASAJ	Asahikawa	10.41	246	Pn	Pn	00 49 21.5	+1.0
	comp=Z,0.9nm,0.3s,baz=104,slow=17,SNR=3.0						
ASAJ	Asahikawa	10.41	246	PN	Pn	00 49 21.5	+1.0
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	Songino Array	32.38	287	LR	LR	01 08 01.2	
	comp=Z,142nm,18.6s,MS3.7,baz=50,slow=40						
TBP	Tagbilaran	47.51	225	eP	P	00 55 24.1	-0.2
MKAR	Makanchi Array	47.54	297	P	P	00 55 24.5	-0.1
	comp=Z,0.9nm,0.7s,mb3.9,baz=59,slow=7.9,SNR=9.0						
MKAR	Makanchi Array	47.54	297	P	P	00 55 24.5	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
JOF	Joensuu	60.05	334	ep	P	00 56 54.7	-1.3
	comp=Z,0.3nm,0.3s,mb3.8						
KAF	Kangasniemi	62.09	336	ep	pP	00 57 24.9	+1.7
	comp=Z,0.9nm,0.8s						
FINES	FINESS Array B	62.70	335	P	P	00 57 13.6	-0.3
	comp=Z,0.7nm,0.5s,mb4.1,baz=36,slow=7.3,SNR=19						
FINES	FINESS Array B	62.70	335	P	P	00 57 13.6	-0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
STHS	Stebnicka Huta	74.40	331	e	P	00 58 20.6	-6.2
GERES	GERESS Array B	77.14	335	P	P	00 58 42.5	+0.1
	comp=Z,0.4nm,0.5s,mb3.6,baz=19,slow=5.7,SNR=5.6						
BRTR	Keskin Array B	77.93	318	P	P	00 58 48.3	+1.4
	comp=Z,0.9nm,0.9s,mb3.7,baz=53,slow=4.8,SNR=5.6						
BRTR	Keskin Array B	77.93	318	P	P	00 58 48.3	+1.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

CSEM 19 00:54:34.4±0.2, 3652N×2698E, h140km±3km, MD3.3, Error ellipse: s-maj=5.1km s-min=2.1km az=174.0
ISCJB 19 00:54:35.2±0.6, 3645N±006×2692E±005, h139km±10km, Error ellipse: s-maj=9.1km s-min=7.1km az=163.2
ATH 19 00:54:35.8, 3649N×2686E, h135km±3km
HLW 19 00:54:35.2, 3645N×2698E, h33km, Mb3.9
ISK 19 00:54:37.6, 3663N×2691E, h120km, MD3.3
ISC 19 00:54:36.3±0.6, 3645N±005×2692E±005, h130km±9km, n36, σ0§73/42, 3C-5D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.60	62	PG	Pn	00 54 56.3	+0.3
BODT	Bodrum	0.69	27	PG	Pn	00 54 56.3	-0.3
BODT				SG	Sn	00 55 15.0	-1.9
BDRM	Kayabasi	0.74	34	iP	Pn	00 54 57.1	+0.1
BDRM				iS	Sn	00 55 11.6	-1.1
KARP	Karpathos	0.92	168	eP	Pn	00 54 59.5	+1.0
ARG	Arkhangelos	1.00	103	eP	Pn	00 55 00.6	+1.4
MLSB	Milas	1.09	39	PG	Pn	00 55 00.2	+0.1
YER	Yerkesik	1.29	58	PN	Pn	00 55 02.8	+0.7
DALT	Dalyan (Mudla)	1.42	77	PN	Pn	00 55 04.8	+1.3
AYDN	Tasoluk	1.43	32	iP	Pn	00 55 04.1	+0.4
AYDN				iS	Sn	00 55 24.0	-0.4
NPS	Neapolis	1.59	222	eP	Pn	00 55 05.9	+0.5
FETY	Fethiye	1.75	83	PN	Pn	00 55 07.9	+0.6
IZM	Izmir	1.96	8	PN	Pn	00 55 08.8	-1.0
KDAG	Bornova	1.97	8	iP	Pn	00 55 09.6	-0.3
DENT	Denizli	2.13	52	PN	Pn	00 55 11.6	-0.3
KSL	Kastellorizon	2.17	97	eP	Pn	00 55 13.8	+1.4
MANT	Manisa	2.42	32	iP	Pn	00 55 15.5	0.0
ELL	Elmali	2.42	82	PN	Pn	00 55 16.8	+1.3
VAM	Vamos	2.44	246	eP	Pn	00 55 16.1	+0.4
GVD	Gavdhos	2.81	236	eP	Pn	00 55 21.5	+1.0
KYTH	Kithira	3.14	268	eP	Pn	00 55 25.0	+0.3
VLI	Veliai	3.22	276	eP	Pn	00 55 25.5	-0.2
ITM	Ithomi	4.07	282	eP	Pn	00 55 37.5	+0.5
SLUM		5.14	196	P	Pn	00 55 51.1	-0.3
SLUM				S	Sn	00 56 45.3	-4.4
HMAT	Matruh	5.34	178	P	Pn	00 55 53.0	-1.0
HBRG	Burj al 'Arab	6.35	157	P	Pn	00 56 07.3	-0.2
SRN	Sarande	6.44	304	ip	Pn	00 56 03.0	-5.7
SWA1		7.24	188	⇓P	Pn	00 56 19.2	-0.3
SWA1				S	Sn	00 57 35.1	-5.1
SWA2		7.29	190	P	Pn	00 56 19.6	-0.6
KOT	Kottamia	7.70	146	⇓P	Pn	00 56 25.2	-0.5
HHAG	Hagoal	7.80	145	⇓P	Pn	00 56 26.6	-0.4
AMAG	Maghara	7.81	136	⇓P	Pn	00 56 26.4	-0.9
HSAF	As Saff	7.84	149	P	Pn	00 56 27.8	+0.1
GLL	Jalalah	7.95	148	⇓P	Pn	00 56 28.7	-0.3
SUZ		8.25	141	⇑P	Pn	00 56 32.8	-0.3
AWBH		8.28	168	⇑P	Pn	00 56 33.3	-0.3
HNKL	Nakhl	8.79	136	⇑P	Pn	00 56 39.9	-0.5
HNKL				S	Sn	00 58 12.2	-5.5

IDC 19 00:59:13.5±0.9, 1212N×14334E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.1/19, mbtmp4.2/8, MS3.1/1, Ms1 3.1/1, ms1mx2.3/21, Error ellipse: s-maj=43.0km s-min=20.7km az=84.0
ISCJB 19 00:59:16.8±0.7, 1207N±009×1433E±02, h33km, mb4.2/14, MS2.9/1, Error ellipse: s-maj=26.9km s-min=12.0km az=163.8
NEIC 19 00:59:18.9±0.5, 1210N×14324E, h35km, mb4.3/6, Error ellipse: s-maj=20.9km s-min=10.0km az=81.0
MOS 19 00:59:19.5±1.7, 1199N×14245E, h33km, mb4.6/6, Error ellipse: s-maj=31.4km s-min=15.4km az=111.4
ISC 19 00:59:18.7±0.7, 1213N±009×1434E±02, h35km, n26, σ0§86/24, mb4.2/14, MS2.9/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	20.37	318	LR	LR	01 10 14.5	
	comp=Z,52nm,19.0s,MS2.9,baz=90,slow=32						
NACB	Ninganchiao	23.86	303	P	P	01 04 26.8	-1.9
WRAB	Tennant Creek	33.07	196	eP	P	01 05 51.5	+0.6
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
WRAB	Tennant Creek	33.07	196	eP	P	01 05 51.5	+0.6
	comp=Z,3.2nm,0.5s,mb4.5						
WRA	Warramunga Arr	33.08	196	P	P	01 05 49.7	-1.4
	comp=Z,1.6nm,0.7s,mb4.1,baz=20,slow=9.8,SNR=7.4						
ASAR	Alice Springs	36.76	195	P	P	01 06 23.6	+0.9
	comp=Z,0.6nm,0.7s,mb3.6,baz=17,slow=10,SNR=7.8						
STKA	Stephens Creek	43.78	182	eP	P	01 07 20.9	0.0
SONM	Songino Array	47.10	326	P	P	01 07 48.8	+1.6
	comp=Z,0.4nm,0.4s,mb3.7,baz=145,slow=7.3,SNR=4.5						
LSA	Lhasa	51.37	298	P	P	01 08 20.6	+0.8
MKAR	Makanchi Array	61.53	317	P	P	01 09 32.5	+0.4
	comp=Z,1.2nm,1.0s,mb4.0,baz=91,slow=9.7,SNR=5.9						
KURK	Kurchatov	64.76	321	eP	P	01 09 53.5	0.0
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
KURK	Kurchatov	64.76	321	eP	P	01 09 53.5	0.0
	comp=Z,2.2nm,0.3s,mb4.7						
CHKZ	Chkalovo	70.10	323	eP	P	01 10 26.9	-0.4
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
CHKZ	Chkalovo	70.10	323	eP	P	01 10 26.9	-0.5
	comp=Z,0.9nm,0.4s,mb4.0						
BVAR	Borovoye Array	70.16	322	P	P	01 10 28.1	+0.4
	comp=Z,2.2nm,0.4s,mb4.4,baz=108,slow=7.9,SNR=19						
BRVK	Borovoye	70.23	322	eP	P	01 10 28.8	+0.7
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BRVK	Borovoye	70.23	322	eP	P	01 10 28.8	+0.7
	comp=Z,1.5nm,0.4s,mb4.3						
ZRNK	Zerenda	70.99	322	eP	P	01 10 32.7	0.0
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	Zerenda	70.99	322	eP	P	01 10 32.7	0.0
	comp=Z,1.3nm,0.5s,mb4.1						
INK	Inuvik	76.27	22	eP	P	01 11 03.7	0.0
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	Inuvik	76.27	22	eP	P	01 11 03.7	0.0
	comp=Z,2.7nm,0.9s,mb4.2						
YKA	Yellowknife Ar	84.83	27	P	P	01 11 49.6	0.0
	comp=Z,0.7nm,0.5s,mb4.0,baz=285,slow=5.0,SNR=9.0						
ARCES	ARCESS Array B	88.01	342	P	P	01 12 04.7	-0.5
	comp=Z,2.0nm,0.6s,mb4.5,baz=72,slow=7.2,SNR=20						
FINES	FINESS Array B	91.85	335	P	P	01 12 21.8	-1.4
	comp=Z,0.7nm,0.5s,mb4.3,baz=84,slow=4.5,SNR=11						
FINES	FINESS Array B	91.85	335	P	P	01 12 21.8	-1.4
LPAZ	La Paz	149.21	101	PKPbc	PKPbc	01 19 06.3	+2.8
	comp=Z,3.0nm,0.7s,baz=266,slow=3.0,SNR=17						

NNC 19 01:06:31.8±9.1, 4049N×6880E, h28km±56km, mb3.7, mpv3.3, 6C-1D, Error ellipse: s-maj=58.3km s-min=48.2km az=40.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	2.91	25	⇑Pn	Pn	01 07 18.8	+2.6
	5.6nm,0.3s,baz=173,slow=9.7,SNR=438						
KK31				Pg	Pn	01 07 27.1	+11
	17nm,0.3s,baz=202,slow=16,SNR=54						
KK31				⇑Lg		01 08 09.5	
	42nm,0.4s,baz=204,slow=29,SNR=20						
TKM2	Tokmak 2	5.64	62	⇑Pn	Pn	01 07 52.9	-0.8
	0.3nm,0.7s						
AB31	Akbulak array	10.78	327	⇑Pn	Pn	01 09 03.5	-0.7
	0.4nm,0.3s,baz=133,slow=15,SNR=6.8						
AB31				⇑Sn	Sn	01 11 03.1	-0.8
	2.9nm,0.6s,baz=151,slow=27,SNR=12						
MK02	Makanchi Array	11.62	53	⇑Lg		01 12 45.0	
	2.7nm,1.1s,baz=240,slow=27						
KURK	Kurchatov	12.31	31	⇓Lg		01 13 01.6	
	4.1nm,1.1s						

IDC 19 01:09:29.9±0.5, 373N×12662E, h0km, mb4.4/23, mb1 4.5/23, mb1mx4.5/25, mbtmp4.4/23, MS3.7/8, Ms1 3.7/8, ms1mx3.4/23, Error ellipse: s-maj=25.3km s-min=11.7km az=76.0
MOS 19 01:09:33.5±1.1, 373N×12682E, h33km, mb4.9/15, Error ellipse: s-maj=17.5km s-min=7.6km az=110.7
ISCJB 19 01:09:34.5±1.0, 367N±004×12668E±006, h43km±9km, mb4.5/49, MS3.7/12, Error ellipse: s-maj=10.7km s-min=5.3km az=135.2
BJI 19 01:09:35.6, 396N×12643E, h28km, mB4.6, mb4.8, Ms4.0, Msz3.8
NEIC 19 01:09:36.3±1.4, 367N×12664E, h47km±13km, mb4.6/21, Error ellipse: s-maj=10.6km s-min=5.7km az=67.0
ISC 19 01:09:37.1±0.8, 367N±004×12670E±006, h50km±7km, h28km±3.5km; pP-P, n108, σ1§06/105, mb4.5/49, MS3.7/12, 7C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	4.49	339	eP	Pn	01 10 42.3	-0.3
CGP	Cagayan de Oro	5.16	337	⇓eP	Pn	01 11 01.3	+10
PAGZ	Pagadian	5.30	322	eP	Pn	01 10 54.1	+0.4
PAGZ				eS	Sn	01 11 53.6	+0.1
SWI	Sorong	6.41	135	P	Pn	01 11 09.7	+0.9
	124nm,1.0s						
PCI	Palu	8.22	237	P	Pn	01 11 40.4	+6.7
	48nm,0.8s						
KKM	Kota Kinabalu	10.71	283	ePn	Pn	01 12 07.5	-0.2
KSM	Kuching	16.52	263	ePn	Pn	01 13 22.3	-2.9
KAKA	Kakadu	17.24	161	eP	Pn	01 13 34.8	+0.5
	13nm,0.6s						
GUMO	Guam	20.47	60	LR	LR	01 20 40.4	
	comp=Z,139nm,20.8s,MS3.3,baz=228,slow=33						
YHNB	Yeheng	21.50	347	eP	P	01 14 17.7	-4.0
FITZ	Fitzroy Crossi	21.66	183	eP	P	01 14 22.9	-0.4
	11nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	21.66	183	P	P	01 14 22.9	-0.4
	4.1nm,0.5s,mb4.1,baz=351,slow=9.9,SNR=14						
JOW	Kunigami	23.08	4	P	P	01 14 38.6	+0.2
	11nm,0.8s,mb4.4,baz=184,slow=5.2,SNR=9.7						
WRAB	Tennant Creek	24.63	163	eP	P	01 14 51.8	-0.9
WRAB				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.1						
WRAB	Tennant Creek	24.63	163	eP	P	01 14 51.8	-0.9
	comp=Z,48nm,0.8s,mb5.1						
WRA	Warramunga Arr	24.63	163	P	P	01 14 52.7	-0.1
	comp=Z,23nm,0.7s,mb4.8,baz=343,slow=10,SNR=56						
WB2	Warramunga Arr	24.64	163	eP	P	01 14 52.4	-0.4
MBWA	Marble Bar	25.60	195	eP	P	01 15 02.0	+0.5
	comp=Z,4.2nm,0.6s,mb4.2						
KULM	Kulim	26.02	275	eP	P	01 15 02.0	-3.3
CBIJ	Chichi jima	27.61	31	P	P	01 15 19.4	-0.2
	comp=Z,46nm,0.8s,mb5.1,baz=270,slow=18,SNR=4.2						
CBIJ				LR	LR	01 24 35.5	
	comp=Z,108nm,21.7s,MS3.4,baz=187,slow=33						
PSI	Prapat	27.74	269	LR	LR	01 27 19.2	
	comp=Z,155nm,19.9s,MS3.6,baz=22,slow=39						
SSE	Sheshan	27.77	350	P	P	01 15 23.3	+2.2
SSE				AP	pP	01 15 31.9	-2.1
SSE				XP	sP	01 15 35.8	-4.2
SSE				S	S	01 20 03.8	+3.5
SSE				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
SSE				AMB	AMB		
	comp=Z,50nm,4.9s						
SSE				LR	LR		
	comp=Z,80nm,20.9s,MS3.3						
AS31	Alice Springs	28.06	166	eP	P	01 15 27.4	+3.7
ASAR	Alice Springs	28.06	166	P	P	01 15 25.7	+2.0
	comp=Z,3.9nm,0.6s,mb4.2,baz=335,slow=12,SNR=8.7						
ASPA	Alice Springs	28.06	166	eP	P	01 15 27.4	+3.7
NJ2	Nanjing	29.18	346	eP	P	01 15 34.8	+1.2
NJ2				AP	pP	01 15 43.8	-2.8
NJ2				XP	sP	01 15 47.8	-4.7
NJ2				PP	PP	01 16 29.1	-11
NJ2				S	S	01 20 24.0	+1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,40nm,5.9s						
NJ2				LR	LR		
	comp=N,290nm,26.0s,MS4.1						
NJ2				LR	LR		
	comp=E,480nm,25.9s,MS4.1						
NJ2				LR	LR		
	comp=Z,210nm,15.6s						
CTAO	Charters Tower	30.43	142	P	P	01 15 44.3	-0.4
JHJ	Hachijo jima 2	31.75	21	LR	LR	01 28 51.1	
	comp=Z,188nm,19.2s,MS3.8,baz=44,slow=37						
COCO	West Island	33.60	242	P	P	01 16 12.6	+0.1
KS15	Wonju Array Si	33.63	2	eP	P	01 16 11.6	-1.1
FORT	Forrest	34.28	178	eP	P	01 16 18.4	0.0
	comp=Z,9.6nm,0.6s,mb4.9						
MJAR	Matsushiro Arr	34.39	17	P	P	01 16 17.8	-1.6
	comp=Z,1.8nm,0.8s,mb4.1,baz=191,slow=8.5,SNR=4.7						
MJAR				LR	LR	01 30 07.3	
	comp=Z,250nm,19.7s,MS4.0,baz=195,slow=36						
XAN	Xi'an	34.46	333	P	P	01 16 18.8	-1.1
XAN				AP	pP	01 16 24.9	-8.1
HNR	Honiara	35.60	112	P	P	01 16 29.4	-0.3
BJT	Baijiatuau	37.42	347	eP	P	01 16 46.3	+1.0
BJT				pmax	pmax		
	comp=Z,52nm,1.1s						
BJT	Baijiatuau	37.42	347	eP	P	01 16 46.3	+1.0
	comp=Z,52nm,1.1s,mb5.3						
STKA	Stephens Creek	38.08	159	eP	P	01 16 48.5	-2.4
	comp=Z,8.3nm,0.7s,mb4.6						
STKA	Stephens Creek	38.08	159	P	P	01 16 49.7	-1.2
	comp=Z,9.6nm,0.6s,mb4.7,baz=332,slow=8.8,SNR=26						
SNY	Shenyang	38.10	356	⇑P	P	01 16 51.8	+0.8
SNY				AP	pP	01 17 01.1	-3.1
SNY				XP	sP	01 17 05.3	-4.8
SNY				S	S	01 22 49.6	+9.4
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
SNY				AMB	AMB		
	comp=Z,130nm,4.8s						
SNY				LR	LR		
	comp=N,220nm,24.9s						
SNY				LR	LR		
	comp=Z,110nm,21.1s,MS3.6						
SHL	Shillong	39.89	306	iP	P	01 17 07.0	+1.1
MDJ	Mudanjiang	40.86	3	P	P	01 17 14.0	0.0
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,30nm,4.6s						
MDJ	Mudanjiang	40.86	3	eP	P	01 17 14.4	+0.4
	comp=Z,13nm,0.9s,mb4.6						
LSA	Lhasa	42.45	311	eP	P	01 17 27.9	+0.9
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
LSA	Lhasa	42.45	311	eP	P	01 17 27.9	+0.8
	comp=Z,9.4nm,0.6s,mb4.6						
ASAJ	Asahikawa	42.66	17	P	P	01 17 27.3	-1.4
	comp=Z,8.6nm,0.7s,mb4.6,baz=265,slow=7.4,SNR=4.2						
KLR	Kul'dur	45.60	5	eP	P	01 17 49.4	-2.8
HIA	Hailar	45.82	354	eP	P	01 17 54.1	+0.2
DZM	Mont Dzumac	46.53	125	P	P	01 18 00.4	+0.9
	comp=Z,6.8nm,0.7s,mb4.7,baz=110,slow=12,SNR=3.8						
ULN	Ulaanbaatar	47.17	342	⇑eP	P	01 18 05.5	+1.0
ULN	Ulaanbaatar	47.17	342	eP	P	01 18 04.2	-0.3
	comp=Z,6.0nm,1.0s,mb4.5						
SONM	Songino Array	47.35	341	P	P	01 18 05.8	-0.1
	comp=Z,2.5nm,0.7s,mb4.3,baz=157,slow=8.5,SNR=14						
CIT	Chita	49.42	349	eP	P	01 18 23.9	+2.0
MOY	Mondy	52.43	340	eP	pP	01 18 57.3	-0.9
PET	Petropavlovsk	55.80	23	⇑eP	P	01 19 10.1	+1.1
PET				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
MKAR	Makanchi Array	57.59	325	P	P	01 19 20.7	-1.0
	comp=Z,2.3nm,0.5s,mb4.5,baz=122,slow=8.3,SNR=26						
MA2	Magadan	58.77	14	P	P	01 19 29.5	-0.5
AAK	Ala-Archa	60.38	318	⇑eP	P	01 19 42.2	+1.1
AAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
AAK	Ala-Archa	60.38	318	eP	P	01 19 40.1	-1.0
ZAL	Zalesovo	60.63	333	P	P	01 19 41.5	-1.2
	comp=Z,0.9nm,0.3s,mb4.4,baz=282,slow=10,SNR=2.5						
ZAL				LR	LR	01 50 28.1	
	comp=Z,62nm,18.1s,MS3.8,baz=166,slow=41						
KURK	Kurchatov	61.77	328	⇑eP	P	01 19 50.9	+0.4
KURK	Kurchatov	61.77	328	eP	P	01 19 49.5	-1.0
	comp=Z,9.7nm,0.8s,mb5.0						
NVS	Novosibirsk	61.91	333	eP	P	01 19 40.7	-11
BRVK	Borovoye	67.43	327	eP	P	01 20 27.7	+0.3
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
BRVK	Borovoye	67.43	327	eP	P	01 20 27.6	+0.3
	comp=Z,6.2nm,0.9s,mb4.6						
CHKZ	Chkalovo	67.52	328	eP	P	01 20 27.4	-0.5
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CHKZ	Chkalovo	67.52	328	eP	P	01 20 27.4	-0.6
	comp=Z,3.5nm,0.9s,mb4.4						
ZRNK	Zerenda	68.08	327	eP	P	01 20 30.3	-1.2
ZRNK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
ZRNK	Zerenda	68.08	327	eP	P	01 20 30.3	-1.1
	comp=Z,11nm,0.9s,mb4.9						
BILL	B

MCK	McKinley	84.23	26	eP		P	01 22 02.6	-0.6
	comp=Z,26nm,1.8s,mb5.1							
SBA	Scott Base	84.28	172	P		P	01 22 01.1	-2.3
KLMR	Klimovskoe	85.44	331	eP		P	01 22 08.7	-0.6
KLMR				pmax		pmax		
	comp=Z,20nm,1.4s,mb5.0							
MALT	Malatya	86.39	308	eP		P	01 22 15.0	+1.0
OBN	Obninsk	87.09	325	ceP		P	01 22 17.9	+0.5
OBN				e			01 25 48.4	
OBN				eS			01 32 40.3	
OBN				eSS		SS	01 38 34.6	-2.1
OBN				pmax		pmax		
	comp=Z,18nm,1.4s,mb5.1							
ASF	Jabal al Asfar	87.90	302	P		P	01 22 23.4	+2.2
	comp=Z,1.1nm,0.6s,mb4.2,baz=316,slow=6.2,SNR=5.1							
JOF	Joensuu	89.22	333	ep		P	01 22 26.7	-0.8
	comp=Z,0.8nm,0.4s,mb4.4							
KMBO	Kilima Mbogo	89.52	269	P		P	01 22 29.6	+0.8
	comp=Z,1.9nm,1.0s,mb4.4,baz=47,slow=19,SNR=2.5							
KMBO				LR		LR	02 02 50.6	
	comp=Z,40nm,19.2s,MS3.9,baz=94,slow=36							
KMBO	Kilima Mbogo	89.52	269	P		P	01 22 30.6	+1.7
BR131	Keskin Array S	90.03	310	eP		P	01 22 30.7	-0.6
	comp=Z,1.9nm,0.9s,mb4.4							
BRTR	Keskin Array B	90.03	310	P		P	01 22 30.4	-1.0
	comp=Z,1.3nm,0.9s,mb4.3,baz=121,slow=6.1,SNR=9.9							
BRTR	Keskin Array B	90.03	310⇑	eP		P	01 22 31.8	+0.5
ARCES	ARCESS Array B	90.50	340	P		P	01 22 32.8	-0.6
	comp=Z,1.1nm,0.7s,mb4.3,baz=87,slow=6.0,SNR=8.7							
KAF	Kangasniemi	91.64	332	ep		P	01 22 40.2	+1.5
	comp=Z,0.3nm,0.4s,mb4.0							
FINES	FINESS Array B	91.87	332	P		P	01 22 39.5	-0.4
	comp=Z,0.9nm,0.6s,mb4.3,baz=67,slow=5.0,SNR=5.4							
AKASG	Malin Array Be	91.92	321	P		P	01 22 38.5	-1.6
	comp=Z,0.4nm,0.4s,mb4.1,baz=70,slow=4.2,SNR=6.9							
AKASG	Malin Array Be	91.92	321	i P		P	01 22 39.2	-0.9
AKASG	Malin Array Be	91.92	321	P		P	01 22 38.5	-1.6
MLR	Muntele Rosu	94.92	316	P		P	01 22 53.2	-0.7
	comp=Z,3.5nm,1.0s,mb4.7,baz=243,slow=2.3,SNR=4.7							
SANT	Santorini	96.86	307	eP		P	01 23 02.0	-0.6
	comp=Z,36nm,0.8s							
NOA	NORSAR Array B	98.83	334	P		P	01 23 09.9	-1.6
	comp=Z,0.5nm,0.7s,mb4.2,baz=67,slow=6.8,SNR=3.4							
NOA				LR		LR	02 13 00.3	
	comp=Z,34nm,20.1s,MS3.9,baz=45,slow=39							
LBTB	Lobatse	101.60	245	eP		Pdif	01 23 25.1	+1.2
TORD	Torodi Ar. Bea	122.91	288	PKP		PKPdf	01 28 28.3	+0.7
	comp=Z,0.5nm,0.7s,baz=72,slow=1.6,SNR=11							
LPAZ	La Paz	160.77	132	ePKIKP		PKPdf	01 29 32.1	+0.7

MAN 19 01:26:05.0, 1893N×12032E, h4km, MS6.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	1.33	163	eP	Pn	01 26 28.6	-1.7
APYP	Conner	1.38	140	eP	Pn	01 26 29.3	-1.8
APYP				eS	Sb	01 26 50.1	+0.8
CVP	Callao Caves	1.88	130	eP	Pn	01 26 38.0	+0.1
BALP	Baler	3.40	159	eP	Pn	01 27 00.2	+1.5

*ISCJB **19** 01:28:04.5±0.3, 4680N±002×863E±002, h9km±4km, Error ellipse: s-maj=3.0km s-min=2.5km az=116.4*
*LDG **19** 01:28:05.9±0.1, 4681N×870E, h2km, Ml2.2/13, Error ellipse: s-maj=1.2km s-min=1.0km az=85.0*
*ZUR **19** 01:28:05.7, 4683N×869E, h2km±1km, ML2.1/20*
*VIE **19** 01:28:06.5±0.4, 4682N×876E, h13km±7km, ML2.2/3, Error ellipse: s-maj=2.7km s-min=2.3km az=37.0 11 km SE of Altdorf*
*STR **19** 01:28:09.6±0.6, 4692N×854E, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 19 01:28:05.6±0.3, 4681N±002×864E±002, h11km±3km, n46, σ0§93/70, 11C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUO	Muotathal	0.16	359	⇑iPg	Pg	01 28 09.1	-0.1
	2μm,0.3s						
MUO				eSg	Sg	01 28 11.5	-0.1
	2μm,0.3s						
BNALP	Bannalp	0.16	292	⇓iPg	Pg	01 28 09.7	+0.5
	625nm,0.2s						
BNALP				i Sg	Sg	01 28 12.3	+0.6
	625nm,0.2s						
LLS	Linth-Limmern	0.26	81	i Sg	Pg	01 28 10.5	-0.4
	357nm,0.1s						
LLS	Linth-Limmern	0.26	81	⇓iPg	Sg	01 28 13.4	-1.0
	357nm,0.1s						
HASLI	Hasliberg	0.34	261	ePg	Pg	01 28 13.4	+1.0
	437nm,0.4s						
HASLI				eSg	Sg	01 28 18.6	+1.6
	437nm,0.4s						
FUSIO	Fusio	0.36	178	i Sg	Pg	01 28 13.6	+0.9
	268nm,0.2s						
FUSIO	Fusio	0.36	178	⇑iPg	Sg	01 28 18.3	+0.8
	268nm,0.2s						
PLONS	Plons	0.56	65	ePg	Pg	01 28 16.7	+0.2
	254nm,0.3s						
PLONS				i Sg	Sg	01 28 22.9	-1.0
	254nm,0.3s						
ZUR	Zurich	0.56	356	i Sg	Pg	01 28 17.2	+0.7
	187nm,0.2s						
ZUR	Zurich	0.56	356	⇓iPg	Sg	01 28 25.2	+1.3
	187nm,0.2s						
WILA	Wila	0.63	17	⇑iPg	Pg	01 28 18.3	+0.4
	138nm,0.3s						
LIENZ	Alp Oberkamor	0.76	50	⇑iPg	Pg	01 28 20.5	+0.2
	33nm,0.3s						
SULZ	Sulz-Cheisache	0.80	334	ePg	Pg	01 28 21.9	+0.8
	285nm,0.3s						
LKBD	Leukerbad	0.82	239	⇑iPg	Pg	01 28 22.5	+1.1
	40nm,0.2s						
BALST	Balsthal	0.83	309	ePg	Pg	01 28 23.9	+2.2
	85nm,0.2s						
STEIN	Stein am Rhein	0.87	10	ePg	Pg	01 28 22.1	-0.4
	61nm,0.6s						
MUGIO	Muggio	0.93	163	ePg	Pg	01 28 24.5	+0.9
	71nm,0.2s						
SLE	Schleitheim	0.96	354	ePg	Pg	01 28 22.9	-1.2
	223nm,0.4s						
DAVA	Damuels	0.97	60	⇑iPg	Pg	01 28 24.1	-0.3
DAVA				⇑iSg	Sg	01 28 37.0	0.0
	comp=Z,8.7nm,0.1s						
BERNI	Berninapass	1.03	112	ePg	Pg	01 28 24.9	-0.6
	22nm,0.2s						
LOMF	Lomont	1.35	294	Pn	Pn	01 28 31.7	+1.2
LOMF				Sg	Sg	01 28 50.0	+0.8
MOF	Molkenrain	1.46	316	Pn	Pn	01 28 34.0	+2.0
MOF				Sg	Sg	01 28 53.9	+1.2
ECH	Echery	1.73	325	Pn	Pn	01 28 36.4	+0.7
ECH				Sg	Sg	01 29 01.2	0.0
MOTA	Moosalm	1.77	71	⇑iPg	Pg	01 28 38.7	-0.8
MOTA				⇑iSg	Sg	01 29 02.3	-0.1
	2.5nm,0.2s						
CABF	La Chapelle	1.77	264	ePn	Pn	01 28 36.1	-0.1
CABF	La Chapelle	1.77	264	ePg	Pg	01 28 40.0	+0.4
CABF				eSg	Sg	01 29 03.0	+0.5
	5.2nm,0.4s						
SQTA	Sankt Quirin	1.80	76	⇑iPg	Pg	01 28 39.8	-0.5
SQTA				⇑iSg	Sg	01 29 03.7	0.0
	3.4nm,0.2s						
CDF	Champ du Feu	1.85	331	ePn	Pn	01 28 37.3	0.0
CDF	Champ du Feu	1.85	331	eP	Pn	01 28 39.4	+2.1
CDF	Champ du Feu	1.85	331	ePg	Pg	01 28 40.5	-0.6
CDF				eSn	Sn	01 28 59.5	-1.2
CDF				eSg	Sg	01 29 04.6	-0.5
	2.3nm,0.2s						
LPL	La Plagne	1.85	226	ePg	Pg	01 28 41.6	+0.4
LPL				eSg	Sg	01 29 05.5	+0.3
	3.8nm,0.3s						
LPG	La Plagne	1.86	226	ePn	Pn	01 28 37.8	+0.3
LPG	La Plagne	1.86	226	ePg	Pg	01 28 41.6	+0.3
LPG				eSg	Sg	01 29 06.1	+0.7
	1.9nm,0.2s						
HAU	Haudompre	1.96	308	eP	Pn	01 28 40.9	+2.0
HAU	Haudompre	1.96	308	ePg	Pg	01 28 43.1	-0.2
HAU				eSg	Sg	01 29 08.7	-0.1
	3.0nm,0.3s						
MBDF	Montbardon	2.46	213	ePn	Pn	01 28 45.8	+0.1
MBDF	Montbardon	2.46	213	ePg	Pg	01 28 52.2	-0.6
MBDF				eSg	Sg	01 29 24.5	-0.2
	1.8nm,0.3s						
ORIF	Oris-en-Rattie	2.70	227	ePg	Pg	01 28 57.1	-0.3
ORIF				eSg	Sg	01 29 32.4	-0.1
	1.9nm,0.3s						
LOR	Lormes	3.30	280	ePn	Pn	01 28 57.1	-0.2
LOR	Lormes	3.30	280	ePg	Pg	01 29 07.6	-1.3
	baz=100						
LOR				eSn	Sn	01 29 35.3	-1.3
LOR				eSg	Sg	01 29 50.1	-1.6
	1.1nm,0.2s						
SMF	Signal de Mont	3.31	269	ePn	Pn	01 28 57.4	0.0
SMF	Signal de Mont	3.31	269	eP	Pn	01 29 00.1	+2.7
SMF	Signal de Mont	3.31	269	ePg	Pg	01 29 07.9	-1.1
SMF				eSg	Sg	01 29 50.3	-1.5
	1.7nm,0.3s						
VIVF	Saint-Julien-l	3.39	236	ePg	Pg	01 29 09.4	-1.3
VIVF				eSg	Sg	01 29 53.7	-0.9
	1.0nm,0.2s						
SSF	Saint Saulge	3.53	276	ePg	Pg	01 29 11.7	-1.5
SSF				eSg	Sg	01 29 57.5	-1.4
	1.4nm,0.4s						
AVF	Avril sur Loir	3.63	272	ePg	Pg	01 29 13.7	-1.5
AVF				eSg	Sg	01 30 01.1	-1.2
	0.6nm,0.2s						

IDC 19 01:38:08.1±8.3, 3387S×17998E, h58km±66km, mb3.8/2, mb1 4.1/3, mb1mx3.7/11, mbtmp4.1/3, ML3.7/1, Error ellipse: s-maj=57.1km s-min=37.3km az=54.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.96	207	P	Pn	01 39 19.8	-0.2
	3.2nm,0.3s,baz=40,slow=6.9,SNR=11						
URZ				S	Sn	01 40 16.7	+0.7
	2.2nm,0.3s,baz=282,slow=21,SNR=3.0						
ASAR	Alice Springs	41.36	272	P	P	01 45 48.1	-0.2
	2.4nm,0.9s,baz=113,slow=7.8,SNR=14						
WRA	Warramunga Arr	42.67	277	P	P	01 45 59.6	+0.5
	3.5nm,1.2s,baz=118,slow=7.6,SNR=8.3						
FINES	FINESS Array B	147.73	337	PKPbc	PKPbc	01 57 44.9	-1.4
	0.8nm,0.9s,baz=258,slow=7.0,SNR=2.9						
TORD	Torodi Ar. Bea	159.31	185	PKPab	PKPab	01 58 37.5	-0.1
	0.4nm,1.1s,baz=161,slow=4.5,SNR=4.8						

*ISCJB **19** 02:03:11.0±0.4, 4303N±005×063W±003, h10km, Error ellipse: s-maj=6.8km s-min=3.0km az=26.3*
*LDG **19** 02:03:11.4±0.1, 4303N×063W, h10km, Md1.8/2, Error ellipse: s-maj=2.9km s-min=1.2km az=10.0*
*STR **19** 02:03:11.3±0.1, 4300N×063W, h6km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **19** 02:03:11.7±0.2, 4304N×063W, h11km±1km, mbLg1.3/4, Error ellipse: s-maj=3.6km s-min=1.5km az=17.0, PRXIMO SOLUCIN POBRE*
ISC 19 02:03:11.0±0.8, 4305N±005×063W±003, h16km±6km, n21, σ0§30/27, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	Arette	0.07	309	Pg	Pg	02 03 13.9	0.0
ATE				Sg	Sg	02 03 15.8	-0.1
ATE	Arette	0.07	309	Pg	Pg	02 03 14.0	0.0
ATE				Lg		02 03 15.8	
ETSF	Etsaut	0.16	160	ePg	Pg	02 03 15.1	+0.1
ETSF				eSg	Sg	02 03 17.3	-0.4
	23nm,0.2s						
ETSF	Etsaut	0.16	160	Pg	Pg	02 03 15.1	+0.1
ETSF				Lg		02 03 17.3	
	12nm,0.2s						
REYF	Montagne du Re	0.18	82	Pg	Pg	02 03 15.4	+0.1
REYF				Sg	Sg	02 03 18.5	+0.3
REYF	Montagne du Re	0.18	82	Pg	Pg	02 03 15.5	+0.2
REYF				Lg		02 03 18.5	
LARF	Larrau	0.26	269	Pg	Pg	02 03 16.6	-0.1
LARF				Sg	Sg	02 03 21.0	+0.5
LARF	Larrau	0.26	269	Pg	Pg	02 03 16.7	+0.1
LARF				Lg		02 03 20.8	
ORDF	Ordiarp	0.28	307	Pg	Pg	02 03 17.3	+0.3
ORDF				Lg		02 03 21.6	
SJPF	Ste Jean	0.44	279	ePg	Pg	02 03 19.8	0.0
SJPF				eSg	Sg	02 03 25.4	-0.4
	4.9nm,0.2s						
SJPF	Ste Jean	0.44	279	Pg	Pg	02 03 19.8	0.0
SJPF				Lg		02 03 25.4	
	2.5nm,0.2s						
VIEF	Viey	0.51	108	Pg	Pg	02 03 20.9	-0.2
VIEF				Sg	Sg	02 03 27.6	-0.3
VIEF	Viey	0.51	108	Pg	Pg	02 03 20.9	-0.1
VIEF				Lg		02 03 27.6	
EALK	Alkurruntz	0.66	286	Pg	Pg	02 03 23.4	-0.5
	0.2nm,0.1s,SNR=9.3						
EALK				Lg		02 03 32.0	
	2.0nm,0.2s,SNR=5.0						
ELIZ	Elizondo	0.67	281	Pg	Pg	02 03 23.7	-0.4
	0.6nm,0.2s,SNR=11						
ELIZ				Lg		02 03 32.8	
	1.0nm,0.2s,SNR=7.9						
EBIE	Bielsa	0.67	122	Pg	Pg	02 03 24.1	-0.1
	0.2nm,0.0s,SNR=17						
EBIE				Lg		02 03 32.7	
	1.1nm,0.1s,SNR=7.9						
IUSE	Utxeti	0.68	262	Pg	Pg	02 03 24.8	+0.5
	0.7nm,0.1s,SNR=7.9						
IUSE				Lg		02 03 33.8	
	1.0nm,0.2s,SNR=7.9						
EPF	Esparros	0.71	91	ePg	Pg	02 03 25.0	+0.1
EPF				eSg	Sg	02 03 34.3	0.0
	1.0nm,0.2s						
EPF	Esparros	0.71	91	Pg	Pg	02 03 25.0	+0.1
EPF				Lg		02 03 34.3	
	0.5nm,0.2s						
ESAC	San Caprasio	1.33	175	Pg	Pg	02 03 37.0	+0.4
	2.2nm,0.3s,SNR=4.0						
ESAC				Lg		02 03 54.3	
	1.5nm,0.2s,SNR=4.0						
EMIR	Miracle	1.96	125	Lg		02 04 13.6	
	1.2nm,0.2s,SNR=4.0						

*CSEM **19** 02:23:55.5±0.1, 4567N×1078E, h15km, ML3.0/7, Error ellipse: s-maj=1.5km s-min=1.1km az=142.0*
*ISCJB **19** 02:23:55.2±0.3, 4572N±002×1080E±002, h13km±2km, Error ellipse: s-maj=3.2km s-min=2.2km az=160.2*
*ROM **19** 02:23:56.6±0.2, 4573N×1074E, h4km, Md2.7/14, Ml2.2/6, Error ellipse: s-maj=3.5km s-min=2.0km az=144.0*
*NEIC **19** 02:23:56.6, 4573N×1074E, h4km, MD2.7(ROM), After ROM.*
*LDG **19** 02:23:57.1±0.2, 4547N×1089E, h10km, Ml2.3/7, Error ellipse: s-maj=4.4km s-min=2.0km az=85.0*
*PRU **19** 02:23:59.2, 4574N×1104E, h0km*
ISC 19 02:23:56.3±0.3, 4568N±002×1078E±002, h9km±2km, n55, σ1§11/91, 8C-15D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALO	Salr	0.19	251	Pg	Pg	02 24 00.3	0.0
SALO				Sg	Sg	02 24 03.9	+1.0
	705nm,0.6s						
SAL	Salo	0.20	248	⇑iPg	Pg	02 24 00.4	+0.1
	652nm,0.4s						
TEOL	Teolo	0.70	117	⇑iPg	Pg	02 24 10.0	+0.2
TEOL				i Sg	Sg	02 24 19.8	+0.8
CTI	Castel Tesino	0.71	59	Pg	Pg	02 24 09.5	-0.4
CTI				Sg	Sg	02 24 20.3	+1.2
	61nm,0.3s						
CGRP	Cima Grappa	0.74	74	⇓iPg	Pg	02 24 10.5	0.0
CGRP				i Sg	Sg	02 24 20.2	+0.1
MDI	Monti di Nese	0.76	278	Pg	Pg	02 24 10.3	-0.5
MDI				Sg	Sg	02 24 22.1	+1.4
	69nm,0.3s						
APPI	Appiano	0.85	21	Pg	Pg	02 24 12.8	+0.1
APPI				Sg	Sg	02 24 24.1	+0.3
	109nm,0.3s						
CAE	Caneva	1.20	74	⇑ePg	Pg	02 24 20.0	+0.7
MUGIO	Muggio	1.24	282	Pg	Pg	02 24 19.5	-0.6
MUGIO				Sg	Sg	02 24 37.7	+1.5
DAVOX	Davos	1.27	331	Pg	Pg	02 24 19.5	-1.0
TUE	Stuetta	1.27	309	Pg	Pg	02 24 20.1	-0.6
TUE				Sg	Sg	02 24 37.3	0.0
	36nm,0.3s						
ERBM	Eremo	1.29	192	Pg	Pg	02 24 23.2	+2.2
	13nm,0.6s						
GSCL	Gusciola	1.34	186	Pg	Pg	02 24 23.5	+1.5
	14nm,0.6s						
MLNI	Malnisio	1.36	69	⇑ePg	Pg	02 24 22.9	+0.5
MLNI				eSg	Sg	02 24 41.6	+1.6
SEST	Monte Rota	1.46	42	Pg	Pg	02 24 24.1	-0.2
SEST				Sg	Sg	02 24 43.6	+0.4
	36nm,0.2s						
SCE	Schlegeis	1.50	25	⇓iPg	Pg	02 24 24.5	-0.6
SCE				i Sg	Sg	02 24 43.9	-0.6
SQTA	Sankt Quirin	1.57	11	⇓iSg	Sn	02 24 44.8	+0.1
	comp=Z,14nm,0.3s						
SQTA	Sankt Quirin	1.57	11	⇓iPg	Pg	02 24 25.8	-0.5
SQTA				⇓iSn	Sn	02 24 44.8	+0.1
	14nm,0.3s						
FVI	Forni Avoltri	1.66	56	Pg	Pg	02 24 28.0	-0.1
FVI				Sg	Sg	02 24 51.1	+1.4
	23nm,0.6s						
MOTA	Moosalm	1.68	7	⇓iSg	Sg	02 24 48.8	-1.4
	comp=Z,6.2nm,0.3s						
MOTA	Moosalm	1.68	7	⇓iPg	Pg	02 24 27.9	-0.6
MOTA				⇓iSn	Sg	02 24 48.8	-1.4
	6.2nm,0.3s						
MOTA	Moosalm	1.68	7	⇓iPg	Pg	02 24 27.9	-0.5
MOTA				i Sg	Sg	02 24 48.8	-1.4
WTTA	Wattenberg	1.69	20	⇓iSg	Sn	02 24 48.9	+1.2
	comp=Z,13nm,0.4s						
WTTA	Wattenberg	1.69	20	⇓iPg	Pg	02 24 28.1	-0.5
WTTA				⇓iSn	Sn	02 24 48.9	+1.2
	13nm,0.4s						
DAVA	Damuels	1.72	339	⇓iPg	Pg	02 24 30.1	+0.8
DAVA				⇓iSg	Sg	02 24 51.3	-0.3
	7.7nm,0.3s						
WATA	Walderalm	1.74	18	⇑iSg	Sg	02 24 50.9	-1.4
	comp=Z,3.9nm,0.2s						
WATA	Walderalm	1.74	18	⇑iPg	Pg	02 24 29.1	-0.6
WATA				⇑iSn	Sg	02 24 50.9	-1.4
	3.9nm,0.2s						
PTCC	Patocco-Chiusa	1.93	67	Pg	Pg	02 24 31.4	-1.9
	9.0nm,0.4s						
PII	Pisa	1.97	185	Pg	Pg	02 24 31.5	-2.5
	9.0nm,0.3s						
VOJS	Vojsko	2.19	80	i Pn	Pn	02 24 34.3	+1.4
VOJS				i Sn	Sg	02 25 06.2	-0.6
VOY	Vojsko	2.20	80	ePn	Pg	02 24 37.3	-1.2
VOY				eSn	Sg	02 25 06.2	-0.8
OBKA	Obir	2.75	71	⇓iPg	Pg	02 24 49.0	+0.1
OBKA				⇑iSg	Sg	02 25 26.5	+2.0
	2.2nm,0.3s						
LPG	La Plagne	2.84	268	ePn	Pn	02 24 42.2	+0.5
LPG				eSn	Sn	02 25 14.8	-1.2
	1.7nm,0.3s						
LPG	La Plagne	2.84	268	ePn	Pn	02 24 42.2	+0.5
LPG				eSn	Sn	02 25 14.8	-1.2
	0.9nm,0.3s						
PDKS	Podkum	2.97	81	ePn	Pg	02 24 51.4	-1.7
PDKS				eSn	Sg	02 25 32.0	+0.4
MBDF	Montbardon	2.99	253	ePn	Pn	02 24 42.9	-1.0
SBF	Sospel	3.00	234	ePn	Pn	02 24 42.0	-2.0
SBF				eSn	Sn	02 25 15.4	-4.6
	15nm,0.6s						
SBF	Sospel	3.00	234	ePn	Pn	02 24 42.0	-2.0
SBF				eSn	Sn	02 25 15.4	-4.6
	7.5nm,0.6s						
NVLJ	Novalja	3.10	110	i Pn	Pn	02 24 45.9	+0.5
NVLJ				i Sn	Sn	02 25 21.8	-0.8
NVLJ	Novalja	3.10	110	i Pn	Pn	02 24 45.9	+0.5
NVLJ				i Sn	Sn	02 25 21.7	-0.9
BOJS	Bojanci	3.14	92	i Pn	Pn	02 24 48.0	+2.1
BOJS				i Sn	Sg	02 25 36.1	-1.1
BOJS	Bojanci	3.14	92	i Pn	Pn	02 24 48.0	+2.1
PGF	Pioggiola	3.39	203	ePn	Pn	02 24 46.3	-3.0
CABF	La Chapelle	3.39	288	ePn	Pn	02 24 50.2	+0.8
CABF				eSn	Sn	02 25 29.7	-0.1
	0.4nm,0.3s						
CDF	Champ du Feu	3.63	320	ePn	Pn	02 24 54.5	+1.8
CDF				eSn	Sn	02 25 37.2	+1.5
	0.8nm,0.2s						
FRF	La Foret Royal	3.64	236	ePn	Pn	02 24 50.9	-1.8
HAU	Haudompre	3.83	309	ePn	Pn	02 24 57.3	+1.9
HAU				eSn	Sn	02 25 41.5	+1.0
	3.7nm,0.3s						
LMR	La Mourre	3.85	234	ePn	Pn	02 24 53.5	-2.2
KHC	Kasperske Hory	3.94	28	ePG	Pg	02 25 12.0	+0.3
KHC				eSN	Sn	02 25 42.9	-0.3
KHC				eSG	Sg	02 26 00.4	-2.3
VIVF	Saint-Julien-l	4.39	261	ePn	Pn	02 25 02.3	-0.8
RFYF	Reffroy	4.67	311	ePn	Pn	02 25 08.0	+1.1
SFTF	Sexfontaines	4.67	305	ePn	Pn	02 25 08.4	+1.4
SMF	Signal de Mont	4.92	284	ePn	Pn	02 25 11.0	+0.6
SMF				eSn	Sn	02 26 05.8	-1.6
	1.0nm,0.3s						
LOR	Lormes	5.04	291	ePn	Pn	02 25 12.6	+0.6
LOR				eSn	Sn	02 26 09.5	-0.9
	1.9nm,0.3s						
AVF	Avril sur Loir	5.27	285	ePn	Pn	02 25 15.3	+0.1

IDC 19 02:29:44.6±9.5, 2497S×18000W, h445km±86km, mb2.8/2, mb1 3.3/3, mb1mx3.0/12, mbtmp4.0/3, Error ellipse: s-maj=81.8km s-min=31.0km az=43.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.47	190	P	P	02 32 39.3	-0.1
	4.1nm,0.3s,baz=337,slow=2.7,SNR=12						
URZ				S	S	02 35 04.0	+0.2
	1.2nm,0.3s,baz=249,slow=23,SNR=9.7						
ASAR	Alice Springs	41.88	262	P	P	02 36 54.7	+0.5
	0.6nm,0.6s,baz=90,slow=6.3,SNR=8.8						
WRA	Warramunga Arr	42.35	267	P	P	02 36 57.9	-0.1
	0.4nm,0.5s,baz=104,slow=8.0,SNR=8.8						
HFS	Hagfors	143.59	348	PKP	PKPdf	02 48 26.9	-0.8
	0.5nm,0.4s,baz=76,slow=6.3,SNR=4.6						
TORD	Torodi Ar. Bea	168.13	188	PKPab	PKPab	02 50 10.0	-0.1
	0.3nm,0.5s,baz=176,slow=5.6,SNR=8.0						

MAN 19 02:31:00.9, 1192N×12410E, h1km, mb2.8, ML4.2, MS9.3, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.99	150	eP	Pg	02 31 19.8	-0.2
OCLP				eS	Sg	02 31 36.9	+4.0
PLP	Palo	1.14	131	eP	Pg	02 31 23.9	+1.1
PLP				eS	Sg	02 31 41.8	+4.3
RCP	Roxas	1.38	255	⇑eP	Pn	02 31 25.6	-1.6
RCP				eS	Sg	02 31 44.4	-0.7
PVCP	Virac	1.67	2	eP	Pn	02 31 31.4	+0.2
PVCP				eS	Sn

RC01 S **Sn** **03 06 12.4 -0.3**
PMR Palmer 2.34 52 P **Pn** **03 05 54.2 -0.7**
PMR S **Sn** **03 06 22.3 -1.6**
KDAK Kodiak Island 2.46 175 P **Pn** **03 05 55.2 -1.2**
92nm,0.3s,baz=17,slow=9.1,SNR=325
KDAK S **Sn** **03 06 24.2 -2.5**
KDAK Kodiak Island 2.46 175 P **Pn** **03 05 55.4 -1.0**
SML Sawmill 2.77 53 *e*Pn **Pn** **03 05 59.9 -0.6**
SML *e*Sn **Sn** **03 06 28.2 -5.8**
TTA Tatalina 3.08 333 *e*P **Pn** **03 06 05.8 +1.4**
MID Middleton Isla 3.46 100 *e*P **Pn** **03 06 08.9 -0.5**
KTH Kantishna Hill 3.48 15 P **Pn** **03 06 10.7 +0.9**
TRF Thorofare Moun 3.48 20 P **Pn** **03 06 10.7 +0.8**
EYAK Cordova Ski Ar 3.61 82 P **Pn** **03 06 10.6 -1.0**
MCK McKinley 4.01 27 P **Pn** **03 06 17.8 +1.0**
CHGN Chignik 4.86 218 P **Pn** **03 06 29.1 +0.9**
GCSA Galena City Sc 4.88 340 P **Pn** **03 06 30.4 +1.9**
MENT Mentasta 5.20 54 *e*P **Pn** **03 06 32.4 -0.3**
COLA College 5.24 25 P **Pn** **03 06 33.4 +0.2**
SDPT Sand Point 6.31 223 *e*P **Pn** **03 06 47.3 -0.4**
SDPT *e*Sn **Sn** **03 07 56.4 -2.1**
PNL Peninsula 6.86 89 P **Pn** **03 06 54.7 -0.4**
COLD Coldfoot 7.14 9 P **Pn** **03 06 59.7 +0.8**
DAWY Dawson 7.44 53 P **Pn** **03 07 03.1 +0.1**
FALS False Pass 7.76 231 *e*Pn **Pn** **03 07 08.0 +0.7**
FALS *e*Sn **Sn** **03 08 23.0 -11**
TNA Tin City 8.65 315 *e*Pn **Pn** **03 07 19.9 +0.6**
16nm,1.0s
SKAG Skagway 8.93 87 P **Pn** **03 07 21.3 -1.7**
WHY Whitehorse 8.96 79 P **Pn** **03 07 22.8 -0.7**
AKLV Akutan Long Va 9.28 235 P **Pn** **03 07 28.3 +0.5**
UNV Unalaska Valle 9.73 235 *e*Pn **Pn** **03 07 34.0 +0.1**
53nm,0.3s
UNV *e*Sn **Sn** **03 09 18.7 -2.6**
SIT Sitka 9.74 101 P **Pn** **03 07 33.2 -0.7**
NIKO Nikolski 11.34 237 *e*Pn **Pn** **03 07 55.9 +0.6**
CRAG Craig 11.59 106 *e*P **Pn** **03 07 59.6 +1.0**
20nm,0.4s
INK Inuvik 11.66 38 P **Pn** **03 07 59.2 -0.3**
1.9nm,0.3s,baz=224,slow=13,SNR=38
INK S **Sn** **03 10 05.3 -2.7**
0.7nm,0.3s,baz=190,slow=7.0,SNR=4.3
INK ScP ScP 03 16 57.6 -2.0
0.1nm,0.3s,baz=172,slow=5.0,SNR=4.2
INK Inuvik 11.66 38 *e*P **Pn** **03 07 59.4 -0.1**
INK *e* 03 10 04.9
INK pmax pmax
comp=Z,14nm,0.5s
INK Inuvik 11.66 38 *e*Pn **Pn** **03 07 59.4 -0.2**
comp=Z,14nm,0.5s
INK *e*Sn **Sn** **03 10 04.9 -3.0**
DLBC Dease Lake 11.85 89 P **Pn** **03 08 04.2 +2.2**
comp=Z,3.9nm,0.3s,baz=292,slow=11,SNR=30
DLBC Dease Lake 11.85 89 *e*Pn **Pn** **03 08 04.3 +2.3**
BBB Bella Bella 15.93 109 P **Pn** **03 08 55.9 +1.7**
comp=Z,0.2nm,0.3s,baz=48,slow=15,SNR=1.8
BBB S **S** **03 11 48.1 -8.1**
comp=Z,0.3nm,0.3s,baz=77,slow=15,SNR=2.6
YKW3 Yellowknife Ar 18.34 66 ⇓*i*Pn **Pn** **03 09 22.5 -0.8**
YKA Yellowknife Ar 18.36 66 P **P** **03 09 22.6 +0.7**
baz=277,slow=9.9,SNR=407
YKA ScP ScP 03 17 10.4 -1.3
baz=289,slow=2.2,SNR=43
YKA Yellowknife Ar 18.36 66 P **P** **03 09 22.6 +0.7**
YKA ScP ScP 03 17 10.4 -1.3
BILL Bilibino 19.06 311 *e*P **P** **03 09 28.6 -1.0**
BILL pmax pmax
comp=Z,7.0nm,1.3s
EDM Edmonton 22.56 90 *e*P **P** **03 10 07.9 +0.9**
NEW Newport 23.80 104 P **P** **03 10 17.6 -0.7**
comp=Z,3.5nm,0.7s,mb3.8,baz=310,slow=11,SNR=6.4
RES Resolute Bay 25.11 32 *e*P **P** **03 10 30.0 -0.2**
RES pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
RES Resolute Bay 25.11 32 *e*P **P** **03 10 30.0 -0.2**
comp=Z,6.2nm,0.6s,mb4.2
FFC Flin Flon 27.38 79 *e*P **P** **03 10 51.2 +0.6**
FFC pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
FFC Flin Flon 27.38 79 *e*P **P** **03 10 51.2 +0.5**
comp=Z,6.8nm,1.1s,mb4.1
EGMT Eagleton 27.58 97 *e*P **P** **03 10 53.5 +1.1**
comp=Z,4.6nm,0.8s,mb4.1
IMW Indian Meadow 29.93 104 *e*P **P** **03 11 14.5 +1.2**
comp=Z,9.0nm,0.7s,mb4.5
NVAR Mina Array Bea 30.83 119 P **P** **03 11 23.3 +2.1**
comp=Z,0.3nm,0.4s,mb3.4,baz=325,slow=7.7,SNR=3.2
NVAR pP pP 03 11 49.6 +1.4
comp=Z,0.6nm,0.6s,baz=304,slow=9.7,SNR=3.0
NVAR ScP ScP 03 17 47.0 +0.7
comp=Z,0.7nm,0.6s,baz=297,slow=1.9,SNR=5.8
PDAR Pinedale Array 31.45 104 P **P** **03 11 28.6 +2.0**
comp=Z,1.4nm,0.6s,mb3.9,baz=319,slow=5.4,SNR=13
PDAR pP pP 03 11 55.6 +2.0
comp=Z,1.1nm,0.7s,baz=316,slow=6.1,SNR=5.0
PDAR ScP ScP 03 17 47.7 -0.8
comp=Z,0.2nm,0.3s,baz=339,slow=2.3,SNR=4.2
PDAR Pinedale Array 31.45 104 P **P** **03 11 28.6 +2.0**
PDAR pP pP 03 11 55.6 +2.0
PDAR ScP ScP 03 17 47.7 -0.8
ULM Lac du Bonnet 33.04 81 P **P** **03 11 41.4 +0.9**
comp=Z,2.9nm,0.4s,mb4.4,baz=296,slow=12,SNR=8.6
RSSD Black Hills 33.16 97 *e*P **P** **03 11 42.0 +0.5**
RSSD pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
RSSD Black Hills 33.16 97 *e*P **P** **03 11 42.0 +0.5**
comp=Z,3.3nm,0.7s,mb4.3
SRU San Rafael 33.82 109 *e*P **P** **03 11 49.8 +2.6**
SRU pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
SRU San Rafael 33.82 109 *e*P **P** **03 11 49.8 +2.6**
comp=Z,2.6nm,0.7s,mb4.2
SUMG Summit 40.20 25 *e*P **P** **03 12 41.3 +0.1**
comp=Z,10.0nm,0.5s,mb4.9
DAG Danmarks Havn 40.28 15⇑*i*P **P** **03 12 41.0 -0.8**
comp=Z,8.0nm,0.6s,mb4.7
DAG Danmarks Havn 40.28 15⇑*i*P **P** **03 12 41.0 -0.8**
DAG pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
KBS Kingsbay 40.80 4⇑*e*P **P** **03 12 47.2 +1.1**
SFJD Kangerlussuaq 41.00 36 P **P** **03 12 48.1 +0.4**
comp=Z,16nm,0.6s,mb5.0,baz=297,slow=7.7,SNR=10
SFJD ScP ScP 03 18 20.6 -2.9
comp=Z,6.2nm,0.8s,baz=31,slow=1.1,SNR=3.8
SFJD Kangerlussuaq 41.00 36⇓*i*P **P** **03 12 48.1 +0.4**
comp=Z,15nm,0.6s,mb5.0
SFJD Kangerlussuaq 41.00 36⇓*i*P **P** **03 12 48.1 +0.4**
SFJD pmax pmax
comp=Z,15nm,0.6s,mb5.0
SCHQ Schefferville 43.44 57 P **P** **03 13 07.5 0.0**
comp=Z,4.9nm,0.6s,mb4.4,baz=299,slow=8.3,SNR=18
JCT Junction City 45.94 106 *e*P **P** **03 13 28.8 +1.5**
JCT pmax pmax
comp=Z,18nm,0.9s,mb4.8
JCT Junction City 45.94 106 *e*P **P** **03 13 28.8 +1.5**
comp=Z,18nm,0.9s,mb4.8
MDJ Mudanjiang 46.83 287 P **P** **03 13 35.8 +1.5**
MDJ AP pP 03 14 03.6 +0.8
MDJ PCP PcP 03 15 04.9 -0.4
MDJ PP PP 03 15 27.6 +1.9
MDJ SCP ScP 03 18 47.4 0.0
MDJ PCS PcS 03 19 00.3 -0.1
MDJ S **S** **03 20 18.8 +3.6**
MDJ SCS ScS 03 23 17.0 +1.0
MDJ AMB AMB
comp=Z,40nm,8.2s
FRNY Flat Rock 47.61 71 *e*P **P** **03 13 39.4 -1.0**
SSPA Standing Stone 48.72 78 *e*P **P** **03 13 49.4 +0.5**
comp=Z,3.1nm,0.3s,mb4.7
MAJO Matsushiro 48.77 273 *e*P **P** **03 13 50.2 +1.0**
MAJO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MAJO Matsushiro 48.77 273 *e*P **P** **03 13 50.1 +0.9**
comp=Z,9.2nm,1.0s,mb4.7
MJAR Matsushiro Arr 48.77 273 P **P** **03 13 49.2 -0.1**
comp=Z,2.2nm,0.6s,mb4.2,baz=13,slow=7.3,SNR=8.4
MJAR pP pP 03 14 17.5 -0.5
comp=Z,2.7nm,1.1s,baz=23,slow=6.6,SNR=2.7
MJAR Matsushiro Arr 48.77 273 P **P** **03 13 49.2 -0.1**
MJAR pP pP 03 14 17.5 -0.5
CN2 Changchun 49.40 289 ⇓P **P** **03 13 55.5 +1.4**
CN2 *e*S **S** **03 20 50.8 -0.7**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
KEV Kevo 50.31 360 *e*p **P** **03 13 58.8 -2.1**
comp=Z,1.2nm,0.3s,mb4.3
KEV Kevo 50.31 360 *e*P **P** **03 13 58.8 -2.1**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
ARCES ARCESS Array B 50.53 1 P **P** **03 14 01.7 -0.9**
comp=Z,9nm,0.5s,mb4.6,baz=5.6,slow=7.1,SNR=30
ARE0 ARCESS Array S 50.53 1 *e*P **P** **03 14 01.4 -1.2**
LVZ Lovozero 52.06 356⇑*e*P **P** **03 14 14.0 0.0**
LVZ pmax pmax
comp=Z,19nm,1.0s,mb5.1
APA Apatity 52.42 357 *e*P **P** **03 14 10.5 -6.2**
ULN Ulaanbaatar 54.37 305 *e*P **P** **03 14 30.9 0.0**
SONM Songino Array 54.66 306 P **P** **03 14 34.5 +1.5**
comp=Z,1.2nm,0.7s,mb4.0,baz=42,slow=6.2,SNR=5.9
SONM Songino Array 54.66 306 P **P** **03 14 34.5 +1.5**
NVS Novosibirsk 56.88 325 *e*P **P** **03 14 47.7 -1.1**
JOF Joensuu 57.14 358 *e*p **P** **03 14 40.3 -10**
comp=Z,0.9nm,0.4s,mb4.2
KAF Kangasniemi 57.99 0 *e*p **P** **03 14 55.8 -0.8**
comp=Z,3.7nm,0.4s,mb4.8,baz=357,slow=6.7
KAF Kangasniemi 57.99 0 *e*P **P** **03 14 55.8 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
HHC Hu-ho-hao-te 58.08 297 *e*P **P** **03 14 57.4 +0.2**
HHC AP pP 03 15 24.3 -2.6
HHC XP sP 03 15 36.9 -3.7
HHC PCP PcP 03 15 48.8 +1.2
HHC PCS PcS 03 19 48.6 -0.6
HHC S **S** **03 22 45.9 -2.6**
HHC XS sS 03 23 33.0 -6.6
HHC SS SS 03 26 39.9 -1.8
HHC AMB AMB
comp=Z,60nm,4.3s
HHC LR LR
comp=N,60nm,14.3s
HHC LR LR
comp=E,100nm,16.7s
HHC LR LR
comp=Z,30nm,20.2s
NB2 NORSAR Subarra 58.45 9 P **P** **03 14 58.5 -1.3**
comp=Z,2.4nm,0.6s,mb4.4,baz=351,slow=6.9
NB2 NORSAR Subarra 58.45 9 P **P** **03 14 58.5 -1.3**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
NOA NORSAR Array B 58.45 9 P **P** **03 14 58.9 -1.0**
comp=Z,2.5nm,0.7s,mb4.3,baz=352,slow=6.9,SNR=12
FINES FINESS Array B 58.66 1 P **P** **03 15 00.3 -0.9**
comp=Z,2.8nm,0.5s,mb4.6,baz=11,slow=7.4,SNR=24
FINES FINESS Array B 58.66 1 P **P** **03 15 00.3 -0.9**
KLMR Klimovskoe 58.87 353 *e*P **P** **03 15 01.3 -1.4**
KLMR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ARU Arti 61.04 341⇓*i*P **P** **03 15 17.0 -0.5**
ARU *e* 03 15 56.7
ARU *e* 03 17 30.8
ARU *e*S **S** **03 23 27.5 +1.1**
ARU *e*SS SS 03 27 28.5 +0.5
ARU pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ARU Arti 61.04 341 *e*P **P** **03 15 16.9 -0.6**
comp=Z,3.2nm,0.4s,mb4.7
CHKZ Chkalovo 61.22 332 *e*P **P** **03 15 17.7 -1.0**
CHKZ pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
CHKZ Chkalovo 61.22 332 *e*P **P** **03 15 17.7 -1.0**
comp=Z,9.8nm,0.5s,mb5.1
SSE Sheshan 61.54 283 P **P** **03 15 20.8 -0.1**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,40nm,7.8s
KURK Kurchatov 61.85 326 *e*P **P** **03 15 23.2 +0.3**
KURK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KURK Kurchatov 61.85 326 *e*P **P** **03 15 23.2 +0.3**
comp=Z,8.4nm,0.8s,mb4.8
BRVK Borovoye 61.87 332 *e*P **P** **03 15 23.0 -0.1**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BRVK Borovoye 61.87 332 *e*P **P** **03 15 22.9 -0.1**
comp=Z,7.6nm,0.9s,mb4.7
ZRNK Zerenda 62.26 333 *e*P **P** **03 15 25.2 -0.5**
ZRNK pmax pmax
comp=Z,12nm,0.7s,mb5.0
ZRNK Zerenda 62.26 333 *e*P **P** **03 15 25.2 -0.5**
comp=Z,12nm,0.7s,mb5.0
MKAR Makanchi Array 64.26 321 P **P** **03 15 38.7 -0.2**
comp=Z,3.1nm,0.5s,mb4.4,baz=39,slow=6.9,SNR=29
MKAR Makanchi Array 64.26 321⇑*e*P **P** **03 15 39.0 +0.1**
MKAR Makanchi Array 64.26 321 P **P** **03 15 38.7 -0.2**
OBN Obninsk 64.76 354⇑*e*P **P** **03 15 39.9 -2.2**
OBN *e**PP pP 03 16 13.6 +1.2
OBN *e* 03 18 01.3
OBN pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
WMQ Urumqi 65.10 316 P **P** **03 15 46.0 +1.7**
WMQ AMB AMB
comp=Z,120nm,4.0s
BSEG Bad Segeberg 65.41 11 *e*P **P** **03 15 46.5 +0.2**
LZH Lanzhou 65.41 300 *e*P **P** **03 15 46.3 0.0**
LZH AP pP 03 16 16.1 -0.5
LZH XP sP 03 16 26.5 -3.6
LZH PP PP 03 18 12.8 +1.1
LZH AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
LZH AMB AMB
comp=Z,40nm,7.2s
LZH LR LR
comp=N,300nm,16.5s
LZH LR LR
comp=Z,370nm,18.7s
IBBN Ibbenburen 66.76 13 *e*P **P** **03 15 55.3 +0.4**
comp=Z,10.0nm,0.6s,mb4.8
CLZ Clausthal 67.49 11 *e*P **P** **03 16 00.0 +0.5**
comp=Z,12nm,0.7s,mb4.8
CLZ Clausthal 67.49 11 *e*P **P** **03 16 00.0 +0.5**
CLZ pmax pmax
comp=Z,12nm,0.7s,mb4.8
BUG Bochum--Univer 67.56 13 *e*P **P** **03 15 59.6 -0.4**
comp=Z,11nm,0.7s,mb4.8
CLL Collm 68.25 9 *e*P **P** **03 16 04.0 -0.3**
comp=Z,4.0nm,0.7s,mb4.4
CLL Collm 68.25 9 *i* P **P** **03 16 03.7 -0.6**
comp=Z,4.0nm,0.7s,mb4.4
CLL Collm 68.25 9 *i* P **P** **03 16 03.7 -0.6**
CLL pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
BAIF Baives 68.54 16 *e*P **P** **03 16 05.7 -0.4**
comp=Z,8.7nm,0.6s,mb4.5
BAIF Baives 68.54 16 *e*P **P** **03 16 05.7 -0.4**
BAIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
BAIF Baives 68.54 16 *e*P **P** **03 16 05.7 -0.4**
comp=Z,4.3nm,0.6s,mb4.5
FBE Freiberg 68.66 9 *e*P **P** **03 16 06.9 0.0**
comp=Z,10.0nm,1.5s,mb4.4
BRG Berggiesshubel 68.76 9 *e*P **P** **03 16 07.4 -0.1**
comp=Z,5.0nm,1.0s,mb4.3
BRG Berggiesshubel 68.76 9 *e*P **P** **03 16 07.5 +0.1**
comp=Z,2.9nm,1.0s,mb4.0
BRG *e* 03 16 19.7
comp=Z,1.6nm,0.9s
MOX Moxa 68.79 10 *e*P **P** **03 16 07.7 0.0**
comp=Z,9.0nm,0.7s,mb4.7
MOX Moxa 68.79 10 *e*P **P** **03 16 07.9 +0.2**
comp=Z,17nm,1.1s,mb4.8
MOX Moxa 68.79 10 *e*P **P** **03 16 07.9 +0.2**
MOX pmax pmax
comp=Z,17nm,1.1s,mb4.8
ROSF Rostrenen 69.04 21 *e*P **P** **03 16 08.6 -0.6**
comp=Z,6.3nm,0.7s,mb4.3
ROSF Rostrenen 69.04 21 *e*P **P** **03 16 08.6 -0.6**
ROSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ROSF Rostrenen 69.04 21 *e*P **P** **03 16 08.6 -0.6**
comp=Z,3.2nm,0.7s,mb4.3
WERD Werda 69.05 10 *e*P **P** **03 16 09.2 -0.1**
comp=Z,2.0nm,0.8s,mb4.0
TANN Tannenbergstha 69.09 10 *e*P **P** **03 16 09.5 0.0**
comp=Z,4.0nm,1.1s,mb4.2
FLN La Foliniere 69.10 19 *e*P **P** **03 16 08.8 -0.8**
comp=Z,7.8nm,0.6s,mb4.4
FLN La Foliniere 69.10 19 *e*P **P** **03 16 08.8 -0.8**
FLN pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
FLN La Foliniere 69.10 19 *e*P **P** **03 16 08.8 -0.8**
comp=Z,3.9nm,0.6s,mb4.4
PVCC Panska Ves 69.15 8 *e*P **P** **03 16 10.2 +0.3**
SGMF Saint Gilles 69.24 21 *e*P **P** **03 16 09.9 -0.6**
comp=Z,3.8nm,0.5s,mb4.2
SGMF Saint Gilles 69.24 21 *e*P **P** **03 16 09.9 -0.6**
SGMF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
SGMF Saint Gilles 69.24 21 *e*P **P** **03 16 09.9 -0.6**
comp=Z,1.9nm,0.5s,mb4.2
UPC Upice 69.27 7 *e*P **P** **03 16 10.6 0.0**
LDF La Druitiere 69.33 19 *e*P **P** **03 16 10.0 -1.0**
comp=Z,12nm,0.8s,mb4.5
LDF La Druitiere 69.33 19 *e*P **P** **03 16 10.0 -1.0**
LDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
LDF La Druitiere 69.33 19 *e*P **P** **03 16 10.0 -1.0**
comp=Z,5.9nm,0.8s,mb4.5
GRR Gorron 69.40 19 *e*P **P** **03 16 10.9 -0.6**
comp=Z,9.0nm,0.7s,mb4.4
GRR Gorron 69.40 19 *e*P **P** **03 16 10.9 -0.6**
GRR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GRR Gorron 69.40 19 *e*P **P** **03 16 10.9 -0.6**
comp=Z,4.5nm,0.7s,mb4.4
AKASG Malin Array Be 69.42 358 P **P** **03 16 10.8 -0.7**
comp=Z,0.8nm,0.3s,mb4.0,baz=5.0,slow=6.3,SNR=9.8
AKASG pP pP 03 16 41.7 -0.4
comp=Z,0.7nm,0.5s,baz=2.3,slow=6.4,SNR=2.7
AKASG Malin Array Be 69.42 358 P **P** **03 16 10.8 -0.7**
AKASG pP pP 03 16 41.7 -0.4
DPC Dobruska-Polom 69.44 7 *e*P **P** **03 16 11.8 +0.1**
QUIF Quistinic 69.46 21 *e*P **P** **03 16 11.2 -0.6**
GRA1 Grafenberg Arr 69.70 11 *e*P **P** **03 16 13.8 +0.5**
comp=Z,4.0nm,0.5s,mb4.5
GRF Grafenberg Arr 69.70 11 *e*P **P** **03 16 13.8 +0.5**
comp=Z,4.0nm,0.5s,mb4.5
GRF Grafenberg Arr 69.70 11 *e*P **P** **03 16 13.8 +0.5**
GRF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
GRF Grafenberg Arr 69.70 11 *e*P **P** **03 16 13.8 +0.5**
comp=Z,4.0nm,0.5s,mb4.5
ROTZ Rotzenmuhle 69.71 10 *e*P **P** **03 16 13.7 +0.3**
comp=Z,5.0nm,0.7s,mb4.5
CD2 Chengdu 69.84 297 *e*P **P** **03 16 13.8 -0.3**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
TREC Trest 70.44 8 *e*P **P** **03 16 17.5 -0.3**
KHC Kasperske Hory 70.46 9 *e*P **P** **03 16 18.4 +0.5**
CDF Champ du Feu 70.54 14 *e*P **P** **03 16 18.2 -0.2**
STHS Stebnicka Huta 70.62 4 *i* P **P** **03 16 18.9 0.0**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
STHS Stebnicka Huta 70.62 4 *i* P **P** **03 16 18.9 0.0**
comp=Z,2.6nm,0.9s,mb4.1
GEC2 GERESS Array S 70.75 9 *e*P **P** **03 16 20.1 +0.4**
comp=Z,3.0nm,0.8s,mb4.2
GEC2 GERESS Array S 70.75 9 *e*P **P** **03 16 20.1 +0.4**
GEC2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
GERES GERESS Array B 70.75 9 P **P** **03 16 19.9 +0.2**
comp=Z,1.7nm,0.6s,mb4.0,baz=347,slow=4.5,SNR=22
HAU Haudompre 70.83 15 *e*P **P** **03 16 20.6 +0.5**
comp=Z,13nm,0.6s,mb4.6
HAU Haudompre 70.83 15 *e*P **P** **03 16 20.6 +0.5**
HAU pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
HAU Haudompre 70.83 15 *e*P **P** **03 16 20.6 +0.5**
comp=Z,6.6nm,0.6s,mb4.6
HYF Humbligny 71.04 17 *e*P **P** **03 16 21.2 -0.2**
KOLS Kolonicke sedl 71.13 3 *e*P **P** **03 16 16.1 -5.9**
KOLS pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
KOLS Kolonicke sedl 71.13 3 *e*P **P** **03 16 16.1 -5.9**
comp=Z,4.3nm,0.7s,mb4.4
LOR Lormes 71.22 16 *e*P **P** **03 16 22.1 -0.4**
comp=Z,18nm,0.7s,mb4.7
LOR Lormes 71.22 16 *e*P **P** **03 16 22.1 -0.4**
LOR pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
LOR Lormes 71.22 16 *e*P **P** **03 16 22.1 -0.4**
comp=Z,9.1nm,0.7s,mb4.7
MFF Saint Martin d 71.25 19 *e*P **P** **03 16 22.3 -0.4**
comp=Z,14nm,0.8s,mb4.6
MFF Saint Martin d 71.25 19 *e*P **P** **03 16 22.3 -0.4**
MFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
MFF Saint Martin d 71.25 19 *e*P **P** **03 16 22.3 -0.4**
comp=Z,7.1nm,0.8s,mb4.5
SSF Saint Saulge 71.37 17 *e*P **P** **03 16 23.0 -0.4**
comp=Z,15nm,0.5s,mb4.8
SSF Saint Saulge 71.37 17 *e*P **P** **03 16 23.0 -0.4**
SSF pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
SSF Saint Saulge 71.37 17 *e*P **P** **03 16 23.0 -0.4**
comp=Z,7.6nm,0.5s,mb4.8
VYHS Vyhne 71.44 6 *e*P **P** **03 16 23.9 +0.1**
VYHS pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
VYHS Vyhne 71.44 6 *e*P **P** **03 16 23.9 +0.1**
comp=Z,1.7nm,1.0s,mb3.8
AVF Avril sur Loir 71.61 17 *e*P **P** **03 16 24.3 -0.6**
comp=Z,20nm,0.5s,mb4.9
AVF Avril sur Loir 71.61 17 *e*P **P** **03 16 24.3 -0.6**
AVF pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
AVF Avril sur Loir 71.61 17 *e*P **P** **03 16 24.3 -0.6**
comp=Z,9.9nm,0.5s,mb4.9
BGF Bois d'Agland 71.77 17 *e*P **P** **03 16 25.1 -0.7**
comp=Z,16nm,0.5s,mb4.8
BGF Bois d'Agland 71.77 17 *e*P **P** **03 16 25.1 -0.7**
BGF pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
BGF Bois d'Agland 71.77 17 *e*P **P** **03 16 25.1 -0.7**
comp=Z,8.1nm,0.5s,mb4.8
SMF Signal de Mont 71.83 17 *e*P **P** **03 16 25.5 -0.7**
comp=Z,12nm,0.6s,mb4.6
SMF Signal de Mont 71.83 17 *e*P **P** **03 16 25.5 -0.7**
SMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
SMF Signal de Mont 71.83 17 *e*P **P** **03 16 25.5 -0.7**
comp=Z,5.8nm,0.6s,mb4.6
TCF Toulx Ste Croi 71.94 18 *e*P **P** **03 16 26.0 -0.8**
comp=Z,8.5nm,0.6s,mb4.5
TCF Toulx Ste Croi 71.94 18 *e*P **P** **03 16 26.0 -0.8**
TCF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
TCF Toulx Ste Croi 71.94 18 *e*P **P** **03 16 26.0 -0.8**
comp=Z,4.3nm,0.6s,mb4.5
CABF La Chapelle 72.17 15 *e*P **P** **03 16 28.2 0.0**
comp=Z,16nm,0.7s,mb4.7
CABF La Chapelle 72.17 15 *e*P **P** **03 16 28.2 0.0**
CABF pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
CABF La Chapelle 72.17 15 *e*P **P** **03 16 28.2 0.0**
comp=Z,7.8nm,0.7s,mb4.7
RJF Les Rejaudoux 72.79 19 *e*P **P** **03 16 31.0 -0.9**
LFF La Frestale 73.02 19 *e*P **P** **03 16 32.8 -0.4**
comp=Z,11nm,0.6s,mb4.5
LFF La Frestale 73.02 19 *e*P **P** **03 16 32.8 -0.4**
LFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
LFF La Frestale 73.02 19 *e*P **P** **03 16 32.8 -0.4**
comp=Z,5.4nm,0.6s,mb4.5
PERS Pernice 73.06 9 *i* P **P** **03 16 34.2 +0.7**
CAF Calviac 73.24 18 *e*P **P** **03 16 34.0 -0.5**
comp=Z,6.3nm,0.7s,mb4.3
CAF Calviac 73.24 18 *e*P **P** **03 16 34.0 -0.5**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
CAF Calviac 73.24 18 *e*P **P** **03 16 34.0 -0.5**
comp=Z,3.2nm,0.7s,mb4.3
GROS Grobnik 73.26 8 *i* P **P** **03 16 34.7 0.0**
LPL La Plagne 73.33 15 *e*P **P** **03 16 35.5 +0.5**
LPG La Plagne 73.35 15 *e*P **P** **03 16 35.8 +0.7**
CADS Cadrg 73.36 10 *i* P **P** **03 16 34.5 -0.7**
VIVF Saint-Julien-l 73.70 16 *e*P **P** **03 16 37.0 -0.2**
comp=Z,13nm,0.6s,mb4.5
VIVF Saint-Julien-l 73.70 16 *e*P **P** **03 16 37.0 -0.2**
VIVF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
VIVF Saint-Julien-l 73.70 16 *e*P **P** **03 16 37.0 -0.2**
comp=Z,6.3nm,0.6s,mb4.5
ORIF Oris-en-Rattie 73.80 15 *e*P **P** **03 16 37.9 +0.1**

MBDF	**Montbardon**	**74.11**	**15**	*e*P	**P**	**03 16 39.9**	**+0.3**
	comp=Z,11nm,0.7s,mb4.4						
MBDF	**Montbardon**	**74.11**	**15**	*e*P	**P**	**03 16 39.9**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
MBDF	**Montbardon**	**74.11**	**15**	*e*P	**P**	**03 16 39.9**	**+0.3**
	comp=Z,5.4nm,0.7s,mb4.4						
LASF	**Ste Croix**	**74.34**	**17**	*e*P	**P**	**03 16 40.4**	**-0.6**
PCAB	**Cabril**	**74.43**	**26**	*e*P	**P**	**03 16 43.7**	**+2.2**
SJPF	**Ste Jean**	**74.45**	**21**	*e*P	**P**	**03 16 40.9**	**-0.7**
PBRG	**Braganca**	**74.62**	**26**	*e*P	**P**	**03 16 43.8**	**+1.2**
SMRF	**Simiane la Rot**	**74.69**	**16**	*e*P	**P**	**03 16 42.2**	**-0.7**
	comp=Z,9.4nm,0.6s,mb4.4						
SMRF	**Simiane la Rot**	**74.69**	**16**	*e*P	**P**	**03 16 42.2**	**-0.7**
	comp=Z,9.4nm,0.6s,mb4.7						
ETSF	**Etsaut**	**74.78**	**21**	*e*P	**P**	**03 16 43.7**	**+0.2**
	comp=Z,7.2nm,0.7s,mb4.2						
ETSF	**Etsaut**	**74.78**	**21**	*e*P	**P**	**03 16 43.7**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
ETSF	**Etsaut**	**74.78**	**21**	*e*P	**P**	**03 16 43.7**	**+0.2**
	comp=Z,3.6nm,0.7s,mb4.2						
EPF	**Esparros**	**74.81**	**20**	*e*P	**P**	**03 16 42.8**	**-0.8**
	comp=Z,7.3nm,0.9s,mb4.1						
EPF	**Esparros**	**74.81**	**20**	*e*P	**P**	**03 16 42.8**	**-0.8**
EPF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
EPF	**Esparros**	**74.81**	**20**	*e*P	**P**	**03 16 42.8**	**-0.8**
	comp=Z,3.7nm,0.9s,mb4.1						
MTLF	**Montolieu**	**74.81**	**18**	*e*P	**P**	**03 16 43.4**	**-0.3**
	comp=Z,9.0nm,0.7s,mb4.3						
MTLF	**Montolieu**	**74.81**	**18**	*e*P	**P**	**03 16 43.4**	**-0.3**
MTLF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
MTLF	**Montolieu**	**74.81**	**18**	*e*P	**P**	**03 16 43.4**	**-0.3**
	comp=Z,4.5nm,0.7s,mb4.3						
PVRL	**Vila Real**	**74.92**	**26**	*e*P	**P**	**03 16 45.2**	**+0.9**
	comp=Z,10nm,1.6s,mb4.3						
SBF	**Sospel**	**75.04**	**15**	*e*P	**P**	**03 16 44.7**	**-0.3**
	comp=Z,34nm,0.8s,mb4.8						
SBF	**Sospel**	**75.04**	**15**	*e*P	**P**	**03 16 44.7**	**-0.3**
SBF				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.8						
SBF	**Sospel**	**75.04**	**15**	*e*P	**P**	**03 16 44.7**	**-0.3**
	comp=Z,17nm,0.8s,mb4.8						
KMI	**Kunming**	**75.26**	**295**	P	**P**	**03 16 49.8**	**+3.6**
KIV	**Kislovodsk**	**75.39**	**348**	*e*P	**P**	**03 16 40.4**	**-6.6**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
PVIS	**Viseu**	**75.41**	**27**	*e*P	**P**	**03 16 47.7**	**+0.6**
	comp=Z,14nm,1.3s,mb4.5						
MTE	**Manteigas**	**75.79**	**27**	*e*P	**P**	**03 16 49.7**	**+0.4**
	comp=Z,25nm,1.2s,mb4.8						
PCBR	**Castelo Branco**	**76.34**	**27**	*e*P	**P**	**03 16 52.3**	**-0.1**
	comp=Z,7.9nm,0.9s,mb4.4						
PGF	**Pioggiola**	**76.53**	**14**	*e*P	**P**	**03 16 53.3**	**-0.1**
PLOU	**Loures**	**76.87**	**28**	*e*P	**P**	**03 16 56.2**	**+0.9**
	comp=Z,78nm,1.1s,mb5.3						
ESDC	**Sonseca Array**	**77.25**	**24**	P	**P**	**03 16 57.8**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.1,baz=345,slow=5.6,SNR=17						
CASY	**Casey**	**144.60**	**224**	*e*PKPdf	PKPdf	03 24 34.9	-3.9
LBTB	**Lobatse**	**144.80**	**2**	PKP	PKPdf	03 24 38.7	-0.4
	comp=Z,2.3nm,0.5s,baz=356,slow=4.8,SNR=11						
BOSA	**Boshof**	**148.37**	**3**	PKPbc	PKPbc	03 24 47.1	-1.6
	comp=Z,4.8nm,0.7s,baz=14,slow=2.7,SNR=19						

*CSEM **19** 03:27:59.0±0.9, 3802N×2645W, h3km±4km, ML2.1, Error ellipse: s-maj=4.9km s-min=1.9km az=35.0, After PDA*
*PDA **19** 03:27:59.0±0.9, 3802N×2645W, h3km±4km, MD2.8, ML2.1, Error ellipse: s-maj=4.9km s-min=1.9km az=35.0*

SVSA 19 03:27:59.0±0.9, 3802N×2645W, h3km±4km, MD2.8, ML2.1, Error ellipse: s-maj=4.9km s-min=1.9km az=35.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.53**	**106**	*e*P	Pg	03 28 08.3	-0.9
SET4				*e*S	Sg	03 28 15.2	-1.0
SET2	**Ginetes**	**0.54**	**109**	*e*P	Pg	03 28 08.6	-0.7
SET2				*e*S	Sg	03 28 15.7	-0.6
PFET	**Feteiras**	**0.56**	**111**	*e*P	Pg	03 28 08.7	-1.0
PFET				*e*S	Sg	03 28 15.8	-1.2
PSAN	**Santo Antonio**	**0.60**	**107**	*e*P	Pg	03 28 09.5	-0.9
PSAN				*e*S	Sg	03 28 17.2	-1.0
FAC	**Faja de Cima**	**0.68**	**111**	*e*S	Sg	03 28 19.2	-1.6
CML	**Cha da Macela**	**0.76**	**109**	*e*S	Sg	03 28 20.9	-2.4
PVER	**Pico Vermelho**	**0.77**	**107**	*e*S	Sg	03 28 21.4	-2.4
PVER							
	11nm,0.2s						
PMAT	**Coroa da Mata**	**0.80**	**105**	*e*P	Pg	03 28 12.4	-1.9
PMAT				*e*S	Sg	03 28 22.2	-2.5
PMAT							
	37nm,0.3s						
PMAT	**Coroa da Mata**	**0.80**	**105**	*e*P	Pg	03 28 12.4	-1.9
PMAT				*e*S	Sg	03 28 22.2	-2.5
LFA	**Lagoa do Fogo**	**0.80**	**108**	*e*P	Pg	03 28 12.7	-1.7
PRCH	**Ribeira Ch**	**0.82**	**111**	*e*P	Pg	03 28 12.6	-2.1
PRCH				*e*S	Sg	03 28 23.1	-2.3
PRCH							
	50nm,0.2s						
PRCH	**Ribeira Ch**	**0.82**	**111**	*e*P	Pg	03 28 12.6	-2.1
PRCH				*e*S	Sg	03 28 23.1	-2.3
MESC	**Monte Escuro**	**0.82**	**106**	*e*P	Pg	03 28 12.5	-2.3
MESC				*e*S	Sg	03 28 22.9	-2.6
PFAV	**Pico das Favas**	**0.85**	**324**	*e*P	Pg	03 28 12.4	-2.9
PFAV				*e*S	Sg	03 28 23.1	-3.2
PFAV							
	22nm,0.1s						
PFAV	**Pico das Favas**	**0.85**	**324**	*e*P	Pg	03 28 12.4	-2.9
PFAV				*e*S	Sg	03 28 23.1	-3.2
RIB2	**Ribeirinha**	**0.86**	**319**	*e*S	Sg	03 28 23.8	-2.9
RIB2							
	33nm,0.1s						
PCNG	**Congro**	**0.87**	**107**	*e*S	Sg	03 28 24.1	-2.9
PCNG							
	16nm,0.1s						
FRA1	**Furnas**	**0.91**	**108**	*e*S	Sg	03 28 24.9	-3.3
PFAD	**Fenais da Ajud**	**0.91**	**101**	*e*P	Pg	03 28 13.5	-2.9
PFAD				*e*S	Sg	03 28 24.7	-3.5
PVNV	**Vila Nova**	**0.92**	**323**	*e*S	Sg	03 28 25.0	-3.7
PVNV							
	16nm,0.2s						
PPAD	**Pico dos Padre**	**0.94**	**316**	*e*S	Sg	03 28 25.9	-3.5
PPAD							
	13nm,0.1s						
MIRA	**Miradouro**	**0.95**	**104**	*i* P	Pg	03 28 14.4	-2.9
MIRA				*e*S	Sg	03 28 26.1	-3.6
PBIS	**Biscoitos**	**0.97**	**320**	*e*S	Sg	03 28 26.6	-3.6
PBIS							
	14nm,0.1s						
ASBA	**Santa Barbara**	**0.98**	**315**	*e*S	Sg	03 28 26.9	-3.6
ASBA							
	17nm,0.1s						
PID	**Ribeirinha**	**1.38**	**288**	*e*S	Sg	03 28 37.0	-6.4
PSMN	**Pico do Norte,**	**1.50**	**132**	*e*S	Sn	03 28 38.8	-8.1
ROSA	**Rosais**	**1.57**	**297**	*e*P	Pn	03 28 23.1	-4.7
ROSA				*e*S	Sn	03 28 40.8	-7.9
PICO	**Pico**	**1.63**	**288**	*e*P	Pn	03 28 24.2	-4.4
PICO				*e*S	Sn	03 28 42.4	-7.7
CALA	**Caldeira**	**1.86**	**288**	*e*S	Sn	03 28 48.8	-7.0

IDC 19 03:57:52.7±67.0, 1776S×17799E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, Error ellipse: s-maj=1185.0km s-min=154.5km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.71**	**240**	P	P	04 04 52.0	-0.9
	0.5nm,0.3s,baz=105,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**41.28**	**260**	P	P	04 05 40.5	+0.7
	0.2nm,0.4s,baz=91,slow=7.9,SNR=6.0						
ASAR	**Alice Springs**	**41.53**	**254**	P	P	04 05 42.5	+0.7
	3.2nm,0.6s,baz=89,slow=8.3,SNR=46						

IDC 19 04:07:06.2±1.8, 078S×12456E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=177.2km s-min=26.8km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.31**	**154**	P	P	04 11 53.1	-1.4
	0.8nm,0.4s,baz=331,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**24.48**	**159**	P	P	04 12 28.5	+1.6
	1.2nm,0.6s,baz=346,slow=11,SNR=8.5						
MKAR	**Makanchi Array**	**60.10**	**328**	P	P	04 17 15.2	0.0
	0.2nm,0.4s,baz=123,slow=7.4,SNR=4.6						

JMA 19 04:21:43.2±0.4, 4396N×14789E, h0km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.67**	**250**	P	Pn	04 22 13.7	0.0
NEM2				*e*S	Sn	04 22 36.6	+0.8
JRA	**Rausu**	**2.00**	**270**	P	Pn	04 22 18.7	+0.5
JRA				*e*S	Sn	04 22 45.1	+1.2
JNK	**Nakash**	**2.33**	**262**	P	Pn	04 22 23.4	+0.7
JNK				*e*S	Sn	04 22 52.8	+0.8
JAK	**Akkeshi**	**2.52**	**249**	P	Pn	04 22 25.8	+0.5
JAK				*e*S	Sn	04 22 57.1	+0.4
JTKR	**Abashiri--Toko**	**2.88**	**272**	P	Pn	04 22 32.3	+2.0
JAR	**Ashorobuto**	**3.06**	**259**	P	Pn	04 22 34.4	+1.5
JAR				*e*S	Sn	04 23 12.5	+2.3
JCH	**Churui**	**3.57**	**249**	P	Pn	04 22 41.1	+1.3
JCH				*e*S	Sn	04 23 24.3	+1.6
JNBK	**Urakawa-nobuka**	**4.12**	**248**	P	Pn	04 22 49.0	+1.6
JNBK				*e*S	Sn	04 23 38.9	+2.7
JKB	**Kayabe**	**5.44**	**250**	*e*S	Sn	04 24 09.8	+0.9

*BJI **19** 05:09:09.5, 200S×9910W, h10km, mB5.3, Ms4.9, Msz4.4*

NEIC 19 05:09:09.6±1.4, 200S×9910W, h10km, mb4.5/10, Error ellipse: s-maj=33.3km s-min=14.3km az=35.0, Southwest of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**30.36**	**69**	*e*P	P	05 15 22.3	+0.8
	3.2nm,0.7s						
LTX	**Lajitas**	**31.46**	**352**	*e*P	P	05 15 32.0	+0.8
GDL2	**Guadalupe Moun**	**34.38**	**352**	*e*pP	pP	05 16 47.5	+48
GDL2				*e*PcP	PcP	05 18 31.6	-0.8
TUC	**Tucson**	**35.88**	**343**	*e*P	P	05 16 09.7	+0.1
SAML	**Samuel**	**36.39**	**102**	*e*P	P	05 16 16.2	+2.2
BNM	**Barren Site**	**36.65**	**350**	*e*P	P	05 16 17.5	+1.3
MPR	**Mayaguez**	**37.33**	**56**	*e*pP	pP	05 17 19.0	+54
PLAL	**Pickwick Lake**	**38.22**	**15**	*e*P	P	05 16 29.4	-0.1
WVT	**Waverly**	**39.37**	**14**	*e*P	P	05 16 38.2	-0.9
	14nm,0.8s						
CCM	**Cathedral Cave**	**40.51**	**10**	*e*P	P	05 16 47.8	-0.9
	5.1nm,0.9s						
ARUT	**Antelope Range**	**41.76**	**343**	*e*P	P	05 17 01.0	+2.1
ISCO	**Idaho Springs**	**42.02**	**352**	*e*P	P	05 17 00.8	-0.3
MNV	**Mina**	**43.91**	**338**	*e*P	P	05 17 18.8	+2.5
	11nm,1.4s						
RWWY	**Rawlins**	**44.10**	**351**	*e*P	P	05 17 18.7	+0.8
	7.6nm,1.1s						
HWUT	**Hardware Ranch**	**44.86**	**347**	*e*P	P	05 17 20.4	-3.6
BW06	**Boulder Array**	**45.55**	**349**	*e*P	P	05 17 29.5	+0.1
REDW	**Red Top Meadow**	**46.38**	**348**	*e*P	P	05 17 36.9	+0.9
	9.6nm,1.2s						
SSPA	**Standing Stone**	**46.64**	**22**	*e*P	P	05 17 37.7	-0.3
DCID1	**Drake Creek**	**46.67**	**348**	*e*pP	pP	05 18 31.3	+50
MVL	**Millersville**	**46.70**	**24**	*e*P	P	05 17 38.5	0.0
MOOW	**Moose Ponds**	**46.73**	**348**	*e*P	P	05 17 39.0	+0.3
	13nm,1.5s						
IMW	**Indian Meadow**	**46.91**	**348**	*e*P	P	05 17 40.6	+0.5
IMW				*e*PcP	PcP	05 19 09.9	-2.9
QLMT	**Earthquake Lak**	**47.91**	**348**	*e*P	P	05 17 49.3	+1.4
MCMT	**McKenzie Canyo**	**48.21**	**347**	*e*P	P	05 17 50.9	+0.7
GCMT	**Greycliff**	**48.50**	**350**	*e*P	P	05 17 52.5	0.0
DLMT	**Dillon**	**48.66**	**347**	*e*P	P	05 17 54.2	+0.5
	8.1nm,1.2s						
LRM	**Limekiln Ridge**	**49.07**	**348**	*e*P	P	05 17 57.1	+0.2
CHMT	**Chamberlain Mo**	**50.28**	**347**	*e*P	P	05 18 05.7	-0.4
EGMT	**Eagleton**	**50.68**	**351**	*e*P	P	05 18 09.2	0.0
	9.8nm,1.4s						
NEW	**Newport**	**52.47**	**345**	*e*P	P	05 18 22.4	-0.1
	7.0nm,1.2s						
CASY	**Casey**	**108.64**	**192**	*e*Pdif	Pdif	05 23 35.0	+1.6
	6.5nm,0.8s						
YAK	**Yakutsk**	**109.94**	**338**	*e*PKPdf	PKiKP	05 27 38.1	-3.0
HHC	**Hu-ho-hao-te**	**132.43**	**328**	*e*PKP	PKPdf	05 28 24.0	-0.1
HHC				PP	PP	05 30 52.3	+5.1
HHC				PKS		05 31 58.8	
HHC				PP	PP		
	comp=Z,80nm,5.4s						
HHC				LR	LR		
	comp=N,140nm,14.3s						
HHC				LR	LR		
	comp=E,80nm,16.6s						
HHC				LR	LR		
	comp=Z,90nm,21.4s						
WMQ	**Urumqi**	**137.92**	**353**	*e*PKP	PKPdf	05 28 30.8	-3.5
LZH	**Lanzhou**	**139.98**	**331**	*e*PKP	PKPdf	05 28 34.8	-3.3

*ISCJB **19** 05:17:17.4±0.2, 4422N±002×1073E±002, h17km, Error ellipse: s-maj=2.5km s-min=1.9km az=9.1*
*CSEM **19** 05:17:17.6±0.1, 4417N×1078E, h15km, ML3.1/12, Error ellipse: s-maj=1.1km s-min=1.0km az=12.0*
*GEN **19** 05:17:17.4, 4420N×1081E, h21km, ML2.0*
*LDG **19** 05:17:18.8±0.1, 4415N×1080E, h10km, Ml3.1/15, Error ellipse: s-maj=2.2km s-min=1.5km az=21.0*
*NEIC **19** 05:17:18.0, 4419N×1077E, h17km, ML2.9(ROM), After ROM.*
*ROM **19** 05:17:18.0±0.1, 4419N×1077E, h17km±2km, Md2.9/24, Ml2.9/14, Error ellipse: s-maj=2.3km s-min=1.7km az=0.0*
*PRU **19** 05:17:21.5, 4444N×1107E, h0km*
*STR **19** 05:17:25.9±1.4, 4447N×1004E, h10km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 19 05:17:17.9±0.2, 4417N±002×1074E±002, h17km, n103, σ0999/162, 11C-9D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZT	**Monte Pizzetto**	**0.10**	**113**	⇑*i*Pg	**Pg**	**05 17 21.7**	**+0.3**
PZZT				Sg	**Sg**	**05 17 24.4**	**+0.8**
	17μm,0.1s						
BDI	**Bagni Di Lucca**	**0.15**	**224**	⇑*i*Pg	**Pg**	**05 17 22.7**	**+0.7**
BDI				Sg	**Sg**	**05 17 26.4**	**+1.7**
	6μm,0.3s						
GSCL	**Gusciola**	**0.21**	**329**	⇓*i*Pg	**Pg**	**05 17 23.2**	**+0.3**
SARO	**Sassorosso**	**0.24**	**274**	P	**Pg**	**05 17 23.9**	**+0.5**
ZCCA	**Zocca**	**0.25**	**43**	⇓*i*Pg	**Pg**	**05 17 23.7**	**+0.2**
VLC	**Villacollemand**	**0.25**	**268**	⇑*i*Pg	**Pg**	**05 17 24.1**	**+0.5**
VLC				Sg	**Sg**	**05 17 29.1**	**+1.7**
	768nm,0.7s						
FNVD	**Fontana Vidola**	**0.28**	**90**	⇓*i*Pg	**Pg**	**05 17 23.4**	**-0.5**
FNVD				Sg	**Sg**	**05 17 27.8**	**-0.2**
	1μm,0.2s						
MAIM		**0.31**	**215**	P	**Pg**	**05 17 25.0**	**+0.5**
ERBM	**Eremo**	**0.34**	**317**	Pg	**Pg**	**05 17 25.5**	**+0.4**
ERBM				Sg	**Sg**	**05 17 31.0**	**+1.1**
	501nm,0.8s						
VALM		**0.40**	**297**	P	**Pg**	**05 17 26.1**	**0.0**
SEI	**Scarperia**	**0.46**	**104**	Pg	**Pg**	**05 17 26.9**	**-0.3**
	2μm,0.5s						
PII	**Pisa**	**0.47**	**199**	⇑*i*Pg	**Pg**	**05 17 27.9**	**+0.5**
BACM		**0.49**	**283**	P	**Pg**	**05 17 27.8**	**0.0**
BACM				S	**Sg**	**05 17 34.9**	**+0.5**
GRAM		**0.58**	**304**	P	**Pg**	**05 17 29.1**	**-0.3**
GRAM				S	**Sg**	**05 17 37.2**	**0.0**
VMG	**Vicchio**	**0.62**	**109**	Pg	**Pg**	**05 17 29.9**	**-0.2**
	254nm,0.4s						
CODM		**0.68**	**289**	P	**Pg**	**05 17 30.7**	**-0.5**
CODM				S	**Sg**	**05 17 40.1**	**-0.1**
CSNT	**Castellina Chi**	**0.80**	**150**	Pg	**Pg**	**05 17 33.6**	**0.0**
CSNT				Sg	**Sg**	**05 17 45.1**	**+0.9**
	196nm,0.7s						
SFI	**Santa Sofia**	**0.84**	**108**	Pg	**Pg**	**05 17 34.3**	**0.0**
	60nm,0.3s						
SC2M	**Scurtabr**	**0.90**	**286**	P	**Pb**	**05 17 34.3**	**-0.7**
SC2M				S	**Sb**	**05 17 45.8**	**-0.9**
GROG	**Isola di Gorgo**	**0.96**	**220**	Pg	**Pg**	**05 17 36.2**	**-0.4**
GROG				Sg	**Sg**	**05 17 51.1**	**+1.8**
	243nm,0.5s						
CRE	**Caprese Michel**	**1.03**	**122**	Pg	**Pg**	**05 17 36.7**	**-1.2**
CRE				Sg	**Sg**	**05 17 50.7**	**-0.8**
	141nm,0.6s						
GRFL	**Gerfalco**	**1.03**	**170**	Pg	**Pg**	**05 17 37.7**	**-0.3**
	21nm,0.2s						
BADI	**Badiali**	**1.27**	**121**	Pg	**Pg**	**05 17 41.6**	**-0.9**
	38μm,22.0s						
SAL	**Salo**	**1.45**	**354**	Pn	**Pn**	**05 17 44.6**	**+1.3**
	145nm,0.4s						
SALO	**Salr**	**1.46**	**354**	Pg	**Pg**	**05 17 44.9**	**-1.1**
	516nm,0.8s						
PCP	**Pian Castagno**	**1.62**	**284**	P	**Pn**	**05 17 44.6**	**-1.1**
FIN	**Finale Ligure**	**1.82**	**272**	Pn	**Pn**	**05 17 48.4**	**-0.1**
	49nm,0.4s						
FIN	**Finale Ligure**	**1.82**	**272**	P	**Pn**	**05 17 46.8**	**-1.7**
FIN	**Finale Ligure**	**1.82**	**272**	Pn	**Pn**	**05 17 48.4**	**-0.1**
	49nm,0.4s						
SNTG	**Esanatoglia**	**1.84**	**119**	Pn	**Pn**	**05 17 51.5**	**+2.8**
	16nm,0.4s						
RORO		**1.93**	**269**	P	**Pn**	**05 17 48.1**	**-1.8**
CTI	**Castel Tesino**	**1.99**	**19**	Pn	**Pn**	**05 17 50.5**	**-0.3**
	138nm,0.4s						
PGF	**Pioggiola**	**2.06**	**219**	*e*Pn	**Pn**	**05 17 51.5**	**-0.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**05 18 15.8**	**-1.2**
	18nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	**2.06**	**219**	*e*Pn	**Pn**	**05 17 51.5**	**-0.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**05 18 15.8**	**-1.2**
	8.9nm,0.3s,SNR=1.0						
ROB	**Roburent**	**2.07**	**274**	P	**Pn**	**05 17 50.4**	**-1.5**
IMI	**Imperia**	**2.07**	**264**	Pn	**Pn**	**05 17 51.9**	**0.0**
	26nm,0.4s						
MONE	**Monesi**	**2.15**	**269**	P	**Pn**	**05 17 52.2**	**-0.8**
NRCA	**Norcia**	**2.18**	**127**	Pn	**Pn**	**05 17 52.7**	**-0.8**
	9.0nm,0.7s						
NEGI	**Negi**	**2.21**	**263**	P	**Pn**	**05 17 52.4**	**-1.5**
SAOF	**Saorge**	**2.30**	**267**	Pn	**Pn**	**05 17 55.7**	**+0.6**
APPI	**Appiano**	**2.34**	**8**	Pn	**Pn**	**05 17 56.2**	**+0.6**
	74nm,0.4s						
AUTN	**L'Aution**	**2.39**	**267**	Pn	**Pn**	**05 17 56.3**	**-0.1**
SBF	**Sospel**	**2.40**	**264**	*e*Pn	**Pn**	**05 17 56.6**	**+0.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**05 18 24.8**	**-0.7**
	61nm,0.4s,SNR=1.0						
SBF	**Sospel**	**2.40**	**264**	*e*Pn	**Pn**	**05 17 56.6**	**+0.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**05 18 24.8**	**-0.7**
	31nm,0.4s,SNR=1.0						
LUCF	**Luceram**	**2.46**	**265**	Pn	**Pn**	**05 17 59.5**	**+2.2**
TUE	**Stuetta**	**2.50**	**337**	Pn	**Pn**	**05 17 59.2**	**+1.3**
	30nm,0.7s						
TOUF	**Mont Tournerai**	**2.52**	**268**	Pn	**Pn**	**05 17 59.1**	**+1.0**
BRES	**Bressanone**	**2.62**	**15**	Pn	**Pn**	**05 18 00.0**	**+0.4**
	45nm,0.6s						
PZZ	**Prazzo**	**2.63**	**279**	P	**Pn**	**05 17 58.2**	**-1.4**
FVI	**Forni Avoltri**	**2.82**	**30**	Pn	**Pn**	**05 18 01.5**	**-0.8**
	74nm,1.0s						
MBDF	**Montbardon**	**2.90**	**282**	*e*Pn	**Pn**	**05 18 04.4**	**+1.1**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**05 18 37.8**	**+0.1**
MBDF				*e*Sg	**Sg**	**05 18 52.2**	**+1.2**
	17nm,0.5s						
MBDF	**Montbardon**	**2.90**	**282**	*e*Pn	**Pn**	**05 18 04.4**	**+1.1**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**05 18 37.8**	**+0.1**
MBDF				*e*Sg	**Sg**	**05 18 52.2**	**+1.2**
	8.7nm,0.5s						
PTCC	**Patocco-Chiusa**	**2.90**	**39**	Pn	**Pn**	**05 18 02.5**	**-0.8**
VOJS	**Vojsko**	**2.90**	**49**	*i* Pn	**Pn**	**05 18 02.5**	**-0.9**
VOJS				*i* Sn	**Sn**	**05 18 36.6**	**-1.3**
KNDS	**Knezji Dol**	**2.92**	**61**	*i* Pn	**Pn**	**05 18 02.7**	**-0.9**
KNDS				*e*Sn	**Sn**	**05 18 37.3**	**-1.1**
CADS	**Cadrg**	**2.96**	**45**	*i* Pn	**Pn**	**05 18 03.2**	**-0.9**
CADS				*e*Sn	**Sn**	**05 18 38.2**	**-1.0**
FRF	**La Foret Royal**	**3.02**	**260**	*e*Pn	**Pn**	**05 18 04.7**	**-0.3**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**05 18 39.3**	**-1.5**
	22nm,0.3s						
FRF	**La Foret Royal**	**3.02**	**260**	*e*Pn	**Pn**	**05 18 04.7**	**-0.3**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**05 18 39.3**	**-1.5**
	11nm,0.3s						
SQTA	**Sankt Quirin**	**3.07**	**6**	⇑*i*Pn	**Pn**	**05 18 07.0**	**+1.3**
SQTA				⇑*i*Sn	**Sn**	**05 18 45.8**	**+3.8**
LPG	**La Plagne**	**3.13**	**296**	*e*Pn	**Pn**	**05 18 08.4**	**+1.9**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**05 18 43.7**	**+0.2**
	7.6nm,0.4s						
LPG	**La Plagne**	**3.13**	**296**	*e*Pn	**Pn**	**05 18 08.4**	**+1.9**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**05 18 43.7**	**+0.2**
	3.8nm,0.4s						
LPL	**La Plagne**	**3.15**	**297**	*e*Pn	**Pn**	**05 18 07.6**	**+0.8**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 18 43.7**	**-0.3**
	9.7nm,0.5s						
LPL	**La Plagne**	**3.15**	**297**	*e*Pn	**Pn**	**05 18 07.6**	**+0.8**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 18 43.7**	**-0.3**
	4.8nm,0.5s						
WTTA	**Wattenberg**	**3.16**	**11**	⇓*i*Pn	**Pn**	**05 18 08.7**	**+1.8**
WTTA				⇓*i*Sn	**Sn**	**05 18 48.9**	**+4.7**
WTTA	**Wattenberg**	**3.16**	**11**	⇓

THEF	**They Montfort**	**5.23 323**	Pn		**Pn**	**05 18 35.9**	**+0.5**
KHC	**Kasperske Hory**	**5.33 20**	*e*PN		**Pn**	**05 18 36.4**	**-0.4**
KHC			*e*PG		**Pg**	**05 19 02.0**	**+1.9**
KHC			*ex*		x	05 19 20.5	
KHC			*e*SN		**Sn**	**05 19 34.0**	**-3.8**
KHC			*e*SG		**Sg**	**05 20 03.0**	**-6.1**
KHC			x		x	05 20 11.0	
KHC	**Kasperske Hory**	**5.33 20**	*e*Pn		**Pn**	**05 18 36.4**	**-0.4**
KHC			*e*			05 19 02.0	
KHC			*e*			05 19 20.5	
KHC			*e*Sn		**Sn**	**05 19 34.0**	**-3.8**
KHC			*e*Sg		**Sg**	**05 20 03.0**	**-6.1**
KHC			*e*			05 20 11.0	
KHC	**Kasperske Hory**	**5.33 20**	*e*Pn		**Pn**	**05 18 36.4**	**-0.4**
KHC			*e*Sn		**Sn**	**05 19 34.0**	**-3.8**
KHC			*e*Sg		**Sg**	**05 20 03.0**	**-6.1**
SMF	**Signal de Mont**	**5.45 299**	*e*Pn		**Pn**	**05 18 38.9**	**+0.5**
	SNR=1.0						
SMF			*e*Sn		**Sn**	**05 19 38.9**	**-1.8**
	5.0nm,0.4s,SNR=1.0						
LOR	**Lormes**	**5.73 305**	*e*Pn		**Pn**	**05 18 43.0**	**+0.8**
	SNR=1.0						
LOR			*e*Sn		**Sn**	**05 19 45.8**	**-1.7**
	8.1nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**5.82 299**	*e*Pn		**Pn**	**05 18 43.7**	**+0.3**
	SNR=1.0						
SSF	**Saint Saulge**	**5.84 302**	*e*Pn		**Pn**	**05 18 44.2**	**+0.5**
MEZF	**Maizieres J'vi**	**5.86 320**	*e*Pn		**Pn**	**05 18 43.8**	**-0.1**
BGF	**Bois d'Agland**	**6.05 296**	*e*Pn		**Pn**	**05 18 47.7**	**+1.1**
	SNR=1.0						
MTLF	**Montolieu**	**6.23 265**	*e*Pn		**Pn**	**05 18 49.2**	**+0.1**
	SNR=1.0						
CAF	**Calviac**	**6.25 280**	*e*Sn		**Sn**	**05 19 57.4**	**-2.9**
	1.5nm,0.4s,SNR=1.0						
PRU	**Pruhonice**	**6.37 23**	*e*SG		**Sg**	**05 20 36.5**	**-6.0**
TCF	**Toulx Ste Croi**	**6.38 292**	*e*Pn		**Pn**	**05 18 51.7**	**+0.5**
	SNR=1.0						

IDC 19 05:35:53.5±2.2, 852S×11929E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, ML3.6/1, MS4.4/2, Ms1 4.4/2, ms1mx3.2/22, Error ellipse: s-maj=227.9km s-min=25.0km az=53.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.47 130**		P	Pn	05 40 10.6	-0.2
	0.2nm,0.3s,baz=307,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**20.56 139**		P	P	05 40 35.8	+2.1
	1.5nm,0.5s,baz=312,slow=10,SNR=16						
STKA	**Stephens Creek**	**31.14 141**		P	P	05 42 13.0	-0.8
	1.2nm,0.4s,baz=321,slow=7.6,SNR=8.4						
JHJ	**Hachijo jima 2**	**45.78 24**		LR	LR	06 00 56.4	
	comp=Z,430nm,20.9s,baz=63,slow=33						
MJAR	**Matsushiro Arr**	**48.22 20**		LR	LR	06 02 20.1	
	comp=Z,464nm,20.5s,baz=225,slow=33						
MKAR	**Makanchi Array**	**64.17 333**		P	P	05 46 30.0	+0.2
	0.5nm,0.7s,baz=126,slow=6.2,SNR=4.9						

*IDC **19** 05:47:46.6±0.5, 1221N×12527E, h0km, mb4.6/18, mb1 4.7/19, mb1mx4.6/21, mbtmp4.6/19, ML4.3/1, MS4.2/14, Ms1 4.2/14, ms1mx4.0/25, Error ellipse: s-maj=27.5km s-min=12.3km az=71.0*

*BJI **19** 05:47:50.5, 1239N×12550E, h31km, mB4.8, mb4.8, Ms4.5, Msz4.3*

*MOS **19** 05:47:50.0±0.9, 1228N×12544E, h33km, mb5.2/41, MS4.2/9, Error ellipse: s-maj=13.6km s-min=5.5km az=116.7*

*NEIC **19** 05:47:51.8±0.2, 1227N×12545E, mb5.0/41, Error ellipse: s-maj=7.0km s-min=3.9km az=71.0*

NEIC Felt [III PIVS] at Dolores and Sulat; [II PIVS] at Borongan.

*HRVD **19** 05:47:51.8±0.5, 1226N×12554E, h20km±2km, MW5.1/40, Centroid moment Tensor Solution. LP body waves: s21,c24;Mantle waves: s40,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.63±.32; $M_{\theta\theta}$0.41±.18; $M_{\phi\phi}$-4.04±.25; $M_{r\theta}$0.29±.37; $M_{\theta\phi}$0.85±.13; $M_{\phi r}$4.16±.57; Best double couple: $M_0$5.72900×10^{16} NP1:ϕ_s156.00000°, δ23.00000°, λ67.00000°. NP2:ϕ_s1.00000°, δ69.00000°, λ99.00000°. Principal axes: T 5.5250, Plg65.0000°, Azm286.0000°; N 0.4100, Plg9.0000°, Azm177.0000°; P -5.9330, Plg23.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MAN **19** 05:47:51.2, 1243N×12551E, h30km, mb4.8, ML5.5, MS2.4*

*ISCJB **19** 05:47:51.8±0.5, 1234N±002×12551E±004, h48km±4km, mb4.9/86, MS4.2/29, Error ellipse: s-maj=6.8km s-min=3.6km az=144.4*

ISC 19 05:47:53.3±0.5, 1232N±002×12551E±004, h46km±4km, h29km±4.1km: pP-P, n221, σ1§00/223, mb4.9/86, MS4.2/29, 18C-12D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.72 186**		*e*P	**Pn**	**05 48 06.4**	**-0.7**
BESP				*e*S	**Sn**	**05 48 16.6**	**-0.5**
PLP	**Palo**	**1.26 205**		*e*P	**Pn**	**05 48 13.3**	**-1.2**
PLP				*e*S	**Sn**	**05 48 29.0**	**-1.3**
OCLP	**Ormoc**	**1.54 215**		*e*P	**Pn**	**05 48 18.4**	**+0.1**
OCLP				*e*S	**Sn**	**05 48 41.0**	**+3.9**
PVCP	**Virac**	**1.84 314**	⇑	*e*P	**Pn**	**05 48 20.3**	**-2.0**
PVCP				*e*S	**Sn**	**05 48 55.8**	**+11**
PVCP	**Virac**	**1.84 314**		*e*P	**Pn**	**05 48 20.3**	**-2.1**
PVCP				*e*S	**Sn**	**05 48 51.9**	**+7.5**
MMPH	**Masbate**	**1.85 271**	⇓	*e*P	**Pn**	**05 48 21.8**	**-0.7**
MMPH				*i* S	**Sn**	**05 48 43.5**	**-1.2**
MSLP	**Maasin**	**2.27 197**		*e*P	**Pn**	**05 48 29.6**	**+1.4**
LLP	**Lapu-Lapu**	**2.50 218**		*e*P	**Pn**	**05 48 31.5**	**0.0**
LLP				*e*S	**Sn**	**05 48 58.2**	**-2.6**
RCP	**Roxas**	**2.81 255**	⇓	*e*P	**Pn**	**05 48 35.8**	**+0.1**
AUQP	**San Andres**	**2.94 290**		*e*P	**Pn**	**05 48 39.6**	**+2.1**
KALP	**Kalibo**	**3.17 259**		*e*P	**Pn**	**05 48 42.7**	**+2.1**
GUIM	**Jordan**	**3.33 240**		*e*P	**Pn**	**05 48 43.3**	**+0.6**
BUTP	**Butuan**	**3.33 178**		*e*P	**Pn**	**05 48 44.2**	**+1.4**
GQP	**Guinayangan**	**3.38 298**	⇓	*e*P	**Pn**	**05 48 42.5**	**-1.0**
GQP				*i* S	**Sn**	**05 49 31.0**	**+8.6**
OTRP	**Odiongan**	**3.41 271**		*e*P	**Pn**	**05 48 43.4**	**-0.6**
SNPH	**Sibulan**	**3.71 217**		*e*P	**Pn**	**05 48 49.0**	**+1.0**
BOAC	**Boac**	**3.75 288**		*e*P	**Pn**	**05 48 48.2**	**-0.4**
CGP	**Cagayan de Oro**	**3.92 192**	⇓	*i*P	**Pn**	**05 48 58.1**	**+7.1**
CGP				*i* S	**Sn**	**05 49 39.9**	**+4.1**
POLP	**Polilio Island**	**4.22 305**		*e*P	**Pn**	**05 48 54.4**	**-0.7**
DCPH	**Dipolog City**	**4.28 210**	⇓	*e*P	**Pn**	**05 48 56.7**	**+0.8**
BUKP	**Musuan**	**4.43 186**		*e*P	**Pn**	**05 49 00.1**	**+2.1**
CUYO	**Cuyo Island**	**4.64 252**		*e*P	**Pn**	**05 49 01.1**	**+0.3**
TGY	**Tagaytay City**	**4.80 292**	⇓	*e*P	**Pn**	**05 49 12.5**	**+10**
PAGZ	**Pagadian**	**4.91 205**		*e*P	**Pn**	**05 49 06.2**	**+1.6**
BALP	**Baler**	**5.12 312**		*e*P	**Pn**	**05 49 06.7**	**-0.7**
BUSP	**Coron**	**5.21 267**		*e*P	**Pn**	**05 49 08.6**	**0.0**
LUBP	**Lubang**	**5.32 286**		*e*P	**Pn**	**05 49 11.7**	**+1.5**
PCPH	**Palayan**	**5.37 307**		*e*P	**Pn**	**05 49 11.1**	**+0.3**
PALP	**Palanan**	**5.58 328**		*e*P	**Pn**	**05 49 12.2**	**-1.5**
CAUP	**Cauayan**	**5.82 323**		*e*P	**Pn**	**05 49 16.8**	**-0.3**
BCPH	**Baguio City Da**	**6.26 311**	⇓	*i*P	**Pn**	**05 49 23.3**	**+0.2**
CVP	**Callao Caves**	**6.43 327**	⇓	*e*P	**Pn**	**05 49 24.0**	**-1.4**
BOLP	**Bolinao**	**6.76 307**		*e*P	**Pn**	**05 49 30.0**	**0.0**
APYP	**Conner**	**6.88 324**		*e*P	**Pn**	**05 49 29.9**	**-1.7**
PPR	**Puerto Princes**	**7.12 250**		*e*P	**Pn**	**05 49 37.6**	**+2.8**
KKM	**Kota Kinabalu**	**11.09 237**		*e*Pn	**Pn**	**05 50 32.1**	**+2.9**
JOW	**Kunigami**	**14.67 10**		Pn	**Pn**	**05 51 18.1**	**+0.2**
	2.8nm,0.3s,baz=177,slow=14,SNR=10						
JOW				LR	LR	05 55 32.8	
	comp=Z,591nm,20.5s,baz=132,slow=32						
GZH	**Guangzhou**	**15.77 314**		P	**Pn**	**05 51 31.0**	**-1.2**
GZH				S	**S**	**05 54 25.9**	**-13**
GZH				LR	LR		
	comp=N,2μm,19.3s						
GZH				LR	LR		
	comp=E,910nm,17.4s						
GZH				LR	LR		
	comp=Z,1μm,17.1s						
QIZ	**Qiongzhong**	**16.49 296**		P	**Pn**	**05 51 39.3**	**-2.0**
QIZ				XP	sP	05 51 51.5	-8.4
QIZ				S	**S**	**05 54 39.0**	**-14**
QIZ				LR	LR		
	comp=E,980nm,19.1s						
QIZ				LR	LR		
	comp=Z,2μm,20.4s						
KSM	**Kuching**	**18.53 236**		*e*P	**Pn**	**05 52 06.4**	**-0.1**
GUMO	**Guam**	**18.91 84**		LR	LR	05 58 03.1	
	comp=Z,543nm,18.1s,baz=270,slow=32						
SSE	**Sheshan**	**19.11 349**		P	**Pn**	**05 52 13.8**	**+0.4**
SSE				XP	sP	05 52 22.4	-6.4
SSE				S	**S**	**05 55 45.4**	**-1.1**
SSE				XS	sS	05 55 57.5	-6.3
SSE				AMB	AMB		
	comp=Z,20nm,0.8s						
SSE				AMB	AMB		
	comp=Z,140nm,7.7s						
SSE				LR	LR		
	comp=N,60nm,18.6s						
SSE				LR	LR		
	comp=E,380nm,18.6s						
SSE				LR	LR		
	comp=Z,280nm,18.8s						
NJ2	**Nanjing**	**20.57 344**		*e*P	**P**	**05 52 28.4**	**+0.2**
NJ2				AP		05 52 32.5	
NJ2				PP		05 52 49.8	
NJ2				S	**S**	**05 56 17.0**	**+1.3**
NJ2				XS	sS	05 56 23.0	-10
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,90nm,10.6s						
NJ2				LR	LR		
	comp=N,1μm,30.0s,MS4.2						
NJ2				LR	LR		
	comp=E,1μm,31.7s,MS4.2						
NJ2				LR	LR		
	comp=Z,150nm,22.3s						
WHN	**Wuhan**	**20.87 332**		P	**P**	**05 52 33.1**	**+1.7**
WHN				*e*S	**S**	**05 56 22.8**	**+1.2**
WHN				LR	LR		
	comp=Z,1μm,16.2s,MS4.3						
CBIJ	**Chichi jima**	**21.46 44**		P	**P**	**05 52 39.2**	**+1.4**
	comp=Z,57nm,1.1s,mb4.8,baz=274,slow=19,SNR=3.2						
TIA	**Tai'an**	**24.96 344**		P	**P**	**05 53 12.1**	**-0.3**
TIA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
KMI	**Kunming**	**25.00 304**		P	**P**	**05 53 12.8**	**+0.1**
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,160nm,4.4s						
KMI				LR	LR		
	comp=N,520nm,18.7s,MS4.3						
KMI				LR	LR		
	comp=E,890nm,20.1s,MS4.3						
KMI				LR	LR		
	comp=Z,1μm,15.8s,MS4.4						
KS15	**Wonju Array Si**	**25.11 4**		P	**P**	**05 53 14.8**	**+1.0**
KAKA	**Kakadu**	**25.80 164**		*e*P	**P**	**05 53 18.5**	**-1.5**
	comp=Z,22nm,0.6s,mb4.8						
XAN	**Xi'an**	**26.38 328**		P	**P**	**05 53 24.8**	**-0.5**
XAN				PP		05 54 04.5	
XAN				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.0						
XAN				LR	LR		
	comp=N,230nm,17.3s,MS4.1						
XAN				LR	LR		
	comp=E,430nm,17.8s,MS4.1						
XAN				LR	LR		
	comp=Z,450nm,15.2s,MS4.1						
MAJO	**Matsushiro**	**26.69 23**		*e*P	**P**	**05 53 27.1**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.4						
MAJO	**Matsushiro**	**26.69 23**		*e*P	**P**	**05 53 27.1**	**-0.9**
	comp=Z,4.3nm,0.3s,mb4.5						
MJAR	**Matsushiro Arr**	**26.69 23**		P	**P**	**05 53 29.5**	**+1.5**
	comp=Z,2.6nm,0.9s,baz=204,slow=9.4,SNR=5.0						
PSI	**Prapat**	**27.97 252**		LR	LR	06 05 43.9	
	comp=Z,804nm,18.2s,MS4.3,baz=141,slow=39						
BJT	**Baijiatuau**	**28.80 345**		*e*P	**P**	**05 53 47.0**	**+0.1**
BJT				pmax	pmax		
	comp=Z,16nm,1.0s						
BJT	**Baijiatuau**	**28.80 345**		*e*P	**P**	**05 53 47.0**	**+0.2**
	comp=Z,16nm,1.0s,mb4.7						
SNY	**Shenyang**	**29.45 357**	⇑	P	**P**	**05 53 53.0**	**+0.4**
SNY				AP	pP	05 53 57.3	-7.4
SNY				PP	PP	05 54 49.4	-10
SNY				S	**S**	**05 58 48.0**	**+4.4**
SNY				XS	sS	05 58 55.3	-8.6
SNY				SS	SS	06 00 20.6	-29
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
SNY				AMB	AMB		
	comp=Z,120nm,5.9s						
SNY				LR	LR		
	comp=E,370nm,18.1s						
SNY				LR	LR		
	comp=Z,240nm,15.3s,MS3.9						
FITZ	**Fitzroy Crossi**	**30.23 180**		*e*P	**P**	**05 53 58.5**	**-1.0**
	comp=Z,26nm,1.0s,mb4.9						
PMG	**Port Moresby**	**30.47 134**		*e*P	**P**	**05 53 56.4**	**-5.3**
PMG				pmax	pmax		
	comp=Z,30nm,1.0s						
PMG	**Port Moresby**	**30.47 134**		*e*P	**P**	**05 53 56.4**	**-5.3**
	comp=Z,30nm,1.0s,mb5.0						
LZH	**Lanzhou**	**30.69 324**	⇑	P	**P**	**05 54 04.5**	**+0.9**
LZH				AP	pP	05 54 14.3	-1.4
LZH				XP	sP	05 54 18.3	-2.9
LZH				PP	PP	05 55 06.1	-7.3
LZH				PPP		05 55 19.8	
LZH				*e*S	**S**	**05 59 04.3**	**+1.3**
LZH				XS	sS	05 59 20.8	-2.6
LZH				SS	SS	06 00 48.3	-27
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,90nm,5.5s						
LZH				LR	LR		
	comp=E,610nm,12.6s						
LZH				LR	LR		
	comp=Z,830nm,15.8s,MS4.5						
HHC	**Hu-ho-hao-te**	**30.95 339**		*e*P	**P**	**05 54 05.3**	**-0.6**
HHC				AP	pP	05 54 12.5	-5.5
HHC				XP	sP	05 54 14.8	-8.7
HHC				S	**S**	**05 59 06.1**	**-1.0**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,110nm,5.0s						
HHC				LR	LR		
	comp=N,250nm,16.6s						
HHC				LR	LR		
	comp=E,250nm,22.6s						
HHC				LR	LR		
	comp=Z,230nm,19.0s,MS3.9						
VLA	**Vladivostok**	**31.18 9**		*i* P	**P**	**05 54 08.0**	**+0.1**
BTO	**Baotou**	**31.30 337**		*e*P	**P**	**05 54 07.9**	**-1.1**
MDJ	**Mudanjiang**	**32.37 5**		*e*P	**P**	**05 54 17.9**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**33.21 165**	⇑	*e*P	**P**	**05 54 24.2**	**-1.5**
WRAB	**Tennant Creek**	**33.21 165**		*e*P	**P**	**05 54 24.1**	**-1.6**
	comp=Z,11nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**33.21 165**		P	**P**	**05 54 24.5**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=344,slow=9.6,SNR=20						
WRA				PcP	PcP	05 57 08.1	+0.6
	comp=Z,2.6nm,0.8s,baz=342,slow=3.2,SNR=4.8						
WRA				S	**S**	**05 59 36.8**	**-5.6**
	comp=Z,1.2nm,1.0s,baz=347,slow=19,SNR=3.1						
WB2	**Warramunga Arr**	**33.22 165**		*e*P	**P**	**05 54 24.4**	**-1.4**
GTA	**Gaotai**	**35.29 324**		*e*P	**P**	**05 54 44.4**	**+0.7**
GTA				AP	pP	05 54 50.5	-5.5
GTA				XP	sP	05 54 53.8	-7.6
GTA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
GTA				AMB	AMB		
	comp=Z,140nm,4.2s						
GTA				LR	LR		
	comp=N,320nm,17.9s,MS4.3						
GTA				LR	LR		
	comp=E,310nm,18.3s,MS4.3						
GTA				LR	LR		
	comp=Z,420nm,17.5s,MS4.2						
LSA	**Lhasa**	**36.26 304**		P	**P**	**05 54 53.4**	**+1.4**
LSA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
LSA	**Lhasa**	**36.26 304**		*e*P	**P**	**05 54 53.0**	**+1.0**
LSA				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
LSA	**Lhasa**	**36.26 304**		*e*P	**P**	**05 54 53.0**	**+0.9**
	comp=Z,22nm,1.0s,mb5.0						
AS31	**Alice Springs**	**36.69 167**		*e*P	**P**	**05 54 55.6**	**-0.1**
ASAR	**Alice Springs**	**36.69 167**		P	**P**	**05 54 55.5**	**-0.2**
	comp=Z,4.9nm,0.5s,mb4.6,baz=344,slow=6.6,SNR=38						
ASAR				S	**S**	**06 00 34.4**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=339,slow=16,SNR=5.3						
ASPA	**Alice Springs**	**36.69 167**		*e*P	**P**	**05 54 55.6**	**-0.1**
KLR	**Kul'dur**	**37.16 7**		*e*P	**P**	**05 54 56.4**	**-3.3**
CTA	**Charters Tower**	**38.13 147**		P	**P**	**05 55 08.2**	**+0.4**
	comp=Z,4.8nm,0.7s,mb4.4,baz=302,slow=11,SNR=3.8						
CTAO	**Charters Tower**	**38.13 147**		*e*P	**P**	**05 55 07.9**	**0.0**
CTAO				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
CTAO	**Charters Tower**	**38.13 147**		*e*P	**P**	**05 55 07.9**	**0.0**
	comp=Z,27nm,1.3s,mb4.8						
ULN	**Ulaanbaatar**	**38.66 340**		*e*P	**P**	**05 55 13.0**	**+0.7**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**38.66 340**		*e*P	**P**	**05 55 13.0**	**+0.7**
	comp=Z,9.8nm,0.9s,mb4.5						
SONM	**Songino Array**	**38.85 339**		P	**P**	**05 55 14.1**	**+0.1**
	comp=Z,16nm,1.1s,mb4.7,baz=159,slow=8.4,SNR=35						
SONM				LR	LR	06 12 18.4	
	comp=Z,279nm,19.0s,MS4.1,baz=339,slow=38						
SONM	**Songino Array**	**38.85 339**		P	**P**	**05 55 14.1**	**+0.1**
SONM				LR	LR	06 12 18.4	
JIRN	**Jiri**	**39.78 299**		*e*P	**P**	**05 55 22.2**	**+0.5**
	comp=Z,99nm,1.0s,mb5.5						
GUN	**Gumba**	**40.11 299**		*e*P	**P**	**05 55 24.8**	**+0.3**
	comp=Z,128nm,1.0s,mb5.6						
PKI	**Pulchoki**	**40.44 298**		*e*P	**P**	**05 55 26.8**	**-0.3**
	comp=Z,64nm,1.0s,mb5.3						
PKI	**Pulchoki**	**40.44 298**		*e*P	**P**	**05 55 26.8**	**-0.3**
PKI				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.3						
KKN	**Kakani**	**40.60 298**		*e*P	**P**	**05 55 28.4**	**-0.1**
	comp=Z,102nm,1.1s,mb5.4						
KKN	**Kakani**	**40.60 298**		*e*P	**P**	**05 55 28.4**	**-0.1**
KKN				pmax	pmax		
	comp=Z,102nm,1.1s,mb5.4						
DMN	**Daman**	**40.70 298**		*e*P	**P**	**05 55 29.1**	**-0.3**
	comp=Z,98nm,1.1s,mb5.4						
CIT	**Chita**	**40.76 349**		*e*P	**P**	**05 55 30.7**	**+0.9**
CIT				*e*	pP	05 55 46.1	+3.9
CIT				pmax	pmax		
	comp=Z,34nm,2.2s,mb4.6						
GKN	**Gorkha**	**41.20 299**		*e*P	**P**	**05 55 32.9**	**-0.5**
	comp=Z,119nm,1.1s,mb5.4						
KOLN	**Koldanda**	**42.04 298**		*e*P	**P**	**05 55 40.3**	**0.0**
	comp=Z,106nm,1.0s,mb5.4						
ZAK	**Zakamensk**	**42.10 339**		*e*P	**P**	**05 55 40.2**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.0						
FORT	**Forrest**	**42.92 177**		*e*P	**P**	**05 55 47.6**	**+0.2**
	comp=Z,40nm,0.6s,mb5.3						
TLY	**Talaya**	**43.07 340**		*e*P	**P**	**05 55 49.1**	**+0.5**
TLY				*e*SS	SS	06 05 42.2	+17
TLY				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
TLY				MLR	MLR		
	comp=Z,124nm,18.0s,MS3.9						
TLY	**Talaya**	**43.07 340**		*e*P	**P**	**05 55 48.2**	**-0.4**
	comp=Z,6.2nm,0.9s,mb4.3						
MOY	**Mondy**	**43.98 338**		*e*P	**P**	**05 55 56.8**	**+0.8**
MOY				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.7						
WMQ	**Urumqi**	**45.17 321**		*e*P	**P**	**05 56 06.8**	**+1.4**
WMQ				XP	sP	05 56 19.6	-3.7
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,180nm,4.0s						
WMQ				LR	LR		
	comp=N,300nm,16.0s,MS4.5						
WMQ				LR	LR		
	comp=E,390nm,17.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,400nm,17.0s,MS4.4						
HYB	**Hyderabad**	**45.59 282**		*i* P	**P**	**05 56 09.0**	**+0.2**
HYB	**Hyderabad**	**45.59 282**		*e*P	**P**	**05 56 09.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**45.68 190**		*e*P	**P**	**05 56 09.2**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,30nm,1.2s						
NWAO	**Narrogin (SRO)**	**45.68 190**		*e*P	**P**	**05 56 09.2**	**-0.3**
	comp=Z,30nm,1.2s,mb5.1						
STKA	**Stephens Creek**	**46.57 161**		*e*P	**P**	**05 56 14.8**	**-1.7**
	comp=Z,14nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**46.57 161**		P	**P**	**05 56 15.5**	**-1.0**
	comp=Z,6.8nm,0.7s,mb4.7,baz=335,slow=7.3,SNR=23						
ARMA	**Armidale**	**49.37 150**		*e*P	**P**	**05 56 39.5**	**+1.4**
YAK	**Yakutsk**	**49.72 3**	⇓	*e*P	**P**	**05 56 41.0**	**+0.2**
YAK				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
YAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.8						
MK31	**Makanchi Array**	**49.96 322**		P	**P**	**05 56 43.0**	**+0.3**
MK31				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
MKAR	**Makanchi Array**	**49.96 322**		P	**P**	**05 56 43.5**	**+0.8**
	comp=Z,31nm,1.1s,mb5.3,baz=114,slow=8.3,SNR=89						
POO	**Poona**	**50.05 284**	⇑	*i*P	**P**	**05 56 41.0**	**-2.3**
	comp=Z,20nm,1.0s,mb5.1						
ULHL	**Ulahol**	**52.02 314**		P	**P**	**05 56 59.1**	**+1.1**
	SNR=11						
ZAL	**Zalesovo**	**52.49 331**		P	**P**	**05 57 01.6**	**0.0**
	comp=Z,3.0nm,0.3s,mb4.6,baz=1.3,slow=6.0,SNR=12						
ZAL				LR	LR	06 21 24.0	
	comp=Z,203nm,19.5s,MS4.2,baz=341,slow=38						
KZA	**Kyzart**	**52.66 314**		P	**P**	**05 57 04.8**	**+2.0**
	SNR=16						
TOO	**Toolangi**	**53.05 160**		*e*P	**P**	**05 57 07.3**	**+1.5**
	comp=Z,4.6nm,0.6s,mb4.6						
TOO	**Toolangi**	**53.05 160**		*e*P	**P**	**05 57 07.3**	**+1.5**
TOO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KBK	**Karagaybulak**	**53.05 315**		P	**P**	**05 57 07.1**	**+1.4**
	SNR=6.4						
UCH	**Uchtor**	**53.22 314**		P	**P**	**05 57 09.0**	**+2.0**
	SNR=29						
FRU	**Bishkek**	**53.34 315**		*e*P	**P**	**05 57 07.0**	**-0.9**
AAK	**Ala-Archa**	**53.36 314**	*c*	*i*P	**P**	**05 57 08.1**	**+0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1

CHKZ pmax pmax
comp=Z,35nm,1.4s,mb5.2
CHKZ Chkalovo 59.69 326 *i*P **P 05 57 52.7 -0.3**
comp=Z,28nm,1.3s,mb5.1
ZRNK Zerenda 60.33 324 P **P 05 57 57.5 +0.1**
ZRNK pmax pmax
comp=Z,39nm,1.2s,mb5.3
ZRNK Zerenda 60.33 324⇑ *i*P **P 05 57 57.3 0.0**
comp=Z,38nm,1.0s,mb5.4
BILL Biiibino 61.65 16 *i*P **P 05 58 06.8 +0.5**
BILL pmax pmax
comp=Z,6.0nm,1.5s,mb4.5
BILL MLR MLR
comp=Z,100nm,14.0s,MS4.1
BILL Biiibino 61.65 16 *e*P **P 05 58 06.5 +0.2**
comp=Z,2.9nm,0.4s,mb4.8
WSAR Wadi Sarin 64.15 290 LR LR 06 30 37.6
comp=Z,110nm,18.9s,MS4.1,baz=239,slow=40
ABKT Ailbek 64.74 306 P **P 05 58 28.4 +1.6**
comp=Z,126nm,1.0s,mb5.9,SNR=5.9
AB31 Akbulak array 64.85 319 *i*P **P 05 58 27.6 0.0**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTO Aktyubinsk 66.29 320 P **P 05 58 36.9 +0.1**
AKTO pmax pmax
comp=Z,16nm,1.8s,mb4.8
ARU Arti 67.12 326⇑ *i*P **P 05 58 41.8 -0.3**
ARU *e* 05 59 07.8
ARU *e* 06 01 10.1
ARU *e*S S 06 07 37.6 +4.7
ARU *e*SS SS 06 11 58.1 +5.6
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.1
ARU MLR MLR
comp=Z,200nm,17.0s,MS4.4
ARU MLR MLR
comp=N,60nm,19.0s,MS4.1
ARU MLR MLR
comp=E,100nm,17.0s,MS4.1
ARU Arti 67.12 326 *e*P **P 05 58 40.5 -1.6**
comp=E,30nm,1.0s,mb5.3
ORR Orenburg 68.50 321⇑ *i*P **P 05 58 50.9 +0.1**
ORR pmax pmax
comp=Z,40nm,1.0s,mb5.4
ORR MLR MLR
comp=Z,270nm,21.0s,MS4.5
GNI Garni 75.15 308 LR LR 06 37 31.2
comp=Z,97nm,20.2s,MS4.1,baz=268,slow=40
GNI Garni 75.15 308⇓ *e*P **P 05 59 32.7 +2.0**
GNI pmax pmax
comp=Z,32nm,1.2s
GNI MLR MLR
comp=Z,100nm,25.0s
ZEI Tsey 75.62 311 *e*P **P 05 59 34.0 +0.6**
ZEI pmax pmax
comp=Z,16nm,0.9s,mb5.0
GOF Gofitskoye 76.10 314 *e*P **P 05 59 35.7 -0.4**
KIV Kislovodsk 76.42 313 *e*P **P 05 59 39.5 +1.5**
KIV pmax pmax
comp=Z,22nm,0.9s,mb5.1
KIV Kislovodsk 76.42 313 *e*P **P 05 59 39.5 +1.5**
comp=Z,22nm,0.9s,mb5.1
VRHR Novokhopersk 76.70 320 *e*P **P 05 59 39.0 -0.5**
VRHR pmax pmax
comp=E,20nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.3s
KLMR Klimovskoe 77.39 330 *e*P **P 05 59 40.6 -2.8**
KLMR pmax pmax
comp=Z,40nm,1.2s,mb5.2
COLA College 77.52 26⇓ *e*P **P 05 59 44.3 +0.2**
COLA College 77.52 26 *e*P **P 05 59 43.9 -0.2**
comp=Z,228nm,0.8s
VOR Voronezh 78.17 321 *e*P **P 05 59 47.0 -0.7**
VOR pmax pmax
comp=Z,100nm,1.2s,mb5.6
SOC Sochi 78.60 312 *i*P **P 05 59 48.8 -1.3**
SOC *e*S S 06 09 47.8 +4.3
SOC *i* 06 14 41.7
SOC pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
SOC MLR MLR
comp=Z,286nm,18.0s,MS4.7
SOC smax
comp=N,364nm,0.2s
OBN Obninsk 79.41 324 *de*P **P 05 59 53.8 -0.7**
OBN *i* *PP pP 05 59 59.2 -8.8
OBN *e* 06 02 52.4
OBN *e*S S 06 09 52.5 +0.5
OBN pmax pmax
comp=Z,46nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.5
APA Apatity 79.52 337 *e*P **P 05 59 53.0 -2.1**
ANN Anapa 80.09 314 *e*P **P 05 59 57.8 -0.4**
ANN *e* 06 00 05.3
ANN *e*S S 06 10 01.4 +2.2
ANN pmax pmax
comp=Z,32nm,1.2s,mb5.1
MALT Malatya 80.22 307⇑ *e*P **P 06 00 00.3 +1.4**
MALT pmax pmax
comp=Z,11nm,1.0s,mb4.7
MALT Malatya 80.22 307⇑ *e*P **P 06 00 00.3 +1.4**
comp=Z,10nm,1.0s,mb4.7
JOF Joensuu 81.04 332 *e*p **P 06 00 02.0 -1.3**
comp=Z,1.3nm,0.4s,mb4.2
DAWY Dawson 81.24 26 *e*P **P 06 00 05.3 +0.9**
KEV Kevo 81.47 340 *e*p **P 06 00 04.9 -0.7**
comp=Z,0.5nm,0.3s,mb3.9
KEV Kevo 81.47 340 *e*P **P 06 00 04.9 -0.7**
KEV pmax pmax
comp=Z,10.0nm,0.3s,mb5.2
ARCES ARCESS Array B 82.03 340 P **P 06 00 08.7 +0.2**
comp=Z,12nm,0.9s,mb4.8,baz=75,slow=5.1,SNR=16
ARE0 ARCESS Array S 82.03 340 *e*P **P 06 00 08.3 -0.2**
ARE0 *e*PP PP 06 03 17.0 +0.3
MIR Mirnyy 82.21 193 *e*P **P 06 00 09.0 -0.5**
MIR pmax pmax
comp=Z,18nm,1.0s,mb5.0
INK Inuvik 82.67 22 *e*P **P 06 00 11.9 0.0**
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 82.67 22 *e*P **P 06 00 11.9 +0.1**
comp=Z,10nm,1.0s,mb4.8
KAF Kangasniemi 83.48 332 *e*p **P 06 00 15.2 -0.9**
comp=Z,1.0nm,0.3s,mb4.3,baz=75,slow=5.3
KAF Kangasniemi 83.48 332 *e*P **P 06 00 15.2 -0.9**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
BR131 Keskin Array S 83.67 309 *e*P **P 06 00 16.7 -0.4**
comp=Z,2.4nm,0.9s,mb4.3
BR131 *e*pP pP 06 00 27.0 -3.6
BRTR Keskin Array B 83.67 309 P **P 06 00 16.9 -0.1**
comp=Z,1.4nm,0.8s,mb4.2,baz=104,slow=5.2,SNR=7.1
FINES FINESS Array B 83.75 332 P **P 06 00 17.4 -0.1**
comp=Z,4.4nm,0.4s,mb4.9,baz=83,slow=5.0,SNR=42
FINES FINESS Array B 83.75 332 *i*P **P 06 00 17.5 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.4s
MNK Minsk 84.49 324 *e*P **P 06 00 19.0 -2.2**
AKASG **Malin Array Be 84.52 321** P **P 06 00 20.7 -0.6**
comp=Z,9.9nm,0.9s,mb4.9,baz=65,slow=4.6,SNR=55
AKASG **Malin Array Be 84.52 321** *i*P **P 06 00 21.0 -0.4**
AKASG pmax pmax
comp=Z,10.0nm,0.9s
CSS Prodhromos 84.82 305 *e*P **P 06 00 23.1 +0.2**
comp=Z,59nm,1.1s,mb5.6
SUW Suwalki 87.25 325 *e*P **P 06 00 34.6 -0.3**
KMBO Kilima Mbogo 88.54 269 P **P 06 00 40.0 -1.0**
comp=Z,5.0nm,1.1s,mb4.8,baz=92,slow=4.4,SNR=4.3
KMBO LR LR 06 35 25.9
comp=Z,114nm,21.4s,MS4.3,baz=101,slow=32
KMBO Kilima Mbogo 88.54 269 *i*P **P 06 00 41.7 +0.7**
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KWP Kalwaria 88.84 321 *e*P **P 06 00 43.1 +0.7**
PPT Papeete 88.90 108 LR LR 06 30 55.2
comp=Z,216nm,21.5s,MS4.5,baz=147,slow=29
RES Resolute Bay 89.62 10 *e*P **P 06 00 46.1 0.0**
RES *e*PP pP 06 00 57.8 -2.0
RES pmax pmax
comp=Z,15nm,1.2s,mb5.2
RES Resolute Bay 89.62 10 *e*P **P 06 00 46.1 0.0**
comp=Z,15nm,1.2s,mb5.2

RES *e*pP pP 06 00 57.8 -2.0
HFS Hagfors 89.90 332 LR LR 06 44 08.2
comp=Z,141nm,19.6s,MS4.4,baz=320,slow=38
OJC Ojcow 90.44 322 *e*P **P 06 00 50.1 +0.2**
NB2 NORSAR Subarra 90.60 334 P **P 06 00 49.3 -1.4**
comp=Z,4.6nm,0.8s,mb4.9,baz=63,slow=4.8
NB2 NORSAR Subarra 90.60 334 P **P 06 00 49.3 -1.4**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
NOA NORSAR Array B 90.60 334 P **P 06 00 49.2 -1.4**
comp=Z,3.7nm,0.9s,mb4.7,baz=64,slow=4.8,SNR=9.5
NOA LR LR 06 45 19.6
comp=Z,121nm,18.5s,MS4.4,baz=90,slow=38
VNDA Vanda 92.04 173 P **P 06 00 56.6 -0.7**
comp=Z,0.9nm,0.7s,mb4.2,baz=294,slow=5.5,SNR=8.5
YKA Yellowknife Ar 92.19 24 P **P 06 00 58.3 +0.3**
comp=Z,1.1nm,1.0s,mb4.2,baz=298,slow=4.8,SNR=9.5
YKA LR LR 06 43 27.8
comp=Z,56nm,20.3s,MS4.0,baz=355,slow=36
BRG Berggiesshubel 93.65 324 *e*(P) **P 06 01 05.3 +0.6**
comp=Z,4.0nm,1.1s,mb4.8
BRG Berggiesshubel 93.65 324 P **P 06 01 05.4 +0.6**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
CLL Collm 94.00 324 *e*P **P 06 01 06.0 -0.4**
GERES GERESS Array B 94.63 322 P **P 06 01 09.1 -0.2**
comp=Z,0.3nm,0.2s,mb4.3,baz=71,slow=4.5,SNR=6.7
GERES LR LR 06 50 03.8
comp=Z,125nm,19.1s,MS4.4,baz=253,slow=40
SUMG Summit 94.64 355 *e*P **P 06 01 08.9 -0.4**
comp=Z,6.7nm,1.0s,mb5.0
SUMG *e*pP pP 06 01 20.0 -3.0
CRES Cresnjev 94.75 319 *e*P **P 06 01 10.7 +0.9**
BOJS Bojanci 95.01 319 *e*P **P 06 01 12.0 +1.0**
CADS Cadrg 95.69 320 *e*P **P 06 01 13.9 -0.2**
GRA1 Grafenberg Arr 95.73 323 *e*P **P 06 01 14.6 +0.3**
comp=Z,7.0nm,1.3s,mb4.9
GRF Grafenberg Arr 95.73 323 *e*P **P 06 01 14.6 +0.3**
comp=Z,7.0nm,1.3s,mb4.9
GRF Grafenberg Arr 95.73 323 *e*P **P 06 01 14.6 +0.3**
GRF pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
GRF Grafenberg Arr 95.73 323 *e*P **P 06 01 14.6 +0.3**
GRF pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
YBH Yreka Blue Hor 97.52 45 LR LR 06 41 21.9
comp=Z,87nm,18.2s,MS4.3,baz=308,slow=33
TORD Torodi Ar. Bea 118.81 293 PKP PKPdf 06 06 37.0 +0.5
comp=Z,0.7nm,0.5s,baz=68,slow=1.9,SNR=16
JCT Junction City 119.10 45 *e*PKIKP PKPdf 06 06 38.4 +1.4
MIAR Mount Ida 120.43 37 *e*PKIKP PKPdf 06 06 41.0 +1.4
MIAR *e* 06 06 52.7
WVT Waverly 122.44 32 *e*PKIKP PKPdf 06 06 44.4 +0.9
PLCA Paso Flores 148.37 156 PKPbc PKPbc 06 07 36.2 +1.6
comp=Z,7.6nm,0.8s,baz=208,slow=4.9,SNR=11
OTAV Otavalo 153.14 64 *e*PKPdf PKPdf 06 07 36.8 -1.6
OTAV PKPbc PKPbc 06 07 44.8 -1.1
SDV Santo Domingo 153.52 38 *e*PKPdf PKPdf 06 07 41.3 +2.3
SDV *e*PKPbc PKPbc 06 07 48.0 +1.3
ROSC El Rosal 153.92 50 PKPbc PKPbc 06 07 48.4 +0.8
comp=Z,2.3nm,0.4s,baz=108,slow=16,SNR=3.5
CFAA Coronel Fontan 157.00 149 PKP PKPdf 06 07 45.3 +1.6
comp=Z,0.6nm,1.0s,baz=195,slow=2.4,SNR=5.4
LPAZ La Paz 166.20 108 PKP PKPdf 06 07 55.8 +2.6
comp=Z,1.4nm,0.9s,baz=319,slow=4.3,SNR=5.0
SIV San Ignacio 172.64 121 PKP PKPdf 06 07 58.9 +1.8
comp=Z,2.9nm,1.0s,baz=185,slow=2.3,SNR=9.4

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*ISCJB **19** 05:57:00.6±0.6, 2303S±004×666W±0.1, h193km±15km, mb3.9/1, Error ellipse: s-maj=16.2km s-min=6.1km az=32.0*
*NEIC **19** 05:57:02.0±0.8, 2293S×6674W, h191km±27km, mb3.8/1, Error ellipse: s-maj=25.2km s-min=10.1km az=107.0*
*IDC **19** 05:57:02.1±1.1, 2291S×6660W, h189km±16km, mb3.8/1, mb1 3.9/6, mb1mx3.5/17, mbtmp4.3/6, Error ellipse: s-maj=22.8km s-min=12.9km az=122.0*
*GUC **19** 05:57:03.6±1.1, 2295S×6986W, h407km±23km, ML4.4*
ISC 19 05:57:01.3±0.6, 2305S±005×6651W±010, h175km±15km, n17, σ1§53/25, mb3.9/1, 1C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.25**	**281**	P	**Pn**	**05 57 42.6**	**+1.8**
	69nm,0.3s,baz=99,slow=5.9,SNR=671						
LVC				S	**Sn**	**05 58 12.7**	**+1.2**
	50nm,0.3s,baz=248,slow=22,SNR=48						
CEN1	**Los Morros**	**3.41**	**264**	⇓ *i*P	**Pn**	**05 57 57.2**	**+2.5**
CEN1				*i* S	**Sn**	**05 58 36.7**	**+0.3**
CEN1				AML	AML	05 58 38.7	
	comp=N,231nm,0.7s						
CPN1	**Cerro Paranal**	**3.89**	**245**	⇓ *i*P	**Pn**	**05 58 01.8**	**+0.9**
CPN1				*i* S	**Sn**	**05 58 45.7**	**-1.6**
CPN1				AML	AML	05 58 46.9	
	comp=E,432nm,0.7s						
CRCH	**Chaqaral**	**4.97**	**228**	⇑ *e*P	**Pn**	**05 58 14.4**	**-0.3**
CRCH				*i* S	**Sn**	**05 59 08.7**	**-3.7**
CDCH	**Caldera**	**5.60**	**223**	⇓ *i*P	**Pn**	**05 58 21.4**	**-1.5**
CDCH				*i* S	**Sn**	**05 59 21.9**	**-5.1**
LPAZ	**La Paz**	**6.90**	**347**	P	**Pn**	**05 58 41.0**	**+1.0**
	comp=E,3.6nm,0.3s,baz=166,slow=6.6,SNR=150						
LPAZ				S	**Sn**	**05 59 56.8**	**-1.0**
	comp=E,0.3nm,0.3s,baz=283,slow=19,SNR=6.1						
ARE	**Arequipa**	**8.06**	**324**	*e*P	**Pn**	**05 58 52.0**	**-3.3**
ARE				*e*S	**Sn**	**06 00 17.0**	**-8.5**
CFAA	**Coronel Fontan**	**8.66**	**190**	P	**Pn**	**05 59 05.0**	**+1.8**
	comp=E,0.1nm,0.3s,baz=348,slow=14,SNR=19						
CFAA				S	**Sn**	**06 00 37.2**	**-2.6**
	comp=E,0.2nm,0.3s,baz=201,slow=13,SNR=9.1						
SIV	**San Ignacio**	**8.70**	**37**	P	**Pn**	**05 59 03.7**	**0.0**
	comp=E,2.6nm,0.3s,baz=222,slow=10,SNR=93						
SIV				S	**Sn**	**06 00 38.6**	**-2.2**
	comp=E,0.2nm,0.3s,baz=162,slow=20,SNR=2.9						
SAML	**Samuel**	**14.38**	**13**	*e*Pn	**Pn**	**06 00 16.0**	**-0.9**
	comp=E,3.2nm,0.8s						
SAML				*e*S	**Sn**	**06 02 51.5**	**-5.5**
PLCA	**Paso Flores**	**17.96**	**190**	P	**Pn**	**06 01 00.2**	**+0.1**
	comp=E,0.4nm,0.3s,baz=1.0,slow=13,SNR=11						
PLCA	**Paso Flores**	**17.96**	**190**	P	**Pn**	**06 01 00.2**	**+0.1**
BDFB	**Brasilia**	**18.94**	**70**	P	**P**	**06 01 10.9**	**+2.1**
	comp=E,1.3nm,0.3s,baz=256,slow=12,SNR=34						
BAO	**Brasilia Array**	**18.96**	**70**	P	**P**	**06 01 11.0**	**+1.9**
TORD	**Torodi Ar. Bea**	**75.81**	**69**	P	**P**	**06 08 27.1**	**-0.9**
	comp=E,1.2nm,0.4s,mb3.9,baz=257,slow=5.6,SNR=36						
WRA	**Warramunga Arr**	**132.67**	**207**	PKP	PKPdf	06 15 55.1	0.0
	comp=E,0.2nm,0.3s,baz=155,slow=1.8,SNR=8.9						
MKAR	**Makanchi Array**	**145.51**	**39**	PKPbc	PKPbc	06 16 17.6	-1.2
	comp=E,0.4nm,0.5s,baz=355,slow=5.1,SNR=4.0						

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*NEIC **19** 05:57:34.8, 3787N×2603E, h27km, ML3.7(ATH), After ATH.*
*ATH **19** 05:57:34.9, 3783N×26.11E, h30km±5km, MD3.4/6, ML3.7*
*ISCJB **19** 05:57:35.4±0.4, 3782N±002×2605E±003, h10km, Error ellipse: s-maj=4.3km s-min=3.2km az=70.9*
*CSEM **19** 05:57:35.5±0.1, 3780N×26.12E, h10km, ML3.7, Error ellipse: s-maj=4.0km s-min=2.1km az=122.0*
*ISK **19** 05:57:36.3, 3777N×2621E, h11km, MD3.4*
ISC 19 05:57:36.0±0.4, 3783N±003×2606E±003, h10km, n30, σ1§16/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.63**	**101**	*e*PN	**Pg**	**05 57 47.0**	**-1.1**
SMG				*e*SN	**Sg**	**05 57 56.1**	**-0.3**
SMG	**Samos**	**0.63**	**101**	*e*Pb	**Pg**	**05 57 47.0**	**-1.1**
SMG				*e*Sn	**Sg**	**05 57 58.1**	**+1.7**
APE	**Apeiranthos**	**0.86**	**209**	*e*PN	**Pg**	**05 57 52.5**	**-0.1**
APE				*e*SN	**Sg**	**05 58 05.5**	**+1.6**
APE	**Apeiranthos**	**0.86**	**209**	*e*PN	**Pg**	**05 57 52.3**	**-0.3**
APE				*e*SN	**Sg**	**05 58 05.1**	**+1.2**
BLCB	**Balcova**	**0.95**	**54**	*i*PG	**Pg**	**05 57 53.9**	**-0.5**
BLCB				*i*SG	**Sg**	**05 58 06.6**	**-0.2**
IZM	**Izmir**	**1.11**	**59**	PG	**Pg**	**05 57 56.3**	**-1.0**
IZM				SG	**Sg**	**05 58 12.4**	**+0.7**
BODT	**Bodrum**	**1.25**	**127**	PN	**Pn**	**05 57 58.0**	**-1.5**
BDRM	**Kayabasi**	**1.34**	**124**	*i*P	**Pn**	**05 58 00.1**	**-0.6**
BDRM				*i*S	**Sb**	**05 58 18.8**	**+0.4**
PRK	**Paraskevi**	**1.43**	**7**	*e*PN	**Pn**	**05 58 00.7**	**-1.2**
PRK				*e*SN	**Sn**	**05 58 19.5**	**-1.2**
AYDN	**Tasoluk**	**1.45**	**96**	*i*P	**Pn**	**05 58 02.7**	**+0.4**
AYDN				*i*S	**Sn**	**05 58 23.6**	**+2.2**
AYDN	**Tasoluk**	**1.45**	**96**	*i*P	**Pn**	**05 58 02.7**	**+0.4**
AYDN				*i*S	**Sn**	**05 58 23.5**	**+2.1**
MLSB	**Milas**	**1.46**	**111**	*e*PN	**Pn**	**05 58 01.5**	**-0.9**
SANT	**Santorini**	**1.53**	**198**	*e*Pn	**Pn**	**05 58 02.9**	**-0.4**
SANT				*e*Sn	**Sg**	**05 58 26.2**	**+1.0**
SANT	**Santorini**	**1.53**	**198**	*e*Pn	**Pn**	**05 58 02.9**	**-0.4**
AYVA	**Ayvalik**	**1.56**	**18**	*i*P	**Pn**	**05 58 04.2**	**+0.4**
AYVA				*i*S	**Sg**	**05 58 30.4**	**+4.3**
DAT	**Datca**	**1.63**	**132**	PN	**Pn**	**05 58 04.7**	**-0.1**
AKS	**Akhisar**	**1.73**	**52**	PN	**Pn**	**05 58 06.5**	**+0.4**
PTL	**Penteli**	**1.75**	**278**	*e*PN	**Pn**	**05 58 05.2**	**-1.2**
KVR	**Kavouri**	**1.81**	**271**	*e*PN	**Pn**	**05 58 06.5**	**-0.7**
ATH	**Athens Observa**	**1.86**	**275**	*e*PN	**Pn**	**05 58 06.5**	**-1.4**
ATH	**Athens Observa**	**1.86**	**275**	*e*Pb	**Pn**	**05 58 05.5**	**-2.4**
YER	**Yerkesik**	**1.90**	**111**	PN	**Pn**	**05 58 07.2**	**-1.2**
EZN	**Ezine**	**2.01**	**6**	*e*PN	**Pn**	**05 58 11.6**	**+1.7**
MANT	**Manisa**	**2.08**	**71**	*i*P	**Pg**	**05 58 15.4**	**-0.4**
MANT				*i*S	**Sg**	**05 58 40.6**	**-2.1**
BALB	**Balikesir**	**2.30**	**38**	*e*PN	**Pn**	**05 58 14.7**	**+0.7**
DALT	**Dalyan (Mudla)**	**2.31**	**116**	*e*PN	**Pn**	**05 58 13.9**	**-0.2**
CANB	**Canakkale**	**2.32**	**19**	*e*PN	**Pn**	**05 58 16.2**	**+2.0**
BNT	**Bandirma**	**2.91**	**29**	*e*PN	**Pn**	**05 58 23.9**	**+1.6**
RKY	**Sarkoy-Tekirda**	**2.99**	**17**	*e*PN	**Pn**	**05 58 25.8**	**+2.4**
YLV	**Yalova**	**3.76**	**42**	*e*PN	**Pn**	**05 58 35.1**	**+1.1**

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*IDC **19** 06:10:51.8±7.7, 105N×12240E, h0km, mb4.8/3, mb1 4.8/4, mb1mx4.0/18, mbtmp4.6/4, ML4.4/1, Error ellipse: s-maj=145.1km s-min=110.7km az=96.0*
*NEIC **19** 06:10:54.0±2.0, 161N×12318E, h30km, mb4.7/4, Error ellipse: s-maj=51.6km s-min=20.9km az=40.0*
*ISCJB **19** 06:10:57.2±2.5, 08N±04×1225E±03, h33km, mb4.6/7, Error ellipse: s-maj=74.2km s-min=19.2km az=80.0*
ISC 19 06:10:58.8±2.2, 09N±04×1226E±03, h35km, n14, σ0§33/14, mb4.6/7, 4C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.66**	**144**	*e*P	**Pn**	**06 15 00.2**	**+11**
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.09**	**171**	P	**Pn**	**06 15 19.2**	**-0.3**
	0.8nm,0.3s,baz=357,slow=11,SNR=30						
MBWA	**Marble Bar**	**22.08**	**187**	*e*P	**P**	**06 15 57.3**	**+6.5**
	8.0nm,1.0s,mb4.1						
WRAB	**Tennant Creek**	**23.67**	**152**	*e*P	**P**	**06 16 06.7**	**-0.5**
	16nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**23.68**	**152**	P	**P**	**06 16 06.9**	**-0.3**
	4.7nm,0.4s,mb4.3,baz=326,slow=10,SNR=119						
WB2	**Warramunga Arr**	**23.68**	**152**⇑ *i*P		**P**	**06 16 06.9**	**-0.4**
AS31	**Alice Springs**	**26.75**	**156**⇑ *i*P		**P**	**06 16 35.4**	**+0.2**
ASPA	**Alice Springs**	**26.75**	**156**⇑ *i*P		**P**	**06 16 35.4**	**+0.2**
ASAR	**Alice Springs**	**26.76**	**156**	P	**P**	**06 16 35.5**	**+0.4**
	9.4nm,0.4s,mb4.7,baz=332,slow=8.9,SNR=177						
FORT	**Forrest**	**31.91**	**171**	*e*P	**P**	**06 17 21.3**	**+0.4**
	12nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**37.22**	**153**⇑ *i*P		**P**	**06 18 07.2**	**+0.4**
	7.4nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**37.22**	**153**	P	**P**	**06 18 07.3**	**+0.5**
	10nm,0.5s,mb4.9,baz=323,slow=8.5,SNR=35						
STKA	**Stephens Creek**	**37.22**	**153**	*e*P	**P**	**06 18 06.9**	**+0.1**
PALK	**Pallekele**	**42.25**	**280**	*e*P	**P**	**06 18 48.5**	**-0.1**
	15nm,0.9s,mb4.6						

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*MOS **19** 06:16:18.0±1.4, 3412N×2399E, h10km, mb4.0/4, Error ellipse: s-maj=35.6km s-min=12.8km az=82.3*
*ISCJB **19** 06:16:26.2±0.8, 3453N±003×2426E±008, h32km±7km, mb3.7/7, Error ellipse: s-maj=10.6km s-min=5.0km az=162.0*
*CSEM **19** 06:16:26.0±0.1, 3453N×2448E, h15km, MD3.7, Error ellipse: s-maj=3.4km s-min=1.7km az=72.0*
*HLW **19** 06:16:27.0, 3468N×2428E, h33km, Mb3.5*
*IDC **19** 06:16:29.3±2.1, 3479N×2413E, h42km±23km, mb3.5/6, mb1 3.4/9, mb1mx3.3/22, mbtmp3.6/9, ML4.1/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/25, Error ellipse: s-maj=34.5km s-min=20.5km az=123.0*
*NEIC **19** 06:16:29.5, 3472N×2428E, h19km, MD3.7(ATH), After ATH.*
*ATH **19** 06:16:29.5, 3472N×2428E, h20km±1km, MD3.7/11*
ISC 19 06:16:26.6±1.1, 3454N±003×2411E±007, h22km±9km, n43, σ1§47/50, mb3.7/7, 3C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.30**	**356**	*e*PB	**Pb**	**06 16 34.5**	**+1.1**
VAM	**Vamos**	**0.86**	**5**⇑ *i*PN		**Pb**	**06 16 43.1**	**+0.2**
VAM				*e*SN	**Sb**	**06 16 52.7**	**-1.4**
IDI	**Anoyia**	**0.98**	**40**	P	**Pb**	**06 16 44.7**	**-0.2**
	25nm,0.3s,baz=222,slow=14,SNR=42						
IDI				S	**Sb**	**06 16 56.0**	**-1.4**
	110nm,0.3s,baz=329,slow=18,SNR=23						
XRY	**Khrisi**	**1.35**	**75**	*e*PN	**Pn**	**06 16 51.5**	**+1.4**
NPS	**Neapolis**	**1.43**	**59**	*e*PN	**Pn**	**06 16 53.1**	**+1.9**
KYTH	**Kithira**	**1.94**	**333**	*e*PN	**Pn**	**06 17 03.5**	**+5.2**
VLI	**Veliai**	**2.37**	**337**	*e*PN	**Pn**	**06 17 08.7**	**+4.5**
KARP	**Karpathos**	**2.69**	**67**	*e*PN	**Pn**	**06 17 11.0**	**+2.4**
APE	**Apeiranthos**	**2.77**	**24**	*e*PN	**Pn**	**06 17 12.5**	**+2.8**
APE	**Apeiranthos**	**2.77**	**24**	*i*P	**Pn**	**06 17 09.6**	**-0.1**
ITM	**Ithomi**	**3.17**	**327**	*e*PN	**Pn**	**06 17 20.0**	**+4.8**
ITM	**Ithomi**	**3.17**	**327**	*e*Pn	**Pn**	**06 17 19.0**	**+3.8**
SLUM		**3.18**	**163**	⇓ P	**Pn**	**06 17 15.9**	**+0.6**
SLUM				S	**Sn**	**06 17 52.3**	**-0.3**
NAIG	**Nisos Aigina**	**3.25**	**351**	*e*PN	**Pn**	**06 17 20.0**	**+3.7**
NAIG	**Nisos Aigina**	**3.25**	**351**	*e*Pb	**Pb**	**06 17 22.0**	**-1.6**
KVR	**Kavouri**	**3.29**	**355**	*e*PN	**Pn**	**06 17 20.5**	**+3.7**
MGER	**Gerania Oros**	**3.50**	**349**	*e*PN	**Pn**	**06 17 23.5**	**+3.7**
MGER	**Gerania Oros**	**3.50**	**349**	*e*Pn	**Pn**	**06 17 21.1**	**+1.3**
HMAT	**Matruh**	**4.26**	**143**	P	**Pn**	**06 17 30.6**	**+0.4**
SWA2		**5.41**	**167**	⇑ P	**Pn**	**06 17 46.9**	**+0.9**
SWA2				S	**Sn**	**06 18 45.5**	**-2.0**
SWA2		**5.41**	**167**	P	**Pn**	**06 17 46.8**	**+0.9**
SWA2				S	**Sn**	**06 18 45.5**	**-1.9**
SWA1		**5.44**	**165**	⇓ P	**Pn**	**06 17 47.4**	**+1.1**
SWA1				S	**Sn**	**06 18 45.5**	**-2.7**
GLL	**Jalalah**	**8.13**	**125**⇑ *i*P		**Pn**	**06 18 22.7**	**-0.6**
HHAG	**Hagoal**	**8.17**	**122**	P	**Pn**	**06 18 23.4**	**-0.4**
BRTR	**Keskin Array B**	**9.20**	**53**	P	**Pn**	**06 18 38.1**	**+0.1**
	0.1nm,0.3s,baz=217,slow=11,SNR=2.5						
MMAI	**Mount Meron Ar**	**9.52**	**96**	P	**Pn**	**06 18 41.0**	**-1.4**
	1.3nm,0.3s,baz=300,slow=12,SNR=2.7						
MMAI				S	**Sn**	**06 20 21.6**	**-7.1**
	1.9nm,0.3s,baz=268,slow=27,SNR=3.2						
MLR	**Muntele Rosu**	**11.03**	**7**	LR	LR	06 23 12.8	
	comp=Z,37nm,21.1s,baz=190,slow=37						
GERES	**GERESS Array B**	**16.24**	**335**	P	**Pn**	**06 20 11.9**	**-1.5**
	0.2nm,0.3s,baz=145,slow=12,SNR=3.6						
KHC	**Kasperske Hory**	**16.53**	**335**	*i*P	**Pn**	**06 20 27.1**	**+10**
AKASG	**Malin Array Be**	**16.57**	**11**	P	**Pn**	**06 20 15.6**	**-2.0**
	1.0nm,0.3s,baz=203,slow=10,SNR=4.2						
AKASG	**Malin Array Be**	**16.57**	**11**	*e*P	**Pn**	**06 20 17.8**	**+0.2**
OBN	**Obninsk**	**22.32**	**19**	*e*P	**P**	**06 21 24.0**	**+1.3**
OBN				*e*		06 21 47.4	
OBN				*e*S	**S**	**06 25 19.6**	**-7.6**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.3						
HFS	**Hagfors**	**26.49**	**348**	P	**P**	**06 22 00.8**	**-1.6**
	comp=Z,0.6nm,0.3s,mb3.5,baz=141,slow=9.6,SNR=6.5						
HFS	**Hagfors**	**26.49**	**348**	P	**P**	**06 22 00.8**	**-1.5**
HFS				pmax	pm

*ISCJB **19** 06:19:41.3±0.8, 3783N×004×2602E±006, h10km, Error ellipse: s-maj=7.0km s-min=4.9km az=34.4*
*CSEM **19** 06:19:41.9±0.2, 3788N×2610E, h12km, MD3.2, Error ellipse: s-maj=4.7km s-min=2.9km az=123.0*
*NEIC **19** 06:19:41.3, 3789N×2606E, h10km, MD3.2(ISK), MD3.2(ATH), After ATH.*
*ATH **19** 06:19:41.3, 3789N×2606E, h10km, MD3.2/3*

ISC 19 06:19:41.3±1.0, 3780N±004×2603E±006, h5km±6km, n32, σ1°00/42, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.65**	**98**	*e*PB	**Pg**	**06 19 53.5**	**-0.2**
URLA	**Izmir**	**0.71**	**39**	*i* P	**Pg**	**06 19 55.0**	**0.0**
URLA				*i* S	**Sg**	**06 20 05.5**	**+1.3**
APE	**Apeiranthos**	**0.83**	**209**	*e*PB	**Pg**	**06 19 58.8**	**+1.5**
BLCB	**Balcova**	**0.99**	**54**	PG	**Pg**	**06 20 00.2**	**0.0**
BLCB	**Balcova**	**0.99**	**54**	Pg	**Pg**	**06 19 59.1**	**-1.2**
BLCB				Sg	**Sg**	**06 20 13.1**	**0.0**
BLCB	**Balcova**	**0.99**	**54**	Pg	**Pg**	**06 19 59.1**	**-1.1**
BLCB				Sg	**Sg**	**06 20 13.1**	**0.0**
IZM	**Izmir**	**1.14**	**58**	PG	**Pg**	**06 20 02.4**	**-0.7**
IZM				SG	**Sg**	**06 20 17.7**	**-0.2**
IZM	**Izmir**	**1.14**	**58**	Pn	**Pn**	**06 20 02.5**	**-1.4**
KDAG	**Bornova**	**1.15**	**58**	*i* P	**Pg**	**06 20 03.1**	**-0.2**
KDAG				*i* S	**Sg**	**06 20 18.8**	**+0.6**
BODT	**Bodrum**	**1.26**	**126**	PN	**Pn**	**06 20 04.5**	**-1.0**
BODT				SN	**Sn**	**06 20 18.7**	**-4.1**
BODT	**Bodrum**	**1.26**	**126**	Pn	**Pn**	**06 20 05.2**	**-0.3**
BODT	**Bodrum**	**1.26**	**126**	Pn	**Pn**	**06 20 05.2**	**-0.3**
BDRM	**Kayabasi**	**1.35**	**123**	*i* P	**Pn**	**06 20 06.2**	**-0.4**
BDRM				*i* S	**Sb**	**06 20 24.9**	**+0.4**
BDRM	**Kayabasi**	**1.35**	**123**	*i* P	**Pn**	**06 20 06.2**	**-0.5**
BDRM				*i* S	**Sb**	**06 20 24.9**	**+0.4**
PRK	**Paraskevi**	**1.45**	**7**	*e*PB	**Pb**	**06 20 07.0**	**-1.8**
AYDN	**Tasoluk**	**1.47**	**95**	*i* P	**Pn**	**06 20 08.6**	**+0.2**
AYDN				*i* S	**Sn**	**06 20 29.0**	**+0.9**
MLSB	**Milas**	**1.48**	**110**	*e*PN	**Pn**	**06 20 07.2**	**-1.3**
MLSB	**Milas**	**1.48**	**110**	Pn	**Pn**	**06 20 08.4**	**-0.2**
MLSB	**Milas**	**1.48**	**110**	Pn	**Pn**	**06 20 08.4**	**-0.1**
DAT	**Datca**	**1.64**	**130**	*e*PN	**Pn**	**06 20 09.9**	**-0.8**
AKS	**Akhisar**	**1.77**	**52**	*e*PN	**Pn**	**06 20 11.4**	**-1.1**
AKS	**Akhisar**	**1.77**	**52**	Pn	**Pn**	**06 20 11.5**	**-1.0**
AKS	**Akhisar**	**1.77**	**52**	Pn	**Pn**	**06 20 11.5**	**-1.0**
YER	**Yerkesik**	**1.91**	**110**	*e*PN	**Pn**	**06 20 13.1**	**-1.4**
YER	**Yerkesik**	**1.91**	**110**	Pn	**Pn**	**06 20 15.2**	**+0.8**
YER	**Yerkesik**	**1.91**	**110**	Pn	**Pn**	**06 20 15.2**	**+0.7**
MANT	**Manisa**	**2.11**	**70**	*i* P	**Pn**	**06 20 21.2**	**+4.0**
MANT				*i* S	**Sn**	**06 20 47.5**	**+3.7**
DALT	**Dalyan (Mudla)**	**2.32**	**116**	*e*PN	**Pn**	**06 20 18.6**	**-1.5**
DALT	**Dalyan (Mudla)**	**2.32**	**116**	Pn	**Pn**	**06 20 21.2**	**+1.1**
DALT	**Dalyan (Mudla)**	**2.32**	**116**	Pn	**Pn**	**06 20 21.2**	**+1.1**
CANB	**Canakkale**	**2.35**	**20**	*e*PN	**Pn**	**06 20 21.7**	**+1.2**
RKY	**Sarkoy-Tekirda**	**3.02**	**17**	*e*PN	**Pn**	**06 20 31.3**	**+1.7**

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*ISCJB **19** 06:49:17.1±2.9, 55S×01×1522E±0.1, h100km±25km, mb4.4/21, Error ellipse: s-maj=18.6km s-min=16.6km az=98.6*
*MOS **19** 06:49:17.8±0.7, 532S×1520.7E, h102km, mb4.6/9, Error ellipse: s-maj=20.0km s-min=13.3km az=54.2*
*NEIC **19** 06:49:19.7±1.6, 554S×1522.0E, h114km±14km, mb4.6/12, Error ellipse: s-maj=10.7km s-min=9.3km az=138.0*
*IDC **19** 06:49:19.2±4.0, 556S×152.17E, h104km±34km, mb4.1/9, mb1 4.2/10, mb1mx4.0/16, mbtmp4.4/10, MS3.5/4, Ms1 3.5/4, ms1mx3.0/18, Error ellipse: s-maj=23.9km s-min=22.7km az=18.0*

ISC 19 06:49:18.2±2.4, 55S±01×15224E±010, h98km±21km, n49, σ0°78/43, mb4.4/21, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.37**	**232**	P	**Pn**	**06 50 50.4**	**+1.0**
	5.1nm,0.3s,baz=45,slow=9.8,SNR=10						
PMG				S	**Sn**	**06 51 59.5**	**-1.1**
	15nm,0.3s,baz=158,slow=22,SNR=19						
HNR	**Honiara**	**8.59**	**118**	LR	LR	06 54 24.7	
	comp=Z,174nm,21.4s,baz=0.2,slow=36						
KAKA	**Kakadu**	**20.81**	**248**	*e*P	**P**	**06 53 51.2**	**-0.5**
	63nm,0.7s						
DZM	**Mont Dzumac**	**21.46**	**142**	P	**P**	**06 53 59.4**	**+0.8**
	9.4nm,0.6s,mb4.3,baz=333,slow=11,SNR=12						
DZM				LR	LR	07 00 53.0	
	comp=Z,196nm,19.5s,baz=200,slow=32						
WRAB	**Tennant Creek**	**22.56**	**229**	*e*P	**P**	**06 54 10.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**22.56**	**229**	*e*P	**P**	**06 54 10.2**	**0.0**
	comp=Z,22nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**22.56**	**229**	*e*P	**P**	**06 54 10.0**	**-0.3**
WRA	**Warramunga Arr**	**22.57**	**229**	P	**P**	**06 54 10.1**	**-0.2**
	comp=Z,10.0nm,0.5s,mb4.4,baz=53,slow=9.9,SNR=73						
AS31	**Alice Springs**	**25.27**	**223**	*e*P	**P**	**06 54 36.0**	**+0.8**
ASAR	**Alice Springs**	**25.27**	**223**	P	**P**	**06 54 35.8**	**+0.6**
	comp=Z,3.8nm,0.4s,mb4.1,baz=59,slow=8.6,SNR=42						
ASPA	**Alice Springs**	**25.27**	**223**	*e*P	**P**	**06 54 36.0**	**+0.8**
STKA	**Stephens Creek**	**28.08**	**200**	P	**P**	**06 54 58.5**	**-1.9**
	comp=Z,1.4nm,0.7s,mb3.6,baz=355,slow=16,SNR=3.6						
FITZ	**Fitzroy Crossi**	**28.84**	**242**	*e*P	**P**	**06 55 07.3**	**+0.1**
	comp=Z,16nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**28.84**	**242**	P	**P**	**06 55 07.4**	**+0.2**
	comp=Z,11nm,0.6s,mb4.6,baz=73,slow=8.3,SNR=44						
MBWA	**Marble Bar**	**35.15**	**241**	*e*P	**P**	**06 56 02.4**	**0.0**
	comp=Z,7.9nm,0.4s,mb4.9						
JOW	**Kunigami**	**39.63**	**325**	LR	LR	07 09 55.7	
	comp=Z,51nm,20.9s,baz=128,slow=31						
SONM	**Songino Array**	**66.61**	**328**	P	**P**	**06 59 58.5**	**+0.5**
	comp=Z,2.3nm,0.5s,mb4.2,baz=148,slow=4.6,SNR=4.8						
ZAK	**Zakamensk**	**69.79**	**329**	*e*P	**P**	**07 00 16.6**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,4.0nm,2.0s,mb3.9						
JIRN	**Jiri**	**71.67**	**301**	*e*P	**P**	**07 00 30.3**	**+1.0**
GUN	**Gumba**	**72.00**	**302**	*e*P	**P**	**07 00 32.4**	**+1.1**
PKI	**Pulchoki**	**72.31**	**301**	*e*P	**P**	**07 00 33.4**	**+0.3**
DMN	**Daman**	**72.58**	**301**	*e*P	**P**	**07 00 35.3**	**+0.6**
	comp=Z,5.3nm,0.5s,mb4.6						
GKN	**Gorkha**	**73.08**	**301**	*e*P	**P**	**07 00 38.3**	**+0.6**
	comp=Z,4.0nm,0.3s,mb4.7						
MDRS	**Chennai**	**73.83**	**285**	*ex*	x	07 00 42.0	
MDRS				*ex*	x	07 00 53.0	
KOLN	**Koldanda**	**73.90**	**301**	*e*P	**P**	**07 00 43.1**	**+0.6**
SLKM	**Skilak Lake**	**79.53**	**25**	*e*P	**P**	**07 01 13.8**	**-0.3**
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**07 01 19.3**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.0,baz=106,slow=6.3,SNR=17						
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**07 01 19.3**	**0.0**
ZAL	**Zalesovo**	**81.42**	**326**	P	**P**	**07 01 24.1**	**-0.2**
	comp=Z,2.5nm,0.4s,mb4.4,baz=5.6,slow=5.5,SNR=4.3						
ZAL				LR	LR	07 35 16.5	
	comp=Z,26nm,18.6s,baz=283,slow=34						
MCK	**McKinley**	**81.71**	**23**	*e*P	**P**	**07 01 25.1**	**-0.7**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
MCK	**McKinley**	**81.71**	**23**	*e*P	**P**	**07 01 25.1**	**-0.7**
	comp=Z,6.2nm,0.9s,mb4.4						
COLA	**College**	**82.69**	**22**	*e*P	**P**	**07 01 29.7**	**-1.2**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
COLA	**College**	**82.69**	**22**	*e*P	**P**	**07 01 29.7**	**-1.2**
	comp=Z,9.2nm,0.8s,mb4.7						
KURK	**Kurchatov**	**83.97**	**322**	*e*P	**P**	**07 01 38.0**	**+0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**83.97**	**322**	*e*P	**P**	**07 01 38.0**	**+0.6**
	comp=Z,2.8nm,0.8s,mb4.1						
INK	**Inuvik**	**89.30**	**21**	*e*P	**P**	**07 02 03.1**	**-0.3**
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
INK	**Inuvik**	**89.30**	**21**	*e*P	**P**	**07 02 03.1**	**-0.3**
	comp=Z,5.2nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**89.43**	**324**	*e*P	**P**	**07 02 03.0**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**89.43**	**324**	*e*P	**P**	**07 02 03.0**	**-1.1**
	comp=Z,2.6nm,0.6s,mb4.4						
BRVK	**Borovoye**	**89.52**	**323**	*e*P	**P**	**07 02 04.1**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**89.52**	**323**	*e*P	**P**	**07 02 04.1**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**90.27**	**323**	*e*P	**P**	**07 02 06.8**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**90.27**	**323**	*e*P	**P**	**07 02 06.8**	**-1.2**
	comp=Z,2.5nm,0.5s,mb4.6						
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**	**07 02 36.7**	**+1.1**
	comp=Z,0.7nm,0.6s,mb4.2,baz=271,slow=5.1,SNR=15						
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**	**07 02 36.7**	**+1.1**
GERES	**GERESS Array B**	**124.34**	**328**	PKP	PKPdf	07 08 05.3	-0.3
	comp=Z,0.5nm,0.5s,baz=64,slow=3.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.98**	**287**	PKPbc	PKPbc	07 08 58.6	+1.5
	comp=Z,1.1nm,0.3s,baz=86,slow=2.2,SNR=34						
TORD				PKPab	PKPab	07 09 04.2	+1.1
	comp=Z,3.6nm,0.8s,baz=74,slow=3.6,SNR=16						
TORD	**Torodi Ar. Bea**	**149.98**	**287**	PKPbc	PKPbc	07 08 58.6	+1.5
TORD				PKPab	PKPab	07 09 04.2	+1.1
DBIC	**Dimbokro**	**157.19**	**274**	PKPab	PKPab	07 09 35.4	+1.7
	comp=Z,2.9nm,0.5s,baz=116,slow=2.4,SNR=8.9						

IDC 19 07:38:43.2±2.0, 101N×9697E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/21, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=51.5km s-min=28.4km az=49.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.65**	**48**	Pn	Pn	07 39 26.6	-0.5
	1.4nm,0.3s,baz=260,slow=6.2,SNR=12						
PSI				Sn	Sn	07 40 08.0	+8.0
	1.5nm,0.3s,baz=22,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**42.13**	**122**	P	P	07 46 37.6	+0.4
	0.5nm,0.7s,baz=300,slow=9.0,SNR=4.9						
SONM	**Songino Array**	**47.36**	**9**	P	P	07 47 18.8	-0.1
	0.6nm,0.4s,baz=184,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	**47.37**	**346**	P	P	07 47 19.7	+0.7
	0.6nm,0.7s,baz=144,slow=8.4,SNR=4.1						
ZAL	**Zalesovo**	**53.70**	**351**	P	P	07 48 06.7	-0.2
	1.4nm,0.4s,baz=271,slow=5.2,SNR=4.6						
BVAR	**Borovoye Array**	**56.36**	**341**	P	P	07 48 25.7	-0.4
	0.9nm,0.8s,baz=152,slow=6.7,SNR=4.7						

IDC 19 07:40:18.9±1.4, 2106S×6872W, h116km±13km, mb3.5/3, mb1 3.6/6, mb1mx3.4/17, mbtmp4.0/6, Error ellipse: s-maj=34.5km s-min=15.6km az=108.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.55**	**187**	P	Pn	07 40 46.9	+0.2
	22nm,0.3s,baz=15,slow=8.8,SNR=442						
LVC				S	Sn	07 41 08.4	+0.5
	239nm,0.3s,baz=112,slow=20,SNR=66						
LPAZ	**La Paz**	**4.78**	**7**	P	Pn	07 41 30.7	+1.8
	1.1nm,0.3s,baz=184,slow=13,SNR=30						
SIV	**San Ignacio**	**8.83**	**56**	P	Pn	07 42 22.2	-1.4
	5.5nm,0.3s,baz=248,slow=11,SNR=179						
CFAA	**Coronel Fontan**	**10.51**	**178**	P	Pn	07 42 42.1	-4.2
	0.0nm,0.3s,baz=355,slow=13,SNR=8.9						
CFAA				S	Sn	07 44 33.3	-8.7
	0.1nm,0.3s,baz=220,slow=18,SNR=6.8						
PLCA	**Paso Flores**	**19.67**	**184**	P	P	07 44 39.4	+0.6
	0.2nm,0.3s,baz=11,slow=11,SNR=6.2						
BDFB	**Brasilia**	**20.37**	**78**	P	P	07 44 47.3	+1.0
	3.8nm,0.5s,baz=270,slow=11,SNR=13						
TORD	**Torodi Ar. Bea**	**77.04**	**70**	P	P	07 51 59.8	+0.7
	0.8nm,0.4s,baz=255,slow=5.7,SNR=18						
YKA	**Yellowknife Ar**	**90.83**	**341**	P	P	07 53 08.1	-1.1
	0.1nm,0.4s,baz=144,slow=3.9,SNR=3.9						

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*ISCJB **19** 07:52:19.5±0.5, 1771S×009×4173E±007, h10km, mb4.1/17, MS3.4/1, Error ellipse: s-maj=12.8km s-min=9.3km az=130.6*
*IDC **19** 07:52:19.7±0.7, 1774S×4173E, h0km, mb4.0/13, mb1 4.1/18, mb1mx4.0/26, mbtmp4.1/18, ML3.9/5, MS3.3/3, Ms1 3.2/3, ms1mx2.9/21, Error ellipse: s-maj=20.7km s-min=16.7km az=163.0*
*MOS **19** 07:52:21.5±2.0, 1754S×4149E, h10km, mb4.7/5, Error ellipse: s-maj=18.0km s-min=14.8km az=50.4*
*NEIC **19** 07:52:22.1±0.6, 1776S×4169E, h10km, mb4.2/6, Error ellipse: s-maj=17.1km s-min=12.0km az=164.0*
*BJI **19** 07:52:22.0, 1780S×4170E, h10km, Ms4.2, Msz4.1*

ISC 19 07:52:21.3±0.5, 1772S±009×4173E±007, h10km, n51, σ0°95/41, mb4.1/17, MS3.4/1, 5C-1D, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.26**	**100**	Pn	**Pn**	**07 53 39.1**	**-0.8**
	16nm,0.3s,baz=270,slow=14,SNR=85						
OPO				Sn	**Sn**	**07 54 33.7**	**-6.9**
	28nm,0.3s,baz=197,slow=17,SNR=7.6						
MATP	**Matopo**	**12.70**	**256**	Pn	**Pn**	**07 55 18.3**	**-4.9**
	0.3nm,0.3s,baz=70,slow=15,SNR=4.0						
MATP				Sn	**Sn**	**07 57 31.9**	**-14**
	0.4nm,0.3s,baz=0.0,slow=19,SNR=2.4						
MATP				LR	LR	08 00 26.2	
	comp=Z,128nm,18.1s,baz=130,slow=38						
LSZ	**Lusaka**	**13.21**	**279**	Pn	**Pn**	**07 55 27.1**	**-1.8**
	0.7nm,0.3s,baz=105,slow=14,SNR=4.0						
LSZ				LR	LR	08 00 43.9	
	comp=Z,114nm,18.5s,baz=200,slow=38						
LSZ	**Lusaka**	**13.21**	**279**	*e*Pn	**Pn**	**07 55 27.3**	**-1.6**
LBTB	**Lobatse**	**16.68**	**241**	Pn	**Pn**	**07 56 13.9**	**-1.1**
	0.3nm,0.3s,baz=69,slow=13,SNR=6.1						
LBTB	**Lobatse**	**16.68**	**241**	*e*P	**Pn**	**07 56 15.4**	**+0.4**
LBTB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LBTB	**Lobatse**	**16.68**	**241**	*e*Pn	**Pn**	**07 56 15.4**	**+0.4**
	comp=Z,6.9nm,0.8s						
KMBO	**Kilima Mbogo**	**17.07**	**345**	P	**Pn**	**07 56 21.9**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=2.0						
BOSA	**Boshof**	**18.60**	**231**	P	**Pn**	**07 56 38.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=75,slow=12,SNR=6.2						
BOSA				LR	LR	08 04 29.2	
	comp=Z,70nm,18.3s,baz=305,slow=39						
BOSA	**Boshof**	**18.60**	**231**	*e*P	**Pn**	**07 56 39.0**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOSA	**Boshof**	**18.60**	**231**	*e*P	**Pn**	**07 56 39.0**	**+0.1**
	comp=Z,4.5nm,0.8s						
TSUM	**Tsumeb**	**22.95**	**263**	P	**P**	**07 57 25.7**	**0.0**
	comp=Z,1.5nm,0.5s,mb3.6,baz=90,slow=11,SNR=6.2						
TSUM	**Tsumeb**	**22.95**	**263**	*e*P	**P**	**07 57 25.6**	**-0.1**
	comp=Z,2.8nm,0.8s,mb3.7						
SUR	**Sutherland**	**23.85**	**228**	P	**P**	**07 57 35.2**	**+0.5**
	comp=Z,11nm,0.8s,mb4.3,baz=68,slow=7.5,SNR=9.0						
SUR	**Sutherland**	**23.85**	**228**	*e*P	**P**	**07 57 36.0**	**+1.3**
	comp=Z,16nm,0.9s,mb4.5						
SUR				*e*pP		07 57 43.2	
TORD	**Torodi Ar. Bea**	**50.02**	**305**	P	**P**	**08 01 16.7**	**+0.8**
	comp=Z,1.3nm,0.8s,mb4.0,baz=127,slow=6.8,SNR=8.9						
DBIC	**Dimbokro**	**51.99**	**294**	P	**P**	**08 01 31.5**	**+0.8**
	comp=Z,3.4nm,0.5s,mb4.6,baz=12,slow=5.9,SNR=14						
DBIC	**Dimbokro**	**51.99**	**294**	*e*P	**P**	**08 01 31.6**	**+0.9**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
DBIC	**Dimbokro**	**51.99**	**294**	*e*P	**P**	**08 01 31.6**	**+0.9**
	comp=Z,3.7nm,0.5s,mb4.6						
BRTR	**Keskin Array B**	**57.65**	**353**	P	**P**	**08 02 12.2**	**+0.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=172,slow=10.0,SNR=8.1						
BRTR	**Keskin Array B**	**57.65**	**353**	⇑*e*P	**P**	**08 02 12.1**	**+0.4**
AKASG	**Malin Array Be**	**69.01**	**352**	P	**P**	**08 03 26.0**	**-1.0**
	comp=Z,0.2nm,0.2s,mb3.6,baz=181,slow=5.9,SNR=4.3						
GERES	**GERESS Array B**	**70.81**	**341**	P	**P**	**08 03 38.0**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=145,slow=4.9,SNR=7.8						
KHC	**Kasperske Hory**	**71.10**	**341**	⇑*e*P	**P**	**08 03 46.3**	**+6.5**
GRF	**Grafenberg Arr**	**72.35**	**340**	*e*P	**P**	**08 03 54.7**	**+7.4**
	comp=Z,3.0nm,0.7s,mb4.3						
GRF	**Grafenberg Arr**	**72.35**	**340**	*e*P	**P**	**08 03 54.7**	**+7.4**
GRF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
OBN	**Obninsk**	**72.68**	**357**	⇑*e*P	**P**	**08 03 47.6**	**-1.7**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**73.88**	**28**	P	**P**	**08 03 56.2**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=215,slow=6.7,SNR=15						
MKAR	**Makanchi Array**	**73.88**	**28**	⇑*e*P	**P**	**08 03 56.2**	**-0.2**
WMQ	**Urumqi**	**74.29**	**33**	*e*P	**P**	**08 04 01.9**	**+3.1**
ARU	**Arti**	**75.21**	**10**	⇑*e*P	**P**	**08 04 03.8**	**-0.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**75.46**	**23**	*e*P	**P**	**08 04 05.3**	**-0.2**
KURK				*e**PP	pP	08 04 11.7	+2.9
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**75.46**	**23**	*e*P	**P**	**08 04 05.3**	**-0.2**
	comp=Z,3.9nm,0.8s,mb4.4						
KURK				*e*pP	pP	08 04 11.7	+2.9
FINES	**FINESS Array B**	**79.88**	**352**	P	**P**	**08 04 30.4**	**+0.2**
	comp=Z,0.8nm,0.9s,mb3.7,baz=197,slow=4.4,SNR=1.9						
ZAL	**Zalesovo**	**80.35**	**24**	P	**P**	**08 04 32.0**	**-0.7**
	comp=Z,1.0nm,0.4s,mb4.1,baz=221,slow=6.0,SNR=5.1						
NVS	**Novosibirsk**	**80.44**	**23**	*e*P	**P**	**08 04 32.4**	**-0.8**
NOA	**NORSAR Array B**	**82.22**	**346**	P	**P**	**08 04 42.2**	**-0.4**
	comp=Z,1.4nm,0.9s,mb3.9,baz=142,slow=5.2,SNR=3.0						
ASAR	**Alice Springs**	**84.97**	**113**	P	**P**	**08 04 57.7**	**+0.9**
	comp=Z,1.4nm,0.8s,mb4.1,baz=259,slow=4.2,SNR=12						
WRA	**Warramunga Arr**	**86.46**	**110**	P	**P**	**08 05 05.2**	**+1.0**
	comp=Z,0.9nm,1.1s,mb3.9,baz=248,slow=2.7,SNR=6.0						
MDJ	**Mudanjiang**	**100.74**	**47**	P	Pdif	08 06 12.3	+2.3
MDJ				S	Sdif	08 17 49.9	+2.3
MDJ				SS	SS	08 24 46.8	+2.3
MDJ				LR	LR		
	comp=N,20nm,47.5s,MS3.4						
MDJ				LR	LR		
	comp=E,20nm,51.6s,MS3.4						
MDJ				LR	LR		
	comp=Z,10.0nm,16.8s						
DLMT	**Dillon**	**145.10**	**328**	*e*PKPbc	PKPbc	08 11 59.7	+1.3
PDAR	**Pinedale Array**	**145.11**	**322**	PKPbc	PKPbc	08 11 58.1	-0.4
	comp=Z,1.2nm,0.8s,baz=66,slow=3.6,SNR=7.6						
IMW	**Indian Meadow**	**145.20**	**324**	*e*PKPbc	PKPbc	08 12 00.1	+1.4
SMCO	**Snowmass**	**145.43**	**315**	*e*PKPbc	PKPbc	08 12 00.4	+0.9
ANMO	**Albuquerque**	**146.92**	**308**	⇓*i*PKP2	PKPab	08 12 05.0	-0.3
HWUT	**Hardware Ranch**	**147.00**	**322**	*e*PKPdf	PKPdf	08 12 04.8	+2.6
BNM	**Barren Site**	**147.35**	**306**	*e*PKPbc	PKPbc	08 12 06.7	+1.5
SRU	**San Rafael**	**147.82**	**317**	*e*PKP2	PKPab	08 12 07.0	-1.9
MSU	**Marysvale**	**149.22**	**318**	*e*PKIKP	PKPdf	08 12 08.3	+2.5
TUC	**Tucson**	**151.28**	**306**	*e*PKIKP	PKPdf	08 12 11.3	+2.3
TUC				*e*		08 12 16.8	
TUC				*e*		08 12 24.1	
NVAR	**Mina Array Bea**	**152.98**	**324**	PKPbc	PKPbc	08 12 20.6	+1.8
	comp=Z,1.0nm,0.8s,baz=110,slow=2.8,SNR=6.3						

GUC 19 07:59:01.8±0.8, 2607S×6929W, h7km±12km, MD3.6, ML2.6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**1.22**	**257**	*e*P	Pb	07 59 23.9	-1.3
CRCH				*i* S	Sg	07 59 40.5	-0.7
CDCH	**Caldera**	**1.70**	**234**	*e*P	Pn	07 59 31.5	-0.3
CDCH				*i* S	Sn	07 59 53.8	0.0
CPN1	**Cerro Paranal**	**1.75**	**325**	*e*P	Pn	07 59 33.1	+0.6
CPN1				*i* S	Sn	07 59 56.4	+1.3
CPN1				AML	AML	07 59 57.9	
	comp=E,84nm,0.3s						
CEN1	**Los Morros**	**2.79**	**343**	*e*P	Pn	07 59 47.7	+0.8
CEN1				*i* S	Sn	08 00 22.0	+1.2
CEN1				AML	AML	08 00 24.5	
	comp=E,31nm,0.7s						

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*IDC **19** 08:06:06.6±1.8, 307S×13968E, h0km, mb3.8/4, mb1 4.2/5, mb1mx4.0/12, mbtmp4.0/5, ML4.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/19, Error ellipse: s-maj=65.3km s-min=26.9km az=85.0*
*ISCJB **19** 08:06:08.9±5.2, 32S±01×1397E±0.2, h23km±40km, mb3.8/3, Error ellipse: s-maj=31.7km s-min=14.7km az=36.3*
*NEIC **19** 08:06:11.9±1.3, 323S×13974E, h30km, mb4.1/3, Error ellipse: s-maj=37.2km s-min=12.6km az=91.0*

ISC 19 08:06:09.8±5.4, 320S±010×1399E±02, h17km±37km, n14, σ0°88/14, mb3.8/3, Irian Jaya

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

0.4nm,0.6s,mb3.2,baz=97,slow=8.1,SNR=2.3
TORD Torodi Ar. Bea 65.69 269 P **P 08 18 26.3 +0.1**
0.3nm,0.5s,mb3.4,baz=44,slow=6.6,SNR=4.9
YKA Yellowknife Ar 81.53 3 P **P 08 19 59.1 +0.7**
0.2nm,0.5s,mb3.0,baz=350,slow=5.0,SNR=4.7
WRA Warramunga Arr 81.86 122 P **P 08 20 00.0 -0.2**
0.5nm,1.0s,mb3.1,baz=326,slow=5.0,SNR=4.5

GUC 19 08:13:03.3±0.8, 3268S×7176W, h15km±71km, MD3.7, ML2.2, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.70**	**115**	⇑*iP*			Pg	08 13 17.0	+0.1
ROCH				*i*S			Sg	08 13 26.7	+0.6
LCCH	**Las Cruces**	**0.81**	**169**	⇓*iP*			Pg	08 13 18.4	-0.6
LCCH				*i*S			Sg	08 13 28.8	-1.0
JACH	**Jahuel**	**0.98**	**91**	*iP*			Pb	08 13 20.7	-1.4
TACH	**Talagante**	**1.19**	**145**	*iP*			Pn	08 13 23.9	-1.6
STL	**Santa Lucia**	**1.21**	**129**	*eP*			Pn	08 13 24.2	-1.4
STL				*i*S			Sb	08 13 40.2	-1.0
CLCH	**Cerro Calan**	**1.25**	**125**	*eP*			Pn	08 13 25.3	-0.9
CLCH				*i*S			Sb	08 13 42.4	-0.2
CLCH				AML			AML	08 13 47.0	
	comp=N,98nm,0.5s								
LNV	**Longovilo**	**1.31**	**167**	*i*S			Sb	08 13 42.8	-1.4
FCH	**Farellones**	**1.40**	**118**	*eP*			Pn	08 13 28.1	-0.2
FCH				*i*S			Sn	08 13 46.6	+0.2
FCH				AML			AML	08 13 47.6	
	comp=E,77nm,0.1s								
PCH	**Pirque**	**1.41**	**132**	⇑*iP*			Pn	08 13 27.6	-0.7
PCH				*i*S			Sn	08 13 46.3	-0.3

IDC 19 08:28:58.3±38.0, 703S×10816E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=649.1km s-min=142.5km az=127.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.45**	**119**	P			P	08 34 54.9	0.0
	0.4nm,0.6s,baz=292,slow=11,SNR=4.2								
ASAR	**Alice Springs**	**29.74**	**127**	P			P	08 35 07.3	+1.0
	0.2nm,0.6s,baz=295,slow=8.1,SNR=3.3								
STKA	**Stephens Creek**	**39.77**	**133**	P			P	08 36 33.0	+0.1
	1.1nm,0.4s,baz=309,slow=5.5,SNR=9.7								

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*IDC **19** 08:32:43.3±1.2, 3455N×7353E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.6/23, mbtmp3.7/7, ML3.7/3, Error ellipse: s-maj=31.9km s-min=26.2km az=78.0*
*ISCJB **19** 08:32:45.8±2.7, 3464N±007×734E±0.1, h30km±23km, mb3.5/3, Error ellipse: s-maj=19.1km s-min=5.3km az=114.8*
*NDI **19** 08:32:47.3±2.9, 3446N×7289E, h33km, ML3.4*
*NNC **19** 08:32:53.1±1.6, 3513N×7336E, h26km±21km, mb3.4, mpv4.4, Error ellipse: s-maj=33.6km s-min=11.6km az=105.0*

ISC 19 08:32:48.5±2.5, 3464N±006×733E±01, h33km±21km, n19, σ1§27/25, mb3.5/3, 2C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.03**	**133**	*eP*			**Pn**	**08 33 36.0**	**+1.9**
DLH				*e*S			**Sn**	**08 34 11.0**	**+1.7**
PONG	**Pong**	**3.46**	**140**	*eP*			**Pn**	**08 33 42.0**	**+2.0**
SDNR	**Sundarnagar**	**4.37**	**135**	*ex*			x	08 33 59.0	
SDNR				*e*S			**Sn**	**08 34 40.0**	**-2.3**
SMLA	**Simla**	**4.76**	**136**	*eP*			**Pn**	**08 33 58.3**	**+0.5**
SMLA				*e*S			**Sn**	**08 34 50.5**	**-1.4**
	282nm,0.3s								
KLP	**Kalpa**	**5.16**	**126**	*eP*			**Pn**	**08 34 03.7**	**+0.4**
KLP				*e*S			**Sn**	**08 35 03.0**	**+1.3**
KLP				AML			AML	08 35 38.1	
	comp=E,84nm,0.3s								
KLP				AML			AML	08 35 38.8	
	comp=N,91nm,0.6s								
NDI	**New Delhi**	**6.80**	**150**	*e*S			**Sn**	**08 35 36.0**	**-6.0**
KHET	**Khetri**	**6.88**	**161**	*eP*			**Pn**	**08 34 24.3**	**-2.6**
KHET				*e*S			**Sn**	**08 35 37.5**	**-6.6**
KHET				AML			AML	08 36 28.8	
	comp=N,8.6nm,0.2s								
KHET				AML			AML	08 36 31.7	
	comp=E,15nm,0.4s								
SONA	**Sohna**	**7.13**	**152**	*eP*			**Pn**	**08 34 28.9**	**-1.5**
SONA				*e*S			**Sn**	**08 35 41.8**	**-8.4**
SONA				AML			AML	08 36 44.5	
	comp=E,33nm,0.1s								
SONA				AML			AML	08 36 46.7	
	comp=N,44nm,0.1s								
KK31	**Karatay Array**	**8.73**	**346**	⇓Pn			**Pn**	**08 34 53.9**	**+1.5**
	comp=N,7.9nm,0.5s,baz=160,slow=12,SNR=102								
KK31				⇓Sn			**Sn**	**08 36 29.5**	**-0.1**
	comp=N,1.6nm,0.4s,baz=166,slow=21,SNR=6.6								
MKAR	**Makanchi Array**	**13.90**	**26**	Pn			**Pn**	**08 36 02.2**	**-0.8**
	comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=4.7								
AB31	**Akbulak array**	**17.64**	**330**	P			**Pn**	**08 36 51.5**	**0.0**
	comp=N,0.2nm,0.3s,baz=169,slow=10,SNR=16								
BVA0	**Borovoye Array**	**18.50**	**354**	⇑Pn			**Pn**	**08 37 00.9**	**-1.2**
	comp=N,0.3nm,0.8s,baz=167,slow=8.9,SNR=5.6								
BVAR	**Borovoye Array**	**18.50**	**354**	P			**Pn**	**08 37 01.7**	**-0.4**
	comp=N,0.7nm,0.3s,baz=154,slow=9.3,SNR=8.0								
AKTO	**Aktyubinsk**	**19.34**	**329**	⇑Pn			**Pn**	**08 37 12.1**	**-0.1**
AKTO	**Aktyubinsk**	**19.34**	**329**	P			**Pn**	**08 37 12.3**	**+0.1**
	comp=N,0.4nm,0.3s,baz=127,slow=11,SNR=5.2								
ZAL	**Zalesovo**	**20.91**	**19**	P			**P**	**08 37 27.1**	**-1.0**
	comp=N,3.2nm,0.4s,baz=258,slow=5.7,SNR=5.7								
ARCES	**ARCESS Array B**	**43.58**	**338**	P			**P**	**08 40 50.3**	**+1.0**
	comp=N,1.7nm,0.9s,mb3.8,baz=107,slow=8.2,SNR=5.2								
TORD	**Torodi Ar. Bea**	**67.61**	**271**	P			**P**	**08 43 42.9**	**+1.0**
	comp=N,0.5nm,0.6s,mb3.7,baz=44,slow=5.6,SNR=8.7								
WRA	**Warramunga Arr**	**79.39**	**123**	P			**P**	**08 44 50.7**	**-0.4**
	comp=N,0.1nm,0.5s,mb3.0,baz=322,slow=4.7,SNR=4.2								

IDC 19 08:47:15.6±8.7, 945S×11187E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=148.9km s-min=125.4km az=168.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.07**	**118**	P			P	08 52 34.2	+1.6
	0.3nm,0.5s,baz=293,slow=11,SNR=4.2								
ASAR	**Alice Springs**	**25.36**	**127**	P			P	08 52 45.5	+1.3
	0.3nm,0.6s,baz=307,slow=8.7,SNR=3.6								
STKA	**Stephens Creek**	**35.45**	**133**	P			P	08 54 11.8	-1.6
	1.0nm,0.5s,baz=308,slow=11,SNR=7.9								

IDC 19 09:25:02.8±1.8, 2363S×6718W, h195km±27km, mb3.3/1, mb1 3.2/4, mb1mx3.1/16, mbtmp3.7/4, Error ellipse: s-maj=39.0km s-min=27.0km az=123.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.89**	**302**	P			Pn	09 25 40.9	+1.1
	62nm,0.3s,baz=131,slow=7.0,SNR=579								
LVC				S			Sn	09 26 09.2	+0.7
	21nm,0.3s,baz=261,slow=20,SNR=18								
LPAZ	**La Paz**	**7.36**	**353**	P			Pn	09 26 49.8	+2.1
	0.2nm,0.3s,baz=91,slow=2.3,SNR=9.7								
LPAZ				S			Sn	09 28 12.6	+1.6
	0.1nm,0.3s,baz=348,slow=21,SNR=3.4								
SIV	**San Ignacio**	**9.53**	**38**	P			Pn	09 27 14.7	-1.2
	0.4nm,0.3s,baz=223,slow=14,SNR=13								
BDFB	**Brasilia**	**19.71**	**70**	P			P	09 29 18.2	+0.9
	0.5nm,0.3s,baz=253,slow=8.6,SNR=7.8								
TORD	**Torodi Ar. Bea**	**76.59**	**69**	P			P	09 36 32.0	+0.4
	0.5nm,0.5s,baz=260,slow=6.3,SNR=11								

IDC 19 09:32:51.8±11.0, 818S×11057E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=181.2km s-min=119.7km az=131.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.66**	**125**	P			Pn	09 36 59.0	-0.2
	0.2nm,0.3s,baz=315,slow=7.1,SNR=7.5								
WRA	**Warramunga Arr**	**25.81**	**119**	P			P	09 38 25.3	+0.7
	1.3nm,0.6s,baz=293,slow=11,SNR=13								
WB2	**Warramunga Arr**	**25.82**	**119**	*eP*			P	09 38 25.8	+1.1
ASAR	**Alice Springs**	**27.14**	**127**	P			P	09 38 37.6	+1.0
	0.4nm,0.4s,baz=303,slow=8.6,SNR=9.6								
STKA	**Stephens Creek**	**37.25**	**134**	*eP*			P	09 40 03.9	-1.2
	3.6nm,0.4s								
STKA	**Stephens Creek**	**37.25**	**134**	P			P	09 40 04.6	-0.5
	4.1nm,0.4s,baz=312,slow=8.2,SNR=51								

CASC 19 09:34:12.5±2.5, 969N×8372W, h1km±3km, MD3.9, ML3.9, 14C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.14**	**196**	⇓*iP*			Pg	09 34 16.7	+1.5
URSC	**Urasca**	**0.15**	**337**	⇑*iP*			Pg	09 34 17.4	+1.9
LCR2	**La Lucha 2**	**0.29**	**280**	⇑*iP*			Pg	09 34 19.2	+1.2
ICR	**Volcan Irazu**	**0.31**	**339**	⇓*eP*			Pg	09 34 20.2	+1.8
ICR				*e*S			Sg	09 34 24.8	+2.4
OCM	**Ochomogo**	**0.31**	**310**	⇑*iP*			Pg	09 34 19.8	+1.3
OCM				*e*S			Sg	09 34 24.4	+1.9
OCM				AML			AML	09 34 24.9	
	comp=N,5μm,0.0s								
IRZ2	**Volcan Irazu 2**	**0.33**	**327**	⇑*iP*			Pg	09 34 20.4	+1.7
IRZ2				*e*S			Sg	09 34 27.3	+4.3
VTU	**Volcan Turrial**	**0.33**	**353**	⇑*iP*			Pg	09 34 20.7	+1.9
VTU				*e*S			Sg	09 34 25.4	+2.4
SJS	**Escuela Geolog**	**0.41**	**306**	⇑*eP*			Pg	09 34 21.7	+1.3
SJS				*e*S			Sg	09 34 27.5	+1.7
PRS1	**Puriscal**	**0.65**	**296**	⇑*eP*			Pg	09 34 25.6	+0.6
PRS1				*e*S			Sg	09 34 34.8	+1.3
POA2	**Poas 2**	**0.71**	**312**	⇑*iP*			Pg	09 34 27.3	+1.2
CGA2	**Cerro Gallo 2**	**0.80**	**294**	⇑*eP*			Pg	09 34 28.0	+0.1
CGA2				*e*S			Sg	09 34 39.3	+0.9
EPA	**Esparza**	**0.92**	**289**	⇓*eP*			Pg	09 34 29.9	-0.1
EPA				*e*S			Sg	09 34 42.5	+0.6
FORC	**Fortuna**	**1.21**	**310**	⇑*eP*			Pg	09 34 35.5	-0.3
FORC				*e*S			Sg	09 34 53.2	+1.7
CNI	**Changuinola**	**1.22**	**103**	⇑*iP*			Pg	09 34 35.3	-0.5
VACR	**Volcan Arenal**	**1.22**	**309**	⇑*iP*			Pg	09 34 35.8	-0.1
VACR				*e*S			Sg	09 34 54.1	+2.3
CTCR	**Cotoan**	**1.23**	**130**	⇓*eP*			Pg	09 34 34.9	-1.3
JTS	**JuntasAbangare**	**1.35**	**296**	*e*S			Sg	09 34 55.5	-0.5
CAO	**Cobano**	**1.37**	**270**	⇑*eP*			Pn	09 34 37.6	-1.0
CAO				*e*S			Sg	09 34 56.7	+0.3
BRU	**Baru**	**1.44**	**128**	⇓*iP*			Pn	09 34 39.9	+0.1
DVD	**David**	**1.77**	**135**	*eP*			Pn	09 34 43.5	-0.7
RIN3	**Volcan Rincon**	**1.96**	**304**	⇑*iP*			Pn	09 34 47.2	+0.2

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*ISCJB **19** 10:14:20.8±0.7, 201S±0.1×1734W±0.1, h33km, mb4.4/7, Error ellipse: s-maj=17.3km s-min=13.2km az=108.4*
*MOS **19** 10:14:21.6±2.3, 2015S×17340W, h33km, mb5.0/2, Error ellipse: s-maj=25.2km s-min=21.0km az=168.8*
*NEIC **19** 10:14:23.0±0.7, 1987S×17403W, h10km, mb4.8/3, Error ellipse: s-maj=26.1km s-min=13.7km az=120.0*
*IDC **19** 10:14:22.2±1.3, 2001S×174.15W, h0km, mb4.1/4, mb1 4.4/5, mb1mx4.1/15, mbtmp4.2/5, ML4.4/1, Error ellipse: s-maj=47.2km s-min=27.7km az=134.0*

ISC 19 10:14:23.3±0.7, 201S±01×1734W±01, h35km, n17, σ1§01/14, mb4.4/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.36**	**14**	Pn			**Pn**	**10 15 53.9**	**-0.7**
	8.8nm,0.3s,baz=253,slow=9.1,SNR=19								
AFI				Sn			**Sn**	**10 16 57.4**	**-8.6**
	4.3nm,0.3s,baz=209,slow=23,SNR=2.0								
RAR	**Rarotonga**	**12.81**	**97**	Pn			**Pn**	**10 17 22.6**	**-0.3**
	4.7nm,0.3s,baz=300,slow=13,SNR=17								
URZ	**Urewera**	**19.87**	**202**	P			**Pn**	**10 18 53.8**	**+0.7**
	1.2nm,0.3s,baz=99,slow=9.5,SNR=4.3								
ASAR	**Alice Springs**	**48.80**	**256**	P			**P**	**10 23 04.3**	**-0.6**
	1.7nm,0.6s,mb4.3,baz=98,slow=7.8,SNR=39								
WB2	**Warramunga Arr**	**48.91**	**261**	*eP*			**P**	**10 23 05.1**	**-0.6**
WRAB	**Tennant Creek**	**48.91**	**261**	*eP*			**P**	**10 23 05.3**	**-0.5**
WRAB				pmax			pmax		
	comp=Z,12nm,1.1s,mb4.8								
WRAB	**Tennant Creek**	**48.91**	**261**	*eP*			**P**	**10 23 05.3**	**-0.5**
	comp=Z,12nm,1.1s,mb4.8								
WRA	**Warramunga Arr**	**48.92**	**261**	P			**P**	**10 23 04.8**	**-1.0**
	comp=Z,2.3nm,0.7s,mb4.3,baz=93,slow=5.7,SNR=70								
QSPA	**South Pole Qui**	**69.96**	**180**	*eP*			**P**	**10 25 35.7**	**+4.6**
	comp=Z,5.2nm,1.3s,mb4.3								
MJAR	**Matsushiro Arr**	**72.54**	**321**	P			**P**	**10 25 48.4**	**+1.7**
	comp=Z,3.0nm,0.6s,mb4.4,baz=152,slow=5.9,SNR=10								
MAJO	**Matsushiro**	**72.54**	**321**	*eP*			**P**	**10 25 48.0**	**+1.3**
MAJO				pmax			pmax		
	comp=Z,3.0nm,0.3s,mb4.7								
MAJO	**Matsushiro**	**72.54**	**321**	*eP*			**P**	**10 25 48.0**	**+1.3**
	comp=Z,3.4nm,0.3s,mb4.8								
PDAR	**Pinedale Array**	**85.77**	**42**	P			**P**	**10 27 05.7**	**+6.7**
	comp=Z,0.5nm,1.0s,mb3.7,baz=199,slow=3.1,SNR=3.6								
ARCES	**ARCESS Array B**	**129.25**	**352**	PKP			PKPdf	10 33 30.4	+2.6
	comp=Z,2.6nm,0.9s,baz=33,slow=2.9,SNR=3.6								
AKASG	**Malin Array Be**	**144.62**	**335**	PKP			PKPdf	10 33 57.2	+1.1
	comp=Z,1.1nm,0.5s,baz=41,slow=4.1,SNR=8.0								
BRTR	**Keskin Array B**	**149.66**	**316**	PKPbc			PKPbc	10 34 12.7	+3.5
	comp=Z,0.5nm,0.6s,baz=100,slow=1.6,SNR=3.5								
GERES	**GERESS Array B**	**150.77**	**350**	PKPbc			PKPbc	10 34 16.2	+4.4
	comp=Z,0.2nm,0.3s,baz=5.7,slow=40,SNR=2.4								

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*NEIC **19** 10:30:31.5, 4003S×17562E, h54km, ML4.0(WEL), After WEL.*

WEL 19 10:30:32.1±0.1, 4005S×17560E, h48km±1km, ML3.9/17, 4D, Error ellipse: s-maj=1.5km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TSZ	**Takapari Road**	**0.28**	**93**	PN			Pn	10 30 40.4	-0.4
TSZ				SN			Sn	10 30 46.9	-0.1
TSZ	**Takapari Road**	**0.28**	**93**	P			Pn	10 30 40.4	-0.4
WAZ	**Wanganui**	**0.56**	**301**	PN			Pn	10 30 43.4	-0.5
WAZ				SN			Sn	10 30 52.3	-0.1
WAZ	**Wanganui**	**0.56**	**301**	P			Pn	10 30 43.4	-0.5
WAZ				S			Sn	10 30 52.3	-0.1
MRZ	**Mangatainoka R**	**0.61**	**182**	PN			Pn	10 30 44.2	-0.4
MRZ				SN			Sn	10 30 54.1	+0.4
MRZ	**Mangatainoka R**	**0.61**	**182**	P			Pn	10 30 44.2	-0.4
MRZ				S			Sn	10 30 54.1	+0.4
MOVZ	**Moawhango**	**0.65**	**10**	PN			Pn	10 30 44.3	-0.8
MOVZ				SN			Sn	10 30 54.3	-0.1
MOVZ	**Moawhango**	**0.65**	**10**	P			Pn	10 30 44.3	-0.8
MOVZ				S			Sn	10 30 54.3	-0.1
MTVZ	**Mangateitei**	**0.67**	**351**	PN			Pn	10 30 44.9	-0.4
MTVZ				SN			Sn	10 30 55.7	+0.8
TRVZ	**Turoa**	**0.75**	**357**	⇓PN			Pn	10 30 46.1	-0.2
TRVZ				SN			Sn	10 30 56.4	-0.3
TIWZ	**Tintock**	**0.76**	**164**	PN			Pn	10 30 46.7	+0.1
DRZ	**Dome Shelter**	**0.77**	**358**	PN			Pn	10 30 46.6	-0.1
TUVZ	**Tukino**	**0.78**	**3**	PN			Pn	10 30 46.5	-0.2
FWVZ	**Far West T-bar**	**0.79**	**357**	PN			Pn	10 30 46.7	-0.2
WPVZ	**Whakapapa**	**0.84**	**357**	PN			Pn	10 30 47.8	+0.2
WPVZ	**Whakapapa**	**0.84**	**357**	P			Pn	10 30 47.3	-0.3
NGZ	**Ngauruhoe**	**0.87**	**360**	PN			Pn	10 30 48.2	+0.2
PXZ	**Pawanui**	**0.97**	**90**	PN			Pn	10 30 49.2	-0.1
KIW	**Kapiti Island**	**0.97**	**213**	⇓PN			Pn	10 30 49.1	-0.2
MTW	**Mount Morrison**	**1.11**	**184**	⇓PN			Pn	10 30 50.6	-0.6
MTW	**Mount Morrison**	**1.11**	**184**	P			Pn	10 30 50.7	-0.6
BKZ	**Black Stump Fm**	**1.11**	**38**	PN			Pn	10 30 51.9	+0.6
VRZ	**Vera Road**	**1.13**	**324**	PN			Pn	10 30 51.0	-0.5
CAW	**Cannon Point**	**1.14**	**201**	⇓PN			Pn	10 30 51.0	-0.5
MRW	**Makara Radio**	**1.37**	**210**	PN			Pn	10 30 53.9	-0.8
WEL	**Wellington**	**1.39**	**207**	PN			Pn	10 30 54.1	-0.9
MSWZ	**Moikau Station**	**1.39**	**191**	PN			Pn	10 30 54.0	-1.1
SNZO	**South Karori**	**1.44**	**208**	*e*Pn			Pn	10 30 54.9	-0.8
SNZO				*e*Sn			Sn	10 31 07.9	-5.4
DUWZ	**D'Urville Isla**	**1.49**	**239**	PN			Pn	10 30 55.7	-0.7
PKE	**Pukeiti**	**1.51**	**304**	PN			Pn	10 30 57.2	+0.5
TCW	**Tory Channel**	**1.54**	**220**	PN			Pn	10 30 56.0	-1.1
HIZ	**Hauiti**	**1.64**	**339**	PN			Pn	10 30 58.4	0.0
NNZ	**Nelson**	**2.06**	**235**	PN			Pn	10 31 03.1	-1.0
URZ	**Urewera**	**2.13**	**34**	PN			Pn	10 31 04.3	-0.9
ODZ	**Otahua Downs**	**6.19**	**215**	*e*P			Pn	10 31 57.3	-3.6

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*IDC **19** 10:40:15.8±1.7, 880N×12646E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=124.9km s-min=18.8km az=67.0*
*ISCJB **19** 10:40:19.4±0.6, 862N±004×126.18E±006, h33km, mb3.8/7, Error ellipse: s-maj=8.4km s-min=4.8km az=147.2*
*NEIC **19** 10:40:20.1±0.7, 890N×12661E, h35km, Error ellipse: s-maj=29.8km s-min=12.3km az=81.0*
*MAN **19** 10:40:23.8, 858N×12562E, h32km, mb3.3, ML4.5, MS1.6*

ISC 19 10:40:25.1±0.5, 857N±003×12556E±005, h35km, n27, σ1§32/42, mb3.8/7, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.41**	**9**	*eP*			**Pn**	**10 40 34.3**	**-0.2**
BUTP				*e*S			**Sn**	**10 40 44.6**	**+3.8**
BUKP	**Musuan**	**0.84**	**216**	*eP*			**Pn**	**10 40 39.9**	**-0.5**
BUKP				*e*S			**Sn**	**10 40 53.1**	**+1.6**
CGP	**Cagayan de Oro**	**0.86**	**263**	⇑*iP*			**Pn**	**10 40 38.0**	**-2.6**
CGP				*i*S			**Sn**	**10 40 50.5**	**-1.5**
DAV	**Davao City (W)**	**1.48**	**179**	*eP*			**Pn**	**10 40 52.0**	**+2.7**
DAV	**Davao City (W)**	**1.48**	**179**	*e*Pn			**Pn**	**10 40 52.0**	**+2.7**
DAV				*e*Sn			**Sn**	**10 41 13.2**	**+5.8**
KCP	**Kidapawan**	**1.61**	**197**	*eP*			**Pn**	**10 40 53.5**	**+2.5**
KCP				*i*S			**Sn**	**10 41 15.0**	**+4.4**
MSLP	**Maasin**	**1.71**	**336**	*eP*			**Pn**	**10 40 51.1**	**-1.2**
MSLP				*e*S			**Sn**	**10 41 12.7**	**-0.1**
MATI	**Mati**	**1.75**	**157**	*eP*			**Pn**	**10 40 52.2**	**-0.7**
MATI				*e*S			**Sn**	**10 41 15.2**	**+1.2**
CTBH	**Cotabato--PC H**	**1.86**	**224**	*eP*			**Pn**	**10 40 54.2**	**-0.3**
CTBH				*i*S			**Sn**	**10 41 16.4**	**-0.3**
TBP	**Tagbilaran**	**2.01**	**304**	*eP*			**Pn**	**10 41 05.3**	**+8.8**
TBP				*e*S			**Sn**	**10 41 30.9**	**+10**
DCPH	**Dipolog City**	**2.18**	**271**	⇑*eP*			**Pn**	**10 40 59.5**	**+0.7**
PAGZ	**Pagadian**	**2.27**	**252**	*eP*			**Pn**	**10 41 00.4**	**+0.4**
PAGZ				*e*S			**Sn**	**10 41 38.8**	**+12**
LLP	**Lapu-Lapu**	**2.34**	**318**	*eP*			**Pn**	**10 41 01.6**	**+0.5**
LLP				*e*S			**Sn**	**10 41 29.8**	**+1.2**
SNPH	**Sibulan**	**2.42**	**289**	⇑*iP*			**Pn**	**10 41 02.0**	**-0.1**
SNPH				*i*S			**Sn**	**10 41 31.0**	**+0.5**
OCLP	**Ormoc**	**2.64**	**339**	*eP*			**Pn**	**10 41 05.1**	**-0.1**
OCLP				*e*S			**Sn**	**10 41 37.8**	**+1.8**
PLP	**Palo**	**2.65**	**348**	*eP*			**Pn**	**10 41 04.9**	**-0.4**
PLP				*e*S			**Sn**	**10 41 36.0**	**0.0**
BESP	**Borongan**	**3.02**	**358**	*eP*			**Pn**	**10 41 12.7**	**+2.4**
BESP				*e*S			**Sn**	**10 41 50.9**	**+5.6**
IPIL	**Ipil**	**3.06**	**256**	*eP*			**Pn**	**10 41 15.5**	**+4.7**
FITZ	**Fitzroy Crossi**	**26.50**	**180**	P			**P**	**10 45 57.6**	**-1.5**
	1.4nm,0.6s,mb3.6,baz=347,slow=15,SNR=4.1								
WRAB	**Tennant Creek**	**29.61**	**163**	*e*Sn			**S**	**10 51 13.3**	**-6.5**
WRA	**Warramunga Arr**	**29.62**	**163**	P			**P**	**10 46 22.3**	**-4.6**
	0.5nm,0.7s,mb3.3,baz=344,slow=9.7,SNR=7.0								
ASAR	**Alice Springs**	**33.06**	**166**	P			**P**	**10 46 53.7**	**-3.5**
	0.3nm,0.4s,mb3.5,baz=342,slow=7.3,SNR=11								
STKA	**Stephens Creek**	**43.04**	**160**	P			**P**	**10 48 16.8**	**-4.5**
	2.3nm,0.5s,mb4.2,baz=336,slow=5.3,SNR=7.2								
MKAR	**Makanchi Array**	**52.97**	**324**	P			**P**	**10 49 37.6**	**-0.4**
	0.6nm,0.5s,mb3.6,baz=119,slow=8.1,SNR=6.2								
AKTK	**Aktyubinsk**	**69.18**	**321**	P			**P**	**10 51 25.9**	**-2.1**
AKTO	**Aktyubinsk**	**69.18**	**321**	P			**P**	**10 51 25.9**	**-2.2**
	1.9nm,0.7s,mb4.2,baz=82,slow=7.6,SNR=8.6								
VNDA	**Vanda**	**88.34**	**173**	P			**P**	**10 53 09.2**	**-3.9**
	0.4nm,0.5s,mb3.9,baz=315,slow=6.5,SNR=7.1								

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*ISCJB **19** 10:46:08.0±1.6, 709S±006×1301E±0.1, h108km±17km, mb4.1/3, Error ellipse: s-maj=18.0km s-min=10.0km az=168.2*
*NEIC **19** 10:46:08.3±2.7, 700S×1301.7E, h98km±27km, mb4.2/2, Error ellipse: s-maj=22.5km s-min=21.2km az=88.0*
*IDC **19** 10:46:12.3±6.0, 7.16S×12978E, h131km±57km, mb3.8/4, mb1 4.0/6, mb1mx3.8/14, mbtmp4.4/6, MS2.8/1, Ms1 2.8/1, ms1mx1.8/28, Error ellipse: s-ma

MAT *e*S **Sn** **10 53 09.0 +1.9**
JHJ **Hachijo jima 2** **2.67 199** Pn **Pn** **10 52 45.0 +0.2**
27nm,0.3s,baz=37,slow=24,SNR=20
JHJ Sn **Sn** **10 53 16.4 +0.4**
30nm,0.3s,baz=68,slow=21,SNR=6.9
ASAJ **Asahikawa** **8.57 9** Pn **Pn** **10 54 03.7 -2.1**
0.2nm,0.3s,baz=272,slow=30,SNR=2.5
CBIJ **Chichi jima** **8.60 172** Pn **Pn** **10 54 04.5 -1.8**
4.6nm,0.3s,baz=237,slow=15,SNR=7.6
CBIJ Sn **Sn** **10 55 33.5 -8.4**
1.4nm,0.3s,baz=263,slow=23,SNR=3.2
MKAR **Makanchi Array** **44.48 303** P **P** **11 00 11.4 +0.1**
0.3nm,0.3s,mb3.5,baz=94,slow=8.8,SNR=3.7
FITZ **Fitzroy Crossi** **55.36 198** LR LR 11 22 57.8
comp=Z,64nm,20.4s,MS3.7,baz=97,slow=34
WRA **Warramunga Arr** **55.63 187** P **P** **11 01 36.8 +1.0**
0.5nm,0.4s,mb3.9,baz=0.9,slow=7.5,SNR=14
ASAR **Alice Springs** **59.35 187** P **P** **11 02 03.8 +1.7**
0.3nm,0.5s,mb3.6,baz=21,slow=11,SNR=5.7
NOA **NORSAR Array B** **75.28 337** P **P** **11 03 43.0 +0.2**
0.7nm,0.6s,mb3.7,baz=42,slow=6.0,SNR=3.5
NOA LR LR 11 41 11.7
comp=Z,26nm,20.3s,MS3.5,baz=275,slow=39

IDC 19 10:57:38.2±7.3,2497S×17957W,h468km±40km,mb3.7/5, mb1 3.8/6,mb1mx3.5/13,mbtmp4.6/6,1D,Error ellipse: s-maj=89.6km s-min=68.5km az=115.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.15**	**280**	P	P	11 00 31.2	+2.0
0.3nm,0.3s,baz=96,slow=16,SNR=3.8							
CTA	**Charters Tower**	**31.88**	**272**	⇓*i*P	P	11 03 24.4	+0.7
10nm,0.3s							
CTA	**Charters Tower**	**31.88**	**272**	P	P	11 03 24.5	+0.8
14nm,0.3s,baz=96,slow=13,SNR=33							
STKA	**Stephens Creek**	**34.70**	**250**	*e*P	P	11 03 46.7	-0.9
1.9nm,0.4s							
STKA	**Stephens Creek**	**34.70**	**250**	P	P	11 03 47.0	-0.6
2.3nm,0.4s,baz=96,slow=11,SNR=14							
ASAR	**Alice Springs**	**42.26**	**262**	P	P	11 04 49.5	+0.3
1.6nm,0.4s,baz=90,slow=7.7,SNR=41							
WB2	**Warramunga Arr**	**42.72**	**267**	*e*P	P	11 04 52.1	-0.8
WRA	**Warramunga Arr**	**42.73**	**267**	P	P	11 04 52.6	-0.4
7.0nm,0.5s,baz=99,slow=7.3,SNR=67							
WRA				ScP	ScP	11 09 40.7	+0.7
0.9nm,0.9s,baz=94,slow=4.2,SNR=4.9							
FITZ	**Fitzroy Crossi**	**51.14**	**266**	*e*P	P	11 05 57.5	+0.8
7.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**51.14**	**266**	P	P	11 05 57.2	+0.5
4.0nm,0.6s,baz=73,slow=11,SNR=9.1							
ARCES	**ARCESS Array B**	**133.01**	**348**	PKP	PKPdf	11 15 58.8	-0.9
1.1nm,0.8s,baz=79,slow=2.6,SNR=3.6							

*ISCJB **19** 11:15:47.7±1.4,2985N±009×3628E±008,h10km,Error ellipse: s-maj=13.5km s-min=10.0km az=133.5*
*HLW **19** 11:15:47.7,2960N×3658E,h20km,Mb2.7*
*GII **19** 11:15:48.7±1.1,2993N×3619E,h0km±14km,ML2.1/3*
ISC 19 11:15:48.0±1.5,2986N±009×3630E±009,h10km,n14, σ1°20/17,2C,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.11**	**280**	Pg	**Pg**	**11 16 07.5**	**-1.9**
HRFI				Sg	**Sg**	**11 16 23.7**	**-0.2**
EIL	**Elat**	**1.19**	**261**	Pg	**Pg**	**11 16 09.7**	**-1.2**
EIL				Sg	**Sg**	**11 16 27.2**	**+0.8**
ZFRI	**Zfri**	**1.20**	**306**	Pg	**Pg**	**11 16 09.6**	**-1.5**
MBH	**Mount Berech**	**1.21**	**267**	Pg	**Pg**	**11 16 11.6**	**+0.3**
PRNI	**Paran**	**1.23**	**294**	Pg	**Pg**	**11 16 10.8**	**-0.8**
KMTI	**Karmit**	**1.39**	**281**	Pg	**Pg**	**11 16 13.4**	**-1.4**
HBST	**Basata**	**1.51**	**245**	P	**Pn**	**11 16 14.7**	**-0.4**
RMNI	**Mount Ramon**	**1.52**	**299**	Pn	**Pn**	**11 16 16.6**	**+1.3**
MZDA	**Masada**	**1.66**	**331**	Pn	**Pn**	**11 16 17.7**	**+0.5**
HNKL	**Nakhl**	**2.02**	**273**	⇑P	**Pn**	**11 16 23.2**	**+1.1**
HNKL				S	**Sn**	**11 16 49.3**	**+1.9**
HKAT	**Jabal Katrina**	**2.42**	**237**	P	**Pn**	**11 16 26.6**	**-1.1**
HKAT	**Jabal Katrina**	**2.42**	**237**	P	**Pn**	**11 16 26.5**	**-1.1**
AMAG	**Maghara**	**2.79**	**287**	P	**Pn**	**11 16 35.0**	**+2.3**
SUZ		**3.02**	**271**	⇑P	**Pn**	**11 16 36.6**	**+0.8**

IDC 19 11:23:08.1±4.6,935S×11077E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.3/16,mbtmp3.3/3,Error ellipse: s-maj=169.8km s-min=30.5km az=56.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.08**	**117**	P	P	11 28 34.3	0.0
0.6nm,0.8s,baz=291,slow=12,SNR=4.2							
ASAR	**Alice Springs**	**26.30**	**126**	P	P	11 28 46.0	+0.7
0.4nm,0.8s,baz=302,slow=8.7,SNR=3.8							
SONM	**Songino Array**	**57.06**	**356**	P	P	11 32 56.2	+0.2
0.4nm,0.5s,baz=183,slow=8.7,SNR=4.1							

IDC 19 11:32:14.6±6.3,3092S×17851W,h0km,mb4.2/2, mb1 4.4/2,mb1mx3.8/11,mbtmp4.2/2,Error ellipse: s-maj=219.3km s-min=46.9km az=30.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.17**	**205**	*e*PN	Pn	11 34 23.9	+10
URZ				*e*SN	Sn	11 35 32.9	-14
BFZ	**Birch Farm**	**10.63**	**202**	*e*PN	Pn	11 34 54.4	+6.2
BFZ				*e*SN	Sn	11 36 25.5	-22
MRZ	**Mangatainoka R**	**10.84**	**205**	PN	Pn	11 34 54.6	+3.6
MRZ				SN	Sn	11 36 27.3	-26
KIW	**Kapiti Island**	**11.27**	**206**	*e*SN	Sn	11 36 38.1	-25
NNZ	**Nelson**	**12.19**	**210**	*e*SN	Sn	11 36 57.7	-28
THZ	**Tophouse**	**12.84**	**210**	*e*PN	Pn	11 35 18.2	-0.2
THZ				*e*SN	Sn	11 37 11.2	-31
MQZ	**McQueen's Vall**	**14.56**	**206**	*e*SN	Sn	11 37 49.8	-34
ASAR	**Alice Springs**	**42.65**	**268**	P	P	11 40 12.6	-0.2
1.4nm,0.7s,baz=109,slow=7.6,SNR=30							
WRA	**Warramunga Arr**	**43.68**	**273**	P	P	11 40 21.8	+0.6
2.0nm,0.3s,baz=114,slow=8.0,SNR=73							
TORD	**Torodi Ar. Bea**	**162.32**	**181**	PKPab	PKPab	11 53 05.6	+0.2
0.6nm,1.0s,baz=197,slow=2.7,SNR=5.9							

*ISCJB **19** 11:32:15.4±0.4,5392N±003×16125E±006,h53km±6km, mb3.7/8,MS3.4/1,Error ellipse: s-maj=7.2km s-min=2.7km az=60.7*
*KRSC **19** 11:32:15.8±0.6,5395N×161.14E,h35km±5km,ML4.2*
*MOS **19** 11:32:15.5±2.5,5395N×161.03E,h23km,mb4.0/5,Error ellipse: s-maj=24.5km s-min=8.7km az=74.6*
*NEIC **19** 11:32:17.4±2.3,5428N×16058E,h52km±28km,mb4.2/1, Error ellipse: s-maj=38.8km s-min=20.2km az=140.0*
*IDC **19** 11:32:19.1±10.0,5420N×16062E,h72km±100km,mb3.4/8, mb1 3.6/8,mb1mx3.4/20,mbtmp3.7/8,MS3.4/1,Ms1 3.3/1, ms1mx2.5/14,Error ellipse: s-maj=35.9km s-min=19.6km az=106.0*
ISC 19 11:32:16.3±0.4,5391N±003×16124E±007,h51km±6km, n61,σ0°93/88,mb3.7/8,MS3.4/1,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.71**	**24**	P	**Pn**	**11 32 29.1**	**-1.0**
MKZ				S	**Sn**	**11 32 38.3**	**-1.9**
MKZ	**Mys Kozlova**	**0.71**	**24**	*i*P	**Pn**	**11 32 29.0**	**-1.1**
MKZ				*e*S	**Sn**	**11 32 38.5**	**-1.7**
SPN	**Mys Shipunski**	**1.09**	**222**	P	**Pn**	**11 32 34.5**	**-0.8**
SPN				S	**Sn**	**11 32 47.7**	**-1.6**
SPN	**Mys Shipunski**	**1.09**	**222**	*e*P	**Pn**	**11 32 34.5**	**-0.8**
SPN				*e*S	**Sn**	**11 32 47.8**	**-1.5**
NLC	**Nalytchevo**	**1.35**	**237**	P	**Pn**	**11 32 38.0**	**-0.8**
NLC				S	**Sn**	**11 32 54.4**	**-1.2**
NLC	**Nalytchevo**	**1.35**	**237**	*i*P	**Pn**	**11 32 38.1**	**-0.7**
NLC				*e*S	**Sn**	**11 32 54.7**	**-0.9**
TUMR	**Tumrok**	**1.51**	**336**	*i*P	**Pn**	**11 32 40.3**	**-0.7**
SDLR	**Sedlovina**	**1.54**	**247**	*i*P	**Pn**	**11 32 41.5**	**+0.2**
SDLR				*e*S	**Sn**	**11 32 59.9**	**-0.3**
SMAR	**Somma**	**1.59**	**247**	*i*P	**Pn**	**11 32 42.2**	**+0.2**
UGLR	**Uglovaya**	**1.60**	**245**	*i*P	**Pn**	**11 32 42.4**	**+0.2**
AVH	**Avacha**	**1.63**	**247**	*i*P	**Pn**	**11 32 43.1**	**+0.6**
AVH				*e*S	**Sn**	**11 33 02.5**	**+0.2**
KOK	**Koryaka**	**1.67**	**249**	*i*P	**Pn**	**11 32 43.4**	**+0.3**
PET	**Petropavlovsk**	**1.78**	**241**	P	**Pn**	**11 32 44.7**	**0.0**
PET				S	**Sn**	**11 33 05.6**	**-0.6**
PET	**Petropavlovsk**	**1.78**	**241**	*e*Pn	**Pn**	**11 32 44.6**	**0.0**
PET				*e*Sn	**Sn**	**11 33 05.6**	**-0.5**
PET	**Petropavlovsk**	**1.78**	**241**	*i*P	**Pn**	**11 32 44.7**	**0.0**
PET				*e*S	**Sn**	**11 33 05.5**	**-0.7**
KMNR	**Kamenistaya**	**1.94**	**343**	*i*P	**Pn**	**11 32 47.1**	**+0.4**
GNL	**Ganaly**	**1.97**	**265**	*i*P	**Pn**	**11 32 47.1**	**-0.1**
GNL				*e*S	**Sn**	**11 33 10.2**	**-0.4**
ZLN	**Zelenaya**	**2.12**	**353**	*e*P	**Pn**	**11 32 50.0**	**+0.7**
ZLN				*e*S	**Sn**	**11 33 15.0**	**+0.5**
KPT	**Kopyto**	**2.14**	**345**	*i*P	**Pn**	**11 32 49.6**	**+0.1**
KRMR	**Karymshinskiy**	**2.16**	**241**	*i*P	**Pn**	**11 32 50.5**	**+0.8**
KRMR				*i*S	**Sn**	**11 33 16.0**	**+0.7**
LGNR	**Loginova**	**2.20**	**352**	*i*P	**Pn**	**11 32 51.3**	**+1.0**
LGNR				*e*S	**Sn**	**11 33 17.1**	**+0.8**
RUS	**Russkaya**	**2.21**	**229**	P	**Pn**	**11 32 50.2**	**-0.3**
RUS				S	**Sn**	**11 33 15.3**	**-1.3**
RUS	**Russkaya**	**2.21**	**229**	*e*P	**Pn**	**11 32 50.2**	**-0.3**
RUS				*e*S	**Sn**	**11 33 15.3**	**-1.3**
CIRR	**Tsirk**	**2.23**	**353**	*i*P	**Pn**	**11 32 51.3**	**+0.6**
KOZ	**Kozyrevsk**	**2.29**	**340**	P	**Pn**	**11 32 51.5**	**-0.1**
KOZ				S	**Sn**	**11 33 17.5**	**-1.0**
KOZ	**Kozyrevsk**	**2.29**	**340**	*i*P	**Pn**	**11 32 51.5**	**-0.1**
KOZR	**Kozyr**	**2.29**	**341**	PN	**Pn**	**11 32 51.5**	**-0.1**
KOZR				S	**Sn**	**11 33 17.5**	**-1.1**
GRL	**Gorelyy**	**2.34**	**236**	*e*P	**Pn**	**11 32 53.1**	**+0.8**
GRL				*e*S	**Sn**	**11 33 20.4**	**+0.6**
KRSR	**Krestovskiy**	**2.34**	**351**	*i*P	**Pn**	**11 32 52.4**	**+0.1**
KRSR				*e*S	**Sn**	**11 33 19.5**	**-0.3**
KLY	**Klyuchi**	**2.43**	**352**	P	**Pn**	**11 32 53.4**	**-0.1**
KLY				S	**Sn**	**11 33 21.4**	**-0.6**
KLY	**Klyuchi**	**2.43**	**352**	*e*P	**Pn**	**11 32 53.4**	**-0.1**
KLY				*e*S	**Sn**	**11 33 21.3**	**-0.7**
KBTR	**Krutoberegovo**	**2.47**	**21**	*e*P	**Pn**	**11 32 54.3**	**+0.2**
ESO	**Esso**	**2.49**	**325**	*e*P	**Pn**	**11 32 53.9**	**-0.5**
ESO				Smax			
200nm,0.8s							
KBG	**Krutoberegovo**	**2.49**	**19**	*i*P	**Pn**	**11 32 56.3**	**+1.9**
KBG				Smax			
1μm,0.7s							
SRDR	**Sredinnyy**	**2.56**	**341**	*i*P	**Pn**	**11 32 54.6**	**-0.7**
APC	**Apacha**	**2.63**	**250**	*e*P	**Pn**	**11 32 57.2**	**+0.9**
APC				*e*S	**Sn**	**11 33 27.3**	**+0.3**
APC				Smax			
150nm,0.9s							
BDR	**Baidarnaya**	**2.66**	**360**	*e*P	**Pn**	**11 32 57.5**	**+0.8**
BDR				*e*S	**Sn**	**11 33 27.9**	**+0.2**
SMKR	**Semkarok**	**2.68**	**3**	*i*P	**Pn**	**11 32 57.5**	**+0.6**
SMKR				*e*S	**Sn**	**11 33 29.0**	**+0.9**
SRKR	**Sorokina**	**2.75**	**359**	*i*P	**Pn**	**11 32 58.3**	**+0.5**
SRKR				*e*S	**Sn**	**11 33 29.8**	**0.0**
BKI	**Bering**	**3.04**	**63**	*e*P	**Pn**	**11 33 02.5**	**+0.6**
BKI				*e*S	**Sn**	**11 33 35.5**	**-1.6**
BKI				Smax			
150nm,0.3s							
MIPR	**Malaya Ipel'ka**	**3.16**	**241**	*e*P	**Pn**	**11 33 05.4**	**+1.9**
PAU	**Pauzhetka**	**3.64**	**229**	*e*P	**Pn**	**11 33 11.7**	**+1.6**
PAU				Smax			
180nm,0.9s							
SKR	**Severo-Kuril's**	**4.51**	**226**	*e*PN	**Pn**	**11 33 21.3**	**-0.7**
SKR				pmax	pmax		
comp=Z,70nm,0.8s							
BILL	**Bilibino**	**14.38**	**8**	*i*P	**Pn**	**11 35 39.0**	**+2.2**
MJAR	**Matsushiro Arr**	**23.59**	**232**	P	**P**	**11 37 22.9**	**+0.5**
comp=Z,2.5nm,0.8s,mb3.7,baz=21,slow=11,SNR=9.8							
YKA	**Yellowknife Ar**	**42.10**	**44**	P	**P**	**11 40 03.2**	**0.0**
comp=Z,0.2nm,0.5s,mb3.0,baz=298,slow=7.3,SNR=4.6							
YKA	**Yellowknife Ar**	**42.10**	**44**	P	**P**	**11 40 03.2**	**0.0**
MKAR	**Makanchi Array**	**48.42**	**296**	*i*P	**P**	**11 40 48.9**	**-4.4**
comp=Z,0.4nm,0.5s,mb3.6,baz=54,slow=6.2,SNR=5.1							
MKAR	**Makanchi Array**	**48.42**	**296**	*i*P	**P**	**11 40 49.7**	**-3.6**
MKAR	**Makanchi Array**	**48.42**	**296**	P	**P**	**11 40 48.9**	**-4.4**
ULM	**Lac du Bonnet**	**57.76**	**48**	LR	LR	12 07 26.2	
comp=Z,32nm,21.9s,MS3.4,baz=188,slow=36							
FINES	**FINESS Array B**	**59.64**	**337**	P	**P**	**11 42 12.2**	**-2.9**
comp=Z,0.8nm,0.5s,mb4.0,baz=29,slow=8.7,SNR=8.0							
FINES	**FINESS Array B**	**59.64**	**337**	*i*P	**P**	**11 42 12.3**	**-2.8**
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**62.94**	**344**	P	**P**	**11 42 35.4**	**-2.0**
comp=Z,1.0nm,0.5s,mb4.2,baz=21,slow=6.9							
NB2	**NORSAR Subarra**	**62.94**	**344**	P	**P**	**11 42 35.4**	**-2.0**
NB2				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.2							
NOA	**NORSAR Array B**	**62.94**	**344**	P	**P**	**11 42 35.6**	**-1.8**
comp=Z,0.9nm,0.5s,mb4.2,baz=21,slow=6.8,SNR=4.7							
AKASG	**Malin Array Be**	**68.26**	**329**	P	**P**	**11 43 09.2**	**-2.5**
comp=Z,0.3nm,0.3s,mb3.8,baz=29,slow=7.7,SNR=4.1							
WRA	**Warramunga Arr**	**77.11**	**206**	P	**P**	**11 44 04.6**	**+0.4**
comp=Z,0.7nm,0.9s,mb3.6,baz=18,slow=6.0,SNR=7.2							
WRA	**Warramunga Arr**	**77.11**	**206**	P	**P**	**11 44 04.6**	**+0.3**
WRA				pmax	pmax		
comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**80.79**	**205**	P	**P**	**11 44 25.4**	**+1.1**
comp=Z,0.8nm,0.9s,mb3.6,baz=18,slow=5.0,SNR=9.1							
ASAR	**Alice Springs**	**80.79**	**205**	P	**P**	**11 44 25.5**	**+1.1**
ASAR				pmax	pmax		
comp=Z,1.0nm,0.9s							

*ISCJB **19** 11:36:13.6±0.5,262S±01×7352E±0.10,h10km,mb4.1/17, MS3.5/4,Error ellipse: s-maj=17.9km s-min=12.5km az=6.8*
*IDC **19** 11:36:14.2±0.6,2623S×7344E,h0km,mb4.0/14, mb1 4.1/14,mb1mx4.0/23,mbtmp4.0/14,MS3.5/4, Ms1 3.4/4,ms1mx3.3/15,Error ellipse: s-maj=22.8km s-min=15.7km az=7.0*
*NEIC **19** 11:36:15.4±0.4,2620S×7347E,h10km,mb4.3/6,Error ellipse: s-maj=14.2km s-min=10.1km az=2.0*
ISC 19 11:36:15.7±0.5,262S±01×7350E±010,h10km,n23, σ0°78/20,mb4.1/17,MS3.5/4,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**41.56**	**268**	P	**P**	**11 44 03.4**	**0.0**
1.9nm,0.5s,mb4.0,baz=106,slow=8.6,SNR=8.1							
MAW	**Mawson**	**41.91**	**186**	LR	LR	11 55 56.8	
comp=Z,34nm,20.8s,MS3.2,baz=335,slow=28							
BOSA	**Boshof**	**42.66**	**255**	P	**P**	**11 44 12.2**	**-0.2**
5.6nm,0.8s,mb4.4,baz=110,slow=7.5,SNR=13							
BOSA				LR	LR	11 59 25.2	
comp=Z,80nm,18.5s,MS3.6,baz=4.0,slow=33							
BOSA	**Boshof**	**42.66**	**255**	*e*P	**P**	**11 44 11.8**	**-0.6**
7.4nm,0.8s,mb4.5							
KMBO	**Kilima Mbogo**	**42.87**	**300**	LR	LR	11 58 45.5	
comp=Z,34nm,19.1s,MS3.3,baz=92,slow=32							
LBTB	**Lobatse**	**43.02**	**261**	P	**P**	**11 44 15.4**	**+0.2**
5.2nm,1.1s,mb4.2,baz=129,slow=10,SNR=4.4							
LBTB	**Lobatse**	**43.02**	**261**	*e*P	**P**	**11 44 15.0**	**-0.2**
12nm,1.5s,mb4.4							
LSZ	**Lusaka**	**43.55**	**275**	P	**P**	**11 44 19.9**	**+0.3**
1.5nm,0.6s,mb3.9,baz=92,slow=8.8,SNR=4.5							
SUR	**Sutherland**	**45.98**	**249**	P	**P**	**11 44 39.2**	**+0.2**
4.4nm,0.8s,mb4.5,baz=74,slow=3.2,SNR=3.4							
TSUM	**Tsumeb**	**51.73**	**266**	*e*P	**P**	**11 45 23.5**	**+0.5**
2.0nm,0.8s,mb4.1							
ASAR	**Alice Springs**	**54.40**	**101**	P	**P**	**11 45 44.2**	**+1.4**
2.0nm,0.7s,mb4.2,baz=254,slow=6.6,SNR=34							
WRA	**Warramunga Arr**	**55.90**	**97**	P	**P**	**11 45 55.0**	**+1.4**
1.3nm,1.0s,mb3.9,baz=256,slow=9.5,SNR=7.2							
STKA	**Stephens Creek**	**58.94**	**113**	P	**P**	**11 46 13.9**	**-1.1**
1.1nm,0.7s,mb4.0,baz=253,slow=14,SNR=3.0							
SNAA	**Sanae**	**61.05**	**201**	P	**P**	**11 46 29.5**	**-0.1**
0.8nm,0.9s,mb3.9,baz=106,slow=7.3,SNR=13							
QSPA	**South Pole Qui**	**63.91**	**180**	*e*P	**P**	**11 46 48.1**	**-0.6**
4.1nm,1.0s,mb4.4							
VNDA	**Vanda**	**64.25**	**166**	P	**P**	**11 46 50.6**	**-0.3**
0.9nm,0.8s,mb3.9,baz=272,slow=7.2,SNR=6.3							
VNDA	**Vanda**	**64.25**	**166**	*e*P	**P**	**11 46 50.6**	**-0.3**
0.9nm,0.8s,mb3.9							
ENH	**Enshi**	**65.89**	**34**	*e*P	**P**	**11 46 59.7**	**-1.9**
1.1nm,0.8s,mb3.9							
MKAR	**Makanchi Array**	**73.10**	**6**	P	**P**	**11 47 46.0**	**-0.1**
0.4nm,0.6s,mb3.5,baz=189,slow=6.9,SNR=5.7							
BRTR	**Keskin Array B**	**75.40**	**329**	P	**P**	**11 48 00.4**	**+0.9**
1.1nm,0.7s,mb3.9,baz=155,slow=7.3,SNR=1.6							
TORD	**Torodi Ar. Bea**	**79.98**	**290**	P	**P**	**11 48 25.1**	**+0.1**
1.3nm,0.8s,mb3.9,baz=123,slow=4.8,SNR=8.5							
DBIC	**Dimbokro**	**82.56**	**281**	LR	LR	12 20 33.0	
comp=Z,51nm,19.3s,MS3.9,baz=102,slow=32							
AKASG	**Malin Array Be**	**85.99**	**334**	P	**P**	**11 48 55.9**	**-0.3**
0.8nm,0.4s,mb4.3,baz=143,slow=4.5,SNR=6.5							

*ISCJB **19** 11:57:18.2±1.2,266N±02×915E±03,h10km,mb3.5/6, Error ellipse: s-maj=39.0km s-min=12.3km az=109.6*
*IDC **19** 11:57:19.0±1.2,2672N×9149E,h0km,mb3.6/6,mb1 3.9/6, mb1mx3.6/21,mbtmp3.7/6,Error ellipse: s-maj=55.1km s-min=20.2km az=62.0*
ISC 19 11:57:20.8±1.2,268N±02×916E±03,h10km,n7,σ0°75/7, mb3.5/6,Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.90**	**132**	*e*x	**Pg**	**11 58 16.0**	**-0.3**
MKAR	**Makanchi Array**	**21.31**	**342**	P	**P**	**12 02 07.7**	**0.0**
0.9nm,0.7s,mb3.2,baz=150,slow=12,SNR=6.7							
SONM	**Songino Array**	**24.05**	**25**	P	**P**	**12 02 35.2**	**-0.8**
0.3nm,0.7s,mb2.8,baz=242,slow=9.2,SNR=4.2							
ZAL	**Zalesovo**	**27.62**	**351**	P	**P**	**12 03 09.7**	**+1.4**
0.9nm,0.3s,mb3.9,baz=90,slow=3.6,SNR=3.7							
WRA	**Warramunga Arr**	**62.24**	**134**	P	**P**	**12 07 43.1**	**+0.3**
0.3nm,0.5s,mb3.7,baz=328,slow=6.7,SNR=14							
GERES	**GERESS Array B**	**62.60**	**313**	P	**P**	**12 07 44.0**	**-1.1**
0.2nm,0.3s,mb3.8,baz=74,slow=5.7,SNR=4.5							
ASAR	**Alice Springs**	**64.70**	**137**	P	**P**	**12 07 59.5**	**+0.5**
0.5nm,0.7s,mb3.7,baz=319,slow=6.4,SNR=7.4							

IDC 19 12:18:20.9±4.8,848S×15844E,h168km±132km,mb3.5/3, mb1 3.7/3,mb1mx3.3/13,mbtmp4.0/3,Error ellipse: s-maj=245.1km s-min=61.5km az=56.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.77**	**123**	P	Pn	12 18 55.1	+0.6
37nm,0.3s,baz=269,slow=7.1,SNR=16							
HNR				S	Sn	12 19 20.6	+0.2
56nm,0.3s,baz=89,slow=16,SNR=13							
WRA	**Warramunga Arr**	**25.95**	**241**	P	P	12 23 38.3	+0.5
1.2nm,0.3s,baz=66,slow=9.2,SNR=36							
ASAR	**Alice Springs**	**27.93**	**234**	P	P	12 23 55.8	+0.4
0.9nm,0.6s,baz=62,slow=9.9,SNR=28							
STKA	**Stephens Creek**	**28.06**	**212**	P	P	12 23 56.2	-0.4
0.7nm,0.4s,baz=41,slow=15,SNR=5.9							

*NEIC **19** 12:19:45.9,5835N×13349W,h1km,ML3.0(AEIC), ML3.3(PGC),After PGC.*
PGC 19 12:19:45.9,5835N×13349W,h1km,ML3.3/4,54km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border.,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	**Skagway**	**1.46**	**320**	*e*P	Pn	12 20 10.9	-2.5
SKAG				*e*S	Sg	12 20 31.2	-1.7
SIT	**Sitka**	**1.63**	**218**	*e*P	Pn	12 20 13.7	-2.1
SIT				*e*S	Sn	12 20 36.0	-1.4
DLBC	**Dease Lake**	**1.83**	**86**	Pn	Pn	12 20 16.9	-1.5
DLBC				Sg	Sg	12 20 43.6	-0.9
DLBC				Trac		12 20 49.5	
comp=Z,162nm,0.5s							
DLBC	**Dease Lake**	**1.83**	**86**	*e*P	Pn	12 20 16.8	-1.6
DLBC				*e*S	Sn	12 20 43.0	+0.8
PLBC	**Pleasant Camp**	**1.86**	**308**	Pn	Pn	12 20 18.6	-0.2
PLBC				Sg	Sg	12 20 44.2	-1.4
WHY	**Whitehorse**	**2.42**	**344**	Pn	Pn	12 20 25.0	-1.6
WHY				Pg	Pg	12 20 30.0	-2.2
WHY				Sn	Sn	12 20 53.6	-3.2
WHY				Sg	Sg	12 21 00.9	-2.7
WHY				Trac		12 21 10.1	
comp=Z,110nm,0.8s							
HYT	**Haines Junctio**	**3.21**	**322**	Pn	Pn	12 20 37.5	0.0
HYT				Pg	Pg	12 20 43.5	-3.9
HYT				Sg	Sg	12 21 25.8	-3.3
HYT				Trac		12 21 29.9	
comp=Z,30nm,0.5s							
RUBB	**Prince Rupert**	**4.42**	**155**	Pn	Pn	12 20 52.7	-1.4
RUBB				Pg	Pg	12 21 03.1	-7.5
RUBB				Sg	Sg	12 22 03.8	-4.1
RUBB				Trac		12 22 06.8	
comp=Z,55nm,0.7s							
MOBC	**Moresby Island**	**5.25**	**169**	Pn	Pn	12 21 02.6	-2.9
BNB	**Barry Inlet**	**5.88**	**170**	Pn	Pn	12 21 13.2	-0.9
DAWY	**Dawson**	**6.40**	**336**	Pn	Pn	12 21 20.2	-1.1
DAWY				Pg	Pg	12 21 42.9	-5.6
DAWY				Sg	Sg	12 23 08.0	-3.4
DAWY				Trac		12 23 09.4	
comp=Z,26nm,0.7s							
DAWY	**Dawson**	**6.40**	**336**	*e*Pn	Pn	12 21 20.0	-1.2
DAWY

TKM2	Tokmak 2	7.13	31	P	Pn	13 09 58.2	+0.5
	SNR=22						
TKM2	Tokmak 2	7.13	31	⇑P	Pn	13 09 57.9	+0.2
	0.9nm,0.5s						
TKM2				⇑S	S	13 11 20.0	+0.9
	0.4nm,0.6s						
MK02	Makanchi Array	13.15	38	⇑P	Pn	13 11 12.8	-1.6
	2.2nm,0.8s						
MKAR	Makanchi Array	13.16	38	P	Pn	13 11 13.7	-0.8
	baz=220,slow=15,SNR=5.4						
AB31	Akbulak array	14.57	331	P	Pn	13 11 32.7	+0.9
	0.6nm,0.4s,baz=142,slow=12,SNR=17						
AKTK	Aktyubinsk	16.27	330	P	P	13 11 51.6	+0.3
AKTO	Aktyubinsk	16.27	330	⇓P	P	13 11 51.5	+0.2
	0.1nm,1.0s						
AKTO	Aktyubinsk	16.27	330	P	P	13 11 51.6	+0.3
	0.5nm,0.3s,baz=146,slow=9.8,SNR=12						
ZAL	Zalesovo	19.67	26	P	P	13 12 29.1	+0.9
	0.7nm,0.3s,baz=260,slow=12,SNR=2.4						
ARCES	ARCESS Array B	40.65	338	P	P	13 15 33.8	-0.6
	1.2nm,0.6s,mb3.5,baz=108,slow=7.8,SNR=7.5						
TORD	Torodi Ar. Bea	65.40	268	P	P	13 18 29.3	-5.6
	0.3nm,0.4s,mb3.2,baz=55,slow=6.0,SNR=7.7						
TORD	Torodi Ar. Bea	65.40	268	P	P	13 18 29.3	-5.6

*ISCJB **19** 13:49:57.8±0.7, 11.1N±0.1×857W±02, h179km±5km, mb3.6/4, Error ellipse: s-maj=35.2km s-min=4.4km az=96.7*
*NEIC **19** 13:49:57.8±0.9, 1099N×8525W, h202km±14km, mb4.1/1, Error ellipse: s-maj=47.7km s-min=30.6km az=87.0*
*IDC **19** 13:49:57.3±0.8, 1121N×8535W, h183km±42km, mb3.2/3, mb1 3.5/3, mb1mx3.2/17, mbtmp3.7/3, Error ellipse: s-maj=93.3km s-min=35.9km az=164.0*
*CASC **19** 13:49:58.7±1.9, 1124N×8552W, h170km±5km, MD3.6, ML3.1, mb4.1(NEIC)*

ISC 19 13:49:58.5±0.7, 111N±01×857W±02, h177km±4km, n30, σ0°71/43, mb3.6/4, 8C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.24	324	⇑*i*P	Pn	13 50 22.0	-0.1
SSNN				*e*S	Sn	13 50 39.3	-1.0
MADN	Villa Maderas	0.35	28	⇑*i*P	Pn	13 50 22.2	-0.2
CONN	Concepcion	0.47	10	⇑*i*P	Pn	13 50 22.7	-0.1
LIM1	Limonal	0.59	131	⇑*i*P	Pn	13 50 23.0	-0.3
LIM1				*e*S	Sn	13 50 41.8	-0.7
APON	Apoyo	0.89	337	⇓*e*P	Pn	13 50 25.1	0.0
VCR	Vista de Mar	0.96	176	⇑*i*P	Pn	13 50 26.3	+0.6
TICN	Ticuantepe	1.07	331	⇓*e*P	Pn	13 50 26.8	+0.4
JTS	JuntasAbangare	1.09	137	P	Pn	13 50 26.4	-0.2
	181nm,0.3s,baz=331,slow=13,SNR=403						
JTS				S	Sn	13 50 47.1	-1.1
	673nm,0.3s,baz=307,slow=22,SNR=73						
JTS	JuntasAbangare	1.09	137	⇑*i*Pn	Pn	13 50 26.4	-0.2
JTS				*e*Sn	Sn	13 50 47.1	-1.2
MGAN	Managua	1.17	333	⇓*e*P	Pn	13 50 27.6	+0.3
MGAN				*e*S	Sn	13 50 50.3	+0.8
	comp=N,205nm,0.3s						
TISN	Laguna Tiscapa	1.18	332	*e*P	Pn	13 50 27.1	-0.2
XAVN	Gruta Xavier	1.21	330	*e*P	Pn	13 50 27.8	+0.2
APYN	Apoyeque	1.30	331	*e*P	Pn	13 50 28.6	+0.3
APYN				*e*S	Sn	13 50 52.7	+1.3
COPN	Copaltepe	1.39	321	⇓*e*P	Pn	13 50 29.2	+0.1
COPN				*e*S	Sn	13 50 51.4	-1.3
MOMJ	Momotombo	1.54	328	⇑*e*P	Pn	13 50 30.4	-0.2
MOMJ				*e*S	Sn	13 50 54.5	-0.9
CGA2	Cerro Gallo 2	1.62	131	*e*P	Pn	13 50 31.8	+0.4
CGA2				*e*S	Sn	13 50 56.6	-0.2
MIRN	Miramar	1.66	324	⇓*e*P	Pn	13 50 31.9	+0.2
MIRN				*e*S	Sn	13 50 57.0	-0.4
CNGN	Cerro Negro	1.70	325	*e*P	Pn	13 50 32.3	+0.2
CNGN				*e*S	Sn	13 50 58.7	+0.4
LEON	Leon	1.75	319	⇑*e*P	Pn	13 50 32.7	0.0
PRS1	Puriscal	1.76	129	*e*P	Pn	13 50 33.7	+0.9
LAJ	Bijagual	1.98	128	*e*P	Pn	13 50 33.8	-1.3
CRIN	San Cristobal	2.07	321	*e*P	Pn	13 50 36.4	+0.4
CRIN				*e*S	Sn	13 51 05.8	+0.6
LCR2	La Lucha 2	2.15	129	⇓*e*P	Pn	13 50 37.8	+0.9
LCR2				*e*S	Sn	13 51 06.7	0.0
URSC	Urasca	2.27	123	*e*P	Pn	13 50 39.2	+0.8
BUS	Buena Vista	2.45	128	*e*P	Pn	13 50 41.8	+1.4
BUS				*e*S	Sn	13 51 12.9	-0.1
MIAR	Mount Ida	24.42	344	*e*P	P	13 55 00.7	+0.1
	comp=N,4.2nm,0.8s,mb4.0						
NVAR	Mina Array Bea	39.84	319	P	P	13 57 14.4	-0.1
	comp=N,0.3nm,0.5s,mb3.2,baz=139,slow=7.2,SNR=3.8						
SCHQ	Schefferville	46.11	15	P	P	13 58 01.1	-3.6
	comp=N,2.1nm,0.5s,mb4.0,baz=208,slow=10.0,SNR=13						
YKA	Yellowknife Ar	55.37	344	P	P	13 59 11.8	-2.2
	comp=N,0.2nm,0.4s,mb3.2,baz=136,slow=7.6,SNR=7.2						
WRA	Warramunga Arr	140.51	252	PKP	PKPdf	14 09 04.8	-1.7
	comp=N,0.6nm,0.9s,baz=93,slow=1.8,SNR=4.8						

*NEIC **19** 13:52:06.3, 32.11S×7183W, h32km, ML3.6(GUC), After GUC.*

GUC 19 13:52:06.3±0.8, 3211S×7183W, h32km±3km, ML3.6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	1.11	142	⇑*i*P	Pn	13 52 26.4	+0.8
ROCH				*i*S	Sn	13 52 41.5	+1.7
JACH	Jahuel	1.20	119	⇑*i*P	Pn	13 52 27.8	+1.0
JACH				*i*S	Sn	13 52 43.4	+1.5
LCCH	Las Cruces	1.38	171	*e*P	Pn	13 52 29.8	+0.5
LCCH				*i*S	Sn	13 52 48.7	+2.1
CLCH	Cerro Calan	1.69	140	*e*P	Pn	13 52 35.4	+1.8
CLCH				*i*S	Sn	13 52 57.1	+3.1
CLCH				AML	AML	13 53 01.6	
	comp=E,1μm,0.6s						
TACH	Talagante	1.72	154	*e*P	Pn	13 52 35.7	+1.7
FCH	Farellones	1.78	134	*e*P	Pn	13 52 36.8	+2.0
FCH				*i*S	Sn	13 52 60.0	+3.6
FCH				AML	AML	13 53 03.4	
	comp=E,571nm,0.2s						
PCH	Pirque	1.87	144	*e*P	Pn	13 52 37.9	+1.7
PCH				*i*S	Sn	13 53 01.8	+3.1
LNV	Longovilo	1.88	169	⇑*i*P	Pn	13 52 37.3	+1.1
CHCH	Chadas Angostu	2.08	152	*e*P	Pn	13 52 40.3	+1.4
TLL	Tololo Astrono	2.12	25	*e*P	Pn	13 52 41.0	+1.5
TLL				*i*S	Sn	13 53 08.6	+3.7
TLL				AML	AML	13 53 21.7	
	comp=N,1μm,0.4s						
TLL	Tololo Astrono	2.12	25	*e*P	Pn	13 52 41.0	+1.5
TLL				*i*S	Sn	13 53 08.6	+3.7
CACH	El Canelo	2.26	153	*i*P	Pn	13 52 43.9	+2.5
CICH	Cipreses	2.50	152	*e*P	Pn	13 52 46.0	+1.2
SFDO	San Fernando	2.59	165	*e*P	Pn	13 52 46.7	+0.6
LCO	Las Campanas	3.23	18	*e*P	Pn	13 52 55.5	+0.7

*CSEM **19** 13:52:59.3±0.1, 4448N×1004E, h25km, ML3.3/9, Error ellipse: s-maj=1.3km s-min=1.0km az=37.0*
*GEN **19** 13:52:59.3, 4458N×1018E, h24km, ML2.0*
*ROM **19** 13:53:00.0±0.3, 4448N×1001E, h6km±3km, Md2.7/22, Ml2.6/12, Error ellipse: s-maj=2.6km s-min=1.9km az=128.0*
*ISCJB **19** 13:53:00.9±0.2, 4446N±002×998E±002, h24km±2km, Error ellipse: s-maj=2.8km s-min=2.4km az=5.8*
*NEIC **19** 13:53:00.0, 4448N×1001E, h6km, ML2.6(ROM), ML2.8(LDG), ML2.8(STR), After ROM.*
*PRU **19** 13:53:01.4, 4456N×1054E, h0km*
*LDG **19** 13:53:02.9±0.4, 4442N×998E, h10km, Ml2.8/10, Error ellipse: s-maj=8.3km s-min=4.6km az=90.0*
*STR **19** 13:53:07.7±0.2, 4430N×953E, h10km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 19 13:53:01.3±0.2, 4445N±002×1000E±002, h20km±2km, n80, σ1°35/135, 2C-14D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM		0.06	48	P	Pb	13 53 04.1	-0.9
GRAM				S	Sb	13 53 07.2	-0.3
CODM		0.12	241	P	Pb	13 53 06.2	+0.7
CODM				S	Sb	13 53 10.8	+2.4
BACM		0.18	163	P	Pb	13 53 06.3	+0.1
VALM		0.20	120	P	Pb	13 53 05.4	-1.1
ERBM	Eremo	0.30	96	⇓*i*Pg	Pb	13 53 06.5	-1.4
ERBM				Sg	Sb	13 53 11.8	-0.7
	992nm,0.2s						
VINC	Vinca	0.33	161	P	Pb	13 53 08.2	-0.2
VINC				S	Sb	13 53 14.4	+1.1
SC2M	Scurtabr	0.34	262	P	Pb	13 53 09.2	+0.6
SC2M				S	Sb	13 53 15.9	+2.3
SARO	Sassorosso	0.39	133	P	Pb	13 53 08.2	-1.3
VLC	Villacollemand	0.40	136	⇓*i*Pg	Pb	13 53 08.5	-1.2
VLC				Sg	Sb	13 53 15.8	+0.4
	393nm,0.4s						
VLC	Villacollemand	0.40	136	⇓*e*Pg	Pb	13 53 08.5	-1.1
VLC				*e*Sg	Sb	13 53 15.7	+0.3
VLC				Sg	Sb	13 53 15.8	+0.4
VLC	Villacollemand	0.40	136	⇓*i*Pg	Pb	13 53 08.5	-1.2
VLC				*e*Sg	Sb	13 53 15.7	+0.3
GSCL	Gusciola	0.43	103	Pg	Pb	13 53 08.7	-1.5
	91nm,0.2s						
BOB	Bobbio (Coli)	0.51	309	Pg	Pb	13 53 10.5	-1.0
BOB				Sg	Sb	13 53 19.7	+1.3
	200nm,0.6s						
BDI	Bagni Di Lucca	0.58	132	⇑*i*Pg	Pb	13 53 11.6	-1.1
BDI				Sg	Sb	13 53 20.7	+0.2
	233nm,0.4s						
MAIM		0.64	146	P	Pb	13 53 12.5	-1.3
MAIM				S	Sb	13 53 21.5	-0.8
PZZT	Monte Pizzetto	0.70	117	Pg	Pb	13 53 13.3	-1.4
PZZT				Sg	Sb	13 53 24.5	+0.7
	254nm,0.5s						
ZCCA	Zocca	0.71	98	Pg	Pb	13 53 14.8	-0.1
	67nm,0.4s						
GENL	Genova Univers	0.74	267	P	Pb	13 53 14.2	-1.3
PII	Pisa	0.82	152	Pg	Pb	13 53 16.5	-0.3
PII				Sg	Sb	13 53 27.9	+0.5
	183nm,0.2s						
GROG	Isola di Gorgo	1.03	184	Pg	Pb	13 53 20.0	-0.3
GROG				Sg	Sb	13 53 35.5	+2.1
	111nm,0.4s						
PCP	Pian Castagno	1.05	276	P	Pn	13 53 19.2	-1.5
PCP				S	Sb	13 53 32.8	-1.1
SEI	Scarperia	1.05	112	Pg	Pn	13 53 20.4	-0.4
	126nm,0.3s						
VMG	Vicchio	1.21	113	Pg	Pn	13 53 24.2	+1.2
	25nm,0.2s						
SAL	Salo	1.22	18	Pg	Pn	13 53 22.3	-0.8
	156nm,0.3s						
SALO	Salr	1.23	17	Pg	Pn	13 53 22.7	-0.5
SALO				Sg	Sn	13 53 38.9	-0.2
	403nm,0.8s						
FIN	Finale Ligure	1.31	260	P	Pn	13 53 22.5	-1.8
FIN	Finale Ligure	1.31	260	Pg	Pn	13 53 24.7	+0.4
	24nm,0.3s						
FIN				S	Sn	13 53 38.2	-3.0
MDI	Monti di Nese	1.34	351	Pg	Pn	13 53 24.3	-0.5
MDI				Sg	Sn	13 53 42.6	+0.6
	131nm,0.4s						
CSNT	Castellina Chi	1.35	136	Pg	Pn	13 53 26.9	+2.0
CSNT				Sg	Sn	13 53 44.6	+2.4
	54nm,0.5s						
RORO		1.43	257	P	Pn	13 53 24.4	-1.6
RORO				S	Sn	13 53 40.7	-3.5
SFI	Santa Sofia	1.44	112	Pg	Pn	13 53 27.5	+1.4
	7.0nm,0.2s						
ROB	Roburent	1.54	265	P	Pn	13 53 26.1	-1.4
ROB				S	Sn	13 53 44.4	-2.4
MUGIO	Muggio	1.62	336	Pg	Pn	13 53 28.3	-0.3
MUGIO				Sg	Sn	13 53 51.0	+2.1
CRE	Caprese Michel	1.63	120	Pg	Pn	13 53 30.6	+1.8
CRE				Sg	Sn	13 53 51.2	+2.0
	27nm,0.4s						
MONE	Monesi	1.66	258	P	Pn	13 53 28.2	-0.9
NEGI	Negi	1.76	251	P	Pn	13 53 29.0	-1.5
SAOF	Saorge	1.82	256	Pn	Pn	13 53 32.3	+0.9
SAOF				Sg	Sn	13 53 55.4	+1.6
ENR	Entracque	1.86	264	P	Pn	13 53 30.7	-1.3
ENR				S	Sn	13 53 52.1	-2.8
AUTN	L'Aution	1.91	257	Pn	Pn	13 53 33.8	+1.3
AUTN				Sg	Sn	13 53 58.2	+2.3
TRAV		1.92	304	P	Pn	13 53 30.2	-2.6
STV	Sta Anna Valdi	1.93	265	P	Pn	13 53 31.8	-1.1
SBF	Sospel	1.94	253	*e*Pn	Pn	13 53 33.7	+0.7
SBF				*e*Sn	Sn	13 53 55.3	-1.4
DOI	San Damiano	1.97	273	Pn	Pn	13 53 34.7	+1.2
	44nm,0.4s						
LUCF	Luceram	1.99	255	Pn	Pn	13 53 34.8	+1.1
LUCF				Sg	Sn	13 54 00.9	+2.9
TOUF	Mont Tournerai	2.03	259	Pn	Pn	13 53 35.8	+1.6
PGF	Pioggiola	2.04	201	*e*Pn	Pn	13 53 34.4	+0.1
PGF				*e*Sn	Sn	13 53 57.6	-1.5
BRMO	Bormio	2.04	7	Pn	Pn	13 53 37.0	+2.6
	9.0nm,0.4s						
TUE	Stuetta	2.07	347	Pn	Pn	13 53 35.1	+0.2
	24nm,0.4s						
RSP	Reno Superiore	2.08	291	P	Pn	13 53 32.8	-2.1
PZZ	Prazzo	2.08	273	P	Pn	13 53 33.6	-1.3
MVIF	Mont Vial	2.12	256	Pn	Pn	13 53 37.1	+1.6
MBDF	Montbardon	2.32	278	*e*Pn	Pn	13 53 39.4	+1.1
MBDF				*e*Sn	Sn	13 54 04.8	-1.5
	22nm,0.5s						
MBDF	Montbardon	2.32	278	*e*Pn	Pn	13 53 39.4	+1.1
MBDF				*e*Sn	Sn	13 54 04.8	-1.5
	11nm,0.5s						
BNI	Bardonecchia	2.44	285	*e*Pn	Pn	13 53 42.6	+2.7
LPG	La Plagne	2.53	296	*e*Pn	Pn	13 53 43.4	+2.2
LPG				*e*Sn	Sn	13 54 10.9	-0.5
	6.4nm,0.3s						
LPL	La Plagne	2.55	296	*e*Pn	Pn	13 53 43.2	+1.7
LPL				*e*Sn	Sn	13 54 11.4	-0.5
	8.8nm,0.3s						
FRF	La Foret Royal	2.58	251	*e*Pn	Pn	13 53 42.6	+0.8
FRF				*e*Sn	Sn	13 54 10.7	-1.8
	18nm,0.3s						
FRF	La Foret Royal	2.58	251	*e*Pn	Pn	13 53 42.6	+0.8
FRF				*e*Sn	Sn	13 54 10.7	-1.8
	8.8nm,0.3s						
LMR	La Mourre	2.76	247	*e*Pn	Pn	13 53 44.7	+0.4
LMR				*e*Sn	Sn	13 54 15.5	-1.5
	9.2nm,0.3s						
LMR	La Mourre	2.76	247	*e*Pn	Pn	13 53 44.7	+0.4
LMR				*e*Sn	Sn	13 54 15.5	-1.5
	4.6nm,0.3s						
DAVA	Damuels	2.84	358	⇓*i*Pn	Pn	13 53 46.3	+0.9
DAVA				⇑*i*Sn	Sn	13 54 20.4	+1.5
SQTA	Sankt Quirin	2.90	17	⇓*i*Pn	Pn	13 53 46.6	+0.4
SQTA				⇓*i*Sn	Sn	13 54 21.6	+1.2
ORIF	Oris-en-Rattie	2.98	280	*e*Pn	Pn	13 53 48.4	+1.1
MOTA	Moosalm	3.00	15	⇓*i*Pn	Pn	13 53 48.5	+1.0
MOTA				⇓*i*Sn	Sn	13 54 24.1	+1.2
WTTA	Wattenberg	3.04	22	⇓*i*Pn	Pn	13 53 48.3	+0.2
WTTA				⇓*i*Sn	Sn	13 54 23.9	+0.1
WTTA	Wattenberg	3.04	22	⇓*i*Pn	Pn	13 53 48.3	+0.2
WTTA				*i*Sn	Sn	13 54 23.9	+0.1
VOJS	Vojsko	3.17	59	*i*Pn	Pn	13 53 47.8	-2.1
VOJS				*i*Sn	Sn	13 54 23.4	-3.6
SMRF	Simiane la Rot	3.22	263	*e*Pn	Pn	13 53 52.4	+1.8
SMRF				*e*Sn	Sn	13 54 26.5	-1.8
	4.8nm,0.3s						
PUYF	Puyloubier	3.24	255	Pn	Pn	13 53 52.3	+1.4
KNDS	Knezji Dol	3.29	69	*e*Pn	Pn	13 53 47.0	-4.6
KNDS				*e*Sn	Sn	13 54 26.2	-3.9
CABF	La Chapelle	3.50	310	*e*Pn	Pn	13 53 55.5	+1.1
CABF				*e*Sn	Sn	13 54 34.2	-1.0
	2.0nm,0.3s						
KBA	Koelnbreinsper	3.52	40	⇓*i*Pn	Pn	13 53 54.7	-0.1
KBA				⇓*i*Sn	Sn	13 54 35.2	-0.5
VIVF	Saint-Julien-l	3.82	278	*e*Pn	Pn	13 53 59.4	+0.5
VIVF				*e*Sn	Sn	13 54 40.9	-2.4
	1.4nm,0.2s						
VIVF	Saint-Julien-l	3.82	278	*e*Pn	Pn	13 53 59.4	+0.5
VIVF				*e*Sn	Sn	13 54 40.9	-2.4
	0.7nm,0.2s						
HAU	Haudompre	4.37	326	*e*Pn	Pn	13 54 07.0	+0.6
HAU				*e*Sn	Sn	13 54 56.2	-0.5
	7.0nm,0.3s						
CDF	Champ du Feu	4.39	336	*e*Pn	Pn	13 54 05.7	-1.0
CDF				*e*Sn	Sn	13 54 54.6	-2.6
	3.8nm,0.3s						
SMF	Signal de Mont	4.85	299	*e*Pn	Pn	13 54 14.3	+1.2
AVF	Avril sur Loir	5.22	299	*e*Pn	Pn	13 54 18.9	+0.8
KHC	Kasperske Hory	5.29	26	*e*PN	Pn	13 54 16.9	-2.1
KHC				*e*SN	Sn	13 55 14.5	-4.8
KHC				*e*SG	Sn	13 55 45.0	+26
KHC	Kasperske Hory	5.29	26	*e*Pn	Pn	13 54 16.9	-2.1
KHC				*e*Sn	Sn	13 55 14.5	-4.8

*NEIC **19** 13:53:18.1, 32.13S×7179W, h34km, ML3.5(GUC), After GUC.*

GUC 19 13:53:18.1±0.6, 3213S×7179W, h34km±3km, MD4.1, ML3.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	1.07	142	*i*P	Pn	13 53 37.2	+0.6
ROCH				*i*S	Sn	13 53 52.5	+2.2
JACH	Jahuel	1.15	119	⇑*i*P	Pn	13 53 38.6	+0.8
JACH				*i*S	Sn	13 53 54.4	+2.0
CLCH	Cerro Calan	1.65	141	*e*P	Pn	13 53 46.1	+1.5
CLCH				*i*S	Sn	13 54 08.5	+4.0
CLCH				AML	AML	13 54 19.8	
	comp=N,1μm,0.6s						
TACH	Talagante	1.68	155	*e*P	Pn	13 53 46.8	+1.7
FCH	Farellones	1.74	134	⇑*e*P	Pn	13 53 47.9	+2.1
FCH				*i*S	Sn	13 54 10.8	+4.0
FCH				AML	AML	13 54 13.8	
	comp=N,455nm,0.3s						
PCH	Pirque	1.83	145	*e*P	Pn	13 53 48.8	+1.6
TLL	Tololo Astrono	2.12	24	*e*P	Pn	13 53 53.5	+2.3
TLL				*i*S	Sn	13 54 19.6	+3.2
TLL				AML	AML	13 54 32.5	
	comp=N,788nm,0.5s						
TLL	Tololo Astrono	2.12	24	*e*P	Pn	13 53 53.5	+2.3
TLL				*i*S	Sn	13 54 19.6	+3.2

*ISCJB **19** 14:03:51.9±0.5, 2815N±004×5734E±006, h10km, mb3.7/5, Error ellipse: s-maj=7.4km s-min=6.0km az=144.2*
*OMAN **19** 14:03:51.3±16.0, 2829N×5774E, h20km, Error ellipse: s-maj=9.3km s-min=4.9km az=359.0*
*THR **19** 14:03:53.9±0.6, 2823N×5738E, h14km±6km, ML3.6*
*NEIC **19** 14:03:53.9, 2823N×5738E, h14km, ML3.6(THR), After THR.*
*CSEM **19** 14:03:54.3±0.1, 2803N×5738E, h35km, ML3.6, Error ellipse: s-maj=3.3km s-min=2.6km az=64.0*
*TEH **19** 14:03:57.6, 2813N×5721E, h11km, Mn3.6*
*IDC **19** 14:03:57.8±4.4, 2789N×5754E, h77km±62km, mb3.5/5, mb1 3.6/6, mb1mx3.2/25, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=43.8km s-min=21.7km az=115.0*
*KISR **19** 14:03:57.6±0.6, 2828N×5681E, h34km, ML4.0*

ISC 19 14:03:52.6±1.2, 2816N±004×5743E±005, h4km±9km, n31, σ1°49/40, mb3.7/5, 3C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.35	236	*e*PG	Pg	14 04 18.9	+0.5
BNDS				AML	AML	14 04 40.6	
	comp=E,2μm,0.5s						
BNDS				AML	AML	14 04 41.6	
	comp=N,2μm,0.3s						
BNDS	Bandar-Abbas	1.35	236	*e*Pg	Pg	14 04 18.0	-0.4
KRBR	Kerman	1.91	342	*e*PG	Pg	14 04 27.4	-1.8
KRBR				AML	AML	14 05 05.4	
	comp=N,573nm,0.2s						
KRBR				AML	AML	14 05 05.5	
	comp=E,541nm,0.7s						
KRBR	Kerman	1.91	342	*e*Pg	Pg	14 04 27.0	-2.2
BANOM	Banah	2.44	205	P	Pn	14 04 33.3	+0.1
	SNR=88						
BANOM				⇑S	Sn	14 05 06.3	+2.7
ZHSF	Zahedan	3.27	63	*e*PN	Pn	14 04 47.3	+2.6
ZHSF				*e*SG	Sg	14 05 36.0	-1.7
ZHSF	Zahedan	3.27	63	*e*Pn	Pn	14 04 47.0	+2.4
ZHSF				*e*Sg	Sg	14 05 36.0	-1.7
	SNR=90						
ASHO	Ashiyiah	3.67	200	⇑P	Pn	14 04 51.2	+1.0
	SNR=23						
IBAF	Bafgh	3.78	335	*e*Pn	Pn	14 04 55.2	+3.6
GHIR	Ghir-Karzin	3.92	273	*e*PN	Pn	14 04 55.5	+1.9
GHIR				AML	AML	14 05 47.5	
	comp=N,43nm,0.2s						
GHIR				AML	AML	14 05 48.5	
	comp=E,60nm,0.4s						
GHIR	Ghir-Karzin	3.92	273	*e*Pn	Pn	14 04 55.0	+1.4
ISRV	Sarvestan	3.98	289	*e*Pn	Pn	14 04 56.6	+2.2
IMEH	Mehriz	4.04	323	*e*Pn	Pn	14 04 57.2	+1.9
IMOK	Mook	4.24	283	*e*Pn	Pn	14 04 58.2	+0.3
IMOK				*e*Sn	Sn	14 05 44.8	-3.0
HOQ	Hoqain	4.56	181	P	Pn	14 05 01.2	-1.2
	SNR=9.8						
BIDO	Bidbid	4.66	172	⇓P	Pn	14 05 02.4	-1.3
ARQ	Araqi	4.87	190	⇑P	Pn	14 05 07.9	+1.3
	SNR=14						
ISAD	Sadrabad	4.95	320	*e*Pn	Pn	14 05 09.6	+1.9
WSAR	Wadi Sarin	5.02	167	P	Pn	14 05 07.5	-1.1
	comp=E,1.9nm,0.3s,baz=341,slow=11,SNR=56						
WSAR				S	Sn	14 06 00.4	-6.7
	comp=E,6.0nm,0.3s,baz=43,slow=22,SNR=8.6						
KBD	Kabd	8.61	279	*e*P	Pn	14 05 57.9	-0.1
KBD				*e*S	Sn	14 07 27.7	-7.8
KBD				AML	AML	14 07 30.4	
	comp=Z,18nm,0.3s						
KBD	Kabd	8.61	279	*e*P	Pn	14 05 58.1	+0.1
RDF	Al-Radifah	8.72	277	*e*P	Pn	14 05 59.0	-0.5
RDF				*e*S	Sn	14 07 30.4	-7.9
RDF				AML	AML	14 07 33.2	
	comp=Z,13nm,0.4s						
MIB	Mutribah	8.99	283	*e*P	Pn	14 06 03.0	-0.1
MIB				*e*S	Sn	14 07 36.8	-7.9
NAY	Al-Naaiem	9.01	279	*e*P	Pn	14 06 03.3	-0.2
NAY				*e*S	Sn	14 07 38.0	-7.3
NAY				AML	AML	14 07 41.5	
	comp=Z,5.5nm,0.3s						
AKTK	Aktyubinsk	22.25	1	P	P	14 08 50.8	+0.3
AKTK	Aktyubinsk	22.25	1	P	P	14 08 50.8	+0.4
AKT

HWUT Hardware Ranch 38.83 349 *e*P **P 14 11 26.1 -1.3**
3.7nm,0.9s,mb4.1
LPAZ La Paz 38.95 121 P **P 14 11 29.6 +1.2**
3.2nm,1.1s,mb4.0,baz=335,slow=6.1,SNR=5.1
LPAZ LR LR 14 25 22.6
comp=Z,244nm,21.6s,MS4.0,baz=288,slow=33
LPAZ La Paz 38.95 121 *e*P **P 14 11 30.0 +1.6**
6.6nm,1.3s,mb4.2
PDAR Pinedale Array 39.62 351 LR LR 14 28 30.5
comp=Z,115nm,20.1s,MS3.7,baz=190,slow=37
TAOE Nuku Hiva Isla 39.86 252 *e*LR LR 14 22 26.3
2μm,28.3s
SAML Samuel 40.75 108 *e*P **P 14 11 42.4 -0.9**
16nm,1.4s,mb4.5
RKT Rikitea 41.59 229 *e*LQ 14 21 29.3
382nm,34.2s
QLMT Earthquake Lak 41.93 350 *e*P **P 14 11 55.0 +2.0**
MCMT McKenzie Canyo 42.19 349 *e*P **P 14 11 56.8 +1.6**
SIV San Ignacio 44.99 117 P **P 14 12 17.2 -0.5**
0.4nm,0.7s,mb3.4,baz=300,slow=18,SNR=4.5
NEW Newport 46.38 346 LR LR 14 32 01.4
comp=Z,97nm,22.0s,MS3.7,baz=155,slow=36
ULM Lac du Bonnet 46.84 5 P **P 14 12 30.7 -1.6**
3.0nm,0.7s,mb4.3,baz=196,slow=9.9,SNR=4.5
ULM LR LR 14 32 06.8
comp=Z,151nm,18.8s,MS4.0,baz=199,slow=36
EDM Edmonton 50.38 351 P **P 14 12 59.2 -0.4**
FFC Flin Flon 51.02 0 *e*P **P 14 13 02.9 -1.5**
3.2nm,0.8s,mb4.3
PPT Papeete 51.29 244 *e*S **S 14 20 09.0 -16**
62nm,23.2s
PPT *e*LR LR 14 27 38.8
355nm,25.5s,baz=56
PPT Papeete 51.29 244 LR LR 14 28 43.8
comp=Z,259nm,18.8s,MS4.3,baz=321,slow=29
TBI Tubuai 53.31 237 *e*LR LR 14 28 28.2
204nm,27.0s
BDFB Brasília 56.81 111 LR LR 14 36 45.8
comp=Z,277nm,18.3s,MS4.4,baz=290,slow=35
SCHQ Schefferville 58.57 23 LR LR 14 40 19.4
comp=Z,86nm,18.5s,MS3.9,baz=229,slow=37
DLBC Dease Lake 58.93 343 *e*P **P 14 14 02.3 +0.7**
YKA Yellowknife Ar 59.55 353 P **P 14 14 05.3 -0.6**
2.2nm,0.9s,mb4.2,baz=161,slow=6.7,SNR=27
YKA LR LR 14 39 58.1
comp=Z,255nm,18.6s,MS4.4,baz=180,slow=36
YKW3 Yellowknife Ar 59.61 353 *e*P **P 14 14 04.8 -1.6**
DAWY Dawson 66.15 343 P **P 14 14 49.5 -0.4**
INK Inuvik 68.06 348 *e*P **P 14 15 01.1 -0.8**
14nm,1.3s,mb4.8
AFI Afiamalu 71.20 254 LR LR 14 41 14.5
comp=Z,188nm,18.1s,MS4.4,baz=322,slow=31
VNDA Vanda 94.74 193 LR LR 14 52 36.2
comp=Z,85nm,19.9s,MS4.2,baz=3.9,slow=31
NOA NORSAR Array B 97.98 27 LR LR 14 56 14.6
comp=Z,31nm,21.5s,MS3.8,baz=280,slow=32
ARCES ARCESS Array B 99.03 16 LR LR 15 00 25.1
comp=Z,39nm,20.6s,MS3.9,baz=44,slow=34
WRA Warramunga Arr 122.66 249 PKP PKPdf 14 22 58.8 +0.6
0.2nm,0.5s,baz=91,slow=2.1,SNR=3.9
HHC Hu-ho-hao-te 126.16 329 *e*PKP PKPdf 14 22 59.9 -5.0
HHC XPKP 14 23 14.3
HHC PP PP
comp=Z,60nm,9.2s
HHC LR LR
comp=N,100nm,16.7s,MS4.6
HHC LR LR
comp=E,50nm,21.2s,MS4.6
HHC LR LR
comp=Z,60nm,15.5s
MKAR Makanchi Array 129.73 356 PKP PKPdf 14 23 11.9 +0.2
comp=Z,0.1nm,0.2s,baz=70,slow=33,SNR=3.4
WMQ Urumqi 132.03 350 *e*PKP PKPdf 14 23 16.3 +0.2
LZH Lanzhou 133.70 331 *e*PKP PKPdf 14 23 15.3 -3.9
LZH XPKP 14 23 19.6
LZH LR LR
comp=E,150nm,18.5s
LZH LR LR
comp=Z,270nm,20.1s,MS5.0
CD2 Chengdu 137.77 326 *e*PKP PKPdf 14 23 23.5 -3.3
KMI Kunming 142.66 321 PKP PKPdf 14 23 39.5 +3.9

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*ISCJB **19** 14:51:28.2±3.3, 43S±02×14295E±009, h54km±24km, mb4.1/6, MS3.3/2, Error ellipse: s-maj=29.2km s-min=14.2km az=22.5*
*NEIC **19** 14:51:30.2±2.4, 428S×14293E, h60km±17km, mb4.4/4, Error ellipse: s-maj=23.6km s-min=15.9km az=178.0*
*IDC **19** 14:51:30.2±6.0, 424S×14299E, h61km±58km, mb3.9/4, mb1 4.0/6, mb1mx3.8/14, mbtmp4.2/6, ML3.8/2, MS3.3/3, Ms1 3.3/3, ms1mx2.6/17, Error ellipse: s-maj=39.2km s-min=32.1km az=153.0*
ISC 19 14:51:30.2±2.6, 43S±02×14295E±009, h62km±19km, n19, σ0.6 67/19, mb4.1/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.61**	**141**	P		**Pn**	**14 53 05.1**	**+0.4**
	1.9nm,0.3s,baz=347,slow=9.9,SNR=7.0							
PMG				S		**Sn**	**14 54 18.8**	**0.0**
	1.7nm,0.3s,baz=327,slow=23,SNR=9.1							
PMG	**Port Moresby**	**6.61**	**141**	*e*Pn		**Pn**	**14 53 05.0**	**+0.2**
PMG				S		**Sn**	**14 54 18.8**	**0.0**
KAKA	**Kakadu**	**13.36**	**230**	*e*P		**Pn**	**14 54 36.1**	**-0.8**
	25nm,0.4s							
HNR	**Honiara**	**17.64**	**108**	LR		LR	15 00 26.2	
	comp=Z,56nm,21.6s,baz=356,slow=30							
WRAB	**Tennant Creek**	**17.70**	**208**	*e*P		**Pn**	**14 55 32.5**	**+0.1**
	16nm,0.7s							
WB2	**Warramunga Arr**	**17.71**	**208**	*e*P		**Pn**	**14 55 32.3**	**-0.2**
WRA	**Warramunga Arr**	**17.71**	**208**	P		**Pn**	**14 55 32.8**	**+0.2**
	1.2nm,0.3s,baz=32,slow=13,SNR=56							
AS31	**Alice Springs**	**21.19**	**203**	*e*P		**P**	**14 56 10.8**	**+0.3**
ASAR	**Alice Springs**	**21.19**	**204**	P		**P**	**14 56 10.9**	**+0.4**
	2.0nm,0.6s,mb3.6,baz=31,slow=12,SNR=22							
ASPA	**Alice Springs**	**21.19**	**204**	*e*P		**P**	**14 56 10.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.83**	**230**	*e*P		**P**	**14 56 18.0**	**+0.7**
	14nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**21.83**	**230**	P		**P**	**14 56 18.4**	**+1.1**
	8.4nm,0.9s,mb4.2,baz=33,slow=6.7,SNR=13							
FITZ				LR		LR	15 05 23.9	
	comp=Z,77nm,18.3s,baz=79,slow=38							
STKA	**Stephens Creek**	**27.51**	**182**	LR		LR	15 09 19.5	
	comp=Z,124nm,21.6s,baz=25,slow=39							
STKA	**Stephens Creek**	**27.51**	**182**	P		**P**	**14 57 08.0**	**-2.9**
VNDA	**Vanda**	**73.92**	**176**	*e*P		**P**	**15 02 58.0**	**-0.4**
	0.5nm,0.6s,mb3.6							
SBA	**Scott Base**	**74.62**	**175**	*e*P		**P**	**15 03 03.5**	**+0.7**
MAW	**Mawson**	**82.31**	**202**	P		**P**	**15 03 45.0**	**-0.1**
	1.2nm,0.4s,mb4.2,baz=71,slow=4.0,SNR=3.9							
BVAR	**Borovoye Array**	**83.00**	**325**	P		**P**	**15 03 48.8**	**+0.1**
	3.0nm,0.8s,mb4.4,baz=107,slow=7.9,SNR=8.5							
QSPA	**South Pole Qui**	**85.71**	**180**	*e*P		**P**	**15 04 02.2**	**-0.2**
	3.3nm,0.6s,mb4.7							

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*MOS **19** 14:53:05.8±0.9, 2223N×9471E, h107km, mb4.8/14, Error ellipse: s-maj=15.7km s-min=6.5km az=121.0*
*BJI **19** 14:53:05.9, 22.12N×9448E, h124km, mB4.5, mb4.7*
*ISCJB **19** 14:53:07.1±0.6, 22.19N±004×9454E±003, h116km±5km, mb4.6/42, Error ellipse: s-maj=6.7km s-min=4.4km az=18.2*
*NEIC **19** 14:53:08.3±0.3, 2225N×9455E, mb4.7/17, Error ellipse: s-maj=9.4km s-min=4.5km az=221.0*
*IDC **19** 14:53:08.6±0.7, 2232N×9465E, h113km±5km, mb4.2/19, mb1 4.3/19, mb1mx4.2/25, mbtmp4.6/19, Error ellipse: s-maj=21.4km s-min=9.6km az=48.0*
ISC 19 14:53:08.1±0.6, 2224N±004×9453E±003, h103km±5km, h115km±2.4km; pP-P, n119, σ1.9 31/140, mb4.6/42, 7C-5D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.59**	**348**	*e*P		**Pn**	**14 53 50.0**	**+1.5**
IMP				*e*S		**Sn**	**14 54 20.0**	**+0.5**
SHL	**Shillong**	**4.11**	**324**	*e*P		**Pn**	**14 54 10.0**	**+1.3**
SHL				*e*P			14 54 10.8	
SHL				*i* S		**Sn**	**14 54 53.0**	**-2.7**
SHL				AML		AML	14 54 59.4	
	comp=N,26μm,0.2s							
SHL				AML		AML	14 54 59.4	
	comp=E,24μm,0.1s							
CAL	**Calcutta**	**5.75**	**274**	*ex*		**Sn**	**14 55 35.1**	**-0.4**
CAL	**Calcutta**	**5.75**	**274**	*ex*		**Sn**	**14 55 35.1**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLGI	**Shiliguri**	**7.12**	**310**	*ex*		**Sn**	**14 56 04.7**	**-4.3**
LSA	**Lhasa**	**8.03**	**338**	⇓*e*P		**Pn**	**14 55 02.9**	**+1.0**
LSA				pmax		pmax		
	comp=Z,83nm,0.6s							
LSA	**Lhasa**	**8.03**	**338**	⇓*e*Pn		**Pn**	**14 55 02.9**	**+1.0**
	comp=Z,83nm,0.6s							
KMI	**Kunming**	**8.05**	**67**	P		**Pn**	**14 55 05.3**	**+3.0**
KMI				S		**Sn**	**14 56 37.0**	**+5.4**
KMI				AMB		AMB		
	comp=Z,10.0nm,1.0s							
KMI				AMB		AMB		
	comp=Z,70nm,4.9s							
KMI				LR		LR		
	comp=N,220nm,9.3s							
KMI				LR		LR		
	comp=E,130nm,8.2s							
KMI				LR		LR		
	comp=Z,120nm,8.9s							
BOK	**Bokaro**	**8.11**	**283**	*e*P		**Pn**	**14 55 03.6**	**+0.5**
BOK				*e*S		**Sn**	**14 56 21.2**	**-12**
BOK				AML		AML	14 56 34.7	
	comp=E,116nm,0.4s							
BOK				AML		AML	14 56 35.1	
	comp=N,212nm,0.4s							
BWNR	**Bhubaneshwar**	**8.36**	**258**	*ex*		x	14 56 00.0	
JIRN	**Jiri**	**9.29**	**307**	*e*Pn		**Pn**	**14 55 19.3**	**+0.2**
JIRN				*e*Sn		**Sn**	**14 56 59.1**	**-2.7**
	comp=N,646nm,0.4s							
GUN	**Gumba**	**9.66**	**308**	*e*Pn		**Pn**	**14 55 24.8**	**+0.7**
GUN				*e*Sn		**Sn**	**14 57 07.4**	**-3.4**
	comp=N,2μm,0.9s							
PKI	**Pulchoki**	**9.84**	**305**	*e*Pn		**Pn**	**14 55 26.0**	**-0.5**
PKI				*e*Sn		**Sn**	**14 57 10.9**	**-4.0**
	comp=N,407nm,0.6s							
KKN	**Kakani**	**10.04**	**305**	*e*Pn		**Pn**	**14 55 28.7**	**-0.6**
KKN				*e*Sn		**Sn**	**14 57 15.2**	**-4.9**
	comp=N,175nm,0.2s							
DMN	**Daman**	**10.09**	**304**	*e*Pn		**Pn**	**14 55 30.0**	**+0.1**
DMN				*e*Sn		**Sn**	**14 57 17.1**	**-3.9**
	comp=N,164nm,0.4s							
GKN	**Gorkha**	**10.64**	**305**	*e*Pn		**Pn**	**14 55 36.6**	**-0.8**
GKN				*e*Sn		**Sn**	**14 57 29.8**	**-4.8**
	comp=N,379nm,0.4s							
PBA	**Port Blair**	**10.66**	**190**	*e*P		x	14 55 11.2	
PBA				*e*S		x	14 57 06.5	
KOLN	**Koldanda**	**11.34**	**301**	*e*Pn		**Pn**	**14 55 45.6**	**-1.2**
KOLN				*e*Sn		**Sn**	**14 57 44.6**	**-6.9**
	comp=N,308nm,0.5s							
VIS	**Vishakhapatnam**	**11.45**	**249**	*e*S		**Sn**	**14 57 44.8**	**-9.3**
BLSP	**Bilaspur**	**11.49**	**272**	*e*P		**Pn**	**14 55 49.3**	**+0.5**
BLSP				*e*P			14 55 49.7	
BLSP				*e*S		**Sn**	**14 57 44.1**	**-11**
BLSP				*e*S		**Sn**	**14 57 46.2**	**-8.9**
CD2	**Chengdu**	**11.95**	**42**	*e*P		**Pn**	**14 55 54.0**	**-0.9**
CD2				AP			14 56 01.3	
CD2				S		**Sn**	**14 58 07.5**	**+1.3**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s							
CD2				LR		LR		
	comp=E,90nm,10.2s							
CD2				LR		LR		
	comp=Z,90nm,10.8s							
JBP	**Jabalpur**	**13.46**	**277**	⇑*e*P		**Pn**	**14 56 16.2**	**+1.4**
JBP				*ex*		**Sn**	**14 58 36.4**	**-6.5**
NGP	**Nagpur**	**14.43**	**269**	*ex*		**Sn**	**14 58 54.7**	**-12**
NGP				*ex*		x	14 59 23.0	
QIZ	**Qiongzhong**	**14.69**	**100**	P		**Pn**	**14 56 30.4**	**-0.2**
	comp=Z,11nm,0.7s							
LGTI	**Lohaghat**	**14.72**	**302**	*e*P		**Pn**	**14 56 33.5**	**+2.4**
LGTI				*ex*		**Sn**	**14 59 09.0**	**-4.4**
HYB	**Hyderabad**	**15.78**	**255**	*i* P		**Pn**	**14 56 45.0**	**+0.7**
HYB				*e*S		**S**	**14 59 39.0**	**-7.6**
HYB	**Hyderabad**	**15.78**	**255**	*e*P		**Pn**	**14 56 45.0**	**+0.7**
HYB				*e*S		**S**	**14 59 27.0**	**-20**
BHPL	**Bhopal**	**15.81**	**277**	*e*P		**Pn**	**14 56 45.5**	**+0.6**
BHPL				AMb		AMB	14 56 50.0	
	comp=Z,13nm,0.5s							
BHPL				*ex*		x	14 59 30.9	
NDI	**New Delhi**	**16.89**	**296**	*e*P		**Pn**	**14 56 59.0**	**+0.8**
NDI				*ex*		**S**	**14 59 50.0**	**-19**
LATR	**Latur**	**17.28**	**261**	*ex*		**S**	**15 00 05.6**	**-10**
XAN	**Xi'an**	**17.28**	**44**	P		**Pn**	**14 57 00.8**	**-2.0**
XAN				AMB		AMB		
	comp=Z,40nm,1.0s							
GZH	**Guangzhou**	**17.39**	**84**	P		**Pn**	**14 57 04.3**	**+0.1**
GZH				S		**S**	**15 00 11.3**	**-6.8**
GZH				LR		LR		
	comp=N,170nm,9.6s							
GZH				LR		LR		
	comp=E,60nm,6.2s							
GZH				LR		LR		
	comp=Z,120nm,7.8s							
GTA	**Gaotai**	**17.70**	**14**	*e*P		**Pn**	**14 57 05.6**	**-2.4**
SMLA	**Simla**	**17.85**	**303**	*e*P		**Pn**	**14 57 11.9**	**+2.1**
SMLA				AMb		AMB	14 57 13.2	
	comp=Z,62nm,0.7s							
AJM	**Ajmer**	**18.60**	**287**	*e*P		**P**	**14 57 20.1**	**+2.9**
AJM				AMb		AMB	14 57 21.7	
	comp=Z,20nm,1.0s							
AJM				*ex*		x	15 00 31.6	
WHN	**Wuhan**	**19.57**	**61**	*e*P		**P**	**14 57 27.9**	**+0.1**
WHN				S		**S**	**15 01 05.1**	**+1.9**
POO	**Poona**	**19.73**	**263**	*ex*		x	14 57 55.0	
WMQ	**Urumqi**	**22.26**	**347**	*e*P		**P**	**14 57 56.8**	**+0.2**
WMQ				AMB		AMB		
	comp=Z,30nm,1.0s,mb4.6							
WMQ				LR		LR		
	comp=N,50nm,25.0s							
WMQ				LR		LR		
	comp=E,20nm,25.0s							
WMQ				LR		LR		
	comp=Z,40nm,26.0s							
NJ2	**Nanjing**	**23.70**	**60**	*e*P		**P**	**14 58 04.3**	**-6.2**
NJ2				XP		sP	14 58 45.0	+0.4
NJ2				S		**S**	**15 02 06.0**	**-12**
NJ2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.1							
NJ2				LR		LR		
	comp=Z,180nm,23.3s							
ULHL	**Ulahol**	**25.15**	**327**	P		**P**	**14 58 25.7**	**+2.1**
	SNR=5.3							
KZA	**Kyzart**	**25.54**	**325**	P		**P**	**14 58 29.1**	**+1.9**
	SNR=12							
KSM	**Kuching**	**25.72**	**141**	*e*P		**P**	**14 58 28.2**	**-0.5**
TKM2	**Tokmak 2**	**25.96**	**327**	P		**P**	**14 58 32.5**	**+1.5**
	SNR=29							
TKM2	**Tokmak 2**	**25.96**	**327**	P		**P**	**14 58 32.1**	**+1.1**
TKM2				pmax		pmax		
	comp=Z,25nm,0.9s,mb4.6							
UCH	**Uchtor**	**26.04**	**325**	P		**P**	**14 58 33.6**	**+2.0**
	SNR=13							
KBK	**Karagaybulak**	**26.11**	**326**	P		**P**	**14 58 34.3**	**+2.1**
	SNR=11							
AAK	**Ala-Archa**	**26.33**	**325**	P		**P**	**14 58 36.5**	**+2.2**
	SNR=15							
AAK	**Ala-Archa**	**26.33**	**325**	*d i*P		**P**	**14 58 35.2**	**+0.9**
AAK				pmax		pmax		
	comp=Z,25nm,0.8s,mb4.7							
AAK	**Ala-Archa**	**26.33**	**325**	*e*P		**P**	**14 58 34.8**	**+0.5**
	comp=Z,27nm,0.9s,mb4.7							
AML	**Almayashu**	**26.42**	**324**	P		**P**	**14 58 37.6**	**+2.5**
	SNR=7.5							
MKAR	**Makanchi Array**	**26.43**	**341**	P		**P**	**14 58 35.7**	**+0.6**
	comp=Z,10nm,0.5s,mb4.5,baz=144,slow=9.3,SNR=136							
MKAR				ScP		ScP	15 05 25.9	-2.5
	comp=Z,4.0nm,1.0s,baz=141,slow=4.7,SNR=12							
CHMS	**Chumysh**	**26.45**	**326**	P		**P**	**14 58 36.9**	**+1.5**
	SNR=5.8							
EKS2	**Erkin-Say**	**26.73**	**324**	P		**P**	**14 58 39.9**	**+2.0**
	SNR=12							
USP	**Ospenovka**	**26.77**	**326**	P		**P**	**14 58 39.3**	**+1.1**
	SNR=13							
SONM	**Songino Array**	**27.26**	**18**	P		**P**	**14 58 40.0**	**-2.7**
	comp=Z,1.0nm,0.6s,mb3.5,baz=193,slow=8.8,SNR=9.7							
SONM				pP		pP	14 59 05.2	-0.1
	comp=Z,0.9nm,0.7s,baz=204,slow=9.7,SNR=3.1							
SONM				ScP		ScP	15 05 27.1	-3.7
	comp=Z,2.8nm,0.8s,baz=196,slow=3.1,SNR=19							
SONM	**Songino Array**	**27.26**	**18**	P		**P**	**14 58 40.0**	**-2.6**
SONM				*PP		pP	14 59 05.2	-0.1
ULN	**Ulaanbaatar**	**27.48**	**18**	⇑*e*P		**P**	**14 58 42.9**	**-1.6**
ULN	**Ulaanbaatar**	**27.48**	**18**	*e*P		**P**	**14 58 42.8**	**-1.7**
	comp=Z,1.5nm,0.6s,mb3.7							
KK31	**Karatay Array**	**28.84**	**322**	*i* P		**P**	**14 58 57.2**	**+0.6**
KK31				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.3							
KKAR	**Karatay Array**	**28.84**	**322**	P		**P**	**14 58 57.2**	**+0.6**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb3.9							
JOW	**Kunigami**	**30.98**	**75**	P		**P**	**14 59 14.6**	**-1.0**
	comp=Z,1.7nm,0.3s,mb4.2,baz=285,slow=18,SNR=11							
SNY	**Shenyang**	**31.20**	**44**	⇑P		**P**	**14 59 15.8**	**-1.7**
ZAL	**Zalesovo**	**32.50**	**349**	P		**P**	**14 59 29.3**	**+0.4**
	comp=Z,10nm,0.4s,mb5.0,baz=306,slow=7.7,SNR=47							
NVS	**Novosibirsk**	**33.65**	**348**	*i* P		**P**	**14 59 37.5**	**-1.4**
NVS				*i* S		**S**	**15 04 50.0**	**-4.1**
NVS				pmax		pmax		
	comp=N,36nm,1.0s							
NVS				pmax		pmax		
	comp=Z,50nm,1.0s,mb5.3							
NVS				pmax		pmax		
	comp=E,5.0nm,0.5s							
NVS				smax				
	comp=N,23nm,1.5s							
NVS				smax				
	comp=E,9.0nm,1.2s							
BVA0	**Borovoye Array**	**35.85**	**335**	P		**P**	**14 59 57.4**	**-0.4**
BVA0				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.9							
BVAR	**Borovoye Array**	**35.85**	**335**	P		**P**	**14 59 57.7**	**-0.1**
	comp=Z,10.0nm,0.6s,mb4.9,baz=143,slow=11,SNR=41							
BVAR				ScP		ScP	15 05 56.5	-3.2
	comp=Z,2.5nm,0.7s,baz=129,slow=4.0,SNR=7.9							
BRVK	**Borovoye**	**35.92**	**335**	*e*P		**P**	**14 59 58.3**	**-0.1**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
BRVK	**Borovoye**	**35.92**	**335**	*e*P		**P**	**14 59 58.3**	**-0.1**
	comp=Z,5.3nm,0.6s,mb4.7							
CHKZ	**Chkalovo**	**36.26**	**336**	*e*P		**P**	**15 00 01.5**	**+0.2**
CHKZ				pmax		pmax		
	comp=Z,34nm,0.8s,mb5.3							
CHKZ	**Chkalovo**	**36.26**	**336**	*e*P		**P**	**15 00 01.5**	**+0.1**
	comp=Z,34nm,0.8s,mb5.3							
ZRNK	**Zerenda**	**36.35**	**334**	*e*P		**P**	**15 00 01.9**	**-0.2**
ZRNK				*e**PP		pP	15 00 28.7	+3.3
ZRNK				pmax		pmax		
	comp=Z,17nm,0.6s,mb5.2							
ZRNK	**Zerenda**	**36.35**	**334**	*e*P		**P**	**15 00 01.9**	**-0.1**
	comp=Z,17nm,0.6s,mb5.2							
ZRNK				*e*pP		pP	15 00 28.7	+3.3
AB31	**Akbulak array**	**38.37**	**323**	P		**P**	**15 00 19.8**	**+0.6**
AB31				pmax		pmax		
	comp=Z,10.0nm,0.3s,mb5.1							
AKTK	**Aktyubinsk**	**40.05**	**324**	P		**P**	**15 00 33.6**	**+0.4**
AKTK				ScP		ScP	15 06 12.7	-3.0
AKTO	**Aktyubinsk**	**40.05**	**324**	P		**P**	**15 00 33.6**	**+0.4**
	comp=Z,15nm,0.6s,mb5.0,baz=120,slow=8.0,SNR=75							
AKTO				ScP		ScP	15 06 12.7	-3.0
	comp=Z,1.0nm,0.5s,baz=64,slow=5.6,SNR=3.8							
ORR	**Orenburg**	**42.43**	**324**	⇓*i* P		**P**	**15 00 53.0**	**+0.4**
ORR				pmax		pmax		
	comp=Z,20nm,0.6s,mb5.0							
ARU	**Arti**	**43.16**	**332**	⇓*i* P		**P**	**15 00 58.1**	**-0.4**
ARU				*e*			15 02 41.8	
ARU				*e*PPP			15 03 22.0	
ARU				*e*S		**S**	**15 07 20.0**	**+2.7**
ARU				*e*SS		SS	15 10 41.3	+7.5
ARU				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.7							
ARU	**Arti**	**43.16**	**332**	*e*P		**P**	**15 00 58.2**	**-0.3**
	comp=Z,10nm,0.5s,mb4.8							
KIV	**Kislovodsk**	**47.65**	**310**	*e*P		**P**	**15 01 35.3**	**+1.4**
KIV				pmax		pmax		
	comp=Z,16nm,0.7s,mb5.0							
KIV	**Kislovodsk**	**47.65**	**310**	*e*P		**P**	**15 01 35.3**	**+1.4**
	comp=Z,16nm,0.7s,mb5.0							
MBWA	**Marble Bar**	**49.65**	**149**	*e*P		**P**	**15 01 48.4**	**-0.8**
	comp=Z,6.7nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**50.33**	**140**	*e*P		**P**	**15 01 53.8**	**-0.6**
	comp=Z,19nm,0.9s,mb5.0							
FITZ	**Fitzroy Crossi**	**50.33**	**140**	P		**P**	**15 01 54.1**	**-0.2**
	comp=Z,11nm,0.8s,mb4.8,baz=101,slow=1.5,SNR=4.3							
OBN	**Obninsk**	**53.82**	**323**	*c i*P		**P**	**15 02 19.6**	**-0.6**
OBN				*e*S		**S**	**15 09 42.9**	**-4.2**
OBN				pmax		pmax		
	comp=Z,14nm,1.0s,mb5.0							
BRTR	**Keskin Array B**	**54.05**	**304**	P		**P**	**15 02 22.4**	**+0.5**
	comp=Z,0.4nm,0.3s,mb3.9,baz=106,slow=7.1,SNR=4.6							
BRTR				pP		pP	15 02 49.4	+2.7
	comp=Z,1.9nm,0.8s,baz=115,slow=8.3,SNR=6.6							
PET	**Petropavlovsk**	**57.04**	**40**	*i* P		**P**	**15 02 47.5**	**+4.2**
PET				pmax		pmax		
	comp=Z,24nm,1.5s,mb5.0							
WRA	**Warramunga Arr**	**57.18**	**134**	P		**P**	**15 02 43.8**	**-0.5**
	comp=Z,15nm,0.6s,mb5.2,baz=321,slow=7.5,SNR=34							
WRA				ScP		ScP	15 07 23.3	-4.7
	comp=Z,1.1nm,0.7s,baz=328,slow=4.2,SNR=6.7							
WRAB	**Tennant Creek**	**57.18**	**134**	*e*P		**P**	**15 02 43.8**	**-0.5**
WRAB				pmax		pmax		
	comp=Z,23nm,0.6s,mb5.4							
WRAB	**Tennant Creek**	**57.18**	**134**	*e*P		**P**	**15 02 43.8**	**-0.5**
	comp=Z,23nm,0.6s,mb5.4							
WB2	**Warramunga Arr**	**57.19**	**134**	⇑*i* P		**P**	**15 02 43.7**	**-0.6**
AKASG	**Malin Array Be**	**57.55**	**317**	P		**P**	**15 02 45.5**	**-1.4**
	comp=Z,4.2nm,0.7s,mb4.6,baz=86,slow=6.3,SNR=27							
AKASG	**Malin Array Be**	**57.55**	**317**	*i* P		**P**	**15 02 46.0**	**-0.9**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.7s							
ASPA	**Alice Springs**	**59.57**	**138**	⇑*i* P		**P**	**15 03 00.6**	**-0.3**
AS31	**Alice Springs**	**59.57**	**138**	⇑*i* P		**P**	**15 03 00.6**	**-0.3**
ASAR	**Alice Springs**	**59.57**	**138**	P		**P**	**15 03 00.7**	**-0.2**
	comp=Z,9.5nm,0.6s,mb5.0,baz=321,slow=6.8,SNR=48							
PMG	**Port Moresby**	**60.41**	**116**	P		**P**	**15 03 07.0**	**+0.4**
	comp=Z,20nm,0.7s,mb5.3,baz=288,slow=6.4,SNR=9.9							
FINES	**FINESS Array B**	**60.43**	**329**	P		**P**	**15 03 05.5**	**-1.3**
	comp=Z,2.5nm,0.5s,mb4.5,baz=21,slow=27,SNR=11							
ARCES	**ARCESS Array B**	**62.04**	**338**	P		**P**	**15 03 16.7**	**-0.9**
	comp=Z,3.6nm,0.6s,mb4.6,baz=92,slow=7.8,SNR=34							
ARCES	**ARCESS Array B**

ROM.

ROM 19 15:11:57.0±0.1, 3783N×1485E, h29km±3km, Md2.7/23, Ml2.7/17, 1C, Error ellipse: s-maj=2.2km s-min=1.7km az=71.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNO	**Monte Soro**	**0.16**	**310**	⇑ *i* Pg	Pb	15 12 02.9	+0.3
ESLN	**Serra La Nave**	**0.17**	**144**	Pg	Pb	15 12 03.0	+0.3
ESLN				Sg	Sb	15 12 08.1	+1.6
	572nm,0.3s						
MMME	**Mongiuffi-Meli**	**0.34**	**71**	Pg	Pb	15 12 04.7	-0.1
MMME				Sg	Sb	15 12 11.4	+1.3
	807nm,0.5s						
VPL	**Vulcano Piano**	**0.56**	**11**	Pg	Pb	15 12 07.9	-0.4
VPL				Sg	Sb	15 12 16.3	+0.3
	944nm,0.7s						
HAGA	**Augusta**	**0.59**	**156**	Pg	Pb	15 12 08.6	-0.3
HAGA				Sg	Sb	15 12 17.6	+0.7
	335nm,0.3s						
LLI	**Lipari**	**0.62**	**7**	Pg	Pb	15 12 10.7	+1.4
	1μm,0.8s						
AGST	**Augusta-Monte**	**0.64**	**152**	Pg	Pb	15 12 09.2	-0.5
AGST				Sg	Sb	15 12 18.6	+0.2
	197nm,0.1s						
HVZN	**Vizzini**	**0.66**	**190**	Pg	Pb	15 12 10.1	+0.1
HVZN				Sg	Sb	15 12 20.8	+2.0
	593nm,0.5s						
GIB	**Gibilmanna**	**0.67**	**284**	Pg	Pb	15 12 11.2	+1.0
GIB				Sg	Sb	15 12 19.5	+0.3
	456nm,0.6s						
MSRU	**Castanea**	**0.68**	**50**	Pg	Pb	15 12 10.0	-0.3
	433nm,0.6s						
MTTG	**Motta San Giov**	**0.69**	**75**	Pg	Pb	15 12 10.7	+0.2
	63nm,0.6s						
SSY	**Sortino**	**0.69**	**165**	Pg	Pb	15 12 10.1	-0.5
SSY				Sg	Sb	15 12 20.7	+0.9
	652nm,0.3s						
RAFF	**Raffo Rosso**	**0.72**	**213**	Pg	Pb	15 12 11.8	+0.8
RAFF				Sg	Sb	15 12 23.0	+2.5
	226nm,0.5s						
IFIL	**Filicudi I Eol**	**0.77**	**343**	Pg	Pb	15 12 11.2	-0.6
	1μm,0.5s						
PZI	**Palazzolo**	**0.77**	**174**	Pg	Pb	15 12 11.8	-0.1
	236nm,0.2s						
SCLL	**Scilla**	**0.80**	**58**	Pg	Pn	15 12 12.4	0.0
	19nm,0.5s						
HMDC	**Modica**	**0.87**	**184**	Pg	Pn	15 12 13.4	+0.1
HMDC				Sg	Sb	15 12 25.9	+1.1
	245nm,0.3s						
HAVL	**Avola**	**0.89**	**166**	Pg	Pn	15 12 13.0	-0.6
	218nm,0.2s						
CEL	**Celeste**	**0.93**	**62**	Pg	Pn	15 12 14.5	+0.4
CEL				Sg	Sb	15 12 28.9	+2.5
	65nm,0.5s						
SOI	**Samo**	**0.98**	**75**	Pg	Pn	15 12 15.4	+0.6
	57nm,0.5s						
PLAC	**Placanica**	**1.40**	**63**	Pg	Pn	15 12 22.3	+1.8
	15nm,0.4s						
USI	**Ustica**	**1.58**	**304**	Pg	Pn	15 12 23.2	+0.1
SERS	**Sersale**	**1.88**	**50**	Pg	Pn	15 12 29.9	+2.7
	14nm,0.5s						
TIP	**Timpagrande**	**2.01**	**47**	*e*Pn	Pn	15 12 31.6	+2.6

PRE 19 15:13:10.6±2.0, 2119S×3324E, h5km, ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.33**	**193**	*e*P	Pn	15 14 45.8	+1.2
POGA				*e*S	Sn	15 15 53.7	-3.6
POGA				AML	AML	15 16 38.8	
	comp=Z,61nm,0.6s						
LBTB	**Lobatse**	**8.00**	**240**	*e*P	Pn	15 15 09.3	+1.9
LBTB				*e*S	Sn	15 16 35.2	-3.0
LBTB				AML	AML	15 17 29.3	
	comp=Z,35nm,0.6s						
BOSA	**Boshof**	**10.35**	**223**	*e*P	Pn	15 15 39.9	+0.2
BOSA				*e*S	Sn	15 17 30.1	-5.9
BOSA				AML	AML	15 18 38.3	
	comp=Z,18nm,0.7s						
SUR	**Sutherland**	**15.71**	**222**	*e*P	Pn	15 16 54.8	+2.2
SUR				*e*S	Sn	15 19 40.3	-6.8

IDC 19 15:24:41.1±69.0, 1764S×17682E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/11, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.1/21, Error ellipse: s-maj=1221.0km s-min=145.3km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.71**	**244**	LR	LR	15 29 50.1	
	comp=Z,116nm,18.5s,baz=218,slow=29						
STKA	**Stephens Creek**	**34.81**	**239**	P	P	15 31 33.7	+0.1
	1.3nm,0.6s,baz=84,slow=9.8,SNR=5.6						
WRA	**Warramunga Arr**	**40.21**	**260**	P	P	15 32 18.6	-0.6
	0.3nm,0.6s,baz=95,slow=7.8,SNR=7.8						
ASAR	**Alice Springs**	**40.49**	**254**	P	P	15 32 22.7	+1.1
	1.4nm,0.5s,baz=90,slow=7.8,SNR=43						

WEL 19 15:32:48.8±0.8, 3686S×17880W, h33km, ML3.7/6, Error ellipse: s-maj=7.1km s-min=6.9km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.42**	**252**	*e*PN	Pn	15 33 25.2	-0.7
MXZ				*e*SN	Sn	15 33 51.5	-2.9
URZ	**Urewera**	**3.54**	**245**	*e*PN	Pn	15 33 41.3	0.0
URZ				SN	Sn	15 34 20.5	-1.6
URZ				SN	Sn	15 34 20.6	-1.4
BFZ	**Birch Farm**	**5.44**	**224**	*e*PN	Pn	15 34 07.9	+0.4
BFZ				*e*SN	Sn	15 35 05.5	-3.4
MRZ	**Mangatainoka R**	**5.81**	**227**	*e*PN	Pn	15 34 11.4	-1.1
MRZ				*e*SN	Sn	15 35 14.5	-3.5
QRZ	**Quartz Range**	**7.84**	**237**	*e*PN	Pn	15 34 40.0	-0.4

WEL 19 16:21:53.7±0.3, 4029S×17674E, h23km±1km, ML3.6/20, 1C, Error ellipse: s-maj=3.6km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.27**	**20**	P*	Pb	16 22 00.3	+0.2
PXZ				S*	Sb	16 22 04.5	0.0
BFZ	**Birch Farm**	**0.55**	**224**	P*	Pb	16 22 05.4	+0.8
BFZ				*e*S*	Sb	16 22 13.1	+1.1
TSZ	**Takapari Road**	**0.64**	**291**	P*	Pb	16 22 05.7	-0.4
TSZ				S*	Sb	16 22 14.8	+0.2
TIWZ	**Tintock**	**0.81**	**233**	P*	Pb	16 22 09.3	+0.2
MRZ	**Mangatainoka R**	**0.96**	**247**	PN	Pn	16 22 11.0	-0.7
BKZ	**Black Stump Fm**	**1.14**	**350**	⇑PN	Pn	16 22 13.7	-0.4
MOVZ	**Moawhango**	**1.16**	**319**	PN	Pn	16 22 14.5	0.0
MOVZ				SN	Sn	16 22 30.0	+0.4
MTW	**Mount Morrison**	**1.28**	**227**	PN	Pn	16 22 14.8	-1.3
TUVZ	**Tukino**	**1.32**	**320**	PN	Pn	16 22 17.8	+1.1
MTVZ	**Mangateitei**	**1.33**	**312**	PN	Pn	16 22 17.9	+1.1
FWVZ	**Far West T-bar**	**1.38**	**318**	PN	Pn	16 22 18.7	+1.2
WAZ	**Wanganui**	**1.45**	**291**	*e*PN	Pn	16 22 18.9	+0.5
KNZ	**Kokohu**	**1.46**	**30**	*e*PN	Pn	16 22 17.3	-1.2
KIW	**Kapiti Island**	**1.51**	**247**	PN	Pn	16 22 18.7	-0.6
CAW	**Cannon Point**	**1.51**	**237**	PN	Pn	16 22 18.2	-1.1
MSWZ	**Moikau Station**	**1.60**	**225**	PN	Pn	16 22 18.8	-1.6

ISC 19 16:55:34.5±0.7, 3893N±005×3002E±006, h14km±7km, n6, σ0972/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALT	**Altintas**	**0.14**	**29**	*i* PG	**Pg**	**16 55 37.9**	**-0.2**
ALT				*i* SG	**Sg**	**16 55 40.2**	**-0.5**
GDZ	**Gediz**	**0.45**	**291**	*i* P	**Pg**	**16 55 43.6**	**+0.2**
GDZ				*i* S	**Sg**	**16 55 50.5**	**+1.0**
KHL	**Karahalli**	**0.72**	**213**	PG	**Pg**	**16 55 47.6**	**-0.8**
TKTP	**Tekketepe**	**0.92**	**165**	*i* P	**Pb**	**16 55 51.8**	**-0.4**
TKTP				*i* S	**Sg**	**16 56 05.1**	**+0.9**
MANT	**Manisa**	**1.23**	**250**	*i* P	**Pn**	**16 55 58.0**	**+0.8**
MANT				*i* S	**Sb**	**16 56 11.9**	**-1.2**
KIZT	**Kizilcal**	**1.45**	**91**	PN	**Pn**	**16 56 00.6**	**+0.3**

DMN ***19*** *16:57:27.5±0.7, 2484N×9042E, h10km, Ml4.7/7, Error ellipse: s-maj=52.9km s-min=12.7km az=33.0*
ISCJB ***19*** *16:57:29.5±0.3, 2540N±004×9064E±003, h10km, mb4.2/31, MS3.2/3, Error ellipse: s-maj=5.4km s-min=3.3km az=171.6*
IDC ***19*** *16:57:30.2±0.7, 2555N×9070E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/23, mbtmp4.1/16, MS3.1/1, Ms1 3.1/1, ms1mx2.7/21, Error ellipse: s-maj=27.7km s-min=15.2km az=56.0*
BJI ***19*** *16:57:32.6, 2542N×9082E, h40km, mB4.6, mb4.6, ML3.9, Ms4.0, Msz3.5*
MOS ***19*** *16:57:33.0±0.9, 2549N×9068E, h33km, mb4.4/13, Error ellipse: s-maj=12.1km s-min=7.4km az=105.7*
NEIC ***19*** *16:57:36.0±0.8, 2553N×9068E, h41km±6km, mb4.2/7, Error ellipse: s-maj=7.7km s-min=6.3km az=88.0*

ISC 19 16:57:31.5±0.3, 2539N±004×9069E±002, h10km, n100, σ1952/127, mb4.2/31, MS3.2/3, 4C-3D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.10**	**80**	*e*P	**Pb**	**16 57 55.1**	**+2.6**
SHL				*e*S	**Sb**	**16 58 06.7**	**-0.1**
SHL				AML	AML	16 58 11.4	
	comp=E,58μm,0.2s						
SHL				AML	AML	16 58 11.7	
	comp=N,65μm,0.2s						
SLGI	**Shiliguri**	**2.43**	**303**	*e*x	**Pn**	**16 58 13.0**	**+1.8**
SHBG	**Sahibganj**	**2.74**	**267**	*e*P	**Pn**	**16 58 06.0**	**-9.5**
SHBG				*e*S	**Sn**	**16 58 39.0**	**-10**
IMP	**Imphal**	**3.00**	**101**	*e*PN	**Pn**	**16 58 21.0**	**+1.9**
IMP				*e*SN	**Sn**	**16 58 56.0**	**+0.9**
CAL	**Calcutta**	**3.56**	**218**	*e*x	x	16 59 33.4	
CAL	**Calcutta**	**3.56**	**218**	*e*x	x	16 59 33.4	
LSA	**Lhasa**	**4.32**	**5**	P	**Pn**	**16 58 38.4**	**+1.2**
LSA				S	**Sn**	**16 59 29.4**	**+1.8**
LSA				Smax			
	comp=N,220nm,0.6s						
LSA				Smax			
	comp=E,460nm,0.8s						
LSA	**Lhasa**	**4.32**	**5**	*e*Pn	**Pn**	**16 58 38.1**	**+0.9**
LSA				*e*Pg	**Pg**	**16 58 49.7**	**-4.5**
LSA				*e*Sg	**Sg**	**16 59 42.1**	**-8.1**
JIRN	**Jiri**	**4.62**	**300**	*e*Pn	**Pn**	**16 58 43.3**	**+1.9**
JIRN				*e*Sn	**Sn**	**16 59 40.1**	**+5.0**
	comp=E,408nm,0.4s						
BOK	**Bokaro**	**4.65**	**251**	*e*P	**Pn**	**16 58 44.0**	**+2.3**
BOK				*e*S	**Sn**	**16 59 35.0**	**-0.8**
BOK				AML	AML	17 00 07.9	
	comp=N,201nm,0.7s						
BOK				AML	AML	17 00 09.3	
	comp=E,133nm,0.5s						
GUN	**Gumba**	**4.98**	**301**	*e*Pn	**Pn**	**16 58 48.1**	**+1.8**
GUN				*e*Sn	**Sn**	**16 59 48.4**	**+4.4**
	comp=E,1μm,0.9s						
PKI	**Pulchoki**	**5.21**	**296**	*e*Pn	**Pn**	**16 58 50.7**	**+1.3**
PKI				*e*Sn	**Sn**	**16 59 52.7**	**+3.2**
	comp=E,563nm,0.9s						
KKN	**Kakani**	**5.40**	**298**	*e*Pn	**Pn**	**16 58 53.8**	**+1.7**
KKN				*e*Sn	**Sn**	**16 59 58.5**	**+4.2**
	comp=E,278nm,0.7s						
DMN	**Daman**	**5.47**	**295**	*e*Pn	**Pn**	**16 58 54.8**	**+1.8**
DMN				*e*Sn	**Sn**	**16 59 58.9**	**+2.9**
	comp=E,451nm,0.7s						
GKN	**Gorkha**	**6.01**	**297**	*e*Pn	**Pn**	**16 59 01.8**	**+1.4**
GKN				*e*Sn	**Sn**	**17 00 11.6**	**+2.4**
	comp=E,177nm,0.3s						
KOLN	**Koldanda**	**6.78**	**292**	*e*Pn	**Pn**	**16 59 11.3**	**+0.4**
KOLN				*e*Sn	**Sn**	**17 00 28.3**	**+0.2**
	comp=E,122nm,0.6s						
BLSP	**Bilaspur**	**8.48**	**249**	*e*P	**Pn**	**16 59 36.3**	**+2.0**
BLSP				*e*S	**Sn**	**17 01 04.2**	**-5.9**
BLSP				AML	AML	17 02 02.6	
	comp=E,59nm,0.7s						
BLSP				AML	AML	17 02 05.2	
	comp=N,89nm,0.6s						
JBP	**Jabalpur**	**10.01**	**259**	⇓ *i*x	**Sn**	**17 01 47.9**	**+0.1**
JBP				*e*x	x	17 02 40.3	
LGTI	**Lohaghat**	**10.12**	**296**	*i* P	**Pn**	**16 59 57.8**	**+1.0**
LGTI				*e*x	x	17 01 55.0	
VIS	**Vishakhapatnam**	**10.25**	**223**	*e*P	**Pn**	**17 00 00.1**	**+1.6**
VIS				*e*S	**Sn**	**17 01 48.3**	**-5.2**
JOSI	**Joshimath**	**11.10**	**300**	*e*x	**Pn**	**17 00 02.0**	**-8.2**
JOSI				*e*S	**Sn**	**17 02 03.0**	**-11**
NGP	**Nagpur**	**11.50**	**251**	*e*P	**Pn**	**17 00 15.7**	**0.0**
NGP				*e*S	**Sn**	**17 02 16.1**	**-8.0**
NGP				AML	AML	17 03 36.3	
	comp=N,43nm,0.5s						
NGP				AML	AML	17 03 42.9	
	comp=E,31nm,0.9s						
AGRA	**Agra**	**11.58**	**282**	*e*P	**Pn**	**17 00 15.3**	**-1.5**
AGRA				*e*x	x	17 02 17.1	
BHPL	**Bhopal**	**12.28**	**263**	*e*P	**Pn**	**17 00 24.9**	**-1.4**
BHPL				*e*S	**Sn**	**17 02 32.3**	**-11**
NDI	**New Delhi**	**12.45**	**288**	*e*x	**Pn**	**17 00 21.0**	**-7.7**
NDI				*e*x	x	17 02 40.0	
SONA	**Sohna**	**12.48**	**286**	*e*P	**Pn**	**17 00 27.1**	**-2.0**
SONA				*e*S	**Sn**	**17 02 36.2**	**-12**
AYAN	**Aya Nagar**	**12.48**	**287**	*e*P	**Pn**	**17 00 26.8**	**-2.4**
KLP	**Kalpa**	**12.54**	**302**	*e*P	**Pn**	**17 00 27.5**	**-2.4**
KLP				*e*x	x	17 02 45.9	
CD2	**Chengdu**	**12.78**	**62**	*e*P	**Pn**	**17 00 31.1**	**-2.0**
CD2				AP		17 00 38.3	
CD2				PP		17 00 41.5	
CD2				XP		17 00 43.1	
CD2				S	**Sn**	**17 02 49.1**	**-6.3**
CD2				SS		17 03 03.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CD2				LR	LR		
	comp=N,140nm,9.6s						
CD2				LR	LR		
	comp=Z,80nm,13.2s						
KUDL	**Kundal**	**12.98**	**285**	*e*P	**Pn**	**17 00 33.5**	**-2.4**
KUDL				*e*S	**Sn**	**17 02 45.0**	**-15**
SMLA	**Simla**	**13.21**	**299**	*e*P	**Pn**	**17 00 36.7**	**-2.4**
SMLA				*e*S	**Sn**	**17 02 51.3**	**-15**
KHET	**Khetri**	**13.57**	**285**	*e*P	**Pn**	**17 00 41.7**	**-2.3**
KHET				*e*x	x	17 03 00.8	
PBA	**Port Blair**	**13.79**	**172**	*e*x	x	16 57 49.5	
PBA				*e*x	x	16 57 59.6	
HYB	**Hyderabad**	**13.80**	**237**	*i* P	**Pn**	**17 00 48.0**	**+0.9**
HYB				*e*S	**Sn**	**17 03 22.0**	**+1.6**
HYB	**Hyderabad**	**13.80**	**237**	*e*P	**Pn**	**17 00 48.0**	**+0.9**
HYB				*e*S	**Sn**	**17 03 13.0**	**-7.4**
AJM	**Ajmer**	**14.48**	**278**	*e*P	**Pn**	**17 00 55.4**	**-1.0**
LATR	**Latur**	**14.83**	**245**	*e*x	**Sn**	**17 03 38.0**	**-7.4**
LZH	**Lanzhou**	**15.53**	**44**	*e*P	**Pn**	**17 01 05.5**	**-5.0**
LZH				AP	pP	17 01 13.3	-4.4
LZH				PP		17 01 17.8	
LZH				*e*S	**Sn**	**17 03 51.6**	**-11**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH				AMB	AMB		
	comp=Z,110nm,4.5s						
LZH				LR	LR		
	comp=E,390nm,7.4s						
LZH				LR	LR		
	comp=Z,490nm,11.3s						
GTA	**Gaotai**	**15.95**	**27**	*e*P	**Pn**	**17 01 11.6**	**-4.4**
POO	**Poona**	**17.04**	**250**	*e*P	**Pn**	**17 01 33.0**	**+3.3**
WMQ	**Urumqi**	**18.55**	**353**	*e*P	**Pn**	**17 01 50.4**	**+1.9**
WMQ				AMB	AMB		
	comp=Z,120nm,4.5s						
ULHL	**Ulahol**	**20.61**	**328**	P	**P**	**17 02 12.4**	**+1.6**
	SNR=19						
KZA	**Kyzart**	**20.97**	**326**	P	**P**	**17 02 16.0**	**+1.4**
	SNR=6.5						
TKM2	**Tokmak 2**	**21.43**	**328**	P	**P**	**17 02 20.5**	**+0.8**
	SNR=8.0						
UCH	**Uchtor**	**21.45**	**326**	P	**P**	**17 02 21.2**	**+1.3**
	SNR=11						
WHN	**Wuhan**	**21.51**	**71**	*e*P	**P**	**17 02 20.1**	**-0.4**
WHN				*e*S	**S**	**17 06 01.0**	**-18**
KBK	**Karagaybulak**	**21.55**	**327**	P	**P**	**17 02 22.2**	**+1.3**
	SNR=8.5						
AAK	**Ala-Archa**	**21.76**	**326**	⇓ *e*P	**P**	**17 02 23.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**21.76**	**326**	*e*P	**P**	**17 02 22.0**	**-1.1**
	comp=Z,3.8nm,0.8s,mb3.9						
BTO	**Baotou**	**22.14**	**42**	*e*P	**P**	**17 02 23.3**	**-3.9**
EKS2	**Erkin-Say**	**22.14**	**325**	P	**P**	**17 02 29.4**	**+2.1**
	SNR=8.1						
MKAR	**Makanchi Array**	**22.39**	**345**	P	**P**	**17 02 28.2**	**-1.7**
	comp=Z,18nm,0.7s,mb4.6,baz=155,slow=12,SNR=67						
HHC	**Hu-ho-hao-te**	**23.23**	**43**	*e*P	**P**	**17 02 38.5**	**-0.3**
HHC				AP		17 02 49.9	
HHC				XP	sP	17 02 55.5	+13
HHC				PP		17 03 10.1	
HHC				XS	sS	17 07 00.9	+5.3
HHC				SS		17 07 28.0	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
HHC				AMB	AMB		
	comp=Z,70nm,4.5s						
HHC				LR	LR		
	comp=N,90nm,10.4s,MS3.6						
HHC				LR	LR		
	comp=E,80nm,10.4s,MS3.6						
HHC				LR	LR		
	comp=Z,80nm,11.5s,MS3.4						
NJ2	**Nanjing**	**25.54**	**68**	*e*P	**P**	**17 02 59.4**	**-0.8**
NJ2				AP	pP	17 03 08.3	+5.0
NJ2				XP	sP	17 03 12.6	+8.1
NJ2				PP		17 03 39.0	
NJ2				PPP		17 03 50.0	
NJ2				S	**S**	**17 07 17.0**	**-11**
NJ2				XS	sS	17 07 34.0	+1.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,50nm,4.3s						
NJ2				LR	LR		
	comp=N,210nm,19.4s						
NJ2				LR	LR		
	comp=E,250nm,26.6s						
NJ2				LR	LR		
	comp=Z,60nm,11.1s						
SONM	**Songino Array**	**25.61**	**25**	P	**P**	**17 03 00.4**	**-0.6**
	comp=Z,7.4nm,0.6s,mb4.4,baz=208,slow=9.9,SNR=71						
SONM				LR	LR	17 14 17.8	
	comp=Z,41nm,19.6s,MS3.0,baz=106,slow=40						
ULN	**Ulaanbaatar**	**25.89**	**26**	*c i*P	**P**	**17 03 03.1**	**-0.4**
ULN	**Ulaanbaatar**	**25.89**	**26**	*e*P	**P**	**17 03 02.3**	**-1.2**
ZAK	**Zakamensk**	**26.79**	**18**	*e*P	**P**	**17 03 11.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb3.8						
SSE	**Sheshan**	**27.41**	**71**	P	**P**	**17 03 14.8**	**-2.4**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,20nm,3.4s						
TLY	**Talaya**	**28.06**	**17**	*e*P	**P**	**17 03 24.4**	**+1.4**
TLY				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb3.8						
TLY				MLR	MLR		
	comp=Z,44nm,12.0s,MS3.3						
ZAL	**Zalesovo**	**28.85**	**353**	P	**P**	**17 03 29.3**	**-0.7**
	comp=Z,0.8nm,0.3s,mb3.9,baz=308,slow=7.1,SNR=4.7						
BVAR	**Borovoye Array**	**31.54**	**336**	P	**P**	**17 03 52.9**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.7,baz=134,slow=10,SNR=4.9						
BRVK	**Borovoye**	**31.61**	**336**	P	**P**	**17 03 53.3**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
BRVK	**Borovoye**	**31.61**	**336**	P	**P**	**17 03 53.3**	**-1.1**
	comp=Z,0.6nm,0.6s,mb3.6						
SNY	**Shenyang**	**31.68**	**51**	⇑P	**P**	**17 03 53.5**	**-1.6**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
CHKZ	**Chkalovo**	**31.99**	**337**	*e*P	**P**	**17 03 57.3**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**31.99**	**337**	*e*P	**P**	**17 03 57.3**	**-0.5**
	comp=Z,8.9nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**32.00**	**335**	*e*P	**P**	**17 03 57.0**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**32.00**	**335**	*e*P	**P**	**17 03 57.0**	**-0.8**
	comp=Z,1.3nm,0.6s,mb3.9						
AKTK	**Aktyubinsk**	**35.44**	**323**	P	**P**	**17 04 27.6**	**-0.2**
AKTO	**Aktyubinsk**	**35.44**	**323**	P	**P**	**17 04 27.6**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=128,slow=8.3,SNR=8.8						
AKTO	**Aktyubinsk**	**35.44**	**323**	P	**P**	**17 04 27.6**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MDJ	**Mudanjiang**	**36.76**	**49**	P	**P**	**17 04 37.8**	**-1.3**
MDJ				AP	pP	17 04 50.8	+8.6
MDJ				XP	sP	17 04 57.3	+14
MDJ				PP	PP	17 06 03.5	+0.8
MDJ				PCP	PcP	17 06 59.0	-2.3
MDJ				S	**S**	**17 10 15.8**	**-7.1**
MDJ				SCP	ScP	17 10 43.0	-5.1
MDJ				PCS	PcS	17 10 48.6	-0.7
MDJ				SCS	ScS	17 14 47.5	-7.5
MDJ				AMB	AMB		
	comp=Z,30nm,4.1s						
ARU	**Arti**	**38.73**	**332**	⇑ *i*P	**P**	**17 04 54.4**	**-1.4**
ARU				*e*		17 06 22.0	
ARU				*e*S	**S**	**17 10 48.4**	**-4.4**
ARU				*e*SS	SS	17 13 36.6	-6.7
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
YAK	**Yakutsk**	**44.97**	**25**	*i* P	**P**	**17 05 44.4**	**-2.4**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
YSS	**Yuzh-Sakhalins**	**46.25**	**48**	*e*P	**P**	**17 05 56.0**	**-0.9**
BRTR	**Keskin Array B**	**49.40**	**302**	P	**P**	**17 06 21.6**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.7,baz=99,slow=7.8,SNR=4.1						
BRTR	**Keskin Array B**	**49.40**	**302**	⇓ *e*P	**P**	**17 06 24.8**	**+3.5**
AKASG	**Malin Array Be**	**52.85**	**316**	P	**P**	**17 06 46.0**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=86,slow=6.4,SNR=5.0						
AKASG	**Malin Array Be**	**52.85**	**316**	*i* P	**P**	**17 06 47.7**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**53.84**	**331**	*e*p	**P**	**17 06 53.4**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**55.93**	**328**	P	**P**	**17 07 08.5**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.2,baz=126,slow=9.7,SNR=8.5						
FINES	**FINESS Array B**	**55.93**	**328**	*i* P	**P**	**17 07 08.8**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**57.82**	**338**	P	**P**	**17 07 22.0**	**-1.0**
	comp=Z,1.8nm,0.9s,mb4.1,baz=64,slow=8.2,SNR=3.8						
BILL	**Bilibino**	**61.33**	**25**	⇓ *i*P	**P**	**17 07 46.8**	**-0.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.6						
BILL	**Bilibino**	**61.33**	**

s-maj=72.2km s-min=28.3km az=158.0

ISC 19 17:09:59.2±2.1, 185S±01×1690E±03, h216km±6km, n15, σ0§57/15, mb3.9/6, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.08**	**318**	⇑*i*P	**Pn**	**17 10 31.0**	**-0.2**
BKM				S	**S**	**17 10 56.0**	**0.0**
DZM	**Mont Dzumac**	**4.30**	**213**	*e*P	**Pn**	**17 11 05.1**	**-0.1**
DZM				*e*S	**S**	**17 11 57.8**	**+0.5**
DZM	**Mont Dzumac**	**4.30**	**213**	P	**Pn**	**17 11 05.3**	**+0.1**
	3.3nm,0.3s,baz=39,slow=19,SNR=58						
DZM				S	**S**	**17 11 57.9**	**+0.6**
	4.9nm,0.3s,baz=109,slow=22,SNR=4.0						
NOUC	**Port Laguerre**	**4.40**	**215**	*e*P	**Pn**	**17 11 06.1**	**-0.3**
STKA	**Stephens Creek**	**28.07**	**236**	P	**P**	**17 15 29.4**	**-1.1**
	1.6nm,0.7s,mb3.8,baz=104,slow=8.3,SNR=2.9						
STKA	**Stephens Creek**	**28.07**	**236**	*e*P	**P**	**17 15 29.7**	**-0.8**
WRAB	**Tennant Creek**	**32.72**	**262**	*e*P	**P**	**17 16 10.8**	**-0.6**
WRA	**Warramunga Arr**	**32.73**	**262**	P	**P**	**17 16 11.0**	**-0.5**
	0.9nm,0.4s,mb3.7,baz=88,slow=8.4,SNR=33						
ASAR	**Alice Springs**	**33.10**	**255**	P	**P**	**17 16 14.7**	**0.0**
	7.1nm,0.4s,mb4.5,baz=81,slow=8.7,SNR=374						
FITZ	**Fitzroy Crossi**	**41.10**	**263**	P	**P**	**17 17 23.2**	**+1.3**
	6.2nm,1.1s,mb3.9,baz=224,slow=15,SNR=10.0						
ULN	**Ulaanbaatar**	**86.12**	**323**	P	**P**	**17 22 15.9**	**+0.1**
	1.5nm,1.0s,mb3.7						
SONM	**Songino Array**	**86.48**	**323**	P	**P**	**17 22 18.0**	**+0.5**
	0.8nm,0.6s,mb3.6,baz=153,slow=6.9,SNR=7.7						
YKA	**Yellowknife Ar**	**100.10**	**27**	P	Pdif	17 23 20.4	+0.3
	0.4nm,0.5s,baz=255,slow=4.8,SNR=6.0						
ARCES	**ARCESS Array B**	**124.28**	**345**	PKP	PKPdf	17 28 30.7	-1.4
	0.8nm,0.5s,baz=58,slow=2.1,SNR=12						
GERES	**GERESS Array B**	**143.72**	**332**	PKP	PKPdf	17 29 06.7	-1.6
	0.2nm,0.5s,baz=5.7,slow=1.3,SNR=4.8						

*ISCJB **19** 17:19:14.4±2.2, 397S±004×13989E±009, h8km±14km, mb4.3/13, MS3.7/6, Error ellipse: s-maj=14.5km s-min=7.3km az=174.5*
*IDC **19** 17:19:15.2±0.9, 380S×13997E, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.2/12, mbtmp4.3/10, ML3.2/1, MS3.7/8, Ms1 3.7/8, ms1mx3.5/18, Error ellipse: s-maj=27.1km s-min=18.2km az=71.0*
*MOS **19** 17:19:17.2±2.4, 381S×13998E, h33km, mb4.5/3, Error ellipse: s-maj=19.2km s-min=10.7km az=106.2*
*BJI **19** 17:19:19.2, 390S×13970E, h21km, mb4.5*
*NEIC **19** 17:19:19.2±5.3, 394S×13970E, h22km±37km, mb4.7/11, Error ellipse: s-maj=21.4km s-min=10.9km az=56.0*

ISC 19 17:19:19.6±2.6, 402S±004×13992E±008, h28km±19km, n49, σ1§16/56, mb4.3/13, MS3.7/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.96**	**127**	P	**Pn**	**17 21 25.4**	**-1.7**
	1.2nm,0.3s,baz=324,slow=17,SNR=4.0						
PMG				Sn	**Sn**	**17 23 00.8**	**-6.3**
	0.5nm,0.3s,baz=254,slow=10,SNR=2.0						
PMG	**Port Moresby**	**8.96**	**127**	*e*Pn	**Pn**	**17 21 26.8**	**-0.4**
PMG				Sn	**Sn**	**17 23 00.8**	**-6.3**
KAKA	**Kakadu**	**11.36**	**220**	*e*P	**Pn**	**17 22 00.2**	**+0.1**
	122nm,0.9s						
KAKA				*e*S	**Sn**	**17 24 05.7**	**-0.4**
WRAB	**Tennant Creek**	**16.72**	**198**	*e*P	**Pn**	**17 23 11.0**	**-0.8**
WRAB				S	**Sn**	**17 26 14.1**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,49nm,0.8s						
WRAB	**Tennant Creek**	**16.72**	**198**	*e*P	**Pn**	**17 23 11.0**	**-0.8**
	comp=Z,49nm,0.8s						
WRAB				S	**Sn**	**17 26 14.1**	**-2.5**
WB2	**Warramunga Arr**	**16.73**	**198**	*e*P	**Pn**	**17 23 11.5**	**-0.4**
WRA	**Warramunga Arr**	**16.73**	**199**	Pn	**Pn**	**17 23 10.8**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=18,slow=13,SNR=45						
WRA				Sn	**Sn**	**17 26 18.4**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=15,slow=21,SNR=4.8						
WRA				Lg		17 28 18.6	
	comp=Z,0.8nm,0.3s,baz=14,slow=28,SNR=5.8						
WRA	**Warramunga Arr**	**16.73**	**199**	P	**Pn**	**17 23 10.8**	**-1.1**
WRA						17 26 18.4	
CTA	**Charters Tower**	**17.12**	**159**	*e*P	**Pn**	**17 23 21.5**	**+4.7**
	comp=Z,9.1nm,0.8s						
CTA	**Charters Tower**	**17.12**	**159**	P	**Pn**	**17 23 19.4**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=321,slow=12,SNR=6.0						
CTA				Lg		17 28 25.7	
	comp=Z,0.3nm,0.3s,baz=75,slow=22,SNR=5.5						
CTA				LR	LR	17 29 25.3	
	comp=Z,216nm,19.5s,baz=348,slow=35						
CTA	**Charters Tower**	**17.12**	**159**	*e*P	**Pn**	**17 23 21.5**	**+4.7**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**17.12**	**159**	*e*P	**Pn**	**17 23 18.8**	**+2.0**
GUMO	**Guam**	**18.18**	**16**	LR	LR	17 29 08.7	
	comp=Z,176nm,21.9s,baz=192,slow=33						
FITZ	**Fitzroy Crossi**	**19.77**	**224**	*e*P	**Pn**	**17 23 48.4**	**-0.7**
	comp=Z,22nm,0.9s						
FITZ				*e*S	**Sn**	**17 27 23.1**	**-7.4**
FITZ	**Fitzroy Crossi**	**19.77**	**224**	P	**Pn**	**17 23 48.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=44,slow=11,SNR=27						
FITZ				S	**Sn**	**17 27 23.3**	**-7.2**
	comp=Z,1.7nm,0.3s,baz=214,slow=17,SNR=5.2						
FITZ				Lg		17 29 51.5	
	baz=198,slow=22,SNR=3.2						
AS31	**Alice Springs**	**20.37**	**196**	*e*P	**P**	**17 23 54.9**	**+0.9**
AS31				*e*S	**S**	**17 27 38.9**	**-1.9**
ASAR	**Alice Springs**	**20.37**	**196**	P	**P**	**17 23 55.7**	**+1.7**
	comp=Z,33nm,0.7s,baz=30,slow=7.3,SNR=123						
ASAR				S	**S**	**17 27 46.0**	**+5.2**
	comp=Z,4.5nm,0.9s,baz=15,slow=27,SNR=4.8						
ASAR				Lg		17 30 14.6	
	comp=Z,7.3nm,0.9s,baz=15,slow=31,SNR=4.9						
ASAR				LR	LR	17 32 25.0	
	comp=Z,170nm,18.9s,MS3.4,baz=22,slow=38						
ASAR	**Alice Springs**	**20.37**	**196**	P	**P**	**17 23 55.7**	**+1.7**
ASAR				S	**S**	**17 27 46.0**	**+5.2**
ASPA	**Alice Springs**	**20.37**	**196**	*e*P	**P**	**17 23 54.9**	**+0.9**
ASPA				*e*S	**S**	**17 27 38.9**	**-2.0**
HNR	**Honiara**	**20.60**	**106**	P	**P**	**17 23 54.8**	**-1.6**
	comp=Z,41nm,0.7s,baz=254,slow=2.9,SNR=4.7						
HNR				LR	LR	17 31 26.6	
	comp=Z,183nm,21.8s,MS3.4,baz=358,slow=36						
HNR	**Honiara**	**20.60**	**106**	*e*P	**P**	**17 23 53.9**	**-2.6**
HNR				LR	LR	17 31 26.6	
KKM	**Kota Kinabalu**	**25.69**	**293**	*e*P	**P**	**17 24 47.1**	**-0.2**
MBWA	**Marble Bar**	**25.98**	**227**	*e*P	**P**	**17 24 51.2**	**+1.3**
	comp=Z,11nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**27.75**	**177**	P	**P**	**17 25 06.8**	**+0.9**
	comp=Z,1.0nm,0.7s,mb3.5,baz=344,slow=10,SNR=3.0						
STKA				LR	LR	17 37 10.2	
	comp=Z,318nm,18.7s,MS3.9,baz=20,slow=38						
STKA	**Stephens Creek**	**27.75**	**177**	*e*P	**P**	**17 25 06.2**	**+0.4**
STKA				LR	LR	17 37 10.2	
MJAR	**Matsushiro Arr**	**40.38**	**358**	LR	LR	17 40 39.0	
	comp=Z,75nm,20.4s,MS3.5,baz=100,slow=32						
CD2	**Chengdu**	**48.96**	**318**	*e*P	**P**	**17 28 03.8**	**+0.4**
GTA	**Gaotai**	**56.83**	**323**	*e*P	**P**	**17 29 03.3**	**+1.7**
GTA				AP	pP	17 29 07.9	-2.2
GTA				XP	sP	17 29 10.8	-2.6
ULN	**Ulaanbaatar**	**59.16**	**335**	P	**P**	**17 29 17.8**	**0.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**59.16**	**335**	P	**P**	**17 29 17.8**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.1						
SONM	**Songino Array**	**59.41**	**334**	P	**P**	**17 29 20.5**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.7,baz=165,slow=4.6,SNR=3.9						
SONM				LR	LR	17 52 50.3	
	comp=Z,38nm,18.6s,MS3.5,baz=252,slow=34						
JIRN	**Jiri**	**60.57**	**305**	*e*P	**P**	**17 29 27.0**	**-0.6**
	comp=Z,5.2nm,0.5s,mb4.9						
GUN	**Gumba**	**60.92**	**305**	*e*P	**P**	**17 29 29.7**	**-0.2**
KKN	**Kakani**	**61.37**	**305**	*e*P	**P**	**17 29 32.3**	**-0.7**
	comp=Z,6.8nm,0.6s,mb4.9						
KKN	**Kakani**	**61.37**	**305**	*e*P	**P**	**17 29 32.3**	**-0.7**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
DMN	**Daman**	**61.44**	**304**	*e*P	**P**	**17 29 33.0**	**-0.5**
GKN	**Gorkha**	**61.98**	**305**	*e*P	**P**	**17 29 36.3**	**-0.8**
	comp=Z,16nm,0.8s,mb5.2						
ZAK	**Zakamensk**	**62.68**	**335**	*e*P	**P**	**17 29 35.6**	**-6.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,2.0s,mb4.2						
KOLN	**Koldanda**	**62.74**	**304**	*e*P	**P**	**17 29 41.5**	**-0.7**
	comp=Z,9.1nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**71.56**	**322**	P	**P**	**17 30 36.2**	**-1.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=97,slow=8.3,SNR=16						
MKAR	**Makanchi Array**	**71.56**	**322**	P	**P**	**17 30 36.2**	**-1.9**
VNDA	**Vanda**	**74.38**	**175**	P	**P**	**17 30 56.9**	**+2.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=320,slow=6.9,SNR=4.3						
VNDA				LR	LR	18 02 49.0	
	comp=Z,112nm,18.0s,MS4.2,baz=353,slow=35						
VNDA	**Vanda**	**74.38**	**175**	*e*P	**P**	**17 30 56.6**	**+1.8**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**74.38**	**175**	*e*P	**P**	**17 30 56.5**	**+1.7**
	comp=Z,0.6nm,0.8s,mb3.6						
VNDA				LR	LR	18 02 49.0	
MAW	**Mawson**	**81.37**	**202**	P	**P**	**17 31 35.2**	**+1.5**
	comp=Z,0.9nm,0.3s,mb4.2,baz=211,slow=2.8,SNR=4.1						
QSPA	**South Pole Qui**	**85.93**	**180**	*e*P	**P**	**17 31 57.9**	**+0.9**
	comp=Z,7.1nm,1.2s,mb4.8						
DBIC	**Dimbokro**	**144.83**	**276**	PKP	PKPdf	17 38 53.5	-0.4
	comp=Z,2.7nm,0.4s,baz=57,slow=3.4,SNR=9.2						
LPAZ	**La Paz**	**145.70**	**127**	PKPbc	PKPbc	17 38 59.0	+3.2
	comp=Z,3.9nm,0.8s,baz=323,slow=2.1,SNR=18						
LPAZ	**La Paz**	**145.70**	**127**	PKPbc	PKPbc	17 38 59.0	+3.2

MOS 19 17:22:22.1±0.6, 4370N×4459E, h16km, mb4.0/1, 3C-11D, Error ellipse: s-maj=12.7km s-min=7.8km az=74.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.10**	**79**	⇓*i*PG	Pg	17 22 27.0	+1.5
TRKR				*i* S	Sg	17 22 29.7	+1.9
PRTR	**Priterechnaya**	**0.23**	**282**	⇓*i*PG	Pg	17 22 30.1	+2.8
PRTR				*i* S	Sg	17 22 36.1	+5.2
BTKR	**Batakoyurt**	**0.33**	**186**	⇓*i*PG	Pg	17 22 30.7	+1.6
BTKR				*i* S	Sg	17 22 37.1	+3.3
KMSR	**Komsomolskaya**	**0.40**	**213**	⇓*i*PG	Pg	17 22 31.6	+1.4
KMSR				*i* S	Sg	17 22 38.7	+3.0
ARNR	**Ardon**	**0.56**	**204**	⇓*i*PG	Pg	17 22 34.0	+0.8
ARNR				*i* S	Sg	17 22 42.9	+2.1
SNJR	**Sundja**	**0.66**	**166**	⇓*i*PG	Pg	17 22 35.5	+0.6
SNJR				*i* S	Sg	17 22 45.5	+1.9
VLKR	**Vladikavkaz**	**0.66**	**175**	⇓*i*PG	Pg	17 22 35.5	+0.5
VLKR				*i* S	Sg	17 22 45.5	+1.7
KORR	**Kora**	**0.73**	**212**	⇓*i*PG	Pg	17 22 36.7	+0.4
KORR				*i* S	Sg	17 22 47.5	+1.6
LACR	**Lac**	**0.91**	**194**	⇓*i*PG	Pg	17 22 39.5	-0.2
LACR				*i* S	Sb	17 22 52.4	+1.2
ZEI	**Tsey**	**1.06**	**209**	⇑*i*PG	Pg	17 22 41.8	-0.9
ZEI				*i* S	Sb	17 22 56.4	+0.6
DIGR	**Digorskoe uzhe**	**1.09**	**223**	⇑*i*PG	Pg	17 22 42.7	-0.5
DIGR				*i* S	Sb	17 22 58.0	+1.4
BEYR	**Belyy Ugol+**	**1.32**	**284**	⇑*e*PG	Pg	17 22 46.4	-1.2
SHAR	**Shatzhatmas**	**1.40**	**272**	⇓*i*PG	Pg	17 22 45.8	-3.2
KIV	**Kislovodsk**	**1.40**	**281**	⇓*i*PG	Pg	17 22 46.5	-2.6

*IDC **19** 17:55:26.3±2.4, 3271N×13922E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/18, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=155.3km s-min=32.1km az=85.0*
*ISCJB **19** 17:55:27.3±1.2, 3325N±006×1408E±01, h60km±13km, mb3.5/2, Error ellipse: s-maj=17.6km s-min=8.8km az=23.4*
*JMA **19** 17:55:28.5±0.1, 3332N×14072E, h46km, M2.8*

ISC 19 17:55:28.4±1.6, 3326N±007×1408E±01, h48km±20km, n14, σ0§97/19, mb3.5/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.81**	**260**	P	**Pn**	**17 55 43.4**	**-0.1**
JHJ2				S	**Sn**	**17 55 54.0**	**-0.5**
BSO1	**Boso 1**	**1.40**	**7**	P	**Pn**	**17 55 51.0**	**-0.5**
BSO3	**Boso 3**	**1.55**	**352**	*e*S	**Sn**	**17 56 10.9**	**-1.6**
JKO	**Kozu shima**	**1.64**	**305**	P	**Pn**	**17 55 54.9**	**+0.1**
NJJJ	**Nii jima 2**	**1.68**	**313**	P	**Pn**	**17 55 55.4**	**+0.1**
BSO4	**Boso 4**	**1.76**	**348**	P	**Pn**	**17 55 56.8**	**+0.4**
BSO4				*e*S	**Sn**	**17 56 17.6**	**-0.1**
JIM2	**Oshima 3**	**1.83**	**323**	P	**Pn**	**17 55 56.9**	**-0.4**
JIZS	**Izushimoda**	**2.14**	**313**	P	**Pn**	**17 56 02.0**	**+0.4**
KTJJ	**Kamata 2**	**2.18**	**320**	P	**Pn**	**17 56 02.0**	**-0.2**
KTJJ				*e*S	**Sn**	**17 56 25.3**	**-2.7**
JOD2	**Odawara 2**	**2.44**	**326**	P	**Pn**	**17 56 06.0**	**+0.4**
MJAR	**Matsushiro Arr**	**3.89**	**328**	Pn	**Pn**	**17 56 27.4**	**+1.7**
	0.8nm,0.3s,baz=163,slow=14,SNR=7.7						
MJAR				Sn	**Sn**	**17 57 10.6**	**+0.5**
	0.3nm,0.3s,baz=123,slow=13,SNR=3.5						
MAT	**Matsushiro**	**3.89**	**328**	P	**Pn**	**17 56 28.7**	**+3.1**
MAT				*e*S	**Sn**	**17 57 14.0**	**+3.9**
WRA	**Warramunga Arr**	**53.26**	**188**	P	**P**	**18 04 41.5**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=2.5,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**56.98**	**188**	P	**P**	**18 05 08.8**	**-0.1**
	0.2nm,0.6s,mb3.3,baz=5.0,slow=7.2,SNR=6.4						

IDC 19 18:14:48.2±7.2, 1702S×17455W, h280km±200km, mb3.5/4, mb1 3.6/5, mb1mx3.3/15, mbtmp4.2/5, Error ellipse: s-maj=204.4km s-min=33.0km az=69.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.09**	**41**	P	Pn	18 15 56.5	+2.2
	20nm,0.3s,baz=123,slow=0.9,SNR=26						
AFI				S	S	18 16 47.0	-0.2
	21nm,0.3s,baz=64,slow=22,SNR=12						
URZ	**Urewera**	**22.39**	**197**	P	P	18 19 23.4	+0.1
	9.8nm,0.8s,baz=358,slow=14,SNR=9.2						
STKA	**Stephens Creek**	**42.28**	**241**	P	P	18 22 13.6	-1.1
	0.4nm,0.3s,baz=91,slow=5.5,SNR=7.7						
WRA	**Warramunga Arr**	**48.41**	**258**	P	P	18 23 02.9	+0.4
	0.9nm,0.5s,baz=95,slow=7.1,SNR=38						
ASAR	**Alice Springs**	**48.57**	**253**	P	P	18 23 04.7	+1.0
	3.8nm,0.6s,baz=93,slow=7.9,SNR=93						
ASPA	**Alice Springs**	**48.58**	**253**	*e*P	P	18 23 04.6	+0.9

*ISCJB **19** 18:16:48.8±0.3, 3808N±002×74.13E±006, h180km±5km, mb3.3/6, Error ellipse: s-maj=7.5km s-min=3.7km az=158.1*
*MOS **19** 18:16:48.4±1.3, 3807N×7406E, h171km, mb3.8/1, Error ellipse: s-maj=17.6km s-min=7.1km az=101.4*
*NEIC **19** 18:16:50.5±0.5, 3806N×7432E, mb3.7/3, Error ellipse: s-maj=12.5km s-min=5.9km az=62.0*
*BJI **19** 18:16:51.2, 3824N×7423E, h183km, mb4.3*
*IDC **19** 18:16:51.2±1.2, 3809N×7423E, h182km±10km, mb3.1/6, mb1 3.3/9, mb1mx3.1/23, mbtmp3.7/9, Error ellipse: s-maj=20.7km s-min=17.7km az=39.0*
*NNC **19** 18:16:55.8±3.3, 3858N×7384E, h167km±27km, mb2.9, mpv3.5, Error ellipse: s-maj=37.3km s-min=15.9km az=12.0*

ISC 19 18:16:49.7±0.3, 3808N±002×7416E±006, h175km±5km, h182km±2.3km: pP-P, n65, σ1§08/82, mb3.3/6, 10C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.02**	**44**	P	**Pn**	**18 17 28.1**	**+1.5**
KSH				S	**Sn**	**18 17 56.3**	**+1.2**
KSH				Smax			
	comp=N,2μm,0.4s						
KSH				Smax			
	comp=E,1μm,0.2s						
AML	**Almayashu**	**4.06**	**355**	P	**Pn**	**18 17 51.6**	**+0.2**
	SNR=7.3						
KZA	**Kyzart**	**4.08**	**11**	P	**Pn**	**18 17 51.9**	**+0.3**
	SNR=83						
UCH	**Uchtor**	**4.15**	**4**	P	**Pn**	**18 17 53.0**	**+0.4**
	SNR=34						
ULHL	**Ulahol**	**4.45**	**20**	P	**Pn**	**18 17 56.8**	**+0.4**
	SNR=61						
CHCP	**Chirah Chowk**	**4.47**	**190**	P	**Pn**	**18 17 58.8**	**+2.1**
AAK	**Ala-Archa**	**4.55**	**3**	P	**Pn**	**18 17 58.3**	**+0.5**
	SNR=6.5						
AAK	**Ala-Archa**	**4.55**	**3**	*e*P	**Pn**	**18 17 57.3**	**-0.4**
EKS2	**Erkin-Say**	**4.58**	**356**	P	**Pn**	**18 17 58.4**	**+0.3**
	SNR=19						
KBK	**Karagaybulak**	**4.61**	**7**	P	**Pn**	**18 17 59.0**	**+0.6**
	SNR=45						
CEP	**Cherat**	**4.62**	**204**	P	**Pn**	**18 17 59.3**	**+0.7**
CHMS	**Chumysh**	**4.93**	**5**	P	**Pn**	**18 18 03.1**	**+0.5**
	SNR=19						
TKM2	**Tokmak 2**	**4.96**	**12**	P	**Pn**	**18 18 03.5**	**+0.6**
	SNR=14						
TKM2	**Tokmak 2**	**4.96**	**12**	⇓P	**Pn**	**18 18 03.4**	**+0.5**
	comp=E,1.7nm,0.5s						
TKM2				⇑S	**Sn**	**18 18 58.5**	**-1.8**
	comp=E,3.8nm,0.7s						
TKM2	**Tokmak 2**	**4.96**	**12**	PN	**Pn**	**18 18 03.3**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,11nm,0.5s						
USP	**Ospenovka**	**5.19**	**3**	P	**Pn**	**18 18 05.8**	**-0.1**
	SNR=7.1						
THW	**Thamme Wali**	**5.63**	**201**	P	**Pn**	**18 18 12.0**	**+0.2**
DLH	**Dalhousie**	**5.72**	**165**	*ex*	x	18 18 16.0	
DLH				*e*S	**Sn**	**18 19 16.0**	**-2.3**
KK31	**Karatay Array**	**5.73**	**332**	⇑P	**Pn**	**18 18 11.9**	**-1.2**
	comp=Z,4.6nm,0.2s,baz=151,slow=14,SNR=252						
KK31				⇓S	**Sn**	**18 19 12.0**	**-6.6**
	comp=Z,25nm,0.3s,baz=167,slow=16,SNR=27						
KKAR	**Karatay Array**	**5.73**	**332**	PN	**Pn**	**18 18 11.8**	**-1.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SARP	**Sargodha**	**6.27**	**192**	P	**Pn**	**18 18 19.5**	**-0.6**
SBDP	**Sheikh Budin**	**6.39**	**206**	P	**Pn**	**18 18 21.1**	**-0.6**
SDNR	**Sundarnagar**	**6.96**	**160**	*e*P	**Pn**	**18 18 29.0**	**-0.2**
SDNR				*ex*	x	18 19 48.2	
DRP	**Derazinda**	**7.11**	**208**	P	**Pn**	**18 18 31.5**	**+0.3**
KLP	**Kalpa**	**7.35**	**152**	*e*P	**Pn**	**18 18 35.9**	**+1.6**
KLP				*e*S	**Sn**	**18 19 52.8**	**-4.2**
KLP				AML	AML	18 20 08.4	
	comp=N,89nm,0.6s						
KLP				AML	AML	18 20 08.6	
	comp=E,103nm,0.7s						
KUDL	**Kundal**	**10.10**	**168**	*e*P	**Pn**	**18 19 10.5**	**0.0**
KUDL				*e*S	**Sn**	**18 20 55.8**	**-7.0**
KUDL				AML	AML	18 20 56.2	
	comp=E,13nm,0.5s						
KUDL				AML	AML	18 21 00.2	
	comp=N,12nm,0.2s						
SONA	**Sohna**	**10.11**	**165**	*e*P	**Pn**	**18 19 10.6**	**0.0**
SONA				*e*S	**Sn**	**18 20 56.9**	**-6.0**
SONA				AML	AML	18 20 59.4	
	comp=N,91nm,0.7s						
SONA				AML	AML	18 21 00.1	
	comp=E,77nm,0.5s						
MK02	**Makanchi Array**	**10.56**	**32**	⇑P	**Pn**	**18 19 16.3**	**-0.2**
	comp=E,6.7nm,0.8s						
MKAR	**Makanchi Array**	**10.57**	**32**	P	**Pn**	**18 19 16.5**	**-0.2**
	comp=E,0.4nm,0.3s,baz=216,slow=13,SNR=68						
KOLN	**Koldanda**	**12.97**	**140**	*e*Pn	**Pn**	**18 19 46.9**	**-0.7**
KOLN				*e*Sn	**Sn**	**18 22 02.6**	**-9.1**
	comp=E,26nm,0.8s						
KURK	**Kurchatov**	**13.02**	**13**	⇑P	**Pn**	**18 19 49.6**	**+1.4**
	comp=E,3.0nm,1.2s						
GKN	**Gorkha**	**13.34**	**136**	*e*Pn	**Pn**	**18 19 51.1**	**-1.1**
GKN				*e*Sn	**Sn**	**18 22 10.9**	**-10**
	comp=E,24nm,0.4s						
KKN	**Kakani**	**13.86**	**135**	*e*Pn	**Pn**	**18 19 58.5**	**-0.3**
KKN				*e*Sn	**Sn**	**18 22 23.2**	**-10**
	comp=E,40nm,1.0s						
DMN	**Daman**	**13.90**	**135**	*e*Pn	**Pn**	**18 19 58.1**	**-1.2**
DMN				*e*Sn	**Sn**	**18 22 23.8**	**-10**
	comp=E,29nm,0.8s						
PKI	**Pulchoki**	**14.10**	**135**	*e*Pn	**Pn**	**18 20 01.1**	**-0.7**
PKI				*e*Sn	**Sn**	**18 22 28.7**	**-10**
	comp=E,9.0nm,0.4s						
GUN	**Gumba**	**14.11**	**133**	*e*Pn	**Pn**	**18 20 01.6**	**-0.3**
GUN				*e*Sn	**Sn**	**18 22 29.7**	**-9.2**
	comp=E,10nm,0.4s						
JIRN	**Jiri**	**14.48**	**132**	*e*Pn	**Pn**	**18 20 06.2**	**-0.3**
JIRN				*e*Sn	**Sn**	**18 22 37.6**	**-10**
	comp=E,28nm,0.8s						
VOSK	**Vostochnaya**	**14.81**	**352**	⇑P	**Pn**	**18 20 08.1**	**-2.4**
	comp=E,6.6nm,2.1s						
AB31	**Akbulak array**	**15.16**	**322**	⇑P	**Pn**	**18 20 14.5**	**-0.3**
	comp=E,1.1nm,0.5s,baz=126,slow=12,SNR=31						
AB31				⇓S	**S**	**18 22 48.0**	**-15**
	comp=E,3.5nm,0.8s,baz=132,slow=24,SNR=5.8						
AB31	**Akbulak array**	**15.16**	**322**	P	**Pn**	**18 20 14.6**	**-0.2**
BVA0	**Borovoye Array**	**15.17**	**351**	⇓P	**Pn**	**18 20 17.1**	**+2.1**
	comp=E,0.4nm,0.5s,baz=162,slow=13,SNR=31						
BVA0	**Borovoye Array**	**15.17**	**351**	*i* P	**Pn**	**18 20 16.9**	**+1.9**
BVAR	**Borovoye Array**	**15.17**	**351**	P	**Pn**	**18 20 13.4**	**-1.6**
	comp=E,0.9nm,0.3s,baz=158,slow=12,SNR=27						
BRVK	**Borovoye**	**15.22**	**351**	*e*P	**Pn**	**18 20 17.5**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**15.22**	**351**	*e*P	**Pn**	**18 20 17.5**	**+2.0**
	comp=Z,2.8nm,0.6s						
ZRNK	**Zerenda**	**15.30**	**348**	⇑P	**Pn**	**18 20 15.9**	**-0.7**
	comp=Z

12nm,0.3s,baz=220,slow=3.2,SNR=12
AFI Sn Sn 18 46 49.4 -9.1
29nm,0.3s,baz=215,slow=23,SNR=25
AFI LR LR 18 47 22.2
comp=Z,190nm,18.3s,baz=256,slow=35
STKA Stephens Creek 43.15 241 P P 18 53 23.3 0.0
2.3nm,1.0s,baz=84,slow=10,SNR=3.6
WRA Warramunga Arr 49.36 258 P P 18 54 12.5 +0.3
0.4nm,0.9s,baz=95,slow=7.1,SNR=8.0
ASAR Alice Springs 49.50 253 P P 18 54 13.8 +0.6
1.4nm,0.7s,baz=88,slow=9.0,SNR=32
PDAR Pinedale Array 83.52 42 LR LR 19 33 17.9
comp=Z,48nm,18.1s,baz=75,slow=34

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*IDC **19** 18:57:41.5±1.0, 1251N×126.14E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/19, mbtmp3.8/9, ML4.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/22, Error ellipse: s-maj=58.5km s-min=15.9km az=69.0*
*ISCJB **19** 18:57:45.5±0.5, 1244N±003×12571E±006, h33km, mb3.9/13, MS3.3/2, Error ellipse: s-maj=7.8km s-min=4.7km az=165.9*
*MAN **19** 18:57:45.4, 1244N×12552E, h7km, mb3.7, ML4.8, MS1.7*
*NEIC **19** 18:57:52.0±2.1, 1226N×12552E, h80km±18km, mb4.5/4, Error ellipse: s-maj=28.0km s-min=7.7km az=61.0*

ISC 19 18:57:47.6±0.5, 1239N±003×12566E±006, h35km, n37, σ19°03/43, mb3.9/13, MS3.3/2, 3C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.82**	**195**	*eP*	**Pn**	**18 58 01.4**	**-1.2**
BESP				*eS*	**Sn**	**18 58 13.2**	**-0.2**
PLP	**Palo**	**1.39**	**209**	*eP*	**Pn**	**18 58 09.0**	**-1.4**
PLP				*eS*	**Sn**	**18 58 26.7**	**-0.9**
OCLP	**Ormoc**	**1.68**	**218**	*eP*	**Pn**	**18 58 14.3**	**-0.1**
OCLP				*eS*	**Sn**	**18 58 36.7**	**+1.9**
PVCP	**Virac**	**1.89**	**309↑**	*eP*	**Pn**	**18 58 16.2**	**-1.1**
PVCP	**Virac**	**1.89**	**309**	*eP*	**Pn**	**18 58 16.2**	**-1.2**
PVCP				*eS*	**Sn**	**18 58 46.8**	**+6.9**
MMPH	**Masbate**	**1.98**	**269↑**	*iP*	**Pn**	**18 58 17.9**	**-0.8**
MMPH				*i S*	**Sn**	**18 58 42.3**	**+0.1**
MSLP	**Maasin**	**2.38**	**199**	*eP*	**Pn**	**18 58 26.3**	**+2.2**
MSLP				*eS*	**Sn**	**18 58 58.3**	**+6.3**
RCP	**Roxas**	**2.97**	**254↑**	*eP*	**Pn**	**18 58 32.0**	**-0.2**
BUTP	**Butuan**	**3.40**	**181**	*eP*	**Pn**	**18 58 41.2**	**+3.1**
BUTP				*eS*	**Sn**	**18 59 21.1**	**+3.8**
GUIM	**Jordan**	**3.48**	**240**	*eP*	**Pn**	**18 58 38.8**	**-0.4**
BOAC	**Boac**	**3.86**	**286**	*eP*	**Pn**	**18 58 42.2**	**-2.3**
POLP	**Polilio Island**	**4.29**	**303**	*eP*	**Pn**	**18 58 57.1**	**+6.7**
CUYO	**Cuyo Island**	**4.80**	**252**	*eP*	**Pn**	**18 58 57.7**	**+0.4**
TGY	**Tagaytay City**	**4.90**	**291**	Pn	**Pn**	**18 59 02.5**	**+3.8**
	13nm,0.3s,baz=245,slow=18,SNR=3.1						
BALP	**Baler**	**5.17**	**311**	*eP*	**Pn**	**18 59 03.0**	**+0.5**
BUSP	**Coron**	**5.35**	**266**	*eP*	**Pn**	**18 59 05.4**	**+0.5**
LUBP	**Lubang**	**5.44**	**285**	*eP*	**Pn**	**18 59 11.1**	**+5.0**
MATI	**Mati**	**5.45**	**174**	*eP*	**Pn**	**18 59 09.3**	**+3.1**
MATI				*eS*	**Sn**	**19 00 07.2**	**-0.5**
ENH	**Enshi**	**23.26**	**322**	*eP*	**P**	**19 02 53.1**	**+1.2**
	1.6nm,1.2s,mb3.3						
FITZ	**Fitzroy Crossi**	**30.30**	**180**	P	**P**	**19 03 55.0**	**-0.5**
	2.4nm,0.9s,mb3.9,baz=5.7,slow=10,SNR=4.1						
PMG	**Port Moresby**	**30.42**	**134**	LR	LR	19 15 39.8	
	comp=Z,70nm,18.1s,MS3.4,baz=37,slow=36						
WRA	**Warramunga Arr**	**33.25**	**165**	P	**P**	**19 04 19.8**	**-1.6**
	0.4nm,0.9s,mb3.3,baz=345,slow=8.9,SNR=2.1						
ASAR	**Alice Springs**	**36.73**	**167**	P	**P**	**19 04 51.1**	**-0.3**
	0.3nm,0.3s,mb3.6,baz=346,slow=6.8,SNR=16						
SONM	**Songino Array**	**38.83**	**339**	P	**P**	**19 05 09.1**	**0.0**
	0.4nm,0.6s,mb3.3,baz=141,slow=4.8,SNR=4.4						
JIRN	**Jiri**	**39.87**	**298**	*eP*	**P**	**19 05 18.0**	**+0.2**
	6.3nm,0.7s,mb4.5						
GUN	**Gumba**	**40.20**	**299**	*eP*	**P**	**19 05 21.1**	**+0.6**
PKI	**Pulchoki**	**40.52**	**298**	*eP*	**P**	**19 05 23.1**	**-0.1**
	3.5nm,0.6s,mb4.2						
KKN	**Kakani**	**40.68**	**298**	*eP*	**P**	**19 05 24.6**	**+0.1**
DMN	**Daman**	**40.79**	**298**	*eP*	**P**	**19 05 25.4**	**0.0**
KOLN	**Koldanda**	**42.13**	**298**	*eP*	**P**	**19 05 36.5**	**+0.1**
	6.6nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**46.59**	**161**	P	**P**	**19 06 12.5**	**+0.4**
	1.2nm,0.9s,mb3.8,baz=349,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**49.99**	**322**	P	**P**	**19 06 39.4**	**+1.1**
	1.3nm,0.7s,mb4.0,baz=115,slow=8.1,SNR=13						
ZRNK	**Zerenda**	**60.34**	**324**	*eP*	**P**	**19 07 53.5**	**+0.6**
	3.1nm,1.0s,mb4.3						
WSAR	**Wadi Sarin**	**64.25**	**290**	LR	LR	19 40 48.8	
	comp=Z,16nm,18.6s,MS3.2,baz=4.2,slow=40						
ARCES	**ARCESS Array B**	**82.00**	**340**	P	**P**	**19 10 02.8**	**-1.1**
	0.6nm,0.8s,mb3.6,baz=87,slow=4.6,SNR=2.9						
FINES	**FINESS Array B**	**83.75**	**332**	P	**P**	**19 10 13.0**	**0.0**
	0.4nm,0.4s,mb3.9,baz=97,slow=5.7,SNR=6.2						
FINES	**FINESS Array B**	**83.75**	**332**	P	**P**	**19 10 13.0**	**0.0**

IDC 19 19:03:43.1±35.0, 481S×10582E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/16, mbtmp3.6/3, Error ellipse: s-maj=599.9km s-min=164.1km az=132.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.57**	**121**	P	P	19 10 07.7	+0.4
	0.2nm,0.3s,baz=294,slow=12,SNR=10						
ASAR	**Alice Springs**	**32.93**	**127**	P	P	19 10 20.1	+0.9
	0.3nm,0.4s,baz=302,slow=8.1,SNR=7.6						
STKA	**Stephens Creek**	**42.98**	**133**	P	P	19 11 43.8	-0.2
	0.7nm,0.4s,baz=318,slow=7.7,SNR=9.9						

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*ISCJB **19** 19:08:33.7±4.4, 184S±07×1744W±08, h150km, mb4.4/5, Error ellipse: s-maj=140.7km s-min=9.7km az=81.6*
*NEIC **19** 19:08:38.3±3.2, 1849S×17455W, h170km±20km, mb4.3/3, Error ellipse: s-maj=83.6km s-min=12.4km az=146.0*
*IDC **19** 19:08:38.2±4.9, 1849S×17458W, h164km±33km, mb4.1/5, mb1 4.2/6, mb1mx3.8/17, mbtmp4.6/6, Error ellipse: s-maj=118.5km s-min=20.8km az=144.0*

ISC 19 19:08:35.5±4.5, 184S±07×1744W±08, h150km, n17, σ0°45/15, mb4.4/5, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.12**	**30**	P	**Pn**	**19 09 55.8**	**+5.4**
	11nm,0.3s,baz=236,slow=1.4,SNR=15						
AFI				S	**Sn**	**19 10 48.9**	**0.0**
	31nm,0.3s,baz=38,slow=22,SNR=14						
CTA	**Charters Tower**	**37.14**	**261**	P	**P**	**19 15 32.0**	**+0.4**
	3.1nm,0.5s,mb4.2,baz=44,slow=7.0,SNR=6.5						
CTAO	**Charters Tower**	**37.14**	**261**	P	**P**	**19 15 32.3**	**+0.7**
	5.1nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**41.77**	**243**	*eP*	**P**	**19 16 09.7**	**-0.3**
	3.5nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**41.77**	**243**	P	**P**	**19 16 09.8**	**-0.2**
	3.8nm,0.8s,mb4.1,baz=32,slow=7.6,SNR=10						
WB2	**Warramunga Arr**	**48.29**	**259**	*eP*	**P**	**19 17 00.7**	**-0.7**
WRAB	**Tennant Creek**	**48.30**	**259**	*eP*	**P**	**19 17 00.6**	**-0.8**
WRA	**Warramunga Arr**	**48.30**	**259**	P	**P**	**19 17 01.3**	**-0.2**
	4.2nm,0.4s,mb4.4,baz=98,slow=6.6,SNR=119						
AS31	**Alice Springs**	**48.34**	**254↑**	*iP*	**P**	**19 17 02.2**	**+0.4**
ASAR	**Alice Springs**	**48.34**	**254**	P	**P**	**19 17 02.2**	**+0.4**
	19nm,0.7s,mb4.9,baz=92,slow=7.4,SNR=177						
ASPA	**Alice Springs**	**48.35**	**254↑**	*iP*	**P**	**19 17 02.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**56.72**	**260**	*eP*	**P**	**19 18 03.6**	**+0.2**
	3.7nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**56.72**	**260**	P	**P**	**19 18 03.6**	**+0.2**
	1.8nm,0.4s,mb4.2,baz=174,slow=18,SNR=16						
MBWA	**Marble Bar**	**61.66**	**255**	*eP*	**P**	**19 18 37.4**	**0.0**
ARCES	**ARCESS Array B**	**127.42**	**351**	PKP	PKPdf	19 27 22.4	0.0
	0.6nm,0.5s,baz=29,slow=2.8,SNR=5.9						
BRTR	**Keskin Array B**	**147.79**	**317**	PKPbc	PKPbc	19 28 03.3	+0.7
	0.7nm,0.6s,baz=90,slow=3.7,SNR=3.8						
GERES	**GERESS Array B**	**148.93**	**350**	PKPbc	PKPbc	19 28 06.7	+1.2
	0.7nm,0.7s,baz=29,slow=3.0,SNR=4.3						

IDC 19 19:23:37.0±24.0, 362N×12732E, h330km±286km, mb3.2/5, mb1 3.3/5, mb1mx3.1/16, mbtmp3.9/5, Error ellipse: s-maj=112.1km s-min=34.7km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**4.79**	**332**	*eP*	Pn	19 24 19.1	-34
WRA	**Warramunga Arr**	**24.41**	**164**	P	P	19 28 26.7	+0.3
	6.2nm,0.7s,baz=344,slow=10,SNR=37						
WB2	**Warramunga Arr**	**24.41**	**164**	*eP*	P	19 28 26.6	+0.2
ASAR	**Alice Springs**	**27.87**	**167**	P	P	19 28 57.4	+0.2
	0.2nm,0.3s,baz=338,slow=8.0,SNR=12						
STKA	**Stephens Creek**	**37.82**	**160**	P	P	19 30 22.6	0.0
	2.2nm,0.6s,baz=327,slow=8.9,SNR=9.6						
SONM	**Songino Array**	**47.59**	**341**	P	P	19 31 40.4	0.0
	0.6nm,0.7s,baz=164,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**57.98**	**325**	P	P	19 32 55.9	+0.1
	0.5nm,0.4s,baz=116,slow=7.4,SNR=10						

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*CSEM **19** 19:31:18.1±1.0, 3798N×2635W, h4km±4km, ML2.4, Error ellipse: s-maj=5.2km s-min=1.5km az=31.0, After PDA*
*PDA **19** 19:31:18.1±1.0, 3798N×2635W, h4km±4km, MD2.7, ML2.4, Error ellipse: s-maj=5.2km s-min=1.5km az=31.0*

SVSA 19 19:31:18.1±1.0, 3798N×2635W, h4km±4km, MD2.7, ML2.4, Error ellipse: s-maj=5.2km s-min=1.5km az=31.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.45**	**104**	*i P*	Pg	19 31 26.1	-0.6
SET4				*eS*	Sg	19 31 32.2	-0.3
SET2	**Ginetes**	**0.45**	**108**	*i P*	Pg	19 31 26.3	-0.4
SET2				*eS*	Sg	19 31 31.7	-0.9
SET2	**Ginetes**	**0.45**	**108**	*eS*	Sg	19 31 31.7	-0.9
PFET	**Feteiras**	**0.47**	**110**	*eP*	Pg	19 31 26.6	-0.6
PFET				*eS*	Sg	19 31 33.0	-0.3
PSAN	**Santo Antonio**	**0.51**	**105**	*eP*	Pg	19 31 27.0	-0.9
PSAN				*eS*	Sg	19 31 33.9	-0.6
FAC	**Faja de Cima**	**0.59**	**111**	*eP*	Pg	19 31 28.4	-1.0
FAC				*eS*	Sg	19 31 35.5	-1.6
PDA	**Ponta Delgada**	**0.59**	**113**	*eS*	Sg	19 31 35.3	-1.8
CML	**Cha da Macela**	**0.67**	**108**	*eP*	Pg	19 31 29.2	-1.7
CML				*eS*	Sg	19 31 37.6	-2.0
PVER	**Pico Vermelho**	**0.68**	**105**	*eP*	Pg	19 31 29.5	-1.7
PVER				*eS*	Sg	19 31 38.5	-1.6
PVER							
	92nm,0.3s						
PVER	**Pico Vermelho**	**0.68**	**105**	*eP*	Pg	19 31 29.5	-1.7
PVER				*eS*	Sg	19 31 38.5	-1.6
PMAT	**Coroa da Mata**	**0.71**	**103**	*eP*	Pg	19 31 29.9	-1.9
PMAT				*eS*	Sg	19 31 38.7	-2.3
PMAT							
	89nm,0.2s						
PMAT	**Coroa da Mata**	**0.71**	**103**	*eP*	Pg	19 31 29.9	-1.9
PMAT				*eS*	Sg	19 31 38.7	-2.3
LFA	**Lagoa do Fogo**	**0.71**	**107**	*i P*	Pg	19 31 30.1	-1.7
PRCH	**Ribeira Ch**	**0.73**	**110**	*eP*	Pg	19 31 30.4	-1.7
PRCH				*eS*	Sg	19 31 39.7	-1.9
PRCH							
	174nm,0.3s						
PRCH	**Ribeira Ch**	**0.73**	**110**	*eP*	Pg	19 31 30.4	-1.7
PRCH				*eS*	Sg	19 31 39.7	-1.9
MESC	**Monte Escuro**	**0.74**	**105**	*eP*	Pg	19 31 30.4	-1.9
MESC				*eS*	Sg	19 31 39.5	-2.3
VIF	**Vila Franca**	**0.76**	**108**	*eP*	Pg	19 31 31.1	-1.5
VIF				*eS*	Sg	19 31 40.0	-2.4
VIF							
	38nm,0.3s						
VIF	**Vila Franca**	**0.76**	**108**	*eP*	Pg	19 31 31.1	-1.5
VIF				*eS*	Sg	19 31 40.0	-2.4
PCNG	**Congro**	**0.78**	**106**	*eP*	Pg	19 31 31.0	-2.1
PCNG				*eS*	Sg	19 31 41.2	-2.1
PCNG							
	55nm,0.3s						
PCNG	**Congro**	**0.78**	**106**	*eP*	Pg	19 31 31.0	-2.1
PCNG				*eS*	Sg	19 31 41.2	-2.1
FRA1	**Furnas**	**0.82**	**107**	*eP*	Pg	19 31 31.6	-2.2
FRA1				*eS*	Sg	19 31 41.9	-2.5
PFAD	**Fenais da Ajud**	**0.82**	**100**	*i P*	Pg	19 31 31.3	-2.6
MIRA	**Miradouro**	**0.87**	**103**	*i P*	Pg	19 31 32.2	-2.5
MIRA				*eS*	Sg	19 31 42.5	-3.5
PFAV	**Pico das Favas**	**0.93**	**322**	*eS*	Sg	19 31 44.0	-4.0
PFAV							
	20nm,0.2s						
RIB2	**Ribeirinha**	**0.95**	**317**	*eS*	Sg	19 31 44.9	-3.6
RIB2							
	27nm,0.1s						
PVNV	**Vila Nova**	**1.00**	**321**	*eS*	Sg	19 31 45.8	-4.6
PVNV							
	25nm,0.3s						
PPAD	**Pico dos Padre**	**1.03**	**314**	*eS*	Sg	19 31 47.2	-4.0
PPAD							
	15nm,0.1s						
PSBA	**Serra de Santa**	**1.10**	**316**	*eP*	Pg	19 31 35.0	-4.2
PSBA				*eS*	Sg	19 31 48.5	-4.9
PSBA							
	55nm,0.3s						
PSBA	**Serra de Santa**	**1.10**	**316**	*eP*	Pg	19 31 35.0	-4.2
PSBA				*eS*	Sg	19 31 48.5	-4.9
PSMN	**Pico do Norte,**	**1.41**	**133**	*eS*	Sb	19 31 55.7	-7.7
PGRA	**Graciosa**	**1.66**	**310**	*eP*	Pn	19 31 43.9	-4.0
PGRA				*eS*	Sn	19 32 01.5	-8.1
PGRA							
	17nm,0.3s						
PGRA	**Graciosa**	**1.66**	**310**	*eP*	Pn	19 31 43.9	-4.0
PGRA				*eS*	Sn	19 32 01.5	-8.1
ROSA	**Rosais**	**1.66**	**297**	*eP*	Pn	19 31 43.2	-4.8
ROSA				*eS*	Sn	19 32 02.0	-7.8
PICO	**Pico**	**1.72**	**288**	*eP*	Pn	19 31 44.1	-4.7
PICO				*eS*	Sn	19 32 03.7	-7.4
CALA	**Caldeira**	**1.95**	**289**	*eS*	Sn	19 32 09.3	-7.5
PCED	**Cedros**	**1.96**	**290**	*eS*	Sn	19 32 09.3	-7.9
PCED							
	17nm,0.1s						

IDC 19 20:25:07.5±1.6, 073N×12415E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/16, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=113.1km s-min=17.9km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.77**	**176**	P	Pn	20 29 29.4	+0.9
	0.1nm,0.3s,baz=1.4,slow=14,SNR=8.1						
WRA	**Warramunga Arr**	**22.84**	**155**	P	P	20 30 11.9	-0.3
	1.5nm,0.4s,baz=333,slow=10,SNR=55						
WRA				S	S	20 34 25.1	+2.3
	0.1nm,0.3s,baz=330,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**26.03**	**159**	P	P	20 30 41.2	-1.1
	0.5nm,1.0s,baz=334,slow=7.2,SNR=4.6						
MKAR	**Makanchi Array**	**58.61**	**328**	P	P	20 35 06.8	+0.6
	0.3nm,0.3s,baz=118,slow=8.0,SNR=8.0						

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*ISCJB **19** 20:35:46.5±4.6, 79S±02×1124E±02, h226km±48km, mb4.1/17, Error ellipse: s-maj=35.8km s-min=11.9km az=94.9*
*NEIC **19** 20:35:48.4±3.8, 796S×11230E, h232km±41km, mb4.2/11, Error ellipse: s-maj=22.4km s-min=8.2km az=48.0*
*IDC **19** 20:35:49.2±10.0, 792S×11240E, h236km±102km, mb3.7/8, mb1 3.8/9, mb1mx3.6/17, mbtmp4.3/9, Error ellipse: s-maj=42.4km s-min=16.2km az=75.0*

ISC 19 20:35:50.0±5.4, 79S±02×1124E±02, h244km±59km, n27, σ0°73/28, mb4.1/17, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.41**	**129**	*eP*	**P**	**20 39 24.5**	**-1.1**
	14nm,0.8s						
FITZ	**Fitzroy Crossi**	**16.41**	**129**	P	**P**	**20 39 24.3**	**-1.3**
	0.3nm,0.3s,baz=286,slow=3.2,SNR=12						
FITZ				*eS*	**S**	**20 42 14.9**	**-10**
	0.3nm,0.3s,baz=139,slow=16,SNR=4.7						
WRA	**Warramunga Arr**	**24.41**	**122**	P	**P**	**20 40 46.6**	**+0.3**
	5.1nm,0.5s,mb4.4,baz=298,slow=12,SNR=52						
WRAB	**Tennant Creek**	**24.42**	**122**	*eP*	**P**	**20 40 46.8**	**+0.5**
	16nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**24.42**	**122**	*eP*	**P**	**20 40 46.7**	**+0.3**
ASPA	**Alice Springs**	**25.91**	**130**	*eP*	**P**	**20 41 00.1**	**+0.3**
AS31	**Alice Springs**	**25.91**	**130**	*eP*	**P**	**20 41 00.1**	**+0.3**
ASAR	**Alice Springs**	**25.91**	**130**	P	**P**	**20 41 00.3**	**+0.5**
	2.6nm,0.5s,mb4.2,baz=303,slow=8.0,SNR=63						
STKA	**Stephens Creek**	**36.16**	**135**	*eP*	**P**	**20 42 28.1**	**-1.0**
	2.6nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**36.16**	**135**	P	**P**	**20 42 28.5**	**-0.6**
	2.8nm,0.6s,mb4.0,baz=270,slow=4.5,SNR=12						
JOW	**Kunigami**	**37.85**	**24**	P	**P**	**20 42 44.0**	**+0.7**
	6.7nm,0.6s,mb4.3,baz=210,slow=8.6,SNR=9.7						
LSA	**Lhasa**	**42.62**	**332**	*eP*	**P**	**20 43 24.0**	**+1.7**
	3.8nm,0.8s,mb3.9						
JIRN	**Jiri**	**43.51**	**325**	*eP*	**P**	**20 43 29.9**	**+0.5**
	17nm,0.6s,mb4.5						
GUN	**Gumba**	**43.87**	**325**	*eP*	**P**	**20 43 32.7**	**+0.3**
	19nm,0.6s,mb4.6						
PKI	**Pulchoki**	**43.88**	**325**	*eP*	**P**	**20 43 32.2**	**-0.2**
DMN	**Daman**	**44.09**	**324**	*eP*	**P**	**20 43 34.0**	**0.0**
	13nm,0.7s,mb4.4						
KKN	**Kakani**	**44.12**	**325**	*eP*	**P**	**20 43 34.3**	**0.0**
GKN	**Gorkha**	**44.66**	**324**	*eP*	**P**	**20 43 38.3**	**-0.2**
KOLN	**Koldanda**	**45.09**	**323**	*eP*	**P**	**20 43 41.5**	**-0.4**
	7.2nm,0.6s,mb4.2						
MJAR	**Matsushiro Arr**	**50.46**	**27**	P	**P**	**20 44 22.2**	**-0.9**
	3.3nm,0.6s,mb3.9,baz=204,slow=8.1,SNR=14						
MJAR	**Matsushiro Arr**	**50.46**	**27**	P	**P**	**20 44 22.2**	**-0.9**
SONM	**Songino Array**	**55.77**	**355**	P	**P**	**20 45 01.9**	**+0.3**
	0.9nm,0.6s,mb3.5,baz=175,slow=9.4,SNR=7.9						
SONM				PcP	PcP	20 45 57.9	+0.3
	0.5nm,0.9s,baz=151,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**60.70**	**337**	P	**P**	**20 45 35.5**	**-0.1**
	1.1nm,0.5s,mb3.8,baz=147,slow=7.4,SNR=21						
KURK	**Kurchatov**	**65.30**	**337**	*eP*	**P**	**20 46 05.4**	**-0.5**
	1.6nm,0.7s,mb3.8						
CHKZ	**Chkalovo**	**70.76**	**335**	*eP*	**P**	**20 46 39.3**	**-0.5**
	0.8nm,0.5s,mb3.6						
ZRNK	**Zerenda**	**70.93**	**334**	*eP*	**P**	**20 46 38.7**	**-2.1**
	1.1nm,0.6s,mb3.7						
BRTR	**Keskin Array B**	**86.43**	**311**	P	**P**	**20 48 06.0**	**+1.0**
	1.1nm,0.8s,mb3.6,baz=118,slow=7.4,SNR=8.0						

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*MOS **19** 20:53:37.3±2.2, 1767S×175.15W, h228km, mb5.1/28, Error ellipse: s-maj=11.4km s-min=7.5km az=142.7*
*ISCJB **19** 20:53:38.6±0.1, 1784S±004×175.16W±003, h258km, mb4.9/66, Error ellipse: s-maj=5.5km s-min=3.2km az=109.7*
*BJI **19** 20:53:39.9, 1770S×17520W, h256km, mB4.7, mb4.6*
*IDC **19** 20:53:39.5±0.6, 1773S×175.19W, h251km±5km, mb4.6/13, mb1 4.7/15, mb1mx4.6/17, mbtmp5.2/15, Error ellipse: s-maj=14.2km s-min=9.7km az=145.0*
*HRVD **19** 20:53:39.9±0.5, 1754S×174.70W, h282km±4km, MW5.2/54, Centroid moment Tensor Solution. LP body waves: s28,c31;Mantle waves: s54,c71; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.56±.36; $M_{\theta\theta}$0.92±.35; $M_{\phi\phi}$-1.48±.34; $M_{r\theta}$0.31±.35; $M_{\theta\phi}$3.95±.27; $M_{\phi r}$-6.01±.31; Best double couple: $M_0$7.25200×10^16 NP1:ϕs277.00000°, δ34.00000°, λ5.00000°. NP2:ϕs182.00000°, δ87.00000°, λ123.00000°. Principal axes: T 6.7040, Plg39.0000°, Azm122.0000°; N 1.0980, Plg33.0000°, Azm0.0000°; P -7.8000, Plg34.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 20:53:39.9±0.2, 1772S×175.19W, mb4.9/48 Error ellipse: s-maj=7.7km s-min=3.9km az=149.0*

ISC 19 20:53:40.4±0.1, 1783S±004×17514W±003, h260km, h260km±1.4km: pP-P, n409, σ0°73/290, mb4.9/66, 80C-68D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.06**	**40**	P	**Pn**	**20 54 51.0**	**-6.2**
	544nm,0.3s,baz=23,slow=2.0,SNR=423						
AFI				S	**S**	**20 55 44.8**	**-14**
	713nm,0.3s,baz=96,slow=20,SNR=12						
FUNA	**Funafuti**	**10.76**	**328**	*eP*	**Pn**	**20 56 08.1**	**-0.3**
RAO	**Raoul Island**	**11.65**	**192**	S	**S**	**20 58 21.7**	**-7.8**
	93nm,0.3s,baz=89,slow=21,SNR=7.2						
RAR	**Rarotonga**	**14.87**	**106**	P	**Pn**	**20 56 57.4**	**-1.2**
	1.5nm,0.3s,baz=271,slow=11,SNR=12						
RAR				S	**S**	**20 59 37.4**	**-5.0**
	0.6nm,0.3s,baz=300,slow=16,SNR=2.0						
DZM	**Mont Dzumac**	**17.82**	**253**	P	**P**	**20 57 30.4**	**0.0**
	3.9nm,0.3s,baz=80,slow=13,SNR=39						
NOUC	**Port Laguerre**	**17.95**	**253**	*eP*	**P**	**20 57 30.1**	**-1.7**
PUZ	**Puketiti**	**20.98**	**195**	PN	**P**	**20 58 04.8**	**+0.8**
MWZ	**Matawai**	**21.42**	**196**	PN	**P**	**20 58 09.6**	**+1.4**
URZ	**Urewera**	**21.46**	**197**	P	**P**	**20 58 08.1**	**-0.4**
	263nm,0.4s,baz=26,slow=3.4,SNR=78						
URZ				S	**S**	**21 01 47.4**	**-0.9**
	28nm,0.8s,baz=258,slow=17,SNR=5.9						
URZ	**Urewera**	**21.46**	**197**	*e*PN	**P**	**20 58 07.7**	**-0.9**
FWVZ	**Far West T-bar**	**22.84**	**199**	PN	**P**	**20 58 22.2**	**+1.1**
BFZ	**Birch Farm**	**23.96**	**196**	PN	**P**	**20 58 31.2**	**-0.1**
MRZ	**Mangatainoka R**	**24.12**	**197**	PN	**P**	**20 58 31.6**	**-1.2**
PAE	**Paea**	**24.34**	**94**	*eP*	**P**	**20 58 34.0**	**-0.8**
	176nm,1.2s,mb5.3						
PPT	**Papeete**	**24.35**	**93**	*eP*	**P**	**20 58 34.2**	**-0.7**
	118nm,1.3s,mb5.1						
PPT				*e*pP		20 59 18.3	
	114nm,1.5s						
PPT	**Papeete**	**24.35**	**93**	P	**P**	**20 58 34.3**	**-0.5**
	50nm,0.6s,mb5.0,baz=255,slow=4.1,SNR=4.8						
KIW	**Kapiti Island**	**24.50**	**198**	PN	**P**	**20 58 35.5**	**-0.8**
TVO	**Taravao**	**24.64**	**94**	*eP*	**P**	**20 58 37.1**	**-0.4**
	241nm,1.2s,mb5.5						
**QRZ

FORT	Forrest	52.86	245	eP	P	21 02 29.0	-0.6
	comp=Z,47nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	56.11	260	eP	P	21 02 53.0	0.0
	comp=Z,29nm,0.6s,mb4.9						
SBA	Scott Base	60.71	184	eP	P	21 03 27.6	+3.0
SBA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
SBA	Scott Base	60.71	184	eP	P	21 03 27.6	+2.9
	comp=Z,12nm,0.8s,mb4.5						
VNDA	Vanda	60.81	186	P	P	21 03 27.2	+1.9
	comp=Z,4.1nm,0.8s,mb4.0,baz=8.7,slow=6.9,SNR=27						
VNDA	Vanda	60.81	186	P	P	21 03 27.2	+1.9
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	60.81	186	eP	P	21 03 26.8	+1.5
	comp=Z,5.4nm,1.0s,mb4.0						
MBWA	Marble Bar	61.11	255	⇓eP	P	21 03 26.9	-0.4
	comp=Z,128nm,1.3s,mb5.3						
KLBR	Kellerberrin	61.65	243	eP	P	21 03 30.6	-0.3
	comp=Z,64nm,0.7s,mb5.4						
NWAO	Narrogin (SRO)	61.99	242	P	P	21 03 33.6	+0.4
	comp=Z,13nm,0.7s,mb4.7,baz=135,slow=21,SNR=9.6						
MATI	Mati	62.87	288	eP	P	21 03 38.0	-0.9
MUN	Mundaring	62.93	243	eP	P	21 03 39.1	-0.3
BUKP	Musuan	64.33	288	eP	P	21 03 49.7	+1.3
PAGZ	Pagadian	65.84	287	eP	P	21 03 59.2	+1.1
IPIL	Ipil	66.55	287	eP	P	21 04 03.1	+0.4
TSM	Tawau	69.59	282	P	P	21 04 22.8	+1.4
MJAR	Matsushiro Arr	69.75	321	P	P	21 04 22.1	-0.4
	comp=Z,4.3nm,0.8s,mb4.3,baz=162,slow=6.6,SNR=13						
KKM	Kota Kinabalu	71.75	283	P	P	21 04 35.6	+1.1
KKM	Kota Kinabalu	71.75	283	eP	P	21 04 35.2	+0.7
QSPA	South Pole Qui	72.23	180	eP	P	21 04 38.9	+1.6
	comp=Z,8.5nm,0.9s,mb4.4						
V03C	Hunter Liggett	73.93	43	⇑P	P	21 04 47.8	+0.6
	baz=74						
HAST	Hastings Reser	73.95	43	⇓P	P	21 04 47.7	+0.4
	baz=74						
PKD	Parkfield	74.34	43	⇑P	P	21 04 49.8	+0.2
	baz=74						
U04C	Hernandez Rese	74.43	43	⇑P	P	21 04 50.9	+0.8
	baz=75,SNR=7.3						
NACB	Ninganchiao	74.49	302	eP	P	21 04 47.3	-3.1
PACP	Pacheco Peak	74.49	42	⇓P	P	21 04 51.0	+0.6
	baz=75,SNR=7.4						
WENL	Wente Brothers	74.56	41	⇓P	P	21 04 51.1	+0.2
	baz=75						
CVS	Carmenet Viney	74.57	40	⇑P	P	21 04 50.7	-0.2
	baz=75						
S04C	Ingram Canyon,	74.76	42	⇑P	P	21 04 52.3	+0.3
	baz=75,SNR=6.4						
OSI	Osito Adit	74.78	45	⇓P	P	21 04 52.4	+0.3
	baz=75						
YSS	Yuzh-Sakhalins	74.78	332	i P	P	21 04 52.8	+0.7
YSS				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.6						
YHNB	Yeheng	74.89	303	eP	P	21 04 53.2	+0.5
MNRC	McLaughlin Nat	74.91	40	⇑P	P	21 04 53.3	+0.5
	baz=75,SNR=5.6						
GASB	Alder Springs	75.22	39	⇓P	P	21 04 55.5	+0.9
	baz=75						
S05C	Merced	75.31	42	⇓P	P	21 04 54.9	-0.2
	baz=76						
T06C	Millerton Lake	75.50	43	⇓P	P	21 04 56.1	-0.1
	baz=76						
O02C	Red Bluff	75.51	39	⇑P	P	21 04 56.8	+0.5
	baz=76,SNR=7.3						
SUTB	Sutter Buttes	75.52	40	⇓P	P	21 04 55.6	-0.7
	baz=76						
ISA	Isabella	75.54	45	⇑P	P	21 04 56.7	+0.2
	baz=76,SNR=7.8						
N02C	Big Bar	75.60	38	⇓P	P	21 04 56.9	+0.1
	baz=76						
CMB	Columbia Colle	75.67	42	eP	P	21 04 56.9	-0.3
CMB				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.7						
CMB	Columbia Colle	75.67	42	eP	P	21 04 56.9	-0.3
	comp=Z,18nm,0.9s,mb4.7						
CMB				epP	pP	21 05 58.1	+0.3
CMB	Columbia Colle	75.67	42	P	P	21 04 57.2	0.0
	baz=76,SNR=8.4						
KSM	Kuching	75.77	276	⇓i P	P	21 04 59.2	+1.5
PFO	Pinyon Flat Ob	75.78	47	eP	P	21 04 57.7	-0.1
PFO				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.7						
PFO	Pinyon Flat Ob	75.78	47	eP	P	21 04 57.7	-0.1
	comp=Z,30nm,1.4s,mb4.7						
PFO				epP	pP	21 05 59.0	+0.6
PFO	Pinyon Flat Ob	75.78	47	⇑P	P	21 04 58.1	+0.3
	baz=76,SNR=5.5						
O03C	Acorn Hollow,	75.85	39	⇑P	P	21 04 58.0	-0.2
	baz=76						
LAVA	Lava Cap Winer	75.89	41	⇑P	P	21 04 58.1	-0.3
	baz=76						
ORV	Oroville	75.90	40	⇓P	P	21 04 58.2	-0.3
	baz=76,SNR=6.9						
WDC	Whiskeytown Da	75.91	39	eP	P	21 04 57.9	-0.6
WDC				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.7						
WDC	Whiskeytown Da	75.91	39	eP	P	21 04 57.9	-0.6
	comp=Z,22nm,1.1s,mb4.7						
WDC	Whiskeytown Da	75.91	39	P	P	21 04 58.5	0.0
	baz=76,SNR=5.2						
M02C	Callahan	76.23	38	P	P	21 05 01.0	+0.7
	baz=76,SNR=5.4						
CWC	Cottonwood Cre	76.25	44	⇑P	P	21 05 00.6	+0.2
	baz=76						
R05C	Kirkwood Meado	76.26	41	⇓P	P	21 05 00.6	+0.1
	baz=76,SNR=6.6						
L02A	Cave Junction	76.29	37	⇑P	P	21 05 01.4	+0.8
	baz=76						
P05C	Yuba Gap, Truc	76.29	41	⇓P	P	21 05 00.7	+0.1
	baz=76,SNR=7.1						
MLAC	Mammoth Lakes	76.43	43	⇓P	P	21 05 01.4	0.0
	baz=77						
GSC	Goldstone	76.47	46	⇑P	P	21 05 01.7	0.0
	baz=77,SNR=15						
TIN	Tinemaha	76.50	44	⇓P	P	21 05 02.1	+0.2
	baz=77						
O05C	Quincy	76.50	40	⇓P	P	21 05 01.8	0.0
	baz=77						
YBH	Yreka Blue Hor	76.53	38	eP	P	21 05 02.0	0.0
YBH				pmax	pmax		
	comp=Z,20nm,0.8s						
YBH	Yreka Blue Hor	76.53	38	eP	P	21 05 02.0	0.0
	comp=Z,20nm,0.8s,mb4.9						
YBH				epP	pP	21 06 03.6	+1.0
YBH	Yreka Blue Hor	76.53	38	⇓P	P	21 05 02.2	+0.2
	baz=77,SNR=12						
M03C	McCloud	76.58	38	⇑P	P	21 05 02.2	-0.1
	baz=77						
O04C	Chester	76.61	40	⇑P	P	21 05 02.4	0.0
	baz=77,SNR=6.2						
GLA	Glamis	76.64	49	⇓P	P	21 05 03.0	+0.4
	baz=77,SNR=11						
HATC	Hat Creek Radi	76.70	39	⇓P	P	21 05 03.1	+0.2
	baz=77						
K02A	Glendale	76.74	36	⇑P	P	21 05 02.8	-0.3
	baz=77						
S08C	White Mtn Res	76.79	43	⇑P	P	21 05 04.1	+0.7
	baz=77,SNR=23						
WCN	Washoe City	76.82	41	⇑P	P	21 05 03.8	+0.2
	baz=77						
HUMO	Hull Mountain	76.94	37	eP	P	21 05 04.2	-0.1
	comp=Z,17nm,1.0s,mb4.7						
HUMO	Hull Mountain	76.94	37	⇓P	P	21 05 04.5	+0.2
	baz=77,SNR=7.3						
P06A	Stead Airport,	76.96	41	⇑P	P	21 05 04.6	+0.2
	baz=77						
ELFS	Eagle Lake Fie	77.02	39	⇓P	P	21 05 04.7	0.0
	baz=77						
M04C	Macdoel	77.07	38	⇓P	P	21 05 05.0	0.0
	baz=77,SNR=5.2						
J02A	Umpqua	77.08	36	⇑P	P	21 05 05.1	0.0
	baz=77						
TUQ	Turquoise Mtn.	77.14	46	⇑P	P	21 05 05.6	+0.2
	baz=77						
M05C	Lookout	77.21	39	⇓P	P	21 05 05.8	0.0
	baz=77,SNR=5.3						
Y12C	Blythe	77.22	48	⇑P	P	21 05 06.3	+0.4
	baz=77,SNR=5.5						
NVAR	Mina Array Bea	77.24	42	P	P	21 05 06.2	+0.2
	comp=Z,17nm,0.8s,mb4.8,baz=225,slow=9.0,SNR=58						
NVAR				pP	pP	21 06 04.9	-1.9
	comp=Z,16nm,1.1s,baz=229,slow=8.8,SNR=6.4						
L04A	Klamath Falls	77.28	38	⇑P	P	21 05 06.3	+0.1
	baz=77						
O06A	Flanigan	77.29	40	⇓P	P	21 05 06.3	+0.1
	baz=77,SNR=20						
R08A	Mina	77.31	43	⇓P	P	21 05 06.5	+0.1
	baz=78,SNR=5.8						
MNV	Mina	77.33	42	eP	P	21 05 06.3	-0.2
MNV				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.9						
MNV	Mina	77.33	42	eP	P	21 05 06.3	-0.1
	comp=Z,23nm,1.0s,mb4.9						
MNV				epP	pP	21 06 06.3	-1.0
I02A	Mapleton	77.34	35	⇑P	P	21 05 06.9	+0.3
	baz=78						
M06C	Likely Place G	77.52	39	⇑P	P	21 05 07.7	+0.2
	baz=78						
S09A	Goldfield	77.53	43	⇑P	P	21 05 07.4	-0.1
	baz=78,SNR=15						
K04A	Chilguin	77.64	37	⇓P	P	21 05 08.2	0.0
	baz=78						
Q08A	Gabbs	77.72	42	⇓P	P	21 05 08.5	-0.1
	baz=78,SNR=12						
Y13A	Salome	77.75	48	⇑P	P	21 05 09.3	+0.6
	baz=78,SNR=6.4						
TPNV	Topopah Spring	77.75	45	eP	P	21 05 09.0	+0.2
TPNV				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.1						
TPNV	Topopah Spring	77.75	45	eP	P	21 05 09.0	+0.2
	comp=Z,27nm,0.7s,mb5.1						
TPNV				epP	pP	21 06 08.7	-1.0
W12A	Cal Nev Ari	77.80	47	⇓P	P	21 05 09.5	+0.5
	baz=78						
O07A	Toulon	77.88	41	P	P	21 05 09.6	+0.1
	baz=78,SNR=21						
H03A	Soap Creek Ran	78.08	35	⇑P	P	21 05 10.6	+0.1
	baz=78						
P08A	Dixie Valley	78.10	41	⇑P	P	21 05 11.1	+0.4
	baz=78						
Z14A	Wintersburg	78.14	49	⇓P	P	21 05 11.4	+0.5
	baz=78,SNR=6.9						
X13A	Yucca	78.15	48	⇓P	P	21 05 11.3	+0.4
	baz=78,SNR=17						
Q09A	Carvers	78.19	43	⇑P	P	21 05 11.1	0.0
	baz=78						
Y14A	Wickenburg	78.40	49	P	P	21 05 12.7	+0.4
	baz=78,SNR=14						
M07A	Soldier Meadow	78.42	40	P	P	21 05 12.4	0.0
	baz=79,SNR=13						
K06A	Valley Falls	78.62	38	⇓P	P	21 05 13.6	0.0
	baz=79,SNR=17						
H04A	Detroit Lake	78.68	35	⇓P	P	21 05 13.3	-0.5
	baz=79						
N08A	GE Springer Mi	78.70	41	⇓P	P	21 05 13.9	-0.1
	baz=79,SNR=15						
F03A	Seaside	78.74	34	⇓P	P	21 05 13.7	-0.4
	baz=79						
X14A	Yava	78.75	48	⇑P	P	21 05 14.9	+0.6
	baz=79,SNR=17						
G04A	Mulino	78.86	35	⇓P	P	21 05 14.2	-0.6
	baz=79						
I05A	Bend	78.87	36	⇓P	P	21 05 14.6	-0.3
	baz=79						
M08A	Happy Creek Ra	78.94	40	⇑P	P	21 05 15.6	+0.3
	baz=79						
O09A	Fish Creek Ran	78.94	41	⇑P	P	21 05 15.2	0.0
	baz=79,SNR=16						
J06A	Christmas Vall	78.95	38	P	P	21 05 14.8	-0.6
	baz=79,SNR=11						
W14A	Seligman	79.00	47	⇑P	P	21 05 16.4	+0.8
	baz=79,SNR=31						
E03A	Lebam	79.14	33	⇑P	P	21 05 16.0	-0.4
	baz=79						
K07A	Rock Creek Ran	79.14	38	⇑P	P	21 05 16.4	0.0
	baz=79,SNR=23						
Q11A	Duckwater	79.19	43	⇓P	P	21 05 16.6	0.0
	baz=79,SNR=24						
H05A	Madras	79.20	36	⇓P	P	21 05 16.2	-0.4
	baz=79						
TUC	Tucson	79.21	51	eP	P	21 05 17.3	+0.6
TUC				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
TUC	Tucson	79.21	51	eP	P	21 05 17.3	+0.6
	comp=Z,11nm,0.9s,mb4.6						
TUC				epP	pP	21 06 17.9	+0.2
X15A	Humboldt	79.22	48	P	P	21 05 17.7	+0.9
	baz=79,SNR=13						
I06A	Prineville	79.34	37	⇓P	P	21 05 17.6	+0.2
	baz=80,SNR=9.8						
F04A	Amboy	79.35	34	⇓P	P	21 05 17.1	-0.4
	baz=80						
WVOR	Wild Horse Val	79.36	39	eP	P	21 05 17.4	-0.1
WVOR				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.9						
WVOR	Wild Horse Val	79.36	39	eP	P	21 05 17.4	-0.2
	comp=Z,27nm,1.0s,mb4.9						
M09A	Marrel Ranch,	79.49	40	P	P	21 05 18.6	+0.4
	baz=80,SNR=13						
P11A	Circle Ranch,	79.51	43	⇑P	P	21 05 18.4	+0.1
	baz=80						
G05A	Wamic	79.52	35	⇓P	P	21 05 18.2	-0.2
	baz=80						
HABR	Khabarovsk	79.52	329	eP	P	21 05 12.3	-6.1
L09A	Wilkinson Ranc	79.70	40	⇓P	P	21 05 19.4	+0.1
	baz=80,SNR=12						
F05A	White Salmon	79.84	35	⇓P	P	21 05 19.7	-0.4
	baz=80						
O11A	Cowboy Ranch,	79.89	42	⇑P	P	21 05 20.5	+0.2
	baz=80,SNR=12						
MDJ	Mudanjiang	79.94	323	P	P	21 05 20.8	+0.1
MDJ				S	S	21 15 00.8	-1.4
MDJ				SCS	ScS	21 15 19.6	-1.4
MDJ				AMB	AMB		
	comp=Z,70nm,5.5s						
MDJ				LR	LR		
	comp=N,40nm,24.0s						
MDJ				LR	LR		
	comp=E,30nm,27.7s						
MDJ				LR	LR		
	comp=Z,10.0nm,22.2s						
P12A	McGill	80.01	43	⇓P	P	21 05 21.0	0.0
	baz=80,SNR=8.8						
CCUT	Cedar City	80.02	45	eP	P	21 05 21.5	+0.5
CCUT				epP	pP	21 06 21.6	-0.6
E05A	Randle	80.10	34	⇑P	P	21 05 20.9	-0.6
	baz=80,SNR=7.5						
M10A	I.L. Ranch, Tu	80.11	41	⇓P	P	21 05 21.9	+0.4
	baz=80,SNR=9.8						
HDW	Hoodsport	80.12	33	P	P	21 05 21.9	+0.3
SVW2	Sparrevohn	80.20	9	eP	P	21 05 20.1	-1.9
RCM	Mount Rainier-	80.29	34	P	P	21 05 22.8	+0.3
WPW	White Pass	80.30	34	P	P	21 05 22.5	-0.1
NJ2	Nanjing	80.32	308	eP	P	21 05 22.4	-0.2
NJ2				S	S	21 15 00.0	-6.1
NJ2				SKS		21 15 08.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,50nm,5.2s						
NJ2				LR	LR		
	comp=N,140nm,20.0s						
NJ2				LR	LR		
	comp=E,80nm,14.0s						
NJ2				LR	LR		
	comp=Z,170nm,16.0s						
D05A	Enumclaw	80.38	34	⇑P	P	21 05 23.2	+0.3
	baz=80						
GSM	Grass Mountain	80.49	34	P	P	21 05 23.4	-0.2
ELK	Elko	80.49	42	⇑i P	P	21 05 23.3	-0.3
ELK				pmax	pmax		
	comp=Z,15nm,0.9s						
ELK	Elko	80.49	42	⇑i P	P	21 05 23.3	-0.3
	comp=Z,15nm,0.9s,mb4.7						
ELK				epP	pP	21 06 24.2	-0.6
M11A	Holland Ranch,	80.53	41	⇑P	P	21 05 23.9	+0.2
	baz=81						
RMW	Rattlesnake Mo	80.65	33	P	P	21 05 24.4	0.0
N12A	Wells--Clov Va	80.68	42	⇑P	P	21 05 24.5	0.0
	baz=81,SNR=17						
C05A	Tolt Reservoir	80.85	33	⇑P	P	21 05 24.8	-0.7
	baz=81						
A04A	Legoe Bay, Lum	80.99	32	⇑P	P	21 05 26.0	-0.2
	baz=81						
B05A	Bryant	81.00	33	⇑P	P	21 05 26.0	-0.3
	baz=81						
M12A	Wells	81.07	41	⇓P	P	21 05 26.6	0.0
	baz=81,SNR=11						
CMW	Cultus Mountai	81.10	33	P	P	21 05 26.9	+0.1
RSW	Rattlesnake Hi	81.18	35	P	P	21 05 27.4	+0.2
HAWA	Hanford	81.21	35	eP	P	21 05 26.6	-0.7
	comp=Z,2.4nm,1.3s						
HAWA				epP	pP	21 06 31.9	+3.2
N13A	West Wendover	81.21	42	⇑P	P	21 05 27.4	0.0
	baz=81,SNR=5.5						
H2OWA	Water	81.27	35	P	P	21 05 27.7	0.0
MSU	Marysvale	81.31	45	eP	P	21 05 28.9	+1.0
MSU				epP	pP	21 06 29.6	+0.3
A05A	Maple Falls	81.48	32	⇑P	P	21 05 27.4	-1.4
	baz=82						
M13A	Montello	81.51	42	⇓P	P	21 05 28.9	0.0
	baz=82						
ETW	Entiat	81.52	34	P	P	21 05 28.8	-0.2
WTV	Waterville	81.78	34	P	P	21 05 29.7	-0.7
TTA	Tatalina	81.88	9	eP	P	21 05 30.0	-0.9
CN2	Changchun	81.89	321	eP	P	21 05 31.3	+0.4
SNY	Shenyang	81.96	319	⇑P	P	21 05 31.8	+0.5
SAW	Saint Andrews	82.08	34	P	P	21 05 31.5	-0.4
DIV	Divide	82.13	14	eP	P	21 05 30.8	-1.4
	comp=Z,75nm,0.7s,mb5.5						
OD2	Odessa Site #2	82.26	35	P	P	21 05 32.3	-0.5
TMUT	Trail Mountain	82.36	45	eP	P	21 05 34.2	+0.8
TMUT				epP	pP	21 06 36.9	+2.0
HLID	Hailey	82.55	40	eP	P	21 05 34.2	-0.1
	comp=Z,22nm,0.8s,mb5.0						
HLID				epP	pP	21 06 35.6	-0.3
KGM	Kluang	82.57	275	P	P	21 05 35.7	+1.3
HVU	Hansel Valley	82.62	42	eP	P	21 05 34.6	-0.1
HVU				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.0						
HVU	Hansel Valley	82.62	42	eP	P	21 05 34.6	0.0
	comp=Z,21nm,0.8s,mb5.0						
HVU				epP	pP	21 06 36.9	+0.7
SRU	San Rafael	82.73	45	eP	P	21 05 35.5	+0.3
SRU				pmax	pmax		
	comp=Z,59nm,1.1s,mb5.3						
SRU	San Rafael	82.73	45	eP	P	21 05 35.5	+0.2
	comp=Z,59nm,1.1s,mb5.3						
SRU				epP	pP	21 06 39.2	+2.3
LAZ	Ladron	82.88	51	eP	P	21 05 36.9	+0.9
Y22C	IRIS PASSCAL I	82.89	51	⇓P	P	21 05 36.9	+0.8
	baz=83						
PNT	Penticton	82.95	33	P	P	21 05 35.9	-0.4
MNTX	Cornudas Mount	83.00	54	eP	P	21 05 37.3	+0.7
	comp=Z,16nm,1.2s,mb4.7						
MNTX				epP	pP	21 06 38.3	0.0
BNM	Barren Site	83.14	51	eP	P	21 05 38.2	+0.9
BNM				epP	pP	21 06 39.8	+0.7
TCUT	Toone Canyon	83.15	43	eP	P	21 05 37.6	+0.2
MVCO	Mesa Verde	83.20	48	eP	P	21 05 37.1	-0.5
LPM	Los Pinos Moun	83.21	51	eP	P	21 05 38.5	+0.8
HWUT	Hardware Ranch	83.30	43	eP	P	21 05 37.7	-0.4
	comp=Z,14nm,0.7s,mb4.9						
LTX	Lajitas	83.34	56	eP	P	21 05 39.3	+1.0
LTX				e*PP	pP	21 06 38.5	-1.6
LTX				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.9						
LTX	Lajitas	83.34	56	eP	P	21 05 39.3	+1.0
	comp=Z,27nm,1.3s,mb4.9						
LTX				epP	pP	21 06 38.5	-1.6
ANMO	Albuquerque	83.63	50	eP	P	21 05 40.5	+0.7
ANMO				pmax	pmax		
	comp=Z,16nm,0.9s						
ANMO	Albuquerque	83.63	50	eP	P	21 05 40.5	+0.7
	comp=Z,16nm,0.9s,mb4.9						
ANMO				epP	pP	21 06 42.3	+0.7
MCK	McKinley	83.81	11	eP	P	21 05 39.0	-1.7
MCK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
MCK	McKinley	83.81	11	eP	P	21 05 39.0	-1.8
	comp=Z,14nm,0.9s,mb4.8						
MCK				epP	pP	21 06 43.6	+1.1
AHID	Auburn Hatcher	84.19	42	eP	P	21 05 42.8	+0.1
	comp=Z,21nm,0.9s,mb5.0						
DLBC	Dease Lake	84.56	22	eP	P	21 05 44.0	-0.5
MSO	Missoula	84.61	37	eP	P	21 05 43.6	-1.1
	comp=Z,4.0nm,0.6s,mb4.4						
DLMT	Dillon	84.61	39	eP	P	21 05 44.6	-0.2
	comp=Z,25nm,1.1s,mb5.0						
DLMT				epP	pP	21 06 45.4	-1.2
IMW	Indian Meadow	84.87	41	eP	P	21 05 46.2	+0.2
	comp=Z,23nm,0.8s,mb5.0						
IMW				epP	pP	21 06 48.2	+0.3
MAW	Mawson	84.97	199	eP	P	21 05 47.3	+0.8
	comp=Z,8.7nm,0.6s,mb4.8						
MAW	Mawson	84.97	199	P	P	21 05 47.4	+0.8
	comp=Z,11nm,0.7s,mb4.8,baz=134,slow=7.2,SNR=29						
MAW	Mawson	84.97	199	P	P	21 05 47.4	+0.9
MAW				pmax	pmax		
	comp=Z,11nm,0.7s						
COLA	College	85.05	11	eP	P	21 05 45.3	-1.6
COLA				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.3						
COLA	College	85.05	11	eP	P	21 05 45.3	-1.6
	comp=Z,44nm,0.8s,mb5.3						
COLA				epP	pP	21 06 50.5	+1.6
PDAR	Pinedale Array	85.17	42	P	P	21 05 47.0	-0.6
	comp=Z,7.4nm,0.8s,mb4.5,baz=219,slow=2.4,SNR=56						
PDAR				pP	pP	21 06 47.6	-1.9
	comp=Z,9.4nm,0.9s,baz=207,slow=3.0,SNR=11						
IPM	Ipoh	85.51	276	P	P	21 05 50.8	+1.7
WALA	Waterton Lakes	85.85	35	eP	P	21 05 49.5	-1.3
	comp=Z,9.7nm,0.8s,mb4.7						
DAWY	Dawson	86.18	15	eP	P	21 05 51.2	-1.3
BILL	Bilibino	86.69	353	c i P	P	21 05 53.9	-1.1
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
BILL	Bilibino	86.69	353	eP	P	21 05 53.7	-1.2
	comp=Z,10nm,1.0s,mb4.6						
JCT	Junction City	86.87	57	eP	P	21 05 54.8	-1.0
JCT				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
JCT	Junction City	86.87	57	eP	P	21 05 54.8	-1.0
	comp=Z,20nm,0.8s,mb5.0						
GYA	Guiyang	87.72	299	P	P	21 06 00.8	+1.0
GYA				PP	PP	21 09 33.6	+4.3
GYA				S		21 16 16.4	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,4.7s						
EDM	Edmonton	88.42	32	eP	P	21 06 01.7	-1.4
EDM				epP	pP	21 07 03.7	-1.9
XAN	Xi'an	88.70	306	P	P	21 06 06.3	+1.8
PLCA	Paso Flores	89.11	133	P	P	21 06 05.7	-0.7
	comp=Z,2.8nm,0.8s,mb4.2,baz=188,slow=2.4,SNR=4.0						
RSSD	Black Hills	89.36	43	eP	P	21 06 06.8	-0.7
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
RSSD	Black Hills	89.36	43	eP	P	21 06 06.8	-0.8
	comp=Z,7.6nm,0.8s,mb

comp=Z,6.7nm,0.6s,mb4.8
JTS JuntasAbangare 93.27 80 *e*P **P 21 06 27.4 +1.8**
JTS pmax pmax
comp=Z,17nm,0.9s
JTS JuntasAbangare 93.27 80 *e*P **P 21 06 27.4 +1.8**
comp=Z,17nm,0.9s,mb5.0
LZH Lanzhou 93.32 307 ⇑P **P 21 06 27.0 +1.2**
LZH PP PP 21 10 17.3 +3.9
LZH SKS 21 16 32.1
LZH *e*S 21 17 06.5
LZH SS SS 21 23 32.6 -0.3
LZH AMB AMB
comp=Z,20nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,160nm,9.7s
TIXI Tiksi 96.89 345 ⇓*e*P **P 21 06 40.6 -1.5**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
MKAR Makanchi Array 111.32 314 PKiKP PKiKP 21 11 42.7 -0.7
comp=Z,0.4nm,0.6s,baz=248,slow=1.3,SNR=5.0
MKAR Makanchi Array 111.32 314 PKPdf PKiKP 21 11 42.7 -0.7
ZRNK Zerenda 119.58 321 *e*PKIKP PKPdf 21 11 58.2 -1.0
ARU Arti 124.49 327 *i* PKIKP PKPdf 21 12 08.0 -0.6
ARU *e* 21 13 58.8
ARU *e* 21 18 43.3
ARU *e*SS SS 21 30 29.3 -0.9
KEV Kevo 126.33 351 *e*p PKPdf 21 12 09.3 -2.8
comp=Z,3.2nm,0.8s
ARCES ARCESS Array B 126.75 351 PKP PKPdf 21 12 12.4 -0.6
comp=Z,3.4nm,0.6s,baz=3.7,slow=1.2,SNR=33
JOF Joensuu 131.37 344 *e*p PKPdf 21 12 19.9 -1.8
comp=Z,1.0nm,0.3s
KAF Kangasniemi 133.27 346 *e*p PKPdf 21 12 22.0 -3.3
comp=Z,2.5nm,0.7s
FINES FINESS Array B 133.91 346 PKhKP 21 12 20.6
comp=Z,1.0nm,0.5s,baz=17,slow=2.6,SNR=3.4
FINES PKP PKPdf 21 12 27.0 +0.5
comp=Z,1.0nm,0.5s,baz=28,slow=3.0,SNR=9.3
FINES FINESS Array B 133.91 346 PKP PKPdf 21 12 27.0 +0.5
OBN Obninsk 135.62 334 ⇓*i*PKIKP PKPdf 21 12 26.9 -2.8
OBN *e* 21 15 19.3
OBN *e*SS SS 21 32 43.8 -2.3
OBN pmax pmax
comp=Z,3.0nm,0.5s
NB2 NORSAR Subarra136.60 356 PKPa PKPdf 21 12 30.8 -0.7
comp=Z,1.4nm,0.7s,baz=12,slow=4.0
NB2 NORSAR Subarra136.60 356 ⇑PKPab PKPdf 21 12 30.8 -0.7
NOA NORSAR Array B136.60 356 PKP PKPdf 21 12 31.1 -0.5
comp=Z,0.2nm,0.4s,baz=10,slow=4.1,SNR=5.0
AKASG Malin Array Be 141.88 335 PKhKP 21 12 36.6
comp=Z,0.6nm,0.3s,baz=41,slow=3.8,SNR=4.7
EKA Eskdalemuir Ar 142.06 7 PKhKP 21 12 35.7
comp=Z,1.0nm,0.6s,baz=335,slow=2.5,SNR=6.1
EKA Eskdalemuir Ar 142.06 7 PKHKP 21 12 35.7
EKA pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 142.97 243 PKhKP 21 12 41.8
comp=Z,4.3nm,0.8s,baz=56,slow=4.4,SNR=14
KMBO Kilima Mbogo 142.97 243 *e*PKPdf PKPdf 21 12 42.7 -0.4
BSEG Bad Segeberg 143.72 355 *e*PKP PKPdf 21 12 42.4 -2.0
MALT Malatya 144.32 312 ⇓PKIKP PKPdf 21 12 46.0 +0.6
NRDL Niedersach Rie 145.16 354 *e*PKP PKPdf 21 12 46.5 -0.4
KWP Kalwaria 145.16 340 *e*PKP PKPdf 21 12 47.0 +0.1
IBBN Ibbenburen 145.52 357 *e*PKP PKPdf 21 12 48.1 +0.6
CLZ Clausthal 145.78 354 *e*PKP PKPdf 21 12 49.2 +1.3
KSP Ksiaz 145.82 347 *e*PKIKP PKPdf 21 12 48.9 +0.9
STHS Stebnicka Huta 145.82 341 *i* PKP PKPdf 21 12 49.5 +1.5
STHS *e* 21 13 07.7
STHS *e* 21 13 56.2
KOLS Kolonicke sedl 145.91 339 *e*PKP PKPdf 21 12 50.1 +1.9
BURAR Bucovina Array 145.93 335 ⇑PKP2 PKPab 21 12 50.3 -0.1
CLL Collm 145.97 351 ⇑*i*PKPbc PKPbc 21 12 49.4 -0.1
CLL comp=Z,34nm,1.1s
CLL *e*pPKPbc pPKPbc 21 13 57.7 +3.3
CLL Collm 145.97 351 ⇑*i*PKPbc PKPbc 21 12 49.3 -0.2
CLL comp=Z,33nm,1.1s
CLL *i* pPKPbc pPKPbc 21 13 57.7 +3.3
CLL *e*SKPbc SKPbc 21 16 05.0 +1.7
CLL Collm 145.97 351 ⇑*i*PKP PKPdf 21 12 49.3 +1.0
CLL *i* pPKP pPKPdf 21 13 57.7 +3.4
NIE Niedzica 146.10 342 *i* PKPc PKPbc 21 12 50.5 +0.6
UPC Upice 146.20 347 ⇑*e*PKPB PKPbc 21 12 50.4 +0.2
UPC *ex* x 21 13 10.3
UPC *e*pPKP pPKPdf 21 13 56.3 +1.7
BRG Berggiesshubel 146.24 350 *e*PKP PKPdf 21 12 50.3 +1.5
comp=Z,6.1nm,0.8s
BRG *e* 21 13 10.3
comp=Z,4.1nm,1.0s
DPC Dobruska-Polom 146.28 347 ⇑*e*PKPB PKPbc 21 12 51.0 +0.6
DPC *e*PKPAB PKPab 21 12 55.0 +3.3
DPC *ex* x 21 13 10.9
DPC *e*pPKP pPKPdf 21 13 58.5 +3.7
FBE Freiberg 146.29 350 *e*PKP PKPdf 21 12 51.0 +2.2
OKC Ostrava-Krasne 146.32 344 ⇑*e*PKPB PKPbc 21 12 50.7 +0.2
OKC *e*PKPAB PKPab 21 12 54.3 +2.4
OKC *ex* x 21 13 08.3
OKC *e*pPKP pPKPdf 21 13 56.9 +2.0
PVCC Panska Ves 146.46 349 ⇑*e*PKPB PKPbc 21 12 51.0 +0.1
PVCC *e*PKPAB PKPab 21 12 54.5 +2.0
PVCC *ex* x 21 13 11.2
PVCC *e*pPKP pPKPdf 21 13 56.8 +1.7
CFR Carcaliu 146.51 330 ⇑PKIKP PKPdf 21 12 51.1 +1.9
MORC Moravsky Berou 146.53 345 ⇑PKP2 PKPab 21 12 51.8 -0.9
VRI Vrincioaia 146.66 332 ⇑PKP2 PKPab 21 12 51.9 -1.3
PLOR Plostina 146.71 332 ⇓PKP2 PKPab 21 12 52.1 -1.3
MOX Moxa 146.82 352 *e*PKP PKPdf 21 12 52.0 +2.3
MOX Moxa 146.82 352 *e*PKP PKPdf 21 12 51.5 +1.8
comp=Z,11nm,0.9s
KECS Kecovo 146.88 341 *e*PKP PKPdf 21 12 52.3 +2.5
KECS *e* 21 13 10.3
BRTR Keskin Array B 146.89 317 PKPbc PKPbc 21 12 52.2 +0.1
comp=Z,4.8nm,1.1s,baz=138,slow=4.0,SNR=12
BRTR pPKPbc pPKPbc 21 13 55.5 -1.6
comp=Z,0.5nm,0.5s,baz=141,slow=37,SNR=1.3
BRTR Keskin Array B 146.89 317 PKIKP PKPdf 21 12 52.3 +2.5
BRTR 21 13 55.5
BRTR pmax pmax
comp=Z,5.0nm,1.1s
WERD Werda 146.91 351 *e*PKP PKPdf 21 12 52.1 +2.2
PRU Pruhonice 146.99 349 ⇑*e*PKPB PKPbc 21 12 52.0 -0.4
UCC Uccle 147.10 1 PKPbc PKPbc 21 12 52.4 -0.3
UCC APKPbc 21 13 58.6
MEM Membach 147.28 359 PKPbc PKPbc 21 12 53.1 -0.1
MLR Muntele Rosu 147.30 332 ⇑PKP2 PKPab 21 12 54.4 -1.4
VYHS Vyhne 147.36 343 *i* PKP PKPbc 21 12 53.9 +0.5
VYHS *e* 21 13 12.4
VYHS *e* 21 14 01.2
VYHS Vyhne 147.36 343 *i* PKP PKPbc 21 12 53.9 +0.5
VYHS *e* 21 13 12.4
VYHS *e* 21 14 01.3
SNF Seneffe 147.39 1 PKPab PKPab 21 12 55.9 -0.3
MANZ Manzenberg 147.39 351 *e*PKP PKPbc 21 12 53.9 +0.4
KOLL Kolacno 147.41 343 *e*PKP PKPbc 21 12 54.2 +0.7
KOLL *e* 21 13 12.7
KOLL *e* 21 14 03.6
DRGR 147.58 337 ⇑PKP2 PKPbc 21 12 54.2 +0.2
ROTZ Rotzenmuhle 147.59 351 *e*PKP PKPbc 21 12 54.3 +0.3
SNX Sinaia 147.59 332 ⇓PKP2 PKPab 21 12 55.7 -1.2
VOIR 147.73 333 ⇑PKP2 PKPab 21 12 55.4 -2.1
ASF Jabal al Asfar 147.79 302 PKPbc PKPbc 21 12 54.1 -0.5
comp=Z,1.4nm,0.6s,baz=327,slow=4.1,SNR=3.3
ASF Jabal al Asfar 147.79 302 PKIKP PKPbc 21 12 54.1 -0.4
ASF pmax pmax
comp=Z,1.0nm,0.6s
GRA1 Grafenberg Arr 147.80 352 *e*PKP PKPbc 21 12 54.9 +0.3
GRF Grafenberg Arr 147.80 352 *e*PKP PKPbc 21 12 54.9 +0.3
GIVF Givet 147.80 0 *e*PKP1 PKPbc 21 12 54.5 -0.1
DOU Dourbes 147.81 0 PKPbc PKPbc 21 12 54.6 0.0
BAIF Baives 147.84 1 *e*PKP1 PKPbc 21 12 54.8 +0.1
comp=Z,12nm,0.6s
KHC Kasperske Hory 147.99 349 ⇑*e*PKPB PKPbc 21 12 55.5 +0.4
KHC *e*PKPAB PKPab 21 12 59.0 +0.5
KHC *ex* x 21 13 15.3
KHC *e*pPKP pPKPdf 21 14 03.7 +6.0
KHC *es*PKP 21 14 23.4
ZST Bratislava 148.10 344 *e*PKP PKPab 21 12 59.6 +0.6
WLF Walferdange 148.22 358 *e*PKP PKPbc 21 12 56.2 +0.5
WLF Walferdange 148.22 358 PKPbc PKPbc 21 12 56.3 +0.6
WLF Walferdange 148.22 358 *e*PKPbc PKPbc 21 12 56.0 +0.4
GEC2 GERESS Array S 148.24 349 *e*PKP PKPbc 21 12 55.9 +0.2
GERES GERESS Array B 148.24 349 PKPbc PKPbc 21 12 55.5 -0.2
comp=Z,3.8nm,0.6s,baz=46,slow=5.8,SNR=4.1
GERES pPKPbc pPKPbc 21 13 58.8 -2.2
comp=Z,0.1nm,0.4s,baz=218,slow=24,SNR=0.7
CONA Conrad Observa 148.66 346 ⇑*i*PKiKP PKiKP 21 12 57.3 -0.8
comp=Z,7.7nm,0.7s
MMAI Mount Meron Ar 148.69 305 PKPbc PKPbc 21 12 58.0 +1.1
comp=Z,1.6nm,0.5s,baz=64,slow=5.7,SNR=8.6
FLN La Foliniere 148.84 7 *e*PKP1 PKPbc 21 12 56.8 -0.4
comp=Z,68nm,0.9s
ROSF Rostrenen 148.85 11 *e*PKP1 PKPbc 21 12 56.6 -0.7
STU Stuttgart 148.94 354 *e*PKP PKPbc 21 12 57.5 0.0
BZS Buzias 148.97 337 ⇑PKHKP PKPbc 21 12 57.1 -0.5
LDF La Druitiere 149.05 6 *e*PKP1 PKPbc 21 12 57.3 -0.4
comp=Z,14nm,0.6s
SGMF Saint Gilles 149.05 10 *e*PKP1 PKPbc 21 12 57.3 -0.5
comp=Z,25nm,0.8s
MOA Molln 149.08 348 ⇑*i*P PKPbc 21 12 57.7 -0.2
comp=Z,5.1nm,0.9s
GRR Gorron 149.16 7 *e*PKP1 PKPbc 21 12 57.7 -0.3
comp=Z,49nm,0.7s
QUIF Quistinic 149.28 11 *e*PKP1 PKPbc 21 12 57.9 -0.4
FUR Furstenfeldbru 149.29 352 *e*PKP PKPbc 21 12 58.2 -0.2
ARSA Arzberg 149.37 346 ⇑*i*P PKPdf 21 12 57.8 +4.0
comp=Z,5.7nm,1.2s
MEZF Maizieres J'vi 149.41 360 *e*PKP1 PKPbc 21 12 58.9 +0.3
comp=Z,20nm,0.9s
CDF Champ du Feu 149.43 357 *e*PKP1 PKPbc 21 12 58.8 +0.1
comp=Z,21nm,0.8s
BFO Black Forest 149.45 355 *e*PKP PKPbc 21 12 58.8 +0.1
PKSM Moragy 149.47 341 ⇑PKHKP PKPbc 21 12 58.6 -0.2
HAU Haudompre 149.88 358 *e*PKP1 PKPbc 21 13 00.8 +1.0
comp=Z,13nm,0.7s
KBA Koenbreinsper 150.00 348 ⇑*i*P PKPbc 21 12 60.0 -0.1
comp=Z,6.8nm,0.7s
WATA Walderalm 150.06 351 ⇑*i*P PKPbc 21 13 00.1 -0.1
comp=Z,2.2nm,0.7s
MOTA Moosalm 150.12 351 ⇑*i*P PKPbc 21 13 00.2 -0.1
comp=Z,8.8nm,1.0s
WTTA Wattenberg 150.12 351 ⇓*i*P PKPbc 21 13 00.6 +0.2
comp=Z,14nm,0.4s
SQTA Sankt Quirin 150.22 351 ⇑*i*P PKPbc 21 13 00.8 +0.2
comp=Z,4.9nm,0.8s
DAVA Damuels 150.33 353 ⇓*i*P PKPbc 21 13 01.6 +0.7
comp=Z,18nm,1.1s
HYF Humbligny 150.58 3 *e*PKP1 PKPbc 21 13 01.9 +0.5
PDKS Podkum 150.62 346 *e*PKPdf PKPdf 21 12 55.9 +0.1
PDKS *e*PKPbc PKPbc 21 13 01.3 -0.2
PDKS *e* 21 13 21.1
PDKS *e* 21 14 10.5
LOR Lormes 150.63 1 *e*PKP1 PKPbc 21 13 01.6 0.0
comp=Z,9.6nm,0.5s
LJU Ljubljana 150.74 346 *i* PKPbc PKPbc 21 13 01.7 -0.1
SSF Saint Saulge 150.82 2 *e*PKP1 PKPbc 21 13 02.2 +0.2
comp=Z,33nm,1.0s
MFF Saint Martin d 151.01 7 *e*PKP1 PKPbc 21 13 02.1 -0.3
comp=Z,26nm,1.0s
CEY Cerknica 151.05 346 *i* PKPdf PKPdf 21 12 56.4 -0.1
CEY *e*PKPbc PKPbc 21 13 02.4 -0.2
CEY *e*PKPab PKPab 21 13 10.2 -0.9
BOJS Bojanci 151.07 345 *e*PKPdf PKPdf 21 12 56.5 0.0
BOJS *e*PKPbc PKPbc 21 13 02.9 +0.4
BOJS *e* 21 13 22.3
BOJS *i* 21 14 12.7
AVF Avril sur Loir 151.09 2 *e*PKP1 PKPbc 21 13 02.2 -0.4
comp=Z,7.3nm,0.6s
SMF Signal de Mont 151.25 1 *e*PKP1 PKPbc 21 13 02.8 -0.2
CABF La Chapelle 151.28 358 *e*PKP1 PKPbc 21 13 03.7 +0.6
comp=Z,32nm,0.8s
BGF Bois d'Agland 151.30 3 *e*PKP1 PKPbc 21 13 03.1 0.0
comp=Z,27nm,0.6s
TCF Toulx Ste Croi 151.53 4 *e*PKP1 PKPbc 21 13 03.4 -0.2
comp=Z,21nm,0.9s
LPL La Plagne 152.35 357 *e*PKP1 PKPbc 21 13 06.5 +1.0
LPG La Plagne 152.37 357 *e*PKP1 PKPbc 21 13 06.6 +1.1
RJF Les Rejaudoux 152.46 5 *e*PKP1 PKPbc 21 13 05.6 -0.1
LFF La Frestale 152.75 6 *e*PKP1 PKPbc 21 13 06.3 -0.1
BNI Bardonecchia 152.81 357 *e*PKIKP PKPbc 21 13 07.3 +0.8
CAF Calviac 152.88 4 *e*PKP1 PKPbc 21 13 06.7 +0.1
comp=Z,2.4nm,0.5s
ORIF Oris-en-Rattie 152.98 358 *e*PKP1 PKPbc 21 13 07.2 +0.3
VIVF Saint-Julien-l 153.05 0 *e*PKP1 PKPbc 21 13 07.4 +0.4
comp=Z,5.8nm,0.6s
MBDF Montbardon 153.13 357 *e*PKP1 PKPbc 21 13 07.6 +0.4
comp=Z,10nm,0.7s
LASF Ste Croix 153.82 2 *e*PKP1 PKPbc 21 13 09.2 +0.5
comp=Z,7.7nm,0.8s
SMRF Simiane la Rot 153.93 359 *e*PKP1 PKPbc 21 13 09.6 +0.7
ESDC Sonseca Array 156.92 18 PKPab PKPab 21 13 36.3 +0.2
comp=Z,2.1nm,0.6s,baz=325,slow=3.5,SNR=12
ESDC pPKPab pPKPab 21 14 38.9 -0.5
comp=Z,1.1nm,0.9s,baz=352,slow=5.1,SNR=2.6
MDT Midelt 162.81 28 PKPab PKPab 21 14 01.5 -0.3
comp=Z,1.6nm,0.5s,baz=322,slow=3.9,SNR=3.6
TORD Torodi Ar. Bea 174.44 146 PKP PKPdf 21 13 18.8 -0.1
comp=Z,1.6nm,0.8s,baz=7.8,slow=0.5,SNR=15
TORD PKPab PKPab 21 14 54.3 +1.0
comp=Z,3.8nm,1.0s,baz=224,slow=4.6,SNR=10

CSEM ***19*** *20:55:33.8±0.1, 3769N×1490E, h58km±1km, ML4.5/6, Error ellipse: s-maj=2.2km s-min=1.6km az=139.0*
LDG ***19*** *20:55:34.5±0.2, 3779N×1488E, h30km, Ml3.5/1, Error ellipse: s-maj=5.3km s-min=4.9km az=8.0*
NEIC ***19*** *20:55:34.0, 3785N×1488E, h26km, mb3.5/1, ML3.8(ROM), After ROM.*
ROM ***19*** *20:55:34.7±0.1, 3783N×1489E, h26km±2km, Md3.4/27, Ml3.6/35, Error ellipse: s-maj=1.8km s-min=1.8km az=175.0*
ISCJB ***19*** *20:55:34.6±0.2, 3786N±001×1486E±002, h26km, mb3.3/7, MS3.0/3, Error ellipse: s-maj=2.9km s-min=2.1km az=18.3*
IDC ***19*** *20:55:35.0±1.3, 3785N×1485E, h40km±18km, mb3.2/7, mb1 3.3/10, mb1mx3.3/23, mbtmp3.4/10, ML3.3/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/17, Error ellipse: s-maj=27.9km s-min=18.1km az=108.0*
ISC 19 20:55:35.3±0.2, 3783N±001×1488E±002, h26km, n123, σ1§31/143, mb3.3/7, MS3.0/3, 8C-3D, Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.15**	**150**	⇓*i*Pg	Sg	**Pb**	**Sb**	**20 55 40.6**	**0.0**
ESLN					Sg	**Sb**	**Sb**	**20 55 45.0**	**+0.9**
19µm,0.8s									
MNO	**Monte Soro**	**0.18**	**307**	⇑*i*Pg	Sg	**Pb**	**Sb**	**20 55 40.5**	**-0.4**
MMME	**Mongiuffi-Meli**	**0.32**	**70**	⇑*i*Pg	Sg	**Pb**	**Sb**	**20 55 42.3**	**-0.4**
MMME					Sg	**Sb**	**Sb**	**20 55 48.3**	**+0.6**
9µm,0.6s									
VAE	**Valguarnera**	**0.51**	**227**	P	Sg	**Pb**	**Sb**	**20 55 47.1**	**+1.4**
89nm,0.3s,baz=324,slow=1.4,SNR=340									
VAE					S	**Sb**	**Sb**	**20 55 59.1**	**+6.4**
323nm,0.3s,baz=110,slow=8.3,SNR=23									
VPL	**Vulcano Piano**	**0.56**	**9**	Pg	Sg	**Pb**	**Sb**	**20 55 45.4**	**-1.1**
VPL					Sg	**Sb**	**Sb**	**20 55 53.8**	**-0.4**
22µm,0.9s									
HAGA	**Augusta**	**0.58**	**158**	Pg	Sg	**Pb**	**Sb**	**20 55 46.1**	**-0.8**
HAGA					Sg	**Sb**	**Sb**	**20 55 55.3**	**+0.5**
8µm,0.7s									
LLI	**Lipari**	**0.62**	**5**	Pg	Sg	**Pb**	**Sb**	**20 55 46.6**	**-1.0**
15µm,0.5s									
AGST	**Augusta-Monte**	**0.63**	**154**	⇑*i*Pg	Sg	**Pb**	**Sb**	**20 55 46.8**	**-1.0**
AGST					Sg	**Sb**	**Sb**	**20 55 56.9**	**+0.7**
MSI	**Messina ING**	**0.66**	**54**	Pg	Sg	**Pb**	**Sb**	**20 55 47.5**	**-0.6**
HVZN	**Vizzini**	**0.66**	**191**	⇑*i*Pg	Sg	**Pb**	**Sb**	**20 55 47.5**	**-0.7**
HVZN					Sg	**Sb**	**Sb**	**20 55 57.7**	**+0.7**
15µm,0.6s									
MSRU	**Castanea**	**0.66**	**49**	⇑*i*Pg	Sg	**Pb**	**Sb**	**20 55 47.5**	**-0.8**
MSRU					Sg	**Sb**	**Sb**	**20 55 57.8**	**+0.7**
7µm,0.7s									
MTTG	**Motta San Giov**	**0.67**	**74**	Pg	Sg	**Pb**	**Sb**	**20 55 48.1**	**-0.3**
74nm,0.4s									
SSY	**Sortino**	**0.69**	**167**	Pg	Sg	**Pb**	**Sb**	**20 55 47.7**	**-1.0**
SSY					Sg	**Sb**	**Sb**	**20 55 58.6**	**+0.8**
8µm,0.4s									
GIB	**Gibilmanna**	**0.69**	**284**	Pg	Sg	**Pb**	**Sb**	**20 55 48.2**	**-0.6**
RAFF	**Raffo Rosso**	**0.73**	**214**	⇑*i*Pg	Sg	**Pb**	**Sb**	**20 55 49.2**	**-0.2**
RAFF					Sg	**Sb**	**Sb**	**20 55 59.3**	**+0.3**
5µm,0.6s									
PZI	**Palazzolo**	**0.77**	**176**	Pg	Sg	**Pb**	**Sb**	**20 55 49.3**	**-0.8**
SCLL	**Scilla**	**0.79**	**57**	Pg	Sg	**Pb**	**Sb**	**20 55 49.5**	**-0.9**
143nm,0.3s									
HMDC	**Modica**	**0.87**	**185**	⇑*i*Pg	Sg	**Pb**	**Sb**	**20 55 50.8**	**-0.9**
HMDC					Sg	**Sb**	**Sb**	**20 56 03.3**	**+0.3**
5µm,0.5s									
HAVL	**Avola**	**0.89**	**167**	Pg	Sg	**Pn**	**Sb**	**20 55 50.4**	**-1.6**
HAVL					Sg	**Sb**	**Sb**	**20 56 03.6**	**+0.1**
4µm,0.5s									

CEL	**Celeste**	**0.91**	**61**	Pg	**Pn**	**20 55 51.7**	**-0.7**
CEL				Sg	**Sb**	**20 56 06.0**	**+1.8**
2µm,0.6s							
SOI	**Samo**	**0.96**	**75**	Pg	**Pn**	**20 55 52.7**	**-0.4**
MCT	**Mte Cammarata**	**1.00**	**259**	Pg	**Pn**	**20 55 56.0**	**+2.3**
2µm,0.9s							
FAVR	**Favara**	**1.11**	**240**	⇑*i*Pg	**Pn**	**20 55 56.8**	**+1.7**
CORL	**Corleone**	**1.25**	**274**	Pg	**Pn**	**20 55 57.6**	**+0.6**
CORL				Sg	**Sn**	**20 56 15.3**	**+2.4**
6µm,0.7s							
CLTB	**Caltabellotta**	**1.34**	**260**	Pg	**Pn**	**20 55 59.8**	**+1.5**
7µm,0.6s							
PLAC	**Placanica**	**1.38**	**63**	Pg	**Pn**	**20 55 59.4**	**+0.6**
PLAC				Sg	**Sn**	**20 56 18.4**	**+2.2**
487nm,0.8s							
GRI	**Girifalco**	**1.57**	**50**	Pg	**Pn**	**20 56 01.0**	**-0.4**
1µm,0.8s							
USI	**Ustica**	**1.60**	**304**	Pg	**Pn**	**20 56 00.1**	**-1.8**
2µm,0.6s							
ERC	**Erice**	**1.82**	**277**	Pg	**Pn**	**20 56 04.9**	**0.0**
2µm,0.7s							
SERS	**Sersale**	**1.87**	**49**	Pg	**Pn**	**20 56 05.5**	**0.0**
231nm,0.8s							
TIP	**Timpagrande**	**2.00**	**47**	*e*P	**Pn**	**20 56 07.3**	**-0.1**
TIP				*e*S	**Sn**	**20 56 33.3**	**+1.8**
TIP	**Timpagrande**	**2.00**	**47**	*e*P	**Pn**	**20 56 07.3**	**-0.1**
TIP				*e*S	**Sn**	**20 56 33.3**	**+1.8**
CUC	**Castrocucco**	**2.29**	**18**	⇓*i*Pg	**Pn**	**20 56 10.3**	**-1.0**
479nm,0.6s							
MGR	**Morigerati**	**2.37**	**13**	Pg	**Pn**	**20 56 11.1**	**-1.3**
123nm,0.6s							
PTS	**Pantelleria**	**2.51**	**247**	⇓*i*Pg	**Pn**	**20 56 14.5**	**+0.1**
79nm,0.2s							
CMPR	**Campora**	**2.51**	**7**	Pg	**Pn**	**20 56 12.9**	**-1.5**
68nm,0.4s							
SCHR	**S. Chirico Rap**	**2.55**	**21**	Pg	**Pn**	**20 56 14.7**	**-0.2**
191nm,0.7s							
SLCN	**Sala Consilina**	**2.63**	**13**	Pg	**Pn**	**20 56 16.1**	**+0.1**
246nm,0.6s							
CDRU	**Civita di Ruta**	**2.68**	**7**	Pg	**Pn**	**20 56 15.5**	**-1.2**
89nm,1.1s							
SGO	**Sicignano**	**2.75**	**7**	Pg	**Pn**	**20 56 16.7**	**-1.0**
28nm,0.6s							
PTRP	**Pietrapertosa**	**2.84**	**18**	Pg	**Pn**	**20 56 21.5**	**+2.5**
154nm,3.7s							
MCRV	**Calabrutti - M**	**2.96**	**4**	Pg	**Pn**	**20 56 20.9**	**+0.3**
58nm,0.8s							
MRLC	**Muro Lucano**	**2.96**	**9**	Pg	**Pn**	**20 56 21.0**	**+0.4**
126nm,1.0s							
SNAL	**S. Angelo Dei**	**3.11**	**5**	Pg	**Pn**	**20 56 23.2**	**+0.6**
207nm,1.2s							
VULT	**Monte Vulture**	**3.18**	**10**	Pg	**Pn**	**20 56 25.1**	**+1.6**
88nm,0.7s							
CAFE	**Carife**	**3.21**	**5**	Pn	**Pn**	**20 56 24.7**	**+0.7**
81nm,0.8s							
SG1	**Sgolgore (BA)**	**3.32**	**24**	*e*Pn	**Pn**	**20 56 25.4**	**-0.1**
FG4	**Candela**	**3.34**	**8**	Pn	**Pn**	**20 56 27.7**	**+1.9**
101nm,0.9s							
AMUR	**Altamura**	**3.36**	**23**	Pn	**Pn**	**20 56 26.1**	**+0.1**
136nm,0.9s							
CDT	**Castel del Mon**	**3.43**	**18**	*e*Pn	**Pn**	**20 56 27.4**	**+0.4**
FG5	**Orsara di Pugl**	**3.47**	**5**	Pn	**Pn**	**20 56 29.1**	**+1.6**
34nm,0.1s							
LCI	**Lecce**	**3.55**	**44**	Pn	**Pn**	**20 56 28.3**	**-0.4**
12nm,0.2s							
PE1	**Pezze di Greco**	**3.57**	**33**	*e*Pn	**Pn**	**20 56 28.4**	**-0.5**
SCTE	**Santa Cesarea**	**3.59**	**50**	Pn	**Pn**	**20 56 29.0**	**-0.2**
SCTE				Sn	**Sn**	**20 57 10.1**	**-0.6**
258nm,1.6s							
BAI	**Bari**	**3.62**	**25**	*e*Pn	**Pn**	**20 56 29.4**	**-0.3**
RGNG	**Rignano Grg**	**3.88**	**8**	Pn	**Pn**	**20 56 34.3**	**+1.1**
TRIV	**Trivento**	**3.94**	**356**	Pn	**Pn**	**20 56 36.7**	**+2.6**
MS1	**Monte Sant'Ang**	**3.96**	**12**	*e*Pn	**Pn**	**20 56 34.9**	**+0.6**
MSAG	**Monte S. Angel**	**3.96**	**11**	Pn	**Pn**	**20 56 34.1**	**-0.2**
62nm,0.8s							
FGMS	**Monte Sant'Ang**	**3.96**	**12**	Pn	**Pn**	**20 56 34.8**	**+0.4**
11nm,0.4s							
SDI	**San Donato**	**3.96**	**348**	Pn	**Pn**	**20 56 35.4**	**+1.0**
6.0nm,0.4s							
SGRT	**San Giovanni R**	**3.98**	**9**	Pn	**Pn**	**20 56 34.8**	**+0.2**
35nm,0.6s							
KEK	**Kerkira**	**4.28**	**62**	*e*P	**Pn**	**20 56 40.5**	**+1.8**
VLS	**Valsamata**	**4.53**	**84**	*e*P	**Pn**	**20 56 42.0**	**-0.1**
VSL	**Villasalto**	**4.62**	**293**	Pn	**Pn**	**20 56 42.2**	**-1.1**
93nm,0.8s							
VSL	**Villasalto**	**4.62**	**293**	*e*P	**Pn**	**20 56 41.6**	**-1.7**
VSL				*e*S	**Sn**	**20 57 32.5**	**-3.6**
VSL	**Villasalto**	**4.62**	**293**	*e*P	**Pn**	**20 56 41.6**	**-1.7**
VSL	**Villasalto**	**4.62**	**293**	Pn	**Pn**	**20 56 42.2**	**-1.1**
93nm,0.8s							
AQU	**L'Aquila**	**4.66**	**346**	P	**Pn**	**20 56 39.4**	**-4.6**
AQU	**L'Aquila**	**4.66**	**346**	P	**Pn**	**20 56 39.3**	**-4.7**
STON	**Ston**	**5.48**	**22**	*i* Pn	**Pn**	**20 56 54.4**	**-0.8**
STON	**Ston**	**5.48**	**22**	*i* Pn	**Pn**	**20 56 54.3**	**-0.9**
EVR	**Evrytania**	**5.55**	**77**	*e*P	**Pn**	**20 56 59.5**	**+3.3**
ITM	**Ithomi**	**5.64**	**94**	*e*P	**Pn**	**20 56 57.0**	**-0.4**
PGF	**Pioggiola**	**6.52**	**318**	*e*P	**Pn**	**20 57 11.2**	**+1.8**
PGF				*e*Sn	**Sn**	**20 58 16.5**	**-6.4**
5.4nm,0.5s							
PGF	**Pioggiola**	**6.52**	**318**	*e*Pn	**Pn**	**20 57 06.0**	**-3.4**
PGF				*e*P		20 57 11.2	
PGF	**Pioggiola**	**6.52**	**318**	*e*P	**Pn**	**20 57 11.2**	**+1.8**
PGF				*e*Sn	**Sn**	**20 58 16.5**	**-6.4**
2.7nm,0.5s							
VLI	**Veliai**	**6.52**	**97**	*e*P	**Pn**	**20 57 13.0**	**+3.5**
SBF	**Sospel**	**8.26**	**319**	*e*Pn	**Pn**	**20 57 30.5**	**-2.8**
LMR	**La Mourre**	**8.41**	**313**	*e*Pn	**Pn**	**20 57 32.4**	**-3.0**
IDI	**Anoyia**	**8.45**	**104**	P	**Pn**	**20 57 36.3**	**+0.4**
0.2nm,0.3s,baz=292,slow=20,SNR=2.7							
IDI				S	**Sn**	**20 59 03.2**	**-7.1**
1.2nm,0.3s,baz=307,slow=17,SNR=5.1							
FRF	**La Foret Royal**	**8.48**	**315**	*e*Pn	**Pn**	**20 57 33.6**	**-2.7**
FRF	**La Foret Royal**	**8.48**	**315**	*e*P	**Pn**	**20 57 37.8**	**+1.5**
FRF	**La Foret Royal**	**8.48**	**315

comp=Z,1.7nm,1.0s,mb3.4,baz=167,slow=10,SNR=2.9
NOA LR LR 21 10 59.4
comp=Z,49nm,19.1s,MS3.0,baz=250,slow=40
FINES FINESS Array B 24.66 13 P **P 21 00 51.0 -2.8**
comp=Z,0.7nm,0.5s,mb3.4,baz=181,slow=7.6,SNR=9.0
FINES FINESS Array B 24.66 13 P **P 21 00 51.0 -2.8**
TORD Torodi Ar. Bea 27.24 209 P **P 21 01 15.6 -1.5**
comp=Z,0.4nm,0.8s,mb3.0,baz=32,slow=7.6,SNR=2.9
TORD LR LR 21 13 10.6
comp=Z,46nm,18.5s,MS3.1,baz=280,slow=39
MKAR Makanchi Array 49.26 57 P **P 21 04 19.2 -2.4**
comp=Z,0.1nm,0.5s,mb3.1,baz=289,slow=14,SNR=3.7
SONM Songino Array 64.08 48 P **P 21 06 04.8 -2.1**
comp=Z,0.4nm,0.9s,mb3.4,baz=274,slow=4.2,SNR=3.4

IDC 19 20:57:25.1±18.0, 8323N×271E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/20, mbtmp3.5/4, ML3.0/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/10, Error ellipse: s-maj=278.7km s-min=106.5km az=8.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**14.54**	**147**	Pn	Pn	21 00 48.1	-3.9
	0.1nm,0.3s,baz=348,slow=9.9,SNR=4.3						
ARCES				LR	LR	21 05 50.0	
	comp=Z,29nm,20.6s,baz=110,slow=35						
KAF	**Kangasniemi**	**21.96**	**150**	*e*p	P	21 02 30.2	+10
	0.6nm,0.3s						
NOA	**NORSAR Array B**	**22.41**	**169**	P	P	21 02 24.3	-0.9
	0.9nm,0.8s,baz=351,slow=12,SNR=3.8						
FINES	**FINESS Array B**	**22.61**	**150**	P	P	21 02 25.7	-1.6
	1.5nm,0.9s,baz=350,slow=9.7,SNR=4.5						
HFS	**Hagfors**	**23.38**	**166**	P	P	21 02 35.7	+0.3
	1.1nm,0.6s,baz=354,slow=12,SNR=3.2						
YKA	**Yellowknife Ar**	**31.34**	**308**	LR	LR	21 16 41.8	
	comp=Z,50nm,20.9s,baz=90,slow=37						

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*ISCJB **19** 21:17:50.3±1.3, 190N±03×1198E±03, h10km, mb3.4/3, MS3.1/1, Error ellipse: s-maj=66.0km s-min=11.0km az=90.4*
*IDC **19** 21:17:51.4±3.9, 2010N×12099E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx1.8/20, Error ellipse: s-maj=326.8km s-min=26.9km az=61.0*
*MAN **19** 21:18:06.0, 1841N×12082E, h1km, mb2.0, ML3.8, MS2.9*
ISC 19 21:17:51.2±1.4, 189N±03×1198E±03, h10km, n8, σ0°65/8, mb3.4/3, MS3.1/1, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.95**	**126**	⇓*i*P	**Pg**	**21 18 08.9**	**-0.6**
PIP				*e*S	**Sg**	**21 18 21.9**	**+0.2**
ABRA	**Dolores**	**1.50**	**145**	*e*P	**Pn**	**21 18 17.9**	**-0.2**
CVP	**Callao Caves**	**2.24**	**121**	*e*P	**Pn**	**21 18 28.5**	**+0.1**
CAUP	**Cauayan**	**2.72**	**135**	*e*P	**Pn**	**21 18 38.5**	**+3.6**
SONM	**Songino Array**	**30.88**	**342**	LR	LR	21 36 45.5	
	comp=Z,38nm,18.8s,MS3.1,baz=208,slow=38						
WRA	**Warramunga Arr**	**41.13**	**159**	P	**P**	**21 25 43.0**	**+7.6**
	0.6nm,0.9s,mb3.2,baz=342,slow=9.0,SNR=5.9						
MKAR	**Makanchi Array**	**41.43**	**321**	P	**P**	**21 25 37.9**	**0.0**
	0.5nm,0.7s,mb3.2,baz=113,slow=8.3,SNR=5.6						
ASAR	**Alice Springs**	**44.47**	**161**	P	**P**	**21 26 11.6**	**+9.1**
	0.5nm,0.4s,mb3.6,baz=341,slow=6.8,SNR=9.5						

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*SOF **19** 21:21:39.0, 4008N×2281E, h2km, MD2.7*
*CSEM **19** 21:21:40.5±0.2, 4004N×2309E, h2km, MD3.2, Error ellipse: s-maj=11.3km s-min=1.9km az=100.0*
*ISCJB **19** 21:21:40.8±0.5, 4001N±002×2329E±004, h2km±5km, Error ellipse: s-maj=4.6km s-min=3.7km az=2.7*
*NEIC **19** 21:21:40.5, 4001N×2312E, h17km, MD2.7(SOF), MD3.2(ATH), After ATH.*
*ATH **19** 21:21:40.5, 4001N×2312E, h17km±14km, MD3.2/3*
*THE **19** 21:21:41.4, 4001N×2330E, h2km, ML2.3*
ISC 19 21:21:41.6±0.4, 4000N±002×2328E±004, h4km±6km, n19, σ0°94/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.31**	**104**	*e*Pg	**Pg**	**21 21 47.1**	**-0.6**
PAIG				*e*Sg	**Sg**	**21 21 51.5**	**-0.2**
PLG	**Polygyros**	**0.39**	**19**	*e*PB	**Pg**	**21 21 48.8**	**-0.3**
PLG				*e*SB	**Sg**	**21 21 55.2**	**+1.0**
LIT	**Litokhoron**	**0.62**	**279**	*e*Pg	**Pg**	**21 21 53.2**	**-0.2**
LIT				*e*Sg	**Sg**	**21 22 02.3**	**+0.8**
OUR	**Ouranopolis**	**0.63**	**58**	*e*Pg	**Pg**	**21 21 53.3**	**-0.4**
XOR	**Xorichti**	**0.64**	**186**	*e*Pg	**Pg**	**21 21 54.2**	**+0.3**
XOR				*e*Sg	**Sg**	**21 22 03.1**	**+0.9**
THE	**Thessaloniki**	**0.67**	**339**	*e*Pg	**Pg**	**21 21 54.3**	**-0.2**
THE				*e*Sg	**Sg**	**21 22 04.1**	**+0.8**
NEO	**Neokhori**	**0.70**	**184**	*e*PN	**Pg**	**21 21 54.3**	**-0.7**
NEO				*e*SN	**Sg**	**21 22 04.3**	**+0.3**
SOH	**Sokhos**	**0.82**	**4**	*e*Pg	**Pg**	**21 21 57.0**	**-0.3**
SOH				*e*Sg	**Sg**	**21 22 08.2**	**+0.3**
SRS	**Serrai**	**1.14**	**12**	*e*Pg	**Pg**	**21 22 02.5**	**-0.9**
SRS				*e*Sg	**Sg**	**21 22 18.9**	**+0.8**
GRG	**Griva**	**1.17**	**325**	*e*Pg	**Pg**	**21 22 03.1**	**-0.9**
GRG				*e*Sg	**Sg**	**21 22 19.7**	**+0.6**
KNT	**Kendrikon**	**1.19**	**346**	*e*Pg	**Pg**	**21 22 03.9**	**-0.6**
KNT				*e*Sg	**Sg**	**21 22 20.9**	**+1.0**
AGG	**Agios Georgios**	**1.23**	**217**	*e*Pg	**Pg**	**21 22 03.8**	**-1.3**
AGG				*e*Sg	**Sg**	**21 22 22.8**	**+1.8**
NVR	**Nevrokopi**	**1.42**	**18**	*e*PN	**Pn**	**21 22 07.6**	**-0.5**
NVR				*e*SN	**Sn**	**21 22 28.1**	**+0.9**
VAY	**Valandovo**	**1.42**	**338**	*e*Pg	**Pg**	**21 22 08.2**	**-0.7**
VAY				*e*Sg	**Sg**	**21 22 23.9**	**-3.5**
MMB	**Musomiste**	**1.62**	**12**	P	**Pn**	**21 22 11.1**	**+0.2**
FNA	**Florina**	**1.65**	**299**	*e*Pb	**Pb**	**21 22 10.4**	**-2.2**
FNA				*e*Sb	**Sb**	**21 22 33.5**	**-0.2**
KKB	**Krupnik**	**1.87**	**355**	P	**Pn**	**21 22 12.6**	**-1.7**
RZN	**Rozhen**	**2.00**	**32**	P	**Pn**	**21 22 16.7**	**+0.5**
KDZ	**Kurdzhali**	**2.31**	**44**	P	**Pn**	**21 22 22.9**	**+2.5**

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*IDC **19** 21:46:04.9±1.8, 3456N×2483E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.4/20, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=47.8km s-min=28.7km az=127.0*
*HLW **19** 21:46:07.9, 3494N×2475E, h33km, Mb3.4*
*ISCJB **19** 21:46:09.4±0.4, 3463N±003×2467E±006, h33km, mb3.0/2, Error ellipse: s-maj=7.9km s-min=4.3km az=140.3*
*NEIC **19** 21:46:10.9, 3472N×2463E, h34km, MD3.4(ATH), After ATH.*
*CSEM **19** 21:46:10.9±0.1, 3459N×2460E, h40km, MD3.4, Error ellipse: s-maj=3.8km s-min=2.5km az=80.0*
*ATH **19** 21:46:11.2, 3479N×2462E, h29km±3km, MD3.4/6*
ISC 19 21:46:11.2±0.4, 3467N±003×2467E±006, h35km, n19, σ1°02/23, mb3.0/2, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.51**	**290**	*e*PB	**Pn**	**21 46 21.5**	**-0.5**
VAM	**Vamos**	**0.83**	**333**	*e*Pb	**Pn**	**21 46 25.0**	**-1.4**
VAM				*e*Sn	**Sn**	**21 46 37.8**	**+0.4**
XRY	**Khrisi**	**0.87**	**76**	*e*PN	**Pn**	**21 46 28.0**	**+1.1**
NPS	**Neapolis**	**0.98**	**52**	*e*PN	**Pn**	**21 46 29.4**	**+1.0**
NPS				*e*SN	**Sn**	**21 46 42.5**	**+1.5**
KYTH	**Kithira**	**2.09**	**321**	*e*PB	**Pn**	**21 46 45.0**	**+1.3**
KYTH	**Kithira**	**2.09**	**321**	*e*Pb	**Pn**	**21 46 46.0**	**+2.3**
VLI	**Veliai**	**2.48**	**326**	*e*PN	**Pn**	**21 46 49.5**	**+0.4**
SLUM		**3.20**	**172**	P	**Pn**	**21 46 59.5**	**+0.5**
SLUM				S	**Sn**	**21 47 36.5**	**+0.6**
HMAT	**Matruh**	**4.11**	**150**	P	**Pn**	**21 47 11.5**	**+0.1**
SWA2		**5.45**	**173**	P	**Pn**	**21 47 30.6**	**+0.7**
SWA1		**5.46**	**170**	⇓P	**Pn**	**21 47 30.9**	**+0.8**
SWA1				S	**Sn**	**21 48 32.0**	**+0.4**
AWBH		**7.29**	**149**	⇓P	**Pn**	**21 47 54.7**	**-0.4**
GLL	**Jalalah**	**7.83**	**128**	P	**Pn**	**21 48 02.0**	**-0.6**
AMAG	**Maghara**	**8.24**	**117**	P	**Pn**	**21 48 07.0**	**-1.3**
HNKL	**Nakhl**	**9.19**	**118**	P	**Pn**	**21 48 19.4**	**-1.7**
GERES	**GERESS Array B**	**16.33**	**333**	Pn	**Pn**	**21 49 58.2**	**+0.4**
	0.1nm,0.3s,baz=149,slow=12,SNR=6.3						
AKASG	**Malin Array Be**	**16.36**	**10**	Pn	**Pn**	**21 49 56.7**	**-1.5**
	1.2nm,0.3s,baz=199,slow=11,SNR=6.6						
TORD	**Torodi Ar. Bea**	**29.86**	**230**	P	**P**	**21 52 14.6**	**-0.7**
	0.1nm,0.4s,mb2.9,baz=30,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**44.38**	**56**	P	**P**	**21 54 16.4**	**-1.9**
	0.2nm,0.4s,mb3.2,baz=262,slow=9.4,SNR=4.3						

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*NIED **19** 21:47:00, 3580N×140.10E, h68km, Mw4.7 Best double couple: M0 1.33000×10^16 NP1:φs 353.00000°, δ66.00000°, λ86.00000°. NP2:φs 182.00000°, δ24.00000°, λ98.00000°.*
*SZGRF **19** 21:47:07.1, 3629N×14078E, h33km, mb5.0, Near east coast of eastern Honshu, Japan*
*JMA **19** 21:47:10.7±0.1, 3581N×140.11E, h66km±2km, M4.6 Broadband fault plane solution: P waves. NP1: φs 178.00000°, δ19.00000°, λ82.00000°. NP2:φs 7.00000°, δ71.00000°, λ93.00000°. Principal axes: T Plg64.0000°, Azm282.0000°; N Plg3.0000°, Azm186.0000°; P Plg26.0000°, Azm95.0000°;*
JMA Felt III J1.
*BJI **19** 21:47:10.0, 3579N×140.16E, h94km, mB4.7, mb4.8*
*ISCJB **19** 21:47:10.1±0.3, 3572N±002×14003E±003, h75km±2km, mb4.7/116, Error ellipse: s-maj=4.5km s-min=3.9km az=149.9*
*NEIC **19** 21:47:12.2±0.6, 3572N×13999E, h81km±4km, mb4.8/69, MW4.7(NIED), Error ellipse: s-maj=5.3km s-min=4.4km az=93.0*
NEIC Felt [III] at Tokyo and [II] at Yokosuka. Recorded [3 JMA] in Kanagawa, Saitama and Tokyo; [2 JMA] in Chiba, Gumma, Ibaraki, Shizuoka, Tochigi and Yamanashi; [1 JMA] in Fukushima and Nagano Prefectures.
*HRVD **19** 21:47:12.2±0.9, 3561N×14026E, h85km±4km, MW4.8/47, Centroid moment Tensor Solution. LP body waves: s12,c16;Mantle waves: s47,c66; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.85±.16; Mθθ0.35±.13; Mφφ-2.20±.12; Mrθ-0.06±.10; Mθφ-0.39±.16; Mφr0.70±.12; Best double couple: M0 2.17200×10^16 NP1:φs 195.00000°, δ36.00000°, λ100.00000°. NP2:φs 3.00000°, δ54.00000°, λ83.00000°. Principal axes: T 1.9750, Plg79.0000°, Azm246.0000°; N 0.3960, Plg6.0000°, Azm7.0000°; P -2.3680, Plg9.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **19** 21:47:12.4±1.0, 3559N×13999E, h85km±9km, mb4.2/18, mb1 4.4/19, mb1mx4.3/22, mbtmp4.6/19, MS3.7/3, Ms1 3.7/3, ms1mx2.8/15 Error ellipse: s-maj=15.1km s-min=6.4km az=68.0*
*MOS **19** 21:47:12.7±0.8, 3604N×13990E, h82km, mb4.8/55, Error ellipse: s-maj=9.6km s-min=4.4km az=117.8*
ISC 19 21:47:10.8±0.3, 3574N±002×14008E±003, h69km±2km, h88km±3.6km: pP-P, n337, σ0°90/354, mb4.7/116, 35C-17D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.27**	**259**	⇓P	**Pn**	**21 47 22.2**	**+0.5**
TOK				S	**Sn**	**21 47 31.1**	**+1.5**
JCN	**Nagara**	**0.33**	**162**	⇑P	**Pn**	**21 47 22.7**	**+0.6**
JYT	**Yasato**	**0.50**	**11**	⇑P	**Pn**	**21 47 22.5**	**-1.0**
JYT				S	**Sn**	**21 47 31.4**	**-1.4**
JAG	**Ashikaga**	**0.85**	**324**	⇓P	**Pn**	**21 47 27.0**	**-0.4**
JAG				S	**Sn**	**21 47 38.9**	**-0.8**
JOD2	**Odawara 2**	**0.94**	**240**	⇓P	**Pn**	**21 47 28.4**	**0.0**
JOD2				S	**Sn**	**21 47 41.3**	**-0.2**
JRY	**Ryogami san**	**0.99**	**287**	⇓P	**Pn**	**21 47 29.7**	**+0.5**
JRY				S	**Sn**	**21 47 43.8**	**+1.0**
BSO3	**Boso 3**	**1.00**	**159**	⇑P	**Pn**	**21 47 28.7**	**-0.5**
JIM2	**Oshima 3**	**1.15**	**208**	P	**Pn**	**21 47 30.4**	**-0.7**
JIM2				*e*S	**Sn**	**21 47 45.8**	**-0.5**
JKT	**Katashina**	**1.23**	**327**	⇓P	**Pn**	**21 47 31.8**	**-0.3**
JKT				S	**Sn**	**21 47 48.0**	**-0.1**
JYN	**Shimob**	**1.27**	**260**	⇓P	**Pn**	**21 47 33.0**	**+0.3**
JYN				S	**Sn**	**21 47 49.7**	**+0.5**
BSO1	**Boso 1**	**1.31**	**145**	⇑P	**Pn**	**21 47 32.3**	**-0.9**
MJAR	**Matsushiro Arr**	**1.71**	**299**	P	**Pn**	**21 47 38.7**	**+0.2**
	374nm,0.3s,baz=100,slow=13,SNR=2561						
MJAR				S	**Sn**	**21 48 02.9**	**+3.3**
	273nm,0.3s,baz=138,slow=25,SNR=9.0						
MAJO	**Matsushiro**	**1.71**	**299**	*e*P	**Pn**	**21 47 38.6**	**0.0**
MAT	**Matsushiro**	**1.71**	**299**	P	**Pn**	**21 47 39.0**	**+0.4**
MAT				S	**Sn**	**21 48 00.6**	**+1.0**
MAT	**Matsushiro**	**1.71**	**299**	*e*P	**Pn**	**21 47 39.0**	**+0.4**
MAT				*e*S	**Sn**	**21 48 01.0**	**+1.4**
JHJ	**Hachijo jima 2**	**2.62**	**185**	P	**Pn**	**21 47 50.6**	**-0.2**
	165nm,0.3s,baz=63,slow=3.4,SNR=105						
JHJ				S	**Sn**	**21 48 20.3**	**-1.3**
	388nm,0.3s,baz=74,slow=21,SNR=11						
ASAJ	**Asahikawa**	**8.59**	**12**	P	**Pn**	**21 49 11.2**	**-1.1**
	3.9nm,0.3s,baz=212,slow=10,SNR=25						
ASAJ				S	**Sn**	**21 50 43.2**	**-4.4**
	2.7nm,0.3s,baz=102,slow=28,SNR=3.8						
ASAJ	**Asahikawa**	**8.59**	**12**	P	**Pn**	**21 49 11.2**	**-1.1**
ASAJ				S	**Sn**	**21 50 43.3**	**-4.3**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
CBIJ	**Chichi jima**	**8.80**	**168**	P	**Pn**	**21 49 11.6**	**-3.6**
	comp=N,53nm,0.3s,baz=19,slow=5.0,SNR=48						
CBIJ				S	**Sn**	**21 50 42.9**	**-10**
	comp=N,13nm,0.3s,baz=270,slow=20,SNR=4.0						
VLA	**Vladivostok**	**9.71**	**322**	*e*P	**Pn**	**21 49 29.6**	**+1.9**
VLA				pmax	pmax		
	comp=Z,119nm,1.3s						
KS15	**Wonju Array Si**	**9.95**	**283**	*e*P	**Pn**	**21 49 34.0**	**+3.0**
INCN	**Inchon**	**10.95**	**283**	*e*P	**Pn**	**21 49 46.8**	**+2.3**
	comp=Z,12nm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.38**	**9**	⇑*e*P	**Pn**	**21 49 48.3**	**-2.2**
YSS				*e*		21 51 44.0	
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
MDJ	**Mudanjiang**	**11.95**	**321**	P	**Pn**	**21 49 59.0**	**+0.8**
MDJ				S	**Sn**	**21 52 09.5**	**-0.1**
MDJ				PCP	PcP	21 55 38.4	-0.9
MDJ				SCP	ScP	21 59 04.3	-1.8
MDJ				PCS	PcS	21 59 13.1	-0.3
MDJ				SCS	ScS	22 02 39.6	-2.3
MDJ				AMB	AMB		
	comp=Z,30nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,40nm,4.5s						
MDJ				LR	LR		
	comp=N,290nm,23.7s						
MDJ				LR	LR		
	comp=E,150nm,27.2s						
MDJ				LR	LR		
	comp=Z,280nm,32.0s						
MDJ	**Mudanjiang**	**11.95**	**321**	*e*P	**Pn**	**21 49 59.2**	**+1.1**
	comp=Z,30nm,0.9s						
HABR	**Khabarovsk**	**13.26**	**345**	P	**Pn**	**21 50 15.3**	**-0.7**
HABR				*e*S	**Sn**	**21 52 40.9**	**-0.6**
JOW	**Kunigami**	**13.43**	**232**	P	**Pn**	**21 50 20.4**	**+2.1**
	comp=Z,2.2nm,0.3s,baz=52,slow=12,SNR=17						
CN2	**Changchun**	**13.82**	**310**	*e*P	**Pn**	**21 50 24.5**	**+1.0**
CN2				*e*XP		21 50 49.0	
CN2				*e*S	**Sn**	**21 52 55.3**	**0.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
SNY	**Shenyang**	**14.23**	**300**	⇑P	**Pn**	**21 50 27.8**	**-0.9**
SNY				AP		21 50 39.1	
SNY				S	**Sn**	**21 53 00.0**	**-5.1**
SNY				SS		21 53 22.1	
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s						
SNY				AMB	AMB		
	comp=Z,80nm,5.2s						
SNY				LR	LR		
	comp=N,150nm,15.1s						
SNY				LR	LR		
	comp=E,240nm,16.7s						
SNY				LR	LR		
	comp=Z,300nm,18.6s						
KLR	**Kul'dur**	**14.80**	**338**	*e*P	**Pn**	**21 50 29.8**	**-6.4**
SSE	**Sheshan**	**16.43**	**259**	P	**Pn**	**21 50 56.4**	**-0.5**
SSE				AP	pP	21 51 11.0	-1.7
SSE				S	**S**	**21 53 53.8**	**-13**
SSE				AMB	AMB		
	comp=Z,10.0nm,0.7s						
SSE				AMB	AMB		
	comp=Z,30nm,5.8s						
SSE				LR	LR		
	comp=N,110nm,18.3s						
SSE				LR	LR		
	comp=E,90nm,18.3s						
SSE				LR	LR		
	comp=Z,160nm,21.3s						
NJ2	**Nanjing**	**18.00**	**264**	*e*P	**Pn**	**21 51 17.4**	**+1.3**
NJ2				AP	pP	21 51 31.3	+1.3
NJ2				PP		21 51 34.5	
NJ2				XP	sP	21 51 41.1	+2.4
NJ2				S	**S**	**21 54 32.0**	**-5.3**
NJ2				AMB	AMB		
	comp=Z,30nm,1.4s						
NJ2				AMB	AMB		
	comp=Z,190nm,6.2s						
NJ2				LR	LR		
	comp=N,420nm,21.1s						
NJ2				LR	LR		
	comp=E,480nm,23.7s						
BJT	**Baijiatuau**	**19.34**	**290**	*e*P	**Pn**	**21 51 29.9**	**-2.3**
BJT				pmax	pmax		
	comp=Z,26nm,0.8s						
BJT	**Baijiatuau**	**19.34**	**290**	*e*P	**Pn**	**21 51 29.9**	**-2.3**
	comp=Z,26nm,0.8s						
HIA	**Hailar**	**20.11**	**319**	*e*P	**P**	**21 51 36.2**	**-2.6**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HIA	**Hailar**	**20.11**	**319**	*e*P	**P**	**21 51 36.2**	**-2.6**
	comp=Z,7.7nm,0.6s						
WHN	**Wuhan**	**22.13**	**264**	⇓*i*P	**P**	**21 52 01.0**	**+0.4**
WHN				*e*S	**S**	**21 55 58.1**	**-2.3**
WHN				LR	LR		
	comp=Z,690nm,14.6s						
HHC	**Hu-ho-hao-te**	**22.90**	**291**	*e*P	**P**	**21 52 05.8**	**-2.9**
HHC				AP		21 52 31.8	
HHC				PP		21 52 36.8	
HHC				PCP	PcP	21 55 56.0	-0.9
HHC				S	**S**	**21 56 05.4**	**-7.8**
HHC				SS		21 56 53.0	
HHC				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
HHC				AMB	AMB		
	comp=Z,90nm,3.4s						
HHC				LR	LR		
	comp=N,110nm,12.9s						
HHC				LR	LR		
	comp=E,110nm,13.9s						
HHC				LR	LR		
	comp=Z,150nm,13.9s						
CLNS	**Chul'man**	**23.46**	**339**	*e*P	**P**	**21 52 14.1**	**0.0**
CLNS				pmax	pmax		
	comp=Z,46nm,1.2s,mb4.7						
CLNS				pmax	pmax		
	comp=N,25nm,1.1s						
CLNS				pmax	pmax		
	comp=E,14nm,1.1s						
MA2	**Magadan**	**24.85**	**13**	*i* P	**P**	**21 52 27.8**	**+1.1**
MA2				pmax	pmax		
	comp=Z,32nm,0.9s,mb4.8						
MA2				MLR	MLR		
	comp=Z,100nm,21.0s						
MA2	**Magadan**	**24.85**	**13**	*e*P	**P**	**21 52 27.6**	**+0.9**
	comp=Z,15nm,0.6s,mb4.6						
CIT	**Chita**	**24.91**	**319**	*e*P	**P**	**21 52 24.8**	**-2.4**
XAN	**Xi'an**	**25.56**	**275**	P	**P**	**21 52 32.3**	**-0.9**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
YAK	**Yakutsk**	**27.12**	**349**	*e*P	**P**	**21 52 46.4**	**-0.8**
YAK				*e*PP	pP	21 53 08.8	+5.2
YAK				*e*		21 53 41.4	
YAK				*e*SS		21 58 57.5	
YAK				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,21nm,1.3s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.4s						
YAK	**Yakutsk**	**27.12**	**349**	*e*P	**P**	**21 52 46.1**	**-1.1**
	comp=E,31nm,0.6s,mb5.0						
ULN	**Ulaanbaatar**	**27.23**	**307**	*c i*P	**P**	**21 52 47.0**	**-1.2**
ULN	**Ulaanbaatar**	**27.23**	**307**	*e*P	**P**	**21 52 46.7**	**-1.4**
	comp=E,3.3nm,0.6s,mb4.0						
SONM	**Songino Array**	**27.65**	**306**	P	**P**	**21 52 50.7**	**-1.2**
	comp=E,3.6nm,0.5s,mb4.2,baz=104,slow=8.9,SNR=25						
SONM				PcP	PcP	21 56 07.8	+0.1
	comp=E,2.0nm,0.6s,baz=134,slow=2.5,SNR=8.5						
SONM				LR	LR	22 04 15.3	
	comp=E,173nm,18.2s,baz=107,slow=37						
SONM	**Songino Array**	**27.65**	**306**	P	**P**	**21 52 50.7**	**-1.2**
SONM						21 56 07.8	
LZH	**Lanzhou**	**29.25**	**281**	*e*P	**P**	**21 53 04.8**	**-1.3**
LZH				AP	pP	21 53 26.5	+3.8
LZH				XP	sP	21 53 38.4	+7.6
LZH				PP	PP	21 54 03.3	-10
LZH				*e*S	**S**	**21 57 48.5**	**-5.4**
LZH				XS	sS	21 58 26.8	+4.5
LZH				*e*SS	SS	21 59 26.3	-34
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,110nm,4.9s						
LZH				LR	LR		
	comp=E,430nm,12.7s						
LZH				LR	LR		
	comp=Z,780nm,17.2s						
GYA	**Guiyang**	**29.95**	**261**	⇑*i*P	**P**	**21 53 10.8**	**-1.6**
GYA				AP	pP	21 53 32.8	+3.9
GYA				XP	sP	21 53 44.5	+7.5
GYA				PP	PP	21 54 17.3	-3.7
GYA				S	**S**	**21 58 09.3**	**+4.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,110nm,3.4s						
GYA				LR	LR		
	comp=N,340nm,17.2s						
GYA				LR	LR		
	comp=E,380nm,16.8s						
GYA				LR	LR		
	comp=Z,410nm,17.6s						
ZAK	**Zakamensk**	**30.26**	**310**	*e*P	**P**	**21 53 13.8**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
TLY	**Talaya**	**30.40**	**313**	*e*P	**P**	**21 53 16.2**	**-0.1**
TLY				*e*		21 54 26.8	
TLY				*e*S	**S**	**21 58 08.5**	**-3.5**
TLY				*e*SS	SS	22 00 20.4	-3.5
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
TLY				MLR	MLR		
	comp=Z,40nm,14.0s						
TLY	**Talaya**	**30.40**	**313**	*e*P	**P**	**21 53 15.9**	**-0.4**
	comp=Z,4.2nm,0.8s,mb4.1						
CD2	**Chengdu**	**30.61**	**271**	⇑*i*P	**P**	**21 53 16.5**	**-1.7**
CD2				AP	pP	21 53 43.4	+8.6
CD2				PP	PP	21 54 18.5	-10
CD2				PCP	PcP	21 56 14.8	-0.3
CD2				S	**S**	**21 58 10.4**	**-5.0**
CD2				SCP	ScP	21 59 49.1	-2.5
CD2				PCS	PcS	21 59 57.3	-1.7
CD2				SCS	ScS	22 03 43.8	-4.2
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
CD2				AMB	AMB		

comp=Z,50nm,5.3s
GTA LR LR
comp=Z,200nm,25.9s
GTA LR LR
comp=E,120nm,21.7s
GTA LR LR
comp=N,80nm,17.9s
KMI Kunming 33.71 262 P P 21 53 43.8 -1.5
KMI AP pP 21 54 04.8 +2.8
KMI XP sP 21 54 14.3 +4.2
KMI PP PP 21 55 04.3 +1.6
KMI S **S** **21 58 59.3 -4.3**
KMI SS SS 22 01 10.0 -22
KMI AMB AMB
comp=Z,60nm,3.9s
KMI LR LR
comp=N,90nm,18.1s
KMI LR LR
comp=E,90nm,19.7s
KMI LR LR
comp=Z,120nm,29.2s
BILL Bilibino 35.57 17 *i* P **P 21 54 00.8 -0.6**
BILL pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
BILL MLR MLR
comp=Z,100nm,22.0s
TIXI Tiksi 36.46 354⇑ *eP* **P 21 54 07.9 -1.1**
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KRAR Krasnoyarsk 37.67 318⇑ *eP* **P 21 54 18.7 -0.6**
WMQ Urumqi 40.48 298 *eP* **P 21 54 43.4 +0.7**
WMQ PP PP 21 56 21.3 +4.3
WMQ PCP PcP 21 56 45.4 +1.2
WMQ PPP 21 56 48.8
WMQ S **S** **22 00 45.3 -1.1**
WMQ XS sS 22 01 19.4 +4.0
WMQ SS SS 22 03 41.9 -6.2
WMQ SCS ScS 22 04 38.8 -2.9
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,70nm,3.0s
WMQ LR LR
comp=N,30nm,22.0s
WMQ LR LR
comp=E,30nm,19.0s
WMQ LR LR
comp=Z,60nm,24.0s
LSA Lhasa 41.26 276 P **P 21 54 50.4 +1.3**
LSA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
LSA Lhasa 41.26 276 *eP* **P 21 54 50.3 +1.2**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
LSA Lhasa 41.26 276 *eP* **P 21 54 50.3 +1.2**
comp=Z,9.4nm,0.8s,mb4.7
NVS Novosibirsk 42.97 315 *i* P **P 21 55 01.8 -1.2**
NVS pmax pmax
comp=N,9.0nm,1.3s
NVS pmax pmax
comp=E,30nm,1.3s
NVS pmax pmax
comp=Z,35nm,1.3s,mb4.9
MKAR Makanchi Array 43.91 303 P **P 21 55 10.6 +0.1**
comp=Z,12nm,0.7s,mb4.7,baz=82,slow=10,SNR=121
MKAR PcP PcP 21 56 55.0 -0.5
comp=Z,4.6nm,0.8s,baz=64,slow=5.5,SNR=4.9
MKAR ScP ScP 22 00 41.1 0.0
comp=Z,0.8nm,0.7s,baz=64,slow=6.9,SNR=4.9
MKAR Makanchi Array 43.91 303 P **P 21 55 10.6 0.0**
MKAR 21 56 55.0
KURK Kurchatov 45.90 309 *eP* **P 21 55 25.8 -0.5**
KURK pmax pmax
comp=Z,58nm,0.8s,mb5.4
KURK Kurchatov 45.90 309 *eP* **P 21 55 25.8 -0.5**
comp=Z,58nm,0.8s,mb5.4
JIRN Jiri 46.07 276 *eP* **P 21 55 28.7 +1.0**
comp=Z,65nm,0.8s,mb5.4
GUN Gumba 46.22 276 *eP* **P 21 55 29.6 +0.7**
comp=Z,50nm,0.7s,mb5.4
PKI Pulchoki 46.74 276 *eP* **P 21 55 33.2 +0.3**
comp=Z,26nm,0.7s,mb5.1
PKI Pulchoki 46.74 276 *eP* **P 21 55 33.2 +0.3**
PKI pmax pmax
comp=Z,26nm,0.7s,mb5.1
KKN Kakani 46.75 276 *eP* **P 21 55 33.5 +0.5**
comp=Z,30nm,0.7s,mb5.1
KKN Kakani 46.75 276 *eP* **P 21 55 33.5 +0.5**
KKN pmax pmax
comp=Z,30nm,0.7s,mb5.1
DMN Daman 46.97 276 *eP* **P 21 55 35.1 +0.4**
GKN Gorkha 47.18 277 *eP* **P 21 55 36.7 +0.3**
comp=Z,84nm,0.9s,mb5.5
KOLN Koldanda 48.12 277 *eP* **P 21 55 44.2 +0.6**
comp=Z,28nm,0.9s,mb5.1
KAKA Kakadu 48.72 190 *eP* **P 21 55 47.7 -0.6**
comp=Z,72nm,1.5s,mb5.4
KDAK Kodiak Island 48.78 41 P **P 21 55 49.5 +0.7**
comp=Z,2.7nm,0.4s,mb4.5,baz=302,slow=17,SNR=3.6
ULHL Ulahol 49.02 298 P **P 21 55 51.2 +0.7**
SNR=16
TKM2 Tokmak 2 49.31 299 P **P 21 55 54.0 +1.2**
SNR=29
KZA Kyzart 49.77 298 P **P 21 55 58.2 +1.9**
SNR=28
KBK Karagaybulak 49.84 299 P **P 21 55 57.8 +1.0**
SNR=7.0
CHMS Chumysh 49.89 299 P **P 21 55 57.6 +0.4**
SNR=7.2
USP Ospenovka 50.00 300 P **P 21 55 58.1 +0.1**
SNR=13
FRU Bishkek 50.03 299 *eP* **P 21 55 58.5 +0.3**
FRU *e* 21 56 23.0
AAK Ala-Archa 50.17 299 P **P 21 55 59.9 +0.6**
SNR=7.8
AAK Ala-Archa 50.17 299*c i*P **P 21 55 58.8 -0.5**
AAK pmax pmax
comp=Z,15nm,1.4s,mb4.7
AAK MLR MLR
comp=Z,100nm,18.0s
AAK Ala-Archa 50.17 299 *eP* **P 21 55 58.7 -0.6**
comp=Z,25nm,1.3s,mb5.0
UCH Uchtor 50.26 298 P **P 21 56 01.5 +1.5**
SNR=12
CHKZ Chkalovo 50.42 314 *eP* **P 21 56 00.3 -0.9**
CHKZ pmax pmax
comp=Z,28nm,1.1s,mb5.1
CHKZ Chkalovo 50.42 314 *eP* **P 21 56 00.3 -0.9**
comp=Z,28nm,1.1s,mb5.1
EKS2 Erkin-Say 50.67 299 P **P 21 56 03.6 +0.5**
SNR=11
SML Sawmill 50.67 36 P **P 21 56 02.9 -0.2**
BRVK Borovoye 50.71 313 *eP* **P 21 56 02.9 -0.5**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BRVK Borovoye 50.71 313 *eP* **P 21 56 02.9 -0.5**
comp=Z,7.7nm,0.8s,mb4.8
COLA College 50.75 32 *i* P **P 21 56 05.9 +2.2**
AML Almayashu 50.87 299 P **P 21 56 06.3 +1.7**
SNR=11
ZRNK Zerenda 51.49 313 *eP* **P 21 56 08.9 -0.4**
ZRNK pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ZRNK Zerenda 51.49 313 *eP* **P 21 56 08.9 -0.3**
comp=Z,8.8nm,0.6s,mb5.0
FITZ Fitzroy Crossi 55.26 197⇑ *iP* **P 21 56 36.9 0.0**
comp=Z,32nm,0.6s,mb5.5
WRAB Tennant Creek 55.63 187 *eP* **P 21 56 38.7 -0.8**
WRAB pmax pmax
comp=Z,20nm,0.6s,mb5.3
WRAB Tennant Creek 55.63 187 *eP* **P 21 56 38.7 -0.8**
comp=Z,20nm,0.6s,mb5.3
WB2 Warramunga Arr 55.64 187 *eP* **P 21 56 38.7 -0.9**
WRA Warramunga Arr 55.64 187 P **P 21 56 38.7 -0.9**
comp=Z,11nm,0.4s,mb5.3,baz=0.5,slow=7.5,SNR=273
AJM Ajmer 55.88 280⇑ *iP* **P 21 56 41.0 -0.3**
INK Inuvik 56.03 27 P **P 21 56 42.6 +0.2**
comp=Z,1.7nm,0.5s,mb4.3,baz=285,slow=3.1,SNR=6.7
INK Inuvik 56.03 27 P **P 21 56 42.6 +0.2**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 56.03 27 *eP* **P 21 56 42.4 0.0**
comp=Z,3.9nm,0.8s,mb4.5
ARU Arti 56.62 319⇑ *iP* **P 21 56 46.1 -0.5**
ARU *e* pP 21 57 06.3 +1.9
ARU *e* 21 57 41.0
ARU *e*S **S** **22 04 33.3 -0.1**
ARU *e*SS SS 22 08 17.4 -4.4
ARU pmax pmax
comp=Z,14nm,0.6s,mb5.2
ARU Arti 56.62 319 *eP* **P 21 56 46.0 -0.6**
comp=Z,16nm,0.6s,mb5.2
SOKR Solikamsk 56.71 323⇓ *iP* **P 21 56 46.9 -0.3**
SOKR pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
HYB Hyderabad 57.09 268 *iP* **P 21 56 49.0 -0.9**
HYB Hyderabad 57.09 268⇑ *eP* **P 21 56 50.5 +0.6**
AS31 Alice Springs 59.37 187 *eP* **P 21 57 06.8 +1.0**
ASAR Alice Springs 59.37 187 P **P 21 57 05.5 -0.3**
comp=Z,2.9nm,0.5s,mb4.6,baz=19,slow=10,SNR=36
ASPA Alice Springs 59.37 187 *eP* **P 21 57 06.8 +1.0**
MBWA Marble Bar 59.78 202 *eP* **P 21 57 08.1 -0.6**
comp=Z,19nm,0.5s,mb5.4
ORR Orenburg 60.27 314 *eP* **P 21 57 11.4 -0.6**
ORR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
DLBC Dease Lake 60.31 37 P **P 21 57 14.3 +2.0**
comp=Z,1.8nm,0.7s,mb4.2,baz=350,slow=12,SNR=2.8
DLBC Dease Lake 60.31 37 P **P 21 57 14.3 +2.0**
KBS Kingsbay 61.75 350⇑ *eP* **P 21 57 23.3 +1.3**
APA Apatity 63.43 336⇓ *iP* **P 21 57 42.5 +9.3**
APA pmax pmax
comp=Z,14nm,0.7s,mb5.0
KEV Kevo 64.27 339 *ep* **P 21 57 37.7 -1.0**
comp=Z,1.1nm,0.4s,mb4.0
KEV Kevo 64.27 339 *eP* **P 21 57 37.7 -1.0**
KEV pmax pmax
comp=Z,10.0nm,0.4s,mb5.0
ARCES ARCESS Array B 64.83 339 P **P 21 57 42.0 -0.3**
comp=Z,10.0nm,0.7s,mb4.8,baz=50,slow=8.1,SNR=47
YKA Yellowknife Ar 65.47 29 P **P 21 57 46.0 -0.5**
comp=Z,1.0nm,0.8s,mb3.7,baz=300,slow=6.7,SNR=6.8
YKA Yellowknife Ar 65.47 29 *i* P **P 21 57 46.5 0.0**
YKA pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 65.47 29 P **P 21 57 46.0 -0.5**
JOF Joensuu 66.60 332 *ep* **P 21 57 51.9 -1.8**
comp=Z,7.7nm,0.4s,mb4.9
FORT Forrest 67.12 191 *eP* **P 21 57 57.2 +0.1**
comp=Z,63nm,0.5s,mb5.7
STKA Stephens Creek 67.27 179 *eP* **P 21 57 55.8 -2.2**
comp=Z,6.5nm,2.0s,mb4.1
STKA Stephens Creek 67.27 179 P **P 21 57 55.9 -2.1**
comp=Z,3.2nm,0.8s,mb4.2,baz=347,slow=11,SNR=5.8
OBN Obninsk 68.49 323⇑ *eP* **P 21 58 05.1 -0.5**
OBN *i* *PP pP 21 58 25.8 +1.8
OBN *e* 22 00 33.6
OBN *e*S S 22 07 07.0 +4.8
OBN pmax pmax
comp=Z,14nm,0.6s,mb5.0
KAF Kangasniemi 68.96 333 *ep* **P 21 58 07.5 -1.1**
comp=Z,11nm,0.5s,mb5.0,baz=51,slow=5.8
KAF Kangasniemi 68.96 333 *eP* **P 21 58 07.5 -1.1**
KAF pmax pmax
comp=Z,11nm,0.5s,mb4.9
FINES FINESS Array B 69.46 332 P **P 21 58 11.0 -0.7**
comp=Z,11nm,0.6s,mb4.9,baz=96,slow=6.3,SNR=96
GOF Gofitskoye 70.16 312 *eP* **P 21 58 22.6 +6.7**
KIV Kislovodsk 70.94 311*c i*P **P 21 58 21.1 +0.4**
KIV pmax pmax
comp=Z,24nm,0.9s,mb5.0
KIV Kislovodsk 70.94 311 *eP* **P 21 58 20.8 +0.1**
comp=Z,28nm,1.0s,mb5.0
GNI Garni 71.61 306*c i*P **P 21 58 26.1 +1.3**
GNI pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 71.98 360 *eP* **P 21 58 27.8 +0.8**
comp=Z,11nm,0.8s,mb4.7
SOC Sochi 72.96 312 *eP* **P 21 58 31.7 -1.1**
SOC *e*PP pP 21 58 51.6 +0.3
SOC *e* 22 01 22.5
SOC *e*PPP 22 03 01.7
SOC *e*S S 22 07 51.7 -2.4
SOC *e*SS sS 22 08 32.8 +7.2
SOC *e*SS SS 22 12 35.1 -0.6
SOC pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
ANN Anapa 73.65 314*c i*P **P 21 58 36.3 -0.6**
ANN *e* pP 21 58 50.7 -4.7
ANN *e*S S 22 08 01.4 -0.5
ANN pmax pmax
comp=Z,11nm,0.6s,mb4.8
AKASG Malin Array Be 74.66 322 P **P 21 58 42.1 -0.6**
comp=Z,10nm,0.4s,mb4.9,baz=48,slow=6.0,SNR=79
NB2 NORSAR Subarra 74.96 337 P **P 21 58 43.8 -0.7**
comp=Z,9.6nm,0.7s,mb4.6,baz=42,slow=5.9
NB2 NORSAR Subarra 74.96 337 P **P 21 58 43.8 -0.7**
NB2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
NOA NORSAR Array B 74.96 337 P **P 21 58 44.1 -0.4**
comp=Z,8.8nm,0.7s,mb4.6,baz=40,slow=5.8,SNR=46
NOA LR LR 22 34 36.0
comp=Z,19nm,19.5s,baz=330,slow=38
MIB Mutribah 75.30 296 *eP* **P 21 58 45.8 -0.7**
MIB AMb AMB 21 58 47.1
comp=Z,20nm,0.7s,mb5.0
KBD Kabd 75.38 295 *eP* **P 21 58 46.4 -0.5**
KBD AMb AMB 21 58 47.8
comp=Z,78nm,0.9s,mb5.4
SUW Suwalki 75.39 327 *eP* **P 21 58 46.6 -0.4**
QRN Al-Qurain 75.45 295 *eP* **P 21 58 46.7 -0.6**
QRN AMb AMB 21 58 48.1
comp=Z,38nm,0.7s,mb5.2
SIM Simferopol' 75.49 315*d iP* **P 21 58 48.7 +1.2**
SIM *e* 21 59 00.0
SIM *e*PP pP 21 59 10.0 +3.8
SIM pmax pmax
comp=Z,14nm,0.9s,mb4.7
RDF Al-Radifah 75.62 295 *eP* **P 21 58 48.2 -0.1**
RDF AMb AMB 21 58 49.6
comp=Z,37nm,0.7s,mb5.2
HRY Holter Researc 75.64 42 *eP* **P 21 58 49.7 +1.3**
FCC Fort Churchill 75.64 26 *eP* **P 21 58 47.8 -0.6**
NAY Al-Naaiem 75.67 296 *eP* **P 21 58 48.0 -0.5**
NAY AMb AMB 21 58 49.2
comp=Z,13nm,0.7s,mb4.8
NVAR Mina Array Bea 76.63 52 P **P 21 58 55.7 +1.7**
comp=Z,0.9nm,0.6s,mb3.7,baz=286,slow=6.4,SNR=6.6
MALT Malatya 76.72 308 ⇓P **P 21 58 56.0 +1.5**
MALT Malatya 76.72 308 *eP* **P 21 58 55.8 +1.3**
comp=Z,9.8nm,1.1s,mb4.5
MNV Mina 76.72 52 *eP* **P 21 58 55.8 +1.3**
ELK Elko 77.21 49 *eP* **P 21 58 59.2 +1.9**
ELK pmax pmax
comp=Z,20nm,0.8s
ELK Elko 77.21 49 *eP* **P 21 58 59.1 +1.9**
comp=Z,1.7nm,0.8s,mb3.8
LVV L'vov 77.78 323 *eP* **P 21 59 01.0 +0.5**
BSD Bornholm Skovb 78.07 331⇑ *iP* **P 21 59 01.4 -0.6**
comp=Z,25nm,0.9s,mb5.0
BSD Bornholm Skovb 78.07 331⇑ *iP* **P 21 59 01.4 -0.6**
BSD pmax pmax
comp=Z,25nm,0.9s,mb4.9
GKP Gorka Klasztor 78.47 329 *eP* **P 21 59 04.0 -0.2**
KWP Kalwaria 78.55 324 *eP* **P 21 59 05.5 +0.8**
BURAR Bucovina Array 78.65 321 ⇑P **P 21 59 05.7 +0.4**
CFR Carcaliu 78.69 318 ⇓P **P 21 59 05.0 -0.5**
TPNV Topopah Spring 78.82 53 *eP* **P 21 59 07.1 +0.9**
TPNV pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
TPNV Topopah Spring 78.82 53 *eP* **P 21 59 07.1 +1.0**
comp=Z,4.2nm,1.0s,mb4.2
BR131 Keskin Array S 78.90 311 *eP* **P 21 59 06.9 +0.3**
comp=Z,1.9nm,0.6s,mb4.1
BRTR Keskin Array B 78.90 311 P **P 21 59 06.9 +0.3**
comp=Z,3.2nm,0.5s,mb4.4,baz=90,slow=4.9,SNR=24
BRTR PP PP 22 02 05.2 -0.8
comp=Z,1.8nm,1.1s,baz=63,slow=8,7,SNR=4.6
VRI Vrincioaia 79.01 319 ⇑P **P 21 59 08.7 +1.5**
DUG Dugway 79.02 48 *eP* **P 21 59 08.7 +1.4**
DUG pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
DUG Dugway 79.02 48 *eP* **P 21 59 08.7 +1.4**
comp=Z,2.9nm,0.7s,mb4.2
PLOR Plostina 79.06 319 ⇑P **P 21 59 08.2 +0.7**
KOLS Kolonicke sedl 79.23 324 *eP* **P 21 59 08.2 -0.2**
KOLS *e* 21 59 15.1
KOLS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KOLS Kolonicke sedl 79.23 324 *eP* **P 21 59 08.2 -0.2**
comp=Z,5.0nm,0.7s,mb4.5
KOLS *e* 21 59 15.1
ANTO Ankara 79.33 312 *eP* **P 21 59 08.1 -0.8**
ANTO pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
ANTO Ankara 79.33 312 *eP* **P 21 59 08.1 -0.8**
comp=Z,5.4nm,0.6s,mb4.5
PDAR Pinedale Array 79.34 45 P **P 21 59 09.8 +0.8**
comp=Z,1.7nm,0.6s,mb4.1,baz=285,slow=2.1,SNR=18
STHS Stebnicka Huta 79.39 324 *i* P **P 21 59 09.7 +0.4**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
STHS Stebnicka Huta 79.39 324 *i* P **P 21 59 09.7 +0.4**
comp=Z,6.6nm,0.8s,mb4.5
OJC Ojcow 79.51 326 *eP* **P 21 59 10.2 +0.3**
CRVS Cervenica-Dubn 79.64 324 *eP* **P 21 59 12.5 +1.8**
MLR Muntele Rosu 79.67 319 ⇓P **P 21 59 12.4 +1.6**
NIE Niedzica 79.83 325 *eP* **P 21 59 12.5 +0.8**
KECS Kecovo 80.40 324 *eP* **P 21 59 14.7 0.0**
KECS pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
KECS Kecovo 80.40 324 *eP* **P 21 59 14.7 0.0**
comp=Z,3.5nm,1.1s,mb4.1
DRGR 80.47 322 ⇓P **P 21 59 15.5 +0.4**
OKC Ostrava-Krasne 80.53 326 *eP* **P 21 59 16.0 +0.6**
BSEG Bad Segeberg 80.72 333 *eP* **P 21 59 16.3 -0.2**
comp=Z,13nm,0.9s,mb4.8
MORC Moravsky Berou 80.85 326 *eP* **P 21 59 17.4 +0.3**
MORC pmax pmax
comp=Z,12nm,1.1s,mb4.6
MORC Moravsky Berou 80.85 326 *eP* **P 21 59 17.4 +0.2**
comp=Z,12nm,1.1s,mb4.7
DPC Dobruska-Polom 80.97 327 *eP* **P 21 59 18.5 +0.7**
UPC Upice 81.00 328 *eP* **P 21 59 18.2 +0.3**
PSZ Piszkesteto 81.08 324 *eP* **P 21 59 18.9 +0.5**
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
PSZ Piszkesteto 81.08 324 *eP* **P 21 59 18.9 +0.5**
comp=Z,6.0nm,0.9s,mb4.4
SRU San Rafael 81.08 48 *eP* **P 21 59 18.9 +0.5**
SRU pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
SRU San Rafael 81.08 48 *eP* **P 21 59 18.9 +0.5**
comp=Z,3.7nm,0.8s,mb4.3
VYHS Vyhne 81.17 325 *i* P **P 21 59 19.2 +0.3**
VYHS Vyhne 81.17 325 *i* P **P 21 59 19.3 +0.4**
VYHS pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
VYHS Vyhne 81.17 325 *i* P **P 21 59 19.3 +0.4**
comp=Z,5.4nm,1.2s,mb4.2
KOLL Kolacno 81.31 325 *eP* **P 21 59 19.9 +0.3**
PVCC Panska Ves 81.60 328 *eP* **P 21 59 21.6 +0.5**
BRG Berggiesshubel 81.61 329 *eP* **P 21 59 20.9 -0.3**
comp=Z,7.0nm,0.8s,mb4.5
BRG Berggiesshubel 81.61 329 *eP* **P 21 59 21.2 0.0**
comp=Z,4.2nm,0.8s,mb4.3
BRG Berggiesshubel 81.61 329 *eP* **P 21 59 21.2 0.0**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
VRAC Vranov 81.61 327 ⇓P **P 21 59 22.2 +1.0**
CLL Collm 81.68 330 *eP* **P 21 59 21.1 -0.4**
comp=Z,15nm,0.8s,mb4.9
CLL Collm 81.68 330⇑ *iP* **P 21 59 21.1 -0.4**
comp=Z,16nm,0.8s,mb4.9
CLL *i* PcP PcP 21 59 26.3 -0.9
CLL Collm 81.68 330⇑ *iP* **P 21 59 21.1 -0.4**
CLL *e**PP pP 21 59 47.0 +6.6
CLL pmax pmax
comp=Z,16nm,0.8s,mb4.9
CLL Collm 81.68 330⇑ *iP* **P 21 59 21.1 -0.4**
comp=Z,16nm,0.8s,mb4.9
CLL *i* PcP PcP 21 59 26.3 -0.9
CLL *e*pP pP 21 59 47.0 +6.6
SMOL Smolenice 81.81 326 *eP* **P 21 59 23.1 +0.9**
FBE Freiberg 81.82 329 *eP* **P 21 59 22.4 +0.1**
comp=Z,14nm,0.9s,mb4.8
BZS Buzias 81.83 321 ⇓P **P 21 59 22.6 +0.3**
SRO2 Moca 81.90 325 *eP* **P 21 59 23.8 +1.1**
SRO2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
PRU Pruhonice 82.02 328 *eP* **P 21 59 23.5 +0.2**
TREC Trest 82.12 327 *eP* **P 21 59 24.5 +0.7**
CLZ Clausthal 82.32 331 *eP* **P 21 59 24.9 0.0**
comp=Z,10.0nm,0.9s,mb4.7
CLZ Clausthal 82.32 331 *eP* **P 21 59 24.9 0.0**
CLZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
WERD Werda 82.62 329 *eP* **P 21 59 26.6 +0.2**
comp=Z,3.0nm,0.9s,mb4.1
MOX Moxa 82.75 330 *eP* **P 21 59 26.9 -0.2**
comp=Z,16nm,1.5s,mb4.6
MOX Moxa 82.75 330 *eP* **P 21 59 26.9 -0.2**
MOX pmax pmax
comp=Z,16nm,1.5s,mb4.6
PKSM Moragy 82.89 323 ⇑P **P 21 59 26.9 -1.0**
CONA Conrad Observa 82.96 326⇑ *iP* **P 21 59 28.9 +0.7**
comp=Z,11nm,1.4s,mb4.5
IBBN Ibbenburen 82.96 333 *eP* **P 21 59 28.0 -0.2**
comp=Z,16nm,0.7s,mb5.0
MANZ Manzenberg 83.05 329 *eP* **P 21 59 28.9 +0.2**
comp=Z,6.0nm,0.8s,mb4.5
KHC Kasperske Hory 83.08 328 *eP* **P 21 59 28.8 0.0**
ROTZ Rotzenmuhle 83.18 329 *eP* **P 21 59 29.7 +0.4**
comp=Z,9.0nm,1.1s,mb4.5
GERES GERESS Array B 83.24 328 P **P 21 59 29.1 -0.5**
comp=Z,1.8nm,0.6s,mb4.1,baz=38,slow=5.0,SNR=24
ARSA Arzberg 83.61 326⇑ *iP* **P 21 59 31.9 +0.3**
comp=Z,8.0nm,1.6s,mb4.3
ARSA Arzberg 83.61 326⇑ *iP* **P 21 59 31.9 +0.3**
comp=Z,8.0nm,1.6s,mb4.3
GRFO Grafenberg 83.65 329 *eP* **P 21 59 32.1 +0.3**
comp=Z,14nm,0.9s,mb4.8
GRFO Grafenberg 83.65 329 *eP* **P 21 59 32.1 +0.3**
GRFO pmax pmax
comp=Z,20nm,0.9s,mb5.0
MOA Molln 83.73 327⇑ *iP* **P 21 59 32.5 +0.3**
comp=Z,8.6nm,1.3s,mb4.4
EIL Elat 84.17 302 *eP* **P 21 59 34.5 +0.1**
comp=Z,276nm,1.0s
STIP Stip 84.25 318 *eP* **P 21 59 34.0 -0.8**
PERS Pernice 84.25 325 *i* P **P 21 59 34.9 0.0**
VAY Valandovo 84.29 318 *eP* **P 21 59 33.8 -1.3**
SKO Skopje 84.45 319 *eP* **P 21 59 36.0 +0.2**
PMOR Pomariorio Ree 84.66 113 *eT* 23 32 50.4
comp=Z,7.3nm,0.2s
CRES Cresnjev 84.69 325 *eP* **P 21 59 36.6 -0.4**
FUR Furstenfeldbru 84.80 328 *eP* **P 21 59 37.8 +0.2**
comp=Z,13nm,0.7s,mb5.0
FUR Furstenfeldbru 84.80 328 *eP* **P 21 59 37.8 +0.2**
FUR pmax pmax
comp=Z,13nm,0.7s,mb5.0
LJU Ljubljana 84.97 325 *i* P **P 21 59 38.1 -0.3**
BOJS Bojanci 85.03 325 *eP* **P 21 59 38.4 -0.3**
PPT Papeete 85.03 116 *e*LR LR 22 26 23.5
comp=Z,254nm,32.8s
PPT Papeete 85.03 116 LR LR 22 30 42.4
comp=Z,89nm,20.1s,baz=342,slow=31
STU Stuttgart 85.20 330 *eP* **P 21 59 39.5 -0.1**
comp=Z,12nm,0.7s,mb4.9
TUC Tucson 85.21 53 *eP* **P 21 59 41.2 +1.5**
TUC pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TUC Tucson 85.21 53 *eP* **P 21 59 41.2 +1.5**
comp=Z,3.4nm,1.0s,mb4.2
CEY Cerknica 85.24 325 *i* P **P 21 59 39.3 -0.5**
JAVS Javornik 85.29 325 *i* P **P 21 59 39.2 -0.9**
OHR Ohrid 85.40 319 *eP* **P 21 59 38.7 -1.9**
GIVF Givet 85.83 333 *eP* **P 21 59 42.2 -0.5**
BFO Black Forest 85.90 330 *eP* **P 21 59 42.8 -0.3**
comp=Z,12nm,1.1s,mb4.7
BFO Black Forest 85.90 330 *eP* **P 21 59 42.8 -0.3**
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.7
DAVA Damuels 86.08 329⇑ *iP* **P 21 59 43.5 -0.4**
comp=Z,13nm,1.2s,mb4.7
BAIF Baives 86.09 333 *eP* **P 21 59 43.5 -0.5**
comp=Z,5.9nm,0.8s,mb4.2
BAIF Baives 86.09 333 *eP* **P 21 59 43.5 -0.5**
BAIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BAIF Baives 86.09 333 *eP* **P 21 59 43.5 -0.5**
comp=Z,3.0nm,0.8s,mb4.3
ANMO Albuquerque 86.24 49 ⇓*eP* **P 21 59 46.5 +1.7**
CDF Champ du Feu 86.26 331 *eP* **P 21 59 44.5 -0.3**
comp=Z,24nm,1.0s,mb4.8
CDF Champ du Feu 86.26 331 *eP* **P 21 59 44.5 -0.3**

CDF pmax pmax
comp=Z,12nm,1.0s,mb4.8
CDF Champ du Feu 86.26 331 *eP* **P 21 59 44.5 -0.3**
comp=Z,12nm,1.0s,mb4.8
SCHQ Schefferville 86.87 15 P **P 21 59 48.3 +0.4**
comp=Z,4.3nm,0.7s,mb4.5,baz=324,slow=7.3,SNR=6.5
HAU Haudompre 86.95 331 *eP* **P 21 59 48.6 +0.4**
HAU *eR*
comp=Z,42nm,19.0s
HAU Haudompre 86.95 331 *eP* **P 21 59 48.6 +0.4**
HAU LR LR
comp=Z,40nm,19.0s
MEZF Maizieres J'vi 87.05 332 *eP* **P 21 59 48.5 -0.2**
CABF La Chapelle 88.19 330 *eP* **P 21 59 54.2 +0.1**
AQU L'Aquila 88.28 324 *eP* **P 21 59 55.0 +0.4**
AQU pmax pmax
comp=Z,11nm,0.9s,mb4.9
AQU L'Aquila 88.28 324 *eP* **P 21 59 55.0 +0.4**
comp=Z,11nm,0.9s,mb4.9
LOR Lormes 88.53 332 *eP* **P 21 59 55.6 -0.1**
LOR *eR*
comp=Z,78nm,20.8s
LOR Lormes 88.53 332 *eP* **P 21 59 55.6 -0.1**
LOR LR LR
comp=Z,80nm,20.8s
TBI Tubuai 88.80 120 *e*LR LR 22 28 08.5
comp=Z,198nm,32.8s
LPL La Plagne 88.81 329 *eP* **P 21 59 56.7 -0.4**
comp=Z,8.4nm,0.9s,mb4.5
LPL La Plagne 88.81 329 *eP* **P 21 59 56.7 -0.4**
LPL pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LPL La Plagne 88.81 329 *eP* **P 21 59 56.7 -0.4**
comp=Z,4.2nm,0.9s,mb4.5
LPG La Plagne 88.81 329 *eP* **P 21 59 57.0 -0.1**
SSF Saint Saulge 88.83 332 *eP* **P 21 59 56.5 -0.7**
LDF La Druitiere 88.86 335 *eP* **P 21 59 56.7 -0.6**
comp=Z,3.5nm,0.6s,mb4.3
LDF La Druitiere 88.86 335 *eP* **P 21 59 56.7 -0.6**
LDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LDF La Druitiere 88.86 335 *eP* **P 21 59 56.7 -0.6**
comp=Z,1.8nm,0.6s,mb4.3
SMF Signal de Mont 89.05 332 *eP* **P 21 59 58.0 -0.2**
AVF Avril sur Loir 89.11 332 *eP* **P 21 59 58.1 -0.4**
GRR Gorron 89.29 335 *eP* **P 21 59 59.0 -0.3**
comp=Z,20nm,1.0s,mb4.8
GRR Gorron 89.29 335 *eP* **P 21 59 59.0 -0.3**
GRR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GRR Gorron 89.29 335 *eP* **P 21 59 59.0 -0.3**
comp=Z,9.8nm,1.0s,mb4.8
BGF Bois d'Agland 89.50 332 *eP* **P 22 00 00.2 -0.1**
ORIF Oris-en-Rattie 89.64 329 *eP* **P 22 00 01.0 0.0**
ORIF *eR*
comp=Z,40nm,18.8s
SBF Sospel 89.84 328 *eP* **P 22 00 01.7 -0.2**
comp=Z,14nm,0.8s,mb4.8
SBF Sospel 89.84 328 *eP* **P 22 00 01.7 -0.2**
SBF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
SBF Sospel 89.84 328 *eP* **P 22 00 01.7 -0.2**
comp=Z,6.8nm,0.8s,mb4.8
TCF Toulx Ste Croi 89.97 332 *eP* **P 22 00 02.1 -0.4**
comp=Z,7.5nm,0.9s,mb4.5
TCF Toulx Ste Croi 89.97 332 *eP* **P 22 00 02.1 -0.4**
TCF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 89.97 332 *eP* **P 22 00 02.1 -0.4**
comp=Z,3.8nm,0.9s,mb4.5
SGMF Saint Gilles 89.98 336 *eP* **P 22 00 02.5 0.0**
PGF Pioggiola 90.19 326 *eP* **P 22 00 02.9 -0.6**
VIVF Saint-Julien-l 90.19 330 *eP* **P 22 00 03.3 -0.2**
FRF La Foret Royal 90.42 328 *eP* **P 22 00 03.8 -0.8**
SMRF Simiane la Rot 90.54 329 *eP* **P 22 00 04.8 -0.3**
MFF Saint Martin d 90.57 334 *eP* **P 22 00 05.5 +0.2**
comp=Z,18nm,0.9s,mb4.9
MFF Saint Martin d 90.57 334 *eP* **P 22 00 05.5 +0.2**
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
MFF Saint Martin d 90.57 334 *eP* **P 22 00 05.5 +0.2**
comp=Z,9.1nm,0.9s,mb4.9
LMR La Mourre 90.66 328 *eP* **P 22 00 05.1 -0.6**
comp=Z,16nm,1.0s,mb4.8
LMR La Mourre 90.66 328 *eP* **P 22 00 05.1 -0.6**
LMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LMR La Mourre 90.66 328 *eP* **P 22 00 05.1 -0.6**
comp=Z,7.8nm,1.0s,mb4.8
RJF Les Rejaudoux 91.06 332 *eP* **P 22 00 07.7 +0.1**
comp=Z,7.5nm,0.7s,mb4.7
RJF *eR*
comp=Z,66nm,17.5s
RJF Les Rejaudoux 91.06 332 *eP* **P 22 00 07.7 +0.1**
RJF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
RJF MLR MLR
comp=Z,70nm,17.5s
RJF Les Rejaudoux 91.06 332 *eP* **P 22 00 07.7 +0.1**
comp=Z,3.8nm,0.6s,mb4.7
RJF LR LR
comp=Z,70nm,17.5s
LASF Ste Croix 91.16 330 *eP* **P 22 00 07.6 -0.5**
comp=Z,18nm,1.2s,mb4.8
CAF Calviac 91.17 332 *eP* **P 22 00 08.5 +0.4**
comp=Z,15nm,1.2s,mb4.7
CAF Calviac 91.17 332 *eP* **P 22 00 08.5 +0.4**
CAF pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
CAF Calviac 91.17 332 *eP* **P 22 00 08.5 +0.4**
comp=Z,7.7nm,1.2s,mb4.7
LFF La Frestale 91.66 332 *eP* **P 22 00 10.7 +0.3**
comp=Z,9.2nm,0.6s,mb4.9
LFF La Frestale 91.66 332 *eP* **P 22 00 10.7 +0.3**
LFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
LFF La Frestale 91.66 332 *eP* **P 22 00 10.7 +0.3**
comp=Z,4.6nm,0.6s,mb4.9
MTLF Montolieu 92.44 331 *eP* **P 22 00 14.1 +0.2**
ETSF Etsaut 93.89 332 *eP* **P 22 00 20.3 -0.3**
comp=Z,7.1nm,0.9s,mb4.7
ETSF Etsaut 93.89 332 *eP* **P 22 00 20.3 -0.3**
ETSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
ETSF Etsaut 93.89 332 *eP* **P 22 00 20.3 -0.3**
comp=Z,3.5nm,0.9s,mb4.7
TORD Torodi Ar. Bea 117.46 313 PKP PKPdf 22 05 48.7 +0.2
comp=Z,2.0nm,0.6s,baz=28,slow=1.2,SNR=45
BOSA Boshof 125.26 258 PKP PKPdf 22 06 04.0 +0.5
comp=Z,3.8nm,1.2s,baz=261,slow=6.3,SNR=4.3
QSPA South Pole Qui 125.48 180 *eP* PKPdf 22 06 02.9 -1.0
DBIC Dimbokro 126.47 315 PKP PKPdf 22 06 06.7 +0.9
comp=Z,6.3nm,0.7s,baz=93,slow=6.3,SNR=9.3
DBIC Dimbokro 126.47 315 PKP PKPdf 22 06 06.7 +0.9
LIC Lamto 126.93 315 *e*PKIKP PKPdf 22 06 06.7 0.0
comp=Z,36nm,1.1s
SAML Samuel 145.93 44 *eP* PKPdf 22 06 42.6 +1.0
PMSA Palmer Station 147.52 161 PKPbc PKPbc 22 06 46.0 -1.0
LPAZ La Paz 148.28 60 PKPbc PKPbc 22 06 51.0 +2.0
comp=Z,2.5nm,0.7s,baz=322,slow=3.0,SNR=14
LPAZ La Paz 148.28 60 PKP2 PKPbc 22 06 51.0 +2.0
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
LVC Limon Verde 151.63 70 PKPbc PKPbc 22 06 59.1 +1.9
baz=328,slow=9.5

*ISCJB **19** 22:11:41.3±0.8, 2030S±006×689W±0.1, h113km±9km, mb3.8/3, Error ellipse: s-maj=17.8km s-min=9.5km az=176.9*
*IDC **19** 22:11:41.4±1.0, 2030S×6896W, h102km±5km, mb3.7/5, mb1 3.7/8, mb1mx3.6/18, mbtmp4.0/8, Error ellipse: s-maj=31.9km s-min=8.6km az=99.0*
*NEIC **19** 22:11:42.3±0.7, 2026S×6897W, h112km±8km, mb3.9/2, Error ellipse: s-maj=12.4km s-min=8.1km az=84.0*
ISC 19 22:11:42.3±0.8, 2030S±006×690W±01, h107km±10km, n19, σ0°83/19, mb3.8/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.30**	**179**	P	**Pn**	**22 12 20.0**	**+1.0**
	42nm,0.3s,baz=20,slow=11,SNR=244						
LVC				S	**Sn**	**22 12 46.6**	**-0.5**
	126nm,0.3s,baz=1.0,slow=11,SNR=25						
LPAZ	**La Paz**	**4.07**	**11**	P	**Pn**	**22 12 43.4**	**+0.8**
	2.1nm,0.3s,baz=192,slow=7.2,SNR=43						
ARE	**Arequipa**	**4.50**	**328**	*e*P	**Pn**	**22 12 43.0**	**-5.4**
ARE				*e*S	**Sn**	**22 13 33.0**	**-6.7**
SIV	**San Ignacio**	**8.65**	**62**	P	**Pn**	**22 13 43.6**	**-0.9**
	0.7nm,0.3s,baz=257,slow=9.8,SNR=16						
NNA	**Nana**	**11.20**	**316**	Pn	**Pn**	**22 14 17.9**	**-1.1**
CFAA	**Coronel Fontan**	**11.28**	**177**	P	**Pn**	**22 14 15.6**	**-4.5**
	0.0nm,0.3s,baz=351,slow=16,SNR=6.2						
CFAA				S	**Sn**	**22 16 13.2**	**-11**
	0.1nm,0.3s,baz=224,slow=14,SNR=5.1						
TRQA	**Tornquist**	**18.71**	**163**	*e*Pn	**Pn**	**22 15 53.3**	**-0.6**
	3.4nm,0.6s						
PLCA	**Paso Flores**	**20.41**	**183**	P	**P**	**22 16 11.5**	**+0.7**
	3.6nm,0.7s,baz=3.5,slow=13,SNR=8.3						
PLCA	**Paso Flores**	**20.41**	**183**	*e*P	**P**	**22 16 11.6**	**+0.8**
	2.7nm,0.4s						
BDFB	**Brasilia**	**20.46**	**80**	P	**P**	**22 16 12.2**	**+0.9**
	3.4nm,0.4s,baz=268,slow=5.4,SNR=6.9						
OTAV	**Otavalo**	**22.42**	**334**	P	**P**	**22 16 32.9**	**+0.8**
SNAA	**Sanae**	**63.43**	**161**	P	**P**	**22 22 00.8**	**+0.2**
	0.7nm,0.7s,mb3.7,baz=281,slow=5.7,SNR=18						
TORD	**Torodi Ar. Bea**	**77.01**	**71**	P	**P**	**22 23 22.8**	**-0.6**
	1.2nm,0.4s,mb4.0,baz=253,slow=5.3,SNR=53						
TORD				pP	pP	22 23 50.2	-0.5
	0.8nm,0.6s,baz=255,slow=5.3,SNR=3.0						
TORD				sP	sP	22 24 01.1	-1.0
	1.2nm,0.8s,baz=258,slow=6.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.01**	**71**	P	**P**	**22 23 22.8**	**-0.6**
TORD				pP	pP	22 23 50.2	-0.5
TORD				sP	sP	22 24 01.1	-1.0
BOSA	**Boshof**	**84.06**	**118**	P	**P**	**22 24 00.5**	**-0.5**
	0.8nm,0.6s,mb3.8,baz=284,slow=8.3,SNR=2.7						
BOSA	**Boshof**	**84.06**	**118**	P	**P**	**22 24 00.5**	**-0.5**
YKA	**Yellowknife Ar**	**90.04**	**341**	pP	pP	22 24 54.1	-3.7
	0.7nm,0.6s,baz=136,slow=4.8,SNR=4.7						
MKAR	**Makanchi Array**	**144.69**	**35**	PKP	PKPdf	22 31 05.0	-1.3
	0.4nm,0.4s,baz=339,slow=2.7,SNR=9.7						
MKAR				pPKP	pPKPdf	22 31 32.8	-2.8
	0.3nm,0.6s,baz=336,slow=2.7,SNR=3.7						
SONM	**Songino Array**	**152.28**	**7**	PKPbc	PKPbc	22 31 25.1	-0.4
	0.6nm,0.5s,baz=271,slow=1.4,SNR=5.6						
SONM				pPKPbc	pPKPbc	22 31 52.9	-1.7
	0.6nm,0.5s,baz=296,slow=1.3,SNR=5.5						

*IDC **19** 22:39:11.0±4.5, 1925N×1207.5E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=401.6km s-min=28.5km az=61.0*
*ISCJB **19** 22:39:16.3±2.3, 188N±02×1198E±02, h40km±23km, mb3.5/3, Error ellipse: s-maj=45.2km s-min=19.3km az=73.0.*
*MAN **19** 22:39:23.1, 1686N×1202.0E, h33km, mb3.0, ML4.4, MS4.9*
ISC 19 22:39:14.8±4.7, 188N±02×1198E±02, h14km±31km, n6, σ0°61/8, mb3.5/3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.41**	**143**	*e*P	**Pn**	**22 39 40.2**	**+0.3**
APYP	**Conner**	**1.63**	**124**	*e*P	**Pn**	**22 39 42.5**	**-0.5**
APYP				*e*S	**Sn**	**22 40 04.4**	**+0.6**
CVP	**Callao Caves**	**2.19**	**119**	*e*P	**Pn**	**22 39 51.0**	**+0.4**
CVP				*i* S	**Sn**	**22 40 17.0**	**-0.5**
WRA	**Warramunga Arr**	**41.03**	**159**	P	**P**	**22 46 56.9**	**-0.6**
	1.1nm,0.9s,mb3.5,baz=341,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**41.52**	**321**	P	**P**	**22 47 01.6**	**+0.1**
	0.5nm,0.8s,mb3.2,baz=117,slow=9.8,SNR=3.8						
ASAR	**Alice Springs**	**44.37**	**161**	P	**P**	**22 47 24.9**	**+0.3**
	0.9nm,0.5s,mb3.8,baz=339,slow=6.7,SNR=8.9						

*CSEM **19** 23:06:49.4±0.1, 3708N×3008E, h64km±1km, MD3.5, Error ellipse: s-maj=1.8km s-min=1.3km az=7.0*
*IDC **19** 23:06:49.5±1.3, 3703N×3001E, h59km±19km, mb3.4/4, mb1 3.5/8, mb1mx3.3/23, mbtmp3.6/8, ML3.4/4, Error ellipse: s-maj=22.1km s-min=9.9km az=149.0*
*ISCJB **19** 23:06:50.3±0.3, 3701N±003×3011E±003, h81km±4km, mb3.5/4, Error ellipse: s-maj=4.7km s-min=3.7km az=11.7*
*NEIC **19** 23:06:50.0, 3708N×3008E, h73km, MD3.4(ISK), MD3.6(ATH), After ISK.*
*ISK **19** 23:06:50.5, 3708N×3009E, h73km, MD3.5*
*MOS **19** 23:06:50.0±0.4, 3703N×3013E, h66km, mb3.7/1, Error ellipse: s-maj=13.2km s-min=10.5km az=71.1*
*ATH **19** 23:06:53.8, 3699N×2954E, h21km±4km, MD3.6/5*
ISC 19 23:06:51.4±0.3, 3702N±003×3010E±003, h75km±4km, n64, σ0°78/84, mb3.5/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.31**	**209**	*i* PG	**Pn**	**23 07 03.1**	**-0.1**
ELL				*i* SG	**Sn**	**23 07 12.1**	**+0.2**
ANTB	**Antalya**	**0.46**	**105**	*i* PG	**Pn**	**23 07 03.7**	**-0.6**
ANTB				*i* SG	**Sn**	**23 07 13.3**	**-0.6**
BCK	**Bucak**	**0.59**	**41**	*i* PG	**Pn**	**23 07 04.7**	**-0.8**
FETY	**Fethiye**	**0.90**	**245**	*i* PG	**Pn**	**23 07 08.8**	**-0.2**
KSL	**Kastellorizon**	**0.96**	**206**	*e*PN	**Pn**	**23 07 10.0**	**+0.3**
TKTP	**Tekketepe**	**1.03**	**10**	*i* P	**Pn**	**23 07 10.3**	**-0.3**
TKTP				*i* S	**Sn**	**23 07 26.0**	**+1.1**
DENT	**Denizli**	**1.12**	**311**	PG	**Pn**	**23 07 11.0**	**-0.7**
DALT	**Dalyan (Mudla)**	**1.20**	**258**	PN	**Pn**	**23 07 12.3**	**-0.3**
KHL	**Karahalli**	**1.38**	**341**	PN	**Pn**	**23 07 14.4**	**-0.6**
YER	**Yerkesik**	**1.46**	**275**	PN	**Pn**	**23 07 16.2**	**+0.2**
ARG	**Arkhangelos**	**1.78**	**244**	*e*PN	**Pn**	**23 07 20.0**	**-0.2**
MLSB	**Milas**	**1.88**	**279**	PN	**Pn**	**23 07 21.2**	**-0.3**
AYDN	**Tasoluk**	**1.88**	**291**	*i* P	**Pn**	**23 07 21.7**	**+0.1**
AYDN				*i* S	**Sn**	**23 07 48.6**	**+4.1**
MANT	**Manisa**	**1.91**	**321**	*i* P	**Pn**	**23 07 21.7**	**-0.3**
MANT				*i* S	**Sn**	**23 07 45.1**	**-0.1**
KONT	**Konya--Tatoy**	**2.02**	**62**	PN	**Pn**	**23 07 23.8**	**+0.3**
ALT	**Altintas**	**2.03**	**0**	PN	**Pn**	**23 07 23.2**	**-0.4**
DAT	**Datca**	**2.04**	**263**	PN	**Pn**	**23 07 24.1**	**+0.4**
GDZ	**Gediz**	**2.12**	**347**	*i* P	**Pn**	**23 07 24.7**	**-0.1**
GDZ				*i* S	**Sn**	**23 07 49.6**	**-0.7**
BDRM	**Kayabasi**	**2.12**	**272**	*i* P	**Pn**	**23 07 25.1**	**+0.2**
BDRM				*i* S	**Sn**	**23 07 52.3**	**+2.0**
BDRM	**Kayabasi**	**2.12**	**272**	*i* P	**Pn**	**23 07 25.0**	**+0.2**
BDRM				*i* S	**Sn**	**23 07 52.3**	**+2.0**
KDHN	**Kadinhani**	**2.19**	**46**	*i* P	**Pn**	**23 07 25.7**	**0.0**
KDHN				*i* S	**Sn**	**23 07 52.8**	**+0.8**
BODT	**Bodrum**	**2.23**	**272**	PN	**Pn**	**23 07 26.1**	**-0.2**
ERMK	**Ermenek**	**2.29**	**99**	*i* P	**Pn**	**23 07 22.7**	**-4.3**
ERMK				*i* S	**Sn**	**23 07 52.7**	**-1.6**
KIZT	**Kizilcal**	**2.33**	**37**	PN	**Pn**	**23 07 27.6**	**0.0**
ESKT	**Eskisehir**	**2.57**	**13**	*i* P	**Pn**	**23 07 31.0**	**+0.2**
ESKT				*i* S	**Sn**	**23 07 59.9**	**-1.1**
SEYT	**Eskypehyr**	**2.57**	**13**	*i* P	**Pn**	**23 07 31.0**	**+0.2**
SEYT				*i* S	**Sn**	**23 07 59.9**	**-1.1**
AKS	**Akhisar**	**2.59**	**316**	*e*PN	**Pn**	**23 07 30.8**	**-0.3**
SMG	**Samos**	**2.69**	**286**	*e*PN	**Pn**	**23 07 32.5**	**+0.1**
BLCB	**Balcova**	**2.78**	**300**	*e*PN	**Pn**	**23 07 33.4**	**-0.3**
IKL	**Isikli**	**2.99**	**104**	*e*PN	**Pn**	**23 07 38.4**	**+1.9**
CSS	**Prodhromos**	**3.33**	**127**	*e*Pn	**Pn**	**23 07 41.0**	**-0.2**
CSS				*e*Sn	**Sn**	**23 08 17.8**	**-1.8**
CSS	**Prodhromos**	**3.33**	**127**	*e*Pn	**Pn**	**23 07 41.0**	**-0.1**
CSS				*e*Sn	**Sn**	**23 08 17.8**	**-1.7**
MERS	**Mersin**	**3.55**	**91**	*e*PN	**Pn**	**23 07 45.8**	**+1.7**
MDU	**Mudurnu**	**3.55**	**14**	*e*PN	**Pn**	**23 07 45.1**	**+1.0**
YLV	**Yalova**	**3.59**	**351**	*e*PN	**Pn**	**23 07 44.2**	**-0.4**
KAMT	**Kaman**	**3.69**	**49**	*e*PN	**Pn**	**23 07 46.0**	**0.0**
BNT	**Bandirma**	**3.74**	**334**	*e*PN	**Pn**	**23 07 47.0**	**+0.2**
EDC	**Edincik**	**3.75**	**333**	*e*PN	**Pn**	**23 07 47.0**	**+0.1**
BR131	**Keskin Array S**	**3.88**	**45**	*e*Pn	**Pn**	**23 07 48.6**	**0.0**
BR131				*e*Sn	**Sn**	**23 08 25.5**	**-7.5**
BR131	**Keskin Array S**	**3.88**	**45**	*e*Pn	**Pn**	**23 07 48.6**	**0.0**
BR131				*e*Sn	**Sn**	**23 08 25.5**	**-7.5**
BRTR	**Keskin Array B**	**3.88**	**45**	P	**Pn**	**23 07 48.2**	**-0.4**
	3.1nm,0.3s,baz=218,slow=15,SNR=84						
BRTR				S	**Sn**	**23 08 32.1**	**-0.8**
	4.4nm,0.3s,baz=219,slow=26,SNR=38						
BRTR	**Keskin Array B**	**3.88**	**45**	P	**Pn**	**23 07 48.2**	**-0.4**
BRTR				S	**Sn**	**23 08 32.1**	**-0.8**
KARA	**Karaisali**	**3.97**	**85**	*e*PN	**Pn**	**23 07 51.0**	**+1.2**
NPS	**Neapolis**	**4.03**	**246**	*e*PN	**Pn**	**23 07 51.0**	**+0.3**
NPS	**Neapolis**	**4.03**	**246**	*e*Pn	**Pn**	**23 07 50.0**	**-0.7**
KRTS	**Karatas**	**4.26**	**94**	*e*PN	**Pn**	**23 07 55.2**	**+1.4**
RKY	**Sarkoy-Tekirda**	**4.31**	**329**	*e*PN	**Pn**	**23 07 55.0**	**+0.4**
IDI	**Anoyia**	**4.55**	**249**	P	**Pn**	**23 07 56.8**	**-1.0**
	0.9nm,0.3s,baz=57,slow=21,SNR=24						
IDI				S	**Sn**	**23 08 45.7**	**-3.8**
	5.0nm,0.3s,baz=131,slow=22,SNR=12						
KOZT	**Kozan**	**4.59**	**83**	*e*PN	**Pn**	**23 07 59.6**	**+1.2**
CORM	**Corum**	**4.75**	**47**	*e*PN	**Pn**	**23 08 00.7**	**+0.2**
HTY	**Hatay**	**4.94**	**99**	*e*PN	**Pn**	**23 08 03.8**	**+0.7**
VAM	**Vamos**	**5.03**	**253**	*e*PN	**Pn**	**23 08 05.5**	**+1.1**
VAM	**Vamos**	**5.03**	**253**	*e*Pn	**Pn**	**23 08 04.9**	**+0.5**
EDRB	**Edirne**	**5.48**	**333**	*e*PN	**Pn**	**23 08 10.7**	**+0.3**
MMAI	**Mount Meron Ar**	**5.91**	**131**	P	**Pn**	**23 08 14.9**	**-1.4**
	5.5nm,0.3s,baz=311,slow=13,SNR=36						
MMAI				S	**Sn**	**23 09 17.2**	**-5.4**
	5.1nm,0.3s,baz=320,slow=28,SNR=8.4						
ASF	**Jabal al Asfar**	**7.40**	**129**	P	**Pn**	**23 08 37.3**	**+0.6**
	0.2nm,0.3s,baz=253,slow=20,SNR=3.7						
AKTK	**Aktyubinsk**	**24.05**	**47**	P	**P**	**23 11 59.6**	**+0.1**
AKTK	**Aktyubinsk**	**24.05**	**47**	P	**P**	**23 11 59.6**	**+0.1**
AKTO	**Aktyubinsk**	**24.05**	**47**	P	**P**	**23 11 59.6**	**+0.1**
	1.1nm,0.6s,mb3.4,baz=229,slow=5.2,SNR=6.8						
AKTO	**Aktyubinsk**	**24.05**	**47**	P	**P**	**23 11 59.6**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
FINES	**FINESS Array B**	**24.58**	**355**	P	**P**	**23 12 04.1**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.3,baz=157,slow=10,SNR=5.3						
ARCES	**ARCESS Array B**	**32.67**	**357**	P	**P**	**23 13 14.8**	**-1.5**
	comp=Z,0.8nm,0.6s,mb3.7,baz=168,slow=8.4,SNR=5.9						
ARCES	**ARCESS Array B**	**32.67**	**357**	P	**P**	**23 13 14.8**	**-1.5**
MKAR	**Makanchi Array**	**39.40**	**59**	P	**P**	**23 14 13.6**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.6,baz=282,slow=6.1,SNR=8.6						

*IDC **19** 23:21:11.4±5.0, 0345×1353.0E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=118.7km s-min=70.9km az=126.0*
*ISCJB **19** 23:21:14.1±0.9, 03S±0.1×1351E±02, h33km, mb3.6/3, Error ellipse: s-maj=25.1km s-min=16.2km az=158.0*
*NEIC **19** 23:21:16.2±0.8, 030S×1351.1E, h35km, mb3.8/2, Error ellipse: s-maj=22.8km s-min=14.4km az=79.0*
ISC 19 23:21:16.1±0.9, 04S±01×1350E±02, h35km, n10, σ0°58/10, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**19.45**	**182**	P	**Pn**	**23 25 40.4**	**-0.6**
WRA	**Warramunga Arr**	**19.46**	**182**	P	**Pn**	**23 25 40.9**	**-0.2**
	0.1nm,0.3s,baz=1.7,slow=11,SNR=8.0						
FITZ	**Fitzroy Crossi**	**19.88**	**207**	P	**Pn**	**23 25 46.3**	**+0.2**
	2.2nm,0.9s,baz=57,slow=17,SNR=3.4						
CTAO	**Charters Tower**	**22.48**	**151**	P	**P**	**23 26 11.9**	**-0.4**
ASAR	**Alice Springs**	**23.18**	**183**	P	**P**	**23 26 19.9**	**+0.3**
	1.0nm,0.6s,mb3.4,baz=11,slow=10,SNR=12						
HNR	**Honiara**	**26.41**	**111**	*e*P	**P**	**23 26 49.5**	**+0.1**
	66nm,0.8s						
CHKZ	**Chkalovo**	**75.40**	**326**	*e*P	**P**	**23 32 56.3**	**+0.1**
	0.5nm,0.6s,mb3.6						
ZRNK	**Zerenda**	**76.05**	**325**	P	**P**	**23 32 59.3**	**-0.6**
VNDA	**Vanda**	**78.44**	**174**	P	**P**	**23 33 13.9**	**+0.6**
	0.9nm,0.7s,mb3.8,baz=323,slow=7.1,SNR=8.1						
VNDA	**Vanda**	**78.44**	**174**	*e*P	**P**	**23 33 15.3**	**+2.0**
	0.7nm,0.5s,mb3.9						

PGC 19 23:34:03.2, 5836N×13349W, h1km, ML3.2/6, 54km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLBC	**Dease Lake**	**1.83**	**86**	Pn	Pn	23 34 34.2	-1.5
DLBC				Pg	Pg	23 34 36.1	-2.1
DLBC				Sn	Sn	23 34 59.4	-0.1
DLBC				Sg	Sg	23 35 01.2	-0.7
DLBC				Trac		23 35 01.8	
	comp=Z,149nm,0.6s						
PLBC	**Pleasant Camp**	**1.85**	**308**	Pn	Pn	23 34 36.5	+0.4
PLBC				Sn	Sn	23 35 00.0	-0.2
PLBC				Sg	Sg	23 35 01.7	-1.1
WHY	**Whitehorse**	**2.42**	**344**	Pn	Pn	23 34 42.8	-1.1
WHY				Sn	Sn	23 35 12.9	-1.2
WHY				Sg	Sg	23 35 18.0	-2.9
WHY				Trac		23 35 26.4	
	comp=Z,64nm,0.5s						
HYT	**Haines Junctio**	**3.21**	**322**	Pn	Pn	23 34 54.9	+0.2
HYT				Pg	Pg	23 35 01.4	-3.3
HYT				Sg	Sg	23 35 42.1	-4.2
HYT				Trac		23 35 49.3	
	comp=Z,29nm,0.5s						
NDB	**Naden**	**4.42**	**176**	Sg	Sg	23 36 30.4	+5.1
NDB				Trac		23 36 32.5	
	comp=Z,22nm,0.8s						
RUBB	**Prince Rupert**	**4.42**	**155**	Pn	Pn	23 35 10.2	-1.2
RUBB				Pg	Pg	23 35 21.7	-6.3
RUBB				Sg	Sg	23 36 20.4	-4.9
RUBB				Trac		23 36 32.9	
	comp=Z,120nm,1.5s						
BNAB	**Bonilla**	**5.13**	**161**	Pn	Pn	23 35 17.8	-3.4
BNAB				Trac		23 36 49.1	
	comp=Z,5.0nm,0.7s						
VIB	**Van Inlet**	**5.14**	**174**	Pn	Pn	23 35 20.8	-0.6
FNBB	**Fort Nelson**	**5.50**	**80**	Pg	Pg	23 35 46.2	-2.5
FNBB				Sg	Sg	23 36 56.8	-3.2
FNBB				Trac		23 37 09.2	
	comp=Z,21nm,0.8s						
BNB	**Barry Inlet**	**5.88**	**170**	Pn	Pn	23 35 30.7	-0.7
DAWY	**Dawson**	**6.40**	**336**	Pg	Pg	23 35 59.5	-6.2
DAWY				Sg	Sg	23 37 23.2	-5.4
DAWY				Trac		23 37 27.5	
	comp=Z,31nm,0.7s						
FSB	**Fort Saint Jam**	**6.40**	**123**	Sg	Sg	23 37 29.8	+1.0
FSB				Trac		23 37 30.8	
	comp=Z,8.1nm,0.8s						
BMBC	**Bull Mountain**	**6.59**	**106**	Sg	Sg	23 37 26.1	-8.8
BMBC				Sg	Sg	23 37 27.9	-7.0
BMBC				Trac		23 37 46.7	
	comp=Z,27nm,1.1s						
YKW3	**Yellowknife Ar**	**10.21**	**58**	Sg	Sn	23 39 23.3	+57
YKW3				Trac		23 39 28.6	
	comp=Z,4.0nm,0.9s						

*INMG **20** 00:34:31.7±1.2, 3682N×1124W, h15km±45km, ML1.7, Error ellipse: s-maj=45.0km s-min=6.3km az=62.0*

mb1 4.4/18, mb1mx4.3/25, mbtmp4.3/18, MS4.4/13, Ms1 4.3/13, ms1mx4.3/15, Error ellipse: s-maj=17.5km s-min=15.7km az=71.0

MOS ***20*** *00:42:22.3±1.1, 1760S×1398W, h10km, mb5.0/14, Error ellipse: s-maj=18.0km s-min=10.7km az=68.2*

ISCJB ***20*** *00:42:22.2±0.3, 1760S±006×1392W±007, h10km, mb4.5/42, MS4.4/15, Error ellipse: s-maj=9.1km s-min=8.4km az=32.3*

NEIC ***20*** *00:42:23.9±0.3, 1763S×1394W, h10km, mb4.9/26, MS4.6/2, Error ellipse: s-maj=8.4km s-min=8.1km az=118.0*

HRVD ***20*** *00:42:23.9±0.2, 1768S×1385W, h12km, MW5.0/65, Centroid moment Tensor Solution. LP body waves: s34,c46; Mantle waves: s65,c109; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.20±.16; Mθθ2.67±.12; Mφφ0.52±.16; Mrθ0.19±.41; Mφθ-4.11±.11; Mφr-0.64±.49; Best double couple: M=4.65200×1016 NP1:φs103.00000°, δ48.00000°, λ-127.00000°. NP2: φs331.00000°, δ54.00000°, λ-57.00000°. Principal axes: T 5.8780, Plg3.0000°, Azm38.0000°; N -2.4560, Plg26.0000°, Azm130.0000°; P -3.4260, Plg63.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***20*** *00:42:26.8, 1742S×1388W, h23km, mb5.1, MS4.6, Southern Mid-Atlantic Ridge*

ISC 20 00:42:24.2±0.3, 1762S±006×1392W±007, h10km, n98, σ1§06/81, mb4.5/42, MS4.4/15, 3C-4D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**9.64**	**357**	Pn	**Pn**	**00 44 42.0**	**-0.9**
TRIS	**Tristan da Cun**	**19.43**	**176**	P	**Pn**	**00 46 50.0**	**-1.8**
RCBR	**Riachuelo**	**24.47**	**296**	*e*P	**P**	**00 47 41.9**	**-1.5**
	16nm,0.8s,mb4.5						
DBIC	**Dimbokro**	**25.74**	**21**	P	**P**	**00 47 54.2**	**-0.6**
	25nm,1.0s,mb4.7,baz=178,slow=11,SNR=8.0						
DBIC				LR	LR	00 55 51.3	
	comp=Z,1μm,18.2s,MS4.5,baz=176,slow=32						
DBIC	**Dimbokro**	**25.74**	**21**	*e*P	**P**	**00 47 56.1**	**+1.3**
DBIC				pmax	pmax		
	comp=Z,99nm,1.6s						
DBIC	**Dimbokro**	**25.74**	**21**	*e*P	**P**	**00 47 56.1**	**+1.3**
	comp=Z,99nm,1.6s,mb5.1						
TSUM	**Tsumeb**	**29.91**	**98**	P	**P**	**00 48 31.1**	**-1.1**
	comp=Z,6.0nm,1.0s,mb4.3,baz=266,slow=9.0,SNR=11						
TSUM				LR	LR	00 56 56.7	
	comp=Z,220nm,20.1s,MS3.8,baz=236,slow=29						
TSUM	**Tsumeb**	**29.91**	**98**	*e*P	**P**	**00 48 32.2**	**+0.1**
	comp=Z,14nm,1.3s,mb4.5						
BDFB	**Brasilia**	**32.71**	**268**	LR	LR	00 59 48.5	
	comp=Z,910nm,18.9s,MS4.5,baz=101,slow=32						
TOA0	**Torodi Ar. Sit**	**34.23**	**28**	*e*P	**P**	**00 49 09.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**34.23**	**28**	P	**P**	**00 49 09.0**	**-1.1**
	comp=Z,17nm,1.1s,mb4.9,baz=213,slow=7.0,SNR=30						
SUR	**Sutherland**	**34.56**	**122**	P	**P**	**00 49 13.4**	**+0.5**
	comp=Z,23nm,1.2s,mb5.0,baz=319,slow=4.8,SNR=6.2						
SUR	**Sutherland**	**34.56**	**122**	*e*P	**P**	**00 49 12.5**	**-0.4**
LBTB	**Lobatse**	**37.44**	**108**	*e*P	**P**	**00 49 37.6**	**+0.1**
LBTB				pmax	pmax		
	comp=Z,51nm,1.7s,mb5.1						
LBTB	**Lobatse**	**37.44**	**108**	*e*P	**P**	**00 49 37.6**	**0.0**
	comp=Z,51nm,1.7s,mb5.1						
BOSA	**Boshof**	**37.50**	**114**	P	**P**	**00 49 38.1**	**+0.1**
	comp=Z,17nm,1.0s,mb4.8,baz=273,slow=7.4,SNR=15						
BOSA				LR	LR	01 01 47.1	
	comp=Z,182nm,18.5s,MS3.9,baz=102,slow=31						
MATP	**Matopo**	**40.12**	**101**	P	**P**	**00 50 00.1**	**0.0**
	comp=Z,28nm,1.0s,mb4.9,baz=266,slow=8.9,SNR=33						
LSZ	**Lusaka**	**40.39**	**93**	P	**P**	**00 50 03.5**	**+1.2**
	comp=Z,18nm,1.0s,mb4.8,baz=253,slow=7.5,SNR=26						
SIV	**San Ignacio**	**45.08**	**265**	P	**P**	**00 50 41.6**	**+1.2**
	comp=Z,1.3nm,0.8s,mb3.8,baz=88,slow=9.6,SNR=7.6						
TRQA	**Tornquist**	**46.54**	**234**	P	**P**	**00 50 52.2**	**+0.3**
SAML	**Samuel**	**48.60**	**274**	P	**P**	**00 51 09.2**	**+1.3**
	comp=Z,20nm,1.4s,mb5.0						
MDT	**Midelt**	**50.93**	**10**	P	**P**	**00 51 27.1**	**+1.4**
	comp=Z,7.3nm,1.1s,mb4.5,baz=210,slow=4.5,SNR=8.3						
LPAZ	**La Paz**	**51.73**	**263**	P	**P**	**00 51 32.5**	**+0.9**
	comp=Z,1.5nm,0.9s,mb3.9,baz=84,slow=12,SNR=4.4						
LPAZ				LR	LR	01 12 31.1	
	comp=Z,491nm,18.2s,MS4.6,baz=289,slow=35						
KMBO	**Kilima Mbogo**	**52.86**	**78**	LR	LR	01 11 51.7	
	comp=Z,410nm,18.2s,MS4.5,baz=263,slow=34						
PLCA	**Paso Flores**	**53.55**	**232**	LR	LR	01 11 11.4	
	comp=Z,864nm,20.3s,MS4.8,baz=85,slow=32						
SNAA	**Sanae**	**54.44**	**176**	P	**P**	**00 51 51.5**	**-0.1**
	comp=Z,1.0nm,1.1s,mb3.7,baz=356,slow=4.9,SNR=7.2						
ESDC	**Sonseca Array**	**57.75**	**9**	P	**P**	**00 52 14.2**	**-1.1**
	comp=Z,1.5nm,1.0s,mb4.0,baz=185,slow=7.4,SNR=4.9						
SDV	**Santo Domingo**	**61.90**	**291**	*e*P	**P**	**00 52 45.3**	**+1.5**
	comp=Z,13nm,0.9s,mb5.0						
TIP	**Timpagrande**	**63.37**	**26**	*e*P	**P**	**00 52 54.0**	**+0.4**
AQU	**L'Aquila**	**64.78**	**22**	*e*P	**P**	**00 53 03.3**	**+0.4**
AQU				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
AQU	**L'Aquila**	**64.78**	**22**	*e*P	**P**	**00 53 03.3**	**+0.4**
	comp=Z,11nm,0.9s,mb4.9						
EIL	**Elat**	**66.56**	**46**	*e*P	**P**	**00 53 16.4**	**+2.0**
	comp=Z,187nm,1.0s						
ARSA	**Arzberg**	**69.78**	**21**	⇓*i*P	**P**	**00 53 35.0**	**+0.4**
	comp=Z,11nm,1.5s,mb4.6						
MOA	**Molln**	**69.89**	**20**	⇑*i*P	**P**	**00 53 35.8**	**+0.5**
	comp=Z,9.7nm,1.4s,mb4.6						
PKSM	**Moragy**	**70.02**	**23**	⇓*i*P	**P**	**00 53 36.7**	**+0.6**
GRC1	**Grafenberg Arr**	**70.07**	**18**	*e*S	S	01 02 51.2	+4.0
CONA	**Conrad Observa**	**70.48**	**21**	⇑*i*P	**P**	**00 53 39.1**	**+0.2**
	comp=Z,7.4nm,1.2s,mb4.5						
GERES	**GERESS Array B**	**70.59**	**19**	P	**P**	**00 53 38.4**	**-1.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=214,slow=6.4,SNR=5.5						
GERES				LR	LR	01 24 31.9	
	comp=Z,279nm,18.2s,MS4.5,baz=28,slow=36						
GRA2	**Grafenberg Arr**	**70.62**	**17**	*e*P	**P**	**00 53 39.9**	**+0.1**
	comp=Z,24nm,1.7s,mb4.8						
GRA2				*e*pP	pP	00 53 46.3	+3.3
GRA2				*e*L		01 23 45.2	
	comp=Z,339nm,19.1s						
KHC	**Kasperske Hory**	**70.80**	**19**	*e*P	**P**	**00 53 39.3**	**-1.6**
KHC				AMS	AMS	01 23 50.0	
	comp=Z,500nm,17.0s						
ZST	**Bratislava**	**71.14**	**21**	*e*P	**P**	**00 53 43.0**	**+0.1**
ZST				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
ZST	**Bratislava**	**71.14**	**21**	*e*P	**P**	**00 53 43.0**	**+0.1**
	comp=Z,8.6nm,1.2s,mb4.6						
NKC	**Novy Kostel**	**71.45**	**18**	AMS	AMS	01 25 00.0	
	comp=Z,400nm,15.1s						
TREC	**Trest**	**71.55**	**20**	AMS	AMS	01 24 20.0	
	comp=Z,400nm,21.7s						
MOX	**Moxa**	**71.58**	**17**	*e*P	**P**	**00 53 44.7**	**-0.9**
	comp=Z,15nm,1.6s,mb4.7						
MOX							
	comp=Z,300nm,20.0s						
MOX	**Moxa**	**71.58**	**17**	*e*P	**P**	**00 53 44.7**	**-0.9**
MOX				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.7						
MOX				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.6						
ANTO	**Ankara**	**71.87**	**36**	*e*P	**P**	**00 53 48.0**	**+0.7**
ANTO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
ANTO	**Ankara**	**71.87**	**36**	*e*P	**P**	**00 53 48.0**	**+0.7**
	comp=Z,16nm,1.1s,mb4.8						
PSZ	**Piszkesteto**	**71.92**	**23**	*e*P	**P**	**00 53 48.1**	**+0.5**
PSZ				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
PSZ	**Piszkesteto**	**71.92**	**23**	*e*P	**P**	**00 53 48.1**	**+0.5**
	comp=Z,14nm,1.4s,mb4.7						
KOLL	**Kolacno**	**71.92**	**22**	*e*P	**P**	**00 53 49.1**	**+1.5**
VYHS	**Vyhne**	**72.01**	**22**	*e*P	**P**	**00 53 48.0**	**-0.1**
VYHS				*e*		00 53 56.0	
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
VYHS	**Vyhne**	**72.01**	**22**	*e*P	**P**	**00 53 48.0**	**-0.1**
	comp=Z,5.0nm,1.2s,mb4.3						
VYHS				*e*		00 53 56.0	
BR131	**Keskin Array S**	**72.25**	**37**	*e*P	**P**	**00 53 50.6**	**+1.1**
	comp=Z,9.3nm,1.2s,mb4.6						
BRTR	**Keskin Array B**	**72.25**	**37**	P	**P**	**00 53 49.6**	**+0.1**
	comp=Z,4.3nm,1.0s,mb4.3,baz=185,slow=7.2,SNR=14						
PVCC	**Panska Ves**	**72.34**	**19**	*e*P	**P**	**00 53 49.5**	**-0.6**
BRG	**Berggiesshubel**	**72.45**	**18**	*e*P	**P**	**00 53 53.8**	**+3.0**
	comp=Z,2.3nm,1.0s,mb4.0						
BRG				*e*		00 56 27.0	
	comp=Z,2.2nm,1.1s						
BRG							
	comp=N,217nm,18.6s						
BRG							
	comp=E,137nm,18.3s						
BRG							
	comp=Z,382nm,20.4s						
BRG	**Berggiesshubel**	**72.45**	**18**	*e*P	**P**	**00 53 53.8**	**+3.0**
BRG				*e*		00 56 27.0	
BRG				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BRG				MLR	MLR		
	comp=Z,380nm,20.4s,MS4.7						
BRG	**Berggiesshubel**	**72.45**	**18**	*e*P	**P**	**00 53 53.8**	**+3.0**
	comp=Z,2.3nm,1.0s,mb4.1						
BRG				*e*		00 56 27.0	
BRG				LR	LR		
	comp=Z,380nm,20.4s,MS4.7						
MLR	**Muntele Rosu**	**72.48**	**28**	⇓*i*P	**P**	**00 53 50.8**	**-0.2**
CLL	**Collm**	**72.57**	**17**	*i* P	**P**	**00 53 51.4**	**-0.1**
KECS	**Kecovo**	**72.61**	**23**	*e*P	**P**	**00 53 51.1**	**-0.6**
KECS				*e*		00 54 00.1	
KECS				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.2						
KECS	**Kecovo**	**72.61**	**23**	*e*P	**P**	**00 53 51.1**	**-0.6**
	comp=Z,5.4nm,1.6s,mb4.2						
KECS				*e*		00 54 00.1	
MORC	**Moravsky Berou**	**72.64**	**21**	⇓*i*P	**P**	**00 53 53.3**	**+1.4**
MORC	**Moravsky Berou**	**72.64**	**21**	P	**P**	**00 53 50.5**	**-1.4**
MORC				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
MORC	**Moravsky Berou**	**72.64**	**21**	P	**P**	**00 53 50.5**	**-1.4**
	comp=Z,8.1nm,1.3s,mb4.5						
DPC	**Dobruska-Polom**	**72.73**	**20**	*e*P	**P**	**00 53 52.2**	**-0.3**
DPC				AMS	AMS	01 23 00.0	
	comp=Z,400nm,21.9s						
UPC	**Upice**	**72.77**	**19**	*e*P	**P**	**00 53 55.0**	**+2.3**
TIRR	**Tirgusor**	**72.85**	**30**	⇑*i*P	**P**	**00 53 49.8**	**-3.4**
OKC	**Ostrava-Krasne**	**72.90**	**21**	AMS	AMS	01 26 20.0	
	comp=Z,400nm,20.6s						
CRVS	**Cervenica-Dubn**	**73.32**	**24**	*es*P	sP	00 54 01.9	+1.5
STHS	**Stebnicka Huta**	**73.66**	**23**	*e*P	**P**	**00 54 03.5**	**+5.5**
STHS				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
STHS	**Stebnicka Huta**	**73.66**	**23**	*e*P	**P**	**00 54 03.5**	**+5.5**
	comp=Z,2.3nm,1.1s,mb4.0						
AKASG	**Malin Array Be**	**77.86**	**26**	P	**P**	**00 54 20.8**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=219,slow=4.4,SNR=7.5						
KIV	**Kislovodsk**	**80.15**	**38**	*e*P	**P**	**00 54 36.9**	**+2.4**
KIV				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
KIV	**Kislovodsk**	**80.15**	**38**	*e*P	**P**	**00 54 34.1**	**-0.5**
	comp=Z,33nm,1.6s,mb5.0						
NB2	**NORSAR Subarra**	**80.94**	**12**	P	**P**	**00 54 38.2**	**-0.6**
	comp=Z,12nm,1.4s,mb4.6,baz=206,slow=5.9						
NB2	**NORSAR Subarra**	**80.94**	**12**	P	**P**	**00 54 38.2**	**-0.6**
NB2				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
NOA	**NORSAR Array B**	**80.94**	**12**	P	**P**	**00 54 38.8**	**0.0**
	comp=Z,1.5nm,0.9s,mb3.9,baz=205,slow=5.8,SNR=4.4						
NOA				LR	LR	01 30 52.9	
	comp=Z,146nm,20.7s,MS4.3,baz=205,slow=36						
SCHQ	**Schefferville**	**84.99**	**332**	LR	LR	01 24 34.8	
	comp=Z,61nm,18.9s,MS4.0,baz=98,slow=30						
FINES	**FINESS Array B**	**85.00**	**18**	P	**P**	**00 54 59.1**	**-0.7**
	comp=Z,1.5nm,0.9s,mb4.1,baz=262,slow=3.8,SNR=4.9						
VNDA	**Vanda**	**85.02**	**179**	P	**P**	**00 54 59.2**	**-0.7**
	comp=Z,1.5nm,0.9s,mb4.1,baz=228,slow=5.7,SNR=7.1						
VNDA				LR	LR	01 27 37.2	
	comp=Z,334nm,20.3s,MS4.7,baz=178,slow=32						
CASY	**Casey**	**86.74**	**160**	*e*P	**P**	**00 55 12.1**	**+3.7**
	comp=Z,30nm,0.7s,mb5.6						
PLAL	**Pickwick Lake**	**87.59**	**308**	*e*P	**P**	**00 55 11.4**	**-1.2**
	comp=Z,10nm,1.1s,mb5.0						
WVT	**Waverly**	**87.86**	**309**	*e*P	**P**	**00 55 11.0**	**-2.9**
WVT				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.8						
WVT	**Waverly**	**87.86**	**309**	*e*P	**P**	**00 55 11.0**	**-2.9**
	comp=Z,7.2nm,1.2s,mb4.8						
FVM	**French Village**	**90.49**	**310**	*e*P	**P**	**00 55 25.3**	**-0.9**
FVM				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb5.0						
FVM	**French Village**	**90.49**	**310**	*e*P	**P**	**00 55 25.3**	**-0.9**
	comp=Z,8.9nm,1.2s,mb5.0						
CCM	**Cathedral Cave**	**91.12**	**310**	*e*P	**P**	**00 55 29.6**	**+0.5**
CCM				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.2						
CCM	**Cathedral Cave**	**91.12**	**310**	*e*P	**P**	**00 55 29.6**	**+0.5**
	comp=Z,16nm,1.2s,mb5.2						
ARCES	**ARCESS Array B**	**91.29**	**13**	LR	LR	01 40 13.2	
	comp=Z,175nm,18.3s,MS4.5,baz=267,slow=38						
ULM	**Lac du Bonnet**	**98.34**	**320**	LR	LR	01 31 34.8	
	comp=Z,81nm,21.6s,MS4.2,baz=54,slow=30						
HLID	**Hailey**	**109.44**	**311**	*e*Pdif	Pdif	00 56 53.0	+1.5
TBI	**Tubuai**	**120.47**	**228**	*e*LR	LR	01 38 11.3	
	comp=Z,261nm,34.5s						
PPT	**Papeete**	**124.08**	**234**	*e*LR	LR	01 39 51.4	
	comp=Z,308nm,23.5s						
ASAR	**Alice Springs**	**128.32**	**142**	PKP	PKPdf	01 01 31.3	+0.4
	comp=Z,1.1nm,1.0s,baz=174,slow=2.3,SNR=4.7						
YSS	**Yuzh-Sakhalins**	**144.99**	**28**	PKIKP	PKPdf	01 02 00.0	-1.6
MJAR	**Matsushiro Arr**	**149.01**	**47**	PKPbc	PKPbc	01 02 11.6	-0.9
	comp=Z,1.5nm,0.7s,baz=314,slow=3.5,SNR=6.1						

NEIC ***20*** *01:21:28.9, 3982N×2069E, h5km, MD3.3(ATH), After ATH.*

ISCJB ***20*** *01:21:28.5±0.3, 3984N±002×2069E±002, h2km, Error ellipse: s-maj=3.1km s-min=2.5km az=146.7*

ATH ***20*** *01:21:28.5, 3984N×2069E, h3km±2km, MD3.3/6*

THE ***20*** *01:21:28.1, 3986N×2064E, h10km, ML2.7*

CSEM ***20*** *01:21:29.3±0.1, 3986N×2069E, h2km, MD3.3, Error ellipse: s-maj=2.6km s-min=2.1km az=52.0*

SKO ***20*** *01:21:32.9, 3998N×2077E, h0km*

ISC 20 01:21:29.0±0.3, 3983N±002×2069E±002, h2km, n28, σ1§12/46, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.21**	**145**	*e*PG	**Pg**	**01 21 32.4**	**-0.6**
JAN				*e*SG	**Sg**	**01 21 36.0**	**+0.2**
JAN	**Janina**	**0.21**	**145**	*e*Pg	**Pg**	**01 21 32.4**	**-0.6**
JAN				*e*Sg	**Sg**	**01 21 36.7**	**+0.9**
LSK	**Leskovik**	**0.33**	**347**	*i* Pg	**Pg**	**01 21 34.8**	**-0.5**
LSK				*i* Sg	**Sg**	**01 21 41.1**	**+1.5**
IGT	**Igoumenitsa**	**0.41**	**224**	*e*Pg	**Pg**	**01 21 35.6**	**-1.2**
IGT				*e*Sg	**Sg**	**01 21 42.2**	**+0.2**
MEV	**Metsovon**	**0.41**	**96**	*e*Pg	**Pg**	**01 21 36.4**	**-0.6**
MEV				*e*Sg	**Sg**	**01 21 43.5**	**+1.2**
SRN	**Sarande**	**0.54**	**276**	*i* Pg	**Pg**	**01 21 39.3**	**0.0**
SRN				*i* Sg	**Sg**	**01 21 49.0**	**+2.8**
KEK	**Kerkira**	**0.70**	**261**	*e*PG	**Pg**	**01 21 41.7**	**-0.7**
KEK				*e*SG	**Sg**	**01 21 51.5**	**0.0**
KEK	**Kerkira**	**0.70**	**261**	*e*Pg	**Pg**	**01 21 41.7**	**-0.7**
KEK				*e*Sb	**Sb**	**01 21 53.0**	**-1.0**
KZN	**Kozani**	**0.95**	**60**	*e*Pg	**Pg**	**01 21 46.7**	**-0.6**
KZN				*e*Sb	**Sb**	**01 22 01.6**	**+0.3**
FNA	**Florina**	**1.09**	**28**	*e*Pg	**Pg**	**01 21 48.6**	**-1.2**
FNA				*e*Sg	**Sg**	**01 22 03.9**	**-0.1**
EVR	**Evrytania**	**1.25**	**136**	*e*PB	**Pb**	**01 21 52.7**	**-0.7**
BIA	**Bitola**	**1.28**	**22**	*e*Pg	**Pg**	**01 21 51.6**	**-2.0**
BIA				*e*Sg	**Sg**	**01 22 10.8**	**+0.5**
BIA	**Bitola**	**1.28**	**22**	*e*Pg	**Pg**	**01 21 52.8**	**-0.8**
BIA				*e*Sg	**Sg**	**01 22 08.5**	**-1.8**
OHR	**Ohrid**	**1.28**	**4**	*e*Pn	**Pn**	**01 21 55.3**	**+1.4**
LIT	**Litokhoron**	**1.41**	**78**	*e*Pg	**Pg**	**01 21 55.1**	**-0.9**
LIT				*e*Sg	**Sg**	**01 22 15.8**	**+1.6**
AGG	**Agios Georgios**	**1.50**	**122**	*e*Pg	**Pg**	**01 21 56.4**	**-1.4**
AGG				*e*Sg	**Sg**	**01 22 18.3**	**+1.0**
VLS	**Valsamata**	**1.65**	**183**	*e*PB	**Pb**	**01 22 00.0**	**-0.1**
VLS				*e*SB	**Sb**	**01 22 22.8**	**+1.4**
VLS	**Valsamata**	**1.65**	**183**	*e*Pb	**Pb**	**01 22 01.0**	**+0.9**
VLS				*e*Sb	**Sb**	**01 22 22.8**	**+1.4**
GRG	**Griva**	**1.72**	**49**	*e*Pb	**Pb**	**01 21 58.9**	**-2.5**
GRG				*e*Sb	**Sb**	**01 22 23.5**	**0.0**
NEO	**Neokhori**	**2.02**	**104**	*e*PG	**Pg**	**01 22 06.0**	**-1.8**
NEO	**Neokhori**	**2.02**	**104**	*e*Pg	**Pg**	**01 22 07.5**	**-0.3**
LCI	**Lecce**	**2.04**	**285**	Pn	**Pn**	**01 22 05.0**	**+0.6**
LCI				Sn	**Sg**	**01 22 35.2**	**+0.5**
VAY	**Valandovo**	**2.07**	**43**	*e*Pn	**Pn**	**01 22 06.5**	**+1.8**
VAY	**Valandovo**	**2.07**	**43**	*e*Pn	**Pn**	**01 22 06.4**	**+1.7**
STIP	**Stip**	**2.18**	**31**	*e*Pn	**Pn**	**01 22 08.3**	**+2.0**
STIP	**Stip**	**2.18**	**31**	*e*Pn	**Pn**	**01 22 08.2**	**+1.9**
TIP	**Timpagrande**	**3.11**	**259**	*e*Pn	**Pn**	**01 22 17.9**	**-1.2**
TIP	**Timpagrande**	**3.11**	**259**	*e*Pn	**Pn**	**01 22 17.9**	**-1.2**

NEIC 20 01:33:18.3, 5197N×17719E, h5km, ML2.6(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.44**	**113**	P	Pn	01 33 44.4	-0.7
AMKA				S	Sb	01 34 03.7	-0.7
SMY	**Shemya**	**2.04**	**293**	P	Pn	01 33 52.9	-0.5
SMY				S	Sn	01 34 17.8	-1.4
SDPT	**Sand Point**	**13.66**	**67**	P	Pn	01 36 41.9	+9.3
CHGN	**Chignik**	**14.91**	**63**	P	Pn	01 36 56.4	+6.7
KDAK	**Kodiak Island**	**18.24**	**60**	P	Pn	01 37 35.1	+2.9

ISCJB ***20*** *01:33:17.3±0.5, 3603N±005×23.11E±008, h76km±7km, Error ellipse: s-maj=11.3km s-min=6.2km az=124.9*

CSEM ***20*** *01:33:17.3±0.1, 3598N×2325E, h55km±3km, ML3.6, Error ellipse: s-maj=4.2km s-min=2.8km az=91.0*

HLW ***20*** *01:33:18.8, 3597N×2306E, h33km, Mb3.5*

NEIC ***20*** *01:33:20.3, 3624N×2343E, h48km, MD3.5(ATH), After ATH.*

ATH ***20*** *01:33:20.0, 3622N×2342E, h51km±3km, MD3.5/18, ML3.6*

ISC 20 01:33:19.1±0.5, 3607N±004×2317E±008, h67km±8km, n33, σ1§07/38, 5D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.24**	**333**	*e*P	**Pn**	**01 33 29.6**	**+0.1**
KYTH				*e*S	**Sn**	**01 33 37.2**	**0.0**
VLI	**Veliai**	**0.68**	**344**	*e*P	**Pn**	**01 33 33.4**	**-0.1**
VLI				*e*S	**Sn**	**01 33 43.3**	**-0.8**
VAM	**Vamos**	**1.07**	**128**	*e*P	**Pn**	**01 33 38.6**	**+0.4**
GVD	**Gavdhos**	**1.44**	**148**	*e*P	**Pn**	**01 33 46.0**	**+2.9**
GVD	**Gavdhos**	**1.44**	**148**	*e*P	**Pn**	**01 33 47.0**	**+3.9**
ITM	**Ithomi**	**1.49**	**318**	*e*P	**Pn**	**01 33 46.0**	**+2.2**
NAIG	**Nisos Aigina**	**1.71**	**8**	*e*P	**Pn**	**01 33 46.0**	**-0.7**
KVR	**Kavouri**	**1.82**	**15**	*e*P	**Pn**	**01 33 47.0**	**-1.2**
MGER	**Gerania Oros**	**1.92**	**2**	*e*P	**Pn**	**01 33 50.0**	**+0.5**
ATH	**Athens Observa**	**1.95**	**13**	*e*P	**Pn**	**01 33 50.1**	**+0.1**
PTL	**Penteli**	**2.05**	**15**	*e*P	**Pn**	**01 33 50.5**	**-0.8**
PTL	**Penteli**	**2.05**	**15**	*e*P	**Pn**	**01 33 51.5**	**+0.2**
NPS	**Neapolis**	**2.14**	**111**	*e*P	**Pn**	**01 33 52.9**	**+0.3**
APE	**Apeiranthos**	**2.15**	**62**	*e*P	**Pn**	**01 33 51.5**	**-1.1**
APE	**Apeiranthos**	**2.15**	**62**	*e*P	**Pn**	**01 33 51.2**	**-1.4**
APE				*e*P		01 33 51.5	
APE	**Apeiranthos**	**2.15**	**62**	*e*P	**Pn**	**01 33 51.5**	**-1.1**
XRY	**Khrisi**	**2.38**	**119**	*e*P	**Pn**	**01 33 57.5**	**+1.7**
XRY	**Khrisi**	**2.38**	**119**	*e*P	**Pn**	**01 33 58.5**	**+2.7**
LKR	**Lokris**	**2.58**	**357**	*e*P	**Pn**	**01 33 59.1**	**+0.6**
NEO	**Neokhori**	**3.23**	**1**	*e*P	**Pn**	**01 34 08.2**	**+0.8**
KARP	**Karpathos**	**3.28**	**98**	*e*P	**Pn**	**01 34 09.0**	**+0.9**
SMG	**Samos**	**3.36**	**60**	*e*P	**Pn**	**01 34 08.3**	**-0.9**
KEK	**Kerkira**	**4.51**	**325**	*e*P	**Pn**	**01 34 27.5**	**+2.7**
SRN	**Sarande**	**4.55**	**328**	*i* p	**Pn**	**01 34 25.9**	**+0.4**
SRN	**Sarande**	**4.55**	**328**	*e*P	**Pn**	**01 34 25.9**	**+0.4**
SLUM		**4.87**	**159**	⇓P	**Pn**	**01 34 29.5**	**-0.3**
SLUM				S	**Sn**	**01 35 20.6**	**-4.2**
HMAT	**Matruh**	**5.95**	**145**	⇓P	**Pn**	**01 34 43.8**	**-0.7**
HAVL	**Avola**	**6.54**	**280**	Pn	**Pn**	**01 34 52.1**	**-0.5**
HAVL				Sn	**Sn**	**01 35 57.3**	**-8.5**
SWA2		**7.07**	**164**	⇓P	**Pn**	**01 34 59.2**	**-0.7**
SWA1		**7.12**	**162**	⇓P	**Pn**	**01 34 59.9**	**-0.6**
SWA1				S	**Sn**	**01 36 14.3**	**-5.6**
STON	**Ston**	**8.00**	**330**	*i* Pn	**Pn**	**01 35 10.5**	**-2.1**
AWBH		**9.12**	**146**	⇓P	**Pn**	**01 35 26.6**	**-1.3**
AMAG	**Maghara**	**9.98**	**120**	P	**Pn**	**01 35 41.3**	**+1.6**

**CASC 20 01:42:23.3±1.4, 1391N×9097W, h74km±15km, MD3.4

AAK pmax pmax
comp=Z,11nm,0.5s
AAK Ala-Archa 9.72 23 *e*Pn **Pn 01 48 51.3 +1.1**
comp=Z,12nm,0.5s
AAK *e*Sn **Sn 01 50 42.7 +4.5**
KOLN Koldanda 13.71 112 *e*P **Pn 01 49 43.8 -0.9**
comp=Z,28nm,0.7s
KOLN *e*S **Sn 01 52 14.8 -0.9**
GKN Gorkha 14.40 110 *e*P **Pn 01 49 52.7 -1.5**
comp=Z,48nm,0.5s
DMN Daman 14.96 110 *e*P **Pn 01 49 59.6 -2.0**
comp=Z,48nm,0.6s
KKN Kakani 15.01 109 *e*P **Pn 01 49 59.9 -2.4**
comp=Z,51nm,0.6s
KKN Kakani 15.01 109 *e*P **Pn 01 49 59.9 -2.4**
KKN pmax pmax
comp=Z,51nm,0.6s
PKI Pulchoki 15.21 110 *e*P **Pn 01 50 02.6 -2.4**
comp=Z,41nm,0.5s
PKI Pulchoki 15.21 110 *e*P **Pn 01 50 02.6 -2.4**
PKI pmax pmax
comp=Z,41nm,0.5s
GUN Gumba 15.43 108 *e*P **Pn 01 50 05.5 -2.3**
comp=Z,34nm,0.4s
GUN *e*S **Sn 01 52 52.9 -4.6**
JIRN Jiri 15.79 108 *e*P **Pn 01 50 10.0 -2.4**
comp=Z,35nm,0.6s
JIRN *e*S **Sn 01 53 01.0 -5.2**
MKAR Makanchi Array 16.31 33 Pn **Pn 01 50 18.4 -0.8**
comp=Z,0.2nm,0.3s,baz=207,slow=12,SNR=9.8
KURK Kurchatov 18.23 19 *e*P **Pn 01 50 42.5 -0.6**
KURK pmax pmax
comp=Z,6.0nm,1.1s
KURK Kurchatov 18.23 19 *e*Pn **Pn 01 50 42.5 -0.6**
comp=Z,6.0nm,1.1s
AKTK Aktyubinsk 18.56 337 P **Pn 01 50 46.9 -0.1**
AKTO Aktyubinsk 18.56 337 P **Pn 01 50 46.9 -0.1**
comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=15
ZRNK Zerenda 19.14 360 *e*P **Pn 01 50 51.5 -2.5**
ZRNK pmax pmax
comp=Z,5.0nm,0.9s
ZRNK Zerenda 19.14 360 *e*Pn **Pn 01 50 51.5 -2.6**
comp=Z,4.7nm,0.9s
BVAR Borovoye Array 19.23 2 P **Pn 01 50 53.8 -1.3**
comp=Z,0.6nm,0.3s,baz=163,slow=12,SNR=9.8
BRVK Borovoye 19.26 2 *e*P **Pn 01 50 54.2 -1.3**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 19.26 2 *e*Pn **Pn 01 50 54.2 -1.3**
comp=Z,3.1nm,0.8s
CHKZ Chkalovo 19.89 2 *e*P **Pn 01 51 01.3 -1.7**
CHKZ pmax pmax
comp=Z,2.0nm,0.6s
CHKZ Chkalovo 19.89 2 *e*P **Pn 01 51 01.3 -1.6**
comp=Z,2.3nm,0.6s
ZAL Zalesovo 22.93 24 P **P 01 51 34.0 +0.1**
comp=Z,2.5nm,0.3s,mb4.1,baz=267,slow=3.1,SNR=4.1
ULN Ulaanbaatar 31.51 52 P **P 01 52 50.5 -1.0**
HIA Hailar 40.05 52 P **P 01 54 04.0 -0.6**
ARCES ARCESS Array B 43.12 339 P **P 01 54 31.5 +1.8**
comp=Z,1.2nm,0.8s,mb3.7,baz=106,slow=7.8,SNR=4.3
STU Stuttgart 46.36 308 *e*P **P 01 54 56.3 +0.7**
WLF Walferdange 48.27 309 *e*P **P 01 55 11.3 +0.9**
TORD Torodi Ar. Bea 64.23 269 P **P 01 57 04.5 +0.2**
comp=Z,0.8nm,0.8s,mb3.8,baz=52,slow=6.6,SNR=4.9

SZGRF ***20*** *01:46:13.9, 1975S×17825W, h33km, Fiji Islands region*
ISCJB ***20*** *01:47:18.6±1.1, 1800S±008×17863W±007, h575km±14km, mb4.1/23, Error ellipse: s-maj=14.6km s-min=8.1km az=106.0*
NEIC ***20*** *01:47:19.1±1.0, 1799S×17855W, h572km±11km, mb4.2/15, Error ellipse: s-maj=13.9km s-min=8.7km az=133.0*
IDC ***20*** *01:47:19.6±2.0, 1794S×17861W, h576km±22km, mb3.5/9, mb1 3.7/10, mb1mx3.7/13, mbtmp4.3/10, Error ellipse: s-maj=22.7km s-min=13.5km az=143.0*
ISC 20 01:47:19.7±1.0, 1800S±008×17859W±008, h575km±12km, n191, σ0°63/114, mb4.1/23, 47C-35D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.71**	**59**	P	**P**	**01 49 15.2**	**-0.1**
	3.0nm,0.3s,baz=157,slow=24,SNR=3.5						
RAO	**Raoul Island**	**11.21**	**177**	P	**P**	**01 49 50.0**	**-0.2**
URZ	**Urewera**	**20.53**	**190**	P	**P**	**01 51 16.1**	**-3.2**
	6.7nm,0.5s,baz=353,slow=19,SNR=5.2						
SNZO	**South Karori**	**23.93**	**193**	*e*P	**P**	**01 51 48.2**	**-1.4**
	5.5nm,0.5s,mb4.4						
CTAO	**Charters Tower**	**33.26**	**261**	*e*P	**P**	**01 53 11.9**	**+1.5**
	2.5nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**38.44**	**241**	*e*P	**P**	**01 53 52.5**	**-0.5**
	5.9nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**01 53 51.8**	**-1.2**
	6.5nm,0.8s,mb4.2,baz=93,slow=9.8,SNR=11						
WRAB	**Tennant Creek**	**44.44**	**260**	*e*P	**P**	**01 54 40.9**	**+0.6**
	3.0nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**44.45**	**260**	P	**P**	**01 54 40.3**	**-0.1**
	1.7nm,0.5s,mb3.8,baz=95,slow=7.3,SNR=44						
WRA				PcP	PcP	01 56 11.4	+0.2
	0.3nm,0.3s,baz=90,slow=3.7,SNR=6.9						
AS31	**Alice Springs**	**44.60**	**254**	⇑*i*P	**P**	**01 54 42.6**	**+1.0**
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**01 54 42.1**	**+0.6**
	11nm,0.6s,mb4.5,baz=88,slow=8.6,SNR=92						
ASAR				PcP	PcP	01 56 11.5	-0.3
	0.6nm,0.5s,baz=110,slow=3.8,SNR=4.3						
ASPA	**Alice Springs**	**44.60**	**254**	⇑*i*P	**P**	**01 54 42.6**	**+1.0**
SBA	**Scott Base**	**60.31**	**184**	P	**P**	**01 56 34.0**	**+0.4**
VNDA	**Vanda**	**60.34**	**185**	P	**P**	**01 56 33.6**	**-0.1**
	0.8nm,0.6s,mb3.1,baz=352,slow=7.4,SNR=12						
VNDA	**Vanda**	**60.34**	**185**	P	**P**	**01 56 33.6**	**-0.1**
VNDA				*e*P		01 56 33.7	
MJAR	**Matsushiro Arr**	**67.88**	**323**	P	**P**	**01 57 21.0**	**-0.5**
	3.9nm,0.7s,mb4.0,baz=161,slow=5.9,SNR=7.8						
QSPA	**South Pole Qui**	**72.05**	**180**	*e*P	**P**	**01 57 45.8**	**-0.4**
	5.3nm,0.8s,mb4.1						
QSPA				*e*P		01 57 45.9	
KS15	**Wonju Array Si**	**74.68**	**318**	P	**P**	**01 58 01.9**	**+0.8**
HAST	**Hastings Reser**	**76.33**	**44**	⇑P	**P**	**01 58 10.6**	**+0.2**
	baz=76						
SBC	**Santa Barbara**	**76.49**	**47**	⇓P	**P**	**01 58 12.8**	**+1.6**
	baz=77						
PACP	**Pacheco Peak**	**76.86**	**44**	⇓P	**P**	**01 58 13.9**	**+0.7**
	baz=77						
HOPS	**Hopland**	**76.86**	**41**	⇑P	**P**	**01 58 12.9**	**-0.3**
	baz=77						
Q03C	**Winters**	**77.32**	**42**	⇑P	**P**	**01 58 16.1**	**+0.3**
	baz=78						
ISA	**Isabella**	**78.00**	**46**	P	**P**	**01 58 19.6**	**+0.2**
ISA	**Isabella**	**78.00**	**46**	⇓P	**P**	**01 58 19.5**	**+0.1**
	baz=78						
CMB	**Columbia Colle**	**78.03**	**43**	*e*P	**P**	**01 58 18.6**	**-0.9**
	5.3nm,0.9s,mb4.0						
CMB	**Columbia Colle**	**78.03**	**43**	⇓P	**P**	**01 58 19.4**	**-0.2**
	baz=78						
ORV	**Oroville**	**78.17**	**42**	⇑P	**P**	**01 58 19.8**	**-0.5**
	baz=78						
P05C	**Yuba Gap, Truc**	**78.59**	**42**	⇓P	**P**	**01 58 22.7**	**+0.2**
	baz=79						
R05C	**Kirkwood Meado**	**78.60**	**43**	⇑P	**P**	**01 58 22.7**	**+0.2**
	baz=79						
CWC	**Cottonwood Cre**	**78.69**	**46**	⇓P	**P**	**01 58 23.2**	**+0.1**
	baz=79						
YBH	**Yreka Blue Hor**	**78.70**	**39**	*e*P	**P**	**01 58 23.5**	**+0.3**
	3.7nm,0.5s,mb4.0						
YBH				*e*PcP	PcP	01 58 28.5	-1.1
YBH	**Yreka Blue Hor**	**78.70**	**39**	⇓P	**P**	**01 58 23.5**	**+0.3**
	baz=79						
O05C	**Quincy**	**78.77**	**41**	⇓P	**P**	**01 58 23.5**	**0.0**
	baz=79						
M03C	**McCloud**	**78.79**	**40**	⇓P	**P**	**01 58 23.7**	**+0.1**
	baz=79						
O04C	**Chester**	**78.87**	**41**	⇑P	**P**	**01 58 24.2**	**+0.2**
	baz=79						
TIN	**Tinemaha**	**78.92**	**45**	⇓P	**P**	**01 58 24.9**	**+0.6**
	baz=79						
HATC	**Hat Creek Radi**	**78.93**	**41**	⇓P	**P**	**01 58 24.5**	**+0.1**
	baz=79						
HUMO	**Hull Mountain**	**79.08**	**38**	⇓P	**P**	**01 58 25.4**	**+0.3**
	baz=79						
WCN	**Washoe City**	**79.14**	**43**	⇓P	**P**	**01 58 25.9**	**+0.5**
	baz=79						
S08C	**White Mtn Res**	**79.20**	**45**	⇑P	**P**	**01 58 26.4**	**+0.6**
	baz=79,SNR=5.1						
GLA	**Glamis**	**79.25**	**50**	⇑P	**P**	**01 58 26.5**	**+0.5**
	baz=79						
M04C	**Macdoel**	**79.26**	**40**	⇑P	**P**	**01 58 26.2**	**+0.1**
	baz=79						
M05C	**Lookout**	**79.44**	**40**	⇓P	**P**	**01 58 27.1**	**+0.1**
	baz=80						
L04A	**Klamath Falls**	**79.46**	**39**	⇑P	**P**	**01 58 27.2**	**+0.1**
	baz=80						
O06A	**Flanigan**	**79.58**	**42**	⇑P	**P**	**01 58 27.9**	**+0.1**
	baz=80,SNR=7.3						
NVAR	**Mina Array Bea**	**79.61**	**44**	P	**P**	**01 58 28.4**	**+0.5**
	3.6nm,0.7s,mb3.8,baz=219,slow=7.9,SNR=16						
M06C	**Likely Place G**	**79.76**	**41**	⇓P	**P**	**01 58 28.8**	**+0.1**
	baz=80						
Y12C	**Blythe**	**79.81**	**50**	⇑P	**P**	**01 58 29.3**	**+0.3**
	baz=80						
S09A	**Goldfield**	**79.95**	**45**	⇓P	**P**	**01 58 29.9**	**+0.1**
	baz=80						
Q08A	**Gabbs**	**80.09**	**44**	⇓P	**P**	**01 58 30.4**	**-0.1**
	baz=80						
O07A	**Toulon**	**80.18**	**42**	⇑P	**P**	**01 58 30.8**	**-0.1**
	baz=80,SNR=6.8						
V11A	**Goodsprings**	**80.21**	**47**	⇓P	**P**	**01 58 31.2**	**+0.1**
	baz=80						
MOD	**Modoc**	**80.27**	**40**	*e*P	**P**	**01 58 31.4**	**+0.1**
	20nm,1.2s,mb4.3						
W12A	**Cal Nev Ari**	**80.33**	**48**	⇑P	**P**	**01 58 31.9**	**+0.2**
	baz=80						
Y13A	**Salome**	**80.34**	**50**	⇑P	**P**	**01 58 32.3**	**+0.5**
	baz=80						
N07B	**Gerlach**	**80.47**	**42**	⇑P	**P**	**01 58 32.4**	**+0.1**
	baz=81						
M07A	**Soldier Meadow**	**80.68**	**41**	⇑P	**P**	**01 58 33.7**	**+0.2**
	baz=81,SNR=5.7						
X13A	**Yucca**	**80.72**	**49**	⇓P	**P**	**01 58 34.0**	**+0.3**
	baz=81						
H04A	**Detroit Lake**	**80.77**	**37**	⇑P	**P**	**01 58 33.3**	**-0.6**
	baz=81						
Z14A	**Wintersburg**	**80.77**	**51**	⇑P	**P**	**01 58 34.1**	**+0.2**
	baz=81						
K06A	**Valley Falls**	**80.81**	**39**	⇓P	**P**	**01 58 34.3**	**+0.1**
	baz=81,SNR=6.9						
115A	**Sonoran Desert**	**80.99**	**51**	⇑P	**P**	**01 58 35.5**	**+0.4**
	baz=81						
N08A	**GE Springer Mi**	**81.00**	**42**	P	**P**	**01 58 35.4**	**+0.2**
	baz=81,SNR=6.0						
Y14A	**Wickenburg**	**81.01**	**50**	⇓P	**P**	**01 58 35.2**	**+0.1**
	baz=81						
J06A	**Christmas Vall**	**81.13**	**39**	⇑P	**P**	**01 58 35.5**	**-0.3**
	baz=81						
M08A	**Happy Creek Ra**	**81.21**	**41**	⇑P	**P**	**01 58 36.5**	**+0.3**
	baz=81						
O09A	**Fish Creek Ran**	**81.27**	**43**	⇓P	**P**	**01 58 36.4**	**-0.2**
	baz=81						
116A	**Eloy**	**81.32**	**52**	⇑P	**P**	**01 58 37.3**	**+0.5**
	baz=81						
X14A	**Yava**	**81.34**	**50**	⇓P	**P**	**01 58 37.5**	**+0.6**
	baz=82						
K07A	**Rock Creek Ran**	**81.36**	**40**	⇑P	**P**	**01 58 37.0**	**0.0**
	baz=82,SNR=8.4						
F04A	**Amboy**	**81.39**	**36**	⇑P	**P**	**01 58 36.5**	**-0.6**
	baz=82						
I06A	**Prineville**	**81.49**	**38**	⇑P	**P**	**01 58 37.8**	**+0.2**
	baz=82,SNR=7.1						
W14A	**Seligman**	**81.56**	**49**	⇑P	**P**	**01 58 38.6**	**+0.5**
	baz=82						
WVOR	**Wild Horse Val**	**81.59**	**40**	*e*P	**P**	**01 58 38.4**	**+0.3**
	4.6nm,0.8s,mb4.1						
Q11A	**Duckwater**	**81.60**	**45**	⇑P	**P**	**01 58 38.2**	**0.0**
	baz=82,SNR=7.0						
GAMB	**Gambell**	**81.69**	**3**	*e*P	**P**	**01 58 37.2**	**-1.4**
M09A	**Marrel Ranch,**	**81.78**	**42**	⇑P	**P**	**01 58 39.5**	**+0.4**
	baz=82						
X15A	**Humboldt**	**81.83**	**50**	⇑P	**P**	**01 58 40.0**	**+0.6**
	baz=82						
P11A	**Circle Ranch,**	**81.89**	**44**	⇓P	**P**	**01 58 39.8**	**+0.1**
	baz=82						
L09A	**Wilkinson Ranc**	**81.96**	**41**	⇑P	**P**	**01 58 40.3**	**+0.2**
	baz=82						
N10A	**Dunphy**	**82.00**	**43**	⇑P	**P**	**01 58 40.5**	**+0.2**
	baz=82						
E05A	**Randle**	**82.13**	**36**	⇓P	**P**	**01 58 40.2**	**-0.7**
	baz=82						
C04A	**Brinnon**	**82.17**	**34**	⇑P	**P**	**01 58 40.7**	**-0.4**
	baz=82						
O11A	**Cowboy Ranch,**	**82.25**	**44**	⇓P	**P**	**01 58 41.9**	**+0.3**
	baz=82						
D05A	**Enumclaw**	**82.38**	**35**	⇓P	**P**	**01 58 42.3**	**+0.1**
	baz=83						
P12A	**McGill**	**82.41**	**44**	⇓P	**P**	**01 58 42.4**	**+0.1**
	baz=83						
M10A	**I.L. Ranch, Tu**	**82.41**	**42**	⇑P	**P**	**01 58 42.6**	**+0.3**
	baz=83						
TTA	**Tatalina**	**82.60**	**10**	*e*P	**P**	**01 58 42.4**	**-0.8**
	18nm,1.4s,mb4.4						
C05A	**Tolt Reservoir**	**82.84**	**35**	⇓P	**P**	**01 58 43.9**	**-0.6**
	baz=83						
M11A	**Holland Ranch,**	**82.84**	**42**	⇓P	**P**	**01 58 44.6**	**+0.1**
	baz=83						
B05A	**Bryant**	**82.96**	**34**	⇓P	**P**	**01 58 44.5**	**-0.5**
	baz=83						
N12A	**Wells--Clov Va**	**83.03**	**43**	⇑P	**P**	**01 58 45.4**	**0.0**
	baz=83						
M12A	**Wells**	**83.40**	**43**	⇓P	**P**	**01 58 47.4**	**+0.1**
	baz=84						
N13A	**West Wendover**	**83.58**	**43**	⇑P	**P**	**01 58 48.1**	**0.0**
	baz=84						
M13A	**Montello**	**83.85**	**43**	⇓P	**P**	**01 58 49.4**	**-0.1**
	baz=84						
MCK	**McKinley**	**84.67**	**13**	*e*P	**P**	**01 58 51.7**	**-1.8**
	1.6nm,0.4s,mb4.0						
HLID	**Hailey**	**84.81**	**41**	*e*P	**P**	**01 58 54.2**	**0.0**
SRU	**San Rafael**	**85.20**	**46**	*e*P	**P**	**01 58 56.0**	**-0.1**
NEW	**Newport**	**85.69**	**36**	P	**P**	**01 58 57.8**	**-0.6**
COLA	**College**	**85.90**	**13**	*e*P	**P**	**01 58 57.3**	**-2.1**
	4.1nm,0.5s,mb4.3						
ANMO	**Albuquerque**	**86.29**	**52**	*e*P	**P**	**01 59 01.3**	**+0.1**
	1.8nm,0.9s,mb3.7						
BILL	**Bilibino**	**86.51**	**354**	P	**P**	**01 59 01.2**	**-1.1**
CHMT	**Chamberlain Mo**	**87.22**	**39**	*e*P	**P**	**01 59 04.7**	**-0.9**
QLMT	**Earthquake Lak**	**87.31**	**41**	*e*P	**P**	**01 59 06.6**	**+0.5**
PDAR	**Pinedale Array**	**87.54**	**43**	P	**P**	**01 59 06.8**	**-0.3**
	2.9nm,0.6s,mb4.2,baz=226,slow=2.8,SNR=26						
WALA	**Waterton Lakes**	**87.92**	**37**	*e*P	**P**	**01 59 08.3**	**-0.6**
	2.5nm,0.6s,mb4.1						
SDCO	**Great Sand Dun**	**88.15**	**49**	P	**P**	**01 59 09.9**	**-0.1**
SNAA	**Sanae**	**90.51**	**179**	P	**P**	**01 59 21.9**	**+1.0**
INK	**Inuvik**	**92.02**	**15**	*e*P	**P**	**01 59 26.1**	**-1.7**
	2.5nm,0.5s,mb4.5						
EFI	**East Falkland**	**93.47**	**147**	P	**P**	**01 59 34.0**	**-0.6**
SONM	**Songino Array**	**93.51**	**319**	P	**P**	**01 59 34.5**	**-0.1**
	0.3nm,0.5s,mb3.7,baz=120,slow=4.9,SNR=3.7						
YKA	**Yellowknife Ar**	**94.49**	**25**	P	**P**	**01 59 37.3**	**-1.8**
	0.6nm,0.5s,mb4.0,baz=242,slow=4.7,SNR=4.2						
YKA	**Yellowknife Ar**	**94.49**	**25**	P	**P**	**01 59 37.3**	**-1.8**
LSA	**Lhasa**	**98.93**	**298**	Pdif	Pdif	01 59 59.2	+0.2
BVAR	**Borovoye Array**	**116.81**	**321**	PKP	PKPdf	02 04 57.6	-1.8
	0.9nm,0.4s,baz=87,slow=0.6,SNR=7.5						
AKTK	**Aktyubinsk**	**124.83**	**319**	PKP	PKPdf	02 05 13.2	-1.6
AKTO	**Aktyubinsk**	**124.83**	**319**	PKP	PKPdf	02 05 13.2	-1.6
	0.7nm,0.5s,baz=121,slow=1.3,SNR=3.8						
ARCES	**ARCESS Array B**	**126.38**	**350**	PKP	PKPdf	02 05 15.5	-2.3
	1.2nm,0.5s,baz=55,slow=0.9,SNR=16						
JOF	**Joensuu**	**130.60**	**343**	*e*p	PKPdf	02 05 22.7	-3.1
	3.3nm,0.5s						
KAF	**Kangasniemi**	**132.61**	**344**	*e*p	PKPdf	02 05 26.3	-3.3
	1.5nm,0.5s						
FINES	**FINESS Array B**	**133.23**	**344**	PKP	PKPdf	02 05 27.9	-2.9
	0.8nm,0.6s,baz=29,slow=4.4,SNR=7.1						
NB2	**NORSAR Subarra**	**136.45**	**353**	PKPa		02 05 25.8	
	comp=Z,2.9nm,1.2s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**136.45**	**353**	PKP	PKPdf	02 05 36.4	-0.4
	comp=Z,0.5nm,0.5s,baz=14,slow=4.1,SNR=4.0						
AKASG	**Malin Array Be**	**140.56**	**332**	PKhKP		02 05 36.5	
	comp=Z,0.8nm,0.5s,baz=46,slow=3.6,SNR=4.7						
AKASG				PKP	PKPdf	02 05 42.4	-1.9
	comp=Z,1.5nm,0.4s,baz=44,slow=3.3,SNR=11						
AKASG	**Malin Array Be**	**140.56**	**332**	PKP	PKPdf	02 05 36.5	-7.8
AKASG				PKP	PKPdf	02 05 42.4	-1.9
BSEG	**Bad Segeberg**	**143.48**	**351**	*e*PKPbc	PKPdf	02 05 46.8	-2.6
KWP	**Kalwaria**	**144.09**	**336**	*e*PKPbc	PKPdf	02 05 50.0	-0.5
OJC	**Ojcow**	**144.64**	**340**	*e*PX		02 05 50.9	
BRTR	**Keskin Array B**	**144.73**	**315**	PKP	PKPdf	02 05 51.9	+0.3
	comp=Z,13nm,0.4s,baz=116,slow=4.0,SNR=2.9						
STHS	**Stebnicka Huta**	**144.81**	**337**	*i* PKP	PKPdf	02 05 52.1	+0.4
KOLS	**Kolonicke sedl**	**144.82**	**336**	*e*PKP	PKPdf	02 05 51.8	+0.1
NIE	**Niedzica**	**145.15**	**338**	*e*PX		02 05 53.3	
CRVS	**Cervenica-Dubn**	**145.16**	**337**	*e*PKP	PKPdf	02 05 53.2	+0.9
CLZ	**Clausthal**	**145.50**	**350**	*e*PKPbc	PKPbc	02 05 53.1	-1.2
OKC	**Ostrava-Krasne**	**145.51**	**341**	*e*PKP	PKPdf	02 05 53.7	+0.8
CLL	**Collm**	**145.52**	**347**	*e*PKPbc	PKPbc	02 05 53.4	-1.0
CLL	**Collm**	**145.52**	**347**	⇑*i*PKPbc	PKPbc	02 05 53.5	-0.9
	comp=Z,17nm,0.8s						
CLL	**Collm**	**145.52**	**347**	⇑*i*P	PKPdf	02 05 53.5	+0.6
CLL				*e*		02 06 03.0	
UPC	**Upice**	**145.53**	**343**	*e*PKP	PKPdf	02 05 53.9	+1.0
DPC	**Dobruska-Polom**	**145.59**	**343**	*e*PKP	PKPdf	02 05 54.5	+1.5
BRG	**Berggiesshubel**	**145.72**	**346**	*e*PKPbc	PKPbc	02 05 54.1	-0.8
BRG	**Berggiesshubel**	**145.72**	**346**	*e*PKP	PKPdf	02 05 54.2	+1.0
	comp=Z,5.4nm,0.8s						
MORC	**Moravsky Berou**	**145.75**	**341**	⇑*i*P	PKPdf	02 05 54.8	+1.5
MLR	**Muntele Rosu**	**145.82**	**329**	⇑*i*P	PKPdf	02 05 54.5	+1.1
KECS	**Kecovo**	**145.87**	**337**	*e*PKP	PKPdf	02 05 54.9	+1.4
MMAI	**Mount Meron Ar**	**146.05**	**303**	PKPbc	PKPbc	02 05 56.3	+0.4
	comp=Z,3.6nm,0.5s,baz=62,slow=6.0,SNR=8.7						
PRU	**Pruhonice**	**146.39**	**345**	*e*PKP	PKPdf	02 05 56.0	+1.6
MOX	**Moxa**	**146.43**	**348**	*e*PKPbc	PKPbc	02 05 55.6	-1.3
MOX	**Moxa**	**146.43**	**348**	*e*PKP	PKPdf	02 05 56.1	+1.7
VYHS	**Vyhne**	**146.45**	**339**	*i* PKP	PKPdf	02 05 56.5	+2.0
TANN	**Tannenbergstha**	**146.48**	**347**	*e*PKPbc	PKPbc	02 05 55.4	-1.6
KOLL	**Kolacno**	**146.52**	**339**	*e*PKP	PKPdf	02 05 56.9	+2.3
TREC	**Trest**	**146.78**	**343**	*e*PKP	PKPdf	02 05 57.3	+2.3
MANZ	**Manzenberg**	**146.96**	**347**	*e*PKPbc	PKPbc	02 05 57.8	-0.5
ROTZ	**Rotzenmuhle**	**147.14**	**347**	*e*PKPbc	PKPbc	02 05 58.0	-0.8
GRA2	**Grafenberg Arr**	**147.42**	**348**	*e*PKPbc	PKPbc	02 05 58.7	-0.8
KHC	**Kasperske Hory**	**147.43**	**345**	*e*PKP	PKPbc	02 05 59.1	-0.5
KHC				*ex*	x	02 06 03.7	
GEC2	**GERESS Array S**	**147.66**	**345**	*e*PKPbc	PKPbc	02 05 58.8	-1.4
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	PKPbc	02 05 59.0	-1.1
	comp=Z,4.7nm,0.6s,baz=21,slow=2.9,SNR=48						
GIVF	**Givet**	**147.86**	**356**	*e*PKP1	PKPbc	02 05 59.8	-0.9
CONA	**Conrad Observa**	**147.90**	**342**	⇓*i*PKPbc	PKPbc	02 06 00.6	-0.2
	comp=Z,5.5nm,1.1s						
BAIF	**Baives**	**147.94**	**357**	*e*PKP1	PKPbc	02 06 00.2	-0.7
	comp=Z,10nm,0.6s						
WLF	**Walferdange**	**148.19**	**354**	*e*PKPbc	PKPbc	02 06 00.8	-0.7
PKSM	**Moragy**	**148.46**	**337**	⇓*i*P	PKPbc	02 06 01.4	-0.7
FUR	**Furstenfeldbru**	**148.86**	**347**	*e*PKPbc	PKPbc	02 06 02.8	-0.3
BFO	**Black Forest**	**149.23**	**351**	*e*PKPbc	PKPbc	02 06 02.8	-1.2
CDF	**Champ du Feu**	**149.30**	**352**	*e*PKP1	PKPbc	02 06 03.5	-0.7
	comp=Z,10nm,0.8s						
KBA	**Koelnbreinsper**	**149.38**	**344**	⇑*i*P	PKPbc	02 06 03.3	-1.1
	comp=Z,5.4nm,0.8s						
MEZF	**Maizieres J'vi**	**149.44**	**355**	*e*PKP1	PKPbc	02 06 04.0	-0.5
LDF	**La Druitiere**	**149.46**	**2**	*e*PKP1	PKPbc	02 06 03.3	-1.3
	comp=Z,7.3nm,0.5s						
WTTA	**Wattenberg**	**149.63**	**346**	⇑*i*P	PKPbc	02 06 04.3	-0.7
	comp=Z,9.4nm,0.5s						
GRR	**Gorron**	**149.64**	**3**	*e*PKP1	PKPbc	02 06 03.9	-1.1
	comp=Z,13nm,0.6s						
SGMF	**Saint Gilles**	**149.66**	**5**	*e*PKP1	PKPbc	02 06 03.7	-1.3
MOTA	**Moosalm**	**149.67**	**347**	⇑*i*P	PKPbc	02 06 04.3	-0.7
	comp=Z,2.7nm,0.9s						
SQTA	**Sankt Quirin**	**149.77**	**347**	⇑*i*P	PKPbc	02 06 04.7	-0.6
	comp=Z,3.6nm,0.8s						
HAU	**Haudompre**	**149.81**	**353**	*e*PKP1	PKPbc	02 06 05.5	+0.1
	comp=Z,10.0nm,0.7s						
DAVA	**Damuels**	**149.98**	**348**	⇑*i*P	PKPbc	02 06 04.3	-1.5
	comp=Z,6.1nm,1.0s						
BOJS	**Bojanci**	**150.25**	**340**	*i* PKP	PKPbc	02 06 05.8	-0.7
LOR	**Lormes**	**150.75**	**357**	*e*PKP1	PKPbc	02 06 06.8	-0.8
	comp=Z,12nm,0.6s						
SSF	**Saint Saulge**	**150.97**	**357**	*e*PKP1	PKPbc	02 06 07.3	-0.8
	comp=Z,7.0nm,0.6s						
CABF	**La Chapelle**	**151.21**	**353**	*e*PKP1	PKPbc	02 06 08.4	-0.2
	comp=Z,8.0nm,0.8s						
AVF	**Avril sur Loir**	**151.25**	**357**	*e*PKP1	PKPbc	02 06 07.5	-1.2
	comp=Z,4.2nm,0.8s						
MFF	**Saint Martin d**	**151.45**	**2**	*e*PKP1	PKPbc	02 06 08.1	-1.1
	comp=Z,7.6nm,0.6s						
BGF	**Bois d'Agland**	**151.50**	**358**	*e*PKP1	PKPbc	02 06 08.4	-0.9
	comp=Z,6.5nm,0.6s						
TCF	**Toulx Ste Croi**	**151.79**	**359**	*e*PKP1	PKPbc	02 06 08.9	-1.0
LPL	**La Plagne**	**152.21**	**352**	*e*PKP1	PKPbc	02 06

ANTU	**Antumapu**	**1.13**	**126**	*e*P	**Pn**	**02 14 26.4**	**-0.4**
ANTU				*i* S	**Sn**	**02 14 41.1**	**0.0**
FSR	**Penalolen**	**1.16**	**120**	*e*P	**Pn**	**02 14 26.9**	**-0.3**
FSR				*i* S	**Sn**	**02 14 42.1**	**+0.3**
FSR				AML	AML	02 14 44.8	
	comp=E,91µm,0.4s						
FSR	**Penalolen**	**1.16**	**120**	*e*P	**Pn**	**02 14 26.9**	**-0.3**
FSR				*i* S	**Sn**	**02 14 42.1**	**+0.3**
PCH	**Pirque**	**1.24**	**125** ⇑	*i* P	**Pn**	**02 14 28.4**	**0.0**
FCH	**Farellones**	**1.28**	**109** ⇓	*i* P	**Pn**	**02 14 29.1**	**+0.3**
FCH				*i* S	**Sn**	**02 14 45.8**	**+1.0**
FCH				AML	AML	02 14 48.9	
	comp=E,37µm,0.7s						
CHCH	**Chadas Angostu**	**1.36**	**139**	*e*P	**Pn**	**02 14 29.8**	**-0.2**
SJCH	**San Jose de Ma**	**1.36**	**123**	*e*P	**Pn**	**02 14 29.4**	**-0.6**
SJCH				*i* S	**Sn**	**02 14 47.0**	**+0.1**
SJCH				AML	AML	02 14 48.2	
	comp=E,31µm,0.5s						
SJCH	**San Jose de Ma**	**1.36**	**123**	*e*P	**Pn**	**02 14 29.4**	**-0.6**
SJCH				*i* S	**Sn**	**02 14 47.0**	**+0.1**
CACH	**El Canelo**	**1.53**	**142**	*e*P	**Pn**	**02 14 33.4**	**+1.0**
YECH	**El Yeso**	**1.57**	**119**	*e*P	**Pn**	**02 14 33.4**	**+0.5**
YECH				*i* S	**Sn**	**02 14 52.8**	**+0.8**
CICH	**Cipreses**	**1.78**	**143**	*e*P	**Pn**	**02 14 36.5**	**+0.8**
SFDO	**San Fernando**	**1.80**	**161** ⇓	*i* P	**Pn**	**02 14 36.5**	**+0.4**
CMCH	**Combarbala**	**1.84**	**20**	*e*P	**Pn**	**02 14 36.9**	**+0.4**
OVCH	**Ovalle**	**2.34**	**11**	*e*P	**Pn**	**02 14 44.1**	**+0.7**
MDZ	**Mendoza**	**2.42**	**90**	*e*P	**Pn**	**02 14 48.0**	**+3.4**
MDZ				*i*		02 14 59.3	
MDZ				*i* S	**Sn**	**02 15 18.5**	**+5.5**
TALC	**Talca**	**2.48**	**178**	*e*P	**Pn**	**02 14 45.6**	**+0.1**
TLL	**Tololo Astrono**	**2.85**	**16**	*e*P	**Pn**	**02 14 51.6**	**+1.2**
TLL				*i* S	**Sn**	**02 15 27.8**	**+4.4**
CNCO	**Chanco**	**2.90**	**193**	*e*P	**Pn**	**02 14 50.7**	**-0.4**
LNCH	**Linares**	**2.93**	**178**	*e*P	**Pn**	**02 14 50.6**	**-1.0**
CFAA	**Coronel Fontan**	**3.23**	**67**	Pn	**Pn**	**02 14 58.0**	**+2.3**
	comp=E,11nm,0.3s,baz=241,slow=12,SNR=346						
CFAA				Lg		02 15 42.2	
	comp=E,38nm,0.3s,baz=119,slow=19,SNR=6.7						
CFAA				LR	LR	02 16 22.5	
	comp=E,208nm,18.6s,baz=254,slow=44						
CFAA	**Coronel Fontan**	**3.23**	**67**	Pn	**Pn**	**02 14 58.0**	**+2.3**
CFAA				Lg		02 15 42.2	
CFAA				LR	LR	02 16 22.5	
CCHI	**Chillan**	**3.69**	**184**	*e*P	**Pn**	**02 15 02.5**	**+0.4**
VACH	**Vallenar**	**4.40**	**11**	*e*P	**Pn**	**02 15 12.0**	**+0.2**
CDCH	**Caldera**	**5.87**	**8**	*e*P	**Pn**	**02 15 30.7**	**-1.2**
PLCA	**Paso Flores**	**7.87**	**173**	Pn	**Pn**	**02 15 59.4**	**+0.1**
	comp=E,1.8nm,0.3s,baz=336,slow=11,SNR=36						
PLCA				LR	LR	02 18 58.8	
	comp=E,541nm,18.4s,baz=351,slow=37						
PLCA	**Paso Flores**	**7.87**	**173**	Pn	**Pn**	**02 15 59.4**	**+0.1**
PLCA				LR	LR	02 18 58.8	
TRQA	**Tornquist**	**9.46**	**126**	*e*Pn	**Pn**	**02 16 23.1**	**+1.8**
	comp=E,53nm,0.7s						
TRQA				*e*Sn	**Sn**	**02 18 22.1**	**+16**
LVC	**Limon Verde**	**10.56**	**14**	Pn	**Pn**	**02 16 33.2**	**-3.0**
	comp=E,0.5nm,0.3s,baz=172,slow=11,SNR=5.5						
LVC				LR	LR	02 20 49.7	
	comp=E,421nm,21.0s,baz=203,slow=38						
LVC	**Limon Verde**	**10.56**	**14**	*e*Pn	**Pn**	**02 16 33.6**	**-2.6**
	comp=E,24nm,0.6s						
LVC				*e*Sn	Sn	02 18 58.6	+26
ARE	**Arequipa**	**16.38**	**1**	*e*P	**Pn**	**02 17 55.0**	**+0.5**
LPAZ	**La Paz**	**16.87**	**12**	Pn	**Pn**	**02 18 01.8**	**+1.1**
	comp=E,0.2nm,0.3s,baz=189,slow=6.0,SNR=29						
LPAZ	**La Paz**	**16.87**	**12**	*e*P	**Pn**	**02 18 01.6**	**+1.0**
LPAZ				pmax	pmax		
	comp=Z,13nm,0.8s						
LPAZ	**La Paz**	**16.87**	**12**	*e*P	**Pn**	**02 18 01.6**	**+0.9**
	comp=Z,12nm,0.8s						
SIV	**San Ignacio**	**19.41**	**32**	P	**Pn**	**02 18 29.0**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=226,slow=12,SNR=31						
USHA	**Ushuaia**	**22.04**	**175**	P	**P**	**02 18 59.9**	**+1.1**
	comp=Z,18nm,0.8s,mb4.6,baz=335,slow=7.1,SNR=9.6						
USHA				LR	LR	02 28 48.8	
	comp=Z,264nm,18.6s,MS3.7,baz=61,slow=40						
SAML	**Samuel**	**25.12**	**20**	*e*P	**P**	**02 19 28.4**	**-0.4**
	comp=Z,17nm,0.8s,mb4.6						
ATAH	**Atahualpa**	**26.51**	**345**	LR	LR	02 29 17.3	
	comp=Z,93nm,19.4s,MS3.3,baz=92,slow=34						
BDFB	**Brasilia**	**27.52**	**57**	P	**P**	**02 19 49.3**	**-1.1**
	comp=Z,4.6nm,0.7s,mb4.2,baz=213,slow=6.5,SNR=7.8						
BDFB				LR	LR	02 31 56.4	
	comp=Z,534nm,18.1s,MS4.2,baz=232,slow=39						
ROSC	**El Rosal**	**37.64**	**356**	P	**P**	**02 21 22.2**	**+3.5**
	comp=Z,7.9nm,0.6s,mb4.7,baz=109,slow=7.7,SNR=9.9						
VNA1	**Neumayer--Stat**	**50.58**	**157**	*e*P	**P**	**02 23 03.0**	**+0.7**
VNA1				*e*	pP	02 23 13.6	+0.2
VNA1				*e*		02 23 18.9	
VNA1				*e*		02 23 24.3	
VNA1				*e*		02 23 38.5	
VNA1				*e*		02 23 44.6	
VNA1				*e*		02 23 48.6	
VNA1				*e*		02 24 21.3	
VNA1				*e*		02 25 00.9	
TEIG	**Tepich**	**55.15**	**341**	*e*P	**P**	**02 23 36.5**	**+0.5**
	comp=Z,14nm,0.6s,mb5.2						
RKT	**Rikitea**	**55.96**	**263**	*e*T		03 24 17.0	
	comp=Z,3.3nm,0.2s						
QSPA	**South Pole Qui**	**57.33**	**180** ⇑	*i* P	**P**	**02 23 52.2**	**+0.6**
	comp=Z,34nm,1.0s,mb5.3						
VNDA	**Vanda**	**65.22**	**191**	P	**P**	**02 24 45.2**	**+0.2**
	comp=Z,2.6nm,0.7s,mb4.4,baz=134,slow=6.3,SNR=20						
SYO	**Syowa Base**	**66.78**	**159** ⇑	*e*P	**P**	**02 24 52.0**	**-3.1**
LRAL	**Lakeview Retre**	**67.15**	**346**	*e*P	**P**	**02 24 56.8**	**-0.6**
	comp=Z,17nm,1.4s,mb4.9						
TBI	**Tubuai**	**67.83**	**256**	*e*LR	LR	02 45 39.1	
	comp=Z,164nm,26.2s						
TBI	**Tubuai**	**67.83**	**256**	*e*T		03 38 58.9	
	comp=Z,19nm,0.2s						
JCT	**Junction City**	**68.42**	**334**	*e*P	**P**	**02 25 05.3**	**-0.1**
JCT				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.2						
JCT	**Junction City**	**68.42**	**334**	*e*P	**P**	**02 25 05.3**	**-0.1**
	comp=Z,39nm,1.4s,mb5.2						
CPCT	**Cooper Cave**	**69.05**	**349**	*e*P	**P**	**02 25 09.3**	**0.0**
SWET	**Sewanee**	**69.06**	**348**	*e*P	**P**	**02 25 09.2**	**-0.2**
SWET				*e*pP	pP	02 25 20.9	0.0
OXF	**Oxford**	**69.09**	**344**	*e*P	**P**	**02 25 09.5**	**-0.1**
OXF				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.4						
OXF	**Oxford**	**69.09**	**344**	*e*P	**P**	**02 25 09.5**	**0.0**
	comp=Z,41nm,0.9s,mb5.4						
PLAL	**Pickwick Lake**	**69.25**	**346**	*e*P	**P**	**02 25 10.3**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9						
PLAL				*e*pP	pP	02 25 21.7	-0.3
MIAR	**Mount Ida**	**70.17**	**341**	*e*P	**P**	**02 25 15.6**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MIAR	**Mount Ida**	**70.17**	**341**	*e*P	**P**	**02 25 15.6**	**-0.6**
	comp=Z,7.4nm,1.0s,mb4.6						
TVO	**Taravao**	**70.29**	**261**	*e*T		03 42 00.2	
	comp=Z,7.7nm,0.3s						
WVT	**Waverly**	**70.31**	**346**	*e*P	**P**	**02 25 17.0**	**-0.1**
WVT				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.3						
WVT	**Waverly**	**70.31**	**346**	*e*P	**P**	**02 25 17.0**	**-0.1**
	comp=Z,36nm,0.8s,mb5.3						
WVT				*e*pP	pP	02 25 28.2	-0.4
PPT	**Papeete**	**70.66**	**261**	*e*LR	LR	02 46 44.8	
	comp=Z,112nm,29.0s						
MNTX	**Cornudas Mount**	**71.69**	**330**	*e*P	**P**	**02 25 24.9**	**-0.5**
	comp=Z,15nm,0.8s,mb5.0						
MNTX				*e*pP	pP	02 25 36.9	0.0
USIN	**University of**	**72.06**	**347**	*e*P	**P**	**02 25 26.8**	**-0.9**
	comp=Z,27nm,1.2s,mb5.1						
FVM	**French Village**	**72.65**	**345**	*e*P	**P**	**02 25 30.4**	**-0.8**
FVM				*e**PP	pP	02 25 42.4	-0.3
FVM				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
FVM	**French Village**	**72.65**	**345**	*e*P	**P**	**02 25 30.4**	**-0.8**
	comp=Z,19nm,0.9s,mb5.0						
FVM				*e*pP	pP	02 25 42.4	-0.3
CCM	**Cathedral Cave**	**72.90**	**344**	*e*P	**P**	**02 25 32.6**	**-0.1**
CCM				*e**PP	pP	02 25 44.0	-0.2
CCM				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
CCM	**Cathedral Cave**	**72.90**	**344**	*e*P	**P**	**02 25 32.6**	**-0.1**
	comp=Z,26nm,0.9s,mb5.2						
CCM				*e*pP	pP	02 25 44.0	-0.2
ACSO	**Alum Creek Sta**	**73.52**	**351**	*e*P	**P**	**02 25 35.7**	**-0.6**
	comp=Z,16nm,0.8s,mb5.0						
ACSO				*e*pP	pP	02 25 47.2	-0.6

BNM	**Barren Site**	**74.33**	**330**	*e*P	**P**	**02 25 42.2**	**+1.1**
LPM	**Los Pinos Moun**	**74.47**	**331**	*e*P	**P**	**02 25 43.8**	**+1.9**
LPM				*e*pP	pP	02 25 54.7	+1.2
DBIC	**Dimbokro**	**74.59**	**71**	P	**P**	**02 25 42.1**	**-0.4**
	comp=Z,6.3nm,0.6s,mb4.7,baz=203,slow=8.2,SNR=11						
DBIC				LR	LR	02 54 53.1	
	comp=Z,58nm,21.6s,MS3.8,baz=158,slow=33						
ANMO	**Albuquerque**	**74.96**	**331**	*c i* P	**P**	**02 25 46.1**	**+1.4**
ANMO	**Albuquerque**	**74.96**	**331**	*e*P	**P**	**02 25 45.4**	**+0.7**
	comp=Z,6.9nm,1.0s,mb4.5						
SMCO	**Snowmass**	**78.83**	**333**	*e*P	**P**	**02 26 08.4**	**+2.0**
	comp=Z,12nm,1.0s,mb4.8						
SMCO				*e*pP	pP	02 26 19.5	+1.4
SRU	**San Rafael**	**80.19**	**330**	*e*P	**P**	**02 26 14.1**	**+0.2**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
SRU	**San Rafael**	**80.19**	**330**	*e*P	**P**	**02 26 14.1**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.5						
SRU				*e*pP	pP	02 26 26.6	+1.1
BOSA	**Boshof**	**80.35**	**118**	P	**P**	**02 26 14.7**	**-0.1**
	comp=Z,6.1nm,0.8s,mb4.6,baz=230,slow=6.8,SNR=14						
BOSA				LR	LR	02 58 54.4	
	comp=Z,96nm,18.4s,MS4.2,baz=86,slow=34						
MSU	**Marysvale**	**80.39**	**329**	*e*P	**P**	**02 26 16.5**	**+1.5**
MSU				*e*pP	pP	02 26 27.9	+1.3
HWUT	**Hardware Ranch**	**82.72**	**331**	*e*P	**P**	**02 26 26.4**	**-0.9**
	comp=Z,3.0nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**82.91**	**333**	P	**P**	**02 26 28.5**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.1,baz=127,slow=3.9,SNR=11						
NVAR	**Mina Array Bea**	**83.14**	**325**	P	**P**	**02 26 31.2**	**+1.8**
	baz=168,slow=6.2						
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P	**P**	**02 26 31.5**	**-0.3**
	comp=Z,12nm,0.7s,mb5.1,baz=279,slow=6.0,SNR=96						
TORD				pP	pP	02 26 42.2	-1.3
	comp=Z,6.5nm,0.8s,baz=256,slow=4.3,SNR=8.5						
TORD				LR	LR	02 59 42.7	
	comp=Z,93nm,21.7s,MS4.1,baz=235,slow=33						
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P	**P**	**02 26 31.5**	**-0.3**
TORD				pP	pP	02 26 42.2	-1.3
TORD				LR	LR	02 59 42.7	
ULM	**Lac du Bonnet**	**85.51**	**345**	P	**P**	**02 26 40.1**	**-1.4**
	comp=Z,6.4nm,0.8s,mb4.9,baz=158,slow=3.7,SNR=18						
ULM				pP	pP	02 26 51.8	-1.4
	comp=Z,3.5nm,0.8s,baz=155,slow=3.0,SNR=5.5						
MCMT	**McKenzie Canyo**	**85.93**	**332**	*e*P	**P**	**02 26 44.4**	**+0.8**
MCMT				*e*pP	pP	02 26 55.9	+0.6
DLMT	**Dillon**	**86.27**	**332**	*e*P	**P**	**02 26 45.7**	**+0.4**
	comp=Z,15nm,1.4s,mb5.0						
DLMT				*e*pP	pP	02 26 57.0	0.0
EGMT	**Eagleton**	**87.47**	**336**	*e*P	**P**	**02 26 50.3**	**-0.8**
	comp=Z,1.7nm,0.8s,mb4.3						
SCHQ	**Schefferville**	**87.48**	**3**	P	**P**	**02 26 50.2**	**-0.9**
	comp=Z,5.6nm,0.7s,mb4.9,baz=233,slow=4.6,SNR=9.3						
LSZ	**Lusaka**	**89.90**	**108**	LR	LR	03 03 42.4	
	comp=Z,110nm,19.6s,MS4.3,baz=204,slow=33						
EDM	**Edmonton**	**93.09**	**336**	*e*P	**P**	**02 27 15.9**	**-1.4**
EDM				*e*pP	pP	02 27 26.7	-2.4
FCC	**Fort Churchill**	**93.21**	**349**	*e*P	**P**	**02 27 17.1**	**-0.8**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.9						
FCC	**Fort Churchill**	**93.21**	**349**	*e*P	**P**	**02 27 17.1**	**-0.8**
	comp=Z,3.1nm,0.6s,mb4.9						
ASAR	**Alice Springs**	**118.66**	**207**	PKP	PKPdf	02 32 50.9	-0.5
	comp=Z,1.0nm,0.6s,baz=129,slow=1.7,SNR=11						
ASAR				pPKP	pPKPdf	02 33 02.6	-0.9
	comp=Z,0.6nm,0.4s,baz=127,slow=1.8,SNR=3.7						
ASAR				PKKPbc	PKKPbc	02 43 07.5	+0.1
	comp=Z,0.5nm,0.6s,baz=341,slow=4.1,SNR=5.0						
BRTR	**Keskin Array B**	**121.08**	**60**	PKP	PKPdf	02 32 55.3	-0.7
	comp=Z,0.8nm,0.7s,baz=190,slow=3.5,SNR=7.2						
AKASG	**Malin Array Be**	**121.26**	**47**	PKP	PKPdf	02 32 54.0	-2.4
	comp=Z,0.2nm,0.3s,baz=262,slow=2.7,SNR=6.4						
WRA	**Warrannunga Ar**	**121.84**	**209**	PKP	PKPdf	02 32 57.3	-0.2
	comp=Z,2.0nm,0.6s,baz=152,slow=1.9,SNR=62						
WRA				pPKP	pPKPdf	02 33 09.1	-0.5
	comp=Z,1.5nm,0.5s,baz=158,slow=1.9,SNR=7.4						
WRA				PKKPbc	PKKPbc	02 42 55.4	-0.1
	comp=Z,0.3nm,0.6s,baz=340,slow=4.8,SNR=5.0						
OBN	**Obninsk**	**126.46**	**43**	*i* PKIKP	PKPdf	02 33 05.3	-1.1
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL	**Bilibino**	**131.97**	**335**	*i* PKIKP	PKPdf	02 33 16.3	-0.5
ARU	**Arti**	**138.75**	**40**	*i* PKIKP	PKPdf	02 33 27.8	-1.7
ZRNK	**Zerenda**	**145.55**	**43**	*e*PKPdf	PKPdf	02 33 41.5	0.0
ZRNK				*e*pPKPdf	pPKPdf	02 33 53.3	-0.4
CHKZ	**Chkalovo**	**146.19**	**41**	PKP2	PKPab	02 33 43.6	-0.8
CHKZ				pmax	pmax		
	comp=Z,41nm,1.9s						
CHKZ	**Chkalovo**	**146.19**	**41**	*e*PKPdf	PKPdf	02 33 41.8	-0.9
CHKZ				*e*pPKPdf	pPKPdf	02 33 55.4	+0.6
BRVK	**Borovoye**	**146.23**	**42**	*e*PKPdf	PKPdf	02 33 42.1	-0.7
BRVK				*e*pPKPdf	pPKPdf	02 33 54.9	+0.1
BVA0	**Borovoye Array**	**146.30**	**42**	*i* PKP2	PKPab	02 33 43.7	-1.2
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YAK	**Yakutsk**	**147.79**	**341**	*i* PKP2	PKPab	02 33 47.4	-3.3
HYB	**Hyderabad**	**149.13**	**113**	*i* PKP	PKPbc	02 33 53.0	+1.3
HYB	**Hyderabad**	**149.13**	**113**	*e*P	PKPbc	02 33 52.5	+0.8
YSS	**Yuzh-Sakhalins**	**150.33**	**308** ⇓	*i* PKIKP	PKPbc	02 33 54.6	-0.1
EKS2	**Erkin-Say**	**151.22**	**60**	P	PKPbc	02 33 57.4	+0.6
SNR=11							
AML	**Almayashu**	**151.24**	**61**	P	PKPab	02 34 02.3	-2.5
SNR=11							
USP	**Ospenovka**	**151.65**	**59**	P	PKPbc	02 33 58.3	+0.6
SNR=6.8							
AAK	**Ala-Archa**	**151.75**	**60**	P	PKPbc	02 33 58.9	+0.9
SNR=11							
AAK	**Ala-Archa**	**151.75**	**60**	*c i* PKIKP	PKPbc	02 33 57.7	-0.3
UCH	**Uchtor**	**151.83**	**61**	P	PKPbc	02 33 59.4	+1.3
SNR=18							
NVS	**Novosibirsk**	**151.88**	**31**	*i* PKIKP	PKPbc	02 33 57.3	-1.0
NVS				pmax	pmax		
	comp=Z,23nm,1.3s						
NVS				pmax	pmax		
	comp=N,1.0nm,0.4s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
KBK	**Karagaybulak**	**152.08**	**60**	P	PKPbc	02 33 59.3	+0.6
SNR=5.2							
KZA	**Kyzart**	**152.39**	**61**	P	PKPbc	02 34 00.5	+1.1
SNR=6.2							
TKM2	**Tokmak 2**	**152.50**	**59**	P	PKPbc	02 34 00.2	+0.5
SNR=7.9							
ULHL	**Ulahol**	**153.09**	**60**	P	PKPbc	02 34 01.7	+0.8
SNR=9.4							
ZAL	**Zalesovo**	**153.16**	**31**	PKPbc	PKPbc	02 34 01.1	0.0
	comp=E,5.0nm,0.6s,baz=179,slow=3.1,SNR=23						
ZAL				pPKPbc	pPKPbc	02 34 12.3	-0.9
	comp=E,5.6nm,0.6s,baz=168,slow=4.7,SNR=6.0						
MKAR	**Makanchi Array**	**155.85**	**47**	PKP	PKPdf	02 33 56.0	-1.4
	comp=E,1.0nm,0.9s,baz=256,slow=3.6,SNR=5.5						
MKAR				PKPab	PKPab	02 34 23.9	-0.4
	comp=E,3.1nm,0.8s,baz=291,slow=4.1,SNR=14						
MKAR				pPKPab	pPKPab	02 34 34.4	-1.7
	comp=E,1.8nm,0.7s,baz=300,slow=3.5,SNR=4.3						
MKAR	**Makanchi Array**	**155.85**	**47**	PKIKP	PKPdf	02 33 56.0	-1.4
MKAR						02 34 23.9	
MKAR	**Makanchi Array**	**155.85**	**47**	PKP	PKPdf	02 33 56.0	-1.4
MKAR				PKPab	PKPab	02 34 23.9	-0.4
MKAR				pPKPab	pPKPab	02 34 34.4	-1.7
MDJ	**Mudanjiang**	**159.74**	**311**	PKP	PKPdf	02 34 04.3	+2.1
MDJ				PKS		02 37 31.5	
MDJ				PP	PP	02 38 24.8	+2.1
WMQ	**Urumqi**	**160.59**	**50**	*e*PKP	PKPdf	02 34 03.6	+0.4
SONM	**Songino Array**	**165.02**	**5**	PKPab	PKPab	02 35 04.4	+0.2
	comp=E,2.5nm,1.0s,baz=350,slow=3.7,SNR=12						
NJ2	**Nanjing**	**171.02**	**267**	*e*PKP	PKPdf	02 34 13.9	+2.3
HHC	**Hu-ho-hao-te**	**171.65**	**343**	*e*PKP	PKPdf	02 34 12.8	+0.9
HHC				APKP		02 34 23.8	
HHC				XPKP		02 34 27.1	
HHC				PKP2	PKPab	02 35 36.3	+2.7
HHC				PKS		02 37 44.0	
HHC				PP	PP	02 39 27.8	+3.4
HHC				SKKS	SKKSac	02 46 09.8	+1.6
HHC				SS	SS	03 00 27.8	-1.1
HHC				PP	PP		
	comp=Z,70nm,6.9s						
HHC				LR	LR		
	comp=N,100nm,19.0s						
HHC				LR	LR		
	comp=E,100nm,14.3s						
HHC				LR	LR		
	comp=Z,120nm,15.5s						
GYA	**Guiyang**	**173.42**	**167**	*e*PKP	PKPdf	02 34 13.5	+0.8
GYA				APKP		02 34 24.3	

GYA				XPKP		02 34 27.9	
GYA				PKP2	PKPab	02 35 42.3	+0.9
GYA				PP	PP	02 39 35.0	+1.8
GYA				SKKS	SKKSac	02 46 13.9	-2.9
GYA				PP	PP		
	comp=Z,110nm,7.9s						
GYA				LR	LR		
	comp=N,180nm,21.4s						
GYA				LR	LR		
	comp=E,210nm,22.0s						
GYA				LR	LR		
	comp=Z,190nm,21.8s						
WHN	**Wuhan**	**174.31**	**247**	*e*PKP	PKPdf	02 34 14.3	+1.3
LZH	**Lanzhou**	**175.16**	**48**	*e*PKP	PKPdf	02 34 15.3	+2.0
LZH				APKP		02 34 25.6	
LZH				XPKP		02 34 29.3	
LZH				LR	LR		
	comp=E,110nm,20.0s						
LZH				LR	LR		
	comp=Z,190nm,21.0s						
CD2	**Chengdu**	**175.68**	**116**	*e*PKP	PKPdf	02 34 12.3	-1.1
CD2				APKP		02 34 23.1	
CD2				XPKP		02 34 27.0	
CD2				PKP2	PKPab	02 35 52.0	+0.5
CD2				PP	PP	02 39 46.0	+1.9
CD2				SKS	SKSdf	02 41 10.0	-3.4
CD2				SKKS	SKKSac	02 46 26.9	-0.6
CD2				SS	SS	03 01 05.4	-2.5
CD2				PP	PP		
	comp=Z,60nm,10.2s						
CD2				LR	LR		
	comp=E,60nm,21.3s						
CD2				LR	LR		
	comp=Z,50nm,22.5s						

NEIC ***20*** *02:31:43.2, 3855N×2144E, h24km, MD3.2(ATH), After ATH.*
ATH ***20*** *02:31:43.2, 3855N×2144E, h24km±1km, MD3.2/4*
CSEM ***20*** *02:31:43.2, 3855N×2144E, h24km, MD3.2/4, After ATH*
ISCJB ***20*** *02:31:44.5±0.6, 3852N±004×2148E±005, h17km±8km, Error ellipse: s-maj=7.1km s-min=6.1km az=141.6*
THE ***20*** *02:31:44.3, 3853N×2150E, h7km, ML2.4*
ISC 20 02:31:43.7±0.7, 3854N±005×2151E±004, h17km±9km, n10, σ1°03/15, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.44**	**32**	*e*PB		**Pb**	**02 31 52.8**	**-0.2**
RLS	**Riolos of Patr**	**0.49**	**184**	*e*PB		**Pb**	**02 31 53.2**	**-0.6**
RLS				*e*SB		**Sb**	**02 32 00.9**	**+0.3**
LKD	**Levkas**	**0.69**	**284**	*e*Pg		**Pg**	**02 31 56.7**	**-0.6**
LKD				*e*Sg		**Sg**	**02 32 07.9**	**+1.4**
AGG	**Agios Georgios**	**0.80**	**53**	*e*Pg		**Pg**	**02 31 59.6**	**+0.2**
AGG				*e*Sg		**Sg**	**02 32 11.4**	**+1.4**
VLS	**Valsamata**	**0.81**	**243**	*e*PN		**Pn**	**02 31 58.5**	**-1.8**
LKR	**Lokris**	**1.18**	**84**	*e*PN		**Pn**	**02 32 06.9**	**+1.6**
JAN	**Janina**	**1.22**	**336**	*e*PN		**Pn**	**02 32 05.9**	**-0.1**
IGT	**Igoumenitsa**	**1.34**	**318**	*e*Pg		**Pg**	**02 32 08.5**	**-1.1**
IGT				*e*Sg		**Sg**	**02 32 27.9**	**+0.7**
ITM	**Ithomi**	**1.40**	**166**	*e*PN		**Pn**	**02 32 09.6**	**+1.1**
XOR	**Xorichti**	**1.55**	**57**	*e*Pg		**Pg**	**02 32 12.4**	**-1.2**
XOR				*e*Sg		**Sg**	**02 32 32.6**	**-1.1**

MOS ***20*** *02:32:32.5±1.3, 6165N×146.14W, h10km, mb4.8/7, Error ellipse: s-maj=24.7km s-min=8.6km az=94.6*
BJI ***20*** *02:32:35.3, 6160N×14650W, h14km, mB4.7, mb4.4, Ms3.9, Msz3.7*
ISCJB ***20*** *02:32:37.5±0.4, 6163N±004×14649W±006, h49km±5km, mb4.4/23, MS3.3/5, Error ellipse: s-maj=6.6km s-min=4.8km az=43.7*
IDC ***20*** *02:32:38.3±0.6, 6163N×14657W, h42km±3km, mb3.9/11, mb1 4.1/15, mb1mx4.0/21, mbtmp4.1/15, ML3.8/4, MS3.2/7, Ms1 3.2/7, ms1mx2.9/24, Error ellipse: s-maj=16.9km s-min=12.3km az=138.0*
NEIC ***20*** *02:32:38.4, 6158N×14651W, h14km, mb4.4/7, ML4.2(AEIC), ML4.4(PMR), After AEIC.*
*NEI

comp=Z,5.0nm,0.5s,mb4.8,baz=4.0,slow=8.0,SNR=67
ARCES PcP PcP 02 42 43.0 -0.9
comp=Z,2.0nm,0.8s,baz=4.6,slow=6.1,SNR=4.2
MDJ Mudanjiang 49.36 291 P **P** **02 41 25.5 +2.3**
MDJ AMB AMB
comp=Z,20nm,4.5s
LVZ Lovozero 50.80 359 *e*P **P** **02 41 32.8 -1.3**
LVZ pmax pmax
comp=E,10.0nm,0.8s
LVZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LVZ pmax pmax
comp=N,2.0nm,0.6s
MJAR Matsushiro Arr 51.78 278 P **P** **02 41 42.4 +1.0**
comp=N,1.8nm,0.6s,mb4.2,baz=2.1,slow=9.4,SNR=4.8
MJAR sP sP 02 41 58.6 -1.8
comp=N,0.8nm,0.3s,baz=3.4,slow=6.7,SNR=2.0
JOF Joensuu 55.79 1 *e*p **P** **02 42 08.7 -2.0**
comp=N,6.2nm,0.5s,mb4.9
JOF Joensuu 55.79 1 *e*P **P** **02 42 08.7 -2.0**
JOF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ULN Ulaanbaatar 56.05 309 *d i*P **P** **02 42 12.9 +0.3**
SONM Songino Array 56.32 309 P **P** **02 42 15.4 +0.8**
comp=Z,2.3nm,0.8s,mb4.2,baz=25,slow=7.2,SNR=21
SONM sP sP 02 42 31.3 -2.3
comp=Z,4.4nm,0.8s,baz=33,slow=7.7,SNR=13
NB2 NORSAR Subarra 56.51 13 P **P** **02 42 13.8 -2.0**
comp=Z,1.3nm,0.8s,mb4.0,baz=349,slow=6.9
NOA NORSAR Array B 56.51 13 P **P** **02 42 14.7 -1.2**
comp=Z,0.5nm,0.7s,mb3.7,baz=349,slow=7.3,SNR=3.1
NOA sP sP 02 42 33.4 -1.6
comp=Z,1.3nm,0.8s,baz=349,slow=7.1,SNR=4.9
FINES FINESS Array B 57.15 4 P **P** **02 42 18.9 -1.5**
comp=Z,2.0nm,0.4s,mb4.5,baz=2.0,slow=8.0,SNR=39
FINES pP pP 02 42 31.6 -2.3
comp=Z,0.9nm,0.5s,baz=3.0,slow=7.6,SNR=2.6
FINES sP sP 02 42 36.5 -2.9
comp=Z,1.5nm,0.6s,baz=19,slow=8.1,SNR=3.6
ARU Arti 60.68 344 ⇑*i*P **P** **02 42 43.8 -1.0**
ARU *e* 02 44 56.8
ARU *e*S **S** **02 51 00.0 +2.1**
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ARU Arti 60.68 344 *e*P **P** **02 42 43.9 -0.9**
comp=Z,4.6nm,0.3s,mb5.1
OBN Obninsk 63.61 358 *e*P **P** **02 43 04.5 0.0**
OBN pmax pmax
comp=Z,15nm,0.6s,mb5.2
NJ2 Nanjing 64.45 290 *e*P **P** **02 43 16.3 +6.3**
NJ2 PCP PcP 02 43 50.5 +6.5
NJ2 S **S** **02 51 53.0 +7.7**
NJ2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
NJ2 AMB AMB
comp=Z,60nm,6.0s
NJ2 LR LR
comp=N,110nm,16.2s,MS4.3
NJ2 LR LR
comp=E,110nm,17.6s,MS4.3
NJ2 LR LR
comp=Z,90nm,20.9s,MS3.9
WMQ Urumqi 66.19 320 *e*P **P** **02 43 26.3 +5.0**
WMQ LR LR
comp=N,20nm,23.0s,MS3.5
WMQ LR LR
comp=E,30nm,23.0s,MS3.5
WMQ LR LR
comp=Z,10.0nm,23.0s,MS3.0
LZH Lanzhou 67.35 304 *e*P **P** **02 43 33.0 +4.3**
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,50nm,4.3s
UPC Upice 67.38 12 *e*P **P** **02 43 28.9 +0.1**
VRSR Storozhevoye 67.44 356 *e*P **P** **02 43 29.6 +0.3**
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
DPC Dobruska-Polom 67.56 12 *e*P **P** **02 43 30.5 +0.5**
OJC Ojcow 68.00 9 *e*P **P** **02 43 32.6 -0.1**
AKASG Malin Array Be 68.00 3 P **P** **02 43 31.9 -0.9**
comp=Z,8.8nm,0.6s,mb5.0,baz=357,slow=6.3,SNR=61
AKASG pP pP 02 43 44.7 -1.8
comp=Z,1.2nm,0.4s,baz=358,slow=6.4,SNR=5.3
AKASG Malin Array Be 68.00 3 *i*P **P** **02 43 31.8 -1.0**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 68.00 3 P **P** **02 43 31.9 -0.9**
AKASG pP pP 02 43 44.7 -1.9
MORC Moravsky Berou 68.25 11 ⇑*i*P **P** **02 43 34.3 0.0**
KHC Kasperske Hory 68.48 14 *e*P **P** **02 43 36.2 +0.5**
KHC Kasperske Hory 68.48 14 *i*P **P** **02 43 35.9 +0.2**
KHC Kasperske Hory 68.48 14 *e*P **P** **02 43 36.2 +0.5**
TREC Trest 68.52 13 *e*P **P** **02 43 35.7 -0.3**
GERES GERESS Array B 68.77 14 P **P** **02 43 37.2 -0.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=346,slow=4.3,SNR=14
STHS Stebnicka Huta 68.91 9 *i*P **P** **02 43 39.1 +0.7**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KOLS Kolonicke sedl 69.46 8 *e*P **P** **02 43 42.1 +0.3**
VYHS Vyhne 69.63 10 *i*P **P** **02 43 42.7 -0.2**
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VYHS Vyhne 69.63 10 *i*P **P** **02 43 42.7 -0.2**
comp=Z,2.5nm,0.9s,mb4.1
KECS Kecovo 69.78 9 *e*P **P** **02 43 43.8 0.0**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 69.78 9 *e*P **P** **02 43 43.8 0.0**
comp=Z,3.4nm,0.9s,mb4.3
BURAR Bucovina Array 70.94 6 ⇑*i*P **P** **02 43 50.4 -0.5**
PKSM Moragy 71.88 11 ⇑*i*P **P** **02 43 55.8 -0.8**
KIV Kislovodsk 74.54 353 *i*P **P** **02 44 13.0 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
ESDC Sonseca Array 74.61 29 P **P** **02 44 12.6 -0.1**
comp=Z,1.1nm,0.5s,mb4.0,baz=342,slow=5.6,SNR=12
BRTR Keskin Array B 79.03 360 P **P** **02 44 37.5 -0.1**
comp=Z,1.6nm,0.9s,mb4.0,baz=5.7,slow=2.5,SNR=11
BRTR Keskin Array B 79.03 360 ⇑*e*P **P** **02 44 37.5 0.0**
BOSA Boshof 146.57 13 PKPbc PKPbc 02 52 13.7 -1.0
comp=Z,3.4nm,0.7s,baz=1.4,slow=3.5,SNR=8.6

ISCJB ***20*** *02:36:28.3±0.8,3854N±005×2150E±005,h1km,Error ellipse: s-maj=7.5km s-min=5.0km az=163.3*
CSEM ***20*** *02:36:28.3,3857N×2144E,h18km,MD3.2/4,After ATH*
ATH ***20*** *02:36:28.3,3857N×2144E,h18km,MD3.2/4*
THE ***20*** *02:36:29.3,3855N×2150E,h1km,ML2.4*
ISC 20 02:36:28.8±1.0,3851N±005×2150E±005,h2km±8km,n8,σ0°55/12,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.47**	**30**	*e*PB			**Pg**	**02 36 37.5**	**-0.3**
LKD	**Levkas**	**0.70**	**287**	*e*Pg			**Pg**	**02 36 41.7**	**-0.4**
LKD				*e*Sg			**Sg**	**02 36 52.4**	**+1.1**
VLS	**Valsamata**	**0.79**	**246**	*e*PN			**Pg**	**02 36 43.5**	**-0.5**
AGG	**Agios Georgios**	**0.82**	**51**	*e*Pg			**Pg**	**02 36 44.4**	**-0.3**
AGG				*e*Sg			**Sg**	**02 36 55.8**	**+0.5**
ITM	**Ithomi**	**1.37**	**166**	*e*PN			**Pn**	**02 36 55.5**	**+0.6**
IGT	**Igoumenitsa**	**1.37**	**319**	*e*Pg			**Pn**	**02 36 53.9**	**-1.0**
IGT				*e*Sg			**Sg**	**02 37 12.8**	**-0.1**
NEO	**Neokhori**	**1.56**	**59**	*e*PN			**Pn**	**02 36 57.5**	**0.0**
FNA	**Florina**	**2.27**	**358**	*e*Pn			**Pn**	**02 37 07.5**	**+0.2**
FNA				*e*Sn			**Sn**	**02 37 36.0**	**+0.1**

BJI ***20*** *02:52:33.6,5920N×146.10W,h13km,mB4.8,mb4.5*
ISCJB ***20*** *02:52:37.1±1.3,5919N±005×14605W±008,h15km±8km, mb3.9/9,Error ellipse: s-maj=8.6km s-min=6.5km az=28.0*
IDC ***20*** *02:52:38.0±0.9,5944N×14608W,h0km,mb4.0/9, mb1 4.1/13,mb1mx3.9/22,mbtmp3.9/13,ML3.6/4,MS2.7/2, Ms1 2.7/2,ms1mx2.3/21,Error ellipse: s-maj=22.2km s-min=14.6km az=22.0*
NEIC ***20*** *02:52:39.7,5920N×14605W,h14km,ML3.7(AEIC),After AEIC.*
ISC 20 02:52:39.3±1.4,5925N±005×14610W±008,h16km±8km, n35,σ1°06/39,mb3.9/9,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**0.21**	**325**	P			**Pg**	**02 52 45.4**	**+1.3**
EYAK	**Cordova Ski Ar**	**1.31**	**8**	P			**Pn**	**02 53 02.2**	**-0.8**
EYAK				S			**Sb**	**02 53 19.9**	**-0.3**
SEW	**Seward**	**1.90**	**298**	P			**Pn**	**02 53 10.3**	**-0.8**
SLKM	**Skilak Lake**	**2.43**	**303**	P			**Pn**	**02 53 17.8**	**-0.5**
RC01	**Rabbit Creek A**	**2.59**	**317**	P			**Pn**	**02 53 19.9**	**-0.6**
PMR	**Palmer**	**2.79**	**329**	P			**Pn**	**02 53 23.9**	**+0.6**
SML	**Sawmill**	**2.79**	**338**	P			**Pn**	**02 53 23.5**	**+0.2**
PNL	**Peninsula**	**3.45**	**80**	P			**Pn**	**02 53 30.9**	**-1.4**
KDAK	**Kodiak Island**	**3.71**	**249**	Pn			**Pn**	**02 53 34.8**	**-1.1**
3.4nm,0.3s,baz=52,slow=8.7,SNR=33
KDAK Sn **Sn** **02 54 15.5** **-3.7**
2.6nm,0.3s,baz=234,slow=21,SNR=7.9
KDAK Kodiak Island 3.71 249 P **Pn** **02 53 35.5 -0.4**
TRF Thorofare Moun 4.67 336 P **Pn** **02 53 50.0 +0.9**
MCK McKinley 4.70 344 P **Pn** **02 53 49.7 +0.2**
KTH Kantishna Hill 4.90 334 P **Pn** **02 53 53.2 +1.0**
SVW2 Sparrevohn 5.08 295 *e*Pn **Pn** **02 53 54.8 0.0**
SVW2 *e*Sn **Sn** **02 55 02.3 +9.1**
SKAG Skagway 5.52 83 *e*Pn **Pn** **02 54 00.8 0.0**
SKAG *e*Sn **Sn** **02 55 04.9 +1.1**
COLA College 5.70 352 *e*Pn **Pn** **02 54 02.8 -0.5**
25nm,0.7s
COLA *e*Sn **Sn** **02 55 11.8 +3.3**
DAWY Dawson 5.79 31 P **Pn** **02 54 04.8 +0.3**
COLD Coldfoot 8.21 349 P **Pn** **02 54 37.4 -0.4**
DLBC Dease Lake 8.38 89 Pn **Pn** **02 54 39.3 -0.7**
1.3nm,0.3s,baz=273,slow=12,SNR=15
DLBC Dease Lake 8.38 89 P **Pn** **02 54 38.1 -1.9**
INK Inuvik 10.63 26 Pn **Pn** **02 55 09.9 -1.0**
0.1nm,0.3s,baz=242,slow=10,SNR=2.4
INK LR LR 02 59 18.3
comp=Z,42nm,21.4s,baz=340,slow=38
YKA Yellowknife Ar 15.58 65 Pn **Pn** **02 56 16.7 -1.5**
baz=271,slow=13,SNR=4.5
YKA LR LR 03 02 56.1
comp=Z,32nm,21.5s,baz=205,slow=40
YBH Yreka Blue Hor 22.80 130 P **P** **02 57 44.9 +3.7**
5.6nm,1.1s,mb3.9,baz=54,slow=3.4,SNR=4.0
NVAR Mina Array Bea 27.38 127 P **P** **02 58 26.4 +2.6**
0.6nm,0.7s,mb3.3,baz=317,slow=11,SNR=4.4
PDAR Pinedale Array 27.82 110 P **P** **02 58 29.2 +1.4**
2.0nm,0.9s,mb3.7,baz=329,slow=5.5,SNR=15
MDJ Mudanjiang 50.44 293 P **P** **03 01 34.8 -1.3**
MDJ AMB AMB
comp=Z,40nm,4.9s
ARCES ARCESS Array B 51.37 4 PcP PcP 03 02 56.6 -1.1
comp=Z,1.4nm,0.8s,baz=359,slow=4.9,SNR=3.9
SONM Songino Array 58.01 311 P **P** **03 02 32.0 +0.7**
comp=Z,2.7nm,0.8s,mb4.3,baz=41,slow=7.5,SNR=22
FINES FINESS Array B 59.48 4 P **P** **03 02 40.3 -1.2**
comp=Z,1.2nm,0.7s,mb4.1,baz=5.3,slow=8.2,SNR=5.7
MKAR Makanchi Array 67.11 326 P **P** **03 03 31.1 -0.9**
comp=Z,0.7nm,0.5s,mb4.0,baz=47,slow=7.1,SNR=7.3
GTA Gaotai 67.67 310 *e*P **P** **03 03 36.4 +0.8**
GTA XP sP 03 03 44.0 +1.5
WMQ Urumqi 68.14 321 *e*P **P** **03 03 40.3 +1.7**
AKASG Malin Array Be 70.34 3 P **P** **03 03 51.4 -0.9**
comp=Z,3.0nm,0.8s,mb4.3,baz=359,slow=6.1,SNR=15
ESDC Sonseca Array 76.56 29 P **P** **03 04 29.2 +0.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=355,slow=7.0,SNR=6.5
BRTR Keskin Array B 81.38 0 P **P** **03 04 56.0 +0.7**
comp=Z,0.6nm,0.8s,mb3.5,baz=79,slow=2.6,SNR=3.8

BNS ***20*** *02:53:01.9±0.7,5169N×703E,h1km,ML2.0*
ISCJB ***20*** *02:53:01.1±0.4,5155N±002×705E±003,h0km,Error ellipse: s-maj=3.1km s-min=2.9km az=92.3*
LDG ***20*** *02:53:02.8±0.3,5169N×697E,h1km,Ml2.8/4,Error ellipse: s-maj=5.5km s-min=3.4km az=29.0,Suspected Mining induced.*
CSEM ***20*** *02:53:02.5±0.1,5167N×703E,h1km,ML2.6/3,Error ellipse: s-maj=3.1km s-min=2.0km az=71.0*
BUG ***20*** *02:53:02.4,5160N×703E,h1km,ML1.4*
NEIC ***20*** *02:53:03.1±2.2,5154N×686E,h5km,ML2.8(LDG),Error ellipse: s-maj=26.4km s-min=7.4km az=201.0*
BGR ***20*** *02:53:03.8±0.7,5153N×712E,h1km,ML2.0/3,Error ellipse: s-maj=8.9km s-min=4.4km az=121.0*
STR ***20*** *02:53:07.4±1.2,5133N×663E,h10km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 20 02:53:02.0±0.4,5159N±002×705E±003,h0km,n46,σ1°24/70,1D,Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.12**	**283**	Pg			**Pg**	**02 53 04.8**	**+0.6**
BZER				Sg			**Sg**	**02 53 06.9**	**+1.2**
BUG	**Bochum--Univer**	**0.21**	**138**	*e*Pg			**Pg**	**02 53 08.1**	**+2.1**
SNR=11
LAUG Laupendahl 0.25 195 *e*Pg **Pg** **02 53 08.4 +1.6**
WTSB Winterswijk 0.40 337 *e*Pg **Pg** **02 53 09.8 +0.1**
17nm,0.7s
WTSB *i*Sg **Sg** **02 53 15.1 +0.2**
BNS Bensberg 0.64 173 *e*Pg **Pg** **02 53 15.7 +1.5**
HOBG Hohbusch 0.64 164 *e*Pg **Pg** **02 53 15.8 +1.7**
IBBN Ibbenburen 0.84 31 *e*Sg **Sg** **02 53 31.2 +2.3**
SNR=2.8
STB Steinbach 1.01 188 *e*Pg **Pg** **02 53 23.0 +1.6**
STB *e*Sg **Sg** **02 53 38.0 +3.6**
33nm,0.7s
KLL Kalltalsperre 1.06 206 *e*Pg **Pg** **02 53 23.0 +0.7**
HGN Heimansgroeve 1.09 221 *e*Pn **Pn** **02 53 23.7 -0.8**
6.7nm,0.3s,baz=35
HGN ⇓*i*Pg **Pg** **02 53 24.2 +1.4**
15nm,0.1s
HGN *e*Sg **Sg** **02 53 38.5 +1.6**
MEM Membach 1.19 214 P **Pg** **02 53 25.1 +0.4**
MEM S **Sg** **02 53 42.3 +2.2**
comp=E,28nm,0.0s
BGG Burgeitz 1.40 172 *e*Pg **Pg** **02 53 28.9 0.0**
TNS Taunus Mts 1.63 147 *e*Pg **Pg** **02 53 33.8 +0.5**
SNR=1.7
TNS *e*Sg **Sg** **02 53 52.9 -1.6**
SNR=3.8
ABH Alteburg 1.74 169 Pn **Pn** **02 53 34.6 +1.1**
ABH Sg **Sg** **02 54 01.3 +3.3**
ABH Alteburg 1.74 169 Pn **Pn** **02 53 34.3 +0.8**
ABH Sg **Sg** **02 54 01.3 +3.3**
GTTG Gvttingen 1.82 90 *e*Sg **Sg** **02 54 00.4 0.0**
SNR=2.0
RUP Ruppelstein 1.90 180 Pn **Pn** **02 53 35.9 +0.4**
RUP Sg **Sg** **02 54 02.3 -0.6**
RUP Ruppelstein 1.90 180 Pn **Pn** **02 53 35.9 +0.4**
RUP Sg **Sg** **02 54 00.9 -2.0**
WLF Walferdange 2.02 197 *e*Sg **Sg** **02 54 04.8 -1.9**
SNR=2.7
GIVF Givet 2.06 224 *e*Pg **Pg** **02 53 42.0 +0.6**
GIVF *e*Sg **Sg** **02 54 08.2 +0.2**
comp=E,15nm,0.2s
GIVF Givet 2.06 224 *e*Pn **Pn** **02 53 37.5 -0.2**
GIVF *e*Pg **Pg** **02 53 42.0 +0.6**
GIVF *e*Sg **Sg** **02 54 08.2 +0.2**
GIVF Givet 2.06 224 *e*Pg **Pg** **02 53 42.0 +0.6**
GIVF *e*Sg **Sg** **02 54 08.2 +0.2**
comp=E,7.7nm,0.2s
CLZ Clausthal 2.08 82 *e*Sg **Sg** **02 54 08.5 -0.3**
SNR=2.4
TOD Tromm 2.28 150 Pn **Pn** **02 53 41.4 +0.5**
TOD Tromm 2.28 150 Pn **Pn** **02 53 41.8 +0.9**
BAIF Baives 2.37 231 *e*Pg **Pg** **02 53 48.1 +0.7**
BAIF *e*Sg **Sg** **02 54 17.5 -0.6**
comp=E,5.5nm,0.3s
BAIF Baives 2.37 231 *e*Pn **Pn** **02 53 41.6 -0.5**
BAIF *e*Pg **Pg** **02 53 48.1 +0.7**
BAIF *e*Sg **Sg** **02 54 17.5 -0.6**
BAIF Baives 2.37 231 *e*Pg **Pg** **02 53 48.1 +0.7**
BAIF *e*Sg **Sg** **02 54 17.5 -0.6**
comp=E,2.8nm,0.3s
MOX Moxa 3.03 107 *e*Sg **Sg** **02 54 37.1 -2.3**
SNR=2.3
RFYF Reffroy 3.14 199 *e*Pn **Pn** **02 53 52.3 -0.3**
baz=21
CDF Champ du Feu 3.19 177 *e*Pn **Pn** **02 53 53.0 -0.3**
CDF *e*Sg **Sg** **02 54 46.1 +1.7**
comp=E,3.2nm,0.4s
CDF Champ du Feu 3.19 177 *e*Pn **Pn** **02 53 53.0 -0.3**
CDF *e*Sg **Sg** **02 54 46.1 +1.7**
comp=E,1.6nm,0.4s
BFO Black Forest 3.37 165 *e*Pn **Pn** **02 53 56.1 +0.3**
SNR=2.9
BRG Berggiesshubel 4.39 97 SG **Sg** **02 55 27.6 +4.6**
comp=E,0.8nm,0.6s
LOR Lormes 4.80 207 *e*Pn **Pn** **02 54 14.7 -0.8**
baz=36
CABF La Chapelle 5.03 188 *e*Pn **Pn** **02 54 17.1 -1.5**
SSF Saint Saulge 5.09 208 *e*Pn **Pn** **02 54 18.3 -1.2**
SMF Signal de Mont 5.38 204 *e*Pn **Pn** **02 54 22.3 -1.2**
AVF Avril sur Loir 5.38 208 *e*Pn **Pn** **02 54 22.2 -1.3**
LDF La Druitiere 5.51 240 *e*Pn **Pn** **02 54 23.6 -1.6**
FLN La Foliniere 5.61 243 *e*Pn **Pn** **02 54 25.6 -1.0**
baz=61
BGF Bois d'Agland 5.75 210 *e*Pn **Pn** **02 54 27.6 -0.9**
BGF *e*Pg **Pg** **02 54 50.2 -1.9**
BGF *e*Sn **Sn** **02 55 31.1 -4.0**
GRR Gorron 6.02 241 *e*Pn **Pn** **02 54 31.2 -1.1**
GRR *e*Sn **Sn** **02 55 36.2 -5.8**
TCF Toulx Ste Croi 6.19 213 *e*Pn **Pn** **02 54 33.4 -1.2**
SGMF Saint Gilles 7.04 245 *e*Pn **Pn** **02 54 44.1 -2.2**
CAF Calviac 7.45 208 *e*Pn **Pn** **02 54 51.1 -0.8**

NNC 20 03:23:35.3±8.3,3784N×7165E,h190km±88km,mb2.4, mpv3.2,4C-2D,Error ellipse: s-maj=76.8km s-min=41.9km az=12.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.33**	**351**	⇑P			Pn	03 24 53.9	+0.2
8.6nm,0.5s,baz=179,slow=13,SNR=92
KK31 S Sn 03 25 56.3 +1.0
2.7nm,0.3s,baz=168,slow=21,SNR=20
TKM2 Tokmak 2 5.90 29 ⇑P Pn 03 24 59.6 -1.5
0.3nm,0.6s
TKM2 ⇑S Sn 03 26 09.9 +1.1
0.2nm,0.5s
AB31 Akbulak array 14.20 327 P Pn 03 26 50.2 +2.2
0.9nm,0.6s,baz=133,slow=14,SNR=21
AB31 ⇑S Sn 03 29 22.8 -3.6
2.9nm,0.7s,baz=157,slow=23,SNR=6.9
AKTO Aktyubinsk 15.91 327 ⇓P Pn 03 27 11.4 +2.5
AKTO ⇓S S 03 30 03.6 -1.7
12nm,0.1s

MAN 20 03:27:15.5,1831N×12095E,h24km,mb2.2,ML3.9,MS2.4, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.53**	**148**	*e*P			Pb	03 27 26.9	+0.7
APYP *e*S Sb 03 27 36.8 +3.4
ABRA Dolores 0.70 199 *e*P Pb 03 27 28.9 -0.1
CVP Callao Caves 1.03 126 ⇑*i*P Pn 03 27 34.0 -0.4
CVP *i*S Sb 03 27 49.0 +1.3
SGCP Mt. Cagua 1.05 94 *e*P Pn 03 27 33.9 -0.8
SGCP *e*S Sb 03 27 49.3 +1.1
CAUP Cauayan 1.60 148 *e*P Pn 03 27 46.6 +4.4

NEIC 20 03:28:28.9,5483N×16342W,h104km,MG2.9(AEIC), After AEIC.,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.03**	**9**	P			Pn	03 28 42.3	-0.9
FALS S Sn 03 28 53.7 -0.3
AKUT Akutan 1.54 244 P Pn 03 28 54.7 -1.1
UNV Unalaska Valle 2.05 243 P Pn 03 29 01.5 -0.8
PMR Palmer 10.12 42 *e*Pn Pn 03 30 56.7 +5.6
17nm,0.4s
SML Sawmill 10.56 42 *e*Pn Pn 03 31 00.7 +3.6

CASC 20 03:56:06.8±1.6,1365N×9064W,h78km±13km,MD3.6, ML3.6,5C-8D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TER	**Terranova**	**0.65**	**356**	⇑*e*P			Pn	03 56 22.8	+0.9
TER *e*S Sn 03 56 32.6 -0.3
FUG Fuego 3 0.82 346 ⇓*i*P Pn 03 56 24.9 +1.3
RTR El Retiro 0.99 75 ⇑*e*P x 03 56 26.4
RTR *e*S x 03 56 41.2
SBLS San Blas 1.00 79 ⇓*e*P x 03 56 26.4
SBLS *e*S x 03 56 41.4
SNJE San Jose 1.02 77 ⇓*e*P x 03 56 26.6
SNJE *e*S x 03 56 41.3
RBDL Robledal 1.03 63 ⇓*e*P x 03 56 26.2
RBDL *e*S x 03 56 42.7
TP2 Tecpan 2 1.19 342 ⇑*e*P Pn 03 56 29.0 +0.9
TP2 *e*S Sn 03 56 46.4 +2.4
TP2 AML AML 03 56 49.7
comp=E,961nm,0.4s
BOQS Boqueron 1.32 86 ⇑*e*P x 03 56 30.2
BOQS *e*S x 03 56 49.5
SNET Serv Nac Est T 1.36 88 *e*P x 03 56 30.2
SNET *e*S x 03 56 48.5
MTO2 Montecristo 2 1.45 59 ⇓*i*P x 03 56 31.2
MTO2 *e*S x 03 56 51.5
LFU La Fuente 1.48 86 *e*P x 03 56 32.1
LFRS El Faro 1.53 91 ⇓*e*P x 03 56 32.5
LFRS *e*S x 03 56 52.8
LBRS Las Brisas 1.55 86 ⇓*e*P x 03 56 33.0
LBRS *e*S x 03 56 52.6
LCBS La Ceiba 1.61 89 ⇓*e*P x 03 56 33.7
LCBS *e*S x 03 56 54.8
SNVI San Vicente 1.75 91 ⇑*e*P x 03 56 35.9
VSM San Miguel 2.31 95 *e*P x 03 56 42.2
VSM *e*S x 03 57 13.5
CNCH Conchagua 2.75 97 *e*P x 03 56 48.5

IDC 20 04:05:34.9±64.0,2306S×17935W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.9/11,mbtmp3.9/3,Error ellipse: s-maj=1158.0km s-min=164.8km az=86.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.59**	**247**	P			P	04 12 32.7	-1.3
1.3nm,0.6s,baz=106,slow=12,SNR=3.6
ASAR Alice Springs 42.76 260 P P 04 13 34.7 +0.7
0.4nm,0.4s,baz=89,slow=7.5,SNR=5.7
WRA Warramunga Arr 43.06 265 P P 04 13 37.4 +0.9
1.3nm,0.3s,baz=97,slow=8.3,SNR=21

BJI ***20*** *04:16:22.2,3720N×11470W,h0km,mB4.8,mb4.6,Ms4.3, Msz3.9*
ISCJB ***20*** *04:16:25.3±0.2,3720N±002×11476W±002,h10km, mb3.4/1,MS3.1/2,Error ellipse: s-maj=2.6km s-min=2.4km az=116.2*
NEIC ***20*** *04:16:25.3,3723N×11467W,h0km,ML4.4(REN),After REN.*
IDC ***20*** *04:16:25.8±2.0,3713N×11472W,h0km,mb3.5/1, mb1 3.7/5,mb1mx3.5/22,mbtmp3.4/5,ML3.1/4,MS3.0/2, Ms1 3.0/2,ms1mx2.4/21,Error ellipse: s-maj=27.8km s-min=9.3km az=178.0*
ISC 20 04:16:26.2±0.2,3722N±001×11472W±002,h10km,n102, σ1°23/137,mb3.4/1,MS3.1/2,33C-25D,Southern Nevada

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCUT	**Cedar City**	**1.13**	**73**	*e*P			**Pb**	**04 16 47.3**	**-0.5**
ARUT Antelope Range 1.16 61 ⇑*i*P **Pb** **04 16 48.2** **-0.2**
TPNV Topopah Spring 1.25 258 *e*P **Pn** **04 16 48.8** **-1.0**
TPNV *e*S **Sb** **04 17 06.8** **+0.6**
V11A Goodsprings 1.49 203 ⇑P **Pn** **04 16 52.8** **-0.3**
baz=1.5
V11A ⇑S **Sn** **04 17 12.7** **0.0**
baz=1.5
Q11A Duckwater 1.78 336 ⇓P **Pn** **04 16 57.0** **-0.1**
baz=1.8,SNR=118
W12A Cal Nev Ari 1.92 184 ⇑P **Pn** **04 16 58.3** **-0.7**
baz=1.9,SNR=18
TUQ Turquoise Mtn. 2.03 209 P **Pn** **04 16 59.9** **-0.6**
baz=2.1,SNR=706
TUQ ⇓S **Sn** **04 17 25.7** **-0.2**
baz=2.1
S09A Goldfield 2.05 285 ⇑P **Pn** **04 17 00.4** **-0.4**
baz=2.1
P12A McGill 2.25 356 ⇑P **Pn** **04 17 03.7** **+0.2**
baz=2.3,SNR=22
MSU Marysvale 2.39 57 *e*Pn **Pn** **04 17 06.4** **+1.0**
MSU *e*Sn **Sn** **04 17 40.6** **+5.9**

NEE Needles 2.39 178 ⇑P Pn 04 17 04.9 -0.6
baz=2.4
W14A Seligman 2.41 146 ⇑P Pn 04 17 05.8 +0.1
baz=2.4,SNR=12
P11A Circle Ranch, 2.46 341 ⇓P Pn 04 17 07.0 +0.6
baz=2.5
Q09A Carvers 2.52 310 ⇑P Pn 04 17 07.3 +0.1
baz=2.5,SNR=15
GSC Goldstone 2.55 222 ⇓P Pn 04 17 07.2 -0.4
baz=2.6,SNR=33
X13A Yucca 2.72 164 ⇓P Pn 04 17 09.3 -0.8
baz=2.7
S08C White Mtn Res 2.76 277 ⇑P Pn 04 17 10.3 -0.3
baz=2.8,SNR=26
S08C ⇓S Sn 04 17 44.5 +0.5
baz=2.8
W15A Williams 2.84 135 ⇑P Pn 04 17 11.1 -0.5
baz=2.8
R08A Mina 2.91 294 ⇑P Pn 04 17 12.1 -0.5
baz=2.9
MNV Mina 2.98 295 *e*Pn Pn 04 17 12.8 -0.7
MNV *e*Pg Pg 04 17 22.3 -1.0
MNV *e*Sg Sg 04 18 02.1 +0.2
O11A Cowboy Ranch, 3.00 346 ⇓P Pn 04 17 13.8 0.0
baz=3.0
Q08A Gabbs 3.02 304 ⇓P Pn 04 17 14.0 -0.1
baz=3.0,SNR=20
Q08A ⇓S Sn 04 17 51.5 +1.3
baz=3.0
NVAR Mina Array Bea 3.08 294 Pn Pn 04 17 14.3 -0.6
12nm,0.3s,baz=118,slow=14,SNR=159
NVAR Pg Pg 04 17 23.5 -1.8
63nm,0.3s,baz=122,slow=16,SNR=104
NVAR Lg 04 18 04.4
88nm,0.3s,baz=83,slow=14,SNR=12
X14A Yava 3.12 151 P Pn 04 17 15.8 +0.3
baz=3.1,SNR=24
MLAC Mammoth Lakes 3.30 278 ⇓P Pn 04 17 18.1 +0.1
baz=3.3
DUG Dugway 3.32 26 *e*Pn Pn 04 17 19.4 +1.2
DUG *e*Sn Sn 04 17 59.8 +2.0
X15A Humboldt 3.39 143 ⇓P Pn 04 17 19.3 +0.1
baz=3.4,SNR=21
ISA Isabella 3.40 244 ⇑P Pn 04 17 19.3 -0.1
baz=3.4
NLU North Lily Min 3.43 36 *e*Pg Pg 04 17 27.1 -4.8
NLU *e*Sg Sg 04 18 13.3 -3.0
TMUT Trail Mountain 3.45 52 *e*Pn Pn 04 17 22.7 +2.7
Y12C Blythe 3.47 177 ⇓P Pn 04 17 19.6 -0.7
baz=3.5,SNR=6.2
Y13A Salome 3.48 168 ⇓P Pn 04 17 19.7 -0.7
baz=3.5,SNR=6.6
O09A Fish Creek Ran 3.52 327 ⇑P Pn 04 17 21.3 +0.3
baz=3.5,SNR=16
R07C Lee Vining 3.54 285 ⇑P Pn 04 17 21.0 -0.3
baz=3.6
Y14A Wickenburg 3.56 156 ⇓P Pn 04 17 21.5 -0.1
baz=3.6
N12A Wells--Clov Va 3.63 356 P Pn 04 17 22.6 0.0
baz=3.6,SNR=17
N13A West Wendover 3.65 6 ⇓P Pn 04 17 22.4 -0.3
baz=3.6
N11A Elko Archery C 3.68 348 ⇑P Pn 04 17 23.0 -0.2
baz=3.7,SNR=6.8
MPU Maple Canyon 3.69 40 *e*Pn Pn 04 17 25.9 +2.6
MPU *e*Sg Sg 04 18 22.9 -1.9
SRU San Rafael 3.81 59 *e*Pn Pn 04 17 26.5 +1.6
SRU *e*Pg Pg 04 17 38.0 -1.1
SRU *e*Sg Sg 04 18 26.1 -2.3
PFO Pinyon Flat Ob 3.87 202 *e*Pn Pn 04 17 25.7 -0.1
PFO *e*Pg Pg 04 17 38.7 -1.7
PFO *e*Sg Sg 04 18 28.6 -2.0
PFO Pinyon Flat Ob 3.87 202 ⇑P Pn 04 17 25.5 -0.3
baz=3.9,SNR=28
BGU Big Grassy Mou 3.92 19 *e*Pn Pn 04 17 25.7 -0.8
BGU *e*Pg Pg 04 17 39.2 -2.2
BGU *e*Sg Sg 04 18 31.0 -1.3
NOQ North Oquirrh 3.98 30 *e*Pg Pg 04 17 40.0 -2.4
NOQ *e*Sg Sg 04 18 32.0 -2.0
T06C Millerton Lake 3.99 268 ⇓S Sn 04 18 15.4 +1.0
baz=4.0
P07A Fallon 4.01 307 ⇓P Pn 04 17 27.2 -0.6
baz=4.0
Z14A Wintersburg 4.12 159 ⇑P Pn 04 17 29.1 -0.1
baz=4.1
Z14A ⇑S Sn 04 18 17.0 -0.4
baz=4.1
M13A Montello 4.16 6 ⇓P Pn 04 17 29.5 -0.2
baz=4.2,SNR=15
GLA Glamis 4.16 181 ⇑P Pn 04 17 29.8 0.0
baz=4.2
CTU Camp Tracy 4.17 33 *e*Pn Pn 04 17 31.7 +1.9
CTU *e*Sg Sg 04 18 36.2 -3.8
DAU Daniels Canyon 4.18 39 *e*Pg Pg 04 17 40.8 -5.5
DAU *e*Sg Sg 04 18 38.9 -1.5
M12A Wells 4.19 358 ⇑P Pn 04 17 29.9 -0.3
baz=4.2,SNR=24
M11A Holland Ranch, 4.28 349 ⇑P Pn 04 17 32.5 +1.0
baz=4.3,SNR=8.5
O07A Toulon 4.38 313 ⇑P Pn 04 17 32.3 -0.5
baz=4.4
PAHR Pah Rah Range 4.42 306 *e*Pn Pn 04 17 33.0 -0.3
PAHR *e*Pg Pg 04 17 48.3 -2.6
PAHR *e*Sg Sg 04 18 44.2 -4.1
N08A GE Springer Mi 4.44 324 ⇓P Pn 04 17 33.4 -0.2
baz=4.5
SPUT South Promonto 4.45 23 *e*Pn Pn 04 17 36.1 +2.4
SPUT *e*Sn Sn 04 18 30.8 +5.3
WCN Washoe City 4.47 299 ⇑P Pn 04 17 33.9 -0.2
baz=4.5
R05C Kirkwood Meado 4.49 291 ⇑P Pn 04 17 34.1 -0.1
baz=4.5
M10A I.L. Ranch, Tu 4.52 342 ⇑P Pn 04 17 36.9 +2.2
baz=4.5
CMB Columbia Colle 4.57 282 *e*Pn Pn 04 17 35.4 0.0
CMB *e*Pg Pg 04 17 51.1 -2.7
CMB *e*Sg Sg 04 18 50.5 -2.5
TCUT Toone Canyon 4.66 32 *e*Pn Pn 04 17 40.0 +3.3
TCUT *e*Sg Sg 04 18 56.3 +0.3
109C Camp Elliot, M 4.75 205 ⇑P Pn 04 17 37.5 -0.3
baz=4.8
HVU Hansel Valley 4.79 18 *e*Pn Pn 04 17 39.9 +1.4
HVU *e*Pg Pg 04 17 56.7 -1.3
HVU *e*Sg Sg 04 18 57.3 -2.9
N07B Gerlach 4.86 318 ⇑P Pn 04 17 40.2 +0.9
baz=4.9
115A Sonoran Desert 4.95 155 ⇓P Pn 04 17 41.5 +0.8
baz=5.0
MVCO Mesa Verde 4.97 88 *e*Pn Pn 04 17 41.8 +0.9
MVCO *e*Pg Pg 04 17 59.5 -1.9
LAVA Lava Cap Winer 5.00 290 ⇓P Pn 04 17 41.9 +0.6
baz=5.0
HWUT Hardware Ranch 5.01 28 *e*Pn Pn 04 17 44.0 +2.5
HWUT *e*Pg Pg 04 18 00.2 -2.0
P05C Yuba Gap, Truc 5.08 296 ⇑P Pn 04 17 43.1 +0.7
baz=5.1
116A Eloy 5.27 151 ⇓P Pn 04 17 45.5 +0.5
baz=5.3
SAO San Andreas Ge 5.41 267 *e*Pg Pg 04 18 02.5 -7.3
19nm,0.8s
M07A Soldier Meadow 5.41 322 ⇑P Pn 04 17 48.0 +1.1
baz=5.4
Q04C Lincoln 5.50 289 ⇓P Pn 04 17 49.0 +0.8
baz=5.5
O05C Quincy 5.57 301 ⇓P Pn 04 17 50.1 +0.9
baz=5.6
ORV Oroville 5.81 296 ⇓P Pn 04 17 53.2 +0.7
baz=5.8
TUC Tucson 5.87 145 *e*Pn Pn 04 17 54.3 +0.9
14nm,0.9s
M06C Likely Place G 5.98 313 ⇑P Pn 04 17 56.1 +1.3
baz=6.0
WVOR Wild Horse Val 6.01 331 *e*Pg Pg 04 18 20.6 -0.8
20nm,0.8s
HLID Hailey 6.34 2 *e*Pn Pn 04 18 00.2 +0.6
15nm,0.6s
MOD Modoc 6.36 319 *e*Pg Pg 04 18 24.2 -3.8
13nm,0.7s
K07A Rock Creek Ran 6.47 329 ⇑P Pn 04 18 01.9 +0.3
baz=6.5
M05C Lookout 6.48 312 ⇑P Pn 04 18 03.2 +1.6
baz=6.5
LAZ Ladron 6.77 112 *e*Pn Pn 04 18 10.8 +5.1
PDAR Pinedale Array 6.81 34 Pn Pn 04 18 09.7 +3.5
0.2nm,0.3s,baz=212,slow=12,SNR=12
PDAR Pg Pg 04 18 33.0 -3.6
0.3nm,0.3s,baz=209,slow=12,SNR=6.1
PDAR Lg 04 20 01.5
0.8nm,0.3s,baz=213,slow=34,SNR=7.2
REDW Red Top Meadow 6.81 25 *e*Pn Pn 04 18 09.3 +3.1
11nm,0.8s
LENM Lemitar 7.00 114 *e*Pn Pn 04 18 11.2 +2.4
ANMO Albuquerque 7.06 106 Pn Pn 04 18 11.6 +2.0
0.2nm,0.3s,baz=296,slow=11,SNR=4.0
ANMO Pg Pg 04 18 30.9 -11
0.3nm,0.3s,baz=278,slow=14,SNR=7.0
ANMO Lg 04 20 02.1
1.5nm,0.3s,baz=80,slow=18,SNR=3.6
ANMO Albuquerque 7.06 106 Pn Pn 04 18 11.6 +2.0
ANMO Pg Pg 04 18 30.9 -11
ANMO Lg 04 20 02.1
LPM Los Pinos Moun 7.19 111 *e*Pn Pn 04 18 12.9 +1.5
LPM *e*Pg Pg 04 18 38.4 -5.4
IMW Indian Meadow 7.26 22 *e*Pn Pn 04 18 15.5 +3.1
8.1nm,0.6s
BNM Barren Site 7.26 113 *e*Pn Pb 04 18 31.6 -0.8
BNM *e*Pg Pg 04 18 40.6 -4.7
RWWY Rawlins 7.32 50 *e*Pn Pn 04 18 14.4 +1.2
13nm,0.7s
ISCO Idaho Springs 7.59 67 *e*Pn Pn 04 18 14.1 -2.7
13nm,0.9s
YBH Yreka Blue Hor 7.64 309 LR LR 04 21 21.4
comp=Z,58nm,18.4s,baz=132,slow=38
MCMT McKenzie Canyo 7.73 10 *e*Pn Pn 04 18 22.3 +3.6
DLMT Dillon 8.29 10 *e*Pn Pn 04 18 26.9 +0.4
13nm,1.0s
ULM Lac du Bonnet 18.77 40 P Pn 04 20 48.2 +2.3
0.1nm,0.3s,baz=236,slow=11,SNR=3.3
YKA Yellowknife Ar 25.30 0 P P 04 21 55.4 +2.5
0.8nm,0.7s,mb3.4,baz=181,slow=9.6,SNR=9.4
CMIG Matias Romero 26.61 134 LR LR 04 34 54.2
comp=Z,48nm,21.0s,MS3.0,baz=13,slow=42
MDJ Mudanjiang 79.95 319 P P 04 28 34.8 -0.7
MDJ AMB AMB
comp=Z,10.0nm,3.2s
MDJ LR LR
comp=Z,10.0nm,23.4s,MS3.1
WMQ Urumqi 96.81 344 *e*P P 04 29 58.5 +1.2

ISCJB ***20*** *04:21:11.3±0.4,2934S×003×17895W±005,h301km±4km, mb4.4/26, Error ellipse: s-maj=8.6km s-min=3.8km az=64.6*
BJI ***20*** *04:21:11.7,2900S×17890W,h299km,mB4.6,mb4.5*
MOS ***20*** *04:21:12.1±1.5,2882S×17896W,h297km,mb4.6/6, Error ellipse: s-maj=15.1km s-min=13.7km az=120.3*
NEIC ***20*** *04:21:12.7±0.9,2898S×17887W,h300km±9km,mb4.4/14, Error ellipse: s-maj=14.3km s-min=11.3km az=157.0*
IDC ***20*** *04:21:12.3±0.5,2880S×17897W,h293km±5km,mb3.9/8, mb1 4.2/9,mb1mx4.2/11,mbtmp4.6/9, Error ellipse: s-maj=17.0km s-min=12.9km az=162.0*
ISC 20 04:21:12.7±0.4,2950S±003×17884W±005,h307km±4km, n283,σ1§01/200,mb4.4/26,53C-48D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.84**	**73**	P	**Pn**	**04 21 53.0**	**0.0**
	909nm,0.3s,baz=94,slow=6.3,SNR=18						
RAO				S	**S**	**04 22 23.6**	**-1.6**
	837nm,0.3s,baz=87,slow=23,SNR=7.4						
RAO	**Raoul Island**	**0.84**	**73**	P	**Pn**	**04 21 53.0**	**0.0**
RAO				S	**S**	**04 22 23.6**	**-1.6**
MXZ	**Matakaoa Point**	**8.39**	**196**	*e*PN	**Pn**	**04 23 12.4**	**+1.4**
MXZ				SN	**S**	**04 24 50.0**	**+2.9**
PUZ	**Puketiti**	**8.89**	**195**	*e*PN	**Pn**	**04 23 17.9**	**+0.8**
PUZ				SN	**S**	**04 24 58.3**	**-0.1**
MWZ	**Matawai**	**9.32**	**198**	*e*PN	**Pn**	**04 23 23.3**	**+1.0**
MWZ				SN	**S**	**04 25 12.5**	**+4.5**
URZ	**Urewera**	**9.36**	**200**	P	**Pn**	**04 23 25.0**	**+2.1**
	7.0nm,0.3s,baz=280,slow=3.8,SNR=23						
URZ				S	**S**	**04 25 13.8**	**+4.7**
	30nm,0.3s,baz=258,slow=19,SNR=14						
URZ	**Urewera**	**9.36**	**200**	*e*PN	**Pn**	**04 23 21.9**	**-1.0**
PATZ	**Paeroa**	**9.75**	**203**	*e*PN	**Pn**	**04 23 33.6**	**+6.0**
KNZ	**Kokohu**	**9.93**	**196**	*e*PN	**Pn**	**04 23 33.4**	**+3.6**
KNZ				SN	**S**	**04 25 20.9**	**-0.9**
BKZ	**Black Stump Fm**	**10.39**	**201**	*e*PN	**Pn**	**04 23 35.9**	**+0.5**
NGZ	**Ngauruhoe**	**10.69**	**204**	*e*PN	**Pn**	**04 23 44.0**	**+4.9**
TUVZ	**Tukino**	**10.75**	**204**	*e*PN	**Pn**	**04 23 44.3**	**+4.4**
TUVZ				SN	**S**	**04 25 45.2**	**+4.8**
FWVZ	**Far West T-bar**	**10.78**	**204**	*e*PN	**Pn**	**04 23 43.5**	**+3.4**
WNVZ	**Wahianoa**	**10.82**	**204**	*e*PN	**Pn**	**04 23 41.3**	**+0.5**
MOVZ	**Moawhango**	**10.84**	**203**	*e*PN	**Pn**	**04 23 43.5**	**+2.5**
PKVZ	**Pokaka**	**10.88**	**205**	*e*PN	**Pn**	**04 23 44.9**	**+3.5**
PXZ	**Pawanui**	**11.09**	**197**	*e*PN	**Pn**	**04 23 42.8**	**-1.1**
PXZ				SN	**S**	**04 25 45.1**	**-2.9**
TSZ	**Takapari Road**	**11.37**	**201**	*e*PN	**Pn**	**04 23 46.3**	**-1.1**
BFZ	**Birch Farm**	**11.86**	**198**	*e*PN	**Pn**	**04 23 53.2**	**-0.1**
BFZ				SN	**S**	**04 26 02.4**	**-2.9**
MRZ	**Mangatainoka R**	**12.04**	**201**	PN	**Pn**	**04 23 54.1**	**-1.3**
TIWZ	**Tintock**	**12.05**	**200**	*e*PN	**Pn**	**04 23 54.1**	**-1.5**
KIW	**Kapiti Island**	**12.43**	**203**	*e*PN	**Pn**	**04 23 58.8**	**-1.4**
MTW	**Mount Morrison**	**12.51**	**200**	SN	**S**	**04 26 22.0**	**+2.0**
CAW	**Cannon Point**	**12.60**	**202**	*e*PN	**Pn**	**04 24 01.6**	**-0.7**
CAW				SN	**S**	**04 26 21.0**	**-1.0**
DUWZ	**D'Urville Isla**	**12.73**	**206**	PN	**Pn**	**04 24 05.4**	**+1.6**
DUWZ				SN	**S**	**04 26 25.8**	**+0.9**
PAWZ	**Paruwai Farm**	**12.74**	**200**	*e*PN	**Pn**	**04 24 04.6**	**+0.7**
MSWZ	**Moikau Station**	**12.82**	**200**	*e*PN	**Pn**	**04 24 05.9**	**+0.9**
MSWZ				SN	**S**	**04 26 24.7**	**-2.2**
MRW	**Makara Radio**	**12.83**	**202**	*e*PN	**Pn**	**04 24 06.1**	**+1.0**
MRW				SN	**S**	**04 26 25.6**	**-1.5**
TCW	**Tory Channel**	**12.96**	**204**	*e*PN	**Pn**	**04 24 06.4**	**-0.2**
TCW				SN	**S**	**04 26 29.2**	**-0.9**
TUWZ	**Tuamarina**	**13.27**	**204**	SN	**S**	**04 26 34.7**	**-2.2**
NNZ	**Nelson**	**13.30**	**206**	*e*PN	**Pn**	**04 24 09.7**	**-0.9**
NNZ				SN	**S**	**04 26 36.3**	**-1.2**
QRZ	**Quartz Range**	**13.32**	**210**	*e*PN	**Pn**	**04 24 12.1**	**+1.3**
QRZ				SN	**S**	**04 26 39.9**	**+1.9**
CMWZ	**Cape Campbell**	**13.46**	**203**	SN	**S**	**04 26 39.3**	**-1.9**
THZ	**Tophouse**	**13.95**	**206**	*e*PN	**Pn**	**04 24 17.2**	**-1.1**
THZ				SN	**S**	**04 26 49.8**	**-1.5**
KHZ	**Kahutara**	**14.28**	**203**	*e*PN	**Pn**	**04 24 21.6**	**-0.8**
LTZ	**Lake Taylor**	**15.06**	**206**	*e*PN	**Pn**	**04 24 31.8**	**+0.3**
DZM	**Mont Dzumac**	**15.17**	**296**	P	**P**	**04 24 31.9**	**+0.8**
	1.1nm,0.3s,baz=111,slow=17,SNR=13						
NOUC	**Port Laguerre**	**15.26**	**295**	*e*P	**P**	**04 24 30.9**	**-1.3**
MQZ	**McQueen's Vall**	**15.73**	**203**	*e*PN	**Pn**	**04 24 40.0**	**+0.7**
MQZ				SN	**S**	**04 27 27.5**	**+0.3**
AFI	**Afiamalu**	**16.84**	**24**	P	**P**	**04 24 43.7**	**-5.6**
	15nm,0.3s,baz=354,slow=4.7,SNR=9.7						
AFI				S	**S**	**04 27 29.8**	**-19**
	5.1nm,0.3s,baz=60,slow=20,SNR=4.7						
JCZ	**Jackson Bay**	**17.58**	**211**	SN	**S**	**04 28 11.3**	**+7.3**
CTA	**Charters Tower**	**32.94**	**278**	*e*P	**P**	**04 27 20.9**	**+1.9**
	4.0nm,0.5s,mb4.2						
CTA	**Charters Tower**	**32.94**	**278**	*e*P	**P**	**04 27 20.9**	**+1.9**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CTAO	**Charters Tower**	**32.94**	**278**	*e*P	**P**	**04 27 21.1**	**+2.1**
STKA	**Stephens Creek**	**33.98**	**256**	*e*P	**P**	**04 27 29.1**	**+1.2**
	comp=Z,2.4nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**33.98**	**256**	P	**P**	**04 27 29.1**	**+1.2**
	comp=Z,2.5nm,0.4s,mb4.1,baz=106,slow=11,SNR=16						
AS31	**Alice Springs**	**42.43**	**266**	*e*P	**P**	**04 28 39.1**	**+1.2**
ASAR	**Alice Springs**	**42.43**	**266**	P	**P**	**04 28 39.1**	**+1.2**
	comp=Z,5.6nm,0.5s,mb4.1,baz=97,slow=6.7,SNR=95						
ASAR				S	**S**	**04 34 36.5**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=99,slow=15,SNR=4.1						
ASPA	**Alice Springs**	**42.43**	**266**	*e*P	**P**	**04 28 39.1**	**+1.2**
WB2	**Warramunga Arr**	**43.33**	**272**	*e*P	**P**	**04 28 44.7**	**-0.3**
WRAB	**Tennant Creek**	**43.33**	**272**	*e*P	**P**	**04 28 45.7**	**+0.6**
WRAB	**Tennant Creek**	**43.33**	**272**	*e*P	**P**	**04 28 45.6**	**+0.5**
	comp=Z,8.1nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**43.34**	**272**	P	**P**	**04 28 45.5**	**+0.4**
	comp=Z,5.7nm,0.4s,mb4.2,baz=109,slow=7.9,SNR=71						
WRA				PcP	PcP	04 30 28.7	+0.9
	comp=Z,3.5nm,0.9s,baz=114,slow=3.7,SNR=4.9						
WRA				S	**S**	**04 34 46.8**	**-2.3**
	comp=Z,1.4nm,0.8s,baz=108,slow=14,SNR=4.3						
SBA	**Scott Base**	**48.88**	**184**	*e*P	**P**	**04 29 33.8**	**+5.8**
SBA				*e*PP	pP	04 30 38.0	+6.1
SBA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
SBA	**Scott Base**	**48.88**	**184**	*e*P	**P**	**04 29 33.8**	**+5.8**
	comp=Z,7.3nm,0.9s,mb4.0						
SBA				*e*pP	pP	04 30 38.0	+6.0
VNDA	**Vanda**	**48.92**	**185**	P	**P**	**04 29 34.4**	**+6.1**
	comp=Z,0.8nm,0.7s,mb3.1,baz=42,slow=5.7,SNR=6.2						
VNDA				PcP	PcP	04 30 50.8	+3.4
	comp=Z,2.2nm,0.9s,baz=314,slow=5.4,SNR=5.5						
VNDA	**Vanda**	**48.92**	**185**	*e*P	**P**	**04 29 33.6**	**+5.3**
	comp=Z,0.4nm,0.4s,mb3.1						
VNDA				PcP	PcP	04 30 50.8	+3.4
VNDA				*e*PcP	PcP	04 30 51.0	+3.6
MBWA	**Marble Bar**	**55.60**	**263**	*e*P	**P**	**04 30 17.4**	**+0.3**
	comp=Z,11nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**60.61**	**180**	*e*P	**P**	**04 30 57.4**	**+5.8**
	comp=Z,10nm,0.7s,mb4.5						
MJAR	**Matsushiro Arr**	**77.08**	**326**	P	**P**	**04 32 30.1**	**-2.4**
	comp=Z,13nm,0.9s,mb4.7,baz=162,slow=5.6,SNR=24						
MAJO	**Matsushiro**	**77.08**	**326**	*e*P	**P**	**04 32 30.0**	**-2.4**
MAJO				*e*		04 32 41.3	
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**77.08**	**326**	*e*P	**P**	**04 32 30.0**	**-2.5**
	comp=Z,9.7nm,0.8s,mb4.6						
MAJO				*e*PcP	PcP	04 32 41.2	-0.7
MAT	**Matsushiro**	**77.08**	**326**	P	**P**	**04 32 30.2**	**-2.2**
MAT	**Matsushiro**	**77.08**	**326**	*e*P	**P**	**04 32 30.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
MAT	**Matsushiro**	**77.08**	**326**	*e*P	**P**	**04 32 30.0**	**-2.4**
	comp=Z,18nm,1.0s,mb4.8						
VNA1	**Neumayer--Stat**	**79.91**	**177**	*e*P	**P**	**04 32 52.2**	**+4.4**
VNA1				*e*		04 32 59.6	
VNA1				*e*		04 33 08.6	
VNA1				*e*		04 33 40.0	
YSS	**Yuzh-Sakhalins**	**83.62**	**335**	*e*P	**P**	**04 33 06.6**	**-0.4**
YSS				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.3						
YSS	**Yuzh-Sakhalins**	**83.62**	**335**	*e*P	**P**	**04 33 06.1**	**-0.9**
	comp=Z,28nm,0.9s,mb5.1						
PLCA	**Paso Flores**	**83.66**	**133**	P	**P**	**04 33 11.8**	**+4.6**
	comp=Z,5.0nm,0.9s,mb4.4,baz=239,slow=5.0,SNR=6.8						
PLCA	**Paso Flores**	**83.66**	**133**	P	**P**	**04 33 11.8**	**+4.6**
HAST	**Hastings Reser**	**84.79**	**43**	P	**P**	**04 33 12.9**	**0.0**
	baz=85						
FARB	**Farallon Islan**	**84.84**	**41**	P	**P**	**04 33 11.2**	**-1.9**
	baz=85						
BNLO	**Ben Lomond**	**84.93**	**42**	P	**P**	**04 33 13.7**	**+0.2**
	baz=85						
PKD	**Parkfield**	**85.10**	**44**	P	**P**	**04 33 13.0**	**-1.4**
	baz=85						
NJ2	**Nanjing**	**85.10**	**311**	*e*P	**P**	**04 33 14.5**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,50nm,4.8s						
NJ2				LR	LR		
	comp=N,150nm,27.1s						
NJ2				LR	LR		
	comp=E,140nm,16.1s						
NJ2				LR	LR		
	comp=Z,70nm,18.3s						
U04C	**Hernandez Rese**	**85.23**	**43**	P	**P**	**04 33 15.4**	**+0.3**
	baz=85						
109C	**Camp Elliot, M**	**85.26**	**48**	P	**P**	**04 33 15.9**	**+0.7**
	baz=85						
OSI	**Osito Adit**	**85.34**	**46**	P	**P**	**04 33 15.7**	**+0.1**
	baz=85						
PACP	**Pacheco Peak**	**85.37**	**43**	P	**P**	**04 33 14.8**	**-0.9**
	baz=85						
V05C	**Boulder Hill,**	**85.44**	**44**	P	**P**	**04 33 16.4**	**+0.3**
	baz=85						
S04C	**Ingram Canyon,**	**85.67**	**42**	P	**P**	**04 33 16.5**	**-0.7**
	baz=86						
MNRC	**McLaughlin Nat**	**85.97**	**41**	P	**P**	**04 33 18.5**	**-0.1**
	baz=86						
PFO	**Pinyon Flat Ob**	**86.14**	**48**	P	**P**	**04 33 20.1**	**+0.6**
	baz=86						
S05C	**Merced**	**86.16**	**43**	P	**P**	**04 33 19.4**	**-0.2**
	baz=86						
ISA	**Isabella**	**86.18**	**45**	P	**P**	**04 33 20.0**	**+0.3**
	baz=86						
T06C	**Millerton Lake**	**86.31**	**44**	P	**P**	**04 33 20.5**	**+0.2**
	baz=86						
GASB	**Alder Springs**	**86.34**	**40**	P	**P**	**04 33 20.3**	**-0.1**
	baz=86						
SUTB	**Sutter Buttes**	**86.58**	**41**	P	**P**	**04 33 20.5**	**-1.1**
	baz=86						
CMB	**Columbia Colle**	**86.58**	**42**	P	**P**	**04 33 21.4**	**-0.3**
	baz=86,SNR=6.5						
O02C	**Red Bluff**	**86.67**	**40**	P	**P**	**04 33 21.9**	**-0.1**
	baz=86						
GLA	**Glamis**	**86.86**	**49**	P	**P**	**04 33 24.0**	**+1.0**
	baz=87,SNR=7.6						
LAVA	**Lava Cap Winer**	**86.86**	**42**	P	**P**	**04 33 22.2**	**-0.7**
	baz=87						
CWC	**Cottonwood Cre**	**86.92**	**45**	P	**P**	**04 33 22.9**	**-0.4**
	baz=87						
ORV	**Oroville**	**86.96**	**41**	P	**P**	**04 33 22.7**	**-0.7**
	baz=87						
O03C	**Acorn Hollow,**	**86.97**	**40**	P	**P**	**04 33 23.1**	**-0.3**
	baz=87						
GSC	**Goldstone**	**86.99**	**46**	P	**P**	**04 33 24.3**	**+0.7**
	baz=87,SNR=10						
WDC	**Whiskeytown Da**	**87.08**	**39**	P	**P**	**04 33 23.4**	**-0.5**
	baz=87						
R05C	**Kirkwood Meado**	**87.21**	**42**	P	**P**	**04 33 24.4**	**-0.2**
	baz=87						
WHN	**Wuhan**	**87.22**	**307**	P	**P**	**04 33 26.0**	**+1.4**
TIN	**Tinemaha**	**87.23**	**44**	P	**P**	**04 33 24.3**	**-0.4**
	baz=87						
P05C	**Yuba Gap, Truc**	**87.30**	**41**	P	**P**	**04 33 24.7**	**-0.3**
	baz=87						
R07C	**Lee Vining**	**87.41**	**43**	P	**P**	**04 33 25.8**	**+0.3**
	baz=87						
M02C	**Callahan**	**87.47**	**39**	P	**P**	**04 33 24.8**	**-1.0**
	baz=87						
MDJ	**Mudanjiang**	**87.47**	**326**	P	**P**	**04 33 24.8**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.4						
MDJ				LR	LR		
	comp=Z,20nm,22.0s						
Y12C	**Blythe**	**87.49**	**49**	P	**P**	**04 33 26.7**	**+0.7**
	baz=87						
S08C	**White Mtn Res**	**87.56**	**44**	P	**P**	**04 33 27.1**	**+0.8**
	baz=87,SNR=6.4						
O05C	**Quincy**	**87.57**	**41**	P	**P**	**04 33 25.9**	**-0.4**
	baz=87						
TUQ	**Turquoise Mtn.**	**87.63**	**47**	P	**P**	**04 33 27.4**	**+0.9**
	baz=88						
O04C	**Chester**	**87.71**	**40**	P	**P**	**04 33 26.8**	**-0.2**
	baz=88						
YBH	**Yreka Blue Hor**	**87.78**	**38**	P	**P**	**04 33 27.0**	**-0.3**
	baz=88						
M03C	**McCloud**	**87.78**	**39**	P	**P**	**04 33 27.0**	**-0.3**
	baz=88						
WCN	**Washoe City**	**87.80**	**42**	P	**P**	**04 33 27.0**	**-0.4**
	baz=88						
HATC	**Hat Creek Radi**	**87.84**	**40**	P	**P**	**04 33 27.6**	**0.0**
	baz=88						
HABR	**Khabarovsk**	**87.90**	**331**	*e*P	**P**	**04 33 27.7**	**-0.2**
HABR				S		04 43 47.0	
HABR				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2						
Y13A	**Salome**	**87.98**	**49**	P	**P**	**04 33 29.5**	**+1.3**
	baz=88,SNR=5.6						
NVAR	**Mina Array Bea**	**88.08**	**43**	P	**P**	**04 33 28.8**	**+0.1**
	comp=Z,7.2nm,0.8s,mb4.6,baz=210,slow=6.8,SNR=35						
NVAR	**Mina Array Bea**	**88.08**	**43**	P	**P**	**04 33 28.8**	**+0.1**
K02A	**Glendale**	**88.08**	**37**	P	**P**	**04 33 27.7**	**-1.0**
	baz=88						
V11A	**Goodsprings**	**88.20**	**47**	P	**P**	**04 33 29.8**	**+0.6**
	baz=88						
W12A	**Cal Nev Ari**	**

X13A	Yucca	88.45	48	⇑P	P	04 33 31.5	+1.0
	baz=88,SNR=12						
L04A	Klamath Falls	88.52	39	⇑P	P	04 33 30.2	-0.6
	baz=88						
Q08A	Gabbs	88.58	43	⇓P	P	04 33 30.6	-0.4
	baz=88,SNR=8.8						
Y14A	Wickenburg	88.60	49	P	P	04 33 32.1	+1.0
	baz=88,SNR=17						
M06C	Likely Place G	88.65	40	⇓P	P	04 33 31.0	-0.4
	baz=88						
116A	Eloy	88.65	51	⇓P	P	04 33 32.7	+1.3
	baz=89						
J03A	Ideyld Park	88.78	37	⇑P	P	04 33 33.6	+1.7
	baz=89						
O07A	Toulon	88.87	42	⇓P	P	04 33 32.1	-0.3
	baz=89,SNR=6.4						
K04A	Chilquin	88.91	38	⇓P	P	04 33 32.2	-0.4
	baz=89						
CN2	Changchun	88.98	323	⇓P	P	04 33 32.3	-0.6
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
X14A	Yava	89.00	49	P	P	04 33 34.3	+1.3
	baz=89,SNR=18						
TUC	Tucson	89.12	52	eP	P	04 33 34.5	+0.9
TUC				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
TUC	Tucson	89.12	52	eP	P	04 33 34.5	+0.9
	comp=Z,11nm,0.9s,mb4.7						
N07B	Gerlach	89.22	41	⇓P	P	04 33 34.4	+0.4
	baz=89						
W14A	Seligman	89.32	48	P	P	04 33 35.9	+1.3
	baz=89,SNR=7.4						
X15A	Humboldt	89.44	49	⇑P	P	04 33 36.1	+1.1
	baz=89,SNR=16						
M07A	Soldier Meadow	89.51	41	⇑P	P	04 33 35.2	-0.2
	baz=89						
H03A	Soap Creek Ran	89.51	36	⇓P	P	04 33 35.2	-0.2
	baz=89						
N08A	GE Springer Mi	89.71	41	⇑P	P	04 33 36.3	0.0
	baz=90,SNR=5.4						
W15A	Williams	89.83	49	⇑P	P	04 33 38.3	+1.4
	baz=90						
K06A	Valley Falls	89.84	39	P	P	04 33 37.1	+0.1
	baz=90,SNR=5.4						
O09A	Fish Creek Ran	89.86	42	⇓P	P	04 33 36.5	-0.5
	baz=90						
KLR	Kul'dur	89.89	330	eP	P	04 33 33.2	-3.9
KLR				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.9						
Q11A	Duckwater	89.94	44	⇓P	P	04 33 37.5	0.0
	baz=90						
M08A	Happy Creek Ra	90.00	41	⇑P	P	04 33 37.8	+0.2
	baz=90						
H04A	Detroit Lake	90.08	37	⇑P	P	04 33 36.8	-1.2
	baz=90						
J06A	Christmas Vall	90.20	39	P	P	04 33 38.2	-0.4
	baz=90,SNR=10						
I05A	Bend	90.21	37	⇑P	P	04 33 38.9	+0.2
	baz=90						
K07A	Rock Creek Ran	90.32	39	⇓P	P	04 33 39.2	0.0
	baz=90,SNR=6.0						
P11A	Circle Ranch,	90.32	44	⇑P	P	04 33 38.7	-0.5
	baz=90						
WVOR	Wild Horse Val	90.49	40	eP	P	04 33 39.9	-0.1
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
WVOR	Wild Horse Val	90.49	40	eP	P	04 33 39.9	-0.1
	comp=Z,4.6nm,1.0s,mb4.3						
H05A	Madras	90.56	37	⇓P	P	04 33 39.4	-0.8
	baz=90						
I06A	Prineville	90.63	38	⇑P	P	04 33 40.7	+0.2
	baz=90,SNR=5.3						
O11A	Cowboy Ranch,	90.74	43	⇑P	P	04 33 41.4	+0.3
	baz=91,SNR=5.2						
L09A	Wilkinson Ranc	90.77	41	⇓P	P	04 33 40.9	-0.3
	baz=91						
P12A	McGill	90.78	44	⇑P	P	04 33 41.4	+0.1
	baz=91						
M10A	I.L. Ranch, Tu	91.10	42	⇑P	P	04 33 42.8	+0.1
	baz=91						
M11A	Holland Ranch,	91.48	42	⇓P	P	04 33 44.7	+0.2
	baz=91,SNR=5.2						
N12A	Wells--Clov Va	91.56	43	⇓P	P	04 33 44.6	-0.3
	baz=91						
MSU	Marysvale	91.88	46	eP	P	04 33 47.2	+0.8
D05A	Enumclaw	91.90	35	⇓P	P	04 33 45.9	-0.5
	baz=92						
M12A	Wells	91.98	43	⇑P	P	04 33 46.8	-0.1
	baz=92						
N13A	West Wendover	92.06	43	⇑P	P	04 33 47.2	-0.1
	baz=92,SNR=7.1						
M13A	Montello	92.39	43	⇓P	P	04 33 48.4	-0.3
	baz=92,SNR=15						
MNTX	Cornudas Mount	92.56	55	eP	P	04 33 49.9	+0.4
	comp=Z,3.8nm,0.9s,mb4.3						
ANMO	Albuquerque	93.59	52	⇑eP	P	04 33 55.2	+1.0
SMCO	Snowmass	95.59	48	eP	P	04 34 01.7	-1.7
	comp=Z,3.6nm,1.0s,mb4.5						
PDAR	Pinedale Array	95.99	44	P	P	04 34 04.7	-0.5
	comp=Z,0.9nm,0.8s,mb4.0,baz=212,slow=2.0,SNR=9.3						
COLA	College	97.12	13	iP	P	04 34 09.3	-0.9
ULN	Ulaanbaatar	101.62	319	iP	Pdif	04 34 31.7	+1.4
SONM	Songino Array	101.98	318	P	Pdif	04 34 30.5	-1.4
	comp=Z,0.4nm,0.6s,baz=92,slow=4.3,SNR=3.8						
MKAR	Makanchi Array	116.63	311	PKP	PKPdf	04 39 19.3	-1.1
	comp=Z,1.4nm,0.5s,baz=197,slow=0.8,SNR=12						
MKAR	Makanchi Array	116.63	311	⇑iPKIKP	PKPdf	04 39 19.6	-0.8
MKAR	Makanchi Array	116.63	311	PKP	PKPdf	04 39 19.3	-1.1
BOSA	Boshof	117.80	204	PKP	PKPdf	04 39 25.3	+2.7
	comp=Z,1.7nm,0.5s,baz=170,slow=8.6,SNR=12						
BOSA	Boshof	117.80	204	PKP	PKPdf	04 39 25.3	+2.7
AAK	Ala-Archa	121.00	304	iPKIKP	PKPdf	04 39 27.0	-1.8
SCHQ	Schefferville	126.06	42	PKP	PKPdf	04 39 37.1	-1.3
	comp=Z,2.0nm,0.7s,baz=237,slow=14,SNR=4.0						
ZRNK	Zerenda	126.08	316	ePKIKP	PKPdf	04 39 37.3	-1.2
ARU	Arti	131.93	321	iPKIKP	PKPdf	04 39 48.1	-1.5
ARU				e		04 42 07.9	
ARCES	ARCESS Array B	137.55	348	PKhKP		04 39 48.9	
	comp=Z,2.4nm,0.9s,baz=70,slow=1.5,SNR=12						
ARCES				PKP	PKPdf	04 40 00.4	+0.2
	comp=Z,4.9nm,0.7s,baz=22,slow=0.5,SNR=15						
JOF	Joensuu	141.31	338	ep	PKPdf	04 39 59.8	-7.2
	comp=Z,6.4nm,0.6s						
KAF	Kangasniemi	143.46	340	ep	PKPdf	04 40 05.8	-5.0
	comp=Z,8.8nm,0.7s						
FINES	FINESS Array B	144.05	340	PKP	PKPdf	04 40 08.5	-3.3
	comp=Z,16nm,0.5s,baz=64,slow=3.8,SNR=196						
FINES	FINESS Array B	144.05	340	PKP	PKPdf	04 40 08.5	-3.3
KIV	Kislovodsk	144.11	305	⇑iPKIKP	PKPdf	04 40 11.2	-0.7
VRSR	Storozhevoye	144.36	318	ePKIKP	PKPdf	04 40 10.3	-2.0
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,3.0nm,1.0s						
ERZM	Erzurum	145.60	298	iP	PKPdf	04 40 16.9	+2.4
BEST	Besiri	145.80	295	iP	PKPdf	04 40 16.5	+1.7
VSU	Vasula	146.10	336d	iPKP2	PKPab	04 40 15.3	-2.8
SOC	Sochi	146.29	305	iPKIKP	PKPdf	04 40 16.0	+0.4
SOC				e		04 43 37.5	
SOC				ePPP		04 47 08.0	
SOC				e		04 56 21.4	
SOC				eSS	SS	05 02 46.2	+33
SOC				pmax	pmax		
	comp=Z,18nm,0.7s						
ELZG	Elazig	147.56	296	iP	PKPbc	04 40 22.5	+1.6
ANN	Anapa	147.60	308	iPKIKP	PKPdf	04 40 20.0	+2.2
ANN				pmax	pmax		
	comp=Z,49nm,1.2s						
NB2	NORSAR Subarra	147.75	351	⇑PKP2	PKPbc	04 40 19.7	-1.6
NOA	NORSAR Array B	147.75	351	PKP	PKPdf	04 40 15.0	-3.1
	comp=Z,15nm,0.8s,baz=15,slow=4.3,SNR=46						
NOA				PKPbc	PKPbc	04 40 19.4	-1.9
	comp=Z,14nm,0.8s,baz=14,slow=4.4,SNR=46						
NAO01	NORSAR Array S	147.98	351	ePKPdf	PKPdf	04 40 19.2	+0.8
MALT	Malatya	148.01	296	⇓iP	PKPbc	04 40 23.2	+1.2
MALT	Malatya	148.01	296	ePKPdf	PKPdf	04 40 20.4	+1.9
MALT				ePKPbc	PKPbc	04 40 23.3	+1.3
MNK	Minsk	148.46	330	ePKIKP	PKPdf	04 40 21.0	+1.8
GZT	Gaziantep	148.77	294	iP	PKPbc	04 40 25.0	+1.0
KONO	Kongsberg	149.31	352	⇑iPKP2	PKPbc	04 40 23.8	-1.5
SIM	Simferopol'	149.81	310	PKP2	PKPbc	04 40 27.9	+1.4
SIM				pmax	pmax		
	comp=Z,16nm,0.6s						
COBT	Iskenderun	149.86	293	iP	PKPbc	04 40 27.9	+1.3
AKASG	Malin Array Be	150.14	323	PKPbc	PKPbc	04 40 26.0	-1.2
	comp=Z,33nm,0.6s,baz=45,slow=3.5,SNR=58						
AKASG	Malin Array Be	150.14	323	PKPbc	PKPbc	04 40 26.0	-1.3
BOYT	Boyabat	150.23	303	iP	PKPbc	04 40 27.7	+0.3
CTKT	Corum	150.48	301	iP	PKPbc	04 40 28.9	+0.8
EIL	Elat	150.67	279	ePKPbc	PKPbc	04 40 29.8	+1.3
SUW	Suwalki	150.74	333	ePKIKP	PKPdf	04 40 27.8	+5.0
SUW				e		04 40 35.2	
AVNT	Avonos	150.75	297	iP	PKPbc	04 40 29.7	+1.0
BALT	Daday	151.31	303	iP	PKPbc	04 40 30.3	+0.3
BR131	Keskin Array S	151.52	300	ePKPbc	PKPbc	04 40 30.5	+0.1
BRTR	Keskin Array B	151.52	300	PKP	PKPdf	04 40 23.1	-0.9
	comp=Z,2.4nm,1.2s,baz=35,slow=3.0,SNR=3.8						
BRTR				PKPbc	PKPbc	04 40 30.4	0.0
	comp=Z,6.6nm,0.9s,baz=124,slow=3.3,SNR=25						
BRTR	Keskin Array B	151.52	300	⇑iPKIKP	PKPdf	04 40 25.5	+1.5
ELDT	Eldivan	151.53	301	iP	PKPbc	04 40 30.9	+0.4
ANTO	Ankara	152.13	300	ePKPbc	PKPbc	04 40 32.1	+0.3
BURAR	Bucovina Array	154.07	321	⇓iP	PKPbc	04 40 37.3	+1.2
BSEG	Bad Segeberg	154.68	347	ePKP	PKPab	04 40 51.9	-1.7
STHS	Stebnicka Huta	154.92	328	ePKP	PKPab	04 40 54.6	0.0
STHS				e		04 41 10.4	
KECS	Kecovo	155.93	327	ePKP	PKPab	04 40 57.8	-1.2
LIC	Lamto	156.13	165	ePKIKP	PKPdf	04 40 27.3	-3.2
	comp=Z,48nm,1.3s						
UPC	Upice	156.21	336	ePKPab	PKPab	04 40 58.6	-1.6
DPC	Doburuska-Polom	156.23	335	ePKPab	PKPab	04 40 59.4	-0.9
CLL	Collm	156.48	341	ePKP	PKPab	04 40 59.7	-1.6
CLL	Collm	156.48	341	iPKPdif		04 40 41.0	
	comp=Z,8.0nm,1.0s						
CLL				⇑iPKPab	PKPab	04 40 59.7	-1.6
	comp=Z,19nm,0.9s						
CLL	Collm	156.48	341	ePKIKP	PKPdf	04 40 27.0	-3.9
CLL				i		04 40 41.0	
CLL				i		04 40 59.7	
BRG	Berggiesshubel	156.59	339	ePKP	PKPab	04 41 00.3	-1.5
BRG	Berggiesshubel	156.59	339	iP	PKPab	04 41 00.3	-1.5
	comp=Z,8.5nm,0.8s						
CLZ	Clausthal	156.65	345	ePKP	PKPab	04 41 00.4	-1.7
VYHS	Vyhne	156.68	329	ePKP	PKPab	04 41 01.3	-0.9
PVCC	Panska Ves	156.69	338	ePKPab	PKPab	04 41 01.1	-1.1
IBBN	Ibbenburen	156.69	350	ePKP	PKPab	04 41 00.6	-1.7
PRU	Pruhonice	157.16	337	ePKPab	PKPab	04 41 03.0	-1.3
TREC	Trest	157.41	335	ePKPab	PKPab	04 41 03.9	-1.5
TANN	Tannenbergstha	157.43	341	ePKP	PKPab	04 41 03.8	-1.7
MOX	Moxa	157.46	342	ePKP	PKPab	04 41 03.9	-1.7
MOX	Moxa	157.46	342	ePKP	PKPab	04 41 03.1	-2.5
	comp=Z,14nm,1.3s						
NKC	Novy Kostel	157.60	341	ePKPab	PKPab	04 41 04.6	-1.6
MANZ	Manzenberg	157.92	341	ePKP	PKPab	04 41 06.4	-1.2
ROTZ	Rotzenmuhle	158.09	341	ePKP	PKPab	04 41 07.4	-0.9
KHC	Kasperske Hory	158.22	338	ePKPab	PKPab	04 41 07.7	-1.2
CONA	Conrad Observa	158.38	332	⇑iPKPab	PKPab	04 41 08.2	-1.4
	comp=Z,8.3nm,1.1s						
GEC2	GERESS Array S	158.42	337	ePKP	PKPab	04 41 08.3	-1.5
GERES	GERESS Array B	158.42	337	PKP	PKPdf	04 40 32.4	-1.0
	comp=Z,0.5nm,0.8s,baz=336,slow=2.9,SNR=4.2						
GERES				PKPab	PKPab	04 41 08.4	-1.4
	comp=Z,2.2nm,0.7s,baz=35,slow=4.9,SNR=15						
GRA2	Grafenberg Arr	158.43	342	ePKP	PKPab	04 41 08.7	-1.1
WET	Wettzell	158.43	339	ePKP	PKPab	04 41 08.9	-0.9
MOA	Molln	159.06	335	⇑iP	PKPab	04 41 11.0	-1.6
	comp=Z,8.0nm,1.5s						
WLF	Walferdange	159.50	351	ePKP	PKPab	04 41 12.9	-1.6
KBA	Koelnbreinsper	160.05	335	⇑iP	PKPab	04 41 16.3	-0.5
	comp=Z,3.2nm,0.5s						
BFO	Black Forest	160.40	346	ePKP	PKPab	04 41 16.5	-1.9
WTTA	Wattenberg	160.48	338	⇑iP	PKPab	04 41 17.6	-1.2
	comp=Z,10nm,0.8s						
CDF	Champ du Feu	160.53	348	ePKP2	PKPab	04 41 17.0	-2.0
	comp=Z,14nm,1.0s						
MOTA	Moosalm	160.58	339	⇑iP	PKPab	04 41 18.1	-1.1
	comp=Z,13nm,1.0s						
SQTA	Sankt Quirin	160.66	339	⇑iP	PKPab	04 41 18.5	-1.1
	comp=Z,8.1nm,1.0s						
DAVA	Damuels	160.99	342	⇑iP	PKPab	04 41 20.0	-1.0
	comp=Z,17nm,1.1s						
SGMF	Saint Gilles	161.05	8	ePKP2	PKPab	04 41 19.2	-2.0
	comp=Z,11nm,0.8s						
HAU	Haudompre	161.09	349	ePKP2	PKPab	04 41 20.3	-1.1
	comp=Z,11nm,0.8s						
QUIF	Quistinic	161.31	9	ePKP2	PKPab	04 41 20.2	-2.2
	comp=Z,46nm,1.3s						
LOR	Lormes	162.13	354	ePKP2	PKPab	04 41 23.9	-2.1
	comp=Z,9.7nm,0.9s						
SSF	Saint Saulge	162.37	355	ePKP2	PKPab	04 41 25.0	-2.0
	comp=Z,18nm,1.0s						
AVF	Avril sur Loir	162.65	355	ePKP2	PKPab	04 41 26.1	-2.1
	comp=Z,12nm,1.0s						
SMF	Signal de Mont	162.75	354	ePKP2	PKPab	04 41 26.6	-2.1
	comp=Z,41nm,1.1s						
BGF	Bois d'Agland	162.91	356	ePKP2	PKPab	04 41 27.3	-2.1
LPL	La Plagne	163.42	346	ePKP2	PKPab	04 41 30.7	-0.9
LPG	La Plagne	163.43	346	ePKP2	PKPab	04 41 30.9	-0.8
	comp=Z,28nm,1.2s						
TORD	Torodi Ar. Bea	163.72	182	PKP	PKPdf	04 40 40.8	+1.8
	comp=Z,3.4nm,0.9s,baz=5.6,slow=0.4,SNR=19						
TORD				PKPab	PKPab	04 41 36.7	+3.7
	comp=Z,4.1nm,0.6s,baz=176,slow=3.6,SNR=34						
ORIF	Oris-en-Rattie	164.16	348	ePKP2	PKPab	04 41 33.5	-1.4
	comp=Z,10.0nm,0.9s						
MBDF	Montbardon	164.16	345	ePKP2	PKPab	04 41 33.3	-1.6
	comp=Z,6.1nm,0.8s						
VIVF	Saint-Julien-l	164.42	351	ePKP2	PKPab	04 41 34.5	-1.5
	comp=Z,33nm,1.4s						
SBF	Sospel	164.81	342	ePKP2	PKPab	04 41 35.9	-1.9
	comp=Z,52nm,0.9s						
FRF	La Foret Royal	165.29	344	ePKP2	PKPab	04 41 37.9	-2.0
	comp=Z,33nm,1.1s						
PGF	Pioggiola	165.52	336	ePKP2	PKPab	04 41 39.1	-1.8
	comp=Z,14nm,0.9s						
LMR	La Mourre	165.54	344	ePKP2	PKPab	04 41 39.3	-1.7
	comp=Z,29nm,1.2s						
ESDC	Sonseca Array	169.01	21	PKP	PKPdf	04 40 43.7	+0.7
	comp=Z,0.1nm,0.3s,baz=355,slow=1.6,SNR=5.6						

*NEIC **20** 04:29:38.0, 3902S×17620E, h69km, ML4.0(WEL), After WEL.*

WEL 20 04:29:38.3±0.1, 3901S×17619E, h64km±1km, ML2.9/4, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	0.28	124	⇑P*	Pn	04 29 48.8	+0.1
BKZ				S*	Sn	04 29 56.8	+0.5
BKZ	Black Stump Fm	0.28	124	P	Pn	04 29 48.8	+0.1
KRVZ	Karewarewa	0.44	258	P*	Pn	04 29 50.1	+0.1
OTVZ	Oturere	0.44	249	P*	Pn	04 29 50.1	+0.1
OTVZ				S*	Sn	04 29 59.1	+0.5
WTVZ	West Tongariro	0.48	257	P*	Pn	04 29 50.5	0.0
WTVZ	West Tongariro	0.48	257	P	Pn	04 29 50.5	0.0
NGZ	Ngauruhoe	0.49	250	⇓P*	Pn	04 29 50.7	+0.2
NGZ	Ngauruhoe	0.49	250	P	Pn	04 29 50.7	+0.2
TUVZ	Tukino	0.49	238	P*	Pn	04 29 50.6	0.0
TUVZ	Tukino	0.49	238	P	Pn	04 29 50.7	+0.1
MOVZ	Moawhango	0.53	221	P*	Pn	04 29 50.6	-0.3
MOVZ				S*	Sn	04 29 59.5	-0.6
MOVZ	Moawhango	0.53	221	P	Pn	04 29 50.6	-0.3
WPVZ	Whakapapa	0.54	249	P*	Pn	04 29 51.0	-0.1
WPVZ	Whakapapa	0.54	249	P	Pn	04 29 51.0	0.0
FWVZ	Far West T-bar	0.56	244	P*	Pn	04 29 51.3	+0.1
FWVZ	Far West T-bar	0.56	244	P	Pn	04 29 51.3	+0.1
WNVZ	Wahianoa	0.56	235	P*	Pn	04 29 51.2	0.0
WNVZ	Wahianoa	0.56	235	P	Pn	04 29 51.3	0.0
TRVZ	Turoa	0.58	240	P*	Pn	04 29 51.4	0.0
TRVZ				S*	Sn	04 30 00.4	-0.7
TWVZ	Taurewa	0.59	264	P*	Pn	04 29 51.3	-0.3
TWVZ	Taurewa	0.59	264	P	Pn	04 29 51.4	-0.2
MTVZ	Mangateitei	0.68	236	P*	Pn	04 29 52.4	-0.1
PKVZ	Pokaka	0.72	247	P*	Pn	04 29 52.9	-0.1
URZ	Urewera	1.04	44	P*	Pn	04 29 56.7	-0.3
URZ				S*	Sn	04 30 10.8	-0.1
URZ	Urewera	1.04	44	eP	Pn	04 29 56.8	-0.2
TSZ	Takapari Road	1.06	190	PN	Pn	04 29 57.2	-0.1
TSZ				SN	Sn	04 30 14.3	+2.8
VRZ	Vera Road	1.12	264	P*	Pn	04 29 58.1	0.0
MWZ	Matawai	1.24	58	P*	Pn	04 29 59.6	0.0
MWZ	Matawai	1.24	58	eP	Pn	04 29 59.7	0.0
PKE	Pukeiti	1.73	263	ePN	Pn	04 30 06.6	+0.4
TIWZ	Tintock	1.78	188	ePN	Pn	04 30 04.9	-1.9
MQZ	McQueen's Vall	5.40	208	SN	Sn	04 31 48.7	-8.3
PMG	Port Moresby	39.29	311	eP	P	04 37 01.3	+0.5
	11nm,0.8s						

*ISCJB **20** 04:34:06.3±0.6, 4660N×003×802E±004, h10km, Error ellipse: s-maj=4.4km s-min=3.7km az=159.7*
*ROM **20** 04:34:06.9±0.5, 4659N×804E, h10km, Md2.2/3, Ml1.3/1, Error ellipse: s-maj=7.0km s-min=2.1km az=139.0*
*LDG **20** 04:34:08.3±0.1, 4657N×804E, h2km, Ml2.2/9, Error ellipse: s-maj=3.1km s-min=1.3km az=82.0*

ISC 20 04:34:07.3±0.6, 4659N±003×804E±004, h8km±7km, n16, σ0°57/24, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMK	Mattmark	0.54	186	Pg	Pg	04 34 17.6	-0.1
MMK				Sg	Sg	04 34 25.3	+0.5
MCGN	Macugnaga	0.63	183	Pg	Pg	04 34 19.2	-0.3
MCGN				Sg	Sg	04 34 28.8	+1.0
	11nm,0.4s						
TUE	Stuetta	0.91	97	Pg	Pg	04 34 24.3	-0.4
TUE				Sg	Sg	04 34 36.3	-0.2
	7.0nm,0.3s						
CABF	La Chapelle	1.35	272	ePn	Pn	04 34 32.5	+0.1
CABF	La Chapelle	1.35	272	ePg	Pg	04 34 33.6	+0.4
CABF				eSg	Sg	04 34 51.2	+0.5
	4.8nm,0.3s						
LPL	La Plagne	1.41	221	ePn	Pn	04 34 33.3	0.0
LPL	La Plagne	1.41	221	ePg	Pg	04 34 35.1	+0.8
LPL				eSg	Sg	04 34 53.1	+0.5
	3.9nm,0.3s						
LPG	La Plagne	1.42	220	ePn	Pn	04 34 33.6	+0.3
LPG	La Plagne	1.42	220	ePg	Pg	04 34 34.9	+0.5
LPG				eSg	Sg	04 34 52.6	-0.2
	2.6nm,0.3s						
HAU	Haudompre	1.83	321	eSg	Sg	04 35 06.5	+0.5
	3.4nm,0.2s						
CDF	Champ du Feu	1.90	344	eSg	Sg	04 35 08.4	+0.2
	1.3nm,0.2s						
MBDF	Montbardon	2.07	206	ePn	Pn	04 34 42.3	0.0
MBDF	Montbardon	2.07	206	ePg	Pg	04 34 46.6	-0.3
MBDF				eSg	Sg	04 35 12.6	-1.1
	9.9nm,0.6s						
ORIF	Oris-en-Rattie	2.26	223	ePn	Pn	04 34 44.9	0.0
ORIF	Oris-en-Rattie	2.26	223	ePg	Pg	04 34 49.7	-0.8
ORIF				eSg	Sg	04 35 19.2	-0.6
	3.0nm,0.3s						
LOR	Lormes	2.95	285	eSg	Sg	04 35 40.5	-1.4
	1.8nm,0.2s						

*IDC **20** 05:13:18.8±2.1, 5408N×15908E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/20, mbtmp3.7/5, Error ellipse: s-maj=65.5km s-min=30.4km az=72.0*
*ISCJB **20** 05:13:39.9±1.8, 542N±02×1585E±06, h185km±12km, mb3.5/5, Error ellipse: s-maj=62.1km s-min=29.3km az=137.7*
*MOS **20** 05:13:40.0±0.8, 5421N×15834E, h186km, mb3.6/4, Error ellipse: s-maj=73.1km s-min=34.6km az=100.6*

ISC 20 05:13:40.8±1.8, 542N±02×1585E±06, h182km±11km, n10, σ0°35/11, mb3.5/5, 1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	Petropavlovsk	1.16	176	⇓iPN	Pn	05 14 10.3	+0.4
PET				eS	Sn	05 14 32.0	-0.3
PET				pmax	pmax		
	comp=Z,299nm,0.5s						
PET				smax			
	comp=N,316nm,1.1s						
PET				smax			
	comp=E,169nm,0.8s						
SONM	Songino Array	32.75	281	P	P	05 19 56.7	+0.3
	comp=E,0.3nm,0.6s,mb3.2,baz=58,slow=8.9,SNR=3.4						
MKAR	Makanchi Array	46.84	294	P	P	05 21 52.1	-0.3
	comp=E,0.7nm,0.4s,mb3.6,baz=55,slow=7.9,SNR=6.6						
MKAR	Makanchi Array	46.84	294	P	P	05 21 52.1	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	58.75	335	P	P	05 23 19.4	-0.1
	comp=Z,1.2nm,1.0s,mb3.7,baz=35,slow=7.0,SNR=6.2						
FINES	FINESS Array B	58.75	335	P	P	05 23 19.5	-0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	Warramunga Arr	76.68	203	P	P	05 25 11.2	-0.4
	comp=Z,0.5nm,0.6s,mb3.3,baz=19,slow=6.1,SNR=3.6						
WRA	Warramunga Arr	76.68	203	P	P	05 25 11.2	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	80.37	203	P	P	05 25 32.2	+0.4
	comp=Z,1.0nm,0.7s,mb3.6,baz=15,slow=5.5,SNR=9.7						
ASAR	Alice Springs	80.37	203	P	P	05 25 32.3	+0.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

**IDC 20 05:39:10.9±

KKM Kota Kinabalu 10.04 283 P **Pn** **05 51 37.1 -3.3**
KKM Kota Kinabalu 10.04 283 *e*Pn **Pn** **05 51 43.7 +3.3**
BAKI Biak 11.24 117 P **Pn** **05 51 59.0 +2.8**
278nm,1.2s
TLE Tual 11.60 145 P **Pn** **05 52 01.7 +0.8**
215nm,1.3s
KSM Kuching 15.93 262 *e*Pn **Pn** **05 52 57.2 +1.5**
JAY Jayapura 15.96 113 P **Pn** **05 52 56.4 +0.2**
140nm,0.9s
KAKA Kakadu 17.69 159 *e*P **Pn** **05 53 14.1 -2.9**
48nm,0.7s
BJII Banjamegara 19.78 236 P **P** **05 53 39.6 +1.0**
55nm,1.4s
YHNB Yeheng 21.12 348 *e*P **P** **05 53 52.6 -0.2**
QIZ Qiongzhong 21.84 315 P **P** **05 54 00.8 +0.4**
QIZ XP sP 05 54 47.5 +2.1
QIZ S **S** **05 57 40.8 -11**
QIZ AMB AMB
comp=Z,20nm,1.4s,mb4.3
QIZ Qiongzhong 21.84 315 *e*P **P** **05 54 01.2 +0.8**
comp=Z,35nm,1.3s,mb4.6
FITZ Fitzroy Crossi 21.88 181 *e*P **P** **05 54 01.4 +0.5**
comp=Z,13nm,0.8s,mb4.4
FITZ *e*S **S** **05 57 51.1 -1.6**
FITZ Fitzroy Crossi 21.88 181 P **P** **05 54 00.5 -0.4**
comp=Z,6.2nm,0.7s,mb4.2,baz=351,slow=6.9,SNR=18
JOW Kunigami 22.88 5 P **P** **05 54 11.6 +1.0**
comp=Z,24nm,0.7s,mb4.8,baz=186,slow=9.7,SNR=14
PMG Port Moresby 24.84 122 *e*P **P** **05 54 29.3 +0.9**
PMG pmax pmax
comp=Z,16nm,0.7s
PMG Port Moresby 24.84 122 *e*P **P** **05 54 29.3 +0.9**
comp=Z,16nm,0.7s,mb4.7
WRAB Tennant Creek 25.06 161 *de*P **P** **05 54 31.7 +1.3**
WRAB Tennant Creek 25.06 161 *e*P **P** **05 54 30.9 +0.5**
comp=Z,79nm,0.8s,mb5.3
WRA Warramunga Arr 25.07 161 P **P** **05 54 30.5 +0.1**
comp=Z,47nm,0.8s,mb5.1,baz=341,slow=11,SNR=100
WRA S **S** **05 58 41.6 -2.3**
comp=Z,3.0nm,1.0s,baz=344,slow=14,SNR=5.0
WRA ScP ScP 06 01 29.1 +2.8
comp=Z,1.6nm,0.7s,baz=339,slow=3.2,SNR=5.0
WRA Warramunga Arr 25.07 161 P **P** **05 54 30.5 0.0**
WRA S **S** **05 58 41.6 -2.3**
WRA Warramunga Arr 25.07 161 P **P** **05 54 30.5 0.0**
WRA S **S** **05 58 41.6 -2.3**
WRA ScP ScP 06 01 29.1 +2.8
WB2 Warramunga Arr 25.07 161 *e*P **P** **05 54 30.1 -0.4**
WB2 *e*S **S** **05 58 42.8 -1.1**
MBWA Marble Bar 25.68 194 *e*P **P** **05 54 36.3 +0.3**
comp=Z,8.1nm,0.6s,mb4.5
SSE Sheshan 27.42 351 P **P** **05 54 51.6 0.0**
SSE AP pP 05 55 23.0 +0.3
SSE XP sP 05 55 40.8 +1.0
SSE S **S** **05 59 21.0 0.0**
SSE XS sS 06 00 17.3 +1.4
SSE AMB AMB
comp=Z,20nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,60nm,7.1s
SSE LR LR
comp=N,20nm,20.0s
SSE LR LR
comp=E,30nm,20.0s
SSE LR LR
comp=Z,40nm,20.0s
AS31 Alice Springs 28.46 165 *e*P **P** **05 55 01.6 +0.7**
AS31 *e*S **S** **05 59 36.8 -0.5**
ASAR Alice Springs 28.46 165 P **P** **05 55 01.4 +0.5**
comp=Z,2.2nm,0.5s,mb4.1,baz=347,slow=7.4,SNR=31
ASAR PcP PcP 05 58 10.6 +1.4
comp=Z,3.0nm,0.8s,baz=357,slow=2.8,SNR=5.7
ASAR S **S** **05 59 37.0 -0.4**
comp=Z,1.8nm,0.8s,baz=358,slow=26,SNR=4.5
ASAR ScP ScP 06 01 39.2 +2.8
comp=Z,1.5nm,0.7s,baz=357,slow=3.7,SNR=4.7
ASAR Alice Springs 28.46 165 P **P** **05 55 01.4 +0.5**
ASAR 05 58 10.6
ASAR S **S** **05 59 37.0 -0.3**
ASPA Alice Springs 28.46 165 *e*P **P** **05 55 01.6 +0.7**
ASPA *e*S **S** **05 59 36.8 -0.5**
NJ2 Nanjing 28.80 347 *e*P **P** **05 55 04.3 +0.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CTA Charters Tower 31.02 141 *e*P **P** **05 55 23.5 0.0**
comp=Z,7.9nm,1.4s,mb4.2
CTA Charters Tower 31.02 141 P **P** **05 55 22.6 -0.9**
comp=Z,8.4nm,1.0s,mb4.4,baz=336,slow=14,SNR=4.0
CTA Charters Tower 31.02 141 *e*P **P** **05 55 23.5 0.0**
CTA pmax pmax
comp=Z,8.0nm,1.4s
XAN Xi'an 33.95 334 P **P** **05 55 48.1 -0.9**
XAN AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
MJAR Matsushiro Arr 34.34 17 P **P** **05 55 51.5 -0.9**
comp=Z,1.5nm,0.3s,mb4.2,baz=196,slow=8.9,SNR=9.3
MJAR PcP PcP 05 58 26.0 +1.1
comp=Z,0.9nm,0.3s,baz=170,slow=2.5,SNR=4.3
KLBR Kellerberrin 36.19 192 *e*P **P** **05 56 08.2 0.0**
comp=Z,9.9nm,0.5s,mb4.7
MUN Mundaring 36.91 194 *e*P **P** **05 56 14.5 +0.2**
BJT Baijiatuau 37.04 347 *e*P **P** **05 56 15.4 +0.1**
BJT pmax pmax
comp=Z,49nm,1.3s
BJT Baijiatuau 37.04 347 *e*P **P** **05 56 15.4 +0.1**
comp=Z,49nm,1.3s,mb5.0
NWAO Narrogin (SRO) 37.59 192 P **P** **05 56 20.8 +0.8**
comp=Z,20nm,0.9s,mb4.8,baz=350,slow=5.3,SNR=7.1
NWAO Narrogin (SRO) 37.59 192 *e*P **P** **05 56 20.4 +0.4**
NWAO pmax pmax
comp=Z,28nm,1.0s
NWAO Narrogin (SRO) 37.59 192 *e*P **P** **05 56 20.4 +0.4**
comp=Z,28nm,1.0s,mb4.8
LZH Lanzhou 38.01 330 *e*P **P** **05 56 24.0 +0.5**
LZH AMB AMB
comp=Z,40nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,140nm,4.5s
STKA Stephens Creek 38.54 159 *e*P **P** **05 56 27.0 -1.0**
comp=Z,9.8nm,0.7s,mb4.5
STKA Stephens Creek 38.54 159 P **P** **05 56 27.2 -0.8**
comp=Z,11nm,0.6s,mb4.7,baz=334,slow=7.5,SNR=23
HHC Hu-ho-hao-te 39.02 342 *e*P **P** **05 56 29.8 -2.1**
HHC AMB AMB
comp=Z,70nm,3.9s
SHL Shillong 39.23 307 *e*P **P** **05 56 35.0 +1.3**
SHL *e*S **S** **06 02 22.1 -1.0**
MDJ Mudanjiang 40.65 4 P **P** **05 56 46.4 +1.0**
MDJ AMB AMB
comp=Z,20nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,30nm,4.9s
MDJ LR LR
comp=Z,10.0nm,28.4s
MDJ Mudanjiang 40.65 4 *e*P **P** **05 56 46.6 +1.1**
comp=Z,27nm,1.4s,mb4.7
LSA Lhasa 41.82 312 *e*P **P** **05 56 56.6 +1.6**
LSA pmax pmax
comp=Z,21nm,0.9s,mb4.8
LSA Lhasa 41.82 312 *e*P **P** **05 56 56.6 +1.7**
comp=Z,21nm,0.9s,mb4.8
GTA Gaotai 42.60 330 *e*P **P** **05 57 01.5 +0.2**
GTA PCP PcP 05 58 52.8 +2.0
ASAJ Asahikawa 42.61 18 P **P** **05 57 01.6 +0.3**
comp=Z,9.9nm,0.7s,mb4.5,baz=232,slow=14,SNR=5.5
BOK Bokaro 43.49 301 *e*P **P** **05 57 09.3 +0.8**
VIS Vishakhapatnam 44.03 291 *e*P **P** **05 57 13.2 +0.5**
JIRN Jiri 44.73 306 *e*P **P** **05 57 19.5 +1.2**
HABR Khabarovsk 45.05 8 *e*P **P** **05 57 22.2 +1.4**
HABR *e*S **S** **06 03 52.5 +4.0**
GUN Gumba 45.08 306 *e*P **P** **05 57 22.2 +1.1**
comp=Z,44nm,0.5s,mb5.4
YSS Yuzh-Sakhalins 45.24 16⇓ *e*P **P** **05 57 22.8 +0.5**
YSS pmax pmax
comp=Z,15nm,1.3s,mb4.5
PKI Pulchoki 45.32 306 *e*P **P** **05 57 23.5 +0.5**
KLR Kul'dur 45.41 5 *e*P **P** **05 57 19.8 -3.8**
HIA Hailar 45.50 354 *c*i P **P** **05 57 25.2 +0.8**
HIA Hailar 45.50 354 *e*P **P** **05 57 25.0 +0.6**
comp=Z,48nm,1.1s,mb5.0
KKN Kakani 45.52 306 *e*P **P** **05 57 24.7 +0.2**
comp=Z,17nm,0.4s,mb5.0
KKN Kakani 45.52 306 *e*P **P** **05 57 24.7 +0.2**
KKN pmax pmax
comp=Z,17nm,0.4s,mb5.0

DMN Daman 45.58 305 *e*P **P** **05 57 25.8 +0.8**
GKN Gorkha 46.12 306 *e*P **P** **05 57 29.5 +0.3**
comp=Z,8.6nm,0.3s,mb4.8
BLSP Bilaspur 46.24 297 *e*P **P** **05 57 28.7 -1.5**
BLSP AMb AMB 05 57 32.9
comp=Z,24nm,1.0s,mb4.8
ULN Ulaanbaatar 46.74 342 *ce*P **P** **05 57 34.0 0.0**
KOLN Koldanda 46.88 305 *e*P **P** **05 57 35.5 +0.4**
comp=Z,58nm,0.6s,mb5.4
SONM Songino Array 46.91 342 P **P** **05 57 35.2 -0.2**
comp=Z,2.0nm,0.7s,mb3.9,baz=156,slow=8.8,SNR=12
SONM PcP PcP 05 59 05.9 +0.2
comp=Z,3.5nm,0.9s,baz=162,slow=4.6,SNR=6.6
HYB Hyderabad 48.43 290 *i* P **P** **05 57 49.5 +2.4**
HYB Hyderabad 48.43 290 *e*P **P** **05 57 48.0 +0.9**
NGP Nagpur 48.76 295 *e*P **P** **05 57 47.7 -1.9**
NGP AMb AMB 05 57 48.5
comp=Z,16nm,0.3s,mb5.1
ZAK Zakamensk 50.13 341 *e*P **P** **05 57 59.8 -0.2**
ZAK *e* 05 59 17.6
ZAK pmax pmax
comp=Z,5.0nm,2.0s,mb3.8
ZAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.2
AKL Akola 50.51 294 *ex* x 05 58 10.9
AKL AMb AMB 05 58 12.3
comp=Z,79nm,0.8s,mb5.4
BHPL Bhopal 50.73 297 *e*P **P** **05 58 04.4 -0.1**
BHPL AMb AMB 05 58 05.5
comp=Z,29nm,1.0s,mb4.9
TLY Talaya 51.15 342 *de*P **P** **05 58 08.2 +0.6**
TLY pmax pmax
comp=Z,7.0nm,1.7s,mb4.0
WMQ Urumqi 52.19 325 *e*P **P** **05 58 15.8 +0.4**
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
WMQ LR LR
comp=N,100nm,30.0s
WMQ LR LR
comp=E,10.0nm,30.0s
WMQ LR LR
comp=Z,30nm,24.0s
NDI New Delhi 52.47 303 *e*P **P** **05 58 16.0 -1.4**
KAD Karad 52.53 289 *e*P **P** **05 58 17.4 -0.5**
KAD AMb AMB 05 58 18.3
comp=Z,27nm,1.0s,mb4.9
POO Poona 53.03 290 *ex* x 05 58 19.5
SMLA Simla 53.32 306 *e*P **P** **05 58 24.0 +0.3**
SMLA AMb AMB 05 58 25.0
comp=Z,78nm,1.0s,mb5.4
AJM Ajmer 54.01 300 *e*P **P** **05 58 28.1 -0.6**
AJM AMb AMB 05 58 29.2
comp=Z,20nm,0.8s,mb4.9
BOM Bombay 54.06 290 *ex* x 05 57 03.5
BOM AMb AMB 05 57 05.0
comp=Z,93nm,1.8s,mb5.2
MK31 Makanchi Array 57.03 325 P **P** **05 58 49.7 -0.5**
MK31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
MKAR Makanchi Array 57.03 325 P **P** **05 58 50.0 -0.2**
comp=Z,8.6nm,0.6s,mb4.8,baz=126,slow=8.1,SNR=54
MKAR PcP PcP 05 59 43.6 0.0
comp=Z,4.3nm,0.8s,baz=134,slow=5.2,SNR=7.6
YAK Yakutsk 58.04 2 *e*P **P** **05 58 58.0 +0.7**
YAK *e* pP 05 59 29.2 -2.7
YAK pmax pmax
comp=Z,16nm,0.9s,mb4.8
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.1s
ULHL Ulahol 58.44 318 P **P** **05 59 00.9 +0.8**
SNR=8.2
MA2 Magadan 58.69 14 *de*P **P** **05 59 03.3 +1.5**
MA2 pmax pmax
comp=Z,23nm,1.7s,mb4.7
KZA Kyzart 59.03 318 P **P** **05 59 05.2 +1.1**
SNR=14
TKM2 Tokmak 2 59.17 319 P **P** **05 59 05.4 +0.3**
SNR=12
TKM2 Tokmak 2 59.17 319 P **P** **05 59 05.2 +0.1**
TKM2 pmax pmax
comp=Z,13nm,1.1s,mb4.7
UCH Uchtor 59.59 318 P **P** **05 59 09.1 +1.1**
SNR=22
AAK Ala-Archa 59.77 318 *e*P **P** **05 59 09.3 0.0**
AAK pmax pmax
comp=Z,40nm,0.9s,mb5.2
AAK Ala-Archa 59.77 318 *e*P **P** **05 59 09.3 +0.1**
comp=Z,4.1nm,0.9s,mb4.3
USP Ospenovka 60.04 319 P **P** **05 59 10.8 -0.2**
SNR=14
ZAL Zalesovo 60.12 333 P **P** **05 59 11.0 -0.6**
comp=Z,4.8nm,0.9s,mb4.3,baz=357,slow=8.2,SNR=19
KURK Kurchatov 61.23 328 *e*P **P** **05 59 18.4 -0.7**
KURK pmax pmax
comp=Z,47nm,0.8s,mb5.4
KURK Kurchatov 61.23 328 *e*P **P** **05 59 18.4 -0.7**
comp=Z,47nm,0.8s,mb5.4
NVS Novosibirsk 61.41 333 *e*P **P** **05 59 18.4 -1.9**
VOSK Vostochnaya 66.35 327 P **P** **05 59 51.5 -1.1**
VOSK pmax pmax
comp=Z,13nm,1.1s,mb4.7
BVA0 Borovoye Array 66.80 327 *i* P **P** **05 59 54.6 -0.9**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
BRVK Borovoye 66.88 327 *e*P **P** **05 59 54.7 -1.3**
BRVK pmax pmax
comp=Z,15nm,1.0s,mb4.8
BRVK Borovoye 66.88 327 *e*P **P** **05 59 54.7 -1.2**
comp=Z,15nm,1.0s,mb4.8
CHKZ Chkalovo 66.97 328 *e*P **P** **05 59 55.5 -1.1**
CHKZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
CHKZ Chkalovo 66.97 328 *e*P **P** **05 59 55.5 -1.0**
comp=Z,8.4nm,0.8s,mb4.6
ZRNK Zerenda 67.53 327 P **P** **05 59 59.3 -0.8**
ZRNK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
ZRNK Zerenda 67.53 327 *e*P **P** **05 59 59.1 -1.0**
comp=Z,16nm,0.8s,mb4.8
TIXI Tiksi 67.67 1 *de*P **P** **06 00 00.5 -0.4**
TIXI pmax pmax
comp=Z,11nm,1.0s,mb4.5
BILL Bilibino 69.54 15⇓ *e*P **P** **06 00 12.4 -0.2**
BILL pmax pmax
comp=Z,5.0nm,1.7s,mb4.0
AKTO Aktyubinsk 73.10 322 P **P** **06 00 33.3 -0.6**
AKTO pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
ARU Arti 74.42 328⇑ *i*P **P** **06 00 40.5 -1.1**
ARU *e* 06 03 28.8
ARU *e*PPP 06 05 13.1
ARU *e*S S 06 10 04.0 -0.2
ARU *e*SS SS 06 14 51.7 -1.8
ARU pmax pmax
comp=Z,13nm,1.0s,mb4.6
ARU Arti 74.42 328 *e*P **P** **06 00 40.3 -1.3**
comp=Z,15nm,1.0s,mb4.7
TTA Tatalina 81.03 27 *e*P **P** **06 01 19.8 +1.6**
TTA pmax pmax
comp=Z,19nm,1.1s,mb4.6
TTA Tatalina 81.03 27 *e*P **P** **06 01 19.8 +1.6**
comp=Z,19nm,1.1s,mb4.6
VNDA Vanda 83.69 173 P **P** **06 01 32.8 +0.8**
comp=Z,4.8nm,0.9s,mb4.2,baz=317,slow=6.3,SNR=30
MCK McKinley 84.29 26 *e*P **P** **06 01 35.5 +0.4**
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
MCK McKinley 84.29 26 *e*P **P** **06 01 35.5 +0.4**
comp=Z,5.3nm,0.8s,mb4.3
COLA College 84.81 25 *de*P **P** **06 01 38.4 +0.7**
MALT Malatya 85.74 308⇓ *i*P **P** **06 01 43.9 +1.6**
MALT Malatya 85.74 308⇓ P **P** **06 01 43.9 +1.6**
MOS Moscow 85.91 325 *e*P **P** **06 01 41.4 -1.7**
OBN Obninsk 86.53 325 *c*i P **P** **06 01 45.4 -0.7**
OBN pmax pmax
comp=Z,74nm,1.6s,mb5.3
APA Apatity 87.43 337⇓ *i*P **P** **06 01 50.0 -0.5**
JOF Joensuu 88.71 333 *ep* **P** **06 01 55.4 -1.1**
comp=Z,20nm,0.4s,mb5.4
KMBO Kilima Mbogo 88.89 269 P **P** **06 01 57.8 +0.4**
comp=Z,3.2nm,0.9s,mb4.2,baz=77,slow=8.9,SNR=5.8
BRTR Keskin Array B 89.39 310 P **P** **06 01 58.6 -1.1**
comp=Z,1.6nm,0.7s,mb4.0,baz=90,slow=4.9,SNR=8.9
ARCES ARCESS Array B 90.05 340 P **P** **06 02 01.4 -1.4**
comp=Z,6.2nm,0.7s,mb4.6,baz=79,slow=6.4,SNR=25
ARCES ARCESS Array B 90.05 340 P **P** **06 02 01.4 -1.4**
INK Inuvik 90.23 21 *e*P **P** **06 02 01.6 -2.0**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 90.23 21 *e*P **P** **06 02 01.6 -2.0**
comp=Z,7.1nm,1.2s,mb4.5
KAF Kangasniemi 91.12 332 *e*p **P** **06 02 06.4 -1.4**
comp=Z,7.2nm,0.4s,mb5.1
KAF Kangasniemi 91.12 332 *e*P **P** **06 02 06.4 -1.4**
KAF pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
AKASG Malin Array Be 91.33 321 P **P** **06 02 08.1 -0.6**
comp=Z,2.0nm,0.5s,mb4.4,baz=74,slow=4.3,SNR=22
FINES FINESS Array B 91.36 332 P **P** **06 02 08.0 -0.9**
comp=Z,6.3nm,0.8s,mb4.7,baz=71,slow=4.7,SNR=32
VRI Vrincioaia 93.70 316⇑ *i*P **P** **06 02 20.5 +0.8**
VRI Vrincioaia 93.70 316⇑ P **P** **06 02 20.5 +0.8**
QSPA South Pole Qui 93.82 180 *e*P **P** **06 02 21.5 +1.3**
comp=Z,11nm,1.0s,mb4.9
MLR Muntele Rosu 94.31 316⇓ *i*P **P** **06 02 22.9 +0.4**
MLR Muntele Rosu 94.31 316⇓ P **P** **06 02 22.9 +0.5**
SUW Suwalki 94.39 325 *e*P **P** **06 02 22.3 -0.5**
SUW pmax pmax
comp=Z,65nm,1.0s,mb5.7
SUW Suwalki 94.39 325 *e*P **P** **06 02 22.2 -0.6**
comp=Z,65nm,1.0s,mb5.7
BURAR Bucovina Array 94.42 318⇑ *i*P **P** **06 02 23.4 +0.4**
BURAR Bucovina Array 94.42 318⇑ P **P** **06 02 23.4 +0.4**
LVV L'vov 94.77 321 *e*P **P** **06 02 29.6 +5.1**
KOLS Kolonicke sedl 96.08 320 *e*P **P** **06 02 33.5 +3.0**
KOLS pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
KOLS Kolonicke sedl 96.08 320 *e*P **P** **06 02 33.5 +3.0**
comp=Z,2.8nm,0.9s,mb4.6
CRVS Cervenica-Dubn 96.61 320 *e*P **P** **06 02 34.1 +1.2**
CRVS pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
CRVS Cervenica-Dubn 96.61 320 *e*P **P** **06 02 34.1 +1.2**
comp=Z,5.6nm,1.2s,mb4.8
STHS Stebnicka Huta 96.62 321 *e*P **P** **06 02 34.3 +1.3**
STHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
STHS Stebnicka Huta 96.62 321 *e*P **P** **06 02 34.3 +1.3**
comp=Z,4.8nm,1.1s,mb4.7
OJC Ojcow 97.33 322 *e*P **P** **06 02 36.6 +0.4**
KECS Kecovo 97.33 320 *i* P **P** **06 02 36.5 +0.3**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
KECS Kecovo 97.33 320 *i* P **P** **06 02 36.5 +0.3**
comp=Z,4.1nm,1.0s,mb4.7
NB2 NORSAR Subarra 98.33 333 P **P** **06 02 39.2 -1.5**
comp=Z,8.7nm,1.0s,mb5.1,baz=66,slow=4.4
NB2 NORSAR Subarra 98.33 333 P **P** **06 02 39.2 -1.5**
NB2 pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
NOA NORSAR Array B 98.33 333 P **P** **06 02 39.0 -1.6**
comp=Z,4.5nm,0.9s,mb4.9,baz=67,slow=4.5,SNR=13
VYHS Vyhne 98.39 320 *e*P **P** **06 02 40.4 -0.6**
MORC Moravsky Berou 98.85 322⇑ *i*P **P** **06 02 44.0 +1.0**
MORC Moravsky Berou 98.85 322⇑ P **P** **06 02 44.0 +1.0**
YKA Yellowknife Ar 99.60 24 P Pdif 06 02 46.3 0.0
comp=Z,1.4nm,0.9s,baz=300,slow=4.9,SNR=11
BRG Berggiesshubel 100.69 323 *i* P Pdif 06 02 51.8 +0.6
comp=Z,6.6nm,1.0s
BRG Berggiesshubel 100.69 323 *i* P Pdif 06 02 51.8 +0.6
BRG pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 101.10 324 *e*Pdif Pdif 06 02 53.0 0.0
KHC Kasperske Hory 101.51 322⇓ *e*P Pdif 06 02 55.2 +0.4
GERES GERESS Array B 101.53 321 P Pdif 06 02 55.6 +0.7
comp=Z,1.4nm,0.7s,baz=65,slow=6.3,SNR=7.8
GRA2 Grafenberg Arr 102.68 323 *e*Pdiff Pdif 06 03 01.3 +1.3
PDAR Pinedale Array 111.65 41 PKKPbc PKKPbc 06 18 30.0 -0.7
comp=Z,0.3nm,0.6s,baz=101,slow=4.7,SNR=3.5
PDAR PKKPab PKKPab 06 18 41.2 +0.7
comp=Z,1.0nm,0.9s,baz=115,slow=5.6,SNR=7.2
SCHQ Schefferville 120.48 9 PKP PKPdf 06 07 54.8 +1.0
comp=Z,0.8nm,0.3s,baz=246,slow=10,SNR=7.3
TORD Torodi Ar. Bea 122.23 288 PKP PKPdf 06 07 58.1 +1.0
comp=Z,2.3nm,0.7s,baz=72,slow=1.8,SNR=15
TORD PP PP 06 09 37.0 +2.7
comp=Z,1.4nm,1.1s,baz=48,slow=6.8,SNR=4.6
JCT Junction City 124.44 49 *e*PKIKP PKPdf 06 08 02.9 +1.6

NIED ***20*** *05:54:00,3830N×14470E,h8km,Mw3.4 Best double couple: M0 1.35000×10^14 NP1:φs145.00000°,δ66.00000°, λ-92.00000°. NP2:φs329.00000°,δ24.00000°, λ-87.00000°.*

JMA 20 05:54:14.5±0.1,3826N×14473E,h53km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.53**	**290**	P		Pn	05 54 54.3	+1.2
MIYJ	**Miyakonagasawa**	**2.62**	**301**	P		Pn	05 54 55.5	+1.1
MIYJ				*e*S		Sn	05 55 26.1	+1.1
JIO	**Ouri**	**2.67**	**275**	P		Pn	05 54 56.2	+1.3
JIO				S		Sn	05 55 27.3	+1.3
JMK	**Ichinoseki**	**2.83**	**285**	P		Pn	05 54 58.7	+1.4
JMK				*e*S		Sn	05 55 32.0	+1.8
JOT	**Ohata**	**4.21**	**319**	P		Pn	05 55 17.5	+1.3
JOT				*e*S		Sn	05 56 04.2	+0.1
JCH	**Churui**	**4.47**	**347**	P		Pn	05 55 19.5	-0.2
JCH				*e*S		Sn	05 56 08.2	-2.3
JKB	**Kayabe**	**4.60**	**323**	P		Pn	05 55 23.6	+2.1
JKB				*e*S		Sn	05 56 13.8	+0.2
NEM2	**Nemuro 2**	**5.16**	**8**	P		Pn	05 55 26.6	-2.5
NEM2				*e*S		Sn	05 56 20.5	-6.8
JRY	**Ryogami san**	**5.17**	**246**	P		Pn	05 55 30.0	+0.8
JRY				*e*S		Sn	05 56 26.0	-1.5
JOD2	**Odawara 2**	**5.43**	**238**	*e*S		Sn	05 56 31.2	-2.7
JOSM	**Okushiri--Mats**	**5.55**	**315**	P		Pn	05 55 36.5	+2.1
JTKR	**Abashiri--Toko**	**5.74**	**354**	P		Pn	05 55 36.2	-0.9
JTKR				*e*S		Sn	05 56 37.8	-3.8
JHJ2	**Mitsune**	**6.51**	**219**	*e*S		Sn	05 56 55.0	-5.5

IDC 20 06:28:12.9±1.1,4896S×12546E,h0km,mb3.8/6, mb1 4.0/7,mb1mx4.0/12,mbtmp3.9/7,ML2.4/1,MS3.7/6, Ms1 3.7/6,ms1mx3.6/12,Error ellipse: s-maj=56.8km s-min=20.3km az=100.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.16**	**336**	P		Pn	06 32 13.8	-0.3
	0.6nm,0.3s,baz=157,slow=7.7,SNR=3.8							
NWAO				LR		LR	06 37 07.3	
	comp=Z,245nm,21.5s,baz=185,slow=31							
STKA	**Stephens Creek**	**20.95**	**41**	P		P	06 32 57.6	+0.3
	5.1nm,0.8s,baz=218,slow=12,SNR=7.0							
STKA				LR		LR	06 39 34.2	
	comp=Z,152nm,19.0s,baz=204,slow=32							
ASAR	**Alice Springs**	**26.11**	**18**	P		P	06 33 48.0	-0.3
	1.5nm,0.8s,baz=194,slow=10,SNR=9.3							
ASAR				LR		LR	06 42 59.7	
	comp=Z,249nm,21.9s,baz=183,slow=34							
WRA	**Warramunga Arr**	**29.82**	**17**	P		P	06 34 21.9	+0.3
	0.9nm,0.9s,baz=194,slow=15,SNR=3.1							
WRA				LR		LR	06 45 23.0	
	comp=Z,225nm,19.9s,baz=185,slow=34							
VNDA	**Vanda**	**31.85**	**166**	P		P	06 34 38.6	-0.9
	1.4nm,1.0s,baz=329,slow=12,SNR=4.4							
VNDA				LR		LR	06 46 12.0	
	comp=Z,107nm,18.3s,baz=340,slow=34							
SNAA	**Sanae**	**54.26**	**198**	P		P	06 37 40.2	-0.4
	0.5nm,0.9s,baz=162,slow=9.6,SNR=5.0							
MJAR	**Matsushiro Arr**	**85.88**	**10**	P		P	06 40 54.1	-0.5
	0.7nm,0.3s,baz=184,slow=6.4,SNR=4.2							
WSAR	**Wadi Sarin**	**93.24**	**302**	LR		LR	07 18 13.6	
	comp=Z,26nm,18.5s,baz=112,slow=32							
YKA	**Yellowknife Ar**	**144.96**	**44**	PKP		PKPdf	06 47 50.1	-1.9
	2.2nm,0.7s,baz=270,slow=3.4,SNR=26							

BJI ***20*** *07:11:03.5,021N×9653E,h35km,mB4.6,mb4.6,Ms4.2, Msz3.8*
ISCJB ***20*** *07:11:04.3±0.4,025N±006×9674E±007,h35km,mb4.4/29, MS3.8/10,Error ellipse: s-maj=11.1km s-min=7.1km az=118.7*
MOS ***20*** *07:11:04.1±1.1,037N×9673E,h33km,mb4.7/7,Error*

ellipse: s-maj=34.8km s-min=14.6km az=122.1
*NEIC **20** 07:11:06.0±0.3, 0.25N×96.73E, mb4.6/14, Error ellipse: s-maj=11.1km s-min=6.4km az=54.0*
*IDC **20** 07:11:05.6±0.7, 0.21N×96.66E, h34km±4km, mb4.0/15, mb1 4.1/15, mb1mx4.0/20, mbtmp4.2/15, MS3.7/6, Ms1 3.7/6, ms1mx3.2/28, Error ellipse: s-maj=34.6km s-min=12.7km az=51.0*

ISC 20 07:11:06.6±0.4, 025N±006×9674E±007, h37km, h37km±1.4km: pP-P, n62, σ1°00/59, mb4.4/29, MS3.8/10, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**6.00**	**45**	P	**Pn**	**07 12 32.5**	**-0.3**
KULM	**Kulim**	**6.35**	**38**	*e*Pn	**Pn**	**07 12 35.6**	**-2.1**
KKM	**Kota Kinabalu**	**20.27**	**73**	P	**P**	**07 15 38.9**	**0.0**
KKM	**Kota Kinabalu**	**20.27**	**73**	*e*P	**P**	**07 15 38.9**	**0.0**
QIZ	**Qiongzhong**	**22.67**	**34**	P	**P**	**07 16 04.3**	**-0.3**
QIZ				S	**S**	**07 20 07.8**	**-2.7**
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.1						
QIZ				LR	LR		
	comp=N,250nm,14.9s,MS3.9						
QIZ				LR	LR		
	comp=E,270nm,15.9s,MS3.9						
QIZ				LR	LR		
	comp=Z,150nm,12.7s,MS3.6						
QIZ	**Qiongzhong**	**22.67**	**34**	*e*P	**P**	**07 16 05.0**	**+0.5**
	comp=Z,20nm,1.2s,mb4.4						
KMI	**Kunming**	**25.40**	**13**	P	**P**	**07 16 32.9**	**+2.4**
KMI				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.4						
KMI				AMB	AMB		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,460nm,13.4s,MS4.2						
KMI				LR	LR		
	comp=E,260nm,13.8s,MS4.2						
KMI				LR	LR		
	comp=Z,490nm,13.1s,MS4.2						
SHL	**Shillong**	**25.61**	**350**	*i* P	**P**	**07 16 33.0**	**+0.7**
SHL				*e*S	**S**	**07 21 06.5**	**+8.7**
JIRN	**Jiri**	**29.08**	**340**	*e*P	**P**	**07 17 04.7**	**+1.2**
	comp=Z,16nm,0.6s,mb5.0						
DMN	**Daman**	**29.41**	**339**	*e*P	**P**	**07 17 09.8**	**+3.4**
GUN	**Gumba**	**29.41**	**340**	*e*P	**P**	**07 17 07.2**	**+0.8**
	comp=Z,15nm,0.5s,mb5.0						
KKN	**Kakani**	**29.51**	**339**	*e*P	**P**	**07 17 08.3**	**+1.0**
GKN	**Gorkha**	**29.94**	**338**	*e*P	**P**	**07 17 11.8**	**+0.7**
	comp=Z,9.4nm,0.4s,mb4.9						
KOLN	**Koldanda**	**30.13**	**336**	*e*P	**P**	**07 17 13.8**	**+1.0**
	comp=Z,28nm,0.7s,mb5.1						
CD2	**Chengdu**	**31.21**	**12**	*e*P	**P**	**07 17 23.0**	**+0.6**
CD2				AP	pP	07 17 32.3	-0.5
CD2				PP	PP	07 18 27.5	-5.7
CD2				S	**S**	**07 22 28.0**	**+1.9**
CD2				SS	SS	07 24 17.0	-23
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,40nm,5.0s						
CD2				LR	LR		
	comp=E,270nm,13.2s						
CD2				LR	LR		
	comp=Z,160nm,14.4s,MS3.8						
FITZ	**Fitzroy Crossi**	**33.76**	**124**	*e*P	**P**	**07 17 44.5**	**-0.2**
	comp=Z,10nm,1.2s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.76**	**124**	P	**P**	**07 17 44.7**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.3,baz=261,slow=22,SNR=17						
XAN	**Xi'an**	**35.51**	**18**	P	**P**	**07 17 58.9**	**-0.8**
XAN				LR	LR		
	comp=N,220nm,14.2s						
XAN				LR	LR		
	comp=E,90nm,20.5s						
XAN				LR	LR		
	comp=Z,360nm,22.8s						
GTA	**Gaotai**	**39.08**	**4**	*e*P	**P**	**07 18 30.6**	**+0.6**
GTA				AP	pP	07 18 34.8	-5.8
GTA				PP	PP	07 20 08.3	+8.3
GTA				PPP		07 20 33.3	
GTA				PCP	PcP	07 20 35.6	-3.8
GTA				SCP	ScP	07 24 23.3	-1.5
GTA				XS	sS	07 24 44.4	-0.1
GTA				AMB	AMB		
	comp=Z,80nm,5.3s						
GTA				LR	LR		
	comp=N,100nm,17.1s,MS3.9						
GTA				LR	LR		
	comp=E,130nm,16.7s,MS3.9						
GTA				LR	LR		
	comp=Z,100nm,15.6s,MS3.8						
WRA	**Warramunga Arr**	**41.94**	**121**	P	**P**	**07 18 53.5**	**-0.1**
	comp=Z,3.1nm,0.5s,mb4.2,baz=302,slow=9.1,SNR=75						
WRAB	**Tennant Creek**	**41.94**	**121**	*e*P	**P**	**07 18 54.7**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**41.94**	**121**	*e*P	**P**	**07 18 54.7**	**+1.0**
	comp=Z,6.2nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**41.95**	**121**	*e*P	**P**	**07 18 54.3**	**+0.6**
ASPA	**Alice Springs**	**43.20**	**126**	*e*P	**P**	**07 19 04.3**	**+0.4**
ASAR	**Alice Springs**	**43.20**	**126**	P	**P**	**07 19 04.4**	**+0.5**
	comp=Z,1.2nm,0.4s,mb4.0,baz=297,slow=7.1,SNR=34						
ASAR				LR	LR	07 38 33.0	
	comp=Z,99nm,18.6s,MS3.7,baz=94,slow=38						
AS31	**Alice Springs**	**43.20**	**126**	*e*P	**P**	**07 19 04.3**	**+0.4**
BJT	**Baijiatuan**	**43.37**	**22**	*e*P	**P**	**07 19 05.9**	**+0.7**
BJT				*e**PP	pP	07 19 17.8	+1.8
BJT				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BJT	**Baijiatuan**	**43.37**	**22**	*e*P	**P**	**07 19 05.9**	**+0.7**
	comp=Z,4.9nm,0.4s,mb4.6						
BJT				*e*pP	pP	07 19 17.8	+1.8
MKAR	**Makanchi Array**	**48.05**	**347**	P	**P**	**07 19 42.3**	**0.0**
	comp=Z,2.8nm,0.5s,mb4.5,baz=160,slow=8.3,SNR=35						
MKAR				pP	pP	07 19 53.0	-0.1
	comp=Z,4.2nm,0.5s,baz=161,slow=7.9,SNR=16						
SONM	**Songino Array**	**48.14**	**9**	P	**P**	**07 19 43.0**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=190,slow=9.2,SNR=13						
SONM				LR	LR	07 43 01.1	
	comp=Z,94nm,19.4s,MS3.8,baz=168,slow=40						
ULN	**Ulaanbaatar**	**48.27**	**9**	*e*P	**P**	**07 19 44.9**	**+1.0**
CTA	**Charters Tower**	**52.50**	**116**	LR	LR	07 43 42.0	
	comp=Z,92nm,19.7s,MS3.8,baz=232,slow=37						
KURK	**Kurchatov**	**52.59**	**346**	*e*P	**P**	**07 20 15.7**	**-0.9**
KURK				*e**PP	pP	07 20 27.1	-0.4
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
KURK	**Kurchatov**	**52.59**	**346**	*e*P	**P**	**07 20 15.7**	**-0.9**
	comp=Z,8.5nm,1.1s,mb4.6						
KURK				*e*pP	pP	07 20 27.1	-0.4
MJAR	**Matsushiro Arr**	**52.70**	**42**	LR	LR	07 45 02.3	
	comp=Z,50nm,18.2s,MS3.6,baz=250,slow=39						
STKA	**Stephens Creek**	**53.07**	**131**	*e*P	**P**	**07 20 18.6**	**-1.5**
	comp=Z,2.6nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**53.07**	**131**	P	**P**	**07 20 19.0**	**-1.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=291,slow=4.4,SNR=6.8						
ZAL	**Zalesovo**	**54.41**	**351**	P	**P**	**07 20 27.9**	**-2.1**
	comp=Z,7.8nm,0.3s,mb5.1,baz=339,slow=3.8,SNR=3.5						
ZAL				LR	LR	07 47 22.6	
	comp=Z,60nm,18.2s,MS3.7,baz=106,slow=40						
BVAR	**Borovoye Array**	**57.00**	**341**	P	**P**	**07 20 47.5**	**-1.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=143,slow=8.9,SNR=8.3						
BVAR				pP	pP	07 20 57.4	-2.1
	comp=Z,0.9nm,0.5s,baz=140,slow=7.8,SNR=4.9						
KLR	**Kul'dur**	**57.31**	**27**	*e*P	**P**	**07 20 51.0**	**+0.4**
ZRNK	**Zerenda**	**57.39**	**340**	*e*P	**P**	**07 20 49.8**	**-1.4**
ZRNK				*e**PP	pP	07 21 00.0	-2.3
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**57.39**	**340**	*e*P	**P**	**07 20 49.8**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.1						
ZRNK				*e*pP	pP	07 20 60.0	-2.3
CHKZ	**Chkalovo**	**57.48**	**342**	*e*P	**P**	**07 20 50.4**	**-1.5**
CHKZ				*e**PP	pP	07 21 01.4	-1.5
CHKZ				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
CHKZ	**Chkalovo**	**57.48**	**342**	*e*P	**P**	**07 20 50.4**	**-1.5**
	comp=Z,13nm,1.3s,mb4.8						
CHKZ				*e*pP	pP	07 21 01.4	-1.5
ARU	**Arti**	**63.88**	**338**	P	**P**	**07 21 34.2**	**-1.2**
ARU				*e**PP	pP	07 21 44.6	-2.0
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
ARU	**Arti**	**63.88**	**338**	P	**P**	**07 21 34.2**	**-1.3**
	comp=Z,7.3nm,1.2s,mb4.6						
ARU				*e*pP	pP	07 21 44.6	-2.0
BRTR	**Keskin Array B**	**69.41**	**313**	P	**P**	**07 22 09.7**	**-1.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=128,slow=8.0,SNR=8.2						
BRTR				pP	pP	07 22 20.8	-1.3
	comp=Z,1.1nm,0.6s,baz=140,slow=7.9,SNR=4.1						
BOSA	**Boshof**	**73.91**	**240**	LR	LR	07 51 18.5	
	comp=Z,52nm,19.4s,MS3.8,baz=8.9,slow=33						
AKASG	**Malin Array Be**	**75.73**	**323**	P	**P**	**07 22 46.9**	**-1.4**
	comp=Z,1.3nm,0.4s,mb4.2,baz=95,slow=5.1,SNR=15						
AKASG				pP	pP	07 22 57.1	-2.5
	comp=Z,1.1nm,0.5s,baz=83,slow=5.6,SNR=5.0						
AKASG	**Malin Array Be**	**75.73**	**323**	P	**P**	**07 22 46.9**	**-1.4**
AKASG				pP	pP	07 22 57.1	-2.5
FINES	**FINESS Array B**	**80.63**	**333**	P	**P**	**07 23 14.8**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=85,slow=6.0,SNR=6.8						
FINES				pP	pP	07 23 25.8	-1.1
	comp=Z,1.2nm,0.6s,baz=100,slow=5.8,SNR=4.0						
FINES	**FINESS Array B**	**80.63**	**333**	P	**P**	**07 23 14.8**	**-0.6**
FINES				pP	pP	07 23 25.8	-1.1
ARCES	**ARCESS Array B**	**83.27**	**340**	P	**P**	**07 23 29.1**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=106,slow=4.6,SNR=30						
ARCES				pP	pP	07 23 39.8	-1.1
	comp=Z,1.1nm,0.4s,baz=92,slow=4.6,SNR=3.5						
VNDA	**Vanda**	**84.99**	**169**	P	**P**	**07 23 37.7**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.9,baz=293,slow=7.1,SNR=6.1						
VNDA	**Vanda**	**84.99**	**169**	*e*P	**P**	**07 23 37.9**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VNDA	**Vanda**	**84.99**	**169**	*e*P	**P**	**07 23 37.9**	**-0.2**
	comp=Z,2.2nm,1.0s,mb4.2						
GERES	**GERESS Array B**	**85.22**	**319**	P	**P**	**07 23 39.5**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.9,baz=99,slow=5.9,SNR=7.4						
QSPA	**South Pole Qui**	**90.20**	**180**	*e*P	**P**	**07 24 02.9**	**-0.2**
	comp=Z,4.5nm,1.0s,mb4.8						
TORD	**Torodi Ar. Bea**	**94.86**	**283**	P	**P**	**07 24 25.5**	**+0.9**
	comp=Z,0.2nm,0.4s,mb3.9,baz=92,slow=5.2,SNR=5.4						
CPCT	**Cooper Cave**	**144.47**	**2**	*e*PKPdf	PKPdf	07 30 37.6	-1.3
CPCT				*ep*PKPdf	pPKPdf	07 30 48.4	-2.4
JCT	**Junction City**	**145.63**	**26**	*e*PKPdf	PKPdf	07 30 41.0	+0.1
JCT				*ep*PKPdf	pPKPdf	07 30 52.6	-0.2
LRAL	**Lakeview Retre**	**146.71**	**6**	*e*PKPdf	PKPdf	07 30 43.5	+0.8

IDC 20 07:32:31.6±2.1, 1033N×14434E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/18, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=95.1km s-min=23.3km az=93.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.28**	**9**	Pn	Pn	07 33 24.1	-0.1
	19nm,0.3s,baz=234,slow=6.6,SNR=10.0						
GUMO				Sn	Sn	07 33 58.6	-5.3
	79nm,0.3s,baz=171,slow=22,SNR=11						
WRA	**Warramunga Arr**	**31.65**	**198**	P	P	07 38 56.6	+0.2
	1.2nm,0.5s,baz=20,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**35.30**	**197**	P	P	07 39 28.6	+0.4
	0.6nm,0.6s,baz=20,slow=9.6,SNR=16						
MKAR	**Makanchi Array**	**63.49**	**317**	P	P	07 43 03.8	+0.3
	0.4nm,0.6s,baz=103,slow=7.9,SNR=4.6						

IDC 20 07:48:48.6±1.3, 518N×12771E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/17, mbtmp3.9/6, Error ellipse: s-maj=88.6km s-min=18.2km az=72.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.22**	**185**	P	P	07 53 58.6	+1.3
	1.6nm,0.4s,baz=14,slow=12,SNR=9.0						
WRA	**Warramunga Arr**	**25.89**	**166**	P	P	07 54 22.2	+0.9
	3.7nm,0.4s,baz=344,slow=10,SNR=45						
ASAR	**Alice Springs**	**29.30**	**168**	P	P	07 54 53.4	+0.7
	0.5nm,0.4s,baz=353,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**39.15**	**161**	P	P	07 56 16.4	-1.6
	1.8nm,0.5s,baz=347,slow=8.3,SNR=8.0						
SONM	**Songino Array**	**46.26**	**340**	P	P	07 57 16.6	+0.9
	0.3nm,0.5s,baz=149,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	**56.94**	**324**	P	P	07 58 35.0	-0.6
	0.6nm,0.6s,baz=123,slow=7.1,SNR=5.5						

IDC 20 07:50:08.8±1.7, 1842S×17817W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/14, mbtmp3.9/5, Error ellipse: s-maj=49.4km s-min=34.3km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.20**	**191**	P	P	07 54 45.2	+0.3
	15nm,1.1s,baz=333,slow=24,SNR=5.7						
WRA	**Warramunga Arr**	**44.77**	**260**	P	P	07 58 24.9	+0.9
	0.5nm,0.4s,baz=97,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**44.87**	**255**	P	P	07 58 25.1	+0.3
	0.6nm,0.3s,baz=88,slow=8.2,SNR=9.0						
FITZ	**Fitzroy Crossi**	**53.17**	**261**	P	P	07 59 28.0	-0.5
	1.8nm,0.9s,baz=51,slow=6.5,SNR=3.6						
PDAR	**Pinedale Array**	**87.56**	**43**	P	P	08 02 59.0	+0.4
	0.5nm,1.1s,baz=226,slow=3.9,SNR=4.1						

IDC 20 07:54:16.3±21.0, 6204S×15691W, h0km, mb3.9/4, mb1 4.1/4, mb1mx4.0/10, mbtmp3.9/4, MS4.1/10, Ms1 4.0/10, ms1mx3.8/20, Error ellipse: s-maj=477.2km s-min=45.1km az=77.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.29**	**204**	P	P	07 58 53.2	-0.5
	1.1nm,0.5s,baz=71,slow=16,SNR=26						
VNDA				LR	LR	08 04 17.8	
	comp=Z,404nm,19.6s,baz=64,slow=30						
URZ	**Urewera**	**28.67**	**314**	LR	LR	08 08 58.0	
	comp=Z,298nm,19.8s,baz=162,slow=31						
PPT	**Papeete**	**44.72**	**10**	LR	LR	08 16 40.7	
	comp=Z,281nm,18.7s,baz=151,slow=30						
STKA	**Stephens Creek**	**49.09**	**278**	P	P	08 03 04.3	-1.1
	3.7nm,1.0s,baz=126,slow=8.7,SNR=3.6						
STKA				LR	LR	08 20 20.0	
	comp=Z,123nm,18.0s,baz=25,slow=32						
CTA	**Charters Tower**	**57.08**	**290**	LR	LR	08 24 02.8	
	comp=Z,93nm,19.5s,baz=142,slow=31						
ASAR	**Alice Springs**	**59.63**	**277**	P	P	08 04 21.8	-0.4
	3.0nm,1.1s,baz=149,slow=6.7,SNR=11						
ASAR				LR	LR	08 25 23.1	
	comp=Z,168nm,21.0s,baz=163,slow=31						
WRA	**Warramunga Arr**	**62.63**	**279**	P	P	08 04 43.1	+0.6
	0.9nm,0.8s,baz=150,slow=5.6,SNR=5.5						
WRA				LR	LR	08 29 37.6	
	comp=Z,145nm,20.6s,baz=115,slow=34						
FITZ	**Fitzroy Crossi**	**68.30**	**272**	LR	LR	08 31 00.0	
	comp=Z,73nm,18.9s,baz=100,slow=32						
BDFB	**Brasilia**	**84.88**	**114**	LR	LR	08 42 04.6	
	comp=Z,177nm,19.8s,baz=204,slow=34						
BOSA	**Boshof**	**89.65**	**182**	LR	LR	08 42 05.4	
	comp=Z,135nm,20.2s,baz=178,slow=32						

IDC 20 07:57:44.1±16.0, 1659S×17390W, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.1/15, mbtmp4.4/5, Error ellipse: s-maj=315.1km s-min=140.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.92**	**258**	P	P	08 05 04.2	+1.0
	5.1nm,1.0s,baz=97,slow=14,SNR=3.6						
STKA	**Stephens Creek**	**43.04**	**241**	*e*P	P	08 05 45.3	-0.2
	1.8nm,0.6s						
STKA	**Stephens Creek**	**43.04**	**241**	P	P	08 05 45.5	0.0
	2.5nm,0.5s,baz=79,slow=9.0,SNR=9.8						
WB2	**Warramunga Arr**	**49.11**	**258**	*e*P	P	08 06 33.3	0.0
WRA	**Warramunga Arr**	**49.12**	**258**	P	P	08 06 33.5	+0.1
	1.8nm,0.4s,baz=94,slow=7.4,SNR=97						
ASAR	**Alice Springs**	**49.30**	**253**	P	P	08 06 35.1	+0.4
	7.5nm,0.6s,baz=86,slow=8.9,SNR=113						
ASPA	**Alice Springs**	**49.30**	**253**	*e*P	P	08 06 35.2	+0.4
KAKA	**Kakadu**	**51.94**	**267**	*e*P	P	08 06 56.1	+1.3
	9.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**57.51**	**259**	P	P	08 07 35.6	+0.5
	2.0nm,0.8s,baz=90,slow=14,SNR=3.9						

*IDC **20** 08:23:52.2±4.3, 830S×148.58E, h87km±30km, mb3.9/6, mb1 4.1/7, mb1mx4.0/11, mbtmp4.3/7, Error ellipse: s-maj=49.3km s-min=21.4km az=99.0*
*ISCJB **20** 08:23:53.0±2.2, 82S±0.1×1484E±02, h105km±13km, mb4.2/8, Error ellipse: s-maj=35.3km s-min=17.1km az=22.7*
*NEIC **20** 08:23:53.2±1.7, 822S×14837E, h91km±12km, mb4.6/6, Error ellipse: s-maj=21.9km s-min=10.6km az=101.0*

ISC 20 08:23:53.3±2.5, 82S±01×1484E±02, h93km±16km, n22, σ0°61/21, mb4.2/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.71**	**227**	P	**Pn**	**08 24 21.3**	**-0.5**
	123nm,0.3s,baz=44,slow=5.5,SNR=135						
PMG				S	**Sn**	**08 24 44.2**	**+0.7**
	225nm,0.3s,baz=274,slow=1.5,SNR=15						
KAKA	**Kakadu**	**16.34**	**253**	*e*P	**Pn**	**08 27 36.7**	**-0.3**
	18nm,1.1s						
WRAB	**Tennant Creek**	**17.92**	**228**	*e*P	**Pn**	**08 27 56.3**	**-0.1**
	11nm,0.4s						
WB2	**Warramunga Arr**	**17.92**	**228**	*e*P	**Pn**	**08 27 55.8**	**-0.6**
WRA	**Warramunga Arr**	**17.93**	**228**	P	**Pn**	**08 27 56.2**	**-0.4**
	2.7nm,0.3s,baz=48,slow=10,SNR=133						
AS31	**Alice Springs**	**20.72**	**221**	*e*P	**P**	**08 28 27.2**	**+1.0**
ASAR	**Alice Springs**	**20.72**	**221**	P	**P**	**08 28 26.4**	**+0.2**
	4.9nm,0.3s,baz=52,slow=8.8,SNR=65						
ASPA	**Alice Springs**	**20.72**	**221**	*e*P	**P**	**08 28 27.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.23**	**244**	*e*P	**P**	**08 29 01.0**	**-0.4**
	17nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**24.23**	**244**	P	**P**	**08 29 01.3**	**-0.1**
	9.5nm,0.3s,mb4.6,baz=63,slow=8.9,SNR=173						
STKA	**Stephens Creek**	**24.37**	**194**	*e*P	**P**	**08 29 01.5**	**-1.2**
	4.0nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**24.37**	**194**	P	**P**	**08 29 01.6**	**-1.1**
	3.3nm,0.5s,mb4.0,baz=347,slow=7.4,SNR=17						
STKA	**Stephens Creek**	**24.37**	**194**	*e*P	**P**	**08 29 01.8**	**-0.9**
FORT	**Forrest**	**29.42**	**218**	*e*P	**P**	**08 29 48.0**	**0.0**
	16nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**36.81**	**227**	*e*P	**P**	**08 30 51.0**	**-1.2**
	5.4nm,0.3s,mb5.0						
MUN	**Mundaring**	**38.13**	**227**	*e*P	**P**	**08 31 03.7**	**+0.4**
MJAR	**Matsushiro Arr**	**45.56**	**348**	P	**P**	**08 32 03.8**	**-0.1**
	0.8nm,0.5s,mb3.7,baz=175,slow=3.9,SNR=4.2						
SONM	**Songino Array**	**67.03**	**331**	P	**P**	**08 34 36.6**	**+0.2**
	0.4nm,0.3s,mb3.7,baz=139,slow=5.4,SNR=5.9						
MKAR	**Makanchi Array**	**80.11**	**320**	P	**P**	**08 35 53.4**	**+0.3**
	0.4nm,0.5s,mb3.5,baz=108,slow=7.8,SNR=6.0						
QSPA	**South Pole Qui**	**81.75**	**180**	*e*P	**P**	**08 36 02.4**	**+0.7**
	3.3nm,0.9s,mb4.2						
TORD	**Torodi Ar. Bea**	**146.97**	**281**	PKPbc	PKPbc	08 43 26.7	+1.6
	2.7nm,0.8s,baz=52,slow=3.5,SNR=16						
TORD	**Torodi Ar. Bea**	**146.97**	**281**	PKPbc	PKPbc	08 43 26.7	+1.6

*ISCJB **20** 08:26:56.5±0.5, 3884N±003×2452E±003, h6km±6km, Error ellipse: s-maj=4.8km s-min=3.5km az=24.9*
*NEIC **20** 08:26:56.7, 3884N×2454E, h3km, ML3.2(ATH), After ATH.*
*ATH **20** 08:26:56.7, 3886N×2452E, h8km±1km, MD3.2/9, ML3.2*
*THE **20** 08:26:56.8, 3878N×2450E, h5km, ML3.1*
*CSEM **20** 08:26:57.5±0.1, 3880N×2456E, h12km, ML3.2, Error ellipse: s-maj=3.4km s-min=1.7km az=111.0*

ISC 20 08:26:57.4±0.5, 3883N±003×2450E±003, h16km±5km, n23, σ1°06/33, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.59**	**306**	*e*Pg	**Pg**	**08 27 08.9**	**-0.1**
AOS				*e*Sg	**Sg**	**08 27 17.6**	**+0.6**
PTL	**Penteli**	**0.92**	**213**	*e*PB	**Pb**	**08 27 14.5**	**-0.5**
ATH	**Athens Observa**	**1.05**	**216**	*e*PB	**Pb**	**08 27 17.2**	**0.0**
ATH				*e*SB	**Sb**	**08 27 31.7**	**+1.0**
NEO	**Neokhori**	**1.10**	**296**	*e*PN	**Pn**	**08 27 18.0**	**-0.1**
NEO	**Neokhori**	**1.10**	**296**	*e*Pn	**Pn**	**08 27 19.1**	**+1.0**
XOR	**Xorichti**	**1.15**	**298**	*e*Pg	**Pg**	**08 27 18.3**	**-1.3**
XOR				*e*Sg	**Sg**	**08 27 35.5**	**+0.8**
LKR	**Lokris**	**1.19**	**262**	*e*PB	**Pb**	**08 27 20.1**	**+0.6**
LIA	**Limnos Island**	**1.19**	**26**	*e*PB	**Pb**	**08 27 18.6**	**-1.0**
LIA				*e*SB	**Sb**	**08 27 34.1**	**-0.7**
LOS	**Limnos**	**1.19**	**22**	*e*Pg	**Pg**	**08 27 20.0**	**-0.5**
LOS				*e*Sg	**Sg**	**08 27 38.4**	**+2.3**
PAIG	**Paliouri**	**1.27**	**330**	*e*Pg	**Pg**	**08 27 20.1**	**-1.8**
PAIG				*e*Sg	**Sg**	**08 27 39.4**	**+1.0**
MGER	**Gerania Oros**	**1.28**	**230**	*e*PB	**Pb**	**08 27 21.5**	**+0.3**
MGER	**Gerania Oros**	**1.28**	**230**	*e*Pb	**Pb**	**08 27 20.5**	**-0.7**
CHOS	**Chios island**	**1.30**	**109**	*e*Pg	**Pg**	**08 27 20.8**	**-1.6**
CHOS				*e*Sg	**Sg**	**08 27 38.1**	**-1.2**
PRK	**Paraskevi**	**1.44**	**73**	*e*PB	**Pb**	**08 27 23.5**	**-0.4**
BOZC	**Bozcaada**	**1.57**	**49**	*i* P	**Pn**	**08 27 23.9**	**-0.8**
AGG	**Agios Georgios**	**1.70**	**277**	*e*Pb	**Pb**	**08 27 26.7**	**-1.6**
AGG				*e*Sb	**Sb**	**08 27 49.1**	**-0.4**
URLA	**Izmir**	**1.71**	**105**	*i* P	**Pg**	**08 27 30.2**	**0.0**
URLA				*i* S	**Sg**	**08 27 54.1**	**+1.7**
PLG	**Polygyros**	**1.75**	**333**	*e*PN	**Pn**	**08 27 28.5**	**+1.5**
AYVA	**Ayvalik**	**1.

s-min=1.3km az=115.4

HRVD ***20*** *10:02:07.8±0.1, 5145N×130.74W, h12km, MW5.6/96, Centroid moment Tensor Solution. LP body waves: s74,c133;Mantle waves: s96,c260; Half duration: 1?6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.03±.03; $M_{\theta\theta}$-1.83±.04; $M_{\phi\phi}$0.80±.04; $M_{r\theta}$1.39±.09; $M_{\theta\phi}$2.65±.03; $M_{\phi r}$-0.89±.10; Best double couple: $M_0$3.23000×10^{17} NP1:ϕ_s255.00000°, δ76.00000°, λ-12.00000°. NP2: ϕ_s348.00000°, δ78.00000°, λ-166.00000°. Principal axes: T 2.4480, Plg2.0000°, Azm121.0000°; N 1.5700, Plg72.0000°, Azm27.0000°; P -4.0130, Plg18.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***20*** *10:02:07.8±0.2, 5158N×130.47W, h10km, mb5.2/152, MS5.3/110, MW5.6, MW5.7(PGC) Error ellipse: s-maj=5.0km s-min=1.8km az=50.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73; $M_{\theta\theta}$-3.56; $M_{\phi\phi}$2.84; $M_{r\theta}$0.17; $M_{\theta\phi}$0.18; $M_{\phi r}$-0.31; Best double couple: $M_0$3.20000×10^{17} NP1:ϕ_s136.00000°, δ86.00000°, λ173.00000°. NP2:ϕ_s227.00000°, δ83.00000°, λ4.00000°. Principal axes: T 2.8900, Plg8.0000°, Azm91.0000°; N 0.6800, Plg82.0000°, Azm288.0000°; P -3.5700, Plg2.0000°, Azm182.0000°;*

NEIC Felt [III] at Bella Bella.

BJI ***20*** *10:02:08.0, 5222N×131.03W, h10km, mB5.3, mb4.9, Ms5.7, Msz5.4*

MOS ***20*** *10:02:08.8±0.9, 5146N×130.63W, h33km, mb5.3/100, MS5.3/60, Error ellipse: s-maj=7.1km s-min=3.4km az=97.8*

ISC 20 10:02:07.6±0.1, 5161N±001×13042W±003, h10km, (h26km±2.2km:pP-P), n889, σ1?02/899, mb5.1/191, MS5.3/171, 106C-104D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**1.27**	**320**	Pn	**Pn**	**10 02 26.7**	**-4.6**
BNB				Pg	**Pg**	**10 02 28.2**	**-3.7**
BNB				Sg	**Sg**	**10 02 45.9**	**-2.5**
BNB				Trac		10 02 50.6	
	comp=Z,427μm,0.3s						
BBB	**Bella Bella**	**1.54**	**67**	Pn	**Pn**	**10 02 33.4**	**-1.7**
	428nm,0.3s,baz=246,slow=15,SNR=1417						
BBB				Sn	**Sn**	**10 02 58.0**	**+2.8**
	5μm,0.3s,baz=297,slow=6.8,SNR=22						
BBB	**Bella Bella**	**1.54**	**67**	Pn	**Pn**	**10 02 34.5**	**-0.6**
BBB				Pg	**Pg**	**10 02 39.1**	**+2.0**
BBB				Sn	**Sn**	**10 02 58.0**	**+2.9**
BBB				Trac		10 03 07.1	
	comp=Z,56μm,0.6s						
BBB	**Bella Bella**	**1.54**	**67**	Pn	**Pn**	**10 02 34.5**	**-0.6**
BBB				Pg	**Pg**	**10 02 39.1**	**+2.0**
BBB				Sn	**Sn**	**10 02 58.0**	**+2.9**
HOLB	**Holberg**	**1.74**	**123**	Pn	**Pn**	**10 02 34.6**	**-3.2**
HOLB				Trac		10 03 09.7	
	comp=Z,15μm,0.4s						
MOBC	**Moresby Island**	**1.83**	**331**	Pn	**Pn**	**10 02 35.2**	**-3.8**
MOBC				Sg	**Sg**	**10 03 02.0**	**-4.3**
MOBC				Trac		10 03 06.7	
	comp=Z,25μm,0.5s						
BNAB	**Bonilla**	**1.89**	**356**	Pn	**Pn**	**10 02 38.1**	**-1.7**
BNAB				Pg	**Pg**	**10 02 41.9**	**-1.9**
BNAB				Sn	**Sn**	**10 03 02.4**	**-1.3**
BNAB				Sg	**Sg**	**10 03 06.9**	**-1.4**
BNAB				Trac		10 03 12.2	
	comp=Z,15μm,0.4s						
BNAB	**Bonilla**	**1.89**	**356**	Pn	**Pn**	**10 02 38.1**	**-1.7**
BNAB				Pg	**Pg**	**10 02 41.9**	**-1.9**
BNAB				Sn	**Sn**	**10 03 02.4**	**-1.3**
BNAB				Sg	**Sg**	**10 03 06.9**	**-1.4**
PHC	**Port Hardy**	**2.09**	**115**	Pn	**Pn**	**10 02 39.0**	**-3.7**
PHC				Pg	**Pg**	**10 02 46.3**	**-1.3**
PHC				Sg	**Sg**	**10 03 11.1**	**-3.7**
PHC				Trac		10 03 20.6	
	comp=Z,15μm,0.5s						
VIB	**Van Inlet**	**2.09**	**322**	Pn	**Pn**	**10 02 38.6**	**-4.1**
VIB				Sg	**Sg**	**10 03 09.8**	**-5.0**
VIB				Trac		10 03 14.1	
	comp=Z,6μm,0.5s						
BPBC	**Brooks Peninsu**	**2.22**	**130**	Pn	**Pn**	**10 02 40.3**	**-4.2**
BPBC				Sg	**Sg**	**10 03 14.6**	**-4.4**
BPBC				Trac		10 03 20.9	
	comp=Z,7μm,0.3s						
MAYB	**Maynard**	**2.38**	**119**	Pn	**Pn**	**10 02 44.8**	**-1.9**
MAYB				Trac		10 03 31.1	
	comp=Z,40μm,0.9s						
MASB	**Masset**	**2.59**	**339**	Pn	**Pn**	**10 02 48.7**	**-0.9**
MASB				Sg	**Sg**	**10 03 29.2**	**-1.7**
MASB				Trac		10 03 32.6	
	comp=Z,34nm,0.2s						
MASB	**Masset**	**2.59**	**339**	Pn	**Pn**	**10 02 48.7**	**-0.9**
MASB				Sg	**Sg**	**10 03 29.2**	**-1.7**
RUBB	**Prince Rupert**	**2.72**	**2**	Pn	**Pn**	**10 02 50.9**	**-0.5**
RUBB				Sg	**Sg**	**10 03 32.6**	**-2.4**
RUBB				Trac		10 03 37.5	
	comp=Z,21μm,0.5s						
EDB	**Eliza Dome**	**2.73**	**128**	Pn	**Pn**	**10 02 48.1**	**-3.3**
EDB				Sg	**Sg**	**10 03 27.1**	**-8.1**
EDB				Trac		10 03 58.0	
	comp=Z,5μm,0.8s						
NDB	**Naden**	**2.80**	**328**	Pn	**Pn**	**10 02 49.8**	**-2.6**
NDB				Sg	**Sg**	**10 03 32.6**	**-5.0**
NDB				Trac		10 03 39.9	
	comp=Z,58μm,1.2s						
WOSB	**Woss**	**2.84**	**119**	Pn	**Pn**	**10 02 50.9**	**-2.1**
WOSB				Sg	**Sg**	**10 03 33.0**	**-5.8**
WOSB				Trac		10 03 47.6	
	comp=Z,8μm,0.6s						
NCRB	**Newcastle Ridg**	**3.01**	**112**	Pn	**Pn**	**10 02 53.9**	**-1.4**
NCRB				Sg	**Sg**	**10 03 42.6**	**-1.7**
NCRB				Trac		10 03 46.7	
	comp=Z,5μm,0.6s						
GDR	**Gold River**	**3.34**	**122**	Pn	**Pn**	**10 02 57.6**	**-2.2**
GDR				Sg	**Sg**	**10 03 50.3**	**-4.6**
GDR				Trac		10 04 01.7	
	comp=Z,6μm,0.7s						
ETB	**Estevan Point**	**3.34**	**131**	Pn	**Pn**	**10 02 57.8**	**-2.0**
ETB				Trac		10 04 19.5	
	comp=Z,5μm,0.9s						
CBB	**Campbell River**	**3.58**	**114**	Pn	**Pn**	**10 03 02.3**	**-0.8**
CBB				Pg	**Pg**	**10 03 11.4**	**-4.7**
CBB				Sg	**Sg**	**10 03 59.2**	**-3.3**
CBB				Trac		10 04 04.7	
	comp=Z,8μm,1.1s						
BTB	**Buttle Lake**	**3.79**	**123**	Pn	**Pn**	**10 03 05.1**	**-1.0**
BTB				Sg	**Sg**	**10 04 04.3**	**-5.1**
BTB				Trac		10 04 14.2	
	comp=Z,6μm,0.7s						
OZB	**Mount Ozzard**	**4.13**	**128**	Pn	**Pn**	**10 03 08.4**	**-2.3**
OZB				Trac		10 04 45.3	
	comp=Z,2μm,0.8s						
CRAG	**Craig**	**4.18**	**338**	*e*P	**Pn**	**10 03 09.3**	**-2.2**
TXB	**Texada**	**4.26**	**114**	Pn	**Pn**	**10 03 10.1**	**-2.4**
TXB				Sg	**Sg**	**10 04 25.7**	**+1.2**
TXB				Trac		10 04 27.2	
	comp=Z,13μm,1.2s						
ALB	**Alberni**	**4.27**	**121**	Pn	**Pn**	**10 03 11.1**	**-1.6**
ALB				Sg	**Sg**	**10 04 18.6**	**-6.2**
ALB				Trac		10 04 45.7	
	comp=Z,5μm,1.1s						
MGB	**Mount Grey**	**4.51**	**123**	Pn	**Pn**	**10 03 15.1**	**-0.8**
MGB				Sg	**Sg**	**10 04 25.5**	**-6.9**
MGB				Trac		10 04 45.2	
	comp=Z,3μm,0.8s						
SHB	**Sechelt**	**4.63**	**113**	Pn	**Pn**	**10 03 16.4**	**-1.2**
SHB				Pg	**Pg**	**10 03 32.4**	**-3.9**
SHB				Sg	**Sg**	**10 04 29.4**	**-6.9**
SHB				Trac		10 04 42.2	
	comp=Z,5μm,0.8s						
FSB	**Fort Saint Jam**	**4.66**	**50**	Pn	**Pn**	**10 03 18.8**	**+0.8**
FSB				Sg	**Sg**	**10 04 37.0**	**-0.3**
FSB				Trac		10 04 45.4	
	comp=Z,14μm,1.1s						
NLLB	**Nanaimo Lost L**	**4.76**	**118**	Pn	**Pn**	**10 03 17.7**	**-1.6**
NLLB				Pg	**Pg**	**10 03 31.8**	**-6.9**
NLLB				Sg	**Sg**	**10 04 34.7**	**-5.6**
NLLB				Trac		10 04 51.3	
	comp=Z,2μm,0.8s						
PFB	**Port Renfrew**	**4.91**	**126**	Pn	**Pn**	**10 03 21.5**	**+0.1**
PFB				Trac		10 04 50.7	
	comp=Z,2μm,1.0s						
WSLR	**Whistler**	**4.98**	**104**	Pn	**Pn**	**10 03 23.4**	**+1.0**
WSLR				Pg	**Pg**	**10 03 41.9**	**-1.0**
WSLR				Sg	**Sg**	**10 04 40.1**	**-7.3**
WSLR				Trac		10 04 50.5	
	comp=Z,2μm,1.1s						
WPB	**Watts Point**	**4.99**	**110**	Pn	**Pn**	**10 03 21.4**	**-1.1**
WPB				Sg	**Sg**	**10 04 35.8**	**-12**
WPB				Trac		10 04 48.2	
	comp=Z,4μm,1.1s						
BIB	**Bowen Island**	**5.05**	**113**	Pn	**Pn**	**10 03 22.8**	**-0.6**
BIB				Sg	**Sg**	**10 04 43.3**	**-6.5**
BIB				Trac		10 04 48.3	
	comp=Z,3μm,1.0s						
GOBB	**Galiano Island**	**5.17**	**118**	Pn	**Pn**	**10 03 24.4**	**-0.7**
GOBB				Pg	**Pg**	**10 03 36.4**	**-10**
GOBB				Sg	**Sg**	**10 04 49.6**	**-4.0**
GOBB				Trac		10 05 04.7	
	comp=Z,8μm,1.3s						
LZB	**Mount Lazard**	**5.20**	**123**	Pn	**Pn**	**10 03 25.1**	**-0.3**
LZB				Pg	**Pg**	**10 03 38.0**	**-9.1**
LZB				Sg	**Sg**	**10 04 49.0**	**-5.6**
LZB				Trac		10 05 08.9	
	comp=Z,880nm,1.1s						
C03A	**Quillayute Air**	**5.27**	**132**	⇓P	**Pn**	**10 03 24.3**	**-2.1**
	baz=5.3						
C03A				⇓S	**Sn**	**10 04 27.0**	**-0.3**
	baz=5.3						
OTR	**Olympics--Tyee**	**5.29**	**130**	P	**Pn**	**10 03 26.5**	**-0.1**
PGC	**Sidney**	**5.38**	**121**	Pn	**Pn**	**10 03 28.1**	**+0.3**
PGC				Sg	**Sg**	**10 04 60.0**	**-0.2**
PGC				Trac		10 05 08.9	
	comp=Z,2μm,1.1s						
PGC	**Sidney**	**5.38**	**121**	*e*Pn	**Pn**	**10 03 26.0**	**-1.8**
	1μm,0.8s						
SNB	**Saturna Island**	**5.46**	**119**	Pn	**Pn**	**10 03 30.5**	**+1.6**
SNB				Sg	**Sg**	**10 05 00.2**	**-2.5**
SNB				Trac		10 05 11.3	
	comp=Z,681nm,1.1s						
LLLB	**Lillooet**	**5.47**	**97**	Pn	**Pn**	**10 03 31.0**	**+1.8**
LLLB				Pg	**Pg**	**10 03 47.5**	**-4.9**
LLLB				Sg	**Sg**	**10 04 55.9**	**-7.4**
LLLB				Trac		10 05 17.8	
	comp=Z,2μm,1.1s						
HNB	**Haney**	**5.53**	**112**	Pn	**Pn**	**10 03 29.1**	**-0.8**
HNB				Sg	**Sg**	**10 04 59.2**	**-5.9**
HNB				Trac		10 05 16.4	
	comp=Z,807nm,0.7s						
STW	**Striped Peak**	**5.57**	**126**	P	**Pn**	**10 03 35.5**	**+5.0**
VGZ	**Gonzales**	**5.58**	**122**	Pn	**Pn**	**10 03 30.6**	**-0.1**
VGZ				Sg	**Sg**	**10 05 02.2**	**-4.7**
VGZ				Trac		10 05 15.6	
	comp=Z,2μm,1.1s						
OCWA	**Octopus Mounta**	**5.60**	**131**	*e*Pn	**Pn**	**10 03 30.7**	**-0.2**
	463nm,0.9s						
B04A	**Port Angeles**	**5.72**	**126**	⇑P	**Pn**	**10 03 30.1**	**-2.5**
	baz=5.7,SNR=7.5						
A04A	**Legoe Bay, Lum**	**5.74**	**117**	⇓P	**Pn**	**10 03 31.2**	**-1.6**
	baz=5.7,SNR=13						
VDB	**Vedder Mountai**	**5.92**	**113**	Pn	**Pn**	**10 03 35.4**	**0.0**
VDB				Sg	**Sg**	**10 05 16.6**	**-1.2**
VDB				Trac		10 05 34.1	
	comp=Z,6μm,0.9s						
A05A	**Maple Falls**	**5.94**	**113**	⇓P	**Pn**	**10 03 34.0**	**-1.6**
	baz=5.9,SNR=28						
HOPB	**Hope**	**6.16**	**108**	Pn	**Pn**	**10 03 39.5**	**+0.9**
HOPB				Sg	**Sg**	**10 05 17.7**	**-7.6**
HOPB				Trac		10 05 25.6	
	comp=Z,2μm,0.9s						
SIT	**Sitka**	**6.16**	**334**	*e*P	**Pn**	**10 03 38.0**	**-0.6**
C04A	**Brinnon**	**6.21**	**126**	⇑P	**Pn**	**10 03 37.6**	**-1.7**
	baz=6.2						
D03A	**Wishkah Elem.**	**6.25**	**133**	⇑P	**Pn**	**10 03 37.9**	**-2.0**
	baz=6.2,SNR=17						
B05A	**Bryant**	**6.33**	**119**	⇓P	**Pn**	**10 03 39.2**	**-1.8**
	baz=6.3,SNR=45						
JCW	**Jim Creek**	**6.46**	**119**	P	**Pn**	**10 03 42.3**	**-0.4**
BMBC	**Bull Mountain**	**6.62**	**45**	Pn	**Pn**	**10 03 46.2**	**+1.4**
BMBC				Sg	**Sg**	**10 05 37.0**	**-2.9**
BMBC				Trac		10 05 50.5	
	comp=Z,7μm,1.1s						
D04A	**Dobbs Creek Ra**	**6.71**	**129**	⇓P	**Pn**	**10 03 44.3**	**-1.9**
	baz=6.7						
E03A	**Lebam**	**6.78**	**136**	⇑P	**Pn**	**10 03 45.3**	**-1.8**
	baz=6.8,SNR=13						
DLBC	**Dease Lake**	**6.84**	**2**	Pn	**Pn**	**10 03 49.7**	**+1.7**
	6.5nm,0.3s,baz=192,slow=14,SNR=102						
DLBC				Sn	**Sn**	**10 05 12.5**	**+6.6**
	9.1nm,0.3s,baz=196,slow=5.4,SNR=3.3						
DLBC				Lg		10 05 44.9	
	44nm,0.3s,baz=336,slow=16,SNR=12						
DLBC				LR	LR	10 06 31.2	
	comp=Z,42μm,20.7s,baz=185,slow=38						
DLBC	**Dease Lake**	**6.84**	**2**	Pn	**Pn**	**10 03 49.6**	**+1.7**
DLBC				Sg	**Sg**	**10 05 45.4**	**-1.8**
DLBC				Trac		10 05 54.5	
	comp=Z,1μm,1.1s						
DLBC	**Dease Lake**	**6.84**	**2**	*e*Pn	**Pn**	**10 03 49.8**	**+1.8**
DLBC				*e*S	**Sg**	**10 05 44.5**	**-2.7**
C05A	**Tolt Reservoir**	**6.89**	**121**	⇑P	**Pn**	**10 03 46.5**	**-2.2**
	baz=6.9						
D05A	**Enumclaw**	**7.06**	**126**	⇓P	**Pn**	**10 03 50.1**	**-0.8**
	baz=7.0,SNR=30						
E04A	**Onalaska**	**7.13**	**132**	⇓P	**Pn**	**10 03 49.8**	**-2.1**
	baz=7.1						
PNT	**Penticton**	**7.27**	**104**	Pn	**Pn**	**10 03 54.9**	**+1.1**
PNT				Pg	**Pg**	**10 04 20.9**	**-5.9**
PNT				Sg	**Sg**	**10 05 52.2**	**-8.7**
PNT				Trac		10 06 28.8	
	comp=Z,1μm,0.8s						
F03A	**Seaside**	**7.27**	**139**	⇑P	**Pn**	**10 03 52.6**	**-1.3**
	baz=7.3,SNR=7.0						
DOWB	**Downie Slide**	**7.42**	**86**	Pn	**Pn**	**10 03 58.9**	**+3.0**
DOWB				Sg	**Sg**	**10 06 03.3**	**-2.5**
DOWB				Trac		10 06 24.8	
	comp=Z,21μm,1.0s						
KOSW	**Kosmos**	**7.47**	**130**	P	**Pn**	**10 03 58.2**	**+1.6**
E05A	**Randle**	**7.61**	**128**	⇑P	**Pn**	**10 03 57.3**	**-1.2**
	baz=7.6,SNR=36						
LVP	**Lakeview Peak**	**7.66**	**133**	P	**Pn**	**10 04 00.0**	**+0.8**
TWW	**Teanaway**	**7.67**	**122**	P	**Pn**	**10 04 01.0**	**+1.6**
SLEB	**Sale Mountain**	**7.70**	**89**	Pn	**Pn**	**10 04 02.5**	**+2.7**
SLEB				Sg	**Sg**	**10 06 13.0**	**-1.8**
SLEB				Trac		10 06 39.5	
	comp=Z,2μm,1.1s						
F04A	**Amboy**	**7.76**	**134**	⇓P	**Pn**	**10 04 00.6**	**0.0**
	baz=7.7,SNR=16						
TBM	**Table Mountain**	**7.80**	**121**	P	**Pn**	**10 04 01.6**	**+0.5**
WTV	**Waterville**	**7.84**	**116**	P	**Pn**	**10 04 02.6**	**+0.9**
EBG	**Ellensburg**	**7.98**	**122**	P	**Pn**	**10 04 04.6**	**+1.0**
H02A	**Toledo**	**8.16**	**146**	⇑P	**Pn**	**10 04 06.0**	**-0.1**
	baz=8.1						
F05A	**White Salmon**	**8.24**	**131**	⇑P	**Pn**	**10 04 07.1**	**-0.1**
	baz=8.2						
G04A	**Mulino**	**8.30**	**137**	⇓P	**Pn**	**10 04 07.7**	**-0.3**
	baz=8.3,SNR=32						
SKAG	**Skagway**	**8.34**	**342**	*e*P	**Pn**	**10 04 10.2**	**+1.7**
H03A	**Soap Creek Ran**	**8.41**	**143**	P	**Pn**	**10 04 09.7**	**+0.1**
	baz=8.4,SNR=16						
FNBB	**Fort Nelson**	**8.43**	**27**	Pn	**Pn**	**10 04 11.3**	**+1.6**
FNBB				P		10 04 46.6	
FNBB				S	Sn	10 06 34.2	+49
FNBB				Trac		10 07 02.6	
	comp=Z,2μm,1.6s						
COR	**Corvallis**	**8.49**	**143**	Pn	**Pn**	**10 04 11.0**	**+0.4**
COR	**Corvallis**	**8.49**	**143**	*e*P	**Pn**	**10 04 11.0**	**+0.4**
COR				pmax	pmax		
	comp=Z,482nm,1.0s						
COR	**Corvallis**	**8.49**	**143**	*e*Pn	**Pn**	**10 04 11.0**	**+0.4**
	comp=Z,482nm,1.0s						
TDH	**Tom, Dick, Har**	**8.54**	**134**	P	**Pn**	**10 04 11.9**	**+0.7**
PLBC	**Pleasant Camp**	**8.55**	**339**	Pn	**Pn**	**10 04 10.4**	**-1.0**
PLBC				P		10 04 30.0	
PLBC				S	Sn	10 06 42.9	+55
G05A	**Wamic**	**8.79**	**133**	⇑P	**Pn**	**10 04 14.8**	**+0.1**
	baz=8.8						
WRD	**Warden**	**8.81**	**119**	P	**Pn**	**10 04 13.2**	**-1.7**
I02A	**Mapleton**	**8.81**	**147**	⇑P	**Pn**	**10 04 15.0**	**+0.1**
	baz=8.8						
H04A	**Detroit Lake**	**8.85**	**138**	⇓P	**Pn**	**10 04 14.9**	**-0.6**
	baz=8.8,SNR=20						
HAWA	**Hanford**	**8.86**	**122**	*e*Pn	**Pn**	**10 04 14.0**	**-1.6**
	comp=Z,2.6nm,0.7s						
I03A	**Eugene**	**9.03**	**145**	⇑P	**Pn**	**10 04 16.7**	**-1.2**
	baz=9.0,SNR=18						
NEW	**Newport**	**9.21**	**106**	Pn	**Pn**	**10 04 20.1**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=294,slow=12,SNR=23						
NEW				Lg		10 06 51.2	
	comp=Z,2.2nm,0.3s,baz=248,slow=22,SNR=4.1						
NEW				LR	LR	10 08 16.0	
	comp=Z,18μm,21.0s,baz=292,slow=40						
NEW	**Newport**	**9.21**	**106**	*e*P	**Pn**	**10 04 20.8**	**+0.4**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.3s						
NEW	**Newport**	**9.21**	**106**	*e*Pn	**Pn**	**10 04 20.8**	**+0.4**
	comp=Z,3.7nm,0.3s						
H05A	**Madras**	**9.29**	**135**	⇑P	**Pn**	**10 04 21.7**	**+0.2**
	baz=9.3						
WHY	**Whitehorse**	**9.40**	**346**	Pn	**Pn**	**10 04 23.4**	**+0.3**
WHY				S	Sn	10 07 00.2	+51
WHY				Trac		10 07 25.9	
	comp=Z,311nm,1.2s						
J02A	**Umpqua**	**9.46**	**148**	⇑P	**Pn**	**10 04 24.2**	**+0.4**
	baz=9.4,SNR=7.7						
I05A	**Bend**	**9.66**	**137**	⇑P	**Pn**	**10 04 25.8**	**-0.8**
	baz=9.6						
J03A	**Ideyld Park**	**9.66**	**146**	⇓P	**Pn**	**10 04 22.6**	**-4.1**
	baz=9.6,SNR=14						
K01A	**Sixes**	**9.69**	**153**	⇑P	**Pn**	**10 04 27.9**	**+0.9**
	baz=9.7						
K02A	**Glendale**	**10.02**	**149**	⇑P	**Pn**	**10 04 31.4**	**-0.2**
	baz=10.0,SNR=15						
HYT	**Haines Junctio**	**10.03**	**340**	Pn	**Pn**	**10 04 31.3**	**-0.5**
HYT				S	Sn	10 07 24.3	+60
HYT				Trac		10 07 50.0	
	comp=Z,415nm,1.1s						
I06A	**Prineville**	**10.30**	**134**	⇓P	**Pn**	**10 04 34.8**	**-0.5**
	baz=10,SNR=20						
HUMO	**Hull Mountain**	**10.34**	**148**	*e*Pn	**Pn**	**10 04 36.2**	**+0.3**
	comp=Z,121nm,1.0s						
HUMO				*e*Sn	**Sn**	**10 06 28.5**	**-3.4**
HUMO	**Hull Mountain**	**10.34**	**148**	⇓P	**Pn**	**10 04 36.5**	**+0.5**
	baz=10,SNR=26						
L02A	**Cave Junction**	**10.54**	**151**	⇓P	**Pn**	**10 04 39.4**	**+0.8**
	baz=10,SNR=27						
EDM	**Edmonton**	**10.55**	**75**	Pn	**Pn**	**10 04 40.7**	**+1.9**
EDM				S	Sn	10 07 45.2	+68
EDM				Trac		10 07 57.6	
	comp=Z,296nm,0.8s						
EDM	**Edmonton**	**10.55**	**75**	*e*Pn	**Pn**	**10 04 39.6**	**+0.8**
EDM				*e*Sn	**Sn**	**10 06 38.7**	**+1.6**
M01C	**Crescent City**	**10.68**	**154**	⇑P	**Pn**	**10 04 41.1**	**+0.6**
	baz=11						
K04A	**Chilquin**	**10.77**	**143**	⇓P	**Pn**	**10 04 42.9**	**+1.0**
	baz=11						
WALA	**Waterton Lakes**	**10.86**	**97**	Pn	**Pn**	**10 04 46.5**	**+3.4**
WALA				S	Sn	10 07 45.8	+61
WALA				Trac		10 08 26.2	
	comp=Z,266nm,1.1s						
WALA	**Waterton Lakes**	**10.86**	**97**	*e*Pn	**Pn**	**10 04 45.8**	**+2.7**
	comp=Z,0.1nm,0.5s						
J06A	**Christmas Vall**	**10.87**	**136**	⇑P	**Pn**	**10 04 43.5**	**+0.3**
	baz=11,SNR=17						
L04A	**Klamath Falls**	**11.10**	**145**	⇓P	**Pn**	**10 04 47.4**	**+1.1**
	baz=11						
K06A	**Valley Falls**	**11.20**	**138**	⇓P	**Pn**	**10 04 48.9**	**+1.3**
	baz=11,SNR=34						
YBH	**Yreka Blue Hor**	**11.21**	**149**	Pn	**Pn**	**10 04 48.2**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=342,slow=11,SNR=20						
YBH	**Yreka Blue Hor**	**11.21**	**149**	*e*P	**Pn**	**10 04 49.6**	**+1.8**
YBH				pmax	pmax		
	comp=Z,190nm,1.5s						
YBH	**Yreka Blue Hor**	**11.21**	**149**	*e*Pn	**Pn**	**10 04 49.6**	**+1.8**
	comp=Z,190nm,1.5s						
YBH	**Yreka Blue Hor**	**11.21**	**149**	⇑P	**Pn**	**10 04 49.2**	**+1.4**
	baz=11,SNR=16						
M04C	**Macdoel**	**11.46**	**146**	⇓P	**Pn**	**10 04 52.4**	**+1.2**
	baz=11,SNR=8.5						
M02C	**Callahan**	**11.47**	**150**	⇓P	**Pn**	**10 04 52.7**	**+1.3**
	baz=11						
JCC	**Jacoby Creek**	**11.66**	**155**	⇑P	**Pn**	**10 04 54.6**	**+0.5**
	baz=12						
K07A	**Rock Creek Ran**	**11.71**	**135**	⇑P	**Pn**	**10 04 55.6**	**+0.9**
	baz=12,SNR=31						
MSO	**Missoula**	**11.79**	**108**	*e*Pn	**Pn**	**10 04 56.1**	**+0.4**
	comp=Z,20nm,0.5s						
M03C	**McCloud**	**11.81**	**148**	⇑P	**Pn**	**10 04 57.3**	**+1.1**
	baz=12						
N02C	**Big Bar**	**11.86**	**153**	⇓P	**Pn**	**10 04 57.7**	**+1.0**
	baz=12						
MOD	**Modoc**	**11.93**	**141**	*e*Pn	**Pn**	**10 04 59.0**	**+1.4**
	comp=Z,295nm,1.7s						
M05C	**Lookout**	**12.07**	**145**	⇓P	**Pn**	**10 05 00.7**	**+1.0**
	baz=12,SNR=14						
CHMT	**Chamberlain Mo**	**12.15**	**106**	*e*Pn	**Pn**	**10 05 01.6**	**+0.8**
WVOR	**Wild Horse Val**	**12.19**	**134**	*e*P	**Pn**	**10 05 02.4**	**+1.1**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WVOR	**Wild Horse Val**	**12.19**	**134**	*e*Pn	**Pn**	**10 05 02.4**	**+1.1**
	comp=Z,3.5nm,0.3s						
WDC	**Whiskeytown Da**	**12.31**	**151**	*e*P	**Pn**	**10 05 03.9**	**+1.0**
WDC				pmax	pmax		
	comp=Z,201nm,1.4s						
WDC	**Whiskeytown Da**	**12.31**	**151**	*e*Pn	**Pn**	**10 05 03.9**	**+1.1**
	comp=Z,201nm,1.4s						
WDC	**Whiskeytown Da**	**12.31**	**151**	⇑P	**Pn**	**10 05 04.0**	**+1.1**
	baz=12,SNR=11						
O01C	**Eel River Cons**	**12.36**	**156**	⇓P	**Pn**	**10 05 05.4**	**+1.8**
	baz=12						
HATC	**Hat Creek Radi**	**12.44**	**147**	⇓P	**Pn**	**10 05 05.8**	**+1.1**
	baz=12,SNR=9.4						
M06C	**Likely Place G**	**12.46**	**143**	⇓P	**Pn**	**10 05 06.2**	**+1.3**
	baz=12,SNR=38						
O02C	**Red Bluff**	**12.60**	**152**

YKA LR LR 10 11 25.9
M10A I.L. Ranch, Tu 13.87 131 ⇑P Pn 10 05 24.8 +0.5
baz=14,SNR=21
YKW3 Yellowknife Ar 13.88 32 Pn **Pn 10 05 23.6 -0.8**
YKW3 ⇓Pn **Pn 10 05 23.7 -0.7**
YKW3 S 10 09 25.7
YKW3 S 10 09 26.0
YKW3 Trac 10 09 35.4
comp=Z,293nm,0.9s
YKW3 Trac 10 09 55.1
comp=Z,2µm,1.4s
YKW3 Yellowknife Ar 13.88 32 *e*Pn **Pn 10 05 23.6 -0.8**
MNRC McLaughlin Nat 13.91 153 ⇑P Pn 10 05 25.9 +1.2
baz=14
O07A Toulon 13.97 141 ⇓P Pn 10 05 26.7 +1.1
baz=14,SNR=31
P06A Stead Airport, 14.00 144 ⇑P Pn 10 05 27.3 +1.3
baz=14
P05C Yuba Gap, Truc 14.09 147 ⇑P Pn 10 05 26.7 -0.5
baz=14,SNR=8.3
SML Sawmill 14.12 323 P **Pn 10 05 27.5 -0.1**
SLKM Skilak Lake 14.15 317 *e*P **Pn 10 05 28.6 +0.6**
O08A Rochester Mine 14.15 138 ⇑P Pn 10 05 28.4 +0.3
baz=14
PAHR Pah Rah Range 14.17 143 *e*Pn **Pn 10 05 28.9 +0.6**
comp=Z,172nm,1.3s
KDAK Kodiak Island 14.19 304 Pn **Pn 10 05 27.5 -1.0**
comp=Z,0.6nm,0.3s,baz=173,slow=3.7,SNR=6.1
KDAK LR LR 10 09 36.8
comp=Z,22µm,20.4s,baz=86,slow=32
KDAK Kodiak Island 14.19 304 *e*Pn **Pn 10 05 28.4 -0.1**
comp=Z,69nm,1.4s
Q04C Lincoln 14.26 150 ⇑P Pn 10 05 28.9 -0.6
baz=14
PMR Palmer 14.29 322 P **Pn 10 05 29.4 -0.6**
PMR pmax pmax
comp=Z,53nm,1.2s
PMR Palmer 14.29 322 P **Pn 10 05 29.4 -0.6**
comp=Z,53nm,1.2s
M11A Holland Ranch, 14.30 130 ⇓P Pn 10 05 30.4 +0.4
baz=14,SNR=26
QLMT Earthquake Lak 14.34 111 Pn **Pn 10 05 31.5 +0.9**
WCN Washoe City 14.39 145 ⇓P Pn 10 05 31.5 +0.3
baz=14,SNR=8.6
CVS Carmenet Viney 14.40 154 ⇓P Pn 10 05 30.9 -0.5
baz=14
MCCM Marconi Confer 14.48 156 ⇑P Pn 10 05 31.4 -1.1
baz=14
P07A Fallon 14.50 142 ⇓P Pn 10 05 33.2 +0.4
baz=14
N10A Dunphy 14.52 133 ⇓P Pn 10 05 32.9 -0.1
baz=14
LAVA Lava Cap Winer 14.54 148 ⇓P Pn 10 05 33.1 -0.2
baz=14,SNR=7.2
O09A Fish Creek Ran 14.66 136 ⇓P Pn 10 05 35.1 +0.1
baz=15
P08A Dixie Valley 14.69 139 ⇓P Pn 10 05 35.5 +0.1
baz=15
YMR Madison River 14.71 111 *e*Pn **Pn 10 05 37.4 +1.8**
comp=Z,387nm,1.0s
M12A Wells 14.73 128 ⇑P Pn 10 05 36.4 +0.4
baz=15,SNR=30
N11A Elko Archery C 14.79 131 ⇓P Pn 10 05 35.7 -1.1
baz=15
R05C Kirkwood Meado 14.81 147 ⇑P Pn 10 05 36.2 -0.9
baz=15
GCMT Greycliff 14.87 105 *e*Pn **Pn 10 05 39.9 +2.1**
FARB Farallon Islan 14.87 156 ⇑P Pn 10 05 36.9 -0.9
baz=15
YFT Old Faithful 14.91 111 *e*Pn **Pn 10 05 42.3 +3.9**
R04C Big Horse Ranc 14.93 150 ⇓P Pn 10 05 36.9 -1.7
baz=15
BDM Black Diamond 14.93 153 ⇓P Pn 10 05 37.9 -0.8
baz=15
Q07A Schurz 15.05 143 ⇑P Pn 10 05 40.7 +0.3
baz=15
ELK Elko 15.09 130 *e*P **Pn 10 05 40.4 -0.4**
ELK pmax pmax
comp=Z,63nm,0.9s
ELK Elko 15.09 130 *e*P **Pn 10 05 40.4 -0.4**
comp=Z,63nm,0.9s
LKWY Lake 15.10 110 *e*P **Pn 10 05 42.5 +1.6**
LKWY pmax pmax
comp=Z,314nm,1.0s
LKWY Lake 15.10 110 *e*P **Pn 10 05 42.5 +1.6**
comp=Z,314nm,1.0s
N12A Wells–Clov Va 15.10 129 ⇓P Pn 10 05 40.9 0.0
baz=15,SNR=32
M13A Montello 15.15 126 ⇑P Pn 10 05 41.5 -0.1
baz=15,SNR=11
IMW Indian Meadow 15.18 113 *e*P **Pn 10 05 43.0 +1.0**
comp=Z,266nm,0.9s
R06C Coleville 15.19 145 ⇓P Pn 10 05 42.1 -0.1
baz=15
WENL Wente Brothers 15.27 153 ⇑P Pn 10 05 43.3 +0.1
baz=15
CMB Columbia Colle 15.31 149 P **Pn 10 05 42.8 -0.9**
CMB pmax pmax
comp=Z,158nm,1.6s
CMB Columbia Colle 15.31 149 P **Pn 10 05 42.8 -0.9**
comp=Z,158nm,1.6s
CMB Columbia Colle 15.31 149 ⇓P Pn 10 05 43.1 -0.6
baz=15
JRSC Jasper Ridge 15.34 155 ⇓P Pn 10 05 43.0 -1.2
baz=15
O11A Cowboy Ranch, 15.38 133 ⇓P Pn 10 05 44.4 -0.2
baz=15,SNR=42
Q08A Gabbs 15.46 141 ⇑P Pn 10 05 45.6 -0.1
baz=15,SNR=25
N13A West Wendover 15.51 128 ⇑P Pn 10 05 46.2 -0.1
baz=16,SNR=9.5
S04C Ingram Canyon, 15.51 152 ⇓P Pn 10 05 44.8 -1.5
baz=16
REDW Red Top Meadow 15.56 114 *e*P **Pn 10 05 48.6 +1.7**
comp=Z,641nm,1.2s
HVU Hansel Valley 15.56 122 *e*P **Pn 10 05 48.0 +1.0**
HVU pmax pmax
comp=Z,203nm,1.4s
HVU Hansel Valley 15.56 122 *e*P **Pn 10 05 48.0 +1.0**
comp=Z,202nm,1.4s
MCK McKinley 15.59 328 *e*P **Pn 10 05 54.0 +6.7**
MCK pmax pmax
comp=Z,36nm,0.9s
MCK McKinley 15.59 328 *e*P **Pn 10 05 54.0 +6.6**
comp=Z,36nm,0.9s
BNLO Ben Lomond 15.62 155 ⇓P Pn 10 05 48.5 +0.8
baz=16
S06C San Francisco 15.63 147 ⇓P Pn 10 05 47.4 -0.4
baz=16
NVAR Mina Array Bea 15.69 142 Pn **Pn 10 05 48.4 -0.3**
comp=Z,0.2nm,0.3s,baz=328,slow=10,SNR=59
R07C Lee Vining 15.72 145 ⇓P Pn 10 05 49.1 +0.1
baz=16,SNR=7.7
MNV Mina 15.75 142 *e*P **Pn 10 05 49.3 -0.1**
MNV pmax pmax
comp=Z,117nm,1.2s
MNV Mina 15.75 142 *e*P **Pn 10 05 49.3 -0.1**
comp=Z,117nm,1.2s
Q09A Carvers 15.79 139 ⇓P Pn 10 05 50.2 +0.2
baz=16,SNR=16
AHID Auburn Hatcher 15.80 116 *e*P **Pn 10 05 53.0 +2.9**
comp=Z,360nm,1.4s
P11A Circle Ranch, 15.81 134 ⇑P Pn 10 05 49.6 -0.5
baz=16
R08A Mina 15.84 142 ⇓P Pn 10 05 50.7 +0.1
baz=16,SNR=20
S05C Merced 15.95 149 ⇑P Pn 10 05 52.1 +0.1
baz=16
PACP Pacheco Peak 15.98 153 ⇓P Pn 10 05 51.3 -1.1
baz=16
BGU Big Grassy Mou 16.05 125 *e*P **Pn 10 05 53.5 +0.2**
COLA College 16.06 332⇑ *e*P **Pn 10 05 55.2 +1.7**
SPUT South Promonto 16.07 123 *e*P **Pn 10 05 54.9 +1.3**
SAO San Andreas Ge 16.16 153 *e*P **Pn 10 05 53.2 -1.6**
SAO pmax pmax
comp=Z,139nm,1.4s
SAO San Andreas Ge 16.16 153 *e*P **Pn 10 05 53.2 -1.6**
comp=Z,139nm,1.4s
MLAC Mammoth Lakes 16.20 145 ⇑P Pn 10 05 56.1 +0.8
baz=16
P12A McGill 16.25 132 ⇑P Pn 10 05 55.2 -0.7
baz=16,SNR=33
T05C Eagle Field, D 16.26 151 ⇓P Pn 10 05 55.9 -0.2
baz=16
KCC Kaiser Creek 16.31 147 ⇓P Pn 10 05 56.5 -0.1
baz=16
HWUT Hardware Ranch 16.32 120 *e*P **Pn 10 05 57.7 +0.8**
comp=Z,156nm,1.1s
Q11A Duckwater 16.42 135 ⇓P Pn 10 05 58.1 -0.1
baz=16,SNR=64
T06C Millerton Lake 16.46 148 ⇑P Pn 10 05 58.0 -0.6
baz=16
HAST Hastings Reser 16.48 154 ⇓P Pn 10 05 58.2 -0.7
baz=16
LAO LASA Array 16.55 98 *e*P **Pn 10 05 59.8 0.0**
comp=Z,34nm,1.3s
S08C White Mtn Res 16.56 144 ⇓P Pn 10 06 00.0 +0.2
baz=16,SNR=21
BW06 Boulder Array 16.67 114 *e*P **Pn 10 06 02.7 +1.5**
comp=Z,550nm,1.3s
PDAR Pinedale Array 16.67 114 Pn **Pn 10 06 02.7 +1.5**
comp=Z,1.1nm,0.3s,baz=311,slow=6.0,SNR=149
PDAR Lg 10 10 46.3
comp=Z,0.0nm,0.3s,baz=315,slow=18,SNR=3.5
PDAR LR LR 10 12 45.1
comp=Z,7µm,19.7s,baz=313,slow=38
DUG Dugway 16.70 126 *e*P **Pn 10 06 01.3 -0.3**
DUG pmax pmax
comp=Z,290nm,1.2s
DUG Dugway 16.70 126 *e*P **Pn 10 06 01.2 -0.4**
comp=Z,290nm,1.2s
NOQ North Oquirrh 16.71 124 *e*P **Pn 10 06 03.0 +1.2**
comp=Z,390nm,1.4s
S09A Goldfield 16.73 141 P **Pn 10 06 02.1 +0.1**
baz=17,SNR=69
U04C Hernandez Rese 16.73 152 ⇑P Pn 10 06 02.9 +0.9
baz=17,SNR=7.1
TCUT Toone Canyon 16.75 121 *e*P **Pn 10 06 03.6 +1.3**
SVW2 Sparrevohn 16.76 314 *e*P **Pn 10 06 01.1 -1.3**
INK Inuvik 16.82 356 Pn **Pn 10 06 03.9 +0.8**
comp=Z,0.1nm,0.3s,baz=172,slow=11,SNR=17
INK Lg 10 10 55.0
comp=Z,0.1nm,0.3s,baz=252,slow=19,SNR=2.7
INK Inuvik 16.82 356 Pn **Pn 10 06 04.3 +1.2**
INK S 10 11 00.1
INK Trac 10 11 27.9
comp=Z,64nm,1.5s
INK Inuvik 16.82 356 *e*P **Pn 10 06 04.5 +1.4**
comp=Z,0.2nm,1.3s
CTU Camp Tracy 16.88 123 *e*P **Pn 10 06 05.0 +1.1**
comp=Z,74nm,1.3s
V03C Hunter Liggett 16.91 154 ⇑P Pn 10 06 04.0 -0.4
baz=17
TIN Tinemaha 16.93 145 ⇑P Pn 10 06 04.9 +0.4
baz=17
U05C Westside ANR, 16.95 150 ⇑P Pn 10 06 04.9 +0.1
baz=17
PKD Parkfield 17.18 152 ⇓P Pn 10 06 08.1 +0.4
baz=17,SNR=8.8
NLU North Lily Min 17.25 125 *e*P **Pn 10 06 08.4 -0.2**
FFC Flin Flon 17.28 68 Pn **Pn 10 06 07.5 -1.4**
comp=Z,762nm,1.3s,SNR=32
FFC Flin Flon 17.28 68 *e*P **Pn 10 06 07.0 -1.9**
FFC pmax pmax
comp=Z,243nm,1.0s
FFC Flin Flon 17.28 68 *e*P **Pn 10 06 07.0 -1.9**
comp=Z,243nm,1.0s
DAU Daniels Canyon 17.34 123 *e*P **Pn 10 06 10.2 +0.5**
V04C Ramage Ranch, 17.38 153 ⇓P Pn 10 06 10.3 +0.2
baz=17
MPU Maple Canyon 17.43 124 *e*P **Pn 10 06 12.4 +1.6**
comp=Z,53nm,1.2s
V05C Boulder Hill, 17.45 150 ⇑P Pn 10 06 11.5 +0.5
baz=17
CWC Cottonwood Cre 17.54 145 ⇑P Pn 10 06 12.3 +0.2
baz=18
TTA Tatalina 17.74 320 *e*P **Pn 10 06 13.2 -1.4**
TTA pmax pmax
comp=Z,151nm,1.3s
TTA Tatalina 17.74 320 *e*P **Pn 10 06 13.2 -1.4**
comp=Z,151nm,1.3s
TPNV Topopah Spring 17.78 140 *e*P **Pn 10 06 15.5 +0.4**
TPNV pmax pmax
comp=Z,139nm,1.1s
TPNV Topopah Spring 17.78 140 *e*P **Pn 10 06 15.5 +0.4**
comp=Z,139nm,1.1s
ISA Isabella 18.10 147 ⇑P Pn 10 06 19.5 +0.4
baz=18,SNR=8.5
TMUT Trail Mountain 18.19 125 *e*P **Pn 10 06 20.9 +0.7**
ARUT Antelope Range 18.29 132 *e*P **Pn 10 06 23.2 +1.8**
MSU Marysvale 18.31 129 *e*P **Pn 10 06 22.0 +0.4**
CCUT Cedar City 18.52 133 *e*P **Pn 10 06 23.7 -0.5**
SRU San Rafael 18.68 124⇑ *e*P **Pn 10 06 26.4 +0.2**
SRU pmax pmax
comp=Z,90nm,0.9s
SRU San Rafael 18.68 124⇑ *e*P **Pn 10 06 26.4 +0.3**
comp=Z,90nm,0.9s
RWWY Rawlins 18.70 113 *e*P **Pn 10 06 26.9 +0.5**
comp=Z,162nm,1.2s
SBC Santa Barbara 18.83 152 ⇓P Pn 10 06 27.7 -0.3
baz=19
OSI Osito Adit 18.97 149 ⇓P Pn 10 06 28.9 -0.9
baz=19
GSC Goldstone 19.01 144 ⇓P Pn 10 06 30.0 -0.2
baz=19,SNR=20
V11A Goodsprings 19.07 140 ⇑P Pn 10 06 30.7 -0.2
baz=19
TUQ Turquoise Mtn. 19.23 142 ⇓P Pn 10 06 31.8 -1.0
baz=19,SNR=10
W12A Cal Nev Ari 19.76 140 ⇑P Pn 10 06 37.9 -1.3
baz=20
FMP Fort Macarthur 19.95 149 ⇑P Pn 10 06 39.4 -1.9
baz=20
PHWY Pilot Hill 19.96 111 *e*P **Pn 10 06 39.8 -1.7**
SNCC San Nicolas Is 20.00 152 ⇓P Pn 10 06 40.5 -1.5
baz=20
SMCO Snowmass 20.53 118 *e*P **P 10 06 47.0 +1.1**
comp=Z,156nm,1.2s
W14A Seligman 20.59 136 ⇑P P 10 06 46.7 0.0
baz=21,SNR=38
PFO Pinyon Flat Ob 20.66 145 Pn **P 10 06 48.5 +1.1**
comp=Z,265nm,0.9s,SNR=12
PFO Pinyon Flat Ob 20.66 145 *e*P **P 10 06 48.7 +1.3**
PFO pmax pmax
comp=Z,169nm,1.6s
PFO MLR MLR
comp=Z,9µm,20.0s,MS5.1
PFO Pinyon Flat Ob 20.66 145 *e*P **P 10 06 48.7 +1.3**
comp=Z,169nm,1.6s
PFO LR LR
comp=Z,9µm,20.0s,MS5.1
PFO Pinyon Flat Ob 20.66 145 ⇓P P 10 06 46.4 -1.0
baz=21,SNR=12
X13A Yucca 20.80 138 ⇑P P 10 06 48.9 -0.1
baz=21
ISCO Idaho Springs 20.86 115 *e*P **P 10 06 49.8 +0.2**
ISCO pmax pmax
comp=Z,206nm,1.3s
ISCO MLR MLR
comp=Z,15µm,22.0s,MS5.3
ISCO Idaho Springs 20.86 115 *e*P **P 10 06 49.8 +0.2**
comp=Z,206nm,1.3s
ISCO LR LR
comp=Z,15µm,22.0s,MS5.3
W15A Williams 20.97 135 ⇓P P 10 06 51.0 +0.2
baz=21,SNR=15
109C Camp Elliot, M 21.09 147 ⇓P P 10 06 51.9 -0.1
baz=21,SNR=8.8
MVCO Mesa Verde 21.16 124 *e*P **P 10 06 52.2 -0.6**
Y12C Blythe 21.26 141 ⇑P P 10 06 53.8 -0.1
baz=21,SNR=18
X14A Yava 21.30 137 P **P 10 06 54.2 -0.1**
baz=21,SNR=44
Y13A Salome 21.48 140 ⇑P P 10 06 55.8 -0.5
baz=22,SNR=27
X15A Humboldt 21.57 135 ⇑P P 10 06 56.6 -0.6
baz=22,SNR=49
ULM Lac du Bonnet 21.70 80 P **P 10 06 57.5 -1.1**
comp=Z,151nm,1.2s,mb5.3,baz=286,slow=11,SNR=65
ULM Lg 10 13 30.9
comp=Z,21nm,1.1s,baz=41,slow=16,SNR=3.0
ULM LR LR 10 16 40.2
comp=Z,3µm,20.6s,MS4.6,baz=106,slow=40
ULM Lac du Bonnet 21.70 80 Pn **P 10 06 57.7 -1.0**
ULM S 10 13 34.2
ULM Trac 10 14 04.9
comp=Z,61nm,1.4s
ULM Lac du Bonnet 21.70 80 P **P 10 06 57.5 -1.1**
ULM Lg 10 13 30.9
ULM LR LR 10 16 40.2
Y14A Wickenburg 21.71 138 ⇓P P 10 06 58.5 -0.2
baz=22,SNR=37
FCC Fort Churchill 21.72 57 Pn **P 10 06 59.4 +0.6**
FCC S 10 13 25.8
FCC Trac 10 13 43.6
comp=Z,175nm,1.2s
FCC Fort Churchill 21.72 57 *e*P **P 10 07 00.1 +1.2**
comp=Z,0.2nm,1.4s
GLA Glamis 21.76 142 ⇑P P 10 06 59.1 -0.1
baz=22,SNR=67
UNV Unalaska Valle 21.82 290 PFAKE 10 07 10.0 +10
UNV LR LR
comp=Z,16µm,21.0s,MS5.4
Z14A Wintersburg 22.23 138 ⇑P P 10 07 04.2 -0.2
baz=22,SNR=6.1
SDCO Great Sand Dun 22.36 119 PFAKE 10 07 20.0 +14
SDCO LR LR
comp=Z,19µm,19.0s,MS5.5
115A Sonoran Desert 23.10 138 ⇑P P 10 07 13.3 -0.3
baz=23,SNR=19
116A Eloy 23.45 137 ⇓P P 10 07 17.1 -0.1
baz=23,SNR=9.3
TNA Tin City 23.55 321 *e*P **P 10 07 19.4 +1.1**
comp=Z,56nm,1.4s,mb4.8
TNA LR LR
comp=Z,5µm,19.0s,MS5.0
ECSD EROS,Sioux Fal 23.92 96 *e*P **P 10 07 21.2 -0.5**
ANMO Albuquerque 23.95 125 P **P 10 07 21.5 -0.4**
comp=Z,9.1nm,0.9s,mb4.2,baz=326,slow=10,SNR=30
ANMO LR LR 10 17 15.7
comp=Z,5µm,18.3s,MS5.0,baz=317,slow=38
ANMO Albuquerque 23.95 125 *e*P **P 10 07 21.2 -0.7**
ANMO pmax pmax
comp=Z,49nm,1.0s
ANMO MLR MLR
comp=Z,6µm,22.0s
ANMO Albuquerque 23.95 125 *e*P **P 10 07 21.2 -0.7**
comp=Z,49nm,1.0s,mb4.9
ANMO LR LR
comp=Z,6µm,22.0s,MS5.0
LAZ Ladron 24.04 127 *e*P **P 10 07 22.3 -0.4**
TUC Tucson 24.06 136 *e*P **P 10 07 22.4 -0.5**
TUC pmax pmax
comp=Z,20nm,0.9s,mb4.5
TUC MLR MLR
comp=Z,8µm,19.0s,MS5.2
TUC Tucson 24.06 136 *e*P **P 10 07 22.4 -0.5**
comp=Z,20nm,0.9s,mb4.5
TUC LR LR
comp=Z,8µm,19.0s,MS5.2
LENM Lemitar 24.31 127 *e*P **P 10 07 26.7 +1.5**
LPM Los Pinos Moun 24.36 126 *e*P **P 10 07 26.9 +1.2**
Y22C IRIS PASSCAL I 24.41 127 ⇓P P 10 07 26.2 +0.1
baz=24
BNM Barren Site 24.49 126 *e*P **P 10 07 26.6 -0.3**
GAMB Gambell 24.69 315 *e*P **P 10 07 30.0 +1.4**
EYMN Ely 25.20 83 *e*P **P 10 07 33.3 0.0**
comp=Z,330nm,1.2s,mb5.7
EYMN LR LR
comp=Z,5µm,20.0s,MS5.0
AMTX Amarillo 26.55 118 *e*P **P 10 07 45.2 -0.3**
comp=Z,60nm,0.8s,mb5.2
AMTX LR LR
comp=Z,13µm,21.0s,MS5.4
SCIA State Center 27.01 96 *e*P **P 10 07 50.2 +0.5**
MNTX Cornudas Mount 27.08 128 *e*P **P 10 07 49.7 -0.7**
comp=Z,58nm,1.5s,mb4.9
MNTX LR LR
comp=Z,7µm,21.0s,MS5.2
RES Resolute Bay 27.31 20 Pn **P 10 07 54.9 +2.6**
RES S 10 16 25.4
RES S 10 16 31.6
RES Trac 10 17 01.3
comp=Z,58nm,1.1s
RES Resolute Bay 27.31 20 *e*P **P 10 07 54.8 +2.4**
RES pmax pmax
comp=Z,131nm,1.5s,mb5.2
RES Resolute Bay 27.31 20 *e*P **P 10 07 54.8 +2.4**
comp=Z,131nm,1.5s,mb5.2
LTX Lajitas 29.86 128 *e*P **P 10 08 15.7 +0.6**
LTX MLR MLR
comp=Z,6µm,19.0s,MS5.3
CCM Cathedral Cave 30.52 101 *e*P **P 10 08 19.9 -1.0**
CCM pmax pmax
comp=Z,37nm,1.0s,mb5.2
CCM MLR MLR
comp=Z,1µm,19.0s,MS4.7
CCM Cathedral Cave 30.52 101 *e*P **P 10 08 19.9 -1.0**
comp=Z,37nm,1.0s,mb5.2
CCM LR LR
comp=Z,1µm,19.0s,MS4.7
JCT Junction City 30.93 121 *e*P **P 10 08 24.0 -0.5**
JCT pmax pmax
comp=Z,34nm,0.7s,mb5.3
JCT MLR MLR
comp=Z,11µm,19.0s,MS5.5
JCT Junction City 30.93 121 *e*P **P 10 08 24.0 -0.5**
comp=Z,34nm,0.7s,mb5.3
JCT LR LR
comp=Z,11µm,19.0s,MS5.5
FVM French Village 31.06 100 *e*P **P 10 08 24.6 -1.1**
FVM pmax pmax
comp=Z,30nm,1.0s,mb5.1
FVM French Village 31.06 100 *e*P **P 10 08 24.6 -1.1**
comp=Z,30nm,1.0s,mb5.1
MIAR Mount Ida 31.44 108 *e*P **P 10 08 30.0 +0.9**
MIAR pmax pmax
comp=Z,27nm,0.9s,mb5.1
MIAR MLR MLR
comp=Z,4µm,19.0s,MS5.1
MIAR Mount Ida 31.44 108 *e*P **P 10 08 30.0 +0.9**
comp=Z,27nm,0.9s,mb5.1
MIAR LR LR
comp=Z,4µm,19.0s,MS5.1
PARMO Parma 32.32 101 *e*P **P 10 08 36.8 0.0**
USIN University of 32.77 98 *e*P **P 10 08 40.7 -0.1**
comp=Z,41nm,0.9s,mb5.4
NATX Nacogdoches 32.81 113 PFAKE 10 08 50.0 +9.0
NATX LR LR
comp=Z,4µm,21.0s,MS5.1
HKT Hockley 33.50 117 *e*P **P 10 08 47.7 +0.6**
HKT pmax pmax
comp=Z,78nm,1.6s,mb5.4
HKT MLR MLR
comp=Z,11µm,20.0s,MS5.6
HKT Hockley 33.50 117 *e*P **P 10 08 47.7 +0.6**
comp=Z,78nm,1.6s,mb5.4
HKT LR LR
comp=Z,11µm,20.0s,MS5.6
WVT Waverly 33.84 100 *e*P **P 10 08 49.5 -0.6**
WVT pmax pmax
comp=Z,17nm,1.0s,mb4.9
WVT MLR MLR
comp=Z,7µm,19.0s,MS5.4
WVT Waverly 33.84 100 *e*P **P 10 08 49.5 -0.6**
comp=Z,17nm,1.0s,mb4.9
WVT LR LR
comp=Z,7µm,19.0s,MS5.4
BILL Bilibino 33.93 323 *e*P **P 10 08 51.3 +0.5**
BILL pmax pmax
comp=Z,56nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,4µm,19.0s,MS5.2
BILL Bilibino 33.93 323 *e*P **P 10 08 51.3 +0.4**
comp=Z,56nm,1.3s,mb5.3
BILL LR LR
comp=Z,4µm,19.0s,MS5.2
OXF Oxford 33.96 104 *e*P **P 10 08 50.2 -0.9**
OXF pmax pmax
comp=Z,75nm,0.7s,mb5.7
OXF MLR MLR
comp=Z,588nm,21.0s,MS4.3
OXF Oxford 33.96 104 *e*P **P 10 08 50.2 -0.9**
comp=Z,75nm,0.7s,mb5.7
OXF LR LR
comp=Z,588nm,21.0s,MS4.3
ACSO Alum Creek Sta 34.33 90 *e*P **P 10 08 53.8 -0.5**
comp=Z,23nm,1.1s,mb5.0
ACSO LR LR
comp=Z,1µm,22.0s,MS4.6
PLAL Pickwick Lake 34.45 102 *e*P **P 10 08 53.6 -1.8**
comp=Z,22nm,0.7s,mb5.2
PLAL LR LR
comp=Z,936nm,20.0s,MS4.5
ERPA Erie 35.13 85 PFAKE 10 09 10.0 +8.8
ERPA LR LR
comp=Z,5µm,20.0s,MS5.2
SWET Sewanee 35.61 100 *e*P **P 10 09 02.1 -3.2**
CPCT Cooper Cave 36.32 98⇑ *e*P **P 10 09 11.4 -0.1**
CPCT *e*pP pP 10 09 20.0 +5.4
CPCT *e*PP PP 10 10 33.8 -0.2

ALE	**Alert**	**36.33**	**12**	P	**P**	**10 09 11.9**	**+0.4**
	comp=Z,116nm,1.0s,mb5.8,SNR=15						
LRAL	**Lakeview Retre**	**36.43**	**104**	*e*P	**P**	**10 09 11.6**	**-0.8**
	comp=Z,22nm,1.0s,mb5.0						
LRAL				LR	LR		
	comp=Z,5µm,21.0s,MS5.2						
MCWV	**Mont Chateau**	**36.62**	**89**	PFAKE		10 09 30.0	+16
MCWV				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
MYNC	**Murphy**	**36.81**	**98**	PFAKE		10 09 30.0	+14
MYNC				LR	LR		
	comp=Z,7µm,21.0s,MS5.4						
KIP	**Kipapa**	**36.99**	**226**	PFAKE		10 09 30.0	+13
KIP				LR	LR		
	comp=Z,8µm,19.0s,MS5.5						
SCHQ	**Schefferville**	**37.05**	**59**	P	**P**	**10 09 17.8**	**+0.1**
	comp=Z,17nm,1.1s,mb4.8,baz=301,slow=7.8,SNR=7.1						
SCHQ				LR	LR	10 25 06.9	
	comp=Z,11µm,21.8s,MS5.6,baz=294,slow=37						
SCHQ	**Schefferville**	**37.05**	**59**	*e*P	**P**	**10 09 18.1**	**+0.5**
	comp=Z,41nm,1.3s,mb5.1						
SCHQ				LR	LR		
	comp=Z,10µm,21.0s,MS5.6						
LONY	**Lake Ozonia**	**37.13**	**78**	*e*P	**P**	**10 09 17.6**	**-0.7**
FWV	**Forest Hill**	**37.27**	**92**	*e*P	**P**	**10 09 19.6**	**0.0**
POHA	**Pohakuloa**	**37.40**	**221**	PFAKE		10 09 30.0	+9.4
POHA				LR	LR		
	comp=Z,5µm,19.0s,MS5.4						
ELN	**Prospectdale**	**37.53**	**93**	*e*P	**P**	**10 09 21.2**	**-0.5**
BINY	**Binghamton**	**37.56**	**83**	*e*P	**P**	**10 09 22.8**	**+0.8**
	comp=Z,53nm,1.4s,mb5.1						
BINY				LR	LR		
	comp=Z,4µm,22.0s,MS5.1						
FRNY	**Flat Rock**	**37.62**	**77**	*e*P	**P**	**10 09 22.7**	**+0.1**
NCB	**Newcomb**	**37.69**	**79**	*e*P	**P**	**10 09 24.0**	**+0.9**
	comp=Z,22nm,1.0s,mb4.8						
NCB				LR	LR		
	comp=Z,5µm,19.0s,MS5.4						
BLA	**Blacksburg**	**37.74**	**92**	*e*P	**P**	**10 09 23.7**	**+0.2**
BLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BLA				MLR	MLR		
	comp=Z,405nm,19.0s						
BLA	**Blacksburg**	**37.74**	**92**	*e*P	**P**	**10 09 23.7**	**+0.2**
	comp=Z,4.4nm,0.9s,mb4.2						
BLA				LR	LR		
	comp=Z,405nm,19.0s						
MIV	**Mineville/With**	**38.05**	**78**	*e*P	**P**	**10 09 26.9**	**+0.8**
GOGA	**Godfrey**	**38.33**	**100**	*e*P	**P**	**10 09 27.9**	**-0.6**
GOGA				pmax	pmax		
	comp=Z,324nm,1.0s,mb6.0						
GOGA	**Godfrey**	**38.33**	**100**	*e*P	**P**	**10 09 27.9**	**-0.6**
	comp=Z,324nm,1.0s,mb6.0						
MVL	**Millersville**	**38.59**	**86**	*e*P	**P**	**10 09 30.2**	**-0.5**
LBNH	**Lisbon**	**38.95**	**77**	PFAKE		10 09 50.0	+16
LBNH				LR	LR		
	comp=Z,6µm,20.0s,MS5.4						
CBN	**Corbin**	**39.03**	**89**	PFAKE		10 09 50.0	+16
CBN				LR	LR		
	comp=Z,5µm,19.0s,MS5.3						
JSC	**Jenkinsville**	**39.11**	**97**	*e*P	**P**	**10 09 34.4**	**-0.6**
JSC				*e**PP	pP	10 09 43.6	+5.5
HRV	**Harvard--Oak R**	**40.12**	**79**	PFAKE		10 10 00.0	+17
HRV				LR	LR		
	comp=Z,5µm,19.0s,MS5.4						
WES	**Weston**	**40.33**	**79**	PFAKE		10 10 00.0	+15
WES				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
SFJD	**Kangerlussuaq**	**40.33**	**37⇑**	*i*P	**P**	**10 09 45.8**	**+0.6**
	comp=Z,45nm,1.2s,mb5.1						
SFJD				*i* S	**S**	**10 15 58.3**	**+5.3**
SFJD				*i*		10 19 01.3	
SFJD							
	comp=Z,10µm,19.0s						
SFJD	**Kangerlussuaq**	**40.33**	**37⇑**	*i*P	**P**	**10 09 45.8**	**+0.6**
SFJD				*i* S	**S**	**10 15 58.3**	**+5.3**
SFJD				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.1						
SFJD				MLR	MLR		
	comp=Z,10µm,19.0s,MS5.7						
PET	**Petropavlovsk**	**41.74**	**301**	*e*P	**P**	**10 09 55.5**	**-1.3**
PET				*e*		10 11 35.9	
PET				*e*S	**S**	**10 16 18.1**	**+4.2**
PET				pmax	pmax		
	comp=Z,200nm,11.9s						
PET				pmax	pmax		
	comp=Z,75nm,1.3s,mb5.2						
PET				smax			
	comp=N,900nm,11.6s						
PET				smax			
	comp=E,1µm,11.8s						
PET	**Petropavlovsk**	**41.74**	**301**	*e*P	**P**	**10 09 56.8**	**0.0**
	comp=E,120nm,1.3s,mb5.4						
PET				LR	LR		
	comp=Z,3µm,21.0s,MS5.2						
SUMG	**Summit**	**42.35**	**27**	*e*P	**P**	**10 10 03.0**	**+1.2**
	comp=Z,44nm,1.1s,mb5.0						
MA2	**Magadan**	**42.73**	**313**	PFAKE		10 10 20.0	+15
MA2				LR	LR		
	comp=Z,3µm,21.0s,MS5.1						
SKR	**Severo-Kuril's**	**44.27**	**299**	*e*P	**P**	**10 10 18.5**	**+1.2**
SKR				*e*		10 11 57.0	
SKR				*e*		10 12 06.0	
SKR				*e*PPP		10 12 38.0	
SKR				*e*S	**S**	**10 16 50.0**	**-1.0**
SKR				*e*		10 20 03.0	
SKR							
	comp=Z,220nm,1.0s,mb5.8						
SKR				smax			
	comp=N,1µm,10.0s						
SKR				smax			
	comp=E,2µm,10.0s						
SKR				MLR	MLR		
	comp=N,2µm,20.0s,MS5.3						
SKR				MLR	MLR		
	comp=E,3µm,20.0s,MS5.3						
SKR				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.1						
DAG	**Danmarks Havn**	**44.97**	**18⇑**	*i*P	**P**	**10 10 23.3**	**+0.4**
	comp=Z,35nm,1.3s,mb5.0						
DAG	**Danmarks Havn**	**44.97**	**18⇑**	*i*P	**P**	**10 10 23.3**	**+0.4**
DAG				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.0						
TIXI	**Tiksi**	**45.18**	**334**	*e*P	**P**	**10 10 23.2**	**-1.4**
TIXI				*e*S	**S**	**10 17 04.9**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,4µm,17.0s,MS5.5						
TIXI	**Tiksi**	**45.18**	**334⇓**	*e*P	**P**	**10 10 24.5**	**-0.1**
TIXI				LR	LR		
	comp=Z,5µm,19.0s,MS5.5						
TEIG	**Tepich**	**45.34**	**118**	*e*P	**P**	**10 10 26.6**	**+0.8**
	comp=Z,21nm,1.0s,mb4.9						
TEIG				*e*pP	pP	10 10 35.6	+6.6
TEIG				LR	LR		
	comp=Z,882nm,19.0s,MS4.7						
KBS	**Kingsbay**	**47.81**	**9**	*e*P	**P**	**10 10 46.0**	**+0.7**
KBS				*e*SS	SS	10 21 09.7	-0.6
KBS				AMS	AMS	10 32 28.9	
	comp=Z,3µm,17.5s,MS5.3						
KBS	**Kingsbay**	**47.81**	**9**	*e*P	**P**	**10 10 46.5**	**+1.3**
KBS				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
KBS				MLR	MLR		
	comp=Z,4µm,21.0s,MS5.3						
KBS	**Kingsbay**	**47.81**	**9**	*e*P	**P**	**10 10 46.5**	**+1.3**
	comp=Z,16nm,0.9s,mb5.0						
KBS				LR	LR		
	comp=Z,4µm,21.0s,MS5.3						
YAK	**Yakutsk**	**50.29**	**323⇓**	*e*P	**P**	**10 11 05.3**	**+1.1**
YAK				MLR	MLR		
	comp=Z,4µm,20.0s,MS5.4						
BBSR	**BB Station**	**50.69**	**86**	PFAKE		10 11 20.0	+13
BBSR				LR	LR		
	comp=Z,3µm,21.0s,MS5.3						
JMIC	**Jan Mayen**	**50.90**	**21**	*e*P	**P**	**10 11 08.8**	**0.0**
JMIC				*e*PP	PP	10 13 07.0	+1.9
JMIC				*e*S	**S**	**10 18 31.6**	**+6.3**
JMIC				*e*SS	SS	10 22 03.6	+3.6
JMIC				AMS	AMS	10 33 16.5	
	comp=Z,3µm,17.7s,MS5.4						
BORG	**Borgarnes**	**51.78**	**31**	PFAKE		10 11 30.0	+15
BORG				LR	LR		
	comp=Z,4µm,19.0s,MS5.5						
BJO	**Bjornoya**	**52.52**	**10**	AMS	AMS	10 36 23.6	
	comp=Z,4µm,16.8s,MS5.5						
YSS	**Yuzh-Sakhalins**	**53.62**	**302⇑**	*e*P	**P**	**10 11 28.2**	**-0.8**
YSS				*i* *SP	sP	10 11 35.0	+1.6
YSS				*e*		10 11 45.1	
YSS				*e*S	**S**	**10 19 03.0**	**+0.5**
YSS				*e*PS		10 19 20.0	
YSS				*e*		10 21 14.0	
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
YSS				smax			
	comp=N,400nm,10.0s						
YSS				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.2						
YSS				MLR	MLR		
	comp=N,2µm,15.0s,MS5.3						
YSS				MLR	MLR		
	comp=E,2µm,17.0s,MS5.3						
YSS	**Yuzh-Sakhalins**	**53.62**	**302**	*e*P	**P**	**10 11 28.5**	**-0.5**
	comp=E,52nm,1.1s,mb5.4						
YSS				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
JTS	**JuntasAbangare**	**55.31**	**121⇓**	*e*P	**P**	**10 11 39.6**	**-1.7**
JTS				MLR	MLR		
	comp=Z,1µm,21.0s						
CLNS	**Chul'man**	**55.51**	**320**	*e*P	**P**	**10 11 41.8**	**-1.0**
CLNS				*e**PP	pP	10 11 56.0	+10
CLNS				*e*		10 12 38.9	
CLNS				*e*		10 21 30.5	
CLNS				pmax	pmax		
	comp=E,23nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.3						
CLNS				pmax	pmax		
	comp=N,14nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,2µm,14.0s,MS5.4						
CLNS				MLR	MLR		
	comp=N,1µm,12.0s,MS5.4						
CLNS				MLR	MLR		
	comp=E,2µm,13.0s,MS5.4						
ASAJ	**Asahikawa**	**55.53**	**299**	LR	LR	10 34 11.2	
	comp=E,910nm,18.0s,MS4.9,baz=5.7,slow=35						
HABR	**Khabarovsk**	**56.58**	**307**	*e*P	**P**	**10 11 50.2**	**-0.2**
HABR				*e*S	**S**	**10 19 41.8**	**-0.4**
TRO	**Tromso**	**57.01**	**12**	*e*P	**P**	**10 11 52.4**	**-1.1**
TRO				*e*		10 15 25.4	
TRO				*e*S	**S**	**10 19 49.5**	**+1.6**
TRO				AMS	AMS	10 37 28.3	
	comp=Z,3µm,20.6s,MS5.4						
KLR	**Kul'dur**	**57.68**	**310**	*e*P	**P**	**10 11 54.7**	**-3.5**
KLR				*e*S	**S**	**10 20 00.0**	**+3.4**
KLR				smax			
	comp=N,800nm,15.0s						
KLR				smax			
	comp=E,1µm,15.0s						
KLR				MLR	MLR		
	comp=E,1µm,13.5s						
KLR				MLR	MLR		
	comp=Z,2µm,13.5s,MS5.4						
KEV	**Kevo**	**57.83**	**9**	*e*P	**P**	**10 11 58.7**	**-0.5**
KEV				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
KEV				MLR	MLR		
	comp=Z,4µm,21.0s,MS5.5						
KEV	**Kevo**	**57.83**	**9**	*e*P	**P**	**10 11 58.7**	**-0.5**
	comp=Z,23nm,1.1s,mb5.1						
KEV				LR	LR		
	comp=Z,4µm,21.0s,MS5.5						
ARCES	**ARCESS Array B**	**57.88**	**10**	P	**P**	**10 11 58.8**	**-0.9**
	comp=Z,4.7nm,0.9s,mb4.5,baz=357,slow=5.2,SNR=13						
ARCES				LR	LR	10 36 40.8	
	comp=Z,3µm,20.9s,MS5.4,baz=278,slow=36						
WAKE	**Wake Island**	**58.35**	**261**	PFAKE		10 12 20.0	+17
WAKE				LR	LR		
	comp=Z,1µm,22.0s,MS5.0						
BOD	**Bodaibo**	**58.91**	**326**	*e*P	**P**	**10 12 07.4**	**+0.6**
SJG	**San Juan**	**60.07**	**99**	PFAKE		10 12 30.0	+15
SJG				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
LVZ	**Lovozero**	**60.29**	**6**	*e*P	**P**	**10 12 15.2**	**-1.1**
LVZ				*e*S	**S**	**10 20 30.0**	**-0.5**
LVZ				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.3						
LVZ				pmax	pmax		
	comp=N,15nm,1.0s						
LVZ				pmax	pmax		
	comp=E,6.0nm,1.1s						
LVZ				smax			
	comp=E,165nm,4.5s						
LVZ				MLR	MLR		
	comp=Z,2µm,13.0s,MS5.5						
LVZ				MLR	MLR		
	comp=N,1µm,14.0s,MS5.3						
LVZ				MLR	MLR		
	comp=E,539nm,14.0s,MS5.3						
LVZ	**Lovozero**	**60.29**	**6**	PFAKE		10 12 30.0	+14
LVZ				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
APA	**Apatity**	**60.52**	**7⇓**	*i*P	**P**	**10 12 20.0**	**+2.1**
APA				*e*S	**S**	**10 20 37.0**	**+3.5**
APA				*e*		10 22 08.0	
APA				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
APA				MLR	MLR		
	comp=Z,3µm,15.0s,MS5.5						
NSS	**Namsos**	**60.57**	**18**	AMS	AMS	10 38 20.2	
	comp=Z,4µm,21.6s,MS5.5						
TAOE	**Nuku Hiva Isla**	**60.80**	**191**	*e*S	**S**	**10 20 39.2**	**+2.0**
	comp=Z,9µm,28.2s						
TAOE				*e*LR	LR	10 29 56.7	
	comp=Z,12µm,25.3s,baz=15						
VLA	**Vladivostok**	**61.88**	**305⇓**	*e*P	**P**	**10 12 28.6**	**+1.5**
VLA				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.2						
VLA				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.1						
VLA	**Vladivostok**	**61.88**	**305⇓**	*e*P	**P**	**10 12 28.7**	**+1.6**
MDJ	**Mudanjiang**	**61.97**	**307**	P	**P**	**10 12 26.3**	**-1.4**
MDJ				AP	pP	10 12 29.0	-1.9
MDJ				XP	sP	10 12 30.4	-1.7
MDJ				S	**S**	**10 20 48.5**	**-3.4**
MDJ				SS	SS	10 24 51.0	-3.2
MDJ				AMB	AMB		
	comp=Z,100nm,8.2s						
MDJ				LR	LR		
	comp=N,1µm,22.3s,MS5.1						
MDJ				LR	LR		
	comp=E,670nm,24.3s,MS5.1						
MDJ				LR	LR		
	comp=Z,2µm,23.3s,MS5.3						
MDJ	**Mudanjiang**	**61.97**	**307**	PFAKE		10 12 40.0	+12
MDJ				LR	LR		
	comp=Z,3µm,22.0s,MS5.4						
PAYG	**Puerto Ayora**	**62.13**	**133**	PFAKE		10 12 40.0	+11
PAYG				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
BER	**Bergen**	**62.83**	**23**	*e*P	**P**	**10 12 34.2**	**+0.8**
BER				*e*S	**S**	**10 20 58.9**	**-3.9**
BER				*e*SS	SS	10 25 08.2	+0.6
BER				AMS	AMS	10 40 57.0	
	comp=Z,4µm,17.8s,MS5.6						
HIA	**Hailar**	**63.12**	**316**	PFAKE		10 12 50.0	+15
HIA				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
MAJO	**Matsushiro**	**63.16**	**296**	*e*P	**P**	**10 12 34.3**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.3						
MAJO				MLR	MLR		
	comp=Z,967nm,21.0s,MS5.0						
MAJO	**Matsushiro**	**63.16**	**296**	*e*P	**P**	**10 12 34.3**	**-1.4**
	comp=Z,27nm,1.0s,mb5.3						
MAJO				LR	LR		
	comp=Z,967nm,21.0s,MS5.0						
MAT	**Matsushiro**	**63.16**	**296**	P	**P**	**10 12 34.0**	**-1.7**
MAT				S	**S**	**10 21 05.0**	**-2.0**
MAT	**Matsushiro**	**63.16**	**296**	*e*P	**P**	**10 12 34.0**	**-1.7**
MAT				*e*S	**S**	**10 21 05.0**	**-2.0**
MAT				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.0						
MAT				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.0						
MAT	**Matsushiro**	**63.16**	**296**	*e*P	**P**	**10 12 34.0**	**-1.7**
	comp=Z,15nm,1.1s,mb5.0						
MAT				*e*S	**S**	**10 21 05.0**	**-2.0**
MAT				LR	LR		
	comp=Z,1µm,22.0s,MS5.0						
MJAR	**Matsushiro Arr**	**63.16**	**296**	P	**P**	**10 12 34.1**	**-1.6**
	comp=Z,5.3nm,0.9s,mb4.7,baz=27,slow=5.7,SNR=18						
MJAR				LR	LR	10 35 36.8	
	comp=Z,888nm,21.8s,MS4.9,baz=50,slow=32						
MJAR	**Matsushiro Arr**	**63.16**	**296**	P	**P**	**10 12 34.1**	**-1.6**
MJAR				LR	LR	10 35 36.8	
CIT	**Chita**	**63.54**	**322**	*e*P	**P**	**10 12 37.2**	**-1.0**
CIT				*e*		10 12 45.4	
NB2	**NORSAR Subarra**	**63.58**	**20**	P	**P**	**10 12 38.2**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=338,slow=6.9						
NB2	**NORSAR Subarra**	**63.58**	**20**	P	**P**	**10 12 38.2**	**-0.2**
NB2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
NOA	**NORSAR Array B**	**63.58**	**20**	P	**P**	**10 12 37.5**	**-0.9**
	comp=Z,13nm,0.9s,mb4.9,baz=334,slow=6.7,SNR=16						
NOA				LR	LR	10 40 47.9	
	comp=Z,3µm,20.1s,MS5.5,baz=335,slow=36						
NAO01	**NORSAR Array S**	**63.68**	**20**	*e*P	**P**	**10 12 39.2**	**+0.1**
	comp=Z,31nm,1.0s,mb5.3						
NAO01				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
KONO	**Kongsberg**	**64.48**	**21**	*e*P	**P**	**10 12 44.6**	**+0.3**
KONO				*e*S	**S**	**10 21 30.1**	**+6.8**
KONO	**Kongsberg**	**64.48**	**21**	*de*P	**P**	**10 12 44.8**	**+0.5**
KONO	**Kongsberg**	**64.48**	**21**	*e*Pr	**P**	**10 12 44.9**	**+0.6**
KONO				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
SDV	**Santo Domingo**	**64.53**	**109**	*e*P	**P**	**10 12 44.8**	**+0.1**
	comp=Z,17nm,1.0s,mb5.0						
SDV				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
CN2	**Changchun**	**64.60**	**309**	*e*P	**P**	**10 12 43.5**	**-1.6**
CN2				*e*AP	pP	10 12 53.8	+5.4
CN2				*e*S	**S**	**10 21 18.5**	**-6.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2µm,15.0s,MS5.5						
CN2				LR	LR		
	comp=E,2µm,15.0s,MS5.5						
CN2				LR	LR		
	comp=Z,2µm,17.0s,MS5.4						
JHJ	**Hachijo jima 2**	**64.72**	**292**	LR	LR	10 34 54.7	
	comp=Z,713nm,20.8s,MS4.8,baz=125,slow=30						
ESK	**Eskdalemuir**	**64.79**	**30**	PFAKE		10 13 00.0	+14
ESK				LR	LR		
	comp=Z,3µm,21.0s,MS5.5						
JOF	**Joensuu**	**64.91**	**9**	*e*p	**P**	**10 12 45.9**	**-1.2**
	comp=Z,32nm,0.9s,mb5.3						
KAF	**Kangasniemi**	**65.12**	**12**	*e*p	**P**	**10 12 48.1**	**-0.5**
	comp=Z,16nm,0.9s,mb5.0,baz=341,slow=6.8						
KAF	**Kangasniemi**	**65.12**	**12**	*e*P	**P**	**10 12 48.1**	**-0.5**
KAF				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ROSC	**El Rosal**	**65.65**	**115**	P	**P**	**10 12 51.9**	**-0.1**
	comp=Z,16nm,0.8s,mb5.1,baz=281,slow=21,SNR=10.0						
ROSC				LR	LR	10 46 21.2	
	comp=Z,669nm,18.9s,MS4.9,baz=203,slow=40						
FINES	**FINESS Array B**	**65.74**	**12**	P	**P**	**10 12 51.8**	**-0.7**
	comp=Z,13nm,0.9s,mb5.0,baz=355,slow=6.3,SNR=28						
FINES				LR	LR	10 42 00.1	
	comp=Z,2µm,18.3s,MS5.4,baz=345,slow=36						
IRK	**Irkutsk**	**66.74**	**327**	*e*P	**P**	**10 12 58.6**	**-0.3**
IRK				pmax	pmax		
	comp=Z,71nm,1.3s,mb5.5						
KRAR	**Krasnoyarsk**	**66.92**	**335⇑**	*e*P	**P**	**10 13 00.6**	**+0.5**
KRAR				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.6						
KRAR				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.3						
SNY	**Shenyang**	**66.98**	**309**	⇑P	**P**	**10 13 00.3**	**-0.2**
SNY				S	S	10 21 47.0	-6.9
SNY				XS	sS	10 21 54.3	-5.0
SNY				SS	SS	10 26 07.5	-4.9
SNY				AMB	AMB		
	comp=Z,160nm,4.9s						
SNY				LR	LR		
	comp=N,2µm,15.2s						
SNY				LR	LR		
	comp=Z,2µm,22.1s						
OTAV	**Otavalo**	**67.21**	**121**	*e*P	**P**	**10 13 03.5**	**+1.5**
	comp=Z,74nm,1.3s,mb5.5						
OTAV				LR	LR		
	comp=Z,665nm,19.0s,MS4.9						
MUD	**Monsted U'grnd**	**67.25**	**23**	*i* P	**P**	**10 13 05.7**	**+3.5**
MUD				*i* S	S	10 22 15.9	+19
MUD				*i*		10 29 48.4	
MUD							
	comp=Z,3µm,18.0s						
MUD	**Monsted U'grnd**	**67.25**	**23**	*e*P	**P**	**10 13 05.7**	**+3.5**
MUD				*i* S	S	10 22 15.9	+19
MUD	**Monsted U'grnd**	**67.25**	**23**	*e*P	**P**	**10 13 05.7**	**+3.5**
MUD				*i* S	S	10 22 15.9	+19
MUD				*i*		10 29 48.4	
TLY	**Talaya**	**67.42**	**327**	P	**P**	**10 13 04.4**	**+1.1**
	comp=Z,176nm,1.1s,mb6.0,SNR=7.1						
TLY	**Talaya**	**67.42**	**327**	*e*P	**P**	**10 13 02.3**	**-1.0**
TLY				*e*S	S	10 21 57.0	-2.2
TLY				*e*		10 23 00.2	
TLY				*e*SSS		10 29 19.4	
TLY				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.4						
TLY				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
TLY	**Talaya**	**67.42**	**327**	*e*P	**P**	**10 13 03.8**	**+0.6**
	comp=Z,46nm,1.2s,mb5.4						
TLY				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
CBIJ	**Chichi jima**	**67.70**	**286**	LR	LR	10 36 58.0	
	comp=Z,346nm,20.3s,MS4.6,baz=228,slow=31						
ADH	**Angra Heroismo**	**67.98**	**55**	*i* LR	LR	10 34 25.0	
MOY	**Mondy**	**68.32**	**328**	*e*P	**P**	**10 13 09.9**	**+1.0**
MOY				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.5						
ZAK	**Zakamensk**	**68.64**	**326**	*e*P	**P**	**10 13 10.7**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
VSU	**Vasula**	**68.71**	**13⇓**	*e*P	**P**	**10 13 11.2**	**-0.2**
COP	**Copenhagen**	**68.72**	**22**	*i* P	**P**	**10 13 12.8**	**+1.3**
COP				*e*S	S	10 22 19.3	+4.6
COP							
	comp=Z,710nm,16.0s						
COP	**Copenhagen**	**68.72**	**22**	*e*P	**P**	**10 13 12.8**	**+1.3**
COP				*e*S	S	10 22 19.3	+4.6
COP				LR	LR		
	comp=Z,720nm,16.0s,MS5.0						
INCN	**Inchon**	**68.74**	**304**	PFAKE		10 13 20.0	+8.4
INCN				LR	LR		
	comp=Z,965nm,19.0s,MS5.1						
SOKR	**Solikamsk**	**69.02**	**356⇑**	*i*P	**P**	**10 13 13.0**	**-0.3**
SOKR				SS	SS	10 26 50.7	+6.8
SOKR				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3						
SOKR				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.2						
ULN	**Ulaanbaatar**	**69.38**	**323**	*e*P	**P**	**10 13 15.2**	**-0.3**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
ULN				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.5						
ULN	**Ulaanbaatar**	**69.38**	**323**	*e*P	**P**	**10 13 15.2**	**-0.3**
	comp=Z,7.9nm,1.1s,mb4.6						
ULN				LR	LR		
	comp=Z,3µm,20.0s,MS5.5						
SONM	**Songino Array**	**69.65**	**323**	P	**P**	**10 13 17.1**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=45,slow=5.0,SNR=14						
SONM				LR	LR	10 44 40.0	
	comp=Z,2µm,18.3s,MS5.5,baz=21,slow=37						
**DL2

comp=Z,81nm,1.4s,mb5.2
ROSF Rostrenen 70.67 34 *e*P **P 10 13 22.8 -0.6**
ROSF pmax pmax
comp=Z,41nm,1.4s,mb5.2
ROSF Rostrenen 70.67 34 *e*P **P 10 13 22.8 -0.6**
comp=Z,40nm,1.4s,mb5.2
WTSB Winterswijk 70.67 26 *e*P **P 10 13 24.2 +0.8**
comp=Z,32nm,1.0s,mb5.2
ZAL Zalesovo 70.77 339 P **P 10 13 23.9 -0.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=78,slow=6.2,SNR=22
ZAL LR LR 10 48 56.1
comp=Z,2μm,19.2s,MS5.3,baz=95,slow=40
PPT Papeete 70.89 199 *e*S S 10 22 40.6 +0.4
comp=Z,4μm,27.2s
PPT *e*LR LR 10 34 31.9
comp=Z,5μm,27.2s,baz=14
PPT Papeete 70.89 199 LR LR 10 37 21.4
comp=Z,1μm,18.9s,MS5.2,baz=344,slow=30
SGMF Saint Gilles 70.99 34 *e*P **P 10 13 25.0 -0.4**
comp=Z,101nm,1.3s,mb5.3
SGMF Saint Gilles 70.99 34 *e*P **P 10 13 25.0 -0.4**
SGMF pmax pmax
comp=Z,50nm,1.3s,mb5.3
SGMF Saint Gilles 70.99 34 *e*P **P 10 13 25.0 -0.4**
comp=Z,50nm,1.3s,mb5.3
UCC Uccle 71.01 28 P **P 10 13 26.3 +0.8**
QUIF Quistinic 71.06 34 *e*P **P 10 13 25.3 -0.5**
comp=Z,30nm,1.0s,mb4.9
QUIF Quistinic 71.06 34 *e*P **P 10 13 25.3 -0.5**
QUIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
QUIF Quistinic 71.06 34 *e*P **P 10 13 25.3 -0.5**
comp=Z,15nm,1.0s,mb4.9
NRDL Niedersach Rie 71.07 24 *e*P **P 10 13 26.6 +0.7**
comp=Z,29nm,1.1s,mb5.1
FLN La Foliniere 71.26 32 *e*P **P 10 13 26.4 -0.6**
FLN *e*R
comp=Z,7μm,20.5s
FLN La Foliniere 71.26 32 *e*P **P 10 13 26.4 -0.6**
FLN LR LR
comp=Z,7μm,20.5s,MS5.9
BUG Bochum--Univer 71.27 26 *e*P **P 10 13 27.4 +0.3**
comp=Z,24nm,1.1s,mb5.0
BUG *e*S S 10 22 50.0 +5.4
GRR Gorron 71.45 33 *e*P **P 10 13 28.0 -0.2**
comp=Z,68nm,1.0s,mb5.2
GRR Gorron 71.45 33 *e*P **P 10 13 28.0 -0.2**
GRR pmax pmax
comp=Z,34nm,1.0s,mb5.2
GRR Gorron 71.45 33 *e*P **P 10 13 28.0 -0.2**
comp=Z,34nm,1.0s,mb5.2
HGN Heimansgroeve 71.50 28 ⇓*i*P **P 10 13 29.3 +0.8**
comp=Z,48nm,1.2s,mb5.3
HGN *e*S S 10 22 11.8 -35
HGN *e*ScSP 10 22 58.6
HGN *e*SS SS 10 26 58.9 -23
LDF La Druitiere 71.52 32 *e*P **P 10 13 28.0 -0.6**
comp=Z,60nm,1.1s,mb5.1
LDF La Druitiere 71.52 32 *e*P **P 10 13 28.0 -0.6**
LDF pmax pmax
comp=Z,30nm,1.1s,mb5.1
LDF La Druitiere 71.52 32 *e*P **P 10 13 28.0 -0.6**
comp=Z,30nm,1.1s,mb5.1
BAIF Baives 71.61 29 *e*P **P 10 13 29.0 -0.2**
MEM Membach 71.66 28 P **P 10 13 29.1 -0.3**
DOU Dourbes 71.70 29 P **P 10 13 29.9 +0.2**
CLZ Clausthal 71.74 24 *e*P **P 10 13 31.2 +1.3**
comp=Z,43nm,1.2s,mb5.2
CLZ Clausthal 71.74 24 *e*P **P 10 13 31.2 +1.3**
CLZ pmax pmax
comp=Z,43nm,1.2s,mb5.2
GIVF Givet 71.76 29 *e*P **P 10 13 29.8 -0.3**
BJT Baijiatuau 71.91 312 PFAKE 10 13 40.0 +9.0
BJT LR LR
comp=Z,2μm,19.0s,MS5.5
GKP Gorka Klasztor 72.02 20 *e*P **P 10 13 33.2 +1.6**
GKP *e*PcP PcP 10 13 49.1 -1.1
ARU Arti 72.07 355 *e*P **P 10 13 31.0 -0.9**
ARU *e* 10 13 47.9
ARU *e* 10 16 09.9
ARU *e*PPP 10 17 56.6
ARU *e*S S 10 22 51.9 -1.9
ARU *e*SS SS 10 27 27.1 -3.6
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.3
ARU MLR MLR
comp=N,2μm,20.0s,MS5.3
ARU MLR MLR
comp=E,100nm,17.0s,MS5.3
ARU Arti 72.07 355 *e*P **P 10 13 31.2 -0.7**
comp=E,53nm,1.3s,mb5.3
ARU LR LR
comp=Z,2μm,21.0s,MS5.3
PECR Pechory 72.34 3 *i*P **P 10 13 41.0 +7.5**
PECR MLR MLR
comp=Z,2μm,20.0s,MS5.4
PECR MLR MLR
comp=Z,2μm,18.0s
SUW Suwalki 72.45 16 *e*P **P 10 13 34.7 +0.5**
SUW *e*PcP PcP 10 13 49.6 -2.4
SUW L 10 40 06.8
comp=Z,2.0nm,33.3s
SUW Suwalki 72.45 16 *e*P **P 10 13 34.7 +0.5**
SUW *e*PcP PcP 10 13 49.6 -2.4
WLF Walferdange 72.54 28 *e*P **P 10 13 35.8 +1.1**
comp=Z,21nm,1.2s,mb4.9
WLF Walferdange 72.54 28 P **P 10 13 35.7 +1.0**
MOS Moscow 72.56 7 *e*P **P 10 13 34.1 -0.7**
MOS pmax pmax
comp=Z,76nm,1.7s,mb5.3
MOS MLR MLR
comp=Z,3μm,18.0s,MS5.6
MNK Minsk 72.71 13 *e*P **P 10 13 35.0 -0.7**
MNK pmax pmax
comp=Z,37nm,1.6s,mb5.1
ABH Alteburg 72.75 27 *e*P **P 10 13 36.3 +0.3**
RUP Ruppelstein 72.77 27 *e*P **P 10 13 37.0 +0.9**
CLL Collm 72.89 23 *e*P **P 10 13 36.9 +0.1**
comp=Z,37nm,1.5s,mb5.1
CLL *e*PP PP 10 16 24.9 +6.0
CLL *e*PPP 10 18 05.2
CLL *e*S S 10 23 09.3 +6.2
CLL *e*PS 10 23 35.2
CLL *e*SS SS 10 27 50.0 +6.7
CLL *e*SSS 10 31 28.8
CLL *e*LR LR 10 36 42.8
CLL *e*L 10 47 27.8
comp=Z,3μm,18.0s
CLL Collm 72.89 23 ⇓*i*P **P 10 13 37.1 +0.3**
comp=Z,37nm,1.5s,mb5.1
CLL *i* x x 10 13 41.9
CLL *i* x x 10 13 50.8
CLL *e*PP PP 10 16 24.0 +5.1
CLL *e*PPP 10 18 06.0
CLL *e*S S 10 23 07.0 +3.9
CLL *e*PPS 10 23 54.0
CLL *e*SS SS 10 27 47.0 +3.7
CLL *e*x x 10 28 29.0
CLL *e*(SSS) 10 31 24.0
CLL Collm 72.89 23 ⇓*i*P **P 10 13 37.1 +0.3**
CLL *e*S S 10 23 07.0 +3.9
CLL pmax pmax
comp=Z,37nm,1.5s,mb5.1
CLL MLR MLR
comp=Z,3μm,17.7s,MS5.7
CLL Collm 72.89 23 ⇓*i*P **P 10 13 37.1 +0.3**
comp=Z,37nm,1.5s,mb5.1
CLL *i* pP 10 13 41.9 +1.8
CLL *e*S S 10 23 07.0 +3.9
CLL LR LR
comp=Z,3μm,17.7s,MS5.7
OBN Obninsk 73.09 8 *e*P **P 10 13 37.8 -0.2**
OBN *e* 10 13 53.8
OBN *i* SS SS 10 27 43.1 -3.3
OBN pmax pmax
comp=Z,73nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,2μm,16.0s,MS5.5
OBN Obninsk 73.09 8 *e*Pr **P 10 13 37.8 -0.2**
OBN LR LR
comp=Z,2μm,16.0s,MS5.5
MOX Moxa 73.15 24 *e*P **P 10 13 38.8 +0.4**
comp=Z,26nm,1.1s,mb5.1
MOX
comp=Z,2μm,20.0s

MOX Moxa 73.15 24 *e*P **P 10 13 38.8 +0.4**
MOX pmax pmax
comp=Z,26nm,1.1s,mb5.1
MOX MLR MLR
comp=Z,2μm,20.0s,MS5.4
MFF Saint Martin d 73.24 33 *e*P **P 10 13 38.6 -0.3**
comp=Z,94nm,1.3s,mb5.3
MFF Saint Martin d 73.24 33 *e*P **P 10 13 38.6 -0.3**
MFF pmax pmax
comp=Z,47nm,1.3s,mb5.3
MFF Saint Martin d 73.24 33 *e*P **P 10 13 38.6 -0.3**
comp=Z,47nm,1.3s,mb5.3
MEZF Maizieres J'vi 73.25 29 *e*P **P 10 13 38.6 -0.4**
HHC Hu-ho-hao-te 73.31 316 *e*P **P 10 13 38.4 -0.9**
HHC AP pP 10 13 48.6 +6.0
HHC PCP PcP 10 13 55.4 -0.3
HHC PP PP 10 16 22.3 -0.3
HHC S S 10 23 02.9 -5.1
HHC XS sS 10 23 18.5 +5.1
HHC SKS 10 23 36.5
HHC SCS ScS 10 23 39.8 -8.2
HHC SS SS 10 27 45.9 -3.8
HHC AMB AMB
comp=Z,20nm,0.8s,mb5.1
HHC AMB AMB
comp=Z,90nm,4.4s
HHC LR LR
comp=N,2μm,17.6s,MS5.6
HHC LR LR
comp=E,2μm,14.5s,MS5.6
HHC LR LR
comp=Z,3μm,17.8s,MS5.7
TOD Tromm 73.35 26 *e*P **P 10 13 40.2 +0.7**
EPON Pontenova 73.45 40 P **P 10 13 39.8 -0.3**
comp=Z,125nm,5.3s
BRG Berggiesshubel 73.52 23 *e*P **P 10 13 41.1 +0.6**
comp=Z,36nm,1.2s,mb5.2
BRG Berggiesshubel 73.52 23 *i*P **P 10 13 41.2 +0.7**
comp=Z,32nm,1.4s,mb5.1
BRG *i* 10 13 55.0
comp=Z,35nm,1.6s
BRG PP PP 10 16 26.0 +1.7
BRG S S 10 23 17.0 +6.7
BRG SS SS 10 27 56.0 +3.1
BRG
comp=N,2μm,16.5s
BRG
comp=E,664nm,16.0s
BRG
comp=Z,2μm,16.9s
BRG Berggiesshubel 73.52 23 *i*P **P 10 13 41.2 +0.7**
BRG *i* 10 13 55.0
BRG 10 16 26.0
BRG S S 10 23 17.0 +6.7
BRG SS SS 10 27 56.0 +3.1
BRG pmax pmax
comp=Z,32nm,1.4s,mb5.1
BRG MLR MLR
comp=Z,2μm,16.9s,MS5.4
BRG Berggiesshubel 73.52 23 *i*P **P 10 13 41.2 +0.7**
comp=Z,32nm,1.4s,mb5.1
BRG *i* 10 13 55.0
BRG PP PP 10 16 26.0 +1.7
BRG S S 10 23 17.0 +6.7
BRG SS SS 10 27 56.0 +3.1
BRG LR LR
comp=Z,2μm,16.9s,MS5.4
TANN Tannenbergstha 73.58 24 *e*P **P 10 13 41.4 +0.5**
comp=Z,18nm,1.3s,mb4.8
TANN *e*S S 10 23 16.4 +5.4
HYF Humbligny 73.59 31 *e*P **P 10 13 40.8 -0.1**
CHKZ Chkalovo 73.61 347 *e*P **P 10 13 39.6 -1.5**
CHKZ pmax pmax
comp=Z,40nm,1.3s,mb5.2
CHKZ Chkalovo 73.61 347 *e*P **P 10 13 39.6 -1.5**
comp=Z,40nm,1.3s,mb5.2
NKC Novy Kostel 73.74 24 *e*P **P 10 13 42.5 +0.7**
NKC *e*PCP PcP 10 13 56.1 -1.4
NKC AMS AMS 10 47 10.0
comp=Z,2μm,18.0s
NKC Novy Kostel 73.74 24 *e*P **P 10 13 42.5 +0.7**
NKC *e* 10 13 56.1
THEF They Montfort 73.78 29 *e*P **P 10 13 42.7 +0.6**
FUNA Funafuti 73.85 232 PFAKE 10 13 50.0 +7.5
FUNA LR LR
comp=Z,14μm,20.0s,MS6.2
MANZ Manzenberg 73.88 24 *e*P **P 10 13 43.3 +0.6**
comp=Z,13nm,1.2s,mb4.7
GRA1 Grafenberg Arr 73.92 25 *e*P **P 10 13 43.9 +1.0**
comp=Z,21nm,1.0s,mb5.0
GRA1 *e*PP PP 10 16 32.9 +5.1
GRA1 LR LR
comp=Z,2μm,21.9s,MS5.4
GRF Grafenberg Arr 73.92 25 *e*P **P 10 13 43.9 +1.0**
comp=Z,21nm,1.0s,mb5.0
GRF *e*PP PP 10 16 32.9 +5.1
GRF *e*L 10 45 39.6
comp=Z,2μm,21.9s
GRF Grafenberg Arr 73.92 25 *e*P **P 10 13 43.9 +1.0**
GRF *e* 10 16 32.9
GRF pmax pmax
comp=Z,21nm,1.0s,mb5.0
GRF MLR MLR
comp=Z,2μm,21.9s,MS5.4
LOR Lormes 73.98 30 *e*P **P 10 13 42.9 -0.3**
comp=Z,110nm,1.2s,mb5.4
LOR *e*R
comp=Z,7μm,19.8s
LOR Lormes 73.98 30 *e*P **P 10 13 42.9 -0.3**
LOR pmax pmax
comp=Z,55nm,1.2s,mb5.4
LOR MLR MLR
comp=Z,7μm,19.8s,MS5.9
LOR Lormes 73.98 30 *e*P **P 10 13 42.9 -0.3**
comp=Z,55nm,1.2s,mb5.4
LOR LR LR
comp=Z,7μm,19.8s,MS5.9
PVCC Panska Ves 73.98 22 *e*P **P 10 13 43.7 +0.4**
PVCC MLR MLR
comp=Z,900nm,15.0s,MS5.2
CDF Champ du Feu 73.99 28 *e*P **P 10 13 43.1 -0.2**
comp=Z,46nm,0.9s,mb5.1
CDF Champ du Feu 73.99 28 *e*P **P 10 13 43.1 -0.2**
CDF pmax pmax
comp=Z,23nm,0.9s,mb5.1
CDF Champ du Feu 73.99 28 *e*P **P 10 13 43.1 -0.2**
comp=Z,23nm,0.9s,mb5.1
WLS Welschbruch 74.02 28 *e*P **P 10 13 44.0 +0.6**
SSF Saint Saulge 74.05 31 *e*P **P 10 13 43.2 -0.4**
comp=Z,93nm,1.2s,mb5.3
SSF Saint Saulge 74.05 31 *e*P **P 10 13 43.2 -0.4**
SSF pmax pmax
comp=Z,47nm,1.2s,mb5.3
SSF Saint Saulge 74.05 31 *e*P **P 10 13 43.2 -0.4**
comp=Z,47nm,1.2s,mb5.3
HAU Haudompre 74.09 29 *e*P **P 10 13 43.3 -0.6**
HAU *e*R
comp=Z,4μm,22.8s
HAU Haudompre 74.09 29 *e*P **P 10 13 43.3 -0.6**
HAU LR LR
comp=Z,4μm,22.8s,MS5.7
KSP Ksiaz 74.09 21 *e*P **P 10 13 44.9 +1.0**
KSP *e*PcP PcP 10 14 00.7 +1.7
KSP L 10 47 49.5
comp=Z,4.7nm,18.8s
KSP Ksiaz 74.09 21 *e*P **P 10 13 44.6 +0.7**
KSP *e*pP pP 10 13 49.3 +2.1
KSP *e*PcP PcP 10 13 58.7 -0.3
KSP *e*PP PP 10 16 29.0 -0.2
KSP *e*S S 10 23 19.0 +2.2
KSP *e*SS SS 10 27 59.0 -2.6
KSP LR LR
comp=Z,5μm,20.3s,MS5.8
ROTZ Rotzenmuhle 74.11 24 *e*P **P 10 13 44.7 +0.7**
comp=Z,16nm,1.1s,mb4.9
ROTZ *e*S S 10 23 22.1 +5.1
ECH Echery 74.14 28 *e*P **P 10 13 44.8 +0.6**
BTO Baotou 74.18 316 *e*P **P 10 13 41.6 -2.8**
STU Stuttgart 74.21 26 *e*P **P 10 13 45.3 +0.7**
comp=Z,17nm,0.7s,mb5.1
EARI Arriondas 74.23 38 P **P 10 13 44.7 0.0**
comp=Z,28nm,1.2s,mb5.1
AVF Avril sur Loir 74.24 31 *e*P **P 10 13 44.2 -0.6**
comp=Z,76nm,1.1s,mb5.2
AVF Avril sur Loir 74.24 31 *e*P **P 10 13 44.2 -0.6**

AVF pmax pmax
comp=Z,38nm,1.1s,mb5.2
AVF Avril sur Loir 74.24 31 *e*P **P 10 13 44.2 -0.6**
comp=Z,38nm,1.1s,mb5.2
BRVK Borovoye 74.26 347 *e*P **P 10 13 44.7 -0.2**
BRVK pmax pmax
comp=Z,17nm,1.1s,mb4.9
BRVK MLR MLR
comp=Z,2μm,19.0s,MS5.4
BRVK Borovoye 74.26 347 *e*P **P 10 13 44.7 -0.1**
comp=Z,18nm,1.1s,mb4.9
BRVK LR LR
comp=Z,2μm,19.0s,MS5.4
BVA0 Borovoye Array 74.28 347 *i*P **P 10 13 44.4 -0.6**
BVA0 pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
BGF Bois d'Agland 74.28 31 *e*P **P 10 13 44.5 -0.5**
comp=Z,65nm,1.3s,mb5.1
BGF Bois d'Agland 74.28 31 *e*P **P 10 13 44.5 -0.5**
BGF pmax pmax
comp=Z,33nm,1.3s,mb5.1
BGF Bois d'Agland 74.28 31 *e*P **P 10 13 44.5 -0.5**
comp=Z,32nm,1.3s,mb5.1
ELOB Lobios 74.30 41 P **P 10 13 43.9 -1.3**
comp=Z,41nm,1.7s,mb5.1
TCF Toulx Ste Croi 74.31 32 *e*P **P 10 13 44.8 -0.4**
comp=Z,80nm,1.2s,mb5.2
TCF Toulx Ste Croi 74.31 32 *e*P **P 10 13 44.8 -0.4**
TCF pmax pmax
comp=Z,40nm,1.2s,mb5.2
TCF Toulx Ste Croi 74.31 32 *e*P **P 10 13 44.8 -0.4**
comp=Z,40nm,1.2s,mb5.2
UPC Upice 74.34 22 *e*P **P 10 13 45.7 +0.4**
UPC *e*PCP PcP 10 13 59.4 -0.7
BFO Black Forest 74.37 27 P **P 10 13 45.8 +0.3**
comp=Z,161nm,1.1s,mb5.9,SNR=8.2
BFO Black Forest 74.37 27 *e*P **P 10 13 46.2 +0.7**
comp=Z,41nm,1.2s,mb5.2
BFO Black Forest 74.37 27 *e*P **P 10 13 46.2 +0.7**
BFO pmax pmax
comp=Z,41nm,1.2s,mb5.2
PRA Prague 74.38 23 P **P 10 13 45.0 -0.6**
PCAB Cabril 74.45 41 *e*P **P 10 13 47.1 +1.1**
comp=Z,58nm,1.1s,mb5.4
MOF Molkenrain 74.46 28 *e*P **P 10 13 46.5 +0.5**
AFI Afiamalu 74.47 222 PFAKE 10 14 00.0 +14
AFI LR LR
comp=Z,2μm,19.0s,MS5.4
PRU Pruhonice 74.48 23 *e*P **P 10 13 46.5 +0.3**
VOSK Vostochnaya 74.49 347 P **P 10 13 45.3 -0.9**
VOSK pmax pmax
comp=Z,30nm,1.5s,mb5.0
RKT Rikitea 74.51 184 *e*S S 10 23 22.6 +1.1
comp=Z,2μm,30.5s
RKT *e*LR LR 10 36 13.8
comp=Z,4μm,28.5s
SMF Signal de Mont 74.53 31 *e*P **P 10 13 45.6 -0.8**
comp=Z,53nm,1.0s,mb5.1
SMF Signal de Mont 74.53 31 *e*P **P 10 13 45.6 -0.8**
SMF pmax pmax
comp=Z,27nm,1.0s,mb5.1
SMF Signal de Mont 74.53 31 *e*P **P 10 13 45.6 -0.8**
comp=Z,26nm,1.0s,mb5.1
ZRNK Zerenda 74.54 348 *e*P **P 10 13 45.5 -1.0**
ZRNK pmax pmax
comp=Z,59nm,1.4s,mb5.3
ZRNK Zerenda 74.54 348 *e*P **P 10 13 45.5 -1.0**
comp=Z,59nm,1.4s,mb5.3
DPC Dobruska-Polom 74.56 21 *e*P **P 10 13 47.1 +0.5**
DPC *e*PCP PcP 10 14 01.1 +0.1
DPC *e*S S 10 23 29.0 +7.0
DPC AMS AMS 10 47 50.0
comp=Z,3μm,18.2s
FELD Feldberg im Sc 74.69 28 *e*P **P 10 13 47.8 +0.4**
ECAL Calabor 74.78 40 P **P 10 13 48.3 +0.4**
comp=Z,24nm,1.2s,mb5.0
LOMF Lomont 74.82 29 *e*P **P 10 13 48.6 +0.5**
AGO Saint Agoulin 74.82 32 *e*P **P 10 13 48.6 +0.5**
WET Wettzell 74.85 24 *e*P **P 10 13 49.0 +0.7**
comp=Z,16nm,1.2s,mb4.8
WET Wettzell 74.85 24 *e*P **P 10 13 49.0 +0.7**
WET pmax pmax
comp=Z,16nm,1.2s,mb4.8
PBRG Braganca 74.89 40 *e*P **P 10 13 49.3 +0.8**
comp=Z,38nm,1.2s,mb5.2
BBS Basel-Blauen 74.92 28 *e*P **P 10 13 48.9 +0.2**
PVRL Vila Real 74.94 41 *e*P **P 10 13 49.7 +0.9**
comp=Z,56nm,1.1s,mb5.4
RJF Les Rejaudoux 74.94 33 *e*P **P 10 13 48.3 -0.5**
comp=Z,61nm,1.0s,mb5.2
RJF *e*R
comp=Z,5μm,21.2s
RJF Les Rejaudoux 74.94 33 *e*P **P 10 13 48.3 -0.5**
RJF pmax pmax
comp=Z,30nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,5μm,21.3s,MS5.8
RJF Les Rejaudoux 74.94 33 *e*P **P 10 13 48.3 -0.5**
comp=Z,30nm,1.0s,mb5.2
RJF LR LR
comp=Z,5μm,21.3s,MS5.8
LFF La Frestale 75.00 34 *e*P **P 10 13 49.1 0.0**
KHC Kasperske Hory 75.04 24 *e*P **P 10 13 49.5 +0.1**
KHC *e*PCP PcP 10 14 04.2 +1.1
KHC *e*S S 10 23 34.5 +7.1
KHC AMS AMS 10 50 30.0
comp=Z,2μm,15.8s
KHC Kasperske Hory 75.04 24 *e*P **P 10 13 49.5 +0.1**
KHC *e* 10 14 04.2
KHC MLR MLR
comp=Z,2μm,15.8s,MS5.4
PLDF La Plantade 75.05 31 *e*P **P 10 13 48.8 -0.7**
KURK Kurchatov 75.11 341 P **P 10 13 49.1 -0.7**
comp=Z,73nm,1.1s,mb5.5,SNR=10
KURK Kurchatov 75.11 341 *e*P **P 10 13 48.2 -1.6**
KURK pmax pmax
comp=Z,30nm,1.4s,mb5.0
KURK MLR MLR
comp=Z,2μm,19.0s,MS5.3
KURK Kurchatov 75.11 341 *e*P **P 10 13 48.2 -1.7**
comp=Z,30nm,1.4s,mb5.0
KURK LR LR
comp=Z,2μm,19.0s,MS5.3
CABF La Chapelle 75.26 29 *e*P **P 10 13 50.6 0.0**
comp=Z,60nm,1.1s,mb5.1
CABF La Chapelle 75.26 29 *e*P **P 10 13 50.6 0.0**
CABF pmax pmax
comp=Z,30nm,1.1s,mb5.1
CABF La Chapelle 75.26 29 *e*P **P 10 13 50.6 0.0**
comp=Z,30nm,1.1s,mb5.1
FUR Furstenfeldbru 75.33 25 *e*P **P 10 13 52.0 +0.9**
GEC2 GERESS Array S 75.33 24 *e*P **P 10 13 51.7 +0.6**
comp=Z,21nm,1.2s,mb4.9
GEC2 GERESS Array S 75.33 24 *e*P **P 10 13 51.7 +0.6**
GEC2 pmax pmax
comp=Z,21nm,1.2s,mb4.9
GERES GERESS Array B 75.33 24 P **P 10 13 51.2 +0.1**
comp=Z,6.3nm,0.8s,mb4.6,baz=343,slow=4.2,SNR=35
GERES LR LR 10 49 05.3
comp=Z,2μm,18.3s,MS5.3,baz=330,slow=37
PVIS Viseu 75.34 41 *e*P **P 10 13 51.1 0.0**
comp=Z,31nm,1.0s,mb5.2
TREC Trest 75.35 22 *e*P **P 10 13 51.9 +0.7**
TREC AMS AMS 10 48 10.0
comp=Z,2μm,17.0s
MORC Moravsky Berou 75.37 21 ⇓*i*P **P 10 13 52.0 +0.7**
MORC Moravsky Berou 75.37 21 P **P 10 13 52.1 +0.8**
MORC Moravsky Berou 75.37 21 *e*P **P 10 13 51.8 +0.5**
comp=Z,23nm,1.3s,mb5.0
OKC Ostrava-Krasne 75.45 20 *e*P **P 10 13 51.4 -0.3**
OKC *e*S S 10 23 38.9 +7.0
OKC AMS AMS 10 49 10.0
comp=Z,2μm,17.3s
OKC Ostrava-Krasne 75.45 20 *e*P **P 10 13 51.4 -0.3**
OKC *e*S S 10 23 38.9 +7.0
CAF Calviac 75.46 33 *e*P **P 10 13 51.4 -0.4**
comp=Z,70nm,1.4s,mb5.1
CAF Calviac 75.46 33 *e*P **P 10 13 51.4 -0.4**
CAF pmax pmax
comp=Z,35nm,1.4s,mb5.1
CAF Calviac 75.46 33 *e*P **P 10 13 51.4 -0.4**
comp=Z,35nm,1.4s,mb5.1
LBL Lubilhac 75.58 32 *e*P **P 10 13 53.3 +0.8**
VRAC Vranov 75.60 22 ⇓*i*P **P 10 13 53.0 +0.4**
VRAC Vranov 75.60 22 P **P 10 13 54.0 +1.4**
EALK Alkurruntz 75.69 36 P **P 10 13 54.1 +1.0**

comp=Z,69nm,2.0s,mb5.2
MTE Manteigas 75.75 41 *e*P **P 10 13 54.0 +0.5**
comp=Z,37nm,1.4s,mb5.1
MTE Manteigas 75.75 41 *e*LQ 10 34 34.9
MTE *e*LR LR 10 38 27.9
comp=Z,2μm,16.0s
DAVA Damuels 75.76 27⇓*i*P **P 10 13 54.2 +0.6**
comp=Z,42nm,1.4s,mb5.2
SJPF Ste Jean 75.89 36 *e*P **P 10 13 53.9 -0.4**
JOW Kunigami 76.01 295 LR LR 10 50 06.9
comp=Z,397nm,18.5s,MS4.8,baz=301,slow=38
MOTA Moosalm 76.04 26⇑*i*P **P 10 13 56.5 +1.3**
comp=Z,22nm,1.1s,mb5.0
MOTA Moosalm 76.04 26⇑*i*P **P 10 13 56.5 +1.4**
MOTA pmax pmax
comp=Z,22nm,1.1s,mb5.0
WATA Walderalm 76.18 26⇓*i*P **P 10 13 57.4 +1.5**
comp=Z,38nm,1.3s,mb5.2
WATA Walderalm 76.18 26⇓*i*P **P 10 13 57.4 +1.5**
WATA pmax pmax
comp=Z,38nm,1.3s,mb5.2
SQTA Sankt Quirin 76.18 26⇑*i*P **P 10 13 56.7 +0.7**
comp=Z,31nm,1.2s,mb5.1
SQTA Sankt Quirin 76.18 26⇑*i*P **P 10 13 56.7 +0.7**
SQTA pmax pmax
comp=Z,31nm,1.2s,mb5.1
SQTA Sankt Quirin 76.18 26⇑*i*P **P 10 13 56.7 +0.7**
comp=Z,31nm,1.2s,mb5.1
GUMO Guam 76.21 274 LR LR 10 41 37.1
comp=Z,791nm,19.9s,MS5.0,baz=260,slow=31
PCBR Castelo Branco 76.24 42 *e*P **P 10 13 57.0 +0.7**
comp=Z,30nm,1.7s,mb4.9
WTTA Wattenberg 76.26 26⇑*i*P **P 10 13 57.0 +0.7**
comp=Z,49nm,1.4s,mb5.2
WTTA Wattenberg 76.26 26⇑*i*P **P 10 13 57.1 +0.7**
WTTA pmax pmax
comp=Z,49nm,1.4s,mb5.2
ETSF Etsaut 76.32 35 *e*P **P 10 13 55.8 -0.9**
comp=Z,33nm,1.1s,mb4.9
ETSF Etsaut 76.32 35 *e*P **P 10 13 55.8 -0.9**
ETSF pmax pmax
comp=Z,17nm,1.1s,mb4.9
ETSF Etsaut 76.32 35 *e*P **P 10 13 55.8 -0.9**
comp=Z,17nm,1.1s,mb4.9
GRN Grenoble 76.38 30 *e*P **P 10 13 57.9 +0.8**
VIVF Saint-Julien-I 76.38 31 *e*P **P 10 13 56.7 -0.4**
comp=Z,16nm,0.9s,mb4.7
VIVF Saint-Julien-I 76.38 31 *e*P **P 10 13 56.7 -0.4**
VIVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
VIVF Saint-Julien-I 76.38 31 *e*P **P 10 13 56.7 -0.4**
comp=Z,8.3nm,0.9s,mb4.7
MOA Molln 76.40 24⇑*i*P **P 10 13 58.0 +0.8**
comp=Z,39nm,2.0s,mb5.0
LPL La Plagne 76.44 29 *e*P **P 10 13 57.0 -0.4**
LPG La Plagne 76.46 29 *e*P **P 10 13 57.1 -0.4**
comp=Z,72nm,1.3s,mb5.1
LPG La Plagne 76.46 29 *e*P **P 10 13 57.1 -0.4**
LPG pmax pmax
comp=Z,36nm,1.3s,mb5.1
LPG La Plagne 76.46 29 *e*P **P 10 13 57.1 -0.4**
comp=Z,36nm,1.3s,mb5.1
TBI Tubuai 76.49 198 *e*S S 10 23 43.8 +0.4
comp=Z,2μm,34.8s
TBI *e*LR LR 10 37 10.4
comp=Z,3μm,30.2s,baz=10
STHS Stebnicka Huta 76.49 19 *e*P **P 10 13 58.0 +0.3**
STHS *e* 10 14 14.6
STHS Stebnicka Huta 76.49 19 *e*P **P 10 13 58.1 +0.4**
STHS *e* 10 14 14.6
STHS pmax pmax
comp=Z,17nm,1.0s,mb4.9
STHS Stebnicka Huta 76.49 19 *e*P **P 10 13 58.1 +0.4**
comp=Z,17nm,1.0s,mb4.9
STHS *e* 10 14 14.6
EPF Esparros 76.52 35 *e*P **P 10 13 57.4 -0.5**
SSE Sheshan 76.53 303 P **P 10 13 56.1 -1.8**
SSE AP pP 10 14 05.8 +4.6
SSE XP sP 10 14 09.3 +6.9
SSE S S 10 23 38.3 -5.5
SSE XS sS 10 23 54.3 +5.1
SSE SS SS 10 28 32.1 -6.5
SSE AMB AMB
comp=Z,50nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,90nm,5.4s
SSE LR LR
comp=N,400nm,20.0s,MS4.9
SSE LR LR
comp=E,430nm,20.0s,MS4.9
SSE LR LR
comp=Z,760nm,20.0s,MS5.0
GDM Grand'Maison 76.53 30 *e*P **P 10 13 59.0 +1.1**
SMOL Smolenice 76.53 21 *e*P **P 10 13 59.8 +1.9**
VIEF Viey 76.54 35 *e*P **P 10 13 59.4 +1.4**
KWP Kalwaria 76.57 18 *e*P **P 10 13 59.0 +0.9**
KWP L 10 47 32.9
comp=Z,4.5nm,21.8s
AKASG Malin Array Be 76.61 13 P **P 10 13 57.3 -1.1**
comp=Z,14nm,0.6s,mb5.0,baz=345,slow=5.4,SNR=69
AKASG LR LR 10 48 35.6
comp=Z,2μm,18.6s,MS5.5,baz=340,slow=36
LVV L'vov 76.63 17⇓*i*P **P 10 13 58.8 +0.3**
LVV *e* 10 14 15.2
LVV *e*PPP 10 18 37.2
LVV *e*S S 10 23 44.4 -0.6
LVV *e*PS 10 23 59.4
LVV *e*SS SS 10 28 47.8 +7.6
LVV MLR MLR
comp=N,1μm,20.0s,MS5.3
LVV MLR MLR
comp=E,800nm,20.0s,MS5.3
LVV MLR MLR
comp=Z,2μm,20.0s,MS5.5
KOLL Kolacno 76.69 21 *e*P **P 10 13 58.7 -0.1**
ORIF Oris-en-Rattie 76.71 30 *e*P **P 10 13 58.7 -0.2**
comp=Z,13nm,0.8s,mb4.6
ORIF *e*R
comp=Z,5μm,19.2s
ORIF Oris-en-Rattie 76.71 30 *e*P **P 10 13 58.7 -0.2**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ORIF Oris-en-Rattie 76.71 30 *e*P **P 10 13 58.7 -0.2**
comp=Z,6.7nm,0.8s,mb4.6
CONA Conrad Observa 76.72 23⇑*i*P **P 10 14 00.4 +1.5**
comp=Z,58nm,1.6s,mb5.3
RESF Ens 76.72 35 *e*P **P 10 14 00.5 +1.5**
EBIE Bielsa 76.75 35 P **P 10 14 01.3 +2.1**
comp=Z,35nm,1.2s,mb5.2
ZST Bratislava 76.76 22 *e*P **P 10 14 00.0 +0.8**
ZST pmax pmax
comp=Z,20nm,1.0s,mb5.0
ZST MLR MLR
comp=Z,1μm,17.9s,MS5.2
ZST Bratislava 76.76 22 *e*P **P 10 14 00.0 +0.8**
comp=Z,20nm,1.0s,mb5.0
ZST LR LR
comp=Z,1μm,17.9s,MS5.2
BRES Bressanone 76.81 26 P **P 10 13 59.7 +0.2**
LASF Ste Croix 76.81 32 *e*P **P 10 13 59.5 0.0**
BNI Bardonecchia 76.84 30 *e*P **P 10 14 01.1 +1.4**
BNI pmax pmax
comp=Z,18nm,1.3s,mb4.8
BNI Bardonecchia 76.84 30 *e*P **P 10 14 01.1 +1.4**
comp=Z,18nm,1.3s,mb4.8
MLS Moulis 76.86 34 *e*P **P 10 13 59.8 +0.1**
VYHS Vyhne 76.86 20 *e*P **P 10 14 00.2 +0.4**
VYHS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
VYHS MLR MLR
comp=Z,1μm,17.3s,MS5.3
VYHS Vyhne 76.86 20 *e*P **P 10 14 00.2 +0.4**
comp=Z,7.8nm,1.1s,mb4.5
VYHS LR LR
comp=Z,1μm,17.3s,MS5.3
APPI Appiano 76.87 26 P **P 10 14 00.7 +0.9**
comp=Z,39nm,1.2s,mb5.2
KBA Koelnbreinsper 76.88 25⇑*i*P **P 10 14 00.1 +0.2**
comp=Z,57nm,1.3s,mb5.3
KBA Koelnbreinsper 76.88 25⇑*i*P **P 10 14 00.2 +0.3**
KBA pmax pmax
comp=Z,57nm,1.3s,mb5.3
GUD Guadarrama 76.91 39 P **P 10 14 00.8 +0.8**
GUD pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
GUD Guadarrama 76.91 39 P **P 10 14 00.8 +0.8**
comp=Z,7.7nm,0.7s,mb4.7
MTLF Montolieu 76.91 33 *e*P **P 10 13 59.8 -0.2**
comp=Z,44nm,1.2s,mb5.0
MTLF Montolieu 76.91 33 *e*P **P 10 13 59.8 -0.2**
MTLF pmax pmax
comp=Z,22nm,1.2s,mb5.0
MTLF Montolieu 76.91 33 *e*P **P 10 13 59.8 -0.2**
comp=Z,22nm,1.2s,mb5.0
NJ2 Nanjing 76.97 305 *e*P **P 10 14 00.9 +0.5**
NJ2 PCP PcP 10 14 11.9 +0.5
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
NJ2 AMB AMB
comp=Z,200nm,4.9s
NJ2 LR LR
comp=N,2μm,32.0s,MS5.4
NJ2 LR LR
comp=E,2μm,30.5s,MS5.4
NJ2 LR LR
comp=Z,1μm,34.3s,MS5.0
MOE Montemor 76.98 43 *e*P **P 10 14 01.0 +0.5**
CRVS Cervenica-Dubn 77.02 19 *e*P **P 10 14 04.1 +3.4**
CRVS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CRVS MLR MLR
comp=Z,600nm,24.5s,MS4.8
CRVS Cervenica-Dubn 77.02 19 *e*P **P 10 14 04.1 +3.4**
comp=Z,8.3nm,1.0s,mb4.6
CRVS LR LR
comp=Z,600nm,24.5s,MS4.8
ORR Orenburg 77.05 357⇓*i*P **P 10 14 00.1 -0.8**
ORR pmax pmax
comp=Z,50nm,1.2s,mb5.3
ORR MLR MLR
comp=Z,2μm,20.0s,MS5.5
EVO Evora 77.12 43 *e*P **P 10 13 59.9 -1.3**
comp=Z,97nm,1.3s,mb5.3
EVO *e*R
comp=Z,3μm,18.0s
KOLS Kolonicke sedl 77.15 18 *e*P **P 10 14 05.0 +3.6**
KOLS pmax pmax
comp=Z,23nm,1.2s,mb5.0
KOLS MLR MLR
comp=Z,1μm,21.1s,MS5.2
KOLS Kolonicke sedl 77.15 18 *e*P **P 10 14 05.0 +3.6**
comp=Z,23nm,1.2s,mb5.0
KOLS LR LR
comp=Z,1μm,21.1s,MS5.2
MBDF Montbardon 77.16 30 *e*P **P 10 14 01.7 +0.2**
comp=Z,25nm,0.8s,mb4.9
MBDF Montbardon 77.16 30 *e*P **P 10 14 01.7 +0.2**
MBDF pmax pmax
comp=Z,13nm,0.8s,mb4.9
MBDF Montbardon 77.16 30 *e*P **P 10 14 01.7 +0.2**
comp=Z,13nm,0.8s,mb4.9
KECS Kecovo 77.22 19 *e*P **P 10 14 02.3 +0.5**
KECS pmax pmax
comp=Z,16nm,1.2s,mb4.8
KECS Kecovo 77.22 19 *e*P **P 10 14 02.3 +0.5**
comp=Z,16nm,1.2s,mb4.8
EGRA Graus 77.25 35 P **P 10 14 04.0 +2.1**
comp=Z,23nm,1.0s,mb5.1
OG25 Le Caire 77.26 30 *e*P **P 10 14 01.2 -0.8**
ARSA Arzberg 77.27 23⇑*i*P **P 10 14 02.2 +0.1**
comp=Z,31nm,1.4s,mb5.0
EBAD Badajoz 77.35 42 P **P 10 14 01.6 -1.0**
comp=Z,9.7nm,1.0s,mb4.7
SURF Saint Ours 77.39 30 *e*P **P 10 14 04.7 +1.9**
UZH Uzhgorod 77.45 18 *i*P **P 10 14 03.0 -0.1**
UZH *e*S S 10 23 51.0 -2.8
UZH MLR MLR
comp=Z,2μm,19.0s,MS5.5
SMRF Simiane la Rot 77.46 31 *e*P **P 10 14 02.7 -0.4**
comp=Z,104nm,1.4s,mb5.3
SMRF Simiane la Rot 77.46 31 *e*P **P 10 14 02.7 -0.4**
comp=Z,104nm,1.4s,mb5.6
STOF St-Etienne Org 77.55 31 *e*P **P 10 14 04.1 +0.5**
ETOR Torete 77.56 38 P **P 10 14 03.9 +0.2**
ETOR pmax pmax
comp=Z,18nm,4.0s
ETOR Torete 77.56 38 P **P 10 14 03.9 +0.1**
comp=Z,18nm,4.0s
PBEJ Beja 77.61 43 *e*P **P 10 14 04.4 +0.4**
PSZ Piszkesteto 77.64 20 *e*Pd **P 10 14 05.5 +1.4**
PSZ Piszkesteto 77.64 20⇓*i*P **P 10 14 05.6 +1.5**
PSZ Piszkesteto 77.64 20 *e*P **P 10 14 05.3 +1.2**
OBKA Obir 77.72 24⇑*i*P **P 10 14 04.7 +0.1**
comp=Z,33nm,1.2s,mb5.1
CADS Cadrg 77.77 25 *i*P **P 10 14 04.4 -0.5**
ESDC Sonseca Array 77.81 39 P **P 10 14 05.4 +0.3**
comp=Z,7.5nm,0.8s,mb4.7,baz=340,slow=6.4,SNR=18
ESDC LR LR 10 48 06.9
comp=Z,1μm,18.3s,MS5.3,baz=330,slow=35
ESLA Sonseca Array 77.81 39 *e*P **P 10 14 05.6 +0.5**
comp=Z,14nm,1.4s,mb4.7
ESLA LR LR
comp=Z,10μm,20.0s,MS6.1
TAVF Tavernes 77.94 31 *e*P **P 10 14 05.2 -0.6**
GELF Grande-Etoile 77.94 31 *e*P **P 10 14 04.5 -1.3**
VOY Vojsko 77.99 25 *e*P **P 10 14 05.8 -0.3**
VOY *e* 10 14 19.0
MK31 Makanchi Array 78.02 338 P **P 10 14 04.9 -1.4**
MK31 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MKAR Makanchi Array 78.02 338 P **P 10 14 04.4 -1.9**
comp=Z,4.7nm,0.7s,mb4.5,baz=22,slow=4.7,SNR=20
AUTN L'Aution 78.02 30 *e*P **P 10 14 08.2 +1.9**
SAOF Saorge 78.07 30 *e*P **P 10 14 07.7 +1.1**
AKTO Aktyubinsk 78.08 354 LR LR 10 54 57.4
comp=Z,2μm,18.3s,MS5.4,baz=226,slow=41
SBF Sospel 78.15 30 *e*P **P 10 14 06.6 -0.4**
FRF La Foret Royal 78.17 30 *e*P **P 10 14 06.6 -0.5**
comp=Z,70nm,1.2s,mb5.2
FRF La Foret Royal 78.17 30 *e*P **P 10 14 06.6 -0.5**
FRF pmax pmax
comp=Z,35nm,1.2s,mb5.2
FRF La Foret Royal 78.17 30 *e*P **P 10 14 06.6 -0.5**
comp=Z,35nm,1.2s,mb5.2
EGRO El Granado 78.19 43 P **P 10 14 07.7 +0.5**
comp=Z,20nm,1.0s,mb5.0
EMIN Mina Concepcio 78.33 42 P **P 10 14 08.3 +0.3**
comp=Z,26nm,1.3s,mb5.0
LMR La Mourre 78.33 31 *e*P **P 10 14 07.6 -0.4**
comp=Z,40nm,1.1s,mb5.0
LMR La Mourre 78.33 31 *e*P **P 10 14 07.6 -0.4**
LMR pmax pmax
comp=Z,20nm,1.1s,mb5.0
LMR La Mourre 78.33 31 *e*P **P 10 14 07.6 -0.4**
comp=Z,20nm,1.1s,mb5.0
NNA Nana 78.41 127 *e*P **P 10 14 05.9 -2.6**
comp=Z,82nm,1.4s,mb5.5
NNA LR LR
comp=Z,3μm,20.0s,MS5.6
EMOS Mosqueruela 78.56 37 P **P 10 14 10.1 +0.8**
comp=Z,72nm,4.7s
EADA Adamuz 78.85 41 P **P 10 14 11.3 +0.4**
comp=Z,13nm,1.0s,mb4.8
BURAR Bucovina Array 78.97 17⇓*i*P **P 10 14 11.3 -0.2**
PKSM Moragy 78.98 21⇓*i*P **P 10 14 12.1 +0.5**
PKSM Moragy 78.98 21 P **P 10 14 11.9 +0.4**
ECHE Chera 79.04 37 P **P 10 14 13.8 +1.9**
ECHE pmax pmax
comp=Z,11nm,0.8s,mb4.8
ECHE Chera 79.04 37 P **P 10 14 13.8 +1.9**
comp=Z,11nm,0.8s,mb4.8
EBAN Banos Encina 79.18 40 P **P 10 14 13.6 +1.0**
EBAN pmax pmax
comp=Z,11nm,0.8s,mb4.8
EBAN Banos Encina 79.18 40 P **P 10 14 13.6 +0.9**
comp=Z,11nm,0.8s,mb4.8
EVIA Vianos 79.28 39 P **P 10 14 14.8 +1.6**
EVIA pmax pmax
comp=Z,16nm,0.6s,mb5.1
EVIA Vianos 79.28 39 P **P 10 14 14.8 +1.6**
comp=Z,16nm,0.6s,mb5.1
DRGR 79.29 18⇑*i*P **P 10 14 13.3 0.0**
DRGR 79.29 18 P **P 10 14 13.9 +0.6**
GTA Gaotai 79.32 323 *e*P **P 10 14 17.6 +4.2**
GTA SKS 10 24 25.8
GTA SCS ScS 10 24 30.8 -5.7
GTA AMB AMB
comp=Z,100nm,5.3s
GTA LR LR
comp=N,2μm,19.0s,MS5.5
GTA LR LR
comp=E,1μm,17.1s,MS5.5
GTA LR LR
comp=Z,2μm,18.3s,MS5.6
WMQ Urumqi 79.38 333 P **P 10 14 14.5 +0.8**
WMQ AP pP 10 14 19.3 +2.2
WMQ S S 10 24 13.8 -0.8
WMQ XS sS 10 24 20.5 +0.5
WMQ SKS 10 24 24.9
WMQ PS 10 24 55.1
WMQ AMB AMB
comp=Z,20nm,1.7s,mb4.8
WMQ AMB AMB
comp=Z,160nm,4.0s
WMQ LR LR
comp=N,2μm,16.0s,MS5.7
WMQ LR LR
comp=E,2μm,17.0s,MS5.7
WMQ LR LR
comp=Z,2μm,18.0s,MS5.5
ETOB Tobarra 79.64 38 P **P 10 14 16.3 +1.1**
comp=Z,78nm,4.7s
PGF Pioggiola 79.82 29 *e*P **P 10 14 15.9 -0.2**
comp=Z,41nm,1.1s,mb5.0
PGF Pioggiola 79.82 29 *e*P **P 10 14 15.9 -0.2**
PGF pmax pmax
comp=Z,20nm,1.1s,mb5.0
PGF Pioggiola 79.82 29 *e*P **P 10 14 15.9 -0.2**
comp=Z,20nm,1.1s,mb5.0
BADI Badiali 79.89 27 P **P 10 14 17.4 +0.9**
ECOG Cogollos-Vega 80.03 40 P **P 10 14 18.3 +1.0**
ECOG pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ECOG Cogollos-Vega 80.03 40 P **P 10 14 18.3 +1.0**
comp=Z,3.7nm,0.5s,mb4.6
CORF Corte 80.09 29 *e*P **P 10 14 18.1 +0.5**
EBEN Beniarda 80.10 37 P **P 10 14 19.6 +1.9**
comp=Z,8.5nm,3.0s
XAN Xi'an 80.12 314 P **P 10 14 15.9 -1.9**
XAN AP pP 10 14 23.6 +2.5
XAN PP PP 10 17 22.5 +2.6
XAN S S 10 24 17.4 -5.0
XAN AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
XAN LR LR
comp=N,880nm,13.9s,MS5.4
XAN LR LR
comp=E,1μm,17.8s,MS5.4
XAN LR LR
comp=Z,2μm,17.0s,MS5.5
EMIJ Mijas 80.15 42 P **P 10 14 18.2 +0.3**
comp=Z,48nm,4.2s
ERON Agron 80.15 41 P **P 10 14 19.2 +1.2**
comp=Z,8.9nm,0.6s,mb4.9
KIS Kishinev 80.16 14 *e*P **P 10 14 18.0 0.0**
KIS *e*S S 10 24 28.0 +5.2
KIS *e*PS 10 25 04.0
KIS MLR MLR
comp=Z,3μm,22.0s,MS5.5
KIS MLR MLR
comp=Z,2μm,22.0s
BZS Buzias 80.19 20⇓*i*P **P 10 14 17.7 -0.5**
BZS Buzias 80.19 20 P **P 10 14 18.4 +0.2**
CING Cingoli 80.27 26 P **P 10 14 19.4 +0.8**
comp=Z,22nm,1.3s,mb4.9
ETOS Mallorca 80.28 35 P **P 10 14 19.9 +1.3**
comp=Z,102nm,1.8s,mb5.5
LZH Lanzhou 80.59 318 *e*P **P 10 14 20.0 -0.3**
LZH AP pP 10 14 25.6 +2.0
LZH XP sP 10 14 27.5 +2.7
LZH PP PP 10 17 24.5 +0.7
LZH *e*S S 10 24 23.0 -4.4
LZH XS sS 10 24 32.0 -0.8
LZH *e*SS SS 10 29 36.1 -3.6
LZH AMB AMB
comp=Z,30nm,1.1s,mb5.1
LZH AMB AMB
comp=Z,120nm,4.7s
LZH LR LR
comp=E,1μm,17.1s
LZH LR LR
comp=Z,2μm,17.7s,MS5.5
EBER Berja 80.63 40 P **P 10 14 21.6 +1.1**
comp=Z,26nm,1.2s,mb5.0
VRI Vrincioaia 80.92 16⇑*i*P **P 10 14 22.2 +0.1**
VRI Vrincioaia 80.92 16 P **P 10 14 22.9 +0.8**
VOIR 81.04 17⇓*i*P **P 10 14 23.3 +0.6**
MLR Muntele Rosu 81.15 17⇓*i*P **P 10 14 23.6 +0.3**
TATO Taipei 81.22 299 PFAKE 10 14 40.0 +16
TATO LR LR
comp=Z,679nm,19.0s,MS5.0
FIAM Fiamignano 81.28 27 P **P 10 14 24.2 +0.2**
comp=Z,20nm,0.8s,mb5.1
CFR Carcaliu 81.83 15⇑*i*P **P 10 14 26.3 -0.6**
TIRR Tirgusor 82.57 15⇑*i*P **P 10 14 30.8 0.0**
QZH Quanzhou 82.81 301 *e*P **P 10 14 30.8 -1.2**
QZH S S 10 24 47.0 -3.3
QZH LR LR
comp=N,1μm,16.8s,MS5.6
QZH LR LR
comp=E,2μm,16.5s,MS5.6
QZH LR LR
comp=Z,2μm,16.2s,MS5.5
SIM Simferopol' 82.89 11 *e*P **P 10 14 34.6 +2.1**
SIM *e* 10 17 40.0
SIM *e*S S 10 24 57.0 +5.9
SIM *e*PS 10 25 51.0
SIM pmax pmax
comp=Z,17nm,1.3s,mb4.9
SIM MLR MLR
comp=Z,3μm,17.5s,MS5.7
TKM2 Tokmak 2 83.17 341 *i*P **P 10 14 33.8 -0.1**
SAML Samuel 83.25 113 PFAKE 10 14 50.0 +16
SAML LR LR
comp=Z,1μm,20.0s,MS5.2
ANN Anapa 83.39 9 *e*P **P 10 14 34.5 -0.5**
ANN *e**PP pP 10 14 42.7 +4.3
ANN *e*S S 10 24 53.4 -2.8
ANN pmax pmax
comp=Z,30nm,1.3s,mb5.2
FRU Bishkek 83.45 342 *e*P **P 10 14 34.0 -1.3**
FRU pmax pmax
comp=Z,40nm,1.4s,mb5.3
GOF Gofitskoye 83.54 5 *e*P **P 10 14 35.5 -0.3**
AAK Ala-Archa 83.67 342⇑*e*P **P 10 14 35.0 -1.5**
AAK pmax pmax
comp=Z,14nm,1.7s,mb4.8
AAK Ala-Archa 83.67 342 *e*P **P 10 14 35.6 -0.9**
comp=Z,18nm,1.4s,mb5.0
AAK LR LR
comp=Z,2μm,20.0s,MS5.4
SLCN Sala Consilina 83.71 25 P **P 10 14 37.0 +0.3**
comp=Z,110nm,1.6s,mb5.7
MGR Morigerati 83.93 26 P **P 10 14 37.3 -0.5**
comp=Z,33nm,1.3s,mb5.3
STIP Stip 84.06 20 *e*P **P 10 14 37.9 -0.6**
CUC Castrocucco 84.13 25 P **P 10 14 37.3 -1.5**
OHR Ohrid 84.31 21 *e*P **P 10 14 38.2 -1.6**
VAY Valandovo 84.50 20 *e*P **P 10 14 39.5 -1.2**
KIV Kislovodsk 84.62 5*d e*P **P 10 14 41.7 +0.4**
KIV pmax pmax
comp=Z,36nm,1.7s,mb5.2
KIV MLR MLR
comp=Z,2μm,18.0s,MS5.5
KIV Kislovodsk 84.62 5 *e*Pr **P 10 14 41.8 +0.5**
KIV LR LR
comp=Z,1μm,19.0s,MS5.3
SOC Sochi 84.80 7*d i*P **P 10 14 41.6 -0.6**
SOC *e**PP pP 10 14 48.7 +3.2
SOC *e*S 10 25 02.7
SOC *e*SS SS 10 30 38.3 -3.9
SOC pmax pmax
comp=Z,22nm,1.0s,mb5.2
SOC MLR MLR
comp=Z,1μm,16.0s,MS5.4
SOC Sochi 84.80 7 *i*P **P 10 14 43.9 +1.7**
HNR Honiara 85.02 248 PFAKE 10 14 50.0 +6.7
HNR LR LR
comp=Z,976nm,19.0s,MS5.2
CD2 Chengdu 85.07 316⇑*i*P **P 10 14 42.8 -0.8**
CD2 AP pP 10 14 53.3 +6.4
CD2 PP PP 10 18 00.9 +0.3
CD2 SKS 10 25 01.0
CD2 S 10 25 07.0
CD2 SS SS 10 30 42.4 -3.8
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.2

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CD2                                   AMB     AMB
        comp=Z,120nm,9.2s
CD2                                   LR      LR
        comp=N,1µm,15.6s
CD2                                   LR      LR
        comp=Z,1µm,15.6s,MS5.4
TIP     Timpagrande      85.15  25   eP      P       10 14 44.0  0.0
MAK     Makhachkala      85.79   2   eP      P       10 14 45.3 -1.8
MAK                                   e               10 18 08.7
MAK                                   ePPP            10 20 03.7
MAK                                   eS              10 25 08.1
MAK                                   pmax    pmax
        comp=Z,19nm,0.3s,mb5.8
ONI     Oni              86.04   5   P       P       10 14 48.4  0.0
LPAZ    La Paz           86.53 122   P       P       10 14 49.4 -1.4
        comp=Z,10nm,0.9s,mb5.0,baz=350,slow=5.4,SNR=29
LPAZ                                  LR      LR      10 55 28.6
        comp=Z,1µm,18.7s,MS5.3,baz=321,slow=37
LPAZ    La Paz           86.53 122   eP      P       10 14 49.4 -1.4
LPAZ                                  pmax    pmax
        comp=Z,18nm,1.1s
LPAZ                                  MLR     MLR
        comp=Z,1µm,20.0s
LPAZ    La Paz           86.53 122   eP      P       10 14 49.4 -1.5
        comp=Z,18nm,1.1s,mb5.2
LPAZ                                  LR      LR
        comp=Z,1µm,20.0s,MS5.3
DGRG    David-gareji     87.24   3   P       P       10 14 53.7 -0.6
GYA     Guiyang          87.55 311⇑  iP      P       10 14 55.3 -0.5
GYA                                   SKS             10 25 19.3
GYA                                   S               10 25 36.6
GYA                                   AMB     AMB
        comp=Z,20nm,0.8s,mb5.4
GYA                                   AMB     AMB
        comp=Z,170nm,5.4s
GYA                                   LR      LR
        comp=N,1µm,21.3s,MS5.5
GYA                                   LR      LR
        comp=E,2µm,23.1s,MS5.5
GYA                                   LR      LR
        comp=Z,2µm,21.9s,MS5.4
ANTO    Ankara           87.72  13   eP      P       10 14 56.6  0.0
ANTO                                  pmax    pmax
        comp=Z,46nm,1.4s,mb5.5
ANTO                                  MLR     MLR
        comp=Z,1µm,22.0s,MS5.2
ANTO    Ankara           87.72  13   eP      P       10 14 56.6  0.0
        comp=Z,46nm,1.4s,mb5.5
ANTO                                  LR      LR
        comp=Z,1µm,22.0s,MS5.2
BR131   Keskin Array S   87.98  12   eP      P       10 14 58.0 +0.2
        comp=Z,12nm,1.1s,mb5.0
BR131                                 LR      LR
        comp=Z,851nm,21.0s,MS5.1
BRTR    Keskin Array B   87.98  12   P       P       10 14 57.4 -0.4
        comp=Z,10.0nm,1.2s,mb4.9,baz=349,slow=2.5,SNR=26
BRTR                                  LR      LR      10 55 56.9
        comp=Z,881nm,21.6s,MS5.1,baz=346,slow=37
BRTR    Keskin Array B   87.98  12   P       P       10 14 57.4 -0.4
BRTR                                  LR      LR      10 55 56.9
GNI     Garni            88.52   4   eP      P       10 15 01.6 +1.2
GNI                                   pmax    pmax
        comp=Z,25nm,1.7s
GNI                                   MLR     MLR
        comp=Z,900nm,19.0s
GNI     Garni            88.52   4⇑  eP      P       10 15 01.7 +1.3
GNI                                   LR      LR
        comp=Z,1µm,20.0s,MS5.2
MALT    Malatya          89.92   9⇓  iP      P       10 15 08.4 +1.5
MALT    Malatya          89.92   9   eP      P       10 15 08.1 +1.2
MALT                                  pmax    pmax
        comp=Z,19nm,1.3s,mb5.3
MALT    Malatya          89.92   9   eP      P       10 15 08.1 +1.2
        comp=Z,19nm,1.3s,mb5.3
KMI     Kunming          90.50 313   P       P       10 15 09.6 -0.1
KMI                                   AP      pP      10 15 13.3 +0.3
KMI                                   PP      PP      10 18 46.8 +2.6
KMI                                   SKS             10 25 39.0
KMI                                   S               10 26 01.1
KMI                                   XS      sS      10 26 06.9 -3.6
KMI                                   AMB     AMB
        comp=Z,40nm,3.7s
KMI                                   LR      LR
        comp=N,940nm,20.1s,MS5.5
KMI                                   LR      LR
        comp=E,1µm,17.7s,MS5.5
KMI                                   LR      LR
        comp=Z,1µm,18.9s,MS5.3
LSA     Lhasa            91.17 325   PFAKE           10 15 20.0 +7.2
LSA                                   LR      LR
        comp=Z,2µm,19.0s,MS5.6
LVC     Limon Verde      91.38 126   PFAKE           10 15 30.0 +16
LVC                                   LR      LR
        comp=Z,1µm,22.0s,MS5.3
DZM     Mont Dzumac      91.76 236   LR      LR      10 48 58.0
        comp=Z,959nm,19.4s,MS5.2,baz=274,slow=31
QIZ     Qiongzhong       92.25 305   P       P       10 15 16.1 -1.7
QIZ                                   S               10 26 18.6
QIZ                                   LR      LR
        comp=E,1µm,17.5s
QIZ                                   LR      LR
        comp=Z,1µm,17.9s,MS5.3
QIZ     Qiongzhong       92.25 305   PFAKE           10 15 30.0 +12
QIZ                                   LR      LR
        comp=Z,924nm,19.0s,MS5.2
PMG     Port Moresby     92.62 258   LR      LR      10 50 25.0
        comp=Z,511nm,20.7s,MS5.0,baz=36,slow=31
PMG     Port Moresby     92.62 258   deP     P       10 15 17.9 -1.6
PMG     Port Moresby     92.62 258   PFAKE           10 15 30.0 +11
PMG                                   LR      LR
        comp=Z,657nm,21.0s,MS5.1
DAV     Davao City (W)   93.10 285   PFAKE           10 15 30.0 +8.3
DAV                                   LR      LR
        comp=Z,909nm,22.0s,MS5.2
RCBR    Riachuelo        97.34  90   PFAKE           10 15 50.0 +9.0
RCBR                                  LR      LR
        comp=Z,1µm,20.0s,MS5.4
BDFB    Brasilia         97.47 106   LR      LR      11 04 29.8
        comp=Z,1µm,19.3s,MS5.3,baz=330,slow=38
CTAO    Charters Tower  101.47 252   PFAKE           10 16 10.0 +11
CTAO                                  LR      LR
        comp=Z,932nm,19.0s,MS5.3
SNZO    South Karori    104.11 219   PFAKE           10 16 20.0 +8.8
SNZO                                  LR      LR
        comp=Z,1µm,20.0s,MS5.5
DBIC    Dimbokro        105.67  57   PFAKE           10 20 40.0 +8.8
DBIC                                  LR      LR
        comp=Z,3µm,20.0s,MS5.8
TRQA    Tornquist       107.40 130   PFAKE           10 20 50.0 +16
TRQA                                  LR      LR
        comp=Z,1µm,21.0s,MS5.5
WRAB    Tennant Creek   108.57 261   PFAKE           10 20 50.0 +13
WRAB                                  LR      LR
        comp=Z,757nm,20.0s,MS5.3
ASCN    Ascension       112.24  74   PFAKE           10 21 00.0 +16
ASCN                                  LR      LR
        comp=Z,2µm,22.0s,MS5.6
PALK    Pallekele       115.55 325   PFAKE           10 21 00.0 +10
PALK                                  LR      LR
        comp=Z,781nm,20.0s,MS5.3
TAU     Tasmania Unive  117.95 236   PFAKE           10 21 10.0 +16
TAU                                   LR      LR
        comp=Z,601nm,20.0s,MS5.2
KMBO    Kilima Mbogo    128.63  16   PFAKE           10 21 30.0 +15
KMBO                                  LR      LR
        comp=Z,511nm,20.0s,MS5.2
HOPE    Hope Point      131.18 129   PFAKE           10 21 30.0 +10
HOPE                                  LR      LR
        comp=Z,1µm,19.0s,MS5.6
SBA     Scott Base      134.73 195   PFAKE           10 21 40.0 +14
SBA                                   LR      LR
        comp=Z,1µm,19.0s,MS5.7
VNDA    Vanda           135.37 197   PFAKE           10 21 40.0 +12
VNDA                                  LR      LR
        comp=Z,1µm,20.0s,MS5.6
TSUM    Tsumeb          139.06  50   PFAKE           10 21 50.0 +16
TSUM                                  LR      LR
        comp=Z,1µm,22.0s,MS5.6
LSZ     Lusaka          139.91  33   PFAKE           10 21 50.0 +14
LSZ                                   LR      LR
        comp=Z,1µm,21.0s,MS5.7
QSPA    South Pole Qui  141.42 180   eP      PKPdf   10 21 32.1  -6.7
CASY    Casey           146.87 220   PFAKE           10 22 00.0 +12
CASY                                  LR      LR
        comp=Z,930nm,20.0s,MS5.6
LBTB    Lobatse         147.74  44   PFAKE           10 22 00.0 +10
LBTB                                  LR      LR
        comp=Z,1µm,22.0s,MS5.6
VNA1    Neumayer--Stat  147.96 148   ePKPdf  PKPdf   10 21 51.0 +0.9
VNA1                                  e               10 21 54.2
VNA1                                  e               10 22 05.0
VNA1                                  e               10 22 07.9
VNA1                                  e               10 22 15.7
VNA1                                  e               10 22 37.5
BOSA    Boshof          150.69  48   PKPbc   PKPbc   10 21 57.9 -2.1
        comp=Z,8.8nm,0.7s,baz=330,slow=2.2,SNR=12
BOSA    Boshof          150.69  48   ePKPdf  PKPdf   10 21 53.0 -1.4
BOSA                                  ePKPbc  PKPbc   10 21 59.3 -0.6
BOSA                                  ePKPab  PKPab   10 22 07.1 +0.2
BOSA                                  LR      LR
        comp=Z,935nm,20.0s,MS5.6
SUR     Sutherland      151.54  59   ePKPbc  PKPbc   10 22 00.6 -1.3
SUR                                   LR      LR
        comp=Z,961nm,20.0s,MS5.6
```

JMA 20 10:14:58.2±0.4, 4380N×14843E, h0km, M3.8, East of Kuril Islands

```
Code  Station Name      Δ°   AZ°   Phase ID  Time        Res
                                   Op    ISC  h m s       ISC
NEM2  Nemuro 2          2.00 258   P     Pn   10 15 33.6 +0.4
NEM2                               eS    Sn   10 15 59.7 +0.7
JRA   Rausu             2.40 274   P     Pn   10 15 39.6 +0.9
JRA                                eS    Sn   10 16 08.9 +0.2
JAK   Akkeshi           2.84 255   P     Pn   10 15 45.7 +1.0
JAK                                eS    Sn   10 16 20.6 +1.0
JTKR  Abashiri--Toko    3.27 275   P     Pn   10 15 51.9 +1.2
JAR   Ashorobuto        3.42 263   P     Pn   10 15 54.6 +1.8
JAR                                eS    Sn   10 16 37.1 +3.0
JCH   Churui            3.89 254   P     Pn   10 16 01.8 +2.6
JCH                                eS    Sn   10 16 48.6 +3.0
JKK2  Kamakawa 2        4.11 273   P     Pn   10 16 05.8 +3.5
JNBK  Urakawa-nobuka    4.43 252   P     Pn   10 16 08.2 +1.6
JKB   Kayabe            5.76 253   P     Pn   10 16 26.4 +1.4
JKB                                eS    Sn   10 17 31.0 -0.8
JOT   Ohata             5.96 249   P     Pn   10 16 28.9 +1.2
JOT                                eS    Sn   10 17 36.4 -0.2
JANG  Nango             6.18 239   P     Pn   10 16 31.0 +0.3
JANG                               eS    Sn   10 17 38.4 -3.6
```

*ISCJB **20** 10:17:27.6±0.8, 4569N±004×1084E±005, h5km, Error ellipse: s-maj=6.4km s-min=4.0km az=126.3*
*CSEM **20** 10:17:28.0±0.5, 4568N×1076E, h20km, ML2.8/6, Error ellipse: s-maj=8.6km s-min=5.4km az=155.0*
*VIE **20** 10:17:28.6±0.6, 4571N×1085E, h8km, mb1.9/2, ML2.2/4, Error ellipse: s-maj=4.0km s-min=2.4km az=18.0 46 km SSW of Trento*
*ROM **20** 10:17:28.5±0.4, 4572N×1079E, h5km, Md2.4/8, Ml2.1/2, Error ellipse: s-maj=5.2km s-min=2.4km az=140.0*

ISC 20 10:17:28.3±1.0, 4566N±005×1082E±005, h7km±8km, n16, σ0°64/30, 9C-8D, Northern Italy

```
Code  Station Name      Δ°   AZ°   Phase ID  Time        Res
                                   Op    ISC  h m s       ISC
SALO  Salr              0.21 258   Pg    Pg   10 17 32.4 -0.1
MDI   Monti di Nese     0.79 279   Pg    Pg   10 17 44.3 +0.9
MDI                                Sg    Sg   10 17 54.7 +1.1
        41nm,0.3s
APPI  Appiano           0.86  19   Pg    Pg   10 17 45.0 +0.1
APPI                               Sg    Sg   10 17 56.1  0.0
        101nm,0.4s
BRMO  Bormio            0.87 339   Pg    Pg   10 17 44.3 -0.7
BRMO                               Sg    Sg   10 17 55.6 -0.8
FUORN Ofenpass          1.03 338   Pg    Pg   10 17 47.7 -0.4
FUORN                              Sg    Sg   10 18 00.9 -0.6
BRES  Bressanone        1.22  31   Pg    Pg   10 17 51.2 -0.4
BRES                               Sg    Sg   10 18 06.7 -0.6
DAVOX Davos             1.30 330   Pg    Pg   10 17 52.6 -0.5
TUE   Stuetta           1.31 309   Pg    Pg   10 17 52.2 -1.2
SQTA  Sankt Quirin      1.58  10⇑  iSg   Sg   10 18 19.2 +0.1
        comp=Z,9.8nm,0.3s
SQTA  Sankt Quirin      1.58  10⇓  iPn   Pn   10 17 57.0 +0.3
SQTA                        ⇑  iPg   Pg   10 17 59.0 +0.4
SQTA                        ⇑  iSg   Sg   10 18 19.2 +0.1
        9.8nm,0.3s
MOTA  Moosalm           1.69   6⇓  iPn   Pn   10 17 58.6 +0.3
MOTA                        ⇓  iPg   Pg   10 18 00.9 +0.1
MOTA                        ⇓  iSg   Sg   10 18 24.0 +1.3
        3.6nm,0.3s
DAVA  Damuels           1.75 338⇓  iSg   Sg   10 18 25.7 +1.2
        comp=Z,5.0nm,0.3s
DAVA  Damuels           1.75 338⇑  iPn   Pn   10 17 58.8 -0.3
DAVA                        ⇑  iPg   Pg   10 18 01.3 -0.5
DAVA                        ⇓  iSg   Sg   10 18 25.7 +1.2
        5.0nm,0.3s
KBA   Koelnbreinsper    2.25  50⇑  iPn   Pn   10 18 05.5 -0.4
KBA                         ⇑  iPg   Pg   10 18 11.3  0.0
KBA   Koelnbreinsper    2.25  50⇓  iSg   Sg   10 18 41.3 +0.8
        comp=E,4.3nm,0.3s
KBA   Koelnbreinsper    2.25  50⇑  iPn   Pn   10 18 05.5 -0.4
KBA                         ⇑  iPg   Pg   10 18 11.3  0.0
KBA                         ⇓  iSg   Sg   10 18 41.3 +0.8
        4.3nm,0.3s
```

*ISCJB **20** 10:20:55.1±0.7, 40N±01×1260E±04, h100km, mb3.8/8, Error ellipse: s-maj=60.4km s-min=12.6km az=154.6*
*IDC **20** 10:20:57.2±9.4, 399N×12601E, h107km±96km, mb3.5/7, mb1 3.6/7, mb1mx3.4/18, mbtmp3.9/7, Error ellipse: s-maj=64.9km s-min=18.4km az=78.0*
*NEIC **20** 10:20:58.4±6.7, 401N×12614E, h120km±68km, mb4.2/1, Error ellipse: s-maj=49.7km s-min=13.2km az=79.0*

ISC 20 10:20:56.7±0.7, 40N±01×1261E±04, h100km, n9, σ0°48/9, mb3.8/8, Talaud Islands

```
Code  Station Name      Δ°   AZ°   Phase ID  Time        Res
                                   Op    ISC  h m s       ISC
FITZ  Fitzroy Crossi    22.00 181  P     P    10 25 43.3 +0.7
        3.6nm,0.9s,mb3.7,baz=50,slow=20,SNR=8.4
JOW   Kunigami          22.77   5  P     P    10 25 51.0 +0.2
        5.0nm,0.7s,mb4.0,baz=164,slow=7.6,SNR=4.3
WRAB  Tennant Creek     25.16 161  eP    P    10 26 12.3 -0.2
        3.7nm,0.4s,mb4.2
WRA   Warramunga Arr    25.16 161  P     P    10 26 12.0 -0.6
        2.0nm,0.5s,mb3.8,baz=339,slow=11,SNR=25
ASAR  Alice Springs     28.56 165  P     P    10 26 43.3 +0.2
        0.3nm,0.4s,mb3.2,baz=342,slow=7.3,SNR=9.2
SONM  Songino Array     46.81 342  P     P    10 29 16.9 +0.6
        0.5nm,0.4s,mb3.6,baz=161,slow=9.1,SNR=5.4
MKAR  Makanchi Array    56.95 325  P     P    10 30 30.8 -0.7
        1.1nm,0.5s,mb4.1,baz=115,slow=8.2,SNR=12
MKAR  Makanchi Array    56.95 325  P     P    10 30 30.8 -0.8
ARCES ARCESS Array B    89.95 340  P     P    10 33 44.6 -0.1
        0.9nm,0.7s,mb4.0,baz=104,slow=6.6,SNR=5.9
```

IDC 20 10:28:55.6±3.9, 011N×9793E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, MS4.7/1, Ms1 4.6/1, ms1mx3.2/31, Error ellipse: s-maj=155.8km s-min=23.0km az=59.0, Northern Sumatera

```
Code  Station Name      Δ°   AZ°   Phase ID  Time        Res
                                   Op    ISC  h m s       ISC
WRA   Warramunga Arr    40.85 121  P     P    10 36 39.1 +0.1
        0.7nm,0.6s,baz=301,slow=9.1,SNR=8.2
ASAR  Alice Springs     42.16 127  P     P    10 36 50.4 +0.5
        0.8nm,0.6s,baz=300,slow=7.8,SNR=12
SONM  Songino Array     48.10   8  P     P    10 37 37.8 +0.8
        0.4nm,0.3s,baz=195,slow=10,SNR=2.7
MKAR  Makanchi Array    48.47 346  P     P    10 37 39.3 -0.5
        2.1nm,0.7s,baz=157,slow=8.2,SNR=13
STKA  Stephens Creek    52.09 132  LR    LR   11 01 56.6
        comp=Z,715nm,19.5s,baz=37,slow=38
```

*NEIC **20** 10:34:41.0, 5838N×13346W, h1km, ML2.7(AEIC), ML2.8(PGC), After PGC.*

PGC 20 10:34:41.9, 5838N×13346W, h1km, ML2.8/3, 56km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

```
Code  Station Name      Δ°   AZ°   Phase ID  Time        Res
                                   Op    ISC  h m s       ISC
SKAG  Skagway           1.46 319   ePn   Pn   10 35 07.6 -1.8
SKAG                               S     Sg   10 35 26.8 -1.9
SKAG                               eSn   Sn   10 35 28.5 -0.6
SIT   Sitka             1.66 218   ePn   Pn   10 35 09.7 -2.5
SIT                                eSn   Sn   10 35 32.0 -2.1
DLBC  Dease Lake        1.81  87   Pn    Pn   10 35 12.7 -1.4
DLBC                               Pg    Pg   10 35 14.2 -2.4
DLBC                               Sg    Sg   10 35 38.7 -1.2
DLBC                               Trac        10 35 40.0
        comp=Z,71nm,0.5s
DLBC  Dease Lake        1.81  87   P     Pn   10 35 14.3 +0.1
DLBC                               S     Sn   10 35 39.5 +1.8
PLBC  Pleasant Camp     1.86 307   Pn    Pn   10 35 14.7 -0.2
PLBC                               Sg    Sg   10 35 40.0 -1.6
WHY   Whitehorse        2.40 343   Pn    Pn   10 35 21.2 -1.1
WHY                                Sn    Sn   10 35 52.8 +0.3
WHY                                Sg    Sg   10 35 56.2 -2.9
WHY                                Trac        10 36 04.5
        comp=Z,49nm,0.6s
WHY   Whitehorse        2.40 343   P     Pn   10 35 20.8 -1.5
WHY                                S     Sn   10 35 52.6 +0.1
CRAG  Craig             2.92 176   P     Pn   10 35 27.3 -2.2
HYT   Haines Junctio    3.20 322   Pn    Pn   10 35 33.8 +0.4
HYT                                Pg    Pg   10 35 39.6 -3.7
HYT                                Sg    Sg   10 36 20.6 -4.3
HYT                                Trac        10 36 25.6
        comp=Z,12nm,0.3s
PNL   Peninsula         3.33 295   P     Pn   10 35 33.4 -1.8
FNBB  Fort Nelson       5.48  80   Pn    Pn   10 36 06.7 +2.0
FNBB                               Sg    Sg   10 37 35.4 -2.6
FNBB                               Trac        10 37 47.4
        comp=Z,12nm,0.9s
DAWY  Dawson            6.38 336   Pn    Pn   10 36 16.8 -0.3
DAWY                               Pg    Pg   10 36 37.6 -6.6
DAWY                               Sg    Sg   10 38 01.1 -5.9
DAWY                               Trac        10 38 05.7
        comp=Z,16nm,0.8s
BMBC  Bull Mountain     6.58 106   Trac        10 38 09.0
        comp=Z,2.0nm,0.1s
BMBC  Bull Mountain     6.58 106   Sg    Sg   10 38 06.9 -6.4
INK   Inuvik            9.97 360   Pn    Pn   10 37 05.8 -0.5
INK                                Sg    Sn   10 39 55.7 +57
INK                                Trac        10 40 11.3
        comp=Z,3.0nm,1.2s
```

*ISCJB **20** 10:35:02.2±0.3, 4347N±003×14248E±005, h183km±2km, mb4.0/19, Error ellipse: s-maj=5.8km s-min=5.1km az=76.5*
*MOS **20** 10:35:02.3±1.0, 4354N×14264E, h189km, mb4.2/10, Error ellipse: s-maj=16.4km s-min=9.1km az=108.5*
*JMA **20** 10:35:03.6±0.2, 4346N×14247E, h179km±2km, M3.5*
*NEIC **20** 10:35:03.7±0.9, 4356N×14244E, h175km±8km, mb4.2/2, Error ellipse: s-maj=14.8km s-min=9.9km az=125.0*
*IDC **20** 10:35:03.4±0.8, 4354N×14244E, h173km±2km, mb3.7/11, mb1 3.8/13, mb1mx3.6/22, mbtmp4.2/13, Error ellipse: s-maj=20.2km s-min=14.8km az=152.0*

ISC 20 10:35:03.2±0.3, 4346N±003×14249E±005, h180km±2km, n61, σ0°85/82, mb4.0/19, 5C-3D, Hokkaido region

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Code  Station Name      Δ°   AZ°   Phase ID  Time        Res
                                   Op    ISC  h m s       ISC
JAB   Ashibetsu         0.20 282   P     Pn   10 35 27.4 +0.4
JAB                                eS    Sn   10 35 45.3  0.0
JFR   Furan             0.31 165   P     Pn   10 35 27.5 +0.3
JKK2  Kamakawa 2        0.45  25   P     Pn   10 35 28.3 +0.6
JKK2                               eS    Sn   10 35 46.4 -0.2
JHR   Hokuryu           0.62 297   P     Pn   10 35 29.2 +0.8
JHR                                eS    Sn   10 35 48.7 +0.8
ASAJ  Asahikawa         0.66   7   P     Pn   10 35 29.1 +0.5
        28nm,0.3s,baz=238,slow=9.7,SNR=162
ASAJ                               S     Sn   10 35 47.6 -0.6
        24nm,0.3s,baz=356,slow=29,SNR=24
JAR   Ashorobuto        0.95 100   P     Pn   10 35 31.1 +0.6
JAR                                eS    Sn   10 35 52.0 +0.5
JEW   Eniwo             0.98 231   P     Pn   10 35 31.3 +0.6
JEW                                eS    Sn   10 35 51.4 -0.5
JCH   Churui            1.06 143   P     Pn   10 35 31.0 -0.3
JCH                                eS    Sn   10 35 51.5 -1.5
JTKR  Abashiri--Toko    1.15  63   P     Pn   10 35 32.8 +0.8
JTKR                               eS    Sn   10 35 54.7 +0.5
JNBK  Urakawa-nobuka    1.20 171   P     Pn   10 35 32.9 +0.5
JNBK                               eS    Sn   10 35 57.1 +2.2
JYG   Yagishiri         1.23 322   P     Pn   10 35 32.7  0.0
JYG                                eS    Sn   10 35 54.8 -0.6
JSK   Shakotan          1.47 266   P     Pn   10 35 35.0 +0.2
JSK                                eS    Sn   10 35 58.6 -0.6
JSE   Soyaes            1.50   3   P     Pn   10 35 35.3 +0.3
JSE                                eS    Sn   10 35 59.2 -0.5
JAK   Akkeshi           1.68 105   P     Pn   10 35 36.4 -0.4
JAK                                eS    Sn   10 36 02.1 -0.8
JWK2  Keihoku           1.90 347   P     Pn   10 35 39.6 +0.5
JKB   Kayabe            1.91 215   P     Pn   10 35 39.1 -0.1
JKB                                eS    Sn   10 36 05.6 -1.4
JRA   Rausu             1.97  75   P     Pn   10 35 40.6 +0.8
JRA                                eS    Sn   10 36 09.6 +1.4
JOT   Ohata             2.34 208   P     Pn   10 35 43.8 -0.1
JOT                                eS    Sn   10 36 14.7 -0.8
NEM2  Nemuro 2          2.37  91   P     Pn   10 35 43.7 -0.6
NEM2                               eS    Sn   10 36 13.7 -2.6
JOSM  Okushiri--Mats    2.61 239   P     Pn   10 35 47.2 +0.1
YSS   Yuzh-Sakhalins    3.50   3⇑  ePN   Pn   10 35 58.0 +0.1
YSS                                eS    Sn   10 36 40.0 -0.6
YSS                                pmax    pmax
        comp=Z,30nm,0.7s
YSS                                smax
        comp=E,60nm,0.9s
YSS                                smax
        comp=N,100nm,1.0s
YSS   Yuzh-Sakhalins    3.50   3   ePn   Pn   10 35 57.0 -0.9
YSS                                eSn   Sn   10 36 40.3 -0.2
HABR  Khabarovsk        7.21 317   ePN   Pn   10 36 45.9  0.0
MJAR  Matsushiro Arr    7.65 207   P     Pn   10 36 53.2 +1.4
        comp=N,0.4nm,0.3s,baz=22,slow=13,SNR=3.7
JHJ   Hachijo jima 2   10.54 192   P     Pn   10 37 28.9 -0.7
        comp=N,4.3nm,0.3s,baz=42,slow=21,SNR=5.4
JHJ                                S     Sn   10 39 18.8 -8.1
        comp=N,2.5nm,0.3s,baz=31,slow=18,SNR=4.6
PET   Petropavlovsk    14.37  43⇓  eP    Pn   10 38 15.6 -2.8
PET                                pmax    pmax
        comp=Z,30nm,1.3s
YAK   Yakutsk          20.08 342   iP    P    10 39 29.3 +6.6
SONM  Songino Array    25.45 293   P     P    10 40 15.2 +0.8
        comp=Z,3.3nm,0.7s,mb4.0,baz=86,slow=9.0,SNR=20
TLY   Talaya           27.19 301⇑  eP    P    10 40 29.8 -0.2
MK31  Makanchi Array   41.70 296   P     P    10 42 34.4 +0.3
MK31                               pmax    pmax
        comp=Z,1.0nm,0.5s,mb3.7
MK31  Makanchi Array   41.70 296   P     P    10 42 34.4 +0.3
MK31                               pmax    pmax
        comp=Z,1.0nm,0.5s,mb3.7
MKAR  Makanchi Array   41.70 296   P     P    10 42 34.5 +0.4
        comp=Z,2.3nm,0.4s,mb4.1,baz=83,slow=10.0,SNR=20
KURK  Kurchatov        42.86 303   eP    P    10 42 43.5  0.0
COLA  College          43.29  36⇑  eP    P    10 42 43.3 -3.7
CHKZ  Chkalovo         46.71 309   P     P    10 43 13.7 -0.2
CHKZ                               pmax    pmax
        comp=Z,5.0nm,0.9s,mb4.1
VOSK  Vostochnaya      46.80 308   P     P    10 43 14.7 +0.1
VOSK                               pmax    pmax
        comp=Z,3.0nm,1.0s,mb3.9
BVA0  Borovoye Array   47.04 308   eP    P    10 43 16.9 +0.4
BVAR  Borovoye Array   47.04 308   P     P    10 43 17.0 +0.5
        comp=Z,3.1nm,0.3s,mb4.4,baz=78,slow=9.4,SNR=27
ZRNK  Zerenda          47.86 309   eP    P    10 43 23.2 +0.4
ZRNK                               pmax    pmax
        comp=Z,4.0nm,0.6s,mb4.2
ZRNK  Zerenda          47.86 309   eP    P    10 43 23.2 +0.4
        comp=Z,4.2nm,0.6s,mb4.2
INK   Inuvik           48.35  30   P     P    10 43 26.4 -0.1
        comp=Z,2.6nm,0.5s,mb4.1,baz=303,slow=4.2,SNR=21
ARU   Arti             52.21 316⇓  iP    P    10 43 54.8 -0.7
ARU                                e               10 45 52.6
ARU                                ePPP            10 47 03.0
ARU                                eS    S    10 51 21.9 +16
ARU                                pmax    pmax
        comp=Z,3.0nm,0.7s,mb4.0
YKA   Yellowknife Ar   57.89  32   P     P    10 44 37.0 +0.9
        comp=Z,0.5nm,0.5s,mb3.6,baz=308,slow=7.3,SNR=3.7
YKA   Yellowknife Ar   57.89  32   P     P    10 44 37.0 +0.9
ARCES ARCESS Array B   58.30 338   P     P    10 44 38.7 -0.3
        comp=Z,0.6nm,0.5s,mb3.7,baz=50,slow=8.4,SNR=4.8
ARCES ARCESS Array B   58.30 338   P     P    10 44 38.7 -0.3
JOF   Joensuu          60.72 331   ep    P    10 44 54.2 -1.4
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comp=Z,2.5nm,0.4s,mb4.4
JOF Joensuu 60.72 331 *e*P **P 10 44 54.2 -1.4**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
KAF Kangasniemi 63.01 332 *e*p **P 10 45 09.5 -1.3**
comp=Z,2.6nm,0.6s,mb4.2,baz=46,slow=6.2
KAF Kangasniemi 63.01 332 *e*P **P 10 45 09.5 -1.3**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
FINES FINESS Array B 63.55 331 P **P 10 45 13.7 -0.7**
comp=Z,4.2nm,0.5s,mb4.5,baz=53,slow=7.6,SNR=29
FINES FINESS Array B 63.55 331 P **P 10 45 13.7 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.5s
KIV Kislovodsk 67.38 310 *e*P **P 10 45 40.9 +1.9**
KIV pmax pmax
comp=Z,13nm,0.9s,mb4.8
NB2 NORSAR Subarra 68.59 337 P **P 10 45 45.8 -0.7**
comp=Z,1.8nm,0.5s,mb4.1,baz=35,slow=6.5
NB2 NORSAR Subarra 68.59 337 P **P 10 45 45.8 -0.7**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
NOA NORSAR Array B 68.59 337 P **P 10 45 45.8 -0.8**
comp=Z,2.6nm,0.7s,mb4.1,baz=36,slow=6.3,SNR=10
GNI Garni 68.59 305‖ *e*P **P 10 45 43.3 -3.2**
GNI pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 69.75 321 P **P 10 45 53.3 -0.4**
comp=Z,0.5nm,0.3s,mb3.7,baz=42,slow=6.0,SNR=6.6
PDAR Pinedale Array 72.64 47 P **P 10 46 12.3 +1.3**
comp=Z,1.0nm,0.6s,mb3.7,baz=265,slow=2.6,SNR=11
ULM Lac du Bonnet 73.72 35 P **P 10 46 17.6 +0.3**
comp=Z,0.3nm,0.4s,mb3.4,baz=333,slow=9.0,SNR=3.6
KHC Kasperske Hory 77.50 328‖ *e*P **P 10 46 39.3 +0.5**

*IDC **20** 10:39:18.0±1.0,3463N×73.10E,h0km,mb3.9/8, mb1 4.2/10,mb1mx3.9/22,mbtmp4.0/10,ML4.4/2,Error ellipse: s-maj=34.5km s-min=20.4km az=67.0*
*NDI **20** 10:39:19.6±2.9,3476N×7275E,h10km,ML3.9, mb3.8(NEIC)*
*ISCJB **20** 10:39:20.4±2.0,3461N±004×7296E±009,h33km±16km, mb3.8/8,Error ellipse: s-maj=13.1km s-min=4.5km az=132.7*
*MOS **20** 10:39:21.6±1.1,3477N×7329E,h33km,mb3.7/1,Error ellipse: s-maj=21.8km s-min=10.0km az=89.2*
*NEIC **20** 10:39:21.6±2.6,3463N×73.10E,h23km±19km,mb3.8/1, Error ellipse: s-maj=17.1km s-min=5.7km az=60.0*
ISC 20 10:39:22.8±0.8,3462N±004×7287E±009,h35km±10km, n37,σ1§22/51,mb3.8/8,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.31**	**128**	*e*P	**Pn**	**10 40 15.0**	**+2.9**
DLH				*e*x	**Sn**	**10 40 56.0**	**+5.7**
PONG	**Pong**	**3.71**	**135**	*e*P	**Pn**	**10 40 21.0**	**+3.5**
PONG				*e*x	**Sn**	**10 41 06.0**	**+6.1**
BHK	**Bhakra**	**4.37**	**136**	*e*x	**Sn**	**10 41 02.7**	**-14**
BHK				*e*x	x	10 41 27.5	
SDNR	**Sundarnagar**	**4.64**	**131**	*e*x	**Pn**	**10 40 31.5**	**+1.1**
SDNR				*e*S	**Sn**	**10 41 25.0**	**+2.0**
SMLA	**Simla**	**5.02**	**133**	*e*P	**Pn**	**10 40 36.9**	**+1.4**
SMLA				*e*P		10 40 37.3	
SMLA				*e*S	**Sn**	**10 41 33.8**	**+1.4**
SMLA				*e*S	**Sn**	**10 41 34.6**	**+2.3**
SMLA				AML	AML	10 41 39.5	
	comp=E,180nm,0.4s						
SMLA				AML	AML	10 41 40.1	
	comp=N,228nm,0.4s						
KLP	**Kalpa**	**5.47**	**123**	*e*P	**Pn**	**10 40 42.6**	**+0.9**
KLP				*e*S	**Sn**	**10 41 44.1**	**+0.8**
KLP				AML	AML	10 41 46.4	
	comp=E,123nm,0.2s						
KLP				AML	AML	10 41 46.7	
	comp=N,132nm,0.2s						
KLP				AML	AML	10 42 13.2	
	comp=N,252nm,0.5s						
KLP				AML	AML	10 42 19.0	
	comp=E,260nm,0.5s						
JOSI	**Joshimath**	**6.95**	**124**	*e*x	**Sn**	**10 42 10.9**	**-8.9**
NDI	**New Delhi**	**6.98**	**147**	*e*x	**Pn**	**10 41 06.0**	**+3.5**
NDI				*e*S	**Sn**	**10 42 19.0**	**-1.7**
KHET	**Khetri**	**6.99**	**158**	*e*P	**Pn**	**10 41 03.0**	**+0.4**
KHET				*e*S	**Sn**	**10 42 19.1**	**-1.8**
KHET				AML	AML	10 42 24.3	
	comp=N,42nm,0.3s						
KHET				AML	AML	10 42 24.4	
	comp=E,44nm,0.6s						
AYAN	**Aya Nagar**	**7.12**	**148**	*e*P	**Pn**	**10 41 05.6**	**+1.2**
AYAN				*e*S	**Sn**	**10 42 23.4**	**-0.5**
AYAN				AML	AML	10 42 25.4	
	comp=Z,43nm,0.4s						
SONA	**Sohna**	**7.30**	**149**	*e*P	**Pn**	**10 41 07.9**	**+1.0**
SONA				*e*S	**Sn**	**10 42 27.4**	**-1.1**
SONA				AML	AML	10 42 31.1	
	comp=N,333nm,0.4s						
SONA				AML	AML	10 42 31.6	
	comp=E,281nm,0.4s						
AAK	**Ala-Archa**	**8.10**	**9**	*e*P	**Pn**	**10 41 18.4**	**+0.5**
AAK				*e*		10 42 47.8	
AAK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AAK	**Ala-Archa**	**8.10**	**9**	*e*Pn	**Pn**	**10 41 18.4**	**+0.6**
	comp=Z,2.6nm,0.5s						
AAK				*e*Sn	**Sn**	**10 42 47.8**	**-0.4**
AJM	**Ajmer**	**8.26**	**169**	*i* P	**Pn**	**10 41 20.0**	**0.0**
AJM				*i* S	**Sn**	**10 42 51.0**	**-1.1**
KOLN	**Koldanda**	**11.44**	**124**	*e*P	**Pn**	**10 42 02.2**	**-1.4**
	comp=Z,6.9nm,0.3s						
KOLN				*e*S	**Sn**	**10 44 02.9**	**-7.3**
DMN	**Daman**	**12.59**	**120**	*e*P	**Pn**	**10 42 17.1**	**-2.3**
	comp=Z,13nm,0.4s						
KKN	**Kakani**	**12.61**	**119**	*e*P	**Pn**	**10 42 18.0**	**-1.6**
	comp=Z,9.9nm,0.3s						
KKN	**Kakani**	**12.61**	**119**	*e*P	**Pn**	**10 42 18.0**	**-1.6**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.3s						
PKI	**Pulchoki**	**12.83**	**120**	*e*S	**Sn**	**10 44 35.0**	**-9.2**
JIRN	**Jiri**	**13.35**	**118**	*e*P	**Pn**	**10 42 27.0**	**-2.7**
	comp=Z,36nm,0.3s						
JIRN				*e*S	**Sn**	**10 44 48.1**	**-8.6**
BVAR	**Borovoye Array**	**18.48**	**355**	P	**Pn**	**10 43 35.5**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=158,slow=9.9,SNR=13						
ZRNK	**Zerenda**	**18.53**	**353**	*e*P	**Pn**	**10 43 36.3**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZRNK	**Zerenda**	**18.53**	**353**	*e*P	**Pn**	**10 43 36.3**	**-0.2**
	comp=Z,3.9nm,0.6s						
AKTK	**Aktyubinsk**	**19.16**	**330**	P	**Pn**	**10 43 44.1**	**-0.1**
AKTO	**Aktyubinsk**	**19.16**	**330**	P	**Pn**	**10 43 44.1**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=132,slow=12,SNR=20						
AKTO	**Aktyubinsk**	**19.16**	**330**	P	**Pn**	**10 43 44.1**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**21.06**	**20**	P	**P**	**10 44 02.6**	**-1.1**
	comp=Z,4.4nm,0.4s,mb4.2,baz=259,slow=7.0,SNR=5.0						
ARCES	**ARCESS Array B**	**43.46**	**338**	P	**P**	**10 47 22.9**	**+0.6**
	comp=Z,0.8nm,0.4s,mb3.8,baz=116,slow=8.1,SNR=17						
ARCES	**ARCESS Array B**	**43.46**	**338**	P	**P**	**10 47 22.9**	**+0.6**
MJAR	**Matsushiro Arr**	**52.24**	**68**	P	**P**	**10 48 29.6**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=295,slow=10,SNR=4.3						
INK	**Inuvik**	**75.50**	**10**	P	**P**	**10 51 03.7**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=346,slow=6.9,SNR=9.5						
INK	**Inuvik**	**75.50**	**10**	P	**P**	**10 51 03.7**	**+0.3**
BOSA	**Boshof**	**77.33**	**222**	P	**P**	**10 51 15.3**	**+1.6**
	comp=Z,2.2nm,0.9s,mb4.1,baz=63,slow=3.6,SNR=3.1						
BOSA	**Boshof**	**77.33**	**222**	P	**P**	**10 51 15.3**	**+1.6**
WRA	**Warramunga Arr**	**79.70**	**123**	P	**P**	**10 51 27.4**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.6,baz=323,slow=5.0,SNR=16						
ASAR	**Alice Springs**	**81.92**	**126**	P	**P**	**10 51 39.0**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=303,slow=5.4,SNR=5.2						
YKA	**Yellowknife Ar**	**83.04**	**3**	P	**P**	**10 51 44.1**	**-0.4**
	comp=Z,0.7nm,0.7s,mb3.8,baz=348,slow=5.3,SNR=4.6						

*CSEM **20** 10:49:57.1±0.7,3713N×2426W,h0km,ML2.6,Error ellipse: s-maj=27.9km s-min=6.0km az=36.0,After PDA*
*PDA **20** 10:49:57.1±0.7,3713N×2426W,h0km,MD4.2,ML2.6, Error ellipse: s-maj=27.9km s-min=6.0km az=36.0*
SVSA 20 10:49:57.1±0.7,3713N×2426W,h0km,MD4.2,ML2.6, Error ellipse: s-maj=27.9km s-min=6.0km az=36.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	**Ponta Delgada**	**1.27**	**299**	*e*S	Sg	10 50 32.3	-5.7
PSET	**Sete Cidades**	**1.35**	**301**	*e*S	Sg	10 50 34.3	-6.2
PSET							
	51nm,0.1s						
PID	**Ribeirinha**	**3.32**	**294**	*e*P	Pn	10 50 45.5	-4.8
ROSA	**Rosais**	**3.52**	**298**	*e*P	Pn	10 50 48.5	-4.6
PICO	**Pico**	**3.57**	**294**	*e*P	Pn	10 50 49.4	-4.3
PICO				*e*S	Sn	10 51 27.9	-8.7
CALA	**Caldeira**	**3.80**	**294**	*e*P	Pn	10 50 52.5	-4.4
CALA				*e*S	Sn	10 51 34.3	-8.0

*IDC **20** 11:04:40.1±0.9,2187N×14307E,h0km,mb3.8/8, mb1 3.9/10,mb1mx3.9/20,mbtmp3.8/10,ML3.9/2,Error ellipse: s-maj=37.0km s-min=18.7km az=86.0*
*ISCJB **20** 11:04:42.6±4.2,2182N±006×1429E±02,h29km±29km, mb3.9/14,Error ellipse: s-maj=27.9km s-min=10.8km az=174.1*
*NEIC **20** 11:04:43.1±4.3,2180N×14299E,h21km±30km,mb4.2/7, Error ellipse: s-maj=20.4km s-min=9.8km az=87.0*
ISC 20 11:04:44.7±4.2,2182N±006×1430E±02,h31km±30km,n21, σ0§80/22,mb3.9/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.30**	**352**	Pn	**Pn**	**11 06 02.1**	**+0.4**
	11nm,0.3s,baz=312,slow=21,SNR=12						
CBIJ				Sn	**Sn**	**11 07 01.6**	**-0.1**
	4.0nm,0.3s,baz=287,slow=19,SNR=2.1						
MJAR	**Matsushiro Arr**	**15.25**	**345**	Pn	**Pn**	**11 08 16.8**	**-0.8**
	0.5nm,0.3s,baz=218,slow=2.7,SNR=4.8						
MAJO	**Matsushiro**	**15.25**	**345**	*e*Pn	**Pn**	**11 08 17.8**	**+0.1**
	3.9nm,0.7s						
SONM	**Songino Array**	**39.13**	**320**	P	**P**	**11 12 10.2**	**+0.9**
	1.3nm,0.5s,mb3.9,baz=130,slow=7.7,SNR=10						
WRAB	**Tennant Creek**	**42.35**	**192**	P	**P**	**11 12 33.6**	**-2.2**
	2.4nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**42.36**	**192**	P	**P**	**11 12 36.9**	**+1.0**
	0.9nm,0.8s,mb3.5,baz=17,slow=9.4,SNR=7.4						
ASAR	**Alice Springs**	**46.07**	**192**	P	**P**	**11 13 06.5**	**+0.9**
	0.4nm,0.8s,mb3.4,baz=12,slow=8.8,SNR=6.3						
STKA	**Stephens Creek**	**53.41**	**181**	P	**P**	**11 14 01.0**	**-0.4**
MKAR	**Makanchi Array**	**54.48**	**313**	P	**P**	**11 14 10.1**	**+0.8**
	0.7nm,0.6s,mb3.8,baz=94,slow=9.2,SNR=8.7						
MKAR	**Makanchi Array**	**54.48**	**313**	P	**P**	**11 14 10.1**	**+0.8**
KURK	**Kurchatov**	**57.26**	**317**	P	**P**	**11 14 28.8**	**-0.4**
CHKZ	**Chkalovo**	**62.33**	**320**	*e*P	**P**	**11 15 04.1**	**+0.1**
	1.3nm,0.7s,mb4.2						
BRVK	**Borovoye**	**62.52**	**319**	*e*P	**P**	**11 15 06.2**	**+0.9**
	1.6nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**63.30**	**319**	*e*P	**P**	**11 15 10.1**	**-0.4**
	2.3nm,0.8s,mb4.4						
INK	**Inuvik**	**67.53**	**24**	*e*P	**P**	**11 15 37.6**	**-0.3**
	1.2nm,0.8s,mb4.0						
YKA	**Yellowknife Ar**	**76.43**	**28**	P	**P**	**11 16 30.8**	**-0.4**
	1.0nm,0.5s,mb4.0,baz=291,slow=5.9,SNR=6.5						
FINES	**FINESS Array B**	**82.99**	**334**	P	**P**	**11 17 05.4**	**-1.3**
	0.3nm,0.5s,mb3.6,baz=44,slow=6.4,SNR=3.8						
NVAR	**Mina Array Bea**	**83.21**	**51**	P	**P**	**11 17 09.1**	**+1.2**
	0.3nm,0.5s,mb3.6,baz=263,slow=8.0,SNR=4.0						
NVAR	**Mina Array Bea**	**83.21**	**51**	P	**P**	**11 17 09.1**	**+1.2**
FFC	**Flin Flon**	**85.82**	**32**	*e*P	**P**	**11 17 21.3**	**+0.2**
	2.9nm,0.7s,mb4.6						
FFC				*e*		11 17 28.2	
BRTR	**Keskin Array B**	**90.12**	**313**	P	**P**	**11 17 41.3**	**-0.4**
	0.5nm,0.6s,mb4.0,baz=108,slow=4.0,SNR=3.6						

IDC 20 11:09:52.9±29.0,2266S×17420W,h0km,mb4.4/4, mb1 4.6/4,mb1mx4.1/13,mbtmp4.4/4,Error ellipse: s-maj=525.1km s-min=153.7km az=77.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.84**	**266**	P	P	11 17 04.0	+1.3
	7.4nm,0.5s,baz=95,slow=9.4,SNR=13						
STKA	**Stephens Creek**	**40.12**	**247**	P	P	11 17 28.9	-1.5
	0.7nm,0.5s,baz=90,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**47.50**	**258**	P	P	11 18 30.2	+0.5
	0.4nm,0.4s,baz=89,slow=8.8,SNR=4.2						
ASPA	**Alice Springs**	**47.51**	**258**	*e*P	P	11 18 30.4	+0.7
WB2	**Warramunga Arr**	**47.82**	**263**	*e*P	P	11 18 32.4	+0.3
WRA	**Warramunga Arr**	**47.83**	**263**	P	P	11 18 32.6	+0.3
	2.6nm,0.3s,baz=96,slow=8.4,SNR=165						
KAKA	**Kakadu**	**51.56**	**272**	*e*P	P	11 19 02.4	+1.7
	3.3nm,0.4s						
FORT	**Forrest**	**51.73**	**248**	*e*P	P	11 19 02.7	+0.8
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.26**	**263**	*e*P	P	11 19 37.4	+2.4
	8.4nm,1.4s						

CSEM 20 11:21:43.3±0.9,4006N×023W,h0km,mb4.7/1,Error ellipse: s-maj=8.4km s-min=4.0km az=110.0,After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMOS	**Mosqueruela**	**0.36**	**329**	Pg	Pg	11 21 49.8	-0.3
	2.7nm,0.3s,SNR=23						
EMOS				Lg		11 21 55.9	
	3.7nm,0.3s,SNR=5.0						
ECHE	**Chera**	**0.73**	**231**	Pg	Pg	11 21 56.4	-1.0
	0.5nm,0.2s,SNR=7.9						
ECHE				Lg		11 22 06.8	
	0.9nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**1.00**	**26**	Pg	Pg	11 22 02.2	-0.2
	1.1nm,0.2s,SNR=18						
ERTA				Lg		11 22 14.7	
	4.0nm,0.3s,SNR=5.0						
ETOR	**Torete**	**1.58**	**299**	Pg	Pg	11 22 13.1	-0.6
	2.1nm,0.3s,SNR=4.6						
ETOR				Lg		11 22 34.8	
	0.1nm,0.1s,SNR=5.0						
ESAC	**San Caprasio**	**1.67**	**354**	Lg		11 22 37.9	
	1.3nm,0.1s,SNR=7.9						
ERON	**Agron**	**4.13**	**224**	Pn	Pn	11 22 49.7	+2.1
	50nm,0.8s,SNR=51						

*BJI **20** 11:52:19.4,5130N×13090W,h10km,mB4.6,mb4.5,Ms4.2, Msz3.9*
*PGC **20** 11:52:23.4,5126N×13095W,h10km,ML4.0/30,218km southwest of Bella Bella, Bc South of Moresby Island, British Columbia*
*NEIC **20** 11:52:23.4,5126N×13095W,h10km,mb3.6/5, ML4.0(PGC),After PGC.*
*IDC **20** 11:52:23.6±2.1,5141N×13061W,h0km,mb3.5/1, mb1 3.9/5,mb1mx3.6/21,mbtmp3.6/5,ML3.8/4,MS3.2/3, Ms1 3.1/3,ms1mx2.7/21,Error ellipse: s-maj=23.3km s-min=16.6km az=55.0*
ISC 20 11:52:25.0±0.4,5157N±003×13041W±005,h10km,n103, σ1§57/183,mb4.1/2,MS3.4/2,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.30**	**321**	Pn	**Pn**	**11 52 46.9**	**-2.4**
BNB				Sg	**Sg**	**11 53 06.3**	**-0.7**
BNB				Trac		11 53 09.4	
	comp=Z,28μm,0.3s						
BNB	**Barry Inlet**	**1.30**	**321**	Pn	**Pn**	**11 52 46.9**	**-2.4**
BNB				Sg	**Sg**	**11 53 06.3**	**-0.7**
BBB	**Bella Bella**	**1.55**	**66**	Pn	**Pn**	**11 52 53.3**	**+0.6**
	60nm,0.3s,baz=249,slow=15,SNR=241						
BBB				Sn	**Sn**	**11 53 17.7**	**+4.9**
	802nm,0.3s,baz=114,slow=20,SNR=45						
BBB				LR	LR	11 53 40.9	
	comp=Z,385nm,18.7s,baz=180,slow=45						
BBB	**Bella Bella**	**1.55**	**66**	Pn	**Pn**	**11 52 55.3**	**+2.6**
BBB				Sn	**Sn**	**11 53 18.2**	**+5.4**
BBB				Trac		11 53 19.4	
	comp=Z,2μm,0.2s						
BBB	**Bella Bella**	**1.55**	**66**	Pn	**Pn**	**11 52 55.3**	**+2.6**
BBB				Sn	**Sn**	**11 53 18.2**	**+5.4**
HOLB	**Holberg**	**1.71**	**122**	Pn	**Pn**	**11 52 54.2**	**-0.7**
HOLB				Trac		11 53 30.4	
	comp=Z,1μm,0.4s						
MOBC	**Moresby Island**	**1.87**	**331**	Pn	**Pn**	**11 52 55.7**	**-1.4**
MOBC				Pg	**Pg**	**11 52 58.6**	**-2.3**
MOBC				Sg	**Sg**	**11 53 22.4**	**-2.7**
MOBC				Trac		11 53 25.2	
	comp=Z,1μm,0.3s						
MOBC	**Moresby Island**	**1.87**	**331**	Pn	**Pn**	**11 52 55.7**	**-1.4**
MOBC				Pg	**Pg**	**11 52 58.6**	**-2.3**
MOBC				Sg	**Sg**	**11 53 22.4**	**-2.7**
BNAB	**Bonilla**	**1.93**	**356**	Pn	**Pn**	**11 52 57.9**	**0.0**
BNAB				Pg	**Pg**	**11 53 01.3**	**-0.8**
BNAB				Sn	**Sn**	**11 53 26.9**	**+4.7**
BNAB				Sg	**Sg**	**11 53 28.0**	**+0.9**
BNAB				Trac		11 53 28.3	
	comp=Z,449nm,0.3s						
BNAB	**Bonilla**	**1.93**	**356**	Pn	**Pn**	**11 52 57.9**	**0.0**
BNAB				Pg	**Pg**	**11 53 01.3**	**-0.8**
BNAB				Sn	**Sn**	**11 53 26.9**	**+4.7**
BNAB				Sg	**Sg**	**11 53 28.0**	**+0.9**
PHC	**Port Hardy**	**2.06**	**114**	Pn	**Pn**	**11 52 57.9**	**-1.8**
PHC				Pg	**Pg**	**11 53 01.9**	**-2.8**
PHC				Sg	**Sg**	**11 53 30.7**	**-0.7**
PHC				Trac		11 53 40.7	
	comp=Z,627nm,0.3s						
PHC	**Port Hardy**	**2.06**	**114**	Pn	**Pn**	**11 52 57.9**	**-1.8**
PHC				Pg	**Pg**	**11 53 01.9**	**-2.8**
PHC				Sg	**Sg**	**11 53 30.7**	**-0.7**
VIB	**Van Inlet**	**2.13**	**323**	Pn	**Pn**	**11 52 58.5**	**-2.1**
VIB				Sg	**Sg**	**11 53 30.9**	**-2.6**
VIB				Trac		11 53 33.8	
	comp=Z,250nm,0.4s						
VIB	**Van Inlet**	**2.13**	**323**	Pn	**Pn**	**11 52 58.2**	**-2.5**
VIB				Sg	**Sg**	**11 53 30.9**	**-2.6**
BPBC	**Brooks Peninsu**	**2.19**	**129**	Pn	**Pn**	**11 53 00.1**	**-1.4**
BPBC				Sg	**Sg**	**11 53 31.2**	**-4.2**
BPBC				Trac		11 53 39.7	
	comp=Z,601nm,0.3s						
BPBC	**Brooks Peninsu**	**2.19**	**129**	Pn	**Pn**	**11 53 00.1**	**-1.4**
BPBC				Sg	**Sg**	**11 53 31.2**	**-4.2**
MAYB	**Maynard**	**2.36**	**119**	Pn	**Pn**	**11 53 03.9**	**+0.2**
MAYB				Sg	**Sg**	**11 53 37.3**	**-3.5**
MAYB				Trac		11 53 53.7	
	comp=Z,591nm,0.6s						
MAYB	**Maynard**	**2.36**	**119**	Pn	**Pn**	**11 53 03.9**	**+0.2**
MAYB				Sg	**Sg**	**11 53 37.3**	**-3.5**
MASB	**Masset**	**2.64**	**339**	Pn	**Pn**	**11 53 11.0**	**+3.4**
MASB				Sg	**Sg**	**11 53 49.8**	**0.0**
MASB				Trac		11 53 54.7	
	comp=Z,2.0nm,0.2s						
MASB	**Masset**	**2.64**	**339**	Pn	**Pn**	**11 53 11.0**	**+3.4**
MASB				Sg	**Sg**	**11 53 49.8**	**0.0**
EDB	**Eliza Dome**	**2.69**	**128**	Pn	**Pn**	**11 53 09.4**	**+1.0**
EDB				Trac		11 54 12.7	
	comp=Z,137nm,0.5s						
RUBB	**Prince Rupert**	**2.76**	**2**	Pn	**Pn**	**11 53 10.1**	**+0.7**
RUBB				Pg	**Pg**	**11 53 18.8**	**+0.8**
RUBB				Sg	**Sg**	**11 53 53.1**	**-0.6**
RUBB				Trac		11 54 03.3	
	comp=Z,1μm,0.5s						
RUBB	**Prince Rupert**	**2.76**	**2**	Pn	**Pn**	**11 53 10.1**	**+0.7**
RUBB				Pg	**Pg**	**11 53 18.8**	**+0.8**
RUBB				Sg	**Sg**	**11 53 53.1**	**-0.6**
WOSB	**Woss**	**2.81**	**119**	Pn	**Pn**	**11 53 10.1**	**0.0**
NDB	**Naden**	**2.84**	**328**	Pn	**Pn**	**11 53 10.0**	**-0.5**
NDB				Pg	**Pg**	**11 53 18.5**	**-1.0**
NDB				Sg	**Sg**	**11 53 53.6**	**-2.7**
NDB				Trac		11 53 57.4	
	comp=Z,305nm,0.4s						
NDB	**Naden**	**2.84**	**328**	Pn	**Pn**	**11 53 10.0**	**-0.5**
NDB				Pg	**Pg**	**11 53 18.5**	**-1.0**
NDB				Sg	**Sg**	**11 53 53.1**	**-3.2**
NCRB	**Newcastle Ridg**	**2.99**	**111**	Pn	**Pn**	**11 53 13.4**	**+0.9**
NCRB				Pg	**Pg**	**11 53 19.3**	**-3.1**
NCRB				Sg	**Sg**	**11 53 59.4**	**-1.7**
NCRB				Trac		11 54 04.8	
	comp=Z,470nm,0.7s						
NCRB	**Newcastle Ridg**	**2.99**	**111**	Pn	**Pn**	**11 53 13.4**	**+0.9**
NCRB				Pg	**Pg**	**11 53 19.3**	**-3.1**
NCRB				Sg	**Sg**	**11 53 59.4**	**-1.7**
ETB	**Estevan Point**	**3.31**	**130**	Pn	**Pn**	**11 53 19.4**	**+2.6**
ETB				Trac		11 54 22.4	
	comp=Z,86nm,0.5s						
GDR	**Gold River**	**3.31**	**121**	Pn	**Pn**	**11 53 17.3**	**+0.4**
GDR				Sg	**Sg**	**11 54 16.6**	**+5.3**
GDR				Trac		11 54 21.1	
	comp=Z,287nm,0.7s						
GDR	**Gold River**	**3.31**	**121**	Pn	**Pn**	**11 53 17.3**	**+0.4**
GDR				Sg	**Sg**	**11 54 16.6**	**+5.3**
CBB	**Campbell River**	**3.55**	**114**	Pn	**Pn**	**11 53 20.9**	**+0.8**
CBB				Pg	**Pg**	**11 53 27.9**	**-5.2**
CBB				Sg	**Sg**	**11 54 19.4**	**+0.3**
CBB				Trac		11 54 29.7	
	comp=Z,327nm,0.6s						
CBB	**Campbell River**	**3.55**	**114**	Pn	**Pn**	**11 53 20.9**	**+0.8**
CBB				Pg	**Pg**	**11 53 27.9**	**-5.2**
CBB				Sg	**Sg**	**11 54 19.4**	**+0.3**
BTB	**Buttle Lake**	**3.76**	**122**	Pn	**Pn**	**11 53 23.6**	**+0.5**
BTB				Sg	**Sg**	**11 54 20.8**	**-5.1**
BTB				Trac		11 54 35.4	
	comp=Z,193nm,0.5s						
BTB	**Buttle Lake**	**3.76**	**122**	Pn	**Pn**	**11 53 29.2**	**+6.1**
BTB				Sg	**Sg**	**11 54 20.8**	**-5.1**
OZB	**Mount Ozzard**	**4.10**	**128**	Pn	**Pn**	**11 53 29.2**	**+1.5**
OZB				Trac		11 54 55.3	
	comp=Z,108nm,0.6s						
CRAG	**Craig**	**4.23**	**339**	*e*Pn	**Pn**	**11 53 30.2**	**+0.7**
CRAG				*e*S	**Sn**	**11 54 27.6**	**+8.7**
TXB	**Texada**	**4.24**	**114**	Pn	**Pn**	**11 53 30.4**	**+0.7**
TXB				Sg	**Sg**	**11 54 39.8**	**-1.4**
TXB				Trac		11 54 46.8	
	comp=Z,293nm,0.9s						
TXB	**Texada**	**4.24**	**114**	Pn	**Pn**	**11 53 30.4**	**+0.7**
TXB				Sg	**Sg**	**11 54 39.8**	**-1.4**
ALB	**Alberni**	**4.25**	**121**	Pn	**Pn**	**11 53 33.2**	**+3.4**
ALB				Sg	**Sg**	**11 54 38.0**	**-3.3**
ALB				Trac		11 55 03.0	
	comp=Z,83nm,0.7s						
ALB	**Alberni**	**4.25**	**121**	Pn	**Pn**	**11 53 33.2**	**+3.4**
ALB				Sg	**Sg**	**11 54 38.0**	**-3.3**
MGB	**Mount Grey**	**4.48**	**123**	Pn	**Pn**	**11 53 33.8**	**+0.9**
MGB				Trac		11 55 03.1	
	com

GOBB				Trac			11 55 22.4
	comp=Z,118nm,0.9s						
GOBB	**Galiano Island**	**5.14**	**118**	Pn	**Pn**	**11 53 50.5**	**+8.4**
GOBB				Sg	**Sg**	**11 55 11.2**	**+1.0**
LZB	**Mount Lazard**	**5.17**	**122**	Pn	**Pn**	**11 53 49.3**	**+6.9**
LZB				Sg	**Sg**	**11 55 07.0**	**-4.1**
LZB				Trac		11 55 18.9	
	comp=Z,18nm,0.6s						
LZB	**Mount Lazard**	**5.17**	**122**	Pn	**Pn**	**11 53 49.3**	**+6.9**
LZB				Sg	**Sg**	**11 55 07.0**	**-4.1**
PGC	**Sidney**	**5.35**	**120**	Pn	**Pn**	**11 53 50.2**	**+5.4**
PGC				Trac		11 55 28.2	
	comp=Z,66nm,0.8s						
SNB	**Saturna Island**	**5.43**	**118**	Pn	**Pn**	**11 53 56.6**	**+11**
SNB				Sg	**Sg**	**11 55 19.2**	**-0.1**
SNB				Trac		11 55 29.0	
	comp=Z,27nm,1.1s						
SNB	**Saturna Island**	**5.43**	**118**	Pn	**Pn**	**11 53 56.6**	**+11**
SNB				Sg	**Sg**	**11 55 19.2**	**-0.1**
LLLB	**Lillooet**	**5.46**	**97**	Pn	**Pn**	**11 53 49.2**	**+2.7**
LLLB				Pg	**Pg**	**11 54 05.2**	**-4.4**
LLLB				Sg	**Sg**	**11 55 12.7**	**-7.7**
LLLB				Trac		11 55 18.5	
	comp=Z,38nm,0.6s						
LLLB	**Lillooet**	**5.46**	**97**	Pn	**Pn**	**11 53 49.2**	**+2.7**
LLLB				Pg	**Pg**	**11 54 05.2**	**-4.4**
LLLB				Sg	**Sg**	**11 55 12.7**	**-7.7**
HNB	**Haney**	**5.51**	**112**	Trac		11 55 22.4	
	comp=Z,52nm,0.7s						
VGZ	**Gonzales**	**5.55**	**122**	Pn	**Pn**	**11 53 57.3**	**+10**
VGZ				Sg	**Sg**	**11 55 23.1**	**-0.2**
VGZ				Trac		11 55 25.6	
	comp=Z,26nm,0.5s						
VGZ	**Gonzales**	**5.55**	**122**	Pn	**Pn**	**11 53 57.3**	**+10**
VGZ				Sg	**Sg**	**11 55 23.1**	**-0.2**
VDB	**Vedder Mountai**	**5.90**	**112**	Pn	**Pn**	**11 53 55.8**	**+3.3**
VDB				Trac		11 55 36.3	
	comp=Z,86nm,0.6s						
HOPB	**Hope**	**6.14**	**107**	Trac		11 55 44.9	
	comp=Z,42nm,0.7s						
HOPB	**Hope**	**6.14**	**107**	Sg	**Sg**	**11 55 33.4**	**-8.7**
BMBC	**Bull Mountain**	**6.64**	**44**	Pn	**Pn**	**11 54 06.7**	**+4.1**
BMBC				Sg	**Sg**	**11 55 57.5**	**-0.7**
BMBC				Trac		11 56 14.1	
	comp=Z,202nm,0.9s						
BMBC	**Bull Mountain**	**6.64**	**44**	Pn	**Pn**	**11 54 06.7**	**+4.1**
BMBC				Sg	**Sg**	**11 55 57.5**	**-0.7**
DLBC	**Dease Lake**	**6.88**	**2**	Pn	**Pn**	**11 54 09.6**	**+3.6**
	1.3nm,0.3s,baz=219,slow=21,SNR=13						
DLBC				Lg		11 56 01.5	
	2.4nm,0.3s,baz=112,slow=25,SNR=8.4						
DLBC	**Dease Lake**	**6.88**	**2**	Pn	**Pn**	**11 54 10.1**	**+4.1**
DLBC				Sn	**Sn**	**11 55 27.4**	**+3.0**
DLBC				Sg	**Sg**	**11 56 00.2**	**-5.8**
DLBC				Trac		11 56 18.6	
	comp=Z,38nm,0.8s						
DLBC	**Dease Lake**	**6.88**	**2**	Pn	**Pn**	**11 54 10.1**	**+4.1**
DLBC				Sn	**Sn**	**11 55 27.4**	**+3.0**
DLBC				Sg	**Sg**	**11 56 00.2**	**-5.8**
PNT	**Penticton**	**7.25**	**104**	Trac		11 56 40.6	
	comp=Z,37nm,0.8s						
DOWB	**Downie Slide**	**7.42**	**86**	Sg	**Sg**	**11 56 16.0**	**-7.1**
DOWB				Trac		11 56 43.4	
	comp=Z,882nm,1.0s						
SLEB	**Sale Mountain**	**7.70**	**88**	Pn	**Pn**	**11 54 28.5**	**+11**
SLEB				Sg	**Sg**	**11 56 31.2**	**-0.9**
SLEB				Trac		11 56 44.3	
	comp=Z,30nm,0.7s						
SLEB	**Sale Mountain**	**7.70**	**88**	Pn	**Pn**	**11 54 28.5**	**+11**
SLEB				Sg	**Sg**	**11 56 31.2**	**-0.9**
FNBB	**Fort Nelson**	**8.46**	**27**	Trac		11 57 07.2	
	comp=Z,21nm,0.8s						
FNBB	**Fort Nelson**	**8.46**	**27**	S	Sx	11 56 56.0	
NEW	**Newport**	**9.19**	**106**	Lg		11 57 15.2	
	0.3nm,0.3s,baz=89,slow=8.4,SNR=6.0						
NEW				LR	LR	11 58 52.6	
	comp=Z,87nm,21.0s,baz=211,slow=42						
WHY	**Whitehorse**	**9.44**	**346**	P	**Pn**	**11 54 44.8**	**+3.6**
WHY				S	Sn	11 57 19.4	+52
WHY				Trac		11 57 28.2	
	comp=Z,6.0nm,0.9s						
WHY	**Whitehorse**	**9.44**	**346**	P	**Pn**	**11 54 44.8**	**+3.6**
WHY				S	Sn	11 57 19.4	+52
EGMT	**Eagleton**	**13.80**	**97**	*e*Pn	**Pn**	**11 55 46.8**	**+6.1**
	7.9nm,0.8s						
YKA	**Yellowknife Ar**	**13.87**	**32**	Pn	**Pn**	**11 55 39.7**	**-2.0**
	baz=224,slow=12,SNR=3.8						
YKA				Lg		11 59 43.1	
	baz=209,slow=24,SNR=3.5						
YKA				LR	LR	12 00 35.1	
	comp=Z,74nm,20.9s,baz=180,slow=35						
YKA	**Yellowknife Ar**	**13.87**	**32**	Pn	**Pn**	**11 55 39.7**	**-2.0**
YKA				Lg		11 59 43.1	
YKW3	**Yellowknife Ar**	**13.92**	**32**	P	**Pn**	**11 55 43.6**	**+1.3**
YKW3				S		11 59 52.8	
YKW3				Trac		12 00 07.3	
	comp=Z,19nm,1.2s						
YKW3	**Yellowknife Ar**	**13.92**	**32**	P	**Pn**	**11 55 43.6**	**+1.3**
YKW3				S		11 59 58.8	
YMR	**Madison River**	**14.68**	**110**	*e*Pn	**Pn**	**11 55 56.6**	**+3.9**
	3.6nm,0.5s						
GCMT	**Greycliff**	**14.85**	**105**	*e*Pn	**Pn**	**11 55 54.7**	**-0.3**
IMW	**Indian Meadow**	**15.15**	**113**	*e*P	**Pn**	**11 56 09.0**	**+10**
	13nm,1.1s						
NVAR	**Mina Array Bea**	**15.65**	**142**	Pn	**Pn**	**11 56 06.3**	**+0.6**
	0.1nm,0.3s,baz=320,slow=11,SNR=3.1						
HWUT	**Hardware Ranch**	**16.30**	**120**	*e*P	**Pn**	**11 56 18.4**	**+4.5**
	3.1nm,0.9s						
PDAR	**Pinedale Array**	**16.64**	**114**	Pn	**Pn**	**11 56 22.8**	**+4.4**
	0.1nm,0.3s,baz=312,slow=9.4,SNR=22						
DUG	**Dugway**	**16.67**	**126**	*e*P	**Pn**	**11 56 24.3**	**+5.6**
	6.8nm,1.1s						
FFC	**Flin Flon**	**17.29**	**68**	*e*P	**Pn**	**11 56 30.8**	**+4.3**
	4.2nm,0.8s						
SRU	**San Rafael**	**18.65**	**124**	*e*P	**Pn**	**11 56 46.2**	**+3.0**
	4.4nm,1.1s						
PHWY	**Pilot Hill**	**19.93**	**111**	*e*P	**Pn**	**11 56 59.4**	**+0.7**
ULM	**Lac du Bonnet**	**21.70**	**80**	P	**P**	**11 57 17.4**	**+1.3**
	1.9nm,0.8s,mb3.6,baz=307,slow=11,SNR=4.0						
SCHQ	**Schefferville**	**37.06**	**59**	LR	LR	12 15 24.6	
	comp=Z,71nm,20.6s,MS3.4,baz=92,slow=37						
MDJ	**Mudanjiang**	**62.00**	**307**	P	**P**	**12 02 40.9**	**-4.4**
MDJ				PCP	PcP	12 03 24.3	-1.6
MDJ				SCS	ScS	12 12 33.1	-4.3
MDJ				AMB	AMB		
	comp=Z,50nm,9.1s						
MDJ				LR	LR		
	comp=N,20nm,23.2s,MS3.3						
MDJ				LR	LR		
	comp=E,10.0nm,22.4s,MS3.3						
MDJ				LR	LR		
	comp=Z,30nm,25.6s,MS3.3						
WMQ	**Urumqi**	**79.42**	**333**	*e*P	**P**	**12 04 30.4**	**-1.0**
LZH	**Lanzhou**	**80.63**	**318**	*e*P	**P**	**12 04 35.8**	**-2.2**
LZH				AP	pP	12 04 40.5	-0.8
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						

IDC 20 11:53:57.6±2.3, 238N×10218W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/14, mbtmp3.8/5, MS3.3/2, Ms1 3.3/2, ms1mx2.8/20, Error ellipse: s-maj=160.6km s-min=28.9km az=70.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.28**	**26**	LR	LR	12 02 40.8	
	comp=Z,50nm,20.6s,baz=56,slow=32						
JTS	**JuntasAbangare**	**18.83**	**65**	LR	LR	12 03 30.9	
	comp=Z,204nm,21.1s,baz=33,slow=30						
NVAR	**Mina Array Bea**	**38.79**	**340**	P	P	12 01 23.3	-0.7
	0.1nm,0.4s,baz=152,slow=7.9,SNR=3.2						
PDAR	**Pinedale Array**	**40.74**	**352**	P	P	12 01 40.6	+0.4
	1.7nm,0.7s,baz=140,slow=7.0,SNR=12						
ULM	**Lac du Bonnet**	**47.99**	**5**	P	P	12 02 37.6	-0.6
	2.5nm,0.8s,baz=187,slow=7.0,SNR=3.6						
PLCA	**Paso Flores**	**51.71**	**149**	P	P	12 03 06.6	+0.1
	4.4nm,1.1s,baz=288,slow=6.4,SNR=3.1						
YKA	**Yellowknife Ar**	**60.68**	**353**	P	P	12 04 11.7	+1.1
	0.7nm,0.7s,baz=161,slow=6.5,SNR=2.7						

MOS 20 12:03:28.7±1.4, 4315N×4424E, h12km, mb3.5/1, 1C-4D, Error ellipse: s-maj=24.0km s-min=12.9km az=66.6, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNR	**Ardon**	**0.05**	**36**	*e*PG	Pg	12 03 31.0	0.0
KORR	**Kora**	**0.14**	**243**	⇓*i*PG	Pg	12 03 32.2	+0.1
KMSR	**Komsomolskaya**	**0.22**	**10**	⇓*i*PG	Pg	12 03 33.6	+0.1
KMSR				*i* S	Sg	12 03 37.2	+0.5
LACR	**Lac**	**0.33**	**173**	⇓*i*PG	Pg	12 03 35.4	+0.1
LACR				*i* S	Sg	12 03 40.3	+0.6
VLKR	**Vladikavkaz**	**0.34**	**108**	*e*PG	Pg	12 03 35.5	0.0
VLKR				*e*S	Sg	12 03 40.5	+0.5
ZEI	**Tsey**	**0.46**	**214**	⇓*i*PG	Pg	12 03 37.4	-0.3
ZEI				*i* S	Sg	12 03 43.9	+0.2
DIGR	**Digorskoe uzhe**	**0.55**	**243**	⇑*i*PG	Pg	12 03 39.5	+0.2
DIGR				*i* S	Sg	12 03 47.3	+0.8

MAN 20 12:03:44.0, 913N×12533E, h22km, mb2.7, ML4.1, MS4.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.33**	**118**	*e*P	Pb	12 03 52.7	+1.5
BUTP				*e*S	Sb	12 04 01.2	+5.1
CGP	**Cagayan de Oro**	**0.92**	**223**	⇑*i*P	Pb	12 04 00.7	-0.5
CGP				*i* S	Sb	12 04 24.2	+11
MSLP	**Maasin**	**1.10**	**335**	*e*P	Pn	12 04 02.8	-1.3
MSLP				*e*S	Sb	12 04 19.7	+1.4
BUKP	**Musuan**	**1.27**	**192**	*e*P	Pn	12 04 12.1	+5.8
BUKP				*e*S	Sn	12 04 36.2	+13
TBP	**Tagbilaran**	**1.55**	**291**	*e*P	Pn	12 04 21.4	+11
TBP				*e*S	Sn	12 04 43.8	+14
PLP	**Palo**	**2.06**	**350**	*e*P	Pn	12 04 16.8	-0.4
PLP				*e*S	Sn	12 04 40.5	-1.7

MOS 20 12:04:35.7±1.4, 4319N×4430E, h9km, mb3.5/1, 3C-4D, Error ellipse: s-maj=23.1km s-min=12.5km az=68.4, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSR	**Komsomolskaya**	**0.18**	**358**	⇓*i*PG	Pg	12 04 39.5	0.0
KORR	**Kora**	**0.20**	**239**	⇑*i*PG	Pg	12 04 39.8	0.0
BTKR	**Batakoyurt**	**0.25**	**44**	⇓*i*PG	Pg	12 04 41.0	+0.2
BTKR				*i* S	Sg	12 04 44.9	+0.7
VLKR	**Vladikavkaz**	**0.31**	**117**	⇓*i*PG	Pg	12 04 42.1	+0.2
VLKR				*i* S	Sg	12 04 46.8	+0.8
LACR	**Lac**	**0.36**	**180**	⇑*i*PG	Pg	12 04 43.0	+0.1
LACR				*i* S	Sg	12 04 48.3	+0.6
ZEI	**Tsey**	**0.51**	**215**	⇓*i*PG	Pg	12 04 45.4	-0.3
ZEI				*i* S	Sg	12 04 52.5	+0.1
DIGR	**Digorskoe uzhe**	**0.60**	**241**	⇑*i*PG	Pg	12 04 47.2	-0.1
DIGR				*i* S	Sg	12 04 55.8	+0.6

PGC 20 12:04:44.3, 5140N×13075W, h10km, ML3.6/28, 199km southwest of Bella Bella, Bc South of Moresby Island, British Columbia, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.33**	**333**	P	Pn	12 05 06.4	-2.5
BNB				S	Sb	12 05 23.2	-3.2
BNB				Trac		12 05 30.7	
	comp=Z,6μm,0.2s						
BBB	**Bella Bella**	**1.81**	**63**	Pn	Pn	12 05 13.5	-2.1
BBB				Pg	Pg	12 05 15.4	-3.7
BBB				Sg	Sg	12 05 38.5	-4.1
BBB				Trac		12 05 39.6	
	comp=Z,311nm,0.1s						
HOLB	**Holberg**	**1.82**	**114**	Pn	Pn	12 05 13.9	-1.8
HOLB				Pg	Pg	12 05 17.6	-1.5
HOLB				Sg	Sg	12 05 39.9	-2.9
HOLB				Trac		12 05 53.0	
	comp=Z,471nm,0.4s						
MOBC	**Moresby Island**	**1.93**	**339**	Pn	Pn	12 05 14.5	-2.7
MOBC				Sg	Sg	12 05 42.6	-3.8
MOBC				Trac		12 05 46.1	
	comp=Z,492nm,0.6s						
BNAB	**Bonilla**	**2.10**	**2**	Pn	Pn	12 05 17.1	-2.3
BNAB				Pg	Pg	12 05 21.3	-3.2
BNAB				Sn	Sn	12 05 42.4	-3.1
BNAB				Sg	Sg	12 05 47.3	-4.4
BNAB				Trac		12 05 50.5	
	comp=Z,103nm,0.2s						
VIB	**Van Inlet**	**2.15**	**330**	Pn	Pn	12 05 18.1	-2.2
VIB				Sg	Sg	12 05 50.4	-3.1
VIB				Trac		12 05 51.9	
	comp=Z,79nm,0.3s						
PHC	**Port Hardy**	**2.21**	**107**	Pn	Pn	12 05 18.8	-2.1
PHC				Pg	Pg	12 05 22.9	-3.7
PHC				Sn	Sn	12 05 46.8	-1.5
PHC				Sg	Sg	12 05 52.0	-3.2
PHC				Trac		12 06 01.2	
	comp=Z,490nm,0.5s						
BPBC	**Brooks Peninsu**	**2.26**	**122**	Pn	Pn	12 05 19.7	-2.1
BPBC				Pg	Pg	12 05 24.5	-3.2
BPBC				Sg	Sg	12 05 51.7	-5.3
BPBC				Trac		12 06 05.1	
	comp=Z,172nm,0.2s						
MAYB	**Maynard**	**2.48**	**112**	Pn	Pn	12 05 23.6	-1.0
MAYB				Sg	Sg	12 05 58.6	-5.2
MAYB				Trac		12 06 09.7	
	comp=Z,190nm,0.5s						
MASB	**Masset**	**2.73**	**344**	Pn	Pn	12 05 27.8	-0.3
MASB				Sg	Sg	12 06 07.5	-4.5
MASB				Trac		12 06 15.4	
	comp=Z,1.0nm,0.2s						
EDB	**Eliza Dome**	**2.77**	**122**	Pn	Pn	12 05 29.3	+0.6
EDB				Sn	Sn	12 05 59.0	-3.2
EDB				Sg	Sg	12 06 07.6	-5.7
EDB				Trac		12 06 21.6	
	comp=Z,74nm,0.6s						
NDB	**Naden**	**2.88**	**333**	Pn	Pn	12 05 28.5	-1.8
NDB				Sg	Sg	12 06 11.4	-5.6
NDB				Trac		12 06 17.5	
	comp=Z,127nm,0.5s						
WOSB	**Woss**	**2.93**	**113**	Pn	Pn	12 05 30.6	-0.2
WOSB				Sg	Sg	12 06 11.9	-6.4
WOSB				Trac		12 06 21.3	
	comp=Z,114nm,0.5s						
RUBB	**Prince Rupert**	**2.94**	**6**	Pn	Pn	12 05 29.5	-1.6
RUBB				Sg	Sg	12 06 11.7	-7.1
RUBB				Trac		12 06 23.5	
	comp=Z,412nm,0.5s						
NCRB	**Newcastle Ridg**	**3.13**	**107**	Pn	Pn	12 05 33.1	-0.6
NCRB				Sg	Sg	12 06 20.2	-4.8
NCRB				Trac		12 06 25.2	
	comp=Z,164nm,0.5s						
GDR	**Gold River**	**3.42**	**117**	Pn	Pn	12 05 37.9	+0.3
GDR				Sg	Sg	12 06 27.4	-6.6
GDR				Trac		12 06 38.0	
	comp=Z,54nm,0.4s						
CBB	**Campbell River**	**3.69**	**110**	Pn	Pn	12 05 42.4	+1.1
CBB				Sg	Sg	12 06 33.7	-9.0
CBB				Trac		12 06 50.0	
	comp=Z,185nm,0.9s						
BTB	**Buttle Lake**	**3.86**	**118**	Pn	Pn	12 05 44.8	+1.0
BTB				Sg	Sg	12 06 41.8	-6.5
BTB				Trac		12 06 51.8	
	comp=Z,51nm,0.3s						
OZB	**Mount Ozzard**	**4.17**	**124**	Pn	Pn	12 05 51.6	+3.7
OZB				Sg	Sg	12 06 53.8	-4.3
OZB				Trac		12 07 10.0	
	comp=Z,29nm,0.5s						
ALB	**Alberni**	**4.35**	**117**	Pg	Pg	12 05 57.1	-11
ALB				Trac		12 07 12.9	
	comp=Z,35nm,0.6s						
TXB	**Texada**	**4.37**	**111**	Pn	Pn	12 05 51.4	+0.7
TXB				Sg	Sg	12 06 52.2	-13
TXB				Trac		12 07 07.9	
	comp=Z,35nm,0.4s						
MGB	**Mount Grey**	**4.57**	**119**	Pn	Pn	12 05 54.7	+1.2
MGB				Trac		12 07 15.4	
	comp=Z,29nm,0.5s						
SHB	**Sechelt**	**4.75**	**110**	Pn	Pn	12 05 57.5	+1.7
SHB				Sg	Sg	12 07 08.1	-8.5
SHB				Trac		12 07 19.4	
	comp=Z,102nm,0.8s						
NLLB	**Nanaimo Lost L**	**4.85**	**114**	Pg	Pg	12 06 12.6	-4.5
NLLB				Sg	Sg	12 07 12.7	-7.3
NLLB				Trac		12 07 24.2	
	comp=Z,31nm,0.6s						
FSB	**Fort Saint Jam**	**4.96**	**49**	Pn	Pn	12 05 58.3	-0.5
FSB				Pg	Pg	12 06 16.6	-2.6
FSB				Sg	Sg	12 07 15.8	-7.6
FSB				Trac		12 07 25.8	
	comp=Z,28nm,0.4s						
WPB	**Watts Point**	**5.12**	**107**	Pn	Pn	12 06 01.1	+0.2
WPB				Sg	Sg	12 07 19.3	-9.3
WPB				Trac		12 07 28.1	
	comp=Z,39nm,1.0s						
WSLR	**Whistler**	**5.13**	**101**	Trac		12 07 26.2	
	comp=Z,22nm,0.5s						
WSLR	**Whistler**	**5.13**	**101**	Sg	Sg	12 07 18.5	-11
BIB	**Bowen Island**	**5.16**	**110**	Sg	Sg	12 07 20.2	-10
BIB				Trac		12 07 39.5	
	comp=Z,38nm,0.7s						
GOBB	**Galiano Island**	**5.26**	**115**	Sg	Sg	12 07 22.1	-11
GOBB				Trac		12 07 39.5	
	comp=Z,63nm,1.0s						
LZB	**Mount Lazard**	**5.27**	**119**	Trac		12 07 39.7	
	comp=Z,6.0nm,0.5s						
LZB	**Mount Lazard**	**5.27**	**119**	Sg	Sg	12 07 22.6	-11
PGC	**Sidney**	**5.45**	**118**	Trac		12 07 52.3	
	comp=Z,24nm,0.8s						
PGC	**Sidney**	**5.45**	**118**	Sg	Sg	12 07 32.1	-7.1
SNB	**Saturna Island**	**5.54**	**115**	Trac		12 07 53.7	
	comp=Z,8.0nm,0.7s						
SNB	**Saturna Island**	**5.54**	**115**	Sg	Sg	12 07 34.6	-7.6
HNB	**Haney**	**5.65**	**109**	Trac		12 07 48.6	
	comp=Z,20nm,0.7s						
HNB	**Haney**	**5.65**	**109**	Sg	Sg	12 07 35.8	-10
VGZ	**Gonzales**	**5.65**	**119**	Trac		12 07 52.7	
	comp=Z,33nm,1.0s						
VGZ	**Gonzales**	**5.65**	**119**	Sg	Sg	12 07 40.5	-5.2
LLLB	**Lillooet**	**5.65**	**95**	Trac		12 07 56.5	
	comp=Z,20nm,0.7s						
LLLB	**Lillooet**	**5.65**	**95**	Sg	Sg	12 07 34.7	-11
VDB	**Vedder Mountai**	**6.04**	**110**	Sg	Sg	12 07 47.9	-10
VDB				Trac		12 08 04.2	
	comp=Z,127nm,1.2s						
HOPB	**Hope**	**6.30**	**105**	Trac		12 08 05.3	
	comp=Z,19nm,0.7s						
HOPB	**Hope**	**6.30**	**105**	Sg	Sg	12 07 55.4	-11
BMBC	**Bull Mountain**	**6.91**	**44**	Pn	Pn	12 06 26.6	+1.0
BMBC				Sn	Sn	12 07 41.5	-2.7
BMBC				Sg	Sg	12 08 13.9	-12
BMBC				Trac		12 08 32.6	
	comp=Z,24nm,0.6s						
PNT	**Penticton**	**7.42**	**102**	Trac		12 08 49.4	
	comp=Z,18nm,1.1s						
PNT	**Penticton**	**7.42**	**102**	Sg	Sg	12 08 29.6	-13

MAN 20 12:16:10.2, 1369N×12022E, h46km, mb1.8, ML3.6, MS9.4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.05**	**30**	*e*P	Pn	12 16 18.4	+1.0
LUBP				*e*S	Sn	12 16 22.8	+0.4
PGP	**Puerto Galera**	**0.74**	**105**	⇑*i*P	Pn	12 16 26.9	+2.6
BUSP	**Coron**	**1.68**	**181**	*e*P	Pn	12 16 38.2	+1.1
BUSP				*e*S	Sn	12 16 54.9	-2.5
CUYO	**Cuyo Island**	**2.93**	**164**	*e*P	Pn	12 16 54.6	+0.3

*ISCJB **20** 12:39:25.6±0.6, 3283S±003×7120W±005, h56km±7km, Error ellipse: s-maj=7.0km s-min=4.4km az=145.6*
*GUC **20** 12:39:25.4±0.8, 3284S×71.17W, h53km±4km, MD3.8, ML3.1*
*NEIC **20** 12:39:26.3±0.7, 3286S×71.17W, h48km±12km, MG3.1(GUC), Error ellipse: s-maj=8.0km s-min=6.5km az=100.0*
NEIC Felt [II] at Olmue.

ISC 20 12:39:26.1±0.6, 3284S±003×7120W±005, h54km±7km, n23, σ0558/44, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.21**	**130**	⇓*i*P	**Pn**	**12 39 34.9**	**-0.1**
ROCH				*i* S	**Sn**	**12 39 41.8**	**+0.5**
IHA	**Instituto Hidr**	**0.41**	**243**	⇑*i*P	**Pn**	**12 39 36.1**	**-0.5**
IHA				*i* S	**Sn**	**12 39 44.5**	**+0.2**
PEL	**Peldehue**	**0.53**	**125**	⇓*i*P	**Pn**	**12 39 37.8**	**-0.2**
PEL				*i* S	**Sn**	**12 39 46.8**	**+0.2**
JACH	**Jahuel**	**0.54**	**73**	⇓*i*P	**Pn**	**12 39 37.7**	**-0.4**
JACH				*i* S	**Sn**	**12 39 46.8**	**+0.2**
LCCH	**Las Cruces**	**0.71**	**206**	⇑*i*P	**Pn**	**12 39 40.0**	**-0.2**
LCCH				*i* S	**Sn**	**12 39 50.6**	**+0.3**
STL	**Santa Lucia**	**0.76**	**142**	*i* P	**Pn**	**12 39 39.7**	**-1.1**
STL				*i* S	**Sn**	**12 39 51.0**	**-0.5**
DSCH	**Colegio Aleman**	**0.77**	**137**	⇑*i*P	**Pn**	**12 39 39.9**	**-1.0**
DSCH				*i* S	**Sn**	**12 39 51.3**	**-0.5**
CLCH	**Cerro Calan**	**0.79**	**135**	⇑*i*P	**Pn**	**12 39 40.8**	**-0.4**
CLCH				*i* S	**Sn**	**12 39 52.4**	**+0.3**
CLCH				AML	AML	12 39 53.5	
	comp=N,773nm,0.2s						
CLCH				AML	AML	12 39 54.1	
	comp=N,1μm,0.6s						
TACH	**Talagante**	**0.84**	**165**	⇓*i*P	**Pn**	**12 39 41.6**	**-0.2**
TACH				*i* S	**Sn**	**12 39 53.5**	**+0.1**
ANTU	**Antumapu**	**0.87**	**147**	⇑*i*P	**Pn**	**12 39 41.7**	**-0.5**
ANTU				*i* S	**Sn**	**12 39 54.1**	**0.0**
ANTU				AML	AML	12 39 55.4	
	comp=N,1μm,0.2s						
ANTU	**Antumapu**	**0.87**	**147**	⇑*i*P	**Pn**	**12 39 41.7**	**-0.5**
ANTU				*i* S	**Sn**	**12 39 54.1**	**0.0**
FCH	**Farellones**	**0.91**	**123**	*e*P	**Pn**	**12 39 42.7**	**0.0**
FCH				*i* S	**Sn**	**12 39 55.7**	**+0.8**
FCH				AML	AML	12 39 57.3	
	comp=E,810nm,0.2s						
PCH	**Pirque**	**0.97**	**144**	⇓*i*P	**Pn**	**12 39 43.0**	**-0.5**
PCH				*i* S	**Sn**	**12 39 56.5**	**0.0**
CHNG	**Los Chungos**	**0.98**	**345**	*e*P	**Pn**	**12 39 43.2**	**-0.5**
CHNG				*i* S	**Sn**	**12 39 56.6**	**-0.1**
SJCH	**San Jose de Ma**	**1.07**	**139**	*i* P	**Pn**	**12 39 43.8**	**-1.1**
SJCH				*i* S	**Sn**	**12 39 58.4**	**-0.4**
SJCH				AML	AML	12 39 59.9	
	comp=N,468nm,0.1s						
SJCH	**San Jose de Ma**	**1.07**	**139**	*i* P	**Pn**	**12 39 43.8**	**-1.1**
SJCH				*i* S	**Sn**	**12 39 58.4**	**-0.4**
LNV	**Longovilo**	**1.13**	**189**	*e*P	**

3μm,0.5s
AGST Augusta-Monte 0.64 153 Pg Pb 13 16 47.5 -0.5
AGST Sg Sb 13 16 57.3 +0.7
1μm,0.7s
CSLB Castelbuono 0.65 280 Pg Pb 13 16 48.3 +0.2
301nm,0.3s
MSI Messina ING 0.66 55 Pg Pb 13 16 49.4 +1.1
HVZN Vizzini 0.66 190 Pg Pb 13 16 48.2 -0.2
HVZN Sg Sb 13 16 59.0 +1.8
2μm,0.5s
MSRU Castanea 0.67 50 Pg Pb 13 16 48.2 -0.2
MSRU Sg Sb 13 16 58.7 +1.4
1μm,0.5s
MTTG Motta San Giov 0.68 75 Pg Pb 13 16 48.9 +0.3
285nm,0.6s
GIB Gibilmanna 0.68 284 Pg Pb 13 16 48.9 +0.3
1μm,0.9s
SSY Sortino 0.70 166 Pg Pb 13 16 48.4 -0.5
SSY Sg Sb 13 16 59.2 +1.1
2μm,0.5s
RAFF Raffo Rosso 0.73 213 Pg Pb 13 16 49.9 +0.5
RAFF Sg Sb 13 17 02.8 +3.8
901nm,0.6s
SLNA Salina 0.73 358 Pg Pb 13 16 49.1 -0.4
767nm,0.4s
IFIL Filicudi I Eol 0.77 342 Pg Pb 13 16 49.1 -1.0
IFIL Sg Sb 13 17 01.5 +1.4
5μm,0.4s
SCLL Scilla 0.79 57 Pg Pb 13 16 50.7 +0.1
96nm,0.7s
HMDC Modica 0.88 184⇑*i*Pg Pb 13 16 51.4 -0.5
HMDC Sg Sb 13 17 04.2 +1.0
1μm,0.4s
HAVL Avola 0.90 166 Pg Pb 13 16 51.4 -0.9
HAVL Sg Sb 13 17 04.4 +0.6
962nm,0.4s
CEL Celeste 0.92 62 Pg Pb 13 16 52.7 0.0
CEL Sg Sb 13 17 07.6 +3.2
520nm,0.8s
SOI Samo 0.97 75 Pg Pn 13 16 53.8 +0.4
220nm,0.4s
FAVR Favara 1.11 240 Pg Pn 13 16 57.7 +2.5
500nm,0.9s
CORL Corleone 1.24 273 Pg Pn 13 16 58.8 +1.8
CORL Sg Sn 13 17 16.4 +3.5
460nm,0.5s
CLTB Caltabellotta 1.33 260 Pg Pn 13 17 00.2 +1.9
274nm,0.4s
PLAC Placanica 1.39 63 Pg Pn 13 17 00.3 +1.2
115nm,0.6s
USI Ustica 1.59 304 Pg Pn 13 17 01.1 -0.8
122nm,0.3s
SERS Sersale 1.87 49 Pg Pn 13 17 07.9 +2.1
74nm,0.6s
TIP Timpagrande 2.00 47 *e*Pn Pn 13 17 09.3 +1.7
TIP Pg Pn 13 17 10.1 +2.5
TIP *e*Sn Sn 13 17 32.5 +0.7
TIP Timpagrande 2.00 47 *e*Pn Pn 13 17 09.3 +1.7
TIP Timpagrande 2.00 47 Pg Pn 13 17 10.1 +2.5
CUC Castrocucco 2.28 19 Pg Pn 13 17 11.0 -0.4
146nm,0.7s
PTS Pantelleria 2.50 247 Pg Pn 13 17 14.9 +0.4
27nm,0.3s
CMPR Campora 2.51 8 Pg Pn 13 17 13.7 -0.8
21nm,0.7s
CDRU Civita di Ruta 2.68 7 Pg Pn 13 17 17.5 +0.7
9.0nm,0.4s
SGO Sicignano 2.75 7 Pg Pn 13 17 19.1 +1.3
8.0nm,0.5s
AMUR Altamura 3.35 23 Pg Pn 13 17 26.6 +0.4
29nm,0.8s
VSL Villasalto 4.60 293 Pg Pn 13 17 43.2 -0.1
29nm,1.1s

IDC 20 14:36:14.2±20.0, 2433S×6966E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, MS3.7/4, Ms1 3.7/4, ms1mx3.3/22, Error ellipse: s-maj=657.9km s-min=41.0km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**39.91**	**260**	LR	LR	14 57 30.5	
	comp=Z,74nm,18.1s,baz=87,slow=32						
LSZ	**Lusaka**	**39.92**	**275**	LR	LR	14 57 13.6	
	comp=Z,70nm,20.8s,baz=16,slow=32						
NWAO	**Narrogin (SRO)**	**42.34**	**113**	LR	LR	14 56 40.3	
	comp=Z,90nm,18.4s,baz=45,slow=29						
SUR	**Sutherland**	**43.42**	**248**	LR	LR	14 58 33.6	
	comp=Z,126nm,18.3s,baz=56,slow=31						
ASAR	**Alice Springs**	**58.20**	**104**	P	P	14 46 11.2	+1.1
	0.5nm,0.8s,baz=236,slow=6.4,SNR=6.7						
WRA	**Warramunga Arr**	**59.61**	**100**	P	P	14 46 19.6	-0.2
	0.2nm,0.8s,baz=255,slow=7.0,SNR=5.4						
MKAR	**Makanchi Array**	**71.71**	**9**	P	P	14 47 37.9	-0.1
	1.1nm,0.9s,baz=193,slow=5.0,SNR=6.0						

IDC 20 14:38:37.2±12.0, 2443S×6928E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, MS3.8/9, Ms1 3.8/9, ms1mx3.6/17, Error ellipse: s-maj=423.9km s-min=32.9km az=49.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**38.68**	**302**	LR	LR	14 58 30.6	
	comp=Z,75nm,20.9s,baz=92,slow=31						
BOSA	**Boshof**	**39.45**	**254**	LR	LR	15 00 05.6	
	comp=Z,262nm,18.6s,baz=186,slow=33						
MAW	**Mawson**	**43.36**	**184**	LR	LR	15 00 52.0	
	comp=Z,108nm,20.4s,baz=95,slow=31						
ASAR	**Alice Springs**	**58.51**	**104**	P	P	14 48 35.4	+0.2
	0.7nm,0.7s,baz=255,slow=5.7,SNR=10.0						
WRA	**Warramunga Arr**	**59.93**	**100**	P	P	14 48 45.9	+0.8
	0.6nm,0.9s,baz=256,slow=6.7,SNR=4.7						
STKA	**Stephens Creek**	**63.15**	**115**	LR	LR	15 12 13.0	
	comp=Z,99nm,18.6s,baz=204,slow=32						
VNDA	**Vanda**	**66.89**	**166**	LR	LR	15 14 48.8	
	comp=Z,43nm,18.5s,baz=321,slow=32						
GNI	**Garni**	**68.20**	**340**	LR	LR	15 17 20.1	
	comp=Z,34nm,20.2s,baz=350,slow=34						
MKAR	**Makanchi Array**	**71.86**	**9**	P	P	14 50 01.9	-0.1
	1.0nm,0.7s,baz=197,slow=6.3,SNR=7.4						
AKTO	**Aktyubinsk**	**75.20**	**353**	LR	LR	15 20 51.2	
	comp=Z,30nm,20.1s,baz=0.0,slow=34						
BVAR	**Borovoye Array**	**77.13**	**1**	P	P	14 50 32.3	-0.3
	0.6nm,0.7s,baz=163,slow=6.2,SNR=5.0						
SONM	**Songino Array**	**79.30**	**24**	LR	LR	15 23 59.7	
	comp=Z,93nm,20.5s,baz=82,slow=34						
CBIJ	**Chichi jima**	**86.99**	**59**	LR	LR	15 22 59.5	
	comp=Z,181nm,20.7s,baz=263,slow=31						

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*ISCJB **20** 14:56:55.3±1.9, 1179N±007×12607E±007, h7km±10km, mb3.7/4, Error ellipse: s-maj=13.7km s-min=9.8km az=95.5*
*IDC **20** 14:56:57.3±3.0, 1146N×12536E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=264.2km s-min=24.9km az=64.0*
*MAN **20** 14:57:01.4, 1190N×12563E, h16km, mb3.1, ML4.4, MS2.2*

ISC 20 14:56:57.0±2.1, 1181N±007×12602E±008, h4km±12km, n13, σ1°09/17, mb3.7/4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.61**	**250**	*e*P	**Pg**	**14 57 09.6**	**+0.9**
BESP				*e*S	**Sg**	**14 57 17.1**	**+0.5**
PLP	**Palo**	**1.21**	**238**	*e*P	**Pg**	**14 57 18.9**	**-1.2**
PLP				*e*S	**Sg**	**14 57 32.7**	**-3.1**
OCLP	**Ormoc**	**1.58**	**241**	*e*P	**Pn**	**14 57 26.9**	**+1.1**
MSLP	**Maasin**	**2.02**	**214**	*e*P	**Pg**	**14 57 34.5**	**-1.3**
MSLP				*e*S	**Sg**	**14 58 02.9**	**+0.9**
MMPH	**Masbate**	**2.41**	**283**⇓*i*P		**Pn**	**14 57 38.7**	**+1.6**
MMPH				*e*S	**Sn**	**14 58 05.4**	**-1.6**
PVCP	**Virac**	**2.54**	**314**⇑*e*P		**Pn**	**14 57 38.3**	**-0.6**
PVCP	**Virac**	**2.54**	**314**	*e*P	**Pn**	**14 57 38.3**	**-0.7**
GUIM	**Jordan**	**3.57**	**251**	*e*P	**Pn**	**14 57 54.5**	**+1.4**
CAUP	**Cauayan**	**6.52**	**322**	*e*P	**Pn**	**14 58 33.8**	**+0.1**
WRA	**Warramunga Arr**	**32.60**	**165**	P	**P**	**15 03 29.2**	**-0.4**
	0.5nm,0.9s,mb3.4,baz=342,slow=8.3,SNR=5.0						
ASAR	**Alice Springs**	**36.09**	**168**	P	**P**	**15 04 00.2**	**+0.4**
	0.2nm,0.4s,mb3.4,baz=353,slow=6.7,SNR=15						
STKA	**Stephens Creek**	**45.93**	**161**	P	**P**	**15 05 19.9**	**-1.0**
	1.3nm,0.5s,mb4.1,baz=11,slow=7.2,SNR=4.9						
MKAR	**Makanchi Array**	**50.66**	**322**	P	**P**	**15 05 57.6**	**+0.3**
	1.0nm,0.9s,mb3.8,baz=108,slow=7.8,SNR=7.9						

ISC 20 15:27:40.9±1.3, 3761N±009×2928E±007, h10km, n5, σ0°31/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.20**	**294**	*i*P	**Pg**	**15 27 44.9**	**-0.2**
DNZL				*i*S	**Sg**	**15 27 48.5**	**+0.6**
DENT	**Denizli**	**0.24**	**307**	PG	**Pg**	**15 27 45.6**	**-0.2**
DENT				SG	**Sg**	**15 27 49.0**	**-0.1**
KHL	**Karahalli**	**0.74**	**15**	PG	**Pg**	**15 27 54.9**	**-0.3**
YER	**Yerkesik**	**0.92**	**239**	PG	**Pg**	**15 27 58.5**	**-0.1**
TKTP	**Tekketepe**	**0.93**	**62**	*i*P	**Pg**	**15 27 59.2**	**+0.4**
TKTP				*i*S	**Sg**	**15 28 16.9**	**+6.0**

IDC 20 15:43:54.9±2.4, 643S×12884E, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.4/13, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=208.7km s-min=30.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.46**	**159**	Pn	Pn	15 47 20.7	0.0
	0.1nm,0.3s,baz=332,slow=14,SNR=11						
WRA				Sn	Sn	15 49 45.9	-16
	0.3nm,0.3s,baz=331,slow=22,SNR=8.9						
ASAR	**Alice Springs**	**17.82**	**165**	P	Pn	15 48 04.7	+0.4
	0.1nm,0.3s,baz=347,slow=9.9,SNR=15						
ASAR				S	Sn	15 51 11.8	-12
	0.1nm,0.3s,baz=352,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**67.12**	**327**	P	P	15 54 50.4	+0.2
	0.5nm,0.4s,baz=114,slow=7.9,SNR=8.5						

IDC 20 15:57:10.8±66.0, 2089S×17824W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/12, mbtmp3.8/3, Error ellipse: s-maj=1211.0km s-min=156.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.42**	**245**	P	P	16 04 25.0	-0.6
	1.6nm,0.8s,baz=90,slow=13,SNR=3.5						
ASAR	**Alice Springs**	**44.22**	**257**	P	P	16 05 22.2	+0.6
	0.8nm,0.8s,baz=92,slow=9.2,SNR=16						
WRA	**Warramunga Arr**	**44.33**	**262**	P	P	16 05 23.2	+0.7
	0.4nm,0.3s,baz=95,slow=8.1,SNR=45						

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*ISCJB **20** 15:59:29.7±0.5, 5145N±003×16.12E±003, h0km, Error ellipse: s-maj=3.9km s-min=2.3km az=41.1*
*IPEC **20** 15:59:29.9±0.3, 5155N×1621E, h0km, ML2.4/4, Error ellipse: s-maj=1.9km s-min=1.5km az=41.0*
*MOS **20** 15:59:29.1±1.1, 5158N×1638E, h10km, mb4.0/1, Error ellipse: s-maj=23.2km s-min=7.2km az=76.3*
*NEIC **20** 15:59:30.9±0.9, 5154N×1611E, h2km±8km, ML2.7(CLL), ML2.8(BRA), ML2.8(SZGRF), Error ellipse: s-maj=6.8km s-min=5.5km az=146.0*
*CSEM **20** 15:59:31.7±0.1, 5149N×1611E, h1km, ML3.4/5, Error ellipse: s-maj=1.8km s-min=1.3km az=56.0*
*WAR **20** 15:59:32.5, 5147N×1611E, ML2.7, Mining Induced*
*IDC **20** 15:59:32.5±0.7, 5145N×1610E, h0km, mb1 3.2/7, mb1mx3.1/23, mbtmp3.1/7, ML3.0/6, Error ellipse: s-maj=14.4km s-min=6.8km az=105.0*
*PRU **20** 15:59:33.6, 5141N×1603E, h0km*
*VIE **20** 15:59:33.2±0.5, 5131N×1617E, h0km, mb2.4/4, ML2.9/4, Error ellipse: s-maj=3.1km s-min=2.6km az=175.0 63 km WNW of Breslau Suspected Mining induced.*

ISC 20 15:59:30.9±0.4, 5149N±002×1611E±003, h0km, n42, σ1°02/77, 3C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**170**	*i*Pgd	**Pg**	**15 59 44.2**	**+0.6**
KSP				*i*Sg	**Sg**	**15 59 52.6**	**+0.4**
KSP	**Ksiaz**	**0.66**	**170**⇓*i*Pg		**Pg**	**15 59 44.2**	**+0.6**
KSP				*i*Sg	**Sg**	**15 59 52.7**	**+0.5**
KSP	**Ksiaz**	**0.66**	**170**⇓*i*Pg		**Pg**	**15 59 44.2**	**+0.6**
KSP				*e*Sg	**Sg**	**15 59 52.3**	**+0.1**
UPC	**Upice**	**0.99**	**184**	*e*PG	**Pg**	**15 59 50.3**	**+0.4**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	**15 59 53.0**	**0.0**
DPC				*e*SG	**Sg**	**16 00 07.7**	**-0.3**
50nm,0.7s							
PVCC	**Panska Ves**	**1.37**	**226**	*e*Pg	**Pg**	**15 59 57.2**	**0.0**
PVCC				*e*Sg	**Sg**	**16 00 15.8**	**+0.7**
BRG	**Berggiesshubel**	**1.50**	**246**	PN	**Pn**	**15 59 58.9**	**-0.2**
BRG				PG	**Pg**	**15 59 59.8**	**+0.1**
BRG				SG	**Sg**	**16 00 19.9**	**+0.8**
50nm,0.3s							
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**16 00 01.6**	**-0.9**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**16 00 01.6**	**-0.9**
PRU	**Pruhonice**	**1.81**	**214**	*e*PG	**Pg**	**16 00 04.5**	**-1.1**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**16 00 04.7**	**-0.5**
MORC				*e*Sg	**Sg**	**16 00 31.6**	**-1.8**
17nm,0.2s							
CLL	**Collm**	**1.96**	**266**	*i*Pn	**Pn**	**16 00 04.8**	**-0.5**
CLL				*e*Pg	**Pg**	**16 00 07.0**	**-1.4**
CLL				*i*x	x	16 00 11.9	
CLL				*i*Sg	**Sg**	**16 00 33.9**	**+0.1**
comp=Z,28nm,0.5s							
CLL	**Collm**	**1.96**	**266**	*i*Pn	**Pn**	**16 00 04.8**	**-0.5**
CLL				*e*Pg	**Pg**	**16 00 07.0**	**-1.4**
CLL				*i*Sg	**Sg**	**16 00 33.9**	**+0.1**
CLL	**Collm**	**1.96**	**266**	*e*Pg	**Pg**	**16 00 07.0**	**-1.4**
CLL				*i*S	**Sg**	**16 00 33.9**	**+0.1**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PG	**Pg**	**16 00 10.5**	**-0.7**
OKC				*e*SG	**Sg**	**16 00 37.3**	**-1.2**
comp=Z,35nm,0.6s							
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**16 00 09.9**	**+1.1**
baz=340,slow=16							
VRAC				Lg		16 00 40.6	
comp=Z,4.5nm,0.3s,baz=76,slow=19,SNR=7.8							
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**16 00 09.9**	**+1.1**
VRAC				*e*Sg	**Sg**	**16 00 40.6**	**-1.3**
comp=Z,13nm,0.2s							
KRUC	**Moravsky**	**2.44**	**176**	*e*Pn	**Pn**	**16 00 11.7**	**-0.3**
KRUC				*e*Sg	**Sg**	**16 00 48.3**	**-1.1**
comp=Z,21nm,0.5s							
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**16 00 15.4**	**+0.6**
NKC				*e*PG	**Pg**	**16 00 21.9**	**+0.3**
NKC				*e*SG	**Sg**	**16 00 56.9**	**+1.1**
comp=Z,48nm,0.3s							
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**16 00 22.9**	**+1.0**
OJC				*e*Sg	**Sg**	**16 00 57.7**	**+1.3**
JAVC	**Velka Javorina**	**2.82**	**159**	*e*Pn	**Pn**	**16 00 18.6**	**+1.4**
JAVC				*e*Sg	**Sg**	**16 01 02.5**	**+0.9**
comp=Z,26nm,0.9s							
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**16 00 18.4**	**+0.5**
KHC				*e*PG	**Pg**	**16 00 23.6**	**-2.3**
KHC				*e*SN	**Sn**	**16 00 52.7**	**-0.4**
KHC				*e*SG	**Sg**	**16 01 03.1**	**0.0**
comp=Z,14nm,0.4s							
KHC	**Kasperske Hory**	**2.87**	**215**	*e*Pn	**Pn**	**16 00 18.4**	**+0.5**
KHC				*e*Pg	**Pg**	**16 00 23.6**	**-2.3**
MOX	**Moxa**	**2.96**	**255**	*e*PN	**Pn**	**16 00 19.6**	**+0.4**
MOX				*e*PG	**Pg**	**16 00 27.7**	**0.0**
MOX				*e*SG	**Sg**	**16 01 07.4**	**+1.3**
GEC2	**GERESS Array S**	**3.07**	**211**	*e*P	**Pn**	**16 00 21.7**	**+1.0**
GERES	**GERESS Array B**	**3.07**	**211**	Pn	**Pn**	**16 00 21.2**	**+0.5**
comp=Z,0.9nm,0.3s,baz=29,slow=12,SNR=14							
GERES				Pg	**Pg**	**16 00 27.9**	**-1.9**
comp=Z,3.1nm,0.3s,baz=33,slow=16,SNR=24							
GERES				Sn	**Sn**	**16 00 58.3**	**+0.2**
comp=Z,2.6nm,0.3s,baz=30,slow=25,SNR=5.7							
GERES				Lg		16 01 08.3	
comp=Z,3.8nm,0.3s,baz=36,slow=28,SNR=8.9							
GERES	**GERESS Array B**	**3.07**	**211**	P	**Pn**	**16 00 21.2**	**+0.5**
GERES						16 00 58.3	
GERES	**GERESS Array B**	**3.07**	**211**	Pg	**Pg**	**16 00 27.9**	**-1.9**
GERES				S	**Sn**	**16 00 58.3**	**+0.2**
WET	**Wettzell**	**3.14**	**223**	*e*P	**Pn**	**16 00 21.7**	**+0.1**
ZST	**Bratislava**	**3.36**	**169**	*e*SG	**Sg**	**16 01 19.0**	**0.0**
VYHS	**Vyhne**	**3.48**	**149**	*e*PG	**Pg**	**16 00 36.5**	**-1.1**
VYHS				*e*SG	**Sg**	**16 01 22.7**	**0.0**
CONA	**Conrad Observa**	**3.57**	**183**⇑*i*Pn		**Pn**	**16 00 27.6**	**+0.1**
CONA				⇑*i*Sg	**Sg**	**16 01 23.6**	**-2.1**
comp=Z,7.3nm,0.3s							
MOA	**Molln**	**3.84**	**199**⇑*i*Pn		**Pn**	**16 00 31.9**	**+0.7**
MOA				⇓*i*Sg	**Sg**	**16 01 35.4**	**+1.1**
comp=Z,8.7nm,0.4s							
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PG	**Pg**	**16 00 47.8**	**+2.5**
STHS				*e*SG	**Sg**	**16 01 41.4**	**+5.7**
KECS	**Kecovo**	**4.13**	**135**	*e*PG	**Pg**	**16 00 51.2**	**+1.2**
KECS				*e*SG	**Sg**	**16 01 44.5**	**+0.9**
CRVS	**Cervenica-Dubn**	**4.30**	**125**	*e*PG	**Pg**	**16 00 55.1**	**+1.7**
CRVS				*e*SG	**Sg**	**16 01 53.1**	**+3.9**
AKASG	**Malin Array Be**	**8.29**	**90**	Pn	**Pn**	**16 01 30.6**	**-1.8**
comp=Z,1.0nm,0.3s,baz=278,slow=12,SNR=4.3							
AKASG	**Malin Array Be**	**8.29**	**90**	Pn	**Pn**	**16 01 30.6**	**-1.8**
HFS	**Hagfors**	**8.77**	**352**	Pn	**Pn**	**16 01 38.5**	**-0.4**
comp=Z,0.2nm,0.3s,baz=168,slow=14,SNR=3.9							
NOA	**NORSAR Array B**	**9.95**	**346**	Pn	**Pn**	**16 01 55.2**	**+0.2**
comp=Z,0.1nm,0.3s,baz=162,slow=13,SNR=2.5							
FINES	**FINESS Array B**	**11.38**	**25**	Pn	**Pn**	**16 02 11.8**	**-2.9**
comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=6.6							
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**Pn**	**16 03 45.3**	**-5.0**
comp=Z,0.2nm,0.3s,baz=195,slow=12,SNR=8.9							

MAN 20 16:41:11.8, 1122N×12459E, h7km, mb1.7, ML3.6, MS0.3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.17**	**173**	*e*P	Pg	16 41 16.0	+0.8
OCLP				*e*S	Sg	16 41 19.2	+1.7
PLP	**Palo**	**0.39**	**98**	*e*P	Pg	16 41 19.9	+0.6
PLP				*e*S	Sg	16 41 25.0	+0.6
MSLP	**Maasin**	**1.11**	**166**	*e*P	Pg	16 41 33.0	0.0
MSLP				*e*S	Sg	16 41 50.3	+2.8

IDC 20 16:50:22.1±1.3, 2946S×17887W, h315km±19km, mb2.7/2, mb1 3.0/3, mb1mx2.9/12, mbtmp3.5/3, Error ellipse: s-maj=53.7km s-min=36.6km az=126.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**76**	P	Pn	16 51 03.5	+0.2
129nm,0.3s,baz=101,slow=20,SNR=5.8							
URZ	**Urewera**	**9.39**	**200**	P	Pn	16 52 32.2	-0.5
0.4nm,0.3s,baz=127,slow=23,SNR=5.1							
URZ				S	S	16 54 13.0	-6.2
1.1nm,0.3s,baz=150,slow=22,SNR=8.6							
ASAR	**Alice Springs**	**42.41**	**266**	P	P	16 57 46.8	+0.3
0.4nm,0.7s,baz=104,slow=6.9,SNR=10							
WRA	**Warramunga Arr**	**43.31**	**272**	P	P	16 57 53.8	+0.1
0.2nm,0.4s,baz=110,slow=8.0,SNR=6.4							
FINES	**FINESS Array B**	**144.01**	**340**	PKP	PKPdf	17 09 18.9	-1.3
0.4nm,0.3s,baz=58,slow=3.5,SNR=8.3							

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*IDC **20** 16:52:53.7±0.5, 3302N×10492E, h0km, mb4.9/19, mb1 5.0/20, mb1mx4.9/23, mbtmp4.9/20, ML4.2/1, MS4.2/24, Ms1 4.2/24, ms1mx3.9/39, Error ellipse: s-maj=19.0km s-min=12.1km az=44.0*
*ISCJB **20** 16:52:54.7±0.8, 3305N±002×10495E±002, h13km±5km, mb5.0/162, MS4.4/58, Error ellipse: s-maj=3.4km s-min=3.0km az=33.2*
*BJI **20** 16:52:55.6, 3307N×10499E, h24km, mB5.0, mb5.4, ML5.3, Ms5.2, Msz4.9*
*MOS **20** 16:52:57.7±0.8, 3311N×10493E, h33km, mb5.2/87, MS4.5/34, Error ellipse: s-maj=6.5km s-min=3.7km az=119.9*
*NEIC **20** 16:52:58.0±1.3, 3307N×10495E, h24km±9km, mb5.1/105, MS4.5/9, Error ellipse: s-maj=4.6km s-min=3.5km az=204.0*
NEIC Five people injured in Gansu. Twenty-five houses damaged at Xinsi. At least six buildings damaged at Linjiang and Liping. Two landslides damaged the road between Wen Xian and Wudu Counties.
*HRVD **20** 16:52:58.0±0.2, 33.14N×105.04E, h14km±1km, MW4.9/69, Centroid moment Tensor Solution. LP body waves: s22,c25;Mantle waves: s69,c121; Half duration: 0 Moment tenso: Scale 10^{16}Nm; M_{rr}1.27±.13; $M_{\theta\theta}$0.74±.09; $M_{\phi\phi}$-2.01±.10; $M_{r\theta}$-0.25±.21; $M_{\theta\phi}$2.65±.09; $M_{\phi r}$0.21±.20; Best double couple: $M_0$3.00100×10^{16} NP1:ϕ_s194.00000°, δ84.00000°, λ179.00000°. NP2:ϕ_s284.00000°, δ89.00000°, λ6.00000°. Principal axes: T 2.3630, Plg6.0000°, Azm149.0000°; N 1.2790, Plg83.0000°, Azm296.0000°; P -3.6390, Plg4.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **20** 16:53:04.1, 3369N×10424E, h33km, mb5.1, MS4.7, Gansu, China*

ISC 20 16:52:58.0±0.8, 3308N±002×10495E±002, h23km±6km, h30km±2.0km: pP-P, n495, σ1°03/512, mb5.0/162, MS4.4/58, 57C-26D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.39**	**205**⇓*i*P		**Pn**	**16 53 36.8**	**+1.1**
CD2				PG	**Pn**	**16 53 38.6**	**+2.9**
CD2				S	**Sn**	**16 54 03.8**	**-0.5**
CD2				SG	**Sn**	**16 54 09.0**	**+4.7**
CD2				Smax			
comp=N,30μm,0.8s							
CD2				Smax			
comp=E,15μm,1.1s							
LZH	**Lanzhou**	**3.14**	**343**	⇑P	**Pn**	**16 53 47.4**	**+1.3**
LZH				PG	**Pn**	**16 53 54.0**	**+7.9**
LZH				S	**Sn**	**16 54 25.6**	**+2.8**
LZH				SG	**Sn**	**16 54 34.5**	**+12**
LZH				LR	LR		
comp=E,57μm,8.7s							
LZH				LR	LR		
comp=Z,36μm,9.1s							
XAN	**Xi'an**	**3.45**	**73**	P	**Pn**	**16 53 50.8**	**+0.4**
XAN				PG	**Pn**	**16 53 58.3**	**+7.9**
XAN				SG	**Sn**	**16 54 41.8**	**+11**
XAN				Smax			
comp=N,25μm,0.9s							
XAN				Smax			
comp=E,17μm,0.7s							
GYA	**Guiyang**	**6.76**	**167**⇑*i*P		**Pn**	**16 54 35.9**	**0.0**
GYA				S	**Sn**	**16 55 50.5**	**-1.6**
GYA				SG	Sn	16 56 30.8	+39
GYA				Smax			
comp=N,3μm,0.9s							
GYA				Smax			
comp=E,3μm,0.9s							
GYA				LR	LR		
comp=N,5μm,5.0s							
GYA				LR	LR		
comp=E,3μm,4.8s							
GYA				LR	LR		
comp=Z,4μm,5.2s							
GTA	**Gaotai**	**7.56**	**328**	⇑P	**Pn**	**16 54 45.8**	**-1.0**
GTA				S	**Sn**	**16 56 11.6**	**-0.2**
GTA				LR	LR		
comp=N,8μm,9.9s							
GTA				LR	LR		
comp=E,8μm,8.8s							
GTA				LR	LR		
comp=Z,7μm,11.8s							
KMI	**Kunming**	**8.16**	**194**	P	**Pn**	**16 54 55.0**	**0.0**
KMI				S	**Sn**	**16 56 23.8**	**-2.7**
KMI				Smax			
comp=N,350nm,1.5s							
KMI				Smax			
comp=E,430nm,1.3s							
KMI				LR	LR		
comp=N,12μm,8.1s							
KMI				LR	LR		
comp=E,11μm,9.5s							
KMI				LR	LR		
comp=Z,6μm,8.1s							
WHN	**Wuhan**	**8.39**	**105**	⇑P	**Pn**	**16 54 57.5**	**-0.7**
WHN				S	**Sn**	**16 56 30.5**	**-1.6**
WHN				LR	LR	

HHC S **Sn** **16 57 03.8 +7.1**
HHC XS 16 57 09.3
HHC LG1 16 57 59.1
HHC AMB AMB
comp=Z,30nm,1.1s
HHC AMB AMB
comp=Z,190nm,3.2s
HHC LR LR
comp=N,7μm,5.7s
HHC LR LR
comp=E,6μm,5.1s
HHC LR LR
comp=Z,4μm,6.0s
TIA Tai'an 10.50 69 *e*P **Pn** **16 55 28.3 +1.1**
TIA S **Sn** **16 57 32.0 +7.9**
TIA LR LR
comp=N,4μm,5.0s
TIA LR LR
comp=E,3μm,8.0s
BJT Baijiatuau 11.37 49 *e*P **Pn** **16 55 39.3 +0.3**
BJT 16 57 54.8
BJT pmax pmax
comp=Z,120nm,1.1s
BJT Baijiatuau 11.37 49 *e*Pn **Pn** **16 55 39.3 +0.3**
comp=Z,120nm,1.1s
BJT Sn **Sn** **16 57 54.8 +10**
NJ2 Nanjing 11.78 91 *e*P **Pn** **16 55 43.6 -1.0**
NJ2 AP 16 55 50.4
NJ2 PP 16 55 52.1
NJ2 XP 16 55 54.4
NJ2 PPP 16 56 00.6
NJ2 S **Sn** **16 57 50.0 -5.3**
NJ2 XS 16 58 02.0
NJ2 AMB AMB
comp=Z,150nm,0.6s
NJ2 AMB AMB
comp=Z,280nm,5.3s
NJ2 LR LR
comp=N,20μm,13.0s
NJ2 LR LR
comp=E,7μm,9.4s
NJ2 LR LR
comp=Z,3μm,9.1s
LSA Lhasa 12.26 258 P **Pn** **16 55 52.0 +0.8**
LSA LR LR
comp=N,3μm,10.5s
LSA LR LR
comp=E,2μm,9.0s
LSA LR LR
comp=Z,3μm,10.9s
LSA Lhasa 12.26 258 *e*P **Pn** **16 55 51.9 +0.7**
LSA pmax pmax
comp=Z,61nm,1.1s
LSA Lhasa 12.26 258 *e*Pn **Pn** **16 55 51.9 +0.6**
comp=Z,60nm,1.1s
SHL Shillong 13.63 240 *i* P **Pn** **16 56 09.0 -0.9**
SHL *i* x x 17 00 20.0
SSE Sheshan 13.91 94 P **Pn** **16 56 13.5 -0.2**
SSE S **Sn** **16 58 48.3 +0.9**
SSE AMB AMB
comp=Z,80nm,0.8s
SSE LR LR
comp=N,6μm,12.6s
SSE LR LR
comp=E,3μm,12.6s
SSE LR LR
comp=Z,3μm,7.7s
QZH Quanzhou 14.42 121⇑ *i*P **Pn** **16 56 20.1 -0.5**
QZH S **Sn** **16 59 02.0 +2.2**
QZH AMB AMB
comp=Z,80nm,0.6s
QZH LR LR
comp=N,17μm,10.8s
QZH LR LR
comp=E,12μm,11.2s
QZH LR LR
comp=Z,4μm,8.9s
QIZ Qiongzhong 14.66 161 P **Pn** **16 56 21.5 -2.5**
QIZ XP sP 16 56 29.4 -10
QIZ S **Sn** **16 59 03.4 -2.3**
QIZ LR LR
comp=N,4μm,10.9s
QIZ LR LR
comp=Z,4μm,11.0s
QIZ Qiongzhong 14.66 161 *e*Pn **Pn** **16 56 19.5 -4.4**
comp=Z,101nm,0.9s
QIZ *e* 16 56 31.2
DL2 Dalian 14.69 62⇑P **Pn** **16 56 21.8 -2.6**
DL2 *e*S **Sn** **16 59 02.0 -4.5**
DL2 LR LR
comp=N,2μm,12.0s
SONM Songino Array 14.78 4 Pn **Pn** **16 56 24.2 -1.5**
comp=N,1.0nm,0.3s,baz=183,slow=12,SNR=38
SONM LR LR 17 01 43.9
comp=N,93nm,19.5s,baz=182,slow=36
ULN Ulaanbaatar 14.86 6⇑P **Pn** **16 56 25.8 -0.9**
SNR=37
ULN Ulaanbaatar 14.86 6⇓ *e*P **Pn** **16 56 24.4 -2.2**
ULN Ulaanbaatar 14.86 6 *e*P **Pn** **16 56 24.0 -2.6**
comp=N,59nm,1.5s
TATO Taipei 16.55 115 *e*P **Pn** **16 56 50.9 +2.3**
comp=N,60nm,0.8s
YHNB Yeheng 16.63 116 *e*P **Pn** **16 56 48.6 -1.0**
KKTK Khon Kaen 16.78 187 PN **Pn** **16 56 51.0 -0.5**
KKTK PG **Pn** **16 56 55.5 +4.0**
KKTK SG pP 16 57 00.0 +0.2
JIRN Jiri 17.06 256 *e*P **Pn** **16 56 54.8 -0.2**
comp=N,140nm,1.1s
NACB Ninganchiao 17.08 117 *e*P **Pn** **16 56 56.7 +1.5**
SNY Shenyang 17.15 54⇑P **Pn** **16 56 56.1 -0.1**
SNY AP pP 16 57 01.3 -2.6
SNY S **Sn** **17 00 07.3 +1.1**
SNY XS sS 17 00 12.3 -13
SNY SS 17 00 20.1
SNY AMB AMB
comp=Z,80nm,1.3s
SNY LR LR
comp=E,2μm,15.6s
SNY LR LR
comp=Z,2μm,14.3s
GUN Gumba 17.22 258 *e*P **Pn** **16 56 57.0 0.0**
comp=Z,274nm,1.0s
WMQ Urumqi 17.22 314 P **Pn** **16 56 56.4 -0.6**
WMQ XP sP 16 57 03.3 -4.3
WMQ PP 16 57 11.1
WMQ PPP 16 57 19.0
WMQ S **Sn** **17 00 05.6 -2.3**
WMQ XS sS 17 00 13.5 -13
WMQ SS 17 00 27.1
WMQ LG1 17 01 56.1
WMQ LG2 17 02 22.9
WMQ AMB AMB
comp=Z,100nm,3.2s
WMQ LR LR
comp=N,1μm,10.0s
WMQ LR LR
comp=E,2μm,9.0s
WMQ LR LR
comp=Z,1μm,27.0s
ZAK Zakamensk 17.34 356 *e*P **Pn** **16 56 58.2 -0.3**
ZAK pmax pmax
comp=Z,37nm,1.6s
ZAK pmax pmax
comp=Z,27nm,1.7s
ZAK pmax pmax
comp=Z,134nm,1.8s
PKI Pulchoki 17.73 257 *e*P **Pn** **16 57 03.1 -0.3**
comp=Z,224nm,1.2s
PKI Pulchoki 17.73 257 *e*P **Pn** **16 57 03.1 -0.3**
PKI pmax pmax
comp=Z,224nm,1.2s
UBT Ubonrachathani 17.75 180⇑P **Pn** **16 57 05.7 +2.1**
KKN Kakani 17.76 258 *e*P **Pn** **16 57 03.6 -0.1**
comp=Z,112nm,0.8s
KKN Kakani 17.76 258 *e*P **Pn** **16 57 03.6 -0.1**
KKN pmax pmax
comp=Z,112nm,0.8s
NST Nakhon Sawan 17.87 195 P **Pn** **16 57 05.8 +0.7**
DMN Daman 17.97 258 *e*P **Pn** **16 57 06.5 +0.2**
comp=Z,331nm,1.3s
CAL Calcutta 18.04 239 *i* x **Pn** **16 57 14.0 +6.8**
CAL *ex* **Sn** **17 00 34.6 +6.8**
GKN Gorkha 18.21 259 *e*P **Pn** **16 57 09.3 +0.1**
comp=Z,357nm,1.1s
INCN Inchon 18.23 70 *e*P **Pn** **16 57 10.8 +1.3**
comp=Z,255nm,1.2s
TLY Talaya 18.62 357 Pn **Pn** **16 57 14.6 +0.4**
comp=Z,154nm,1.1s,SNR=7.1
TLY Talaya 18.62 357 *c i*P **Pn** **16 57 13.5 -0.7**
TLY *e*S **Sn** **17 00 41.9 +0.2**
TLY pmax pmax
comp=Z,30nm,1.0s
TLY MLR MLR
comp=Z,845nm,11.0s
MOY Mondy 18.80 352 *e*P **Pn** **16 57 16.4 0.0**
MOY pmax pmax
comp=Z,76nm,1.9s
BOK Bokaro 19.12 246 *e*P **Pn** **16 57 20.2 -0.2**
BOK AMb AMB 16 57 24.1
comp=Z,66nm,1.0s
KOLN Koldanda 19.15 260 *e*P **Pn** **16 57 20.1 -0.5**
comp=Z,45nm,0.6s
IRK Irkutsk 19.16 359 *e*P **Pn** **16 57 20.3 -0.5**
IRK pmax pmax
comp=Z,38nm,0.1s
CN2 Changchun 19.25 50⇓P **Pn** **16 57 22.3 +0.5**
CN2 *e*AP pP 16 57 28.4 +1.4
CN2 *e*XP sP 16 57 32.4 +2.4
CN2 *e*S **Sn** **17 00 54.3 -2.6**
CN2 AMB AMB
comp=Z,30nm,0.6s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,13.0s
CN2 LR LR
comp=E,1μm,13.0s
CN2 LR LR
comp=Z,2μm,14.0s
CIT Chita 19.94 16 *e*P **Pn** **16 57 29.8 -0.2**
CIT pmax pmax
comp=Z,91nm,2.9s
NNT Nongplab 20.94 194 P **P** **16 57 40.6 +1.4**
JOW Kunigami 21.12 101 P **P** **16 57 41.1 -0.1**
comp=Z,21nm,0.6s,mb4.7,baz=275,slow=2.9,SNR=22
LGTI Lohaghat 21.41 267 *e*P **P** **16 57 46.5 +2.2**
CVP Callao Caves 21.55 131 *e*P **P** **16 57 47.0 +1.2**
MKAR Makanchi Array 22.03 315 P **P** **16 57 49.6 -1.2**
comp=Z,23nm,0.7s,mb4.7,baz=109,slow=11,SNR=163
MKAR Makanchi Array 22.03 315 *i* P **P** **16 57 50.4 -0.4**
MKAR pmax pmax
comp=Z,23nm,0.7s
MDJ Mudanjiang 22.30 52 P **P** **16 57 54.0 +0.3**
MDJ AP 16 58 00.1
MDJ XP sP 16 58 02.0 -1.0
MDJ PCP PcP 17 01 48.5 -0.5
MDJ S **S** **17 01 57.8 -0.1**
MDJ SCP ScP 17 05 24.8 -0.3
MDJ PCS PcS 17 05 27.4 -0.3
MDJ SCS ScS 17 09 09.6 -0.5
MDJ AMB AMB
comp=Z,80nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,230nm,4.1s
MDJ LR LR
comp=N,1μm,11.4s,MS4.5
MDJ LR LR
comp=E,530nm,14.0s,MS4.5
MDJ LR LR
comp=Z,1μm,11.4s,MS4.5
BLSP Bilaspur 22.93 247 *e*P **P** **16 58 00.6 +0.2**
BLSP *e*P 16 58 02.0
BLSP AMb AMB 16 58 09.1
comp=Z,103nm,1.2s,mb5.1
VLA Vladivostok 23.36 57 *c i*P **P** **16 58 06.0 +1.0**
VLA *e* 16 58 35.6
VLA pmax pmax
comp=Z,82nm,1.0s,mb5.1
VLA MLR MLR
comp=Z,2μm,15.0s,MS4.7
SMLA Simla 23.59 273 *e*P **P** **16 58 08.5 +1.3**
SMLA AMb AMB 16 58 21.5
comp=Z,127nm,2.1s,mb5.0
JBP Jabalpur 24.08 252 *e*P **P** **16 58 11.8 +0.2**
JBP AMb AMB 16 58 17.7
comp=Z,62nm,0.9s,mb5.0
JBP *e*S **S** **17 02 29.8 +1.8**
KSH Kashi 24.16 294 *e*P **P** **16 58 13.5 +1.1**
KSH *e*AP 16 58 19.3
KSH *e*XP sP 16 58 22.3 +0.3
KSH *e*PP 16 58 47.5
KSH *e*PPP 16 58 57.1
KSH *e*PCP PcP 17 01 57.0 +4.1
KSH *e*S **S** **17 02 26.8 -2.4**
KSH *e*XS sS 17 02 35.8 -4.5
KSH *e*SS 17 03 17.5
KSH *e*SCP ScP 17 05 32.8 +2.8
KSH *e*PCS PcS 17 05 35.3 +2.7
KSH *e*SCS ScS 17 09 19.3 +2.0
KSH AMB AMB
comp=Z,10.0nm,0.4s,mb4.6
KSH AMB AMB
comp=Z,600nm,3.2s
KSH LR LR
comp=N,1μm,8.1s
KSH LR LR
comp=E,2μm,9.0s
KSH LR LR
comp=Z,3μm,12.0s,MS4.9
NDI New Delhi 24.17 267 *e*P **P** **16 58 12.0 -0.5**
NDI *ex* x 17 02 41.0
ULHL Ulahol 24.41 300 P **P** **16 58 15.9 +1.2**
SNR=23
KRAR Krasnoyarsk 24.42 343⇓ *e*P **P** **16 58 12.9 -1.9**
KRAR pmax pmax
comp=Z,74nm,2.3s,mb4.7
KRAR MLR MLR
comp=Z,600nm,14.0s,MS4.2
VIS Vishakhapatnam 24.73 237 *e*P **P** **16 58 18.6 +1.0**
VIS AMb AMB 16 58 28.9
comp=Z,48nm,1.4s,mb4.8
TKM2 Tokmak 2 25.02 302 P **P** **16 58 21.3 +1.0**
SNR=16
KZA Kyzart 25.09 300 P **P** **16 58 22.9 +2.0**
SNR=25
ZAL Zalesovo 25.30 332 P **P** **16 58 22.9 +0.1**
comp=Z,25nm,1.0s,mb4.7,baz=341,slow=10,SNR=70
ZAL LR LR 17 09 00.8
comp=Z,620nm,18.9s,MS4.1,baz=333,slow=38
KBK Karagaybulak 25.43 301 P **P** **16 58 25.5 +1.5**
SNR=28
BOD Bodaibo 25.50 11 *e*P **P** **16 58 25.4 +0.8**
BOD pmax pmax
comp=Z,41nm,1.2s,mb4.8
CHMS Chumysh 25.65 301 P **P** **16 58 27.0 +1.1**
SNR=7.2
KLR Kul'dur 25.65 43 *e*P **P** **16 58 24.0 -1.9**
KLR pmax pmax
comp=E,200nm,1.6s
KLR pmax pmax
comp=Z,260nm,1.6s,mb5.5
KLR MLR MLR
comp=E,1μm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s,MS4.9
UCH Uchtor 25.66 300 P **P** **16 58 28.0 +1.9**
SNR=24
FRU Bishkek 25.71 301 *e*P **P** **16 58 25.0 -1.5**
FRU *e* 16 59 12.0
AAK Ala-Archa 25.75 301 P **P** **16 58 30.4 +3.4**
SNR=5.9
AAK Ala-Archa 25.75 301 P **P** **16 58 27.6 +0.7**
comp=Z,122nm,1.2s,mb5.3,SNR=6.3
AAK Ala-Archa 25.75 301⇑P **P** **16 58 27.0 +0.1**
SNR=13
AAK Ala-Archa 25.75 301⇓ *e*P **P** **16 58 26.7 -0.2**
AAK pmax pmax
comp=Z,24nm,1.7s,mb4.5
AAK MLR MLR
comp=Z,1μm,19.0s,MS4.4
NGP Nagpur 25.86 249 *e*P **P** **16 58 27.3 -0.6**
NGP AMb AMB 16 58 30.5
comp=Z,221nm,1.3s,mb5.5
USP Ospenovka 25.89 302 P **P** **16 58 28.9 +0.8**
SNR=56
SNG Songkhla 26.08 190 P **P** **16 58 30.0 +0.1**
comp=Z,282nm,0.9s,mb5.8
BHPL Bhopal 26.11 255 *e*P **P** **16 58 31.0 +0.9**
BHPL AMb AMB 16 58 34.4
comp=Z,49nm,0.8s,mb5.1
KURK Kurchatov 26.15 320 P **P** **16 58 30.1 -0.4**
comp=Z,208nm,0.6s,mb5.8,SNR=41
AML Almayashu 26.24 299 P **P** **16 58 33.5 +2.2**
SNR=7.8
EKS2 Erkin-Say 26.28 300 P **P** **16 58 32.7 +1.1**
SNR=8.7
NVS Novosibirsk 26.58 331⇑ *i*P **P** **16 58 33.1 -1.3**
NVS pmax pmax
comp=N,76nm,1.9s
NVS pmax pmax
comp=E,45nm,1.9s
NVS pmax pmax
comp=Z,59nm,1.9s,mb4.8
AJM Ajmer 27.06 264 *e*P **P** **16 58 38.5 -0.2**
AJM *i* P 16 58 40.0
AJM AMb AMB 16 58 46.5
comp=Z,47nm,1.8s,mb4.7
NRGR Nerungri 27.23 24 *e*P **P** **16 58 42.4 +2.2**
HABR Khabarovsk 27.27 47⇓ *i*P **P** **16 58 43.0 +2.4**
HABR *e*S **S** **17 03 23.7 +5.1**
HABR pmax pmax
comp=Z,39nm,1.7s,mb4.7
HABR MLR MLR
comp=Z,1μm,9.2s
MAT Matsushiro 27.45 73 P **P** **16 58 41.5 -0.7**
MAT S **S** **17 03 22.0 +0.6**
MAT Matsushiro 27.45 73 *e*P **P** **16 58 42.0 -0.2**
MAT *e*S **S** **17 03 22.0 +0.6**
MAT pmax pmax
comp=Z,32nm,0.7s,mb5.0
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.2
MAT Matsushiro 27.45 73 *e*P **P** **16 58 42.0 -0.2**
comp=Z,32nm,0.7s,mb5.0
MAT *e*S **S** **17 03 22.0 +0.6**
MAT LR LR
comp=Z,710nm,20.0s,MS4.2
MJAR Matsushiro Arr 27.45 73 P **P** **16 58 41.9 -0.3**
comp=Z,28nm,0.6s,mb5.0,baz=274,slow=9.7,SNR=61
MJAR LR LR 17 10 02.8
comp=Z,519nm,18.6s,MS4.1,baz=285,slow=37
MJAR Matsushiro Arr 27.45 73 P **P** **16 58 41.9 -0.3**
MJAR LR LR 17 10 02.8
AKL Akola 27.70 251 *ex* x 16 58 54.7
AKL AMb AMB 16 58 59.9
comp=Z,34nm,0.9s,mb5.0
KULM Kulim 27.94 189 *e*P **P** **16 58 44.8 -1.8**
HYB Hyderabad 28.41 243 *i* P **P** **16 58 53.0 +2.3**
HYB Hyderabad 28.41 243 *e*P **P** **16 58 53.0 +2.3**
KKM Kota Kinabalu 28.87 156 *e*P **P** **16 58 54.4 -0.5**
JHJ Hachijo jima 2 29.10 80 LR LR 17 11 56.8
comp=Z,310nm,18.3s,MS4.0,baz=291,slow=39
ASAJ Asahikawa 31.17 58 P **P** **16 59 15.3 +0.1**
comp=Z,26nm,0.8s,mb5.1,baz=268,slow=12,SNR=26
ASAJ LR LR 17 11 39.9
comp=Z,418nm,21.5s,MS4.1,baz=348,slow=36
ASAJ Asahikawa 31.17 58 P **P** **16 59 15.4 +0.2**
ASAJ pmax pmax
comp=Z,26nm,0.8s
ASAJ MLR MLR
comp=Z,418nm,21.5s
YSS Yuzh-Sakhalins 31.77 53⇑ *i*P **P** **16 59 22.3 +1.8**
YSS *e**PP pP 16 59 30.0 +2.7
YSS *e* 17 00 37.4
YSS *e*S **S** **17 04 28.0 -1.3**
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.2
YSS MLR MLR
comp=Z,1μm,14.0s,MS4.7
YSS MLR MLR
comp=E,2μm,13.0s
BRVK Borovoye 31.80 319 P **P** **16 59 20.6 -0.2**
comp=E,88nm,0.7s,mb5.7,SNR=6.5
CBIJ Chichi jima 32.64 91 LR LR 17 11 16.9
comp=E,235nm,19.6s,MS3.9,baz=267,slow=34
YAK Yakutsk 33.01 21 *c i*P **P** **16 59 31.3 -0.1**
YAK pmax pmax
comp=Z,49nm,1.3s,mb5.3
YAK MLR MLR
comp=Z,500nm,16.0s,MS4.3
ABKT Ailbek 38.12 291 P **P** **17 00 16.9 +1.6**
comp=Z,121nm,1.1s,mb5.5,SNR=7.5
AKTO Aktyubinsk 38.35 311 LR LR 17 17 07.1
comp=Z,774nm,20.8s,MS4.5,baz=285,slow=38
ARU Arti 39.34 321 P **P** **17 00 25.8 +0.3**
comp=Z,376nm,0.7s,SNR=25
ARU Arti 39.34 321⇑ *i*P **P** **17 00 25.6 +0.1**
ARU *e* 17 01 57.7
ARU *e*PPP 17 02 20.1
ARU *e* 17 02 31.9
ARU *e*S **S** **17 06 26.5 +1.1**
ARU *e* 17 10 31.1
ARU pmax pmax
comp=Z,47nm,0.9s,mb5.2
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.3
ARU MLR MLR
comp=N,60nm,14.0s,MS4.1
ARU MLR MLR
comp=E,200nm,18.5s,MS4.1
ORR Orenburg 40.55 313⇑ *i*P **P** **17 00 35.9 +0.3**
ORR pmax pmax
comp=Z,40nm,1.2s,mb4.9
ORR MLR MLR
comp=Z,800nm,15.0s,MS4.7
TIXI Tiksi 40.68 11 *c e*P **P** **17 00 35.9 -0.7**
TIXI pmax pmax
comp=Z,44nm,1.3s,mb4.9
SOKR Solikamsk 41.18 325 *c i*P **P** **17 00 40.9 +0.2**
SOKR pmax pmax
comp=Z,60nm,1.0s,mb5.2
SOKR MLR MLR
comp=Z,270nm,15.0s,MS4.2
WSAR Wadi Sarin 41.72 269 LR LR 17 20 46.5
comp=Z,173nm,19.8s,MS3.9,baz=240,slow=40
PET Petropavlovsk 42.85 46 *e*P **P** **17 01 03.8 +9.4**
PET *e*SS SS 17 10 27.6 -1.4
PET MLR MLR
comp=Z,700nm,19.0s,MS4.6
PET MLR MLR
comp=Z,500nm,14.0s
GNI Garni 48.04 297 *i* P **P** **17 01 35.3 -0.2**
ZEI Tsey 48.18 300 *e*P **P** **17 01 36.3 -0.3**
ZEI pmax pmax
comp=N,18nm,0.6s
MIB Mutribah 48.74 282 *e*P **P** **17 01 40.5 -0.3**
MIB AMb AMB 17 01 43.7
comp=Z,87nm,0.6s,mb6.0
VRHR Novokhopersk 48.76 311 *e*P **P** **17 01 40.6 -0.4**
VRHR pmax pmax
comp=Z,60nm,0.6s,mb5.8
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,60nm,0.8s
KIV Kislovodsk 48.86 302 P **P** **17 01 43.2 +1.4**
comp=E,218nm,0.8s,SNR=5.2
KIV Kislovodsk 48.86 302 *e*P **P** **17 01 42.7 +0.9**
KIV *e*S **S** **17 08 41.9 -2.1**
KIV pmax pmax
comp=Z,33nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,261nm,18.0s,MS4.3
RDF Al-Radifah 48.86 281 *e*P **P** **17 01 41.6 -0.2**
RDF AMb AMB 17 01 44.6
comp=Z,70nm,0.7s,mb5.8
NAY Al-Naaiem 49.00 282 *e*P **P** **17 01 42.5 -0.4**
NAY AMb AMB 17 01 45.6
comp=Z,77nm,0.7s,mb5.8
BILL Bilibino 49.09 26⇓ *e*P **P** **17 01 43.6 0.0**
BILL pmax pmax
comp=Z,27nm,1.3s,mb5.1
BILL MLR MLR
comp=Z,1μm,16.0s,MS5.0
VRSR Storozhevoye 50.28 312 *e*P **P** **17 01 52.5 -0.1**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,6.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,1.1s
MOS Moscow 50.88 318 *e*P **P** **17 01 56.1 -1.0**
MOS *e* 17 02 09.2
MOS pmax pmax
comp=Z,105nm,1.0s,mb5.7
SOC Sochi 51.04 302 *e*P **P** **17 01 59.9 +1.5**

SOC eS S 17 09 18.1 +3.7
SOC e*SS sS 17 09 33.8 +7.7
SOC pmax pmax
comp=Z,17nm,0.9s,mb5.0
SOC MLR MLR
comp=Z,459nm,20.0s,MS4.5
SOC smax
comp=N,60nm,0.3s
OBN Obninsk 51.52 317 ceP P 17 02 01.3 -0.6
OBN e 17 03 15.7
OBN e 17 03 58.3
OBN pmax pmax
comp=Z,38nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,400nm,17.0s,MS4.5
ANN Anapa 52.41 304 eP P 17 02 08.0 -0.6
ANN e*PP pP 17 02 18.1 +2.4
ANN eS S 17 09 33.2 0.0
ANN pmax pmax
comp=Z,59nm,0.9s,mb5.5
ANN MLR MLR
comp=Z,239nm,15.0s,MS4.4
LVZ Lovozero 52.42 333 deP P 17 02 08.0 -0.6
LVZ pmax pmax
comp=Z,27nm,1.0s,mb5.1
LVZ MLR MLR
comp=Z,600nm,17.0s,MS4.7
KAKA Kakadu 52.55 145 eP P 17 02 08.7 -0.9
comp=Z,43nm,1.5s,mb5.2
APA Apatity 52.87 333⇑iP P 17 02 11.6 -0.4
APA pmax pmax
comp=Z,20nm,0.4s,mb5.4
APA MLR MLR
comp=Z,1μm,14.0s,MS5.1
MALT Malatya 53.24 296⇑iP P 17 02 15.9 +1.2
MALT Malatya 53.24 296 ⇑P P 17 02 15.9 +1.2
JOF Joensuu 53.76 327 ep P 17 02 16.9 -1.6
comp=Z,14nm,0.7s,mb5.0
FITZ Fitzroy Crossi 54.60 156 eP P 17 02 22.9 -1.7
comp=Z,12nm,0.8s,mb5.0
FITZ Fitzroy Crossi 54.60 156 LR LR 17 26 23.3
comp=Z,77nm,19.2s,MS3.8,baz=170,slow=37
SIM Simferopol' 54.68 305 deP P 17 02 26.4 +1.2
SIM pmax pmax
comp=Z,39nm,0.7s,mb5.5
SIM MLR MLR
comp=Z,260nm,21.0s,MS4.3
KEV Kevo 55.23 336 ep P 17 02 28.1 -1.1
comp=Z,25nm,0.5s,mb5.5
KEV Kevo 55.23 336 eP P 17 02 28.1 -1.1
KEV pmax pmax
comp=Z,25nm,0.5s,mb5.5
ARCES ARCESS Array B 55.77 335 P P 17 02 32.0 -1.0
comp=Z,15nm,0.5s,mb5.2,baz=80,slow=7.5,SNR=113
KAF Kangasniemi 56.14 326 ep P 17 02 34.5 -1.3
comp=Z,8.4nm,0.5s,mb5.0,baz=82,slow=6.9
KAF Kangasniemi 56.14 326 eP P 17 02 34.5 -1.3
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
FINES FINESS Array B 56.34 325 P P 17 02 36.1 -1.1
comp=Z,10nm,0.6s,mb5.1,baz=94,slow=7.5,SNR=59
FINES LR LR 17 27 53.5
comp=Z,339nm,18.5s,MS4.5,baz=348,slow=37
FINES FINESS Array B 56.34 325 iP P 17 02 36.5 -0.7
FINES pmax pmax
comp=Z,10.0nm,0.6s
BRTR Keskin Array B 56.41 299 P P 17 02 37.0 -0.7
comp=Z,7.8nm,0.7s,mb4.8,baz=93,slow=6.4,SNR=37
BRTR LR LR 17 30 01.6
comp=Z,141nm,19.9s,MS4.1,baz=267,slow=40
BRTR Keskin Array B 56.41 299 iP P 17 02 37.5 -0.2
BRTR pmax pmax
comp=Z,8.0nm,0.7s
VSU Vasula 56.48 322c iP P 17 02 37.6 -0.6
AKASG Malin Array Be 56.58 312 P P 17 02 37.8 -1.1
comp=Z,7.5nm,0.5s,mb5.0,baz=68,slow=6.4,SNR=36
AKASG LR LR 17 28 04.0
comp=Z,318nm,21.3s,MS4.4,baz=100,slow=37
AKASG Malin Array Be 56.58 312 iP P 17 02 38.2 -0.6
AKASG pmax pmax
comp=Z,8.0nm,0.5s
KTK1 Kautokeino 56.61 335 eP P 17 02 38.5 -0.7
KTK1 AMb AMB 17 02 40.5
comp=Z,28nm,1.4s,mb5.1
KTK1 Kautokeino 56.61 335 eP P 17 02 38.5 -0.7
comp=Z,28nm,1.4s,mb5.1
ANTO Ankara 56.99 299 ⇑P P 17 02 41.9 +0.1
SNR=5.8
TRO Tromso 58.05 336 eP P 17 02 47.5 -1.8
KBS Kingsbay 58.37 347 eP P 17 02 51.8 +0.3
KBS AMS AMS 17 28 13.1
comp=Z,197nm,14.9s,MS4.3
CFR Carcaliu 58.70 306⇑iP P 17 02 53.6 -0.2
CFR Carcaliu 58.70 306 ⇑P P 17 02 53.6 -0.2
TIRR Tirgusor 58.73 305⇓iP P 17 02 54.1 +0.1
VRI Vrincioaia 59.45 307⇑iP P 17 02 59.2 +0.2
VRI Vrincioaia 59.45 307 ⇑P P 17 02 59.2 +0.3
PLOR Plostina 59.51 307⇓iP P 17 03 00.2 +0.8
WRAB Tennant Creek 59.73 148 P P 17 03 00.6 -0.3
comp=Z,246nm,0.6s,SNR=35
WRAB Tennant Creek 59.73 148 eP P 17 03 00.4 -0.5
WRAB pmax pmax
comp=Z,39nm,0.7s,mb5.5
WRAB Tennant Creek 59.73 148 eP P 17 03 00.4 -0.5
comp=Z,39nm,0.7s,mb5.5
WRA Warramunga Arr 59.73 148 P P 17 03 00.6 -0.4
comp=Z,15nm,0.6s,mb5.2,baz=341,slow=7.7,SNR=145
WB2 Warramunga Arr 59.74 148 eP P 17 02 59.7 -1.3
ISR Istrita 59.80 307⇓iP P 17 03 03.3 +1.9
BURAR Bucovina Array 59.92 310⇓iP P 17 03 02.3 +0.1
BURAR Bucovina Array 59.92 310 ⇓P P 17 03 02.3 +0.1
LVV L'vov 60.02 312 eP P 17 03 02.8 -0.1
LVV eS S 17 11 12.8 -1.5
LVV MLR MLR
comp=N,100nm,20.0s,MS4.3
LVV MLR MLR
comp=E,200nm,20.0s,MS4.3
LVV MLR MLR
comp=Z,100nm,20.0s,MS4.0
MLR Muntele Rosu 60.09 307⇑iP P 17 03 03.6 +0.2
MLR Muntele Rosu 60.09 307 ⇑P P 17 03 03.6 +0.2
LOF Lofoten 60.27 334 eP P 17 03 04.2 -0.4
MOR8 Moi Rana 60.44 332 eP P 17 03 03.4 -2.4
MOR8 AMb AMB 17 03 06.8
comp=Z,32nm,0.5s,mb5.6
MOR8 Moi Rana 60.44 332 eP P 17 03 03.4 -2.4
comp=Z,32nm,0.5s,mb5.6
VOIR 60.70 307⇑iP P 17 03 07.6 0.0
VOIR 60.70 307 ⇑P P 17 03 07.5 0.0
KWP Kalwaria 60.90 312 eP P 17 03 09.3 +0.4
STOK Stokkvaagen 60.95 333 eP P 17 03 07.5 -1.8
KOLS Kolonicke sedl 61.39 312 eP P 17 03 15.9 +3.7
KOLS e 17 03 33.4
KOLS pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
KOLS Kolonicke sedl 61.39 312 eP P 17 03 15.9 +3.7
comp=Z,8.6nm,0.9s,mb4.9
KOLS e 17 03 33.4
DRGR 61.80 309⇑iP P 17 03 12.3 -2.7
DRGR 61.80 309 ⇑P P 17 03 12.3 -2.7
STHS Stebnicka Huta 61.87 313 eP P 17 03 15.5 0.0
STHS Stebnicka Huta 61.87 313 eP P 17 03 15.6 +0.1
STHS pmax pmax
comp=Z,12nm,0.9s,mb5.0
STHS Stebnicka Huta 61.87 313 eP P 17 03 15.6 +0.1
comp=Z,12nm,0.9s,mb5.0
CRVS Cervenica-Dubn 61.90 312 eP P 17 03 17.8 +2.1
CRVS pmax pmax
comp=Z,60nm,1.3s,mb5.6
CRVS Cervenica-Dubn 61.90 312 eP P 17 03 17.8 +2.1
comp=Z,5.6nm,1.3s,mb4.5
NSS Namsos 61.91 331 eP P 17 03 12.9 -2.8
NIE Niedzica 62.45 313 eP P 17 03 20.1 +0.8
OJC Ojcow 62.49 314 eP P 17 03 19.5 -0.2
KECS Kecovo 62.65 312 eP P 17 03 20.4 -0.3
KECS pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
KECS Kecovo 62.65 312 eP P 17 03 20.4 -0.3
comp=Z,5.5nm,0.8s,mb4.7
AS31 Alice Springs 62.82 150 eP P 17 03 21.0 -0.8
ASAR Alice Springs 62.82 150 P P 17 03 21.6 -0.3
comp=Z,12nm,0.8s,mb5.1,baz=331,slow=6.3,SNR=143
ASAR LR LR 17 30 32.8
comp=Z,78nm,20.4s,MS3.9,baz=344,slow=36
ASPA Alice Springs 62.82 150 eP P 17 03 21.0 -0.8

BZS Buzias 62.91 308⇓iP P 17 03 22.6 +0.1
BZS Buzias 62.91 308 ⇓P P 17 03 22.6 +0.1
PSZ Piszkesteto 63.22 311⇑eP P 17 03 25.7 +1.2
NB2 NORSAR Subarra 63.39 327 P P 17 03 24.2 -1.4
comp=Z,6.5nm,0.6s,mb4.9,baz=72,slow=6.9
NB2 NORSAR Subarra 63.39 327 P P 17 03 24.2 -1.4
NB2 pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
NOA NORSAR Array B 63.39 327 P P 17 03 23.9 -1.7
comp=Z,5.9nm,0.6s,mb4.9,baz=71,slow=6.7,SNR=23
NOA LR LR 17 32 06.2
comp=Z,216nm,20.8s,MS4.3,baz=50,slow=37
NOA NORSAR Array B 63.39 327 P P 17 03 23.9 -1.7
NOA LR LR 17 32 06.2
OKC Ostrava-Krasne 63.62 314 eP P 17 03 27.5 +0.3
OKC AMS AMS 17 31 50.0
comp=Z,400nm,17.3s
VYHS Vyhne 63.68 312 iP P 17 03 27.7 +0.2
VYHS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VYHS Vyhne 63.68 312 iP P 17 03 27.7 +0.2
comp=Z,9.7nm,1.0s,mb4.8
VAY Valandovo 63.82 304 eP P 17 03 26.0 -2.5
KOLL Kolacno 63.92 312 eP P 17 03 30.1 +1.0
STIP Stip 63.95 304 eP P 17 03 27.8 -1.5
MORC Moravsky Berou 64.01 314⇓iP P 17 03 29.9 +0.2
MORC Moravsky Berou 64.01 314 ⇓P P 17 03 29.9 +0.1
SKO Skopje 64.36 305 eP P 17 03 31.8 -0.2
KSP Ksiaz 64.37 315 eP P 17 03 32.4 +0.3
KSP Ksiaz 64.37 315 eP P 17 03 32.3 +0.2
ALE Alert 64.47 358 P P 17 03 32.5 -0.3
comp=Z,50nm,1.0s,mb5.5,SNR=5.5
DPC Dobruska-Polom 64.54 315 eP P 17 03 33.7 +0.5
DPC AMS AMS 17 32 30.0
comp=Z,500nm,25.7s
SMOL Smolenice 64.54 313 eP P 17 03 34.1 +0.9
PKSM Moragy 64.64 310⇓iP P 17 03 34.0 +0.2
PKSM Moragy 64.64 310 ⇓P P 17 03 34.0 +0.2
UPC Upice 64.66 315 eP P 17 03 34.6 +0.6
VRAC Vranov 64.76 314⇑iP P 17 03 35.6 +1.0
VRAC Vranov 64.76 314 ⇑P P 17 03 35.6 +1.0
ZST Bratislava 64.86 312 eP P 17 03 35.1 -0.2
TTA Tatalina 65.00 30 eP P 17 03 36.4 +0.2
TTA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
TTA Tatalina 65.00 30 eP P 17 03 36.4 +0.2
comp=Z,9.6nm,0.8s,mb4.9
TREC Trest 65.44 314 eP P 17 03 39.1 +0.1
TREC AMS AMS 17 33 00.0
comp=Z,400nm,18.1s
KLBR Kellerberrin 65.45 168 eP P 17 03 38.8 -0.3
comp=Z,109nm,1.8s,mb5.6
PVCC Panska Ves 65.51 315 eP P 17 03 40.0 +0.5
PVCC MLR MLR
comp=Z,200nm,22.1s,MS4.3
MUN Mundaring 65.57 170 eP P 17 03 40.3 +0.4
PRU Pruhonice 65.73 315 eP P 17 03 41.5 +0.6
CONA Conrad Observa 65.73 312⇓iP P 17 03 41.4 +0.4
comp=Z,12nm,0.9s,mb4.9,SNR=8.3
BRG Berggiesshubel 65.74 316 eP P 17 03 40.8 -0.2
comp=Z,12nm,1.0s,mb4.9
BRG Berggiesshubel 65.74 316 eP P 17 03 41.0 +0.1
comp=Z,7.1nm,1.0s,mb4.7
BRG Berggiesshubel 65.74 316 eP P 17 03 41.0 0.0
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CLL Collm 66.11 317 eP P 17 03 42.9 -0.5
comp=Z,10.0nm,0.9s,mb4.8
CLL Collm 66.11 317 iP P 17 03 42.9 -0.5
comp=Z,10.0nm,1.0s,mb4.8
CLL iSP sP 17 03 51.3 -2.0
CLL iPcP PcP 17 04 14.0 +0.3
comp=Z,9.0nm,1.2s
CLL Collm 66.11 317 iP P 17 03 42.9 -0.5
CLL i pP 17 03 51.3 +0.7
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CLL MLR MLR
comp=Z,400nm,15.0s,MS4.8
JMIC Jan Mayen 66.20 341 LR LR 17 33 51.8
comp=Z,291nm,21.1s,MS4.5,baz=279,slow=37
JMIC Jan Mayen 66.20 341 AMS AMS 17 34 18.2
comp=Z,187nm,24.6s,MS4.2
ARSA Arzberg 66.21 312⇑iP P 17 03 43.8 -0.2
comp=Z,8.8nm,0.9s,mb4.8
BER Bergen 66.31 328 AMS AMS 17 35 00.3
comp=Z,269nm,17.3s,MS4.5
BSEG Bad Segeberg 66.55 320 eP P 17 03 46.5 +0.3
comp=Z,28nm,1.1s,mb5.2
GOLS Golise 66.65 311 iP P 17 03 46.9 +0.1
KHC Kasperske Hory 66.65 314 eP P 17 03 46.9 +0.1
KHC AMS AMS 17 33 00.0
comp=Z,300nm,17.1s
GEC2 GERESS Array S 66.69 314 eP P 17 03 47.2 +0.1
comp=Z,14nm,1.0s,mb5.0
GEC2 GERESS Array S 66.69 314 eP P 17 03 47.2 +0.1
GEC2 pmax pmax
comp=Z,14nm,1.0s,mb5.0
GERES GERESS Array B 66.69 314 P P 17 03 47.0 0.0
comp=Z,7.6nm,0.8s,mb4.8,baz=64,slow=6.1,SNR=42
GERES LR LR 17 34 20.7
comp=Z,248nm,20.0s,MS4.4,baz=66,slow=37
PERS Pernice 66.72 311 eP P 17 03 47.0 -0.2
MOA Molln 66.75 313⇑iP P 17 03 47.7 +0.3
comp=Z,14nm,0.8s,mb5.0
TANN Tannenbergstha 66.79 316 eP P 17 03 47.6 -0.1
comp=Z,9.0nm,1.0s,mb4.8
NKC Novy Kostel 66.87 316 eP P 17 03 48.6 +0.4
NKC AMS AMS 17 34 00.0
comp=Z,600nm,16.3s
WET Wettzell 67.06 315 eP P 17 03 49.7 +0.3
comp=Z,7.0nm,0.9s,mb4.7
WET Wettzell 67.06 315 eP P 17 03 49.7 +0.3
WET pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BOJS Bojanci 67.09 310 eP P 17 03 49.6 0.0
FORT Forrest 67.17 159 eP P 17 03 50.3 +0.2
comp=Z,34nm,0.7s,mb5.5
MANZ Manzenberg 67.17 316 eP P 17 03 50.6 +0.5
comp=Z,10.0nm,1.3s,mb4.7
MOX Moxa 67.19 316 eP P 17 03 50.1 -0.1
comp=Z,4.0nm,0.9s,mb4.5
MOX Moxa 67.19 316 eP P 17 03 50.0 -0.2
comp=Z,10.0nm,1.4s,mb4.7
MOX
comp=Z,300nm,16.0s
MOX Moxa 67.19 316 eP P 17 03 50.0 -0.2
MOX pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
MOX MLR MLR
comp=Z,300nm,16.0s,MS4.6
ROTZ Rotzenmuhle 67.20 315 eP P 17 03 50.8 +0.5
comp=Z,17nm,1.0s,mb5.0
NRDL Niedersach Rie 67.27 319 eP P 17 03 51.1 +0.4
comp=Z,21nm,1.2s,mb5.0
LCI Lecce 67.32 304 P P 17 03 50.6 -0.5
LCI pmax pmax
comp=Z,31nm,0.7s,mb5.5
LCI Lecce 67.32 304 P P 17 03 50.6 -0.5
comp=Z,31nm,0.7s,mb5.5
LJU Ljubljana 67.33 311 iP P 17 03 50.8 -0.3
COLA College 67.34 26c iP P 17 03 50.7 -0.5
CLZ Clausthal 67.39 318 eP P 17 03 51.8 +0.3
comp=Z,22nm,1.1s,mb5.1
CLZ Clausthal 67.39 318 eP P 17 03 51.8 +0.3
CLZ pmax pmax
comp=Z,22nm,1.1s,mb5.1
MCK McKinley 67.50 28 eP P 17 03 51.9 -0.3
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MCK McKinley 67.50 28 eP P 17 03 51.9 -0.3
comp=Z,4.5nm,0.9s,mb4.5
KBA Koelnbreinsper 67.64 312⇑iP P 17 03 54.5 +1.4
comp=Z,13nm,0.8s,mb5.0,SNR=6.6
KBA Koelnbreinsper 67.64 312⇑iP P 17 03 54.5 +1.4
KBA pmax pmax
comp=Z,13nm,0.8s,mb5.0
VOY Vojsko 67.74 311 eP P 17 03 52.8 -0.9
GRA1 Grafenberg Arr 67.82 316 eP P 17 03 54.6 +0.4
comp=Z,19nm,0.8s,mb5.2
GRA1 LR LR
comp=Z,500nm,19.6s,MS4.8
GRF Grafenberg Arr 67.82 316 eP P 17 03 54.6 +0.4
comp=Z,19nm,0.8s,mb5.2
GRF eL 17 34 58.1
comp=Z,498nm,19.6s

GRF Grafenberg Arr 67.82 316 eP P 17 03 54.6 +0.4
GRF pmax pmax
comp=Z,19nm,0.8s,mb5.2
GRF MLR MLR
comp=Z,500nm,19.6s,MS4.8
FUR Furstenfeldbru 68.44 314 eP P 17 03 58.7 +0.6
comp=Z,43nm,1.0s,mb5.4
FUR Furstenfeldbru 68.44 314 eP P 17 03 58.7 +0.6
FUR pmax pmax
comp=Z,43nm,1.0s,mb5.4
PMR Palmer 68.47 30 eP P 17 03 59.2 +0.9
PMR pmax pmax
comp=Z,25nm,1.0s,mb5.2
PMR MLR MLR
comp=Z,415nm,21.0s,MS4.6
PMR Palmer 68.47 30 eP P 17 03 59.1 +0.8
comp=Z,25nm,1.0s,mb5.2
PMR LR LR
comp=Z,415nm,21.0s,MS4.6
WTTA Wattenberg 68.61 313⇑iP P 17 03 59.2 0.0
comp=Z,15nm,0.8s,mb5.0
WTTA Wattenberg 68.61 313⇑iP P 17 03 59.2 0.0
WTTA pmax pmax
comp=Z,15nm,0.8s,mb5.0
SML Sawmill 68.69 29 eP P 17 03 59.3 -0.4
TIP Timpagrande 68.76 304 eP P 17 03 59.6 -0.4
FG4 Candela 68.77 306 P P 17 04 00.8 +0.7
FG4 pmax pmax
comp=Z,21nm,0.4s,mb5.4
FG4 Candela 68.77 306 P P 17 04 00.8 +0.7
comp=Z,21nm,0.4s,mb5.4
BRES Bressanone 68.80 313 P P 17 04 01.4 +1.0
comp=Z,90nm,2.8s,mb5.2
KDAK Kodiak Island 68.80 34 LR LR 17 37 57.1
comp=Z,254nm,18.1s,MS4.5,baz=47,slow=39
KDAK Kodiak Island 68.80 34 eP P 17 04 00.1 -0.3
comp=Z,122nm,1.6s,mb5.6
FG5 Orsara di Pugl 68.87 306 P P 17 04 01.5 +0.7
MOTA Moosalm 68.90 313⇑iP P 17 04 00.5 -0.5
comp=Z,12nm,1.0s,mb4.8
MOTA Moosalm 68.90 313⇑iP P 17 04 00.5 -0.5
MOTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
SGO Sicignano 69.16 305 P P 17 04 02.2 -0.4
SGO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SGO Sicignano 69.16 305 P P 17 04 02.2 -0.4
comp=Z,8.2nm,0.8s,mb4.7
BUG Bochum--Univer 69.31 318 eP P 17 04 03.6 +0.1
comp=Z,14nm,1.0s,mb4.8
MIDA Miranda 69.40 307 P P 17 04 04.0 -0.1
comp=Z,24nm,0.8s,mb5.2
ARV Arcevia 69.44 309 P P 17 04 04.7 +0.3
comp=Z,8.6nm,0.8s,mb4.7
SNTG Esanatoglia 69.55 309 P P 17 04 05.4 +0.4
comp=Z,9.0nm,0.2s,mb5.3
NRCA Norcia 69.63 308 P P 17 04 05.8 +0.3
comp=Z,10nm,0.7s,mb4.9
AQU L'Aquila 69.65 308⇑iP P 17 04 06.1 +0.5
AQU L'Aquila 69.65 308 eP P 17 04 05.5 -0.1
comp=Z,17nm,0.8s,mb5.0
SDI San Donato 69.66 307 P P 17 04 05.6 -0.1
SDI pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
SDI San Donato 69.66 307 P P 17 04 05.6 -0.1
comp=Z,8.8nm,0.6s,mb4.9
MURB Monte Urbino 69.82 309 P P 17 04 08.2 +1.5
comp=Z,32nm,0.9s,mb5.3
INK Inuvik 70.06 20 LR LR 17 39 16.9
comp=Z,390nm,18.8s,MS4.7,baz=121,slow=40
INK Inuvik 70.06 20 eP P 17 04 06.7 -1.5
INK pmax pmax
comp=Z,24nm,0.9s
INK Inuvik 70.06 20 eP P 17 04 06.7 -1.5
comp=Z,24nm,0.9s,mb5.1
MNS Montasola 70.11 308 P P 17 04 09.6 +1.1
MNS pmax pmax
comp=Z,14nm,1.0s,mb4.8
MNS Montasola 70.11 308 P P 17 04 09.6 +1.1
comp=Z,14nm,1.0s,mb4.9
BFO Black Forest 70.13 315 eP P 17 04 08.2 -0.4
comp=Z,8.0nm,1.0s,mb4.6
BFO Black Forest 70.13 315 eP P 17 04 08.2 -0.4
BFO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
VMG Vicchio 70.14 310 P P 17 04 10.0 +1.3
comp=Z,57nm,0.8s,mb5.5
TUE Stuetta 70.37 313 P P 17 04 09.9 -0.2
comp=Z,10nm,0.9s,mb4.8
EYAK Cordova Ski Ar 70.42 30 eP P 17 04 10.9 +0.5
FELD Feldberg im Sc 70.53 315 eP P 17 04 12.7 +1.7
GSCL Gusciola 70.58 311 P P 17 04 12.2 +0.9
CDF Champ du Feu 70.71 316 eP P 17 04 11.4 -0.7
comp=Z,16nm,0.8s,mb4.7
CDF Champ du Feu 70.71 316 eP P 17 04 11.4 -0.7
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CDF Champ du Feu 70.71 316 eP P 17 04 11.4 -0.7
comp=Z,7.8nm,0.8s,mb4.7
WLF Walferdange 70.77 317 eP P 17 04 13.1 +0.6
comp=Z,34nm,1.2s,mb5.2
WLF Walferdange 70.77 317 P P 17 04 13.2 +0.8
WLF E 17 04 17.0
WLF Walferdange 70.77 317 eP P 17 04 13.3 +0.8
WLF pmax pmax
comp=Z,25nm,1.0s,mb5.1
WLF Walferdange 70.77 317 eP P 17 04 13.2 +0.8
comp=Z,25nm,1.0s,mb5.1
DAWY Dawson 70.85 25 eP P 17 04 12.4 -0.6
VAI Varese 71.01 313 P P 17 04 13.1 -0.9
VAI pmax pmax
comp=Z,19nm,0.8s,mb5.1
VAI Varese 71.01 313 P P 17 04 13.1 -0.9
comp=Z,19nm,0.8s,mb5.1
MOF Molkenrain 71.06 315 eP P 17 04 15.8 +1.5
BOB Bobbio (Coli) 71.10 311 P P 17 04 14.5 0.0
BOB pmax pmax
comp=Z,20nm,0.7s,mb5.2
BOB Bobbio (Coli) 71.10 311 P P 17 04 14.5 0.0
comp=Z,20nm,0.7s,mb5.2
HINF Hinteralfeld 71.24 315 eP P 17 04 14.2 -1.2
comp=Z,13nm,0.8s,mb4.6
HINF Hinteralfeld 71.24 315 eP P 17 04 14.2 -1.2
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
HINF Hinteralfeld 71.24 315 eP P 17 04 14.2 -1.2
comp=Z,6.3nm,0.8s,mb4.6
GIVF Givet 71.31 318 eP P 17 04 15.1 -0.7
MCGN Macugnaga 71.45 313 P P 17 04 16.9 +0.3
comp=Z,21nm,1.1s,mb5.0
HAU Haudompre 71.45 316 eP P 17 04 16.5 -0.1
HAU eR
comp=Z,477nm,19.8s
HAU Haudompre 71.45 316 eP P 17 04 16.5 -0.1
HAU LR LR
comp=Z,480nm,19.8s,MS4.8
LOMF Lomont 71.48 315 eP P 17 04 17.9 +1.1
SUMG Summit 71.65 349 eP P 17 04 17.9 +0.1
comp=Z,11nm,0.8s,mb4.8
BAIF Baives 71.67 318 eP P 17 04 17.4 -0.6
OG01 Vacheresse 72.06 314 eP P 17 04 22.5 +2.2
KMBO Kilima Mbogo 72.06 256 P P 17 04 20.6 +0.2
comp=Z,7.4nm,0.9s,mb4.6,baz=48,slow=11,SNR=14
KMBO LR LR 17 36 46.5
comp=Z,117nm,18.2s,MS4.2,baz=96,slow=37
KMBO Kilima Mbogo 72.06 256 iP P 17 04 22.3 +2.0
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 72.06 256 eP P 17 04 21.4 +1.0
comp=Z,6.6nm,0.9s,mb4.6
KMBO LR LR
comp=Z,89nm,20.0s,MS4.0
CABF La Chapelle 72.28 314 eP P 17 04 20.9 -0.7
comp=Z,21nm,0.9s,mb4.8
CABF La Chapelle 72.28 314 eP P 17 04 20.9 -0.7
CABF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CABF La Chapelle 72.28 314 eP P 17 04 20.9 -0.7
comp=Z,10nm,0.9s,mb4.8
LPG La Plagne 72.43 313 eP P 17 04 22.5 0.0
comp=Z,86nm,0.8s,mb5.5
LPG La Plagne 72.43 313 eP P 17 04 22.5 0.0
LPG pmax pmax
comp=Z,43nm,0.8s,mb5.4
LPG La Plagne 72.43 313 eP P 17 04 22.5 0.0
comp=Z,43nm,0.8s,mb5.4

LPL	La Plagne	72.43	313	eP	P	17 04 22.4	-0.1
	comp=Z,85nm,0.9s,mb5.4						
LPL	La Plagne	72.43	313	eP	P	17 04 22.4	-0.1
LPL				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.4						
LPL	La Plagne	72.43	313	eP	P	17 04 22.4	-0.1
	comp=Z,42nm,0.9s,mb5.4						
PGF	Pioggiola	72.44	310	eP	P	17 04 22.2	-0.4
	comp=Z,57nm,0.8s,mb5.2						
PGF	Pioggiola	72.44	310	eP	P	17 04 22.2	-0.4
PGF				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
PGF	Pioggiola	72.44	310	eP	P	17 04 22.2	-0.4
	comp=Z,28nm,0.8s,mb5.2						
IMI	Imperia	72.50	311	P	P	17 04 23.0	+0.1
	comp=Z,29nm,0.8s,mb5.2						
SAOF	Saorge	72.67	311	eP	P	17 04 23.8	-0.1
BNI	Bardonecchia	72.69	313	eP	P	17 04 23.7	-0.4
BNI				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
BNI	Bardonecchia	72.69	313	eP	P	17 04 23.6	-0.4
	comp=Z,12nm,0.8s,mb4.9						
MBDF	Montbardon	72.80	312	eP	P	17 04 23.5	-1.2
	comp=Z,24nm,0.7s,mb4.9						
MBDF	Montbardon	72.80	312	eP	P	17 04 23.5	-1.2
MBDF				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
MBDF	Montbardon	72.80	312	eP	P	17 04 23.5	-1.2
	comp=Z,12nm,0.7s,mb4.9						
SBF	Sospel	72.81	311	eP	P	17 04 24.0	-0.7
	comp=Z,56nm,0.7s,mb5.3						
SBF	Sospel	72.81	311	eP	P	17 04 24.0	-0.7
SBF				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.3						
SBF	Sospel	72.81	311	eP	P	17 04 24.0	-0.7
	comp=Z,28nm,0.7s,mb5.3						
OG05	Jujurieux	72.95	314	eP	P	17 04 25.3	-0.3
ORIF	Oris-en-Rattie	73.25	313	eP	P	17 04 26.9	-0.5
	comp=Z,35nm,0.7s,mb5.1						
ORIF				eR			
	comp=Z,395nm,21.2s						
ORIF	Oris-en-Rattie	73.25	313	eP	P	17 04 26.9	-0.5
ORIF				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
ORIF	Oris-en-Rattie	73.25	313	eP	P	17 04 26.9	-0.5
	comp=Z,18nm,0.7s,mb5.1						
LOR	Lormes	73.28	316	eP	P	17 04 26.0	-1.5
LOR				eR			
	comp=Z,377nm,19.8s						
LOR	Lormes	73.28	316	eP	P	17 04 26.0	-1.5
LOR				LR	LR		
	comp=Z,380nm,19.8s,MS4.7						
STKA	Stephens Creek	73.28	148	eP	P	17 04 24.9	-2.6
	comp=Z,10nm,0.9s,mb4.8						
STKA	Stephens Creek	73.28	148	P	P	17 04 25.1	-2.4
	comp=Z,11nm,0.8s,mb4.8,baz=329,slow=5.8,SNR=15						
FRF	La Foret Royal	73.45	311	eP	P	17 04 27.4	-1.1
	comp=Z,26nm,1.0s,mb4.8						
FRF	La Foret Royal	73.45	311	eP	P	17 04 27.4	-1.1
FRF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
FRF	La Foret Royal	73.45	311	eP	P	17 04 27.4	-1.1
	comp=Z,13nm,1.0s,mb4.8						
SSF	Saint Saulge	73.59	316	eP	P	17 04 28.1	-1.3
	comp=Z,16nm,0.9s,mb4.7						
SSF	Saint Saulge	73.59	316	eP	P	17 04 28.1	-1.3
SSF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
SSF	Saint Saulge	73.59	316	eP	P	17 04 28.1	-1.3
	comp=Z,8.2nm,0.9s,mb4.7						
SMF	Signal de Mont	73.61	315	eP	P	17 04 28.4	-1.1
	comp=Z,32nm,0.8s,mb5.0						
SMF	Signal de Mont	73.61	315	eP	P	17 04 28.4	-1.1
SMF				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
SMF	Signal de Mont	73.61	315	eP	P	17 04 28.4	-1.1
	comp=Z,16nm,0.8s,mb5.0						
LMR	La Mourre	73.65	311	eP	P	17 04 28.9	-0.8
AVF	Avril sur Loir	73.82	316	eP	P	17 04 29.7	-1.0
	comp=Z,23nm,0.8s,mb4.8						
AVF	Avril sur Loir	73.82	316	eP	P	17 04 29.7	-1.0
AVF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
AVF	Avril sur Loir	73.82	316	eP	P	17 04 29.7	-1.0
	comp=Z,11nm,0.8s,mb4.8						
SMRF	Simiane la Rot	73.91	312	eP	P	17 04 30.3	-1.0
VIVF	Saint-Julien-l	74.02	313	eP	P	17 04 31.0	-0.9
	comp=Z,30nm,1.0s,mb4.9						
VIVF	Saint-Julien-l	74.02	313	eP	P	17 04 31.0	-0.9
VIVF				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
VIVF	Saint-Julien-l	74.02	313	eP	P	17 04 31.0	-0.9
	comp=Z,15nm,1.0s,mb4.9						
BGF	Bois d'Agland	74.24	315	eP	P	17 04 32.0	-1.2
TCF	Toulx Ste Croi	74.75	315	eP	P	17 04 35.5	-0.7
	comp=Z,20nm,0.9s,mb4.7						
TCF	Toulx Ste Croi	74.75	315	eP	P	17 04 35.5	-0.7
TCF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
TCF	Toulx Ste Croi	74.75	315	eP	P	17 04 35.5	-0.7
	comp=Z,10nm,0.9s,mb4.8						
LDF	La Druitiere	74.86	318	eP	P	17 04 35.8	-0.9
	comp=Z,22nm,0.9s,mb4.8						
LDF	La Druitiere	74.86	318	eP	P	17 04 35.8	-0.9
LDF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
LDF	La Druitiere	74.86	318	eP	P	17 04 35.8	-0.9
	comp=Z,11nm,0.9s,mb4.8						
LASF	Ste Croix	74.92	313	eP	P	17 04 36.6	-0.5
	comp=Z,34nm,0.9s,mb5.0						
FLN	La Foliniere	74.96	319	eP	P	17 04 36.2	-1.2
	comp=Z,31nm,1.1s,mb4.9						
FLN				eR			
	comp=Z,438nm,22.2s						
FLN	La Foliniere	74.96	319	eP	P	17 04 36.2	-1.2
FLN				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
FLN				MLR	MLR		
	comp=Z,440nm,22.3s,MS4.7						
FLN	La Foliniere	74.96	319	eP	P	17 04 36.2	-1.2
	comp=Z,15nm,1.1s,mb4.8						
FLN				LR	LR		
	comp=Z,440nm,22.3s,MS4.7						
SKAG	Skagway	75.26	27	eP	P	17 04 40.0	+0.9
GRR	Gorron	75.38	318	eP	P	17 04 38.9	-0.9
	comp=Z,32nm,0.9s,mb5.0						
GRR	Gorron	75.38	318	eP	P	17 04 38.9	-0.9
GRR				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
GRR	Gorron	75.38	318	eP	P	17 04 38.9	-0.9
	comp=Z,16nm,0.9s,mb5.0						
CAF	Calviac	75.57	314	eP	P	17 04 39.1	-1.7
	comp=Z,11nm,0.7s,mb4.6						
CAF	Calviac	75.57	314	eP	P	17 04 39.1	-1.7
CAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CAF	Calviac	75.57	314	eP	P	17 04 39.1	-1.7
	comp=Z,5.3nm,0.7s,mb4.6						
RJF	Les Rejaudoux	75.69	315	eP	P	17 04 41.3	-0.2
	comp=Z,21nm,0.9s,mb4.8						
RJF				eR			
	comp=Z,190nm,20.0s						
RJF	Les Rejaudoux	75.69	315	eP	P	17 04 41.3	-0.2
RJF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
RJF				MLR	MLR		
	comp=Z,190nm,20.0s,MS4.4						
RJF	Les Rejaudoux	75.69	315	eP	P	17 04 41.3	-0.2
	comp=Z,11nm,0.9s,mb4.8						
RJF				LR	LR		
	comp=Z,190nm,20.0s,MS4.4						
MFF	Saint Martin d	75.96	317	eP	P	17 04 42.5	-0.6
	comp=Z,36nm,0.9s,mb5.0						
MFF	Saint Martin d	75.96	317	eP	P	17 04 42.5	-0.6
MFF				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
MFF	Saint Martin d	75.96	317	eP	P	17 04 42.5	-0.6
	comp=Z,18nm,0.9s,mb5.0						
MTLF	Montolieu	76.32	313	eP	P	17 04 44.5	-0.6
	comp=Z,14nm,0.9s,mb4.6						
MTLF	Montolieu	76.32	313	eP	P	17 04 44.5	-0.6
MTLF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MTLF	Montolieu	76.32	313	eP	P	17 04 44.5	-0.6
	comp=Z,6.8nm,0.9s,mb4.6						
LFF	La Frestale	76.35	315	eP	P	17 04 45.0	-0.3
SGMF	Saint Gilles	76.39	319	eP	P	17 04 44.2	-1.3
	comp=Z,73nm,1.4s,mb5.1						
SGMF	Saint Gilles	76.39	319	eP	P	17 04 44.2	-1.3
SGMF				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.1						
SGMF	Saint Gilles	76.39	319	eP	P	17 04 44.2	-1.3
	comp=Z,36nm,1.4s,mb5.1						
ROSF	Rostrenen	76.74	319	eP	P	17 04 46.4	-1.1
	comp=Z,78nm,1.4s,mb5.1						
ROSF	Rostrenen	76.74	319	eP	P	17 04 46.4	-1.1
ROSF				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.1						
ROSF	Rostrenen	76.74	319	eP	P	17 04 46.4	-1.1
	comp=Z,39nm,1.4s,mb5.1						
QUIF	Quistinic	76.92	319	eP	P	17 04 47.9	-0.6
	comp=Z,68nm,1.4s,mb5.1						
QUIF	Quistinic	76.92	319	eP	P	17 04 47.9	-0.6
QUIF				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.1						
QUIF	Quistinic	76.92	319	eP	P	17 04 47.9	-0.6
	comp=Z,34nm,1.4s,mb5.1						
MBAR	Mbarara	77.13	261	⇑eP	P	17 04 49.4	-0.3
EPF	Esparros	77.64	313	eP	P	17 04 51.5	-1.1
	comp=Z,13nm,0.9s,mb4.5						
EPF	Esparros	77.64	313	eP	P	17 04 51.5	-1.1
EPF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
EPF	Esparros	77.64	313	eP	P	17 04 51.5	-1.1
	comp=Z,6.3nm,0.9s,mb4.5						
DLBC	Dease Lake	77.96	26	P	P	17 04 54.3	-0.1
ETSF	Etsaut	78.26	314	eP	P	17 04 55.9	-0.1
	comp=Z,20nm,0.8s,mb4.8						
ETSF	Etsaut	78.26	314	eP	P	17 04 55.9	-0.1
ETSF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ETSF	Etsaut	78.26	314	eP	P	17 04 55.9	-0.1
	comp=Z,10nm,0.8s,mb4.8						
SFJD	Kangerlussuaq	78.52	350	⇑iP	P	17 04 56.7	-0.7
	comp=Z,44nm,0.9s,mb5.4						
SFJD	Kangerlussuaq	78.52	350	⇑iP	P	17 04 56.7	-0.7
SFJD				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.4						
SJPF	Ste Jean	78.55	314	eP	P	17 04 57.0	-0.6
	comp=Z,20nm,0.9s,mb4.8						
SJPF	Ste Jean	78.55	314	eP	P	17 04 57.0	-0.6
SJPF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
SJPF	Ste Jean	78.55	314	eP	P	17 04 57.0	-0.6
	comp=Z,9.9nm,0.9s,mb4.7						
YKW3	Yellowknife Ar	79.54	17	eP	P	17 05 02.6	-0.4
YKA	Yellowknife Ar	79.60	17	P	P	17 05 02.4	-1.0
	comp=Z,6.1nm,0.8s,mb4.6,baz=321,slow=5.2,SNR=24						
YKA				LR	LR	17 43 35.0	
	comp=Z,206nm,18.6s,MS4.5,baz=0.0,slow=38						
YKA	Yellowknife Ar	79.60	17	iP	P	17 05 02.9	-0.4
YKA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YKA	Yellowknife Ar	79.60	17	P	P	17 05 02.4	-1.0
YKA				LR	LR	17 43 35.0	
CNB	Canberra Magne	79.75	144	eP	P	17 05 04.1	-0.1
	comp=Z,24nm,1.1s,mb5.0						
TOO	Toolangi	79.79	148	eP	P	17 05 04.4	0.0
	comp=Z,6.0nm,1.3s,mb4.4						
TOO	Toolangi	79.79	148	eP	P	17 05 04.4	0.0
TOO				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ESDC	Sonseca Array	82.22	313	P	P	17 05 17.3	-0.1
	comp=Z,2.9nm,0.7s,mb4.3,baz=47,slow=4.7,SNR=7.7						
ESDC				LR	LR	17 45 09.8	
	comp=Z,98nm,18.6s,MS4.2,baz=50,slow=38						
PBRG	Braganca	82.61	316	eP	P	17 05 20.0	+0.7
PCAB	Cabril	83.42	316	eP	P	17 05 25.0	+1.5
PCBR	Castelo Branco	84.26	314	eP	P	17 05 30.2	+2.3
PTOM	Tomar	84.96	315	eP	P	17 05 33.7	+2.3
EVO	Evora	85.41	314	eP	P	17 05 32.2	-1.4
	comp=Z,10nm,0.7s,mb4.8						
EVO				eR			
	comp=Z,301nm,22.2s						
PBEJ	Beja	85.64	313	eP	P	17 05 37.5	+2.7
LSZ	Lusaka	87.52	250	eP	P	17 05 43.7	-0.3
LSZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.1						
LSZ	Lusaka	87.52	250	eP	P	17 05 43.7	-0.3
	comp=Z,8.3nm,0.7s,mb5.1						
EDM	Edmonton	87.83	22	eP	P	17 05 45.7	+0.2
FFC	Flin Flon	89.53	15	P	P	17 05 53.9	+0.4
	comp=Z,120nm,0.8s,SNR=12						
FFC	Flin Flon	89.53	15	eP	P	17 05 52.8	-0.7
FFC				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.4						
FFC	Flin Flon	89.53	15	eP	P	17 05 52.8	-0.7
	comp=Z,15nm,0.8s,mb5.4						
E05A	Randle	90.23	30	⇓P	P	17 05 59.3	+2.5
	baz=90						
F04A	Amboy	90.45	31	⇓P	P	17 06 00.6	+2.8
	baz=90						
WALA	Waterton Lakes	91.20	24	eP	P	17 06 01.9	+0.7
	comp=Z,12nm,1.0s,mb5.2						
H04A	Detroit Lake	91.53	32	⇑P	P	17 06 05.0	+2.2
	baz=91						
J03A	Ideyld Park	92.22	33	⇑P	P	17 06 07.4	+1.4
	baz=92						
K02A	Glendale	92.44	33	⇑P	P	17 06 08.3	+1.3
	baz=92						
MSO	Missoula	93.08	26	eP	P	17 06 10.4	+0.4
	comp=Z,5.0nm,1.0s,mb4.9						
CHMT	Chamberlain Mo	93.26	25	P	P	17 06 08.9	-1.9
J06A	Christmas Vall	93.56	31	⇑P	P	17 06 13.7	+1.5
	baz=93						
TORD	Torodi Ar. Bea	93.72	288	P	P	17 06 13.1	+0.2
	comp=Z,0.9nm,0.6s,mb4.4,baz=46,slow=4.4,SNR=8.2						
TORD				LR	LR	17 55 21.2	
	comp=Z,130nm,18.7s,MS4.4,baz=55,slow=40						
TORD	Torodi Ar. Bea	93.72	288	P	P	17 06 13.1	+0.2
TORD				LR	LR	17 55 21.2	
M02C	Callahan	93.82	34	⇑P	P	17 06 15.4	+2.0
	baz=94						
K06A	Valley Falls	93.88	32	⇑P	P	17 06 16.2	+2.5
	baz=94						
L05A	Lakeview	94.22	32	⇓P	P	17 06 17.3	+2.0
	baz=94						
K07A	Rock Creek Ran	94.41	31	⇓P	P	17 06 18.4	+2.3
	baz=94						
WDC	Whiskeytown Da	94.60	34	⇓P	P	17 06 18.7	+1.7
	baz=94						
DLMT	Dillon	94.82	26	eP	P	17 06 18.6	+0.6
	comp=Z,5.9nm,1.0s,mb5.0						
L07A	Adell	94.91	31	⇑P	P	17 06 20.7	+2.3
	baz=95						
BOZ	Bozeman (W)	94.92	25	P	P	17 06 17.9	-0.5
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.7						
BOZ				MLR	MLR		
	comp=Z,326nm,19.0s,MS4.8						
BOZ	Bozeman (W)	94.92	25	P	P	17 06 17.9	-0.5
	comp=Z,3.0nm,1.0s,mb4.7						
BOZ				LR	LR		
	comp=Z,326nm,19.0s,MS4.8						
ULM	Lac du Bonnet	95.01	13	LR	LR	17 55 08.6	
	comp=Z,144nm,18.1s,MS4.5,baz=281,slow=39						
BOSA	Boshof	97.28	241	P	P	17 06 28.4	-0.8
	comp=Z,2.0nm,0.6s,mb4.8,baz=4.5,slow=11,SNR=6.2						
BOSA				LR	LR	17 47 11.9	
	comp=Z,136nm,20.4s,MS4.4,baz=7.2,slow=34						
LIC	Lamto	103.10	286	eP	Pdif	17 06 53.3	-1.8
	comp=Z,88nm,1.5s						
LIC				eR			
	comp=Z,128nm,21.0s						
LIC	Lamto	103.10	286	eP	Pdif	17 06 53.3	-1.8
	comp=Z,44nm,1.5s						
LIC				LR	LR		
	comp=Z,60nm,21.0s,MS4.1						
SYO	Syowa Base	112.37	201	⇑ePdiff	Pdif	17 07 37.8	+1.5
VNDA	Vanda	115.50	168	PKP	PKPdf	17 11 36.0	-2.0
	comp=Z,1.0nm,0.7s,baz=331,slow=6.0,SNR=6.5						
QSPA	South Pole Qui	122.84	180	eP	PKPdf	17 11 50.3	-1.9
SAML	Samuel	153.60	333	ePKPdf	PKPdf	17 12 47.3	+0.2
SAML				ePKPbc	PKPbc	17 12 55.2	+0.3
LPAZ	La Paz	162.15	338	PKP	PKPdf	17 12 59.2	+1.6
	comp=Z,2.0nm,0.8s,baz=28,slow=6.9,SNR=9.3						
LPAZ	La Paz	162.15	338	PKP	PKPdf	17 12 59.2	+1.6
PLCA	Paso Flores	171.56	204	PKPab	PKPab	17 14 24.6	-1.2
	comp=Z,2.0nm,0.8s,baz=253,slow=9.9,SNR=3.9						
PLCA	Paso Flores	171.56	204	PKP2	PKPab	17 14 24.6	-1.2
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

KRSC 20 16:57:13.6±0.9, 5025N×15666E, h21km±70km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.56	322	eP		16 57 25.0	
SKR				eS		16 57 33.9	
PAU	Pauzhetka	1.22	4	P		16 57 35.9	
PAU				eS		16 57 51.9	
PAU				Smax			
	240nm,0.1s						
RUS	Russkaya	2.48	27	eP		16 57 53.3	
RUS				eS		16 58 21.8	
UGLR	Uglovaya	3.25	24	P		16 58 05.7	
AVH	Avacha	3.28	22	eP		16 58 05.5	
KOK	Koryaka	3.28	21	eP		16 58 06.5	
SDLR	Sedlovina	3.33	24	P		16 58 07.0	

NNC 20 17:02:25.5±2.0, 4177N×7743E, h0km, mb3.6, mpv3.4, 4C-4D, Error ellipse: s-maj=12.8km s-min=10.4km az=146.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	Almaty	1.48	347	⇓P	Pn	17 02 52.8	-0.6
	118nm,0.3s						
KNDC				⇓S	Sg	17 03 13.3	+0.1
	102nm,0.3s						
TKM2	Tokmak 2	1.78	311	⇑P	Pn	17 02 57.6	+0.2
	1.0nm,0.2s						
TKM2				⇓S	Sn	17 03 21.5	+0.7
	18nm,0.5s						
KK31	Karatay Array	5.29	287	⇑Pg	Pg	17 04 02.2	-4.7
	1.9nm,0.5s,baz=110,slow=15,SNR=33						
KK31				Lg		17 05 11.1	
	5.9nm,0.3s,baz=106,slow=27,SNR=7.4						
MK05	Makanchi Array	6.11	33	⇑Pn	Pn	17 03 57.9	+0.8
	1.5nm,0.7s,baz=207,slow=15						
MK05				⇑Lg		17 05 35.7	
	5.2nm,0.7s,baz=217,slow=28						
KURK	Kurchatov	8.98	5	⇓Lg		17 07 11.7	
	3.9nm,0.8s						

ISCJB ***20*** *17:11:01.7±1.1, 727S±009×1257E±0.1, h481km±16km, mb3.7/5, Error ellipse: s-maj=19.8km s-min=9.7km az=113.7*

NEIC ***20*** *17:11:03.4±1.1, 732S×12571E, h498km±18km, mb4.4/5, Error ellipse: s-maj=22.3km s-min=11.8km az=61.0*

IDC ***20*** *17:11:04.2±2.7, 736S×12580E, h506km±34km, mb3.6/2, mb1 3.6/5, mb1mx3.2/15, mbtmp4.5/5, Error ellipse: s-maj=44.0km s-min=15.0km az=62.0*

ISC 20 17:11:03.3±1.1, 737S±009×1257E±01, h490km±14km, n17, σ0§95/23, mb3.7/5, 5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	8.47	129	eP	P	17 13 05.7	+1.3
	12nm,0.6s						
KAKA				iS	S	17 14 42.8	-1.0
FITZ	Fitzroy Crossi	10.67	180	⇓iP	P	17 13 28.8	+1.2
	7.9nm,0.3s						
FITZ				eS	S	17 15 25.2	-1.3
FITZ	Fitzroy Crossi	10.67	180	P	P	17 13 29.0	+1.3
	1.6nm,0.3s,baz=15,slow=10,SNR=142						
FITZ				S	S	17 15 25.0	-1.4
	0.3nm,0.3s,baz=185,slow=22,SNR=6.4						
WRAB	Tennant Creek	15.03	147	eP	P	17 14 14.1	+0.3
	3.1nm,0.4s						
WRA	Warramunga Arr	15.03	147	P	P	17 14 13.7	-0.2
	1.3nm,0.3s,baz=324,slow=11,SNR=106						
WRA				S	S	17 16 51.2	+0.1
	0.1nm,0.3s,baz=314,slow=23,SNR=3.8						
WB2	Warramunga Arr	15.04	147	⇓iP	P	17 14 14.2	+0.2
WB2				eS	S	17 16 48.9	-2.4
KSM	Kuching	17.72	299	eP	P	17 14 40.3	-1.2
ASPA	Alice Springs	18.00	155	⇓iP	P	17 14 45.2	+1.1
AS31	Alice Springs	18.00	155	⇓iP	P	17 14 45.2	+1.1
ASAR	Alice Springs	18.00	155	P	P	17 14 45.1	+1.0
	2.0nm,0.3s,baz=346,slow=15,SNR=103						
ASAR				S	S	17 17 44.7	+0.3
	baz=340,slow=20,SNR=8.1						
FORT	Forrest	23.39	175	eP	P	17 15 33.4	+0.5
	8.4nm,0.5s,mb4.4						
NWAO	Narrogin (SRO)	26.63	196	P	P	17 16 02.0	+0.4
	15nm,1.1s,mb4.3,baz=48,slow=11,SNR=8.0						
NWAO	Narrogin (SRO)	26.63	196	eP	P	17 16 02.1	+0.5
STKA	Stephens Creek	28.52	151	⇓iP	P	17 16 17.4	-0.8
	4.6nm,0.9s,mb3.9						
STKA	Stephens Creek	28.52	151	P	P	17 16 17.1	-1.2
	4.8nm,0.7s,mb4.0,baz=308,slow=8.7,SNR=17						
ULN	Ulaanbaatar	57.42	345	eP	P	17 20 03.7	-0.7
	0.6nm,0.6s,mb3.1						
MKAR	Makanchi Array	66.28	329	P	P	17 21 02.1	-0.2
	0.1nm,0.4s,mb2.8,baz=116,slow=6.7,SNR=3.6						

MOS ***20*** *17:19:48.2±0.9, 6090N×16674E, h10km, mb4.6/18, Error ellipse: s-maj=13.4km s-min=6.8km az=81.7*

ISCJB ***20*** *17:19:48.5±0.2, 6086N±003×16671E±007, h10km, mb4.4/39, MS3.9/2, Error ellipse: s-maj=5.5km s-min=3.2km az=69.1*

IDC ***20*** *17:19:48.2±0.7, 6086N×16665E, h0km, mb4.2/21, mb1 4.4/21, mb1mx4.4/25, mbtmp4.2/21, Error ellipse: s-maj=20.1km s-min=13.3km az=165.0*

BJI ***20*** *17:19:50.7, 6092N×16676E, h42km, mB4.8, mb4.6, Ms4.3, Msz4.0*

KRSC ***20*** *17:19:50.8±0.4, 6081N×16654E, h14km±3km, ML4.1*

NEIC ***20*** *17:19:53.8±0.9, 6087N×16663E, h37km±8km, mb4.5/13, Error ellipse: s-maj=8.0km s-min=4.0km az=168.0*

ISC 20 17:19:50.0±0.2, 6087N±003×16671E±007, h10km, (h31km±4.0km:pP-P), n106, σ1§04/116, mb4.4/39, MS3.9/2, 9C-5D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	Tilichiki	0.55	216	iP	Pg	17 20 00.3	-0.4
TILR				iS	Sg	17 20 07.4	-0.5
TILR				Smax			
	18μm,0.7s						
KAMR	Kamenskoye	1.61	352	iP	Pn	17 20 19.8	+1.3
KAMR				iS	Sn	17 20 40.7	+1.5
KAMR				Smax			
	8μm,1.2s						
OSSR	Ossora	2.45	230	iP	Pn	17 20 30.8	+0.8
EVNR	Evensk	3.73	290	eP	Pn	17 20 49.9	+2.2
KBG	Krutoberegovo	5.08	206	iP	Pn	17 21 07.1	+0.9
SMKR	Semkarok	5.10	215	iP	Pn	17 21 07.9	+1.5
KBTR	Krutoberegovo	5.10	205	P

YAK pmax pmax
comp=Z,43nm,1.0s
YAK Yakutsk 17.59 290 *e*P **Pn 17 23 56.2 +1.1**
comp=Z,43nm,0.8s
SVW2 Sparrevohn 18.13 73 *e*P **Pn 17 24 03.9 +2.0**
TIXI Tiksi 18.27 322⇓*e*P **Pn 17 24 05.8 +2.2**
YSS Yuzh-Sakhalins 19.67 236⇑*e*P **Pn 17 24 22.0 +1.5**
YSS pmax pmax
comp=Z,12nm,1.3s
COLA College 20.73 59*c*eP **P 17 24 31.6 +0.9**
KDAK Kodiak Island 20.75 80 P **P 17 24 30.8 0.0**
comp=Z,3.6nm,0.6s,baz=307,slow=13,SNR=5.0
SML Sawmill 21.26 68 *e*P **P 17 24 35.7 -0.7**
HABR Khabarovsk 21.86 250 *e*P **P 17 24 42.9 +0.1**
HABR *e*S **S 17 28 43.6 -0.6**
HABR pmax pmax
comp=Z,21nm,1.3s,mb4.4
KLR Kul'dur 22.86 255 *e*P **P 17 24 54.0 +0.5**
DAWY Dawson 24.49 59 *e*P **P 17 25 09.1 -0.2**
INK Inuvik 25.68 48 P **P 17 25 19.4 -0.7**
comp=Z,7.6nm,0.7s,mb4.3,baz=296,slow=8.3,SNR=30
INK Inuvik 25.68 48 *e*P **P 17 25 20.0 -0.1**
INK pmax pmax
comp=Z,11nm,0.8s
INK Inuvik 25.68 48 *e*P **P 17 25 20.0 -0.2**
comp=Z,11nm,0.8s,mb4.4
MDJ Mudanjiang 27.24 250 P **P 17 25 32.8 -1.4**
MDJ AP pP 17 25 41.3 +4.0
MDJ XP sP 17 25 45.8 +7.3
MDJ PCP PcP 17 28 52.8 -1.2
MDJ S **S 17 30 08.1 -5.2**
MDJ SCP ScP 17 32 31.8 -2.7
MDJ PCS PcS 17 32 35.3 -0.3
MDJ AMB AMB
comp=Z,60nm,6.8s
MDJ LR LR
comp=N,100nm,20.8s,MS3.6
MDJ LR LR
comp=E,120nm,17.9s,MS3.6
MDJ LR LR
comp=Z,180nm,11.9s
VLA Vladivostok 27.36 245 *i*P **P 17 25 35.4 +0.1**
MAJO Matsushiro 30.31 230 *e*P **P 17 26 01.6 +0.1**
MAJO pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
MAJO Matsushiro 30.31 230 *e*P **P 17 26 01.6 +0.1**
comp=Z,6.4nm,0.9s,mb4.3
MJAR Matsushiro Arr 30.31 230 P **P 17 26 01.0 -0.5**
comp=Z,4.5nm,0.9s,mb4.2,baz=19,slow=8.0,SNR=13
DLBC Dease Lake 30.96 66 *e*P **P 17 26 08.8 +1.5**
TLY Talaya 34.87 284*d i*P **P 17 26 42.4 +1.0**
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TLY Talaya 34.87 284 *e*P **P 17 26 39.7 -1.7**
comp=Z,5.2nm,0.9s,mb4.5
YKA Yellowknife Ar 35.21 52 P **P 17 26 44.3 0.0**
comp=Z,4.5nm,0.7s,mb4.5,baz=306,slow=8.0,SNR=18
ULN Ulaanbaatar 35.79 276 *e*P **P 17 26 49.6 +0.3**
ULN pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ULN Ulaanbaatar 35.79 276 *e*P **P 17 26 49.6 +0.3**
comp=Z,4.1nm,1.0s,mb4.3
ZAK Zakamensk 35.90 282 *e*P **P 17 26 50.7 +0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
SONM Songino Array 36.13 277 P **P 17 26 52.9 +0.7**
comp=Z,2.4nm,1.1s,mb4.0,baz=47,slow=7.8,SNR=10.0
SONM PcP PcP 17 29 16.0 -1.9
comp=Z,0.9nm,0.6s,baz=41,slow=1.1,SNR=4.6
KRAR Krasnoyarsk 37.05 296⇑*e*P **P 17 27 00.4 +0.3**
KRAR pmax pmax
comp=Z,4.0nm,0.3s,mb4.7
BJT Baijiatuau 37.12 259 *e*P **P 17 26 59.6 -1.1**
BJT pmax pmax
comp=Z,14nm,0.9s
BJT Baijiatuau 37.12 259 *e*P **P 17 26 59.6 -1.1**
comp=Z,14nm,0.9s,mb4.8
KBS Kingsbay 39.64 353 *i*P **P 17 27 21.5 -0.4**
EDM Edmonton 41.56 63 *e*P **P 17 27 38.3 +0.5**
NJ2 Nanjing 42.32 249 *e*P **P 17 27 41.5 -2.5**
NJ2 AP pP 17 27 53.0 +5.9
NJ2 XP sP 17 27 59.0 +11
NJ2 PP PP 17 29 20.3 -1.7
NJ2 S **S 17 33 54.0 -11**
NJ2 XS sS 17 34 15.0 +4.9
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,120nm,7.0s
NJ2 LR LR
comp=N,180nm,16.4s,MS4.3
NJ2 LR LR
comp=E,310nm,20.9s,MS4.3
NJ2 LR LR
comp=Z,300nm,22.5s,MS4.1
WALA Waterton Lakes 44.26 68 *e*P **P 17 28 00.1 +0.5**
comp=Z,3.3nm,0.6s,mb4.2
FFC Flin Flon 45.26 55 *e*P **P 17 28 06.6 -1.0**
FFC pmax pmax
comp=Z,13nm,1.1s,mb4.7
FFC Flin Flon 45.26 55 *e*P **P 17 28 06.6 -1.0**
comp=Z,13nm,1.1s,mb4.7
GTA Gaotai 45.56 274 *e*P **P 17 28 10.0 0.0**
GTA AP pP 17 28 15.5 +2.4
CHMT Chamberlain Mo 46.13 69 *e*P **P 17 28 14.9 +0.3**
LZH Lanzhou 46.20 267 *e*P **P 17 28 15.5 +0.5**
LZH AP pP 17 28 24.6 +6.4
LZH XP sP 17 28 28.8 +9.4
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
LVZ Lovozero 46.90 337⇓*e*P **P 17 28 19.3 -1.3**
LVZ pmax pmax
comp=Z,25nm,2.5s,mb4.7
ARCES ARCESS Array B 46.98 342 P **P 17 28 20.3 -0.8**
comp=Z,2.4nm,0.7s,mb4.3,baz=31,slow=9.0,SNR=14
CHKZ Chkalovo 47.93 307 *e*P **P 17 28 27.2 -1.3**
CHKZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CHKZ Chkalovo 47.93 307 *e*P **P 17 28 27.2 -1.4**
comp=Z,3.3nm,0.7s,mb4.5
WMQ Urumqi 47.99 287 *e*P **P 17 28 28.1 -1.0**
MKAR Makanchi Array 48.21 293 P **P 17 28 29.3 -1.5**
comp=Z,1.5nm,0.7s,mb4.2,baz=41,slow=7.3,SNR=20
BVAR Borovoye Array 48.51 307 P **P 17 28 32.7 -0.3**
comp=Z,6.1nm,0.6s,mb4.8,baz=51,slow=7.8,SNR=38
BRVK Borovoye 48.53 307 *e*P **P 17 28 32.7 -0.5**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BRVK Borovoye 48.53 307 *e*P **P 17 28 32.7 -0.5**
comp=Z,2.3nm,0.8s,mb4.3
ZRNK Zerenda 49.11 308 *e*P **P 17 28 37.0 -0.6**
ARU Arti 50.17 317⇑*e*P **P 17 28 45.0 -0.7**
ARU pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
NVAR Mina Array Bea 50.25 81 P **P 17 28 46.2 -0.1**
comp=Z,0.5nm,0.6s,mb3.7,baz=317,slow=6.2,SNR=4.6
CD2 Chengdu 50.43 263 *e*P **P 17 28 46.4 -1.3**
PDAR Pinedale Array 50.99 70 P **P 17 28 51.8 -0.2**
comp=Z,3.5nm,0.9s,mb4.3,baz=324,slow=3.9,SNR=23
ULM Lac du Bonnet 51.09 55 P **P 17 28 52.9 +0.2**
comp=Z,4.0nm,0.6s,mb4.5,baz=321,slow=7.9,SNR=7.5
FINES FINESS Array B 54.33 338 P **P 17 29 15.3 -1.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=27,slow=8.8,SNR=7.2
FINES FINESS Array B 54.33 338 *i*P **P 17 29 15.6 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
EYMN Ely 54.66 54 *e*P **P 17 29 18.6 -0.4**
comp=Z,3.8nm,0.8s,mb4.5
AAK Ala-Archa 54.93 296*c i*P **P 17 29 20.1 -0.9**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
NB2 NORSAR Subarra 56.96 346 P **P 17 29 34.5 -1.1**
comp=Z,3.4nm,0.6s,mb4.5,baz=15,slow=7.4
NB2 NORSAR Subarra 56.96 346 P **P 17 29 34.5 -1.1**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
NOA NORSAR Array B 56.96 346 P **P 17 29 34.9 -0.6**
comp=Z,4.5nm,0.7s,mb4.6,baz=14,slow=7.3,SNR=11
NOA NORSAR Array B 56.96 346 P **P 17 29 34.9 -0.6**
SCHQ Schefferville 57.10 34 P **P 17 29 35.5 -1.1**
comp=Z,6.2nm,0.6s,mb4.8,baz=355,slow=7.6,SNR=10
SCHQ Schefferville 57.10 34 P **P 17 29 35.5 -1.1**
LSA Lhasa 57.59 274 P **P 17 29 39.8 -0.2**
LSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LSA Lhasa 57.59 274 P **P 17 29 39.8 -0.2**
comp=Z,2.2nm,0.6s,mb4.4
KONO Kongsberg 58.51 347⇓*e*P **P 17 29 46.1 -0.3**
ANMO Albuquerque 58.70 74⇑*e*P **P 17 29 46.8 -0.9**
AKASG Malin Array Be 63.66 331 P **P 17 30 19.7 -1.7**
comp=Z,1.9nm,0.5s,mb4.3,baz=24,slow=6.8,SNR=8.7
KIV Kislovodsk 66.08 319⇑*e*P **P 17 30 37.3 +0.2**
KIV pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
GERES GERESS Array B 68.49 341 P **P 17 30 51.5 -0.9**
comp=Z,0.9nm,0.6s,mb4.0,baz=18,slow=4.6,SNR=8.9
BRTR Keskin Array B 72.69 324 P **P 17 31 17.9 -0.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=39,slow=4.7,SNR=5.3
BRTR Keskin Array B 72.69 324 *i*P **P 17 31 18.6 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
WSAR Wadi Sarin 78.32 297 P **P 17 31 50.5 +0.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=32,slow=8.9,SNR=2.8
ESDC Sonseca Array 79.52 353 P **P 17 31 56.7 -0.3**
comp=Z,3.4nm,1.0s,mb4.2,baz=0.1,slow=5.1,SNR=4.9
WRA Warramunga Arr 84.66 210 P **P 17 32 22.7 -1.3**
comp=Z,2.0nm,0.9s,mb4.2,baz=17,slow=5.2,SNR=8.6
WRA Warramunga Arr 84.66 210 *i*P **P 17 32 23.1 -0.8**
WRA pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 88.34 210 P **P 17 32 41.1 -0.9**
comp=Z,0.8nm,1.0s,mb3.9,baz=32,slow=5.5,SNR=3.8
QSPA South Pole Qui 150.64 180 *e*PKPbc PKPbc 17 39 39.1 -3.2
VNA1 Neumayer--Stat 169.97 190 *e*PKPdf PKPdf 17 39 53.1 -4.8
VNA1 *e* 17 39 56.3
VNA1 *e* 17 40 08.8
VNA1 *e* 17 40 14.0
VNA1 *e* 17 41 08.3
VNA1 *e* 17 41 20.2
VNA1 *e* 17 41 22.3
VNA1 *e* 17 41 27.6

*IDC **20** 17:36:39.6±3.2,2351S×17995E,h453km±41km,mb3.2/4, mb1 3.5/6,mb1mx3.3/13,mbtmp4.2/6,Error ellipse: s-maj=26.9km s-min=24.2km az=46.0*
*ISCJB **20** 17:36:40.7±1.9,2342S×009×1799W±0.1,h500km±33km, mb3.8/9,Error ellipse: s-maj=21.2km s-min=13.0km az=152.0*
*NEIC **20** 17:36:40.6±1.3,2350S×17993W,h474km±20km,mb3.9/8, Error ellipse: s-maj=15.1km s-min=12.7km az=66.0*
ISC 20 17:36:40.8±1.6,2356S±008×1799W±01,h478km±27km, n22,σ0°67/24,mb3.8/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.29**	**40**	P	**P**	**17 39 22.1**	**-0.4**
	3.4nm,0.3s,baz=280,slow=22,SNR=5.2						
URZ	**Urewera**	**14.88**	**189**	P	**P**	**17 39 50.6**	**+0.6**
	0.9nm,0.3s,baz=280,slow=4.8,SNR=8.1						
URZ				S	**S**	**17 42 25.8**	**-0.5**
	0.6nm,0.3s,baz=5.8,slow=22,SNR=3.4						
SNZO	**South Karori**	**18.27**	**193**	P	**P**	**17 40 24.7**	**-0.1**
CTA	**Charters Tower**	**31.58**	**270**	*e*P	**P**	**17 42 24.2**	**+1.2**
	4.8nm,0.4s,mb4.3						
CTAO	**Charters Tower**	**31.58**	**270**	*e*P	**P**	**17 42 24.6**	**+1.5**
	5.8nm,0.4s,mb4.4						
PMG	**Port Moresby**	**34.48**	**289**	*e*P	**P**	**17 42 48.5**	**+0.8**
STKA	**Stephens Creek**	**34.95**	**248**	*e*P	**P**	**17 42 50.8**	**-0.8**
	1.1nm,0.4s,mb3.6						
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**17 42 50.8**	**-0.9**
	1.4nm,0.4s,mb3.7,baz=92,slow=11,SNR=11						
AS31	**Alice Springs**	**42.20**	**260**	*e*P	**P**	**17 43 51.0**	**+0.4**
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**17 43 50.8**	**+0.1**
	1.5nm,0.7s,mb3.5,baz=97,slow=7.0,SNR=30						
ASAR				S	**S**	**17 49 30.5**	**-4.8**
	0.5nm,0.7s,baz=100,slow=15,SNR=4.1						
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**17 43 50.8**	**+0.1**
ASAR				S	**S**	**17 49 30.5**	**-4.8**
ASPA	**Alice Springs**	**42.20**	**260**	*e*P	**P**	**17 43 51.0**	**+0.4**
WB2	**Warramunga Arr**	**42.53**	**266**	*e*P	**P**	**17 43 52.8**	**-0.4**
WRAB	**Tennant Creek**	**42.53**	**266**	*e*P	**P**	**17 43 52.5**	**-0.7**
	2.6nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**42.54**	**266**	P	**P**	**17 43 52.5**	**-0.8**
	1.9nm,0.6s,mb3.7,baz=102,slow=8.4,SNR=21						
WRA				S	**S**	**17 49 33.4**	**-6.9**
	0.4nm,0.7s,baz=99,slow=13,SNR=3.3						
FITZ	**Fitzroy Crossi**	**50.96**	**265**	*e*P	**P**	**17 44 56.7**	**-0.5**
	8.4nm,1.4s,mb3.9						
SBA	**Scott Base**	**54.72**	**183**	*e*P	**P**	**17 45 25.4**	**+1.2**
	2.1nm,0.8s,mb3.5						
VNDA	**Vanda**	**54.73**	**185**	P	**P**	**17 45 24.4**	**+0.2**
	1.0nm,0.8s,mb3.2,baz=356,slow=6.8,SNR=7.7						
VNDA	**Vanda**	**54.73**	**185**	*e*P	**P**	**17 45 24.5**	**+0.3**
	0.7nm,0.7s,mb3.1						
QSPA	**South Pole Qui**	**66.52**	**180**	*e*P	**P**	**17 46 41.8**	**-0.6**
	4.0nm,0.7s,mb4.2						
AKASG	**Malin Array Be**	**144.74**	**328**	PKhKP		17 55 17.9	
	1.0nm,0.4s,baz=44,slow=4.0,SNR=6.7						
BRTR	**Keskin Array B**	**147.46**	**308**	PKPbc	PKPbc	17 55 31.2	+0.9
	0.6nm,0.6s,baz=89,slow=3.2,SNR=4.4						

*NEIC **20** 17:50:39.1,3267S×7179W,h29km,ML2.7(GUC),After GUC.*
GUC 20 17:50:39.1±0.6,3267S×7179W,h29km±3km,MD3.8, ML2.7,3C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.72**	**115**⇑	*i*P	Pb	17 50 53.3	+0.1
ROCH				*i* S	Sb	17 51 03.3	+0.6
LCCH	**Las Cruces**	**0.82**	**167**	*i* P	Pn	17 50 54.3	-0.4
LCCH				*i* S	Sb	17 51 05.1	-0.4
CHNG	**Los Chungos**	**0.83**	**17**⇑	*i*P	Pn	17 50 54.1	-0.6
CHNG				*i* S	Sb	17 51 05.4	-0.3
JACH	**Jahuel**	**1.01**	**91**⇑	*i*P	Pn	17 50 57.4	+0.2
JACH				*i* S	Sn	17 51 11.2	+0.8
RCDM	**Rinconada Maip**	**1.16**	**135**	*e*P	Pn	17 50 59.6	+0.3
RCDM				*i* S	Sn	17 51 15.1	+0.9
RCDM				AML	AML	17 51 18.9	
	comp=E,225nm,0.1s						
RCDM	**Rinconada Maip**	**1.16**	**135**	*e*P	Pn	17 50 59.6	+0.3
RCDM				*i* S	Sn	17 51 15.1	+0.9
TACH	**Talagante**	**1.21**	**144**	*i* P	Pn	17 51 00.0	0.0
TACH				*i* S	Sn	17 51 16.1	+0.6
CLCH	**Cerro Calan**	**1.27**	**125**	*e*P	Pn	17 51 01.6	+0.7
CLCH				*i* S	Sn	17 51 18.5	+1.5
CLCH				AML	AML	17 51 23.2	
	comp=N,431nm,0.5s						
FCH	**Farellones**	**1.42**	**118**⇓	*i*P	Pn	17 51 04.3	+1.4
FCH				*i* S	Sn	17 51 23.1	+2.5
FCH				AML	AML	17 51 23.5	
	comp=E,148nm,0.3s						
PCH	**Pirque**	**1.43**	**132**⇓	*i*P	Pn	17 51 04.2	+1.2
PCH				*i* S	Sn	17 51 22.3	+1.5
CHCH	**Chadas Angostu**	**1.58**	**143**	*e*P	Pn	17 51 06.1	+1.1
CACH	**El Canelo**	**1.75**	**146**	*e*P	Pn	17 51 10.0	+2.5
CICH	**Cipreses**	**2.00**	**145**	*e*P	Pn	17 51 12.2	+1.4
SFDO	**San Fernando**	**2.04**	**162**	*e*P	Pn	17 51 12.6	+1.2
SFDO				*i* S	Sn	17 51 38.8	+2.9

*ISCJB **20** 18:15:36.8±1.6,143S±01×757W±0.1,h50km±16km, mb4.2/5,Error ellipse: s-maj=27.5km s-min=10.6km az=91.8*
*NEIC **20** 18:15:37.3±1.2,1423S×7560W,h46km±12km,mb4.5/4, Error ellipse: s-maj=20.9km s-min=11.0km az=58.0*
NEIC Felt [II] at Ica.
*IDC **20** 18:15:48.3±5.4,1469S×75.12W,h135km±43km,mb3.7/2, mb1 3.5/5,mb1mx3.3/17,mbtmp3.9/5,Error ellipse: s-maj=58.1km s-min=31.1km az=83.0*
ISC 20 18:15:38.6±1.5,143S±01×757W±01,h53km±15km,n18, σ1°43/19,mb4.2/5,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.55**	**334**	*e*Pn	**Pn**	**18 16 15.8**	**-1.6**
ARE	**Arequipa**	**4.59**	**119**	*e*P	**Pn**	**18 16 47.0**	**+1.6**
ARE				*e*S	**Sn**	**18 17 37.0**	**-0.4**
LPAZ	**La Paz**	**7.56**	**106**	P	**Pn**	**18 17 28.1**	**+2.0**
	0.8nm,0.3s,baz=287,slow=10.0,SNR=26						
LVC	**Limon Verde**	**10.48**	**143**	P	**Pn**	**18 18 05.5**	**-0.5**
	1.1nm,0.3s,baz=337,slow=10,SNR=10						
LVC				S	**Sn**	**18 19 56.9**	**-5.0**
	0.9nm,0.3s,baz=123,slow=21,SNR=5.1						
LVC	**Limon Verde**	**10.48**	**143**	*e*Pn	**Pn**	**18 18 04.7**	**-1.3**
LVC				*e*Sn	**Sn**	**18 19 54.2**	**-7.7**
SAML	**Samuel**	**13.35**	**68**	*e*Pn	**Pn**	**18 18 38.1**	**-7.1**
	4.1nm,0.6s						
SIV	**San Ignacio**	**14.22**	**99**	P	**Pn**	**18 18 55.7**	**-1.2**
	0.2nm,0.3s,baz=274,slow=16,SNR=2.3						
OTAV	**Otavalo**	**14.69**	**349**	*e*Pn	**Pn**	**18 19 09.2**	**+6.1**
	2.3nm,0.7s						
PAYG	**Puerto Ayora**	**19.78**	**312**	P	**Pn**	**18 20 12.3**	**+6.0**
	34nm,0.8s						
SDV	**Santo Domingo**	**23.57**	**13**	P	**P**	**18 20 49.7**	**+5.4**
	2.9nm,0.3s,mb4.1,baz=191,slow=10,SNR=3.1						
SDV	**Santo Domingo**	**23.57**	**13**	*e*P	**P**	**18 20 43.8**	**-0.5**
JTS	**JuntasAbangare**	**26.09**	**339**	P	**P**	**18 21 10.2**	**+3.0**
	16nm,1.1s,mb4.5						
QSPA	**South Pole Qui**	**75.85**	**180**	*e*P	**P**	**18 27 18.6**	**-0.5**
	4.2nm,0.9s,mb4.4						
TORD	**Torodi Ar. Bea**	**81.33**	**74**	P	**P**	**18 27 48.0**	**-1.3**
	0.4nm,0.4s,mb3.7,baz=263,slow=5.1,SNR=8.7						
TORD	**Torodi Ar. Bea**	**81.33**	**74**	P	**P**	**18 27 48.0**	**-1.3**
SBA	**Scott Base**	**81.68**	**191**	P	**P**	**18 27 51.8**	**+0.7**
	5.4nm,1.2s,mb4.3						
WRA	**Warramunga Arr**	**134.94**	**222**	PKP	PKPdf	18 34 52.7	+1.1
	0.8nm,1.0s,baz=127,slow=2.0,SNR=8.4						
SONM	**Songino Array**	**146.51**	**357**	PKPbc	PKPbc	18 35 14.0	+0.2
	0.2nm,0.4s,baz=11,slow=2.2,SNR=3.4						

IDC 20 18:18:00.3±3.9,612N×9305E,h0km,mb3.5/4,mb1 3.6/4, mb1mx3.4/20,mbtmp3.5/4,Error ellipse: s-maj=147.0km s-min=23.9km az=63.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.57**	**349**	P	P	18 25 49.4	-0.3
	0.4nm,0.5s,baz=162,slow=8.0,SNR=7.4						
SONM	**Songino Array**	**43.10**	**13**	P	P	18 26 02.5	+0.3
	0.2nm,0.5s,baz=183,slow=7.2,SNR=2.8						
WRA	**Warramunga Arr**	**48.16**	**124**	P	P	18 26 42.5	+0.3
	0.5nm,0.4s,baz=302,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**49.66**	**128**	P	P	18 26 54.2	+0.6
	0.3nm,0.4s,baz=301,slow=7.8,SNR=8.2						

IDC 20 18:34:42.3±12.0,2839S×7955E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.5/17,mbtmp3.7/3,Error ellipse: s-maj=409.9km s-min=42.5km az=42.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.73**	**98**	P	P	18 43 28.4	-0.1
	1.1nm,0.7s,baz=258,slow=6.5,SNR=12						
WRA	**Warramunga Arr**	**50.34**	**93**	P	P	18 43 41.7	+0.9
	1.4nm,1.1s,baz=249,slow=7.5,SNR=4.7						
MKAR	**Makanchi Array**	**74.87**	**2**	P	P	18 46 24.6	-0.2
	0.3nm,0.8s,baz=183,slow=5.5,SNR=3.8						

IDC 20 18:40:48.2±32.0,1714S×17915W,h0km,mb4.2/4, mb1 4.4/4,mb1mx4.0/13,mbtmp4.2/4,MS2.3/1,Ms1 2.3/1, ms1mx2.1/25,Error ellipse: s-maj=602.3km s-min=128.2km az=83.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**33.64**	**279**	LR	LR	18 59 08.6	
	comp=Z,4.4nm,18.5s,baz=33,slow=33						
STKA	**Stephens Creek**	**38.39**	**240**	*e*P	P	18 48 10.7	-0.5
	1.1nm,0.3s						
STKA	**Stephens Creek**	**38.39**	**240**	P	P	18 48 10.9	-0.3
	1.5nm,0.4s,baz=90,slow=13,SNR=15						
WB2	**Warramunga Arr**	**44.07**	**259**	*e*P	P	18 48 58.3	+0.4
WRA	**Warramunga Arr**	**44.08**	**259**	P	P	18 48 58.9	+0.9
	0.8nm,0.4s,baz=92,slow=7.9,SNR=26						
ASAR	**Alice Springs**	**44.33**	**254**	P	P	18 49 00.8	+0.8
	9.9nm,0.6s,baz=88,slow=8.3,SNR=257						
ASPA	**Alice Springs**	**44.33**	**254**	*e*P	P	18 49 00.6	+0.6
KAKA	**Kakadu**	**46.90**	**268**	*e*P	P	18 49 21.6	+1.3
FITZ	**Fitzroy Crossi**	**52.46**	**260**	*e*P	P	18 50 01.9	-0.8
	13nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.46**	**260**	P	P	18 50 02.6	-0.1
	1.2nm,0.8s,baz=113,slow=7.7,SNR=5.6						

IDC 20 18:43:06.1±1.3,777S×15589E,h0km,mb3.6/4,mb1 3.7/5, mb1mx3.6/14,mbtmp3.7/5,ML3.9/1,MS4.1/2,Ms1 4.1/2, ms1mx3.0/23,Error ellipse: s-maj=32.1km s-min=27.2km az=5.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.34**	**113**	Pn	Pn	18 44 12.6	-0.8
	7.2nm,0.3s,baz=270,slow=22,SNR=4.0						
HNR				Sn	Sn	18 45 05.3	+0.6
	9.9nm,0.3s,baz=256,slow=1.6,SNR=3.5						
WRA	**Warramunga Arr**	**24.13**	**238**	P	P	18 48 23.8	+0.2
	1.1nm,0.7s,baz=61,slow=9.4,SNR=11						
ASAR	**Alice Springs**	**26.35**	**231**	P	P	18 48 44.0	+0.2
	0.4nm,1.1s,baz=58,slow=10,SNR=2.6						
RAO	**Raoul Island**	**32.62**	**134**	LR	LR	19 00 12.6	
	comp=Z,276nm,18.7s,baz=136,slow=32						
RAR	**Rarotonga**	**44.80**	**112**	LR	LR	19 06 36.5	
	comp=Z,219nm,18.6s,baz=103,slow=32						
SONM	**Songino Array**	**70.46**	**327**	P	P	18 54 23.2	+0.9
	0.5nm,0.4s,baz=141,slow=4.2,SNR=6.0						
MKAR	**Makanchi Array**	**84.56**	**319**	P	P	18 55 41.2	0.0
	0.6nm,0.6s,baz=92,slow=6.4,SNR=7.4						

IDC 20 18:59:10.3±1.2,4095S×7881E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.7/15,mbtmp3.7/5,MS3.6/2,Ms1 3.6/2, ms1mx3.2/13,Error ellipse: s-maj=38.6km s-min=28.8km az=0.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**28.09**	**193**	LR	LR	19 13 34.6	
	comp=Z,96nm,18.1s,baz=71,slow=31						
BOSA	**Boshof**	**45.04**	**268**	P	P	19 07 28.4	+0.8
	2.4nm,1.1s,baz=122,slow=5.9,SNR=3.7						
ASAR	**Alice Springs**	**48.85**	**87**	P	P	19 07 58.2	+0.8
	0.5nm,0.8s,baz=247,slow=5.2,SNR=6.4						
VNDA	**Vanda**	**48.91**	**163**	P	P	19 07 56.9	-1.0
	0.6nm,0.9s,baz=261,slow=8.4,SNR=3.3						
VNDA				LR	LR	19 27 25.2	
	comp=Z,68nm,18.2s,baz=78,slow=35						
WRA	**Warramunga Arr**	**51.34**	**83**	P	P	19 08 16.6	+0.2
	1.0nm,0.6s,baz=231,slow=7.5,SNR=6.3						
MKAR	**Makanchi Array**	**87.42**	**2**	P	P	19 11 58.0	-1.5
	0.4nm,0.8s,baz=165,slow=6.0,SNR=4.8						

*ISCJB **20** 19:05:02.9±0.8,4375N×005×10520W±0.10,h0km,mb4.4/1, MS2.9/1,Error ellipse: s-maj=10.1km s-min=6.8km az=14.0*
*NEIC **20** 19:05:04.6±0.9,4370N×10529W,h0km,ML3.1,Error ellipse: s-maj=12.4km s-min=10.5km az=116.0,Suspected Mining explosion.*
NEIC 70 km [40 miles] SSE of Gillette.
*IDC **20** 19:05:09.4±2.9,4390N×10572W,h33km±26km,mb4.0/1, mb1 3.9/3,mb1mx3.3/21,mbtmp3.8/3,ML3.3/2,MS2.9/4, Ms1 2.8/4,ms1mx2.6/35,Error ellipse: s-maj=58.5km s-min=10.7km az=147.0*
ISC 20 19:05:05.0±0.7,4369N±004×10523W±009,h0km,n19, σ1°06/19,mb4.4/1,MS2.9/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.39**	**184**	*e*Pn	**Pn**	**19 05 44.3**	**-1.1**
PHWY				*e*Sn	**Sn**	**19 06 16.8**	**+1.5**
RWWY	**Rawlins**	**2.47**	**217**	*e*Pn	**Pn**	**19 05 47.1**	**+0.6**
RWWY				*e*Sn	**Sn**	**19 06 16.8**	**-0.6**
LAO	**LASA Array**	**3.08**	**347**	*e*Pn	**Pn**	**19 05 57.0**	**+2.1**
BW06	**Boulder Array**	**3.29**	**255**	Pn	**Pn**	**19 05 58.3**	**+0.5**
PDAR	**Pinedale Array**	**3.29**	**255**	Pn	**Pn**	**19 05 57.6**	**-0.2**
	2.5nm,0.3s,baz=62,slow=15,SNR=41

DLMT	**Dillon**	**5.53**	**290**	Pn	**Pb**	**19 06 43.3**	**+0.9**
CHMT	**Chamberlain Mo**	**6.51**	**303**	*e*Pn	**Pn**	**19 06 42.3**	**+0.2**
MSU	**Marysvale**	**7.36**	**228**	Pn	**Pn**	**19 06 53.6**	**-0.2**
MSU				Pg	**Pb**	**19 07 13.6**	**0.0**
ANMO	**Albuquerque**	**8.78**	**187**	LR	LR	19 10 45.1	
	comp=Z,76nm,20.6s,baz=189,slow=38						
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**19 07 17.9**	**-0.5**
	0.8nm,0.3s,baz=226,slow=14,SNR=6.3						
ULM				Lg		19 09 53.6	
	0.3nm,0.3s,baz=138,slow=12,SNR=3.3						
ULM				LR	LR	19 11 29.9	
	comp=Z,28nm,18.9s,baz=267,slow=41						
NEW	**Newport**	**9.46**	**303**	LR	LR	19 11 25.8	
	comp=Z,93nm,20.0s,baz=73,slow=42						
DLBC	**Dease Lake**	**21.29**	**323**	LR	LR	19 18 17.8	
	comp=Z,48nm,20.6s,MS2.9,baz=323,slow=38						
ARCES	**ARCESS Array B**	**61.46**	**18**	P	**P**	**19 15 22.1**	**-1.2**
	2.7nm,0.9s,mb4.4,baz=349,slow=7.4,SNR=4.5						

*CSEM **20** 19:05:36.4±0.1, 3354N×2826E, h40km, ML3.7, Error ellipse: s-maj=3.1km s-min=2.4km az=155.0*

HLW 20 19:05:35.6, 3374N×2820E, h33km, Mb3.7, 4C-6D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMAT	**Matruh**	**2.80**	**200**	⇓P	Pn	19 06 18.3	+0.2
HMAT				S	Sn	19 06 48.8	-1.8
HBRG	**Burj al 'Arab**	**3.45**	**156**	P	Pn	19 06 27.5	+0.5
AYDN	**Tasoluk**	**3.92**	**356**	*i* S	Sb	19 07 26.7	-4.3
AYDN	**Tasoluk**	**3.92**	**356**	*i* S	Sb	19 07 26.7	-4.3
AYDN	**Tasoluk**	**3.92**	**356**	*i* P	Sn	19 07 21.8	+3.5
DNZL	**Cakiroluk**	**4.00**	**10**	*i* S	Sn	19 07 24.4	+4.1
DNZL	**Cakiroluk**	**4.00**	**10**	*i* P	Sn	19 07 14.2	-6.1
KOT	**Kottamia**	**4.90**	**140**	⇑P	Pn	19 06 46.9	0.0
KOT				S	Sn	19 07 39.8	-2.6
SWA1		**4.94**	**206**	P	Pn	19 06 47.8	+0.3
SWA1				S	Sn	19 07 40.5	-3.1
HSAF	**As Saff**	**5.00**	**144**	⇑P	Pn	19 06 48.6	+0.2
HHAG	**Hagoal**	**5.03**	**138**	⇓P	Pn	19 06 49.0	+0.4
HHAG	**Hagoal**	**5.03**	**138**	P	Pn	19 06 49.0	+0.4
SWA2		**5.06**	**208**	⇓P	Pn	19 06 49.7	+0.6
GLL	**Jalalah**	**5.12**	**143**	⇓P	Pn	19 06 49.9	+0.1
AMAG	**Maghara**	**5.25**	**125**	⇑P	Pn	19 06 52.2	+0.5
AWBH		**5.43**	**173**	⇓P	Pn	19 06 54.4	+0.2
SUZ		**5.54**	**133**	⇓P	Pn	19 06 56.2	+0.5
ZAF		**5.79**	**139**	P	Pn	19 06 59.2	+0.1
ZNM		**5.90**	**136**	P	Pn	19 07 01.5	+0.8
HNKL	**Nakhl**	**6.21**	**126**	⇑P	Pn	19 07 05.7	+0.7
HNKL				S	Sn	19 08 11.2	-3.6
HKAT	**Jabal Katrina**	**7.19**	**135**	P	Pn	19 07 18.7	+0.3
HDK1	**Dakhla**	**8.23**	**172**	P	Pn	19 07 33.5	+0.8
HDK1	**Dakhla**	**8.23**	**172**	P	Pn	19 07 33.5	+0.8
GTR	**Jabal at Tayr**	**8.46**	**165**	P	Pn	19 07 35.4	-0.3

*IDC **20** 19:50:38.5±0.8, 5137N×17792W, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/24, mbtmp4.0/14, ML4.3/1, MS3.2/6, Ms1 3.2/6, ms1mx2.8/34, Error ellipse: s-maj=25.8km s-min=18.0km az=158.0*
*BJI **20** 19:50:40.9, 5166N×17766W, h19km, mB5.0, mb4.8, Ms4.0, Msz3.9*
*MOS **20** 19:50:42.5±1.0, 5133N×17778W, h33km, mb4.5/5, Error ellipse: s-maj=17.9km s-min=13.8km az=92.2*
*ISCJB **20** 19:50:44.5±1.0, 514N±0.1×17783W±006, h47km±7km, mb4.4/27, MS3.1/6, Error ellipse: s-maj=18.7km s-min=5.8km az=158.7*
*NEIC **20** 19:50:45.0, 5121N×17783W, h21km, mb4.7/12, ML4.3(AEIC), After AEIC.*

ISC 20 19:50:45.8±0.9, 514N±01×17783W±006, h45km±7km, n64, σ1§18/60, mb4.4/27, MS3.1/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.80**	**272**	P	**Pn**	**19 51 13.0**	**-1.3**
AMKA				S	**Sn**	**19 51 35.3**	**-0.7**
ATKA	**Atka Island**	**2.41**	**68**	P	**Pn**	**19 51 21.7**	**-1.0**
ATKA				S	**Sn**	**19 51 52.0**	**+1.1**
SMY	**Shemya**	**5.17**	**288**	P	**Pn**	**19 52 00.6**	**0.0**
NIKO	**Nikolski**	**5.75**	**70**	*e*Pn	**Pn**	**19 52 09.2**	**+0.6**
SPIA	**Saint Paul Isl**	**7.32**	**34**	P	**Pn**	**19 52 30.8**	**+0.7**
SVW2	**Sparrevohn**	**15.66**	**43**	*e*Pn	**Pn**	**19 54 25.2**	**+1.9**
KDAK	**Kodiak Island**	**15.92**	**56**	Pn	**Pn**	**19 54 23.2**	**-3.5**
	1.1nm,0.3s,baz=247,slow=7.7,SNR=9.6						
TTA	**Tatalina**	**16.45**	**37**	*e*P	**Pn**	**19 54 37.5**	**+4.1**
TTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TTA	**Tatalina**	**16.45**	**37**	*e*Pn	**Pn**	**19 54 37.5**	**+4.1**
	comp=Z,5.0nm,0.8s						
SLKM	**Skilak Lake**	**17.84**	**48**	P	**Pn**	**19 54 50.7**	**+0.1**
BILL	**Bilibino**	**18.44**	**341**	*e*P	**Pn**	**19 54 59.0**	**+1.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BILL	**Bilibino**	**18.44**	**341**	*e*P	**Pn**	**19 54 59.0**	**+1.1**
	comp=Z,2.6nm,0.4s						
YSS	**Yuzh-Sakhalins**	**25.93**	**276**	P	**P**	**19 56 14.0**	**+0.3**
INK	**Inuvik**	**27.12**	**35**	P	**P**	**19 56 23.8**	**-0.7**
	comp=Z,0.7nm,0.3s,mb3.6,baz=252,slow=9.5,SNR=11						
INK				LR	LR	20 07 08.7	
	comp=Z,50nm,18.7s,MS3.1,baz=123,slow=36						
INK	**Inuvik**	**27.12**	**35**	P	**P**	**19 56 23.8**	**-0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK				MLR	MLR		
	comp=Z,51nm,18.7s						
INK	**Inuvik**	**27.12**	**35**	*e*P	**P**	**19 56 22.9**	**-1.5**
	comp=Z,1.0nm,0.4s,mb3.7						
INK				LR	LR	20 07 08.7	
ASAJ	**Asahikawa**	**27.32**	**270**	LR	LR	20 06 09.1	
	comp=Z,31nm,19.4s,MS2.9,baz=38,slow=34						
MJAR	**Matsushiro Arr**	**34.39**	**262**	LR	LR	20 11 02.5	
	comp=Z,35nm,19.6s,MS3.1,baz=130,slow=36						
YKA	**Yellowknife Ar**	**34.80**	**47**	P	**P**	**19 57 30.3**	**-1.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=287,slow=8.6,SNR=4.2						
YKA	**Yellowknife Ar**	**34.80**	**47**	P	**P**	**19 57 30.3**	**-1.7**
MDJ	**Mudanjiang**	**35.18**	**280**	P	**P**	**19 57 35.3**	**0.0**
MDJ				AMB	AMB		
	comp=Z,20nm,3.5s						
CN2	**Changchun**	**38.15**	**281**	*e*P	**P**	**19 58 02.3**	**+1.7**
CN2				*e*XP	sP	19 58 09.3	-8.9
CN2				*e*S	**S**	**20 03 53.6**	**+3.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
YBH	**Yreka Blue Hor**	**38.28**	**82**	LR	LR	20 11 34.4	
	comp=Z,52nm,19.1s,MS3.4,baz=59,slow=33						
WVOR	**Wild Horse Val**	**40.41**	**79**	*e*P	**P**	**19 58 19.3**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
WVOR	**Wild Horse Val**	**40.41**	**79**	*e*P	**P**	**19 58 19.3**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.2						
BOZ	**Bozeman (W)**	**42.88**	**71**	*e*P	**P**	**19 58 39.8**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**42.88**	**71**	*e*P	**P**	**19 58 39.8**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**45.73**	**73**	P	**P**	**19 59 02.7**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.3,baz=314,slow=4.1,SNR=19						
SONM	**Songino Array**	**47.20**	**297**	P	**P**	**19 59 14.0**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=67,slow=6.6,SNR=4.8						
SONM				LR	LR	20 19 54.5	
	comp=Z,44nm,18.2s,MS3.5,baz=237,slow=37						
SRU	**San Rafael**	**47.34**	**77**	*e*P	**P**	**19 59 15.2**	**+0.1**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
SRU	**San Rafael**	**47.34**	**77**	*e*P	**P**	**19 59 15.2**	**+0.2**
	comp=Z,4.5nm,0.6s,mb4.6						
NJ2	**Nanjing**	**49.42**	**273**	*e*P	**P**	**19 59 35.4**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
ANMO	**Albuquerque**	**52.49**	**79**	LR	LR	20 19 37.0	
	comp=Z,7.2nm,20.8s,MS2.7,baz=107,slow=33						
LZH	**Lanzhou**	**55.97**	**287**	*e*P	**P**	**20 00 20.1**	**+0.6**
LZH				AP	pP	20 00 24.9	-7.4
LZH				XP	sP	20 00 37.5	0.0
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,80nm,4.2s						
ARCES	**ARCESS Array B**	**58.21**	**351**	P	**P**	**20 00 33.0**	**-2.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=29,slow=8.2,SNR=15						

CD2	**Chengdu**	**59.57**	**282**	*e*P	**P**	**20 00 46.5**	**+1.7**
WMQ	**Urumqi**	**59.86**	**303**	*e*P	**P**	**20 00 50.1**	**+3.4**
MKAR	**Makanchi Array**	**60.52**	**309**	P	**P**	**20 00 49.1**	**-2.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=41,slow=7.2,SNR=12						
BVAR	**Borovoye Array**	**61.29**	**320**	P	**P**	**20 00 55.7**	**-0.8**
	comp=Z,1.3nm,0.3s,mb4.5,baz=53,slow=6.7,SNR=9.6						
KMI	**Kunming**	**64.33**	**279**	P	**P**	**20 01 19.4**	**+2.7**
KAF	**Kangasniemi**	**65.25**	**348**	*e*p	**P**	**20 01 16.1**	**-6.6**
	comp=Z,0.8nm,0.4s,mb4.1						
KAF	**Kangasniemi**	**65.25**	**348**	*e*P	**P**	**20 01 16.1**	**-6.6**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**65.93**	**348**	P	**P**	**20 01 25.2**	**-1.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=350,slow=9.7,SNR=5.1						
NOA	**NORSAR Array B**	**67.71**	**355**	P	**P**	**20 01 37.2**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=4.8,slow=6.2,SNR=3.0						
LSA	**Lhasa**	**68.02**	**290**	P	**P**	**20 01 42.1**	**+1.7**
LSA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
LSA	**Lhasa**	**68.02**	**290**	*e*P	**P**	**20 01 42.0**	**+1.6**
LSA				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
LSA	**Lhasa**	**68.02**	**290**	*e*P	**P**	**20 01 42.0**	**+1.6**
	comp=Z,13nm,0.7s,mb5.1						
AKTK	**Aktyubinsk**	**68.05**	**325**	P	**P**	**20 01 39.4**	**-1.1**
AKTO	**Aktyubinsk**	**68.05**	**325**	P	**P**	**20 01 39.4**	**-1.1**
	comp=Z,2.7nm,0.6s,mb4.5,baz=60,slow=8.9,SNR=16						
AKTO	**Aktyubinsk**	**68.05**	**325**	P	**P**	**20 01 39.4**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
GUN	**Gumba**	**72.43**	**293**	*e*P	**P**	**20 02 07.7**	**+0.4**
	comp=Z,31nm,0.3s,mb5.7						
JIRN	**Jiri**	**72.44**	**292**	*e*P	**P**	**20 02 08.4**	**+1.0**
	comp=Z,29nm,0.6s,mb5.4						
KKN	**Kakani**	**72.86**	**293**	*e*P	**P**	**20 02 10.4**	**+0.5**
	comp=Z,19nm,0.8s,mb5.1						
KKN	**Kakani**	**72.86**	**293**	*e*P	**P**	**20 02 10.4**	**+0.5**
KKN				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
PKI	**Pulchoki**	**72.95**	**293**	*e*P	**P**	**20 02 10.9**	**+0.4**
GKN	**Gorkha**	**73.07**	**294**	*e*P	**P**	**20 02 11.4**	**+0.2**
	comp=Z,21nm,0.8s,mb5.1						
DMN	**Daman**	**73.10**	**293**	*e*P	**P**	**20 02 12.2**	**+0.9**
	comp=Z,24nm,1.0s,mb5.1						
KOLN	**Koldanda**	**73.84**	**294**	*e*P	**P**	**20 02 16.3**	**+0.6**
	comp=Z,6.3nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**82.43**	**225**	P	**P**	**20 03 01.9**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=32,slow=5.7,SNR=5.7						
BRTR	**Keskin Array B**	**85.21**	**336**	P	**P**	**20 03 16.2**	**-1.2**
	comp=Z,1.5nm,0.8s,mb4.2,baz=57,slow=3.4,SNR=7.7						
ASAR	**Alice Springs**	**85.89**	**223**	P	**P**	**20 03 20.1**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.3,baz=23,slow=5.8,SNR=13						
TORD	**Torodi Ar. Bea**	**115.76**	**1**	PKP	PKPdf	20 09 22.1	-1.1
	comp=Z,0.4nm,0.4s,baz=352,slow=2.1,SNR=13						
DBIC	**Dimbokro**	**121.88**	**8**	PKP	PKPdf	20 09 34.0	-0.9
	comp=Z,6.0nm,1.0s,baz=103,slow=0.6,SNR=9.4						
BOSA	**Boshof**	**151.43**	**314**	PKPbc	PKPbc	20 10 34.0	-0.6
	comp=Z,2.4nm,0.5s,baz=52,slow=2.0,SNR=16						

MAN 20 19:51:08.9, 1051N×12539E, h76km, mb2.1, ML3.8, MS2.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.64**	**235**	*e*P	Pn	19 51 25.5	+1.9
MSLP				*e*S	Sn	19 51 40.2	+5.7
PLP	**Palo**	**0.77**	**328**	*e*P	Pn	19 51 26.2	+1.2
PLP				*e*S	Sn	19 51 39.7	+2.7
BESP	**Borongan**	**1.09**	**2**	*e*P	Pn	19 51 29.8	+1.1

IDC 20 20:02:21.4±9.5, 3602N×7240E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=234.9km s-min=160.6km az=60.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**17.77**	**329**	P	Pn	20 06 30.1	0.0
	0.3nm,0.3s,baz=124,slow=12,SNR=6.3						
FINES	**FINESS Array B**	**38.51**	**326**	P	P	20 09 45.1	-0.3
	0.4nm,0.4s,baz=119,slow=12,SNR=5.1						
ARCES	**ARCESS Array B**	**42.02**	**337**	P	P	20 10 14.0	-0.5
	0.5nm,0.5s,baz=117,slow=7.4,SNR=4.7						
NOA	**NORSAR Array B**	**45.44**	**323**	P	P	20 10 41.7	-0.4
	0.3nm,0.5s,baz=50,slow=12,SNR=2.5						

IDC 20 20:08:22.4±9.5, 2255S×6647W, h251km±64km, mb3.2/1, mb1 3.3/3, mb1mx3.1/15, mbtmp3.9/3, Error ellipse: s-maj=113.0km s-min=35.1km az=24.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.42**	**346**	P	Pn	20 09 56.2	+0.5
	0.6nm,0.3s,baz=171,slow=12,SNR=16						
LPAZ				S	S	20 11 12.2	+1.7
	baz=35,slow=18,SNR=2.7						
BDFB	**Brasilia**	**18.74**	**72**	P	P	20 12 24.1	+1.3
	0.6nm,0.3s,baz=233,slow=11,SNR=6.6						
TORD	**Torodi Ar. Bea**	**75.60**	**69**	P	P	20 19 39.2	-0.5
	0.4nm,0.5s,baz=255,slow=5.5,SNR=7.2						
MKAR	**Makanchi Array**	**145.10**	**39**	PKPbc	PKPbc	20 27 29.9	+0.1
	0.6nm,0.6s,baz=316,slow=3.5,SNR=7.8						

*OTT **20** 20:11:18.8±0.1, 4185N×8122W, h5km, MN3.7/18, South shore of Lake Erie 84km southeast from Blenheim, On Eastern Background Seismic Zone.*
*NEIC **20** 20:11:18.5, 4184N×8123W, h5km, MN3.6(OTT), MN3.8(OGSO), MW3.5(SLM), After OGSO.*
NEIC Felt [IV] at Perry and [III] at Ashtabula, Geneva, Madison, Mentor and Painesville. Felt at Chardon, Cleveland, Eastlake, Harpster and Willoughby.

ISC 20 20:11:17.0±0.2, 4188N±002×8122W±002, h5km, n84, σ1§51/160, 2C-1D, Ohio

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALLY	**Alegheny Colle**	**0.83**	**106**	*e*P	**Pg**	**20 11 33.8**	**+0.8**
ALLY				*e*S	**Sg**	**20 11 44.3**	**+0.4**
ERPA	**Erie**	**0.95**	**75**	*e*Pg	**Pg**	**20 11 36.3**	**+1.1**
ERPA				*e*Sg	**Sg**	**20 11 48.7**	**+1.3**
PLIO	**Pelee Island,**	**1.06**	**264**	⇑PG	**Pg**	**20 11 37.8**	**+0.4**
PLIO				SG	**Sg**	**20 11 51.5**	**+0.3**
ELFO	**Elginfield**	**1.32**	**357**	⇑PG	**Pg**	**20 11 43.3**	**+1.0**
ELFO				SG	**Sg**	**20 12 01.2**	**+1.9**
ELFO				SG	**Sg**	**20 12 01.7**	**+2.4**
TYNO	**Tyneside**	**1.57**	**39**	⇓PG	**Pg**	**20 11 47.3**	**+0.2**
TYNO				SG	**Sg**	**20 12 10.1**	**+2.5**
RD03	**Mount Hope**	**1.61**	**35**	PN	**Pn**	**20 11 48.1**	**+2.0**
RD03				SG	**Sg**	**20 12 10.1**	**+1.4**
RD03				Trac		20 12 16.5	
	comp=Z,269nm,0.1s						
RD04	**Stoney Creek**	**1.70**	**41**	PN	**Pn**	**20 11 49.4**	**+2.2**
RD04				SN	**Sn**	**20 12 12.2**	**+2.8**
RD04				Trac		20 12 19.7	
	comp=Z,88nm,0.1s						
RD01	**Burlington**	**1.84**	**33**	PN	**Pn**	**20 11 51.4**	**+2.2**
RD01				SN	**Sn**	**20 12 15.9**	**+3.0**
RD01				Trac		20 12 20.6	
	comp=Z,216nm,0.1s						
EFO	**Effingham**	**1.86**	**49**	PG	**Pg**	**20 11 52.1**	**-0.6**
EFO				SG	**Sg**	**20 12 16.6**	**-0.1**
EFO				Trac		20 12 21.1	
	comp=Z,57nm,0.1s						
EFO	**Effingham**	**1.86**	**49**	Pg	**Pg**	**20 11 52.1**	**-0.6**
EFO				Sg	**Sg**	**20 12 16.6**	**-0.1**
ACTO	**Acton**	**1.93**	**26**	PG	**Pg**	**20 11 53.8**	**-0.2**
ACTO				SG	**Sg**	**20 12 19.9**	**+0.9**
STCO	**Saint Catharin**	**2.02**	**48**	PN	**Pn**	**20 11 54.7**	**+3.1**
STCO				SG	**Sg**	**20 12 22.9**	**+1.2**
STCO	**Saint Catharin**	**2.02**	**48**	Pn	**Pn**	**20 11 54.8**	**+3.1**
STCO				Sg	**Sg**	**20 12 22.9**	**+1.2**
ACSO	**Alum Creek Sta**	**2.12**	**220**	*e*Pn	**Pn**	**20 11 54.6**	**+1.5**
ACSO				*e*Sn	**Sn**	**20 12 20.8**	**+1.0**
TORO	**Toronto--Lesli**	**2.22**	**38**	PN	**Pn**	**20 11 57.0**	**+2.6**
TORO				PG	**Pg**	**20 11 58.7**	**-0.8**
TORO				SG	**Sg**	**20 12 29.6**	**+1.3**
BRCO	**Bruce Peninsul**	**2.37**	**356**	PG	**Pg**	**20 12 01.2**	**-1.2**
BRCO				SG	**Sg**	**20 12 32.4**	**-0.8**
BRCO				Trac		20 12 35.2	
	comp=Z,903nm,0.3s						

BRCO	**Bruce Peninsul**	**2.37**	**356**	Pg	**Pg**	**20 12 01.2**	**-1.2**
BRCO				Sg	**Sg**	**20 12 32.4**	**-0.8**
MEDO	**Medina**	**2.41**	**57**	PN	**Pn**	**20 11 58.4**	**+1.3**
MEDO				PG	**Pg**	**20 12 01.3**	**-2.0**
MEDO				SG	**Sg**	**20 12 33.9**	**-0.7**
MCWV	**Mont Chateau**	**2.45**	**154**	*e*Pn	**Pn**	**20 11 59.3**	**+1.6**
MCWV				*e*Sn	**Sn**	**20 12 29.9**	**+1.9**
PKRO	**Pickering**	**2.61**	**36**	PN	**Pn**	**20 11 59.7**	**-0.2**
PKRO				PG	**Pg**	**20 12 04.9**	**-2.2**
PKRO				SG	**Sg**	**20 12 39.9**	**-1.1**
SSPA	**Standing Stone**	**2.80**	**115**	*e*Pn	**Pn**	**20 12 04.4**	**+1.9**
SSPA				*e*Pg	**Pg**	**20 12 06.8**	**-3.8**
SSPA				*e*Sg	**Sg**	**20 12 42.4**	**-4.6**
WLVO	**Wesleyville**	**2.91**	**44**	PN	**Pn**	**20 12 01.1**	**-2.9**
WLVO				PG	**Pg**	**20 12 09.7**	**-3.1**
WLVO				SG	**Sg**	**20 12 47.6**	**-3.0**
SADO	**Sadowa**	**3.26**	**27**	PN	**Pn**	**20 12 10.2**	**+1.4**
SADO				PG	**Pg**	**20 12 15.4**	**-4.1**
SADO				Trac		20 13 06.5	
	comp=Z,63nm,0.2s						
SADO	**Sadowa**	**3.26**	**27**	Pn	**Pn**	**20 12 10.2**	**+1.4**
SADO				Pg	**Pg**	**20 12 15.4**	**-4.1**
PECO	**Prince Edward**	**3.72**	**55**	PN	**Pn**	**20 12 15.9**	**+0.8**
PECO				PG	**Pg**	**20 12 23.0**	**-5.3**
PECO				SN	**Sn**	**20 12 57.7**	**-1.6**
PECO				SG	**Sg**	**20 13 15.8**	**-0.8**
PECO				Trac		20 13 21.0	
	comp=Z,64nm,0.2s						
PECO	**Prince Edward**	**3.72**	**55**	Pn	**Pn**	**20 12 15.9**	**+0.8**
PECO				Pg	**Pg**	**20 12 23.0**	**-5.3**
PECO				Sn	**Sn**	**20 12 57.7**	**-1.6**
PECO				Sg	**Sg**	**20 13 15.8**	**-0.8**
BUKO	**Buck Lake**	**3.80**	**20**	PN	**Pn**	**20 12 17.2**	**+1.1**
BUKO				PG	**Pg**	**20 12 25.2**	**-4.6**
BUKO				SN	**Sn**	**20 13 01.4**	**+0.1**
BUKO				LG		20 13 16.6	
BINY	**Binghamton**	**3.91**	**84**	PN	**Pn**	**20 12 20.5**	**+2.8**
BINY				SN	**Sn**	**20 13 06.9**	**+2.9**
BINY				LG		20 13 21.4	
BINY				Trac		20 13 23.6	
	comp=Z,120nm,0.5s						
BINY	**Binghamton**	**3.91**	**84**	*e*Pn	**Pn**	**20 12 20.6**	**+2.8**
BINY				Sn	**Sn**	**20 13 05.8**	**+1.8**
BANO	**Bancroft**	**3.95**	**36**	PN	**Pn**	**20 12 19.1**	**+0.9**
BANO				PG	**Pg**	**20 12 28.9**	**-3.8**
BANO				Trac		20 13 28.2	
	comp=Z,25nm,0.1s						
BANO	**Bancroft**	**3.95**	**36**	Pn	**Pn**	**20 12 19.1**	**+0.9**
BANO				Pg	**Pg**	**20 12 28.9**	**-3.8**
MVL	**Millersville**	**4.14**	**115**	*e*Pn	**Pn**	**20 12 22.5**	**+1.7**
SDMD	**Soldier's Deli**	**4.14**	**125**	*e*Pg	**Pg**	**20 12 36.4**	**0.0**
SDMD				*e*Sg	**Sg**	**20 13 26.6**	**-3.6**
SDMD				*e*Sg	**Sg**	**20 13 27.0**	**-3.1**
KGNO	**Kingston**	**4.18**	**54**	PN	**Pn**	**20 12 21.9**	**+0.5**
KGNO				PG	**Pg**	**20 12 32.8**	**-4.3**
KGNO				SN	**Sn**	**20 13 10.9**	**+0.3**
KGNO				Trac		20 13 30.1	
	comp=Z,58nm,0.2s						
KGNO				LG		20 13 30.2	
KGNO	**Kingston**	**4.18**	**54**	Pn	**Pn**	**20 12 21.9**	**+0.5**
KGNO				Pg	**Pg**	**20 12 32.8**	**-4.3**
KGNO				Sn	**Sn**	**20 13 10.9**	**+0.3**
FWV	**Forest Hill**	**4.30**	**176**	Pn	**Pn**	**20 12 22.3**	**-0.8**
FWV				*e*Sn	**Sn**	**20 13 14.2**	**+0.5**
ELN	**Prospectdale**	**4.66**	**175**	Pn	**Pn**	**20 12 29.1**	**+1.2**
BLA	**Blacksburg**	**4.70**	**172**	Pn	**Pn**	**20 12 28.6**	**0.0**
BLA				*e*Sn	**Sn**	**20 13 22.9**	**-0.6**
CRLO	**Chalk River**	**5.00**	**32**	SN	**Sn**	**20 13 29.0**	**-1.8**
CRLO				LG		20 13 54.4	
CRLO				Trac		20 13 58.6	
	comp=Z,42nm,0.3s						
CRLO	**Chalk River**	**5.00**	**32**	Sn	**Sn**	**20 13 28.0**	**-2.7**
CRLO				Lg		20 13 54.4	
EEO	**Eldee**	**5.00**	**17**	PN	**Pn**	**20 12 34.7**	**+1.9**
EEO				PG	**Pg**	**20 12 46.3**	**-6.6**
EEO				SN	**Sn**	**20 13 28.5**	**-2.4**
EEO				LG		20 13 54.2	
EEO				Trac		20 13 57.3	
	comp=Z,100nm,0.4s						
EEO	**Eldee**	**5.00**	**17**	Pn	**Pn**	**20 12 34.7**	**+1.9**
EEO				Pg	**Pg**	**20 12 46.3**	**-6.6**
EEO				Sn	**Sn**	**20 13 28.5**	**-2.4**
EEO				Lg		20 13 54.2	
PTN	**Potsdam (NY)**	**5.29**	**57**	LG		20 13 59.9	
WBO	**Williamsburg**	**5.33**	**52**	PN	**Pn**	**20 12 37.6**	**+0.3**
WBO				SN	**Sn

DAQ	**Lac Daran**	**9.33**	**46**	PN	**Pn**	**20 13 25.5**	**-6.6**
DAQ				SN	**Sn**	**20 15 11.5**	**-5.9**
DAQ				LG		20 16 04.3	
DAQ				Trac		20 16 18.6	
	comp=Z,30nm,0.5s						
DAQ	**Lac Daran**	**9.33**	**46**	Pn	**Pn**	**20 13 25.5**	**-6.6**
DAQ				Sn	**Sn**	**20 15 11.5**	**-5.9**
DAQ				Lg		20 16 04.3	
EYMN	**Ely**	**9.48**	**313**	*e*Pn	**Pn**	**20 13 33.7**	**-0.5**
EYMN				*e*Sn	**Sn**	**20 15 19.8**	**-1.3**
LMQ	**La Malbaie**	**9.60**	**50**	Trac		20 16 29.2	
	comp=Z,34nm,0.6s						
OXF	**Oxford**	**9.78**	**224**	Sn	**Sn**	**20 15 23.3**	**-5.0**
LRAL	**Lakeview Retre**	**9.95**	**209**	Sn	**Sn**	**20 15 25.5**	**-7.1**
MIAR	**Mount Ida**	**12.16**	**237**	Pn	**Pn**	**20 14 10.8**	**0.0**
MIAR				*e*Sn	**Sn**	**20 16 26.0**	**-0.8**
MIAR				*e*Lg		20 17 34.0	

GUC 20 20:13:07.8±0.7, 3268S×7176W, h33km±6km, MD3.8, ML2.4, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.69**	**115**	*i* P	Pn	20 13 21.6	+0.3
LCCH	**Las Cruces**	**0.80**	**169**	⇓*i*P	Pn	20 13 22.8	-0.1
LCCH				*i* S	Sn	20 13 33.5	-0.2
JACH	**Jahuel**	**0.98**	**90**	*i* P	Pn	20 13 25.2	0.0
JACH				*i* S	Sn	20 13 38.9	+0.9
PEL	**Peldehue**	**1.01**	**117**	*e*P	Pn	20 13 26.7	+1.1
PEL				*i* S	Sn	20 13 40.6	+1.8
PEL				AML	AML	20 13 43.3	
	comp=E,289nm,0.3s						
TACH	**Talagante**	**1.19**	**145**	*i* P	Pn	20 13 28.8	+0.7
LNV	**Longovilo**	**1.30**	**167**	*i* P	Pn	20 13 30.5	+0.9
FCH	**Farellones**	**1.39**	**116**	⇓*i*P	Pn	20 13 32.7	+1.8
FCH				*i* S	Sn	20 13 51.5	+3.4
FCH				AML	AML	20 13 53.4	
	comp=E,86nm,0.2s						
PCH	**Pirque**	**1.40**	**132**	*e*P	Pn	20 13 32.4	+1.3
CHCH	**Chadas Angostu**	**1.55**	**144**	*e*P	Pn	20 13 34.1	+1.0
CACH	**El Canelo**	**1.73**	**146**	*i* P	Pn	20 13 37.7	+2.2

*LDG **20** 20:30:41.4±0.3, 4270N×132W, h2km, Md2.0/2, Ml2.0/1, Error ellipse: s-maj=6.5km s-min=2.7km az=38.0*

MDD 20 20:30:43.5±0.3, 4276N×126W, h0km, mbLg1.1/8, 1C, Error ellipse: s-maj=2.8km s-min=1.7km az=175.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.08**	**300**	⇑Pg	Pg	20 30 44.7	-0.4
	2.1nm,0.1s,SNR=18						
IPRE				Lg		20 30 46.3	
	9.1nm,0.1s,SNR=5.1						
EARA	**Aranguren**	**0.24**	**272**	Pg	Pg	20 30 49.0	+1.0
	1.8nm,0.2s,SNR=7.9						
EARA				Lg		20 30 52.2	
	21nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**0.28**	**311**	Pg	Pg	20 30 48.9	+0.1
	1.2nm,0.1s,SNR=7.9						
IUSE				Lg		20 30 53.8	
	2.9nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.34**	**36**	Pg	Pg	20 30 49.2	-0.8
LARF				Lg		20 30 54.5	
SJPF	**Ste Jean**	**0.35**	**4**	*e*Pg	Pg	20 30 49.4	-0.8
SJPF				*e*Sg	Sg	20 30 54.9	+0.2
	16nm,0.4s						
SJPF	**Ste Jean**	**0.35**	**4**	Pg	Pg	20 30 49.4	-0.8
SJPF				Lg		20 30 54.9	
	7.8nm,0.4s						
ELIZ	**Elizondo**	**0.45**	**334**	Pg	Pg	20 30 51.6	-0.5
	1.7nm,0.2s,SNR=6.4						
ELIZ				Lg		20 30 58.8	
	1.9nm,0.1s,SNR=8.8						
EALK	**Alkurruntz**	**0.49**	**338**	Pg	Pg	20 30 52.4	-0.4
	0.4nm,0.1s,SNR=5.9						
EALK				Lg		20 30 59.8	
	7.8nm,0.3s,SNR=8.3						
ETSF	**Etsaut**	**0.53**	**75**	*e*Pg	Pg	20 30 52.8	-0.9
ETSF				*e*Sg	Sg	20 31 00.2	-0.3
	4.8nm,0.3s						
ETSF	**Etsaut**	**0.53**	**75**	Pg	Pg	20 30 52.8	-0.9
ETSF				Lg		20 31 00.2	
	2.4nm,0.3s						
EBIE	**Bielsa**	**1.03**	**94**	Pg	Pg	20 31 05.1	+1.8
	0.4nm,0.4s,SNR=7.9						
EBIE				Lg		20 31 19.6	
	1.1nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**1.20**	**150**	Pg	Pg	20 31 07.0	+0.6
	6.9nm,0.3s,SNR=7.9						
ESAC				Lg		20 31 23.6	
	13nm,0.5s,SNR=7.9						
EPF	**Esparros**	**1.20**	**77**	*e*Pg	Pg	20 31 04.8	-1.8
EPF				*e*Sg	Sg	20 31 21.2	-1.0
	2.7nm,0.2s						
EPF	**Esparros**	**1.20**	**77**	Pg	Pg	20 31 04.8	-1.8
EPF				Lg		20 31 21.2	
	1.4nm,0.2s						

IDC 20 20:49:20.6±1.4, 294N×12812E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=87.8km s-min=20.3km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.05**	**187**	P	P	20 54 06.4	+0.2
	1.0nm,0.5s,baz=16,slow=12,SNR=11						
WRA	**Warramunga Arr**	**23.55**	**165**	P	P	20 54 33.6	+0.8
	1.0nm,0.4s,baz=345,slow=11,SNR=30						
ASAR	**Alice Springs**	**27.04**	**168**	P	P	20 55 05.8	+1.2
	0.2nm,0.4s,baz=340,slow=6.9,SNR=4.6						
ASAR				PcP	PcP	20 58 25.6	-0.3
	0.2nm,0.4s,baz=351,slow=2.0,SNR=5.3						
STKA	**Stephens Creek**	**36.92**	**161**	P	P	20 56 30.7	-0.4
	2.6nm,0.9s,baz=327,slow=9.1,SNR=7.7						
MKAR	**Makanchi Array**	**58.99**	**325**	P	P	20 59 23.1	+1.1
	0.4nm,0.4s,baz=112,slow=8.1,SNR=14						
TORD	**Torodi Ar. Bea**	**124.48**	**288**	PKP	PKPdf	21 08 20.8	-1.0
	0.3nm,0.7s,baz=66,slow=1.4,SNR=5.7						

PGC 20 20:54:43.1, 5135N×13093W, h10km, ML3.7/24, 213km southwest of Bella Bella, Bc South of Moresby Island, British Columbia, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.33**	**338**	Pn	Pn	20 55 05.2	-2.6
BNB				Sg	Sg	20 55 23.3	-2.6
BNB				Trac		20 55 25.5	
	comp=Z,11μm,0.2s						
HOLB	**Holberg**	**1.90**	**111**	Pn	Pn	20 55 14.1	-1.6
HOLB				Trac		20 55 51.4	
	comp=Z,563nm,0.5s						
BBB	**Bella Bella**	**1.94**	**63**	Pn	Pn	20 55 14.2	-2.0
BBB				Pg	Pg	20 55 17.3	-3.0
BBB				Sn	Sn	20 55 36.6	-3.9
BBB				Trac		20 55 38.7	
	comp=Z,834nm,0.2s						
MOBC	**Moresby Island**	**1.94**	**343**	Pn	Pn	20 55 14.3	-1.9
MOBC				Pg	Pg	20 55 16.5	-3.9
MOBC				Sg	Sg	20 55 39.7	-5.9
MOBC				Trac		20 55 43.5	
	comp=Z,545nm,0.5s						
VIB	**Van Inlet**	**2.15**	**333**	Pn	Pn	20 55 17.1	-1.9
VIB				Sg	Sg	20 55 48.6	-3.6
VIB				Trac		20 55 51.2	
	comp=Z,107nm,0.3s						
BNAB	**Bonilla**	**2.16**	**5**	Sg	Sg	20 55 44.6	-7.8
BNAB				Trac		20 55 46.8	
	comp=Z,183nm,0.2s						
PHC	**Port Hardy**	**2.30**	**105**	Pn	Pn	20 55 20.5	-0.6
PHC				Trac		20 55 59.4	
	comp=Z,249nm,0.6s						
BPBC	**Brooks Peninsu**	**2.33**	**120**	Pn	Pn	20 55 20.3	-1.2
BPBC				Sg	Sg	20 55 52.3	-5.8
BPBC				Trac		20 55 54.7	
	comp=Z,184nm,0.3s						
MAYB	**Maynard**	**2.56**	**110**	Pn	Pn	20 55 24.4	-0.3
MAYB				Sg	Sg	20 56 00.7	-4.7
MAYB				Trac		20 56 11.5	
	comp=Z,151nm,0.5s						

EDB	**Eliza Dome**	**2.84**	**120**	Pn	Pn	20 55 28.8	+0.2
EDB				Trac		20 56 16.8	
	comp=Z,88nm,0.8s						
NDB	**Naden**	**2.88**	**336**	Pn	Pn	20 55 27.7	-1.4
NDB				Sg	Sg	20 56 10.5	-5.3
NDB				Trac		20 56 13.4	
	comp=Z,121nm,0.3s						
RUBB	**Prince Rupert**	**3.01**	**8**	Pn	Pn	20 55 29.5	-1.4
RUBB				Sg	Sg	20 56 12.4	-7.5
RUBB				Trac		20 56 13.6	
	comp=Z,460nm,0.5s						
WOSB	**Woss**	**3.01**	**112**	Pn	Pn	20 55 30.1	-0.8
WOSB				Sg	Sg	20 56 20.1	+0.2
WOSB				Trac		20 56 24.0	
	comp=Z,143nm,0.6s						
NCRB	**Newcastle Ridg**	**3.23**	**105**	Pn	Pn	20 55 33.4	-0.4
NCRB				Pg	Pg	20 55 40.7	-4.3
NCRB				Sg	Sg	20 56 18.8	-8.1
NCRB				Trac		20 56 32.5	
	comp=Z,92nm,0.6s						
GDR	**Gold River**	**3.49**	**115**	Pn	Pn	20 55 39.2	+1.7
GDR				Trac		20 56 37.8	
	comp=Z,71nm,0.6s						
CBB	**Campbell River**	**3.77**	**108**	Pn	Pn	20 55 47.4	+6.0
CBB				Pg	Pg	20 55 54.6	-0.9
CBB				Sg	Sg	20 56 34.1	-10
CBB				Trac		20 56 42.2	
	comp=Z,92nm,0.6s						
BTB	**Buttle Lake**	**3.94**	**116**	Pg	Pg	20 55 56.4	-2.2
BTB				Sg	Sg	20 56 47.1	-2.5
BTB				Trac		20 56 49.8	
	comp=Z,60nm,0.4s						
ALB	**Alberni**	**4.43**	**116**	Pg	Pg	20 56 03.8	-4.1
ALB				Trac		20 57 03.0	
	comp=Z,17nm,0.5s						
TXB	**Texada**	**4.46**	**109**	Pn	Pn	20 55 52.1	+1.4
TXB				Trac		20 57 03.6	
	comp=Z,54nm,0.7s						
MGB	**Mount Grey**	**4.65**	**118**	Pn	Pn	20 55 59.7	+6.3
MGB				Pg	Pg	20 56 09.2	-2.9
MGB				Sg	Sg	20 57 10.7	-1.6
MGB				Trac		20 57 17.1	
	comp=Z,19nm,0.4s						
SHB	**Sechelt**	**4.83**	**109**	Pn	Pn	20 56 01.4	+5.4
SHB				Pg	Pg	20 56 08.5	-7.2
SHB				Sg	Sg	20 57 12.2	-6.1
SHB				Trac		20 57 17.3	
	comp=Z,60nm,0.5s						
FSB	**Fort Saint Jam**	**5.08**	**49**	Pn	Pn	20 55 57.2	-2.1
FSB				Sg	Sg	20 57 13.7	-12
FSB				Trac		20 57 18.2	
	comp=Z,39nm,0.3s						
BIB	**Bowen Island**	**5.25**	**109**	Pg	Pg	20 56 16.4	-7.3
BIB				Sg	Sg	20 57 22.8	-8.9
BIB				Trac		20 57 31.5	
	comp=Z,31nm,0.8s						
GOBB	**Galiano Island**	**5.34**	**114**	Pg	Pg	20 56 15.9	-10
GOBB				Trac		20 57 43.5	
	comp=Z,34nm,0.7s						
LZB	**Mount Lazard**	**5.34**	**118**	Trac		20 57 44.2	
	comp=Z,5.0nm,0.6s						
SNB	**Saturna Island**	**5.62**	**114**	Trac		20 58 03.9	
	comp=Z,5.0nm,0.7s						
SNB	**Saturna Island**	**5.62**	**114**	Sg	Sg	20 57 41.7	-1.8
LLLB	**Lillooet**	**5.76**	**94**	Pg	Pg	20 56 29.7	-3.8
LLLB				Trac		20 58 00.5	
	comp=Z,13nm,0.5s						
BMBC	**Bull Mountain**	**7.03**	**45**	Pn	Pn	20 56 26.1	0.0
BMBC				Sn	Sn	20 57 40.6	-5.3
BMBC				Sg	Sg	20 58 13.3	-15
BMBC				Trac		20 58 31.1	
	comp=Z,38nm,0.8s						
DLBC	**Dease Lake**	**7.12**	**4**	Trac		20 58 23.4	
	comp=Z,10.0nm,0.7s						
DOWB	**Downie Slide**	**7.76**	**84**	Sg	Sn	20 58 49.8	+46
DOWB				Trac		20 58 51.6	
	comp=Z,152nm,0.8s						
SLEB	**Sale Mountain**	**8.03**	**86**	Trac		20 59 11.6	
	comp=Z,19nm,1.0s						
SLEB	**Sale Mountain**	**8.03**	**86**	Sg	Sn	20 58 53.9	+43
WHY	**Whitehorse**	**9.59**	**348**	Pn	Pn	20 57 02.2	+1.0

IDC 20 20:55:19.3±3.8, 840N×7754W, h40km±32km, mb3.4/3, mb1 3.8/5, mb1mx3.5/18, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=44.5km s-min=24.0km az=11.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**6.85**	**85**	Pn	Pn	20 56 57.2	+0.1
	0.7nm,0.3s,baz=330,slow=8.1,SNR=3.9						
SDV				Sn	Sn	20 58 13.6	-0.1
	12nm,0.3s,baz=311,slow=20,SNR=18						
JTS	**JuntasAbangare**	**7.55**	**285**	Pn	Pn	20 57 07.0	+0.2
	1.9nm,0.3s,baz=114,slow=23,SNR=6.2						
PDAR	**Pinedale Array**	**44.28**	**326**	P	P	21 03 25.8	+0.9
	0.3nm,0.6s,baz=123,slow=11,SNR=2.6						
YKA	**Yellowknife Ar**	**60.32**	**341**	P	P	21 05 23.3	-0.7
	1.5nm,0.7s,baz=128,slow=6.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**77.71**	**78**	P	P	21 07 13.3	+1.4
	0.2nm,0.5s,baz=296,slow=5.8,SNR=3.7						
ASAR	**Alice Springs**	**146.29**	**240**	PKPbc	PKPbc	21 14 56.0	+0.4
	0.7nm,0.5s,baz=122,slow=3.8,SNR=13						
WRA	**Warramunga Arr**	**147.10**	**246**	PKPbc	PKPbc	21 14 57.4	-0.5
	0.8nm,0.8s,baz=98,slow=2.8,SNR=5.3						

*CSEM **20** 21:01:49.3±0.8, 3694N×2440W, h5km, ML2.5, Error ellipse: s-maj=5.6km s-min=3.3km az=72.0, After PDA*
*PDA **20** 21:01:49.3±0.8, 3694N×2440W, h5km, MD2.5, ML2.5, Error ellipse: s-maj=5.6km s-min=3.3km az=72.0*

SVSA 20 21:01:49.3±0.8, 3694N×2440W, h5km, MD2.5, ML2.5, Error ellipse: s-maj=5.6km s-min=3.3km az=72.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.54**	**277**	*e*P	Pg	21 01 58.5	-1.1
PSMN				*e*S	Sg	21 02 05.3	-1.3
MIRA	**Miradouro**	**1.10**	**321**	*i* P	Pg	21 02 06.3	-4.1
MIRA				*e*S	Sg	21 02 19.3	-5.4
FRA1	**Furnas**	**1.11**	**317**	*e*S	Sg	21 02 19.8	-5.2
PCNG	**Congro**	**1.15**	**317**	*e*S	Sg	21 02 20.6	-5.6
PCNG							
	37nm,0.3s						
VIF	**Vila Franca**	**1.16**	**315**	*e*S	Sg	21 02 21.0	-5.5
VIF							
	32nm,0.3s						
PFAD	**Fenais da Ajud**	**1.16**	**321**	*e*P	Pg	21 02 07.3	-4.3
PFAD				*e*S	Sg	21 02 20.8	-5.9
PRCH	**Ribeira Ch**	**1.17**	**313**	*e*S	Sg	21 02 21.4	-5.5
PRCH							
	64nm,0.3s						
MESC	**Monte Escuro**	**1.19**	**316**	*e*P	Pg	21 02 07.8	-4.4
MESC				*e*S	Sg	21 02 21.4	-6.3
LFA	**Lagoa do Fogo**	**1.20**	**314**	*i* P	Pg	21 02 08.1	-4.2
PMAT	**Coroa da Mata**	**1.23**	**316**	*e*S	Sg	21 02 22.2	-6.5
PMAT							
	22nm,0.2s						
CML	**Cha da Macela**	**1.24**	**313**	*e*P	Pg	21 02 08.5	-4.5
CML				*e*S	Sg	21 02 22.3	-6.7
PVER	**Pico Vermelho**	**1.24**	**314**	*e*S	Sg	21 02 22.6	-6.4
PVER							
	30nm,0.3s						
FAC	**Faja de Cima**	**1.30**	**310**	*e*S	Sg	21 02 24.4	-6.7
PSAN	**Santo Antonio**	**1.40**	**311**	*e*P	Pn	21 02 10.6	-4.8
PSAN				*e*S	Sb	21 02 27.1	-6.9
PFET	**Feteiras**	**1.41**	**309**	*e*P	Pn	21 02 10.9	-4.8
PFET				*e*S	Sb	21 02 26.7	-7.8
SET2	**Ginetes**	**1.44**	**309**	*e*S	Sb	21 02 27.3	-7.9
SET4	**Mosteiros**	**1.46**	**311**	*e*S	Sb	21 02 28.3	-7.4
ROSA	**Rosais**	**3.52**	**302**	*e*P	Pn	21 02 40.3	-4.4
PICO	**Pico**	**3.55**	**297**	*e*P	Pn	21 02 40.2	-4.9
CALA	**Caldeira**	**3.78**	**297**	*e*rx		21 02 44.3	
PCED	**Cedros**	**3.80**	**298**	*e*P	Pn	21 02 44.2	-4.3

*ISCJB **20** 21:09:29.6±0.5, 3743N±004×4205E±003, h3km, Error ellipse: s-maj=6.4km s-min=3.5km az=19.8*
*CSEM **20** 21:09:29.5±0.1, 3750N×4206E, h5km, MD3.6, Error ellipse: s-maj=3.1km s-min=1.4km az=2.0*
*ISK **20** 21:09:29.1, 3748N×4207E, h3km, MD3.6*

ISC 20 21:09:29.6±0.8, 3742N±004×4206E±003, h0km±6km, n22, σ0s80/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEST	**Besiri**	**0.79**	**307**	*i* P	**Pg**	**21 09 44.4**	**-0.3**
BEST				*i* S	**Sg**	**21 09 55.8**	**+1.0**
BTMT	**Batman**	**0.90**	**330**	PG	**Pg**	**21 09 46.8**	**0.0**
MARD	**Mardin**	**1.02**	**265**	*i* P	**Pg**	**21 09 48.9**	**-0.4**
MARD				*i* S	**Sg**	**21 10 02.9**	**+0.3**
CUKT	**Cukurca**	**1.25**	**97**	PN	**Pn**	**21 09 53.7**	**-0.5**
CUKT				SN	**Sn**	**21 10 11.9**	**+0.2**
HAKT	**HAKKARI**	**1.32**	**83**	*i* P	**Pg**	**21 09 54.9**	**0.0**
HAKT				*i* S	**Sg**	**21 10 13.5**	**+1.5**
MSL	**Mosul**	**1.40**	**143**	*ex*	x	21 09 56.5	
MSL				*ex*	x	21 09 15.5	
MSL				*i* x	x	21 09 17.0	
VANT	**Van**	**1.47**	**45**	*e*PN	**Pn**	**21 09 56.0**	**-1.3**
DIY	**Diyarbakir**	**1.53**	**289**	PN	**Pn**	**21 09 58.1**	**0.0**
TVAN	**Van**	**1.54**	**43**	*i* P	**Pn**	**21 09 57.2**	**-1.0**
TVAN	**Van**	**1.54**	**43**	*i* P	**Pn**	**21 09 57.2**	**-1.0**
VANB	**Van**	**1.58**	**41**	PN	**Pn**	**21 09 58.1**	**-0.7**
BNGL	**BINGOL**	**1.69**	**335**	*i* P	**Pn**	**21 10 00.9**	**+0.6**
BNGL				*i* S	**Sg**	**21 10 24.4**	**+0.5**
BINT	**Bingol**	**1.91**	**320**	*e*PN	**Pn**	**21 10 03.1**	**-0.3**
CLDR	**Caldiran**	**2.26**	**40**	*e*PN	**Pn**	**21 10 07.9**	**-0.3**
ERZM	**Erzurum**	**2.54**	**348**	*i* P	**Pb**	**21 10 16.1**	**+0.1**
ERZM				*i* S	**Sb**	**21 10 48.0**	**+0.1**
EZM	**Erzurum**	**2.54**	**348**	*e*PN	**Pn**	**21 10 11.9**	**-0.2**
URFA	**Urfa**	**2.58**	**272**	*e*PN	**Pn**	**21 10 13.3**	**+0.8**
ELZG	**Elazig**	**2.66**	**295**	*i* P	**Pn**	**21 10 15.1**	**+1.4**
ELZG				*i* S	**Sb**	**21 10 51.3**	**+0.1**
EZC	**Erzincan**	**2.92**	**324**	*e*PN	**Pb**	**21 10 20.8**	**-1.6**
GZT	**Gaziantep**	**3.58**	**270**	*i* P	**Pg**	**21 10 37.7**	**-0.5**
GZT				*i* S	**Sg**	**21 11 23.0**	**-1.7**
GAZ	**Gaziantep**	**3.87**	**268**	*e*PN	**Pn**	**21 10 31.7**	**+1.4**
SVSK	**Karacayir**	**4.68**	**304**	*e*PN	**Pn**	**21 10 42.2**	**+0.7**

*ISCJB **20** 21:13:52.5±0.7, 582S±01×255W±03, h33km, mb3.9/8, Error ellipse: s-maj=26.5km s-min=13.8km az=124.8*
*NEIC **20** 21:13:55.0±2.9, 5821S×2544W, h41km±27km, mb3.5/1, Error ellipse: s-maj=21.0km s-min=12.3km az=53.0*
*IDC **20** 21:13:55.6±6.6, 5819S×2550W, h43km±62km, mb3.8/8, mb1 3.8/9, mb1mx3.7/16, mbtmp4.0/9, ML3.6/1, Error ellipse: s-maj=29.8km s-min=19.7km az=63.0*

ISC 20 21:13:54.8±4.5, 582S±01×255W±03, h40km±44km, n13, σ0s49/10, mb3.9/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.35**	**154**	P	**Pn**	**21 17 41.1**	**-0.2**
	0.2nm,0.3s,baz=309,slow=11,SNR=5.1						
PLCA	**Paso Flores**	**33.35**	**282**	P	**P**	**21 20 29.2**	**+0.2**
	1.7nm,0.6s,mb4.1,baz=188,slow=7.3,SNR=4.0						
VNDA	**Vanda**	**44.42**	**182**	P	**P**	**21 22 02.4**	**+0.8**
	0.6nm,0.6s,mb3.5,baz=175,slow=5.3,SNR=11						
BDFB	**Brasilia**	**45.74**	**329**	P	**P**	**21 22 12.5**	**+0.5**
	1.8nm,0.6s,mb4.2,baz=153,slow=9.0,SNR=2.3						
SIV	**San Ignacio**	**49.77**	**313**	P	**P**	**21 22 42.5**	**-0.8**
	0.6nm,0.4s,mb3.9,baz=170,slow=12,SNR=5.6						
LPAZ	**La Paz**	**52.41**	**305**	P	**P**	**21 23 03.0**	**-0.2**
	0.7nm,0.6s,mb3.7,baz=224,slow=5.6,SNR=4.9						
LPAZ	**La Paz**	**52.41**	**305**	P	**P**	**21 23 03.0**	**-0.2**
DBIC	**Dimbokro**	**66.80**	**22**	P	**P**	**21 24 42.4**	**+0.2**
	1.2nm,0.5s,mb4.2,baz=166,slow=6.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**74.53**	**27**	P	**P**	**21 25 29.5**	**+0.2**
	0.8nm,0.5s,mb4.0,baz=198,slow=6.4,SNR=22						
ASAR	**Alice Springs**	**96.61**	**161**	P	**P**	**21 27 19.8**	**-0.7**
	0.3nm,0.8s,mb3.8,baz=182,slow=4.9,SNR=4.1						
YKA	**Yellowknife Ar**	**138.42**	**316**	PKP	PKPdf	21 33 14.3	-1.5
	0.5nm,0.4s,baz=134,slow=2.5,SNR=5.4						
INK	**Inuvik**	**148.09**	**318**	PKPbc	PKPbc	21 33 34.0	-2.0
	3.3nm,0.7s,baz=104,slow=2.7,SNR=12						
SONM	**Songino Array**	**149.87**	**89**	PKPbc	PKPbc	21 33 39.3	-1.3
	0.9nm,0.5s,baz=231,slow=3.1,SNR=6.6						

*MOS **20** 21:28:59.0±3.0, 4357N×14797E, h56km, mb4.4/5, Error ellipse: s-maj=19.2km s-min=13.7km az=110.7*
*NIED **20** 21:29:00, 4360N×14750E, h29km, Mw3.9 Best double couple: M0=8.02000×10^14 NP1:φ0=302.00000°, δ90.00000°, λ-96.00000°. NP2:φ0=208.00000°, δ6.00000°, λ-4.00000°.*
*JMA **20** 21:29:00.8±0.3, 4364N×14753E, h5km±4km, M4.4*
*ISCJB **20** 21:29:01.7±1.2, 4367N±0.10×14771E±0.10, h46km±12km, mb3.9/10, Error ellipse: s-maj=16.0km s-min=11.8km az=157.5*
*IDC **20** 21:29:05.9±3.4, 4353N×14756E, h79km±37km, mb3.5/9, mb1 3.7/11, mb1mx3.5/22, mbtmp3.8/11, MS2.8/1, Ms1 2.8/1, ms1mx2.0/28, Error ellipse: s-maj=51.6km s-min=24.8km az=2.0*

ISC 20 21:29:03.3±1.3, 4373N±010×1477E±01, h45km±14km, n36, σ0s96/42, mb3.9/10, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.34**	**284**	⇓*i*PN	**Pn**	**21 29 24.2**	**-1.3**
YUK				*i* S	**Sn**	**21 29 40.5**	**-1.7**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,840nm,0.5s						
YUK				smax			
	comp=N,6μm,0.4s						
YUK				smax			
	comp=E,4μm,0.3s						
YUK				smax			
	comp=N,8μm,1.0s						
YUK				smax			
	comp=E,8μm,1.0s						
NEM2	**Nemuro 2**	**1.45**	**256**	P	**Pn**	**21 29 25.6**	**-1.4**
NEM2				*e*S	**Sn**	**21 29 43.2**	**-1.5**
KUR	**Kuril'sk**	**1.51**	**5**	*e*PN	**Pn**	**21 29 22.8**	**-5.1**
KUR				pmax	pmax		
	comp=N,250nm,0.5s						
KUR				pmax	pmax		
	comp=E,230nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
JRA	**Rausu**	**1.85**	**277**	P	**Pn**	**21 29 32.3**	**-0.3**
JRA				*e*S	**Sn**	**21 29 55.5**	**+0.7**
JNK	**Nakash**	**2.14**	**267**	P	**Pn**	**21 29 36.0**	**-0.5**
JNK				*e*S	**Sn**	**21 30 02.6**	**+0.7**
JAK	**Akkeshi

FINES	**FINESS Array B**	**65.07 333**	P	**P**	**21 39 37.5**	**-1.5**
FINES			pmax	pmax		
comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**67.27 58**	P	**P**	**21 39 53.0**	**-0.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=279,slow=9.0,SNR=4.7						
PDAR	**Pinedale Array**	**69.64 50**	P	**P**	**21 40 08.2**	**+0.2**
comp=Z,0.4nm,0.6s,mb3.5,baz=338,slow=2.4,SNR=4.4						
NB2	**NORSAR Subarra**	**69.76 339**	P	**P**	**21 40 07.4**	**-1.3**
comp=Z,0.8nm,0.4s,mb4.0,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.76 339**	P	**P**	**21 40 07.8**	**-1.0**
comp=Z,1.1nm,0.4s,mb4.1,baz=31,slow=6.4,SNR=4.4						
NOA	**NORSAR Array B**	**69.76 339**	P	**P**	**21 40 07.8**	**-0.9**
NOA			pmax	pmax		
comp=Z,1.0nm,0.4s						
KIV	**Kislovodsk**	**70.06 312**	*d iP*	**P**	**21 40 12.4**	**+1.9**
KIV			pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3						
AKASG	**Malin Array Be**	**71.82 324**	P	**P**	**21 40 20.8**	**-0.5**
comp=Z,0.6nm,0.4s,mb3.9,baz=35,slow=5.9,SNR=8.0						
AKASG	**Malin Array Be**	**71.82 324**	P	**P**	**21 40 20.8**	**-0.4**
AKASG			pmax	pmax		
comp=Z,1.0nm,0.4s						
SCHQ	**Schefferville**	**77.52 20**	P	**P**	**21 40 54.2**	**-0.1**
comp=Z,0.6nm,0.3s,mb4.0,baz=9.5,slow=6.1,SNR=3.4						
GERES	**GERESS Array B**	**79.36 331**	P	**P**	**21 41 04.0**	**-0.4**
comp=Z,0.3nm,0.4s,mb3.5,baz=27,slow=3.3,SNR=3.9						

*NEIC **20** 22:05:14.2, 3334S×70.12W, h114km, MG2.6(GUC), After GUC.*

GUC 20 22:05:14.2±0.6, 3334S×7013W, h112km±3km, MD3.5, ML2.5, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.14**	**275**	⇑	*iP*	Pn	22 05 30.5	+0.9
FCH					*i* S	Sn	22 05 42.6	+1.5
FCH					AML	AML	22 05 48.5	
comp=E,95nm,0.2s								
PCH	**Pirque**	**0.43**	**229**		*i* P	Pn	22 05 31.4	+0.7
PCH					*i* S	Sn	22 05 44.1	+0.9
PEL	**Peldehue**	**0.51**	**293**		*eP*	Pn	22 05 31.6	+0.3
PEL					*i* S	Sn	22 05 45.2	+1.1
PEL					AML	AML	22 05 45.7	
comp=N,392nm,0.3s								
RCDM	**Rinconada Maip**	**0.59**	**255**		*eP*	Pn	22 05 32.1	+0.3
RCDM					*i* S	Sn	22 05 45.6	+0.6
RCDM					AML	AML	22 05 46.4	
comp=E,442nm,0.1s								
RCDM	**Rinconada Maip**	**0.59**	**255**		*eP*	Pn	22 05 32.1	+0.3
RCDM					*i* S	Sn	22 05 45.6	+0.6
CHCH	**Chadas Angostu**	**0.74**	**216**	⇑	*iP*	Pn	22 05 33.4	+0.3
CHCH					*i* S	Sn	22 05 47.9	+0.8
TACH	**Talagante**	**0.75**	**245**	⇑	*iP*	Pn	22 05 33.2	+0.1
TACH					*i* S	Sn	22 05 47.6	+0.3
JACH	**Jahuel**	**0.77**	**329**		*eP*	Pn	22 05 33.7	+0.4
JACH					*i* S	Sn	22 05 48.7	+1.1
ROCH	**El Roble**	**0.83**	**296**	⇑	*iP*	Pn	22 05 34.5	+0.6
CACH	**El Canelo**	**0.87**	**207**		*eP*	Pn	22 05 35.2	+1.0
CACH					*i* S	Sn	22 05 51.0	+1.7
LNV	**Longovilo**	**1.23**	**240**		*i* P	Pn	22 05 38.1	+0.1

*THE **20** 22:10:47.9, 3631N×2413E, h3km*
*ISCJB **20** 22:10:48.0±1.3, 3634N±005×2404E±007, h24km±9km, Error ellipse: s-maj=11.5km s-min=5.8km az=87.2*
*ATH **20** 22:10:48.0, 3628N×2407E, h34km, MD3.1/3*
*CSEM **20** 22:10:48.0, 3627N×2407E, h35km, MD3.1/3, After ATH*

ISC 20 22:10:46.9±1.1, 3633N±005×2408E±007, h18km±9km, n8, σ0§55/15, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.84**	**267**		*e*PN	**Pn**	**22 11 04.4**	**+0.5**
VAM	**Vamos**	**0.93**	**174**		*e*PN	**Pn**	**22 11 05.2**	**+0.2**
VAM					*e*SN	**Sn**	**22 11 17.6**	**-0.3**
KARN	**Karanos**	**0.94**	**188**		*e*Pg	**Pg**	**22 11 05.1**	**-0.1**
KARN					*e*Sg	**Sg**	**22 11 18.2**	**+0.7**
THR3	**Thira Island,**	**1.07**	**86**		*e*Pg	**Pg**	**22 11 07.8**	**+0.2**
THR3					*e*Sg	**Sg**	**22 11 22.2**	**+0.6**
SANT	**Santorini**	**1.11**	**88**		*e*Pg	**Pg**	**22 11 07.8**	**-0.7**
SANT					*e*Sg	**Sg**	**22 11 23.7**	**+0.7**
THR1	**Thera Island**	**1.11**	**88**		*e*Pg	**Pg**	**22 11 07.9**	**-0.5**
THR1					*e*Sg	**Sg**	**22 11 23.5**	**+0.5**
APE	**Apeiranthos**	**1.38**	**57**		*e*Pg	**Pg**	**22 11 13.4**	**0.0**
APE					*e*Sg	**Sg**	**22 11 30.8**	**-0.6**
SIVA	**Sivas**	**1.44**	**155**		*e*Pg	**Pg**	**22 11 13.4**	**-1.2**
SIVA					*e*Sg	**Sg**	**22 11 33.3**	**-0.2**

*STR **20** 22:15:33.6±0.2, 4497N×668E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 20 22:15:33.3±0.0, 4494N×663E, h9km, Md2.4/1, Ml2.1/5, Error ellipse: s-maj=0.6km s-min=0.4km az=83.0, France

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.23**	**154**		*e*Pg	Pg	22 15 38.3	+0.2
MBDF					*e*Sg	Sg	22 15 41.7	+0.4
52nm,0.2s								
OG22	**Abries**	**0.25**	**117**		Pg	Pg	22 15 38.6	+0.2
OG22					Sg	Sg	22 15 42.7	+0.9
GDM	**Grand'Maison**	**0.45**	**306**		Pg	Pg	22 15 42.7	+0.6
SURF	**Saint Ours**	**0.48**	**164**		Pg	Pg	22 15 42.8	+0.2
SURF					Sg	Sg	22 15 50.7	+1.9
ORIF	**Oris-en-Rattie**	**0.53**	**268**		*e*Pg	Pg	22 15 43.5	-0.1
ORIF					*e*Sg	Sg	22 15 50.4	-0.2
12nm,0.2s								
LPG	**La Plagne**	**0.57**	**9**		*e*Pg	Pg	22 15 44.6	+0.3
LPG					*e*Sg	Sg	22 15 52.0	+0.3
6.5nm,0.2s								
LPL	**La Plagne**	**0.58**	**7**		*e*Pg	Pg	22 15 44.8	+0.2
LPL					*e*Sg	Sg	22 15 52.4	+0.2
10nm,0.3s								
GRN	**Grenoble**	**0.70**	**296**		Pg	Pg	22 15 47.4	+0.7
GRN					Sg	Sg	22 15 56.9	+1.1
TOUF	**Mont Tournerai**	**1.02**	**154**		Pg	Pg	22 15 53.2	+0.2
SBF	**Sospel**	**1.22**	**151**		*e*Pg	Pg	22 15 56.3	-0.4
SBF					*e*Sg	Sg	22 16 11.9	-0.7
7.2nm,0.3s								
SMRF	**Simiane la Rot**	**1.22**	**218**		*e*Pg	Pg	22 15 56.3	-0.5
SMRF					*e*Sg	Sg	22 16 12.2	-0.4
2.3nm,0.3s								
FRF	**La Foret Royal**	**1.38**	**179**		*e*Pg	Pg	22 15 59.1	-0.6
FRF					*e*Sg	Sg	22 16 16.9	-0.7
6.7nm,0.3s								
VIVF	**Saint-Julien-l**	**1.39**	**267**		*e*Pg	Pg	22 15 59.6	-0.4
VIVF					*e*Sg	Sg	22 16 17.4	-0.7
1.8nm,0.2s								
LMR	**La Mourre**	**1.61**	**183**		*e*Pg	Pg	22 16 03.3	-0.8
LMR					*e*Sg	Sg	22 16 24.0	-0.9
2.8nm,0.2s								

IDC 20 23:01:55.3±14.0, 592S×12901E, h151km±153km, mb2.8/1, mb1 3.5/4, mb1mx3.3/14, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=106.0km s-min=53.3km az=41.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.54**	**195**		*e*P	Pn	23 04 48.7	+0.2
2.3nm,0.3s								
FITZ	**Fitzroy Crossi**	**12.54**	**195**		P	Pn	23 04 49.1	+0.6
0.4nm,0.3s,baz=21,slow=14,SNR=20								
FITZ					S	Sn	23 06 57.8	-9.5
0.1nm,0.3s,baz=198,slow=16,SNR=2.5								
WRA	**Warramunga Arr**	**14.87**	**160**		P	Pn	23 05 19.7	+1.8
0.4nm,0.3s,baz=338,slow=13,SNR=24								
WB2	**Warramunga Arr**	**14.87**	**160**		*e*P	Pn	23 05 20.2	+2.2
ASAR	**Alice Springs**	**18.26**	**166**		P	P	23 05 56.4	-0.9
1.5nm,0.3s,baz=345,slow=12,SNR=92								
ASPA	**Alice Springs**	**18.26**	**166**		*e*P	P	23 05 56.4	-0.8
MKAR	**Makanchi Array**	**66.79**	**327**		P	P	23 12 30.7	+0.2
0.1nm,0.4s,baz=122,slow=10,SNR=2.7								

*NEIC **20** 23:16:22.8, 1661N×9458W, h9km, mb4.5/1, MD4.0(MEX), After MEX.*

MEX 20 23:16:22.8±1.5, 1654N×9457W, h84km±36km, MD4.0, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**1.49**	**6**	*i P*		Pn	23 16 46.2	-1.9
TUIG					*i* S	Sn	23 17 05.8	-1.5
TUIG	**Tuzandepetl**	**1.49**	**6**	*i P*		Pn	23 16 46.2	-1.9
TUIG					*i* S	Sn	23 17 01.7	-5.5
HUIG	**Huatulco**	**1.66**	**243**	⇑	*iP*	Pn	23 16 48.0	-2.4
HUIG					*i* S	Sn	23 17 10.2	-1.0
HUIG	**Huatulco**	**1.66**	**243**		*eP*	Pn	23 16 47.9	-2.4
HUIG					*i* S	Sn	23 17 10.4	-0.9
VHO	**Vista Hermosa**	**2.13**	**285**		*i P*	Pn	23 16 56.8	+0.2
VHO					*i* S	Sn	23 17 21.4	-1.0
CCIG	**Comitan**	**2.35**	**96**		*i P*	Pn	23 16 59.0	-0.5
CCIG					*i* S	Sn	23 17 27.1	-0.4
UTMO	**Huajuapan**	**3.34**	**293**		*i P*	Pn	23 17 13.0	+0.2
UTMO					*i* S	Sn	23 17 49.1	-2.3
JTS	**JuntasAbangare**	**11.23**	**122**		Pn	Pn	23 19 03.9	+3.6
NATX	**Nacogdoches**	**15.15**	**360**		Pn	Pn	23 19 55.9	+3.9
5.7nm,0.3s								
LTX	**Lajitas**	**15.23**	**328**		Pn	Pn	23 19 57.4	+4.4
TUC	**Tucson**	**21.50**	**320**		P	P	23 21 11.3	+6.6

IDC 20 23:27:60.0±3.9, 503N×9456E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=149.6km s-min=23.5km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.94**	**348**		P	P	23 36 00.8	+0.2
0.5nm,0.5s,baz=160,slow=7.5,SNR=5.7								
SONM	**Songino Array**	**43.84**	**12**		P	P	23 36 07.6	-0.2
0.3nm,0.5s,baz=212,slow=5.1,SNR=2.5								
WRA	**Warramunga Arr**	**46.31**	**124**		P	P	23 36 28.4	+0.9
3.0nm,0.5s,baz=301,slow=9.3,SNR=33								
ASAR	**Alice Springs**	**47.81**	**128**		P	P	23 36 39.1	-0.1
0.9nm,0.5s,baz=296,slow=8.1,SNR=14								

MOS 20 23:31:26.5±1.5, 4406N×4273E, h12km, mb3.5/1, 2C-2D, Error ellipse: s-maj=57.8km s-min=31.3km az=100.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BEYR	**Belyy Ugol+**	**0.08**	**127**	⇑	*iPG*	Pg	23 31 29.1	0.0
KIV	**Kislovodsk**	**0.11**	**197**	‖	*iPG*	Pg	23 31 29.6	+0.2
SHAR	**Shatzhatmas**	**0.32**	**188**	‖	*iPG*	Pg	23 31 32.9	-0.1
SHAR					*i* S	Sg	23 31 37.8	+0.5
KUBR	**Kubataba**	**0.56**	**118**	⇑	*e*PG	Pg	23 31 37.2	-0.2
KUBR					*e*S	Sg	23 31 45.7	+1.0

IDC 20 23:49:29.1±18.0, 2481S×6860E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=614.9km s-min=40.4km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**59.03**	**104**		P	P	23 59 31.2	+0.5
0.7nm,0.7s,baz=256,slow=6.4,SNR=9.3								
WRA	**Warramunga Arr**	**60.48**	**100**		P	P	23 59 41.2	+0.4
0.7nm,0.7s,baz=253,slow=7.1,SNR=4.0								
MKAR	**Makanchi Array**	**72.33**	**10**		P	P	00 00 56.5	-0.1
0.6nm,0.7s,baz=189,slow=6.0,SNR=6.3								

*IDC **21** 00:15:55.8±0.9, 0.12S×9681E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.1/19, mbtmp4.1/12, MS3.3/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=52.1km s-min=16.8km az=48.0*
*ISCJB **21** 00:15:59.5±0.4, 007S±008×9701E±010, h33km, mb4.2/20, MS3.3/2, Error ellipse: s-maj=16.4km s-min=7.9km az=106.3*
*NEIC **21** 00:16:01.2±0.3, 0.16S×9692E, h35km, mb4.4/8, Error ellipse: s-maj=13.7km s-min=6.9km az=62.0*

ISC 21 00:16:00.7±4.8, 017S±007×9690E±010, h29km±34km, n40, σ1§10/39, mb4.2/20, MS3.3/2, 2C-1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.58**	**35**		*e*Pn	**Pn**	**00 17 29.3**	**-6.2**
COCO	**West Island**	**11.95**	**180**		Pn	**Pn**	**00 18 47.8**	**-1.2**
KKM	**Kota Kinabalu**	**20.24**	**72**		*e*P	**P**	**00 20 32.6**	**-0.8**
JIRN	**Jiri**	**29.52**	**340**		*e*P	**P**	**00 22 04.5**	**+2.1**
18nm,0.9s,mb4.8								
PKI	**Pulchoki**	**29.71**	**339**		*e*P	**P**	**00 22 08.7**	**+4.6**
DMN	**Daman**	**29.85**	**339**		*e*P	**P**	**00 22 07.4**	**+2.0**
GUN	**Gumba**	**29.85**	**340**		*e*P	**P**	**00 22 05.9**	**+0.5**
12nm,0.5s,mb4.9								
KKN	**Kakani**	**29.95**	**339**		*e*P	**P**	**00 22 09.0**	**+2.7**
GKN	**Gorkha**	**30.38**	**338**		*e*P	**P**	**00 22 11.0**	**+0.9**
KOLN	**Koldanda**	**30.57**	**336**		*e*P	**P**	**00 22 12.1**	**+0.3**
13nm,0.8s,mb4.8								
ENH	**Enshi**	**32.55**	**21**		P	**P**	**00 22 27.6**	**-1.6**
YHNB	**Yeheng**	**34.22**	**42**		P	**P**	**00 22 43.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**37.80**	**152**		*e*P	**P**	**00 23 14.1**	**-0.2**
WRA	**Warramunga Arr**	**41.58**	**121**		P	**P**	**00 23 46.2**	**+0.4**
2.6nm,0.7s,mb4.0,baz=300,slow=9.2,SNR=9.7								
WRAB	**Tennant Creek**	**41.59**	**120**		*e*P	**P**	**00 23 46.5**	**+0.6**
2.0nm,0.3s,mb4.2								
ASAR	**Alice Springs**	**42.83**	**126**		P	**P**	**00 23 57.5**	**+1.6**
0.4nm,0.6s,mb3.4,baz=302,slow=8.1,SNR=4.0								
MKAR	**Makanchi Array**	**48.49**	**347**		P	**P**	**00 24 40.2**	**-0.5**
4.0nm,0.7s,mb4.6,baz=158,slow=8.0,SNR=35								
MKAR	**Makanchi Array**	**48.49**	**347**		P	**P**	**00 24 40.2**	**-0.5**
SONM	**Songino Array**	**48.52**	**9**		P	**P**	**00 24 40.3**	**-0.6**
2.3nm,0.7s,mb4.3,baz=190,slow=8.9,SNR=15								
SONM					LR	LR	00 48 59.2	
comp=Z,33nm,19.4s,MS3.3,baz=105,slow=41								
CTAO	**Charters Tower**	**52.17**	**115**		P	**P**	**00 25 10.0**	**+1.4**
STKA	**Stephens Creek**	**52.67**	**131**		P	**P**	**00 25 12.5**	**+0.2**
4.8nm,0.9s,mb4.4,baz=300,slow=12,SNR=6.0								
STKA	**Stephens Creek**	**52.67**	**131**		P	**P**	**00 25 12.5**	**+0.2**
MJAR	**Matsushiro Arr**	**52.90**	**42**		LR	LR	00 48 12.1	
comp=Z,25nm,19.0s,MS3.3,baz=25,slow=37								
BVAR	**Borovoye Array**	**57.44**	**341**		P	**P**	**00 25 45.0**	**-1.7**
0.8nm,0.6s,mb4.0,baz=157,slow=8.0,SNR=8.1								
BRVK	**Borovoye**	**57.50**	**341**		*e*P	**P**	**00 25 45.3**	**-1.8**
0.8nm,0.5s,mb4.0								
ZRNK	**Zerenda**	**57.83**	**340**		*e*P	**P**	**00 25 48.1**	**-1.4**
0.9nm,0.4s,mb4.2								
CHKZ	**Chkalovo**	**57.92**	**342**		*e*P	**P**	**00 25 48.9**	**-1.2**
1.2nm,0.4s,mb4.3								
TAU	**Tasmania Unive**	**61.96**	**140**		*e*P	**P**	**00 26 18.4**	**+0.5**
EIL	**Elat**	**65.93**	**303**		*e*P	**P**	**00 26 45.6**	**+1.6**
41nm,0.6s								
BRTR	**Keskin Array B**	**69.81**	**313**		P	**P**	**00 27 08.0**	**-0.4**
1.5nm,0.7s,mb4.0,baz=136,slow=7.1,SNR=12								
AKASG	**Malin Array Be**	**76.16**	**323**		P	**P**	**00 27 45.1**	**-0.8**
2.9nm,0.6s,mb4.4,baz=94,slow=4.6,SNR=20								
VRI	**Vrincioaia**	**76.41**	**317**	⇑	*iP*	**P**	**00 27 48.4**	**+1.0**
MLR	**Munteleu Rosu**	**76.85**	**317**	⇑	*iP*	**P**	**00 27 50.2**	**+0.3**
BURAR	**Bucovina Array**	**77.85**	**319**	‖	*iP*	**P**	**00 27 56.7**	**+1.2**
FINES	**FINESS Array B**	**81.07**	**333**		P	**P**	**00 28 12.4**	**-0.6**
1.9nm,0.6s,mb4.2,baz=114,slow=8.8,SNR=16								
ARCES	**ARCESS Array B**	**83.71**	**340**		P	**P**	**00 28 26.0**	**-0.8**
1.7nm,0.4s,mb4.5,baz=106,slow=4.6,SNR=41								
VNDA	**Vanda**	**84.55**	**169**		P	**P**	**00 28 30.1**	**-0.9**
0.2nm,0.4s,mb3.6								
GERES	**GERESS Array B**	**85.64**	**319**		P	**P**	**00 28 36.3**	**-0.2**
1.0nm,0.9s,mb4.0,baz=114,slow=3.3,SNR=8.4								
NOA	**NORSAR Array B**	**88.05**	**331**		P	**P**	**00 28 47.1**	**-1.1**
1.0nm,0.7s,mb4.2,baz=101,slow=4.6,SNR=3.3								
SNAA	**Sanae**	**92.91**	**198**		P	**P**	**00 29 10.6**	**-0.4**

*IDC **21** 00:18:43.0±0.9, 7.10N×9163E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, Error ellipse: s-maj=35.2km s-min=21.8km az=60.0*
*ISCJB **21** 00:18:46.0±0.7, 7.1N±0.1×918E±0.1, h33km, mb3.8/9, Error ellipse: s-maj=20.4km s-min=12.4km az=77.8*
*NEIC **21** 00:18:47.5±0.6, 708N×9173E, h30km, mb4.1/1, Error ellipse: s-maj=17.8km s-min=10.9km az=219.0*

ISC 21 00:18:46.7±8.6, 71N±01×917E±02, h22km±61km, n16, σ0§88/16, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.06**	**101**		*e*Pn	**Pn**	**00 20 55.5**	**-0.6**
LSA	**Lhasa**	**22.49**	**359**		P	**P**	**00 23 45.2**	**+0.7**
YHNB	**Yeheng**	**33.33**	**55**		P	**P**	**00 25 22.4**	**-0.5**
MKAR	**Makanchi Array**	**40.37**	**350**		P	**P**	**00 26 24.1**	**+1.3**
0.5nm,0.5s,mb3.5,baz=164,slow=10.0,SNR=2.9								
SONM	**Songino Array**	**42.48**	**15**		P	**P**	**00 26 39.3**	**-0.8**
0.7nm,0.7s,mb3.4,baz=213,slow=5.4,SNR=3.3								
ZRNK	**Zerenda**	**49.33**	**342**		P	**P**	**00 27 34.8**	**+0.6**
CHKZ	**Chkalovo**	**49.49**	**344**		*e*P	**P**	**00 27 36.8**	**+1.4**
2.0nm,0.9s,mb4.2								
WRA	**Warramunga Arr**	**49.81**	**123**		P	**P**	**00 27 38.7**	**+0.9**
1.1nm,0.7s,mb4.0,baz=304,slow=8.8,SNR=5.3								
ASAR	**Alice Springs**	**51.30**	**128**		P	**P**	**00 27 49.5**	**+0.4**
0.8nm,0.7s,mb3.8,baz=307,slow=7.5,SNR=5.9								
EIL	**Elat**	**57.73**	**301**		*e*P	**P**	**00 28 34.7**	**-1.1**
FINES	**FINESS Array B**	**72.28**	**333**		P	**P**	**00 30 09.6**	**-0.8**
1.3nm,0.8s,mb3.9,baz=102,slow=8.6,SNR=4.2								
FINES	**FINESS Array B**	**72.28**	**333**		P	**P**	**00 30 09.6**	**-0.8**
BOSA	**Boshof**	**73.14**	**237**		P	**P**	**00 30 16.1**	**+0.5**
2.1nm,1.0s,mb4.0,baz=236,slow=14,SNR=5.1								
ARCES	**ARCESS Array B**	**75.18**	**341**		P	**P**	**00 30 26.7**	**-0.7**
1.1nm,0.7s,mb3.9,baz=64,slow=8.2,SNR=3.7								
ARCES	**ARCESS Array B**	**75.18**	**341**		P	**P**	**00 30 26.7**	**-0.8**
GERES	**GERESS Array B**	**76.80**	**318**		P	**P**	**00 30 35.5**	**-1.2**
0.7nm,0.7s,mb3.7,baz=57,slow=4.9,SNR=5.5								

*BJI **21** 00:41:37.9, 604N×9238E, h42km, mB4.7, mb4.8, Ms4.4, Msz4.3*
*IDC **21** 00:41:40.1±0.7, 686N×9250E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/24, mbtmp4.2/17, MS3.9/4, Ms1 3.9/4, ms1mx3.4/19, Error ellipse: s-maj=22.7km s-min=15.8km az=43.0*
*MOS **21** 00:41:43.9±0.9, 685N×9261E, h33km, mb5.3/22, Error ellipse: s-maj=13.0km s-min=6.7km az=114.4*
*ISCJB **21** 00:41:44.1±0.3, 676N±005×9263E±004, h36km, mb4.6/65, MS4.1/9, Error ellipse: s-maj=7.3km s-min=5.1km az=62.7*
*NEIC **21** 00:41:46.4±1.6, 678N×9258E, h42km±14km, mb4.7/27, Error ellipse: s-maj=11.9km s-min=6.2km az=223.0*
*SZGRF **21** 00:42:14.8, 1205N×9092E, h33km, mb4.7, Andaman Islands, India, region*

ISC 21 00:41:46.6±0.3, 681N±005×9262E±004, h38km, h38km±1.5km: pP-P, n141, σ1§01/143, mb4.6/65, MS4.1/9, 11C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.81**	**1**	‖	*e*P	x	00 42 37.1	
PBA					*e*S	x	00 43 18.9	
KULM	**Kulim**	**8.13**	**100**		*e*Pn	**Pn**	**00 43 41.1**	**-1.0**
VIS	**Vishakhapatnam**	**14.13**	**321**		*e*P	**Pn**	**00 45 03.1**	**-0.9**
VIS					AMb	AMB	00 45 14.9	
comp=Z,89nm,0.4s								
VIS					*ex*	x	00 47 24.9	
TRD	**Trivandrum**	**15.61**	**277**		*ex*	x	00 48 01.2	
CAL	**Calcutta**	**16.17**	**346**	‖	*ex*	x	00 55 23.0	
HYB	**Hyderabad**	**17.31**	**309**		*i P*	**Pn**	**00 45 45.0**	**-0.2**
HYB					*e*S	**S**	**00 48 59.0**	**-5.3**
HYB	**Hyderabad**	**17.31**	**309**		*e*P	**Pn**	**00 45 45.0**	**-0.2**
HYB					*e*S	**S**	**00 48 52.0**	**-12**
BOK	**Bokaro**	**18.08**	**340**		*e*P	**Pn**	**00 45 55.4**	**+0.7**
BOK					*e*P		00 45 56.0	
BOK					AMb	AMB	00 45 58.6	
comp=Z,17nm,0.8s								
BOK					*e*S	**S**	**00 49 15.4**	**-4.5**
BLSP	**Bilaspur**	**18.28**	**327**		*e*P	**Pn**	**00 45 57.1**	**0.0**
BLSP					AMb	AMB	00 46 00.1	
comp=Z,39nm,1.2s								
KSM	**Kuching**	**18.42**	**106**		*e*P	**Pn**	**00 45 59.3**	**+0.4**
NGP	**Nagpur**	**19.38**	**319**		*e*P	**Pn**	**00 46 07.0**	**-3.4**
NGP					*e*P		00 46 08.4	
NGP					AMb	AMB	00 46 13.5	
comp=Z,42nm,0.9s								
NGP					*ex*	x	00 49 33.9	
LATR	**Latur**	**19.43**	**308**		*e*S	**S**	**00 49 46.0**	**-1.2**
KMI	**Kunming**	**20.62**	**27**		P	**P**	**00 46 24.4**	**+1.9**
KMI					AP		00 46 31.4	
KMI					XP	sP	00 46 34.8	-2.4
KMI					PP		00 46 50.3	
KMI					S	**S**	**00 50 18.0**	**+7.1**
KMI					XS	sS	00 50 29.8	+3.3
KMI					SS		00 50 51.6	
KMI					AMB	AMB		
comp=Z,20nm,1.1s								
KMI					AMB	AMB		
comp=Z,80nm,3.1s								
KMI					LR	LR		
comp=N,610nm,12.8s,MS4.2								
KMI					LR	LR		
comp=E,460nm,14.0s,MS4.2								
KMI					LR	LR		
comp=Z,780nm,12.9s,MS4.3								
QIZ	**Qiongzhong**	**20.69**	**52**		P	**P**	**00 46 24.3**	**+1.0**
QIZ					AP		00 46 35.0	
QIZ					XP	sP	00 46 38.9	+1.0
QIZ					S	**S**	**00 50 20.8**	**+8.5**
QIZ					AMB	AMB		
comp=Z,30nm,1.8s								
QIZ					AMB	AMB		
comp=Z,170nm,2.7s								
QIZ					LR	LR		
comp=N,830nm,13.9s			

XAN AP pP 00 48 09.3 -1.8
XAN AMB AMB
comp=Z,40nm,0.9s,mb5.2
GTA Gaotai 33.09 10 eP P 00 48 19.8 +1.1
GTA AP pP 00 48 29.4 0.0
GTA XP sP 00 48 33.5 -0.6
GTA PP PP 00 49 29.9 -4.0
GTA S **S 00 53 33.9 -1.2**
GTA AMB AMB
comp=Z,60nm,5.0s
GTA LR LR
comp=N,160nm,14.5s,MS4.1
GTA LR LR
comp=E,190nm,13.7s,MS4.1
GTA LR LR
comp=Z,130nm,13.8s,MS3.8
NJ2 Nanjing 35.05 41 eP P 00 48 36.8 +1.1
NJ2 AP pP 00 48 47.0 +0.5
NJ2 XP sP 00 48 49.6 -1.5
NJ2 PP PP 00 49 54.1 -1.5
NJ2 S **S 00 54 04.0 -1.4**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,50nm,5.7s
NJ2 LR LR
comp=N,150nm,18.0s
NJ2 LR LR
comp=E,110nm,12.8s
NJ2 LR LR
comp=Z,170nm,10.7s
SSE Sheshan 36.03 44 P P 00 48 41.8 -2.3
SSE AP pP 00 48 50.6 -4.3
SSE XP sP 00 48 54.5 -5.0
SSE S **S 00 54 19.1 -1.3**
SSE AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,30nm,5.8s
SSE LR LR
comp=N,150nm,13.6s,MS4.2
SSE LR LR
comp=E,230nm,13.6s,MS4.2
SSE LR LR
comp=Z,440nm,13.2s,MS4.4
UCH Uchtor 38.74 338 P P 00 49 08.8 +1.8
SNR=11
KBK Karagaybulak 38.96 339 P P 00 49 10.7 +1.8
SNR=6.0
AML Almayashu 38.97 337 P P 00 49 10.9 +2.0
SNR=5.2
AAK Ala-Archa 39.10 339⇓ eP P 00 49 10.1 0.0
AAK pmax pmax
comp=Z,11nm,1.3s,mb4.4
AAK Ala-Archa 39.10 339 eP P 00 49 10.2 +0.2
comp=Z,12nm,1.1s,mb4.5
JOW Kunigami 39.30 55 P P 00 49 11.4 -0.3
comp=Z,9.4nm,0.9s,mb4.5,baz=330,slow=20,SNR=3.4
EKS2 Erkin-Say 39.39 338 P P 00 49 13.9 +1.4
SNR=6.1
USP Ospenovka 39.65 339 P P 00 49 15.2 +0.5
SNR=5.7
MKAR Makanchi Array 40.81 349 P P 00 49 22.1 -2.1
comp=Z,0.6nm,0.5s,baz=162,slow=7.9,SNR=6.6
MKAR Makanchi Array 40.81 349⇑ eP P 00 49 22.7 -1.5
FITZ Fitzroy Crossi 40.93 128 eP P 00 49 24.1 -1.1
comp=Z,12nm,1.2s,mb4.4
SONM Songino Array 42.53 14 P P 00 49 37.0 -1.3
comp=Z,0.7nm,0.4s,mb3.7,baz=198,slow=9.2,SNR=8.3
ULN Ulaanbaatar 42.72 14⇑ eP P 00 49 40.3 +0.5
ZAK Zakamensk 44.33 10 eP P 00 49 53.3 +0.5
ZAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.2
TLY Talaya 45.65 10 eP P 00 50 03.3 0.0
TLY pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
NWAO Narrogin (SRO) 45.93 151 LR LR 01 10 13.9
comp=Z,170nm,18.0s,MS4.0,baz=324,slow=37
ZAL Zalesovo 47.41 354 P **P 00 50 17.0 -0.1**
comp=Z,0.9nm,0.3s,mb4.1,baz=322,slow=8.2,SNR=4.0
HIA Hailar 48.09 24 eP P 00 50 23.0 +0.7
WRA Warramunga Arr 48.90 124 P **P 00 50 28.8 +0.1**
comp=Z,4.7nm,1.0s,mb4.5,baz=304,slow=8.7,SNR=13
WRAB Tennant Creek 48.91 124 eP P 00 50 29.9 +1.2
WRAB Tennant Creek 48.91 124 eP P 00 50 29.2 +0.5
comp=Z,6.6nm,0.8s,mb4.7
WB2 Warramunga Arr 48.91 124 eP P 00 50 28.7 0.0
BVAR Borovoye Array 49.52 343 P **P 00 50 31.7 -1.6**
comp=Z,3.1nm,1.0s,mb4.3,baz=108,slow=4.8,SNR=7.3
BRVK Borovoye 49.58 342 eP P 00 50 34.0 +0.2
BRVK pmax pmax
comp=Z,20nm,0.6s,mb5.3
BRVK Borovoye 49.58 342 eP P 00 50 34.0 +0.2
comp=Z,1.7nm,0.6s,mb4.2
ZRNK Zerenda 49.88 342 eP P 00 50 35.5 -0.6
ZRNK e pP 00 50 46.8 -0.4
ZRNK pmax pmax
comp=Z,20nm,0.8s,mb5.2
ZRNK Zerenda 49.88 342 eP P 00 50 35.5 -0.6
comp=Z,2.3nm,0.8s,mb4.3
ZRNK e pP 00 50 46.8 -0.5
CHKZ Chkalovo 50.02 343 eP P 00 50 37.2 +0.1
CHKZ e pP 00 50 47.4 -0.9
CHKZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CHKZ Chkalovo 50.02 343 eP P 00 50 37.2 0.0
comp=Z,5.4nm,0.8s,mb4.6
CHKZ e pP 00 50 47.4 -1.0
ASAR Alice Springs 50.42 128 P **P 00 50 40.5 +0.4**
comp=Z,3.6nm,0.9s,mb4.4,baz=305,slow=6.9,SNR=21
ASAR PcP PcP 00 51 59.3 +1.2
comp=Z,1.3nm,0.9s,baz=310,slow=5.8,SNR=3.0
MJAR Matsushiro Arr 50.99 48 P **P 00 50 44.5 +0.1**
comp=Z,0.5nm,0.2s,mb4.0,baz=236,slow=8.6,SNR=2.5
MJAR LR LR 01 15 02.4
comp=Z,80nm,18.5s,MS3.8,baz=255,slow=39
AKTK Aktyubinsk 52.17 333 P **P 00 50 52.8 -0.5**
AKTO Aktyubinsk 52.17 333 P **P 00 50 52.8 -0.5**
comp=Z,2.0nm,0.9s,mb4.1,baz=127,slow=17,SNR=6.4
GNI Garni 54.11 315 P P 00 51 07.1 -0.4
ORR Orenburg 54.48 332 eP P 00 51 10.3 0.0
ORR pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KMBO Kilima Mbogo 55.81 264⇑ eP P 00 51 22.2 +2.4
KMBO Kilima Mbogo 55.81 264 P **P 00 51 19.3 -0.5**
ARU Arti 56.28 338⇓ iP P 00 51 22.4 -0.8
ARU e 00 53 34.5
ARU pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ARU Arti 56.28 338 eP P 00 51 22.6 -0.6
comp=Z,5.8nm,0.9s,mb4.6
ARU e pP 00 51 34.0 -0.5
KIV Kislovodsk 57.10 319 eP P 00 51 29.1 +0.1
KIV pmax pmax
comp=Z,30nm,0.6s,mb5.5
KIV Kislovodsk 57.10 319 eP P 00 51 29.1 +0.1
comp=Z,3.2nm,0.6s,mb4.5
YSS Yuzh-Sakhalins 58.54 38⇑ eP P 00 51 35.8 -3.3
YSS pmax pmax
comp=Z,21nm,1.5s,mb5.0
EIL Elat 58.65 301 eP P 00 51 41.9 +2.0
comp=Z,89nm,1.0s
SOC Sochi 58.92 317 eP P 00 51 40.4 -1.4
SOC eS **S 00 59 42.7 -2.4**
SOC pmax pmax
comp=Z,16nm,1.3s,mb4.9
STKA Stephens Creek 60.49 132 eP pP 00 52 03.0 -1.0
comp=Z,8.1nm,1.1s
YAK Yakutsk 61.48 19 eP P 00 51 59.0 -0.3
YAK pmax pmax
comp=Z,14nm,0.5s,mb5.3
BRTR Keskin Array B 61.98 312 P **P 00 52 00.8 -1.9**
comp=Z,0.8nm,0.6s,mb4.0,baz=126,slow=6.4,SNR=7.7
BRTR Keskin Array B 61.98 312⇑ eP P 00 52 01.7 -1.0
OBN Obninsk 65.47 328⇑ iP P 00 52 24.4 -1.3
OBN i *PP pP 00 52 36.1 -1.1
OBN i 00 52 57.4
OBN eS S 01 01 03.6 -4.1
OBN pmax pmax
comp=Z,13nm,1.3s,mb4.8
SANT Santorini 67.62 306 P **P 00 52 37.7 -1.6**
AKASG Malin Array Be 68.05 322 P **P 00 52 39.7 -2.4**
comp=Z,0.2nm,0.3s,mb3.6,baz=91,slow=5.0,SNR=5.8
AKASG Malin Array Be 68.05 322 *i P* **P 00 52 40.9 -1.2**
AKASG pmax pmax
comp=Z,50nm,0.3s

MA2 Magadan 68.40 28 eP P 00 52 43.5 -0.8
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.2
VRI Vrincioaia 68.42 317⇑ iP P 00 52 44.8 +0.4
TIXI Tiksi 68.56 12 eP P 00 52 44.4 -0.9
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MLR Muntele Rosu 68.88 316 P **P 00 52 46.4 -0.9**
comp=Z,5.4nm,0.9s,mb4.5,baz=86,slow=5.7,SNR=8.2
MLR Muntele Rosu 68.88 316⇑ iP P 00 52 47.9 +0.7
BURAR Bucovina Array 69.82 318⇑ iP P 00 52 53.4 +0.3
JOF Joensuu 71.15 335 *ep* **P 00 52 57.3 -3.9**
comp=Z,4.7nm,0.8s,mb4.5
KWP Kalwaria 71.86 320 eP P 00 53 05.1 -0.4
KOLS Kolonicke sedl 72.01 319 eP P 00 53 02.5 -3.9
KOLS Kolonicke sedl 72.01 319 eP P 00 53 02.6 -3.8
KOLS pmax pmax
comp=Z,22nm,2.5s,mb4.6
KOLS Kolonicke sedl 72.01 319 eP P 00 53 02.6 -3.8
comp=Z,22nm,2.5s,mb4.6
LBTB Lobatse 72.41 241 eP P 00 53 10.8 +2.0
LBTB pmax pmax
comp=Z,12nm,1.5s,mb4.6
LBTB Lobatse 72.41 241 eP P 00 53 10.8 +2.0
comp=Z,12nm,1.5s,mb4.6
FINES FINESS Array B 72.94 333 P **P 00 53 09.6 -2.3**
comp=Z,2.7nm,0.9s,mb4.2,baz=96,slow=5.7,SNR=9.5
FINES FINESS Array B 72.94 333 *i P* **P 00 53 11.3 -0.6**
FINES pmax pmax
comp=Z,30nm,0.9s
KAF Kangasniemi 73.05 333 *ep* **P 00 53 09.0 -3.5**
comp=Z,7.0nm,1.0s,mb4.5,baz=107,slow=5.6
KAF Kangasniemi 73.05 333 eP P 00 53 09.0 -3.5
KAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KECS Kecovo 73.10 319 eP P 00 53 12.3 -0.5
KECS pmax pmax
comp=Z,20nm,1.0s,mb5.0
KECS Kecovo 73.10 319 eP P 00 53 12.3 -0.5
comp=Z,2.1nm,1.0s,mb4.0
BOSA Boshof 73.74 238 P **P 00 53 16.6 0.0**
comp=Z,19nm,1.4s,mb4.8,baz=89,slow=7.3,SNR=5.7
VYHS Vyhne 74.19 318 eP P 00 53 18.8 -0.4
VYHS pmax pmax
comp=Z,50nm,1.7s,mb5.2
VYHS Vyhne 74.19 318 eP P 00 53 18.8 -0.4
comp=Z,4.8nm,1.7s,mb4.2
ARCES ARCESS Array B 75.75 340 P **P 00 53 27.6 -0.7**
comp=Z,1.8nm,0.9s,mb4.0,baz=66,slow=5.9,SNR=5.1
LJU Ljubljana 76.86 316 eP P 00 53 34.9 +0.4
GORS Gorjuse 77.25 316 eP P 00 53 36.9 +0.2
CADS Cadrg 77.42 316 eP P 00 53 37.3 -0.4
BRG Berggiesshubel 77.60 320 eP P 00 53 38.6 -0.1
comp=Z,6.0nm,1.1s,mb4.4
BRG Berggiesshubel 77.60 320 eP P 00 53 38.6 -0.1
BRG pmax pmax
comp=Z,30nm,1.1s,mb5.1
GEC2 GERESS Array S 77.61 318 eP P 00 53 38.8 +0.1
comp=Z,7.0nm,1.1s,mb4.5
GEC2 GERESS Array S 77.61 318 eP P 00 53 38.8 +0.1
GEC2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GERES GERESS Array B 77.61 318 P **P 00 53 38.8 +0.1**
comp=Z,2.6nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=23
BILL Bilibino 77.62 22 eP P 00 53 39.1 +0.3
BILL pmax pmax
comp=Z,40nm,1.7s,mb5.1
KHC Kasperske Hory 77.71 319⇑ eP P 00 53 39.6 +0.3
FBE Freiberg 77.97 321 eP P 00 53 40.9 +0.1
comp=Z,10.0nm,1.2s,mb4.6
WET Wettzell 78.17 319 eP P 00 53 42.2 +0.4
comp=Z,17nm,1.9s,mb4.7
WET Wettzell 78.17 319 eP P 00 53 42.2 +0.4
WET pmax pmax
comp=Z,17nm,1.9s,mb4.7
TANN Tannenbergstha 78.51 320 eP P 00 53 43.3 -0.4
comp=Z,10.0nm,1.8s,mb4.4
WERD Werda 78.61 320 eP P 00 53 44.6 +0.3
comp=Z,6.0nm,1.5s,mb4.3
ROTZ Rotzenmuhle 78.64 319 eP P 00 53 45.3 +0.9
comp=Z,7.0nm,1.1s,mb4.5
MANZ Manzenberg 78.71 320 eP P 00 53 45.8 +0.9
comp=Z,11nm,1.4s,mb4.6
GRA1 Grafenberg Arr 79.27 319 eP P 00 53 48.7 +0.8
comp=Z,12nm,1.2s,mb4.7
GRF Grafenberg Arr 79.27 319 eP P 00 53 48.7 +0.8
comp=Z,12nm,1.2s,mb4.7
GRF Grafenberg Arr 79.27 319 eP P 00 53 48.7 +0.8
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.7
CLZ Clausthal 79.89 321 eP P 00 53 51.3 0.0
comp=Z,26nm,1.8s,mb4.9
CLZ Clausthal 79.89 321 eP P 00 53 51.3 0.0
CLZ pmax pmax
comp=Z,26nm,1.8s,mb4.9
BSEG Bad Segeberg 80.00 323 eP P 00 53 51.8 0.0
comp=Z,10.0nm,1.1s,mb4.7
TORD Torodi Ar. Bea 89.37 283 P **P 00 54 38.5 -0.6**
comp=Z,1.9nm,1.2s,mb4.3,baz=104,slow=7.7,SNR=5.9
TORD Torodi Ar. Bea 89.37 283 P **P 00 54 38.5 -0.6**
VNDA Vanda 92.20 168 LR LR 01 30 37.8
comp=Z,62nm,18.1s,MS4.1,baz=287,slow=32
TTA Tatalina 93.48 25 P **P 00 55 00.3 +2.2**
TTA pmax pmax
comp=Z,16nm,1.4s,mb5.3
TTA Tatalina 93.48 25 P **P 00 55 00.3 +2.2**
comp=Z,16nm,1.4s,mb5.3
DBIC Dimbokro 96.59 278 LR LR 01 37 55.7
comp=Z,45nm,18.2s,MS4.0,baz=71,slow=35
SNAA Sanae 98.14 199 P **P 00 55 18.3 -1.1**

*SZGRF **21** 00:51:12.4, 3530N×1081W, h33km, mb4.5, MS3.7, Azores-Cape St. Vincent Ridge*
*BJI **21** 00:51:12.8, 3600N×1045W, h6km, mB5.3, mb5.0, Ms5.0, Msz4.2*
*IDC **21** 00:51:13.8±0.6, 3594N×1058W, h0km, mb4.4/27, mb1 4.5/29, mb1mx4.4/34, mbtmp4.4/29, ML5.2/3, MS3.8/19, Ms1 3.8/19, ms1mx3.7/27, Error ellipse: s-maj=15.9km s-min=12.9km az=104.0*
*ISCJB **21** 00:51:14.6±0.2, 3603N±002×1049W±002, h10km, mb4.6/81, MS3.8/27, Error ellipse: s-maj=2.9km s-min=2.6km az=21.4*
*MOS **21** 00:51:14.2±1.0, 3602N×1056W, h10km, mb5.3/30, Error ellipse: s-maj=8.5km s-min=2.4km az=48.3*
*NEIC **21** 00:51:14.8±0.2, 3593N×1067W, h10km, mb4.7/54, Error ellipse: s-maj=4.1km s-min=2.8km az=130.0*
*CSEM **21** 00:51:15.6, 3572N×1055W, h33km, mb4.8*
*SFS **21** 00:51:17.0, 36.10N×1040W, h0km, ML5.5*
*MDD **21** 00:51:19.1±0.8, 3600N×1063W, h42km±27km, mb5.7/46, Error ellipse: s-maj=6.9km s-min=5.2km az=82.0, PRXIMO*
*IGIL **21** 00:51:20.6, 36.10N×1060W, h31km, ML5.0*
*INMG **21** 00:51:21.4±1.7, 36.11N×1052W, h26km±30km, MD3.9, ML4.5, Error ellipse: s-maj=23.3km s-min=3.4km az=55.0*
*LDG **21** 00:51:21.2, 36.10N×1041W, h59km*
*CNRM **21** 00:51:28.3, 3555N×987W, h30km, MD4.6*
ISC 21 00:51:16.9±0.2, 3606N±002×1046W±002, h10km, n608, σ1§19/796, mb4.6/81, MS3.8/27, 44C-21D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.92**	**49**	*eP*	**Pn**	**00 51 50.8**	**+1.3**
MORF				*eS*	**Sn**	**00 52 12.7**	**-1.0**
MORF				*eS*	**Sn**	**00 52 12.7**	**-1.0**
MORF				AML	AML	00 52 15.8	
comp=E,10μm,0.2s							
MORF	**Marmelete**	**1.92**	**49**	*eP*	**Pn**	**00 51 50.8**	**+1.3**
MORF				*eS*	**Sn**	**00 52 12.7**	**-1.0**
PTEO	**Sao Teotonio**	**2.04**	**43**	*i* Pn	**Pn**	**00 51 52.5**	**+1.3**
PTEO				*e*Sn	**Sn**	**00 52 15.7**	**-0.9**
PTEO							
comp=E,3μm,0.5s							
PLML	**Palmela**	**2.78**	**26**	*e*Pn	**Pn**	**00 52 02.2**	**+0.7**
PLML				*e*Sn	**Sn**	**00 52 33.5**	**-1.6**
EGRO	**El Granado**	**2.81**	**58**	⇑Pn	**Pn**	**00 52 03.2**	**+1.4**
comp=E,262nm,0.2s,SNR=18							
EGRO				Sn	**Sn**	**00 52 33.9**	**-1.8**
comp=E,1μm,0.1s,SNR=4.1							
EGRO	**El Granado**	**2.81**	**58**	P	**Pn**	**00 52 03.2**	**+1.4**
comp=E,262nm,0.2s,SNR=18							
EGRO				S	**Sn**	**00 52 33.9**	**-1.8**
comp=E,1μm,0.1s,SNR=4.1							
LIS	**Lisbon**	**2.85**	**21**	*e*P	**Pn**	**00 52 02.7**	**+0.3**
LIS				*e*S	**Sn**	**00 52 33.5**	**-3.2**
LIS				*e*S	**Sn**	**00 52 33.5**	**-3.2**
LIS				AML	AML	00 52 37.8	
comp=E,5μm,0.3s							
LIS	**Lisbon**	**2.85**	**21**	*e*P	**Pn**	**00 52 02.7**	**+0.3**
LIS				*e*S	**Sn**	**00 52 33.5**	**-3.2**
PBEJ	**Beja**	**2.86**	**46**	*e*Pn	**Pn**	**00 52 03.5**	**+1.0**
PBEJ				*e*Sn	**Sn**	**00 52 35.2**	**-1.7**
PBEJ							
comp=E,964nm,0.2s							
ERIP	**Rio Piedras**	**2.89**	**62**	⇑Pn	**Pn**	**00 52 04.5**	**+1.6**
comp=E,219nm,0.1s,SNR=18							
ERIP				Sn	**Sn**	**00 52 35.5**	**-2.3**
comp=E,2μm,0.2s,SNR=7.9							
INMG	**Instituto de M**	**2.91**	**21**	*e*Pn	**Pn**	**00 52 04.5**	**+1.3**
INMG				*e*Sn	**Sn**	**00 52 35.6**	**-2.6**
MOE	**Montemor**	**2.98**	**34**	*e*Pn	**Pn**	**00 52 05.5**	**+1.3**
MOE				*i* -		00 52 15.1	
MOE				*e*Sn	**Sn**	**00 52 38.4**	**-1.5**
PLOU	**Loures**	**3.01**	**20**	*e*Pn	**Pn**	**00 52 05.3**	**+0.8**
PLOU				*e*Sn	**Sn**	**00 52 38.7**	**-1.9**
PLOU							
comp=E,1μm,0.1s							
PLOU	**Loures**	**3.01**	**20**	*e*Pn	**Pn**	**00 52 05.3**	**+0.8**
PLOU				*e*Sn	**Sn**	**00 52 38.7**	**-1.9**
comp=E,1μm,0.1s							
EVO	**Evora**	**3.15**	**38**	*e*Pn	**Pn**	**00 52 06.5**	**0.0**
EVO				*e*Sn	**Sn**	**00 52 40.2**	**-3.9**
comp=E,3μm,0.4s							
EVO				*e*R			
comp=E,2μm,21.0s							
ALMR	**Almeirim**	**3.43**	**25**	*e*P	**Pn**	**00 52 11.0**	**+0.6**
ALMR				*e*S	**Sn**	**00 52 47.7**	**-3.4**
ALMR				*e*S	**Sn**	**00 52 47.8**	**-3.3**
ALMR				AML	AML	00 53 05.7	
comp=N,6μm,0.8s							
ALMR	**Almeirim**	**3.43**	**25**	*e*P	**Pn**	**00 52 11.0**	**+0.6**
ALMR				*e*S	**Sn**	**00 52 47.7**	**-3.4**
SFS	**San Fernando**	**3.46**	**82**	⇑Pn	**Pn**	**00 52 12.6**	**+1.7**
SFS				Sn	**Sn**	**00 52 52.4**	**+0.5**
SFS	**San Fernando**	**3.46**	**82**	P	**Pn**	**00 52 11.2**	**+0.4**
EMIN	**Mina Concepcio**	**3.48**	**60**	⇑Pn	**Pn**	**00 52 12.2**	**+1.1**
comp=N,120nm,0.2s,SNR=18							
EMIN				Sn	**Sn**	**00 52 50.0**	**-2.3**
comp=N,628nm,0.2s							
EMIN	**Mina Concepcio**	**3.48**	**60**	P	**Pn**	**00 52 12.2**	**+1.1**
comp=N,120nm,0.2s,SNR=18							
EMIN				S	**Sn**	**00 52 50.0**	**-2.4**
comp=N,628nm,0.2s							
SCRT	**Cerro San Cris**	**3.51**	**79**	⇑Pn	**Pn**	**00 52 13.9**	**+2.5**
SCRT				Sn	**Sn**	**00 52 54.3**	**+1.3**
SCRT	**Cerro San Cris**	**3.51**	**79**	*i* P	**Pn**	**00 52 13.9**	**+2.5**
CNIL	**Conil**	**3.58**	**84**	⇑Pn	**Pn**	**00 52 15.1**	**+2.7**
CNIL				Sn	**Sn**	**00 52 56.4**	**+1.7**
RTC	**Rabat Centre**	**3.61**	**124**	Pn	**Pn**	**00 52 13.0**	**+0.2**
RTC				Sn	**Sn**	**00 52 45.0**	**-10**
RTC	**Rabat Centre**	**3.61**	**124**	*i* P	**Pn**	**00 52 13.0**	**+0.2**
GIBL	**Gibalbin**	**3.71**	**77**	⇑Pn	**Pn**	**00 52 16.3**	**+2.2**
GIBL				Sn	**Sn**	**00 52 57.6**	**-0.3**
GIBL	**Gibalbin**	**3.71**	**77**	*i* P	**Pn**	**00 52 16.3**	**+2.2**
GIBL				*e*S	**Sn**	**00 52 57.6**	**-0.2**
TSY	**Tnine Yamani**	**3.72**	**99**	*i* P	**Pn**	**00 52 15.5**	**+1.2**
TSY				*i* S	**Sn**	**00 52 53.0**	**-5.2**
AVE	**Averroes**	**3.73**	**137**	P	**Pn**	**00 52 14.5**	**0.0**
AVE				S	**Sn**	**00 52 53.0**	**-5.4**
ESPR	**Espera**	**3.80**	**76**	⇑Pn	**Pn**	**00 52 17.0**	**+1.5**
comp=N,3μm,0.2s,SNR=18							
ESPR				Sn	**Sn**	**00 52 58.6**	**-1.6**
comp=N,3μm,0.3s							
ESPR	**Espera**	**3.80**	**76**	P	**Pn**	**00 52 17.0**	**+1.6**
comp=N,3μm,0.2s,SNR=18							
ESPR				S	**Sn**	**00 52 58.6**	**-1.6**
comp=N,3μm,0.3s							
EBAD	**Badajoz**	**3.84**	**45**	⇓Pn	**Pn**	**00 52 16.7**	**+0.7**
comp=N,96nm,0.1s,SNR=18							
EBAD				Sn	**Sn**	**00 52 59.0**	**-2.3**
comp=N,2μm,0.2s							
EBAD	**Badajoz**	**3.84**	**45**	P	**Pn**	**00 52 16.7**	**+0.6**
comp=N,96nm,0.1s,SNR=18							
EBAD				S	**Sn**	**00 52 59.0**	**-2.3**
comp=N,2μm,0.2s							
MOMI	**Momias**	**3.84**	**85**	⇓Pn	**Pn**	**00 52 18.2**	**+2.2**
MOMI				Sn	**Sn**	**00 53 04.1**	**+2.8**
MOMI	**Momias**	**3.84**	**85**	*i* P	**Pn**	**00 52 18.2**	**+2.1**
PTOM	**Tomar**	**3.91**	**24**	*e*Pn	**Pn**	**00 52 17.4**	**+0.5**
PTOM				*e*Sn	**Sn**	**00 52 59.8**	**-3.0**
PTOM							
comp=N,724nm,0.1s							
PTOM	**Tomar**	**3.91**	**24**	*e*Pn	**Pn**	**00 52 17.4**	**+0.5**
PTOM				*e*Sn	**Sn**	**00 53 00.1**	**-2.7**
PTOM	**Tomar**	**3.91**	**24**	*e*Pn	**Pn**	**00 52 17.4**	**+0.5**
PTOM				*e*Sn	**Sn**	**00 52 59.8**	**-3.0**
comp=N,724nm,0.1s							
MDAL	**Dalia**	**4.04**	**91**	*i* P	**Pn**	**00 52 21.0**	**+2.2**
MDAL				*i* S	**Sn**	**00 53 00.0**	**-6.2**
EJIF	**Jimena Fronter**	**4.05**	**83**	⇓Pn	**Pn**	**00 52 20.9**	**+2.0**
comp=N,80nm,0.2s,SNR=18							
EJIF				Sn	**Sn**	**00 53 05.6**	**-0.9**
comp=N,265nm,0.4s							
LIJA	**Lijar**	**4.16**	**77**	⇓Pn	**Pn**	**00 52 22.7**	**+2.2**
LIJA				Sn	**Sn**	**00 53 07.9**	**-1.2**
LIJA	**Lijar**	**4.16**	**77**	*i* P	**Pn**	**00 52 22.7**	**+2.3**
LIJA				*e*S	**Sn**	**00 53 07.9**	**-1.2**
REAL	**Reales**	**4.27**	**83**	⇓Pn	**Pn**	**00 52 24.0**	**+2.2**
REAL				Sn	**Sn**	**00 53 11.6**	**-0.1**
REAL	**Reales**	**4.27**	**83**	*i* P	**Pn**	**00 52 24.0**	**+2.1**
REAL				*e*S	**Sn**	**00 53 11.6**	**-0.1**
PCBR	**Castelo Branco**	**4.45**	**31**	*e*Pn	**Pn**	**00 52 25.3**	**+0.9**
PCBR				*e*Sn	**Sn**	**00 53 12.7**	**-3.5**
PCBR							
comp=N,617nm,0.7s							
PCBR	**Castelo Branco**	**4.45**	**31**	*e*Pn	**Pn**	**00 52 25.3**	**+0.9**
PCBR				*e*Sn	**Sn**	**00 53 12.7**	**-3.5**
comp=N,617nm,0.7s							
EMIJ	**Mijas**	**4.62**	**82**	⇑Pn	**Pn**	**00 52 27.4**	**+0.7**
comp=N,144nm,0.2s,SNR=18							
EMIJ				Sn	**Sn**	**00 53 18.0**	**-2.5**
comp=N,522nm,0.5s							
CIA	**Chichaoua**	**4.70**	**162**	Pn	**Pn**	**00 52 28.0**	**+0.1**
CIA				Sn	**Sn**	**00 53 12.0**	**-10**
CIA	**Chichaoua**	**4.70**	**162**	*i* P	**Pn**	**00 52 28.0**	**+0.1**
TGT	**Taghat**	**4.86**	**113**	Pn	**Pn**	**00 52 30.0**	**0.0**
TGT				Sn	**Sn**	**00 53 15.0**	**-11**
TGT	**Taghat**	**4.86**	**113**	*i* P	**Pn**	**00 52 30.0**	**0.0**
MTE	**Manteigas**	**4.90**	**27**	*e*Pn	**Pn**	**00 52 31.1**	**+0.5**
MTE				*e*Sn	**Sn**	**00 53 23.0**	**-4.4**
MTE							
comp=N,788nm,0.9s							
MTE	**Manteigas**	**4.90**	**27**	*e*Pn	**Pn**	**00 52 31.2**	**+0.6**
comp=N,9.4nm,1.5s							
MTE				*e*Sn	**Sn**	**00 53 23.7**	**-3.7**
MTE	**Manteigas**	**4.90**	**27**	*e*Pn	**Pn**	**00 52 31.1**	**+0.5**
MTE				*e*Sn	**Sn**	**00 53 23.0**	**-4.4**
comp=N,788nm,0.9s							
MAL	**Malaga**	**4.93**	**80**	*i* P	**Pn**	**00 52 32.2**	**+1.3**
MAL				*e*S	**Sn**	**00 53 24.9**	**-3.1**
MIF	**Mishlifen**	**5.06**	**120**	Pn	**Pn**	**00 52 34.0**	**+1.3**
MIF				Sn	**Sn**	**00 53 19.0**	**-12**
MIF	**Mishlifen**	**5.06**	**120**	*i* P	**Pn**	**00 52 34.0**	**+1.3**
PVIS	**Viseu**	**5.07**	**23**	*e*Pn	**Pn**	**00 52 33.2**	**+0.3**
PVIS				*e*Sn	**Sn**	**00 53 27.1**	**-4.3**
PVIS							
comp=N,241nm,0.3s							
PVIS	**Viseu**	**5.07**	**23**	*e*Pn	**Pn**	**00 52 33.2**	**+0.3**
PVIS				*e*Sn	**Sn**	**00 53 27.1**	**-4.3**
comp=N,241nm,0.3s							
IFR	**Ifrane**	**5.07**	**118**	P	**Pn**	**00 52 32.0**	**-0.9**
TZC	**Tazercounte**	**5.11**	**139**	Pn	**Pn**	**00 52 33.0**	**-0.4**
TZC				Sn	**Sn**	**00 53 19.0**	**-13**
TZC	**Tazercounte**	**5.11**	**139**	*i* P	**Pn**	**00 52 33.0**	**-0.4**
EADA	**Adamuz**	**5.15**	**64**	⇑Pn	**Pn**	**00 52 34.9**	**+0.9**
comp=N,502nm,0.2s,SNR=18							
EADA				Sn	**Sn**	**00 53 30.7**	**-2.8**
comp=N,930nm,0.2s							
EADA	**Adamuz**	**5.15**	**64**	P	**Pn**	**00 52 34.9**	**+0.9**
comp=N,502nm,0.2s,SNR=18							
EADA				S	**Sn**	**00 53 30.8**	**-2.7**
ELOJ	**Sierra Loja**	**5.19**	**76**	Pn	**Pn**	**00 52 36.3**	**+1.8**
comp=N,120nm,0.2s,SNR=464							
ELOJ				Sn	**Sn**	**00 53 31.5**	**-3.0**
comp=N,126nm,0.4s							
ELOJ	**Sierra Loja**	**5.19**	**76**	P	**Pn**	**00 52 36.3**	**+1.8**

ELOJ S Sn 00 53 31.5 -3.0
PTO Porto 5.28 15 *e*Pn Pn 00 52 35.8 +0.1
PTO *e*Sn Sn 00 53 31.8 -4.8
OUK Oukaimeden 5.30 155 Pn Pn 00 52 37.0 +0.9
OUK Sn Sn 00 53 25.0 -12
OUK Oukaimeden 5.30 155 *i* P Pn 00 52 37.0 +0.9
MPAL Palemas 5.38 97 *i* P Pn 00 52 38.0 +0.9
MPAL *i* S Sn 00 53 30.0 -9.0
CZD Col de Zad 5.40 122 Pn Pn 00 52 38.0 +0.6
CZD Sn Sn 00 53 27.0 -13
CZD Col de Zad 5.40 122 *i* P Pn 00 52 38.0 +0.6
ERON Agron 5.45 78 Pn Pn 00 52 39.8 +1.8
comp=N,139nm,0.2s,SNR=848
ERON Sn Sn 00 53 38.9 -1.8
comp=N,103nm,0.3s
TZK Tazeka 5.51 109 Pn Pn 00 52 39.0 0.0
TZK Sn Sn 00 53 32.0 -10
TZK Tazeka 5.51 109 *i* P Pn 00 52 39.0 0.0
TOU Touzarine 5.58 99 *i* P Pn 00 52 40.0 +0.1
TOU *i* S Sn 00 53 35.0 -9.1
EGUA Guajares 5.61 80 Pn Pn 00 52 41.1 +0.8
comp=N,18nm,0.2s,SNR=7.9
EGUA Sn Sn 00 53 41.5 -3.4
comp=N,18nm,0.2s,SNR=7.9
PVRL Vila Real 5.63 22 *e*Pn Pn 00 52 40.8 +0.2
PVRL *e*Sn Sn 00 53 40.0 -5.4
PVRL
comp=N,491nm,0.2s
AFS Agadir Fac de 5.68 172 Pn Pn 00 52 42.0 +0.7
AFS Sn Sn 00 53 36.0 -11
AFS Agadir Fac de 5.68 172 *i* P Pn 00 52 42.0 +0.7
PMPS Porto Santo 5.70 240 *e*Pn Pn 00 52 38.5 -3.0
PMPS *e*Sn Sn 00 53 33.8 -13
PMPS
comp=N,869nm,0.3s
EBAN Banos Encina 5.73 67 Pn Pn 00 52 42.7 +0.7
comp=N,198nm,0.2s,SNR=359
EBAN Sn Sn 00 53 43.6 -4.3
comp=N,390nm,0.4s
EQUE Quentar 5.76 76 ⇑Pn Pn 00 52 44.2 +1.8
comp=N,210nm,0.3s,SNR=18
EQUE Sn Sn 00 53 47.1 -1.5
comp=N,216nm,0.3s,SNR=4.0
TIO Tiouine 5.78 152 P Pn 00 52 42.0 -0.6
MDT Midelt 5.81 122 Pn Pn 00 52 42.5 -0.7
comp=N,84nm,0.3s,baz=307,slow=13,SNR=1395
MDT Sn Sn 00 53 44.0 -5.9
comp=N,250nm,0.3s,baz=26,slow=24,SNR=35
MDT LR LR 00 55 13.4
comp=N,703nm,18.1s,baz=302,slow=41
PCAB Cabril 5.95 18 *e*Pn Pn 00 52 44.9 -0.1
PCAB *e*Sn Sn 00 53 47.6 -5.7
PCAB
comp=N,369nm,0.6s
EALB Alboran 6.02 89 Pn Pn 00 52 45.9 -0.1
comp=N,45nm,0.3s,SNR=7.9
EALB Sn Sn 00 53 50.0 -5.0
comp=N,127nm,0.2s,SNR=7.9
EALB Alboran 6.02 89 P Pn 00 52 45.9 -0.1
comp=N,45nm,0.3s,SNR=7.9
EALB S Sn 00 53 50.0 -5.0
comp=N,127nm,0.2s,SNR=7.9
ELOB Lobios 6.09 17 Pn Pn 00 52 47.2 +0.2
comp=N,51nm,0.3s,SNR=113
ELOB Sn Sn 00 53 51.8 -4.9
comp=N,647nm,0.5s
EMEL Melilla 6.16 95 Pn Pn 00 52 47.4 -0.5
comp=N,109nm,0.1s,SNR=28
EMEL Sn Sn 00 53 52.3 -6.0
comp=N,442nm,0.2s
EBER Berja 6.16 80 Pn Pn 00 52 48.5 +0.6
comp=N,85nm,0.3s,SNR=176
EBER Sn Sn 00 53 55.8 -2.6
comp=N,370nm,0.7s,SNR=6.5
EBER Berja 6.16 80 P Pn 00 52 48.5 +0.6
comp=N,85nm,0.3s,SNR=176
EBER S Sn 00 53 55.8 -2.5
comp=N,370nm,0.7s,SNR=6.5
EMLI Melilla 6.16 95 P Pn 00 52 47.4 -0.5
comp=N,109nm,0.1s,SNR=28
EMLI S Sn 00 53 52.3 -6.1
comp=N,442nm,0.2s
EQES Quesada 6.17 71 ⇑Pn Pn 00 52 48.8 +0.7
comp=N,125nm,0.3s,SNR=18
EQES Sn Sn 00 53 55.2 -3.5
comp=N,430nm,0.3s,SNR=15
EQES Quesada 6.17 71 P Pn 00 52 48.8 +0.8
comp=N,125nm,0.3s,SNR=18
EQES S Sn 00 53 55.2 -3.4
comp=N,430nm,0.3s,SNR=15
MELI Melilla 6.17 95 Pn Pn 00 52 47.6 -0.5
MELI Sn Sn 00 53 52.4 -6.3
MELI Melilla 6.17 95 *i* P Pn 00 52 47.6 -0.5
MELI *e*S Sn 00 53 52.4 -6.3
ESDC Sonseca Array 6.28 53 Pn Pn 00 52 49.9 +0.4
comp=N,60nm,0.3s,baz=240,slow=13,SNR=675
ESDC Sn Sn 00 53 58.0 -3.3
comp=N,258nm,0.3s,baz=240,slow=23,SNR=30
ZAI Zaio 6.39 98 Pn Pn 00 52 51.0 0.0
ZAI Sn Sn 00 53 54.0 -10
ZAI Zaio 6.39 98 *i* P Pn 00 52 51.0 0.0
PBRG Braganca 6.43 26 *e*Pn Pn 00 52 51.5 0.0
PBRG *e*Sn Sn 00 53 58.8 -6.1
PBRG
comp=N,217nm,0.1s
ZFT Errachidia 6.47 127 Pn Pn 00 52 53.0 +0.9
ZFT Sn Sn 00 53 55.0 -11
ZFT Errachidia 6.47 127 *e*P Pn 00 52 53.0 +0.9
EHUE Huescar 6.54 72 Pn Pn 00 52 53.8 +0.7
comp=N,60nm,0.2s,SNR=7.9
EHUE Sn Sn 00 54 04.6 -3.2
comp=N,59nm,0.2s,SNR=7.9
ECAL Calabor 6.55 25 Pn Pn 00 52 53.4 +0.2
comp=N,71nm,0.3s,SNR=263
ECAL Sn Sn 00 54 02.3 -5.7
comp=N,919nm,0.6s,SNR=5.5
ENIJ Nijar 6.71 80 Pn Pn 00 52 56.2 +0.8
comp=N,132nm,0.4s,SNR=83
ENIJ Sn Sn 00 54 08.9 -3.1
comp=N,104nm,0.7s
GUD Guadarrama 6.74 45 Pn Pn 00 52 56.5 +0.6
comp=N,32nm,0.2s,SNR=152
GUD Sn Sn 00 54 09.1 -3.7
comp=N,161nm,0.3s
EVIA Vianos 6.84 66 Pn Pn 00 52 57.6 +0.3
SNR=7.9
EVIA Sn Sn 00 54 06.6 -8.6
SNR=7.9
EMAZ Mazaricos 6.97 9 Pn Pn 00 52 58.5 -0.6
comp=N,185nm,0.3s,SNR=340
EMAZ Sn Sn 00 54 11.0 -7.4
comp=N,671nm,0.6s,SNR=7.9
STS Santiago 6.97 12 Pn Pn 00 52 58.7 -0.4
comp=N,44nm,0.2s,SNR=64
STS Sn Sn 00 54 13.6 -4.8
comp=N,214nm,0.6s
EFAM Famara 7.38 201 Pn Pn 00 53 02.0 -2.7
comp=N,13nm,0.2s,SNR=10
EFAM Sn Sn 00 54 17.7 -11
comp=N,402nm,0.4s,SNR=10
EFAM Famara 7.38 201 P Pn 00 52 58.2 -6.4
EFAM P 00 53 02.0
EFAM S Sn 00 54 17.7 -11
ETOB Tobarra 7.55 67 Pn Pn 00 53 07.5 +0.5
comp=N,56nm,0.2s,SNR=323
ETOB Sn Sn 00 54 27.6 -5.1
comp=N,120nm,0.3s,SNR=7.9
EMUR La Murta 7.59 74 Pn Pn 00 53 08.4 +0.8
comp=N,42nm,0.3s,SNR=79
EMUR Sn Sn 00 54 28.4 -5.3
comp=N,219nm,0.5s,SNR=7.9
EMUR La Murta 7.59 74 P Pn 00 53 08.4 +0.8
comp=N,42nm,0.3s,SNR=79
EPON Pontenova 7.69 18 Pn Pn 00 53 09.2 +0.2
comp=N,56nm,0.3s,SNR=84
EPON Sn Sn 00 54 29.2 -6.9
comp=N,172nm,0.6s,SNR=7.9
CART Cartagena 7.74 76 ⇑Pn Pn 00 53 08.9 -0.7
CART Sn Sn 00 54 29.7 -7.5
CART Cartagena 7.74 76 *e*Pn Pn 00 53 08.9 -0.6
comp=N,340nm,0.8s
CART *e*Sn Sn 00 54 28.5 -8.8
CART Cartagena 7.74 76 *i* P Pn 00 53 08.9 -0.7
CART *e*Sn Sn 00 54 28.5 -8.8
CFUE Fuerteventura 7.95 203 Pn Pn 00 53 07.6 -4.9
comp=N,7.4nm,0.1s,SNR=7.9
CFUE Sn Sn 00 54 32.5 -10
comp=N,430nm,0.5s,SNR=7.9
ETOR Torete 8.13 52 Pn Pn 00 53 15.4 +0.5
comp=N,76nm,0.3s,SNR=262
ETOR Sn Sn 00 54 40.6 -6.2
comp=N,259nm,0.4s,SNR=5.4
CFTV Fuerteventura 8.22 203 Pn Pn 00 53 11.4 -4.7
comp=N,1.7nm,0.2s,SNR=12
CFTV Sn Sn 00 54 36.3 -13
comp=N,62nm,0.4s,SNR=12
EARI Arriondas 8.29 28 Pn Pn 00 53 18.2 +1.1
comp=N,8.8nm,0.2s,SNR=89
EARI Sn Sn 00 54 44.8 -5.9
comp=N,200nm,0.8s,SNR=7.9
ECHE Chera 8.30 62 Pn Pn 00 53 18.6 +1.4
comp=N,36nm,0.3s,SNR=92
ECHE Sn Sn 00 54 44.6 -6.4
comp=N,21nm,0.2s,SNR=7.9
EBEN Beniarda 8.57 69 Pn Pn 00 53 21.2 +0.3
comp=N,17nm,0.2s,SNR=59
EBEN Sn Sn 00 54 51.9 -5.7
comp=N,115nm,0.5s,SNR=7.9
EBEN Beniarda 8.57 69 P Pn 00 53 21.2 +0.3
comp=N,17nm,0.2s,SNR=59
EMOS Mosqueruela 8.96 58 Pn Pn 00 53 28.0 +1.7
comp=N,28nm,0.2s,SNR=127
EMOS Sn Sn 00 55 02.5 -4.8
comp=N,784nm,1.0s,SNR=7.9
EMOS Mosqueruela 8.96 58 P Pn 00 53 28.0 +1.7
comp=N,28nm,0.2s,SNR=127
ELAN Lanestosa 8.98 35 Pn Pn 00 53 27.3 +0.7
comp=N,7.0nm,0.3s,SNR=7.9
EBAJ Bajamar 9.00 215 Pn Pn 00 53 20.6 -6.2
comp=N,11nm,0.2s,SNR=32
EBAJ Sn Sn 00 54 52.7 -15
comp=N,153nm,0.4s,SNR=7.9
EOSO Osorio 9.06 210 Pn Pn 00 53 22.7 -4.9
comp=N,3.6nm,0.2s,SNR=7.9
EOSO Sn Sn 00 54 56.9 -13
comp=N,195nm,0.4s,SNR=7.9
CICO Icod de los Vi 9.34 216 Pn Pn 00 53 26.3 -5.2
comp=N,1.1nm,0.2s,SNR=14
CICO Sn Sn 00 55 03.1 -13
comp=N,5.1nm,0.4s,SNR=7.9
CRAJ Montana Rajada 9.35 215 Sn Sn 00 55 02.8 -14
comp=N,387nm,0.3s,SNR=7.9
CCAN Las Canadas 9.39 215 Pn Pn 00 53 26.6 -5.6
comp=N,1.9nm,0.1s,SNR=26
CCAN Sn Sn 00 55 03.6 -14
comp=N,35nm,0.5s,SNR=7.9
CHIO Chio 9.47 216 Pn Pn 00 53 27.0 -6.4
comp=N,21nm,0.2s,SNR=12
CHIO Sn Sn 00 55 06.0 -14
comp=N,192nm,0.4s,SNR=7.9
EARA Aranguren 9.60 43 Pn Pn 00 53 35.3 +0.3
comp=N,11nm,0.3s,SNR=6.3
EARA Sn Sn 00 55 16.3 -6.5
comp=N,224nm,0.5s,SNR=7.9
ESAC San Caprasio 9.62 51 Pn Pn 00 53 36.3 +0.9
comp=N,56nm,0.2s,SNR=8.8
ESAC Sn Sn 00 55 16.4 -7.2
comp=N,200nm,0.3s,SNR=7.9
ESAC San Caprasio 9.62 51 P Pn 00 53 36.3 +0.9
EHIG Higuera 9.72 222 Sn Sn 00 55 12.0 -14
comp=N,451nm,0.5s,SNR=7.9
IUSE Utxeti 9.73 42 Pn Pn 00 53 38.6 +1.8
comp=N,5.7nm,0.2s,SNR=7.9
IUSE Sn Sn 00 55 17.9 -8.3
comp=N,21nm,0.4s,SNR=7.9
EGOM La Gomera 9.73 218 Pn Pn 00 53 30.5 -6.4
comp=N,4.9nm,0.1s,SNR=7.1
EGOM Sn Sn 00 55 11.5 -15
comp=N,202nm,0.3s,SNR=7.9
IPRE Itoiz 9.74 44 Pn Pn 00 53 38.7 +1.7
comp=N,8.3nm,0.3s,SNR=11
IPRE Sn Sn 00 55 20.8 -5.6
comp=N,41nm,0.7s,SNR=7.9
ERTA Horta de San J 9.77 57 Pn Pn 00 53 38.8 +1.4
comp=N,3.2nm,0.2s,SNR=12
ERTA Sn Sn 00 55 20.5 -6.6
SNR=7.9
ERTA Horta de San J 9.77 57 P Pn 00 53 38.8 +1.4
EBR Ebro Roquetas 9.82 58 *e*PN Pn 00 53 40.0 +1.9
EBR *e*SN Sn 00 55 24.5 -3.9
EIBI Ibiza 9.83 69 Pn Pn 00 53 37.6 -0.6
comp=N,6.4nm,0.1s,SNR=20
EIBI Sn Sn 00 55 21.7 -6.9
comp=N,85nm,0.5s,SNR=7.9
EIBI Ibiza 9.83 69 P Pn 00 53 37.6 -0.7
ELIZ Elizondo 9.89 41 Pn Pn 00 53 40.5 +1.5
comp=N,22nm,0.2s,SNR=79
ELIZ Sn Sn 00 55 23.8 -6.2
comp=N,38nm,0.6s,SNR=7.9
EALK Alkurruntz 9.94 41 Pn Pn 00 53 40.9 +1.2
comp=N,48nm,0.5s,SNR=45
EALK Sn Sn 00 55 24.6 -6.6
comp=N,368nm,0.7s,SNR=7.9
SJPF Ste Jean 10.02 43 *e*Pn Pn 00 53 41.3 +0.5
SNR=1.0
SJPF *e*Sn Sn 00 55 23.9 -9.3
comp=N,302nm,0.8s
SJPF Ste Jean 10.02 43 Pn Pn 00 53 41.3 +0.5
SJPF Sn Sn 00 55 23.9 -9.3
comp=N,151nm,0.8s
ETSF Etsaut 10.25 45 *e*Pn Pn 00 53 44.7 +0.7
SNR=1.0
ETSF *e*Sn Sn 00 55 29.9 -9.1
comp=N,328nm,0.8s
ETSF Etsaut 10.25 45 Pn Pn 00 53 44.7 +0.7
ETSF Sn Sn 00 55 29.9 -9.1
comp=N,164nm,0.8s
EGRA Graus 10.37 51 Pn Pn 00 53 45.2 -0.4
comp=N,21nm,0.4s,SNR=34
EGRA Sn Sn 00 55 35.7 -6.2
comp=N,155nm,0.8s,SNR=7.9
CHIE El Hierro 10.47 220 Sn Sn 00 55 29.2 -15
comp=N,40nm,0.4s,SNR=7.9
EBIE Bielsa 10.54 48 Pn Pn 00 53 49.1 +1.1
comp=N,24nm,0.3s,SNR=45
EBIE Sn Sn 00 55 37.4 -8.6
comp=N,138nm,0.5s,SNR=7.9
EBIE Bielsa 10.54 48 P Pn 00 53 49.1 +1.2
comp=N,24nm,0.3s
EPF Esparros 10.86 47 *e*Pn Pn 00 53 53.6 +1.3
SNR=1.0
EPF *e*Sn Sn 00 55 45.2 -8.6
comp=N,550nm,0.9s
EPF Esparros 10.86 47 Pn Pn 00 53 53.6 +1.3
EPF Sn Sn 00 55 45.2 -8.6
comp=N,275nm,0.9s
EMIR Miracle 11.01 54 Pn Pn 00 53 54.1 -0.2
comp=N,35nm,0.5s,SNR=31
EMIR Sn Sn 00 55 50.7 -6.7
comp=N,378nm,0.8s,SNR=7.9
EMIR Miracle 11.01 54 P Pn 00 53 54.1 -0.2
comp=N,35nm,0.5s
MELF Melles 11.02 48 *e*P Pn 00 53 55.7 +1.2
ETOS Mallorca 11.12 67 Pn Pn 00 53 56.0 +0.1
comp=N,9.9nm,0.5s,SNR=14
ETOS Sn Sn 00 55 53.1 -7.2
comp=N,3.4nm,1.6s,SNR=7.9
ETOS Mallorca 11.12 67 P Pn 00 53 56.0 +0.1
comp=N,9.9nm,0.5s
SALF Salau 11.22 50 *e*P Pn 00 53 58.7 +1.5
MLS Moulis 11.27 49 *e*P Pn 00 53 58.6 +0.7
VALF Valcebollere 11.56 53 *e*P Pn 00 54 03.2 +1.3
CARF Carcanieres 11.77 52 *e*P Pn 00 54 06.7 +1.9
FILF Fillols 11.99 53 *e*P Pn 00 54 07.2 -0.6
LRDF Laroque-de-Fa 12.16 52 *e*P Pn 00 54 10.2 +0.1
SJAF Saint Jean de 12.16 54 *e*P Pn 00 54 10.3 +0.1
MTLF Montolieu 12.17 49 *e*Pn Pn 00 54 10.7 +0.5
SNR=1.0
MTLF *e*Sn Sn 00 56 15.1 -11
comp=N,202nm,1.0s
MTLF Montolieu 12.17 49 Pn Pn 00 54 10.7 +0.5
MTLF Sn Sn 00 56 15.1 -11
comp=N,101nm,1.0s
LFF La Frestale 12.29 40 *e*Pn Pn 00 54 11.3 -0.6
SNR=1.0
LFF *e*Sn Sn 00 56 17.4 -12
comp=N,64nm,0.6s
LFF La Frestale 12.29 40 Pn Pn 00 54 11.3 -0.6
LFF Sn Sn 00 56 17.4 -12
comp=N,32nm,0.6s
SET Setif 12.83 85 P Pn 00 54 21.0 +1.7
CKHR Kef el Ahmar 12.93 85 P Pn 00 54 22.0 +1.3
RJF Les Rejaudoux 12.94 41 *e*Pn Pn 00 54 19.8 -1.0
SNR=1.0
RJF *e*Sn Sn 00 56 33.9 -11
comp=N,132nm,0.9s
RJF *e*R
comp=N,649nm,18.8s
RJF Les Rejaudoux 12.94 41 Pn Pn 00 54 19.8 -1.0
RJF Sn Sn 00 56 33.9 -11
comp=N,66nm,0.9s
CAF Calviac 13.00 43 *e*Pn Pn 00 54 20.8 -0.8
SNR=1.0
CAF *e*Sn Sn 00 56 33.8 -12
comp=N,119nm,0.9s
CAF Calviac 13.00 43 Pn Pn 00 54 20.8 -0.8
CAF Sn Sn 00 56 33.8 -12
comp=N,60nm,0.9s
QUIF Quistinic 13.02 22 *e*Pn Pn 00 54 21.8 -0.1
SNR=1.0
QUIF *e*Sn Sn 00 56 34.0 -13
comp=N,101nm,1.0s
QUIF Quistinic 13.02 22 Pn Pn 00 54 21.8 -0.1
QUIF Sn Sn 00 56 34.0 -13
comp=N,50nm,1.0s
MFF Saint Martin d 13.06 33 *e*Pn Pn 00 54 21.1 -1.4
SNR=1.0
MFF *e*Sn Sn 00 56 33.0 -15
comp=N,69nm,0.8s
MFF Saint Martin d 13.06 33 Pn Pn 00 54 21.1 -1.4
MFF Sn Sn 00 56 33.0 -15
comp=N,35nm,0.8s
DFRA Djebel Bou Aff 13.19 83 P Pn 00 54 26.0 +1.8
ROSF Rostrenen 13.37 21 *e*Pn Pn 00 54 26.5 -0.1
SNR=1.0
ROSF *e*Sn Sn 00 56 42.0 -13
comp=N,34nm,0.6s,SNR=1.0
ROSF Rostrenen 13.37 21 Pn Pn 00 54 26.5 -0.1
ROSF Sn Sn 00 56 42.0 -13
comp=N,17nm,0.6s
SGMF Saint Gilles 13.51 23 *e*Pn Pn 00 54 27.9 -0.7
SNR=1.0
SGMF *e*Sn Sn 00 56 47.7 -11
comp=N,22nm,0.6s,SNR=1.0
SGMF Saint Gilles 13.51 23 Pn Pn 00 54 27.9 -0.7
SGMF Sn Sn 00 56 47.7 -11
comp=N,11nm,0.6s
LASF Ste Croix 13.56 49 *e*Pn Pn 00 54 29.0 -0.3
SNR=1.0
LASF *e*Sn Sn 00 56 48.1 -12
comp=N,73nm,0.8s,SNR=1.0
LASF Ste Croix 13.56 49 Pn Pn 00 54 29.0 -0.3
LASF Sn Sn 00 56 48.1 -12
comp=N,36nm,0.8s
CASM Ain Smara 13.70 84 P Pn 00 54 40.0 +8.8
LBL Lubilhac 13.85 44 *e*P Pn 00 54 33.9 +0.7
TCF Toulx Ste Croi 13.96 39 *e*Pn Pn 00 54 33.5 -1.2
SNR=1.0
TCF *e*Sn Sn 00 56 58.6 -11
comp=N,16nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 13.96 39 Pn Pn 00 54 33.5 -1.2
TCF Sn Sn 00 56 58.6 -11
comp=N,8.1nm,0.4s
GRR Gorron 14.21 27 *e*Pn Pn 00 54 37.6 -0.5
SNR=1.0
GRR *e*Sn Sn 00 57 02.2 -14
comp=N,36nm,0.6s,SNR=1.0
GRR Gorron 14.21 27 Pn Pn 00 54 37.6 -0.5
GRR Sn Sn 00 57 02.2 -14
comp=N,18nm,0.6s
CMAH Djebel Manchou 14.43 82 P Pn 00 54 42.0 +0.9
BGF Bois d'Agland 14.47 39 *e*Pn Pn 00 54 41.1 -0.6
SNR=1.0
BGF *e*Sn Sn 00 57 09.7 -12
comp=N,74nm,0.6s,SNR=1.0
BGF Bois d'Agland 14.47 39 Pn Pn 00 54 41.1 -0.6
BGF Sn Sn 00 57 09.7 -12
comp=N,37nm,0.6s
VIVF Saint-Julien-l 14.47 48 *e*Pn Pn 00 54 40.8 -0.9
SNR=1.0
VIVF *e*Sn Sn 00 57 08.0 -14
comp=N,36nm,0.8s,SNR=1.0
VIVF Saint-Julien-l 14.47 48 Pn Pn 00 54 40.8 -0.9
VIVF Sn Sn 00 57 08.0 -14
comp=N,18nm,0.8s
SMRF Simiane la Rot 14.60 52 *e*Pn Pn 00 54 43.5 +0.1
SNR=1.0
SMRF *e*Sn Sn 00 57 13.5 -12
comp=N,78nm,1.2s
SMRF Simiane la Rot 14.60 52 Pn Pn 00 54 43.5 +0.1
SMRF Sn Sn 00 57 13.5 -12
comp=N,78nm,1.2s
LDF La Druitiere 14.65 28 *e*Pn Pn 00 54 43.4 -0.8
SNR=1.0
LDF *e*Sn Sn 00 57 12.3 -14
comp=N,22nm,0.7s,SNR=1.0
FLN La Foliniere 14.66 27 *e*Pn Pn 00 54 43.7 -0.6
baz=208
FLN *e*Sn Sn 00 57 13.4 -13
comp=N,54nm,0.8s
FLN *e*R
comp=N,594nm,19.2s
FLN La Foliniere 14.66 27 Pn Pn 00 54 43.7 -0.6
FLN Sn Sn 00 57 13.4 -13
comp=N,27nm,0.8s
HYF Humbligny 14.85 37 *e*P Pn 00 54 47.8 +0.9
HYF *e*Sn Sn 00 57 20.5 -11
AVF Avril sur Loir 14.89 40 *e*Pn Pn 00 54 46.9 -0.4
SNR=1.0
AVF *e*Sn Sn 00 57 19.9 -12
comp=N,27nm,0.8s
AVF Avril sur Loir 14.89 40 Pn Pn 00 54 46.9 -0.4
AVF Sn Sn 00 57 19.9 -12
comp=N,13nm,0.8s
LMR La Mourre 14.93 56 *e*Pn Pn 00 54 46.8 -1.2
SNR=1.0
LMR *e*Sn Sn 00 57 21.2 -12
comp=N,17nm,0.8s
LMR La Mourre 14.93 56 Pn Pn 00 54 46.8 -1.2
LMR Sn Sn 00 57 21.2 -12
comp=N,8.6nm,0.8s
SMF Signal de Mont 15.05 41 *e*Pn Pn 00 54 49.6 +0.1
SNR=1.0
SMF *e*Sn Sn 00 57 22.5 -14
comp=N,45nm,1.0s
SMF Signal de Mont 15.05 41 Pn Pn 00 54 49.6 +0.1
SMF Sn Sn 00 57 22.5 -14
comp=N,23nm,1.0s
FRF La Foret Royal 15.12 55 *e*Pn Pn 00 54 50.6 +0.2
FRF *e*Sn Sn 00 57 26.7 -11
comp=N,24nm,0.9s
FRF La Foret Royal 15.12 55 Pn Pn 00 54 50.6 +0.2
FRF Sn Sn 00 57 26.7 -11
comp=N,12nm,0.9s
SSF Saint Saulge 15.14 39 *e*Pn Pn 00 54 49.6 -1.2
SNR=1.0
SSF *e*Sn Sn 00 57 25.0 -14
comp=N,28nm,0.7s
SSF Saint Saulge 15.14 39 Pn Pn 00 54 49.6 -1.2
SSF Sn Sn 00 57 25.0 -14
comp=N,14nm,0.7s
ORIF Oris-en-Rattie 15.24 50 *e*Pn Pn 00 54 51.8 -0.2
SNR=1.0
ORIF *e*Sn Sn 00 57 26.7 -14
comp=N,33nm,0.8s
ORIF *e*R
comp=N,596nm,19.5s
ORIF Oris-en-Rattie 15.24 50 Pn Pn 00 54 51.8 -0.2
ORIF Sn Sn 00 57 26.7 -14
comp=N,17nm,0.8s
LOR Lormes 15.46 39 *e*Pn Pn 00 54 54.4 -0.6
baz=226,SNR=1.0
LOR *e*Sn Sn 00 57 32.6 -14
comp=N,30nm,0.8s
LOR *e*R
comp=N,473nm,17.2s
LOR *e*Pg Pn
comp=N,30nm,0.8s
LOR Lormes 15.46 39 Pn Pn 00 54 54.4 -0.6
LOR Sn Sn 00 57 32.6 -14
comp=N,15nm,0.8s
MVIF Mont Vial 15.59 55 *e*P Pn 00 55 03.0 +6.4
REVF Revere 15.67 55 *e*P Pn 00 55 03.4 +5.7
TOUF Mont Tournerai 15.70 54 *e*P Pn 00 55 03.7 +5.6
MBDF Montbardon 15.70 51 *e*P Pn 00 54 59.5 +1.4
MBDF *e*Sn Sn 00 57 38.9 -13
comp=N,26nm,1.0s
MBDF Montbardon 15.70 51 Pn Pn 00 54 59.5 +1.4
MBDF Sn Sn 00 57 38.9 -13
comp=N,13nm,1.0s

LUCF Luceram 15.71 55 *eP* **Pn 00 55 04.1 +5.8**
SBF Sospel 15.76 55 *e*Pn **Pn 00 54 58.7 -0.2**
SNR=1.0
SBF *e*Sn **Sn 00 57 38.2 -15**
comp=N,29nm,0.8s
SBF Sospel 15.76 55 Pn **Pn 00 54 58.7 -0.2**
SBF Sn **Sn 00 57 38.2 -15**
comp=N,14nm,0.8s
BNI Bardonecchia 15.80 50 *eP* **Pn 00 55 01.4 +2.0**
BNI pmax pmax
comp=Z,14nm,0.7s
BNI Bardonecchia 15.80 50 *e*Pn **Pn 00 55 01.4 +2.0**
comp=Z,14nm,0.7s
BNI Bardonecchia 15.80 50 *e*Pn **Pn 00 55 01.4 +2.0**
comp=Z,14nm,0.7s
AUTN L'Aution 15.81 54 *eP* **Pn 00 55 05.4 +5.9**
PZZ Prazzo 15.81 52 P **Pn 00 55 02.2 +2.6**
ENR Entracque 15.90 54 P **Pn 00 55 02.7 +2.0**
DOI San Damiano 15.91 53 P **Pn 00 55 07.0 +6.2**
VSL Villasalto 16.06 72 P **Pn 00 55 05.1 +2.4**
VSL *e*Pn **Pn 00 55 05.5 +2.8**
LPL La Plagne 16.06 49 *eP* **Pn 00 55 04.0 +1.3**
LPL *e*Sn **Sn 00 57 48.0 -13**
comp=Z,79nm,1.5s
LPL La Plagne 16.06 49 Pn **Pn 00 55 04.0 +1.3**
LPL Sn **Sn 00 57 48.0 -13**
comp=Z,40nm,1.5s
LPG La Plagne 16.06 49 *e*Pn **Pn 00 55 04.2 +1.4**
LPG *e*Sn **Sn 00 57 50.1 -11**
comp=Z,77nm,1.5s
LPG La Plagne 16.06 49 Pn **Pn 00 55 03.7 +0.9**
LPG Pn **Pn 00 55 04.2 +1.4**
LPG Sn **Sn 00 57 50.1 -11**
comp=Z,38nm,1.5s
LPG La Plagne 16.06 49 *eP* **Pn 00 55 03.7 +0.9**
LPG *e*Pn **Pn 00 55 04.2 +1.4**
LPG *e*Sn **Sn 00 57 50.1 -11**
LPG La Plagne 16.06 49 *e*Pn **Pn 00 55 04.2 +1.4**
ROB Roburent 16.22 54 P **Pn 00 55 07.1 +2.3**
CABF La Chapelle 16.26 45 *eP* **Pn 00 55 05.4 0.0**
CABF *e*Sn **Sn 00 57 54.7 -11**
comp=Z,114nm,1.2s
CABF La Chapelle 16.26 45 Pn **Pn 00 55 05.4 0.0**
CABF Sn **Sn 00 57 54.7 -11**
comp=Z,57nm,1.2s
RORO 16.28 55 P **Pn 00 55 07.1 +1.6**
PGF Pioggiola 16.38 61 *e*Pn **Pn 00 55 05.3 -1.6**
FIN Finale Ligure 16.41 55 P **Pn 00 55 09.9 +2.7**
CORF Corte 16.42 62 *eP* **Pn 00 55 09.5 +2.1**
SFTF Sexfontaines 16.68 39 *eP* **Pn 00 55 11.5 +0.9**
PCP Pian Castagno 16.77 54 P **Pn 00 55 13.6 +1.9**
MEZF Maizieres J'vi 16.88 38 *eP* **Pn 00 55 14.0 +0.8**
MCGN Macugnaga 17.04 49 P **Pn 00 55 19.6 +4.4**
LOMF Lomont 17.10 43 *eP* **Pn 00 55 16.8 +0.8**
RFYF Reffroy 17.18 38 *eP* **Pn 00 55 16.4 -0.5**
HAU Haudompre 17.23 41 *eP* **Pn 00 55 18.3 +0.7**
HAU *e*R
comp=Z,464nm,17.5s
HINF Hinteralfeld 17.39 42 *eP* **Pn 00 55 19.9 +0.4**
DCN Croghan 17.43 6 *eP* **Pn 00 55 22.0 +2.0**
DLF Lyons Farm 17.45 8 *eP* **Pn 00 55 22.0 +1.6**
VAI Varese 17.48 50 P **Pn 00 55 23.2 +2.5**
BBS Basel-Blauen 17.55 44 *eP* **Pn 00 55 24.5 +3.0**
MOF Molkenrain 17.56 42 *eP* **Pn 00 55 23.8 +2.1**
BAIF Baives 17.58 33 *eP* **Pn 00 55 23.0 +1.1**
GRAM 17.75 55 P **Pn 00 55 26.1 +2.1**
DOU Dourbes 17.78 33 PN **Pn 00 55 26.1 +1.8**
DOU Dourbes 17.78 33 P **Pn 00 55 32.0 +7.6**
comp=Z,10.0nm,0.8s
DOU SN **Sn 00 58 28.5 -14**
DOU E 00 58 35.1
DOU E 00 58 43.5
DOU SNSN 00 58 59.8
DOU Dourbes 17.78 33 Pn **Pn 00 55 26.1 +1.7**
ECH Echery 17.79 42 *eP* **Pn 00 55 25.7 +1.2**
VALM 17.82 56 P **Pn 00 55 25.8 +0.9**
VLC Villacollemand 17.85 57 P **Pn 00 55 26.9 +1.6**
SARO Sassorosso 17.87 57 P **Pn 00 55 26.8 +1.3**
GIVF Givet 17.88 34 *eP* **Pn 00 55 26.6 +0.9**
SNF Seneffe 17.94 32 E 00 55 30.1
SNF SN **Sn 00 58 41.1 -5.4**
SNF E 00 58 51.3
BDI Bagni Di Lucca 17.96 57 P **Pn 00 55 27.5 +0.9**
BDI pmax pmax
comp=Z,23nm,0.9s
BDI Bagni Di Lucca 17.96 57 P **Pn 00 55 27.5 +0.9**
comp=Z,23nm,0.9s
BDI P 00 55 28.7
CDF Champ du Feu 17.97 41 *eP* **Pn 00 55 27.3 +0.5**
DMUB Kingscourt 18.01 7 *eP* **Pn 00 55 25.0 -2.3**
GSCL Gusciola 18.05 56 P **Pn 00 55 30.0 +2.2**
comp=Z,47nm,1.1s
FELD Feldberg im Sc 18.06 43 *eP* **Pn 00 55 31.4 +3.6**
TUE Stuetta 18.12 49 P **Pn 00 55 30.5 +1.9**
WLF Walferdange 18.20 37 *eP* **Pn 00 55 31.0 +1.5**
comp=Z,37nm,0.9s
WLF Walferdange 18.20 37 P **Pn 00 55 29.0 -0.6**
WLF S **Sn 00 58 40.3 -12**
WLF E 00 58 59.1
WLF E 00 59 08.4
WLF Walferdange 18.20 37 *eP* **Pn 00 55 31.7 +2.2**
WLF pmax pmax
comp=Z,16nm,0.4s
WLF Walferdange 18.20 37 *eP* **Pn 00 55 31.7 +2.2**
comp=Z,16nm,0.4s
CSNT Castellina Chi 18.26 59 P **Pn 00 55 31.3 +1.0**
comp=Z,92nm,2.3s
CSNT P 00 55 32.2
ZCCA Zocca 18.31 57 P **Pn 00 55 34.8 +3.8**
SAL Salo 18.48 52 P **Pn 00 55 34.6 +1.6**
BFO Black Forest 18.49 43 *eP* **Pn 00 55 34.5 +1.3**
comp=Z,24nm,1.4s
BFO Black Forest 18.49 43 *eP* **Pn 00 55 34.5 +1.3**
BFO pmax pmax
comp=Z,24nm,1.4s
VMG Vicchio 18.58 58 P **Pn 00 55 36.2 +2.0**
DAVOX Davos 18.59 49 P **Pn 00 55 35.7 +1.4**
comp=Z,0.6nm,0.3s,baz=226,slow=7.5,SNR=9.1
DAVOX LR LR 01 03 35.0
comp=Z,338nm,18.4s,baz=245,slow=40
RUP Ruppelstein 18.66 38 *eP* **Pn 00 55 38.5 +3.3**
BRMO Bormio 18.75 50 P **Pn 00 55 38.2 +1.9**
CRE Caprese Michel 18.76 59 P **Pn 00 55 38.0 +1.6**
SFI Santa Sofia 18.77 59 P **Pn 00 55 38.7 +2.2**
MEM Membach 18.78 34 AP pP 00 55 42.6 +3.6
MEM PNPN 00 55 48.0
MEM S **Sn 00 58 53.1 -14**
MEM E 00 59 04.2
MEM E 00 59 12.6
DAVA Damuels 18.83 47 *i* P **Pn 00 55 38.7 +1.4**
comp=Z,144nm,2.4s,SNR=10
RDP Rocca di Papa 18.89 65 P **Pn 00 55 37.9 -0.1**
USI Ustica 18.96 75 P **Pn 00 55 37.3 -1.6**
MNS Montasola 18.98 64 P **Pn 00 55 39.2 +0.1**
CLTB Caltabellotta 19.01 78 P **Pn 00 55 39.6 +0.1**
MURB Monte Urbino 19.07 61 P **Pn 00 55 41.2 +1.1**
CERT Cerreto 19.12 65 P **Pn 00 55 40.4 -0.4**
RSM Repubblica di 19.19 59 P **Pn 00 55 42.2 +0.6**
STU Stuttgart 19.22 43 *eP* **Pn 00 55 42.7 +0.8**
comp=Z,20nm,1.0s
FIAM Fiamignano 19.28 64 P **Pn 00 55 42.9 +0.3**
SNTG Esanatoglia 19.36 61 P **Pn 00 55 44.0 +0.3**
CTI Castel Tesino 19.38 52 P **Pn 00 55 44.0 +0.2**
NRCA Norcia 19.39 62 P **Pn 00 55 44.3 +0.3**
ARV Arcevia 19.42 60 P **Pn 00 55 45.0 +0.6**
TOD Tromm 19.49 40 *eP* **Pn 00 55 45.8 +0.6**
AQU L'Aquila 19.50 64 *eP* **Pn 00 55 45.3 0.0**
AQU pmax pmax
comp=Z,44nm,0.9s
AQU L'Aquila 19.50 64 *eP* **Pn 00 55 45.3 0.0**
comp=Z,44nm,0.9s
AQU L'Aquila 19.50 64 *eP* **Pn 00 55 45.3 0.0**
comp=Z,44nm,0.9s
CING Cingoli 19.57 61 P **Pn 00 55 46.7 +0.5**
MOTA Moosalm 19.59 48 *i* P **Pn 00 55 46.0 -0.4**
comp=Z,14nm,1.1s,SNR=8.8
MOTA Moosalm 19.59 48 *i* P **Pn 00 55 46.0 -0.4**
MOTA pmax pmax
comp=Z,14nm,1.1s
SQTA Sankt Quirin 19.60 49⇑ *i*P **Pn 00 55 46.2 -0.3**
comp=Z,22nm,1.3s,SNR=11
SQTA Sankt Quirin 19.60 49⇑ *i*P **Pn 00 55 46.2 -0.3**
SQTA pmax pmax
comp=Z,22nm,1.3s
GIB Gibilmanna 19.64 77 P **Pn 00 55 45.9 -1.1**
TNS Taunus Mts 19.69 38 *eP* **Pn 00 55 47.9 +0.3**
comp=Z,20nm,1.0s
TNS Taunus Mts 19.69 38 *eP* **Pn 00 55 47.9 +0.3**
TNS pmax pmax
comp=Z,20nm,1.0s
SDI San Donato 19.69 66 P **Pn 00 55 46.4 -1.2**
TERO Teramo 19.70 63 P **Pn 00 55 47.7 0.0**
RFI Roccamonfina 19.76 67 P **Pn 00 55 48.0 -0.5**
INTR Introdacqua 19.81 65 P **Pn 00 55 47.4 -1.6**
WATA Walderalm 19.87 49⇓ *i*P **Pn 00 55 49.2 -0.6**
comp=Z,35nm,1.2s,SNR=5.9
WATA Walderalm 19.87 49⇓ *i*P **Pn 00 55 49.2 -0.5**
WATA pmax pmax
comp=Z,35nm,1.2s
WTTA Wattenberg 19.88 49⇑ *i*P **Pn 00 55 49.1 -0.7**
comp=Z,61nm,1.4s,SNR=13
WTTA Wattenberg 19.88 49⇑ *i*P **Pn 00 55 49.1 -0.7**
WTTA pmax pmax
comp=Z,61nm,1.4s
AOI Ancona 19.90 61 P **Pn 00 55 49.2 -0.9**
EKA Eskdalemuir Ar 19.92 12 P **Pn 00 55 49.2 -1.0**
comp=Z,7.0nm,0.8s,baz=198,slow=11,SNR=10.0
BUG Bochum--Univer 19.93 34 *eP* **Pn 00 55 51.2 +0.8**
comp=Z,17nm,1.4s
RNI2 Rionero Sannit 19.94 66 P **Pn 00 55 51.5 +0.9**
comp=Z,189nm,2.0s
RAFF Raffo Rosso 19.94 79 P **Pn 00 55 49.4 -1.2**
VAE Valguarnera 19.97 79 P **Pn 00 55 49.8 -1.0**
comp=Z,39nm,1.1s,baz=78,slow=8.6,SNR=11
VAE LR LR 01 02 57.5
comp=Z,279nm,19.8s,baz=145,slow=35
VAE Valguarnera 19.97 79 P **Pn 00 55 49.8 -1.1**
MIDA Miranda 20.01 66 P **Pn 00 55 51.2 -0.2**
CII Carovilli 20.06 66 P **P 00 55 51.2 +1.0**
FUR Furstenfeldbru 20.08 46 *eP* **P 00 55 51.8 +1.4**
comp=Z,44nm,1.1s
FUR Furstenfeldbru 20.08 46 *eP* **P 00 55 51.8 +1.4**
FUR pmax pmax
comp=Z,44nm,1.1s
HVZN Vizzini 20.23 79 P **P 00 55 51.9 -0.1**
SLNA Salina 20.26 75 P **P 00 55 52.0 -0.4**
HMDC Modica 20.30 80 P **P 00 55 53.0 +0.2**
FVI Forni Avoltri 20.31 52 P **P 00 55 53.9 +1.0**
PSB1 Pescosannita 20.37 68 P **P 00 55 54.7 +1.1**
GMNA Gemona 20.48 53 P **P 00 55 55.0 +0.2**
SSY Sortino 20.51 79 P **P 00 55 54.9 -0.2**
HAVL Avola 20.57 80 P **P 00 55 55.5 -0.3**
PTCC Patocco-Chiusa 20.61 53 P **P 00 55 56.5 +0.4**
SGO Sicignano 20.69 70 P **P 00 55 56.9 -0.1**
FG2 Serracapriola 20.70 66 P **P 00 55 58.3 +1.1**
FG5 Orsara di Pugl 20.72 68 P **P 00 55 58.8 +1.4**
IBBN Ibbenburen 20.75 33 P **P 00 55 59.5 +1.8**
CADS Cadrg 20.79 53 *eP* **P 00 55 58.3 +0.2**
CADS *e* 00 56 02.0
GRA1 Grafenberg Arr 20.83 42 *eP* **P 00 55 59.7 +1.1**
comp=Z,36nm,1.1s
GRA1 LR LR
comp=Z,300nm,18.6s,MS3.7
GRF Grafenberg Arr 20.83 42 *eP* **P 00 55 59.7 +1.1**
comp=Z,36nm,1.1s
GRF *e*L 01 05 10.9
comp=Z,293nm,18.6s
GRF Grafenberg Arr 20.83 42 *eP* **P 00 55 59.7 +1.1**
GRF pmax pmax
comp=Z,36nm,1.1s
GRF MLR MLR
comp=Z,300nm,18.6s,MS3.7
MRLC Muro Lucano 20.84 69 P **P 00 55 59.3 +0.6**
MGR Morigerati 20.85 71 P **P 00 55 58.2 -0.5**
KBA Koelnbreinsper 20.86 51⇑ *i*P **P 00 55 59.0 +0.2**
comp=Z,32nm,1.1s,SNR=21
KBA Koelnbreinsper 20.86 51⇑ *i*P **P 00 55 59.0 +0.2**
KBA pmax pmax
comp=Z,32nm,1.1s
FG4 Candela 20.89 68 P **P 00 56 00.0 +0.8**
SLCN Sala Consilina 20.92 70 P **P 00 55 59.9 +0.3**
MTTG Motta San Giov 20.95 77 P **P 00 56 00.3 +0.4**
SCLL Scilla 20.96 76 P **P 00 55 59.9 0.0**
KNDS Knezji Dol 20.98 56 *i* P **P 00 56 00.8 +0.6**
GORS Gorjuse 20.99 53 *eP* **P 00 56 00.7 +0.4**
RGNG Rignano Grg 21.00 67 P **P 00 56 00.1 -0.3**
CUC Castrocucco 21.04 71 P **P 00 55 59.7 -1.1**
CEY Cerknica 21.08 55 *eP* **P 00 56 01.8 +0.6**
CEY *e* 00 59 49.0
CEL Celeste 21.10 76 P **P 00 56 00.0 -1.5**
SOI Samo 21.23 77 P **P 00 56 01.9 -1.0**
LJU Ljubljana 21.24 54 *eP* **P 00 56 03.8 +0.8**
PTRP Pietrapertosa 21.26 70 P **P 00 56 03.9 +0.7**
FGMS Monte Sant'Ang 21.28 67 P **P 00 56 02.7 -0.7**
OBKA Obir 21.41 53⇓ *i*P **P 00 56 05.2 +0.3**
comp=Z,74nm,1.6s,mb4.8,SNR=12
ROTZ Rotzenmuhle 21.41 43 *eP* **P 00 56 05.7 +0.8**
comp=Z,25nm,1.0s,mb4.5
MANZ Manzenberg 21.48 43 *eP* **P 00 56 06.7 +1.2**
comp=Z,23nm,1.0s,mb4.5
WET Wettzell 21.48 45 *eP* **P 00 56 06.5 +0.9**
comp=Z,57nm,1.3s,mb4.7
WET Wettzell 21.48 45 *eP* **P 00 56 06.5 +0.9**
WET pmax pmax
comp=Z,57nm,1.3s,mb4.7
GRI Girifalco 21.50 75 P **P 00 56 05.0 -0.7**
ORI Oriolo Calabro 21.53 71 P **P 00 56 06.7 +0.6**
BOJS Bojanci 21.56 56 *eP* **P 00 56 06.7 +0.3**
MOX Moxa 21.57 41 *eP* **P 00 56 07.5 +1.0**
comp=Z,30nm,1.5s,mb4.5
MOX Moxa 21.57 41 *eP* **P 00 56 07.4 +0.9**
MOX
comp=Z,30nm,1.6s,mb4.5
comp=Z,200nm,17.0s
MOX Moxa 21.57 41 *eP* **P 00 56 07.4 +0.9**
MOX pmax pmax
comp=Z,30nm,1.6s,mb4.5
MOX MLR MLR
comp=Z,200nm,17.0s,MS3.6
CLZ Clausthal 21.65 37 *eP* **P 00 56 08.1 +0.7**
comp=Z,26nm,1.6s,mb4.4
CLZ Clausthal 21.65 37 *eP* **P 00 56 08.1 +0.7**
CLZ pmax pmax
comp=Z,26nm,1.6s,mb4.4
MOA Molln 21.74 50⇑ *i*P **P 00 56 07.1 -1.2**
comp=Z,119nm,3.1s,SNR=12
TIP Timpagrande 21.76 74 *eP* **P 00 56 07.1 -1.4**
TIP Timpagrande 21.76 74 *eP* **P 00 56 07.1 -1.4**
CRES Cresnjev 21.79 55 *eP* **P 00 56 08.9 0.0**
NKC Novy Kostel 21.79 42 *eP* **P 00 56 09.5 +0.6**
NKC AMS AMS 01 05 10.0
comp=Z,400nm,19.5s
GEC2 GERESS Array S 21.82 47 *eP* **P 00 56 09.7 +0.4**
comp=Z,37nm,1.0s,mb4.8
GEC2 GERESS Array S 21.82 47 *eP* **P 00 56 09.7 +0.4**
GEC2 pmax pmax
comp=Z,37nm,1.0s,mb4.8
GERES GERESS Array B 21.82 47 P **P 00 56 09.8 +0.6**
comp=Z,13nm,0.8s,mb4.4,baz=232,slow=8.3,SNR=48
GERES PcP PcP 01 00 07.4 -1.6
comp=Z,1.5nm,0.7s,baz=219,slow=1.7,SNR=6.4
GERES LR LR 01 05 02.4
comp=Z,256nm,19.0s,MS3.6,baz=253,slow=38
GERES GERESS Array B 21.82 47 P **P 00 56 09.8 +0.5**
GERES 01 00 07.4
WERD Werda 21.83 42 *eP* **P 00 56 10.2 +0.9**
comp=Z,10.0nm,1.0s,mb4.2
KHC Kasperske Hory 21.88 46 *eP* **P 00 56 10.7 +0.8**
KHC AMS AMS 01 04 20.0
comp=Z,300nm,17.4s
KHC Kasperske Hory 21.88 46 *eP* **P 00 56 10.7 +0.8**
comp=Z,300nm,17.4s
TANN Tannenbergstha 21.89 42 *eP* **P 00 56 10.9 +0.9**
comp=Z,23nm,1.7s,mb4.3
ARSA Arzberg 22.30 52⇑ *i*P **P 00 56 12.9 -1.4**
comp=Z,8.1nm,0.9s,mb4.1
FBE Freiberg 22.65 42 *eP* **P 00 56 18.7 +0.7**
comp=Z,22nm,1.3s,mb4.4
CLL Collm 22.67 40 *eP* **P 00 56 19.9 +1.7**
comp=Z,21nm,1.3s,mb4.4
CLL Collm 22.67 40⇓ *i*P **P 00 56 18.2 0.0**
comp=Z,20nm,1.3s,mb4.4
CLL *i* x x 00 56 34.7
CLL *e*S **S 01 00 24.0 -2.8**
CLL Collm 22.67 40⇓ *i*P **P 00 56 18.2 0.0**
CLL *e*S **S 01 00 24.0 -2.8**
CLL pmax pmax
comp=Z,20nm,1.3s,mb4.4
CONA Conrad Observa 22.76 50⇑ *i*P **P 00 56 18.0 -1.3**
comp=Z,57nm,1.6s,mb4.8,SNR=17
LCI Lecce 22.81 71 P **P 00 56 17.4 -2.4**
LCI pmax pmax
comp=Z,48nm,1.0s,mb4.9
LCI Lecce 22.81 71 P **P 00 56 17.4 -2.4**
comp=Z,48nm,1.0s,mb4.9
PRU Pruhonice 22.84 45 *eP* **P 00 56 20.0 -0.1**
PRU *ex* x 00 56 48.0
BRG Berggiesshubel 22.94 42 *eP* **P 00 56 21.8 +0.7**
comp=Z,24nm,1.4s,mb4.4
BRG Berggiesshubel 22.94 42 *i* P **P 00 56 22.2 +1.0**
comp=Z,3.4nm,1.9s
BRG Berggiesshubel 22.94 42 *i* P **P 00 56 22.2 +1.1**
BRG pmax pmax
comp=Z,30nm,2.0s,mb4.4
BSEG Bad Segeberg 22.99 32 *eP* **P 00 56 21.8 +0.1**
comp=Z,9.0nm,0.7s,mb4.3
TREC Trest 23.08 47 *eP* **P 00 56 22.4 -0.2**
SOP Sopron 23.11 51 P **P 00 56 21.6 -1.3**
PVCC Panska Ves 23.11 43 *eP* **P 00 56 23.8 +0.8**
KRUC Moravsky 23.52 48 P **P 00 56 26.0 -1.3**
ZST Bratislava 23.63 51 *eP* **P 00 56 27.9 -0.4**
ZST pmax pmax
comp=Z,16nm,1.0s,mb4.4
ZST MLR MLR
comp=Z,100nm,18.6s,MS3.3
ZST Bratislava 23.63 51 *eP* **P 00 56 27.9 -0.4**
comp=Z,16nm,1.0s,mb4.4
ZST LR LR
comp=Z,100nm,18.6s,MS3.3
ZST Bratislava 23.63 51 *eP* **P 00 56 27.9 -0.4**
comp=Z,16nm,1.0s,mb4.4
VRAC Vranov 23.74 48 P **P 00 56 27.8 -1.5**
comp=Z,16nm,0.9s,mb4.4,baz=245,slow=9.5,SNR=26
VRAC LR LR 01 06 22.1
comp=Z,383nm,20.4s,MS3.9,baz=246,slow=38
VRAC Vranov 23.74 48⇓ *i*P **P 00 56 28.7 -0.6**
UPC Upice 23.91 45 *eP* **P 00 56 30.8 -0.1**
SMOL Smolenice 23.95 50 *eP* **P 00 56 31.2 0.0**
DPC Dobruska-Polom 24.02 45 *eP* **P 00 56 31.3 -0.6**
DPC AMS AMS 01 07 10.0
comp=Z,200nm,14.0s
DPC Dobruska-Polom 24.02 45 *eP* **P 00 56 31.3 -0.6**
comp=Z,200nm,14.0s
PKSM Moragy 24.03 56⇑ *i*P **P 00 56 30.9 -1.0**
PKSM Moragy 24.03 56 P **P 00 56 30.6 -1.3**
SRO1 Iza 24.20 52 *eP* **P 00 56 32.8 -0.7**
SRO1 pmax pmax
comp=Z,110nm,2.3s,mb4.9
SRO1 Iza 24.20 52 *eP* **P 00 56 32.8 -0.7**
comp=Z,110nm,2.3s,mb4.9
JAVC Velka Javorina 24.22 49 P **P 00 56 33.4 -0.3**
MORC Moravsky Berou 24.50 47⇑ *i*P **P 00 56 35.7 -0.5**
MORC Moravsky Berou 24.50 47 *eP* **P 00 56 35.1 -1.1**
MORC 00 56 35.8
MORC pmax pmax
comp=Z,60nm,0.8s,mb5.1
MORC Moravsky Berou 24.50 47 *eP* **P 00 56 35.1 -1.1**
comp=Z,5.5nm,0.8s,mb4.0
MORC P 00 56 35.8
MORC Moravsky Berou 24.50 47 *eP* **P 00 56 35.1 -1.1**
comp=Z,5.5nm,0.8s,mb4.0
DIVS Divcibare 24.54 62⇑ *i*P **P 00 56 35.4 -1.3**
DIVS Divcibare 24.54 62 *i* P **P 00 56 35.6 -1.0**
KOLL Kolacno 24.58 50 *eP* **P 00 56 36.1 -0.8**
KOLL *e* 00 56 45.4
BUD Budapest 24.63 53⇓ *e*P **P 00 56 38.0 +0.6**
BUD Budapest 24.63 53 P **P 00 56 37.0 -0.4**
VYHS Vyhne 24.82 51 *i* P **P 00 56 37.7 -1.4**
VYHS *e* 00 56 47.9
VYHS Vyhne 24.82 51 *i* P **P 00 56 37.7 -1.4**
VYHS pmax pmax
comp=Z,60nm,0.9s,mb5.1
VYHS MLR MLR
comp=Z,100nm,30.4s,MS3.1
VYHS Vyhne 24.82 51 *i* P **P 00 56 37.7 -1.4**
comp=Z,6.0nm,0.9s,mb4.1
VYHS *e* 00 56 47.9
VYHS LR LR
comp=Z,100nm,30.4s,MS3.1
OHR Ohrid 24.87 69 *eP* **P 00 56 38.3 -1.3**
OKC Ostrava-Krasne 24.88 47 *eP* **P 00 56 40.6 +0.9**
OKC AMS AMS 01 05 20.0
comp=Z,300nm,16.9s
BIA Bitola 25.27 69 *eP* **P 00 56 42.0 -1.3**
BIA Bitola 25.27 69 P **P 00 56 42.8 -0.4**
BIA Bitola 25.27 69 *eP* **P 00 56 41.9 -1.3**
TORD Torodi Ar. Bea 25.30 151 P **P 00 56 41.4 -2.2**
comp=Z,10nm,0.8s,mb4.4,baz=330,slow=8.9,SNR=50
PSZ Piszkesteto 25.32 53⇑ *eP* **P 00 56 42.9 -0.8**
PSZ Piszkesteto 25.32 53 *eP* **P 00 56 43.0 -0.7**
PSZ pmax pmax
comp=Z,12nm,0.8s,mb4.5
PSZ Piszkesteto 25.32 53 *eP* **P 00 56 43.0 -0.6**
comp=Z,12nm,0.8s,mb4.5
SKO Skopje 25.39 67 *eP* **P 00 56 43.5 -0.8**
KECS Kecovo 25.86 52 *i* P **P 00 56 50.0 +1.4**
KECS pmax pmax
comp=Z,19nm,0.9s,mb4.6
KECS Kecovo 25.86 52 *i* P **P 00 56 50.0 +1.4**
comp=Z,19nm,0.9s,mb4.6
GKP Gorka Klasztor 25.91 40 *eP* **P 00 56 48.0 -1.1**
BZS Buzias 25.93 58⇓ *i*P **P 00 56 48.3 -0.9**
BZS Buzias 25.93 58 P **P 00 56 48.9 -0.3**
STIP Stip 25.93 67 *eP* **P 00 56 48.0 -1.2**
OJC Ojcow 26.01 48 *eP* **P 00 56 50.9 +1.0**
NIE Niedzica 26.04 50 *e*Pc 00 56 50.3
VAY Valandovo 26.21 68 *eP* **P 00 56 49.8 -2.0**
STHS Stebnicka Huta 26.62 50 *eP* **P 00 56 56.4 +0.9**
STHS pmax pmax
comp=Z,40nm,0.9s,mb5.0
STHS Stebnicka Huta 26.62 50 *eP* **P 00 56 56.4 +0.9**
comp=Z,3.9nm,0.9s,mb3.9
STHS *e* 00 57 10.3
DRGR 26.90 56⇑ *i*P **P 00 56 57.1 -0.9**
DRGR 26.90 56 P **P 00 56 56.7 -1.3**
KOLS Kolonicke sedl 27.12 51 *eP* **P 00 56 58.3 -1.7**
KOLS MLR MLR
comp=Z,200nm,22.8s,MS3.6
KWP Kalwaria 27.59 50 *eP* **P 00 57 04.0 -0.2**
KWP Kalwaria 27.59 50 *eP* **P 00 57 03.7 -0.5**
comp=Z,8.5nm,0.8s,mb4.4
RDO Rodhopi 28.45 69 P **P 00 57 11.0 -0.9**
NB2 NORSAR Subarra 28.55 22 P **P 00 57 11.6 -1.1**
comp=Z,1.6nm,0.9s,mb3.8,baz=218,slow=9.3
NB2 NORSAR Subarra 28.55 22 P **P 00 57 11.6 -1.1**
NB2 pmax pmax
comp=Z,20nm,0.9s,mb4.8
NOA NORSAR Array B 28.55 22 P **P 00 57 11.5 -1.2**
comp=Z,1.1nm,0.8s,mb3.6,baz=218,slow=8.6,SNR=4.4
NOA LR LR 01 09 13.5
comp=Z,61nm,18.6s,MS3.2,baz=215,slow=38
IDI Anoyia 28.64 81 P **P 00 57 13.3 -0.2**
comp=Z,11nm,0.6s,mb4.7,baz=280,slow=7.0,SNR=14
IDI PcP PcP 01 00 23.6 -0.7
comp=Z,5.3nm,0.6s,baz=329,slow=6.4,SNR=7.3
HFS Hagfors 28.67 25 P **P 00 57 13.7 -0.1**
comp=Z,1.4nm,0.6s,mb3.8,baz=189,slow=8.7,SNR=4.9
HFS LR LR 01 09 33.5
comp=Z,182nm,19.2s,MS3.7,baz=226,slow=38
BURAR Bucovina Array 28.73 55⇓ *i*P **P 00 57 14.0 -0.4**
MLR Muntele Rosu 28.92 60 P **P 00 57 16.5 +0.4**
comp=Z,11nm,1.1s,mb4.5,baz=246,slow=3.7,SNR=8.4
MLR LR LR 01 08 00.4
comp=Z,167nm,20.6s,MS3.6,baz=138,slow=35
MLR Muntele Rosu 28.92 60⇑ *i*P **P 00 57 16.5 +0.4**
SUW Suwalki 29.40 42 *eP* **P 00 57 20.4 +0.1**
SUW Suwalki 29.40 42 *eP* **P 00 57 20.1 -0.2**
comp=Z,10nm,0.6s,mb4.7
BORG Borgarnes 29.45 351 LR LR 01 06 50.8
comp=Z,56nm,20.7s,MS3.2,baz=146,slow=32
VRI Vrincioaia 29.51 59⇑ *i*P **P 00 57 19.5 -1.8**
DBIC Dimbokro 29.70 169 P **P 00 57 21.6 -1.3**
comp=Z,4.6nm,0.8s,mb4.3,baz=337,slow=12,SNR=7.9
DBIC LR LR 01 09 38.3
comp=Z,204nm,18.7s,MS3.8,baz=351,slow=37
LIC Lamto 30.11 169 *eP* **P 00 57 25.0 -1.6**
comp=Z,36nm,1.1s,mb4.7
LIC *e*pP pP 00 57 40.1 +10
LIC *e*R
comp=Z,279nm,20.8s
LIC Lamto 30.11 169 *eP* **P 00 57 25.0 -1.6**
comp=Z,18nm,1.1s,mb4.7
LIC *e*pP pP 00 57 40.1 +10

LIC LR LR
comp=Z,140nm,20.8s,MS3.6
AKASG Malin Array Be 31.92 50 P **P 00 57 41.9 -0.6**
comp=Z,1.1nm,0.6s,mb3.9,baz=323,slow=7.3,SNR=4.0
AKASG PcP PcP 01 00 30.5 -2.3
comp=Z,1.4nm,0.6s,baz=268,slow=3.3,SNR=6.9
VSU Vasula 33.09 36⇑ *eP* **P 00 57 52.0 -0.8**
ANTO Ankara 34.07 70 P **P 00 58 00.9 -0.4**
FINES FINESS Array B 34.23 31 P **P 00 58 02.0 -0.8**
comp=Z,2.3nm,0.5s,mb4.4,baz=237,slow=7.6,SNR=36
FINES LR LR 01 13 05.7
comp=Z,215nm,20.3s,MS3.9,baz=314,slow=38
BALT Daday 34.33 67 *i P* **P 00 58 03.1 -0.5**
SIM Simferopol' 34.67 61 *eP* **P 00 58 07.4 +0.9**
SIM pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SIM MLR MLR
comp=Z,150nm,17.6s,MS3.8
KAF Kangasniemi 34.67 30 *ep* **P 00 58 02.4 -4.2**
BRTR Keskin Array B 34.73 70 P **P 00 58 06.5 -0.5**
comp=Z,2.0nm,0.8s,mb4.1,baz=261,slow=6.9,SNR=12
BRTR PcP PcP 01 00 39.2 -1.5
comp=Z,0.7nm,0.7s,baz=168,slow=1.1,SNR=4.0
CTKT Corum 35.48 69 *i P* **P 00 58 13.3 -0.3**
AVNT Avonos 35.82 72 *i P* **P 00 58 16.5 +0.1**
JOF Joensuu 37.09 30 *ep* **P 00 58 25.4 -1.9**
OBN Obninsk 37.16 44*c i P* **P 00 58 27.0 -0.9**
OBN *i* 00 59 49.4
OBN pmax pmax
comp=Z,31nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.7
KSDI Kefar Szold 37.79 81 P **P 00 58 33.3 +0.1**
GZT Gaziantep 38.20 73 *i P* **P 00 58 36.5 -0.2**
MALT Malatya 38.66 72 P **P 00 58 39.2 -1.3**
ARCES ARCESS Array B 38.81 19 P **P 00 58 41.5 -0.2**
comp=Z,6.3nm,0.8s,mb4.4,baz=226,slow=8.9,SNR=37
ELZG Elazig 39.04 71 *i P* **P 00 58 43.6 -0.2**
ASF Jabal al Asfar 39.10 82 P **P 00 58 44.9 +0.6**
comp=Z,6.0nm,0.7s,mb4.4,baz=134,slow=5.1,SNR=17
ERZM Erzurum 40.56 68 *i P* **P 00 58 56.6 +0.2**
KIV Kislovodsk 40.86 62 *eP* **P 00 58 57.8 -1.1**
KIV pmax pmax
comp=Z,13nm,1.3s,mb4.4
KIV Kislovodsk 40.86 62 *eP* **P 00 58 57.8 -1.1**
comp=Z,13nm,1.3s,mb4.4
SCHQ Schefferville 42.47 314 P **P 00 59 10.3 -1.7**
comp=Z,2.9nm,0.6s,mb4.1,baz=69,slow=4.6,SNR=9.7
SCHQ LR LR 01 12 52.0
comp=Z,132nm,21.3s,MS3.8,baz=193,slow=31
GNI Garni 43.05 67 P **P 00 59 15.7 -1.0**
comp=Z,6.9nm,0.8s,mb4.5,baz=139,slow=1.0,SNR=7.1
ORR Orenburg 47.94 50 *eP* **P 00 59 54.7 -0.7**
ORR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ARU Arti 49.58 43⇑ *iP* **P 01 00 07.3 -0.8**
ARU *e* 01 02 02.2
ARU *e*S **S 01 07 11.7 -4.4**
ARU *e*SS SS 01 10 40.9 -7.2
ARU pmax pmax
comp=Z,13nm,1.0s,mb4.9
ARU MLR MLR
comp=Z,200nm,17.0s,MS4.2
ARU MLR MLR
comp=N,100nm,18.0s,MS4.0
ARU MLR MLR
comp=E,100nm,19.0s,MS4.0
ARU Arti 49.58 43 *eP* **P 01 00 07.1 -0.9**
comp=E,6.4nm,0.8s,mb4.7
AKTK Aktyubinsk 50.16 51 P **P 01 00 11.3 -1.2**
AKTO Aktyubinsk 50.16 51 P **P 01 00 11.3 -1.2**
comp=E,4.9nm,0.8s,mb4.6,baz=302,slow=10,SNR=18
AKTO Aktyubinsk 50.16 51 P **P 01 00 11.4 -1.1**
AKTO pmax pmax
comp=Z,50nm,0.8s,mb5.6
MBAR Mbarara 52.88 124⇓ *iP* **P 01 00 32.5 -0.3**
ZRNK Zerenda 56.21 46 *eP* **P 01 00 56.8 -0.2**
ZRNK pmax pmax
comp=Z,11nm,1.0s,mb4.8
ZRNK Zerenda 56.21 46 *eP* **P 01 00 56.8 -0.2**
comp=Z,11nm,1.0s,mb4.8
BRVK Borovoye 56.91 45 *eP* **P 01 01 02.2 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BRVK Borovoye 56.91 45 *eP* **P 01 01 02.2 +0.1**
comp=Z,5.1nm,0.9s,mb4.5
CHKZ Chkalovo 56.92 45 *eP* **P 01 00 59.2 -2.9**
CHKZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CHKZ Chkalovo 56.92 45 *eP* **P 01 00 59.1 -3.0**
comp=Z,7.2nm,0.8s,mb4.8
BVAR Borovoye Array 56.98 45 P **P 01 01 02.6 0.0**
comp=Z,4.9nm,0.8s,mb4.6,baz=305,slow=5.2,SNR=18
ASHO Ashiyiah 57.52 82⇑P **P 01 01 05.0 -1.3**
SNR=6.7
KMBO Kilima Mbogo 57.75 119 P **P 01 01 07.4 -0.5**
comp=Z,2.9nm,0.9s,mb4.3,baz=340,slow=6.5,SNR=5.2
KMBO LR LR 01 28 22.4
comp=Z,127nm,18.2s,MS4.1,baz=272,slow=39
KMBO Kilima Mbogo 57.75 119⇑ *eP* **P 01 01 07.9 -0.1**
ARQ Araqi 58.53 83⇓P **P 01 01 12.6 -0.9**
SNR=9.3
EYMN Ely 58.75 309 P **P 01 01 12.2 -2.7**
comp=Z,8.8nm,1.0s,mb4.7
EYMN Ely 58.75 309 P **P 01 01 12.2 -2.8**
comp=Z,8.8nm,1.0s,mb4.7
HOQ Hoqain 59.05 82⇓P **P 01 01 15.1 -1.9**
SNR=7.2
BSY Bisya 59.36 83⇓P **P 01 01 17.9 -1.3**
SNR=8.0
BIDO Bidbid 59.73 82⇑P **P 01 01 19.6 -2.1**
SNR=8.3
SMDO Samad 59.89 82⇑P **P 01 01 21.6 -1.3**
SNR=10.0
WSAR Wadi Sarin 60.27 82 P **P 01 01 24.2 -1.3**
comp=Z,20nm,0.9s,mb5.2,baz=256,slow=7.7,SNR=13
WSAR Wadi Sarin 60.27 82 P **P 01 01 24.2 -1.3**
JMDO Jabal Madar 60.27 83⇓P **P 01 01 23.8 -1.6**
SNR=28
ULM Lac du Bonnet 60.60 313 LR LR 01 24 02.7
comp=Z,80nm,18.5s,MS3.9,baz=294,slow=32
SDV Santo Domingo 60.78 259 P **P 01 01 28.7 -0.2**
comp=Z,3.7nm,0.6s,mb4.7
SDV Santo Domingo 60.78 259 P **P 01 01 28.7 -0.2**
comp=Z,3.7nm,0.6s,mb4.7
WBK Wadi Bani Khal 60.85 82⇑P **P 01 01 28.6 -0.8**
SNR=5.1
PLAL Pickwick Lake 61.50 294 *eP* **P 01 01 33.5 -0.3**
comp=Z,32nm,0.9s,mb5.5
PLAL Pickwick Lake 61.50 294 *eP* **P 01 01 33.5 -0.3**
comp=Z,32nm,0.9s,mb5.5
BDFB Brasilia 62.49 221 P **P 01 01 39.4 -1.0**
comp=Z,3.5nm,0.8s,mb4.5,baz=121,slow=7.1,SNR=4.0
BDFB LR LR 01 25 32.9
comp=Z,97nm,19.2s,MS4.0,baz=105,slow=33
AAK Ala-Archa 63.38 55 *eP* **P 01 01 45.8 -0.6**
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
AAK Ala-Archa 63.38 55 *eP* **P 01 01 45.8 -0.6**
comp=Z,4.5nm,0.8s,mb4.7
AAK Ala-Archa 63.38 55 *eP* **P 01 01 45.8 -0.6**
comp=Z,4.5nm,0.8s,mb4.7
NVS Novosibirsk 63.40 40 *i P* **P 01 01 45.9 -0.6**
NVS pmax pmax
comp=Z,12nm,1.0s,mb5.0
NVS pmax pmax
comp=E,6.0nm,1.1s
ZAL Zalesovo 64.61 41 P **P 01 01 54.0 -0.5**
comp=E,2.2nm,0.8s,mb4.2,baz=198,slow=7.2,SNR=15
ZAL LR LR 01 31 59.5
comp=E,172nm,20.3s,MS4.2,baz=174,slow=38
ZAL Zalesovo 64.61 41 P **P 01 01 54.0 -0.5**
ZAL LR LR 01 31 59.5
MIAR Mount Ida 65.73 296 *eP* **P 01 02 00.0 -1.8**
MIAR pmax pmax
comp=Z,12nm,1.1s,mb4.8
MIAR Mount Ida 65.73 296 *eP* **P 01 01 60.0 -1.8**
comp=Z,12nm,1.1s,mb4.8
MIAR Mount Ida 65.73 296 *eP* **P 01 02 00.0 -1.8**
comp=Z,12nm,1.1s,mb4.8
ROSC El Rosal 66.11 258 LR LR 01 27 29.2
comp=Z,52nm,21.1s,MS3.7,baz=165,slow=33
MKAR Makanchi Array 66.48 48 P **P 01 02 05.5 -1.0**
comp=Z,4.8nm,0.8s,mb4.5,baz=298,slow=5.4,SNR=26
MKAR Makanchi Array 66.48 48⇑ *eP* **P 01 02 06.0 -0.6**
INK Inuvik 67.68 340 *eP* **P 01 02 10.9 -3.3**
TIXI Tiksi 68.83 13⇑ *eP* **P 01 02 14.9 -6.5**
TIXI pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
PDAR Pinedale Array 72.41 310 P **P 01 02 42.4 -0.9**
comp=Z,1.5nm,1.0s,mb3.9,baz=64,slow=6.8,SNR=4.6
PDAR LR LR 01 33 34.8
comp=Z,83nm,18.6s,MS4.0,baz=282,slow=35
PDAR Pinedale Array 72.41 310 P **P 01 02 42.3 -0.9**
BOSA Boshof 72.59 147 P **P 01 02 41.4 -3.0**
comp=Z,4.3nm,0.6s,mb4.5,baz=352,slow=5.5,SNR=5.7
BOSA LR LR 01 34 17.2
comp=Z,118nm,18.1s,MS4.2,baz=355,slow=36
BOSA Boshof 72.59 147 P **P 01 02 41.3 -3.0**
HWUT Hardware Ranch 74.30 310 *eP* **P 01 02 53.7 -0.6**
comp=Z,13nm,0.9s,mb4.9
HWUT Hardware Ranch 74.30 310 *eP* **P 01 02 53.7 -0.7**
comp=Z,13nm,0.9s,mb4.9
TLY Talaya 75.37 36⇓P **P 01 03 01.4 +0.8**
SNR=5.5
TLY Talaya 75.37 36⇑ *iP* **P 01 03 00.7 +0.1**
TLY pmax pmax
comp=Z,12nm,1.1s,mb4.7
BGU Big Grassy Mou 75.59 310 P **P 01 02 58.1 -3.7**
ZAK Zakamensk 76.03 37 *eP* **P 01 03 04.4 0.0**
ZAK *e* 01 06 03.0
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,5.0nm,2.0s,mb4.1
BILL Bilibino 76.19 1⇓ *iP* **P 01 03 05.5 +0.2**
BILL pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
YAK Yakutsk 77.08 18⇑ *eP* **P 01 03 10.0 -0.3**
YAK pmax pmax
comp=Z,12nm,0.6s,mb5.0
KOLN Koldanda 77.25 65 *eP* **P 01 03 10.2 -1.0**
GKN Gorkha 77.88 64 *eP* **P 01 03 14.0 -0.7**
comp=Z,29nm,0.7s,mb5.3
DMN Daman 78.44 64 *eP* **P 01 03 17.6 -0.3**
comp=Z,36nm,0.9s,mb5.3
KKN Kakani 78.47 64 *eP* **P 01 03 17.5 -0.5**
comp=Z,26nm,0.6s,mb5.3
KKN Kakani 78.47 64 *eP* **P 01 03 17.5 -0.5**
KKN pmax pmax
comp=Z,26nm,0.6s,mb5.3
PKI Pulchoki 78.68 64 *eP* **P 01 03 18.6 -0.6**
comp=Z,25nm,0.9s,mb5.2
PKI Pulchoki 78.68 64 *eP* **P 01 03 18.6 -0.6**
PKI pmax pmax
comp=Z,25nm,0.9s,mb5.1
GUN Gumba 78.83 64 *eP* **P 01 03 19.8 -0.2**
comp=Z,36nm,0.8s,mb5.3
HYB Hyderabad 79.19 76 *i P* **P 01 03 21.0 -1.0**
HYB Hyderabad 79.19 76 *eP* **P 01 03 20.0 -2.0**
JIRN Jiri 79.20 64 *eP* **P 01 03 21.6 -0.5**
comp=Z,12nm,0.6s,mb5.0
SONM Songino Array 79.26 38 P **P 01 03 22.3 -0.1**
comp=Z,3.7nm,0.8s,mb4.3,baz=300,slow=5.3,SNR=23
SONM PP PP 01 06 21.4 -0.5
comp=Z,0.6nm,0.6s,baz=294,slow=7.4,SNR=5.0
ULN Ulaanbaatar 79.56 37 *eP* **P 01 03 24.8 +0.8**
ULN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ULN Ulaanbaatar 79.56 37 *eP* **P 01 03 24.8 +0.7**
comp=Z,4.6nm,1.0s,mb4.4
GTA Gaotai 81.20 47 *eP* **P 01 03 32.9 +0.1**
GTA AMB AMB
comp=Z,40nm,4.8s
GTA LR LR
comp=N,100nm,18.7s,MS4.3
GTA LR LR
comp=E,90nm,20.6s,MS4.3
GTA LR LR
comp=Z,60nm,15.7s,MS4.0
LSA Lhasa 81.55 59 *eP* **P 01 03 34.7 0.0**
LSA pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
LSA Lhasa 81.55 59 *eP* **P 01 03 34.7 0.0**
comp=Z,5.1nm,0.5s,mb4.7
HIA Hailar 84.25 30*c i P* **P 01 03 48.7 0.0**
LZH Lanzhou 85.78 48 *eP* **P 01 03 57.6 +1.2**
LZH AP pP 01 04 02.3 +2.6
LZH XP sP 01 04 05.5 +4.6
LZH AMB AMB
comp=Z,20nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,70nm,4.5s
CD2 Chengdu 89.21 52 *eP* **P 01 04 10.3 -2.6**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
XAN Xi'an 90.21 46 P **P 01 04 16.0 -1.6**
WHN Wuhan 95.90 45 *eP* **P 01 04 42.1 -1.7**
NJ2 Nanjing 97.27 41 *eP* **P 01 04 48.1 -1.9**
NJ2 AP pP 01 04 57.8 +4.5
NJ2 PP PP 01 08 49.0 +2.6
NJ2 S 01 16 08.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,200nm,10.8s
NJ2 LR LR
comp=N,240nm,26.2s,MS4.7
NJ2 LR LR
comp=E,250nm,23.6s,MS4.7
NJ2 LR LR
comp=Z,100nm,25.2s,MS4.2
QSPA South Pole Qui 125.94 180 *eP* PKPdf 01 10 14.8 -4.3
FORT Forrest 145.17 93 *eP* PKPbc 01 10 52.8 -1.4
comp=Z,14nm,0.6s
WRA Warramunga Arr 145.25 72 PKPbc PKPbc 01 10 53.3 -1.2
comp=Z,18nm,0.7s,baz=314,slow=2.8,SNR=114
WRAB Tennant Creek 145.25 72*c i* PKIKP PKPdf 01 10 53.3 -1.5
WB2 Warramunga Arr 145.26 72⇑ *iP* PKPbc 01 10 53.3 -1.2
PMG Port Moresby 146.56 43 PKPbc PKPbc 01 10 56.9 -1.5
comp=Z,15nm,1.1s,baz=141,slow=0.6,SNR=3.7
PMG Port Moresby 146.56 43 PKP2 PKPab 01 10 56.9 -2.6
PMG pmax pmax
comp=Z,15nm,1.2s
ASPA Alice Springs 146.90 78 *eP* PKPdf 01 10 58.4 +0.8
AS31 Alice Springs 146.90 78 *eP* PKPdf 01 10 58.4 +0.8
ASAR Alice Springs 146.90 78 PKPbc PKPbc 01 10 57.7 -1.7
comp=Z,18nm,0.9s,baz=309,slow=2.4,SNR=106
CTA Charters Tower 154.11 58 *eP* PKPbc 01 11 16.4 -0.5
comp=Z,5.2nm,0.7s

*NEIC **21** 01:23:06.0, 3182S×7130W, h44km, MG2.9(GUC), After GUC.*
GUC 21 01:23:06.0±0.8, 3182S×7130W, h44km±2km, MD3.7, ML2.9, 3C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.18**	**248**	⇓ *iP*	Pn	01 23 13.4	-0.1
CHNG				*i* S	Sn	01 23 19.3	+0.5
CHNG				AML	AML	01 23 19.5	
	comp=N,2μm,0.2s						
CMCH	**Combarbala**	**0.69**	**22**	⇓ *iP*	Pn	01 23 19.6	+0.2
CMCH				*i* S	Sn	01 23 30.4	+1.4
CMCH				AML	AML	01 23 31.5	
	comp=N,3μm,0.3s						
CMCH	**Combarbala**	**0.69**	**22**	⇓ *iP*	Pn	01 23 19.6	+0.2
CMCH				*i* S	Sn	01 23 30.4	+1.4
JACH	**Jahuel**	**1.05**	**145**	⇓ *iP*	Pn	01 23 25.3	+1.0
JACH				*i* S	Sn	01 23 40.2	+2.4
ROCH	**El Roble**	**1.18**	**168**	*eP*	Pn	01 23 25.9	-0.1
ROCH				*i* S	Sn	01 23 41.8	+0.9
OVCH	**Ovalle**	**1.21**	**4**	*eP*	Pn	01 23 27.3	+0.9
OVCH				*i* S	Sn	01 23 43.9	+2.3
OVCH				AML	AML	01 23 47.1	
	comp=E,383nm,0.3s						
OVCH	**Ovalle**	**1.21**	**4**	*eP*	Pn	01 23 27.3	+0.9
OVCH				*i* S	Sn	01 23 43.9	+2.3
PEL	**Peldehue**	**1.42**	**159**⇑	*iP*	Pn	01 23 30.1	+0.7
PEL				⇓ *iP*		01 23 30.3	
PEL				*i* S	Sn	01 23 48.7	+1.9
PEL				*i* S	Sn	01 23 48.9	+2.1
PEL				AML	AML	01 23 52.6	
	comp=E,306nm,0.4s						
PEL	**Peldehue**	**1.42**	**159**	⇓ *iP*	Pn	01 23 30.3	+1.0
PEL				*i* S	Sn	01 23 48.9	+2.1
TLL	**Tololo Astrono**	**1.70**	**15**	⇓ *eP*	Pn	01 23 34.7	+1.6
TLL				*i* S	Sn	01 23 55.7	+2.0
TLL				AML	AML	01 24 01.0	
	comp=E,256nm,0.2s						
TLL	**Tololo Astrono**	**1.70**	**15**	⇓ *eP*	Pn	01 23 34.7	+1.6
TLL				*i* S	Sn	01 23 55.7	+2.0
CLCH	**Cerro Calan**	**1.70**	**158**	⇓ *iP*	Pn	01 23 34.5	+1.3
CLCH				*i* S	Sn	01 23 56.0	+2.3
CLCH				AML	AML	01 24 00.6	
	comp=E,106nm,0.3s						
FCH	**Farellones**	**1.73**	**151**	⇓ *iP*	Pn	01 23 34.7	+1.1
FCH				⇑ *iP*		01 23 34.9	
FCH				*i* S	Sn	01 23 57.2	+2.7
FCH				*i* S	Sn	01 23 57.7	+3.3
FCH				AML	AML	01 24 04.1	
	comp=N,112nm,0.2s						
FCH	**Farellones**	**1.73**	**151**⇑	*iP*	Pn	01 23 34.9	+1.3
FCH				*i* S	Sn	01 23 57.7	+3.3
ANTU	**Antumapu**	**1.84**	**162**	*i* S	Sn	01 23 58.4	+1.4
ANTU				AML	AML	01 24 06.5	
	comp=N,99nm,0.2s						
TACH	**Talagante**	**1.86**	**171**	*eP*	Pn	01 23 35.7	+0.4
TACH				*i* S	Sn	01 23 59.1	+1.5
CHCH	**Chadas Angostu**	**2.18**	**166**	*eP*	Pn	01 23 40.5	+0.7
CHCH				*i* S	Sn	01 24 07.5	+1.9

*CSEM **21** 01:33:23.3±0.1, 8282N×678W, h10km, mb4.4/21, Ms3.4, Mw4.8, Error ellipse: s-maj=7.5km s-min=2.6km az=42.0*
*IDC **21** 01:33:24.1±0.7, 8278N×658W, h0km, mb3.8/14, mb1 4.1/16, mb1mx4.0/23, mbtmp3.9/16, ML4.0/2, MS3.8/11, Ms1 3.7/11, ms1mx3.6/24, Error ellipse: s-maj=24.0km s-min=13.2km az=47.0*
*ISCJB **21** 01:33:24.1±0.3, 8275N±005×62W±04, h10km, mb4.2/36, MS3.7/13, Error ellipse: s-maj=8.4km s-min=5.9km az=88.0*
*NEIC **21** 01:33:25.9±0.3, 8277N×6.16W, h10km, mb4.4/23, Error ellipse: s-maj=7.6km s-min=5.6km az=46.0*
*HRVD **21** 01:33:25.9±0.4, 8279N×586W, h12km, MW4.8/48, Centroid moment Tensor Solution. LP body waves: s9,c10; Mantle waves: s48,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.14±.12; $M_{\theta\theta}$0.24±.12; $M_{\phi\phi}$1.90±.09; $M_{r\theta}$-0.87±.60; $M_{\theta\phi}$-0.42±.10; $M_{\phi r}$-0.23±.34; Best double couple: $M_0$2.22600×10^{16} NP1:ϕ_s148.00000°, δ48.00000°, λ-116.00000°. NP2:ϕ_s5.00000°, δ48.00000°, λ-64.00000°. Principal axes: T 2.0020, Plg0.0000°, Azm77.0000°; N 0.4470, Plg19.0000°, Azm167.0000°; P -2.4500, Plg71.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NAO **21** 01:33:29.4±7.4, 8246N×361W, ML2.0*
ISC 21 01:33:25.5±0.3, 8276N±005×61W±04, h10km, n106, σ0.98/110, mb4.2/36, MS3.7/13, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**4.78**	**134**	*eP*	**Pn**	**01 34 36.1**	**-1.4**
KBS				*e*S	**Sn**	**01 35 26.7**	**-6.2**
KBS				AML	AML	01 35 34.3	
	comp=Z,36nm,0.6s						
KBS	**Kingsbay**	**4.78**	**134**	*e*Pn	**Pn**	**01 34 36.1**	**-1.4**
KBS				*e*Sn	**Sn**	**01 35 30.6**	**-2.3**
KBS	**Kingsbay**	**4.78**	**134**	Pn	**Pn**	**01 34 35.9**	**-1.6**
KBS				Sn	**Sn**	**01 35 25.6**	**-7.3**
SPA0	**Spitsbergen Ar**	**5.86**	**129**	Pn	**Pn**	**01 34 50.0**	**-2.3**
	baz=353,slow=12						
SPA0				Sn	**Sn**	**01 35 53.1**	**-6.5**
	baz=333,slow=16						
SPA0	**Spitsbergen Ar**	**5.86**	**129**	Pn	**Pn**	**01 34 50.0**	**-2.4**
	SNR=651						
SPA0				Sn	**Sn**	**01 35 53.1**	**-6.5**
DAG	**Danmarks Havn**	**6.39**	**207**	*i P*	**Pn**	**01 34 58.0**	**-1.7**
DAG				*i*		01 36 08.0	
DAG	**Danmarks Havn**	**6.39**	**207**	*eP*	**Pn**	**01 34 58.0**	**-1.7**
DAG				*i*		01 36 08.0	
HSP	**Hornsund**	**6.84**	**135**	*eP*	**Pn**	**01 35 05.7**	**-0.2**
JMIC	**Jan Mayen**	**11.85**	**184**	Pn	**Pn**	**01 36 14.5**	**0.0**
	comp=Z,3.6nm,0.3s,baz=345,slow=3.8,SNR=7.1						
JMIC				LR	LR	01 39 44.4	
	comp=Z,214nm,21.8s,baz=178,slow=32						
SUMG	**Summit**	**12.00**	**231**	*e*Pn	**Pn**	**01 36 12.4**	**-4.2**
	comp=Z,20nm,0.6s						
SUMG				*e*Sn	**Sn**	**01 38 22.7**	**-7.8**
SUMG	**Summit**	**12.00**	**231**	*e*Pn	**Pn**	**01 36 12.4**	**-4.2**
	comp=Z,20nm,0.6s						
SCO	**Scoresbysund**	**12.77**	**204**	*i P*	**Pn**	**01 36 25.9**	**-1.2**
	comp=Z,4.2nm,0.5s						
SCO	**Scoresbysund**	**12.77**	**204**	*eP*	**Pn**	**01 36 25.9**	**-1.2**
	comp=Z,4.2nm,0.5s						
TRO	**Tromso**	**14.21**	**143**	*e*Pn	**Pn**	**01 36 46.5**	**-0.3**
ARA0	**ARCESS Array S**	**14.86**	**134**	Pn	**Pn**	**01 36 52.4**	**-3.2**
	baz=353,slow=14						
ARCES	**ARCESS Array B**	**14.86**	**134**	Pn	**Pn**	**01 36 53.9**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=1.9,slow=12,SNR=24						
ARCES				Sn	**Sn**	**01 39 28.2**	**-12**
	comp=Z,0.2nm,0.3s,baz=355,slow=21,SNR=3.3						
ARCES	**ARCESS Array B**	**14.86**	**134**	Pn	**Pn**	**01 36 53.9**	**-1.7**
ARCES				Sn	**Sn**	**01 39 28.2**	**-12**
LOF	**Lofoten**	**15.32**	**151**	*e*Pn	**Pn**	**01 37 04.8**	**+3.0**
RES	**Resolute Bay**	**16.87**	**294**	*e*Pn	**Pn**	**01 37 17.4**	**-4.3**
	comp=Z,18nm,1.0s						
RES	**Resolute Bay**	**16.87**	**294**	*e*Pn	**Pn**	**01 37 17.4**	**-4.3**
	comp=Z,18nm,1.0s						
APA0	**Apatity Array**	**17.46**	**126**	P	**Pn**	**01 37 27.4**	**-1.7**
	baz=315,slow=8.6						
SFJD	**Kangerlussuaq**	**18.62**	**240**	P	**Pn**	**01 37 37.0**	**-6.3**
	comp=Z,1.2nm,0.3s,baz=353,slow=12,SNR=8.4						
SFJD				S	Sn	01 40 50.1	-21
	comp=Z,1.1nm,0.3s,baz=255,slow=24,SNR=5.5						
JOF	**Joensuu**	**21.87**	**132**	*ep*	**P**	**01 38 14.4**	**-4.0**
KAF	**Kangasniemi**	**22.21**	**138**	*ep*	**P**	**01 38 20.7**	**-1.3**
NB2	**NORSAR Subarra**	**22.26**	**157**	P	**P**	**01 38 23.5**	**+0.9**
	comp=Z,5.6nm,1.0s,mb4.0,baz=343,slow=6.2						
NB2	**NORSAR Subarra**	**22.26**	**157**	P	**P**	**01 38 24.2**	**+1.7**
	baz=348,slow=7.4						
NOA	**NORSAR Array B**	**22.26**	**157**	P	**P**	**01 38 23.1**	**+0.5**
	comp=Z,4.5nm,0.8s,mb3.9,baz=351,slow=9.4,SNR=12						
NOA				LR	LR	01 45 50.7	
	comp=Z,30nm,19.1s,MS2.7,baz=335,slow=34						
NOA	**NORSAR Array B**	**22.26**	**157**	P	**P**	**01 38 23.0**	**+0.4**
FINES	**FINESS Array B**	**22.85**	**139**	P	**P**	**01 38 28.8**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.2,baz=137,slow=31,SNR=5.2						
FINES				LR	LR	01 47 25.9	
	comp=Z,241nm,18.1s,MS3.7,baz=351,slow=37						
HFS	**Hagfors**	**23.29**	**155**	P	**P**	**01 38 32.7**	**-0.8**
	comp=Z,3.3nm,0.8s,mb3.8,baz=8.9,slow=10,SNR=6.5						
HFS	**Hagfors**	**23.29**	**155**	P	**P**	**01 38 34.0**	**+0.4**
	slow=7.9						
FRB	**Frobisher Bay**	**23.86**	**257**	LR	LR	01 48 09.2	
	comp=Z,622nm,18.7s,MS4.1,baz=47,slow=37						
INK	**Inuvik**	**26.86**	**319**	P	**P**	**01 39 04.6**	**-1.6**
	comp=Z,1.9nm,0.8s,mb3.7,baz=25,slow=13,SNR=8.8						
INK				LR	LR	01 52 01.6	
	comp=Z,107nm,18.2s,MS3.4,baz=184,slow=42						
INK	**Inuvik**	**26.86**	**319**	*eP*	**P**	**01 39 04.9**	**-1.3**
INK	**Inuvik**	**26.86**	**319**	*eP*	**P**	**01 39 04.9**	**-1.3**
YKA	**Yellowknife Ar**	**30.70**	**300**	P	**P**	**01 39 39.2**	**-1.3**
	comp=Z,1.0nm,0.8s,mb3.7,baz=14,slow=9.0,SNR=4.0						
YKA				LR	LR	01 52 59.3	
	comp=Z,155nm,18.4s,MS3.7,baz=0.0,slow=38						
YKA	**Yellowknife Ar**	**30.70**	**300**	P	**P**	**01 39 39.2**	**-1.3**
YKA				LR	LR	01 52 59.2	
SCHQ	**Schefferville**	**32.33**	**251**	LR	LR	01 52 58.3	
	comp=Z,175nm,19.0s,MS3.8,baz=150,slow=36						
GIVF	**Givet**	**32.95**	**167**	*eP*	**P**	**01 40 01.5**	**+1.3**
BAIF	**Baives**	**32.98**	**168**	*eP*	**P**	**01 40 02.3**	**+1.8**
AKASG	**Malin Array Be**	**33.76**	**139**	P	**P**	**01 40 07.1**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=352,slow=9.4,SNR=4.5						
AKASG	**Malin Array Be**	**33.76**	**139**	P	**P**	**01 40 07.1**	**-0.2**
GERES	**GERESS Array B**	**34.56**	**157**	P	**P**	**01 40 14.4**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=1.0,slow=8.0,SNR=8.6						
CDF	**Champ du Feu**	**34.72**	**164**	*eP*	**P**	**01 40 16.0**	**+0.4**
	comp=Z,7.7nm,0.9s,mb4.3						
CDF	**Champ du Feu**	**34.72**	**164**	*eP*	**P**	**01 40 16.0**	**+0.4**
	comp=Z,3.8nm,0.9s,mb4.3						
HAU	**Haudompre**	**35.09**	**165**	*eP*	**P**	**01 40 20.1**	**+1.3**
	comp=Z,16nm,0.9s,mb4.6						
HAU				*e*R			
	comp=Z,69nm,21.5s						
HAU	**Haudompre**	**35.09**	**165**	*eP*	**P**	**01 40 20.1**	**+1.3**
	comp=Z,7.9nm,0.9s,mb4.6						
HAU				LR	LR		
	comp=Z,70nm,21.5s,MS3.4						
HINF	**Hinteralfeld**	**35.30**	**165**	*eP*	**P**	**01 40 21.5**	**+0.9**
	comp=Z,3.5nm,0.7s,mb4.1						
HINF	**Hinteralfeld**	**35.30**	**165**	*eP*	**P**	**01 40 21.5**	**+0.9**

comp=Z,1.8nm,0.7s,mb4.1
CHKZ Chkalovo 35.45 93 *e*P **P 01 40 23.1 +1.1**
comp=Z,4.2nm,1.0s,mb4.3
CHKZ Chkalovo 35.45 93 *e*P **P 01 40 23.0 +1.1**
comp=Z,4.2nm,1.0s,mb4.3
LOR Lormes 35.76 168 *e*P **P 01 40 24.3 -0.3**
comp=Z,6.3nm,0.8s,mb4.3
LOR *e*R
comp=Z,110nm,20.1s
LOR Lormes 35.76 168 *e*P **P 01 40 24.3 -0.3**
comp=Z,3.2nm,0.8s,mb4.3
LOR LR LR
comp=Z,110nm,20.1s,MS3.6
SSF Saint Saulge 35.96 169 *e*P **P 01 40 26.2 -0.1**
comp=Z,8.3nm,0.9s,mb4.3
SSF Saint Saulge 35.96 169 *e*P **P 01 40 26.2 -0.1**
comp=Z,4.2nm,0.9s,mb4.3
AVF Avril sur Loir 36.23 169 *e*P **P 01 40 28.4 -0.2**
comp=Z,13nm,1.0s,mb4.5
AVF Avril sur Loir 36.23 169 *e*P **P 01 40 28.4 -0.2**
comp=Z,6.4nm,1.0s,mb4.5
CABF La Chapelle 36.48 166 *e*P **P 01 40 31.1 +0.4**
comp=Z,13nm,0.9s,mb4.6
CABF La Chapelle 36.48 166 *e*P **P 01 40 31.1 +0.4**
comp=Z,6.7nm,0.9s,mb4.6
TCF Toulx Ste Croi 36.70 170 *e*P **P 01 40 32.4 -0.2**
LPL La Plagne 37.59 165 *e*P **P 01 40 41.4 +1.2**
comp=Z,13nm,0.9s,mb4.3
LPL La Plagne 37.59 165 *e*P **P 01 40 41.4 +1.2**
comp=Z,6.3nm,0.9s,mb4.3
LPG La Plagne 37.61 165 *e*P **P 01 40 41.6 +1.2**
comp=Z,11nm,0.8s,mb4.3
LPG La Plagne 37.61 165 *e*P **P 01 40 41.6 +1.2**
comp=Z,5.5nm,0.8s,mb4.3
RJF Les Rejaudoux 37.67 171 *e*P **P 01 40 40.3 -0.6**
comp=Z,20nm,1.0s,mb4.5
RJF *e*R
comp=Z,105nm,21.0s
RJF Les Rejaudoux 37.67 171 *e*P **P 01 40 40.3 -0.6**
comp=Z,10nm,1.0s,mb4.5
RJF LR LR
comp=Z,110nm,21.0s,MS3.6
ORIF Oris-en-Rattie 38.16 166 *e*P **P 01 40 46.3 +1.3**
comp=Z,5.8nm,0.7s,mb4.1
ORIF *e*R
comp=Z,131nm,19.7s
ORIF Oris-en-Rattie 38.16 166 *e*P **P 01 40 46.3 +1.3**
comp=Z,2.9nm,0.7s,mb4.1
SMRF Simiane la Rot 39.10 167 *e*P **P 01 40 52.7 -0.2**
comp=Z,11nm,1.0s,mb4.3
SMRF Simiane la Rot 39.10 167 *e*P **P 01 40 52.7 -0.2**
comp=Z,5.7nm,1.0s,mb4.3
SBF Sospel 39.27 164 *e*P **P 01 40 55.2 +0.9**
comp=Z,12nm,0.8s,mb4.4
SBF Sospel 39.27 164 *e*P **P 01 40 55.2 +0.9**
comp=Z,6.1nm,0.8s,mb4.4
FRF La Foret Royal 39.55 165 *e*P **P 01 40 57.7 +1.1**
comp=Z,28nm,1.2s,mb4.6
FRF La Foret Royal 39.55 165 *e*P **P 01 40 57.7 +1.1**
comp=Z,14nm,1.2s,mb4.6
EPF Esparros 39.92 173 *e*P **P 01 40 59.5 -0.2**
ULM Lac du Bonnet 40.46 278 LR LR 01 57 48.4
comp=Z,129nm,21.1s,MS3.8,baz=31,slow=36
ESDC Sonseca Array 43.23 178 P **P 01 41 27.2 +0.4**
comp=Z,2.3nm,0.8s,mb4.0,baz=1.9,slow=7.5,SNR=10
MKAR Makanchi Array 43.69 84 P **P 01 41 31.0 +0.5**
comp=Z,1.7nm,0.8s,mb3.8,baz=356,slow=7.3,SNR=12
MKAR Makanchi Array 43.69 84 P **P 01 41 31.0 +0.5**
BRTR Keskin Array B 45.04 136 P **P 01 41 42.0 +0.7**
comp=Z,1.2nm,0.8s,mb3.8,baz=349,slow=6.4,SNR=7.8
BRTR Keskin Array B 45.04 136 P **P 01 41 42.0 +0.7**
SONM Songino Array 45.56 61 P **P 01 41 45.0 -0.4**
comp=Z,0.4nm,0.4s,mb3.8,baz=12,slow=7.7,SNR=4.5
SONM LR LR 02 01 24.3
comp=Z,151nm,20.6s,MS3.9,baz=144,slow=37
CHMT Chamberlain Mo 45.85 294 *e*P **P 01 41 48.1 +0.3**
CHMT Chamberlain Mo 45.85 294 *e*P **P 01 41 48.1 +0.3**
MALT Malatya 46.88 131 *e*P **P 01 41 57.4 +1.5**
comp=Z,2.1nm,0.9s,mb4.1
MALT Malatya 46.88 131 *e*P **P 01 41 57.4 +1.5**
comp=Z,2.1nm,0.9s,mb4.1
ECSD EROS,Sioux Fal 46.96 277 *e*P **P 01 41 56.6 +0.1**
ECSD EROS,Sioux Fal 46.96 277 *e*P **P 01 41 56.7 +0.2**
IMW Indian Meadow 48.56 291 P **P 01 42 08.4 -0.5**
comp=Z,3.6nm,0.7s,mb4.5
IMW Indian Meadow 48.56 291 P **P 01 42 08.4 -0.5**
comp=Z,3.6nm,0.7s,mb4.5
PDAR Pinedale Array 49.51 290 P **P 01 42 15.4 -0.7**
comp=Z,0.6nm,0.6s,mb3.8,baz=350,slow=7.8,SNR=8.0
PDAR LR LR 02 04 13.2
comp=Z,287nm,19.2s,MS4.3,baz=240,slow=37
PDAR Pinedale Array 49.51 290 P **P 01 42 15.4 -0.8**
ASAJ Asahikawa 52.42 28 LR LR 02 03 58.0
comp=Z,65nm,19.9s,MS3.7,baz=341,slow=35
SMCO Snowmass 52.73 286 *e*P **P 01 42 40.5 +0.1**
comp=Z,15nm,1.3s,mb4.8
SMCO Snowmass 52.73 286 *e*P **P 01 42 40.5 +0.1**
comp=Z,15nm,1.3s,mb4.8
NVAR Mina Array Bea 54.81 297 P **P 01 42 55.8 +0.2**
comp=Z,0.5nm,0.7s,mb3.7,baz=355,slow=9.3,SNR=4.2
TUC Tucson 59.97 289 *e*P **P 01 43 32.4 +0.3**
comp=Z,1.6nm,0.8s,mb4.1
TUC Tucson 59.97 289 *e*P **P 01 43 32.4 +0.3**
comp=Z,1.5nm,0.8s,mb4.1
GKN Gorkha 62.50 85 *e*P **P 01 43 49.2 0.0**
comp=Z,19nm,0.9s,mb5.2
KOLN Koldanda 62.60 86 *e*P **P 01 43 49.0 -0.8**
GUN Gumba 62.75 84 *e*P **P 01 43 51.1 +0.3**
comp=Z,31nm,1.1s,mb5.3
KKN Kakani 62.79 85 *e*P **P 01 43 51.3 +0.2**
DMN Daman 62.95 85 *e*P **P 01 43 52.6 +0.4**
PKI Pulchoki 63.02 85 *e*P **P 01 43 52.9 +0.2**
JIRN Jiri 63.03 84 *e*P **P 01 43 53.7 +1.0**
comp=Z,9.7nm,0.7s,mb5.0
TORD Torodi Ar. Bea 69.72 172 P **P 01 44 35.0 -0.5**
comp=Z,2.0nm,0.6s,mb4.2,baz=359,slow=5.8,SNR=48

ECX 21 01:45:08.9±0.6, 3154N×11448W, h15km, MD3.6, ML3.7, 12C-14D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.49**	**263**	⇑*e*P	Pg	01 45 18.0	-0.7
ECBX				*e*S	Sg	01 45 24.7	-0.6
EMX	**El Mayor**	**0.79**	**305**	*e*P	Pg	01 45 23.1	-1.2
EMX				*e*S	Sg	01 45 33.7	-1.0
EMX				⇑*e*		01 45 45.6	
	comp=E,3μm,0.5s						
SPX	**San Pedro Mart**	**0.97**	**240**	*e*P	Pb	01 45 26.1	-1.4
SPX				*e*S	Sb	01 45 39.6	-0.5
RDX	**Rancho Dowling**	**1.31**	**288**	⇓*e*P	Pn	01 45 31.4	-1.2
GLA	**Glamis**	**1.54**	**349**	*e*P	Pn	01 45 35.1	-0.7
GLA	**Glamis**	**1.54**	**349**	⇓P	Pn	01 45 35.0	-0.8
	baz=1.6,SNR=14						
GLA				⇓Lg		01 45 59.6	
	baz=1.6						
RMX	**La Rumorosa**	**1.72**	**309**	*e*P	Pn	01 45 37.2	-1.1
RMX				⇑*e*		01 46 07.6	
	comp=N,382nm,0.3s						
ECNX	**Esteban Cantu**	**1.81**	**274**	*e*P	Pn	01 45 42.0	+2.5
ECNX				*e*S	Sn	01 46 05.8	+3.6
ENX	**Ensenada**	**1.89**	**281**	*e*P	Pn	01 45 39.9	-0.8
ENX				*e*S	Sn	01 46 08.2	+4.0
PBX	**Punta Banda**	**1.93**	**277**	*e*P	Pn	01 45 44.2	+3.1
PBX				*e*S	Sn	01 46 09.4	+4.3
CBX	**Cerro Bola**	**2.01**	**293**	*e*P	Pn	01 45 42.1	-0.1
CBX				*e*S	Sn	01 46 12.0	+4.9
Y12C	**Blythe**	**2.21**	**359**	⇓Lg		01 46 19.2	
	baz=2.3						
Z14A	**Wintersburg**	**2.23**	**35**	⇑P	Pn	01 45 45.2	-0.1
	baz=2.3						
Z14A				⇓S	Sn	01 46 15.3	+2.7
	baz=2.3						
115A	**Sonoran Desert**	**2.23**	**58**	⇓P	Pn	01 45 44.9	-0.4
	baz=2.3						
115A				⇓S	Sn	01 46 13.2	+0.5
	baz=2.3						
Y13A	**Salome**	**2.33**	**13**	⇓P	Pn	01 45 47.0	+0.3
	baz=2.5						
Y13A				⇓Lg		01 46 23.8	
	baz=2.5						
116A	**Eloy**	**2.57**	**66**	⇑Lg		01 46 30.0	
	baz=2.6						
109C	**Camp Elliot, M**	**2.60**	**302**	⇓P	Pn	01 45 49.5	-0.9
	baz=2.6,SNR=7.1						
109C				⇓S	Sn	01 46 21.7	-0.2
	baz=2.6						
Y14A	**Wickenburg**	**2.70**	**27**	⇑P	Pn	01 45 52.0	+0.2
	baz=2.8						
Y14A				⇓Lg		01 46 34.2	
	baz=2.8						
X13A	**Yucca**	**3.09**	**10**	⇓P	Pn	01 45 57.5	+0.3
	baz=3.2						
X13A				⇑Lg		01 46 46.1	
	baz=3.2						
X14A	**Yava**	**3.22**	**24**	⇑P	Pn	01 45 59.6	+0.8
	baz=3.3						
X14A				⇑Lg		01 46 50.0	
	baz=3.3						
X15A	**Humboldt**	**3.50**	**32**	⇑P	Pn	01 46 03.5	+0.8
	baz=3.6						
X15A				⇑Lg		01 46 58.6	
	baz=3.6						
W14A	**Seligman**	**3.85**	**17**	⇑P	Pn	01 46 08.2	+0.7
	baz=4.0,SNR=17						
W14A				⇓Lg		01 47 08.4	
	baz=4.0						

SZGRF ***21*** *02:15:47.3, 1095N×6266W, h33km, mb4.5, Near coast of Venezuela*
LDG ***21*** *02:16:07.4±0.2, 1582N×6173W, h10km, Mb4.8/14, Ms3.6/4, Error ellipse: s-maj=9.5km s-min=6.1km az=125.0*
IDC ***21*** *02:16:07.9±0.6, 1573N×6158W, h0km, mb4.2/13, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, ML4.0/4, MS3.6/10, Ms1 3.6/10, ms1mx3.4/24, Error ellipse: s-maj=12.0km s-min=8.6km az=116.0*
TRN ***21*** *02:16:08.4, 1574N×6147W, h20km, MD4.1, M3.9(FDF), M4.1(FDF)*
BJI ***21*** *02:16:08.5, 1570N×6150W, h10km, mB5.3, Ms4.7, Msz4.3*
ISCJB ***21*** *02:16:09.8±0.3, 1573N±002×6159W±003, h24km±2km, mb4.4/41, MS3.6/9, Error ellipse: s-maj=5.6km s-min=2.6km az=152.4*
NEIC ***21*** *02:16:10.1, 1575N×6152W, h11km, mb4.6/29, MD4.0(FDF), MD4.1(TRN), After FDF.*
NEIC Felt [IV] on Guadeloupe. Also felt on Dominica.
ISC 21 02:16:10.3±0.3, 1571N±002×6159W±003, h14km±2km, n128, σ0°85/138, mb4.4/41, MS3.6/9, 14C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.15**	**339**	⇑*i*P	Pg	**02 16 13.9**	**0.0**
BBL	**Barber's Block**	**0.22**	**148**	⇑*i*P	Pg	**02 16 15.3**	**+0.1**
HMG	**Houelmont**	**0.29**	**339**	⇑*i*P	Pg	**02 16 16.6**	**+0.3**
PHG	**Guadaloupe-2**	**0.30**	**351**	⇑*e*P	Pg	**02 16 16.8**	**+0.2**
DWS	**Wesley**	**0.31**	**118**	⇑*i*P	Pg	**02 16 16.1**	**-0.5**
DWS				*e*S	Sg	**02 16 19.3**	**-1.5**
DWS				*e*S	Sg	**02 16 20.2**	**-0.6**
DOG	**Dongo Capester**	**0.32**	**355**	⇑*e*P	Pg	**02 16 16.8**	**0.0**
SCG	**Saint Claude**	**0.33**	**345**	*e*P	Pg	**02 16 17.1**	**+0.2**
MGG	**Marie-Galante**	**0.33**	**52**	⇑*i*P	Pg	**02 16 16.0**	**-1.1**
BCG	**Bois Riant Cap**	**0.37**	**356**	*e*P	Pg	**02 16 17.6**	**-0.1**
MDN	**Morne-Daniel**	**0.44**	**154**	⇑*e*P	Pg	**02 16 20.1**	**+1.2**
MDN				*e*S	Sg	**02 16 26.6**	**+1.8**
LZG	**Guadalupe-1**	**0.46**	**337**	⇑*e*P	Pg	**02 16 19.5**	**+0.1**
DBCT	**Belle View Cho**	**0.50**	**152**	*e*P	Pg	**02 16 21.1**	**+0.9**
DBCT				*e*S	Sg	**02 16 27.8**	**+1.0**
DSHT	**Scott's Head**	**0.54**	**157**	*e*P	Pg	**02 16 21.9**	**+1.0**
DSHT				*e*S	Sg	**02 16 29.1**	**+1.1**
SFG	**Saint Francois**	**0.66**	**35**	*e*P	Pg	**02 16 21.5**	**-1.6**
SEG	**Port Louis**	**0.69**	**7**	⇑*e*P	Pg	**02 16 22.7**	**-1.0**
DEG	**La Desirade**	**0.79**	**41**	⇑*e*P	Pg	**02 16 23.0**	**-2.5**
FDF	**Fort de France**	**1.06**	**156**	⇑*e*P	Pb	**02 16 29.0**	**-1.5**
FDF				*e*S	Sb	**02 16 44.3**	**0.0**
CRM	**Caravelle**	**1.16**	**146**	⇓*e*P	Pb	**02 16 30.3**	**-1.8**
CRM				*e*S	Sb	**02 16 45.5**	**-1.5**
MVM	**Montagne Vaucl**	**1.33**	**150**	⇓*e*P	Pn	**02 16 33.5**	**-1.1**
MVM				*e*S	Sb	**02 16 51.1**	**-1.0**
BPA	**Boggy Peak**	**1.35**	**349**	*e*P	Pn	**02 16 34.6**	**-0.1**
BPA				*e*S	Sn	**02 16 52.7**	**+0.2**
CPB	**Codrington**	**1.93**	**353**	*e*P	Pn	**02 16 42.8**	**0.0**
CPB				*e*S	Sn	**02 17 06.5**	**-0.3**
CPB	**Codrington**	**1.93**	**353**	*e*P	Pn	**02 16 42.8**	**0.0**
CPB				*e*S	Sn	**02 17 06.5**	**-0.3**
SSV	**Crater Summit**	**2.40**	**171**	*e*P	Pn	**02 16 49.2**	**-0.1**
SSV				*e*S	Sn	**02 17 17.2**	**-1.3**
SSV				*e*T		02 18 37.7	
SVV	**Soufriere Volc**	**2.41**	**171**	*e*P	Pn	**02 16 49.9**	**+0.6**
SVV				*e*S	Sn	**02 17 18.8**	**+0.1**
SVV				*e*T		02 18 39.7	
SVB	**Belmont**	**2.45**	**172**	*e*P	Pn	**02 16 49.9**	**0.0**
SVB				*e*S	Sn	**02 17 18.2**	**-1.4**
SVB				*e*T		02 18 48.6	
FCV	**Fort Charlotte**	**2.56**	**172**	*e*P	Pn	**02 16 51.6**	**+0.2**
FCV				*e*S	Sn	**02 17 21.9**	**-0.6**
FCV				*e*T		02 19 26.2	
GRW	**Mount Saint Ca**	**3.53**	**181**	*e*P	Pn	**02 17 05.3**	**+0.5**
GRW				*e*S	Sn	**02 17 47.1**	**+0.8**
SJG	**San Juan**	**4.97**	**299**	Pn	Pn	**02 17 24.8**	**+0.2**
	11nm,0.3s,baz=170,slow=11,SNR=19						
SJG				Sn	Sn	**02 18 19.9**	**-1.9**
	10nm,0.3s,baz=195,slow=24,SNR=3.6						
SJG	**San Juan**	**4.97**	**299**	*e*Pn	Pn	**02 17 24.7**	**+0.2**
	55nm,0.9s						
TRN	**Trinidad (W)**	**5.04**	**178**	*e*P	Pn	**02 17 26.5**	**+1.1**
TRN				*e*S	Sn	**02 18 21.6**	**-1.9**
PCRV	**Puerto La Cruz**	**6.25**	**209**	Pn	Pn	**02 17 41.6**	**-0.6**
	4.1nm,0.3s,baz=9.4,slow=4.5,SNR=12						
PCRV				Sn	Sn	**02 18 48.6**	**-4.8**
	0.2nm,0.3s,baz=254,slow=22,SNR=2.4						
PCRV				LR	LR	02 20 20.1	
	comp=Z,493nm,21.0s,baz=188,slow=40						
SDV	**Santo Domingo**	**11.14**	**234**	Pn	Pn	**02 18 47.5**	**-1.6**
	0.8nm,0.3s,baz=234,slow=1.8,SNR=5.5						
SDV				LR	LR	02 23 09.4	
	comp=Z,200nm,20.4s,baz=218,slow=38						
SDV	**Santo Domingo**	**11.14**	**234**	*e*Pn	Pn	**02 18 47.4**	**-1.7**
	9.3nm,0.7s						
ROSC	**El Rosal**	**16.52**	**231**	Pn	Pn	**02 20 03.7**	**+2.1**
	0.6nm,0.3s,baz=66,slow=19,SNR=3.4						
OTAV	**Otavalo**	**22.66**	**229**	*e*P	P	**02 21 10.4**	**-0.7**
	11nm,1.3s,mb4.1						
SAML	**Samuel**	**24.55**	**184**	*e*P	P	**02 21 29.7**	**+0.1**
	8.2nm,0.6s,mb4.4						
GOGA	**Godfrey**	**26.48**	**316**	*e*P	P	**02 21 46.0**	**-1.1**
	100nm,1.3s,mb5.2						
ATAH	**Atahualpa**	**28.04**	**218**	LR	LR	02 34 05.4	
	comp=Z,121nm,21.6s,MS3.5,baz=60,slow=38						
SIV	**San Ignacio**	**31.51**	**179**	P	P	**02 22 32.6**	**+0.8**
	6.3nm,0.9s,mb4.4,baz=14,slow=9.1,SNR=26						
LPAZ	**La Paz**	**32.45**	**192**	LR	LR	02 37 27.7	
	comp=Z,86nm,18.9s,MS3.5,baz=64,slow=39						
BDFB	**Brasilia**	**33.92**	**156**	LR	LR	02 38 12.4	
	comp=Z,86nm,18.6s,MS3.5,baz=212,slow=39						
HKT	**Hockley**	**34.44**	**300**	*e*P	P	**02 22 57.3**	**-0.1**
	5.6nm,1.1s,mb4.4						
SCHQ	**Schefferville**	**39.25**	**355**	LR	LR	02 37 16.7	
	comp=Z,42nm,18.9s,MS3.3,baz=125,slow=32						
MNTX	**Cornudas Mount**	**42.83**	**300**	*e*P	P	**02 24 08.5**	**+0.6**
	3.1nm,1.1s,mb4.0						
ULM	**Lac du Bonnet**	**44.17**	**329**	P	P	**02 24 17.8**	**-0.9**
	1.4nm,0.5s,mb4.0,baz=132,slow=9.9,SNR=4.8						
BNM	**Barren Site**	**44.37**	**303**	*e*P	P	**02 24 18.8**	**-1.5**
SMCO	**Snowmass**	**45.96**	**310**	*e*P	P	**02 24 33.1**	**+0.2**
	5.9nm,1.4s,mb4.3						
PDAR	**Pinedale Array**	**48.93**	**313**	P	P	**02 24 56.1**	**+0.1**
	2.7nm,0.9s,mb4.3,baz=96,slow=6.6,SNR=14						
BW06	**Boulder Array**	**48.93**	**313**	*e*P	P	**02 24 56.5**	**+0.5**
	4.7nm,1.0s,mb4.5						
GCMT	**Greycliff**	**50.02**	**317**	*e*P	P	**02 25 04.2**	**-0.1**
DUG	**Dugway**	**50.58**	**309**	*e*P	P	**02 25 09.1**	**+0.6**
	2.0nm,0.8s,mb4.1						
QLMT	**Earthquake Lak**	**50.87**	**315**	*e*P	P	**02 25 12.1**	**+1.3**
BOZ	**Bozeman (W)**	**51.26**	**316**	*e*P	P	**02 25 14.1**	**+0.4**
	1.9nm,0.9s,mb4.0						
ELK	**Elko**	**52.50**	**310**	*e*P	P	**02 25 23.4**	**+0.4**
	0.8nm,0.7s,mb3.8						
HLID	**Hailey**	**52.56**	**313**	*e*P	P	**02 25 23.6**	**+0.2**
	1.5nm,0.9s,mb3.9						
NVAR	**Mina Array Bea**	**54.43**	**306**	P	P	**02 25 38.0**	**+0.9**
	0.9nm,0.9s,mb3.7,baz=93,slow=7.0,SNR=4.7						
NVAR	**Mina Array Bea**	**54.43**	**306**	P	P	**02 25 38.0**	**+0.9**
EDM	**Edmonton**	**55.01**	**325**	*e*P	P	**02 25 40.6**	**-0.7**
ESDC	**Sonseca Array**	**55.31**	**52**	P	P	**02 25 43.8**	**+0.3**
	0.8nm,0.7s,mb3.9,baz=274,slow=6.9,SNR=5.4						
NEW	**Newport**	**55.64**	**318**	*e*P	P	**02 25 46.0**	**+0.2**
	4.0nm,0.8s,mb4.5						
DBIC	**Dimbokro**	**56.23**	**92**	P	P	**02 25 50.5**	**+0.4**
	6.9nm,0.8s,mb4.7,baz=269,slow=9.0,SNR=3.6						
PLCA	**Paso Flores**	**56.77**	**188**	LR	LR	02 50 11.3	
	comp=Z,91nm,19.1s,MS3.9,baz=39,slow=36						
ROSF	**Rostrenen**	**57.45**	**42**	*e*P	P	**02 25 59.2**	**+0.5**
	55nm,1.1s,mb5.2						
ROSF	**Rostrenen**	**57.45**	**42**	*e*P	P	**02 25 59.2**	**+0.5**
	27nm,1.1s,mb5.2						
SJPF	**Ste Jean**	**57.86**	**49**	*e*P	P	**02 26 02.6**	**+1.0**
	17nm,0.8s,mb4.8						
SJPF	**Ste Jean**	**57.86**	**49**	*e*P	P	**02 26 02.6**	**+1.0**
	8.4nm,0.8s,mb4.8						
ETSF	**Etsaut**	**58.31**	**49**	*e*P	P	**02 26 05.7**	**+0.9**
	5.3nm,0.8s,mb4.3						
ETSF	**Etsaut**	**58.31**	**49**	*e*P	P	**02 26 05.7**	**+0.9**
	2.7nm,0.8s,mb4.3						
EPF	**Esparros**	**58.98**	**49**	*e*P	P	**02 26 10.6**	**+1.2**
GRR	**Gorron**	**59.04**	**43**	*e*P	P	**02 26 09.9**	**+0.1**
MFF	**Saint Martin d**	**59.18**	**45**	*e*P	P	**02 26 11.3**	**+0.5**
YKA	**Yellowknife Ar**	**59.51**	**335**	P	P	**02 26 12.2**	**-0.9**
	1.7nm,0.6s,mb4.3,baz=106,slow=7.4,SNR=11						
YKA	**Yellowknife Ar**	**59.51**	**335**	P	P	**02 26 12.2**	**-0.9**
LFF	**La Frestale**	**59.53**	**47**	*e*P	P	**02 26 13.9**	**+0.7**
	18nm,1.1s,mb4.7						
LFF	**La Frestale**	**59.53**	**47**	*e*P	P	**02 26 13.9**	**+0.7**
	9.2nm,1.0s,mb4.8						
LDF	**La Druitiere**	**59.56**	**43**	*e*P	P	**02 26 13.2**	**-0.2**
RJF	**Les Rejaudoux**	**60.12**	**47**	*e*P	P	**02 26 17.5**	**+0.2**
	50nm,1.4s,mb5.0						
RJF				*e*R			
	124nm,18.0s						
RJF	**Les Rejaudoux**	**60.12**	**47**	*e*P	P	**02 26 17.5**	**+0.2**
	25nm,1.4s,mb5.0						
RJF				LR	LR		
	comp=Z,120nm,18.0s,MS4.1						
MTLF	**Montolieu**	**60.38**	**49**	*e*P	P	**02 26 19.5**	**+0.4**
	comp=Z,24nm,1.3s,mb4.8						
MTLF	**Montolieu**	**60.38**	**49**	*e*P	P	**02 26 19.5**	**+0.4**
	comp=Z,12nm,1.3s,mb4.8						
CAF	**Calviac**	**60.46**	**47**	*e*P	P	**02 26 20.1**	**+0.5**
	comp=Z,6.6nm,0.9s,mb4.3						
CAF	**Calviac**	**60.46**	**47**	*e*P	P	**02 26 20.1**	**+0.5**
	comp=Z,3.3nm,0.9s,mb4.4						
TCF	**Toulx Ste Croi**	**60.74**	**45**	*e*P	P	**02 26 21.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**61.15**	**83**	P	P	**02 26 23.9**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.5,baz=289,slow=6.1,SNR=12						
BGF	**Bois d'Agland**	**61.21**	**45**	*e*P	P	**02 26 25.1**	**+0.4**
AVF	**Avril sur Loir**	**61.59**	**45**	*e*P	P	**02 26 27.3**	**0.0**
SSF	**Saint Saulge**	**61.73**	**45**	*e*P	P	**02 26 28.0**	**-0.2**
	comp=Z,28nm,1.4s,mb4.9						
SSF	**Saint Saulge**	**61.73**	**45**	*e*P	P	**02 26 28.0**	**-0.2**
	comp=Z,14nm,1.4s,mb4.9						
SMF	**Signal de Mont**	**61.90**	**45**	*e*P	P	**02 26 29.5**	**+0.1**
	comp=Z,57nm,1.6s,mb5.2						
SMF	**Signal de Mont**	**61.90**	**45**	*e*P	P	**02 26 29.5**	**+0.1**
	comp=Z,28nm,1.6s,mb5.2						
LOR	**Lormes**	**61.99**	**45**	*e*P	P	**02 26 29.9**	**-0.1**
	comp=Z,15nm,1.1s,mb4.8						
LOR	**Lormes**	**61.99**	**45**	*e*P	P	**02 26 29.9**	**-0.1**
	comp=Z,7.6nm,1.1s,mb4.7						
VIVF	**Saint-Julien-l**	**62.30**	**47**	*e*P	P	**02 26 33.1**	**+1.1**
	comp=Z,15nm,1.1s,mb4.7						
VIVF	**Saint-Julien-l**	**62.30**	**47**	*e*P	P	**02 26 33.1**	**+1.1**
	comp=Z,7.5nm,1.1s,mb4.7						
SMRF	**Simiane la Rot**	**62.87**	**48**	*e*P	P	**02 26 36.2**	**+0.3**
	comp=Z,9.4nm,1.0s,mb4.6						
SMRF	**Simiane la Rot**	**62.87**	**48**	*e*P	P	**02 26 36.2**	**+0.3**
	comp=Z,9.4nm,1.0s,mb4.9						
FRF	**La Foret Royal**	**63.62**	**49**	*e*P	P	**02 26 41.0**	**+0.2**
HAU	**Haudompre**	**63.75**	**44**	*e*P	P	**02 26 41.7**	**0.0**
MBDF	**Montbardon**	**63.77**	**48**	*e*P	P	**02 26 42.9**	**+1.0**
LPL	**La Plagne**	**63.80**	**47**	*e*P	P	**02 26 43.2**	**+1.2**
LPG	**La Plagne**	**63.81**	**47**	*e*P	P	**02 26 42.8**	**+0.7**
HINF	**Hinteralfeld**	**64.07**	**44**	*e*P	P	**02 26 43.3**	**-0.5**
CDF	**Champ du Feu**	**64.40**	**44**	*e*P	P	**02 26 45.9**	**-0.1**
PGF	**Pioggiola**	**65.30**	**50**	*e*P	P	**02 26 51.9**	**+0.1**
GRA1	**Grafenberg Arr**	**67.08**	**42**	*e*P	P	**02 27 03.7**	**+0.5**
	comp=Z,5.0nm,1.3s,mb4.4						
GRF	**Grafenberg Arr**	**67.08**	**42**	*e*P	P	**02 27 03.7**	**+0.5**
	comp=Z,5.0nm,1.3s,mb4.4						
NB2	**NORSAR Subarra**	**68.06**	**30**	P	P	**02 27 09.9**	**+0.5**
	comp=Z,4.1nm,0.8s,mb4.5,baz=260,slow=6.5						
NOA	**NORSAR Array B**	**68.06**	**30**	P	P	**02 27 09.2**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.4,baz=262,slow=6.3,SNR=12						
NOA				LR	LR	02 49 13.7	
	comp=Z,32nm,20.4s,MS3.5,baz=260,slow=29						
CLL	**Collm**	**68.28**	**41**	*i* P	P	**02 27 10.4**	**-0.4**
	comp=Z,6.0nm,1.2s,mb4.5						
CLL				*i* pP	pP	02 27 13.7	-1.5
	comp=Z,14nm,1.6s						
GERES	**GERESS Array B**	**68.68**	**43**	P	P	**02 27 13.0**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=266,slow=4.0,SNR=8.1						
GERES				LR	LR	02 51 20.5	
	comp=Z,34nm,18.9s,MS3.6,baz=294,slow=31						
GERES	**GERESS Array B**	**68.68**	**43**	P	P	**02 27 13.0**	**-0.3**
GERES				LR	LR	02 51 20.5	
INK	**Inuvik**	**68.84**	**338**	*e*P	P	**02 27 12.9**	**-1.5**
	comp=Z,5.0nm,1.0s,mb4.4						
BRG	**Berggiesshubel**	**68.86**	**41**	*e*P	P	**02 27 14.9**	**+0.5**
	comp=Z,5.2nm,1.5s,mb4.2						
BRG				*e*	pP	02 27 18.3	-0.6
	comp=Z,3.7nm,1.1s						

Error ellipse: s-maj=11.6km s-min=7.1km az=72.0
*IDC **21** 02:39:55.0±1.8, 679S×12721E, h412km±20km, mb3.8/9, mb1 3.8/13, mb1mx3.7/18, mbtmp4.6/13, Error ellipse: s-maj=21.1km s-min=8.2km az=78.0*
ISC 21 02:39:55.4±0.5, 679S±003×12723E±006, h419km±7km, h388km±9.8km: pP-P, n85, σ1§05/93, mb4.2/35, 6C-6D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.23**	**17**	P	**P**	**02 41 00.8**	**-1.0**
	809nm,1.2s						
TLE	**Tual**	**5.59**	**79**	P	**P**	**02 41 23.7**	**-0.6**
	2μm,0.9s						
SWI	**Sorong**	**7.12**	**34**	P	**P**	**02 41 40.9**	**+0.1**
	67nm,0.8s						
KAKA	**Kakadu**	**7.81**	**139**	*eP*	**P**	**02 41 46.7**	**-1.6**
	20nm,0.6s						
KAKA				*eS*	**S**	**02 43 10.3**	**-11**
BAKI	**Biak**	**10.45**	**58**	P	**P**	**02 42 19.1**	**+1.6**
	324nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.35**	**188**	*eP*	**P**	**02 42 27.7**	**+0.3**
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.35**	**188**	P	**P**	**02 42 27.8**	**+0.3**
	1.2nm,0.3s,baz=28,slow=10,SNR=46						
FITZ				S	**S**	**02 44 34.2**	**+1.3**
	0.5nm,0.3s,baz=219,slow=19,SNR=3.9						
JAY	**Jayapura**	**14.08**	**73**	P	**P**	**02 42 59.2**	**+2.0**
	62nm,1.0s						
WRAB	**Tennant Creek**	**14.78**	**153**	*eP*	**P**	**02 43 05.2**	**+0.4**
	6.3nm,0.5s						
WRAB				*eS*	**S**	**02 45 39.5**	**-2.0**
WRA	**Warramunga Arr**	**14.79**	**153**	P	**P**	**02 43 03.3**	**-1.6**
	2.2nm,0.3s,baz=225,slow=8.1,SNR=84						
WRA				S	**S**	**02 45 38.7**	**-2.9**
	1.2nm,0.3s,baz=316,slow=20,SNR=8.0						
WB2	**Warramunga Arr**	**14.79**	**153**	*eP*	**P**	**02 43 05.1**	**+0.2**
WB2				*eS*	**S**	**02 45 39.7**	**-2.0**
MBWA	**Marble Bar**	**16.03**	**206**	*eP*	**P**	**02 43 18.1**	**0.0**
	54nm,1.1s						
MBWA				*eS*	**S**	**02 46 04.4**	**-1.5**
BJII	**Banjamegara**	**17.40**	**267**	P	**P**	**02 43 36.1**	**+3.4**
	49nm,1.0s						
AS31	**Alice Springs**	**17.96**	**160**	*eP*	**P**	**02 43 39.5**	**+0.8**
AS31				*eS*	**S**	**02 46 44.3**	**+1.1**
ASPA	**Alice Springs**	**17.96**	**160**	*eP*	**P**	**02 43 39.5**	**+0.8**
ASPA				*eS*	**S**	**02 46 44.3**	**+1.0**
ASAR	**Alice Springs**	**17.97**	**160**	P	**P**	**02 43 39.4**	**+0.7**
	4.0nm,0.3s,baz=348,slow=13,SNR=147						
ASAR				S	**S**	**02 46 43.1**	**-0.2**
	1.3nm,0.3s,baz=341,slow=22,SNR=14						
ASAR				ScP	ScP	02 50 48.8	+2.7
	baz=337,slow=1.8,SNR=4.8						
ASAR	**Alice Springs**	**17.97**	**160**	P	**P**	**02 43 39.4**	**+0.7**
ASAR				S	**S**	**02 46 43.1**	**-0.2**
KSM	**Kuching**	**18.78**	**295**	*eP*	**P**	**02 43 48.7**	**+1.5**
PMG	**Port Moresby**	**19.90**	**99**	P	**P**	**02 43 59.5**	**+1.9**
	2.1nm,0.3s,baz=217,slow=2.2,SNR=6.2						
PMG	**Port Moresby**	**19.90**	**99**	*eP*	**P**	**02 43 59.5**	**+2.0**
	30nm,0.9s						
CBJI	**Citeko**	**20.25**	**270**	P	**P**	**02 43 59.9**	**-0.9**
	288nm,0.9s						
FORT	**Forrest**	**23.88**	**178⇑**	*iP*	**P**	**02 44 34.6**	**+0.9**
	25nm,0.4s,mb5.0						
KLBR	**Kellerberrin**	**26.22**	**199**	*eP*	**P**	**02 44 55.0**	**+0.5**
	13nm,0.4s,mb4.7						
NWAO	**Narrogin (SRO)**	**27.62**	**198**	P	**P**	**02 45 07.5**	**+0.7**
	14nm,0.6s,mb4.5,baz=63,slow=6.4,SNR=7.4						
STKA	**Stephens Creek**	**28.34**	**154**	*eP*	**P**	**02 45 12.5**	**-0.6**
	4.9nm,0.4s,mb4.2						
STKA				*e*		02 46 24.3	
STKA	**Stephens Creek**	**28.34**	**154**	P	**P**	**02 45 12.9**	**-0.3**
	6.7nm,0.5s,mb4.2,baz=324,slow=8.5,SNR=25						
KULM	**Kulim**	**29.12**	**294**	*eP*	**P**	**02 45 21.0**	**+1.0**
JOW	**Kunigami**	**33.43**	**2**	P	**P**	**02 45 57.5**	**+0.2**
	13nm,0.8s,mb4.3,baz=160,slow=16,SNR=4.6						
NJ2	**Nanjing**	**39.44**	**349**	*eP*	**P**	**02 46 46.4**	**-0.9**
NJ2				AP	pP	02 48 05.0	-1.3
NJ2				PP	PP	02 48 29.1	+0.2
NJ2				PCP	PcP	02 48 45.0	-0.4
NJ2				S	**S**	**02 52 17.0**	**-0.5**
NJ2				XS	sS	02 54 39.0	-2.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
NJ2				AMB	AMB		
	comp=Z,40nm,6.0s						
KMI	**Kunming**	**39.68**	**324**	P	**P**	**02 46 53.3**	**+4.1**
CD2	**Chengdu**	**43.70**	**330**	*eP*	**P**	**02 47 20.8**	**-0.5**
MJAR	**Matsushiro Arr**	**44.31**	**13**	P	**P**	**02 47 25.5**	**-0.6**
	comp=Z,20nm,0.8s,mb4.5,baz=188,slow=8.7,SNR=40						
MAJO	**Matsushiro**	**44.31**	**13**	*eP*	**P**	**02 47 25.6**	**-0.5**
	comp=Z,9.4nm,0.6s,mb4.3						
MAT	**Matsushiro**	**44.31**	**13**	P	**P**	**02 47 25.3**	**-0.8**
MAT	**Matsushiro**	**44.31**	**13**	*eP*	**P**	**02 47 25.0**	**-1.1**
BJT	**Baijiatuan**	**47.68**	**349**	*eP*	**P**	**02 47 51.5**	**-0.4**
	comp=Z,5.5nm,0.4s,mb4.2						
LZH	**Lanzhou**	**47.97**	**334**	*eP*	**P**	**02 47 55.1**	**+0.9**
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.3						
HHC	**Hu-ho-hao-te**	**49.54**	**344**	*eP*	**P**	**02 48 07.3**	**+1.4**
HHC				AP	pP	02 49 25.9	-3.4
HHC				PP	PP	02 50 06.6	+1.4
HHC				XP	sP	02 50 14.3	-1.6
HHC				S	**S**	**02 54 37.6**	**-3.7**
HHC				XS	sS	02 57 04.8	-6.5
HHC				SCS	ScS	02 57 12.8	+0.8
HHC				AMB	AMB		
	comp=Z,80nm,4.7s						
MDJ	**Mudanjiang**	**51.21**	**2**	P	**P**	**02 48 18.9**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,10.0nm,3.6s						
JIRN	**Jiri**	**52.40**	**313**	*eP*	**P**	**02 48 25.6**	**-1.3**
	comp=Z,3.4nm,0.3s,mb4.1						
GTA	**Gaotai**	**52.51**	**333**	*eP*	**P**	**02 48 28.4**	**+0.8**
ASAJ	**Asahikawa**	**52.53**	**14**	P	**P**	**02 48 28.4**	**+0.5**
	comp=Z,8.3nm,0.5s,mb4.2,baz=270,slow=7.7,SNR=6.2						
GUN	**Gumba**	**52.77**	**313**	*eP*	**P**	**02 48 27.4**	**-2.1**
	comp=Z,6.9nm,0.4s,mb4.3						
PKI	**Pulchoki**	**52.92**	**312**	*eP*	**P**	**02 48 30.8**	**+0.2**
KKN	**Kakani**	**53.14**	**312**	*eP*	**P**	**02 48 30.6**	**-1.6**
DMN	**Daman**	**53.17**	**312**	*eP*	**P**	**02 48 32.3**	**-0.1**
GKN	**Gorkha**	**53.73**	**312**	*eP*	**P**	**02 48 34.3**	**-2.1**
	comp=Z,9.5nm,0.3s,mb4.5						
KOLN	**Koldanda**	**54.37**	**311**	*eP*	**P**	**02 48 41.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**55.25**	**13**	*eP*	**P**	**02 48 47.5**	**+0.3**
HABR	**Khabarovsk**	**55.45**	**6**	*eP*	**P**	**02 48 46.7**	**-1.9**
HIA	**Hailar**	**56.20**	**354**	*dP*	**P**	**02 48 52.6**	**-1.2**
ULN	**Ulaanbaatar**	**57.26**	**344**	*deP*	**P**	**02 49 00.2**	**-1.0**
ULN				*i* *PP	pP	02 50 18.9	-8.7
ULN	**Ulaanbaatar**	**57.26**	**344**	*eP*	**P**	**02 49 02.0**	**+0.8**
ULN	**Ulaanbaatar**	**57.26**	**344**	*eP*	**P**	**02 49 02.0**	**+0.8**
	comp=Z,12nm,1.0s,mb4.2						
SONM	**Songino Array**	**57.41**	**343**	P	**P**	**02 49 02.2**	**0.0**
	comp=Z,4.0nm,0.8s,mb3.8,baz=162,slow=7.6,SNR=25						
CASY	**Casey**	**60.52**	**188**	*eP*	**P**	**02 49 23.8**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.0						
ZAK	**Zakamensk**	**60.60**	**343**	*eP*	**P**	**02 49 24.0**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.6						
TLY	**Talaya**	**61.66**	**344**	*deP*	**P**	**02 49 32.1**	**+1.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
WMQ	**Urumqi**	**61.75**	**328**	*eP*	**P**	**02 49 32.3**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**66.57**	**328**	P	**P**	**02 50 02.4**	**+0.1**
	comp=Z,1.1nm,0.4s,mb3.8,baz=122,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**66.57**	**328⇑**	*eP*	**P**	**02 50 02.7**	**+0.4**
MKAR	**Makanchi Array**	**66.57**	**328**	P	**P**	**02 50 02.4**	**+0.1**
AAK	**Ala-Archa**	**68.62**	**321⇑**	*iP*	**P**	**02 50 15.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.8						
YAK	**Yakutsk**	**68.64**	**1**	*c iP*	**P**	**02 50 15.4**	**+0.4**
YAK				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.0						
YAK	**Yakutsk**	**68.64**	**1**	*eP*	**P**	**02 50 15.2**	**+0.2**
	comp=Z,27nm,0.7s,mb5.0						
MA2	**Magadan**	**68.76**	**13**	*c iP*	**P**	**02 50 16.3**	**+0.5**
MA2				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
MA2	**Magadan**	**68.76**	**13**	*eP*	**P**	**02 50 16.7**	**+1.0**
	comp=Z,11nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**70.20**	**335**	P	**P**	**02 50 24.4**	**-0.1**
	comp=Z,3.6nm,0.8s,mb4.0,baz=340,slow=4.0,SNR=15						
ZAL	**Zalesovo**	**70.20**	**335**	P	**P**	**02 50 24.4**	**-0.1**
NVS	**Novosibirsk**	**71.49**	**335**	*i P*	**P**	**02 50 30.7**	**-1.4**
VNDA	**Vanda**	**73.00**	**173**	P	**P**	**02 50 41.2**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.5,baz=314,slow=6.7,SNR=9.2						
VNDA	**Vanda**	**73.00**	**173**	*eP*	**P**	**02 50 41.2**	**+0.2**
	comp=Z,1.1nm,0.7s,mb3.5						
BRVK	**Borovoye**	**76.51**	**329**	*eP*	**P**	**02 51 00.9**	**+0.1**
	comp=Z,1.0nm,0.4s,mb3.8						
CHKZ	**Chkalovo**	**76.66**	**329**	*eP*	**P**	**02 51 01.5**	**-0.2**
	comp=Z,2.0nm,0.9s,mb3.8						
ZRNK	**Zerenda**	**77.12**	**328**	*eP*	**P**	**02 51 03.6**	**-0.5**
	comp=Z,6.0nm,1.0s,mb4.2						
TIXI	**Tiksi**	**78.28**	**1**	*deP*	**P**	**02 51 09.9**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
SYO	**Syowa Base**	**82.86**	**201⇓**	*eP*	**P**	**02 51 34.9**	**+0.4**
QSPA	**South Pole Qui**	**83.19**	**180**	*eP*	**P**	**02 51 36.5**	**+0.4**
	comp=Z,6.8nm,1.1s,mb4.3						
ARU	**Arti**	**84.08**	**329⇑**	*iP*	**P**	**02 51 39.6**	**-1.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
UDYN	**Al 'Udayn**	**85.13**	**285**	*i* S		03 02 18.8	
KIV	**Kislovodsk**	**90.75**	**314**	*eP*	**P**	**02 52 13.8**	**+1.6**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
OBN	**Obninsk**	**95.89**	**325⇓**	*iP*	**P**	**02 52 40.2**	**+4.4**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
TORD	**Torodi Ar. Bea**	**126.07**	**281**	PKP	PKPdf	02 58 09.8	+1.1
	comp=Z,1.0nm,0.6s,baz=82,slow=1.7,SNR=14						
TORD	**Torodi Ar. Bea**	**126.07**	**281**	PKP	PKPdf	02 58 09.8	+1.1
LPAZ	**La Paz**	**152.49**	**147**	*e*PKIKP	PKPbc	02 59 06.4	+3.5

*MDD **21** 02:49:30.6±1.4, 3665N×975W, h0km, mbLg2.3/16, Error ellipse: s-maj=11.8km s-min=10.5km az=47.0, PRXIMO*
*IGIL **21** 02:49:31.8, 3652N×983W, h22km, ML1.8*
INMG 21 02:49:32.5±1.0, 3662N×975W, h14km±20km, ML2.0, Error ellipse: s-maj=19.5km s-min=3.4km az=50.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.11**	**52**	*eP*	Pb	02 49 52.1	-1.4
MORF				*eS*	Sb	02 50 07.0	-0.9
MORF				*eS*	Sb	02 50 07.1	-0.8
MORF				AML	AML	02 50 07.7	
	comp=N,13nm,0.1s						
PTEO	**Sao Teotonio**	**1.23**	**41**	*eP*	Pn	02 49 53.8	-1.5
PTEO				*eS*	Sb	02 50 09.8	-1.6
PTEO							
	comp=N,8.3nm,0.2s						
EGRO	**El Granado**	**2.03**	**63**	P	Pn	02 50 04.8	-1.5
	comp=N,1.1nm,0.1s,SNR=10						
EGRO				S	Sn	02 50 28.5	-2.9
	comp=N,2.2nm,0.1s						
PBEJ	**Beja**	**2.05**	**46**	*e*Pn	Pn	02 50 04.7	-1.9
PBEJ				*e*Sn	Sn	02 50 29.0	-3.0
PBEJ							
	comp=N,3.1nm,0.2s						
MOE	**Montemor**	**2.20**	**30**	*e*Pn	Pn	02 50 07.1	-1.5
MOE				*e*Sn	Sn	02 50 33.5	-2.1
PLOU	**Loures**	**2.31**	**12**	*e*Pn	Pn	02 50 08.4	-1.7
PLOU				*e*Sn	Sn	02 50 34.8	-3.5
PLOU							
	comp=N,9.1nm,0.2s						
EMIN	**Mina Concepcio**	**2.71**	**64**	P	Pn	02 50 13.2	-2.4
	comp=N,0.7nm,0.2s,SNR=6.7						
EMIN				S	Sn	02 50 44.8	-3.5
	comp=N,0.8nm,0.1s,SNR=7.7						
EBAD	**Badajoz**	**3.04**	**45**	P	Pn	02 50 17.9	-2.3
	comp=N,0.7nm,0.1s,SNR=8.1						
EBAD				S	Sn	02 50 52.7	-3.7
	comp=N,4.8nm,0.1s						
ESPR	**Espera**	**3.13**	**84**	P	Pn	02 50 19.8	-1.7
	comp=N,3.0nm,0.1s,SNR=12						
ESPR				S	Sn	02 50 54.7	-4.1
	comp=N,5.8nm,0.2s						
PTOM	**Tomar**	**3.17**	**19**	*e*Pn	Pn	02 50 20.3	-1.7
PTOM				*e*Sn	Sn	02 50 55.4	-4.2
PTOM							
	comp=N,4.8nm,0.2s						
PCBR	**Castelo Branco**	**3.68**	**28**	*e*Pn	Pn	02 50 27.4	-1.6
PCBR				*e*Sn	Sn	02 51 07.9	-4.2
PCBR							
	comp=N,0.9nm,0.1s						
PVIS	**Viseu**	**4.34**	**19**	*e*Pn	Pn	02 50 35.9	-2.1
PVIS				*e*Sn	Sn	02 51 23.7	-4.7
PVIS							
	comp=N,3.2nm,0.1s						
EADA	**Adamuz**	**4.40**	**68**	P	Pn	02 50 37.2	-1.6
	comp=N,0.6nm,0.2s,SNR=5.9						
EADA				S	Sn	02 51 25.1	-4.7
	comp=N,1.0nm,0.2s						
PVRL	**Vila Real**	**4.91**	**18**	*e*Sn	Sn	02 51 38.6	-3.9
PVRL							
	comp=N,4.9nm,0.1s						
PVRL	**Vila Real**	**4.91**	**18**	S	Sn	02 51 38.6	-3.9
	comp=N,2.5nm,0.1s						
PCAB	**Cabril**	**5.25**	**14**	*e*Pn	Pn	02 50 48.3	-2.3
PCAB				*e*Sn	Sn	02 51 45.7	-5.3
PCAB							
	comp=N,1.9nm,0.1s						
ELOB	**Lobios**	**5.40**	**14**	S	Sn	02 51 49.0	-5.6
	comp=N,1.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.46**	**76**	P	Pn	02 50 51.4	-2.1
	comp=N,0.5nm,0.3s,SNR=7.9						
EQES				S	Sn	02 51 50.8	-5.2
	comp=N,1.0nm,0.4s,SNR=7.9						
PBRG	**Braganca**	**5.68**	**23**	*e*Sn	Sn	02 51 55.4	-6.0
PBRG							
	comp=N,1.5nm,0.2s						
PBRG	**Braganca**	**5.68**	**23**	S	Sn	02 51 55.4	-6.0
	comp=N,0.8nm,0.2s						
ECAL	**Calabor**	**5.80**	**23**	P	Pn	02 50 56.0	-2.1
	comp=N,0.6nm,0.2s,SNR=7.9						
ECAL				S	Sn	02 51 59.0	-5.5
	comp=N,1.2nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**5.94**	**46**	P	Pn	02 50 57.2	-2.8
	comp=N,0.4nm,0.2s,SNR=7.9						
GUD				S	Sn	02 52 01.5	-6.4
	comp=N,0.8nm,0.3s,SNR=7.9						

*ISCJB **21** 02:52:22.6±1.1, 6071N±003×16554E±009, h13km±7km, mb3.8/13, MS3.4/3, Error ellipse: s-maj=7.9km s-min=4.7km az=51.1*
*KRSC **21** 02:52:22.6±0.9, 6070N×16577E, h13km±3km, ML4.1*
*MOS **21** 02:52:22.2±1.3, 6082N×16546E, h12km, mb4.1/4, Error ellipse: s-maj=27.5km s-min=10.8km az=83.8*
*IDC **21** 02:52:23.5±1.2, 6097N×16551E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/22, mbtmp3.7/8, MS3.5/3, Ms1 3.5/3, ms1mx3.0/27, Error ellipse: s-maj=35.1km s-min=20.0km az=161.0*
*NEIC **21** 02:52:24.2±0.5, 6081N×16552E, h10km, mb3.9/6, Error ellipse: s-maj=13.3km s-min=7.9km az=179.0*
ISC 21 02:52:23.1±1.3, 6075N±003×16556E±009, h7km±9km, n43, σ1§10/52, mb3.8/13, MS3.4/3, 1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.41**	**143**	*i P*	**Pg**	**02 52 29.7**	**-1.3**
TILR				*eS*	**Sg**	**02 52 35.0**	**-1.4**
TILR				Smax			
	67μm,0.4s						
KAMR	**Kamenskoye**	**1.74**	**10**	*i P*	**Pn**	**02 52 53.6**	**-0.1**
KAMR				*eS*	**Sn**	**02 53 16.2**	**+0.1**
KAMR				Smax			
	3μm,0.9s						
OSSR	**Ossora**	**1.96**	**221**	*eP*	**Pn**	**02 52 56.2**	**-0.6**
OSSR				*eS*	**Sn**	**02 53 19.8**	**-1.9**
OSSR				Smax			
	4μm,1.0s						
SMKR	**Semkarok**	**4.70**	**209**	*eP*	**Pn**	**02 53 35.3**	**+0.9**
SRKR	**Sorokina**	**4.71**	**211**	*eP*	**Pn**	**02 53 34.8**	**+0.3**
BDR	**Baidarnaya**	**4.77**	**210**	*eP*	**Pn**	**02 53 36.2**	**+0.7**
KBTR	**Krutoberegovo**	**4.78**	**199**	P	**Pn**	**02 53 35.4**	**-0.2**
KBTR				S	**Sn**	**02 54 32.1**	**+0.9**
KBTR	**Krutoberegovo**	**4.78**	**199**	*eP*	**Pn**	**02 53 36.0**	**+0.4**
KBTR				*eS*	**Sn**	**02 54 30.4**	**-0.8**
SRDR	**Sredinnyy**	**5.40**	**217**	*eP*	**Pn**	**02 53 45.3**	**+1.2**
BKI	**Bering**	**5.57**	**178**	*i P*	**Pn**	**02 53 48.0**	**+1.6**
KMNR	**Kamenistaya**	**5.74**	**212**	*eP*	**Pn**	**02 53 49.2**	**+0.4**
MKZ	**Mys Kozlova**	**6.54**	**200**	P	**Pn**	**02 54 01.4**	**+1.6**
MKZ				S	**Sn**	**02 55 13.2**	**-1.5**
MKZ	**Mys Kozlova**	**6.54**	**200**	*eP*	**Pn**	**02 54 01.9**	**+2.1**
SEY	**Seymchan**	**6.61**	**295**	*eP*	**Pn**	**02 54 03.9**	**+3.2**
BILL	**Bilibino**	**7.32**	**2**	*e*PN	**Pn**	**02 54 10.3**	**-0.2**
BILL				pmax	pmax		
	comp=Z,11nm,0.6s						
BILL	**Bilibino**	**7.32**	**2**	*e*Pn	**Pn**	**02 54 10.3**	**-0.2**
	comp=Z,11nm,0.6s						
BILL				*e*Sn	**Sn**	**02 55 31.6**	**-2.2**
BILL				*e*Sg	**Sg**	**02 56 13.4**	**-4.7**
BILL	**Bilibino**	**7.32**	**2**	*eP*	**Pn**	**02 54 12.6**	**+2.1**
MA2	**Magadan**	**7.47**	**267**	*d iP*N	**Pn**	**02 54 12.5**	**0.0**
MA2				pmax	pmax		
	comp=E,7.0nm,0.3s						
MA2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MA2	**Magadan**	**7.47**	**267**	*e*Pn	**Pn**	**02 54 11.5**	**-1.1**
	comp=Z,12nm,0.4s						
MA2				*e*Sn	**Sn**	**02 55 37.0**	**-0.5**
MA2	**Magadan**	**7.47**	**267**	*eP*	**Pn**	**02 54 13.8**	**+1.3**
SPN	**Mys Shipunski**	**8.25**	**204**	P	**Pn**	**02 54 24.3**	**+1.1**
SPN				S	**Sn**	**02 55 55.0**	**-1.6**
ATKA	**Atka Island**	**14.04**	**119**	*e*Pn	**Pn**	**02 55 41.8**	**-0.6**
MCK	**McKinley**	**21.05**	**62**	*eP*	**P**	**02 57 07.8**	**+0.1**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
MCK	**McKinley**	**21.05**	**62**	*eP*	**P**	**02 57 07.8**	**+0.1**
	comp=Z,3.9nm,0.8s,mb3.8						
DAWY	**Dawson**	**25.03**	**58**	*eP*	**P**	**02 57 48.8**	**+1.0**
INK	**Inuvik**	**26.18**	**47**	P	**P**	**02 57 59.5**	**+1.3**
	comp=Z,3.0nm,0.8s,mb3.9,baz=289,slow=13,SNR=12						
INK				LR	LR	03 09 31.4	
	comp=Z,64nm,18.4s,MS3.2,baz=242,slow=40						
INK	**Inuvik**	**26.18**	**47**	*eP*	**P**	**02 57 59.6**	**+1.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**26.18**	**47**	*eP*	**P**	**02 57 59.6**	**+1.4**
	comp=Z,3.6nm,0.9s,mb3.9						
INK				LR	LR	03 09 31.4	
MJAR	**Matsushiro Arr**	**29.81**	**228**	P	**P**	**02 58 33.5**	**+2.8**
	comp=Z,0.3nm,0.4s,mb3.4,baz=19,slow=16,SNR=3.5						
MJAR				LR	LR	03 12 22.2	
	comp=Z,58nm,18.2s,MS3.2,baz=180,slow=40						
SONM	**Songino Array**	**35.58**	**276**	P	**P**	**02 59 21.7**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.6,baz=61,slow=4.2,SNR=3.7						
ZAL	**Zalesovo**	**41.48**	**298**	LR	LR	03 19 35.9	
	comp=Z,92nm,19.6s,MS3.6,baz=23,slow=40						
ARCES	**ARCESS Array B**	**46.92**	**342**	P	**P**	**03 00 53.2**	**-1.1**
	comp=Z,1.2nm,0.9s,mb3.8,baz=40,slow=9.6,SNR=4.0						
ARCES	**ARCESS Array B**	**46.92**	**342**	P	**P**	**03 00 53.2**	**-1.1**
CHKZ	**Chkalovo**	**47.55**	**307**	*eP*	**P**	**03 00 58.4**	**-0.8**
	comp=Z,0.5nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**47.74**	**293**	P	**P**	**03 01 00.5**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.4,baz=53,slow=10,SNR=2.6						
BVAR	**Borovoye Array**	**48.12**	**306**	P	**P**	**03 01 03.8**	**+0.1**
	comp=Z,0.9nm,0.4s,mb4.1,baz=53,slow=9.8,SNR=8.2						
HLID	**Hailey**	**48.70**	**72**	*eP*	**P**	**03 01 08.5**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**48.73**	**307**	*eP*	**P**	**03 01 08.0**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ZRNK	**Zerenda**	**48.73**	**307**	*eP*	**P**	**03 01 08.0**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.2						
GCMT	**Greycliff**	**49.18**	**67**	*eP*	**P**	**03 01 12.7**	**+0.9**
BW06	**Boulder Array**	**51.57**	**69**	*eP*	**P**	**03 01 30.3**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.9						
PDAR	**Pinedale Array**	**51.57**	**69**	P	**P**	**03 01 29.6**	**-0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=330,slow=3.2,SNR=12						
NOA	**NORSAR Array B**	**56.94**	**345**	P	**P**	**03 02 07.6**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=14,slow=7.3,SNR=3.3						

*ISCJB **21** 03:01:07.8±0.8, 142N±0.1×9204W±008, h82km±22km, Error ellipse: s-maj=20.3km s-min=4.5km az=71.4*
*CASC **21** 03:01:08.2±2.7, 1422N×9200W, h24km±10km, MD4.1, ML4.1*
*MEX **21** 03:01:12.3±1.1, 1430N×9216W, h21km±58km, MD4.4*
ISC 21 03:01:09.5±0.7, 142N±01×9203W±008, h56km±53km, n25, σ1§02/24, 4C-3D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**1.12**	**60⇑**	*eP*	**Pn**	**03 01 28.7**	**-0.4**
TP2				*eS*	**Sn**	**03 01 44.6**	**+1.0**
TP2				AML	AML	03 01 51.2	
	comp=N,3μm,0.6s						
FUG	**Fuego 3**	**1.17**	**79⇑**	*iP*	**Pn**	**03 01 29.2**	**-0.5**
TER	**Terranova**	**1.31**	**86⇓**	*eP*	**Pn**	**03 01 31.0**	**-0.6**

CHNG	**Los Chungos**	**0.91 346**	⇓	*i* P	Pn	03 01 43.3	+0.3
CHNG				*i* S	Sn	03 01 55.7	+0.7
CHNG				AML	AML	03 01 57.3	
	comp=E,139nm,0.7s						
TACH	**Talagante**	**0.92 164**	⇓	*i* P	Pn	03 01 43.7	+0.5
TACH				*i* S	Sn	03 01 56.6	+1.4
FSR	**Penalolen**	**0.93 140**		*i* P	Pn	03 01 44.0	+0.8
FSR				*i* S	Sn	03 01 56.7	+1.3
FSR				AML	AML	03 02 00.0	
	comp=N,399nm,0.2s						
FSR	**Penalolen**	**0.93 140**		*i* P	Pn	03 01 44.0	+0.8
FSR				*i* S	Sn	03 01 56.7	+1.3
ANTU	**Antumapu**	**0.95 148**	⇑	*i* P	Pn	03 01 44.0	+0.5
ANTU				*i* S	Sn	03 01 57.1	+1.2
ANTU				AML	AML	03 01 58.6	
	comp=E,558nm,0.2s						
ANTU	**Antumapu**	**0.95 148**	⇑	*i* P	Pn	03 01 44.0	+0.5
ANTU				*i* S	Sn	03 01 57.1	+1.2
FCH	**Farellones**	**0.97 125**	⇑	*i* P	Pn	03 01 44.7	+0.8
FCH				*i* S	Sn	03 01 58.3	+1.7
FCH				AML	AML	03 01 58.6	
	comp=N,716nm,0.3s						
PCH	**Pirque**	**1.04 145**		*e* P	Pn	03 01 45.3	+0.5
PCH				*i* S	Sn	03 01 59.8	+1.5
SJCH	**San Jose de Ma**	**1.14 140**		*e* P	Pn	03 01 46.2	0.0
SJCH				*i* S	Sn	03 02 01.3	+0.6
SJCH				AML	AML	03 02 02.4	
	comp=N,242nm,0.1s						
SJCH	**San Jose de Ma**	**1.14 140**		*e* P	Pn	03 01 46.2	0.0
SJCH				*i* S	Sn	03 02 01.3	+0.6
LNV	**Longovilo**	**1.20 187**	⇑	*i* P	Pn	03 01 47.8	+0.9
LNV				*i* S	Sn	03 02 03.2	+1.2
CHCH	**Chadas Angostu**	**1.26 157**	⇑	*i* P	Pn	03 01 48.5	+0.7
CHCH				*i* S	Sn	03 02 05.2	+1.6
CACH	**El Canelo**	**1.45 159**		*e* P	Pn	03 01 51.6	+1.3
CACH				*e* S	Sn	03 02 10.7	+2.5
CMCH	**Combarbala**	**1.60 7**	⇓	*i* P	Pn	03 01 53.4	+1.0
CMCH				AML	AML	03 02 17.7	
	comp=E,460nm,0.3s						
CICH	**Cipreses**	**1.69 156**	⇓	*i* P	Pn	03 01 55.1	+1.5
CICH				*i* S	Sn	03 02 15.8	+1.6

*ISCJB **21** 03:12:58.3±0.6, 3900N±003×2064E±006, h9km±9km, Error ellipse: s-maj=7.7km s-min=5.0km az=158.1*
*NEIC **21** 03:12:58.3, 3899N×2063E, h41km, MD3.2(ATH), After ATH.*
*ATH **21** 03:12:58.4, 3899N×2064E, h41km±1km, MD3.2/4*
*THE **21** 03:12:58.5, 3898N×2062E, h10km*
*CSEM **21** 03:12:58.3, 3899N×2063E, h41km, MD3.2/4, After ATH*

ISC 21 03:12:58.5±0.6, 3899N±004×2061E±006, h15km±8km, n11, σ0°96/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.28**	**174**	*e*Pg	**Pg**	**03 13 03.6**	**-0.9**
LKD				*e*Sg	**Sg**	**03 13 08.0**	**-0.6**
IGT	**Igoumenitsa**	**0.58**	**338**	*e*Pg	**Pg**	**03 13 09.5**	**-0.5**
IGT				*e*Sg	**Sg**	**03 13 18.6**	**+0.8**
JAN	**Janina**	**0.69**	**15**	*e*P	**Pg**	**03 13 12.4**	**+0.4**
VLS	**Valsamata**	**0.81**	**181**	*e*P	**Pg**	**03 13 14.5**	**+0.2**
VLS				*e*S	**Sg**	**03 13 27.0**	**+2.0**
VLS	**Valsamata**	**0.81**	**181**	*e*P	**Pg**	**03 13 13.9**	**-0.4**
VLS				*e*S	**Sg**	**03 13 27.1**	**+2.1**
EVR	**Evrytania**	**0.93**	**94**	*e*P	**Pb**	**03 13 16.1**	**-0.3**
KEK	**Kerkira**	**0.96**	**319**	*e*P	**Pb**	**03 13 16.8**	**-0.1**
SRN	**Sarande**	**1.01**	**332**	*i*Pn	**Pn**	**03 13 16.9**	**-1.3**
SRN				*i*Sn	**Sg**	**03 13 37.5**	**+6.3**
LSK	**Leskovik**	**1.16**	**359**	*i*Pn	**Pn**	**03 13 21.9**	**+1.7**
LSK				*i*Sn	**Sg**	**03 13 43.5**	**+7.5**
AGG	**Agios Georgios**	**1.34**	**88**	*e*Pg	**Pg**	**03 13 23.1**	**-1.2**
AGG				*e*Sg	**Sg**	**03 13 42.6**	**+0.9**
FNA	**Florina**	**1.89**	**18**	*e*Pb	**Pb**	**03 13 32.2**	**-0.4**

*CSEM **21** 03:42:53.6±0.1, 4239N×806W, h15km, ML1.2, Error ellipse: s-maj=4.1km s-min=2.1km az=77.0*
*INMG **21** 03:42:53.9±1.1, 4238N×814W, h6km±10km, ML1.2, Error ellipse: s-maj=3.4km s-min=3.2km az=72.0*

MDD 21 03:42:53.8±0.4, 4239N×811W, h0km, mbLg1.5/8, 1C, Error ellipse: s-maj=5.8km s-min=2.4km az=69.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOB	**Lobios**	**0.52**	**176**	⇑Pg	Pg	03 43 03.6	-0.3
	3.0nm,0.1s,SNR=18						
ELOB				Lg		03 43 10.3	
	2.9nm,0.0s,SNR=5.0						
ELOB	**Lobios**	**0.52**	**176**	Pg	Pg	03 43 03.6	-0.2
	3.0nm,0.1s,SNR=18						
STS	**Santiago**	**0.59**	**327**	Pg	Pg	03 43 05.0	-0.2
	1.1nm,0.1s,SNR=7.9						
STS				Lg		03 43 12.7	
	3.1nm,0.2s,SNR=7.9						
STS	**Santiago**	**0.59**	**327**	Pg	Pg	03 43 05.0	-0.2
	1.1nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**0.68**	**175**	*i*Pg	Pg	03 43 06.4	-0.5
PCAB				*e*Sg	Sg	03 43 14.8	-0.9
PCAB							
	10.0nm,0.1s						
PCAB	**Cabril**	**0.68**	**175**	*e*Sg	Sg	03 43 14.8	-0.9
	10.0nm,0.1s						
EMAZ	**Mazaricos**	**0.85**	**312**	Pg	Pg	03 43 09.3	-0.9
	0.3nm,0.1s,SNR=18						
EMAZ				Lg		03 43 20.7	
	7.5nm,0.1s,SNR=5.0						
EMAZ	**Mazaricos**	**0.85**	**312**	Pg	Pg	03 43 09.3	-0.8
	0.3nm,0.1s,SNR=18						
ECAL	**Calabor**	**1.11**	**113**	Pg	Pg	03 43 14.6	-0.5
	2.1nm,0.3s,SNR=7.9						
ECAL				Lg		03 43 30.0	
	1.4nm,0.2s,SNR=6.7						
ECAL	**Calabor**	**1.11**	**113**	Pg	Pg	03 43 14.6	-0.6
	2.1nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**1.15**	**165**	*e*P	Pg	03 43 15.2	-0.7
PVRL				*e*S	Sg	03 43 29.7	-1.1
PVRL							
	9.6nm,0.1s						
PVRL	**Vila Real**	**1.15**	**165**	*e*P	Pg	03 43 15.2	-0.7
PVRL				*e*S	Sg	03 43 29.7	-1.1
	9.6nm,0.1s						
PBRG	**Braganca**	**1.17**	**119**	*e*S	Sg	03 43 31.1	-0.4
PBRG							
	1.2nm,0.1s						
PBRG	**Braganca**	**1.17**	**119**	Lg		03 43 31.1	
	0.6nm,0.1s						
EPON	**Pontenova**	**1.18**	**37**	Pg	Pg	03 43 14.1	-2.2
	1.7nm,0.2s,SNR=7.9						
EPON				Lg		03 43 31.7	
	1.4nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**1.18**	**37**	Pg	Pg	03 43 14.1	-2.2
	1.7nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**1.68**	**174**	*e*Sg	Sg	03 43 47.0	-0.8

*IDC **21** 03:48:56.4±1.1, 5.15N×9461E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/21, mbtmp4.0/10, Error ellipse: s-maj=52.2km s-min=18.5km az=51.0*
*NEIC **21** 03:49:00.8±0.6, 5.10N×9455E, h30km, mb4.3/4, Error ellipse: s-maj=21.2km s-min=8.4km az=221.0*
*ISCJB **21** 03:49:01.6±6.0, 52N±02×947E±03, h51km±49km, mb4.1/14, Error ellipse: s-maj=64.2km s-min=16.1km az=108.6*

ISC 21 03:49:04.8±5.1, 53N±02×947E±03, h59km±43km, n16, σ0°48/16, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.89**	**89**	*e*Pn	**Pn**	**03 50 29.5**	**0.0**
MKAR	**Makanchi Array**	**42.75**	**347**	P	**P**	**03 56 56.5**	**+0.2**
	1.6nm,0.4s,mb4.1,baz=166,slow=7.9,SNR=22						
SONM	**Songino Array**	**43.58**	**11**	P	**P**	**03 57 02.6**	**-0.3**
	0.7nm,0.4s,mb3.8,baz=186,slow=7.6,SNR=4.1						
WRA	**Warramunga Arr**	**46.30**	**124**	P	**P**	**03 57 24.5**	**0.0**
	2.5nm,0.6s,mb4.3,baz=304,slow=9.1,SNR=24						
WRAB	**Tennant Creek**	**46.30**	**124**	*e*P	**P**	**03 57 24.5**	**0.0**
	5.3nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**47.81**	**129**	P	**P**	**03 57 36.2**	**0.0**
	0.6nm,0.4s,mb4.0,baz=298,slow=7.9,SNR=8.3						
ZAL	**Zalesovo**	**49.20**	**352**	P	**P**	**03 57 47.5**	**+0.6**
	4.0nm,0.4s,mb4.8,baz=312,slow=6.0,SNR=8.3						

BVAR	**Borovoye Array**	**51.64**	**341**	P	**P**	**03 58 05.1**	**-0.2**
	1.1nm,0.6s,mb4.0,baz=153,slow=10.0,SNR=7.8						
BRVK	**Borovoye**	**51.70**	**341**	*e*P	**P**	**03 58 05.5**	**-0.3**
	1.2nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**52.03**	**341**	*e*P	**P**	**03 58 08.2**	**-0.1**
	1.2nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**52.13**	**342**	*e*P	**P**	**03 58 09.3**	**+0.3**
	2.9nm,0.5s,mb4.5						
BRTR	**Keskin Array B**	**64.58**	**312**	P	**P**	**03 59 35.1**	**-0.7**
	0.4nm,0.5s,mb3.7,baz=104,slow=6.1,SNR=2.7						
FINES	**FINESS Array B**	**75.29**	**332**	P	**P**	**04 00 40.8**	**-0.7**
	1.1nm,0.9s,mb3.8,baz=108,slow=6.2,SNR=5.1						
ARCES	**ARCESS Array B**	**77.91**	**340**	P	**P**	**04 00 56.2**	**0.0**
	0.8nm,0.6s,mb3.8,baz=94,slow=6.2,SNR=11						
ARCES	**ARCESS Array B**	**77.91**	**340**	P	**P**	**04 00 56.2**	**0.0**
GERES	**GERESS Array B**	**80.16**	**319**	P	**P**	**04 01 09.9**	**+1.3**
	0.7nm,0.6s,mb3.8,baz=100,slow=5.5,SNR=8.9						

*KRSC **21** 03:53:22.7±0.6, 5598N×16109E, h127km±2km, ML4.0*
*MOS **21** 03:53:22.3±0.8, 5607N×16102E, h126km, mb4.4/1, Error ellipse: s-maj=38.3km s-min=11.2km az=80.7*
*ISCJB **21** 03:53:23.2±0.4, 5598N±003×16113E±006, h126km±3km, mb3.5/3, Error ellipse: s-maj=6.2km s-min=4.3km az=76.1*
*IDC **21** 03:53:30.6±19.0, 5334N×15408E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=640.3km s-min=42.9km az=56.0*

ISC 21 03:53:24.0±0.4, 5599N±003×16113E±006, h123km±3km, n51, σ0°75/83, mb3.5/3, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.19**	**279**	*e*S	**Sn**	**03 53 54.5**	**+0.8**
CIRR	**Tsirk**	**0.25**	**301**	*i*P	**Pn**	**03 53 40.9**	**-0.2**
CIRR				*i*S	**Sn**	**03 53 54.3**	**+0.3**
LGNR	**Loginova**	**0.27**	**291**	*i*P	**Pn**	**03 53 41.3**	**+0.1**
LGNR				*i*S	**Sn**	**03 53 54.7**	**+0.6**
KRSR	**Krestovskiy**	**0.39**	**306**	*i*P	**Pn**	**03 53 41.2**	**-0.5**
KRSR				*i*S	**Sn**	**03 53 54.4**	**-0.6**
KLY	**Klyuchi**	**0.42**	**321**	P	**Pn**	**03 53 41.1**	**-0.7**
KLY				S	**Sn**	**03 53 54.5**	**-0.8**
KLY	**Klyuchi**	**0.42**	**321**	*i*P	**Pn**	**03 53 41.1**	**-0.7**
KLY				*i*S	**Sn**	**03 53 54.5**	**-0.8**
KPT	**Kopyto**	**0.51**	**268**	*i*P	**Pn**	**03 53 41.8**	**-0.5**
KPT				*i*S	**Sn**	**03 53 55.7**	**-0.5**
KMNR	**Kamenistaya**	**0.56**	**246**	*e*P	**Pn**	**03 53 42.2**	**-0.4**
KMNR				*e*S	**Sn**	**03 53 57.3**	**+0.7**
BDR	**Baidarnaya**	**0.58**	**4**	*i*P	**Pn**	**03 53 42.7**	**-0.1**
BDR				*e*S	**Sn**	**03 53 57.3**	**+0.3**
SMKR	**Semkarok**	**0.62**	**17**	*e*P	**Pn**	**03 53 43.0**	**-0.1**
SMKR				*i*S	**Sn**	**03 53 57.9**	**+0.4**
SRKR	**Sorokina**	**0.67**	**2**	*i*P	**Pn**	**03 53 43.2**	**-0.2**
SRKR				*i*S	**Sn**	**03 53 58.3**	**+0.2**
KOZR	**Kozyr**	**0.70**	**277**	PN	**Pn**	**03 53 43.3**	**-0.3**
KOZR				S	**Sn**	**03 53 58.4**	**-0.1**
KOZ	**Kozyrevsk**	**0.71**	**276**	P	**Pn**	**03 53 43.3**	**-0.4**
KOZ				S	**Sn**	**03 53 58.4**	**-0.2**
KOZ	**Kozyrevsk**	**0.71**	**276**	*i*P	**Pn**	**03 53 43.3**	**-0.4**
KOZ				*i*S	**Sn**	**03 53 58.4**	**-0.2**
SRDR	**Sredinnyy**	**0.86**	**293**	*i*P	**Pn**	**03 53 44.3**	**-0.7**
SRDR				*i*S	**Sn**	**03 54 00.2**	**-0.6**
TUMR	**Tumrok**	**0.90**	**219**	*i*P	**Pn**	**03 53 45.8**	**+0.5**
TUMR				*i*S	**Sn**	**03 54 01.9**	**+0.4**
KBG	**Krutoberegovo**	**0.92**	**72**	*i*P	**Pn**	**03 53 45.2**	**-0.3**
KBG				*i*S	**Sn**	**03 54 02.2**	**+0.4**
KBG				Smax			
	6μm,0.7s						
KBTR	**Krutoberegovo**	**0.97**	**76**	P	**Pn**	**03 53 45.7**	**-0.3**
KBTR				S	**Sn**	**03 54 02.8**	**+0.2**
KBTR	**Krutoberegovo**	**0.97**	**76**	*i*P	**Pn**	**03 53 45.7**	**-0.3**
KBTR				*e*S	**Sn**	**03 54 02.8**	**+0.2**
ESO	**Esso**	**1.37**	**268**	*i*P	**Pn**	**03 53 49.6**	**-0.5**
ESO				*i*S	**Sn**	**03 54 09.7**	**-0.3**
ESO				Smax			
	330nm,1.0s						
MKZ	**Mys Kozlova**	**1.48**	**166**	P	**Pn**	**03 53 51.1**	**-0.2**
MKZ				S	**Sn**	**03 54 12.6**	**+0.5**
MKZ	**Mys Kozlova**	**1.48**	**166**	*i*P	**Pn**	**03 53 51.0**	**-0.3**
MKZ				*e*S	**Sn**	**03 54 11.9**	**-0.2**
KII	**Karymskiy**	**2.18**	**207**	P	**Pn**	**03 54 00.4**	**+0.5**
KII	**Karymskiy**	**2.18**	**207**	*e*P	**Pn**	**03 54 00.2**	**+0.3**
BKI	**Bering**	**2.86**	**104**	*i*P	**Pn**	**03 54 08.4**	**-0.1**
BKI				*e*S	**Sn**	**03 54 41.3**	**-1.5**
BKI				Smax			
	460nm,0.3s						
GNL	**Ganaly**	**2.95**	**220**	*e*P	**Pn**	**03 54 10.0**	**+0.3**
SPN	**Mys Shipunski**	**2.97**	**193**	P	**Pn**	**03 54 08.7**	**-1.2**
SPN				S	**Sn**	**03 54 43.4**	**-1.9**
SPN	**Mys Shipunski**	**2.97**	**193**	*e*P	**Pn**	**03 54 08.8**	**-1.1**
SPN				*e*S	**Sn**	**03 54 43.7**	**-1.6**
NLC	**Nalytchevo**	**3.01**	**201**	P	**Pn**	**03 54 10.7**	**+0.2**
NLC				S	**Sn**	**03 54 46.6**	**+0.3**
NLC	**Nalytchevo**	**3.01**	**201**	*e*P	**Pn**	**03 54 10.7**	**+0.2**
NLC				*e*S	**Sn**	**03 54 46.6**	**+0.3**
SDLR	**Sedlovina**	**3.01**	**207**	*e*P	**Pn**	**03 54 11.2**	**+0.7**
SMAR	**Somma**	**3.05**	**207**	*e*P	**Pn**	**03 54 12.0**	**+1.0**
AVH	**Avacha**	**3.06**	**208**	*e*P	**Pn**	**03 54 12.4**	**+1.2**
KOK	**Koryaka**	**3.07**	**209**	*e*P	**Pn**	**03 54 12.2**	**+1.0**
UGLR	**Uglovaya**	**3.09**	**207**	*e*P	**Pn**	**03 54 12.8**	**+1.2**
PET	**Petropavlovsk**	**3.30**	**207**	P	**Pn**	**03 54 15.3**	**+1.0**
PET				S	**Sn**	**03 54 55.3**	**+2.1**
PET	**Petropavlovsk**	**3.30**	**207**	⇑*i*PN	**Pn**	**03 54 15.2**	**+0.9**
PET				*e*S	**Sn**	**03 54 53.7**	**+0.5**
PET				pmax	pmax		
	comp=Z,131nm,0.7s						
PET				smax			
	comp=E,35nm,0.4s						
PET				smax			
	comp=N,52nm,0.6s						
PET	**Petropavlovsk**	**3.30**	**207**	*e*P	**Pn**	**03 54 15.3**	**+1.0**
PET				*e*S	**Sn**	**03 54 53.0**	**-0.2**
OSSR	**Ossora**	**3.43**	**17**	*e*P	**Pn**	**03 54 18.0**	**+1.9**
KRMR	**Karymshinskiy**	**3.62**	**210**	*e*P	**Pn**	**03 54 18.8**	**+0.3**
APC	**Apacha**	**3.85**	**219**	*e*P	**Pn**	**03 54 22.5**	**+1.0**
APC				*e*S	**Sn**	**03 55 06.1**	**0.0**
RUS	**Russkaya**	**3.88**	**204**	P	**Pn**	**03 54 21.8**	**-0.2**
RUS				S	**Sn**	**03 55 05.0**	**-1.9**
RUS	**Russkaya**	**3.88**	**204**	*e*P	**Pn**	**03 54 21.6**	**-0.4**
RUS				*e*S	**Sn**	**03 55 04.5**	**-2.4**
GRL	**Gorelyy**	**3.88**	**209**	*e*P	**Pn**	**03 54 23.3**	**+1.3**
MIPR	**Malaya Ipel'ka**	**4.52**	**216**	*e*P	**Pn**	**03 54 30.3**	**-0.2**
PAU	**Pauzhetka**	**5.20**	**211**	*e*P	**Pn**	**03 54 38.3**	**-1.4**
KAMR	**Kamenskoye**	**6.99**	**20**	*e*P	**Pn**	**03 55 04.5**	**+0.7**
MKAR	**Makanchi Array**	**47.49**	**294**	P	**P**	**04 01 45.3**	**-1.2**
	comp=N,0.2nm,0.3s,mb3.4,baz=63,slow=9.9,SNR=4.2						
WRA	**Warramunga Arr**	**78.96**	**206**	P	**P**	**04 05 13.7**	**-0.4**
	comp=N,0.7nm,0.8s,mb3.5,baz=9.6,slow=5.9,SNR=12						
WRA	**Warramunga Arr**	**78.96**	**206**	P	**P**	**04 05 13.7**	**-0.3**
WRA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ASAR	**Alice Springs**	**82.64**	**205**	P	**P**	**04 05 33.8**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.6,baz=16,slow=5.1,SNR=4.6						

IDC 21 04:11:46.8±6.6, 2321S×17849W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.9/11, mbtmp4.1/3, Error ellipse: s-maj=182.1km s-min=104.8km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.27**	**247**	P	P	04 18 50.4	-1.4
	1.4nm,0.4s,baz=100,slow=6.1,SNR=3.1						
ASAR	**Alice Springs**	**43.52**	**260**	P	P	04 19 52.6	+0.5
	0.6nm,0.6s,baz=87,slow=7.9,SNR=8.6						
WB2	**Warramunga Arr**	**43.83**	**265**	*e*P	P	04 19 55.2	+0.6
WRA	**Warramunga Arr**	**43.84**	**265**	P	P	04 19 55.7	+1.0
	1.8nm,0.3s,baz=100,slow=8.2,SNR=39						
HFS	**Hagfors**	**142.12**	**350**	PKP	PKPdf	04 31 20.0	-0.9
	6.6nm,1.3s,baz=35,slow=5.3,SNR=4.2						

*NEIC **21** 04:43:55.0±12.0, 609S×12743E, h425km±35km, mb4.2/1, Error ellipse: s-maj=165.7km s-min=34.3km az=166.0*
*IDC **21** 04:43:58.8±3.9, 642S×12801E, h406km±66km, mb3.4/1, mb1 3.3/4, mb1mx2.9/14, mbtmp4.1/4, Error ellipse: s-maj=80.2km s-min=53.1km az=99.0*
*ISCJB **21** 04:43:59.4±2.3, 58S±02×129.1E±02, h468km±29km, mb3.7/1, Error ellipse: s-maj=35.5km s-min=25.9km az=39.0*

ISC 21 04:44:01.3±2.0, 67S±02×1277E±03, h421km±33km, n9, σ0°85/13, mb3.6/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.63**	**143**	*e*P	**P**	**04 45 52.5**	**+0.2**
	12nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.56**	**190**	P	**P**	**04 46 34.9**	**-0.7**
	0.1nm,0.3s,baz=12,slow=14,SNR=8.5						
FITZ				S	**S**	**04 49 01.2**	**+18**
	0.1nm,0.3s,baz=288,slow=20,SNR=2.0						
WRAB	**Tennant Creek**	**14.70**	**155**	*e*P	**P**	**04 47 10.0**	**+0.1**
	4.6nm,0.5s						
WRA	**Warramunga Arr**	**14.71**	**155**	P	**P**	**04 47 10.2**	**+0.3**
	1.2nm,0.3s,baz=338,slow=11,SNR=88						
WRA				S	**S**	**04 49 45.6**	**-0.3**
	0.4nm,0.3s,baz=332,slow=20,SNR=9.2						
WB2	**Warramunga Arr**	**14.71**	**155**	*e*P	**P**	**04 47 10.3**	**+0.3**
WB2				*e*S	**S**	**04 49 44.2**	**-1.8**
AS31	**Alice Springs**	**17.94**	**161**	*e*P	**P**	**04 47 44.6**	**+0.3**
ASAR	**Alice Springs**	**17.94**	**161**	P	**P**	**04 47 44.8**	**+0.5**
	0.8nm,0.3s,baz=347,slow=12,SNR=26						
ASAR				S	**S**	**04 50 50.6**	**+2.0**
	0.1nm,0.3s,baz=345,slow=18,SNR=5.2						
ASPA	**Alice Springs**	**17.94**	**161**	*e*P	**P**	**04 47 44.6**	**+0.3**
STKA	**Stephens Creek**	**28.26**	**154**	P	**P**	**04 49 17.2**	**-1.1**
	2.7nm,0.8s,mb3.6,baz=340,slow=12,SNR=3.9						

*ISCJB **21** 05:06:39.9±0.6, 4047N±004×2152E±006, h27km, Error ellipse: s-maj=7.0km s-min=4.7km az=134.1*
*THE **21** 05:06:39.6, 4047N×2155E, h23km, ML2.5*
*SKO **21** 05:06:41.4, 4059N×2152E, h27km*

ISC 21 05:06:39.9±0.6, 4047N±004×2152E±006, h27km, n7, σ0°82/14, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.33**	**341**	*e*Pg	**Pb**	**05 06 47.0**	**-0.6**
FNA				*e*Sg	**Sb**	**05 06 52.7**	**-0.1**
BIA	**Bitola**	**0.57**	**345**	*e*Pg	**Pb**	**05 06 50.1**	**-1.2**
BIA				*e*Sg	**Sb**	**05 07 00.0**	**+0.9**
BIA	**Bitola**	**0.57**	**345**	*e*Pg	**Pb**	**05 06 50.0**	**-1.3**
BIA				*e*Sg	**Sb**	**05 06 58.6**	**-0.5**
MEV	**Metsovon**	**0.72**	**198**	*e*Pg	**Pb**	**05 06 53.3**	**-0.5**
MEV				*e*Sg	**Sb**	**05 07 04.0**	**+0.7**
LIT	**Litokhoron**	**0.83**	**116**	*e*Pg	**Pb**	**05 06 54.7**	**-1.0**
LIT				*e*Sg	**Sb**	**05 07 06.8**	**+0.4**
OHR	**Ohrid**	**0.84**	**320**	*e*Pg	**Pb**	**05 06 55.1**	**-0.8**
OHR				*e*Sg	**Sb**	**05 07 08.1**	**+1.2**
VAY	**Valandovo**	**1.17**	**43**	*e*Pg	**Pn**	**05 07 01.7**	**+1.3**
VAY				*e*Sg	**Sn**	**05 07 15.6**	**+0.2**

IDC 21 05:11:29.6±1.5, 640S×12932E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=53.5km s-min=24.4km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.17**	**197**	Pn	Pn	05 14 25.3	+1.0
	0.4nm,0.3s,baz=332,slow=23,SNR=31						
FITZ				Sn	Sn	05 16 28.0	-13
	1.0nm,0.3s,baz=273,slow=20,SNR=7.3						
WRA	**Warramunga Arr**	**14.32**	**161**	Pn	Pn	05 14 53.1	-0.6
	0.7nm,0.3s,baz=338,slow=13,SNR=45						
WRA				Sn	Sn	05 17 18.7	-15
	1.5nm,0.3s,baz=338,slow=21,SNR=11						
ASAR	**Alice Springs**	**17.73**	**166**	P	Pn	05 15 38.5	+0.6
	0.3nm,0.3s,baz=341,slow=9.9,SNR=14						
ASAR				S	Sn	05 18 42.5	-13
	0.4nm,0.3s,baz=316,slow=17,SNR=6.0						
CTA	**Charters Tower**	**21.35**	**131**	P	P	05 16 18.4	0.0
	3.4nm,1.0s,baz=310,slow=17,SNR=2.7						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	05 22 26.7	+0.2
	0.6nm,0.3s,baz=127,slow=8.0,SNR=7.9						

*ISCJB **21** 06:14:55.5±1.0, 3925N±005×2104E±009, h10km, Error ellipse: s-maj=9.8km s-min=7.4km az=14.9*
*NEIC **21** 06:14:55.5, 3942N×2112E, h33km, MD3.2(ATH), After ATH.*
*CSEM **21** 06:14:55.5, 3942N×2112E, h33km, MD3.2/4, After ATH*
*ATH **21** 06:14:55.5, 3942N×2112E, h33km±24km, MD3.2/4*
*SKO **21** 06:15:01.0, 3941N×2151E, h6km*

ISC 21 06:14:56.2±1.1, 3929N±005×2106E±009, h6km±11km, n8, σ1°24/13, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.40**	**336**	*e*PB	**Pg**	**06 15 04.0**	**0.0**
JAN				*e*SB	**Sg**	**06 15 09.5**	**+0.3**
EVR	**Evrytania**	**0.69**	**122**	*e*PN	**Pg**	**06 15 10.0**	**+0.4**
KEK	**Kerkira**	**1.06**	**294**	*e*PB	**Pb**	**06 15 15.0**	**-2.0**
VLS	**Valsamata**	**1.17**	**198**	*e*PN	**Pn**	**06 15 20.0**	**+0.8**
BIA	**Bitola**	**1.74**	**7**	*e*Pn	**Pb**	**06 15 29.2**	**+0.7**
BIA				*e*Sn	**Sb**	**06 15 51.2**	**+0.7**
OHR	**Ohrid**	**1.83**	**354**	*e*Pn	**Pb**	**06 15 32.1**	**+2.0**
OHR				*e*Sg	**Sb**	**06 15

*PRU **21** 06:18:40.6, 4559N×1404E, h0km*

ISC 21 06:18:35.6±0.4, 4540N±002×1452E±002, h2km±3km, n74, σ1$05/130, 26C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	0.16	323	⇑*i*Pg	Pg	06 18 39.1	+0.4
KNDS				*i* Sg	Sg	06 18 41.7	+1.0
KNDS							
	comp=Z,2μm,0.1s						
KNDS	**Knezji Dol**	0.16	323	Pg	Pg	06 18 39.1	+0.5
KNDS				*i* Sg	Sg	06 18 41.7	+1.0
	comp=Z,2μm,0.1s						
CEY	**Cerknica**	0.34	350	⇑*i*Pg	Pg	06 18 41.9	-0.2
CEY				*i* Sg	Sg	06 18 47.2	+0.6
CEY							
	comp=Z,245nm,0.1s						
CEY	**Cerknica**	0.34	350	⇑*i*Pg	Pg	06 18 41.9	-0.2
CEY				*i* Sg	Sg	06 18 47.2	+0.6
CEY	**Cerknica**	0.34	350	⇑*i*Pg	Pg	06 18 41.9	-0.3
CEY				*i* Sg	Sg	06 18 47.2	+0.6
	comp=Z,245nm,0.1s						
BOJS	**Bojanci**	0.53	79	*i* Pg	Pg	06 18 46.0	+0.2
BOJS				*e*Sg	Sg	06 18 52.7	+0.1
BOJS							
	comp=Z,548nm,0.2s						
BOJS	**Bojanci**	0.53	79	*i* Pg	Pg	06 18 46.0	+0.3
BOJS				*e*Sg	Sg	06 18 52.7	+0.1
	comp=Z,548nm,0.2s						
JAVS	**Javornik**	0.58	327	⇑*i*Pg	Pg	06 18 45.9	-0.9
JAVS				*i* Sg	Sg	06 18 54.7	+0.3
JAVS							
	comp=Z,412nm,0.2s						
JAVS	**Javornik**	0.58	327	⇑*i*Pg	Pg	06 18 45.9	-0.9
JAVS				*i* Sg	Sg	06 18 54.7	+0.3
	comp=Z,412nm,0.2s						
LJU	**Ljubljana**	0.64	1	*e*Pg	Pg	06 18 48.4	+0.5
LJU				*i* Sg	Sg	06 18 55.8	-0.5
LJU							
	comp=Z,135nm,0.1s						
LJU	**Ljubljana**	0.64	1	*e*Pg	Pg	06 18 48.4	+0.5
LJU				*i* Sg	Sg	06 18 55.8	-0.5
LJU	**Ljubljana**	0.64	1	*e*Pg	Pg	06 18 48.4	+0.5
LJU				*i* Sg	Sg	06 18 55.8	-0.4
	comp=Z,135nm,0.1s						
PDKS	**Podkum**	0.74	27	*i* Pg	Pg	06 18 49.8	0.0
VOJS	**Vojsko**	0.77	325	⇑*i*Pg	Pg	06 18 49.1	-1.3
VOJS				*i* Sg	Sg	06 19 01.3	+0.9
CRES	**Cresnjev**	0.79	57	*i* Pg	Pg	06 18 50.8	+0.2
CRES				*i* Sg	Sg	06 19 03.0	+2.2
CRES							
	comp=Z,61nm,0.1s						
CRES	**Cresnjev**	0.79	57	*i* Pg	Pg	06 18 50.8	+0.2
CRES				*i* Sg	Sg	06 19 03.0	+2.2
CRES	**Cresnjev**	0.79	57	*i* Pg	Pg	06 18 50.8	+0.2
CRES				*i* Sg	Sg	06 19 03.0	+2.2
	comp=Z,61nm,0.1s						
LEGS	**Legarje**	0.79	46	*i* Pg	Pg	06 18 50.6	0.0
LEGS				*e*Sg	Sg	06 19 01.6	+0.8
NVLJ	**Novalja**	0.88	163	*i* Pg	Pg	06 18 51.9	-0.5
NVLJ				*i* Sg	Sg	06 19 06.0	+2.2
NVLJ	**Novalja**	0.88	163	*i* Pg	Pg	06 18 51.9	-0.5
NVLJ				*i* Sg	Sg	06 19 05.9	+2.2
GCIS	**Gornji Cirnik**	0.91	59	*i* Pg	Pg	06 18 53.0	0.0
DRE	**Drenchia**	0.98	322	⇑*e*Pg	Pg	06 18 52.7	-1.8
DRE				*e*Sg	Sg	06 19 08.1	+0.9
GOLS	**Golise**	0.99	52	*i* Pg	Pg	06 18 54.4	-0.2
GOLS				*e*Sg	Sg	06 19 10.2	+2.9
GOLS							
	comp=Z,162nm,0.2s						
GOLS	**Golise**	0.99	52	*i* Pg	Pg	06 18 54.4	-0.2
GOLS				*e*Sg	Sg	06 19 10.2	+2.9
CADS	**Cadrg**	0.99	327	*i* Pg	Pg	06 18 52.9	-1.6
CADS				*i* Sg	Sg	06 19 08.8	+1.4
CADS							
	comp=Z,125nm,0.2s						
CADS	**Cadrg**	0.99	327	*i* Pg	Pg	06 18 52.9	-1.7
CADS				*i* Sg	Sg	06 19 08.8	+1.4
	comp=Z,125nm,0.2s						
COLI	**Coloredo**	1.08	313	⇑*i*Pg	Pg	06 18 54.8	-1.5
COLI				*i* Sg	Sg	06 19 11.6	+1.3
ROBS	**Robic**	1.10	321	*e*Pg	Pg	06 18 55.0	-1.6
ROBS				*e*Sg	Sg	06 19 12.3	+1.5
ROBS							
	comp=Z,54nm,0.1s						
ROBS	**Robic**	1.10	321	*e*Pg	Pg	06 18 55.0	-1.6
ROBS				*e*Sg	Sg	06 19 12.3	+1.5
ROBS	**Robic**	1.10	321	*e*Pg	Pg	06 18 55.0	-1.6
ROBS				*e*Sg	Sg	06 19 12.3	+1.4
	comp=Z,54nm,0.1s						
OBKA	**Obir**	1.11	1	⇓*e*Pg	Pg	06 18 57.0	+0.2
OBKA	SNR=48						
				⇓*i*Sg	Sg	06 19 12.2	+1.0
	comp=Z,213nm,0.3s						
TLI	**Talmassons**	1.12	298	⇑*e*Pg	Pg	06 18 57.3	+0.2
BAD	**Bernadia**	1.22	314	⇑*e*Pg	Pg	06 18 57.0	-2.0
BAD				*e*Sg	Sg	06 19 16.3	+1.5
GMNA	**Gemona**	1.25	315	Pn	Pn	06 18 58.7	-1.4
GMNA				Sn	Sn	06 19 18.6	+1.1
GROS	**Grobnik**	1.26	33	*e*Pg	Pg	06 19 00.1	+0.3
BUA	**Buia**	1.27	310	⇑*e*Pg	Pg	06 18 59.9	0.0
BUA				*e*Sg	Sg	06 19 18.1	+1.7
LSR	**Lussari**	1.28	328	⇑*e*Pg	Pg	06 18 59.4	-0.7
LSR				*e*Sg	Sg	06 19 18.4	+1.8
PTCC	**Patocco-Chiusa**	1.29	321	Pn	Pn	06 18 58.7	-1.9
PTCC				Sn	Sn	06 19 19.2	+0.7
PERS	**Pernice**	1.30	19	*i* Pg	Pg	06 19 00.4	-0.2
PERS							
	comp=Z,66nm,0.2s						
PERS	**Pernice**	1.30	19	*i* Pg	Pg	06 19 00.4	-0.2
PERS				*e*Sg	Sg	06 19 17.2	-0.3
PERS	**Pernice**	1.30	19	*i* Pg	Pg	06 19 00.4	-0.2
PERS				*e*Sg	Sg	06 19 17.2	-0.3
	comp=Z,66nm,0.2s						
BOO	**Bordano**	1.35	313	⇑*i*Pg	Pg	06 19 01.0	-0.5
MPRI	**Monte Prat**	1.36	309	⇓*i*Pg	Pg	06 19 01.9	+0.3
IESO	**Jesolo**	1.39	276	*e*Pg	Pg	06 19 01.1	-1.1
PLRO	**Paularo**	1.49	321	⇑*e*Pg	Pg	06 19 03.4	-0.8
PLRO				*e*Sg	Sg	06 19 24.9	+1.4
MLNI	**Malnisio**	1.53	300	⇑*e*Pg	Pg	06 19 03.8	-1.1
MLNI				*e*Sg	Sg	06 19 25.2	+0.5
CAE	**Caneva**	1.58	293	⇓*e*Pg	Pg	06 19 04.6	-1.2
CAE				*e*Sg	Sg	06 19 25.8	-0.4
ZOU	**Zoufplan**	1.58	318	⇑*e*Pg	Pg	06 19 05.0	-0.9
ZOU				*e*Sg	Sg	06 19 26.9	+0.6
FVI	**Forni Avoltri**	1.70	315	Pn	Pn	06 19 05.6	-0.7
CSO	**Casso**	1.76	300	⇑*i*Pn	Pn	06 19 06.5	-0.6
CSO				*i* Sn	Sn	06 19 29.9	-0.2
KBA	**Koelnbreinsper**	1.86	335	⇑*e*Pn	Pn	06 19 09.0	+0.5
KBA	SNR=10						
				⇓*i*Sg	Sg	06 19 34.6	-0.8
	comp=Z,28nm,0.2s						
FAU	**Forcella Aurin**	1.96	296	⇓*i*Pn	Pn	06 19 10.0	+0.2
AOI	**Ancona**	1.96	200	Pn	Pn	06 19 09.9	0.0
AOI				Sn	Sn	06 19 35.9	+0.8
CGRP	**Cima Grappa**	1.96	285	*e*Pn	Pn	06 19 10.3	+0.4
CGRP				*e*Sn	Sn	06 19 36.4	+1.3
ARSA	**Arzberg**	1.98	20	⇑*e*Pg	Pg	06 19 12.4	-1.1
ARSA	SNR=13						
				⇓*i*Sg	Sg	06 19 37.9	-1.2
	comp=Z,22nm,0.4s						
BLY	**Banja Luka**	2.00	108	P	Pn	06 19 06.4	-4.0
BLY				S	Sn	06 19 36.3	+0.3
SEST	**Monte Rota**	2.09	311	Pn	Pn	06 19 12.4	+0.7
SEST				Sn	Sn	06 19 39.6	+1.3
ARV	**Arcevia**	2.21	211	*i* Pnr		06 19 12.8	
BRES	**Bressanone**	2.33	305	Pn	Pn	06 19 15.5	+0.6
SFI	**Santa Sofia**	2.42	233	Pn	Pn	06 19 15.3	-0.9
SNTG	**Esanatoglia**	2.43	208	Pn	Pn	06 19 15.9	-0.3
MOA	**Molln**	2.46	356	⇑*i*Sn	Sn	06 19 44.5	-2.7
MOA	**Molln**	2.46	356	⇑*i*Pn	Pn	06 19 15.1	-1.5
MOA				⇓*i*Sn	Sn	06 19 48.2	+1.0
MOA	**Molln**	2.46	356	⇑*i*Pn	Pn	06 19 15.1	-1.5
MOA				*i* Sn	Sn	06 19 44.5	-2.7
CRE	**Caprese Michel**	2.56	227	Pn	Pn	06 19 18.6	+0.5
CONA	**Conrad Observa**	2.69	20	⇑*i*Pn	Pn	06 19 20.9	+1.0
CONA				⇓*i*Sn	Sn	06 19 51.9	-1.2
WTTA	**Wattenberg**	2.73	314	⇓*e*Pn	Pn	06 19 22.1	+1.7
WTTA	SNR=12						
				⇓*i*Sn	Sn	06 19 52.8	-1.2
WTTA				⇓*i*Sg	Sg	06 20 02.4	-0.8
	comp=Z,71nm,0.7s						
STON	**Ston**	3.41	137	*i* Pn	Pn	06 19 30.0	+0.2
STON				*i* Sn	Sn	06 20 11.2	+0.3
STON	**Ston**	3.41	137	*i* Pn	Pn	06 19 30.0	+0.2
STON				*i* Sn	Sn	06 20 11.2	+0.3
DAVA	**Damuels**	3.72	302	⇑*i*Pg	Pg	06 19 45.4	-1.5
DAVA				⇑*i*Sg	Sg	06 20 36.5	+1.3
	comp=Z,13nm,0.6s						
KHC	**Kasperske Hory**	3.79	351	*e*PN	Pn	06 19 35.1	+0.2
KHC				*e*SN	Sn	06 20 18.7	-1.3
KHC				*e*SG	Sg	06 20 33.9	-3.3
	comp=Z,9.8nm,0.6s						
NKC	**Novy Kostel**	5.03	345	*e*SG	Sg	06 21 13.1	-4.1
	comp=Z,7.2nm,0.5s						
BRG	**Berggiesshubel**	5.49	356	SG	Sg	06 21 31.4	-0.4
	comp=Z,1.8nm,0.6s						
CLL	**Collm**	6.00	351	*e*Sg	Sg	06 21 44.0	-4.2
	comp=Z,16nm,1.2s						

*ISCJB **21** 06:21:47.7±2.6, 121N±01×1437E±02, h36km±24km, mb4.0/10, MS3.4/3, Error ellipse: s-maj=32.5km s-min=16.2km az=43.1*

*NEIC **21** 06:21:49.5±1.9, 1213N×14375E, h38km±18km, Error ellipse: s-maj=24.5km s-min=12.8km az=102.0*

*IDC **21** 06:21:49.7±3.4, 1213N×14377E, h40km±31km, mb3.8/10, mb1 4.0/10, mb1mx3.9/21, mbtmp4.0/10, MS3.4/4, Ms1 3.4/4, ms1mx2.7/25, Error ellipse: s-maj=32.9km s-min=17.1km az=104.0*

ISC 21 06:21:49.8±2.4, 122N±01×1438E±02, h40km±23km, n15, σ0$75/13, mb4.0/10, MS3.4/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	1.80	37	Pn	Pn	06 22 18.2	-0.2
	79nm,0.3s,baz=184,slow=7.5,SNR=24						
GUMO				Sn	Sn	06 22 40.2	+0.1
	115nm,0.3s,baz=344,slow=23,SNR=8.5						
CBIJ	**Chichi jima**	14.94	355	LR	LR	06 30 07.0	
	comp=Z,69nm,21.0s,baz=180,slow=33						
MJAR	**Matsushiro Arr**	24.80	349	LR	LR	06 36 15.0	
	comp=Z,147nm,18.0s,MS3.5,baz=195,slow=35						
ASAJ	**Asahikawa**	31.87	358	LR	LR	06 41 01.4	
	comp=Z,28nm,18.2s,MS3.0,baz=201,slow=36						
WRA	**Warramunga Arr**	33.20	196	P	P	06 28 22.0	-0.8
	1.0nm,0.6s,mb3.9,baz=20,slow=9.9,SNR=14						
ASAR	**Alice Springs**	36.87	195	P	P	06 28 55.2	+0.8
	0.3nm,0.6s,mb3.3,baz=14,slow=8.6,SNR=3.3						
SONM	**Songino Array**	47.29	326	P	P	06 30 20.0	+0.7
	0.5nm,0.7s,mb3.6,baz=152,slow=7.4,SNR=5.5						
MKAR	**Makanchi Array**	61.77	317	P	P	06 32 05.0	+0.6
	0.4nm,0.6s,mb3.7,baz=94,slow=9.6,SNR=4.5						
BVAR	**Borovoye Array**	70.38	322	P	P	06 32 59.9	+0.2
	1.2nm,0.4s,mb4.2,baz=94,slow=12,SNR=7.0						
INK	**Inuvik**	76.11	22	P	P	06 33 32.8	-0.7
	4.0nm,0.8s,mb4.4,baz=253,slow=6.2,SNR=9.1						
INK	**Inuvik**	76.11	22	*e*P	P	06 33 32.9	-0.5
YKA	**Yellowknife Ar**	84.64	27	P	P	06 34 19.1	-0.1
	1.0nm,0.5s,mb4.2,baz=286,slow=5.1,SNR=6.1						
YKA				LR	LR	07 12 26.2	
	comp=Z,32nm,18.3s,MS3.7,baz=145,slow=36						
ARCES	**ARCESS Array B**	88.11	342	P	P	06 34 35.6	-0.6
	2.6nm,0.9s,mb4.5,baz=68,slow=8.0,SNR=8.9						
NVAR	**Mina Array Bea**	88.67	51	P	P	06 34 40.2	+1.3
	0.7nm,0.6s,mb4.2,baz=255,slow=6.5,SNR=7.7						
FINES	**FINESS Array B**	92.00	335	P	P	06 34 53.0	-1.5
	1.3nm,0.6s,mb4.5,baz=72,slow=6.2,SNR=7.2						

*IDC **21** 06:34:44.9±2.8, 3759S×17769E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/9, mbtmp3.6/2, Error ellipse: s-maj=52.5km s-min=22.2km az=101.0*

WEL 21 06:34:30.1±0.2, 3680S×17760E, h149km±3km, ML3.4/8, Error ellipse: s-maj=4.0km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	0.95	144	PN	Pn	06 34 54.3	-0.1
MXZ				SN	Sn	06 35 13.0	+0.2
MXZ				SN	Sn	06 35 13.2	+0.3
PUZ	**Puketiti**	1.38	158	PN	Pn	06 34 58.6	+0.3
PUZ				SN	Sn	06 35 19.2	-0.7
PUZ				SN	Sn	06 35 19.2	-0.7
URZ	**Urewera**	1.51	195	Pg	Pn	06 34 59.9	+0.2
	13nm,0.3s,baz=304,slow=2.7,SNR=100						
URZ				Lg		06 35 23.2	
	5.3nm,0.3s,baz=188,slow=20,SNR=16						
URZ	**Urewera**	1.51	195	PN	Pn	06 34 59.9	+0.2
URZ				SN	Sn	06 35 22.7	+0.3
MWZ	**Matawai**	1.54	182	PN	Pn	06 35 00.0	+0.1
MWZ				SN	Sn	06 35 23.3	+0.4
KNZ	**Kokohu**	2.22	179	PN	Pn	06 35 07.6	-0.2
BKZ	**Black Stump Fm**	2.52	200	PN	Pn	06 35 12.0	+0.5
PXZ	**Pawanui**	3.28	190	PN	Pn	06 35 19.2	-1.8
PXZ				SN	Sn	06 35 58.2	-2.2
TSZ	**Takapari Road**	3.50	201	PN	Pn	06 35 22.2	-1.7
TSZ				SN	Sn	06 36 03.4	-2.1
BFZ	**Birch Farm**	4.02	195	*e*PN	Pn	06 35 28.3	-2.3
MRZ	**Mangatainoka R**	4.17	202	PN	Pn	06 35 30.0	-2.5
MRZ				SN	Sn	06 36 16.8	-4.3
TIWZ	**Tintock**	4.20	198	*e*PN	Pn	06 35 30.5	-2.3
KIWZ	**Kapiti Island**	4.57	207	*e*PN	Pn	06 35 35.1	-2.7
MQZ	**McQueen's Vall**	7.87	207	SN	Sn	06 37 39.6	-10
ASAR	**Alice Springs**	39.63	277	P	pP	06 42 21.4	+1.6
	0.4nm,0.4s,baz=114,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	41.22	282	P	pP	06 42 32.4	-0.6
	0.5nm,0.4s,baz=118,slow=7.6,SNR=12						
TORD	**Torodi Ar. Bea**	156.17	190	PKPab	pPKPab	06 55 05.8	-7.4
	0.2nm,0.7s,baz=174,slow=4.6,SNR=4.8						

*CSEM **21** 06:37:28.7±0.1, 4717N×100W, h2km, ML2.5/11, Error ellipse: s-maj=1.7km s-min=0.8km az=56.0*

*STR **21** 06:37:28.5±0.0, 4716N×099W, h2km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **21** 06:37:28.6, 4717N×100W, h2km, ML2.5(LDG), After LDG.*

LDG 21 06:37:28.6±0.1, 4717N×100W, h2km, Md2.6/1, Ml2.5/12, Error ellipse: s-maj=1.5km s-min=0.7km az=49.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCHF	**La Chataignera**	0.53	160	Pg	Pg	06 37 38.8	+0.1
LCHF				Sg	Sg	06 37 45.4	-0.1
MFF	**Saint Martin d**	0.81	134	*e*Pn	Pn	06 37 45.7	-1.3
MFF				*e*Sg	Sg	06 37 54.3	-0.4
MFF				*e*Sn	Sg	06 37 57.6	+2.9
MFF	**Saint Martin d**	0.81	134	*e*Pg	Pg	06 37 44.0	-0.2
MFF				*e*Pn	Pn	06 37 45.7	-1.3
MFF				*e*Sg	Sg	06 37 54.3	-0.4
MFF				*e*Sn	Sg	06 37 57.6	+2.9
MFF	**Saint Martin d**	0.81	134	*e*Pn	Pn	06 37 45.7	-1.3
MFF				*e*Sg	Sg	06 37 54.3	-0.4
MFF				*e*Sn	Sg	06 37 57.6	+2.9
CHIF	**Chize**	1.11	158	Pg	Pg	06 37 49.9	0.0
CHIF				Sg	Sg	06 38 04.8	+0.6
GRR	**Gorron**	1.23	4	*e*Pg	Pg	06 37 51.6	-0.5
GRR				*e*Sg	Sg	06 38 08.3	+0.2
	13nm,0.2s						
GRR	**Gorron**	1.23	4	*e*Pg	Pg	06 37 51.6	-0.5
GRR				*e*Sg	Sg	06 38 08.3	+0.2
	6.6nm,0.2s						
SGMF	**Saint Gilles**	1.52	317	*e*Pg	Pg	06 37 56.9	-0.8
SGMF				*e*Sg	Sg	06 38 17.0	-0.3
	3.6nm,0.2s						
SGMF	**Saint Gilles**	1.52	317	*e*Pg	Pg	06 37 56.9	-0.8
SGMF				*e*Sg	Sg	06 38 17.0	-0.3
	1.8nm,0.2s						
LDF	**La Druitiere**	1.55	22	*e*Pg	Pg	06 37 57.3	-0.9
LDF				*e*Sg	Sg	06 38 17.4	-0.9
	7.8nm,0.3s						
LDF	**La Druitiere**	1.55	22	*e*Pg	Pg	06 37 57.3	-0.9
LDF				*e*Sg	Sg	06 38 17.4	-0.9
	3.9nm,0.3s						
FLN	**La Foliniere**	1.64	12	*e*Pg	Pg	06 37 59.1	-0.9
FLN				*e*Sg	Sg	06 38 20.1	-1.1
	5.0nm,0.2s						
FLN	**La Foliniere**	1.64	12	*e*Pg	Pg	06 37 59.1	-0.9
FLN				*e*Sg	Sg	06 38 20.1	-1.1
	2.5nm,0.2s						
QUIF	**Quistinic**	1.65	298	*e*Pg	Pg	06 37 59.4	-0.8
QUIF				*e*Sg	Sg	06 38 19.7	-1.9
	8.4nm,0.3s						
QUIF	**Quistinic**	1.65	298	*e*Pg	Pg	06 37 59.4	-0.8
QUIF				*e*Sg	Sg	06 38 19.7	-1.9
	4.2nm,0.3s						
ROSF	**Rostrenen**	1.93	308	*e*Pg	Pg	06 38 04.4	-1.2
ROSF				*e*Sg	Sg	06 38 28.3	-2.4
	4.1nm,0.3s						
ROSF	**Rostrenen**	1.93	308	*e*Pn	Pn	06 38 00.7	-1.8
ROSF				*e*Pg	Pg	06 38 04.4	-1.2
ROSF				*e*Sg	Sg	06 38 28.3	-2.4
ROSF	**Rostrenen**	1.93	308	*e*Pg	Pg	06 38 04.4	-1.2
ROSF				*e*Sg	Sg	06 38 28.3	-2.4
	2.0nm,0.3s						
TCF	**Toulx Ste Croi**	2.37	111	*e*Pg	Pg	06 38 12.6	-1.5
TCF				*e*Sg	Sg	06 38 42.0	-2.9
	4.1nm,0.3s						
TCF	**Toulx Ste Croi**	2.37	111	*e*Pg	Pg	06 38 12.6	-1.5
TCF				*e*Sg	Sg	06 38 42.0	-2.9
	2.0nm,0.3s						
LFF	**La Frestale**	2.53	151	*e*Pg	Pg	06 38 15.7	-1.5
RJF	**Les Rejaudoux**	2.55	136	*e*Pg	Pg	06 38 16.0	-1.5
RJF				*e*Sg	Sg	06 38 48.8	-1.8
	5.2nm,0.2s						
RJF	**Les Rejaudoux**	2.55	136	*e*Pg	Pg	06 38 16.0	-1.5
RJF				*e*Sg	Sg	06 38 48.8	-1.8
	2.6nm,0.2s						
BGF	**Bois d'Agland**	2.71	102	*e*Pg	Pg	06 38 19.4	-1.1
BGF				*e*Sg	Sg	06 38 52.9	-2.7
	15nm,0.6s						
BGF	**Bois d'Agland**	2.71	102	*e*Pg	Pg	06 38 19.4	-1.1
BGF				*e*Sg	Sg	06 38 52.9	-2.7
	7.6nm,0.6s						
SSF	**Saint Saulge**	3.08	90	*e*Sg	Sg	06 39 05.2	-2.3
	2.5nm,0.3s						
SSF	**Saint Saulge**	3.08	90	*e*Sg	Sg	06 39 05.2	-2.3
	1.2nm,0.3s						
CAF	**Calviac**	3.09	135	*e*Pg	Pg	06 38 26.0	-1.9
CAF				*e*Sg	Sg	06 39 05.7	-2.2
	3.5nm,0.3s						
CAF	**Calviac**	3.09	135	*e*Pg	Pg	06 38 26.0	-1.9
CAF				*e*Sg	Sg	06 39 05.7	-2.2
	1.8nm,0.3s						

*IPEC **21** 06:59:01.5±0.5, 5017N×1883E, h5km±2km, ML2.9/3, Error ellipse: s-maj=3.0km s-min=1.3km az=45.0*

*PRU **21** 06:59:01.5, 5030N×1877E, h0km*

*NEIC **21** 06:59:01.5±0.7, 5024N×1882E, h5km, MG3.0(WAR), Error ellipse: s-maj=11.6km s-min=5.0km az=193.0*

*CSEM **21** 06:59:02.4±0.2, 5020N×1876E, h1km, ML3.6/5, Error ellipse: s-maj=5.3km s-min=2.3km az=9.0*

*VIE **21** 06:59:04.8±1.0, 4975N×1877E, h0km, mb2.2/2, ML3.2/4, Error ellipse: s-maj=6.0km s-min=4.5km az=82.0 38 km ESE of Ostrava Suspected Mining induced.*

WAR 21 06:59:01.0, 5024N×1889E, ML3.0, 4C-4D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	0.47	251	*e*Pg	Pg	06 59 10.8	+0.7
RAC				*e*Sg	Sg	06 59 17.7	+1.5
OJC	**Ojcow**	0.58	91	*e*Pg	Pg	06 59 12.1	-0.1
OJC				*e*Sg	Sg	06 59 20.4	+0.7
OKC	**Ostrava-Krasne**	0.62	230	*e*PG	Pg	06 59 12.9	-0.1
OKC				*e*SG	Sg	06 59 21.2	+0.1
MORC	**Moravsky Berou**	0.98	243	⇑*i*P	Pg	06 59 19.1	-0.8
MORC	**Moravsky Berou**	0.98	243	*e*Pg	Pg	06 59 19.0	-0.9
MORC				*e*Sg	Sg	06 59 31.7	-1.0
MORC	**Moravsky Berou**	0.98	243	*e*Pg	Pg	06 59 18.9	-1.0
MORC				*e*Sg	Sg	06 59 31.5	-1.2
	159nm,0.5s						
LIKS	**Likavka**	1.20	173	*e*SN	Sn	06 59 41.4	-0.5
NIE	**Niedzica**	1.23	131	*e*Pg	Pg	06 59 25.1	+0.5
NIE				e		06 59 42.3	
NIE				*e*Sg	Sg	06 59 43.2	+2.6
DPC	**Dobruska-Polom**	1.65	275	*e*PG	Pn	06 59 29.6	-1.6
DPC				*e*SG	Sn	06 59 51.9	-1.2
	135nm,0.6s						
DPC	**Dobruska-Polom**	1.65	275	*e*Pn	Pn	06 59 30.4	-0.8
DPC				*e*Sg	Sn	06 59 51.9	-1.2
KOLL	**Kolacno**	1.69	191	*e*PN	Pn	06 59 33.7	+1.9
KOLL				*e*SN	Sn	06 59 55.2	+1.1
STHS	**Stebnicka Huta**	1.73	117	*e*PN	Pn	06 59 34.0	+1.7
STHS				*e*SN	Sn	06 59 58.5	+3.4
VYHS	**Vyhne**	1.75	181	*e*PN	Pn	06 59 31.3	-1.2
VYHS				*e*SN	Sn	06 59 55.5	0.0
VYHS	**Vyhne**	1.75	181	*e*Pn	Pn	06 59 31.3	-1.2
VYHS				*e*Sg	Sn	06 59 53.3	-2.2
VRAC	**Vranov**	1.76	239	⇑*i*P	Pn	06 59 32.7	0.0
VRAC	**Vranov**	1.76	239	*e*Pn	Pn	06 59 32.0	-0.7
VRAC				*e*Sg	Sn	06 59 54.0	-1.7
	108nm,0.6s						
KSP	**Ksiaz**	1.77	291	*e*Pn	Pn	06 59 33.2	+0.4
KSP				*e*Sn	Sn	06 59 56.4	+0.5
KSP	**Ksiaz**	1.77	291	*e*Pg	Pg	06 59 33.2	-1.6

ISC 21 07:11:10.1±0.7,842S±008×11060E±009,h100km±5km, h88km±2.9km:pP-P,n84,σ0°68/63,mb4.7/37,4C-1D,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**0.67**	**333**	‖ *e*P	**Pn**	**07 11 26.9**	**-0.3**
YOGI				*e*S	**Sn**	**07 11 40.3**	**+0.2**
MBWA	**Marble Bar**	**15.43**	**146**	*e*Pn	**Pn**	**07 14 35.9**	**-6.2**
	11nm,0.4s						
FITZ	**Fitzroy Crossi**	**17.50**	**125**	*e*P	**Pn**	**07 15 06.5**	**-1.2**
	7.7nm,0.3s						
FITZ				*e*S	**S**	**07 18 03.5**	**-19**
FITZ	**Fitzroy Crossi**	**17.50**	**125**	P	**Pn**	**07 15 06.8**	**-0.9**
	1.4nm,0.3s,baz=300,slow=8.5,SNR=35						
FITZ				S	**S**	**07 18 05.1**	**-18**
	0.8nm,0.3s,baz=71,slow=21,SNR=6.1						
FITZ				LR	LR	07 21 44.9	
	comp=Z,31nm,18.2s,baz=159,slow=36						
KAKA	**Kakadu**	**21.88**	**103**	*e*P	**P**	**07 15 55.3**	**+0.4**
	22nm,0.4s,mb4.8						
WRA	**Warramunga Arr**	**25.67**	**119**	P	**P**	**07 16 31.0**	**+0.4**
	2.9nm,0.5s,mb4.0,baz=294,slow=11,SNR=43						
WRA				pP	pP	07 16 51.6	-1.0
	5.3nm,0.7s,baz=292,slow=12,SNR=7.2						
WRA				PcP	PcP	07 19 59.5	+1.0
	1.2nm,0.5s,baz=310,slow=1.6,SNR=5.3						
WRAB	**Tennant Creek**	**25.67**	**119**	*e*P	**P**	**07 16 30.7**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**25.67**	**119**	*e*P	**P**	**07 16 30.6**	**0.0**
	comp=Z,11nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**25.68**	**119**	*e*P	**P**	**07 16 31.0**	**+0.3**
WB2				*e*S	S	07 21 22.8	+31
ASPA	**Alice Springs**	**26.97**	**127**	*e*P	**P**	**07 16 42.7**	**+0.4**
ASAR	**Alice Springs**	**26.98**	**127**	P	**P**	**07 16 42.8**	**+0.5**
	comp=Z,3.1nm,0.6s,mb4.0,baz=304,slow=8.8,SNR=38						
ASAR				pP	pP	07 17 03.6	-0.8
	comp=Z,2.6nm,0.5s,baz=305,slow=9.1,SNR=5.4						
ASAR				PcP	PcP	07 20 03.2	+1.6
	comp=Z,1.3nm,0.4s,baz=305,slow=2.0,SNR=7.1						
AS31	**Alice Springs**	**26.98**	**127**	*e*P	**P**	**07 16 42.7**	**+0.3**
STKA	**Stephens Creek**	**37.06**	**133**	*e*P	**P**	**07 18 09.2**	**-1.2**
	comp=Z,2.2nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**37.06**	**133**	P	**P**	**07 18 09.5**	**-0.9**
	comp=Z,1.7nm,0.4s,mb4.3,baz=322,slow=7.2,SNR=7.0						
STKA				pP	pP	07 18 32.4	-0.8
	comp=Z,3.4nm,0.4s,baz=314,slow=6.6,SNR=3.4						
STKA				PcP	PcP	07 20 28.4	-0.6
	comp=Z,2.8nm,0.4s,baz=314,slow=3.8,SNR=4.2						
CD2	**Chengdu**	**39.65**	**351**	*e*P	**P**	**07 18 32.8**	**+0.7**
CD2				AP	pP	07 18 37.3	-18
CD2				XP	sP	07 18 39.8	-27
CD2				PP	PP	07 20 08.8	+3.7
CD2				S	**S**	**07 24 36.9**	**+8.9**
CD2				XS	sS	07 24 45.1	-23
CD2				SS	SS	07 27 28.3	+1.3
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
CD2				AMB	AMB		
	comp=Z,70nm,5.2s						
JIRN	**Jiri**	**42.95**	**327**	*e*P	**P**	**07 19 00.0**	**+0.9**
	comp=Z,8.3nm,0.4s,mb4.9						
PKI	**Pulchoki**	**43.30**	**327**	*e*P	**P**	**07 19 02.8**	**+0.9**
GUN	**Gumba**	**43.32**	**327**	*e*P	**P**	**07 19 03.0**	**+0.9**
	comp=Z,18nm,0.5s,mb5.1						
DMN	**Daman**	**43.50**	**326**	*e*P	**P**	**07 19 03.3**	**-0.2**
	comp=Z,14nm,0.6s,mb4.9						
KKN	**Kakani**	**43.55**	**327**	*e*P	**P**	**07 19 03.7**	**-0.2**
GKN	**Gorkha**	**44.06**	**326**	*e*P	**P**	**07 19 07.3**	**-0.7**
	comp=Z,7.8nm,0.2s,mb5.0						
KOLN	**Koldanda**	**44.46**	**325**	*e*P	**P**	**07 19 10.2**	**-1.0**
	comp=Z,15nm,0.4s,mb5.1						
MAT	**Matsushiro**	**51.70**	**28**	P	**P**	**07 20 06.8**	**-0.1**
MAT	**Matsushiro**	**51.70**	**28**	*e*P	**P**	**07 20 07.0**	**+0.1**
MJAR	**Matsushiro Arr**	**51.70**	**28**	P	**P**	**07 20 07.0**	**0.0**
	comp=Z,8.0nm,0.8s,mb4.8,baz=204,slow=7.6,SNR=19						
MJAR				PcP	PcP	07 21 20.5	+1.4
	comp=Z,2.1nm,0.8s,baz=186,slow=2.8,SNR=4.4						
ULN	**Ulaanbaatar**	**56.13**	**357**	*e*P	**P**	**07 20 39.8**	**+0.7**
ULN				*e*		07 21 37.3	
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ULN	**Ulaanbaatar**	**56.13**	**357**	*e*P	**P**	**07 20 39.8**	**+0.6**
	comp=Z,5.1nm,0.7s,mb4.7						
ULN				*e*PcP	PcP	07 21 37.3	+1.4
SONM	**Songino Array**	**56.13**	**357**	P	**P**	**07 20 40.0**	**+0.9**
	comp=Z,3.3nm,0.7s,mb4.5,baz=167,slow=8.2,SNR=13						
SONM				PcP	PcP	07 21 37.2	+1.2
	comp=Z,3.2nm,0.6s,baz=173,slow=3.5,SNR=7.8						
MK31	**Makanchi Array**	**60.48**	**338**	P	**P**	**07 21 08.6**	**-0.8**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**60.48**	**338**	P	**P**	**07 21 09.0**	**-0.4**
	comp=Z,5.9nm,0.4s,mb5.0,baz=152,slow=7.5,SNR=77						
MKAR				PcP	PcP	07 21 53.6	+0.5
	comp=Z,1.8nm,0.6s,baz=137,slow=7.3,SNR=3.9						
AAK	**Ala-Archa**	**60.55**	**330**	‖ *e*P	**P**	**07 21 09.3**	**-0.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
YSS	**Yuzh-Sakhalins**	**62.11**	**24**	*e*P	**P**	**07 21 20.3**	**-0.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
ZAL	**Zalesovo**	**65.84**	**344**	P	**P**	**07 21 44.2**	**-0.6**
	comp=Z,3.7nm,0.3s,mb4.6,baz=25,slow=3.0,SNR=4.8						
ZAL				LR	LR	07 56 01.9	
	comp=Z,37nm,19.7s,baz=107,slow=41						
MAW	**Mawson**	**67.08**	**198**	P	**P**	**07 21 52.2**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.8,baz=30,slow=10,SNR=4.7						
MAW				pP	pP	07 22 14.2	-3.6
	comp=Z,1.9nm,0.8s,baz=31,slow=5.9,SNR=3.4						
CHKZ	**Chkalovo**	**70.49**	**336**	P	**P**	**07 22 12.9**	**-1.0**
CHKZ	**Chkalovo**	**70.49**	**336**	*e*P	**P**	**07 22 13.6**	**-0.2**
	comp=Z,2.4nm,0.4s,mb4.4						
CHKZ				*e*PcP	PcP	07 22 35.1	+0.5
ZRNK	**Zerenda**	**70.62**	**335**	P	**P**	**07 22 13.6**	**-1.1**
ZRNK	**Zerenda**	**70.62**	**335**	*e*P	**P**	**07 22 14.6**	**-0.1**
	comp=Z,3.3nm,0.4s,mb4.5						
RDF	**Al-Radifah**	**71.15**	**304**	*e*P	**P**	**07 22 18.1**	**+0.2**
RDF				AMb	AMB	07 22 19.1	
	comp=Z,37nm,0.8s,mb5.3						
UMR	**Umm Al-Rimmam**	**71.25**	**305**	*e*P	**P**	**07 22 18.9**	**+0.4**
UMR				AMb	AMB	07 22 19.5	
	comp=Z,41nm,0.4s,mb5.6						
NAY	**Al-Naaiem**	**71.52**	**305**	*e*P	**P**	**07 22 20.0**	**-0.1**
NAY				AMb	AMB	07 22 21.9	
	comp=Z,14nm,0.8s,mb4.8						
YAK	**Yakutsk**	**71.79**	**9**	*e*P	**P**	**07 22 22.0**	**+0.3**
YAK				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.3						
YAK	**Yakutsk**	**71.79**	**9**	*e*P	**P**	**07 22 21.9**	**+0.2**
	comp=Z,41nm,0.8s,mb5.3						
AB31	**Akbulak array**	**72.48**	**328**	*i* P	**P**	**07 22 25.9**	**0.0**
AB31				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
VNDA	**Vanda**	**73.93**	**170**	P	**P**	**07 22 34.4**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.5,baz=305,slow=6.5,SNR=3.2						
VNDA				pP	pP	07 22 55.4	-4.4
	comp=Z,1.1nm,0.8s,baz=326,slow=5.8,SNR=3.6						
VNDA	**Vanda**	**73.93**	**170**	P	**P**	**07 22 34.4**	**0.0**
VNDA				pP	pP	07 22 55.4	-4.4
MA2	**Magadan**	**74.96**	**20***c*	*i* P	**P**	**07 22 41.4**	**+1.1**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
TIXI	**Tiksi**	**80.82**	**6**	*e*P	**P**	**07 23 09.9**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.1						
BOSA	**Boshof**	**81.95**	**242**	P	**P**	**07 23 20.0**	**+1.2**
	comp=Z,2.3nm,0.9s,mb4.0,baz=112,slow=5.4,SNR=3.8						
BOSA	**Boshof**	**81.95**	**242**	P	**P**	**07 23 20.0**	**+1.2**
BOYT	**Boyabat**	**84.95**	**313**	*i* P	**P**	**07 23 35.1**	**+1.0**
BOYT				*i* S	pP	07 23 57.5	-2.7
BRTR	**Keskin Array B**	**85.44**	**311**	P	**P**	**07 23 37.2**	**+0.7**
	comp=Z,4.9nm,0.9s,mb4.4,baz=124,slow=6.6,SNR=22						
BRTR				pP	pP	07 23 59.7	-2.9
	comp=Z,1.3nm,0.6s,baz=123,slow=6.3,SNR=2.8						
MOS	**Moscow**	**87.49**	**327**	*e*P	**P**	**07 23 46.5**	**-0.1**
MOS				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.3						
OBN	**Obninsk**	**87.86**	**326***c*	*i* P	**P**	**07 23 48.5**	**+0.1**
OBN				*e*S		07 34 07.5	
OBN				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.3						
AKASG	**Malin Array Be**	**91.03**	**321**	P	**P**	**07 24 02.9**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=87,slow=5.5,SNR=7.6						
JOF	**Joensuu**	**92.59**	**333**	*e*p	**P**	**07 24 09.5**	**-0.9**
KAF	**Kangasniemi**	**94.71**	**332**	*e*p	**P**	**07 24 15.1**	**-5.0**
FINES	**FINESS Array B**	**94.72**	**331**	P	**P**	**07 24 19.9**	**-0.3**
	comp=Z,1.6nm,0.7s,mb4.6,baz=104,slow=6.1,SNR=8.9						
ARCES	**ARCESS Array B**	**96.11**	**339**	P	**P**	**07 24 25.8**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.5,baz=95,slow=6.1,SNR=11						
YKA	**Yellowknife Ar**	**116.91**	**22**	PKP	PKPdf	07 29 43.1	+0.1
	comp=Z,0.5nm,0.4s,baz=302,slow=1.4,SNR=5.7						
NVAR	**Mina Array Bea**	**126.93**	**48**	PKP	PKPdf	07 30 05.0	+2.8
	comp=Z,0.4nm,0.8s,baz=258,slow=1.9,SNR=4.7						
PDAR	**Pinedale Array**	**130.94**	**39**	PKP	PKPdf	07 30 12.6	+2.7
	comp=Z,0.3nm,0.5s,baz=112,slow=0.7,SNR=4.3						
SCHQ	**Schefferville**	**133.67**	**358**	PKP	PKPdf	07 30 16.2	+1.2
	comp=Z,1.0nm,0.5s,baz=342,slow=6.4,SNR=3.9						
ANMO	**Albuquerque**	**137.02**	**47**	‖ *e*PKIKP	PKPdf	07 30 26.4	+5.1
MIV	**Mineville/With**	**144.30**	**5**	*e*PKPdf	PKPdf	07 30 34.1	-0.3
NCB	**Newcomb**	**144.34**	**6**	*e*PKPdf	PKPdf	07 30 34.5	+0.1
CCM	**Cathedral Cave**	**144.51**	**30**	*e*PKIKP	PKPdf	07 30 34.9	+0.2
FVM	**French Village**	**144.98**	**30**	*e*PKIKP	PKPdf	07 30 36.4	+0.9
MIAR	**Mount Ida**	**145.81**	**37**	*e*PKP2	PKPab	07 30 39.6	+1.4
ACSO	**Alum Creek Sta**	**146.09**	**19**	*e*PKPbc	PKPbc	07 30 40.1	+1.6
PARMO	**Parma**	**146.34**	**30**	*e*PKPbc	PKPbc	07 30 41.2	+2.0
PARMO				*e*PKPab	PKPab	07 30 43.1	+2.8
WCI	**Wyandotte Cave**	**146.64**	**25**	*e*PKP2	PKPab	07 30 41.7	+0.3
SSPA	**Standing Stone**	**147.04**	**12**	*e*PKPbc	PKPbc	07 30 42.7	+1.5
MCWV	**Mont Chateau**	**147.52**	**15**	*e*PKPbc	PKPbc	07 30 44.4	+1.8
MCWV				*e*PKPab	PKPab	07 30 46.9	+2.0
WVT	**Waverly**	**147.70**	**29**	*e*PKP2	PKPab	07 30 44.9	-0.7
BDFB	**Brasilia**	**148.06**	**222**	PKPbc	PKPbc	07 30 46.4	+2.4
	comp=Z,2.1nm,0.5s,baz=122,slow=18,SNR=5.4						
OXF	**Oxford**	**148.19**	**32**	*e*PKPbc	PKPbc	07 30 46.0	+1.6
OXF				*e*PKPab	PKPab	07 30 49.5	+2.0
PLAL	**Pickwick Lake**	**148.50**	**30**	*e*PKPbc	PKPbc	07 30 46.3	+1.1
PLAL				*e*PKPab	PKPab	07 30 50.3	+1.5
FWV	**Forest Hill**	**149.19**	**18**	*e*PKPbc	PKPbc	07 30 48.1	+1.3
FWV				*e*PKPab	PKPab	07 30 53.4	+1.8
ELN	**Prospectdale**	**149.53**	**18**	*e*PKPbc	PKPbc	07 30 48.8	+1.1
CPCT	**Cooper Cave**	**149.75**	**25**	*e*PKPbc	PKPbc	07 30 50.0	+1.7
CPCT				*e*PKPab	PKPab	07 30 56.1	+2.2
LRAL	**Lakeview Retre**	**150.59**	**31**	*e*PKPbc	PKPbc	07 30 52.0	+1.7
GOGA	**Godfrey**	**151.94**	**26**	*e*PKPbc	PKPbc	07 30 55.4	+2.0
GOGA				*e*PKPab	PKPab	07 31 05.1	+2.1
JSC	**Jenkinsville**	**152.05**	**21**	*e*PKPbc	PKPbc	07 30 55.4	+1.8
JSC				*e*PKPab	PKPab	07 31 05.7	+2.3

*NEIC **21** 07:44:13.2, 1597N×9771W, h20km, MD3.8(MEX), After MEX.*

MEX 21 07:44:12.7±0.8,1595N×9771W,h17km±74km,MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.60**	**318**	*e*P	Pg	07 44 22.5	-2.0
PNIG				*i* S	Sg	07 44 29.9	-2.6
VHO	**Vista Hermosa**	**1.46**	**40**	*e*P	Pn	07 44 34.6	-3.6
VHO				*i* S	Sn	07 44 52.1	-4.8
OXX	**Oaxaca**	**1.47**	**40**	*i* P	Pn	07 44 35.5	-2.9
OXX				*i* S	Sn	07 44 52.7	-4.5
UTMO	**Huajuapan**	**1.87**	**357**	*i* P	Pn	07 44 42.4	-1.5
UTMO				*i* S	Sn	07 45 03.0	-4.2
MEIG	**Mezcala**	**2.69**	**317**	*e*P	Pn	07 44 54.0	-1.1
MEIG				*i* S	Sn	07 45 25.2	-2.0
CMIG	**Matias Romero**	**2.94**	**67**	*i* P	Pn	07 44 55.0	-3.5
CMIG				*i* S	Sn	07 45 29.9	-3.5

*ISCJB **21** 08:01:34.4±1.5, 120N±02×880W±0.1, h64km±18km, mb4.0/8, Error ellipse: s-maj=33.7km s-min=11.8km az=75.2*
*NEIC **21** 08:01:36.1±1.3, 1194N×8800W, h74km±13km, mb4.1/4, Error ellipse: s-maj=26.1km s-min=12.9km az=217.0*
*IDC **21** 08:01:36.2±2.5, 1222N×8781W, h61km±44km, mb3.5/5, mb1 3.7/7, mb1mx3.5/19, mbtmp3.7/7, ML3.2/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/19, Error ellipse: s-maj=75.0km s-min=18.3km az=30.0*

ISC 21 08:01:36.3±1.3,120N±02×880W±01,h73km±15km,n13, σ0°90/14,mb4.0/8,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**3.41**	**119**	P	**Pn**	**08 02 27.2**	**+0.1**
	1.4nm,0.3s,baz=315,slow=19,SNR=9.4						
JTS				S	**Sn**	**08 03 06.4**	**+0.1**
	0.8nm,0.3s,baz=297,slow=18,SNR=2.9						
JTS				LR	LR	08 04 03.1	
	comp=Z,127nm,18.8s,baz=149,slow=43						
TEIG	**Tepich**	**8.22**	**358**	*e*Pn	**Pn**	**08 03 32.6**	**-0.2**
CMIG	**Matias Romero**	**8.40**	**308**	P	**Pn**	**08 03 34.6**	**-0.6**
	0.5nm,0.3s,baz=132,slow=16,SNR=4.7						
SDV	**Santo Domingo**	**17.34**	**99**	*e*Pn	**Pn**	**08 05 26.6**	**-6.9**
	2.3nm,0.8s						
GOGA	**Godfrey**	**21.75**	**10**	P	**P**	**08 06 22.7**	**+1.0**
	32nm,0.6s,mb4.8						
LTX	**Lajitas**	**22.62**	**322**	*e*P	**P**	**08 06 32.2**	**+1.1**
	5.2nm,0.8s,mb3.9						
MIAR	**Mount Ida**	**23.05**	**348**	*e*P	**P**	**08 06 36.0**	**+0.5**
	5.4nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**35.95**	**333**	P	**P**	**08 08 30.6**	**+0.8**
	1.1nm,0.6s,mb4.0,baz=130,slow=8.4,SNR=10						
NVAR	**Mina Array Bea**	**37.73**	**320**	P	**P**	**08 08 45.4**	**+0.5**
	0.5nm,0.9s,mb3.4,baz=122,slow=7.6,SNR=2.6						
ULM	**Lac du Bonnet**	**38.72**	**352**	P	**P**	**08 08 52.5**	**-0.8**
	1.0nm,0.5s,mb3.9,baz=165,slow=11,SNR=4.7						
SCHQ	**Schefferville**	**45.89**	**17**	P	**P**	**08 09 50.8**	**-0.7**
	1.4nm,0.6s,mb3.9,baz=225,slow=8.6,SNR=3.7						
YKA	**Yellowknife Ar**	**53.94**	**345**	P	**P**	**08 10 50.0**	**-2.5**
	0.7nm,0.7s,mb3.8,baz=142,slow=5.9,SNR=3.7						
YKA	**Yellowknife Ar**	**53.94**	**345**	P	**P**	**08 10 50.0**	**-2.5**

*ISCJB **21** 08:06:30.9±2.2, 2125S×0.2×1786W×0.1, h678km±32km, mb4.1/10, Error ellipse: s-maj=36.5km s-min=19.4km az=158.5*
*IDC **21** 08:06:30.3±2.5, 2108S×17859W, h646km±33km, mb3.5/7, mb1 3.7/9, mb1mx3.4/16, mbtmp4.5/9, Error ellipse: s-maj=37.7km s-min=16.1km az=163.0*
*NEIC **21** 08:06:31.8±1.9, 2113S×17862W, h669km±27km, mb4.4/5, Error ellipse: s-maj=27.5km s-min=15.7km az=181.0*

ISC 21 08:06:30.9±2.8,2111S±02×1786W±01,h653km±38km,n20, σ0°54/19,mb4.1/10,1C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.99**	**263**	P	**P**	**08 09 28.6**	**+0.9**
	0.8nm,0.3s,baz=289,slow=22,SNR=9.5						
URZ	**Urewera**	**17.49**	**191**	P	**P**	**08 09 59.7**	**+0.1**
	1.0nm,0.3s,baz=327,slow=4.9,SNR=6.8						
CTA	**Charters Tower**	**32.92**	**265**	‖ *e*P	**P**	**08 12 14.4**	**-0.1**
	7.5nm,0.4s,mb4.6						
CTA	**Charters Tower**	**32.92**	**265**	P	**P**	**08 12 14.3**	**-0.1**
	12nm,0.5s,mb4.7,baz=89,slow=8.7,SNR=22						
STKA	**Stephens Creek**	**37.06**	**245**	*e*P	**P**	**08 12 47.7**	**-0.8**
	2.9nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**37.06**	**245**	P	**P**	**08 12 47.8**	**-0.7**
	3.8nm,0.5s,mb4.2,baz=82,slow=9.2,SNR=21						
AS31	**Alice Springs**	**43.88**	**257**	*e*P	**P**	**08 13 42.6**	**+0.4**
ASAR	**Alice Springs**	**43.88**	**257**	P	**P**	**08 13 42.5**	**+0.3**
	14nm,0.6s,mb4.5,baz=94,slow=7.8,SNR=234						
ASAR				PcP	PcP	08 15 14.8	+1.7
	1.2nm,0.6s,baz=96,slow=3.6,SNR=5.5						
ASAR				S	**S**	**08 19 28.6**	**+0.4**
	1.5nm,0.9s,baz=98,slow=16,SNR=7.9						
ASPA	**Alice Springs**	**43.88**	**257**	*e*P	**P**	**08 13 42.6**	**+0.4**
WB2	**Warramunga Arr**	**43.99**	**263**	‖ *i* P	**P**	**08 13 42.6**	**-0.5**
WRAB	**Tennant Creek**	**44.00**	**263**	*e*P	**P**	**08 13 42.2**	**-1.0**
	10.0nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**44.01**	**263**	P	**P**	**08 13 42.6**	**-0.6**
	8.5nm,0.3s,mb4.6,baz=97,slow=7.1,SNR=522						
KAKA	**Kakadu**	**47.47**	**272**	*e*P	**P**	**08 14 08.9**	**-0.4**
	10.0nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.44**	**263**	P	**P**	**08 14 46.0**	**+0.7**
	2.6nm,0.4s,mb3.8,baz=93,slow=7.6,SNR=15						
MBWA	**Marble Bar**	**57.22**	**258**	*e*P	**P**	**08 15 18.6**	**+0.3**
	4.6nm,0.6s,mb3.8						
NVAR	**Mina Array Bea**	**81.83**	**44**	P	**P**	**08 17 43.5**	**-0.4**
	0.5nm,0.5s,mb3.3,baz=230,slow=8.5,SNR=4.6						
NVAR	**Mina Array Bea**	**81.83**	**44**	P	**P**	**08 17 43.5**	**-0.4**
PDAR	**Pinedale Array**	**89.76**	**43**	P	**P**	**08 18 22.2**	**+0.5**
	0.5nm,0.6s,mb3.5,baz=251,slow=1.9,SNR=5.7						
AKASG	**Malin Array Be**	**143.30**	**330**	PKP	PKPdf	08 24 50.1	-2.5
	1.9nm,0.4s,baz=42,slow=4.3,SNR=13						
BRTR	**Keskin Array B**	**146.86**	**311**	PKPbc	PKPbc	08 25 02.2	+0.5
	0.9nm,0.6s,baz=139,slow=5.5,SNR=4.8						

*ISCJB **21** 08:11:40.9±3.0, 215N±0.1×1439E±02, h47km±25km, mb4.0/11, MS2.9/1, Error ellipse: s-maj=30.5km s-min=16.8km az=177.5*
*NEIC **21** 08:11:42.0±2.8, 2149N×14406E, h45km±25km, mb4.3/2, Error ellipse: s-maj=19.0km s-min=11.4km az=89.0*
*IDC **21** 08:11:43.4±3.6, 2148N×14401E, h55km±32km, mb3.7/9, mb1 3.9/11, mb1mx3.8/21, mbtmp4.0/11, ML3.8/2, MS3.0/2, Ms1 3.0/2, ms1mx2.2/34, Error ellipse: s-maj=31.7km s-min=16.1km az=88.0*

ISC 21 08:11:43.5±2.5,215N±01×1440E±02,h55km±21km,n22, σ0°77/17,mb4.0/11,MS2.9/1,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.84**	**344**	P	**Pn**	**08 13 06.8**	**-0.5**
	5.9nm,0.3s,baz=306,slow=22,SNR=8.3						
CBIJ				S	**Sn**	**08 14 14.2**	**+1.2**
	4.3nm,0.3s,baz=101,slow=23,SNR=6.6						
GUMO	**Guam**	**7.88**	**174**	LR	LR	08 15 54.1	
	comp=Z,97nm,20.9s,baz=41,slow=32						
MJAR	**Matsushiro Arr**	**15.84**	**343**	P	**Pn**	**08 15 21.7**	**-1.1**
	0.3nm,0.3s,baz=143,slow=7.1,SNR=3.0						
MJAR	**Matsushiro Arr**	**15.84**	**343**	P	**Pn**	**08 15 21.7**	**-1.1**
ASAJ	**Asahikawa**	**22.61**	**357**	LR	LR	08 25 58.1	
	comp=Z,38nm,19.0s,MS2.9,baz=149,slow=38						
SONM	**Songino Array**	**39.99**	**320**	P	**P**	**08 19 12.7**	**0.0**
	0.8nm,0.5s,mb3.7,baz=144,slow=7.5,SNR=4.5						
WRA	**Warramunga Arr**	**42.23**	**194**	P	**P**	**08 19 31.1**	**+0.1**
	3.7nm,0.6s,mb4.2,baz=15,slow=8.9,SNR=34						
ASAR	**Alice Springs**	**45.93**	**193**	P	**P**	**08 20 01.1**	**+0.4**
	1.0nm,0.6s,mb4.0,baz=16,slow=9.3,SNR=20						
ZAL	**Zalesovo**	**54.87**	**322**	P	**P**	**08 21 08.6**	**+0.4**
	1.1nm,0.4s,mb4.2,baz=53,slow=9.0,SNR=3.1						
ZAL	**Zalesovo**	**54.87**	**322**	P	**P**	**08 21 08.6**	**+0.4**
MKAR	**Makanchi Array**	**55.41**	**313**	P	**P**	**08 21 12.6**	**+0.6**
	0.6nm,0.7s,mb3.7,baz=88,slow=8.6,SNR=4.8						
INK	**Inuvik**	**67.47**	**24**	*e*P	**P**	**08 22 32.5**	**-1.0**
	2.6nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**79.38**	**342**	P	**P**	**08 23 43.2**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=68,slow=6.7,SNR=5.0						
ARCES	**ARCESS Array B**	**79.38**	**342**	P	**P**	**08 23 43.2**	**-0.2**
NVAR	**Mina Array Bea**	**82.69**	**52**	P	**P**	**08 24 02.0**	**+0.9**
	0.7nm,0.7s,mb3.8,baz=270,slow=6.3,SNR=7.7						
FINES	**FINESS Array B**	**83.71**	**335**	P	**P**	**08 24 04.7**	**-1.6**
	1.2nm,0.8s,mb4.1,baz=58,slow=5.0,SNR=5.4						
HWUT	**Hardware Ranch**	**86.19**	**47**	*e*P	**P**	**08 24 19.3**	**+0.6**
	1.7nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**87.02**	**45**	P	**P**	**08 24 23.1**	**+0.3**
	0.3nm,0.7s,mb3.7,baz=273,slow=5.1,SNR=3.3						
PLCA	**Paso Flores**	**145.04**	**131**	PKPbc	PKPbc	08 31 14.1	+0.1
	5.4nm,0.7s,baz=218,slow=4.4,SNR=11						
LPAZ	**La Paz**	**149.20**	**86**	PKPbc	PKPbc	08 31 26.8	+1.1
	1.2nm,0.5s,baz=63,slow=0.9,SNR=12						
LPAZ	**La Paz**	**149.20**	**86**	PKPbc	PKPbc	08 31 26.8	+1.0
SAML	**Samuel**	**151.03**	**69**	*e*PKPbc	PKPbc	08 31 29.8	-0.3

*ISCJB **21** 08:30:15.3±0.5, 4153N±003×2367E±004, h10km±6km, Error ellipse: s-ma

comp=Z,1μm,18.1s,baz=77,slow=35
JOW Kunigami 4.84 67 P **Pn 08 35 28.4 +2.5**
JTK Tokunoshima 5.77 61 P **Pn 08 35 39.5 +0.8**
TIA Tai'an 12.31 336 *e*P **Pn 08 37 10.0 +1.6**
TIA LR LR
comp=N,1μm,13.0s
XAN Xi'an 15.36 309 P **Pn 08 37 47.9 -1.7**
XAN AP pP 08 38 00.0 -2.1
XAN LR LR
comp=N,720nm,10.0s
XAN LR LR
comp=E,950nm,11.7s
XAN LR LR
comp=Z,1μm,15.5s
JHJ Hachijo jima 2 16.51 57 LR LR 08 44 15.9
comp=Z,302nm,18.7s,baz=125,slow=36
CBIJ Chichi jima 17.11 79 P **Pn 08 38 17.6 +5.6**
comp=Z,0.7nm,0.3s,baz=293,slow=11,SNR=4.6
CBIJ LR LR 08 43 60.0
comp=Z,174nm,19.3s,baz=218,slow=34
MAT Matsushiro 17.17 45 P **Pn 08 38 18.8 +6.0**
MAT Matsushiro 17.17 45 *e*P **Pn 08 38 20.0 +7.2**
MJAR Matsushiro Arr 17.17 45 P **Pn 08 38 16.7 +3.9**
comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=6.2
MJAR LR LR 08 45 02.9
comp=Z,265nm,22.0s,baz=230,slow=37
MJAR Matsushiro Arr 17.17 45 P **Pn 08 38 16.7 +3.9**
MJAR LR LR 08 45 02.9
CD2 Chengdu 18.19 293 *e*P **Pn 08 38 23.3 -2.0**
CD2 AP pP 08 38 30.8 -2.7
CD2 XP sP 08 38 35.5 -2.0
CD2 AMB AMB
comp=Z,10.0nm,0.8s
CD2 LR LR
comp=N,1μm,13.2s
CD2 LR LR
comp=Z,650nm,13.2s
HHC Hu-ho-hao-te 18.54 331 *e*P **Pn 08 38 30.6 +1.0**
HHC AP pP 08 38 43.9 +6.5
HHC PP 08 38 48.4
HHC S **Sn 08 41 49.3 -6.5**
HHC XS sS 08 42 06.8 -5.2
HHC SS 08 42 14.1
HHC PCP PcP 08 43 00.8 +2.8
HHC AMB AMB
comp=Z,10.0nm,0.6s
HHC AMB AMB
comp=Z,190nm,4.0s
HHC LR LR
comp=N,640nm,11.9s
HHC LR LR
comp=E,420nm,15.1s
HHC LR LR
comp=Z,700nm,15.1s
KMI Kunming 18.60 275 P **Pn 08 38 31.8 +1.5**
KMI AP pP 08 38 44.0 +5.9
KMI PP 08 38 48.5
KMI S **Sn 08 41 46.1 -11**
KMI XS sS 08 42 05.9 -7.4
KMI SS 08 42 11.4
KMI AMB AMB
comp=Z,10.0nm,0.7s
KMI AMB AMB
comp=Z,150nm,5.1s
KMI LR LR
comp=N,380nm,7.5s
KMI LR LR
comp=E,1μm,12.1s
KMI LR LR
comp=Z,1μm,11.6s
CN2 Changchun 18.79 5 *e*P **Pn 08 38 33.3 +0.7**
CN2 *e*S **Sn 08 42 01.9 0.0**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,12.0s
CN2 LR LR
comp=E,700nm,12.0s
CN2 LR LR
comp=Z,1μm,13.0s
BTO Baotou 19.06 328 *e*P **Pn 08 38 40.3 +4.4**
LZH Lanzhou 19.98 308 *e*P **Pn 08 38 48.0 +1.1**
LZH AP pP 08 38 53.4 +0.2
LZH PP 08 39 07.0
LZH *e*S **Sn 08 42 26.0 -4.7**
LZH XS sS 08 42 33.3 -7.9
LZH SS 08 42 52.3
LZH AMB AMB
comp=Z,40nm,1.5s
LZH AMB AMB
comp=Z,130nm,4.9s
LZH LR LR
comp=N,890nm,12.9s
LZH LR LR
comp=Z,1μm,14.4s
MDJ Mudanjiang 20.18 13 P **P 08 38 52.5 +5.3**
MDJ AP 08 39 01.3
MDJ XP sP 08 39 05.8 +6.5
MDJ S **S 08 42 29.3 -2.8**
MDJ SS 08 42 56.9
MDJ AMB AMB
comp=Z,10.0nm,0.8s
MDJ AMB AMB
comp=Z,40nm,4.4s
MDJ LR LR
comp=N,690nm,12.2s,MS4.7
MDJ LR LR
comp=E,2μm,11.9s,MS4.7
MDJ LR LR
comp=Z,2μm,10.9s,MS4.7
MDJ Mudanjiang 20.18 13 *e*P **P 08 38 53.9 +6.7**
comp=Z,10nm,0.9s
GUMO Guam 23.31 115 LR LR 08 46 34.1
comp=Z,159nm,21.5s,MS3.4,baz=314,slow=31
GTA Gaotai 24.38 312 *e*P **P 08 39 31.0 +0.5**
GTA AP 08 39 37.1
GTA AMB AMB
comp=Z,70nm,5.0s
GTA LR LR
comp=N,370nm,13.0s,MS4.2
GTA LR LR
comp=E,330nm,14.5s,MS4.2
GTA LR LR
comp=Z,550nm,14.5s,MS4.2
ASAJ Asahikawa 24.69 35 LR LR 08 49 40.8
comp=Z,371nm,18.6s,MS3.9,baz=163,slow=37
SONM Songjino Array 26.37 334 P **P 08 39 48.7 +0.1**
comp=Z,1.6nm,0.8s,mb3.6,baz=141,slow=9.3,SNR=4.8
SONM LR LR 08 51 17.1
comp=Z,348nm,19.1s,MS3.9,baz=102,slow=39
WMQ Urumqi 34.46 312 *e*P **P 08 41 01.0 +0.9**
YAK Yakutsk 37.22 5 *e*P **P 08 41 28.2 +4.4**
YAK pmax pmax
comp=Z,15nm,1.1s,mb4.7
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK MLR MLR
comp=Z,348nm,16.0s,MS4.2
YAK MLR MLR
comp=N,170nm,12.0s,MS4.3
YAK MLR MLR
comp=E,212nm,12.0s,MS4.3
MK31 Makanchi Array 39.07 314 P **P 08 41 38.5 -0.8**
MK31 pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
MKAR Makanchi Array 39.07 314 P **P 08 41 39.0 -0.3**
comp=Z,0.7nm,0.5s,mb3.6,baz=97,slow=9.9,SNR=9.7
ZAL Zalesovo 40.58 326 P **P 08 41 51.9 0.0**
comp=Z,1.3nm,0.5s,mb3.8,baz=356,slow=8.3
ZAL LR LR 09 00 23.1
comp=Z,419nm,18.9s,MS4.3,baz=349,slow=39
ZAL Zalesovo 40.58 326 P **P 08 41 51.9 0.0**
ZAL LR LR 09 00 23.1
PMG Port Moresby 41.41 143 LR LR 08 55 57.3
comp=Z,144nm,21.6s,MS3.8,baz=10,slow=31
WRAB Tennant Creek 45.99 165 *e*P **P 08 42 38.3 +2.7**
WRAB pmax pmax
comp=Z,23nm,1.1s,mb5.0
WRAB Tennant Creek 45.99 165 *e*P **P 08 42 38.3 +2.7**
comp=Z,23nm,1.1s,mb5.0
WRA Warramunga Arr 46.00 165 P **P 08 42 38.0 +2.4**
comp=Z,7.6nm,0.9s,mb4.6,baz=347,slow=8.9,SNR=31
WB2 Warramunga Arr 46.00 165 *e*P **P 08 42 38.0 +2.3**
BVA0 Borovoye Array 48.23 320 *i* P **P 08 42 58.2 +5.2**
BVA0 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BVAR Borovoye Array 48.23 320 P **P 08 42 52.5 -0.5**
comp=Z,0.4nm,0.5s,mb3.7,baz=115,slow=6.5,SNR=2.7
CHKZ Chkalovo 48.26 321 P **P 08 42 53.2 0.0**
CHKZ pmax pmax
comp=Z,12nm,1.6s,mb4.7
CHKZ Chkalovo 48.26 321 *e*P **P 08 42 52.8 -0.5**
comp=Z,2.4nm,0.7s,mb4.3
ZRNK Zerenda 49.02 319 *e*P **P 08 42 59.5 +0.4**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ZRNK Zerenda 49.02 319 *e*P **P 08 42 59.5 +0.4**
comp=Z,4.4nm,0.8s,mb4.5
ASAR Alice Springs 49.51 167 P **P 08 43 06.0 +3.1**
comp=Z,1.9nm,0.7s,mb4.2,baz=349,slow=7.1,SNR=20
CTA Charters Tower 50.13 151 LR LR 09 01 35.0
comp=Z,134nm,19.9s,MS4.0,baz=272,slow=33
AB31 Akbulak array 54.21 314 *i* P **P 08 43 37.9 0.0**
AB31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
AKTK Aktyubinsk 55.49 315 P **P 08 43 46.5 -0.6**
AKTK LR LR 09 08 39.4
AKTO Aktyubinsk 55.49 315 P **P 08 43 46.5 -0.6**
comp=Z,0.8nm,0.8s,mb3.8,baz=135,slow=17,SNR=3.1
AKTO LR LR 09 08 39.4
comp=Z,127nm,19.1s,MS4.0,baz=0.0,slow=37
AKTO Aktyubinsk 55.49 315 P **P 08 43 46.6 -0.6**
AKTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
AKTO MLR MLR
comp=Z,127nm,19.1s,MS4.0
ORR Orenburg 57.57 317 *e*P **P 08 44 01.9 0.0**
ORR pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
STKA Stephens Creek 59.25 162 P **P 08 44 14.4 +0.8**
comp=Z,3.4nm,0.8s,mb4.4,baz=320,slow=12,SNR=4.1
KIV Kislovodsk 66.52 309 *e*P **P 08 45 10.1 +8.1**
KIV pmax pmax
comp=Z,17nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,64nm,17.0s,MS3.9
JOF Joensuu 68.89 331 *e*p **P 08 45 15.3 -1.6**
ARCES ARCESS Array B 69.45 338 LR LR 09 22 23.8
comp=Z,321nm,21.1s,MS4.5,baz=262,slow=42
FINES FINESS Array B 71.66 330 P **P 08 45 32.9 -1.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=107,slow=8.9,SNR=3.9
FINES LR LR 09 20 09.7
comp=Z,282nm,18.1s,MS4.6,baz=57,slow=39
AKASG Malin Array Be 73.49 319 P **P 08 45 43.9 -0.9**
comp=Z,0.4nm,0.4s,mb3.7,baz=56,slow=6.3,SNR=5.2
BRTR Keskin Array B 74.19 307 P **P 08 45 49.5 +0.6**
comp=Z,1.1nm,0.9s,mb3.8,baz=44,slow=8.5,SNR=3.8
NB2 NORSAR Subarra 78.34 333 P **P 08 46 11.2 -1.3**
comp=Z,5.7nm,0.9s,mb4.5,baz=57,slow=5.6
NOA NORSAR Array B 78.34 333 P **P 08 46 11.4 -1.0**
comp=Z,0.6nm,0.7s,mb3.6,baz=58,slow=5.6,SNR=2.7
NOA LR LR 09 24 10.5
comp=Z,126nm,20.1s,MS4.2,baz=70,slow=38
GERES GERESS Array B 83.37 321 P **P 08 46 39.1 -0.2**
comp=Z,0.3nm,0.3s,mb3.9,baz=60,slow=5.8,SNR=1.9
GERES LR LR 09 30 07.5
comp=Z,147nm,18.4s,MS4.4,baz=289,slow=40
BORG Borgarnes 86.38 346 LR LR 09 27 16.2
comp=Z,155nm,18.1s,MS4.5,baz=41,slow=37
HLID Hailey 93.63 38 *e*P **P 08 47 33.0 +4.5**
comp=Z,1.5nm,0.8s,mb4.5
NVAR Mina Array Bea 94.50 44 P **P 08 47 36.9 +4.5**
comp=Z,0.9nm,0.8s,mb4.2,baz=304,slow=4.0,SNR=6.0

IDC 21 08:38:13.0±19.0, 1329S×16787E, h326km±76km, mb3.6/4, mb1 3.7/5, mb1mx3.3/15, mbtmp4.3/5, Error ellipse: s-maj=330.7km s-min=74.2km az=59.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.84**	**189**	P	Pn	08 40 17.0	+0.2
	0.4nm,0.3s,baz=8.6,slow=22,SNR=8.0						
CTA	**Charters Tower**	**21.77**	**249**	P	P	08 42 39.1	+0.4
	3.6nm,0.7s,baz=76,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**30.37**	**228**	*e*P	P	08 43 55.4	-0.1
	3.6nm,0.4s						
STKA	**Stephens Creek**	**30.37**	**228**	P	P	08 43 55.4	-0.1
	4.9nm,0.5s,baz=44,slow=7.3,SNR=18						
WRA	**Warramunga Arr**	**32.76**	**254**	P	P	08 44 16.5	+0.3
	1.5nm,0.5s,baz=84,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**33.74**	**247**	P	P	08 44 25.0	+0.3
	3.4nm,0.5s,baz=76,slow=9.2,SNR=33						

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*IDC **21** 08:46:54.4±6.4, 444N×9548E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/20, mbtmp3.8/3, Error ellipse: s-maj=325.8km s-min=26.9km az=57.0*
*NEIC **21** 08:46:57.4±1.0, 417N×9506E, h30km, mb4.7/1, Error ellipse: s-maj=23.7km s-min=16.1km az=55.0*
*ISCJB **21** 08:47:04.3±5.4, 45N±02×956E±02, h96km±46km, mb3.9/4, Error ellipse: s-maj=50.5km s-min=24.3km az=95.7*
ISC 21 08:47:05.2±5.3, 45N±02×955E±03, h86km±45km, n9, σ0:06/10, mb3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.15**	**81**	*e*Pn	Pn	08 48 19.8	0.0
KULM				*e*Sn	Sn	08 49 17.9	0.0
MKAR	**Makanchi Array**	**43.65**	**347**	P	P	08 55 01.1	0.0
	0.1nm,0.4s,mb2.9,baz=149,slow=9.8,SNR=3.8						
MKAR	**Makanchi Array**	**43.65**	**347**	P	P	08 55 01.1	0.0
WRA	**Warramunga Arr**	**45.22**	**124**	P	P	08 55 13.7	0.0
	3.4nm,0.6s,mb4.3,baz=301,slow=9.2,SNR=50						
WRAB	**Tennant Creek**	**45.23**	**124**	*e*P	P	08 55 13.6	-0.1
	5.1nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**45.23**	**124**	*e*P	P	08 55 13.9	+0.1
ASPA	**Alice Springs**	**46.73**	**129**	*e*P	P	08 55 25.5	0.0
ASAR	**Alice Springs**	**46.73**	**129**	P	P	08 55 25.6	+0.1
	1.2nm,0.4s,mb4.0,baz=298,slow=7.5,SNR=36						
AS31	**Alice Springs**	**46.73**	**129**	*e*P	P	08 55 25.5	0.0

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*ISCJB **21** 08:50:43.9±0.7, 2806S±003×7114W±0.1, h54km±9km, mb3.8/3, Error ellipse: s-maj=19.1km s-min=4.4km az=13.1*
*NEIC **21** 08:50:44.9, 28.13S×70.80W, h60km, MG4.4(GUC), After GUC.*
*IDC **21** 08:50:44.7±3.1, 2789S×71.19W, h43km±28km, mb3.7/3, mb1 3.7/7, mb1mx3.5/19, mbtmp3.7/7, ML3.6/4, Error ellipse: s-maj=46.4km s-min=15.0km az=79.0*
ISC 21 08:50:44.8±0.7, 2805S±003×711W±01, h45km±10km, n18, σ0:88/28, mb3.8/3, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.59**	**151**	⇑*i*P	Pn	08 50 56.9	0.0
VACH				*i* S	Sn	08 51 05.3	-0.3
CPCH	**Copiapo**	**0.95**	**43**	*e*P	Pn	08 51 01.4	-0.2
CPCH				*e*S	Sn	08 51 14.1	+0.2
CDCH	**Caldera**	**1.00**	**13**	*e*P	Pn	08 51 02.3	0.0
CDCH				*i* S	Sn	08 51 16.8	+1.5
LCO	**Las Campanas**	**1.01**	**161**	*e*P	Pn	08 51 02.6	+0.1
LCO				*i* S	Sn	08 51 15.7	+0.1
CRCH	**Chaqaral**	**1.75**	**14**	*i* P	Pn	08 51 12.8	+0.2
CRCH				*i* S	Sn	08 51 34.4	+0.7
LSCH	**La Serena**	**1.85**	**184**	⇓*i*P	Pn	08 51 14.5	+0.4
LSCH				*i* S	Sn	08 51 36.6	+0.3
OVCH	**Ovalle**	**2.55**	**182**	⇑*i*P	Pn	08 51 23.5	-0.1
OVCH				*i* S	Sn	08 51 52.9	-0.4
CMCH	**Combarbala**	**3.11**	**179**	⇓*i*P	Pn	08 51 31.2	0.0
CMCH				*i* S	Sn	08 52 06.7	-0.5
CFAA	**Coronel Fontan**	**4.32**	**146**	P	Pn	08 51 50.6	+2.8
	2.0nm,0.3s,baz=327,slow=13,SNR=59						
CFAA				S	Sn	08 52 42.7	+5.8
	7.6nm,0.3s,baz=207,slow=16,SNR=13						
CFAA	**Coronel Fontan**	**4.32**	**146**	P	Pn	08 51 50.6	+2.8
CFAA				S	Sn	08 52 42.7	+5.8
MDZ	**Mendoza**	**5.18**	**159**	*e*P	Pn	08 52 06.3	+6.5
MDZ				*e*		08 52 21.1	
MDZ				*e*		08 52 27.2	
MDZ				S	Sn	08 53 15.2	+17
LVC	**Limon Verde**	**5.76**	**20**	P	Pn	08 52 05.7	-2.0
	0.3nm,0.3s,baz=225,slow=7.1,SNR=8.7						
LPAZ	**La Paz**	**12.02**	**14**	P	Pn	08 53 32.3	-1.1
	0.1nm,0.3s,baz=198,slow=3.2,SNR=3.5						
SIV San Ignacio 15.16 40 P **Pn 08 54 13.6 -2.1**
0.2nm,0.3s,baz=235,slow=16,SNR=4.8
USHA Ushuaia 26.83 177 P **P 08 56 20.7 -0.1**
5.2nm,0.9s,mb4.0,baz=333,slow=4.5,SNR=3.2
PDAR Pinedale Array 78.87 332 P **P 09 02 43.5 +0.4**
0.4nm,0.6s,mb3.6,baz=126,slow=7.5,SNR=4.8
TORD Torodi Ar. Bea 81.42 70 P **P 09 02 57.7 +0.8**
0.4nm,0.4s,mb3.7,baz=253,slow=4.8,SNR=6.9
TORD pP pP 09 03 10.7 +0.5
1.9nm,0.7s,baz=256,slow=4.7,SNR=7.1
WRA Warramunga Arr 126.33 210 PKP PKPdf 09 09 43.2 +0.7
0.4nm,0.6s,baz=153,slow=1.7,SNR=6.9

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*STR **21** 08:52:22.9±0.1, 4306N×104W, h8km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 08:52:22.3±0.6, 4292N×107W, h2km, Md2.2/2, Ml1.8/1, Error ellipse: s-maj=20.0km s-min=3.5km az=28.0*
MDD 21 08:52:23.1±0.2, 4302N×103W, h10km±2km, mbLg1.3/9, 2D, Error ellipse: s-maj=1.5km s-min=1.2km az=5.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.04**	**64**	Pg	Pg	08 52 25.1	+0.1
LARF				Sg	Sg	08 52 26.8	+0.5
LARF	**Larrau**	**0.04**	**64**	Pg	Pg	08 52 25.2	+0.2
LARF				Lg		08 52 26.8	
SJPF	**Ste Jean**	**0.17**	**303**	*e*Pg	Pg	08 52 26.6	-0.1
SJPF				*e*Sg	Sg	08 52 29.2	0.0
	54nm,0.2s						
SJPF	**Ste Jean**	**0.17**	**303**	Pg	Pg	08 52 26.6	-0.1
SJPF				Lg		08 52 29.2	
	27nm,0.2s						
ORDF	**Ordiarp**	**0.20**	**20**	Pg	Pg	08 52 27.3	-0.1
ORDF				Sg	Sg	08 52 30.4	+0.2
ORDF	**Ordiarp**	**0.20**	**20**	Pg	Pg	08 52 27.3	0.0
ORDF				Lg		08 52 30.6	
ATE	**Arette**	**0.25**	**75**	Pg	Pg	08 52 28.0	-0.2
ATE				Lg		08 52 31.9	
OSSF	**Osses**	**0.29**	**324**	Pg	Pg	08 52 28.6	-0.3
OSSF				Sg	Sg	08 52 32.7	-0.1
OSSF	**Osses**	**0.29**	**324**	Pg	Pg	08 52 28.6	-0.2
OSSF				Lg		08 52 32.7	
IPRE	**Itoiz**	**0.32**	**228**	Pg	Pg	08 52 29.3	-0.2
	3.8nm,0.3s,SNR=4.6						
IPRE				Lg		08 52 33.9	
	14nm,0.3s,SNR=20						
ETSF	**Etsaut**	**0.37**	**109**	*e*Pg	Pg	08 52 29.6	-0.7
ETSF				*e*Sg	Sg	08 52 34.1	-1.2
	17nm,0.2s						
ETSF	**Etsaut**	**0.37**	**109**	Pg	Pg	08 52 29.6	-0.7
ETSF				Lg		08 52 34.1	
	8.4nm,0.2s						
IUSE	**Utxeti**	**0.39**	**259**	Pg	Pg	08 52 30.6	-0.1
	0.9nm,0.0s,SNR=7.9						
IUSE				Lg		08 52 35.8	
	11nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.39**	**291**	⇓Pg	Pg	08 52 30.4	-0.4
	3.8nm,0.3s,SNR=18						
ELIZ				Lg		08 52 36.3	
	11nm,0.2s,SNR=17						
EALK	**Alkurruntz**	**0.40**	**300**	⇓Pg	Pg	08 52 30.6	-0.3
	5.1nm,0.4s,SNR=18						
EALK				Lg		08 52 35.8	
	11nm,0.3s,SNR=20						
EBIE	**Bielsa**	**0.93**	**111**	Pg	Pg	08 52 40.8	-0.1
	3.8nm,0.2s,SNR=11						
EBIE				Lg		08 52 52.4	
	1.0nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.01**	**89**	*e*Sg	Sg	08 52 55.8	+0.3
	1.7nm,0.2s						
EPF	**Esparros**	**1.01**	**89**	Lg		08 52 55.8	
	0.9nm,0.2s						
EGRA	**Graus**	**1.29**	**129**	Pg	Pg	08 52 47.4	-0.5
	0.7nm,0.1s,SNR=4.0						
EGRA				Lg		08 53 04.7	
	2.1nm,0.6s,SNR=7.9						
ESAC	**San Caprasio**	**1.36**	**162**	Pg	Pg	08 52 48.8	-0.5
	0.8nm,0.1s,SNR=7.9						
ESAC				Lg		08 53 06.8	
	32nm,0.3s,SNR=9.6						

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*IDC **21** 08:53:31.6±0.6, 133N×97.12E, h0km, mb4.8/22, mb1 4.8/22, mb1mx4.7/27, mbtmp4.8/22, MS4.2/16, Ms1 4.2/16, ms1mx4.0/34, Error ellipse: s-maj=22.5km s-min=10.3km az=46.0*
*SZGRF **21** 08:53:32.3, 026N×97.42E, h33km, mb4.7, Northern Sumatera, Indonesia*
*BJI **21** 08:53:33.5, 107N×97.12E, h39km, mB5.3, mb5.3, Ms5.0, Msz4.8*
*ISCJB **21** 08:53:35.0±0.2, 142N±004×97.10E±003, h29km, mb5.1/97, MS4.5/37, Error ellipse: s-maj=5.4km s-min=4.3km az=47.9*
*MOS **21** 08:53:36.1±0.9, 158N×97.17E, h33km, mb5.5/42, Error ellipse: s-maj=11.8km s-min=5.6km az=111.3*
*NEIC **21** 08:53:37.0±0.2, 142N×97.13E, h30km, mb5.0/37, Error ellipse: s-maj=7.9km s-min=4.3km az=220.0*
*HRVD **21** 08:53:37.0±0.7, 095N×97.01E, h34km±1km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s22,c30;Mantle waves: s37,c51; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.17±.24; $M_{\theta\theta}$-1.57±.15; $M_{\phi\phi}$-0.60±.18; $M_{r\theta}$1.08±.18; $M_{\theta\phi}$1.40±.10; $M_{\phi r}$-1.34±.23; Best double couple: $M_0$2.93500×10^{16} NP1:ϕ_s293.00000°, δ29.00000°, λ70.00000°. NP2: ϕ_s136.00000°, δ63.00000°, λ101.00000°. Principal axes: T 2.7750, Plg70.0000°, Azm68.0000°; N 0.3190, Plg9.0000°, Azm311.0000°; P -3.0940, Plg18.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 21 08:53:37.2±0.2, 141N±004×9708E±003, h31km, h31km±.9km: pP-P, n208, σ0:95/213, mb5.1/97, MS4.5/37, 15C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**4.43**	**336**	P	Pn	08 54 38.7	-3.7
	156nm,0.5s						
IPM	**Ipoh**	**4.98**	**52**	P	Pn	08 54 50.2	+0.3
KULM	**Kulim**	**5.25**	**43**	*e*Pn	Pn	08 54 52.5	-1.1
KULM				*e*Sn	Sn	08 55 53.4	+0.4
KGM	**Kluang**	**6.26**	**84**	P	Pn	08 55 09.0	+1.5
SNG	**Songkhla**	**6.73**	**32**	P	Pn	08 55 13.0	-0.9
	856nm,1.0s						
KSI	**Kapahiang**	**7.46**	**132**	P	Pn	08 55 28.7	+4.8
	145nm,1.1s						
KSM	**Kuching**	**13.22**	**90**	*e*Pn	Pn	08 56 45.9	+3.0
NST	**Nakhon Sawan**	**14.49**	**12**	P	Pn	08 57 00.0	-0.1
PALK	**Pallekele**	**17.33**	**290**	*e*Pn	Pn	08 57 36.5	-0.2
	88nm,1.4s						
KKM	**Kota Kinabalu**	**19.64**	**76**	P	Pn	08 58 05.2	+0.4
KKM	**Kota Kinabalu**	**19.64**	**76**	*e*P	Pn	08 58 04.1	-0.7
TSM	**Tawau**	**20.96**	**82**	P	P	08 58 19.8	+2.1
VIS	**Vishakhapatnam**	**21.10**	**321**	*e*P	P	08 58 19.2	0.0
VIS				AMb	AMB	08 58 39.2	
	comp=Z,91nm,1.2s,mb5.0						
QIZ	**Qiongzhong**	**21.52**	**35**	P	P	08 58 23.4	-0.3
QIZ				AP		08 58 32.6	
QIZ				S	S	09 02 22.8	+2.3
QIZ				XS	sS	09 02 38.6	+4.9
QIZ				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.3						
QIZ				LR	LR		
	comp=E,2μm,14.4s						
QIZ				LR	LR		
	comp=Z,890nm,15.4s,MS4.3						
CAL	**Calcutta**	**22.66**	**339**	*ex*	x	09 02 16.3	
CAL				*ex*	x	09 04 37.7	
KAPI	**Kappang**	**23.53**	**106**	P	P	08 58 44.2	-0.6
	comp=Z,255nm,0.9s,mb5.7,SNR=5.7						
HYB	**Hyderabad**	**24.18**	**312**	*i* P	P	08 58 53.0	+2.2
HYB	**Hyderabad**	**24.18**	**312**	*e*P	P	08 58 53.0	+2.2
KMI	**Kunming**	**24.20**	**13**	⇑P	P	08 58 52.0	+1.0
KMI				AP		08 59 01.8	
KMI				XP	sP	08 59 05.3	+1.7
KMI				PP		08 59 28.5	
KMI				PCP	PcP	09 02 33.9	+2.9
KMI				S	S	09 03 06.1	-1.2
KMI				XS	sS	09 03 20.8	-1.1

KMI SS 09 04 01.4
KMI PCS PcS 09 06 12.3 +1.6
KMI AMB AMB
comp=Z,90nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,430nm,3.3s
KMI LR LR
comp=N,2µm,15.0s,MS4.9
KMI LR LR
comp=E,2µm,13.0s,MS4.9
KMI LR LR
comp=Z,3µm,14.7s,MS4.9
BOK Bokaro 24.76 335 *e*P **P 08 58 55.9 -0.1**
BLSP Bilaspur 25.21 326 *e*P **P 08 59 01.1 +0.9**
BLSP AMb AMB 08 59 11.6
comp=Z,56nm,1.0s,mb5.0
GYA Guiyang 26.56 20⇑ *i*P **P 08 59 11.9 -0.4**
GYA AP pP 08 59 21.3 +0.1
GYA XP sP 08 59 25.4 +0.4
GYA PP 08 59 54.3
GYA S **S 09 03 41.0 -3.8**
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,3.2s
GYA LR LR
comp=N,4µm,14.9s,MS5.1
GYA LR LR
comp=E,1µm,14.7s,MS5.1
GYA LR LR
comp=Z,4µm,15.3s,MS5.0
BCPH Baguio City Da 27.52 56‖ *e*P **P 08 59 21.0 0.0**
JIRN Jiri 28.11 339 *e*P **P 08 59 27.8 +1.5**
comp=Z,182nm,1.0s,mb5.7
PKI Pulchoki 28.32 338 *e*P **P 08 59 29.2 +1.1**
comp=Z,74nm,1.1s,mb5.2
PKI Pulchoki 28.32 338 *e*P **P 08 59 29.2 +1.1**
PKI pmax pmax
comp=Z,74nm,1.1s,mb5.2
POO Poona 28.44 308 *e*x x 08 52 07.0
GUN Gumba 28.45 339 *e*P **P 08 59 30.6 +1.3**
comp=Z,176nm,1.0s,mb5.6
DMN Daman 28.47 337 *e*P **P 08 59 30.5 +1.1**
comp=Z,84nm,1.0s,mb5.3
KKN Kakani 28.56 338 *e*P **P 08 59 31.2 +0.9**
comp=Z,265nm,1.4s,mb5.8
KKN Kakani 28.56 338 *e*P **P 08 59 31.2 +0.9**
KKN pmax pmax
comp=Z,265nm,1.4s,mb5.8
BHPL Bhopal 28.89 320 *e*P **P 08 59 33.8 +0.5**
BHPL AMb AMB 08 59 43.3
comp=Z,18nm,0.9s,mb4.8
GKN Gorkha 29.00 337 *e*P **P 08 59 35.2 +1.0**
comp=Z,105nm,0.9s,mb5.6
KOLN Koldanda 29.22 335 *e*P **P 08 59 37.5 +1.4**
comp=Z,116nm,0.8s,mb5.7
CD2 Chengdu 30.02 12 P **P 08 59 45.5 +2.3**
CD2 AP pP 08 59 55.1 +3.0
CD2 XP sP 08 59 59.0 +3.2
CD2 PP PP 09 00 43.8 -7.4
CD2 PCP PcP 09 02 47.4 +2.6
CD2 S **S 09 04 40.0 +0.7**
CD2 XS sS 09 04 55.9 +1.9
CD2 SS SS 09 06 17.8 -30
CD2 SCP ScP 09 06 25.8 +1.1
CD2 PCS PcS 09 06 30.0 +1.8
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,180nm,5.6s
CD2 LR LR
comp=E,1µm,14.4s
CD2 LR LR
comp=Z,750nm,18.0s,MS4.4
QZH Quanzhou 31.29 40 P **P 08 59 56.5 +2.1**
QZH S **S 09 05 00.0 +0.8**
QZH LR LR
comp=N,2µm,14.0s,MS5.0
QZH LR LR
comp=E,1µm,13.7s,MS5.0
QZH LR LR
comp=Z,3µm,14.7s,MS5.0
MBWA Marble Bar 31.53 137 *e*P **P 08 59 57.2 +0.6**
comp=Z,29nm,1.0s,mb5.1
MBWA *e*pP pP 09 00 03.8 -1.6
LGTI Lohaghat 32.16 332 *e*P **P 09 00 02.5 +0.4**
AJM Ajmer 32.96 321 *e*P **P 09 00 08.7 -0.4**
AJM AMb AMB 09 00 19.5
comp=Z,32nm,0.8s,mb5.3
NDI New Delhi 33.09 327 *e*P **P 09 00 09.5 -0.8**
FITZ Fitzroy Crossi 34.15 126 *e*P **P 09 00 18.8 -0.6**
comp=Z,9.7nm,0.8s,mb4.8
FITZ Fitzroy Crossi 34.15 126 P **P 09 00 18.8 -0.6**
comp=Z,5.2nm,0.8s,mb4.5,baz=308,slow=4.3,SNR=9.6
XAN Xi'an 34.30 18 P **P 09 00 19.5 -1.3**
XAN AMB AMB
comp=Z,90nm,1.1s,mb5.6
LZH Lanzhou 35.07 10 *e*P **P 09 00 27.8 +0.4**
LZH AP pP 09 00 35.6 -0.8
LZH XP sP 09 00 39.3 -0.8
LZH PP PP 09 01 48.0 +0.8
LZH PCP PcP 09 02 58.0 -0.7
LZH *e*S **S 09 05 56.1 -1.8**
LZH SS SS 09 08 14.5 -16
LZH AMB AMB
comp=Z,60nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,270nm,4.0s
LZH LR LR
comp=E,2µm,16.0s
LZH LR LR
comp=Z,3µm,17.0s,MS5.1
NJ2 Nanjing 36.75 32 *e*P **P 09 00 41.3 -0.5**
NJ2 AP pP 09 00 51.0 +0.2
NJ2 XP sP 09 00 55.3 +0.8
NJ2 PP PP 09 02 06.1 +0.4
NJ2 S **S 09 06 22.0 -1.6**
NJ2 XS sS 09 06 39.0 +0.5
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,140nm,11.2s
NJ2 LR LR
comp=N,2µm,14.6s,MS5.2
NJ2 LR LR
comp=E,2µm,17.2s,MS5.2
NJ2 LR LR
comp=Z,900nm,15.6s,MS4.7
SSE Sheshan 37.31 35 P **P 09 00 47.6 +1.0**
SSE AP pP 09 00 56.5 +0.9
SSE XP sP 09 01 00.3 +1.0
SSE PP PP 09 02 13.3 +1.4
SSE S **S 09 06 33.5 +1.3**
SSE XS sS 09 06 49.3 +2.3
SSE PCS PcS 09 06 54.9 +1.1
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,70nm,4.4s
SSE LR LR
comp=N,380nm,17.5s,MS4.3
SSE LR LR
comp=E,260nm,17.5s,MS4.3
SSE LR LR
comp=Z,570nm,16.0s,MS4.5
KAKA Kakadu 37.79 113 *e*P **P 09 00 49.4 -1.2**
comp=Z,22nm,0.6s,mb5.1
GTA Gaotai 37.90 3 *e*P **P 09 00 51.1 -0.5**
GTA AP pP 09 00 59.1 -1.5
GTA XP sP 09 01 03.4 -0.9
GTA PP PP 09 02 21.4 +3.0
GTA PCP PcP 09 03 08.0 +0.7
GTA S **S 09 06 39.4 -1.7**
GTA SCP ScP 09 06 50.9 -1.7
GTA SCS ScS 09 11 00.5 -1.1
GTA AMB AMB
comp=Z,20nm,1.5s,mb4.6
GTA AMB AMB
comp=Z,200nm,4.2s
GTA LR LR
comp=N,790nm,12.6s,MS4.8
GTA LR LR
comp=E,540nm,13.8s,MS4.8
GTA LR LR
comp=Z,820nm,13.4s,MS4.7

JOW Kunigami 39.19 47 P **P 09 01 02.5 +0.2**
comp=Z,60nm,0.6s,mb5.5,baz=236,slow=7.2,SNR=42
JOW LR LR 09 17 21.5
comp=Z,232nm,19.2s,MS4.0,baz=282,slow=36
HHC Hu-ho-hao-te 41.39 17 *e*P **P 09 01 20.8 +0.2**
HHC AP pP 09 01 30.5 +0.8
HHC XP sP 09 01 34.3 +0.9
HHC PP PP 09 03 00.0 +3.5
HHC PCP PcP 09 03 18.6 +0.2
HHC S **S 09 07 32.8 -0.6**
HHC XS sS 09 07 49.3 +0.9
HHC SS SS 09 10 32.8 -5.2
HHC SCS ScS 09 11 21.3 -0.9
HHC AMB AMB
comp=Z,30nm,0.6s,mb5.1
HHC AMB AMB
comp=Z,110nm,3.9s
HHC LR LR
comp=N,2µm,14.3s,MS5.1
HHC LR LR
comp=E,570nm,11.9s,MS5.1
HHC LR LR
comp=Z,1µm,14.3s,MS4.9
WRA Warramunga Arr 42.25 122 P **P 09 01 27.5 -0.1**
comp=Z,6.6nm,0.6s,mb4.5,baz=301,slow=9.3,SNR=35
WRA LR LR 09 19 14.8
comp=Z,319nm,18.3s,MS4.2,baz=295,slow=37
WRAB Tennant Creek 42.25 122 P **P 09 01 28.0 +0.4**
comp=Z,76nm,0.7s,mb5.4,SNR=7.0
WRAB Tennant Creek 42.25 122 *e*P **P 09 01 27.7 +0.1**
WRAB pmax pmax
comp=Z,24nm,0.9s,mb4.8
WRAB Tennant Creek 42.25 122 *e*P **P 09 01 27.7 +0.1**
comp=Z,24nm,0.9s,mb4.8
WB2 Warramunga Arr 42.26 122 *e*P **P 09 01 27.4 -0.3**
WMQ Urumqi 43.05 350 P **P 09 01 34.6 +0.5**
WMQ AP pP 09 01 43.8 +0.6
WMQ PP PP 09 03 16.6 +2.3
WMQ S **S 09 07 57.3 -0.5**
WMQ XS sS 09 08 14.8 +1.9
WMQ SS SS 09 11 02.8 -7.8
WMQ AMB AMB
comp=Z,50nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,110nm,3.0s
WMQ LR LR
comp=N,210nm,27.0s,MS4.0
WMQ LR LR
comp=E,210nm,27.0s,MS4.0
WMQ LR LR
comp=Z,200nm,25.5s,MS3.9
DL2 Dalian 43.55 28 P **P 09 01 38.3 +0.2**
DL2 *e*S **S 09 08 05.3 +0.1**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
DL2 AMB AMB
comp=Z,110nm,2.9s,mb5.1
DL2 LR LR
comp=N,250nm,16.7s,MS4.4
DL2 LR LR
comp=E,310nm,14.0s,MS4.4
DL2 LR LR
comp=Z,340nm,17.1s,MS4.3
ASPA Alice Springs 43.61 127 *e*P **P 09 01 39.0 +0.3**
ASAR Alice Springs 43.62 127 P **P 09 01 39.1 +0.5**
comp=Z,14nm,1.1s,mb4.6,baz=303,slow=7.6,SNR=44
ASAR PcP PcP 09 03 25.6 -0.1
comp=Z,2.4nm,1.0s,baz=311,slow=5.8,SNR=4.1
ASAR ScP ScP 09 07 17.9 +2.8
comp=Z,0.5nm,0.9s,baz=277,slow=3.3,SNR=4.6
ASAR S **S 09 08 04.8 -1.4**
comp=Z,1.9nm,1.1s,baz=305,slow=13,SNR=8.6
ASAR LR LR 09 22 19.2
comp=Z,298nm,21.3s,MS4.2,baz=298,slow=40
ASAR Alice Springs 43.62 127 P **P 09 01 39.2 +0.5**
ASAR 09 03 25.6
ASAR S **S 09 08 04.8 -1.4**
AS31 Alice Springs 43.62 127 *e*P **P 09 01 39.0 +0.3**
ULHL Ulahol 44.76 338 P **P 09 01 48.7 +0.8**
SNR=11
KZA Kyzart 44.99 337 P **P 09 01 51.1 +1.4**
SNR=9.7
UCH Uchtor 45.41 336 P **P 09 01 54.4 +1.3**
SNR=25
TKM2 Tokmak 2 45.58 338 P **P 09 01 55.4 +1.0**
SNR=13
KBK Karagaybulak 45.60 337 P **P 09 01 56.2 +1.6**
SNR=12
AAK Ala-Archa 45.76 337 P **P 09 01 56.5 +0.7**
comp=Z,79nm,1.2s,mb5.5,SNR=5.6
AAK Ala-Archa 45.76 337 *e*P **P 09 01 56.3 +0.5**
AAK pmax pmax
comp=Z,40nm,1.4s,mb5.2
AAK Ala-Archa 45.76 337 *e*P **P 09 01 56.3 +0.5**
comp=Z,40nm,1.4s,mb5.2
FRU Bishkek 45.88 337 *e*P **P 09 01 57.0 +0.3**
FRU *e* pP 09 02 06.0 +0.1
FRU pmax pmax
comp=Z,90nm,2.6s,mb5.2
EKS2 Erkin-Say 46.07 336 P **P 09 01 59.7 +1.5**
SNR=6.2
USP Ospenovka 46.30 337 P **P 09 02 00.8 +0.8**
SNR=6.8
SNY Shenyang 46.77 27⇑ P **P 09 02 03.0 -0.7**
SNY AMB AMB
comp=Z,20nm,0.5s,mb5.3
SNY AMB AMB
comp=Z,1µm,4.1s
SNY LR LR
comp=N,520nm,16.8s,MS4.9
SNY LR LR
comp=E,960nm,14.4s,MS4.9
SNY LR LR
comp=Z,950nm,15.6s,MS4.9
SONM Songino Array 46.94 9 P **P 09 02 05.1 +0.1**
comp=Z,46nm,0.9s,mb5.4,baz=191,slow=8.7,SNR=118
SONM LR LR 09 24 25.1
comp=Z,1µm,18.6s,MS4.8,baz=187,slow=39
MK31 Makanchi Array 47.01 346 P **P 09 02 04.6 -1.0**
MK31 pmax pmax
comp=Z,33nm,0.8s,mb5.3
MKAR Makanchi Array 47.01 346 P **P 09 02 05.8 +0.2**
comp=Z,40nm,0.9s,mb5.4,baz=160,slow=8.1,SNR=198
MKAR PKiKP PKiKP 09 10 35.3 +4.2
comp=Z,0.6nm,0.5s,baz=336,slow=1.3,SNR=6.5
ULN Ulaanbaatar 47.08 9 *e*P **P 09 02 06.3 +0.2**
ULN *e* 09 03 38.2
ULN pmax pmax
comp=Z,26nm,0.8s,mb5.2
ULN Ulaanbaatar 47.08 9 *e*P **P 09 02 06.3 +0.2**
comp=Z,26nm,0.8s,mb5.2
ULN *e*PcP PcP 09 03 38.2 +0.5
GUMO Guam 48.79 73 LR LR 09 23 17.1
comp=Z,58nm,19.6s,MS3.6,baz=148,slow=37
ZAK Zakamensk 49.08 5 *e*P **P 09 02 21.5 -0.1**
CN2 Changchun 49.17 27 *e*P **P 09 02 21.4 -0.9**
CN2 *e*S **S 09 09 24.8 -1.0**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.8
CN2 LR LR
comp=E,600nm,15.0s,MS4.8
CN2 LR LR
comp=Z,600nm,16.0s,MS4.7
MOY Mondy 50.19 3 *e*P **P 09 02 30.5 +0.5**
CBIJ Chichi jima 50.20 55 P **P 09 02 29.2 -0.9**
comp=Z,22nm,0.5s,mb5.4,baz=294,slow=14,SNR=8.1
TLY Talaya 50.40 5 P **P 09 02 32.4 +0.8**
comp=Z,124nm,0.8s,mb6.0,SNR=9.2
TLY Talaya 50.40 5 *e*P **P 09 02 32.1 +0.5**
TLY *e* 09 04 20.1
TLY *e*S **S 09 09 55.5 +13**
TLY pmax pmax
comp=Z,18nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,580nm,16.0s,MS4.7
TLY Talaya 50.40 5 *e*P **P 09 02 32.2 +0.6**
comp=Z,14nm,0.8s,mb5.0
TLY *e*pP pP 09 02 40.4 -0.5
TLY *e*PcP PcP 09 03 49.9 +0.2
PMG Port Moresby 51.02 103 P **P 09 02 35.6 -0.7**
comp=Z,21nm,0.7s,mb5.2,baz=296,slow=3.7,SNR=6.9
PMG Port Moresby 51.02 103 *e*P **P 09 02 36.7 +0.4**

MAT Matsushiro 51.62 43 P **P 09 02 39.6 -1.2**
MAT S **S 09 10 07.0 +7.2**
MAT Matsushiro 51.62 43 *e*P **P 09 02 40.0 -0.8**
MAT *e*S **S 09 10 08.0 +8.2**
MJAR Matsushiro Arr 51.62 43 P **P 09 02 39.7 -1.1**
comp=Z,5.8nm,0.9s,mb4.5,baz=222,slow=7.2,SNR=16
MJAR PcP PcP 09 03 54.6 +0.3
comp=Z,1.4nm,0.7s,baz=236,slow=4.8,SNR=4.3
MJAR LR LR 09 24 54.6
comp=Z,254nm,21.3s,MS4.2,baz=240,slow=36
MJAR Matsushiro Arr 51.62 43 P **P 09 02 39.7 -1.1**
MJAR 09 03 54.6
MDJ Mudanjiang 51.74 29 P **P 09 02 41.8 +0.1**
MDJ AP pP 09 02 49.3 -1.7
MDJ XP sP 09 02 53.3 -1.4
MDJ PP PP 09 04 39.0 -0.5
MDJ SCP ScP 09 07 49.8 +0.6
MDJ S **S 09 10 04.3 +2.8**
MDJ XS sS 09 10 17.5 +0.7
MDJ AMB AMB
comp=Z,20nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,70nm,4.0s
MDJ LR LR
comp=N,190nm,19.2s,MS4.4
MDJ LR LR
comp=E,240nm,17.5s,MS4.4
MDJ LR LR
comp=Z,390nm,16.9s,MS4.5
VLA Vladivostok 51.86 32 *e*P **P 09 02 43.0 +0.4**
VLA pmax pmax
comp=Z,103nm,1.1s,mb5.7
VLA MLR MLR
comp=Z,400nm,19.0s,MS4.5
CIT Chita 52.29 13 *e*P **P 09 02 45.8 0.0**
CIT *e* pP 09 02 56.2 +1.1
CIT pmax pmax
comp=Z,80nm,1.4s,mb5.5
CTA Charters Tower 52.70 117 *e*P **P 09 02 50.1 +1.3**
comp=Z,11nm,1.2s,mb4.7
CTA Charters Tower 52.70 117 P **P 09 02 50.1 +1.2**
comp=Z,12nm,1.0s,mb4.8,baz=297,slow=6.6,SNR=3.7
CTA LR LR 09 29 31.2
comp=Z,400nm,18.9s,MS4.5,baz=281,slow=41
CTA Charters Tower 52.70 117 *e*P **P 09 02 50.1 +1.3**
CTA pmax pmax
comp=Z,11nm,1.2s
ZAL Zalesovo 53.33 351 P **P 09 02 53.9 +0.4**
comp=Z,15nm,0.6s,mb5.1,baz=304,slow=6.2,SNR=36
STKA Stephens Creek 53.58 132 *e*P **P 09 02 54.5 -0.8**
comp=Z,9.4nm,0.7s,mb4.8
STKA Stephens Creek 53.58 132 P **P 09 02 54.4 -0.9**
comp=Z,15nm,0.9s,mb4.9,baz=318,slow=8.5,SNR=24
NVS Novosibirsk 54.45 350 *e*P **P 09 03 00.3 -1.4**
KRAR Krasnoyarsk 54.54 357 *e*P **P 09 03 01.2 -1.1**
KRAR pmax pmax
comp=Z,45nm,1.3s,mb5.3
VOSK Vostochnaya 55.57 341 P **P 09 03 08.0 -1.7**
VOSK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BVA0 Borovoye Array 56.01 341 *i* P **P 09 03 12.0 -0.9**
BVA0 pmax pmax
comp=Z,100nm,0.8s,mb5.9
BVAR Borovoye Array 56.01 341 P **P 09 03 12.2 -0.8**
comp=Z,10nm,0.8s,mb4.9,baz=134,slow=8.5,SNR=52
BVAR LR LR 09 30 08.9
comp=Z,189nm,21.2s,MS4.2,baz=139,slow=39
BRVK Borovoye 56.08 341 P **P 09 03 12.9 -0.5**
comp=Z,75nm,0.6s,mb5.9,SNR=9.1
BRVK Borovoye 56.08 341 *e*P **P 09 03 12.7 -0.7**
BRVK pmax pmax
comp=Z,30nm,0.6s,mb5.5
BRVK Borovoye 56.08 341 *e*P **P 09 03 12.7 -0.7**
comp=Z,3.4nm,0.6s,mb4.5
ZRNK Zerenda 56.42 340 *e*P **P 09 03 15.1 -0.7**
ZRNK pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ZRNK Zerenda 56.42 340 *e*P **P 09 03 15.1 -0.7**
comp=Z,8.8nm,0.7s,mb4.9
CHKZ Chkalovo 56.49 341 *e*P **P 09 03 16.0 -0.3**
CHKZ pmax pmax
comp=Z,21nm,0.8s,mb5.2
CHKZ Chkalovo 56.49 341 *e*P **P 09 03 16.0 -0.4**
comp=Z,21nm,0.8s,mb5.2
HABR Khabarovsk 57.13 29 *e*P **P 09 03 20.7 -0.2**
HABR *e*S **S 09 11 16.6 +2.5**
HABR pmax pmax
comp=Z,57nm,1.0s,mb5.6
HABR MLR MLR
comp=Z,500nm,21.0s,MS4.6
AB31 Akbulak array 57.27 332 *i* P **P 09 03 21.3 -0.6**
AB31 pmax pmax
comp=Z,21nm,0.9s,mb5.2
ASAJ Asahikawa 58.57 37 P **P 09 03 30.7 -0.3**
comp=Z,8.5nm,0.8s,mb4.8,baz=268,slow=31,SNR=5.9
ASAJ Asahikawa 58.57 37 P **P 09 03 30.7 -0.3**
ASAJ pmax pmax
comp=Z,9.0nm,0.9s
AKTK Aktyubinsk 58.99 332 P **P 09 03 33.0 -0.9**
AKTO Aktyubinsk 58.99 332 P **P 09 03 33.0 -0.9**
comp=Z,7.0nm,0.8s,mb4.8,baz=137,slow=7.2,SNR=21
AKTO Aktyubinsk 58.99 332 P **P 09 03 33.1 -0.8**
AKTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CLNS Chul'man 59.58 17 *e*P **P 09 03 36.6 -1.4**
CLNS pmax pmax
comp=Z,25nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS MLR MLR
comp=Z,1µm,14.0s,MS5.1
CLNS MLR MLR
comp=N,800nm,15.0s,MS5.1
CLNS MLR MLR
comp=E,800nm,14.0s,MS5.1
KMBO Kilima Mbogo 59.88 268 LR LR 09 24 41.6
comp=E,204nm,19.8s,MS4.3,baz=98,slow=31
YSS Yuzh-Sakhalins 60.24 34‖ *e*P **P 09 03 42.6 +0.1**
YSS *e* pP 09 03 52.0 0.0
YSS *e* 09 04 32.1
YSS pmax pmax
comp=E,20nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=E,500nm,16.0s
YSS MLR MLR
comp=Z,400nm,16.0s,MS4.7
YSS Yuzh-Sakhalins 60.24 34 *e*P **P 09 03 42.9 +0.4**
comp=Z,45nm,0.9s,mb5.5
YSS *e*pP pP 09 03 52.0 +0.1
GNI Garni 61.06 316 LR LR 09 32 47.0
comp=Z,108nm,20.7s,MS4.0,baz=2.9,slow=38
GNI Garni 61.06 316 *e*P **P 09 03 47.9 -0.2**
GNI pmax pmax
comp=Z,80nm,1.1s
ORR Orenburg 61.32 331 *e*P **P 09 03 48.7 -1.2**
ORR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
ZEI Tsey 62.76 318 *e*P **P 09 04 00.4 +0.9**
ZEI *e**PP pP 09 04 07.2 -1.8
ZEI *e* 09 06 19.1
ZEI pmax pmax
comp=Z,18nm,0.5s,mb5.5
ARU Arti 62.95 337⇑ *i*P **P 09 03 59.3 -1.4**
ARU *e* 09 04 32.6
ARU *e* 09 06 16.4
ARU *e*S **S 09 12 29.0 +0.3**
ARU *e*SS SS 09 16 36.4 +2.1
ARU pmax pmax
comp=Z,18nm,1.0s,mb5.2
ARU Arti 62.95 337 *e*P **P 09 03 59.6 -1.2**
comp=Z,26nm,1.0s,mb5.3
KIV Kislovodsk 64.07 319 *e*P **P 09 04 08.5 +0.3**
KIV pmax pmax
comp=Z,22nm,1.0s,mb5.1
MALT Malatya 64.90 312⇑ *i*P **P 09 04 14.6 +1.0**
MALT Malatya 64.90 312 *e*P **P 09 04 14.8 +1.2**
MALT pmax pmax
comp=Z,50nm,0.9s,mb5.5
MALT Malatya 64.90 312 *e*P **P 09 04 14.8 +1.2**
comp=Z,5.4nm,0.9s,mb4.6
EIL Elat 65.24 302 *e*P **P 09 04 17.4 +1.6**
comp=Z,137nm,0.9s,mb6.0

YAK	**Yakutsk**	**65.25**	**16**	*e*P	**P**	**09 04 15.2**	**-0.7**
YAK				*e**PP	pP	09 04 24.5	-0.9
YAK				pmax	pmax		
	comp=Z,77nm,0.8s,mb5.8						
YAK	**Yakutsk**	**65.25**	**16**	*e*P	**P**	**09 04 15.2**	**-0.7**
	comp=Z,77nm,0.8s,mb5.8						
YAK				*e*pP	pP	09 04 24.5	-0.9
MMAI	**Mount Meron Ar**	**65.69**	**306**	LR	LR	09 33 51.7	
	comp=Z,98nm,19.1s,MS4.0,baz=95,slow=37						
SOKR	**Solikamsk**	**65.85**	**339**	⇑*i*P	**P**	**09 04 19.0**	**-0.7**
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
SOC	**Sochi**	**65.89**	**318**	*e*P	**P**	**09 04 18.7**	**-1.3**
SOC				*e**PP	pP	09 04 27.4	-2.1
SOC				*e*		09 04 45.3	
SOC				*e*S	S	09 13 05.2	+0.2
SOC				*e*		09 14 16.6	
SOC				*e*SSS		09 20 14.2	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
ANN	**Anapa**	**67.86**	**318**	*e*P	**P**	**09 04 31.2**	**-1.4**
ANN				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
BRTR	**Keskin Array B**	**68.88**	**312**	P	**P**	**09 04 38.4**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.3,baz=124,slow=7.2,SNR=15						
BRTR				LR	LR	09 38 43.6	
	comp=Z,79nm,18.4s,MS4.0,baz=208,slow=39						
MA2	**Magadan**	**71.20**	**26**	*c i*P	**P**	**09 04 52.7**	**-0.4**
MA2				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
MA2	**Magadan**	**71.20**	**26**	*e*P	**P**	**09 04 52.9**	**-0.2**
	comp=Z,19nm,0.8s,mb5.1						
MOS	**Moscow**	**72.09**	**329**	*e*P	**P**	**09 04 56.9**	**-1.6**
MOS				*e*		09 05 19.2	
MOS				*e*		09 07 36.6	
MOS				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
OBN	**Obninsk**	**72.38**	**328**	*e*P	**P**	**09 04 59.6**	**-0.6**
OBN				*e*S	S	09 14 23.2	+1.4
OBN				*e*		09 15 00.5	
OBN				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
MAW	**Mawson**	**72.89**	**193**	LR	LR	09 30 55.4	
	comp=Z,140nm,18.9s,MS4.3,baz=256,slow=31						
TIXI	**Tiksi**	**73.00**	**10**	*e*P	**P**	**09 05 02.6**	**-1.4**
TIRR	**Tirgusor**	**73.89**	**316**	⇑*i*P	**P**	**09 05 08.8**	**-0.4**
TIRR	**Tirgusor**	**73.89**	**316**	*e*P	**P**	**09 05 08.6**	**-0.6**
BOSA	**Boshof**	**74.78**	**240**	LR	LR	09 37 01.1	
	comp=Z,216nm,18.1s,MS4.5,baz=16,slow=35						
AKASG	**Malin Array Be**	**75.02**	**322**	P	**P**	**09 05 14.7**	**-1.1**
	comp=Z,3.3nm,0.6s,mb4.5,baz=90,slow=4.7,SNR=27						
VRI	**Vrincioaia**	**75.38**	**317**	⇓*i*P	**P**	**09 05 18.7**	**+0.9**
VRI	**Vrincioaia**	**75.38**	**317**	⇓P	**P**	**09 05 18.7**	**+0.9**
MLR	**Muntele Rosu**	**75.83**	**317**	⇑*i*P	**P**	**09 05 21.3**	**+0.9**
MLR	**Muntele Rosu**	**75.83**	**317**	⇑P	**P**	**09 05 21.3**	**+0.8**
BURAR	**Bucovina Array**	**76.79**	**319**	⇓*i*P	**P**	**09 05 26.6**	**+0.8**
JOF	**Joensuu**	**77.91**	**335**	*ep*	**P**	**09 05 30.7**	**-1.4**
	comp=Z,11nm,0.8s,mb4.8						
VSU	**Vasula**	**78.61**	**330**	*e*P	**P**	**09 05 35.5**	**-0.5**
APA	**Apatity**	**78.89**	**339**	⇑*i*P	**P**	**09 05 37.0**	**-0.5**
APA				*i*	pP	09 05 45.3	-1.9
APA				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
KOLS	**Kolonicke sedl**	**78.98**	**320**	*e*P	**P**	**09 05 39.3**	**+1.3**
KOLS				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
KOLS	**Kolonicke sedl**	**78.98**	**320**	*e*P	**P**	**09 05 39.3**	**+1.3**
	comp=Z,8.7nm,1.2s,mb4.6						
STHS	**Stebnicka Huta**	**79.73**	**320**	*i* P	**P**	**09 05 42.5**	**+0.4**
STHS				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
STHS	**Stebnicka Huta**	**79.73**	**320**	*i* P	**P**	**09 05 42.5**	**+0.4**
	comp=Z,6.1nm,1.1s,mb4.4						
FINES	**FINESS Array B**	**79.76**	**333**	P	**P**	**09 05 41.6**	**-0.7**
	comp=Z,5.9nm,0.8s,mb4.6,baz=104,slow=8.0,SNR=23						
KAF	**Kangasniemi**	**79.84**	**333**	*ep*	**P**	**09 05 41.4**	**-1.3**
	comp=Z,13nm,0.7s,mb5.0,baz=103,slow=5.0						
KAF	**Kangasniemi**	**79.84**	**333**	*e*P	**P**	**09 05 41.4**	**-1.3**
KAF				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
KECS	**Kecovo**	**80.07**	**319**	*e*P	**P**	**09 05 44.7**	**+0.8**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
KECS	**Kecovo**	**80.07**	**319**	*e*P	**P**	**09 05 44.7**	**+0.8**
	comp=Z,3.0nm,0.9s,mb4.2						
SYO	**Syowa Base**	**80.16**	**198**	⇑*e*PcP	PcP	09 05 51.4	-0.3
BILL	**Bilibino**	**81.01**	**21**	*e*P	**P**	**09 05 48.4**	**-0.6**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
BILL	**Bilibino**	**81.01**	**21**	*e*P	**P**	**09 05 47.8**	**-1.2**
	comp=Z,4.2nm,0.8s,mb4.4						
KEV	**Kevo**	**81.87**	**341**	*e*P	**P**	**09 05 53.0**	**-0.5**
KEV				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
KEV	**Kevo**	**81.87**	**341**	*e*P	**P**	**09 05 53.0**	**-0.5**
	comp=Z,10nm,0.5s,mb5.0						
ZST	**Bratislava**	**82.27**	**318**	*e*P	**P**	**09 05 55.9**	**+0.3**
ZST				*e*		09 06 09.0	
ZST				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
ZST	**Bratislava**	**82.27**	**318**	*e*P	**P**	**09 05 55.9**	**+0.3**
	comp=Z,11nm,1.0s,mb4.7						
ZST				*e*		09 06 09.0	
ARCES	**ARCESS Array B**	**82.30**	**340**	P	**P**	**09 05 55.1**	**-0.6**
	comp=Z,8.8nm,0.7s,mb4.8,baz=94,slow=5.0,SNR=21						
DPC	**Dobruska-Polom**	**83.02**	**320**	*e*P	**P**	**09 05 59.8**	**+0.3**
UPC	**Upice**	**83.23**	**321**	*e*P	**P**	**09 06 01.7**	**+1.1**
BOJS	**Bojanci**	**83.26**	**315**	*e*P	**P**	**09 06 00.7**	**-0.1**
PERS	**Pernice**	**83.45**	**317**	*e*P	**P**	**09 06 01.9**	**+0.1**
ROBS	**Robic**	**84.53**	**316**	*e*P	**P**	**09 06 04.9**	**-2.4**
BRG	**Berggiesshubel**	**84.57**	**321**	*e*P	**P**	**09 06 07.9**	**+0.4**
	comp=Z,4.3nm,0.8s,mb4.6						
BRG				*e*		09 06 14.6	
	comp=Z,0.9nm,0.2s						
BRG	**Berggiesshubel**	**84.57**	**321**	*e*P	**P**	**09 06 07.9**	**+0.4**
BRG				*e*		09 06 14.6	
BRG				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.6						
BRG				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.6						
GERES	**GERESS Array B**	**84.58**	**319**	P	**P**	**09 06 08.1**	**+0.6**
	comp=Z,3.7nm,0.8s,mb4.5,baz=98,slow=5.5,SNR=21						
CLL	**Collm**	**85.19**	**321**	⇑*i*P	**P**	**09 06 10.4**	**-0.2**
CLL				*e*	pP	09 06 21.0	+0.6
CLL				*i* *SP	sP	09 06 22.9	-1.0
CLL				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.7						
CLL	**Collm**	**85.19**	**321**	⇑*i*P	**P**	**09 06 10.4**	**-0.2**
	comp=Z,6.0nm,0.9s,mb4.7						
CLL				*e*	pP	09 06 21.0	+0.6
CLL				*i* sP	sP	09 06 22.9	-1.0
HFS	**Hagfors**	**85.48**	**330**	P	**P**	**09 06 10.8**	**-1.2**
	comp=Z,3.4nm,0.8s,mb4.5,baz=168,slow=7.6,SNR=5.5						
VNDA	**Vanda**	**86.05**	**169**	P	**P**	**09 06 15.7**	**+0.9**
	comp=Z,1.0nm,1.0s,mb4.0,baz=309,slow=6.5,SNR=2.6						
GRA1	**Grafenberg Arr**	**86.25**	**320**	*e*P	**P**	**09 06 16.3**	**+0.5**
	comp=Z,7.0nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**86.25**	**320**	*e*P	**P**	**09 06 16.3**	**+0.5**
	comp=Z,7.0nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**86.25**	**320**	*e*P	**P**	**09 06 16.3**	**+0.5**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
NB2	**NORSAR Subarra**	**86.77**	**331**	P	**P**	**09 06 17.6**	**-0.8**
	comp=Z,8.8nm,0.9s,mb5.0,baz=94,slow=5.1						
NB2	**NORSAR Subarra**	**86.77**	**331**	P	**P**	**09 06 17.6**	**-0.8**
NB2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
NOA	**NORSAR Array B**	**86.77**	**331**	P	**P**	**09 06 17.5**	**-0.9**
	comp=Z,5.4nm,0.8s,mb4.8,baz=94,slow=5.0,SNR=14						
NOA				LR	LR	09 50 39.7	
	comp=Z,120nm,18.7s,MS4.3,baz=40,slow=40						
DAVOX	**Davos**	**87.06**	**317**	P	**P**	**09 06 20.5**	**+0.7**
	comp=Z,2.4nm,0.6s,mb4.6,baz=190,slow=21,SNR=4.9						
KBS	**Kingsbay**	**87.69**	**349**	*e*P	**P**	**09 06 21.6**	**-1.2**
LPG	**La Plagne**	**89.24**	**315**	*e*P	**P**	**09 06 30.8**	**+0.7**
	comp=Z,27nm,1.2s,mb5.2						
LPG	**La Plagne**	**89.24**	**315**	*e*P	**P**	**09 06 30.8**	**+0.7**
LPG				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.2						
LPG	**La Plagne**	**89.24**	**315**	*e*P	**P**	**09 06 30.8**	**+0.7**
	comp=Z,14nm,1.2s,mb5.2						
TORD	**Torodi Ar. Bea**	**94.93**	**283**	LR	LR	09 49 00.7	
	comp=Z,174nm,18.4s,MS4.6,baz=95,slow=35						
NVAR	**Mina Array Bea**	**128.69**	**36**	PKP	PKPdf	09 12 42.0	+0.6
	comp=Z,0.6nm,0.8s,baz=293,slow=1.0,SNR=5.5						
PDAR	**Pinedale Array**	**129.91**	**25**	PKP	PKPdf	09 12 44.5	+0.9
	comp=Z,0.4nm,0.6s,baz=200,slow=0.8,SNR=5.2						
PDAR				PP	PP	09 14 55.2	-0.2
	comp=Z,0.5nm,0.9s,baz=336,slow=3.3,SNR=4.4						
JCT	**Junction City**	**144.44**	**26**	*e*PKIKP	PKPdf	09 13 09.2	-1.2
NATX	**Nacogdoches**	**145.18**	**18**	*e*PKPbc	PKPbc	09 13 12.2	+0.9
GOGA	**Godfrey**	**145.36**	**1**	*e*PKIKP	PKPdf	09 13 12.1	+0.1
CFAA	**Coronel Fontan**	**146.92**	**203**	PKPbc	PKPbc	09 13 16.4	-0.1
	comp=Z,0.6nm,0.8s,baz=246,slow=2.8,SNR=7.4						
LPAZ	**La Paz**	**159.24**	**224**	PKP	PKPdf	09 13 34.9	+2.5
	comp=Z,0.5nm,0.7s,baz=90,slow=1.0,SNR=2.2						

IDC 21 08:55:07.2±1.9, 155N×12698E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=164.1km s-min=23.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.55**	**162**	P	P	09 00 10.2	+1.4
	2.5nm,0.4s,baz=340,slow=11,SNR=60						
ASAR	**Alice Springs**	**25.95**	**165**	P	P	09 00 42.1	+0.8
	0.4nm,0.5s,baz=344,slow=7.8,SNR=8.4						
STKA	**Stephens Creek**	**36.02**	**159**	P	P	09 02 08.7	-1.3
	1.7nm,0.6s,baz=350,slow=7.8,SNR=6.6						
MKAR	**Makanchi Array**	**59.48**	**326**	P	P	09 05 12.3	+0.3
	0.6nm,0.4s,baz=112,slow=8.4,SNR=7.1						

BJI 21 08:56:22.9, 3304N×10496E, h16km, ML3.6, Ms3.4, Msz3.2, 1C, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.36**	**206**	⇑*i*P	Pn	08 57 02.8	+1.9
CD2				PG	Pg	08 57 05.8	-2.3
CD2				SG	Sg	08 57 37.4	-1.3
CD2				Smax			
	comp=N,480nm,0.8s						
CD2				Smax			
	comp=E,330nm,0.8s						
LZH	**Lanzhou**	**3.18**	**343**	P	Pn	08 57 14.3	+2.1
LZH				PG	Pg	08 57 19.3	-4.5
LZH				S	Sn	08 57 52.5	+2.8
LZH				SG	Sg	08 58 00.1	-4.8
LZH				Smax			
	comp=N,180nm,0.9s						
LZH				Smax			
	comp=E,570nm,0.6s						
LZH				LR	LR		
	comp=N,620nm,5.6s						
LZH				LR	LR		
	comp=Z,630nm,6.6s						
XAN	**Xi'an**	**3.46**	**72**	P	Pn	08 57 16.9	+0.9
XAN				PG	Pg	08 57 24.0	-5.1
XAN				S	Sn	08 57 56.8	+0.2
XAN				SG	Sg	08 58 10.0	-3.9
XAN				Smax			
	comp=N,310nm,0.7s						
XAN				Smax			
	comp=E,340nm,0.8s						
XAN				LR	LR		
	comp=N,120nm,4.8s						
XAN				LR	LR		
	comp=E,160nm,5.7s						
XAN				LR	LR		
	comp=Z,220nm,6.6s						
GTA	**Gaotai**	**7.59**	**328**	*e*P	Pn	08 58 16.3	+3.4
NJ2	**Nanjing**	**11.77**	**91**	*e*P	Pn	08 59 14.4	+4.3
GZH	**Guangzhou**	**12.37**	**141**	P	Pn	08 59 18.0	-0.3
GZH				LR	LR		
	comp=N,1μm,14.0s						
GZH				LR	LR		
	comp=E,1μm,12.6s						
GZH				LR	LR		
	comp=Z,3μm,13.4s						

*NEIC **21** 09:23:08.6, 1902N×6283W, h25km, MD3.7(RSPR), After RSPR.*
*RSPR **21** 09:23:08.6, 1902N×6283W, h25km±26km, MD3.7/6, MD3.7/6*

TRN 21 09:23:06.2, 1886N×6303W, h10km, 8C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.56**	**254**	⇑*e*P	Pn	09 23 36.2	+2.2
TBVI				*e*S	Sn	09 23 57.7	+3.4
STVI	**Saint Thomas**	**1.90**	**255**	⇑*e*P	Pn	09 23 39.9	+1.3
STVI				*e*S	Sn	09 24 05.4	+2.8
CDVI	**St. Croix**	**1.98**	**236**	⇑*e*P	Pn	09 23 42.6	+2.8
CDVI				*e*S	Sn	09 24 08.1	+3.4
CULB	**Culebra**	**2.25**	**256**	*e*P	Pn	09 23 45.2	+1.8
CULB				*e*S	Sn	09 24 13.7	+2.5
MTP	**Monte Pirata**	**2.51**	**253**	⇑*e*P	Pn	09 23 49.2	+2.1
MTP				*e*S	Sn	09 24 21.3	+3.5
CBYP	**Canovanas**	**2.74**	**258**	⇑*e*P	Pn	09 23 52.9	+2.6
CBYP				*e*S	Sn	09 24 28.4	+4.9
HUMP	**Col San Antoni**	**2.77**	**255**	⇑*e*P	Pn	09 23 52.7	+2.1
HUMP				*e*S	Sn	09 24 26.7	+2.6
AOPR	**Arecibo Observ**	**3.56**	**262**	⇑*e*P	Pn	09 24 04.2	+2.6
AOPR				*e*S	Sn	09 24 47.3	+3.6
CRPR	**Cabo Rojo, PR**	**3.96**	**258**	⇑*e*P	Pn	09 24 09.3	+2.2
CRPR				*e*S	Sn	09 24 57.7	+4.1

*ISCJB **21** 09:31:24.8±0.5, 3614N±004×2821E±006, h71km±7km, Error ellipse: s-maj=8.6km s-min=6.0km az=164.5*
*CSEM **21** 09:31:24.3±0.1, 3615N×2832E, h60km, MD3.1, Error ellipse: s-maj=3.7km s-min=2.0km az=81.0*
*ISK **21** 09:31:26.6, 3621N×2819E, h33km, MD3.1*
*ATH **21** 09:31:26.6, 3618N×2830E, h58km, MD3.0/3*
*HLW **21** 09:31:27.7, 3599N×2828E, h33km, Mb3.7*

ISC 21 09:31:26.2±0.5, 3619N±003×2822E±006, h64km±8km, n26, σ0§65/35, 3C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.08**	**288**	*e*P	**Pn**	**09 31 36.5**	**+0.8**
ARG				*e*S	**Sn**	**09 31 43.0**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.67**	**30**	*i* PG	**Pn**	**09 31 40.3**	**-0.1**
DALT				*i* SG	**Sn**	**09 31 49.9**	**-0.8**
DAT	**Datca**	**0.75**	**316**	*i* PG	**Pn**	**09 31 41.3**	**0.0**
DAT				*i* SG	**Sn**	**09 31 50.6**	**-1.7**
FETY	**Fethiye**	**0.82**	**57**	*i* PG	**Pn**	**09 31 41.8**	**-0.4**
YER	**Yerkesik**	**0.94**	**3**	PG	**Pn**	**09 31 44.3**	**+0.6**
BDRM	**Kayabasi**	**1.07**	**325**	*i* P	**Pn**	**09 31 45.5**	**+0.1**
BDRM				*i* S	**Sn**	**09 31 58.9**	**-0.7**
KARP	**Karpathos**	**1.07**	**234**	⇓*i*P	**Pn**	**09 31 47.1**	**+1.7**
KSL	**Kastellorizon**	**1.10**	**92**	*e*P	**Pn**	**09 31 46.0**	**+0.2**
BODT	**Bodrum**	**1.14**	**320**	PN	**Pn**	**09 31 46.0**	**-0.2**
MLSB	**Milas**	**1.16**	**342**	*e*PN	**Pn**	**09 31 46.7**	**+0.2**
ELL	**Elmali**	**1.47**	**67**	*e*PN	**Pn**	**09 31 51.4**	**+0.8**
AYDN	**Tasoluk**	**1.49**	**350**	*i* P	**Pn**	**09 31 51.4**	**+0.5**
AYDN				*i* S	**Sn**	**09 32 09.4**	**-0.1**
DNZL	**Cakiroluk**	**1.64**	**24**	*i* P	**Pn**	**09 31 53.1**	**+0.3**
DNZL				*i* S	**Sn**	**09 32 12.7**	**-0.2**
DENT	**Denizli**	**1.69**	**22**	*e*PN	**Pn**	**09 31 55.0**	**+1.4**
SLUM		**5.31**	**209**	P	**Pn**	**09 32 43.3**	**+0.3**
SLUM				S	**Sn**	**09 33 37.2**	**-5.7**
KOT	**Kottamia**	**6.94**	**153**	⇓P	**Pn**	**09 33 04.8**	**-0.5**
HHAG	**Hagoal**	**7.02**	**151**	P	**Pn**	**09 33 06.3**	**-0.1**
HSAF	**As Saff**	**7.13**	**156**	⇑P	**Pn**	**09 33 07.0**	**-0.9**
GLL	**Jalalah**	**7.22**	**155**	P	**Pn**	**09 33 08.3**	**-0.7**
SWA1		**7.22**	**198**	⇑P	**Pn**	**09 33 08.9**	**-0.2**
SWA1				S	**Sn**	**09 34 23.5**	**-6.2**
SWA1		**7.22**	**198**	P	**Pn**	**09 33 08.9**	**-0.2**
SWA2		**7.31**	**199**	⇓P	**Pn**	**09 33 10.3**	**0.0**
SUZ		**7.42**	**147**	⇓P	**Pn**	**09 33 11.8**	**-0.1**
ZAF		**7.79**	**151**	P	**Pn**	**09 33 16.8**	**-0.1**
ZNM		**7.84**	**149**	⇑P	**Pn**	**09 33 17.7**	**+0.1**
HNKL	**Nakhl**	**7.89**	**141**	P	**Pn**	**09 33 17.7**	**-0.6**
HNKL				S	**Sn**	**09 34 39.4**	**-6.7**

*ISCJB **21** 09:47:06.0±0.5, 1407N±004×12032E±008, h104km±5km, mb3.8/5, Error ellipse: s-maj=12.6km s-min=6.6km az=7.4*
*MAN **21** 09:47:06.5, 1413N×12030E, h84km, mb2.5, ML4.0, MS3.8*
*IDC **21** 09:47:07.4±0.7, 1405N×12070E, h107km±8km, mb3.4/5, mb1 3.4/5, mb1mx3.3/19, mbtmp3.7/5, Error ellipse: s-maj=34.0km s-min=14.4km az=72.0*

ISC 21 09:47:07.1±0.5, 1407N±004×12033E±008, h97km±5km, h109km±3.5km: pP-P, n18, σ0§85/24, mb3.8/5, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**193**	*e*P	**Pn**	**09 47 20.9**	**-0.6**
LUBP				*e*S	**Sn**	**09 47 31.8**	**-0.5**
TGY	**Tagaytay City**	**0.59**	**87**	⇑*i*P	**Pn**	**09 47 24.4**	**+1.1**
TGY				*i* S	**Sn**	**09 47 36.4**	**+1.0**
TGY	**Tagaytay City**	**0.59**	**87**	P	**Pn**	**09 47 23.2**	**-0.1**
	633nm,0.3s,baz=230,slow=1.3,SNR=38						
TGY				S	**Sn**	**09 47 35.6**	**+0.2**
	2μm,0.3s,baz=104,slow=21,SNR=50						
PGP	**Puerto Galera**	**0.83**	**133**	⇓*i*P	**Pn**	**09 47 25.5**	**0.0**
BOAC	**Boac**	**1.59**	**112**	*e*P	**Pn**	**09 47 33.5**	**-0.9**
POLP	**Polilio Island**	**1.70**	**67**	*e*P	**Pn**	**09 47 35.0**	**-0.7**
BUSP	**Coron**	**2.06**	**183**	*e*P	**Pn**	**09 47 40.7**	**+0.4**
BUSP				*e*S	**Sn**	**09 48 05.3**	**-0.3**
BALP	**Baler**	**2.06**	**36**	*e*P	**Pn**	**09 47 39.6**	**-0.7**
BALP				*e*S	**Sn**	**09 47 59.5**	**-6.1**
BCPH	**Baguio City Da**	**2.31**	**6**	*e*P	**Pn**	**09 47 42.7**	**-0.9**
BCPH				*e*S	**Sn**	**09 48 12.1**	**+0.5**
BOLP	**Bolinao**	**2.33**	**350**	*e*P	**Pn**	**09 47 43.5**	**-0.4**
OTRP	**Odiongan**	**2.37**	**136**	*e*P	**Pn**	**09 47 45.8**	**+1.5**
ENPP	**El Nido**	**2.98**	**197**	*e*P	**Pn**	**09 47 53.6**	**+1.2**
PVCP	**Virac**	**3.75**	**97**	*e*P	**Pn**	**09 48 04.1**	**+1.3**
SONM	**Songino Array**	**35.60**	**344**	P	**P**	**09 53 55.5**	**+0.2**
	3.1nm,0.6s,mb4.4,baz=162,slow=10,SNR=26						
WRA	**Warramunga Arr**	**36.50**	**157**	P	**P**	**09 54 01.4**	**-1.5**
	0.2nm,0.3s,mb3.5,baz=329,slow=10,SNR=6.3						
WRA				pP	pP	09 54 25.0	-0.1
	0.7nm,0.7s,baz=334,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**39.78**	**160**	P	**P**	**09 54 29.3**	**-1.2**
	0.2nm,0.5s,mb3.2,baz=338,slow=7.1,SNR=4.3						
ASAR				pP	pP	09 54 53.4	+0.4
	0.4nm,0.6s,baz=338,slow=7.4,SNR=8.5						
MKAR	**Makanchi Array**	**45.52**	**324**	P	**P**	**09 55 17.9**	**+1.0**
	0.8nm,0.7s,mb3.5,baz=122,slow=9.3,SNR=6.5						
MKAR				pP	pP	09 55 44.6	+4.8
	0.2nm,0.2s,baz=91,slow=8.6,SNR=1.1						
BVAR	**Borovoye Array**	**55.27**	**326**	P	**P**	**09 56 31.0**	**+0.7**
	1.5nm,0.7s,mb4.2,baz=128,slow=7.9,SNR=6.6						

IDC 21 10:09:13.3±4.2, 062N×9802E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, Error ellipse: s-maj=164.2km s-min=28.8km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.04**	**122**	P	P	10 16 58.6	+0.2
	0.9nm,0.8s,baz=303,slow=9.0,SNR=5.6						
SONM	**Songino Array**	**47.59**	**8**	P	P	10 17 51.8	+1.1
	0.5nm,0.5s,baz=190,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**48.00**	**345**	P	P	10 17 53.6	-0.3
	1.2nm,0.6s,baz=164,slow=8.5,SNR=10						
ZAL	**Zalesovo**	**54.25**	**350**	P	P	10 18 40.5	-0.5
	2.6nm,0.4s,baz=356,slow=2.7,SNR=4.3						

*ISCJB **21** 10:48:42.8±0.5, 5836N±003×13346W±006, h1km, Error ellipse: s-maj=5.3km s-min=3.9km az=61.6*
*PGC **21** 10:48:44.8, 5831N×13351W, h1km, ML3.3/4, 53km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border.*
*NEIC **21** 10:48:44.8, 5831N×13351W, h1km, ML2.9(AEIC), ML3.3(PGC), After PGC.*

ISC 21 10:48:43.7±0.5, 5836N±003×13350W±006, h1km, n18, σ0§99/38, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	**Skagway**	**1.46**	**320**	P	**Pn**	**10 49 10.8**	**-0.4**
SKAG				S	**Sg**	**10 49 31.2**	**+0.5**
SIT	**Sitka**	**1.63**	**218**	P	**Pn**	**10 49 13.0**	**-0.6**
SIT				S	**Sn**	**10 49 35.1**	**-0.1**
DLBC	**Dease Lake**	**1.83**	**86**	Pn	**Pn**	**10 49 16.3**	**0.0**
DLBC				Pg	**Pg**	**10 49 17.9**	**-0.9**
DLBC				Sn	**Sn**	**10 49 40.9**	**+0.8**
DLBC				Sg	**Sg**	**10 49 43.0**	**+0.4**
DLBC				Trac		10 49 48.9	
	comp=Z,128nm,0.5s						
DLBC	**Dease Lake**	**1.83**	**86**	Pn	**Pn**	**10 49 16.3**	**0.0**
DLBC				Sn	**Sn**	**10 49 40.9**	**+0.8**
DLBC				Sg	**Sg**	**10 49 43.0**	**+0.4**
PLBC	**Pleasant Camp**	**1.85**	**308**	Pn	**Pn**	**10 49 18.2**	**+1.6**
PLBC				Sn	**Sn**	**10 49 42.1**	**+1.5**
PLBC				Sg	**Sg**	**10 49 43.5**	**+0.2**
WHY	**Whitehorse**	**2.42**	**344**	Pn	**Pn**	**10 49 24.3**	**-0.1**
WHY				Pg	**Pg**	**10 49 29.6**	**-0.5**
WHY				Sg	**Sb**	**10 49 56.9**	**-1.4**
WHY				Trac		10 50 09.4	
	comp=Z,89nm,0.8s						
WHY	**Whitehorse**	**2.42**	**344**	Pn	**Pn**	**10 49 24.3**	**-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.48**	**108**	P	**Pn**	**11 17 33.2**	**-0.7**
AMKA				S	**Sb**	**11 17 54.0**	**+0.4**
SMY	**Shemya**	**2.02**	**297**	P	**Pn**	**11 17 41.0**	**-0.3**
SMY				S	**Sn**	**11 18 07.1**	**+0.3**
ATKA	**Atka Island**	**5.42**	**83**	P	**Pn**	**11 18 28.1**	**+0.2**
NIKO	**Nikolski**	**8.69**	**77**	*e*Pn	**Pn**	**11 19 16.4**	**+3.4**
UNV	**Unalaska Valle**	**10.15**	**72**	*e*Pn	**Pn**	**11 19 33.6**	**+0.7**
BILL	**Bilibino**	**17.07**	**346**	*e*P	**Pn**	**11 21 07.5**	**+1.5**
	12nm,1.2s						
SVW2	**Sparrevohn**	**17.60**	**48**	*e*P	**Pn**	**11 21 12.5**	**-0.1**
KDAK	**Kodiak Island**	**18.37**	**59**	P	**Pn**	**11 21 20.3**	**-1.8**
	0.4nm,0.3s,baz=239,slow=12,SNR=3.8						
SML	**Sawmill**	**21.14**	**48**	*e*P	**P**	**11 21 53.5**	**+1.2**
MCK	**McKinley**	**21.38**	**43**	*e*P	**P**	**11 21 54.1**	**-0.8**
	1.1nm,0.4s,mb3.5						
COLA	**College**	**22.19**	**41**	*e*P	**P**	**11 22 02.4**	**-1.2**
	4.0nm,0.8s,mb3.9						
ASAJ	**Asahikawa**	**24.15**	**265**	P	**P**	**11 22 24.2**	**+0.8**
	6.3nm,0.8s,mb4.1,baz=98,slow=5.6,SNR=4.1						
ASAJ				LR	LR	11 29 56.5	
	comp=Z,43nm,21.1s,MS2.9,baz=332,slow=32						
DAWY	**Dawson**	**25.56**	**45**	*e*P	**P**	**11 22 37.8**	**+1.5**
MDJ	**Mudanjiang**	**31.95**	**276**	P	**P**	**11 23 30.3**	**-2.9**
MDJ				AMB	AMB		
	comp=Z,30nm,3.2s						
CN2	**Changchun**	**34.92**	**278**	*e*P	**P**	**11 23 57.3**	**-1.9**
YKA	**Yellowknife Ar**	**36.78**	**46**	P	**P**	**11 24 15.0**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.6,baz=284,slow=8.2,SNR=2.9						
YKA				LR	LR	11 38 58.6	
	comp=Z,46nm,20.6s,MS3.2,baz=0.0,slow=36						
NEW	**Newport**	**41.12**	**68**	LR	LR	11 38 55.6	
	comp=Z,40nm,20.7s,MS3.3,baz=292,slow=32						
YBH	**Yreka Blue Hor**	**41.35**	**80**	LR	LR	11 38 47.5	
	comp=Z,51nm,22.0s,MS3.4,baz=360,slow=32						
SONM	**Songino Array**	**44.11**	**294**	P	**P**	**11 25 15.7**	**-0.1**
	comp=Z,0.2nm,0.3s,mb3.3,baz=56,slow=7.8,SNR=2.4						
NJ2	**Nanjing**	**46.23**	**268**	*e*P	**P**	**11 25 33.8**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
PDAR	**Pinedale Array**	**48.61**	**70**	P	**P**	**11 25 49.6**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=316,slow=3.8,SNR=2.8						
ULM	**Lac du Bonnet**	**51.56**	**55**	LR	LR	11 45 54.7	
	comp=Z,54nm,21.6s,MS3.5,baz=279,slow=34						
LZH	**Lanzhou**	**52.77**	**283**	*e*P	**P**	**11 26 22.3**	**-0.2**
LZH				AP	pP	11 26 25.5	+0.8
LZH				XP	sP	11 26 27.0	+1.4
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ	**Urumqi**	**56.90**	**300**	*e*P	**P**	**11 26 53.9**	**+1.5**
WMQ				LR	LR		
	comp=N,50nm,19.0s,MS3.7						
WMQ				LR	LR		
	comp=E,50nm,23.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,20nm,17.0s						
MKAR	**Makanchi Array**	**57.69**	**306**	P	**P**	**11 26 56.5**	**-1.5**
	comp=Z,0.2nm,0.5s,mb3.5,baz=50,slow=4.6,SNR=3.6						
KMI	**Kunming**	**61.11**	**275**	P	**P**	**11 27 20.9**	**-0.7**
KMI				LR	LR		
	comp=Z,20nm,23.4s,MS3.2						
WRA	**Warramunga Arr**	**80.63**	**220**	P	**P**	**11 29 20.8**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=31,slow=6.3,SNR=21						
ASAR	**Alice Springs**	**84.15**	**219**	P	**P**	**11 29 39.8**	**+1.1**
	comp=Z,1.3nm,0.8s,mb4.1,baz=24,slow=5.6,SNR=16						

*CSEM **21** 11:27:14.3±0.8,3865N×2855W,h6km±5km,ML1.1,Error ellipse: s-maj=3.0km s-min=1.9km az=145.0,After PDA*
*PDA **21** 11:27:14.3±0.8,3865N×2855W,h6km±5km,MD2.6,ML1.1, Error ellipse: s-maj=3.0km s-min=1.9km az=145.0*

SVSA 21 11:27:14.3±0.8,3865N×2855W,h6km±5km,MD2.6,ML1.1, Error ellipse: s-maj=3.0km s-min=1.9km az=145.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.14**	**238**	*e*P	Pg	11 27 17.1	0.0
CALA				*e*S	Sg	11 27 19.1	+0.1
PICO	**Pico**	**0.18**	**147**	*i* P	Pg	11 27 17.5	-0.4
PICO				*e*S	Sg	11 27 20.3	-0.1
PCND	**Candelaria**	**0.20**	**159**	*e*S	Sg	11 27 21.2	+0.3
PCND							
	24nm,0.2s						
ROSA	**Rosais**	**0.25**	**75**	*i* P	Pg	11 27 18.8	-0.5
ROSA				*e*S	Sg	11 27 22.5	-0.1
ROSA	**Rosais**	**0.25**	**75**	*e*S	Sg	11 27 22.5	-0.1
PMAN	**Manadas**	**0.36**	**93**	*e*S	Sg	11 27 25.7	-0.4
PMAN							
	9.7nm,0.1s						

*HLW **21** 11:44:08.8,2998N×3674E,h11km,Mb3.5*
*ISCJB **21** 11:44:12.8±1.0,2983N±005×3629E±006,h10km,Error ellipse: s-maj=8.2km s-min=6.0km az=81.3*
*GII **21** 11:44:13.1±0.7,2990N×3621E,h0km±8km,ML2.1/3*

ISC 21 11:44:12.8±1.0,2983N±005×3633E±006,h10km,n18, σ0°87/25,1D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.12**	**265**	Pg	**Pg**	**11 44 33.5**	**-0.8**
HRFI	**Mount Harif**	**1.14**	**281**	Pg	**Pg**	**11 44 32.8**	**-1.9**
HRFI				Sg	**Sg**	**11 44 49.3**	**-0.3**
EIL	**Elat**	**1.21**	**263**	Pg	**Pg**	**11 44 35.4**	**-0.7**
EIL				Sg	**Sg**	**11 44 52.2**	**+0.4**
ZFRI	**Zfri**	**1.23**	**306**	Pg	**Pn**	**11 44 34.6**	**-1.5**
MBH	**Mount Berech**	**1.23**	**268**	Pg	**Pn**	**11 44 35.3**	**-0.8**
PRNI	**Paran**	**1.26**	**295**	Pg	**Pn**	**11 44 34.9**	**-1.5**
PRNI				Sg	**Sg**	**11 44 53.0**	**-0.5**
HBST	**Basata**	**1.52**	**247**	⇓P	**Pn**	**11 44 40.4**	**+0.3**
HBST				S	**Sg**	**11 45 03.5**	**+1.7**
MZDA	**Masada**	**1.69**	**331**	Pn	**Pn**	**11 44 42.7**	**+0.3**
MZDA				Sn	**Sn**	**11 45 05.3**	**+1.1**
MASH	**Mash'abbe Sade**	**1.77**	**311**	Pn	**Pn**	**11 44 43.4**	**-0.1**
MKRJ	**Makawir**	**1.81**	**341**	Pn	**Pn**	**11 44 44.1**	**0.0**
DRGI	**Dragot**	**1.93**	**335**	Pn	**Pn**	**11 44 46.5**	**+0.8**
KZIT	**Kziot**	**1.98**	**303**	Pn	**Pn**	**11 44 47.6**	**+1.2**
KZIT				Sn	**Sn**	**11 45 12.6**	**+1.2**
HNKL	**Nakhl**	**2.04**	**273**	P	**Pn**	**11 44 47.5**	**+0.3**
HNKL				S	**Sb**	**11 45 15.5**	**0.0**
HKAT	**Jabal Katrina**	**2.43**	**238**	P	**Pn**	**11 44 53.0**	**+0.5**
HKAT	**Jabal Katrina**	**2.43**	**238**	P	**Pn**	**11 44 53.0**	**+0.5**
TR2		**2.70**	**238**	P	**Pn**	**11 44 56.7**	**+0.4**
AMAG	**Maghara**	**2.82**	**287**	P	**Pn**	**11 44 57.5**	**-0.4**
SUZ		**3.04**	**271**	P	**Pn**	**11 45 01.1**	**+0.2**

IDC 21 12:05:25.7±1.0,1534S×17399W,h0km,mb4.1/5, mb1 4.4/6,mb1mx4.1/14,mbtmp4.2/6,ML2.8/1,Error ellipse: s-maj=49.5km s-min=21.0km az=147.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.57**	**57**	Pn	Pn	12 06 08.7	+0.2
	120nm,0.3s,baz=64,slow=3.4,SNR=173						
AFI				Sn	Sn	12 06 32.3	-8.1
	602nm,0.3s,baz=50,slow=23,SNR=51						
STKA	**Stephens Creek**	**43.58**	**240**	P	P	12 13 30.8	-0.7
	1.9nm,0.4s,baz=90,slow=9.1,SNR=3.9						
WRA	**Warramunga Arr**	**49.31**	**257**	P	P	12 14 17.0	+0.5
	1.4nm,0.5s,baz=91,slow=6.6,SNR=40						
ASAR	**Alice Springs**	**49.59**	**252**	P	P	12 14 19.3	+0.7
	9.6nm,0.5s,baz=86,slow=7.9,SNR=272						
ASPA	**Alice Springs**	**49.58**	**252**	*e*P	P	12 14 19.3	+0.7
VNDA	**Vanda**	**63.38**	**186**	P	P	12 15 56.8	-0.2
	0.3nm,0.7s,baz=73,slow=8.1,SNR=4.1						
NVAR	**Mina Array Bea**	**74.66**	**42**	P	P	12 17 07.3	+0.3
	0.6nm,0.8s,baz=236,slow=11,SNR=4.9						
BRTR	**Keskin Array B**	**145.75**	**321**	PKPbc	PKPbc	12 25 06.7	0.0
	2.9nm,0.7s,baz=94,slow=2.8,SNR=18						

*IDC **21** 12:34:43.4±0.6,1574N×6164W,h0km,mb4.3/11, mb1 4.4/13,mb1mx4.2/23,mbtmp4.3/13,ML4.9/2,MS3.5/2, Ms1 3.5/2,ms1mx3.1/33,Error ellipse: s-maj=18.6km s-min=17.0km az=140.0*
*TRN **21** 12:34:43.3,1573N×6148W,h21km,MD3.7,M3.7(FDF), M3.8(FDF)*
TRN Felt IV Guadeloupe.

*ISCJB **21** 12:34:45.0±0.3,1572N±002×6155W±005,h21km±3km, mb4.2/17,Error ellipse: s-maj=8.3km s-min=3.0km az=140.6*
*NEIC **21** 12:34:45.2,1573N×6152W,h10km,mb4.3/6,MD3.7(TRN), MD3.8(FDF),After FDF.*
NEIC 3.7 [TRN]. Felt [IV] on Guadeloupe.

ISC 21 12:34:45.5±0.3,1573N±002×6151W±004,h13km±2km,n57, σ0°82/63,mb4.2/17,14C-14D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.18**	**313**	⇓*i*P	**Pg**	**12 34 49.3**	**-0.4**
BBL	**Barber's Block**	**0.20**	**170**	⇑*i*P	**Pg**	**12 34 49.9**	**-0.1**
DWS	**Wesley**	**0.24**	**130**	⇑*i*P	**Pg**	**12 34 50.8**	**0.0**
DWS				*e*S	**Sg**	**12 34 55.0**	**+0.7**
MGG	**Marie-Galante**	**0.26**	**44**	⇑*i*P	**Pg**	**12 34 51.3**	**+0.2**
HMG	**Houelmont**	**0.32**	**324**	⇓*e*P	**Pg**	**12 34 51.8**	**-0.2**
PHG	**Guadaloupe-2**	**0.32**	**336**	⇓*e*P	**Pg**	**12 34 52.2**	**+0.2**
DOG	**Dongo Capester**	**0.32**	**341**	⇑*e*P	**Pg**	**12 34 52.3**	**+0.2**
SCG	**Saint Claude**	**0.34**	**331**	⇓*i*P	**Pg**	**12 34 52.5**	**0.0**
BCG	**Bois Riant Cap**	**0.37**	**343**	⇑*e*P	**Pg**	**12 34 53.1**	**0.0**
BCG				*e*S	**Sg**	**12 34 58.6**	**+0.6**
MDN	**Morne-Daniel**	**0.42**	**165**	⇑*i*P	**Pg**	**12 34 54.5**	**+0.6**
MDN				*e*S	**Sg**	**12 35 00.8**	**+1.3**
DBCT	**Belle View Cho**	**0.48**	**161**	*e*P	**Pg**	**12 34 55.5**	**+0.5**
DBCT				*e*S	**Sg**	**12 35 00.9**	**-0.5**
LZG	**Guadaloupe-1**	**0.49**	**328**	⇓*i*P	**Pg**	**12 34 54.9**	**-0.3**
DSHT	**Scott's Head**	**0.53**	**166**	*e*P	**Pg**	**12 34 56.3**	**+0.5**
DSHT				*e*S	**Sg**	**12 35 02.9**	**+0.1**
SFG	**Saint Francois**	**0.60**	**30**	⇓*e*P	**Pg**	**12 34 56.8**	**-0.5**
SEG	**Port Louis**	**0.67**	**0**	⇑*e*P	**Pg**	**12 34 58.1**	**-0.5**
DEG	**La Desirade**	**0.72**	**36**	*e*P	**Pg**	**12 34 58.3**	**-1.3**
FDF	**Fort de France**	**1.04**	**161**	*e*P	**Pb**	**12 35 04.1**	**-1.3**
FDF				*e*S	**Sb**	**12 35 18.1**	**-0.8**
CRM	**Caravelle**	**1.12**	**149**	*e*P	**Pb**	**12 35 05.3**	**-1.4**
CRM				*e*S	**Sb**	**12 35 20.4**	**-0.8**
MVM	**Montagne Vaucl**	**1.30**	**153**	*e*P	**Pn**	**12 35 08.4**	**-0.9**
MVM				*e*S	**Sb**	**12 35 25.8**	**-0.7**
BPA	**Boggy Peak**	**1.35**	**346**	⇓*i*P	**Pn**	**12 35 10.0**	**-0.1**
BPA				*e*S	**Sn**	**12 35 28.1**	**+0.2**
CPB	**Codrington**	**1.93**	**351**	*e*P	**Pn**	**12 35 17.7**	**-0.3**
CPB				*e*S	**Sn**	**12 35 41.1**	**-0.9**
SJG	**San Juan**	**5.04**	**299**	Pn	**Pn**	**12 35 59.8**	**-0.9**
	14nm,0.3s,baz=155,slow=16,SNR=6.3						
PCRV	**Puerto La Cruz**	**6.30**	**209**	LR	LR	12 39 03.8	
	comp=Z,430nm,18.2s,baz=304,slow=42						
SDV	**Santo Domingo**	**11.21**	**234**	Pn	**Pn**	**12 37 24.6**	**-0.8**
	0.5nm,0.3s,baz=27,slow=14,SNR=3.1						
SDV				LR	LR	12 42 14.7	
	comp=Z,190nm,19.7s,baz=220,slow=41						
SAML	**Samuel**	**24.57**	**184**	*e*P	**P**	**12 40 04.6**	**-0.4**
	7.0nm,0.6s,mb4.4						
ATAH	**Atahualpa**	**28.10**	**218**	P	**P**	**12 40 38.6**	**+1.7**
	9.8nm,0.9s,mb4.5,baz=62,slow=4.4,SNR=5.9						
WVT	**Waverly**	**31.03**	**316**	*e*P	**P**	**12 41 02.3**	**-0.5**
	2.8nm,0.8s,mb4.1						
SIV	**San Ignacio**	**31.52**	**179**	P	**P**	**12 41 08.0**	**+0.9**
	3.9nm,0.6s,mb4.5,baz=14,slow=10,SNR=18						
JCT	**Junction City**	**37.96**	**300**	*e*P	**P**	**12 42 02.2**	**-0.5**
	8.9nm,0.8s,mb4.5						
ECSD	**EROS,Sioux Fal**	**40.83**	**320**	*e*P	**P**	**12 42 26.2**	**-0.5**
MNTX	**Cornudas Mount**	**42.90**	**300**	*e*P	**P**	**12 42 43.4**	**-0.2**
	2.3nm,0.6s,mb4.1						
ULM	**Lac du Bonnet**	**44.21**	**329**	P	**P**	**12 42 53.2**	**-1.0**
	3.7nm,0.6s,mb4.3,baz=133,slow=8.9,SNR=9.9						
BNM	**Barren Site**	**44.44**	**303**	*e*P	**P**	**12 42 56.8**	**+0.8**
PDAR	**Pinedale Array**	**48.98**	**313**	P	**P**	**12 43 31.4**	**-0.2**
	1.8nm,0.6s,mb4.3,baz=112,slow=9.1,SNR=19						
PDAR				PcP	PcP	12 44 54.1	-1.4
	1.0nm,0.9s,baz=70,slow=7.8,SNR=2.4						
QLMT	**Earthquake Lak**	**50.92**	**315**	*e*P	**P**	**12 43 47.7**	**+1.4**
EGMT	**Eagleton**	**50.94**	**320**	*e*P	**P**	**12 43 47.0**	**+0.5**
	4.1nm,0.8s,mb4.4						
HLID	**Hailey**	**52.61**	**313**	*e*P	**P**	**12 43 59.2**	**+0.2**
	1.6nm,0.7s,mb4.1						
EDM	**Edmonton**	**55.04**	**325**	*e*P	**P**	**12 44 16.0**	**-0.7**
ESDC	**Sonseca Array**	**55.24**	**52**	P	**P**	**12 44 19.2**	**+1.0**
	0.1nm,0.2s,mb3.4,baz=264,slow=7.1,SNR=5.6						
PKD	**Parkfield**	**55.98**	**303**	⇑P	**P**	**12 44 40.2**	**+17**
	baz=0.8,SNR=18						
PKD				⇑S		12 44 51.5	
	baz=0.8						
DBIC	**Dimbokro**	**56.15**	**92**	P	**P**	**12 44 25.6**	**+0.9**
	5.4nm,1.0s,mb4.5,baz=241,slow=5.9,SNR=4.4						
U04C	**Hernandez Rese**	**56.21**	**303**	P	**P**	**12 44 33.0**	**+7.9**
	baz=0.4,SNR=78						
U04C				⇓S		12 44 38.9	
	baz=0.4						
V04C	**Ramage Ranch,**	**56.22**	**303**	⇓P	**P**	**12 44 43.1**	**+18**
	baz=1.0,SNR=11						
V04C				⇑S		12 44 56.6	
	baz=1.0						
V03C	**Hunter Liggett**	**56.55**	**303**	⇓P	**P**	**12 44 35.8**	**+8.2**
	baz=0.5,SNR=66						
V03C				⇓S		12 44 43.4	
	baz=0.5						
PACP	**Pacheco Peak**	**56.67**	**304**	⇑P	**P**	**12 44 34.8**	**+6.4**
	baz=0.5,SNR=11						
PACP				⇓S		12 44 42.4	
	baz=0.5						
S04C	**Ingram Canyon,**	**56.75**	**305**	⇓P	**P**	**12 44 43.5**	**+15**
	baz=0.9,SNR=9.8						
S04C				⇑S		12 44 57.7	
	baz=0.9						
HAST	**Hastings Reser**	**56.83**	**303**	P	**P**	**12 44 32.2**	**+2.6**
	baz=0.4,SNR=46						
HAST				⇑S		12 44 37.0	
	baz=0.4						
BNLO	**Ben Lomond**	**57.39**	**304**	⇑P	**P**	**12 44 43.8**	**+10**
	baz=1.0						
BNLO				⇓S		12 44 58.1	
	baz=1.0						
YKA	**Yellowknife Ar**	**59.53**	**334**	P	**P**	**12 44 47.3**	**-1.1**
	3.0nm,0.5s,mb4.6,baz=106,slow=7.5,SNR=16						
TORD	**Torodi Ar. Bea**	**61.06**	**83**	P	**P**	**12 44 59.6**	**+0.7**
	2.2nm,0.9s,mb4.3,baz=287,slow=6.2,SNR=9.8						
NB2	**NORSAR Subarra**	**68.01**	**30**	P	**P**	**12 45 45.0**	**+0.7**
	comp=Z,6.6nm,1.1s,mb4.6,baz=262,slow=6.5						
NOA	**NORSAR Array B**	**68.01**	**30**	P	**P**	**12 45 45.4**	**+1.0**
	comp=Z,1.9nm,0.9s,mb4.1,baz=262,slow=6.4,SNR=4.8						
GERES	**GERESS Array B**	**68.61**	**43**	P	**P**	**12 45 50.9**	**+2.7**
	comp=Z,0.3nm,0.3s,mb3.8,baz=274,slow=7.6,SNR=4.7						
ARCES	**ARCESS Array B**	**74.35**	**21**	P	**P**	**12 46 23.1**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=262,slow=6.3,SNR=4.1						
ASAR	**Alice Springs**	**163.49**	**239**	PKP	PKPdf	12 54 47.7	-0.2
	comp=Z,0.5nm,0.7s,baz=79,slow=0.7,SNR=4.0						
ASAR				PKPab	PKPab	12 55 39.0	-0.2
	comp=Z,1.0nm,0.7s,baz=108,slow=4.0,SNR=8.9						
WRA	**Warramunga Arr**	**164.34**	**252**	PKP	PKPdf	12 54 48.5	-0.2
	comp=Z,1.8nm,1.0s,baz=81,slow=0.6,SNR=6.6						
WRA				PKPab	PKPab	12 55 43.1	+0.1
	comp=Z,0.6nm,0.6s,baz=101,slow=4.4,SNR=6.0						
FITZ	**Fitzroy Crossi**	**172.76**	**250**	PKP	PKPdf	12 54 55.9	+1.7
	comp=Z,3.7nm,0.8s,baz=180,slow=5.1,SNR=7.5						

*SZGRF **21** 12:34:50.6,687N×93.19E,h20km,mb5.6,Nicobar Islands, India, region*
*BJI **21** 12:34:50.0,675N×9234E,h25km,mB5.9,mb5.2,Ms6.5, Msz6.3*
*CRAAG **21** 12:34:50.7,707N×9252E,Mb5.8*
*ISCJB **21** 12:34:51.5±0.1,693N±002×9249E±002,h20km, mb5.6/276,MS6.0/80,Error ellipse: s-maj=3.4km s-min=2.4km az=40.9*
*MOS **21** 12:34:52.7±1.1,689N×9249E,h33km,mb5.9/121, MS5.9/27,Error ellipse: s-maj=9.9km s-min=5.7km az=103.7*
*HRVD **21** 12:34:52.7±0.1,683N×9246E,h12km,MW6.0/112, Centroid moment Tensor Solution. LP body waves: s90,c168;Mantle waves: s112,c405; Half duration: 2±5 Moment tensor: Scale 1018Nm; Mrr1.33±.01; Mθθ-0.22±.01; Mφφ-1.11±.01; Mrθ-0.03±.02; Mrφ0.55±.01; Mθr-0.30±.02; Best double couple: M0 1.38700×1018 NP1:φs328.00000°,δ40.00000°,λ80.00000°. NP2: φs161.00000°,δ51.00000°,λ98.00000°. Principal axes: T 1.3730, Plg81.0000°, Azm115.0000°; N 0.0270, Plg7.0000°, Azm336.0000°; P -1.4000, Plg6.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **21** 12:34:52.7±0.1,694N×9245E,h16km,mb5.7/184,ME5.9, MS5.7/11,MW5.9 Error ellipse: s-maj=4.2km s-min=2.7km az=31.0,Moment Tensor Solution. s42 Moment tensor: Scale 1017Nm; Mrr7.33; Mθθ0.13; Mφφ-7.46; Mrθ-0.30; Mφθ-1.36; Mφr3.51; Best double couple: M0 8.30000×1017 NP1:φs3.00000°,δ58.00000°,λ83.00000°. NP2: φs197.00000°,δ33.00000°,λ101.00000°. Principal axes: T 8.1700, Plg76.0000°, Azm252.0000°; N 0.2700, Plg6.0000°, Azm7.0000°; P -8.4400, Plg12.0000°, Azm99.0000°; Broadband fault plane solution: P waves. NP1:φs340.00000°,δ30.00000°,λ90.00000°. NP2: φs160.00000°,δ60.00000°,λ90.00000°. Principal axes: T Plg75.0000°, Azm70.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm250.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*IDC **21** 12:34:54.2±3.0,696N×9259E,h28km±19km,mb4.9/35, mb1 4.9/35,mb1mx4.9/35,mbtmp5.0/35,MS5.6/23, Ms1 5.6/23,ms1mx5.5/28 Error ellipse: s-maj=11.4km s-min=9.1km az=28.0*

ISC 21 12:34:53.8±0.1,694N±002×9249E±002,h22km, h22km±1.0km:pP-P,n1030,σ1°05/917,mb5.6/276,MS6.0/80, 98C-71D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.70**	**3**	*e*P	x	12 35 46.9	
PBA				*e*x	x	12 35 57.3	
	comp=Z,1μm,1.6s						
PBA				*e*S	x	12 37 01.8	
PBA	**Port Blair**	**4.70**	**3**	*e*x	x	12 35 46.9	
PBA				*e*x	x	12 38 18.5	
PKT	**Phuket**	**5.77**	**78**	P	**Pn**	**12 36 22.0**	**+3.9**
SNG	**Songkhla**	**8.07**	**88**	P	**Pn**	**12 36 53.0**	**+3.3**
	comp=Z,2μm,1.0s						
KULM	**Kulim**	**8.28**	**101**	*e*Pn	**Pn**	**12 36 52.8**	**+0.3**
IPM	**Ipoh**	**8.84**	**106**	P	**Pn**	**12 36 60.0**	**-0.3**
NNT	**Nongplab**	**9.08**	**51**	P	**Pn**	**12 37 06.1**	**+2.5**
NST	**Nakhon Sawan**	**11.47**	**40**	P	**Pn**	**12 37 38.5**	**+2.3**
	comp=Z,125nm,0.6s						
PALK	**Pallekele**	**11.70**	**272**	Pn	**Pn**	**12 37 38.8**	**-0.6**
	comp=Z,1μm,0.4s,SNR=23						
PALK	**Pallekele**	**11.70**	**272**	*e*Pn	**Pn**	**12 37 37.7**	**-1.7**
	comp=Z,199nm,0.6s						
KGM	**Kluang**	**11.85**	**114**	P	**Pn**	**12 37 41.5**	**0.0**
MDRS	**Chennai**	**13.50**	**298**	*ex*	x	12 38 02.0	
MDRS				*ex*	x	12 40 22.0	
VIS	**Vishakhapatnam**	**13.95**	**321**	*e*P	**Pn**	**12 38 09.1**	**-1.1**
VIS				*i* P		12 38 09.2	
VIS				*ex*	x	12 40 35.5	
BWNR	**Bhubaneshwar**	**14.78**	**335**	*ex*	x	12 38 32.0	
BWNR				*e*S	**Sn**	**12 41 06.0**	**+1.6**
UBT	**Ubonrachathani**	**14.80**	**55**	P	**Pn**	**12 38 30.0**	**+8.2**
	comp=Z,694nm,0.9s						
TRD	**Trivandrum**	**15.47**	**277**	*e*P	**Pn**	**12 38 30.0**	**-0.6**
TRD				*e*P		12 38 30.1	
TRD				AMb	AMB	12 38 37.6	
	comp=Z,311nm,2.0s						
TRD				*i* x	x	12 41 54.0	
CAL	**Calcutta**	**16.02**	**346**	*e*P	**Pn**	**12 38 39.8**	**+2.1**
CAL				AMP		12 38 42.1	
	comp=Z,1μm,0.4s						
CAL				*ex*	x	12 41 58.3	
HYB	**Hyderabad**	**17.13**	**309**	*i* P	**Pn**	**12 38 55.0**	**+3.2**
	comp=Z,800nm,1.0s						
HYB				*e*S	**Sn**	**12 42 06.0**	**+4.3**
HYB				LR	LR	12 46 48.0	
	comp=Z,60nm,12.0s						
HYB	**Hyderabad**	**17.13**	**309⇑**	*e*P	**Pn**	**12 38 50.0**	**-1.8**
HYB				*e*S	**Sn**	**12 42 06.0**	**+4.3**
HYB				pmax	pmax		
	comp=Z,800nm,1.0s						
HYB	**Hyderabad**	**17.13**	**309⇑**	*e*P	**Pn**	**12 38 50.0**	**-1.8**
	comp=Z,800nm,1.0s						
HYB				*e*S	**Sn**	**12 42 06.0**	**+4.3**
BOK	**Bokaro**	**17.92**	**340**	*e*P	**Pn**	**12 39 01.0**	**-0.6**
BOK				AMb	AMB	12 39 19.1	
	comp=Z,624nm,1.6s						
BOK				*ex*	x	12 42 11.6	
BLSP	**Bilaspur**	**18.11**	**328**	*e*P	**Pn**	**12 39 03.8**	**-0.1**
BLSP				*e*P		12 39 04.0	
BLSP				AMb	AMB	12 39 40.8	
	comp=Z,903nm,1.5s						
BLSP				*e*S	**Sn**	**12 42 28.9**	**+3.6**
SHL	**Shillong**	**18.53**	**358**	*e*P	**Pn**	**12 39 06.0**	**-3.1**
SHL				*e*S	**Sn**	**12 42 33.0**	**-2.6**
KSM	**Kuching**	**18.58**	**106**	*e*P	**Pn**	**12 39 09.2**	**-0.4**
LATR	**Latur**	**19.26**	**308**	*e*P	**Pn**	**12 39 17.3**	**-0.5**
COCO	**West Island**	**19.49**	**167**	*e*P	**Pn**	**12 39 20.2**	**-0.4**
	comp=Z,676nm,1.4s						
SLGI	**Shiliguri**	**20.03**	**349**	*ex*	x	12 39 27.0	
JBP	**Jabalpur**	**20.13**	**325**	*e*P	**P**	**12 39 26.0**	**-0.2**
JBP				*e*S	**S**	**12 43 10.3**	**-1.0**
AKL	**Akola**	**20.29**	**314**	*i* P	**P**	**12 39 36.6**	**+8.5**
AKL				*i* S	**S**	**12 43 31.6**	**+17**
KMI	**Kunming**	**20.57**	**27**	P	**P**	**12 39 32.6**	**+1.5**
KMI				AP		12 39 42.8	
KMI				XP	sP	12 39 45.9	+6.0

comp=Z,197nm,0.8s,mb5.6
LSA Lhasa 22.68 357 *e*P **P 12 39 55.4 +1.7**
comp=Z,197nm,0.8s,mb5.6
KKM Kota Kinabalu 23.59 91 P **P 12 40 03.5 +0.4**
KKM Kota Kinabalu 23.59 91 *e*P **P 12 40 03.5 +0.4**
GYA Guiyang 23.65 33⇑*i*P **P 12 40 02.1 -1.5**
GYA AP 12 40 11.8
GYA XP sP 12 40 15.8 +3.0
GYA PP 12 40 35.8
GYA S **S 12 44 12.9 -4.0**
GYA XS sS 12 44 27.5 0.0
GYA SS 12 45 02.4
GYA AMB AMB
comp=Z,260nm,1.2s,mb5.5
GYA AMB AMB
comp=Z,7μm,8.7s
GYA LR LR
comp=N,98μm,11.4s,MS6.5
GYA LR LR
comp=E,44μm,11.7s,MS6.5
GYA LR LR
comp=Z,159μm,11.7s,MS6.7
BHV Bhavnagar 24.55 309 *e*P **P 12 40 13.0 +1.1**
BATP Bataraza 25.14 84 *e*P **P 12 40 16.5 -0.8**
LGTI Lohaghat 25.19 334 *i*P **P 12 40 17.7 0.0**
PTH Pithoragarh 25.29 334 *e*P **P 12 40 20.9 +2.3**
PTH *e*x x 12 42 25.9
TSM Tawau 25.40 95 P **P 12 40 19.8 +0.3**
GZH Guangzhou 25.70 49 P **P 12 40 25.6 +3.3**
GZH S **S 12 44 57.8 +8.0**
GZH LR LR
comp=N,52μm,14.6s,MS6.6
GZH LR LR
comp=E,102μm,12.8s,MS6.6
GZH LR LR
comp=Z,165μm,13.4s,MS6.7
AJM Ajmer 25.81 321 *i*P **P 12 40 25.0 +1.6**
AJM *e*P 12 40 25.8
AJM AMb AMB 12 40 35.6
comp=Z,192nm,2.5s,mb5.2
HKC Hong Kong 25.89 52⇓*i*P **P 12 40 28.0 +3.9**
HKC S **S 12 44 48.0 -4.9**
NDI New Delhi 26.00 328 *e*P **P 12 40 24.5 -0.6**
NDI *e*x x 12 45 01.0
CD2 Chengdu 26.08 22⇑*i*P **P 12 40 25.4 -0.4**
CD2 AP pP 12 40 34.8 +2.5
CD2 XP sP 12 40 38.8 +3.8
CD2 PP 12 41 06.8
CD2 PCP PcP 12 43 53.8 +0.7
CD2 S **S 12 44 52.4 -3.5**
CD2 XS sS 12 45 07.9 +1.3
CD2 SS 12 46 01.8
CD2 AMB AMB
comp=Z,130nm,1.4s,mb5.3
CD2 AMB AMB
comp=Z,4μm,9.6s
CD2 LR LR
comp=E,56μm,12.0s
CD2 LR LR
comp=Z,54μm,12.0s,MS6.3
PPR Puerto Princes 26.11 82⇑*e*P **P 12 40 26.5 +0.4**
DDI Dehra Dun 26.92 332 *e*P **P 12 40 32.0 -1.4**
ENPP El Nido 26.93 79 *e*P **P 12 40 33.8 +0.4**
BHJ Bhuj 27.30 309 *e*P **P 12 40 36.2 -0.6**
BHJ AMb AMB 12 41 12.8
comp=Z,144nm,2.0s,mb5.2
BUSP Coron 27.78 77 *e*P **P 12 40 41.5 +0.4**
LUBP Lubang 28.11 74 *e*P **P 12 40 42.8 -1.3**
SCZP Santa Cruz 28.25 70 *e*P **P 12 40 52.6 +7.3**
BOLP Bolinao 28.42 68 *e*P **P 12 40 46.4 -0.4**
CUYO Cuyo Island 28.45 80 *e*P **P 12 40 47.7 +0.7**
BHK Bhakra 28.62 330 *e*x x 12 41 05.0
TGY Tagaytay City 28.84 73⇑*e*P **P 12 40 55.5 +5.0**
TGY Tagaytay City 28.84 73 P **P 12 40 51.1 +0.6**
comp=Z,60nm,0.5s,baz=66,slow=4.9,SNR=5.5
TGY LR LR 12 52 57.7
comp=Z,132nm,18.4s,baz=212,slow=38
BCPH Baguio City Da 29.03 69⇑*e*P **P 12 40 53.3 +1.1**
ABRA Dolores 29.51 66 *e*P **P 12 40 58.0 +1.5**
OTRP Odiongan 29.59 77 *e*P **P 12 40 57.7 +0.5**
KAPI Kappang 29.69 113 P **P 12 40 56.2 -1.8**
comp=Z,348nm,1.0s,mb6.0,SNR=6.9
BALP Baler 29.80 70 *e*P **P 12 41 00.1 +1.0**
GUIM Jordan 29.96 81 *e*P **P 12 41 01.6 +1.1**
APYP Conner 30.06 66 *e*P **P 12 41 01.2 -0.1**
CAUP Cauayan 30.33 68 *e*P **P 12 41 04.8 +1.1**
CVP Callao Caves 30.54 67 *e*P **P 12 41 12.0 +6.4**
QZH Quanzhou 30.72 51⇑*i*P **P 12 41 08.6 +1.4**
QZH S **S 12 46 11.0 +2.1**
QZH LR LR
comp=N,159μm,12.7s,MS7.1
QZH LR LR
comp=E,199μm,13.5s,MS7.1
QZH LR LR
comp=Z,323μm,13.6s,MS7.2
LZH Lanzhou 30.82 18 *e*P **P 12 41 08.1 0.0**
LZH AP pP 12 41 12.9 -1.7
LZH XP sP 12 41 15.8 -1.4
LZH *e*PP PP 12 42 10.1 -7.6
LZH *e*S **S 12 46 09.0 -1.4**
LZH SS SS 12 47 55.1 -27
LZH AMB AMB
comp=Z,120nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,470nm,4.0s
LZH LR LR
comp=E,22μm,13.2s
LZH LR LR
comp=Z,34μm,13.5s,MS6.2
XAN Xi'an 30.95 27 P **P 12 41 06.5 -2.7**
XAN AP pP 12 41 15.5 -0.3
XAN PP PP 12 42 10.0 -9.2
XAN S **S 12 46 10.5 -2.0**
XAN SS SS 12 48 03.3 -22
XAN AMB AMB
comp=Z,30nm,0.8s,mb5.2
XAN AMB AMB
comp=Z,500nm,8.3s
XAN LR LR
comp=N,50μm,12.5s,MS6.5
XAN LR LR
comp=E,45μm,12.1s,MS6.5
XAN LR LR
comp=Z,86μm,13.1s,MS6.6
TBP Tagbilaran 31.16 83 *e*P **P 12 41 19.3 +8.3**
WHN Wuhan 31.18 38⇑P **P 12 41 11.5 +0.3**
WHN S **S 12 46 21.4 +5.4**
WHN LR LR
comp=Z,154μm,12.2s,MS6.9
PVCP Virac 31.83 75 *e*P **P 12 41 16.2 -0.7**
OCLP Ormoc 31.98 80 *e*P **P 12 41 19.2 +1.0**
MSLP Maasin 32.16 82 *e*P **P 12 41 23.4 +3.6**
BUKP Musuan 32.31 86 *e*P **P 12 41 22.5 +1.3**
PLP Palo 32.35 80 *e*P **P 12 41 22.1 +0.6**
NACB Ninganchiao 32.74 55 *e*P **P 12 41 26.2 +1.2**
NACB *e*pP pP 12 41 30.7 -0.8
YHNB Yeheng 32.79 54 *e*P **P 12 41 26.8 +1.4**
YHNB *e*pP pP 12 41 31.0 -0.9
DAV Davao City (W) 32.84 88 P **P 12 41 28.1 +2.3**
SNR=8.0
GTA Gaotai 33.00 10 P **P 12 41 26.8 -0.4**
GTA AP pP 12 41 38.3 +4.6
GTA XP sP 12 41 41.3 +4.9
GTA PP PP 12 42 39.0 -2.9
GTA PCP PcP 12 44 08.9 -1.9
GTA S **S 12 46 44.8 +0.4**
GTA XS sS 12 47 01.3 +6.2
GTA PCS PcS 12 47 54.8 -1.4
GTA SS SS 12 48 48.0 -19
GTA AMB AMB
comp=Z,50nm,1.5s,mb5.2
GTA AMB AMB
comp=Z,1μm,6.9s
GTA LR LR
comp=N,21μm,13.0s,MS6.2
GTA LR LR
comp=E,25μm,11.8s,MS6.2
GTA LR LR
comp=Z,20μm,12.6s,MS6.0
TATO Taipei 33.02 54 *e*P **P 12 41 27.7 +0.2**
comp=Z,212nm,1.1s,mb6.0
TATO *e*pP pP 12 41 33.3 -0.6
BIPH Bislig 33.60 86⇑*i*P **P 12 41 32.7 +0.3**

NJ2 Nanjing 35.04 41 *e*P **P 12 41 46.3 +1.4**
NJ2 AP pP 12 41 51.4 -0.1
NJ2 XP sP 12 41 53.9 -0.3
NJ2 PP PP 12 43 04.4 -0.1
NJ2 S **S 12 47 20.0 +4.0**
NJ2 XS sS 12 47 32.0 +5.2
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,8.6s
NJ2 LR LR
comp=N,109μm,11.8s,MS7.0
NJ2 LR LR
comp=E,120μm,12.1s,MS7.0
NJ2 LR LR
comp=Z,47μm,11.4s,MS6.5
KSH Kashi 35.68 338 *e*P **P 12 41 47.6 -2.8**
KSH *e*AP pP 12 41 57.4 +0.4
KSH *e*XP sP 12 42 01.1 +1.5
KSH *e*PP PP 12 43 06.1 -5.4
KSH *e*PCP PcP 12 44 19.6 +1.1
KSH *e*S **S 12 47 15.9 -10**
KSH *e*SCP ScP 12 48 01.8 -1.4
KSH *e*PCS PcS 12 48 05.1 -0.6
KSH *e*SCS ScS 12 52 03.5 -4.6
KSH AMB AMB
comp=Z,20nm,0.4s,mb5.4
KSH AMB AMB
comp=Z,590nm,4.4s
KSH LR LR
comp=N,32μm,12.5s,MS6.5
KSH LR LR
comp=E,40μm,12.7s,MS6.5
KSH LR LR
comp=Z,30μm,15.2s,MS6.2
WBK Wadi Bani Khal 35.84 299⇓P **P 12 41 54.0 +2.2**
SNR=9.9
SSE Sheshan 36.03 44 P **P 12 41 55.6 +2.2**
SSE AP pP 12 42 06.9 +6.9
SSE S **S 12 47 32.9 +1.7**
SSE PCS PcS 12 48 08.3 +1.3
SSE AMB AMB
comp=Z,80nm,0.9s,mb5.7
SSE AMB AMB
comp=Z,2μm,9.1s
SSE LR LR
comp=N,10μm,12.5s,MS5.9
SSE LR LR
comp=E,10μm,12.5s,MS5.9
SSE LR LR
comp=Z,20μm,13.1s,MS6.1
WSAR Wadi Sarin 36.35 300 P **P 12 41 58.2 +2.1**
comp=Z,14nm,0.9s,mb4.9,baz=83,slow=9.7,SNR=3.5
WSAR LR LR 12 57 50.7
comp=Z,9μm,18.1s,MS5.6,baz=96,slow=38
WSAR Wadi Sarin 36.35 300 P **P 12 41 58.2 +2.1**
SMDO Samad 36.79 300 P **P 12 42 03.0 +3.1**
SNR=10
BIDO Bidbid 36.88 300 P **P 12 42 03.3 +2.6**
SNR=14
WMQ Urumqi 36.98 354 P **P 12 42 02.3 +0.8**
WMQ PP PP 12 43 29.1 +3.2
WMQ S **S 12 47 44.5 -1.1**
WMQ XS sS 12 47 54.8 -1.7
WMQ SS SS 12 50 14.1 -14
WMQ SCS ScS 12 52 12.5 -2.8
WMQ AMB AMB
comp=Z,30nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,3μm,8.5s
WMQ LR LR
comp=N,15μm,13.0s,MS6.0
WMQ LR LR
comp=E,7μm,13.0s,MS6.0
WMQ LR LR
comp=Z,10μm,26.0s
BTO Baotou 37.01 22 *e*P **P 12 42 00.4 -1.4**
BSY Bisya 37.42 299 P **P 12 42 07.8 +2.5**
SNR=14
SHAO Shalim 37.56 291⇓P **P 12 42 09.6 +3.1**
HOQ Hoqain 37.61 300 P **P 12 42 10.1 +3.3**
SNR=11
HHC Hu-ho-hao-te 37.82 24 *e*P **P 12 42 08.8 +0.2**
HHC AP pP 12 42 13.5 -1.7
HHC XP sP 12 42 15.8 -2.1
HHC PP PP 12 43 38.6 +3.5
HHC PCP PcP 12 44 25.9 +1.0
HHC S **S 12 47 59.3 +0.9**
HHC SCP ScP 12 48 11.3 +0.2
HHC PCS PcS 12 48 13.1 -0.6
HHC SS SS 12 50 33.8 -11
HHC AMB AMB
comp=Z,30nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,800nm,4.3s
HHC LR LR
comp=N,17μm,11.8s,MS6.5
HHC LR LR
comp=E,41μm,12.7s,MS6.5
HHC LR LR
comp=Z,19μm,11.9s,MS6.1
KZA Kyzart 38.19 339 P **P 12 42 13.4 +1.7**
SNR=47
ARQ Araqi 38.20 299 P **P 12 42 15.1 +3.2**
SNR=12
UCH Uchtor 38.58 338 P **P 12 42 15.6 +0.5**
SNR=91
MBWA Marble Bar 38.66 137 *e*P **P 12 42 15.3 -0.4**
comp=Z,151nm,1.6s,mb5.5
AAA Alma-Ata 38.69 342 *i*P **P 12 42 17.6 +1.7**
AAA *i*S **S 12 48 14.1 +2.6**
AAA pmax pmax
comp=Z,1μm,1.3s,mb6.5
AAA smax
comp=E,93μm,9.3s
AAA MLR MLR
comp=Z,178μm,19.4s,MS6.9
KBK Karagaybulak 38.80 339 P **P 12 42 17.8 +0.9**
SNR=44
AML Almayashu 38.80 338 P **P 12 42 17.7 +0.8**
SNR=46
TKM2 Tokmak 2 38.81 340 P **P 12 42 19.0 +2.0**
SNR=58
TKM2 Tokmak 2 38.81 340 *i*P **P 12 42 16.7 -0.3**
AAK Ala-Archa 38.94 339 P **P 12 42 19.8 +1.8**
SNR=48
AAK Ala-Archa 38.94 339 P **P 12 42 18.0 -0.1**
comp=Z,794nm,1.4s,mb6.2,SNR=30
AAK Ala-Archa 38.94 339 P **P 12 42 18.3 +0.2**
SNR=137
AAK Ala-Archa 38.94 339 *e*P **P 12 42 18.8 +0.7**
AAK pmax pmax
comp=Z,343nm,1.3s,mb5.9
AAK Ala-Archa 38.94 339 *e*P **P 12 42 18.8 +0.7**
comp=Z,342nm,1.3s,mb5.9
FRU Bishkek 39.07 339*oe*P **P 12 42 20.0 +0.8**
FRU *e* 12 43 55.0
FRU *e*S **S 12 48 20.0 +2.6**
FRU *e*SS SS 12 51 05.0 -5.0
FRU pmax pmax
comp=Z,800nm,2.0s,mb6.1
FRU pmax pmax
comp=E,16μm,22.0s
FRU MLR MLR
comp=N,21μm,16.0s
CHMS Chumysh 39.17 339 P **P 12 42 20.9 +0.9**
SNR=23
BJT Baijiatuau 39.19 29 *e*P **P 12 42 22.0 +1.9**
BJT pmax pmax
comp=Z,197nm,1.4s
BJT Baijiatuau 39.19 29 *e*P **P 12 42 22.0 +1.8**
comp=Z,197nm,1.4s,mb5.7
EKS2 Erkin-Say 39.23 338 P **P 12 42 20.7 +0.2**
SNR=41
WHFO Wadi Hawf 39.27 290⇓P **P 12 42 22.4 +1.6**
SNR=8.9
JOW Kunigami 39.33 56 P **P 12 42 21.9 +0.5**
comp=Z,42nm,0.8s,mb5.2,baz=261,slow=6.2,SNR=18
USP Ospenovka 39.49 339 P **P 12 42 22.4 -0.3**
SNR=69
MK31 Makanchi Array 40.67 349 P **P 12 42 29.6 -2.8**
MK31 pmax pmax
comp=Z,83nm,1.0s,mb5.3
MKAR Makanchi Array 40.67 349 P **P 12 42 31.0 -1.4**
comp=Z,21nm,0.7s,mb4.9,baz=168,slow=8.6,SNR=98
FITZ Fitzroy Crossi 41.10 128 *e*P **P 12 42 33.7 -2.3**

comp=Z,76nm,0.6s,mb5.5
FITZ *e*S **S 12 48 45.9 -1.9**
FITZ Fitzroy Crossi 41.10 128 P **P 12 42 35.0 -1.1**
comp=Z,33nm,0.7s,mb5.1,baz=293,slow=4.9,SNR=48
FITZ LR LR 13 01 05.3
comp=Z,9μm,18.4s,MS5.7,baz=311,slow=38
DL2 Dalian 41.27 35⇑*i*P **P 12 42 38.3 +0.9**
DL2 S **S 12 48 53.3 +3.1**
DL2 AMB AMB
comp=Z,80nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,2μm,8.5s
DL2 LR LR
comp=N,11μm,12.5s,MS6.2
DL2 LR LR
comp=E,16μm,12.8s,MS6.2
DL2 LR LR
comp=Z,19μm,11.5s,MS6.2
SONM Songino Array 42.44 14 P **P 12 42 47.1 +0.1**
comp=Z,18nm,1.1s,mb4.6,baz=195,slow=5.1,SNR=72
SONM LR LR 13 02 43.0
comp=Z,12μm,21.3s,MS5.8,baz=191,slow=39
ULN Ulaanbaatar 42.63 14⇑P **P 12 42 48.4 -0.2**
SNR=28
ULN Ulaanbaatar 42.63 14 *e*P **P 12 42 48.4 -0.1**
ULN pmax pmax
comp=Z,25nm,0.9s,mb4.9
ULN Ulaanbaatar 42.63 14 *e*P **P 12 42 48.4 -0.2**
comp=Z,25nm,0.9s,mb4.9
INCN Inchon 43.42 41 P **P 12 42 52.7 -2.2**
SNR=14
INCN Inchon 43.42 41 *e*P **P 12 42 54.9 0.0**
comp=Z,89nm,1.0s,mb5.5
ABKT Ailbek 43.83 320 P **P 12 42 59.3 +1.1**
comp=Z,657nm,0.7s,mb6.5,SNR=27
VAN Vannovskaya 43.84 320 P **P 12 42 59.0 +0.7**
VAN S **S 12 49 36.3 +8.2**
KS15 Wonju Array Si 44.21 41 *e*P **P 12 43 01.6 +0.3**
ZAK Zakamensk 44.23 10⇓*e*P **P 12 43 01.2 -0.2**
ZAK pmax pmax
comp=Z,152nm,1.9s,mb5.4
ZAK pmax pmax
comp=Z,103nm,1.9s,mb5.2
KAKA Kakadu 44.24 116 *e*P **P 12 42 59.5 -2.0**
comp=Z,53nm,0.9s,mb5.3
SNY Shenyang 44.35 34⇑P **P 12 43 00.8 -1.5**
SNY S **S 12 49 37.3 +1.9**
SNY AMB AMB
comp=Z,50nm,1.6s,mb5.0
SNY AMB AMB
comp=Z,1μm,5.3s
SNY LR LR
comp=N,8μm,22.8s,MS5.7
SNY LR LR
comp=E,7μm,19.2s,MS5.7
SNY LR LR
comp=Z,9μm,21.9s,MS5.6
MUN Mundaring 44.83 151 *e*P **P 12 43 06.6 +0.4**
MOY Mondy 45.14 7 *e*P **P 12 43 09.7 +1.0**
MOY pmax pmax
comp=Z,237nm,2.5s,mb5.6
KURK Kurchatov 45.14 348 P **P 12 43 08.4 -0.3**
comp=Z,508nm,1.3s,mb6.2,SNR=38
KLBR Kellerberrin 45.28 149 *e*P **P 12 43 10.0 +0.2**
comp=Z,45nm,1.0s,mb5.3
TLY Talaya 45.55 10 P **P 12 43 12.3 +0.4**
comp=Z,245nm,1.2s,mb6.0,SNR=21
TLY Talaya 45.55 10⇓P **P 12 43 12.6 +0.7**
SNR=38
TLY Talaya 45.55 10*c i*P **P 12 43 12.0 +0.1**
TLY *e* 12 44 42.6
TLY *e*S **S 12 49 54.2 +1.4**
TLY pmax pmax
comp=Z,159nm,2.1s,mb5.6
TLY MLR MLR
comp=Z,8μm,13.0s,MS5.9
TLY Talaya 45.55 10 *e*P **P 12 43 12.5 +0.6**
comp=Z,42nm,0.9s,mb5.4
NWAO Narrogin (SRO) 46.10 151 P **P 12 43 15.8 -0.4**
comp=Z,19nm,0.8s,mb5.1,baz=330,slow=10,SNR=10
NWAO LR LR 13 03 20.5
comp=Z,9μm,19.3s,MS5.7,baz=336,slow=37
NWAO Narrogin (SRO) 46.10 151 P **P 12 43 15.8 -0.5**
NWAO LR LR
comp=Z,8μm,19.0s,MS5.7
IRK Irkutsk 46.20 10 *e*P **P 12 43 17.0 0.0**
IRK pmax pmax
comp=Z,321nm,2.0s,mb5.9
CN2 Changchun 46.69 33 *e*P **P 12 43 20.5 -0.4**
CN2 *e*S **S 12 50 07.8 -1.5**
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,29μm,13.0s,MS6.5
CN2 LR LR
comp=E,23μm,13.0s,MS6.5
CN2 LR LR
comp=Z,31μm,14.0s,MS6.4
LBOS 46.91 282 *e*P **P 12 43 23.7 +1.1**
ZAL Zalesovo 47.27 354 P **P 12 43 25.4 -0.1**
comp=Z,10.0nm,0.6s,mb4.9,baz=295,slow=8.3,SNR=56
ZAL LR LR 13 05 39.9
comp=Z,4μm,22.0s,MS5.3,baz=292,slow=39
QRN Al-Qurain 47.28 303 *e*P **P 12 43 25.5 0.0**
QRN AMb AMB 12 43 41.7
comp=Z,298nm,1.4s,mb6.0
KBD Kabd 47.60 303 *e*P **P 12 43 29.2 +1.2**
KBD AMb AMB 12 43 44.3
comp=Z,569nm,1.5s,mb6.4
RDF Al-Radifah 47.64 303 *e*P **P 12 43 29.1 +0.8**
RDF AMb AMB 12 43 44.6
comp=Z,207nm,1.4s,mb6.0
UMR Umm Al-Rimmam 47.70 304 *e*P **P 12 43 29.6 +0.8**
UMR AMb AMB 12 43 44.8
comp=Z,116nm,1.4s,mb5.7
TRBA At Turbah 47.97 282 *e*P **P 12 43 32.9 +2.0**
NAY Al-Naaiem 48.00 303 *e*P **P 12 43 31.5 +0.5**
NAY AMb AMB 12 43 40.1
comp=Z,49nm,1.1s,mb5.5
HIA Hailar 48.03 24 *e*P **P 12 43 31.5 +0.2**
HIA pmax pmax
comp=Z,267nm,1.4s
HIA Hailar 48.03 24 *e*P **P 12 43 31.5 +0.2**
comp=Z,267nm,1.4s,mb6.1
MIB Mutribah 48.09 304 *e*P **P 12 43 32.6 +0.8**
MIB AMb AMB 12 43 47.9
comp=Z,203nm,1.3s,mb6.0
CIT Chita 48.18 17 *e*P **P 12 43 31.2 -1.3**
CIT pmax pmax
comp=Z,269nm,2.7s,mb5.8
NVS Novosibirsk 48.34 353 *i*P **P 12 43 32.2 -1.5**
NVS pmax pmax
comp=Z,483nm,2.5s,mb6.1
NVS pmax pmax
comp=N,441nm,2.8s
VOSK Vostochnaya 48.92 343 P **P 12 43 36.5 -1.7**
VOSK pmax pmax
comp=Z,75nm,1.0s,mb5.7
KRAR Krasnoyarsk 48.94 0 *e*P **P 12 43 38.4 +0.1**
KRAR pmax pmax
comp=Z,134nm,1.2s,mb5.8
WRA Warramunga Arr 49.08 124 P **P 12 43 38.8 -0.6**
comp=Z,31nm,0.8s,mb5.4,baz=302,slow=9.0,SNR=123
WRA S **S 12 50 41.1 -2.0**
comp=Z,6.1nm,0.9s,baz=303,slow=17,SNR=7.1
WRAB Tennant Creek 49.08 124 P **P 12 43 38.8 -0.6**
comp=Z,387nm,0.7s,mb6.5,SNR=19
WRAB Tennant Creek 49.08 124 *e*P **P 12 43 38.8 -0.6**
WRAB pmax pmax
comp=Z,154nm,0.8s,mb6.1
WRAB Tennant Creek 49.08 124 *e*P **P 12 43 38.8 -0.6**
comp=Z,154nm,0.8s,mb6.1
WB2 Warramunga Arr 49.09 124 *e*P **P 12 43 37.4 -2.1**
WB2 *e*S **S 12 50 41.4 -1.8**
ATD Arta Tunnel 49.16 279 P **P 12 43 41.6 +1.6**
comp=Z,14nm,0.6s,mb5.2,baz=270,slow=23,SNR=6.3
ATD LR LR 13 00 13.6
comp=Z,8μm,21.8s,MS5.7,baz=95,slow=31
BVA0 Borovoye Array 49.36 343 *i*P **P 12 43 39.8 -1.8**
BVA0 pmax pmax
comp=Z,27nm,1.6s,mb5.0
BRVK Borovoye 49.42 343 P **P 12 43 41.4 -0.6**
comp=Z,316nm,1.0s,mb6.3,SNR=28
BRVK Borovoye 49.42 343⇑P **P 12 43 41.6 -0.5**

SNR=50
BRVK Borovoye 49.42 343 eP P 12 43 41.5 -0.5
BRVK pmax pmax
comp=Z,46nm,1.1s,mb5.4
BRVK Borovoye 49.42 343 eP P 12 43 41.5 -0.5
comp=Z,46nm,1.1s,mb5.4
MDJ Mudanjiang 49.50 35 P P 12 43 43.4 +0.8
MDJ AP pP 12 43 48.5 -0.8
MDJ XP sP 12 43 51.5 -0.5
MDJ PP PP 12 45 38.3 +1.5
MDJ S **S 12 50 51.8 +2.8**
MDJ AMB AMB
comp=Z,40nm,1.4s,mb5.3
MDJ AMB AMB
comp=Z,580nm,4.9s
MDJ LR LR
comp=N,9μm,15.3s,MS6.0
MDJ LR LR
comp=E,7μm,12.1s,MS6.0
MDJ LR LR
comp=Z,10μm,12.1s,MS6.0
MDJ Mudanjiang 49.50 35 eP P 12 43 43.2 +0.6
comp=Z,336nm,1.5s,mb6.2
ZRNK Zerenda 49.72 342 P P 12 43 44.0 -0.3
ZRNK pmax pmax
comp=Z,141nm,1.4s,mb5.8
CHKZ Chkalovo 49.87 343 i P P 12 43 42.1 -3.3
VLA Vladivostok 49.95 37 deP P 12 43 45.8 -0.3
VLA e*PP pP 12 43 55.7 +2.9
VLA eS **S 12 51 01.6 +6.3**
VLA pmax pmax
comp=Z,61nm,1.6s,mb5.4
VLA MLR MLR
comp=Z,31μm,14.7s,MS6.5
VLA Vladivostok 49.95 37 eP P 12 43 46.9 +0.8
AB31 Akbulak array 50.28 333 i P P 12 43 47.5 -1.1
ASPA Alice Springs 50.60 128 eP P 12 43 50.8 -0.1
ASPA eS **S 12 51 02.4 -1.9**
AS31 Alice Springs 50.60 128 eP P 12 43 50.8 -0.2
AS31 eS **S 12 51 02.4 -1.9**
ASAR Alice Springs 50.60 128 P P 12 43 49.2 -1.7
comp=Z,31nm,0.8s,mb5.3,baz=303,slow=6.7,SNR=159
ASAR PcP PcP 12 45 09.2 +0.8
comp=Z,19nm,0.8s,baz=304,slow=3.7,SNR=4.1
ASAR S **S 12 51 03.5 -0.8**
comp=Z,2.5nm,1.0s,baz=288,slow=13,SNR=4.8
FORT Forrest 50.66 140 eP P 12 43 51.2 -0.2
comp=Z,162nm,0.9s,mb6.0
MAJO Matsushiro 51.00 48 eP P 12 43 55.2 +1.2
MAJO pmax pmax
comp=Z,227nm,1.8s,mb5.8
MAJO Matsushiro 51.00 48 eP P 12 43 55.2 +1.3
comp=Z,227nm,1.8s,mb5.8
MAT Matsushiro 51.00 48 P P 12 43 53.8 -0.2
MAT S **S 12 51 12.0 +2.1**
MAT Matsushiro 51.00 48 eP P 12 43 54.0 0.0
MAT eS **S 12 51 13.0 +3.1**
MJAR Matsushiro Arr 51.00 48 P P 12 43 53.8 -0.2
comp=Z,3.3nm,0.7s,baz=239,slow=6.7,SNR=9.0
MJAR PcP PcP 12 45 11.3 +1.4
comp=Z,16nm,0.8s,baz=243,slow=4.1,SNR=7.5
MJAR LR LR 13 06 54.4
comp=Z,11μm,19.3s,MS5.9,baz=265,slow=38
MJAR Matsushiro Arr 51.00 48 P P 12 43 53.8 -0.2
MJAR PcP PcP 12 45 11.3 +1.4
OPO Ambohidratompo 51.36 240 P P 12 43 58.4 +1.8
comp=Z,9.5nm,0.7s,mb4.8,baz=61,slow=5.3,SNR=15
BHD Baghdad 51.62 307 ex x 12 43 58.0
BHD ex x 12 51 20.0
GUMO Guam 51.88 78 LR LR 13 06 16.5
comp=Z,5μm,19.1s,MS5.5,baz=250,slow=36
MAK Makhachkala 53.35 320 eP P 12 44 08.3 -3.1
MAK i S **S 12 51 38.6 -3.4**
MAK e 12 53 55.3
MAK pmax pmax
comp=Z,326nm,1.9s,mb5.9
BOD Bodaibo 53.44 14 eP P 12 44 12.4 +0.3
BOD pmax pmax
comp=Z,118nm,1.3s,mb5.7
KLR Kul'dur 53.52 31⇓ iP P 12 44 10.5 -2.2
KLR MLR MLR
comp=Z,8μm,13.0s,MS6.0
CUKT Cukurca 53.61 312 eP P 12 44 12.5 -0.8
HAKT HAKKARI 53.65 312 i P P 12 44 13.7 +0.1
MSL Mosul 53.65 310 ex x 12 44 14.0
MSL ex x 12 51 43.0
GNI Garni 53.93 315 eP P 12 44 15.3 -0.4
GNI Garni 53.93 315 ⇑P P 12 44 16.5 +0.8
SNR=29
GNI Garni 53.93 315 eP P 12 44 16.3 +0.6
GNI pmax pmax
comp=Z,165nm,1.4s
GNI Garni 53.93 315 eP P 12 44 16.3 +0.6
comp=Z,165nm,1.4s,mb5.8
DGRG David-gareji 54.05 317 P P 12 44 16.4 -0.2
CLDR Caldiran 54.11 314 eP P 12 44 17.4 +0.4
VANB Van 54.27 313 eP P 12 44 19.9 +1.7
ORR Orenburg 54.32 332⇑ iP P 12 44 18.3 -0.2
ORR S **S 12 51 45.6 -10**
ORR pmax pmax
comp=Z,160nm,1.5s,mb5.7
ORR MLR MLR
comp=Z,5μm,23.0s,MS5.5
MTA Mtatsminda 54.55 317 P P 12 44 20.1 -0.1
TBLG Delisi 54.61 317 P P 12 44 21.3 +0.7
HABR Khabarovsk 54.82 33⇑ iP P 12 44 20.8 -1.4
HABR eS **S 12 52 01.3 -0.6**
HABR pmax pmax
comp=Z,153nm,1.4s,mb5.8
HABR MLR MLR
comp=Z,8μm,19.0s,MS5.8
AKH Akhalkalaki 55.32 316 P P 12 44 25.8 0.0
ZEI Tsey 55.62 318 eP P 12 44 28.5 +0.6
ZEI e*PP pP 12 44 35.2 +0.5
ZEI e 12 45 23.3
ZEI pmax pmax
comp=Z,37nm,1.1s,mb5.3
NRGR Nerungri 55.68 21 eP P 12 44 26.7 -1.7
NRGR S **S 12 52 02.1 -11**
NRGR smax
comp=N,18nm,0.4s
KMBO Kilima Mbogo 55.69 264 P P 12 44 29.8 +1.3
comp=N,8.3nm,0.9s,mb4.8,baz=70,slow=9.7,SNR=11
KMBO PcP PcP 12 45 30.4 +2.7
comp=N,9.7nm,0.8s,baz=52,slow=12,SNR=3.9
KMBO LR LR 13 04 08.7
comp=N,15μm,21.4s,MS6.0,baz=75,slow=31
KMBO Kilima Mbogo 55.69 264 ⇑P P 12 44 31.0 +2.6
SNR=8.5
KMBO Kilima Mbogo 55.69 264 eP P 12 44 30.4 +1.9
KMBO pmax pmax
comp=Z,29nm,1.4s
KMBO Kilima Mbogo 55.69 264 eP P 12 44 30.4 +2.0
comp=Z,29nm,1.4s,mb5.1
MARD Mardin 55.74 311 i P P 12 44 28.9 +0.1
ONI Oni 55.84 318 P P 12 44 29.0 -0.5
CLNS Chul'man 55.88 21 eP P 12 44 28.8 -1.0
CLNS e 12 45 24.9
CLNS eS **S 12 52 07.0 -9.1**
CLNS pmax pmax
comp=N,44nm,1.0s
CLNS pmax pmax
comp=Z,106nm,1.0s,mb5.8
CLNS pmax pmax
comp=E,52nm,1.1s
CLNS smax
comp=E,1μm,12.7s
CLNS smax
comp=Z,2μm,11.8s
CLNS smax
comp=N,2μm,12.4s
CLNS MLR MLR
comp=N,25μm,12.0s,MS6.6
CLNS MLR MLR
comp=Z,31μm,12.0s,MS6.6
CLNS MLR MLR
comp=E,16μm,13.0s,MS6.6
AMRG 56.02 317 P P 12 44 35.8 +5.0
BNGL BINGOL 56.03 313 i P P 12 44 31.6 +0.7
ARU Arti 56.12 338 P P 12 44 31.7 +0.2
comp=E,699nm,1.3s,mb6.5,SNR=22
ARU Arti 56.12 338⇓ iP P 12 44 30.7 -0.8
ARU e 12 45 28.3
ARU e 12 46 33.7
ARU ePPP 12 47 52.3
ARU eS **S 12 52 20.2 +0.8**
ARU e 12 54 19.4
ARU pmax pmax
comp=Z,163nm,1.2s,mb5.9
ARU MLR MLR
comp=Z,12μm,18.5s,MS6.0
ARU MLR MLR
comp=N,3μm,17.0s,MS6.1
ARU MLR MLR
comp=E,13μm,19.0s,MS6.1
ARU Arti 56.12 338 eP P 12 44 30.2 -1.3
comp=E,207nm,1.3s,mb6.0
ARTV Artvin 56.31 316 i P P 12 44 33.0 +0.1
BCA Borcka 56.62 316 eP P 12 44 34.5 -0.6
PMG Port Moresby 56.84 106 eP P 12 44 36.8 +0.2
PMG pmax pmax
comp=Z,144nm,1.2s
PMG Port Moresby 56.84 106 eP P 12 44 36.8 +0.2
comp=Z,144nm,1.2s,mb5.9
KIV Kislovodsk 56.92 319 P P 12 44 37.7 +0.5
comp=Z,320nm,1.2s,mb6.2,SNR=17
KIV Kislovodsk 56.92 319 ⇑P P 12 44 37.4 +0.1
SNR=38
KIV Kislovodsk 56.92 319 eP P 12 44 36.2 -1.0
KIV e 12 45 30.0
KIV e 12 46 44.3
KIV ePPP 12 48 00.5
KIV eS **S 12 52 26.8 -3.1**
KIV eSS SS 12 56 17.3 -1.0
KIV pmax pmax
comp=Z,124nm,1.2s,mb5.8
KIV pmax pmax
comp=Z,1μm,7.9s
KIV Kislovodsk 56.92 319 eP P 12 44 37.3 +0.1
comp=Z,179nm,1.4s,mb5.9
KIV epP pP 12 44 42.5 -1.6
GOF Gofitskoye 57.18 320 eP P 12 44 38.0 -1.0
GOF pmax pmax
comp=Z,54nm,0.9s,mb5.6
URFA Urfa 57.26 310 eP P 12 44 39.8 +0.1
EZC Erzincan 57.28 313 eP P 12 44 41.7 +1.9
ATAB Bozova 57.67 310 i P P 12 44 43.4 +0.9
MALT Malatya 57.83 311 eP P 12 44 44.1 +0.5
MALT pmax pmax
comp=Z,55nm,1.4s,mb5.4
MALT Malatya 57.83 311 eP P 12 44 44.1 +0.4
comp=Z,55nm,1.4s,mb5.4
MALT epP pP 12 44 49.0 -1.5
GZT Gaziantep 58.19 310 i P P 12 44 47.6 +1.4
GAZ Gaziantep 58.41 310 eP P 12 44 48.2 +0.5
EIL Elat 58.48 301 eP P 12 44 48.8 +0.6
comp=Z,2μm,1.3s
YSS Yuzh-Sakhalins 58.52 38 αeP P 12 44 48.4 -0.1
YSS e 12 47 00.0
YSS eS **S 12 52 54.0 +3.1**
YSS ePS 12 53 05.0
YSS pmax pmax
comp=Z,130nm,1.4s,mb5.8
YSS pmax pmax
comp=Z,600nm,4.0s
YSS MLR MLR
comp=N,12μm,14.0s,MS6.6
YSS MLR MLR
comp=Z,14μm,14.0s,MS6.2
YSS MLR MLR
comp=E,26μm,13.0s,MS6.6
YSS Yuzh-Sakhalins 58.52 38 eP P 12 44 48.8 +0.3
comp=E,130nm,1.3s,mb5.8
YSS epP pP 12 44 54.2 -1.1
SOC Sochi 58.74 317⇑ iP P 12 44 48.4 -1.6
SOC e*PP pP 12 44 58.4 +1.6
SOC i S **S 12 52 52.0 -1.8**
SOC e 12 54 28.1
SOC eSSS 12 59 15.3
SOC pmax pmax
comp=Z,68nm,1.4s,mb5.5
SOC pmax pmax
comp=Z,975nm,6.7s
BHL Bhannes 58.78 306 eP P 12 44 51.9 +1.7
GRSN GIRESUNGRSN 58.79 314 i P P 12 44 47.1 -3.3
SOKR Solikamsk 59.09 340⇑ iP P 12 44 51.8 -0.6
SOKR i S **S 12 52 59.8 +1.5**
SOKR pmax pmax
comp=Z,200nm,1.6s,mb5.9
SOKR MLR MLR
comp=Z,12μm,24.0s,MS5.9
SLAT Slait 59.13 284 i P P 12 44 52.1 -0.6
baz=87,slow=7.9
SLAT AMb AMB 12 45 01.6
comp=Z,137nm,1.2s,mb5.9
SLAT i S **S 12 53 08.9 +10**
CTA Charters Tower 59.30 118 eP P 12 44 53.6 -0.3
comp=Z,65nm,1.1s,mb5.6
CTA eS **S 12 53 00.7 -0.3**
CTA Charters Tower 59.30 118 P P 12 44 53.7 -0.2
comp=Z,31nm,0.9s,mb5.3,baz=300,slow=7.8,SNR=14
CTA LR LR 13 12 01.6
comp=Z,8μm,18.8s,MS5.9,baz=290,slow=38
CTA Charters Tower 59.30 118 eP P 12 44 53.6 -0.3
CTA eS **S 12 53 00.7 -0.3**
CTA pmax pmax
comp=Z,65nm,1.1s
CTAO Charters Tower 59.30 118 eP P 12 44 54.2 +0.3
CTAO e*PP pP 12 45 00.2 -0.5
CTAO pmax pmax
comp=Z,178nm,1.3s,mb5.9
CTAO Charters Tower 59.30 118 eP P 12 44 54.2 +0.3
comp=Z,178nm,1.3s,mb5.9
CTAO epP pP 12 45 00.2 -0.5
SVSK Karacayir 59.38 313 eP P 12 44 53.1 -1.4
CEYT Ceyhan 59.49 309 eP P 12 44 56.0 +0.8
KOZT Kozan 59.55 310 eP P 12 44 53.5 -2.2
KARA Karaisali 60.09 309 eP P 12 44 59.5 +0.2
ADE Adelaide 60.28 137 eP P 12 45 02.1 +1.4
MERS Mersin 60.40 309 eP P 12 45 01.1 -0.3
KVT Kavak 60.44 314 eP P 12 45 01.2 -0.5
STKA Stephens Creek 60.67 132 eP P 12 44 59.8 -3.5
comp=Z,22nm,0.6s,mb5.5
STKA Stephens Creek 60.67 132 P P 12 45 00.9 -2.4
comp=Z,16nm,0.6s,mb5.3,baz=312,slow=6.8,SNR=41
STKA LR LR 13 12 45.9
comp=Z,7μm,19.4s,MS5.8,baz=305,slow=38
ANN Anapa 60.72 318 eP P 12 44 58.4 -5.2
ANN e 12 47 15.5
ANN ePPP 12 48 46.5
ANN eS **S 12 53 11.1 -8.1**
ANN eSSS 12 59 57.9
ANN pmax pmax
comp=Z,1μm,13.1s
ANN MLR MLR
comp=N,1μm,18.0s,MS5.6
ANN MLR MLR
comp=E,4μm,18.0s,MS5.6
ANN MLR MLR
comp=Z,4μm,18.0s,MS5.6
VRHR Novokhopersk 60.77 326 eP P 12 45 03.1 -0.9
VRHR eS **S 12 53 17.2 -2.7**
VRHR pmax pmax
comp=Z,30nm,0.7s,mb5.5
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,80nm,1.1s
VRHR smax
comp=N,2μm,13.7s
VRHR smax
comp=Z,420nm,10.3s
VRHR smax
comp=E,980nm,10.6s
VRHR MLR MLR
comp=Z,6μm,17.0s,MS5.8
VRHR MLR MLR
comp=N,2μm,24.0s
VRHR MLR MLR
comp=E,2μm,18.0s
CSS Prodhromos 60.89 306 eP P 12 45 05.5 +0.7
comp=E,186nm,1.6s,mb6.0
CORM Corum 61.20 312 eP P 12 45 06.5 -0.4
CDAG Cicekdag 61.23 312 i P P 12 45 05.8 -1.4
YAK Yakutsk 61.40 19 c iP P 12 45 07.8 -0.4
YAK e*PP pP 12 45 26.2 +11
YAK e 12 47 27.2
YAK eS **S 12 53 24.2 -3.7**
YAK eSS SS 12 57 35.3 +6.6
YAK pmax pmax
comp=N,44nm,1.2s
YAK pmax pmax
comp=Z,84nm,1.2s,mb5.8
YAK pmax pmax
comp=E,64nm,1.6s
YAK smax
comp=N,3μm,13.9s
YAK smax
comp=Z,600nm,13.9s
YAK smax
comp=E,967nm,13.1s
YAK MLR MLR
comp=N,15μm,12.0s,MS6.4
YAK MLR MLR
comp=Z,19μm,12.0s,MS6.5
YAK MLR MLR
comp=E,9μm,13.0s,MS6.4
YAK Yakutsk 61.40 19 eP P 12 45 07.4 -0.8
comp=E,279nm,1.2s,mb6.3
YAK epP pP 12 45 13.3 -1.8
KAMT Kaman 61.66 311 eP P 12 45 08.9 -1.1
BR131 Keskin Array S 61.81 312 eP P 12 45 10.3 -0.6
comp=E,35nm,1.1s,mb5.4
BRTR Keskin Array B 61.81 312 P P 12 45 10.2 -0.7
comp=E,7.6nm,0.8s,mb4.8,baz=116,slow=5.6,SNR=51
BRTR PKP2bc 13 14 31.8
comp=E,1.5nm,1.0s,baz=193,slow=3.3,SNR=3.9
BRTR Keskin Array B 61.81 312 P P 12 45 10.2 -0.7
BRTR ⇑e 13 14 31.8
CANT Cankiri 62.06 312 eP P 12 45 12.7 +0.1
PECR Pechory 62.17 332 eP P 12 45 12.4 -1.0
PECR i 12 49 08.0
PECR eS **S 12 53 31.0 -6.7**
PECR pmax pmax
comp=Z,1μm,1.6s
PECR pmax pmax
comp=Z,700nm,7.0s
PECR smax
comp=N,2μm,12.0s
VRSR Storozhevoye 62.20 325 eP P 12 45 11.9 -1.7
VRSR eS **S 12 53 43.0 +5.0**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,30nm,1.3s
VRSR smax
comp=N,650nm,8.0s
VRSR smax
comp=Z,150nm,6.5s
VRSR smax
comp=E,30nm,4.4s
KONT Konya--Tatoy 62.33 309 eP P 12 45 15.3 +0.8
ANTO Ankara 62.47 311 eP P 12 45 13.5 -1.9
ANTO Ankara 62.47 311 ⇓P P 12 45 15.8 +0.3
SNR=15
ANTO Ankara 62.47 311 eP P 12 45 15.7 +0.3
ANTO pmax pmax
comp=Z,31nm,0.9s,mb5.4
ANTO Ankara 62.47 311 eP P 12 45 15.7 +0.3
comp=Z,31nm,0.9s,mb5.4
SAFT Safranbolu 62.91 313 eP P 12 45 17.2 -1.1
SIM Simferopol' 62.99 317 ceP P 12 45 19.5 +0.6
SIM eS **S 12 53 50.7 +2.8**
SIM pmax pmax
comp=Z,970nm,12.3s
SIM MLR MLR
comp=Z,5μm,22.6s,MS5.6
ANTB Antalya 63.42 308 eP P 12 45 21.4 -0.3
MDU Mudurnu 63.79 312 eP P 12 45 23.5 -0.7
ELL Elmali 63.98 307 eP P 12 45 24.7 -0.7
FETY Fethiye 64.61 307 eP P 12 45 27.1 -2.5
ADVT Abdulvahap 64.88 311 eP P 12 45 28.7 -2.6
DALT Dalyan (Mudla) 64.99 307 eP P 12 45 28.9 -3.1
MOS Moscow 65.03 329 α iP P 12 45 31.1 -1.2
MOS i pP 12 45 36.8 -2.4
MOS e 12 46 06.6
MOS e 12 47 57.9
MOS i S S 12 54 15.2 +1.9
MOS pmax pmax
comp=Z,400nm,2.0s,mb6.1
MOS pmax pmax
comp=Z,176nm,1.4s,mb5.9
YLV Yalova 65.18 312 eP P 12 45 31.8 -1.5
ARG Arkhangelos 65.29 307 eP P 12 45 28.0 -6.0
OBN Obninsk 65.30 328 P P 12 45 33.3 -0.8
comp=Z,404nm,1.3s,mb6.3,SNR=9.8
OBN Obninsk 65.30 328 c iP P 12 45 32.8 -1.3
OBN i 12 45 43.5
OBN e 12 47 59.1
OBN i S S 12 54 13.5 -3.1
OBN i 12 55 24.7
OBN i SS SS 12 58 34.3 +4.7
OBN pmax pmax
comp=Z,181nm,2.1s,mb5.7
OBN MLR MLR
comp=Z,8μm,19.0s,MS5.9
OBN Obninsk 65.30 328 eP P 12 45 33.5 -0.6
comp=Z,116nm,1.0s,mb5.9
ISK Istanbul-Kandi 65.52 312 eP P 12 45 34.2 -1.3
KLYT Kilyos 65.58 312 eP P 12 45 33.7 -2.1
MLSB Milas 65.76 308 eP P 12 45 32.3 -4.7
DAT Datca 65.82 307 eP P 12 45 31.2 -6.2
KARP Karpathos 65.96 306 eP P 12 45 39.3 +1.0
BODT Bodrum 66.08 307 eP P 12 45 38.0 -1.1
BALB Balikesir 66.11 310 eP P 12 45 37.9 -1.4
TOO Toolangi 66.31 136 eP P 12 45 41.4 +0.9
comp=Z,20nm,1.1s,mb5.1
TOO eS S 12 54 33.3 +4.4
TOO Toolangi 66.31 136 eP P 12 45 41.4 +0.9
TOO eS S 12 54 33.3 +4.4
TOO pmax pmax
comp=Z,20nm,1.1s,mb5.1
MRMT Marmara Adasi 66.51 311 eP P 12 45 39.0 -2.9
BLCB Balcova 66.52 309 eP P 12 45 41.4 -0.5
PSN Preselentsi 66.74 315 eP P 12 45 43.0 -0.3
TIRR Tirgusor 66.76 315⇓ iP P 12 45 43.3 -0.1
TIRR Tirgusor 66.76 315 P P 12 45 43.5 +0.1
TIRR Tirgusor 66.76 315 eP P 12 45 42.6 -0.8
TIRR epP pP 12 45 49.0 -1.4
MFT Murefte 66.78 311 eP P 12 45 42.9 -0.7
CANB Canakkale 66.80 311 eP P 12 45 43.8 +0.1
RKY Sarkoy-Tekirda 66.84 311 eP P 12 45 43.2 -0.8
URLA Izmir 66.86 309 i P P 12 45 44.5 +0.4
XRY Khrisi 67.05 305 eP P 12 45 47.0 +1.7
KIS Kishinev 67.12 318 c iP P 12 45 44.0 -1.7
KIS e 12 48 20.0
KIS ePPP 12 49 50.0
KIS eS S 12 54 38.0 -0.6
KIS ePS 12 55 20.0
KIS pmax pmax
comp=Z,2μm,12.0s
KIS pmax pmax
comp=Z,2μm,16.0s
KIS MLR MLR
comp=Z,6μm,24.0s,MS5.7
KIS MLR MLR
comp=Z,4μm,20.0s
KIS MLR MLR
comp=E,2μm,19.0s
CFR Carcaliu 67.12 316⇓ iP P 12 45 46.8 +1.1
CFR Carcaliu 67.12 316⇓ P P 12 45 46.8 +1.0
NPS Neapolis 67.17 305 eP P 12 45 44.0 -2.0
PRK Paraskevi 67.26 310 eP P 12 45 48.0 +1.4
EDRB Edirne 67.39 312 eP P 12 45 46.7 -0.8
LSZ Lusaka 67.41 250 P P 12 45 48.4 +0.8
comp=E,14nm,0.8s,mb5.0,baz=72,slow=6.7,SNR=11
LSZ LR LR 13 12 04.3
comp=E,22μm,18.3s,MS6.4,baz=89,slow=33
LSZ Lusaka 67.41 250 ⇓P P 12 45 49.4 +1.8
SNR=9.5
LSZ Lusaka 67.41 250 eP P 12 45 48.6 +1.0
LSZ pmax pmax
comp=Z,35nm,1.1s,mb5.3
LSZ Lusaka 67.41 250 eP P 12 45 48.6 +1.0
comp=Z,35nm,1.1s,mb5.3
SANT Santorini 67.45 306 eP P 12 45 47.1 -0.6
ENEZ Enez 67.62 311 eP P 12 45 48.4 -0.4
JMB Yambol 67.63 313 eP P 12 45 50.0 +1.1
ARMA Armidale 67.70 127 eP P 12 45 51.4 +2.0
ALN Alexandroupoli 67.73 311 eP P 12 45 48.5 -1.1
SIVA Sivas 67.79 305 eP P 12 45 50.5 +0.5
AKASG Malin Array Be 67.88 322 P P 12 45 48.6 -1.9

comp=Z,4.2nm,0.6s,mb4.6,baz=93,slow=5.0,SNR=42
CNB Canberra Magne 68.00 132 *e*P **P 12 45 51.3 0.0**
comp=Z,46nm,1.1s,mb5.4
SKR Severo-Kuril's 68.09 38 *e*P **P 12 45 48.5 -3.4**
SKR *e* 12 46 06.2
SKR *e* 12 48 30.0
SKR *e*PPP 12 50 03.0
SKR *e*S S 12 54 50.0 -0.4
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR smax
comp=N,3μm,12.0s
SKR smax
comp=E,6μm,12.0s
SKR MLR MLR
comp=N,5μm,14.0s,MS6.0
SKR MLR MLR
comp=E,3μm,14.0s,MS6.0
SKR MLR MLR
comp=Z,8μm,14.0s,MS6.1
VRI Vrincioaia 68.25 317 ⇓*i*P **P 12 45 53.7 +0.9**
VRI Vrincioaia 68.25 317 P **P 12 45 53.3 +0.5**
PLOR Plostina 68.30 317 ⇓*i*P **P 12 45 53.9 +0.8**
KDZ Kurdzhali 68.33 312 *e*P **P 12 45 53.0 -0.3**
MA2 Magadan 68.35 28*c i*P **P 12 45 53.1 -0.4**
MA2 *e* 12 46 18.2
MA2 *i* S S 12 54 52.2 -1.2
MA2 *e* 12 55 41.8
MA2 pmax pmax
comp=Z,230nm,0.9s,mb6.2
MA2 MLR MLR
comp=Z,15μm,22.4s,MS6.2
MA2 Magadan 68.35 28 *e*P **P 12 45 53.0 -0.5**
comp=Z,156nm,0.9s,mb6.0
TIXI Tiksi 68.47 12 *e*P **P 12 45 52.4 -1.8**
MATP Matopo 68.49 245 P **P 12 45 54.6 +0.3**
comp=Z,23nm,1.0s,mb5.2,baz=64,slow=6.5,SNR=22
KARN Karanos 68.56 305 *e*P **P 12 45 55.5 +0.7**
PVL Pavlikeni 68.68 314 *e*P **P 12 45 56.0 +0.5**
MLR Muntele Rosu 68.70 316 ⇓*i*P **P 12 45 56.7 +1.0**
MLR Muntele Rosu 68.70 316 P **P 12 45 55.9 +0.3**
PTL Penteli 68.94 308 *e*P **P 12 45 57.5 +0.3**
HNR Honiara 69.15 103 *e*P **P 12 45 59.8 +1.4**
HNR pmax pmax
comp=Z,964nm,1.8s,mb6.4
HNR Honiara 69.15 103 *e*P **P 12 45 59.8 +1.4**
comp=Z,964nm,1.8s,mb6.4
MTUR Matau 69.25 316 ⇓*i*P **P 12 45 59.3 +0.2**
MTUR Matau 69.25 316 P **P 12 45 59.3 +0.2**
VOIR 69.31 316 ⇓*i*P **P 12 45 59.6 +0.2**
VOIR 69.31 316 ⇓P **P 12 45 59.6 +0.2**
PAIG Paliouri 69.35 310 *e*P **P 12 45 59.1 -0.6**
MMB Musomiste 69.57 312 *e*P **P 12 46 00.5 -0.5**
PLG Polygyros 69.59 310 *e*P **P 12 46 01.0 -0.2**
BURAR Bucovina Array 69.64 318 ⇓*i*P **P 12 46 02.1 +0.6**
BURAR Bucovina Array 69.64 318 ⇓P **P 12 46 02.1 +0.6**
SOH Sokhos 69.73 311 *e*P **P 12 46 01.1 -0.9**
MNK Minsk 69.80 326 *e*P **P 12 45 59.0 -3.5**
MNK *e* 12 48 40.0
MNK *e*S S 12 54 58.0 -13
THE Thessaloniki 69.99 311 *e*P **P 12 46 02.7 -0.9**
PET Petropavlovsk 70.25 36*c i*P **P 12 46 03.4 -1.8**
PET *e* 12 46 22.5
PET *e*S S 12 55 12.4 -3.4
PET *e*PS 12 55 46.1
PET pmax pmax
comp=Z,42nm,1.1s,mb5.3
PET pmax pmax
comp=Z,500nm,18.8s
PET pmax pmax
comp=Z,800nm,16.2s
PET smax
comp=N,1μm,13.8s
PET smax
comp=E,2μm,14.6s
PET smax
comp=N,2μm,13.9s
PET smax
comp=E,2μm,16.1s
PET Petropavlovsk 70.25 36 *e*P **P 12 46 03.1 -2.1**
AGG Agios Georgios 70.26 309 *e*P **P 12 46 03.2 -2.1**
LIT Litokhoron 70.28 310 *e*P **P 12 46 04.0 -1.4**
ITM Ithomi 70.36 307 *e*P **P 12 46 05.1 -0.8**
GRG Griva 70.46 311 *e*P **P 12 46 05.1 -1.4**
EVR Evrytania 70.65 309 *e*P **P 12 46 07.5 -0.2**
LVV L'vov 70.88 320 *e*P **P 12 46 08.6 -0.5**
JOF Joensuu 70.99 335 *e*p **P 12 46 07.0 -2.7**
comp=E,66nm,1.0s,mb5.5
DRGR 71.16 317 ⇓*i*P **P 12 46 11.3 +0.5**
DRGR 71.16 317 P **P 12 46 11.0 +0.2**
BOLS Boljevac 71.20 314 ⇑*i*P **P 12 46 10.4 -0.6**
FNA Florina 71.21 311 *e*P **P 12 46 09.4 -1.7**
VLS Valsamata 71.52 308 *e*P **P 12 46 12.5 -0.5**
LKD Levkas 71.53 308 *e*P **P 12 46 12.3 -0.7**
VSU Vasula 71.56 330 *e*P **P 12 46 12.5 -0.7**
OHR Ohrid 71.68 311 *e*P **P 12 46 11.8 -2.2**
KWP Kalwaria 71.68 320 *e*P **P 12 46 13.9 0.0**
KWP *e*pP pP 12 46 19.6 -1.3
KWP *e*S S 12 55 35.6 +3.1
KWP *e*SKS 12 56 26.1
KWP L 13 16 41.1
comp=Z,2.9nm,27.5s
KWP Kalwaria 71.68 320 *e*P **P 12 46 13.9 0.0**
KWP *e**PP pP 12 46 19.6 -1.3
KWP *e*S S 12 55 35.6 +3.1
KWP Kalwaria 71.68 320 *e*P **P 12 46 13.9 0.0**
KWP *e*pP pP 12 46 19.6 -1.3
KWP *e*S S 12 55 35.6 +3.1
KWP *e*SKS 12 56 26.1
BZS Buzias 71.71 316 ⇓*i*P **P 12 46 13.5 -0.6**
BZS Buzias 71.71 316 P **P 12 46 14.6 +0.5**
KOLS Kolonicke sedl 71.83 319 *e*P **P 12 46 15.5 +0.7**
KOLS *e* pP 12 46 21.1 -0.7
KOLS pmax pmax
comp=Z,154nm,2.5s,mb5.5
KOLS Kolonicke sedl 71.83 319 *e*P **P 12 46 15.5 +0.7**
comp=Z,154nm,2.5s,mb5.5
KOLS *e* pP 12 46 21.1 -0.7
KOLS *e* 12 54 58.0
LVZ Lovozero 71.88 340 ⇑*i*P **P 12 46 13.3 -1.8**
LVZ *e*S S 12 55 33.2 -1.5
LVZ *e* 12 56 21.6
LVZ pmax pmax
comp=Z,50nm,1.3s,mb5.3
LVZ pmax pmax
comp=E,20nm,1.1s
LVZ smax
comp=N,173nm,2.9s
LVZ smax
comp=E,693nm,9.6s
GRUS Gruza 72.10 314 *e*P **P 12 46 17.9 +1.4**
APA Apatity 72.15 340 ⇑*i*P **P 12 46 16.0 -0.7**
APA *i* *PP pP 12 46 24.0 +0.3
APA *i* S S 12 55 40.0 +2.2
APA pmax pmax
comp=Z,24nm,0.8s,mb5.2
APA MLR MLR
comp=Z,8μm,15.0s,MS6.1
SUW Suwalki 72.31 325 *e*P **P 12 46 16.5 -1.2**
SUW *e*pP pP 12 46 22.6 -2.1
SUW *e*PcP PcP 12 46 33.7 -2.0
SUW *e*S S 12 55 34.4 -5.3
SUW *e*SKS 12 56 09.8
SUW L 13 21 22.3
comp=Z,4.5nm,21.7s
SUW Suwalki 72.31 325 *e*P **P 12 46 16.5 -1.2**
SUW *e*pP pP 12 46 22.6 -2.1
SUW *e*PcP PcP 12 46 33.7 -2.0
SUW *e*S S 12 55 34.4 -5.3
SUW *e*SKS 12 56 09.8
CRVS Cervenica-Dubn 72.35 319 *e*P **P 12 46 21.2 +3.2**
CRVS pmax pmax
comp=Z,69nm,1.5s,mb5.4
CRVS Cervenica-Dubn 72.35 319 *e*P **P 12 46 21.2 +3.2**
comp=Z,69nm,1.5s,mb5.4
CRVS *e* 12 46 24.6
LBTB Lobatse 72.36 241 P **P 12 46 18.3 +0.3**
comp=Z,35nm,0.9s,mb5.3,baz=92,slow=5.1,SNR=12
PVY Plav 72.47 312 ⇑*i*P **P 12 46 18.4 -0.2**
IVA Berane 72.56 313 ⇑*i*P **P 12 46 18.8 -0.4**
STHS Stebnicka Huta 72.58 320 *e*P **P 12 46 20.2 +0.9**
STHS *e*pP pP 12 46 24.2 -2.1
STHS Stebnicka Huta 72.58 320 *e*P **P 12 46 20.2 +0.9**
STHS pmax pmax
comp=Z,41nm,0.9s,mb5.4
STHS Stebnicka Huta 72.58 320 *e*P **P 12 46 20.2 +0.9**
comp=Z,41nm,0.9s,mb5.4
STHS *e* 12 46 24.3
DIVS Divcibare 72.64 314 ⇓*i*P **P 12 46 19.2 -0.5**
FINES FINESS Array B 72.78 333 P **P 12 46 18.6 -1.9**
comp=Z,18nm,0.7s,mb5.1,baz=106,slow=6.8,SNR=46
FINES LR LR 13 21 07.6
comp=Z,7μm,20.5s,MS5.9,baz=300,slow=38
KAF Kangasniemi 72.88 333 *e*p **P 12 46 20.4 -0.7**
comp=Z,85nm,1.0s,mb5.6,baz=107,slow=5.6
KAF Kangasniemi 72.88 333 *e*P **P 12 46 20.4 -0.7**
KAF pmax pmax
comp=Z,85nm,1.0s,mb5.6
KECS Kecovo 72.92 319 *i* P **P 12 46 21.0 -0.3**
KECS pmax pmax
comp=Z,20nm,1.3s,mb4.9
KECS Kecovo 72.92 319 *i* P **P 12 46 21.0 -0.3**
comp=Z,20nm,1.3s,mb4.9
ULC Ulcinj 72.94 312 ⇑*i*P **P 12 46 20.5 -1.0**
TTG Podgorica 72.98 312 ⇑*i*P **P 12 46 20.0 -1.7**
PLE Pljevlja 72.98 313 ⇑*i*P **P 12 46 21.9 +0.2**
NIE Niedzica 73.18 319 *e*P **P 12 46 24.0 +1.1**
NKY Niksic 73.21 313 ⇑*i*P **P 12 46 22.2 -0.8**
WAR Warsaw 73.22 322 *e*P **P 12 46 23.2 +0.1**
WAR *e*pP pP 12 46 30.0 -0.1
WAR *e*S S 12 55 52.4 +2.3
WAR L 13 23 42.4
comp=Z,4.5nm,20.5s
WAR Warsaw 73.22 322 *e*P **P 12 46 23.2 +0.1**
WAR *e*pP pP 12 46 30.0 -0.1
WAR *e*S S 12 55 52.4 +2.3
PSZ Piszkesteto 73.23 318 ⇑*e*P **P 12 46 23.1 -0.1**
PSZ Piszkesteto 73.23 318 ⇓*i*P **P 12 46 23.4 +0.2**
PSZ Piszkesteto 73.23 318 *e*P **P 12 46 23.0 -0.2**
comp=Z,301nm,2.0s,mb5.9
PSZ *e*pP pP 12 46 28.4 -1.7
BUM Brajici-Budva 73.23 312 ⇑*i*P **P 12 46 22.3 -0.8**
MIR Mirnyy 73.30 180*d i*P **P 12 46 25.5 +1.9**
MIR *e*PPP 12 49 07.0
MIR *e* 12 56 20.0
MIR pmax pmax
comp=Z,370nm,1.5s,mb6.1
MIR pmax pmax
comp=Z,4μm,15.0s
MIR MLR MLR
comp=Z,8μm,17.0s,MS6.1
MIR MLR MLR
comp=N,4μm,17.0s,MS5.7
MIR MLR MLR
comp=E,1μm,18.0s,MS5.7
UPM Unac-Piva 73.32 313 ⇑*i*P **P 12 46 23.2 -0.4**
HCY Herceg Novi 73.54 312 ⇑*i*P **P 12 46 24.6 -0.4**
BRY Bratogost 73.55 313 ⇑*i*P **P 12 46 24.1 -1.0**
OJC Ojcow 73.64 320 *e*P **P 12 46 25.3 -0.3**
OJC *e*pP pP 12 46 34.8 +2.2
OJC *e*PP PP 12 49 12.1 +2.3
OJC *e*S S 12 55 55.8 +1.0
OJC L 13 26 23.3
comp=E,17nm,20.5s
OJC Ojcow 73.64 320 *e*P **P 12 46 25.3 -0.3**
OJC *e*pP pP 12 46 34.8 +2.2
OJC *e*PP PP 12 49 12.1 +2.3
OJC *e*S S 12 55 55.8 +1.0
BOSA Boshof 73.70 238 P **P 12 46 26.9 +0.9**
comp=E,35nm,0.9s,mb5.3,baz=74,slow=5.4,SNR=9.6
BOSA LR LR 13 14 00.7
comp=E,9μm,19.5s,MS6.1,baz=63,slow=32
BOSA Boshof 73.70 238 *e*P **P 12 46 26.6 +0.7**
BOSA pmax pmax
comp=Z,141nm,1.5s,mb5.7
BOSA Boshof 73.70 238 *e*P **P 12 46 26.6 +0.6**
comp=Z,141nm,1.5s,mb5.7
BUD Budapest 73.75 317 *e*P **P 12 46 30.2 +4.0**
PKSM Moragy 73.85 316 ⇓*i*P **P 12 46 26.7 -0.1**
PKSM Moragy 73.85 316 P **P 12 46 26.3 -0.5**
VYHS Vyhne 74.01 318 *e*P **P 12 46 26.6 -1.1**
VYHS *e* pP 12 46 33.4 -1.3
VYHS pmax pmax
comp=Z,55nm,1.8s,mb5.2
VYHS Vyhne 74.01 318 *e*P **P 12 46 26.6 -1.1**
comp=Z,55nm,1.8s,mb5.2
VYHS *e* pP 12 46 33.4 -1.3
STON Ston 74.17 312 *i* P **P 12 46 25.2 -3.5**
CASY Casey 74.21 173 *e*P **P 12 46 28.7 -0.2**
CASY LR LR
comp=Z,6μm,19.0s,MS5.9
KOLL Kolacno 74.31 318 *e*P **P 12 46 29.0 -0.5**
KOLL *e*sP sP 12 46 35.8 -3.2
SRO1 Iza 74.32 318 *e*P **P 12 46 30.7 +1.2**
TIP Timpagrande 74.59 309 *e*P **P 12 46 31.2 +0.1**
OKC Ostrava-Krasne 74.64 320 *e*P **P 12 46 31.5 +0.1**
OKC *e*S S 12 56 09.4 +3.4
OKC *e*SS SS 13 01 00.1 +6.8
OKC AMS AMS 13 29 10.0
comp=Z,3μm,17.5s
OKC Ostrava-Krasne 74.64 320 *e*P **P 12 46 31.5 +0.1**
OKC *e*S S 12 56 09.4 +3.4
OKC *e*SS SS 13 01 00.1 +6.8
RAC Raciborz 74.64 320 *e*P **P 12 46 32.2 +0.8**
RAC *e*S S 12 56 05.5 -0.5
RAC L 13 25 24.1
comp=Z,2.4nm,18.3s
GRI Girifalco 74.83 308 P **P 12 46 33.1 +0.6**
MORC Moravsky Berou 75.02 320 ⇓*i*P **P 12 46 34.0 +0.4**
MORC Moravsky Berou 75.02 320 *e*P **P 12 46 33.6 0.0**
comp=Z,287nm,2.0s,mb5.9
SOI Samo 75.08 307 P **P 12 46 34.4 +0.4**
SOI pmax pmax
comp=Z,276nm,2.3s,mb5.8
SOI Samo 75.08 307 P **P 12 46 34.4 +0.4**
comp=Z,276nm,2.3s,mb5.8
ZST Bratislava 75.12 318 *e*P **P 12 46 33.7 -0.5**
ZST *e* pP 12 46 40.7 -0.5
ZST pmax pmax
comp=Z,73nm,1.1s,mb5.5
ZST Bratislava 75.12 318 *e*P **P 12 46 33.7 -0.5**
comp=Z,73nm,1.1s,mb5.5
ZST *e* pP 12 46 40.7 -0.5
KEV Kevo 75.17 341 *e*P **P 12 46 33.7 -0.8**
KEV *e**PP pP 12 46 39.6 -1.9
KEV pmax pmax
comp=Z,57nm,1.0s,mb5.5
KEV Kevo 75.17 341 *e*P **P 12 46 33.7 -0.8**
comp=Z,57nm,1.0s,mb5.5
KEV *e*pP pP 12 46 39.6 -1.9
PTRP Pietrapertosa 75.21 310 P **P 12 46 35.6 +0.9**
comp=Z,186nm,4.7s
CEL Celeste 75.22 308 P **P 12 46 35.7 +1.0**
comp=Z,133nm,1.5s,mb5.7
SISC Sisak 75.35 315 iP **P 12 46 34.7 -0.9**
SCLL Scilla 75.36 308 P **P 12 46 36.0 +0.5**
comp=Z,169nm,2.2s,mb5.6
CUC Castrocucco 75.37 309 P **P 12 46 34.5 -1.1**
comp=Z,223nm,1.8s,mb5.8
SOP Sopron 75.43 317 ⇑*e*P **P 12 46 35.9 -0.1**
VRAC Vranov 75.58 319 ⇓*i*P **P 12 46 42.3 +5.5**
ARCES ARCESS Array B 75.59 340 P **P 12 46 36.0 -0.9**
comp=Z,20nm,0.9s,mb5.1,baz=90,slow=4.6,SNR=23
ARCES ARCESS Array B 75.59 340 P **P 12 46 36.0 -0.9**
GKP Gorka Klasztor 75.66 323 *e*P **P 12 46 37.3 0.0**
GKP *e*pP pP 12 46 42.4 -1.9
GKP *e*S S 12 56 20.0 +2.6
GKP L 13 23 50.9
comp=Z,4.6nm,21.3s
GKP Gorka Klasztor 75.66 323 *e*P **P 12 46 37.3 0.0**
GKP *e*pP pP 12 46 42.4 -1.9
GKP *e*S S 12 56 20.0 +2.6
MRLC Muro Lucano 75.66 310 P **P 12 46 36.7 -0.6**
comp=Z,234nm,2.5s,mb5.7
SSY Sortino 75.82 306 P **P 12 46 38.6 +0.4**
comp=Z,282nm,2.2s,mb5.8
DPC Dobruska-Polom 75.86 320 *e*P **P 12 46 39.1 +0.6**
DPC *e*S S 12 56 24.1 +4.4
DPC *e*x x 13 01 34.9
DPC AMS AMS 13 24 10.0
comp=Z,4μm,22.6s
DPC Dobruska-Polom 75.86 320 *e*P **P 12 46 39.1 +0.6**
DPC *e*S S 12 56 24.1 +4.4
DPC Dobruska-Polom 75.86 320 *e*P **P 12 46 39.1 +0.6**
DPC *e*S S 12 56 24.1 +4.4
DPC *e*SS SS 13 01 34.9 +23
CONA Conrad Observa 75.92 318 ⇑*i*P **P 12 46 38.1 -0.7**
comp=Z,440nm,3.0s,mb5.9
KSP Ksiaz 75.94 321 ⇑*e*P **P 12 46 39.2 +0.3**
KSP *e**PP pP 12 46 44.8 -1.1
KSP *e*S S 12 56 17.0 -3.5
GROS Grobnik 76.04 316 *e*P **P 12 46 39.0 -0.4**
HMDC Modica 76.05 306 P **P 12 46 39.8 +0.3**
UPC Upice 76.08 320 *e*P **P 12 46 39.6 -0.1**
ARSA Arzberg 76.09 317 ⇓*i*P **P 12 46 39.6 -0.2**
comp=Z,764nm,2.5s,mb6.2,SNR=17
HVZN Vizzini 76.11 306 P **P 12 46 40.5 +0.7**
comp=Z,121nm,1.2s,mb5.7
BOJS Bojanci 76.14 315 *e*P **P 12 46 39.7 -0.4**
BOJS *e* 12 46 50.6
BOJS *e*S S 12 56 18.2 -4.4
KTK1 Kautokeino 76.19 340 *e*P **P 12 46 39.8 -0.5**
KTK1 AMb AMB 12 46 50.0
comp=Z,141nm,1.7s,mb5.6
KTK1 Kautokeino 76.19 340 *e*P **P 12 46 39.8 -0.5**
comp=Z,141nm,1.7s,mb5.6
TREC Trest 76.30 319 *e*P **P 12 46 41.3 +0.4**
TREC *e*S S 12 56 28.8 +4.4
TREC *e*x x 13 01 54.3
TREC AMS AMS 13 25 20.0
comp=Z,3μm,21.5s
TREC Trest 76.30 319 *e*P **P 12 46 41.3 +0.4**
TREC *e*S S 12 56 28.8 +4.4
TREC MLR MLR
comp=Z,3μm,21.5s,MS5.5
PERS Pernice 76.32 316 *e*P **P 12 46 41.1 +0.1**
PERS *i* 12 46 51.8
PERS *e*S S 12 56 28.1 +3.4
NVLJ Novalja 76.34 314 *i* P **P 12 46 37.5 -3.7**
MIDA Miranda 76.64 311 P **P 12 46 42.0 -0.8**
comp=Z,536nm,4.6s
LJU Ljubljana 76.68 316 *e*P **P 12 46 43.2 +0.1**
LJU *e* pP 12 46 50.8 +0.7
LJU *e* 12 47 20.8
LJU *e*S S 12 56 30.3 +1.6
LJU Ljubljana 76.68 316 *e*P **P 12 46 43.2 +0.1**
LJU *e* pP 12 46 50.8 +0.7
LJU *e*S S 12 56 30.3 +1.7
OBKA Obir 76.70 316 ⇑*i*P **P 12 46 42.9 -0.3**
comp=Z,878nm,2.6s,mb6.2,SNR=14
CEY Cerknica 76.73 315 *e*P **P 12 46 43.0 -0.4**
CEY *e*S S 12 56 28.1 -1.1
KNDS Knezji Dol 76.75 315 *e*P **P 12 46 42.5 -1.0**
INTR Introdacqua 76.91 311 P **P 12 46 42.8 -1.6**
comp=Z,283nm,2.4s,mb5.8
PRU Pruhonice 76.97 320 *e*P **P 12 46 44.0 -0.7**
MOA Molln 76.99 317 ⇑*i*P **P 12 46 44.3 -0.5**
comp=Z,570nm,4.0s,SNR=11
JAVS Javornik 77.00 315 *e*P **P 12 46 44.6 -0.3**
JAVS *e* pP 12 46 52.3 +0.4
PVCC Panska Ves 77.00 320 *e*P **P 12 46 45.3 +0.4**
PVCC *e*S S 12 56 31.9 -0.2
PVCC *e*SS SS 13 01 24.8 -4.3
PVCC AMS AMS 13 25 20.0
PVCC Panska Ves 77.00 320 *e*P **P 12 46 45.3 +0.4**
PVCC *e*S S 12 56 31.9 -0.2
PVCC *e*SS SS 13 01 24.8 -4.3
PRA Prague 77.05 320 P **P 12 46 46.0 +0.8**
PRA pP pP 12 46 53.0 +0.8
VOY Vojsko 77.12 316 *e*P **P 12 46 44.5 -1.1**
VOY *e* pP 12 46 50.7 -1.9
VOY *e* 12 47 21.7
TERO Teramo 77.16 312 P **P 12 46 45.1 -0.7**
comp=Z,70nm,1.7s,mb5.3
CADS Cadrg 77.24 316 *i* P **P 12 46 45.5 -0.8**
MAW Mawson 77.30 191 *e*P **P 12 46 46.4 -0.2**
comp=Z,17nm,1.1s,mb4.9
MAW *e*S S 12 56 41.3 +6.0
MAW Mawson 77.30 191 P **P 12 46 45.9 -0.7**
comp=Z,13nm,0.8s,mb4.9,baz=21,slow=7.0,SNR=28
MAW LR LR 13 15 14.7
comp=Z,4μm,18.4s,MS5.8,baz=25,slow=31
AQU L'Aquila 77.30 312 P **P 12 46 46.4 -0.2**
CLTB Caltabellotta 77.31 307 P **P 12 46 47.5 +0.9**
comp=Z,40nm,0.6s,mb5.5
BRG Berggiesshubel 77.42 320 *e*P **P 12 46 47.3 0.0**
comp=Z,107nm,1.5s,mb5.5
BRG Berggiesshubel 77.42 320 *e*P **P 12 46 47.5 +0.2**
comp=Z,85nm,1.9s,mb5.3
BRG *i* pP 12 46 53.2 -1.1
comp=Z,64nm,1.5s
BRG *i* 12 47 24.8
comp=Z,62nm,1.8s
BRG PP PP 12 49 38.0 -3.8
BRG SKS 12 56 40.0
BRG S ScS 12 57 08.0 +3.9
BRG SS SS 13 01 39.0 +3.5
BRG
comp=N,2μm,17.5s
BRG
comp=E,2μm,16.7s
BRG
comp=Z,2μm,16.6s
BRG Berggiesshubel 77.42 320 *e*P **P 12 46 47.5 +0.2**
BRG *i* pP 12 46 53.2 -1.1
BRG 12 49 38.0
BRG 12 56 40.0
BRG S ScS 12 57 08.0 +3.9
BRG SS SS 13 01 39.0 +3.5
BRG pmax pmax
comp=Z,85nm,1.9s,mb5.3
BRG MLR MLR
comp=N,2μm,17.5s,MS5.7
BRG MLR MLR
comp=E,2μm,16.7s,MS5.7
BRG MLR MLR
comp=Z,2μm,16.6s,MS5.6
BRG Berggiesshubel 77.42 320 *e*P **P 12 46 47.5 +0.2**
comp=Z,85nm,1.9s,mb5.3
BRG *i* pP 12 46 53.2 -1.1
BRG *i* 12 47 24.8
BRG PP PP 12 49 38.0 -3.8
BRG SKS 12 56 40.0
BRG S ScS 12 57 08.0 +3.9
BRG SS SS 13 01 39.0 +3.5
GEC2 GERESS Array S 77.43 318 *e*P **P 12 46 47.5 +0.2**
comp=Z,155nm,1.5s,mb5.7
GEC2 GERESS Array S 77.43 318 *e*P **P 12 46 47.5 +0.2**
GEC2 pmax pmax
comp=Z,155nm,1.5s,mb5.7
GERES GERESS Array B 77.43 318 P **P 12 46 47.2 -0.1**
comp=Z,12nm,0.7s,mb4.9,baz=93,slow=5.3,SNR=58
GERES LR LR 13 26 44.3
comp=Z,3μm,20.1s,MS5.6,baz=270,slow=40
CING Cingoli 77.49 313 P **P 12 46 47.5 -0.1**
comp=Z,209nm,2.7s,mb5.6
FIAM Fiamignano 77.51 312 P **P 12 46 47.6 -0.1**
comp=Z,118nm,1.6s,mb5.6
PTCC Patocco-Chiusa 77.52 316 P **P 12 46 47.2 -0.6**
comp=Z,242nm,1.8s,mb5.8
KHC Kasperske Hory 77.53 319 *e*P **P 12 46 47.2 -0.7**
KHC pP pP 12 46 55.5 +0.6
KHC *e*S S 12 56 42.1 +4.2
KHC *e*SS SS 13 01 47.5 +10
KHC AMS AMS 13 26 10.0
comp=Z,3μm,18.2s
KHC Kasperske Hory 77.53 319 *e*P **P 12 46 47.2 -0.7**
KHC *e* pP 12 46 55.5 +0.6
KHC *e*S S 12 56 42.1 +4.2
KHC Kasperske Hory 77.53 319 *e*P **P 12 46 47.2 -0.7**
KHC *e* pP 12 46 55.5 +0.6
KHC *e*S S 12 56 42.1 +4.2
KHC *e*SS SS 13 01 47.5 +10
BILL Bilibino 77.56 22 *e*P **P 12 46 47.5 -0.5**
BILL *e**PP pP 12 46 53.4 -1.7
BILL pmax pmax
comp=Z,65nm,1.2s,mb5.4
BILL Bilibino 77.56 22 *e*P **P 12 46 47.5 -0.5**
comp=Z,65nm,1.2s,mb5.4
BILL *e*pP pP 12 46 53.4 -1.6
KBA Koelnbreinsper 77.56 317 ⇓*i*P **P 12 46 47.3 -0.7**
comp=Z,325nm,3.1s,SNR=10
KBA Koelnbreinsper 77.56 317 ⇓*i*P **P 12 46 47.3 -0.7**
KBA pmax pmax
comp=Z,325nm,3.1s
GMNA Gemona 77.59 316 P **P 12 46 48.8 +0.6**
comp=Z,297nm,0.9s,mb6.2
RUE Ruedersdorf 77.65 322 *e*P **P 12 46 48.2 -0.4**
comp=Z,108nm,1.1s,mb5.7
ARV Arcevia 77.68 313 P **P 12 46 48.6 -0.1**
ARV pmax pmax

comp=Z,295nm,2.0s,mb5.9
ARV Arcevia 77.68 313 P **P 12 46 48.6 -0.1**
comp=Z,295nm,2.0s,mb5.9
NOUC Port Laguerre 77.78 114 *e*P **P 12 46 46.2 -3.1**
FBE Freiberg 77.80 321 *e*P **P 12 46 49.4 0.0**
comp=Z,260nm,1.9s,mb5.8
TRO Tromso 77.83 340 *e*P **P 12 46 47.5 -2.1**
TRO AMb AMB 12 46 58.5
comp=Z,135nm,1.2s,mb5.8
TRO *e*S S 12 56 41.8 +0.6
TRO AMS AMS 13 23 39.2
comp=Z,5µm,17.1s,MS5.9
TRO Tromso 77.83 340 *e*P **P 12 46 47.5 -2.1**
TRO pmax pmax
comp=Z,135nm,1.2s,mb5.8
TRO MLR MLR
comp=Z,5µm,17.1s,MS5.9
TRO Tromso 77.83 340 *e*P **P 12 46 47.5 -2.1**
comp=Z,135nm,1.2s,mb5.8
TRO LR LR
comp=Z,5µm,17.1s,MS5.9
DZM Mont Dzumac 77.90 114 P **P 12 46 50.1 +0.2**
comp=Z,13nm,1.1s,mb4.8,baz=52,slow=3.3,SNR=3.9
DZM LR LR 13 23 53.6
comp=Z,4µm,19.2s,MS5.7,baz=286,slow=38
WET Wettzell 77.99 319 *e*P **P 12 46 50.6 +0.2**
comp=Z,48nm,1.1s,mb5.3
WET Wettzell 77.99 319 *e*P **P 12 46 50.6 +0.2**
WET pmax pmax
comp=Z,48nm,1.1s,mb5.3
CLL Collm 78.05 321⇑ *i*P **P 12 46 50.3 -0.4**
comp=Z,78nm,1.4s,mb5.5
CLL *e*PP PP 12 49 44.1 -2.9
CLL *e*PPP 12 51 33.2
CLL *e*S S 12 56 45.7 +2.3
CLL *e*ScS ScS 12 57 09.5 +0.3
CLL *e*PPS 12 57 37.4
CLL *e*SSS 13 05 13.3
CLL *e*L 13 27 57.0
comp=Z,4µm,18.0s
CLL Collm 78.05 321⇑ *i*P **P 12 46 50.4 -0.3**
comp=Z,114nm,2.0s,mb5.5
CLL *i* pP pP 12 46 54.8 -3.0
CLL *i* sP sP 12 46 56.1 -4.2
CLL *i* x x 12 47 01.2
CLL *e*x x 12 47 16.0
CLL *e*PP PP 12 49 44.0 -3.0
CLL *e*PPP 12 51 29.0
CLL *e*PPPP 12 52 48.0
CLL *e*S S 12 56 44.0 +0.6
CLL *e*ScS ScS 12 57 09.0 -0.2
CLL *e*PS 12 57 27.0
CLL *e*SS SS 13 01 58.0 +13
CLL *e*SSS 13 05 16.0
CLL Collm 78.05 321⇑ *i*P **P 12 46 50.4 -0.3**
CLL *i* pP 12 46 56.1 -1.7
CLL *e*S S 12 56 37.0 -6.4
CLL pmax pmax
comp=Z,114nm,2.0s,mb5.5
CLL MLR MLR
comp=Z,5µm,13.8s,MS6.0
CLL Collm 78.05 321⇑ *i*P **P 12 46 50.4 -0.3**
comp=Z,114nm,2.0s,mb5.5
CLL *i* 12 46 54.8
CLL *i* pP 12 46 56.1 -1.7
CLL *e*S S 12 56 37.0 -6.4
CLL LR LR
comp=Z,5µm,13.8s,MS6.0
RSM Repubblica di 78.05 313 P **P 12 46 51.5 +0.7**
RSM pmax pmax
comp=Z,153nm,1.1s,mb5.8
RSM Repubblica di 78.05 313 P **P 12 46 51.5 +0.7**
comp=Z,153nm,1.1s,mb5.8
RGN Rugen 78.10 324 *e*P **P 12 46 50.8 -0.2**
comp=Z,247nm,2.1s,mb5.8
TSUM Tsumeb 78.16 249 P **P 12 46 53.1 +1.7**
comp=Z,11nm,0.9s,mb4.8,baz=94,slow=3.8,SNR=16
TSUM Tsumeb 78.16 249 *e*P **P 12 46 53.2 +1.8**
comp=Z,13nm,0.9s,mb4.8
BADI Badiali 78.19 313 P **P 12 46 51.8 +0.3**
TOLF Tolfa 78.33 311 P **P 12 46 51.3 -1.0**
comp=Z,293nm,2.7s,mb5.7
NKC Novy Kostel 78.33 320 *e*P **P 12 46 52.9 +0.6**
NKC *e*S S 12 56 51.7 +5.2
NKC *e*x x 13 02 07.1
NKC AMS AMS 13 31 20.0
comp=Z,4µm,14.1s
NKC Novy Kostel 78.33 320 *e*P **P 12 46 52.9 +0.6**
NKC *e*S S 12 56 51.7 +5.2
NKC Novy Kostel 78.33 320 *e*P **P 12 46 52.9 +0.6**
NKC *e*S S 12 56 51.7 +5.2
NKC *e*SS SS 13 02 07.1 +18
TANN Tannenbergstha 78.33 320 *e*P **P 12 46 52.2 -0.1**
CRE Caprese Michel 78.40 313 P **P 12 46 52.7 0.0**
CRE pmax pmax
comp=Z,254nm,2.2s,mb5.8
CRE Caprese Michel 78.40 313 P **P 12 46 52.7 0.0**
comp=Z,254nm,2.2s,mb5.8
WERD Werda 78.43 320 *e*P **P 12 46 52.7 -0.2**
comp=Z,56nm,1.4s,mb5.3
SUR Sutherland 78.45 235 P **P 12 46 54.4 +1.4**
comp=Z,34nm,0.8s,mb5.3,baz=61,slow=5.3,SNR=10
SUR Sutherland 78.45 235 *e*P **P 12 46 54.7 +1.7**
comp=Z,117nm,1.4s,mb5.6
ROTZ Rotzenmuhle 78.46 319 *e*P **P 12 46 53.5 +0.5**
comp=Z,108nm,1.4s,mb5.6
SFI Santa Sofia 78.49 313 P **P 12 46 53.8 +0.6**
MANZ Manzenberg 78.54 320 *e*P **P 12 46 54.0 +0.5**
comp=Z,91nm,1.2s,mb5.6
BRES Bressanone 78.65 316 P **P 12 46 53.5 -0.6**
CTI Castel Tesino 78.69 315 P **P 12 46 54.4 +0.1**
CTI pmax pmax
comp=Z,135nm,1.2s,mb5.8
CTI Castel Tesino 78.69 315 P **P 12 46 54.4 +0.1**
comp=Z,135nm,1.2s,mb5.8
COP Copenhagen 78.70 325 *i* P **P 12 46 55.8 +1.5**
comp=Z,57nm,1.2s,mb5.4
COP *i* S S 12 56 52.4 +2.0
COP *i* 12 57 45.2
COP
comp=Z,850nm,16.0s
COP Copenhagen 78.70 325 *i* P **P 12 46 55.8 +1.5**
COP *i* S S 12 56 52.4 +2.0
COP *i* 12 57 45.2
COP pmax pmax
comp=Z,57nm,1.2s,mb5.4
COP MLR MLR
comp=Z,860nm,16.0s,MS5.2
VMG Vicchio 78.71 313 P **P 12 46 54.5 +0.1**
comp=Z,326nm,1.0s,mb6.2
WTTA Wattenberg 78.73 317⇑ *i*P **P 12 46 53.6 -0.9**
comp=Z,589nm,2.8s,mb6.0,SNR=18
WTTA Wattenberg 78.73 317⇑ *i*P **P 12 46 53.6 -0.9**
WTTA pmax pmax
comp=Z,589nm,2.8s,mb6.0
WATA Walderalm 78.78 317⇑ *i*P **P 12 46 53.4 -1.4**
comp=Z,114nm,1.7s,mb5.5
WATA Walderalm 78.78 317⇑ *i*P **P 12 46 53.4 -1.4**
WATA pmax pmax
comp=Z,114nm,1.7s,mb5.5
SEI Scarperia 78.84 313 P **P 12 46 57.1 +2.0**
MOR8 Moi Rana 78.86 336 *e*P **P 12 46 53.5 -1.8**
MOR8 *e*pP pP 12 46 58.5 -3.7
MOR8 AMb AMB 12 47 03.1
comp=Z,94nm,2.0s,mb5.4
MOR8 Moi Rana 78.86 336 *e*P **P 12 46 53.5 -1.8**
comp=Z,94nm,2.0s,mb5.4
MOX Moxa 78.88 320 *e*P **P 12 46 55.3 -0.1**
comp=Z,66nm,1.5s,mb5.3
MOX Moxa 78.88 320 *e*P **P 12 46 55.2 -0.2**
comp=Z,168nm,2.0s,mb5.6
MOX *e* 12 50 03.5
MOX
comp=Z,2µm,18.0s
MOX Moxa 78.88 320 *e*P **P 12 46 55.2 -0.2**
comp=Z,168nm,2.0s,mb5.6
MOX *e* 12 50 03.5
BJO Bjornoya 78.92 345 *e*P **P 12 46 53.6 -2.0**
BJO AMS AMS 13 26 45.0
comp=Z,4µm,16.9s,MS5.9
BJO1 Bjornoya 78.96 345 *e*P **P 12 46 53.6 -2.2**
BJO1 LR LR
comp=Z,4µm,16.9s,MS5.9
MAON Monte Argentar 78.98 312 P **P 12 46 54.7 -1.2**
comp=Z,200nm,2.0s,mb5.7

FUR Furstenfeldbru 79.01 318 *e*P **P 12 46 55.6 -0.4**
comp=Z,100nm,1.2s,mb5.6
FUR Furstenfeldbru 79.01 318 *e*P **P 12 46 55.6 -0.4**
FUR pmax pmax
comp=Z,100nm,1.2s,mb5.6
FNVD Fontana Vidola 79.01 314 P **P 12 46 57.0 +0.9**
comp=Z,676nm,2.3s,mb6.2
SQTA Sankt Quirin 79.02 317⇓ *i*P **P 12 46 54.3 -1.9**
comp=Z,195nm,1.8s,mb5.7,SNR=12
SQTA Sankt Quirin 79.02 317⇓ *i*P **P 12 46 54.3 -1.8**
SQTA pmax pmax
comp=Z,195nm,1.8s,mb5.7
GRA1 Grafenberg Arr 79.10 319 *e*P **P 12 46 56.9 +0.4**
comp=Z,86nm,1.0s,mb5.6
GRA1 *e*pP pP 12 47 02.3 -1.3
GRA1 *e*PP PP 12 50 05.4 +10
GRA1 *e*S S 12 56 58.0 +3.3
GRA1 *e*SS SS 13 02 18.1 +17
GRA1 *e*SSS 13 05 44.5
GRF Grafenberg Arr 79.10 319 *e*P **P 12 46 56.9 +0.4**
comp=Z,86nm,1.0s,mb5.6
GRF *e*pP pP 12 47 02.3 -1.3
GRF *e*PP PP 12 50 05.4 +10
GRF *e*S S 12 56 58.0 +3.3
GRF *e*SS SS 13 02 18.1 +17
GRF *e*SSS 13 05 44.5
GRF *e*L 13 28 36.5
comp=Z,3µm,20.0s
GRF Grafenberg Arr 79.10 319 *e*P **P 12 46 56.9 +0.4**
GRF *e**PP pP 12 47 02.3 -1.3
GRF *e*S S 12 56 58.0 +3.3
GRF pmax pmax
comp=Z,86nm,1.0s,mb5.6
MOTA Moosalm 79.10 317⇑ *i*P **P 12 46 54.1 -2.4**
comp=Z,72nm,1.1s,mb5.5,SNR=22
MOTA Moosalm 79.10 317⇑ *i*P **P 12 46 54.1 -2.4**
MOTA pmax pmax
comp=Z,72nm,1.1s,mb5.5
GRFL Gerfalco 79.11 313 P **P 12 46 55.3 -1.3**
comp=Z,42nm,1.0s,mb5.3
ZCCA Zocca 79.12 314 P **P 12 46 57.7 +1.0**
comp=Z,146nm,0.9s,mb5.9
BDI Bagni Di Lucca 79.39 313 P **P 12 46 57.0 -1.1**
GSCL Gusciola 79.40 314 P **P 12 46 58.8 +0.6**
comp=Z,581nm,2.1s,mb6.1
SMY Shemya 79.44 38 *e*P **P 12 46 58.6 +0.2**
SMY pmax pmax
comp=Z,81nm,0.8s,mb5.7
SMY MLR MLR
comp=Z,5µm,22.0s,MS5.8
SMY Shemya 79.44 38 *e*P **P 12 46 58.6 +0.2**
comp=Z,81nm,0.8s,mb5.7
SMY LR LR
comp=Z,5µm,22.0s,MS5.8
VLC Villacollemand 79.54 314 *e*P **P 12 46 59.1 +0.1**
comp=Z,41nm,1.1s,mb5.3
BRMO Bormio 79.58 316 P **P 12 46 58.9 -0.3**
comp=Z,110nm,1.6s,mb5.5
NSS Namsos 79.69 334 *e*P **P 12 46 56.7 -3.1**
NSS AMb AMB 12 47 07.1
comp=Z,116nm,2.2s,mb5.4
NSS *e*S S 12 57 01.5 +0.5
NSS AMS AMS 13 31 33.6
comp=Z,4µm,16.4s,MS5.9
NSS Namsos 79.69 334 *e*P **P 12 46 56.7 -3.1**
comp=Z,116nm,2.2s,mb5.4
NSS LR LR
comp=Z,4µm,16.4s,MS5.9
CLZ Clausthal 79.71 321 *e*P **P 12 46 59.7 -0.2**
comp=Z,56nm,1.1s,mb5.4
CLZ *e*pP pP 12 47 05.7 -1.2
CLZ Clausthal 79.71 321 *e*P **P 12 46 59.7 -0.2**
CLZ *e**PP pP 12 47 05.7 -1.2
CLZ pmax pmax
comp=Z,56nm,1.1s,mb5.4
NB2 NORSAR Subarra 79.74 331 P **P 12 46 57.9 -2.1**
comp=Z,8.5nm,0.9s,mb4.7,baz=96,slow=5.6
NB2 NORSAR Subarra 79.74 331 P **P 12 46 57.9 -2.1**
NB2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
NOA NORSAR Array B 79.74 331 P **P 12 46 58.2 -1.8**
comp=Z,9.9nm,0.9s,mb4.7,baz=94,slow=5.5,SNR=15
NOA LR LR 13 26 17.1
comp=Z,7µm,20.2s,MS6.0,baz=90,slow=39
BSEG Bad Segeberg 79.82 323 *e*P **P 12 47 00.2 -0.3**
comp=Z,84nm,1.1s,mb5.6
NAO01 NORSAR Array S 79.89 331 *e*P **P 12 47 00.4 -0.4**
comp=Z,24nm,1.0s,mb5.1
NRDL Niedersach Rie 79.90 322 *e*P **P 12 47 00.9 0.0**
comp=Z,283nm,2.1s,mb5.8
UBBA Unterbreizbach 79.92 320 *e*P **P 12 47 00.8 -0.2**
comp=Z,132nm,2.0s,mb5.5
DAVA Damuels 79.93 317⇑ *i*P **P 12 47 00.7 -0.4**
comp=Z,645nm,2.4s,mb6.1,SNR=18
BOB Bobbio (Coli) 80.22 314 P **P 12 47 02.4 -0.2**
BOB pmax pmax
comp=Z,525nm,2.6s,mb6.0
BOB Bobbio (Coli) 80.22 314 P **P 12 47 02.4 -0.2**
comp=Z,525nm,2.6s,mb6.0
TUE Stuetta 80.29 316 P **P 12 47 01.9 -1.1**
VSL Villasalto 80.32 309 *e*P **P 12 47 02.9 -0.3**
comp=Z,28nm,1.0s,mb5.2
STU Stuttgart 80.41 318 *e*P **P 12 47 03.4 -0.2**
comp=Z,157nm,1.8s,mb5.6
KONO Kongsberg 80.46 329 *e*P **P 12 47 04.5 +0.6**
KONO *e*S S 12 57 02.7 -6.4
KONO Kongsberg 80.46 329 *e*P **P 12 47 04.0 +0.1**
KONO pmax pmax
comp=Z,88nm,1.5s,mb5.5
KONO Kongsberg 80.46 329 *e*P **P 12 47 04.0 +0.1**
comp=Z,88nm,1.5s,mb5.5
PGF Pioggiola 80.56 312 *e*P **P 12 47 04.5 0.0**
comp=Z,350nm,1.8s,mb5.7
PGF Pioggiola 80.56 312 *e*P **P 12 47 04.5 0.0**
PGF pmax pmax
comp=Z,175nm,1.8s,mb5.7
PGF Pioggiola 80.56 312 *e*P **P 12 47 04.5 0.0**
comp=Z,175nm,1.8s,mb5.7
MUD Monsted U'grnd 80.56 326 *i* P **P 12 47 05.7 +1.2**
comp=Z,80nm,1.2s,mb5.5
MUD
comp=Z,3µm,18.0s
MUD Monsted U'grnd 80.56 326 *e*P **P 12 47 05.7 +1.2**
MUD pmax pmax
comp=Z,80nm,1.2s,mb5.5
MUD MLR MLR
comp=Z,3µm,18.0s,MS5.7
MUD Monsted U'grnd 80.56 326 *e*P **P 12 47 05.7 +1.2**
comp=Z,80nm,1.2s,mb5.5
TOD Tromm 80.67 319 *e*P **P 12 47 05.0 0.0**
VAI Varese 80.69 315 P **P 12 47 04.0 -1.2**
VAI pmax pmax
comp=Z,74nm,1.0s,mb5.6
VAI Varese 80.69 315 P **P 12 47 04.0 -1.2**
comp=Z,74nm,1.0s,mb5.6
DRV Dumont d'Urvil 80.97 163 P **P 12 47 06.0 -0.6**
DRV Dumont d'Urvil 80.97 163 PP PP 12 50 14.0 +2.7
DRV S S 12 57 15.0 +0.6
DRV SS SS 13 02 28.0 -0.6
DRV L 13 08 00.0
BFO Black Forest 80.98 318 *e*P **P 12 47 06.2 -0.5**
comp=Z,70nm,1.6s,mb5.3
BFO Black Forest 80.98 318 *e*P **P 12 47 06.2 -0.5**
BFO pmax pmax
comp=Z,70nm,1.6s,mb5.3
FIN Finale Ligure 81.11 314 P **P 12 47 07.1 -0.3**
FIN pmax pmax
comp=Z,74nm,0.8s,mb5.7
FIN Finale Ligure 81.11 314 P **P 12 47 07.1 -0.3**
comp=Z,74nm,0.8s,mb5.7
FELD Feldberg im Sc 81.20 317 *e*P **P 12 47 07.6 -0.3**
LANF Langenberg 81.32 318 *e*P **P 12 47 07.4 -1.1**
IBBN Ibbenburen 81.33 322 *e*P **P 12 47 08.4 -0.2**
comp=Z,52nm,1.0s,mb5.4
IMI Imperia 81.35 313 P **P 12 47 09.1 +0.4**
comp=Z,24nm,0.8s,mb5.2
KBS Kingsbay 81.42 349 *e*P **P 12 47 07.8 -1.3**
KBS AMb AMB 12 47 15.6
comp=Z,57nm,1.5s,mb5.3
KBS *e*S S 12 57 22.2 +3.1
KBS AMS AMS 13 28 43.5
comp=Z,4µm,21.4s,MS5.8
KBS Kingsbay 81.42 349 *i* P **P 12 47 08.4 -0.6**
KBS Kingsbay 81.42 349 *e*P **P 12 47 07.8 -1.2**
comp=Z,80nm,1.1s,mb5.6
LIBD Limburg 81.47 318 *e*P **P 12 47 09.2 -0.1**

BBS Basel-Blauen 81.54 317 *e*P **P 12 47 09.5 -0.2**
SAOF Saorge 81.59 313 *e*P **P 12 47 10.4 +0.5**
WLS Welschbruch 81.63 318 *e*P **P 12 47 09.7 -0.5**
BUG Bochum--Univer 81.64 321 *e*P **P 12 47 10.0 -0.2**
comp=Z,61nm,1.1s,mb5.4
SBF Sospel 81.68 313 *e*P **P 12 47 10.3 -0.1**
comp=Z,126nm,0.9s,mb5.5
SBF Sospel 81.68 313 *e*P **P 12 47 10.3 -0.1**
SBF pmax pmax
comp=Z,63nm,0.9s,mb5.5
SBF Sospel 81.68 313 *e*P **P 12 47 10.3 -0.1**
comp=Z,63nm,0.9s,mb5.5
CDF Champ du Feu 81.68 318 *e*P **P 12 47 10.0 -0.4**
comp=Z,269nm,1.8s,mb5.6
CDF Champ du Feu 81.68 318 *e*P **P 12 47 10.0 -0.4**
CDF pmax pmax
comp=Z,134nm,1.8s,mb5.6
CDF Champ du Feu 81.68 318 *e*P **P 12 47 10.0 -0.4**
comp=Z,134nm,1.8s,mb5.6
REVF Revere 81.73 313 *e*P **P 12 47 14.3 +3.6**
ECH Echery 81.76 318 *e*P **P 12 47 10.2 -0.7**
MOF Molkenrain 81.79 317 *e*P **P 12 47 10.7 -0.3**
RUP Ruppelstein 81.80 319 *e*P **P 12 47 11.4 +0.3**
TOUF Mont Tournerai 81.81 313 *e*P **P 12 47 11.8 +0.7**
MVIF Mont Vial 81.88 313 *e*P **P 12 47 08.1 -3.4**
ABSA Djebel Ababsia 81.93 306 P **P 12 47 14.5 +2.8**
WTSB Winterswijk 81.93 321 *e*P **P 12 47 11.5 -0.2**
comp=Z,63nm,2.2s,mb5.2
CMAH Djebel Manchou 81.96 306 P **P 12 47 13.0 +1.1**
HINF Hinteralfeld 81.98 317 *e*P **P 12 47 11.5 -0.5**
comp=Z,180nm,1.9s,mb5.4
HINF Hinteralfeld 81.98 317 *e*P **P 12 47 11.5 -0.5**
HINF pmax pmax
comp=Z,90nm,1.9s,mb5.4
HINF Hinteralfeld 81.98 317 *e*P **P 12 47 11.5 -0.5**
comp=Z,90nm,1.9s,mb5.4
LOMF Lomont 82.01 317 *e*P **P 12 47 10.9 -1.2**
BLS5 Blasjo 82.05 329 *e*P **P 12 47 13.3 +1.0**
SURF Saint Ours 82.10 314 *e*P **P 12 47 13.3 +0.6**
LPG La Plagne 82.11 315 *e*P **P 12 47 13.1 +0.4**
comp=Z,90nm,0.9s,mb5.4
LPG La Plagne 82.11 315 *e*P **P 12 47 13.1 +0.4**
LPG pmax pmax
comp=Z,45nm,0.9s,mb5.4
LPG La Plagne 82.11 315 *e*P **P 12 47 13.1 +0.4**
comp=Z,45nm,0.9s,mb5.4
MBDF Montbardon 82.13 314 *e*P **P 12 47 12.3 -0.5**
comp=Z,236nm,1.7s,mb5.5
MBDF Montbardon 82.13 314 *e*P **P 12 47 12.3 -0.5**
MBDF pmax pmax
comp=Z,118nm,1.7s,mb5.5
MBDF Montbardon 82.13 314 *e*P **P 12 47 12.3 -0.5**
comp=Z,118nm,1.7s,mb5.5
LPL La Plagne 82.13 315 *e*P **P 12 47 13.1 +0.3**
comp=Z,156nm,1.1s,mb5.6
LPL La Plagne 82.13 315 *e*P **P 12 47 13.1 +0.3**
LPL pmax pmax
comp=Z,78nm,1.1s,mb5.5
LPL La Plagne 82.13 315 *e*P **P 12 47 13.1 +0.3**
comp=Z,78nm,1.1s,mb5.5
BNI Bardonecchia 82.18 314 *e*P **P 12 47 12.7 -0.3**
BNI pmax pmax
comp=Z,54nm,0.9s,mb5.5
BNI Bardonecchia 82.18 314 *e*P **P 12 47 12.7 -0.3**
comp=Z,54nm,0.9s,mb5.5
FRF La Foret Royal 82.26 313 *e*P **P 12 47 13.6 +0.1**
comp=Z,550nm,1.9s,mb5.9
FRF La Foret Royal 82.26 313 *e*P **P 12 47 13.6 +0.1**
FRF pmax pmax
comp=Z,275nm,1.9s,mb5.9
FRF La Foret Royal 82.26 313 *e*P **P 12 47 13.6 +0.1**
comp=Z,275nm,1.9s,mb5.9
HAU Haudompre 82.31 317 *e*P **P 12 47 14.3 +0.6**
HAU *e*R
comp=Z,2µm,20.2s
HAU Haudompre 82.31 317 *e*P **P 12 47 14.3 +0.6**
HAU LR LR
comp=Z,2µm,20.3s,MS5.5
LMR La Mourre 82.37 313 *e*P **P 12 47 14.1 +0.1**
comp=Z,235nm,1.7s,mb5.5
LMR La Mourre 82.37 313 *e*P **P 12 47 14.1 +0.1**
LMR pmax pmax
comp=Z,117nm,1.7s,mb5.5
LMR La Mourre 82.37 313 *e*P **P 12 47 14.1 +0.1**
comp=Z,117nm,1.7s,mb5.5
WLF Walferdange 82.39 319 *e*P **P 12 47 14.4 +0.3**
comp=Z,183nm,1.9s,mb5.7
WLF Walferdange 82.39 319 P **P 12 47 14.2 +0.1**
WLF AP pP 12 47 20.6 -0.7
CAEH 'Ain El Ouahch 82.41 306 P **P 12 47 17.5 +3.3**
MEM Membach 82.46 320 P **P 12 47 14.6 +0.1**
HGN Heimansgroeve 82.50 320 *e*P **P 12 47 20.8 +6.1**
comp=Z,72nm,3.8s
HGN *e*PP PP 12 50 33.1 +9.1
HGN ⇑ *i*P 12 53 26.9
comp=Z,123nm,1.1s
HGN *e*S S 12 57 34.9 +4.7
HGN *e*SS SS 13 03 14.7 +23
comp=Z,11nm,1.1s
CKFL Kef-Lekhel 82.53 306 P **P 12 47 16.5 +1.6**
CABF La Chapelle 82.54 316 *e*P **P 12 47 15.2 +0.3**
comp=Z,446nm,1.9s,mb5.9
CABF La Chapelle 82.54 316 *e*P **P 12 47 15.2 +0.3**
CABF pmax pmax
comp=Z,223nm,1.9s,mb5.9
CABF La Chapelle 82.54 316 *e*P **P 12 47 15.2 +0.3**
comp=Z,223nm,1.9s,mb5.9
GDM Grand'Maison 82.57 315 *e*P **P 12 47 15.1 0.0**
BER Bergen 82.61 330 *e*P **P 12 47 20.4 +5.2**
BER *e*S S 12 57 32.1 +0.7
BER AMS AMS 13 28 34.9
comp=Z,6µm,18.3s,MS6.0
OG25 Le Caire 82.64 314 *e*P **P 12 47 13.7 -1.7**
AMKA Amchitka 82.64 39 *e*P **P 12 47 15.1 -0.4**
TAVF Tavernes 82.68 313 *e*P **P 12 47 14.8 -0.9**
CASM Ain Smara 82.72 306 P **P 12 47 17.0 +1.1**
ORIF Oris-en-Rattie 82.75 314 *e*P **P 12 47 16.5 +0.5**
comp=Z,143nm,1.3s,mb5.5
ORIF *e*R
comp=Z,5µm,21.2s
ORIF Oris-en-Rattie 82.75 314 *e*P **P 12 47 16.5 +0.5**
ORIF pmax pmax
comp=Z,72nm,1.3s,mb5.5
ORIF Oris-en-Rattie 82.75 314 *e*P **P 12 47 16.5 +0.5**
comp=Z,72nm,1.3s,mb5.5
STOF St-Etienne Org 82.77 313 *e*P **P 12 47 16.7 +0.6**
CTEI Djebel Teioual 82.80 305 P **P 12 47 17.5 +1.2**
GRN Grenoble 82.83 315 *e*P **P 12 47 16.8 +0.3**
GRN Grenoble 82.83 315 *e*P **P 12 47 17.0 +0.5**
VILF Villemus 82.92 313 *e*P **P 12 47 16.9 0.0**
PUYF Puyloubier 82.95 313 *e*P **P 12 47 16.7 -0.3**
BERF Bertagne 82.96 313 *e*P **P 12 47 17.2 +0.1**
SMRF Simiane la Rot 83.02 313 *e*P **P 12 47 18.1 +0.7**
comp=Z,345nm,1.8s,mb5.8
SMRF Simiane la Rot 83.02 313 *e*P **P 12 47 18.1 +0.7**
comp=Z,345nm,1.8s,mb6.1
GELF Grande-Etoile 83.15 313 *e*P **P 12 47 17.9 -0.2**
MEZF Maizieres J'vi 83.16 318 *e*P **P 12 47 17.9 -0.2**
TREF Trevaresse 83.17 313 *e*P **P 12 47 18.1 -0.1**
DFRA Djebel Bou Aff 83.20 306 P **P 12 47 20.0 +1.6**
GIVF Givet 83.23 320 *e*P **P 12 47 18.2 -0.3**
CMER Merouana 83.24 305 P **P 12 47 20.0 +1.4**
PRAF Pradon 83.32 313 *e*P **P 12 47 18.1 -0.9**
CKHR Kef el Ahmar 83.53 305 P **P 12 47 21.5 +1.5**
SET Setif 83.61 306 P **P 12 47 22.0 +1.6**
VIVF Saint-Julien-l 83.61 314 *e*P **P 12 47 20.6 +0.1**
comp=Z,359nm,1.9s,mb5.9
VIVF Saint-Julien-l 83.61 314 *e*P **P 12 47 20.6 +0.1**
VIVF pmax pmax
comp=Z,180nm,1.9s,mb5.9
VIVF Saint-Julien-l 83.61 314 *e*P **P 12 47 20.6 +0.1**
comp=Z,180nm,1.9s,mb5.9
BAIF Baives 83.63 320 *e*P **P 12 47 20.4 -0.2**
comp=Z,126nm,1.4s,mb5.6
BAIF Baives 83.63 320 *e*P **P 12 47 20.4 -0.2**
BAIF pmax pmax
comp=Z,63nm,1.4s,mb5.5
BAIF Baives 83.63 320 *e*P **P 12 47 20.4 -0.2**
comp=Z,63nm,1.4s,mb5.5
LOR Lormes 84.03 317 *e*P **P 12 47 22.2 -0.4**
comp=Z,130nm,1.3s,mb5.6
LOR *e*R
comp=Z,2µm,20.8s
LOR Lormes 84.03 317 *e*P **P 12 47 22.2 -0.4**
LOR pmax pmax

comp=Z,65nm,1.3s,mb5.6
LOR MLR MLR
LOR Lormes 84.03 317 *e*P **P 12 47 22.2 -0.4**
comp=Z,2µm,20.8s,MS5.5
LOR LR LR
SYO Syowa Base 84.04 197⇑*e*P **P 12 47 22.0 -0.6**
SYO Syowa Base 84.04 197⇓*e*pP pP 12 47 28.8 -0.9
SMF Signal de Mont 84.08 316 *e*P **P 12 47 22.4 -0.5**
comp=Z,190nm,1.6s,mb5.7
SMF Signal de Mont 84.08 316 *e*P **P 12 47 22.4 -0.5**
SMF pmax pmax
comp=Z,95nm,1.6s,mb5.7
SMF Signal de Mont 84.08 316 *e*P **P 12 47 22.4 -0.5**
comp=Z,95nm,1.6s,mb5.7
LASF Ste Croix 84.25 314 *e*P **P 12 47 24.1 +0.4**
comp=Z,324nm,1.8s,mb5.8
AKF Akfadou 84.25 306 P **P 12 47 18.8 -4.9**
COLF Collangettes 84.26 315 *e*P **P 12 47 23.6 -0.2**
PLDF La Plantade 84.28 316 *e*P **P 12 47 23.4 -0.5**
SSF Saint Saulge 84.28 317 *e*P **P 12 47 23.7 -0.2**
comp=Z,255nm,1.9s,mb5.7
SSF Saint Saulge 84.28 317 *e*P **P 12 47 23.7 -0.2**
SSF pmax pmax
comp=Z,127nm,1.9s,mb5.7
SSF Saint Saulge 84.28 317 *e*P **P 12 47 23.7 -0.2**
comp=Z,127nm,1.9s,mb5.7
AVF Avril sur Loir 84.41 316 *e*P **P 12 47 24.2 -0.3**
comp=Z,116nm,1.4s,mb5.5
AVF Avril sur Loir 84.41 316 *e*P **P 12 47 24.2 -0.3**
AVF pmax pmax
comp=Z,58nm,1.4s,mb5.5
AVF Avril sur Loir 84.41 316 *e*P **P 12 47 24.2 -0.3**
comp=Z,58nm,1.4s,mb5.5
LBL Lubilhac 84.59 315 *e*P **P 12 47 26.7 +1.2**
AKET Djebel Ketaf 84.84 306 P **P 12 47 20.0 -6.7**
ADJB Djebel Djouab 85.19 306 P **P 12 47 24.3 -4.2**
TCF Toulx Ste Croi 85.23 316 *e*P **P 12 47 28.7 0.0**
comp=Z,190nm,1.8s,mb5.6
TCF Toulx Ste Croi 85.23 316 *e*P **P 12 47 28.7 0.0**
TCF pmax pmax
comp=Z,95nm,1.8s,mb5.6
TCF Toulx Ste Croi 85.23 316 *e*P **P 12 47 28.7 0.0**
comp=Z,95nm,1.8s,mb5.6
LRDF Laroque-de-Fa 85.29 313 *e*P **P 12 47 29.1 +0.1**
ETOS Mallorca 85.36 309 P **P 12 47 30.7 +1.4**
comp=Z,120nm,1.8s,mb5.7
CAF Calviac 85.46 315 *e*P **P 12 47 30.2 +0.4**
comp=Z,170nm,1.9s,mb5.5
CAF Calviac 85.46 315 *e*P **P 12 47 30.2 +0.4**
CAF pmax pmax
comp=Z,85nm,1.9s,mb5.5
CAF Calviac 85.46 315 *e*P **P 12 47 30.2 +0.4**
comp=Z,85nm,1.9s,mb5.5
ABA Alger-Bouzarea 85.46 306 P **P 12 47 30.0 +0.2**
MTLF Montolieu 85.49 313 *e*P **P 12 47 30.3 +0.3**
comp=Z,272nm,1.9s,mb5.8
MTLF Montolieu 85.49 313 *e*P **P 12 47 30.3 +0.3**
MTLF pmax pmax
comp=Z,136nm,1.9s,mb5.8
MTLF Montolieu 85.49 313 *e*P **P 12 47 30.3 +0.3**
comp=Z,136nm,1.9s,mb5.8
EMHD Djebel Mahouad 85.58 306 P **P 12 47 32.0 +1.6**
VALF Valcebollere 85.72 312 *e*P **P 12 47 32.1 +1.0**
RJF Les Rejaudoux 85.81 315 *e*P **P 12 47 31.9 +0.4**
RJF *e*R
comp=Z,4µm,22.0s
RJF Les Rejaudoux 85.81 315 *e*P **P 12 47 31.9 +0.4**
RJF LR LR
comp=Z,4µm,22.0s,MS5.7
EMIR Miracle 86.14 312 P **P 12 47 33.9 +0.8**
comp=Z,22nm,0.9s,mb5.4
MLS Moulis 86.34 313 *e*P **P 12 47 33.6 -0.6**
LFF La Frestale 86.39 315 *e*P **P 12 47 34.9 +0.5**
comp=Z,106nm,1.2s,mb5.6
LFF La Frestale 86.39 315 *e*P **P 12 47 34.9 +0.5**
LFF pmax pmax
comp=Z,53nm,1.2s,mb5.7
LFF La Frestale 86.39 315 *e*P **P 12 47 34.9 +0.5**
comp=Z,53nm,1.2s,mb5.6
GAMB Gambell 86.40 26 *e*P **P 12 47 34.2 -0.3**
LDF La Druitiere 86.58 318 *e*P **P 12 47 35.0 -0.3**
comp=Z,270nm,1.7s,mb5.9
LDF La Druitiere 86.58 318 *e*P **P 12 47 35.0 -0.3**
LDF pmax pmax
comp=Z,135nm,1.7s,mb5.9
LDF La Druitiere 86.58 318 *e*P **P 12 47 35.0 -0.3**
comp=Z,135nm,1.7s,mb5.9
EBNR Beni Rached 86.72 306 P pP 12 47 46.0 +2.9
FLN La Foliniere 86.79 319 *e*P **P 12 47 36.0 -0.4**
comp=Z,73nm,1.1s,mb5.5
FLN *e*R
comp=Z,4µm,21.8s
FLN La Foliniere 86.79 319 *e*P **P 12 47 36.0 -0.4**
FLN pmax pmax
comp=Z,37nm,1.1s,mb5.5
FLN MLR MLR
comp=Z,4µm,21.8s,MS5.8
FLN La Foliniere 86.79 319 *e*P **P 12 47 36.0 -0.4**
comp=Z,37nm,1.1s,mb5.5
FLN LR LR
comp=Z,4µm,21.8s,MS5.8
MFF Saint Martin d 86.82 316 *e*P **P 12 47 36.3 -0.2**
comp=Z,88nm,1.2s,mb5.5
MFF Saint Martin d 86.82 316 *e*P **P 12 47 36.3 -0.2**
MFF pmax pmax
comp=Z,44nm,1.2s,mb5.6
MFF Saint Martin d 86.82 316 *e*P **P 12 47 36.3 -0.2**
comp=Z,44nm,1.2s,mb5.6
ECHA Ech Chlef 86.86 306 P **P 12 47 42.0 +5.3**
MIDW Midway 86.89 62 PFAKE 12 47 50.0 +13
MIDW LR LR
comp=Z,3µm,21.0s,MS5.7
ETRT Tiaret 87.00 305 P **P 12 47 39.5 +2.1**
EGRA Graus 87.00 312 P **P 12 47 38.8 +1.4**
comp=Z,7.3nm,0.7s,mb5.0
EBR Ebro Roquetas 87.03 311 *e*Ts 12 47 44.5
JMIC Jan Mayen 87.06 341 *e*P **P 12 47 38.4 +0.7**
JMIC AMS AMS 13 28 25.9
comp=Z,2µm,16.7s,MS5.6
EBIE Bielsa 87.07 312 P **P 12 47 38.8 +1.0**
comp=Z,23nm,1.7s,mb5.1
GRR Gorron 87.09 318 *e*P **P 12 47 37.6 -0.2**
comp=Z,36nm,1.1s,mb5.2
GRR Gorron 87.09 318 *e*P **P 12 47 37.6 -0.2**
GRR pmax pmax
comp=Z,18nm,1.1s,mb5.2
GRR Gorron 87.09 318 *e*P **P 12 47 37.6 -0.2**
comp=Z,18nm,1.1s,mb5.2
EANR 'Ain N'Sour 87.10 306 P **P 12 47 40.0 +2.1**
ERTA Horta de San J 87.13 311 P **P 12 47 37.6 -0.5**
comp=Z,69nm,1.6s,mb5.6
EKA Eskdalemuir Ar 87.56 325 PP PP 12 51 06.8 +1.8
comp=Z,4.4nm,1.0s,baz=79,slow=3.7,SNR=3.0
ETSF Etsaut 87.56 313 *e*P **P 12 47 40.7 +0.6**
comp=Z,121nm,1.5s,mb5.6
ETSF Etsaut 87.56 313 *e*P **P 12 47 40.7 +0.6**
ETSF pmax pmax
comp=Z,60nm,1.5s,mb5.6
ETSF Etsaut 87.56 313 *e*P **P 12 47 40.7 +0.6**
comp=Z,60nm,1.5s,mb5.6
TNA Tin City 87.69 24 *e*P **P 12 47 40.5 -0.2**
comp=Z,37nm,1.1s,mb5.5
EMOS Mosqueruela 87.81 310 P **P 12 47 43.0 +1.7**
comp=Z,34nm,1.4s,mb5.4
SJPF Ste Jean 88.02 313 *e*P **P 12 47 43.0 +0.7**
comp=Z,43nm,1.1s,mb5.3
SJPF Ste Jean 88.02 313 *e*P **P 12 47 43.0 +0.7**
SJPF pmax pmax
comp=Z,21nm,1.1s,mb5.3
SJPF Ste Jean 88.02 313 *e*P **P 12 47 43.0 +0.7**
comp=Z,21nm,1.1s,mb5.3
DAG Danmarks Havn 88.03 348⇑*i*P **P 12 47 40.5 -1.9**
comp=Z,10nm,0.7s,mb5.2
DAG Danmarks Havn 88.03 348⇑*e*P **P 12 47 40.5 -1.9**
DAG pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
DAG Danmarks Havn 88.03 348⇑*e*P **P 12 47 40.5 -1.9**
comp=Z,10nm,0.7s,mb5.2
SPIA Saint Paul Isl 88.15 33 *e*P **P 12 47 43.3 +0.4**
SGMF Saint Gilles 88.23 318 *e*P **P 12 47 43.1 -0.2**
comp=Z,267nm,1.8s,mb5.9
SGMF Saint Gilles 88.23 318 *e*P **P 12 47 43.1 -0.2**
SGMF pmax pmax
comp=Z,133nm,1.8s,mb5.9
SGMF Saint Gilles 88.23 318 *e*P **P 12 47 43.1 -0.2**
comp=Z,133nm,1.8s,mb5.9
ECHE Chera 88.29 309 P **P 12 47 44.3 +0.7**
ECHE pmax pmax
comp=Z,13nm,1.0s,mb5.1
ECHE Chera 88.29 309 P **P 12 47 44.3 +0.7**
comp=Z,13nm,1.0s,mb5.1
CART Cartagena 88.58 308 *e*P **P 12 47 45.2 +0.2**
comp=Z,50nm,1.3s,mb5.7
QUIF Quistinic 88.68 318 *e*P **P 12 47 45.4 0.0**
ROSF Rostrenen 88.69 318 *e*P **P 12 47 45.1 -0.4**
comp=Z,103nm,1.4s,mb5.7
ROSF Rostrenen 88.69 318 *e*P **P 12 47 45.1 -0.4**
ROSF pmax pmax
comp=Z,51nm,1.4s,mb5.7
ROSF Rostrenen 88.69 318 *e*P **P 12 47 45.1 -0.4**
comp=Z,51nm,1.4s,mb5.7
EMUR La Murta 88.73 308 P **P 12 47 46.7 +1.0**
comp=Z,11nm,0.7s,mb5.3
ETOB Tobarra 88.86 309 P **P 12 47 47.1 +0.8**
comp=Z,42nm,1.5s,mb5.5
ETOR Torete 88.94 311 P **P 12 47 48.1 +1.4**
ETOR pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
ETOR Torete 88.94 311 P **P 12 47 48.1 +1.4**
comp=Z,5.1nm,0.6s,mb5.0
TORD Torodi Ar. Bea 89.21 283 P **P 12 47 49.2 +1.2**
comp=Z,12nm,1.1s,mb5.1,baz=83,slow=4.7,SNR=32
TORD PP PP 12 51 20.6 +2.2
comp=Z,5.5nm,1.1s,baz=95,slow=7.5,SNR=3.5
TORD Torodi Ar. Bea 89.21 283 P **P 12 47 49.2 +1.2**
TORD PP PP 12 51 20.6 +2.2
EVIA Vianos 89.60 309 P **P 12 47 51.5 +1.8**
EVIA pmax pmax
comp=Z,29nm,1.2s,mb5.5
EVIA Vianos 89.60 309 P **P 12 47 51.5 +1.7**
comp=Z,29nm,1.2s,mb5.5
NIKO Nikolski 89.70 37 *e*P **P 12 47 49.6 -0.7**
ALE Alert 89.95 357 P **P 12 47 49.8 -1.6**
comp=Z,238nm,0.9s,mb6.5,SNR=9.1
URZ Urewera 90.04 128 LR LR 13 28 27.3
comp=Z,4µm,19.4s,MS5.8,baz=190,slow=36
EBER Berja 90.16 307 P **P 12 47 52.9 +0.5**
comp=Z,104nm,1.6s,mb5.9
EQES Quesada 90.17 308 P **P 12 47 51.8 -0.6**
comp=Z,33nm,1.5s,mb5.4
GUD Guadarrama 90.55 311 P **P 12 47 54.8 +0.6**
GUD pmax pmax
comp=Z,12nm,0.7s,mb5.3
GUD Guadarrama 90.55 311 P **P 12 47 54.8 +0.6**
comp=Z,12nm,0.7s,mb5.3
ESDC Sonseca Array 90.56 310 P **P 12 47 54.8 +0.6**
comp=Z,3.4nm,0.5s,mb4.9,baz=58,slow=4.7,SNR=24
ESLA Sonseca Array 90.56 310 *e*P **P 12 47 55.4 +1.2**
comp=Z,6.6nm,1.1s,mb4.9
EBAN Banos Encina 90.67 308 P **P 12 47 55.7 +1.0**
EBAN pmax pmax
comp=Z,19nm,1.0s,mb5.4
EBAN Banos Encina 90.67 308 P **P 12 47 55.7 +0.9**
comp=Z,19nm,1.0s,mb5.4
EGUA Guajares 90.71 307 P **P 12 47 56.1 +1.2**
EGUA pmax pmax
comp=Z,20nm,0.7s,mb5.6
EGUA Guajares 90.71 307 P **P 12 47 56.1 +1.2**
comp=Z,2.4nm,0.7s,mb4.6
UNV Unalaska Valle 90.90 36 *e*P **P 12 47 54.2 -1.6**
comp=Z,45nm,0.8s,mb5.8
AKUT Akutan 91.25 35 *e*P **P 12 47 56.8 -0.7**
EADA Adamuz 91.28 309 P **P 12 47 58.4 +0.8**
comp=Z,45nm,1.4s,mb5.6
SCO Scoresbysund 91.43 342 *i*P **P 12 47 59.1 +0.8**
comp=Z,5.8nm,1.1s,mb4.8
SCO Scoresbysund 91.43 342 *i*P **P 12 47 59.1 +0.8**
SCO pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
EMIJ Mijas 91.71 307 P **P 12 47 58.5 -1.0**
comp=Z,14nm,0.9s,mb5.3
MDT Midelt 92.22 303 P **P 12 48 03.3 +1.4**
comp=Z,3.6nm,0.7s,mb4.8,baz=95,slow=5.2,SNR=7.6
VNDA Vanda 92.35 168 P **P 12 48 02.0 -0.5**
comp=Z,2.8nm,0.9s,mb4.6,baz=310,slow=6.5,SNR=9.1
VNDA PKKP PKKPbc 13 05 17.0 +0.5
comp=Z,1.0nm,0.9s,baz=124,slow=2.4,SNR=4.5
VNDA LR LR 13 26 48.9
comp=Z,3µm,18.0s,MS5.8,baz=295,slow=34
VNDA Vanda 92.35 168 *e*P **P 12 48 01.8 -0.7**
comp=Z,22nm,1.4s,mb5.3
ESPR Espera 92.51 307 P **P 12 48 03.7 +0.4**
comp=Z,22nm,1.1s,mb5.5
EBAD Badajoz 93.06 309 P **P 12 48 06.3 +0.5**
comp=Z,15nm,1.2s,mb5.3
NVL N'lazarevskaya 93.43 199⇓*i*P **P 12 48 09.5 +2.0**
NVL *e* 12 51 57.2
NVL *i* 13 00 37.9
NVL *e* 13 05 37.9
NVL pmax pmax
comp=Z,38nm,1.4s,mb5.6
TTA Tatalina 93.43 25 *e*P **P 12 48 07.9 +0.4**
SBA Scott Base 93.45 168 *e*P **P 12 48 07.8 +0.2**
SBA pmax pmax
comp=Z,67nm,1.6s,mb5.8
SBA Scott Base 93.45 168 *e*P **P 12 48 07.8 +0.2**
comp=Z,67nm,1.6s,mb5.8
MAIT Maitri 93.46 199 *e*P **P 12 48 09.4 +1.8**
MAIT *e*PP PP 12 51 49.6 -2.4
SDPT Sand Point 93.88 33 *e*P **P 12 48 09.2 -0.4**
SVW2 Sparrevohn 94.32 27 *e*P **P 12 48 11.6 0.0**
CHGN Chignik 94.67 32 *e*P **P 12 48 12.1 -1.1**
SUMG Summit 94.68 347 *e*P **P 12 48 13.9 +0.7**
comp=Z,673nm,2.5s,mb6.6
COLA College 95.81 22 *e*P **P 12 48 18.4 0.0**
COLA pmax pmax
comp=Z,55nm,2.0s,mb5.6
COLA College 95.81 22 *e*P **P 12 48 18.4 0.0**
comp=Z,55nm,2.0s,mb5.6
MCK McKinley 95.96 23 *e*P **P 12 48 19.0 -0.1**
MCK pmax pmax
comp=Z,77nm,2.1s,mb5.8
MCK McKinley 95.96 23 *e*pP **P 12 48 19.0 -0.1**
comp=Z,77nm,2.1s,mb5.8
DBIC Dimbokro 96.44 278 P **P 12 48 22.6 +1.3**
comp=Z,8.5nm,1.0s,mb5.1,baz=64,slow=8.0,SNR=3.6
DBIC LR LR 13 30 59.0
comp=Z,7µm,19.3s,MS6.1,baz=68,slow=35
QSPA South Pole Qui 96.85 180 *e*P **P 12 48 27.3 +4.2**
comp=Z,4.2nm,0.7s,mb5.0
PMR Palmer 96.91 25 *e*P **P 12 48 23.7 +0.3**
PMR pmax pmax
comp=Z,89nm,2.1s,mb5.8
PMR Palmer 96.91 25 *e*P **P 12 48 23.7 +0.3**
comp=Z,89nm,2.1s,mb5.8
SNAA Sanae 98.22 199 LR LR 13 29 18.3
comp=Z,8.7nm,18.3s,baz=85,slow=33
INK Inuvik 98.34 16 *e*P **P 12 48 29.1 -0.7**
INK pmax pmax
comp=Z,28nm,1.3s
INK Inuvik 98.34 16 *e*P **P 12 48 29.1 -0.7**
comp=Z,28nm,1.3s,mb5.6
MENT Mentasta 98.39 23 *e*P **P 12 48 30.3 +0.2**
DAWY Dawson 99.31 21 *e*P **P 12 48 34.3 +0.1**
VNA1 Neumayer--Stat 100.07 199 *e*PKiKP PKiKP 12 52 57.3 -8.0
VNA1 *e* 12 52 59.6
VNA1 *e* 12 53 01.0
VNA1 *e* 12 53 03.4
VNA1 *e* 12 53 39.6
SFJD Kangerlussuaq 101.64 346 *i*P Pdif 12 48 50.0 +5.5
SFJD *i* 12 52 06.0
SFJD *e* 12 53 18.6
YKA Yellowknife Ar 107.70 13 PP PP 12 53 37.6 -2.2
comp=Z,1.2nm,0.7s,baz=331,slow=8.4,SNR=3.8
YKA PKKPbc PKKPbc 13 04 32.1 -0.8
comp=Z,0.9nm,0.8s,baz=162,slow=2.6,SNR=4.2
YKA PKKP PKKPbc 13 04 45.8 +13
comp=Z,1.1nm,0.7s,baz=154,slow=3.8,SNR=5.6
ADH Angra Heroismo 108.11 314 *e*LR LR 13 28 00.0
C05A Tolt Reservoir 117.80 25⇑P PKPdf 12 53 37.9 -0.5
baz=118
TBI Tubuai 118.45 113 *e*LQ 13 24 51.2
comp=Z,2µm,37.2s
TBI Tubuai 118.45 113 *e*PP PP 12 54 51.4 -4.9
comp=Z,164nm,25.2s
TBI Tubuai 118.45 113 *e*PS PS 13 04 39.4 -3.4
comp=Z,958nm,25.5s
TBI Tubuai 118.45 113 *e*LR LR 13 29 48.2
comp=Z,4µm,28.5s
PPT Papeete 118.66 106 *e*LQ 13 24 58.4
comp=Z,4µm,37.2s
PPT Papeete 118.66 106 *e*PP PP 12 54 57.8 0.0
comp=Z,215nm,24.8s
PPT Papeete 118.66 106 *e*PS PS 13 04 41.0 -3.8
comp=Z,1µm,23.5s
PPT Papeete 118.66 106 *e*LR LR 13 29 48.3
comp=Z,5µm,30.2s
F04A Amboy 118.84 27⇓P PKPdf 12 53 41.0 +0.5
baz=119
H04A Detroit Lake 119.89 28⇑P PKPdf 12 53 42.1 -0.3
baz=120
H05A Madras 120.36 27⇓P PKPdf 12 53 43.5 +0.2
baz=120
J03A Ideyld Park 120.51 29⇑P PKPdf 12 53 44.8 +1.2
baz=120
HUMO Hull Mountain 121.08 30 *e*PKPdf PKPdf 12 53 46.3 +1.6
HUMO Hull Mountain 121.08 30⇓P PKPdf 12 53 45.8 +1.0
baz=121
L02A Cave Junction 121.08 31⇓P PKPdf 12 53 45.6 +0.9
baz=121
I06A Prineville 121.37 27⇓P PKPdf 12 53 46.0 +0.7
baz=121
MSO Missoula 121.55 21 *e*PKPdf PKPdf 12 53 45.4 -0.2
CHMT Chamberlain Mo 121.72 20 *e*PKPdf PKPdf 12 53 46.3 +0.4
EGMT Eagleton 121.87 17 *e*PKPdf PKPdf 12 53 46.4 +0.2
J06A Christmas Vall 121.93 28⇑P PKPdf 12 53 47.2 +0.8
baz=122
M02C Callahan 122.03 31⇑P PKPdf 12 53 48.3 +1.7
baz=122
N02C Big Bar 122.21 32⇓P PKPdf 12 53 48.3 +1.4
baz=122
K06A Valley Falls 122.23 28⇓P PKPdf 12 53 47.4 +0.5
baz=122
M04C Macdoel 122.25 30⇑P PKPdf 12 53 48.3 +1.4
baz=122
M03C McCloud 122.49 31⇓P PKPdf 12 53 48.3 +0.8
baz=122
L05A Lakeview 122.53 29⇑P PKPdf 12 53 48.4 +0.8
baz=122
ULM Lac du Bonnet 122.59 6 PKP PKPdf 12 53 47.1 -0.5
comp=Z,4.8nm,0.7s,baz=38,slow=2.0,SNR=3.9
WDC Whiskeytown Da 122.78 31⇓P PKPdf 12 53 48.3 +0.3
baz=123
K07A Rock Creek Ran 122.78 27⇑P PKPdf 12 53 48.6 +0.6
baz=123
MOD Modoc 122.90 29 *e*PKPdf PKPdf 12 53 49.2 +1.0
M05C Lookout 122.90 30⇑P PKPdf 12 53 49.9 +1.7
baz=123
O02C Red Bluff 122.94 32⇓P PKPdf 12 53 51.4 +3.1
baz=123
WVOR Wild Horse Val 123.26 27 *e*PKIKP PKPdf 12 53 50.5 +1.6
WVOR MLR MLR
comp=Z,2µm,21.0s,MS5.8
L07A Adell 123.27 28⇑P PKPdf 12 53 50.6 +1.7
baz=123
DLMT Dillon 123.29 21 *e*PKPdf PKPdf 12 53 49.9 +0.9
M06C Likely Place G 123.35 29⇑P PKPdf 12 53 50.1 +1.0
baz=123
GASB Alder Springs 123.37 32⇓P PKPdf 12 53 49.6 +0.5
baz=123
BOZ Bozeman (W) 123.38 20 *e*PKPdf PKPdf 12 53 50.3 +1.2
L08A Fields 123.59 27⇑P PKPdf 12 53 51.4 +1.9
baz=123
MCMT McKenzie Canyo 123.66 21 *e*Pdif Pdif 12 50 22.9 +0.5
MCMT *e*PKPdf PKPdf 12 53 50.5 +0.8
O04C Chester 123.72 31⇑P PKPdf 12 53 51.5 +1.7
baz=124
M07A Soldier Meadow 123.83 28⇓P PKPdf 12 53 51.5 +1.5
baz=124
L09A Wilkinson Ranc 124.03 27⇓P PKPdf 12 53 51.9 +1.5
baz=124
MNRC McLaughlin Nat 124.08 33⇑P PKPdf 12 53 51.2 +0.7
baz=124
ORV Oroville 124.08 31⇓P PKPdf 12 53 51.5 +1.0
baz=124
HLID Hailey 124.14 23 *e*PKPdf PKPdf 12 53 51.9 +1.3
QLMT Earthquake Lak 124.16 20 *e*PKPdf PKPdf 12 53 52.6 +2.0
M08A Happy Creek Ra 124.16 28⇑P PKPdf 12 53 52.8 +2.2
baz=124
YMR Madison River 124.46 20 *e*PKPdf PKPdf 12 53 53.0 +1.8
O06A Flanigan 124.47 30⇓P PKPdf 12 53 52.7 +1.5
baz=124
M09A Marrel Ranch, 124.61 27⇓P PKPdf 12 53 53.5 +2.0
baz=124
YFT Old Faithful 124.69 20 *e*PKPdf PKPdf 12 53 52.7 +1.0
N08A GE Springer Mi 124.80 28⇑P PKPdf 12 53 53.5 +1.7
baz=125
O07A Toulon 124.93 29⇓P PKPdf 12 53 54.3 +2.2
baz=125
M10A I.L. Ranch, Tu 124.93 26⇓P PKPdf 12 53 54.1 +2.0
baz=125
PAHR Pah Rah Range 125.03 30 *e*PKPdf PKPdf 12 53 53.8 +1.5
LAVA Lava Cap Winer 125.06 32⇓P PKPdf 12 53 53.0 +0.7
baz=125
IMW Indian Meadow 125.14 21 *e*PKPdf PKPdf 12 53 53.7 +1.1
WCN Washoe City 125.16 30⇑P PKPdf 12 53 54.6 +2.0
baz=125
EYMN Ely 125.24 3 *e*PKPdf PKPdf 12 53 52.6 -0.1
M11A Holland Ranch, 125.33 26⇓P PKPdf 12 53 55.2 +2.3
baz=125
REDW Red Top Meadow 125.64 21 *e*PKPdf PKPdf 12 53 54.5 +1.0
M12A Wells 125.72 25⇑P PKPdf 12 53 55.6 +2.0
baz=126
O09A Fish Creek Ran 125.72 28⇓P PKPdf 12 53 55.3 +1.7
baz=126
CMB Columbia Colle 125.79 32⇓P PKPdf 12 53 54.8 +1.0
baz=126
N12A Wells--Clov Va 126.13 26⇑P PKPdf 12 53 56.6 +2.2
baz=126
Q08A Gabbs 126.40 29⇓P PKPdf 12 53 56.6 +1.7
baz=126
O11A Cowboy Ranch, 126.45 27⇓P PKPdf 12 53 57.0 +2.0
baz=126
N13A West Wendover 126.48 25⇑P PKPdf 12 53 56.9 +1.8
baz=126
NVAR Mina Array Bea 126.55 30 PKP PKPdf 12 53 56.2 +1.0
comp=Z,4.5nm,0.8s,baz=301,slow=2.3,SNR=2.6
PDAR Pinedale Array 126.62 20 PKP PKPdf 12 53 55.1 -0.2
comp=Z,4.9nm,0.8s,baz=48,slow=2.2,SNR=21
PDAR PKKPab 13 03 27.4
comp=Z,0.5nm,0.7s,baz=182,slow=4.3,SNR=4.2
MNV Mina 126.62 30 *e*PKIKP PKPdf 12 53 56.9 +1.5
R08A Mina 126.71 30⇑P PKPdf 12 53 57.9 +2.4
baz=126
HWUT Hardware Ranch 126.91 22 *e*PKPdf PKPdf 12 53 56.6 +0.7
BGU Big Grassy Mou 126.91 24 *e*PKPdf PKPdf 12 53 57.4 +1.5
PKD Parkfield 127.25 34⇓P PKPdf 12 53 58.1 +1.5
baz=127
R09A Tonopah 127.31 29⇓P PKPdf 12 53 58.5 +1.8
baz=127
P12A McGill 127.32 27⇑P PKPdf 12 53 58.8 +2.1
baz=127
S08C White Mtn Res 127.34 31⇓P PKPdf 12 53 58.9 +2.2
baz=127
LONY Lake Ozonia 127.38 348 *e*PKPdf PKPdf 12 53 57.3 +0.5
Q11A Duckwater 127.49 28⇑P PKPdf 12 53 58.5 +1.5
baz=127
DUG Dugway 127.62 24 *e*PKIKP PKPdf 12 53 58.8 +1.5
R10A Warm Springs 127.64 29⇑P PKPdf 12 53 59.6 +2.3
baz=128
S09A Goldfield 127.64 30⇑P PKPdf 12 53 58.9 +1.6
baz=128
MIV Mineville/With 127.68 347 *e*PKPdf PKPdf 12 53 57.2 -0.2
FFD Franklin Falls 127.81 345 *e*PKPdf PKPdf 12 53 57.2 -0.4
TAOE Nuku Hiva Isla 127.86 96 *e*SS SS 13 13 16.1 +4.8
comp=Z,2µm,27.5s
TAOE *e*LR LR 13 34 19.4
comp=Z,6µm,27.2s
DAU Daniels Canyon 128.05 23 *e*PKIKP PKPdf 12 53 59.1 +1.0
NLU North Lily Min 128.12 24 *e*PKPdf PKPdf 12 53 59.3 +1.1
CWC Cottonwood Cre 128.19 31⇓P PKPdf 12 54 00.5 +2.2
baz=128
RWWY Rawlins 128.36 19 *e*PKPdf PKPdf 12 53 59.4 +0.7
TPNV Topopah Spring 128.72 30 *e*PKIKP PKPdf 12 54 00.7 +1.3
ECSD EROS,Sioux Fal 128.90 8 *e*PKPdf PKPdf 12 54 00.2 +0.5
TMUT Trail Mountain 129.03 24 *e*PKPdf PKPdf 12 54 02.1 +2.1
U10A Ash Meadows, A 129.10 30⇓P PKPdf 12 54 02.4 +2.3
baz=129
PHWY Pilot Hill 129.25 17 *e*PKPdf PKPdf 12 54 01.6 +1.3
MSU Marysvale 129.30 25 *e*PKIKP PKPdf 12 54 02.1 +1.6
SRU San Rafael 129.46 23 *e*PKIKP PKPdf 12 54 01.8 +1.0
CCUT Cedar City 129.59 27 *e*PKPdf PKPdf 12 54 03.1 +2.1
GSC Goldstone 129.73 31⇓P PKPdf 12 54 03.3 +2.0
baz=130
BINY Binghamton 129.98 349 *e*PKPdf PKPdf 12 54 02.7 +0.9
TUQ Turquoise Mtn. 130.08 31⇑P PKPdf 12 54 04.6 +2.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=130						
V12A	**Nelson**	**130.38**	**29**	⇑P	PKPdf	12 54 05.0	+2.5
	baz=130						
ISCO	**Idaho Springs**	**130.58**	**18**	*e*PKIKP	PKPdf	12 54 04.7	+1.8
SMCO	**Snowmass**	**130.70**	**20**	*e*PKPdf	PKPdf	12 54 04.9	+1.8
W14A	**Seligman**	**131.64**	**28**	⇑P	PKPdf	12 54 07.0	+2.1
	baz=132						
RKT	**Rikitea**	**131.66**	**115**	*e*LQ		13 30 26.0	
	comp=Z,3μm,41.5s						
X13A	**Yucca**	**131.79**	**29**	⇓P	PKPdf	12 54 07.3	+2.1
	baz=132						
SSPA	**Standing Stone**	**131.84**	**350**	*e*PKPdf	PKPdf	12 54 05.8	+0.6
MVCO	**Mesa Verde**	**131.90**	**23**	*e*PKPdf	PKPdf	12 54 07.2	+1.8
X14A	**Yava**	**132.34**	**29**	⇑P	PKPdf	12 54 09.7	+3.5
	baz=132						
Y13A	**Salome**	**132.41**	**30**	⇓P	PKPdf	12 54 08.8	+2.5
	baz=132						
GLA	**Glamis**	**132.51**	**32**	⇑P	PKPdf	12 54 08.1	+1.6
	baz=132						
X15A	**Humboldt**	**132.63**	**28**	⇑P	PKPdf	12 54 09.4	+2.6
	baz=132						
Y14A	**Wickenburg**	**132.72**	**29**	⇓P	PKPdf	12 54 09.4	+2.4
	baz=132						
ANMO	**Albuquerque**	**134.66**	**22**	*i* PKIKP	PKPdf	12 54 10.0	-0.6
ANMO	**Albuquerque**	**134.66**	**22**	*e*PKPdf	PKPdf	12 54 12.8	+2.2
LAZ	**Ladron**	**134.89**	**23**	*e*PKPdf	PKPdf	12 54 12.4	+1.4
TUC	**Tucson**	**135.11**	**28**	*e*PKIKP	PKPdf	12 54 13.0	+1.6
LPM	**Los Pinos Moun**	**135.16**	**23**	*e*PKPdf	PKPdf	12 54 13.3	+1.8
FWV	**Forest Hill**	**135.27**	**352**	*e*PKPdf	PKPdf	12 54 09.9	-1.8
CPCT	**Cooper Cave**	**137.75**	**356**	*e*PKPdf	PKPdf	12 54 17.3	+1.0
PLAL	**Pickwick Lake**	**138.30**	**1**	*e*PKPdf	PKPdf	12 54 17.9	+0.6
MIAR	**Mount Ida**	**138.35**	**8**	*e*PKIKP	PKPdf	12 54 18.2	+0.8
GOGA	**Godfrey**	**139.69**	**355**	*e*PKIKP	PKPdf	12 54 20.8	+0.9
BDFB	**Brasilia**	**140.37**	**254**	PKP	PKPdf	12 54 20.6	-0.5
	comp=Z,7.4nm,0.8s,baz=51,slow=6.5,SNR=4.1						
LTX	**Lajitas**	**140.73**	**23**	*e*PKIKP	PKPdf	12 54 23.3	+1.5
JCT	**Junction City**	**140.97**	**17**	*e*PKIKP	PKPdf	12 54 23.5	+1.3
PLCA	**Paso Flores**	**143.09**	**202**	PKP	PKPdf	12 54 24.3	-1.7
	comp=Z,10.0nm,0.9s,baz=130,slow=4.8,SNR=7.2						
MAIG	**Mazatlaan**	**144.81**	**31**	*i* P	PKPdf	12 54 28.9	-0.1
SJG	**San Juan**	**147.38**	**320**	PKPbc	PKPbc	12 54 36.2	+0.5
	comp=Z,11nm,0.3s,baz=292,slow=17,SNR=6.0						
SJG	**San Juan**	**147.38**	**320**	PKP2	PKPab	12 54 36.2	-1.5
SJG				pmax	pmax		
	comp=Z,11nm,0.3s						
SJG	**San Juan**	**147.38**	**320**	*e*PKPbc	PKPbc	12 54 36.9	+1.1
CFAA	**Coronel Fontan**	**149.56**	**214**	PKP	PKPdf	12 54 38.9	+1.9
	comp=Z,5.4nm,0.8s,baz=153,slow=2.3,SNR=24						
CFAA				PKPbc	PKPbc	12 54 42.2	+0.7
	comp=Z,5.4nm,0.8s,baz=148,slow=2.9,SNR=42						
CFAA	**Coronel Fontan**	**149.56**	**214**	PKP	PKPdf	12 54 38.9	+1.9
CFAA				PKPbc	PKPbc	12 54 42.2	+0.7
MOAC	**Moa**	**149.93**	**336**	*e*P	PKPbc	12 54 43.6	+1.2
SOR	**Soroa**	**150.13**	**352**	*e*P	PKPdf	12 54 39.1	+1.3
MGV	**Manicaragua**	**150.20**	**346**	*e*P	PKPbc	12 54 42.1	-0.9
LMGC	**Las Mercedes**	**151.25**	**339**	*e*P	PKPdf	12 54 41.9	+2.4
PCRV	**Puerto La Cruz**	**151.57**	**306**	PKPbc	PKPbc	12 54 45.1	-1.2
	comp=Z,19nm,0.6s,baz=59,slow=4.1,SNR=7.4						
PPM	**Popocatepetl**	**151.94**	**23**	*e*PKIKP	PKPdf	12 54 42.9	+2.3
SIV	**San Ignacio**	**152.60**	**249**	PKPbc	PKPbc	12 54 47.7	-0.8
	comp=Z,6.9nm,0.8s,baz=138,slow=4.5,SNR=4.0						
TEIG	**Tepich**	**153.00**	**2**	*e*PKPbc	PKPbc	12 54 51.0	+1.6
TEIG				*e*PKPab	PKPab	12 55 01.9	+1.1
CMIG	**Matias Romero**	**155.04**	**17**	PKPbc	PKPdf	12 54 52.2	+7.2
	comp=Z,3.2nm,0.7s,baz=339,slow=2.4,SNR=4.0						
SDV	**Santo Domingo**	**156.98**	**313**	PKP	PKPdf	12 54 48.5	+0.9
	comp=Z,25nm,1.2s,baz=68,slow=1.7,SNR=6.3						
LPAZ	**La Paz**	**158.88**	**242**	PKP	PKPdf	12 54 52.0	+2.1
	comp=Z,8.8nm,1.1s,baz=46,slow=5.5,SNR=7.0						
LPAZ	**La Paz**	**158.88**	**242**	PKIKP	PKPdf	12 54 52.0	+2.1
LPAZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LPAZ	**La Paz**	**158.88**	**242**	*e*PKPdf	PKPdf	12 54 52.2	+2.3
ROSC	**El Rosal**	**162.38**	**311**	PKP	PKPdf	12 54 55.6	+1.9
	comp=Z,9.3nm,0.5s,baz=271,slow=20,SNR=6.7						
OTAV	**Otavalo**	**168.49**	**308**	*e*PKPdf	PKPdf	12 55 00.4	+1.6
ATAH	**Atahualpa**	**170.95**	**269**	PKP	PKPdf	12 55 02.3	+2.0
	comp=Z,2.7nm,0.5s,baz=109,slow=11,SNR=4.1						

ISCJB ***21*** *12:38:20.9±0.5, 3936N±002×2087E±004, h1km±4km,*
Error ellipse: s-maj=4.7km s-min=3.8km az=150.1
ATH ***21*** *12:38:21.4, 3935N×2084E, h15km±7km, MD3.5/7*
CSEM ***21*** *12:38:21.4, 3935N×2084E, h15km, MD3.5/7, After ATH*
THE ***21*** *12:38:22.1, 3933N×2090E, h2km, ML3.0*
SKO ***21*** *12:38:25.4, 3947N×2123E, h19km*

ISC 21 12:38:21.6±0.5, 3935N±002×2085E±004, h5km±4km, n23, σ0°90/35, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.30**	**1**	*e*PB	**Pg**	**12 38 26.7**	**-0.8**
IGT	**Igoumenitsa**	**0.44**	**295**	*e*Pg	**Pg**	**12 38 30.1**	**+0.1**
IGT				*e*Sg	**Sg**	**12 38 39.4**	**+3.7**
MEV	**Metsovon**	**0.53**	**34**	*e*Pg	**Pg**	**12 38 31.0**	**-0.6**
MEV				*e*Sg	**Sg**	**12 38 40.0**	**+1.5**
LKD	**Levkas**	**0.66**	**193**	*e*Pg	**Pg**	**12 38 34.2**	**0.0**
LKD				*e*Sg	**Sg**	**12 38 44.0**	**+1.2**
LSK	**Leskovik**	**0.82**	**347**	*i* Pn	**Pg**	**12 38 37.3**	**0.0**
LSK				*i* Sn	**Sg**	**12 38 52.9**	**+4.9**
SRN	**Sarande**	**0.84**	**309**	*i* Pn	**Pg**	**12 38 36.3**	**-1.4**
SRN				*i* Sn	**Sn**	**12 38 55.1**	**+2.4**
EVR	**Evrytania**	**0.87**	**120**	*e*PN	**Pg**	**12 38 38.3**	**+0.1**
KEK	**Kerkira**	**0.89**	**294**	*e*PN	**Pg**	**12 38 38.6**	**0.0**
VLS	**Valsamata**	**1.19**	**190**	*e*PB	**Pg**	**12 38 43.3**	**-1.1**
KZN	**Kozani**	**1.19**	**36**	*e*PN	**Pn**	**12 38 44.5**	**-0.3**
AGG	**Agios Georgios**	**1.20**	**105**	*e*Pg	**Pg**	**12 38 43.6**	**-0.9**
AGG				*e*Sg	**Sg**	**12 39 01.1**	**+1.0**
RLS	**Riolos of Patr**	**1.38**	**159**	*e*PN	**Pn**	**12 38 47.9**	**+0.5**
LIT	**Litokhoron**	**1.47**	**59**	*e*Pg	**Pn**	**12 38 48.3**	**-0.4**
LIT				*e*Sg	**Sg**	**12 39 09.6**	**+0.7**
FNA	**Florina**	**1.49**	**16**	*e*Pg	**Pg**	**12 38 48.2**	**-1.9**
FNA				*e*Sg	**Sg**	**12 39 10.3**	**+1.0**
OHR	**Ohrid**	**1.76**	**359**	*e*Pb	**Pb**	**12 38 53.6**	**-0.6**
OHR	**Ohrid**	**1.76**	**359**	*e*Pn	**Pn**	**12 38 52.3**	**-0.3**
OHR				*e*Pg	**Pg**	**12 38 54.9**	**-0.3**
OHR				*e*Sn	**Sn**	**12 39 14.4**	**-1.0**
OHR				*e*Sg	**Sg**	**12 39 19.0**	**+0.9**
LKR	**Lokris**	**1.82**	**112**	*e*PN	**Pn**	**12 38 53.9**	**+0.5**
XOR	**Xorichti**	**1.82**	**89**	*e*Pb	**Pn**	**12 38 53.3**	**-0.2**
XOR				*e*Sb	**Sn**	**12 39 16.3**	**-0.5**
PAIG	**Paliouri**	**2.26**	**74**	*e*Pn	**Pn**	**12 38 59.6**	**0.0**
VAY	**Valandovo**	**2.37**	**33**	*e*Pn	**Pn**	**12 39 01.4**	**+0.4**
VAY	**Valandovo**	**2.37**	**33**	*e*Pn	**Pn**	**12 38 59.6**	**-1.4**
STIP	**Stip**	**2.55**	**23**	*e*Pn	**Pn**	**12 39 03.8**	**+0.2**
SKO	**Skopje**	**2.66**	**10**	*e*Pn	**Pn**	**12 39 05.9**	**+0.9**

ORF ***21*** *12:40:50.9, 076S×7648W, h30km, mb5.5*
IGQ ***21*** *12:40:54.8, 2145×7741W, h180km±7km, Mb4.9, Ms4.8,*
Error ellipse: s-maj=8.3km s-min=5.3km az=41.1
IDC ***21*** *12:40:56.6±1.0, 191S×7747W, h146km±9km, mb4.7/27,*
mb1 4.8/31, mb1mx4.8/32, mbtmp5.1/31, MS4.1/1,
Ms1 4.1/1, ms1mx3.1/23, Error ellipse: s-maj=12.4km
s-min=7.2km az=78.0
ISCJB ***21*** *12:40:58.2±0.3, 189S±003×7742W±003, h170km±2km,*
mb5.1/205, Error ellipse: s-maj=5.5km s-min=3.7km
az=68.4
MOS ***21*** *12:40:59.7±1.6, 190S×7740W, h169km, mb5.5/73, Error*
ellipse: s-maj=48.9km s-min=25.6km az=107.1
BJI ***21*** *12:40:59.6, 190S×7740W, h169km, mB4.8*
HRVD ***21*** *12:40:59.7±0.3, 206S×7742W, h166km±2km, MW5.3/70,*
Centroid moment Tensor Solution. LP body waves:
s27, c37; Mantle waves: s70, c128; Half duration: 1±1
Moment tensor: Scale 10^{17}Nm; M_{rr}-0.55±.04;
$M_{\theta\theta}$-0.09±.04; $M_{\phi\phi}$0.64±.04; $M_{r\theta}$0.81±.03; $M_{\theta\phi}$-0.64±.04;
$M_{\phi r}$-0.31±.04; Best double couple: $M_0$1.23100×10^{17}
NP1: ϕ_s299.00000°, δ74.00000°, λ-122.00000°. Principal axes:
T 1.2860, Plg22.0000°, Azm53.0000°; N -0.1100,
Plg31.0000°, Azm309.0000°; P -1.1760, Plg51.0000°,
Azm172.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
NEIC ***21*** *12:40:59.7±0.2, 186S×7736W, mb5.2/155, MD4.8(IGQ)*
Error ellipse: s-maj=4.6km s-min=2.8km az=218.0
NEIC Felt at Guayaquil.
SZGRF ***21*** *12:41:14.7, 048N×7522W, h170km, mb5.6,*
Colombia-Ecuador border region

ISC 21 12:40:58.9±0.3, 188S±003×7732W±003, h159km±2km, h169km±1.2km; pP-P, n660, σ0°83/628, mb5.1/205, 146C-62D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
ULBA	**Ulba**	**1.17**	**292**	⇑P	**Pn**	**12 41 24.8**	**-1.2**
PATA	**Patacocha**	**1.17**	**289**	⇓P	**Pn**	**12 41 24.9**	**-1.2**
ARRY	**Arrayan**	**1.19**	**288**	⇓P	**Pn**	**12 41 24.6**	**-1.6**
RUN5	**Runtun**	**1.20**	**293**	⇓P	**Pn**	**12 41 25.1**	**-1.2**
RETU	**Refugio**	**1.20**	**291**	P	**Pn**	**12 41 25.3**	**-1.0**
RETU				S	**Sn**	**12 41 44.6**	**+6.6**
CUSU	**Cusua**	**1.24**	**291**	⇓P	**Pn**	**12 41 25.6**	**-1.1**
PISA	**Pisayambo**	**1.34**	**308**	⇓P	**Pn**	**12 41 27.6**	**0.0**
IGUA	**Igualata**	**1.37**	**287**	⇓P	**Pn**	**12 41 27.1**	**-0.8**
IGUA				S	**Sn**	**12 41 52.2**	**+10**
TAMB	**Tambo**	**1.58**	**319**	⇓P	**Pn**	**12 41 30.4**	**+0.4**
VC1	**Cotopaxi 1**	**1.64**	**319**	⇓P	**Pn**	**12 41 31.0**	**+0.4**
ANTI	**Antisana**	**1.65**	**330**	⇓P	**Pn**	**12 41 31.6**	**+0.8**
CAMI	**Rancho Maria**	**1.68**	**315**	⇓P	**Pn**	**12 41 31.6**	**+0.5**
NAS1	**Nasa**	**1.70**	**317**	⇓P	**Pn**	**12 41 31.9**	**+0.7**
LAV3	**Lava3-Reventad**	**1.80**	**350**	⇓P	**Pn**	**12 41 33.1**	**+0.7**
CONE	**Cono NE Rev Vo**	**1.83**	**350**	⇓P	**Pn**	**12 41 33.6**	**+0.9**
CAYR	**Refugio Cayamb**	**2.01**	**340**	⇓P	**Pn**	**12 41 36.2**	**+1.6**
ANGU	**Angureal**	**2.04**	**340**	⇓P	**Pn**	**12 41 36.5**	**+1.5**
CAYA	**Cayambe**	**2.05**	**341**	⇑P	**Pn**	**12 41 36.8**	**+1.6**
GGP	**Refugio Guagua**	**2.12**	**323**	⇓P	**Pn**	**12 41 36.3**	**+0.3**
TERV	**Terraza Guagua**	**2.13**	**323**	⇓P	**Pn**	**12 41 36.5**	**+0.4**
PINO	**Pino**	**2.14**	**323**	⇓P	**Pn**	**12 41 36.6**	**+0.4**
YANA	**Yana**	**2.15**	**325**	⇓P	**Pn**	**12 41 36.6**	**+0.3**
OTAV	**Otavalo**	**2.39**	**332**	*e*Pn	**Pn**	**12 41 39.5**	**+0.3**
COTA	**Cotacachi**	**2.43**	**335**	⇓P	**Pn**	**12 41 40.9**	**+1.3**
MAG1	**Magdalena**	**3.04**	**306**	⇓P	**Pn**	**12 41 45.0**	**-2.1**
ATAH	**Atahualpa**	**5.19**	**192**	P	**Pn**	**12 42 14.8**	**-0.2**
	155nm,0.3s,baz=13,slow=7.7,SNR=487						
ATAH				S	**Sn**	**12 43 12.1**	**-1.9**
	59nm,0.3s,baz=38,slow=23,SNR=19						
ROSC	**El Rosal**	**7.33**	**24**	P	**Pn**	**12 42 44.0**	**+0.7**
	6.5nm,0.3s,baz=98,slow=22,SNR=17						
NNA	**Nana**	**10.05**	**177**	*e*Pn	**Pn**	**12 43 16.1**	**-3.2**
	613nm,0.5s,SNR=12						
NNA	**Nana**	**10.05**	**177**	*e*Pn	**Pn**	**12 43 15.8**	**-3.6**
NNA				*e*Sn	**Sn**	**12 44 57.1**	**-14**
SDV	**Santo Domingo**	**12.61**	**32**	P	**Pn**	**12 43 52.8**	**+0.1**
	3.9nm,0.3s,baz=216,slow=11,SNR=35						
SDV	**Santo Domingo**	**12.61**	**32**	*e*Pn	**Pn**	**12 43 52.5**	**-0.1**
PAYG	**Puerto Ayora**	**13.02**	**275**	*e*Pn	**Pn**	**12 44 01.7**	**+3.8**
PAYG				*e*Sn	**Sn**	**12 46 22.7**	**+0.7**
JTS	**JuntasAbangare**	**14.28**	**328**	P	**Pn**	**12 44 14.1**	**+0.2**
	1.8nm,0.3s,baz=173,slow=17,SNR=6.3						
JTS	**JuntasAbangare**	**14.28**	**328**	*e*P	**Pn**	**12 44 15.6**	**+1.7**
JTS	**JuntasAbangare**	**14.28**	**328**	*e*Pn	**Pn**	**12 44 14.9**	**+1.0**
ARE	**Arequipa**	**15.58**	**159**	*e*P	**Pn**	**12 44 32.0**	**+2.0**
LPAZ	**La Paz**	**16.93**	**148**	P	**Pn**	**12 44 46.0**	**-0.4**
	2.2nm,0.3s,baz=323,slow=10,SNR=64						
LPAZ				S	**S**	**12 47 55.5**	**+1.4**
	0.1nm,0.3s,baz=144,slow=14,SNR=2.4						
LPAZ	**La Paz**	**16.93**	**148**	P	**Pn**	**12 44 46.0**	**-0.4**
LPAZ				S	**S**	**12 47 55.6**	**+1.4**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LPAZ	**La Paz**	**16.93**	**148**	*e*P	**Pn**	**12 44 44.7**	**-1.8**
	comp=Z,10nm,0.6s						
PCRV	**Puerto La Cruz**	**17.41**	**46**	P	**Pn**	**12 44 51.8**	**-0.3**
	comp=Z,27nm,0.3s,baz=232,slow=2.0,SNR=44						
SIV	**San Ignacio**	**21.28**	**132**	P	**P**	**12 45 33.0**	**+0.3**
	comp=Z,14nm,0.4s,mb4.6,baz=321,slow=10,SNR=91						
SIV				S	**S**	**12 49 21.1**	**+1.0**
	comp=Z,7.2nm,0.9s,baz=118,slow=22,SNR=7.4						
RCC	**Rio Carpintero**	**21.80**	**4**	*e*P	**P**	**12 45 39.5**	**+1.3**
	baz=208						
RCC				*e*S	**S**	**12 49 29.0**	**+0.5**
	comp=N,451nm,19.8s						
RCC				*e*			
	comp=E,353nm,17.9s						
LVC	**Limon Verde**	**22.17**	**159**	P	**P**	**12 45 41.8**	**-0.3**
	comp=E,50nm,0.7s,mb5.1,baz=326,slow=8.0,SNR=44						
LVC	**Limon Verde**	**22.17**	**159**	*e*P	**P**	**12 45 43.3**	**+1.2**
	comp=E,126nm,1.0s,mb5.3						
SJG	**San Juan**	**22.71**	**29**	P	**P**	**12 45 46.0**	**-1.1**
	comp=E,51nm,0.4s,mb5.3,baz=334,slow=21,SNR=19						
SJG	**San Juan**	**22.71**	**29**	*e*P	**P**	**12 45 46.9**	**-0.2**
SJG				pmax	pmax		
	comp=Z,78nm,0.8s						
SJG	**San Juan**	**22.71**	**29**	*e*P	**P**	**12 45 46.9**	**-0.2**
	comp=Z,78nm,0.8s,mb5.2						
HUMP	**Col San Antoni**	**22.88**	**29**	*e*P	**P**	**12 45 49.0**	**+0.3**
FDF	**Fort de France**	**23.00**	**44**	*e*P	**P**	**12 45 49.0**	**-0.7**
MVM	**Montagne Vaucl**	**23.05**	**44**	*e*P	**P**	**12 45 48.8**	**-1.5**
CRM	**Caraville**	**23.18**	**44**	*e*P	**P**	**12 45 50.3**	**-1.1**
BBL	**Barber's Block**	**23.35**	**42**	*e*P	**P**	**12 45 52.2**	**-0.7**
LZG	**Guadaloupe-1**	**23.59**	**40**	*e*P	**P**	**12 45 55.3**	**+0.1**
MGG	**Marie-Galante**	**23.73**	**41**	*e*P	**P**	**12 45 55.9**	**-0.5**
SEG	**Port Louis**	**23.96**	**40**	*e*P	**P**	**12 45 59.7**	**+1.2**
TEIG	**Tepich**	**24.46**	**334**	*e*P	**P**	**12 46 03.0**	**0.0**
	comp=Z,14nm,0.6s,mb4.7						
SOR	**Soroa**	**25.14**	**348**	*e*P	**P**	**12 46 10.0**	**+0.8**
CMIG	**Matias Romero**	**25.61**	**318**	P	**P**	**12 46 12.0**	**-1.4**
	comp=Z,4.8nm,0.4s,mb4.5,baz=106,slow=6.7,SNR=11						
DWPF	**Disney**	**30.08**	**353**	*e*P	**P**	**12 46 53.6**	**+0.4**
	comp=Z,65nm,0.8s,mb5.4						
CFAA	**Coronel Fontan**	**30.78**	**165**	P	**P**	**12 46 59.7**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=333,slow=8.2,SNR=21						
CFAA				PcP	PcP	12 49 51.0	-1.8
	comp=Z,0.5nm,0.4s,baz=297,slow=4.5,SNR=4.4						
CFAA	**Coronel Fontan**	**30.78**	**165**	P	**P**	**12 46 59.7**	**+0.4**
CFAA				PcP	PcP	12 49 51.0	-1.8
BDFB	**Brasilia**	**31.96**	**117**	P	**P**	**12 47 10.2**	**+0.6**
	comp=Z,8.2nm,0.5s,mb4.7,baz=292,slow=11,SNR=12						
FCH	**Farellones**	**31.97**	**169**	⇓*i* P	**P**	**12 47 10.9**	**+1.1**
GOGA	**Godfrey**	**35.58**	**351**	*e*P	**P**	**12 47 40.5**	**-0.4**
GOGA				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.1						
GOGA	**Godfrey**	**35.58**	**351**	*e*P	**P**	**12 47 40.5**	**-0.4**
	comp=Z,363nm,0.7s,mb6.1						
HKT	**Hockley**	**36.26**	**332**	*e*P	**P**	**12 47 46.2**	**-0.5**
HKT				pmax	pmax		
	comp=Z,51nm,1.9s,mb4.8						
HKT	**Hockley**	**36.26**	**332**	*e*P	**P**	**12 47 46.2**	**-0.5**
	comp=Z,51nm,1.9s,mb4.8						
NATX	**Nacogdoches**	**37.29**	**335**	*e*P	**P**	**12 47 55.3**	**-0.1**
	comp=Z,56nm,0.8s,mb5.2						
CPCT	**Cooper Cave**	**37.74**	**350**	*e*P	**P**	**12 47 58.9**	**-0.3**
SWET	**Sewanee**	**37.78**	**348**	*e*P	**P**	**12 47 58.5**	**-1.0**
SWET				*e*ScP	ScP	12 53 45.2	-0.1
OXF	**Oxford**	**37.94**	**344**	*e*P	**P**	**12 47 59.6**	**-1.3**
OXF				pmax	pmax		
	comp=Z,27nm,0.5s,mb5.1						
OXF	**Oxford**	**37.94**	**344**	*e*P	**P**	**12 47 59.6**	**-1.3**
	comp=Z,53nm,0.9s,mb5.2						
PLAL	**Pickwick Lake**	**38.03**	**346**	*e*P	**P**	**12 48 00.0**	**-1.7**
	comp=Z,43nm,1.4s,mb4.9						
JCT	**Junction City**	**38.67**	**328**	*e*P	**P**	**12 48 07.5**	**+0.5**
JCT				*e*		12 50 15.3	
JCT				*e*		12 53 48.2	
JCT				pmax	pmax		
	comp=Z,11nm,0.3s,mb5.0						
JCT	**Junction City**	**38.67**	**328**	*e*P	**P**	**12 48 07.5**	**+0.6**
	comp=Z,11nm,0.3s,mb5.0						
JCT				*e*pP	pP	12 48 45.2	+3.8
JCT				*e*PcP	PcP	12 50 15.3	-0.4
JCT				*e*ScP	ScP	12 53 48.2	-0.5
BLA	**Blacksburg**	**39.00**	**356**	*e*P	**P**	**12 48 10.3**	**+0.5**
BLA				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.3						
BLA	**Blacksburg**	**39.00**	**356**	*e*P	**P**	**12 48 10.3**	**+0.5**
	comp=Z,12nm,1.6s,mb4.3						
ELN	**Prospectdale**	**39.04**	**356**	*e*P	**P**	**12 48 10.3**	**+0.3**
WVT	**Waverly**	**39.07**	**346**	*e*P	**P**	**12 48 08.1**	**-2.2**
WVT				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.2						
WVT	**Waverly**	**39.07**	**346**	*e*P	**P**	**12 48 08.1**	**-2.2**
	comp=Z,39nm,0.6s,mb5.2						
UALR	**University of**	**39.09**	**340**	*e*P	**P**	**12 48 09.1**	**-1.4**
PLCA	**Paso Flores**	**39.15**	**172**	P	**P**	**12 48 10.5**	**-0.5**
	comp=Z,56nm,0.9s,mb5.2,baz=343,slow=9.8,SNR=77						
PLCA				PcP	PcP	12 50 17.4	+0.3
	comp=Z,3.5nm,0.6s,baz=334,slow=5.2,SNR=3.9						
PLCA				ScP	ScP	12 53 49.9	-0.7
	comp=Z,1.6nm,0.7s,baz=28,slow=4.6,SNR=3.5						
PLCA	**Paso Flores**	**39.15**	**172**	*e*P	**P**	**12 48 10.5**	**-0.5**
PLCA				pmax	pmax		
	comp=Z,62nm,0.9s						
PLCA	**Paso Flores**	**39.15**	**172**	*e*P	**P**	**12 48 10.5**	**-0.5**
	comp=Z,62nm,0.9s,mb5.2						
HBAR	**Harrisburg**	**39.28**	**343**	*e*P	**P**	**12 48 10.8**	**-1.3**
MIAR	**Mount Ida**	**39.32**	**339**	*e*P	**P**	**12 48 11.0**	**-1.4**
MIAR				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.9						
MIAR	**Mount Ida**	**39.32**	**339**	*e*P	**P**	**12 48 11.0**	**-1.4**
	comp=Z,30nm,1.0s,mb4.9						
MIAR				*e*ScP	ScP	12 53 51.1	-0.1
FWV	**Forest Hill**	**39.40**	**356**	*e*P	**P**	**12 48 10.2**	**-2.9**
GNAR	**Gosnell**	**39.48**	**344**	*e*P	**P**	**12 48 12.8**	**-0.9**
	comp=Z,762nm,0.5s						
GLAT	**Glass**	**39.56**	**345**	*e*P	**P**	**12 48 12.8**	**-1.6**
PARMO	**Parma**	**40.06**	**344**	*e*P	**P**	**12 48 17.4**	**-1.1**
WCI	**Wyandotte Cave**	**40.77**	**349**	*e*P	**P**	**12 48 22.7**	**-1.6**
WCI				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.1						
WCI	**Wyandotte Cave**	**40.77**	**349**	*e*P	**P**	**12 48 22.7**	**-1.6**
	comp=Z,48nm,0.9s,mb5.1						
USIN	**University of**	**40.79**	**347**	*e*P	**P**	**12 48 23.0**	**-1.4**
	comp=Z,214nm,1.0s,mb5.7						
SIUC	**Southern Illin**	**40.91**	**346**	*e*P	**P**	**12 48 23.8**	**-1.7**
MCWV	**Mont Chateau**	**41.41**	**357**	*e*P	**P**	**12 48 29.8**	**+0.3**
	comp=Z,49nm,1.2s,mb5.0						
FVM	**French Village**	**41.48**	**344**	*e*P	**P**	**12 48 28.1**	**-2.0**
BLO	**Bloomington**	**41.72**	**349**	*e*P	**P**	**12 48 30.5**	**-1.6**
CCM	**Cathedral Cave**	**41.77**	**343**	*e*P	**P**	**12 48 30.3**	**-2.2**
CCM				pmax	pmax		
	comp=Z,66nm,0.9s,mb5.3						
CCM	**Cathedral Cave**	**41.77**	**343**	*e*P	**P**	**12 48 30.3**	**-2.2**
	comp=Z,66nm,0.9s,mb5.3						
SLM	**Saint Louis**	**42.04**	**345**	*e*P	**P**	**12 48 33.2**	**-1.5**
ACSO	**Alum Creek Sta**	**42.23**	**354**	*e*P	**P**	**12 48 35.5**	**-0.8**
	comp=Z,49nm,0.9s,mb5.1						
SSPA	**Standing Stone**	**42.32**	**359**	*e*P	**P**	**12 48 36.6**	**-0.3**
	comp=Z,20nm,0.9s,mb4.8						
MNTX	**Cornudas Mount**	**42.72**	**324**	*e*P	**P**	**12 48 40.1**	**0.0**
	comp=Z,4.0nm,0.7s,mb4.2						
AMTX	**Amarillo**	**43.12**	**330**	*e*P	**P**	**12 48 43.6**	**+0.2**
	comp=Z,22nm,0.4s,mb5.1						
AMTX				*e*ScP	ScP	12 54 06.7	+0.4
ALLY	**Alegheny Colle**	**43.41**	**357**	*e*P	**P**	**12 48 45.4**	**-0.3**
ERPA	**Erie**	**43.86**	**357**	*e*P	**P**	**12 48 48.8**	**-0.5**
	comp=Z,106nm,1.0s,mb5.4						
BINY	**Binghamton**	**43.90**	**1**	*e*P	**P**	**12 48 50.1**	**+0.5**
	comp=Z,54nm,0.8s,mb5.2						
BINY				*e*ScP	ScP	12 54 08.8	-0.7
ACCN	**Adirondack Com**	**45.18**	**4**	*e*P	**P**	**12 49 00.

TPAW **Teton Pass** 54.32 330 *eP* P 12 50 08.8 0.0
comp=Z,6.0nm,0.5s,mb4.6
ULM **Lac du Bonnet** 54.32 345 P P 12 50 06.7 -2.1
comp=Z,82nm,0.6s,mb5.6,baz=155,slow=7.7,SNR=150
ULM PcP PcP 12 51 09.2 -1.6
comp=Z,4.0nm,0.4s,baz=68,slow=5.4,SNR=3.2
MOOW **Moose Ponds** 54.41 331 *eP* P 12 50 09.3 -0.1
S08C **White Mtn Res** 54.44 320 P P 12 50 10.6 +1.0
baz=54,SNR=12
O11A **Cowboy Ranch,** 54.54 324 P P 12 50 11.1 +0.8
baz=55,SNR=5.2
IMW **Indian Meadow** 54.61 331 *eP* P 12 50 10.9 0.0
comp=Z,13nm,0.6s,mb4.8
N12A **Wells--Clov Va** 54.66 325 ⇑P P 12 50 11.7 +0.6
baz=55
M12A **Wells** 54.96 326 P P 12 50 13.2 -0.2
baz=55,SNR=10
YFT **Old Faithful** 54.97 331 *eP* P 12 50 15.1 +1.7
MNV **Mina** 54.99 321 *eP* P 12 50 14.3 +0.7
MNV epP pP 12 50 53.5 +3.3
Q08A **Gabbs** 55.11 322 P P 12 50 14.9 +0.5
baz=55,SNR=6.3
R07C **Lee Vining** 55.35 320 ⇑P P 12 50 16.4 +0.2
baz=55
M11A **Holland Ranch,** 55.46 325 ⇑P P 12 50 16.8 -0.2
baz=56
O09A **Fish Creek Ran** 55.47 323 P P 12 50 17.8 +0.8
baz=56,SNR=8.8
U04C **Hernandez Rese** 55.50 318 ⇓P P 12 50 17.9 +0.7
baz=56
QLMT **Earthquake Lak** 55.53 331 *eP* P 12 50 18.6 +1.1
P08A **Dixie Valley** 55.71 322 ⇓P P 12 50 20.0 +1.3
baz=56
M10A **I.L. Ranch, Tu** 55.95 325 ⇓P P 12 50 20.2 -0.2
baz=56
HLID **Hailey** 56.14 328 *eP* P 12 50 22.1 +0.2
comp=Z,3.9nm,0.6s,mb4.4
CMB **Columbia Colle** 56.18 320 ⇓P P 12 50 23.5 +1.4
baz=56
PACP **Pacheco Peak** 56.20 318 ⇑P P 12 50 23.6 +1.4
baz=56
BOZ **Bozeman (W)** 56.23 332 *eP* P 12 50 22.4 0.0
BOZ pmax pmax
comp=Z,36nm,1.3s,mb5.0
BOZ **Bozeman (W)** 56.23 332 *eP* P 12 50 22.4 0.0
BOZ pmax pmax
comp=Z,36nm,1.3s,mb5.0
BOZ **Bozeman (W)** 56.23 332 *eP* P 12 50 22.4 -0.1
comp=Z,36nm,1.3s,mb5.0
R05C **Kirkwood Meado** 56.37 320 ⇓P P 12 50 24.3 +0.9
baz=56
M09A **Marrel Ranch,** 56.41 324 ⇑P P 12 50 23.7 0.0
baz=56
O07A **Toulon** 56.48 322 ⇓P P 12 50 24.2 0.0
baz=57
DLMT **Dillon** 56.49 331 *eP* P 12 50 24.4 +0.1
comp=Z,3.3nm,0.5s,mb4.4
WCN **Washoe City** 56.51 321 ⇑P P 12 50 24.6 +0.2
baz=57
R04C **Big Horse Ranc** 56.67 319 P P 12 50 26.8 +1.2
baz=57,SNR=7.2
LRM **Limekiln Ridge** 56.75 331 *eP* P 12 50 26.1 0.0
LAVA **Lava Cap Winer** 56.82 320 ⇓P P 12 50 25.2 -1.4
baz=57
L09A **Wilkinson Ranc** 56.92 325 P P 12 50 27.7 +0.4
baz=57,SNR=8.9
M08A **Happy Creek Ra** 56.97 324 ⇓P P 12 50 27.9 +0.2
baz=57
P05C **Yuba Gap, Truc** 57.05 321 ⇑P P 12 50 28.6 +0.4
baz=57
JRSC **Jasper Ridge** 57.05 318 ⇑P P 12 50 28.4 +0.1
baz=57
O06A **Flanigan** 57.06 322 P P 12 50 28.8 +0.5
baz=57,SNR=6.0
HRY **Holter Researc** 57.11 332 *eP* P 12 50 28.6 0.0
EGMT **Eagleton** 57.17 335 *eP* P 12 50 28.7 -0.4
comp=Z,11nm,0.8s,mb4.7
SCHQ **Schefferville** 57.18 7 P P 12 50 27.6 -1.5
comp=Z,6.3nm,0.7s,mb4.6,baz=216,slow=6.3,SNR=12
SCHQ PcP PcP 12 51 20.0 -1.8
comp=Z,4.8nm,0.6s,baz=193,slow=7.2,SNR=5.1
SCHQ **Schefferville** 57.18 7 *eP* P 12 50 28.1 -1.1
comp=Z,7.3nm,0.7s,mb4.6
Q04C **Lincoln** 57.28 320 ⇓P P 12 50 29.7 -0.1
baz=57
M07A **Soldier Meadow** 57.41 323 ⇑P P 12 50 29.9 -0.8
baz=58
O05C **Quincy** 57.63 321 ⇑P P 12 50 32.9 +0.7
baz=58
OHCM **Honcut** 57.63 320 *eP* P 12 50 32.8 +0.5
ORV **Oroville** 57.76 320 P P 12 50 34.0 +0.9
baz=58,SNR=9.3
CHMT **Chamberlain Mo** 57.92 332 *eP* P 12 50 33.8 -0.5
M06C **Likely Place G** 58.08 323 ⇑P P 12 50 36.1 +0.7
baz=58
MSO **Missoula** 58.19 331 *eP* P 12 50 36.1 -0.1
comp=Z,4.3nm,0.7s,mb4.4
K07A **Rock Creek Ran** 58.25 325 P P 12 50 36.6 0.0
baz=58,SNR=5.2
BMO **Blue Mountains** 58.55 328 *eP* P 12 50 37.8 -0.9
BMO pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
BMO **Blue Mountains** 58.55 328 *eP* P 12 50 37.8 -0.9
BMO pmax pmax
comp=Z,30nm,1.0s,mb5.1
BMO **Blue Mountains** 58.55 328 *eP* P 12 50 37.8 -0.9
comp=Z,3.0nm,1.0s,mb4.1
M05C **Lookout** 58.58 322 P P 12 50 39.2 +0.3
baz=59,SNR=8.2
K06A **Valley Falls** 58.90 324 ⇓P P 12 50 42.3 +1.2
baz=59
WDC **Whiskeytown Da** 59.00 321 ⇑P P 12 50 39.6 -2.1
baz=59
J06A **Christmas Vall** 59.12 325 ⇓P P 12 50 42.5 0.0
baz=59
M03C **McCloud** 59.12 322 ⇑P P 12 50 42.3 -0.3
baz=59
M04C **Macdoel** 59.25 322 ⇓P P 12 50 44.1 +0.7
baz=59
BSMT **Bassoo Peak** 59.32 332 *eP* P 12 50 44.3 +0.3
L04A **Klamath Falls** 59.50 323 ⇑P P 12 50 45.9 +0.7
baz=60
I06A **Prineville** 59.57 325 ⇓P P 12 50 46.2 +0.5
baz=60,SNR=17
YBH **Yreka Blue Hor** 59.75 322 ⇓P P 12 50 46.8 -0.1
baz=60
WALA **Waterton Lakes** 59.78 333 *eP* P 12 50 46.9 -0.3
comp=Z,10nm,0.9s,mb4.7
FFC **Flin Flon** 59.98 344 P P 12 50 47.5 -1.0
comp=Z,195nm,0.8s,mb6.0,SNR=8.4
FFC **Flin Flon** 59.98 344 *eP* P 12 50 47.3 -1.2
FFC pmax pmax
comp=Z,40nm,1.0s,mb5.2
FFC **Flin Flon** 59.98 344 *eP* P 12 50 47.3 -1.2
comp=Z,40nm,1.0s,mb5.2
I05A **Bend** 60.31 325 ⇓P P 12 50 51.4 +0.7
baz=60
L02A **Cave Junction** 60.54 322 ⇑P P 12 50 52.7 +0.4
baz=61
H05A **Madras** 60.59 325 ⇑P P 12 50 52.5 -0.1
baz=61
HAWA **Hanford** 60.74 328 *eP* P 12 50 53.7 +0.1
NEW **Newport** 60.74 331 *eP* P 12 50 53.2 -0.4
NEW pmax pmax
comp=Z,18nm,0.9s
NEW **Newport** 60.74 331 *eP* P 12 50 53.2 -0.4
comp=Z,18nm,0.9s,mb4.9
K02A **Glendale** 60.82 323 ⇓P P 12 50 55.0 +0.8
baz=61
J03A **Ideyld Park** 60.84 323 ⇑P P 12 50 56.8 +2.5
baz=61
G05A **Wamic** 61.00 326 ⇓P P 12 50 55.8 +0.4
baz=61
H04A **Detroit Lake** 61.15 325 ⇓P P 12 50 55.8 -0.6
baz=61
J02A **Umpqua** 61.20 323 ⇑P P 12 50 57.2 +0.4
baz=61
F05A **White Salmon** 61.46 326 ⇓P P 12 50 59.5 +0.9
baz=62
H03A **Soap Creek Ran** 61.79 324 ⇑P P 12 51 01.1 +0.4
baz=62
FCC **Fort Churchill** 61.91 350 *eP* P 12 50 59.3 -2.2
FCC pmax pmax
comp=Z,53nm,1.0s,mb5.3
FCC **Fort Churchill** 61.91 350 *eP* P 12 50 59.3 -2.2
comp=Z,53nm,1.0s,mb5.3
F04A **Amboy** 62.03 326 ⇓P P 12 51 01.7 -0.6
baz=62
E05A **Randle** 62.04 327 ⇓P P 12 51 01.8 -0.6
baz=62
LON **Longmire** 62.19 327 *eP* P 12 51 03.1 -0.2
D05A **Enumclaw** 62.55 327 ⇑P P 12 51 05.7 -0.1
baz=63
C05A **Toit Reservoir** 62.70 328 ⇓P P 12 51 06.5 -0.2
baz=63
E03A **Lebam** 63.03 326 ⇑P P 12 51 09.0 +0.1
baz=63
GNW **Green Mountain** 63.23 327 *eP* P 12 51 09.9 -0.4
B05A **Bryant** 63.27 328 ⇑P P 12 51 09.7 -0.8
baz=63
C04A **Brinnon** 63.40 327 ⇓P P 12 51 11.4 0.0
baz=64
A05A **Maple Falls** 63.72 329 P P 12 51 13.3 -0.2
baz=64,SNR=7.0
A04A **Legoe Bay, Lum** 63.87 328 ⇓P P 12 51 14.3 -0.1
baz=64
CHIE **El Hierro** 64.13 58 P P 12 51 16.4 +0.2
comp=Z,85nm,0.7s,mb5.7
EGOM **La Gomera** 64.89 58 P P 12 51 21.6 +0.5
comp=Z,87nm,1.2s,mb5.5
CCAN **Las Canadas** 65.42 58 P P 12 51 25.4 +1.0
comp=Z,95nm,1.3s,mb5.5
CFTV **Fuerteventura** 67.61 58 P P 12 51 38.0 -0.4
comp=Z,48nm,1.2s,mb5.1
EFAM **Famara** 68.26 58 P P 12 51 39.2 -3.2
comp=Z,50nm,0.8s,mb5.3
YKA **Yellowknife Ar** 70.10 343 P P 12 51 52.1 -1.6
comp=Z,8.3nm,0.6s,mb4.7,baz=140,slow=6.2,SNR=62
YKW3 **Yellowknife Ar** 70.16 343 *eP* P 12 51 52.2 -1.9
SFJD **Kangerlussuaq** 71.28 11 P P 12 51 59.6 -1.3
comp=Z,16nm,1.0s,mb4.7,baz=165,slow=6.0,SNR=6.8
SFJD **Kangerlussuaq** 71.28 11 P P 12 51 59.6 -1.3
SFJD pmax pmax
comp=Z,17nm,1.0s,mb4.7
SFJD **Kangerlussuaq** 71.28 11 *eP* P 12 51 59.5 -1.4
LIC **Lamto** 72.62 83 *eP* P 12 52 07.4 -1.5
comp=Z,54nm,0.6s,mb5.1
LIC **Lamto** 72.62 83 *eP* P 12 52 07.4 -1.5
comp=Z,27nm,0.6s,mb5.2
DBIC **Dimbokro** 72.82 82 P P 12 52 10.4 +0.3
comp=Z,35nm,0.8s,mb5.2,baz=252,slow=5.3,SNR=38
DBIC **Dimbokro** 72.82 82 *eP* P 12 52 10.4 +0.3
DBIC pmax pmax
comp=Z,38nm,0.8s
DBIC **Dimbokro** 72.82 82 *eP* P 12 52 10.4 +0.3
comp=Z,38nm,0.8s,mb5.2
PTEO **Sao Teotonio** 74.33 50 *eP* P 12 52 19.4 +0.5
comp=Z,82nm,0.7s,mb5.6
MOE **Montemor** 74.87 49 *eP* P 12 52 22.4 +0.4
PBEJ **Beja** 75.11 50 *eP* P 12 52 23.8 +0.4
comp=Z,66nm,1.7s,mb5.0
EVO **Evora** 75.13 49⇑*iP* P 12 52 22.9 -0.5
comp=Z,108nm,0.6s,mb5.3
EGRO **El Granado** 75.28 50 P P 12 52 24.9 +0.5
comp=Z,83nm,0.9s,mb5.4
PTO **Porto** 75.37 47 *eP* P 12 52 24.9 +0.1
comp=Z,126nm,1.0s,mb5.5
EMAZ **Mazaricos** 75.60 45 P P 12 52 25.9 -0.3
comp=Z,18nm,0.6s,mb4.9
PVIS **Viseu** 75.78 47 *eP* P 12 52 27.1 0.0
comp=Z,73nm,0.7s,mb5.4
PCBR **Castelo Branco** 75.86 48 *eP* P 12 52 27.6 0.0
comp=Z,48nm,1.0s,mb5.1
STS **Santiago** 75.89 45 P P 12 52 28.7 +0.9
STS pmax pmax
comp=Z,12nm,0.6s,mb4.7
STS **Santiago** 75.89 45 P P 12 52 28.7 +1.0
comp=Z,12nm,0.6s,mb4.7
EBAD **Badajoz** 75.94 49 P P 12 52 26.9 -1.2
comp=Z,29nm,0.8s,mb5.0
PCAB **Cabril** 75.94 46 *eP* P 12 52 27.5 -0.6
comp=Z,62nm,1.1s,mb5.2
MTE **Manteigas** 75.95 48 *eP* P 12 52 27.9 -0.2
comp=Z,57nm,0.8s,mb5.3
MTE *e-* 12 59 22.3
ELOB **Lobios** 75.96 46 P P 12 52 27.5 -0.6
comp=Z,15nm,0.8s,mb4.7
EMIN **Mina Concepcio** 75.97 50 P P 12 52 28.7 +0.5
comp=Z,16nm,0.9s,mb4.7
PVRL **Vila Real** 76.05 47 *eP* P 12 52 28.6 -0.1
comp=Z,72nm,1.3s,mb5.1
ESPR **Espera** 76.39 51 P P 12 52 31.6 +1.0
comp=Z,31nm,0.9s,mb4.9
MDT **Midelt** 76.55 56 P P 12 52 32.7 +1.1
comp=Z,24nm,0.9s,mb4.8,baz=274,slow=6.3,SNR=18
PBRG **Braganca** 76.89 46 *eP* P 12 52 33.6 +0.1
comp=Z,36nm,0.7s,mb5.1
ECAL **Calabor** 76.93 46 P P 12 52 34.0 +0.3
comp=Z,33nm,0.9s,mb5.0
EPON **Pontenova** 76.99 45 P P 12 52 33.8 -0.2
comp=Z,68nm,0.6s,mb5.5
EMIJ **Mijas** 77.18 52 P P 12 52 35.4 +0.4
comp=Z,43nm,0.8s,mb5.1
RES **Resolute Bay** 77.19 355 *eP* P 12 52 32.5 -2.6
RES pmax pmax
comp=Z,25nm,1.2s,mb4.7
RES **Resolute Bay** 77.19 355 *eP* P 12 52 32.5 -2.6
comp=Z,25nm,1.2s,mb4.7
EADA **Adamuz** 77.67 50 P P 12 52 38.1 +0.4
comp=Z,22nm,0.8s,mb4.8
ELOJ **Sierra Loja** 77.78 51 P P 12 52 39.8 +1.4
ELOJ pmax pmax
comp=Z,44nm,0.8s,mb5.1
ELOJ **Sierra Loja** 77.78 51 P P 12 52 39.8 +1.4
comp=Z,44nm,0.8s,mb5.1
BORG **Borgarnes** 77.86 21 P P 12 52 38.4 -0.4
comp=Z,27nm,0.8s,mb4.9,baz=210,slow=1.2,SNR=5.1
BORG **Borgarnes** 77.86 21 P P 12 52 38.4 -0.4
ERON **Agron** 78.03 52 P P 12 52 41.1 +1.4
comp=Z,36nm,0.6s,mb5.2
ECOG **Cogollos-Vega** 78.27 51 P P 12 52 42.1 +1.0
ECOG pmax pmax
comp=Z,61nm,0.6s,mb5.4
ECOG **Cogollos-Vega** 78.27 51 P P 12 52 42.1 +1.0
comp=Z,61nm,0.6s,mb5.4
SUMG **Summit** 78.27 11 *eP* P 12 52 40.4 -0.7
comp=Z,46nm,0.5s,mb5.4
EBAN **Banos Encina** 78.28 51 P P 12 52 41.6 +0.5
EBAN pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
EBAN **Banos Encina** 78.28 51 P P 12 52 41.6 +0.5
comp=Z,8.7nm,0.5s,mb4.6
EARI **Arrondas** 78.36 45 P P 12 52 41.8 +0.2
comp=Z,45nm,0.6s,mb5.3
EALB **Alboran** 78.43 53 P P 12 52 41.7 -0.2
ESDC **Sonseca Array** 78.45 49 P P 12 52 42.3 +0.2
comp=Z,21nm,0.8s,mb4.8,baz=261,slow=6.7,SNR=46
GUD **Guadarrama** 78.52 48 P P 12 52 43.2 +0.8
GUD pmax pmax
comp=Z,29nm,0.7s,mb5.0
GUD **Guadarrama** 78.52 48 P P 12 52 43.2 +0.7
comp=Z,29nm,0.7s,mb5.0
EBER **Berja** 78.73 52 P P 12 52 44.3 +0.7
comp=Z,54nm,0.7s,mb5.3
EQES **Quesada** 78.76 51 P P 12 52 44.5 +0.7
comp=Z,54nm,0.8s,mb5.2
EHUE **Huescar** 79.13 51 P P 12 52 46.5 +0.7
ENIJ **Nijar** 79.28 52 P P 12 52 46.5 -0.1
ENIJ pmax pmax
comp=Z,38nm,0.8s,mb5.1
ENIJ **Nijar** 79.28 52 P P 12 52 46.5 -0.1
comp=Z,38nm,0.8s,mb5.1
EVIA **Vianos** 79.36 50 P P 12 52 47.1 +0.1
DCN **Croghan** 79.72 35 *eP* P 12 52 46.8 -2.2
TORD **Torodi Ar. Bea** 79.74 76 P P 12 52 48.8 -0.3
comp=Z,10nm,0.5s,mb4.7,baz=282,slow=5.9,SNR=96
DAWY **Dawson** 79.83 337 *eP* P 12 52 49.0 -0.6
INK **Inuvik** 79.84 342 *eP* P 12 52 48.5 -1.1
INK pmax pmax
comp=Z,14nm,0.7s
INK **Inuvik** 79.84 342 *eP* P 12 52 48.5 -1.1
comp=Z,14nm,0.7s,mb4.7
ETOB **Tobarra** 80.09 50 P P 12 52 52.2 +1.2
comp=Z,37nm,0.9s,mb5.0
DMUB **Kingscourt** 80.10 34 *eP* P 12 52 48.9 -2.1
ETOR **Torete** 80.12 48 P P 12 52 52.1 +1.0
ETOR pmax pmax
comp=Z,17nm,0.7s,mb4.8
ETOR **Torete** 80.12 48 P P 12 52 52.1 +1.0
comp=Z,17nm,0.7s,mb4.8
DLF **Lyons Farm** 80.14 35 *eP* P 12 52 48.7 -2.5
EMUR **La Murta** 80.19 51 P P 12 52 51.2 -0.3
comp=Z,16nm,0.6s,mb4.8
ECHE **Chera** 80.71 50 P P 12 52 55.9 +1.6
ECHE pmax pmax
comp=Z,27nm,1.2s,mb4.8
ECHE **Chera** 80.71 50 P P 12 52 55.9 +1.6
comp=Z,27nm,1.2s,mb4.8
QUIF **Quistinic** 80.83 41⇑*iP* P 12 52 54.7 -0.2
comp=Z,48nm,0.7s,mb4.9
QUIF **Quistinic** 80.83 41⇑*iP* P 12 52 54.7 -0.2
QUIF pmax pmax
comp=Z,24nm,0.7s,mb4.9
QUIF **Quistinic** 80.83 41⇑*iP* P 12 52 54.7 -0.2
comp=Z,24nm,0.7s,mb4.9
ROSF **Rostrenen** 80.85 41⇑*iP* P 12 52 54.9 -0.1
comp=Z,91nm,0.6s,mb5.3
ROSF **Rostrenen** 80.85 41⇑*iP* P 12 52 54.9 -0.1
ROSF pmax pmax
comp=Z,45nm,0.6s,mb5.3
ROSF **Rostrenen** 80.85 41⇑*iP* P 12 52 54.9 -0.1
comp=Z,45nm,0.6s,mb5.3
ELIZ **Elizondo** 80.95 46 P P 12 52 55.0 -0.6
EALK **Alkurruntz** 80.98 46 P P 12 52 56.2 +0.5
comp=Z,22nm,0.7s,mb4.9
EBEN **Beniarda** 81.12 51 P P 12 52 56.9 +0.5
comp=Z,72nm,1.0s,mb5.3
MENT **Mentasta** 81.14 335 *eP* P 12 52 55.3 -1.2
OSSF **Osses** 81.16 46 *eP* P 12 52 56.4 -0.3
SJPF **Ste Jean** 81.16 46⇑*iP* P 12 52 57.1 +0.4
comp=Z,104nm,0.7s,mb5.3
SJPF **Ste Jean** 81.16 46⇑*iP* P 12 52 57.1 +0.4
SJPF pmax pmax
comp=Z,52nm,0.7s,mb5.3
SJPF **Ste Jean** 81.16 46⇑*iP* P 12 52 57.1 +0.4
comp=Z,52nm,0.7s,mb5.3
EMOS **Mosqueruela** 81.22 49 P P 12 52 57.4 +0.5
comp=Z,33nm,0.8s,mb5.0
SGMF **Saint Gilles** 81.30 41⇑*iP* P 12 52 57.2 -0.2
comp=Z,162nm,0.9s,mb5.4
SGMF **Saint Gilles** 81.30 41⇑*iP* P 12 52 57.2 -0.2
SGMF pmax pmax
comp=Z,81nm,0.9s,mb5.3
SGMF **Saint Gilles** 81.30 41⇑*iP* P 12 52 57.2 -0.2
comp=Z,81nm,0.9s,mb5.3
LARF **Larrau** 81.32 46 *eP* P 12 52 58.2 +0.7
ESAC **San Caprasio** 81.46 47 P P 12 52 59.0 +0.8
comp=Z,86nm,0.8s,mb5.4
ETSF **Etsaut** 81.60 46⇑*iP* P 12 52 59.5 +0.5
comp=Z,44nm,0.7s,mb4.9
ETSF **Etsaut** 81.60 46⇑*iP* P 12 52 59.5 +0.5
ETSF pmax pmax
comp=Z,22nm,0.7s,mb4.9
ETSF **Etsaut** 81.60 46⇑*iP* P 12 52 59.5 +0.5
comp=Z,22nm,0.7s,mb4.9
REYF **Montagne du Re** 81.75 46 *eP* P 12 53 00.3 +0.5
ERTA **Horta de San J** 81.92 48 P P 12 53 01.1 +0.4
comp=Z,49nm,0.8s,mb5.2
EBR **Ebro Roquetas** 82.02 49 *eP* P 12 53 01.5 +0.3
VIEF **Viey** 82.02 46 *eP* P 12 53 01.7 +0.5
EBIE **Bielsa** 82.08 47 P P 12 53 02.3 +0.8
comp=Z,22nm,0.6s,mb5.0
LABF **Labassere** 82.09 46 *eP* P 12 53 02.0 +0.5
EGRA **Graus** 82.12 47 P P 12 53 02.5 +0.8
comp=Z,55nm,0.6s,mb5.4
LCHF **La Chataignera** 82.18 43 *eP* P 12 53 01.9 -0.1
EPF **Esparros** 82.28 46⇑*iP* P 12 53 03.0 +0.5
comp=Z,72nm,0.8s,mb5.1
EPF **Esparros** 82.28 46⇑*iP* P 12 53 03.0 +0.5
EPF pmax pmax
comp=Z,36nm,0.8s,mb5.0
EPF **Esparros** 82.28 46⇑*iP* P 12 53 03.0 +0.5
comp=Z,36nm,0.8s,mb5.0
GRR **Gorron** 82.44 41⇑*iP* P 12 53 03.0 -0.3
comp=Z,175nm,0.9s,mb5.4
GRR **Gorron** 82.44 41⇑*iP* P 12 53 03.0 -0.3
GRR pmax pmax
comp=Z,88nm,0.9s,mb5.4
GRR **Gorron** 82.44 41⇑*iP* P 12 53 03.0 -0.3
comp=Z,88nm,0.9s,mb5.4
ESK **Eskdalemuir** 82.56 34 *eP* P 12 53 03.7 -0.2
ESK pmax pmax
comp=Z,36nm,0.8s,mb5.2
ESK **Eskdalemuir** 82.56 34 *eP* P 12 53 03.7 -0.2
comp=Z,36nm,0.8s,mb5.2
MFF **Saint Martin d** 82.57 43⇑*iP* P 12 53 04.0 0.0
comp=Z,130nm,0.8s,mb5.4
MFF **Saint Martin d** 82.57 43⇑*iP* P 12 53 04.0 0.0
MFF pmax pmax
comp=Z,65nm,0.8s,mb5.4
MFF **Saint Martin d** 82.57 43⇑*iP* P 12 53 04.0 0.0
comp=Z,65nm,0.8s,mb5.4
EKA **Eskdalemuir Ar** 82.59 34 P P 12 53 03.6 -0.5
comp=Z,22nm,0.6s,mb5.1,baz=246,slow=4.0,SNR=77
FLN **La Foliniere** 82.76 41⇑*iP* P 12 53 04.9 -0.1
comp=Z,151nm,0.8s,mb5.5
FLN **La Foliniere** 82.76 41⇑*iP* P 12 53 04.9 -0.1
FLN pmax pmax
comp=Z,76nm,0.8s,mb5.5
FLN **La Foliniere** 82.76 41⇑*iP* P 12 53 04.9 -0.1
comp=Z,76nm,0.8s,mb5.5
MLS **Moulis** 82.81 46 *eP* P 12 53 05.7 +0.4
SALF **Salau** 82.85 47 *eP* P 12 53 06.4 +1.0
LFF **La Frestale** 82.89 44⇑*iP* P 12 53 05.7 +0.1
comp=Z,159nm,0.7s,mb5.6
LFF **La Frestale** 82.89 44⇑*iP* P 12 53 05.7 +0.1
LFF pmax pmax
comp=Z,79nm,0.7s,mb5.5
LFF **La Frestale** 82.89 44⇑*iP* P 12 53 05.7 +0.1
comp=Z,79nm,0.7s,mb5.5
LDF **La Druitiere** 82.96 41⇑*iP* P 12 53 05.8 -0.2
comp=Z,82nm,0.7s,mb5.3
LDF **La Druitiere** 82.96 41⇑*iP* P 12 53 05.8 -0.2
LDF pmax pmax
comp=Z,41nm,0.6s,mb5.3
LDF **La Druitiere** 82.96 41⇑*iP* P 12 53 05.8 -0.2
comp=Z,41nm,0.6s,mb5.3
EMIR **Miracle** 82.96 48 P P 12 53 06.4 +0.4
comp=Z,38nm,0.8s,mb5.2
RJF **Les Rejaudoux** 83.49 44⇑*iP* P 12 53 08.6 -0.1
comp=Z,197nm,0.9s,mb5.5
RJF **Les Rejaudoux** 83.49 44⇑*iP* P 12 53 08.6 -0.1
RJF pmax pmax
comp=Z,98nm,0.9s,mb5.5
RJF **Les Rejaudoux** 83.49 44⇑*iP* P 12 53 08.6 -0.1
comp=Z,98nm,0.9s,mb5.5
CARF **Carcanieres** 83.51 47 *eP* P 12 53 09.2 +0.4
COLA **College** 83.53 336 *eP* P 12 53 06.5 -2.4
ETOS **Mallorca** 83.62 50 P P 12 53 09.2 -0.2
comp=Z,40nm,0.9s,mb5.2
MTLF **Montolieu** 83.68 46⇑*iP* P 12 53 09.6 -0.1
comp=Z,198nm,1.0s,mb5.5
MTLF **Montolieu** 83.68 46⇑*iP* P 12 53 09.6 -0.1
MTLF pmax pmax
comp=Z,99nm,1.0s,mb5.5
MTLF **Montolieu** 83.68 46⇑*iP* P 12 53 09.6 -0.1
comp=Z,99nm,1.0s,mb5.5
CAF **Calviac** 83.81 45⇑*iP* P 12 53 10.3 -0.1
comp=Z,181nm,1.0s,mb5.4
CAF **Calviac** 83.81 45⇑*iP* P 12 53 10.3 -0.1
CAF pmax pmax
comp=Z,90nm,1.0s,mb5.5
CAF **Calviac** 83.81 45⇑*iP* P 12 53 10.3 -0.1
comp=Z,90nm,1.0s,mb5.5
SJAF **Saint Jean de** 84.04 47 *eP* P 12 53 11.8 +0.3
TCF **Toulx Ste Croi** 84.12 43⇑*iP* P 12 53 11.6 -0.4
comp=Z,112nm,0.7s,mb5.4
TCF **Toulx Ste Croi** 84.12 43⇑*iP* P 12 53 11.6 -0.4
TCF pmax pmax
comp=Z,56nm,0.7s,mb5.4
TCF **Toulx Ste Croi** 84.12 43⇑*iP* P 12 53 11.6 -0.4
comp=Z,56nm,0.7s,mb5.4
VERF **Verneugheol** 84.23 44 *eP* P 12 53 12.5 0.0
FRNF **Fournols** 84.23 44 *eP* P 12 53 13.4 +0.9
HYF **Humbligny** 84.56 42⇑*iP* P 12 53 14.2 0.0
PYM **Petit Puy Mans** 84.59 44 *eP* P 12 53 14.7 +0.4
BGF **Bois d'Agland** 84.60 43⇑*iP* P 12 53 14.1 -0.2
comp=Z,333nm,1.1s,mb5.7
BGF **Bois d'Agland** 84.60 43⇑*iP* P 12 53 14.1 -0.2
BGF pmax pmax
comp=Z,166nm,1.1s,mb5.7
BGF **Bois d'Agland** 84.60 43⇑*iP* P 12 53 14.1 -0.2
comp=Z,166nm,1.1s,mb5.7
LBL **Lubilhac** 84.69 44 *eP* P 12 53 15.4 +0.6
AGO **Saint Agoulin** 84.72 44 *eP* P 12 53 14.9 -0.1
MENF **Mencas** 84.76 39 *eP* P 12 53 14.6 -0.6
LASF **Ste Croix** 84.96 46⇑*iP* P 12 53 16.6 +0.4
comp=Z,79nm,0.8s,mb5.2
AVF **Avril sur Loir** 84.98 43⇑*iP* P 12 53 15.6 -0.6
comp=Z,142nm,0.9s,mb5.4

AVF **Avril sur Loir** 84.98 43⇑*iP* P 12 53 15.6 -0.6
AVF pmax pmax
comp=Z,71nm,0.9s,mb5.4
AVF **Avril sur Loir** 84.98 43⇑*iP* P 12 53 15.6 -0.6
comp=Z,71nm,0.9s,mb5.4
COLF **Collangettes** 85.04 44 *eP* P 12 53 16.9 +0.4
PLDF **La Plantade** 85.05 44 *eP* P 12 53 16.6 0.0
SSF **Saint Saulge** 85.12 43⇑*iP* P 12 53 16.3 -0.6
comp=Z,107nm,1.0s,mb5.2
SSF **Saint Saulge** 85.12 43⇑*iP* P 12 53 16.3 -0.6
SSF pmax pmax
comp=Z,54nm,1.0s,mb5.2
SSF **Saint Saulge** 85.12 43⇑*iP* P 12 53 16.3 -0.6
comp=Z,54nm,1.0s,mb5.2
SMF **Signal de Mont** 85.29 43⇑*iP* P 12 53 17.4 -0.4
comp=Z,196nm,1.1s,mb5.4
SMF **Signal de Mont** 85.29 43⇑*iP* P 12 53 17.4 -0.4
SMF pmax pmax
comp=Z,98nm,1.1s,mb5.5
SMF **Signal de Mont** 85.29 43⇑*iP* P 12 53 17.4 -0.4
comp=Z,98nm,1.1s,mb5.5
LOR **Lormes** 85.39 42⇑*iP* P 12 53 17.6 -0.7
comp=Z,93nm,0.9s,mb5.2
LOR **Lormes** 85.39 42⇑*iP* P 12 53 17.6 -0.7
LOR pmax pmax
comp=Z,46nm,0.9s,mb5.2
LOR **Lormes** 85.39 42⇑*iP* P 12 53 17.6 -0.7
comp=Z,46nm,0.9s,mb5.2
VIVF **Saint-Julien-I** 85.64 45⇑*iP* P 12 53 19.9 +0.4
comp=Z,92nm,1.1s,mb5.1
VIVF **Saint-Julien-I** 85.64 45⇑*iP* P 12 53 19.9 +0.4
VIVF pmax pmax
comp=Z,46nm,1.1s,mb5.1
VIVF **Saint-Julien-I** 85.64 45⇑*iP* P 12 53 19.9 +0.4
comp=Z,46nm,1.1s,mb5.1
PRAF **Pradon** 85.87 46 *eP* P 12 53 20.8 +0.1
SVW2 **Sparrevohn** 85.97 332 *eP* P 12 53 19.2 -1.9
BAIF **Baives** 85.99 40⇑*iP* P 12 53 20.9 -0.4
comp=Z,38nm,0.6s,mb5.0
BAIF **Baives** 85.99 40⇑*iP* P 12 53 20.9 -0.4
BAIF pmax pmax
comp=Z,19nm,0.6s,mb5.0
BAIF **Baives** 85.99 40⇑*iP* P 12 53 20.9 -0.4
comp=Z,19nm,0.6s,mb5.0
GELF **Grande-Etoile** 86.01 46 *eP* P 12 53 22.4 +1.1
SNF **Seneffe** 86.10 39 P P 12 53 21.9 +0.1
SMRF **Simiane la Rot** 86.18 46 *eP* P 12 53 23.0 +0.8
comp=Z,101nm,1.3s,mb5.1
SMRF **Simiane la Rot** 86.18 46 *eP* P 12 53 23.0 +0.8
comp=Z,101nm,1.3s,mb5.4
UCC **Uccle** 86.19 39 P P 12 53 21.3 -0.9
PUYF **Puyloubier** 86.22 46 *eP* P 12 53 23.4 +1.0
DOU **Dourbes** 86.24 40 P P 12 53 22.2 -0.2
comp=Z,42nm,0.8s,mb5.2
DOU AP pP 12 54 02.6 +0.3
VILF **Villemus** 86.27 46 *eP* P 12 53 22.9 +0.3
MEZF **Maizieres J'vi** 86.34 41⇑*iP* P 12 53 22.7 -0.3
comp=Z,80nm,0.7s,mb5.3
MEZF **Maizieres J'vi** 86.34 41⇑*iP* P 12 53 22.7 -0.3
comp=Z,80nm,0.6s,mb5.6
GIVF **Givet** 86.39 40⇑*iP* P 12 53 23.2 0.0
comp=Z,251nm,0.8s,mb5.7
GIVF **Givet** 86.39 40⇑*iP* P 12 53 23.2 0.0
GIVF pmax pmax
comp=Z,126nm,0.8s,mb5.7
GIVF **Givet** 86.39 40⇑*iP* P 12 53 23.2 0.0
comp=Z,126nm,0.8s,mb5.7
TAVF **Tavernes** 86.49 46 *eP* P 12 53 23.8 +0.1
ORIF **Oris-en-Rattie** 86.50 45⇑*iP* P 12 53 24.1 +0.4
comp=Z,46nm,0.8s,mb5.0
ORIF **Oris-en-Rattie** 86.50 45⇑*iP* P 12 53 24.1 +0.4
ORIF pmax pmax
comp=Z,23nm,0.8s,mb5.0
ORIF **Oris-en-Rattie** 86.50 45⇑*iP* P 12 53 24.1 +0.4
comp=Z,23nm,0.8s,mb5.0
OG25 **Le Caire** 86.58 46 *eP* P 12 53 22.4 -1.7
LMR **La Mourre** 86.79 47⇑*iP* P 12 53 24.7 -0.4
comp=Z,17nm,0.8s,mb4.7
LMR **La Mourre** 86.79 47⇑*iP* P 12 53 24.7 -0.4
LMR pmax pmax
comp=Z,90nm,0.8s,mb5.7
LMR **La Mourre** 86.79 47⇑*iP* P 12 53 24.7 -0.4
comp=Z,8.7nm,0.8s,mb4.6
CABF **La Chapelle** 86.82 43⇑*iP* P 12 53 25.1 -0.2
comp=Z,148nm,1.4s,mb5.3
CABF **La Chapelle** 86.82 43⇑*iP* P 12 53 25.1 -0.2
CABF pmax pmax
comp=Z,74nm,1.4s,mb5.3
CABF **La Chapelle** 86.82 43⇑*iP* P 12 53 25.1 -0.2
comp=Z,74nm,1.4s,mb5.3
FRF **La Foret Royal** 86.91 46⇑*iP* P 12 53 25.3 -0.4
comp=Z,32nm,0.9s,mb4.9
FRF **La Foret Royal** 86.91 46⇑*iP* P 12 53 25.3 -0.4
FRF pmax pmax
comp=Z,16nm,0.9s,mb4.8
FRF **La Foret Royal** 86.91 46⇑*iP* P 12 53 25.3 -0.4
comp=Z,16nm,0.9s,mb4.9
THEF **They Montfort** 86.93 42 *eP* P 12 53 25.3 -0.5
BEBN **Eben Emael** 87.02 39 P P 12 53 26.0 -0.2
comp=Z,26nm,0.8s,mb5.1
BNI **Bardonecchia** 87.08 45 *eP* P 12 53 26.9 +0.4
BNI pmax pmax
comp=Z,40nm,1.4s,mb5.1
BNI **Bardonecchia** 87.08 45 *eP* P 12 53 26.9 +0.3
comp=Z,40nm,1.4s,mb5.1
MBDF **Montbardon** 87.11 45⇑*iP* P 12 53 26.7 0.0
HAU **Haudompre** 87.15 42⇑*iP* P 12 53 27.2 +0.3
comp=Z,34nm,0.9s,mb4.9
HAU **Haudompre** 87.15 42⇑*iP* P 12 53 27.2 +0.3
HAU pmax pmax
comp=Z,17nm,0.9s,mb4.9
HAU **Haudompre** 87.15 42⇑*iP* P 12 53 27.2 +0.3
comp=Z,17nm,0.9s,mb4.9
LPL **La Plagne** 87.16 44⇑*iP* P 12 53 27.4 +0.5
LPG **La Plagne** 87.17 44⇑*iP* P 12 53 27.6 +0.6
comp=Z,34nm,1.1s,mb4.8
LPG **La Plagne** 87.17 44⇑*iP* P 12 53 27.6 +0.6
LPG pmax pmax
comp=Z,17nm,1.1s,mb4.8
LPG **La Plagne** 87.17 44⇑*iP* P 12 53 27.6 +0.6
comp=Z,17nm,1.1s,mb4.8
WLF **Walferdange** 87.19 40 *eP* P 12 53 26.9 -0.2
comp=Z,169nm,0.9s,mb5.9
WLF **Walferdange** 87.19 40 P P 12 53 26.5 -0.6
comp=Z,79nm,0.9s,mb5.5
WLF AP pP 12 54 08.8 +1.8
WLF **Walferdange** 87.19 40 *eP* P 12 53 27.5 +0.4
WLF pmax pmax
comp=Z,96nm,0.7s,mb5.7
WLF **Walferdange** 87.19 40 *eP* P 12 53 27.5 +0.4
comp=Z,96nm,0.7s,mb5.7
MEM **Membach** 87.20 39 P P 12 53 26.4 -0.7
comp=Z,25nm,1.1s,mb5.0
TOUF **Mont Tournerai** 87.39 46 *eP* P 12 53 26.8 -1.2
LOMF **Lomont** 87.40 43 *eP* P 12 53 27.6 -0.5
HINF **Hinteralfeld** 87.47 42⇑*iP* P 12 53 27.6 -0.8
comp=Z,31nm,1.1s,mb4.8
HINF **Hinteralfeld** 87.47 42⇑*iP* P 12 53 27.6 -0.8
HINF pmax pmax
comp=Z,16nm,1.1s,mb4.8
HINF **Hinteralfeld** 87.47 42⇑*iP* P 12 53 27.6 -0.8
comp=Z,16nm,1.1s,mb4.8
SBF **Sospel** 87.51 46⇑*iP* P 12 53 28.1 -0.5
comp=Z,42nm,0.8s,mb5.0
SBF **Sospel** 87.51 46⇑*iP* P 12 53 28.1 -0.5
SBF pmax pmax
comp=Z,21nm,0.8s,mb5.0
SBF **Sospel** 87.51 46⇑*iP* P 12 53 28.1 -0.5
comp=Z,21nm,0.8s,mb5.0
AUTN **L'Aution** 87.51 46 *eP* P 12 53 28.4 -0.2
SAOF **Saorge** 87.60 46 *eP* P 12 53 28.7 -0.3
MOF **Molkenrain** 87.66 42 *eP* P 12 53 28.6 -0.7
ECH **Echery** 87.71 42 *eP* P 12 53 28.8 -0.7
RUP **Ruppelstein** 87.78 40 *eP* P 12 53 30.1 +0.2
CDF **Champ du Feu** 87.80 42⇑*iP* P 12 53 29.6 -0.4
comp=Z,92nm,0.9s,mb5.3
CDF **Champ du Feu** 87.80 42⇑*iP* P 12 53 29.6 -0.4
CDF pmax pmax
comp=Z,46nm,0.9s,mb5.3
CDF **Champ du Feu** 87.80 42⇑*iP* P 12 53 29.6 -0.4
comp=Z,46nm,0.9s,mb5.3
WTSB **Winterswijk** 87.84 38⇑*iP* P 12 53 30.4 +0.2
comp=Z,203nm,0.8s,mb6.0
WIT **Witteveen** 87.85 37⇑*iP* P 12 53 31.1 +0.9
comp=Z,480nm,0.9s,mb6.3
WLS **Welschbruch** 87.86 42 *eP* P 12 53 29.5 -0.7

BBS **Basel-Blauen** 87.87 43 *eP* P 12 53 29.9 -0.4
MAIT **Maitri** 87.92 161 *eP* P 12 53 30.1 -0.5
NVL **N'lazarevskaya** 87.95 161⇑*iP* P 12 53 30.3 -0.4
NVL pmax pmax
comp=Z,29nm,0.9s,mb5.1
MCGN **Macugnaga** 88.07 44 P P 12 53 31.6 +0.3
BUG **Bochum--Univer** 88.08 39 *eP* P 12 53 31.0 -0.3
comp=Z,96nm,0.9s,mb5.6
ABH **Alteburg** 88.11 40 *eP* P 12 53 31.3 -0.2
LANF **Langenberg** 88.20 41 *eP* P 12 53 31.6 -0.3
FELD **Feldberg im Sc** 88.24 42 *eP* P 12 53 31.7 -0.4
IBBN **Ibbenburen** 88.46 38 *eP* P 12 53 32.9 -0.2
comp=Z,79nm,0.9s,mb5.5
BFO **Black Forest** 88.50 42 *eP* P 12 53 32.5 -0.8
comp=Z,17nm,1.0s,mb4.8
BFO **Black Forest** 88.50 42 *eP* P 12 53 32.5 -0.8
BFO pmax pmax
comp=Z,17nm,1.0s,mb4.8
VSL **Villasalto** 88.64 51 *eP* P 12 53 33.9 0.0
comp=Z,24nm,0.6s,mb5.3
HLG **Helgoland** 88.70 36 *eP* P 12 53 34.0 -0.2
TNS **Taunus Mts** 88.72 40 *eP* P 12 53 34.1 -0.2
comp=Z,78nm,1.2s,mb5.5
TNS **Taunus Mts** 88.72 40 *eP* P 12 53 34.1 -0.2
TNS pmax pmax
comp=Z,78nm,1.2s,mb5.5
BOB **Bobbio (Coli)** 89.02 45 P P 12 53 35.5 -0.2
STU **Stuttgart** 89.10 41 *eP* P 12 53 35.5 -0.6
comp=Z,51nm,0.9s,mb5.5
STU **Stuttgart** 89.10 41 *eP* P 12 53 36.1 0.0
STU pmax pmax
comp=Z,34nm,0.6s,mb5.5
STU **Stuttgart** 89.10 41 *eP* P 12 53 36.0 0.0
comp=Z,34nm,0.6s,mb5.5
FALS **False Pass** 89.27 325 *eP* P 12 53 35.8 -1.1
DAVOX **Davos** 89.44 43 P P 12 53 38.1 +0.5
comp=Z,35nm,0.8s,mb5.3,baz=244,slow=4.8,SNR=35
DAVA **Damuels** 89.47 43⇓*iP* P 12 53 38.0 +0.2
comp=Z,67nm,1.1s,mb5.5,SNR=13
DAVA **Damuels** 89.47 43⇓*iP* P 12 53 38.0 +0.2
comp=Z,67nm,1.1s,mb5.5,SNR=13
UBBA **Unterbreizbach** 89.75 39 *eP* P 12 53 39.0 -0.1
comp=Z,28nm,1.5s,mb5.0
NRDL **Niedersach Rie** 89.91 38 *eP* P 12 53 39.8 -0.1
comp=Z,41nm,1.2s,mb5.2
GRFL **Gerfalco** 90.03 47 P P 12 53 40.4 0.0
CLZ **Clausthal** 90.04 38 *eP* P 12 53 40.7 +0.2
comp=Z,66nm,1.3s,mb5.4
CLZ **Clausthal** 90.04 38 *eP* P 12 53 40.7 +0.2
CLZ pmax pmax
comp=Z,66nm,1.3s,mb5.4
ZCCA **Zocca** 90.08 46 P P 12 53 40.6 -0.1
BSEG **Bad Segeberg** 90.11 36 *eP* P 12 53 41.1 +0.3
comp=Z,35nm,1.3s,mb5.1
MOTA **Moosalm** 90.30 43⇑*iP* P 12 53 41.6 -0.1
comp=Z,36nm,1.0s,mb5.3,SNR=14
MOTA **Moosalm** 90.30 43⇑*iP* P 12 53 41.6 -0.1
MOTA pmax pmax
comp=Z,36nm,1.0s,mb5.3
SQTA **Sankt Quirin** 90.37 43⇓*iP* P 12 53 42.1 +0.1
comp=Z,37nm,0.9s,mb5.3
SQTA **Sankt Quirin** 90.37 43⇓*iP* P 12 53 42.1 +0.1
SQTA pmax pmax
comp=Z,37nm,0.9s,mb5.3
FUR **Furstenfeldbru** 90.45 42 *eP* P 12 53 42.9 +0.5
GRA1 **Grafenberg Arr** 90.48 40 *eP* P 12 53 42.6 +0.1
GRF **Grafenberg Arr** 90.48 40 *eP* P 12 53 42.6 +0.1
WATA **Walderalm** 90.62 43⇓*iP* P 12 53 43.1 -0.1
comp=Z,26nm,1.1s,mb5.2
WATA **Walderalm** 90.62 43⇓*iP* P 12 53 43.1 -0.1
WATA pmax pmax
comp=Z,27nm,1.1s,mb5.2
WTTA **Wattenberg** 90.66 43⇑*iP* P 12 53 43.5 +0.1
comp=Z,45nm,0.9s,mb5.5,SNR=12
WTTA **Wattenberg** 90.66 43⇑*iP* P 12 53 43.5 +0.1
WTTA pmax pmax
comp=Z,45nm,0.9s,mb5.5
MOX **Moxa** 90.77 40 *eP* P 12 53 43.9 0.0
comp=Z,46nm,1.7s,mb5.2
MOX *e*pP pP 12 54 26.4 +2.4
MOX **Moxa** 90.77 40 *eP* P 12 53 44.3 +0.4
comp=Z,39nm,1.6s,mb5.2
MOX **Moxa** 90.77 40 *eP* P 12 53 44.3 +0.4
MOX pmax pmax
comp=Z,39nm,1.6s,mb5.2
NB2 **NORSAR Subarra** 90.92 29 P P 12 53 44.2 -0.4
comp=Z,7.7nm,0.8s,mb4.8,baz=269,slow=4.6
NB2 **NORSAR Subarra** 90.92 29 P P 12 53 44.2 -0.4
NB2 pmax pmax
comp=Z,80nm,0.8s,mb5.8
NOA **NORSAR Array B** 90.92 29 P P 12 53 44.2 -0.3
comp=Z,7.0nm,0.8s,mb4.7,baz=269,slow=4.6,SNR=13
MANZ **Manzenberg** 91.06 40 *eP* P 12 53 45.9 +0.7
comp=Z,30nm,1.0s,mb5.3
ROTZ **Rotzenmuhle** 91.12 40 *eP* P 12 53 45.8 +0.3
comp=Z,38nm,1.2s,mb5.3
WERD **Werda** 91.20 40 *eP* P 12 53 46.0 +0.1
comp=Z,25nm,1.0s,mb5.2
WERD *e*pP pP 12 54 28.6 +2.6
NKC **Novy Kostel** 91.29 40 *eP* P 12 53 47.0 +0.7
TANN **Tannenbergstha** 91.30 40 *eP* P 12 53 46.6 +0.3
comp=Z,52nm,1.2s,mb5.4
TANN *e*pP pP 12 54 28.5 +2.1
ARV **Arcevia** 91.47 47 P P 12 53 46.4 -0.7
WET **Wettzell** 91.54 41 *eP* P 12 53 47.6 +0.1
comp=Z,40nm,1.2s,mb5.3
WET **Wettzell** 91.54 41 *eP* P 12 53 47.6 +0.1
WET pmax pmax
comp=Z,40nm,1.2s,mb5.3
NRCA **Norcia** 91.59 47 P P 12 53 47.0 -0.7
comp=Z,6.7nm,0.9s,mb4.7
CLL **Collm** 91.66 39 *eP* P 12 53 48.0 0.0
comp=Z,42nm,1.3s,mb5.3
CLL **Collm** 91.66 39 *iP* P 12 53 48.3 +0.3
comp=Z,40nm,1.2s,mb5.3
CLL *i*pP pP 12 54 30.1 +2.0
CLL **Collm** 91.66 39 *iP* P 12 53 48.3 +0.3
CLL *i**PP pP 12 54 30.1 +2.0
CLL pmax pmax
comp=Z,40nm,1.2s,mb5.3
KBS **Kingsbay** 91.69 11 *eP* P 12 53 48.6 +0.5
KBS pmax pmax
comp=Z,15nm,0.9s,mb5.0
KBS **Kingsbay** 91.69 11 *eP* P 12 53 48.6 +0.5
comp=Z,15nm,0.9s,mb5.0
GMNA **Gemona** 91.74 44 P P 12 53 48.2 -0.1
comp=Z,174nm,0.9s,mb6.1
PTCC **Patocco-Chiusa** 91.82 44 P P 12 53 48.5 -0.2
comp=Z,53nm,1.2s,mb5.5
KBA **Koelnbreinsper** 91.82 43⇓*iP* P 12 53 48.6 -0.2
comp=Z,26nm,1.1s,mb5.2
KBA **Koelnbreinsper** 91.82 43⇓*iP* P 12 53 48.6 -0.1
KBA pmax pmax
comp=Z,26nm,1.1s,mb5.2
FBE **Freiberg** 91.88 39 *eP* P 12 53 49.3 +0.3
comp=Z,44nm,1.1s,mb5.4
KHC **Kasperske Hory** 92.00 41 *eP* P 12 53 50.0 +0.4
GEC2 **GERESS Array S** 92.08 41 *eP* P 12 53 49.9 0.0
comp=Z,9.0nm,0.9s,mb4.8
GEC2 **GERESS Array S** 92.08 41 *eP* P 12 53 49.9 0.0
GEC2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
GERES **GERESS Array B** 92.08 41 P P 12 53 50.0 +0.1
comp=Z,4.5nm,0.7s,mb4.6,baz=242,slow=2.9,SNR=20
GERES PP PP 12 57 31.6 -0.2
comp=Z,0.3nm,0.3s,baz=273,slow=7.9,SNR=4.7
SDI **San Donato** 92.09 49 P P 12 53 50.0 0.0
HFS **Hagfors** 92.13 30 P P 12 53 50.1 -0.1
comp=Z,5.5nm,0.7s,mb4.7,baz=114,slow=1.8,SNR=13
RUE **Ruedersdorf** 92.16 38 *eP* P 12 53 50.2 -0.1
comp=Z,26nm,0.7s,mb5.4
VOJS **Vojsko** 92.18 44 *eP* P 12 53 50.2 -0.2
BRG **Berggiesshubel** 92.25 39 *eP* P 12 53 50.8 +0.1
comp=Z,44nm,1.0s,mb5.4
BRG **Berggiesshubel** 92.25 39 *iP* P 12 53 51.3 +0.6
comp=Z,26nm,1.0s,mb5.2
BRG *e* pP 12 54 31.6 +0.8
comp=Z,5.0nm,1.0s
BRG **Berggiesshubel** 92.25 39 *iP* P 12 53 51.3 +0.6
BRG *e* pP 12 54 31.6 +0.8
BRG pmax pmax
comp=Z,26nm,1.0s,mb5.2
MOA **Molln** 92.45 42⇑*iP* P 12 53 51.6 0.0
comp=Z,31nm,1.6s,mb5.1
MOA **Molln** 92.45 42⇑*iP* P 12 53 51.6 -0.1
comp=Z,31nm,1.5s,mb5.1

CEY **Cerknica** 92.56 44 *eP* P 12 53 51.9 -0.3
PRU **Pruhonice** 92.63 40 *eP* P 12 53 53.0 +0.5
PVCC **Panska Ves** 92.65 40 *eP* P 12 53 53.4 +0.8
PERS **Pernice** 93.04 44 *eP* P 12 53 53.8 -0.6
TREC **Trest** 93.25 41 *eP* P 12 53 55.7 +0.4
CRES **Cresnjev** 93.28 44 *eP* P 12 53 55.0 -0.5
ARSA **Arzberg** 93.31 43⇑*iP* P 12 53 55.4 -0.2
comp=Z,13nm,0.9s,mb5.1
CONA **Conrad Observa** 93.53 42⇓*iP* P 12 53 56.8 +0.2
comp=Z,25nm,0.8s,mb5.4
UPC **Upice** 93.57 40 *eP* P 12 53 57.8 +1.0
KSP **Ksiaz** 93.74 39 *eP* P 12 53 58.2 +0.6
DPC **Dobruska-Polom** 93.77 40 *eP* P 12 53 58.6 +0.9
VRAC **Vranov** 93.98 41 P P 12 53 58.9 +0.3
comp=Z,13nm,0.9s,mb5.1,baz=269,slow=5.5,SNR=9.8
TSUM **Tsumeb** 94.02 109 P P 12 54 00.4 +1.5
comp=Z,3.7nm,0.9s,mb4.5,baz=187,slow=3.3,SNR=4.1
TSUM **Tsumeb** 94.02 109 P P 12 54 00.4 +1.5
TIP **Timpagrande** 94.35 51 *eP* P 12 53 58.9 -1.5
ZST **Bratislava** 94.35 42 *eP* P 12 54 00.6 +0.2
ZST pmax pmax
comp=Z,22nm,0.9s,mb5.3
ZST MLR MLR
comp=Z,2µm,14.2s
ZST **Bratislava** 94.35 42 *eP* P 12 54 00.6 +0.2
comp=Z,22nm,0.9s,mb5.3
ZST LR LR
comp=Z,2µm,14.2s
VNDA **Vanda** 94.56 191 P P 12 54 01.0 -0.3
comp=Z,2.7nm,0.7s,mb4.6,baz=120,slow=4.2,SNR=8.4
VNDA **Vanda** 94.56 191 P P 12 54 01.0 -0.3
VNDA pmax pmax
comp=Z,30nm,0.7s
VNDA **Vanda** 94.56 191 *eP* P 12 54 00.4 -1.0
comp=Z,2.8nm,0.9s,mb4.5
OKC **Ostrava-Krasne** 94.97 40 *eP* P 12 54 04.4 +1.2
KOLL **Kolacno** 95.20 42 *eP* P 12 54 04.7 +0.4
VYHS **Vyhne** 95.49 42 *eP* P 12 54 05.1 -0.5
VYHS *e* 12 54 13.5
VYHS *e*pP pP 12 54 48.2 +2.4
VYHS **Vyhne** 95.49 42 *iP* P 12 54 05.9 +0.3
VYHS pmax pmax
comp=Z,130nm,1.2s,mb6.0
VYHS MLR MLR
comp=Z,2µm,18.5s
VYHS **Vyhne** 95.49 42 *iP* P 12 54 05.9 +0.3
comp=Z,13nm,1.2s,mb5.0
VYHS *e* 12 54 13.6
VYHS *e* pP 12 54 48.2 +2.4
VYHS LR LR
comp=Z,2µm,18.5s
OJC **Ojcow** 96.00 40 *eP* P 12 54 08.9 +1.0
ARCES **ARCESS Array B** 96.24 20 P P 12 54 07.5 -1.4
comp=Z,5.8nm,0.8s,mb5.0,baz=276,slow=3.4,SNR=12
KECS **Kecovo** 96.59 42 *eP* P 12 54 11.1 +0.5
KECS *e* 12 54 16.5
KECS **Kecovo** 96.59 42 *eP* P 12 54 11.1 +0.5
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
KECS **Kecovo** 96.59 42 *eP* P 12 54 11.1 +0.5
comp=Z,8.3nm,1.0s,mb5.0
STHS **Stebnicka Huta** 97.00 41 *eP* P 12 54 13.2 +0.8
STHS **Stebnicka Huta** 97.00 41 *eP* P 12 54 13.3 +0.9
STHS pmax pmax
comp=Z,6.0nm,1.3s,mb4.8
STHS **Stebnicka Huta** 97.00 41 *eP* P 12 54 13.3 +0.9
comp=Z,6.2nm,1.3s,mb4.8
SYO **Syowa Base** 97.62 161⇑*eP* P 12 54 13.0 -2.2
KAF **Kangasniemi** 98.02 27 *ep* P 12 54 14.7 -2.3
FINES **FINESS Array B** 98.04 28 P P 12 54 15.8 -1.3
comp=Z,4.3nm,0.7s,mb5.0,baz=242,slow=4.1,SNR=10
FINES **FINESS Array B** 98.04 28 P P 12 54 15.8 -1.3
AKASG **Malin Array Be** 101.90 39 P Pdif 12 54 34.4 +0.1
comp=Z,0.2nm,0.3s,baz=264,slow=4.6,SNR=5.7
AKASG PP PP 12 58 43.9 -3.4
comp=Z,0.8nm,0.4s,baz=273,slow=8.5,SNR=5.9
OBN **Obninsk** 105.03 33⇑*iP* Pdif 12 54 46.9 -1.3
OBN pmax pmax
comp=Z,5.0nm,1.1s
OBN MLR MLR
comp=Z,800nm,14.0s
BRTR **Keskin Array B** 107.25 49 PP PP 12 59 21.9 -4.9
comp=Z,0.4nm,0.5s,baz=256,slow=5.0,SNR=5.7
AKTK **Aktyubinsk** 118.67 31 PKP PKPdf 12 59 28.1 +0.1
AKTK PKKPbc PKKPbc 13 09 43.3 -0.8
AKTO **Aktyubinsk** 118.67 31 PKP PKPdf 12 59 28.1 +0.1
comp=Z,0.9nm,0.8s,baz=252,slow=3.2,SNR=4.0
AKTO PKKPbc PKKPbc 13 09 43.3 -0.9
comp=Z,2.4nm,0.5s,baz=122,slow=5.0,SNR=8.6
BVAR **Borovoye Array** 122.44 22 PKP PKPdf 12 59 34.6 -0.6
comp=Z,1.0nm,0.5s,baz=282,slow=2.5,SNR=6.0
ZAL **Zalesovo** 126.07 13 PKP PKPdf 12 59 41.8 -0.3
comp=Z,7.9nm,0.4s,baz=213,slow=1.3,SNR=19
STKA **Stephens Creek** 130.12 224 *eP* PKPdf 12 59 46.9 -2.9
comp=Z,8.8nm,0.9s
STKA **Stephens Creek** 130.12 224 PKP PKPdf 12 59 47.8 -2.0
comp=Z,7.5nm,0.7s,baz=144,slow=3.3,SNR=16
MDJ **Mudanjiang** 131.25 335 PKP PKPdf 12 59 49.5 -2.5
MKAR **Makanchi Array** 131.87 19 PKP PKPdf 12 59 52.4 -0.7
comp=Z,3.2nm,0.4s,baz=291,slow=3.0,SNR=31
MKAR SKPbc SKPbc 13 03 04.5 +0.2
comp=Z,2.3nm,0.7s,baz=348,slow=4.0,SNR=8.3
CTA **Charters Tower** 132.02 241 PKP PKPdf 12 59 53.8 +0.3
comp=Z,5.0nm,0.5s,baz=121,slow=3.5,SNR=11
MJAR **Matsushiro Arr** 132.41 321 PKP PKPdf 12 59 53.5 -0.7
comp=Z,1.1nm,0.5s,baz=80,slow=1.1,SNR=5.3
MJAR SKPbc SKPbc 13 03 05.5 -0.6
comp=Z,8.3nm,1.0s,baz=45,slow=1.7,SNR=20
ULN **Ulaanbaatar** 134.04 356 *i* PKIKP PKPdf 12 59 54.7 -2.5
SONM **Songino Array** 134.12 357 PKP PKPdf 12 59 57.3 0.0
comp=Z,1.8nm,0.4s,baz=320,slow=0.6,SNR=11
SONM SKPbc SKPbc 13 03 12.7 +0.8
comp=Z,2.4nm,0.7s,baz=329,slow=1.7,SNR=7.7
WMQ **Urumqi** 136.17 16 *e*PKP PKPdf 12 59 59.8 -1.4
ASAR **Alice Springs** 140.41 228 PKhKP 13 00 00.3
comp=Z,4.6nm,0.5s,baz=123,slow=3.8,SNR=61
ASAR PKP PKPdf 13 00 08.4 -0.6
comp=Z,5.5nm,0.6s,baz=118,slow=2.0,SNR=20
ASAR **Alice Springs** 140.41 228 PKP PKPdf 13 00 08.4 -0.6
ASPA **Alice Springs** 140.41 228 *e*PKP PKPdf 13 00 01.0 -8.0
WB2 **Warramunga Arr** 142.10 234 *e*PKP PKPdf 13 00 06.6 -5.4
WRAB **Tennant Creek** 142.11 234 *e*PKHKP 13 00 06.7
WRA **Warramunga Arr** 142.12 234 PKhKP 13 00 06.7
comp=Z,5.9nm,0.6s,baz=116,slow=2.9,SNR=109
WRA PP PP 13 03 15.4 -4.1
comp=Z,3.0nm,1.1s,baz=129,slow=5.4,SNR=5.8
WRA **Warramunga Arr** 142.12 234 PKHKP 13 00 06.7
WRA 13 03 15.4
WRA pmax pmax
comp=Z,6.0nm,0.6s
WRA pmax pmax
comp=Z,3.0nm,1.1s
KLBR **Kellerberrin** 143.76 202 *e*PKP PKPdf 13 00 11.4 -3.5
comp=Z,22nm,0.5s
MUN **Mundaring** 143.96 200 *e*PKP PKPdf 13 00 13.0 -2.3
LZH **Lanzhou** 145.95 358 *e*PKP PKPdf 13 00 20.9 +2.2
LZH APKP 13 01 02.8
LZH XPKP 13 01 20.3
LZH PP PP 13 03 48.0 +5.6
LZH SKKS SKKSac 13 10 19.5 +0.6
LZH SS SS 13 22 25.3 +1.3
LZH PP PP
comp=Z,20nm,5.5s
KAKA **Kakadu** 147.09 243 *e*PKP PKPdf 13 00 20.6 0.0
comp=Z,52nm,0.9s
XAN **Xi'an** 147.48 350 PKP PKPdf 13 00 23.4 +2.1
KOLN **Koldanda** 148.44 34 *eP* PKPbc 13 00 26.8 +0.2
comp=Z,56nm,0.9s
GKN **Gorkha** 148.82 32 *eP* PKPbc 13 00 28.0 +0.4
comp=Z,86nm,0.8s
KKN **Kakani** 149.33 31 *eP* PKPbc 13 00 29.4 +0.6
comp=Z,71nm,0.6s
DMN **Daman** 149.38 32 *eP* PKPbc 13 00 29.7 +0.7
comp=Z,58nm,0.5s
WHN **Wuhan** 149.42 340 ⇑PKP PKPbc 13 00 28.8 -0.3
GUN **Gumba** 149.54 30 *eP* PKPbc 13 00 30.7 +1.4
PKI **Pulchoki** 149.57 31 *eP* PKPbc 13 00 29.6 +0.2
comp=Z,40nm,0.6s
JIRN **Jiri** 149.90 30 *eP* PKPbc 13 00 30.5 +0.3
comp=Z,30nm,0.6s
FITZ **Fitzroy Crossi** 149.91 228 *e*PKP PKPdf 13 00 25.6 +0.4
comp=Z,17nm,1.0s
FITZ *e* 13 00 30.3
FITZ *e* 13 00 36.7
FITZ **Fitzroy Crossi** 149.91 228 PKP PKPdf 13 00 25.6 +0.3

comp=Z,30nm,0.9s,baz=104,slow=1.2,SNR=31
FITZ PKPbc PKPbc 13 00 29.8 -0.4
comp=Z,30nm,0.9s,baz=104,slow=1.2,SNR=62
CD2 Chengdu 151.11 358 *e*PKP PKPdf 13 00 25.1 -2.0
CD2 APKP 13 01 07.8
CD2 XPKP 13 01 24.4
CD2 PP PP 13 04 13.5 +1.2
CD2 SKS SKSdf 13 07 15.0 -4.7
CD2 SKKS SKKSac 13 10 44.8 -2.8
CD2 SS SS 13 23 19.4 -2.4
CD2 PP PP
comp=Z,80nm,9.0s
CD2 LR LR
comp=N,80nm,23.8s
CD2 LR LR
comp=Z,90nm,24.6s
MBWA Marble Bar 151.66 215 *e*PKPbc PKPbc 13 00 33.4 -0.9
KMI Kunming 156.90 360 PKP PKPdf 13 00 34.9 -0.3

IDC 21 12:46:04.6±3.6, 691N×9249E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=145.6km s-min=23.6km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.69**	**349**	P	P	12 53 46.9	+0.1
	1.1nm,0.6s,baz=166,slow=8.4,SNR=6.7						
SONM	**Songino Array**	**42.47**	**14**	P	P	12 54 01.4	+0.1
	1.0nm,0.8s,baz=206,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	**49.06**	**124**	P	P	12 54 54.5	+1.0
	2.6nm,0.9s,baz=305,slow=8.9,SNR=7.1						
ASAR	**Alice Springs**	**50.58**	**128**	P	P	12 55 06.2	+1.2
	1.7nm,0.9s,baz=310,slow=7.3,SNR=6.3						
STKA	**Stephens Creek**	**60.65**	**132**	P	P	12 56 16.1	-1.3
	1.2nm,0.7s,baz=313,slow=14,SNR=3.2						

*ISCJB **21** 12:49:55.5±0.7, 3939N±003×2087E±006, h10km, Error ellipse: s-maj=6.7km s-min=4.4km az=25.3*
*ATH **21** 12:49:56.1, 3938N×2088E, h2km, MD3.1/4*
*THE **21** 12:49:56.5, 3938N×2090E, h10km*
*CSEM **21** 12:49:56.1, 3938N×2088E, h2km, MD3.0/4, After ATH*

ISC 21 12:49:56.3±0.7, 3939N±003×2086E±006, h10km, n8, σ1°07/12, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.27**	**358**	*e*PG	**Pg**	**12 50 01.0**	**-0.7**
MEV	**Metsovon**	**0.49**	**35**	*e*Pg	**Pg**	**12 50 05.1**	**-0.7**
MEV				*e*Sg	**Sg**	**12 50 12.6**	**+0.4**
LKD	**Levkas**	**0.70**	**194**	*e*Pg	**Pg**	**12 50 09.1**	**-0.7**
LKD				*e*Sg	**Sg**	**12 50 20.8**	**+1.8**
EVR	**Evrytania**	**0.87**	**122**	*e*PG	**Pg**	**12 50 13.0**	**-0.1**
KEK	**Kerkira**	**0.88**	**292**	*e*PG	**Pg**	**12 50 14.0**	**+0.7**
AGG	**Agios Georgios**	**1.20**	**107**	*e*Pg	**Pg**	**12 50 18.0**	**-1.3**
AGG				*e*Sg	**Sg**	**12 50 36.0**	**+1.2**
VLS	**Valsamata**	**1.23**	**190**	*e*PG	**Pg**	**12 50 19.0**	**-0.9**
FNA	**Florina**	**1.45**	**16**	*e*Pg	**Pg**	**12 50 23.0**	**-1.1**
FNA				*e*Sg	**Sg**	**12 50 44.9**	**+2.0**

*IDC **21** 12:52:53.9±0.7, 682N×9253E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, Error ellipse: s-maj=39.0km s-min=14.9km az=56.0*
*NEIC **21** 12:52:55.2±0.6, 671N×9234E, h10km, mb4.7/3, Error ellipse: s-maj=22.8km s-min=10.0km az=49.0*
*MOS **21** 12:52:57.0±1.3, 675N×9243E, h33km, mb5.0/2, Error ellipse: s-maj=33.9km s-min=14.5km az=114.4*
*BJI **21** 12:52:57.1, 7.14N×9257E, h10km, mB4.6, mb4.7*
*ISCJB **21** 12:52:58.2±4.3, 67N±01×924E±02, h50km±37km, mb4.3/17, Error ellipse: s-maj=34.2km s-min=13.1km az=117.8*

ISC 21 12:53:02.4±3.2, 68N±01×925E±02, h64km±28km, n28, σ0°80/27, mb4.3/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.21**	**100**	Pn	**Pn**	**12 54 58.4**	**-0.4**
LSA	**Lhasa**	**22.81**	**357**	*e*P	**P**	**12 58 01.1**	**+1.4**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
LSA	**Lhasa**	**22.81**	**357**	*e*P	**P**	**12 58 01.1**	**+1.4**
	comp=Z,10nm,0.7s,mb4.4						
GYA	**Guiyang**	**23.73**	**33**	P	**P**	**12 58 08.3**	**-0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2	**Chengdu**	**26.19**	**22**	*e*P	**P**	**12 58 30.9**	**0.0**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,80nm,5.6s						
GTA	**Gaotai**	**33.12**	**10**	*e*P	**P**	**12 59 32.9**	**+0.7**
AAK	**Ala-Archa**	**39.08**	**339**	*e*P	**P**	**13 00 23.4**	**+0.3**
MKAR	**Makanchi Array**	**40.80**	**349**	P	**P**	**13 00 37.1**	**-0.3**
	comp=Z,1.9nm,0.6s,mb3.9,baz=167,slow=7.5,SNR=9.7						
SONM	**Songino Array**	**42.56**	**14**	P	**P**	**13 00 52.4**	**+0.6**
	comp=Z,2.4nm,0.9s,mb3.9,baz=196,slow=8.0,SNR=7.6						
WRA	**Warramunga Arr**	**48.97**	**124**	P	**P**	**13 01 42.6**	**+0.3**
	comp=Z,3.9nm,0.7s,mb4.5,baz=304,slow=9.0,SNR=14						
WRA				PcP	PcP	13 03 07.1	+1.5
	comp=Z,0.5nm,0.6s,baz=316,slow=2.5,SNR=4.6						
WRAB	**Tennant Creek**	**48.98**	**124**	*e*P	**P**	**13 01 42.6**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**48.98**	**124**	*e*P	**P**	**13 01 42.6**	**+0.3**
	comp=Z,10nm,0.7s,mb5.0						
BVAR	**Borovoye Array**	**49.50**	**343**	P	**P**	**13 01 46.4**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.4,baz=146,slow=9.0,SNR=12						
BRVK	**Borovoye**	**49.56**	**343**	*e*P	**P**	**13 01 46.7**	**-0.1**
BRVK				*e**PP	pP	13 01 54.2	-9.0
ASAR	**Alice Springs**	**50.49**	**128**	P	**P**	**13 01 54.0**	**+0.2**
	comp=Z,3.5nm,0.8s,mb4.4,baz=306,slow=7.5,SNR=16						
ASAR				PcP	PcP	13 03 12.9	+1.9
	comp=Z,1.2nm,0.8s,baz=274,slow=4.8,SNR=4.1						
ARU	**Arti**	**56.26**	**338**	*e*P	**P**	**13 02 35.9**	**-0.2**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
ARU	**Arti**	**56.26**	**338**	*e*P	**P**	**13 02 35.9**	**-0.2**
	comp=Z,4.5nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**60.55**	**132**	P	**P**	**13 03 04.5**	**-1.4**
	comp=Z,1.8nm,0.7s,mb4.3,baz=346,slow=7.6,SNR=5.5						
BRTR	**Keskin Array B**	**61.92**	**312**	P	**P**	**13 03 14.6**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.8,baz=116,slow=5.6,SNR=3.9						
AKASG	**Malin Array Be**	**68.00**	**322**	P	**P**	**13 03 53.6**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=92,slow=5.3,SNR=4.5						
JOF	**Joensuu**	**71.12**	**335**	*e*p	**P**	**13 04 12.6**	**-1.4**
FINES	**FINESS Array B**	**72.91**	**333**	P	**P**	**13 04 24.3**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=100,slow=9.9,SNR=8.2						
FINES	**FINESS Array B**	**72.91**	**333**	P	**P**	**13 04 24.3**	**-0.4**
ARCES	**ARCESS Array B**	**75.73**	**340**	P	**P**	**13 04 40.7**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=58,slow=3.0,SNR=4.6						
ARCES	**ARCESS Array B**	**75.73**	**340**	P	**P**	**13 04 40.7**	**-0.3**
MAW	**Mawson**	**77.18**	**191**	P	**P**	**13 04 51.2**	**+2.0**
	comp=Z,1.8nm,0.9s,mb4.0,baz=284,slow=8.3,SNR=3.6						
GERES	**GERESS Array B**	**77.56**	**318**	P	**P**	**13 04 52.5**	**+1.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=97,slow=5.4,SNR=9.6						
PDAR	**Pinedale Array**	**126.72**	**20**	PKP	PKPdf	13 11 58.9	+0.4
	comp=Z,0.2nm,0.5s,baz=29,slow=2.1,SNR=3.5						

*IDC **21** 13:20:32.0±1.8, 2918N×8381E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=57.3km s-min=26.1km az=59.0*
*ISCJB **21** 13:20:38.3±3.3, 294N±02×842E±02, h55km±32km, mb3.5/6, Error ellipse: s-maj=27.4km s-min=24.0km az=82.8*

ISC 21 13:20:41.0±3.1, 294N±02×840E±02, h63km±31km, n8, σ0°92/9, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.28**	**272**	*e*P	**Pn**	**13 21 29.5**	**-0.4**
LGTI				*e*S	**Sn**	**13 22 12.5**	**+4.9**
MKAR	**Makanchi Array**	**17.41**	**356**	P	**Pn**	**13 24 38.8**	**-0.7**
	0.2nm,0.3s,baz=191,slow=12,SNR=9.3						
ZAL	**Zalesovo**	**24.52**	**1**	P	**P**	**13 25 54.4**	**-0.1**
	0.6nm,0.5s,mb3.4,baz=281,slow=16,SNR=2.4						
SONM	**Songino Array**	**25.24**	**37**	P	**P**	**13 26 02.7**	**+1.6**
	0.7nm,0.6s,mb3.4,baz=239,slow=8.2,SNR=2.2						
BVAR	**Borovoye Array**	**25.63**	**341**	P	**P**	**13 26 04.6**	**0.0**
	0.3nm,0.5s,mb3.0,baz=157,slow=7.8,SNR=2.5						
FINES	**FINESS Array B**	**49.38**	**328**	P	**P**	**13 29 23.6**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=110,slow=20,SNR=2.9						
ARCES	**ARCESS Array B**	**51.85**	**338**	P	**P**	**13 29 43.0**	**+0.2**
	1.1nm,0.7s,mb3.9,baz=92,slow=9.3,SNR=3.1						
WRA	**Warramunga Arr**	**69.00**	**129**	P	**P**	**13 31 39.4**	**-0.4**
	0.2nm,0.5s,mb3.3,baz=324,slow=6.1,SNR=5.3						

IDC 21 13:24:09.7±2.8, 690N×9235E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, Error ellipse: s-maj=117.4km s-min=22.2km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.68**	**349**	P	P	13 31 52.2	+0.4
	1.3nm,0.6s,baz=166,slow=7.8,SNR=11						
SONM	**Songino Array**	**42.52**	**14**	P	P	13 32 07.1	+0.3
	0.8nm,0.6s,baz=201,slow=8.1,SNR=4.6						
WRA	**Warramunga Arr**	**49.17**	**124**	P	P	13 33 00.1	+0.7
	1.1nm,0.8s,baz=306,slow=8.1,SNR=6.2						
BVAR	**Borovoye Array**	**49.36**	**343**	P	P	13 33 00.2	-0.6
	0.3nm,0.4s,baz=157,slow=7.7,SNR=3.2						
ASAR	**Alice Springs**	**50.68**	**128**	P	P	13 33 10.9	0.0
	1.0nm,0.9s,baz=309,slow=7.3,SNR=6.9						

IDC 21 13:30:55.2±8.3, 722N×9271E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=410.3km s-min=28.9km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.44**	**349**	P	P	13 38 35.2	0.0
	0.5nm,0.4s,baz=163,slow=8.6,SNR=7.5						
WRA	**Warramunga Arr**	**49.05**	**124**	P	P	13 39 44.8	+0.9
	0.4nm,0.9s,baz=303,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**50.60**	**129**	P	P	13 39 55.7	0.0
	0.6nm,0.9s,baz=301,slow=7.0,SNR=4.1						

*IDC **21** 13:35:29.6±1.6, 5314N×16876W, h0km, mb3.8/6, mb1 4.2/7, mb1mx3.8/24, mbtmp3.9/7, ML4.1/1, Error ellipse: s-maj=50.9km s-min=25.9km az=143.0*
*BJI **21** 13:35:30.0, 5260N×16800W, h10km, mB5.1, mb4.7, Ms4.7, Ms24.7*
*NEIC **21** 13:35:34.8±0.7, 5265N×16800W, h10km, mb4.3/3, ML4.1(AEIC), Error ellipse: s-maj=10.7km s-min=6.9km az=175.0*
*ISCJB **21** 13:35:37.1±0.7, 5285N±009×16821W±007, h59km±5km, mb4.2/10, MS5.0/2, Error ellipse: s-maj=15.1km s-min=5.4km az=142.8*

ISC 21 13:35:38.4±0.8, 5285N±009×16819W±007, h52km±6km, n36, σ1°10/42, mb4.2/10, MS5.0/2, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.42**	**287**	P	**Pn**	**13 35 47.4**	**-1.4**
NIKO				S	**Sn**	**13 35 55.1**	**-1.3**
OKCE	**Okmok Cone E**	**0.58**	**1**	P	**Pn**	**13 35 50.0**	**-0.7**
OKCE				S	**Sn**	**13 35 59.7**	**+0.2**
OKCD	**Okmok Cone D**	**0.58**	**4**	P	**Pn**	**13 35 50.2**	**-0.5**
OKCD				S	**Sn**	**13 36 00.4**	**+0.8**
UNV	**Unalaska Valle**	**1.42**	**45**	P	**Pn**	**13 36 01.3**	**-0.4**
AKLV	**Akutan Long Va**	**1.87**	**44**	P	**Pn**	**13 36 08.3**	**+0.4**
AKUT	**Akutan**	**1.93**	**47**	P	**Pn**	**13 36 09.3**	**+0.5**
FALS	**False Pass**	**3.47**	**53**	P	**Pn**	**13 36 31.3**	**+1.5**
ATKA	**Atka Island**	**3.73**	**262**	P	**Pn**	**13 36 34.9**	**+1.6**
SPIA	**Saint Paul Isl**	**4.50**	**346**	P	**Pn**	**13 36 43.9**	**0.0**
SDPT	**Sand Point**	**5.18**	**58**	P	**Pn**	**13 36 53.3**	**0.0**
CHGN	**Chignik**	**6.65**	**55**	*e*P	**Pn**	**13 37 14.7**	**+1.3**
AMKA	**Amchitka**	**7.84**	**264**	*e*Pn	**Pn**	**13 37 29.4**	**-0.3**
AMKA				*e*Sn	**Sn**	**13 38 59.0**	**+1.8**
KDAK	**Kodiak Island**	**10.16**	**55**	Pn	**Pn**	**13 38 00.4**	**-1.2**
	1.5nm,0.3s,baz=275,slow=7.2,SNR=13						
SVW2	**Sparrevohn**	**10.73**	**35**	*e*P	**Pn**	**13 38 09.1**	**-0.2**
TTA	**Tatalina**	**11.98**	**28**	*e*P	**Pn**	**13 38 27.7**	**+1.4**
SLKM	**Skilak Lake**	**12.47**	**45**	*e*Pn	**Pn**	**13 38 33.2**	**+0.2**
PMR	**Palmer**	**13.49**	**42**	*e*P	**Pn**	**13 38 47.1**	**+0.2**
	1.6nm,0.3s						
MENT	**Mentasta**	**16.35**	**42**	*e*P	**Pn**	**13 39 24.8**	**+0.5**
DAWY	**Dawson**	**18.59**	**42**	*e*P	**Pn**	**13 39 50.0**	**-1.9**
SKAG	**Skagway**	**19.30**	**57**	*e*P	**Pn**	**13 39 59.8**	**-0.6**
	12nm,0.6s						
DLBC	**Dease Lake**	**22.02**	**60**	P	**P**	**13 40 28.3**	**+0.1**
	1.7nm,1.0s,mb3.4,baz=249,slow=14,SNR=2.3						
INK	**Inuvik**	**22.55**	**33**	P	**P**	**13 40 30.6**	**-3.3**
	4.9nm,0.5s,mb4.2,baz=241,slow=7.1,SNR=12						
INK	**Inuvik**	**22.55**	**33**	*e*P	**P**	**13 40 30.4**	**-3.5**
	5.1nm,0.5s,mb4.2						
YKA	**Yellowknife Ar**	**29.38**	**50**	P	**P**	**13 41 34.5**	**-2.0**
	0.5nm,0.5s,mb3.5,baz=275,slow=8.7,SNR=4.7						
YKA	**Yellowknife Ar**	**29.38**	**50**	P	**P**	**13 41 34.5**	**-2.0**
NVAR	**Mina Array Bea**	**36.96**	**93**	P	**P**	**13 42 44.0**	**+1.6**
	1.4nm,0.8s,mb3.8,baz=285,slow=8.3,SNR=7.0						
PDAR	**Pinedale Array**	**39.61**	**80**	P	**P**	**13 43 04.7**	**0.0**
	0.7nm,0.6s,mb3.6,baz=304,slow=4.9,SNR=8.3						
MDJ	**Mudanjiang**	**40.68**	**284**	P	**P**	**13 43 11.9**	**-1.7**
MDJ				AMB	AMB		
	comp=Z,900nm,9.8s						
MNTX	**Cornudas Mount**	**49.31**	**89**	*e*P	**P**	**13 44 22.0**	**0.0**
	comp=Z,1.8nm,0.6s,mb4.3						
HHC	**Hu-ho-hao-te**	**53.42**	**291**	*e*P	**P**	**13 44 53.1**	**+0.2**
HHC				PCP	PcP	13 46 00.3	+0.8
HHC				PP	PP	13 46 55.3	+1.7
HHC				S	**S**	**13 52 17.5**	**-3.8**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,1μm,7.3s						
HHC				LR	LR		
	comp=N,1μm,15.9s,MS5.0						
HHC				LR	LR		
	comp=E,670nm,19.4s,MS5.0						
HHC				LR	LR		
	comp=Z,630nm,16.6s,MS4.8						
NJ2	**Nanjing**	**55.19**	**279**	*e*P	**P**	**13 45 07.3**	**+1.6**
NJ2				PCP	PcP	13 46 07.0	+0.7
NJ2				S	**S**	**13 52 45.0**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,630nm,9.2s						
NJ2				LR	LR		
	comp=N,2μm,22.6s,MS5.3						
NJ2				LR	LR		
	comp=E,2μm,21.9s,MS5.3						
NJ2				LR	LR		
	comp=Z,980nm,21.4s,MS4.8						
LZH	**Lanzhou**	**61.08**	**292**	*e*P	**P**	**13 45 48.5**	**+1.6**
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,50nm,4.1s						
WMQ	**Urumqi**	**63.80**	**309**	*e*P	**P**	**13 46 05.8**	**+0.8**
CD2	**Chengdu**	**64.91**	**288**	*e*P	**P**	**13 46 10.8**	**-1.5**
KMI	**Kunming**	**69.84**	**285**	P	**P**	**13 46 43.8**	**+0.3**
WRA	**Warramunga Arr**	**87.87**	**233**	P	**P**	**13 48 20.3**	**-1.9**
	comp=Z,0.8nm,0.7s,mb4.0,baz=34,slow=5.6,SNR=5.9						

*ISCJB **21** 13:39:18.3±0.4, 4231N±002×1986E±003, h8km±5km, Error ellipse: s-maj=4.0km s-min=3.3km az=31.4*
*TIR **21** 13:39:18.3, 4239N×1981E, h12km*
*PDG **21** 13:39:20.1±0.2, 4239N×1978E, h10km±1km*
*SKO **21** 13:39:22.0, 4232N×2005E, h15km*

ISC 21 13:39:19.1±0.4, 4231N±002×1987E±003, h6km±5km, n17, σ1°21/34, 3C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.16**	**70**	*i* Pg	**Pg**	**13 39 22.4**	**+0.1**
BCI				*i* Sg	**Sg**	**13 39 25.5**	**+1.1**
PVY	**Plav**	**0.29**	**15**	⇑*i*Pg	**Pg**	**13 39 24.1**	**-0.7**
PVY				*e*Sg	**Sg**	**13 39 28.4**	**-0.2**
TTG	**Podgorica**	**0.47**	**285**	⇑*i*Pg	**Pg**	**13 39 26.7**	**-1.4**
TTG				*e*Sg	**Sg**	**13 39 33.2**	**-0.9**
IVA	**Berane**	**0.56**	**2**	⇑*i*Pg	**Pg**	**13 39 29.2**	**-0.6**
IVA				*e*Sg	**Sg**	**13 39 36.9**	**-0.3**
ULC	**Ulcinj**	**0.58**	**233**	⇓*i*Pg	**Pg**	**13 39 30.9**	**+0.7**
ULC				*e*Sg	**Sg**	**13 39 39.8**	**+2.0**
BUM	**Brajici-Budva**	**0.72**	**269**	*e*Pg	**Pg**	**13 39 32.8**	**-0.1**
BUM				*e*Sg	**Sg**	**13 39 42.5**	**+0.2**
NKY	**Niksic**	**0.81**	**308**	*e*Pg	**Pg**	**13 39 33.3**	**-1.4**
NKY				*e*Sg	**Sg**	**13 39 44.8**	**-0.5**
HCY	**Herceg Novi**	**1.02**	**278**	*e*Pg	**Pg**	**13 39 37.7**	**-1.1**
HCY				*e*Sg	**Sg**	**13 39 53.0**	**+0.9**
UPM	**Unac-Piva**	**1.14**	**322**	*e*Pg	**Pg**	**13 39 39.7**	**-1.2**
UPM				*e*Sg	**Sg**	**13 39 55.3**	**-0.3**
BRY	**Bratogost**	**1.14**	**301**	*e*Pg	**Pg**	**13 39 39.3**	**-1.7**
BRY				*e*Sg	**Sg**	**13 39 56.2**	**+0.4**
SKO	**Skopje**	**1.22**	**106**	*e*Pg	**Pg**	**13 39 41.3**	**-1.1**
SKO				*e*Sg	**Sg**	**13 39 56.7**	**-1.5**
OHR	**Ohrid**	**1.39**	**150**	*e*Pg	**Pg**	**13 39 47.1**	**+1.4**
OHR				*e*Sg	**Sg**	**13 40 04.9**	**+1.2**
BBLS	**Bajina Basta -**	**1.59**	**348**	*i* Pn	**Pn**	**13 39 48.8**	**+1.1**
BBLS				Sg	**Sg**	**13 40 13.1**	**+2.8**
GRUS	**Gruza**	**1.69**	**21**	*i* Pn	**Pn**	**13 39 51.9**	**+2.7**
GRUS				Sg	**Sg**	**13 40 15.3**	**+1.8**
DIVS	**Divcibare**	**1.79**	**3**	*i* Pn	**Pn**	**13 39 52.7**	**+2.3**
DIVS				Sg	**Sg**	**13 40 20.9**	**+4.3**
STIP	**Stip**	**1.83**	**109**	*e*Pn	**Pn**	**13 39 51.6**	**+0.5**
STIP				*e*Sn	**Sn**	**13 40 12.8**	**-1.7**
VAY	**Valandovo**	**2.25**	**115**	*e*Pn	**Pn**	**13 39 56.6**	**-0.2**
VAY				*e*Sn	**Sn**	**13 40 23.4**	**-1.4**

*ATH **21** 13:43:38.8, 3942N×2094E, h27km±4km, MD3.3/4*
*NEIC **21** 13:43:39.0, 3935N×2089E, h5km, MD3.3(ATH), After ATH.*
*ISCJB **21** 13:43:39.6±0.5, 3936N±002×2087E±004, h6km±5km, Error ellipse: s-maj=5.0km s-min=4.0km az=38.7*
*CSEM **21** 13:43:39.0, 3935N×2089E, h5km, MD3.3/4, After ATH*
*THE **21** 13:43:40.2, 3937N×2088E, h10km, ML2.9*
*SKO **21** 13:43:45.5, 3965N×2116E, h1km*

ISC 21 13:43:40.0±0.5, 3935N±002×2086E±004, h5km±4km, n19, σ1°06/32, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.31**	**359**	*e*PB	**Pg**	**13 43 44.8**	**-1.2**
JAN				*e*SB	**Sg**	**13 43 49.8**	**-0.2**
IGT	**Igoumenitsa**	**0.45**	**294**	*e*Pg	**Pg**	**13 43 48.2**	**-0.4**
IGT				*e*Sg	**Sg**	**13 43 56.3**	**+1.9**
MEV	**Metsovon**	**0.52**	**33**	*e*Pg	**Pg**	**13 43 48.7**	**-1.3**
MEV				*e*Sg	**Sg**	**13 43 57.9**	**+1.1**
LKD	**Levkas**	**0.66**	**194**	*e*Pg	**Pg**	**13 43 52.9**	**+0.2**
LKD				*e*Sg	**Sg**	**13 44 04.0**	**+2.7**
LSK	**Leskovik**	**0.82**	**346**	*i* Pg	**Pg**	**13 43 55.1**	**-0.7**
LSK				*i* Sg	**Sg**	**13 44 01.5**	**-5.1**
SRN	**Sarande**	**0.85**	**309**	*i* Pg	**Pg**	**13 44 07.0**	**+11**
SRN				*i* Sg	**Sg**	**13 44 14.1**	**+6.8**
EVR	**Evrytania**	**0.85**	**120**	*e*PN	**Pg**	**13 43 55.4**	**-1.0**
KEK	**Kerkira**	**0.90**	**294**	*e*PN	**Pg**	**13 43 56.9**	**-0.3**
AGG	**Agios Georgios**	**1.19**	**105**	*e*Pg	**Pg**	**13 44 01.6**	**-1.2**
AGG				*e*Sg	**Sg**	**13 44 19.9**	**+1.7**
VLS	**Valsamata**	**1.19**	**190**	*e*PN	**Pn**	**13 44 02.7**	**-0.5**
VLS	**Valsamata**	**1.19**	**190**	*e*Pb	**Pb**	**13 44 01.7**	**-1.3**
RLS	**Riolos of Patr**	**1.37**	**160**	*e*PN	**Pn**	**13 44 05.0**	**-0.8**
LIT	**Litokhoron**	**1.47**	**59**	*e*Pg	**Pg**	**13 44 07.4**	**-0.7**
LIT				*e*Sg	**Sg**	**13 44 28.2**	**+1.1**
FNA	**Florina**	**1.49**	**15**	*e*Pg	**Pn**	**13 44 06.2**	**-1.1**
FNA				*e*Sg	**Sg**	**13 44 27.8**	**0.0**
OHR	**Ohrid**	**1.76**	**359**	*e*Pn	**Pn**	**13 44 12.1**	**+1.0**
OHR				*e*Sn	**Sn**	**13 44 32.8**	**-1.1**
GRG	**Griva**	**1.99**	**36**	*e*Pb	**Pn**	**13 44 14.2**	**-0.1**
GRG				*e*Sb	**Sb**	**13 44 41.0**	**-0.8**
VAY	**Valandovo**	**2.37**	**33**	*e*Pn	**Pn**	**13 44 20.1**	**+0.7**
VAY				*e*Sg	**Sn**	**13 44 49.1**	**+0.4**
STIP	**Stip**	**2.55**	**23**	*e*Pn	**Pn**	**13 44 22.1**	**+0.1**
STIP				*e*Sg	**Sn**	**13 44 54.7**	**+1.3**
SKO	**Skopje**	**2.66**	**9**	*e*Pn	**Pn**	**13 44 25.4**	**+2.0**

NNC 21 14:14:30.8±4.0, 3904N×7065E, h21km±21km, mb3.5, mpv3.1, 6C-2D, Error ellipse: s-maj=31.7km s-min=19.5km az=12.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.06**	**359**	⇑Pn	Pn	14 15 35.0	+3.2
	2.6nm,0.3s,baz=171,slow=12,SNR=294						
KK31				⇓Pg	Pn	14 15 44.7	+13
	6.2nm,0.5s,baz=171,slow=16,SNR=13						
KK31				⇓Sn	Sn	14 16 25.0	+6.3
	23nm,0.7s,baz=182,slow=22						
KK31				⇑Lg		14 16 39.3	
	5.1nm,0.3s,baz=181,slow=36						
TKM2	**Tokmak 2**	**5.39**	**42**	⇑Pn	Pn	14 15 49.0	-1.0
	0.3nm,0.8s						
TKM2				⇑Sn	Sn	14 16 51.2	-0.2
	0.5nm,0.6s						
AB31	**Akbulak array**	**12.77**	**327**	⇑Pn	Pn	14 17 33.4	+2.3
	0.2nm,0.3s						
AB31				⇑Sn	Sn	14 19 55.7	+3.0
	1.0nm,0.5s						

*ISCJB **21** 14:48:43.4±2.7, 123S±01×1668E±01, h258km±25km, mb3.9/15, Error ellipse: s-maj=21.7km s-min=17.9km az=35.4*
*BJI **21** 14:48:43.0, 1230S×16680E, h247km, mB4.8, mb4.4*
*NEIC **21** 14:48:43.6±1.8, 1227S×16685E, h247km±17km, mb4.0/5, Error ellipse: s-maj=14.1km s-min=11.2km az=112.0*
*IDC **21** 14:48:43.6±4.0, 1230S×16686E, h248km±37km, mb3.6/11, mb1 3.8/12, mb1mx

ARCES **ARCESS Array B 117.86 346** PKP PKPdf 15 06 59.9 -0.4
FINES **FINESS Array B 123.38 339** PKP PKPdf 15 07 10.7 -0.2
comp=Z,1.4nm,0.8s,baz=95,slow=2.1,SNR=6.5
NOA **NORSAR Array B 128.23 345** PKP PKPdf 15 07 20.5 +0.4
comp=Z,1.0nm,0.7s,baz=28,slow=1.9,SNR=3.5
NOA **NORSAR Array B 128.23 345** PKP PKPdf 15 07 20.5 +0.4
ORIF **Oris-en-Rattie 143.70 337** *e*PKP1 PKPdf 15 07 48.1 -0.6
comp=Z,19nm,0.6s
SBF **Sospel 143.95 334** *e*PKP1 PKPdf 15 07 48.1 -1.1
comp=Z,31nm,0.7s
MFF **Saint Martin d 144.13 345** *e*PKP1 PKPdf 15 07 48.9 -0.6
VIVF **Saint-Julien-l 144.20 338** *e*PKP1 PKPdf 15 07 49.6 0.0
comp=Z,11nm,0.7s
PGF **Pioggiola 144.30 332** *e*PKP1 PKPdf 15 07 49.7 -0.1
comp=Z,26nm,0.6s
FRF **La Foret Royal 144.53 335** *e*PKP1 PKPdf 15 07 50.2 0.0
comp=Z,29nm,0.8s
SMRF **Simiane la Rot 144.61 336** *e*PKP1 PKPdf 15 07 51.1 +0.8
comp=Z,10.0nm,0.7s
LMR **La Mourre 144.77 335** *e*PKP1 PKPdf 15 07 51.0 +0.4
comp=Z,25nm,0.7s
RJF **Les Rejaudoux 144.85 342** *e*PKP1 PKPdf 15 07 51.6 +0.9
LASF **Ste Croix 145.17 338** *e*PKP1 PKPbc 15 07 52.6 +1.1
comp=Z,8.2nm,0.8s
LFF **La Frestale 145.42 343** *e*PKP1 PKPbc 15 07 53.2 +1.0
comp=Z,16nm,0.6s
MTLF **Montolieu 146.39 340** *e*PKP1 PKPbc 15 07 56.3 +1.2
comp=Z,11nm,0.7s
ESDC **Sonseca Array 151.59 345** PKPbc PKPbc 15 08 09.1 +1.0
comp=Z,0.3nm,0.3s,baz=26,slow=2.8,SNR=4.4

*ISCJB **21** 14:54:36.5±0.3,2030S±003×69.10W±007,h93km,*
mb4.3/14,Error ellipse: s-maj=9.6km s-min=4.6km az=6.1
*BJI **21** 14:54:38.4,2030S×6900W,h92km,mB5.1*
*NEIC **21** 14:54:38.5±0.3,2032S×6902W,mb4.5/7,Error ellipse:*
s-maj=10.4km s-min=6.4km az=77.0
*IDC **21** 14:54:38.3±0.5,2031S×6907W,h93km±4km,mb4.1/14,*
mb1 4.1/16,mb1mx4.1/19,mbtmp4.4/16,Error ellipse:
s-maj=17.5km s-min=7.1km az=88.0
*GUC **21** 14:54:41.8±0.8,2109S×6976W,h212km±29km,ML4.8*
ISC 21 14:54:38.4±0.3,**2034S**±003×**6911W**±007,**h95**km,
h95km±1.9km:**pP-P,n57,**σ1⇑**15**/51,**mb4.3**/14,**4C-1D,**
Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.27**	**175**	P		**Pn**	**14 55 15.2**	**+0.9**
	794nm,0.3s,baz=342,slow=9.5,SNR=1199						
LVC				S		**Sn**	**14 55 42.5**	**+0.8**
	586nm,0.3s,baz=121,slow=20,SNR=33						
LVC	**Limon Verde**	**2.27**	**175**	*e*Pn		**Pn**	**14 55 15.0**	**+0.7**
LVC				*e*Sn		**Sn**	**14 55 41.0**	**-0.7**
CEN1	**Los Morros**	**3.20**	**198**	*e*P		**Pn**	**14 55 27.7**	**+1.1**
CEN1				*i* S		**Sn**	**14 56 02.5**	**-1.3**
CEN1				AML		AML	14 56 28.8	
	comp=E,1μm,0.8s						
LPAZ	**La Paz**	**4.14**	**13**	P		**Pn**	**14 55 43.5**	**+4.2**
	comp=E,50nm,0.3s,baz=193,slow=8.0,SNR=558						
LPAZ				S		**Sn**	**14 56 23.8**	**-2.9**
	comp=E,6.1nm,0.3s,baz=165,slow=9.4,SNR=1.7						
LPAZ	**La Paz**	**4.14**	**13**	*e*Pn		**Pn**	**14 55 44.0**	**+4.7**
CPN1	**Cerro Paranal**	**4.43**	**195**	*e*P		**Pn**	**14 55 40.9**	**-2.4**
CPN1				*i* S		**Sn**	**14 56 25.2**	**-8.5**
CPN1				AML		AML	14 56 55.8	
	comp=E,894nm,0.5s						
ARE	**Arequipa**	**4.47**	**329**	⇑*i*P		**Pn**	**14 55 43.5**	**-0.3**
ARE				*i*			14 55 51.0	
CRCH	**Chaqaral**	**6.13**	**193**	*i* P		**Pn**	**14 56 02.1**	**-4.4**
CDCH	**Caldera**	**6.88**	**193**	*e*P		**Pn**	**14 56 11.2**	**-5.4**
CDCH				*i* S		**Sn**	**14 57 20.4**	**-13**
SIV	**San Ignacio**	**8.78**	**62**	P		**Pn**	**14 56 42.3**	**-0.1**
	comp=E,7.5nm,0.3s,baz=252,slow=12,SNR=139						
NNA	**Nana**	**11.14**	**317**	*e*Pn		**Pn**	**14 57 12.5**	**-2.0**
	comp=E,54nm,0.7s						
CFAA	**Coronel Fontan**	**11.24**	**176**	P		**Pn**	**14 57 11.2**	**-4.8**
	comp=E,0.2nm,0.3s,baz=349,slow=14,SNR=12						
CPUP	**Villa Florida**	**12.36**	**121**	P		**Pn**	**14 57 29.6**	**-1.2**
	comp=E,1.1nm,0.3s,baz=294,slow=11,SNR=8.5						
SAML	**Samuel**	**12.69**	**28**	*e*Pn		**Pn**	**14 57 34.4**	**-0.9**
	comp=E,24nm,0.9s						
ATAH	**Atahualpa**	**16.02**	**325**	P		**Pn**	**14 58 22.9**	**+4.8**
	comp=E,0.7nm,0.3s,baz=161,slow=7.3,SNR=3.9						
TRQA	**Tornquist**	**18.71**	**162**	*e*P		**Pn**	**14 58 49.0**	**-1.8**
	comp=E,8.7nm,0.8s						
PLCA	**Paso Flores**	**20.36**	**183**	P		**P**	**14 59 07.5**	**+0.3**
	comp=E,22nm,1.0s,baz=360,slow=12,SNR=18						
PLCA	**Paso Flores**	**20.36**	**183**	*e*P		**P**	**14 59 07.5**	**+0.2**
	comp=E,43nm,1.2s						
BDFB	**Brasilia**	**20.60**	**80**	P		**P**	**14 59 09.6**	**-0.2**
	comp=E,5.9nm,0.5s,baz=261,slow=12,SNR=6.2						
OTAV	**Otavalo**	**22.40**	**335**	*e*P		**P**	**14 59 32.2**	**+3.3**
	comp=E,12nm,0.8s,mb4.3						
ROSC	**El Rosal**	**25.56**	**348**	P		**P**	**14 59 59.9**	**+1.6**
	comp=E,7.2nm,0.5s,mb4.4,baz=94,slow=23,SNR=2.9						
SDV	**Santo Domingo**	**29.08**	**357**	P		**P**	**15 00 30.4**	**+0.6**
	comp=E,9.5nm,0.8s,mb4.5,baz=215,slow=8.7,SNR=11						
SDV	**Santo Domingo**	**29.08**	**357**	*e*P		**P**	**15 00 29.5**	**-0.2**
USHA	**Ushuaia**	**34.44**	**179**	P		**P**	**15 01 17.7**	**+0.9**
	comp=E,8.3nm,0.9s,mb4.6,baz=336,slow=12,SNR=3.4						
SJG	**San Juan**	**38.32**	**5**	P		**P**	**15 01 49.2**	**-0.5**
	comp=E,53nm,0.7s,mb5.5,baz=110,slow=4.2,SNR=16						
SJG	**San Juan**	**38.32**	**5**	*e*P		**P**	**15 01 48.8**	**-0.9**
	comp=E,28nm,0.6s,mb5.3						
CPCT	**Cooper Cave**	**57.38**	**345**	*e*P		**P**	**15 04 16.9**	**+0.2**
ELN	**Prospectdale**	**58.30**	**349**	*e*P		**P**	**15 04 24.4**	**+1.3**
VNA1	**Neumayer--Stat**	**61.44**	**161**	*e*		**P**	**15 04 45.8**	**+1.1**
VNA1				*e*			15 04 47.7	
SNAA	**Sanae**	**63.43**	**161**	P		**P**	**15 04 57.9**	**-0.1**
	comp=E,1.8nm,0.8s,mb4.1,baz=292,slow=6.0,SNR=27						
SNAA				pP		pP	15 05 22.2	+0.3
	comp=E,0.7nm,0.8s,baz=274,slow=7.2,SNR=3.0						
DBIC	**Dimbokro**	**68.59**	**74**	P		**P**	**15 05 31.1**	**+0.1**
	comp=E,5.4nm,0.9s,mb4.4,baz=206,slow=4.3,SNR=5.9						
DBIC				pP		pP	15 05 56.1	+1.0
	comp=E,2.7nm,0.5s,baz=199,slow=8.3,SNR=2.3						
DBIC	**Dimbokro**	**68.59**	**74**	*e*P		**P**	**15 05 31.6**	**+0.7**
	comp=E,5.6nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	**73.01**	**330**	pP		pP	15 06 22.2	0.0
	comp=E,0.5nm,0.6s,baz=126,slow=7.5,SNR=2.8						
ULM	**Lac du Bonnet**	**74.16**	**343**	P		**P**	**15 06 02.7**	**-1.8**
	comp=E,1.3nm,0.3s,mb4.1,baz=127,slow=7.6,SNR=3.6						
NVAR	**Mina Array Bea**	**74.47**	**322**	P		**P**	**15 06 06.1**	**-0.2**
	comp=E,0.4nm,0.6s,baz=140,slow=14,SNR=4.0						
NVAR				pP		pP	15 06 29.5	-1.3
	comp=E,1.3nm,0.8s,baz=142,slow=8.3,SNR=3.5						
NVAR	**Mina Array Bea**	**74.47**	**322**	P		**P**	**15 06 06.1**	**-0.2**
NVAR				pP		pP	15 06 29.5	-1.3
SCHQ	**Schefferville**	**74.89**	**1**	P		**P**	**15 06 08.6**	**-0.1**
	comp=E,3.6nm,0.8s,mb4.1,baz=202,slow=4.9,SNR=3.6						
HLID	**Hailey**	**75.96**	**328**	*e*P		**P**	**15 06 18.3**	**+3.4**
	comp=E,1.3nm,0.7s,mb3.8						
TORD	**Torodi Ar. Bea**	**77.15**	**71**	P		**P**	**15 06 21.5**	**-0.1**
	comp=E,3.4nm,0.4s,mb4.4,baz=253,slow=5.9,SNR=47						
TORD				pP		pP	15 06 46.2	+0.1
	comp=E,6.1nm,0.6s,baz=255,slow=4.8,SNR=7.7						
SYO	**Syowa Base**	**77.65**	**160**	⇑*e*P		**P**	**15 06 24.5**	**+0.2**
SYO	**Syowa Base**	**77.65**	**160**	⇑*e*PcP		PcP	15 06 29.0	-5.1
VNDA	**Vanda**	**77.95**	**190**	P		**P**	**15 06 26.9**	**+0.9**
	comp=E,1.5nm,0.8s,mb3.8,baz=122,slow=4.6,SNR=10						
VNDA	**Vanda**	**77.95**	**190**	P		**P**	**15 06 26.9**	**+0.9**
TSUM	**Tsumeb**	**80.56**	**107**	*e*P		**P**	**15 06 41.9**	**+1.7**
MAW	**Mawson**	**85.49**	**163**	P		**P**	**15 07 06.2**	**+0.6**
	comp=E,1.8nm,0.5s,mb4.2,baz=189,slow=6.9,SNR=12						
MAW	**Mawson**	**85.49**	**163**	*e*P		**P**	**15 07 06.0**	**+0.4**
YKA	**Yellowknife Ar**	**90.03**	**341**	P		**P**	**15 07 27.5**	**+0.2**
	comp=E,1.0nm,0.6s,mb4.1,baz=132,slow=4.4,SNR=5.8						
YKA				pP		pP	15 07 51.9	-0.7
	comp=E,5.4nm,0.9s,baz=135,slow=4.6,SNR=9.8						
ASAR	**Alice Springs**	**130.84**	**208**	PKP		PKPdf	15 13 38.8	+0.3
	comp=E,0.8nm,0.5s,baz=128,slow=1.7,SNR=33						
WRA	**Warramunga Arr**	**133.85**	**211**	PKP		PKPdf	15 13 45.4	+1.2
	comp=E,1.9nm,0.8s,baz=153,slow=1.6,SNR=24						
ZAL	**Zalesovo**	**140.99**	**24**	PKP		PKPdf	15 13 58.3	+1.0
	comp=E,0.9nm,0.3s,baz=64,slow=6.3,SNR=4.2						
MKAR	**Makanchi Array**	**144.80**	**35**	PKP		PKPdf	15 14 04.4	+0.4
	comp=E,1.3nm,0.7s,baz=312,slow=3.4,SNR=11						
MKAR				pPKP		pPKPdf	15 14 30.5	+0.1
	comp=E,2.2nm,0.9s,baz=290,slow=3.2,SNR=5.2						
MKAR	**Makanchi Array**	**144.80**	**35**	PKP		PKPdf	15 14 04.4	+0.4
MKAR				pPKP		pPKPdf	15 14 30.5	+0.1
MJAR	**Matsushiro Arr**	**151.19**	**310**	PKPbc		PKPbc	15 14 21.5	+1.0
	comp=E,2.4nm,0.8s,baz=75,slow=2.2,SNR=7.4						
MJAR	**Matsushiro Arr**	**151.19**	**310**	PKPbc		PKPbc	15 14 21.5	+1.0
YOGI	**Yogyakarta**	**152.01**	**179**	⇓*e*P		PKPbc	15 14 27.0	+4.6

HHC	**Hu-ho-hao-te**	**159.55**	**359**	*e*PKP	PKPdf	15 14 26.4	+0.6
HHC				APKP		15 14 53.1	
HHC				XPKP		15 15 03.8	
HHC				PKP2	PKPab	15 15 06.9	+2.5
HHC				PKS		15 17 58.9	
HHC				PP	PP	15 18 48.6	+2.7
HHC				SKS	SKSdf	15 21 19.6	-2.9
HHC				SKKS	SKKSac	15 25 25.5	-0.4
HHC				SS	SS	15 38 44.4	-0.6
HHC				LR	LR		
	comp=N,140nm,20.4s						
HHC				LR	LR		
	comp=E,70nm,18.0s						
HHC				LR	LR		
	comp=Z,80nm,22.6s						
CD2	**Chengdu**	**167.67**	**30**	*e*PKP	PKPdf	15 14 30.8	-2.5

*ORF **21** 14:58:47.5,3841N×2363E,h30km,mb4.1,ML5.2*
*LDG **21** 14:59:23.8±3.4,4046N×2018E,h10km,Mb4.9/11,Ms3.3/4,*
Error ellipse: s-maj=76.6km s-min=7.3km az=123.0
*PRU **21** 14:59:23.2,3993N×1954E,h0km*
*IDC **21** 14:59:26.0±1.0,4025N×1979E,h0km,mb4.1/9,*
mb1 4.2/11,mb1mx4.0/24,mbtmp4.1/11,ML4.1/2,Error
ellipse: s-maj=22.7km s-min=13.1km az=58.0
*ISCJB **21** 14:59:26.6±0.4,4014N±001×1968E±002,h5km±3km,*
mb4.1/9,Error ellipse: s-maj=2.5km s-min=2.0km az=63.4
*SKO **21** 14:59:26.2,3996N×1975E,h8km*
*ATH **21** 14:59:27.2,4015N×1973E,h17km±3km,MD4.2/16*
*TIR **21** 14:59:27.7,4013N×1987E,h9km,Ml3.8*
*HLW **21** 14:59:27.7,3997N×1982E,h33km,Mb4.0*
*THE **21** 14:59:27.9,4012N×1972E,h10km,ML4.0*
*NEIC **21** 14:59:28.4±1.1,4015N×1978E,h9km±9km,mb3.9/2,*
MD4.2(ATH),ML4.1(PDG),Error ellipse: s-maj=4.0km
s-min=2.7km az=201.0
*PDG **21** 14:59:28.1±1.0,4017N×1975E,h11km±2km*
*CSEM **21** 14:59:28.9±0.1,4003N×1982E,h10km,Ms3.3,Error*
ellipse: s-maj=1.4km s-min=1.1km az=6.0
ISC 21 14:59:28.1±0.4,**4014N**±001×**1972E**±002,**h4**km±3km,**n205,**
σ**1⇑27**/264,**mb4.1**/9,**26C-15D,Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.27**	**55**	*i* Pg		**Pg**	**14 59 31.6**	**-1.8**
TPE				*i* Sg		**Sg**	**14 59 36.1**	**-0.8**
SRN	**Sarande**	**0.34**	**140**	*i* Pg		**Pg**	**14 59 33.1**	**-1.4**
SRN				*i* Sg		**Sg**	**14 59 38.8**	**-0.1**
VLO	**Vlora**	**0.37**	**332**	*i* Pg		**Pg**	**14 59 36.9**	**+1.6**
VLO				*i* Sg		**Sg**	**14 59 47.3**	**+7.2**
KEK	**Kerkira**	**0.43**	**172**	*e*PB		**Pg**	**14 59 35.7**	**-0.6**
KEK				*e*SB		**Sg**	**14 59 42.8**	**+0.9**
LSK	**Leskovik**	**0.67**	**89**	*i* Pg		**Pg**	**14 59 39.5**	**-1.5**
LSK				*i* Sg		**Sg**	**14 59 50.3**	**+0.5**
IGT	**Igoumenitsa**	**0.77**	**142**	*e*Pg		**Pg**	**14 59 41.4**	**-1.4**
IGT				*e*Sg		**Sg**	**14 59 53.4**	**+0.6**
JAN	**Janina**	**0.99**	**119**	*e*PN		**Pg**	**14 59 45.5**	**-1.6**
JAN				*e*SN		**Sg**	**14 59 59.3**	**-0.7**
MEV	**Metsovon**	**1.21**	**106**	*e*Pg		**Pg**	**14 59 49.8**	**-1.5**
TIR	**Tirane**	**1.21**	**5**	*e*Pg		**Pg**	**14 59 52.3**	**+0.9**
TIR				*e*Sg		**Sg**	**15 00 09.5**	**+2.4**
LCI	**Lecce**	**1.25**	**280**	Pn		**Pn**	**14 59 52.6**	**+0.4**
LCI				Sn		**Sn**	**15 00 12.5**	**+3.1**
OHR	**Ohrid**	**1.27**	**40**	*e*Pg		**Pn**	**14 59 51.1**	**-1.5**
OHR				*e*Sg		**Sg**	**15 00 10.3**	**+1.4**
OHR	**Ohrid**	**1.27**	**40**	*e*Pg		**Pn**	**14 59 51.0**	**-1.5**
OHR				*i* Sg		**Sg**	**15 00 09.6**	**+0.6**
OHR	**Ohrid**	**1.27**	**40**	*e*Pg		**Pn**	**14 59 51.0**	**-1.6**
OHR				*i* Sg		**Sg**	**15 00 09.5**	**+0.5**
FNA	**Florina**	**1.42**	**62**	*e*Pg		**Pn**	**14 59 53.3**	**-1.3**
FNA				*e*Sg		**Sg**	**15 00 15.4**	**+1.8**
LACI	**Lac**	**1.50**	**360**	*i* Pn		**Pn**	**14 59 56.0**	**+0.3**
LACI				*i* Sn		**Sg**	**15 00 22.6**	**+6.4**
KZN	**Kozani**	**1.58**	**83**	*e*PN		**Pn**	**14 59 56.5**	**-0.3**
LKD	**Levkas**	**1.60**	**153**	*e*Pg		**Pn**	**14 59 56.8**	**-0.2**
LKD				*e*Sg		**Sg**	**15 00 19.2**	**-0.3**
ULC	**Ulcinj**	**1.86**	**349**	⇑*i*Pn		**Pn**	**15 00 00.3**	**-0.3**
ULC				*e*Sn		**Sn**	**15 00 25.8**	**+1.3**
SDA	**Shkodra**	**1.92**	**355**	*i* Pn		**Pn**	**15 00 03.5**	**+2.0**
EVR	**Evrytania**	**2.02**	**126**	*e*PN		**Pn**	**15 00 03.7**	**+0.8**
VLS	**Valsamata**	**2.07**	**161**	*e*PB		**Pn**	**15 00 02.6**	**-0.9**
LIT	**Litokhoron**	**2.12**	**90**	*e*Pn		**Pn**	**15 00 04.1**	**-0.2**
LIT				*e*Sn		**Sn**	**15 00 32.6**	**+1.5**
GRG	**Griva**	**2.20**	**67**	*e*Pn		**Pn**	**15 00 06.0**	**+0.7**
SKO	**Skopje**	**2.25**	**35**	*e*Pn		**Pn**	**15 00 05.9**	**-0.1**
SKO	**Skopje**	**2.25**	**35**	*i* Pn		**Pn**	**15 00 06.0**	**0.0**
BUM	**Brajici-Budva**	**2.25**	**344**	⇑*i*Pn		**Pn**	**15 00 05.7**	**-0.3**
BUM				*e*Sn		**Sn**	**15 00 35.6**	**+1.5**
AGG	**Agios Georgios**	**2.30**	**118**	*e*Pn		**Pn**	**15 00 07.4**	**+0.7**
AGG				*e*Sn		**Sn**	**15 00 36.3**	**+0.8**
TTG	**Podgorica**	**2.32**	**352**	⇑*i*Pn		**Pn**	**15 00 06.7**	**-0.2**
TTG				*e*Sn		**Sn**	**15 00 36.9**	**+1.1**
STIP	**Stip**	**2.43**	**49**	*i* Pn		**Pn**	**15 00 08.9**	**+0.5**
STIP	**Stip**	**2.43**	**49**	*i* Pn		**Pn**	**15 00 08.9**	**+0.4**
PVY	**Plav**	**2.46**	**4**	⇑*i*Pn		**Pn**	**15 00 09.2**	**+0.2**
PVY				*e*Sn		**Sn**	**15 00 40.3**	**+0.9**
VAY	**Valandovo**	**2.47**	**60**	*e*Pn		**Pn**	**15 00 09.2**	**+0.2**
VAY				*e*Sn		**Sn**	**15 00 40.7**	**+1.2**
VAY	**Valandovo**	**2.47**	**60**	*i* Pn		**Pn**	**15 00 08.8**	**-0.2**
VAY	**Valandovo**	**2.47**	**60**	*i* Pn		**Pn**	**15 00 08.7**	**-0.3**
VAY				S		**Sn**	**15 00 40.7**	**+1.2**
TIP	**Timpagrande**	**2.48**	**248**	*e*Pn		**Pn**	**15 00 08.9**	**-0.3**
RLS	**Riolos of Patr**	**2.48**	**146**	*e*PB		**Pn**	**15 00 09.6**	**+0.4**
HCY	**Herceg Novi**	**2.48**	**339**	⇑*i*Pn		**Pn**	**15 00 08.4**	**-0.8**
HCY				*e*Sn		**Sn**	**15 00 41.6**	**+1.6**
ORI	**Oriolo Calabro**	**2.51**	**269**	Pn		**Pb**	**15 00 13.9**	**+0.2**
THE	**Thessaloniki**	**2.53**	**78**	*e*Pn		**Pn**	**15 00 10.0**	**+0.2**
THE				*e*Sn		**Sn**	**15 00 41.9**	**+0.9**
THE	**Thessaloniki**	**2.53**	**78**	P		**Pn**	**15 00 10.0**	**+0.2**
THE				S		**Sn**	**15 00 41.8**	**+0.8**
KNT	**Kendrikon**	**2.62**	**66**	*e*Pn		**Pn**	**15 00 11.6**	**+0.4**
KNT				*e*Sn		**Sn**	**15 00 44.9**	**+1.5**
NKY	**Niksic**	**2.73**	**349**	⇑*i*Pn		**Pn**	**15 00 12.6**	**0.0**
NKY				*e*Sn		**Sn**	**15 00 46.7**	**+0.7**
IVA	**Berane**	**2.73**	**3**	⇑*i*Pn		**Pn**	**15 00 13.6**	**+0.9**
IVA				*e*Sn		**Sn**	**15 00 46.8**	**+0.7**
TREB	**Trebinje**	**2.78**	**339**	P		**Pn**	**15 00 10.5**	**-2.7**
TREB				S		**Sn**	**15 00 48.4**	**+1.2**
XOR	**Xorichti**	**2.78**	**105**	*e*Pn		**Pn**	**15 00 13.0**	**-0.3**
PTRP	**Pietrapertosa**	**2.82**	**279**	Pn		**Pn**	**15 00 15.4**	**+1.5**
NEO	**Neokhori**	**2.83**	**106**	*e*PN		**Pn**	**15 00 14.1**	**+0.2**
SOH	**Sokhos**	**2.85**	**75**	*e*Pn		**Pn**	**15 00 14.7**	**+0.3**
SOH				*e*Sn		**Sn**	**15 00 51.7**	**+2.6**
SOH	**Sokhos**	**2.85**	**75**	P		**Pn**	**15 00 14.6**	**+0.3**
SOH				S		**Sn**	**15 00 51.7**	**+2.6**
PLG	**Polygyros**	**2.86**	**84**	*e*PB		**Pn**	**15 00 14.9**	**+0.5**
BRY	**Bratogost**	**2.90**	**343**	⇑*i*Pn		**Pn**	**15 00 14.3**	**-0.6**
BRY				*e*Sn		**Sn**	**15 00 51.6**	**+1.4**
LKR	**Lokris**	**2.94**	**119**	*e*PN		**Pn**	**15 00 16.1**	**+0.6**
CUC	**Castrocucco**	**3.00**	**268**	Pn		**Pn**	**15 00 17.4**	**+1.1**
PAIG	**Paliouri**	**3.05**	**93**	*e*Pn		**Pn**	**15 00 15.7**	**-1.2**
KKB	**Krupnik**	**3.08**	**55**	*i* P		**Pn**	**15 00 18.9**	**+1.5**
UPM	**Unac-Piva**	**3.12**	**349**	⇑*i*Pn		**Pn**	**15 00 18.1**	**+0.1**
UPM				*e*Sn		**Sn**	**15 00 56.6**	**+0.9**
STON	**Ston**	**3.12**	**332**	*i* Pn		**Pn**	**15 00 17.1**	**-1.0**
SLCN	**Sala Consilina**	**3.14**	**276**	Pn		**Pn**	**15 00 19.4**	**+1.2**
MGR	**Morigerati**	**3.19**	**271**	Pn		**Pn**	**15 00 20.6**	**+1.6**
PLE	**Pljevlja**	**3.20**	**356**	⇑*i*Pn		**Pn**	**15 00 19.4**	**+0.3**
PLE				*e*Sn		**Sn**	**15 00 58.0**	**+0.4**
FGMS	**Monte Sant'Ang**	**3.26**	**300**	Pn		**Pn**	**15 00 20.3**	**+0.4**
OUR	**Ouranopolis**	**3.27**	**85**	*e*Pn		**Pn**	**15 00 20.2**	**+0.2**
OUR				*e*Sn		**Sn**	**15 01 00.5**	**+1.3**
MRLC	**Muro Lucano**	**3.29**	**282**	Pn		**Pn**	**15 00 21.4**	**+1.1**
FG4	**Candela**	**3.35**	**289**	Pn		**Pn**	**15 00 23.8**	**+2.7**
AOS	**Alonnisos**	**3.35**	**105**	*e*Pn		**Pn**	**15 00 21.3**	**-0.1**
MMB	**Musomiste**	**3.37**	**63**	*i* P		**Pn**	**15 00 22.8**	**+1.4**
ITM	**Ithomi**	**3.42**	**149**	*e*PN		**Pn**	**15 00 22.3**	**+0.2**
RGNG	**Rignano Grg**	**3.49**	**297**	Pn		**Pn**	**15 00 23.4**	**+0.3**
MGER	**Gerania Oros**	**3.49**	**127**	*e*PN		**Pn**	**15 00 23.0**	**-0.1**
CEL	**Celeste**	**3.52**	**239**	Pn		**Pn**	**15 00 23.3**	**-0.1**
CEL				Sn		**Sn**	**15 01 04.9**	**-0.5**
SOI	**Samo**	**3.52**	**235**	Pn		**Pn**	**15 00 23.2**	**-0.3**
FG5	**Orsara di Pugl**	**3.57**	**290**	Pn		**Pn**	**15 00 26.8**	**+2.6**
SCLL	**Scilla**	**3.64**	**240**	Pn		**Pn**	**15 00 24.8**	**-0.3**
CSSN	**Cassano Irpino**	**3.65**	**283**	Pn		**Pn**	**15 00 27.2**	**+1.9**
ATH	**Athens Observa**	**3.79**	**124**	*e*PN		**Pn**	**15 00 26.7**	**-0.5**
MTTG	**Motta San Giov**	**3.79**	**237**	Pn		**Pn**	**15 00 27.2**	**0.0**
GRUS	**Gruza**	**3.82**	**11**	*i* Pn		**Pn**	**15 00 27.6**	**0.0**
GRUS				Sn		**Pn**	**15 00 27.6**	**0.0**

FG2	**Serracapriola**	**3.83**	**297**	Pn		**Pn**	**15 00 27.0**	**-0.8**
PSB1	**Pescosannita**	**3.89**	**288**	Pn		**Pn**	**15 00 29.9**	**+1.4**
CIGN	**Sant'Elia a Pi**	**3.95**	**294**	Pn		**Pn**	**15 00 31.0**	**+1.6**
DIVS	**Divcibare**	**3.96**	**3**	*i* Pn		**Pn**	**15 00 29.3**	**-0.3**
DIVS				Sn		**Sn**	**15 01 16.0**	**-0.4**
DIVS	**Divcibare**	**3.96**	**3**	*e*Pn		**Pn**	**15 00 29.0**	**-0.6**
RZN	**Rozhen**	**4.09**	**66**	*i* P		**Pn**	**15 00 33.6**	**+2.3**
LIA	**Limnos Island**	**4.20**	**92**	*e*PN		**Pn**	**15 00 32.9**	**+0.1**
VLI	**Veliai**	**4.25**	**143**	*e*PN		**Pn**	**15 00 34.7**	**+1.2**
MIDA	**Miranda**	**4.41**	**292**	Pn		**Pn**	**15 00 37.3**	**+1.6**
RNI2	**Rionero Sannit**	**4.50**	**292**	Pn		**Pn**	**15 00 39.1**	**+2.2**
KYTH	**Kithira**	**4.65**	**145**	*e*PN		**Pn**	**15 00 39.6**	**+0.6**
SDI	**San Donato**	**4.75**	**291**	Pn		**Pn**	**15 00 41.7**	**+1.4**
INTR	**Introdacqua**	**4.78**	**295**	Pn		**Pn**	**15 00 41.7**	**+0.9**
HAVL	**Avola**	**4.80**	**230**	Pn		**Pn**	**15 00 37.6**	**-3.5**
PZI	**Palazzolo**	**4.84**	**232**	Pn		**Pn**	**15 00 36.8**	**-4.8**
VAE	**Valguarnera**	**4.92**	**239**	Pn		**Pn**	**15 00 49.2**	**+6.5**
	2.8nm,0.3s,baz=353,slow=2.3,SNR=5.9						
VAE	**Valguarnera**	**4.92**	**239**	Pn		**Pn**	**15 00 49.2**	**+6.4**
HMDC	**Modica**	**5.01**	**232**	Pn		**Pn**	**15 00 40.8**	**-3.1**
	297nm,0.5s						
PVL	**Pavlikeni**	**5.21**	**52**	*e*P		**Pn**	**15 00 47.0**	**+0.3**
TERO	**Teramo**	**5.23**	**300**	Pn		**Pn**	**15 00 48.1**	**+1.1**
AQU	**L'Aquila**	**5.25**	**297**	P		**Pn**	**15 00 47.8**	**+0.5**
	83nm,0.8s						
AQU	**L'Aquila**	**5.25**	**297**	P		**Pn**	**15 00 47.8**	**+0.5**
	83nm,0.8s						
CERT	**Cerreto**	**5.41**	**292**	Pn		**Pn**	**15 00 51.1**	**+1.7**
	51nm,0.6s						
FIAM	**Fiamignano**	**5.42**	**295**	Pn		**Pn**	**15 00 52.0**	**+2.5**
	81nm,0.7s						
NRCA	**Norcia**	**5.65**	**301**	Pn		**Pn**	**15 00 54.1**	**+1.4**
	35nm,0.5s						
BZS	**Buzias**	**5.65**	**14**	⇓*i*P		**Pn**	**15 00 52.0**	**-0.

8.8nm,0.5s
HINF Hinteralfeld 12.02 314 *e*P **Pn 15 02 18.4 -1.7**
4.4nm,0.5s
VIVF Saint-Julien-l 12.06 298 *e*P **Pn 15 02 21.1 +0.4**
CDF Champ du Feu 12.15 317 *e*P **Pn 15 02 20.4 -1.5**
1.8nm,0.3s
CDF Champ du Feu 12.15 317 *e*P **Pn 15 02 20.4 -1.5**
0.9nm,0.3s
HAU Haudompre 12.41 314 *e*P **Pn 15 02 24.1 -1.3**
8.3nm,0.3s
HAU *e*R
286nm,17.2s
HAU Haudompre 12.41 314 *e*P **Pn 15 02 24.1 -1.3**
4.2nm,0.3s
LASF Ste Croix 12.42 294 *e*P **Pn 15 02 26.2 +0.6**
LOR Lormes 13.49 307 *e*P **Pn 15 02 39.0 -1.2**
LOR *e*R
350nm,18.8s
MMAI Mount Meron Ar 14.46 115 **Pn 15 02 49.4 -4.0**
0.7nm,0.3s,baz=307,slow=14,SNR=3.6
EIL Elat 16.26 125 *e*P **Pn 15 03 14.1 -3.2**
45nm,0.5s
EIL Elat 16.26 125 *e*P **Pn 15 03 14.1 -3.1**
45nm,0.5s
HDK1 Dakhla 16.66 148 P **Pn 15 03 19.8 -2.5**
HFS Hagfors 20.37 351 P **P 15 04 03.2 -2.3**
4.6nm,0.7s,baz=162,slow=10,SNR=11
HFS Hagfors 20.37 351 P **P 15 04 03.2 -2.4**
NB2 NORSAR Subarra 21.58 349 P **P 15 04 17.0 -1.6**
comp=Z,6.1nm,1.1s,mb3.9,baz=169,slow=12
NOA NORSAR Array B 21.58 349 P **P 15 04 17.0 -1.6**
comp=Z,3.1nm,0.6s,mb3.9,baz=160,slow=11,SNR=9.4
NOA NORSAR Array B 21.58 349 P **P 15 04 17.0 -1.6**
FINES FINESS Array B 21.69 8 P **P 15 04 15.1 -4.8**
comp=Z,1.8nm,0.4s,mb3.8,baz=170,slow=12,SNR=17
KAF Kangasniemi 22.37 8 *e*p **P 15 04 22.6 -4.5**
JOF Joensuu 23.85 13 *e*p **P 15 04 44.4 +2.1**
AKTK Aktyubinsk 28.55 56 P **P 15 05 22.7 -2.1**
AKTO Aktyubinsk 28.55 56 P **P 15 05 22.7 -2.1**
comp=Z,1.5nm,0.4s,mb4.1,baz=242,slow=4.4,SNR=7.2
ARCES ARCESS Array B 29.62 4 P **P 15 05 31.3 -3.0**
comp=Z,1.7nm,0.6s,mb4.0,baz=186,slow=11,SNR=9.0
TORD Torodi Ar. Bea 31.21 216 P **P 15 05 48.4 0.0**
comp=Z,1.4nm,0.8s,mb3.8,baz=25,slow=8.5,SNR=8.5
CHKZ Chkalovo 36.51 51 *e*P **P 15 06 32.4 -2.0**
comp=Z,1.8nm,0.7s,mb4.0
MKAR Makanchi Array 44.83 60 P **P 15 07 40.5 -2.6**
comp=Z,5.7nm,0.7s,mb4.5,baz=285,slow=7.8,SNR=41
ZAL Zalesovo 44.86 49 P **P 15 07 42.3 -1.0**
comp=Z,3.4nm,0.4s,mb4.5,baz=192,slow=5.0,SNR=8.4
SONM Songino Array 59.71 51 P **P 15 09 31.0 -2.7**
comp=Z,0.9nm,0.8s,mb3.9,baz=292,slow=7.6,SNR=2.7
ASAR Alice Springs 122.97 94 PKP PKPdf 15 18 23.8 -1.8
comp=Z,0.3nm,0.8s,baz=338,slow=1.8,SNR=4.8

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*ISCJB **21** 15:18:16.9±0.5, 4445N±003×1152E±004, h10km, Error ellipse: s-maj=4.7km s-min=3.3km az=107.1*
*LDG **21** 15:18:17.9±0.3, 4429N×1171E, h10km, Ml2.7/6, Error ellipse: s-maj=6.3km s-min=2.6km az=104.0*
*NEIC **21** 15:18:18.6, 4432N×1145E, h5km, ML2.5(ROM), ML2.7(LDG), After ROM.*
*ROM **21** 15:18:18.6±0.6, 4432N×1145E, h5km±4km, Md2.5/11, Ml2.5/4, Error ellipse: s-maj=6.8km s-min=3.5km az=25.0*
*CSEM **21** 15:18:19.2±0.2, 4427N×1143E, h12km, ML2.7/6, Error ellipse: s-maj=3.9km s-min=2.4km az=31.0*

ISC 21 15:18:18.2±0.5,**4441N**±003×**1151E**±004,**h10**km,**n35,**
σ1§09/56,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FNVD	**Fontana Vidola**	**0.37**	**229**		Pg	**Pg**	**15 18 24.8**	**-0.7**
FNVD					Sg	**Sg**	**15 18 30.4**	**0.0**
	2μm,0.3s							
SEI	**Scarperia**	**0.37**	**198**	Pg		**Pg**	**15 18 24.6**	**-0.9**
SEI					Sg	**Sg**	**15 18 30.2**	**-0.3**
ZCCA	**Zocca**	**0.39**	**262**	Pg		**Pg**	**15 18 26.9**	**+1.0**
	55nm,0.4s							
VMG	**Vicchio**	**0.45**	**177**	Pg		**Pg**	**15 18 25.9**	**-1.1**
	174nm,0.3s							
PZZT	**Monte Pizzetto**	**0.54**	**240**	Pg		**Pg**	**15 18 28.0**	**-0.8**
PZZT					Sg	**Sg**	**15 18 36.1**	**+0.2**
	226nm,0.3s							
SFI	**Santa Sofia**	**0.56**	**154**	Pg		**Pg**	**15 18 28.4**	**-0.7**
SFI					Sg	**Sg**	**15 18 37.6**	**+1.2**
	196nm,0.4s							
BDI	**Bagni Di Lucca**	**0.74**	**243**	Pg		**Pg**	**15 18 31.7**	**-0.9**
	86nm,0.4s							
RSM	**Repubblica di**	**0.83**	**125**	Pg		**Pg**	**15 18 36.1**	**+1.9**
	54nm,0.6s							
SARO	**Sassorosso**	**0.83**	**255**	P		**Pg**	**15 18 34.4**	**+0.2**
VLC	**Villacollemand**	**0.85**	**253**	*e*Pg		**Pg**	**15 18 34.8**	**+0.3**
VLC				*e*Sg		**Sg**	**15 18 47.4**	**+1.8**
VLC	**Villacollemand**	**0.85**	**253**	*e*Pg		**Pg**	**15 18 34.8**	**+0.3**
CRE	**Caprese Michel**	**0.85**	**158**	Pg		**Pg**	**15 18 33.3**	**-1.3**
CRE					Sg	**Sg**	**15 18 46.8**	**+1.1**
	92nm,0.4s							
MAIM		**0.89**	**236**	P		**Pg**	**15 18 35.3**	**0.0**
MAIM					S	**Sg**	**15 18 46.7**	**-0.1**
PII	**Pisa**	**0.99**	**226**	Pg		**Pg**	**15 18 36.7**	**-0.5**
	34nm,0.2s							
VINC	**Vinca**	**1.01**	**255**	P		**Pg**	**15 18 38.9**	**+1.2**
VINC					S	**Sg**	**15 18 53.8**	**+2.9**
GRAM		**1.04**	**275**	P		**Pg**	**15 18 39.6**	**+1.4**
GRAM					S	**Sg**	**15 18 56.6**	**+4.9**
BACM		**1.04**	**263**	P		**Pg**	**15 18 37.8**	**-0.4**
BACM					S	**Sg**	**15 18 54.5**	**+2.7**
CODM		**1.19**	**270**	P		**Pb**	**15 18 43.5**	**+2.6**
ARV	**Arcevia**	**1.38**	**131**	Pg		**Pg**	**15 18 44.8**	**+0.2**
	10.0nm,0.4s							
SC2M	**Scurtabr**	**1.42**	**271**	P		**Pn**	**15 18 44.4**	**+0.4**
PGF	**Pioggiola**	**2.61**	**225**	*e*Pn		**Pn**	**15 18 59.1**	**-1.3**
PGF				*e*Sn		**Sn**	**15 19 28.2**	**-3.9**
	8.2nm,0.4s							
SBF	**Sospel**	**2.98**	**261**	*e*Pn		**Pn**	**15 19 05.5**	**-0.1**
SBF				*e*Sn		**Sn**	**15 19 40.0**	**-1.4**
	7.6nm,0.4s							
SBF	**Sospel**	**2.98**	**261**	*e*Pn		**Pn**	**15 19 05.5**	**-0.1**
SBF				*e*Sn		**Sn**	**15 19 40.0**	**-1.4**
	3.8nm,0.4s							
LPG	**La Plagne**	**3.55**	**290**	*e*Pn		**Pn**	**15 19 14.0**	**+0.6**
LPL	**La Plagne**	**3.57**	**290**	*e*Pn		**Pn**	**15 19 14.2**	**+0.6**
FRF	**La Foret Royal**	**3.61**	**258**	*e*Pn		**Pn**	**15 19 13.6**	**-0.6**
FRF				*e*Sn		**Sn**	**15 19 55.2**	**-1.7**
	2.6nm,0.3s							
FRF	**La Foret Royal**	**3.61**	**258**	*e*Pn		**Pn**	**15 19 13.6**	**-0.6**
FRF				*e*Sn		**Sn**	**15 19 55.2**	**-1.7**
	1.3nm,0.3s							
LMR	**La Mourre**	**3.77**	**255**	*e*Pn		**Pn**	**15 19 15.6**	**-0.8**
LMR				*e*Sn		**Sn**	**15 19 58.4**	**-2.5**
	1.0nm,0.2s							
LMR	**La Mourre**	**3.77**	**255**	*e*Pn		**Pn**	**15 19 15.6**	**-0.8**
LMR				*e*Sn		**Sn**	**15 19 58.4**	**-2.5**
	0.5nm,0.2s							
CABF	**La Chapelle**	**4.40**	**302**	*e*Pn		**Pn**	**15 19 25.7**	**+0.6**
HINF	**Hinteralfeld**	**4.70**	**318**	*e*Pn		**Pn**	**15 19 29.2**	**0.0**
CDF	**Champ du Feu**	**4.96**	**325**	*e*Pn		**Pn**	**15 19 32.6**	**-0.2**
CDF				*e*Sn		**Sn**	**15 20 29.1**	**-1.1**
	1.2nm,0.3s							
CDF	**Champ du Feu**	**4.96**	**325**	*e*Pn		**Pn**	**15 19 32.6**	**-0.2**
CDF				*e*Sn		**Sn**	**15 20 29.1**	**-1.1**
	0.6nm,0.3s							
HAU	**Haudompre**	**5.08**	**317**	*e*Pn		**Pn**	**15 19 34.8**	**+0.4**
HAU				*e*Sn		**Sn**	**15 20 32.1**	**-1.0**
	3.4nm,0.3s							
HAU	**Haudompre**	**5.08**	**317**	*e*Pn		**Pn**	**15 19 34.8**	**+0.4**
HAU				*e*Sn		**Sn**	**15 20 32.1**	**-1.0**
	1.7nm,0.3s							

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*NEIC **21** 15:19:10.6, 1675N×9972W, h5km, MD3.6(MEX), After MEX.*

MEX 21 15:19:11.0±0.6,**1679N×9971W,h7**km±5km,**MD3.6,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.22**	**292**	*i* P		Pg	15 19 14.8	-0.5
ACX				*i* S		Sg	15 19 18.5	+0.3
CAIG	**El Cayaco**	**0.60**	**296**	*i* P		Pg	15 19 21.6	-0.8
CAIG				*i* S		Sg	15 19 30.4	+0.2
MEIG	**Mezcala**	**1.14**	**4**	*i* P		Pg	15 19 29.2	-3.6
MEIG				*i* S		Sg	15 19 43.5	-4.1
PLIG	**Platanillo**	**1.61**	**7**	*i* P		Pn	15 19 37.2	-2.6
PLIG				*i* S		Sn	15 19 56.5	-4.4
PLIG	**Platanillo**	**1.61**	**7**	*i* P		Pn	15 19 37.2	-2.6
PLIG				*i* S		Sn	15 19 58.5	-2.4
UTMO	**Huajuapan**	**2.10**	**60**	*i* P		Pn	15 19 44.0	-2.5
UTMO				*i* S		Sn	15 20 10.0	-2.9
PPM	**Popocatepetl**	**2.49**	**24**	*i* P		Pn	15 19 50.0	-1.9
PPM				*i* S		Sn	15 20 19.9	-2.7
PPM	**Popocatepetl**	**2.49**	**24**	*i* P		Pn	15 19 50.0	-1.9
PPM				*i* S		Sn	15 20 20.9	-1.7
VHO	**Vista Hermosa**	**2.86**	**84**	*i* S		Sn	15 20 27.3	-4.5

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*NEIC **21** 15:32:40.5±4.7, 4331N×12765W, h10km, ML2.9, Error ellipse: s-maj=52.3km s-min=10.3km az=63.0*
*ISCJB **21** 15:32:47.3±0.9, 4362N±003×12686W±008, h10km, Error ellipse: s-maj=8.3km s-min=4.4km az=139.6*

ISC 21 15:32:48.8±0.9,**4361N**±004×**12684W**±008,**h10**km,**n46,**
σ0§79/58,18C-16D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
K01A	**Sixes**	**1.91**	**114**	⇑S		**Sn**	**15 33 43.6**	**-1.8**
	baz=1.9							
RNO	**Roman Nose**	**2.27**	**81**	P		**Pn**	**15 33 26.2**	**-0.1**
H02A	**Toledo**	**2.31**	**61**	P		**Pn**	**15 33 26.1**	**-0.9**
	baz=2.3,SNR=60							
H02A				⇓S		**Sn**	**15 33 54.7**	**-0.7**
	baz=2.3							
J02A	**Umpqua**	**2.39**	**95**	⇓P		**Pn**	**15 33 27.3**	**-0.7**
	baz=2.3							
J02A				⇑S		**Sn**	**15 33 57.1**	**-0.3**
	baz=2.3							
K02A	**Glendale**	**2.59**	**108**	⇑P		**Pn**	**15 33 27.7**	**-3.1**
	baz=2.5,SNR=19							
I03A	**Eugene**	**2.61**	**81**	⇓P		**Pn**	**15 33 30.3**	**-0.7**
	baz=2.6,SNR=38							
I03A				⇓S		**Sn**	**15 34 03.0**	**+0.3**
	baz=2.6							
M01C	**Crescent City**	**2.67**	**130**	⇑S		**Sn**	**15 34 04.0**	**-0.1**
	baz=2.6							
HSO	**Harness Mounta**	**2.73**	**90**	P		**Pn**	**15 33 32.5**	**-0.1**
COR	**Corvallis**	**2.73**	**68**	*e*Pn		**Pn**	**15 33 32.5**	**-0.2**
COR				*e*Sn		**Sn**	**15 34 05.5**	**-0.3**
H03A	**Soap Creek Ran**	**2.77**	**66**	⇑P		**Pn**	**15 33 32.5**	**-0.7**
	baz=2.7,SNR=23							
H03A				⇑S		**Sn**	**15 34 06.6**	**-0.3**
	baz=2.7							
L02A	**Cave Junction**	**2.79**	**120**	⇓P		**Pn**	**15 33 31.9**	**-1.6**
	baz=2.7							
J03A	**Ideyld Park**	**2.83**	**93**	⇑P		**Pn**	**15 33 33.4**	**-0.7**
	baz=2.8,SNR=15							
J03A				⇑S		**Sn**	**15 34 08.4**	**+0.1**
	baz=2.8							
HUMO	**Hull Mountain**	**3.02**	**108**	*e*Pn		**Pn**	**15 33 35.4**	**-1.2**
HUMO				*e*Sn		**Sn**	**15 34 13.8**	**+1.0**
BROR	**Big Rock Looko**	**3.24**	**77**	P		**Pn**	**15 33 40.2**	**+0.5**
HBO	**Huckleberry Mo**	**3.29**	**84**	P		**Pn**	**15 33 41.1**	**+0.8**
F03A	**Seaside**	**3.30**	**44**	⇑P		**Pn**	**15 33 39.9**	**-0.6**
	baz=3.3							
F03A				⇓S		**Sn**	**15 34 19.8**	**0.0**
	baz=3.3							
IRO	**Indian Ridge**	**3.35**	**82**	P		**Pn**	**15 33 41.6**	**+0.5**
SSOR	**Sweet Springs**	**3.39**	**67**	P		**Pn**	**15 33 42.3**	**+0.6**
NLO	**Nicolai Mounta**	**3.46**	**43**	P		**Pn**	**15 33 42.9**	**+0.1**
FRIS	**Frissel Point**	**3.48**	**78**	P		**Pn**	**15 33 43.8**	**+0.8**
G04A	**Mulino**	**3.51**	**61**	⇓P		**Pn**	**15 33 43.5**	**0.0**
	baz=3.5,SNR=11							
H04A	**Detroit Lake**	**3.52**	**71**	⇑P		**Pn**	**15 33 43.4**	**-0.1**
	baz=3.5,SNR=37							
YBH	**Yreka Blue Hor**	**3.58**	**120**	⇓P		**Pn**	**15 33 44.0**	**-0.3**
	baz=3.5							
YBH				⇑S		**Sn**	**15 34 27.1**	**+0.5**
	baz=3.5							
PGO	**Gresham**	**3.65**	**58**	P		**Pn**	**15 33 46.6**	**+1.3**
WIFE	**Three Sisters-**	**3.67**	**81**	P		**Pn**	**15 33 46.4**	**+0.9**
E03A	**Lebam**	**3.75**	**37**	⇓P		**Pn**	**15 33 45.8**	**-0.9**
	baz=3.7							
E03A				⇑S		**Sn**	**15 34 30.1**	**-0.8**
	baz=3.7							
BKCOR	**Black Crater**	**3.78**	**78**	P		**Pn**	**15 33 48.0**	**+0.9**
N02C	**Big Bar**	**3.83**	**135**	⇓P		**Pn**	**15 33 47.8**	**+0.1**
	baz=3.8							
BMW	**Boistfort Moun**	**3.85**	**41**	P		**Pn**	**15 33 47.6**	**-0.4**
BPO	**Bald Peter**	**3.85**	**72**	P		**Pn**	**15 33 49.0**	**+0.9**
L04A	**Klamath Falls**	**3.91**	**110**	⇓P		**Pn**	**15 33 49.0**	**+0.1**
	baz=3.8							
L04A				⇓S		**Sn**	**15 34 35.5**	**+0.7**
	baz=3.8							
F04A	**Amboy**	**3.91**	**52**	⇑P		**Pn**	**15 33 49.2**	**+0.2**
	baz=3.9,SNR=24							
VLMM	**Larch Mountain**	**3.94**	**59**	P		**Pn**	**15 33 50.2**	**+0.9**
LVP	**Lakeview Peak**	**4.00**	**50**	P		**Pn**	**15 33 50.8**	**+0.7**
FL2	**Flat Top 2**	**4.11**	**49**	P		**Pn**	**15 33 52.6**	**+0.9**
D03A	**Wishkah Elem.**	**4.13**	**31**	⇑P		**Pn**	**15 33 51.2**	**-0.7**
	baz=4.1,SNR=7.0							
D03A				⇓S		**Sn**	**15 34 38.8**	**-1.4**
	baz=4.1							
H05A	**Madras**	**4.17**	**74**	⇑P		**Pn**	**15 33 52.9**	**+0.4**
	baz=4.1							
F05A	**White Salmon**	**4.46**	**57**	⇓P		**Pn**	**15 33 57.0**	**+0.6**
	baz=4.4,SNR=16							
D04A	**Dobbs Creek Ra**	**4.52**	**38**	⇑P		**Pn**	**15 33 57.3**	**+0.1**
	baz=4.5							
E05A	**Randle**	**4.66**	**49**	⇑P		**Pn**	**15 33 59.8**	**+0.6**
	baz=4.6,SNR=56							
D05A	**Enumclaw**	**4.95**	**42**	⇓P		**Pn**	**15 34 03.7**	**+0.5**
	baz=4.9,SNR=11							
C05A	**Tolt Reservoir**	**5.45**	**40**	⇓P		**Pn**	**15 34 10.2**	**+0.1**
	baz=5.5							
PGC	**Sidney**	**5.57**	**24**	*e*Pn		**Pn**	**15 34 10.6**	**-1.1**
B05A	**Brynt**	**5.71**	**34**	⇑P		**Pn**	**15 34 13.8**	**+0.2**
	baz=5.7,SNR=6.0							
HAWA	**Hanford**	**5.88**	**59**	*e*Pn		**Pn**	**15 34 16.9**	**+0.9**
	1.2nm,0.7s							
WALA	**Waterton Lakes**	**10.47**	**54**	*e*Pn		**Pn**	**15 35 21.1**	**+2.2**
	3.2nm,0.6s							

MAN 21 15:35:01.1,732N×12478E,h25km,**mb2.3,ML3.9,MS6.8,**
2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.44**	**135**	⇓*i*P		Pb	15 35 12.2	+1.9
KCP				*i* S		Sb	15 35 20.0	+3.5
CTBH	**Cotabato--PC H**	**0.54**	**259**	⇓*i*P		Pb	15 35 11.9	0.0
CTBH				*i* S		Sb	15 35 19.6	+0.3
BUKP	**Musuan**	**0.62**	**27**	*e*P		Pb	15 35 13.5	+0.1
BUKP				*e*S		Sb	15 35 22.8	+1.1
CGP	**Cagayan de Oro**	**1.13**	**356**	*i* S		Sn	15 35 33.5	-2.5
PAGZ	**Pagadian**	**1.48**	**291**	*e*P		Pn	15 35 26.6	+0.4
PAGZ				*e*S		Sn	15 35 40.5	-4.1

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*ORF **21** 15:53:41.2, 3432N×2221E, h30km, mb4.6*
*HLW **21** 15:54:41.5, 3902N×2048E, h33km, Mb4.4*
*ISCJB **21** 15:54:43.0±0.1, 3903N±001×2054E±001, h10km, mb4.6/54, MS4.3/32, Error ellipse: s-maj=1.9km s-min=1.3km az=35.4*
*MOS **21** 15:54:42.8±1.3, 3902N×2052E, h10km, mb5.0/19, Error ellipse: s-maj=2.9km s-min=2.1km az=104.4*
*BJI **21** 15:54:42.3, 3940N×2054E, h10km, mB5.0, mb4.7, Ms4.8, Msz4.4*
*PRU **21** 15:54:42.6, 3902N×2024E, h0km, M4.5*
*LDG **21** 15:54:42.0±0.1, 3910N×2063E, h10km, Mb4.8/36, Ms4.0/8, Error ellipse: s-maj=5.7km s-min=3.6km az=36.0*
*IDC **21** 15:54:42.4±0.6, 3912N×2073E, h0km, mb4.4/17, mb1 4.5/25, mb1mx4.4/31, mbtmp4.4/25, ML4.4/8, MS4.2/22, Ms1 4.2/22, ms1mx4.2/26, Error ellipse: s-maj=12.6km s-min=10.3km az=82.0*
*ATH **21** 15:54:43.1, 3892N×2059E, h13km±1km, MD4.2/11*
*THE **21** 15:54:44.5, 3896N×2060E, h1km, ML4.7*
*NEIC **21** 15:54:44.6±0.2, 3901N×2060E, h10km, mb4.5/43, MD4.2(ATH), ML4.6(THE), ML5.2(PDG), Error ellipse: s-maj=3.0km s-min=2.1km az=188.0*
*CRAAG **21** 15:54:44.8, 39.11N×2055E, Mb4.7*
*CSEM **21** 15:54:44.8, 39.11N×2055E, h20km, ML4.7*
*HRVD **21** 15:54:44.6±0.5, 3893N×2035E, h24km±1km, MW5.0/64, Centroid moment Tensor Solution. LP body waves: s23,c27;Mantle waves: s64,c97; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.21±.16; $M_{\theta\theta}$1.28±.16; $M_{\phi\phi}$-1.49±.17; $M_{r\theta}$1.52±.33; $M_{r\phi}$3.45±.12; $M_{\theta\phi}$-0.52±.28; Best double couple: $M_0$4.04400×10^{16} NP1:ϕ_s11.00000°, δ67.00000°, λ-179.00000°. NP2:ϕ_s281.00000°, δ89.00000°, λ-23.00000°. Principal axes: T 3.8850, Plg16.0000°, Azm329.0000°; N 0.3220, Plg67.0000°, Azm100.0000°; P -4.2030, Plg17.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*PDG **21** 15:54:45.2±0.6, 3907N×2054E, h16km±1km*
*SKO **21** 15:54:49.5, 3907N×2063E, h40km*

ISC 21 15:54:45.0±0.1,**3904N**±001×**2056E**±001,**h10**km,
(h25km±1.2km**:pP-P),n676,σ1§41/748,mb4.6**/54,**MS4.3**/32,
44C-18D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.34**	**168**	*e*Pg		**Pg**	**15 54 49.0**	**-2.7**
LKD				*e*Sg		**Sg**	**15 54 53.3**	**-3.0**
IGT	**Igoumenitsa**	**0.52**	**340**	*e*Pg		**Pg**	**15 54 55.4**	**+0.2**
IGT				*e*Sg		**Sg**	**15 55 03.9**	**+1.8**
JAN	**Janina**	**0.66**	**20**	*e*PB		**Pb**	**15 54 57.6**	**-0.9**
VLS	**Valsamata**	**0.86**	**179**	*e*PB		**Pb**	**15 54 57.6**	**-4.4**
KEK	**Kerkira**	**0.90**	**319**	*e*PB		**Pb**	**15 55 02.1**	**-0.5**
MEV	**Metsovon**	**0.91**	**34**	*e*Pg		**Pg**	**15 55 01.5**	**-0.9**
MEV	**Metsovon**	**0.91**	**34**	P		**Pg**	**15 55 02.3**	**-0.2**
SRN	**Sarande**	**0.95**	**333**	*i* Pn		**Pn**	**15 55 06.7**	**+2.4**
SRN				*i* Sn		**Sn**	**15 55 22.9**	**+5.0**
EVR	**Evrytania**	**0.98**	**97**	*e*PB		**Pb**	**15 55 01.1**	**-2.9**
LSK	**Leskovik**	**1.11**	**1**	*i* Pn		**Pn**	**15 55 09.9**	**+3.3**
LSK				*i* Sn		**Sn**	**15 55 28.3**	**+7.5**
RLS	**Riolos of Patr**	**1.21**	**144**	*e*PG		**Pg**	**15 55 03.7**	**-4.5**
AGG	**Agios Georgios**	**1.38**	**90**	*e*Pg		**Pg**	**15 55 08.2**	**-3.2**
AGG	**Agios Georgios**	**1.38**	**90**	P		**Pn**	**15 55 08.9**	**-1.3**
AGG	**Agios Georgios**	**1.38**	**90**	P		**Pn**	**15 55 09.0**	**-1.3**
KZN	**Kozani**	**1.57**	**36**	*e*PG		**Pg**	**15 55 13.5**	**-1.7**
KBN	**Korca**	**1.59**	**6**	*i* Pn		**Pg**	**15 55 18.0**	**+2.4**
KBN				*i* Sn		**Sg**	**15 55 41.0**	**+4.8**
VLO	**Vlora**	**1.65**	**330**	*i* Pn		**Pg**	**15 55 21.7**	**+5.1**
VLO				*i* Sn		**Sg**	**15 55 46.8**	**+8.8**
LIT	**Litokhoron**	**1.83**	**54**	*e*Pb		**Pb**	**15 55 17.3**	**-1.2**
LIT				*e*Sb		**Sb**	**15 55 42.0**	**+0.5**
FNA	**Florina**	**1.85**	**19**	*e*Pb		**Pb**	**15 55 18.5**	**-0.5**
FNA	**Florina**	**1.85**	**19**	P		**Pn**	**15 55 18.3**	**+1.5**
FNA	**Florina**	**1.85**	**19**	P		**Pn**	**15 55 18.3**	**+1.5**
LKR	**Lokris**	**1.94**	**101**	*e*PG		**Pn**	**15 55 18.4**	**+0.4**
XOR	**Xorichti**	**2.07**	**80**	*e*Pn		**Pn**	**15 55 19.9**	**+0.1**
XOR	**Xorichti**	**2.07**	**80**	P		**Pn**	**15 55 20.5**	**+0.7**
OHR	**Ohrid**	**2.08**	**5**	*e*Pn		**Pn**	**15 55 21.7**	**+1.8**
OHR				*e*Sn		**Sg**	**15 55 49.5**	**-2.3**
OHR	**Ohrid**	**2.08**	**5**	*i* Pn		**Pn**	**15 55 21.9**	**+2.0**
OHR				*e*Sg		**Sg**	**15 55 54.4**	**+2.6**
OHR	**Ohrid**	**2.08**	**5**	P		**Pn**	**15 55 22.5**	**+2.6**
OHR				S		**Sg**	**15 55 55.0**	**+3.2**
OHR	**Ohrid**	**2.08**	**5**	P		**Pn**	**15 55 22.5**	**+2.6**
NEO	**Neokhori**	**2.08**	**82**	*e*PN		**Pn**	**15 55 20.7**	**+0.7**
ITM	**Ithomi**	**2.15**	**149**	*e*PN		**Pn**	**15 55 20.0**	**-0.8**
LCI	**Lecce**	**2.29**	**305**	*i* Pn		**Pn**	**15 55 23.0**	**+0.2**
TIR	**Tirane**	**2.37**	**347**	*e*Pn		**Pn**	**15 55 25.4**	**-1.6**
TIR	**Tirane**	**2.37**	**347**	P		**Pn**	**15 55 26.9**	**+3.0**
TIR	**Tirane**	**2.37**	**347**	P		**Pn**	**15 55 26.9**	**+3.0**
GRG	**Griva**	**2.38**	**36**	*e*Pn		**Pn**	**15 55 25.2**	**+1.1**
THE	**Thessaloniki**	**2.44**	**49**	*e*Pn		**Pn**	**15 55 24.8**	**0.0**
THE	**Thessaloniki**	**2.44**	**49**	P		**Pn**	**15 55 25.7**	**+0.8**
THE	**Thessaloniki**	**2.44**	**49**	P		**Pn**	**15 55 25.7**	**+0.8**
PAIG	**Paliouri**	**2.57**	**69**	*e*Pn		**Pn**	**15 55 26.8**	**+0.1**
PAIG				*e*Sn		**Sn**	**15 55 59.0**	**+1.0**
AOS	**Alonnisos**	**2.58**	**86**	*e*Pn		**Pn**	**15 55 26.8**	**-0.1**
AOS				*e*Sn		**Sn**	**15 55 59.2**	**+0.9**
AOS	**Alonnisos**	**2.58**	**86**	P		**Pn**	**15 55 26.7**	**-0.1**
AOS				S		**Sn**	**15 55 59.2**	**+0.9**
AOS	**Alonnisos**	**2.58**	**86**	P		**Pn**	**15 55 26.7**	**-0.2**
PLG	**Polygyros**	**2.59**	**58**	*e*PN		**Pn**	**15 55 27.3**	**+0.3**
LACI	**Lac**	**2.67**	**346**	*i* Pn		**Pn**	**15 55 29.3**	**+1.2**
LACI				*i* Sn		**Sn**	**15 56 04.6**	**+4.0**
ATH	**Athens Observa**	**2.69**	**112**	*e*PB		**Pn**	**15 55 28.0**	**-0.4**
VAY	**Valandovo**	**2.75**	**33**	*e*Pn		**Pn**	**15 55 29.6**	**+0.4**
VAY	**Valandovo**	**2.75**	**33**	*i* Pn		**Pn**	**15 55 29.4**	**+0.3**
VAY				*e*Sn		**Sn**	**15 56 01.0**	**-1.4**
VAY	**Valandovo**	**2.75**	**33**	P		**Pn**	**15 55 30.4**	**+1.3**
VAY	**Valandovo**	**2.75**	**33**	*i* Pn		**Pn**	**15 55 29.4**	**+0.3**
VAY				*e*Sn		**Sn**	**15 56 00.9**	**-1.5**
PTL	**Penteli**	**2.77**	**110**	*e*PN		**Pn**	**15 55 28.5**	**-0.9**
KNT	**Kendrikon**	**2.78**	**39**	*e*Pn		**Pn**	**15 55 30.5**	**+1.0**
SOH	**Sokhos**	**2.79**	**49**	*e*Pn		**Pn**	**15 55 31.0**	**+1.3**
SOH			

MS1	Monte Sant'Ang	4.42	309	ePn	Pn	15 55 52.9 +0.8
PGB	Panagyurishte	4.45	37	P	Pn	15 55 53.7 +1.2
EZN	Ezine	4.53	78	eP	Pn	15 55 54.0 +0.4
AGST	Augusta-Monte	4.57	249	P	Pn	15 55 55.5 +1.4
ALN	Alexandroupoli	4.60	64	ePn	Pn	15 55 54.8 +0.2
ALN	Alexandroupoli	4.60	64	P	Pn	15 55 54.8 +0.1
ENEZ	Enez	4.62	67	eP	Pn	15 55 55.5 +0.7
RGNG	Rignano Grg	4.62	306	P	Pn	15 55 55.3 +0.4
CSSN	Cassano Irpino	4.63	295	P	Pn	15 55 56.5 +1.5
FG5	Orsara di Pugl	4.63	301	Pn	Pn	15 55 55.5 +0.4
VAM	Vamos	4.64	140	ePN	Pn	15 55 55.2 0.0
SSY	Sortino	4.72	248	P	Pn	15 55 55.8 -0.5
MNO	Monte Soro	4.74	258	P	Pn	15 55 57.9 +1.5
URLA	Izmir	4.77	96	iP	Pn	15 55 57.2 +0.3
HAVL	Avola	4.77	246	Pn	Pn	15 55 53.9 -3.0
DIM	Dimitrovgrad	4.83	50	P	Pn	15 55 59.1 +1.3
GRUS	Gruza	4.85	1	iPn	Pn	15 55 58.2 +0.2
GRUS				Sg	Sg	15 57 30.2 +10
PZI	Palazzolo	4.85	248	P	Pn	15 55 55.4 -2.7
BOLS	Boljevac	4.90	12	⇓iPn	Pn	15 55 59.4 +0.6
BOLS				Sn	Sn	15 57 04.4 +8.9
BOLS	Boljevac	4.90	12	Pn	Pn	15 55 59.3 +0.6
PSB1	Pescosannita	4.92	298	P	Pn	15 56 00.5 +1.5
FG2	Serracapriola	4.96	306	P	Pn	15 56 00.9 +1.3
HVZN	Vizzini	4.97	250	Pn	Pn	15 55 57.7 -2.0
HMDC	Modica	5.02	247	Pn	Pn	15 55 57.3 -3.0
	487nm,0.7s					
CIGN	Sant'Elia a Pi	5.05	303	P	Pn	15 56 02.1 +1.3
GVD	Gavdhos	5.05	145	ePn	Pn	15 55 59.8 -1.0
	126nm,0.7s					
DIVS	Divcibare	5.07	355	⇓iPn	Pn	15 56 01.1 0.0
DIVS	Divcibare	5.07	355	ePn	Pn	15 56 01.2 +0.1
VAE	Valguarnera	5.09	254	Pn	Pn	15 56 02.1 +0.8
	1.9nm,0.3s,baz=90,slow=10,SNR=4.0					
VAE				Sn	Sn	15 57 04.5 +4.5
	8.6nm,0.3s,baz=40,slow=14,SNR=6.1					
VAE				LR	LR	15 58 14.0
	comp=Z,2µm,18.1s,baz=342,slow=40					
IDI	Anoyia	5.09	136	Pn	Pn	15 55 59.8 -1.6
	6.2nm,0.3s,baz=324,slow=10,SNR=22					
IDI				Sn	Sn	15 56 55.8 -4.5
	13nm,0.3s,baz=328,slow=21,SNR=3.6					
SMG	Samos	5.11	103	P	Pn	15 56 03.6 +2.1
BLCB	Balcova	5.11	95	eP	Pn	15 56 06.2 +4.6
CANB	Canakkale	5.12	77	eP	Pn	15 56 01.1 -0.7
CANB	Canakkale	5.12	77	eP	Pn	15 56 01.0 -0.7
RAFF	Raffo Rosso	5.21	252	P	Pn	15 56 03.2 +0.2
CSLB	Castelbuono	5.22	260	P	Pn	15 56 05.1 +2.0
GIB	Gibilmanna	5.23	260	P	Pn	15 56 05.0 +1.7
SVIS	Svilajnac	5.28	5	iPn	Pn	15 56 02.8 -1.0
IZM	Izmir	5.28	95	eP	Pn	15 56 04.5 +0.6
KDAG	Bornova	5.28	95	iP	Pn	15 56 03.9 -0.1
RKY	Sarkoy-Tekirda	5.35	70	eP	Pn	15 56 03.3 -1.6
MFT	Murefte	5.45	69	eP	Pn	15 56 06.9 +0.6
MIDA	Mirande	5.48	300	P	Pn	15 56 08.4 +1.8
CII	Carovilli	5.48	301	P	Pn	15 56 08.5 +1.8
EDRB	Edirne	5.49	57	eP	Pn	15 56 06.2 -0.5
PVL	Pavlikeni	5.51	39	eP	Pn	15 56 05.5 -1.6
NPS	Neapolis	5.52	132	ePN	Pn	15 56 07.5 +0.3
RFI	Roccamonfina	5.52	296	Pn	Pn	15 56 08.7 +1.5
	77nm,1.2s					
RNI2	Rionero Sannit	5.57	301	Pn	Pn	15 56 09.8 +1.9
	1µm,1.2s					
MRMT	Marmara Adasi	5.63	72	eP	Pn	15 56 08.3 -0.5
AKS	Akhisar	5.65	89	eP	Pn	15 56 13.9 +4.8
BODT	Bodrum	5.68	108	eP	Pn	15 56 11.1 +1.7
BALB	Balikesir	5.70	82	eP	Pn	15 56 10.8 +1.1
JMB	Yambol	5.71	51	eP	Pn	15 56 10.0 +0.1
USI	Ustica	5.77	269	P	Pn	15 56 11.1 +0.4
EDC	Edincik	5.78	75	eP	Pn	15 56 12.0 +1.2
SDI	San Donato	5.80	299	P	Pn	15 56 13.2 +2.1
SDI				pmax	pmax	
	comp=Z,102nm,0.4s					
SDI	San Donato	5.80	299	P	Pn	15 56 13.2 +2.1
	comp=Z,102nm,0.4s					
BTOK	Tokmak	5.83	81	iP	Pn	15 56 13.5 +2.0
INTR	Introdacqua	5.88	302	P	Pn	15 56 12.5 +0.4
AYDN	Tasoluk	5.91	101	iP	Pn	15 56 14.4 +1.7
MLSB	Milas	5.95	105	eP	Pn	15 56 18.6 +5.6
CLTB	Caltabellotta	5.96	258	P	Pn	15 56 16.1 +2.8
DAT	Datca	6.01	110	eP	Pn	15 56 13.6 -0.3
KCT	Karacabey	6.14	76	eP	Pn	15 56 17.3 +1.6
GUAR	Guarcino	6.18	299	Pn	Pn	15 56 18.8 +2.5
MANT	Manisa	6.27	92	iP	Pn	15 56 18.9 +1.4
KARP	Karpathos	6.31	121	ePN	Pn	15 56 17.6 -0.5
AQU	L'Aquila	6.37	304	⇑iP	Pn	15 56 21.3 +2.4
AQU	L'Aquila	6.37	304	ePn	Pn	15 56 20.5 +1.6
	comp=Z,340nm,0.9s					
AQU	L'Aquila	6.37	304	ePn	Pn	15 56 20.5 +1.6
	comp=Z,340nm,0.9s					
AQU	L'Aquila	6.37	304	P	Pn	15 56 21.3 +2.4
TERO	Teramo	6.38	306	Pn	Pn	15 56 20.0 +1.0
	comp=Z,282nm,0.6s					
YER	Yerkesik	6.38	105	eP	Pn	15 56 19.4 +0.4
CTT	Catalca	6.39	68	eP	Pn	15 56 20.8 +1.6
ELBA	Catalca	6.39	68	iP	Pn	15 56 22.3 +3.2
CERT	Cerreto	6.47	299	Pn	Pn	15 56 20.9 +0.7
	comp=Z,170nm,0.6s					
FIAM	Fiamignano	6.51	302	Pn	Pn	15 56 22.3 +1.4
	comp=Z,251nm,0.6s					
RDP	Rocca di Papa	6.58	297	P	Pn	15 56 22.8 +1.1
RDP				pmax	pmax	
	comp=Z,308nm,0.6s					
RDP	Rocca di Papa	6.58	297	Pn	Pn	15 56 22.8 +1.1
	comp=Z,308nm,0.6s					
BZS	Buzias	6.62	6	⇓iP	Pn	15 56 23.0 +0.7
BZS	Buzias	6.62	6	P	Pn	15 56 22.3 0.0
ARG	Arkhangelos	6.63	113	ePN	Pn	15 56 24.2 +1.7
MTCE	Montecelio	6.66	299	Pn	Pn	15 56 23.4 +0.5
	comp=Z,188nm,0.8s					
DALT	Dalyan (Mudla)	6.77	107	eP	Pn	15 56 25.6 +1.2
DENT	Denizli	6.78	98	eP	Pn	15 56 24.7 +0.2
NRCA	Norcia	6.79	306	Pn	Pn	15 56 25.5 +0.8
DNZL	Cakiroluk	6.80	99	iP	Pn	15 56 26.4 +1.6
MNS	Montasola	6.86	302	P	Pn	15 56 26.8 +1.2
MNS				pmax	pmax	
	comp=Z,190nm,0.9s					
MNS	Montasola	6.86	302	Pn	Pn	15 56 26.8 +1.2
	comp=Z,190nm,0.9s					
AOI	Ancona	6.91	313	P	Pn	15 56 26.0 -0.3
GDZ	Gediz	6.94	87	iP	Pn	15 56 28.0 +1.2
YLV	Yalova	6.95	75	eP	Pn	15 56 29.8 +2.9
NVLJ	Novalja	6.97	324	iPn	Pn	15 56 26.1 -1.0
NVLJ				iSn	Sn	15 57 43.5 -2.8
MTUR	Matau	7.03	27	P	Pn	15 56 31.0 +3.1
CING	Cingoli	7.04	310	P	Pn	15 56 28.1 0.0
KHL	Karahalli	7.05	93	eP	Pn	15 56 30.0 +1.8
RHK3	Tenkes	7.05	347	eP	Pn	15 56 27.5 -0.8
RHK3				eS	Sn	15 57 44.7 -3.8
SNTG	Esanatoglia	7.13	309	Pn	Pn	15 56 29.8 +0.5
SISC	Sisak	7.14	336	iP	Pn	15 56 31.3 +1.8
SISC	Sisak	7.14	336	iP	Pn	15 56 31.2 +1.7
FETY	Fethiye	7.16	107	eP	Pn	15 56 32.7 +3.0
TOLF	Tolfa	7.19	298	Pn	Pn	15 56 30.4 +0.3
	comp=Z,287nm,1.5s					
VOIR		7.21	26	⇑iP	Pn	15 56 32.7 +2.3
VOIR		7.21	26	⇑P	Pn	15 56 32.7 +2.3
ADVT	Abdulvahap	7.21	76	eP	Pn	15 56 28.2 -2.2
ARV	Arcevia	7.26	310	P	Pn	15 56 30.8 -0.4
SNX	Sinaia	7.30	29	⇓iP	Pn	15 56 34.4 +2.7
SNX	Sinaia	7.30	29	⇓P	Pn	15 56 34.4 +2.7
PKSM	Moragy	7.31	349	⇓iP	Pn	15 56 31.1 -0.7
PKSM	Moragy	7.31	349	P	Pn	15 56 31.3 -0.5
PKSM	Moragy	7.31	349	P	Pn	15 56 31.3 -0.5
PSN	Preselentsi	7.37	49	iP	Pn	15 56 34.0 +1.3
MURB	Monte Urbino	7.39	307	Pn	Pn	15 56 33.8 +0.9
	comp=Z,421nm,0.7s					
ALT	Altintas	7.43	87	eP	Pn	15 56 35.7 +2.2
FSSB	Fossombrone	7.47	311	P	Pn	15 56 34.0 -0.1
ISR	Istrita	7.53	34	⇑iP	Pn	15 56 38.0 +3.2
ISR	Istrita	7.53	34	⇑P	Pn	15 56 38.0 +3.2
BOJS	Bojanci	7.56	330	ePn	Pn	15 56 34.8 -0.5
BOJS				eSn	Sn	15 57 57.9 -3.2
MLR	Muntele Rosu	7.58	30	⇑iP	Pn	15 56 39.8 +4.3
MLR	Muntele Rosu	7.58	30	P	Pn	15 56 38.2 +2.7
MLR	Muntele Rosu	7.58	30	P	Pn	15 56 38.2 +2.7
PESA	Pesaro	7.59	313	P	Pn	15 56 35.3 -0.3
GPA	Golpazari	7.62	77	eP	Pn	15 56 38.0 +1.9
BADI	Badiali	7.69	308	Pn	Pn	15 56 38.3 +1.2
BORA	Eskisehir	7.70	81	iP	Pn	15 56 39.6 +2.5
PKS9	Tamasi	7.73	348	⇑eP	Pn	15 56 37.2 -0.3
ELL	Elmali	7.74	104	eP	Pn	15 56 40.9 +3.3
CRES	Cresnjev	7.76	333	P	Pn	15 56 37.3 -0.7
RSM	Repubblica di	7.81	311	P	Pn	15 56 38.5 -0.1
DRGR		7.91	11	⇑iP	Pn	15 56 42.1 +2.1
DRGR		7.91	11	⇑P	Pn	15 56 42.1 +2.1
LEGS	Legarje	7.92	332	iPn	Pn	15 56 39.2 -0.9
CRE	Caprese Michel	7.93	308	P	Pn	15 56 41.1 +0.8
CRE				pmax	pmax	
	comp=Z,60nm,0.4s					
CRE	Caprese Michel	7.93	308	Pn	Pn	15 56 41.1 +0.8
	comp=Z,60nm,0.4s					
KNDS	Knezji Dol	7.94	327	ePn	Pn	15 56 39.7 -0.7
PKS8	Sarbogard	7.96	351	⇑eP	Pn	15 56 39.8 -0.9
PKS8				eS	Sn	15 58 07.0 -3.7
TIRR	Tirgusor	7.98	45	⇑iP	Pn	15 56 42.8 +1.8
TIRR	Tirgusor	7.98	45	ePn	Pn	15 56 41.8 +0.7
TIRR	Tirgusor	7.98	45	ePn	Pn	15 56 41.8 +0.8
TIRR	Tirgusor	7.98	45	P	Pn	15 56 42.8 +1.8
BCK	Bucak	8.04	98	eP	Pn	15 56 45.0 +3.1
CEY	Cerknica	8.09	328	ePn	Pn	15 56 41.7 -0.7
PDKS	Podkum	8.13	331	ePn	Pn	15 56 42.0 -1.0
HENT	Hendek	8.14	74	iP	Pn	15 56 42.8 -0.4
SFI	Santa Sofia	8.15	309	P	Pn	15 56 44.4 +1.1
SFI				pmax	pmax	
	comp=Z,835nm,1.9s					
SFI	Santa Sofia	8.15	309	Pn	Pn	15 56 44.4 +1.1
	comp=Z,835nm,1.9s					
PLOR	Plostina	8.16	31	⇑iP	Pn	15 56 47.1 +3.7
VRI	Vrincioaia	8.20	32	⇑iP	Pn	15 56 47.2 +3.1
VRI	Vrincioaia	8.20	32	P	Pn	15 56 47.0 +2.9
VRI	Vrincioaia	8.20	32	P	Pn	15 56 47.0 +2.9
LJU	Ljubljana	8.29	329	ePn	Pn	15 56 44.3 -1.1
LJU				eSn	Sn	15 58 16.8 -2.3
GRFL	Gerfalco	8.32	303	Pn	Pn	15 56 48.0 +2.3
	comp=Z,35nm,0.9s					
CFR	Carcaliu	8.32	40	⇑iP	Pn	15 56 48.0 +2.3
CFR	Carcaliu	8.32	40	⇑P	Pn	15 56 48.0 +2.3
MDU	Mudurnu	8.33	77	eP	Pn	15 56 48.1 +2.3
VMG	Vicchio	8.36	309	Pn	Pn	15 56 47.6 +1.3
	comp=Z,272nm,0.8s					
SLUM		8.43	152	P	Pn	15 56 42.9 -4.3
PKSG		8.50	350	eP	Pn	15 56 50.5 +2.4
PKSG				eS	Sn	15 58 18.7 -5.4
BUD	Budapest	8.52	353	e	Pn	15 56 51.3 +3.0
BUD				eSn	Sn	15 58 20.2 -4.3
SEI	Scarperia	8.53	309	Pn	Pn	15 56 50.5 +2.0
	comp=Z,319nm,0.6s					
VOJS	Vojsko	8.55	327	ePn	Pn	15 56 47.7 -1.1
OBKA	Obir	8.68	331	⇓iPn	Pn	15 56 49.7 -0.9
	SNR=23					
OBKA				⇑iSn	Sn	15 58 27.4 -1.0
VSL	Villasalto	8.69	277	ePn	Pn	15 56 50.0 -0.7
	comp=Z,21nm,0.7s					
VSL	Villasalto	8.69	277	ePn	Pn	15 56 50.0 -0.7
	comp=Z,21nm,0.7s					
KIZT	Kizilcal	8.82	87	eP	Pn	15 56 53.4 +0.9
SRO1	Iza	8.88	350	eSN	Sn	15 58 32.5 -1.0
PSZ	Piszkesteto	8.89	357	e	Pn	15 56 52.9 -0.6
PSZ				eSn	Sn	15 58 29.6 -4.1
PSZ	Piszkesteto	8.89	357	ePn	Pn	15 56 51.9 -1.6
	comp=Z,74nm,0.9s					
PSZ	Piszkesteto	8.89	357	ePn	Pn	15 56 51.9 -1.6
	comp=Z,74nm,0.9s					
PSZ	Piszkesteto	8.89	357	P	Pn	15 56 53.7 +0.2
SGKT	Sivrigoynuk	8.98	77	iP	Pn	15 56 56.3 +1.6
ARSA	Arzberg	8.99	337	⇓iPn	Pn	15 56 53.8 -1.2
	SNR=14					
ARSA				⇓iSn	Sn	15 58 34.7 -1.6
GMNA	Gemona	9.02	326	P	Pn	15 56 54.9 -0.4
KDHN	Kadinhani	9.04	90	iP	Pn	15 56 58.0 +2.4
PTCC	Patocco-Chiusa	9.07	327	P	Pn	15 56 55.0 -1.0
SOP	Sopron	9.12	343	e	Pn	15 56 53.6 -3.0
GSCL	Gusciola	9.15	309	Pn	Pn	15 56 59.0 +1.9
	comp=Z,46nm,0.8s					
VLC	Villacollemand	9.18	307	ePn	Pn	15 56 59.4 +2.0
BURAR	Bucovina Array	9.22	20	⇑iP	Pn	15 57 01.9 +3.9
BURAR	Bucovina Array	9.22	20	⇑P	Pn	15 57 01.9 +4.0
CORF	Corte	9.26	294	eP	Pn	15 57 01.6 +3.0
ERBM	Eremo	9.30	309	Pn	Pn	15 57 02.8 +3.8
KECS	Kecovo	9.44	360	ePN	Pn	15 57 01.6 +0.6
KECS				eSN	Sn	15 58 43.2 -4.0
PGF	Pioggiola	9.44	295	eP	Pn	15 57 01.6 +0.5
	comp=Z,79nm,0.9s					
PGF	Pioggiola	9.44	295	eP	Pn	15 57 01.6 +0.5
	comp=Z,40nm,0.9s					
FVI	Forni Avoltri	9.47	325	P	Pn	15 57 00.9 -0.5
ZST	Bratislava	9.49	346	ePN	Pn	15 56 59.6 -2.1
ZST				eSN	Sn	15 58 42.7 -5.7
ZST	Bratislava	9.49	346	P	Pn	15 57 03.1 +1.4
ZST				eSn	Sn	15 58 42.7 -5.7
ZST	Bratislava	9.49	346	P	Pn	15 57 03.1 +1.4
ANTO	Ankara	9.50	81	⇑P	Pn	15 57 00.5 -1.3
	SNR=9.9					
CONA	Conrad Observa	9.52	341	⇑iPn	Pn	15 57 02.0 -0.1
CONA				⇑iSn	Sn	15 58 47.5 -1.6
VYHS	Vyhne	9.53	353	ePN	Pn	15 57 02.1 -0.2
VYHS				eSN	Sn	15 58 46.3 -3.2
HMAT	Matruh	9.56	144	P	Pn	15 56 58.1 -4.6
HMAT				S	Sn	15 58 38.5 -12
CTI	Castel Tesino	9.60	320	P	Pn	15 57 02.0 -1.3
CTI				pmax	pmax	
	comp=Z,119nm,0.6s					
CTI	Castel Tesino	9.60	320	Pn	Pn	15 57 02.0 -1.3
	comp=Z,119nm,0.6s					
KBA	Koelnbreinsper	9.61	329	⇑iPn	Pn	15 57 02.8 -0.6
	SNR=20					
KBA				⇑iSn	Sn	15 58 46.6 -4.8
KOLL	Kolacno	9.66	351	ePN	Pn	15 57 04.1 0.0
KOLL				eSN	Sn	15 58 48.4 -4.3
SEST	Monte Rota	9.84	324	P	Pn	15 57 06.3 -0.2
CRVS	Cervenica-Dubn	9.88	3	ePN	Pn	15 57 09.0 +1.9
SAL	Salo	9.91	315	P	Pn	15 57 06.3 -1.2
SAL				pmax	pmax	
	comp=Z,160nm,0.6s					
SAL	Salo	9.91	315	Pn	Pn	15 57 06.3 -1.2
	comp=Z,160nm,0.6s					
MOA	Molln	9.92	335	⇑iPn	Pn	15 57 07.1 -0.5
	SNR=24					
MOA				⇓iSn	Sn	15 58 57.5 -1.5
KOLS	Kolonicke sedl	9.97	7	ePN	Pn	15 57 10.3 +2.0
KOLS	Kolonicke sedl	9.97	7	eP	Pn	15 57 10.4 +2.1
KIS	Kishinev	9.98	35	eP	Pn	15 57 11.0 +2.5
KIS				eS	Sn	15 59 12.0 +11
KIS				MLR	MLR	
	comp=Z,2µm,12.0s					
KIS				MLR	MLR	
	comp=Z,2µm,12.0s					
ELDT	Eldivan	10.01	78	iP	Pn	15 57 11.1 +2.3
BRES	Bressanone	10.02	323	P	Pn	15 57 08.6 -0.4
JAVC	Velka Javorina	10.04	349	P	Pn	15 57 09.2 0.0
ERMK	Ermenek	10.06	100	iP	Pn	15 57 10.7 +1.2
BOB	Bobbio (Coli)	10.07	308	P	Pn	15 57 10.6 +1.0
BALT	Daday	10.11	72	iP	Pn	15 57 12.7 +2.4
APPI	Appiano	10.11	320	P	Pn	15 57 10.4 +0.2
BR131	Keskin Array S	10.15	82	eP	Pn	15 57 12.8 +2.1
	comp=Z,4.1nm,0.5s					
BR131	Keskin Array S	10.15	82	eP	Pn	15 57 12.9 +2.2
	comp=Z,4.1nm,0.5s					
BRTR	Keskin Array B	10.15	82	Pn	Pn	15 57 14.2 +3.4
	comp=Z,1.0nm,0.3s,baz=267,slow=12,SNR=22					
BRTR				Sn	Sn	15 59 04.9 +0.3
	comp=Z,0.2nm,0.3s,baz=280,slow=21,SNR=2.5					
KAMT	Kaman	10.21	84	eP	Pn	15 57 06.3 -5.3
STHS	Stebnicka Huta	10.39	2	ePN	Pn	15 57 14.8 +0.8
WTTA	Wattenberg	10.49	325	⇓iPn	Pn	15 57 14.5 -0.8
	SNR=9.7					
WTTA				⇓iSn	Sn	15 59 12.3 -0.6
BRMO	Bormio	10.55	318	P	Pn	15 57 16.8 +0.6
WATA	Walderalm	10.57	325	⇑iPn	Pn	15 57 15.6 -0.9
	SNR=15					
SWA2		10.58	156	P	Pn	15 57 11.6 -5.0
SWA1		10.64	155	⇑P	Pn	15 57 12.8 -4.7
SWA1				S	Sn	15 59 03.8 -13
SQTA	Sankt Quirin	10.65	323	⇑iPn	Pn	15 57 18.5 +0.9
	SNR=9.4					
SQTA				⇑iSn	Sn	15 59 16.7 -0.2
VRAC	Vranov	10.65	346	Pn	Pn	15 57 15.8 -1.8
	comp=Z,1.1nm,0.3s,baz=177,slow=12,SNR=7.3					
VRAC	Vranov	10.65	346	⇑iP	Pn	15 57 17.6 0.0
VRAC	Vranov	10.65	346	⇑P	Pn	15 57 17.6 0.0
VRAC	Vranov	10.65	346	P	Pn	15 57 17.7 +0.1
CMAH	Djebel Manchou	10.67	261	P	Pn	15 57 30.0 +12
CDAG	Cicekdag	10.72	83	iP	Pn	15 57 20.0 +1.5
CDAG	Cicekdag	10.72	83	iP	Pn	15 57 22.5 +4.0
IKL	Isikli	10.78	101	eP	Pn	15 57 21.0 +1.7
MOTA	Moosalm	10.79	323	⇓iPn	Pn	15 57 19.6 +0.1
	SNR=35					
MOTA				⇓iSn	Sn	15 59 18.8 -1.6
TREC	Trest	10.88	342	AMS	AMS	16 02 40.0
	comp=Z,4µm,10.6s					
OKC	Ostrava-Krasne	10.93	352	eP	Pn	15 57 20.9 -0.6
OKC				eS	Sn	15 59 17.3 -6.5
OKC				AMS	AMS	16 02 50.0
	comp=Z,3µm,8.6s					
OKC	Ostrava-Krasne	10.93	352	ePn	Pn	15 57 20.9 -0.6
OKC				eSn	Sn	15 59 17.3 -6.5
MORC	Moravsky Berou	10.95	350	⇑iP	Pn	15 57 23.1 +1.4
MORC	Moravsky Berou	10.95	350	ePn	Pn	15 57 21.3 -0.4
	comp=Z,13nm,0.8s					
SBF	Sospel	10.97	300	eP	Pn	15 57 22.5 +0.6
	comp=Z,64nm,0.8s					
SBF	Sospel	10.97	300	eP	Pn	15 57 22.5 +0.6
SBF				pmax	pmax	
	comp=Z,32nm,0.8s					
SBF	Sospel	10.97	300	eP	Pn	15 57 22.5 +0.6
	comp=Z,32nm,0.8s					
GEC2	GERESS Array S	10.97	336	eP	Pn	15 57 20.3 -1.7
GERES	GERESS Array B	10.97	336	Pn	Pn	15 57 21.1 -0.9
	comp=Z,2.4nm,0.3s,baz=155,slow=13,SNR=41					
GERES				Sn	Sn	15 59 22.4 -2.4
	comp=Z,4.9nm,0.3s,baz=151,slow=23,SNR=9.9					
DAVOX	Davos	11.00	318	Pn	Pn	15 57 23.5 +1.1
	comp=Z,2.6nm,0.3s,baz=132,slow=21,SNR=7.1					
AUTN	L'Aution	11.02	301	eP	Pn	15 57 25.5 +2.8
LVV	L'vov	11.06	12	eP	Pn	15 57 32.3 +9.1
LVV				MLR	MLR	
	comp=Z,500nm,10.0s					
VAI	Varese	11.06	312	P	Pn	15 57 23.0 -0.2
TOUF	Mont Tournerai	11.15	301	eP	Pn	15 57 27.9 +3.5
MVIF	Mont Vial	11.17	300	eP	Pn	15 57 24.9 +0.2
OJC	Ojcow	11.19	357	eP	Pn	15 57 28.1 +3.1
OJC				eS	Sn	15 59 29.0 -1.2
BOYT	Boyabat	11.22	73	iP	Pn	15 57 27.7 +2.3
KHC	Kasperske Hory	11.26	336	eP	Pn	15 57 24.5 -1.5
KHC				ex	x	15 57 28.0
KHC				ex	x	15 57 52.5
KHC				eS	Sn	15 59 27.9 -4.0
KHC				AMS	AMS	16 02 40.0
	comp=Z,4µm,12.9s					
KHC	Kasperske Hory	11.26	336	ePn	Pn	15 57 24.5 -1.5
KHC				e		15 57 28.0
KHC				e		15 57 52.5
KHC				eSn	Sn	15 59 27.9 -4.0
CKFL	Kef-Lekhel	11.28	261	P	Pn	15 57 36.0 +10
DAVA	Damuels	11.34	320	⇓iPn	Pn	15 57 25.7 -1.4
DAVA				⇓iSn	Sn	15 59 29.4 -4.4
HBRG	Burj al 'Arab	11.37	135	P	Pn	15 57 23.1 -4.3
HBRG				S	Sn	15 59 22.4 -12
FRF	La Foret Royal	11.40	298	eP	Pn	15 57 28.2 +0.4
LMR	La Mourre	11.42	297	eP	Pn	15 57 28.3 +0.1
	comp=Z,39nm,0.9s					
LMR	La Mourre	11.42	297	eP	Pn	15 57 28.3 +0.1
LMR				pmax	pmax	
	comp=Z,20nm,0.9s					
LMR	La Mourre	11.42	297	eP	Pn	15 57 28.3 +0.1
	comp=Z,20nm,0.9s					
WET	Wettzell	11.51	334	eP	Pn	15 57 27.2 -2.1
SURF	Saint Ours	11.62	302	eP	Pn	15 57 35.2 +4.4
SURF	Saint Ours	11.62	302	eP	Pn	15 57 35.4 +4.6
SIM	Simferopol'	11.68	55	P	Pn	15 57 38.1 +6.4
SIM				pmax	pmax	
	comp=Z,13nm,0.8s					
SIM				MLR	MLR	
	comp=Z,500nm,13.5s					
DPC	Dobruska-Polom	11.70	346	eP	Pn	15 57 30.8 -1.2
DPC				eS	Sn	15 59 37.0 -5.7
DPC				AMS	AMS	16 02 50.0
	comp=Z,5µm,12.1s					
DPC	Dobruska-Polom	11.70	346	ePn	Pn	15 57 30.8 -1.2
DPC				eSn	Sn	15 59 37.0 -5.7
MBDF	Montbardon	11.74	303	eP	Pn	15 57 33.1 +0.6
	comp=Z,28nm,0.7s					
MBDF	Montbardon	11.74	303	eP	Pn	15 57 33.1 +0.6
MBDF				pmax	pmax	
	comp=Z,14nm,0.7s					
MBDF	Montbardon	11.74	303	eP	Pn	15 57 33.1 +0.6
	comp=Z,14nm,0.7s					
PRU	Pruhonice	11.76	341	eP	Pn	15 57 32.2 -0.5
TAVF	Tavernes

BRG MLR MLR
comp=Z,2µm,12.8s
AWBH 12.74 145 P **Pn** 15 57 42.1 -4.0
AYT **Al 'Ayyat** 12.77 134 P **Pn** 15 57 42.3 -4.2
BFO **Black Forest** 12.82 320 *e*P **Pn** 15 57 47.5 +0.3
CABF **La Chapelle** 13.03 310 *e*P **Pn** 15 57 49.0 -1.2
comp=Z,20nm,0.6s
CABF **La Chapelle** 13.03 310 *e*P **Pn** 15 57 49.0 -1.2
CABF pmax pmax
comp=Z,10.0nm,0.6s
CABF **La Chapelle** 13.03 310 *e*P **Pn** 15 57 49.0 -1.2
comp=Z,9.8nm,0.6s
HSAF **As Saff** 13.06 133 P **Pn** 15 57 46.9 -3.7
HHAG **Hagoal** 13.13 130 P **Pn** 15 57 48.1 -3.4
MOF **Molkenrain** 13.13 316 *e*P **Pn** 15 57 52.7 +1.2
AKASG **Malin Array Be** 13.17 25 Pn **Pn** 15 57 52.1 +0.1
comp=Z,1.1nm,0.3s,baz=212,slow=12,SNR=8.9
VIVF **Saint-Julien-l** 13.17 301 *e*P **Pn** 15 57 52.3 +0.2
MOX **Moxa** 13.21 334 *e*P **Pn** 15 57 50.3 -2.4
MOX **Moxa** 13.21 334 *e*P **Pn** 15 57 50.5 -2.2
MOX
comp=Z,2µm,17.0s
HINF **Hinteralfeld** 13.26 316 *e*P **Pn** 15 57 52.1 -1.2
comp=Z,13nm,0.5s
HINF **Hinteralfeld** 13.26 316 *e*P **Pn** 15 57 52.1 -1.2
HINF pmax pmax
comp=Z,7.0nm,0.5s
HINF **Hinteralfeld** 13.26 316 *e*P **Pn** 15 57 52.1 -1.2
comp=Z,6.7nm,0.5s
ECH **Echery** 13.34 318 *e*P **Pn** 15 57 54.4 0.0
CLL **Collm** 13.37 339 *i* PP 15 58 04.0
CLL *i* (sPP) 15 58 09.6
CLL *ex* x 16 01 00.0
CLL *i x* x 16 01 11.9
CLL **Collm** 13.37 339 *i* P 15 58 04.0
CLL MLR MLR
comp=Z,5µm,11.9s
CLL **Collm** 13.37 339 *i* Pn 15 58 04.0
CLL *i* 15 58 09.6
CDF **Champ du Feu** 13.40 319 *e*P **Pn** 15 57 54.7 -0.5
comp=Z,39nm,1.1s
CDF **Champ du Feu** 13.40 319 *e*P **Pn** 15 57 54.7 -0.5
CDF pmax pmax
comp=Z,20nm,1.1s
CDF **Champ du Feu** 13.40 319 *e*P **Pn** 15 57 54.7 -0.5
comp=Z,20nm,1.1s
MMAI **Mount Meron Ar** 13.43 112 Pn **Pn** 15 57 50.9 -4.7
comp=Z,2.2nm,0.3s,baz=307,slow=12,SNR=7.3
LASF **Ste Croix** 13.48 297 *e*P **Pn** 15 57 56.1 -0.2
comp=Z,72nm,1.3s
LASF **Ste Croix** 13.48 297 *e*P **Pn** 15 57 56.1 -0.2
comp=Z,36nm,1.3s
GZT **Gaziantep** 13.48 92 *i* P **Pn** 15 58 03.9 +7.6
HAU **Haudompre** 13.64 316 *e*P **Pn** 15 57 57.8 -0.7
comp=Z,19nm,0.4s
HAU *e*R
comp=Z,958nm,19.8s
HAU **Haudompre** 13.64 316 *e*P **Pn** 15 57 57.8 -0.7
HAU pmax pmax
comp=Z,9.0nm,0.4s
HAU **Haudompre** 13.64 316 *e*P **Pn** 15 57 57.8 -0.7
comp=Z,9.4nm,0.4s
SUZ 13.65 129 P **Pn** 15 57 54.6 -4.0
ANN **Anapa** 13.81 60 *e*P **Pn** 15 57 58.3 -2.5
ANN MLR MLR
comp=Z,624nm,15.0s
MALT **Malatya** 13.98 87 ⇓*i* P **Pn** 15 58 09.1 +6.0
MALT **Malatya** 13.98 87 P **Pn** 15 58 03.7 +0.6
MALT pmax pmax
comp=Z,9.0nm,0.7s
MALT **Malatya** 13.98 87 Pn **Pn** 15 58 03.7 +0.6
comp=Z,9.0nm,0.7s
MALT **Malatya** 13.98 87 P **Pn** 15 58 03.7 +0.6
comp=Z,9.0nm,0.7s
EMHD **Djebel Mahouad** 14.24 264 P **Pn** 15 58 15.0 +8.3
HNKL **Nakhl** 14.30 125 P **Pn** 15 58 04.8 -2.8
HNKL S **Sn** 16 00 32.2 -14
RUP **Ruppelstein** 14.36 322 *e*P **Pn** 15 58 15.3 +7.0
ELZG **Elazig** 14.39 86 *i* P **Pn** 15 58 14.1 +5.4
SMF **Signal de Mont** 14.41 307 *e*P **Pn** 15 58 08.3 -0.7
comp=Z,26nm,0.6s
SMF **Signal de Mont** 14.41 307 *e*P **Pn** 15 58 08.3 -0.7
SMF pmax pmax
comp=Z,13nm,0.6s
SMF **Signal de Mont** 14.41 307 *e*P **Pn** 15 58 08.3 -0.7
comp=Z,13nm,0.6s
MTLF **Montolieu** 14.46 293 *e*P **Pn** 15 58 09.0 -0.7
comp=Z,57nm,1.2s
MTLF **Montolieu** 14.46 293 *e*P **Pn** 15 58 09.0 -0.7
MTLF pmax pmax
comp=Z,28nm,1.2s
MTLF **Montolieu** 14.46 293 *e*P **Pn** 15 58 09.0 -0.7
comp=Z,28nm,1.2s
MEZF **Maizieres J'vi** 14.64 315 *e*P **Pn** 15 58 11.3 -0.8
comp=Z,36nm,0.7s
MEZF **Maizieres J'vi** 14.64 315 *e*P **Pn** 15 58 11.3 -0.8
comp=Z,18nm,0.7s
CLZ **Clausthal** 14.64 334 *e*P **Pn** 15 58 15.0 +2.8
LOR **Lormes** 14.69 309 *e*P **Pn** 15 58 11.9 -0.8
comp=Z,24nm,0.8s
LOR *e*R
comp=Z,855nm,17.8s
LOR **Lormes** 14.69 309 *e*P **Pn** 15 58 11.9 -0.8
LOR pmax pmax
comp=Z,12nm,0.8s
LOR **Lormes** 14.69 309 *e*P **Pn** 15 58 11.9 -0.8
comp=Z,12nm,0.8s
AVF **Avril sur Loir** 14.78 307 *e*P **Pn** 15 58 13.4 -0.6
comp=Z,12nm,0.7s
AVF **Avril sur Loir** 14.78 307 *e*P **Pn** 15 58 13.4 -0.6
AVF pmax pmax
comp=Z,6.0nm,0.7s
AVF **Avril sur Loir** 14.78 307 *e*P **Pn** 15 58 13.4 -0.6
comp=Z,5.8nm,0.7s
SSF **Saint Saulge** 14.80 308 *e*P **Pn** 15 58 13.9 -0.5
comp=Z,46nm,1.0s
SSF **Saint Saulge** 14.80 308 *e*P **Pn** 15 58 13.9 -0.5
SSF pmax pmax
comp=Z,23nm,1.0s
SSF **Saint Saulge** 14.80 308 *e*P **Pn** 15 58 13.9 -0.5
comp=Z,23nm,1.0s
ASF **Jabal al Asfar** 14.94 112 Pn **Pn** 15 58 14.2 -2.0
comp=Z,0.5nm,0.3s,baz=61,slow=0.8,SNR=5.4
ASF LR LR 16 04 21.1
comp=Z,417nm,18.1s,baz=336,slow=39
CAF **Calviac** 14.95 299 *e*P **Pn** 15 58 15.4 -0.9
comp=Z,37nm,1.2s
CAF **Calviac** 14.95 299 *e*P **Pn** 15 58 15.4 -0.9
CAF pmax pmax
comp=Z,19nm,1.2s
CAF **Calviac** 14.95 299 *e*P **Pn** 15 58 15.4 -0.9
comp=Z,18nm,1.2s
BGF **Bois d'Agland** 15.00 306 *e*P **Pn** 15 58 16.1 -0.9
comp=Z,32nm,0.7s
BGF **Bois d'Agland** 15.00 306 *e*P **Pn** 15 58 16.1 -0.9
BGF pmax pmax
comp=Z,16nm,0.7s
BGF **Bois d'Agland** 15.00 306 *e*P **Pn** 15 58 16.1 -0.9
comp=Z,16nm,0.7s
SUW **Suwalki** 15.09 6 *e*P **Pn** 15 58 20.1 +1.9
SOC **Sochi** 15.09 66 *e*P **Pn** 15 58 15.9 -2.3
SOC *e* 16 01 07.4
SOC pmax pmax
comp=Z,13nm,1.3s
SOC MLR MLR
comp=Z,383nm,12.0s
SOC **Sochi** 15.09 66 *e*P **Pn** 15 58 15.9 -2.3
comp=Z,13nm,1.3s
EIL **Elat** 15.10 124 *e*Pn **Pn** 15 58 11.0 -7.3
comp=Z,323nm,0.7s
EIL *e*S **Sn** 16 00 50.4 -15
TCF **Toulx Ste Croi** 15.30 304 *e*P **Pn** 15 58 20.5 -0.5
RJF **Les Rejaudoux** 15.43 300 *e*P **Pn** 15 58 21.6 -1.1
RJF *e*R
comp=Z,1µm,18.5s
MEM **Membach** 15.47 323 PN **Pn** 15 58 22.9 -0.3
MEM XPN 15 58 29.6
MEM AP pP 15 58 31.9 +1.3
MEM XP sP 15 58 34.9 +3.0
HGN **Heimansgroeve** 15.61 323 *e*P **Pn** 15 58 27.7 +2.6
EGRA **Graus** 15.69 288 P **Pn** 15 58 35.5 +9.4
comp=Z,14nm,0.8s
GIVF **Givet** 15.72 320 *e*P **Pn** 15 58 26.0 -0.4
EANR **'Ain N'Sour** 15.75 265 P **Pn** 15 58 28.0 +1.1
EPF **Esparros** 15.77 291 *e*P **Pn** 15 58 26.3 -0.8

ETRT **Tiaret** 15.77 263 P **Pn** 15 58 32.0 +4.9
DOU **Dourbes** 15.83 319 PN **Pn** 15 58 27.1 -0.8
DOU APN 15 58 32.9
DOU XP sP 15 58 38.8 +3.0
DOU **Dourbes** 15.83 319 Pn **Pn** 15 58 27.0 -0.9
EBIE **Bielsa** 15.87 290 P **Pn** 15 58 31.9 +3.5
comp=Z,97nm,1.8s
BAIF **Baives** 16.00 319 *e*P **Pn** 15 58 29.7 -0.4
comp=Z,22nm,0.6s
BAIF **Baives** 16.00 319 *e*P **Pn** 15 58 29.7 -0.4
BAIF pmax pmax
comp=Z,11nm,0.6s
BAIF **Baives** 16.00 319 *e*P **Pn** 15 58 29.7 -0.4
comp=Z,11nm,0.6s
WTSB **Winterswijk** 16.09 328 *e*P **Pn** 15 58 36.3 +5.0
comp=Z,37nm,2.0s
MNK **Minsk** 16.23 15 *e*P **Pn** 15 58 29.0 -4.1
UCC **Uccle** 16.39 321 P **Pn** 15 58 38.7 +3.6
UCC E 15 58 58.6
ETSF **Etsaut** 16.41 290 *e*P **Pn** 15 58 34.3 -1.0
comp=Z,61nm,1.3s
ETSF **Etsaut** 16.41 290 *e*P **Pn** 15 58 34.3 -1.0
ETSF pmax pmax
comp=Z,31nm,1.3s
ETSF **Etsaut** 16.41 290 *e*P **Pn** 15 58 34.3 -1.0
comp=Z,30nm,1.3s
ARTV **Artvin** 16.48 76 *i* P **Pn** 15 58 36.3 0.0
ECHE **Chera** 16.67 279 P **Pn** 15 58 41.2 +2.5
ECHE pmax pmax
comp=Z,5.0nm,0.6s
ECHE **Chera** 16.67 279 P **Pn** 15 58 41.2 +2.5
comp=Z,4.5nm,0.6s
SJPF **Ste Jean** 16.91 291 *e*P **Pn** 15 58 40.9 -0.9
comp=Z,29nm,1.0s
SJPF **Ste Jean** 16.91 291 *e*P **Pn** 15 58 40.9 -0.9
SJPF pmax pmax
comp=Z,14nm,1.0s
SJPF **Ste Jean** 16.91 291 *e*P **Pn** 15 58 40.9 -0.9
comp=Z,14nm,1.0s
MFF **Saint Martin d** 16.94 303 *e*P **Pn** 15 58 41.0 -1.1
comp=Z,60nm,1.1s
MFF **Saint Martin d** 16.94 303 *e*P **Pn** 15 58 41.0 -1.1
MFF pmax pmax
comp=Z,30nm,1.1s
MFF **Saint Martin d** 16.94 303 *e*P **Pn** 15 58 41.0 -1.1
comp=Z,30nm,1.1s
ELIZ **Elizondo** 17.14 291 P **Pn** 15 58 49.2 +4.6
ELIZ pmax pmax
comp=Z,9.0nm,1.0s
ELIZ **Elizondo** 17.14 291 P **Pn** 15 58 49.2 +4.6
comp=Z,9.3nm,1.0s
KIV **Kislovodsk** 17.27 66 *e*P **Pn** 15 58 47.9 +1.7
KIV *e*S **Sn** 16 02 00.6 +2.3
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,216nm,12.0s
KIV **Kislovodsk** 17.27 66 Pn **Pn** 15 58 43.4 -2.8
comp=Z,26nm,1.0s
KIV **Kislovodsk** 17.27 66 *e*P **Pn** 15 58 47.9 +1.7
comp=Z,14nm,1.0s
ETOR **Torete** 17.43 283 P **Pn** 15 58 48.3 0.0
ETOR pmax pmax
comp=Z,3.0nm,0.6s
ETOR **Torete** 17.43 283 P **Pn** 15 58 48.2 0.0
comp=Z,2.6nm,0.6s
ETOR **Torete** 17.43 283 P **Pn** 15 58 48.2 -0.1
comp=Z,2.6nm,0.6s
LDF **La Druitiere** 17.67 309 *e*P **Pn** 15 58 50.0 -1.2
comp=Z,15nm,0.8s
LDF **La Druitiere** 17.67 309 *e*P **Pn** 15 58 50.0 -1.2
LDF pmax pmax
comp=Z,8.0nm,0.8s
LDF **La Druitiere** 17.67 309 *e*P **Pn** 15 58 50.0 -1.2
comp=Z,7.6nm,0.8s
GOF **Gofitskoye** 17.71 63 *e*P **Pn** 15 58 58.1 +6.4
GOF pmax pmax
comp=Z,38nm,1.0s
VRSR **Storozhevoye** 17.85 41 *e*P **Pn** 15 58 54.1 +0.6
VRSR pmax pmax
comp=Z,8.0nm,0.4s
VRSR pmax pmax
comp=N,5.0nm,0.7s
VRSR pmax pmax
comp=E,5.0nm,0.7s
VRSR **Storozhevoye** 17.85 41 *e*P **Pn** 15 58 54.1 +0.6
comp=E,8.0nm,0.4s
FLN **La Foliniere** 17.96 310 *e*P **Pn** 15 58 53.6 -1.2
comp=E,45nm,1.0s
FLN **La Foliniere** 17.96 310 *e*P **Pn** 15 58 53.6 -1.2
FLN pmax pmax
comp=Z,22nm,1.0s
FLN **La Foliniere** 17.96 310 *e*P **Pn** 15 58 53.6 -1.2
comp=Z,22nm,1.0s
ZEI **Tsey** 18.02 71 *e*P **Pn** 15 58 53.3 -2.1
GRR **Gorron** 18.04 308 *e*P **Pn** 15 58 54.6 -1.1
MSL **Mosul** 18.04 92 *ex* x 15 58 50.5
MSL *ex* x 16 02 10.0
MSL *ex* x 16 05 06.0
MSL *ex* x 16 06 10.0
EQES **Quesada** 18.55 274 P **Pn** 15 59 08.3 +6.3
comp=Z,8.0nm,0.6s
GNI **Garni** 18.66 79 LR LR 16 06 04.7
comp=Z,524nm,18.9s,baz=80,slow=37
GNI **Garni** 18.66 79 *e*P **Pn** 15 59 03.3 0.0
GNI pmax pmax
comp=Z,41nm,1.3s
GNI **Garni** 18.66 79 *e*P **Pn** 15 59 03.3 0.0
comp=Z,41nm,1.3s
GNI **Garni** 18.66 79 *e*P **Pn** 15 59 03.3 0.0
comp=Z,41nm,1.3s
ESDC **Sonseca Array** 18.97 280 P **Pn** 15 59 07.3 +0.3
comp=Z,0.5nm,0.3s,baz=76,slow=11,SNR=16
ESDC **Sonseca Array** 18.97 280 P **Pn** 15 59 08.2 +1.1
ESLA **Sonseca Array** 18.97 280 *e*P **Pn** 15 59 06.4 -0.6
comp=Z,2.4nm,0.8s
ESLA **Sonseca Array** 18.97 280 *e*P **Pn** 15 59 06.4 -0.7
comp=Z,2.4nm,0.8s
GUD **Guadarrama** 19.04 283 P **Pn** 15 59 08.7 +0.8
SGMF **Saint Gilles** 19.04 306 *e*P **Pn** 15 59 07.0 -0.9
comp=Z,52nm,1.1s
SGMF **Saint Gilles** 19.04 306 *e*P **Pn** 15 59 07.0 -0.9
SGMF pmax pmax
comp=Z,26nm,1.1s
SGMF **Saint Gilles** 19.04 306 *e*P **Pn** 15 59 07.0 -0.9
comp=Z,26nm,1.1s
EBAN **Banos Encina** 19.04 275 P **Pn** 15 59 09.3 +1.3
EBAN pmax pmax
comp=Z,2.0nm,0.4s
EBAN **Banos Encina** 19.04 275 P **Pn** 15 59 09.3 +1.3
comp=Z,1.7nm,0.4s
VRHR **Novokhopersk** 19.07 44 *e*P **Pn** 15 59 06.6 -1.7
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
QUIF **Quistinic** 19.31 305 *e*P **Pn** 15 59 09.8 -1.4
comp=Z,98nm,1.3s
QUIF **Quistinic** 19.31 305 *e*P **Pn** 15 59 09.8 -1.4
QUIF pmax pmax
comp=Z,49nm,1.3s
QUIF **Quistinic** 19.31 305 *e*P **Pn** 15 59 09.8 -1.4
comp=Z,49nm,1.3s
OBN **Obninsk** 19.35 29 *e*P **Pn** 15 59 09.7 -2.0
OBN *i* S **Sn** 16 02 47.0 -1.6
OBN pmax pmax
comp=Z,27nm,1.3s
OBN MLR MLR
comp=Z,600nm,17.0s
OBN **Obninsk** 19.35 29 *e*P **Pn** 15 59 09.7 -2.0
comp=Z,27nm,1.3s
ROSF **Rostrenen** 19.52 306 *e*P **Pn** 15 59 12.0 -1.7
comp=Z,31nm,0.6s
ROSF **Rostrenen** 19.52 306 *e*P **Pn** 15 59 12.0 -1.7
ROSF pmax pmax
comp=Z,16nm,0.6s
ROSF **Rostrenen** 19.52 306 *e*P **Pn** 15 59 12.0 -1.7
comp=Z,16nm,0.6s
EADA **Adamuz** 19.66 275 P **Pn** 15 59 15.0 -0.3
comp=Z,1.7nm,0.5s
EADA **Adamuz** 19.66 275 P **Pn** 15 59 15.0 -0.3
comp=Z,1.7nm,0.5s
EARI **Arriondas** 19.83 291 P **Pn** 15 59 16.1 -1.4
comp=Z,26nm,0.9s

EARI **Arriondas** 19.83 291 P **Pn** 15 59 16.1 -1.3
comp=Z,26nm,0.9s
VSU **Vasula** 19.84 10 *e*P **Pn** 15 59 14.5 -3.1
BHD **Baghdad** 20.05 99 *ex* x 15 59 16.0
EMIJ **Mijas** 20.16 271 P **P** 15 59 18.3 -1.1
comp=Z,2.6nm,0.5s
EMIJ **Mijas** 20.16 271 P **P** 15 59 18.3 -1.1
comp=Z,2.6nm,0.5s
MOS **Moscow** 20.22 29 *e*P **P** 15 59 17.0 -3.0
MOS *e*S **S** 16 03 02.4 -4.4
MOS pmax pmax
comp=Z,28nm,0.9s
MOS MLR MLR
comp=Z,800nm,17.0s,MS4.1
MOS **Moscow** 20.22 29 *e*P **P** 15 59 17.0 -3.0
comp=Z,28nm,0.9s
EJIF **Jimena Fronter** 20.73 271 P **P** 15 59 30.5 +4.9
ECAL **Calabor** 20.93 287 P **P** 15 59 26.7 -1.1
comp=Z,73nm,1.8s
ECAL **Calabor** 20.93 287 P **P** 15 59 26.7 -1.1
comp=Z,73nm,1.8s
EPON **Pontenova** 21.25 291 P **P** 15 59 30.1 -1.1
EPON **Pontenova** 21.25 291 P **P** 15 59 30.1 -1.1
MDT **Midelt** 21.28 261 P **P** 15 59 32.8 +1.3
comp=Z,2.9nm,0.9s,mb3.6
EMIN **Mina Concepcio** 21.36 275 P **P** 15 59 31.7 -0.7
comp=Z,18nm,0.9s,mb4.4
EMIN **Mina Concepcio** 21.36 275 P **P** 15 59 31.7 -0.7
comp=Z,18nm,0.9s,mb4.4
EBAD **Badajoz** 21.44 278 P **P** 15 59 32.2 -1.0
comp=Z,10nm,0.9s,mb4.2
EBAD **Badajoz** 21.44 278 P **P** 15 59 32.2 -1.1
comp=Z,10nm,0.9s,mb4.2
HFS **Hagfors** 21.56 351 P **P** 15 59 33.0 -1.5
comp=Z,9.1nm,0.4s,mb4.5,baz=172,slow=12,SNR=44
HFS LR LR 16 08 13.3
comp=Z,822nm,21.3s,MS4.1,baz=167,slow=38
KONO **Kongsberg** 21.77 345 *e*P **P** 15 59 35.0 -1.9
EGRO **El Granado** 22.04 275 P **P** 15 59 40.9 +1.3
NAO01 **NORSAR Array S** 22.65 348 *e*P **P** 15 59 45.7 -0.5
comp=Z,14nm,0.6s,mb4.6
NAO01 **NORSAR Array S** 22.65 348 *e*P **P** 15 59 45.7 -0.5
comp=Z,14nm,0.6s,mb4.6
FINES **FINESS Array B** 22.69 7 P **P** 15 59 44.1 -2.5
comp=Z,24nm,0.8s,mb4.7,baz=160,slow=13,SNR=42
FINES S **S** 16 03 52.0 -3.3
comp=Z,4.2nm,0.9s,baz=208,slow=19,SNR=4.1
FINES LR LR 16 09 18.9
comp=Z,506nm,19.1s,MS4.0,baz=5.5,slow=39
FINES **FINESS Array B** 22.69 7 P **P** 15 59 44.1 -2.5
FINES S **S** 16 03 52.0 -3.3
EKA **Eskdalemuir Ar** 22.75 324 P **P** 15 59 46.6 -0.6
comp=Z,30nm,0.8s,mb4.8,baz=121,slow=10,SNR=62
ESK **Eskdalemuir** 22.76 323 *e*P **P** 15 59 46.4 -1.0
ESK pmax pmax
comp=Z,37nm,0.8s,mb4.9
ESK **Eskdalemuir** 22.76 323 *e*P **P** 15 59 46.4 -1.0
comp=Z,37nm,0.8s,mb4.9
ESK **Eskdalemuir** 22.76 323 *e*P **P** 15 59 46.4 -1.0
comp=Z,37nm,0.8s,mb4.9
NOA **NORSAR Array B** 22.78 348 P **P** 15 59 46.6 -1.0
comp=Z,4.8nm,0.5s,mb4.2,baz=162,slow=11,SNR=33
NOA LR LR 16 09 22.4
comp=Z,694nm,18.6s,MS4.1,baz=160,slow=39
PECR **Pechory** 23.25 34 *e*P **P** 16 00 00.0 +7.4
PECR *e* 16 00 00.0
PECR pmax pmax
comp=Z,180nm,2.0s,mb5.2
PECR pmax pmax
comp=Z,500nm,3.0s
PECR MLR MLR
comp=Z,1µm,17.0s,MS4.4
KAF **Kangasniemi** 23.37 7 *e*p **P** 15 59 50.6 -3.2
JOF **Joensuu** 24.78 12 *e*p **P** 16 00 04.5 -2.4
ORR **Orenburg** 26.86 51 *e*P **P** 16 00 23.8 -2.0
ORR pmax pmax
comp=Z,10.0nm,0.4s,mb4.7
ORR MLR MLR
comp=Z,360nm,19.0s,MS4.0
AKTK **Aktyubinsk** 28.64 54 P **P** 16 00 39.0 -2.7
AKTK LR LR 16 14 46.2
AKTO **Aktyubinsk** 28.64 54 P **P** 16 00 39.0 -2.7
comp=Z,3.5nm,0.4s,mb4.5,baz=264,slow=8.4,SNR=8.2
AKTO LR LR 16 14 46.2
comp=Z,276nm,18.1s,MS3.9,baz=0.0,slow=42
AKTO **Aktyubinsk** 28.64 54 P **P** 16 00 39.2 -2.5
AKTO pmax pmax
comp=Z,4.0nm,1.9s,mb3.8
AB31 **Akbulak array** 29.74 57 P **P** 16 00 48.3 -3.1
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
ARU **Arti** 30.40 43 *e*P **P** 16 00 55.2 -2.1
ARU *e* 16 01 55.2
ARU *e*PPP 16 02 04.8
ARU *e* 16 03 51.4
ARU *e*S **S** 16 05 55.8 -2.1
ARU *e*SS SS 16 07 35.0 -32
ARU MLR MLR
comp=N,200nm,16.0s,MS3.9
ARU MLR MLR
comp=Z,200nm,16.0s,MS3.9
ARU MLR MLR
comp=E,100nm,15.0s,MS3.9
ARU **Arti** 30.40 43 *e*P **P** 16 00 54.3 -3.0
comp=E,7.3nm,0.6s,mb4.6
ARCES **ARCESS Array B** 30.67 3 P **P** 16 00 57.6 -2.1
comp=E,3.0nm,0.4s,mb4.4,baz=189,slow=9.7,SNR=36
TORD **Torodi Ar. Bea** 30.72 218 P **P** 16 00 58.7 -1.4
comp=E,7.4nm,0.6s,mb4.7,baz=33,slow=9.0,SNR=25
TORD **Torodi Ar. Bea** 30.72 218 P **P** 16 00 58.7 -1.4
KEV **Kevo** 30.97 4 *e*p **P** 16 00 59.9 -2.4
ZRNK **Zerenda** 35.70 51 *e*P **P** 16 01 41.3 -2.3
ZRNK pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ZRNK **Zerenda** 35.70 51 *e*P **P** 16 01 41.3 -2.3
comp=Z,5.7nm,0.5s,mb4.8
BRVK **Borovoye** 36.48 51 ⇑P **P** 16 01 48.3 -2.0
SNR=8.9
BRVK **Borovoye** 36.48 51 P **P** 16 01 48.2 -2.0
BRVK pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
BRVK **Borovoye** 36.48 51 *e*P **P** 16 01 48.0 -2.2
comp=Z,4.8nm,0.6s,mb4.6
BVA0 **Borovoye Array** 36.55 51 P **P** 16 01 48.0 -2.8
BVA0 pmax pmax
comp=Z,5.0nm,1.5s,mb4.1
CHKZ **Chkalovo** 36.71 50 *e*P **P** 16 01 49.8 -2.4
CHKZ pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
CHKZ **Chkalovo** 36.71 50 *e*P **P** 16 01 49.8 -2.4
comp=Z,9.4nm,0.6s,mb4.8
VOSK **Vostochnaya** 36.89 51 P **P** 16 01 51.6 -2.2
VOSK pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
DBIC **Dimbokro** 39.55 222 P **P** 16 02 15.3 -0.8
comp=Z,7.1nm,0.9s,mb4.4,baz=100,slow=9.3,SNR=5.2
DBIC LR LR 16 19 45.1
comp=Z,586nm,19.9s,MS4.4,baz=14,slow=38
DBIC **Dimbokro** 39.55 222 P **P** 16 02 15.3 -0.9
DBIC LR LR 16 19 45.1
LIC **Lamto** 40.02 222 *e*P **P** 16 02 19.6 -0.4
comp=Z,16nm,0.7s,mb4.5
LIC *e*R
comp=Z,750nm,21.2s
LIC **Lamto** 40.02 222 *e*P **P** 16 02 19.6 -0.4
comp=Z,8.1nm,0.7s,mb4.6
LIC LR LR
comp=Z,370nm,21.3s,MS4.2
AAK **Ala-Archa** 40.39 67 ⇓P **P** 16 02 21.5 -1.5
SNR=6.4
AAK **Ala-Archa** 40.39 67 *e*P **P** 16 02 21.4 -1.7
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
AAK **Ala-Archa** 40.39 67 *e*P **P** 16 02 21.4 -1.6
comp=Z,4.8nm,0.7s,mb4.3
FRU **Bishkek** 40.43 67 *e*P **P** 16 02 22.0 -1.4
FRU pmax pmax
comp=Z,60nm,2.1s,mb5.0
KMBO **Kilima Mbogo** 42.81 155 LR LR 16 23 50.3
comp=Z,200nm,18.1s,MS4.0,baz=296,slow=41
NVS **Novosibirsk** 44.07 48 *e*P **P** 16 02 50.9 -2.2
NVS *i* S **S** 16 09 20.6 -4.9
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS pmax pmax
comp=Z,28nm,1.3s,mb4.8

NVS					smax			
	comp=N,14nm,1.4s							
MK31	**Makanchi Array**	**44.83**	**59**		P	**P**	**16 02 56.6**	**-2.6**
MK31					pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5							
MKAR	**Makanchi Array**	**44.83**	**59**		P	**P**	**16 02 56.8**	**-2.3**
	comp=Z,4.9nm,0.5s,mb4.6,baz=276,slow=7.2,SNR=110							
ZAL	**Zalesovo**	**45.09**	**49**		P	**P**	**16 02 59.3**	**-1.9**
	comp=Z,14nm,0.5s,mb5.1,baz=192,slow=7.5,SNR=54							
ZAL					LR	LR	16 24 45.6	
	comp=Z,491nm,18.9s,MS4.5,baz=201,slow=40							
NDI	**New Delhi**	**47.49**	**85**		*ex*	x	16 03 24.0	
WMQ	**Urumqi**	**49.32**	**62**		*eP*	**P**	**16 03 34.0**	**-0.2**
WMQ					PP	PP	16 05 26.0	-2.1
WMQ					S	**S**	**16 10 37.5**	**-3.1**
WMQ					XS	sS	16 10 49.6	+3.8
WMQ					AMB	AMB		
	comp=Z,130nm,7.0s							
WMQ					LR	LR		
	comp=N,430nm,14.0s,MS4.7							
WMQ					LR	LR		
	comp=E,260nm,12.0s,MS4.7							
WMQ					LR	LR		
	comp=Z,150nm,20.0s							
KOLN	**Koldanda**	**52.87**	**82**		*eP*	**P**	**16 03 58.4**	**-2.5**
	comp=Z,9.2nm,0.6s,mb4.9							
GKN	**Gorkha**	**53.55**	**81**		*eP*	**P**	**16 04 02.6**	**-3.4**
	comp=Z,17nm,0.6s,mb5.1							
DMN	**Daman**	**54.11**	**82**		*eP*	**P**	**16 04 07.4**	**-2.6**
	comp=Z,37nm,1.1s,mb5.2							
KKN	**Kakani**	**54.16**	**81**		*eP*	**P**	**16 04 08.2**	**-2.2**
	comp=Z,22nm,1.0s,mb5.0							
KKN	**Kakani**	**54.16**	**81**		*eP*	**P**	**16 04 08.2**	**-2.2**
KKN					pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0							
PKI	**Pulchoki**	**54.36**	**81**		*eP*	**P**	**16 04 09.4**	**-2.5**
GUN	**Gumba**	**54.56**	**81**		*eP*	**P**	**16 04 10.2**	**-3.1**
	comp=Z,34nm,0.9s,mb5.4							
JIRN	**Jiri**	**54.92**	**81**		*eP*	**P**	**16 04 14.1**	**-1.8**
	comp=Z,16nm,0.8s,mb5.1							
TLY	**Talaya**	**56.68**	**48**		*eP*	**P**	**16 04 28.4**	**-0.2**
TLY					*eS*	**S**	**16 12 17.7**	**-3.3**
TLY					pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
TLY					MLR	MLR		
	comp=Z,419nm,19.0s,MS4.5							
ZAK	**Zakamensk**	**56.97**	**49**		*eP*	**P**	**16 04 29.5**	**-1.1**
ZAK					pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.4							
LSA	**Lhasa**	**57.70**	**76**		P	**P**	**16 04 39.0**	**+3.3**
SCHQ	**Schefferville**	**57.85**	**317**		P	**P**	**16 04 35.5**	**-1.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=62,slow=9.9,SNR=5.4							
SCHQ					LR	LR	16 27 08.9	
	comp=Z,165nm,20.3s,MS4.1,baz=110,slow=34							
TIXI	**Tiksi**	**58.84**	**21**		*eP*	**P**	**16 04 42.3**	**-1.4**
TIXI					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
GTA	**Gaotai**	**59.39**	**62**		*eP*	**P**	**16 04 45.6**	**-1.9**
GTA					AP	pP	16 04 53.3	+2.5
GTA					XP	sP	16 04 56.8	+4.8
GTA					PP	PP	16 07 00.8	+2.2
GTA					S	**S**	**16 12 58.3**	**+1.9**
GTA					XS	sS	16 13 09.4	+7.7
GTA					AMB	AMB		
	comp=Z,40nm,3.8s							
GTA					LR	LR		
	comp=N,160nm,16.4s,MS4.5							
GTA					LR	LR		
	comp=E,290nm,16.8s,MS4.5							
GTA					LR	LR		
	comp=Z,220nm,17.2s,MS4.3							
SONM	**Songino Array**	**59.89**	**51**		P	**P**	**16 04 49.3**	**-1.7**
	comp=Z,0.8nm,0.4s,mb4.1,baz=289,slow=9.0,SNR=5.6							
SONM					LR	LR	16 33 08.0	
	comp=Z,263nm,19.7s,MS4.4,baz=166,slow=39							
ULN	**Ulaanbaatar**	**60.27**	**51**		*eP*	**P**	**16 04 51.6**	**-2.0**
ULN	**Ulaanbaatar**	**60.27**	**51**		*eP*	**P**	**16 04 51.5**	**-2.1**
	comp=Z,3.2nm,0.8s,mb4.4							
YAK	**Yakutsk**	**64.35**	**30**		*c iP*	**P**	**16 05 18.4**	**-2.5**
YAK					pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8							
CD2	**Chengdu**	**66.42**	**69**		*eP*	**P**	**16 05 31.8**	**-2.6**
CD2					AP	pP	16 05 39.6	+2.0
CD2					XP	sP	16 05 42.8	+4.0
CD2					PP	PP	16 07 59.8	-0.8
CD2					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
CD2					LR	LR		
	comp=N,70nm,21.6s							
CD2					LR	LR		
	comp=Z,90nm,20.4s,MS4.0							
HHC	**Hu-ho-hao-te**	**66.52**	**56**		*eP*	**P**	**16 05 34.8**	**-0.2**
HHC					AP	pP	16 05 41.1	+2.9
HHC					XP	sP	16 05 44.0	+4.6
HHC					PCP	PcP	16 06 04.4	0.0
HHC					PP	PP	16 08 03.0	+1.6
HHC					SCP		16 10 04.9	
HHC					PCS		16 10 07.5	
HHC					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
HHC					AMB	AMB		
	comp=Z,120nm,5.2s							
HHC					LR	LR		
	comp=N,280nm,16.7s,MS4.6							
HHC					LR	LR		
	comp=E,170nm,16.7s,MS4.6							
HHC					LR	LR		
	comp=Z,240nm,16.6s,MS4.5							
BOSA	**Boshof**	**67.44**	**176**		P	**P**	**16 05 41.0**	**+0.2**
	comp=Z,4.6nm,1.0s,mb4.5,baz=253,slow=7.6,SNR=4.9							
BOSA					LR	LR	16 36 50.2	
	comp=Z,370nm,19.5s,MS4.6,baz=3.8,slow=37							
PAL	**Palisades**	**68.65**	**306**		*eP*	**P**	**16 05 41.9**	**-6.5**
PAL					pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8							
PAL	**Palisades**	**68.65**	**306**		*eP*	**P**	**16 05 41.9**	**-6.5**
	comp=Z,7.3nm,0.5s,mb4.9							
KMI	**Kunming**	**68.84**	**74**		P	**P**	**16 05 52.9**	**+3.3**
KMI					S	S	16 14 51.6	-1.9
KMI					LR	LR		
	comp=N,150nm,19.3s,MS4.3							
KMI					LR	LR		
	comp=E,110nm,23.2s,MS4.3							
KMI					LR	LR		
	comp=Z,130nm,20.6s,MS4.2							
BILL	**Bilibino**	**70.17**	**13**		*eP*	**P**	**16 05 55.8**	**-2.0**
BILL					pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4							
BILL	**Bilibino**	**70.17**	**13**		*eP*	**P**	**16 05 55.8**	**-2.0**
	comp=Z,6.5nm,1.1s,mb4.5							
INK	**Inuvik**	**71.22**	**350**		*eP*	**P**	**16 06 02.5**	**-1.7**
YKA	**Yellowknife Ar**	**72.59**	**340**		P	**P**	**16 06 11.7**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.0,baz=30,slow=4.9,SNR=7.2							
YKA					LR	LR	16 37 14.7	
	comp=Z,258nm,21.5s,MS4.5,baz=45,slow=35							
YKA	**Yellowknife Ar**	**72.59**	**340**		*i* P	**P**	**16 06 15.6**	**+3.1**
YKA					pmax	pmax		
	comp=Z,20nm,0.7s							
YKA	**Yellowknife Ar**	**72.59**	**340**		P	**P**	**16 06 11.7**	**-0.8**
YKA					LR	LR	16 37 14.7	
CN2	**Changchun**	**73.27**	**47**		*eP*	**P**	**16 06 19.3**	**+2.8**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
MA2	**Magadan**	**73.50**	**24**		*eP*	**P**	**16 06 15.9**	**-1.9**
MA2					pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2							
MA2	**Magadan**	**73.50**	**24**		*eP*	**P**	**16 06 16.2**	**-1.6**
	comp=Z,10nm,0.7s,mb4.9							
ULM	**Lac du Bonnet**	**75.03**	**323**		P	**P**	**16 06 26.4**	**-0.4**
	comp=Z,6.7nm,0.8s,mb4.6,baz=48,slow=4.0,SNR=7.5							
ULM					LR	LR	16 39 12.0	
	comp=Z,296nm,21.6s,MS4.5,baz=36,slow=36							
MDJ	**Mudanjiang**	**75.06**	**44**		P	**P**	**16 06 22.8**	**-4.2**
MDJ					AP	pP	16 06 29.8	-0.4
MDJ					PP	PP	16 09 08.9	-6.0
MDJ					S	S	16 15 59.6	-5.5
MDJ					SS	SS	16 20 54.6	+0.7
MDJ					AMB	AMB		
	comp=Z,60nm,3.4s							
MDJ					LR	LR		
	comp=N,320nm,16.5s,MS4.9							
MDJ					LR	LR		
	comp=E,400nm,17.8s,MS4.9							
MDJ					LR	LR		
	comp=Z,290nm,15.8s,MS4.7							
DAWY	**Dawson**	**76.02**	**351**		*eP*	**P**	**16 06 32.2**	**-0.2**
NJ2	**Nanjing**	**76.36**	**60**		*eP*	**P**	**16 06 35.3**	**+1.0**
NJ2					AP	pP	16 06 43.8	+6.2
NJ2					PCP	PcP	16 06 46.4	+0.2
NJ2					S	S	16 16 17.0	-2.3
NJ2					XS	sS	16 16 32.0	+7.2
NJ2					AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6							
NJ2					AMB	AMB		
	comp=Z,90nm,5.4s							
NJ2					LR	LR		
	comp=N,400nm,29.5s							
NJ2					LR	LR		
	comp=E,320nm,18.8s							
NJ2					LR	LR		
	comp=Z,140nm,16.2s							
QIZ	**Qiongzhong**	**77.73**	**75**		P	**P**	**16 06 41.8**	**-0.3**
QIZ					S	S	16 16 27.1	-7.2
QIZ					LR	LR		
	comp=N,120nm,22.4s							
QIZ					LR	LR		
	comp=Z,130nm,19.1s,MS4.3							
SSE	**Sheshan**	**78.51**	**59**		P	**P**	**16 06 44.5**	**-1.9**
SSE					XP	sP	16 06 53.8	+2.9
SSE					S	S	16 16 39.3	-3.4
SSE					XS	sS	16 16 50.4	+2.2
SSE					AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
SSE					AMB	AMB		
	comp=Z,60nm,5.7s							
SSE					LR	LR		
	comp=N,90nm,22.3s,MS4.2							
SSE					LR	LR		
	comp=E,90nm,22.3s,MS4.2							
SSE					LR	LR		
	comp=Z,60nm,21.3s,MS3.9							
YSS	**Yuzh-Sakhalins**	**80.05**	**36**		*eP*	**P**	**16 06 53.4**	**-1.4**
BDFB	**Brasilia**	**83.92**	**244**		LR	LR	16 46 20.4	
	comp=Z,202nm,19.2s,MS4.5,baz=63,slow=37							
MJAR	**Matsushiro Arr**	**85.36**	**46**		P	**P**	**16 07 20.3**	**-2.1**
	comp=Z,1.9nm,0.8s,mb4.3,baz=348,slow=3.1,SNR=4.9							
MJAR					LR	LR	16 49 05.4	
	comp=Z,180nm,19.0s,MS4.5,baz=0.0,slow=38							
PDAR	**Pinedale Array**	**86.86**	**326**		LR	LR	16 48 26.9	
	comp=Z,178nm,20.1s,MS4.5,baz=41,slow=37							
TGY	**Tagaytay City**	**89.09**	**73**		LR	LR	16 50 10.4	
	comp=Z,6.8nm,21.2s,baz=339,slow=37							
ROSC	**El Rosal**	**90.77**	**277**		LR	LR	16 41 40.9	
	comp=Z,48nm,21.1s,MS3.9,baz=130,slow=31							
CPUP	**Villa Florida**	**97.48**	**242**		LR	LR	16 54 24.0	
	comp=Z,230nm,19.4s,MS4.7,baz=36,slow=37							
LPAZ	**La Paz**	**99.08**	**256**		LR	LR	16 57 12.5	
	comp=Z,67nm,18.8s,MS4.2,baz=214,slow=38							
ASAR	**Alice Springs**	**122.23**	**96**		PKP	PKPdf	16 13 39.5	-0.7
	comp=Z,2.0nm,0.7s,baz=315,slow=1.7,SNR=4.2							

*IDC **21** 16:02:20.4±3.7,668S×129.95E,h74km±35km,mb4.0/9, mb1 4.1/12,mb1mx4.1/17,mbtmp4.4/12,ML4.6/3,Error ellipse: s-maj=29.4km s-min=14.7km az=79.0*
*ISCJB **21** 16:02:24.7±1.3,689S±005×129.93E±006,h140km±14km, mb4.3/20,Error ellipse: s-maj=11.2km s-min=6.7km az=123.1*
*NEIC **21** 16:02:24.9±1.5,676S×129.81E,h116km±15km,mb4.9/13, Error ellipse: s-maj=12.6km s-min=7.7km az=49.0*
*BJI **21** 16:02:29.7,620S×129.07E,h115km,mB5.3,mb4.7*
ISC 21 16:02:21.3±1.5,668S±007×12999E±009,h80km±16km, n44,σ1$08/55,mb4.5/20,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.46**	**158**	*eP*	**Pn**	**16 03 57.6**	**+3.9**
	50nm,0.2s						
KAKA				*eS*	**Sn**	16 05 05.9	-0.1
FITZ	**Fitzroy Crossi**	**12.12**	**200**	*eP*	**Pn**	**16 05 09.8**	**-1.1**
	11nm,0.2s						
FITZ				*eS*	**Sn**	16 07 13.9	-10
FITZ	**Fitzroy Crossi**	**12.12**	**200**	P	**Pn**	**16 05 10.3**	**-0.5**
	2.0nm,0.3s,baz=33,slow=12,SNR=65						
FITZ				S	**Sn**	16 07 13.2	-11
	3.1nm,0.3s,baz=92,slow=14,SNR=3.8						
WRAB	**Tennant Creek**	**13.84**	**163**	*ePn*	**Pn**	**16 05 32.6**	**-1.1**
	20nm,0.3s						
WRAB				*eSn*	**Sn**	16 07 50.4	-15
WRA	**Warramunga Arr**	**13.84**	**163**	P	**Pn**	**16 05 33.0**	**-0.8**
	3.1nm,0.3s,baz=338,slow=12,SNR=147						
WRA				S	**Sn**	16 07 56.9	-9.1
	4.0nm,0.3s,baz=340,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.85**	**163**	*eP*	**Pn**	**16 05 32.5**	**-1.4**
WB2				*eS*	**Sn**	16 07 56.7	-9.3
PMG	**Port Moresby**	**17.21**	**100**	P	**Pn**	**16 06 21.0**	**+4.5**
	1.1nm,0.3s,baz=267,slow=9.8,SNR=6.0						
PMG				S	**S**	16 09 22.7	-9.1
	0.6nm,0.3s,baz=194,slow=23,SNR=4.9						
AS31	**Alice Springs**	**17.30**	**168**	*eP*	**Pn**	**16 06 18.1**	**+0.6**
AS31				*eS*	**S**	16 09 19.5	-14
ASAR	**Alice Springs**	**17.30**	**168**	P	**Pn**	**16 06 18.4**	**+0.8**
	3.6nm,0.3s,baz=344,slow=9.2,SNR=359						
ASAR				S	**S**	16 09 19.7	-14
	1.3nm,0.3s,baz=353,slow=29,SNR=6.5						
ASPA	**Alice Springs**	**17.30**	**168**	*eP*	**Pn**	**16 06 18.1**	**+0.5**
ASPA				*eS*	**S**	16 09 19.5	-14
MBWA	**Marble Bar**	**17.49**	**214**	*ePn*	**Pn**	**16 06 20.8**	**+1.0**
MBWA				*eSn*	**Sn**	16 09 17.4	-17
KKM	**Kota Kinabalu**	**18.67**	**312**	*eP*	**Pn**	**16 06 34.9**	**+0.8**
CTA	**Charters Tower**	**20.66**	**132**	*eP*	**P**	**16 06 57.7**	**+3.3**
	5.7nm,0.5s						
CTA	**Charters Tower**	**20.66**	**132**	P	**P**	**16 06 58.2**	**+3.7**
	12nm,0.7s,baz=326,slow=14,SNR=13						
CTAO	**Charters Tower**	**20.66**	**132**	*eP*	**P**	**16 06 56.5**	**+2.0**
KSM	**Kuching**	**21.25**	**292**	P	**P**	**16 07 04.0**	**+3.3**
FORT	**Forrest**	**24.04**	**184**	*eP*	**P**	**16 07 29.2**	**+0.4**
	10nm,0.5s,mb4.4						
FORT				*eS*	S	16 11 57.5	+17
STKA	**Stephens Creek**	**27.31**	**158**	*eP*	**P**	**16 07 57.0**	**-1.4**
	2.2nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**27.31**	**158**	P	**P**	**16 07 57.0**	**-1.4**
	2.5nm,0.3s,mb4.2,baz=344,slow=9.1,SNR=15						
KULM	**Kulim**	**31.61**	**291**	*eP*	**P**	**16 08 37.9**	**+1.5**
CBIJ	**Chichi jima**	**35.59**	**19**	P	**P**	**16 09 10.4**	**-0.5**
	7.2nm,0.6s,mb4.8,baz=284,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**38.35**	**117**	P	**P**	**16 09 36.2**	**+1.9**
	1.7nm,0.4s,mb4.2,baz=254,slow=18,SNR=5.6						
ENH	**Enshi**	**41.67**	**333**	*eP*	**P**	**16 09 59.7**	**-2.2**
	0.6nm,0.7s,mb3.4						
MJAR	**Matsushiro Arr**	**43.68**	**10**	P	**P**	**16 10 17.1**	**-0.9**
	1.6nm,0.7s,mb3.9,baz=186,slow=10,SNR=5.1						
CD2	**Chengdu**	**45.03**	**328**	*eP*	**P**	**16 10 27.8**	**-1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
HHC	**Hu-ho-hao-te**	**50.24**	**342**	*eP*	**P**	**16 11 13.0**	**+3.9**
HHC				AP	pP	16 11 42.3	+13
HHC				XP	sP	16 11 56.4	+18
HHC				PCP	PcP	16 12 29.1	+2.0
HHC				PP	PP	16 13 11.1	+6.0
HHC				S	**S**	**16 18 16.3**	**+0.9**
HHC				SCS	ScS	16 20 47.5	-5.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,130nm,4.5s						
HHC				LR	LR		
	comp=N,280nm,15.5s						
HHC				LR	LR		
	comp=E,170nm,16.7s						
HHC				LR	LR		
	comp=Z,270nm,15.5s						
JIRN	**Jiri**	**54.37**	**311**	*eP*	**P**	**16 11 39.5**	**-0.2**
	comp=Z,5.5nm,0.3s,mb5.1						
GUN	**Gumba**	**54.73**	**311**	*eP*	**P**	**16 11 42.1**	**-0.3**
	comp=Z,13nm,0.4s,mb5.3						
PKI	**Pulchoki**	**54.91**	**310**	*eP*	**P**	**16 11 43.4**	**-0.2**
KKN	**Kakani**	**55.12**	**311**	*eP*	**P**	**16 11 44.5**	**-0.7**
	comp=Z,6.0nm,0.6s,mb4.8						
DMN	**Daman**	**55.16**	**310**	*eP*	**P**	**16 11 45.5**	**+0.1**
	comp=Z,6.3nm,0.5s,mb4.9						
GKN	**Gorkha**	**55.72**	**310**	*eP*	**P**	**16 11 48.8**	**-0.6**
	comp=Z,14nm,0.3s,mb5.4						
KOLN	**Koldanda**	**56.39**	**310**	*eP*	**P**	**16 11 53.9**	**-0.3**
	comp=Z,4.7nm,0.3s,mb5.0						
ULN	**Ulaanbaatar**	**57.96**	**342**	*eP*	**P**	**16 12 05.8**	**+0.5**
	comp=Z,1.7nm,0.3s,mb4.5						
SONM	**Songino Array**	**58.13**	**341**	P	**P**	**16 12 06.6**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.1,baz=160,slow=5.4,SNR=3.8						
WMQ	**Urumqi**	**63.12**	**327**	*eP*	**P**	**16 12 42.5**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,190nm,4.0s						
WMQ				LR	LR		
	comp=N,230nm,17.0s						
WMQ				LR	LR		
	comp=E,180nm,16.0s						
WMQ				LR	LR		
	comp=Z,150nm,20.0s						
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**16 13 11.6**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.3,baz=110,slow=7.5,SNR=42						
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**16 13 11.6**	**0.0**
VNDA	**Vanda**	**72.77**	**173**	P	**P**	**16 13 40.3**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.7,baz=315,slow=7.9,SNR=3.9						
VNDA	**Vanda**	**72.77**	**173**	*eP*	**P**	**16 13 40.2**	**-0.7**
MAW	**Mawson**	**75.24**	**201**	P	**P**	**16 13 54.9**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.0,baz=79,slow=1.7,SNR=6.8						
AKTK	**Aktyubinsk**	**83.81**	**322**	P	**P**	**16 14 41.4**	**-0.4**
AKTO	**Aktyubinsk**	**83.81**	**322**	P	**P**	**16 14 41.4**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.0,baz=129,slow=7.2,SNR=5.8						
LPAZ	**La Paz**	**150.98**	**142**	PKPbc	PKPbc	16 22 06.2	+1.4
	comp=Z,1.3nm,0.4s,baz=136,slow=1.3,SNR=15						

JMA 21 16:05:38.8±0.2,3190N×14133E,h0km,M3.5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.76**	**314**	P	Pn	16 06 11.0	+0.5
JIM2	**Oshima 3**	**3.23**	**331**	P	Pn	16 06 32.4	+1.7
JIM2				*e*S	Sn	16 07 11.2	+1.3
JHO	**Hitachi**	**4.74**	**353**	P	Pn	16 06 53.9	+2.4
JHO				*e*S	Sn	16 07 48.8	+1.6
JAG	**Ashikaga**	**4.77**	**341**	P	Pn	16 06 53.5	+1.5
JAG				*e*S	Sn	16 07 46.3	-1.7
CBIJ	**Chichi jima**	**4.84**	**171**	P	Pn	16 06 45.2	-7.7
CBIJ				*e*S	Sn	16 07 35.1	-15

*ATH **21** 16:07:20.5,3893N×2057E,h5km,MD3.5/5*
*NEIC **21** 16:07:20.5,3893N×2057E,h5km,MD3.5(ATH),After ATH.*
*CSEM **21** 16:07:20.5,3893N×2057E,h5km,MD3.5/5,After ATH*
*ISCJB **21** 16:07:21.1±0.6,3896N±002×2060E±005,h10km,Error ellipse: s-maj=5.2km s-min=3.6km az=165.1*
*THE **21** 16:07:21.7,3897N×2063E,h10km,ML3.3*
*SKO **21** 16:07:26.9,3927N×1997E,h25km*
ISC 21 16:07:21.2±0.6,3896N±002×2057E±005,h10km,n22, σ1$40/34,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.26**	**166**	*e*Pg	**Pg**	**16 07 26.9**	**+0.4**
LKD				*e*Sg	**Sg**	**16 07 30.9**	**+0.8**
IGT	**Igoumenitsa**	**0.60**	**342**	*e*Pg	**Pg**	**16 07 31.9**	**-0.9**
IGT				*e*Sg	**Sg**	**16 07 42.0**	**+1.4**
JAN	**Janina**	**0.73**	**17**	*e*PB	**Pb**	**16 07 35.1**	**-0.8**
VLS	**Valsamata**	**0.78**	**179**	*e*PB	**Pb**	**16 07 35.5**	**-1.4**
KEK	**Kerkira**	**0.96**	**322**	*e*PB	**Pb**	**16 07 39.5**	**-0.3**
MEV	**Metsovon**	**0.97**	**32**	*e*Pg	**Pg**	**16 07 38.7**	**-1.1**
MEV				*e*Sg	**Sg**	**16 07 53.4**	**+1.0**
EVR	**Evrytania**	**0.97**	**92**	*e*PG	**Pg**	**16 07 38.3**	**-1.5**
RLS	**Riolos of Patr**	**1.15**	**142**	*e*PG	**Pg**	**16 07 41.3**	**-1.9**
AGG	**Agios Georgios**	**1.38**	**87**	*e*Pg	**Pg**	**16 07 45.7**	**-1.8**
AGG				*e*Sg	**Sg**	**16 08 04.7**	**-0.7**
LIT	**Litokhoron**	**1.87**	**52**	*e*Pb	**Pb**	**16 07 54.5**	**-0.9**
LIT				*e*Sb	**Sb**	**16 08 18.6**	**-0.3**
FNA	**Florina**	**1.92**	**19**	*e*Pb	**Pb**	**16 07 55.0**	**-1.3**
FNA				*e*Sb	**Sb**	**16 08 20.7**	**+0.4**
LKR	**Lokris**	**1.93**	**99**	*e*PN	**Pn**	**16 07 57.0**	**+3.0**
ITM	**Ithomi**	**2.08**	**149**	*e*PN	**Pn**	**16 07 58.3**	**+2.2**
XOR	**Xorichti**	**2.08**	**78**	*e*Pn	**Pn**	**16 07 56.9**	**+0.8**
XOR				*e*Sn	**Sn**	**16 08 23.8**	**+1.8**
NEO	**Neokhori**	**2.09**	**80**	*e*PG	**Pg**	**16 07 59.5**	**-1.8**
OHR	**Ohrid**	**2.15**	**5**	*e*Pn	**Pn**	**16 07 59.0**	**+1.9**
OHR	**Ohrid**	**2.15**	**5**	*e*Pn	**Pn**	**16 07 58.9**	**+1.7**
OHR				*e*Pg	**Pg**	**16 08 01.4**	**-1.1**
OHR				*e*Sn	**Sn**	**16 08 21.6**	**-2.2**
OHR				*e*Sg	**Sg**	**16 08 29.2**	**-1.2**
PAIG	**Paliouri**	**2.59**	**67**	*e*Pn	**Pn**	**16 08 03.9**	**+0.8**
PAIG				*e*Sn	**Sn**	**16 08 35.7**	**+0.9**
VAY	**Valandovo**	**2.81**	**32**	*e*Pn	**Pn**	**16 08 11.6**	**+5.4**
KNT	**Kendrikon**	**2.83**	**38**	*e*Pn	**Pn**	**16 08 07.4**	**+1.0**
KNT				*e*Sn	**Sn**	**16 08 42.6**	**+2.0**
STIP	**Stip**	**3.00**	**24**	*e*Pn	**Pn**	**16 08 11.8**	**+3.1**
SKO	**Skopje**	**3.08**	**12**	*e*Pn	**Pn**	**16 08 12.8**	**+2.9**

IDC 21 16:13:31.7±5.0,1809S×17603W,h399km±157km, mb3.3/5,mb1 3.4/6,mb1mx3.2/15,mbtmp4.1/6,Error ellipse: s-maj=132.3km s-min=30.8km az=68.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.83**	**45**	P	Pn	16 15 04.6	+2.2
	1.4nm,0.3s,baz=103,slow=18,SNR=2.9						
AFI				S	S	16 16 15.2	-1.1
	1.3nm,0.3s,baz=54,slow=22,SNR=2.7						
URZ	**Urewera**	**20.97**	**195**	P	P	16 17 45.4	+0.4
	10nm,1.1s,baz=98,slow=16,SNR=3.2						
CTA	**Charters Tower**	**35.65**	**261**	P	P	16 19 54.4	+0.6
	5.1nm,1.1s,baz=92,slow=14,SNR=4.6						
STKA	**Stephens Creek**	**40.54**	**242**	P	P	16 20 32.4	-1.6
	1.0nm,0.3s,baz=84,slow=7.8,SNR=9.3						
WRA	**Warramunga Arr**	**46.

IDC 21 16:26:43.7±75.0, 1719S×17935W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=1364.0km s-min=166.2km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.20**	**240**	P	P	16 34 04.6	-0.4
	2.3nm,0.7s,baz=89,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**43.88**	**259**	P	P	16 34 52.0	+0.1
	0.5nm,0.9s,baz=91,slow=8.3,SNR=3.1						
ASAR	**Alice Springs**	**44.13**	**254**	P	P	16 34 54.7	+0.9
	0.7nm,0.4s,baz=86,slow=8.7,SNR=68						

*IDC **21** 16:35:25.8±1.2, 744N×5958E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.9/21, mbtmp4.0/12, MS3.8/9, Ms1 3.8/9, ms1mx3.4/25, Error ellipse: s-maj=32.3km s-min=21.1km az=116.0*
*ISCJB **21** 16:35:26.2±0.8, 75N±0.1×595E±0.1, h10km, mb4.0/16, MS3.9/7, Error ellipse: s-maj=23.4km s-min=13.0km az=69.3*
*HRVD **21** 16:35:27.9±0.5, 730N×5963E, h12km, MW4.8/41, Centroid moment Tensor Solution. LP body waves: s10,c13;Mantle waves: s41,c57; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.68±.12; Mθθ0.48±.12; Mφφ1.20±.10; Mrθ0.45±.45; Mφθ-0.75±.07; Mφr-0.96±.40; Best double couple: M0=1.98600×1016 NP1:ϕs=144.00000°, δ=21.00000°, λ=-96.00000°. NP2: ϕs=331.00000°, δ=61.00000°, λ=-86.00000°. Principal axes: T 1.9790, Plg16.0000°, Azm59.0000°; N 0.0130, Plg3.0000°, Azm150.0000°; P -1.9920, Plg74.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 16:35:27.9±0.6, 747N×5949E, h10km, mb4.2/6 Error ellipse: s-maj=17.3km s-min=10.3km az=126.0*

ISC 21 16:35:27.7±0.9, 75N±01×596E±02, h10km, n31, σ0§67/22, mb4.0/16, MS3.9/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**15.71**	**357**	LR	LR	16 44 14.4	
	comp=Z,84nm,21.0s,baz=122,slow=34						
ATD	**Arta Tunnel**	**17.01**	**285**	LR	LR	16 44 55.5	
	comp=Z,311nm,19.3s,baz=103,slow=34						
KMBO	**Kilima Mbogo**	**23.87**	**250**	P	**P**	**16 40 41.5**	**+0.2**
	4.3nm,0.8s,mb3.9,baz=48,slow=12,SNR=12						
KMBO				LR	LR	16 48 59.0	
	comp=Z,381nm,21.9s,MS3.8,baz=276,slow=34						
KMBO	**Kilima Mbogo**	**23.87**	**250**	*e*P	**P**	**16 40 42.2**	**+0.9**
	3.5nm,0.9s,mb3.8						
KMBO				LR	LR	16 48 59.0	
LSA	**Lhasa**	**36.98**	**49**	*e*P	**P**	**16 42 40.6**	**+3.5**
	5.0nm,0.8s,mb4.4						
LSZ	**Lusaka**	**38.47**	**234**	P	**P**	**16 42 50.0**	**+0.2**
	3.3nm,1.0s,mb4.0						
BRTR	**Keskin Array B**	**39.67**	**328**	P	**P**	**16 43 00.6**	**+0.8**
	2.2nm,0.9s,mb3.9,baz=145,slow=9.0,SNR=14						
AKTK	**Aktyubinsk**	**42.85**	**359**	P	**P**	**16 43 25.6**	**-0.3**
AKTO	**Aktyubinsk**	**42.85**	**359**	P	**P**	**16 43 25.6**	**-0.4**
	3.9nm,0.9s,mb4.2,baz=174,slow=7.1,SNR=14						
MKAR	**Makanchi Array**	**43.75**	**23**	P	**P**	**16 43 33.0**	**-0.2**
	1.0nm,0.9s,mb3.5,baz=218,slow=7.7,SNR=6.5						
ZRNK	**Zerenda**	**45.99**	**8**	*e*P	**P**	**16 43 51.3**	**+0.2**
	2.2nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**46.93**	**9**	*e*P	**P**	**16 43 58.7**	**+0.2**
	3.7nm,0.9s,mb4.3						
BOSA	**Boshof**	**48.82**	**221**	LR	LR	17 02 35.9	
	comp=Z,154nm,18.2s,MS4.0,baz=27,slow=33						
AKASG	**Malin Array Be**	**49.94**	**335**	P	**P**	**16 44 21.4**	**-0.2**
	0.3nm,0.3s,mb3.9,baz=139,slow=6.5,SNR=12						
ZAL	**Zalesovo**	**50.61**	**19**	P	**P**	**16 44 27.7**	**+1.0**
	1.4nm,0.4s,mb4.2,baz=124,slow=4.2,SNR=5.8						
ZAL				LR	LR	17 06 22.3	
	comp=Z,105nm,19.0s,MS3.9,baz=243,slow=37						
ZAL	**Zalesovo**	**50.61**	**19**	P	**P**	**16 44 27.7**	**+1.0**
ZAL				LR	LR	17 06 22.3	
KOLS	**Kolonicke sedl**	**51.90**	**329**	*es*P	sP	16 44 42.0	+1.2
VYHS	**Vyhne**	**53.42**	**327**	*e*P	**P**	**16 44 47.7**	**+0.1**
SONM	**Songino Array**	**56.44**	**36**	LR	LR	17 08 12.6	
	comp=Z,75nm,18.7s,MS3.8,baz=244,slow=35						
TORD	**Torodi Ar. Bea**	**57.15**	**281**	P	**P**	**16 45 14.5**	**0.0**
	1.2nm,0.8s,mb4.0,baz=89,slow=6.2,SNR=6.9						
TORD	**Torodi Ar. Bea**	**57.15**	**281**	P	**P**	**16 45 14.5**	**0.0**
FINES	**FINESS Array B**	**59.31**	**342**	P	**P**	**16 45 29.1**	**-0.5**
	0.7nm,0.7s,mb3.8,baz=90,slow=6.1,SNR=2.9						
DBIC	**Dimbokro**	**63.92**	**274**	LR	LR	17 13 60.0	
	comp=Z,144nm,18.8s,MS4.2,baz=80,slow=36						
NOA	**NORSAR Array B**	**64.33**	**336**	P	**P**	**16 46 03.1**	**-0.3**
	0.5nm,0.6s,mb3.7,baz=126,slow=8.4,SNR=3.2						
ESDC	**Sonseca Array**	**64.99**	**310**	P	**P**	**16 46 08.1**	**+0.3**
	0.3nm,0.3s,mb3.8,baz=89,slow=5.5,SNR=5.4						
ARCES	**ARCESS Array B**	**65.82**	**348**	P	**P**	**16 46 11.7**	**-1.4**
	1.5nm,0.7s,mb4.2,baz=134,slow=5.2,SNR=6.7						
JOW	**Kunigami**	**67.65**	**64**	LR	LR	17 14 27.9	
	comp=Z,98nm,21.0s,MS4.0,baz=46,slow=35						
MAW	**Mawson**	**74.92**	**179**	P	**P**	**16 47 08.2**	**-0.6**
	1.1nm,0.8s,mb3.9,baz=302,slow=8.0,SNR=4.3						
MAW	**Mawson**	**74.92**	**179**	*e*P	**P**	**16 47 08.0**	**-0.8**
	2.1nm,0.7s,mb4.2						
MJAR	**Matsushiro Arr**	**76.45**	**54**	LR	LR	17 22 14.2	
	comp=Z,45nm,19.5s,MS3.8,baz=235,slow=37						
PDAR	**Pinedale Array**	**129.04**	**350**	PKP	PKPdf	16 54 35.9	+0.1
	0.6nm,0.8s,baz=35,slow=3.6,SNR=4.1						

KRSC 21 16:57:04.4±0.6, 4890N×15558E, h66km±12km, ML4.4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.82**	**11**	*e*S		16 57 53.5	
ALID	**Alaid**	**1.97**	**359**	*e*P		16 57 36.3	
PAU	**Pauzhetka**	**2.69**	**17**	*e*P		16 57 47.4	
PAU				*e*S		16 58 19.1	
MIPR	**Malaya Ipel'ka**	**3.46**	**12**	*i* P		16 57 57.9	
GRL	**Gorelyy**	**3.98**	**22**	*e*P		16 58 06.1	
GRL				*e*S		16 58 50.5	
RUS	**Russkaya**	**4.00**	**27**	*e*P		16 58 05.2	
RUS				*e*S		16 58 50.3	
APC	**Apacha**	**4.15**	**13**	*e*P		16 58 07.2	
KRMR	**Karymshinskiy**	**4.25**	**21**	*e*P		16 58 09.9	
PET	**Petropavlovsk**	**4.56**	**24**	*e*P		16 58 12.8	
PET				*e*S		16 59 02.3	
UGLR	**Uglovaya**	**4.78**	**24**	*e*P		16 58 15.6	
UGLR				*e*S		16 59 07.4	
KOK	**Koryaka**	**4.80**	**22**	*e*P		16 58 15.4	
AVH	**Avacha**	**4.80**	**23**	*e*P		16 58 15.9	
AVH				*e*S		16 59 08.7	
SMAR	**Somma**	**4.82**	**24**	*e*P		16 58 16.5	
SMAR				*e*S		16 59 09.1	
SDLR	**Sedlovina**	**4.85**	**24**	*e*P		16 58 16.9	
SDLR				*e*S		16 59 09.6	
NLC	**Nalytchevo**	**4.89**	**28**	*i* P		16 58 16.8	
NLC				*i* S		16 59 09.2	
GNL	**Ganaly**	**5.03**	**16**	*e*P		16 58 19.7	
SPN	**Mys Shipunski**	**5.05**	**32**	*e*P		16 58 19.7	
SPN				*e*S		16 59 14.9	
KII	**Karymskiy**	**5.68**	**24**	P		16 58 28.2	
MKZ	**Mys Kozlova**	**6.83**	**32**	*i* P		16 58 42.9	
MKZ				*i* S		16 59 55.0	
ESO	**Esso**	**7.29**	**14**	*e*P		16 58 50.5	
KMNR	**Kamenistaya**	**7.43**	**21**	*e*P		16 58 53.0	
KPT	**Kopyto**	**7.62**	**20**	P		16 58 55.8	
KOZ	**Kozyrevsk**	**7.63**	**18**	*e*P		16 58 55.3	
LGNR	**Loginova**	**7.84**	**21**	*e*P		16 58 58.2	
SRDR	**Sredinnyy**	**7.84**	**17**	*e*P		16 58 58.5	
CIRR	**Tsirk**	**7.88**	**22**	P		16 58 58.3	
KRSR	**Krestovskiy**	**7.93**	**21**	P		16 58 59.3	
KLY	**Klyuchi**	**8.04**	**21**	*e*P		16 59 01.2	
SRKR	**Sorokina**	**8.47**	**21**	*i* P		16 59 06.3	
SMKR	**Semkarok**	**8.48**	**23**	*e*P		16 59 06.0	
KBTR	**Krutoberegovo**	**8.54**	**28**	*e*P		16 59 07.9	
KBG	**Krutoberegovo**	**8.54**	**28**	*e*P		16 59 07.6	
BKI	**Bering**	**8.98**	**41**	*e*P		16 59 09.8	

NEIC 21 17:02:52.8, 6147N×15017W, h58km, ML3.5(AEIC), ML3.7(PMR), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.31**	**181**	P	Pn	17 03 03.3	+0.5
FIB				S	Sn	17 03 10.8	+0.8
RC01	**Rabbit Creek A**	**0.44**	**151**	P	Pn	17 03 02.7	-1.3
RC01				S	Sn	17 03 12.3	+0.3
PMR	**Palmer**	**0.51**	**76**	P	Pn	17 03 03.9	-0.9
PMR				S	Sn	17 03 13.2	-0.2
GHO	**Glory Hole Cre**	**0.67**	**63**	P	Pn	17 03 06.0	-0.5
KNK	**Knik Glacier**	**0.82**	**93**	P	Pn	17 03 08.4	-0.1
SLKM	**Skilak Lake**	**0.97**	**182**	P	Pn	17 03 09.8	-0.6
SEW	**Seward**	**1.42**	**165**	P	Pn	17 03 15.5	-0.8
TRF	**Thorofare Moun**	**1.99**	**358**	P	Pn	17 03 23.6	-0.5
KTH	**Kantishna Hill**	**2.12**	**351**	P	Pn	17 03 25.4	-0.4
DIV	**Divide**	**2.15**	**97**	*e*Pn	Pn	17 03 25.4	-0.9
DIV				*e*Sn	Sn	17 03 51.2	-0.6
MCK	**McKinley**	**2.34**	**14**	P	Pn	17 03 28.8	0.0
EYAK	**Cordova Ski Ar**	**2.34**	**111**	P	Pn	17 03 27.9	-1.0
SVW2	**Sparrevohn**	**2.64**	**264**	P	Pn	17 03 32.0	-1.0
BMRM	**Bremner River**	**2.74**	**98**	P	Pn	17 03 33.2	-1.1
COLA	**College**	**3.57**	**16**	P	Pn	17 03 45.5	-0.2
KDAK	**Kodiak Island**	**3.90**	**199**	P	Pn	17 03 49.2	-1.0
DAWY	**Dawson**	**5.59**	**58**	*e*Pn	Pn	17 04 13.2	-0.2
SKAG	**Skagway**	**7.61**	**99**	Pn	Pn	17 04 40.2	-0.7
INK	**Inuvik**	**9.82**	**39**	*e*Pn	Pn	17 05 09.9	-1.3
	5.5nm,0.8s						

IDC 21 18:10:09.8±5.3, 2169N×14363E, h50km±49km, mb3.3/3, mb1 3.5/4, mb1mx3.2/20, mbtmp3.6/4, ML3.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.3/16, Error ellipse: s-maj=89.8km s-min=25.5km az=95.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.54**	**347**	P	Pn	18 11 29.8	+0.1
	1.4nm,0.3s,baz=270,slow=23,SNR=5.0						
CBIJ				S	Sn	18 12 37.9	+5.8
	6.4nm,0.3s,baz=304,slow=24,SNR=8.7						
JOW	**Kunigami**	**14.91**	**293**	LR	LR	18 18 37.4	
	comp=Z,136nm,19.6s,baz=158,slow=34						
MJAR	**Matsushiro Arr**	**15.54**	**343**	P	Pn	18 13 41.0	-4.5
	0.1nm,0.3s,baz=187,slow=18,SNR=2.9						
WRA	**Warramunga Arr**	**42.36**	**193**	P	P	18 17 58.6	-0.3
	0.4nm,0.5s,baz=12,slow=8.6,SNR=8.6						
ASAR	**Alice Springs**	**46.06**	**192**	P	P	18 18 29.3	+0.8
	0.3nm,0.5s,baz=11,slow=7.6,SNR=6.9						
FINES	**FINESS Array B**	**83.37**	**335**	P	P	18 22 31.6	+0.1
	1.2nm,1.0s,baz=77,slow=6.3,SNR=4.4						
LPAZ	**La Paz**	**149.53**	**85**	PKPbc	PKPbc	18 29 54.4	+1.0
	0.5nm,0.4s,baz=350,slow=1.6,SNR=4.2						

MAN 21 18:14:58.0, 1034N×12500E, h27km, mb1.7, ML3.5, MS2.1, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.25**	**214**	*e*P	Pb	18 15 05.7	+1.3
MSLP				*e*S	Sb	18 15 09.8	+0.9
OCLP	**Ormoc**	**0.80**	**331**	*e*P	Pb	18 15 13.4	+0.2
PLP	**Palo**	**0.82**	**359**	*e*P	Pb	18 15 13.6	0.0
PLP				*e*S	Sb	18 15 25.6	+1.4
POLP	**Polilio Island**	**5.28**	**326**	*e*P	Pn	18 16 26.0	+11

TRN 21 18:33:30.4, 1739N×6045W, h35km, MD3.5, M3.3(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.22**	**209**	*e*P	Pn	18 33 51.9	+0.8
DEG				*e*S	Sn	18 34 08.5	+2.1
BPA	**Boggy Peak**	**1.39**	**256**	*e*P	Pn	18 33 54.0	+0.7
BPA				*e*S	Sn	18 34 13.0	+2.5
SEG	**Port Louis**	**1.41**	**226**	*e*P	Pn	18 33 55.3	+1.6
LZG	**Guadaloupe-1**	**1.78**	**226**	*e*P	Pn	18 34 01.3	+2.6
PHG	**Guadaloupe-2**	**1.79**	**220**	*e*P	Pn	18 34 01.4	+2.6

*CSEM **21** 18:39:19.8, 1272N×4722E, h9km, ML3.5, After DHMR*
DHMR 21 18:39:19.8±2.3, 1272N×4722E, h10km±21km, ML3.5, 1C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.04**	**308**	*e*P	Pn	18 39 56.2	+2.0
BDHA				*i* S	Sn	18 40 23.9	+4.2
BDHA				AML	AML	18 40 24.5	
	comp=N,1μm,0.3s						
BDHA	**Al Bayda'**	**2.04**	**308**	*e*P	Pn	18 39 56.2	+2.0
BDHA				*i* S	Sn	18 40 23.9	+4.2
	comp=N,578nm,0.3s						
LBOS		**2.24**	**301**	⇑*e*P	Pn	18 39 59.8	+2.9
LBOS				*i* S	Sn	18 40 28.9	+4.3
MUKL	**Al Mukalla**	**2.48**	**45**	⇓*e*P	Pn	18 40 03.1	+2.7
MUKL				*i* S	Sn	18 40 35.8	+5.0
MUKL				AML	AML	18 40 40.2	
	comp=N,140nm,0.6s						
TRBA	**At Turbah**	**3.07**	**280**	*e*P	Pn	18 40 09.9	+1.5
TRBA				*i* S	Sn	18 40 52.5	+7.3
TRBA				AML	AML	18 40 58.4	
	comp=N,274nm,0.7s						
TRBA	**At Turbah**	**3.07**	**280**	*e*P	Pn	18 40 09.9	+1.5
TRBA				*i* S	Sn	18 40 52.5	+7.3
	comp=N,137nm,0.7s						

*NEIC **21** 18:40:10.9, 3805N×2288E, h20km, MD3.5(ATH), After ATH.*
*ATH **21** 18:40:10.9, 3805N×2288E, h19km±1km, MD3.5/12*
*CSEM **21** 18:40:10.9, 3805N×2288E, h20km, MD3.5/12, After ATH*
*ISCJB **21** 18:40:12.0±0.7, 3806N±003×2291E±005, h16km±9km, Error ellipse: s-maj=7.1km s-min=4.7km az=98.9*
*THE **21** 18:40:15.9, 38.19N×2301E, h21km, ML3.2*

ISC 21 18:40:11.3±0.8, 3805N±004×2287E±005, h6km±7km, n26, σ0§87/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGER	**Gerania Oros**	**0.32**	**101**	*e*PB	**Pg**	**18 40 17.5**	**0.0**
NAIG	**Nisos Aigina**	**0.57**	**120**	*e*PN	**Pg**	**18 40 22.1**	**-0.2**
NAIG				*e*SN	**Sg**	**18 40 30.5**	**+0.7**
LKR	**Lokris**	**0.61**	**10**	*e*PB	**Pg**	**18 40 22.6**	**-0.4**
ATH	**Athens Observa**	**0.68**	**96**	*e*PN	**Pg**	**18 40 23.9**	**-0.4**
ATH				*e*SN	**Sg**	**18 40 33.5**	**+0.4**
PTL	**Penteli**	**0.79**	**90**	*e*PN	**Pg**	**18 40 26.0**	**-0.4**
AGG	**Agios Georgios**	**1.06**	**337**	*e*Pg	**Pg**	**18 40 31.4**	**-0.2**
AGG				*e*Sg	**Sg**	**18 40 46.3**	**+1.0**
RLS	**Riolos of Patr**	**1.10**	**271**	*e*PN	**Pn**	**18 40 32.2**	**-1.1**
RLS				*e*SN	**Sn**	**18 40 48.2**	**-0.7**
ITM	**Ithomi**	**1.14**	**221**	*e*PN	**Pn**	**18 40 32.3**	**-1.6**
EVR	**Evrytania**	**1.20**	**317**	*e*PN	**Pn**	**18 40 34.3**	**-0.3**
NEO	**Neokhori**	**1.29**	**12**	*e*PN	**Pn**	**18 40 35.0**	**-0.8**
VLI	**Veliai**	**1.33**	**178**	*e*PN	**Pn**	**18 40 35.4**	**-1.0**
XOR	**Xorichti**	**1.34**	**11**	*e*Pg	**Pg**	**18 40 35.8**	**-1.2**
KYTH	**Kithira**	**1.77**	**176**	*e*PN	**Pn**	**18 40 43.0**	**+0.5**
VLS	**Valsamata**	**1.80**	**275**	*e*PN	**Pn**	**18 40 44.0**	**+1.1**
LKD	**Levkas**	**1.86**	**291**	*e*Pb	**Pb**	**18 40 46.1**	**+0.4**
PAIG	**Paliouri**	**1.98**	**18**	*e*Pb	**Pb**	**18 40 48.3**	**-1.1**
LIT	**Litokhoron**	**2.07**	**352**	*e*Pb	**Pn**	**18 40 46.7**	**+0.1**
MEV	**Metsovon**	**2.15**	**324**	*e*Pn	**Pn**	**18 40 48.9**	**+1.1**
APE	**Apeiranthos**	**2.33**	**114**	*e*PN	**Pn**	**18 40 51.5**	**+1.3**
PLG	**Polygyros**	**2.36**	**11**	*e*PN	**Pn**	**18 40 49.7**	**-1.0**
IGT	**Igoumenitsa**	**2.47**	**308**	*e*Pn	**Pn**	**18 40 54.6**	**+2.5**
VAM	**Vamos**	**2.85**	**157**	*e*PN	**Pn**	**18 40 58.0**	**+0.7**
GRG	**Griva**	**2.92**	**353**	*e*Pn	**Pn**	**18 40 59.3**	**+0.9**
FNA	**Florina**	**2.96**	**338**	*e*Pn	**Pn**	**18 40 59.6**	**+0.7**
KNT	**Kendrikon**	**3.11**	**0**	*e*Pn	**Pn**	**18 41 00.9**	**0.0**
SRS	**Serrai**	**3.12**	**10**	*e*Pn	**Pn**	**18 41 00.6**	**-0.4**

IDC 21 18:43:10.5±1.9, 823S×11976E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.5/2, MS3.0/2, Ms1 3.0/2, ms1mx2.3/23, Error ellipse: s-maj=181.1km s-min=24.4km az=55.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.35**	**150**	Pn	Pn	18 45 54.5	+0.5
	0.1nm,0.3s,baz=44,slow=16,SNR=9.6						
FITZ				Sn	Sn	18 47 57.1	-4.5
	0.2nm,0.3s,baz=349,slow=20,SNR=3.4						
FITZ				LR	LR	18 51 03.5	
	comp=Z,36nm,20.0s,baz=41,slow=42						
WRA	**Warramunga Arr**	**18.30**	**131**	P	Pn	18 47 25.5	-0.2
	0.3nm,0.3s,baz=306,slow=15,SNR=12						
ASAR	**Alice Springs**	**20.47**	**140**	P	P	18 47 50.1	+0.3
	1.1nm,0.4s,baz=316,slow=10,SNR=18						
STKA	**Stephens Creek**	**31.08**	**142**	P	P	18 49 30.6	+0.2
	1.0nm,0.8s,baz=307,slow=10,SNR=2.9						
ASAJ	**Asahikawa**	**56.06**	**20**	LR	LR	19 17 23.7	
	comp=Z,34nm,18.8s,baz=341,slow=37						
MKAR	**Makanchi Array**	**64.13**	**332**	P	P	18 53 46.7	+0.1
	0.2nm,0.7s,baz=137,slow=6.7,SNR=4.3						

*NEIC **21** 18:50:07.1, 29.16S×6899W, h4km, ML3.7(GUC), After GUC.*
GUC 21 18:50:07.1±0.6, 2916S×6899W, h4km±9km, ML3.7, 3C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.50**	**275**	*e*P	Pn	18 50 33.7	-1.2
LCO				*i* S	Sn	18 50 54.6	-0.3
VACH	**Vallenar**	**1.66**	**290**	⇑*i*P	Pn	18 50 36.4	-0.6
VACH				*i* S	Sn	18 50 58.9	+0.2
VACH				AML	AML	18 50 59.4	
	comp=E,2μm,0.2s						
VACH	**Vallenar**	**1.66**	**290**	⇑*i*P	Pn	18 50 36.4	-0.6
VACH				*i* S	Sn	18 50 58.9	+0.2
TLL	**Tololo Astrono**	**1.87**	**237**	⇓*i*P	Pn	18 50 40.7	+0.8
TLL				*i* S	Sn	18 51 05.9	+2.0
TLL				AML	AML	18 51 10.9	
	comp=E,405nm,0.5s						
TLL	**Tololo Astrono**	**1.87**	**237**	⇓*i*P	Pn	18 50 40.7	+0.8
TLL				*i* S	Sn	18 51 05.9	+2.0
CDCH	**Caldera**	**2.64**	**322**	*e*P	Pn	18 50 51.9	+1.4
CDCH				AML	AML	18 51 27.9	
	comp=N,404nm,0.5s						
CHNG	**Los Chungos**	**3.47**	**218**	⇑*i*P	Pn	18 51 02.8	+0.9
CHNG				AML	AML	18 51 55.1	
	comp=E,231nm,0.4s						
FCH	**Farellones**	**4.30**	**195**	*e*P	Pn	18 51 15.1	+1.8

*CSEM **21** 18:55:18.4, 1250N×4662E, h3km, ML3.6, After DHMR*
DHMR 21 18:55:18.4±0.3, 1250N×4662E, h4km±5km, ML3.6, 4C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**1.79**	**325**	⇑*e*P	Pn	18 55 50.8	+0.8
BDHA				*i* S	Sn	18 56 16.3	+3.0
BDHA				AML	AML	18 56 17.5	
	comp=N,1μm,0.4s						
BDHA	**Al Bayda'**	**1.79**	**325**	⇑*e*P	Pn	18 55 50.8	+0.7
BDHA				*i* S	Sn	18 56 16.3	+3.1
	comp=N,683nm,0.4s						
LBOS		**1.91**	**316**	⇑*e*P	Pn	18 55 53.0	+1.3
TRBA	**At Turbah**	**2.55**	**287**	⇑*e*P	Pn	18 56 02.9	+2.4
TRBA				*i* S	Sn	18 56 37.7	+5.7
TRBA				AML	AML	18 56 51.5	
	comp=N,217nm,0.6s						
HAJJ	**Hajjah**	**4.33**	**318**	*i* S	Sn	18 57 21.2	+5.4
HAJJ	**Hajjah**	**4.33**	**318**	*i* S	Sn	18 57 21.2	+5.4

*ISCJB **21** 18:56:22.7±0.6, 3659N±004×709E±0.1, h150km, Error ellipse: s-maj=13.7km s-min=5.2km az=175.3*
*NNC **21** 18:56:28.2±5.8, 3697N×7080E, h157km±100km, mb2.5, mpv3.2, Error ellipse: s-maj=51.8km s-min=28.9km az=17.0*

ISC 21 18:56:22.7±0.7, 3663N±004×706E±01, h150km, n13, σ1§11/17, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.01**	**158**	P	**Pn**	**18 57 10.0**	**-0.1**
CHCP	**Chirah Chowk**	**3.70**	**142**	P	**Pn**	**18 57 18.8**	**-0.2**
THW	**Thamme Wali**	**3.94**	**165**	⇑P	**Pn**	**18 57 22.2**	**0.0**
THW				S	**Sn**	**18 58 05.0**	**-3.4**
SBDP	**Sheikh Budin**	**4.32**	**177**	P	**Pn**	**18 57 26.7**	**-0.4**
DRP	**Derazinda**	**4.88**	**184**	P	**Pn**	**18 57 35.0**	**+0.5**
AML	**Almayashu**	**6.01**	**23**	P	**Pn**	**18 57 50.7**	**+1.2**
	SNR=6.8						
UCH	**Uchtor**	**6.38**	**27**	P	**Pn**	**18 57 55.0**	**+0.6**
	SNR=9.9						
KK31	**Karatay Array**	**6.47**	**360**	P	**Pn**	**18 57 57.3**	**+1.7**
	1.0nm,0.3s,baz=177,slow=14,SNR=86						
KK31				⇑S	**Sn**	**18 59 06.9**	**-1.5**
	3.5nm,0.4s,baz=180,slow=21						
EKS2	**Erkin-Say**	**6.52**	**21**	P	**Pn**	**18 57 57.5**	**+1.2**
	SNR=5.1						
USP	**Ospenovka**	**7.29**	**23**	P	**Pn**	**18 58 06.3**	**-0.3**
	SNR=6.9						
TKM2	**Tokmak 2**	**7.39**	**30**	P	**Pn**	**18 58 08.1**	**+0.2**
	SNR=8.4						
TKM2	**Tokmak 2**	**7.39**	**30**	⇑P	**Pn**	**18 58 07.4**	**-0.5**
	1.3nm,0.9s						
TKM2				⇑S	**Sn**	**18 59 27.2**	**-3.2**
	0.2nm,0.8s						
AB31	**Akbulak array**	**14.80**	**332**	⇓P	**Pn**	**18 59 48.4**	**+3.8**
	0.9nm,0.9s,baz=147,slow=9.7,SNR=5.8						
AB31				⇑S	**Sn**	**19 02 28.0**	**-0.9**
	0.2nm,0.5s,baz=0.0,slow=0.1,SNR=3.8						

*IDC **21** 19:08:21.2±1.8, 4982N×15966E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=50.2km s-min=28.2km az=92.0*
*NEIC **21** 19:08:24.1±0.6, 4971N×15906E, h10km, mb4.1/2, Error ellipse: s-maj=13.8km s-min=11.2km az=147.0*
*MOS **21** 19:08:26.6±1.2, 4978N×159.18E, h

NLC				S	Sn	19 09 55.3	-2.6
NLC	**Nalytchevo**	**3.37**	**1**	*e*P	**Pn**	**19 09 18.4**	**-0.7**
NLC				*e*S	**Sn**	**19 09 55.5**	**-2.4**
APC	**Apacha**	**3.38**	**338**	*i*P	**Pn**	**19 09 19.9**	**+0.7**
APC				*e*S	**Sn**	**19 09 57.8**	**-0.3**
UGLR	**Uglovaya**	**3.42**	**356**	*i*P	**Pn**	**19 09 19.9**	**+0.2**
UGLR				*e*S	**Sn**	**19 09 58.1**	**-0.9**
SMAR	**Somma**	**3.47**	**356**	*e*P	**Pn**	**19 09 20.4**	**-0.1**
SMAR				*e*S	**Sn**	**19 09 59.7**	**-0.7**
AVH	**Avacha**	**3.48**	**355**	*e*P	**Pn**	**19 09 21.0**	**+0.4**
AVH				*e*S	**Sn**	**19 09 59.7**	**-0.8**
SDLR	**Sedlovina**	**3.48**	**357**	*i*P	**Pn**	**19 09 20.4**	**-0.2**
KOK	**Koryaka**	**3.51**	**354**	*i*P	**Pn**	**19 09 21.7**	**+0.7**
KOK				*e*S	**Sn**	**19 10 01.3**	**0.0**
GNL	**Ganaly**	**3.98**	**349**	*e*P	**Pn**	**19 09 28.2**	**+0.8**
GNL				*i*S	**Sn**	**19 10 13.1**	**+0.3**
KII	**Karymskiy**	**4.24**	**2**	P	**Pn**	**19 09 32.2**	**+1.2**
KII				S	**Sn**	**19 10 19.4**	**+0.1**
KII	**Karymskiy**	**4.24**	**2**	*i*P	**Pn**	**19 09 32.0**	**+1.0**
KII				*e*S	**Sn**	**19 10 19.4**	**+0.1**
MKZ	**Mys Kozlova**	**5.00**	**17**	P	**Pn**	**19 09 40.7**	**-0.8**
MKZ				S	**Sn**	**19 10 34.7**	**-3.4**
MKZ	**Mys Kozlova**	**5.00**	**17**	*i*P	**Pn**	**19 09 40.6**	**-0.9**
MKZ				*e*S	**Sn**	**19 10 34.5**	**-3.6**
TUMR	**Tumrok**	**5.52**	**6**	*e*P	**Pn**	**19 09 50.0**	**+1.4**
KMNR	**Kamenistaya**	**5.99**	**6**	*e*P	**Pn**	**19 09 56.7**	**+1.6**
ESO	**Esso**	**6.14**	**357**	*i*P	**Pn**	**19 09 58.1**	**+1.0**
KPT	**Kopyto**	**6.20**	**5**	*i*P	**Pn**	**19 09 59.2**	**+1.2**
KOZ	**Kozyrevsk**	**6.28**	**3**	P	**Pn**	**19 10 00.5**	**+1.5**
KOZ	**Kozyrevsk**	**6.28**	**3**	*i*P	**Pn**	**19 10 00.7**	**+1.7**
KOZR	**Kozyr**	**6.29**	**4**	PN	**Pn**	**19 10 00.5**	**+1.4**
LGNR	**Loginova**	**6.35**	**8**	*i*P	**Pn**	**19 10 01.8**	**+1.7**
CIRR	**Tsirk**	**6.39**	**8**	*i*P	**Pn**	**19 10 02.2**	**+1.6**
KRSR	**Krestovskiy**	**6.47**	**7**	*e*P	**Pn**	**19 10 03.0**	**+1.3**
SRDR	**Sredinnyy**	**6.53**	**2**	*e*P	**Pn**	**19 10 03.6**	**+1.1**
KLY	**Klyuchi**	**6.58**	**7**	P	**Pn**	**19 10 04.5**	**+1.4**
KLY	**Klyuchi**	**6.58**	**7**	*i*P	**Pn**	**19 10 04.5**	**+1.4**
KBTR	**Krutoberegovo**	**6.77**	**17**	*e*P	**Pn**	**19 10 05.7**	**-0.1**
KBTR				*e*S	**Sn**	**19 11 18.4**	**-3.3**
KBG	**Krutoberegovo**	**6.79**	**17**	*e*P	**Pn**	**19 10 06.5**	**+0.4**
KBG				*e*S	**Sn**	**19 11 19.3**	**-3.0**
BKI	**Bering**	**6.80**	**35**	*e*P	**Pn**	**19 10 03.7**	**-2.5**
BKI				*e*S	**Sn**	**19 11 13.9**	**-8.5**
BKI				Smax			
	comp=E,190nm,0.5s						
BDR	**Baidarnaya**	**6.88**	**9**	*i*P	**Pn**	**19 10 08.3**	**+1.0**
SMKR	**Semkarok**	**6.92**	**10**	*e*P	**Pn**	**19 10 08.5**	**+0.6**
SRKR	**Sorokina**	**6.96**	**9**	*i*P	**Pn**	**19 10 09.3**	**+0.9**
SMY	**Shemya**	**9.78**	**67**	*e*PN	**Pn**	**19 10 46.6**	**-0.5**
SMY				pmax	pmax		
	comp=Z,41nm,0.4s						
SMY	**Shemya**	**9.78**	**67**	*e*P	**Pn**	**19 10 46.6**	**-0.5**
	comp=Z,41nm,0.4s						
SMY				*e*S	**Sn**	**19 12 27.2**	**-8.4**
YSS	**Yuzh-Sakhalins**	**11.31**	**262**	*e*PN	**Pn**	**19 11 09.8**	**+1.8**
ASAJ	**Asahikawa**	**12.69**	**250**	Pn	**Pn**	**19 11 25.6**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=96,slow=17,SNR=11						
ASAJ	**Asahikawa**	**12.69**	**250**	PN	**Pn**	**19 11 25.7**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAMR	**Kamenskoye**	**13.26**	**14**	*i*P	**Pn**	**19 11 36.0**	**+1.4**
MJAR	**Matsushiro Arr**	**20.17**	**237**	P	**P**	**19 13 01.4**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=34,slow=9.2,SNR=4.2						
MDJ	**Mudanjiang**	**20.70**	**267**	P	**P**	**19 13 07.5**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,50nm,4.0s						
MDJ	**Mudanjiang**	**20.70**	**267**	P	**P**	**19 13 04.0**	**-2.1**
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**49.14**	**298**	P	**P**	**19 17 11.7**	**-1.6**
	comp=Z,0.5nm,0.7s,mb3.7,baz=57,slow=7.1,SNR=6.8						
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P	**P**	**19 17 28.9**	**-2.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**51.56**	**311**	*e*P	**P**	**19 17 28.9**	**-2.6**
	comp=Z,1.6nm,0.5s,mb4.2						
BRVK	**Borovoye**	**52.08**	**310**	*e*P	**P**	**19 17 33.7**	**-1.6**
ZRNK	**Zerenda**	**52.77**	**311**	*e*P	**P**	**19 17 38.8**	**-1.7**
FINES	**FINESS Array B**	**62.93**	**337**	P	**P**	**19 18 49.9**	**-1.9**
	comp=Z,0.5nm,0.5s,mb3.9,baz=57,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**72.86**	**204**	P	**P**	**19 19 51.8**	**-2.4**
	comp=Z,1.1nm,1.0s,mb3.7,baz=19,slow=6.2,SNR=5.0						
ASAR	**Alice Springs**	**76.52**	**204**	P	**P**	**19 20 14.1**	**-1.4**
	comp=Z,0.3nm,0.8s,mb3.3,baz=11,slow=5.9,SNR=3.3						

*ISCJB **21** 19:17:31.7±1.7, 497S±02×1616E±0.1, h10km, mb4.1/3, Error ellipse: s-maj=33.8km s-min=8.3km az=146.7*
*IDC **21** 19:17:31.5±15.0, 4997S×161.12E, h0km, mb4.1/3, mb1 4.4/4, mb1mx4.0/11, mbtmp4.3/4, ML4.0/1, Error ellipse: s-maj=320.0km s-min=48.8km az=174.0*

ISC 21 19:17:33.3±1.7, 497S±02×1615E±01, h10km, n17, σ1§07/21, mb4.1/3, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**5.21**	**59**	PN	**Pn**	**19 18 50.7**	**-0.5**
APZ				SN	**Sn**	**19 19 48.2**	**-3.2**
DCZ	**Deep Cove**	**5.72**	**44**	PN	**Pn**	**19 18 58.7**	**+0.4**
WHZ	**Wether Hill Ro**	**5.79**	**51**	PN	**Pn**	**19 18 59.2**	**-0.1**
WHZ				SN	**Sn**	**19 20 04.6**	**-1.2**
SYZ	**Scrubby Hill**	**6.03**	**61**	PN	**Pn**	**19 19 02.2**	**-0.3**
SYZ				SN	**Sn**	**19 20 06.1**	**-5.4**
MLZ	**Mavora Lakes**	**6.29**	**48**	PN	**Pn**	**19 19 06.6**	**+0.5**
MLZ				SN	**Sn**	**19 20 18.1**	**0.0**
TUZ	**Tuapeka**	**6.65**	**58**	PN	**Pn**	**19 19 11.6**	**+0.6**
MSZ	**Milford Sound**	**6.69**	**43**	PN	**Pn**	**19 19 13.8**	**+2.2**
EAZ	**Earnscleugh**	**6.94**	**53**	PN	**Pn**	**19 19 14.9**	**-0.2**
WKZ	**Wanaka**	**7.08**	**49**	PN	**Pn**	**19 19 18.3**	**+1.3**
JCZ	**Jackson Bay**	**7.53**	**44**	PN	**Pn**	**19 19 25.4**	**+2.2**
ODZ	**Otahua Downs**	**7.77**	**56**	PN	**Pn**	**19 19 24.8**	**-1.7**
WVZ	**Waitaha Valley**	**9.21**	**47**	*e*PN	**Pn**	**19 19 46.7**	**+0.5**
QRZ	**Quartz Range**	**11.80**	**45**	*e*PN	**Pn**	**19 20 21.5**	**-0.2**
URZ	**Urewera**	**16.01**	**50**	Pn	**Pn**	**19 21 22.7**	**+4.1**
	0.6nm,0.3s,baz=246,slow=6.9,SNR=4.5						
STKA	**Stephens Creek**	**23.23**	**313**	P	**P**	**19 22 40.5**	**-0.2**
	3.9nm,0.9s,mb3.8,baz=133,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**33.80**	**310**	P	**P**	**19 24 15.2**	**-0.3**
	3.0nm,0.7s,mb4.3,baz=147,slow=8.4,SNR=45						
WRA	**Warramunga Arr**	**36.77**	**314**	P	**P**	**19 24 39.8**	**-1.2**
	2.4nm,0.8s,mb4.0,baz=146,slow=8.0,SNR=10.0						

JMA 21 19:24:04.1±0.2, 4389N×14800E, h92km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.72**	**253**	P	Pn	19 24 33.0	+0.3
NEM2				*e*S	Sn	19 24 55.3	+0.8
JRA	**Rausu**	**2.08**	**272**	P	Pn	19 24 37.6	+0.2
JRA				*e*S	Sn	19 25 03.6	+0.8
JNK	**Nakash**	**2.40**	**264**	P	Pn	19 24 41.8	+0.2
JNK				*e*S	Sn	19 25 10.1	-0.2
JAK	**Akkeshi**	**2.57**	**251**	P	Pn	19 24 44.4	+0.6
JAK				*e*S	Sn	19 25 15.2	+0.9
JTKR	**Abashiri--Toko**	**2.96**	**273**	P	Pn	19 24 49.1	0.0
JAR	**Ashorobuto**	**3.13**	**261**	P	Pn	19 24 52.5	+1.1
JAR				*e*S	Sn	19 25 28.9	+1.1
JCH	**Churui**	**3.62**	**251**	P	Pn	19 24 58.8	+0.8
JCH				*e*S	Sn	19 25 39.3	-0.4
JKK2	**Kamakawa 2**	**3.80**	**272**	P	Pn	19 25 01.2	+0.8
JSE	**Soyaes**	**4.02**	**287**	P	Pn	19 25 02.4	-1.1
JNBK	**Urakawa-nobuka**	**4.17**	**249**	P	Pn	19 25 06.3	+0.9
JNBK				*e*S	Sn	19 25 51.0	-1.9
JKB	**Kayabe**	**5.50**	**251**	P	Pn	19 25 24.3	+0.9
JKB				*e*S	Sn	19 26 22.8	-2.5
JOT	**Ohata**	**5.71**	**246**	P	Pn	19 25 27.0	+0.7
JOT				*e*S	Sn	19 26 27.2	-3.2
JANG	**Nango**	**5.96**	**236**	*e*S	Sn	19 26 34.5	-2.2

NEIC 21 19:25:34.0, 4560N×11191W, h11km, ML3.5(BUT), 6C-4D, After BUT., Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**0.20**	**76**	⇑*i*Pg	Pg	19 25 37.9	-0.4
BOZ				*e*S	Sg	19 25 40.6	-0.7
DLMT	**Dillon**	**0.54**	**244**	⇑*i*Pg	Pg	19 25 44.7	+0.2
DLMT				*e*Sn	Sg	19 25 51.4	-0.2
QLMT	**Earthquake Lak**	**0.84**	**156**	*e*Pg	Pg	19 25 50.2	-0.1
MCMT	**McKenzie Canyo**	**1.02**	**221**	*e*P	Pb	19 25 53.5	-0.1
HRY	**Holter Researc**	**1.11**	**3**	*e*P	Pb	19 25 55.2	0.0
YMR	**Madison River**	**1.15**	**144**	*e*Pn	Pn	19 25 55.8	-0.2
YFT	**Old Faithful**	**1.38**	**146**	*e*Pn	Pn	19 26 00.9	+1.8
LKWY	**Lake**	**1.49**	**134**	*e*P	Pn	19 26 04.6	+4.0
GCMT	**Greycliff**	**1.58**	**82**	*e*P	Pn	19 26 03.5	+1.6
CHMT	**Chamberlain Mo**	**1.61**	**325**	*e*Pn	Pn	19 26 03.4	+1.1
CHMT				*e*Pg	Pg	19 26 04.9	0.0
IMW	**Indian Meadow**	**1.84**	**158**	*e*Pn	Pn	19 26 07.5	+2.1
MSO	**Missoula**	**1.87**	**312**	*e*Pn	Pn	19 26 06.8	+0.9
REDW	**Red Top Meadow**	**2.36**	**161**	*e*P	Pn	19 26 16.0	+3.3
REDW				*e*Sn	Sg	19 27 01.5	+12
HLID	**Hailey**	**2.71**	**222**	*e*Pn	Pn	19 26 19.2	+1.8
EGMT	**Eagleton**	**2.84**	**31**	*e*Pn	Pn	19 26 19.9	+0.7
EGMT				*e*Pg	Pg	19 26 26.9	-1.6
AHID	**Auburn Hatcher**	**2.89**	**168**	*e*Pn	Pn	19 26 22.0	+2.1
AHID				*e*Sg	Sg	19 27 18.2	+11
WALA	**Waterton Lakes**	**3.72**	**339**	*e*Pg	Pg	19 26 42.0	-3.2
HVU	**Hansel Valley**	**3.87**	**190**	*e*Pg	Pg	19 26 41.7	-6.4
BMO	**Blue Mountains**	**3.88**	**261**	*e*Pn	Pn	19 26 34.2	+0.7
BMO				*e*Pg	Pg	19 26 45.4	-3.0
BMO				*e*Sn	Sg	19 27 48.1	+9.3
HWUT	**Hardware Ranch**	**4.00**	**176**	*e*Pg	Pg	19 26 46.0	-4.6
SPUT	**South Promonto**	**4.31**	**185**	*e*P	Pb	19 26 48.0	-1.7
TCUT	**Toone Canyon**	**4.50**	**175**	*e*P	Pb	19 26 54.1	+1.2
M13A	**Montello**	**4.54**	**202**	⇓P	Pn	19 26 45.3	+2.7
	baz=4.5						
M12A	**Wells**	**4.72**	**209**	⇓P	Pn	19 26 48.5	+3.5
	baz=4.7						
BGU	**Big Grassy Mou**	**4.74**	**190**	*e*Pg	Pb	19 26 55.2	-1.9
N13A	**West Wendover**	**5.03**	**200**	⇓P	Pn	19 26 53.3	+4.0
	baz=5.0						
RWWY	**Rawlins**	**5.19**	**137**	*e*Pg	Pg	19 27 13.0	-0.3
	27nm,0.7s						
N12A	**Wells--Clov Va**	**5.27**	**207**	⇑P	Pn	19 26 57.5	+5.0
	baz=5.3						
HAWA	**Hanford**	**5.37**	**281**	Pn	Pn	19 26 55.4	+1.4
	1.6nm,0.3s						
L08A	**Fields**	**5.76**	**236**	⇓P	Pn	19 27 04.2	+4.8
	baz=5.8						
K07A	**Rock Creek Ran**	**6.03**	**244**	⇑P	Pn	19 27 07.7	+4.7
	baz=6.0						
J06A	**Christmas Vall**	**6.35**	**251**	⇑P	Pn	19 27 10.0	+2.6
	baz=6.3						
L07A	**Adell**	**6.46**	**239**	⇑P	Pb	19 27 26.8	+0.5
	baz=6.4						
SMCO	**Snowmass**	**7.38**	**149**	*e*Pg	Pg	19 27 53.7	-1.6
	22nm,1.0s						

*IDC **21** 19:25:45.2±3.9, 4557N×112.35W, h0km, mb1 4.2/2, mb1mx3.6/22, mbtmp4.0/2, ML3.3/2, Error ellipse: s-maj=52.1km s-min=13.3km az=77.0*
*ISCJB **21** 19:25:46.7±0.5, 4561N±004×112.05W±005, h11km, Error ellipse: s-maj=5.1km s-min=4.6km az=9.3*
*NEIC **21** 19:25:48.0, 4561N×11192W, h11km, ML3.9(BUT), After BUT.*
NEIC Felt in the Pony area.

ISC 21 19:25:48.9±0.4, 4561N±003×11193W±004, h11km, n37, σ1§47/46, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**0.21**	**79**	*e*P	**Pg**	**19 25 52.3**	**-1.0**
BOZ				*e*Sg	**Sg**	**19 25 55.3**	**-1.0**
DLMT	**Dillon**	**0.53**	**243**	*e*Pn	**Pg**	**19 25 58.5**	**-0.7**
DLMT				*e*Sn	**Sg**	**19 26 05.7**	**-0.5**
YMR	**Madison River**	**1.16**	**144**	*e*Pn	**Pn**	**19 26 11.6**	**+0.6**
YMR				*e*Sn	**Sn**	**19 26 25.3**	**-1.5**
YFT	**Old Faithful**	**1.39**	**146**	*e*Pn	**Pn**	**19 26 15.4**	**+1.3**
YFT				*e*Sn	**Sn**	**19 26 32.3**	**-0.2**
LKWY	**Lake**	**1.50**	**133**	*e*Pn	**Pn**	**19 26 17.3**	**+1.6**
GCMT	**Greycliff**	**1.59**	**82**	*e*Pn	**Pn**	**19 26 17.2**	**+0.2**
CHMT	**Chamberlain Mo**	**1.60**	**325**	*e*Pn	**Pn**	**19 26 18.0**	**+1.0**
IMW	**Indian Meadow**	**1.85**	**157**	*e*Pn	**Pn**	**19 26 22.2**	**+1.7**
IMW				*e*Sn	**Sn**	**19 26 46.2**	**+2.4**
MSO	**Missoula**	**1.86**	**312**	*e*Pn	**Pn**	**19 26 20.9**	**+0.3**
MSO				*e*Sn	**Sn**	**19 26 45.3**	**+1.2**
REDW	**Red Top Meadow**	**2.37**	**161**	*e*Pn	**Pn**	**19 26 30.1**	**+2.5**
HLID	**Hailey**	**2.71**	**222**	*e*Pn	**Pn**	**19 26 33.9**	**+1.6**
EGMT	**Eagleton**	**2.84**	**31**	*e*Pn	**Pn**	**19 26 35.0**	**+0.8**
AHID	**Auburn Hatcher**	**2.90**	**168**	*e*Pn	**Pn**	**19 26 37.0**	**+2.1**
PDAR	**Pinedale Array**	**3.31**	**148**	Pn	**Pn**	**19 26 32.8**	**-7.7**
	1.0nm,0.3s,baz=342,slow=19,SNR=18						
PDAR				Pg	**Pg**	**19 26 47.7**	**-4.6**
	4.9nm,0.3s,baz=343,slow=18,SNR=26						
PDAR				Lg		19 27 32.5	
	2.8nm,0.3s,baz=347,slow=19,SNR=3.7						
WALA	**Waterton Lakes**	**3.71**	**339**	*e*Pg	**Pg**	**19 26 54.5**	**-5.4**
HVU	**Hansel Valley**	**3.87**	**189**	*e*P	**Pb**	**19 26 54.4**	**-2.8**
BMO	**Blue Mountains**	**3.88**	**261**	*e*Pg	**Pg**	**19 26 59.8**	**-3.3**
HWUT	**Hardware Ranch**	**4.01**	**176**	*e*Pg	**Pg**	**19 27 00.6**	**-5.0**
SPUT	**South Promonto**	**4.31**	**185**	*e*P	**Pb**	**19 27 03.3**	**-1.4**
NEW	**Newport**	**4.44**	**309**	*e*P	**Pn**	**19 26 55.5**	**-0.7**
BGU	**Big Grassy Mou**	**4.75**	**190**	*e*Pg	**Pg**	**19 27 10.8**	**-9.0**
NOQ	**North Oquirrh**	**4.95**	**182**	*e*Pg	**Pg**	**19 27 16.7**	**-7.0**
DAU	**Daniels Canyon**	**5.21**	**174**	Pn	**Pn**	**19 27 06.8**	**0.0**
HAWA	**Hanford**	**5.36**	**281**	*e*Pn	**Pn**	**19 27 09.7**	**+0.9**
ELK	**Elko**	**5.43**	**208**	*e*Pn	**Pn**	**19 27 06.4**	**-3.3**
	34nm,1.1s						
ELK				P		19 27 20.2	
DUG	**Dugway**	**5.45**	**187**	P	**Pn**	**19 27 11.2**	**+1.3**
	17nm,0.6s						
NLU	**North Lily Min**	**5.65**	**181**	Pn	**Pn**	**19 27 10.2**	**-2.6**
WVOR	**Wild Horse Val**	**5.79**	**239**	*e*Pn	**Pn**	**19 27 10.2**	**-4.4**
	26nm,0.7s						
TMUT	**Trail Mountain**	**6.33**	**175**	*e*Pn	**Pn**	**19 27 22.2**	**+0.2**
PHWY	**Pilot Hill**	**6.38**	**130**	Pn	**Pn**	**19 27 22.4**	**-0.3**
PHWY				*e*Pg	**Pg**	**19 27 46.2**	**-4.7**
PHWY				*e*Sg	**Sg**	**19 29 07.5**	**-6.0**
SRU	**San Rafael**	**6.57**	**170**	*e*Pn	**Pn**	**19 27 24.1**	**-1.3**
	26nm,0.8s						
MSU	**Marysvale**	**7.09**	**182**	Pn	**Pn**	**19 27 34.3**	**+1.8**
ISCO	**Idaho Springs**	**7.43**	**139**	Pn	**Pn**	**19 27 38.9**	**+1.7**
	3.1nm,0.6s						
EDM	**Edmonton**	**7.68**	**354**	*e*Pn	**Pn**	**19 27 40.0**	**-0.6**
ULM	**Lac du Bonnet**	**11.72**	**61**	Pn	**Pn**	**19 28 34.1**	**-1.9**
	0.8nm,0.3s,baz=252,slow=12,SNR=7.6						
ULM				Pg	Pn	19 29 20.0	+44
	1.3nm,0.3s,baz=253,slow=15,SNR=5.9						
ULM				Lg		19 31 49.8	
	0.6nm,0.3s,baz=340,slow=18,SNR=4.1						
YKA	**Yellowknife Ar**	**16.99**	**356**	P	**Pn**	**19 29 42.7**	**-3.8**
	baz=173,slow=13,SNR=5.7						
YKA				Lg		19 34 36.4	
	baz=168,slow=28,SNR=4.5						
YKA	**Yellowknife Ar**	**16.99**	**356**	P	**Pn**	**19 29 42.7**	**-3.8**
YKA				Lg		19 34 36.4	

MOS 21 19:33:57.6±0.2, 4268N×4438E, h4km, mb3.5/1, 1D, Error ellipse: s-maj=23.5km s-min=10.9km az=91.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.16**	**338**	⇓*i*PG	Pg	19 34 02.0	+1.2
ZEI	**Tsey**	**0.37**	**285**	*e*PG	Pg	19 34 06.1	+1.4
ZEI				*e*S	Sg	19 34 11.5	+2.1
VLKR	**Vladikavkaz**	**0.43**	**31**	*e*PG	Pg	19 34 07.1	+1.2
VLKR				*e*S	Sg	19 34 13.2	+1.8
KORR	**Kora**	**0.47**	**331**	*e*PG	Pg	19 34 07.9	+1.3
KORR				*e*S	Sg	19 34 14.7	+2.0
SNJR	**Sundja**	**0.50**	**39**	*e*PG	Pg	19 34 08.4	+1.1
SNJR				*e*S	Sg	19 34 15.6	+1.8
ARNR	**Ardon**	**0.52**	**352**	*e*PG	Pg	19 34 08.8	+1.3
ARNR				*e*S	Sg	19 34 16.3	+2.0
BTKR	**Batakoyurt**	**0.70**	**10**	*e*PG	Pg	19 34 12.3	+1.2
BTKR				*e*S	Sg	19 34 22.3	+2.0

*ISCJB **21** 19:53:41.2±0.2, 4579N×001×650E±002, h7km±2km, Error ellipse: s-maj=2.3km s-min=1.7km az=159.2*
*CSEM **21** 19:53:43.2±0.1, 4575N×663E, h10km, ML2.7/24, Error ellipse: s-maj=1.4km s-min=0.9km az=86.0*
*NEIC **21** 19:53:43.1, 4576N×665E, h4km, ML2.0(ZUR), ML2.4(STR), ML2.7(LDG), After STR.*
*STR **21** 19:53:43.1±0.1, 4576N×665E, h4km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 19:53:43.2±0.0, 4576N×661E, h3km, Md2.8/2, Ml2.7/26, Error ellipse: s-maj=0.7km s-min=0.5km az=92.0*
*ZUR **21** 19:53:43.4, 4579N×665E, h8km±6km, ML2.0/10*
*GEN **21** 19:53:43.2, 4577N×667E, h0km, ML2.0*

ISC 21 19:53:42.4±0.2, 4576 9N±0010×656E±002, h12km±2km, n104, σ0§71/233, 8C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSL	**Roselend**	**0.09**	**151**	Pg	**Pg**	**19 53 45.2**	**+0.1**
RSL				Sg	**Sg**	**19 53 46.5**	**-0.6**
LPL	**La Plagne**	**0.28**	**155**	*e*Pg	**Pg**	**19 53 48.6**	**+0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**19 53 51.9**	**0.0**
	152nm,0.2s						
LPL	**La Plagne**	**0.28**	**155**	*e*Pg	**Pg**	**19 53 48.6**	**+0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**19 53 51.9**	**0.0**
	76nm,0.2s						
LPG	**La Plagne**	**0.30**	**154**	*e*Pg	**Pg**	**19 53 49.1**	**+0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 53 52.2**	**-0.4**
	116nm,0.2s						
LPG	**La Plagne**	**0.30**	**154**	*e*Pg	**Pg**	**19 53 49.1**	**+0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**19 53 52.2**	**-0.4**
	58nm,0.2s						
EMV	**Vieux Emosson**	**0.38**	**38**	⇑*i*Pg	**Pg**	**19 53 50.6**	**+0.7**
	344nm,0.1s						
EMV				*e*Sg	**Sg**	**19 53 54.9**	**0.0**
	344nm,0.1s						
EMV	**Vieux Emosson**	**0.38**	**38**	⇑*i*P	**Pg**	**19 53 50.1**	**+0.2**
EMV	**Vieux Emosson**	**0.38**	**38**	⇑*i*Pg	**Pg**	**19 53 50.6**	**+0.7**
	344nm,0.1s						
EMV				*e*Sg	**Sg**	**19 53 54.9**	**0.0**
	344nm,0.1s						
SALAN	**Lac Salanfe**	**0.47**	**37**	⇑*i*Pg	**Pg**	**19 53 51.7**	**+0.1**
	49nm,0.1s						
OG01	**Vacheresse**	**0.57**	**8**	Pg	**Pg**	**19 53 54.2**	**+0.8**
GRYON	**Gryon**	**0.61**	**38**	*e*Sg	**Pg**	**19 53 54.3**	**0.0**
	27nm,0.2s						
GRYON	**Gryon**	**0.61**	**38**	*e*Pg	**Sg**	**19 54 01.8**	**-0.6**
	27nm,0.2s						
AIGLE	**Aigle**	**0.63**	**25**	⇑*i*Pg	**Pg**	**19 53 54.9**	**+0.2**
	107nm,0.4s						
GDM	**Grand'Maison**	**0.65**	**209**	Pg	**Pg**	**19 53 55.3**	**+0.4**
DIX	**Grande Dixence**	**0.67**	**62**	*e*Pg	**Pg**	**19 53 55.1**	**-0.2**
	196nm,0.4s						
DIX				*e*Sg	**Sg**	**19 54 03.4**	**-0.7**
	196nm,0.4s						
BNI	**Bardonecchia**	**0.72**	**173**	*e*P	**Pg**	**19 53 56.3**	**0.0**
BNI	**Bardonecchia**	**0.72**	**173**	*e*P	**Pg**	**19 53 56.3**	**0.0**
GRN	**Grenoble**	**0.78**	**228**	Pg	**Pg**	**19 53 58.7**	**+1.3**
SENIN	**Lac Senin**	**0.79**	**40**	⇑*i*Pg	**Pg**	**19 53 57.5**	**0.0**
	85nm,0.3s						
RSP	**Reno Superiore**	**0.79**	**141**	Pg	**Pg**	**19 53 58.0**	**+0.4**
RSP				Sg	**Sg**	**19 54 07.5**	**-0.4**
RSP	**Reno Superiore**	**0.79**	**141**	P	**Pg**	**19 53 57.8**	**+0.2**
RSP	**Reno Superiore**	**0.79**	**141**	Pg	**Pg**	**19 53 58.0**	**+0.4**
RSP				Sg	**Sg**	**19 54 07.5**	**-0.4**
GIMEL	**Gimel**	**0.79**	**345**	*e*Pg	**Pg**	**19 53 58.7**	**+1.0**
	281nm,0.1s						
OG05	**Jujurieux**	**0.82**	**290**	Pg	**Pg**	**19 53 59.9**	**+1.7**
RRL	**Cesana Torines**	**0.86**	**169**	P	**Pg**	**19 53 59.4**	**+0.4**
TRAV		**0.87**	**107**	P	**Pg**	**19 53 58.6**	**-0.5**
CABF	**La Chapelle**	**0.91**	**339**	*e*Pg	**Pg**	**19 54 00.9**	**+1.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**19 54 12.9**	**+1.3**
	37nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**0.91**	**339**	*e*Pg	**Pg**	**19 54 00.9**	**+1.1**
	SNR=1.0			

HINF			*e*Sg	**Sg**	**19 54 48.1**	**-0.4**
	4.3nm,0.2s,SNR=1.0					
SMF	**Signal de Mont**	**2.08 296**	*e*Pg	**Pg**	**19 54 22.7**	**+0.4**
	SNR=1.0					
SMF			*e*Sn	**Sn**	**19 54 43.1**	**+0.2**
SMF			*e*Sg	**Sg**	**19 54 49.3**	**0.0**
	13nm,0.2s,SNR=1.0					
SMF	**Signal de Mont**	**2.08 296**	*e*Pn	**Pn**	**19 54 17.9**	**+0.8**
SMF			*e*Pg	**Pg**	**19 54 22.7**	**+0.4**
SMF			*e*Sn	**Sn**	**19 54 43.1**	**+0.2**
SMF			*e*Sg	**Sg**	**19 54 49.3**	**0.0**
SMF	**Signal de Mont**	**2.08 296**	*e*Pg	**Pg**	**19 54 22.7**	**+0.4**
	SNR=1.0					
SMF			*e*Sn	**Sn**	**19 54 43.1**	**+0.2**
SMF			*e*Sg	**Sg**	**19 54 49.3**	**0.0**
	6.3nm,0.2s,SNR=1.0					
FRF	**La Foret Royal**	**2.21 178**	*e*Pg	**Pg**	**19 54 24.1**	**-0.6**
	SNR=1.0					
FRF			*e*Sg	**Sg**	**19 54 51.6**	**-1.7**
	4.9nm,0.3s,SNR=1.0					
FRF	**La Foret Royal**	**2.21 178**	*e*Pg	**Pg**	**19 54 24.1**	**-0.6**
	SNR=1.0					
FRF			*e*Sg	**Sg**	**19 54 51.6**	**-1.7**
	2.5nm,0.3s,SNR=1.0					
HAU	**Haudompre**	**2.24 356**	*e*Pg	**Pg**	**19 54 25.6**	**+0.2**
	SNR=1.0					
HAU			*e*Sn	**Sn**	**19 54 45.9**	**-1.0**
	SNR=1.0					
HAU			*e*Sg	**Sg**	**19 54 54.2**	**-0.2**
	15nm,0.2s,SNR=1.0					
HAU	**Haudompre**	**2.24 356**	*e*Pn	**Pn**	**19 54 20.9**	**+1.6**
HAU			*e*Pg	**Pg**	**19 54 25.6**	**+0.2**
HAU			*e*Sn	**Sn**	**19 54 45.9**	**-1.0**
HAU			*e*Sg	**Sg**	**19 54 54.2**	**-0.2**
HAU	**Haudompre**	**2.24 356**	*e*Pg	**Pg**	**19 54 25.6**	**+0.2**
	SNR=1.0					
HAU			*e*Sn	**Sn**	**19 54 45.9**	**-1.0**
	SNR=1.0					
HAU			*e*Sg	**Sg**	**19 54 54.2**	**-0.2**
	7.4nm,0.2s,SNR=1.0					
LOR	**Lormes**	**2.40 310**	*e*Pg	**Pg**	**19 54 28.3**	**0.0**
LOR			*e*Sn	**Sn**	**19 54 50.6**	**0.0**
	SNR=1.0					
LOR			*e*Sg	**Sg**	**19 54 59.2**	**-0.1**
	12nm,0.3s,SNR=1.0					
LOR	**Lormes**	**2.40 310**	*e*Pn	**Pn**	**19 54 22.0**	**+0.6**
LOR			*e*Pg	**Pg**	**19 54 28.3**	**0.0**
LOR			*e*Sn	**Sn**	**19 54 50.6**	**0.0**
LOR			*e*Sg	**Sg**	**19 54 59.2**	**-0.1**
LOR	**Lormes**	**2.40 310**	*e*Pg	**Pg**	**19 54 28.3**	**0.0**
LOR			*e*Sn	**Sn**	**19 54 50.6**	**0.0**
	SNR=1.0					
LOR			*e*Sg	**Sg**	**19 54 59.2**	**-0.1**
	6.1nm,0.3s,SNR=1.0					
LMR	**La Mourre**	**2.44 181**	*e*Pg	**Pg**	**19 54 28.2**	**-0.8**
	SNR=1.0					
LMR			*e*Sg	**Sg**	**19 54 59.6**	**-1.0**
	1.8nm,0.3s					
LMR	**La Mourre**	**2.44 181**	*e*Pn	**Pn**	**19 54 22.0**	**+0.1**
LMR			*e*Pg	**Pg**	**19 54 28.2**	**-0.8**
LMR			*e*Sg	**Sg**	**19 54 59.6**	**-1.0**
LMR	**La Mourre**	**2.44 181**	*e*Pg	**Pg**	**19 54 28.2**	**-0.8**
	SNR=1.0					
LMR			*e*Sg	**Sg**	**19 54 59.6**	**-1.0**
	0.9nm,0.3s					
AVF	**Avril sur Loir**	**2.45 296**	*e*Pg	**Pg**	**19 54 29.4**	**+0.1**
	SNR=1.0					
AVF			*e*Sn	**Sn**	**19 54 51.7**	**-0.3**
AVF			*e*Sg	**Sg**	**19 55 00.7**	**-0.4**
	14nm,0.5s					
AVF	**Avril sur Loir**	**2.45 296**	*e*Pn	**Pn**	**19 54 22.7**	**+0.6**
AVF			*e*Pg	**Pg**	**19 54 29.4**	**+0.1**
AVF			*e*Sn	**Sn**	**19 54 51.7**	**-0.3**
AVF			*e*Sg	**Sg**	**19 55 00.7**	**-0.4**
AVF	**Avril sur Loir**	**2.45 296**	*e*Pg	**Pg**	**19 54 29.4**	**+0.1**
	SNR=1.0					
AVF			*e*Sn	**Sn**	**19 54 51.7**	**-0.3**
AVF			*e*Sg	**Sg**	**19 55 00.7**	**-0.4**
	7.1nm,0.5s					
SSF	**Saint Saulge**	**2.48 303**	*e*Pg	**Pg**	**19 54 29.8**	**-0.1**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**19 54 52.0**	**-0.7**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**19 55 01.7**	**-0.3**
	5.0nm,0.3s,SNR=1.0					
SSF	**Saint Saulge**	**2.48 303**	*e*Pn	**Pn**	**19 54 23.2**	**+0.7**
SSF			*e*Pg	**Pg**	**19 54 29.8**	**-0.1**
SSF			*e*Sn	**Sn**	**19 54 52.0**	**-0.7**
SSF			*e*Sg	**Sg**	**19 55 01.7**	**-0.3**
SSF	**Saint Saulge**	**2.48 303**	*e*Pg	**Pg**	**19 54 29.8**	**-0.1**
	SNR=1.0					
SSF			*e*Sn	**Sn**	**19 54 52.0**	**-0.7**
	SNR=1.0					
SSF			*e*Sg	**Sg**	**19 55 01.7**	**-0.3**
	2.5nm,0.3s,SNR=1.0					
LASF	**Ste Croix**	**2.56 230**	*e*Pg	**Pg**	**19 54 31.1**	**-0.3**
	SNR=1.0					
LASF			*e*Sn	**Sn**	**19 54 54.2**	**-0.5**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**19 55 03.7**	**-0.9**
	5.4nm,0.2s,SNR=1.0					
LASF	**Ste Croix**	**2.56 230**	*e*Pn	**Pn**	**19 54 24.7**	**+1.0**
LASF			*e*Pg	**Pg**	**19 54 31.1**	**-0.3**
LASF			*e*Sn	**Sn**	**19 54 54.2**	**-0.5**
LASF			*e*Sg	**Sg**	**19 55 03.7**	**-0.9**
LASF	**Ste Croix**	**2.56 230**	*e*Pg	**Pg**	**19 54 31.1**	**-0.3**
	SNR=1.0					
LASF			*e*Sn	**Sn**	**19 54 54.2**	**-0.5**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**19 55 03.7**	**-0.9**
	2.7nm,0.2s,SNR=1.0					
SFTF	**Sexfontaines**	**2.65 337**	*e*Pg	**Pg**	**19 54 32.8**	**-0.4**
SFTF			*e*Sn	**Sn**	**19 54 56.3**	**-0.7**
SFTF			*e*Sg	**Sg**	**19 55 07.1**	**-0.4**
	8.0nm,0.2s					
SFTF	**Sexfontaines**	**2.65 337**	*e*Pn	**Pn**	**19 54 25.3**	**+0.4**
SFTF			*e*Pg	**Pg**	**19 54 32.8**	**-0.4**
SFTF			*e*Sn	**Sn**	**19 54 56.3**	**-0.7**
SFTF			*e*Sg	**Sg**	**19 55 07.1**	**-0.4**
SFTF	**Sexfontaines**	**2.65 337**	*e*Pg	**Pg**	**19 54 32.8**	**-0.4**
SFTF			*e*Sn	**Sn**	**19 54 56.3**	**-0.7**
SFTF			*e*Sg	**Sg**	**19 55 07.1**	**-0.4**
	4.0nm,0.2s					
CDF	**Champ du Feu**	**2.69 10**	*e*Pg	**Pg**	**19 54 33.0**	**-0.9**
	SNR=1.0					
CDF			*e*Sn	**Sn**	**19 54 57.0**	**-0.9**
CDF			*e*Sg	**Sg**	**19 55 07.9**	**-0.9**
	3.2nm,0.3s,SNR=1.0					
CDF	**Champ du Feu**	**2.69 10**	*e*Pn	**Pn**	**19 54 25.5**	**+0.1**
CDF			*e*Pg	**Pg**	**19 54 33.0**	**-0.9**
CDF			*e*Sn	**Sn**	**19 54 57.0**	**-0.9**
CDF			*e*Sg	**Sg**	**19 55 07.9**	**-0.9**
CDF	**Champ du Feu**	**2.69 10**	*e*Pg	**Pg**	**19 54 33.0**	**-0.9**
	SNR=1.0					
CDF			*e*Sn	**Sn**	**19 54 57.0**	**-0.9**
CDF			*e*Sg	**Sg**	**19 55 07.9**	**-0.9**
	1.6nm,0.3s,SNR=1.0					
WLS	**Welschbruch**	**2.70 11**	Pn	**Pn**	**19 54 25.8**	**+0.2**
BGF	**Bois d'Agland**	**2.70 288**	*e*Pg	**Pg**	**19 54 33.9**	**-0.2**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**19 55 09.2**	**+0.1**
	6.6nm,0.3s,SNR=1.0					
BGF	**Bois d'Agland**	**2.70 288**	*e*Pn	**Pn**	**19 54 26.1**	**+0.5**
BGF			*e*Pg	**Pg**	**19 54 33.9**	**-0.2**
BGF			*e*Sg	**Sg**	**19 55 09.2**	**+0.1**
BGF	**Bois d'Agland**	**2.70 288**	*e*Pg	**Pg**	**19 54 33.9**	**-0.2**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**19 55 09.2**	**+0.1**
	3.3nm,0.3s,SNR=1.0					
DAVA	**Damuels**	**2.75 55**	⇑*i*Pn	**Pg**	**19 54 34.1**	**-1.0**
DAVA			⇑*i*Sn	**Sg**	**19 55 10.2**	**-0.5**
DAVA	**Damuels**	**2.75 55**	Pg	**Pg**	**19 54 34.1**	**-0.9**
DAVA			Sg	**Sg**	**19 55 10.1**	**-0.5**
MEZF	**Maizieres J'vi**	**2.92 340**	*e*Pg	**Pg**	**19 54 38.5**	**+0.1**
	SNR=1.0					
MEZF			*e*Sn	**Sn**	**19 55 02.6**	**-1.0**
MEZF			*e*Sg	**Sg**	**19 55 15.5**	**-0.7**
	10nm,0.3s,SNR=1.0					
MEZF	**Maizieres J'vi**	**2.92 340**	*e*Pg	**Pg**	**19 54 38.5**	**+0.1**
	SNR=1.0					
MEZF			*e*Sn	**Sn**	**19 55 02.6**	**-1.0**
MEZF			*e*Sg	**Sg**	**19 55 15.5**	**-0.7**
	5.2nm,0.3s,SNR=1.0					
RFYF	**Reffroy**	**2.96 346**	*e*Pg	**Pg**	**19 54 38.5**	**-0.5**
RFYF			*e*Sn	**Sn**	**19 55 03.4**	**-1.1**
RFYF			*e*Sg	**Sg**	**19 55 16.5**	**-0.8**
	18nm,0.3s					
RFYF	**Reffroy**	**2.96 346**	*e*Pg	**Pg**	**19 54 38.5**	**-0.5**
RFYF			*e*Sn	**Sn**	**19 55 03.4**	**-1.1**
RFYF			*e*Sg	**Sg**	**19 55 16.5**	**-0.8**
	8.8nm,0.3s					
TCF	**Toulx Ste Croi**	**3.08 281**	*e*Pg	**Pg**	**19 54 41.0**	**-0.3**
	SNR=1.0					
TCF			*e*Sg	**Sg**	**19 55 21.3**	**+0.1**
	4.7nm,0.5s,SNR=1.0					
TCF	**Toulx Ste Croi**	**3.08 281**	*e*Pg	**Pg**	**19 54 41.0**	**-0.3**
	SNR=1.0					
TCF			*e*Sg	**Sg**	**19 55 21.3**	**+0.1**
	2.3nm,0.5s,SNR=1.0					
CAF	**Calviac**	**3.28 257**	*e*Pn	**Pn**	**19 54 34.1**	**+0.5**
CAF			*e*Sg	**Sg**	**19 55 25.7**	**-2.1**
	3.3nm,0.3s,SNR=1.0					
CAF	**Calviac**	**3.28 257**	*e*Pn	**Pn**	**19 54 34.1**	**+0.5**
CAF			*e*Sg	**Sg**	**19 55 25.7**	**-2.1**
	1.6nm,0.3s,SNR=1.0					
RJF	**Les Rejaudoux**	**3.58 264**	*e*Sg	**Sg**	**19 55 36.5**	**-0.7**
	4.3nm,0.4s					
RJF	**Les Rejaudoux**	**3.58 264**	*e*Sg	**Sg**	**19 55 36.5**	**-0.7**
	2.2nm,0.4s					
MTLF	**Montolieu**	**3.94 234**	*e*Pn	**Pn**	**19 54 42.7**	**+0.1**
MTLF			*e*Sg	**Sg**	**19 55 47.2**	**-1.7**
	2.9nm,0.4s,SNR=1.0					
MTLF	**Montolieu**	**3.94 234**	*e*Pn	**Pn**	**19 54 42.7**	**+0.1**
MTLF			*e*Sg	**Sg**	**19 55 47.2**	**-1.7**
	1.5nm,0.4s,SNR=1.0					
BAIF	**Baives**	**4.58 341**	*e*Pn	**Pn**	**19 54 51.6**	**+0.2**

*ISCJB **21** 20:09:11.8±0.6, 4382N×004×105.16W×007, h0km, mb4.1/2, Error ellipse: s-maj=7.6km s-min=5.5km az=23.5*
*IDC **21** 20:09:12.9±2.1, 4368N×10543W, h0km, mb4.1/2, mb1 4.1/4, mb1mx3.7/22, mbtmp4.0/4, ML3.6/2, MS2.5/1, Ms1 2.4/1, ms1mx2.1/27, Error ellipse: s-maj=61.6km s-min=9.1km az=152.0*
*NEIC **21** 20:09:14.4±0.9, 4380N×10532W, h0km, ML3.5, Error ellipse: s-maj=11.9km s-min=5.8km az=81.0, Suspected Mining explosion.*
NEIC 55 km [35 miles] SSE of Gillette.

ISC 21 20:09:13.5±0.6, 4380N±004×10517W±007, h0km, n32, σ0§79/34, mb4.1/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.51**	**185**	*e*P	**Pn**		**20 09 55.6**	**+0.1**
RWWY	**Rawlins**	**2.59**	**216**	*e*P	**Pn**		**20 09 57.5**	**+0.9**
RWWY				*e*S	**Sn**		**20 10 27.9**	**-0.9**
LAO	**LASA Array**	**2.98**	**346**	*e*P	**Pn**		**20 10 02.5**	**+0.5**
PDAR	**Pinedale Array**	**3.37**	**254**	Pn	**Pn**		**20 10 08.1**	**+0.7**
	4.3nm,0.3s,baz=68,slow=15,SNR=60							
PDAR				Lg			20 10 50.3	
	5.3nm,0.3s,baz=79,slow=30,SNR=8.2							
BW06	**Boulder Array**	**3.37**	**254**	*e*P	**Pn**		**20 10 07.8**	**+0.5**
BW06				*e*S	**Sn**		**20 10 48.6**	**+0.6**
GCMT	**Greycliff**	**3.77**	**303**	*e*P	**Pn**		**20 10 13.3**	**+0.5**
LKWY	**Lake**	**3.84**	**283**	*e*Pg	**Pb**		**20 10 23.6**	**+1.5**
ISCO	**Idaho Springs**	**4.01**	**185**	*e*P	**Pn**		**20 10 17.1**	**+1.0**
REDW	**Red Top Meadow**	**4.15**	**266**	*e*Pg	**Pb**		**20 10 25.9**	**-1.6**
IMW	**Indian Meadow**	**4.18**	**273**	*e*P	**Pn**		**20 10 19.6**	**+1.2**
YMR	**Madison River**	**4.25**	**284**	*e*Pg	**Pb**		**20 10 25.8**	**-3.4**
AHID	**Auburn Hatcher**	**4.45**	**259**	*e*Pg	**Pb**		**20 10 33.9**	**+1.4**
QLMT	**Earthquake Lak**	**4.61**	**285**	*e*Pg	**Pb**		**20 10 35.3**	**+0.1**
SMCO	**Snowmass**	**4.81**	**197**	*e*Pg	**Pb**		**20 10 38.5**	**-0.2**
BOZ	**Bozeman (W)**	**4.96**	**294**	*e*P	**Pn**		**20 10 28.4**	**-0.8**
HWUT	**Hardware Ranch**	**5.20**	**247**	*e*Pn	**Pn**		**20 10 32.3**	**-0.2**
	21nm,0.6s							
EGMT	**Eagleton**	**5.30**	**324**	*e*Pn	**Pn**		**20 10 34.3**	**+0.4**
	30nm,0.6s							
TCUT	**Toone Canyon**	**5.34**	**242**	*e*Pn	**Pn**		**20 10 34.5**	**+0.1**
HRY	**Holter Researc**	**5.53**	**304**	*e*Pn	**Pn**		**20 10 37.0**	**0.0**
MCMT	**McKenzie Canyo**	**5.61**	**283**	*e*Pg	**Pb**		**20 10 51.1**	**-1.0**
DAU	**Daniels Canyon**	**5.65**	**235**	*e*Pn	**Pn**		**20 10 38.2**	**-0.6**
HVU	**Hansel Valley**	**5.95**	**253**	*e*Pn	**Pn**		**20 10 43.0**	**+0.2**
	12nm,0.6s							
SRU	**San Rafael**	**6.18**	**222**	*e*Pn	**Pn**		**20 10 45.1**	**-0.8**
	29nm,0.7s							
TMUT	**Trail Mountain**	**6.39**	**227**	*e*Pn	**Pn**		**20 10 49.0**	**+0.3**
CHMT	**Chamberlain Mo**	**6.49**	**301**	*e*Pn	**Pn**		**20 10 50.1**	**-0.1**
HLID	**Hailey**	**6.71**	**271**	Pn	**Pn**		**20 10 52.4**	**-0.8**
	3.7nm,0.7s							
DUG	**Dugway**	**6.74**	**240**	Pn	**Pn**		**20 10 52.8**	**-0.8**
	92nm,0.6s							
WALA	**Waterton Lakes**	**8.01**	**314**	*e*Pn	**Pn**		**20 11 10.5**	**-0.5**
	3.5nm,0.6s							
ULM	**Lac du Bonnet**	**9.04**	**41**	Pn	**Pn**		**20 11 25.4**	**+0.1**
ULM				LR	LR		20 15 12.9	
ULM	**Lac du Bonnet**	**9.04**	**41**	Pn	**Pn**		**20 11 25.4**	**+0.1**
	1.6nm,0.3s,baz=231,slow=13,SNR=13							
ULM				LR	LR		20 15 12.9	
	comp=Z,24nm,18.6s,baz=223,slow=39							
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**		**20 19 29.9**	**-1.0**
	1.8nm,0.6s,mb4.4,baz=332,slow=7.6,SNR=5.9							
MKAR	**Makanchi Array**	**89.55**	**355**	P	**P**		**20 22 12.7**	**0.0**
	0.5nm,0.7s,mb3.9,baz=12,slow=4.6,SNR=8.8							

*IGIL **21** 20:29:00.6±33.0, 3702N×898W, h2km, ML2.0*
*INMG **21** 20:29:00.7±1.1, 3701N×889W, h10km±4km, ML1.8, Error ellipse: s-maj=10.3km s-min=5.9km az=67.0*

MDD 21 20:29:00.1±1.3, 3697N×880W, h20km±6km, mbLg2.2/5, Error ellipse: s-maj=10.4km s-min=8.1km az=66.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.35**	**20**	*e*P	Pg	Pg	20 29 07.5	-0.2
MORF				*e*S	Sg	Sg	20 29 12.6	-0.2
MORF				*e*S	Sg	Sg	20 29 12.6	-0.2
MORF				AML	AML	AML	20 29 13.4	
	comp=N,138nm,0.2s							
MORF	**Marmelete**	**0.35**	**20**	*e*P	Pg	Pg	20 29 07.5	-0.2
MORF				*e*S	Sg	Sg	20 29 12.6	-0.3
PTEO	**Sao Teotonio**	**0.57**	**6**	*e*Pg	Pg	Pg	20 29 10.8	-0.9
PTEO				*e*Sg	Sg	Sg	20 29 18.2	-1.2
PTEO								
	comp=N,63nm,0.1s							
EGRO	**El Granado**	**1.19**	**62**	Pg	Pg	Pg	20 29 20.6	-2.6
	comp=N,1.1nm,0.1s,SNR=14							
EGRO				Lg			20 29 38.6	
	comp=N,10nm,0.1s,SNR=21							
PBEJ	**Beja**	**1.29**	**35**	*e*P	Pn	Pn	20 29 23.3	+0.3
PBEJ				*e*S	Sn	Sn	20 29 40.3	+0.6
PBEJ								
	comp=N,6.4nm,0.1s							
MOE	**Montemor**	**1.59**	**13**	*e*P	Pn	Pn	20 29 31.2	+4.1
MOE				*e*S	Sn	Sn	20 29 48.6	+1.5
EMIN	**Mina Concepcio**	**1.87**	**64**	Pn	Pn	Pn	20 29 29.1	-2.0
	SNR=7.9							
EMIN				Pg	Pg	Pg	20 29 33.8	-2.3
	comp=N,1.0nm,0.2s,SNR=7.2							
EMIN				Sn	Sn	Sn	20 29 52.0	-2.1
	SNR=7.9							
EMIN				Lg			20 29 59.1	
	comp=N,1.8nm,0.1s,SNR=9.3							
EBAD	**Badajoz**	**2.27**	**38**	Pn	Pn	Pn	20 29 35.4	-1.2
	comp=N,0.6nm,0.1s,SNR=7.9							
EBAD				Sn	Sn	Sn	20 30 02.0	-2.0
	SNR=7.9							
EBAD				Lg			20 30 10.7	
	comp=N,4.1nm,0.2s,SNR=7.9							
ESPR	**Espera**	**2.36**	**92**	Pn	Pn	Pn	20 29 35.6	-2.1
	comp=N,0.7nm,0.2s,SNR=7.9							
ESPR				Sn	Sn	Sn	20 30 04.2	-2.0
	comp=N,4.4nm,0.3s,SNR=7.9							
ESPR				Lg			20 30 13.1	
	SNR=7.9							
PCBR	**Castelo Branco**	**3.05**	**20**	*e*Sn	Sn	Sn	20 30 21.4	-1.6
PCBR				*e*Sg	Sg	Sg	20 30 33.0	-5.0
EADA	**Adamuz**	**3.56**	**69**	Pn	Pn	Pn	20 29 53.5	-0.8
	comp=N,0.3nm,0.2s,SNR=7.9							
EADA				Sn	Sn	Sn	20 30 33.8	-2.0
	comp=N,0.9nm,0.2s,SNR=7.9							
EADA				Lg			20 30 51.4	
	comp=N,2.2nm,0.3s,SNR=7.9							

*NEIC **21** 20:32:04.6, 1925N×6457W, h34km, MD3.7(RSPR), After RSPR.*

RSPR 21 20:32:04.6, 1925N×6457W, h34km±27km, MD3.7/14, MD3.7/14, 11C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.84**	**183**	*e*P		Pn	20 32 18.9	-1.0
TBVI				*e*S		Sn	20 32 29.0	-2.1
STVI	**Saint Thomas**	**0.97**	**203**	*e*P		Pn	20 32 20.6	-1.2
STVI				*e*S		Sn	20 32 32.5	-1.8
CULB	**Culebra**	**1.18**	**218**	*e*P		Pn	20 32 23.2	-1.5
CULB				*e*S		Sn	20 32 37.8	-1.7
HUMP	**Col San Antoni**	**1.64**	**228**	⇓*e*P		Pn	20 32 29.9	-1.1
HUMP				*e*S		Sn	20 32 49.3	-1.6
SJG	**San Juan**	**1.88**	**233**	⇑*e*P		Pn	20 32 33.1	-1.2
SJG				*e*S		Sn	20 32 55.7	-1.1
SJG	**San Juan**	**1.88**	**233**	⇓*e*P		Pn	20 32 33.0	-1.3
SJG				*e*S		Sn	20 32 56.1	-0.7
CELP	**Cerrillos**	**2.24**	**239**	⇑*e*P		Pn	20 32 38.4	-0.8
AOPR	**Arecibo Observ**	**2.25**	**247**	⇑*e*P		Pn	20 32 38.2	-1.2
AOPR				*e*S		Sn	20 33 04.2	-1.9
OBIP	**Obispado Ponce**	**2.27**	**238**	⇑*e*P		Pn	20 32 38.9	-0.8
OBIP				*e*S		Sn	20 33 05.6	-1.0
ICM	**Isla Caja Muer**	**2.29**	**234**	⇑*e*P		Pn	20 32 40.0	0.0
ICM				*e*S		Sn	20 33 06.5	-0.5
LRS	**Lares**	**2.36**	**247**	⇓*e*P		Pn	20 32 39.4	-1.4
AGPR	**Aguadilla, PR**	**2.53**	**253**	⇑*e*P		Pn	20 32 41.7	-1.5
LSP	**Las Mesas**	**2.61**	**246**	⇓*e*P		Pn	20 32 44.2	-0.2
MGP	**Maguayo**	**2.69**	**243**	⇑*e*P		Pn	20 32 44.7	-0.8
CRPR	**Cabo Rojo, PR**	**2.71**	**243**	⇑*e*P		Pn	20 32 45.1	-0.6

*ATH **21** 20:33:13.4, 3915N×2027E, h29km, MD3.2/4*
*CSEM **21** 20:33:13.4, 3915N×2027E, h29km, MD3.2/4, After ATH*
*ISCJB **21** 20:33:18.3±1.2, 3887N±005×204E±01, h27km±6km, Error ellipse: s-maj=15.9km s-min=7.4km az=146.7*
*THE **21** 20:33:19.9, 3895N×2055E, h9km*

ISC 21 20:33:18.3±1.2, 3887N±005×204E±01, h26km±7km, n9, σ0§85/13, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.27**	**126**	*e*Pg		**Pb**	**20 33 24.6**	**-0.3**
LKD				*e*Sg		**Sb**	**20 33 29.5**	**+0.1**
IGT	**Igoumenitsa**	**0.67**	**358**	*e*Pg		**Pb**	**20 33 30.8**	**-0.5**
IGT				*e*Sg		**Sb**	**20 33 41.0**	**+0.8**
VLS	**Valsamata**	**0.71**	**166**	*e*PN		**Pn**	**20 33 33.1**	**+0.5**
JAN	**Janina**	**0.87**	**25**	*e*PN		**Pn**	**20 33 26.9**	**-8.0**
EVR	**Evrytania**	**1.12**	**87**	*e*PN		**Pn**	**20 33 36.3**	**-2.0**
MEV	**Metsovon**	**1.14**	**36**	*e*Pg		**Pn**	**20 33 37.6**	**-0.9**
MEV				*e*Sg		**Sn**	**20 33 53.0**	**-0.3**
RLS	**Riolos of Patr**	**1.18**	**133**	*e*PN		**Pn**	**20 33 39.2**	**+0.1**
AGG	**Agios Georgios**	**1.54**	**84**	*e*Pg		**Pn**	**20 33 44.1**	**+0.1**
AGG				*e*Sg		**Sn**	**20 34 03.7**	**+0.5**
XOR	**Xorichti**	**2.25**	**76**	*e*Pn		**Pn**	**20 33 55.5**	**+1.7**

MAN 21 20:48:55.8, 1232N×12500E, h1km, mb2.1, ML3.8, MS3.9, Samar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.83**	**149**	*e*P		Pg	20 49 11.7	-0.1
PLP	**Palo**	**1.15**	**181**	*e*P		Pg	20 49 18.7	+0.8
PLP				*e*S		Sg	20 49 35.8	+3.1
PVCP	**Virac**	**1.51**	**327**	*e*P		Pn	20 49 23.5	-0.5
PVCP				*e*S		Sb	20 49 39.3	-5.1
MSLP	**Maasin**	**2.18**	**184**	*e*P		Pn	20 49 43.3	+10
CAUP	**Cauayan**	**5.53**	**327**	*e*P		Pn	20 50 19.5	+0.2

*ISCJB **21** 20:57:29.3±0.7, 3825N±003×2063E±007, h10km, Error ellipse: s-maj=7.8km s-min=4.5km az=25.9*
*ATH **21** 20:57:29.5, 3818N×2060E, h16km±3km, MD3.3/4*
*NEIC **21** 20:57:29.5, 3818N×2060E, h16km, MD3.3(ATH), After ATH.*
*CSEM **21** 20:57:29.5, 3818N×2060E, h16km, MD3.3/4, After ATH*
*THE **21** 20:57:30.3, 3826N×2053E, h10km*

ISC 21 20:57:29.8±1.0, 3823N±004×2059E±009, h13km±6km, n9, σ1§11/14, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.05**	**181**	*e*PB		**Pg**	**20 57 32.5**	**+0.1**
VLS				*e*SB		**Sg**	**20 57 34.9**	**+0.7**
LKD	**Levkas**	**0.48**	**6**	*e*Pg		**Pg**	**20 57 38.4**	**-0.9**
LKD				*e*Sg		**Sg**	**20 57 45.9**	**+0.2**
RLS	**Riolos of Patr**	**0.71**	**104**	*e*PN		**Pn**	**20 57 43.0**	**-2.5**
EVR	**Evrytania**	**1.17**	**54**	*e*PN		**Pn**	**20 57 51.9**	**0.0**
IGT	**Igoumenitsa**	**1.31**	**351**	*e*Pg		**Pg**	**20 57 53.9**	**-1.2**
IGT				*e*Sg		**Sg**	**20 58 13.2**	**+1.0**
JAN	**Janina**	**1.44**	**8**	*e*PN		**Pn**	**20 57 57.5**	**+2.0**
AGG	**Agios Georgios**	**1.57**	**59**	*e*Pg		**Pg**	**20 57 59.8**	**-0.3**
AGG				*e*Sg		**Sg**	**20 58 21.4**	**+0.8**
MEV	**Metsovon**	**1.63**	**18**	*e*Pg		**Pg**	**20 57 59.7**	**-1.4**
MEV

*NEIC **21** 22:10:04.0, 3681N×2899E, h10km, MD3.3(ATH), MD3.4(ISK), After ISK.*
*ISK **21** 22:10:04.2, 3680N×2899E, h11km, MD3.4*
*ISCJB **21** 22:10:04.6±0.5, 3673N±002×2900E±003, h14km±3km, mb3.2/2, MS3.0/1, Error ellipse: s-maj=4.1km s-min=3.9km az=139.3*

ISC 21 22:10:05.1±0.5, 3676N±002×2896E±003, h9km±3km, n41, σ1§12/54, mb3.2/2, MS3.0/1, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.15**	**141**	PG	**Pg**	**22 10 08.5**	**+0.1**
FETY				SG	**Sg**	**22 10 11.5**	**+0.8**
DALT	**Dalyan (Mudla)**	**0.26**	**273**	PG	**Pg**	**22 10 10.3**	**-0.1**
YER	**Yerkesik**	**0.66**	**305**	PG	**Pg**	**22 10 17.7**	**-0.3**
ELL	**Elmali**	**0.76**	**90**	PG	**Pg**	**22 10 18.6**	**-1.1**
KSL	**Kastellorizon**	**0.78**	**140**	*e*PB	**Pb**	**22 10 21.0**	**+0.1**
ARG	**Arkhangelos**	**0.86**	**232**	*e*PB	**Pb**	**22 10 22.0**	**-0.3**
DNZL	**Cakiroluk**	**0.94**	**4**	*i* P	**Pg**	**22 10 21.1**	**-2.0**
DNZL				*i* S	**Sg**	**22 10 36.7**	**+1.4**
DENT	**Denizli**	**1.00**	**3**	PG	**Pg**	**22 10 22.1**	**-2.2**
MLSB	**Milas**	**1.09**	**300**	PN	**Pn**	**22 10 25.4**	**-1.2**
DAT	**Datca**	**1.11**	**269**	PN	**Pn**	**22 10 26.6**	**-0.3**
AYDN	**Tasoluk**	**1.25**	**317**	*i* P	**Pn**	**22 10 28.1**	**-0.7**
AYDN				*i* S	**Sb**	**22 10 44.5**	**-0.6**
BDRM	**Kayabasi**	**1.26**	**285**	*i* P	**Pn**	**22 10 30.6**	**+1.7**
BDRM				*i* S	**Sb**	**22 10 45.5**	**+0.2**
BODT	**Bodrum**	**1.36**	**284**	PN	**Pn**	**22 10 29.8**	**-0.5**
ANTB	**Antalya**	**1.36**	**83**	*e*PN	**Pn**	**22 10 29.7**	**-0.6**
BCK	**Bucak**	**1.48**	**61**	*e*PN	**Pn**	**22 10 31.6**	**-0.3**
KHL	**Karahalli**	**1.63**	**16**	*e*PN	**Pn**	**22 10 33.0**	**-1.0**
TKTP	**Tekketepe**	**1.68**	**40**	*i* P	**Pn**	**22 10 35.6**	**+1.0**
TKTP				*i* S	**Sn**	**22 10 59.4**	**+3.1**
MANT	**Manisa**	**1.76**	**350**	*i* P	**Pn**	**22 10 35.1**	**-0.7**
MANT				*i* S	**Sn**	**22 10 57.9**	**-0.5**
KARP	**Karpathos**	**1.89**	**231**	*e*PN	**Pn**	**22 10 40.0**	**+2.4**
SMG	**Samos**	**1.95**	**300**	*e*PN	**Pn**	**22 10 38.0**	**-0.3**
IZM	**Izmir**	**2.12**	**321**	*e*PN	**Pn**	**22 10 40.0**	**-0.8**
KDAG	**Bornova**	**2.13**	**321**	*i* P	**Pn**	**22 10 40.8**	**-0.1**
KDAG				*i* S	**Sn**	**22 11 07.0**	**-0.4**
BLCB	**Balcova**	**2.23**	**317**	*e*PN	**Pn**	**22 10 41.8**	**-0.5**
AKS	**Akhisar**	**2.31**	**337**	*e*PN	**Pn**	**22 10 42.7**	**-0.6**
GDZ	**Gediz**	**2.37**	**10**	*i* P	**Pn**	**22 10 43.8**	**-0.3**
GDZ				*i* S	**Sg**	**22 11 23.4**	**+2.3**
ALT	**Altintas**	**2.47**	**21**	*e*PN	**Pn**	**22 10 44.8**	**-0.7**
KONT	**Konya--Tatoy**	**2.96**	**65**	*e*PN	**Pn**	**22 10 52.2**	**0.0**
ERMK	**Ermenek**	**3.18**	**91**	*i* P	**Pn**	**22 10 55.6**	**+0.3**
IDI	**Anoyia**	**3.61**	**247**	Pn	**Pn**	**22 11 03.0**	**+1.8**
	2.0nm,0.3s,baz=65,slow=17,SNR=15						
IDI				Sn	**Sn**	**22 11 46.1**	**+2.1**
	3.2nm,0.3s,baz=196,slow=7.1,SNR=8.5						
SGKT	**Sivrigoynuk**	**4.51**	**31**	*i* P	**Pn**	**22 11 15.8**	**+2.2**
BRTR	**Keskin Array B**	**4.73**	**50**	Pn	**Pn**	**22 11 18.0**	**+1.4**
	0.4nm,0.3s,baz=235,slow=18,SNR=9.1						
BRTR				Sn	**Sn**	**22 12 12.9**	**+1.4**
	0.2nm,0.3s,baz=221,slow=24,SNR=6.3						
ELDT	**Eldivan**	**5.11**	**42**	*i* P	**Pn**	**22 11 23.2**	**+1.3**
HMAT	**Matruh**	**5.86**	**196**	P	**Pn**	**22 11 32.7**	**+0.7**
HMAT				S	**Sn**	**22 12 37.0**	**-2.3**
SLUM		**6.10**	**212**	P	**Pn**	**22 11 36.1**	**+0.7**
MMAI	**Mount Meron Ar**	**6.47**	**123**	Pn	**Pn**	**22 11 40.0**	**-0.6**
	4.1nm,0.3s,baz=304,slow=12,SNR=20						
MMAI				Sn	**Sn**	**22 12 51.6**	**-3.0**
	2.5nm,0.3s,baz=304,slow=26,SNR=6.8						
AMAG	**Maghara**	**7.05**	**149**	P	**Pn**	**22 11 47.8**	**-0.6**
GLL	**Jalalah**	**7.52**	**161**	⇑P	**Pn**	**22 11 55.0**	**0.0**
HNKL	**Nakhl**	**8.00**	**147**	P	**Pn**	**22 12 01.7**	**+0.2**
HNKL				S	**Sn**	**22 13 27.7**	**-4.3**
SWA2		**8.05**	**202**	P	**Pn**	**22 12 02.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**33.90**	**233**	P	**P**	**22 16 48.5**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=34,slow=9.0,SNR=6.4						
TORD				LR	LR	22 31 17.8	
	comp=Z,25nm,18.4s,MS3.0,baz=335,slow=38						
MKAR	**Makanchi Array**	**40.32**	**58**	P	**P**	**22 17 40.7**	**-2.0**
	0.1nm,0.5s,mb2.8,baz=275,slow=8.2,SNR=2.2						

*CSEM **21** 22:58:32.1, 1247N×4665E, h10km, ML4.0, After DHMR*

DHMR 21 22:58:32.1±0.3, 1247N×4665E, h10km±3km, ML4.0, 4C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**1.83**	**325**	⇑*e*P	Pn	22 59 04.7	+1.1
BDHA				*i* S	Sn	22 59 30.2	+3.5
BDHA				AML	AML	22 59 31.2	
	comp=N,2μm,0.3s						
BDHA	**Al Bayda'**	**1.83**	**325**	⇑*e*P	Pn	22 59 04.7	+1.1
BDHA				*i* S	Sn	22 59 30.2	+3.5
	comp=N,884nm,0.3s						
LBOS		**1.95**	**316**	⇑*e*P	Pn	22 59 06.8	+1.6
LBOS				*i* S	Sn	22 59 33.7	+4.0
TRBA	**At Turbah**	**2.58**	**287**	⇑*e*P	Pn	22 59 16.8	+2.8
TRBA				*i* S	Sn	22 59 51.4	+6.0
UDYN	**Al 'Udayn**	**3.00**	**300**	*i* S	Sn	23 00 01.7	+5.9
HAJJ	**Hajjah**	**4.36**	**318**	*i* S	Sn	23 00 34.6	+5.3

*IDC **21** 23:10:02.6±1.4, 1216N×12351E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, ML4.5/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/19, Error ellipse: s-maj=92.1km s-min=19.1km az=63.0*
*ISCJB **21** 23:10:03.8±0.7, 1240N±003×12359E±004, h11km±5km, mb4.0/7, MS3.4/4, Error ellipse: s-maj=7.1km s-min=4.1km az=140.3*
*MAN **21** 23:10:03.5, 1246N×12363E, h9km, mb3.8, ML4.9, MS2.0*
MAN F MASBATE - INTENSITY III.
*NEIC **21** 23:10:07.9±0.7, 1205N×12329E, h35km, mb4.0/3, Error ellipse: s-maj=43.5km s-min=10.4km az=61.0*
NEIC Felt [III PIVS] at Masbate. Felt [II PIVS] at Irosin and Sorsogon, Luzon.

ISC 21 23:10:04.8±0.6, 1241N±003×12362E±004, h12km±3km, n40, σ1§23/44, mb4.0/7, MS3.4/4, 8C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.06**	**177**	⇑*i*P	**Pg**	**23 10 06.9**	**-0.1**
MMPH				*i* S	**Sg**	**23 10 09.4**	**+0.7**
RCP	**Roxas**	**1.21**	**225**	⇑*e*P	**Pn**	**23 10 26.6**	**-0.9**
RCP				*e*S	**Sb**	**23 10 44.6**	**+1.5**
PVCP	**Virac**	**1.28**	**24**	⇑*e*P	**Pn**	**23 10 26.0**	**-2.6**
PVCP				*i* S	**Sb**	**23 10 46.7**	**+1.3**
PVCP	**Virac**	**1.28**	**24**	*e*P	**Pn**	**23 10 25.9**	**-2.7**
AUQP	**San Andres**	**1.29**	**315**	*e*P	**Pn**	**23 10 28.1**	**-0.5**
OTRP	**Odiongan**	**1.56**	**268**	*e*P	**Pn**	**23 10 31.0**	**-1.4**
OCLP	**Ormoc**	**1.67**	**144**	*e*P	**Pn**	**23 10 33.9**	**+0.1**
PLP	**Palo**	**1.82**	**133**	*e*P	**Pn**	**23 10 35.3**	**-0.6**
PLP				*e*S	**Sn**	**23 10 59.4**	**+0.5**
GQP	**Guinayangan**	**1.87**	**322**	⇑*i*P	**Pn**	**23 10 35.0**	**-1.6**
GQP				*i* S	**Sn**	**23 11 04.2**	**+4.0**
BOAC	**Boac**	**2.02**	**301**	*e*P	**Pn**	**23 10 36.0**	**-2.7**
GUIM	**Jordan**	**2.04**	**210**	*e*P	**Pn**	**23 10 39.6**	**+0.7**
LLP	**Lapu-Lapu**	**2.11**	**171**	⇑*i*P	**Pn**	**23 10 39.3**	**-0.6**
LLP				*e*S	**Sn**	**23 11 06.8**	**+0.7**
MSLP	**Maasin**	**2.57**	**152**	*e*P	**Pn**	**23 10 46.1**	**-0.1**
LQP	**Lukban**	**2.64**	**310**	*e*P	**Pn**	**23 10 50.4**	**+3.3**
TBP	**Tagbilaran**	**2.72**	**175**	⇑*e*P	**Pg**	**23 10 56.8**	**0.0**
TBP				*e*S	**Sg**	**23 11 31.0**	**-1.0**
POLP	**Polilio Island**	**2.82**	**325**	*e*P	**Pn**	**23 10 48.2**	**-1.5**
CUYO	**Cuyo Island**	**2.99**	**239**	*e*P	**Pn**	**23 10 51.9**	**-0.1**
TGY	**Tagaytay City**	**3.11**	**303**	Pn	**Pn**	**23 10 54.8**	**+1.2**
	54nm,0.3s,baz=101,slow=6.7,SNR=6.8						
SCPH	**Surigao**	**3.19**	**145**	‖*e*P	**Pn**	**23 10 55.6**	**+0.8**
BUSP	**Coron**	**3.37**	**263**	*e*P	**Pn**	**23 10 56.7**	**-0.5**
LUBP	**Lubang**	**3.54**	**292**	*e*P	**Pn**	**23 11 01.2**	**+1.7**
DCPH	**Dipolog City**	**3.82**	**184**	⇑*e*P	**Pn**	**23 11 02.8**	**-0.5**
DCPH				*e*S	**Sn**	**23 11 48.7**	**+0.5**
BALP	**Baler**	**3.86**	**329**	*e*P	**Pn**	**23 11 05.7**	**+1.7**
PCPH	**Palayan**	**3.98**	**322**	‖*e*P	**Pn**	**23 11 12.0**	**+6.5**
ENPP	**El Nido**	**4.28**	**254**	*e*P	**Pn**	**23 11 09.6**	**-0.1**
PAGZ	**Pagadian**	**4.54**	**183**	*e*P	**Pn**	**23 11 14.1**	**+0.8**
BUKP	**Musuan**	**4.72**	**162**	*e*P	**Pn**	**23 11 18.0**	**+2.1**
CAUP	**Cauayan**	**4.83**	**339**	*e*P	**Pn**	**23 11 16.5**	**-0.7**
JOW	**Kunigami**	**14.99**	**16**	LR	LR	23 18 45.6	
	comp=Z,76nm,19.6s,baz=172,slow=34						
PSI	**Prapat**	**26.25**	**251**	LR	LR	23 26 32.6	
	comp=Z,65nm,20.5s,MS3.2,baz=216,slow=38						
MJAR	**Matsushiro Arr**	**27.38**	**26**	LR	LR	23 24 48.7	
	comp=Z,72nm,21.7s,MS3.2,baz=215,slow=32						
WRA	**Warramunga Arr**	**33.84**	**162**	P	**P**	**23 16 44.5**	**-2.5**
	1.8nm,0.6s,mb4.2,baz=342,slow=9.4,SNR=7.5						
LSA	**Lhasa**	**34.67**	**305**	*e*P	**P**	**23 16 53.7**	**-0.5**
	1.9nm,0.3s,mb4.5						
ASAR	**Alice Springs**	**37.24**	**164**	P	**P**	**23 17 15.1**	**-1.1**
	2.7nm,0.7s,mb4.2,baz=347,slow=7.3,SNR=26						
ULN	**Ulaanbaatar**	**37.96**	**342**	*e*P	**P**	**23 17 24.3**	**+2.0**
	1.1nm,0.7s,mb3.7						
SONM	**Songino Array**	**38.14**	**341**	P	**P**	**23 17 26.6**	**+2.8**
	0.3nm,0.3s,mb3.5,baz=163,slow=7.8,SNR=4.7						
SONM				LR	LR	23 33 33.3	
	comp=Z,64nm,21.0s,MS3.4,baz=262,slow=37						
STKA	**Stephens Creek**	**47.29**	**159**	P	**P**	**23 18 36.3**	**-1.8**
MKAR	**Makanchi Array**	**48.76**	**323**	P	**P**	**23 18 48.6**	**-0.8**
	0.7nm,0.8s,mb3.8,baz=116,slow=8.8,SNR=7.6						
ZRNK	**Zerenda**	**59.18**	**325**	*e*P	**P**	**23 20 06.3**	**+0.8**
	0.4nm,0.4s,mb3.8						
AKTO	**Aktyubinsk**	**65.02**	**320**	LR	LR	23 50 57.0	
	comp=Z,40nm,18.4s,MS3.6,baz=0.0,slow=38						

*CSEM **21** 23:18:29.7, 6787N×2004E, h7km, ML2.8, After UPP*
*UPP **21** 23:18:29.7, 6787N×2004E, h7km, ML2.8, Suspected Mining explosion.*

HEL 21 23:18:29.7±0.1, 6782N×2011E, h0km, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.16**	**34**	*i* P	Pg	23 18 32.5	-0.2
KUA				*i* S	Sg	23 18 34.5	-0.2
KIF	**Kilpisjarvi**	**1.21**	**12**	*e*P	Pg	23 18 52.3	-0.7
KIF				*e*S	Sg	23 19 08.6	-0.1
SGF	**Sodankyl**	**2.49**	**96**	*e*P	Pn	23 19 11.3	-0.1
SGF				*e*S	Sn	23 19 42.0	-0.4
KEV	**Kevo**	**3.17**	**49**	*e*P	Pn	23 19 21.8	+1.0
KEV				*e*S	Sn	23 19 58.2	-1.1

*STR **21** 23:34:34.9±0.7, 4511N×644E, h2km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 21 23:34:35.7±0.2, 4510N×656E, h5km, Md2.2/2, Ml2.0/6, Error ellipse: s-maj=3.8km s-min=1.6km az=25.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG22	**Abries**	**0.39**	**135**	Pg	Pg	23 34 43.8	+0.5
OG22				Sg	Sg	23 34 49.8	+1.4
MBDF	**Montbardon**	**0.40**	**158**	*e*Pg	Pg	23 34 43.3	-0.2
MBDF				*e*Sg	Sg	23 34 48.9	+0.1
	9.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.51**	**249**	*e*Pg	Pg	23 34 44.8	-0.8
ORIF				*e*Sg	Sg	23 34 50.7	-1.6
	8.7nm,0.2s						
OG25	**Le Caire**	**0.81**	**205**	Pg	Pg	23 34 49.4	-1.8
OG25				Sg	Sg	23 35 00.7	-1.0
SMRF	**Simiane la Rot**	**1.33**	**212**	*e*Pg	Pg	23 35 00.6	-0.5
SMRF				*e*Sg	Sg	23 35 17.4	-0.9
	4.2nm,0.4s						
VIVF	**Saint-Julien-l**	**1.36**	**260**	*e*Pg	Pg	23 35 01.3	-0.5
VIVF				*e*Sg	Sg	23 35 18.3	-1.1
	4.0nm,0.3s						
SBF	**Sospel**	**1.39**	**153**	*e*Pg	Pg	23 35 01.7	-0.6
SBF				*e*Sg	Sg	23 35 19.9	-0.4
	6.1nm,0.4s						
FRF	**La Foret Royal**	**1.54**	**178**	*e*Pg	Pg	23 35 04.6	-0.7
FRF				*e*Sg	Sg	23 35 24.6	-0.6
	2.4nm,0.2s						
LMR	**La Mourre**	**1.77**	**181**	*e*Pg	Pg	23 35 08.5	-1.1
LMR				*e*Sg	Sg	23 35 31.4	-1.1
	1.5nm,0.2s						
LASF	**Ste Croix**	**2.19**	**243**	*e*Sg	Sg	23 35 44.1	-1.8
	0.4nm,0.3s						

*IDC **21** 23:37:48.6±0.4, 1902N×4604W, h0km, mb4.4/32, mb1 4.5/33, mb1mx4.5/37, mbtmp4.4/33, ML6.1/1, MS4.3/16, Ms1 4.3/16, ms1mx4.1/20, Error ellipse: s-maj=15.4km s-min=9.9km az=135.0*
*MOS **21** 23:37:48.5±0.7, 1900N×4603W, h10km, mb5.5/58, Error ellipse: s-maj=8.3km s-min=4.3km az=50.6*
*ISCJB **21** 23:37:48.7±0.2, 1901N±005×4601W±003, h10km, mb4.8/19, MS4.2/18, Error ellipse: s-maj=7.6km s-min=3.5km az=158.4*
*NEIC **21** 23:37:50.4±0.2, 1898N×4603W, h10km, mb5.0/74, Error ellipse: s-maj=4.9km s-min=2.7km az=168.0*
*HRVD **21** 23:37:50.3±0.3, 1909N×4604W, h12km, MW5.1/76, Centroid moment Tensor Solution. LP body waves: s20,c26;Mantle waves: s76,c122; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.55±.12; $M_{\theta\theta}$1.62±.12; $M_{\phi\phi}$2.94±.13; $M_{r\theta}$-1.43±.37; $M_{\phi\phi}$2.93±.11; $M_{\phi r}$-0.21±.41; Best double couple: $M_0$5.14500×10^{16} NP1:ϕ_s205.00000°,δ40.00000°,λ-110.00000°. NP2: ϕ_s51.00000°,δ53.00000°,λ-73.00000°. Principal axes: T 5.3980, Plg6.0000°, Azm130.0000°; N -0.4950, Plg13.0000°, Azm221.0000°; P -4.8930, Plg76.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **21** 23:37:56.4, 1919N×4552W, h33km, mb5.0, Northern Mid-Atlantic Ridge*

ISC 21 23:37:50.9±0.2, 1902N±005×4599W±003, h10km, (h23km±1.2km:pP-P), n312, σ0§78/306, mb4.8/119, MS4.2/18, 19C-18D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.14**	**271**	P	**Pn**	**23 42 13.9**	**-1.1**
	1.1nm,0.3s,baz=326,slow=16,SNR=7.7						
SJG				LR	LR	23 48 02.5	
	comp=Z,1μm,20.9s,baz=88,slow=32						
BBSR	**BB Station**	**21.42**	**312**	P	**P**	**23 42 35.8**	**-3.2**
SDV	**Santo Domingo**	**25.92**	**251**	P	**P**	**23 43 23.7**	**+0.5**
	12nm,0.8s,mb4.5,baz=40,slow=5.1,SNR=14						
SDV				LR	LR	23 52 22.9	
	comp=Z,318nm,20.3s,MS3.8,baz=54,slow=34						
SDV	**Santo Domingo**	**25.92**	**251**	P	**P**	**23 43 23.7**	**+0.5**
SDV				LR	LR	23 52 22.9	
SAML	**Samuel**	**32.56**	**213**	*e*P	**P**	**23 44 21.7**	**-0.5**
	11nm,1.5s,mb4.6						
BDFB	**Brasilia**	**34.50**	**183**	P	**P**	**23 44 38.8**	**-0.4**
	2.0nm,0.5s,mb4.3,baz=23,slow=11,SNR=3.0						
BDFB				LR	LR	23 58 20.2	
	comp=Z,340nm,19.4s,MS4.1,baz=5.2,slow=36						
FWV	**Forest Hill**	**35.53**	**309**	P	**P**	**23 44 47.6**	**-0.4**
SIV	**San Ignacio**	**37.83**	**204**	P	**P**	**23 45 07.1**	**-0.4**
	1.7nm,0.8s,mb3.8,baz=62,slow=9.7,SNR=6.3						
EVO	**Evora**	**38.20**	**51**	*e*P	**P**	**23 45 09.7**	**-1.0**
	56nm,1.2s,mb4.8						
EVO				*e*R			
	304nm,19.5s						
SCHQ	**Schefferville**	**39.12**	**341**	LR	LR	23 59 14.0	
	comp=Z,498nm,20.7s,MS4.3,baz=352,slow=33						
SCHQ	**Schefferville**	**39.12**	**341**	*e*P	**P**	**23 45 18.7**	**+0.2**
	20nm,1.2s,mb4.7						
LRAL	**Lakeview Retre**	**39.15**	**299**	*e*P	**P**	**23 45 19.5**	**+0.7**
	7.2nm,1.0s,mb4.4						
MDT	**Midelt**	**39.42**	**61**	LR	LR	23 57 22.2	
	comp=Z,125nm,19.0s,MS3.8,baz=142,slow=30						
PLAL	**Pickwick Lake**	**40.41**	**302**	*e*P	**P**	**23 45 29.1**	**-0.1**
	96nm,1.9s,mb5.2						
WVT	**Waverly**	**40.47**	**304**	*e*P	**P**	**23 45 29.3**	**-0.4**
WVT				pmax	pmax		
	comp=Z,71nm,1.9s,mb5.1						
WVT	**Waverly**	**40.47**	**304**	*e*P	**P**	**23 45 29.3**	**-0.4**
	comp=Z,71nm,1.9s,mb5.1						
ATAH	**Atahualpa**	**41.09**	**234**	P	**P**	**23 45 36.7**	**+1.9**
	comp=Z,10nm,0.9s,mb4.5,baz=56,slow=6.0,SNR=4.7						
LPAZ	**La Paz**	**41.30**	**213**	P	**P**	**23 45 35.8**	**-0.7**
	comp=Z,3.6nm,0.9s,mb4.0,baz=20,slow=11,SNR=16						
LPAZ				LR	LR	00 02 06.4	
	comp=Z,122nm,20.4s,MS3.8,baz=285,slow=35						
ESDC	**Sonseca Array**	**41.55**	**51**	P	**P**	**23 45 38.6**	**0.0**
	comp=Z,1.9nm,0.8s,mb3.8,baz=246,slow=8.1,SNR=11						
DBIC	**Dimbokro**	**41.83**	**102**	P	**P**	**23 45 40.2**	**-0.7**
	comp=Z,4.0nm,0.9s,mb4.0,baz=264,slow=8.7,SNR=4.5						
DBIC				LR	LR	23 59 52.9	
	comp=Z,949nm,20.4s,MS4.7,baz=268,slow=32						
DBIC	**Dimbokro**	**41.83**	**102**	P	**P**	**23 45 40.2**	**-0.7**
DBIC				LR	LR	23 59 52.9	
CCM	**Cathedral Cave**	**43.56**	**306**	*e*P	**P**	**23 45 55.1**	**+0.1**
CCM				*e*		23 47 41.0	
CCM				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.7						
CCM	**Cathedral Cave**	**43.56**	**306**	*e*P	**P**	**23 45 55.1**	**+0.1**
	comp=Z,18nm,1.3s,mb4.7						
CCM				*e*PcP	PcP	23 47 41.0	-1.6
SJPF	**Ste Jean**	**44.56**	**47**	*e*P	**P**	**23 46 03.6**	**+0.6**
	comp=Z,38nm,1.1s,mb4.8						
SJPF	**Ste Jean**	**44.56**	**47**	*e*P	**P**	**23 46 03.6**	**+0.6**
SJPF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.8						
SJPF	**Ste Jean**	**44.56**	**47**	*e*P	**P**	**23 46 03.6**	**+0.6**
	comp=Z,19nm,1.1s,mb4.8						
MIAR	**Mount Ida**	**44.80**	**300**	P	**P**	**23 46 05.1**	**+0.3**
MIAR				pmax	pmax		
	comp=Z,29nm,1.7s,mb4.8						
MIAR	**Mount Ida**	**44.80**	**300**	P	**P**	**23 46 05.0**	**+0.2**
	comp=Z,29nm,1.7s,mb4.8						
ETSF	**Etsaut**	**44.96**	**48**	*e*P	**P**	**23 46 06.8**	**+0.7**
	comp=Z,39nm,1.2s,mb4.8						
ETSF	**Etsaut**	**44.96**	**48**	*e*P	**P**	**23 46 06.8**	**+0.7**
ETSF				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.8						
ETSF	**Etsaut**	**44.96**	**48**	*e*P	**P**	**23 46 06.8**	**+0.7**
	comp=Z,20nm,1.2s,mb4.8						
QUIF	**Quistinic**	**45.05**	**40**	*e*P	**P**	**23 46 06.5**	**-0.4**
ROSF	**Rostrenen**	**45.16**	**40**	*e*P	**P**	**23 46 07.9**	**+0.2**
SGMF	**Saint Gilles**	**45.56**	**40**	*e*P	**P**	**23 46 10.9**	**0.0**
	comp=Z,150nm,1.7s,mb5.4						
SGMF	**Saint Gilles**	**45.56**	**40**	*e*P	**P**	**23 46 10.9**	**0.0**
SGMF				pmax	pmax		
	comp=Z,75nm,1.7s,mb5.3						
SGMF	**Saint Gilles**	**45.56**	**40**	*e*P	**P**	**23 46 10.9**	**0.0**
	comp=Z,75nm,1.7s,mb5.3						
EPF	**Esparros**	**45.63**	**48**	*e*P	**P**	**23 46 11.9**	**+0.4**
	comp=Z,73nm,1.6s,mb5.0						
EPF	**Esparros**	**45.63**	**48**	*e*P	**P**	**23 46 11.9**	**+0.4**
EPF				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.0						
EPF	**Esparros**	**45.63**	**48**	*e*P	**P**	**23 46 11.9**	**+0.4**
	comp=Z,36nm,1.6s,mb5.1						
TORD	**Torodi Ar. Bea**	**46.08**	**90**	P	**P**	**23 46 14.6**	**-0.4**
	comp=Z,5.4nm,1.1s,mb4.4,baz=291,slow=6.7,SNR=19						
CPUP	**Villa Florida**	**46.41**	**194**	P	**P**	**23 46 16.1**	**-1.5**
	comp=Z,2.9nm,0.6s,mb4.4,baz=6.8,slow=9.9,SNR=9.7						
CPUP				LR	LR	00 06 21.2	
	comp=Z,143nm,18.5s,MS4.0,baz=3.3,slow=37						
MFF	**Saint Martin d**	**46.44**	**43**	*e*P	**P**	**23 46 18.3**	**+0.4**
	comp=Z,129nm,1.4s,mb5.4						
MFF	**Saint Martin d**	**46.44**	**43**	*e*P	**P**	**23 46 18.3**	**+0.4**
MFF				pmax	pmax		
	comp=Z,65nm,1.4s,mb5.4						
MFF	**Saint Martin d**	**46.44**	**43**	*e*P	**P**	**23 46 18.3**	**+0.4**
	comp=Z,65nm,1.4s,mb5.4						
LFF	**La Frestale**	**46.48**	**45**	*e*P	**P**	**23 46 17.9**	**-0.2**
	comp=Z,68nm,1.3s,mb5.1						
LFF	**La Frestale**	**46.48**	**45**	*e*P	**P**	**23 46 17.9**	**-0.2**
LFF				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
LFF	**La Frestale**	**46.48**	**45**	*e*P	**P**	**23 46 17.9**	**-0.2**
	comp=Z,34nm,1.3s,mb5.1						
GRR	**Gorron**	**46.65**	**41**	*e*P	**P**	**23 46 19.4**	**-0.1**
MTLF	**Montolieu**	**47.03**	**48**	*e*P	**P**	**23 46 22.5**	**0.0**
	comp=Z,19nm,1.1s,mb4.6						
MTLF	**Montolieu**	**47.03**	**48**	*e*P	**P**	**23 46 22.5**	**0.0**
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
MTLF	**Montolieu**	**47.03**	**48**	*e*P	**P**	**23 46 22.5**	**0.0**
	comp=Z,9.3nm,1.1s,mb4.6						
LVC	**Limon Verde**	**47.05**	**209**	P	**P**	**23 46 20.8**	**-1.8**
	comp=Z,5.5nm,0.8s,mb4.6,baz=32,slow=8.7,SNR=5.3						
RJF	**Les Rejaudoux**	**47.11**	**45**	*e*P	**P**	**23 46 22.7**	**-0.4**
	comp=Z,24nm,1.2s,mb4.7						
RJF				*e*R			
	comp=Z,131nm,17.8s						
RJF	**Les Rejaudoux**	**47.11**	**45**	*e*P	**P**	**23 46 22.7**	**-0.4**
RJF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
RJF				MLR	MLR		
	comp=Z,130nm,17.8s,MS3.9						
RJF	**Les Rejaudoux**	**47.11**	**45**	*e*P	**P**	**23 46 22.7**	**-0.4**
	comp=Z,12nm,1.2s,mb4.7						
RJF				LR	LR		
	comp=Z,130nm,17.

ULM LR LR 00 04 48.3
comp=Z,552nm,21.7s,MS4.5,baz=219,slow=32
ULM Lac du Bonnet 50.23 320 P **P 23 46 45.1 -2.0**
ULM LR LR 00 04 48.3
BAIF Baives 50.35 40 *e*P **P 23 46 47.7 -0.3**
MEZF Maizieres J'vi 50.39 42 *e*P **P 23 46 48.4 +0.1**
comp=Z,130nm,1.2s,mb5.5
MEZF Maizieres J'vi 50.39 42 *e*P **P 23 46 48.4 +0.1**
comp=Z,130nm,1.2s,mb5.8
CABF La Chapelle 50.54 45 *e*P **P 23 46 49.9 +0.5**
comp=Z,29nm,1.0s,mb4.9
CABF La Chapelle 50.54 45 *e*P **P 23 46 49.9 +0.5**
CABF pmax pmax
comp=Z,15nm,1.0s,mb4.9
CABF La Chapelle 50.54 45 *e*P **P 23 46 49.9 +0.5**
comp=Z,15nm,1.0s,mb4.9
MBDF Montbardon 50.56 47 *e*P **P 23 46 50.4 +0.8**
LPL La Plagne 50.71 46 *e*P **P 23 46 51.7 +1.0**
LPG La Plagne 50.72 46 *e*P **P 23 46 51.8 +1.0**
SBF Sospel 50.84 49 *e*P **P 23 46 51.9 +0.2**
HAU Haudompre 51.08 43 *e*P **P 23 46 54.0 +0.5**
HAU *e*R
comp=Z,111nm,19.6s
HAU Haudompre 51.08 43 *e*P **P 23 46 54.0 +0.5**
HAU LR LR
comp=Z,110nm,19.6s,MS3.9
HINF Hinteralfeld 51.36 43 *e*P **P 23 46 55.6 0.0**
WLF Walferdange 51.43 41 *e*P **P 23 46 55.9 -0.2**
comp=Z,28nm,1.7s,mb4.9
CDF Champ du Feu 51.79 43 *e*P **P 23 46 58.4 -0.4**
BFO Black Forest 52.45 43 *e*P **P 23 47 02.8 -0.9**
comp=Z,25nm,1.6s,mb4.9
BFO Black Forest 52.45 43 *e*P **P 23 47 02.8 -0.9**
BFO pmax pmax
comp=Z,25nm,1.6s,mb4.9
FCC Fort Churchill 52.71 331 *e*P **P 23 47 05.2 -0.5**
FCC pmax pmax
comp=Z,19nm,0.9s,mb5.0
FCC Fort Churchill 52.71 331 *e*P **P 23 47 05.2 -0.5**
comp=Z,19nm,0.9s,mb5.0
DAVOX Davos 53.12 45 P **P 23 47 07.2 -1.4**
comp=Z,3.5nm,0.9s,mb4.3,baz=246,slow=6.5,SNR=7.5
BRMO Bormio 53.39 46 P **P 23 47 11.5 +0.8**
SCO Scoresbysund 53.45 10 *i*P **P 23 47 10.8 -0.3**
comp=Z,6.1nm,1.0s,mb4.5
SCO *i* 23 47 18.0
SCO Scoresbysund 53.45 10 *i*P **P 23 47 10.8 -0.3**
SCO *i* 23 47 18.0
SCO pmax pmax
comp=Z,60nm,1.0s,mb5.5
SUMG Summit 53.74 3 *e*P **P 23 47 12.8 -0.4**
comp=Z,73nm,1.8s,mb5.3
CTI Castel Tesino 54.19 47 P **P 23 47 16.5 0.0**
FUR Furstenfeldbru 54.33 44 *e*P **P 23 47 18.0 +0.5**
comp=Z,101nm,2.1s,mb5.4
FUR Furstenfeldbru 54.33 44 *e*P **P 23 47 18.0 +0.5**
FUR pmax pmax
comp=Z,101nm,2.1s,mb5.4
CLTB Caltabellotta 54.44 57 P **P 23 47 19.1 +0.7**
CLZ Clausthal 54.60 39 *e*P **P 23 47 19.6 +0.1**
comp=Z,22nm,1.5s,mb5.0
CLZ Clausthal 54.60 39 *e*P **P 23 47 19.6 +0.1**
CLZ pmax pmax
comp=Z,22nm,1.5s,mb5.0
GRA1 Grafenberg Arr 54.61 42 *e*P **P 23 47 19.5 -0.1**
comp=Z,22nm,1.5s,mb5.0
GRF Grafenberg Arr 54.61 42 *e*P **P 23 47 19.5 -0.1**
comp=Z,22nm,1.5s,mb5.0
GRF Grafenberg Arr 54.61 42 *e*P **P 23 47 19.5 -0.1**
GRF pmax pmax
comp=Z,22nm,1.5s,mb5.0
NRDL Niedersach Rie 54.62 38 *e*P **P 23 47 20.4 +0.7**
comp=Z,23nm,1.4s,mb5.0
FIAM Flamignano 54.71 51 P **P 23 47 19.3 -1.1**
ARV Arcevia 54.72 50 P **P 23 47 19.3 -1.1**
comp=Z,8.5nm,1.1s,mb4.7
PHWY Pilot Hill 54.89 308 P **P 23 47 21.5 -0.2**
ISCO Idaho Springs 54.89 306 *e*P **P 23 47 23.0 +1.4**
ISCO pmax pmax
comp=Z,19nm,1.4s,mb4.9
ISCO Idaho Springs 54.89 306 *e*P **P 23 47 23.0 +1.3**
comp=Z,20nm,1.4s,mb4.9
AQU L'Aquila 54.93 51 *e*P **P 23 47 22.4 +0.5**
AQU pmax pmax
comp=Z,34nm,1.3s,mb5.2
AQU L'Aquila 54.93 51 *e*P **P 23 47 22.4 +0.5**
comp=Z,34nm,1.3s,mb5.2
FVI Forni Avoltri 55.05 46 P **P 23 47 22.5 -0.3**
FVI pmax pmax
comp=Z,22nm,1.3s,mb5.0
FVI Forni Avoltri 55.05 46 P **P 23 47 22.5 -0.3**
comp=Z,22nm,1.3s,mb5.0
MOX Moxa 55.07 41 *e*P **P 23 47 22.0 -0.9**
comp=Z,23nm,1.8s,mb4.9
MOX Moxa 55.07 41 *e*P **P 23 47 22.9 0.0**
comp=Z,27nm,2.0s,mb4.9
MOX Moxa 55.07 41 *e*P **P 23 47 22.9 0.0**
MOX pmax pmax
comp=Z,27nm,2.0s,mb4.9
BSEG Bad Segeberg 55.14 37 *e*P **P 23 47 22.6 -0.8**
comp=Z,48nm,1.5s,mb5.3
SDI San Donato 55.17 52 P **P 23 47 24.0 +0.3**
SDI pmax pmax
comp=Z,90nm,1.1s,mb5.7
SDI San Donato 55.17 52 P **P 23 47 24.0 +0.3**
comp=Z,8.5nm,1.1s,mb4.7
FFC Flin Flon 55.19 324 *e*P **P 23 47 22.6 -1.2**
FFC pmax pmax
comp=Z,13nm,1.0s,mb4.9
FFC Flin Flon 55.19 324 *e*P **P 23 47 22.6 -1.2**
comp=Z,13nm,1.0s,mb4.9
ROTZ Rotzenmuhle 55.26 42 *e*P **P 23 47 23.7 -0.6**
comp=Z,13nm,1.4s,mb4.8
ANMO Albuquerque 55.40 300 *e*P **P 23 47 25.9 +0.6**
PTCC Patocco-Chiusa 55.41 46 P **P 23 47 25.2 -0.2**
WERD Werda 55.46 41 *e*P **P 23 47 25.7 0.0**
comp=Z,35nm,2.0s,mb5.0
NKC Novy Kostel 55.50 42 *e*P **P 23 47 26.5 +0.4**
NKC *e*pP pP 23 47 33.5 +4.3
CII Carovilli 55.55 52 P **P 23 47 27.5 +1.1**
BNM Barren Site 55.55 299 *e*P **P 23 47 26.9 +0.6**
TANN Tannenbergstha 55.55 41 *e*P **P 23 47 25.4 -1.0**
comp=Z,35nm,1.9s,mb5.1
WET Wettzell 55.56 43 *e*P **P 23 47 25.8 -0.7**
comp=Z,20nm,1.5s,mb4.9
WET Wettzell 55.56 43 *e*P **P 23 47 25.8 -0.7**
WET pmax pmax
comp=Z,20nm,1.5s,mb4.9
JAVS Javornik 55.83 47 *e*P **P 23 47 28.5 +0.1**
LAZ Ladron 55.97 299 *e*P **P 23 47 30.5 +1.1**
KHC Kasperske Hory 56.01 43 *e*P **P 23 47 29.7 0.0**
KHC *e*pP pP 23 47 37.0 +4.1
GERES GERESS Array B 56.04 43 P **P 23 47 29.1 -0.8**
comp=Z,4.8nm,1.1s,mb4.4,baz=256,slow=5.4,SNR=23
LAO LASA Array 56.06 314 P **P 23 47 30.7 +0.6**
comp=Z,11nm,0.8s,mb5.0
CLL Collm 56.07 40 *e*P **P 23 47 30.3 +0.2**
comp=Z,24nm,1.5s,mb5.0
CLL Collm 56.07 40 *i*P **P 23 47 29.3 -0.8**
comp=Z,31nm,1.6s,mb5.1
CLL *i* (sP) sP 23 47 35.7 +1.1
CLL Collm 56.07 40 *i*P **P 23 47 29.3 -0.8**
CLL *i* 23 47 35.7
CLL pmax pmax
comp=Z,31nm,1.6s,mb5.1
LJU Ljubljana 56.17 47 *e*P **P 23 47 31.0 +0.2**
FBE Freiberg 56.21 41 *e*P **P 23 47 30.9 -0.2**
comp=Z,31nm,1.5s,mb5.1
SGO Sicignano 56.22 54 P **P 23 47 31.4 +0.2**
SGO pmax pmax
comp=Z,19nm,1.4s,mb4.9
SGO Sicignano 56.22 54 P **P 23 47 31.4 +0.2**
comp=Z,19nm,1.4s,mb4.9
JMIC Jan Mayen 56.48 14 LR LR 00 05 52.2
comp=Z,118nm,19.0s,MS4.0,baz=257,slow=30
PDKS Podkum 56.49 47 *e*P **P 23 47 33.0 -0.1**
BRG Berggiesshubel 56.57 41 *e*P **P 23 47 33.9 +0.2**
comp=Z,14nm,1.4s,mb4.8
BRG Berggiesshubel 56.57 41 *e*P **P 23 47 34.1 +0.4**
comp=Z,15nm,1.8s,mb4.7
BRG Berggiesshubel 56.57 41 *e*P **P 23 47 34.1 +0.4**
BRG pmax pmax
comp=Z,15nm,1.8s,mb4.7
BOJS Bojanci 56.60 48 *e*P **P 23 47 34.0 0.0**
PRU Pruhonice 56.78 42 *e*P **P 23 47 35.5 +0.3**

DOBS Dobrina 56.83 47 *e*P **P 23 47 34.9 -0.7**
PVCC Panska Ves 56.89 42 *e*P **P 23 47 36.4 +0.4**
PVCC *e*pP pP 23 47 41.6 +2.4
UPC Upice 57.80 42 *e*P **P 23 47 43.3 +0.9**
UPC *e*pP pP 23 47 49.2 +3.6
NB2 NORSAR Subarra 57.83 29 P **P 23 47 42.3 -0.3**
comp=Z,28nm,1.4s,mb5.1,baz=250,slow=7.9
NB2 NORSAR Subarra 57.83 29 P **P 23 47 42.3 -0.3**
NB2 pmax pmax
comp=Z,28nm,1.4s,mb5.1
NOA NORSAR Array B 57.83 29 P **P 23 47 41.3 -1.3**
comp=Z,9.7nm,1.1s,mb4.7,baz=250,slow=7.1,SNR=6.9
DPC Dobruska-Polom 57.97 42 *e*P **P 23 47 44.1 +0.5**
DPC *e*pP pP 23 47 51.2 +4.4
VRAC Vranov 57.99 43 P **P 23 47 43.2 -0.5**
comp=Z,5.0nm,0.4s,mb4.9,baz=241,slow=8.3,SNR=9.8
PDAR Pinedale Array 58.04 309 P **P 23 47 43.0 -1.1**
comp=Z,3.6nm,0.9s,mb4.4,baz=95,slow=6.6,SNR=21
PDAR LR LR 00 09 47.7
comp=Z,675nm,21.9s,MS4.7,baz=142,slow=33
ZST Bratislava 58.18 45 *e*P **P 23 47 44.2 -0.9**
ZST pmax pmax
comp=Z,35nm,1.9s,mb5.1
ZST Bratislava 58.18 45 *e*P **P 23 47 44.2 -0.9**
comp=Z,35nm,1.9s,mb5.1
EGMT Eagleton 58.61 315 *e*P **P 23 47 47.3 -0.7**
comp=Z,9.1nm,1.0s,mb4.8
MORC Moravsky Berou 58.67 43 *e*P **P 23 47 48.3 -0.1**
MORC pmax pmax
comp=Z,37nm,1.9s,mb5.1
MORC Moravsky Berou 58.67 43 *e*P **P 23 47 48.3 -0.1**
comp=Z,37nm,1.9s,mb5.1
HFS Hagfors 58.70 30 P **P 23 47 48.1 -0.6**
comp=Z,8.5nm,0.9s,mb4.8,baz=219,slow=6.9,SNR=8.3
REDW Red Top Meadow 59.02 310 *e*P **P 23 47 51.2 +0.3**
comp=Z,21nm,1.4s,mb5.0
OKC Ostrava-Krasne 59.06 43 *e*P **P 23 47 51.3 +0.1**
OKC *e*pP pP 23 47 58.5 +4.1
KOLL Kolacno 59.09 44 *e*P **P 23 47 51.6 +0.2**
IMW Indian Meadow 59.11 310 *e*P **P 23 47 51.4 -0.1**
comp=Z,11nm,0.9s,mb4.9
DAU Daniels Canyon 59.24 306 *e*P **P 23 47 52.9 +0.5**
VYHS Vyhne 59.36 44 *e*P **P 23 47 52.8 -0.5**
VYHS Vyhne 59.36 44 *e*P **P 23 47 52.9 -0.4**
VYHS pmax pmax
comp=Z,14nm,1.8s,mb4.7
VYHS Vyhne 59.36 44 *e*P **P 23 47 52.9 -0.4**
comp=Z,14nm,1.8s,mb4.7
TCUT Toone Canyon 59.37 307 *e*P **P 23 47 53.8 +0.5**
DAG Danmarks Havn 59.41 7 *i*P **P 23 47 52.8 -0.8**
comp=Z,4.7nm,1.2s,mb4.4
DAG Danmarks Havn 59.41 7 *e*P **P 23 47 52.8 -0.8**
DAG pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
DAG Danmarks Havn 59.41 7 *e*P **P 23 47 52.8 -0.8**
comp=Z,4.7nm,1.2s,mb4.4
HWUT Hardware Ranch 59.49 308 *e*P **P 23 47 53.7 -0.4**
comp=Z,18nm,1.0s,mb5.0
BOZ Bozeman (W) 59.69 312 *e*P **P 23 47 54.9 -0.7**
BOZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BOZ Bozeman (W) 59.69 312 *e*P **P 23 47 54.9 -0.7**
comp=Z,4.5nm,0.9s,mb4.5
HRY Holter Researc 59.90 313 *e*P **P 23 47 56.6 -0.3**
MSU Marysvale 59.96 304 *e*P **P 23 47 57.9 +0.5**
SPUT South Promonto 60.15 307 *e*P **P 23 47 58.1 -0.6**
OJC Ojcow 60.16 42 *e*P **P 23 47 59.2 +0.4**
X15A Humboldt 60.18 299 ⇑P **P 23 48 00.0 +1.1**
baz=60
115A Sonoran Desert 60.29 297 ⇑P **P 23 48 00.7 +1.0**
baz=60
NIE Niedzica 60.42 43 *e*P **P 23 48 02.3 +1.8**
DUG Dugway 60.43 306 *e*P **P 23 47 59.5 -1.1**
DUG pmax pmax
comp=Z,14nm,1.3s,mb4.8
DUG Dugway 60.43 306 *e*P **P 23 47 59.5 -1.1**
comp=Z,14nm,1.3s,mb4.8
KECS Kecovo 60.45 45 *e*P **P 23 48 01.0 +0.2**
KECS pmax pmax
comp=Z,40nm,1.2s,mb5.3
KECS Kecovo 60.45 45 *e*P **P 23 48 01.0 +0.2**
comp=Z,3.9nm,1.2s,mb4.3
BGU Big Grassy Mou 60.59 307 *e*P **P 23 48 01.8 +0.1**
X14A Yava 60.71 299 ⇓P **P 23 48 03.7 +1.2**
baz=61
W14A Seligman 60.82 300 ⇓P **P 23 48 04.9 +1.6**
baz=61
Y14A Wickenburg 60.84 299 ⇓P **P 23 48 03.3 -0.1**
baz=61
CHMT Chamberlain Mo 60.89 314 *e*P **P 23 48 03.1 -0.6**
ARUT Antelope Range 60.98 303 *e*P **P 23 48 05.9 +1.5**
STHS Stebnicka Huta 61.02 44 *e*P **P 23 48 05.7 +1.0**
STHS pmax pmax
comp=Z,60nm,1.7s,mb5.5
STHS Stebnicka Huta 61.02 44 *e*P **P 23 48 05.7 +1.0**
comp=Z,6.2nm,1.7s,mb4.5
CRVS Cervenica-Dubn 61.13 44 *e*P **P 23 48 10.6 +5.2**
CRVS pmax pmax
comp=Z,11nm,1.6s,mb4.7
CRVS Cervenica-Dubn 61.13 44 *e*P **P 23 48 10.6 +5.2**
comp=Z,11nm,1.6s,mb4.7
EDM Edmonton 61.46 321 *e*P **P 23 48 07.2 -0.4**
X13A Yucca 61.48 300 ⇓P **P 23 48 08.8 +1.0**
baz=61
N13A West Wendover 61.48 307 ⇑P **P 23 48 08.8 +1.0**
baz=61
Y13A Salome 61.54 299 ⇑P **P 23 48 08.9 +0.7**
baz=62
HLID Hailey 61.62 310 *e*P **P 23 48 08.3 -0.4**
comp=Z,5.1nm,1.0s,mb4.6
DRGR 61.87 47 ⇓*i*P **P 23 48 10.4 0.0**
M12A Wells 62.01 307 ⇓P **P 23 48 11.2 -0.1**
baz=62
P12A McGill 62.06 305 ⇑P **P 23 48 11.3 -0.4**
baz=62
N12A Wells--Clov Va 62.12 307 ⇓P **P 23 48 11.3 -0.7**
baz=62
V12A Nelson 62.23 301 ⇑P **P 23 48 14.5 +1.7**
baz=62
ELK Elko 62.27 307 *e*P **P 23 48 12.9 -0.2**
ELK pmax pmax
comp=Z,28nm,1.4s
ELK Elko 62.27 307 *e*P **P 23 48 12.9 -0.2**
comp=Z,28nm,1.4s,mb5.2
O11A Cowboy Ranch, 62.61 306 ⇑P **P 23 48 15.8 +0.4**
baz=62
M11A Holland Ranch, 62.66 307 ⇑P **P 23 48 16.3 +0.6**
baz=63
Q11A Duckwater 62.67 304 ⇓P **P 23 48 15.8 +0.1**
baz=63
YKA Yellowknife Ar 63.44 331 P **P 23 48 18.8 -2.0**
comp=Z,2.5nm,1.0s,mb4.3,baz=103,slow=7.3,SNR=11
YKA LR LR 00 14 06.4
comp=Z,371nm,18.6s,MS4.6,baz=100,slow=34
YKA Yellowknife Ar 63.44 331 P **P 23 48 18.8 -2.0**
YKA LR LR 00 14 06.5
NEW Newport 63.55 315 *e*P **P 23 48 20.8 -0.8**
NEW pmax pmax
comp=Z,16nm,0.9s
NEW Newport 63.55 315 *e*P **P 23 48 20.8 -0.8**
comp=Z,16nm,0.9s,mb5.0
BURAR Bucovina Array 63.59 46 ⇑*i*P **P 23 48 22.8 +0.9**
PLCA Paso Flores 63.69 201 P **P 23 48 21.4 -1.1**
comp=Z,2.7nm,0.8s,mb4.3,baz=30,slow=17,SNR=4.9
PLCA LR LR 00 16 26.4
comp=Z,158nm,19.7s,MS4.2,baz=238,slow=36
BMO Blue Mountains 63.69 311 *e*P **P 23 48 22.7 +0.2**
BMO pmax pmax
comp=Z,40nm,1.0s,mb5.4
BMO Blue Mountains 63.69 311 *e*P **P 23 48 22.7 +0.2**
comp=Z,4.1nm,1.0s,mb4.4
O09A Fish Creek Ran 63.78 306 ⇑P **P 23 48 23.2 +0.1**
baz=64
R09A Tonopah 63.82 304 ⇑P **P 23 48 22.2 -1.1**
baz=64
GSC Goldstone 63.85 301 ⇑P **P 23 48 23.6 0.0**
baz=64
IDI Anoyia 63.91 59 P **P 23 48 24.9 +0.9**
comp=Z,22nm,1.1s,mb5.1,baz=317,slow=5.7,SNR=3.8
S09A Goldfield 63.98 303 ⇓P **P 23 48 24.9 +0.5**
baz=64
MLR Muntele Rosu 64.11 48 ⇑*i*P **P 23 48 26.5 +1.2**
N08A GE Springer Mi 64.46 307 ⇓P **P 23 48 27.2 -0.4**
baz=64
S08C White Mtn Res 64.75 303 ⇑P **P 23 48 31.2 +1.7**
baz=65

NVAR Mina Array Bea 64.77 304 P **P 23 48 29.9 +0.4**
comp=Z,0.9nm,0.8s,mb3.9,baz=76,slow=7.7,SNR=4.0
FINES FINESS Array B 64.91 30 P **P 23 48 30.0 -0.5**
comp=Z,1.1nm,0.5s,mb4.2,baz=263,slow=4.4,SNR=13
O07A Toulon 65.08 306 ⇑P **P 23 48 31.3 -0.3**
baz=65
KAF Kangasniemi 65.09 30 *e*p **P 23 48 30.5 -1.2**
N07B Gerlach 65.10 307 ⇓P **P 23 48 32.3 +0.6**
baz=65
K07A Rock Creek Ran 65.18 309 ⇑P **P 23 48 32.3 0.0**
baz=65
M07A Soldier Meadow 65.20 307 ⇓P **P 23 48 33.5 +1.0**
baz=65
KBS Kingsbay 65.48 10 *e*P **P 23 48 34.7 +0.5**
KBS Kingsbay 65.48 10 *e*P **P 23 48 33.6 -0.6**
comp=Z,18nm,1.3s,mb4.9
O06A Flanigan 65.80 306 ⇓P **P 23 48 36.9 +0.6**
baz=66
ARCES ARCESS Array B 65.86 21 P **P 23 48 35.2 -1.5**
comp=Z,6.5nm,0.8s,mb4.7,baz=282,slow=5.6,SNR=8.8
ARCES ARCESS Array B 65.86 21 P **P 23 48 35.2 -1.5**
R05C Kirkwood Meado 66.13 305 ⇑P **P 23 48 39.8 +1.4**
baz=66
AKASG Malin Array Be 66.20 42 P **P 23 48 38.0 -0.8**
comp=Z,0.5nm,0.3s,mb4.0,baz=271,slow=5.7,SNR=11
L05A Lakeview 66.39 308 ⇓P **P 23 48 41.1 +1.0**
baz=66
F05A White Salmon 66.57 313 ⇑P **P 23 48 40.5 -0.7**
baz=66
M05C Lookout 66.69 308 ⇓P **P 23 48 42.0 0.0**
baz=67
U04C Hernandez Rese 66.95 302 ⇑P **P 23 48 46.5 +2.9**
baz=67
H04A Detroit Lake 67.17 311 ⇓P **P 23 48 44.8 -0.3**
baz=67
JOF Joensuu 67.47 29 *e*p **P 23 48 44.8 -2.1**
ANTO Ankara 69.61 54 *e*P **P 23 49 01.4 +1.1**
ANTO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ANTO Ankara 69.61 54 *e*P **P 23 49 01.4 +1.1**
comp=Z,5.0nm,1.0s,mb4.4
BR131 Keskin Array S 70.27 54 *e*P **P 23 49 05.0 +0.6**
comp=Z,6.8nm,0.9s,mb4.6
BRTR Keskin Array B 70.27 54 P **P 23 49 04.8 +0.4**
comp=Z,5.6nm,0.9s,mb4.5,baz=268,slow=4.8,SNR=38
OBN Obninsk 70.39 37 *e*P **P 23 49 04.5 -0.6**
OBN *i* *SP sP 23 49 22.8 +13
OBN *e* 23 51 37.3
OBN *e*S S 23 58 11.3 -6.4
OBN *e*SS SS 00 02 51.8 +3.4
OBN pmax pmax
comp=Z,37nm,1.4s,mb5.1
MOS Moscow 70.93 36 *e*P **P 23 49 07.8 -0.6**
MOS pmax pmax
comp=Z,38nm,1.1s,mb5.2
INK Inuvik 71.58 337 *e*P **P 23 49 10.7 -1.6**
INK pmax pmax
comp=Z,31nm,1.5s
INK Inuvik 71.58 337 *e*P **P 23 49 10.7 -1.7**
comp=Z,32nm,1.5s,mb5.0
MMAI Mount Meron Ar 72.86 60 P **P 23 49 20.5 +0.5**
comp=Z,3.4nm,0.7s,mb4.4,baz=302,slow=4.8,SNR=12
EIL Elat 73.19 64 *e*P **P 23 49 23.1 +1.2**
comp=Z,245nm,0.9s
SOC Sochi 74.10 49*d i*P **P 23 49 27.2 -0.1**
SOC *e* 23 49 40.7
SOC *e* 23 52 18.5
SOC *e*PPP 23 53 59.7
SOC *e*S S 23 58 54.7 -5.5
SOC pmax pmax
comp=Z,13nm,1.0s,mb4.8
MALT Malatya 74.19 54 *e*P **P 23 49 28.6 +0.8**
MALT pmax pmax
comp=Z,32nm,1.4s,mb5.1
MALT Malatya 74.19 54 *e*P **P 23 49 28.6 +0.8**
comp=Z,32nm,1.4s,mb5.1
ASF Jabal al Asfar 74.28 61 P **P 23 49 29.0 +0.7**
comp=Z,1.4nm,0.4s,mb4.2,baz=135,slow=2.5,SNR=9.3
DAWY Dawson 74.56 333 *e*P **P 23 49 28.2 -1.7**
KIV Kislovodsk 76.12 48 *e*P **P 23 49 39.6 +0.7**
KIV pmax pmax
comp=Z,45nm,1.4s,mb5.2
KIV Kislovodsk 76.12 48 *e*P **P 23 49 39.6 +0.7**
comp=Z,45nm,1.4s,mb5.2
COLA College 77.88 335 *e*P **P 23 49 47.9 -0.9**
COLA College 77.88 335 *e*P **P 23 49 47.8 -1.0**
comp=Z,5.6nm,0.7s,mb4.6
GNI Garni 78.53 51 P **P 23 49 53.2 +0.8**
comp=Z,9.9nm,0.9s,mb4.8,baz=58,slow=3.9,SNR=8.4
ORR Orenburg 81.76 38 *e*P **P 23 50 10.2 +0.3**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU Arti 82.11 33 ⇓*i*P **P 23 50 11.7 0.0**
ARU *e* 23 53 20.4
ARU *e*PPP 23 55 08.0
ARU *e*S S 00 00 25.7 -0.7
ARU *e*SS SS 00 05 44.5 -1.2
ARU pmax pmax
comp=Z,14nm,1.4s,mb4.7
ARU Arti 82.11 33 *e*P **P 23 50 11.6 -0.1**
comp=Z,16nm,1.4s,mb4.8
SVW2 Sparrevohn 82.58 333 *e*P **P 23 50 12.9 -1.3**
BOSA Boshof 83.51 123 LR LR 00 19 59.4
comp=Z,262nm,18.2s,MS4.7,baz=314,slow=30
KMBO Kilima Mbogo 83.97 93 P **P 23 50 22.3 +1.0**
comp=Z,2.2nm,0.9s,mb4.3,baz=270,slow=1.4,SNR=4.8
KMBO LR LR 00 24 53.3
comp=Z,296nm,20.0s,MS4.7,baz=281,slow=34
AKTK Aktyubinsk 84.11 39 P **P 23 50 22.4 +0.4**
AKTO Aktyubinsk 84.11 39 P **P 23 50 22.4 +0.4**
comp=Z,5.6nm,1.0s,mb4.6,baz=296,slow=6.5,SNR=19
AKTO Aktyubinsk 84.11 39 P **P 23 50 22.4 +0.4**
AKTO pmax pmax
comp=Z,60nm,1.0s,mb5.7
ZRNK Zerenda 89.08 33 *e*P **P 23 50 45.3 -1.1**
ZRNK pmax pmax
comp=Z,16nm,1.4s,mb5.2
ZRNK Zerenda 89.08 33 *e*P **P 23 50 45.3 -1.0**
comp=Z,16nm,1.4s,mb5.2
TIXI Tiksi 89.49 2 *e*P **P 23 50 47.3 -1.0**
TIXI pmax pmax
comp=Z,14nm,1.7s,mb5.0
CHKZ Chkalovo 89.52 32 *e*P **P 23 50 47.8 -0.6**
CHKZ pmax pmax
comp=Z,14nm,1.4s,mb5.1
CHKZ Chkalovo 89.52 32 *e*P **P 23 50 47.8 -0.7**
comp=Z,14nm,1.4s,mb5.1
BVAR Borovoye Array 89.75 33 P **P 23 50 50.0 +0.5**
comp=Z,2.9nm,1.0s,mb4.6,baz=291,slow=4.1,SNR=15
BILL Bilibino 90.04 348 *e*P **P 23 50 50.3 -0.6**
BILL pmax pmax
comp=Z,19nm,1.6s,mb5.2
ASAR Alice Springs 175.38 179 PKP PKPdf 23 58 00.1 -1.0
comp=Z,1.0nm,0.9s,baz=103,slow=0.7,SNR=6.7

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*CSEM **21** 23:56:03.9±0.1, 3685N×2755E, h5km, MD3.4, Error ellipse: s-maj=1.7km s-min=1.2km az=47.0*
*NEIC **21** 23:56:03.0, 3688N×2755E, h3km, MD3.3(ISK), MD3.3(ATH), After ISK.*
*ISCJB **21** 23:56:04.3±0.5, 3683N±002×2755E±003, h5km±4km, Error ellipse: s-maj=4.7km s-min=3.6km az=170.0*
*ISK **21** 23:56:04.0, 3685N×2753E, h5km, MD3.4*
*ATH **21** 23:56:04.4, 3683N×2755E, h27km±1km, MD3.3/5*
ISC 21 23:56:04.9±0.4,**3682N**±002×**2754E**±004,**h7**km±3km,**n29,**
σ**1**§**08**/42,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAT	**Datca**	**0.09**	**162**	*i* PG	**Pg**	**23 56 07.2**	**+0.2**
DAT				*i* SG	**Sg**	**23 56 09.5**	**+1.0**
BDRM	**Kayabasi**	**0.26**	**342**	*i* P	**Pg**	**23 56 09.3**	**-0.7**
BDRM				*i* S	**Sg**	**23 56 12.9**	**-0.5**
BODT	**Bodrum**	**0.31**	**323**	*i* PG	**Pg**	**23 56 10.1**	**-0.8**
BODT				*i* SG	**Sg**	**23 56 14.1**	**-0.8**
NISR	**Nisiros**	**0.39**	**238**	*e*PB	**Pg**	**23 56 13.0**	**+0.5**
NISR				*e*SB	**Sg**	**23 56 20.0**	**+2.4**
MLSB	**Milas**	**0.51**	**21**	PG	**Pg**	**23 56 13.8**	**-0.9**
YER	**Yerkesik**	**0.67**	**62**	PG	**Pg**	**23 56 17.1**	**-0.7**
ARG	**Arkhangelos**	**0.76**	**142**	*e*PN	**Pn**	**23 56 19.7**	**-2.4**
DALT	**Dalyan (Mudla)**	**0.88**	**93**	PG	**Pg**	**23 56 21.0**	**-0.8**
AYDN	**Tasoluk**	**0.88**	**18**	*i* P	**Pg**	**23 56 20.5**	**-1.3**
AYDN				*i* S	**Sg**	**23 56 32.8**	**-0.5**
SMG	**Samos**	**1.05**	**328**	*e*PB	**Pb**	**23 56 23.9**	**-1.5**

SMG				*e*SN	**Sn**	**23 56 39.9**	**-1.1**
FETY	**Fethiye**	**1.25**	**98**	PN	**Pn**	**23 56 28.5**	**-0.3**
KARP	**Karpathos**	**1.31**	**194**	*e*PN	**Pn**	**23 56 28.8**	**-0.7**
KARP				*e*SN	**Sn**	**23 56 47.0**	**-0.2**
DNZL	**Cakiroluk**	**1.48**	**54**	*i* P	**Pn**	**23 56 32.2**	**+0.3**
DNZL				*i* S	**Sn**	**23 56 53.5**	**+1.9**
DNZL	**Cakiroluk**	**1.48**	**54**	*i* P	**Pn**	**23 56 32.2**	**+0.2**
DNZL				*i* S	**Sn**	**23 56 53.5**	**+1.9**
DENT	**Denizli**	**1.51**	**51**	PN	**Pn**	**23 56 32.6**	**+0.2**
IZM	**Izmir**	**1.59**	**352**	PN	**Pn**	**23 56 33.1**	**-0.4**
KDAG	**Bornova**	**1.60**	**352**	*i* P	**Pn**	**23 56 34.6**	**+1.0**
KDAG				*i* S	**Sn**	**23 56 57.7**	**+3.3**
BLCB	**Balcova**	**1.61**	**346**	PN	**Pn**	**23 56 33.5**	**-0.3**
APE	**Apeiranthos**	**1.63**	**279**	*e*PN	**Pn**	**23 56 33.5**	**-0.5**
URLA	**Izmir**	**1.71**	**334**	*i* P	**Pn**	**23 56 37.0**	**+1.9**
URLA				*i* S	**Sg**	**23 57 02.7**	**+2.8**
MANT	**Manisa**	**1.85**	**25**	*i* P	**Pn**	**23 56 35.8**	**-1.2**
MANT				*i* S	**Sg**	**23 57 06.5**	**+2.1**
ELL	**Elmali**	**1.90**	**91**	*e*PN	**Pn**	**23 56 38.3**	**+0.6**
AKS	**Akhisar**	**2.07**	**6**	*e*PN	**Pn**	**23 56 40.0**	**0.0**
KHL	**Karahalli**	**2.17**	**46**	*e*PN	**Pn**	**23 56 41.8**	**+0.3**
ANTB	**Antalya**	**2.50**	**87**	*e*PN	**Pn**	**23 56 46.9**	**+1.0**
TKTP	**Tekketepe**	**2.52**	**60**	*i* P	**Pg**	**23 56 52.5**	**-0.7**
TKTP				*i* S		23 57 34.0	
BALB	**Balikesir**	**2.83**	**5**	*e*PN	**Pn**	**23 56 50.6**	**+0.1**
BTOK	**Tokmak**	**2.96**	**7**	*i* P	**Pg**	**23 57 01.2**	**-0.5**
BTOK				*i* S	**Sg**	**23 57 41.8**	**+1.7**
ALT	**Altintas**	**3.02**	**42**	*e*PN	**Pn**	**23 56 53.2**	**+0.1**

*IDC **21** 23:59:52.0±3.2, 1231N×127.14E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/16, Error ellipse: s-maj=237.1km s-min=24.5km az=65.0*

*ISCJB **21** 23:59:56.0±0.8, 1184N±008×126.1E±0.1, h33km, mb3.9/7, MS3.5/1, Error ellipse: s-maj=14.5km s-min=11.8km az=135.1*

*NEIC **21** 23:59:57.1±0.5, 1228N×127.09E, h35km, mb4.0/3, Error ellipse: s-maj=39.8km s-min=9.7km az=66.0*

ISC 21 23:59:58.8±0.8, 1176N±008×12597E±010, h35km, n15, σ1§17/16, mb3.9/7, MS3.5/1, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.14**	**239**	*e*P	**Pn**	**00 00 16.9**	**-1.2**
PLP				*e*S	**Sn**	**00 00 30.9**	**-1.6**
SCPH	**Surigao**	**2.02**	**194**	⇑*e*P	**Pn**	**00 00 31.3**	**+1.1**
MMPH	**Masbate**	**2.37**	**285**	*e*P	**Pn**	**00 00 29.0**	**-6.1**
TBP	**Tagbilaran**	**2.92**	**225**	*e*P	**Pn**	**00 00 54.6**	**+12**
TBP				*e*S	**Sn**	**00 01 30.5**	**+14**
RCP	**Roxas**	**3.17**	**267**	⇑*e*P	**Pn**	**00 00 47.0**	**+1.0**
WRA	**Warramunga Arr**	**32.56**	**165**	P	**P**	**00 06 27.0**	**+0.4**
	0.3nm,0.3s,mb3.6,baz=348,slow=9.2,SNR=5.3						
ASAR	**Alice Springs**	**36.05**	**168**	P	**P**	**00 06 58.6**	**+1.9**
	0.6nm,0.5s,mb3.8,baz=348,slow=6.8,SNR=8.7						
CTAO	**Charters Tower**	**37.42**	**148**	*e*P	**P**	**00 07 06.3**	**-2.1**
	3.4nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**45.90**	**161**	P	**P**	**00 08 17.1**	**-0.6**
	3.3nm,1.0s,mb4.2,baz=330,slow=14,SNR=5.7						
MKAR	**Makanchi Array**	**50.67**	**322**	P	**P**	**00 08 55.2**	**+0.6**
	0.9nm,0.8s,mb3.8,baz=98,slow=8.7,SNR=9.5						
ZAL	**Zalesovo**	**53.19**	**331**	LR	LR	00 33 32.9	
	comp=Z,47nm,20.7s,MS3.5,baz=342,slow=38						
BRVK	**Borovoye**	**60.35**	**325**	*e*P	**P**	**00 10 04.4**	**+0.2**
	0.7nm,0.7s,mb3.8						
CHKZ	**Chkalovo**	**60.40**	**326**	P	**P**	**00 10 03.9**	**-0.6**
ZRNK	**Zerenda**	**61.04**	**325**	*e*P	**P**	**00 10 08.5**	**-0.3**
	0.7nm,0.6s,mb4.0						
INK	**Inuvik**	**83.02**	**22**	P	**P**	**00 12 13.9**	**-6.5**

CASC 22 00:13:11.9±3.1, 1270N×8892W, h175km±40km, MD4.0, ML3.4, 4C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.91**	**5**	⇑*e*P	x	00 13 46.9	
SNVI				*e*S	x	00 14 07.7	
LCBS	**La Ceiba**	**0.95**	**356**	⇑*e*P	x	00 13 47.3	
LCBS				*e*S	x	00 14 09.4	
CNCH	**Conchagua**	**1.20**	**62**	*e*P	x	00 13 48.0	
CNCH				*e*S	x	00 14 10.6	
SBLS	**San Blas**	**1.32**	**329**	⇑*e*P	x	00 13 51.2	
SBLS				*e*S	x	00 14 17.6	
MTO2	**Montecristo 2**	**1.74**	**346**	⇑*i*P	x	00 13 51.8	
MTO2				*e*S	x	00 14 17.4	
CRIN	**San Cristobal**	**1.82**	**90**	*e*P	Pn	00 13 49.4	+2.7
CRIN				*e*S	Sn	00 14 15.6	+2.0
LEON	**Leon**	**2.00**	**98**	⇓*e*P	Pn	00 13 49.7	+1.1
LEON				*e*S	Sn	00 14 16.8	-0.2
	comp=Z,232nm,0.2s						
CNGN	**Cerro Negro**	**2.18**	**95**	*e*P	Pn	00 13 52.0	+1.4
COPN	**Copaltepe**	**2.33**	**103**	*e*P	Pn	00 13 53.4	+1.1
COPN				*e*S	Sn	00 14 23.5	-0.2
TICN	**Ticuantepe**	**2.71**	**104**	*e*P	Pn	00 13 57.6	+0.8
TICN				*e*S	Sn	00 14 33.6	+2.1
TP2	**Tecpan 2**	**2.91**	**316**	⇓*e*P	Pn	00 13 59.1	0.0
TP2				*e*S	Sn	00 14 39.5	+3.6
LIM1	**Limonal**	**4.10**	**119**	*i* P	Pn	00 14 16.2	+2.1

*ISCJB **22** 00:21:50.6±0.7, 3874N±003×4335E±006, h2km±6km, Error ellipse: s-maj=7.7km s-min=4.7km az=159.0*

*CSEM **22** 00:21:50.4±0.1, 3874N×4340E, h12km, MD3.6, Error ellipse: s-maj=3.0km s-min=1.9km az=85.0*

*ISK **22** 00:21:50.3, 3875N×4333E, h10km, MD3.6*

ISC 22 00:21:50.9±0.6, 3874N±003×4341E±006, h4km±6km, n23, σ0§99/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**185**	PG	**Pg**	**00 21 54.2**	**+0.3**
TVAN	**Van**	**0.21**	**180**	*i* P	**Pg**	**00 21 54.2**	**-0.9**
TVAN				*i* S	**Sg**	**00 22 02.9**	**+5.0**
VANT	**Van**	**0.30**	**183**	PG	**Pg**	**00 21 56.8**	**+0.1**
VANT				SG	**Sg**	**00 22 03.3**	**+2.7**
CLDR	**Caldiran**	**0.56**	**45**	PG	**Pg**	**00 22 01.7**	**-0.1**
HAKT	**HAKKARI**	**1.21**	**169**	*i* P	**Pg**	**00 22 12.3**	**-1.8**
HAKT				*i* S	**Sg**	**00 22 30.9**	**+1.2**
CUKT	**Cukurca**	**1.50**	**174**	PN	**Pn**	**00 22 18.3**	**-0.3**
CUKT				SN	**Sn**	**00 22 38.5**	**-0.1**
BTMT	**Batman**	**1.60**	**250**	PN	**Pn**	**00 22 19.9**	**-0.1**
BTMT				SN	**Sn**	**00 22 43.0**	**+1.9**
DIGO	**Kars**	**1.67**	**359**	*i* P	**Pn**	**00 22 21.8**	**+0.9**
GNI	**Garni**	**1.74**	**36**	*e*PN	**Pn**	**00 22 22.5**	**+0.6**
BNGL	**BINGOL**	**1.77**	**277**	*i* P	**Pn**	**00 22 22.9**	**+0.6**
KARS	**Kars**	**1.88**	**353**	*e*PN	**Pn**	**00 22 24.4**	**+0.6**
BEST	**Besiri**	**1.88**	**244**	*i* P	**Pn**	**00 22 22.9**	**-0.9**
ERZM	**Erzurum**	**1.96**	**307**	*i* P	**Pn**	**00 22 26.1**	**+1.2**
EZM	**Erzurum**	**1.96**	**307**	*e*PN	**Pn**	**00 22 24.6**	**-0.3**
BINT	**Bingol**	**2.28**	**274**	*e*PN	**Pn**	**00 22 29.1**	**-0.2**
MARD	**Mardin**	**2.52**	**236**	*i* P	**Pn**	**00 22 30.8**	**-1.8**
MARD				*i* S	**Sn**	**00 23 02.0**	**-1.6**
MARD	**Mardin**	**2.52**	**236**	*i* P	**Pn**	**00 22 30.8**	**-1.8**
MARD				*i* S	**Sn**	**00 23 02.0**	**-1.7**
ARTV	**Artvin**	**2.69**	**335**	*i* P	**Pb**	**00 22 40.1**	**+0.6**
EZC	**Erzincan**	**2.96**	**291**	*e*PN	**Pb**	**00 22 43.8**	**-0.4**
BCA	**Borcka**	**3.02**	**334**	*e*PN	**Pn**	**00 22 39.8**	**+0.3**
DGRG	**David-gareji**	**3.10**	**29**	P	**Pg**	**00 22 48.8**	**-1.4**
ELZG	**Elazig**	**3.47**	**267**	*i* P	**Pg**	**00 22 57.6**	**+0.1**
GUMT	**Gumushane**	**3.48**	**301**	*e*PN	**Pn**	**00 22 45.5**	**-0.3**

*NEIC **22** 00:27:32.0, 2738S×71.12W, h47km, MG3.3(GUC), After GUC.*

GUC 22 00:27:32.0±0.9, 2738S×7112W, h47km±3km, MD3.8, ML3.3, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.40**	**40**	⇓*i*P	Pn	00 27 42.2	+0.3
CDCH				*i* S	Sn	00 27 49.4	+0.5
CDCH				AML	AML	00 27 50.4	
	comp=N,2μm,0.3s						
CDCH	**Caldera**	**0.40**	**40**	⇓*i*P	Pn	00 27 42.2	+0.3
CDCH				*i* S	Sn	00 27 49.4	+0.5
CPCH	**Copiapo**	**0.68**	**88**	⇑*i*P	Pn	00 27 46.2	+0.8
CPCH				*i* S	Sn	00 27 56.2	+1.2
CRCH	**Chaqaral**	**1.12**	**23**	⇓*i*P	Pn	00 27 52.0	+0.7
CRCH				*i* S	Sn	00 28 06.3	+0.7
CRCH				AML	AML	00 28 07.0	
	comp=N,949nm,0.2s						
VACH	**Vallenar**	**1.23**	**165**	⇓*i*P	Pn	00 27 53.4	+0.6
VACH				*i* S	Sn	00 28 09.1	+0.9
VACH				AML	AML	00 28 09.9	
	comp=N,2μm,0.1s						

*ISCJB **22** 00:31:59.4±0.3, 4263N±002×1253E±002, h12km±3km, Error ellipse: s-maj=2.9km s-min=2.6km az=104.4*

*CSEM **22** 00:31:59.0±0.1, 4263N×1256E, h12km, ML3.7/6, Error ellipse: s-maj=1.0km s-min=0.8km az=46.0*

*ROM **22** 00:31:59.3±0.3, 4262N×1256E, h5km±3km, Md3.1/41, Ml3.0/27, Error ellipse: s-maj=2.0km s-min=1.6km az=55.0*

*NEIC **22** 00:32:00.3, 4262N×1256E, h4km, ML2.4(LDG), ML3.0(ROM), After ROM.*

*LDG **22** 00:32:02.3±0.2, 4250N×1241E, h10km, Ml2.4/4, Error ellipse: s-maj=8.1km s-min=4.9km az=46.0*

ISC 22 00:32:00.2±0.3, 4264N±002×1253E±002, h7km±3km, n69, σ1§17/96, 3C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNS	**Montasola**	**0.27**	**157**	Pg	**Pg**	**00 32 05.3**	**-0.3**
MNS				Sg	**Sg**	**00 32 09.5**	**+0.3**
	2μm,0.2s						
LNSS	**Leonessa**	**0.38**	**95**	⇓*i*Pg	**Pg**	**00 32 07.3**	**-0.2**
LNSS				Sg	**Sg**	**00 32 13.0**	**+0.6**
	5μm,0.3s						
NRCA	**Norcia**	**0.47**	**65**	⇑*i*Pg	**Pg**	**00 32 08.8**	**-0.5**
SACS	**San Casciano d**	**0.51**	**295**	Pg	**Pg**	**00 32 10.5**	**+0.5**
SACS				Sg	**Sg**	**00 32 18.0**	**+1.4**
	798nm,0.9s						
LATE	**Laterza**	**0.54**	**268**	Pg	**Pg**	**00 32 10.5**	**-0.1**
LATE				Sg	**Sg**	**00 32 19.7**	**+2.1**
	1μm,0.6s						
FIAM	**Fiamignano**	**0.57**	**130**	Pg	**Pg**	**00 32 10.3**	**-0.8**
FIAM				Sg	**Sg**	**00 32 18.6**	**+0.1**
	766nm,0.5s						
MURB	**Monte Urbino**	**0.63**	**359**	Pg	**Pg**	**00 32 12.0**	**-0.2**
MURB				Sg	**Sg**	**00 32 22.8**	**+2.4**
	920nm,0.4s						
MTCE	**Montecelio**	**0.63**	**166**	Pg	**Pg**	**00 32 11.8**	**-0.6**
MTCE				Sg	**Sg**	**00 32 20.7**	**+0.1**
CAMP	**Campotosto**	**0.66**	**99**	Pg	**Pg**	**00 32 11.8**	**-1.0**
CAMP				Sg	**Sg**	**00 32 21.6**	**+0.3**
	684nm,0.6s						
SNTG	**Esanatoglia**	**0.69**	**26**	Pg	**Pg**	**00 32 12.6**	**-0.8**
	159nm,0.6s						
TOLF	**Tolfa**	**0.69**	**215**	Pg	**Pg**	**00 32 13.0**	**-0.6**
TOLF				Sg	**Sg**	**00 32 23.4**	**+0.8**
	703nm,0.7s						
AQU	**L'Aquila**	**0.70**	**113**	Pg	**Pg**	**00 32 12.8**	**-0.9**
	599nm,0.5s						
CERT	**Cerreto**	**0.76**	**154**	Pg	**Pg**	**00 32 13.8**	**-1.1**
CERT				Sg	**Sg**	**00 32 24.6**	**-0.2**
	697nm,0.6s						
TERO	**Teramo**	**0.79**	**91**	Pg	**Pg**	**00 32 13.9**	**-1.5**
TERO				Sg	**Sg**	**00 32 25.5**	**-0.2**
	452nm,0.3s						
ARCI	**Arcidosso**	**0.81**	**286**	Pg	**Pg**	**00 32 15.5**	**-0.2**
	149nm,0.8s						
FAGN	**Fagnano**	**0.86**	**115**	Pg	**Pg**	**00 32 16.0**	**-0.7**
	1μm,0.4s						
MA9	**Marino**	**0.87**	**174**	Pg	**Pg**	**00 32 16.2**	**-0.7**
	278nm,0.3s						
CING	**Cingoli**	**0.88**	**33**	Pg	**Pg**	**00 32 16.2**	**-1.0**
CING				Sg	**Sg**	**00 32 29.8**	**+1.1**
RDP	**Rocca di Papa**	**0.89**	**171**	Pg	**Pg**	**00 32 16.7**	**-0.5**
RDP				Sg	**Sg**	**00 32 30.9**	**+2.1**
	2μm,0.4s						
BADI	**Badiali**	**0.90**	**346**	Pg	**Pg**	**00 32 18.4**	**+1.0**
	10μm,10.0s						
OFFI	**Offida**	**0.90**	**70**	Pg	**Pg**	**00 32 17.1**	**-0.4**
OFFI				Sg	**Sg**	**00 32 32.3**	**+3.2**
	1μm,0.6s						
ARV	**Arcevia**	**0.91**	**19**	Pg	**Pg**	**00 32 16.6**	**-1.1**
	204nm,0.8s						
ARVD	**Arcevia**	**0.91**	**19**	Pg	**Pg**	**00 32 16.7**	**-1.0**
	152nm,0.6s						
LAV9	**Lanuvio**	**0.97**	**173**	Pg	**Pg**	**00 32 18.3**	**-0.4**
	532nm,0.2s						
VCEL	**Villa Celiera**	**1.00**	**104**	Pg	**Pg**	**00 32 18.3**	**-1.0**
	786nm,0.5s						
GUAR	**Guarcino**	**1.02**	**145**	Pg	**Pg**	**00 32 20.5**	**+0.7**
GUAR				Sg	**Sg**	**00 32 34.8**	**+1.7**
	307nm,0.6s						
MAON	**Monte Argentar**	**1.06**	**259**	Pn	**Pn**	**00 32 18.8**	**-2.6**
	199nm,1.1s						
FSSB	**Fossombrone**	**1.07**	**10**	Pn	**Pn**	**00 32 19.8**	**-1.8**
	329nm,0.5s						
CRE	**Caprese Michel**	**1.07**	**337**	Pg	**Pg**	**00 32 21.4**	**+0.7**
	37nm,0.5s						
INTR	**Introdacqua**	**1.19**	**121**	Pn	**Pn**	**00 32 22.1**	**-1.2**
	445nm,0.8s						
AOI	**Ancona**	**1.20**	**40**	Pn	**Pn**	**00 32 22.0**	**-1.4**
	289nm,1.2s						
GIUL	**Giuliano Di Ro**	**1.20**	**153**	Pg	**Pg**	**00 32 20.9**	**-2.4**
GIUL				Sg	**Sg**	**00 32 38.6**	**-0.3**
	181nm,0.5s						
GRFL	**Gerfalco**	**1.25**	**295**	Pn	**Pn**	**00 32 23.4**	**-0.7**
	13nm,0.6s						
RSM	**Repubblica di**	**1.29**	**357**	Pn	**Pn**	**00 32 25.6**	**+0.9**
	117nm,0.8s						
SDI	**San Donato**	**1.33**	**134**	Pn	**Pn**	**00 32 24.8**	**-0.3**
	65nm,0.4s						
SFI	**Santa Sofia**	**1.36**	**339**	Pn	**Pn**	**00 32 26.3**	**+0.7**
	31nm,0.6s						
VMG	**Vicchio**	**1.51**	**332**	Pn	**Pn**	**00 32 29.1**	**+1.5**
	217nm,1.2s						
RNI2	**Rionero Sannit**	**1.52**	**127**	Pn	**Pn**	**00 32 29.2**	**+1.4**
CII	**Carovilli**	**1.60**	**124**	Pn	**Pn**	**00 32 30.3**	**+1.4**
	91nm,0.9s						
MIDA	**Miranda**	**1.62**	**127**	Pn	**Pn**	**00 32 30.1**	**+1.0**
	127nm,0.8s						
SEI	**Scarperia**	**1.66**	**329**	Pn	**Pn**	**00 32 32.3**	**+2.7**
RFI	**Roccamonfina**	**1.72**	**140**	Pn	**Pn**	**00 32 32.7**	**+2.2**
	10.0nm,0.7s						
TRIV	**Trivento**	**1.73**	**119**	Pn	**Pn**	**00 32 33.9**	**+3.2**
VAGA	**Valle Agricola**	**1.76**	**133**	Pn	**Pn**	**00 32 32.7**	**+1.6**
BSSO	**Busso**	**1.88**	**125**	Pn	**Pn**	**00 32 35.6**	**+2.9**
VLC	**Villacollemand**	**2.18**	**315**	Pn	**Pn**	**00 32 37.9**	**+1.1**
VLC	**Villacollemand**	**2.18**	**315**	Pn	**Pn**	**00 32 37.9**	**+1.0**
GSCL	**Gusciola**	**2.22**	**321**	Pn	**Pn**	**00 32 39.5**	**+2.1**
	6.0nm,0.4s						
RGNG	**Rignano Grg**	**2.46**	**112**	Pn	**Pn**	**00 32 43.7**	**+2.9**
NVLJ	**Novalja**	**2.57**	**41**	*i* Pn	**Pn**	**00 32 42.5**	**+0.3**
NVLJ				*i* Sn	**Sn**	**00 33 13.1**	**-0.6**
PGF	**Pioggiola**	**2.61**	**269**	*e*Pn	**Pn**	**00 32 42.2**	**-0.6**
PGF				*e*Sn	**Sn**	**00 33 11.5**	**-3.2**
	14nm,0.8s						
PGF	**Pioggiola**	**2.61**	**269**	*e*Pn	**Pn**	**00 32 42.2**	**-0.6**
PGF				*e*Sn	**Sn**	**00 33 11.5**	**-3.2**
	7.1nm,0.8s						
MSAG	**Monte S. Angel**	**2.67**	**109**	Pn	**Pn**	**00 32 44.1**	**+0.5**
FGMS	**Monte Sant'Ang**	**2.71**	**109**	Pn	**Pn**	**00 32 49.0**	**+4.9**
SBF	**Sospel**	**3.92**	**290**	*e*Pn	**Pn**	**00 32 59.9**	**-0.9**
SBF				*e*Sn	**Sn**	**00 33 44.0**	**-3.0**
	6.3nm,0.6s						
SBF	**Sospel**	**3.92**	**290**	*e*Pn	**Pn**	**00 32 59.9**	**-0.9**
SBF				*e*Sn	**Sn**	**00 33 44.0**	**-3.0**
	3.2nm,0.6s						
VSL	**Villasalto**	**3.94**	**218**	Pn	**Pn**	**00 33 01.1**	**0.0**
	9.0nm,0.3s						
OBKA	**Obir**	**4.13**	**20**	⇓*i*Pn	**Pn**	**00 33 03.0**	**-0.7**
OBKA				⇑*i*Sn	**Sn**	**00 33 52.4**	**+0.2**
FRF	**La Foret Royal**	**4.41**	**284**	*e*Pn	**Pn**	**00 33 05.6**	**-1.9**
FRF				*e*Sn	**Sn**	**00 33 54.9**	**-4.2**
	0.6nm,0.3s						
FRF	**La Foret Royal**	**4.41**	**284**	*e*Pn	**Pn**	**00 33 05.6**	**-1.9**
FRF				*e*Sn	**Sn**	**00 33 54.9**	**-4.2**
	0.3nm,0.3s						
LMR	**La Mourre**	**4.47**	**281**	*e*Pn	**Pn**	**00 33 06.7**	**-1.7**
LMR				*e*Sn	**Sn**	**00 33 56.7**	**-4.0**
	0.5nm,0.3s						
LMR	**La Mourre**	**4.47**	**281**	*e*Pn	**Pn**	**00 33 06.7**	**-1.7**
LMR				*e*Sn	**Sn**	**00 33 56.7**	**-4.0**
	0.2nm,0.3s						
MBDF	**Montbardon**	**4.67**	**299**	*e*Pn	**Pn**	**00 33 11.3**	**+0.2**
SMRF	**Simiane la Rot**	**5.25**	**287**	*e*Pn	**Pn**	**00 33 19.0**	**-0.1**
ORIF	**Oris-en-Rattie**	**5.33**	**298**	*e*Pn	**Pn**	**00 33 19.9**	**-0.2**
ORIF				*e*P		00 33 24.0	
MOA	**Molln**	**5.35**	**13**	⇓*i*Pn	**Pn**	**00 33 18.9**	**-1.6**
MOA				⇑*i*Sn	**Sn**	**00 34 22.6**	**+0.2**
CABF	**La Chapelle**	**6.08**	**313**	*e*Pn	**Pn**	**00 33 30.3**	**-0.1**
CABF				*e*P		00 33 35.2	
HINF	**Hinteralfeld**	**6.55**	**324**	*e*Pn	**Pn**	**00 33 37.2**	**+0.3**
CDF	**Champ du Feu**	**6.85**	**329**	*e*Pn	**Pn**	**00 33 41.2**	**+0.1**

CASC 22 00:32:04.5±3.7, 1488N×8873W, h20km±33km, MD3.8, 5C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTO2	**Montecristo 2**	**0.77**	**232**	⇑*e*P	x	00 32 26.9	
MTO2				*e*S	x	00 32 36.2	
LBRS	**Las Brisas**	**1.17**	**195**	*e*P	x	00 32 38.4	
LBRS				*e*S	x	00 32 55.8	
LFU	**La Fuente**	**1.18**	**198**	⇑*e*P	x	00 32 37.5	
LFU				*e*S	x	00 32 53.5	
RBDL	**Robledal**	**1.20**	**231**	⇑*e*P	x	00 32 34.5	
RBDL				*e*S	x	00 32 50.2	
LCBS	**La Ceiba**	**1.24**	**191**	⇓*e*P	x	00 32 38.7	
LCBS				*e*S	x	00 32 56.9	
BOQS	**Boqueron**	**1.26**	**205**	*e*P	x	00 32 38.0	
BOQS				*e*S	x	00 32 56.4	
SNVI	**San Vicente**	**1.26**	**185**	*e*P	x	00 32 40.2	
SNVI				*e*S	x	00 33 00.5	
SNJE	**San Jose**	**1.31**	**220**	⇑*e*P	x	00 32 37.6	
SNJE				*e*S	x	00 32 55.7	
RTR	**El Retiro**	**1.32**	**222**	⇓*e*P	x	00 32 37.7	
RTR				*e*S	x	00 32 57.0	
SBLS	**San Blas**	**1.35**	**220**	⇑*e*P	x	00 32 38.3	
SBLS				⇓*e*S	x	00 32 57.2	
TP2	**Tecpan 2**	**2.22**	**268**	*e*P	Pn	00 32 40.5	+0.3
TP2				*e*S	Sn	00 33 09.4	+2.5

*NEIC **22** 00:33:07.9, 2805S×7087W, h39km, MG4.1(GUC), After GUC.*

GUC 22 00:33:07.9±1.0, 2805S×7087W, h39km±4km, ML4.1, 11C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.54**	**169**	⇑*i*P	Pn	00 33 19.2	+0.1
VACH				*i* S	Sn	00 33 27.4	+0.4
VACH				AML	AML	00 33 27.8	
	comp=N,52μm,0.1s						
CPCH	**Copiapo**	**0.82**	**34**	⇓*i*P	Pn	00 33 23.6	+0.6
CPCH				*i* S	Sn	00 33 35.0	+1.0
CPCH				AML	AML	00 33 39.3	
	comp=N,27μm,0.1s						
CPCH	**Copiapo**	**0.82**	**34**	⇓*i*P	Pn	00 33 23.6	+0.6
CPCH				*i* S	Sn	00 33 35.0	+1.0
CDCH	**Caldera**	**0.97**	**2**	⇑*i*P	Pn	00 33 25.5	+0.4
CDCH				*i* S	Sn	00 33 39.1	+1.5
LCO	**Las Campanas**	**0.97**	**171**	⇑*i*P	Pn	00 33 24.8	-0.2
LCO				*i* S	Sn	00 33 38.6	+1.0
CRCH	**Chaqaral**	**1.71**	**8**	⇑*i*P	Pn	00 33 35.6	+0.4
CRCH				*i* S	Sn	00 33 58.0	+2.2
CRCH				AML	AML	00 34 07.1	
	comp=E,854nm,0.3s						
CRCH	**Chaqaral**	**1.71**	**8**	⇑*i*P	Pn	00 33 35.6	+0.4
CRCH				*i* S	Sn	00 33 58.0	+2.2
LSCH	**La Serena**	**1.88**	**190**	⇑*i*P	Pn	00 33 38.2	+0.7
LSCH				*i* S	Sn	00 34 02.0	+1.9
LSCH				AML	AML	00 34 15.5	
	comp=E,1μm,0.4s						
LSCH	**La Serena**	**1.88**	**190**	⇑*i*P	Pn	00 33 38.2	+0.7
LSCH				*i* S	Sn	00 34 02.0	+1.9
TLL	**Tololo Astrono**	**2.11**	**178**	⇑*i*P	Pn	00 33 42.8	+2.0
TLL				*i* S	Sn	00 34 09.1	+3.3
TLL				AML	AML	00 34 15.2	
	comp=N,900nm,0.4s						
TLL	**Tololo Astrono**	**2.11**	**178**	⇑*i*P	Pn	00 33 42.8	+2.0
TLL				*i* S	Sn	00 34 09.1	+3.3
CMCH	**Combarbala**	**3.12**	**182**	⇑*i*P	Pn	00 33 54.6	+0.1
CMCH				*i* S	Sn	00 34 31.8	+1.2
CMCH				AML	AML	00 34 46.8	
	comp=E,2μm,0.7s						
CMCH	**Combarbala**	**3.12**	**182**	⇑*i*P	Pn	00 33 54.6	+0.1
CMCH				*i* S	Sn	00 34 31.8	+1.2
MDZ	**Mendoza**	**5.13**	**161**	*e*P	Pn	00 34 24.4	+2.3

MAN 22 00:59:54.9, 1189N×12599E, h3km, mb2.9, ML4.3, MS2.3, Samar

*SZGRF **22** 01:12:00.5, 435N×3339W, h33km, mb4.5, Central Mid-Atlantic Ridge*

*MOS **22** 01:12:00.4±0.7, 434N×3226W, h10km, mb4.7/2, Error ellipse: s-maj=23.6km s-min=14.7km az=136.7*

*ISCJB **22** 01:12:00.4±0.4, 429N±008×3230W±007, h10km, mb4.1/19, MS4.1/1, Error ellipse: s-maj=12.8km s-min=8.3km az=91.7*

*IDC **22** 01:12:00.5±0.6, 446N×3243W, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, MS4.1/1, Ms1 4.1/1, ms1mx3.2/21, Error ellipse: s-maj=22.6km s-min=13.

comp=Z,1.9nm,0.9s,mb4.1,baz=226,slow=7.1,SNR=9.0
BORG Borgarnes 60.80 5 P **P 01 22 14.5 -0.4**
BOSA Boshof 64.27 125 P **P 01 22 38.6 +0.7**
comp=Z,14nm,1.3s,mb4.8,baz=285,slow=16,SNR=2.4
NOA NORSAR Array B 65.33 22 P **P 01 22 43.4 -1.5**
comp=Z,2.8nm,1.0s,mb4.2,baz=231,slow=6.2,SNR=3.6
BRTR Keskin Array B 68.83 49 P **P 01 23 08.1 +0.9**
comp=Z,3.7nm,1.1s,mb4.2,baz=235,slow=4.4,SNR=15
AKASG Malin Array Be 68.89 37 P **P 01 23 06.5 -1.0**
comp=Z,0.2nm,0.3s,mb3.6,baz=254,slow=5.9,SNR=8.1
SMCO Snowmass 75.37 309 *eP* **P 01 23 50.9 +4.5**
comp=Z,8.9nm,1.2s,mb4.6
PDAR Pinedale Array 77.69 313 P **P 01 23 59.9 +0.4**
comp=Z,1.2nm,1.0s,mb3.8,baz=101,slow=7.7,SNR=7.1
HWUT Hardware Ranch 79.08 311 *eP* **P 01 24 08.2 +1.0**
comp=Z,2.4nm,0.5s,mb4.4
MSU Marysvale 79.37 308 P **P 01 24 09.7 +1.0**
YKA Yellowknife Ar 82.60 332 P **P 01 24 25.3 -0.6**
comp=Z,1.1nm,1.0s,mb3.9,baz=93,slow=5.1,SNR=3.3
YKA Yellowknife Ar 82.60 332 P **P 01 24 25.3 -0.6**
ULN Ulaanbaatar 117.01 29 *eP* Pdif 01 27 03.2 -0.4

*ISCJB **22** 01:15:46.2±0.3, 451N±006×3247W±005, h10km, mb4.5/48, MS4.3/18, Error ellipse: s-maj=9.3km s-min=5.9km az=111.6*
*IDC **22** 01:15:46.4±0.5, 458N×3252W, h0km, mb4.2/21, mb1 4.3/21, mb1mx4.3/25, mbtmp4.2/21, MS4.3/14, Ms1 4.3/14, ms1mx4.2/17, Error ellipse: s-maj=18.6km s-min=12.9km az=149.0*
*MOS **22** 01:15:46.4±1.0, 456N×3244W, h10km, mb5.1/22, Error ellipse: s-maj=13.6km s-min=6.7km az=55.0*
*SZGRF **22** 01:15:48.6, 418N×3256W, h33km, mb4.7, MS4.4, Central Mid-Atlantic Ridge*
*HRVD **22** 01:15:48.0±0.3, 465N×3271W, h14km±1km, MW5.0/67, Centroid moment Tensor Solution. LP body waves: s34,c41;Mantle waves: s67,c102; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-4.68±.29; $M_{\theta\theta}$0.74±.16; $M_{\phi\phi}$3.94±.18; $M_{r\theta}$-0.43±.45; $M_{\theta\phi}$-0.73±.11; $M_{\phi r}$0.78±.33; Best double couple: M_0=4.47800×10^16 NP1:ϕ_s165.00000°,δ51.00000°,λ-93.00000°. Principal axes: T 4.1820, Plg6.0000°, Azm257.0000°; N 0.5900, Plg3.0000°, Azm167.0000°; P -4.7740, Plg84.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 01:15:48.0±0.2, 451N×3250W, h10km, mb4.7/31, MS4.4/3 Error ellipse: s-maj=8.0km s-min=5.2km az=146.0*
ISC 22 01:15:48.5±0.3, 454N±006×3251W±005, h10km, n134, σ1§00/130, mb4.5/48, MS4.3/18, 1C-12D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.85**	**198**	*ePn*	**Pn**	**01 18 22.4**	**-1.4**
BDFB	**Brasilia**	**25.26**	**217**	P	**P**	**01 21 15.6**	**+0.8**
	1.6nm,0.6s,mb3.8,baz=75,slow=12,SNR=3.1						
BDFB				LR	LR	01 30 04.2	
	comp=Z,1μm,20.2s,MS4.3,baz=40,slow=34						
LIC	**Lamto**	**27.41**	**85**	*eP*	**P**	**01 21 34.3**	**+0.1**
	40nm,1.3s,mb4.5						
LIC				*eR*			
	2μm,19.8s						
LIC	**Lamto**	**27.41**	**85**	*eP*	**P**	**01 21 34.3**	**+0.1**
	20nm,1.3s,mb4.5						
LIC				LR	LR		
	comp=Z,810nm,19.8s,MS4.3						
DBIC	**Dimbokro**	**27.59**	**84**	P	**P**	**01 21 36.1**	**+0.2**
	comp=Z,4.8nm,0.9s,mb4.2,baz=258,slow=11,SNR=4.5						
DBIC				LR	LR	01 29 57.5	
	comp=Z,872nm,20.8s,MS4.3,baz=262,slow=31						
DBIC	**Dimbokro**	**27.59**	**84**	*eP*	**P**	**01 21 33.4**	**-2.5**
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DBIC	**Dimbokro**	**27.59**	**84**	*eP*	**P**	**01 21 33.4**	**-2.5**
	comp=Z,6.5nm,0.9s,mb4.3						
SAML	**Samuel**	**33.39**	**246**	*eP*	**P**	**01 22 26.7**	**-0.4**
	comp=Z,4.2nm,0.9s,mb4.4						
TOA0	**Torodi Ar. Sit**	**34.82**	**74**	*eP*	**P**	**01 22 39.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**34.82**	**74**	P	**P**	**01 22 39.5**	**0.0**
	comp=Z,10.0nm,0.9s,mb4.8,baz=261,slow=8.1,SNR=29						
TORD				PcP	PcP	01 25 12.3	-0.4
	comp=Z,0.3nm,0.5s,baz=289,slow=3.5,SNR=7.9						
TORD	**Torodi Ar. Bea**	**34.82**	**74**	P	**P**	**01 22 39.5**	**0.0**
TORD				PcP	PcP	01 25 12.3	-0.4
SIV	**San Ignacio**	**34.86**	**234**	P	**P**	**01 22 40.3**	**+0.4**
	comp=Z,1.1nm,0.8s,mb3.8,baz=75,slow=13,SNR=5.0						
SJG	**San Juan**	**35.55**	**295**	P	**P**	**01 22 45.6**	**-0.1**
	comp=Z,6.1nm,0.5s,mb4.8,baz=331,slow=19,SNR=3.1						
SJG	**San Juan**	**35.55**	**295**	P	**P**	**01 22 45.6**	**-0.2**
SDV	**Santo Domingo**	**38.10**	**279**	*eP*	**P**	**01 23 05.6**	**-1.9**
MDT	**Midelt**	**38.34**	**39**	P	**P**	**01 23 09.6**	**+0.1**
	comp=Z,2.7nm,0.9s,mb4.0,baz=222,slow=13,SNR=4.0						
CPUP	**Villa Florida**	**38.99**	**217**	P	**P**	**01 23 13.4**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=21,slow=11,SNR=3.8						
CPUP				LR	LR	01 38 60.0	
	comp=Z,653nm,18.3s,MS4.5,baz=34,slow=36						
CPUP	**Villa Florida**	**38.99**	**217**	*eP*	**P**	**01 23 13.7**	**-1.3**
LPAZ	**La Paz**	**40.86**	**239**	P	**P**	**01 23 30.5**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.5,baz=34,slow=7.3,SNR=5.5						
LPAZ				LR	LR	01 39 20.3	
	comp=Z,441nm,19.6s,MS4.3,baz=21,slow=35						
LPAZ	**La Paz**	**40.86**	**239**	*eP*	**P**	**01 23 31.1**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LPAZ	**La Paz**	**40.86**	**239**	*eP*	**P**	**01 23 31.1**	**+0.5**
	comp=Z,3.6nm,1.0s,mb4.0						
ROSC	**El Rosal**	**41.68**	**272**	LR	LR	01 41 57.9	
	comp=Z,502nm,18.5s,MS4.4,baz=188,slow=38						
ESDC	**Sonseca Array**	**43.45**	**32**	P	**P**	**01 23 51.7**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.0,baz=228,slow=8.4,SNR=10						
ESLA	**Sonseca Array**	**43.45**	**32**	P	**P**	**01 23 52.5**	**+0.8**
CART	**Cartagena**	**43.70**	**37**	*eP*	**P**	**01 23 51.0**	**-2.6**
OTAV	**Otavalo**	**46.09**	**266**	*eP*	**P**	**01 24 12.0**	**-0.7**
SJPF	**Ste Jean**	**47.35**	**31**	*eP*	**P**	**01 24 22.5**	**-0.1**
	comp=Z,17nm,1.1s,mb4.6						
SJPF	**Ste Jean**	**47.35**	**31**	*eP*	**P**	**01 24 22.5**	**-0.1**
SJPF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
SJPF	**Ste Jean**	**47.35**	**31**	*eP*	**P**	**01 24 22.5**	**-0.1**
	comp=Z,8.4nm,1.1s,mb4.6						
ETSF	**Etsaut**	**47.55**	**32**	*eP*	**P**	**01 24 24.2**	**+0.1**
	comp=Z,10nm,1.1s,mb4.4						
ETSF	**Etsaut**	**47.55**	**32**	*eP*	**P**	**01 24 24.2**	**+0.1**
ETSF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
ETSF	**Etsaut**	**47.55**	**32**	*eP*	**P**	**01 24 24.2**	**+0.1**
	comp=Z,5.1nm,1.1s,mb4.5						
EPF	**Esparros**	**48.11**	**32**	*eP*	**P**	**01 24 28.5**	**0.0**
	comp=Z,21nm,1.1s,mb4.8						
EPF	**Esparros**	**48.11**	**32**	*eP*	**P**	**01 24 28.5**	**0.0**
EPF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
EPF	**Esparros**	**48.11**	**32**	*eP*	**P**	**01 24 28.5**	**0.0**
	comp=Z,11nm,1.1s,mb4.8						
MTLF	**Montolieu**	**49.34**	**33**	*eP*	**P**	**01 24 36.9**	**-1.0**
	comp=Z,23nm,1.1s,mb4.8						
MTLF	**Montolieu**	**49.34**	**33**	*eP*	**P**	**01 24 36.9**	**-1.0**
MTLF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
MTLF	**Montolieu**	**49.34**	**33**	*eP*	**P**	**01 24 36.9**	**-1.0**
	comp=Z,12nm,1.1s,mb4.8						
TRQA	**Tornquist**	**50.45**	**210**	*eP*	**P**	**01 24 45.9**	**-0.4**
LASF	**Ste Croix**	**50.72**	**34**	*eP*	**P**	**01 24 47.7**	**-0.7**
	comp=Z,32nm,1.2s,mb4.8						
TCF	**Toulx Ste Croi**	**51.32**	**30**	*eP*	**P**	**01 24 52.7**	**-0.2**
VIVF	**Saint-Julien-I**	**51.66**	**33**	*eP*	**P**	**01 24 55.1**	**-0.4**
	comp=Z,9.2nm,0.9s,mb4.4						
VIVF	**Saint-Julien-I**	**51.66**	**33**	*eP*	**P**	**01 24 55.1**	**-0.4**
VIVF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
VIVF	**Saint-Julien-I**	**51.66**	**33**	*eP*	**P**	**01 24 55.1**	**-0.4**
	comp=Z,4.6nm,0.9s,mb4.4						
BGF	**Bois d'Agland**	**51.83**	**31**	*eP*	**P**	**01 24 54.7**	**-2.0**
	comp=Z,15nm,1.0s,mb4.6						
BGF	**Bois d'Agland**	**51.83**	**31**	*eP*	**P**	**01 24 54.7**	**-2.0**
BGF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
BGF	**Bois d'Agland**	**51.83**	**31**	*eP*	**P**	**01 24 54.7**	**-2.0**
	comp=Z,7.7nm,1.0s,mb4.6						
SMF	**Signal de Mont**	**52.39**	**31**	*eP*	**P**	**01 24 59.8**	**-1.1**
	comp=Z,16nm,1.2s,mb4.5						
SMF	**Signal de Mont**	**52.39**	**31**	*eP*	**P**	**01 24 59.8**	**-1.1**
SMF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
SMF	**Signal de Mont**	**52.39**	**31**	*eP*	**P**	**01 24 59.8**	**-1.1**
	comp=Z,8.3nm,1.2s,mb4.5						
SSF	**Saint Saulge**	**52.50**	**30**	*eP*	**P**	**01 25 01.7**	**0.0**
SBF	**Sospel**	**52.61**	**36**	*eP*	**P**	**01 25 02.0**	**-0.5**
	comp=Z,41nm,1.2s,mb4.9						
SBF	**Sospel**	**52.61**	**36**	*eP*	**P**	**01 25 02.0**	**-0.5**
SBF				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
SBF	**Sospel**	**52.61**	**36**	*eP*	**P**	**01 25 02.0**	**-0.5**
	comp=Z,21nm,1.2s,mb4.9						
MBDF	**Montbardon**	**52.75**	**35**	*eP*	**P**	**01 25 04.6**	**+1.0**
	comp=Z,14nm,1.0s,mb4.5						
MBDF	**Montbardon**	**52.75**	**35**	*eP*	**P**	**01 25 04.6**	**+1.0**
MBDF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MBDF	**Montbardon**	**52.75**	**35**	*eP*	**P**	**01 25 04.6**	**+1.0**
	comp=Z,7.2nm,1.0s,mb4.6						
LPG	**La Plagne**	**53.21**	**34**	*eP*	**P**	**01 25 06.9**	**-0.1**
LPL	**La Plagne**	**53.21**	**34**	*eP*	**P**	**01 25 07.8**	**+0.8**
	comp=Z,21nm,1.2s,mb4.6						
LPL	**La Plagne**	**53.21**	**34**	*eP*	**P**	**01 25 07.8**	**+0.8**
LPL				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
LPL	**La Plagne**	**53.21**	**34**	*eP*	**P**	**01 25 07.8**	**+0.8**
	comp=Z,11nm,1.2s,mb4.7						
HAU	**Haudompre**	**54.57**	**31**	*eP*	**P**	**01 25 16.6**	**-0.3**
	comp=Z,14nm,1.1s,mb4.6						
HAU				*eR*			
	comp=Z,466nm,21.0s						
HAU	**Haudompre**	**54.57**	**31**	*eP*	**P**	**01 25 16.6**	**-0.3**
HAU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
HAU				MLR	MLR		
	comp=Z,470nm,21.0s,MS4.5						
HAU	**Haudompre**	**54.57**	**31**	*eP*	**P**	**01 25 16.6**	**-0.3**
	comp=Z,7.0nm,1.1s,mb4.6						
HAU				LR	LR		
	comp=Z,470nm,21.0s,MS4.5						
TSUM	**Tsumeb**	**54.64**	**117**	P	**P**	**01 25 16.8**	**-0.6**
HINF	**Hinteralfeld**	**54.72**	**32**	*eP*	**P**	**01 25 17.6**	**-0.4**
BAIF	**Baives**	**54.88**	**28**	*eP*	**P**	**01 25 17.5**	**-1.7**
	comp=Z,39nm,1.1s,mb5.0						
BAIF	**Baives**	**54.88**	**28**	*eP*	**P**	**01 25 17.5**	**-1.7**
BAIF				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
BAIF	**Baives**	**54.88**	**28**	*eP*	**P**	**01 25 17.5**	**-1.7**
	comp=Z,19nm,1.1s,mb5.0						
GOGA	**Godfrey**	**55.37**	**308**	*eP*	**P**	**01 25 28.1**	**+5.4**
GOGA				pmax	pmax		
	comp=Z,129nm,1.3s						
GOGA	**Godfrey**	**55.37**	**308**	*eP*	**P**	**01 25 28.1**	**+5.4**
	comp=Z,128nm,1.3s						
AQU	**L'Aquila**	**55.46**	**40**	⇑*iP*	**P**	**01 25 24.1**	**+0.8**
PLCA	**Paso Flores**	**56.94**	**214**	LR	LR	01 49 56.3	
	comp=Z,456nm,21.6s,MS4.5,baz=12,slow=36						
SCHQ	**Schefferville**	**57.28**	**337**	P	**P**	**01 25 34.3**	**-2.0**
	comp=Z,1.9nm,0.6s,mb4.3,baz=166,slow=5.6,SNR=6.3						
SCHQ				LR	LR	01 44 53.1	
	comp=Z,86nm,20.5s,MS3.8,baz=217,slow=30						
LRAL	**Lakeview Retre**	**58.06**	**306**	*eP*	**P**	**01 25 42.1**	**+0.3**
	comp=Z,12nm,1.2s,mb4.8						
GRA1	**Grafenberg Arr**	**58.15**	**32**	*eP*	**P**	**01 25 42.4**	**0.0**
	comp=Z,9.0nm,1.2s,mb4.7						
GRA1				LR	LR		
	comp=Z,300nm,18.5s,MS4.4						
GRF	**Grafenberg Arr**	**58.15**	**32**	*eP*	**P**	**01 25 42.4**	**0.0**
	comp=Z,9.0nm,1.2s,mb4.7						
GRF				*eL*		01 48 47.8	
	comp=Z,264nm,18.5s						
GRF	**Grafenberg Arr**	**58.15**	**32**	*eP*	**P**	**01 25 42.4**	**0.0**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
GRF				MLR	MLR		
	comp=Z,300nm,18.5s,MS4.4						
GERES	**GERESS Array B**	**59.01**	**34**	P	**P**	**01 25 48.1**	**-0.3**
	comp=Z,3.7nm,1.0s,mb4.4,baz=235,slow=4.7,SNR=15						
GERES				LR	LR	01 48 41.1	
	comp=Z,189nm,18.5s,MS4.2,baz=49,slow=34						
GERES	**GERESS Array B**	**59.01**	**34**	P	**P**	**01 25 48.1**	**-0.3**
GERES				LR	LR	01 48 41.1	
PLAL	**Pickwick Lake**	**59.49**	**308**	*eP*	**P**	**01 25 51.4**	**-0.4**
	comp=Z,4.3nm,1.0s,mb4.4						
BRG	**Berggiesshubel**	**60.26**	**32**	*eP*	**P**	**01 25 56.9**	**-0.1**
	comp=Z,2.8nm,1.1s,mb4.2						
BRG							
	comp=N,52nm,18.6s						
BRG							
	comp=E,110nm,15.3s						
BRG							
	comp=Z,141nm,17.3s						
BRG	**Berggiesshubel**	**60.26**	**32**	*eP*	**P**	**01 25 56.9**	**-0.1**
BRG				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
BRG				MLR	MLR		
	comp=N,52nm,18.6s,MS4.1						
BRG				MLR	MLR		
	comp=E,110nm,15.3s,MS4.1						
BRG				MLR	MLR		
	comp=Z,141nm,17.3s,MS4.2						
SRO	**Srobarova**	**61.14**	**37**	*eP*	**P**	**01 26 03.9**	**+0.8**
SRO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
SRO	**Srobarova**	**61.14**	**37**	*eP*	**P**	**01 26 03.9**	**+0.8**
	comp=Z,11nm,1.0s,mb5.0						
BZS	**Buzias**	**62.22**	**40**	⇓*iP*	**P**	**01 26 11.1**	**+0.8**
BZS	**Buzias**	**62.22**	**40**	⇓P	**P**	**01 26 11.1**	**+0.8**
KECS	**Kecovo**	**62.74**	**37**	*eP*	**P**	**01 26 15.2**	**+1.4**
CCM	**Cathedral Cave**	**62.83**	**311**	*eP*	**P**	**01 26 13.5**	**-0.9**
CCM				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.9						
CCM	**Cathedral Cave**	**62.83**	**311**	*eP*	**P**	**01 26 13.4**	**-0.9**
	comp=Z,12nm,1.2s,mb4.9						
DRGR		**63.39**	**39**	⇓*iP*	**P**	**01 26 19.4**	**+1.3**
DRGR		**63.39**	**39**	⇓P	**P**	**01 26 19.4**	**+1.3**
LBTB	**Lobatse**	**63.59**	**121**	*eP*	**P**	**01 26 20.5**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
LBTB	**Lobatse**	**63.59**	**121**	*eP*	**P**	**01 26 20.5**	**+1.1**
	comp=Z,5.3nm,1.0s,mb4.5						
SFJD	**Kangerlussuaq**	**63.59**	**352**	P	**P**	**01 26 18.1**	**-1.4**
STHS	**Stebnicka Huta**	**63.60**	**36**	*eP*	**P**	**01 26 19.1**	**-0.4**
VOIR		**64.38**	**41**	⇓*iP*	**P**	**01 26 26.1**	**+1.5**
VOIR		**64.38**	**41**	⇓P	**P**	**01 26 26.1**	**+1.5**
BOSA	**Boshof**	**64.53**	**125**	P	**P**	**01 26 25.9**	**+0.3**
	comp=Z,3.7nm,0.6s,mb4.6,baz=278,slow=5.0,SNR=9.3						
BOSA				LR	LR	01 48 40.8	
	comp=Z,264nm,19.3s,MS4.4,baz=114,slow=31						
MLR	**Muntele Rosu**	**64.99**	**41**	⇓*iP*	**P**	**01 26 29.4**	**+0.8**
NB2	**NORSAR Subarra**	**65.20**	**22**	P	**P**	**01 26 29.5**	**-0.5**
	comp=Z,8.8nm,1.2s,mb4.7,baz=229,slow=6.5						
NB2	**NORSAR Subarra**	**65.20**	**22**	P	**P**	**01 26 29.5**	**-0.5**
NB2				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
NOA	**NORSAR Array B**	**65.20**	**22**	P	**P**	**01 26 29.3**	**-0.7**
	comp=Z,3.3nm,1.1s,mb4.3,baz=225,slow=7.0,SNR=4.1						
NOA				LR	LR	01 53 15.3	
	comp=Z,188nm,18.1s,MS4.3,baz=255,slow=34						
NOA	**NORSAR Array B**	**65.20**	**22**	P	**P**	**01 26 29.3**	**-0.7**
NOA				LR	LR	01 53 15.3	
LVV	**L'vov**	**65.42**	**36**	*eP*	**P**	**01 26 21.7**	**-10**
PLOR	**Plostina**	**65.57**	**41**	⇓*iP*	**P**	**01 26 33.8**	**+1.4**
VRI	**Vrincioaia**	**65.63**	**41**	⇓*iP*	**P**	**01 26 33.3**	**+0.5**
VRI	**Vrincioaia**	**65.63**	**41**	⇓P	**P**	**01 26 33.2**	**+0.5**
CFR	**Carcaliu**	**66.34**	**42**	⇓*iP*	**P**	**01 26 38.4**	**+1.1**
CFR	**Carcaliu**	**66.34**	**42**	⇓P	**P**	**01 26 38.4**	**+1.0**
SUMG	**Summit**	**68.05**	**358**	*eP*	**P**	**01 26 47.3**	**-0.9**
	comp=Z,22nm,0.6s,mb5.4						
BR131	**Keskin Array S**	**68.84**	**49**	*eP*	**P**	**01 26 53.1**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**68.84**	**49**	P	**P**	**01 26 53.5**	**+0.4**
	comp=Z,4.3nm,1.0s,mb4.3,baz=227,slow=4.9,SNR=19						
AKASG	**Malin Array Be**	**68.84**	**37**	P	**P**	**01 26 52.1**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.2,baz=252,slow=6.7,SNR=14						
ULM	**Lac du Bonnet**	**69.68**	**322**	LR	LR	01 50 33.2	
	comp=Z,83nm,20.2s,MS4.0,baz=63,slow=30						
KMBO	**Kilima Mbogo**	**69.92**	**93**	P	**P**	**01 27 00.7**	**+0.8**
	comp=Z,2.2nm,1.1s,mb4.0,baz=52,slow=19,SNR=3.2						
KMBO				LR	LR	01 54 51.9	
	comp=Z,282nm,18.5s,MS4.5,baz=266,slow=34						
FINES	**FINESS Array B**	**71.42**	**26**	P	**P**	**01 27 07.8**	**-1.1**
	comp=Z,3.1nm,1.1s,mb4.2,baz=257,slow=3.3,SNR=4.2						
ISCO	**Idaho Springs**	**74.14**	**310**	*eP*	**P**	**01 27 25.7**	**+0.6**
ISCO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
ISCO	**Idaho Springs**	**74.14**	**310**	*eP*	**P**	**01 27 25.7**	**+0.6**
	comp=Z,9.9nm,1.1s,mb4.7						
ARCES	**ARCESS Array B**	**74.97**	**18**	P	**P**	**01 27 27.9**	**-2.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=238,slow=5.2,SNR=4.4						
PDAR	**Pinedale Array**	**77.42**	**313**	P	**P**	**01 27 44.2**	**+0.4**
	comp=Z,1.4nm,0.8s,mb3.9,baz=108,slow=4.8,SNR=8.7						
IMW	**Indian Meadow**	**78.53**	**314**	*eP*	**P**	**01 27 51.8**	**+1.7**
	comp=Z,12nm,1.1s,mb4.8						
HWUT	**Hardware Ranch**	**78.82**	**311**	P	**P**	**01 27 53.0**	**+1.4**
	comp=Z,3.1nm,0.6s,mb4.4						
MSU	**Marysvale**	**79.11**	**308**	P	**P**	**01 27 55.7**	**+2.5**
BOZ	**Bozeman (W)**	**79.16**	**315**	P	**P**	**01 27 54.4**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
BOZ	**Bozeman (W)**	**79.16**	**315**	P	**P**	**01 27 54.4**	**+0.9**
	comp=Z,6.6nm,1.4s,mb4.4						
DUG	**Dugway**	**79.68**	**310**	P	**P**	**01 27 58.0**	**+1.7**
DUG				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
DUG	**Dugway**	**79.68**	**310**	P	**P**	**01 27 58.0**	**+1.6**
	comp=Z,18nm,1.5s,mb4.8						
BGU	**Big Grassy Mou**	**79.88**	**311**	*eP*	**P**	**01 27 58.2**	**+0.7**
CHMT	**Chamberlain Mo**	**80.38**	**317**	*eP*	**P**	**01 28 00.9**	**+0.8**
EDM	**Edmonton**	**80.89**	**323**	P	**P**	**01 28 03.0**	**+0.1**
YKA	**Yellowknife Ar**	**82.34**	**332**	P	**P**	**01 28 09.6**	**-0.9**
	comp=Z,0.8nm,0.9s,mb3.6,baz=90,slow=5.5,SNR=2.9						
YKA				LR	LR	01 59 32.5	
	comp=Z,82nm,21.9s,MS4.0,baz=0.0,slow=32						
NVAR	**Mina Array Bea**	**83.91**	**308**	P	**P**	**01 28 20.5**	**+1.9**
	comp=Z,5.1nm,1.3s,mb4.5,baz=76,slow=7.5,SNR=2.9						
MAW	**Mawson**	**96.23**	**157**	LR	LR	02 04 17.5	
	comp=Z,127nm,18.2s,MS4.4,baz=64,slow=30						

IDC 22 02:02:30.4±3.2, 459S×15201E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=126.7km s-min=43.8km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**227**	P	P	02 07 37.5	+0.7
	0.3nm,0.4s,baz=54,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**25.78**	**221**	P	P	02 08 03.7	+0.7
	0.5nm,0.5s,baz=65,slow=8.5,SNR=4.5						
FITZ	**Fitzroy Crossi**	**29.07**	**240**	P	P	02 08 32.4	-0.1
	1.4nm,0.5s,baz=45,slow=5.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**149.49**	**288**	PKPbc	PKPbc	02 22 22.2	+0.6
	0.2nm,0.5s,baz=69,slow=1.5,SNR=8.5						

IDC 22 02:49:24.4±1.1, 2081S×17420W, h0km, mb3.7/4, mb1 4.2/5, mb1mx3.9/15, mbtmp3.9/5, Error ellipse: s-maj=62.1km s-min=24.3km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.95**	**201**	P	Pn	02 53 47.0	-0.5
	0.6nm,0.3s,baz=353,slow=7.9,SNR=4.1						
ASAR	**Alice Springs**	**47.91**	**256**	P	P	02 58 04.5	+0.2
	1.1nm,0.8s,baz=94,slow=8.0,SNR=11						
ASAR				PcP	PcP	02 59 33.9	+1.1
	0.8nm,0.9s,baz=102,slow=3.6,SNR=4.8						
WRA	**Warramunga Arr**	**48.08**	**261**	P	P	02 58 05.3	-0.3
	0.7nm,0.7s,baz=98,slow=8.7,SNR=4.8						
NVAR	**Mina Array Bea**	**78.84**	**42**	P	P	03 01 29.8	+0.6
	0.6nm,0.6s,baz=225,slow=8.9,SNR=3.0						
PDAR	**Pinedale Array**	**86.78**	**42**	P	P	03 02 09.4	-1.0
	0.1nm,0.3s,baz=161,slow=5.7,SNR=3.9						
AKASG	**Malin Array Be**	**144.93**	**334**	PKP	PKPdf	03 09 02.2	-1.2
	2.1nm,0.6s,baz=42,slow=4.1,SNR=11						
BRTR	**Keskin Array B**	**149.64**	**315**	PKPbc	PKPbc	03 09 16.8	+0.9
	1.1nm,0.8s,baz=109,slow=1.0,SNR=9.0						
GERES	**GERESS Array B**	**151.32**	**349**	PKPbc	PKPbc	03 09 20.5	+0.6
	0.4nm,0.5s,baz=202,slow=1.4,SNR=4.4						

IDC 22 02:52:02.4±1.6, 123N×9906E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=108.1km s-min=27.1km az=43.0, Northern Sumatera

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

CDCH eS Sn 03 01 16.5 -1.9
CDCH AML AML 03 01 25.2
comp=N,264nm,0.4s
CDCH Caldera 3.01 218 eP Pn 03 00 42.6 -0.6
CDCH eS Sn 03 01 16.5 -1.9
CFAA Coronel Fontan 6.89 176 P Pn 03 01 37.3 +1.4
comp=N,0.1nm,0.3s,baz=359,slow=10,SNR=10
LPAZ La Paz 8.39 4 P Pn 03 01 57.1 +0.8
comp=N,0.3nm,0.3s,baz=253,slow=5.9,SNR=9.1
SIV San Ignacio 11.27 41 P Pn 03 02 32.2 -3.2
comp=N,0.5nm,0.3s,baz=239,slow=11,SNR=14
BDFB Brasilia 21.43 69 P P 03 04 37.3 -0.7
comp=N,3.4nm,1.0s,mb3.6,baz=185,slow=14,SNR=3.6
TORD Torodi Ar. Bea 78.31 70 P P 03 11 47.9 +0.4
comp=N,3.0nm,0.6s,mb4.2,baz=253,slow=5.3,SNR=79
BOSA Boshof 81.83 118 P P 03 12 06.3 -0.1
comp=N,4.8nm,1.1s,mb4.2,baz=225,slow=6.2,SNR=4.5
ZAL Zalesovo 144.75 27 PKP PKPdf 03 19 23.2 -0.2
comp=N,2.1nm,0.7s,baz=180,slow=5.7,SNR=8.0
MKAR Makanchi Array 148.08 39 PKPbc PKPbc 03 19 32.3 -0.1
comp=N,1.3nm,0.6s,baz=304,slow=2.9,SNR=11

MAN 22 03:08:55.2, 1195N×12406E, h1km, mb3.5, ML4.7, MS3.0, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.59**	**314**	*i P*	Pg	03 09 05.5	-1.0
MMPH				eS	Sg	03 09 17.0	+2.9
PLP	**Palo**	**1.19**	**131**	eP	Pg	03 09 18.9	+0.9
PLP				eS	Sg	03 09 35.8	+2.3
RCP	**Roxas**	**1.34**	**253**	⇑eP	Pg	03 09 20.7	-0.3
RCP				eS	Sg	03 09 38.7	+0.3
LLP	**Lapu-Lapu**	**1.62**	**183**	⇑eP	Pn	03 09 24.9	-0.1
LLP				eS	Sn	03 09 45.8	-0.7
KALP	**Kalibo**	**1.71**	**261**	eP	Sn	03 09 46.6	-2.0
TBP	**Tagbilaran**	**2.25**	**185**	eP	Pn	03 09 41.8	+8.2
TBP				eS	Sn	03 10 11.4	+9.4
SNPH	**Sibulan**	**2.71**	**197**	eP	Pn	03 09 41.5	+1.6

*ISCJB **22** 03:25:32.4±0.8, 3484N±002×2675E±003, h11km±6km, mb3.8/12, Error ellipse: s-maj=4.7km s-min=3.5km az=3.5*
*MOS **22** 03:25:32.2±1.8, 3472N×2658E, h27km, mb4.1/4, Error ellipse: s-maj=8.5km s-min=5.6km az=96.6*
*HLW **22** 03:25:32.9, 3522N×2685E, h33km, Mb4.0*
*IDC **22** 03:25:32.6±1.1, 3477N×2690E, h0km, mb3.9/7, mb1 3.8/10, mb1mx3.7/21, mbtmp3.7/10, ML3.6/3, Error ellipse: s-maj=26.6km s-min=14.5km az=170.0*
*ISK **22** 03:25:33.3, 3479N×2656E, h46km, MD3.8*
*ATH **22** 03:25:33.0, 3489N×2678E, h13km±3km, MD3.8/11*
*NEIC **22** 03:25:33.0, 3489N×2678E, h13km, mb4.0/4, MD3.8(ATH), After ATH.*
*CSEM **22** 03:25:35.0±0.1, 3485N×2675E, h40km, mb3.9/3, Error ellipse: s-maj=2.2km s-min=1.8km az=108.0*

ISC 22 03:25:33.5±0.8, 3489N±002×2672E±003, h5km±6km, n96, σ1§21/103, mb3.8/12, 7C-9D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.75**	**29**	ePB	Pg	03 25 46.9	-1.0
XRY	**Khrisi**	**0.84**	**269**	⇓iPG	Pg	03 25 49.5	-0.1
NPS	**Neapolis**	**0.98**	**293**	ePN	Pn	03 25 52.9	-0.9
IDI	**Anoyia**	**1.55**	**285**	Pn	Pn	03 26 02.7	+1.0
	15nm,0.3s,baz=107,slow=16,SNR=82						
IDI				Sn	Sn	03 26 26.5	+4.4
	44nm,0.3s,baz=345,slow=19,SNR=16						
NISR	**Nisiros**	**1.75**	**11**	ePN	Pn	03 26 05.0	+0.5
ARG	**Arkhangelos**	**1.75**	**41**	ePG	Pg	03 26 05.4	-1.7
SANT	**Santorini**	**1.80**	**326**	ePn	Pn	03 26 05.7	+0.6
SANT	**Santorini**	**1.80**	**326**	ePn	Pn	03 26 05.7	+0.6
DAT	**Datca**	**1.96**	**21**	PN	Pn	03 26 07.2	-0.2
DAT				SN	Sn	03 26 31.9	-0.5
VAM	**Vamos**	**2.13**	**285**	ePG	Pg	03 26 12.8	-1.5
GVD	**Gavdhos**	**2.16**	**269**	ePN	Pn	03 26 12.0	+1.9
BODT	**Bodrum**	**2.22**	**12**	PN	Pn	03 26 11.4	+0.5
BDRM	**Kayabasi**	**2.25**	**15**	*i P*	Pn	03 26 12.2	+0.9
APE	**Apeiranthos**	**2.38**	**336**	ePB	Pn	03 26 13.9	+0.8
DALT	**Dalyan (Mudla)**	**2.44**	**39**	PN	Pn	03 26 14.6	+0.7
MLSB	**Milas**	**2.55**	**19**	ePN	Pn	03 26 16.2	+0.8
YER	**Yerkesik**	**2.58**	**29**	PN	Pn	03 26 16.5	+0.7
FETY	**Fethiye**	**2.60**	**47**	PN	Pn	03 26 16.3	+0.2
KSL	**Kastellorizon**	**2.66**	**61**	ePB	Pn	03 26 17.0	+0.1
AYDN	**Tasoluk**	**2.92**	**18**	*i P*	Pn	03 26 21.5	+0.9
ELL	**Elmali**	**3.19**	**54**	PN	Pn	03 26 24.7	+0.5
KYTH	**Kithira**	**3.31**	**296**	ePN	Pn	03 26 27.0	+1.2
DENT	**Denizli**	**3.42**	**33**	PN	Pn	03 26 28.1	+0.7
BLCB	**Balcova**	**3.50**	**4**	ePN	Pn	03 26 28.3	-0.2
IZM	**Izmir**	**3.53**	**7**	ePN	Pn	03 26 29.4	+0.5
VLI	**Veliai**	**3.57**	**302**	ePN	Pn	03 26 31.2	+1.7
SLUM		**3.62**	**201**	⇑P	Pn	03 26 31.6	+1.5
ANTB	**Antalya**	**3.77**	**57**	ePN	Pn	03 26 33.1	+0.8
HMAT	**Matruh**	**3.80**	**175**	⇓eP	Pn	03 26 34.0	+1.4
HMAT				S	Sn	03 27 17.8	+0.2
MANT	**Manisa**	**3.89**	**22**	*i P*	Pn	03 26 34.5	+0.6
BCK	**Bucak**	**4.05**	**50**	ePN	Pn	03 26 37.4	+1.3
KHL	**Karahalli**	**4.10**	**33**	ePN	Pn	03 26 38.1	+1.3
TKTP	**Tekketepe**	**4.28**	**42**	*i P*	Pn	03 26 31.4	-7.8
EZN	**Ezine**	**4.94**	**356**	ePN	Pn	03 26 48.6	+0.3
ERMK	**Ermenek**	**5.33**	**69**	*i P*	Pn	03 26 49.3	-4.4
KONT	**Konya--Tatoy**	**5.48**	**55**	ePN	Pn	03 26 56.5	+0.8
EDC	**Edincik**	**5.52**	**9**	ePN	Pn	03 26 57.4	+1.1
BNT	**Bandirma**	**5.54**	**10**	ePN	Pn	03 26 57.2	+0.6
SWA1		**5.67**	**189**	⇑eP	Pn	03 26 59.6	+1.2
SWA1				S	Sn	03 28 03.2	-0.6
SWA2		**5.73**	**191**	⇑P	Pn	03 27 00.6	+1.5
KIZT	**Kizilcal**	**5.74**	**45**	ePN	Pn	03 27 01.4	+2.1
ENEZ	**Enez**	**5.85**	**356**	ePN	Pn	03 27 01.2	+0.3
MFT	**Murefte**	**5.91**	**4**	ePN	Pn	03 27 02.2	+0.6
YLV	**Yalova**	**6.05**	**20**	ePN	Pn	03 27 05.0	+1.5
HSAF	**As Saff**	**6.66**	**141**	⇓P	Pn	03 27 11.5	-0.5
GLL	**Jalalah**	**6.78**	**140**	⇑P	Pn	03 27 13.3	-0.2
AMAG	**Maghara**	**6.91**	**126**	⇓P	Pn	03 27 13.9	-1.5
EDRB	**Edirne**	**6.95**	**0**	ePN	Pn	03 27 16.1	+0.2
SUZ		**7.22**	**133**	⇓P	Pn	03 27 19.3	-0.3
BRTR	**Keskin Array B**	**7.33**	**47**	Pn	Pn	03 27 20.4	-0.7
	0.2nm,0.3s,baz=218,slow=14,SNR=10						
BRTR				Sn	Sn	03 28 45.3	+0.7
	0.1nm,0.3s,baz=219,slow=18,SNR=2.9						
BR131	**Keskin Array S**	**7.33**	**47**	ePn	Pn	03 27 18.5	-2.6
	0.5nm,0.4s						
MMAI	**Mount Meron Ar**	**7.46**	**102**	Pn	Pn	03 27 21.3	-1.6
	2.2nm,0.3s,baz=270,slow=12,SNR=6.8						
MMAI				Sn	Sn	03 28 45.2	-2.6
	1.6nm,0.3s,baz=311,slow=13,SNR=3.7						
ZAF		**7.46**	**137**	⇓*i P*	Pn	03 27 22.3	-0.7
ZNM		**7.58**	**135**	⇓*i P*	Pn	03 27 24.1	-0.5
ASUT		**8.54**	**150**	⇓P	Pn	03 27 38.2	+0.5
EIL	**Elat**	**8.70**	**124**	ePn	Pn	03 27 37.9	-2.0
EIL				eSn	Sn	03 29 14.1	-4.2
HBST	**Basata**	**8.84**	**128**	⇑P	Pn	03 27 41.1	-0.8
TIP	**Timpagrande**	**9.04**	**301**	ePn	Pn	03 27 43.7	-0.9
HDK1	**Dakhla**	**9.60**	**165**	⇑P	Pn	03 27 54.0	+1.8
GTR	**Jabal at Tayr**	**9.92**	**159**	⇑*i P*	Pn	03 27 57.7	+1.0
APRS		**11.04**	**161**	⇓P	Pn	03 28 13.3	+1.3
PGF	**Pioggiola**	**15.79**	**304**	eP	Pn	03 29 10.9	-5.5
AKASG	**Malin Array Be**	**15.91**	**6**	Pn	Pn	03 29 19.1	+1.1
	0.6nm,0.3s,baz=194,slow=10.0,SNR=4.5						
SBF	**Sospel**	**17.36**	**307**	eP	Pn	03 29 32.0	-4.5
	17nm,1.0s						
SBF	**Sospel**	**17.36**	**307**	eP	Pn	03 29 32.0	-4.5
SBF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SBF	**Sospel**	**17.36**	**307**	eP	Pn	03 29 32.0	-4.5
	comp=Z,8.5nm,1.0s						
MBDF	**Montbardon**	**18.16**	**309**	eP	Pn	03 29 42.6	-3.8
LPG	**La Plagne**	**18.52**	**311**	eP	Pn	03 29 49.4	-1.4
LPL	**La Plagne**	**18.54**	**311**	eP	Pn	03 29 49.3	-1.7
ORIF	**Oris-en-Rattie**	**18.82**	**308**	eP	Pn	03 29 51.8	-2.5
CABF	**La Chapelle**	**19.46**	**313**	eP	Pn	03 29 59.3	-2.9
HINF	**Hinteralfeld**	**19.66**	**317**	eP	Pn	03 30 01.0	-3.4
CDF	**Champ du Feu**	**19.76**	**319**	eP	Pn	03 30 01.7	-4.0
SMF	**Signal de Mont**	**20.85**	**311**	eP	P	03 30 14.2	-1.9
LOR	**Lormes**	**21.12**	**313**	eP	P	03 30 17.1	-1.9
AVF	**Avril sur Loir**	**21.21**	**311**	eP	P	03 30 18.0	-2.0
SSF	**Saint Saulge**	**21.24**	**312**	eP	P	03 30 18.1	-2.2
	comp=Z,18nm,1.0s,mb4.0						
SSF	**Saint Saulge**	**21.24**	**312**	eP	P	03 30 18.1	-2.2
SSF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
SSF	**Saint Saulge**	**21.24**	**312**	eP	P	03 30 18.1	-2.2
	comp=Z,8.8nm,1.0s,mb4.0						
ESDC	**Sonseca Array**	**24.81**	**290**	P	P	03 30 59.5	+3.1
	comp=Z,0.4nm,0.5s,mb3.2,baz=78,slow=8.9,SNR=3.7						
FINES	**FINESS Array B**	**26.58**	**359**	P	P	03 31 12.2	-0.2
	comp=Z,1.3nm,0.8s,mb3.5,baz=133,slow=18,SNR=3.8						
AKTK	**Aktyubinsk**	**27.51**	**46**	P	P	03 31 19.4	-1.4
	comp=Z,1.0nm,0.6s,mb3.6						
AKTO	**Aktyubinsk**	**27.51**	**46**	P	P	03 31 19.4	-1.4
	comp=Z,1.0nm,0.6s,mb3.7,baz=241,slow=6.5,SNR=4.4						
AKTO	**Aktyubinsk**	**27.51**	**46**	P	P	03 31 19.4	-1.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
TORD	**Torodi Ar. Bea**	**31.32**	**232**	P	P	03 31 54.6	+0.1
	comp=Z,0.6nm,0.6s,mb3.6,baz=32,slow=8.9,SNR=12						
ARCES	**ARCESS Array B**	**34.71**	**359**	P	P	03 32 20.0	-4.2
	comp=Z,3.8nm,1.1s,mb4.2,baz=186,slow=8.5,SNR=4.5						
ZRNK	**Zerenda**	**34.78**	**46**	eP	P	03 32 23.9	-1.0
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**34.78**	**46**	eP	P	03 32 23.9	-1.0
	comp=Z,1.5nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**34.78**	**46**	eP	P	03 32 23.9	-1.0
	comp=Z,1.5nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**35.90**	**45**	eP	P	03 32 33.0	-1.4
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
CHKZ	**Chkalovo**	**35.90**	**45**	eP	P	03 32 33.0	-1.5
	comp=Z,1.0nm,0.4s,mb4.1						
CHKZ	**Chkalovo**	**35.90**	**45**	eP	P	03 32 33.0	-1.4
	comp=Z,1.0nm,0.4s,mb4.1						
MKAR	**Makanchi Array**	**42.86**	**56**	P	P	03 33 31.8	-0.8
	comp=Z,0.9nm,0.5s,mb3.7,baz=272,slow=7.4,SNR=9.3						
ZAL	**Zalesovo**	**44.26**	**46**	P	P	03 33 43.2	-0.6
	comp=Z,1.2nm,0.3s,mb4.0,baz=133,slow=6.4,SNR=3.4						
SCHQ	**Schefferville**	**64.22**	**320**	P	P	03 36 11.1	+1.8
	comp=Z,1.2nm,0.5s,mb4.2,baz=33,slow=19,SNR=5.3						
SCHQ	**Schefferville**	**64.22**	**320**	P	P	03 36 11.1	+1.8

*NEIC **22** 03:32:08.0, 2806S×7041W, h53km, MG3.6(GUC), After GUC.*

GUC 22 03:32:08.0±0.8, 2806S×7041W, h53km±9km, ML3.6, 5C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.60**	**211**	⇑*i P*	Pn	03 32 21.1	+0.5
VACH				*i S*	Sn	03 32 30.8	+1.1
VACH				AML	AML	03 32 31.4	
	comp=N,12μm,0.1s						
VACH	**Vallenar**	**0.60**	**211**	⇑*i P*	Pn	03 32 21.1	+0.5
VACH				*i S*	Sn	03 32 30.8	+1.1
CPCH	**Copiapo**	**0.70**	**4**	⇑*i P*	Pn	03 32 22.3	+0.4
CPCH				*i S*	Sn	03 32 32.9	+1.1
CPCH				AML	AML	03 32 36.4	
	comp=N,16μm,0.1s						
CPCH	**Copiapo**	**0.70**	**4**	⇑*i P*	Pn	03 32 22.3	+0.4
CPCH				*i S*	Sn	03 32 32.9	+1.1
LCO	**Las Campanas**	**0.99**	**195**	⇑*i P*	Pn	03 32 26.3	+0.7
LCO				*i S*	Sn	03 32 40.4	+1.8
CDCH	**Caldera**	**1.05**	**339**	eP	Pn	03 32 26.8	+0.4
CDCH				*i S*	Sn	03 32 40.6	+0.6
CRCH	**Chaqaral**	**1.71**	**354**	eP	Pn	03 32 36.1	+0.6
CRCH				*i S*	Sn	03 32 57.0	+0.9
CRCH				AML	AML	03 33 01.9	
	comp=N,256nm,0.3s						
CRCH	**Chaqaral**	**1.71**	**354**	eP	Pn	03 32 36.1	+0.6
CRCH				*i S*	Sn	03 32 57.0	+0.9
LSCH	**La Serena**	**1.99**	**201**	*i P*	Pn	03 32 39.7	+0.5
LSCH				*i S*	Sn	03 33 04.0	+1.2
LSCH				AML	AML	03 33 10.1	
	comp=N,297nm,0.3s						
LSCH	**La Serena**	**1.99**	**201**	*i P*	Pn	03 32 39.7	+0.5
LSCH				*i S*	Sn	03 33 04.0	+1.2
TLL	**Tololo Astrono**	**2.13**	**189**	eP	Pn	03 32 43.5	+2.3
TLL				*i S*	Sn	03 33 09.4	+2.9
TLL				AML	AML	03 33 16.6	
	comp=E,226nm,0.3s						
TLL	**Tololo Astrono**	**2.13**	**189**	eP	Pn	03 32 43.5	+2.3
TLL				*i S*	Sn	03 33 09.4	+2.9
CMCH	**Combarbala**	**3.15**	**189**	eP	Pn	03 32 55.1	0.0
CMCH				*i S*	Sn	03 33 31.6	+0.2
CMCH				AML	AML	03 33 53.0	
	comp=E,388nm,0.9s						
CMCH	**Combarbala**	**3.15**	**189**	eP	Pn	03 32 55.1	0.0
CMCH				*i S*	Sn	03 33 31.6	+0.2

*IDC **22** 03:48:13.9±0.4, 307S×129.10E, h0km, mb4.9/22, mb1 4.9/25, mb1mx4.8/28, mbtmp4.9/25, ML4.6/3, MS4.7/9, Ms1 4.7/9, ms1mx4.2/19, Error ellipse: s-maj=19.7km s-min=10.5km az=75.0*
*ISCJB **22** 03:48:14.9±0.2, 3.10S±002×129.17E±004, h19km, mb5.1/74, MS4.7/31, Error ellipse: s-maj=5.7km s-min=3.1km az=140.7*
*BJI **22** 03:48:16.4, 3.10S×129.10E, h15km, mB5.1, mb4.9, Ms4.8, Msz4.7*
*HRVD **22** 03:48:16.5±0.1, 2.90S×129.17E, h24km, MW5.3/95, Centroid moment Tensor Solution. LP body waves: s69,c112;Mantle waves: s95,c181; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.24±.03; $M_{\theta\theta}$-1.31±.02; $M_{\phi\phi}$1.07±.03; $M_{r\theta}$-0.10±.03; $M_{\theta\phi}$-0.15±.02; $M_{r\phi}$0.21±.04; Best double couple: $M_0$1.22800×10^{17} NP1:ϕ_s=310.00000°, δ83.00000°, λ168.00000°. Principal axes: T 1.1310, Plg14.0000°, Azm266.0000°; N 0.1910, Plg76.0000°, Azm100.0000°; P -1.3250, Plg3.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 03:48:16.5±2.4, 3.12S×129.06E, h16km±14km, mb5.2/42 Error ellipse: s-maj=6.9km s-min=3.8km az=64.0*
NEIC Felt [IV] at Amahai.
*MOS **22** 03:48:17.4±1.1, 3.14S×128.93E, h33km, mb5.5/34, MS4.6/6, Error ellipse: s-maj=13.3km s-min=5.8km az=111.2*

ISC 22 03:48:17.2±0.2, 309S±002×12917E±004, h20km, h20km±2.4km: pP-P, n224, σ1§13/215, mb5.1/74, MS4.7/31, 5C-6D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.14**	**239**	P	Pn	03 48 41.5	+3.5
	20μm,0.5s						
SWI	**Sorong**	**3.04**	**43**	P	Pn	03 49 02.2	-2.0
	8μm,0.7s						
TLE	**Tual**	**4.37**	**126**	P	Pn	03 49 26.4	+4.0
	3μm,0.9s						
BAKI	**Biak**	**7.18**	**75**	P	Pn	03 50 01.0	-0.1
	935nm,0.9s						
PCI	**Palu**	**9.58**	**283**	P	Pn	03 50 37.6	+3.7
	389nm,1.1s						
KAPI	**Kappang**	**9.59**	**258**	Pn	Pn	03 50 38.8	+4.7
	760nm,0.9s,SNR=15						
KAKA	**Kakadu**	**10.09**	**161**	eP	Pn	03 50 41.7	+0.7
	103nm,0.4s						
KAKA				eS	Sn	03 52 35.0	+1.4
JAY	**Jayapura**	**11.53**	**87**	P	Pn	03 51 00.7	0.0
	233nm,0.8s						
TSM	**Tawau**	**13.46**	**303**	P	Pn	03 51 26.6	-0.4
FITZ	**Fitzroy Crossi**	**15.32**	**193**	eP	Pn	03 51 55.1	+2.9
	112nm,1.1s						
FITZ	**Fitzroy Crossi**	**15.32**	**193**	Pn	Pn	03 51 53.3	+1.2
	1.9nm,0.3s,baz=24,slow=14,SNR=34						
FITZ				LR	LR	03 58 46.6	
	comp=Z,3μm,18.5s,baz=16,slow=41						
KKM	**Kota Kinabalu**	**15.80**	**305**	P	Pn	03 52 00.7	+2.2
KKM	**Kota Kinabalu**	**15.80**	**305**	ePn	Pn	03 51 58.0	-0.4
KRKI	**Karangkates**	**17.38**	**252**	P	Pn	03 52 25.5	+7.0
	326nm,0.8s						
WRAB	**Tennant Creek**	**17.49**	**164**	Pn	Pn	03 52 19.8	0.0
	518nm,0.6s,SNR=44						
WRAB	**Tennant Creek**	**17.49**	**164**	eP	Pn	03 52 18.3	-1.5
WRAB				pmax	pmax		
	comp=Z,118nm,0.7s						
WRAB	**Tennant Creek**	**17.49**	**164**	ePn	Pn	03 52 18.3	-1.5
	comp=Z,118nm,0.7s						
WRA	**Warramunga Arr**	**17.50**	**164**	P	Pn	03 52 19.4	-0.6
	comp=Z,5.9nm,0.3s,baz=350,slow=12,SNR=49						
WRA				S	Sn	03 55 30.3	-3.8
	comp=Z,2.2nm,0.3s,baz=341,slow=21,SNR=3.8						
WB2	**Warramunga Arr**	**17.50**	**164**	eP	Pn	03 52 19.1	-0.9
WB2				eS	Sn	03 55 32.7	-1.5
TGY	**Tagaytay City**	**18.93**	**335**	P	Pn	03 52 37.6	+0.1
	comp=Z,88nm,0.3s,baz=90,slow=20,SNR=2.1						
PMG	**Port Moresby**	**18.94**	**110**	P	Pn	03 52 39.1	+1.5
	comp=Z,1.2nm,0.3s,baz=326,slow=6.3,SNR=8.5						
PMG	**Port Moresby**	**18.94**	**110**	eP	Pn	03 52 38.7	+1.1
PMG				pmax	pmax		
	comp=Z,137nm,0.9s						
PMG	**Port Moresby**	**18.94**	**110**	eP	Pn	03 52 38.7	+1.0
	comp=Z,137nm,0.9s						
KSM	**Kuching**	**19.39**	**283**	eP	Pn	03 52 42.5	-0.5
BJII	**Banjamegara**	**19.83**	**257**	P	Pn	03 52 49.2	+0.9
	comp=Z,151nm,0.9s						
MBWA	**Marble Bar**	**20.18**	**206**	eP	P	03 52 49.7	-0.7
	comp=Z,128nm,0.9s						
AS31	**Alice Springs**	**20.96**	**168**	eP	P	03 52 59.6	+0.7
AS31				eS	S	03 56 51.3	-0.3
ASAR	**Alice Springs**	**20.96**	**168**	P	P	03 52 59.5	+0.6
	comp=Z,51nm,0.5s,baz=348,slow=11,SNR=181						
ASAR				S	S	03 56 51.6	0.0
	comp=Z,41nm,0.9s,baz=348,slow=21,SNR=8.2						
ASPA	**Alice Springs**	**20.96**	**168**	eP	P	03 52 59.6	+0.7
ASPA				eS	S	03 56 51.3	-0.3
CVP	**Callao Caves**	**21.89**	**341**	eP	P	03 53 11.0	+2.1
CTA	**Charters Tower**	**23.73**	**137**	eP	P	03 53 29.6	+1.5
	comp=Z,59nm,0.9s,mb5.0						
CTA	**Charters Tower**	**23.73**	**137**	P	P	03 53 29.4	+1.3
	comp=Z,27nm,1.0s,mb4.6,baz=326,slow=14,SNR=11						
CTA	**Charters Tower**	**23.73**	**137**	P	P	03 53 29.4	+1.3
CTA				pmax	pmax		
	comp=Z,27nm,1.0s						
CTAO	**Charters Tower**	**23.73**	**137**	eP	P	03 53 28.7	+0.6
CTAO				pmax	pmax		
	comp=Z,72nm,0.8s,mb5.2						
CTAO	**Charters Tower**	**23.73**	**137**	eP	P	03 53 28.6	+0.6
	comp=Z,72nm,0.8s,mb5.2						
KGM	**Kluang**	**26.34**	**281**	P	P	03 53 54.6	+2.9
FORT	**Forrest**	**27.56**	**182**	eP	P	03 54 02.6	-0.2
	comp=Z,78nm,0.7s,mb5.5						
YHNB	**Yeheng**	**28.61**	**345**	eP	P	03 54 13.7	+1.6
QIZ	**Qiongzhong**	**29.06**	**320**	eP	P	03 54 15.8	-0.4
	comp=Z,38nm,1.4s,mb4.9						
KULM	**Kulim**	**29.68**	**286**	eP	P	03 54 19.0	-2.6
QZH	**Quanzhou**	**29.70**	**340**	P	P	03 54 28.8	+7.0
QZH				LR	LR		
	comp=N,2μm,20.0s						
QZH				LR	LR		
	comp=E,570nm,13.0s						
QZH				LR	LR		
	comp=Z,3μm,21.2s,MS4.8						
JOW	**Kunigami**	**29.76**	**358**	P	P	03 54 22.4	+0.2
	comp=Z,9.9nm,0.9s,mb4.5,baz=324,slow=19,SNR=4.6						
JOW				LR	LR	04 04 48.5	
	comp=Z,3μm,21.7s,MS4.9,baz=286,slow=33						
SNG	**Songkhla**	**30.27**	**290**	P	P	03 54 25.0	-1.8
KLBR	**Kellerberrin**	**30.32**	**200**	eP	P	03 54 26.2	-1.1
	comp=Z,13nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**30.93**	**159**	⇓*i P*	P	03 54 31.2	-1.5
	comp=Z,23nm,1.2s,mb4.9						
STKA	**Stephens Creek**	**30.93**	**159**	P	P	03 54 31.2	-1.4
	comp=Z,5.9nm,0.4s,mb4.8,baz=350,slow=7.5,SNR=16						
STKA				LR	LR	04 08 35.8	
	comp=Z,3μm,19.6s,MS5.0,baz=97,slow=39						
NWAO	**Narrogin (SRO)**	**31.72**	**199**	P	P	03 54 38.8	-0.8
	comp=Z,5.8nm,0.5s,mb4.7,baz=32,slow=7.3,SNR=7.9						
KKTK	**Khon Kaen**	**32.41**	**307**	P	P	03 54 47.0	+1.3
	comp=Z,370nm,0.6s						
CBIJ	**Chichi jima**	**32.53**	**22**	P	P	03 54 48.0	+1.3
	comp=Z,25nm,0.7s,mb5.2,baz=274,slow=15,SNR=4.1						
ADE	**Adelaide**	**32.93**	**166**	P	P	03 54 51.2	+0.9
NST	**Nakhon Sawan**	**34.25**	**304**	P	P	03 55 02.0	+0.3
SSE	**Sheshan**	**34.83**	**348**	eP	P	03 55 09.9	+3.1
SSE				AP	pP	03 55 12.5	-0.4
SSE				XP	sP	03 55 14.3	-1.1
SSE				PP	PP	03 56 29.5	+3.7
SSE				PCP	PcP	03 57 42.3	+2.6
SSE				S	S	04 00 42.0	+5.4
SSE				XS	sS	04 00 47.3	+0.7
SSE				SCS	ScS	04 05 30.3	+2.9
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,90nm,12.0s						
SSE				LR	LR		
	comp=N,350nm,30.2s,MS4.3						
SSE				LR	LR		
	comp=E,730nm,30.2s,MS4.3						
SSE				LR	LR		
	comp=Z,590nm,17.8s						
NJ2	**Nanjing**	**36.29**	**345**	eP	P	03 55 18.1	-1.2
NJ2				AP	pP	03 55 28.5	+3.1
NJ2				XP	sP	03 55 32.1	+4.2
NJ2				S	S	04 00 57.0	-2.0
NJ2				XS	sS	04 01 13.0	+3.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						

comp=E,490nm,24.3s
XAN LR LR
comp=Z,690nm,20.6s,MS4.5
CD2 Chengdu 41.59 326 *e*P **P 03 56 03.3 -0.4**
CD2 AP pP 03 56 07.8 -2.1
CD2 XP sP 03 56 10.6 -1.7
CD2 PP PP 03 57 42.4 +2.5
CD2 PCP PcP 03 57 58.8 -1.8
CD2 PCS PcS 04 01 50.3 -1.7
CD2 S **S 04 02 17.3 -1.5**
CD2 SS SS 04 05 16.3 -7.7
CD2 SCS ScS 04 06 03.8 -2.3
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
CD2 AMB AMB
comp=Z,90nm,9.8s
CD2 LR LR
comp=N,380nm,19.2s
CD2 LR LR
comp=Z,450nm,22.2s,MS4.3
DL2 Dalian 42.36 351 *e*P **P 03 56 07.6 -2.4**
DL2 S **S 04 02 27.1 -3.0**
DL2 SS SS 04 05 40.6 +1.5
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
DL2 AMB AMB
comp=Z,160nm,8.5s
DL2 LR LR
comp=N,130nm,18.5s,MS4.4
DL2 LR LR
comp=E,480nm,18.4s,MS4.4
DL2 LR LR
comp=Z,450nm,18.4s,MS4.4
BJT Baijiatuau 44.53 346 *e*P **P 03 56 28.6 +1.2**
BJT pmax pmax
comp=Z,47nm,1.3s
BJT Baijiatuau 44.53 346 *e*P **P 03 56 28.6 +1.2**
comp=Z,47nm,1.3s,mb5.2
SNY Shenyang 44.99 354 ⇑P **P 03 56 30.8 -0.3**
SNY AP pP 03 56 36.5 -0.9
SNY XP sP 03 56 38.8 -1.0
SNY S **S 04 03 06.8 -1.8**
SNY XS sS 04 03 27.0 +8.2
SNY AMB AMB
comp=Z,150nm,12.0s
SNY LR LR
comp=N,850nm,21.0s,MS4.7
SNY LR LR
comp=E,560nm,20.4s,MS4.7
SNY LR LR
comp=Z,1μm,21.6s,MS4.8
LZH Lanzhou 45.59 331 *e*P **P 03 56 36.9 +1.0**
LZH AP pP 03 56 43.3 +1.2
LZH XP sP 03 56 46.3 +1.7
LZH *e*PP PP 03 58 24.5 +1.8
LZH *e*S **S 04 03 17.3 0.0**
LZH SS SS 04 06 33.3 -8.1
LZH AMB AMB
comp=Z,40nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,110nm,4.0s
LZH LR LR
comp=N,900nm,16.0s
LZH LR LR
comp=Z,1μm,17.3s,MS4.9
HHC Hu-ho-hao-te 46.59 342 *e*P **P 03 56 45.3 +1.5**
HHC AP pP 03 56 49.9 -0.1
HHC XP sP 03 56 52.3 -0.2
HHC PCP PcP 03 58 18.4 +0.8
HHC PP PP 03 58 34.3 +1.0
HHC PCS PcS 04 02 15.8 +3.4
HHC S **S 04 03 28.8 -2.8**
HHC SCS ScS 04 06 37.3 -0.4
HHC AMB AMB
comp=Z,120nm,4.3s
HHC LR LR
comp=N,220nm,20.2s,MS4.5
HHC LR LR
comp=E,470nm,20.2s,MS4.5
HHC LR LR
comp=Z,470nm,21.4s,MS4.4
CN2 Changchun 46.80 356 *e*P **P 03 56 46.8 +1.4**
CN2 *e*S **S 04 03 27.3 -7.2**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,21.0s,MS4.7
CN2 LR LR
comp=E,400nm,21.0s,MS4.7
CN2 LR LR
comp=Z,800nm,21.0s,MS4.7
MDJ Mudanjiang 47.49 0 P **P 03 56 52.8 +2.0**
MDJ PP PP 03 58 43.9 +1.7
MDJ SCP ScP 04 02 18.4 +4.6
MDJ S **S 04 03 45.3 +0.9**
MDJ SCS ScS 04 06 42.6 -1.0
MDJ AMB AMB
comp=Z,50nm,4.3s
MDJ LR LR
comp=N,640nm,25.3s,MS4.5
MDJ LR LR
comp=E,240nm,23.2s,MS4.5
MDJ LR LR
comp=Z,740nm,25.3s,MS4.5
MDJ Mudanjiang 47.49 0 *e*P **P 03 56 51.3 +0.5**
comp=Z,20nm,0.9s,mb5.0
ASAJ Asahikawa 48.51 13 P **P 03 56 58.5 -0.2**
comp=Z,16nm,1.2s,mb5.0,baz=306,slow=16,SNR=4.6
ASAJ Asahikawa 48.51 13 P **P 03 56 58.5 -0.2**
ASAJ pmax pmax
comp=Z,16nm,1.2s
LSA Lhasa 48.85 315 P **P 03 57 03.3 +2.0**
LSA Lhasa 48.85 315 *e*P **P 03 57 03.1 +1.8**
LSA pmax pmax
comp=Z,44nm,0.8s,mb5.5
LSA Lhasa 48.85 315 *e*P **P 03 57 03.1 +1.8**
comp=Z,44nm,0.8s,mb5.5
GTA Gaotai 50.18 330 P **P 03 57 11.6 +0.2**
GTA AP pP 03 57 15.8 -1.9
GTA XP sP 03 57 18.8 -1.3
GTA PP PP 03 59 12.5 +5.8
GTA S **S 04 04 23.1 +0.9**
GTA SS SS 04 07 56.1 +0.5
GTA AMB AMB
comp=Z,10.0nm,1.4s,mb4.7
GTA AMB AMB
comp=Z,50nm,4.6s
GTA LR LR
comp=N,530nm,22.2s,MS4.6
GTA LR LR
comp=E,390nm,22.6s,MS4.6
GTA LR LR
comp=Z,220nm,20.2s,MS4.2
YSS Yuzh-Sakhalins 51.25 12 P pP 03 57 30.0 +4.2
YSS MLR MLR
comp=Z,500nm,19.0s,MS4.6
JIRN Jiri 51.45 309 *e*P **P 03 57 21.4 +0.4**
comp=Z,151nm,1.1s,mb5.8
HABR Khabarovsk 51.60 5 *e*P **P 03 57 23.2 +1.1**
HABR *e*S **S 04 04 45.4 +3.4**
GUN Gumba 51.81 309 *e*P **P 03 57 24.0 +0.3**
comp=Z,126nm,0.8s,mb5.9
PKI Pulchoki 52.01 309 *e*P **P 03 57 25.3 +0.2**
KLR Kul'dur 52.15 2 *e*P **P 03 57 23.3 -2.9**
KLR *e*S **S 04 04 43.0 -6.6**
KLR MLR MLR
comp=Z,700nm,15.0s,MS4.8
KKN Kakani 52.21 309 *e*P **P 03 57 26.8 +0.1**
comp=Z,95nm,1.0s,mb5.7
KKN Kakani 52.21 309 *e*P **P 03 57 26.8 +0.1**
KKN pmax pmax
comp=Z,95nm,1.0s,mb5.7
DMN Daman 52.26 309 *e*P **P 03 57 27.4 +0.4**
comp=Z,137nm,1.1s,mb5.8
GKN Gorkha 52.81 309 *e*P **P 03 57 30.4 -0.7**
comp=Z,98nm,0.9s,mb5.7
KOLN Koldanda 53.52 308 *e*P **P 03 57 36.6 +0.3**
comp=Z,109nm,0.8s,mb5.8
HYB Hyderabad 53.92 294 *i*P **P 03 57 41.0 +1.8**
HYB Hyderabad 53.92 294 *e*P **P 03 57 40.5 +1.3**
ULN Ulaanbaatar 54.31 342 ⇓P **P 03 57 42.4 +0.3**
SNR=14
ULN Ulaanbaatar 54.31 342 ⇑*i*P **P 03 57 42.1 0.0**
ULN Ulaanbaatar 54.31 342 *e*P **P 03 57 42.1 0.0**
comp=Z,22nm,1.0s,mb5.0
SONM Songino Array 54.49 341 P **P 03 57 43.2 -0.3**
comp=Z,3.0nm,0.6s,mb4.4,baz=163,slow=7.4,SNR=26
SONM LR LR 04 22 37.1
comp=Z,376nm,21.4s,MS4.4,baz=157,slow=38
URZ Urewera 55.97 135 P **P 03 57 55.2 +1.1**
comp=Z,23nm,0.6s,mb5.4,baz=288,slow=9.9,SNR=5.4
CIT Chita 56.48 348 *e*P **P 03 57 58.1 +0.4**
CIT *e* 03 58 15.6
ZAK Zakamensk 57.72 341 *e*P **P 03 58 06.6 +0.1**
ZAK pmax pmax
comp=Z,15nm,1.8s,mb4.7
TLY Talaya 58.72 342 ⇓P **P 03 58 13.9 +0.4**
SNR=8.1
TLY Talaya 58.72 342 *e*P **P 03 58 13.9 +0.4**
TLY *e*S **S 04 06 13.3 -4.0**
TLY pmax pmax
comp=Z,11nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,413nm,18.0s,MS4.6
TLY Talaya 58.72 342 *e*P **P 03 58 14.0 +0.5**
WMQ Urumqi 59.69 326 P **P 03 58 20.3 +0.1**
WMQ PCP PcP 03 59 06.8 -0.3
WMQ PP PP 04 00 32.8 +0.8
WMQ S **S 04 06 29.6 -0.3**
WMQ SCS ScS 04 08 07.0 -2.5
WMQ SS SS 04 10 26.4 +0.7
WMQ AMB AMB
comp=Z,40nm,1.1s,mb5.4
WMQ AMB AMB
comp=Z,230nm,3.0s
WMQ LR LR
comp=N,420nm,21.0s,MS4.8
WMQ LR LR
comp=E,540nm,18.5s,MS4.8
WMQ LR LR
comp=Z,700nm,25.0s
CLNS Chul'man 59.83 357 *e*P **P 03 58 21.9 +0.7**
CLNS pmax pmax
comp=Z,16nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.9s
PET Petropavlovsk 61.15 20 *e*P **P 03 58 30.8 +0.6**
PET *e**PP pP 03 58 43.8 +7.2
PET *e*S **S 04 06 49.0 +0.4**
PET *e*PS 04 07 01.2
PET *e*SS SS 04 10 55.2 +6.6
PET pmax pmax
comp=Z,56nm,0.9s,mb5.7
PET pmax pmax
comp=Z,60nm,1.1s,mb5.6
PET smax
comp=N,100nm,5.2s
PET smax
comp=E,200nm,5.4s
PET smax
comp=N,200nm,5.6s
PET MLR MLR
comp=Z,300nm,21.0s,MS4.4
PET MLR MLR
comp=Z,300nm,16.0s
PET Petropavlovsk 61.15 20 *e*P **P 03 58 30.2 0.0**
comp=Z,40nm,0.9s,mb5.5
DRV Dumont d'Urvil 63.91 175 S **S 04 07 30.0 +6.8**
MK31 Makanchi Array 64.53 326 P **P 03 58 51.3 -1.4**
MK31 pmax pmax
comp=Z,20nm,1.0s,mb5.1
MKAR Makanchi Array 64.53 326 P **P 03 58 52.5 -0.2**
comp=Z,18nm,0.9s,mb5.1,baz=120,slow=7.9,SNR=39
MKAR Makanchi Array 64.53 326 P **P 03 58 52.5 -0.2**
MA2 Magadan 64.76 12 *e*P **P 03 58 56.3 +2.1**
MA2 *e* 03 59 21.8
MA2 *e*S **S 04 07 36.3 +2.6**
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.2
MA2 Magadan 64.76 12 *e*P **P 03 58 55.5 +1.3**
comp=Z,18nm,0.8s,mb5.1
YAK Yakutsk 64.94 0 *e*P **P 03 58 55.5 +0.1**
YAK pmax pmax
comp=Z,113nm,0.8s,mb6.0
YAK Yakutsk 64.94 0 *e*P **P 03 58 55.5 +0.2**
comp=Z,113nm,0.8s,mb6.0
AAK Ala-Archa 67.05 319 ⇑P **P 03 59 11.3 +2.4**
SNR=11
AAK Ala-Archa 67.05 319 *e*P **P 03 59 08.4 -0.5**
AAK pmax pmax
comp=Z,15nm,1.1s,mb4.9
AAK Ala-Archa 67.05 319 *e*P **P 03 59 08.4 -0.5**
comp=Z,15nm,1.1s,mb4.9
FRU Bishkek 67.06 319 *e*P **P 03 59 08.5 -0.5**
SMY Shemya 67.20 28 *e*P **P 03 59 11.1 +1.2**
SMY pmax pmax
comp=Z,38nm,1.0s,mb5.4
SMY Shemya 67.20 28 *e*P **P 03 59 11.1 +1.2**
comp=Z,38nm,1.0s,mb5.4
ZAL Zalesovo 67.73 333 P **P 03 59 13.1 -0.2**
comp=Z,8.5nm,0.9s,mb4.8,baz=3.3,slow=6.1,SNR=28
KURK Kurchatov 68.77 328 P **P 03 59 19.1 -0.7**
comp=Z,315nm,1.1s,SNR=31
AMKA Amchitka 68.93 31 *e*P **P 03 59 20.6 -0.1**
NVS Novosibirsk 69.02 334 *e*P **P 03 59 20.0 -1.3**
NVS pmax pmax
comp=Z,58nm,1.1s,mb5.4
NVS pmax pmax
comp=N,28nm,1.5s
NVS pmax pmax
comp=E,43nm,1.3s
WSAR Wadi Sarin 73.44 295 P **P 03 59 48.5 +0.4**
comp=E,9.2nm,0.7s,mb4.8,baz=95,slow=7.2,SNR=6.9
WSAR Wadi Sarin 73.44 295 P **P 03 59 48.5 +0.4**
VOSK Vostochnaya 73.88 327 P **P 03 59 49.2 -1.4**
VOSK pmax pmax
comp=Z,11nm,0.8s,mb4.8
SMDO Samad 73.93 295 ⇑P **P 03 59 52.1 +1.1**
SNR=11
BVA0 Borovoye Array 74.34 328 *i*P **P 03 59 52.7 -0.6**
BVA0 pmax pmax
comp=Z,16nm,1.5s,mb4.7
BVAR Borovoye Array 74.34 328 P **P 03 59 53.0 -0.3**
comp=Z,5.2nm,0.8s,mb4.5,baz=111,slow=8.1,SNR=14
BRVK Borovoye 74.41 328 ⇓P **P 03 59 53.4 -0.3**
SNR=16
BRVK Borovoye 74.41 328 *e*P **P 03 59 53.4 -0.3**
BRVK pmax pmax
comp=Z,29nm,1.1s,mb5.1
BRVK Borovoye 74.41 328 *e*P **P 03 59 53.4 -0.3**
comp=Z,29nm,1.1s,mb5.1
CHKZ Chkalovo 74.52 328 P **P 03 59 53.4 -1.0**
CHKZ pmax pmax
comp=Z,17nm,1.0s,mb4.9
CHKZ Chkalovo 74.52 328 *e*P **P 03 59 53.6 -0.8**
comp=Z,32nm,1.1s,mb5.2
TIXI Tiksi 74.60 360 *e*P **P 03 59 54.5 -0.3**
ZRNK Zerenda 75.05 327 *e*P **P 03 59 56.8 -0.6**
ZRNK pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ZRNK Zerenda 75.05 327 *e*P **P 03 59 56.8 -0.7**
comp=Z,1.3nm,0.6s,mb4.0
BILL Bilibino 75.52 14 P **P 04 00 03.0 +2.8**
BILL *e**PP pP 04 00 09.0 +2.3
BILL *e*S S 04 09 43.6 +3.9
BILL Bilibino 75.52 14 *e*P **P 04 00 01.5 +1.3**
VNDA Vanda 76.40 173 P **P 04 00 04.9 -0.3**
comp=Z,2.7nm,0.5s,mb4.4,baz=321,slow=6.5,SNR=12
VNDA LR LR 04 32 48.4
comp=Z,824nm,20.8s,MS5.0,baz=344,slow=35
VNDA Vanda 76.40 173 *e*P **P 04 00 04.9 -0.3**
VNDA pmax pmax
comp=Z,7.0nm,0.8s
VNDA Vanda 76.40 173 *e*P **P 04 00 04.9 -0.3**
comp=Z,6.6nm,0.8s,mb4.6
SBA Scott Base 77.30 172 *e*P **P 04 00 09.4 -0.8**
SBA pmax pmax
comp=Z,15nm,1.2s,mb4.8
SBA Scott Base 77.30 172 *e*P **P 04 00 09.4 -0.8**
comp=Z,15nm,1.2s,mb4.8
UNV Unalaska Valle 77.69 33 *e*P **P 04 00 12.6 +0.1**
comp=Z,61nm,1.0s,mb5.5
AKUT Akutan 78.20 33 *e*P **P 04 00 15.1 -0.2**
MAW Mawson 78.27 201 *e*P **P 04 00 14.9 -0.8**
comp=Z,15nm,1.2s,mb4.8
MAW Mawson 78.27 201 P **P 04 00 14.9 -0.8**
comp=Z,6.0nm,0.6s,mb4.7,baz=70,slow=7.0,SNR=20
MAW LR LR 04 32 34.8
comp=Z,523nm,20.9s,MS4.8,baz=62,slow=34
MAW Mawson 78.27 201 *e*P **P 04 00 14.9 -0.8**
MAW pmax pmax
comp=Z,15nm,1.2s
AB31 Akbulak array 78.95 321 P **P 04 00 19.1 -0.3**
AB31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
AKTK Aktyubinsk 80.50 322 P **P 04 00 27.3 -0.4**
AKTK LR LR 04 39 12.7
AKTO Aktyubinsk 80.50 322 P **P 04 00 27.3 -0.4**
comp=Z,8.8nm,0.8s,mb4.7,baz=102,slow=7.2,SNR=17
AKTO LR LR 04 39 12.7
comp=Z,278nm,21.7s,MS4.6,baz=0.0,slow=38
PPT Papeete 80.74 107 *e*SS SS 04 15 53.0 +3.9
comp=Z,141nm,26.5s
PPT *e*LR LR 04 25 43.4
comp=Z,935nm,32.2s
TBI Tubuai 80.86 113 *e*LR LR 04 25 49.7
comp=Z,635nm,27.8s
OPO Ambohidratompo 81.43 252 P **P 04 00 33.9 +1.2**
comp=Z,7.5nm,0.8s,mb4.7,baz=65,slow=5.5,SNR=14
SDPT Sand Point 81.50 33 *e*P **P 04 00 33.0 -0.1**
ARU Arti 81.97 328 *e*P **P 04 00 34.4 -1.2**
ARU *e* 04 03 42.6
ARU *e*S S 04 10 47.7 -0.9
ARU *e*SS SS 04 16 09.2 +1.8
ARU Arti 81.97 328 *e*P **P 04 00 35.3 -0.3**
comp=Z,27nm,1.0s,mb5.1
SOKR Solikamsk 83.81 331 *e*P **P 04 00 43.7 -1.5**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.2
SOKR MLR MLR
comp=Z,460nm,31.0s,MS4.7
SVW2 Sparrevohn 85.60 28 *e*P **P 04 00 54.5 +0.3**
TTA Tatalina 85.87 26 *e*P **P 04 00 56.1 +0.6**
TTA pmax pmax
comp=Z,41nm,1.2s,mb5.5
TTA Tatalina 85.87 26 *e*P **P 04 00 56.1 +0.6**
comp=Z,41nm,1.2s,mb5.5
KDAK Kodiak Island 86.34 32 P **P 04 00 58.2 +0.3**
comp=Z,18nm,1.0s,mb5.2,baz=330,slow=2.4,SNR=6.9
KDAK Kodiak Island 86.34 32 *e*P **P 04 00 57.8 -0.1**
comp=Z,39nm,1.1s,mb5.5
QSPA South Pole Qui 86.86 180 *e*P **P 04 00 59.3 -1.1**
comp=Z,15nm,1.0s,mb5.2
SYO Syowa Base 86.99 201 ⇑*e*P **P 04 01 00.2 -0.8**
SYO Syowa Base 86.99 201 ⇓*e*sP sP 04 01 09.0 -1.0
BHD Baghdad 87.32 303 *ex* x 04 01 02.0
GNI Garni 87.71 310 *e*P **P 04 01 04.3 -0.2**
SLKM Skilak Lake 88.04 29 *e*P **P 04 01 05.3 -0.8**
ZEI Tsey 88.60 313 *e*P **P 04 01 06.2 -2.5**
ZEI *e**PP pP 04 01 16.8 +1.4
ZEI *e* 04 04 34.3
ZEI pmax pmax
comp=Z,13nm,0.7s,mb5.4
MCK McKinley 89.16 26 *e*P **P 04 01 11.2 -0.1**
MCK pmax pmax
comp=Z,13nm,1.3s,mb5.1
MCK McKinley 89.16 26 *e*P **P 04 01 11.2 -0.1**
comp=Z,12nm,1.3s,mb5.1
GOF Gofitskoye 89.43 315 *e*P **P 04 01 19.8 +7.2**
KIV Kislovodsk 89.59 314 *e*P **P 04 01 11.5 -1.9**
KIV *e* 04 11 38.2
KIV *e*SS SS 04 17 56.2 -3.1
KIV pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
COLA College 89.79 25 *e*P **P 04 01 15.4 +1.1**
TAOE Nuku Hiva Isla 90.20 99 *e*LR LR 04 30 07.9
comp=Z,1μm,22.6s
KMBO Kilima Mbogo 91.86 269 P **P 04 01 25.9 +1.9**
comp=Z,4.2nm,0.9s,mb4.8,baz=48,slow=3.2,SNR=7.2
KMBO LR LR 04 39 29.1
comp=Z,497nm,21.3s,MS4.9,baz=92,slow=34
KMBO Kilima Mbogo 91.86 269 *e*P **P 04 01 23.5 -0.4**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 91.86 269 *e*P **P 04 01 23.5 -0.4**
comp=Z,9.4nm,1.0s,mb5.1
MALT Malatya 92.48 308 *e*P **P 04 01 27.8 +1.0**
MALT pmax pmax
comp=Z,12nm,1.4s,mb5.0
MALT Malatya 92.48 308 *e*P **P 04 01 27.8 +1.0**
comp=Z,12nm,1.4s,mb5.0
DAWY Dawson 93.39 26 *e*P **P 04 01 30.9 -0.1**
OBN Obninsk 94.00 325 P **P 04 01 33.0 -0.8**
OBN *e**PP pP 04 01 42.2 +1.7
OBN *e* 04 12 38.4
OBN pmax pmax
comp=Z,17nm,1.5s,mb5.2
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.8
OBN Obninsk 94.00 325 *e*P **P 04 01 33.2 -0.6**
OBN LR LR
comp=Z,300nm,20.0s,MS4.8
APA Apatity 95.04 337 *e*P **P 04 01 37.0 -1.6**
APA *e*S 04 12 54.0
APA MLR MLR
comp=Z,1μm,12.0s,MS5.6
INK Inuvik 95.56 22 P **P 04 01 38.7 -2.3**
comp=Z,2.1nm,0.9s,mb4.6,baz=291,slow=7.9,SNR=2.3
INK Inuvik 95.56 22 *e*P **P 04 01 39.5 -1.4**
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 95.56 22 *e*P **P 04 01 39.5 -1.4**
comp=Z,8.7nm,1.0s,mb5.1
BRTR Keskin Array B 96.22 309 P **P 04 01 41.4 -2.5**
comp=Z,0.8nm,0.8s,mb4.2,baz=90,slow=8.6,SNR=3.3
ARCES ARCESS Array B 97.65 340 P **P 04 01 49.8 -0.6**
comp=Z,2.5nm,0.7s,mb4.8,baz=83,slow=5.0,SNR=7.0
ARCES PKKPbc PKKPbc 04 18 29.9 +3.7
comp=Z,2.7nm,0.9s,baz=2.4,slow=2.9,SNR=4.0
FINES FINESS Array B 98.95 332 *i*P **P 04 02 00.7 +4.4**
FINES pmax pmax
comp=Z,10.0nm,0.5s
NB2 NORSAR Subarra105.94 333 P Pdif 04 02 35.1 +7.8
comp=Z,4.6nm,1.1s,baz=68,slow=4.4
NB2 NORSAR Subarra105.94 333 P Pdif 04 02 35.1 +7.8
NB2 pmax pmax
comp=Z,5.0nm,1.1s
BW06 Boulder Array 114.70 44 *e*PKP PKiKP 04 06 56.5 +0.3
PDAR Pinedale Array 114.70 44 PKKPbc PKKPbc 04 17 38.9 +5.3
comp=Z,0.4nm,0.7s,baz=215,slow=1.1,SNR=3.1
TUC Tucson 116.86 55 *e*PKIKP PKPdf 04 07 01.8 +1.5
ANMO Albuquerque 119.58 51 *e*PKIKP PKPdf 04 07 06.9 +1.4
BNM Barren Site 119.70 52 *e*PKPdf PKPdf 04 07 07.4 +1.7
MNTX Cornudas Mount 121.44 54 *e*PKPdf PKPdf 04 07 10.6 +1.5
JCT Junction City 126.36 54 *e*PKIKP PKPdf 04 07 20.4 +1.9
TORD Torodi Ar. Bea 127.15 284 PKP PKPdf 04 07 20.9 +0.9
comp=Z,3.6nm,1.0s,baz=19,slow=3.0,SNR=13
CCM Cathedral Cave 129.27 41 *e*PKIKP PKPdf 04 07 24.3 +0.2
MIAR Mount Ida 129.46 47 *e*PKIKP PKPdf 04 07 25.4 +1.0
WVT Waverly 132.61 41 *e*PKIKP PKPdf 04 07 32.6 +2.2
PLCA Paso Flores 132.81 160 PKP PKPdf 04 07 33.4 +2.6
comp=Z,2.4nm,0.9s,baz=200,slow=22,SNR=3.5
PLCA Paso Flores 132.81 160 *e*PKPdf PKPdf 04 07 33.4 +2.7
PLAL Pickwick Lake 133.10 43 *e*PKPdf PKPdf 04 07 32.2 +0.9
LRAL Lakeview Retre 134.93 44 *e*PKPdf PKPdf 04 07 36.3 +1.5
GOGA Godfrey 137.11 42 *e*PKIKP PKPdf 04 07 40.0 +1.2
JTS JuntasAbangare 145.39 76 *e*PKP2 PKPab 04 07 55.5 +1.8
MGV Manicaragua 145.97 54 *e*P PKPdf 04 07 57.3 +2.7
LVC Limon Verde 148.95 146 *e*PKPbc PKPbc 04 08 06.8 +3.2
CPUP Villa Florida 150.09 168 PKPbc PKPbc 04 08 07.5 +1.1
comp=Z,2.4nm,0.4s,baz=181,slow=1.2,SNR=15
NNA Nana 150.12 121 *e*PKPbc PKPbc 04 08 07.8 +1.3
NNA *e*PKPab PKPab 04 08 15.1 +2.6
ARE Arequipa 151.82 134 *e*PKIKP PKPbc 04 08 13.0 +2.5
OTAV Otavalo 152.25 95 *e*PKPbc PKPbc 04 08 13.8 +2.4
LPAZ La Paz 154.25 139 PKPbc PKPbc 04 08 18.1 +2.2
comp=Z,1.2nm,0.4s,baz=287,slow=1.8,SNR=16
LPAZ La Paz 154.25 139 *e*PKPbc PKPbc 04 08 18.1 +2.2
SDV Santo Domingo 159.49 73 PKP PKPdf 04 08 15.8 +1.5
comp=Z,2.7nm,0.5s,baz=350,slow=6.1,SNR=4.3
SDV Santo Domingo 159.49 73 *e*PKPdf PKPdf 04 08 15.7 +1.4
SAML Samuel 162.84 134 *e*PKPdf PKPdf 04 08 19.7 +1.8

PGC 22 03:51:40.0,5098N×13076W,h10km,MLSn3.4/1,Mw4.0,
224km southwest of Bella Bella, Bc West of Vancouver
Island, British Columbia,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.70**	**100**	Pn	Pn	03 52 07.6	-2.1
HOLB				Sn	Sn	03 52 28.0	-3.5

comp=Z,83nm,0.5s
HOLB Trac 03 52 43.8
comp=Z,83nm,0.5s
BNB Barry Inlet 1.71 339 Pn Pn 03 52 07.8 -2.1
BNB Sn Sn 03 52 27.5 -4.4
comp=Z,1μm,0.4s
BNB Trac 03 52 28.5
comp=Z,1μm,0.4s
BBB Bella Bella 2.05 53 Pn Pn 03 52 12.6 -1.9
BBB Sn Sn 03 52 36.5 -3.5
BBB Trac 03 53 01.5
comp=Z,86nm,0.6s
BPBC Brooks Peninsu 2.08 112 Pn Pn 03 52 13.0 -1.9
BPBC Sn Sn 03 52 36.9 -3.8
comp=Z,23nm,0.3s
BPBC Trac 03 52 56.6
comp=Z,23nm,0.3s
PHC Port Hardy 2.13 96 Pn Pn 03 52 13.3 -2.3
PHC Sn Sn 03 52 36.6 -5.4
PHC Trac 03 52 59.5
comp=Z,27nm,0.4s
MOBC Moresby Island 2.33 343 Pn Pn 03 52 17.8 -0.5
MOBC Sn Sn 03 52 43.1 -4.0
MOBC Trac 03 53 04.4
comp=Z,23nm,0.7s
MAYB Maynard 2.36 103 Pn Pn 03 52 17.5 -1.2
MAYB Sn Sn 03 52 43.7 -3.9
comp=Z,33nm,0.7s
MAYB Trac 03 53 07.1
comp=Z,33nm,0.7s
BNAB Bonilla 2.52 2 Pn Pn 03 52 21.0 0.0
BNAB Sn Sn 03 52 50.7 -1.1
comp=Z,20nm,0.6s
BNAB Trac 03 53 11.2
comp=Z,20nm,0.6s
VIB Van Inlet 2.53 335 Trac 03 52 51.9
comp=Z,8.0nm,0.5s
VIB Van Inlet 2.53 335 Sn Sn 03 52 47.3 -4.6
EDB Eliza Dome 2.58 114 Trac 03 53 18.4
comp=Z,17nm,0.7s
EDB Eliza Dome 2.58 114 Sn Sn 03 52 50.2 -3.0
WOSB Woss 2.80 105 Pn Pn 03 52 24.4 -0.3
WOSB Sn Sn 03 52 55.2 -3.3
comp=Z,22nm,0.6s
WOSB Trac 03 53 16.7
comp=Z,22nm,0.6s
NCRB Newcastle Ridg 3.05 99 Pn Pn 03 52 28.7 +0.5
NCRB Trac 03 53 38.8
comp=Z,23nm,0.8s
GDR Gold River 3.26 110 Trac 03 53 34.0
comp=Z,13nm,0.7s
RUBB Prince Rupert 3.37 5 Pn Pn 03 52 29.5 -3.1
RUBB Trac 03 53 45.6
comp=Z,65nm,0.8s
BTB Buttle Lake 3.69 112 Pn Pn 03 52 38.4 +1.4
BTB Sn Sn 03 53 18.9 -1.6
comp=Z,14nm,0.6s
BTB Trac 03 53 51.4
comp=Z,14nm,0.6s
MGB Mount Grey 4.39 114 Trac 03 54 08.7
comp=Z,7.0nm,0.8s
SHB Sechelt 4.63 105 Trac 03 54 27.5
comp=Z,16nm,0.8s

*IDC **22** 03:57:25.9±1.0, 1300N×9326E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.0/21, mbtmp4.1/10, Error ellipse: s-maj=41.3km s-min=23.6km az=66.0*
*ISCJB **22** 03:57:29.3±0.8, 131N±0.1×933E±0.1, h33km, mb4.1/14, Error ellipse: s-maj=26.2km s-min=11.1km az=91.0*
*NEIC **22** 03:57:30.5±0.6, 1301N×9328E, h30km, mb4.3/2, Error ellipse: s-maj=23.2km s-min=12.7km az=70.0*
ISC 22 03:57:28.3±5.1, 131N±01×933E±01, h14km±31km, n25, σ0°67/23, mb4.1/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.50**	**202**	*e*P	x	03 57 30.3	
PBA				*e*S	x	03 57 40.1	
VIS	**Vishakhapatnam**	**10.69**	**297**	AMb	AMB	04 00 03.6	
	comp=Z,26nm,0.6s						
VIS				*e*S	**Sn**	**04 01 49.4**	**-11**
SHL	**Shillong**	**12.52**	**354**	*ex*	x	03 58 56.1	
MDRS	**Chennai**	**12.73**	**272**	*e*S	**Sn**	**04 02 36.8**	**-14**
BOK	**Bokaro**	**12.80**	**328**	*e*P	**Pn**	**04 00 28.8**	**-1.1**
BOK				AMb	AMB	04 00 32.5	
	comp=Z,9.4nm,1.2s						
BOK				*e*S	**Sn**	**04 02 42.5**	**-10**
BLSP	**Bilaspur**	**13.96**	**312**	*e*P	**Pn**	**04 00 46.3**	**+0.5**
BLSP				AMb	AMB	04 00 52.5	
	comp=Z,8.0nm,0.9s						
BLSP				*e*S	**Sn**	**04 03 21.3**	**+0.8**
BLSP				AML	AML	04 03 28.9	
	comp=N,14nm,0.2s						
AKL	**Akola**	**17.35**	**298**	*ex*	x	04 02 47.2	
KAD	**Karad**	**18.94**	**285**	*e*S	**Sn**	**04 05 20.8**	**-0.6**
NDI	**New Delhi**	**21.60**	**319**	*ex*	x	03 58 14.0	
SMLA	**Simla**	**23.35**	**323**	*e*P	**P**	**04 02 37.7**	**+1.3**
SMLA				AMb	AMB	04 02 39.2	
	comp=Z,18nm,1.8s,mb4.2						
MKAR	**Makanchi Array**	**34.89**	**347**	P	**P**	**04 04 19.8**	**+0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=160,slow=8.3,SNR=5.0						
ZAL	**Zalesovo**	**41.34**	**352**	P	**P**	**04 05 14.8**	**+1.0**
	comp=Z,1.3nm,0.4s,mb3.9,baz=299,slow=4.5,SNR=3.6						
ZRNK	**Zerenda**	**44.27**	**339**	*e*P	**P**	**04 05 37.2**	**-0.3**
	comp=Z,2.2nm,0.8s,mb3.9						
CHKZ	**Chkalovo**	**44.34**	**341**	*e*P	**P**	**04 05 38.0**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.4						
AKTK	**Aktyubinsk**	**47.07**	**330**	P	**P**	**04 05 59.1**	**-0.5**
AKTO	**Aktyubinsk**	**47.07**	**330**	P	**P**	**04 05 59.1**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.1,baz=132,slow=6.6,SNR=4.7						
WRA	**Warramunga Arr**	**52.01**	**128**	P	**P**	**04 06 37.4**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=311,slow=7.8,SNR=4.5						
JOF	**Joensuu**	**65.87**	**334**	*ep*	**P**	**04 08 13.3**	**-0.2**
	comp=Z,4.6nm,0.7s,mb4.6						
FINES	**FINESS Array B**	**67.79**	**331**	P	**P**	**04 08 25.0**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.3,baz=99,slow=9.8,SNR=7.8						
ARCES	**ARCESS Array B**	**70.16**	**340**	P	**P**	**04 08 39.9**	**-0.6**
	comp=Z,3.2nm,0.9s,mb4.2,baz=103,slow=5.4,SNR=4.9						
GERES	**GERESS Array B**	**73.47**	**317**	P	**P**	**04 09 00.7**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=86,slow=5.8,SNR=9.8						
NB2	**NORSAR Subarra**	**74.86**	**330**	P	**P**	**04 09 07.3**	**-1.2**
	comp=Z,0.2nm,0.7s,mb3.2,baz=87,slow=6.9						
NOA	**NORSAR Array B**	**74.86**	**330**	P	**P**	**04 09 07.7**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=90,slow=5.9,SNR=5.2						
BOSA	**Boshof**	**77.69**	**237**	P	**P**	**04 09 25.0**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.3,baz=97,slow=12,SNR=4.5						
TORD	**Torodi Ar. Bea**	**88.63**	**283**	P	**P**	**04 10 21.7**	**+0.7**
	comp=Z,1.1nm,1.0s,mb4.1,baz=264,slow=5.5,SNR=3.6						

IDC 22 05:25:31.6±15.0, 083S×12772E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=240.3km s-min=147.0km az=150.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.07**	**162**	P	P	05 30 07.1	+0.6
	0.5nm,0.5s,baz=340,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.48**	**166**	P	P	05 30 43.1	+0.1
	0.6nm,0.4s,baz=343,slow=11,SNR=9.0						
STKA	**Stephens Creek**	**33.55**	**158**	P	P	05 32 13.1	0.0
	0.7nm,0.3s,baz=342,slow=16,SNR=2.6						

*NEIC **22** 05:34:58.5, 1785N×9358W, h57km, MD4.3(MEX), After MEX.*
MEX 22 05:35:00.8±0.8, 1764N×9357W, h27km±18km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.90**	**296**	*i*P	Pn	05 35 15.5	-2.2
TUIG				*i*S	Sb	05 35 26.4	-3.0
TUIG	**Tuzandepetl**	**0.90**	**296**	*i*P	Pn	05 35 15.5	-2.2
TUIG				*i*S	Sb	05 35 24.3	-5.1
SCX	**San Cristobal**	**1.27**	**135**	*i*P	Pn	05 35 19.5	-3.2
SCX				*i*S	Sn	05 35 36.0	-2.9
CMIG	**Matias Romero**	**1.36**	**247**	*i*P	Pn	05 35 21.6	-2.4
CMIG				*i*S	Sn	05 35 38.0	-3.2
CCIG	**Comitan**	**1.92**	**134**	*i*P	Pn	05 35 30.2	-1.5
CCIG				*i*S	Sn	05 35 52.7	-2.4
CCIG	**Comitan**	**1.92**	**134**	*i*P	Pn	05 35 30.2	-1.5
CCIG				*i*S	Sn	05 35 55.8	+0.7
HUIG	**Huatulco**	**3.06**	**233**	*i*P	Pn	05 35 45.1	-2.3
HUIG				*i*S	Sn	05 36 21.4	-1.6
OXX	**Oaxaca**	**3.06**	**260**	*e*P	Pn	05 35 49.8	+2.4
VHO	**Vista Hermosa**	**3.07**	**260**	*i*P	Pn	05 35 44.9	-2.6
VHO				*i*S	Sn	05 36 20.1	-3.2

*ISCJB **22** 05:54:44.9±1.4, 3357S±0.06×1795W±0.1, h33km±13km, mb4.3/9, MS3.8/8, Error ellipse: s-maj=17.8km s-min=8.2km az=53.6*
*NEIC **22** 05:54:46.0±1.0, 3331S×179.11W, h45km±9km, mb4.7/4, Error ellipse: s-maj=15.6km s-min=9.9km az=112.0*
*IDC **22** 05:54:47.3±1.6, 3320S×179.35W, h50km±14km, mb4.2/5, mb1 4.5/7, mb1mx4.3/13, mbtmp4.6/7, ML4.7/2, MS3.7/9, Ms1 3.7/9, ms1mx3.3/24, Error ellipse: s-maj=24.0km s-min=10.9km az=113.0*
ISC 22 05:54:46.4±1.6, 3348S±005×1794W±01, h31km±13km, n88, σ1°28/79, mb4.3/9, MS3.8/8, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.41**	**17**	P	**Pn**	**05 55 46.9**	**-4.4**
	96nm,0.3s,baz=169,slow=21,SNR=3.0						
RAO				S	**Sn**	**05 56 35.7**	**-5.9**
	260nm,0.3s,baz=260,slow=23,SNR=5.0						
RAO				LR	LR	05 57 19.1	
	comp=Z,506nm,19.7s,baz=244,slow=37						
RAO	**Raoul Island**	**4.41**	**17**	P	**Pn**	**05 55 46.9**	**-4.4**
RAO				S	**Sn**	**05 56 35.7**	**-5.9**
RAO				LR	LR	05 57 19.1	
MXZ	**Matakaoa Point**	**4.47**	**204**	*e*PN	**Pn**	**05 55 55.1**	**+3.1**
MXZ				SN	**Sn**	**05 56 48.6**	**+5.6**
MXZ				T		06 00 20.5	
MXZ	**Matakaoa Point**	**4.47**	**204**	*e*P	**Pn**	**05 55 56.0**	**+4.0**
PUZ	**Puketiti**	**4.95**	**202**	*e*PN	**Pn**	**05 56 01.6**	**+3.0**
PUZ	**Puketiti**	**4.95**	**202**	*e*P	**Pn**	**05 56 01.6**	**+3.0**
MWZ	**Matawai**	**5.43**	**206**	*e*PN	**Pn**	**05 56 08.3**	**+3.0**
MWZ				SN	**Sn**	**05 57 15.1**	**+8.3**
MWZ	**Matawai**	**5.43**	**206**	*e*P	**Pn**	**05 56 08.3**	**+3.0**
URZ	**Urewera**	**5.53**	**209**	P	**Pn**	**05 56 10.2**	**+3.6**
	11nm,0.3s,baz=62,slow=4.9,SNR=41						
URZ				S	**Sn**	**05 57 16.1**	**+6.9**
	44nm,0.3s,baz=137,slow=22,SNR=9.5						
URZ	**Urewera**	**5.53**	**209**	*e*PN	**Pn**	**05 56 09.6**	**+3.0**
URZ				SN	**Sn**	**05 57 15.7**	**+6.5**
URZ	**Urewera**	**5.53**	**209**	*e*P	**Pn**	**05 56 09.6**	**+3.0**
WCZ	**Waipu Caves**	**5.68**	**243**	PN	**Pn**	**05 56 16.7**	**+8.0**
WCZ	**Waipu Caves**	**5.68**	**243**	P	**Pn**	**05 56 16.7**	**+8.0**
KNZ	**Kokohu**	**6.00**	**202**	*e*PN	**Pn**	**05 56 14.4**	**+1.4**
KNZ	**Kokohu**	**6.00**	**202**	*e*P	**Pn**	**05 56 16.5**	**+3.4**
OUZ	**Omahuta**	**6.02**	**251**	PN	**Pn**	**05 56 20.2**	**+6.9**
OUZ	**Omahuta**	**6.02**	**251**	P	**Pn**	**05 56 20.5**	**+7.2**
MOVZ	**Moawhango**	**7.07**	**212**	*e*PN	**Pn**	**05 56 30.1**	**+2.4**
MOVZ	**Moawhango**	**7.07**	**212**	P	**Pn**	**05 56 30.2**	**+2.4**
TSZ	**Takapari Road**	**7.53**	**208**	*e*PN	**Pn**	**05 56 34.5**	**+0.4**
BFZ	**Birch Farm**	**7.97**	**204**	SN	**Sn**	**05 58 10.7**	**+1.5**
TIWZ	**Tintock**	**8.18**	**206**	SN	**Sn**	**05 58 16.3**	**+1.9**
MRZ	**Mangatainoka R**	**8.20**	**208**	*e*PN	**Pn**	**05 56 43.5**	**+0.3**
MRZ				SN	**Sn**	**05 58 14.8**	**0.0**
MRZ	**Mangatainoka R**	**8.20**	**208**	*e*P	**Pn**	**05 56 44.0**	**+0.8**
KIW	**Kapiti Island**	**8.64**	**210**	*e*PN	**Pn**	**05 56 48.7**	**-0.6**
KIW				SN	**Sn**	**05 58 25.8**	**+0.2**
KIW	**Kapiti Island**	**8.64**	**210**	P	**Pn**	**05 56 49.1**	**-0.2**
CAW	**Cannon Point**	**8.78**	**208**	*e*PN	**Pn**	**05 56 50.4**	**-0.8**
CAW				SN	**Sn**	**05 58 28.2**	**-0.9**
CAW	**Cannon Point**	**8.78**	**208**	P	**Pn**	**05 56 50.7**	**-0.5**
TRWZ	**Traveller**	**8.80**	**205**	*e*PN	**Pn**	**05 56 52.5**	**+1.0**
MSWZ	**Moikau Station**	**8.97**	**207**	*e*PN	**Pn**	**05 56 52.7**	**-1.1**
MRW	**Makara Radio**	**9.03**	**209**	SN	**Sn**	**05 58 33.6**	**-1.7**
TCW	**Tory Channel**	**9.20**	**211**	*e*PN	**Pn**	**05 56 56.7**	**-0.3**
TCW				SN	**Sn**	**05 58 38.3**	**-1.1**
TUWZ	**Tuamarina**	**9.52**	**212**	*e*PN	**Pn**	**05 56 60.0**	**-1.4**
TUWZ				SN	**Sn**	**05 58 45.8**	**-1.4**
NNZ	**Nelson**	**9.61**	**214**	*e*PN	**Pn**	**05 57 02.3**	**-0.3**
NNZ				SN	**Sn**	**05 58 49.9**	**+0.5**
QRZ	**Quartz Range**	**9.74**	**219**	*e*PN	**Pn**	**05 57 04.4**	**+0.1**
QRZ				SN	**Sn**	**05 58 53.8**	**+1.2**
THZ	**Tophouse**	**10.26**	**214**	*e*PN	**Pn**	**05 57 11.5**	**+0.1**
THZ				SN	**Sn**	**05 59 05.7**	**+0.4**
KHZ	**Kahutara**	**10.50**	**210**	*e*PN	**Pn**	**05 57 13.3**	**-1.5**
KHZ	**Kahutara**	**10.50**	**210**	*e*P	**Pn**	**05 57 14.5**	**-0.3**
DSZ	**Denniston Nort**	**10.78**	**218**	*e*PN	**Pn**	**05 57 17.5**	**-1.2**
DSZ				SN	**Sn**	**05 59 17.3**	**-0.9**
LTZ	**Lake Taylor**	**11.35**	**213**	*e*PN	**Pn**	**05 57 24.0**	**-2.4**
LTZ				SN	**Sn**	**05 59 27.1**	**-4.9**
LTZ	**Lake Taylor**	**11.35**	**213**	*e*P	**Pn**	**05 57 24.1**	**-2.3**
MQZ	**McQueen's Vall**	**11.93**	**209**	*e*PN	**Pn**	**05 57 33.2**	**-1.2**
MQZ				SN	**Sn**	**05 59 39.4**	**-7.0**
WVZ	**Waitaha Valley**	**12.29**	**216**	*e*PN	**Pn**	**05 57 39.3**	**0.0**
RPZ	**Rata Peaks**	**12.63**	**213**	SN	**Sn**	**05 59 57.4**	**-6.1**
LBZ	**Lake Benmore**	**13.55**	**213**	SN	**Sn**	**06 00 17.2**	**-8.6**
ODZ	**Otahua Downs**	**13.86**	**211**	*e*PN	**Pn**	**05 57 57.5**	**-3.2**
ODZ	**Otahua Downs**	**13.86**	**211**	*e*P	**Pn**	**05 57 57.6**	**-3.1**
TBI	**Tubuai**	**28.14**	**77**	*e*LQ		06 06 08.3	
	192nm,27.8s						
TBI				*e*LR	LR	06 07 32.3	
	275nm,28.5s						
PPT	**Papeete**	**31.11**	**67**	*e*LR	LR	06 08 48.6	
	252nm,29.2s,baz=231						
PPT	**Papeete**	**31.11**	**67**	LR	LR	06 10 41.2	
	comp=Z,139nm,20.2s,MS3.6,baz=150,slow=31						
STKA	**Stephens Creek**	**32.72**	**262**	LR	LR	06 13 28.5	
	comp=Z,190nm,18.8s,MS3.8,baz=168,slow=34						
CTA	**Charters Tower**	**33.25**	**285**	*e*P	**P**	**06 01 23.1**	**+2.3**
	5.7nm,0.8s,mb4.5						
CTAO	**Charters Tower**	**33.25**	**285**	*e*P	**P**	**06 01 23.0**	**+2.2**
	5.7nm,0.7s,mb4.6						
AS31	**Alice Springs**	**41.83**	**271**	*e*P	**P**	**06 02 34.6**	**+1.2**
ASAR	**Alice Springs**	**41.83**	**271**	P	**P**	**06 02 34.4**	**+1.0**
	4.9nm,0.6s,mb4.3,baz=106,slow=7.3,SNR=41						
ASAR				LR	LR	06 20 21.8	
	comp=Z,78nm,19.8s,MS3.6,baz=170,slow=37						
ASPA	**Alice Springs**	**41.84**	**271**	*e*P	**P**	**06 02 34.6**	**+1.2**
WB2	**Warramunga Arr**	**43.09**	**276**	*e*P	**P**	**06 02 43.9**	**+0.3**
WRAB	**Tennant Creek**	**43.10**	**276**	*e*P	**P**	**06 02 43.1**	**-0.6**
	16nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**43.10**	**276**	P	**P**	**06 02 44.0**	**+0.3**
	7.7nm,0.6s,mb4.6,baz=114,slow=8.0,SNR=73						
VNDA	**Vanda**	**44.92**	**186**	P	**P**	**06 03 01.3**	**+3.0**
	0.5nm,0.6s,mb3.5,baz=26,slow=8.5,SNR=3.7						
VNDA				LR	LR	06 18 10.6	
	comp=Z,62nm,19.3s,MS3.5,baz=264,slow=31						
FITZ	**Fitzroy Crossi**	**51.22**	**273**	*e*P	**P**	**06 03 45.9**	**-1.1**
	9.6nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**51.22**	**273**	LR	LR	06 24 27.7	
	comp=Z,96nm,19.1s,MS3.8,baz=108,slow=35						
MAW	**Mawson**	**69.00**	**201**	P	**P**	**06 05 48.4**	**-0.4**
	4.7nm,0.9s,mb4.4,baz=133,slow=6.8,SNR=8.4						
KKM	**Kota Kinabalu**	**72.40**	**290**	*e*P	**P**	**06 06 07.8**	**-1.8**
SYO	**Syowa Base**	**73.84**	**194**⇑	*e*P	**P**	**06 06 17.0**	**-1.1**
SYO	**Syowa Base**	**73.84**	**194**⇑	*e*PcP	PcP	06 06 24.5	-9.0
JOW	**Kunigami**	**77.86**	**314**	LR	LR	06 35 00.3	
	comp=Z,39nm,19.9s,MS3.7,baz=100,slow=31						
PLCA	**Paso Flores**	**81.30**	**133**	P	**P**	**06 07 00.6**	**+0.9**
	2.6nm,0.9s,mb4.2,baz=203,slow=10,SNR=5.5						
PSI	**Prapat**	**84.57**	**277**	LR	LR	06 43 51.0	
	comp=Z,101nm,18.9s,MS4.2,baz=67,slow=35						
NVAR	**Mina Array Bea**	**91.31**	**43**	P	**P**	**06 07 47.6**	**-1.3**
	1.0nm,0.9s,mb4.1,baz=197,slow=7.0,SNR=6.0						
CPUP	**Villa Florida**	**99.00**	**130**	LR	LR	06 42 57.0	
	comp=Z,53nm,20.7s,MS4.0,baz=22,slow=29						
MKAR	**Makanchi Array**	**118.79**	**309**	PKP	PKPdf	06 13 28.3	-3.2
	0.5nm,0.7s,baz=72,slow=4.7,SNR=3.8						
CHKZ	**Chkalovo**	**127.66**	**315**	*e*PKPdf	PKPdf	06 13 45.3	-3.2
BVAR	**Borovoye Array**	**127.71**	**314**	PKP	PKPdf	06 13 45.3	-3.3
	1.2nm,0.6s,baz=174,slow=2.7,SNR=6.6						
BRVK	**Borovoye**	**127.78**	**314**	*e*PKPdf	PKPdf	06 13 46.6	-2.2
ZRNK	**Zerenda**	**128.54**	**314**	*e*PKPdf	PKPdf	06 13 47.5	-2.7
ARCES	**ARCESS Array B**	**141.31**	**346**	PKhKP		06 14 05.0	
	3.1nm,0.9s,baz=75,slow=1.2,SNR=6.8						
ARCES				PKP	PKPdf	06 14 11.8	-2.2
	2.8nm,0.7s,baz=45,slow=0.2,SNR=7.4						
KAF	**Kangasniemi**	**146.99**	**338**	*e*pkp	PKPdf	06 14 22.0	-1.9
FINES	**FINESS Array B**	**147.56**	**337**	PKPbc	PKPbc	06 14 22.9	-4.6
	11nm,0.7s,baz=88,slow=4.4,SNR=36						
MALT	**Malatya**	**149.10**	**290**	*e*PKPbc	PKPbc	06 14 30.2	-1.3
NB2	**NORSAR Subarra**	**151.57**	**349**	PKPa	PKPdf	06 14 33.7	+2.5
	comp=Z,12nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.57**	**349**	PKPbc	PKPbc	06 14 34.0	-3.4
	comp=Z,6.3nm,0.8s,baz=19,slow=4.7,SNR=24						
NOA				PKPab	PKPab	06 14 42.1	-4.0
	comp=Z,1.6nm,0.8s,baz=37,slow=2.2,SNR=4.8						
BR131	**Keskin Array S**	**152.83**	**293**	*e*PKPbc	PKPbc	06 14 37.6	-2.7
BRTR	**Keskin Array B**	**152.83**	**293**	PKPbc	PKPbc	06 14 37.0	-3.2
	comp=Z,2.6nm,0.9s,baz=125,slow=3.5,SNR=9.1						
DBIC	**Dimbokro**	**152.85**	**168**	PKPbc	PKPbc	06 14 40.1	-0.2
	comp=Z,1.9nm,0.6s,baz=195,slow=4.7,SNR=5.6						
DBIC				PKPab	PKPab	06 14 52.0	+0.6
AKASG	**Malin Array Be**	**152.89**	**318**	PKPbc	PKPbc	06 14 37.5	-2.9
	comp=Z,0.5nm,0.4s,baz=66,slow=2.1,SNR=6.8						
AKASG	**Malin Array Be**	**152.89**	**318**	PKPbc	PKPbc	06 14 37.5	-2.9
TORD	**Torodi Ar. Bea**	**159.73**	**183**	PKP	PKPdf	06 14 41.8	-0.4
	comp=Z,1.0nm,0.8s,baz=125,slow=1.6,SNR=5.4						
TORD				PKPab	PKPab	06 15 20.6	-0.4
	comp=Z,5.6nm,0.8s,baz=169,slow=3.4,SNR=17						

*ISCJB **22** 06:05:02.5±0.4, 4789N±004×14747E±007, h418km±5km, mb3.9/17, Error ellipse: s-maj=7.5km s-min=6.5km az=91.6*
*MOS **22** 06:05:02.6±1.2, 4802N×14742E, h415km, mb3.9/6, Error ellipse: s-maj=15.4km s-min=9.9km az=81.3*
*SKHL **22** 06:05:02.4±2.2, 4831N×14734E, h372km±47km, mb4.7/6, msh5.2/1*
*JMA **22** 06:05:03.4±0.5, 4736N×14797E, h458km, M3.9*
*IDC **22** 06:05:05.0±1.8, 4805N×147.19E, h423km±21km, mb3.3/10, mb1 3.6/12, mb1mx3.4/22, mbtmp4.2/12, Error ellipse: s-maj=18.2km s-min=11.7km az=131.0*
*BJI **22** 06:05:05.4, 48.10N×14720E, h429km, mB4.0, mb4.6*
*NEIC **22** 06:05:05.5±0.6, 4806N×14723E, h429km±8km, mb4.1/5, Error ellipse: s-maj=12.8km s-min=7.4km az=133.0*
ISC 22 06:05:03.3±0.3, 4797N±004×14743E±006, h409km±4km, n70, σ1°31/88, mb3.9/17, 1C-2D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.75**	**173**	*e*P	**Pn**	**06 06 04.1**	**-1.1**
KUR				AMB	AMB	06 06 05.0	
	80nm,0.5s						
KUR				*e*S	**S**	**06 06 54.0**	**-1.3**
KUR				A		06 06 56.5	
	260nm,1.0s						
KUR				A		06 06 56.5	
	300nm,1.0s						
KUR	**Kuril'sk**	**2.75**	**173**	*e*PN	**Pn**	**06 06 04.1**	**-1.1**
KUR				*e*S	**S**	**06 06 54.0**	**-1.3**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,260nm,1.0s						
KUR				smax			
	comp=E,300nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.33**	**254**⇓	*i*P	**Pn**	**06 06 12.8**	**+3.0**
YSS				AMB	AMB	06 06 13.4	
	comp=E,120nm,0.8s						
YSS				*i*S	**S**	**06 07 06.0**	**+2.2**
YSS				A		06 07 08.2	
	comp=E,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.33**	**254**⇓	*i*PN	**Pn**	**06 06 12.8**	**+3.0**
YSS				*i*S	**S**	**06 07 06.0**	**+2.2**
YSS				pmax	pmax		
	comp=Z,120nm,0.8s						
YSS				smax			
	comp=E,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.33**	**254**	*e*P	**Pn**	**06 06 12.7**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**4.08**	**196**	*e*P	**Pn**	**06 06 21.7**	**+5.1**
YUK				*e*S	**S**	**06 07 17.5**	**+1.3**
YUK				A		06 07 21.3	
	comp=E,2μm,1.0s						
YUK				A		06 07 21.5	
	comp=E,200nm,1.0s						
YUK				A		06 07 21.5	
	comp=E,400nm,1.0s						
JSE	**Soyaes**	**4.50**	**230**	P	**Pn**	**06 06 23.1**	**+2.5**
JTKR	**Abashiri--Toko**	**4.69**	**213**	P	**Pn**	**06 06 23.8**	**+1.3**
JTKR				*e*S	**S**	**06 07 27.2**	**+0.2**
NEM2	**Nemuro 2**	**4.75**	**195**	P	**Pn**	**06 06 21.5**	**-1.6**
NEM2				*e*S	**S**	**06 07 23.3**	**-4.8**
ASAJ	**Asahikawa**	**5.11**	**223**	P	**Pn**	**06 06 28.6**	**+1.9**
	comp=E,3.0nm,0.3s,baz=41,slow=4.6,SNR=30						
ASAJ	**Asahikawa**	**5.11**	**223**	PN	**Pn**	**06 06 28.7**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JKK2	**Kamakawa 2**	**5.23**	**220**	P	**Pn**	**06 06 29.7**	**+1.6**
JAR	**Ashorobuto**	**5.33**	**210**	P	**Pn**	**06 06 29.3**	**+0.3**
JAR				*e*S	**S**	**06 07 36.7**	**-2.2**
JAK	**Akkeshi**	**5.33**	**202**	P	**Pn**	**06 06 28.0**	**-1.0**
JAK				*e*S	**S**	**06 07 34.1**	**-4.8**
JFR	**Furan**	**5.88**	**217**	P	**Pn**	**06 06 36.0**	**+1.1**
JCH	**Churui**	**6.07**	**210**	P	**Pn**	**06 06 35.6**	**-1.3**
JCH				*e*S	**S**	**06 07 48.7**	**-4.7**
SKR	**Severo-Kuril's**	**6.30**	**61**	*e*PN	**Pn**	**06 06 37.5**	**-1.9**
SKR				*e*		06 07 53.6	
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
JNBK	**Urakawa-nobuka**	**6.58**	**212**	P	**Pn**	**06 06 40.9**	**-1.5**
JNBK				*e*S	**S**	**06 07 57.1**	**-6.3**
JEW	**Eniwo**	**6.63**	**222**	P	**Pn**	**06 06 43.5**	**+0.5**
JEW				*e*S	**S**	**06 08 02.4**	**-2

YAK *e*S **S** **06 11 37.3 -1.6**
YAK pmax pmax
comp=Z,60nm,1.0s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,14nm,1.2s
YAK smax
comp=N,18nm,1.2s
YAK smax
comp=E,18nm,1.1s
KS15 Wonju Array Si 17.75 241 *e*P **P** **06 08 46.1 +1.5**
BILL Bilibino 22.28 19 *e*P **P** **06 09 27.9 +0.2**
BILL pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
SSE Sheshan 26.15 239 *e*P **P** **06 10 00.4 -1.9**
SSE AMB AMB
comp=Z,20nm,0.7s,mb4.7
SSE AMB AMB
comp=Z,20nm,4.8s
NJ2 Nanjing 26.84 244 *e*P **P** **06 10 08.0 -0.5**
NJ2 XP sP 06 12 16.0 +6.5
NJ2 PCP PcP 06 13 19.0 +0.5
NJ2 S **S** **06 14 12.0 -2.4**
NJ2 SCP ScP 06 16 17.0 -2.1
NJ2 PCS PcS 06 17 00.0 -0.4
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
NJ2 AMB AMB
comp=Z,60nm,8.0s
SONM Songino Array 27.28 285 P **P** **06 10 12.7 +0.3**
comp=Z,0.3nm,0.4s,mb3.0,baz=76,slow=8.1,SNR=4.0
WHN Wuhan 30.65 247 *e*P **P** **06 10 41.0 -0.9**
KDAK Kodiak Island 36.36 51 P **P** **06 11 31.3 +0.8**
comp=Z,2.5nm,0.3s,mb4.1,baz=316,slow=21,SNR=4.2
COLA College 37.62 39 *e*P **P** **06 11 41.6 +0.7**
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
COLA College 37.62 39 *e*P **P** **06 11 41.6 +0.7**
comp=Z,7.7nm,0.9s,mb4.0
GYA Guiyang 38.33 251 *e*P **P** **06 11 47.8 +1.0**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
INK Inuvik 42.70 33 P **P** **06 12 22.1 +0.1**
comp=Z,4.1nm,0.6s,mb4.0,baz=276,slow=4.7,SNR=20
INK Inuvik 42.70 33 *e*P **P** **06 12 22.0 -0.1**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 42.70 33 *e*P **P** **06 12 22.0 -0.1**
comp=Z,3.5nm,0.5s,mb4.0
MKAR Makanchi Array 42.93 294 P **P** **06 12 23.1 -0.8**
comp=Z,1.0nm,0.7s,mb3.2,baz=64,slow=8.2,SNR=10
MKAR Makanchi Array 42.93 294 *i* P **P** **06 12 23.6 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
RES Resolute Bay 50.88 18 *e*P **P** **06 13 23.8 -0.7**
RES pmax pmax
comp=Z,1.0nm,0.4s,mb3.4
RES Resolute Bay 50.88 18 *e*P **P** **06 13 23.8 -0.7**
comp=Z,1.0nm,0.4s,mb3.4
YKA Yellowknife Ar 52.22 36 P **P** **06 13 33.9 -0.3**
comp=Z,1.4nm,0.7s,mb3.3,baz=304,slow=7.1,SNR=8.6
YKA Yellowknife Ar 52.22 36 P **P** **06 13 33.9 -0.3**
JOF Joensuu 58.47 331 *e*pkp **P** **06 14 15.8 -2.3**
HRY Holter Researc 63.19 49 *e*P **P** **06 14 50.6 +1.1**
MCMT McKenzie Canyo 63.93 51 *e*P **P** **06 14 54.4 +0.1**
NVAR Mina Array Bea 65.23 60 P **P** **06 15 04.4 +1.8**
comp=Z,2.2nm,0.8s,mb3.8,baz=278,slow=8.6,SNR=13
PDAR Pinedale Array 67.08 51 P **P** **06 15 15.5 +1.3**
comp=Z,2.6nm,0.5s,mb4.1,baz=314,slow=1.7,SNR=35
AKASG Malin Array Be 68.31 323 P **P** **06 15 20.1 -1.7**
comp=Z,0.8nm,0.4s,mb3.7,baz=37,slow=6.4,SNR=5.1
WRA Warramunga Arr 68.61 193 P **P** **06 15 23.7 +0.1**
comp=Z,1.2nm,0.6s,mb3.7,baz=8.2,slow=6.5,SNR=24
SRU San Rafael 69.14 55 *e*P **P** **06 15 28.0 +1.1**
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
SRU San Rafael 69.14 55 *e*P **P** **06 15 28.0 +1.1**
comp=Z,4.6nm,0.8s,mb4.2
ASAR Alice Springs 72.33 193 P **P** **06 15 47.3 +1.5**
comp=Z,1.5nm,0.6s,mb3.7,baz=2.6,slow=5.3,SNR=11
BDFB Brasilia 145.34 27 PKPbc PKPbc 06 23 54.3 +0.4
comp=Z,1.7nm,0.8s,baz=339,slow=18,SNR=3.3
CFAA Coronel Fontan 148.44 72 PKPbc PKPbc 06 24 02.2 -0.1
comp=Z,0.2nm,0.6s,baz=285,slow=3.7,SNR=3.7

IDC 22 06:06:39.6±4.5, 1574S×17390W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/14, mbtmp3.8/4, ML2.3/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/23, Error ellipse: s-maj=287.4km s-min=27.8km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.75**	**49**	Pn	Pn	06 07 23.5	-1.4
	26nm,0.3s,baz=270,slow=4.0,SNR=22						
AFI				Sn	Sn	06 07 50.8	-7.9
	17nm,0.3s,baz=253,slow=19,SNR=14						
AFI				LR	LR	06 08 14.1	
	comp=Z,460nm,21.9s,baz=205,slow=34						
ASAR	**Alice Springs**	**49.55**	**252**	P	P	06 15 32.1	0.0
	1.7nm,0.9s,baz=88,slow=8.3,SNR=4.4						
FITZ	**Fitzroy Crossi**	**57.67**	**258**	LR	LR	06 38 32.2	
	comp=Z,52nm,18.6s,baz=8.4,slow=33						
NVAR	**Mina Array Bea**	**74.90**	**42**	P	P	06 18 23.3	+1.0
	0.3nm,0.7s,baz=231,slow=8.0,SNR=2.8						
YKA	**Yellowknife Ar**	**90.60**	**24**	P	P	06 19 43.8	0.0
	0.5nm,0.8s,baz=232,slow=3.8,SNR=2.4						
YKA				LR	LR	06 55 12.7	
	comp=Z,22nm,18.9s,baz=210,slow=32						
BRTR	**Keskin Array B**	**146.11**	**320**	PKPbc	PKPbc	06 26 21.2	-0.4
	0.9nm,0.8s,baz=48,slow=2.1,SNR=4.2						

IDC 22 06:11:00.0±24.0, 1943N×12146E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=460.9km s-min=288.4km az=148.0

MAN 22 06:11:09.1, 1875N×12023E, h6km, mb2.8, ML4.3, MS2.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.56**	**139**	⇓*i*P	Pg	06 11 20.4	+0.4
PIP				*e*S	Sg	06 11 33.1	+5.8
CVP	**Callao Caves**	**1.84**	**124**	*i* S	Sn	06 12 06.0	+1.2
WRA	**Warramunga Arr**	**40.87**	**159**	P	P	06 18 46.1	-5.7
	0.8nm,0.7s,baz=342,slow=9.1,SNR=6.2						
ASAR	**Alice Springs**	**44.22**	**162**	P	P	06 19 13.9	-5.2
	0.7nm,0.6s,baz=343,slow=6.7,SNR=7.6						
STKA	**Stephens Creek**	**54.35**	**158**	P	P	06 20 29.0	-7.5
	1.3nm,0.6s,baz=338,slow=11,SNR=3.2						

IDC 22 06:35:03.0±1.9, 443N×12460E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=127.3km s-min=24.4km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.41**	**177**	P	P	06 40 04.2	+1.1
	2.9nm,1.0s,baz=12,slow=14,SNR=6.1						
WRA	**Warramunga Arr**	**26.04**	**159**	P	P	06 40 38.0	+0.1
	0.3nm,0.3s,baz=336,slow=10,SNR=15						
ASAR	**Alice Springs**	**29.36**	**162**	P	P	06 41 07.6	0.0
	0.2nm,0.4s,baz=347,slow=7.8,SNR=3.3						
MKAR	**Makanchi Array**	**55.78**	**326**	P	P	06 44 41.8	+0.1
	0.3nm,0.4s,baz=131,slow=6.3,SNR=6.0						

IDC 22 06:44:46.8±1.7, 5.11S×152.94E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, ML3.3/1, Error ellipse: s-maj=42.2km s-min=30.7km az=165.0

NEIC 22 06:44:45.7±1.3, 500S×15302E, h0km, mb4.3/1, Error ellipse: s-maj=27.9km s-min=15.7km az=179.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.28**	**233**	Pn	Pn	06 46 34.9	+1.7
	2.8nm,0.3s,baz=55,slow=7.5,SNR=5.7						
PMG	**Port Moresby**	**7.28**	**233**	*e*Pn	Pn	06 46 33.6	+0.4
DZM	**Mont Dzumac**	**21.37**	**144**	P	P	06 49 35.0	+0.3
	3.3nm,0.6s,baz=282,slow=9.3,SNR=6.3						
WRAB	**Tennant Creek**	**23.46**	**229**	*e*P	P	06 49 57.2	+0.3
	8.8nm,1.1s						
WRA	**Warramunga Arr**	**23.48**	**229**	P	P	06 49 57.0	-0.1
	0.8nm,0.4s,baz=53,slow=10,SNR=15						
WRA				PcP	PcP	06 53 45.0	+2.0
	0.7nm,0.9s,baz=50,slow=2.9,SNR=6.1						
ASAR	**Alice Springs**	**26.15**	**223**	P	P	06 50 21.4	-0.2
	0.8nm,0.7s,baz=58,slow=8.5,SNR=9.7						
FITZ	**Fitzroy Crossi**	**29.76**	**242**	P	P	06 50 54.2	+0.4
	3.5nm,0.6s,baz=71,slow=5.5,SNR=13						
TORD	**Torodi Ar. Bea**	**150.58**	**288**	PKPbc	PKPbc	07 04 41.0	+1.5
	0.6nm,0.6s,baz=84,slow=1.9,SNR=8.7						

MAN 22 06:47:30.9, 934N×12351E, h1km, mb3.7, ML4.8, MS3.0, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.27**	**271**	⇑*i*P	Pg	06 47 36.0	-0.1
SNPH				*i* S	Sg	06 47 39.5	-0.1
DCPH	**Dipolog City**	**0.77**	**192**	⇑*e*P	Pg	06 47 44.5	-1.0
DCPH				*e*S	Sg	06 47 52.0	-3.5

ISCJB 22 06:50:04.4±1.2, 4288N×008×824E±0.1, h10km, mb3.4/2, Error ellipse: s-maj=13.4km s-min=10.7km az=54.6
IDC 22 06:50:04.3±2.1, 4292N×8257E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=38.3km s-min=20.8km az=107.0
NNC 22 06:50:09.1±1.5, 43.11N×8272E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=14.2km s-min=6.6km az=126.0

ISC 22 06:50:06.1±1.2, 4286N±008×826E±01, h10km, n10, σ0§60/13, mb3.4/2, 5C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK03	**Makanchi Array**	**3.92**	**357**	⇓Sn	**Sn**	**06 51 52.3**	**+0.1**
	15nm,0.6s,baz=184,slow=28						
MK03				⇓Lg		06 52 05.2	
	74nm,0.8s,baz=179,slow=28						
MK05	**Makanchi Array**	**3.94**	**357**	⇑Pn	**Pn**	**06 51 07.9**	**+1.2**
	2.3nm,0.4s,baz=175,slow=15						
MK05				⇓Pg	**Pg**	**06 51 17.0**	**-4.7**
	11nm,0.5s,baz=173,slow=15						
MKAR	**Makanchi Array**	**3.94**	**357**	Pn	**Pn**	**06 51 07.4**	**+0.7**
	3.1nm,0.3s,baz=178,slow=14,SNR=54						
MKAR				Pg	**Pg**	**06 51 16.3**	**-5.3**
	7.2nm,0.3s,baz=174,slow=16,SNR=36						
MKAR				Lg		06 52 05.1	
	14nm,0.3s,baz=176,slow=29,SNR=15						
TKM2	**Tokmak 2**	**5.13**	**273**	⇓Pn	**Pn**	**06 51 28.4**	**+5.5**
	0.1nm,0.5s						
TKM2				⇑Pg	**Pg**	**06 51 44.8**	**+0.4**
	0.4nm,0.6s						
TKM2				⇑Lg		06 52 55.6	
	0.5nm,0.3s						
KURK	**Kurchatov**	**8.32**	**342**	⇑Pn	**Pn**	**06 52 06.7**	**-0.1**
	1.5nm,0.5s						
KURK				⇑Sn	**Sn**	**06 53 40.2**	**-0.5**
	1.7nm,0.7s						
KURK				⇓Lg		06 54 25.8	
	3.7nm,0.6s						
KK31	**Karatay Array**	**8.85**	**276**	⇓Lg		06 54 52.8	
	1.8nm,0.5s,baz=75,slow=28,SNR=5.1						
ZAL	**Zalesovo**	**11.19**	**7**	Pn	**Pn**	**06 52 45.4**	**-0.6**
	0.7nm,0.3s,baz=338,slow=18,SNR=3.2						
SONM	**Songino Array**	**17.44**	**65**	P	**Pn**	**06 54 09.5**	**+0.1**
	0.3nm,0.3s,baz=254,slow=10,SNR=3.2						
ARCES	**ARCESS Array B**	**39.20**	**332**	P	**P**	**06 57 33.6**	**-0.7**
	1.1nm,0.7s,mb3.7,baz=95,slow=10,SNR=5.0						
TORD	**Torodi Ar. Bea**	**74.53**	**274**	P	**P**	**07 01 44.5**	**-0.4**
	0.1nm,0.4s,mb3.1,baz=51,slow=5.1,SNR=4.6						

CSEM 22 07:44:41.8±0.1, 4422N×1327E, h12km, ML3.5/14, Error ellipse: s-maj=1.4km s-min=0.9km az=115.0
NEIC 22 07:44:42.1, 4423N×1333E, h10km, ML3.0(ROM), ML3.4(LDG), After ROM.
LDG 22 07:44:42.1±0.1, 44.18N×1336E, h10km, Ml3.4/12, Error ellipse: s-maj=3.2km s-min=2.3km az=74.0
ROM 22 07:44:42.1±0.5, 4423N×1333E, h10km±6km, Md3.1/33, Ml3.0/25, Error ellipse: s-maj=3.5km s-min=2.6km az=91.0
ISCJB 22 07:44:42.0±0.2, 4425N±001×1317E±003, h10km, Error ellipse: s-maj=2.9km s-min=1.5km az=28.9
PRU 22 07:44:44.1, 4436N×1312E, h0km

ISC 22 07:44:42.9±0.2, 4423N±001×1319E±003, h10km, n107, σ1§04/172, 18C-13D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PESA	**Pesaro**	**0.38**	**221**	Pg	**Pg**	**07 44 50.7**	**+0.3**
PESA				Sg	**Sg**	**07 44 57.4**	**+1.9**
	1μm,0.3s						
RSM	**Repubblica di**	**0.61**	**241**	Pg	**Pg**	**07 44 55.3**	**+0.6**
	156nm,0.6s						
FSSB	**Fossombrone**	**0.61**	**209**	Pg	**Pg**	**07 44 54.5**	**-0.2**
FSSB				Sg	**Sg**	**07 45 04.3**	**+1.5**
	2μm,0.2s						
AOI	**Ancona**	**0.74**	**156**	Pg	**Pg**	**07 44 57.3**	**+0.2**
	427nm,0.3s						
ARV	**Arcevia**	**0.75**	**194**	Pg	**Pg**	**07 44 56.9**	**-0.5**
ARV				Sg	**Sg**	**07 45 08.7**	**+1.5**
ARVD	**Arcevia**	**0.75**	**194**	Pg	**Pg**	**07 44 56.9**	**-0.5**
ARVD				Sg	**Sg**	**07 45 08.5**	**+1.3**
	228nm,0.3s						
CING	**Cingoli**	**0.85**	**180**	Pg	**Pg**	**07 44 58.8**	**-0.5**
CING				Sg	**Sg**	**07 45 11.4**	**+1.0**
	449nm,0.5s						
SNTG	**Esanatoglia**	**0.99**	**191**	Pg	**Pg**	**07 45 01.3**	**-0.6**
	342nm,0.6s						
BADI	**Badiali**	**0.99**	**224**	Pg	**Pg**	**07 45 01.7**	**-0.2**
BADI				Sg	**Sg**	**07 45 17.1**	**+2.3**
	322nm,0.8s						
SFI	**Santa Sofia**	**1.02**	**252**	Pg	**Pg**	**07 45 02.9**	**+0.4**
SFI				Sg	**Sg**	**07 45 18.2**	**+2.4**
	72nm,0.3s						
MURB	**Monte Urbino**	**1.08**	**207**	Pg	**Pg**	**07 45 04.3**	**+0.7**
MURB				Sg	**Sg**	**07 45 20.2**	**+2.6**
	1μm,0.3s						
CRE	**Caprese Michel**	**1.08**	**236**	Pg	**Pg**	**07 45 04.7**	**+1.0**
	170nm,0.6s						
VMG	**Vicchio**	**1.22**	**258**	Pg	**Pg**	**07 45 06.4**	**+0.2**
	371nm,0.8s						
NVLJ	**Novalja**	**1.25**	**74**	*i* Pg	**Pg**	**07 45 05.9**	**-0.9**
NVLJ				*i* Sg	**Sg**	**07 45 23.2**	**+0.1**
SEI	**Scarperia**	**1.33**	**263**	Pg	**Pg**	**07 45 09.3**	**+0.9**
	264nm,0.3s						
OFFI	**Offida**	**1.34**	**164**	Pg	**Pg**	**07 45 08.8**	**+0.2**
	558nm,0.6s						
NRCA	**Norcia**	**1.40**	**182**	Pg	**Pn**	**07 45 07.7**	**-0.7**
	69nm,0.4s						
FNVD	**Fontana Vidola**	**1.49**	**268**	Pg	**Pg**	**07 45 10.4**	**-1.0**
	115nm,0.5s						
TERO	**Teramo**	**1.63**	**169**	Pg	**Pn**	**07 45 10.6**	**-1.1**
	104nm,0.5s						
SACS	**San Casciano d**	**1.66**	**214**	Pg	**Pn**	**07 45 11.7**	**-0.4**
	89nm,0.7s						
CAMP	**Campotosto**	**1.70**	**175**	Pg	**Pn**	**07 45 11.5**	**-1.1**
	134nm,0.7s						
CEY	**Cerknica**	**1.75**	**30**	*i* Pn	**Pn**	**07 45 13.2**	**0.0**
CEY				*e*Sn	**Sn**	**07 45 35.9**	**+0.3**
CEY							
	comp=Z,101nm,0.3s						
CEY	**Cerknica**	**1.75**	**30**	*i* Pn	**Pn**	**07 45 13.2**	**0.0**
CEY				*e*Sn	**Sn**	**07 45 35.9**	**+0.3**
CEY	**Cerknica**	**1.75**	**30**	*i* Pn	**Pn**	**07 45 13.2**	**-0.1**
CEY				*e*Sn	**Sn**	**07 45 35.9**	**+0.3**
JAVS	**Javornik**	**1.78**	**20**	*i* Pn	**Pn**	**07 45 13.3**	**-0.3**
JAVS							
	comp=Z,87nm,0.3s						
JAVS	**Javornik**	**1.78**	**20**	*i* Pn	**Pn**	**07 45 13.4**	**-0.3**
	comp=Z,87nm,0.3s						
ARCI	**Arcidosso**	**1.86**	**223**	Pg	**Pn**	**07 45 15.5**	**+0.7**
	comp=Z,44nm,1.0s						
VOJS	**Vojsko**	**1.87**	**15**	*e*Pn	**Pn**	**07 45 14.7**	**-0.3**
AQU	**L'Aquila**	**1.88**	**175**	*e*Pn	**Pn**	**07 45 14.7**	**-0.4**
AQU				*e*Sn	**Sn**	**07 45 42.5**	**+3.6**
AQU	**L'Aquila**	**1.88**	**175**	*e*Pn	**Pn**	**07 45 14.7**	**-0.4**
MNS	**Montasola**	**1.88**	**192**	Pg	**Pn**	**07 45 15.3**	**+0.2**
	comp=Z,94nm,0.7s						
VCEL	**Villa Celiera**	**1.89**	**165**	Pg	**Pn**	**07 45 14.4**	**-0.9**
	comp=Z,93nm,0.5s						
LATE	**Laterza**	**1.90**	**213**	Pg	**Pn**	**07 45 15.1**	**-0.3**
	comp=Z,94nm,0.5s						
COLI	**Coloredo**	**1.91**	**4**	⇓*i*Pg	**Pn**	**07 45 15.6**	**+0.1**
COLI				*i* Sg	**Sn**	**07 45 39.3**	**-0.3**
FIAM	**Fiamignano**	**1.96**	**182**	Pg	**Pn**	**07 45 16.7**	**+0.5**
	comp=Z,78nm,0.6s						
MLNI	**Malnisio**	**1.96**	**348**	⇑*i*Pg	**Pn**	**07 45 16.5**	**+0.2**
MLNI				*i* Sg	**Sn**	**07 45 40.1**	**-0.9**
DRE	**Drenchia**	**1.97**	**9**	⇑*i*Pg	**Pn**	**07 45 16.3**	**-0.1**
DRE				*i* Sg	**Sn**	**07 45 40.8**	**-0.3**
PII	**Pisa**	**1.99**	**256**	Pg	**Pn**	**07 45 17.6**	**+1.0**
	comp=Z,32nm,0.2s						
BUA	**Buia**	**1.99**	**359**	⇓*i*Pg	**Pn**	**07 45 17.0**	**+0.4**
BUA				*i* Sg	**Sn**	**07 45 40.9**	**-0.7**
BAD	**Bernadia**	**2.01**	**1**	⇑*i*Pg	**Pn**	**07 45 16.9**	**0.0**
BAD				*i* Sg	**Sn**	**07 45 41.4**	**-0.7**
MPRI	**Monte Prat**	**2.02**	**356**	⇑*e*Pg	**Pg**	**07 45 17.2**	**-4.4**
ROBS	**Robic**	**2.03**	**6**	*i* Pn	**Pn**	**07 45 17.1**	**0.0**
ROBS				*e*Sn	**Sn**	**07 45 42.1**	**-0.4**
ROBS							
	comp=Z,28nm,0.1s						
ROBS	**Robic**	**2.03**	**6**	*i* Pn	**Pn**	**07 45 17.1**	**0.0**
ROBS				*e*Sn	**Sn**	**07 45 42.1**	**-0.4**
ROBS	**Robic**	**2.03**	**6**	*i* Pn	**Pn**	**07 45 17.1**	**0.0**
ROBS				*e*Sn	**Sn**	**07 45 42.1**	**-0.5**
CADS	**Cadrg**	**2.04**	**11**	*i* Pn	**Pn**	**07 45 17.2**	**0.0**
CADS				*i* Sn	**Sn**	**07 45 43.1**	**+0.3**
CADS							
	comp=Z,60nm,0.2s						
CADS	**Cadrg**	**2.04**	**11**	*i* Pn	**Pn**	**07 45 17.2**	**0.0**
CADS				*i* Sn	**Sn**	**07 45 43.1**	**+0.4**
	comp=Z,60nm,0.2s						
GMNA	**Gemona**	**2.05**	**1**	Pg	**Pn**	**07 45 17.4**	**0.0**
	comp=Z,762nm,1.1s						
CTI	**Castel Tesino**	**2.12**	**330**	Pg	**Pn**	**07 45 19.1**	**+0.7**
	comp=Z,183nm,0.2s						
GORS	**Gorjuse**	**2.17**	**15**	*i* Pn	**Pn**	**07 45 19.2**	**+0.2**
GORS				*i* Sn	**Sn**	**07 45 47.4**	**+1.5**
GORS							
	comp=Z,52nm,0.2s						
GORS	**Gorjuse**	**2.17**	**15**	*i* Pn	**Pn**	**07 45 19.2**	**+0.2**
GORS				*i* Sn	**Sn**	**07 45 47.4**	**+1.5**
	comp=Z,52nm,0.2s						
PTCC	**Patocco-Chiusa**	**2.18**	**3**	Pg	**Pn**	**07 45 19.1**	**-0.1**
	comp=Z,68nm,0.4s						
LSR	**Lussari**	**2.26**	**6**	⇓*i*Pn	**Pn**	**07 45 20.9**	**+0.6**
PLRO	**Paularo**	**2.32**	**359**	⇓*e*Pn	**Pn**	**07 45 21.8**	**+0.6**
FVI	**Forni Avoltri**	**2.39**	**353**	Pg	**Pn**	**07 45 22.4**	**+0.4**
	comp=Z,111nm,0.7s						
MAGA	**Magasa**	**2.39**	**311**	Pg	**Pn**	**07 45 22.1**	**0.0**
	comp=Z,307nm,0.4s						
OBKA	**Obir**	**2.47**	**22**	⇓*e*Pn	**Pn**	**07 45 23.8**	**+0.6**
	SNR=6.3						
OBKA				⇑*i*Sn	**Sn**	**07 45 53.4**	**-0.1**
OBKA				⇑*i*Sg	**Sg**	**07 46 03.0**	**+0.7**
	comp=Z,54nm,0.3s						
OBKA	**Obir**	**2.47**	**22**	⇓*e*Pn	**Pn**	**07 45 23.8**	**+0.5**
OBKA				*i* Sn	**Sn**	**07 45 53.4**	**-0.1**
SEST	**Monte Rota**	**2.61**	**345**	Pg	**Pn**	**07 45 26.3**	**+1.1**
	comp=Z,98nm,0.6s						
BRES	**Bressanone**	**2.67**	**338**	Pg	**Pn**	**07 45 27.1**	**+1.1**
	comp=Z,90nm,0.7s						
KBA	**Koelnbreinsper**	**2.85**	**2**	⇑*e*Pn	**Pn**	**07 45 29.2**	**+0.8**
	SNR=7.8						
KBA				⇑*i*Sn	**Sn**	**07 46 03.1**	**+0.3**
KBA				⇓*i*Sg	**Sg**	**07 46 15.9**	**+1.4**
	comp=Z,39nm,0.4s						
KBA	**Koelnbreinsper**	**2.85**	**2**	Pn	**Pn**	**07 45 29.2**	**+0.7**
	SNR=7.8						
KBA				Sn	**Sn**	**07 46 03.1**	**+0.2**
RGNG	**Rignano Grg**	**3.10**	**145**	Pg	**Pn**	**07 45 30.1**	**-1.8**
FUORN	**Ofenpass**	**3.16**	**320**	Pg	**Pn**	**07 45 34.6**	**+1.9**
MSAG	**Monte S. Angel**	**3.21**	**141**	Pn	**Pn**	**07 45 31.3**	**-2.1**
MSAG				Sn	**Sn**	**07 46 07.6**	**-4.1**
	comp=Z,51nm,0.4s						
WTTA	**Wattenberg**	**3.23**	**341**	⇑*i*Pn	**Pn**	**07 45 34.5**	**+0.9**
	SNR=7.4						
WTTA				⇑*i*Sg	**Sg**	**07 46 29.2**	**+2.8**
	comp=Z,36nm,0.4s						
SQTA	**Sankt Quirin**	**3.30**	**336**	⇓*i*Pn	**Pn**	**07 45 35.4**	**+0.8**
SQTA				⇑*i*Sn	**Sn**	**07 46 14.9**	**+1.0**
WATA	**Walderalm**	**3.31**	**341**	⇓*i*Pn	**Pn**	**07 45 35.7**	**+1.0**
WATA				⇑*i*Sn	**Sn**	**07 46 14.8**	**+0.7**
ARSA	**Arzberg**	**3.44**	**28**	⇓*i*Pn	**Pn**	**07 45 36.6**	**+0.2**
ARSA				⇑*i*Sn	**Sn**	**07 46 17.4**	**+0.2**
MOTA	**Moosalm**	**3.44**	**336**	⇓*i*Pn	**Pn**	**07 45 37.5**	**+1.0**
MOTA				⇑*i*Sn	**Sn**	**07 46 18.4**	**+1.0**
PGF	**Pioggiola**	**3.49**	**243**	*e*Pn	**Pn**	**07 45 37.0**	**-0.2**
PGF				*e*Sn	**Sn**	**07 46 16.5**	**-2.0**
	comp=Z,3.8nm,0.3s						
PGF	**Pioggiola**	**3.49**	**243**	*e*Pn	**Pn**	**07 45 37.0**	**-0.2**
PGF				*e*Sn	**Sn**	**07 46 16.5**	**-2.0**
	comp=Z,1.9nm,0.3s						
STON	**Ston**	**3.55**	**111**	*i* Pn	**Pn**	**07 45 38.7**	**+0.7**
STON				*i* Sn	**Sn**	**07 46 18.2**	**-1.9**
STON	**Ston**	**3.55**	**111**	*i* Pn	**Pn**	**07 45 38.6**	**+0.6**
STON				*i* Sn	**Sn**	**07 46 18.1**	**-1.9**
MOA	**Molln**	**3.70**	**11**	⇑*i*Pn	**Pn**	**07 45 41.0**	**+0.9**
	SNR=7.8						
MOA				⇑*i*Sn	**Sn**	**07 46 24.7**	**+1.0**
DAVA	**Damuels**	**3.84**	**324**	⇑*i*Pn	**Pn**	**07 45 42.8**	**+0.8**
DAVA				⇑*i*Sn	**Sn**	**07 46 28.3**	**+1.1**
CONA	**Conrad Observa**	**4.14**	**26**	⇓*i*Pn	**Pn**	**07 45 46.6**	**+0.4**
CONA				⇓*i*Sn	**Sn**	**07 46 34.3**	**-0.4**
SBF	**Sospel**	**4.17**	**267**	*e*Pn	**Pn**	**07 45 45.6**	**-0.9**
MBDF	**Montbardon**	**4.62**	**278**	*e*Pn	**Pn**	**07 45 51.3**	**-1.5**
MBDF				*e*Sn	**Sn**	**07 46 44.0**	**-2.5**
	comp=Z,11nm,0.6s						
MBDF	**Montbardon**	**4.62**	**278**	*e*Pn	**Pn**	**07 45 51.3**	**-1.5**
MBDF				*e*Sn	**Sn**	**07 46 44.0**	**-2.5**
	comp=Z,5.3nm,0.6s						
LPG	**La Plagne**	**4.75**	**288**	*e*Pn	**Pn**	**07 45 53.6**	**-1.0**
LPG				*e*Sn	**Sn**	**07 46 47.0**	**-2.7**
	comp=Z,9.8nm,0.4s						
LPG	**La Plagne**	**4.75**	**288**	*e*Pn	**Pn**	**07 45 53.6**	**-1.0**
LPG				*e*Sn	**Sn**	**07 46 47.0**	**-2.7**
	comp=Z,4.9nm,0.4s						
LPL	**La Plagne**	**4.77**	**288**	*e*Pn	**Pn**	**07 45 53.9**	**-0.9**
LPL				*e*Sn	**Sn**	**07 46 47.0**	**-3.1**
	comp=Z,13nm,0.4s						
**LPL

comp=Z,7.2nm,0.4s
SSF Saint Saulge 7.36 296 *e*Sn **Sn 07 47 49.1 -4.8**
comp=Z,3.6nm,0.4s
AVF Avril sur Loir 7.37 294 *e*Pn **Pn 07 46 29.6 -0.9**
AVF *e*Sn **Sn 07 47 49.4 -4.9**
comp=Z,3.4nm,0.4s
AVF Avril sur Loir 7.37 294 *e*Pn **Pn 07 46 29.6 -0.9**
AVF *e*Sn **Sn 07 47 49.4 -4.9**
comp=Z,1.7nm,0.4s
BGF Bois d'Agland 7.64 291 *e*Pn **Pn 07 46 32.9 -1.4**
TCF Toulx Ste Croi 8.02 289 *e*Pn **Pn 07 46 38.3 -1.1**

IDC 22 07:59:01.9±25.0, 1937S×17323W, h0km, mb4.4/4, mb1 4.5/4, mb1mx4.0/16, mbtmp4.4/4, Error ellipse: s-maj=465.0km s-min=155.9km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.08**	**262**	P	P	08 06 23.1	+0.8
	5.8nm,0.4s,baz=87,slow=10,SNR=19						
STKA	**Stephens Creek**	**42.32**	**244**	P	P	08 06 57.1	-0.3
	2.8nm,0.9s,baz=76,slow=8.3,SNR=4.1						
ASAR	**Alice Springs**	**49.15**	**255**	P	P	08 07 52.1	+0.7
	2.1nm,0.4s,baz=90,slow=7.4,SNR=53						
WRA	**Warramunga Arr**	**49.21**	**260**	P	P	08 07 51.8	-0.1
	1.5nm,0.3s,baz=98,slow=7.4,SNR=82						

CASC 22 08:02:13.7±2.3, 1322N×9085W, h3km±25km, MD3.8, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.19**	**11**	*e*P	Pg	08 02 35.2	-1.3
JAT	**Jato**	**1.33**	**325**	⇓*e*P	Pn	08 02 38.2	-0.9
TP2	**Tecpan 2**	**1.56**	**354**	⇓*e*P	Pn	08 02 43.4	+1.1
TP2				*e*S	Sn	08 03 04.2	+1.2
LFRS	**El Faro**	**1.79**	**77**	*e*P	x	08 03 06.6	
LFRS				*e*S	x	08 03 31.2	
LCBS	**La Ceiba**	**1.87**	**76**	*e*P	x	08 03 07.6	
LCBS				*e*S	x	08 03 32.5	

IDC 22 08:27:43.0±11.0, 178S×12976E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=168.3km s-min=110.1km az=139.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.72**	**194**	Pn	Pn	08 31 38.1	-0.4
	0.2nm,0.3s,baz=16,slow=18,SNR=5.2						
WRA	**Warramunga Arr**	**18.60**	**166**	P	Pn	08 31 59.9	-2.0
	0.3nm,0.3s,baz=350,slow=11,SNR=17						
ASAR	**Alice Springs**	**22.12**	**170**	P	P	08 32 40.9	+0.8
	1.9nm,0.5s,baz=348,slow=11,SNR=53						
STKA	**Stephens Creek**	**31.95**	**161**	P	P	08 34 11.6	+1.1
	2.5nm,1.1s,baz=335,slow=14,SNR=2.9						

IDC 22 08:46:57.0±10.0, 281S×12913E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/15, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=173.7km s-min=136.9km az=102.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.77**	**164**	P	Pn	08 51 05.3	-0.5
	0.5nm,0.3s,baz=346,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.24**	**168**	P	P	08 51 46.2	+1.7
	3.3nm,0.5s,baz=349,slow=12,SNR=15						
STKA	**Stephens Creek**	**31.20**	**159**	P	P	08 53 17.3	-0.6
	0.9nm,0.6s,baz=333,slow=9.1,SNR=4.4						

ISCJB ***22*** *09:27:13.0±1.0, 801S±009×74.31W±007, h136km±12km, mb3.8/8, Error ellipse: s-maj=16.6km s-min=7.4km az=65.4*
IDC ***22*** *09:27:12.7±2.5, 795S×7420W, h117km±28km, mb3.8/7, mb1 4.0/10, mb1mx3.7/21, mbtmp4.2/10, Error ellipse: s-maj=36.9km s-min=11.7km az=38.0*
NEIC ***22*** *09:27:14.6±1.4, 806S×7429W, h135km±16km, mb3.7/1, Error ellipse: s-maj=15.3km s-min=11.7km az=222.0*
ISC 22 09:27:13.5±0.8, 807S±007×7427W±005, h120km±10km, n17, σ1§21/21, mb3.9/8, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.22**	**284**	P	**Pn**	**09 28 16.7**	**+0.7**
	8.0nm,0.3s,baz=107,slow=9.8,SNR=59						
ATAH				S	**Sn**	**09 29 04.0**	**-0.5**
	7.4nm,0.3s,baz=86,slow=21,SNR=16						
NNA	**Nana**	**4.65**	**213**	*e*Pn	**Pn**	**09 28 21.6**	**-0.1**
NNA				*e*Sn	**Sn**	**09 29 12.4**	**-2.3**
LPAZ	**La Paz**	**10.14**	**144**	P	**Pn**	**09 29 38.0**	**+2.2**
	0.6nm,0.3s,baz=320,slow=11,SNR=30						
SAML	**Samuel**	**11.00**	**95**	*e*Pn	**Pn**	**09 29 47.3**	**-0.1**
SAML				*e*Sn	**Sn**	**09 31 46.0**	**-2.5**
SIV	**San Ignacio**	**15.12**	**123**	P	**Pn**	**09 30 42.1**	**+1.4**
	1.2nm,0.3s,baz=292,slow=13,SNR=48						
SIV				S	**S**	**09 33 26.0**	**-11**
	1.0nm,0.3s,baz=74,slow=23,SNR=6.6						
LVC	**Limon Verde**	**15.36**	**161**	P	**Pn**	**09 30 48.2**	**+4.5**
	0.6nm,0.3s,baz=341,slow=6.6,SNR=6.1						
LVC	**Limon Verde**	**15.36**	**161**	*e*P	**Pn**	**09 30 46.3**	**+2.6**
	2.2nm,0.5s						
SDV	**Santo Domingo**	**17.22**	**12**	P	**Pn**	**09 31 08.9**	**+2.2**
	0.7nm,0.3s,baz=275,slow=7.4,SNR=3.6						
CFAA	**Coronel Fontan**	**24.09**	**167**	P	**P**	**09 32 18.9**	**+1.1**
	0.2nm,0.7s,mb2.6,baz=346,slow=11,SNR=4.4						
CPUP	**Villa Florida**	**24.27**	**140**	P	**P**	**09 32 18.9**	**-0.6**
	6.2nm,0.6s,mb4.1,baz=310,slow=11,SNR=32						
BDFB	**Brasilia**	**26.76**	**109**	P	**P**	**09 32 41.5**	**-0.5**
	2.5nm,0.5s,mb4.0,baz=269,slow=7.7,SNR=3.1						
ANMO	**Albuquerque**	**52.49**	**327**	P	**P**	**09 36 14.3**	**+0.2**
	1.2nm,0.9s,mb3.9,baz=139,slow=11,SNR=4.2						
PDAR	**Pinedale Array**	**59.94**	**331**	P	**P**	**09 37 06.8**	**-0.2**
	0.5nm,0.9s,mb3.5,baz=134,slow=6.4,SNR=4.3						
NVAR	**Mina Array Bea**	**61.78**	**322**	P	**P**	**09 37 19.6**	**+0.1**
	0.4nm,0.8s,mb3.5,baz=152,slow=4.1,SNR=3.6						
GCMT	**Greycliff**	**62.27**	**333**	*e*P	**P**	**09 37 21.5**	**-1.3**
DBIC	**Dimbokro**	**70.75**	**80**	P	**P**	**09 38 16.2**	**-0.4**
	10nm,0.7s,mb4.8,baz=224,slow=8.7,SNR=16						
TORD	**Torodi Ar. Bea**	**78.32**	**75**	P	**P**	**09 38 59.7**	**-0.7**
	6.0nm,0.7s,mb4.4,baz=256,slow=3.2,SNR=41						

ISCJB ***22*** *09:36:30.7±0.6, 3108N±003×35.13E±005, h4km±5km, Error ellipse: s-maj=8.5km s-min=4.5km az=53.4*
HLW ***22*** *09:36:30.0, 3138N×3523E, h20km, Mb2.9*
GII ***22*** *09:36:30.0±0.9, 3108N×35.17E, h0km±5km, ML2.7/5*
ISC 22 09:36:31.2±0.6, 3108N±003×3513E±005, h5km±5km, n20, σ0§87/25, 5C-2D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.31**	**254**	Pg	**Pg**	**09 36 38.0**	**+0.9**
MZDA	**Masada**	**0.31**	**41**	Pg	**Pg**	**09 36 36.8**	**-0.3**
MZDA				Sg	**Sg**	**09 36 42.1**	**+1.0**
RTMM	**Retamin**	**0.38**	**266**	Pg	**Pg**	**09 36 39.4**	**+0.9**
ZFRI	**Zfri**	**0.53**	**175**	Pg	**Pg**	**09 36 41.4**	**+0.1**
DRGI	**Dragot**	**0.56**	**24**	Pg	**Pg**	**09 36 41.5**	**-0.4**
MKRJ	**Makawir**	**0.64**	**43**	Pg	**Pg**	**09 36 43.9**	**+0.4**
KZIT	**Kziot**	**0.65**	**255**	Pg	**Pg**	**09 36 44.2**	**+0.6**
HMDT	**Nahal Hemdat**	**1.22**	**16**	Pg	**Pg**	**09 36 53.3**	**-1.3**
MBH	**Mount Berech**	**1.29**	**188**	Pg	**Pg**	**09 36 55.0**	**-1.0**
AQBJ	**Aqaba**	**1.35**	**183**	Pn	**Pn**	**09 36 56.2**	**-0.4**
MMLI	**Mount Malkishu**	**1.38**	**10**	Pn	**Pn**	**09 36 56.0**	**-1.0**
EIL	**Elat**	**1.41**	**186**	Pn	**Pn**	**09 36 56.7**	**-0.8**
HNKL	**Nakhl**	**1.52**	**221**	⇑*i*P	**Pn**	**09 36 58.5**	**-0.4**
HNKL				S	**Sn**	**09 37 20.4**	**+1.4**
OFRI	**'Ofer**	**1.54**	**356**	Pn	**Pn**	**09 36 59.4**	**+0.1**
OFRI				Sn	**Sn**	**09 37 21.3**	**+1.6**
AMAG	**Maghara**	**1.71**	**256**	⇑P	**Pn**	**09 37 00.2**	**-1.4**
AMAG				S	**Sn**	**09 37 22.1**	**-1.6**
HBST	**Basata**	**1.89**	**191**	⇓P	**Pn**	**09 37 04.5**	**+0.5**
HBST				S	**Sn**	**09 37 29.5**	**+1.3**
SUZ		**2.33**	**239**	⇑*i*P	**Pn**	**09 37 09.8**	**-0.4**
HDHB	**Dhahab**	**2.39**	**191**	⇑P	**Pn**	**09 37 11.2**	**+0.2**
ZNM		**2.58**	**230**	⇑*i*P	**Pn**	**09 37 13.5**	**-0.1**
TR2		**2.95**	**205**	⇓P	**Pn**	**09 37 18.7**	**0.0**

ISCJB ***22*** *10:26:24.3±1.6, 4271N±006×763E±0.1, h10km, Error ellipse: s-maj=13.6km s-min=6.1km az=117.0*
KNET ***22*** *10:26:25.7±0.4, 4264N×7613E, h0km, ml2.1, Error ellipse: s-maj=3.6km s-min=2.0km az=56.0*
ISC 22 10:26:24.8±1.6, 4270N±006×763E±01, h10km, n12, σ0§85/18, 11C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.45**	**182**	⇓P	**Pg**	**10 26 33.4**	**-0.2**
	102nm,0.2s,SNR=421						
ULHL				⇑S	**Sg**	**10 26 39.5**	**-0.1**
	152nm,0.2s						
TKM2	**Tokmak 2**	**0.54**	**295**	⇑P	**Pg**	**10 26 35.1**	**-0.2**
	29nm,0.1s,SNR=198						
TKM2				⇑S	**Sg**	**10 26 42.6**	**+0.2**
	154nm,0.1s						
TKM2	**Tokmak 2**	**0.54**	**295**	⇑P	**Pg**	**10 26 35.0**	**-0.3**
	1.0nm,0.3s						
TKM2				⇓S	**Sg**	**10 26 42.8**	**+0.3**
	3.0nm,0.3s						
KBK	**Karagaybulak**	**0.97**	**268**	⇑P	**Pg**	**10 26 43.1**	**-0.4**
	24nm,0.1s,SNR=19						
KZA	**Kyzart**	**0.97**	**231**	⇑P	**Pg**	**10 26 43.3**	**-0.3**
	14nm,0.1s,SNR=17						
CHMS	**Chumysh**	**1.15**	**286**	⇑P	**Pb**	**10 26 45.7**	**-1.1**
	24nm,0.1s,SNR=7.3						
AAK	**Ala-Archa**	**1.31**	**268**	⇑P	**Pn**	**10 26 48.8**	**-0.3**
	10nm,0.1s,SNR=12						
AAK				⇑S	**Sb**	**10 27 06.0**	**-0.3**
	25nm,0.3s						
UCH	**Uchtor**	**1.38**	**251**	⇓P	**Pn**	**10 26 50.2**	**+0.1**
	2.1nm,0.1s,SNR=12						
UCH				⇓S	**Sb**	**10 27 08.6**	**+0.3**
	20nm,0.3s						
USP	**Ospenovka**	**1.42**	**294**	⇑P	**Pn**	**10 26 50.4**	**-0.2**
	34nm,0.2s,SNR=5.5						
EKS2	**Erkin-Say**	**1.83**	**270**	⇓P	**Pn**	**10 26 58.8**	**+2.4**
	23nm,0.2s,SNR=16						
EKS2				⇑S	**Sn**	**10 27 24.2**	**+4.5**
	17nm,0.2s						
AML	**Almayashu**	**1.99**	**254**	⇓P	**Pn**	**10 27 01.7**	**+3.3**
	3.9nm,0.2s,SNR=6.8						
KK31	**Karatay Array**	**4.25**	**277**	Pg	**Pg**	**10 27 41.7**	**-4.4**
	0.4nm,0.3s,baz=88,slow=14,SNR=17						
KK31				⇓Lg		10 28 40.1	
	1.9nm,0.4s,baz=93,slow=31,SNR=8.1						

NIED ***22*** *10:53:00, 4480N×14950E, h101km, Mw6.1 Best double couple: M0 1.44000×10^18 NP1:φs=254.00000°, δ85.00000°, λ-98.00000°. NP2:φs=136.00000°, δ9.00000°, λ-29.00000°.*
CRAAG ***22*** *10:53:03.3, 4545N×14950E, Mb6.4*
BJI ***22*** *10:53:10.6, 4552N×14942E, h105km, mB5.9, mb6.0*
MOS ***22*** *10:53:10.7±1.1, 4543N×14929E, h99km, mb6.1/98, MS5.2/43, Error ellipse: s-maj=6.1km s-min=3.4km az=107.2*
MOS Felt (IV) at Kuril'sk, (II-III) at Yuzhno-Kuril'sk.
BGS ***22*** *10:53:10.7, 4560N×15139E, h95km, mb6.2*
ISCJB ***22*** *10:53:11.0±0.1, 4530N±002×14941E±001, h104km, mb6.1/413, Error ellipse: s-maj=2.3km s-min=1.3km az=137.3*
HRVD ***22*** *10:53:11.6±0.1, 4537N×14952E, h105km, MW6.0/114, Centroid moment Tensor Solution. LP body waves: s106,c256;Mantle waves: s114,c350; Half duration: 2§3 Moment tensor: Scale 10^18Nm; Mrr-0.21±.01; Mθθ0.39±.01; Mφφ-0.17±.01; Mrθ0.91±.01; Mφφ-0.05±.01; Mφr0.42±.01; Best double couple: M0 1.05900×10^18 NP1:φs=130.00000°, δ15.00000°, λ-26.00000°. NP2: φs=246.00000°, δ84.00000°, λ-103.00000°. Principal axes: T 1.0840, Plg37.0000°, Azm347.0000°; N -0.0510, Plg13.0000°, Azm247.0000°; P -1.0330, Plg50.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SKHL ***22*** *10:53:11.5±1.8, 4540N×14960E, h89km±31km, mb6.6/7, mbh6.7/10, mbv6.8/9, ms5.6/3, msha6.7/1*
IDC ***22*** *10:53:12.0±0.3, 4541N×14928E, h102km±2km, mb5.5/27, mb1 5.6/30, mb1mx5.6/30, mbtmp5.9/30, MS5.0/25, Ms1 5.0/25, ms1mx4.8/32, Error ellipse: s-maj=10.3km s-min=7.4km az=107.0*
NEIC ***22*** *10:53:11.6±0.1, 4542N×14934E, h95km, mb6.1/242, ME6.1, MW6.0, Error ellipse: s-maj=2.8km s-min=2.0km az=169.0, Moment Tensor Solution. s67 Moment tensor: Scale 10^18Nm; Mrr-0.09; Mθθ0.27; Mφφ-0.18; Mrθ1.11; Mφθ-0.21; Mφr0.39; Best double couple: M0 1.20000×10^18 NP1:φs=251.00000°, δ88.00000°, λ-105.00000°. NP2: φs=152.00000°, δ15.00000°, λ-9.00000°. Principal axes: T 1.2200, Plg41.0000°, Azm355.0000°; N -0.0100, Plg15.0000°, Azm252.0000°; P -1.2100, Plg45.0000°, Azm146.0000°; Broadband fault plane solution: P waves. NP1:φs=142.00000°, δ16.00000°, λ-19.00000°. NP2: φs=250.00000°, δ85.00000°, λ-105.00000°. Principal axes: T Plg38.0000°, Azm353.0000°; N Plg0.0000°, Azm0.0000°; P Plg48.0000°, Azm144.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Kuril'sk, Iturup and [III] at Yuzhno-Kuril'sk, Kunashir. Felt at Misawa, Honshu. Recorded [2 JMA] in eastern Hokkaido and [1 JMA] in south-central Hokkaido. Also recorded [2 JMA] in Aomori, Iwate and Miyagi Prefectures, Honshu.
SZGRF ***22*** *10:53:13.2, 4695N×14836E, h33km, mb6.7, MS5.4, Northwest of Kuril Islands, Russia*
JMA ***22*** *10:53:14.0±0.5, 4480N×14951E, h111km, M5.8*
JMA Felt II J1.
ISC 22 10:53:12.9±0.1, 4542N±002×14931E±001, h106km, h106km±1.1km: pP-P, n1743, σ0§99/1840, mb6.1/413, 520C-200D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.04**	**260**	⇓*i*P	**Pn**	**10 53 32.6**	**-1.6**
KUR				⇓*i*P		10 53 32.6	
KUR				⇓*i*P		10 53 32.6	
KUR				AMB	AMB	10 53 34.0	
	50μm,1.4s						
KUR				AMB	AMB	10 53 34.0	
	182μm,1.4s						
KUR				AMB	AMB	10 53 34.0	
	300μm,1.4s						
KUR				*e*S	**Sn**	**10 53 49.8**	**-0.4**
KUR				A		10 53 54.8	
	2900μm,1.6s						
KUR				A		10 53 54.8	
	1126μm,1.6s						
KUR	**Kuril'sk**	**1.04**	**260**	*d*iPN	**Pn**	**10 53 32.6**	**-1.6**
KUR				*e*S	**Sn**	**10 53 49.8**	**-0.4**
KUR				pmax	pmax		
	comp=N,50μm,1.4s						
KUR				pmax	pmax		
	comp=E,182μm,1.4s						
KUR				pmax	pmax		
	comp=Z,300μm,1.4s						
KUR				smax			
	comp=N,2900μm,1.6s						
KUR				smax			
	comp=E,1126μm,1.6s						
YUK	**Yuzh-Kuril'sk**	**2.82**	**242**	*i*P	**Pn**	**10 53 57.0**	**+0.6**
YUK				*i*P		10 53 57.0	
YUK				*i*P		10 53 57.0	
YUK				AMB	AMB	10 53 58.0	
	comp=E,420nm,0.3s						
YUK				AMB	AMB	10 53 58.0	
	comp=E,1μm,0.3s						
YUK				AMB	AMB	10 53 58.0	
	comp=E,9μm,0.3s						
YUK				AMB	AMB	10 54 04.0	
	comp=E,55μm,2.0s						
YUK				AMB	AMB	10 54 04.0	
	comp=E,90μm,2.0s						
YUK				AMB	AMB	10 54 04.0	
	comp=E,94μm,2.0s						
YUK				*i*S	**Sn**	**10 54 29.8**	**-0.1**
YUK				A		10 54 46.5	
	comp=E,195μm,1.0s						
YUK				A		10 54 46.5	
	comp=E,413μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**2.82**	**242**	⇑*i*PN	**Pn**	**10 53 57.0**	**+0.6**
YUK				*i*S	**Sn**	**10 54 29.8**	**-0.1**
YUK				pmax	pmax		
	comp=Z,9μm,0.3s						
YUK				pmax	pmax		
	comp=N,420nm,0.4s						
YUK				pmax	pmax		
	comp=E,1μm,0.4s						
YUK				pmax	pmax		
	comp=Z,94μm,1.0s						
YUK				pmax	pmax		
	comp=N,55μm,2.0s						
YUK				pmax	pmax		
	comp=E,90μm,2.0s						
YUK				smax			
	comp=N,195μm,1.0s						
YUK				smax			
	comp=E,413μm,1.0s						
NEM2	**Nemuro 2**	**3.28**	**233**	⇑P	**Pn**	**10 54 01.5**	**-1.0**
NEM2				*e*S	**Sn**	**10 54 38.2**	**-2.6**
JRA	**Rausu**	**3.33**	**245**	⇑P	**Pn**	**10 54 04.6**	**+1.4**
JNK	**Nakash**	**3.76**	**243**	⇑P	**Pn**	**10 54 09.8**	**+0.8**
JAK	**Akkeshi**	**4.11**	**236**	⇑P	**Pn**	**10 54 12.7**	**-0.9**
JAK				*e*S	**Sn**	**10 54 58.1**	**-2.6**
JTKR	**Abashiri--Toko**	**4.12**	**251**	⇑P	**Pn**	**10 54 15.4**	**+1.7**
JMP	**Maruseppu**	**4.47**	**254**	⇑P	**Pn**	**10 54 20.4**	**+1.9**
JAR	**Ashorobuto**	**4.50**	**244**	P	**Pn**	**10 54 20.2**	**+1.2**
JOB	**Onbets**	**4.67**	**239**	⇑P	**Pn**	**10 54 21.4**	**+0.2**
JOB				*e*S	**Sn**	**10 55 13.9**	**-0.4**
JSE	**Soyaes**	**4.78**	**267**	⇓P	**Pn**	**10 54 25.9**	**+3.2**
YSS	**Yuzh-Sakhalins**	**4.81**	**291**	⇓*i*P	**Pn**	**10 54 26.5**	**+3.5**
YSS				⇓*i*P		10 54 26.5	
YSS				AMB	AMB	10 54 27.8	
	comp=E,660nm,0.7s						
YSS				AMB	AMB	10 54 27.8	
	comp=E,2μm,0.7s						
YSS				AMB	AMB	10 54 27.8	
	comp=E,2μm,0.7s						
YSS				AMB	AMB	10 54 29.0	
	comp=E,2μm,2.0s						
YSS				AMB	AMB	10 54 29.0	
	comp=E,4μm,2.0s						
YSS				*i*S	**Sn**	**10 55 21.0**	**+3.4**
YSS				A		10 55 30.0	
	comp=E,34μm,3.0s						
YSS				A		10 55 30.0	
	comp=E,35μm,3.0s						
YSS				AMS	AMS	10 57 51.0	
	comp=E,11μm,10.0s						
YSS				AMS	AMS	10 57 51.0	
	comp=E,30μm,10.0s						
YSS				AMS	AMS	10 57 51.0	
	comp=E,17μm,10.0s						
YSS				AMS	AMS	10 57 51.0	
	comp=E,15μm,10.0s						
YSS				AMS	AMS	10 57 51.0	
	comp=E,32μm,10.0s						
YSS				AMS	AMS	10 57 51.0	
	comp=E,22μm,10.0s						
YSS	**Yuzh-Sakhalins**	**4.81**	**291**	κ *i*PN	**Pn**	**10 54 26.5**	**+3.5**
YSS				pmax	pmax		
	comp=E,2μm,0.9s						
YSS				pmax	pmax		
	comp=Z,2μm,0.9s						
YSS				pmax	pmax		
	comp=N,660nm,0.5s						
YSS				pmax	pmax		
	comp=N,2μm,2.0s						
YSS				pmax	pmax		
	comp=Z,4μm,2.0s						
YSS				MLR	MLR		
	comp=Z,17μm,10.0s						
YSS				MLR	MLR		
	comp=N,11μm,9.0s						
YSS				MLR	MLR		
	comp=E,30μm,12.0s						
YSS	**Yuzh-Sakhalins**	**4.81**	**291**	⇑*i*Pn	**Pn**	**10 54 26.6**	**+3.6**
YSS				*e*Sn	**Sn**	**10 55 22.7**	**+5.1**
JKK2	**Kamakawa 2**	**4.93**	**254**	P	**Pn**	**10 54 27.1**	**+2.4**
ASAJ	**Asahikawa**	**4.96**	**257**	P	**Pn**	**10 54 27.9**	**+2.8**
	comp=E,117nm,0.3s,baz=90,slow=15,SNR=614						
ASAJ				S	**Sn**	**10 55 24.4**	**+3.2**
	comp=E,85nm,0.3s,baz=303,slow=33,SNR=2.0						
ASAJ				LR	LR	10 55 59.1	
	comp=E,3μm,20.2s,baz=288,slow=34						
ASAJ	**Asahikawa**	**4.96**	**257**	⇑P	**Pn**	**10 54 28.0**	**+3.0**
ASAJ	**Asahikawa**	**4.96**	**257**	PN	**Pn**	**10 54 27.9**	**+2.9**
ASAJ				S	**Sn**	**10 55 24.4**	**+3.2**
ASAJ				pmax	pmax		
	comp=Z,117nm,0.3s						
ASAJ				smax			
	comp=N,85nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,3μm,20.2s						
JCH	**Churui**	**5.12**	**239**	⇑P	**Pn**	**10 54 26.7**	**-0.6**
JCH				*e*S	**Sn**	**10 55 23.1**	**-2.1**
JWK2	**Keihoku**	**5.23**	**272**	P	**Pn**	**10 54 33.5**	**+4.8**
JFR	**Furan**	**5.32**	**247**	⇑P	**Pn**	**10 54 31.3**	**+1.3**
JSS	**Shosan**	**5.40**	**262**	⇓P	**Pn**	**10 54 35.1**	**+4.1**
JAB	**Ashibetsu**	**5.42**	**252**	⇑P	**Pn**	**10 54 34.2**	**+2.8**
JEM	**Erimo**	**5.61**	**235**	P	**Pn**	**10 54 33.7**	**-0.2**
ERM	**Erimo**	**5.61**	**235**	Pn	**Pn**	**10 54 35.9**	**+2.0**
	comp=Z,20μm,0.6s,SNR=91						
JBT2	**Biratori 2**	**5.66**	**245**	⇑P	**Pn**	**10 54 34.7**	**+0.2**
JHR	**Hokuryu**	**5.67**	**256**	P	**Pn**	**10 54 38.0**	**+3.2**
JNBK	**Urakawa-nobuka**	**5.69**	**239**	⇑P	**Pn**	**10 54 33.4**	**-1.5**
UGL	**Uglegorsk**	**6.14**	**309**	*i*P	**Pn**	**10 54 45.0**	**+3.9**
UGL				*i*P		10 54 45.0	
UGL				AMB	AMB	10 54 47.0	
	comp=Z,660nm,0.9s						
UGL				AMB	AMB	10 54 47.0	
	comp=Z,1μm,0.9s						
UGL				AMB	AMB	10 54 47.0	
	comp=Z,3μm,0.9s						
UGL				AMB	AMB	10 54 48.0	
	comp=Z,14μm,4.0s						
UGL				AMB	AMB	10 54 48.0	
	comp=Z,17μm,4.0s						
UGL				AMB	AMB	10 54 48.0	
	comp=Z,25μm,4.0s						
UGL				*e*S	**Sn**	**10 55 56.0**	**+6.0**
UGL				A		10 56 01.5	
	comp=Z,4μm,0.9s						
UGL				A		10 56 01.5	
	comp=Z,6μm,0.9s						
UGL				A		10 56 01.5	
	comp=Z,5μm,0.9s						
UGL				A		10 56 01.5	
	comp=Z,1μm,0.9s						
UGL				A		10 56 01.5	
	comp=Z,3μm,0.9s						
UGL				A		10 56 01.5	
	comp=Z,1μm,0.9s						
UGL				A		10 56 02.0	
	comp=Z,23μm,5.0s						
UGL				A		10 56 02.0	
	comp=Z,68μm,5.0s						
UGL				A		10 56 02.0	
	comp=Z,52μm,5.0s						
UGL				AMS	AMS	10 58 04.0	
	comp=Z,19μm,12.0s						
UGL				AMS	AMS	10 58 04.0	
	comp=Z,16μm,12.0s						
UGL				AMS	AMS	10 58 04.0	
	comp=Z,24μm,12.0s						
UGL	**Uglegorsk**	**6.14**	**309**	α *i*PN	**Pn**	**10 54 45.0**	**+3.9**
UGL				pmax	pmax		
	comp=N,660nm,0.9s						
UGL				pmax	pmax		
	comp=E,1μm,0.9s						
UGL				pmax	pmax		
	comp=Z,3μm,0.9s						
UGL				pmax	pmax		
	comp=N,14μm,4.0s						
UGL				pmax	pmax		
	comp=E,17μm,4.0s						
UGL				pmax	pmax		
	comp=Z,25μm,4.0s						
UGL				MLR	MLR		
	comp=Z,24μm,14.0s						
UGL				MLR	MLR		
	comp=N,19μm,10.0s						
UGL				MLR	MLR		
	comp=E,16μm,10.0s						
JEW	**Eniwo**	**6.22**	**248**	⇑P	**Pn**	**10 54 43.6**	**+1.5**
JNB	**Noboribetsu**	**6.66**	**247**	P	**

JSK	**Shakotan**	**6.66 255**	P	**Pn**	**10 54 49.9**	**+1.8**
JKB	**Kayabe**	**6.96 242**	⇓P	**Pn**	**10 54 51.2**	**-1.1**
JKB			*e*S	**Sn**	**10 56 05.7**	**-4.2**
SKR	**Severo-Kuril's**	**6.97 38**	*i* P	**Pn**	**10 54 46.9**	**-5.4**
SKR			*i* P		10 54 46.9	
SKR			AMB	AMB	10 54 50.0	
	comp=E,460nm,1.8s					
SKR			AMB	AMB	10 54 50.0	
	comp=E,2μm,1.8s					
SKR			AMB	AMB	10 54 50.0	
	comp=E,2μm,1.8s					
SKR			AMB	AMB	10 54 54.0	
	comp=E,9μm,8.0s					
SKR			AMB	AMB	10 54 54.0	
	comp=E,8μm,8.0s					
SKR			AMB	AMB	10 54 54.0	
	comp=E,9μm,8.0s					
SKR			AMB	AMB	10 54 54.0	
	comp=E,10μm,8.0s					
SKR			AMB	AMB	10 54 54.0	
	comp=E,10μm,8.0s					
SKR	**Severo-Kuril's**	**6.97 38**α	*i* PN	**Pn**	**10 54 46.9**	**-5.4**
SKR			pmax	pmax		
	comp=N,460nm,0.5s					
SKR			pmax	pmax		
	comp=Z,2μm,0.5s					
SKR			pmax	pmax		
	comp=E,2μm,1.0s					
SKR			pmax	pmax		
	comp=N,9μm,8.0s					
SKR			pmax	pmax		
	comp=E,8μm,8.0s					
SKR			pmax	pmax		
	comp=Z,9μm,8.0s					
SKR			MLR	MLR		
	comp=Z,8μm,10.0s					
SKR			MLR	MLR		
	comp=N,6μm,12.0s					
SKR			MLR	MLR		
	comp=E,8μm,12.0s					
TYV	**Tymovskoe**	**7.04 323**	*e*P	**Pn**	**10 54 56.0**	**+2.7**
TYV			AMB	AMB	10 54 58.0	
	comp=E,27μm,6.0s					
TYV			AMB	AMB	10 54 58.0	
	comp=E,12μm,14.0s					
TYV			A		10 57 12.0	
	comp=E,30μm,12.0s					
JSH	**Shimam**	**7.23 251**	P	**Pn**	**10 54 57.2**	**+1.3**
JYM2	**Yakumo 2**	**7.26 246**	⇑P	**Pn**	**10 54 55.9**	**-0.5**
JSR	**Shiriuchi**	**7.54 242**	P	**Pn**	**10 54 59.0**	**-1.2**
JTM	**Tenmabayashi**	**7.60 235**	P	**Pn**	**10 54 58.8**	**-2.1**
JTM			*e*S	**Sn**	**10 56 18.5**	**-6.9**
JANG	**Nango**	**7.62 231**	P	**Pn**	**10 54 58.1**	**-3.1**
JANG			*e*S	**Sn**	**10 56 17.5**	**-8.5**
JTH	**Tanohata**	**7.75 228**	P	**Pn**	**10 54 58.4**	**-4.5**
JTH			*e*S	**Sn**	**10 56 19.7**	**-9.3**
PAU	**Pauzhetka**	**7.84 37**	*i* P	**Pn**	**10 55 02.1**	**-2.1**
PAU			*i* S	**Sn**	**10 56 25.7**	**-5.5**
JOSM	**Okushiri--Mats**	**7.86 248**	P	**Pn**	**10 55 04.2**	**-0.3**
OFUJ	**Ofunato**	**8.49 224**	P	**Pn**	**10 55 08.7**	**-4.4**
OFUJ			*e*S	**Sn**	**10 56 39.1**	**-8.1**
JRG	**Rokugo**	**8.79 230**	P	**Pn**	**10 55 14.0**	**-3.1**
JRG			*e*S	**Sn**	**10 56 48.8**	**-5.6**
JOG2	**Oga 2**	**8.91 235**	P	**Pn**	**10 55 16.8**	**-1.9**
TEY	**Ternei**	**8.98 272**	*i* P	**Pn**	**10 55 20.0**	**+0.3**
TEY			AMB	AMB	10 55 26.0	
	comp=E,9μm,5.0s					
TEY			AMB	AMB	10 55 26.0	
	comp=E,1μm,2.0s					
TEY			AMB	AMB	10 55 26.0	
	comp=E,10μm,7.5s					
TEY			*i* S	**Sn**	**10 57 02.0**	**+3.0**
TEY			A		10 57 05.0	
	comp=E,12μm,9.0s					
TEY			A		10 57 05.0	
	comp=E,4μm,9.0s					
OKH	**Okha**	**9.14 335**	⇑*i* P	**Pn**	**10 55 21.0**	**-0.8**
OKH			⇑*i* P		10 55 21.4	
OKH			AMB	AMB	10 55 22.0	
	comp=E,21μm,5.0s					
OKH			AMB	AMB	10 55 22.0	
	comp=E,20μm,5.0s					
OKH			AMB	AMB	10 55 22.0	
	comp=E,35μm,5.0s					
OKH			AMB	AMB	10 55 22.5	
	comp=E,5μm,1.0s					
OKH			⇑*i* S	**Sn**	**10 57 08.0**	**+5.3**
OKH			A		10 57 16.0	
	comp=E,23μm,6.0s					
OKH			A		10 57 16.0	
	comp=E,16μm,6.0s					
OKH			AMS	AMS	11 01 25.6	
	comp=E,14μm,11.0s					
OKH			AMS	AMS	11 01 25.6	
	comp=E,10μm,5.0s					
OKH			AMS	AMS	11 01 25.6	
	comp=E,12μm,5.0s					
OKH	**Okha**	**9.14 335**	*i* PN	**Pn**	**10 55 21.4**	**-0.4**
OKH			*i* S	**Sn**	**10 57 08.0**	**+5.3**
OKH			pmax	pmax		
	comp=Z,35μm,5.0s					
OKH			smax			
	comp=N,23μm,5.5s					
OKH			smax			
	comp=E,16μm,5.5s					
JIO	**Ouri**	**9.14 223**	⇑P	**Pn**	**10 55 16.9**	**-4.9**
JIO			*e*S	**Sn**	**10 56 53.2**	**-10**
NKL	**Nikolayevsk**	**9.57 327**	*i* P	**Pn**	**10 55 25.0**	**-2.7**
NKL			AMB	AMB	10 55 28.0	
	comp=E,28μm,4.0s					
NKL			AMB	AMB	10 55 28.0	
	comp=E,34μm,4.0s					
NKL			AMB	AMB	10 55 31.8	
	comp=E,1μm,1.0s					
NKL			AMB	AMB	10 55 31.8	
	comp=E,1μm,1.0s					
NKL			AMB	AMB	10 55 31.8	
	comp=E,2μm,1.0s					
NKL			*i* S	**Sn**	**10 57 18.0**	**+4.7**
NKL			A		10 57 31.0	
	comp=E,20μm,14.0s					
NKL			A		10 57 31.0	
	comp=E,18μm,16.0s					
PET	**Petropavlovsk**	**9.76 35**α	*i* PN	**Pn**	**10 55 26.6**	**-3.6**
PET			*e*S	**Sn**	**10 57 24.8**	**+7.0**
PET			pmax	pmax		
	comp=Z,258nm,1.1s					
PET			pmax	pmax		
	comp=N,317nm,0.7s					
PET			pmax	pmax		
	comp=E,180nm,0.8s					
PET			MLR	MLR		
	comp=Z,7μm,20.0s					
PET	**Petropavlovsk**	**9.76 35**	*e*Pn	**Pn**	**10 55 26.8**	**-3.4**
JYA	**Atsumi**	**9.87 230**	P	**Pn**	**10 55 28.9**	**-2.8**
GRNR	**Gornyy**	**10.15 306**	*i* P	**Pn**	**10 55 33.4**	**-2.1**
GRNR			AMB	AMB	10 55 35.1	
	comp=Z,710nm,1.0s					
GRNR			AMB	AMB	10 55 35.1	
	comp=Z,1μm,1.0s					
GRNR			AMB	AMB	10 55 35.1	
	comp=Z,2μm,1.0s					
HABR	**Khabarovsk**	**10.22 293**	⇑*i* PN	**Pn**	**10 55 40.5**	**+4.0**
HABR			*e*S	**Sn**	**10 57 35.8**	**+6.7**
HABR			pmax	pmax		
	comp=Z,3μm,1.6s					
HABR			MLR	MLR		
	comp=Z,12μm,21.0s					
JFK	**Kawauchi**	**10.23 221**	P	**Pn**	**10 55 31.7**	**-5.0**
JFK			*e*S	**Sn**	**10 57 19.2**	**-10**
JFY	**Yanaizu**	**10.77 225**	P	**Pn**	**10 55 41.0**	**-2.9**
JSB	**Shiboa**	**11.01 223**	P	**Pn**	**10 55 44.3**	**-2.8**
JIZZ	**Izumozaki**	**11.19 229**	P	**Pn**	**10 55 47.4**	**-2.1**
JHK	**Hiroka**	**11.24 227**	P	**Pn**	**10 55 46.9**	**-3.3**
JAG	**Ashikaga**	**11.66 223**	P	**Pn**	**10 55 52.0**	**-3.9**
JSZ	**Suzu**	**11.98 233**	P	**Pn**	**10 55 57.7**	**-2.4**
MAJO	**Matsushiro**	**12.20 227**	*e*PN	**Pn**	**10 56 00.1**	**-2.8**
MAT	**Matsushiro**	**12.20 227**	P	**Pn**	**10 55 59.8**	**-3.1**
MAT			S	**Sn**	**10 58 10.2**	**-6.8**
MAT	**Matsushiro**	**12.20 227**	P	**Pn**	**10 55 59.9**	**-3.0**
MJAR	**Matsushiro Arr**	**12.20 227**	P	**Pn**	**10 56 00.1**	**-2.8**
	comp=Z,4.5nm,0.3s,baz=26,slow=14,SNR=171					
MJAR			S	**Sn**	**10 58 15.6**	**-1.4**
	comp=Z,10nm,0.3s,baz=290,slow=18,SNR=4.2					
MJAR			LR	LR	11 00 53.7	
	comp=Z,5μm,21.5s,baz=45,slow=38					
MJAR	**Matsushiro Arr**	**12.20 227**	PN	**Pn**	**10 56 00.1**	**-2.8**
MJAR			S	**Sn**	**10 58 15.6**	**-1.4**
JNG	**Nsakai**	**12.36 227**	P	**Pn**	**10 56 02.1**	**-2.9**
KLR	**Kul'dur**	**12.51 294**	*i* P	**Pn**	**10 56 06.8**	**-0.3**
KLR			*i* P		10 56 07.0	
KLR			AMB	AMB	10 56 09.4	
	comp=Z,1μm,1.8s					
KLR			AMB	AMB	10 56 09.4	
	comp=Z,960nm,1.8s					
KLR			AMB	AMB	10 56 15.5	
	comp=Z,1μm,9.0s					
KLR			AMB	AMB	10 56 15.5	
	comp=Z,6μm,9.0s					
KLR			AMB	AMB	10 56 15.5	
	comp=Z,8μm,9.0s					
KLR			*i* S	**Sn**	**10 58 28.5**	**+3.9**
KLR			A		10 58 39.5	
	comp=Z,15μm,12.0s					
KLR			A		10 58 39.5	
	comp=Z,5μm,12.0s					
KLR			AMS	AMS	11 03 43.0	
	comp=Z,6μm,11.0s					
KLR			AMS	AMS	11 03 43.0	
	comp=Z,6μm,11.0s					
KLR			AMS	AMS	11 03 43.0	
	comp=Z,17μm,11.0s					
KLR	**Kul'dur**	**12.51 294**	⇓*i* PN	**Pn**	**10 56 06.8**	**-0.3**
KLR			*i* S	**Sn**	**10 58 28.5**	**+3.9**
KLR			pmax	pmax		
	comp=E,1μm,1.8s					
KLR			pmax	pmax		
	comp=Z,960nm,1.8s					
KLR			smax			
	comp=N,15μm,11.5s					
KLR			smax			
	comp=E,7μm,11.5s					
KLR			MLR	MLR		
	comp=N,6μm,11.0s					
KLR			MLR	MLR		
	comp=E,6μm,11.0s					
KLR			MLR	MLR		
	comp=Z,17μm,11.0s					
VLA	**Vladivostok**	**12.70 266**d	*i* PN	**Pn**	**10 56 10.1**	**+0.6**
VLA			*e*S	**Sn**	**10 58 29.0**	**-0.2**
VLA			pmax	pmax		
	comp=Z,171nm,0.8s					
VLA			MLR	MLR		
	comp=Z,3μm,13.8s					
VLA	**Vladivostok**	**12.70 266**	*i* Pr	**Pn**	**10 56 09.3**	**-0.2**
EKMR	**Ekimchan**	**13.13 312**	*i* P	**Pn**	**10 56 14.0**	**-1.2**
EKMR			AMB	AMB	10 56 36.0	
	comp=Z,110nm,0.8s					
EKMR			AMB	AMB	10 56 36.0	
	comp=Z,100nm,0.8s					
EKMR			AMB	AMB	10 56 36.0	
	comp=Z,460nm,0.8s					
MDJ	**Mudanjiang**	**13.98 274**	P	**Pn**	**10 56 27.0**	**+0.8**
MDJ			PP		10 56 41.3	
MDJ			XP		10 56 51.0	
MDJ			S	**Sn**	**10 59 04.5**	**+4.4**
MDJ			SS		10 59 15.8	
MDJ			SCP	ScP	11 05 02.8	-0.3
MDJ			PCS	PcS	11 05 11.9	-2.2
MDJ			SCS	ScS	11 08 41.0	+0.6
MDJ			AMB	AMB		
	comp=Z,120nm,1.2s					
MDJ			AMB	AMB		
	comp=Z,2μm,11.8s					
MDJ			LR	LR		
	comp=N,4μm,31.0s					
MDJ			LR	LR		
	comp=E,7μm,37.5s					
MDJ			LR	LR		
	comp=Z,9μm,35.8s					
MDJ	**Mudanjiang**	**13.98 274**	Pn	**Pn**	**10 56 27.1**	**+0.9**
MDJ			ScS	ScS	11 08 40.5	+0.1
MDJ	**Mudanjiang**	**13.98 274**	*e*Pn	**Pn**	**10 56 27.1**	**+1.0**
	comp=Z,658nm,1.0s					
MA2	**Magadan**	**14.21 3**c	*i* P	**Pn**	**10 56 28.0**	**-1.2**
MA2			*e*S	**Sn**	**10 59 05.8**	**0.0**
MA2			pmax	pmax		
	comp=Z,1μm,1.3s					
MA2			MLR	MLR		
	comp=N,40μm,15.9s					
MA2	**Magadan**	**14.21 3**	*e*Pn	**Pn**	**10 56 28.2**	**-1.0**
MA2			*e*ScP	ScP	11 05 01.2	-2.4
JHJ	**Hachijo jima 2**	**14.31 214**	P	**Pn**	**10 56 29.6**	**-1.0**
	comp=N,17nm,0.3s,baz=265,slow=21,SNR=9.7					
JHJ			S	**Sn**	**10 58 55.8**	**-12**
	comp=N,250nm,0.3s,baz=76,slow=22,SNR=14					
JHJ			LR	LR	11 01 34.3	
	comp=N,2μm,20.0s,baz=79,slow=35					
JKSM	**Kasumi**	**14.83 234**	P	**Pn**	**10 56 35.6**	**-1.5**
JKS	**Kasai**	**15.17 232**	P	**Pn**	**10 56 39.8**	**-1.6**
JAD	**Aida**	**15.58 233**	P	**Pn**	**10 56 44.8**	**-1.7**
BMKR	**Bomnak**	**16.05 313**	*e*P	**Pn**	**10 56 50.5**	**-1.9**
BMKR			AMB	AMB	10 56 52.6	
	comp=N,210nm,0.9s					
JHS	**Saijyo**	**16.14 235**	P	**Pn**	**10 56 52.6**	**-0.9**
ZEA	**Zeya**	**16.50 308**	*i* P	**Pn**	**10 56 54.7**	**-3.3**
ZEA			⇑*i* P		10 56 54.7	
ZEA			AMB	AMB	10 56 58.1	
	comp=N,1μm,1.6s					
ZEA			AMB	AMB	10 56 58.1	
	comp=N,2μm,1.6s					
ZEA			AMB	AMB	10 56 58.1	
	comp=N,2μm,1.6s					
ZEA			AMB	AMB	10 56 59.5	
	comp=N,4μm,5.0s					
ZEA			AMB	AMB	10 56 59.5	
	comp=N,10μm,5.0s					
ZEA			AMB	AMB	10 56 59.5	
	comp=N,10μm,5.0s					
KROS	**Kirovskiy**	**16.92 310**	*e*P	**Pn**	**10 57 00.5**	**-2.6**
KROS			AMB	AMB	10 57 07.3	
	comp=N,270nm,0.9s					
KROS			AMB	AMB	10 57 07.3	
	comp=N,400nm,0.9s					
KROS			AMB	AMB	10 57 07.3	
	comp=N,620nm,0.9s					
CN2	**Changchun**	**17.06 273**	⇑P	**Pn**	**10 57 04.3**	**-0.5**
CN2			*e*XP	sP	10 57 37.3	-0.5
CN2			PCP	PcP	11 01 42.5	-1.3
CN2			SCS	ScS	11 08 47.6	-1.0
JHIK	**Hikimi**	**17.16 237**	P	**Pn**	**10 57 06.1**	**+0.1**
SMY	**Shemya**	**17.75 57**	*e*P	**Pn**	**10 57 11.8**	**-1.4**
SMY			pmax	pmax		
	comp=Z,747nm,1.2s					
SMY	**Shemya**	**17.75 57**	*e*P	**Pn**	**10 57 11.8**	**-1.4**
	comp=Z,747nm,1.2s					
KS15	**Wonju Array Si**	**17.90 251**	*e*P	**Pn**	**10 57 13.7**	**-1.3**
KS15			*e*Sn	**Sn**	**11 00 42.9**	**+8.2**
INCN	**Inchon**	**18.72 253**	P	**P**	**10 57 24.8**	**+1.7**
	SNR=42					
INCN	**Inchon**	**18.72 253**	*e*P	**P**	**10 57 24.3**	**+1.3**
	comp=Z,415nm,0.9s					
INCN			*e*S	**S**	**11 00 52.7**	**+2.2**
SNY	**Shenyang**	**18.95 268**	⇑P	**P**	**10 57 26.5**	**+0.9**
SNY			AP		10 57 46.0	
SNY			XP	sP	10 57 57.5	-1.2
SNY			S	**S**	**11 00 54.0**	**-1.1**
SNY			AMB	AMB		
	comp=Z,5μm,6.0s					
SNY			LR	LR		
	comp=N,6μm,11.0s					
SNY			LR	LR		
	comp=Z,10μm,21.0s					
CLNS	**Chul'man**	**19.00 316**	⇑*i* P	**P**	**10 57 26.0**	**-0.2**
CLNS			*e*S	**S**	**11 00 55.6**	**-0.6**
CLNS			pmax	pmax		
	comp=Z,181nm,1.0s					
CLNS			pmax	pmax		
	comp=N,201nm,1.4s					
CLNS			pmax	pmax		
	comp=E,114nm,1.1s					
CLNS			smax			
	comp=E,707nm,8.0s					
CLNS			smax			
	comp=Z,283nm,5.2s					
CLNS			smax			
	comp=N,34nm,3.1s					
CLNS			MLR	MLR		
	comp=N,3μm,13.0s					
CLNS			MLR	MLR		
	comp=Z,5μm,13.0s					
CLNS			MLR	MLR		
	comp=E,4μm,11.0s					
CLNS	**Chul'man**	**19.00 316**	⇑*i* P	**P**	**10 57 25.9**	**-0.3**
NRGR	**Nerungri**	**19.01 315**	*e*P	**P**	**10 57 26.1**	**-0.1**
NRGR			S	**S**	**11 00 58.0**	**+1.7**
NRGR			smax			
	comp=N,87nm,0.5s					
CBIJ	**Chichi jima**	**19.15 200**	P	**P**	**10 57 27.7**	**-0.1**
	comp=N,30nm,0.3s,baz=3.2,slow=5.1,SNR=109					
CBIJ			S	**S**	**11 00 49.1**	**-10**
	comp=N,34nm,0.3s,baz=77,slow=24,SNR=14					
CBIJ			LR	LR	11 04 31.5	
	comp=N,3μm,20.0s,baz=14,slow=36					
JHHJ	**Haha-jima-NKT**	**19.60 199**	P	**P**	**10 57 33.2**	**+0.5**
YAK	**Yakutsk**	**20.15 333**c	*i* P	**P**	**10 57 38.3**	**-0.4**
YAK			*e**PP		10 57 56.5	
YAK			*e*S	**S**	**11 01 17.1**	**-2.0**
YAK			*e**SS	sS	11 01 49.4	-2.7
YAK			*e*		11 01 50.5	
YAK			*e*		11 08 52.5	
YAK			pmax	pmax		
	comp=Z,2μm,0.9s					
YAK			pmax	pmax		
	comp=N,685nm,1.3s					
YAK			pmax	pmax		
	comp=E,543nm,1.3s					
YAK			smax			
	comp=N,209nm,1.6s					
YAK			smax			
	comp=Z,77nm,1.1s					
YAK			smax			
	comp=E,116nm,1.3s					
YAK	**Yakutsk**	**20.15 333**	*e*P	**P**	**10 57 38.0**	**-0.6**
HIA	**Hailar**	**20.34 292**	*e*P	**P**	**10 57 39.2**	**-1.5**
HIA			pmax	pmax		
	comp=Z,886nm,1.2s					
HIA	**Hailar**	**20.34 292**	*e*P	**P**	**10 57 39.2**	**-1.5**
	comp=Z,886nm,1.2s					
AMKA	**Amchitka**	**20.69 62**	*e*P	**P**	**10 57 43.8**	**-0.7**
DL2	**Dalian**	**21.46 262**	⇑*i* P	**P**	**10 57 53.6**	**+0.9**
DL2			AP		10 58 14.5	
DL2			XP	sP	10 58 29.3	+3.1
DL2			S	**S**	**11 01 44.0**	**-0.7**
DL2			XS	sS	11 02 16.4	-2.0
DL2			SS		11 02 28.9	
DL2			SCS	ScS	11 09 01.6	-1.5
DL2			AMB	AMB		
	comp=Z,330nm,1.1s,mb5.6					
DL2			AMB	AMB		
	comp=Z,770nm,5.6s					
CIT	**Chita**	**24.32 299**	*e*P	**P**	**10 58 18.2**	**-2.3**
CIT			*e*		10 58 44.4	
CIT			*e*		11 02 32.3	
CIT			*e*		11 09 13.2	
CIT			pmax	pmax		
	comp=Z,863nm,2.2s,mb5.7					
BILL	**Bilibino**	**24.34 15**c	*i* P	**P**	**10 58 17.5**	**-3.2**
BILL			pmax	pmax		
	comp=Z,216nm,1.3s,mb5.3					
BILL			MLR	MLR		
	comp=Z,4μm,19.0s					
BILL	**Bilibino**	**24.34 15**	*e*P	**P**	**10 58 17.6**	**-3.2**
	comp=Z,322nm,0.9s,mb5.7					
ATKA	**Atka Island**	**24.77 61**	*e*P	**P**	**10 58 23.1**	**-1.6**
BJT	**Baijiatuau**	**24.83 269**	P	**P**	**10 58 26.1**	**+0.9**
BJT			ScS	ScS	11 09 15.5	-0.5
BJT	**Baijiatuau**	**24.83 269**	*e*P	**P**	**10 58 26.4**	**+1.2**
BJT			pmax	pmax		
	comp=Z,433nm,0.8s					
BJT	**Baijiatuau**	**24.83 269**	*e*P	**P**	**10 58 26.4**	**+1.2**
	comp=Z,433nm,0.8s,mb5.9					
BOD	**Bodaibo**	**24.87 313**	*e*P	**P**	**10 58 23.6**	**-2.0**
BOD			*e*		10 58 48.5	
BOD			pmax	pmax		
	comp=Z,157nm,1.3s,mb5.3					
JOW	**Kunigami**	**25.03 229**	P	**P**	**10 58 27.2**	**+0.3**
	comp=Z,157nm,0.9s,mb5.4,baz=35,slow=8.2,SNR=50					
JOW			S	**S**	**11 02 42.0**	**-1.2**
	comp=Z,19nm,1.0s,baz=306,slow=28,SNR=7.2					
SSE	**Sheshan**	**26.15 247**	⇓P	**P**	**10 58 38.3**	**+1.2**
SSE			AP	pP	10 59 04.3	+3.9
SSE			XP	sP	10 59 18.3	+5.6
SSE			PCP	PcP	11 02 01.9	+0.3
SSE			S	**S**	**11 03 01.0**	**0.0**
SSE			SCS	ScS	11 09 22.3	+0.7
SSE			AMB	AMB		
	comp=Z,250nm,1.0s,mb5.6					
SSE			AMB	AMB		
	comp=Z,220nm,5.5s					
SSE			LR	LR		
	comp=N,6μm,28.8s					
SSE			LR	LR		
	comp=E,3μm,28.8s					
SSE			LR	LR		
	comp=Z,3μm,16.7s					
NJ2	**Nanjing**	**27.07 251**	*e*P	**P**	**10 58 45.4**	**0.0**
NJ2			AP	pP	10 59 12.0	+3.3
NJ2			XP	sP	10 59 26.1	+5.0
NJ2			PP	PP	10 59 36.1	-12
NJ2			S	**S**	**11 03 17.0**	**+1.5**
NJ2			AMB	AMB		
	comp=Z,170nm,1.1s,mb5.5					
NJ2			AMB	AMB		
	comp=Z,1μm,4.6s					
NJ2			LR	LR		
	comp=N,8μm,19.7s					
NJ2			LR	LR		
	comp=E,9μm,25.2s					
NJ2			LR	LR		
	comp=Z,2μm,17.3s					
SPIA	**Saint Paul Isl**	**27.47 50**	*e*P	**P**	**10 58 48.3**	**-0.7**
HHC	**Hu-ho-hao-te**	**27.75 274**	⇑*i* P	**P**	**10 58 53.4**	**+1.9**
HHC			AP	pP	10 59 14.8	-0.1
HHC			XP	sP	10 59 26.9	-0.3
HHC			PP	PP	10 59 45.4	-11
HHC			S	**S**	**11 03 25.5**	**-0.7**
HHC			XS	sS	11 04 03.5	-3.6
HHC			SS	SS	11 04 52.3	-35
HHC			PCS	PcS	11 05 49.6	+2.1
HHC			AMB	AMB		
	comp=Z,1μm,0.9s,mb6.5					
HHC			AMB	AMB		
	comp=Z,5μm,3.8s					
HHC			LR	LR		
	comp=N,7μm,16.3s					
HHC			LR	LR		
	comp=E,3μm,13.1s					
HHC			LR	LR		
	comp=Z,3μm,22.6s					
TIXI	**Tiksi**	**28.07 346**	*e*P	**P**	**10 58 49.3**	**-5.0**
TIXI			*e*S	**S**	**11 03 28.4**	**-2.9**
TIXI			pmax	pmax		
	comp=Z,284nm,1.7s,mb5.5					
TIXI			MLR	MLR		
	comp=Z,3μm,15.0s					
TIXI	**Tiksi**	**28.07 346**	⇑*e*P	**P**	**10 58 51.3**	**-3.0**
GAMB	**Gambell**	**28.46 36**	*e*P	**P**	**10 58 58.1**	**+0.4**
ULN	**Ulaanbaatar**	**28.86 290**	P	**P**	**10 59 01.9**	**+0.6**
	SNR=187					
ULN	**Ulaanbaatar**	**28.86 290**	*e*P	**P**	**10 59 01.2**	**-0.1**
ULN			pmax	pmax		
	comp=Z,302nm,1.0s,mb5.9					
ULN	**Ulaanbaatar**	**28.86 290**	*e*P	**P**	**10 59 01.2**	**-0.1**
	comp=Z,302nm,1.0s,mb5.9					
BTO	**Baotou**	**28.93 275**	*e*P	**P**	**10 59 02.8**	**+0.9**
BTO			AMB	AMB		
	comp=Z,570nm,1.4s,mb6.0					
BTO			LR	LR		
	comp=N,12μm,18.2s					
BTO			LR	LR		
	comp=E,2μm,7.4s					
SONM	**Songino Array**	**29.30 290**	P	**P**	**10 59 04.7**	**-0.5**
	comp=E,169nm,0.8s,mb5.7,baz=77,slow=7.1,SNR=222					
SONM			ScP	ScP	11 05 41.3	0.0
	comp=E,11nm,1.0s,baz=49,slow=6.7,SNR=5.1					
SONM			LR	LR	11 11 36.4	
	comp=E,4μm,19.8s,baz=70,slow=38					
UNV	**Unalaska Valle**	**29.41 57**	*e*P	**P**	**10 59 06.9**	**+0.7**
	comp=E,174nm,1.2s,mb5.6					
WAKE	**Wake Island**	**29.76 145**	*e*P	**P**	**10 59 07.8**	**-1.5**
	comp=E,443nm,1.1s,mb6.0					
AKUT	**Akutan**	**29.84 57**	*e*P	**P**	**10 59 07.4**	**-2.6**
IRK	**Irkutsk**	**30.02 300**	*e*P	**P**	**10 59 10.5**	**-1.1**
IRK			*e*	pP	10 59 35.2	0.0
IRK			*e*		11 05 42.8	

IRK				pmax	pmax		
	comp=Z,222nm,1.8s,mb5.5						
TLY	**Talaya**	**30.47 299**		P	**P**	**10 59 15.2**	**-0.3**
	comp=Z,534nm,0.9s,mb6.2,SNR=13						
TLY	**Talaya**	**30.47 299**		P	**P**	**10 59 15.5**	**0.0**
	SNR=31						
TLY	**Talaya**	**30.47 299**		*e*P	**P**	**10 59 14.8**	**-0.7**
TLY				*e*		11 00 25.1	
TLY				*e*S	**S**	**11 04 02.7**	**-6.2**
TLY				pmax	pmax		
	comp=Z,130nm,1.1s,mb5.5						
TLY				MLR	MLR		
	comp=Z,2μm,16.0s						
TLY	**Talaya**	**30.47 299**		*e*P	**P**	**10 59 17.2**	**+1.6**
TLY				*e*ScP	ScP	11 05 45.2	+0.2
YHNB	**Yeheng**	**30.60 237**		*e*P	**P**	**10 59 17.5**	**+0.9**
TNA	**Tin City**	**30.61**	**34**	*e*P	**P**	**10 59 16.7**	**-0.1**
	comp=Z,235nm,1.0s,mb5.9						
ZAK	**Zakamensk**	**30.87 296**		*e*P	**P**	**10 59 18.7**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,387nm,1.6s,mb5.9						
WHN	**Wuhan**	**31.03 254**	⇓	*i*P	**P**	**10 59 21.0**	**+0.6**
WHN				AP	pP	10 59 45.3	+1.3
WHN				*i*S	**S**	**11 04 12.8**	**-4.8**
WHN				AMB	AMB		
	comp=Z,430nm,1.0s,mb6.1						
WHN				LR	LR		
	comp=Z,3μm,21.6s						
FALS	**False Pass**	**31.18**	**55**	*e*P	**P**	**10 59 18.8**	**-3.0**
QZH	**Quanzhou**	**32.07 241**		*i*PR	**P**	**10 59 30.8**	**+1.2**
QZH				AP	pP	10 59 54.5	+1.2
QZH				S	**S**	**11 04 34.5**	**+0.6**
QZH				AMB	AMB		
	comp=Z,270nm,1.3s,mb5.8						
QZH				AMB	AMB		
	comp=Z,1μm,3.3s						
QZH				LR	LR		
	comp=N,4μm,9.2s						
QZH				LR	LR		
	comp=E,5μm,10.1s						
QZH				LR	LR		
	comp=Z,3μm,15.1s						
XAN	**Xi'an**	**32.76 264**		P	**P**	**10 59 36.1**	**+0.5**
XAN				S	**S**	**11 04 37.8**	**-6.8**
XAN				AMB	AMB		
	comp=Z,210nm,1.1s,mb5.9						
XAN				AMB	AMB		
	comp=Z,440nm,7.3s						
XAN				LR	LR		
	comp=N,2μm,14.1s						
XAN				LR	LR		
	comp=E,1μm,12.7s						
XAN				LR	LR		
	comp=Z,2μm,15.6s						
SDPT	**Sand Point**	**32.85**	**54**	*e*P	**P**	**10 59 34.1**	**-2.3**
	comp=Z,23nm,0.6s,mb5.2						
CHGN	**Chignik**	**33.94**	**52**	*e*P	**P**	**10 59 42.8**	**-3.1**
TTA	**Tatalina**	**35.16**	**40**	*e*P	**P**	**10 59 55.8**	**-0.6**
LZH	**Lanzhou**	**35.28 271**	⇑	P	**P**	**10 59 59.4**	**+2.0**
LZH				AP	pP	11 00 24.3	+3.0
LZH				XP	sP	11 00 38.4	+4.9
LZH				PCP	PcP	11 02 28.6	+2.9
LZH				S	**S**	**11 05 24.0**	**+0.6**
LZH				SCP	ScP	11 06 03.3	+1.6
LZH				XS	sS	11 06 07.0	+2.2
LZH				PCS	PcS	11 06 13.8	+1.0
LZH				SS	SS	11 07 47.0	-14
LZH				SCS	ScS	11 10 06.8	+0.7
LZH				AMB	AMB		
	comp=Z,1μm,1.0s,mb6.6						
LZH				AMB	AMB		
	comp=Z,4μm,4.0s						
SVW2	**Sparrevohn**	**35.29**	**44**	*e*P	**P**	**10 59 57.1**	**-0.4**
SGCP	**Mt. Cagua**	**35.33 229**		*e*P	**P**	**10 59 57.7**	**-0.1**
CVP	**Callao Caves**	**35.89 229**		*e*P	pP	11 00 27.0	+0.4
KRAR	**Krasnoyarsk**	**36.29 308**	⇑	*i*P	**P**	**11 00 04.7**	**-1.4**
KRAR				pmax	pmax		
	comp=Z,67nm,1.3s,mb5.4						
KRAR				MLR	MLR		
	comp=Z,3μm,16.0s						
GTA	**Gaotai**	**36.56 279**	⇑	P	**P**	**11 00 10.3**	**+2.0**
GTA				AP	pP	11 00 36.4	+4.1
GTA				XP	sP	11 00 48.4	+3.9
GTA				PP	PP	11 01 37.8	+4.2
GTA				PCP	PcP	11 02 31.4	+1.8
GTA				S	**S**	**11 05 42.6**	**-0.4**
GTA				SCP	ScP	11 06 06.5	+0.1
GTA				PCS	PcS	11 06 19.0	+1.5
GTA				XS	sS	11 06 26.1	+1.6
GTA				SS	SS	11 08 15.3	-10
GTA				SCS	ScS	11 10 13.8	+0.6
GTA				AMB	AMB		
	comp=Z,1μm,0.8s,mb6.9						
GTA				AMB	AMB		
	comp=Z,4μm,5.0s						
GTA				LR	LR		
	comp=N,6μm,15.3s						
GTA				LR	LR		
	comp=E,4μm,14.5s						
GTA				LR	LR		
	comp=Z,2μm,14.9s						
KDAK	**Kodiak Island**	**36.99**	**49**	P	**P**	**11 00 10.0**	**-2.0**
	comp=Z,916nm,0.8s,mb6.8,SNR=57						
KDAK	**Kodiak Island**	**36.99**	**49**	P	**P**	**11 00 10.3**	**-1.6**
	comp=Z,114nm,0.6s,mb6.0,baz=297,slow=4.6,SNR=106						
KDAK	**Kodiak Island**	**36.99**	**49**	*e*P	**P**	**11 00 10.4**	**-1.6**
BCPH	**Baguio City Da**	**37.64 229**	⇑	*i*P	**P**	**11 00 17.4**	**-0.1**
SLKM	**Skilak Lake**	**37.94**	**44**	*e*P	**P**	**11 00 18.9**	**-1.1**
SLKM				*e*		11 02 33.0	
CD2	**Chengdu**	**38.12 264**	⇓	*i*P	**P**	**11 00 22.5**	**+1.0**
CD2				AP	pP	11 00 45.3	-0.3
CD2				XP	sP	11 00 56.8	-1.0
CD2				PP	PP	11 01 56.3	+5.7
CD2				PCP	PcP	11 02 35.8	+1.5
CD2				S	**S**	**11 06 06.8**	**+0.2**
CD2				XS	sS	11 06 53.6	+5.3
CD2				SS	SS	11 08 53.3	-5.0
CD2				SCS	ScS	11 10 21.8	-0.2
CD2				AMB	AMB		
	comp=Z,340nm,0.9s,mb6.2						
CD2				AMB	AMB		
	comp=Z,450nm,6.2s						
CD2				LR	LR		
	comp=E,2μm,13.8s						
CD2				LR	LR		
	comp=Z,2μm,12.6s						
MCK	**McKinley**	**38.37**	**39**	*e*P	**P**	**11 00 23.0**	**-0.6**
MCK				pmax	pmax		
	comp=Z,90nm,0.7s,mb5.7						
MCK	**McKinley**	**38.37**	**39**	*e*P	**P**	**11 00 23.0**	**-0.6**
	comp=Z,90nm,0.7s,mb5.7						
PMR	**Palmer**	**38.39**	**43**	*e*P	**P**	**11 00 22.3**	**-1.4**
PMR				pmax	pmax		
	comp=Z,177nm,0.9s,mb5.9						
PMR	**Palmer**	**38.39**	**43**	*e*P	**P**	**11 00 22.3**	**-1.4**
	comp=Z,177nm,0.9s,mb5.9						
SML	**Sawmill**	**38.75**	**42**	*e*P	**P**	**11 00 26.2**	**-0.6**
SML				*e**PP	pP	11 00 50.1	-0.9
SML				*e*		11 06 14.0	
COLA	**College**	**38.81**	**37**	*e*P	**P**	**11 00 27.3**	**0.0**
COLA				*e**PP	pP	11 00 49.4	-2.1
COLA				pmax	pmax		
	comp=Z,318nm,0.8s,mb6.2						
COLA	**College**	**38.81**	**37**	*e*P	**P**	**11 00 27.3**	**0.0**
	comp=Z,318nm,0.8s,mb6.2						
COLA				*e*pP	pP	11 00 49.4	-2.1
GYA	**Guiyang**	**38.83 256**	⇓	*i*P	**P**	**11 00 27.8**	**+0.3**
GYA				AP	pP	11 00 50.6	-1.1
GYA				PP	PP	11 01 58.5	+0.1
GYA				S	**S**	**11 06 15.8**	**-1.6**
GYA				XS	sS	11 06 58.6	-0.6
GYA				SCS	ScS	11 10 25.3	-0.8
GYA				AMB	AMB		
	comp=Z,190nm,1.0s,mb5.9						
GYA				AMB	AMB		
	comp=Z,450nm,4.2s						
GYA				LR	LR		
	comp=N,2μm,17.1s						
GYA				LR	LR		
	comp=E,1μm,20.7s						
GYA				LR	LR		
	comp=Z,940nm,16.5s						
PLP	**Palo**	**39.97 219**		*e*P	**P**	**11 00 37.0**	**+0.1**
MID	**Middleton Isla**	**40.01**	**46**	*e*P	**P**	**11 00 37.5**	**+0.3**
DIV	**Divide**	**40.04**	**43**	*e*P	**P**	**11 00 37.2**	**-0.3**
EYAK	**Cordova Ski Ar**	**40.13**	**44**	*e*P	**P**	**11 00 37.9**	**-0.4**
RCP	**Roxas**	**40.65 222**	⇓	*e*P	**P**	**11 00 43.0**	**+0.5**
KALP	**Kalibo**	**40.74 223**		*e*P	**P**	**11 00 46.5**	**+3.3**
MENT	**Mentasta**	**40.77**	**40**	*e*P	**P**	**11 00 43.6**	**0.0**
SCPH	**Surigao**	**40.98 217**	⇑	*e*P	**P**	**11 00 45.5**	**+0.2**
ZAL	**Zalesovo**	**41.27 306**		P	**P**	**11 00 46.1**	**-1.4**
	comp=Z,27nm,0.7s,mb5.2,baz=43,slow=7.7,SNR=50						
ZAL				PcP	PcP	11 02 45.3	+0.9
	comp=Z,30nm,0.6s,baz=13,slow=3.8,SNR=6.8						
ZAL				ScP	ScP	11 06 22.2	-2.3
	comp=Z,9.4nm,1.1s,baz=49,slow=1.9,SNR=3.1						
ZAL				LR	LR	11 18 31.3	
	comp=Z,3μm,20.7s,baz=39,slow=37						
ZAL	**Zalesovo**	**41.27 306**		P	**P**	**11 00 46.2**	**-1.4**
ZAL						11 02 45.3	
QIZ	**Qiongzhong**	**41.89 244**		P	**P**	**11 00 52.1**	**-0.6**
QIZ				AP	pP	11 01 14.9	-2.2
QIZ				PP	PP	11 02 35.8	+4.2
QIZ				S	**S**	**11 07 04.0**	**+1.2**
QIZ				SS	SS	11 10 07.0	-6.2
QIZ				AMB	AMB		
	comp=Z,20nm,1.2s						
QIZ				AMB	AMB		
	comp=Z,250nm,7.1s						
QIZ	**Qiongzhong**	**41.89 244**		*e*P	**P**	**11 00 53.2**	**+0.6**
	comp=Z,57nm,1.0s,mb5.3						
QIZ				*e*pP	pP	11 01 17.5	+0.4
NVS	**Novosibirsk**	**41.91 308**		*i*P	**P**	**11 00 50.0**	**-2.8**
NVS				*e*		11 02 36.1	
NVS				*i*S	**S**	**11 06 56.1**	**-7.0**
NVS				*i*SSS		11 10 40.1	
NVS				pmax	pmax		
	comp=Z,267nm,1.8s,mb5.7						
NVS				pmax	pmax		
	comp=N,161nm,2.0s						
NVS				pmax	pmax		
	comp=E,340nm,2.0s						
NVS				smax			
	comp=N,268nm,2.0s						
NVS				smax			
	comp=E,301nm,3.2s						
SNPH	**Sibulan**	**42.37 220**		*e*P	**P**	**11 00 56.0**	**-0.5**
KMI	**Kunming**	**42.38 258**	⇑	P	**P**	**11 00 58.3**	**+1.6**
KMI				AP	pP	11 01 23.8	+2.6
KMI				XP	sP	11 01 38.8	+5.6
KMI				PP	PP	11 02 40.5	+3.6
KMI				PCP	PcP	11 02 49.8	+1.7
KMI				SCP	ScP	11 06 28.3	-0.7
KMI				PCS	PcS	11 06 40.6	+0.5
KMI				S	**S**	**11 07 09.8**	**-0.3**
KMI				XS	sS	11 07 55.5	+3.1
KMI				SCS	ScS	11 10 47.9	+0.4
KMI				AMB	AMB		
	comp=Z,190nm,1.1s,mb5.7						
KMI				AMB	AMB		
	comp=Z,540nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,27.5s						
KMI				LR	LR		
	comp=E,1μm,25.8s						
KMI				LR	LR		
	comp=Z,2μm,18.9s						
DAWY	**Dawson**	**42.54**	**38**	*e*P	**P**	**11 00 57.4**	**-0.5**
WMQ	**Urumqi**	**42.94 291**		P	**P**	**11 01 02.1**	**+1.0**
WMQ				AP	pP	11 01 23.6	-2.1
WMQ				XP	sP	11 01 36.3	-1.4
WMQ				PP	PP	11 02 45.3	+2.5
WMQ				SCP	ScP	11 06 31.9	+0.7
WMQ				PCS	PcS	11 06 42.6	+0.3
WMQ				S	**S**	**11 07 19.5**	**+1.3**
WMQ				XS	sS	11 07 58.6	-1.9
WMQ				SS	SS	11 10 28.3	-5.4
WMQ				SCS	ScS	11 10 50.3	-0.6
WMQ				AMB	AMB		
	comp=Z,440nm,1.0s,mb6.1						
WMQ				AMB	AMB		
	comp=Z,3μm,3.6s						
WMQ				LR	LR		
	comp=N,3μm,17.0s						
WMQ				LR	LR		
	comp=E,3μm,12.0s						
WMQ				LR	LR		
	comp=Z,4μm,34.0s						
WMQ	**Urumqi**	**42.94 291**		P	**P**	**11 01 02.1**	**+1.0**
WMQ				ScP	ScP	11 06 32.2	+1.0
WMQ				ScS	ScS	11 10 50.4	-0.5
DAV	**Davao City (W)**	**43.39 216**		P	**P**	**11 01 05.0**	**+0.2**
	SNR=5.4						
PPR	**Puerto Princes**	**44.16 226**	⇑	*i*P	**P**	**11 01 12.1**	**+1.2**
INK	**Inuvik**	**44.18**	**31**	P	**P**	**11 01 10.8**	**-0.3**
	comp=Z,528nm,0.8s,mb6.3,baz=295,slow=6.9,SNR=348						
INK	**Inuvik**	**44.18**	**31**	*e*P	**P**	**11 01 11.0**	**-0.1**
MK31	**Makanchi Array**	**45.20 297**		P	**P**	**11 01 19.8**	**+0.6**
MK31				pmax	pmax		
	comp=Z,329nm,0.9s,mb6.1						
MKAR	**Makanchi Array**	**45.20 297**		P	**P**	**11 01 19.7**	**+0.5**
	comp=Z,239nm,0.8s,mb6.0,baz=76,slow=9.1,SNR=523						
SKAG	**Skagway**	**45.47**	**44**	*e*P	**P**	**11 01 22.2**	**+0.8**
	comp=Z,214nm,1.4s,mb5.7						
KURK	**Kurchatov**	**45.89 303**		P	**P**	**11 01 23.6**	**-1.1**
	comp=Z,2μm,0.7s,mb6.9						
SIT	**Sitka**	**46.23**	**47**	*e*P	**P**	**11 01 28.4**	**+1.1**
SIT				pmax	pmax		
	comp=Z,221nm,1.5s,mb5.7						
SIT	**Sitka**	**46.23**	**47**	*e*P	**P**	**11 01 28.4**	**+1.1**
	comp=Z,221nm,1.5s,mb5.7						
LSA	**Lhasa**	**47.69 272**		P	**P**	**11 01 41.8**	**+3.2**
LSA				PP	PP	11 03 32.3	+1.2
LSA				S	**S**	**11 08 24.1**	**-2.5**
LSA				SCS	ScS	11 11 22.8	+1.3
LSA				AMB	AMB		
	comp=Z,190nm,1.3s,mb5.8						
LSA				AMB	AMB		
	comp=Z,660nm,3.9s						
LSA				LR	LR		
	comp=N,2μm,24.6s						
LSA				LR	LR		
	comp=E,2μm,36.0s						
LSA				LR	LR		
	comp=Z,2μm,37.7s						
LSA	**Lhasa**	**47.69 272**		*e*P	**P**	**11 01 41.6**	**+3.0**
LSA				*e**PP	pP	11 02 07.1	+3.5
LSA				pmax	pmax		
	comp=Z,214nm,1.0s,mb5.9						
LSA	**Lhasa**	**47.69 272**		*e*P	**P**	**11 01 41.5**	**+2.9**
	comp=Z,214nm,1.0s,mb5.9						
LSA				*e*pP	pP	11 02 07.0	+3.4
UBT	**Ubonrachathani**	**47.77 246**		P	pP	11 02 06.2	+1.9
CRAG	**Craig**	**47.94**	**49**	*e*P	**P**	**11 01 41.6**	**+1.0**
	comp=Z,215nm,1.4s,mb5.8						
JAY	**Jayapura**	**48.33 192**		P	**P**	**11 01 42.9**	**-0.7**
DLBC	**Dease Lake**	**48.41**	**44**	*e*P	**P**	**11 01 45.2**	**+1.0**
KKM	**Kota Kinabalu**	**48.62 226**		P	**P**	**11 01 46.6**	**+0.8**
KKM	**Kota Kinabalu**	**48.62 226**		*e*P	**P**	**11 01 46.6**	**+0.8**
SWI	**Sorong**	**48.78 204**		P	**P**	**11 01 45.9**	**-1.1**
KIP	**Kipapa**	**49.03 101**		*e*P	**P**	**11 01 48.8**	**-0.1**
KIP				pmax	pmax		
	comp=Z,247nm,1.1s,mb6.0						
KIP	**Kipapa**	**49.03 101**		*e*P	**P**	**11 01 48.8**	**-0.1**
	comp=Z,247nm,1.1s,mb6.0						
CHKZ	**Chkalovo**	**49.26 310**		*e*P	**P**	**11 01 48.8**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.2s,mb5.6						
CHKZ	**Chkalovo**	**49.26 310**		*e*P	**P**	**11 01 48.8**	**-1.9**
	comp=Z,15nm,0.2s,mb5.6						
TSM	**Tawau**	**49.30 223**		P	**P**	**11 01 51.3**	**+0.2**
VOSK	**Vostochnaya**	**49.45 308**		P	**P**	**11 01 50.4**	**-1.8**
VOSK				pmax	pmax		
	comp=Z,104nm,0.8s,mb5.8						
BVA0	**Borovoye Array**	**49.65 309**		*i*P	**P**	**11 01 51.7**	**-2.0**
BVA0				pmax	pmax		
	comp=Z,156nm,1.8s,mb5.6						
SHL	**Shillong**	**49.67 267**		*e*P	**P**	**11 01 54.6**	**+0.8**
SHL				AMb	AMB	11 02 02.1	
	comp=Z,3μm,1.2s						
BRVK	**Borovoye**	**49.70 309**		P	**P**	**11 01 52.1**	**-1.9**
	comp=Z,825nm,0.8s,mb6.7,SNR=69						
BRVK	**Borovoye**	**49.70 309**	⇓	P	**P**	**11 01 52.7**	**-1.4**
	SNR=148						
BRVK	**Borovoye**	**49.70 309**		*e*P	**P**	**11 01 52.4**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,93nm,0.9s,mb5.7						
BRVK	**Borovoye**	**49.70 309**		*e*P	**P**	**11 01 52.4**	**-1.6**
	comp=Z,93nm,0.9s,mb5.7						
AAA	**Alma-Ata**	**50.16 295**		*i*P	**P**	**11 01 59.3**	**+1.8**
AAA				*i*S	**S**	**11 09 03.2**	**+2.0**
AAA				pmax	pmax		
	comp=Z,3μm,4.0s						
AAA				smax			
	comp=E,2μm,12.5s						
ZRNK	**Zerenda**	**50.44 309**		*e*P	**P**	**11 01 58.1**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,400nm,2.0s,mb6.0						
ZRNK	**Zerenda**	**50.44 309**		*e*P	**P**	**11 01 58.0**	**-1.6**
	comp=Z,4.1nm,2.0s						
NST	**Nakhon Sawan**	**50.65 251**		P	**P**	**11 02 02.0**	**+0.8**
	comp=Z,75nm,1.0s,mb5.7						
GTK	**Gangtok**	**50.88 271**		*e*x	x	11 02 35.0	
ULHL	**Ulahol**	**51.12 294**		P	**P**	**11 02 06.4**	**+1.7**
	SNR=30						
TKM2	**Tokmak 2**	**51.19 295**		P	**P**	**11 02 06.6**	**+1.3**
	SNR=325						
TKM2	**Tokmak 2**	**51.19 295**		*i*P	**P**	**11 02 06.0**	**+0.7**
ALE	**Alert**	**51.32**	**5**	P	**P**	**11 02 03.0**	**-3.2**
	comp=Z,1μm,0.9s,mb6.9,SNR=98						
CHMS	**Chumysh**	**51.69 296**		P	**P**	**11 02 09.9**	**+0.9**
	SNR=114						
USP	**Ospenovka**	**51.72 296**		P	**P**	**11 02 10.6**	**+1.4**
	SNR=284						
KBK	**Karagaybulak**	**51.74 295**		P	**P**	**11 02 11.1**	**+1.7**
	SNR=8.9						
KZA	**Kyzart**	**51.84 294**		P	**P**	**11 02 12.5**	**+2.4**
	SNR=702						
FRU	**Bishkek**	**51.86 296**	⇑	*i*P	**P**	**11 02 10.5**	**+0.3**
FRU				*e*S	**S**	**11 09 24.0**	**-0.6**
FRU				*e*		11 11 50.0	
FRU				pmax	pmax		
	comp=Z,150nm,2.0s,mb5.7						
FRU				smax			
	comp=E,1μm,8.0s						
AAK	**Ala-Archa**	**52.04 295**		P	**P**	**11 02 12.7**	**+1.1**
	SNR=198						
AAK	**Ala-Archa**	**52.04 295**		P	**P**	**11 02 11.3**	**-0.3**
	comp=E,3μm,0.9s						
AAK	**Ala-Archa**	**52.04 295**		P	**P**	**11 02 11.2**	**-0.3**
	SNR=214						
AAK	**Ala-Archa**	**52.04 295**	*c*	*i*P	**P**	**11 02 11.0**	**-0.6**
AAK				pmax	pmax		
	comp=Z,679nm,1.2s,mb6.5						
AAK				MLR	MLR		
	comp=Z,1μm,18.0s						
AAK	**Ala-Archa**	**52.04 295**		*e*P	**P**	**11 02 11.5**	**-0.1**
UCH	**Uchtor**	**52.23 295**		P	**P**	**11 02 14.0**	**+1.0**
	SNR=138						
AAI	**Ambon**	**52.38 207**		P	**P**	**11 02 14.0**	**-0.1**
JIRN	**Jiri**	**52.39 273**		*e*P	**P**	**11 02 16.0**	**+1.8**
	comp=Z,1μm,1.1s,mb6.9						
GUN	**Gumba**	**52.46 273**		*e*P	**P**	**11 02 16.2**	**+1.5**
	comp=Z,2μm,1.1s,mb7.0						
EKS2	**Erkin-Say**	**52.48 296**		P	**P**	**11 02 16.0**	**+1.2**
	SNR=311						
KSH	**Kashi**	**52.69 291**		P	**P**	**11 02 15.6**	**-0.8**
KSH				*e*AP	pP	11 02 46.4	+4.6
KSH				*e*XP	sP	11 02 54.8	+1.2
KSH				*e*PCP	PcP	11 03 25.4	+0.6
KSH				*e*PP	PP	11 04 16.3	-0.3
KSH				*e*SCP	ScP	11 07 11.0	-1.3
KSH				*e*PCS	PcS	11 07 22.5	-1.0
KSH				*e*S	**S**	**11 09 30.0**	**-6.0**
KSH				*e*XS	sS	11 10 16.0	-3.7
KSH				*e*SCS	ScS	11 11 51.0	-4.7
KSH				AMB	AMB		
	comp=Z,820nm,1.2s,mb6.6						
KSH				LR	LR		
	comp=N,4μm,9.3s						
KSH				LR	LR		
	comp=E,4μm,8.6s						
KSH				LR	LR		
	comp=Z,5μm,26.9s						
AML	**Almayashu**	**52.80 295**		P	**P**	**11 02 19.2**	**+2.0**
	SNR=107						
RES	**Resolute Bay**	**52.92**	**17**	*e*P	**P**	**11 02 16.8**	**-1.3**
TLE	**Tual**	**52.94 201**		P	**P**	**11 02 20.0**	**+1.8**
KKN	**Kakani**	**52.95 274**		*e*P	**P**	**11 02 19.9**	**+1.6**
	comp=Z,1μm,1.0s,mb6.8						
KKN	**Kakani**	**52.95 274**		*e*P	**P**	**11 02 19.9**	**+1.6**
KKN				pmax	pmax		
	comp=Z,1μm,1.0s,mb6.8						
PKI	**Pulchoki**	**53.00 273**		*e*P	**P**	**11 02 19.9**	**+1.3**
	comp=Z,926nm,1.2s,mb6.7						
PKI	**Pulchoki**	**53.00 273**		*e*P	**P**	**11 02 19.9**	**+1.3**
PKI				pmax	pmax		
	comp=Z,927nm,1.2s,mb6.7						
NNT	**Nongplab**	**53.16 248**		P	**P**	**11 02 21.7**	**+1.9**
DMN	**Daman**	**53.19 274**		*e*P	**P**	**11 02 21.8**	**+1.8**
	comp=Z,856nm,0.9s,mb6.8						
GKN	**Gorkha**	**53.28 274**		*e*P	**P**	**11 02 22.0**	**+1.3**
	comp=Z,2μm,1.0s,mb7.0						
KBS	**Kingsbay**	**53.40 351**		P	**P**	**11 02 19.2**	**-2.4**
KBS				ScP	ScP	11 07 15.0	-0.4
KBS	**Kingsbay**	**53.40 351**	⇑	*i*P	**P**	**11 02 18.9**	**-2.7**
KBS				AMb	AMB	11 02 22.4	
	comp=Z,204nm,1.4s,mb6.0						
KBS				*e*S	**S**	**11 09 50.1**	**+4.6**
KBS	**Kingsbay**	**53.40 351**	*c*	*i*P	**P**	**11 02 19.2**	**-2.4**
KBS	**Kingsbay**	**53.40 351**		*e*P	**P**	**11 02 19.0**	**-2.5**
	comp=Z,182nm,0.9s,mb6.1						
KBS				*e*pP	pP	11 02 45.8	-1.2
SOKR	**Solikamsk**	**53.47 321**	*c*	*i*P	**P**	**11 02 19.9**	**-2.2**
SOKR				*i*S	**S**	**11 09 39.8**	**-6.8**
SOKR				SS	ScS	11 11 55.8	-5.3
SOKR				pmax	pmax		
	comp=Z,520nm,1.1s,mb6.5						
SOKR				MLR	MLR		
	comp=Z,2μm,18.0s						
YKW3	**Yellowknife Ar**	**53.52**	**35**	*e*P	**P**	**11 02 21.8**	**-0.6**
YKW3				*e*S	**S**	**11 09 46.6**	**-0.6**
YKA	**Yellowknife Ar**	**53.56**	**35**	P	**P**	**11 02 22.1**	**-0.6**
	comp=Z,220nm,0.9s,mb6.2,baz=299,slow=6.9,SNR=315						
YKA				pP	pP	11 02 46.9	-1.3
	comp=Z,47nm,0.8s,baz=298,slow=6.9,SNR=2.1						
YKA				LR	LR	11 26 31.4	
	comp=Z,1μm,21.2s,baz=305,slow=37						
YKA	**Yellowknife Ar**	**53.56**	**35**	P	**P**	**11 02 22.1**	**-0.6**
YKA				*PP	pP	11 02 46.9	-1.3
YKA	**Yellowknife Ar**	**53.56**	**35**	P	**P**	**11 02 22.1**	**-0.6**
YKA				pP	pP	11 02 46.9	-1.3
YKA				LR	LR	11 26 31.4	
CAL	**Calcutta**	**54.10 266**		*e*P	**P**	**11 02 27.2**	**+0.5**
CAL				*e*S	**S**	**11 09 57.4**	**+2.4**
CAL				*e*S	**S**	**11 09 57.4**	**+2.4**
KOLN	**Koldanda**	**54.15 275**		*e*P	**P**	**11 02 28.6**	**+1.6**
	comp=Z,783nm,0.8s,mb6.8						
ARU	**Arti**	**54.19 317**		P	**P**	**11 02 25.3**	**-2.0**
	comp=Z,3μm,0.8s						
ARU	**Arti**	**54.19 317**	⇑	*i*P	**P**	**11 02 25.5**	**-1.8**
ARU				*e*	pP	11 02 51.3	-1.6
ARU				*e*		11 03 28.3	
ARU				*e*PPP		11 05 39.5	
ARU				*e*S	**S**	**11 09 53.7**	**-2.6**
ARU				*e*		11 12 03.1	
ARU				*e*SS	SS	11 13 36.6	-2.7
ARU				pmax	pmax		
	comp=Z,417nm,0.8s,mb6.5						
ARU				MLR	MLR		
	comp=Z,2μm,20.0s			

BJO AMS AMS 11 26 36.6
comp=Z,752nm,21.4s
BJO1 Bjornoya 55.86 346 *e*P **P 11 02 41.5 +2.1**
BJO1 LR LR
comp=Z,750nm,21.4s
C03A Quillayute Air 56.11 54 ⇑P **P 11 02 39.8 -1.4**
baz=56
C03A ⇓S **S 11 10 22.6 +0.7**
baz=56
PGC Sidney 56.37 53 *e*P **P 11 02 42.6 -0.4**
comp=Z,210nm,1.4s,mb6.0
OCWA Octopus Mounta 56.44 54 *e*P **P 11 02 43.6 +0.1**
comp=Z,121nm,1.3s,mb5.8
DDI Dehra Dun 56.48 281 *e*P **P 11 02 44.5 +0.8**
SDNR Sundarnagar 56.52 283 *e*P **P 11 02 45.0 +0.9**
DLH Dalhousie 56.60 284 *e*P **P 11 02 44.0 -0.6**
DLH *ex* x 11 03 04.0
SMLA Simla 56.61 282 *e*P **P 11 02 45.9 +1.2**
SMLA AMb AMB 11 02 48.7
comp=Z,2μm,1.6s,mb6.9
B04A Port Angeles 56.66 53 ⇑P **P 11 02 43.6 -1.4**
baz=56
B04A ⇓S **S 11 10 27.7 -1.4**
baz=56
KAPI Kappang 56.72 216 P **P 11 02 44.8 -0.7**
comp=Z,258nm,1.7s,mb6.0,SNR=6.4
A04A Legoe Bay, Lum 56.75 52 ⇑P **P 11 02 44.9 -0.7**
baz=56
A04A ⇓S **S 11 10 29.3 -0.9**
baz=56
VDB Vedder Mountai 56.92 52 P **P 11 02 45.9 -1.0**
LVZ Lovozero 56.92 336 P **P 11 02 44.2 -2.7**
comp=Z,1μm,0.8s,mb7.0,SNR=16
LVZ Lovozero 56.92 336 *c i*P **P 11 02 44.4 -2.5**
LVZ *e*S **S 11 10 21.5 -11**
LVZ *e*SSS 11 16 36.6
LVZ pmax pmax
comp=Z,468nm,1.5s,mb6.3
LVZ pmax pmax
comp=N,141nm,3.0s
LVZ pmax pmax
comp=E,83nm,2.8s
LVZ smax
comp=Z,424nm,16.9s
LVZ smax
comp=N,293nm,16.4s
LVZ smax
comp=E,161nm,8.2s
A05A Maple Falls 56.94 52 ⇑P **P 11 02 45.9 -1.1**
baz=57,SNR=23
A05A ⇑S **S 11 10 31.7 -1.1**
baz=57
BHK Bhakra 56.95 283 *e*P **P 11 02 50.0 +2.9**
BHK *ex* x 11 03 41.3
PONG Pong 56.96 284 *e*P **P 11 02 48.0 +0.9**
D03A Wishkah Elem. 57.02 54 ⇑P **P 11 02 46.8 -0.8**
baz=57
D03A ⇑S **S 11 10 33.9 +0.1**
baz=57
HDW Hoodsport 57.13 54 P **P 11 02 48.5 +0.1**
C04A Brinnon 57.14 53 ⇑P **P 11 02 48.2 -0.2**
baz=57
C04A ⇑S **S 11 10 34.1 -1.4**
baz=57
MBW Mount Baker 57.16 52 P **P 11 02 48.3 -0.3**
AB31 Akbulak array 57.23 309 *i* P **P 11 02 48.1 -0.9**
AB31 pmax pmax
comp=Z,270nm,0.4s,mb6.6
AB31 Akbulak array 57.23 309 *i* P **P 11 02 48.2 -0.8**
CMW Cultus Mountai 57.24 52 P **P 11 02 49.0 -0.2**
GNW Green Mountain 57.31 54 *e*P **P 11 02 49.9 +0.2**
B05A Bryant 57.34 53 ⇓P **P 11 02 49.3 -0.5**
baz=57,SNR=20
B05A ⇓S **S 11 10 38.1 0.0**
baz=57
E03A Lebam 57.45 55 ⇓P **P 11 02 50.5 -0.1**
baz=57,SNR=6.7
E03A ⇑S **S 11 10 39.5 0.0**
baz=57
JCW Jim Creek 57.47 53 P **P 11 02 50.5 -0.2**
APA Apatity 57.49 336 ⇓*i*P **P 11 02 47.8 -3.1**
APA *i* *PP pP 11 03 14.0 -2.7
APA *i* S **S 11 10 36.0 -4.1**
APA *i* 11 12 32.0
APA pmax pmax
comp=Z,210nm,1.1s,mb6.1
APA MLR MLR
comp=Z,2μm,20.0s
RPW Rockport 57.56 52 P **P 11 02 50.7 -0.7**
D04A Dobbs Creek Ra 57.58 54 ⇑P **P 11 02 50.9 -0.6**
baz=57
D04A ⇑S **S 11 10 42.3 +1.2**
baz=57
AKTO Aktyubinsk 57.62 311 LR LR 11 29 28.5
comp=Z,3μm,20.2s,baz=321,slow=38
AKTO Aktyubinsk 57.62 311 P **P 11 02 50.4 -1.4**
AKTO pmax pmax
comp=Z,260nm,0.8s,mb6.3
KEV Kevo 57.70 340 *e*p **P 11 02 50.2 -2.1**
comp=Z,105nm,0.7s,mb6.0
KEV Kevo 57.70 340 P **P 11 02 50.1 -2.3**
KEV Kevo 57.70 340 *e*P **P 11 02 50.2 -2.1**
KEV pmax pmax
comp=Z,105nm,0.7s,mb6.0
NIL Nilore 57.79 287 P **P 11 02 55.6 +2.6**
comp=Z,2μm,1.2s,mb6.9,SNR=27
F03A Seaside 57.79 55 ⇑P **P 11 02 53.2 +0.2**
baz=58
F03A ⇑S **S 11 10 44.6 +0.6**
baz=58
DAG Danmarks Havn 57.85 357 ⇓*i*P **P 11 02 51.1 -2.3**
comp=Z,269nm,1.3s,mb6.1
DAG Danmarks Havn 57.85 357 ⇓*i*P **P 11 02 51.1 -2.3**
DAG pmax pmax
comp=Z,270nm,1.3s,mb6.1
C05A Tolt Reservoir 57.88 53 ⇓P **P 11 02 53.0 -0.6**
baz=58,SNR=24
C05A ⇑S **S 11 10 44.8 -0.4**
baz=58
E04A Onalaska 57.91 54 ⇑P **P 11 02 54.1 +0.3**
baz=58
E04A ⇑S **S 11 10 47.3 +1.8**
baz=58
D05A Enumclaw 57.99 54 ⇓P **P 11 02 54.6 +0.2**
baz=58,SNR=16
D05A ⇓S **S 11 10 45.9 -0.6**
baz=58
NDI New Delhi 58.05 280 *e*P **P 11 02 53.0 -1.8**
NDI *e*S **S 11 10 48.0 +0.7**
KULM Kulim 58.11 242 *e*P **P 11 02 55.7 +0.5**
KULM *e*pP pP 11 03 21.8 +0.8
PNT Penticton 58.12 50 P **P 11 02 54.7 -0.6**
ARCES ARCESS Array B 58.22 340 P **P 11 02 53.7 -2.3**
comp=Z,159nm,1.0s,mb6.0,baz=56,slow=7.4,SNR=120
ARCES PKPPKP 11 32 29.9
comp=Z,4.5nm,0.9s,baz=15,slow=5.3,SNR=3.8
ARCES ARCESS Array B 58.22 340 P **P 11 02 53.7 -2.3**
ARCES P'P' 11 32 29.9
H02A Toledo 58.23 57 ⇑P **P 11 02 56.0 -0.1**
baz=58
H02A ⇑S **S 11 10 51.3 +1.5**
baz=58
LON Longmire 58.34 54 *e*P **P 11 02 57.0 +0.2**
F04A Amboy 58.45 55 ⇓P **P 11 02 57.1 -0.5**
baz=58,SNR=22
F04A ⇓S **S 11 10 52.4 -0.2**
baz=58
E05A Randle 58.48 54 ⇑P **P 11 02 57.0 -0.7**
baz=58,SNR=19
E05A ⇑S **S 11 10 52.9 0.0**
baz=58
IPM Ipoh 58.51 241 P **P 11 02 59.6 +1.6**
IPM Ipoh 58.51 241 P **P 11 02 58.2 +0.2**
H03A Soap Creek Ran 58.65 57 ⇓P **P 11 02 59.7 +0.7**
baz=58,SNR=12
H03A ⇑S **S 11 10 57.1 +2.0**
baz=58
ORR Orenburg 58.66 313 *e*P **P 11 02 58.4 -0.7**
ORR pmax pmax
comp=Z,440nm,1.1s,mb6.4
ORR MLR MLR
comp=Z,3μm,21.0s
COR Corvallis 58.70 57 P **P 11 03 00.1 +0.8**
COR S **S 11 10 59.2 +3.5**
COR Corvallis 58.70 57 *e*P **P 11 03 00.3 +1.0**
I02A Mapleton 58.72 57 ⇑P **P 11 02 59.8 +0.3**
baz=58
I02A ⇑S **S 11 10 57.9 +1.9**
baz=58
BLSP Bilaspur 58.73 271 *e*P **P 11 02 59.0 -0.5**
BLSP *e*P 11 02 60.0
BLSP AMb AMB 11 03 01.9
comp=Z,316nm,1.1s,mb6.3
BLSP *ex* x 11 03 25.0
TBM Table Mountain 58.79 53 P **P 11 02 59.7 -0.2**
G04A Mulino 58.82 56 ⇓P **P 11 03 00.2 0.0**
baz=59,SNR=19
G04A ⇑S **S 11 10 57.0 -0.4**
baz=59
WTV Waterville 58.85 52 P **P 11 02 59.6 -0.7**
EBG Ellensburg 58.95 53 P **P 11 03 01.2 +0.1**
K01A Sixes 59.01 59 ⇑S **S 11 11 01.3 +1.5**
baz=59
F05A White Salmon 59.03 55 ⇑P **P 11 03 01.4 -0.2**
baz=59,SNR=11
F05A ⇓S **S 11 11 00.7 +0.6**
baz=59
KEBM Edson Butte 59.06 59 *e*P **P 11 03 01.1 -0.7**
I03A Eugene 59.06 57 ⇑P **P 11 03 02.1 +0.3**
baz=59
I03A ⇓S **S 11 11 01.9 +1.5**
baz=59
KGM Kluang 59.08 237 P **P 11 03 03.7 +1.8**
EDM Edmonton 59.13 44 *e*P **P 11 03 01.7 -0.6**
KTK1 Kautokeino 59.15 340 ⇑*i*P **P 11 03 01.4 -1.0**
KTK1 AMb AMB 11 03 04.2
comp=Z,350nm,1.6s,mb6.1
KTK1 Kautokeino 59.15 340 ⇑*i*P **P 11 03 01.4 -1.0**
comp=Z,350nm,1.6s,mb6.1
J02A Umpqua 59.23 58 ⇓P **P 11 03 03.1 +0.1**
baz=59,SNR=14
J02A ⇓S **S 11 11 04.4 +1.7**
baz=59
HOOD Mount Hood Mea 59.24 55 *e*P **P 11 03 03.7 +0.6**
H04A Detroit Lake 59.30 56 ⇓P **P 11 03 03.2 -0.3**
baz=59,SNR=55
H04A ⇑S **S 11 11 05.5 +2.0**
baz=59
BTDF Bukit Timah Da 59.34 236 P **P 11 03 04.9 +1.2**
VFP Flag Point 59.35 55 P **P 11 03 04.2 +0.4**
G05A Wamic 59.48 55 ⇓P **P 11 03 04.7 0.0**
baz=59,SNR=21
G05A ⇓S **S 11 11 07.7 +1.9**
baz=59
SGF Sodankyl 59.49 338 P **P 11 03 01.8 -3.0**
JBP Jabalpur 59.57 273 *e*P **P 11 03 06.7 +1.4**
JBP AMb AMB 11 03 08.1
comp=Z,449nm,1.2s,mb6.4
J03A Ideyld Park 59.60 58 ⇑P **P 11 03 05.8 +0.3**
baz=59,SNR=18
J03A ⇓S **S 11 11 07.8 +0.5**
baz=59
K02A Glendale 59.63 58 ⇓P **P 11 03 06.0 +0.3**
baz=59,SNR=6.3
K02A ⇓S **S 11 11 07.9 +0.1**
baz=59
TRO Tromso 59.66 342 *e*P **P 11 03 02.5 -3.4**
TRO AMb AMB 11 03 05.9
comp=Z,582nm,1.5s,mb6.4
TRO *e*S **S 11 11 05.3 -2.9**
TRO AMS AMS 11 30 41.0
comp=Z,1μm,21.7s
TRO Tromso 59.66 342 *e*P **P 11 03 02.5 -3.4**
TRO pmax pmax
comp=Z,582nm,1.5s,mb6.4
TRO MLR MLR
comp=Z,1μm,21.7s
TRO Tromso 59.66 342 *e*P **P 11 03 02.5 -3.4**
comp=Z,582nm,1.5s,mb6.4
TRO LR LR
comp=Z,1μm,21.7s
OD2 Odessa Site #2 59.71 52 P **P 11 03 05.6 -0.7**
M01C Crescent City 59.78 60 ⇑S **S 11 11 12.1 +2.4**
baz=60
WRD Warden 59.81 53 P **P 11 03 05.8 -1.2**
KAKA Kakadu 59.83 199 ⇓*i*P **P 11 03 06.0 -1.1**
comp=Z,84nm,0.6s,mb6.0
KAKA *e*pP pP 11 03 32.7 -0.4
KAKA *e*sP sP 11 03 41.7 -3.0
HAWA Hanford 59.83 53 *e*P **P 11 03 07.0 -0.2**
comp=Z,18nm,1.5s
KLMR Klimovskoe 59.85 328 *i* P **P 11 03 05.3 -2.0**
KLMR *e*S **S 11 11 06.2 -4.5**
KLMR *e*SS SS 11 15 07.7 -0.7
KLMR *e*SSS 11 17 44.8
H05A Madras 59.87 56 ⇑P **P 11 03 07.2 -0.2**
baz=60,SNR=23
H05A ⇑S **S 11 11 11.1 +0.2**
baz=60
L02A Cave Junction 59.91 59 ⇑P **P 11 03 07.7 +0.1**
baz=60
L02A ⇑S **S 11 11 14.3 +2.9**
baz=60
VTHM Trough 59.95 55 P **P 11 03 08.2 +0.2**
HUMO Hull Mountain 60.04 58 *e*P **P 11 03 08.5 -0.1**
comp=Z,99nm,1.4s,mb5.7
HUMO Hull Mountain 60.04 58 ⇓P **P 11 03 08.7 +0.1**
baz=60,SNR=10
HUMO ⇓S **S 11 11 14.2 +1.2**
baz=60
NEW Newport 60.08 50 *e*P **P 11 03 08.3 -0.5**
comp=Z,269nm,1.4s,mb6.1
I05A Bend 60.13 56 ⇑P **P 11 03 09.4 +0.2**
baz=60,SNR=15
I05A ⇑S **S 11 11 16.1 +1.9**
baz=60
KTRM Thompson Ridge 60.20 59 P **P 11 03 10.5 +0.9**
JCC Jacoby Creek 60.44 61 ⇑S **S 11 11 18.9 +0.8**
baz=60
KHMM Horse Mountain 60.59 60 *e*P **P 11 03 12.4 +0.1**
YBH Yreka Blue Hor 60.70 59 *e*P **P 11 03 13.8 +0.8**
YBH pmax pmax
comp=Z,111nm,1.3s
YBH Yreka Blue Hor 60.70 59 *e*P **P 11 03 13.8 +0.8**
comp=Z,110nm,1.3s,mb5.7
YBH Yreka Blue Hor 60.70 59 ⇑P **P 11 03 13.5 +0.5**
baz=60,SNR=18
YBH ⇓S **S 11 11 24.0 +2.5**
baz=60
K04A Chilquin 60.77 58 ⇑P **P 11 03 13.8 +0.3**
baz=60
K04A ⇓S **S 11 11 23.7 +1.4**
baz=60
VIS Vishakhapatnam 60.79 266 *i* P **P 11 03 12.9 -0.8**
VIS *e*P 11 03 14.2
VIS AMb AMB 11 03 17.4
comp=Z,187nm,1.3s,mb6.0
VIS *i* x x 11 11 19.1
M02C Callahan 60.82 59 ⇓P **P 11 03 14.3 +0.5**
baz=61,SNR=15
M02C ⇑S **S 11 11 26.1 +3.1**
baz=61
N02C Big Bar 60.88 60 ⇑P **P 11 03 14.8 +0.6**
baz=61,SNR=6.0
N02C ⇑S **S 11 11 25.8 +2.1**
baz=61
I06A Prineville 60.88 56 P **P 11 03 14.7 +0.5**
baz=61,SNR=37
I06A ⇑S **S 11 11 25.7 +2.0**
baz=61
PECR Pechory 60.90 322 ⇓*e*P **P 11 03 12.4 -2.0**
PECR *e* pP 11 03 38.4 -2.0
PECR *e* 11 03 53.3
PECR *e* 11 05 27.0
PECR *e* 11 07 00.0
PECR *e*S **S 11 11 14.0 -10**
PECR *e* 11 11 56.0
PECR *e* 11 12 52.0
PECR pmax pmax
comp=Z,1μm,1.8s,mb6.5
PECR pmax pmax
comp=Z,2μm,10.0s
PECR pmax pmax
comp=N,700nm,5.0s
PECR pmax pmax
comp=E,700nm,6.0s
PECR smax
comp=E,400nm,4.0s
PECR MLR MLR
comp=Z,1μm,22.0s
L04A Klamath Falls 60.94 58 ⇑P **P 11 03 14.9 +0.3**
baz=61,SNR=11
L04A ⇑S **S 11 11 25.5 +1.0**
baz=61
M04C Macdoel 61.20 59 ⇓P **P 11 03 16.6 +0.2**
baz=61,SNR=24
M04C ⇓S **S 11 11 28.9 +1.2**
baz=61
AJM Ajmer 61.20 279 *i* P **P 11 03 17.0 +0.6**
AJM *e*P 11 03 17.3
AJM AMb AMB 11 03 20.8
comp=Z,665nm,1.6s,mb6.4
WALA Waterton Lakes 61.31 48 *e*P **P 11 03 17.1 -0.1**
comp=Z,79nm,0.6s,mb5.9
BHPL Bhopal 61.32 275 *e*P **P 11 03 18.2 +1.0**
BHPL AMb AMB 11 03 20.1
comp=Z,398nm,1.2s,mb6.3
J06A Christmas Vall 61.33 56 ⇑P **P 11 03 17.4 +0.1**
baz=61,SNR=38
J06A ⇓S **S 11 11 31.7 +2.3**
baz=61
JOF Joensuu 61.33 333 *e*p **P 11 03 15.5 -1.8**
comp=Z,144nm,0.3s,mb6.5
JOF Joensuu 61.33 333 *e*P **P 11 03 15.5 -1.8**
JOF pmax pmax
comp=Z,144nm,0.3s,mb6.5
M03C McCloud 61.33 59 ⇓P **P 11 03 17.4 0.0**
baz=61,SNR=14
M03C ⇓S **S 11 11 30.8 +1.3**
baz=61
OUL Oulu 61.40 336 P **P 11 03 14.1 -3.7**
WDC Whiskeytown Da 61.49 60 *e*P **P 11 03 18.4 0.0**
WDC pmax pmax
comp=Z,86nm,1.1s,mb5.7
WDC Whiskeytown Da 61.49 60 *e*P **P 11 03 18.4 +0.1**
comp=Z,86nm,1.1s,mb5.7
WDC Whiskeytown Da 61.49 60 ⇑P **P 11 03 18.5 +0.2**
baz=61,SNR=25
WDC ⇓S **S 11 11 32.9 +1.4**
baz=61
K06A Valley Falls 61.54 57 ⇑P **P 11 03 19.1 +0.4**
baz=61,SNR=57
K06A ⇓S **S 11 11 35.1 +3.0**
baz=61
O02C Red Bluff 61.58 61 ⇓P **P 11 03 19.2 +0.3**
baz=61,SNR=12
O02C ⇑S **S 11 11 33.5 +1.0**
baz=61
BSMT Bassoo Peak 61.58 50 P **P 11 03 19.2 +0.2**
P01C Double 8 Ranch 61.66 61 ⇓P **P 11 03 19.7 +0.1**
baz=61,SNR=6.6
P01C ⇑S **S 11 11 35.4 +1.8**
baz=61
M05C Lookout 61.86 59 ⇑P **P 11 03 21.1 +0.2**
baz=62,SNR=31
M05C ⇓S **S 11 11 38.7 +2.5**
baz=62
GASB Alder Springs 61.94 61 ⇑P **P 11 03 22.1 +0.7**
baz=62,SNR=15
GASB ⇑S **S 11 11 38.5 +1.4**
baz=62
HATC Hat Creek Radi 62.00 59 ⇓P **P 11 03 21.7 -0.1**
baz=62,SNR=17
HATC ⇑S **S 11 11 39.3 +1.3**
baz=62
BMO Blue Mountains 62.01 54 *e*P **P 11 03 21.8 0.0**
comp=Z,131nm,1.4s,mb5.8
LOF Lofoten 62.03 343 *e*P **P 11 03 21.1 -0.9**
LOF AMb AMB 11 03 24.5
comp=Z,352nm,1.2s,mb6.2
LOF Lofoten 62.03 343 *e*P **P 11 03 21.1 -0.9**
comp=Z,352nm,1.2s,mb6.3
MOD Modoc 62.05 58 *e*P **P 11 03 22.3 +0.2**
comp=Z,115nm,1.1s,mb5.8
HOPS Hopland 62.12 62 *e*P **P 11 03 23.1 +0.6**
comp=Z,169nm,1.4s,mb5.9
HOPS Hopland 62.12 62 ⇑P **P 11 03 22.6 +0.1**
baz=62
HOPS ⇓S **S 11 11 42.4 +3.0**
baz=62
O03C Acorn Hollow, 62.15 60 ⇑P **P 11 03 23.0 +0.2**
baz=62
O03C ⇓S **S 11 11 40.9 +1.1**
baz=62
SUMG Summit 62.19 3 *e*P **P 11 03 22.5 -0.5**
K07A Rock Creek Ran 62.19 56 ⇑P **P 11 03 23.3 +0.3**
baz=62,SNR=67
K07A ⇑S **S 11 11 42.4 +2.1**
baz=62
M06C Likely Place G 62.36 58 ⇓P **P 11 03 24.2 0.0**
baz=62,SNR=17
M06C ⇑S **S 11 11 43.9 +1.5**
baz=62
O04C Chester 62.53 60 ⇓P **P 11 03 25.7 +0.4**
baz=62,SNR=23
O04C ⇓S **S 11 11 45.1 +0.6**
baz=62
ELFS Eagle Lake Fie 62.56 59 ⇓P **P 11 03 25.6 0.0**
baz=62,SNR=23
ELFS ⇓S **S 11 11 46.0 +1.0**
baz=62
MNRC McLaughlin Nat 62.58 62 ⇑P **P 11 03 25.9 +0.3**
baz=62,SNR=8.5
MNRC ⇓S **S 11 11 47.4 +2.3**
baz=62
MSO Missoula 62.66 50 *e*P **P 11 03 26.0 -0.2**
comp=Z,179nm,1.3s,mb5.8
WVOR Wild Horse Val 62.71 56 *e*P **P 11 03 26.5 0.0**
WVOR pmax pmax
comp=Z,123nm,1.0s,mb5.8
WVOR Wild Horse Val 62.71 56 *e*P **P 11 03 26.5 0.0**
comp=Z,123nm,1.0s,mb5.8
ORV Oroville 62.74 60 P **P 11 03 26.1 -0.6**
baz=62,SNR=48
ORV ⇓S **S 11 11 47.5 +0.3**
baz=62
MCCM Marconi Confer 62.75 62 ⇓S **S 11 11 47.9 +0.6**
baz=62
SUTB Sutter Buttes 62.77 61 ⇓P **P 11 03 26.5 -0.4**
baz=62
SUTB ⇑S **S 11 11 48.0 +0.5**
baz=62
JMIC Jan Mayen 62.81 352 ⇑*i*P **P 11 03 25.5 -1.7**
O05C Quincy 62.85 60 ⇑P **P 11 03 27.2 -0.2**
baz=63,SNR=24
O05C ⇑S **S 11 11 48.2 -0.4**
baz=63
OHCM Honcut 62.89 61 *e*P **P 11 03 27.5 -0.2**
CVS Carmenet Viney 62.89 62 ⇑S **S 11 11 51.1 +2.1**
baz=63
FARB Farallon Islan 62.95 63 ⇓P **P 11 03 27.5 -0.6**
baz=63
FARB ⇓S **S 11 11 50.9 +1.1**
baz=63
CHMT Chamberlain Mo 62.98 50 *e*P **P 11 03 28.0 -0.3**
Q03C Winters 62.99 62 ⇑P **P 11 03 28.7 +0.3**
baz=63,SNR=7.0
Q03C ⇓S **S 11 11 52.1 +1.7**
baz=63
M07A Soldier Meadow 63.03 58 ⇓P **P 11 03 28.9 +0.3**
baz=63,SNR=112
M07A ⇑S **S 11 11 52.0 +1.2**
baz=63
Q04C Lincoln 63.26 61 ⇑P **P 11 03 29.8 -0.4**
baz=63,SNR=6.2
Q04C ⇓S **S 11 11 53.9 +0.3**
baz=63
AKL Akola 63.26 273 *i* P **P 11 03 39.4 +9.3**
AKL *ex* x 11 03 39.6
AKL *i* S **S 11 12 02.4 +8.8**
O06A Flanigan 63.39 59 ⇓P **P 11 03 30.9 -0.1**
baz=63,SNR=35
O06A ⇓S **S 11 11 56.0 +0.7**
baz=63
FFC Flin Flon 63.44 38 P **P 11 03 31.1 -0.2**
comp=Z,969nm,1.1s,mb6.6
FFC Flin Flon 63.44 38 *e*P **P 11 03 31.0 -0.3**
FFC pmax pmax
comp=Z,229nm,1.1s,mb6.0
FFC Flin Flon 63.44 38 *e*P **P 11 03 31.0 -0.3**
comp=Z,229nm,1.1s,mb6.0
P05C Yuba Gap, Truc 63.45 60 ⇑P **P 11 03 31.0 -0.4**
baz=63,SNR=14
P05C ⇓S **S 11 11 55.4 -0.6**
baz=63
M08A Happy Creek Ra 63.46 57 ⇓P **P 11 03 31.6 +0.1**
baz=63,SNR=42
M08A ⇑S **S 11 11 58.1 +1.9**
baz=63

MOR8 Moi Rana 63.47 341⇑iP P 11 03 28.3 -3.2
MOR8 AMb AMB 11 03 30.9
comp=Z,508nm,0.9s,mb6.4
MOR8 Moi Rana 63.47 341⇑iP P 11 03 28.3 -3.2
comp=Z,508nm,0.9s,mb6.5
BDM Black Diamond 63.50 62⇑S S 11 11 58.1 +1.5
baz=63
KAF Kangasniemi 63.51 334 eP P 11 03 29.9 -1.9
comp=Z,212nm,0.7s,mb6.1,baz=40,slow=6.3
KAF Kangasniemi 63.51 334 eP P 11 03 29.9 -1.9
KAF pmax pmax
comp=Z,212nm,0.7s,mb6.1
N07B Gerlach 63.52 58⇓P P 11 03 32.0 +0.1
baz=63,SNR=6.0
N07B ⇓S S 11 11 57.8 +0.9
baz=63
L09A Wilkinson Ranc 63.53 56⇑P P 11 03 31.8 -0.1
baz=63,SNR=30
L09A ⇑S S 11 11 58.5 +1.5
baz=63
JRSC Jasper Ridge 63.61 63⇓P P 11 03 32.0 -0.4
baz=63
JRSC ⇓S S 11 11 59.5 +1.5
baz=63
P06A Stead Airport, 63.64 59⇓P P 11 03 32.9 +0.2
baz=63,SNR=9.2
P06A ⇓S S 11 11 59.7 +1.2
baz=63
STOK Stokkvaagen 63.65 342 eP P 11 03 30.6 -2.1
STOK AMb AMB 11 03 33.4
comp=Z,198nm,1.3s,mb5.8
STOK esP sP 11 04 07.1 -3.4
STOK Stokkvaagen 63.65 342 eP P 11 03 30.6 -2.1
comp=Z,198nm,1.3s,mb5.8
LAVA Lava Cap Winer 63.70 61⇓P P 11 03 32.7 -0.3
baz=64,SNR=26
LAVA ⇓S S 11 12 00.1 +0.9
baz=64
WENL Wente Brothers 63.77 62⇑P P 11 03 33.5 0.0
baz=64,SNR=6.6
WENL ⇓S S 11 12 02.2 +2.2
baz=64
FCC Fort Churchill 63.80 31 eP P 11 03 32.7 -1.0
FCC pmax pmax
comp=Z,78nm,0.6s,mb5.7
FCC Fort Churchill 63.80 31 eP P 11 03 32.7 -1.0
comp=Z,78nm,0.6s,mb5.7
BNLO Ben Lomond 63.82 63⇓P P 11 03 33.5 -0.3
baz=64
BNLO ⇓S S 11 12 02.2 +1.6
baz=64
KLI Kotabumi 63.82 231 P P 11 03 33.7 -0.1
HRY Holter Researc 63.87 49 eP P 11 03 34.2 0.0
R04C Big Horse Ranc 63.88 61⇑P P 11 03 33.6 -0.7
baz=64,SNR=6.7
R04C ⇑S S 11 12 02.6 +1.2
baz=64
PAHR Pah Rah Range 63.94 59 eP P 11 03 34.4 -0.2
comp=Z,158nm,1.2s,mb5.7
O07A Toulon 63.96 58⇑P P 11 03 34.9 +0.1
baz=64,SNR=67
O07A ⇑S S 11 12 04.7 +2.3
baz=64
WCN Washoe City 63.97 60⇓P P 11 03 34.9 +0.1
baz=64,SNR=57
WCN ⇓S S 11 12 03.7 +1.3
baz=64
LEM Lembang 64.00 227 P P 11 03 34.3 -0.7
MOS Moscow 64.01 324α iP P 11 03 33.5 -1.6
MOS e*PP pP 11 04 02.4 +1.1
MOS e 11 04 09.3
MOS e 11 05 55.1
MOS eS S 11 11 56.4 -6.6
MOS e*SS sS 11 12 40.2 -7.8
MOS e 11 13 14.4
MOS pmax pmax
comp=Z,273nm,0.8s,mb6.1
N08A GE Springer Mi 64.03 58⇓P P 11 03 35.0 -0.2
baz=64,SNR=38
N08A ⇑S S 11 12 03.4 +0.3
baz=64
CBJI Citeko 64.05 228 P P 11 03 30.4 -5.0
FINES FINESS Array B 64.09 333 P P 11 03 33.5 -2.1
comp=Z,241nm,0.7s,mb6.2,baz=46,slow=8.2,SNR=564
FINES PKPPKP 11 32 24.8
comp=Z,5.8nm,1.1s,baz=93,slow=7.6,SNR=4.8
FINES PKP2bc 11 32 29.5
comp=Z,1.6nm,0.8s,baz=245,slow=4.0,SNR=4.1
FINES LR LR 11 36 12.7
comp=Z,3μm,19.5s,baz=43,slow=40
FINES FINESS Array B 64.09 333 P P 11 03 33.5 -2.1
FINES P'P' 11 32 24.8
FINES ⇑e 11 32 29.5
FINES LR LR 11 36 12.7
KSI Kapahiang 64.09 234 P P 11 03 34.9 -0.7
LRM Limekiln Ridge 64.10 50 eP P 11 03 35.8 +0.2
S04C Ingram Canyon, 64.11 62⇓P P 11 03 35.7 -0.1
baz=64
S04C ⇓S S 11 12 06.1 +1.8
baz=64
EGMT Eagleton 64.12 47 eP P 11 03 35.6 -0.2
comp=Z,311nm,1.4s,mb6.0
R05C Kirkwood Meado 64.14 60⇑P P 11 03 35.7 -0.2
baz=64,SNR=18
R05C ⇑S S 11 12 05.2 +0.7
baz=64
SCO Scoresbysund 64.24 357 iP P 11 03 35.2 -1.4
comp=Z,104nm,0.7s,mb5.8
SCO iS S 11 11 59.0 -6.8
DLMT Dillon 64.31 51 eP P 11 03 36.8 -0.2
comp=Z,164nm,1.2s,mb5.7
O08A Rochester Mine 64.31 58⇓P P 11 03 37.1 0.0
baz=64
O08A ⇓S S 11 12 06.6 -0.1
baz=64
P07A Fallon 64.34 59⇑P P 11 03 37.3 0.0
baz=64
P07A ⇓S S 11 12 09.4 +2.4
baz=64
HYB Hyderabad 64.36 269 iP P 11 03 37.0 -0.3
comp=Z,520nm,1.0s,mb6.3
HYB ePP pP 11 04 03.0 -0.6
HYB eS S 11 12 07.0 -0.2
HYB Hyderabad 64.36 269 eP P 11 03 37.0 -0.3
comp=Z,520nm,1.0s,mb6.3
HYB e pP 11 04 03.0 -0.6
HYB eS S 11 12 08.0 +0.8
CMB Columbia Colle 64.37 61 eP P 11 03 37.4 0.0
comp=Z,136nm,1.3s,mb5.6
CMB Columbia Colle 64.37 61 P P 11 03 37.4 0.0
baz=64,SNR=36
CMB ⇓S S 11 12 07.7 +0.3
baz=64
HLID Hailey 64.44 53 eP P 11 03 37.9 0.0
PACP Pacheco Peak 64.45 63⇓P P 11 03 37.5 -0.5
baz=64,SNR=24
PACP ⇑S S 11 12 10.5 +2.2
baz=64
SAO San Andreas Ge 64.50 63 eP P 11 03 38.0 -0.3
M10A I.L. Ranch, Tu 64.50 56⇓P P 11 03 38.6 +0.3
baz=64,SNR=34
M10A ⇓S S 11 12 11.1 +2.1
baz=64
BOZ Bozeman (W) 64.65 50⇑iP P 11 03 39.6 +0.3
BOZ e*PP pP 11 04 03.9 -1.7
BOZ pmax pmax
comp=Z,110nm,0.6s,mb5.9
BOZ Bozeman (W) 64.65 50⇑iP P 11 03 39.6 +0.3
comp=Z,110nm,0.6s,mb5.9
BOZ epP pP 11 04 03.9 -1.6
WAKR Walker 64.66 60 eP P 11 03 40.1 +0.8
HAST Hastings Reser 64.67 63⇑P P 11 03 38.8 -0.5
baz=64,SNR=18
HAST ⇓S S 11 12 13.0 +1.9
baz=64
P08A Dixie Valley 64.73 58⇑P P 11 03 39.7 -0.1
baz=64
P08A ⇑S S 11 12 13.3 +1.4
baz=64
Q07A Schurz 64.77 60⇓P P 11 03 40.0 0.0
baz=64
Q07A ⇓S S 11 12 13.2 +0.9
baz=64
S06C San Francisco 64.79 61⇓P P 11 03 39.8 -0.4
baz=65,SNR=7.4
S06C ⇑S S 11 12 14.1 +1.5
baz=65
S05C Merced 64.83 62⇑P P 11 03 39.8 -0.7
baz=65,SNR=55
S05C ⇑S S 11 12 13.4 +0.3
baz=65
OBN Obninsk 64.88 324 P P 11 03 39.4 -1.3
comp=Z,3μm,0.8s,mb7.1,SNR=12
OBN Obninsk 64.88 324α iP P 11 03 38.9 -1.8
OBN 11 04 21.0
OBN iS S 11 12 08.5 -5.2
OBN i 11 12 48.4
OBN i 11 13 22.8
OBN eSS SS 11 16 23.9 -3.0
OBN pmax pmax
comp=Z,312nm,0.7s,mb6.2
OBN pmax pmax
comp=Z,900nm,1.4s,mb6.4
OBN MLR MLR
comp=Z,2μm,23.0s
OBN Obninsk 64.88 324 eP P 11 03 39.0 -1.7
comp=Z,309nm,0.7s,mb6.2
T05C Eagle Field, D 64.90 62⇑P P 11 03 40.8 -0.1
baz=65,SNR=5.5
T05C ⇓S S 11 12 15.8 +1.9
baz=65
O09A Fish Creek Ran 64.97 58⇓P P 11 03 41.5 +0.2
baz=65,SNR=32
O09A ⇑S S 11 12 16.7 +2.0
baz=65
VAN Vannovskaya 64.98 299 iP P 11 03 42.3 +0.9
ABKT Ailbek 64.98 299 P P 11 03 42.3 +0.9
comp=Z,6μm,0.9s
M11A Holland Ranch, 64.99 56⇑P P 11 03 41.9 +0.4
baz=65,SNR=37
M11A ⇑S S 11 12 18.2 +3.1
baz=65
N10A Dunphy 65.02 57⇑P P 11 03 41.6 -0.1
baz=65
N10A ⇓S S 11 12 17.4 +2.0
baz=65
LATR Latur 65.09 271 eP P 11 03 42.0 -0.1
V03C Hunter Liggett 65.09 63⇑P P 11 03 41.8 -0.4
baz=65,SNR=9.5
V03C ⇓S S 11 12 18.7 +2.4
baz=65
R07C Lee Vining 65.15 60⇑P P 11 03 42.8 +0.3
baz=65,SNR=64
R07C ⇑S S 11 12 19.3 +2.3
baz=65
U04C Hernandez Rese 65.17 63⇑P P 11 03 43.1 +0.4
baz=65,SNR=12
U04C ⇓S S 11 12 19.1 +1.9
baz=65
CTA Charters Tower 65.25 183⇓iP P 11 03 42.4 -0.7
comp=Z,49nm,0.6s,mb5.5
CTA epP pP 11 04 08.9 -0.5
CTA iS S 11 12 17.8 -0.3
CTA Charters Tower 65.25 183 P P 11 03 42.6 -0.5
comp=Z,71nm,0.7s,mb5.6,baz=2.3,slow=8.0,SNR=68
CTA pP pP 11 04 08.6 -0.9
comp=Z,35nm,0.9s,baz=343,slow=7.6,SNR=3.6
CTA Charters Tower 65.25 183⇓iP P 11 03 42.4 -0.7
CTA e*PP pP 11 04 08.9 -0.5
CTA iS S 11 12 17.8 -0.3
CTA pmax pmax
comp=Z,49nm,0.6s
CTAO Charters Tower 65.25 183 eP P 11 03 42.5 -0.6
QLMT Earthquake Lak 65.28 51 eP P 11 03 43.6 +0.3
Q08A Gabbs 65.35 59⇑P P 11 03 43.8 0.0
baz=65,SNR=62
Q08A ⇓S S 11 12 20.5 +1.2
baz=65
NVAR Mina Array Bea 65.39 60 P P 11 03 44.6 +0.5
comp=Z,53nm,0.7s,mb5.5,baz=288,slow=7.2,SNR=318
NVAR pP pP 11 04 09.4 -1.0
comp=Z,35nm,0.7s,baz=282,slow=8.0,SNR=6.4
N11A Elko Archery C 65.41 56⇑P P 11 03 44.4 +0.2
baz=65,SNR=6.7
N11A ⇓S S 11 12 21.9 +1.8
baz=65
NSS Namsos 65.41 341 eP P 11 03 41.5 -2.7
NSS AMb AMB 11 03 44.4
comp=Z,141nm,1.3s,mb5.6
NSS eS S 11 12 22.5 +2.3
NSS AMS AMS 11 36 20.6
comp=Z,2μm,23.0s
NSS Namsos 65.41 341 eP P 11 03 41.5 -2.7
comp=Z,141nm,1.3s,mb5.6
NSS LR LR
comp=Z,2μm,23.0s
VRHR Novokhopersk 65.42 319 eP P 11 03 42.6 -1.6
VRHR e*PP pP 11 04 08.9 -1.7
VRHR eS S 11 12 15.8 -4.5
VRHR pmax pmax
comp=N,40nm,0.5s
VRHR pmax pmax
comp=Z,150nm,0.5s,mb6.1
VRHR pmax pmax
comp=E,40nm,0.7s
VRHR smax
comp=N,260nm,1.6s
VRHR smax
comp=Z,160nm,1.7s
VRHR smax
comp=E,140nm,0.7s
T06C Millerton Lake 65.43 62⇓P P 11 03 44.0 -0.3
baz=65
T06C ⇓S S 11 12 19.8 -0.5
baz=65
KCC Kaiser Creek 65.47 61⇓P P 11 03 44.2 -0.3
baz=65
KCC ⇓S S 11 12 22.1 +1.2
baz=65
MNV Mina 65.48 60 eP P 11 03 44.8 +0.2
MNV pmax pmax
comp=Z,119nm,1.3s,mb5.6
MNV Mina 65.48 60 eP P 11 03 44.8 +0.1
comp=Z,119nm,1.3s,mb5.6
M12A Wells 65.51 55⇑P P 11 03 45.2 +0.4
baz=65,SNR=66
M12A ⇓S S 11 12 24.5 +3.1
baz=65
MEF Metsahovi 65.56 333 P P 11 03 42.5 -2.6
R08A Mina 65.56 60⇑P P 11 03 45.1 0.0
baz=65,SNR=7.6
R08A ⇓S S 11 12 24.3 +2.3
baz=65
V04C Ramage Ranch, 65.57 63⇓P P 11 03 45.0 -0.2
baz=65,SNR=7.2
V04C ⇑S S 11 12 21.1 -1.0
baz=65
MLAC Mammoth Lakes 65.58 61⇓P P 11 03 45.5 +0.2
baz=65,SNR=11
MLAC ⇓S S 11 12 25.6 +3.5
baz=65
PKD Parkfield 65.58 63⇓P P 11 03 44.8 -0.5
baz=65,SNR=18
PKD ⇑S S 11 12 22.5 +0.2
baz=65
U05C Westside ANR, 65.60 62⇓P P 11 03 46.0 +0.6
baz=65
U05C ⇑S S 11 12 22.9 +0.5
baz=65
GCMT Greycliff 65.61 49 eP P 11 03 45.7 +0.3
YMR Madison River 65.64 51 eP P 11 03 46.0 +0.4
comp=Z,272nm,1.3s,mb5.9
P10A Eureka 65.75 58⇓P P 11 03 46.4 +0.1
baz=66,SNR=20
P10A ⇓S S 11 12 26.0 +1.8
baz=66
ELK Elko 65.75 56 eP P 11 03 46.6 +0.2
N12A Wells--Clov Va 65.80 56⇑P P 11 03 46.8 +0.1
baz=66,SNR=58
N12A ⇑S S 11 12 27.3 +2.4
baz=66
Q09A Carvers 65.82 59⇑P P 11 03 46.7 -0.1
baz=66,SNR=18
Q09A ⇓S S 11 12 27.2 +2.0
baz=66
YFT Old Faithful 65.85 51 eP P 11 03 48.8 +1.8
O11A Cowboy Ranch, 65.90 57 P P 11 03 47.5 +0.2
baz=66,SNR=34
O11A ⇓S S 11 12 26.3 +0.3
baz=66
MTUM Tungsten Hills 65.92 61 eP P 11 03 48.3 +0.8
M13A Montello 65.98 55⇓P P 11 03 47.6 -0.2
baz=66,SNR=75
M13A ⇓S S 11 12 29.1 +2.0
baz=66
LKWY Lake 66.02 50 eP P 11 03 49.9 +1.8
V05C Boulder Hill, 66.03 63⇑P P 11 03 48.8 +0.6
baz=66,SNR=7.7
V05C ⇓S S 11 12 29.9 +2.2
baz=66
S08C White Mtn Res 66.07 60 P P 11 03 49.0 +0.6
baz=66,SNR=33
S08C ⇓S S 11 12 30.1 +2.0
baz=66
VOR Voronezh 66.09 320 eP P 11 03 46.0 -2.6
VOR e pP 11 04 16.5 +1.5
VOR pmax pmax
comp=N,300nm,1.5s
VOR pmax pmax
comp=Z,500nm,1.5s,mb6.1
VOR pmax pmax
comp=E,200nm,1.4s
VSU Vasula 66.14 331⇑iP P 11 03 47.0 -1.9
IMW Indian Meadow 66.16 51 eP P 11 03 50.0 +1.0
comp=E,137nm,1.0s,mb5.7
P11A Circle Ranch, 66.21 57⇑P P 11 03 49.4 +0.1
baz=66,SNR=11
P11A ⇑S S 11 12 31.6 +1.7
baz=66
DCID1 Drake Creek 66.22 52 eP P 11 03 50.9 +1.5
R09A Tonopah 66.26 59⇓P P 11 03 49.3 -0.3
baz=66,SNR=102
R09A ⇓S S 11 12 31.3 +0.8
baz=66
N13A West Wendover 66.28 55⇓P P 11 03 50.1 +0.3
baz=66
N13A ⇓S S 11 12 32.3 +1.6
baz=66
TIN Tinemaha 66.31 61⇑S S 11 12 32.3 +1.2
baz=66
MOOW Moose Ponds 66.36 51 eP P 11 03 54.4 +4.1
comp=E,216nm,1.3s,mb5.8
WRAB Tennant Creek 66.44 195 P P 11 03 49.0 -1.8
comp=E,995nm,0.8s,mb6.7,SNR=59
WRAB Tennant Creek 66.44 195 eP P 11 03 49.7 -1.1
WRAB epP pP 11 04 15.3 -1.9
WRAB esP sP 11 04 23.9 -4.9
WB2 Warramunga Arr 66.45 195 eP P 11 03 49.5 -1.4
WB2 ePCP PcP 11 04 18.1 -1.6
WB2 ePKPPKP 11 32 25.5
WRA Warramunga Arr 66.45 195 P P 11 03 48.8 -2.1
comp=E,123nm,0.7s,mb5.8,baz=14,slow=6.6,SNR=316
WRA pP pP 11 04 16.1 -1.2
comp=E,112nm,1.0s,baz=13,slow=6.5,SNR=5.8
WRA PKiKP PKiKP 11 10 21.4 +1.2
comp=E,1.9nm,1.1s,baz=332,slow=1.2,SNR=5.9
WRA PKP2bc 11 32 22.4
comp=E,4.8nm,0.9s,baz=198,slow=2.9,SNR=11
WRA Warramunga Arr 66.45 195 P P 11 03 48.8 -2.1
WRA pP pP 11 04 16.1 -1.2
VRSR Storozhevoye 66.46 320 eP P 11 03 49.9 -1.0
VRSR eS S 11 12 24.7 -8.1
VRSR e 11 13 31.3
VRSR pmax pmax
comp=Z,430nm,0.7s,mb6.4
VRSR pmax pmax
comp=N,270nm,0.6s
VRSR pmax pmax
comp=E,160nm,0.6s
VRSR smax
comp=N,30nm,3.4s
VRSR smax
comp=Z,10.0nm,3.4s
VRSR smax
comp=E,130nm,7.0s
S09A Goldfield 66.50 60⇑P P 11 03 51.0 -0.1
baz=66,SNR=59
S09A ⇓S S 11 12 34.8 +1.4
baz=66
HVU Hansel Valley 66.51 54 eP P 11 03 52.6 +1.4
LOHW Long Hollow 66.53 51 eP P 11 03 52.1 +0.8
comp=E,253nm,1.4s,mb5.9
SNOW Snow King Moun 66.54 51 eP P 11 03 51.8 +0.4
comp=E,134nm,1.0s,mb5.7
SNOW epP pP 11 04 20.6 +2.8
REDW Red Top Meadow 66.55 52 eP P 11 03 52.2 +0.8
comp=E,394nm,1.3s,mb6.1
R10A Warm Springs 66.69 59⇓P P 11 03 52.3 -0.1
baz=66,SNR=20
R10A ⇓S S 11 12 36.4 +0.6
baz=66
Q11A Duckwater 66.72 58 P P 11 03 52.4 -0.2
baz=66,SNR=20
Q11A ⇓S S 11 12 36.2 +0.1
baz=66
BHJ Bhuj 66.74 280 eP P 11 03 53.3 +0.6
BHJ AMb AMB 11 04 02.9
comp=Z,441nm,1.1s,mb6.2
P12A McGill 66.76 57⇓P P 11 03 52.8 0.0
baz=66,SNR=31
P12A ⇑S S 11 12 37.1 +0.5
baz=66
FITZ Fitzroy Crossi 66.78 205 eP P 11 03 52.5 -0.4
comp=Z,103nm,0.8s,mb5.7
FITZ ePCP PcP 11 04 21.2 +0.2
FITZ eS S 11 12 34.6 -2.1
FITZ ePKPPKP 11 32 25.6
CWC Cottonwood Cre 66.80 61 P P 11 03 53.4 +0.3
baz=67,SNR=15
CWC ⇓S S 11 12 37.4 +0.4
baz=67
AHID Auburn Hatcher 66.81 52 eP P 11 03 52.6 -0.5
LAO LASA Array 66.81 46 eP P 11 03 53.3 +0.1
comp=Z,349nm,1.3s,mb6.0
SFJD Kangerlussuaq 66.89 8⇑iP P 11 03 52.1 -1.5
comp=Z,358nm,0.9s,mb6.2
SFJD iS S 11 12 32.0 -6.1
SFJD i 11 13 37.2
SFJD
comp=Z,800nm,22.0s
SFJD Kangerlussuaq 66.89 8⇑iP P 11 03 52.1 -1.5
SFJD iS S 11 12 32.0 -6.1
SFJD i 11 13 37.2
SFJD pmax pmax
comp=Z,360nm,0.9s,mb6.2
SFJD MLR MLR
comp=Z,800nm,22.0s
BGU Big Grassy Mou 66.92 55 eP P 11 03 54.1 +0.3
POO Poona 66.92 273⇑iP P 11 03 53.0 -0.8
comp=Z,470nm,1.0s,mb6.3
POO ix x 11 04 26.0
POO ex x 11 04 34.1
POO AMb AMB 11 04 36.2
comp=Z,328nm,1.1s,mb6.1
POO ePP PP 11 06 19.5 -3.0
POO ex x 11 07 52.0
SPUT South Promonto 67.00 54 eP P 11 03 54.4 +0.1
SPUT epP pP 11 04 21.2 +0.5
ISA Isabella 67.05 62 eP P 11 03 54.4 -0.3
ISA Isabella 67.05 62⇑P P 11 03 54.1 -0.5
baz=67,SNR=12
ISA ⇓S S 11 12 38.1 -2.0
baz=67
SBC Santa Barbara 67.06 64⇑P P 11 03 54.4 -0.3
baz=67
SBC ⇓S S 11 12 41.1 +1.0
baz=67
HWUT Hardware Ranch 67.31 53 eP P 11 03 56.5 +0.2
comp=Z,152nm,1.1s,mb5.7
KAD Karad 67.51 272 eP P 11 03 58.1 +0.6
KAD AMb AMB 11 04 00.1
comp=Z,305nm,0.9s,mb6.1
DUG Dugway 67.52 55 eP P 11 03 57.8 +0.2
comp=Z,282nm,1.4s,mb5.9
OSI Osito Adit 67.57 63⇓P P 11 03 57.9 -0.1
baz=67
OSI ⇓S S 11 12 47.0 +0.7
baz=67
TPNV Topopah Spring 67.59 60 eP P 11 03 58.2 +0.1
comp=Z,309nm,1.4s,mb5.9
NOQ North Oquirrh 67.62 54 eP P 11 03 59.1 +0.9
BW06 Boulder Array 67.66 51 eP P 11 03 57.4 -1.1
comp=Z,140nm,1.2s,mb5.7
PDAR Pinedale Array 67.66 51 P P 11 03 58.3 -0.2
comp=Z,32nm,0.6s,mb5.3,baz=265,slow=1.8,SNR=351
PDAR pP pP 11 04 23.9 -1.1
comp=Z,72nm,1.0s,baz=271,slow=1.9,SNR=6.1
PDAR PKP2ab 11 32 22.8
comp=Z,2.2nm,1.0s,baz=143,slow=5.2,SNR=6.8
TCUT Toone Canyon 67.72 54 eP P 11 03 59.3 +0.5

CTU	**Camp Tracy**	**67.80**	**54**	*e*P	**P**	**11 03 59.4**	**0.0**
MAK	**Makhachkala**	**67.90**	**309***c*	*i*P	**P**	**11 04 00.7**	**+0.7**
MAK				*e*		11 04 32.9	
MAK				*e*PPP		11 08 09.7	
MAK				*e*S	S	11 12 50.0	-0.2
MAK				*e**SS	sS	11 13 20.4	-15
MAK				*e*		11 13 47.8	
MAK				pmax	pmax		
	comp=Z,2μm,1.9s,mb6.6						
MAK				pmax	pmax		
	comp=N,2μm,1.8s						
MAK				pmax	pmax		
	comp=E,2μm,1.7s						
MAK				smax			
	comp=N,956nm,3.3s						
MAK				smax			
	comp=E,536nm,2.1s						
MAK				MLR	MLR		
	comp=Z,2μm,15.0s						
MAK				MLR	MLR		
	comp=N,4μm,19.0s						
MAK				MLR	MLR		
	comp=E,5μm,19.0s						
MAK	**Makhachkala**	**67.90**	**309**⇑	*i*P	**P**	**11 04 00.5**	**+0.5**
SNCC	**San Nicolas Is**	**67.95**	**65**	*e*P	**P**	**11 04 00.7**	**+0.4**
	comp=E,80nm,0.8s,mb5.6						
SNCC	**San Nicolas Is**	**67.95**	**65**	⇓P	**P**	**11 04 00.0**	**-0.3**
	baz=68,SNR=6.6						
NLU	**North Lily Min**	**68.10**	**55**	*e*P	**P**	**11 04 01.4**	**+0.1**
DOMB	**Dombas**	**68.23**	**341**	*e*P	**P**	**11 04 00.8**	**-1.3**
DOMB				AMb	AMB	11 04 02.1	
	comp=Z,175nm,0.8s,mb5.9						
DOMB				*e*pP	pP	11 04 28.7	+0.1
DOMB	**Dombas**	**68.23**	**341**	*e*P	**P**	**11 04 00.8**	**-1.3**
	comp=Z,175nm,0.8s,mb5.9						
MWC	**Mount Wilson**	**68.25**	**63**	*e*P	**P**	**11 04 02.3**	**+0.1**
DAU	**Daniels Canyon**	**68.27**	**54**	*e*P	**P**	**11 04 02.8**	**+0.5**
MPU	**Maple Canyon**	**68.31**	**55**	*e*P	**P**	**11 04 03.0**	**+0.4**
GSC	**Goldstone**	**68.32**	**61**	*e*P	**P**	**11 04 02.5**	**-0.2**
GSC	**Goldstone**	**68.32**	**61**	⇑P	**P**	**11 04 01.9**	**-0.7**
	baz=68,SNR=53						
GSC				⇓S	S	11 12 55.5	+0.3
	baz=68						
IZAR	**Zarasai**	**68.39**	**329**	*e*P	**P**	**11 04 01.5**	**-1.6**
IZAR				AMb	AMB	11 04 03.3	
	comp=Z,3μm,0.9s,mb7.1						
FMP	**Fort Macarthur**	**68.44**	**64**	⇓P	**P**	**11 04 02.6**	**-0.8**
	baz=68						
FMP				⇑S	S	11 12 57.2	+0.7
	baz=68						
SHPR	**Sheep Range**	**68.54**	**60**	*e*P	**P**	**11 04 04.2**	**+0.2**
IDID	**Didziasalis**	**68.55**	**329**	*e*P	**P**	**11 04 02.8**	**-1.3**
IDID				AMb	AMB	11 04 04.5	
	comp=Z,5μm,0.9s						
ISAL	**Salakas**	**68.58**	**329**	*e*P	**P**	**11 04 02.6**	**-1.6**
ISAL				AMb	AMB	11 04 04.7	
	comp=Z,5μm,0.9s						
NB2	**NORSAR Subarra**	**68.60**	**340**	P	**P**	**11 04 02.7**	**-1.6**
	comp=Z,308nm,0.8s,mb6.2,baz=30,slow=6.5						
NB2	**NORSAR Subarra**	**68.60**	**340**	P	**P**	**11 04 02.7**	**-1.6**
NB2				pmax	pmax		
	comp=Z,308nm,0.8s,mb6.2						
NOA	**NORSAR Array B**	**68.60**	**340**	P	**P**	**11 04 02.6**	**-1.7**
	comp=Z,187nm,0.8s,mb6.0,baz=31,slow=6.2,SNR=490						
NOA				pP	pP	11 04 29.0	-1.9
	comp=Z,54nm,0.9s,baz=28,slow=3.0,SNR=8.0						
NOA				PKP2bc		11 32 15.9	
	comp=Z,4.7nm,1.0s,baz=202,slow=3.7,SNR=3.4						
NOA				LR	LR	11 39 28.5	
	comp=Z,1μm,20.3s,baz=35,slow=40						
NOA	**NORSAR Array B**	**68.60**	**340**	P	**P**	**11 04 02.6**	**-1.7**
NOA				*PP	pP	11 04 29.0	-1.9
NOA	**NORSAR Array B**	**68.60**	**340**	P	**P**	**11 04 02.6**	**-1.7**
NOA				pP	pP	11 04 29.0	-1.9
NOA				⇑*e*		11 32 15.9	
NOA				LR	LR	11 39 28.5	
IIGN	**Ignalina**	**68.71**	**329**	*e*P	**P**	**11 04 03.7**	**-1.4**
IIGN				AMb	AMB	11 04 05.5	
	comp=Z,5μm,0.7s						
ARUT	**Antelope Range**	**68.73**	**58**	*e*P	**P**	**11 04 05.4**	**+0.2**
AFI	**Afiamalu**	**68.74**	**139**	P	**P**	**11 04 04.9**	**-0.3**
	comp=Z,86nm,0.8s,mb5.6,baz=167,slow=5.4,SNR=11						
AFI				pP	pP	11 04 31.5	-0.3
	comp=Z,103nm,1.1s,baz=69,slow=21,SNR=3.5						
AFI				LR	LR	11 29 49.4	
	comp=Z,1μm,18.8s,baz=321,slow=32						
AFI	**Afiamalu**	**68.74**	**139**	*e*P	**P**	**11 04 04.7**	**-0.5**
	comp=Z,93nm,0.9s,mb5.6						
HFA0	**Hagfors New Ar**	**68.74**	**338**	P	**P**	**11 04 02.6**	**-2.6**
HFS	**Hagfors**	**68.74**	**338**	LR	LR	11 37 16.1	
	comp=Z,1μm,19.9s,baz=34,slow=38						
MNK	**Minsk**	**68.78**	**328**	*e*P	**P**	**11 04 03.0**	**-2.5**
MNK				*e*	pP	11 04 26.0	-6.0
MNK				*e*		11 06 40.0	
MNK				*e*PPP		11 08 24.0	
MNK				*e*S	S	11 12 51.0	-10
MNK				*e*PS		11 13 36.0	
MNK				pmax	pmax		
	comp=Z,157nm,0.1s,mb6.8						
MNK				MLR	MLR		
	comp=Z,4μm,20.0s						
TUQ	**Turquoise Mtn.**	**68.78**	**61**	⇓P	**P**	**11 04 05.2**	**-0.3**
	baz=68,SNR=106						
TUQ				⇑S	S	11 13 00.6	0.0
	baz=68						
V11A	**Goodsprings**	**68.82**	**60**	⇓P	**P**	**11 04 05.7**	**-0.1**
	baz=69,SNR=39						
V11A				⇑S	S	11 13 01.2	+0.2
	baz=69						
NAO01	**NORSAR Array S**	**68.85**	**340**	*e*P	**P**	**11 04 04.2**	**-1.6**
	comp=Z,159nm,0.8s,mb5.9						
GOF	**Gofitskoye**	**68.85**	**313**⇑	*i*P	**P**	**11 04 06.0**	**+0.1**
GOF				*i* S	S	11 13 01.5	+0.1
GOF				*i* SS	SKSac	11 13 55.3	-0.3
GOF				pmax	pmax		
	comp=Z,140nm,0.8s,mb5.8						
CCUT	**Cedar City**	**68.94**	**58**	*e*P	**P**	**11 04 06.9**	**+0.4**
DZM	**Mont Dzumac**	**68.95**	**163**	*e*P	**P**	**11 04 06.9**	**+0.4**
DZM	**Mont Dzumac**	**68.95**	**163**	P	**P**	**11 04 07.7**	**+1.2**
	comp=Z,121nm,0.9s,mb5.7,baz=32,slow=7.0,SNR=41						
NOUC	**Port Laguerre**	**68.95**	**163**	*e*P	**P**	**11 04 07.4**	**+0.9**
MSU	**Marysvale**	**69.00**	**56**	*e*P	**P**	**11 04 07.2**	**+0.4**
TMUT	**Trail Mountain**	**69.04**	**55**	*e*P	**P**	**11 04 07.3**	**+0.3**
ULM	**Lac du Bonnet**	**69.24**	**39**	P	**P**	**11 04 07.1**	**-1.2**
	comp=Z,50nm,0.6s,mb5.5,baz=316,slow=8.1						
ULM				PKP2bc		11 32 10.9	
	comp=Z,4.4nm,1.1s,baz=210,slow=3.6,SNR=5.4						
ULM	**Lac du Bonnet**	**69.24**	**39**	P	**P**	**11 04 07.1**	**-1.2**
ULM				⇑*e*		11 32 10.9	
W12A	**Cal Nev Ari**	**69.52**	**60**	⇓P	**P**	**11 04 09.9**	**-0.1**
	baz=69,SNR=15						
W12A				⇑S	S	11 13 09.4	+0.2
	baz=69						
SRU	**San Rafael**	**69.56**	**55**	*e*P	**P**	**11 04 10.2**	**-0.1**
HYA	**Hoyanger**	**69.65**	**342**	*e*P	**P**	**11 04 10.4**	**-0.5**
HYA				AMb	AMB	11 04 12.0	
	comp=Z,219nm,0.9s,mb6.0						
HYA				*e*pP	pP	11 04 35.0	-2.5
HYA	**Hoyanger**	**69.65**	**342**	*e*P	**P**	**11 04 10.4**	**-0.5**
	comp=Z,219nm,0.9s,mb6.0						
PFO	**Pinyon Flat Ob**	**69.65**	**63**	P	**P**	**11 04 11.0**	**+0.1**
	comp=Z,210nm,0.8s,mb6.0,SNR=24						
PFO	**Pinyon Flat Ob**	**69.65**	**63**	*e*P	**P**	**11 04 09.6**	**-1.2**
PFO	**Pinyon Flat Ob**	**69.65**	**63**	P	**P**	**11 04 10.7**	**-0.1**
	baz=69,SNR=28						
PFO				⇑S	S	11 13 09.3	-1.5
	baz=69						
RWWY	**Rawlins**	**69.67**	**51**	*e*P	**P**	**11 04 10.8**	**-0.2**
	comp=Z,208nm,1.2s,mb5.8						
OSL	**Oslo**	**69.68**	**339**	*e*P	**P**	**11 04 10.4**	**-0.6**
OSL				AMb	AMB	11 04 12.3	
	comp=Z,143nm,1.3s,mb5.6						
OSL	**Oslo**	**69.68**	**339**	*e*P	**P**	**11 04 10.4**	**-0.6**
	comp=Z,143nm,1.3s,mb5.6						
109C	**Camp Elliot, M**	**69.72**	**64**	⇑P	**P**	**11 04 10.8**	**-0.4**
	baz=70,SNR=12						
109C				⇑S	S	11 13 10.1	-1.5
	baz=70						
KIV	**Kislovodsk**	**69.79**	**312**	P	**P**	**11 04 13.6**	**+1.9**
	comp=Z,7μm,0.8s						
KIV	**Kislovodsk**	**69.79**	**312**	⇑P	**P**	**11 04 13.2**	**+1.4**
	SNR=144						
KIV	**Kislovodsk**	**69.79**	**312**	*e*P	**P**	**11 04 12.3**	**+0.6**
KIV				*e*		11 04 32.4	
KIV				*e*		11 06 46.5	
KIV				*e*PPP		11 08 30.2	
KIV				*e*S	S	11 13 12.7	+0.2
KIV				pmax	pmax		
	comp=Z,195nm,1.1s,mb5.8						
KIV	**Kislovodsk**	**69.79**	**312**	*e*P	**P**	**11 04 12.7**	**+0.9**
PALK	**Pallekele**	**69.87**	**260**	P	**P**	**11 04 13.4**	**+1.2**
	SNR=7.6						
PALK	**Pallekele**	**69.87**	**260**	*e*P	**P**	**11 04 12.0**	**-0.3**
BORG	**Borgarnes**	**69.94**	**356**	P	**P**	**11 04 13.0**	**+0.4**
	comp=Z,2μm,0.7s,mb7.1,SNR=17						
BORG	**Borgarnes**	**69.94**	**356**	LR	LR	11 37 15.9	
	comp=Z,524nm,18.5s,baz=194,slow=38						
BORG	**Borgarnes**	**69.94**	**356**	*e*P	**P**	**11 04 13.1**	**+0.5**
	comp=Z,238nm,0.8s,mb6.1						
ZEI	**Tsey**	**69.98**	**311**	*e*P	**P**	**11 04 13.8**	**+0.9**
ZEI				pmax	pmax		
	comp=Z,537nm,1.2s,mb6.2						
DGRG	**David-gareji**	**70.09**	**309**	P	**P**	**11 04 14.6**	**+1.1**
DGRG				S	S	11 13 16.1	+0.1
BAR	**Barrett**	**70.13**	**63**	*e*P	**P**	**11 04 13.5**	**-0.3**
BAR				*e*pP	pP	11 04 42.4	+1.9
AS31	**Alice Springs**	**70.17**	**195**	⇓*i*P	**P**	**11 04 13.8**	**-0.2**
AS31				*e*S	S	11 13 14.0	-2.9
ASAR	**Alice Springs**	**70.17**	**195**	P	**P**	**11 04 13.8**	**-0.2**
	comp=Z,99nm,0.8s,mb5.7,baz=11,slow=5.8,SNR=680						
ASAR				pP	pP	11 04 39.9	-0.8
	comp=Z,57nm,0.9s,baz=14,slow=5.2,SNR=5.4						
ASAR				PKP2bc		11 32 10.6	
	comp=Z,5.1nm,1.1s,baz=167,slow=3.3,SNR=4.1						
ASAR	**Alice Springs**	**70.17**	**195**	P	**P**	**11 04 13.9**	**-0.1**
ASAR				*PP	pP	11 04 39.9	-0.8
ASAR	**Alice Springs**	**70.17**	**195**	P	**P**	**11 04 13.8**	**-0.2**
ASAR				pP	pP	11 04 39.9	-0.8
ASAR				⇑*e*		11 32 10.6	
ASPA	**Alice Springs**	**70.17**	**195**	⇓*i*P	**P**	**11 04 13.8**	**-0.2**
ASPA				*e*S	S	11 13 14.0	-2.9
KONO	**Kongsberg**	**70.21**	**340**⇑	*i*P	**P**	**11 04 12.7**	**-1.5**
KONO				*e*S	S	11 13 16.2	-1.1
KONO				*e*SKSa		11 14 03.4	
KONO	**Kongsberg**	**70.21**	**340***c*	*i*P	**P**	**11 04 12.7**	**-1.6**
KONO	**Kongsberg**	**70.21**	**340**	*e*P	**P**	**11 04 13.6**	**-0.7**
MTA	**Mtatsminda**	**70.24**	**310**	P	**P**	**11 04 15.6**	**+1.2**
MTA				S	S	11 13 19.2	+1.5
TBLG	**Delisi**	**70.24**	**310**	P	**P**	**11 04 15.7**	**+1.2**
TBLG				S	S	11 13 20.5	+2.7
TBLG	**Delisi**	**70.24**	**310**	P	**P**	**11 04 15.9**	**+1.4**
ONI	**Oni**	**70.35**	**311**	P	**P**	**11 04 16.3**	**+1.2**
ONI				S	S	11 13 21.0	+2.1
GOR	**Gori**	**70.41**	**310**	P	**P**	**11 04 17.7**	**+2.2**
ASK	**Askoy**	**70.48**	**342**	*e*P	**P**	**11 04 14.9**	**-1.0**
ASK				AMb	AMB	11 04 18.5	
	comp=Z,312nm,2.2s,mb5.8						
ASK	**Askoy**	**70.48**	**342**	*e*P	**P**	**11 04 14.9**	**-1.0**
	comp=Z,312nm,2.2s,mb5.8						
RUND	**Rundenannen**	**70.51**	**342**	*e*P	**P**	**11 04 15.2**	**-0.9**
RUND				AMb	AMB	11 04 16.8	
	comp=Z,370nm,0.8s,mb6.3						
RUND	**Rundenannen**	**70.51**	**342**	*e*P	**P**	**11 04 15.2**	**-0.9**
	comp=Z,370nm,0.8s,mb6.3						
BER	**Bergen**	**70.54**	**342**	*e*P	**P**	**11 04 15.7**	**-0.6**
BER				*e*P		11 04 15.7	
BER				AMb	AMB	11 04 19.3	
	comp=Z,253nm,2.3s,mb5.6						
BER				*e*pP	pP	11 04 40.7	-2.3
BER				*e*S	S	11 13 20.8	-0.4
BER				*e*SKSa		11 14 06.0	
BER	**Bergen**	**70.54**	**342**	*e*P	**P**	**11 04 15.7**	**-0.6**
BER				pmax	pmax		
	comp=Z,253nm,2.3s,mb5.6						
BER	**Bergen**	**70.54**	**342**	*e*P	**P**	**11 04 15.7**	**-0.6**
	comp=Z,253nm,2.3s,mb5.6						
AMRG		**70.56**	**311**	P	**P**	**11 04 18.5**	**+2.1**
X13A	**Yucca**	**70.62**	**60**	⇓P	**P**	**11 04 16.6**	**-0.2**
	baz=70,SNR=117						
X13A				⇑S	S	11 13 20.5	-1.7
	baz=70						
KZR	**Kazreti**	**70.66**	**310**	P	**P**	**11 04 18.4**	**+1.4**
W14A	**Seligman**	**70.67**	**59**	⇑P	**P**	**11 04 17.5**	**+0.4**
	baz=70,SNR=90						
W14A				⇑S	S	11 13 24.3	+1.6
	baz=70						
EGD	**Espegrend**	**70.67**	**342**	*e*P	**P**	**11 04 16.6**	**-0.5**
EGD				AMb	AMB	11 04 21.4	
	comp=Z,382nm,1.8s,mb5.9						
EGD	**Espegrend**	**70.67**	**342**	*e*P	**P**	**11 04 16.6**	**-0.5**
	comp=Z,382nm,1.8s,mb5.9						
ODD1	**Odda**	**70.68**	**341**	*e*P	**P**	**11 04 15.2**	**-1.9**
ODD1				AMb	AMB	11 04 20.2	
	comp=Z,222nm,2.0s,mb5.6						
ODD1	**Odda**	**70.68**	**341**	*e*P	**P**	**11 04 15.2**	**-1.9**
	comp=Z,222nm,2.0s,mb5.7						
Y12C	**Blythe**	**70.76**	**61**	⇓P	**P**	**11 04 17.3**	**-0.4**
	baz=70,SNR=42						
Y12C				⇑S	S	11 13 24.9	+1.1
	baz=70						
SUW	**Suwalki**	**70.86**	**330**	*e*P	**P**	**11 04 16.6**	**-1.6**
	comp=Z,1.9nm,2.5s						
SUW				*e*PcP	PcP	11 04 39.9	+1.7
SUW				L		11 30 29.8	
	comp=Z,3.8nm,37.0s						
SUW	**Suwalki**	**70.86**	**330**	*e*P	**P**	**11 04 16.6**	**-1.6**
SUW				*e*PcP	PcP	11 04 39.9	+1.7
PHWY	**Pilot Hill**	**70.89**	**50**	*e*P	**P**	**11 04 18.1**	**-0.3**
FSV	**Svinoy**	**70.91**	**348**⇑	*e*P	**P**	**11 04 18.3**	**-0.3**
GLA	**Glamis**	**71.04**	**62**	*e*P	**P**	**11 04 19.4**	**+0.1**
GLA	**Glamis**	**71.04**	**62**	⇑P	**P**	**11 04 19.1**	**-0.2**
	baz=71,SNR=56						
GLA				⇓S	S	11 13 27.6	+0.6
	baz=71						
AKH	**Akhalkalaki**	**71.14**	**310**	P	**P**	**11 04 21.7**	**+1.8**
AKH				S	S	11 13 34.3	+6.1
AKASG	**Malin Array Be**	**71.14**	**324**	P	**P**	**11 04 18.6**	**-1.4**
	comp=Z,160nm,0.6s,mb6.0,baz=35,slow=6.1,SNR=418						
AKASG				PKP2bc		11 32 05.7	
	comp=Z,0.6nm,0.3s,baz=224,slow=2.6,SNR=5.2						
AKASG	**Malin Array Be**	**71.14**	**324**	P	**P**	**11 04 18.6**	**-1.4**
AKASG				⇑*e*		11 32 05.7	
Y13A	**Salome**	**71.15**	**61**	⇓P	**P**	**11 04 20.0**	**+0.1**
	baz=71,SNR=18						
Y13A				⇑S	S	11 13 27.9	-0.4
	baz=71						
BLS5	**Blasjo**	**71.15**	**341**	*e*P	**P**	**11 04 19.9**	**-0.1**
BLS5				AMb	AMB	11 04 22.9	
	comp=Z,64nm,1.0s,mb5.4						
BLS5	**Blasjo**	**71.15**	**341**	*e*P	**P**	**11 04 19.9**	**-0.1**
	comp=Z,64nm,1.0s,mb5.4						
W15A	**Williams**	**71.17**	**59**	⇑P	**P**	**11 04 20.8**	**+0.7**
	baz=71,SNR=18						
W15A				⇑S	S	11 13 30.6	+2.1
	baz=71						
X14A	**Yava**	**71.28**	**60**	⇑P	**P**	**11 04 21.1**	**+0.3**
	baz=71,SNR=91						
X14A				⇑S	S	11 13 31.3	+1.5
	baz=71						
GNI	**Garni**	**71.33**	**308**	P	**P**	**11 04 22.4**	**+1.3**
GNI	**Garni**	**71.33**	**308**	LR	LR	11 39 34.6	
	comp=Z,964nm,19.6s,baz=42,slow=39						
GNI	**Garni**	**71.33**	**308**	⇓P	**P**	**11 04 23.7**	**+2.7**
	SNR=154						
GNI	**Garni**	**71.33**	**308***c*	*i*P	**P**	**11 04 23.1**	**+2.0**
GNI				pmax	pmax		
	comp=Z,192nm,1.6s						
GNI				MLR	MLR		
	comp=Z,2μm,24.0s						
GNI	**Garni**	**71.33**	**308**⇑	*i*P	**P**	**11 04 23.2**	**+2.2**
MBWA	**Marble Bar**	**71.52**	**209**	⇑P	**P**	**11 04 21.5**	**-0.7**
	SNR=9.1						
SMCO	**Snowmass**	**71.53**	**53**	*e*P	**P**	**11 04 22.6**	**+0.3**
Y14A	**Wickenburg**	**71.57**	**60**	P	**P**	**11 04 22.6**	**+0.2**
	baz=71,SNR=95						
Y14A				⇓S	S	11 13 33.0	-0.1
	baz=71						
SOC	**Sochi**	**71.58**	**314***c*	*i*P	**P**	**11 04 22.9**	**+0.3**
SOC				*e*		11 04 40.6	
SOC				*e**PP	pP	11 04 56.1	+6.8
SOC				*e*PPP		11 08 40.2	
SOC				*i* S	S	11 13 33.1	-0.1
SOC				*e*		11 14 15.6	
SOC				pmax	pmax		
	comp=Z,475nm,0.6s,mb6.5						
SOC				pmax	pmax		
	comp=Z,3μm,2.0s,mb6.7						
TRD	**Trivandrum**	**71.61**	**263**	*e*P	**P**	**11 04 23.8**	**+1.0**
TRD				AMb	AMB	11 04 25.9	
	comp=Z,264nm,1.1s,mb6.0						
KMY	**Karmoy**	**71.62**	**341**	*e*P	**P**	**11 04 22.6**	**-0.1**
KMY				AMb	AMB	11 04 26.8	
	comp=Z,267nm,1.7s,mb5.8						
KMY	**Karmoy**	**71.62**	**341**	*e*P	**P**	**11 04 22.6**	**-0.1**
	comp=Z,267nm,1.7s,mb5.8						
X15A	**Humboldt**	**71.66**	**59**	⇑P	**P**	**11 04 23.5**	**+0.5**
	baz=71,SNR=71						
X15A				⇓S	S	11 13 35.2	+1.1
	baz=71						
ANN	**Anapa**	**71.84**	**316**	*i* P	**P**	**11 04 23.9**	**-0.2**
ISCO	**Idaho Springs**	**71.85**	**52**	*e*P	**P**	**11 04 26.2**	**+2.0**
KARS	**Kars**	**71.91**	**310**	P	**P**	**11 04 25.7**	**+1.2**
SNART	**Snartemo**	**71.95**	**340**	*e*P	**P**	**11 04 24.0**	**-0.7**
SNART				AMb	AMB	11 04 28.5	
	comp=Z,122nm,1.4s,mb5.5						
Z14A	**Wintersburg**	**71.99**	**61**	⇓P	**P**	**11 04 24.8**	**-0.2**
	baz=72,SNR=16						
Z14A				⇑S	S	11 13 38.5	+0.6
	baz=72						
MVCO	**Mesa Verde**	**72.02**	**55**	*e*P	**P**	**11 04 25.3**	**+0.1**
LRW	**Lerwick**	**72.08**	**345**⇑	*e*P	**P**	**11 04 24.2**	**-1.3**
LRW				*e*P		11 04 24.2	
BCA	**Borcka**	**72.11**	**311**	P	**P**	**11 04 26.4**	**+0.6**
ARTV	**Artvin**	**72.13**	**311**	*i* P	**P**	**11 04 27.2**	**+1.3**
CLDR	**Caldiran**	**72.49**	**308**	P	**P**	**11 04 30.6**	**+2.6**
EYMN	**Ely**	**72.87**	**38**	*e*P	**P**	**11 04 29.3**	**-1.0**
	comp=Z,269nm,1.3s,mb5.9						
115A	**Sonoran Desert**	**72.88**	**61**	⇓P	**P**	**11 04 30.5**	**+0.2**
	baz=73,SNR=23						
115A				⇑S	S	11 13 49.1	+1.0
	baz=73						
COP	**Copenhagen**	**72.91**	**336**⇑	*i*P	**P**	**11 04 29.5**	**-1.0**
	comp=Z,91nm,0.6s,mb5.8						
COP				*i*		11 08 59.0	
COP				*i*		11 14 31.8	
COP				pmax	pmax		
	comp=Z,800nm,20.0s						
COP	**Copenhagen**	**72.91**	**336**⇑	*i*P	**P**	**11 04 29.5**	**-1.0**
COP				*i*		11 08 59.0	
COP				*i*		11 14 31.8	
COP				pmax	pmax		
	comp=Z,91nm,0.6s,mb5.8						
COP				MLR	MLR		
	comp=Z,810nm,20.0s						
WAR	**Warsaw**	**73.06**	**330**	*e*P	**P**	**11 04 31.0**	**-0.3**
	comp=Z,4.7nm,3.0s						
WAR				*e*S	S	11 13 51.9	+1.8
WAR				L		11 33 23.2	
	comp=Z,2.8nm,28.9s						
WAR	**Warsaw**	**73.06**	**330**	*e*P	**P**	**11 04 31.0**	**-0.3**
WAR				*e*S	S	11 13 51.9	+1.8
MUD	**Monsted U'grnd**	**73.13**	**338**⇑	*i*P	**P**	**11 04 31.3**	**-0.5**
	comp=Z,56nm,0.6s,mb5.6						
MUD				*i*		11 13 48.6	
MUD				*e*		11 14 43.8	
MUD				pmax	pmax		
	comp=Z,550nm,19.0s						
MUD	**Monsted U'grnd**	**73.13**	**338**⇑	*i*P	**P**	**11 04 31.3**	**-0.5**
MUD				*i*		11 13 48.6	
MUD				*e*		11 14 43.8	
MUD				pmax	pmax		
	comp=Z,560nm,0.6s,mb6.6						
MUD				MLR	MLR		
	comp=Z,550nm,19.0s						
MUD	**Monsted U'grnd**	**73.13**	**338**⇑	*i*P	**P**	**11 04 31.3**	**-0.5**
	comp=Z,56nm,0.6s,mb5.6						
MUD				*i*		11 13 48.6	
MUD				*e*		11 14 43.8	
VANB	**Van**	**73.17**	**308**	P	**P**	**11 04 34.5**	**+2.5**
VANB	**Van**	**73.17**	**308**	P	**P**	**11 04 33.7**	**+1.7**
TVAN	**Van**	**73.21**	**308**	*i* P	**P**	**11 04 34.3**	**+2.0**
116A	**Eloy**	**73.31**	**61**	⇑P	**P**	**11 04 32.7**	**-0.1**
	baz=73,SNR=22						
116A				⇑S	S	11 13 52.8	0.0
	baz=73						
SIM	**Simferopol'**	**73.33**	**318**	*i* P	**P**	**11 04 34.0**	**+1.0**
SIM				*e**PP	pP	11 05 13.0	+13
SIM				*e*		11 07 21.0	
SIM				*e*S	S	11 13 53.0	-0.2
SIM				*e**SS	sS	11 14 33.0	-6.2
SIM				pmax	pmax		
	comp=Z,316nm,0.6s,mb6.3						
ERZM	**Erzurum**	**73.34**	**310**	*i* P	**P**	**11 04 35.2**	**+2.2**
EZM	**Erzurum**	**73.35**	**310**	P	**P**	**11 04 35.6**	**+2.6**
GKP	**Gorka Klasztor**	**73.50**	**332**	*e*P	**P**	**11 04 33.1**	**-0.8**
GKP				*e*S	S	11 13 53.5	-1.6
GKP				L		11 37 36.0	
	comp=Z,2.2nm,21.5s						
RGN	**Rugen**	**73.63**	**335**	*e*P	**P**	**11 04 34.4**	**-0.3**
RGN	**Rugen**	**73.63**	**335**	*e*P	**P**	**11 04 34.5**	**-0.2**
	comp=Z,318nm,0.7s,mb6.2						
HAKT	**HAKKARI**	**73.72**	**307**	*i* P	**P**	**11 04 37.0**	**+1.7**
LVV	**L'vov**	**73.90**	**327***c*	*i*P	**P**	**11 04 35.7**	**-0.6**
LVV				*e*		11 04 53.0	
LVV				*e**PP	pP	11 05 03.9	+0.7
LVV				*e*S	S	11 13 57.9	-1.7
LVV				*e*		11 14 34.1	
LVV				*e*PS		11 14 53.9	
LVV				MLR	MLR		
	comp=Z,700nm,19.0s						
LVV				MLR	MLR		
	comp=N,500nm,18.0s						
LVV				MLR	MLR		
	comp=E,400nm,17.0s						
BANOM	**Banah**	**74.02**	**291**	⇓P	**P**	**11 04 38.6**	**+1.6**
	SNR=23						
TUC	**Tucson**	**74.04**	**60**	*e*P	**P**	**11 04 37.0**	**-0.1**
BNGL	**BINGOL**	**74.14**	**310**	*i* P	**P**	**11 04 40.0**	**+2.3**
KIS	**Kishinev**	**74.17**	**322***c*	*i*P

comp=Z,402nm,1.2s,mb6.0
LPM Los Pinos Moun 75.12 56 *e*P **P 11 04 43.8 +0.4**
Y22C IRIS PASSCAL I 75.13 57 ⇓P **P 11 04 43.9 +0.5**
baz=75
Y22C ⇓S S 11 14 13.8 +0.6
baz=75
OJC Ojcow 75.16 329 *i* Pc **P 11 04 43.4 -0.2**
OJC *e*PcP PcP 11 04 52.6 -4.0
OJC *i* S S 11 14 13.9 +0.3
OJC *i* SKS 11 14 42.6
OJC L 11 38 45.7
comp=Z,9.8nm,21.4s
OJC Ojcow 75.16 329⇑*i*P **P 11 04 43.4 -0.2**
OJC *e*PcP PcP 11 04 52.6 -4.0
OJC *i* S S 11 14 13.9 +0.3
OJC *e*SKSac SKSac 11 14 42.6 -0.5
OJC LR LR
comp=Z,10μm,21.4s
BURAR Bucovina Array 75.19 325⇑*i*P **P 11 04 43.5 -0.3**
BURAR Bucovina Array 75.19 325 ⇑P **P 11 04 43.5 -0.2**
JMDO Jabal Madar 75.24 287 P **P 11 04 45.4 +1.4**
SNR=124
BNM Barren Site 75.24 56 *e*P **P 11 04 44.5 +0.4**
RUE Ruedersdorf 75.28 334 *e*P **P 11 04 43.6 -0.6**
RUE Ruedersdorf 75.28 334 *e*P **P 11 04 43.8 -0.4**
comp=Z,744nm,1.3s,mb6.3
KAC Achnashellach 75.29 346⇑*e*P **P 11 04 43.4 -0.9**
STHS Stebnicka Huta 75.29 328 *i* P **P 11 04 45.0 +0.7**
STHS pmax pmax
comp=Z,330nm,1.1s,mb6.0
STHS Stebnicka Huta 75.29 328 *i* P **P 11 04 45.0 +0.7**
comp=Z,330nm,1.1s,mb6.0
KOLS Kolonicke sedl 75.30 327 *i* P **P 11 04 45.1 +0.8**
KOLS *e*S S 11 14 14.0 -1.1
KOLS Kolonicke sedl 75.30 327 *i* P **P 11 04 45.2 +0.9**
comp=Z,190nm,1.2s,mb5.7
KOLS *e*S S 11 14 14.0 -1.1
KOLS LR LR
comp=Z,3μm,28.1s
KPL Plockton 75.50 346⇑*e*P **P 11 04 44.7 -0.8**
ARMA Armidale 75.50 178 *e*P **P 11 04 46.5 +1.0**
ARMA *es*P sP 11 05 24.9 +1.0
MARD Mardin 75.53 309 *i* P **P 11 04 47.5 +1.9**
SCHQ Schefferville 75.53 21 P **P 11 04 45.0 -0.7**
comp=Z,150nm,0.9s,mb5.7,baz=355,slow=6.2,SNR=87
SCHQ pP pP 11 05 11.2 -1.4
comp=Z,24nm,0.6s,baz=23,slow=7.4,SNR=3.1
SCHQ LR LR 11 38 28.7
comp=Z,905nm,21.7s,baz=329,slow=36
SCHQ Schefferville 75.53 21 *e*P **P 11 04 44.9 -0.8**
comp=Z,196nm,0.9s,mb5.8
UZH Uzhgorod 75.53 327 *i* P **P 11 04 46.0 +0.3**
UZH *e*S S 11 14 19.0 +1.3
UZH MLR MLR
comp=Z,3μm,18.0s
BOYT Boyabat 75.59 315 *i* P **P 11 04 47.7 +1.7**
BSY Bisya 75.59 288⇑P **P 11 04 47.3 +1.3**
SNR=90
BYBT Boyabat 75.62 315 P **P 11 04 48.4 +2.2**
CRVS Cervenica-Dubn 75.63 327 *e*P **P 11 04 45.9 -0.4**
CRVS *e*S S 11 14 18.8 0.0
CRVS Cervenica-Dubn 75.63 327 *e*P **P 11 04 45.9 -0.4**
comp=Z,146nm,1.4s,mb5.5
CRVS *e*S S 11 14 18.9 +0.1
CRVS LR LR
comp=Z,2μm,28.4s
NIE Niedzica 75.64 328 *e*P **P 11 04 47.0 +0.7**
ARQ Araqi 75.64 289⇑P **P 11 04 47.5 +1.2**
SNR=60
ELZG Elazig 75.64 311 *i* P **P 11 04 48.6 +2.3**
SVST Sivas 75.77 313 *i* P **P 11 04 48.8 +1.8**
RAC Raciborz 75.85 330 *e*P **P 11 04 47.9 +0.4**
RAC *e*S S 11 14 23.5 +2.3
RAC L 11 35 14.6
comp=Z,2.2nm,26.7s
KSP Ksiaz 75.86 331 *e*P **P 11 04 47.2 -0.4**
comp=Z,1.5nm,1.2s
KSP *e*PcP PcP 11 04 53.2 -6.4
KSP *e*S S 11 14 20.2 -1.1
KSP *e*SKS 11 14 49.2
KSP L 11 38 59.3
comp=Z,3.0nm,21.5s
KSP Ksiaz 75.86 331 *e*P **P 11 04 46.8 -0.8**
KSP *e* 11 07 37.0
KSP *e*S S 11 14 19.5 -1.8
KSP *e* 11 14 46.0
KSP Ksiaz 75.86 331 *e*P **P 11 04 46.8 -0.8**
KSP *e*PP PP 11 07 37.0 -2.0
KSP *e*PPP 11 09 20.0
KSP *e*S S 11 14 19.5 -1.8
KSP *e*SKS 11 14 46.0
CFR Carcaliu 75.88 321⇑*i*P **P 11 04 48.1 +0.4**
CFR Carcaliu 75.88 321 ⇑P **P 11 04 48.1 +0.4**
KAR1 Arisaig 75.93 346⇑*e*P **P 11 04 47.3 -0.7**
VRI Vrincioaia 75.95 323⇑*i*P **P 11 04 48.7 +0.6**
VRI Vrincioaia 75.95 323 P **P 11 04 48.9 +0.8**
PLOR Plostina 76.00 323⇑*i*P **P 11 04 49.0 +0.7**
MYA Malataya 76.06 311 P **P 11 04 51.0 +2.3**
OKC Ostrava-Krasne 76.07 330 *e*P **P 11 04 48.9 +0.1**
OKC *e*PP PP 11 07 43.8 +3.0
OKC *e*S S 11 14 25.0 +1.4
OKC *e*SS SS 11 19 34.4 +16
OKC AMS AMS 11 33 10.0
comp=Z,1μm,16.7s
OKC Ostrava-Krasne 76.07 330 *e*P **P 11 04 48.9 +0.1**
OKC *e* 11 07 43.8
OKC *e*S S 11 14 25.0 +1.4
OKC MLR MLR
comp=Z,1μm,16.7s
OKC Ostrava-Krasne 76.07 330 *e*P **P 11 04 48.9 +0.1**
OKC *e*PP PP 11 07 43.8 +3.0
OKC *e*S S 11 14 25.0 +1.4
OKC *e*SS SS 11 19 34.4 +16
MALT Malatya 76.07 311⇑*i*P **P 11 04 50.8 +2.0**
MALT Malatya 76.07 311 *e*P **P 11 04 50.3 +1.5**
CTKT Corum 76.24 315 *i* P **P 11 04 51.3 +1.6**
UPC Upice 76.24 331 *e*P **P 11 04 49.7 0.0**
UPC *e*S S 11 14 26.3 +0.8
BALT Daday 76.25 316 *i* P **P 11 04 51.5 +1.7**
DPC Dobruska-Polom 76.27 331 *e*P **P 11 04 50.0 +0.1**
DPC *e*PP PP 11 07 42.9 +0.4
DPC *e*S S 11 14 24.1 -1.7
DPC *e*SS SS 11 19 33.9 +12
DPC AMS AMS 11 30 10.0
comp=Z,7μm,54.5s
DPC Dobruska-Polom 76.27 331 *e*P **P 11 04 50.0 +0.1**
DPC *e* 11 07 42.9
DPC *e*S S 11 14 24.1 -1.7
ESY Stoneypath 76.30 344⇑*e*P **P 11 04 49.1 -1.0**
ESY AMb AMB 11 04 53.0
comp=Z,628nm,1.7s,mb6.1
TIRR Tirgusor 76.33 321⇑*i*P **P 11 04 50.1 -0.1**
TIRR Tirgusor 76.33 321 *e*P **P 11 04 50.0 -0.2**
MORC Moravsky Berou 76.33 330⇑*i*P **P 11 04 50.1 -0.1**
MORC Moravsky Berou 76.33 330 *e*P **P 11 04 50.1 -0.1**
KECS Kecovo 76.34 328 *e*P **P 11 04 50.3 0.0**
KECS pmax pmax
comp=Z,174nm,1.0s,mb5.7
KECS Kecovo 76.34 328 *e*P **P 11 04 50.3 0.0**
comp=Z,174nm,1.0s,mb5.7
EAB Aberfoyle 76.37 345⇑*e*P **P 11 04 49.8 -0.7**
EAB AMb AMB 11 04 53.5
comp=Z,818nm,1.6s,mb6.2
NRDL Niedersach Rie 76.37 336 *e*P **P 11 04 49.7 -0.7**
comp=Z,406nm,1.2s,mb6.0
NRDL *e*S S 11 14 23.8 -3.1
BHD Baghdad 76.38 304 *i* x x 11 04 52.0
BHD *i* x x 11 05 14.0
BHD *i* x x 11 14 25.0
LIKS Likavka 76.38 329 *e*P **P 11 04 51.5 +1.0**
LIKS pmax pmax
comp=Z,459nm,1.1s,mb6.1
LIKS Likavka 76.38 329 *e*P **P 11 04 51.5 +1.0**
comp=Z,459nm,1.1s,mb6.1
EDI Edinburgh 76.41 344⇑*e*P **P 11 04 50.3 -0.4**
EDI AMb AMB 11 04 53.7
comp=Z,409nm,1.8s,mb5.9
URFA Urfa 76.50 310 P **P 11 04 53.6 +2.4**
EAU Auchinoon 76.53 345⇑*e*P **P 11 04 51.3 0.0**
EAU AMb AMB 11 04 54.5
comp=Z,852nm,1.6s,mb6.2
CLL Collm 76.53 334 *e*P **P 11 04 50.5 -0.9**
comp=Z,826nm,1.0s,mb6.4

CLL *es*P sP 11 05 27.2 -2.6
CLL *e*PP PP 11 07 41.4 -3.3
CLL *e*PPP 11 09 30.1
CLL *e*S S 11 14 26.1 -2.6
CLL *e*SKSac SKSac 11 14 57.5 +4.3
CLL *e*PS 11 15 24.1
CLL *e*SS SS 11 19 28.6 +2.9
CLL *e*LR LR 11 28 59.4
CLL *e*L 11 39 40.1
comp=Z,2μm,18.0s
CLL Collm 76.53 334⇑*i*P **P 11 04 50.7 -0.7**
comp=Z,813nm,1.0s,mb6.4
CLL *e*pP pP 11 05 17.0 -1.4
CLL *e*PP PP 11 07 40.0 -4.7
CLL *e*PPP 11 09 24.0
CLL *e*S S 11 14 27.0 -1.7
CLL *e*SKSac SKSac 11 14 54.0 +0.8
CLL *e*PS 11 15 25.0
CLL *es*SS 11 20 06.0
CLL *ex* x 11 23 54.0
CLL Collm 76.53 334⇑*i*P **P 11 04 50.7 -0.7**
CLL *e**PP pP 11 05 17.0 -1.4
CLL *e*S S 11 14 21.0 -7.7
CLL pmax pmax
comp=Z,813nm,1.0s,mb6.4
CLL MLR MLR
comp=Z,2μm,15.7s
CLL Collm 76.53 334⇑*i*P **P 11 04 50.7 -0.7**
comp=Z,813nm,1.0s,mb6.4
CLL *e*pP pP 11 05 17.0 -1.4
CLL *e*S S 11 14 21.0 -7.7
CLL LR LR
comp=Z,2μm,15.7s
MLR Muntele Rosu 76.58 323⇑*i*P **P 11 04 51.8 +0.1**
MLR Muntele Rosu 76.58 323 P **P 11 04 52.2 +0.6**
CVD Cernavoda 76.61 321 P **P 11 04 53.1 +1.3**
BRG Berggiesshubel 76.61 333 *e*P **P 11 04 50.9 -0.9**
comp=Z,701nm,1.5s,mb6.2
BRG *e*S S 11 14 24.7 -4.8
BRG Berggiesshubel 76.61 333 *i* P **P 11 04 51.7 -0.1**
comp=Z,415nm,1.5s,mb5.9
BRG *i* PCP PcP 11 05 05.3 +2.4
comp=Z,36nm,0.8s
BRG pP pP 11 05 17.0 -1.9
BRG PP PP 11 07 40.0 -5.3
BRG SKS 11 14 26.0
BRG SS SS 11 19 25.0 -1.9
BRG
comp=N,1μm,18.6s
BRG
comp=E,2μm,18.9s
BRG
comp=Z,1μm,37.8s
BRG Berggiesshubel 76.61 333 *i* P **P 11 04 51.7 -0.1**
comp=Z,415nm,1.5s,mb5.9
BRG *i* PcP PcP 11 05 05.3 +2.4
BRG pP pP 11 05 17.0 -1.9
BRG PP PP 11 07 40.0 -5.3
BRG LR LR
comp=Z,1μm,37.8s
ISR Istrita 76.62 322⇓*i*P **P 11 04 53.4 +1.5**
ISR Istrita 76.62 322 ⇓P **P 11 04 53.4 +1.5**
CORM Corum 76.66 314 P **P 11 04 54.0 +1.9**
PVCC Panska Ves 76.70 332 *e*P **P 11 04 52.0 -0.3**
PVCC *e*PP PP 11 07 46.6 +0.5
PVCC *e*S S 11 14 31.1 +0.5
PVCC *e*SS SS 11 19 29.8 +1.5
PVCC AMS AMS 11 30 20.0
comp=Z,5μm,47.7s
PVCC Panska Ves 76.70 332 *e*P **P 11 04 52.0 -0.3**
PVCC *e* 11 07 46.6
PVCC *e*S S 11 14 31.1 +0.5
YOZ Yozgat 76.71 314 P **P 11 04 54.6 +2.2**
SCIA State Center 76.72 43 *e*P **P 11 04 51.7 -0.7**
SCIA *e*pP pP 11 05 17.1 -2.3
PGBU Glenifferbraes 76.75 345⇑*e*P **P 11 04 52.1 -0.5**
FBE Freiberg 76.76 333 *e*P **P 11 04 52.0 -0.6**
ATAB Bozova 76.76 310 *i* P **P 11 04 54.8 +2.1**
CLZ Clausthal 76.87 335 *e*P **P 11 04 53.0 -0.3**
comp=Z,924nm,1.3s,mb6.3
DRGR 76.87 325⇑*i*P **P 11 04 54.4 +1.1**
DRGR 76.87 325 P **P 11 04 53.5 +0.2**
VYHS Vyhne 76.95 329 *e*P **P 11 04 53.8 +0.1**
VYHS *e*S S 11 14 32.8 -0.4
VYHS Vyhne 76.95 329 *e*P **P 11 04 53.8 +0.1**
VYHS *e*S S 11 14 32.8 -0.4
VYHS *e* 11 22 56.6
VYHS pmax pmax
comp=Z,500nm,1.5s,mb6.0
VYHS Vyhne 76.95 329 *e*P **P 11 04 53.8 +0.1**
comp=Z,500nm,1.5s,mb6.0
VYHS *e*S S 11 14 32.8 -0.4
VYHS LR LR
comp=Z,3μm,48.6s
ESK Eskdalemuir 76.98 344 P **P 11 04 53.0 -0.9**
comp=Z,1μm,0.8s,mb6.7,SNR=20
ESK Eskdalemuir 76.98 344⇑*e*P **P 11 04 53.0 -0.9**
ESK ⇑*e*P 11 04 53.0
ESK AMb AMB 11 04 57.0
comp=Z,460nm,1.8s,mb5.9
ESK Eskdalemuir 76.98 344 *e*P **P 11 04 53.5 -0.4**
UMR Umm Al-Rimmam 77.00 299 *e*P **P 11 04 54.8 +0.8**
UMR AMb AMB 11 04 56.9
comp=Z,1μm,0.8s,mb6.6
VOIR 77.00 323⇑*i*P **P 11 04 55.7 +1.7**
ELDT Eldivan 77.02 315 *i* P **P 11 04 55.7 +1.5**
BNN Bunyan 77.03 313 P **P 11 04 55.8 +1.6**
KOLL Kolacno 77.03 329 *e*P **P 11 04 54.6 +0.4**
PSZ Piszkesteto 77.03 328⇑*e*P **P 11 04 54.8 +0.6**
PSZ Piszkesteto 77.03 328⇑*i*P **P 11 04 54.5 +0.3**
PSZ Piszkesteto 77.03 328 P **P 11 04 54.7 +0.5**
PSZ Piszkesteto 77.03 328 *e*P **P 11 04 54.5 +0.3**
WIT Witteveen 77.04 338 *e*P **P 11 04 54.3 0.0**
comp=Z,243nm,0.6s,mb6.1
WIT *i* x x 11 04 56.0
comp=Z,2μm,1.6s
MIB Mutribah 77.06 299 *e*P **P 11 04 55.1 +0.8**
MIB AMb AMB 11 04 58.4
comp=Z,2μm,1.3s,mb6.6
VRAC Vranov 77.06 330 LR LR 11 41 26.7
comp=Z,2μm,21.0s,baz=33,slow=38
VRAC Vranov 77.06 330⇑*i*P **P 11 04 55.1 +0.8**
VRAC Vranov 77.06 330 P **P 11 04 54.7 +0.4**
ECK Cauldkaine Hil 77.10 344⇑*e*P **P 11 04 53.8 -0.8**
ECK AMb AMB 11 04 56.9
comp=Z,581nm,1.5s,mb6.1
PRA Prague 77.14 332 P **P 11 04 55.0 +0.2**
MTUR Matau 77.17 323⇓*i*P **P 11 04 55.5 +0.6**
MTUR Matau 77.17 323 P **P 11 04 55.9 +0.9**
PRU Pruhonice 77.18 332 *e*P **P 11 04 55.0 0.0**
CDAG Cicekdag 77.20 314 *i* P **P 11 04 56.2 +1.1**
GZT Gaziantep 77.24 311 *i* P **P 11 04 57.3 +1.9**
STKA Stephens Creek 77.25 187 *e*P **P 11 04 53.3 -2.1**
comp=Z,45nm,0.8s,mb5.2
STKA *e*PCP PcP 11 05 01.6 -4.0
STKA *ep*P pP 11 05 16.5 -5.9
STKA Stephens Creek 77.25 187 P **P 11 04 53.4 -2.0**
comp=Z,56nm,0.8s,mb5.3,baz=345,slow=7.3,SNR=84
STKA LR LR 11 36 33.9
comp=Z,2μm,20.8s,baz=2.6,slow=34
KBD Kabd 77.28 299 *e*P **P 11 04 56.5 +0.9**
KBD AMb AMB 11 04 59.9
comp=Z,3μm,1.4s,mb6.9
KRUC Moravsky 77.34 330 P **P 11 04 55.9 0.0**
PENC Penc 77.37 328⇓*e*P **P 11 04 57.4 +1.3**
GMK Mull of Kintyr 77.39 346⇓*e*P **P 11 04 55.9 -0.2**
LWH Whinny Nab 77.40 343⇓*e*P **P 11 04 56.2 -0.1**
SMOL Smolenice 77.44 330 *e*P **P 11 04 57.6 +1.2**
TREC Trest 77.45 331 *e*P **P 11 04 57.1 +0.6**
TREC *e*PP PP 11 07 53.2 +0.8
TREC *e*S S 11 14 40.9 +2.2
TREC AMS AMS 11 30 40.0
comp=Z,6μm,50.5s
TREC Trest 77.45 331 *e*P **P 11 04 57.1 +0.6**
TREC *e* 11 07 53.2
TREC *e*S S 11 14 40.9 +2.2
BUC1 Bucharest 77.46 322 P **P 11 04 57.6 +1.0**
TANN Tannenbergstha 77.48 333 *e*P **P 11 04 56.1 -0.6**
comp=Z,169nm,0.5s,mb6.0
BRTR Keskin Array B 77.50 315 P **P 11 04 57.7 +0.9**
comp=Z,298nm,0.8s,mb6.1,baz=73,slow=4.2,SNR=620
BRTR PKPPKP 11 32 01.8
comp=Z,1.3nm,1.0s,baz=177,slow=4.9,SNR=3.6

WERD Werda 77.50 333 *e*P **P 11 04 56.2 -0.6**
NAY Al-Naaiem 77.51 299 *e*P **P 11 04 57.4 +0.6**
NAY AMb AMB 11 05 00.8
comp=Z,817nm,1.2s,mb6.3
MOX Moxa 77.54 334 *e*P **P 11 04 56.4 -0.6**
comp=Z,622nm,1.3s,mb6.2
MOX *e*S S 11 14 34.6 -5.1
MOX Moxa 77.54 334 *e*P **P 11 04 56.4 -0.6**
comp=Z,1μm,1.7s,mb6.3
MOX
comp=Z,2μm,21.0s
RDF Al-Radifah 77.54 298 *e*P **P 11 04 58.0 +1.0**
RDF AMb AMB 11 05 01.4
comp=Z,2μm,1.5s,mb6.6
LRN Richmond 77.55 343⇑*e*P **P 11 04 56.8 -0.3**
AMTX Amarillo 77.55 53 *e*P **P 11 04 57.1 +0.1**
GAZ Gaziantep 77.56 311 P **P 11 04 59.7 +2.5**
AVNT Avonos 77.59 313 *i* P PcP 11 05 08.7 +1.6
SGKT Sivrigoynuk 77.63 316 *i* P **P 11 04 58.9 +1.3**
NKC Novy Kostel 77.64 333 *e*P **P 11 04 57.3 -0.3**
NKC *e*PP PP 11 07 54.7 +0.7
NKC *e*S S 11 14 40.6 -0.1
NKC AMS AMS 11 30 50.0
comp=Z,6μm,65.4s
NKC Novy Kostel 77.64 333 *e*P **P 11 04 57.3 -0.3**
NKC *e*PP PP 11 07 54.7 +0.7
NKC *e*S S 11 14 40.6 -0.1
CKE Keswick 77.65 344⇑*e*P **P 11 04 57.3 -0.3**
GAL1 Galloway 77.69 345⇑*e*P **P 11 04 57.2 -0.7**
SRO Srobarova 77.71 329 *e*P **P 11 04 59.0 +1.1**
SRO pmax pmax
comp=Z,1μm,1.3s,mb6.5
SRO Srobarova 77.71 329 *e*P **P 11 04 59.0 +1.1**
comp=Z,1μm,1.3s,mb6.5
MNTX Cornudas Mount 77.72 57 *e*P **P 11 04 58.0 0.0**
BUD Budapest 77.72 328⇑*e*P **P 11 04 58.7 +0.7**
SRO2 Moca 77.72 329 *e*P **P 11 04 59.8 +1.8**
KAMT Kaman 77.73 314 P **P 11 04 59.1 +1.1**
GCL Cushendall 77.74 346⇑*e*P **P 11 04 57.6 -0.6**
PRD Provadia 77.77 321 *e*P **P 11 04 59.0 +0.7**
WTSB Winterswijk 77.77 337⇑*e*P **P 11 04 57.7 -0.6**
comp=Z,113nm,0.6s,mb5.8
WTSB *i* x x 11 04 59.3
comp=Z,675nm,1.7s
SRO1 Iza 77.78 329 *e*P **P 11 04 59.5 +1.2**
XDE Dent Fell 77.81 344⇑*e*P **P 11 04 57.9 -0.6**
XDE AMb AMB 11 05 01.7
comp=Z,743nm,1.8s,mb6.1
LOD Lodumlu 77.81 315 P **P 11 05 00.4 +1.9**
ANTO Ankara 77.81 315 P **P 11 05 00.1 +1.6**
SNR=218
ANTO Ankara 77.81 315 *e*P **P 11 04 59.8 +1.3**
comp=Z,780nm,0.8s,mb6.5
ZST Bratislava 77.82 330 *e*P **P 11 04 59.5 +0.9**
ZST *e*S S 11 14 42.7 0.0
ZST Bratislava 77.82 330 *e*P **P 11 04 59.5 +0.9**
comp=Z,456nm,1.2s,mb6.1
ZST *e*S S 11 14 42.7 0.0
ZST LR LR
comp=Z,800nm,14.3s
UBBA Unterbreizbach 77.88 335 *e*P **P 11 04 58.0 -0.9**
comp=Z,842nm,1.8s,mb6.2
PKSN Nyarlorinc 77.89 327⇓*e*P **P 11 05 00.2 +1.2**
GDL2 Guadalupe Moun 77.96 56 *e*P **P 11 04 59.7 +0.4**
MANZ Manzenberg 77.97 333 *e*P **P 11 04 59.0 -0.4**
comp=Z,487nm,1.3s,mb6.1
HENT Hendek 78.00 317 *i* P **P 11 05 00.1 +0.5**
PKSG 78.03 328 *e*P **P 11 05 00.5 +0.8**
BUG Bochum--Univer 78.11 337 *e*P **P 11 04 59.5 -0.7**
comp=Z,758nm,1.3s,mb6.3
BUG *e*S S 11 14 43.8 -2.0
BUG Bochum--Univer 78.11 337 P **P 11 04 59.3 -0.9**
MDU Mudurnu 78.12 317 P **P 11 05 01.8 +1.6**
ROTZ Rotzenmuhle 78.12 333 *e*P **P 11 05 00.2 -0.1**
comp=Z,476nm,1.0s,mb6.2
ROTZ *e*S S 11 14 40.9 -5.0
GIM North Isle of 78.19 345 *e*P **P 11 05 00.1 -0.5**
KHC Kasperske Hory 78.23 332 *e*P **P 11 05 01.0 +0.1**
KHC x x 11 05 19.0
KHC x x 11 05 51.0
KHC *e*PP PP 11 07 59.6 +0.7
KHC *e*S S 11 14 46.8 -0.3
KHC *e*SS SS 11 19 47.7 -3.6
KHC AMS AMS 11 30 40.0
comp=Z,5μm,59.7s
KHC Kasperske Hory 78.23 332 *e*P **P 11 05 01.0 +0.1**
KHC *e* 11 07 59.6
KHC *e*S S 11 14 46.8 -0.3
KHC Kasperske Hory 78.23 332 *e*P **P 11 05 01.0 +0.1**
KHC *e* 11 05 19.0
KHC *e* 11 05 51.0
KHC *e*PP PP 11 07 59.6 +0.7
KHC *e*S S 11 14 46.8 -0.3
KHC *e*SS SS 11 19 47.7 -3.6
KHC LR LR
comp=Z,5μm,59.7s
FORT Forrest 78.26 199⇓*i*P **P 11 05 00.7 -0.3**
comp=Z,278nm,0.7s,mb6.1
FORT *es*P sP 11 05 35.9 -3.6
FORT *e*S S 11 14 48.0 +0.7
BZS Buzias 78.27 325⇑*i*P **P 11 05 00.8 -0.2**
BZS Buzias 78.27 325 P **P 11 05 00.9 -0.1**
ZIMR 78.30 322⇑*i*P **P 11 05 02.4 +1.2**
ZIMR 78.30 322 ⇑P **P 11 05 02.4 +1.2**
AWI1 Witton 78.33 341 *e*P **P 11 05 01.6 +0.2**
ABA1 Baconsthorpe 78.34 341⇑*e*P **P 11 05 02.3 +0.8**
PKS8 Sarbogard 78.36 328⇓*e*P **P 11 05 01.9 +0.4**
WIM Isle of Man 78.37 345⇑*e*P **P 11 05 01.0 -0.6**
LHO Holmfirth 78.39 343⇑*e*P **P 11 05 01.1 -0.6**
CRAR CRAIOVA 78.43 323⇑*i*P **P 11 05 02.8 +0.9**
GEC2 GERESS Array S 78.44 332 *e*P **P 11 05 01.5 -0.5**
comp=Z,681nm,1.5s,mb6.2
GEC2 GERESS Array S 78.44 332 *e*P **P 11 05 01.5 -0.5**
GEC2 pmax pmax
comp=Z,681nm,1.5s,mb6.2
GERES GERESS Array B 78.44 332 P **P 11 05 01.7 -0.3**
comp=Z,157nm,0.6s,mb5.9,baz=33,slow=5.1,SNR=655
GERES PKKPbc PKKPbc 11 23 56.0 -1.8
comp=Z,0.3nm,0.4s,baz=242,slow=2.9,SNR=4.7
GERES LR LR 11 44 27.0
comp=Z,1μm,18.8s,baz=30,slow=39
WET Wettzell 78.45 332 *e*P **P 11 05 02.0 -0.1**
comp=Z,930nm,1.2s,mb6.4
WET Wettzell 78.45 332 *e*P **P 11 05 02.0 -0.1**
WET pmax pmax
comp=Z,930nm,1.2s,mb6.4
SOP Sopron 78.45 330⇑*e*P **P 11 05 02.8 +0.7**
CONA Conrad Observa 78.49 330 *i* P **P 11 05 02.9 +0.6**
comp=Z,752nm,1.5s,mb6.2,SNR=309
GRA1 Grafenberg Arr 78.50 334 *e*P **P 11 05 02.4 +0.1**
comp=Z,1μm,1.2s,mb6.6
GRA1 *e*S S 11 14 48.9 -1.0
GRA1 LR LR
comp=Z,2μm,19.2s
GRF Grafenberg Arr 78.50 334 *e*P **P 11 05 02.4 +0.1**
comp=Z,1μm,1.2s,mb6.6
GRF *e*S S 11 14 48.9 -1.0
GRF *e*L 11 44 48.2
comp=Z,2μm,19.2s
GRF Grafenberg Arr 78.50 334 *e*P **P 11 05 02.4 +0.1**
GRF *e*S S 11 14 48.9 -1.0
GRF pmax pmax
comp=Z,1μm,1.2s,mb6.6
GRF MLR MLR
comp=Z,2μm,19.2s
GMM Mts of Mourne 78.51 345⇑*e*P **P 11 05 01.5 -0.8**
COBT Iskenderun 78.56 311 *i* P **P 11 05 04.5 +1.9**
AEU East Anglia Un 78.57 341⇑*e*P **P 11 05 02.8 +0.1**
KBI1 Birley Grange 78.59 343⇑*e*P **P 11 05 02.2 -0.7**
HRT Hereke 78.59 318 P **P 11 05 02.9 +0.1**
BSTP Nigde 78.60 313 *i* P **P 11 05 04.9 +2.0**
KARA Karaisali 78.64 312 P **P 11 05 04.7 +1.6**
ISK Istanbul-Kandi 78.69 318 P **P 11 05 03.2 -0.1**
DJES Djerdap 78.71 324 *i* P **P 11 05 01.9 -1.6**
JMB Yambol 78.71 321 *e*P **P 11 05 04.0 +0.5**
JMB Yambol 78.71 321 *e*P **P 11 05 03.8 +0.3**
PKS9 Tamasi 78.75 328⇓*i*P **P 11 05 03.9 +0.2**
APAE Packway 78.81 341 *e*P **P 11 05 04.2 +0.2**
ADVT Abdulvahap 78.86 317 P **P 11 05 05.1 +0.8**
KWE Weaver Farm 78.88 343⇑*e*P **P 11 05 04.0 -0.4**
ELBA Catalca 78.92 319 *i* P **P 11 05 05.0 +0.4**
HTY Hatay 78.92 311 P **P 11 05 06.8 +2.2**
YLV Yalova 78.93 318 P **P 11 05 04.8 +0.1**

PKSM Moragy 78.93 328⇑iP P 11 05 04.2 -0.5
PKSM Moragy 78.93 328 P P 11 05 04.1 -0.6
BORA Eskisehir 78.95 317 iP P 11 05 05.1 +0.3
DMUB Kingscourt 79.00 346 eP P 11 05 01.9 -3.2
DMUB Kingscourt 79.00 346⇑iP P 11 05 04.7 -0.4
DMUB Kingscourt 79.00 346⇑iP P 11 05 04.7 -0.4
WME Myndd Eilian 79.01 344 eP P 11 05 04.7 -0.4
KIZT Kizilcal 79.02 315 P P 11 05 06.2 +1.0
WPM1 Penmaenmawr 79.07 344 eP P 11 05 04.7 -0.8
WPM1 AMb AMB 11 05 07.8
comp=Z,211nm,1.7s,mb5.7
HGN Heimansgroeve 79.09 337⇑iP P 11 05 04.9 -0.6
HGN ix x 11 05 06.5
comp=Z,708nm,1.7s
HGN ex x 11 05 10.7
HGN ePP PP 11 07 41.5 -25
HGN eS S 11 14 54.0 -2.1
HGN eSSS 11 24 26.5
MOA Molln 79.11 331⇑iP P 11 05 05.6 -0.1
comp=Z,211nm,0.8s,mb6.0,SNR=157
BEBN Eben Emael 79.13 337 P P 11 05 05.2 -0.5
comp=Z,147nm,0.9s,mb5.8
EDRB Edirne 79.14 320 P P 11 05 06.5 +0.7
KDHN Kadinhani 79.18 315 iP P 11 05 06.7 +0.6
ARSA Arzberg 79.19 330 iP P 11 05 06.5 +0.4
comp=Z,380nm,1.3s,mb6.1,SNR=121
MEM Membach 79.21 337 P P 11 05 05.5 -0.7
MERS Mersin 79.21 312 P P 11 05 07.4 +1.2
YLL Llanberis 79.23 344⇑eP P 11 05 05.8 -0.5
SBD1 Bryn Du 79.27 344⇑eP P 11 05 06.3 -0.3
SIND Sindeldorf 79.30 335 P P 11 05 06.6 -0.1
TOD Tromm 79.31 335 eP P 11 05 06.6 -0.2
BEO Belgrade 79.39 326⇓iP P 11 05 07.0 -0.2
BEO Belgrade 79.39 326 P P 11 05 06.4 -0.8
YRE Yr Eifl 79.43 344 eP P 11 05 07.1 -0.3
YRE AMb AMB 11 05 11.7
comp=Z,1µm,1.7s,mb6.4
ABH Alteburg 79.43 336 eP P 11 05 07.4 0.0
SWS Schriesheim-Wi 79.45 335 P P 11 05 08.0 +0.5
UCC Uccle 79.48 338 P P 11 05 06.8 -0.8
SVIS Svilajnac 79.52 325 iP P 11 05 07.9 0.0
SVIS Svilajnac 79.52 325 P P 11 05 08.2 +0.3
DLF Lyons Farm 79.52 346⇑iP P 11 05 07.6 -0.3
DSB Dublin 79.54 345 eP P 11 05 07.7 -0.3
HLM1 Long Mynd 79.56 343⇑eP P 11 05 07.5 -0.6
HLM1 AMb AMB 11 05 11.6
comp=Z,904nm,1.9s,mb6.3
BOLS Boljevac 79.60 324⇓iP P 11 05 06.9 -1.4
DCN Croghan 79.60 346 eP P 11 05 05.3 -3.0
DCN Croghan 79.60 346⇑iP P 11 05 08.0 -0.3
DCN Croghan 79.60 346⇑iP P 11 05 08.0 -0.3
MEST Erdemli 79.62 312 iP P 11 05 09.2 +0.7
SSP1 Stoney Pound 79.70 343⇑eP P 11 05 08.6 -0.3
PGB Panagyurishte 79.71 322 eP P 11 05 09.0 +0.1
MRMT Marmara Adasi 79.73 319 P P 11 05 08.9 -0.1
RUP Ruppelstein 79.73 336 eP P 11 05 08.9 -0.1
ALT Altintas 79.75 316 P P 11 05 11.5 +2.3
SNF Seneffe 79.76 338 P P 11 05 08.9 -0.3
comp=Z,106nm,0.9s,mb5.7
SNF PCP PcP 11 05 17.1 +0.5
BNT Bandirma 79.78 318 P P 11 05 10.8 +1.5
KTD Kalmit 79.78 335 eP P 11 05 09.2 -0.1
HDH Heidenheim-Cha 79.79 334 P P 11 05 09.6 +0.2
FUR Furstenfeldbru 79.82 333 eP P 11 05 09.5 0.0
comp=Z,1µm,1.4s,mb6.6
FUR Furstenfeldbru 79.82 333 eP P 11 05 09.5 0.0
FUR pmax pmax
comp=Z,1µm,1.4s,mb6.6
PLD Plovdiv 79.84 322 eP P 11 05 09.0 -0.6
PERS Pernice 79.86 330 eP P 11 05 09.4 -0.3
SSW Stow on the Wo 79.87 342 eP P 11 05 10.0 +0.2
SKP1 Kophill 79.87 342⇑eP P 11 05 09.0 -0.8
GROS Grobnik 79.87 330 eP P 11 05 09.6 -0.2
KDZ Kurdzhali 79.89 321 eP P 11 05 11.0 +1.1
SHAO Shalim 79.91 285 ⇓P P 11 05 11.3 +1.3
SNR=9.7
STU Stuttgart 79.94 334 eP P 11 05 09.9 -0.2
comp=Z,766nm,1.3s,mb6.4
STU Stuttgart 79.94 334 eP P 11 05 09.7 -0.4
HAE Alders End 79.95 343⇑eP P 11 05 09.8 -0.4
HAE AMb AMB 11 05 12.8
comp=Z,1µm,1.3s,mb6.5
GIVF Givet 79.99 338⇑iP P 11 05 10.0 -0.4
comp=Z,1µm,1.4s,mb6.3
GIVF Givet 79.99 338⇑iP P 11 05 10.0 -0.4
comp=Z,666nm,1.4s,mb6.3
TFO1 Folkestone 79.99 340⇑eP P 11 05 10.3 -0.1
WLF Walferdange 80.02 337 eP P 11 05 10.4 -0.2
comp=Z,1µm,1.9s,mb6.4
WLF Walferdange 80.02 337 P P 11 05 10.2 -0.4
WLF E 11 05 23.4
WLF Walferdange 80.02 337⇑iP P 11 05 10.5 -0.1
WLF pmax pmax
comp=Z,414nm,1.3s,mb6.1
WLF Walferdange 80.02 337⇑iP P 11 05 10.5 -0.1
comp=Z,414nm,1.3s,mb6.1
GDZ Gediz 80.03 317 iP P 11 05 11.4 +0.7
DOU Dourbes 80.06 338 P P 11 05 09.9 -0.9
comp=Z,83nm,1.3s,mb5.4
DOU E 11 05 21.7
GRUS Gruza 80.06 325 iP P 11 05 10.3 -0.5
HTR Trewern Hill 80.06 343⇑eP P 11 05 10.5 -0.3
HTR AMb AMB 11 05 15.2
comp=Z,1µm,1.6s,mb6.5
RAO Raoul Island 80.07 151 LR LR 11 36 51.7
comp=Z,1µm,19.5s,baz=341,slow=33
MCH1 Michaelchurch 80.08 343 eP P 11 05 10.1 -0.8
MCH1 ⇑eP 11 05 10.4
MCH1 eP 11 05 10.5
MCH1 Michaelchurch 80.08 343 P P 11 05 10.4 -0.5
MCH1 Michaelchurch 80.08 343 P P 11 05 10.5 -0.4
KBA Koelnbreinsper 80.09 331 iP P 11 05 11.3 +0.4
comp=Z,851nm,0.9s,mb6.6,SNR=605
TSA1 Sevenoaks 80.10 341⇑eP P 11 05 11.4 +0.4
IKL Isikli 80.13 312 P P 11 05 12.1 +0.9
LANF Langenberg 80.17 335 eP P 11 05 11.2 -0.2
RZN Rozhen 80.17 321 eP P 11 05 12.0 +0.6
OBKA Obir 80.17 330 iP P 11 05 11.4 0.0
comp=Z,249nm,1.1s,mb6.0,SNR=116
DIVS Divcibare 80.17 326⇓iP P 11 05 11.1 -0.3
DIVS Divcibare 80.17 326 eP P 11 05 11.1 -0.3
BAIF Baives 80.19 338⇑iP P 11 05 11.2 -0.3
comp=Z,1µm,1.5s,mb6.2
BAIF Baives 80.19 338⇑iP P 11 05 11.2 -0.3
comp=Z,613nm,1.5s,mb6.2
FKH Fakeheh 80.19 309 eP P 11 05 13.4 +1.9
ALN Alexandroupoli 80.21 320 eP P 11 05 11.9 +0.3
ERMK Ermenek 80.22 313 iP P 11 05 05.6 -6.1
RDO Rodhopi 80.24 320 eP P 11 05 12.4 +0.6
MENF Mencas 80.26 339 eP P 11 05 12.1 +0.2
SWN1 Swindon 80.28 342⇑eP P 11 05 11.9 -0.1
SWN1 eP 11 05 11.9
SWN1 Swindon 80.28 342 P P 11 05 11.9 -0.1
ENEZ Enez 80.29 320 P P 11 05 12.8 +0.8
CNB Canberra Magne 80.36 180 eP P 11 05 13.1 +0.7
comp=Z,41nm,1.1s,mb5.2
CNB esP sP 11 05 50.9 -0.1
BALB Balikesir 80.36 318 P P 11 05 13.3 +0.8
HGH Gray Hill 80.38 343⇑eP P 11 05 12.1 -0.5
HGH AMb AMB 11 05 15.0
comp=Z,1µm,1.4s,mb6.5
PDKS Podkum 80.39 330 iP P 11 05 12.2 -0.4
SISC Sisak 80.40 329 iP P 11 05 12.3 -0.3
TKTP Tekketepe 80.44 316 iP P 11 05 13.2 +0.4
LTX Lajitas 80.45 58 eP P 11 05 13.1 +0.2
LTX pmax pmax
comp=Z,90nm,0.6s,mb5.8
LTX Lajitas 80.45 58 eP P 11 05 13.1 +0.2
comp=Z,90nm,0.6s,mb5.8
WATA Walderalm 80.46 332 iP P 11 05 13.4 +0.5
comp=Z,555nm,1.1s,mb6.3,SNR=38
WATA Walderalm 80.46 332 iP P 11 05 13.4 +0.5
WATA pmax pmax
comp=Z,555nm,1.1s,mb6.3
TEB Eastbourne 80.50 341⇑eP P 11 05 14.1 +0.9
WTTA Wattenberg 80.50 332 iP P 11 05 13.6 +0.5
comp=Z,1µm,1.6s,mb6.5,SNR=98
WTTA Wattenberg 80.50 332 iP P 11 05 13.7 +0.5
WTTA pmax pmax
comp=Z,1µm,1.6s,mb6.5
STR Strasbourg 80.53 335 eP P 11 05 14.5 +1.2
HSA Swansea 80.55 344 eP P 11 05 12.4 -1.0
LJU Ljubljana 80.58 330 eP P 11 05 12.9 -0.7

LJU e 11 05 14.1
LJU eS S 11 15 10.2 -1.6
LJU eSKSac SKSac 11 15 18.7 -3.3
ADE Adelaide 80.58 189 eP P 11 05 13.6 0.0
GUT Gutenstein 80.59 334 P P 11 05 13.7 +0.1
BFO Black Forest 80.59 335 P P 11 05 13.6 -0.1
comp=Z,2µm,0.9s,mb6.9,SNR=76
BFO Black Forest 80.59 335 eP P 11 05 13.2 -0.5
comp=Z,586nm,1.3s,mb6.2
BBLS Bajina Basta - 80.60 326 iP P 11 05 14.8 +1.1
MOTA Moosalm 80.60 333⇑iP P 11 05 14.0 +0.3
comp=Z,639nm,1.1s,mb6.4,SNR=208
MOTA Moosalm 80.60 333⇑iP P 11 05 14.0 +0.3
MOTA pmax pmax
comp=Z,639nm,1.1s,mb6.4
UBR Ueberruh 80.62 333 P P 11 05 14.1 +0.3
CCM Cathedral Cave 80.65 44 eP P 11 05 12.9 -1.1
CCM pmax pmax
comp=Z,150nm,1.1s,mb5.7
CCM Cathedral Cave 80.65 44 eP P 11 05 12.9 -1.1
comp=Z,150nm,1.1s,mb5.7
PTCC Patocco-Chiusa 80.67 331 P P 11 05 13.1 -1.0
SQTA Sankt Quirin 80.68 333 iP P 11 05 14.6 +0.5
comp=Z,285nm,0.8s,mb6.1,SNR=110
MMB Musomiste 80.68 322 eP P 11 05 14.0 -0.1
SLM Saint Louis 80.69 43 eP P 11 05 13.7 -0.4
comp=Z,120nm,0.8s,mb5.8
CADS Cadrg 80.69 331 iP P 11 05 12.9 -1.3
FVI Forni Avoltri 80.70 331 P P 11 05 12.8 -1.4
SWK Warminster 80.72 342⇑eP P 11 05 14.1 -0.2
KKB Krupnik 80.73 322 eP P 11 05 15.1 +0.7
SEST Monte Rota 80.76 332 P P 11 05 14.2 -0.3
ROBS Robic 80.76 331 eP P 11 05 13.2 -1.4
BOJS Bojanci 80.78 329 iP P 11 05 14.3 -0.4
BOJS eS S 11 15 10.6 -3.4
WLS Welschbruch 80.81 335 eP P 11 05 14.8 0.0
VOY Vojsko 80.81 330 eP P 11 05 13.5 -1.3
GMNA Gemona 80.83 331 P P 11 05 13.9 -1.0
CDF Champ du Feu 80.83 335⇑iP P 11 05 14.8 -0.1
comp=Z,1µm,1.3s,mb6.3
CDF Champ du Feu 80.83 335⇑iP P 11 05 14.8 -0.1
CDF pmax pmax
comp=Z,655nm,1.3s,mb6.3
CDF Champ du Feu 80.83 335⇑iP P 11 05 14.8 -0.1
comp=Z,655nm,1.3s,mb6.3
BHL Bhannes 80.85 310 eP P 11 05 15.7 +0.6
RAR Rarotonga 80.85 133 LR LR 11 35 33.7
comp=Z,1µm,19.3s,baz=226,slow=31
EZN Ezine 80.94 319 P P 11 05 16.0 +0.5
MANT Manisa 80.95 317 iP P 11 05 16.1 +0.5
BRES Bressanone 80.96 332 P P 11 05 15.4 -0.2
LIBD Limburg 80.97 335 eP P 11 05 15.5 -0.2
SISB Singen-Schiene 80.97 334 P P 11 05 15.9 +0.2
AKS Akhisar 81.00 318 P P 11 05 16.6 +0.8
STEIN Stein am Rhein 81.02 334⇑iP P 11 05 13.6 -2.3
comp=Z,1µm,1.5s,mb6.5
STEIN Stein am Rhein 81.02 334⇑iP P 11 05 15.8 -0.1
ECH Echery 81.04 335 eP P 11 05 15.7 -0.3
DAVA Damuels 81.04 333 iP P 11 05 16.2 +0.1
comp=Z,447nm,1.2s,mb6.2,SNR=73
SLE Schleitheim 81.05 334⇑iP P 11 05 15.6 -0.5
comp=Z,902nm,1.8s,mb6.3
BOZC Bozcaada 81.05 319 iP P 11 05 15.8 -0.3
PLE Pljevlja 81.05 325⇑iP P 11 05 16.8 +0.7
RCY Rachaya 81.08 309 eP P 11 05 18.1 +1.8
FELD Feldberg im Sc 81.10 335 eP P 11 05 15.9 -0.4
WEIN Weingarten 81.11 334⇑iP P 11 05 15.8 -0.6
comp=Z,1µm,1.6s,mb6.4
WEIN Weingarten 81.11 334⇑iP P 11 05 16.1 -0.3
FVM French Village 81.11 44 eP P 11 05 15.4 -1.0
comp=Z,120nm,1.0s,mb5.7
HEX Exmoor 81.12 343⇑eP P 11 05 16.1 -0.3
SRS Serrai 81.12 322 eP P 11 05 16.6 +0.1
LIENZ Alp Oberkamor 81.16 334⇑iP P 11 05 16.1 -0.6
comp=Z,939nm,1.8s,mb6.3
LIENZ Alp Oberkamor 81.16 334⇑iP P 11 05 16.7 0.0
ANTB Antalya 81.17 315 P P 11 05 16.6 -0.1
AYVA Ayvalik 81.18 319 iP P 11 05 16.5 -0.3
FLACH Flaach 81.20 334⇑iP P 11 05 16.6 -0.3
IVA Berane 81.23 325⇑iP P 11 05 17.4 +0.3
WILA Wila 81.23 334⇑iP P 11 05 16.6 -0.5
comp=Z,1µm,1.8s,mb6.4
WILA Wila 81.23 334⇑iP P 11 05 16.8 -0.3
RBK Rabkut 81.24 286 ⇓P P 11 05 17.8 +0.7
SNR=6.6
WHFO Wadi Hawf 81.24 286 ⇓P P 11 05 17.3 +0.2
SNR=26
STIP Stip 81.26 323 iP P 11 05 16.7 -0.4
CSS Prodhromos 81.29 312 P P 11 05 18.5 +1.2
comp=Z,5.4nm,0.8s
APPI Appiano 81.32 332 P P 11 05 16.5 -1.0
HTL Hartland 81.33 344⇑eP P 11 05 17.0 -0.5
HTL ⇑eP 11 05 17.4
HTL Hartland 81.33 344 P P 11 05 17.4 -0.2
DNZL Cakiroluk 81.34 316 iP P 11 05 18.1 +0.5
SKO Skopje 81.34 323 eP P 11 05 18.8 +1.2
SKO Skopje 81.34 323 iP P 11 05 18.6 +1.0
UPM Unac-Piva 81.35 326⇑iP P 11 05 17.3 -0.4
THEF They Montfort 81.37 336 eP P 11 05 17.7 -0.1
SULZ Sulz-Cheisache 81.38 335⇑iP P 11 05 16.9 -0.9
comp=Z,2µm,1.5s,mb6.7
SULZ Sulz-Cheisache 81.38 335⇑iP P 11 05 17.6 -0.2
ZUR Zurich 81.38 334⇑iP P 11 05 16.8 -1.0
comp=Z,818nm,1.3s,mb6.4
ZUR Zurich 81.38 334⇑iP P 11 05 17.7 -0.1
MOF Molkenrain 81.38 335 eP P 11 05 17.5 -0.3
MEZF Maizieres J'vi 81.38 337⇑iP P 11 05 17.9 +0.1
comp=Z,674nm,0.9s,mb6.2
MEZF Maizieres J'vi 81.38 337⇑iP P 11 05 17.9 +0.1
comp=Z,674nm,0.9s,mb6.5
KNT Kendrikon 81.39 322 eP P 11 05 18.2 +0.3
VAY Valandovo 81.40 322 eP P 11 05 17.9 0.0
VAY Valandovo 81.40 322 iP P 11 05 17.8 -0.2
LIA Limnos Island 81.40 320 eP P 11 05 18.0 0.0
PLONS Plons 81.41 334⇑iP P 11 05 17.6 -0.4
comp=Z,780nm,1.2s,mb6.4
PLONS Plons 81.41 334⇑iP P 11 05 18.0 0.0
LOS Limnos 81.42 320 eP P 11 05 18.2 +0.2
PRK Paraskevi 81.43 319 eP P 11 05 18.1 0.0
PVY Plav 81.43 325⇑iP P 11 05 17.2 -0.9
VAL Valentia 81.44 347 eP P 11 05 16.7 -1.4
VAL Valentia 81.44 347 eP P 11 05 17.3 -0.8
VAL Valentia 81.44 347 eP P 11 05 17.3 -0.8
HAU Haudompre 81.47 336⇑iP P 11 05 18.9 +0.6
comp=Z,458nm,1.0s,mb6.0
HAU eR
comp=Z,2µm,20.8s
HAU Haudompre 81.47 336⇑iP P 11 05 18.9 +0.6
HAU pmax pmax
comp=Z,229nm,1.0s,mb6.0
HAU MLR MLR
comp=Z,2µm,20.8s
HAU Haudompre 81.47 336⇑iP P 11 05 18.9 +0.6
comp=Z,229nm,1.0s,mb6.0
HAU LR LR
comp=Z,2µm,20.8s
ASF Jabal al Asfar 81.47 308 LR LR 11 47 03.1
comp=Z,692nm,18.3s,baz=264,slow=40
SOH Sokhos 81.47 322 eP P 11 05 18.1 -0.2
HINF Hinteralfeld 81.49 335⇑iP P 11 05 17.9 -0.5
comp=Z,269nm,0.9s,mb5.8
HINF Hinteralfeld 81.49 335⇑iP P 11 05 17.9 -0.5
HINF pmax pmax
comp=Z,134nm,0.9s,mb5.8
HINF Hinteralfeld 81.49 335⇑iP P 11 05 17.9 -0.5
comp=Z,134nm,0.9s,mb5.8
DAVOX Davos 81.49 333⇑iP P 11 05 17.7 -0.7
comp=Z,733nm,1.4s,mb6.3
DAVOX Davos 81.49 333 LR LR 11 47 02.9
comp=Z,2µm,19.4s,baz=51,slow=40
DAVOX Davos 81.49 333⇑iP P 11 05 18.8 +0.4
FUORN Ofenpass 81.51 333⇑iP P 11 05 18.0 -0.5
comp=Z,2µm,1.9s,mb6.6
FUORN Ofenpass 81.51 333⇑iP P 11 05 19.2 +0.7
ALFC Alevga 81.52 312 P P 11 05 19.2 +0.6
comp=Z,9.2nm,1.0s
CTI Castel Tesino 81.56 332 P P 11 05 17.8 -1.0
OUR Ouranopolis 81.59 321 eP P 11 05 19.4 +0.4
BRMO Bormio 81.60 333 P P 11 05 19.5 +0.5
BBS Basel-Blauen 81.61 335 eP P 11 05 19.1 0.0
KDAG Bornova 81.64 318 iP P 11 05 19.9 +0.7
IZM Izmir 81.64 318 P P 11 05 20.2 +1.0
NKY Niksic 81.64 325⇑iP P 11 05 17.7 -1.6
ELL Elmali 81.66 315 P P 11 05 20.7 +1.4

BALST Balsthal 81.67 335⇑iP P 11 05 18.8 -0.6
comp=Z,2µm,1.5s,mb6.7
BALST Balsthal 81.67 335⇑iP P 11 05 19.3 -0.1
SZAC Souni-Zanaja 81.68 312 P P 11 05 21.1 +1.7
LLS Linth-Limmern 81.71 334⇑iP P 11 05 19.2 -0.4
comp=Z,589nm,1.4s,mb6.2
LLS Linth-Limmern 81.71 334⇑iP P 11 05 19.6 0.0
MUO Muotathal 81.72 334⇑iP P 11 05 19.3 -0.3
comp=Z,1µm,1.7s,mb6.4
MUO Muotathal 81.72 334⇑iP P 11 05 19.6 0.0
NVLJ Novalja 81.73 329 iP P 11 05 18.5 -1.2
DYA Yadsworthy 81.75 343⇑eP P 11 05 19.4 -0.4
BRY Bratogost 81.75 326⇑iP P 11 05 18.3 -1.5
BLCB Balcova 81.76 318 P P 11 05 20.3 +0.5
BOURR Bourrignon 81.76 335⇑iP P 11 05 19.6 -0.2
comp=Z,672nm,1.2s,mb6.4
BOURR Bourrignon 81.76 335⇑iP P 11 05 19.7 -0.1
GRG Griva 81.77 322 eP P 11 05 19.9 0.0
BERNI Berninapass 81.77 333⇑iP P 11 05 19.6 -0.3
comp=Z,1µm,2.0s,mb6.3
BERNI Berninapass 81.77 333⇑iP P 11 05 20.3 +0.4
PLG Polygyros 81.79 321 eP P 11 05 20.0 0.0
THE Thessaloniki 81.79 322 eP P 11 05 19.4 -0.6
KLBR Kellerberrin 81.83 207⇓iP P 11 05 19.1 -1.1
comp=Z,62nm,0.7s,mb5.5
KLBR epP pP 11 05 46.7 -0.8
KLBR esP sP 11 05 53.8 -5.1
KLBR e 11 06 01.2
MSNY Massena 81.85 30 eP P 11 05 18.9 -1.4
TTG Podgorica 81.86 325⇑iP P 11 05 19.6 -0.8
PPCY Paphos 81.86 312 P P 11 05 20.5 +0.1
JCT Junction City 81.87 55 eP P 11 05 19.9 -0.5
comp=Z,197nm,1.2s,mb5.8
JCT epP pP 11 05 47.5 -0.2
BNALP Bannalp 81.87 334⇑iP P 11 05 19.7 -0.7
comp=Z,800nm,1.7s,mb6.3
BNALP Bannalp 81.87 334⇑iP P 11 05 20.4 0.0
VDL Val di Lei 81.88 333⇑iP P 11 05 20.4 -0.1
comp=Z,591nm,1.2s,mb6.3
VDL Val di Lei 81.88 333⇑iP P 11 05 20.9 +0.4
SIUC Southern Illin 81.91 43 eP P 11 05 19.9 -0.7
comp=Z,185nm,0.8s,mb6.0
LOMF Lomont 81.92 335 eP P 11 05 20.7 0.0
AYDN Tasoluk 81.93 317 iP P 11 05 21.9 +1.2
TUE Stuetta 81.94 333 P P 11 05 21.0 +0.2
ABTO Aybut 81.96 286 ⇑P P 11 05 21.4 +0.5
SNR=9.9
URLA Izmir 81.99 318 iP P 11 05 21.2 +0.2
BLO Bloomington 82.00 41 eP P 11 05 20.3 -0.8
CSA1 St Austell 82.02 344⇑eP P 11 05 21.0 -0.2
HASLI Hasliberg 82.05 334⇑iP P 11 05 20.4 -1.0
comp=Z,1µm,1.6s,mb6.5
HASLI Hasliberg 82.05 334⇑iP P 11 05 21.3 -0.1
PAIG Paliouri 82.06 321 eP P 11 05 21.2 -0.2
STON Ston 82.11 326 iP P 11 05 20.1 -1.5
BUM Brajici-Budva 82.11 325⇑iP P 11 05 21.0 -0.7
HCY Herceg Novi 82.15 326⇑iP P 11 05 20.9 -1.0
YER Yerkesik 82.15 316 P P 11 05 23.7 +1.8
FETY Fethiye 82.16 315 P P 11 05 22.5 +0.6
FUSIO Fusio 82.17 334⇑iP P 11 05 20.9 -1.1
comp=Z,1µm,1.6s,mb6.5
FUSIO Fusio 82.17 334⇑iP P 11 05 22.2 +0.2
BIA Bitola 82.18 323 eP P 11 05 21.6 -0.4
BIA Bitola 82.18 323 eP P 11 05 21.3 -0.8
MIAR Mount Ida 82.20 48 eP P 11 05 21.8 -0.3
MIAR pmax pmax
comp=Z,173nm,1.1s,mb5.8
MIAR Mount Ida 82.20 48 eP P 11 05 21.8 -0.3
comp=Z,173nm,1.1s,mb5.8
CHOS Chios island 82.22 318 eP P 11 05 22.5 +0.2
CRQ2 Rosemanowes 2 82.25 344⇑eP P 11 05 22.1 -0.3
CRQ2 AMb AMB 11 05 25.9
comp=Z,1µm,1.7s,mb6.5
ULC Ulcinj 82.25 325⇑iP P 11 05 21.8 -0.6
MLSB Milas 82.27 317 P P 11 05 23.9 +1.4
LONY Lake Ozonia 82.28 30 eP P 11 05 20.5 -2.0
LONY ePP PP 11 08 31.2 -1.2
KSL Kastellorizon 82.29 315 eP P 11 05 25.0 +2.4
WIMIS Wimmis 82.30 334⇑iP P 11 05 21.3 -1.3
comp=Z,524nm,1.9s,mb6.0
WIMIS Wimmis 82.30 334⇑iP P 11 05 22.4 -0.2
SAL Salo 82.32 332 P P 11 05 22.2 -0.6
CMA1 Manaccan 82.33 344⇑eP P 11 05 22.6 -0.2
CGW Gweek 82.33 344⇑eP P 11 05 22.4 -0.4
OHR Ohrid 82.33 323 eP P 11 05 22.1 -0.7
OHR Ohrid 82.33 323 iP P 11 05 21.8 -1.0
CPZ Penzance 82.34 344⇑eP P 11 05 22.7 -0.2
CPZ AMb AMB 11 05 25.6
comp=Z,836nm,1.5s,mb6.3
FNA Florina 82.35 323 eP P 11 05 22.6 -0.3
CGH1 Goonhilly 82.36 344⇑eP P 11 05 22.8 -0.2
ERPA Erie 82.38 35 eP P 11 05 22.6 -0.5
comp=Z,96nm,0.6s,mb5.8
SMG Samos 82.39 318 eP P 11 05 22.2 -0.9
BRANT Les Verrieres 82.39 335⇑iP P 11 05 22.2 -0.9
comp=Z,954nm,2.5s,mb6.2
BRANT Les Verrieres 82.39 335⇑iP P 11 05 23.2 +0.1
TORNY Torny 82.40 335⇑iP P 11 05 22.2 -1.0
comp=Z,742nm,1.7s,mb6.2
TORNY Torny 82.40 335⇑iP P 11 05 23.2 0.0
FRNY Flat Rock 82.43 29 eP P 11 05 21.8 -1.6
LIT Litokhoron 82.44 322 eP P 11 05 22.7 -0.7
USIN University of 82.44 42 eP P 11 05 22.6 -0.8
comp=Z,112nm,1.0s,mb5.7
USIN epP pP 11 05 49.3 -1.5
PARMO Parma 82.48 44 eP P 11 05 23.3 -0.3
TIR Tirane 82.52 324 eP P 11 05 23.8 0.0
MUGIO Muggio 82.52 333⇑iP P 11 05 22.4 -1.4
comp=Z,1µm,1.2s,mb6.5
MUGIO Muggio 82.52 333⇑iP P 11 05 23.2 -0.6
JRS Jersey 82.53 342⇑eP P 11 05 23.6 -0.3
JVM Valle D.L. Mar 82.53 342⇑eP P 11 05 23.6 -0.2
LKBD Leukerbad 82.55 334⇑iP P 11 05 23.2 -0.7
comp=Z,656nm,1.3s,mb6.3
LKBD Leukerbad 82.55 334⇑iP P 11 05 23.9 0.0
JSA Saint Aubin 82.55 342⇑eP P 11 05 23.6 -0.3
FLN La Foliniere 82.56 340⇑iP P 11 05 23.8 -0.2
comp=Z,927nm,0.9s,mb6.3
FLN La Foliniere 82.56 340⇑iP P 11 05 23.8 -0.2
comp=Z,463nm,0.9s,mb6.3
KZN Kozani 82.58 322 eP P 11 05 23.7 -0.4
AOS Alonnisos 82.58 320 eP P 11 05 24.2 +0.1
PMOR Pomariorio Ree 82.61 120 eP P 11 05 24.5 +0.2
comp=Z,119nm,0.9s,mb5.7
PMOR epP sP 11 06 03.7 +0.7
comp=Z,150nm,1.0s
BDRM Kayabasi 82.61 317 iP P 11 05 25.5 +1.2
LDF La Druitiere 82.64 340⇑iP P 11 05 24.1 -0.3
comp=Z,1µm,1.4s,mb6.3
LDF La Druitiere 82.64 340⇑iP P 11 05 24.1 -0.3
comp=Z,683nm,1.4s,mb6.3
VAI Varese 82.66 333 P P 11 05 24.0 -0.5
UALR University of 82.66 47 eP P 11 05 23.9 -0.7
SENIN Lac Senin 82.67 335⇑iP P 11 05 23.2 -1.4
comp=Z,445nm,1.4s,mb6.1
SENIN Lac Senin 82.67 335⇑iP P 11 05 24.7 +0.1
TOO Toolangi 82.68 183 eP P 11 05 25.0 +0.4
comp=Z,31nm,1.5s
TOO esP sP 11 06 04.3 +1.0
BODT Bodrum 82.68 317 P P 11 05 25.3 +0.7
MUN Mundaring 82.69 208⇓iP P 11 05 23.7 -1.0
MUN esP sP 11 05 59.7 -3.7
MUN eS S 11 15 32.9 -0.6
ACSO Alum Creek Sta 82.71 38 eP P 11 05 24.0 -0.7
ALLY Alegheny Colle 82.71 35 eP P 11 05 24.3 -0.5
ALLY ePP PP 11 08 37.5 +1.6
XOR Xorichti 82.73 321 eP P 11 05 24.4 -0.4
MMK Mattmark 82.74 334⇑iP P 11 05 23.2 -1.8
comp=Z,773nm,1.9s,mb6.2
MMK Mattmark 82.74 334⇑iP P 11 05 25.5 +0.5
NEO Neokhori 82.77 321 eP P 11 05 24.5 -0.6
AIGLE Aigle 82.79 335⇑iP P 11 05 23.9 -1.3
comp=Z,524nm,1.4s,mb6.2
AIGLE Aigle 82.79 335⇑iP P 11 05 25.0 -0.2
CABF La Chapelle 82.80 335⇑iP P 11 05 25.3 0.0
comp=Z,356nm,0.9s,mb5.9
CABF La Chapelle 82.80 335⇑iP P 11 05 25.3 0.0
CABF pmax pmax
comp=Z,178nm,0.9s,mb5.9
CABF La Chapelle 82.80 335⇑iP P 11 05 25.3 0.0
comp=Z,178nm,0.9s,mb5.9
MCGN Macugnaga 82.82 334 P P 11 05 25.4 0.0
GIMEL Gimel 82.82 335⇑iP P 11 05 25.4 0.0

comp=Z,529nm,2.5s,mb5.9
GIMEL Gimel 82.82 335⇑iP P 11 05 25.3 -0.1
GRYON Gryon 82.83 335⇑iP P 11 05 24.7 -0.7
comp=Z,583nm,1.4s,mb6.2
GRYON Gryon 82.83 335⇑iP P 11 05 25.4 0.0
LOR Lormes 82.84 337⇑iP P 11 05 25.2 -0.2
comp=Z,446nm,0.9s,mb6.0
LOR eR
comp=Z,2μm,20.5s
LOR Lormes 82.84 337⇑iP P 11 05 25.2 -0.2
LOR pmax pmax
comp=Z,223nm,0.9s,mb6.0
LOR MLR MLR
comp=Z,2μm,20.5s
LOR Lormes 82.84 337⇑iP P 11 05 25.2 -0.2
comp=Z,223nm,0.9s,mb6.0
LOR LR LR
comp=Z,2μm,20.5s
WCI Wyandotte Cave 82.87 41 eP P 11 05 24.1 -1.5
comp=Z,59nm,0.6s,mb5.6
RAVA Ravarino 82.88 331 P P 11 05 26.9 +1.3
DIX Grande Dixence 82.89 334⇑iP P 11 05 25.3 -0.4
comp=Z,518nm,1.2s,mb6.2
DIX Grande Dixence 82.89 334⇑iP P 11 05 26.3 +0.6
GNAR Gosnell 82.90 45 eP P 11 05 25.6 -0.2
HBAR Harrisburg 82.91 45 eP P 11 05 25.9 +0.1
ARG Arkhangelos 82.96 316 eP P 11 05 26.5 +0.4
SALAN Lac Salanfe 82.96 335⇑iP P 11 05 25.4 -0.7
comp=Z,576nm,1.9s,mb6.1
SALAN Lac Salanfe 82.96 335⇑iP P 11 05 26.2 +0.1
BRSN Barisano 82.96 331 P P 11 05 27.9 +1.8
NCB Newcomb 82.97 30 eP P 11 05 25.0 -1.1
PESA Pesaro 83.00 330 P P 11 05 26.6 +0.3
GRR Gorron 83.00 340⇑iP P 11 05 26.3 0.0
comp=Z,1μm,0.9s,mb6.4
GRR Gorron 83.00 340⇑iP P 11 05 26.3 0.0
GRR pmax pmax
comp=Z,502nm,0.9s,mb6.3
GRR Gorron 83.00 340⇑iP P 11 05 26.3 0.0
comp=Z,502nm,0.9s,mb6.3
GLAT Glass 83.02 44 eP P 11 05 26.4 0.0
GLAT epP pP 11 05 54.5 +0.7
EMV Vieux Emosson 83.06 335⇑iP P 11 05 25.5 -1.1
comp=Z,495nm,1.2s,mb6.2
EMV Vieux Emosson 83.06 335⇑iP P 11 05 26.8 +0.2
AOI Ancona 83.06 329 P P 11 05 26.3 -0.3
MIV Mineville/With 83.12 30 eP P 11 05 25.5 -1.4
ORO Oropa 83.12 334 P P 11 05 26.1 -0.8
SSF Saint Saulge 83.12 337⇑iP P 11 05 26.7 -0.2
comp=Z,350nm,1.0s,mb5.8
SSF Saint Saulge 83.12 337⇑iP P 11 05 26.7 -0.2
comp=Z,175nm,1.0s,mb5.8
RSM Repubblica di 83.14 330 P P 11 05 27.5 +0.5
HYF Humbligny 83.17 338⇑iP P 11 05 27.4 +0.3
UTMT University of 83.17 44 eP P 11 05 30.5 +3.4
NWAO Narrogin (SRO) 83.23 207 eP P 11 05 27.0 -0.5
NWAO pmax pmax
comp=Z,157nm,1.1s
NWAO Narrogin (SRO) 83.23 207 eP P 11 05 27.0 -0.4
comp=Z,157nm,1.1s,mb5.8
MEV Metsovon 83.24 322 eP P 11 05 28.6 +1.1
HALT Halls 83.28 44 eP P 11 05 27.6 -0.2
ZCCA Zocca 83.28 331 P P 11 05 29.0 +1.3
ARV Arcevia 83.35 330 P P 11 05 28.1 0.0
comp=Z,593nm,1.1s,mb6.3
CING Cingoli 83.36 329 P P 11 05 28.0 -0.1
SFI Santa Sofia 83.38 331 P P 11 05 28.9 +0.7
comp=Z,668nm,1.0s,mb6.4
FNVD Fontana Vidola 83.39 331 P P 11 05 29.1 +0.8
comp=Z,2μm,2.1s,mb6.7
AGG Agios Georgios 83.39 321 eP P 11 05 27.7 -0.6
LKR Lokris 83.40 321 eP P 11 05 27.4 -0.9
ERBM Eremo 83.41 332 P P 11 05 29.2 +0.8
GSCL Gusciola 83.41 332 P P 11 05 29.2 +0.8
comp=Z,725nm,1.2s,mb6.4
SEI Scarperia 83.41 331 P P 11 05 29.8 +1.4
comp=Z,2μm,0.9s,mb7.0
SMF Signal de Mont 83.41 337⇑iP P 11 05 28.4 0.0
comp=Z,2μm,1.0s,mb6.5
SMF Signal de Mont 83.41 337⇑iP P 11 05 28.4 0.0
comp=Z,883nm,1.0s,mb6.5
AVF Avril sur Loir 83.41 337⇑iP P 11 05 28.4 0.0
comp=Z,2μm,1.4s,mb6.5
AVF Avril sur Loir 83.41 337⇑iP P 11 05 28.4 0.0
AVF pmax pmax
comp=Z,969nm,1.4s,mb6.4
AVF Avril sur Loir 83.41 337⇑iP P 11 05 28.4 0.0
comp=Z,969nm,1.4s,mb6.4
BOB Bobbio (Coli) 83.42 332 P P 11 05 27.6 -0.8
VMG Vicchio 83.43 331 P P 11 05 29.8 +1.3
comp=Z,5μm,1.6s,mb7.1
PTL Penteli 83.50 320 eP P 11 05 29.5 +0.6
OG05 Jujurieux 83.51 336 eP P 11 05 29.0 +0.1
JAN Janina 83.51 323 eP P 11 05 29.3 +0.4
SGMF Saint Gilles 83.52 342⇑iP P 11 05 29.3 +0.4
comp=Z,3μm,1.5s,mb6.7
SGMF Saint Gilles 83.52 342⇑iP P 11 05 29.3 +0.4
comp=Z,2μm,1.5s,mb6.6
LBNH Lisbon 83.52 28 eP P 11 05 28.9 -0.1
APE Apeiranthos 83.53 318 eP P 11 05 27.7 -1.3
APE Apeiranthos 83.53 318⇑iP P 11 05 27.6 -1.4
APE Apeiranthos 83.53 318 P P 11 05 28.7 -0.3
SNTG Esanatoglia 83.56 330 P P 11 05 29.2 0.0
comp=Z,824nm,1.3s,mb6.4
BADI Badiali 83.58 330 P P 11 05 29.9 +0.6
PPT Papeete 83.59 123 eP P 11 05 30.0 +0.7
comp=Z,77nm,1.3s,mb5.4
PPT epP sP 11 06 08.5 +0.4
comp=Z,113nm,1.4s
PPT Papeete 83.59 123 eS S 11 15 36.9 -5.8
comp=Z,2μm,27.2s
PPT eLQ 11 28 03.4
comp=Z,2μm,27.0s
PPT eLR LR 11 31 00.2
comp=Z,7μm,32.2s,baz=325
PPT Papeete 83.59 123 P P 11 05 29.2 -0.1
comp=Z,35nm,0.9s,mb5.2,baz=194,slow=4.2,SNR=3.5
PPT LR LR 11 37 12.4
comp=Z,2μm,19.0s,baz=306,slow=32
CRE Caprese Michel 83.59 330 P P 11 05 29.6 +0.3
ROSF Rostrenen 83.60 342⇑iP P 11 05 29.7 +0.3
comp=Z,3μm,1.3s,mb6.7
ROSF Rostrenen 83.60 342⇑iP P 11 05 29.7 +0.3
comp=Z,2μm,1.3s,mb6.7
LPL La Plagne 83.60 335⇑iP P 11 05 30.1 +0.7
comp=Z,506nm,1.0s,mb6.0
LPL La Plagne 83.60 335⇑iP P 11 05 30.1 +0.7
LPL pmax pmax
comp=Z,253nm,1.0s,mb6.0
LPL La Plagne 83.60 335⇑iP P 11 05 30.1 +0.7
comp=Z,253nm,1.0s,mb6.0
LPG La Plagne 83.61 335⇑iP P 11 05 30.2 +0.8
comp=Z,438nm,0.9s,mb6.0
LPG La Plagne 83.61 335⇑iP P 11 05 30.2 +0.8
LPG pmax pmax
comp=Z,219nm,0.9s,mb6.0
LPG La Plagne 83.61 335⇑iP P 11 05 30.2 +0.8
comp=Z,219nm,0.9s,mb6.0
ATH Athens Observa 83.63 320 eP P 11 05 28.7 -0.8
VLC Villacollemand 83.65 332 eP P 11 05 29.9 +0.2
PAE Paea 83.66 123 eP P 11 05 30.2 +0.5
comp=Z,127nm,1.3s,mb5.6
BDI Bagni Di Lucca 83.66 331 P P 11 05 29.3 -0.4
BDI pmax pmax
comp=Z,211nm,0.8s,mb6.0
BDI Bagni Di Lucca 83.66 331 P P 11 05 29.3 -0.4
comp=Z,211nm,0.8s,mb6.0
ACCN Adirondack Com 83.68 30 eP P 11 05 28.8 -1.0
MURB Monte Urbino 83.70 330 P P 11 05 30.3 +0.4
EVR Evrytania 83.71 321 eP P 11 05 29.3 -0.6
KVR Kavouri 83.73 320 eP P 11 05 29.8 -0.2
BGF Bois d'Agland 83.77 337⇑iP P 11 05 30.1 -0.1
comp=Z,2μm,1.8s,mb6.3
BGF Bois d'Agland 83.77 337⇑iP P 11 05 30.1 -0.1
comp=Z,962nm,1.8s,mb6.3
NATX Nacogdoches 83.77 50 eP P 11 05 30.9 +0.7
RSP Reno Superiore 83.77 334 P P 11 05 29.3 -0.9
FGMS Monte Sant'Ang 83.78 327 P P 11 05 29.7 -0.6
IGT Igoumenitsa 83.84 323 eP P 11 05 30.9 +0.3
WVT Waverly 83.84 43 eP P 11 05 30.2 -0.4
comp=Z,44nm,0.6s,mb5.5
BINY Binghamton 83.86 32 eP P 11 05 29.7 -1.0
NRCA Norcia 83.86 329 P P 11 05 31.1 +0.4
TERO Teramo 83.87 329 P P 11 05 30.6 -0.1
HNH Hanover 83.87 29 eP P 11 05 30.4 -0.4

NAIG Nisos Aigina 83.91 320 eP P 11 05 30.0 -0.9
KEK Kerkira 83.91 323 eP P 11 05 30.4 -0.6
RGNG Rignano Grg 83.95 327 P P 11 05 30.5 -0.6
CSNT Castellina Chi 83.95 331 P P 11 05 30.2 -0.9
TVO Taravao 83.95 123 eP P 11 05 31.9 +0.8
comp=Z,297nm,1.2s,mb6.0
KARP Karpathos 83.96 316 eP P 11 05 31.2 0.0
QUIF Quistinic 83.97 342⇑iP P 11 05 31.3 0.0
comp=Z,1μm,1.3s,mb6.3
QUIF Quistinic 83.97 342⇑iP P 11 05 31.3 0.0
comp=Z,665nm,1.3s,mb6.3
WVL Waterville 83.97 27 eP P 11 05 30.7 -0.6
comp=Z,118nm,1.3s,mb5.6
PII Pisa 83.99 331 P P 11 05 30.2 -1.1
BNI Bardonecchia 84.04 334 eP P 11 05 32.1 +0.5
BNI pmax pmax
comp=Z,216nm,1.1s,mb5.9
BNI Bardonecchia 84.04 334 eP P 11 05 32.0 +0.5
comp=Z,216nm,1.1s,mb5.9
GDM Grand'Maison 84.07 335 eP P 11 05 32.4 +0.6
LCI Lecce 84.09 325 P P 11 05 31.5 -0.3
PLDF La Plantade 84.09 337 eP P 11 05 32.4 +0.5
SANT Santorini 84.12 318 eP P 11 05 30.1 -2.0
GRN Grenoble 84.15 335 eP P 11 05 33.0 +0.9
AGO Saint Agoulin 84.15 337 eP P 11 05 32.8 +0.6
OG22 Abries 84.16 334 eP P 11 05 33.2 +1.0
AQU L'Aquila 84.18 329⇓iP P 11 05 32.6 +0.3
AQU L'Aquila 84.18 329 eP P 11 05 33.2 +0.9
TCF Toulx Ste Croi 84.19 338⇑iP P 11 05 32.6 +0.3
comp=Z,617nm,1.0s,mb6.1
TCF Toulx Ste Croi 84.19 338⇑iP P 11 05 32.6 +0.3
comp=Z,309nm,1.0s,mb6.1
CIGN Sant'Elia a Pi 84.22 327 P P 11 05 32.7 +0.2
comp=Z,1μm,1.8s,mb6.5
INTR Introdacqua 84.29 328 P P 11 05 31.4 -1.5
MBDF Montbardon 84.30 334⇑iP P 11 05 33.0 +0.1
comp=Z,296nm,0.9s,mb5.8
MBDF Montbardon 84.30 334⇑iP P 11 05 33.0 +0.1
MBDF pmax pmax
comp=Z,148nm,0.9s,mb5.8
MBDF Montbardon 84.30 334⇑iP P 11 05 33.0 +0.1
comp=Z,148nm,0.9s,mb5.8
FIN Finale Ligure 84.32 333 P P 11 05 32.1 -0.9
FIN pmax pmax
comp=Z,515nm,1.4s,mb6.2
FIN Finale Ligure 84.32 333 P P 11 05 32.1 -0.9
comp=Z,515nm,1.4s,mb6.2
GRFL Gerfalco 84.34 331 P P 11 05 32.4 -0.7
DOI San Damiano 84.36 334 P P 11 05 31.3 -1.9
FIAM Fiamignano 84.36 329 P P 11 05 33.2 0.0
OXF Oxford 84.36 45 eP P 11 05 32.7 -0.5
LKD Levkas 84.39 322 eP P 11 05 32.8 -0.6
CII Carovilli 84.39 328 P P 11 05 34.1 +0.7
ORIF Oris-en-Rattie 84.40 335⇑iP P 11 05 34.0 +0.6
comp=Z,496nm,0.9s,mb6.0
ORIF eR
comp=Z,2μm,22.2s
ORIF Oris-en-Rattie 84.40 335⇑iP P 11 05 34.0 +0.6
ORIF pmax pmax
comp=Z,248nm,0.9s,mb6.0
ORIF Oris-en-Rattie 84.40 335⇑iP P 11 05 34.0 +0.6
comp=Z,248nm,0.9s,mb6.0
FG5 Orsara di Pugl 84.41 327 P P 11 05 33.8 +0.4
FG5 pmax pmax
comp=Z,2μm,1.6s,mb6.7
FG5 Orsara di Pugl 84.41 327 P P 11 05 33.8 +0.4
comp=Z,2μm,1.6s,mb6.7
MNS Montasola 84.41 329 P P 11 05 32.9 -0.6
FG4 Candela 84.44 327 P P 11 05 33.8 +0.2
EIL Elat 84.45 307 eP P 11 05 35.1 +1.5
PYM Petit Puy Mans 84.47 337 eP P 11 05 35.3 +1.6
RNI2 Rionero Sannit 84.47 328 P P 11 05 34.1 +0.4
SSPA Standing Stone 84.47 34 eP P 11 05 32.6 -1.2
MIDA Miranda 84.48 328 P P 11 05 33.9 +0.1
COLF Collangettes 84.49 336 eP P 11 05 34.6 +0.7
MFF Saint Martin d 84.50 339⇑iP P 11 05 34.4 +0.5
comp=Z,2μm,1.2s,mb6.4
MFF Saint Martin d 84.50 339⇑iP P 11 05 34.4 +0.5
comp=Z,823nm,1.2s,mb6.4
HKT Hockley 84.51 52 eP P 11 05 33.6 -0.4
HKT e*PP pP 11 06 00.0 -1.5
HKT pmax pmax
comp=Z,790nm,1.4s,mb6.5
HKT Hockley 84.51 52 eP P 11 05 33.6 -0.4
comp=Z,80nm,1.4s,mb5.5
HKT epP pP 11 06 00.0 -1.4
SURF Saint Ours 84.51 334 eP P 11 05 34.6 +0.6
MCWV Mont Chateau 84.51 36 eP P 11 05 33.8 -0.2
EMMW East Machias 84.53 25 eP P 11 05 33.7 -0.3
comp=Z,135nm,1.4s,mb5.7
EMMW ePP PP 11 08 49.0 -1.8
RLS Riolos of Patr 84.57 321 eP P 11 05 34.2 -0.1
SJI San Donato 84.59 328 P P 11 05 32.5 -1.9
PSB1 Pescosannita 84.63 327 P P 11 05 34.1 -0.5
PLAL Pickwick Lake 84.64 44 eP P 11 05 33.4 -1.2
CERT Cerreto 84.68 329 P P 11 05 34.1 -0.7
IMI Imperia 84.69 333 P P 11 05 34.5 -0.4
GUAR Guarcino 84.70 329 P P 11 05 34.4 -0.5
MTCE Montecelio 84.71 329 P P 11 05 34.0 -1.0
SAOF Saorge 84.72 333 eP P 11 05 34.8 -0.3
AUTN L'Aution 84.76 333 eP P 11 05 35.9 +0.7
MRLC Muro Lucano 84.77 327 P P 11 05 34.8 -0.5
comp=Z,804nm,1.8s,mb6.3
TOUF Mont Tournerai 84.80 334 eP P 11 05 35.6 +0.2
VIVF Saint-Julien-l 84.81 336⇑iP P 11 05 36.1 +0.6
comp=Z,702nm,1.0s,mb6.2
VIVF Saint-Julien-l 84.81 336⇑iP P 11 05 36.1 +0.6
comp=Z,351nm,1.0s,mb6.2
OG25 Le Caire 84.84 334 eP P 11 05 34.3 -1.3
VLS Valsamata 84.86 322 eP P 11 05 35.1 -0.6
CSSN Cassano Irpino 84.86 327 P P 11 05 35.6 -0.1
SBF Sospel 84.87 333⇑iP P 11 05 35.5 -0.3
comp=Z,1μm,1.2s,mb6.4
SBF Sospel 84.87 333⇑iP P 11 05 35.5 -0.3
comp=Z,620nm,1.2s,mb6.4
LBL Lubilhac 84.88 337 eP P 11 05 36.7 +0.9
LUCF Luceram 84.88 333 eP P 11 05 35.7 -0.1
RFI Roccamonfina 84.88 328 P P 11 05 36.0 +0.2
FRNF Fournols 84.92 337 eP P 11 05 36.9 +0.9
MVIF Mont Vial 84.93 334 eP P 11 05 36.0 -0.1
TOLF Tolfa 84.94 330 P P 11 05 35.7 -0.4
NPS Neapolis 84.94 317 eP P 11 05 35.7 -0.4
RDP Rocca di Papa 84.95 329 P P 11 05 35.7 -0.5
ORI Oriolo Calabro 84.99 326 P P 11 05 36.8 +0.4
REVF Revere 85.01 333 eP P 11 05 36.3 -0.2
SGO Sicignano 85.01 327 P P 11 05 35.9 -0.6
SGO pmax pmax
comp=Z,587nm,1.5s,mb6.3
SGO Sicignano 85.01 327 P P 11 05 35.9 -0.6
comp=Z,587nm,1.5s,mb6.3
VLI Velia 85.02 320 eP P 11 05 34.5 -2.0
SLCN Sala Consilina 85.03 326 P P 11 05 36.3 -0.3
comp=Z,467nm,1.3s,mb6.3
ITM Ithomi 85.09 320 eP P 11 05 36.0 -0.9
HRV Harvard--Oak R 85.18 29 eP P 11 05 37.1 -0.2
XRY Khrisi 85.22 317 eP P 11 05 38.0 +0.5
STOF St-Etienne Org 85.22 334 eP P 11 05 38.2 +0.6
MGR Morigerati 85.28 326 P P 11 05 36.1 -1.7
comp=Z,183nm,1.0s,mb6.0
RJF Les Rejaudoux 85.28 338⇑iP P 11 05 38.3 +0.5
comp=Z,2μm,1.4s,mb6.6
RJF eR
comp=Z,3μm,22.8s
RJF Les Rejaudoux 85.28 338⇑iP P 11 05 38.3 +0.5
RJF pmax pmax
comp=Z,1μm,1.4s,mb6.6
RJF MLR MLR
comp=Z,3μm,22.8s
RJF Les Rejaudoux 85.28 338⇑iP P 11 05 38.3 +0.5
comp=Z,1μm,1.4s,mb6.6
RJF LR LR
comp=Z,3μm,22.8s
CUC Castrocucco 85.30 326 P P 11 05 36.5 -1.4
KYTH Kithira 85.33 319 eP P 11 05 37.5 -0.6
SMRF Simiane la Rot 85.35 335⇑iP P 11 05 38.8 +0.6
comp=Z,725nm,1.3s,mb6.1
SMRF Simiane la Rot 85.35 335⇑iP P 11 05 38.8 +0.6
comp=Z,725nm,1.3s,mb6.5
WES Weston 85.37 29 eP P 11 05 38.0 -0.3
WES pmax pmax
comp=Z,730nm,0.8s,mb6.7
WES Weston 85.37 29 eP P 11 05 38.0 -0.3
comp=Z,73nm,0.8s,mb5.7
FRF La Foret Royal 85.39 334⇑iP P 11 05 38.1 -0.3

comp=Z,1μm,1.6s,mb6.3
FRF La Foret Royal 85.39 334⇑iP P 11 05 38.1 -0.3
comp=Z,645nm,1.6s,mb6.3
OLEF Ile d'Oleron 85.41 340 eP P 11 05 38.7 +0.2
VILF Villemus 85.42 334 eP P 11 05 39.2 +0.7
CAF Calviac 85.48 337⇑iP P 11 05 39.8 +1.0
comp=Z,2μm,1.4s,mb6.6
CAF Calviac 85.48 337⇑iP P 11 05 39.8 +1.0
CAF pmax pmax
comp=Z,1μm,1.4s,mb6.7
CAF Calviac 85.48 337⇑iP P 11 05 39.8 +1.0
comp=Z,1μm,1.4s,mb6.7
SWET Sewanee 85.48 42 eP P 11 05 38.2 -0.6
VAM Vamos 85.50 318 eP P 11 05 37.6 -1.3
TZTN Tazewell 85.50 40 eP P 11 05 38.7 -0.3
TAVF Tavernes 85.53 334 eP P 11 05 39.7 +0.7
VENT Ventotene 85.53 328 P P 11 05 39.3 +0.3
PGF Pioggiola 85.54 332⇑iP P 11 05 38.9 -0.2
comp=Z,2μm,1.6s,mb6.4
PGF Pioggiola 85.54 332⇑iP P 11 05 38.9 -0.2
PGF pmax pmax
comp=Z,767nm,1.6s,mb6.4
PGF Pioggiola 85.54 332⇑iP P 11 05 38.9 -0.2
comp=Z,767nm,1.6s,mb6.4
TIP Timpagrande 85.62 325 eP P 11 05 39.3 -0.2
PRAF Pradon 85.62 335 eP P 11 05 40.6 +1.1
LMR La Mourre 85.64 334⇑iP P 11 05 39.7 +0.1
comp=Z,1μm,1.2s,mb6.5
LMR La Mourre 85.64 334⇑iP P 11 05 39.7 +0.1
comp=Z,723nm,1.2s,mb6.5
PAL Palisades 85.67 31 eP P 11 05 39.1 -0.7
BRNJ Basking Ridge 85.71 32 eP P 11 05 40.2 +0.3
PUYF Puyloubier 85.71 334 eP P 11 05 40.7 +0.7
CORF Corte 85.72 332 eP P 11 05 39.9 -0.1
TREF Trevaresse 85.72 335 eP P 11 05 41.0 +1.0
LASF Ste Croix 85.76 336⇑iP P 11 05 41.1 +0.9
comp=Z,1μm,1.6s,mb6.3
LFF La Frestale 85.82 338⇑iP P 11 05 41.3 +0.8
comp=Z,2μm,1.2s,mb6.5
LFF La Frestale 85.82 338⇑iP P 11 05 41.3 +0.8
LFF pmax pmax
comp=Z,806nm,1.2s,mb6.5
LFF La Frestale 85.82 338⇑iP P 11 05 41.3 +0.8
comp=Z,806nm,1.2s,mb6.5
CPNY Central Park 85.84 31 eP P 11 05 40.5 -0.1
BERF Bertagne 85.91 334 eP P 11 05 41.8 +0.8
GELF Grande-Etoile 85.93 334 eP P 11 05 41.8 +0.8
ZAIG Zacatecas 85.93 62 iP P 11 05 41.9 +0.9
CPCT Cooper Cave 85.96 41 eP P 11 05 40.8 -0.4
CPCT epP pP 11 06 06.0 -2.8
GVD Gavdhos 86.02 318 eP P 11 05 41.4 -0.1
comp=Z,635nm,0.9s,mb6.5
GRI Girifalco 86.06 325 P P 11 05 42.1 +0.4
BLA Blacksburg 86.33 38⇑iP P 11 05 42.5 -0.5
BLA e*PP pP 11 06 08.3 -2.3
BLA e*SP sP 11 06 20.0 -1.9
BLA pmax pmax
comp=Z,600nm,0.9s,mb6.5
BLA Blacksburg 86.33 38⇑iP P 11 05 42.5 -0.5
comp=Z,6.4nm,0.9s
BLA epP pP 11 06 08.2 -2.4
BLA esP sP 11 06 20.0 -1.9
LRAL Lakeview Retre 86.73 44 eP P 11 05 44.2 -0.8
comp=Z,54nm,0.9s,mb5.5
LRAL epP pP 11 06 10.8 -1.8
SCLL Scilla 86.83 325 P P 11 05 43.7 -1.8
SOI Samo 86.85 325 P P 11 05 44.8 -0.8
MTLF Montolieu 86.90 337⇑iP P 11 05 46.6 +0.8
comp=Z,951nm,1.4s,mb6.2
MTLF Montolieu 86.90 337⇑iP P 11 05 46.6 +0.8
comp=Z,476nm,1.4s,mb6.2
SLNA Salina 86.92 326 P P 11 05 45.4 -0.5
URZ Urewera 86.97 158 P P 11 05 43.7 -2.5
comp=Z,37nm,0.9s,mb5.3,baz=2.9,slow=4.2,SNR=10
URZ LR LR 11 41 15.5
comp=Z,1μm,18.6s,baz=235,slow=33
MTTG Motta San Giov 87.06 325 P P 11 05 45.8 -0.8
LRDF Laroque-de-Fa 87.19 336 eP P 11 05 48.3 +1.1
DGI Dorgali Grotta 87.32 330 P P 11 05 47.8 0.0
USI Ustica 87.43 327 P P 11 05 47.6 -0.8
SJAF Saint Jean de 87.50 336 eP P 11 05 49.3 +0.6
CARF Carcanieres 87.51 336 eP P 11 05 49.6 +0.9
MNO Monte Soro 87.52 326 P P 11 05 48.6 -0.2
FILF Fillols 87.53 336 eP P 11 05 50.1 +1.3
MLS Moulis 87.57 337 eP P 11 05 49.6 +0.6
EPF Esparros 87.70 338⇑iP P 11 05 49.5 -0.2
comp=Z,313nm,1.1s,mb6.0
EPF Esparros 87.70 338⇑iP P 11 05 49.5 -0.2
EPF pmax pmax
comp=Z,156nm,1.1s,mb6.0
EPF Esparros 87.70 338⇑iP P 11 05 49.5 -0.2
comp=Z,156nm,1.1s,mb6.0
SALF Salau 87.73 337 eP P 11 05 50.6 +0.8
GIB Gibilmanna 87.73 326 P P 11 05 47.7 -2.1
LABF Labassere 87.76 338 eP P 11 05 50.3 +0.4
CSLB Castelbuono 87.76 326 P P 11 05 48.7 -1.2
VALF Valcebollere 87.83 336 eP P 11 05 51.5 +1.3
REYF Montagne du Re 87.86 338 eP P 11 05 50.7 +0.3
ORDF Ordiarp 87.87 339 eP P 11 05 50.0 -0.4
AGST Augusta-Monte 87.89 325 P P 11 05 49.3 -1.2
comp=Z,220nm,0.8s,mb6.2
OSSF Osses 87.91 339 eP P 11 05 49.9 -0.7
RESF Ens 87.91 338 eP P 11 05 52.0 +1.4
ATE Arette 87.93 339 eP P 11 05 50.2 -0.5
VIEF Viey 87.93 338 eP P 11 05 51.1 +0.4
TAU Tasmania Unive 87.96 181 P P 11 05 51.4 +0.5
comp=Z,500nm,0.7s,mb6.7,SNR=8.2
TAU Tasmania Unive 87.96 181 eP P 11 05 50.5 -0.4
TAU pmax pmax
comp=Z,57nm,0.8s,mb5.7
TAU Tasmania Unive 87.96 181 eP P 11 05 50.5 -0.4
comp=Z,57nm,0.8s,mb5.7
EALK Alkurruntz 88.01 339 ⇑P P 11 05 50.3 -0.7
comp=Z,434nm,1.0s,mb6.4
SJPF Ste Jean 88.03 339⇑iP P 11 05 51.7 +0.5
comp=Z,150nm,0.9s,mb5.7
SJPF Ste Jean 88.03 339⇑iP P 11 05 51.7 +0.5
SJPF pmax pmax
comp=Z,75nm,0.9s,mb5.7
SJPF Ste Jean 88.03 339⇑iP P 11 05 51.7 +0.5
comp=Z,75nm,0.9s,mb5.7
SSY Sortino 88.04 325 P P 11 05 50.5 -0.7
comp=Z,636nm,1.1s,mb6.6
LARF Larrau 88.05 339 eP P 11 05 51.8 +0.5
ELIZ Elizondo 88.06 339 ⇓P P 11 05 51.1 -0.2
comp=Z,170nm,1.0s,mb6.0
ETSF Etsaut 88.06 338⇑iP P 11 05 51.9 +0.5
comp=Z,270nm,0.7s,mb6.1
ETSF Etsaut 88.06 338⇑iP P 11 05 51.9 +0.5
ETSF pmax pmax
comp=Z,135nm,0.7s,mb6.1
ETSF Etsaut 88.06 338⇑iP P 11 05 51.9 +0.5
comp=Z,135nm,0.7s,mb6.1
EBIE Bielsa 88.08 338 ⇑P P 11 05 51.4 0.0
comp=Z,460nm,1.3s,mb6.3
GOGA Godfrey 88.13 42 eP P 11 05 51.4 -0.2
VSL Villasalto 88.13 330 eP P 11 05 51.9 +0.2
HVZN Vizzini 88.16 325 P P 11 05 50.9 -0.9
HAVL Avola 88.18 325 P P 11 05 51.3 -0.6
comp=Z,434nm,1.3s,mb6.3
ERC Erice 88.25 327 P P 11 05 52.3 +0.1
RAFF Raffo Rosso 88.26 326 P P 11 05 50.6 -1.7
HMDC Modica 88.32 325 P P 11 05 52.2 -0.4
CLTB Caltabellotta 88.40 327 P P 11 05 51.9 -1.1
EMIR Miracle 88.42 337 ⇑P P 11 05 53.2 +0.2
comp=Z,325nm,1.4s,mb6.2
JSC Jenkinsville 88.42 40 eP P 11 05 52.7 -0.3
EGRA Graus 88.49 337 P P 11 05 53.4 +0.1
comp=Z,397nm,1.6s,mb6.2
EARI Arriondas 88.80 342 P P 11 05 53.8 -1.1
comp=Z,329nm,1.6s,mb6.1
ESAC San Caprasio 89.14 338 ⇑P P 11 05 55.6 -0.8
comp=Z,696nm,1.0s,mb6.6
EPON Pontenova 89.19 343 ⇑P P 11 05 55.3 -1.3
comp=Z,349nm,1.1s,mb6.3
SNZO South Karori 89.28 161 eP P 11 05 55.3 -1.8
THZ Tophouse 89.32 163 PN P 11 05 56.2 -1.0
COW Cow Castle Cre 89.43 40 eP P 11 05 53.2 -4.6
ERTA Horta de San J 89.64 337 P P 11 05 56.6 -2.1
comp=Z,202nm,1.6s,mb6.0
EBR Ebro Roquetas 89.72 337 ePCP PcP 11 05 59.5 -0.9
STS Santiago 89.90 344 P P 11 05 58.5 -1.4
comp=Z,123nm,1.1s,mb6.0
EMAZ Mazaricos 89.92 344 P P 11 05 58.5 -1.5

comp=Z,256nm,1.2s,mb6.2
ETOS Mallorca 90.03 335 ⇑P **P 11 06 00.4 -0.1**
comp=Z,353nm,0.9s,mb6.5
WVZ Waitaha Valley 90.15 164 pP sP 11 06 40.7 +0.6
ETOR Torete 90.40 339 P **P 11 06 01.5 -0.8**
ETOR pmax pmax
comp=Z,86nm,1.2s,mb5.8
ETOR Torete 90.40 339 P **P 11 06 01.5 -0.8**
comp=Z,86nm,1.2s,mb5.8
EMOS Mosqueruela 90.41 337 ⇑P **P 11 06 01.8 -0.6**
comp=Z,231nm,1.1s,mb6.2
ECAL Calabor 90.44 342 P **P 11 06 00.2 -2.2**
comp=Z,204nm,1.7s,mb6.0
PBRG Braganca 90.57 342 *e*P **P 11 06 00.0 -3.1**
ELOB Lobios 90.78 343 P **P 11 06 03.2 -0.9**
comp=Z,227nm,1.4s,mb6.1
PCAB Cabril 90.92 343 *e*P **P 11 06 04.5 -0.2**
comp=Z,108nm,1.1s,mb5.9
GUD Guadarrama 91.09 340 P **P 11 06 04.6 -0.9**
comp=Z,47nm,1.1s,mb5.5
EIBI Ibiza 91.14 336 ⇑P **P 11 06 05.4 -0.4**
comp=Z,454nm,1.1s,mb6.5
ECHE Chera 91.27 337 P **P 11 06 06.8 +0.5**
ECHE pmax pmax
comp=Z,65nm,0.8s,mb5.8
ECHE Chera 91.27 337 P **P 11 06 06.8 +0.5**
comp=Z,65nm,0.8s,mb5.8
PVRL Vila Real 91.28 343 *e*P **P 11 06 06.3 -0.1**
comp=Z,190nm,1.0s,mb6.2
LBZ Lake Benmore 91.31 165 PN **P 11 06 07.0 +0.5**
LBZ pP sP 11 06 46.6 +1.0
CMAH Djebel Manchou 91.39 330 P **P 11 06 07.0 +0.1**
CAEH 'Ain El Ouahch 91.45 331 P **P 11 06 07.0 -0.2**
PTO Porto 91.59 343 *e*P **P 11 06 06.7 -1.1**
ABSA Djebel Ababsia 91.68 330 P **P 11 06 09.0 +0.7**
CKFL Kef-Lekhel 91.83 331 P **P 11 06 10.0 +1.1**
PVIS Viseu 91.85 343 *e*P **P 11 06 08.8 -0.2**
comp=Z,94nm,1.0s,mb6.0
EBEN Beniarda 91.89 337 ⇑P **P 11 06 09.6 +0.4**
comp=Z,476nm,1.3s,mb6.6
ESDC Sonseca Array 91.96 340 P **P 11 06 08.9 -0.6**
comp=Z,15nm,0.7s,mb5.3,baz=20,slow=3.5,SNR=48
ESDC Sonseca Array 91.96 340 ⇑P **P 11 06 07.8 -1.7**
comp=Z,63nm,1.2s,mb5.7
ESLA Sonseca Array 91.96 340 *e*P **P 11 06 09.7 +0.1**
comp=Z,190nm,2.0s,mb6.0
DFRA Djebel Bou Afif 91.99 331 P **P 11 06 10.5 +0.8**
ODZ Otahua Downs 92.03 165 pP sP 11 06 51.0 +2.1
CASM Ain Smara 92.04 331 P **P 11 06 10.5 +0.6**
MTE Manteigas 92.08 343 *e*P **P 11 06 10.0 -0.1**
comp=Z,152nm,0.9s,mb6.2
MTE Manteigas 92.08 343 *e*S SKSac 11 16 34.9 +1.5
MTE Manteigas 92.08 343 *e*P **P 11 06 09.5 -0.6**
comp=Z,124nm,0.8s,mb6.2
ETOB Tobarra 92.31 338 ⇑P **P 11 06 10.4 -0.8**
comp=Z,321nm,2.0s,mb6.2
SET Setif 92.47 332 P **P 11 06 13.0 +1.1**
EVIA Vianos 92.57 338 P **P 11 06 12.2 -0.1**
EVIA pmax pmax
comp=Z,77nm,0.8s,mb6.1
EVIA Vianos 92.57 338 P **P 11 06 12.2 -0.2**
comp=Z,77nm,0.8s,mb6.1
CKHR Kef el Ahmar 92.59 331 P **P 11 06 14.1 +1.6**
PCBR Castelo Branco 92.61 342 *e*P **P 11 06 12.1 -0.4**
comp=Z,68nm,1.0s,mb5.9
ABA Alger-Bouzarea 92.68 334 P **P 11 06 15.0 +2.1**
CMER Merouana 92.82 331 P **P 11 06 14.0 +0.5**
EMUR La Murta 92.98 337 P **P 11 06 12.9 -1.4**
comp=Z,112nm,1.4s,mb6.0
PTOM Tomar 93.02 343 *e*P **P 11 06 14.0 -0.4**
comp=Z,77nm,0.9s,mb6.0
AKET Djebel Ketaf 93.11 333 P **P 11 06 16.2 +1.4**
ATAF Djebel Tarf 93.14 332 P **P 11 06 16.0 +1.1**
ADJB Djebel Djouab 93.15 333 P **P 11 06 16.2 +1.2**
CART Cartagena 93.15 337 *e*P **P 11 06 14.2 -0.8**
EMHD Djebel Mahouad 93.26 333 P **P 11 06 16.5 +1.0**
EBAN Banos Encina 93.34 339 P **P 11 06 15.3 -0.6**
EBAN pmax pmax
comp=Z,31nm,0.8s,mb5.7
EBAN Banos Encina 93.34 339 P **P 11 06 15.3 -0.6**
comp=Z,31nm,0.8s,mb5.7
EHUE Huescar 93.37 338 P **P 11 06 15.9 -0.1**
EHUE pmax pmax
comp=Z,35nm,1.0s,mb5.6
EHUE Huescar 93.37 338 P **P 11 06 15.9 -0.1**
comp=Z,35nm,1.0s,mb5.7
EQES Quesada 93.50 338 P **P 11 06 15.6 -1.0**
comp=Z,169nm,2.1s,mb6.0
EADA Adamuz 93.54 340 ⇑P **P 11 06 16.1 -0.7**
comp=Z,60nm,1.0s,mb5.9
EBAD Badajoz 93.55 342 P **P 11 06 15.5 -1.3**
comp=Z,72nm,1.4s,mb5.8
EBNR Beni Rached 93.62 334 P **P 11 06 18.0 +0.8**
ECHA Ech Chlef 93.80 335 P **P 11 06 19.0 +1.0**
PLOU Loures 93.87 343 *e*P **P 11 06 17.0 -1.3**
comp=Z,151nm,1.0s,mb6.3
ENIJ Nijar 94.06 337 P **P 11 06 18.1 -1.1**
ENIJ pmax pmax
comp=Z,54nm,1.0s,mb5.8
ENIJ Nijar 94.06 337 P **P 11 06 18.1 -1.1**
comp=Z,54nm,1.0s,mb5.8
MOE Montemor 94.06 343 *e*P **P 11 06 18.3 -0.9**
EANR 'Ain N'Sour 94.07 335 P **P 11 06 20.0 +0.8**
ECOG Cogollos-Vega 94.13 339 ⇑P **P 11 06 19.6 +0.1**
ECOG pmax pmax
comp=Z,41nm,1.2s,mb5.6
ECOG Cogollos-Vega 94.13 339 ⇑P **P 11 06 19.6 +0.1**
comp=Z,41nm,1.2s,mb5.6
PLML Palmela 94.14 343 *e*P **P 11 06 20.0 +0.4**
EBER Berja 94.31 338 ⇑P **P 11 06 18.6 -1.7**
comp=Z,53nm,1.0s,mb5.8
ELOJ Sierra Loja 94.40 339 P **P 11 06 20.2 -0.6**
ELOJ pmax pmax
comp=Z,35nm,0.8s,mb5.7
ELOJ Sierra Loja 94.40 339 P **P 11 06 20.2 -0.6**
comp=Z,35nm,0.8s,mb5.7
EMIN Mina Concepcio 94.41 341 ⇑P **P 11 06 20.0 -0.8**
comp=Z,92nm,1.1s,mb6.0
PBEJ Beja 94.43 342 *e*P **P 11 06 20.5 -0.4**
comp=Z,49nm,1.2s,mb5.7
ERON Agron 94.43 339 P **P 11 06 20.4 -0.5**
comp=Z,30nm,0.7s,mb5.7
ETRT Tiaret 94.52 334 P **P 11 06 21.0 -0.3**
EGUA Guajares 94.55 338 P **P 11 06 21.1 -0.3**
comp=Z,5.1nm,0.7s,mb5.1
EGRO El Granado 94.82 342 ⇑P **P 11 06 21.3 -1.3**
comp=Z,78nm,1.1s,mb6.0
PTEO Sao Teotonio 95.08 343 *e*P **P 11 06 23.7 -0.2**
comp=Z,111nm,0.9s,mb6.3
ESPR Espera 95.08 340 ⇑P **P 11 06 23.5 -0.4**
comp=Z,76nm,0.9s,mb6.1
EMIJ Mijas 95.11 339 P **P 11 06 22.7 -1.3**
comp=Z,28nm,0.8s,mb5.7
EJIF Jimena Fronter 95.39 340 P **P 11 06 25.1 -0.2**
comp=Z,88nm,1.2s,mb6.1
ADH Angra Heroismo 96.25 357 *i* LR LR 11 39 37.5
PMPS Porto Santo 100.82 348 *e*P Pdif 11 06 49.2 -0.4
comp=Z,200nm,1.2s
KMBO Kilima Mbogo 106.16 285 PP PP 11 11 37.1 -1.2
comp=Z,8.4nm,1.0s,baz=42,slow=10,SNR=5.9
KMBO PKKPbc PKKPbc 11 22 45.7 -0.4
comp=Z,0.8nm,0.4s,baz=45,slow=11,SNR=3.9
DRV Dumont d'Urvil 111.97 184 Pdif Pdif 11 07 38.0 -1.2
DRV Dumont d'Urvil 111.97 184 PP PP 11 12 21.0 +0.5
DRV SKS SKSac 11 18 07.0 -1.1
DRV SP SP 11 21 41.0 -1.2
DRV SS SS 11 27 49.0 -0.6
TORD Torodi Ar. Bea 114.77 325 PKiKP PKiKP 11 11 40.5 -0.4
comp=Z,3.6nm,0.5s,baz=17,slow=2.0,SNR=34
TORD PP PP 11 12 37.1 -3.2
comp=Z,20nm,0.8s,baz=18,slow=8.4,SNR=11
TORD PKKPbc PKKPbc 11 22 17.8 -0.4
comp=Z,6.9nm,1.1s,baz=239,slow=1.9,SNR=10
TORD SKKP 11 26 00.5
comp=Z,2.5nm,1.0s,baz=206,slow=4.1,SNR=3.7
SDV Santo Domingo 115.13 44 PKPdf PKiKP 11 11 41.7 +0.1
LSZ Lusaka 122.50 282 P PKPdf 11 11 56.9 +1.2
SNR=7.5
LSZ Lusaka 122.50 282 *e*PKPdf PKPdf 11 11 56.4 +0.7
VNDA Vanda 122.91 177 PKP PKPdf 11 11 54.5 -2.1
comp=Z,15nm,0.8s,baz=324,slow=4.0,SNR=78
VNDA pPKP pPKPdf 11 12 22.9 -2.7
comp=Z,5.7nm,0.7s,baz=302,slow=5.5,SNR=2.7
VNDA PKKPbc PKKPbc 11 21 48.1 -0.6
comp=Z,3.6nm,1.0s,baz=235,slow=1.6,SNR=11
VNDA Vanda 122.91 177 PKIKP PKPdf 11 11 54.5 -2.0
VNDA 11 12 22.9
VNDA Vanda 122.91 177 *e*PKPdf PKPdf 11 11 54.9 -1.7
DBIC Dimbokro 123.22 329 PKP PKPdf 11 11 56.9 -0.3
comp=Z,18nm,0.6s,baz=28,slow=2.7,SNR=43
DBIC pPKP pPKPdf 11 12 25.4 -0.7
comp=Z,28nm,1.1s,baz=35,slow=2.9,SNR=5.8
DBIC PP PP 11 13 36.0 -2.5
comp=Z,16nm,0.8s,baz=1.7,slow=8.4,SNR=5.9
DBIC PKKPab PKKPab 11 21 47.2 -0.5
comp=Z,5.8nm,0.9s,baz=179,slow=5.8,SNR=7.4
DBIC Dimbokro 123.22 329 PKIKP PKPdf 11 11 56.9 -0.2
DBIC 11 12 25.4
DBIC 11 13 36.0
DBIC Dimbokro 123.22 329 *e*PKPdf PKPdf 11 11 57.0 -0.1
SBA Scott Base 123.46 176 *e*PKIKP PKPdf 11 11 56.3 -1.3
LIC Lamto 123.69 329 ⇑*i*PKIKP PKPdf 11 11 57.7 -0.4
comp=Z,41nm,0.7s
LIC *e*R
comp=Z,617nm,20.2s
LIC Lamto 123.69 329 ⇑*i*PKPdf PKPdf 11 11 57.7 -0.4
LIC LR LR
comp=Z,310nm,20.3s
NNA Nana 128.60 65 *e*PKPdf PKPdf 11 12 06.3 -1.2
MAW Mawson 129.71 210 *e*PDIF PKPdf 11 12 08.3 -1.2
comp=Z,12nm,0.9s
MAW *e* 11 12 38.4
MAW Mawson 129.71 210 PKP PKPdf 11 12 08.5 -1.0
comp=Z,13nm,0.7s,baz=60,slow=2.3,SNR=37
MAW pPKP pPKPdf 11 12 36.2 -2.3
comp=Z,12nm,0.8s,baz=167,slow=3.8,SNR=4.5
LBTB Lobatse 130.78 275 *e*PKIKP PKPdf 11 12 10.9 -0.7
TSUM Tsumeb 132.47 287 *e*PKPdf PKPdf 11 12 10.2 -4.6
TSUM *e*PP PP 11 14 34.9 -4.3
TSUM *e*SKPbc SKPbc 11 15 32.5 +0.5
TSUM *e*SKPdf SKPdf 11 15 39.0 -1.2
BOSA Boshof 133.24 271 PKP PKPdf 11 12 14.4 -1.8
comp=Z,3.8nm,0.8s,baz=43,slow=5.0,SNR=4.4
BOSA PP PP 11 14 44.2 +0.1
comp=Z,10nm,0.9s,baz=57,slow=5.1,SNR=4.0
BOSA SKPbc SKPbc 11 15 34.8 +0.1
comp=Z,26nm,1.1s,baz=45,slow=2.3,SNR=3.9
BOSA Boshof 133.24 271 PKIKP PKPdf 11 12 14.5 -1.7
BOSA 11 14 44.2
BOSA Boshof 133.24 271 PKP PKPdf 11 12 14.4 -1.8
BOSA PP PP 11 14 44.2 +0.1
BOSA SKPbc SKPbc 11 15 34.8 +0.1
LPAZ La Paz 137.30 59 PKhKP 11 12 13.0
comp=Z,1.8nm,0.8s,baz=25,slow=9.4,SNR=9.1
LPAZ PKP PKPdf 11 12 25.2 +1.5
comp=Z,12nm,0.9s,baz=244,slow=5.6,SNR=9.9
LPAZ La Paz 137.30 59 PKHKP 11 12 13.0
LPAZ 11 12 25.3
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 137.30 59 *e*PKP 11 12 13.9
LPAZ *e*PKPdf PKPdf 11 12 25.3 +1.6
SYO Syowa Base 138.40 211 ⇑*e*P 11 12 13.0
SYO Syowa Base 138.40 211 ⇓*e*X PP 11 15 23.5 +6.9
SIV San Ignacio 141.15 51 PKhKP 11 12 23.2
comp=Z,6.1nm,0.7s,baz=315,slow=3.2,SNR=22
SIV pPKP pPKPdf 11 12 58.5 -1.3
comp=Z,23nm,1.1s,baz=282,slow=2.1,SNR=3.6
LVC Limon Verde 141.51 67 PKP PKPdf 11 12 31.5 +0.1
comp=Z,17nm,1.0s,baz=270,slow=3.8,SNR=11
LVC pPKP pPKPdf 11 12 58.2 -2.2
comp=Z,16nm,1.0s,baz=345,slow=3.6,SNR=3.5
LVC Limon Verde 141.51 67 *e*PKPdf PKPdf 11 12 32.5 +1.1
LCO Las Campanas 144.59 76 *e*P PKPdf 11 12 32.9 -4.0
TLL Tololo Astrono 145.22 78 ⇓*e*P PKPbc 11 12 37.1 -0.7
TLL Tololo Astrono 145.22 78 ⇓*i*P PKPbc 11 12 37.1 -0.8
CMCH Combarbala 145.69 80 *e*PKPbc PKPdf 11 12 37.7 -1.6
BDFB Brasilia 146.93 32 PKPbc PKPbc 11 12 42.1 -0.9
comp=Z,95nm,0.7s,baz=299,slow=2.8,SNR=90
BDFB pPKPbc pPKPbc 11 13 09.0 -2.6
comp=Z,141nm,1.1s,baz=350,slow=6.7,SNR=5.1
BAO Brasilia Array 146.93 32 PKPdf PKPdf 11 12 38.0 -2.9
SCR San Cristobal 147.01 83 *e*P PKPbc 11 12 41.9 -1.3
CLCH Cerro Calan 147.27 83 *e*P PKPbc 11 12 41.4 -2.5
NVL N'lazarevskaya 147.33 205 *d*PKP2 PKPab 11 12 45.3 -0.8
NVL pmax pmax
comp=Z,142nm,1.1s
FCH Farellones 147.41 82 ⇓*e*P PKPbc 11 12 43.1 -1.2
LMEL Las Melosas 147.75 83 ⇓*e*P PKPbc 11 12 44.2 -1.0
LMEL Las Melosas 147.75 83 *e*P PKPdf 11 12 44.9 +2.6
CFAA Coronel Fontan 147.85 78 PKPbc PKPbc 11 12 43.3 -2.2
comp=Z,22nm,0.7s,baz=280,slow=2.2,SNR=125
CFAA pPKPbc pPKPbc 11 13 11.6 -2.6
comp=Z,17nm,1.1s,baz=287,slow=2.0,SNR=3.7
MDZ Mendoza 148.16 80 *e*P PKPdf 11 12 45.8 +2.9
MDZ S pPKPbc 11 13 16.8 +1.7
PLCA Paso Flores 150.72 95 PKP PKPdf 11 12 41.7 -5.3
comp=Z,12nm,0.9s,baz=326,slow=1.6,SNR=2.8
PLCA PKPbc PKPbc 11 12 52.5 -0.1
comp=Z,113nm,0.8s,baz=261,slow=2.8,SNR=134
PLCA pPKPbc pPKPbc 11 13 18.6 -2.9
comp=Z,81nm,0.9s,baz=277,slow=6.6,SNR=4.1
PLCA Paso Flores 150.72 95 PKIKP PKPbc 11 12 52.5 -0.1
PLCA 11 13 18.6
PLCA pmax pmax
comp=Z,113nm,0.8s
PLCA Paso Flores 150.72 95 PKP PKPdf 11 12 41.7 -5.3
PLCA *e*PKPdf PKPdf 11 12 46.1 -0.8
PLCA *e*PKKPbc 11 12 52.1
PLCA PKPbc PKPbc 11 12 52.5 -0.1
PLCA *e*PKKPab 11 12 59.4
PLCA pPKPbc pPKPbc 11 13 18.6 -2.9
CPUP Villa Florida 151.42 57 PKP PKPdf 11 12 46.7 -1.4
comp=Z,6.8nm,0.8s,baz=306,slow=2.6,SNR=22
CPUP PKPbc PKPbc 11 12 54.3 +0.1
comp=Z,16nm,0.6s,baz=306,slow=3.4,SNR=38
CPUP pPKPbc pPKPbc 11 13 20.2 -2.9
comp=Z,29nm,0.8s,baz=329,slow=4.5,SNR=3.8
CPUP Villa Florida 151.42 57 PKP PKPdf 11 12 46.7 -1.4
CPUP PKPbc PKPbc 11 12 54.3 +0.1
CPUP pPKPbc pPKPbc 11 13 20.2 -2.9
VNA1 Neumayer--Stat 152.41 196 ⇓*i*PKPdf PKPbc 11 12 55.2 -1.3
VNA1 *e* 11 12 56.0
VNA1 *e* 11 13 02.7
VNA1 *e* 11 13 06.5
VNA1 *e* 11 13 11.4
VNA1 *e* 11 13 14.4
VNA1 *e* 11 13 25.1
VNA1 *e* 11 13 34.7
VNA1 *e* 11 13 41.3
VNA1 *e* 11 13 48.9
VNA1 *e* 11 14 02.4
VNA1 *e* 11 14 08.6
VNA1 *e* 11 14 24.7
VNA1 *e* 11 14 30.1
VNA1 *e* 11 15 09.5
VNA1 *e* 11 15 23.1
PMSA Palmer Station 153.31 148 *e*PKPbc PKPbc 11 12 56.6 -1.8
PMSA *e*PKPab PKPab 11 13 09.2 -1.7
CAM4 Nova Friburgo 155.03 27 *e*P PKPdf 11 13 02.4 +9.1
CAM4 *i* 11 13 03.1
CAM4 *i* 11 13 07.8

SKO ***22*** *11:15:18.8,4057N×2126E,h15km*
ISCJB ***22*** *11:15:21.6±0.4,4074N±002×2127E±003,h10km,Error ellipse: s-maj=3.7km s-min=3.0km az=39.9*
CSEM ***22*** *11:15:22.3±0.1,4076N×2121E,h10km,ML2.9,Error ellipse: s-maj=1.6km s-min=1.5km az=117.0*
THE ***22*** *11:15:22.5,4074N×2123E,h7km,ML2.9*
ISC 22 11:15:22.2±0.4,4073N±002×2126E±003,h10km,n23,σ0.84/39,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.10**	**59**	*e*Pg	**Pg**	**11 15 26.0**	**+1.2**
BIA	**Bitola**	**0.29**	**10**	*e*Pg	**Pg**	**11 15 27.9**	**-0.2**
BIA				*e*Sg	**Sg**	**11 15 32.8**	**+0.7**
BIA				*e*Lg		11 15 33.0	
	comp=N,743nm,0.3s						
BIA				*e*Lg		11 15 33.3	
	comp=E,584nm,0.3s						
BIA	**Bitola**	**0.29**	**10**	*e*Pg	**Pg**	**11 15 27.9**	**-0.2**
BIA				*e*Sg	**Sg**	**11 15 32.8**	**+0.8**
KBN	**Korca**	**0.37**	**254**	*i* Pg	**Pg**	**11 15 29.7**	**+0.2**
KBN				*i* Sg	**Sg**	**11 15 35.7**	**+1.2**
OHR	**Ohrid**	**0.52**	**318**	*e*Pg	**Pg**	**11 15 31.5**	**-0.8**
OHR				*e*Sg	**Sg**	**11 15 39.5**	**+0.4**
OHR	**Ohrid**	**0.52**	**318**	*e*Pg	**Pg**	**11 15 31.7**	**-0.5**
OHR				*i* Sg	**Sg**	**11 15 39.6**	**+0.6**
OHR				*e*Lg		11 15 40.1	
	comp=N,911nm,0.7s						
OHR				*e*Lg		11 15 40.2	
	comp=E,851nm,0.4s						
OHR	**Ohrid**	**0.52**	**318**	*e*Pg	**Pg**	**11 15 31.6**	**-0.6**
OHR				*e*Sg	**Sg**	**11 15 39.5**	**+0.5**
KZN	**Kozani**	**0.58**	**137**	*e*P	**Pg**	**11 15 34.0**	**+0.7**
GRG	**Griva**	**0.90**	**75**	*e*Pg	**Pg**	**11 15 40.0**	**+0.5**
GRG				*e*Sg	**Sg**	**11 15 52.6**	**+1.5**
MEV	**Metsovon**	**0.94**	**181**	*e*Pg	**Pg**	**11 15 40.5**	**+0.2**
MEV				*e*Sg	**Sg**	**11 15 53.8**	**+1.1**
JAN	**Janina**	**1.12**	**196**	*e*P	**Pb**	**11 15 41.5**	**-2.1**
LIT	**Litokhoron**	**1.13**	**123**	*e*Pg	**Pg**	**11 15 44.3**	**+0.4**
VAY	**Valandovo**	**1.16**	**59**	*e*Pg	**Pg**	**11 15 43.2**	**-1.2**
VAY				*e*Sg	**Sg**	**11 15 59.0**	**-0.4**
VAY				*e*Lg		11 16 00.4	
	comp=N,54nm,0.4s						
VAY				*e*Lg		11 16 00.6	
	comp=E,47nm,0.3s						
VAY	**Valandovo**	**1.16**	**59**	*e*Pg	**Pg**	**11 15 43.1**	**-1.3**
VAY				*e*Sg	**Sg**	**11 15 58.9**	**-0.5**
STIP	**Stip**	**1.19**	**36**	*e*Pg	**Pg**	**11 15 44.5**	**-0.5**
STIP				*e*Sg	**Sg**	**11 16 00.3**	**-0.2**
STIP				*e*Lg		11 16 03.9	
	comp=N,17nm,0.5s						
STIP				*e*Lg		11 16 04.2	
	comp=E,22nm,0.7s						
STIP	**Stip**	**1.19**	**36**	*e*Pg	**Pg**	**11 15 44.5**	**-0.6**
STIP				*e*Sg	**Sg**	**11 16 00.3**	**-0.2**
SKO	**Skopje**	**1.25**	**6**	*e*Pg	**Pg**	**11 15 45.5**	**-0.6**
SKO				*e*Sg	**Sg**	**11 16 02.2**	**-0.2**
SKO				*e*Lg		11 16 02.8	
	comp=N,58nm,0.4s						
SKO				*e*Lg		11 16 03.0	
	comp=E,58nm,0.5s						
SKO	**Skopje**	**1.25**	**6**	*e*Pg	**Pg**	**11 15 45.5**	**-0.7**
SKO				*e*Sg	**Sg**	**11 16 02.2**	**-0.2**
KNT	**Kendrikon**	**1.31**	**70**	*e*Pg	**Pg**	**11 15 46.6**	**-0.8**
KNT				*e*Sg	**Sg**	**11 16 05.4**	**+0.9**
AGG	**Agios Georgios**	**1.89**	**154**	*e*Pb	**Pb**	**11 15 55.5**	**-1.4**
AGG				*e*Sb	**Sb**	**11 16 20.1**	**-0.4**
XOR	**Xorichti**	**2.01**	**132**	*e*Pn	**Pn**	**11 15 55.9**	**-0.3**
XOR	**Xorichti**	**2.01**	**132**	*e*Pn	**Pn**	**11 15 55.8**	**-0.4**
PAIG	**Paliouri**	**2.02**	**113**	*e*Pn	**Pn**	**11 15 56.0**	**-0.3**

IDC 22 12:41:37.0±3.7,4805S×10324E,h0km,mb4.1/4, mb1 4.3/4,mb1mx4.0/12,mbtmp4.1/4,MS3.6/2,Ms1 3.7/2, ms1mx3.1/15,Error ellipse: s-maj=110.1km s-min=27.9km az=112.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.43**	**40**	LR	LR	12 51 33.2	
	comp=Z,96nm,20.7s,baz=28,slow=32						
STKA	**Stephens Creek**	**33.14**	**75**	P	P	12 48 14.2	-0.6
	3.4nm,0.8s,baz=344,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**34.40**	**56**	P	P	12 48 26.1	+0.3
	1.9nm,1.0s,baz=212,slow=8.1,SNR=18						
VNDA	**Vanda**	**36.89**	**162**	P	P	12 48 46.8	-0.5
	2.5nm,0.8s,baz=298,slow=10,SNR=11						
WRA	**Warramunga Arr**	**37.63**	**53**	P	P	12 48 53.7	+0.2
	2.7nm,0.9s,baz=218,slow=10.0,SNR=17						
PLCA	**Paso Flores**	**91.43**	**185**	LR	LR	13 32 13.0	
	comp=Z,72nm,20.2s,baz=270,slow=33						
NVAR	**Mina Array Bea**	**148.58**	**92**	PKPbc	PKPbc	13 01 24.7	-1.1
	1.8nm,0.8s,baz=234,slow=6.2,SNR=13						

IDC 22 13:02:38.8±2.1,2024S×6895W,h99km±17km,mb3.4/2, mb1 3.6/6,mb1mx3.4/19,mbtmp3.8/6,MS3.3/1,Ms1 3.2/1, ms1mx2.5/14,Error ellipse: s-maj=44.6km s-min=14.4km az=102.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.36**	**179**	P	Pn	13 03 15.8	-0.2
	14nm,0.3s,baz=351,slow=10.0,SNR=89						
LVC				S	Sn	13 03 45.9	+1.4
	54nm,0.3s,baz=0.7,slow=9.4,SNR=21						
LPAZ	**La Paz**	**4.00**	**11**	P	Pn	13 03 39.1	+1.2
	1.8nm,0.3s,baz=190,slow=8.0,SNR=48						
SIV	**San Ignacio**	**8.60**	**62**	P	Pn	13 04 39.2	-1.1
	2.6nm,0.3s,baz=259,slow=9.7,SNR=41						
CPUP	**Villa Florida**	**12.28**	**122**	P	Pn	13 05 29.8	-0.3
	0.4nm,0.3s,baz=284,slow=12,SNR=6.6						
BDFB	**Brasilia**	**20.43**	**80**	LR	LR	13 15 15.7	
	comp=Z,79nm,18.6s,baz=113,slow=37						
PLCA	**Paso Flores**	**20.48**	**183**	P	P	13 07 07.0	-1.5
	2.5nm,0.9s,baz=23,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.97**	**71**	P	P	13 14 21.7	+1.1
	0.5nm,0.3s,baz=254,slow=5.3,SNR=18						

IDC 22 13:21:04.9±2.5,278S×12988E,h0km,mb3.8/2,mb1 4.0/4, mb1mx3.7/15,mbtmp3.8/4,ML3.5/2,MS3.8/2,Ms1 3.8/2, ms1mx2.6/19,Error ellipse: s-maj=143.5km s-min=26.1km az=73.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.79**	**195**	Pn	Pn	13 24 47.5	-1.0
	0.1nm,0.3s,baz=60,slow=16,SNR=4.8						
WRA	**Warramunga Arr**	**17.61**	**166**	P	Pn	13 25 11.9	+0.2
	0.3nm,0.3s,baz=352,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**21.13**	**170**	P	P	13 25 52.0	+0.7
	3.5nm,0.6s,baz=348,slow=10,SNR=43						
SONM	**Songino Array**	**54.43**	**341**	LR	LR	13 56 12.8	
	comp=Z,59nm,19.7s,baz=123,slow=39						
MKAR	**Makanchi Array**	**64.66**	**326**	P	P	13 31 44.7	+0.2
	0.4nm,0.4s,baz=108,slow=8.0,SNR=6.1						
MAW	**Mawson**	**78.82**	**201**	LR	LR	14 04 22.0	
	comp=Z,81nm,19.3s,baz=238,slow=33						

IDC 22 13:25:05.4±1.6,281S×12979E,h0km,mb3.9/4,mb1 4.2/6, mb1mx4.0/16,mbtmp4.0/6,ML4.0/2,MS3.5/2,Ms1 3.5/2, ms1mx2.8/21,Error ellipse: s-maj=116.9km s-min=23.7km az=71.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.73**	**195**	Pn	Pn	13 28 48.4	+0.1
	0.4nm,0.3s,baz=11,slow=14,SNR=6.2						
FITZ				LR	LR	13 35 48.4	
	comp=Z,141nm,19.0s,baz=12,slow=41						
WRA	**Warramunga Arr**	**17.60**	**166**	P	Pn	13 29 11.7	-0.3
	0.7nm,0.3s,baz=350,slow=13,SNR=8.9						
ASAR	**Alice Springs**	**21.11**	**169**	P	P	13 29 52.8	+1.2
	9.5nm,0.7s,baz=348,slow=11,SNR=19						
JOW	**Kunigami**	**29.50**	**357**	LR	LR	13 41 07.0	
	comp=Z,99nm,21.2s,baz=166,slow=33						
STKA	**Stephens Creek**	**30.98**	**160**	P	P	13 31 23.9	-0.4
	1.3nm,0.8s,baz=336,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**64.64**	**326**	P	P	13 35 44.9	+0.1
	1.6nm,0.8s,baz=124,slow=7.9,SNR=6.8						
VNDA	**Vanda**	**76.61**	**173**	P	P	13 36 57.0	-0.7
	0.5nm,0.8s,baz=293,slow=13,SNR=2.5						
CPUP	**Villa Florida**	**150.23**	**167**	PKPbc	PKPbc	13 44 59.8	+1.4
	0.4nm,0.3s,baz=98,slow=2.9,SNR=4.0						

PRE 22 13:27:57.1±1.3,2069S×3224E,h5km,ML4.3,Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.68**	**185**	*e*P	Pn	13 29 37.1	+1.3
POGA				*e*S	Sn	13 30 48.3	-4.0
POGA				AML	AML	13 31 35.3	
	comp=Z,52nm,0.7s						
KSR	**Koster**	**7.11**	**223**	*e*P	Pn	13 29 43.1	+1.4
KSR				*e*S	Sn	13 31 00.8	-2.1
KSR				AML	AML	13 32 15.7	
	comp=Z,30nm,0.8s						
LBTB	**Lobatse**	**7.49**	**234**	*e*P	Pn	13 29 47.7	+0.8
LBTB				*e*S	Sn	13 31 08.8	-3.3
LBTB				AML	AML	13 32 24.1	
	comp=Z,42nm,0.7s						
BOSA	**Boshof**	**10.12**	**217**	*e*P	Pn	13 30 23.9	+0.8
BOSA				*e*S	Sn	13 32 12.2	-4.8
BOSA				AML	AML	13 33 47.0	
	comp=Z,16nm,0.7s						

IDC 22 13:36:15.2±1.7, 2803N×14278E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=54.6km s-min=19.9km az=97.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.07**	**210**	Pn	Pn	13 36 38.4	+0.9
	27nm,0.3s,baz=84,slow=10.0,SNR=95						
CBIJ				Sn	Sn	13 36 52.9	-0.2
	64nm,0.3s,baz=272,slow=24,SNR=26						
WRA	**Warramunga Arr**	**48.39**	**191**	P	P	13 44 59.4	+0.6
	0.5nm,0.4s,baz=12,slow=8.6,SNR=14						
MKAR	**Makanchi Array**	**50.30**	**309**	P	P	13 45 12.7	-0.7
	0.7nm,0.8s,baz=104,slow=6.1,SNR=4.5						
ASAR	**Alice Springs**	**52.11**	**190**	P	P	13 45 26.1	-1.0
	0.5nm,1.1s,baz=2.9,slow=5.9,SNR=5.3						
FINES	**FINESS Array B**	**77.34**	**334**	P	P	13 48 12.0	+0.3
	0.5nm,0.6s,baz=64,slow=3.2,SNR=3.9						

IDC 22 13:41:42.8±1.0, 2491N×4591W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/22, mbtmp4.0/7, MS3.6/11, Ms1 3.6/11, ms1mx3.3/24, Error ellipse: s-maj=27.1km s-min=25.1km az=175.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.00**	**254**	LR	LR	13 52 06.9	
	comp=Z,93nm,20.8s,baz=92,slow=31						
PCRV	**Puerto La Cruz**	**23.05**	**234**	LR	LR	13 54 21.2	
	comp=Z,46nm,21.9s,baz=85,slow=33						
SDV	**Santo Domingo**	**28.44**	**240**	LR	LR	13 57 30.3	
	comp=Z,63nm,19.5s,baz=272,slow=33						
SCHQ	**Schefferville**	**33.66**	**338**	LR	LR	14 00 50.0	
	comp=Z,71nm,18.7s,baz=116,slow=34						
BDFB	**Brasilia**	**40.36**	**183**	LR	LR	14 03 48.0	
	comp=Z,90nm,18.7s,baz=161,slow=33						
DBIC	**Dimbokro**	**43.23**	**108**	LR	LR	14 04 15.5	
	comp=Z,96nm,21.1s,baz=312,slow=31						
ULM	**Lac du Bonnet**	**45.88**	**317**	P	P	13 50 06.9	-0.1
	1.9nm,0.7s,baz=90,slow=4.4,SNR=4.5						
ULM				LR	LR	14 08 08.3	
	comp=Z,99nm,19.8s,baz=226,slow=35						
TORD	**Torodi Ar. Bea**	**46.28**	**96**	P	P	13 50 10.2	+0.1
	1.0nm,0.7s,baz=302,slow=7.3,SNR=6.0						
TORD				LR	LR	14 08 06.0	
	comp=Z,116nm,19.3s,baz=275,slow=34						
LPAZ	**La Paz**	**46.33**	**210**	P	P	13 50 11.4	+0.9
	3.3nm,0.8s,baz=15,slow=6.4,SNR=12						
GERES	**GERESS Array B**	**51.83**	**46**	P	P	13 50 52.7	0.0
	0.3nm,0.3s,baz=269,slow=6.7,SNR=3.8						
PDAR	**Pinedale Array**	**54.54**	**306**	P	P	13 51 13.0	+0.4
	1.5nm,0.8s,baz=72,slow=9.5,SNR=10.0						
PDAR				LR	LR	14 12 27.0	
	comp=Z,79nm,20.7s,baz=285,slow=34						
YKA	**Yellowknife Ar**	**58.39**	**329**	P	P	13 51 39.1	-0.9
	0.6nm,0.6s,baz=95,slow=7.5,SNR=5.9						
YKA				LR	LR	14 13 21.9	
	comp=Z,54nm,21.5s,baz=95,slow=32						
ARCES	**ARCESS Array B**	**60.40**	**23**	P	P	13 51 53.9	-0.1
	4.3nm,1.0s,baz=284,slow=4.9,SNR=6.8						
PLCA	**Paso Flores**	**69.21**	**200**	P	P	13 52 48.8	-2.5
	3.0nm,1.0s,baz=325,slow=3.8,SNR=3.9						
KMBO	**Kilima Mbogo**	**84.26**	**94**	LR	LR	14 32 09.1	
	comp=Z,54nm,18.1s,baz=91,slow=36						
WRA	**Warramunga Arr**	**175.05**	**357**	PKPab	PKPab	14 03 30.3	+0.4
	0.4nm,0.7s,baz=22,slow=5.3,SNR=4.9						

*CSEM **22** 13:51:32.4±0.1, 3933N×3667E, h5km, MD3.4, Error ellipse: s-maj=2.4km s-min=1.8km az=126.0*
*ISK **22** 13:51:33.2, 3935N×3662E, h14km, MD3.4*
*NEIC **22** 13:51:33.4, 3937N×3663E, h14km, MD3.5(ISK), After ISK.*
*ISCJB **22** 13:51:34.5±0.4, 3935N±002×3671E±003, h10km, Error ellipse: s-maj=3.6km s-min=3.1km az=19.8*
ISC 22 13:51:35.0±0.4, 3934N±002×**3672E**±003, **h10**km, **n30,** σ1º**39**/50, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVST	**Sivas**	**0.47**	**23**	*i* P	**Pg**	13 51 43.0	-1.2
SVST				*i* S	**Sg**	13 51 51.5	+1.1
SVSK	**Karacayir**	**0.62**	**21**	*i* PG	**Pg**	13 51 45.4	-1.5
SVSK				*i* SG	**Sg**	13 51 56.1	+1.1
SVSK	**Karacayir**	**0.62**	**21**	*i* Pg	**Pg**	13 51 45.4	-1.5
SVSK				Sg	**Sg**	13 51 55.4	+0.4
BNN	**Bunyan**	**0.83**	**234**	PG	**Pg**	13 51 48.8	-2.2
BNN	**Bunyan**	**0.83**	**234**	Pg	**Pg**	13 51 48.8	-2.2
BNN				Sg	**Sg**	13 52 01.8	-0.1
BNN	**Bunyan**	**0.83**	**234**	*e*Pg	**Pg**	13 51 48.8	-2.2
BNN				Sg	**Sg**	13 52 01.8	-0.1
TOKT	**Tokat**	**0.99**	**352**	PG	**Pg**	13 51 51.7	-2.3
TOKT				SG	**Sg**	13 52 06.3	-0.5
TOKT	**Tokat**	**0.99**	**352**	Pg	**Pg**	13 51 51.8	-2.2
TOKT	**Tokat**	**0.99**	**352**	Pg	**Pg**	13 51 51.8	-2.2
TOKT				*e*Sg	**Sg**	13 52 06.3	-0.5
YOZ	**Yozgat**	**1.12**	**286**	PG	**Pg**	13 51 54.0	-2.5
AVNT	**Avonos**	**1.55**	**249**	*i* P	**Pn**	13 52 00.7	-1.9
AVNT				*i* S	**Sn**	13 52 23.0	+0.1
MYA	**Malataya**	**1.68**	**127**	Pn	**Pn**	13 52 03.7	-0.6
MYA				Sg	**Sg**	13 52 27.7	-1.1
MYA	**Malataya**	**1.68**	**127**	*e*Pn	**Pn**	13 52 03.7	-0.6
MYA				Sg	**Sg**	13 52 27.7	-1.2
CORM	**Corum**	**1.81**	**298**	*e*PN	**Pn**	13 52 04.2	-2.0
CDAG	**Cicekdag**	**1.84**	**280**	*i* P	**Pn**	13 52 07.2	+0.6
CDAG				*i* S	**Sn**	13 52 31.7	+1.9
CTKT	**Corum**	**1.96**	**312**	*i* P	**Pn**	13 52 09.8	+1.5
CTKT				*i* S	**Sg**	13 52 39.0	+1.1
ELZG	**Elazig**	**1.96**	**115**	*i* P	**Pn**	13 52 09.1	+0.8
ELZG				*i* S	**Sn**	13 52 37.4	+4.6
GRSN	**GIRESUNGRSN**	**1.98**	**36**	*i* P	**Pn**	13 52 08.7	+0.2
GRSN				*i* S	**Sn**	13 52 37.3	+3.9
KOZT	**Kozan**	**1.98**	**201**	*e*PN	**Pn**	13 52 07.6	-1.0
GZT	**Gaziantep**	**2.09**	**161**	*i* P	**Pn**	13 52 12.9	+2.9
GZT				*i* S	**Sn**	13 52 37.6	+1.5
KAMT	**Kaman**	**2.33**	**272**	*e*PN	**Pn**	13 52 11.1	-2.2
KAMT	**Kaman**	**2.33**	**272**	Pn	**Pn**	13 52 11.2	-2.1
KAMT	**Kaman**	**2.33**	**272**	Pn	**Pn**	13 52 11.2	-2.1
GUMT	**Gumushane**	**2.40**	**61**	*e*PN	**Pn**	13 52 14.6	+0.3
EZC	**Erzincan**	**2.43**	**79**	*e*PN	**Pn**	13 52 09.2	-5.5
BOYT	**Boyabat**	**2.50**	**327**	*i* P	**Pn**	13 52 14.2	-1.5
BOYT				*i* S	**Sn**	13 52 48.5	+2.4
ELDT	**Eldivan**	**2.78**	**295**	*i* P	**Pn**	13 52 21.1	+1.7
ELDT				*i* S	**Sb**	13 52 59.2	+0.4
COBT	**Iskenderun**	**2.84**	**187**	*i* P	**Pb**	13 52 26.0	+0.3
COBT				*i* S	**Sb**	13 53 01.9	+1.4
BALT	**Daday**	**3.35**	**312**	*i* P	**Pn**	13 52 28.7	+1.3
BALT				*i* S	**Sg**	13 53 18.4	-4.3
SGKT	**Sivrigoynuk**	**3.79**	**290**	*i* P	**Pn**	13 52 34.5	+1.1
SGKT				*i* S	**Sb**	13 53 27.2	-0.6

IDC 22 14:23:11.7±8.2, 571S×14636E, h55km±64km, **mb3.2/2, mb1 3.4/4, mb1mx3.3/13, mbtmp3.5/4, ML2.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/9, Error ellipse: s-maj=80.6km s-min=49.9km az=58.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.75**	**168**	P	Pn	14 24 07.1	-0.1
	4.4nm,0.3s,baz=109,slow=12,SNR=16						
PMG				S	Sn	14 24 50.9	+0.8
	9.3nm,0.3s,baz=115,slow=23,SNR=7.7						
PMG				LR	LR	14 24 59.5	
	comp=Z,119nm,21.1s,baz=236,slow=29						
WRA	**Warramunga Arr**	**18.35**	**218**	P	Pn	14 27 22.3	+0.2
	0.1nm,0.3s,baz=38,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**21.50**	**213**	P	P	14 27 56.1	+0.2
	0.5nm,0.6s,baz=42,slow=10.0,SNR=10						
STKA	**Stephens Creek**	**26.41**	**189**	P	P	14 28 43.1	+0.1
	1.1nm,0.5s,baz=349,slow=10,SNR=6.2						

*ATH **22** 14:43:57.4, 3697N×2791E, h33km, MD3.1/3*
*ISCJB **22** 14:43:58.5±0.5, 3692N±003×2778E±004, h13km±4km, Error ellipse: s-maj=5.8km s-min=5.3km az=168.2*
*CSEM **22** 14:43:58.0±0.1, 3693N×2776E, h10km, MD3.1, Error ellipse: s-maj=1.9km s-min=1.9km az=105.0*
*ISK **22** 14:43:58.2, 3693N×2778E, h8km, MD3.1*
ISC 22 14:43:58.7±0.5, 3693N±003×**2779E**±004, **h13**km±4km, **n17,** σ0º**81**/23, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.26**	**221**	*i* PG	**Pg**	14 44 03.5	-0.6
DAT				*i* SG	**Sg**	14 44 08.5	+0.8
BDRM	**Kayabasi**	**0.31**	**297**	*i* P	**Pg**	14 44 04.9	-0.1
BDRM				*i* S	**Sg**	14 44 09.8	+0.7
MLSB	**Milas**	**0.37**	**359**	PG	**Pg**	14 44 05.7	-0.4
MLSB				SG	**Sg**	14 44 11.7	+0.7
BODT	**Bodrum**	**0.41**	**290**	PG	**Pg**	14 44 06.3	-0.4
YER	**Yerkesik**	**0.45**	**62**	PG	**Pg**	14 44 07.4	-0.1
DALT	**Dalyan (Mudla)**	**0.70**	**103**	PG	**Pg**	14 44 12.3	+0.1
AYDN	**Tasoluk**	**0.74**	**6**	*i* P	**Pg**	14 44 12.7	-0.2
AYDN				*i* S	**Sg**	14 44 21.3	-1.4
ARG	**Arkhangelos**	**0.76**	**159**	*e*PN	**Pn**	14 44 12.8	-2.3
FETY	**Fethiye**	**1.08**	**105**	PN	**Pn**	14 44 19.7	+0.2
SMG	**Samos**	**1.09**	**316**	*e*PN	**Pn**	14 44 18.6	-1.0
SMG				*e*SN	**Sn**	14 44 34.0	-0.6
DNZL	**Cakiroluk**	**1.26**	**52**	*i* P	**Pn**	14 44 22.4	+0.4
DNZL				*i* S	**Sb**	14 44 37.8	-0.7
DENT	**Denizli**	**1.29**	**50**	PN	**Pn**	14 44 23.0	+0.6
KARP	**Karpathos**	**1.47**	**200**	*e*PN	**Pn**	14 44 24.5	-0.3
IZM	**Izmir**	**1.53**	**344**	*e*PN	**Pn**	14 44 26.7	+1.0
BLCB	**Balcova**	**1.57**	**338**	*e*PN	**Pn**	14 44 27.0	+0.7
ELL	**Elmali**	**1.71**	**95**	*e*PN	**Pn**	14 44 29.7	+1.5
AKS	**Akhisar**	**1.95**	**1**	*e*PN	**Pn**	14 44 32.4	+0.9

*ISCJB **22** 15:05:15.7±0.4, 3398N±006×13687E±007, h361km±3km, mb3.5/12, Error ellipse: s-maj=11.3km s-min=7.5km az=92.7*
*JMA **22** 15:05:16.1±0.2, 3397N×13687E, h360km±2km, M3.3*
*NEIC **22** 15:05:16.5±0.7, 3393N×13681E, h352km±7km, mb3.9/2, Error ellipse: s-maj=15.3km s-min=9.4km az=110.0*
*IDC **22** 15:05:16.2±0.9, 3400N×13689E, h348km±10km, mb3.2/10, mb1 3.3/13, mb1mx3.1/25, mbtmp3.9/13, Error ellipse: s-maj=24.9km s-min=11.5km az=86.0*
ISC 22 15:05:16.9±0.4, 3404N±006×**13679E**±007, **h356**km±2km, **n36,** σ0º**79**/46, **mb3.5**/12, **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.36**	**349**	P	**Pn**	**15 06 01.7**	**+0.2**
JIE				S	**S**	**15 06 36.9**	**-0.4**
JKN2	**Miekihoku**	**0.47**	**295**	P	**Pn**	**15 06 01.7**	**0.0**
TK02	**Tokai 2**	**0.81**	**96**	P	**Pn**	**15 06 02.5**	**0.0**
TK02				S	**S**	**15 06 39.6**	**+0.5**
JWY	**Kouya**	**1.01**	**280**	P	**Pn**	**15 06 03.7**	**+0.4**
JWY				*e*S	**S**	**15 06 40.4**	**0.0**
JWZ	**Kozaga**	**1.03**	**241**	P	**Pn**	**15 06 02.9**	**-0.4**
JGM	**Miyama**	**1.66**	**358**	*e*S	**S**	**15 06 47.7**	**+1.4**
JWT	**Wachi**	**1.69**	**318**	P	**Pn**	**15 06 07.2**	**+0.5**
JWT				S	**S**	**15 06 46.2**	**-0.4**
JAI	**Aioi**	**1.96**	**263**	P	**Pn**	**15 06 08.7**	**+0.3**
JAI				S	**S**	**15 06 49.4**	**-0.4**
JYN	**Shimob**	**2.05**	**44**	P	**Pn**	**15 06 08.9**	**-0.1**
JOD2	**Odawara 2**	**2.25**	**57**	P	**Pn**	**15 06 10.4**	**-0.1**
JMN	**Monobe**	**2.44**	**263**	P	**Pn**	**15 06 12.6**	**+0.6**
JRY	**Ryogami san**	**2.62**	**41**	P	**Pn**	**15 06 13.3**	**-0.1**
JRY				S	**S**	**15 06 58.8**	**-0.1**
JHJ	**Hachijo jima 2**	**2.66**	**109**	S	**S**	**15 07 01.1**	**+1.6**
	9.0nm,0.3s,baz=100,slow=17,SNR=4.0						
MAJO	**Matsushiro**	**2.75**	**24**	*e*Pn	**Pn**	**15 06 13.9**	**-0.6**
MAT	**Matsushiro**	**2.75**	**24**	P	**Pn**	**15 06 14.3**	**-0.2**
MAT				S	**S**	**15 06 59.9**	**-0.9**
MAT	**Matsushiro**	**2.75**	**24**	P	**Pn**	**15 06 14.3**	**-0.2**
MAT				S	**S**	**15 07 00.1**	**-0.7**
MJAR	**Matsushiro Arr**	**2.75**	**25**	P	**Pn**	**15 06 14.3**	**-0.2**
	4.2nm,0.3s,baz=190,slow=9.0,SNR=53						
MJAR				S	**S**	**15 06 58.9**	**-1.9**
	0.2nm,0.3s,baz=182,slow=10.0,SNR=5.7						
MJAR	**Matsushiro Arr**	**2.75**	**25**	P	**Pn**	**15 06 14.3**	**-0.2**
MJAR				S	**S**	**15 06 58.9**	**-1.9**
BSO1	**Boso 1**	**3.52**	**79**	S	**S**	**15 07 08.9**	**-4.5**
KS15	**Wonju Array Si**	**8.00**	**298**	*e*Pn	**Pn**	**15 07 12.2**	**+1.2**
JOW	**Kunigami**	**10.27**	**228**	P	**Pn**	**15 07 37.4**	**-0.7**
	0.9nm,0.3s,baz=357,slow=7.3,SNR=5.7						
ASAJ	**Asahikawa**	**11.02**	**22**	P	**Pn**	**15 07 46.1**	**-0.8**
	1.0nm,0.3s,baz=188,slow=11,SNR=13						
YSS	**Yuzh-Sakhalins**	**13.67**	**18**	*e*P	**P**	**15 08 17.3**	**+0.7**
BILL	**Bilibino**	**37.98**	**18**	*e*P	**P**	**15 12 02.3**	**+0.5**
	3.5nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**42.60**	**304**	P	**P**	**15 12 40.4**	**+1.1**
	0.4nm,0.4s,mb2.9,baz=78,slow=12,SNR=6.5						
KULM	**Kulim**	**44.05**	**238**	P	**P**	**15 12 48.0**	**-2.7**
BVAR	**Borovoye Array**	**49.85**	**314**	P	**P**	**15 13 36.0**	**+0.9**
	0.3nm,0.4s,mb2.9,baz=100,slow=7.6,SNR=3.3						
FITZ	**Fitzroy Crossi**	**52.93**	**193**	P	**P**	**15 13 58.1**	**+0.3**
	1.3nm,0.5s,mb3.5,baz=59,slow=16,SNR=6.0						
WRA	**Warramunga Arr**	**53.73**	**183**	P	**P**	**15 14 02.8**	**-0.7**
	0.7nm,0.3s,mb3.5,baz=359,slow=7.6,SNR=16						
MBWA	**Marble Bar**	**57.25**	**199**	*e*P	**P**	**15 14 27.5**	**-0.8**
	2.3nm,0.5s,mb3.8						
ASAR	**Alice Springs**	**57.45**	**183**	P	**P**	**15 14 29.6**	**-0.2**
	0.2nm,0.3s,mb2.9,baz=0.9,slow=7.1,SNR=7.0						
ARCES	**ARCESS Array B**	**65.45**	**339**	P	**P**	**15 15 23.0**	**+0.3**
	2.2nm,0.8s,mb3.8,baz=48,slow=9.0,SNR=5.0						
FINES	**FINESS Array B**	**69.67**	**331**	P	**P**	**15 15 49.0**	**+0.1**
	0.8nm,0.4s,mb3.8,baz=65,slow=5.4,SNR=16						
HFS	**Hagfors**	**75.20**	**334**	P	**P**	**15 16 19.9**	**-1.3**
	1.0nm,0.4s,mb3.9,baz=64,slow=6.8,SNR=8.2						
PDAR	**Pinedale Array**	**82.44**	**43**	P	**P**	**15 17 01.6**	**+1.4**
	0.7nm,0.8s,mb3.5,baz=322,slow=4.5,SNR=4.4						
GERES	**GERESS Array B**	**83.18**	**326**	P	**P**	**15 17 03.7**	**-0.3**
	0.2nm,0.2s,mb3.5,baz=49,slow=10,SNR=3.4						

*NEIC **22** 15:11:23.2, 3757N×2094E, h4km, MD3.5(ATH), After ATH.*
*CSEM **22** 15:11:23.2, 3757N×2094E, h4km, MD3.5/5, After ATH*
ATH 22 15:11:23.2, 3757N×2094E, h4km±3km, **MD3.5**/5, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.64**	**40**	*e*PG	Pg	15 11 35.1	-0.4
RLS				*e*SG	Sg	15 11 44.7	+0.9
VLS	**Valsamata**	**0.67**	**336**	*e*PG	Pg	15 11 35.7	-0.3
VLS				*e*SG	Sg	15 11 46.0	+1.4
ITM	**Ithomi**	**0.88**	**116**	*e*PB	Pb	15 11 39.7	-1.3
EVR	**Evrytania**	**1.51**	**27**	*e*PB	Pb	15 11 51.7	0.0
VLI	**Velíai**	**1.81**	**117**	*e*PB	Pb	15 11 57.7	+0.8
LKR	**Lokris**	**1.95**	**56**	*e*PN	Pn	15 11 58.7	+1.6

*ISCJB **22** 15:43:47.5±1.5, 4249N±004×462E±0.1, h10km, Error ellipse: s-maj=11.1km s-min=5.1km az=163.0*
*MOS **22** 15:43:59.1±0.1, 4271N×4548E, h11km, mb3.7/1, Error ellipse: s-maj=42.7km s-min=11.5km az=35.7*
*TIF **22** 15:44:02.8, 4266N×4516E, h15km±5km*
ISC 22 15:43:48.4±1.6, 4248N±004×**462E**±01, **h10**km, **n14,** σ1º**01**/27, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**1.15**	**301**	*e*PG	**Pg**	**15 44 11.8**	**+1.3**
SNJR				*e*S	**Sb**	**15 44 24.2**	**-1.2**
DGRG	**David-gareji**	**1.18**	**210**	P	**Pb**	**15 44 05.3**	**-5.5**
DGRG				S	**Sb**	**15 44 25.9**	**-0.3**
VLKR	**Vladikavkaz**	**1.23**	**298**	*e*PG	**Pg**	**15 44 13.1**	**+1.1**
VLKR				*e*S	**Sb**	**15 44 26.4**	**-1.1**
MTA	**Mtatsminda**	**1.28**	**233**	P	**Pn**	**15 44 09.5**	**-2.8**
MTA				S	**Sb**	**15 44 29.9**	**+0.9**
TBLG	**Delisi**	**1.29**	**235**	P	**Pn**	**15 44 09.9**	**-2.5**
TBLG				S	**Sb**	**15 44 30.9**	**+1.6**
LACR	**Lac**	**1.41**	**285**	*e*PG	**Pg**	**15 44 16.3**	**+0.8**
LACR				*e*S	**Sn**	**15 44 32.0**	**-0.8**
BTKR	**Batakoyurt**	**1.48**	**308**	*e*PG	**Pg**	**15 44 17.6**	**+0.7**
BTKR				*e*S	**Sn**	**15 44 34.3**	**-0.2**
ARNR	**Ardon**	**1.55**	**298**	*e*PG	**Pg**	**15 44 18.5**	**+0.3**
ARNR				*e*S	**Sn**	**15 44 36.0**	**-0.2**
KMSR	**Komsomolskaya**	**1.63**	**304**	*e*PG	**Pg**	**15 44 19.9**	**+0.2**
KMSR				*e*S	**Sn**	**15 44 38.5**	**+0.3**
KORR	**Kora**	**1.65**	**292**	*e*PG	**Pg**	**15 44 20.2**	**+0.1**
KORR				*e*S	**Sn**	**15 44 38.9**	**+0.2**
ZEI	**Tsey**	**1.69**	**281**	*e*PG	**Pg**	**15 44 20.9**	**+0.1**
ZEI				*e*S	**Sn**	**15 44 40.2**	**+0.6**
ONI	**Oni**	**2.00**	**274**	P	**Pn**	**15 44 20.9**	**-1.3**
ONI				S	**Sg**	**15 44 52.4**	**-0.3**
AMRG		**2.23**	**272**	P	**Pg**	**15 44 35.9**	**+4.7**
AKH	**Akhalkalaki**	**2.25**	**243**	P	**Pn**	**15 44 27.2**	**+1.5**
AKH				S	**Sg**	**15 45 00.1**	**-0.7**

*IDC **22** 15:59:27.7±1.9, 637S×13058E, h0km, mb3.8/2, mb1 4.2/5, mb1mx4.0/13, mbtmp4.0/5, ML4.2/3, Error ellipse: s-maj=75.4km s-min=26.7km az=72.0*
*NEIC **22** 15:59:31.9±0.9, 632S×13072E, h35km, mb4.4/3, Error ellipse: s-maj=21.3km s-min=12.8km az=84.0*
*ISCJB **22** 15:59:37.3±2.8, 678S±010×1305E±0.1, h90km±27km, mb3.9/4, Error ellipse: s-maj=21.8km s-min=15.6km az=160.7*
ISC 22 15:59:39.4±3.3, 69S±01×**1305E**±01, **h87**km±30km, **n12,** σ1º**28**/16, **mb3.9**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.15**	**203**	Pn	**Pn**	**16 02 29.7**	**+0.4**
	0.9nm,0.3s,baz=39,slow=15,SNR=46						
FITZ				Sn	**Sn**	**16 04 42.2**	**-0.4**
	0.8nm,0.3s,baz=114,slow=20,SNR=5.4						
WRAB	**Tennant Creek**	**13.52**	**164**	*e*Pn	**Pn**	**16 02 47.2**	**-0.2**
	7.8nm,0.5s						
WRAB				*e*Sn	**Sn**	**16 05 07.3**	**-8.6**
WRA	**Warramunga Arr**	**13.52**	**164**	Pn	**Pn**	**16 02 47.5**	**+0.1**
	1.3nm,0.3s,baz=346,slow=13,SNR=44						
WRA				Sn	**Sn**	**16 05 14.4**	**-1.7**
	1.2nm,0.3s,baz=346,slow=20,SNR=9.2						
ASAR	**Alice Springs**	**17.02**	**169**	P	**Pn**	**16 03 34.9**	**+3.1**
	1.1nm,0.3s,baz=345,slow=8.5,SNR=46						
ASAR				S	**S**	**16 06 38.8**	**-6.4**
	0.2nm,0.3s,baz=353,slow=27,SNR=6.4						
MBWA	**Marble Bar**	**17.64**	**215**	P	**Pn**	**16 03 42.5**	**+3.2**
CTAO	**Charters Tower**	**20.14**	**132**	P	**P**	**16 04 07.2**	**+0.7**
	21nm,1.3s						
STKA	**Stephens Creek**	**26.95**	**159**	P	**P**	**16 05 13.5**	**+0.9**
	1.2nm,0.8s,mb3.5,baz=342,slow=13,SNR=3.6						
STKA	**Stephens Creek**	**26.95**	**159**	P	**P**	**16 05 12.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**54.67**	**10**	P	**P**	**16 08 52.3**	**-6.9**
	9.0nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**68.39**	**327**	P	**P**	**16 10 29.1**	**-2.5**
	0.3nm,0.4s,mb3.5,baz=133,slow=6.1,SNR=4.1						
VNDA	**Vanda**	**72.52**	**173**	P	**P**	**16 11 02.9**	**+6.1**
	1.5nm,0.8s,mb3.9						
QSPA	**South Pole Qui**	**83.12**	**180**	*e*P	**P**	**16 11 56.0**	**+0.4**

IDC 22 16:05:41.6±1.7, 5292N×17663E, h0km, **mb3.6/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/25, Error ellipse: s-maj=56.5km s-min=36.8km az=148.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**24.01**	**262**	LR	LR	16 18 27.6	
	comp=Z,39nm,20.1s,baz=21,slow=32						
DLBC	**Dease Lake**	**29.89**	**58**	LR	LR	16 24 29.7	
	comp=Z,61nm,20.9s,baz=286,slow=38						
MJAR	**Matsushiro Arr**	**31.37**	**254**	LR	LR	16 23 49.1	
	comp=Z,24nm,18.8s,baz=175,slow=35						
YKA	**Yellowknife Ar**	**36.23**	**47**	P	P	16 12 45.6	-0.6
	1.0nm,0.8s,baz=287,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**56.85**	**305**	P	P	16 15 27.6	-0.4
	0.2nm,0.6s,baz=50,slow=8.5,SNR=2.9						
ASAR	**Alice Springs**	**84.82**	**219**	P	P	16 18 17.8	-0.2
	0.3nm,0.7s,baz=14,slow=5.8,SNR=4.8						

*ISCJB **22** 16:06:25.7±0.2, 4631N±001×721E±002, h10km±2km, Error ellipse: s-maj=2.3km s-min=1.9km az=8.8*
*CSEM **22** 16:06:26.6±0.1, 4625N×734E, h5km, ML2.8/16, Error ellipse: s-maj=1.0km s-min=0.8km az=92.0*
*NEIC **22** 16:06:26.7, 4632N×728E, h4km, MD2.4(ROM), ML2.2(ZUR), ML2.5(STR), ML2.8(LDG), After ZUR.*
*LDG **22** 16:06:26.9±0.1, 4628N×734E, h2km, Md2.9/3, Ml2.8/22, Error ellipse: s-maj=1.4km s-min=1.0km az=101.0*
*ROM **22** 16:06:26.4±0.6, 4628N×726E, h6km±5km, Md2.4/7, Ml1.9/1, Error ellipse: s-maj=7.6km s-min=2.5km az=36.0*
*ZUR **22** 16:06:26.7, 4632N×728E, h4km±1km, ML2.2/10*
*STR **22** 16:06:27.8±0.6, 4628N×733E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **22** 16:06:27.5, 4631N×727E, h3km, ML2.0*
ISC 22 16:06:26.7±0.2, 4629N±001×**726E**±002, **h12**km±2km, **n89,** σ0º**96**/188, **11C-5D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin**	**0.08**	**21**	⇑*i* Pg	**

BBS			Sg	Sg	16 07 07.0	+2.0
FENE	**Fenestrelle**	**1.27 186**	P	Pn	16 06 52.5	+2.3
OG05	**Jujurieux**	**1.27 259**	Pn	Pn	16 06 53.0	+2.7
OG05			Sg	Sg	16 07 10.5	+2.7
MUGIO	**Muggio**	**1.29 106**	Pg	Pg	16 06 51.1	-0.5
BNI	**Bardonecchia**	**1.30 198**	*e*Pn	Pn	16 06 51.4	+0.7
BNI	**Bardonecchia**	**1.30 198**	*e*Pn	Pn	16 06 51.3	+0.7
RRL	**Cesana Torines**	**1.41 194**	P	Pn	16 06 54.4	+2.3
HINF	**Hinteralfeld**	**1.55 350**	*e*Pg	Pg	16 06 56.2	-0.3
HINF			*e*Sn	Sn	16 07 13.8	-0.4
HINF			*e*Sg	Sg	16 07 16.6	-0.1
	32nm,0.2s,SNR=1.0					
HINF	**Hinteralfeld**	**1.55 350**	*e*Pn	Pn	16 06 54.2	+0.1
HINF			*e*Pg	Pg	16 06 56.2	-0.3
HINF			*e*Sn	Sn	16 07 13.8	-0.4
HINF			*e*Sg	Sg	16 07 16.6	-0.1
HINF	**Hinteralfeld**	**1.55 350**	*e*Pg	Pg	16 06 56.2	-0.3
HINF			*e*Sn	Sn	16 07 13.8	-0.4
HINF			*e*Sg	Sg	16 07 16.6	-0.1
	16nm,0.2s,SNR=1.0					
MOF	**Molkenrain**	**1.57 357**	Pn	Pn	16 06 55.5	+1.2
MBDF	**Montbardon**	**1.60 193**	*e*Pn	Pn	16 06 56.9	+2.2
	SNR=1.0					
MBDF			*e*Sn	Sn	16 07 14.1	-1.2
MBDF			*e*Sg	Sg	16 07 18.2	+0.1
	33nm,0.6s,SNR=1.0					
MBDF	**Montbardon**	**1.60 193**	*e*Pn	Pn	16 06 56.9	+2.2
	SNR=1.0					
MBDF			*e*Sn	Sn	16 07 14.1	-1.2
MBDF			*e*Sg	Sg	16 07 18.2	+0.1
	16nm,0.6s,SNR=1.0					
FELD	**Feldberg im Sc**	**1.67 18**	Pn	Pn	16 06 55.6	-0.1
ORIF	**Oris-en-Rattie**	**1.68 216**	*e*Pg	Pg	16 06 58.9	0.0
	SNR=1.0					
ORIF			*e*Sn	Sn	16 07 17.2	0.0
	SNR=1.0					
ORIF			*e*Sg	Sg	16 07 21.1	+0.5
	18nm,0.5s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**1.68 216**	*e*Pn	Pn	16 06 56.2	+0.4
ORIF			*e*Pg	Pg	16 06 58.9	0.0
ORIF			*e*Sn	Sn	16 07 17.2	0.0
ORIF			*e*Sg	Sg	16 07 21.1	+0.5
ORIF	**Oris-en-Rattie**	**1.68 216**	*e*Pg	Pg	16 06 58.9	0.0
	SNR=1.0					
ORIF			*e*Sn	Sn	16 07 17.2	0.0
	SNR=1.0					
ORIF			*e*Sg	Sg	16 07 21.1	+0.5
	8.8nm,0.5s,SNR=1.0					
PZZ	**Prazzo**	**1.79 184**	P	Pn	16 06 58.2	+0.9
HAU	**Haudompre**	**1.83 340**	*e*Pg	Pg	16 07 01.3	-0.4
	SNR=1.0					
HAU			*e*Sg	Sg	16 07 25.3	-0.1
	62nm,0.3s,SNR=1.0					
HAU	**Haudompre**	**1.83 340**	*e*Pn	Pn	16 06 58.1	+0.2
HAU			*e*Pg	Pg	16 07 01.3	-0.4
HAU			*e*Sg	Sg	16 07 25.3	-0.1
HAU	**Haudompre**	**1.83 340**	*e*Pg	Pg	16 07 01.3	-0.4
	SNR=1.0					
HAU			*e*Sg	Sg	16 07 25.3	-0.1
	31nm,0.3s,SNR=1.0					
DAVA	**Damuels**	**2.06 60**	⇓*e*Pg	Pg	16 07 06.0	-0.2
	1.2nm,0.1s					
DAVA			⇓*i*Sg	Sg	16 07 34.3	+1.3
	26nm,0.2s					
ENR	**Entracque**	**2.06 177**	P	Pn	16 07 01.6	+0.5
CDF	**Champ du Feu**	**2.12 0**	*e*Pg	Pg	16 07 06.8	-0.6
CDF			*e*Sn	Sn	16 07 27.1	-1.2
	SNR=1.0					
CDF			*e*Sg	Sg	16 07 34.1	-0.9
	9.7nm,0.3s,SNR=1.0					
CDF	**Champ du Feu**	**2.12 0**	*e*Pn	Pn	16 07 02.3	+0.3
CDF			*e*Pg	Pg	16 07 06.8	-0.6
CDF			*e*Sn	Sn	16 07 27.1	-1.2
CDF			*e*Sg	Sg	16 07 34.1	-0.9
CDF	**Champ du Feu**	**2.12 0**	*e*Pg	Pg	16 07 06.8	-0.6
CDF			*e*Sn	Sn	16 07 27.1	-1.2
	SNR=1.0					
CDF			*e*Sg	Sg	16 07 34.1	-0.9
	4.8nm,0.3s,SNR=1.0					
WLS	**Welschbruch**	**2.13 2**	Pn	Pn	16 07 01.9	-0.1
BFO	**Black Forest**	**2.17 19**	Pn	Pn	16 07 01.0	-1.6
BFO	**Black Forest**	**2.17 19**	Pn	Pn	16 07 01.0	-1.6
VIVF	**Saint-Julien-l**	**2.31 233**	*e*Pg	Pg	16 07 10.7	-0.3
VIVF			*e*Sn	Sn	16 07 32.6	-0.3
	SNR=1.0					
VIVF			*e*Sg	Sg	16 07 40.3	-0.7
	11nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	**2.31 233**	*e*Pn	Pn	16 07 04.9	+0.3
VIVF			*e*Pg	Pg	16 07 10.7	-0.3
VIVF			*e*Sn	Sn	16 07 32.6	-0.3
VIVF			*e*Sg	Sg	16 07 40.3	-0.7
VIVF	**Saint-Julien-l**	**2.31 233**	*e*Pg	Pg	16 07 10.7	-0.3
VIVF			*e*Sn	Sn	16 07 32.6	-0.3
	SNR=1.0					
VIVF			*e*Sg	Sg	16 07 40.3	-0.7
	5.6nm,0.3s,SNR=1.0					
SMF	**Signal de Mont**	**2.39 280**	*e*Pg	Pg	16 07 12.4	-0.1
SMF			*e*Sn	Sn	16 07 35.6	+0.8
	SNR=1.0					
SMF			*e*Sg	Sg	16 07 42.7	-0.7
	8.0nm,0.2s,SNR=1.0					
SMF	**Signal de Mont**	**2.39 280**	*e*Pn	Pn	16 07 06.2	+0.6
SMF			*e*Pg	Pg	16 07 12.4	-0.1
SMF			*e*Sn	Sn	16 07 35.6	+0.8
SMF			*e*Sg	Sg	16 07 42.7	-0.7
SMF	**Signal de Mont**	**2.39 280**	*e*Pg	Pg	16 07 12.4	-0.1
SMF			*e*Sn	Sn	16 07 35.6	+0.8
	SNR=1.0					
SMF			*e*Sg	Sg	16 07 42.7	-0.7
	4.0nm,0.2s,SNR=1.0					
SBF	**Sospel**	**2.43 177**	*e*Pg	Pg	16 07 11.8	-1.4
SBF			*e*Sg	Sg	16 07 42.9	-1.8
	19nm,0.4s					
SBF	**Sospel**	**2.43 177**	*e*Pg	Pg	16 07 11.8	-1.4
SBF			*e*Sg	Sg	16 07 42.9	-1.8
	9.6nm,0.4s					
SFTF	**Sexfontaines**	**2.44 323**	*e*Pg	Pg	16 07 12.9	-0.6
	baz=140					
SFTF			*e*Sg	Sg	16 07 44.6	-0.6
	15nm,0.2s					
SFTF	**Sexfontaines**	**2.44 323**	*e*Pg	Pg	16 07 12.9	-0.6
SFTF			*e*Sg	Sg	16 07 44.6	-0.6
	7.7nm,0.2s					
LOR	**Lormes**	**2.53 294**	*e*Pg	Pg	16 07 14.9	-0.3
	baz=115,SNR=1.0					
LOR			*e*Sn	Sn	16 07 38.2	-0.2
LOR			*e*Sg	Sg	16 07 47.8	-0.3
	6.9nm,0.2s,SNR=1.0					
LOR	**Lormes**	**2.53 294**	*e*Pg	Pg	16 07 14.9	-0.3
	SNR=1.0					
LOR			*e*Sn	Sn	16 07 38.2	-0.2
LOR			*e*Sg	Sg	16 07 47.8	-0.3
	3.5nm,0.2s,SNR=1.0					
SMRF	**Simiane la Rot**	**2.60 208**	*e*Pg	Pg	16 07 15.5	-1.0
	SNR=1.0					
SMRF			*e*Sn	Sn	16 07 39.4	-0.6
	3.1nm,0.5s					
SMRF	**Simiane la Rot**	**2.60 208**	*e*Pg	Pg	16 07 15.5	-1.0
	SNR=1.0					
SMRF			*e*Sn	Sn	16 07 39.4	-0.6
	1.5nm,0.5s					
RFYF	**Reffroy**	**2.64 333**	*e*Pg	Pg	16 07 16.5	-0.7
MEZF	**Maizieres J'vi**	**2.67 327**	*e*Sn	Sn	16 07 41.0	-0.8
MEZF			*e*Sg	Sg	16 07 51.9	-0.7
	20nm,0.4s					
MEZF	**Maizieres J'vi**	**2.67 327**	*e*Sn	Sn	16 07 41.0	-0.8
MEZF			*e*Sg	Sg	16 07 51.9	-0.7
	9.8nm,0.4s					
SSF	**Saint Saulge**	**2.70 288**	*e*Pg	Pg	16 07 17.7	-0.7
SSF			*e*Sn	Sn	16 07 41.6	-0.8
	SNR=1.0					
SSF			*e*Sg	Sg	16 07 53.1	-0.2
	5.0nm,0.3s,SNR=1.0					
SSF	**Saint Saulge**	**2.70 288**	*e*Pg	Pg	16 07 17.7	-0.7
SSF			*e*Sn	Sn	16 07 41.6	-0.8
	SNR=1.0					
SSF			*e*Sg	Sg	16 07 53.1	-0.2
	2.5nm,0.3s,SNR=1.0					
AVF	**Avril sur Loir**	**2.74 282**	*e*Pn	Pn	16 07 10.0	-0.5
	SNR=1.0					
AVF			*e*Sg	Sg	16 07 54.3	-0.5
	2.2nm,0.2s					
AVF	**Avril sur Loir**	**2.74 282**	*e*Pn	Pn	16 07 10.0	-0.5
	SNR=1.0					
AVF			*e*Sg	Sg	16 07 54.3	-0.5
	1.1nm,0.2s					
FRF	**La Foret Royal**	**2.76 189**	*e*Pg	Pg	16 07 18.0	-1.6
	SNR=1.0					
FRF			*e*Sn	Sn	16 07 42.6	-1.4
FRF			*e*Sg	Sg	16 07 53.8	-1.6
	4.0nm,0.3s					
FRF	**La Foret Royal**	**2.76 189**	*e*Pg	Pg	16 07 18.0	-1.6
	SNR=1.0					
FRF			*e*Sn	Sn	16 07 42.6	-1.4
FRF			*e*Sg	Sg	16 07 53.8	-1.6
	2.0nm,0.3s					
MOTA	**Moosalm**	**2.84 67**	⇑Pn	Pn	16 07 15.9	+4.0
	0.7nm,0.2s					
MOTA			⇑Sg	Sg	16 07 58.1	0.0
	4.4nm,0.4s					
LMR	**La Mourre**	**3.00 190**	*e*Pg	Pg	16 07 23.1	-1.1
	SNR=1.0					
LMR			*e*Sn	Sn	16 07 48.6	-1.3
LMR			*e*Sg	Sg	16 08 02.3	-0.8
	8.4nm,0.7s,SNR=1.0					
LMR	**La Mourre**	**3.00 190**	*e*Pg	Pg	16 07 23.1	-1.1
	SNR=1.0					
LMR			*e*Sn	Sn	16 07 48.6	-1.3
LMR			*e*Sg	Sg	16 08 02.3	-0.8
	4.2nm,0.7s,SNR=1.0					
BGF	**Bois d'Agland**	**3.06 277**	*e*Sn	Sn	16 07 50.8	-0.6
BGF			*e*Sg	Sg	16 08 04.8	-0.3
	9.2nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**3.06 277**	*e*Sn	Sn	16 07 50.8	-0.6
BGF			*e*Sg	Sg	16 08 04.8	-0.3
	4.6nm,0.4s,SNR=1.0					
LASF	**Ste Croix**	**3.27 229**	*e*Pg	Pg	16 07 28.1	-1.2
LASF			*e*Sn	Sn	16 07 55.2	-1.3
LASF			*e*Sg	Sg	16 08 10.5	-1.1
	7.4nm,0.5s					
LASF	**Ste Croix**	**3.27 229**	*e*Pn	Pn	16 07 18.0	+0.3
LASF			*e*Pg	Pg	16 07 28.1	-1.2
LASF			*e*Sn	Sn	16 07 55.2	-1.3
LASF			*e*Sg	Sg	16 08 10.5	-1.1
LASF	**Ste Croix**	**3.27 229**	*e*Pg	Pg	16 07 28.1	-1.2
LASF			*e*Sn	Sn	16 07 55.2	-1.3
LASF			*e*Sg	Sg	16 08 10.5	-1.1
	3.7nm,0.5s					
CAF	**Calviac**	**3.89 251**	*e*Pn	Pn	16 07 27.0	+0.7
	SNR=1.0					

IDC 22 16:14:59.9±63.0, 1320S×17023E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/12, mbtmp3.6/3, Error ellipse: s-maj=1087.0km s-min=118.7km az=65.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.54**	**202**	*e*P	Pn	16 17 26.6	+8.1
DZM				*e*S	Sn	16 18 47.8	-19
STKA	**Stephens Creek**	**32.17**	**230**	P	P	16 21 29.3	0.0
	0.9nm,0.3s,baz=62,slow=11,SNR=10						
WRA	**Warramunga Arr**	**35.00**	**254**	P	P	16 21 54.6	+0.6
	0.3nm,0.8s,baz=85,slow=8.8,SNR=4.5						
ASAR	**Alice Springs**	**35.91**	**248**	P	P	16 22 02.1	+0.4
	0.5nm,0.4s,baz=77,slow=9.4,SNR=15						

CSEM ***22*** *16:24:45.8±0.7, 3863N×2895W, h11km±3km, ML1.3, Error ellipse: s-maj=7.3km s-min=5.3km az=38.0, After PDA*
PDA ***22*** *16:24:45.8±0.7, 3863N×2895W, h11km±3km, MD2.9, ML1.3, Error ellipse: s-maj=7.3km s-min=5.3km az=38.0*
SVSA 22 16:24:45.8±0.7, 3863N×2895W, h11km±3km, MD2.9, ML1.3, Error ellipse: s-maj=7.3km s-min=5.3km az=38.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.13**	**112**	*e*S	Sg	16 24 50.5	-0.5
PTCA							
	14nm,0.1s						
PCED	**Cedros**	**0.19**	**91**	*e*P	Pg	16 24 49.6	-0.3
PCED				*i* S	Sg	16 24 52.2	-0.5
PCED							
	18nm,0.1s						
PCED	**Cedros**	**0.19**	**91**	*e*P	Pg	16 24 49.6	-0.3
PCED				*i* S	Sg	16 24 52.2	-0.5
CALA	**Caldeira**	**0.20**	**105**	*e*P	Pg	16 24 49.7	-0.3
CALA				*e*S	Sg	16 24 52.9	0.0
PCND	**Candelaria**	**0.41**	**113**	*e*rx		16 24 57.0	
PICO	**Pico**	**0.43**	**108**	*e*P	Pg	16 24 53.1	-1.1
PICO				*e*S	Sg	16 24 58.8	-1.1
PBOI	**Pico dos Bois**	**0.49**	**114**	*e*rx		16 24 59.9	
ROSA	**Rosais**	**0.56**	**81**	*e*P	Pg	16 24 55.0	-1.7
ROSA				*e*S	Sg	16 25 01.7	-2.3
PID	**Ribeirinha**	**0.68**	**106**	*e*S	Sg	16 25 04.7	-3.0

NSSP ***22*** *16:36:07.0, 4272N×4433E, h10km, ML3.3*
TIF ***22*** *16:36:07.4, 3855N×4448E, h11km±9km*
ISK ***22*** *16:36:07.3, 3869N×4433E, h12km, MD3.9*
CSEM ***22*** *16:36:08.1±0.1, 3872N×4424E, h10km, MD3.9, Error ellipse: s-maj=3.0km s-min=1.7km az=153.0*
ISCJB ***22*** *16:36:08.8±0.3, 3875N±002×4430E±003, h10km, mb3.7/10, MS2.8/5, Error ellipse: s-maj=3.4km s-min=2.5km az=94.5*
MOS ***22*** *16:36:09.3±1.7, 3868N×4433E, h10km, mb4.0/5, Error ellipse: s-maj=9.8km s-min=7.3km az=88.3*
IDC ***22*** *16:36:10.7±1.5, 3889N×4417E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/22, mbtmp3.7/9, ML3.3/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/21, Error ellipse: s-maj=30.8km s-min=15.2km az=142.0*
NEIC ***22*** *16:36:11.2±2.2, 3883N×4432E, h7km±13km, mb3.8/4, Error ellipse: s-maj=15.7km s-min=8.0km az=153.0*
THR ***22*** *16:36:11.9±0.8, 3883N×4445E, h15km±8km, ML3.3*
ISC 22 16:36:09.8±0.3, 3873N±002×4438E±002, h10km, n83, σ1§45/100, mb3.7/10, MS2.8/5, 5D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.55**	**319**	PG	**Pg**	**16 36 18.5**	**-2.1**
CLDR				SG	**Sg**	**16 36 26.6**	**-1.2**
MAKU	**Maku**	**0.67**	**20**	*e*PG	**Pg**	**16 36 23.0**	**+0.1**
MAKU				AML	AML	16 36 35.0	
	comp=E,2μm,0.4s						
MAKU				AML	AML	16 36 35.5	
	comp=N,2μm,0.5s						
VANB	**Van**	**0.79**	**261**	PG	**Pg**	**16 36 22.1**	**-2.9**
TVAN	**Van**	**0.79**	**256**	*i* P	**Pg**	**16 36 22.2**	**-2.8**
VANT	**Van**	**0.83**	**251**	PG	**Pg**	**16 36 24.6**	**-1.2**
HAKT	**HAKKARI**	**1.28**	**205**	*i* P	**Pn**	**16 36 30.9**	**-2.9**
HAKT				*i* S	**Sb**	**16 36 51.9**	**+1.3**
GNI	**Garni**	**1.45**	**11**	PN	**Pn**	**16 36 35.0**	**-1.1**
GNI	**Garni**	**1.45**	**11**	Pg	**Pg**	**16 36 36.9**	**-0.7**
	comp=N,39nm,0.3s,baz=316,slow=3.1,SNR=2.9						
GNI				Lg		16 37 01.0	
	comp=N,63nm,0.3s,baz=9.5,slow=19,SNR=4.4						
GNI	**Garni**	**1.45**	**11**	Pg	**Pg**	**16 36 37.0**	**-0.7**
GNI				*e*Sg	**Sg**	**16 36 56.6**	**+0.1**
GNI				Lg		16 37 01.1	
GNI	**Garni**	**1.45**	**11**	Pg	**Pg**	**16 36 37.0**	**-0.7**
GNI				*e*Sg	**Sg**	**16 36 56.6**	**+0.1**
MGRZ	**Megri**	**1.46**	**83**	⇓P	**Pn**	**16 36 33.6**	**-2.7**
MGRZ				S	**Sn**	**16 36 54.9**	**-0.6**
CUKT	**Cukurca**	**1.60**	**203**	PN	**Pn**	**16 36 35.0**	**-3.1**
XTNZ	**Xhotanan**	**1.65**	**70**	⇓P	**Pn**	**16 36 37.5**	**-1.4**
XTNZ				S	**Sn**	**16 37 00.6**	**+0.4**
EGVZ	**Egvard**	**1.76**	**73**	⇓P	**Pn**	**16 36 40.2**	**-0.2**
EGVZ				S	**Sn**	**16 37 05.2**	**+2.3**
DIGO	**Kars**	**1.86**	**336**	*i* P	**Pg**	**16 36 45.4**	**0.0**
DIGO				*i* S	**Sg**	**16 37 14.1**	**+4.5**
KARS	**Kars**	**2.13**	**333**	*e*PN	**Pn**	**16 36 44.2**	**-1.3**
STE	**Stepanavan**	**2.27**	**360**	P	**Pn**	**16 36 50.0**	**+2.6**
STE				S	**Sg**	**16 37 24.0**	**+1.1**
BTMT	**Batman**	**2.33**	**258**	*e*PN	**Pn**	**16 36 48.8**	**+0.6**
BNGL	**BINGOL**	**2.53**	**276**	*i* P	**Pb**	**16 36 55.1**	**-0.3**
BNGL				*i* S	**Sg**	**16 37 39.4**	**+8.2**
BEST	**Besiri**	**2.58**	**252**	*i* P	**Pb**	**16 36 54.9**	**-1.4**
BEST				*i* S	**Sn**	**16 37 26.2**	**+3.0**
ERZM	**Erzurum**	**2.62**	**298**	*i* P	**Pg**	**16 36 58.4**	**-1.7**
ERZM				*i* S	**Sg**	**16 37 39.4**	**+5.4**
EZM	**Erzurum**	**2.62**	**298**	*e*PN	**Pn**	**16 36 50.7**	**-1.5**
MSL	**Mosul**	**2.64**	**203**	*ex*	x	16 36 49.0	
MSL				*i* x	x	16 36 55.0	
MSL				*ex*	x	16 37 22.0	
MSL				*i* x	x	16 38 35.0	
KZR	**Kazreti**	**2.65**	**1**	P	**Pg**	**16 36 59.2**	**-1.5**
GRMI	**Germi**	**2.75**	**87**	*e*PN	**Pb**	**16 36 57.1**	**-2.0**
GRMI				*e*SG	**Sg**	**16 37 36.0**	**-2.1**
GRMI				AML	AML	16 37 42.3	
	comp=N,80nm,0.6s						
GRMI				AML	AML	16 37 48.2	
	comp=E,91nm,0.6s						
GRMI	**Germi**	**2.75**	**87**	*e*Pn	**Pb**	**16 36 57.1**	**-1.9**
	SNR=52						
GRMI				*e*Sg	**Sg**	**16 37 36.0**	**-2.1**
	SNR=90						
AKH	**Akhalkalaki**	**2.77**	**346**	P	**Pb**	**16 37 00.6**	**+1.3**
AKH				S	**Sg**	**16 37 39.3**	**+0.6**
DGRG	**David-gareji**	**2.83**	**15**	P	**Pb**	**16 36 59.1**	**-1.3**
DGRG				S	**Sb**	**16 37 36.4**	**+1.3**
MTA	**Mtatsminda**	**2.98**	**6**	P	**Sg**	**16 37 47.3**	**+1.7**
MTA				S	**Sg**	**16 37 47.3**	**+1.7**
TBLG	**Delisi**	**3.02**	**5**	P	**Pb**	**16 37 04.7**	**+1.1**
TBLG				S	**Sg**	**16 37 45.0**	**-1.7**
TBLG	**Delisi**	**3.02**	**5**	*e*PN	**Pb**	**16 37 05.6**	**+2.0**
BINT	**Bingol**	**3.04**	**274**	*e*PN	**Pn**	**16 36 56.6**	**-1.4**
ARTV	**Artvin**	**3.10**	**323**	*i* P	**Pg**	**16 37 08.4**	**-0.7**
MARD	**Mardin**	**3.17**	**245**	*i* P	**Pn**	**16 37 00.1**	**+0.3**
MARD				*i* S	**Sg**	**16 37 52.2**	**+0.4**
GOR	**Gori**	**3.26**	**356**	S	**Sg**	**16 37 53.6**	**-1.1**
DIY	**Diyarbakir**	**3.37**	**257**	*e*PN	**Pn**	**16 37 01.1**	**-1.4**
BCA	**Borcka**	**3.44**	**323**	*e*PN	**Pn**	**16 37 02.5**	**-1.0**
EZC	**Erzincan**	**3.69**	**288**	*e*PN	**Pn**	**16 37 10.4**	**+3.5**
AMRG		**3.90**	**346**	P	**Pb**	**16 37 22.7**	**+4.0**
ONI	**Oni**	**3.92**	**350**	P	**Pb**	**16 37 20.7**	**+1.8**
ONI				S	**Sg**	**16 38 15.2**	**-0.3**
ZEI	**Tsey**	**4.06**	**355**	*e*PN	**Pg**	**16 37 27.3**	**-0.3**
SNGE	**Sanandaj**	**4.33**	**146**	*e*PN	**Pn**	**16 37 20.0**	**+4.2**
SNGE				*e*SG	**Sg**	**16 38 28.4**	**-0.7**
URFA	**Urfa**	**4.57**	**255**	*e*PN	**Pn**	**16 37 17.5**	**-1.5**
MALT	**Malatya**	**4.69**	**267**	*e*PN	**Pn**	**16 37 23.7**	**+3.1**
KIV	**Kislovodsk**	**5.38**	**347**	*e*P	**Pn**	**16 37 31.2**	**+1.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,124nm,9.0s						
KIV	**Kislovodsk**	**5.38**	**347**	*e*P	**Pn**	**16 37 31.2**	**+1.1**
	comp=Z,124nm,9.0s						
BHD	**Baghdad**	**5.44**	**180**	*ex*	x	16 37 20.0	
BHD				*ex*	x	16 37 50.0	
BHD				*ex*	x	16 38 28.0	
GZT	**Gaziantep**	**5.55**	**258**	*i* P	**Pb**	**16 37 47.8**	**+0.9**
GZT				*i* S	**Sg**	**16 39 10.2**	**+2.1**
SOC	**Sochi**	**6.00**	**326**	*d* iP	**Pn**	**16 37 33.4**	**-5.2**
SOC				*e*		16 38 45.2	
SOC				pmax	pmax		
	comp=Z,11nm,1.3s						
SOC				MLR	MLR		
	comp=Z,169nm,13.0s						
SOC	**Sochi**	**6.00**	**326**	*e*S	**Sn**	**16 38 45.2**	**-2.1**
	comp=Z,169nm,13.0s						
ASF	**Jabal al Asfar**	**8.94**	**225**	Pn	**Pn**	**16 38 20.5**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=315,slow=1.4,SNR=2.6						
ASF				Lg		16 40 55.1	
	comp=Z,0.2nm,0.3s,baz=110,slow=23,SNR=5.8						
MMAI	**Mount Meron Ar**	**9.25**	**235**	Pn	**Pn**	**16 38 25.3**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=71,slow=17,SNR=3.4						
AKTK	**Aktyubinsk**	**15.18**	**35**	Pn	**Pn**	**16 39 44.7**	**+0.4**
AKTK	**Aktyubinsk**	**15.18**	**35**	P	**Pn**	**16 39 44.7**	**+0.4**
AKTO	**Aktyubinsk**	**15.18**	**35**	Pn	**Pn**	**16 39 44.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=219,slow=14,SNR=3.2						
AKASG	**Malin Array Be**	**16.07**	**323**	Pn	**Pn**	**16 39 58.0**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=130,slow=12,SNR=9.0						
OBN	**Obninsk**	**17.22**	**345**	P	**Pn**	**16 40 15.0**	**+4.6**
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
KWP	**Kalwaria**	**18.92**	**312**	P	**Pn**	**16 40 30.0**	**-1.3**
KWP				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KWP	**Kalwaria**	**18.92**	**312**	P	**Pn**	**16 40 30.0**	**-1.3**
	comp=Z,5.9nm,1.0s						
KWP	**Kalwaria**	**18.92**	**312**	P	**Pn**	**16 40 30.0**	**-1.3**
	comp=Z,5.8nm,1.0s						
ARU	**Arti**	**20.06**	**23**	⇓*i* P	**P**	**16 40 45.4**	**+2.2**
ARU				*e*		16 41 01.3	
ARU				*e*PPP		16 41 13.0	
ARU				*e*SS		16 44 56.6	
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARU	**Arti**	**20.06**	**23**	*e*P	**P**	**16 40 44.6**	**+1.5**
	comp=Z,7.3nm,0.9s						
ARU	**Arti**	**20.06**	**23**	*i* P	**P**	**16 40 45.4**	**+2.2**
	comp=Z,9.0nm,1.0s						
TIP	**Timpagrande**	**21.46**	**280**	P	**P**	**16 40 59.0**	**+0.6**
TIP	**Timpagrande**	**21.46**	**280**	P	**P**	**16 40 59.0**	**+0.7**
ZRNK	**Zerenda**	**22.14**	**42**	*e*P	**P**	**16 41 06.6**	**+1.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
ZRNK	**Zerenda**	**22.14**	**42**	*e*P	**P**	**16 41 06.6**	**+1.0**
	comp=Z,1.9nm,0.7s,mb3.6						
KLMR	**Klimovskoe**	**22.36**	**354**	*e*P	**P**	**16 41 11.7**	**+3.7**
VRAC	**Vranov**	**22.49**	**307**	LR	LR	16 52 17.9	
	comp=Z,32nm,18.1s,MS2.8,baz=351,slow=44						
BRVK	**Borovoye**	**22.86**	**43**	P	**P**	**16 41 13.9**	**+0.6**
BVAR	**Borovoye Array**	**22.90**	**43**	P	**P**	**16 41 15.6**	**+1.8**
	comp=Z,0.8nm,0.7s,mb3.3,baz=243,slow=9.5,SNR=6.6						
AAK	**Ala-Archa**	**23.11**	**71**	*e*P	**P**	**16 41 15.0**	**-0.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,

ISCJB 22 16:42:51.3±1.1, 165N±0.1×12177E±008, h10km, mb3.7/4, Error ellipse: s-maj=18.2km s-min=10.2km az=29.0

ISC 22 16:42:52.7±1.0, 165N±01×12169E±007, h10km, n6, σ1°15/7, mb3.7/4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**1.07**	**261**	⇓*e*P	**Pg**	**16 43 12.2**	**-1.1**
BCPH				*i* S	**Sg**	**16 43 27.9**	**+0.7**
PIP	**Pasuquin**	**2.04**	**330**	⇑*i*P	**Pn**	**16 43 28.6**	**+1.5**
WRA	**Warramunga Arr**	**38.33**	**161**	P	**P**	**16 50 14.7**	**+1.1**
	1.0nm,0.4s,mb3.9,baz=341,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**41.71**	**163**	P	**P**	**16 50 42.0**	**+0.4**
	1.1nm,0.6s,mb3.7,baz=334,slow=7.5,SNR=5.1						
MKAR	**Makanchi Array**	**44.37**	**321**	P	**P**	**16 51 01.2**	**-2.0**
	0.6nm,0.8s,mb3.4,baz=114,slow=6.5,SNR=5.5						
STKA	**Stephens Creek**	**51.79**	**158**	P	**P**	**16 51 59.8**	**-0.8**
	1.5nm,0.8s,mb4.0,baz=339,slow=14,SNR=3.2						

IDC 22 16:51:54.2±26.0, 1973S×17273W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=488.9km s-min=160.8km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.50**	**262**	P	P	16 59 19.4	+1.3
	3.4nm,0.8s,baz=76,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**42.58**	**244**	P	P	16 59 50.8	-1.1
	0.8nm,0.5s,baz=90,slow=13,SNR=4.1						
ASAR	**Alice Springs**	**49.51**	**255**	P	P	17 00 47.0	+0.6
	1.0nm,0.7s,baz=94,slow=8.1,SNR=29						
WRA	**Warramunga Arr**	**49.62**	**260**	P	P	17 00 47.5	+0.3
	0.4nm,0.4s,baz=95,slow=7.6,SNR=13						

ISCJB 22 16:54:24.1±0.3, 3522N±005×13667E±006, h331km±2km, mb3.4/12, Error ellipse: s-maj=9.7km s-min=7.3km az=99.4
JMA 22 16:54:24.7±0.2, 3526N×13666E, h329km±2km, M3.5
NEIC 22 16:54:24.7±0.6, 3518N×13657E, h321km±8km, mb4.0/4, Error ellipse: s-maj=17.5km s-min=10.4km az=101.0
IDC 22 16:54:24.8±0.9, 3522N×13650E, h321km±11km, mb3.2/8, mb1 3.4/10, mb1mx3.2/22, mbtmp3.9/10, Error ellipse: s-maj=27.8km s-min=10.1km az=78.0

ISC 22 16:54:25.1±0.3, 3527N±005×13661E±006, h325km±2km, n40, σ0°77/52, mb3.4/12, 1C, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEG	**Eigenji**	**0.23**	**234**	P	**Pn**	**16 55 06.7**	**+0.7**
JEG				S	**S**	**16 55 38.7**	**0.0**
JGM	**Miyama**	**0.44**	**11**	P	**Pn**	**16 55 06.7**	**+0.4**
JGM				S	**S**	**16 55 38.8**	**-0.5**
JIE	**Ise**	**0.88**	**175**	P	**Pn**	**16 55 08.2**	**+0.6**
JIE				S	**S**	**16 55 40.6**	**-1.0**
JWT	**Wachi**	**0.99**	**271**	P	**Pn**	**16 55 08.4**	**+0.3**
JWT				S	**S**	**16 55 41.6**	**-0.8**
JKG	**Kaga**	**1.03**	**347**	P	**Pn**	**16 55 08.5**	**+0.3**
JKG				S	**S**	**16 55 42.4**	**-0.3**
JWY	**Kouya**	**1.35**	**219**	P	**Pn**	**16 55 10.4**	**+0.6**
JWY				*e*S	**S**	**16 55 44.9**	**-0.6**
JYN	**Shimob**	**1.59**	**81**	P	**Pn**	**16 55 11.4**	**+0.2**
MAJO	**Matsushiro**	**1.81**	**45**	↑*i*Pn	**Pn**	**16 55 12.7**	**+0.1**
MAT	**Matsushiro**	**1.81**	**45**	P	**Pn**	**16 55 12.8**	**+0.1**
MAT				S	**S**	**16 55 50.4**	**-0.3**
MAT	**Matsushiro**	**1.81**	**45**	P	**Pn**	**16 55 12.8**	**+0.1**
MAT				S	**S**	**16 55 50.3**	**-0.4**
MJAR	**Matsushiro Arr**	**1.81**	**45**	P	**Pn**	**16 55 13.0**	**+0.3**
	26nm,0.3s,baz=216,slow=7.3,SNR=179						
MJAR				S	**S**	**16 55 51.2**	**+0.4**
	baz=86,slow=17,SNR=3.4						
JWZ	**Kozaga**	**1.89**	**203**	P	**Pn**	**16 55 13.3**	**+0.1**
JRY	**Ryogami san**	**2.01**	**68**	P	**Pn**	**16 55 14.2**	**+0.1**
JRY				*e*S	**S**	**16 55 53.2**	**-0.1**
JOD2	**Odawara 2**	**2.02**	**90**	P	**Pn**	**16 55 14.4**	**+0.2**
JSZ	**Suzu**	**2.25**	**15**	P	**Pn**	**16 55 16.3**	**+0.3**
JAI	**Aioi**	**2.32**	**231**	P	**Pn**	**16 55 16.8**	**+0.3**
JIM2	**Oshima 3**	**2.38**	**103**	P	**Pn**	**16 55 16.9**	**-0.1**
JAG	**Ashikaga**	**2.58**	**63**	P	**Pn**	**16 55 17.4**	**-1.3**
JHG	**Hegura jima**	**2.58**	**5**	P	**Pn**	**16 55 19.5**	**+0.7**
JMN	**Monobe**	**2.73**	**237**	P	**Pn**	**16 55 20.4**	**+0.3**
JHS	**Saijyo**	**2.88**	**266**	P	**Pn**	**16 55 21.9**	**+0.5**
JHJ	**Hachijo jima 2**	**3.39**	**128**	P	**Pn**	**16 55 27.1**	**+0.8**
	5.2nm,0.3s,baz=252,slow=20,SNR=3.3						
JHJ				S	**S**	**16 56 17.5**	**+2.0**
	13nm,0.3s,baz=81,slow=22,SNR=9.3						
BSO1	**Boso 1**	**3.64**	**99**	P	**Pn**	**16 55 27.2**	**-1.6**
BSO1				*e*S	**S**	**16 56 16.0**	**-4.0**
ASAJ	**Asahikawa**	**9.96**	**26**	P	**Pn**	**16 56 41.2**	**-1.3**
	1.7nm,0.3s,baz=235,slow=5.9,SNR=14						
YSS	**Yuzh-Sakhalins**	**12.55**	**20**	*e*Pn	**Pn**	**16 57 12.7**	**-1.0**
	6.7nm,0.3s						
ULN	**Ulaanbaatar**	**25.28**	**309**	P	**P**	**16 59 23.9**	**+1.3**
	1.1nm,0.5s,mb3.3						
QIZ	**Qiongzhong**	**28.67**	**243**	*e*P	**P**	**16 59 50.9**	**-1.8**
	10nm,1.1s,mb4.0						
BILL	**Bilibino**	**36.86**	**18**	P	**P**	**17 01 03.6**	**+0.4**
	3.0nm,0.5s,mb3.8						
KSM	**Kuching**	**41.59**	**222**	P	**P**	**17 01 41.5**	**-0.4**
MKAR	**Makanchi Array**	**41.79**	**303**	P	**P**	**17 01 44.3**	**+0.7**
	0.6nm,0.6s,mb2.9,baz=84,slow=9.2,SNR=6.2						
BVAR	**Borovoye Array**	**48.90**	**313**	P	**P**	**17 02 43.4**	**+4.5**
	0.3nm,0.5s,mb2.8,baz=72,slow=9.5,SNR=3.7						
FITZ	**Fitzroy Crossi**	**54.09**	**193**	P	**P**	**17 03 16.7**	**-0.4**
	2.2nm,0.9s,mb3.5,baz=62,slow=15,SNR=3.2						
WRA	**Warramunga Arr**	**54.95**	**183**	P	**P**	**17 03 22.2**	**-1.0**
	1.3nm,0.3s,mb3.7,baz=0.3,slow=7.6,SNR=49						
ASAR	**Alice Springs**	**58.67**	**183**	P	**P**	**17 03 48.8**	**-0.3**
	0.5nm,0.7s,mb3.0,baz=13,slow=12,SNR=6.5						
ARCES	**ARCESS Array B**	**64.25**	**339**	P	**P**	**17 04 26.3**	**+0.2**
	1.4nm,0.6s,mb3.8,baz=61,slow=9.9,SNR=7.1						
ARCES	**ARCESS Array B**	**64.25**	**339**	P	**P**	**17 04 26.3**	**+0.1**
FINES	**FINESS Array B**	**68.52**	**331**	P	**P**	**17 04 52.6**	**-0.4**
	0.5nm,0.5s,mb3.5,baz=35,slow=7.0,SNR=7.7						
NOA	**NORSAR Array B**	**74.25**	**336**	P	**P**	**17 05 26.8**	**-0.2**
	0.6nm,0.7s,mb3.4,baz=13,slow=4.5,SNR=2.6						
NVAR	**Mina Array Bea**	**79.13**	**51**	P	**P**	**17 05 56.0**	**+1.9**
	0.7nm,0.6s,mb3.5,baz=294,slow=3.9,SNR=6.6						
NVAR	**Mina Array Bea**	**79.13**	**51**	P	**P**	**17 05 56.0**	**+1.9**

MAN 22 17:16:09.1, 909N×12516E, h9km, mb1.7, ML3.5, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.76**	**25**	⇑*e*P	Pg	17 16 22.8	-0.9
SCPH				*e*S	Sg	17 16 37.3	+3.8
BESP	**Borongan**	**2.51**	**6**	*e*P	Pn	17 16 51.4	+1.4

ISCJB 22 17:27:07.2±0.4, 3840N±002×2668E±003, h8km±3km, Error ellipse: s-maj=3.5km s-min=3.0km az=124.3
CSEM 22 17:27:07.3±0.1, 3839N×2674E, h10km, MD3.5, Error ellipse: s-maj=1.4km s-min=1.2km az=40.0
ISK 22 17:27:07.4, 3840N×2673E, h14km, MD3.5
NEIC 22 17:27:07.7, 3838N×2674E, h38km, MD3.5(ISK), MD3.6(ATH), After ATH.
ATH 22 17:27:07.6, 3838N×2674E, h38km±4km, MD3.6/7

ISC 22 17:27:08.0±0.3, 3839N±002×2668E±003, h11km±2km, n51, σ0°88/69, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.07**	**249**	*i* P	**Pg**	**17 27 11.1**	**+0.6**
URLA				*i* S	**Sg**	**17 27 13.5**	**+1.3**
BLCB	**Balcova**	**0.29**	**90**	*i* PG	**Pg**	**17 27 13.2**	**-0.7**
BLCB				*i* SG	**Sg**	**17 27 16.7**	**-1.1**
IZM	**Izmir**	**0.46**	**88**	*i* PG	**Pg**	**17 27 16.4**	**-0.6**
IZM				*i* SG	**Sg**	**17 27 22.7**	**-0.5**
KDAG	**Bornova**	**0.46**	**88**	*i* P	**Pg**	**17 27 16.4**	**-0.8**
KDAG				*i* S	**Sg**	**17 27 22.8**	**-0.4**
SMG	**Samos**	**0.69**	**169**	*e*PN	**Pg**	**17 27 21.4**	**+0.1**
SMG				*e*SN	**Sg**	**17 27 32.3**	**+2.0**
PRK	**Paraskevi**	**0.92**	**340**	*e*PN	**Pg**	**17 27 25.2**	**-0.5**
PRK				*e*SN	**Sg**	**17 27 38.0**	**+0.3**
AYVA	**Ayvalik**	**0.92**	**1**	*i* P	**Pg**	**17 27 25.1**	**-0.7**
AYVA				*i* S	**Sg**	**17 27 39.9**	**+2.1**
AKS	**Akhisar**	**1.02**	**61**	PG	**Pg**	**17 27 26.4**	**-1.2**
AKS				SG	**Sg**	**17 27 40.5**	**-0.3**
AYDN	**Tasoluk**	**1.19**	**127**	*i* P	**Pn**	**17 27 29.7**	**-0.9**
AYDN				*i* S	**Sb**	**17 27 45.4**	**-0.6**
MLSB	**Milas**	**1.39**	**141**	PN	**Pn**	**17 27 32.8**	**-0.5**
BODT	**Bodrum**	**1.41**	**159**	PN	**Pn**	**17 27 32.9**	**-0.7**
BDRM	**Kayabasi**	**1.45**	**155**	*i* P	**Pg**	**17 27 35.4**	**-0.5**
BDRM				*i* S	**Sg**	**17 27 55.9**	**+1.2**
EZN	**Ezine**	**1.47**	**349**	PN	**Pn**	**17 27 33.4**	**-0.9**
MANT	**Manisa**	**1.48**	**85**	*i* P	**Pn**	**17 27 35.6**	**+1.1**
BOZC	**Bozcaada**	**1.53**	**342**	*i* P	**Pn**	**17 27 35.3**	**0.0**
BOZC				*i* S	**Sg**	**17 27 57.3**	**-0.1**
BALB	**Balikesir**	**1.56**	**36**	PN	**Pn**	**17 27 34.7**	**-1.0**
APE	**Apeiranthos**	**1.60**	**215**	*e*PN	**Pn**	**17 27 35.3**	**-0.8**
BTOK	**Tokmak**	**1.73**	**37**	*i* P	**Pg**	**17 27 41.0**	**-0.3**
BTOK				*i* S	**Sb**	**17 28 02.0**	**+0.4**
BTOK	**Tokmak**	**1.73**	**37**	*i* S	**Sn**	**17 28 02.0**	**+2.0**
YER	**Yerkesik**	**1.78**	**134**	*e*PN	**Pn**	**17 27 38.5**	**-0.2**
DAT	**Datca**	**1.80**	**156**	*e*PN	**Pn**	**17 27 38.2**	**-0.7**
LIA	**Limnos Island**	**1.91**	**323**	*e*PN	**Pn**	**17 27 40.4**	**0.0**
LIA				*e*SN	**Sn**	**17 28 02.8**	**-1.6**
DENT	**Denizli**	**1.96**	**108**	*e*PN	**Pn**	**17 27 41.5**	**+0.3**
DNZL	**Cakiroluk**	**1.99**	**110**	*i* P	**Pn**	**17 27 42.3**	**+0.7**
DNZL				*i* S	**Sg**	**17 28 12.4**	**+0.3**
EDC	**Edincik**	**2.16**	**25**	*e*PN	**Pn**	**17 27 44.3**	**+0.4**
BNT	**Bandirma**	**2.19**	**26**	*e*PN	**Pn**	**17 27 44.4**	**+0.1**
DALT	**Dalyan (Mudla)**	**2.24**	**135**	*e*PN	**Pn**	**17 27 45.3**	**+0.3**
KCT	**Karacabey**	**2.29**	**34**	*e*PN	**Pn**	**17 27 44.4**	**-1.2**
GDZ	**Gediz**	**2.30**	**71**	*i* P	**Pg**	**17 27 51.2**	**-0.9**
GDZ				*i* S	**Sb**	**17 28 18.9**	**+1.0**
MRMT	**Marmara Adasi**	**2.33**	**17**	*e*PN	**Pn**	**17 27 45.2**	**-1.0**
RKY	**Sarkoy-Tekirda**	**2.33**	**9**	*e*PN	**Pn**	**17 27 46.4**	**+0.2**
ENEZ	**Enez**	**2.38**	**350**	*e*PN	**Pn**	**17 27 46.9**	**0.0**
MFT	**Murefte**	**2.44**	**11**	*e*PN	**Pn**	**17 27 48.5**	**+0.7**
ARG	**Arkhangelos**	**2.45**	**151**	*e*PN	**Pn**	**17 27 46.6**	**-1.3**
FETY	**Fethiye**	**2.59**	**132**	*e*PN	**Pn**	**17 27 50.3**	**+0.5**
NAIG	**Nisos Aigina**	**2.59**	**257**	*e*Pb	**Pb**	**17 27 53.2**	**-1.3**
ALT	**Altintas**	**2.77**	**75**	*e*PN	**Pn**	**17 27 52.2**	**0.0**
NEO	**Neokhori**	**2.85**	**290**	*e*PN	**Pn**	**17 27 54.0**	**+0.6**
TKTP	**Tekketepe**	**2.89**	**96**	*i* P	**Pn**	**17 27 55.3**	**+1.4**
TKTP				*i* S	**Sg**	**17 28 45.5**	**+4.7**
RDO	**Rodhopi**	**2.90**	**343**	*e*PN	**Pn**	**17 27 54.4**	**+0.4**
YLV	**Yalova**	**3.02**	**43**	*e*PN	**Pn**	**17 27 56.2**	**+0.6**
CTT	**Catalca**	**3.07**	**26**	*e*PN	**Pn**	**17 27 57.3**	**+0.9**
ELBA	**Catalca**	**3.07**	**26**	*i* P	**Pg**	**17 28 04.8**	**-2.1**
ELBA				*i* S	**Sg**	**17 28 46.1**	**-0.6**
ADVT	**Abdulvahap**	**3.13**	**48**	*e*PN	**Pn**	**17 27 57.4**	**+0.2**
ISK	**Istanbul-Kandi**	**3.25**	**34**	*e*PN	**Pn**	**17 27 59.9**	**+1.1**
HRT	**Hereke**	**3.35**	**43**	*e*PN	**Pn**	**17 28 00.2**	**-0.1**
KLYT	**Kilyos**	**3.39**	**32**	*e*PN	**Pn**	**17 28 02.0**	**+1.2**
VLI	**Veliai**	**3.41**	**242**	*e*PN	**Pn**	**17 28 01.1**	**+0.1**
EDRB	**Edirne**	**3.46**	**1**	*e*PN	**Pn**	**17 28 01.7**	**0.0**
MDU	**Mudurnu**	**4.08**	**58**	*e*PN	**Pn**	**17 28 10.4**	**+0.1**
SGKT	**Sivrigoynuk**	**4.70**	**61**	*i* P	**Pg**	**17 28 40.5**	**+2.5**
SGKT				*i* S	**Sg**	**17 29 39.5**	**+0.5**

NEIC 22 17:38:54.2, 1719N×9486W, h122km, MD3.8(MEX), After MEX.

MEX 22 17:38:54.0±0.5, 1724N×9485W, h123km±4km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.15**	**192**	*i* P	Pn	17 39 09.5	-1.3
CMIG				*i* S	Sn	17 39 21.7	-1.8
OXX	**Oaxaca**	**1.80**	**265**	*i* P	Pn	17 39 24.6	-0.5
OXX				*i* S	Sn	17 39 47.3	-1.5
VHO	**Vista Hermosa**	**1.81**	**265**	*i* P	Pn	17 39 24.2	-1.0
VHO				*i* S	Sn	17 39 47.4	-1.7
CCIG	**Comitan**	**2.77**	**110**	*i* P	Pn	17 39 36.3	-1.1
CCIG				*i* S	Sn	17 40 09.6	-1.1
UTMO	**Huajuapan**	**2.88**	**282**	*i* P	Pn	17 39 38.4	-0.4
UTMO				*i* S	Sn	17 40 10.3	-2.9

SFS 22 17:39:25.0, 3651N×445W, h87km, ML2.8
CSEM 22 17:39:25.8±0.2, 3668N×455W, h78km±2km, ML2.8, Error ellipse: s-maj=5.7km s-min=2.1km az=161.0
NEIC 22 17:39:25.8, 3651N×445W, h87km, MG2.8(MDD), After MDD.
ISCJB 22 17:39:25.6±0.6, 3671N±004×453W±002, h91km±5km, Error ellipse: s-maj=6.3km s-min=3.0km az=160.0
MDD 22 17:39:26.1±1.1, 3657N×445W, h80km±10km, mb2.8/27, Error ellipse: s-maj=13.4km s-min=6.3km az=164.0, PRXIMO
INMG 22 17:39:26.0±1.2, 3655N×446W, h81km±3km, ML2.5, Error ellipse: s-maj=4.4km s-min=2.2km az=160.0
IGIL 22 17:39:27.3, 3673N×450W, h30km, ML2.9

ISC 22 17:39:26.5±0.6, 3669N±004×452W±002, h85km±5km, n71, σ1°14/132, 3C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAL	**Malaga**	**0.09**	**67**	*i* P	**Pn**	**17 39 38.7**	**+0.2**
MAL				*e*S	**Sn**	**17 39 47.1**	**-0.3**
EMIJ	**Mijas**	**0.24**	**238**	⇑Pn	**Pn**	**17 39 38.2**	**-0.8**
	25nm,0.1s,SNR=18						
EMIJ				Sn	**Sn**	**17 39 47.3**	**-0.9**
	28nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.54**	**33**	Pn	**Pn**	**17 39 42.1**	**+1.1**
	4.5nm,0.1s,SNR=7.9						
ELOJ				Sn	**Sn**	**17 39 53.8**	**+2.0**
	9.7nm,0.2s,SNR=7.9						
REAL	**Reales**	**0.59**	**250**	Pn	**Pn**	**17 39 42.0**	**+0.5**
REAL				Sn	**Sn**	**17 39 53.8**	**+1.2**
REAL	**Reales**	**0.59**	**250**	*i* P	**Pn**	**17 39 42.0**	**+0.5**
REAL				*e*S	**Sn**	**17 39 53.8**	**+1.2**
ERON	**Agron**	**0.66**	**60**	⇓Pn	**Pn**	**17 39 42.8**	**+0.7**
	1.6nm,0.1s,SNR=18						
ERON				Sn	**Sn**	**17 39 53.4**	**-0.3**
	5.0nm,0.2s,SNR=14						
LIJA	**Lijar**	**0.74**	**287**	Pn	**Pn**	**17 39 44.9**	**+1.9**
LIJA				Sn	**Sn**	**17 39 55.6**	**+0.4**
LIJA	**Lijar**	**0.74**	**287**	*i* P	**Pn**	**17 39 44.9**	**+1.9**
LIJA				*i* S	**Sn**	**17 39 55.6**	**+0.4**
EGUA	**Guajares**	**0.78**	**79**	Pn	**Pn**	**17 39 41.8**	**-1.5**
	0.3nm,0.1s,SNR=7.9						
EGUA				Sn	**Sn**	**17 39 54.1**	**-1.8**
	1.2nm,0.1s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.80**	**253**	⇓Pn	**Pn**	**17 39 43.8**	**+0.2**
	4.0nm,0.1s,SNR=18						
EJIF				Sn	**Sn**	**17 39 55.0**	**-1.4**
	3.5nm,0.2s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.80**	**253**	P	**Pn**	**17 39 43.8**	**+0.3**
EJIF				S	**Sn**	**17 39 55.0**	**-1.4**
ECOG	**Cogollos-Vega**	**0.96**	**52**	Pn	**Pn**	**17 39 46.0**	**+0.7**
	3.5nm,0.1s,SNR=7.9						
ECOG				Sn	**Sn**	**17 39 59.5**	**0.0**
	7.8nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**0.96**	**52**	P	**Pn**	**17 39 46.0**	**+0.7**
ECOG				S	**Sn**	**17 39 59.5**	**0.0**
EQUE	**Quentar**	**1.00**	**59**	Pn	**Pn**	**17 39 46.5**	**+0.6**
	1.0nm,0.1s,SNR=7.9						
EQUE				Sn	**Sn**	**17 40 01.3**	**+0.9**
	5.4nm,0.1s,SNR=7.9						
MOMI	**Momias**	**1.03**	**250**	Pn	**Pn**	**17 39 47.4**	**+1.2**
MOMI	**Momias**	**1.03**	**250**	*e*P	**Pn**	**17 39 47.4**	**+1.2**
ESPR	**Espera**	**1.09**	**280**	Pn	**Pn**	**17 39 47.7**	**+0.9**
	5.7nm,0.1s,SNR=7.9						
ESPR				Sn	**Sn**	**17 40 02.3**	**+0.2**
	5.2nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.09**	**280**	P	**Pn**	**17 39 47.7**	**+0.8**
	5.7nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**17 40 02.3**	**+0.2**
	5.2nm,0.1s,SNR=7.9						
EBER	**Berja**	**1.32**	**81**	Pn	**Pn**	**17 39 49.2**	**-0.6**
	1.0nm,0.1s,SNR=7.9						
EBER				Sn	**Sn**	**17 40 05.4**	**-1.9**
	5.5nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.32**	**81**	P	**Pn**	**17 39 49.2**	**-0.5**
	1.0nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**17 40 05.4**	**-1.9**
	5.5nm,0.3s,SNR=7.9						
SCRT	**Cerro San Cris**	**1.33**	**268**	Pn	**Pn**	**17 39 47.4**	**-2.5**
SCRT				Sn	**Sn**	**17 39 58.7**	**-8.8**
SCRT	**Cerro San Cris**	**1.33**	**268**	*e*P	**Pn**	**17 39 47.4**	**-2.5**
EALB	**Alboran**	**1.41**	**122**	Pn	**Pn**	**17 39 47.0**	**-3.8**
	3.3nm,0.1s,SNR=7.9						
EALB				Sn	**Sn**	**17 40 03.4**	**-5.9**
	4.5nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.41**	**122**	P	**Pn**	**17 39 47.0**	**-3.9**
	3.3nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**17 40 03.4**	**-5.9**
	4.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.47**	**358**	⇑Pn	**Pn**	**17 39 52.9**	**+1.2**
	15nm,0.1s,SNR=18						
EADA				Sn	**Sn**	**17 40 12.2**	**+1.6**
	21nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.47**	**358**	P	**Pn**	**17 39 52.9**	**+1.3**
	15nm,0.1s,SNR=18						
EADA				S	**Sn**	**17 40 12.2**	**+1.6**
	21nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**1.58**	**21**	⇑Pn	**Pn**	**17 39 53.7**	**+0.7**
	24nm,0.1s,SNR=18						
EBAN				Sn	**Sn**	**17 40 13.7**	**+0.6**
	18nm,0.1s,SNR=14						
EQES	**Quesada**	**1.60**	**46**	Pn	**Pn**	**17 39 53.5**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**17 40 13.8**	**+0.2**
	8.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.60**	**46**	P	**Pn**	**17 39 53.5**	**+0.2**
	1.9nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**17 40 13.8**	**+0.2**
	8.1nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**1.90**	**53**	Pn	**Pn**	**17 39 57.1**	**-0.1**
	SNR=7.9						
EHUE				Sn	**Sn**	**17 40 20.1**	**-0.5**
	11nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.03**	**303**	Pn	**Pn**	**17 39 59.3**	**+0.4**
	7.1nm,0.0s,SNR=18						
EMIN				Sn	**Sn**	**17 40 23.4**	**-0.1**
	17nm,0.1s,SNR=48						
EMIN	**Mina Concepcio**	**2.03**	**303**	P	**Pn**	**17 39 59.3**	**+0.4**
	7.1nm,0.0s,SNR=18						
EMIN				S	**Sn**	**17 40 23.4**	**-0.1**
	17nm,0.1s,SNR=48						
ERIP	**Rio Piedras**	**2.29**	**288**	⇓Pn	**Pn**	**17 40 02.4**	**+0.1**
	8.3nm,0.1s,SNR=18						
ERIP				Sn	**Sn**	**17 40 28.8**	**-1.1**
	114nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.52**	**290**	Pn	**Pn**	**17 40 05.5**	**+0.2**
	1.8nm,0.0s,SNR=7.9						
EGRO				Sn	**Sn**	**17 40 34.0**	**-1.2**
	24nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.52**	**290**	P	**Pn**	**17 40 05.5**	**+0.1**
	1.8nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**17 40 34.0**	**-1.2**
	24nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.52**	**39**	Pn	**Pn**	**17 40 05.6**	**+0.2**
	1.1nm,0.1s,SNR=7.9						
EVIA				Sn	**Sn**	**17 40 34.0**	**-1.2**
	7.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.86**	**317**	Pn	**Pn**	**17 40 10.9**	**+1.0**
	19nm,0.1s,SNR=80						
EBAD				Sn	**Sn**	**17 40 43.7**	**+0.4**
	13nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.86**	**317**	P	**Pn**	**17 40 10.9**	**+1.0**
	19nm,0.1s,SNR=80						
EBAD				S	**Sn**	**17 40 43.7**	**+0.3**
	13nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.98**	**298**	*e*S	**Sn**	**17 40 45.4**	**-1.0**
PBEJ							
	18nm,0.1s						
PBEJ	**Beja**	**2.98**	**298**	*e*S	**Sn**	**17 40 45.4**	**-1.0**
	18nm,0.1s						
ESDC	**Sonseca Array**	**3.01**	**8**	Pn	**Pn**	**17 40 12.7**	**+0.7**
	5.8nm,0.1s,baz=184,slow=13,SNR=7.9						
ESDC				Sn	**Sn**	**17 40 47.0**	**-0.1**
	15nm,0.1s,baz=189,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**3.01**	**8**	P	**Pn**	**17 40 12.7**	**+0.7**
	5.8nm,0.1s,SNR=7.9						
ESDC				S	**Sn**	**17 40 47.0**	**-0.1**
	15nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.06**	**50**	Pn	**Pn**	**17 40 12.3**	**-0.4**
	0.9nm,0.1s,SNR=7.9						
ETOB				Sn	**Sn**	**17 40 45.6**	**-2.7**
	5.2nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.06**	**50**	P	**Pn**	**17 40 12.3**	**-0.4**
	0.9nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**17 40 45.6**	**-2.7**
	5.2nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.36**	**282**	*e*P	**Pn**	**17 40 16.6**	**-0.2**
MORF				*e*S	**Sn**	**17 40 52.9**	**-2.8**
MORF				*e*S	**Sn**	**17 40

NIED **22** *17:40:00, 3760N×13580E, h360km, Mw4.5 Best double couple: M0 6.37000×1015 NP1:φs 192.00000°, δ80.00000°, λ73.00000°. NP2:φs 73.00000°, δ19.00000°, λ150.00000°.*
BJI **22** *17:40:42.6, 3768N×13564E, h377km, mB4.5, mb5.0*
MOS **22** *17:40:42.6±0.9, 3766N×13551E, h356km, mb4.5/26, Error ellipse: s-maj=9.4km s-min=5.9km az=110.2*
IDC **22** *17:40:43.3±0.7, 3763N×13550E, h347km±7km, mb3.9/22, mb1 4.0/26, mb1mx4.0/29, mbtmp4.6/26, Error ellipse: s-maj=11.3km s-min=8.0km az=75.0*
JMA **22** *17:40:43.3±0.1, 3760N×13576E, h369km±1km, M4.2*
ISCJB **22** *17:40:43.1±0.2, 3767N±003×13547E±003, h355km±1km, mb4.3/81, Error ellipse: s-maj=4.5km s-min=3.2km az=159.2*
NEIC **22** *17:40:43.5±0.3, 3764N×13552E, h351km±3km, mb4.6/53, MW4.5(NIED), Error ellipse: s-maj=4.3km s-min=3.5km az=149.0*

ISC 22 17:40:44.1±0.1**, 3764N**±003×**13553E**±002**, h352**km±1km**, n320**, σ0**90**/346**, mb4.3**/81**, 67C-72D, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JHG	**Hegura jima**	**1.12**	**79**	P	P	**Pn**	**17 41 31.1**	**+0.6**
JHG					S	**S**	**17 42 08.0**	**+0.2**
JJH	**Hakui**	**1.23**	**125**	P	P	**Pn**	**17 41 31.7**	**+0.7**
JJH					S	**S**	**17 42 09.4**	**+0.7**
JSZ	**Suzu**	**1.47**	**97**	P	P	**Pn**	**17 41 32.6**	**+0.3**
JSZ					S	**S**	**17 42 11.4**	**+0.5**
JKG	**Kaga**	**1.50**	**154**	P	P	**Pn**	**17 41 32.9**	**+0.5**
JKG					S	**S**	**17 42 11.2**	**-0.1**
JGM	**Miyama**	**2.16**	**153**	P	P	**Pn**	**17 41 36.7**	**0.0**
JGM					S	**S**	**17 42 18.5**	**-0.5**
JSD	**Sado**	**2.20**	**79**	P	P	**Pn**	**17 41 36.6**	**-0.4**
JSD					S	**S**	**17 42 17.6**	**-1.9**
SAI	**Saigo**	**2.27**	**231**	P	P	**Pn**	**17 41 39.0**	**+1.5**
JWT	**Wachi**	**2.35**	**183**	P	P	**Pn**	**17 41 39.0**	**+0.8**
JWT					S	**S**	**17 42 21.5**	**-0.1**
MAJO	**Matsushiro**	**2.41**	**116**	⇓*i*P	P	**Pn**	**17 41 38.3**	**-0.3**
MAT	**Matsushiro**	**2.41**	**116**	P	P	**Pn**	**17 41 38.3**	**-0.3**
MAT					S	**S**	**17 42 22.5**	**+0.2**
MAT	**Matsushiro**	**2.41**	**116**	P	P	**Pn**	**17 41 38.3**	**-0.3**
MAT					S	**S**	**17 42 21.2**	**-1.1**
MJAR	**Matsushiro Arr**	**2.41**	**116**	P	P	**Pn**	**17 41 38.8**	**+0.2**
	101nm,0.3s,baz=295,slow=8.7,SNR=1457							
MJAR					S	**S**	**17 42 21.7**	**-0.7**
	baz=323,slow=22,SNR=2.4							
JNS	**Sasagawa**	**3.01**	**85**	P	P	**Pn**	**17 41 42.8**	**-0.9**
JAW	**Awa shima**	**3.05**	**73**	P	P	**Pn**	**17 41 43.5**	**-0.5**
JRY	**Ryogami san**	**3.15**	**120**	P	P	**Pn**	**17 41 43.8**	**-1.2**
JYN	**Shimob**	**3.23**	**130**	P	P	**Pn**	**17 41 44.7**	**-1.0**
JHS	**Saijyo**	**3.28**	**217**	P	P	**Pn**	**17 41 47.6**	**+1.5**
JHS					S	**S**	**17 42 37.8**	**+1.8**
JAG	**Ashikaga**	**3.37**	**110**	P	P	**Pn**	**17 41 45.1**	**-1.8**
JIE	**Ise**	**3.38**	**163**	P	P	**Pn**	**17 41 47.9**	**+0.9**
JIE					S	**S**	**17 42 37.6**	**-0.2**
JWY	**Kouya**	**3.41**	**179**	P	P	**Pn**	**17 41 48.3**	**+0.9**
JWY					S	**S**	**17 42 37.5**	**-0.9**
JGT	**Gotsu**	**3.67**	**226**	P	P	**Pn**	**17 41 51.7**	**+1.9**
JGT					S	**S**	**17 42 46.1**	**+3.3**
JOD2	**Odawara 2**	**3.72**	**128**	P	P	**Pn**	**17 41 49.3**	**-1.1**
JWZ	**Kozaga**	**4.10**	**178**	P	P	**Pn**	**17 41 54.5**	**+0.3**
JWZ					*e*S	**S**	**17 42 50.5**	**-0.3**
JMK	**Ichinoseki**	**4.67**	**72**	P	P	**Pn**	**17 41 58.6**	**-1.5**
BSO1	**Boso 1**	**5.32**	**122**	P	P	**Pn**	**17 42 04.8**	**-2.5**
JHJ	**Hachijo jima 2**	**5.69**	**141**	P	P	**Pn**	**17 42 10.6**	**-0.8**
	64nm,0.3s,baz=31,slow=18,SNR=22							
JHJ					S	**S**	**17 43 22.9**	**+0.6**
	78nm,0.3s,baz=69,slow=22,SNR=7.5							
KS15	**Wonju Array Si**	**6.08**	**270**	*e*Pn		**Pn**	**17 42 16.4**	**+0.6**
KS15					*e*S	**S**	**17 43 33.8**	**+3.6**
VLA	**Vladivostok**	**6.14**	**334**	*c i*P		**Pn**	**17 42 17.8**	**+1.3**
VLA					*e*S	**S**	**17 43 32.9**	**+1.4**
VLA					pmax	pmax		
	comp=Z,60nm,0.5s							
INCN	**Inchon**	**7.07**	**271**	*e*Pn		**Pn**	**17 42 26.0**	**-1.2**
	comp=Z,13nm,0.3s							
INCN					*e*S	**S**	**17 43 52.3**	**+1.1**
MDJ	**Mudanjiang**	**8.28**	**329**	P		**Pn**	**17 42 42.8**	**+1.3**
MDJ					AMB	AMB		
	comp=Z,60nm,1.0s							
MDJ					AMB	AMB		
	comp=Z,110nm,5.3s							
MDJ					LR	LR		
	comp=N,20nm,16.9s							
MDJ					LR	LR		
	comp=E,70nm,21.3s							
MDJ					LR	LR		
	comp=Z,40nm,22.6s							
MDJ	**Mudanjiang**	**8.28**	**329**	⇓*i*Pn		**Pn**	**17 42 42.4**	**+0.8**
	comp=Z,61nm,0.8s							
ASAJ	**Asahikawa**	**8.40**	**37**	P		**Pn**	**17 42 40.5**	**-2.3**
	comp=Z,8.9nm,0.3s,baz=233,slow=13,SNR=153							
ASAJ					S	**S**	**17 44 13.3**	**-6.6**
	comp=Z,12nm,0.3s,baz=312,slow=32,SNR=36							
ASAJ	**Asahikawa**	**8.40**	**37**	P		**Pn**	**17 42 40.6**	**-2.3**
ASAJ					S	**S**	**17 44 13.4**	**-6.5**
ASAJ					pmax	pmax		
	comp=Z,9.0nm,0.3s							
ASAJ					smax			
	comp=N,12nm,0.3s							
CN2	**Changchun**	**9.82**	**312**	⇓P		**Pn**	**17 43 00.5**	**+0.7**
CN2					AMB	AMB		
	comp=Z,80nm,0.9s							
CN2					AMB	AMB		
	comp=Z,200nm,3.0s							
SNY	**Shenyang**	**10.11**	**298**	⇓P		**Pn**	**17 43 04.9**	**+1.6**
SNY					S	**S**	**17 45 01.5**	**+4.0**
SNY					AMB	AMB		
	comp=Z,90nm,0.7s							
SNY					AMB	AMB		
	comp=Z,60nm,4.8s							
YSS	**Yuzh-Sakhalins**	**10.73**	**28**	*e*P		**Pn**	**17 43 09.0**	**-1.7**
YSS				*e*S		**S**	**17 45 01.0**	**-10**
YSS					pmax	pmax		
	comp=Z,60nm,0.4s							
YSS					smax			
	comp=N,100nm,1.2s							
YSS	**Yuzh-Sakhalins**	**10.73**	**28**	*e*Pn		**Pn**	**17 43 08.2**	**-2.5**
	comp=N,66nm,0.6s							
YSS				*e*S		**S**	**17 45 00.0**	**-11**
HABR	**Khabarovsk**	**10.84**	**358**	*i* P		**Pn**	**17 43 11.8**	**-0.1**
HABR				*e*S		**S**	**17 45 14.2**	**+0.8**
HABR					pmax	pmax		
	comp=Z,29nm,0.8s							
DL2	**Dalian**	**11.00**	**281**	*i* PR			17 43 15.8	
DL2					XP		17 44 31.4	
DL2					S	**S**	**17 45 18.8**	**+1.7**
DL2					AMB	AMB		
	comp=Z,110nm,0.7s							
DL2					AMB	AMB		
	comp=Z,240nm,2.9s							
KLR	**Kul'dur**	**11.90**	**348**	*e*P		**Pn**	**17 43 19.2**	**-5.4**
KLR				*e*S		**S**	**17 45 30.2**	**-6.7**
CBIJ	**Chichi jima**	**11.92**	**150**	P		**Pn**	**17 43 19.6**	**-5.2**
	comp=Z,21nm,0.3s,baz=310,slow=5.0,SNR=35							
CBIJ					S	**S**	**17 45 23.5**	**-14**
	comp=Z,80nm,0.3s,baz=260,slow=22,SNR=14							
KUR	**Kuril'sk**	**11.96**	**47**	⇓*i*P		**Pn**	**17 43 21.0**	**-4.3**
KUR					S	**S**	**17 45 30.0**	**-8.2**
KUR					pmax	pmax		
	comp=E,50nm,0.8s							
KUR					pmax	pmax		
	comp=Z,220nm,0.8s							
KUR					smax			
	comp=N,80nm,0.7s							
KUR					smax			
	comp=E,40nm,0.7s							
JOW	**Kunigami**	**12.39**	**212**	P		**P**	**17 43 29.2**	**-0.7**
	comp=E,1.5nm,0.3s,baz=119,slow=6.4,SNR=7.1							
SSE	**Sheshan**	**13.52**	**245**	*e*P		**P**	**17 43 43.8**	**+1.5**
SSE					AMB	AMB		
	comp=Z,50nm,0.9s							
SSE					AMB	AMB		
	comp=Z,40nm,5.0s							
NJ2	**Nanjing**	**14.78**	**253**	*e*P		**P**	**17 43 57.0**	**+0.9**
NJ2					XP		17 45 20.8	
NJ2					S	**S**	**17 46 33.0**	**-2.3**
NJ2					PCP	PcP	17 48 44.0	+1.6
NJ2					SCP	ScP	17 51 43.0	+0.8
NJ2					PCS	PcS	17 52 15.0	-2.6
NJ2					AMB	AMB		
	comp=Z,40nm,1.0s							
NJ2					AMB	AMB		
	comp=Z,90nm,9.4s							
NJ2					LR	LR		
	comp=N,80nm,14.7s							
NJ2					LR	LR		
	comp=E,80nm,9.2s							
NJ2					LR	LR		
	comp=Z,70nm,21.6s							
TIA	**Tai'an**	**14.79**	**270**	*e*P		**P**	**17 43 58.3**	**+2.1**
BJT	**Baijiatuau**	**15.28**	**285**	*e*P		**P**	**17 44 00.7**	**-0.8**
BJT					pmax	pmax		
	comp=Z,46nm,0.5s							
BJT	**Baijiatuau**	**15.28**	**285**	*e*P		**P**	**17 44 00.7**	**-0.9**
	comp=Z,46nm,0.5s							
HIA	**Hailar**	**16.29**	**321**	⇓*i*P		**P**	**17 44 11.3**	**-1.2**
HIA					pmax	pmax		
	comp=Z,57nm,0.7s							
HIA	**Hailar**	**16.29**	**321**	⇓*i*P		**P**	**17 44 11.3**	**-1.2**
	comp=Z,57nm,0.7s							
TATO	**Taipei**	**17.39**	**227**	*e*P		**P**	**17 44 23.7**	**-0.6**
	comp=Z,52nm,0.9s							
YHNB	**Yeheng**	**17.69**	**227**	*e*P		**P**	**17 44 27.1**	**-0.4**
HHC	**Hu-ho-hao-te**	**18.82**	**287**	*e*P		**P**	**17 44 37.4**	**-2.1**
HHC					S	**S**	**17 47 48.5**	**-6.1**
HHC					PCP	PcP	17 48 49.8	+1.0
HHC					SCP	ScP	17 51 49.5	-0.9
HHC					PCS	PcS	17 52 24.8	-1.1
HHC					AMB	AMB		
	comp=Z,40nm,0.8s							
HHC					AMB	AMB		
	comp=Z,60nm,4.0s							
SKR	**Severo-Kuril's**	**19.62**	**42**	*e*P		**P**	**17 44 41.5**	**-6.4**
BTO	**Baotou**	**19.99**	**286**	*e*P		**P**	**17 44 48.4**	**-3.3**
CIT	**Chita**	**21.09**	**320**	*e*P		**P**	**17 45 00.2**	**-1.5**
CIT				*e*			17 48 32.1	
CIT					pmax	pmax		
	comp=Z,49nm,1.3s,mb4.6							
XAN	**Xi'an**	**21.84**	**269**	P		**P**	**17 45 07.3**	**-1.3**
XAN					AMB	AMB		
	comp=Z,80nm,0.6s,mb5.1							
PET	**Petropavlovsk**	**22.24**	**39**	⇓*i*P		**P**	**17 45 11.7**	**-0.5**
PET					pmax	pmax		
	comp=Z,32nm,0.9s,mb4.5							
PET	**Petropavlovsk**	**22.24**	**39**	⇑*e*P		**P**	**17 45 10.5**	**-1.7**
	comp=Z,12nm,0.4s,mb4.5							
ULN	**Ulaanbaatar**	**23.15**	**305**	⇓P		**P**	**17 45 20.2**	**-0.3**
	SNR=12							
ULN	**Ulaanbaatar**	**23.15**	**305**	⇓*i*P		**P**	**17 45 20.0**	**-0.5**
ULN					pmax	pmax		
	comp=Z,19nm,0.7s,mb4.4							
ULN	**Ulaanbaatar**	**23.15**	**305**	⇓*i*P		**P**	**17 45 20.0**	**-0.5**
	comp=Z,19nm,0.7s,mb4.4							
SONM	**Songino Array**	**23.57**	**305**	P		**P**	**17 45 23.9**	**-0.4**
	comp=Z,13nm,0.6s,mb4.3,baz=108,slow=9.3,SNR=51							
MA2	**Magadan**	**24.04**	**19**	⇑*i*P		**P**	**17 45 27.2**	**-1.3**
MA2					pmax	pmax		
	comp=Z,16nm,0.8s,mb4.3							
MA2	**Magadan**	**24.04**	**19**	*e*P		**P**	**17 45 26.8**	**-1.7**
	comp=Z,17nm,0.9s,mb4.3							
YAK	**Yakutsk**	**24.69**	**353**	*e*P		**P**	**17 45 36.3**	**+2.0**
YAK				*e*			17 49 18.1	
YAK				*e*			17 55 48.4	
YAK					pmax	pmax		
	comp=Z,17nm,0.9s,mb4.3							
YAK					pmax	pmax		
	comp=N,7.0nm,1.2s							
YAK					pmax	pmax		
	comp=E,2.0nm,1.2s							
YAK					smax			
	comp=N,11nm,1.1s							
YAK					smax			
	comp=E,9.0nm,1.2s							
YAK	**Yakutsk**	**24.69**	**353**	*e*P		**P**	**17 45 33.2**	**-1.1**
	comp=E,36nm,0.7s,mb4.7							
LZH	**Lanzhou**	**25.34**	**276**	*e*P		**P**	**17 45 39.8**	**-0.3**
LZH					AMB	AMB		
	comp=Z,70nm,1.0s,mb4.8							
LZH					AMB	AMB		
	comp=Z,240nm,4.0s							
ZAK	**Zakamensk**	**26.23**	**309**	*e*P		**P**	**17 45 46.4**	**-1.7**
ZAK					pmax	pmax		
	comp=Z,6.0nm,1.7s,mb3.5							
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.6s,mb3.5							
TLY	**Talaya**	**26.42**	**312**	⇑P		**P**	**17 45 49.3**	**-0.4**
	SNR=5.5							
TLY	**Talaya**	**26.42**	**312**	*e*P		**P**	**17 45 49.4**	**-0.3**
TLY					pmax	pmax		
	comp=Z,9.0nm,1.4s,mb3.8							
TLY	**Talaya**	**26.42**	**312**	*e*P		**P**	**17 45 48.5**	**-1.2**
	comp=Z,3.4nm,0.6s,mb3.8							
GYA	**Guiyang**	**26.78**	**254**	⇑*i*P		**P**	**17 45 52.5**	**-0.4**
GYA					S	**S**	**17 50 01.6**	**-0.9**
GYA					AMB	AMB		
	comp=Z,30nm,0.9s,mb4.5							
GYA					AMB	AMB		
	comp=Z,120nm,5.5s							
GYA					LR	LR		
	comp=N,330nm,15.0s							
GYA					LR	LR		
	comp=E,220nm,15.6s							
GYA					LR	LR		
	comp=Z,230nm,15.7s							
CD2	**Chengdu**	**27.01**	**265**	*e*P		**P**	**17 45 54.3**	**-0.7**
CD2					AP		17 46 57.8	
CD2					PCP	PcP	17 49 07.1	+1.1
CD2					S	**S**	**17 50 03.6**	**-2.5**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.2							
CD2					AMB	AMB		
	comp=Z,30nm,4.2s							
GTA	**Gaotai**	**27.89**	**285**	⇓P		**P**	**17 46 02.3**	**-0.4**
GTA					SCP	ScP	17 52 14.5	-0.3
GTA					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.0							
QIZ	**Qiongzhong**	**29.09**	**238**	*e*P		**P**	**17 46 11.2**	**-2.1**
	comp=Z,3.7nm,0.8s,mb3.7							
KMI	**Kunming**	**30.49**	**255**	⇓P		**P**	**17 46 25.0**	**-0.6**
KMI					AP	pP	17 47 33.5	+2.0
KMI					AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.0							
KMI					AMB	AMB		
	comp=Z,60nm,7.1s							
BILL	**Bilibino**	**34.91**	**20**	α*i*P		**P**	**17 47 02.7**	**-0.8**
BILL					S	**S**	**17 52 06.0**	**-2.3**
BILL					pmax	pmax		
	comp=Z,27nm,1.4s,mb4.3							
BILL	**Bilibino**	**34.91**	**20**	*e*P		**P**	**17 47 01.9**	**-1.7**
	comp=Z,11nm,0.4s,mb4.4							
LSA	**Lhasa**	**37.49**	**271**	P		**P**	**17 47 26.8**	**+1.6**
LSA	**Lhasa**	**37.49**	**271**	*e*P		**P**	**17 47 26.7**	**+1.5**
LSA					pmax	pmax		
	comp=Z,12nm,0.6s,mb4.3							
LSA	**Lhasa**	**37.49**	**271**	*e*P		**P**	**17 47 26.7**	**+1.4**
	comp=Z,12nm,0.6s,mb4.3							
ATKA	**Atka Island**	**37.67**	**51**	⇑*e*P		**P**	**17 47 24.3**	**-2.4**
NVS	**Novosibirsk**	**39.02**	**313**	*i* P		**P**	**17 47 34.7**	**-3.1**
MK31	**Makanchi Array**	**39.80**	**301**	P		**P**	**17 47 43.2**	**-1.0**
MK31					pmax	pmax		
	comp=Z,4.0nm,0.5s,mb3.9							
MKAR	**Makanchi Array**	**39.80**	**301**	P		**P**	**17 47 43.6**	**-0.6**
	comp=Z,9.3nm,0.7s,mb4.2,baz=88,slow=10,SNR=139							
MKAR					ScP	ScP	17 52 55.4	-1.6
	comp=Z,0.5nm,0.6s,baz=77,slow=5.6,SNR=5.4							
JIRN	**Jiri**	**42.30**	**271**	*e*P		**P**	**17 48 05.2**	**+0.8**
	comp=Z,41nm,0.4s,mb4.9							
GUN	**Gumba**	**42.44**	**272**	*e*P		**P**	**17 48 06.1**	**+0.7**
	comp=Z,98nm,0.4s,mb5.2							
KSM	**Kuching**	**42.82**	**219**	*e*P		**P**	**17 48 07.3**	**-1.2**
PKI	**Pulchoki**	**42.96**	**272**	*e*P		**P**	**17 48 09.9**	**+0.3**
	comp=Z,33nm,0.6s,mb4.6							
PKI	**Pulchoki**	**42.96**	**272**	*e*P		**P**	**17 48 09.9**	**+0.3**
PKI					pmax	pmax		
	comp=Z,33nm,0.6s,mb4.6							
KKN	**Kakani**	**42.96**	**272**	*e*P		**P**	**17 48 10.0**	**+0.4**
	comp=Z,77nm,0.6s,mb5.0							
KKN	**Kakani**	**42.96**	**272**	*e*P		**P**	**17 48 10.0**	**+0.4**
KKN					pmax	pmax		
	comp=Z,77nm,0.6s,mb5.0							
DMN	**Daman**	**43.18**	**272**	*e*P		**P**	**17 48 11.7**	**+0.3**
	comp=Z,30nm,0.6s,mb4.6							
GKN	**Gorkha**	**43.38**	**273**	*e*P		**P**	**17 48 13.2**	**+0.3**
	comp=Z,123nm,0.5s,mb5.3							
KOLN	**Koldanda**	**44.31**	**273**	*e*P		**P**	**17 48 20.7**	**+0.5**
TKM2	**Tokmak 2**	**45.19**	**296**	P		**P**	**17 48 28.1**	**+1.0**
	SNR=34							
KULM	**Kulim**	**45.23**	**233**	*e*P		**P**	**17 48 27.2**	**-0.2**
KZA	**Kyzart**	**45.65**	**295**	P		**P**	**17 48 32.3**	**+1.6**
	SNR=38							
KBK	**Karagaybulak**	**45.72**	**296**	P		**P**	**17 48 32.0**	**+0.8**
	SNR=54							
CHMS	**Chumysh**	**45.77**	**297**	P		**P**	**17 48 31.9**	**+0.3**
	SNR=12							
USP	**Ospenovka**	**45.88**	**297**	P		**P**	**17 48 32.6**	**+0.1**
	SNR=16							
FRU	**Bishkek**	**45.91**	**296**	*e*P		**P**	**17 48 32.5**	**-0.2**
FRU					pmax	pmax		
	comp=Z,1μm,1.8s							
AAK	**Ala-Archa**	**46.05**	**296**	P		**P**	**17 48 34.3**	**+0.5**
	SNR=12							
AAK	**Ala-Archa**	**46.05**	**296**	⇑P		**P**	**17 48 33.4**	**-0.4**
	SNR=6.1							
AAK	**Ala-Archa**	**46.05**	**296**	*d i*P		**P**	**17 48 33.1**	**-0.7**
AAK					pmax	pmax		
	comp=Z,21nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**46.05**	**296**	⇓*i*P		**P**	**17 48 32.7**	**-1.1**
	comp=Z,17nm,0.8s,mb4.2							
UCH	**Uchtor**	**46.14**	**296**	P		**P**	**17 48 35.8**	**+1.3**
	SNR=21							
VOSK	**Vostochnaya**	**46.35**	**311**	P		**P**	**17 48 34.9**	**-1.2**
VOSK					pmax	pmax		
	comp=Z,33nm,1.2s,mb4.3							
CHKZ	**Chkalovo**	**46.45**	**312**	⇓*i*P		**P**	**17 48 35.8**	**-1.0**
CHKZ					pmax	pmax		
	comp=Z,23nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**46.45**	**312**	⇓*i*P		**P**	**17 48 35.8**	**-1.1**
	comp=Z,23nm,0.6s,mb4.5							
EKS2	**Erkin-Say**	**46.55**	**296**	P		**P**	**17 48 37.9**	**+0.2**
	SNR=16							
BVA0	**Borovoye Array**	**46.67**	**311**	*i* P		**P**	**17 48 37.4**	**-1.1**
BVA0					pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.5							
BRVK	**Borovoye**	**46.73**	**311**	⇓P		**P**	**17 48 38.4**	**-0.6**
	SNR=5.3							
BRVK	**Borovoye**	**46.73**	**311**	⇓*i*P		**P**	**17 48 38.1**	**-0.9**
BRVK					pmax	pmax		
	comp=Z,4.0nm,0.5s,mb3.9							
BRVK	**Borovoye**	**46.73**	**311**	⇓*i*P		**P**	**17 48 38.1**	**-0.9**
	comp=Z,4.4nm,0.5s,mb3.9							
AML	**Almayashu**	**46.75**	**296**	P		**P**	**17 48 40.6**	**+1.4**
	SNR=26							
ZRNK	**Zerenda**	**47.51**	**311**	⇓*i*P		**P**	**17 48 44.2**	**-0.8**
ZRNK					pmax	pmax		
	comp=Z,33nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**47.51**	**311**	⇓*i*P		**P**	**17 48 44.2**	**-0.7**
	comp=Z,33nm,0.6s,mb4.7							
KK31	**Karatay Array**	**48.73**	**298**	*i* P		**P**	**17 48 53.7**	**-0.5**
KK31					pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.3							
KKAR	**Karatay Array**	**48.73**	**298**	*i* P		**P**	**17 48 53.7**	**-0.5**
KKAR					pmax	pmax		
	comp=Z,4.0nm,0.5s,mb3.9							
KDAK	**Kodiak Island**	**49.78**	**42**	P		**P**	**17 49 01.4**	**-0.7**
	comp=Z,13nm,0.7s,mb4.3,baz=305,slow=3.3,SNR=22							
KDAK					PcP	PcP	17 50 16.7	-0.3
	comp=Z,2.3nm,0.5s,baz=243,slow=4.5,SNR=2.7							
KDAK	**Kodiak Island**	**49.78**	**42**	*e*P		**P**	**17 49 00.6**	**-1.5**
	comp=Z,13nm,0.8s,mb4.2							
KDAK				*e*PcP		PcP	17 50 15.9	-1.1
MCK	**McKinley**	**50.74**	**34**	*e*P		**P**	**17 49 08.1**	**-1.1**
MCK					pmax	pmax		
	comp=Z,6.0nm,0.7s,mb3.9							
MCK	**McKinley**	**50.74**	**34**	*e*P		**P**	**17 49 08.1**	**-1.1**
	comp=Z,5.7nm,0.7s,mb3.9							
PMR	**Palmer**	**50.94**	**37**	P		**P**	**17 49 08.2**	**-2.5**
COLA	**College**	**51.07**	**32**	⇑*i*P		**P**	**17 49 11.7**	**0.0**
COLA	**College**	**51.07**	**32**	*e*P		**P**	**17 49 11.3**	**-0.3**
SML	**Sawmill**	**51.28**	**36**	*e*P		**P**	**17 49 11.8**	**-1.4**
DIV	**Divide**	**52.62**	**37**	⇑*e*P		**P**	**17 49 22.5**	**-0.5**
	comp=Z,24nm,0.8s,mb4.6							
ARU	**Arti**	**52.76**	**317**	⇓*i*P		**P**	**17 49 23.2**	**-0.8**
ARU				*e*			17 51 25.5	
ARU				*e*PPP			17 52 42.7	
ARU				*e*SS		SS	18 00 06.8	-1.6
ARU					pmax	pmax		
	comp=Z,29nm,0.6s,mb4.8							
ARU	**Arti**	**52.76**	**317**	⇓*i*P		**P**	**17 49 23.1**	**-0.9**
	comp=Z,36nm,0.6s,mb4.9							
AB31	**Akbulak array**	**53.92**	**308**	P		**P**	**17 49 31.5**	**-0.8**
AB31					pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.3							
INK	**Inuvik**	**55.97**	**27**	P		**P**	**17 49 46.4**	**-0.4**
	comp=Z,13nm,0.4s,mb4.6,baz=305,slow=6.6,SNR=33							
INK	**Inuvik**	**55.97**	**27**	P		**P**	**17 49 46.4**	**-0.5**
INK					pmax	pmax		
	comp=Z,13nm,0.4s							
INK	**Inuvik**	**55.97**	**27**	⇑*i*P		**P**	**17 49 46.2**	**-0.6**
	comp=Z,9.1nm,0.6s,mb4.3							
ORR	**Orenburg**	**56.30**	**312**	*e*P		**P**	**17 49 48.1**	**-1.1**
ORR					pmax	pmax		
	comp=Z,20nm,1.3s,mb4.3							
WRAB	**Tennant Creek**	**57.27**	**181**	⇑*e*P		**P**	**17 49 55.3**	**-0.6**
WRAB					pmax	pmax		
	comp=Z,12nm,0.7s,mb4.3							
WRAB	**Tennant Creek**	**57.27**	**181**	⇑*e*P		**P**	**17 49 55.3**	**-0.6**
	comp=Z,12nm,0.7s,mb4.3							
WB2	**Warramunga Arr**	**57.28**	**181**	*e*P		**P**	**17 49 55.2**	**-0.8**
WRA	**Warramunga Arr**	**57.28**	**181**	P		**P**	**17 49 55.5**	**-0.5**
	comp=Z,10.0nm,0.4s,mb4.5,baz=358,slow=7.5,SNR=312							
WRA					PcP	PcP	17 50 44.2	-1.5
	comp=Z,1.3nm,0.6s,baz=355,slow=4.6,SNR=4.9							
CTA	**Charters Tower**	**58.30**	**168**	*e*P		**P**	**17 50 03.2**	**+0.2**
	comp=Z,7.6nm,1.4s,mb3.8							
CTA	**Charters Tower**	**58.30**	**168**	P		**P**	**17

comp=Z,11nm,1.6s
STKA **Stephens Creek** 69.39 174 *e*P P 17 51 12.5 -2.1
comp=Z,2.7nm,0.8s,mb4.0
STKA **Stephens Creek** 69.39 174 P P 17 51 12.9 -1.7
comp=Z,2.0nm,0.6s,mb4.0,baz=353,slow=11,SNR=8.6
STKA **Stephens Creek** 69.39 174 *e*P P 17 51 12.2 -2.4
D03A **Wishkah Elem.** 69.91 46 ⇓P P 17 51 18.1 +0.4
baz=70
SUMG **Summit** 70.00 358 *e*P P 17 51 18.4 0.0
comp=Z,5.8nm,0.7s,mb4.4
B05A **Bryant** 70.20 44 ⇑P P 17 51 19.7 +0.1
baz=70
JCW **Jim Creek** 70.33 44 P P 17 51 20.9 +0.5
E03A **Lebam** 70.35 46 ⇓P P 17 51 21.0 +0.6
baz=70
D04A **Dobbs Creek Ra** 70.46 45 ⇓P P 17 51 22.0 +0.9
baz=70
F03A **Seaside** 70.69 47 ⇓P P 17 51 23.2 +0.7
baz=70
C05A **Tolt Reservoir** 70.75 44 ⇓P P 17 51 23.1 +0.2
baz=70
D05A **Enumclaw** 70.87 45 ⇑P P 17 51 23.9 +0.3
baz=71
AKASG **Malin Array Be** 70.88 320 P P 17 51 22.6 -1.0
comp=Z,2.7nm,0.5s,mb4.3,baz=50,slow=6.3,SNR=29
GSM **Grass Mountain** 70.97 45 P P 17 51 24.9 +0.7
F04A **Amboy** 71.35 46 ⇑P P 17 51 26.1 -0.3
baz=71
E05A **Randle** 71.36 45 ⇓P P 17 51 27.1 +0.7
baz=71
HFS **Hagfors** 71.53 333 P P 17 51 26.6 -0.8
comp=Z,1.8nm,0.4s,mb4.1,baz=96,slow=6.0,SNR=12
HFS **Hagfors** 71.53 333 P P 17 51 26.6 -0.8
H03A **Soap Creek Ran** 71.56 48 ⇑P P 17 51 28.0 +0.3
baz=71
EDM **Edmonton** 71.71 36 *e*P P 17 51 27.9 -0.6
G04A **Mulino** 71.73 47 ⇓P P 17 51 28.8 +0.1
baz=72
NB2 **NORSAR Subarra** 71.73 335 P P 17 51 27.6 -1.1
comp=Z,1.5nm,0.6s,mb3.9,baz=44,slow=6.2
NB2 **NORSAR Subarra** 71.73 335 P P 17 51 27.6 -1.1
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
NOA **NORSAR Array B** 71.73 335 P P 17 51 27.9 -0.7
comp=Z,2.1nm,0.7s,mb4.0,baz=41,slow=6.0,SNR=8.0
EBG **Ellensburg** 71.83 44 P P 17 51 29.8 +0.6
F05A **White Salmon** 71.93 46 ⇑P P 17 51 30.1 +0.3
baz=72
I03A **Eugene** 71.97 48 ⇑P P 17 51 30.4 +0.3
baz=72
J02A **Umpqua** 72.15 49 ⇓P P 17 51 31.5 +0.4
baz=72
H04A **Detroit Lake** 72.20 47 ⇑P P 17 51 31.3 -0.1
baz=72,SNR=6.0
VFP **Flag Point** 72.25 46 P P 17 51 32.5 +0.8
BROR **Big Rock Looko** 72.29 48 P P 17 51 32.5 +0.6
G05A **Wamic** 72.38 46 ⇑P P 17 51 32.7 +0.3
baz=72
J03A **Ideyld Park** 72.51 49 ⇑P P 17 51 31.6 -1.6
baz=72
K02A **Glendale** 72.54 49 ⇓P P 17 51 33.1 -0.3
baz=72
DPW **Davenport** 72.55 43 P P 17 51 33.8 +0.3
HBO **Huckleberry Mo** 72.61 48 P P 17 51 34.6 +0.8
H05A **Madras** 72.78 47 ⇓P P 17 51 34.9 +0.1
baz=72
YBH **Yreka Blue Hor** 73.61 50 ⇓P P 17 51 40.4 +0.8
baz=73
M02C **Callahan** 73.73 50 ⇓P P 17 51 41.1 +0.8
baz=74
I06A **Prineville** 73.79 47 ⇑P P 17 51 41.0 +0.4
baz=74
L04A **Klamath Falls** 73.85 49 ⇑P P 17 51 41.5 +0.5
baz=74
M04C **Macdoel** 74.11 49 ⇓P P 17 51 42.9 +0.4
baz=74
J06A **Christmas Vall** 74.24 47 ⇑P P 17 51 43.7 +0.5
baz=74,SNR=5.3
M03C **McCloud** 74.24 50 ⇓P P 17 51 43.5 +0.3
baz=74
WDC **Whiskeytown Da** 74.39 51 ⇑P P 17 51 44.2 +0.1
baz=74
K06A **Valley Falls** 74.45 48 ⇓P P 17 51 45.0 +0.6
baz=74,SNR=5.5
O02C **Red Bluff** 74.48 51 ⇓P P 17 51 45.4 +0.8
baz=74
L05A **Lakeview** 74.56 49 ⇓P P 17 51 45.7 +0.7
baz=74
M05C **Lookout** 74.78 49 ⇓P P 17 51 46.6 +0.3
baz=74
GASB **Alder Springs** 74.83 52 ⇓P P 17 51 47.4 +0.8
baz=75
BR131 **Keskin Array S** 74.87 309 *e*P P 17 51 47.1 +0.3
comp=Z,4.9nm,1.0s,mb4.2
BRTR **Keskin Array B** 74.87 309 P P 17 51 47.2 +0.4
comp=Z,4.9nm,1.0s,mb4.2,baz=93,slow=6.2,SNR=21
BMO **Blue Mountains** 74.89 45 *e*P P 17 51 46.8 -0.1
comp=Z,7.3nm,0.6s,mb4.6
HATC **Hat Creek Radi** 74.91 50 ⇑P P 17 51 47.7 +0.6
baz=75
K07A **Rock Creek Ran** 75.10 47 ⇓P P 17 51 48.7 +0.6
baz=75,SNR=11
M06C **Likely Place G** 75.28 49 ⇑P P 17 51 49.7 +0.6
baz=75
O04C **Chester** 75.44 50 ⇓P P 17 51 50.8 +0.8
baz=75
L07A **Adell** 75.46 48 ⇓P P 17 51 51.2 +1.1
baz=75,SNR=15
MNRC **McLaughlin Nat** 75.47 52 ⇑P P 17 51 51.1 +1.0
baz=75
FCC **Fort Churchill** 75.47 24 *e*P P 17 51 49.2 -1.0
FCC pmax pmax
comp=Z,11nm,0.7s,mb4.7
FCC **Fort Churchill** 75.47 24 *e*P P 17 51 49.2 -1.0
comp=Z,11nm,0.7s,mb4.7
MSO **Missoula** 75.47 42 *e*P P 17 51 49.5 -0.7
comp=Z,4.6nm,1.0s,mb4.2
ELFS **Eagle Lake Fie** 75.47 50 ⇑P P 17 51 50.8 +0.6
baz=75
WVOR **Wild Horse Val** 75.62 47 *e*P P 17 51 49.9 -1.1
WVOR pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
WVOR **Wild Horse Val** 75.62 47 *e*P P 17 51 49.9 -1.1
comp=Z,9.2nm,0.6s,mb4.7
FFC **Flin Flon** 75.64 30 *e*P P 17 51 50.2 -1.0
FFC pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
FFC **Flin Flon** 75.64 30 *e*P P 17 51 50.2 -1.0
comp=Z,9.0nm,0.6s,mb4.7
ORV **Oroville** 75.65 51 ⇓P P 17 51 50.9 -0.3
baz=75
OJC **Ojcow** 75.84 323 *e*P P 17 51 52.2 -0.1
L08A **Fields** 75.94 47 ⇑P P 17 51 53.3 +0.5
baz=76
M07A **Soldier Meadow** 75.94 48 ⇑P P 17 51 53.7 +0.8
baz=76,SNR=8.5
O06A **Flanigan** 76.30 50 ⇑P P 17 51 55.1 +0.3
baz=76,SNR=7.0
P05C **Yuba Gap, Truc** 76.35 51 ⇑P P 17 51 55.1 0.0
baz=76
M08A **Happy Creek Ra** 76.37 48 ⇓P P 17 51 55.9 +0.6
baz=76
N07B **Gerlach** 76.44 49 ⇓P P 17 51 55.9 +0.3
baz=76
LAVA **Lava Cap Winer** 76.60 51 ⇓P P 17 51 56.2 -0.3
baz=76,SNR=5.8
HRY **Holter Researc** 76.65 41 *e*P P 17 51 56.8 +0.1
EGMT **Eagleton** 76.83 39 *e*P P 17 51 57.6 -0.2
comp=Z,20nm,1.0s,mb4.8
WCN **Washoe City** 76.87 50 ⇓P P 17 51 58.6 +0.6
baz=77
O07A **Toulon** 76.87 49 ⇓P P 17 51 58.6 +0.6
baz=77,SNR=5.7
N08A **GE Springer Mi** 76.94 48 ⇓P P 17 51 59.0 +0.6
baz=77,SNR=9.4
DLMT **Dillon** 77.13 42⇑*e*P P 17 51 59.7 +0.3
comp=Z,28nm,0.9s,mb5.0
CMB **Columbia Colle** 77.26 52 ⇓P P 17 52 00.4 +0.2
baz=77,SNR=5.0
HLID **Hailey** 77.31 44⇑*e*P P 17 52 00.9 +0.5
comp=Z,4.9nm,1.0s,mb4.2
PACP **Pacheco Peak** 77.32 53 ⇓P P 17 52 01.2 +0.7
baz=77
M10A **I.L. Ranch, Tu** 77.41 47 ⇓P P 17 52 01.9 +0.9
baz=77
BOZ **Bozeman (W)** 77.46 41⇑*i*P P 17 52 01.4 +0.2
BOZ pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
BOZ **Bozeman (W)** 77.46 41⇑*i*P P 17 52 01.4 +0.2
comp=Z,4.6nm,0.5s,mb4.5
HAST **Hastings Reser** 77.53 54 ⇑P P 17 52 01.8 +0.1
baz=77
S05C **Merced** 77.72 52 ⇓P P 17 52 02.5 -0.2
baz=78
O09A **Fish Creek Ran** 77.88 48 ⇑P P 17 52 04.4 +0.8
baz=78
M11A **Holland Ranch,** 77.90 47 ⇓P P 17 52 04.6 +0.9
baz=78
VRAC **Vranov** 77.97 324 P P 17 52 05.3 +1.2
comp=Z,2.2nm,0.6s,mb4.0,baz=6.0,slow=7.7,SNR=3.3
R07C **Lee Vining** 78.05 51 ⇓P P 17 52 05.4 +0.9
baz=78
CLL **Collm** 78.14 327 *e*P P 17 52 04.0 -1.0
comp=Z,6.0nm,0.9s,mb4.3
Q08A **Gabbs** 78.26 50 ⇓P P 17 52 05.8 +0.2
baz=78
NVAR **Mina Array Bea** 78.30 50 P P 17 52 06.3 +0.4
comp=Z,3.7nm,0.6s,mb4.3,baz=290,slow=5.5,SNR=44
M12A **Wells** 78.41 46 ⇓P P 17 52 07.3 +0.8
baz=78,SNR=7.1
PKD **Parkfield** 78.45 54 ⇑P P 17 52 06.7 +0.1
baz=78
P10A **Eureka** 78.66 49 ⇑P P 17 52 08.5 +0.7
baz=78
N12A **Wells–Clov Va** 78.70 47 ⇓P P 17 52 08.8 +0.8
baz=78,SNR=6.5
Q09A **Carvers** 78.73 50 ⇓P P 17 52 08.4 +0.2
baz=78
O11A **Cowboy Ranch,** 78.81 48 ⇓P P 17 52 09.3 +0.7
baz=79
M13A **Montello** 78.88 46 ⇑P P 17 52 09.3 +0.3
baz=79
S08C **White Mtn Res** 78.97 51 ⇑P P 17 52 10.3 +0.9
baz=79
IMW **Indian Meadow** 78.99 42 *e*P P 17 52 10.5 +0.9
comp=Z,21nm,1.2s,mb4.7
R09A **Tonopah** 79.17 50 ⇑P P 17 52 11.0 +0.4
baz=79,SNR=8.9
N13A **West Wendover** 79.18 46 ⇓P P 17 52 11.2 +0.6
baz=79
S09A **Goldfield** 79.41 50 ⇑P P 17 52 12.1 +0.3
baz=79,SNR=6.7
KHC **Kasperske Hory** 79.48 325⇑*i*P P 17 52 12.6 +0.4
GERES **GERESS Array B** 79.63 325 P P 17 52 12.9 -0.1
comp=Z,0.9nm,0.7s,mb3.6,baz=46,slow=5.8,SNR=7.6
Q11A **Duckwater** 79.64 49 ⇑P P 17 52 13.3 +0.2
baz=79
P12A **McGill** 79.67 48 ⇑P P 17 52 14.0 +0.7
baz=79,SNR=8.5
CWC **Cottonwood Cre** 79.69 52 ⇑P P 17 52 13.2 -0.2
baz=80
ISA **Isabella** 79.93 53 ⇑P P 17 52 13.9 -0.7
baz=80
HWUT **Hardware Ranch** 80.18 45⇑*e*P P 17 52 15.9 0.0
comp=Z,15nm,1.1s,mb4.6
PDAR **Pinedale Array** 80.50 43 P P 17 52 17.6 0.0
comp=Z,6.1nm,0.7s,mb4.4,baz=317,slow=2.1,SNR=58
GSC **Goldstone** 81.21 52 ⇑P P 17 52 21.6 +0.3
baz=81
ULM **Lac du Bonnet** 81.47 30 P P 17 52 21.8 -0.9
comp=Z,11nm,0.9s,mb4.6,baz=326,slow=6.8,SNR=17
ULM **Lac du Bonnet** 81.47 30 P P 17 52 21.8 -0.9
TUQ **Turquoise Mtn.** 81.68 51 ⇓P P 17 52 24.2 +0.5
baz=81,SNR=6.7
V11A **Goodsprings** 81.72 51 ⇓P P 17 52 24.2 +0.2
baz=82
U12A **Valley of Fire** 81.88 50 ⇑P P 17 52 25.4 +0.6
baz=82
MSU **Marysvale** 81.91 47 *e*P P 17 52 26.0 +1.1
V12A **Nelson** 82.15 51 ⇓P P 17 52 26.9 +0.7
baz=82
W12A **Cal Nev Ari** 82.42 51 ⇑P P 17 52 28.1 +0.6
baz=82
SRU **San Rafael** 82.45 46 *e*P P 17 52 27.5 -0.3
SRU pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
SRU **San Rafael** 82.45 46 *e*P P 17 52 27.5 -0.3
comp=Z,3.8nm,0.5s,mb4.5
RWWY **Rawlins** 82.50 42⇑*e*P P 17 52 27.5 -0.4
comp=Z,9.9nm,0.9s,mb4.6
PFO **Pinyon Flat Ob** 82.53 53 ⇓P P 17 52 28.3 +0.2
baz=82
X13A **Yucca** 83.53 51 ⇑P P 17 52 33.6 +0.4
baz=83,SNR=10
W14A **Seligman** 83.57 50 ⇑P P 17 52 34.3 +0.8
baz=83,SNR=6.1
Y12C **Blythe** 83.65 52 ⇑P P 17 52 34.1 +0.3
baz=83
GLA **Glamis** 83.92 53 ⇓P P 17 52 35.6 +0.4
baz=84,SNR=5.6
Y13A **Salome** 84.04 52 ⇑P P 17 52 36.3 +0.5
baz=84
X14A **Yava** 84.18 51 ⇑P P 17 52 37.3 +0.8
baz=84
PV01 **Paradox Valley** 84.23 45 *e*P P 17 52 37.4 +0.7
SMCO **Snowmass** 84.39 44 *e*P P 17 52 38.1 +0.6
comp=Z,3.0nm,0.8s,mb4.2
Y14A **Wickenburg** 84.47 51 ⇓P P 17 52 38.2 +0.3
baz=84
X15A **Humboldt** 84.57 50 ⇓P P 17 52 39.4 +1.0
baz=84,SNR=6.8
115A **Sonoran Desert** 85.78 51 ⇑P P 17 52 45.6 +1.3
baz=86
SCHQ **Schefferville** 85.92 13 P P 17 52 44.6 -0.4
comp=Z,4.0nm,0.6s,mb4.5,baz=9.5,slow=12,SNR=5.5
116A **Eloy** 86.20 51 ⇑P P 17 52 47.2 +0.8
baz=86
ANMO **Albuquerque** 87.68 47⇑*i*P P 17 52 54.1 +0.7
KMBO **Kilima Mbogo** 97.25 274 *i*P P 17 53 36.2 -1.2
KMBO pmax pmax
comp=Z,2.0nm,1.1s
VNDA **Vanda** 116.02 174 PKP PKPdf 17 58 43.7 -1.8
comp=Z,0.3nm,0.6s,baz=306,slow=5.5,SNR=4.0
SDV **Santo Domingo** 127.65 33 *e*PKPdf PKPdf 17 59 07.9 +0.1
SAML **Samuel** 146.81 35 *e*PKPdf PKPdf 17 59 43.1 +0.3
SAML *e*PKPbc PKPbc 17 59 45.0 -0.1
LPAZ **La Paz** 150.21 51 PKPbc PKPbc 17 59 54.8 +1.0
comp=Z,3.4nm,0.6s,baz=328,slow=6.0,SNR=18
LPAZ **La Paz** 150.21 51 *e*PKPbc PKPbc 17 59 54.3 +0.6
PLCA **Paso Flores** 159.57 107 PKPab PKPab 18 00 42.0 +0.6
comp=Z,3.0nm,0.7s,baz=250,slow=3.9,SNR=7.0
PLCA **Paso Flores** 159.57 107 PKP2 PKPab 18 00 42.0 +0.7
PLCA pmax pmax
comp=Z,3.0nm,0.7s

BJI ***22*** *18:00:59.7,404S×12993E,h62km,mB4.8,mb4.0,Ms4.1, Msz3.9*
IDC ***22*** *18:01:02.5±0.7,324S×12899E,h0km,mb4.3/9, mb1 4.5/11,mb1mx4.3/18,mbtmp4.4/11,ML4.3/2,MS3.6/5, Ms1 3.6/5,ms1mx3.2/17,Error ellipse: s-maj=29.7km s-min=11.1km az=67.0*
ISCJB ***22*** *18:01:05.1±0.4,3.10S±006×129.1E±0.1,h33km,mb4.6/20, MS3.7/5,Error ellipse: s-maj=15.9km s-min=5.0km az=132.0*
NEIC ***22*** *18:01:06.8±3.6,3.13S×12908E,h31km±26km,mb4.7/15, Error ellipse: s-maj=15.7km s-min=7.7km az=63.0*
ISC 22 18:01:06.9±2.1,310S±005×1292E±01,h30km±15km,n43, σ0:93/44,mb4.6/20,MS3.7/5,1C,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	10.08	161	*e*P	Pn	18 03 30.4	+0.8
KAKA	13nm,0.2s			*e*S	Sn	18 05 28.1	+6.5
FITZ	**Fitzroy Crossi**	15.30	193	*e*P	Pn	18 04 41.5	+0.9
FITZ	10.0nm,0.5s **Fitzroy Crossi**	15.30	193	Pn	Pn	18 04 41.8	+1.2
FITZ	0.7nm,0.3s,baz=14,slow=13,SNR=11			LR	LR	18 11 35.4	
	comp=Z,118nm,18.3s,baz=47,slow=42						
WRAB	**Tennant Creek**	17.48	164	*e*P	Pn	18 05 06.9	-1.4
WRA	20nm,0.6s **Warramunga Arr**	17.48	164	P	Pn	18 05 05.9	-2.5
WRA	1.6nm,0.3s,baz=345,slow=13,SNR=20			S	Sn	18 08 22.2	+0.1
	0.3nm,0.3s,baz=330,slow=25,SNR=3.8						
WB2	**Warramunga Arr**	17.49	164	*e*P	Pn	18 05 07.2	-1.2
TGY	**Tagaytay City**	18.94	335	P	Pn	18 05 26.4	+0.3
	32nm,0.3s,baz=287,slow=8.1,SNR=4.6						
PMG	**Port Moresby**	18.95	110	P	Pn	18 05 28.2	+1.9
	1.4nm,0.3s,baz=35,slow=18,SNR=6.2						
AS31	**Alice Springs**	20.95	168	*e*P	P	18 05 48.2	+1.0
AS31				*e*S	S	18 09 39.3	+0.2
ASAR	**Alice Springs**	20.95	168	P	P	18 05 48.1	+0.8
	27nm,0.6s,baz=348,slow=11,SNR=221						
ASAR				S	S	18 09 39.8	+0.7
	4.7nm,0.8s,baz=348,slow=20,SNR=9.5						
ASAR				PcP	PcP	18 09 54.9	+0.8
	1.3nm,0.4s,baz=9.9,slow=1.7,SNR=5.2						
ASPA	**Alice Springs**	20.95	168	*e*P	P	18 05 48.2	+1.0
ASPA				*e*S	S	18 09 39.3	+0.2
CTA	**Charters Tower**	23.73	137	*e*P	P	18 06 17.3	+0.9
	5.8nm,0.6s,mb4.2						
CTA	**Charters Tower**	23.73	137	P	P	18 06 17.4	+1.0
	2.0nm,0.3s,mb4.1,baz=315,slow=9.0,SNR=7.1						
FORT	**Forrest**	27.55	182	*e*P	P	18 06 50.5	-0.5
	13nm,0.7s,mb4.7						
JOW	**Kunigami**	29.77	358	LR	LR	18 17 09.0	
	comp=Z,79nm,21.9s,MS3.3,baz=122,slow=32						
KLBR	**Kellerberrin**	30.30	200	*e*P	P	18 07 15.2	-0.3
	59nm,1.7s,mb5.0						
PSI	**Prapat**	30.78	281	P	P	18 07 19.5	-0.2
	9.5nm,0.7s,mb4.8,baz=95,slow=5.8,SNR=8.3						
STKA	**Stephens Creek**	30.92	159	*e*P	P	18 07 19.3	-1.6
	2.4nm,0.5s,mb4.3						
STKA	**Stephens Creek**	30.92	159	P	P	18 07 18.9	-2.0
	2.9nm,0.6s,mb4.3,baz=331,slow=8.5,SNR=17						
STKA				LR	LR	18 21 16.2	
	comp=Z,195nm,20.2s,MS3.8,baz=22,slow=39						
NWAO	**Narrogin (SRO)**	31.70	199	P	P	18 07 26.7	-1.1
	3.6nm,0.6s,mb4.4,baz=14,slow=8.6,SNR=8.9						
NWAO				LR	LR	18 20 38.3	
	comp=Z,100nm,19.9s,MS3.5,baz=13,slow=37						
NWAO	**Narrogin (SRO)**	31.70	199	P	P	18 07 26.7	-1.1
NWAO				LR	LR	18 20 38.3	
KMI	**Kunming**	38.01	319	⇑P	P	18 08 23.5	+1.4
CD2	**Chengdu**	41.60	326	*e*P	P	18 08 51.8	-0.2
CD2				AP	pP	18 09 05.6	+4.6
CD2				PP	PP	18 10 32.3	+3.9
CD2				S	S	18 15 06.9	+0.7
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,6.2s						
CD2				LR	LR		
	comp=N,120nm,14.2s						
CD2				LR	LR		
	comp=Z,90nm,12.8s,MS3.8						
LSA	**Lhasa**	48.85	315	P	P	18 09 50.1	+0.6
GTA	**Gaotai**	50.18	330	*e*P	P	18 09 58.9	-0.8
JIRN	**Jiri**	51.44	309	*e*P	P	18 10 10.2	+1.0
	comp=Z,8.4nm,0.6s,mb4.8						
GUN	**Gumba**	51.81	309	*e*P	P	18 10 12.4	+0.5
	comp=Z,16nm,0.6s,mb5.1						
PKI	**Pulchoki**	52.01	309	*e*P	P	18 10 13.6	+0.2
KKN	**Kakani**	52.21	309	*e*P	P	18 10 15.0	+0.1
	comp=Z,17nm,1.1s,mb4.9						
DMN	**Daman**	52.26	309	*e*P	P	18 10 15.6	+0.3
	comp=Z,12nm,0.9s,mb4.8						
GKN	**Gorkha**	52.81	309	*e*P	P	18 10 19.6	+0.2
	comp=Z,16nm,0.9s,mb4.9						
KOLN	**Koldanda**	53.51	308	*e*P	P	18 10 24.9	+0.4
	comp=Z,24nm,1.0s,mb5.1						
ULN	**Ulaanbaatar**	54.32	342	*e*P	P	18 10 30.0	-0.4
	comp=Z,2.8nm,0.9s,mb4.2						
SONM	**Songino Array**	54.50	341	P	P	18 10 31.2	-0.5
	comp=Z,0.6nm,0.7s,mb3.7,baz=151,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	64.53	326	P	P	18 11 40.6	-0.3
	comp=Z,1.7nm,0.8s,mb4.1,baz=112,slow=8.0,SNR=16						
YAK	**Yakutsk**	64.95	0	*e*P	P	18 11 41.6	-2.1
	comp=Z,18nm,0.7s,mb5.2						
ZRNK	**Zerenda**	75.06	327	*e*P	P	18 12 44.4	-1.3
	comp=Z,1.8nm,0.8s,mb4.0						
VNDA	**Vanda**	76.39	173	P	P	18 12 52.9	-0.4
	comp=Z,0.9nm,0.8s,mb3.7,baz=314,slow=7.3,SNR=4.5						
VNDA				LR	LR	18 42 47.2	
	comp=Z,84nm,20.2s,MS4.0,baz=265,slow=33						
MAW	**Mawson**	78.25	201	P	P	18 13 04.2	+0.5
	comp=Z,4.1nm,0.6s,mb4.5,baz=73,slow=5.5,SNR=15						
TORD	**Torodi Ar. Bea**	127.14	284	PKP	PKPdf	18 20 08.6	+0.5
	comp=Z,1.0nm,0.9s,baz=36,slow=0.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	127.14	284	PKP	PKPdf	18 20 08.6	+0.5
CPUP	**Villa Florida**	150.07	168	PKPbc	PKPbc	18 20 55.8	+1.3
	comp=Z,1.6nm,0.6s,baz=191,slow=2.9,SNR=6.9						
LPAZ	**La Paz**	154.25	139	PKPbc	PKPbc	18 21 07.6	+3.7
	comp=Z,0.6nm,0.5s,baz=72,slow=6.6,SNR=3.7						

ISCJB ***22*** *18:13:03.4±0.6,4386N±004×105.10W±008,h0km,mb4.0/2, Error ellipse: s-maj=8.8km s-min=5.4km az=32.4*
IDC ***22*** *18:13:05.4±1.8,4388N×10556W,h0km,mb4.0/2, mb1 4.0/6,mb1mx3.7/23,mbtmp3.8/6,ML3.8/4,MS2.8/1, Ms1 2.8/1,ms1mx2.1/36,Error ellipse: s-maj=57.5km s-min=7.6km az=147.0*
NEIC ***22*** *18:13:05.9±0.5,4380N×105.18W,h0km,ML3.5,Error ellipse: s-maj=6.5km s-min=5.3km az=121.0,Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
ISC 22 18:13:05.6±0.6,4384N±004×10513W±007,h0km,n35, σ0:86/36,mb4.0/2,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	0.84	70	*e*P	Pg	18 13 24.8	+3.0
PHWY	**Pilot Hill**	2.55	185	*e*P	Pn	18 13 47.9	-0.2
RWWY	**Rawlins**	2.64	216	*e*Pn	Pn	18 13 49.3	-0.1
RWWY				*e*Sn	Sn	18 14 23.8	+1.7
PDAR	**Pinedale Array**	3.40	253	Pn	Pn	18 13 59.5	-0.4
	9.8nm,0.3s,baz=70,slow=15,SNR=123						
PDAR				Pg	Pg	18 14 04.7	-6.1
	20nm,0.3s,baz=65,slow=21,SNR=61						
PDAR				Lg		18 14 41.0	
	8.0nm,0.3s,baz=78,slow=28,SNR=4.4						
BW06	**Boulder Array**	3.40	253	*e*P	Pn	18 13 59.7	-0.2
GCMT	**Greycliff**	3.77	303	*e*P	Pn	18 14 05.7	+0.8
ISCO	**Idaho Springs**	4.05	185	*e*Pn	Pn	18 14 09.0	+0.2
YFT	**Old Faithful**	4.15	280	*e*Pn	Pn	18 14 12.8	+2.6
REDW	**Red Top Meadow**	4.18	265	*e*Pn	Pn	18 14 10.8	+0.1
AHID	**Auburn Hatcher**	4.49	258	P	Pn	18 14 19.9	+5.1
QLMT	**Earthquake Lak**	4.62	285	P	Pn	18 14 18.3	+1.6
BOZ	**Bozeman (W)**	4.97	294	*e*Pn	Pn	18 14 20.7	-0.7
HWUT	**Hardware Ranch**	5.24	247	*e*P	Pn	18 14 24.5	-0.6
	25nm,0.4s						
EGMT	**Eagleton**	5.28	324	*e*P	Pn	18 14 26.1	+0.4
	43nm,0.4s						
TCUT	**Toone Canyon**	5.38	242	*e*Pn	Pn	18 14 26.2	-0.8
HRY	**Holter Researc**	5.53	304	*e*Pn	Pn	18 14 29.3	+0.2
DLMT	**Dillon**	5.54	289	*e*Pn	Pn	18 14 29.0	-0.3
	13nm,0.5s						
DAU	**Daniels Canyon**	5.70	235	*e*Pn	Pn	18 14 31.1	-0.3
SPUT	**South Promonto**	5.96	247	*e*Pn	Pn	18 14 34.9	-0.2
HVU	**Hansel Valley**	5.99	253	*e*P	Pn	18 14 35.1	-0.3
	9.6nm,0.4s						
SRU	**San Rafael**	6.22	222	*e*Pn	Pn	18 14 37.3	-1.3
	24nm,0.4s						
PV01	**Paradox Valley**	6.26	206	*e*Pn	Pn	18 14 39.7	+0.4
TMUT	**Trail Mountain**	6.43	227	*e*Pn	Pn	18 14 41.2	-0.3
NLU	**North Lily Min**	6.47	236	*e*Pn	Pn	18 14 41.0	-1.0
CHMT	**Chamberlain Mo**	6.49	301	*e*Pn	Pn	18 14 42.7	+0.4
HLID	**Hailey**	6.73	271	*e*Pn	Pn	18 14 46.6	+0.9
	3.1nm,0.5s						
WALA	**Waterton Lakes**	8.00	314	*e*Pn	Pn	18 15 02.0	-1.0
	4.9nm,0.6s						
ULM	**Lac du Bonnet**	9.00	41	Pn	Pn	18 15 15.8	-1.0
ULM				Lg		18 17 49.1	
ULM	**Lac du Bonnet**	9.00	41	Pn	Pn	18 15 15.8	-1.0
	2.6nm,0.3s,baz=231,slow=11,SNR=20						
ULM				Lg		18 17 49.1	
	0.9nm,0.3s,baz=119,slow=18,SNR=2.3						
NEW	**Newport**	9.44	302	LR	LR	18 19 24.8	
	comp=Z,63nm,20.7s,baz=116,slow=42						
FFC	**Flin Flon**	11.09	10	*e*Pn	Pn	18 15 45.5	+0.1
	5.5nm,0.5s						
NVAR	**Mina Array Bea**	11.30	246	Pn	Pn	18 15 48.6	+0.3
	0.2nm,0.3s,baz=58,slow=13,SNR=7.9						
YKA	**Yellowknife Ar**	19.49	347	P	Pn	18 17 34.5	-0.7
	baz=154,slow=14,SNR=5.8						
ARCES	**ARCESS Array B**	61.29	18	P	P	18 23 22.5	-0.3
	1.0nm,0.5s,mb4.2,baz=329,slow=6.1,SNR=9.2						
MKAR	**Makanchi Array**	89.51	355	P	P	18 26 04.5	-0.2
	0.4nm,0.6s,mb3.9,baz=5.2,slow=4.1,SNR=6.8						

ISCJB ***22*** *18:17:16.9±2.4,78S±0.1×1227E±0.1,h168km±26km, mb3.7/2,Error ellipse: s-maj=22.5km s-min=14.0km az=93.2*
IDC ***22*** *18:17:19.6±7.3,772S×123.19E,h173km±77km,mb3.4/2,*

mb1 3.6/5, mb1mx3.4/15, mbtmp4.0/5, Error ellipse: s-maj=101.7km s-min=25.0km az=51.0

NEIC ***22*** *18:17:25.1±2.7, 794S×12299E, h230km±28km, mb4.0/3, Error ellipse: s-maj=24.8km s-min=20.3km az=204.0*

ISC 22 18:17:24.0±1.6, 79S±01×12302E±010, h210km±15km, n12, σ0:93/19, mb3.6/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.41**	**118**	*eP*	**Pn**	**18 19 49.6**	**+1.2**
	21nm,1.3s						
KAKA				*eS*	**S**	**18 21 44.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**10.43**	**166**	*eP*	**Pn**	**18 19 47.5**	**-1.1**
	3.2nm,0.3s						
FITZ				*eS*	**S**	**18 21 43.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**10.43**	**166**	P	**Pn**	**18 19 47.5**	**-1.1**
	0.3nm,0.3s,baz=356,slow=12,SNR=34						
FITZ				S	**S**	**18 21 41.9**	**-3.3**
	1.0nm,0.3s,baz=142,slow=6.1,SNR=14						
MBWA	**Marble Bar**	**13.53**	**193**	*eP*	**Pn**	**18 20 29.1**	**+1.3**
	3.5nm,0.6s						
WRA	**Warramunga Arr**	**16.21**	**139**	P	**P**	**18 20 59.5**	**-0.1**
	0.3nm,0.3s,baz=315,slow=12,SNR=24						
WRA				S	**S**	**18 23 59.2**	**+0.5**
	0.1nm,0.3s,baz=317,slow=26,SNR=4.9						
WRAB	**Tennant Creek**	**16.22**	**139**	*eP*	**P**	**18 20 59.5**	**-0.1**
WB2	**Warramunga Arr**	**16.22**	**139**	*eP*	**P**	**18 20 59.8**	**+0.1**
WB2				*eS*	**S**	**18 23 58.5**	**-0.4**
ASPA	**Alice Springs**	**18.81**	**148**	*eP*	**P**	**18 21 28.5**	**+0.6**
ASPA				*eS*	**S**	**18 25 03.4**	**+13**
AS31	**Alice Springs**	**18.81**	**148**	*eP*	**P**	**18 21 28.5**	**+0.6**
AS31				*eS*	**S**	**18 25 03.4**	**+13**
ASAR	**Alice Springs**	**18.81**	**148**	P	**P**	**18 21 29.0**	**+1.1**
	0.9nm,0.3s,baz=331,slow=14,SNR=56						
STKA	**Stephens Creek**	**29.44**	**147**	P	**P**	**18 23 06.7**	**-1.3**
	2.0nm,0.8s,mb3.8,baz=342,slow=9.6,SNR=3.7						
MKAR	**Makanchi Array**	**65.40**	**330**	P	**P**	**18 27 43.0**	**-1.0**
	0.5nm,0.6s,mb3.3,baz=133,slow=7.0,SNR=8.3						

NEIC ***22*** *18:41:31.3, 3354S×6997W, h7km, ML2.7(GUC), After GUC.*

GUC 22 18:41:31.3±0.8, 3354S×6997W, h7km±1km, MD3.8, ML2.7, 7C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.34**	**308**	*eP*	Pg	18 41 38.8	+0.8
FCH				*i* S	Sg	18 41 44.3	+1.8
FCH				AML	AML	18 41 45.1	
	comp=E,2μm,0.2s						
LMEL	**Las Melosas**	**0.36**	**213**	↑*i*P	Pg	18 41 39.0	+0.6
LMEL				*i* S	Sg	18 41 44.8	+1.6
LMEL				AML	AML	18 41 45.5	
	comp=E,3μm,0.2s						
LMEL	**Las Melosas**	**0.36**	**213**	↑*i*P	Pg	18 41 39.0	+0.6
LMEL				*i* S	Sg	18 41 44.8	+1.6
PCH	**Pirque**	**0.46**	**260**	↑*i*P	Pg	18 41 41.2	+1.0
PCH				*i* S	Sg	18 41 48.6	+2.3
CLCH	**Cerro Calan**	**0.50**	**287**	↓*i*P	Pg	18 41 41.8	+0.9
CLCH				*i* S	Sg	18 41 49.7	+2.3
CLCH				AML	AML	18 41 50.3	
	comp=N,1μm,0.3s						
CLCH				AML	AML	18 41 51.1	
	comp=N,2μm,0.3s						
DSCH	**Colegio Aleman**	**0.52**	**286**	*eP*	Pg	18 41 41.7	+0.4
DSCH				*i* S	Sg	18 41 49.9	+1.8
DSCH				AML	AML	18 41 50.4	
	comp=E,168nm,0.2s						
DSCH	**Colegio Aleman**	**0.52**	**286**	*eP*	Pg	18 41 41.7	+0.4
DSCH				*i* S	Sg	18 41 49.9	+1.8
ANTU	**Antumapu**	**0.56**	**267**	*eP*	Pg	18 41 42.7	+0.7
ANTU				*i* S	Sg	18 41 51.4	+2.1
ANTU				AML	AML	18 41 52.2	
	comp=E,748nm,0.5s						
ANTU	**Antumapu**	**0.56**	**267**	*eP*	Pg	18 41 42.7	+0.7
ANTU				*i* S	Sg	18 41 51.4	+2.1
SAN	**Santiago**	**0.59**	**278**	*i* S	Sg	18 41 52.4	+2.1
SAN				AML	AML	18 41 52.7	
	comp=E,628nm,0.2s						
CHCH	**Chadas Angostu**	**0.69**	**235**	↑*i*P	Pg	18 41 45.2	+0.6
CHCH				*i* S	Sg	18 41 55.4	+1.8
RCDM	**Rinconada Maip**	**0.70**	**274**	↓*i*P	Pg	18 41 45.4	+0.6
RCDM				*i* S	Sg	18 41 56.2	+2.3
RCDM				AML	AML	18 41 57.9	
	comp=E,732nm,0.1s						
RCDM	**Rinconada Maip**	**0.70**	**274**	↓*i*P	Pg	18 41 45.4	+0.6
RCDM				*i* S	Sg	18 41 56.2	+2.3
PEL	**Peldehue**	**0.72**	**303**	↓*i*P	Pg	18 41 45.5	+0.4
PEL				*i* S	Sg	18 41 55.9	+1.5
PEL				AML	AML	18 41 57.4	
	comp=N,793nm,0.4s						
PEL	**Peldehue**	**0.72**	**303**	↓*i*P	Pg	18 41 45.5	+0.4
PEL				*i* S	Sg	18 41 55.9	+1.5
CACH	**El Canelo**	**0.78**	**222**	↓*i*P	Pg	18 41 46.8	+0.5
CACH				*i* S	Sg	18 41 58.3	+1.9
TACH	**Talagante**	**0.82**	**262**	↑*i*P	Pg	18 41 47.4	+0.4
TACH				*i* S	Sg	18 41 59.3	+1.7
CICH	**Cipreses**	**0.86**	**206**	↓*i*P	Pg	18 41 48.1	+0.2
CICH				*i* S	Sg	18 42 01.0	+1.8
JACH	**Jahuel**	**1.00**	**328**	↑*i*P	Pg	18 41 50.4	-0.2
JACH				*e*S	Sg	18 42 04.8	+1.2
ROCH	**El Roble**	**1.04**	**303**	↓*i*P	Pg	18 41 51.4	+0.1
ROCH				*i* S	Sg	18 42 05.9	+1.1
LNV	**Longovilo**	**1.27**	**251**	↓*i*P	Pn	18 41 54.9	-0.7
LNV				*i* S	Sb	18 42 12.5	+0.3
LCCH	**Las Cruces**	**1.34**	**272**	↓*i*P	Pn	18 41 56.1	-0.3
LCCH				*i* S	Sb	18 42 14.9	+0.8
CHNG	**Los Chungos**	**2.10**	**322**	↑*i*P	Pn	18 42 09.0	+2.1
CHNG				*i* S	Sn	18 42 37.0	+3.7
CHNG				AML	AML	18 42 40.8	
	comp=N,224nm,0.8s						

ISCJB ***22*** *18:48:37.8±0.2, 1901N±005×46.10W±003, h10km, mb4.7/88, MS4.2/23, Error ellipse: s-maj=7.4km s-min=4.0km az=155.4*

IDC ***22*** *18:48:37.7±0.5, 1908N×46.10W, h0km, mb4.3/22, mb1 4.4/24, mb1mx4.4/28, mbtmp4.3/24, ML4.0/1, MS4.1/18, Ms1 4.1/18, ms1mx3.9/32, Error ellipse: s-maj=15.3km s-min=11.3km az=124.0*

MOS ***22*** *18:48:37.9±0.8, 1905N×46.13W, h10km, mb5.5/52, Error ellipse: s-maj=8.4km s-min=5.8km az=53.8*

BJI ***22*** *18:48:39.3, 1900N×46.10W, h10km, mB5.2, Ms5.1, Msz5.1*

HRVD ***22*** *18:48:39.4±0.4, 1905N×46.16W, h12km, MW4.9/56, Centroid moment Tensor Solution. LP body waves: s11,c15;Mantle waves: s56,c79; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-1.88±.12; $M_{\theta\theta}$1.01±.11; $M_{\phi\phi}$0.87±.12; $M_{r\theta}$-0.86±.34; $M_{\theta\phi}$1.50±.11; $M_{\phi r}$-0.58±.40; Best double couple: M=2.40200×10^16 NP1:ϕ_s=219.00000°, δ=33.00000°, λ=-101.00000°. NP2: ϕ_s=52.00000°, δ=58.00000°, λ=-83.00000°. Principal axes: T 2.6750, Plg13.0000°, Azm137.0000°; N -0.5410, Plg6.0000°, Azm228.0000°; P -2.1290, Plg76.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***22*** *18:48:39.4±0.2, 1899N×46.10W, h10km, mb4.7/64 Error ellipse: s-maj=5.5km s-min=3.4km az=162.0*

ISC 22 18:48:39.9±0.2, 1901N±005×4606W±003, h10km, n273, σ0:72/259, mb4.7/88, MS4.2/23, 34C-34D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.07**	**271**	P	**Pn**	**18 53 03.1**	**0.0**
	baz=66,slow=7.2,SNR=17						
PCRV	**Puerto La Cruz**	**19.99**	**247**	P	**Pn**	**18 53 12.2**	**-2.0**
	0.5nm,0.3s,baz=8.9,slow=11,SNR=3.1						
SDV	**Santo Domingo**	**25.85**	**250**	P	**P**	**18 54 12.1**	**+0.6**
	19nm,0.8s,mb4.7,baz=85,slow=6.4,SNR=17						
SDV				LR	LR	19 03 08.2	
	comp=Z,149nm,18.8s,MS3.5,baz=225,slow=34						
SDV	**Santo Domingo**	**25.85**	**250**	*eP*	**P**	**18 54 12.1**	**+0.6**
	22nm,0.9s,mb4.7						
SAML	**Samuel**	**32.51**	**213**	*eP*	**P**	**18 55 10.4**	**-0.4**
	2.9nm,0.8s,mb4.3						
BDFB	**Brasilia**	**34.49**	**183**	P	**P**	**18 55 29.4**	**+1.4**
	4.1nm,0.6s,mb4.5,baz=358,slow=3.8,SNR=4.9						
BDFB				LR	LR	19 09 08.6	
	comp=Z,149nm,19.6s,MS3.7,baz=4.2,slow=36						
OTAV	**Otavalo**	**36.84**	**243**	*eP*	**P**	**18 55 48.4**	**+0.2**
	19nm,1.4s,mb4.7						
SIV	**San Ignacio**	**37.79**	**204**	P	**P**	**18 55 56.2**	**0.0**
	3.2nm,1.1s,mb4.0,baz=47,slow=7.1,SNR=9.9						
SCHQ	**Schefferville**	**39.11**	**341**	P	**P**	**18 56 07.5**	**+0.2**
	5.8nm,0.9s,mb4.3,baz=139,slow=9.7,SNR=3.6						
SCHQ				LR	LR	19 10 23.4	
	comp=Z,264nm,20.7s,MS4.0,baz=117,slow=33						
TEIG	**Tepich**	**39.70**	**279**	*eP*	**P**	**18 56 12.1**	**-0.2**
TEIG				*e*		18 56 18.9	
PLAL	**Pickwick Lake**	**40.35**	**302**	*eP*	**P**	**18 56 17.8**	**+0.1**
	19nm,1.1s,mb4.7						
WVT	**Waverly**	**40.41**	**304**	P	**P**	**18 56 18.2**	**0.0**
WVT				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.5						
WVT	**Waverly**	**40.41**	**304**	P	**P**	**18 56 18.2**	**0.0**
	comp=Z,8.8nm,1.0s,mb4.4						
LPAZ	**La Paz**	**41.25**	**213**	P	**P**	**18 56 25.7**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.0,baz=26,slow=9.9,SNR=14						
LPAZ				LR	LR	19 12 44.8	
	comp=Z,38nm,19.8s,MS3.3,baz=244,slow=35						
LPAZ	**La Paz**	**41.25**	**213**	*eP*	**P**	**18 56 25.5**	**+0.4**
LPAZ				pmax	pmax		
	comp=Z,50nm,0.9s						
LPAZ	**La Paz**	**41.25**	**213**	*eP*	**P**	**18 56 25.5**	**+0.4**
	comp=Z,4.7nm,0.9s,mb4.1						
ESDC	**Sonseca Array**	**41.61**	**51**	P	**P**	**18 56 27.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=252,slow=7.9,SNR=3.5						
DBIC	**Dimbokro**	**41.89**	**101**	P	**P**	**18 56 29.6**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.1,baz=277,slow=12,SNR=4.2						
DBIC				LR	LR	19 11 15.2	
	comp=Z,354nm,18.8s,MS4.3,baz=265,slow=32						
LIC	**Lamto**	**41.89**	**102**	*eP*	**P**	**18 56 28.3**	**-2.1**
	comp=Z,62nm,1.7s,mb4.7						
LIC				*e*R			
	comp=Z,282nm,18.5s						
LIC	**Lamto**	**41.89**	**102**	*eP*	**P**	**18 56 28.3**	**-2.1**
	comp=Z,31nm,1.7s,mb4.7						
LIC				LR	LR		
	comp=Z,140nm,18.5s,MS3.9						
FVM	**French Village**	**42.87**	**306**	*eP*	**P**	**18 56 38.2**	**-0.1**
FVM				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
FVM	**French Village**	**42.87**	**306**	*eP*	**P**	**18 56 38.2**	**-0.1**
	comp=Z,9.8nm,0.8s,mb4.6						
NNA	**Nana**	**43.23**	**227**	*eP*	**P**	**18 56 39.2**	**-2.1**
CCM	**Cathedral Cave**	**43.51**	**306**	*eP*	**P**	**18 56 43.5**	**0.0**
CCM				*e*		18 56 49.1	
CCM				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.7						
CCM	**Cathedral Cave**	**43.51**	**306**	*eP*	**P**	**18 56 43.5**	**0.0**
	comp=Z,19nm,1.3s,mb4.7						
CCM				*e*		18 56 49.1	
SJPF	**Ste Jean**	**44.62**	**47**	*eP*	**P**	**18 56 52.0**	**-0.4**
	comp=Z,32nm,1.2s,mb4.7						
SJPF	**Ste Jean**	**44.62**	**47**	*eP*	**P**	**18 56 52.0**	**-0.4**
SJPF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.7						
SJPF	**Ste Jean**	**44.62**	**47**	*eP*	**P**	**18 56 52.0**	**-0.4**
	comp=Z,16nm,1.2s,mb4.7						
MIAR	**Mount Ida**	**44.74**	**300**	P	**P**	**18 56 55.1**	**+1.8**
MIAR				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.5						
MIAR	**Mount Ida**	**44.74**	**300**	P	**P**	**18 56 55.1**	**+1.7**
	comp=Z,7.5nm,1.1s,mb4.4						
ETSF	**Etsaut**	**45.02**	**48**	*eP*	**P**	**18 56 56.0**	**+0.4**
	comp=Z,11nm,0.9s,mb4.4						
ETSF	**Etsaut**	**45.02**	**48**	*eP*	**P**	**18 56 56.0**	**+0.4**
ETSF				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.4						
ETSF	**Etsaut**	**45.02**	**48**	*eP*	**P**	**18 56 56.0**	**+0.4**
	comp=Z,5.6nm,0.9s,mb4.4						
QUIF	**Quistinic**	**45.10**	**40**	*eP*	**P**	**18 56 55.9**	**-0.3**
	comp=Z,90nm,1.5s,mb5.1						
QUIF	**Quistinic**	**45.10**	**40**	*eP*	**P**	**18 56 55.9**	**-0.3**
QUIF				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.1						
QUIF	**Quistinic**	**45.10**	**40**	*eP*	**P**	**18 56 55.9**	**-0.3**
	comp=Z,45nm,1.5s,mb5.1						
ROSF	**Rostrenen**	**45.21**	**40**	*eP*	**P**	**18 56 56.9**	**-0.2**
	comp=Z,22nm,0.8s,mb4.7						
ROSF	**Rostrenen**	**45.21**	**40**	*eP*	**P**	**18 56 56.9**	**-0.2**
ROSF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
ROSF	**Rostrenen**	**45.21**	**40**	*eP*	**P**	**18 56 56.9**	**-0.2**
	comp=Z,11nm,0.8s,mb4.7						
NATX	**Nacogdoches**	**45.36**	**296**	P	**P**	**18 56 59.1**	**+0.8**
SGMF	**Saint Gilles**	**45.61**	**40**	*eP*	**P**	**18 57 00.9**	**+0.6**
	comp=Z,17nm,0.9s,mb4.7						
SGMF	**Saint Gilles**	**45.61**	**40**	*eP*	**P**	**18 57 00.9**	**+0.6**
SGMF				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.7						
SGMF	**Saint Gilles**	**45.61**	**40**	*eP*	**P**	**18 57 00.9**	**+0.6**
	comp=Z,8.3nm,0.9s,mb4.7						
EPF	**Esparros**	**45.69**	**48**	*eP*	**P**	**18 57 01.1**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.3						
EPF	**Esparros**	**45.69**	**48**	*eP*	**P**	**18 57 01.1**	**+0.2**
EPF				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
EPF	**Esparros**	**45.69**	**48**	*eP*	**P**	**18 57 01.1**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.3						
TORD	**Torodi Ar. Bea**	**46.15**	**90**	P	**P**	**18 57 04.1**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.3,baz=296,slow=6.7,SNR=18						
TORD	**Torodi Ar. Bea**	**46.15**	**90**	P	**P**	**18 57 04.1**	**-0.5**
CPUP	**Villa Florida**	**46.38**	**194**	P	**P**	**18 57 05.8**	**-0.6**
	comp=Z,9.1nm,0.7s,mb4.8,baz=7.9,slow=7.7,SNR=28						
CPUP				LR	LR	19 17 39.6	
	comp=Z,82nm,18.3s,MS3.7,baz=2.5,slow=38						
MFF	**Saint Martin d**	**46.50**	**43**	*eP*	**P**	**18 57 07.5**	**+0.2**
	comp=Z,20nm,0.9s,mb4.8						
MFF	**Saint Martin d**	**46.50**	**43**	*eP*	**P**	**18 57 07.5**	**+0.2**
MFF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MFF	**Saint Martin d**	**46.50**	**43**	*eP*	**P**	**18 57 07.5**	**+0.2**
	comp=Z,10.0nm,0.9s,mb4.8						
GRR	**Gorron**	**46.71**	**41**	*eP*	**P**	**18 57 09.6**	**+0.7**
	comp=Z,39nm,1.2s,mb4.9						
GRR	**Gorron**	**46.71**	**41**	*eP*	**P**	**18 57 09.6**	**+0.7**
GRR				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
GRR	**Gorron**	**46.71**	**41**	*eP*	**P**	**18 57 09.6**	**+0.7**
	comp=Z,20nm,1.2s,mb4.9						
LVC	**Limon Verde**	**47.01**	**209**	*eP*	**P**	**18 57 11.0**	**-0.3**
	comp=Z,25nm,1.4s,mb5.0						
FLN	**La Foliniere**	**47.08**	**40**	*eP*	**P**	**18 57 11.9**	**+0.1**
	comp=Z,21nm,0.9s,mb4.8						
FLN	**La Foliniere**	**47.08**	**40**	*eP*	**P**	**18 57 11.9**	**+0.1**
FLN				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
FLN	**La Foliniere**	**47.08**	**40**	*eP*	**P**	**18 57 11.9**	**+0.1**
	comp=Z,11nm,0.9s,mb4.8						
MTLF	**Montolieu**	**47.09**	**48**	*eP*	**P**	**18 57 12.6**	**+0.7**
	comp=Z,13nm,1.2s,mb4.4						
MTLF	**Montolieu**	**47.09**	**48**	*eP*	**P**	**18 57 12.6**	**+0.7**
MTLF				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4						
MTLF	**Montolieu**	**47.09**	**48**	*eP*	**P**	**18 57 12.6**	**+0.7**
	comp=Z,6.3nm,1.2s,mb4.4						
RJF	**Les Rejaudoux**	**47.17**	**45**	*eP*	**P**	**18 57 13.0**	**+0.5**
	comp=Z,7.5nm,0.9s,mb4.3						
RJF				*e*R			
	comp=Z,56nm,17.5s						
RJF	**Les Rejaudoux**	**47.17**	**45**	*eP*	**P**	**18 57 13.0**	**+0.5**
RJF				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
RJF				MLR	MLR		
	comp=Z,60nm,17.5s,MS3.6						
RJF	**Les Rejaudoux**	**47.17**	**45**	*eP*	**P**	**18 57 13.0**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.3						
RJF				LR	LR		
	comp=Z,60nm,17.5s,MS3.6						
LDF	**La Druitiere**	**47.24**	**41**	*eP*	**P**	**18 57 12.9**	**-0.2**
	comp=Z,39nm,1.2s,mb4.9						
LDF	**La Druitiere**	**47.24**	**41**	*eP*	**P**	**18 57 12.9**	**-0.2**
LDF				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
LDF	**La Druitiere**	**47.24**	**41**	*eP*	**P**	**18 57 12.9**	**-0.2**
	comp=Z,19nm,1.2s,mb4.9						
FRB	**Frobisher Bay**	**47.25**	**347**	P	**P**	**18 57 11.8**	**-1.4**
	comp=Z,7.0nm,0.8s,mb4.7,baz=137,slow=10,SNR=2.4						
CAF	**Calviac**	**47.43**	**46**	*eP*	**P**	**18 57 15.0**	**+0.5**
	comp=Z,15nm,1.1s,mb4.5						
CAF	**Calviac**	**47.43**	**46**	*eP*	**P**	**18 57 15.0**	**+0.5**
CAF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
CAF	**Calviac**	**47.43**	**46**	*eP*	**P**	**18 57 15.0**	**+0.5**
	comp=Z,7.3nm,1.1s,mb4.5						
TCF	**Toulx Ste Croi**	**47.93**	**44**	*eP*	**P**	**18 57 19.3**	**+0.8**
	comp=Z,18nm,0.8s,mb4.8						
TCF	**Toulx Ste Croi**	**47.93**	**44**	*eP*	**P**	**18 57 19.3**	**+0.8**
TCF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
TCF	**Toulx Ste Croi**	**47.93**	**44**	*eP*	**P**	**18 57 19.3**	**+0.8**
	comp=Z,8.8nm,0.8s,mb4.8						
SFJD	**Kangerlussuaq**	**48.05**	**358**	P	**P**	**18 57 17.6**	**-1.7**
	comp=Z,7.5nm,0.5s,mb4.9,baz=318,slow=12,SNR=6.0						
LASF	**Ste Croix**	**48.43**	**47**	*eP*	**P**	**18 57 22.8**	**+0.5**
	comp=Z,29nm,1.3s,mb4.9						
BGF	**Bois d'Agland**	**48.44**	**44**	*eP*	**P**	**18 57 23.0**	**+0.7**
	comp=Z,15nm,0.7s,mb4.8						
BGF	**Bois d'Agland**	**48.44**	**44**	*eP*	**P**	**18 57 23.0**	**+0.7**
BGF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
BGF	**Bois d'Agland**	**48.44**	**44**	*eP*	**P**	**18 57 23.0**	**+0.7**
	comp=Z,7.4nm,0.7s,mb4.8						
AVF	**Avril sur Loir**	**48.84**	**44**	*eP*	**P**	**18 57 25.3**	**-0.1**
	comp=Z,11nm,0.8s,mb4.6						
AVF	**Avril sur Loir**	**48.84**	**44**	*eP*	**P**	**18 57 25.3**	**-0.1**
AVF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
AVF	**Avril sur Loir**	**48.84**	**44**	*eP*	**P**	**18 57 25.3**	**-0.1**
	comp=Z,5.3nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**49.02**	**44**	*eP*	**P**	**18 57 26.9**	**+0.1**
	comp=Z,13nm,0.9s,mb4.7						
SSF	**Saint Saulge**	**49.02**	**44**	*eP*	**P**	**18 57 26.9**	**+0.1**
SSF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
SSF	**Saint Saulge**	**49.02**	**44**	*eP*	**P**	**18 57 26.9**	**+0.1**
	comp=Z,6.7nm,0.9s,mb4.7						
SMF	**Signal de Mont**	**49.12**	**44**	*eP*	**P**	**18 57 28.2**	**+0.6**
	comp=Z,13nm,0.8s,mb4.7						
SMF	**Signal de Mont**	**49.12**	**44**	*eP*	**P**	**18 57 28.2**	**+0.6**
SMF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
SMF	**Signal de Mont**	**49.12**	**44**	*eP*	**P**	**18 57 28.2**	**+0.6**
	comp=Z,6.3nm,0.8s,mb4.7						
VIVF	**Saint-Julien-l**	**49.19**	**47**	*eP*	**P**	**18 57 28.5**	**+0.3**
	comp=Z,6.7nm,0.8s,mb4.4						
VIVF	**Saint-Julien-l**	**49.19**	**47**	*eP*	**P**	**18 57 28.5**	**+0.3**
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
VIVF	**Saint-Julien-l**	**49.19**	**47**	*eP*	**P**	**18 57 28.5**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.4						
LOR	**Lormes**	**49.31**	**43**	*eP*	**P**	**18 57 29.3**	**+0.2**
	comp=Z,11nm,1.0s,mb4.5						
LOR				*e*R			
	comp=Z,63nm,19.9s						
LOR	**Lormes**	**49.31**	**43**	*eP*	**P**	**18 57 29.3**	**+0.2**
LOR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
LOR				MLR	MLR		
	comp=Z,60nm,19.9s,MS3.6						
LOR	**Lormes**	**49.31**	**43**	*eP*	**P**	**18 57 29.3**	**+0.2**
	comp=Z,5.3nm,1.0s,mb4.5						
LOR				LR	LR		
	comp=Z,60nm,19.9s,MS3.6						
SMRF	**Simiane la Rot**	**49.61**	**48**	*eP*	**P**	**18 57 31.7**	**+0.4**
JCT	**Junction City**	**49.72**	**294**	*eP*	**P**	**18 57 32.1**	**-0.1**
JCT				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
JCT	**Junction City**	**49.72**	**294**	*eP*	**P**	**18 57 32.1**	**-0.1**
	comp=Z,8.9nm,0.9s,mb4.8						
ORIF	**Oris-en-Rattie**	**50.04**	**47**	*eP*	**P**	**18 57 35.1**	**+0.5**
	comp=Z,2.7nm,0.6s,mb4.1						
ORIF				*e*R			
	comp=Z,95nm,19.5s						
ORIF	**Oris-en-Rattie**	**50.04**	**47**	*eP*	**P**	**18 57 35.1**	**+0.5**
ORIF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ORIF	**Oris-en-Rattie**	**50.04**	**47**	*eP*	**P**	**18 57 35.1**	**+0.5**
	comp=Z,1.4nm,0.6s,mb4.2						
ULM	**Lac du Bonnet**	**50.19**	**320**	P	**P**	**18 57 33.9**	**-1.9**
	comp=Z,3.1nm,0.8s,mb4.4,baz=124,slow=9.1,SNR=4.8						
ULM				LR	LR	19 15 46.3	
	comp=Z,273nm,21.2s,MS4.2,baz=11,slow=32						
CABF	**La Chapelle**	**50.60**	**45**	*eP*	**P**	**18 57 39.2**	**+0.4**
	comp=Z,11nm,0.7s,mb4.6						
CABF	**La Chapelle**	**50.60**	**45**	*eP*	**P**	**18 57 39.2**	**+0.4**
CABF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
CABF	**La Chapelle**	**50.60**	**45**	*eP*	**P**	**18 57 39.2**	**+0.4**
	comp=Z,5.6nm,0.7s,mb4.6						
MBDF	**Montbardon**	**50.62**	**47**	*eP*	**P**	**18 57 39.6**	**+0.6**
	comp=Z,10nm,0.9s,mb4.4						
MBDF	**Montbardon**	**50.62**	**47**	*eP*	**P**	**18 57 39.6**	**+0.6**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
MBDF	**Montbardon**	**50.62**	**47**	*eP*	**P**	**18 57 39.6**	**+0.

comp=Z,107nm,18.9s,MS4.0,baz=56,slow=39
BOZ Bozeman (W) 59.65 312 *e*P **P 18 58 43.7 -0.5**
BOZ pmax pmax
comp=Z,30nm,0.8s,mb5.4
BOZ Bozeman (W) 59.65 312 *e*P **P 18 58 43.7 -0.5**
comp=Z,2.9nm,0.8s,mb4.4
116A Eloy 59.80 297 ⇓P **P 18 58 45.9 +0.7**
baz=60
HRY Holter Researc 59.86 313 *e*P **P 18 58 44.8 -0.9**
MSU Marysvale 59.91 304 *e*P **P 18 58 46.5 +0.5**
W15A Williams 60.11 300 ⇑P **P 18 58 48.1 +0.7**
baz=60
X15A Humboldt 60.12 299 ⇑P **P 18 58 48.7 +1.3**
baz=60,SNR=5.4
115A Sonoran Desert 60.23 297 ⇑P **P 18 58 49.1 +0.9**
baz=60
DUG Dugway 60.38 306 *e*P **P 18 58 49.8 +0.6**
DUG pmax pmax
comp=Z,30nm,0.4s,mb5.7
DUG Dugway 60.38 306 *e*P **P 18 58 49.8 +0.5**
comp=Z,3.4nm,0.4s,mb4.7
BGU Big Grassy Mou 60.54 307 *e*P **P 18 58 49.5 -0.8**
BGU *e* 18 58 56.6
X14A Yava 60.66 299 ⇑P **P 18 58 52.0 +0.9**
baz=61
W14A Seligman 60.77 300 ⇑P **P 18 58 53.0 +1.2**
baz=61
Y14A Wickenburg 60.78 299 ⇓P **P 18 58 53.0 +1.0**
baz=61
Z14A Wintersburg 60.79 298 ⇑P **P 18 58 52.7 +0.7**
baz=61
M13A Montello 61.39 307 ⇓P **P 18 58 56.6 +0.5**
baz=61
EDM Edmonton 61.42 321 *e*P **P 18 58 55.6 -0.7**
X13A Yucca 61.42 300 P **P 18 58 57.4 +1.1**
baz=61,SNR=6.8
Y13A Salome 61.48 299 ⇓P **P 18 58 57.5 +0.7**
baz=61
HLID Hailey 61.57 310 *e*P **P 18 58 57.1 -0.2**
comp=Z,3.8nm,0.9s,mb4.5
HLID *e* 18 59 03.4
U12A Valley of Fire 61.88 302 ⇑P **P 18 58 59.9 +0.5**
baz=62
M12A Wells 61.96 307 ⇑P **P 18 58 59.5 -0.4**
baz=62
P12A McGill 62.01 305 ⇓P **P 18 59 00.6 +0.3**
baz=62,SNR=6.5
Y12C Blythe 62.06 299 ⇑P **P 18 59 01.6 +1.0**
baz=62
N12A Wells--Clov Va 62.06 307 ⇑P **P 18 59 00.7 0.0**
baz=62,SNR=5.2
V12A Nelson 62.17 301 ⇑P **P 18 59 02.1 +0.7**
baz=62
ELK Elko 62.22 307 *e*P **P 18 59 01.4 -0.3**
ELK *e* 18 59 08.1
ELK pmax pmax
comp=Z,11nm,1.1s
ELK Elko 62.22 307 *e*P **P 18 59 01.4 -0.2**
comp=Z,11nm,1.1s,mb4.9
ELK *e* 18 59 08.1
W12A Cal Nev Ari 62.22 300 ⇓P **P 18 59 02.3 +0.6**
baz=62
GLA Glamis 62.38 298 ⇑P **P 18 59 03.3 +0.5**
baz=62
O11A Cowboy Ranch, 62.56 306 ⇑P **P 18 59 04.3 +0.4**
baz=62,SNR=12
M11A Holland Ranch, 62.62 307 ⇓P **P 18 59 04.2 -0.1**
baz=62,SNR=5.8
Q11A Duckwater 62.62 304 ⇑P **P 18 59 04.4 +0.1**
baz=62,SNR=5.0
TUQ Turquoise Mtn. 63.07 301 ⇓P **P 18 59 07.8 +0.4**
baz=63
P10A Eureka 63.20 305 ⇓P **P 18 59 08.6 +0.4**
baz=63
TPNV Topopah Spring 63.21 302 *e*P **P 18 59 09.5 +1.2**
TPNV pmax pmax
comp=Z,70nm,1.1s,mb5.7
TPNV Topopah Spring 63.21 302 *e*P **P 18 59 09.5 +1.2**
comp=Z,6.6nm,1.1s,mb4.7
YKA Yellowknife Ar 63.42 331 P **P 18 59 07.3 -2.4**
comp=Z,1.7nm,0.7s,mb4.3,baz=102,slow=7.7,SNR=11
YKA LR LR 19 24 54.3
comp=Z,185nm,18.6s,MS4.3,baz=105,slow=34
NEW Newport 63.51 315 LR LR 19 24 10.3
comp=Z,268nm,20.9s,MS4.4,baz=130,slow=34
NEW Newport 63.51 315 *e*P **P 18 59 09.5 -0.7**
NEW *e* 18 59 16.0
NEW pmax pmax
comp=Z,18nm,1.1s
NEW Newport 63.51 315 *e*P **P 18 59 09.5 -0.7**
comp=Z,18nm,1.1s,mb5.0
NEW *e* 18 59 16.0
BMO Blue Mountains 63.64 311 *e*P **P 18 59 09.7 -1.4**
BMO pmax pmax
comp=Z,20nm,0.9s,mb5.2
BMO Blue Mountains 63.64 311 *e*P **P 18 59 09.7 -1.5**
comp=Z,2.4nm,0.9s,mb4.2
PLCA Paso Flores 63.65 201 P **P 18 59 11.0 -0.2**
comp=Z,4.7nm,0.8s,mb4.5,baz=4.2,slow=6.9,SNR=7.3
PLCA Paso Flores 63.65 201 *e*P **P 18 59 10.5 -0.7**
PLCA pmax pmax
comp=Z,8.0nm,1.0s
PLCA Paso Flores 63.65 201 *e*P **P 18 59 10.5 -0.7**
comp=Z,8.1nm,1.0s,mb4.7
PFO Pinyon Flat Ob 63.68 299 ⇓P **P 18 59 12.3 +0.9**
baz=64
O09A Fish Creek Ran 63.73 306 ⇑P **P 18 59 11.9 +0.1**
baz=64,SNR=7.5
R09A Tonopah 63.76 304 ⇓P **P 18 59 11.9 -0.1**
baz=64
GSC Goldstone 63.80 301 ⇓P **P 18 59 12.6 +0.4**
baz=64
Q09A Carvers 63.81 305 ⇓P **P 18 59 12.4 +0.1**
baz=64
S09A Goldfield 63.92 303 ⇓P **P 18 59 13.2 +0.2**
baz=64
N08A GE Springer Mi 64.41 307 ⇑P **P 18 59 16.1 -0.1**
baz=64
P08A Dixie Valley 64.45 306 ⇓P **P 18 59 16.2 -0.2**
baz=64
L08A Fields 64.49 308 ⇓P **P 18 59 17.2 +0.5**
baz=64
M08A Happy Creek Ra 64.56 308 ⇑P **P 18 59 16.7 -0.5**
baz=64
MNV Mina 64.60 304 P **P 18 59 17.2 -0.2**
MNV pmax pmax
comp=Z,80nm,1.5s,mb5.5
MNV Mina 64.60 304 P **P 18 59 17.2 -0.2**
comp=Z,7.9nm,1.5s,mb4.5
S08C White Mtn Res 64.69 303 ⇓P **P 18 59 19.1 +1.0**
baz=65,SNR=11
NVAR Mina Array Bea 64.72 304 P **P 18 59 18.1 -0.1**
comp=Z,0.4nm,0.3s,mb3.9,baz=128,slow=4.1,SNR=3.8
FINES FINESS Array B 64.95 30 P **P 18 59 19.1 -0.6**
comp=Z,2.0nm,0.9s,mb4.2,baz=134,slow=5.5,SNR=6.3
O07A Toulon 65.03 306 ⇑P **P 18 59 20.0 -0.2**
baz=65,SNR=9.7
N07B Gerlach 65.05 307 ⇓P **P 18 59 19.9 -0.5**
baz=65,SNR=8.3
ISA Isabella 65.12 301 ⇓P **P 18 59 20.8 0.0**
baz=65
K07A Rock Creek Ran 65.13 309 ⇓P **P 18 59 20.6 -0.3**
baz=65,SNR=5.0
KAF Kangasniemi 65.13 30 *e*p **P 18 59 19.8 -1.1**
comp=Z,9.7nm,0.8s,mb4.9
KAF Kangasniemi 65.13 30 *e*P **P 18 59 19.8 -1.1**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
M07A Soldier Meadow 65.16 307 ⇑P **P 18 59 20.6 -0.5**
baz=65
HAWA Hanford 65.16 313 *e*P **P 18 59 20.4 -0.8**
L07A Adell 65.24 308 ⇓P **P 18 59 21.7 +0.1**
baz=65
R07C Lee Vining 65.33 304 ⇓P **P 18 59 22.7 +0.5**
baz=65
KBS Kingsbay 65.50 10⇑*e*P **P 18 59 24.3 +1.0**
O06A Flanigan 65.75 306 ⇓P **P 18 59 25.6 +0.7**
baz=66
J06A Christmas Vall 65.76 310 ⇑P **P 18 59 24.3 -0.6**
baz=66
I06A Prineville 65.76 310 ⇓P **P 18 59 24.4 -0.5**
baz=66
K06A Valley Falls 65.86 309 ⇓P **P 18 59 25.7 +0.1**
baz=66
ARCES ARCESS Array B 65.90 21 P **P 18 59 25.0 -0.9**
comp=Z,5.8nm,0.9s,mb4.6,baz=258,slow=6.1,SNR=11
R05C Kirkwood Meado 66.08 305 ⇓P **P 18 59 27.3 +0.3**
baz=66
AKASG Malin Array Be 66.25 42 P **P 18 59 27.6 -0.6**
comp=Z,0.8nm,0.5s,mb4.0,baz=272,slow=5.8,SNR=8.6
L05A Lakeview 66.34 308 ⇓P **P 18 59 29.4 +0.7**
baz=66
CMB Columbia Colle 66.39 304 ⇓P **P 18 59 29.3 +0.3**
baz=66
ELFS Eagle Lake Fie 66.39 307 ⇑P **P 18 59 28.9 -0.2**
baz=66
S05C Merced 66.42 303 ⇑P **P 18 59 29.4 +0.2**
baz=66
H05A Madras 66.44 311 ⇓P **P 18 59 29.4 0.0**
baz=66
KEV Kevo 66.46 21 *e*p **P 18 59 28.7 -0.7**
comp=Z,7.5nm,0.8s,mb4.8
KEV Kevo 66.46 21 *e*P **P 18 59 28.7 -0.7**
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
G05A Wamic 66.47 312 ⇑P **P 18 59 29.3 -0.2**
baz=66
I05A Bend 66.50 311 ⇓P **P 18 59 29.9 +0.1**
baz=66
F05A White Salmon 66.53 313 ⇓P **P 18 59 29.7 -0.2**
baz=66
LAVA Lava Cap Winer 66.59 305 ⇑P **P 18 59 30.4 +0.1**
baz=66
M05C Lookout 66.64 308 ⇑P **P 18 59 30.3 -0.3**
baz=66
U04C Hernandez Rese 66.89 302 ⇑P **P 18 59 32.3 0.0**
baz=67
ORV Oroville 67.09 306 ⇑P **P 18 59 33.4 -0.1**
baz=67
M04C Macdoel 67.12 308 ⇓P **P 18 59 33.6 -0.1**
baz=67
H04A Detroit Lake 67.12 311 ⇓P **P 18 59 33.2 -0.5**
baz=67
JOF Joensuu 67.51 29 *e*p **P 18 59 32.2 -3.9**
comp=Z,6.0nm,0.9s,mb4.6
JOF Joensuu 67.51 29 *e*P **P 18 59 32.2 -3.9**
JOF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
YBH Yreka Blue Hor 67.77 308 LR LR 19 27 16.4
comp=Z,328nm,20.8s,MS4.5,baz=74,slow=34
JRSC Jasper Ridge 67.92 303 ⇑P **P 18 59 37.9 -0.8**
baz=68
BR131 Keskin Array S 70.33 54 P **P 18 59 53.2 -0.5**
comp=Z,1.6nm,0.8s,mb4.0
BRTR Keskin Array B 70.33 54 P **P 18 59 54.2 +0.5**
comp=Z,2.5nm,0.8s,mb4.2,baz=289,slow=3.8,SNR=12
BBB Bella Bella 70.38 320 LR LR 19 28 08.6
comp=Z,179nm,21.0s,MS4.3,baz=188,slow=34
OBN Obninsk 70.44 37⇑*i*P **P 18 59 54.8 +0.4**
OBN *e* 19 00 01.5
OBN pmax pmax
comp=Z,17nm,1.3s,mb4.8
DLBC Dease Lake 70.87 326 LR LR 19 28 43.2
comp=Z,215nm,18.1s,MS4.5,baz=110,slow=34
DLBC Dease Lake 70.87 326 P **P 18 59 55.9 -1.0**
KLMR Klimovskoe 71.46 31 *e*P **P 18 59 59.4 -1.1**
INK Inuvik 71.57 337 LR LR 19 29 12.2
comp=Z,261nm,19.9s,MS4.5,baz=110,slow=34
EIL Elat 73.26 64 *e*P **P 19 00 12.0 +0.7**
comp=Z,85nm,0.9s,mb5.7
MALT Malatya 74.25 54 *e*P **P 19 00 17.2 +0.1**
MALT pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MALT Malatya 74.25 54 *e*P **P 19 00 17.2 +0.1**
comp=Z,4.7nm,1.0s,mb4.4
DAWY Dawson 74.53 333 *e*P **P 19 00 17.7 -1.1**
DAWY *e* 19 00 24.1
KIV Kislovodsk 76.18 48 *e*P **P 19 00 28.2 0.0**
KIV pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GNI Garni 78.59 51⇑*e*P **P 19 00 40.6 -1.1**
GNI pmax pmax
comp=Z,8.0nm,1.2s
MCK McKinley 78.69 334 *e*P **P 19 00 41.5 -0.7**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MCK McKinley 78.69 334 *e*P **P 19 00 41.5 -0.8**
comp=Z,4.6nm,0.9s,mb4.4
ORR Orenburg 81.81 38 *e*P **P 19 00 59.6 +0.5**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU Arti 82.15 33 *e*P **P 19 01 00.7 -0.2**
ARU *e* 19 04 09.2
ARU *e*PPP 19 05 58.7
ARU *e*S S 19 11 14.5 -1.4
ARU *e*SS SS 19 16 33.4 -1.9
BOSA Boshof 83.56 123 LR LR 19 30 38.2
comp=Z,168nm,18.1s,MS4.5,baz=106,slow=30
KMBO Kilima Mbogo 84.04 93 LR LR 19 35 11.6
comp=Z,200nm,18.8s,MS4.5,baz=101,slow=33
CHKZ Chkalovo 89.57 32 *e*P **P 19 01 38.1 +0.5**
CHKZ *e* 19 01 44.5
CHKZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
CHKZ Chkalovo 89.57 32 *e*P **P 19 01 38.1 +0.5**
comp=Z,3.8nm,0.9s,mb4.7
CHKZ *e* 19 01 44.5
BILL Bilibino 90.04 348⇑*e*P **P 19 01 39.7 -0.1**
BILL *e* 19 01 46.8
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
KRAR Krasnoyarsk 97.63 22 *e*P **P 19 02 15.0 +0.4**
KRAR pmax pmax
comp=Z,6.0nm,0.5s,mb5.4
MA2 Magadan 100.50 351⇑*i*P Pdif 19 02 28.5 +1.0
MA2 pmax pmax
comp=Z,37nm,1.6s
MDJ Mudanjiang 116.56 3 PKP PKPdf 19 07 22.5 -1.6
MDJ LR LR
comp=N,510nm,24.9s,MS5.1
MDJ LR LR
comp=E,110nm,23.4s,MS5.1
MDJ LR LR
comp=Z,650nm,23.4s,MS5.2
HHC Hu-ho-hao-te 116.92 19 *e*PKP PKPdf 19 07 19.9 -4.9
HHC PKS 19 10 55.0
HHC PP PP
comp=Z,80nm,5.1s
HHC LR LR
comp=N,120nm,19.0s,MS4.7
HHC LR LR
comp=E,140nm,19.0s,MS4.7
HHC LR LR
comp=Z,340nm,16.6s,MS5.0
CD2 Chengdu 122.51 31 *e*PKP PKPdf 19 07 32.8 -2.7
KS15 Wonju Array Si 123.56 6 *e*P PKPdf 19 07 34.8 -2.7
ASAR Alice Springs 175.37 180 PKP PKPdf 19 08 49.6 -0.5
comp=Z,1.5nm,1.0s,baz=139,slow=0.7,SNR=7.7

ISCJB ***22*** *18:55:37.8±1.9, 1980S±009×1755W±02, h117km±22km, mb4.6/13, Error ellipse: s-maj=24.4km s-min=14.3km az=5.0*
BJI ***22*** *18:55:39.0, 1980S×17540W, h117km, mB5.0, mb4.8*
NEIC ***22*** *18:55:39.2±1.4, 1981S×17542W, h117km±13km, mb4.8/8, Error ellipse: s-maj=15.1km s-min=10.5km az=127.0*
IDC ***22*** *18:55:42.4±3.3, 1991S×17555W, h138km±29km, mb4.1/8, mb1 4.2/9, mb1mx4.0/16, mbtmp4.6/9, Error ellipse: s-maj=21.3km s-min=20.3km az=117.0*
ISC 22 18:55:39.5±1.7, 1985S±008×1754W±02, h117km±20km, n45, σ0=99/34, mb4.6/13, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.86**	**31**	P	**Pn**		**18 57 17.3**	**-0.1**
	13nm,0.3s,baz=26,slow=14,SNR=9.1							
AFI				S	**Sn**		**18 58 27.9**	**-6.0**
	18nm,0.3s,baz=50,slow=22,SNR=9.2							
AFI	**Afiamalu**	**6.86**	**31**	*e*P	**Pn**		**18 57 16.7**	**-0.7**
	44nm,0.6s							
AFI				*e*S	**Sn**		**18 58 27.6**	**-6.3**
DZM	**Mont Dzumac**	**17.09**	**259**	P	**Pn**		**18 59 36.6**	**+5.5**
	0.7nm,0.3s,baz=66,slow=19,SNR=8.4							
NOUC	**Port Laguerre**	**17.22**	**259**	*e*P	**Pn**		**18 59 38.2**	**+5.5**
URZ	**Urewera**	**19.46**	**198**	P	**P**		**18 59 57.5**	**+0.6**
	4.2nm,0.3s,baz=31,slow=8.9,SNR=20							
URZ	**Urewera**	**19.46**	**198**	*e*PN	**Pn**		**18 59 56.8**	**-2.5**
QRZ	**Quartz Range**	**23.31**	**204**	PN	**P**		**19 00 36.6**	**-0.3**
THZ	**Tophouse**	**23.99**	**202**	PN	**P**		**19 00 42.7**	**-0.4**
LTZ	**Lake Taylor**	**25.11**	**202**	*e*PN	**P**		**19 00 54.9**	**+1.6**
CTA	**Charters Tower**	**35.98**	**263**	*e*P	**P**		**19 02 29.9**	**+1.0**
	10nm,0.7s,mb4.9							
CTA	**Charters Tower**	**35.98**	**263**	P	**P**		**19 02 29.8**	**+0.9**
	12nm,0.7s,mb5.0,baz=106,slow=9.7,SNR=14							
CTAO	**Charters Tower**	**35.98**	**263**	*e*P	**P**		**19 02 29.8**	**+0.9**
	19nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**40.26**	**244**	*e*P	**P**		**19 03 03.0**	**-1.8**
	2.9nm,0.8s,mb4.2							
STKA	**Stephens Creek**	**40.26**	**244**	P	**P**		**19 03 02.9**	**-1.9**
	5.0nm,0.9s,mb4.3,baz=92,slow=9.9,SNR=7.7							
AS31	**Alice Springs**	**47.03**	**256**	*e*P	**P**		**19 03 59.3**	**+0.3**
ASAR	**Alice Springs**	**47.03**	**256**	P	**P**		**19 03 59.0**	**-0.1**
	11nm,0.9s,mb4.6,baz=88,slow=8.3,SNR=75							
ASAR				PcP	PcP		19 05 29.6	+0.3
	3.3nm,0.8s,baz=104,slow=4.7,SNR=13							
ASPA	**Alice Springs**	**47.03**	**256**	*e*P	**P**		**19 03 59.3**	**+0.3**
WB2	**Warramunga Arr**	**47.09**	**261**	*e*P	**P**		**19 03 59.0**	**-0.4**
WRAB	**Tennant Creek**	**47.09**	**261**	*e*P	**P**		**19 03 59.7**	**+0.3**
	5.8nm,0.3s,mb4.8							
WRA	**Warramunga Arr**	**47.10**	**261**	P	**P**		**19 03 59.5**	**0.0**
	2.9nm,0.3s,mb4.5,baz=96,slow=7.6,SNR=230							
WRA				PcP	PcP		19 05 29.8	+0.3
	2.3nm,0.8s,baz=90,slow=3.7,SNR=7.1							
WRA				S	**S**		**19 10 41.7**	**-1.1**
	1.4nm,0.9s,baz=138,slow=6.8,SNR=6.2							
FITZ	**Fitzroy Crossi**	**55.52**	**261**	*e*P	**P**		**19 05 03.0**	**+0.7**
	6.5nm,1.1s,mb4.6							
FITZ	**Fitzroy Crossi**	**55.52**	**261**	P	**P**		**19 05 02.9**	**+0.6**
	3.6nm,1.0s,mb4.4,baz=129,slow=13,SNR=13							
VNDA	**Vanda**	**58.78**	**186**	P	**P**		**19 05 25.7**	**+0.5**
	2.5nm,0.8s,mb4.3,baz=359,slow=6.3,SNR=17							
MBWA	**Marble Bar**	**60.37**	**256**	*e*P	**P**		**19 05 36.2**	**+0.1**
	9.9nm,0.9s,mb4.8							
NWAO	**Narrogin (SRO)**	**60.83**	**243**	P	**P**		**19 05 39.2**	**0.0**
QSPA	**South Pole Qui**	**70.22**	**180**	*e*P	**P**		**19 06 39.7**	**0.0**
	14nm,1.1s,mb4.7							
MJAR	**Matsushiro Arr**	**71.16**	**322**	P	**P**		**19 06 46.5**	**+1.1**
	5.6nm,0.9s,mb4.4,baz=163,slow=6.4,SNR=13							
NJ2	**Nanjing**	**81.36**	**308**	*e*P	**P**		**19 07 40.8**	**-2.2**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.8							
MAW	**Mawson**	**82.99**	**199**	P	**P**		**19 07 50.7**	**-0.8**
	comp=Z,1.7nm,0.7s,mb4.0,baz=124,slow=5.7,SNR=4.7							
CN2	**Changchun**	**83.29**	**321**	*e*P	**P**		**19 07 55.1**	**+2.0**
CD2	**Chengdu**	**92.50**	**302**	*e*P	**P**		**19 08 36.8**	**-0.5**
CD2				AP	pP		19 09 07.3	-0.3
CD2				XP	sP		19 09 20.3	+0.3
CD2				PP	PP		19 12 22.8	+2.9
CD2				SKS			19 18 57.8	
CD2				S			19 19 27.8	
CD2				SS	SS		19 25 42.8	-2.5
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.1							
CD2				AMB	AMB			
	comp=Z,40nm,9.0s							
CHKZ	**Chkalovo**	**119.92**	**321**	*e*PKPdf	PKPdf		19 14 14.7	-1.3
ZRNK	**Zerenda**	**120.97**	**320**	*e*PKPdf	PKPdf		19 14 16.5	-1.5
MALT	**Malatya**	**145.43**	**309**	*e*PKPdf	PKPdf		19 15 05.3	+1.8
STHS	**Stebnicka Huta**	**147.62**	**340**	*e*PKP	PKPdf		19 15 10.0	+2.8
CLL	**Collm**	**147.91**	**350**⇓*i*PKPbc		PKPbc		19 15 11.3	+0.4
	comp=Z,10.0nm,1.0s							
CLL				⇓*i*PKiKP	PKiKP		19 15 13.4	+0.7
	comp=Z,9.0nm,1.2s							
BR131	**Keskin Array S**	**148.15**	**315**	*e*PKPbc	PKPbc		19 15 11.4	-0.1
BRTR	**Keskin Array B**	**148.16**	**315**	PKPbc	PKPbc		19 15 11.2	-0.3
	comp=Z,3.0nm,0.9s,baz=128,slow=2.0,SNR=6.3							
BRG	**Berggiesshubel**	**148.17**	**349**	*e*P	PKPbc		19 15 11.6	0.0
	comp=Z,3.7nm,1.0s							
BRG	**Berggiesshubel**	**148.17**	**349**	*e*P	PKPbc		19 15 11.5	0.0
KECS	**Kecovo**	**148.68**	**339**	*e*PKP	PKPdf		19 15 05.8	-3.2
VYHS	**Vyhne**	**149.19**	**341**	*e*PKP	PKPbc		19 15 14.3	+0.2
KOLL	**Kolacno**	**149.25**	**342**	*e*PKP	PKPbc		19 15 14.8	+0.5
KHC	**Kasperske Hory**	**149.91**	**348**	*e*PKPbc	PKPbc		19 15 16.0	+0.1
GERES	**GERESS Array B**	**150.16**	**348**	PKPbc	PKPbc		19 15 16.2	-0.3
	comp=Z,3.5nm,0.9s,baz=40,slow=2.3,SNR=16							

IDC 22 19:02:28.1±2.9, 641S×14727E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.5/13, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=60.0km s-min=32.3km az=89.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.98**	**182**	Pn	Pn		19 03 17.5	+1.0
	3.7nm,0.3s,baz=349,slow=14,SNR=18							
PMG				Sn	Sn		19 03 54.3	+1.4
	7.0nm,0.3s,baz=201,slow=20,SNR=4.0							
WRA	**Warramunga Arr**	**18.40**	**222**	P	Pn		19 06 44.4	-0.1
	0.1nm,0.3s,baz=49,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**21.43**	**215**	P	P		19 07 17.6	-0.2
	0.8nm,0.7s,baz=55,slow=7.9,SNR=5.7							
FITZ	**Fitzroy Crossi**	**24.08**	**239**	P	P		19 07 45.6	+0.5
	3.6nm,1.1s,baz=87,slow=17,SNR=3.3							
TORD	**Torodi Ar. Bea**	**145.45**	**284**	PKPbc	PKPbc		19 22 08.2	+0.2
	0.7nm,0.6s,baz=66,slow=4.6,SNR=7.2							

SZGRF ***22*** *19:15:59.8, 2456N×9559E, h55km, mb4.9, Myanmar*
MOS ***22*** *19:16:00.4±0.8, 2475N×9438E, h43km, mb5.0/51, MS4.4/6, Error ellipse: s-maj=10.2km s-min=4.2km az=127.6*
ISCJB ***22*** *19:16:02.8±0.2, 2478N±004×9423E±003, h59km, mb4.7/104, MS4.4/8, Error ellipse: s-maj=5.8km s-min=3.3km az=12.7*
BJI ***22*** *19:16:02.5, 2470N×9421E, h75km, mB4.8, mb4.6, Ms4.2, Msz3.9*
IDC ***22*** *19:16:04.1±0.6, 2476N×9434E, h57km±3km, mb4.3/25, mb1 4.3/25, mb1mx4.3/29, mbtmp4.5/25, MS4.2/1, Ms1 4.2/1, ms1mx2.7/34, Error ellipse: s-maj=13.5km s-min=12.1km az=30.0*
NEIC ***22*** *19:16:04.6±0.2, 2482N×9429E, mb4.6/52, Error ellipse: s-maj=6.2km s-min=4.4km az=200.0*
LDG ***22*** *19:16:05.6±0.8, 2511N×9392E, h61km, Mb4.6/25, Error ellipse: s-maj=37.9km s-min=18.6km az=152.0*
ISC 22 19:16:05.1±0.2, 2480N±004×9421E±003, h61km, h61km±.6km: pP-P, n317, σ1=05/314, mb4.7/104, 40C-19D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.24**	**290**	*e*P	**Pn**		**19 16 41.0**	**+1.1**
SHL				*e*P			19 16 44.5	
SHL				*e*S	**Sn**		**19 17 10.8**	**+4.4**
LKP	**Lekhapani**	**3.02**	**33**	*e*x	x		19 16 53.0	
LKP				*e*x	x		19 17 39.0	
SLGI	**Shiliguri**	**5.56**	**291**	*i* P	**Pn**		**19 17 26.2**	**+1.0**
SLGI				*i* S	**Sn**		**19 18 25.5**	**-2.2**
LSA	**Lhasa**	**5.59**	**331**	P	**Pn**		**19 17 26.4**	**+0.8**
LSA				S	**Sn**		**19 18 29.6**	**+1.1**
LSA				Smax				
	comp=N,180nm,0.8s							
LSA				Smax				
	comp=E,360nm,1.1s							
LSA	**Lhasa**	**5.59**	**331**	*e*P	**Pn**		**19 17 26.6**	**+1.0**
LSA				pmax	pmax			
	comp=Z,148nm,0.8s							
LSA	**Lhasa**	**5.59**	**331**	*e*P	**Pn**		**19 17 26.6**	**+0.9**
	comp=Z,148nm,0.8s							
CAL	**Calcutta**	**5.84**	**249**	*e*x	x		19 17 37.1	
CAL				*e*x	x		19 18 51.6	
BOK	**Bokaro**	**7.66**	**264**	*e*P	**Pn**		**19 17 54.3**	**+0.2**
BOK				*e*S	**Sn**		**19 19 16.3**	**-3.1**
KMI	**Kunming**	**7.74**	**86**	⇑P	**Pn**		**19 17 56.9**	**+1.7**
KMI				S	**Sn**		**19 19 20.6**	**-0.8**
KMI				XS			19 19 25.5	
KMI				AMB	AMB			
	comp=Z,40nm,1.1s							
KMI				AMB	AMB			
	comp=Z,380nm,3.3s							
KMI				LR	LR			
	comp=N,1μm,7.6s							
KMI				LR	LR			
	comp=E,500nm,5.1s							
KMI				LR	LR			
	comp=Z,550nm,9.8s							
JIRN	**Jiri**	**7.75**	**293**	*e*Pn	**Pn**		**19 17 55.5**	**+0.3**
JIRN				*e*Sn	**Sn**		**19 19 19.4**	**-2.0**
	comp=Z,720nm,0.4s							
GUN	**Gumba**	**8.09**	**294**	*e*Pn	**Pn**		**19 18 00.2**	**+0.3**
GUN				*e*Sn	**Sn**		**19 19 28.7**	**-1.2**
	comp=Z,915nm,0.5s							
PKI	**Pulchoki**	**8.38**	**291**	*e*Pn	**Pn**		**19 18 04.0**	**+0.2**
PKI				*e*Sn	**Sn**		**19 19 34.4**	**-2.4**
	comp=Z,632nm,0.6s							

KKN	**Kakani**	**8.55**	**292**	*e*Pn	**Pn**	**19 18 05.9**	**-0.3**
KKN				*e*Sn	**Sn**	**19 19 38.7**	**-2.4**
comp=Z,890nm,0.6s							
DMN	**Daman**	**8.64**	**291**	*e*Pn	**Pn**	**19 18 07.2**	**-0.3**
DMN				*e*Sn	**Sn**	**19 19 40.3**	**-3.1**
comp=Z,804nm,0.6s							
GKN	**Gorkha**	**9.16**	**292**	*e*Pn	**Pn**	**19 18 13.9**	**-0.6**
GKN				*e*Sn	**Sn**	**19 19 52.5**	**-3.5**
comp=Z,1μm,0.6s							
VLK	**Valmikinagar**	**9.63**	**287**	*ex*	x	19 20 08.0	
KOLN	**Koldanda**	**9.97**	**290**	*e*Pn	**Pn**	**19 18 24.5**	**-1.1**
KOLN				*e*Sn	**Sn**	**19 20 11.8**	**-4.1**
comp=Z,650nm,0.5s							
GYA	**Guiyang**	**11.36**	**79**	P	**Pn**	**19 18 44.0**	**-0.5**
GYA				S	**Sn**	**19 20 42.5**	**-7.2**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s							
GYA				AMB	AMB		
comp=Z,180nm,3.9s							
GYA				LR	LR		
comp=N,680nm,8.4s							
GYA				LR	LR		
comp=E,260nm,6.6s							
GYA				LR	LR		
comp=Z,180nm,8.9s							
BLSP	**Bilaspur**	**11.40**	**259**	*e*P	**Pn**	**19 18 45.3**	**+0.2**
BLSP				*e*S	**Sn**	**19 20 45.1**	**-5.8**
VIS	**Vishakhapatnam**	**12.35**	**237**	*e*P	**Pn**	**19 18 56.4**	**-1.7**
VIS				*i* P		19 18 57.0	
VIS				*i* x	x	19 21 03.3	
JBP	**Jabalpur**	**13.11**	**266**	*e*P	**Pn**	**19 19 07.8**	**-0.7**
JBP				*e*S	**Sn**	**19 21 26.2**	**-6.3**
LGTI	**Lohaghat**	**13.27**	**293**	*i* P	**Pn**	**19 19 08.5**	**-2.1**
LGTI				*ex*	x	19 21 33.3	
LZH	**Lanzhou**	**13.97**	**34**	*e*P	**Pn**	**19 19 16.5**	**-3.5**
LZH				AMB	AMB		
comp=Z,20nm,1.1s							
LZH				AMB	AMB		
comp=Z,70nm,4.0s							
LZH				LR	LR		
comp=E,510nm,9.7s							
LZH				LR	LR		
comp=Z,780nm,10.3s							
NGP	**Nagpur**	**14.43**	**258**	*e*P	**Pn**	**19 19 23.4**	**-2.6**
NGP				AMb	AMB	19 19 35.9	
comp=Z,59nm,0.0s							
NGP				*ex*	x	19 21 57.5	
GTA	**Gaotai**	**15.31**	**17**	*e*P	**Pn**	**19 19 40.3**	**+2.8**
GTA				AP	pP	19 19 45.8	-8.2
GTA				PP		19 19 53.3	
GTA				AMB	AMB		
comp=Z,50nm,3.8s							
GTA				LR	LR		
comp=N,150nm,11.1s							
GTA				LR	LR		
comp=E,310nm,14.1s							
GTA				LR	LR		
comp=Z,170nm,10.3s							
BHPL	**Bhopal**	**15.42**	**268**	*e*P	**Pn**	**19 19 38.3**	**-0.6**
BHPL				*ex*	x	19 22 16.3	
BHPL				*i* x	x	19 22 39.4	
QIZ	**Qiongzhong**	**15.60**	**109**	P	**Pn**	**19 19 41.0**	**-0.1**
QIZ				S	**S**	**19 22 32.6**	**-12**
QIZ				LR	LR		
comp=N,350nm,18.2s							
QIZ				LR	LR		
comp=Z,560nm,12.1s							
QIZ	**Qiongzhong**	**15.60**	**109**	*e*P	**Pn**	**19 19 40.6**	**-0.5**
comp=Z,41nm,1.1s							
NDI	**New Delhi**	**15.67**	**288**	*e*P	**Pn**	**19 19 43.0**	**+1.0**
NDI				*ex*	x	19 22 21.0	
XAN	**Xi'an**	**15.76**	**51**	P	**Pn**	**19 19 42.8**	**-0.4**
XAN				AP	pP	19 19 52.1	-6.9
SMLA	**Simla**	**16.32**	**297**	*e*P	**Pn**	**19 19 48.8**	**-1.5**
SMLA				*ex*	x	19 22 37.1	
HYB	**Hyderabad**	**16.35**	**246**	*i* P	**Pn**	**19 19 53.0**	**+2.4**
comp=Z,240nm,1.0s							
HYB				*e*S	**S**	**19 22 53.0**	**-7.4**
HYB	**Hyderabad**	**16.35**	**246**	*e*P	**Pn**	**19 19 54.0**	**+3.4**
HYB				pmax	pmax		
comp=Z,240nm,1.0s							
HYB	**Hyderabad**	**16.35**	**246**	*e*P	**Pn**	**19 19 54.0**	**+3.4**
comp=Z,240nm,1.0s							
HYB				*e*S	S	19 22 37.0	-23
AKL	**Akola**	**16.38**	**259**	*ex*	x	19 20 01.9	
AKL				*ex*	x	19 22 46.1	
LATR	**Latur**	**17.59**	**252**	*e*S	**S**	**19 23 09.0**	**-17**
AJM	**Ajmer**	**17.73**	**280**	*i* P	**Pn**	**19 20 07.0**	**-0.7**
AJM				*e*P		19 20 08.9	
AJM				*i* x	x	19 23 09.0	
WMQ	**Urumqi**	**19.71**	**346**	*e*P	**Pn**	**19 20 30.3**	**-1.1**
POO	**Poona**	**19.92**	**256**	⇓*i*P	**Pn**	**19 20 32.0**	**-1.9**
comp=Z,40nm,1.0s							
POO				*i* PP		19 20 49.0	
POO				*i* x	x	19 24 01.0	
POO				*i* x	x	19 24 26.0	
POO				*i* x	x	19 24 40.5	
POO				*i* x	x	19 24 58.0	
KULM	**Kulim**	**20.36**	**161**	*e*P	**P**	**19 20 36.9**	**+0.3**
BTO	**Baotou**	**20.57**	**36**	*e*P	**P**	**19 20 35.6**	**-3.2**
BOM	**Bombay**	**20.70**	**258**	*e*P	**P**	**19 20 42.8**	**+2.5**
BOM				*ex*	x	19 24 10.2	
NJ2	**Nanjing**	**22.81**	**66**	*e*P	**P**	**19 20 59.1**	**-3.6**
NJ2				AP		19 21 14.5	
NJ2				PP		19 21 29.8	
NJ2				S	**S**	**19 25 02.0**	**-5.4**
NJ2				XS	sS	19 25 25.0	-6.2
NJ2				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.1							
NJ2				AMB	AMB		
comp=Z,50nm,10.6s							
NJ2				LR	LR		
comp=N,530nm,13.7s							
NJ2				LR	LR		
comp=E,280nm,15.2s							
NJ2				LR	LR		
comp=Z,170nm,9.2s							
ULHL	**Ulahol**	**22.88**	**324**	P	**P**	**19 21 02.5**	**-1.0**
SNR=7.4							
TKM2	**Tokmak 2**	**23.69**	**324**	P	**P**	**19 21 12.8**	**+1.6**
SNR=14							
UCH	**Uchtor**	**23.82**	**322**	P	**P**	**19 21 14.5**	**+2.1**
SNR=13							
MKAR	**Makanchi Array**	**23.93**	**340**	P	**P**	**19 21 13.1**	**-0.3**
comp=Z,8.8nm,0.6s,mb4.4,baz=146,slow=12,SNR=51							
MKAR				pP		19 21 28.3	
comp=Z,19nm,0.7s,baz=154,slow=9.7,SNR=17							
MKAR				ScP	ScP	19 28 27.4	-0.1
comp=Z,1.4nm,0.9s,baz=124,slow=2.2,SNR=5.4							
MKAR	**Makanchi Array**	**23.93**	**340**	P	**P**	**19 21 13.1**	**-0.3**
MKAR				*PP		19 21 28.3	
AAK	**Ala-Archa**	**24.09**	**322**	P	**P**	**19 21 17.1**	**+2.2**
SNR=6.3							
AAK	**Ala-Archa**	**24.09**	**322**	P	**P**	**19 21 16.0**	**+1.1**
SNR=8.3							
AAK	**Ala-Archa**	**24.09**	**322**	*e*P	**P**	**19 21 15.9**	**+1.0**
AAK				pmax	pmax		
comp=Z,42nm,1.3s,mb4.7							
AAK	**Ala-Archa**	**24.09**	**322**	*e*P	**P**	**19 21 15.8**	**+0.9**
comp=Z,42nm,1.3s,mb4.7							
FRU	**Bishkek**	**24.16**	**323**	*e*P	**P**	**19 21 16.8**	**+1.3**
FRU				*i*		19 21 32.5	
FRU				pmax	pmax		
comp=Z,54nm,2.0s,mb4.6							
CHMS	**Chumysh**	**24.20**	**323**	P	**P**	**19 21 17.6**	**+1.7**
SNR=5.4							
EKS2	**Erkin-Say**	**24.51**	**322**	P	**P**	**19 21 20.8**	**+2.1**
SNR=24							
USP	**Ospenovka**	**24.51**	**324**	P	**P**	**19 21 20.2**	**+1.5**
SNR=8.6							
SONM	**Songino Array**	**24.93**	**20**	P	**P**	**19 21 22.5**	**0.0**
comp=Z,3.0nm,0.7s,mb3.9,baz=200,slow=9.9,SNR=12							
SONM				pP		19 21 36.8	
comp=Z,14nm,0.7s,baz=199,slow=10.0,SNR=20							
SONM				ScP	ScP	19 28 29.9	-0.3
comp=Z,2.7nm,0.8s,baz=195,slow=3.3,SNR=9.5							
SONM	**Songino Array**	**24.93**	**20**	P	**P**	**19 21 22.5**	**0.0**
SONM				*PP		19 21 36.8	
ULN	**Ulaanbaatar**	**25.16**	**21**	P	pP	19 21 39.3	-0.2
SNR=5.8							
ULN	**Ulaanbaatar**	**25.16**	**21**	P	pP	19 21 39.3	-0.2
SNR=5.8							
ULN	**Ulaanbaatar**	**25.16**	**21**	*e*P	**P**	**19 21 24.0**	**-0.6**
ULN				*e**PP	pP	19 21 38.7	-0.8
ULN				pmax	pmax		
comp=Z,15nm,0.7s,mb4.6							
ULN	**Ulaanbaatar**	**25.16**	**21**	*e*P	**P**	**19 21 24.0**	**-0.7**
comp=Z,15nm,0.7s,mb4.6							
ULN				*e*pP	pP	19 21 38.7	-0.8
ZAK	**Zakamensk**	**26.49**	**13**	*e*P	**P**	**19 21 35.0**	**-1.6**
ZAK				*e*	pP	19 21 52.3	+0.8
ZAK				pmax	pmax		
comp=Z,90nm,1.8s,mb5.0							
ZAK				pmax	pmax		
comp=Z,47nm,1.6s,mb4.8							
MOY	**Mondy**	**27.32**	**9**	*e*P	pP	19 22 00.2	+1.2
MOY				pmax	pmax		
comp=Z,29nm,1.8s,mb4.5							
TLY	**Talaya**	**27.79**	**13**	*e*P	pP	19 22 03.2	-0.1
TLY				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.2							
IRK	**Irkutsk**	**28.45**	**13**	*e*P	pP	19 22 09.4	+0.2
IRK				pmax	pmax		
comp=Z,24nm,1.6s,mb4.6							
JOW	**Kunigami**	**30.68**	**79**	P	**P**	**19 22 13.8**	**-0.1**
comp=Z,3.0nm,0.3s,mb4.6,baz=155,slow=25,SNR=4.3							
NVS	**Novosibirsk**	**31.09**	**348**	*e*P	**P**	**19 22 15.9**	**-1.6**
NVS				pmax	pmax		
comp=Z,13nm,1.2s,mb4.6							
NVS				pmax	pmax		
comp=N,10.0nm,1.3s							
NVS				pmax	pmax		
comp=E,7.0nm,1.3s							
KRAR	**Krasnoyarsk**	**31.19**	**359**	*e*P	**P**	**19 22 17.6**	**-0.8**
KRAR				pmax	pmax		
comp=Z,5.0nm,0.3s,mb4.8							
BVAR	**Borovoye Array**	**33.42**	**334**	P	**P**	**19 22 37.6**	**-0.3**
comp=Z,2.1nm,0.7s,mb4.2,baz=128,slow=9.6,SNR=14							
BVAR				PcP	PcP	19 25 17.6	-0.5
comp=Z,1.6nm,0.7s,baz=147,slow=3.5,SNR=3.8							
BRVK	**Borovoye**	**33.49**	**334**	*e*P	**P**	**19 22 38.4**	**-0.1**
BRVK				pmax	pmax		
comp=Z,30nm,0.7s,mb5.3							
BRVK	**Borovoye**	**33.49**	**334**	*e*P	**P**	**19 22 38.4**	**-0.1**
comp=Z,2.7nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**33.82**	**335**	*e*P	**P**	**19 22 41.8**	**+0.4**
CHKZ				*e*	pP	19 22 59.6	+3.1
CHKZ				pmax	pmax		
comp=Z,70nm,0.8s,mb5.6							
CHKZ	**Chkalovo**	**33.82**	**335**	*e*P	**P**	**19 22 41.8**	**+0.4**
comp=Z,6.7nm,0.8s,mb4.6							
CHKZ				*e*	pP	19 22 59.6	+3.0
ZRNK	**Zerenda**	**33.93**	**333**	*e*P	**P**	**19 22 42.5**	**+0.1**
ZRNK				pmax	pmax		
comp=Z,40nm,0.6s,mb5.5							
ZRNK	**Zerenda**	**33.93**	**333**	*e*P	**P**	**19 22 42.5**	**+0.1**
comp=Z,4.2nm,0.6s,mb4.5							
AKTK	**Aktyubinsk**	**37.84**	**322**	P	**P**	**19 23 16.3**	**+0.5**
AKTK				PcP	PcP	19 25 31.4	+0.3
AKTO	**Aktyubinsk**	**37.84**	**322**	P	**P**	**19 23 16.3**	**+0.5**
comp=Z,5.8nm,0.7s,mb4.4,baz=121,slow=8.5,SNR=24							
AKTO				PcP	PcP	19 25 31.4	+0.3
comp=Z,2.2nm,0.6s,baz=127,slow=10,SNR=2.6							
MJAR	**Matsushiro Arr**	**39.30**	**62**	P	**P**	**19 23 27.5**	**-0.5**
comp=Z,1.5nm,0.7s,mb3.8,baz=267,slow=9.0,SNR=6.2							
ORR	**Orenburg**	**40.21**	**322**	*i* P	**P**	**19 23 35.7**	**+0.1**
ORR				*i*	pP	19 23 51.4	+0.3
ORR				pmax	pmax		
comp=Z,20nm,0.9s,mb4.8							
ARU	**Arti**	**40.79**	**330**	*e*P	**P**	**19 23 40.2**	**-0.2**
ARU				*e*		19 25 15.2	
ARU				*e*		19 25 35.7	
ARU				*e*PPP		19 25 44.6	
ARU				*e*S	**S**	**19 29 49.4**	**+2.7**
ARU				*e*SS	SS	19 32 52.0	+2.4
ARU	**Arti**	**40.79**	**330**	*e*P	**P**	**19 23 40.8**	**+0.4**
comp=Z,5.7nm,0.8s,mb4.2							
QRN	**Al-Qurain**	**41.32**	**286**	AMb	AMB	19 23 47.9	
comp=Z,29nm,1.1s,mb4.8							
KBD	**Kabd**	**41.48**	**287**	*e*P	**P**	**19 23 47.1**	**+1.1**
KBD				AMb	AMB	19 23 49.0	
comp=Z,86nm,0.6s,mb5.5							
RDF	**Al-Radifah**	**41.63**	**286**	*e*P	**P**	**19 23 48.4**	**+1.1**
RDF				AMb	AMB	19 23 49.1	
comp=Z,84nm,0.4s,mb5.7							
MIB	**Mutribah**	**41.73**	**288**	*e*P	**P**	**19 23 49.4**	**+1.3**
MIB				AMb	AMB	19 23 50.9	
comp=Z,50nm,0.7s,mb5.2							
NAY	**Al-Naaiem**	**41.86**	**287**	*e*P	**P**	**19 23 50.3**	**+1.1**
NAY				AMb	AMB	19 23 52.0	
comp=Z,40nm,1.0s,mb5.0							
RST	**Umm Al-Ruwaisa**	**42.05**	**287**	*e*P	**P**	**19 23 51.3**	**+0.6**
RST				AMb	AMB	19 23 52.3	
comp=Z,64nm,0.5s,mb5.5							
ASAJ	**Asahikawa**	**43.60**	**51**	P	**P**	**19 24 02.8**	**-0.5**
comp=Z,2.1nm,0.8s,mb3.9,baz=257,slow=14,SNR=2.6							
GNI	**Garni**	**43.90**	**303**	P	**P**	**19 24 05.6**	**0.0**
comp=Z,1.8nm,0.5s,mb4.0,baz=24,slow=10.0,SNR=4.6							
GNI	**Garni**	**43.90**	**303**	⇑*i*P	**P**	**19 24 06.9**	**+1.3**
GNI				pmax	pmax		
comp=Z,15nm,1.5s							
GOF	**Gofitskoye**	**45.73**	**310**	*e*P	**P**	**19 24 20.5**	**+0.3**
GOF				*i*	pP	19 24 37.1	+1.3
GOF				pmax	pmax		
comp=Z,20nm,0.7s,mb5.2							
KIV	**Kislovodsk**	**45.82**	**308**	P	**P**	**19 24 22.9**	**+2.0**
SNR=5.8							
KIV	**Kislovodsk**	**45.82**	**308**	P	**P**	**19 24 22.9**	**+2.0**
SNR=5.8							
KIV	**Kislovodsk**	**45.82**	**308**	*e*P	**P**	**19 24 22.4**	**+1.5**
KIV				*e**PP	pP	19 24 38.4	+1.8
KIV				pmax	pmax		
comp=Z,33nm,0.9s,mb5.3							
KIV	**Kislovodsk**	**45.82**	**308**	*e*P	**P**	**19 24 22.4**	**+1.5**
comp=Z,33nm,0.9s,mb5.3							
KIV				*e*pP	pP	19 24 38.4	+1.8
SOC	**Sochi**	**47.92**	**307**	*c i* P	**P**	**19 24 37.6**	**+0.3**
SOC				*e**PP	pP	19 24 53.2	+0.1
SOC				*e*		19 26 08.2	
SOC				*e*S	**S**	**19 31 34.5**	**+4.2**
SOC				pmax	pmax		
comp=Z,26nm,1.3s,mb5.1							
ELZG	**Elazig**	**48.30**	**300**	*i* P	**P**	**19 24 42.1**	**+1.9**
ANN	**Anapa**	**49.65**	**309**	*e*P	**P**	**19 24 49.6**	**-1.0**
ANN				pmax	pmax		
comp=Z,83nm,1.6s,mb5.5							
ANN				MLR	MLR		
comp=Z,523nm,22.0s							
ASF	**Jabal al Asfar**	**50.41**	**292**	P	**P**	**19 24 58.6**	**+2.3**
comp=Z,3.9nm,0.7s,mb4.6,baz=330,slow=5.9,SNR=9.2							
ASF				LR	LR	19 47 56.1	
comp=Z,240nm,19.5s,baz=319,slow=38							
TIXI	**Tiksi**	**50.77**	**13**	*e*P	**P**	**19 24 55.6**	**-3.4**
TIXI				pmax	pmax		
comp=Z,17nm,1.2s,mb4.8							
BOYT	**Boyabat**	**51.41**	**304**	*i* P	**P**	**19 25 05.1**	**+1.3**
KLMR	**Klimovskoe**	**51.62**	**329**	*e*P	**P**	**19 25 03.8**	**-1.6**
OBN	**Obninsk**	**51.62**	**322**	⇑*e*P	**P**	**19 25 05.3**	**-0.1**
OBN				*e**PP	pP	19 25 21.2	-0.1
OBN				*e*		19 26 18.1	
OBN				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.4							
OBN				MLR	MLR		
comp=Z,300nm,16.0s							
MA2	**Magadan**	**52.12**	**33**	*e*P	**P**	**19 25 08.4**	**-0.7**
MA2				pmax	pmax		
comp=Z,26nm,1.7s,mb4.9							
BR131	**Keskin Array S**	**52.42**	**302**	*e*P	**P**	**19 25 12.3**	**+1.0**
comp=Z,2.6nm,0.6s,mb4.3							
BRTR	**Keskin Array B**	**52.42**	**302**	P	**P**	**19 25 12.2**	**+0.9**
comp=Z,3.5nm,0.7s,mb4.4,baz=124,slow=7.1,SNR=17							
BRTR				pP	pP	19 25 26.4	-0.9
comp=Z,1.5nm,0.5s,baz=114,slow=7.1,SNR=4.4							
BALT	**Daday**	**52.54**	**304**	*i* P	**P**	**19 25 13.3**	**+1.1**
ELDT	**Eldivan**	**52.55**	**303**	*i* P	**P**	**19 25 13.7**	**+1.4**
SGKT	**Sivrigoynuk**	**53.59**	**303**	*i* P	**P**	**19 25 21.3**	**+1.4**
AKASG	**Malin Array Be**	**55.51**	**316**	P	**P**	**19 25 33.1**	**-0.7**
comp=Z,3.5nm,0.4s,mb4.8,baz=81,slow=6.2,SNR=47							
AKASG				pP	pP	19 25 48.4	-1.6
comp=Z,4.8nm,0.5s,baz=83,slow=6.2,SNR=9.5							
JOF	**Joensuu**	**55.92**	**331**	*e*p	**P**	**19 25 37.1**	**+0.3**
comp=Z,5.0nm,0.5s,mb4.8							
JOF	**Joensuu**	**55.92**	**331**	*e*P	**P**	**19 25 37.1**	**+0.3**
JOF				pmax	pmax		
comp=Z,5.0nm,0.5s,mb4.8							
CFR	**Carcaliu**	**56.25**	**309**	⇓*i*P	**P**	**19 25 39.9**	**+0.8**
CFR	**Carcaliu**	**56.25**	**309**	⇓P	**P**	**19 25 39.9**	**+0.7**
VRI	**Vrincioaia**	**57.21**	**310**	⇑⇑*i*P	**P**	**19 25 47.8**	**+1.9**
VRI	**Vrincioaia**	**57.21**	**310**	⇑P	**P**	**19 25 47.8**	**+1.8**
PLOR	**Plostina**	**57.26**	**310**	⇓*i*P	**P**	**19 25 47.6**	**+1.3**
MLR	**Muntele Rosu**	**57.78**	**309**	⇑*i*P	**P**	**19 25 51.4**	**+1.5**
MLR	**Muntele Rosu**	**57.78**	**309**	⇑P	**P**	**19 25 51.4**	**+1.5**
KARP	**Karpathos**	**57.97**	**298**	*e*P	**P**	**19 25 52.0**	**+0.7**
KAF	**Kangasniemi**	**58.07**	**329**	*ep*	**P**	**19 25 51.2**	**-0.8**
comp=Z,11nm,0.9s,mb4.9,baz=97,slow=7.0							
KAF	**Kangasniemi**	**58.07**	**329**	*e*P	**P**	**19 25 51.2**	**-0.8**
KAF				pmax	pmax		
comp=Z,11nm,0.9s,mb4.9							
FINES	**FINESS Array B**	**58.10**	**328**	P	**P**	**19 25 52.2**	**+0.1**
comp=Z,4.3nm,0.6s,mb4.6,baz=93,slow=7.5,SNR=23							
FINES				pP	pP	19 26 06.7	-1.7
comp=Z,5.3nm,0.8s,baz=97,slow=6.0,SNR=6.9							
FINES	**FINESS Array B**	**58.10**	**328**	P	**P**	**19 25 52.2**	**0.0**
FINES				pP	pP	19 26 06.7	-1.7
BURAR	**Bucovina Array**	**58.16**	**312**	⇑*i*P	**P**	**19 25 53.3**	**+0.7**
BURAR	**Bucovina Array**	**58.16**	**312**	⇑P	**P**	**19 25 53.2**	**+0.7**
VOIR		**58.41**	**309**	⇑*i*P	**P**	**19 25 54.9**	**+0.5**
VOIR		**58.41**	**309**	⇑P	**P**	**19 25 54.9**	**+0.5**
MTUR	**Matau**	**58.42**	**309**	⇓*i*P	**P**	**19 25 58.1**	**+3.7**
MTUR	**Matau**	**58.42**	**309**	⇓P	**P**	**19 25 58.1**	**+3.7**
KEV	**Kevo**	**59.09**	**338**	*ep*	**P**	**19 25 59.1**	**0.0**
comp=Z,7.3nm,0.8s,mb4.8							
KEV	**Kevo**	**59.09**	**338**	*e*P	**P**	**19 25 59.1**	**0.0**
KEV				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**59.18**	**135**	P	**P**	**19 25 58.4**	**-1.3**
comp=Z,24nm,0.7s,mb5.3,baz=346,slow=11,SNR=1.8							
NPS	**Neapolis**	**59.26**	**298**	*e*P	**P**	**19 26 01.5**	**+1.2**
SUW	**Suwalki**	**59.26**	**320**	*e*P	**P**	**19 25 59.8**	**-0.5**
ARCES	**ARCESS Array B**	**59.56**	**338**	P	**P**	**19 26 02.4**	**+0.1**
comp=Z,5.6nm,0.8s,mb4.6,baz=87,slow=6.8,SNR=20							
ARCES				pP	pP	19 26 17.7	-0.9
comp=Z,8.7nm,0.8s,baz=91,slow=6.1,SNR=6.9							
KWP	**Kalwaria**	**59.71**	**314**	*e*P	**P**	**19 26 03.7**	**+0.4**
KOLS	**Kolonicke sedl**	**60.04**	**314**	*e*P	**P**	**19 26 07.4**	**+1.8**
KOLS				MLR	MLR		
comp=Z,500nm,18.2s							
VAM	**Vamos**	**60.37**	**298**	*e*P	**P**	**19 26 09.0**	**+1.1**
BILL	**Bilibino**	**60.54**	**24**	*d i*P	**P**	**19 26 07.8**	**-1.2**
BILL				*i* *PP	pP	19 26 23.9	-1.4
BILL						19 26 53.0	
BILL				pmax	pmax		
comp=Z,20nm,1.1s,mb5.2							
BILL				MLR	MLR		
comp=Z,100nm,18.0s							
BILL	**Bilibino**	**60.54**	**24**	*e*P	**P**	**19 26 08.1**	**-0.9**
comp=Z,8.7nm,0.4s,mb5.2							
CRVS	**Cervenica-Dubn**	**60.58**	**314**	*e*P	**P**	**19 26 09.3**	**0.0**
CRVS				pmax	pmax		
comp=Z,6.0nm,1.2s,mb4.6							
CRVS				MLR	MLR		
comp=Z,500nm,18.1s							
CRVS	**Cervenica-Dubn**	**60.58**	**314**	*e*P	**P**	**19 26 09.3**	**0.0**
comp=Z,5.5nm,1.2s,mb4.6							
CRVS				LR	LR		
comp=Z,500nm,18.1s							
STHS	**Stebnicka Huta**	**60.68**	**314**	*e*P	**P**	**19 26 09.8**	**-0.2**
STHS				pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.2							
STHS	**Stebnicka Huta**	**60.68**	**314**	*e*P	**P**	**19 26 09.8**	**-0.2**
comp=Z,2.1nm,1.0s,mb4.2							
KMBO	**Kilima Mbogo**	**60.84**	**254**	P	**P**	**19 26 11.8**	**+0.7**
comp=Z,4.6nm,1.0s,mb4.6,baz=45,slow=11,SNR=7.7							
VLI	**Veliai**	**61.13**	**300**	*e*P	**P**	**19 26 12.0**	**-1.1**
KYTH	**Kithira**	**61.14**	**299**	*e*P	**P**	**19 26 13.0**	**-0.1**
KECS	**Kecovo**	**61.26**	**313**	*e*P	**P**	**19 26 13.7**	**-0.2**
KECS				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.4							
KECS	**Kecovo**	**61.26**	**313**	*e*P	**P**	**19 26 13.7**	**-0.2**
comp=Z,2.6nm,1.0s,mb4.3							
NIE	**Niedzica**	**61.28**	**314**	*e*P	**P**	**19 26 15.4**	**+1.3**
NWAO	**Narrogin (SRO)**	**61.46**	**158**	P	**P**	**19 26 13.4**	**-1.8**
comp=Z,13nm,0.6s,mb5.2,baz=337,slow=5.4,SNR=26							
NWAO	**Narrogin (SRO)**	**61.46**	**158**	P	**P**	**19 26 13.4**	**-1.8**
NWAO				*e*P		19 26 13.6	
EVR	**Evrytania**	**61.62**	**302**	*e*P	**P**	**19 26 15.6**	**-0.7**
ITM	**Ithomi**	**61.84**	**300**	*e*P	**P**	**19 26 16.8**	**-1.0**
VYHS	**Vyhne**	**62.35**	**313**	*e*P	**P**	**19 26 21.3**	**+0.1**
VYHS				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.5							
VYHS				MLR	MLR		
comp=Z,400nm,16.7s							
VYHS	**Vyhne**	**62.35**	**313**	*e*P	**P**	**19 26 21.3**	**+0.1**
comp=Z,3.8nm,1.1s,mb4.4							
VYHS				LR	LR		
comp=Z,400nm,16.7s							
OKC	**Ostrava-Krasne**	**62.64**	**315**	*e*pP	pP	19 26 40.1	+0.6
OKC				*e*PCP	PcP	19 26 59.0	-2.5
VLS	**Valsamata**	**62.70**	**302**	*e*P	**P**	**19 26 15.7**	**-7.8**
PKSM	**Moragy**	**62.78**	**311**	⇓*i*P	**P**	**19 26 24.2**	**+0.1**
PKSM	**Moragy**	**62.78**	**311**	⇓P	**P**	**19 26 24.2**	**+0.1**
MORC	**Moravsky Berou**	**63.03**	**315**	⇓*i*P	**P**	**19 26 26.4**	**+0.6**
MORC	**Moravsky Berou**	**63.03**	**315**	⇓P	**P**	**19 26 26.4**	**+0.6**
VRAC	**Vranov**	**63.71**	**315**	⇓*i*P	**P**	**19 26 31.0**	**+0.8**
VRAC	**Vranov**	**63.71**	**315**	⇑P	**P**	**19 26 31.0**	**+0.8**
DPC	**Dobruska-Polom**	**63.74**	**316**	*e*P	**P**	**19 26 31.0**	**+

WET	**Wettzell**	**66.14 315**	*e*P	**P**	**19 26 46.5**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.6					
WET	**Wettzell**	**66.14 315**	*e*P	**P**	**19 26 46.5**	**+0.5**
WET		pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6					
TANN	**Tannenbergstha**	**66.17 316**	*e*P	**P**	**19 26 46.4**	**+0.2**
	comp=Z,6.0nm,1.0s,mb4.6					
NKC	**Novy Kostel**	**66.21 316**	*e*P	**P**	**19 26 46.9**	**+0.4**
NKC		*e*pP	pP		19 27 03.2	+0.2
KBA	**Koelnbreinsper**	**66.23 312**⇑*i*		pP	19 27 03.5	+0.4
	comp=Z,3.2nm,0.5s					
KBA	**Koelnbreinsper**	**66.23 312**⇑*i*P		**P**	**19 26 46.6**	**0.0**
	comp=Z,3.8nm,0.5s,mb4.7					
KBA		⇑*i*pP	pP		19 27 03.5	+0.4
	comp=Z,3.2nm,0.5s					
KBA	**Koelnbreinsper**	**66.23 312**⇑*i*P		**P**	**19 26 46.6**	**0.0**
KBA		*i*	pP		19 27 03.5	+0.4
KBA		pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.7					
MBAR	**Mbarara**	**66.33 258**⇓*i*P		**P**	**19 26 48.0**	**+0.8**
ROTZ	**Rotzenmuhle**	**66.45 316**	*e*P	**P**	**19 26 48.9**	**+0.9**
	comp=Z,27nm,1.5s,mb5.1					
MANZ	**Manzenberg**	**66.47 316**	*e*P	**P**	**19 26 49.3**	**+1.1**
	comp=Z,9.0nm,1.2s,mb4.7					
MOX	**Moxa**	**66.66 317**	*e*P	**P**	**19 26 49.4**	**+0.1**
	comp=Z,9.0nm,1.3s,mb4.6					
MOX	**Moxa**	**66.66 317**	*e*P	**P**	**19 26 49.6**	**+0.3**
MOX		*e*	pP		19 27 05.3	-0.6
BSEG	**Bad Segeberg**	**66.82 320**	*e*P	**P**	**19 26 50.2**	**-0.2**
	comp=Z,12nm,0.7s,mb5.0					
GRA1	**Grafenberg Arr**	**67.09 316**	*e*P	**P**	**19 26 53.1**	**+1.0**
	comp=Z,30nm,1.6s,mb5.1					
GRA1		*e*pP	pP		19 27 08.3	-0.4
GRF	**Grafenberg Arr**	**67.09 316**	*e*P	**P**	**19 26 53.1**	**+1.0**
	comp=Z,30nm,1.6s,mb5.1					
GRF		*e*pP	pP		19 27 08.3	-0.4
GRF	**Grafenberg Arr**	**67.09 316**	*e*P	**P**	**19 26 53.1**	**+1.0**
GRF		*e**PP	pP		19 27 08.3	-0.4
GRF		pmax	pmax			
	comp=Z,30nm,1.6s,mb5.1					
CLZ	**Clausthal**	**67.19 318**	*e*P	**P**	**19 26 53.2**	**+0.5**
	comp=Z,19nm,1.4s,mb4.9					
CLZ	**Clausthal**	**67.19 318**	*e*P	**P**	**19 26 53.2**	**+0.5**
CLZ		pmax	pmax			
	comp=Z,19nm,1.4s,mb4.9					
NRDL	**Niedersach Rie**	**67.22 319**	*e*P	**P**	**19 26 53.7**	**+0.8**
	comp=Z,14nm,1.0s,mb5.0					
WTTA	**Wattenberg**	**67.33 313**⇑*i*		pP	19 27 09.0	-1.2
	comp=Z,11nm,0.8s					
WTTA	**Wattenberg**	**67.33 313**⇑*i*P		**P**	**19 26 52.9**	**-0.8**
WTTA		⇑*i*pP	pP		19 27 09.0	-1.2
	comp=Z,11nm,0.8s					
WATA	**Walderalm**	**67.36 313**⇑*i*		pP	19 27 08.3	-2.0
	comp=Z,6.1nm,0.6s					
WATA	**Walderalm**	**67.36 313**⇑*e*P		**P**	**19 26 53.9**	**+0.2**
	comp=Z,3.4nm,0.5s,mb4.6					
WATA		⇑*i*pP	pP		19 27 08.3	-2.0
	comp=Z,6.1nm,0.6s					
WATA	**Walderalm**	**67.36 313**⇑*e*P		**P**	**19 26 53.9**	**+0.1**
WATA		*i*	pP		19 27 08.3	-2.0
WATA		pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6					
SQTA	**Sankt Quirin**	**67.62 313**⇑*i*		pP	19 27 10.8	-1.2
	comp=Z,7.8nm,0.7s					
SQTA	**Sankt Quirin**	**67.62 313**⇑*i*P		**P**	**19 26 55.2**	**-0.3**
	comp=Z,6.5nm,0.6s,mb4.9					
SQTA		⇑*i*pP	pP		19 27 10.8	-1.2
	comp=Z,7.8nm,0.7s					
SQTA	**Sankt Quirin**	**67.62 313**⇑*i*P		**P**	**19 26 55.2**	**-0.3**
SQTA		*i*	pP		19 27 10.8	-1.2
SQTA		pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9					
MOTA	**Moosalm**	**67.67 313**⇑*i*		pP	19 27 11.8	-0.5
	comp=Z,14nm,0.8s					
MOTA	**Moosalm**	**67.67 313**⇑*i*P		**P**	**19 26 55.3**	**-0.4**
	comp=Z,4.8nm,0.7s,mb4.7					
MOTA		⇑*i*pP	pP		19 27 11.8	-0.5
	comp=Z,14nm,0.8s					
MOTA	**Moosalm**	**67.67 313**⇑*i*P		**P**	**19 26 55.4**	**-0.3**
MOTA		*i*	pP		19 27 11.8	-0.5
MOTA		pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.7					
DAVA	**Damuels**	**68.49 313**⇓*i*		pP	19 27 17.1	-0.4
	comp=Z,10nm,0.9s					
DAVA	**Damuels**	**68.49 313**⇓*e*P		**P**	**19 27 00.7**	**-0.2**
	comp=Z,9.6nm,1.4s,mb4.6					
DAVA		⇓*i*pP	pP		19 27 17.1	-0.4
	comp=Z,10nm,0.9s					
CDF	**Champ du Feu**	**69.91 315**	*e*P	**P**	**19 27 09.0**	**-0.7**
	comp=Z,11nm,0.8s,mb4.5					
CDF		*e*pP	pP		19 27 25.5	-0.8
CDF	**Champ du Feu**	**69.91 315**	*e*P	**P**	**19 27 09.0**	**-0.7**
CDF		*e**PP	pP		19 27 25.5	-0.8
CDF		pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5					
CDF	**Champ du Feu**	**69.91 315**	*e*P	**P**	**19 27 09.0**	**-0.7**
	comp=Z,5.4nm,0.8s,mb4.5					
CDF		*e*pP	pP		19 27 25.5	-0.8
PGF	**Pioggiola**	**70.30 309**	*e*P	**P**	**19 27 11.5**	**-0.6**
	comp=Z,9.4nm,0.6s,mb4.6					
PGF		*e*pP	pP		19 27 28.1	-0.6
PGF	**Pioggiola**	**70.30 309**	*e*P	**P**	**19 27 11.5**	**-0.6**
PGF		*e**PP	pP		19 27 28.1	-0.6
PGF		pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6					
PGF	**Pioggiola**	**70.30 309**	*e*P	**P**	**19 27 11.5**	**-0.6**
	comp=Z,4.7nm,0.6s,mb4.6					
PGF		*e*pP	pP		19 27 28.1	-0.6
HAU	**Haudompre**	**70.62 315**	*e*P	**P**	**19 27 14.2**	**+0.2**
SBF	**Sospel**	**71.03 310**	*e*P	**P**	**19 27 15.7**	**-0.8**
LPG	**La Plagne**	**71.04 312**	*e*P	**P**	**19 27 16.5**	**-0.1**
	comp=Z,7.2nm,0.6s,mb4.5					
LPG		*e*pP	pP		19 27 33.0	-0.3
LPG	**La Plagne**	**71.04 312**	*e*P	**P**	**19 27 16.5**	**-0.1**
LPG		*e**PP	pP		19 27 33.0	-0.3
LPG		pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5					
LPG	**La Plagne**	**71.04 312**	*e*P	**P**	**19 27 16.5**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.5					
LPG		*e*pP	pP		19 27 33.0	-0.3
LPL	**La Plagne**	**71.05 312**	*e*P	**P**	**19 27 16.5**	**-0.1**
	comp=Z,12nm,0.6s,mb4.7					
LPL	**La Plagne**	**71.05 312**	*e*P	**P**	**19 27 16.5**	**-0.1**
LPL		pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7					
LPL	**La Plagne**	**71.05 312**	*e*P	**P**	**19 27 16.5**	**-0.1**
	comp=Z,5.9nm,0.6s,mb4.7					
CABF	**La Chapelle**	**71.17 313**	*e*P	**P**	**19 27 17.8**	**+0.4**
	comp=Z,7.7nm,0.6s,mb4.5					
CABF	**La Chapelle**	**71.17 313**	*e*P	**P**	**19 27 17.8**	**+0.4**
CABF		pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5					
CABF	**La Chapelle**	**71.17 313**	*e*P	**P**	**19 27 17.8**	**+0.4**
	comp=Z,3.8nm,0.6s,mb4.5					
MBDF	**Montbardon**	**71.25 311**	*e*P	**P**	**19 27 17.4**	**-0.4**
	comp=Z,7.1nm,0.6s,mb4.5					
MBDF	**Montbardon**	**71.25 311**	*e*P	**P**	**19 27 17.4**	**-0.4**
MBDF		pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5					
MBDF	**Montbardon**	**71.25 311**	*e*P	**P**	**19 27 17.4**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.5					
BAIF	**Baives**	**71.40 317**	*e*P	**P**	**19 27 18.2**	**-0.6**
BAIF		*e*pP	pP		19 27 34.9	-0.6
FRF	**La Foret Royal**	**71.67 310**	*e*P	**P**	**19 27 19.5**	**-0.9**
	comp=Z,7.9nm,0.7s,mb4.5					
FRF	**La Foret Royal**	**71.67 310**	*e*P	**P**	**19 27 19.5**	**-0.9**
FRF		pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5					
FRF	**La Foret Royal**	**71.67 310**	*e*P	**P**	**19 27 19.5**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.5					
ORIF	**Oris-en-Rattie**	**71.80 312**	*e*P	**P**	**19 27 21.5**	**+0.4**
LMR	**La Mourre**	**71.83 310**	*e*P	**P**	**19 27 20.5**	**-0.8**
SMRF	**Simiane la Rot**	**72.29 311**	*e*P	**P**	**19 27 23.6**	**-0.5**
SMRF		*e*pP	pP		19 27 40.2	-0.6
LOR	**Lormes**	**72.44 314**	*e*P	**P**	**19 27 23.9**	**-1.1**
VIVF	**Saint-Julien-l**	**72.64 312**	*e*P	**P**	**19 27 25.3**	**-0.8**
	comp=Z,8.3nm,0.8s,mb4.4					
VIVF	**Saint-Julien-l**	**72.64 312**	*e*P	**P**	**19 27 25.3**	**-0.8**
VIVF		pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4					
VIVF	**Saint-Julien-l**	**72.64 312**	*e*P	**P**	**19 27 25.3**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.4					
SMF	**Signal de Mont**	**72.64 314**	*e*P	**P**	**19 27 25.3**	**-0.9**
	comp=Z,20nm,0.9s,mb4.8					
SMF		*e*pP	pP		19 27 42.0	-0.9
SMF	**Signal de Mont**	**72.64 314**	*e*P	**P**	**19 27 25.3**	**-0.9**
SMF		*e**PP	pP		19 27 42.0	-0.9
SMF		pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8					
SMF	**Signal de Mont**	**72.64 314**	*e*P	**P**	**19 27 25.3**	**-0.9**
	comp=Z,10nm,0.9s,mb4.8					
SMF		*e*pP	pP		19 27 42.0	-0.9
SSF	**Saint Saulge**	**72.74 314**	*e*P	**P**	**19 27 25.9**	**-0.8**
	comp=Z,18nm,1.0s,mb4.7					
SSF		*e*pP	pP		19 27 42.5	-1.0
SSF	**Saint Saulge**	**72.74 314**	*e*P	**P**	**19 27 25.9**	**-0.8**
SSF		*e**PP	pP		19 27 42.5	-1.0
SSF		pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7					
SSF	**Saint Saulge**	**72.74 314**	*e*P	**P**	**19 27 25.9**	**-0.8**
	comp=Z,9.1nm,1.0s,mb4.7					
SSF		*e*pP	pP		19 27 42.5	-1.0
ADE	**Adelaide**	**72.88 143**	P	**P**	**19 27 33.4**	**+5.8**
AVF	**Avril sur Loir**	**72.92 314**	*e*P	**P**	**19 27 27.0**	**-0.8**
	comp=Z,12nm,1.0s,mb4.5					
AVF	**Avril sur Loir**	**72.92 314**	*e*P	**P**	**19 27 27.0**	**-0.8**
AVF		pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5					
AVF	**Avril sur Loir**	**72.92 314**	*e*P	**P**	**19 27 27.0**	**-0.8**
	comp=Z,6.2nm,1.0s,mb4.5					
BGF	**Bois d'Agland**	**73.32 314**	*e*P	**P**	**19 27 29.3**	**-0.9**
LASF	**Ste Croix**	**73.44 311**	*e*P	**P**	**19 27 30.6**	**-0.2**
	comp=Z,7.6nm,0.8s,mb4.4					
LASF		*e*pP	pP		19 27 47.2	-0.4
TCF	**Toulx Ste Croi**	**73.83 314**	*e*P	**P**	**19 27 32.8**	**-0.3**
	comp=Z,13nm,0.8s,mb4.6					
TCF		*e*pP	pP		19 27 49.3	-0.6
TCF	**Toulx Ste Croi**	**73.83 314**	*e*P	**P**	**19 27 32.8**	**-0.3**
TCF		*e**PP	pP		19 27 49.3	-0.6
TCF		pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6					
TCF	**Toulx Ste Croi**	**73.83 314**	*e*P	**P**	**19 27 32.8**	**-0.3**
	comp=Z,6.4nm,0.8s,mb4.6					
TCF		*e*pP	pP		19 27 49.3	-0.6
CAF	**Calviac**	**74.37 313**	*e*P	**P**	**19 27 36.1**	**-0.2**
	comp=Z,9.0nm,0.8s,mb4.4					
CAF	**Calviac**	**74.37 313**	*e*P	**P**	**19 27 36.1**	**-0.2**
CAF		pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5					
CAF	**Calviac**	**74.37 313**	*e*P	**P**	**19 27 36.1**	**-0.2**
	comp=Z,4.5nm,0.8s,mb4.5					
LDF	**La Druitiere**	**74.55 317**	*e*P	**P**	**19 27 36.2**	**-1.2**
	comp=Z,59nm,1.3s,mb5.0					
LDF		*e*pP	pP		19 27 53.3	-0.9
LDF	**La Druitiere**	**74.55 317**	*e*P	**P**	**19 27 36.2**	**-1.2**
LDF		*e**PP	pP		19 27 53.3	-0.9
LDF		pmax	pmax			
	comp=Z,30nm,1.3s,mb5.1					
LDF	**La Druitiere**	**74.55 317**	*e*P	**P**	**19 27 36.2**	**-1.2**
	comp=Z,30nm,1.3s,mb5.1					
LDF		*e*pP	pP		19 27 53.3	-0.9
RJF	**Les Rejaudoux**	**74.61 313**	*e*P	**P**	**19 27 37.8**	**+0.1**
	comp=Z,20nm,1.0s,mb4.7					
RJF		*e*pP	pP		19 27 54.3	-0.2
RJF	**Les Rejaudoux**	**74.61 313**	*e*P	**P**	**19 27 37.8**	**+0.1**
RJF		*e**PP	pP		19 27 54.3	-0.2
RJF		pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.7					
RJF	**Les Rejaudoux**	**74.61 313**	*e*P	**P**	**19 27 37.8**	**+0.1**
	comp=Z,10nm,1.0s,mb4.7					
RJF		*e*pP	pP		19 27 54.3	-0.2
FLN	**La Foliniere**	**74.72 317**	*e*P	**P**	**19 27 37.4**	**-0.9**
MTLF	**Montolieu**	**74.80 311**	*e*P	**P**	**19 27 38.2**	**-0.6**
	comp=Z,4.9nm,0.6s,mb4.3					
MTLF		*e*pP	pP		19 27 55.0	-0.6
MTLF	**Montolieu**	**74.80 311**	*e*P	**P**	**19 27 38.2**	**-0.6**
MTLF		*e**PP	pP		19 27 55.0	-0.6
MTLF		pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2					
MTLF	**Montolieu**	**74.80 311**	*e*P	**P**	**19 27 38.2**	**-0.6**
	comp=Z,2.5nm,0.6s,mb4.3					
MTLF		*e*pP	pP		19 27 55.0	-0.6
GRR	**Gorron**	**75.08 317**	*e*P	**P**	**19 27 39.5**	**-0.9**
LFF	**La Frestale**	**75.25 313**	*e*P	**P**	**19 27 41.2**	**-0.2**
	comp=Z,8.5nm,0.5s,mb4.6					
LFF	**La Frestale**	**75.25 313**	*e*P	**P**	**19 27 41.2**	**-0.2**
LFF		pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.6					
LFF	**La Frestale**	**75.25 313**	*e*P	**P**	**19 27 41.2**	**-0.2**
	comp=Z,4.3nm,0.5s,mb4.6					
MFF	**Saint Martin d**	**75.25 315**	*e*P	**P**	**19 27 40.6**	**-0.8**
LSZ	**Lusaka**	**75.69 246**	*e*P	**P**	**19 27 45.5**	**+1.6**
LSZ		pmax	pmax			
	comp=Z,26nm,1.1s,mb5.1					
LSZ	**Lusaka**	**75.69 246**	*e*P	**P**	**19 27 45.5**	**+1.6**
	comp=Z,26nm,1.1s,mb5.1					
SGMF	**Saint Gilles**	**76.19 317**	*e*P	**P**	**19 27 46.3**	**-0.5**
	comp=Z,9.6nm,0.8s,mb4.5					
SGMF		*e*pP	pP		19 28 03.1	-0.5
SGMF	**Saint Gilles**	**76.19 317**	*e*P	**P**	**19 27 46.3**	**-0.5**
SGMF		*e**PP	pP		19 28 03.1	-0.5
SGMF		pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5					
SGMF	**Saint Gilles**	**76.19 317**	*e*P	**P**	**19 27 46.3**	**-0.5**
	comp=Z,4.8nm,0.8s,mb4.5					
SGMF		*e*pP	pP		19 28 03.1	-0.5
ROSF	**Rostrenen**	**76.60 317**	*e*P	**P**	**19 27 48.5**	**-0.6**
QUIF	**Quistinic**	**76.69 317**	*e*P	**P**	**19 27 48.7**	**-0.9**
ETSF	**Etsaut**	**76.86 311**	*e*P	**P**	**19 27 50.5**	**0.0**
	comp=Z,6.0nm,0.4s,mb4.5					
ETSF		*e*pP	pP		19 28 07.2	-0.2
SJPF	**Ste Jean**	**77.23 312**	*e*P	**P**	**19 27 52.7**	**+0.1**
ARMA	**Armidale**	**77.72 132**	*e*P	**P**	**19 27 52.8**	**-2.6**
SUMG	**Summit**	**77.75 347**	*e*P	**P**	**19 27 55.6**	**+0.1**
	comp=Z,5.1nm,0.6s,mb4.6					
COLA	**College**	**78.73 23**⇑*i*P		**P**	**19 28 00.2**	**-0.7**
SML	**Sawmill**	**80.32 25**	*e*P	**P**	**19 28 08.6**	**-1.0**
ESDC	**Sonseca Array**	**80.47 309**	P	**P**	**19 28 11.3**	**+0.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=42,slow=8.4,SNR=4.8					
ESDC		pP	pP		19 28 26.7	-0.7
	comp=Z,0.8nm,0.5s,baz=56,slow=4.7,SNR=4.0					
KDAK	**Kodiak Island**	**80.77 30**	P	**P**	**19 28 10.1**	**-1.9**
	comp=Z,3.4nm,0.5s,mb4.5,baz=265,slow=6.5,SNR=3.4					
INK	**Inuvik**	**80.79 16**	P	**P**	**19 28 10.2**	**-1.9**
	comp=Z,4.0nm,0.6s,mb4.5,baz=331,slow=4.8,SNR=7.5					
DAWY	**Dawson**	**82.09 21**	*e*P	**P**	**19 28 18.4**	**-0.5**
DAWY		*e*pP	pP		19 28 34.0	-2.0
LBTB	**Lobatse**	**82.81 238**	*e*P	**P**	**19 28 24.0**	**+1.3**
LBTB		pmax	pmax			
	comp=Z,21nm,0.7s,mb5.3					
LBTB	**Lobatse**	**82.81 238**	*e*P	**P**	**19 28 24.0**	**+1.4**
	comp=Z,21nm,0.7s,mb5.3					
SFJD	**Kangerlussuaq**	**84.75 347**	P	**P**	**19 28 31.4**	**-1.2**
	comp=Z,6.2nm,0.7s,mb4.9,baz=81,slow=8.5,SNR=3.2					
BOSA	**Boshof**	**84.94 235**	P	**P**	**19 28 34.3**	**+0.7**
	comp=Z,17nm,0.8s,mb5.3,baz=49,slow=4.0,SNR=25					
BOSA		pP	pP		19 28 50.8	+0.1
	comp=Z,7.0nm,0.6s,baz=42,slow=6.1,SNR=3.9					
TORD	**Torodi Ar. Bea**	**86.83 283**	P	**P**	**19 28 43.7**	**+0.8**
	comp=Z,2.1nm,0.7s,mb4.5,baz=68,slow=4.0,SNR=10					
TORD		pP	pP		19 29 00.2	+0.2
	comp=Z,4.6nm,0.9s,baz=72,slow=4.0,SNR=10					
TORD		PP	PP		19 32 05.2	-1.0
	comp=Z,2.5nm,1.0s,baz=60,slow=7.6,SNR=4.9					
TORD	**Torodi Ar. Bea**	**86.83 283**	P	**P**	**19 28 43.7**	**+0.8**
TORD		pP	pP		19 29 00.2	+0.2
TORD		PP	PP		19 32 05.2	-1.0
YKA	**Yellowknife Ar**	**90.01 13**	P	**P**	**19 29 01.0**	**+3.1**
	comp=Z,0.7nm,0.3s,mb4.4,baz=339,slow=5.3,SNR=8.5					
YKA	**Yellowknife Ar**	**90.01 13**	P	**P**	**19 29 01.0**	**+3.1**
DBIC	**Dimbokro**	**95.40 280**	P	**P**	**19 29 23.5**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.7,baz=28,slow=9.7,SNR=5.5					
BDFB	**Brasilia**	**143.50 277**	PKP	PKPdf	19 35 30.5	-2.3
	comp=Z,1.8nm,0.5s,baz=194,slow=10,SNR=3.4					
ROSC	**El Rosal**	**148.48 338**	PKPbc	PKPbc	19 35 44.6	-0.3
	comp=Z,34nm,0.9s,baz=159,slow=3.7,SNR=14					
CPUP	**Villa Florida**	**154.30 260**	PKPbc	PKPbc	19 35 57.8	-0.5
	comp=Z,1.8nm,0.6s,baz=69,slow=1.5,SNR=7.7					
CPUP		PKPab	PKPab		19 36 14.8	+2.2
	comp=Z,0.8nm,0.4s,baz=41,slow=3.9,SNR=5.5					
LPAZ	**La Paz**	**161.44 294**	PKP	PKPdf	19 35 58.8	-0.1
	comp=Z,1.2nm,0.8s,baz=21,slow=4.1,SNR=6.3					

*IDC **22** 19:17:55.7±2.1, 803S×12958E, h0km, mb3.8/1, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, ML3.8/3, MS4.2/1, Ms1 4.2/1, ms1mx2.8/26, Error ellipse: s-maj=60.2km s-min=24.1km az=78.0*

*ISCJB **22** 19:17:57.8±2.4, 78S±02×1293E±01, h111km±36km, mb3.6/1, Error ellipse: s-maj=25.7km s-min=20.5km az=167.2*

*NEIC **22** 19:18:08.6±2.8, 848S×12939E, h118km±30km, mb4.5/3, Error ellipse: s-maj=27.3km s-min=25.0km az=56.0*

ISC 22 19:18:01.3±2.6, 79S±01×1294E±01, h104km±37km, n12, σ1§13/15, mb3.6/1, Banda Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.63 148**	*e*P	**Pn**	**19 19 23.4**	**+0.9**
	3.7nm,0.1s					
KAKA			*e*S	**Sn**	**19 20 30.5**	**+4.7**
FITZ	**Fitzroy Crossi**	**10.77 200**	*e*P	**Pn**	**19 20 32.3**	**0.0**
	3.5nm,0.3s					
FITZ			*e*S	**Sn**	**19 22 30.8**	**0.0**
FITZ	**Fitzroy Crossi**	**10.77 200**	Pn	**Pn**	**19 20 31.7**	**-0.6**
	0.7nm,0.3s,baz=56,slow=11,SNR=28					
FITZ			Sn	**Sn**	**19 22 31.2**	**+0.4**
	1.3nm,0.3s,baz=258,slow=12,SNR=7.6					
WRAB	**Tennant Creek**	**12.88 159**	*e*P	**Pn**	**19 20 57.5**	**-2.8**
	2.6nm,0.3s					
WRA	**Warramunga Arr**	**12.88 159**	Pn	**Pn**	**19 20 57.5**	**-2.9**
	0.4nm,0.3s,baz=342,slow=13,SNR=24					
WRA			Sn	**Sn**	**19 23 21.7**	**-0.3**
	1.1nm,0.3s,baz=337,slow=23,SNR=20					
WB2	**Warramunga Arr**	**12.88 159**	*e*P	**Pn**	**19 21 00.3**	**-0.1**
AS31	**Alice Springs**	**16.25 165**	*e*P	**Pn**	**19 21 43.5**	**+0.2**
ASAR	**Alice Springs**	**16.25 165**	Pn	**Pn**	**19 21 43.5**	**+0.2**
	0.4nm,0.3s,baz=341,slow=8.4,SNR=28					
ASAR			Sn	**Sn**	**19 24 43.8**	**+0.4**
	0.3nm,0.3s,baz=345,slow=25,SNR=7.3					
ASPA	**Alice Springs**	**16.25 165**	*e*P	**Pn**	**19 21 43.5**	**+0.2**
TGY	**Tagaytay City**	**23.43 339**	LR	LR	19 32 23.5	
	comp=Z,5.9nm,19.3s,baz=272,slow=37					
MKAR	**Makanchi Array**	**68.66 327**	P	**P**	**19 29 02.1**	**+8.8**
	0.9nm,0.9s,mb3.6,baz=126,slow=6.2,SNR=3.6					
BRTR	**Keskin Array B**	**99.43 309**	LR	LR	20 25 31.3	
	comp=Z,102nm,20.7s,baz=5.7,slow=41					

*BJI **22** 19:20:44.9, 393S×12796E, h24km, mB5.5, mb5.6, Ms4.9, Msz4.6*

*ISCJB **22** 19:20:52.1±0.2, 296S±002×12732E±004, h13km, mb5.3/90, MS4.7/36, Error ellipse: s-maj=5.4km s-min=3.1km az=143.0*

*IDC **22** 19:20:53.4±1.6, 307S×127.15E, h13km±8km, mb4.9/21, mb1 5.0/24, mb1mx4.9/28, mbtmp5.0/24, ML5.4/2, MS4.8/11, Ms1 4.7/11, ms1mx4.3/25, Error ellipse: s-maj=15.9km s-min=7.7km az=69.0*

*MOS **22** 19:20:54.4±0.9, 302S×127.16E, h33km, mb5.7/29, Error ellipse: s-maj=14.2km s-min=6.0km az=107.3*

*HRVD **22** 19:20:55.4±0.2, 293S×127.19E, h12km, MW5.4/61, Centroid moment Tensor Solution. LP body waves: s61,c85;Mantle waves: s61,c86; Half duration: 1§4 Moment tensor: Scale 1017Nm; Mrr0.18±.02; Mθθ-0.01±.01; Mφφ-0.17±.02; Mrθ-1.16±.03; Mθφ0.27±.01; Mφr0.73±.03; Best double couple: M0 1.40300×1017 NP1:φs180.00000°, δ9.00000°, λ148.00000°. NP2: φs302.00000°, δ85.00000°, λ82.00000°. Principal axes: T 1.3440, Plg49.0000°, Azm203.0000°; N 0.1170, Plg8.0000°, Azm302.0000°; P -1.4610, Plg40.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **22** 19:20:55.4±1.5, 304S×12720E, h25km±11km, mb5.3/33, MS4.9/1 Error ellipse: s-maj=6.8km s-min=3.8km az=67.0*

NEIC Felt [III] at Namlea, Buru.

ISC 22 19:20:54.3±0.9, 300S±002×12737E±004, h16km±5km, h14km±2.1km: pP-P, n290, σ1§18/259, mb5.3/90, MS4.7/36, 17C-15D, Ceram Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**7.80 285**	P	**Pn**	**19 22 47.6**	**+0.5**
	724nm,1.1s					
KAPI	**Kappang**	**7.86 255**	Pn	**Pn**	**19 22 48.9**	**+1.1**
	1μm,0.9s,SNR=18					
WSI	**Waingapu**	**9.66 226**	P	**Pn**	**19 23 23.1**	**+11**
	937nm,1.6s					
DAV	**Davao City (W)**	**10.16 350**	P	**Pn**	**19 23 19.6**	**+0.3**
	SNR=11					
DAV	**Davao City (W)**	**10.16 350**	P	**Pn**	**19 23 19.6**	**+0.3**
	SNR=11					
DAV	**Davao City (W)**	**10.16 350**	P	**Pn**	**19 23 19.6**	**+0.3**
	SNR=11					
DAV	**Davao City (W)**	**10.16 350**	P	**Pn**	**19 23 19.6**	**+0.3**
	SNR=11					
DAV	**Davao City (W)**	**10.16 350**	*e*Pn	**Pn**	**19 23 19.0**	**-0.4**
CTBH	**Cotabato--PC H**	**10.62 343**	*e*P	**Pn**	**19 23 25.0**	**-0.7**
KAKA	**Kakadu**	**10.88 153**	*e*P	**Pn**	**19 23 32.1**	**+2.8**
	176nm,0.6s		

comp=Z,14nm,0.7s,baz=351,slow=2.2,SNR=22
ASAR Alice Springs 21.50 163 P **P** **19 25 43.0 +0.7**
ASAR S **S** **19 29 38.7 -1.4**
ASPA Alice Springs 21.50 163 *e*P **P** **19 25 42.8 +0.5**
ASPA *e*S **S** **19 29 39.2 -0.9**
ASPA *e*SCP ScP 19 33 21.3 +0.2
KLI Kotabumi 22.53 265 P **P** **19 25 57.3 +4.0**
comp=Z,223nm,0.6s,mb5.8
GUMO Guam 23.94 46 LR LR 19 34 51.1
comp=Z,919nm,18.9s,MS4.3,baz=329,slow=35
KGM Kluang 24.55 281 P **P** **19 26 11.6 -1.6**
KSI Kapahiang 24.74 268 P **P** **19 26 22.8 +7.9**
comp=Z,136nm,0.8s,mb5.5
CTA Charters Tower 25.07 134 *e*P **P** **19 26 19.9 +2.0**
comp=Z,29nm,0.9s,mb4.8
CTA *e*SCP ScP 19 33 32.6 +2.0
CTA Charters Tower 25.07 134 P **P** **19 26 19.3 +1.4**
comp=Z,25nm,0.9s,mb4.8,baz=321,slow=12,SNR=14
CTA ScP ScP 19 33 32.0 +1.4
comp=Z,15nm,0.8s,baz=294,slow=3.0,SNR=7.4
CTA Charters Tower 25.07 134 *e*P **P** **19 26 19.9 +2.0**
CTA pmax pmax
comp=Z,29nm,0.9s
CTAO Charters Tower 25.07 134 *e*P **P** **19 26 19.7 +1.8**
CTAO pmax pmax
comp=Z,46nm,0.9s,mb5.0
CTAO Charters Tower 25.07 134 *e*P **P** **19 26 19.7 +1.9**
comp=Z,46nm,0.9s,mb5.0
PPI Padang Panjang 27.07 275 P **P** **19 26 38.0 +2.0**
comp=Z,80nm,0.7s,mb5.4
IPM Ipoh 27.35 286 P **P** **19 26 41.9 +3.5**
QIZ Qiongzhong 27.86 322 P **P** **19 26 40.8 -2.3**
QIZ S **S** **19 31 25.9 +0.2**
QIZ AMB AMB
comp=Z,80nm,1.4s,mb5.2
QIZ LR LR
comp=N,1μm,15.6s
QIZ LR LR
comp=Z,790nm,11.8s,MS4.5
QIZ Qiongzhong 27.86 322 *e*P **P** **19 26 44.1 +1.1**
comp=Z,107nm,1.1s,mb5.4
KULM Kulim 27.93 287 *e*P **P** **19 26 44.9 +1.2**
YHNB Yeheng 28.11 348 *e*P **P** **19 26 44.5 -0.7**
PSI Prapat 29.01 281 P **P** **19 26 53.1 -0.2**
comp=Z,14nm,0.8s,mb4.7,baz=81,slow=5.7,SNR=11
PSI ScP ScP 19 33 42.6 +0.2
comp=Z,7.3nm,0.8s,baz=206,slow=6.1,SNR=5.9
QZH Quanzhou 29.05 343 ⇓*i*P **P** **19 26 54.9 +1.3**
QZH S **S** **19 31 46.0 +1.6**
QZH AMB AMB
comp=Z,360nm,0.8s,mb6.2
QZH AMB AMB
comp=Z,1μm,4.3s
QZH LR LR
comp=N,1μm,9.3s
QZH LR LR
comp=E,830nm,9.7s
QZH LR LR
comp=Z,2μm,11.5s,MS4.8
GZH Guangzhou 29.31 333 P **P** **19 26 58.9 +2.9**
GZH S **S** **19 31 54.9 +6.4**
GZH AMB AMB
comp=Z,160nm,1.1s,mb5.7
GZH LR LR
comp=N,820nm,14.0s,MS4.6
GZH LR LR
comp=E,410nm,10.4s,MS4.6
JOW Kunigami 29.66 2 P **P** **19 26 59.8 +0.7**
comp=E,70nm,0.8s,mb5.4,baz=192,slow=7.8,SNR=20
JOW LR LR 19 38 19.1
comp=E,2μm,19.4s,MS4.7,baz=300,slow=35
KLBR Kellerberrin 29.85 197 *e*P **P** **19 27 00.0 -0.8**
comp=E,34nm,1.2s,mb5.0
NWAO Narrogin (SRO) 31.25 197 P **P** **19 27 12.7 -0.5**
comp=E,17nm,0.7s,mb5.0,baz=44,slow=5.7,SNR=7.0
NWAO LR LR 19 40 35.5
comp=E,989nm,19.2s,MS4.5,baz=14,slow=38
STKA Stephens Creek 31.70 157 *e*P **P** **19 27 14.3 -2.8**
comp=E,11nm,0.5s,mb4.9
STKA *e*PCP PcP 19 30 05.8 -2.8
STKA *e*SCP ScP 19 33 48.6 -2.6
STKA Stephens Creek 31.70 157 P **P** **19 27 14.4 -2.6**
comp=E,14nm,0.6s,mb5.0,baz=325,slow=8.7,SNR=40
STKA ScP ScP 19 33 48.4 -2.8
comp=E,9.9nm,0.8s,baz=341,slow=6.1,SNR=4.5
STKA LR LR 19 41 12.6
comp=E,2μm,18.7s,MS4.9,baz=327,slow=38
CBIJ Chichi jima 33.16 25 P **P** **19 27 28.6 -1.3**
comp=E,98nm,1.0s,mb5.7,baz=245,slow=5.4,SNR=9.3
SSE Sheshan 34.41 351 *e*P **P** **19 27 42.3 +1.6**
SSE AP pP 19 27 45.4 -0.3
SSE PP PP 19 28 59.9 +1.2
SSE PCP PcP 19 30 16.4 +0.3
SSE S **S** **19 33 11.3 +3.3**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,300nm,12.0s
SSE LR LR
comp=N,260nm,21.9s,MS4.3
SSE LR LR
comp=E,630nm,21.9s,MS4.3
SSE LR LR
comp=Z,540nm,19.6s,MS4.3
GYA Guiyang 35.47 327 P **P** **19 27 51.5 +1.6**
GYA AP pP 19 27 55.8 +1.0
GYA XP sP 19 27 58.9 +2.1
GYA PP PP 19 29 10.5 +0.1
GYA S **S** **19 33 25.0 +0.6**
GYA AMB AMB
comp=Z,120nm,1.3s,mb5.7
GYA AMB AMB
comp=Z,500nm,3.4s
GYA LR LR
comp=N,860nm,16.0s,MS4.7
GYA LR LR
comp=E,390nm,15.6s,MS4.7
GYA LR LR
comp=Z,460nm,16.4s,MS4.3
WHN Wuhan 35.59 340 ⇑*i*P **P** **19 27 53.4 +2.5**
WHN S **S** **19 33 28.8 +2.6**
WHN AMB AMB
comp=Z,760nm,1.2s
WHN LR LR
comp=Z,1μm,14.0s,MS4.8
NJ2 Nanjing 35.78 348 *e*P **P** **19 27 54.3 +1.8**
NJ2 AP pP 19 27 58.1 +0.6
NJ2 XP sP 19 28 01.6 +2.1
NJ2 PP PP 19 29 15.0 +1.1
NJ2 S **S** **19 33 32.0 +2.9**
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,300nm,10.2s
NJ2 LR LR
comp=N,1μm,22.0s,MS4.7
NJ2 LR LR
comp=E,1μm,27.0s,MS4.7
NJ2 LR LR
comp=Z,300nm,23.7s,MS4.0
KMI Kunming 36.77 321 P **P** **19 28 03.3 +2.3**
KMI AP pP 19 28 05.1 -0.9
KMI PP PP 19 29 28.0 +3.2
KMI S **S** **19 33 46.5 +2.2**
KMI SCS ScS 19 38 15.9 -0.2
KMI AMB AMB
comp=Z,80nm,1.2s,mb5.4
KMI AMB AMB
comp=Z,480nm,3.5s
KMI LR LR
comp=N,420nm,16.0s,MS4.6
KMI LR LR
comp=E,650nm,13.8s,MS4.6
KMI LR LR
comp=Z,620nm,17.0s,MS4.5
CNB Canberra Magne 38.08 150 *e*P **P** **19 28 13.9 +1.8**
comp=Z,30nm,1.1s,mb4.9
TOO Toolangi 38.22 156 *e*P **P** **19 28 14.1 +0.8**
comp=Z,18nm,1.1s,mb4.7
TOO Toolangi 38.22 156 *e*P **P** **19 28 14.1 +0.8**
TOO pmax pmax
comp=Z,18nm,1.1s,mb4.7
TIA Tai'an 40.16 347 *e*P **P** **19 28 29.0 -0.5**
KS15 Wonju Array Si 40.23 1 *e*P **P** **19 28 31.0 +0.8**
INCN Inchon 40.28 359 P **P** **19 28 31.6 +1.1**
SNR=11
INCN Inchon 40.28 359 P **P** **19 28 31.6 +1.1**
SNR=11
INCN Inchon 40.28 359 *e*P **P** **19 28 30.9 +0.4**
comp=Z,91nm,1.0s,mb5.5
CD2 Chengdu 40.54 328 P **P** **19 28 32.8 +0.2**
CD2 AP pP 19 28 37.3 -0.3
CD2 PP PP 19 30 11.3 +5.3
CD2 S **S** **19 34 40.3 -0.8**
CD2 SCS ScS 19 38 35.8 -2.1
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,240nm,6.3s
CD2 LR LR
comp=N,410nm,13.2s
CD2 LR LR
comp=Z,320nm,13.8s,MS4.3
MAJO Matsushiro 40.61 13 *e*P **P** **19 28 32.5 -0.8**
MAJO pmax pmax
comp=Z,64nm,0.9s,mb5.2
MAJO Matsushiro 40.61 13 *e*P **P** **19 28 32.5 -0.8**
comp=Z,64nm,0.9s,mb5.2
MAT Matsushiro 40.61 13 P **P** **19 28 32.3 -1.0**
MAT S **S** **19 34 42.0 -0.3**
MJAR Matsushiro Arr 40.61 13 P **P** **19 28 32.3 -1.0**
comp=Z,46nm,1.0s,mb5.1,baz=183,slow=9.6,SNR=77
MJAR ScP ScP 19 34 24.9 +1.0
comp=Z,5.5nm,1.1s,baz=202,slow=4.3,SNR=10.0
XAN Xi'an 40.73 336 P **P** **19 28 34.3 0.0**
XAN S **S** **19 34 39.3 -4.7**
XAN AMB AMB
comp=Z,130nm,1.1s,mb5.5
XAN AMB AMB
comp=Z,240nm,4.4s
XAN LR LR
comp=N,250nm,15.2s,MS4.4
XAN LR LR
comp=E,360nm,15.7s,MS4.4
XAN LR LR
comp=Z,500nm,17.2s,MS4.4
DL2 Dalian 42.03 353 P **P** **19 28 43.8 -1.1**
DL2 S **S** **19 35 03.3 +0.1**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb4.9
DL2 AMB AMB
comp=Z,150nm,6.8s
DL2 LR LR
comp=N,370nm,16.2s,MS4.5
DL2 LR LR
comp=E,170nm,12.1s,MS4.5
DL2 LR LR
comp=Z,460nm,17.4s
DZM Mont Dzumac 42.40 120 P **P** **19 28 49.2 +1.3**
comp=Z,9.0nm,0.7s,mb4.5,baz=123,slow=20,SNR=5.0
BJT Baijiatuau 44.02 348 *e*P **P** **19 29 00.5 -0.5**
BJT pmax pmax
comp=Z,194nm,1.3s
BJT Baijiatuau 44.02 348 *e*P **P** **19 29 00.5 -0.5**
comp=Z,194nm,1.3s,mb5.7
LZH Lanzhou 44.66 333 ⇓P **P** **19 29 07.6 +1.4**
LZH AP pP 19 29 10.1 -1.1
LZH PP PP 19 30 53.3 +2.9
LZH *e*S **S** **19 35 42.1 +0.3**
LZH AMB AMB
comp=Z,360nm,1.4s,mb6.0
LZH AMB AMB
comp=Z,1μm,4.0s
LZH LR LR
comp=N,3μm,10.3s
LZH LR LR
comp=Z,3μm,11.0s,MS5.5
SNY Shenyang 44.74 356 ⇓P **P** **19 29 06.3 -0.5**
SNY AP pP 19 29 19.0 +7.2
SNY S **S** **19 35 40.6 -2.4**
SNY XS sS 19 36 01.6 +10
SNY AMB AMB
comp=Z,60nm,1.1s,mb5.3
SNY LR LR
comp=N,760nm,12.0s
SNY LR LR
comp=E,630nm,23.4s
SNY LR LR
comp=Z,610nm,21.6s
HHC Hu-ho-hao-te 45.96 343 ⇓P **P** **19 29 17.1 +0.6**
HHC AP pP 19 29 23.1 +1.6
HHC XP sP 19 29 30.1 +6.6
HHC PP PP 19 31 03.5 -0.7
HHC SCS ScS 19 39 10.0 -1.7
HHC AMB AMB
comp=Z,60nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,400nm,4.3s
HHC LR LR
comp=N,320nm,17.8s,MS4.5
HHC LR LR
comp=E,410nm,15.5s,MS4.5
HHC LR LR
comp=Z,470nm,19.0s,MS4.5
VLA Vladivostok 46.08 5*c i*P **P** **19 29 17.9 +0.5**
VLA *e* 19 30 54.0
VLA S **S** **19 36 06.0 +3.6**
VLA pmax pmax
comp=Z,189nm,1.5s,mb5.8
VLA MLR MLR
comp=Z,500nm,16.5s,MS4.5
VLA Vladivostok 46.08 5⇑*i*P **P** **19 29 17.7 +0.3**
CN2 Changchun 46.62 358 *e*P **P** **19 29 20.9 -0.7**
CN2 *e*S **S** **19 36 12.6 +2.6**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.9
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,20.0s,MS4.7
CN2 LR LR
comp=E,500nm,20.0s,MS4.7
CN2 LR LR
comp=Z,700nm,19.0s,MS4.6
ERM Erimo 47.04 16⇑*i*P **P** **19 29 24.1 -0.8**
MDJ Mudanjiang 47.44 2 P **P** **19 29 29.1 +1.1**
MDJ SS SS 19 39 47.9 -1.6
MDJ AMB AMB
comp=Z,110nm,1.2s,mb5.7
MDJ AMB AMB
comp=Z,230nm,5.7s
MDJ LR LR
comp=N,510nm,23.9s,MS4.4
MDJ LR LR
comp=E,90nm,22.5s,MS4.4
MDJ LR LR
comp=Z,650nm,23.9s,MS4.5
MDJ Mudanjiang 47.44 2 *e*P **P** **19 29 28.2 +0.2**
comp=Z,129nm,1.1s,mb5.8
LSA Lhasa 47.51 316 P **P** **19 29 27.9 -0.7**
LSA SS SS 19 39 47.0 -3.6
LSA LR LR
comp=N,340nm,20.8s,MS4.6
LSA LR LR
comp=E,460nm,17.8s,MS4.6
LSA Lhasa 47.51 316 *e*P **P** **19 29 30.0 +1.4**
LSA pmax pmax
comp=Z,59nm,0.9s,mb5.6
LSA Lhasa 47.51 316 *e*P **P** **19 29 30.0 +1.4**
comp=Z,59nm,0.9s,mb5.6
ASAJ Asahikawa 48.85 15 P **P** **19 29 39.6 +0.7**
comp=Z,29nm,0.9s,mb5.3,baz=222,slow=11,SNR=29
ASAJ Asahikawa 48.85 15 P **P** **19 29 39.7 +0.8**
ASAJ pmax pmax
comp=Z,29nm,0.9s
GTA Gaotai 49.22 332 *e*P **P** **19 29 42.5 +0.7**
GTA AP pP 19 29 46.1 -0.8
GTA PCP PcP 19 31 04.3 -0.4
GTA PP PP 19 31 35.0 -0.6
GTA S **S** **19 36 45.3 -1.6**
GTA AMB AMB
comp=Z,60nm,1.1s,mb5.5
GTA AMB AMB
comp=Z,180nm,3.8s
GTA LR LR
comp=N,410nm,18.4s,MS4.7
GTA LR LR
comp=E,530nm,14.5s,MS4.7
GTA LR LR
comp=Z,610nm,17.6s,MS4.7
JIRN Jiri 50.00 310 *e*P **P** **19 29 48.5 +0.8**
comp=Z,101nm,1.1s,mb5.8
GUN Gumba 50.37 310 *e*P **P** **19 29 51.2 +0.7**
comp=Z,73nm,0.7s,mb5.8
PKI Pulchoki 50.55 310 *e*P **P** **19 29 52.4 +0.5**
comp=Z,66nm,1.1s,mb5.5
PKI Pulchoki 50.55 310 *e*P **P** **19 29 52.4 +0.5**
PKI pmax pmax
comp=Z,66nm,1.1s,mb5.5
KKN Kakani 50.76 310 *e*P **P** **19 29 53.4 -0.1**
comp=Z,58nm,0.9s,mb5.5
KKN Kakani 50.76 310 *e*P **P** **19 29 53.4 -0.1**
KKN pmax pmax
comp=Z,58nm,0.9s,mb5.5
DMN Daman 50.80 310 *e*P **P** **19 29 54.4 +0.6**
comp=Z,90nm,1.0s,mb5.7
GKN Gorkha 51.36 310 *e*P **P** **19 29 58.2 +0.2**
comp=Z,47nm,0.8s,mb5.5
YSS Yuzh-Sakhalins 51.55 13 P **P** **19 30 00.0 +0.6**
YSS *e*S **S** **19 37 21.0 +1.6**
YSS *e*PS 19 37 35.0
YSS MLR MLR
comp=Z,300nm,18.0s,MS4.4
YSS MLR MLR
comp=N,400nm,16.0s,MS4.6
YSS MLR MLR
comp=E,300nm,17.0s,MS4.6
YSS Yuzh-Sakhalins 51.55 13 *e*P **P** **19 29 59.9 +0.5**
comp=E,43nm,1.1s,mb5.3
HABR Khabarovsk 51.69 7⇓*i*P **P** **19 30 01.2 +0.7**
HABR *e*S **S** **19 37 23.7 +2.4**
HABR pmax pmax
comp=Z,233nm,1.5s,mb5.9
KOLN Koldanda 52.05 309 *e*P **P** **19 30 03.4 +0.3**
comp=Z,100nm,0.8s,mb5.8
KLR Kul'dur 52.15 4 *e*P **P** **19 30 00.0 -3.9**
KLR *e*S **S** **19 37 24.5 -3.1**
KLR pmax pmax
comp=E,30nm,1.4s
KLR pmax pmax
comp=Z,140nm,1.4s,mb5.7
KLR pmax pmax
comp=Z,900nm,9.0s
HIA Hailar 52.47 354 *e*P **P** **19 30 06.3 0.0**
HIA pmax pmax
comp=Z,79nm,1.6s
HIA Hailar 52.47 354 *e*P **P** **19 30 06.3 +0.1**
comp=Z,79nm,1.6s,mb5.4
ULN Ulaanbaatar 53.68 343 P **P** **19 30 15.7 +0.5**
SNR=76
ULN Ulaanbaatar 53.68 343 P **P** **19 30 15.7 +0.5**
SNR=76
ULN Ulaanbaatar 53.68 343 P **P** **19 30 15.7 +0.5**
SNR=76
ULN Ulaanbaatar 53.68 343 P **P** **19 30 15.7 +0.5**
SNR=76
ULN Ulaanbaatar 53.68 343 *e*P **P** **19 30 15.4 +0.2**
ULN Ulaanbaatar 53.68 343 *e*P **P** **19 30 15.3 +0.2**
SONM Songino Array 53.85 343 P **P** **19 30 16.5 +0.1**
comp=Z,74nm,1.0s,mb5.6,baz=157,slow=8.1,SNR=143
SONM ScP ScP 19 35 20.5 +1.2
comp=Z,0.4nm,0.4s,baz=169,slow=9.1,SNR=3.6
CIT Chita 56.05 350 *e*P **P** **19 30 32.5 +0.2**
CIT pmax pmax
comp=Z,114nm,2.0s,mb5.6
NDI New Delhi 57.49 307 *e*x x 19 30 40.0
TLY Talaya 58.09 343 P **P** **19 30 47.1 +0.3**
comp=Z,131nm,1.0s,mb5.9,SNR=13
TLY Talaya 58.09 343 P **P** **19 30 48.0 +1.3**
SNR=20
TLY Talaya 58.09 343 P **P** **19 30 48.0 +1.3**
SNR=20
TLY Talaya 58.09 343 P **P** **19 30 48.0 +1.3**
SNR=20
TLY Talaya 58.09 343 *e*P **P** **19 30 47.7 +0.9**
IRK Irkutsk 58.40 344 *e*P **P** **19 30 49.4 +0.4**
IRK *e* 19 32 54.5
IRK pmax pmax
comp=Z,72nm,2.2s,mb5.3
WMQ Urumqi 58.63 327 P **P** **19 30 51.6 +1.1**
WMQ XP sP 19 30 58.5 +0.9
WMQ PP PP 19 33 03.5 +3.3
WMQ S **S** **19 38 53.5 -0.7**
WMQ SCS ScS 19 40 37.4 -2.4
WMQ SS SS 19 42 47.8 +0.9
WMQ AMB AMB
comp=Z,50nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,290nm,4.5s
WMQ LR LR
comp=N,520nm,16.0s,MS4.8
WMQ LR LR
comp=E,380nm,16.0s,MS4.8
WMQ LR LR
comp=Z,310nm,21.0s,MS4.4
SKR Severo-Kuril's 58.87 21 *e*P **P** **19 30 44.0 -8.2**
SKR *e*S **S** **19 39 02.0 +4.7**
SKR *e*PS 19 39 24.0
SKR *e*SSS 19 45 16.0
SKR pmax pmax
comp=Z,1μm,8.0s
SKR smax
comp=N,900nm,8.0s
SKR smax
comp=E,900nm,8.0s
SKR MLR MLR
comp=N,900nm,16.0s,MS5.1
SKR MLR MLR
comp=E,900nm,16.0s,MS5.1
SKR MLR MLR
comp=Z,1μm,16.0s,MS5.0
MOY Mondy 58.89 341 *e*P **P** **19 30 52.9 +0.5**
MOY pmax pmax
comp=Z,90nm,1.7s,mb5.5
CLNS Chul'man 59.67 358 *e*P **P** **19 30 57.9 +0.2**
CLNS *e**PP pP 19 31 06.1 +3.2
CLNS *e* 19 31 44.6
CLNS *e*S **S** **19 38 55.2 -12**
CLNS *e* 19 40 36.4
CLNS pmax pmax
comp=Z,47nm,0.8s,mb5.6
CLNS pmax pmax
comp=N,37nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS smax
comp=N,222nm,11.9s
CLNS smax
comp=Z,208nm,11.8s
CLNS smax
comp=E,115nm,11.7s
CLNS MLR MLR
comp=N,800nm,20.0s,MS4.9
CLNS MLR MLR
comp=Z,800nm,20.0s,MS4.8
CLNS MLR MLR
comp=E,300nm,18.0s,MS4.9
BOD Bodaibo 61.57 352 *e*P **P** **19 31 10.9 +0.2**
BOD pmax pmax
comp=Z,82nm,0.9s,mb5.9
PET Petropavlovsk 61.70 21*de*P **P** **19 31 12.2 +0.6**
PET *e* 19 33 34.5
PET *i*S **S** **19 39 35.9 +2.4**
PET *e*PS 19 39 52.4
PET pmax pmax
comp=N,39nm,1.2s
PET pmax pmax
comp=E,17nm,1.0s
PET pmax pmax
comp=Z,70nm,1.1s,mb5.7
PET smax
comp=N,200nm,10.3s
PET smax
comp=E,100nm,4.3s
PET smax
comp=E,100nm,13.0s
PET MLR MLR
comp=Z,200nm,17.0s,MS4.3
PET Petropavlovsk 61.70 21 *e*P **P** **19 31 13.1 +1.6**
MKAR Makanchi Array 63.46 327 P **P** **19 31 22.7 -0.6**
comp=Z,16nm,0.7s,mb5.2,baz=127,slow=8.0,SNR=131
MKAR PKPPKP 20 00 21.7
comp=Z,0.2nm,0.5s,baz=9.5,slow=3.7,SNR=3.6
MKAR Makanchi Array 63.46 327 P **P** **19 31 22.7 -0.6**
MKAR P'P' 20 00 21.7
DRV Dumont d'Urvil 64.17 174 P **P** **19 31 30.0 +2.0**

DRV S S 19 40 04.0 -0.5
DRV L 19 47 00.0
DRV R 19 52 00.0
YAK Yakutsk 64.87 1 *e*P **P 19 31 32.3 -0.3**
YAK *e* 19 32 03.3
YAK *e* 19 33 58.5
YAK *e*PPP 19 35 33.3
YAK *e*S **S 19 40 11.1 -2.1**
YAK *e* 19 41 18.1
YAK *e*SS SS 19 44 28.2 +3.5
YAK pmax pmax
comp=Z,100nm,0.9s,mb5.8
YAK pmax pmax
comp=N,32nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax
comp=N,2.0nm,1.4s
YAK smax
comp=E,3.0nm,1.4s
YAK smax
comp=N,10.0nm,0.6s
YAK smax
comp=E,6.0nm,0.4s
YAK smax
comp=Z,9.0nm,0.4s
YAK Yakutsk 64.87 1 *e*P **P 19 31 31.7 -0.9**
KZA Kyzart 65.05 320 P **P 19 31 35.1 +1.4**
SNR=9.1
MA2 Magadan 65.05 13 *de*P **P 19 31 34.8 +1.0**
MA2 *e* 19 32 11.5
MA2 *e*S S 19 40 14.4 -1.0
MA2 *e* 19 41 27.2
MA2 *e*SS SS 19 44 33.3 +5.8
MA2 pmax pmax
comp=N,50nm,1.2s
MA2 pmax pmax
comp=Z,50nm,1.2s,mb5.4
MA2 MLR MLR
comp=Z,200nm,16.4s,MS4.4
MA2 Magadan 65.05 13⇑ *e*P **P 19 31 35.9 +2.1**
KRAR Krasnoyarsk 65.21 339⇑ *i*P **P 19 31 34.2 -0.6**
KRAR pmax pmax
comp=Z,45nm,1.5s,mb5.3
TKM2 Tokmak 2 65.24 321 P **P 19 31 35.2 +0.2**
SNR=12
KBK Karagaybulak 65.53 320 P **P 19 31 37.5 +0.6**
SNR=6.1
UCH Uchtor 65.60 319 P **P 19 31 38.9 +1.6**
SNR=9.9
AAK Ala-Archa 65.81 320 P **P 19 31 39.0 +0.3**
SNR=13
AAK Ala-Archa 65.81 320 P **P 19 31 39.0 +0.3**
SNR=13
AAK Ala-Archa 65.81 320 *e*P **P 19 31 38.7 +0.1**
FRU Bishkek 65.83 320 *e*P **P 19 31 36.5 -2.3**
FRU pmax pmax
comp=Z,157nm,3.0s
USP Ospenovka 66.11 320 P **P 19 31 40.3 -0.4**
SNR=15
EKS2 Erkin-Say 66.28 320 P **P 19 31 42.0 +0.3**
SNR=11
KURK Kurchatov 67.75 329 P **P 19 31 50.5 -0.6**
comp=Z,252nm,1.1s,mb6.2,SNR=43
NVS Novosibirsk 68.14 334 *i* P **P 19 31 51.8 -1.7**
NVS *e*S S 19 40 47.3 -5.6
NVS pmax pmax
comp=N,39nm,1.6s
NVS pmax pmax
comp=E,38nm,1.6s
NVS pmax pmax
comp=Z,59nm,1.6s,mb5.4
NVS smax
comp=N,19nm,2.0s
NVS smax
comp=E,9.0nm,1.6s
WSAR Wadi Sarin 71.77 296 P **P 19 32 15.8 -0.1**
comp=E,4.0nm,0.9s,mb4.3,baz=61,slow=19,SNR=2.3
BVAR Borovoye Array 73.30 328 P **P 19 32 23.5 -1.4**
comp=E,7.2nm,0.8s,mb4.7,baz=133,slow=8.3,SNR=37
BRVK Borovoye 73.37 328 P **P 19 32 24.7 -0.6**
comp=E,102nm,0.9s,mb5.8,SNR=8.1
BRVK Borovoye 73.37 328 P **P 19 32 25.1 -0.2**
SNR=14
BRVK Borovoye 73.37 328 *e*P **P 19 32 24.5 -0.8**
CHKZ Chkalovo 73.50 329 *e*P **P 19 32 24.9 -1.2**
CHKZ Chkalovo 73.50 329 *e*P **P 19 32 24.5 -1.6**
comp=E,16nm,1.0s,mb4.9
CHKZ *e*PP PP 19 35 10.1 +0.2
ATKA Atka Island 73.69 33 *e*P **P 19 32 27.0 -0.2**
ZRNK Zerenda 74.00 328 *e*P **P 19 32 26.4 -2.6**
TIXI Tiksi 74.52 0 *i* P **P 19 32 31.1 -0.9**
TIXI Tiksi 74.52 0 *i* Pr 19 32 31.1
BILL Bilibino 75.86 14⇑ *e*P **P 19 32 39.8 0.0**
BILL pmax pmax
comp=Z,14nm,1.5s,mb4.7
BILL Bilibino 75.86 14 *i* Pr 19 32 39.6
VNDA Vanda 76.72 173 P **P 19 32 41.5 -3.2**
comp=Z,12nm,0.8s,mb4.9,baz=320,slow=6.6,SNR=32
VNDA LR LR 20 05 02.5
comp=Z,877nm,20.4s,MS5.1,baz=340,slow=35
VNDA Vanda 76.72 173 *e*P **P 19 32 42.1 -2.6**
VNDA pmax pmax
comp=Z,12nm,0.8s
VNDA Vanda 76.72 173 *e*P **P 19 32 42.1 -2.6**
comp=Z,12nm,0.8s,mb4.9
SBA Scott Base 77.63 172 *e*P **P 19 32 48.2 -1.6**
MAW Mawson 77.72 201 P **P 19 32 47.2 -3.1**
comp=Z,3.3nm,0.8s,mb4.3,baz=74,slow=8.6,SNR=6.7
MAW LR LR 20 04 00.4
comp=Z,641nm,18.1s,MS5.0,baz=58,slow=33
AKTK Aktyubinsk 79.32 322 P **P 19 32 58.0 -1.1**
AKTO Aktyubinsk 79.32 322 P **P 19 32 58.0 -1.1**
comp=Z,7.0nm,0.9s,mb4.6,baz=110,slow=5.3,SNR=18
AKTO Aktyubinsk 79.32 322 P **P 19 32 58.0 -1.1**
AKTO pmax pmax
comp=Z,70nm,0.9s,mb5.6
OPO Ambohidratompo 79.75 252 P **P 19 33 00.7 -0.7**
comp=Z,2.6nm,0.6s,mb4.3,baz=84,slow=3.7,SNR=13
ARU Arti 80.94 328 P **P 19 33 06.7 -1.2**
comp=Z,53nm,1.0s,mb5.4,SNR=5.1
ARU Arti 80.94 328⇓ *i*P **P 19 33 06.2 -1.7**
ARU *e* 19 36 10.6
ARU *e*PPP 19 38 01.0
ARU *e*S S 19 43 14.6 -1.4
ARU *e*SS SS 19 48 24.1 -6.0
ARU pmax pmax
comp=Z,13nm,1.0s,mb4.8
ARU Arti 80.94 328 *e*P **P 19 33 05.7 -2.2**
comp=Z,28nm,1.3s,mb5.0
ARU *e*PP PP 19 36 11.6 -0.8
ORR Orenburg 81.63 323 *e*P **P 19 33 10.5 -1.0**
ORR pmax pmax
comp=Z,30nm,1.1s,mb5.1
SDPT Sand Point 82.41 33 *e*P **P 19 33 15.9 +0.3**
PPT Papeete 82.49 107 *e*SS SS 19 48 57.3 +4.2
comp=Z,65nm,22.0s
PPT *e*LR LR 19 59 12.0
comp=Z,285nm,25.0s
RDF Al-Radifah 82.54 300 *e*P **P 19 33 15.4 -0.9**
RDF AMb AMB 19 33 16.4
comp=Z,13nm,0.9s,mb5.0
TBI Tubuai 82.56 113 *e*LR LR 19 59 21.8
comp=Z,323nm,26.8s
MIB Mutribah 82.84 300 *e*P **P 19 33 16.8 -1.0**
MIB AMb AMB 19 33 18.4
comp=Z,11nm,0.8s,mb5.0
NAY Al-Naaiem 82.85 300 *e*P **P 19 33 16.6 -1.3**
NAY AMb AMB 19 33 17.9
comp=Z,7.6nm,0.8s,mb4.8
RST Umm Al-Ruwaisa 83.09 300 *e*P **P 19 33 17.4 -1.7**
RST AMb AMB 19 33 19.0
comp=Z,19nm,0.7s,mb5.2
MAK Makhachkala 84.62 313 *e*P **P 19 33 26.8 -0.1**
MAK *e*S 19 43 47.0
MAK *i* SS SS 19 49 22.3 -2.3
MAK pmax pmax
comp=Z,89nm,1.5s,mb5.7
BHD Baghdad 85.77 304 *ex* x 19 33 14.0
BHD Baghdad 85.77 304 *ex* x 19 43 57.0
GNI Garni 86.28 310 *e*P **P 19 33 34.9 -0.3**
TTA Tatalina 86.58 26 *e*P **P 19 33 36.9 +0.2**
QSPA South Pole Qui 86.96 180 *e*P **P 19 33 35.7 -2.9**
comp=Z,23nm,1.0s,mb5.3
MSL Mosul 87.14 306 *ex* x 19 33 36.0

KDAK Kodiak Island 87.21 32 P **P 19 33 40.4 +0.6**
comp=Z,152nm,1.0s,mb6.2,SNR=5.8
KDAK Kodiak Island 87.21 32 P **P 19 33 40.2 +0.4**
comp=Z,24nm,1.0s,mb5.4,baz=283,slow=2.3,SNR=12
KDAK LR LR 20 07 38.9
comp=Z,446nm,21.4s,MS4.8,baz=251,slow=32
KDAK Kodiak Island 87.21 32 *e*P **P 19 33 39.7 -0.1**
comp=Z,43nm,1.3s,mb5.5
ZEI Tsey 87.22 313 *e*P **P 19 33 37.1 -2.7**
ZEI pmax pmax
comp=Z,15nm,0.7s,mb5.3
GOF Gofitskoye 88.09 315 *e*P **P 19 33 49.0 +5.0**
KIV Kislovodsk 88.22 314 *e*P **P 19 33 41.2 -3.4**
KIV *e* 19 37 07.8
KIV *e* 19 44 10.8
KIV *e*SS SS 19 50 13.7 -3.8
KIV pmax pmax
comp=Z,50nm,1.0s,mb5.7
SLKM Skilak Lake 88.85 29 *e*P **P 19 33 47.7 +0.1**
MCK McKinley 89.87 26 *e*P **P 19 33 51.8 -0.6**
SML Sawmill 89.92 28 *e*P **P 19 33 53.1 +0.5**
KMBO Kilima Mbogo 90.06 269 P **P 19 33 53.2 0.0**
comp=Z,2.5nm,0.8s,mb4.6,baz=64,slow=7.4,SNR=4.7
KMBO LR LR 20 09 38.7
comp=Z,559nm,21.7s,MS5.0,baz=95,slow=33
KMBO Kilima Mbogo 90.06 269 P **P 19 33 53.3 +0.1**
KMBO pmax pmax
comp=Z,30nm,0.8s
KMBO MLR MLR
comp=Z,559nm,21.7s
KMBO Kilima Mbogo 90.06 269 *e*P **P 19 33 52.9 -0.3**
SOC Sochi 90.34 313 *e*P **P 19 33 54.4 -0.1**
SOC *e*PPP 19 39 25.6
SOC *e*S 19 44 24.1
SOC *e*SS SS 19 50 41.9 -6.3
SOC *e*SSS 19 54 20.8
SOC pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
MALT Malatya 91.00 308 *e*P **P 19 33 56.1 -1.5**
OBN Obninsk 92.89 325 P **P 19 34 07.0 +0.6**
OBN *e* 19 34 14.3
OBN *e* 19 37 48.5
OBN 19 44 41.0
OBN PS PS 19 46 20.0 -5.1
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb5.4
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.6
OBN Obninsk 92.89 325 *e*P **P 19 34 06.8 +0.4**
MMAI Mount Meron Ar 93.26 303 P **P 19 34 07.6 -0.5**
comp=Z,0.2nm,0.3s,baz=316,slow=20,SNR=3.0
DAWY Dawson 94.10 26 *e*P **P 19 34 12.3 +0.4**
INK Inuvik 96.14 22 P **P 19 34 20.0 -1.3**
comp=Z,6.4nm,0.9s,mb5.0,baz=258,slow=2.8,SNR=8.3
INK Inuvik 96.14 22 *e*P **P 19 34 21.1 -0.2**
INK pmax pmax
comp=Z,16nm,1.3s
INK Inuvik 96.14 22 *e*P **P 19 34 21.1 -0.1**
comp=Z,16nm,1.3s,mb5.3
ARCES ARCESS Array B 96.94 340 P **P 19 34 23.0 -1.9**
comp=Z,7.5nm,0.9s,mb5.1,baz=74,slow=6.4,SNR=11
FINES FINESS Array B 98.02 332 LR LR 20 23 58.0
comp=Z,153nm,20.2s,MS4.5,baz=178,slow=39
LSZ Lusaka 98.06 254 *e*P **P 19 34 28.9 -1.0**
LSZ pmax pmax
comp=Z,4.0nm,0.7s,mb5.1
LSZ Lusaka 98.06 254 *e*P **P 19 34 28.9 -1.1**
comp=Z,4.1nm,0.7s,mb5.1
BOSA Boshof 99.18 241 P **P 19 34 32.6 -2.3**
comp=Z,2.5nm,0.8s,mb4.8,baz=142,slow=14,SNR=4.7
BOSA LR LR 20 14 48.3
comp=Z,280nm,19.2s,MS4.8,baz=36,slow=33
NB2 NORSAR Subarra105.04 333 P Pdif 19 34 59.7 -1.3
comp=Z,5.6nm,1.4s,baz=70,slow=4.4
NB2 NORSAR Subarra105.04 333 P Pdif 19 34 59.7 -1.3
NB2 pmax pmax
comp=Z,6.0nm,1.4s
CLL Collm 107.40 323 *e*PP PP 19 39 38.0 -0.9
CLL *e*SS SS 19 55 06.0 +19
CLL *e*SSSS 20 02 30.0
CLL LmV 20 33 00.0
comp=Z,200nm,19.3s
M08A Happy Creek Ra 110.04 47⇓P PKiKP 19 39 26.1 +1.1
baz=110
S08C White Mtn Res 111.12 51⇓P PKiKP 19 39 27.8 +0.8
baz=111
HLID Hailey 112.27 44 *e*PKiKP PKiKP 19 39 30.2 +1.0
Q11A Duckwater 112.72 49⇓P PKiKP 19 39 32.5 +2.4
baz=113
PFO Pinyon Flat Ob 113.35 55⇓P PKiKP 19 39 33.5 +2.3
baz=114
TUQ Turquoise Mtn. 113.36 53⇑P PKiKP 19 39 33.7 +2.4
baz=114
EGMT Eagleton 113.73 38 *e*PKiKP PKiKP 19 39 33.1 +1.1
GLA Glamis 114.80 55⇑P PKiKP 19 39 36.6 +2.6
baz=115
AHID Auburn Hatcher 114.82 44 PFAKE 19 39 50.0 +16
AHID LR LR
comp=Z,321nm,20.0s,MS4.9
LOHW Long Hollow 114.86 43 *e*PKiKP PKiKP 19 39 36.1 +1.9
X13A Yucca 115.23 53⇑P PKiKP 19 39 36.9 +2.0
baz=115
MSU Marysvale 115.42 48 *e*PKiKP PKPdf 19 39 37.8 +2.6
W14A Seligman 115.67 52⇓P PKPdf 19 39 38.1 +2.4
baz=116
PDAR Pinedale Array 115.88 43 PKP PKPdf 19 39 36.3 +0.2
comp=Z,0.7nm,0.5s,baz=51,slow=0.9,SNR=6.8
X14A Yava 116.01 53⇓P PKPdf 19 39 39.0 +2.6
baz=116
X15A Humboldt 116.53 53⇑P PKPdf 19 39 40.0 +2.7
baz=117
116A Eloy 117.47 55⇓P PKPdf 19 39 41.0 +1.8
baz=118
RWWY Rawlins 117.90 44 *e*PKPdf PKPdf 19 39 41.4 +1.4
TUC Tucson 118.28 55 *e*PKiKP PKPdf 19 39 43.1 +2.4
ULM Lac du Bonnet 120.45 31 PKP PKPdf 19 39 44.1 -0.8
comp=Z,3.3nm,0.8s,baz=264,slow=4.3,SNR=5.7
ANMO Albuquerque 120.92 51 PKP PKPdf 19 39 48.2 +2.4
comp=Z,4.3nm,1.0s,baz=221,slow=4.4,SNR=7.5
ANMO Albuquerque 120.92 51 *e*PKPdf PKPdf 19 39 48.1 +2.3
ANMO *e* 19 39 55.9
BNM Barren Site 121.06 52 *e*PKPdf PKPdf 19 39 49.0 +2.9
MNTX Cornudas Mount 122.85 54 *e*PKPdf PKPdf 19 39 51.0 +1.5
GDL2 Guadalupe Moun 123.50 53 *e*PP PP 19 41 36.0 +3.8
LTX Lajitas 125.01 56 *e*PKiKP PKPdf 19 39 54.6 +0.9
TORD Torodi Ar. Bea 125.38 284 PKP PKPdf 19 39 54.5 +0.2
comp=Z,5.2nm,0.8s,baz=53,slow=2.1,SNR=24
TORD PKKPbc 19 49 33.3
comp=Z,0.9nm,0.8s,baz=287,slow=4.4,SNR=4.2
JCT Junction City 127.76 53 *e*PKiKP PKPdf 19 39 59.8 +0.9
CCM Cathedral Cave 130.38 40 *e*PKiKP PKPdf 19 40 05.2 +1.3
MIAR Mount Ida 130.69 46 *e*PKiKP PKPdf 19 40 05.6 +1.1
DBIC Dimbokro 132.27 276 PKP PKPdf 19 40 08.2 +0.7
comp=Z,6.0nm,0.7s,baz=13,slow=2.1,SNR=8.8
DBIC SKPbc SKPbc 19 43 34.5 +1.1
comp=Z,15nm,1.0s,baz=91,slow=6.8,SNR=7.9
SADO Sadowa 132.30 25 PKP PKPdf 19 40 08.3 +0.8
comp=Z,4.0nm,0.8s,baz=308,slow=10.0,SNR=3.7
SADO SKPbc SKPbc 19 43 35.0 +1.6
comp=Z,3.6nm,0.8s,baz=320,slow=3.1,SNR=4.0
SADO Sadowa 132.30 25 PKP PKPdf 19 40 08.3 +0.8
SADO SKPbc SKPbc 19 43 35.0 +1.6
PLCA Paso Flores 133.50 161 PKP PKPdf 19 40 11.0 +1.2
comp=Z,2.7nm,0.8s,baz=200,slow=3.8,SNR=6.5
PLCA Paso Flores 133.50 161 PKP PKPdf 19 40 11.0 +1.2
VCR Vista de Mar 146.49 76 *e*P PKPbc 19 40 37.9 +3.2
JTS JuntasAbangare 147.12 76 PKPbc PKPbc 19 40 37.9 +1.4
comp=Z,58nm,0.7s,baz=336,slow=5.8,SNR=53
JTS JuntasAbangare 147.12 76 PKP2 PKPab 19 40 37.9 -0.1
JTS pmax pmax
comp=Z,58nm,0.7s
JTS JuntasAbangare 147.12 76 *e*PKPbc PKPbc 19 40 37.7 +1.2
MGV Manicaragua 147.35 52 *e*P PKPdf 19 40 37.5 +2.8
LCR2 La Lucha 2 148.13 76 *e*P PKPbc 19 40 42.2 +3.0
BUS Buena Vista 148.40 77⇑ *e*P PKPbc 19 40 43.0 +3.1
LVC Limon Verde 149.99 149 *e*PKPbc PKPbc 19 40 45.4 +1.5
CPUP Villa Florida 150.50 171 PKP PKPdf 19 40 41.2 +1.4
comp=Z,14nm,0.8s,baz=171,slow=2.0,SNR=5.6
CPUP PKPbc PKPbc 19 40 45.1 0.0
comp=Z,14nm,0.8s,baz=111,slow=0.9,SNR=34
NNA Nana 151.71 122 *e*PKPbc PKPbc 19 40 49.3 +1.4
LPAZ La Paz 155.47 142 PKP PKPdf 19 40 48.6 +1.6
comp=Z,2.0nm,0.8s,baz=211,slow=1.8,SNR=9.0
LPAZ PKPbc PKPdf 19 40 59.5 +12
comp=Z,4.0nm,0.7s,baz=154,slow=4.2,SNR=14

LPAZ La Paz 155.47 142 *e*PKPdf PKPdf 19 40 50.1 +3.1
SIV San Ignacio 159.37 156 PKP PKPdf 19 40 53.3 +1.4
comp=Z,2.1nm,0.7s,baz=297,slow=2.3
BDFB Brasilia 160.93 194 PKP PKPdf 19 40 55.1 +1.5
comp=Z,1.5nm,0.5s,baz=192,slow=7.5,SNR=3.5
BDFB PKPab PKPab 19 41 34.6 -1.7
comp=Z,2.8nm,0.7s,baz=320,slow=7.0,SNR=3.4
BDFB Brasilia 160.93 194 PKP2 PKPab 19 41 34.6 -1.7
BDFB pmax pmax
comp=Z,3.0nm,0.7s
SDV Santo Domingo 161.17 71 PKP PKPdf 19 40 55.5 +1.6
comp=Z,10nm,0.8s,baz=48,slow=0.9,SNR=7.4
SDV PKPab PKPab 19 41 39.7 +2.4
comp=Z,14nm,0.7s,baz=294,slow=4.7,SNR=7.4
SDV Santo Domingo 161.17 71 PKP PKPdf 19 40 55.5 +1.6
SDV PKPab PKPab 19 41 39.7 +2.4

STR ***22*** *19:34:41.6±0.0,3969N×1637E,h20km±1km,Ml4.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
IDC ***22*** *19:34:55.1±0.5,3965N×1647E,h0km,mb4.4/21, mb1 4.4/30,mb1mx4.4/37,mbtmp4.3/30,ML4.4/7,MS3.9/9, Ms1 3.9/9,ms1mx3.5/33,Error ellipse: s-maj=12.4km s-min=9.6km az=118.0*
MOS ***22*** *19:34:56.5±1.1,3977N×1666E,h10km,mb4.6/14,Error ellipse: s-maj=3.7km s-min=2.4km az=88.3*
ISCJB ***22*** *19:34:57.0±0.1,3978N±001×1666E±001,h10km, mb4.5/46,MS4.2/6,Error ellipse: s-maj=1.5km s-min=1.2km az=26.1*
PDG ***22*** *19:34:57.9±0.8,3972N×1672E,h15km±1km*
LDG ***22*** *19:34:57.5±0.1,3972N×1674E,h10km,Ml4.0/6,Error ellipse: s-maj=3.8km s-min=3.1km az=175.0*
CSEM ***22*** *19:34:57.8,3977N×1667E,h20km,ML4.5*
NEIC ***22*** *19:34:58.3,3971N×1662E,h10km,mb4.4/29, ML4.5(ROM),ML4.6(PDG),After ROM.*
NEIC Felt [V] in northeastern Cosenza, [IV] at Cosenza and Crotone and [III] at Bari, Potenza and Taranto.
BJI ***22*** *19:34:58.0,3970N×1660E,h15km,mB4.9,mb4.6*
ROM ***22*** *19:34:58.3±0.1,3971N×1662E,h10km,Ml4.3/57,Error ellipse: s-maj=2.0km s-min=1.1km az=96.0*
THE ***22*** *19:35:58.3,3971N×1648E,h21km,ML4.7*
PRU ***22*** *19:35:01.3,4008N×1639E,h0km,M4.5*
SZGRF ***22*** *19:35:01.8,3994N×1689E,h10km,mb4.4,Southern Italy*
ISC 22 19:34:59.0±0.3,3975N±001×1662E±001,h13km±2km, n584,σ1$25/689,mb4.5/46,MS4.2/6,33C-49D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORI	**Oriolo Calabro** 102μm,0.4s	**0.34**	**337**	Pg	**Pg**	**19 35 06.9**	**+1.1**
ORI	**Oriolo Calabro**	**0.34**	**337**	P	**Pg**	**19 35 06.7**	**+0.9**
TIP	**Timpagrande**	**0.58**	**170**⇑	*e*Pg	**Pg**	**19 35 09.9**	**-0.5**
TIP	12μm,1.0s			Sg	**Sg**	**19 35 18.2**	**+0.1**
SCHR	**S. Chirico Rap** 7μm,0.5s	**0.61**	**317**	Pg	**Pg**	**19 35 10.7**	**-0.2**
CUC	**Castrocucco** 24μm,0.6s	**0.67**	**291**	Pg	**Pg**	**19 35 11.7**	**-0.2**
CUC	**Castrocucco**	**0.67**	**291**	P	**Pg**	**19 35 11.5**	**-0.4**
SERS	**Sersale**	**0.72**	**176**	Pg	**Pg**	**19 35 11.9**	**-1.0**
SERS	10μm,0.8s			Sg	**Sg**	**19 35 21.7**	**-0.6**
PTRP	**Pietrapertosa** 22nm,1.3s	**0.88**	**331**	Pg	**Pg**	**19 35 16.2**	**+0.2**
PTRP	**Pietrapertosa**	**0.88**	**331**	P	**Pg**	**19 35 15.6**	**-0.4**
MGR	**Morigerati** 11μm,0.6s	**0.91**	**295**	Pg	**Pg**	**19 35 16.1**	**-0.4**
MGR	**Morigerati**	**0.91**	**295**	P	**Pb**	**19 35 15.2**	**-1.3**
MGR	**Morigerati**	**0.91**	**295**	Pg	**Pg**	**19 35 16.1**	**-0.4**
GRI	**Girifalco** 7μm,0.5s	**0.94**	**190**	Pg	**Pg**	**19 35 15.3**	**-1.9**
GRI	**Girifalco**	**0.94**	**190**	P	**Pb**	**19 35 15.2**	**-1.9**
GRI	**Girifalco**	**0.94**	**190**	Pg	**Pg**	**19 35 15.3**	**-1.9**
SLCN	**Sala Consilina** 19μm,0.6s	**0.99**	**310**	Pg	**Pg**	**19 35 17.2**	**-0.9**
SLCN	**Sala Consilina**	**0.99**	**310**	P	**Pb**	**19 35 16.8**	**-1.2**
SG1	**Sgolgore (BA)**	**1.09**	**2**	*e*Pn	**Pn**	**19 35 18.3**	**-1.6**
NOCI	**Noci**	**1.09**	**18**	Pg	**Pg**	**19 35 18.4**	**-1.5**
NOCI	17μm,0.6s			Sg	**Sg**	**19 35 35.4**	**+1.3**
AMUR	**Altamura** 11μm,0.8s	**1.15**	**359**	Pg	**Pg**	**19 35 20.2**	**-1.0**
AMUR				Sg	**Sg**	**19 35 37.1**	**+0.9**
CMPR	**Campora** 6μm,0.6s	**1.16**	**300**	Pg	**Pg**	**19 35 20.8**	**-0.5**
PE1	**Pezze di Greco**	**1.22**	**30**	*e*Pn	**Pn**	**19 35 21.1**	**-0.5**
CDRU	**Civita di Ruta**	**1.25**	**307**	Pg	**Pg**	**19 35 21.1**	**-1.9**
LCI	**Lecce**	**1.28**	**63**⇓	*i*Pg	**Pg**	**19 35 22.4**	**-1.2**
SGO	**Sicignano**	**1.29**	**309**	Pg	**Pg**	**19 35 21.5**	**-2.3**
SGO	**Sicignano**	**1.29**	**309**	P	**Pn**	**19 35 22.1**	**-0.6**
PLAC	**Placanica**	**1.31**	**186**	Pg	**Pg**	**19 35 23.3**	**-0.8**
MRLC	**Muro Lucano**	**1.33**	**320**	Pg	**Pg**	**19 35 24.0**	**-0.5**
CDT	**Castel del Mon**	**1.35**	**349**	*e*Pn	**Pn**	**19 35 23.7**	**+0.2**
BAI	**Bari**	**1.37**	**8**	*e*Pn	**Pn**	**19 35 23.6**	**-0.1**
VULT	**Monte Vulture** 9μm,0.9s	**1.43**	**328**⇓	*e*Pg	**Pg**	**19 35 25.0**	**-1.4**
SCTE	**Santa Cesarea** 6μm,0.4s	**1.46**	**77**⇓	*i*Pg	**Pn**	**19 35 24.4**	**-0.5**
MCRV	**Calabrutti - M** 13μm,1.2s	**1.52**	**313**	Pg	**Pg**	**19 35 26.9**	**-1.2**
SNAL	**S. Angelo Dei** 14μm,1.0s	**1.59**	**318**	Pg	**Pg**	**19 35 27.6**	**-2.0**
FG4	**Candela**	**1.61**	**329**	Pg	**Pg**	**19 35 27.7**	**-2.3**
SCLL	**Scilla**	**1.65**	**206**	Pg	**Pn**	**19 35 26.8**	**-0.8**
CAFE	**Carife** 5μm,1.2s	**1.66**	**321**	Pg	**Pg**	**19 35 28.2**	**-2.6**
SGTA	**Sant Agata di**	**1.68**	**326**	Pg	**Pg**	**19 35 28.7**	**-2.5**
MSRU	**Castanea** 11μm,1.2s	**1.72**	**211**	Pg	**Pn**	**19 35 27.7**	**-0.9**
SOI	**Samo**	**1.73**	**195**	Pg	**Pn**	**19 35 29.0**	**+0.2**
MSI	**Messina ING**	**1.75**	**209**	Pg	**Pn**	**19 35 28.3**	**-0.7**
MSI	**Messina ING**	**1.75**	**209**	P	**Pn**	**19 35 28.2**	**-0.8**
SLNA	**Salina**	**1.83**	**230**	Pg	**Pn**	**19 35 29.1**	**-1.0**
SLNA	**Salina**	**1.83**	**230**	P	**Pn**	**19 35 29.0**	**-1.1**
FG5	**Orsara di Pugl**	**1.84**	**326**	Pg	**Pg**	**19 35 31.4**	**-3.0**
LLI	**Lipari** 13μm,0.5s	**1.84**	**225**	Pg	**Pn**	**19 35 29.7**	**-0.6**
VPL	**Vulcano Piano** 6μm,0.6s	**1.87**	**223**⇓	*i*Pg	**Pn**	**19 35 29.8**	**-0.9**
MTTG	**Motta San Giov**	**1.89**	**203**	Pg	**Pn**	**19 35 30.7**	**-0.2**
MTTG	**Motta San Giov**	**1.89**	**203**	P	**Pn**	**19 35 30.5**	**-0.4**
IFIL	**Filicudi I Eol**	**1.99**	**234**	Pg	**Pn**	**19 35 30.9**	**-1.4**
IFIL	15μm,0.6s			Sg	**Sn**	**19 35 57.3**	**+0.2**
PSB1	**Pescosannita** 5μm,1.2s	**2.02**	**317**	Pg	**Pn**	**19 35 33.6**	**+1.0**
FGMS	**Monte Sant'Ang**	**2.02**	**346**	Pg	**Pn**	**19 35 32.7**	**0.0**
MS1	**Monte Sant'Ang**	**2.02**	**345**	*e*Pn	**Pn**	**19 35 32.6**	**-0.1**
MSAG	**Monte S. Angel** 5μm,0.3s	**2.03**	**345**	Pg	**Pn**	**19 35 32.8**	**0.0**
RGNG	**Rignano Grg**	**2.08**	**338**	Pg	**Pn**	**19 35 33.8**	**+0.4**
MMME	**Mongiuffi-Meli** 3μm,0.7s	**2.11**	**211**⇓	*i*Pg	**Pn**	**19 35 33.5**	**-0.4**
SGRT	**San Giovanni R** 2μm,0.5s	**2.11**	**342**	Pg	**Pn**	**19 35 33.9**	**0.0**
SACR	**S. Croce Del S**	**2.20**	**319**	Pg	**Pn**	**19 35 36.2**	**+1.1**
CIGN	**Sant'Elia a Pi** 7μm,2.1s	**2.31**	**326**	Pg	**Pn**	**19 35 37.8**	**+1.2**
FG2	**Serracapriola**	**2.33**	**332**	Pg	**Pn**	**19 35 37.8**	**+0.8**
MNO	**Monte Soro**	**2.36**	**220**	Pg	**Pn**	**19 35 37.4**	**0.0**
MNO	**Monte Soro**	**2.36**	**220**	P	**Pn**	**19 35 37.5**	**+0.1**
ESLN	**Serra La Nave** 3μm,0.7s	**2.43**	**213**	Pg	**Pn**	**19 35 39.3**	**+1.0**
KEK	**Kerkira**	**2.45**	**90**	*e*P	**Pn**	**19 35 38.0**	**-0.6**
VAGA	**Valle Agricola** 3μm,1.1s	**2.46**	**313**	Pg	**Pn**	**19 35 39.6**	**+0.8**
MOCO	**Biccari - m.te** 6μm,1.7s	**2.48**	**312**	Pg	**Pn**	**19 35 32.8**	**-6.2**
RFI	**Roccamonfina** 60nm,0.4s	**2.54**	**308**	Pg	**Pn**	**19 35 40.7**	**+0.9**
SRN	**Sarande**	**2.60**	**86**	*i* Pn	**Pn**	**19 35 40.6**	**-0.1**
SRN				*i* Sn	**Sn**	**19 36 09.9**	**-2.3**
SRN	**Sarande**	**2.60**	**86**	*e*Pn	**Pn**	**19 35 40.6**	**-0.1**
MIDA	**Miranda**	**2.61**	**317**	Pg	**Pn**	**19 35 42.7**	**+1.9**
MIDA	**Miranda**	**2.61**	**317**	P	**Pn**	**19 35 38.4**	**-2.4**
CII	**Carovilli** 901nm,0.8s	**2.64**	**319**	Pg	**Pn**	**19 35 43.2**	**+2.0**
TPE	**Tepelena**	**2.66**	**77**	*i* Pn	**Pn**	**19 35 41.3**	**-0.2**
TPE				*i* Sn	**Sn**	**19 36 15.2**	**+1.7**
VENT	**Ventotene**	**2.66**	**294**	Pg	**Pn**	**19 35 41.5**	**0.0**

2µm,1.3s
FRES Fresagrandinar 2.67 327 Pg **Pn 19 35 42.4 +0.8**
4µm,1.4s
GIB Gibilmanna 2.68 230 Pg **Pn 19 35 41.6 -0.2**
664nm,0.6s
GIB Gibilmanna 2.68 230 P **Pn 19 35 41.5 -0.3**
RNI2 Rionero Sannit 2.71 317 Pg **Pn 19 35 43.5 +1.4**
HAGA Augusta 2.72 205 Pg **Pn 19 35 41.3 -1.0**
2µm,0.9s
AGST Augusta-Monte 2.72 204 Pg **Pn 19 35 41.1 -1.2**
352nm,0.4s
AGST Augusta-Monte 2.72 204 P **Pn 19 35 41.3 -1.0**
VAE Valguarnera 2.85 218 Pg **Pn 19 35 46.7 +2.6**
26nm,0.3s,baz=82,slow=5.3,SNR=40
VAE Lg 19 36 32.8
28nm,0.3s,baz=241,slow=13,SNR=2.5
VAE LR LR 19 37 06.2
comp=Z,2µm,20.1s,baz=328,slow=48
SSY Sortino 2.87 206 Pg **Pn 19 35 43.2 -1.1**
1µm,0.8s
USI Ustica 2.87 250 Pg **Pn 19 35 43.2 -1.2**
USI Ustica 2.87 250 P **Pn 19 35 43.1 -1.3**
IGT Igoumenitsa 2.87 93 *e*Pn **Pn 19 35 44.1 -0.3**
IGT *e*Sn **Sn 19 36 19.0 +0.1**
SDI San Donato 2.90 313 Pg **Pn 19 35 45.5 +0.8**
140nm,0.4s
TIR Tirane 2.94 56 ⇓*i*Pg **Pn 19 35 45.3 0.0**
1µm,0.6s
TIR Tirane 2.94 56 *e*Pn **Pn 19 35 45.2 -0.1**
TIR *e*Sn **Sn 19 36 21.0 +0.5**
TIR Tirane 2.94 56 *e*Pn **Pn 19 35 45.2 -0.1**
HVZN Vizzini 2.97 211 Pg **Pn 19 35 45.6 -0.2**
4µm,1.0s
ULC Ulcinj 2.98 41 ⇓*i*Pn **Pn 19 35 44.9 -0.9**
ULC *e*Sn **Sn 19 36 21.6 +0.3**
PZI Palazzolo 3.00 207 Pg **Pn 19 35 46.0 -0.1**
84nm,0.1s
PZI Palazzolo 3.00 207 P **Pn 19 35 46.1 0.0**
HAVL Avola 3.03 203 Pg **Pn 19 35 45.2 -1.3**
689nm,0.4s
HAVL Avola 3.03 203 P **Pn 19 35 45.3 -1.2**
HCY Herceg Novi 3.04 27 ⇓*i*Pn **Pn 19 35 45.7 -1.0**
HCY *e*Sn **Sn 19 36 23.6 +0.6**
INTR Introdacqua 3.06 318 Pg **Pn 19 35 47.8 +0.9**
2µm,1.1s
INTR Introdacqua 3.06 318 P **Pn 19 35 48.1 +1.2**
BUM Brajici-Budva 3.07 33 ⇓*i*Pn **Pn 19 35 46.4 -0.8**
BUM *e*Sn **Sn 19 36 24.4 +0.7**
LSK Leskovik 3.08 81 *i* Pn **Pn 19 35 47.6 +0.3**
LSK *i* Sn **Sn 19 36 24.3 +0.3**
RAFF Raffo Rosso 3.09 216 Pg **Pn 19 35 48.0 +0.6**
1µm,0.8s
RAFF Raffo Rosso 3.09 216 P **Pn 19 35 47.9 +0.5**
GIUL Giuliano Di Ro 3.13 306 Pg **Pn 19 35 48.3 +0.3**
812nm,1.7s
HMDC Modica 3.14 208 Pg **Pn 19 35 47.7 -0.4**
881nm,0.7s
HMDC Modica 3.14 208 P **Pn 19 35 47.5 -0.6**
CORL Corleone 3.19 235 ⇓*i*Pg **Pn 19 35 49.3 +0.6**
575nm,0.7s
STON Ston 3.22 14 *i* Pn **Pn 19 35 48.2 -1.0**
STON *i* Sn **Sn 19 36 24.9 -2.5**
GUAR Guarcino 3.24 310 Pg **Pn 19 35 50.0 +0.6**
394nm,1.1s
JAN Janina 3.26 90 *e*P **Pn 19 35 50.2 +0.4**
LKD Levkas 3.30 107 *e*Pn **Pn 19 35 49.9 -0.4**
LKD *e*Sn **Sn 19 36 29.7 +0.3**
KBN Korca 3.31 73 *i* Pn **Pn 19 35 50.6 +0.2**
KBN *i* Sn **Sn 19 36 29.6 +0.1**
TTG Podgorica 3.34 36 ⇓*i*Pn **Pn 19 35 50.2 -0.6**
TTG *e*Sn **Sn 19 36 30.5 +0.3**
VCEL Villa Celiera 3.37 322 Pg **Pn 19 35 53.2 +1.9**
1µm,1.2s
FAVR Favara 3.40 224 Pg **Pn 19 35 54.9 +3.3**
FAGN Fagnano 3.40 319 Pg **Pn 19 35 53.6 +1.9**
752nm,0.5s
CLTB Caltabellotta 3.44 232 Pg **Pn 19 35 54.7 +2.5**
CLTB Caltabellotta 3.44 232 P **Pn 19 35 54.5 +2.3**
BRY Bratogost 3.46 24 ⇓*i*Pn **Pn 19 35 51.9 -0.6**
BRY *e*Sn **Sn 19 36 33.7 +0.3**
OHR Ohrid 3.46 66 *e*Pn **Pn 19 35 52.4 -0.1**
OHR *e*Sn **Sn 19 36 33.9 +0.4**
VLS Valsamata 3.47 116 *e*P **Pn 19 35 51.7 -0.9**
CERT Cerreto 3.53 310 Pg **Pn 19 35 54.0 +0.6**
969nm,1.8s
CERT Cerreto 3.53 310 P **Pn 19 35 54.1 +0.7**
NKY Niksic 3.54 30 ⇓*i*Pn **Pn 19 35 53.2 -0.4**
NKY *e*Sn **Sn 19 36 36.3 +0.9**
MEV Metsovon 3.55 88 *e*Pn **Pn 19 35 53.6 -0.2**
AQU L'Aquila 3.56 318 Pg **Pn 19 35 55.5 +1.6**
1µm,1.5s
AQU L'Aquila 3.56 318 *e*Pn **Pn 19 35 54.9 +1.0**
AQU L'Aquila 3.56 318 *e*Pn **Pn 19 35 54.8 +0.9**
RDP Rocca di Papa 3.58 305 Pg **Pn 19 35 54.9 +0.8**
427nm,0.6s
ERC Erice 3.58 243 Pg **Pn 19 35 54.5 +0.3**
680nm,0.8s
ERC Erice 3.58 243 P **Pn 19 35 54.6 +0.4**
MA9 Marino 3.62 305 P **Pn 19 35 56.2 +1.5**
FIAM Fiamignano 3.65 315 Pg **Pn 19 35 56.9 +1.8**
379nm,0.9s
BCI Bajram Curri 3.69 44 *i* p **Pn 19 35 56.5 +0.9**
BCI Bajram Curri 3.69 44 *i* Pg **Pn 19 35 56.2 +0.6**
CAMP Campotosto 3.69 320 Pg **Pn 19 35 58.4 +2.7**
341nm,1.0s
KKS Kukesi 3.69 50 *i* p **Pn 19 35 56.4 +0.7**
MTCE Montecelio 3.71 309 Pg **Pn 19 35 56.3 +0.3**
248nm,1.0s
FNA Florina 3.78 73 *e*Pn **Pn 19 35 57.3 +0.4**
PVY Plav 3.80 41 ⇓*i*Pn **Pn 19 35 57.8 +0.6**
PVY *e*Sn **Sn 19 36 42.5 +0.7**
BIA Bitola 3.81 69 *e*Pn **Pn 19 35 56.8 -0.4**
BIA Bitola 3.81 69 *e*Pn **Pn 19 35 56.9 -0.3**
UPM Unac-Piva 3.85 26 ⇓*i*Pn **Pn 19 35 57.7 -0.2**
UPM *e*Sn **Sn 19 36 43.9 +0.9**
OFFI Offida 3.87 326 Pg **Pn 19 36 00.7 +2.5**
2µm,1.1s
MNS Montasola 3.97 313 Pg **Pn 19 36 00.7 +1.1**
347nm,1.4s
IVA Berane 3.98 37 ⇓*i*Pn **Pn 19 36 00.5 +0.9**
IVA *e*Sn **Sn 19 36 46.5 +0.5**
KZN Kozani 3.99 80 *e*P **Pn 19 36 00.7 +0.9**
NRCA Norcia 4.06 320 Pg **Pn 19 36 02.8 +2.1**
60nm,0.4s
EVR Evrytania 4.11 100 *e*P **Pn 19 36 02.7 +1.3**
PLE Pljevlja 4.13 29 ⇓*i*Pn **Pn 19 36 03.0 +1.2**
PLE *e*Sn **Sn 19 36 50.4 +0.4**
TOLF Tolfa 4.20 305 Pg **Pn 19 36 03.4 +0.8**
111nm,0.6s
TOLF Tolfa 4.20 305 P **Pn 19 36 04.0 +1.4**
SKO Skopje 4.27 57 *e*Pn **Pn 19 36 04.4 +0.8**
SKO Skopje 4.27 57 *i* Pn **Pn 19 36 04.4 +0.7**
SKO Skopje 4.27 57 *i* Pn **Pn 19 36 04.3 +0.6**
AOI Ancona 4.42 330 Pg **Pn 19 36 06.8 +1.1**
308nm,0.9s
AOI Ancona 4.42 330 P **Pn 19 36 06.6 +0.9**
CING Cingoli 4.44 326 P **Pn 19 36 06.9 +0.9**
SNTG Esanatoglia 4.46 323 Pg **Pn 19 36 07.6 +1.4**
59nm,0.5s
SNTG Esanatoglia 4.46 323 P **Pn 19 36 07.7 +1.5**
AGG Agios Georgios 4.48 98 *e*Pn **Pn 19 36 08.2 +1.7**
LIT Litokhoron 4.53 84 *e*Pn **Pn 19 36 06.7 -0.4**
GRG Griva 4.58 73 *e*Pn **Pn 19 36 07.5 -0.3**
GRG *e*Sn **Sn 19 37 01.0 +0.2**
BBLS Bajina Basta - 4.61 26 ⇓*i*Pn **Pn 19 36 09.2 +0.9**
BBLS Sn **Sn 19 37 01.2 -0.4**
ARV Arcevia 4.65 325 Pg **Pn 19 36 09.9 +1.1**
28nm,0.4s
ARV Arcevia 4.65 325 P **Pn 19 36 10.1 +1.3**
ARVD Arcevia 4.65 325 Pg **Pn 19 36 10.1 +1.3**
219nm,1.3s
STIP Stip 4.65 64 *i* Pn **Pn 19 36 08.4 -0.5**
STIP Stip 4.65 64 *i* Pn **Pn 19 36 08.3 -0.6**
PTS Pantelleria 4.68 233 Pg **Pn 19 36 10.2 +1.0**
184nm,0.4s
VAY Valandovo 4.79 69 *e*Pn **Pn 19 36 09.8 -1.0**
VAY Valandovo 4.79 69 P **Pn 19 36 09.9 -0.9**
VAY Valandovo 4.79 69 *i* Pn **Pn 19 36 09.6 -1.2**
FSSB Fossombrone 4.88 325 Pg **Pn 19 36 12.9 +1.0**
190nm,0.5s
ITM Ithomi 4.89 120 *e*P **Pn 19 36 12.5 +0.3**
MAON Monte Argentar 4.94 305 Pg **Pn 19 36 13.2 +0.4**
102nm,1.0s
MAON Monte Argentar 4.94 305 P **Pn 19 36 13.6 +0.8**

THE Thessaloniki 4.94 78 *e*Pn **Pn 19 36 12.2 -0.6**
NVLJ Novalja 4.98 345 ⇑*i*Pn **Pn 19 36 13.5 +0.1**
NVLJ *i* Sn **Sn 19 37 08.5 -2.4**
BADI Badiali 4.99 320 Pg **Pn 19 36 16.8 +3.3**
KNT Kendrikon 4.99 72 *e*Pn **Pn 19 36 13.1 -0.5**
DIVS Divcibare 5.02 29 ⇓*i*Pn **Pn 19 36 13.6 -0.3**
DIVS Sn **Sn 19 37 09.5 -2.2**
DIVS Divcibare 5.02 29 *e*Pn **Pn 19 36 13.6 -0.3**
DIVS *e*Sn **Sn 19 37 10.3 -1.4**
LKR Lokris 5.08 100 *e*P **Pn 19 36 14.9 +0.2**
XOR Xorichti 5.09 92 *e*Pn **Pn 19 36 15.3 +0.4**
XOR *e*Sn **Sn 19 37 13.9 +0.3**
NEO Neokhori 5.12 93 *e*P **Pn 19 36 15.5 +0.1**
GRUS Gruza 5.14 35 *i* Pn **Pn 19 36 14.7 -0.9**
GRUS Sn **Sn 19 37 11.7 -3.1**
RSM Repubblica di 5.21 325 Pg **Pn 19 36 18.2 +1.7**
120nm,0.9s
RSM Repubblica di 5.21 325 P **Pn 19 36 18.6 +2.1**
SOH Sokhos 5.26 76 *e*Pn **Pn 19 36 17.9 +0.7**
PLG Polygyros 5.27 81 *e*P **Pn 19 36 17.6 +0.2**
KKB Krupnik 5.34 65 *i* P **Pn 19 36 18.5 +0.2**
DGI Dorgali Grotta 5.41 278 Pg **Pn 19 36 17.4 -2.0**
GRFL Gerfalco 5.43 310 Pg **Pn 19 36 21.4 +1.8**
16nm,0.9s
GRFL Gerfalco 5.43 310 P **Pn 19 36 21.5 +1.9**
PAIG Paliouri 5.44 86 *e*Pn **Pn 19 36 19.4 -0.2**
MGER Gerania Oros 5.47 107 *e*P **Pn 19 36 21.0 +0.8**
VSL Villasalto 5.60 270 Pg **Pn 19 36 20.3 -1.6**
66nm,0.5s
VSL Villasalto 5.60 270 *e*Pn **Pn 19 36 20.1 -1.8**
92nm,0.6s
VSL *e*S **Sn 19 37 25.2 -0.9**
AOS Alonnisos 5.65 94 *e*Pn **Pn 19 36 22.9 +0.3**
SVIS Svilajnac 5.69 36 *i* Pn **Pn 19 36 22.6 -0.4**
SVIS Sn **Sn 19 37 24.7 -3.5**
BOLS Boljevac 5.70 43 ⇑*i*Pn **Pn 19 36 22.2 -1.1**
BOLS Sn **Sn 19 37 23.8 -4.8**
MMB Musomiste 5.71 69 *i* P **Pn 19 36 22.8 -0.6**
SISC Sisak 5.72 358 *e*Pn **Pn 19 36 24.3 +0.8**
SISC Sn **Sn 19 37 27.0 -2.0**
NAIG Nisos Aigina 5.72 108 *e*P **Pn 19 36 23.7 +0.1**
BEO Belgrade 5.81 28 ⇑*i*Pn **Pn 19 36 24.2 -0.6**
BEO Sn **Sn 19 37 27.7 -3.5**
ATH Athens Observa 5.81 106 *e*P **Pn 19 36 25.0 +0.1**
VLI Veliai 5.82 119 *e*P **Pn 19 36 25.5 +0.6**
BOJS Bojanci 5.84 350 *i* Pn **Pn 19 36 25.6 +0.5**
BOJS *e*Sn **Sn 19 37 27.0 -4.9**
PTL Penteli 5.90 104 *e*P **Pn 19 36 26.5 +0.5**
KVR Kavouri 5.91 107 *e*P **Pn 19 36 26.5 +0.4**
KNDS Knezji Dol 6.00 345 *i* Pn **Pn 19 36 27.6 +0.1**
KYTH Kithira 6.14 122 *e*P **Pn 19 36 30.5 +1.2**
GCIS Gornji Cirnik 6.16 354 *e*Sn **Sn 19 37 36.3 -3.5**
GCIS
comp=Z,466nm,2.0s
VISS Visnje 6.19 348 *i* Pn **Pn 19 36 30.4 +0.5**
CORF Corte 6.19 297 Pn **Pn 19 36 31.7 +1.6**
RHK3 Tenkes 6.25 11 ⇑*e*P **Pn 19 36 30.1 -0.7**
LEGS Legarje 6.27 352 *e*Sn **Sn 19 37 39.4 -3.2**
PGB Panagyurishte 6.34 61 *i* P **Pn 19 36 32.4 +0.3**
PGF Pioggiola 6.39 298 *e*Pn **Pn 19 36 34.1 +1.3**
PGF *e*Sn **Sn 19 37 40.4 -5.3**
comp=Z,8.6nm,0.3s
PGF Pioggiola 6.39 298 *e*Pn **Pn 19 36 34.1 +1.3**
PGF *e*Sn **Sn 19 37 40.4 -5.3**
comp=Z,4.3nm,0.3s
PDKS Podkum 6.42 350 *i* Pn **Pn 19 36 33.5 +0.4**
PDKS *e*Sn **Sn 19 37 42.9 -3.3**
PDKS
comp=Z,597nm,2.1s
PDKS Podkum 6.42 350 *i* Pn **Pn 19 36 33.5 +0.4**
PDKS *e*Sn **Sn 19 37 42.9 -3.3**
RZN Rozhen 6.45 70 *i* P **Pn 19 36 33.3 -0.2**
DOBS Dobrina 6.45 353 *e*Sn **Sn 19 37 42.7 -4.3**
DOBS
comp=Z,673nm,2.1s
LJU Ljubljana 6.47 347 *e*Pn **Pn 19 36 34.2 +0.3**
LJU *i* Sn **Sn 19 37 44.4 -3.2**
LOS Limnos 6.51 86 *e*Pn **Pn 19 36 34.5 +0.1**
PLD Plovdiv 6.55 66 *i* P **Pn 19 36 35.5 +0.5**
DJES Djerdap 6.56 40 *e*Pn **Pn 19 36 34.6 -0.4**
DJES Sn **Sn 19 37 45.8 -3.8**
VOJS Vojsko 6.59 343 *e*Sn **Sn 19 37 47.1 -3.4**
LIA Limnos Island 6.59 86 *e*P **Pn 19 36 35.1 -0.4**
PKSM Moragy 6.62 12 ⇑*i*P **Pn 19 36 35.1 -0.9**
PKSM Moragy 6.62 12 ⇑*e*P **Pn 19 36 35.4 -0.6**
PKSM *e*S **Sn 19 37 46.4 -4.9**
PKSM Moragy 6.62 12 P **Pn 19 36 35.3 -0.7**
CADS Cadrg 6.81 343 *e*Sn **Sn 19 37 53.2 -2.7**
BZS Buzias 6.92 30 ⇓*i*P **Pn 19 36 38.9 -1.1**
BZS Buzias 6.92 30 P **Pn 19 36 38.9 -1.1**
OBKA Obir 6.92 348 ⇑*i*Pn **Pn 19 36 40.6 +0.6**
comp=Z,24nm,0.3s,SNR=80
OBKA ⇑*e*Sn **Sn 19 37 58.0 -0.7**
comp=Z,53nm,0.3s
OBKA Obir 6.92 348 *e*Pn **Pn 19 36 40.8 +0.7**
OBKA *e*Sn **Sn 19 37 56.3 -2.3**
PKS9 Tamasi 6.94 10 *e*P **Pn 19 36 40.3 0.0**
RDO Rodhopi 6.94 76 *e*P **Pn 19 36 39.3 -1.0**
KDZ Kurdzhali 6.95 71 P **Pn 19 36 40.0 -0.4**
PERS Pernice 6.97 351 *e*Pn **Pn 19 36 40.6 -0.1**
PERS *e*Sn **Sn 19 37 58.0 -1.8**
GMNA Gemona 6.97 340 Pg **Pn 19 36 41.4 +0.6**
comp=Z,104nm,0.6s
GMNA Gemona 6.97 340 P **Pn 19 36 41.5 +0.7**
BISS Bistriski jare 6.98 351 *e*Pn **Pn 19 36 40.8 0.0**
BISS *e*Sn **Sn 19 37 54.6 -5.4**
BISS
comp=Z,44nm,0.3s
BISS Bistriski jare 6.98 351 *e*Pn **Pn 19 36 40.8 0.0**
BISS *e*Sn **Sn 19 37 54.6 -5.4**
PTCC Patocco-Chiusa 7.07 341 Pg **Pn 19 36 41.5 -0.5**
DIM Dimitrovgrad 7.13 68 *i* P **Pn 19 36 44.0 +1.1**
KARN Karanos 7.24 125 *e*Pn **Pn 19 36 44.1 -0.3**
KARN *e*Sn **Sn 19 38 05.3 -1.1**
CTI Castel Tesino 7.27 332 Pg **Pn 19 36 44.4 -0.5**
CTI Castel Tesino 7.27 332 P **Pn 19 36 44.0 -0.9**
PKS8 Sarbogard 7.28 11 ⇑*i*P **Pn 19 36 44.2 -0.8**
ALN Alexandroupoli 7.29 78 *e*Pn **Pn 19 36 44.5 -0.6**
SAL Salo 7.37 324 Pg **Pn 19 36 47.1 +0.8**
comp=Z,82nm,0.4s
SAL Salo 7.37 324 P **Pn 19 36 47.5 +1.2**
FVI Forni Avoltri 7.39 339 Pg **Pn 19 36 45.8 -0.7**
FVI Forni Avoltri 7.39 339 P **Pn 19 36 46.0 -0.5**
PVL Pavlikeni 7.40 59 P **Pn 19 36 46.7 +0.1**
VAM Vamos 7.42 123 *e*P **Pn 19 36 46.2 -0.6**
MAGA Magasa 7.46 326 Pg **Pn 19 36 47.6 +0.2**
comp=Z,97nm,0.4s
CHOS Chios island 7.46 98 *e*Pn **Pn 19 36 47.8 +0.3**
PRK Paraskevi 7.48 91 *e*P **Pn 19 36 48.2 +0.5**
APE Apeiranthos 7.49 108 *e*P **Pn 19 36 47.8 -0.1**
APE Apeiranthos 7.49 108 ⇓*i*P **Pn 19 36 47.9 0.0**
APE Apeiranthos 7.49 108 *c i*P **Pn 19 36 48.2 +0.3**
ARSA Arzberg 7.54 354 ⇑*e*Pn **Pn 19 36 48.4 -0.1**
SNR=20
ARSA ⇑*i*Sn **Sn 19 38 09.9 -3.9**
comp=Z,11nm,0.4s
ARSA Arzberg 7.54 354 *e*Pn **Pn 19 36 48.6 +0.1**
ARSA *e*Sn **Sn 19 38 08.6 -5.2**
THR3 Thira Island, 7.69 113 *e*Pn **Pn 19 36 53.1 +2.6**
SEST Monte Rota 7.70 337 Pg **Pn 19 36 51.0 +0.3**
comp=Z,75nm,0.7s
SEST Monte Rota 7.70 337 P **Pn 19 36 52.5 +1.8**
KBA Koelnbreinsper 7.70 343 *e*Pn **Pn 19 36 51.0 +0.2**
KBA *e*Sn **Sn 19 38 14.5 -3.3**
KBA *e*Sn **Sn 19 38 17.3 -0.5**
KBA Koelnbreinsper 7.70 343 ⇓*i*Pn **Pn 19 36 50.9 +0.2**
comp=Z,24nm,0.4s,SNR=25
KBA ⇓*e*Sn **Sn 19 38 14.6 -3.3**
comp=Z,30nm,0.5s
KBA Koelnbreinsper 7.70 343 ⇓*i*P **Pn 19 36 51.0 +0.2**
KBA *e* 19 38 14.6
KBA pmax pmax
comp=Z,24nm,0.4s
GVD Gavdhos 7.71 127 *e*Pn **Pn 19 36 50.7 -0.2**
GVD Gavdhos 7.71 127 *e*P **Pn 19 36 51.5 +0.6**
IMI Imperia 7.73 305 P **Pn 19 36 53.2 +2.0**
PKSG 7.74 9 *e*P **Pn 19 36 52.3 +1.0**
THR1 Thera Island 7.75 113 *e*Pn **Pn 19 36 50.9 -0.4**
APPI Appiano 7.79 331 Pg **Pn 19 36 52.4 +0.4**
AYVA Ayvalik 7.79 90 *i* P **Pn 19 36 53.0 +0.9**
BRES Bressanone 7.80 334 Pg **Pn 19 36 52.4 +0.2**

MDI Monti di Nese 7.88 322 Pg **Pn 19 36 54.1 +0.9**
comp=Z,32nm,0.3s
IDI Anoyia 7.94 122 Pn **Pn 19 36 52.9 -1.0**
comp=Z,4.2nm,0.3s,baz=322,slow=16,SNR=28
IDI Sn **Sn 19 38 15.6 -8.1**
comp=Z,5.4nm,0.3s,baz=349,slow=12,SNR=3.0
JMB Yambol 8.00 67 *e*Pn **Pn 19 36 54.4 -0.4**
JMB Yambol 8.00 67 P **Pn 19 36 54.4 -0.4**
SBF Sospel 8.00 304 *e*Pn **Pn 19 36 56.4 +1.6**
AUTN L'Aution 8.06 305 Pn **Pn 19 36 58.3 +2.6**
AUTN L'Aution 8.06 305 Pn **Pn 19 36 57.9 +2.2**
AUTN L'Aution 8.06 305 Pn **Pn 19 36 57.9 +2.2**
LUCF Luceram 8.07 304 Pn **Pn 19 36 58.2 +2.4**
BRMO Bormio 8.12 328 P **Pn 19 36 57.7 +1.1**
TOUF Mont Tournerai 8.19 304 Pn **Pn 19 36 59.7 +2.3**
CONA Conrad Observa 8.19 356 *i* Pn **Pn 19 36 58.0 +0.6**
comp=Z,16nm,0.4s,SNR=63
CONA ⇓*i*Sn **Sn 19 38 26.0 -3.9**
comp=Z,15nm,0.4s
SMG Samos 8.24 101 *e*P **Pn 19 36 58.2 0.0**
MOA Molln 8.27 349 ⇑*i*Pn **Pn 19 36 59.2 +0.6**
comp=Z,26nm,0.3s,SNR=90
MOA ⇑*i*Sn **Sn 19 38 28.3 -3.6**
comp=Z,62nm,0.6s
MOA Molln 8.27 349 *e*Pn **Pn 19 36 59.1 +0.5**
MOA *e*Sn **Sn 19 38 30.3 -1.6**
MTUR Matau 8.29 46 ⇓*i*P **Pn 19 37 00.3 +1.4**
MTUR Matau 8.29 46 P **Pn 19 37 00.1 +1.2**
DRGR 8.32 30 ⇓*i*P **Pn 19 36 59.7 +0.5**
DRGR 8.32 30 P **Pn 19 37 00.9 +1.6**
DRGR 8.32 30 P **Pn 19 37 00.9 +1.7**
WTTA Wattenberg 8.33 336 ⇓*i*Pn **Pn 19 37 01.4 +2.0**
comp=Z,8.9nm,0.3s,SNR=9.1
WTTA ⇑*e*Sn **Sn 19 38 32.1 -1.3**
comp=Z,98nm,0.7s
WTTA Wattenberg 8.33 336 ⇓*i*P **Pn 19 37 01.4 +2.0**
WTTA *e* 19 38 32.1
WTTA pmax pmax
comp=Z,9.0nm,0.3s
WTTA Wattenberg 8.33 336 *e*Pn **Pn 19 37 01.4 +2.0**
WTTA *e*S **Sn 19 38 32.1 -1.3**
FRF La Foret Royal 8.38 300 *e*Pn **Pn 19 37 01.0 +0.9**
LMR La Mourre 8.38 299 *e*Pn **Pn 19 37 00.1 0.0**
LMR *e*Sn **Sn 19 38 27.6 -7.0**
comp=Z,12nm,0.8s
LMR La Mourre 8.38 299 *e*Pn **Pn 19 37 00.1 0.0**
LMR *e*Sn **Sn 19 38 27.6 -7.0**
comp=Z,6.1nm,0.8s
KDAG Bornova 8.39 96 *i* P **Pn 19 37 01.0 +0.8**
LAST Lasithi 8.40 120 *e*Pn **Pn 19 36 60.0 -0.4**
WATA Walderalm 8.42 336 ⇑*i*Pn **Pn 19 37 01.9 +1.3**
comp=Z,66nm,0.5s,SNR=43
WATA ⇓*e*Sn **Sn 19 38 35.8 +0.4**
comp=Z,26nm,0.4s
WATA Walderalm 8.42 336 ⇑*i*P **Pn 19 37 01.9 +1.3**
WATA *e* 19 38 35.8
WATA pmax pmax
comp=Z,67nm,0.5s
VOIR 8.42 45 ⇓*i*P **Pn 19 37 02.2 +1.6**
VOIR 8.42 45 ⇓P **Pn 19 37 02.2 +1.7**
NPS Neapolis 8.43 119 *e*P **Pn 19 37 00.1 -0.7**
SQTA Sankt Quirin 8.44 334 ⇑*e*Pn **Pn 19 37 02.3 +1.4**
comp=Z,15nm,0.3s,SNR=11
SQTA ⇑*e*Sn **Sn 19 38 35.6 -0.3**
comp=Z,21nm,0.4s
SQTA Sankt Quirin 8.44 334 ⇑*e*P **Pn 19 37 02.3 +1.5**
SQTA *e* 19 38 35.6
SQTA pmax pmax
comp=Z,15nm,0.3s
ZST Bratislava 8.45 2 *e*PN **Pn 19 37 01.1 +0.1**
ZST *e*SN **Sn 19 38 28.8 -7.4**
PSZ Piszkesteto 8.50 15 P **Pn 19 37 01.2 -0.5**
TUE Stuetta 8.56 324 P **Pn 19 37 04.4 +1.8**
DAVOX Davos 8.57 327 Pn **Pn 19 37 03.0 +0.3**
comp=Z,2.5nm,0.3s,baz=155,slow=15,SNR=16
DAVOX Sn **Sn 19 38 37.5 -1.8**
comp=Z,1.2nm,0.3s,baz=112,slow=15,SNR=2.6
MOTA Moosalm 8.58 334 ⇓*e*Pn **Pn 19 37 03.7 +0.9**
comp=Z,12nm,0.5s,SNR=17
MOTA ⇓*e*Sn **Sn 19 38 39.8 +0.4**
comp=Z,30nm,0.5s
MOTA Moosalm 8.58 334 ⇓*e*P **Pn 19 37 03.7 +0.9**
MOTA *e* 19 38 39.8
MOTA pmax pmax
comp=Z,12nm,0.5s
SNX Sinaia 8.62 47 ⇑*i*P **Pn 19 37 03.8 +0.4**
SNX Sinaia 8.62 47 ⇑P **Pn 19 37 03.8 +0.3**
XRY Khrisi 8.71 121 *e*P **Pn 19 37 05.5 +0.9**
SMOL Smolenice 8.78 4 *e*PN **Pn 19 37 06.0 +0.5**
SMOL *e*SN **Sn 19 38 38.1 -6.2**
BTOK Tokmak 8.79 86 *i* P **Pn 19 37 06.3 +0.6**
TAVF Tavernes 8.80 299 Pn **Pn 19 37 07.8 +2.0**
MBDF Montbardon 8.83 307 *e*Pn **Pn 19 37 09.0 +2.7**
VYHS Vyhne 8.88 10 *e*Pn **Pn 19 37 08.0 +1.0**
VYHS *e*SN **Sn 19 38 40.8 -6.1**
KOLL Kolacno 8.92 8 *e*PN **Pn 19 37 08.2 +0.8**
KOLL *e*SN **Sn 19 38 42.5 -5.2**
BERF Bertagne 8.94 297 Pn **Pn 19 37 09.0 +1.3**
MLR Muntele Rosu 8.95 47 Pn **Pn 19 37 09.7 +1.9**
comp=Z,4.5nm,0.3s,baz=287,slow=5.2,SNR=28
MLR Muntele Rosu 8.95 47 ⇓*i*P **Pn 19 37 09.7 +1.8**
MLR Muntele Rosu 8.95 47 P **Pn 19 37 09.8 +1.9**
MLR Muntele Rosu 8.95 47 P **Pn 19 37 09.8 +1.9**
DAVA Damuels 8.98 329 ⇑*e*Pn **Pn 19 37 10.2 +2.0**
comp=Z,7.4nm,0.3s,SNR=13
DAVA ⇑*e*Sn **Sn 19 38 46.2 -3.0**
comp=Z,14nm,0.4s
DAVA Damuels 8.98 329 *e*Pn **Pn 19 37 10.5 +2.2**
DAVA *e*Sn **Sn 19 38 46.2 -3.1**
PUYF Puyloubier 9.01 298 Pn **Pn 19 37 10.7 +2.0**
BNI Bardonecchia 9.06 309 *e*P **Pn 19 37 13.1 +3.7**
BNI pmax pmax
comp=Z,13nm,0.8s
BNI Bardonecchia 9.06 309 *e*P **Pn 19 37 13.1 +3.7**
comp=Z,13nm,0.8s
BNI Bardonecchia 9.06 309 *e*P **Pn 19 37 13.1 +3.7**
comp=Z,13nm,0.8s
ISR Istrita 9.08 51 ⇓*i*P **Pn 19 37 12.1 +2.4**
ISR Istrita 9.08 51 ⇓P **Pn 19 37 12.1 +2.4**
KECS Kecovo 9.16 16 *e*PN **Pn 19 37 11.1 +0.4**
KECS *e*SN **Sn 19 38 48.4 -5.3**
SMRF Simiane la Rot 9.26 301 *e*Pn **Pn 19 37 14.7 +2.6**
LPG La Plagne 9.26 312 *e*Pn **Pn 19 37 15.6 +3.4**
LPL La Plagne 9.29 312 *e*Pn **Pn 19 37 15.7 +3.2**
GEC2 GERESS Array S 9.33 348 *e*Pn **Pn 19 37 12.8 -0.3**
GEC2 *e*Sn **Sn 19 38 53.9 -3.9**
GERES GERESS Array B 9.33 348 Pn **Pn 19 37 12.5 -0.6**
comp=Z,2.7nm,0.3s,baz=165,slow=14,SNR=37
GERES Sn **Sn 19 38 53.1 -4.8**
comp=Z,5.3nm,0.3s,baz=165,slow=24,SNR=10
GERES LR LR 19 40 31.5
comp=Z,139nm,20.4s,baz=166,slow=36
GERES GERESS Array B 9.33 348 P **Pn 19 37 12.5 -0.6**
GERES 19 38 53.1
KARP Karpathos 9.35 113 *e*P **Pn 19 37 12.6 -0.8**
MANT Manisa 9.36 94 *i* P **Pn 19 37 14.8 +1.3**
ORIF Oris-en-Rattie 9.48 306 *e*Pn **Pn 19 37 17.6 +2.5**
VRAC Vranov 9.55 360 Pn **Pn 19 37 16.8 +0.7**
comp=Z,1.1nm,0.3s,baz=152,slow=14,SNR=5.3
VRAC Sn **Sn 19 38 57.4 -5.9**
comp=Z,2.1nm,0.3s,baz=106,slow=18,SNR=6.6
VRAC LR LR 19 41 09.7
comp=Z,317nm,21.0s,baz=194,slow=39
VRAC Vranov 9.55 360 ⇓*i*P **Pn 19 37 16.7 +0.5**
VRAC Vranov 9.55 360 P **Pn 19 37 16.8 +0.6**
VRAC 19 38 57.4
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC smax
comp=N,2.0nm,0.3s
VRAC MLR MLR
comp=Z,317nm,21.0s
VRAC Vranov 9.55 360 ⇓P **Pn 19 37 16.7 +0.6**
PLOR Plostina 9.56 47 ⇓*i*P **Pn 19 37 16.9 +0.7**
TREC Trest 9.57 356 *e*P **Pn 19 37 17.0 +0.5**
TREC AMS AMS 19 41 30.0
comp=Z,1µm,13.2s
TREC Trest 9.57 356 *e*P **Pn 19 37 17.0 +0.5**
comp=Z,1µm,13.2s
VRI Vrincioaia 9.61 47 ⇑*i*P **Pn 19 37 18.2 +1.2**
VRI Vrincioaia 9.61 47 P **Pn 19 37 18.1 +1.1**
KHC Kasperske Hory 9.62 348 *e*P **Pn 19 37 17.2 +0.1**
KHC x x 19 37 28.5
KHC x x 19 37 55.0

KHC *e*S **Sn** **19 38 58.5 -6.6**
KHC AMS AMS 19 41 30.0
comp=Z,1μm,16.3s
KHC Kasperske Hory 9.62 348 *e*Pn **Pn** **19 37 17.2 +0.1**
KHC *e* 19 37 28.5
KHC *e* 19 37 55.0
KHC *e*Sn **Sn** **19 38 58.5 -6.6**
KHC Kasperske Hory 9.62 348 *e*P **Pn** **19 37 17.2 +0.1**
comp=Z,1μm,16.3s
CVD Cernavoda 9.63 58 P **Pn** **19 37 21.3 +4.0**
ARG Arkhangelos 9.74 108 *e*P **Pn** **19 37 19.9 +1.1**
WET Wettzell 9.76 345 *e*Pn **Pn** **19 37 18.6 -0.4**
WET *e*Sn **Sn** **19 39 02.6 -5.9**
CRVS Cervenica-Dubn 9.78 19 *e*PN **Pn** **19 37 19.7 +0.4**
DNZL Cakiroluk 9.93 98 *i* P **Pn** **19 37 22.8 +1.5**
TIRR Tirgusor 9.94 58 ‖ *i*P **Pn** **19 37 21.4 -0.1**
TIRR Tirgusor 9.94 58 ‖ P **Pn** **19 37 21.4 -0.1**
NIE Niedzica 10.02 14 *e*P **Pn** **19 37 25.6 +3.1**
BURAR Bucovina Array 10.02 36 ‖ *i*P **Pn** **19 37 23.4 +0.9**
BURAR Bucovina Array 10.02 36 ‖ P **Pn** **19 37 23.4 +0.9**
KOLS Kolonicke sedl 10.03 22 *e*PN **Pn** **19 37 24.5 +1.8**
MORC Moravsky Berou 10.04 3 ‖ *i*P **Pn** **19 37 24.4 +1.5**
MORC Moravsky Berou 10.04 3 *e*P **Pn** **19 37 24.0 +1.1**
CFR Carcaliu 10.08 54 ‖ *i*P **Pn** **19 37 23.4 0.0**
CFR Carcaliu 10.08 54 ‖ P **Pn** **19 37 23.4 -0.1**
OKC Ostrava-Krasne 10.14 6 *e*P **Pn** **19 37 25.7 +1.5**
OKC *e*S **Sn** **19 39 12.4 -5.4**
comp=Z,18nm,1.0s
OKC AMS AMS 19 42 10.0
comp=Z,600nm,8.6s
OKC Ostrava-Krasne 10.14 6 *e*Pn **Pn** **19 37 25.7 +1.5**
OKC *e*Sn **Sn** **19 39 12.4 -5.4**
OKC Ostrava-Krasne 10.14 6 *e*P **Pn** **19 37 25.7 +1.5**
comp=Z,600nm,8.6s
STHS Stebnicka Huta 10.21 17 *e*PN **Pn** **19 37 27.6 +2.5**
STHS *e*SN **Sn** **19 39 13.3 -6.1**
VIVF Saint-Julien-I 10.21 304 *e*Pn **Pn** **19 37 27.5 +2.3**
FELD Feldberg im Sc 10.23 325 Pn **Pn** **19 37 27.5 +2.1**
CABF La Chapelle 10.30 315 *e*Pn **Pn** **19 37 23.7 -2.7**
PRU Pruhonice 10.34 352 *e*P **Pn** **19 37 26.0 -0.9**
LOMF Lomont 10.40 320 Pn **Pn** **19 37 31.1 +3.4**
BFO Black Forest 10.44 328 *e*P **Pn** **19 37 28.1 -0.2**
LASF Ste Croix 10.45 299 *e*Pn **Pn** **19 37 28.3 -0.1**
ROTZ Rotzenmuhle 10.49 344 *e*Pn **Pn** **19 37 28.3 -0.7**
ROTZ *e*Sn **Sn** **19 39 18.0 -8.4**
DPC Dobruska-Polom 10.60 359 *e*P **Pn** **19 37 32.1 +1.6**
DPC *e*S **Sn** **19 39 21.9 -7.1**
comp=Z,13nm,1.0s
DPC AMS AMS 19 42 10.0
comp=Z,500nm,11.4s
DPC Dobruska-Polom 10.60 359 *e*Pn **Pn** **19 37 32.1 +1.6**
DPC *e*Sn **Sn** **19 39 21.9 -7.1**
DPC Dobruska-Polom 10.60 359 *e*P **Pn** **19 37 32.1 +1.6**
comp=Z,500nm,11.4s
ETOS Mallorca 10.63 274 P **Pn** **19 37 32.2 +1.2**
comp=Z,16nm,0.7s
GRA1 Grafenberg Arr 10.65 341 *e*Sn **Sn** **19 39 23.4 -6.9**
GRF Grafenberg Arr 10.65 341 *e*Sn **Sn** **19 39 23.4 -6.9**
HINF Hinteralfeld 10.71 322 *e*Pn **Pn** **19 37 30.1 -1.9**
HINF *e*Sn **Sn** **19 39 23.1 -8.6**
comp=Z,12nm,0.6s
HINF Hinteralfeld 10.71 322 *e*Pn **Pn** **19 37 30.1 -1.9**
HINF *e*Sn **Sn** **19 39 23.1 -8.6**
comp=Z,5.8nm,0.6s
MANZ Manzenberg 10.72 344 *e*Pn **Pn** **19 37 31.4 -0.7**
MANZ *e*Sn **Sn** **19 39 22.9 -9.1**
TKTP Tekketepe 10.81 95 *i* P **Pn** **19 37 34.4 +1.0**
PVCC Panska Ves 10.87 353 *e*P **Pn** **19 37 34.6 +0.4**
PVCC AMS AMS 19 42 20.0
comp=Z,1μm,14.3s
PVCC Panska Ves 10.87 353 *e*P **Pn** **19 37 34.6 +0.4**
comp=Z,400nm,14.3s
NKC Novy Kostel 10.89 346 *e*P **Pn** **19 37 34.0 -0.4**
NKC *e*S **Sn** **19 39 28.9 -7.2**
NKC AMS AMS 19 42 20.0
comp=Z,1μm,15.6s
NKC Novy Kostel 10.89 346 *e*Pn **Pn** **19 37 34.0 -0.4**
NKC *e*Sn **Sn** **19 39 28.9 -7.2**
NKC Novy Kostel 10.89 346 *e*P **Pn** **19 37 34.0 -0.4**
comp=Z,1μm,15.6s
CDF Champ du Feu 10.95 325 *e*Pn **Pn** **19 37 33.7 -1.6**
CDF *e*Sn **Sn** **19 39 28.3 -9.4**
comp=Z,19nm,0.9s
CDF Champ du Feu 10.95 325 *e*Pn **Pn** **19 37 33.7 -1.6**
CDF *e*Sn **Sn** **19 39 28.3 -9.4**
comp=Z,9.4nm,0.9s
TANN Tannenbergstha 11.06 346 *e*Pn **Pn** **19 37 36.4 -0.4**
TANN *e*Sn **Sn** **19 39 32.4 -7.9**
HAU Haudompre 11.08 321 *e*Pn **Pn** **19 37 34.3 -2.8**
HAU *e*Sn **Sn** **19 39 31.9 -9.0**
comp=Z,28nm,0.7s
HAU Haudompre 11.08 321 *e*Pn **Pn** **19 37 34.3 -2.8**
HAU *e*Sn **Sn** **19 39 31.9 -9.0**
comp=Z,14nm,0.7s
WERD Werda 11.12 346 *e*Pn **Pn** **19 37 37.6 0.0**
BRG Berggiesshubel 11.28 351 *e*P **Pn** **19 37 40.8 +1.0**
comp=Z,1.8nm,0.6s
BRG *e* 19 39 52.7
comp=Z,3.0nm,0.7s
BRG Berggiesshubel 11.28 351 *e*P **Pn** **19 37 40.8 +1.0**
BRG *e* 19 39 52.7
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG pmax pmax
comp=Z,3.0nm,0.7s
LBL Lubilhac 11.29 303 Pn **Pn** **19 37 42.5 +2.6**
TOD Tromm 11.31 333 Pn **Pn** **19 37 39.3 -0.9**
LVV L'vov 11.35 25 *e*P **Pn** **19 37 44.7 +3.9**
LVV *e*S **Sn** **19 39 54.9 +7.4**
LVV MLR MLR
comp=N,240nm,12.0s
LVV MLR MLR
comp=Z,390nm,12.0s
LVV MLR MLR
comp=E,190nm,11.0s
MTLF Montolieu 11.37 293 *e*Pn **Pn** **19 37 38.3 -2.8**
THEF They Montfort 11.41 321 Pn **Pn** **19 37 42.6 +1.0**
MOX Moxa 11.45 344 *e*Pn **Pn** **19 37 41.2 -0.9**
MOX *e*Sn **Sn** **19 39 40.3 -9.5**
MOX Moxa 11.45 344 *e*PN **Pn** **19 37 40.4 -1.7**
MOX *e*SN **Sn** **19 39 41.6 -8.2**
MOX
comp=Z,800nm,16.0s
MOX Moxa 11.45 344 *e*Pn **Pn** **19 37 40.4 -1.7**
MOX *e*Sn **Sn** **19 39 41.6 -8.2**
SMF Signal de Mont 11.59 311 *e*Pn **Pn** **19 37 41.0 -3.0**
CLL Collm 11.83 349 *e*P **Pn** **19 37 48.0 +0.7**
CLL *i* x x 19 38 21.9
CLL *e*S **Sn** **19 39 51.0 -8.2**
CLL *e*SS 19 40 14.0
CLL *e*x x 19 40 53.0
CLL Collm 11.83 349 *e*P **Pn** **19 37 48.0 +0.7**
CLL MLR MLR
comp=Z,1μm,13.6s
CLL Collm 11.83 349 *e*Pn **Pn** **19 37 48.0 +0.7**
CLL *i* 19 38 21.9
CLL *e*Sn **Sn** **19 39 51.0 -8.2**
CLL *e* 19 40 53.0
CLL Collm 11.83 349 *e*P **Pn** **19 37 48.0 +0.7**
comp=Z,1μm,13.6s
SGKT Sivrigoynuk 11.84 81 *i* P **Pn** **19 37 48.9 +1.4**
EIBI Ibiza 11.85 271 P **Pn** **19 37 51.1 +3.6**
comp=Z,12nm,0.7s
LOR Lormes 11.92 313 *e*Pn **Pn** **19 37 46.6 -1.9**
LOR *e*Sn **Sn** **19 39 51.3 -10**
comp=Z,5.5nm,0.6s
LOR Lormes 11.92 313 *e*Pn **Pn** **19 37 46.6 -1.9**
LOR *e*Sn **Sn** **19 39 51.3 -10**
comp=Z,2.8nm,0.6s
CAF Calviac 11.94 300 *e*Pn **Pn** **19 37 49.7 +0.8**
AVF Avril sur Loir 11.95 310 *e*Pn **Pn** **19 37 46.1 -2.9**
SSF Saint Saulge 12.01 312 *e*Pn **Pn** **19 37 47.6 -2.1**
KDHN Kadinhani 12.10 91 *i* P **Pn** **19 37 51.8 +0.8**
BGF Bois d'Agland 12.13 309 *e*Pn **Pn** **19 37 48.2 -3.3**
ERTA Horta de San J 12.49 281 P **Pn** **19 37 56.3 0.0**
comp=Z,42nm,0.9s
EGRA Graus 12.56 286 P **Pn** **19 37 58.6 +1.2**
comp=Z,11nm,0.8s
EPF Esparros 12.66 290 *e*Pn **Pn** **19 37 56.2 -2.5**
EBIE Bielsa 12.75 289 P **Pn** **19 38 03.3 +3.4**
comp=Z,8.1nm,0.9s
LFF La Frestale 12.84 299 *e*Pn **Pn** **19 38 01.6 +0.5**
ELDT Eldivan 12.89 81 *i* P **Pn** **19 38 03.4 +1.6**

BR131 Keskin Array S 13.10 85 *e*P **Pn** **19 38 04.6 -0.1**
BRTR Keskin Array B 13.10 85 Pn **Pn** **19 38 04.8 +0.1**
comp=Z,0.2nm,0.3s,baz=267,slow=11,SNR=14
BRTR Keskin Array B 13.10 85 ‖ *e*P **Pn** **19 38 06.0 +1.3**
EMOS Mosqueruela 13.11 278 P **Pn** **19 38 06.1 +1.3**
comp=Z,31nm,1.1s
ETSF Etsaut 13.29 289 *e*Pn **Pn** **19 38 07.1 -0.2**
ECHE Chera 13.56 275 P **Pn** **19 38 13.8 +2.9**
ECHE pmax pmax
comp=Z,9.0nm,0.6s
ECHE Chera 13.56 275 P **Pn** **19 38 13.8 +2.9**
comp=Z,8.6nm,0.6s
ECHE Chera 13.56 275 P **Pn** **19 38 13.8 +2.9**
comp=Z,9.0nm,0.6s
SJPF Ste Jean 13.80 290 *e*Pn **Pn** **19 38 11.9 -2.4**
MFF Saint Martin d 14.01 305 *e*Pn **Pn** **19 38 15.7 -1.4**
AKASG Malin Array Be 14.07 35 Pn **Pn** **19 38 16.4 -1.5**
comp=Z,0.7nm,0.3s,baz=224,slow=12,SNR=8.5
MEST Erdemli 14.14 97 *i* P **Pn** **19 38 18.7 -0.2**
ETOR Torete 14.30 280 P **Pn** **19 38 28.0 +6.9**
ETOR pmax pmax
comp=Z,6.0nm,0.6s
ETOR Torete 14.30 280 P **Pn** **19 38 28.0 +6.9**
comp=Z,5.6nm,0.6s
EVIA Vianos 14.88 272 P **Pn** **19 38 28.6 -0.3**
SUW Suwalki 14.94 15 *e*P **Pn** **19 38 29.7 -0.1**
SUW pmax pmax
comp=Z,35nm,0.9s
SUW Suwalki 14.94 15 *e*P **Pn** **19 38 29.7 -0.1**
comp=Z,35nm,0.9s
EHUE Huescar 15.11 269 P **Pn** **19 38 34.1 +2.0**
FLN La Foliniere 15.18 312 *e*Pn **Pn** **19 38 30.1 -2.9**
EQES Quesada 15.48 269 P **Pn** **19 38 43.8 +6.8**
comp=Z,27nm,0.9s
EBER Berja 15.58 266 P **Pn** **19 38 41.9 +3.7**
comp=Z,16nm,0.7s
ESDC Sonseca Array 15.84 276 Pn **Pn** **19 38 42.9 +1.2**
comp=Z,0.6nm,0.3s,baz=77,slow=11,SNR=15
ESDC LR LR 19 44 20.7
comp=Z,686nm,18.1s,baz=85,slow=36
ESDC Sonseca Array 15.84 276 P **Pn** **19 38 44.8 +3.2**
comp=Z,10nm,1.0s
ESLA Sonseca Array 15.84 276 *e*P **Pn** **19 38 45.4 +3.7**
comp=Z,2.6nm,0.9s
GUD Guadarrama 15.90 280 P **Pn** **19 38 46.9 +4.5**
GUD pmax pmax
comp=Z,11nm,0.8s
GUD Guadarrama 15.90 280 P **Pn** **19 38 46.9 +4.5**
comp=Z,11nm,0.8s
EBAN Banos Encina 15.96 271 P **Pn** **19 38 47.1 +4.0**
EBAN pmax pmax
comp=Z,7.0nm,0.6s
EBAN Banos Encina 15.96 271 P **Pn** **19 38 47.1 +4.0**
comp=Z,6.6nm,0.6s
EALB Alboran 15.98 262 P **Pn** **19 38 45.9 +2.4**
ECOG Cogollos-Vega 15.99 268 P **Pn** **19 38 51.9 +8.3**
ECOG pmax pmax
comp=Z,10.0nm,1.0s
ECOG Cogollos-Vega 15.99 268 P **Pn** **19 38 51.9 +8.3**
comp=Z,10nm,1.0s
SGMF Saint Gilles 16.17 308 *e*Pn **Pn** **19 38 43.4 -2.5**
ERON Agron 16.25 267 P **Pn** **19 38 53.1 +6.2**
ELOJ Sierra Loja 16.48 268 P **Pn** **19 38 55.6 +5.8**
comp=Z,2.9nm,0.4s
MMAI Mount Meron Ar 16.54 108 Pn **Pn** **19 38 45.4 -5.2**
comp=Z,2.6nm,0.3s,baz=306,slow=11,SNR=11
MMAI Sn **Sn** **19 41 44.0 -10**
comp=Z,2.3nm,0.3s,baz=313,slow=26,SNR=6.0
GRSN GIRESUNGRSN 16.55 79 *i* P **Pn** **19 38 53.9 +3.2**
GZT Gaziantep 16.55 92 *i* P **Pn** **19 38 53.6 +2.8**
EADA Adamuz 16.57 271 P **Pn** **19 38 53.3 +2.4**
comp=Z,6.5nm,0.7s
ROSF Rostrenen 16.64 308 *e*Pn **Pn** **19 38 50.3 -1.6**
MALT Malatya 17.00 88 ‖ *i*P **Pn** **19 38 59.6 +3.2**
MALT Malatya 17.00 88 ‖ P **Pn** **19 38 59.6 +3.2**
EMIJ Mijas 17.12 266 P **Pn** **19 39 00.2 +2.3**
comp=Z,9.3nm,0.4s
ELZG Elazig 17.39 87 *i* P **Pn** **19 39 04.6 +3.3**
SOC Sochi 17.66 70 *c i*P **Pn** **19 39 04.7 +0.1**
SOC *e* 19 42 25.1
SOC pmax pmax
comp=Z,31nm,1.0s
SOC MLR MLR
comp=Z,81nm,9.0s
EJIF Jimena Fronter 17.69 266 P **Pn** **19 39 06.6 +1.6**
ECAL Calabor 17.80 285 P **Pn** **19 39 08.4 +2.0**
comp=Z,35nm,0.9s
ESPR Espera 17.87 268 P **Pn** **19 39 08.9 +1.7**
comp=Z,60nm,1.3s
ASF Jabal al Asfar 18.05 108 P **Pn** **19 39 06.7 -2.7**
comp=Z,0.2nm,0.3s,baz=284,slow=4.2,SNR=2.9
EMIN Mina Concepcio 18.27 271 P **Pn** **19 39 13.3 +1.2**
comp=Z,25nm,0.7s
EBAD Badajoz 18.32 274 P **Pn** **19 39 14.4 +1.6**
comp=Z,35nm,1.1s
MDT Midelt 18.44 255 P **Pn** **19 39 11.7 -2.5**
comp=Z,0.1nm,0.3s,baz=57,slow=15,SNR=4.5
MDT LR LR 19 45 24.4
comp=Z,518nm,20.9s,baz=235,slow=34
EGRO El Granado 18.95 271 P **Pn** **19 39 19.9 -0.5**
comp=Z,16nm,0.9s
VOR Voronezh 19.70 45 P **Pn** **19 39 25.0 -4.4**
VOR pmax pmax
comp=Z,50nm,2.0s
KIV Kislovodsk 19.83 69 *e*P **Pn** **19 39 30.5 -0.5**
KIV *e*S **Sn** **19 43 16.4 +2.8**
KIV pmax pmax
comp=Z,27nm,1.2s
KIV Kislovodsk 19.83 69 *e*P **Pn** **19 39 30.6 -0.3**
comp=Z,37nm,1.4s
GOF Gofitskoye 20.17 66 *e*P **P** **19 39 32.4 -0.6**
GOF pmax pmax
comp=Z,200nm,0.8s
OBN Obninsk 20.34 34 ⇑ *e*P **P** **19 39 33.8 -1.1**
OBN *i* 19 39 42.0
OBN *e* 19 39 53.1
OBN pmax pmax
comp=Z,48nm,2.2s
OBN MLR MLR
comp=Z,300nm,15.0s,MS3.8
KONO Kongsberg 20.41 350 *c i*P **P** **19 39 34.8 -0.8**
EKA Eskdalemuir Ar 20.41 326 P **P** **19 39 33.6 -2.1**
comp=Z,14nm,0.9s,baz=134,slow=12,SNR=18
HFS Hagfors 20.49 356 P **P** **19 39 35.7 -0.8**
comp=Z,20nm,0.6s,baz=170,slow=9.9,SNR=72
ZEI Tsey 20.69 73 *e*P **P** **19 39 42.1 +3.4**
ZEI *e**PP 19 39 47.0
ZEI pmax pmax
comp=Z,28nm,0.7s
MOS Moscow 21.20 34 *e*P **P** **19 39 41.7 -2.5**
MOS *e* 19 43 40.9
MOS pmax pmax
comp=Z,42nm,0.8s,mb4.8
NAO01 NORSAR Array S 21.41 352 *e*P **P** **19 39 45.6 -0.9**
comp=Z,13nm,0.5s,mb4.5
GNI Garni 21.53 80 P **P** **19 39 47.1 -0.7**
comp=Z,3.2nm,0.4s,mb4.1,baz=342,slow=20,SNR=7.0
GNI Garni 21.53 80 *e*P **P** **19 39 48.6 +0.8**
GNI pmax pmax
comp=Z,72nm,1.4s
GNI Garni 21.53 80 *e*P **P** **19 39 48.6 +0.8**
comp=Z,72nm,1.4s,mb4.9
NB2 NORSAR Subarra 21.57 353 P **P** **19 39 47.0 -1.2**
comp=Z,25nm,0.8s,mb4.7,baz=167,slow=10
NB2 NORSAR Subarra 21.57 353 P **P** **19 39 47.0 -1.2**
NB2 pmax pmax
comp=Z,25nm,0.8s,mb4.7
NOA NORSAR Array B 21.57 353 P **P** **19 39 47.1 -1.1**
comp=Z,29nm,0.9s,mb4.7,baz=166,slow=9.6,SNR=24
FINES FINESS Array B 22.48 12 P **P** **19 39 56.4 -1.6**
comp=Z,15nm,0.9s,mb4.4,baz=180,slow=8.2,SNR=32
FINES PcP PcP 19 43 49.4 -2.5
comp=Z,0.5nm,0.5s,baz=160,slow=4.4,SNR=4.2
KAF Kangasniemi 23.16 12 *e*p **P** **19 40 06.0 +0.9**
comp=Z,3.3nm,0.4s,mb4.1
KAF Kangasniemi 23.16 12 *e*P **P** **19 40 06.0 +0.9**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
JOF Joensuu 24.82 16 *e*p **P** **19 40 18.0 -2.8**
comp=Z,3.4nm,0.6s,mb4.0
JOF Joensuu 24.82 16 *e*P **P** **19 40 18.0 -2.8**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
KLMR Klimovskoe 25.44 26 *e*P **P** **19 40 25.8 -0.6**
MIB Mutribah 27.00 102 *e*P **P** **19 40 40.2 -0.3**
MIB AMb AMB 19 40 43.8
comp=Z,39nm,0.7s,mb5.0
NAY Al-Naaiem 27.20 103 *e*P **P** **19 40 42.4 +0.1**
NAY AMb AMB 19 40 46.1
comp=Z,4.6nm,0.6s,mb4.2
RDF Al-Radifah 27.60 103 *e*P **P** **19 40 44.7 -1.2**
RDF AMb AMB 19 40 50.7
comp=Z,13nm,1.2s,mb4.5
ORR Orenburg 28.83 53 P **P** **19 40 59.1 +2.2**
ORR pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
TORD Torodi Ar. Bea 29.59 211 P **P** **19 41 01.2 -2.4**
comp=Z,1.1nm,0.7s,mb3.7,baz=18,slow=11,SNR=6.1
ARCES ARCESS Array B 30.22 6 P **P** **19 41 07.5 -1.6**
comp=Z,3.0nm,0.5s,mb4.3,baz=186,slow=8.9,SNR=36
AKTK Aktyubinsk 30.74 56 P **P** **19 41 13.6 -0.1**
AKTO Aktyubinsk 30.74 56 P **P** **19 41 13.6 -0.1**
comp=Z,2.5nm,0.7s,mb4.2,baz=265,slow=10.0,SNR=7.2
AKTO Aktyubinsk 30.74 56 P **P** **19 41 13.6 -0.2**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
ARU Arti 31.99 45 *e*P **P** **19 41 23.8 -1.0**
ARU *e* 19 42 29.4
ARU *e* 19 44 07.9
ARU *e*S **S** **19 46 38.8 +2.9**
ARU *e*SS SS 19 48 30.8 -22
ARU *e*SSS 19 48 50.4
ARU *e* 19 51 57.1
ZRNK Zerenda 37.64 52 P **P** **19 42 13.7 +0.1**
ZRNK pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ZRNK Zerenda 37.64 52 P **P** **19 42 13.7 +0.1**
comp=Z,3.0nm,0.8s,mb4.1
DBIC Dimbokro 38.18 216 P **P** **19 42 15.8 -2.3**
comp=Z,8.4nm,1.0s,mb4.4,baz=20,slow=8.2,SNR=4.4
DBIC LR LR 20 00 34.2
comp=Z,194nm,18.1s,MS4.0,baz=138,slow=40
BRVK Borovoye 38.41 51 *e*P **P** **19 42 20.2 +0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
BRVK Borovoye 38.41 51 *e*P **P** **19 42 20.2 +0.1**
comp=Z,6.2nm,0.5s,mb4.6
BVAR Borovoye Array 38.48 52 P **P** **19 42 19.7 -0.9**
comp=Z,1.6nm,0.8s,mb3.8,baz=285,slow=5.7,SNR=8.9
CHKZ Chkalovo 38.59 50 *e*P **P** **19 42 20.3 -1.3**
CHKZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
CHKZ Chkalovo 38.59 50 *e*P **P** **19 42 20.3 -1.3**
comp=Z,2.9nm,0.7s,mb4.1
AAK Ala-Archa 42.91 67 ⇑ *i*P **P** **19 42 57.1 -0.2**
AAK *i* *PP pP 19 43 00.3 -1.0
AAK pmax pmax
comp=Z,6.0nm,2.4s,mb3.9
NVS Novosibirsk 45.85 48 *i* P **P** **19 43 19.0 -1.7**
MKAR Makanchi Array 47.08 59 P **P** **19 43 29.9 -0.5**
comp=Z,1.8nm,0.5s,mb4.3,baz=281,slow=7.2,SNR=51
MKAR PcP PcP 19 45 01.1 -1.1
comp=Z,2.1nm,0.6s,baz=294,slow=3.9,SNR=3.8
SCHQ Schefferville 55.23 316 P **P** **19 44 28.8 -2.8**
comp=Z,2.9nm,0.5s,mb4.6,baz=64,slow=6.9,SNR=10
SCHQ LR LR 20 04 05.7
comp=Z,100nm,21.1s,MS3.9,baz=57,slow=32
SCHQ Schefferville 55.23 316 P **P** **19 44 28.8 -2.8**
SCHQ LR LR 20 04 05.7
KOLN Koldanda 55.78 80 *e*P **P** **19 44 34.4 -1.2**
comp=Z,9.0nm,0.9s,mb4.8
GKN Gorkha 56.45 80 *e*P **P** **19 44 39.3 -1.1**
comp=Z,48nm,1.3s,mb5.4
DMN Daman 57.01 80 *e*P **P** **19 44 43.0 -1.3**
comp=Z,54nm,1.2s,mb5.5
KKN Kakani 57.05 80 *e*P **P** **19 44 43.7 -0.9**
comp=Z,12nm,0.7s,mb5.0
KKN Kakani 57.05 80 *e*P **P** **19 44 43.7 -0.9**
KKN pmax pmax
comp=Z,12nm,0.7s,mb5.0
PKI Pulchoki 57.26 80 *e*P **P** **19 44 45.5 -0.6**
GUN Gumba 57.44 79 *e*P **P** **19 44 47.1 -0.3**
comp=Z,62nm,1.1s,mb5.5
JIRN Jiri 57.80 79 *e*P **P** **19 44 49.8 -0.1**
comp=Z,22nm,0.6s,mb5.3
TLY Talaya 58.44 47 *e*P **P** **19 44 55.8 +1.4**
TLY *e* 19 47 03.4
TLY *e*S **S** **19 52 56.6 -0.6**
TLY pmax pmax
comp=Z,57nm,1.3s,mb5.4
TLY MLR MLR
comp=Z,381nm,18.0s,MS4.6
ZAK Zakamensk 58.80 48 *e*P **P** **19 44 57.1 +0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.9s,mb4.2
GTA Gaotai 61.74 61 *e*P **P** **19 45 17.1 +0.1**
SONM Songino Array 61.79 50 P **P** **19 45 16.5 -0.9**
comp=Z,3.1nm,0.8s,mb4.5,baz=288,slow=7.6,SNR=16
ULN Ulaanbaatar 62.16 50 *e*P **P** **19 45 19.8 -0.1**
ULN pmax pmax
comp=Z,1.0nm,0.8s,mb4.0
ULN Ulaanbaatar 62.16 50 *e*P **P** **19 45 19.8 -0.1**
comp=Z,1.2nm,0.8s,mb4.1
BOSA Boshof 68.49 172 P **P** **19 45 58.2 -2.7**
comp=Z,7.3nm,0.9s,mb4.7,baz=37,slow=5.0,SNR=5.5
BOSA Boshof 68.49 172 P **P** **19 45 58.2 -2.7**
HIA Hailar 68.49 43 P **P** **19 46 10.0 +9.1**
HIA MLR MLR
comp=Z,818nm,19.0s
CD2 Chengdu 68.98 67 *e*P **P** **19 46 01.8 -2.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
INK Inuvik 69.96 349 P **P** **19 46 07.6 -2.4**
comp=Z,1.0nm,0.4s,mb4.1,baz=44,slow=8.8,SNR=4.4
BILL Bilibino 70.13 12 *e*P **P** **19 46 09.7 -1.3**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BILL Bilibino 70.13 12 *e*P **P** **19 46 09.7 -1.3**
comp=Z,2.6nm,0.6s,mb4.3
XAN Xi'an 70.78 61 P **P** **19 46 14.8 -0.2**
XAN AP pP 19 46 22.8 +3.5
YKA Yellowknife Ar 70.84 338 P **P** **19 46 12.7 -2.6**
comp=Z,4.4nm,1.0s,mb4.3,baz=42,slow=6.2,SNR=20
YKA LR LR 20 20 54.2
comp=Z,121nm,19.5s,MS4.2,baz=270,slow=39
YKA Yellowknife Ar 70.84 338 P **P** **19 46 12.7 -2.6**
YKA LR LR 20 20 54.2
ULM Lac du Bonnet 72.61 322 P **P** **19 46 24.5 -1.5**
comp=Z,1.8nm,0.6s,mb4.2,baz=54,slow=5.5,SNR=5.6
ULM Lac du Bonnet 72.61 322 P **P** **19 46 24.5 -1.5**
MA2 Magadan 74.04 22 *e*P **P** **19 46 34.5 +0.1**
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
DAWY Dawson 74.79 349 *e*P **P** **19 46 37.9 -1.0**
CN2 Changchun 74.98 45 *e*P **P** **19 46 38.1 -1.8**
NJ2 Nanjing 78.60 58 *e*P **P** **19 46 58.3 -2.0**
NJ2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
EGMT Eagleton 80.50 327 *e*P **P** **19 47 09.8 -0.9**
comp=Z,7.7nm,0.8s,mb4.7
YSS Yuzh-Sakhalins 81.22 34 ⇑ *i*P **P** **19 47 14.0 -0.5**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 81.22 34 *e*P **P** **19 47 14.2 -0.4**
comp=Z,51nm,1.1s,mb5.4
BDFB Brasilia 81.52 242 P **P** **19 47 14.1 -2.0**
comp=Z,1.2nm,0.4s,mb4.2,baz=28,slow=8.7,SNR=4.0
SDV Santo Domingo 82.29 275 P **P** **19 47 18.4 -1.7**
comp=Z,3.0nm,0.4s,mb4.6,baz=76,slow=2.4,SNR=4.5
SDV Santo Domingo 82.29 275 P **P** **19 47 18.4 -1.7**
KDAK Kodiak Island 82.41 354 P **P** **19 47 19.8 -1.0**
comp=Z,7.0nm,0.8s,mb4.7,baz=16,slow=2.0,SNR=7.0
PDAR Pinedale Array 84.50 323 LR LR 20 24 28.7
comp=Z,236nm,19.5s,MS4.6,baz=347,slow=35
SIV San Ignacio 90.94 250 P **P** **19 48 00.5 -2.0**
comp=Z,1.9nm,0.9s,mb4.4,baz=52,slow=6.3,SNR=5.4
WRA Warramunga Arr 123.59 89 PKP PKPdf 19 53 53.8 -2.3
comp=Z,1.3nm,0.9s,baz=315,slow=1.7,SNR=13
ASAR Alice Springs 125.33 93 PKP PKPdf 19 53 57.7 -1.8
comp=Z,1.6nm,0.8s,baz=327,slow=1.6,SNR=12

IDC 22 19:43:45.7±2.1, 261S×12796E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=121.8km s-min=26.2km az=70.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.56**	**188**	Pn	Pn	19 47 27.2	+0.8
0.1nm,0.3s,baz=90,slow=20,SNR=3.6							
WRA	**Warramunga Arr**	**18.32**	**161**	P	Pn	19 48 01.6	+0.4
0.3nm,0.3s,baz=342,slow=12,SNR=22							

ASAR	**Alice Springs**	**21.71 165**	P	P	19 48 38.5	+0.2
	2.6nm,0.7s,baz=345,slow=10,SNR=36					
MKAR	**Makanchi Array**	**63.47 327**	P	P	19 54 17.4	+0.1
	0.3nm,0.6s,baz=122,slow=8.5,SNR=4.3					

*LDG **22** 19:47:44.9±0.4, 1527S×16725E, h10km, Mb4.6/2, Error ellipse: s-maj=48.5km s-min=29.5km az=30.0*
*ISCJB **22** 19:47:57.6±1.5, 158S±0.1×1675E±02, h136km±23km, mb4.4/14, Error ellipse: s-maj=35.2km s-min=13.0km az=54.1*
*BJI **22** 19:47:57.0, 1580S×16770E, h144km, mB5.0, mb4.6*
*IDC **22** 19:47:58.2±3.8, 1580S×16774E, h135km±36km, mb4.1/10, mb1 4.2/11, mb1mx4.0/17, mbtmp4.5/11, Error ellipse: s-maj=30.2km s-min=24.0km az=126.0*
*NEIC **22** 19:47:59.4±2.0, 1579S×16770E, h145km±19km, mb4.6/8, Error ellipse: s-maj=19.3km s-min=13.5km az=152.0*

ISC 22 19:47:58.9±1.6, 158S±01×1677E±02, h137km±23km, n70, σ0:83/33, mb4.4/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.94**	**164**	*i* P	**Pn**	**19 48 32.0**	**-0.5**
BKM				S	**Sn**	**19 48 58.8**	**+0.5**
DZM	**Mont Dzumac**	**6.36**	**190**	*e*P	**Pn**	**19 49 30.9**	**+0.7**
DZM				*e*S	**Sn**	**19 50 40.9**	**-0.7**
DZM	**Mont Dzumac**	**6.36**	**190**	P	**Pn**	**19 49 31.0**	**+0.8**
	6.1nm,0.3s,baz=46,slow=18,SNR=121						
DZM				S	**Sn**	**19 50 40.5**	**-1.1**
	2.3nm,0.3s,baz=303,slow=23,SNR=5.2						
NOUC	**Port Laguerre**	**6.41**	**192**	*e*P	**Pn**	**19 49 32.1**	**+1.2**
NOUC				*e*S	**Sn**	**19 50 42.0**	**-1.0**
CTA	**Charters Tower**	**20.83**	**255**	*e*P	**P**	**19 52 30.6**	**+1.1**
	5.3nm,0.6s						
CTA	**Charters Tower**	**20.83**	**255**	P	**P**	**19 52 30.8**	**+1.3**
	6.1nm,0.7s,baz=76,slow=15,SNR=7.4						
CTAO	**Charters Tower**	**20.83**	**255**	*e*P	**P**	**19 52 30.1**	**+0.6**
STKA	**Stephens Creek**	**28.63**	**231**	*e*P	**P**	**19 53 41.7**	**-0.7**
	4.9nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**28.63**	**231**	P	**P**	**19 53 41.8**	**-0.6**
	6.1nm,0.7s,mb4.4,baz=43,slow=6.1,SNR=10						
WB2	**Warramunga Arr**	**31.96**	**258**	*e*P	**P**	**19 54 10.7**	**-1.0**
WRAB	**Tennant Creek**	**31.96**	**258**	*e*P	**P**	**19 54 11.3**	**-0.4**
	12nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**31.97**	**258**	P	**P**	**19 54 11.3**	**-0.6**
	4.3nm,0.8s,mb4.3,baz=87,slow=8.7,SNR=29						
AS31	**Alice Springs**	**32.69**	**251**	*e*P	**P**	**19 54 18.1**	**+0.1**
ASAR	**Alice Springs**	**32.69**	**251**	P	**P**	**19 54 18.1**	**0.0**
	9.0nm,0.7s,mb4.6,baz=78,slow=8.8,SNR=88						
ASPA	**Alice Springs**	**32.69**	**251**	*e*P	**P**	**19 54 18.1**	**0.0**
FORT	**Forrest**	**39.11**	**240**	*e*P	**P**	**19 55 13.8**	**+1.0**
	16nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**40.23**	**261**	*e*P	**P**	**19 55 22.6**	**+0.6**
	22nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.23**	**261**	P	**P**	**19 55 22.5**	**+0.6**
	13nm,0.7s,mb4.7,baz=101,slow=7.7,SNR=32						
MBWA	**Marble Bar**	**45.66**	**256**	*e*P	**P**	**19 56 06.2**	**+0.4**
	6.0nm,0.9s,mb4.2						
NWAO	**Narrogin (SRO)**	**48.56**	**240**	P	**P**	**19 56 29.3**	**+1.1**
	9.3nm,0.9s,mb4.4,baz=82,slow=11,SNR=3.9						
NWAO	**Narrogin (SRO)**	**48.56**	**240**	*e*P	**P**	**19 56 29.6**	**+1.4**
PGP	**Puerto Galera**	**54.61**	**300**	*e*P	**P**	**19 57 11.0**	**-2.1**
JOW	**Kunigami**	**57.09**	**317**	P	**P**	**19 57 31.6**	**+0.8**
	12nm,0.9s,mb4.7,baz=174,slow=25,SNR=4.2						
MJAR	**Matsushiro Arr**	**59.02**	**332**	P	**P**	**19 57 42.9**	**-1.3**
	2.5nm,0.7s,mb4.2,baz=170,slow=9.0,SNR=9.1						
SBA	**Scott Base**	**62.09**	**180**	PFAKE		19 58 20.0	+15
SBA				LR	LR		
	comp=Z,694nm,19.0s						
CD2	**Chengdu**	**76.97**	**308**	*e*P	**P**	**19 59 36.6**	**+0.3**
YAK	**Yakutsk**	**83.15**	**343**	*e*P	**P**	**20 00 08.8**	**-0.7**
	comp=Z,11nm,0.6s,mb4.8						
TNA	**Tin City**	**83.17**	**10**	PFAKE		20 00 20.0	+10
TNA				LR	LR		
	comp=Z,239nm,20.0s						
ULN	**Ulaanbaatar**	**83.22**	**324**	*e*P	**P**	**20 00 09.9**	**+0.1**
	comp=Z,6.9nm,0.8s,mb4.4						
SONM	**Songino Array**	**83.58**	**324**	P	**P**	**20 00 11.8**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.1,baz=152,slow=7.5,SNR=16						
MKAR	**Makanchi Array**	**98.24**	**316**	P	**P**	**20 01 21.5**	**+0.9**
	comp=Z,0.3nm,0.5s,mb4.0,baz=78,slow=5.5,SNR=4.8						
KEV	**Kevo**	**120.84**	**345**	PFAKE		20 06 50.0	+15
KEV				LR	LR		
	comp=Z,282nm,20.0s						
ARCES	**ARCESS Array B**	**121.37**	**345**	PKP	PKPdf	20 06 34.4	-1.4
	comp=Z,1.4nm,0.8s,baz=46,slow=3.5,SNR=5.1						
FINES	**FINESS Array B**	**126.85**	**338**	PKP	PKPdf	20 06 45.5	-0.7
	comp=Z,2.2nm,1.0s,baz=62,slow=4.5,SNR=6.1						
KMBO	**Kilima Mbogo**	**128.24**	**256**	PFAKE		20 07 00.0	+11
KMBO				LR	LR		
	comp=Z,424nm,21.0s						
GERES	**GERESS Array B**	**140.76**	**333**	PKP	PKPdf	20 07 12.6	+0.3
	comp=Z,0.5nm,0.6s,baz=45,slow=2.1,SNR=4.7						
CDF	**Champ du Feu**	**143.70**	**338**	*e*PKP1	PKPdf	20 07 15.1	-2.4
	comp=Z,3.4nm,0.6s						
HINF	**Hinteralfeld**	**144.35**	**338**	*e*PKP1	PKPdf	20 07 16.9	-1.8
	comp=Z,4.8nm,0.6s						
HAU	**Haudompre**	**144.38**	**338**	*e*PKP1	PKPdf	20 07 18.3	-0.4
	comp=Z,6.3nm,0.5s						
CABF	**La Chapelle**	**145.65**	**337**	*e*PKP1	PKPbc	20 07 22.1	+0.6
	comp=Z,14nm,0.8s						
FLN	**La Foliniere**	**145.71**	**346**	*e*PKP1	PKPbc	20 07 21.3	-0.4
LDF	**La Druitiere**	**145.79**	**346**	*e*PKP1	PKPbc	20 07 22.1	+0.2
LOR	**Lormes**	**145.86**	**340**	*e*PKP1	PKPbc	20 07 22.2	+0.1
	comp=Z,8.3nm,0.6s						
GRR	**Gorron**	**146.15**	**346**	*e*PKP1	PKPbc	20 07 22.8	-0.2
	comp=Z,11nm,0.6s						
SSF	**Saint Saulge**	**146.16**	**340**	*e*PKP1	PKPbc	20 07 23.2	+0.2
	comp=Z,17nm,0.6s						
LPL	**La Plagne**	**146.32**	**336**	*e*PKP1	PKPbc	20 07 24.1	+0.7
	comp=Z,5.7nm,0.6s						
LPG	**La Plagne**	**146.32**	**336**	*e*PKP1	PKPbc	20 07 24.2	+0.7
	comp=Z,8.5nm,0.6s						
SMF	**Signal de Mont**	**146.41**	**340**	*e*PKP1	PKPbc	20 07 23.6	-0.1
	comp=Z,18nm,1.0s						
AVF	**Avril sur Loir**	**146.45**	**340**	*e*PKP1	PKPbc	20 07 23.5	-0.3
	comp=Z,13nm,0.8s						
SGMF	**Saint Gilles**	**146.64**	**348**	*e*PKP1	PKPbc	20 07 24.1	-0.3
	comp=Z,11nm,0.6s						
ROSF	**Rostrenen**	**146.70**	**349**	*e*PKP1	PKPbc	20 07 24.2	-0.4
BGF	**Bois d'Agland**	**146.82**	**341**	*e*PKP1	PKPbc	20 07 24.3	-0.6
	comp=Z,11nm,0.5s						
MBDF	**Montbardon**	**146.95**	**335**	*e*PKP1	PKPbc	20 07 25.3	0.0
	comp=Z,5.9nm,0.6s						
QUIF	**Quistinic**	**147.08**	**349**	*e*PKP1	PKPbc	20 07 25.1	-0.5
ORIF	**Oris-en-Rattie**	**147.15**	**336**	*e*PKP1	PKPbc	20 07 26.1	+0.3
	comp=Z,5.7nm,0.6s						
TCF	**Toulx Ste Croi**	**147.26**	**341**	*e*PKP1	PKPbc	20 07 26.2	+0.1
	comp=Z,6.0nm,0.6s						
SBF	**Sospel**	**147.36**	**333**	*e*PKP1	PKPbc	20 07 26.2	-0.2
	comp=Z,18nm,0.8s						
MFF	**Saint Martin d**	**147.64**	**344**	*e*PKP1	PKPbc	20 07 27.1	-0.1
	comp=Z,23nm,0.9s						
PGF	**Pioggiola**	**147.67**	**330**	*e*PKP1	PKPbc	20 07 27.3	+0.1
	comp=Z,17nm,0.8s						
FRF	**La Foret Royal**	**147.95**	**334**	*e*PKP1	PKPbc	20 07 27.9	-0.1
SMRF	**Simiane la Rot**	**148.05**	**335**	*e*PKP1	PKPbc	20 07 28.1	-0.1
	comp=Z,8.4nm,0.7s						
LMR	**La Mourre**	**148.19**	**333**	*e*PKP1	PKPbc	20 07 28.5	-0.1
	comp=Z,8.4nm,0.7s						
RJF	**Les Rejaudoux**	**148.35**	**341**	*e*PKP1	PKPbc	20 07 29.2	+0.2
	comp=Z,7.6nm,0.7s						
CAF	**Calviac**	**148.52**	**340**	*e*PKP1	PKPbc	20 07 29.8	+0.3
	comp=Z,7.4nm,0.8s						
LASF	**Ste Croix**	**148.64**	**337**	*e*PKP1	PKPbc	20 07 30.2	+0.4
	comp=Z,9.8nm,0.6s						
LFF	**La Frestale**	**148.92**	**342**	*e*PKP1	PKPbc	20 07 29.9	-0.6
	comp=Z,13nm,0.7s						
MTLF	**Montolieu**	**149.87**	**339**	*e*PKP1	PKPbc	20 07 33.1	+0.3
	comp=Z,5.8nm,0.7s						
EPF	**Esparros**	**150.77**	**341**	*e*PKP1	PKPbc	20 07 35.6	+0.7
	comp=Z,5.6nm,0.6s						
ETSF	**Etsaut**	**151.16**	**342**	*e*PKP1	PKPbc	20 07 36.6	+0.7
	comp=Z,8.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**166.18**	**261**	PKP	PKPdf	20 07 47.6	+0.1
	comp=Z,0.4nm,0.6s,baz=324,slow=2.1,SNR=6.4						

*IDC **22** 19:57:16.4±1.4, 1282N×11946E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=39.4km s-min=23.1km az=78.0*
*ISCJB **22** 19:57:29.6±1.3, 135N±02×1206E±03, h145km±13km, mb3.5/4, Error ellipse: s-maj=47.6km s-min=16.2km az=122.8*
*MAN **22** 19:57:31.7, 1367N×12064E, h121km, mb3.3, ML4.6, MS4.5*

ISC 22 19:57:31.0±1.3, 136N±02×1206E±03, h142km±13km, n10, σ0:68/11, mb3.5/4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.63**	**29**	↓*e*P	**Pn**	**19 57 52.9**	**+0.7**
TGY				*e*S	**Sn**	**19 58 09.0**	**+0.7**
TGY	**Tagaytay City**	**0.63**	**29**	Pn	**Pn**	**19 57 51.8**	**-0.3**
	699nm,0.3s,baz=212,slow=1.9,SNR=64						
LQP	**Lukban**	**1.05**	**58**	*e*P	**Pn**	**19 57 56.0**	**+0.6**
BOAC	**Boac**	**1.19**	**94**	*e*P	**Pn**	**19 57 55.5**	**-1.2**
BOLP	**Bolinao**	**2.90**	**346**	*e*P	**Pn**	**19 58 15.7**	**-1.0**
CAUP	**Cauayan**	**3.57**	**19**	*e*P	**Pn**	**19 58 25.3**	**-0.1**
WRA	**Warramunga Arr**	**35.91**	**158**	P	**P**	**20 04 16.9**	**-0.5**
	0.2nm,0.4s,mb3.1,baz=340,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**39.20**	**161**	P	**P**	**20 04 45.2**	**+0.2**
	0.4nm,0.3s,mb3.5,baz=335,slow=7.3,SNR=21						
CTA	**Charters Tower**	**41.87**	**142**	P	**P**	**20 05 07.7**	**+0.7**
	4.4nm,1.0s,mb4.0,baz=302,slow=15,SNR=2.5						
MKAR	**Makanchi Array**	**46.11**	**324**	P	**P**	**20 05 41.2**	**+0.4**
	0.3nm,0.5s,mb3.2,baz=128,slow=7.9,SNR=4.8						

*NEIC **22** 20:12:08.9, 3839N×2683E, h54km, MD3.3(ISK), MD3.3(ATH), After ATH.*
*ATH **22** 20:12:08.4, 3837N×2690E, h63km±3km*
*CSEM **22** 20:12:09.0±0.1, 3837N×2676E, h2km, MD3.2, Error ellipse: s-maj=2.5km s-min=1.6km az=71.0*
*ISCJB **22** 20:12:10.1±0.5, 3839N±002×2672E±003, h7km±4km, Error ellipse: s-maj=4.3km s-min=3.4km az=106.7*
*ISK **22** 20:12:10.6, 3838N×2682E, h13km, MD3.2*

ISC 22 20:12:10.6±0.4, 3838N±002×2671E±003, h9km±3km, n33, σ0:96/45, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.09**	**256**	*i* P	**Pg**	**20 12 13.0**	**+0.1**
URLA				*i* S	**Sg**	**20 12 15.3**	**+0.7**
BLCB	**Balcova**	**0.26**	**89**	*i* PG	**Pg**	**20 12 14.6**	**-1.2**
BLCB				*i* SG	**Sg**	**20 12 18.7**	**-0.6**
IZM	**Izmir**	**0.43**	**88**	*i* PG	**Pg**	**20 12 18.1**	**-0.9**
KDAG	**Bornova**	**0.44**	**87**	*i* P	**Pg**	**20 12 18.4**	**-0.7**
KDAG				*i* S	**Sg**	**20 12 25.5**	**+0.7**
SMG	**Samos**	**0.68**	**172**	*e*P	**Pg**	**20 12 23.3**	**-0.4**
SMG				*e*S	**Sg**	**20 12 33.8**	**+1.2**
AYVA	**Ayvalik**	**0.93**	**359**	*i* P	**Pg**	**20 12 27.7**	**-0.6**
AYVA				*i* S	**Sg**	**20 12 41.4**	**+1.0**
PRK	**Paraskevi**	**0.93**	**338**	*e*P	**Pg**	**20 12 27.0**	**-1.4**
PRK				*e*S	**Sg**	**20 12 41.5**	**+1.0**
AKS	**Akhisar**	**0.99**	**60**	PG	**Pg**	**20 12 28.7**	**-1.0**
AKS				SG	**Sg**	**20 12 41.8**	**-0.8**
AYDN	**Tasoluk**	**1.17**	**128**	*i* P	**Pb**	**20 12 31.9**	**-1.1**
AYDN				*i* S	**Sg**	**20 12 48.3**	**+0.1**
MLSB	**Milas**	**1.37**	**142**	*e*PN	**Pn**	**20 12 35.9**	**0.0**
BODT	**Bodrum**	**1.40**	**160**	*e*PN	**Pn**	**20 12 36.8**	**+0.5**
BDRM	**Kayabasi**	**1.44**	**156**	*i* P	**Pn**	**20 12 37.2**	**+0.4**
BDRM				*i* S	**Sg**	**20 12 60.0**	**+3.2**
MANT	**Manisa**	**1.45**	**85**	*i* P	**Pn**	**20 12 37.2**	**+0.2**
MANT				*i* S	**Sn**	**20 12 57.0**	**+0.8**
EZN	**Ezine**	**1.47**	**348**	*e*PN	**Pn**	**20 12 37.6**	**+0.3**
BOZC	**Bozcaada**	**1.54**	**341**	*i* P	**Pn**	**20 12 38.6**	**+0.3**
BOZC				*i* S	**Sn**	**20 12 58.7**	**+0.2**
BALB	**Balikesir**	**1.55**	**36**	*e*PN	**Pn**	**20 12 38.6**	**+0.2**
APE	**Apeiranthos**	**1.61**	**216**	*e*P	**Pn**	**20 12 37.2**	**-2.0**
YER	**Yerkesik**	**1.76**	**135**	*e*PN	**Pn**	**20 12 40.4**	**-0.8**
DAT	**Datca**	**1.79**	**157**	*e*PN	**Pn**	**20 12 41.3**	**-0.3**
LIA	**Limnos Island**	**1.92**	**322**	*e*P	**Pn**	**20 12 41.6**	**-1.9**
DNZL	**Cakiroluk**	**1.97**	**110**	*i* P	**Pg**	**20 12 48.7**	**+0.4**
DNZL				*i* S	**Sg**	**20 13 16.2**	**+2.4**
EDC	**Edincik**	**2.15**	**24**	*e*PN	**Pn**	**20 12 46.8**	**+0.1**
BNT	**Bandirma**	**2.18**	**25**	*e*PN	**Pn**	**20 12 47.5**	**+0.5**
DALT	**Dalyan (Mudla)**	**2.22**	**136**	*e*PN	**Pn**	**20 12 47.3**	**-0.3**
KCT	**Karacabey**	**2.27**	**34**	*e*PN	**Pn**	**20 12 47.3**	**-1.0**
MRMT	**Marmara Adasi**	**2.32**	**17**	*e*PN	**Pn**	**20 12 49.4**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.33**	**9**	*e*PN	**Pn**	**20 12 50.5**	**+1.4**
ENEZ	**Enez**	**2.39**	**350**	*e*PN	**Pn**	**20 12 51.1**	**+1.2**
MFT	**Murefte**	**2.44**	**10**	*e*PN	**Pn**	**20 12 51.3**	**+0.7**
FETY	**Fethiye**	**2.57**	**132**	*e*PN	**Pn**	**20 12 51.9**	**-0.5**
RDO	**Rodhopi**	**2.91**	**342**	*e*P	**Pn**	**20 12 54.8**	**-2.2**
YLV	**Yalova**	**3.00**	**43**	*e*PN	**Pn**	**20 12 58.4**	**+0.1**
EDRB	**Edirne**	**3.46**	**0**	*e*PN	**Pn**	**20 13 06.1**	**+1.5**

IDC 22 20:17:59.4±2.0, 150N×12599E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.3/3, Error ellipse: s-maj=175.9km s-min=25.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.82**	**159**	P	P	20 23 03.0	-0.8
	0.6nm,0.4s,baz=337,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.17**	**163**	P	P	20 23 36.6	+1.3
	0.3nm,0.3s,baz=348,slow=13,SNR=9.7						
MKAR	**Makanchi Array**	**58.98**	**326**	P	P	20 28 00.8	+0.1
	0.1nm,0.4s,baz=112,slow=8.0,SNR=6.3						

*NEIC **22** 21:16:14.8, 3742N×1407W, h8km, MG3.9(MDD), After MDD.*
*IGIL **22** 21:16:14.8, 3740N×1410W, h8km, ML2.7*
*INMG **22** 21:16:14.7±1.9, 37.17N×1450W, h10km, Mb4.1, ML2.6, Error ellipse: s-maj=9.5km s-min=7.2km az=81.0*
*ISCJB **22** 21:16:15.5±0.7, 3757N±004×1373W±006, h10km, Error ellipse: s-maj=6.8km s-min=5.6km az=65.1*
*CSEM **22** 21:16:17.4±0.3, 3770N×1356W, h10km, ML2.6, Error ellipse: s-maj=6.3km s-min=3.4km az=68.0*
*MDD **22** 21:16:20.1±3.5, 3766N×1342W, h0km, mb4.0/15, Error ellipse: s-maj=35.5km s-min=21.5km az=62.0, PRXIMO*

ISC 22 21:16:18.5±0.7, 3757N±004×1367W±005, h10km, n52, σ1:15/91, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**3.79**	**68**	*e*Pn	**Pn**	**21 17 17.6**	**+0.6**
PLOU				*e*Sn	**Sn**	**21 18 06.3**	**+4.7**
PLOU							
	15nm,0.2s						
PTEO	**Sao Teotonio**	**3.93**	**89**	*e*Pn	**Pn**	**21 17 18.4**	**-0.5**
PTEO				*e*Sn	**Sn**	**21 18 06.3**	**+1.3**
PTEO							
	7.2nm,0.5s						
MORF	**Marmelete**	**4.00**	**92**	*e*P	**Pn**	**21 17 19.1**	**-0.8**
MORF				*e*S	**Sn**	**21 18 06.4**	**-0.4**
MORF				*e*S	**Sn**	**21 18 06.5**	**-0.4**
MORF				AML	AML	21 18 10.2	
	comp=E,15nm,0.1s						
MORF	**Marmelete**	**4.00**	**92**	*e*P	**Pn**	**21 17 19.1**	**-0.8**
MORF				*e*S	**Sn**	**21 18 06.4**	**-0.5**
MOE	**Montemor**	**4.30**	**76**	*e*Pn	**Pn**	**21 17 23.8**	**-0.3**
MOE				*e*Sn	**Sn**	**21 18 17.6**	**+3.3**
PTOM	**Tomar**	**4.60**	**62**	*e*Pn	**Pn**	**21 17 28.9**	**+0.8**
PTOM				*e*Sn	**Sn**	**21 18 24.5**	**+3.0**
PTOM							
	comp=E,8.2nm,0.1s						
PBEJ	**Beja**	**4.62**	**83**	*e*Pn	**Pn**	**21 17 28.3**	**-0.1**
PBEJ				*e*Sn	**Sn**	**21 18 24.2**	**+2.2**
PBEJ							
	comp=E,4.9nm,0.3s						
EGRO	**El Granado**	**4.92**	**89**	Pn	**Pn**	**21 17 32.2**	**-0.3**
	comp=E,1.9nm,0.3s,SNR=10.0						
EGRO				Sn	**Sn**	**21 18 28.9**	**-0.5**
	comp=E,4.3nm,0.3s,SNR=6.5						
EGRO	**El Granado**	**4.92**	**89**	P	**Pn**	**21 17 32.2**	**-0.3**
	comp=E,1.9nm,0.3s,SNR=10.0						
EGRO				S	**Sn**	**21 18 28.9**	**-0.5**
	comp=E,4.3nm,0.3s,SNR=6.5						
PMPS	**Porto Santo**	**5.00**	**207**	*e*Sn	**Pg**	**21 17 54.7**	**+0.3**
PMPS							
	comp=E,9.4nm,0.3s						
PCBR	**Castelo Branco**	**5.35**	**63**	*e*Pn	**Pn**	**21 17 38.7**	**+0.3**
PCBR				*e*Sn	**Sn**	**21 18 43.2**	**+3.2**
PCBR							
	comp=E,2.8nm,0.4s						
EBAD	**Badajoz**	**5.38**	**75**	Pn	**Pn**	**21 17 39.4**	**+0.6**
	comp=E,1.4nm,0.4s,SNR=28						
EBAD				Sn	**Sn**	**21 18 40.7**	**0.0**
	comp=E,1.4nm,0.3s,SNR=7.1						
EBAD	**Badajoz**	**5.38**	**75**	P	**Pn**	**21 17 39.4**	**+0.6**
	comp=E,1.4nm,0.4s,SNR=28						
EBAD				S	**Sn**	**21 18 40.7**	**0.0**
	comp=E,1.4nm,0.3s,SNR=7.1						
PVIS	**Viseu**	**5.48**	**53**	*e*Pn	**Pn**	**21 17 41.0**	**+0.8**
PVIS				*e*Sn	**Sn**	**21 18 45.4**	**+2.2**
PVIS							
	comp=E,5.4nm,0.1s						
MTE	**Manteigas**	**5.54**	**57**	*e*Sn	**Sn**	**21 18 48.3**	**+3.4**
MTE							
	comp=E,3.8nm,0.4s						
MTE	**Manteigas**	**5.54**	**57**	Sn	**Sn**	**21 18 48.3**	**+3.4**
	comp=E,1.9nm,0.4s						
EMIN	**Mina Concepcio**	**5.55**	**86**	Pn	**Pn**	**21 17 41.0**	**-0.2**
	comp=E,0.7nm,0.1s,SNR=18						
EMIN				Sn	**Sn**	**21 18 44.4**	**-0.7**
	comp=E,3.0nm,0.3s,SNR=5.9						
EMIN	**Mina Concepcio**	**5.55**	**86**	P	**Pn**	**21 17 41.0**	**-0.2**
	comp=E,0.7nm,0.1s,SNR=18						
EMIN				S	**Sn**	**21 18 44.4**	**-0.7**
	comp=E,3.0nm,0.3s,SNR=5.9						
PVRL	**Vila Real**	**5.91**	**49**	*e*Pn	**Pn**	**21 17 46.4**	**+0.3**
PVRL				*e*Sn	**Sn**	**21 18 55.7**	**+1.8**
PVRL							
	comp=E,5.2nm,0.2s						
PCAB	**Cabril**	**6.00**	**45**	*e*Pn	**Pn**	**21 17 47.5**	**+0.1**
PCAB				*e*Sn	**Sn**	**21 18 57.3**	**+1.1**
PCAB							
	comp=E,3.7nm,0.1s						
ELOB	**Lobios**	**6.09**	**43**	Pn	**Pn**	**21 17 48.7**	**+0.1**
	comp=E,5.6nm,0.8s,SNR=9.8						
ELOB				Sn	**Sn**	**21 18 56.9**	**-1.4**
	comp=E,20nm,1.3s						
ELOB	**Lobios**	**6.09**	**43**	P	**Pn**	**21 17 48.7**	**+0.1**
	comp=E,5.6nm,0.8s,SNR=9.8						
ELOB				S	**Sn**	**21 18 56.9**	**-1.4**
	comp=E,20nm,1.3s						
ESPR	**Espera**	**6.27**	**94**	Pn	**Pn**	**21 17 51.0**	**-0.1**
	comp=E,2.2nm,0.3s,SNR=5.6						
ESPR				Sn	**Sn**	**21 19 03.6**	**+0.7**
	comp=E,9.9nm,0.9s						
ESPR	**Espera**	**6.27**	**94**	P	**Pn**	**21 17 51.0**	**-0.1**
ESPR				S	**Sn**	**21 19 04.8**	**+2.0**
ESPR	**Espera**	**6.27**	**94**	P	**Pn**	**21 17 51.0**	**-0.1**
	comp=E,2.2nm,0.3s,SNR=5.6						
EMAZ	**Mazaricos**	**6.46**	**32**	Pn	**Pn**	**21 17 53.1**	**-0.6**
	comp=E,1.8nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**21 19 05.2**	**-2.2**
	comp=E,4.1nm,0.3s,SNR=6.0						
EMAZ	**Mazaricos**	**6.46**	**32**	P	**Pn**	**21 17 53.1**	**-0.6**
	comp=E,1.8nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**21 19 05.2**	**-2.2**
	comp=E,4.1nm,0.3s,SNR=6.0						
STS	**Santiago**	**6.59**	**35**	Sn	**Sn**	**21 19 08.6**	**-2.1**
	comp=E,2.6nm,0.9s,SNR=7.9						
PBRG	**Braganca**	**6.81**	**49**	*e*Pn	**Pn**	**21 17 58.7**	**+0.2**
PBRG				*e*Sn	**Sn**	**21 19 17.0**	**+0.9**
PBRG							
	comp=E,2.1nm,0.2s						
ECAL	**Calabor**	**6.89**	**49**	Pn	**Pn**	**21 17 59.4**	**-0.2**
	comp=E,3.5nm,0.3s,SNR=9.3						
ECAL				Sn	**Sn**	**21 19 18.2**	**+0.1**
	comp=E,3.9nm,0.3s,SNR=5.8						
ECAL	**Calabor**	**6.89**	**49**	P	**Pn**	**21 17 59.5**	**-0.2**
ECAL				S	**Sn**	**21 19 18.2**	**0.0**
	comp=E,3.9nm,0.3s,SNR=5.8						
EMIJ	**Mijas**	**7.18**	**95**	Sn	**Sn**	**21 19 22.6**	**-2.7**
	comp=E,1.5nm,0.6s,SNR=4.0						
EMIJ	**Mijas**	**7.18**	**95**	P	**Pn**	**21 18 03.9**	**+0.2**
EMIJ				S	**Sn**	**21 19 22.6**	**-2.7**
EMIJ	**Mijas**	**7.18**	**95**	P	**Pn**	**21 18 03.8**	**+0.2**
EMIJ				S	**Sn**	**21 19 22.6**	**-2.6**
	comp=E,1.5nm,0.6s,SNR=4.0						
EADA	**Adamuz**	**7.22**	**82**	Pn	**Pn**	**21 18 04.2**	**+0.2**
	comp=E,2.2nm,0.3s,SNR=9.2						
EADA				Sn	**Sn**	**21 19 24.1**	**-2.0**
	comp=E,2.1nm,0.5s,SNR=4.9						
EADA	**Adamuz**	**7.22**	**82**	P	**Pn**	**21 18 04.2**	**+0.1**
	comp=E,2.2nm,0.3s,SNR=9.2						
EADA		

CLL				*e*Pg	**Pg**	**21 26 37.0**	**-0.8**
CLL				*e*x	x	21 26 42.0	
CLL				*i* Sg	**Sg**	**21 27 02.4**	**-0.4**
	comp=Z,32nm,0.5s						
CLL	**Collm**	**1.92 265**		*e*Pn	**Pn**	**21 26 34.0**	**-0.9**
CLL				*e*Pg	**Pg**	**21 26 37.0**	**-0.8**
CLL				*i* Sg	**Sg**	**21 27 02.4**	**-0.4**
MORC	**Moravsky Berou**	**1.98 151**		*e*P	**Pn**	**21 26 35.7**	**0.0**
MORC				*e*S	**Sn**	**21 26 59.1**	**-2.1**
MORC	**Moravsky Berou**	**1.98 151**		*e*Pn	**Pn**	**21 26 35.6**	**-0.1**
MORC				*e*Sg	**Sg**	**21 27 00.7**	**-3.9**
OKC	**Ostrava-Krasne**	**2.14 141**		*e*PG	**Pg**	**21 26 40.7**	**-1.3**
OKC				*e*SG	**Sg**	**21 27 08.6**	**-1.2**
	comp=Z,24nm,0.6s						
VRAC	**Vranov**	**2.24 171**		*e*Pn	**Pn**	**21 26 39.4**	**+0.2**
VRAC				*e*Sg	**Sg**	**21 27 10.7**	**-2.1**
	comp=Z,14nm,0.2s						
KRUC	**Moravsky**	**2.47 175**		*e*Pn	**Pn**	**21 26 42.8**	**+0.4**
KRUC				*e*Sg	**Sg**	**21 27 19.0**	**-1.2**
	comp=Z,9.9nm,0.2s						
NKC	**Novy Kostel**	**2.62 242**		*e*PN	**Pn**	**21 26 45.0**	**+0.5**
NKC				*e*PG	**Pg**	**21 26 50.5**	**-0.7**
NKC				*e*SG	**Sg**	**21 27 26.7**	**+1.5**
	comp=Z,34nm,0.5s						
OJC	**Ojcow**	**2.70 117**		*e*Pg	**Pg**	**21 26 52.6**	**-0.1**
OJC				*e*Sg	**Sg**	**21 27 28.0**	**+0.2**
KHC	**Kasperske Hory**	**2.87 215**		*e*PN	**Pn**	**21 26 47.9**	**0.0**
KHC				*e*PG	**Pg**	**21 26 54.2**	**-1.7**
KHC				*e*SN	**Sn**	**21 27 23.5**	**+0.4**
KHC				*e*SG	**Sg**	**21 27 32.6**	**-0.5**
	comp=Z,11nm,0.5s						
MOX	**Moxa**	**2.93 254**		*e*PG	**Pg**	**21 26 57.4**	**+0.2**
MOX				*e*SG	**Sg**	**21 27 36.6**	**+1.4**
GEC2	**GERESS Array S**	**3.07 210**		*e*Pn	**Pn**	**21 26 48.4**	**-2.3**
KOLL	**Kolacno**	**3.31 152**		*e*PG	**Pg**	**21 27 03.8**	**-0.5**
KOLL				*e*SG	**Sg**	**21 27 47.6**	**+0.5**
ZST	**Bratislava**	**3.39 168**		*e*SG	**Sg**	**21 27 50.7**	**+0.8**
NIE	**Niedzica**	**3.43 126**		*e*P	**Pg**	**21 27 06.1**	**-0.7**
NIE				*e*S	**Sg**	**21 27 51.4**	**+0.1**
VYHS	**Vyhne**	**3.52 148**		*e*PN	**Pn**	**21 26 56.4**	**-0.4**
VYHS				*e*PG	**Pg**	**21 27 07.8**	**-0.5**
VYHS				*e*SG	**Sg**	**21 27 52.5**	**-1.4**
CONA	**Conrad Observa**	**3.59 182**		⇑*i*Pn	**Pn**	**21 26 59.0**	**+1.1**
	comp=Z,0.5nm,0.1s						
CONA				⇑*i*Pg	**Pg**	**21 27 09.3**	**-0.6**
	comp=Z,2.7nm,0.3s						
CONA				⇓*i*Sg	**Sg**	**21 27 56.8**	**+0.4**
	comp=Z,7.7nm,0.3s						
MOA	**Molln**	**3.85 198**		⇑*e*Pn	**Pn**	**21 27 02.0**	**+0.6**
	comp=Z,1.0nm,0.2s						
MOA				⇑Sg	**Sg**	**21 28 05.2**	**+0.6**
	comp=Z,3.7nm,0.2s						
STHS	**Stebnicka Huta**	**3.92 120**		*e*PG	**Pg**	**21 27 17.0**	**+0.9**
STHS				*e*SG	**Sg**	**21 28 09.8**	**+2.8**
STHS	**Stebnicka Huta**	**3.92 120**		*e*Pg	**Pg**	**21 27 17.1**	**+1.0**
STHS				*e*Sg	**Sg**	**21 28 09.8**	**+2.8**
KECS	**Kecovo**	**4.17 135**		*e*SG	**Sg**	**21 28 16.7**	**+1.9**
ARSA	**Arzberg**	**4.28 185**		⇓*e*Pn	**Pn**	**21 27 11.3**	**+4.0**
ARSA				⇓Sg	**Sg**	**21 28 13.8**	**-4.7**
	comp=Z,5.1nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.34 125**		*e*SG	**Sg**	**21 28 22.1**	**+1.5**

*ISCJB **22** 21:30:08.2±1.1, 180S±0.1×1785W±0.1, h567km±17km, mb4.4/15, Error ellipse: s-maj=23.6km s-min=11.5km az=120.6*
*NEIC **22** 21:30:09.0±0.8, 1811S×17842W, h567km±11km, mb4.6/10, Error ellipse: s-maj=17.8km s-min=8.7km az=152.0*
*IDC **22** 21:30:09.3±1.6, 1814S×17843W, h567km±22km, mb3.9/7, mb1 4.0/9, mb1mx3.7/17, mbtmp4.8/9, Error ellipse: s-maj=36.9km s-min=13.3km az=154.0*
ISC 22 21:30:09.5±1.0, 181S±01×1784W±01, h568km±14km, n32, σ0°79/30, mb4.4/15, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.62**	**58**	P	**P**	**21 32 03.3**	**-0.7**
	3.8nm,0.3s,baz=104,slow=13,SNR=3.3						
RAO	**Raoul Island**	**11.11**	**178**	P	**P**	**21 32 39.7**	**+0.8**
	261nm,0.3s,baz=165,slow=17,SNR=13						
RAO	**Raoul Island**	**11.11**	**178**	*e*P	**P**	**21 32 37.4**	**-1.4**
DZM	**Mont Dzumac**	**14.76**	**252**	P	**P**	**21 33 17.3**	**+1.2**
	1.3nm,0.3s,baz=85,slow=18,SNR=12						
ARMA	**Armidale**	**29.84**	**240**	*e*P	**P**	**21 35 32.6**	**+1.2**
CNB	**Canberra Magne**	**33.30**	**233**	*e*P	**P**	**21 36 02.0**	**+1.1**
	20nm,0.6s,mb4.8						
CTA	**Charters Tower**	**33.41**	**261**	*e*P	**P**	**21 36 01.9**	**+0.1**
	7.3nm,0.5s,mb4.5						
CTAO	**Charters Tower**	**33.41**	**261**	*e*P	**P**	**21 36 01.9**	**+0.1**
	14nm,0.8s,mb4.5						
PMG	**Port Moresby**	**34.49**	**280**	P	**P**	**21 36 11.7**	**+1.0**
	36nm,0.8s,mb5.0,baz=85,slow=4.8,SNR=6.2						
TOO	**Toolangi**	**37.04**	**231**	*e*P	**P**	**21 36 32.7**	**+0.8**
	7.1nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**38.53**	**241**	⇓*i*P	**P**	**21 36 43.1**	**-0.9**
	6.9nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**21 36 43.2**	**-0.8**
	18nm,0.9s,mb4.6,baz=87,slow=8.6,SNR=38						
WB2	**Warramunga Arr**	**44.58**	**260**	*e*P	**P**	**21 37 30.9**	**-0.7**
WRAB	**Tennant Creek**	**44.58**	**260**	*e*P	**P**	**21 37 31.1**	**-0.5**
	9.8nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**44.59**	**260**	P	**P**	**21 37 31.0**	**-0.7**
	11nm,0.7s,mb4.5,baz=95,slow=7.2,SNR=230						
AS31	**Alice Springs**	**44.73**	**254**	*e*P	**P**	**21 37 32.9**	**+0.1**
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**21 37 32.8**	**0.0**
	55nm,0.7s,mb5.2,baz=86,slow=9.6,SNR=621						
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**21 37 32.8**	**0.0**
ASPA	**Alice Springs**	**44.74**	**254**	*e*P	**P**	**21 37 32.9**	**+0.1**
KAKA	**Kakadu**	**47.58**	**269**	*e*P	**P**	**21 37 53.6**	**-0.7**
	21nm,0.4s,mb5.0						
FORT	**Forrest**	**49.92**	**245**	*e*P	**P**	**21 38 11.0**	**-0.6**
	15nm,0.5s,mb4.7						
MBWA	**Marble Bar**	**58.02**	**256**	*e*P	**P**	**21 39 08.0**	**-0.5**
KLBR	**Kellerberrin**	**58.74**	**244**	*e*P	**P**	**21 39 12.8**	**-0.6**
	43nm,1.0s,mb4.6						
MUN	**Mundaring**	**60.03**	**243**	*e*P	**P**	**21 39 19.5**	**-2.5**
QSPA	**South Pole Qui**	**71.95**	**180**	*e*P	**P**	**21 40 36.4**	**+0.4**
KSM	**Kuching**	**72.70**	**277**	*e*P	**P**	**21 40 40.6**	**+0.3**
YBH	**Yreka Blue Hor**	**78.68**	**39**	P	**P**	**21 41 13.8**	**+0.5**
	1.4nm,0.7s,mb3.4,baz=107,slow=3.8,SNR=4.2						
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**21 41 18.8**	**+0.8**
	2.0nm,0.7s,mb3.5,baz=224,slow=7.5,SNR=11						
WVOR	**Wild Horse Val**	**81.56**	**40**	*e*P	**P**	**21 41 28.5**	**+0.2**
	3.4nm,0.9s,mb3.8						
PDAR	**Pinedale Array**	**87.50**	**43**	P	**P**	**21 41 57.2**	**0.0**
	1.4nm,0.6s,mb3.8,baz=225,slow=2.5,SNR=12						
BRTR	**Keskin Array B**	**144.91**	**315**	PKP	PKPdf	21 48 42.2	-0.1
	1.1nm,0.8s,baz=121,slow=3.9,SNR=7.3						
MMAI	**Mount Meron Ar**	**146.24**	**303**	PKPbc	PKPbc	21 48 47.0	+0.3
	1.9nm,0.5s,baz=57,slow=6.1,SNR=8.1						

*BJI **22** 21:31:05.2, 5200N×177.10E, h10km, mB4.8, mb4.7, Ms4.3, Msz4.1*
*NEIC **22** 21:31:10.3, 5203N×17709E, h10km, ML3.7(AEIC), After AEIC.*
*ISCJB **22** 21:31:12.2±0.8, 5205N±008×177.12E±007, h42km±8km, mb4.2/16, MS3.5/9, Error ellipse: s-maj=13.9km s-min=7.0km az=20.3*
*IDC **22** 21:31:17.9±9.3, 5212N×17709E, h75km±89km, mb3.6/10, mb1 3.8/11, mb1mx3.6/25, mbtmp4.0/11, ML3.9/1, MS3.4/6, Ms1 3.3/6, ms1mx3.0/32, Error ellipse: s-maj=35.6km s-min=20.9km az=155.0*
ISC 22 21:31:13.4±0.8, 5204N±008×17711E±007, h37km±8km, h5km±6.3km: pP-P, n40, σ0°98/40, mb4.2/16, MS3.5/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.52**	**115**	P	**Pn**	**21 31 37.1**	**-0.9**
AMKA				S	**Sn**	**21 31 56.7**	**+0.2**
SMY	**Shemya**	**1.97**	**292**	P	**Pn**	**21 31 43.1**	**-1.1**
SMY				S	**Sn**	**21 32 08.8**	**+1.1**
ATKA	**Atka Island**	**5.36**	**85**	P	**Pn**	**21 32 32.3**	**+1.5**
SPIA	**Saint Paul Isl**	**8.95**	**50**	*e*P	**Pn**	**21 33 19.0**	**-1.2**
BILL	**Bilibino**	**16.89**	**346**	*e*P	**Pn**	**21 35 07.2**	**+0.5**
	37nm,1.4s						
KDAK	**Kodiak Island**	**18.24**	**60**	P	**Pn**	**21 35 22.8**	**-0.7**
	0.4nm,0.3s,baz=271,slow=3.6,SNR=7.1						
SML	**Sawmill**	**20.98**	**49**	*e*P	**P**	**21 35 53.4**	**+0.1**
ASAJ	**Asahikawa**	**24.20**	**265**	P	**P**	**21 36 28.9**	**+2.7**
	5.6nm,0.8s,mb4.0,baz=95,slow=9.1,SNR=5.2						
ASAJ				LR	LR	21 45 23.7	
	comp=Z,48nm,18.3s,MS3.0,baz=263,slow=35						
DAWY	**Dawson**	**25.40**	**45**	*e*P	**P**	**21 36 37.9**	**+0.8**
MDJ	**Mudanjiang**	**31.96**	**276**	P	**P**	**21 37 33.9**	**-1.8**
MDJ				AMB	AMB		
	comp=Z,30nm,4.6s						
CN2	**Changchun**	**34.93**	**277**	*e*P	**P**	**21 37 59.3**	**-2.2**
CBIJ	**Chichi jima**	**36.12**	**240**	LR	LR	21 54 09.4	
	comp=Z,35nm,18.5s,MS3.2,baz=82,slow=38						
YKA	**Yellowknife Ar**	**36.62**	**46**	P	**P**	**21 38 16.8**	**+0.8**
	comp=Z,1.8nm,0.7s,mb4.0,baz=285,slow=8.5,SNR=11						
YKA				LR	LR	21 54 38.0	
	comp=Z,45nm,18.9s,MS3.3,baz=290,slow=38						
YBH	**Yreka Blue Hor**	**41.28**	**80**	LR	LR	21 51 42.1	
	comp=Z,96nm,19.9s,MS3.7,baz=305,slow=30						
SONM	**Songino Array**	**44.06**	**294**	P	**P**	**21 39 16.8**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.4,baz=80,slow=10,SNR=3.1						
JOW	**Kunigami**	**44.25**	**255**	LR	LR	21 55 09.6	
	comp=Z,42nm,20.7s,MS3.3,baz=351,slow=32						
NJ2	**Nanjing**	**46.27**	**268**	*e*P	**P**	**21 39 34.1**	**-1.0**
NJ2				AP	pP	21 39 38.1	-7.8
NJ2				XP	sP	21 39 41.6	-8.8
NJ2				PCP	PcP	21 41 09.5	-0.6
NJ2				S	**S**	**21 46 19.0**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,80nm,8.0s						
NJ2				LR	LR		
	comp=N,220nm,20.9s,MS4.2						
NJ2				LR	LR		
	comp=E,140nm,19.9s,MS4.2						
NJ2				LR	LR		
	comp=Z,380nm,16.3s,MS4.4						
ULM	**Lac du Bonnet**	**51.42**	**55**	LR	LR	22 03 07.3	
	comp=Z,42nm,20.0s,MS3.5,baz=241,slow=37						
LZH	**Lanzhou**	**52.75**	**283**	*e*P	**P**	**21 40 24.5**	**0.0**
LZH				AP	pP	21 40 28.5	-7.0
LZH				XP	sP	21 40 31.8	-8.1
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
GTA	**Gaotai**	**52.95**	**289**	*e*P	**P**	**21 40 26.8**	**+0.8**
GTA				AP	pP	21 40 29.3	-7.7
GTA				XP	sP	21 40 31.6	-10
CD2	**Chengdu**	**56.35**	**278**	*e*P	**P**	**21 40 50.0**	**-0.6**
CD2				PP	PP	21 42 56.4	+0.1
CD2				S	**S**	**21 48 37.3**	**-1.1**
CD2				SS	SS	21 52 24.0	-1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ	**Urumqi**	**56.83**	**300**	*e*P	**P**	**21 40 55.3**	**+1.3**
WMQ				LR	LR		
	comp=N,90nm,21.0s,MS3.8						
WMQ				LR	LR		
	comp=E,20nm,23.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,30nm,20.0s,MS3.4						
MKAR	**Makanchi Array**	**57.60**	**306**	P	**P**	**21 40 58.2**	**-1.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=40,slow=9.6,SNR=5.7						
BVAR	**Borovoye Array**	**58.71**	**317**	P	**P**	**21 41 07.0**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.3,baz=54,slow=7.5,SNR=14						
ZRNK	**Zerenda**	**59.34**	**318**	*e*P	**P**	**21 41 10.6**	**-1.0**
	comp=Z,2.6nm,0.8s,mb4.3						
KMI	**Kunming**	**61.12**	**274**	P	**P**	**21 41 24.8**	**+1.0**
KMI				LR	LR		
	comp=Z,20nm,23.6s,MS3.2						
FINES	**FINESS Array B**	**64.53**	**345**	P	**P**	**21 41 45.7**	**-0.8**
	comp=Z,1.2nm,0.8s,mb4.0,baz=18,slow=14,SNR=3.8						
FINES	**FINESS Array B**	**64.53**	**345**	P	**P**	**21 41 45.7**	**-0.8**
AKTK	**Aktyubinsk**	**65.63**	**322**	P	**P**	**21 41 53.6**	**0.0**
AKTO	**Aktyubinsk**	**65.63**	**322**	P	**P**	**21 41 53.6**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.3,baz=40,slow=6.4,SNR=6.7						
NOA	**NORSAR Array B**	**66.70**	**353**	P	**P**	**21 42 00.3**	**-0.1**
	comp=Z,1.3nm,0.9s,mb4.0,baz=336,slow=4.7,SNR=3.6						
GUN	**Gumba**	**69.24**	**289**	*e*P	**P**	**21 42 17.4**	**+1.0**
	comp=Z,9.7nm,0.4s,mb5.0						
JIRN	**Jiri**	**69.25**	**288**	*e*P	**P**	**21 42 17.7**	**+1.3**
	comp=Z,9.0nm,0.6s,mb4.9						
KKN	**Kakani**	**69.68**	**289**	*e*P	**P**	**21 42 19.0**	**-0.1**
PKI	**Pulchoki**	**69.77**	**289**	*e*P	**P**	**21 42 20.3**	**+0.6**
GKN	**Gorkha**	**69.89**	**290**	*e*P	**P**	**21 42 22.0**	**+1.6**
KOLN	**Koldanda**	**70.67**	**290**	*e*P	**P**	**21 42 25.6**	**+0.4**
AKASG	**Malin Array Be**	**74.08**	**339**	P	**P**	**21 42 45.0**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=24,slow=5.6,SNR=5.1						
AKASG	**Malin Array Be**	**74.08**	**339**	P	**P**	**21 42 45.0**	**-0.6**
WRA	**Warramunga Arr**	**80.80**	**220**	P	**P**	**21 43 23.0**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=32,slow=5.9,SNR=4.8						

*ISCJB **22** 21:34:02.7±0.5, 5524S±008×15W±02, h10km, mb4.1/14, MS3.7/6, Error ellipse: s-maj=14.8km s-min=10.8km az=28.6*
*IDC **22** 21:34:02.4±0.7, 5544S×139W, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, MS3.7/6, Ms1 3.7/6, ms1mx3.5/24, Error ellipse: s-maj=21.7km s-min=17.9km az=157.0*
*NEIC **22** 21:34:04.2±0.4, 5534S×142W, h10km, mb4.5/1, Error ellipse: s-maj=13.5km s-min=11.0km az=106.0*
ISC 22 21:34:04.4±0.5, 5528S±008×14W±02, h10km, n23, σ0°95/18, mb4.1/14, MS3.7/6, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.72**	**188**	*e*	**Pn**	**21 37 47.2**	**+1.4**
VNA1				*e*		21 37 53.1	
VNA1				*e*		21 37 57.9	
VNA1				*e*		21 38 05.0	
VNA1				*e*		21 38 15.0	
SNAA	**Sanae**	**16.46**	**182**	Pn	**Pn**	**21 37 55.8**	**+0.4**
	0.2nm,0.3s,baz=0.4,slow=15,SNR=31						
SUR	**Sutherland**	**27.72**	**44**	LR	LR	21 48 16.9	
	comp=Z,153nm,18.8s,MS3.6,baz=231,slow=31						
BOSA	**Boshof**	**32.84**	**47**	P	**P**	**21 40 38.6**	**+0.4**
	2.9nm,0.9s,mb4.2,baz=199,slow=12,SNR=3.1						
QSPA	**South Pole Qui**	**34.96**	**180**	*e*P	**P**	**21 40 55.8**	**-0.8**
	6.7nm,0.9s,mb4.6						
LBTB	**Lobatse**	**36.17**	**44**	P	**P**	**21 41 07.2**	**+0.3**
	5.1nm,1.1s,mb4.4,baz=211,slow=5.3,SNR=4.4						
LBTB				LR	LR	21 55 01.4	
	comp=Z,128nm,18.5s,MS3.7,baz=146,slow=35						
LBTB	**Lobatse**	**36.17**	**44**	P	**P**	**21 41 07.2**	**+0.3**
LBTB				LR	LR	21 55 01.4	
MATP	**Matopo**	**41.45**	**45**	P	**P**	**21 41 52.1**	**+0.9**
	5.0nm,1.1s,mb4.1,baz=225,slow=13,SNR=5.0						
PLCA	**Paso Flores**	**46.52**	**258**	P	**P**	**21 42 33.2**	**+1.2**
	1.6nm,0.9s,mb4.0,baz=334,slow=11,SNR=3.1						
PLCA	**Paso Flores**	**46.52**	**258**	P	**P**	**21 42 33.2**	**+1.2**
VNDA	**Vanda**	**47.05**	**175**	P	**P**	**21 42 32.5**	**-3.6**
	0.7nm,0.3s,mb4.1,baz=263,slow=24,SNR=15						
CPUP	**Villa Florida**	**49.48**	**282**	P	**P**	**21 42 53.5**	**-1.4**
	1.9nm,0.8s,mb4.2,baz=128,slow=4.9,SNR=5.7						
CPUP				LR	LR	22 00 10.1	
	comp=Z,60nm,18.1s,MS3.6,baz=150,slow=32						
CFAA	**Coronel Fontan**	**51.69**	**268**	P	**P**	**21 43 11.8**	**+0.3**
	0.3nm,0.7s,mb3.3,baz=141,slow=5.2,SNR=7.1						
BDFB	**Brasilia**	**53.23**	**299**	P	**P**	**21 43 22.3**	**-0.7**
	2.1nm,0.9s,mb4.1,baz=146,slow=11,SNR=3.2						
BDFB				LR	LR	22 01 42.9	
	comp=Z,64nm,18.1s,MS3.7,baz=328,slow=31						
DBIC	**Dimbokro**	**61.79**	**356**	P	**P**	**21 44 23.0**	**-0.4**
	3.6nm,0.9s,mb4.5,baz=155,slow=9.6,SNR=3.9						
KMBO	**Kilima Mbogo**	**62.45**	**45**	LR	LR	22 09 57.9	
	comp=Z,93nm,18.8s,MS4.0,baz=119,slow=34						
LPAZ	**La Paz**	**63.52**	**280**	P	**P**	**21 44 35.6**	**+0.7**
	2.7nm,0.8s,mb4.3,baz=143,slow=5.7,SNR=15						
LPAZ				LR	LR	22 08 33.8	
	comp=Z,40nm,19.6s,MS3.6,baz=283,slow=33						
TORD	**Torodi Ar. Bea**	**68.22**	**3**	P	**P**	**21 45 05.4**	**+0.3**
	0.5nm,0.8s,mb3.6,baz=194,slow=7.3,SNR=3.9						
TORD				PP	PP	21 47 32.6	-2.9
	0.4nm,1.0s,baz=195,slow=9.2,SNR=3.6						
STKA	**Stephens Creek**	**87.58**	**149**	P	**P**	**21 46 50.7**	**-2.0**
	2.4nm,0.8s,mb4.5,baz=197,slow=5.7,SNR=5.2						
ASAR	**Alice Springs**	**92.62**	**140**	P	**P**	**21 47 15.9**	**-0.3**
	0.4nm,0.8s,mb3.9,baz=182,slow=3.6,SNR=5.7						
YKA	**Yellowknife Ar**	**146.20**	**310**	PKPbc	PKPbc	21 53 43.4	-1.6
	1.2nm,0.7s,baz=109,slow=3.1,SNR=7.6						
MJAR	**Matsushiro Arr**	**146.85**	**107**	PKPbc	PKPbc	21 53 46.5	-0.4
	1.0nm,0.7s,baz=222,slow=2.4,SNR=4.4						
MJAR	**Matsushiro Arr**	**146.85**	**107**	PKPbc	PKPbc	21 53 46.5	-0.4

*IDC **22** 22:06:30.8±11.0, 5730N×12225E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, Error ellipse: s-maj=219.5km s-min=49.4km az=127.0*
*MOS **22** 22:06:36.5±1.8, 5743N×12059E, h10km, mb4.1/1, Error ellipse: s-maj=18.5km s-min=15.0km az=155.7*
*BYKL **22** 22:06:36.4±0.5, 5742N×12077E, h5km±13km*
ISC 22 22:06:35.1±0.5, 5731N±004×12070E±004, h5km, n36, σ1°79/57, mb3.5/3, 2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.56**	**225**	*e*Pg	**Pg**	**22 06 48.9**	**+3.1**
KHNR				*e*Sg	**Sg**	**22 06 57.1**	**+4.1**
CRS	**Chara**	**1.39**	**254**	⇓*i*Pg	**Pg**	**22 07 03.3**	**+1.6**
CRS				*e*Sg	**Sg**	**22 07 21.5**	**+1.8**
CRS				Pmax			
	229nm,0.8s						
CRS				Smax			
	595nm,1.0s						
CRS	**Chara**	**1.39**	**254**	*e*P	**Pg**	**22 07 03.3**	**+1.6**
CRS				*e*		22 07 21.2	
CRS				pmax	pmax		
	comp=Z,229nm,0.4s						
CRS				smax			
	comp=E,738nm,0.9s						
NRGR	**Nerungri**	**2.30**	**105**	*e*P	**Pn**	**22 07 19.1**	**+5.5**
NRGR				S	**Sn**	**22 07 49.4**	**+7.1**
NRGR				smax			
	comp=N,26nm,0.1s						
CLNS	**Chul'man**	**2.34**	**100**	*e*Pn	**Pn**	**22 07 15.5**	**+1.3**
CLNS				*e*Pg	**Pg**	**22 07 19.2**	**-0.7**
CLNS				*e*Sg	**Sg**	**22 07 48.3**	**-2.0**
CLNS	**Chul'man**	**2.34**	**100**	*e*P	**Pn**	**22 07 17.6**	**+3.4**
CLNS				*e*S	**Sn**	**22 07 44.3**	**+1.0**
CLNS				pmax	pmax		
	comp=N,6.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.3s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.2s						
CLNS				smax			
	comp=E,63nm,0.3s						
CLNS				smax			
	comp=N,29nm,0.2s						
CLNS				smax			
	comp=Z,14nm,0.2s						
NLYR	**Nelyaty**	**2.86**	**255**	*e*Pn	**Pn**	**22 07 24.3**	**+2.9**
NLYR				*e*Pg	**Pg**	**22 07 29.2**	**-0.7**
NLYR				*e*PgPg		22 07 31.8	
NLYR				*e*Sg	**Sg**	**22 08 06.2**	**-0.8**
NLYR				max			
	comp=Z,68nm,0.4s						
NLYR				Smax			
	comp=Z,450nm,1.0s						
NLYR	**Nelyaty**	**2.86**	**255**	*e*P	**Pn**	**22 07 24.2**	**+2.8**
NLYR				*e*		22 08 05.5	
NLYR				pmax	pmax		
	comp=Z,85nm,0.2s						
NLYR				smax			
	comp=N,449nm,0.9s						
TUP	**Tupik**	**2.93**	**189**	*e*Pn	**Pn**	**22 07 25.5**	**+3.3**
TUP				*e*Pg	**Pg**	**22 07 30.5**	**-0.7**
TUP				*e*Sg	**Sg**	**22 08 09.3**	**+0.2**
TUP				*e*		22 08 16.8	
TUP				Pmax			
	comp=N,185nm,0.5s						
TUP				Smax			
	comp=N,757nm,0.8s						
TUP	**Tupik**	**2.93**	**189**	*e*P	**Pn**	**22 07 23.0**	**+0.8**
TUP				*e*S	**Sn**	**22 08 00.0**	**+2.2**
TUP				pmax	pmax		
	comp=Z,187nm,0.6s						
TUP				smax			
	comp=E,760nm,0.8s						
TNDR	**Tynda**	**3.12**	**132**	*e*Pn	**Pn**	**22 07 27.7**	**+2.7**
TNDR				*e*Pg	**Pg**	**22 07 32.4**	**-2.5**
TNDR				*e*Sn	**Sn**	**22 08 04.6**	**+2.0**
TNDR				*e*Sg	**Sg**	**22 08 14.2**	**-1.2**
BOD	**Bodaibo**	**3.64**	**281**	*e*Pn	**Pn**	**22 07 34.0**	**+1.9**
BOD				*e*Pg	**Pg**	**22 07 41.4**	**-3.5**
BOD				*e*Sg	**Sg**	**22 08 27.5**	**-4.6**
BOD				Pmax			
	comp=E,29nm,0.5s						
BOD				Smax			
	comp=E,235nm,0.7s						
BOD	**Bodaibo**	**3.64**	**281**	*e*P	**Pn**	**22 07 33.2**	**+1.1**
BOD				pmax	pmax		
	comp=Z,20nm,0.5s						
UKT	**Uakit**	**4.33**	**248**	*e*Pn	**Pn**	**22 07 44.9**	**+3.3**
UKT				*e*Pg	**Pg**	**22 07 55.3**	**-2.8**
UKT				*e*Sg	**Sg**	**22 08 51.7**	**-2.6**
UKT				Pmax			
	comp=Z,16nm,0.9s						
UKT				Smax			
	comp=Z,88nm,1.0s						
UKT	**Uakit**	**4.33**	**248**	*e*P

comp=Z,1.0nm,0.6s
NOA NORSAR Array B 49.78 323 P **P 22 15 28.7 +0.1**
comp=Z,0.5nm,0.7s,mb3.7,baz=43,slow=7.9,SNR=2.5

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*ISCJB **22** 22:21:40.1±0.3,5273N±007×3493W±007,h10km, mb4.1/36,MS3.4/17,Error ellipse: s-maj=10.7km s-min=6.1km az=2.3*
*IDC **22** 22:21:40.4±0.5,5270N×3485W,h0km,mb4.0/19, mb1 4.1/21,mb1mx4.1/27,mbtmp4.0/21,ML3.2/2,MS3.5/15, Ms1 3.5/15,ms1mx3.4/30,Error ellipse: s-maj=16.4km s-min=13.1km az=158.0*
*NEIC **22** 22:21:41.9±0.2,5271N×3491W,h10km,mb4.4/20,Error ellipse: s-maj=7.0km s-min=4.1km az=1.0*
*CSEM **22** 22:21:43.4±0.1,5284N×3482W,h33km,mb4.4/16,Ms3.1, Error ellipse: s-maj=5.3km s-min=2.4km az=1.0*
ISC 22 22:21:41.7±0.3,5275N±007×3492W±007,h10km,n92, σ0°78/79,mb4.1/36,MS3.4/17,3C-3D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**18.74**	**69**	P	**Pn**	**22 26 01.7**	**+0.6**
	0.2nm,0.3s,baz=276,slow=8.3,SNR=5.5						
SCHQ	**Schefferville**	**18.88**	**289**	P	**Pn**	**22 26 01.7**	**-1.1**
	0.3nm,0.3s,baz=87,slow=9.6,SNR=4.5						
SCHQ				LR	LR	22 32 05.1	
	comp=Z,128nm,21.9s,baz=103,slow=33						
SUMG	**Summit**	**19.96**	**357**	*e*P	**Pn**	**22 26 13.5**	**-2.1**
	5.2nm,0.8s						
SUMG	**Summit**	**19.96**	**357**	*e*P	**Pn**	**22 26 13.5**	**-2.1**
	5.2nm,0.8s						
SGMF	**Saint Gilles**	**20.96**	**89**	*e*P	**P**	**22 26 26.0**	**+1.1**
	72nm,1.5s						
SGMF	**Saint Gilles**	**20.96**	**89**	*e*P	**P**	**22 26 26.0**	**+1.1**
	36nm,1.5s						
JMIC	**Jan Mayen**	**21.78**	**23**	LR	LR	22 32 46.3	
	comp=Z,88nm,21.5s,MS3.1,baz=287,slow=30						
GRR	**Gorron**	**21.94**	**88**	*e*P	**P**	**22 26 35.9**	**+0.5**
LDF	**La Druitiere**	**22.30**	**87**	*e*P	**P**	**22 26 39.0**	**-0.2**
	66nm,1.7s,mb4.5						
LDF	**La Druitiere**	**22.30**	**87**	*e*P	**P**	**22 26 39.0**	**-0.2**
	33nm,1.7s,mb4.5						
BAIF	**Baives**	**24.35**	**81**	*e*P	**P**	**22 26 59.1**	**-0.6**
TCF	**Toulx Ste Croi**	**24.75**	**90**	*e*P	**P**	**22 27 02.9**	**-0.4**
	16nm,1.0s,mb4.2						
TCF	**Toulx Ste Croi**	**24.75**	**90**	*e*P	**P**	**22 27 02.9**	**-0.4**
	8.1nm,1.0s,mb4.2						
RJF	**Les Rejaudoux**	**24.81**	**93**	*e*P	**P**	**22 27 04.1**	**+0.2**
	7.5nm,1.0s,mb3.9						
RJF				*e*R			
	208nm,22.0s						
RJF	**Les Rejaudoux**	**24.81**	**93**	*e*P	**P**	**22 27 04.1**	**+0.2**
	3.8nm,1.0s,mb3.9						
RJF				LR	LR		
	comp=Z,210nm,22.0s,MS3.6						
ESDC	**Sonseca Array**	**24.88**	**109**	P	**P**	**22 27 04.0**	**-0.5**
	comp=Z,1.4nm,0.8s,mb4.6,baz=312,slow=8.8,SNR=10						
BGF	**Bois d'Agland**	**25.00**	**89**	*e*P	**P**	**22 27 06.0**	**+0.3**
	comp=Z,25nm,1.1s,mb4.4						
BGF	**Bois d'Agland**	**25.00**	**89**	*e*P	**P**	**22 27 06.0**	**+0.3**
	comp=Z,12nm,1.1s,mb4.4						
SSF	**Saint Saulge**	**25.17**	**88**	*e*P	**P**	**22 27 06.4**	**-0.8**
AVF	**Avril sur Loir**	**25.20**	**88**	*e*P	**P**	**22 27 06.7**	**-0.8**
	comp=Z,8.1nm,0.9s,mb4.0						
AVF	**Avril sur Loir**	**25.20**	**88**	*e*P	**P**	**22 27 06.7**	**-0.8**
	comp=Z,4.1nm,0.9s,mb4.0						
LOR	**Lormes**	**25.29**	**87**	*e*P	**P**	**22 27 07.5**	**-0.8**
	comp=Z,7.8nm,0.6s,mb4.1						
LOR				*e*R			
	comp=Z,53nm,18.0s						
LOR	**Lormes**	**25.29**	**87**	*e*P	**P**	**22 27 07.5**	**-0.8**
	comp=Z,3.9nm,0.6s,mb4.1						
LOR				LR	LR		
	comp=Z,50nm,18.0s,MS3.1						
CAF	**Calviac**	**25.34**	**93**	*e*P	**P**	**22 27 08.8**	**+0.1**
MEZF	**Maizieres J'vi**	**25.47**	**83**	*e*P	**P**	**22 27 09.2**	**-0.7**
	comp=Z,20nm,0.8s,mb4.4						
MEZF	**Maizieres J'vi**	**25.47**	**83**	*e*P	**P**	**22 27 09.2**	**-0.7**
	comp=Z,10nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**26.02**	**53**	P	**P**	**22 27 14.2**	**-0.7**
	comp=Z,1.0nm,0.8s,mb3.4,baz=276,slow=10,SNR=3.6						
NOA				LR	LR	22 36 25.0	
	comp=Z,81nm,18.1s,MS3.3,baz=285,slow=34						
HAU	**Haudompre**	**26.47**	**84**	*e*P	**P**	**22 27 19.4**	**+0.5**
HAU				*e*R			
	comp=Z,130nm,17.5s						
HAU	**Haudompre**	**26.47**	**84**	*e*P	**P**	**22 27 19.4**	**+0.5**
HAU				LR	LR		
	comp=Z,130nm,17.5s,MS3.5						
HINF	**Hinteralfeld**	**26.86**	**84**	*e*P	**P**	**22 27 22.1**	**-0.3**
CABF	**La Chapelle**	**26.95**	**87**	*e*P	**P**	**22 27 23.2**	**-0.1**
HFS	**Hagfors**	**27.30**	**55**	LR	LR	22 36 36.9	
	comp=Z,118nm,19.4s,MS3.5,baz=312,slow=33						
CLL	**Collm**	**29.09**	**73**	⇑*i*P	**P**	**22 27 42.6**	**+0.2**
	comp=Z,10.0nm,1.1s,mb4.5						
CLL				*i* x	x	22 28 04.3	
CLL				*e*(PPPP)		22 28 53.0	
CLL	**Collm**	**29.09**	**73**	⇑*i*P	**P**	**22 27 42.6**	**+0.2**
	comp=Z,10.0nm,1.1s,mb4.5						
CLL				*i*		22 28 04.3	
DAVOX	**Davos**	**29.16**	**84**	LR	LR	22 37 10.3	
	comp=Z,80nm,21.3s,MS3.3,baz=266,slow=32						
MDT	**Midelt**	**29.52**	**120**	LR	LR	22 38 34.5	
	comp=Z,164nm,18.0s,MS3.7,baz=317,slow=34						
BRG	**Berggiesshubel**	**29.81**	**74**	*e*P	**P**	**22 27 49.0**	**+0.2**
	comp=Z,2.6nm,1.1s,mb3.9						
BRG				*e*		22 27 54.8	
	comp=Z,2.3nm,1.0s						
GERES	**GERESS Array B**	**30.51**	**78**	P	**P**	**22 27 54.6**	**-0.4**
	comp=Z,1.3nm,0.9s,mb3.8,baz=294,slow=10.0,SNR=7.7						
GERES				LR	LR	22 37 58.8	
	comp=Z,94nm,21.4s,MS3.4,baz=140,slow=32						
ARCES	**ARCESS Array B**	**31.91**	**35**	P	**P**	**22 28 06.8**	**-0.5**
	comp=Z,2.4nm,0.9s,mb4.0,baz=251,slow=7.6,SNR=8.3						
ARCES	**ARCESS Array B**	**31.91**	**35**	P	**P**	**22 28 06.8**	**-0.5**
MORC	**Moravsky Berou**	**32.36**	**74**	⇓*i*P	**P**	**22 28 12.9**	**+1.6**
FINES	**FINESS Array B**	**33.07**	**50**	P	**P**	**22 28 16.7**	**-0.8**
	comp=Z,4.1nm,0.8s,mb4.4,baz=284,slow=7.7,SNR=11						
FINES				LR	LR	22 39 58.1	
	comp=Z,95nm,20.3s,MS3.5,baz=283,slow=33						
VYHS	**Vyhne**	**33.70**	**75**	*e*P	**P**	**22 28 22.8**	**-0.2**
	comp=Z,15nm,2.2s,mb4.5						
KECS	**Kecovo**	**34.67**	**74**	*e*P	**P**	**22 28 31.6**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.1						
STHS	**Stebnicka Huta**	**34.68**	**72**	*e*P	**P**	**22 28 32.0**	**+0.5**
	comp=Z,5.5nm,1.7s,mb4.2						
BZS	**Buzias**	**36.79**	**78**	⇓*i*P	**P**	**22 28 50.2**	**+0.6**
DRGR		**36.82**	**76**	⇑*i*P	**P**	**22 28 51.3**	**+1.5**
ULM	**Lac du Bonnet**	**37.03**	**291**	P	**P**	**22 28 52.4**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.0,baz=48,slow=11,SNR=4.2						
ULM				LR	LR	22 41 48.9	
	comp=Z,45nm,19.6s,MS3.3,baz=14,slow=33						
ULM	**Lac du Bonnet**	**37.03**	**291**	P	**P**	**22 28 52.3**	**+0.6**
BURAR	**Bucovina Array**	**37.86**	**73**	⇓*i*P	**P**	**22 28 59.7**	**+1.0**
AKASG	**Malin Array Be**	**38.61**	**66**	P	**P**	**22 29 04.2**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.6,baz=300,slow=8.5,SNR=11						
AKASG	**Malin Array Be**	**38.61**	**66**	P	**P**	**22 29 04.2**	**-0.8**
YKA	**Yellowknife Ar**	**41.08**	**316**	P	**P**	**22 29 25.2**	**-0.3**
	comp=Z,0.8nm,0.9s,mb3.4,baz=57,slow=9.6,SNR=4.5						
YKA				LR	LR	22 44 30.4	
	comp=Z,45nm,19.2s,MS3.4,baz=240,slow=33						
YKA	**Yellowknife Ar**	**41.08**	**316**	P	**P**	**22 29 25.2**	**-0.3**
YKA				LR	LR	22 44 30.4	
MIAR	**Mount Ida**	**44.83**	**270**	*e*P	**P**	**22 29 56.7**	**+0.8**
	comp=Z,7.4nm,1.1s,mb4.4						
MIAR	**Mount Ida**	**44.83**	**270**	*e*P	**P**	**22 29 56.7**	**+0.8**
	comp=Z,7.4nm,1.1s,mb4.4						
BR131	**Keskin Array S**	**47.40**	**77**	*e*P	**P**	**22 30 16.9**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.1						
BR131	**Keskin Array S**	**47.40**	**77**	*e*P	**P**	**22 30 16.9**	**+0.7**
	comp=Z,1.9nm,0.8s,mb4.1						
BRTR	**Keskin Array B**	**47.40**	**77**	P	**P**	**22 30 17.1**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.1,baz=314,slow=6.0,SNR=11						
PCRV	**Puerto La Cruz**	**48.77**	**220**	LR	LR	22 47 36.1	
	comp=Z,57nm,18.3s,MS3.6,baz=334,slow=32						
PDAR	**Pinedale Array**	**49.02**	**290**	P	**P**	**22 30 29.6**	**+0.9**
	comp=Z,0.7nm,1.0s,mb3.6,baz=27,slow=8.1,SNR=3.5						
PDAR				LR	LR	22 49 56.1	
	comp=Z,73nm,18.3s,MS3.7,baz=233,slow=35						
PDAR	**Pinedale Array**	**49.02**	**290**	P	**P**	**22 30 29.6**	**+0.9**
PDAR				LR	LR	22 49 56.1	
PDAR	**Pinedale Array**	**49.02**	**290**	P	**P**	**22 30 29.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**49.10**	**130**	P	**P**	**22 30 28.4**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.2,baz=327,slow=7.7,SNR=11						
HWUT	**Hardware Ranch**	**50.91**	**290**	*e*P	**P**	**22 30 43.9**	**+0.8**
	comp=Z,2.6nm,0.8s,mb4.2						
HWUT	**Hardware Ranch**	**50.91**	**290**	*e*P	**P**	**22 30 43.8**	**+0.8**
	comp=Z,2.5nm,0.8s,mb4.2						
PV10	**Paradox Valley**	**51.56**	**285**	P	**P**	**22 30 47.0**	**-0.9**
PV10	**Paradox Valley**	**51.56**	**285**	P	**P**	**22 30 47.0**	**-0.9**
DBIC	**Dimbokro**	**52.11**	**141**	P	**P**	**22 30 50.8**	**-1.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=349,slow=13,SNR=3.8						
LIC	**Lamto**	**52.45**	**141**	*e*P	**P**	**22 30 53.3**	**-1.2**
	comp=Z,24nm,1.1s,mb4.7						
LIC	**Lamto**	**52.45**	**141**	*e*P	**P**	**22 30 53.3**	**-1.2**
	comp=Z,12nm,1.1s,mb4.7						
ZRNK	**Zerenda**	**57.06**	**44**	*e*P	**P**	**22 31 27.7**	**-0.3**
	comp=Z,6.3nm,1.0s,mb4.6						
ZRNK	**Zerenda**	**57.06**	**44**	*e*P	**P**	**22 31 27.7**	**-0.3**
	comp=Z,6.2nm,1.0s,mb4.6						
JTS	**JuntasAbangare**	**58.32**	**242**	LR	LR	22 52 53.7	
	comp=Z,77nm,20.2s,MS3.8,baz=176,slow=32						
ZAL	**Zalesovo**	**62.47**	**35**	P	**P**	**22 32 05.6**	**+0.4**
	comp=Z,0.9nm,0.4s,mb4.3,baz=141,slow=6.1,SNR=5.7						
ZAL	**Zalesovo**	**62.47**	**35**	P	**P**	**22 32 05.6**	**+0.4**
MKAR	**Makanchi Array**	**67.30**	**41**	P	**P**	**22 32 36.7**	**+0.1**
	comp=Z,3.1nm,0.9s,mb4.3,baz=336,slow=5.6,SNR=26						
MKAR	**Makanchi Array**	**67.30**	**41**	P	**P**	**22 32 36.7**	**+0.1**
BDFB	**Brasilia**	**69.05**	**194**	P	**P**	**22 32 48.3**	**+0.7**
	comp=Z,1.0nm,0.4s,mb4.1,baz=150,slow=12,SNR=3.0						
SIV	**San Ignacio**	**72.10**	**206**	P	**P**	**22 33 07.3**	**+1.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=32,slow=7.4,SNR=7.4						
LPAZ	**La Paz**	**74.51**	**213**	P	**P**	**22 33 20.9**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=15,slow=18,SNR=5.2						
SONM	**Songino Array**	**74.51**	**26**	P	**P**	**22 33 21.2**	**+0.7**
	comp=Z,4.9nm,0.8s,mb4.5,baz=330,slow=6.1,SNR=24						
ULN	**Ulaanbaatar**	**74.65**	**25**	*e*P	**P**	**22 33 22.1**	**+0.9**
	comp=Z,10nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**74.65**	**25**	*e*P	**P**	**22 33 22.1**	**+0.8**
	comp=Z,10nm,1.1s,mb4.7						
CPUP	**Villa Florida**	**81.14**	**200**	P	**P**	**22 33 56.1**	**-1.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=66,slow=6.7,SNR=4.7						
CPUP				LR	LR	23 04 43.9	
	comp=Z,49nm,21.6s,MS3.8,baz=290,slow=32						
CFAA	**Coronel Fontan**	**88.89**	**208**	LR	LR	23 11 23.4	
	comp=Z,3.7nm,18.1s,MS2.9,baz=20,slow=34						
WRA	**Warramunga Arr**	**146.21**	**18**	PKPbc	PKPbc	22 41 22.0	-0.3
	comp=Z,6.6nm,1.0s,baz=342,slow=3.2,SNR=28						
WB2	**Warramunga Arr**	**146.21**	**18**	*e*P	PKPdf	22 41 21.6	+0.3
AS31	**Alice Springs**	**149.73**	**21**	*e*P	PKPbc	22 41 31.6	-0.2
ASAR	**Alice Springs**	**149.73**	**21**	PKPbc	PKPbc	22 41 31.1	-0.7
	comp=Z,3.6nm,0.8s,baz=346,slow=2.2,SNR=30						
ASPA	**Alice Springs**	**149.73**	**21**	*e*P	PKPbc	22 41 31.6	-0.2
VNDA	**Vanda**	**154.38**	**188**	PKPbc	PKPbc	22 41 41.3	-1.0
	comp=Z,0.5nm,0.7s,baz=143,slow=3.8,SNR=3.9						

IDC 22 22:38:07.1±9.2,1233S×16697E,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.7/13,mbtmp3.8/3,MS3.0/1,Ms1 3.0/1, ms1mx2.7/17,Error ellipse: s-maj=281.1km s-min=54.4km az=126.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.20**	**252**	P	P	22 44 37.4	+0.6
	0.6nm,0.6s,baz=84,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**33.33**	**246**	P	P	22 44 46.9	+0.3
	1.0nm,0.7s,baz=69,slow=9.5,SNR=12						
CBIJ	**Chichi jima**	**45.99**	**329**	LR	LR	23 01 33.6	
	comp=Z,19nm,20.6s,baz=73,slow=31						
MKAR	**Makanchi Array**	**95.28**	**317**	P	P	22 51 32.9	0.0
	0.5nm,0.6s,baz=96,slow=6.2,SNR=6.4						

MAN 22 22:52:46.0,802N×12506E,h15km,mb3.3,ML4.6,MS3.8, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.56**	**320**	*i* S	Sg	22 53 03.3	-1.4
DCPH	**Dipolog City**	**1.78**	**288**	*e*P	Pn	22 53 15.7	-0.6
SCPH	**Surigao**	**1.80**	**13**	⇓*e*P	Pn	22 53 12.9	-3.6
TBP	**Tagbilaran**	**2.04**	**325**	*e*P	Pn	22 53 28.7	+8.9
TBP				*e*S	Sn	22 53 57.2	+12
LLP	**Lapu-Lapu**	**2.52**	**335**	*e*P	Pn	22 53 26.6	+0.1
LLP				*e*S	Sn	22 53 59.4	+2.4

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*CRAAG **22** 23:05:45.9,3647N×248E,Ml3.1*
*ISCJB **22** 23:05:47.7±0.5,3662N±004×237E±004,h10km,Error ellipse: s-maj=5.3km s-min=4.2km az=19.6*
*CSEM **22** 23:05:47.5±0.3,3653N×241E,h15km,ML3.1,Error ellipse: s-maj=8.0km s-min=6.2km az=5.0*
*MDD **22** 23:05:49.0±1.5,3657N×243E,h29km±15km,mb3.5/4, Error ellipse: s-maj=8.7km s-min=8.0km az=129.0, PRXIMO*
*NEIC **22** 23:05:51.9,3671N×241E,h8km,MG3.2(MDD),After MDD.*
ISC 22 23:05:47.8±0.5,3656N±004×243E±004,h10km,n27, σ1°25/43,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.55**	**63**	P	**Pg**	**23 05 59.4**	**+1.0**
EMHD	**Djebel Mahouad**	**0.55**	**130**	P	**Pg**	**23 05 56.5**	**-2.0**
EBNR	**Beni Rached**	**0.77**	**250**	P	**Pg**	**23 06 03.9**	**+1.2**
ABMS	**Boumerdes**	**0.87**	**77**	P	**Pg**	**23 06 04.3**	**-0.2**
ADJB	**Djebel Djouab**	**0.91**	**116**	P	**Pg**	**23 06 04.9**	**-0.4**
ECHA	**Ech Chlef**	**0.95**	**245**	P	**Pg**	**23 06 06.0**	**0.0**
ECHF	**Ech Chlef**	**0.96**	**246**	P	**Pg**	**23 06 06.0**	**-0.3**
EANR	**'Ain N'Sour**	**1.23**	**241**	P	**Pn**	**23 06 10.0**	**-1.1**
AKET	**Djebel Ketaf**	**1.28**	**113**	P	**Pn**	**23 06 12.0**	**+0.3**
ETRT	**Tiaret**	**1.48**	**218**	P	**Pn**	**23 06 13.2**	**-1.3**
AKF	**Akfadou**	**1.72**	**87**	P	**Pn**	**23 06 21.3**	**+3.5**
EIBI	**Ibiza**	**2.61**	**341**	P	**Pn**	**23 06 31.6**	**+1.5**
	2.7nm,0.1s,SNR=12						
EIBI				S	**Sn**	**23 07 01.1**	**-0.7**
	4.3nm,0.3s						
EIBI	**Ibiza**	**2.61**	**341**	P	**Pn**	**23 06 31.6**	**+1.5**
EIBI				S	**Sn**	**23 07 00.1**	**-1.7**
EIBI	**Ibiza**	**2.61**	**341**	P	**Pn**	**23 06 31.6**	**+1.6**
	2.7nm,0.1s,SNR=12						
EIBI				S	**Sn**	**23 07 00.1**	**-1.7**
	4.3nm,0.3s						
EBEN	**Beniarda**	**3.00**	**316**	P	**Pn**	**23 06 35.3**	**-0.1**
	0.4nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**23 07 10.7**	**-0.8**
	0.5nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.00**	**316**	P	**Pn**	**23 06 37.2**	**+1.8**
EBEN				S	**Sn**	**23 07 10.7**	**-0.8**
EBEN	**Beniarda**	**3.00**	**316**	P	**Pn**	**23 06 37.2**	**+1.8**
	0.4nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**23 07 10.7**	**-0.8**
	0.5nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.22**	**5**	P	**Pn**	**23 06 39.5**	**+1.1**
	2.3nm,0.2s,SNR=7.0						
ETOS				S	**Sn**	**23 07 15.1**	**-1.7**
	2.8nm,0.4s,SNR=6.0						
ETOS	**Mallorca**	**3.22**	**5**	P	**Pn**	**23 06 39.5**	**+1.1**
	2.3nm,0.2s,SNR=7.0						
ETOS				S	**Sn**	**23 07 15.1**	**-1.7**
	2.8nm,0.4s,SNR=6.0						
ETOB	**Tobarra**	**3.78**	**305**	P	**Pn**	**23 06 48.8**	**+2.7**
	1.0nm,0.2s,SNR=12						
ETOB				S	**Sn**	**23 07 30.0**	**-0.7**
	2.5nm,0.3s,SNR=5.4						
ETOB	**Tobarra**	**3.78**	**305**	P	**Pn**	**23 06 48.8**	**+2.7**
	1.0nm,0.2s,SNR=12						
ETOB				S	**Sn**	**23 07 30.0**	**-0.7**
	2.5nm,0.3s,SNR=5.4						
EBER	**Berja**	**4.28**	**276**	P	**Pn**	**23 06 53.3**	**+0.3**
	0.8nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**23 07 42.5**	**-0.6**
	2.0nm,2.8s,SNR=4.6						
EBER	**Berja**	**4.28**	**276**	P	**Pn**	**23 06 53.3**	**+0.3**
	0.8nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**23 07 42.5**	**-0.6**
	2.0nm,2.8s,SNR=4.6						
EMOS	**Mosqueruela**	**4.43**	**330**	P	**Pn**	**23 06 57.0**	**+2.0**
	1.5nm,0.3s,SNR=9.0						
EMOS				S	**Sn**	**23 07 44.4**	**-2.2**
	0.4nm,0.2s						
EMOS	**Mosqueruela**	**4.43**	**330**	P	**Pn**	**23 06 57.0**	**+2.0**
	1.5nm,0.3s,SNR=9.0						
EMOS				S	**Sn**	**23 07 44.4**	**-2.3**
	0.4nm,0.2s						
EQES	**Quesada**	**4.56**	**287**	P	**Pn**	**23 07 00.1**	**+3.2**
	1.3nm,0.4s,SNR=4.6						
EQES				S	**Sn**	**23 07 49.9**	**0.0**
	2.0nm,0.4s						
EQUE	**Quentar**	**4.75**	**280**	Pn	**Pn**	**23 06 59.2**	**-0.2**
	0.1nm,0.3s,SNR=7.9						
EQUE				Sn	**Sn**	**23 07 54.8**	**+0.4**
	1.1nm,0.4s,SNR=7.9						

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*IDC **22** 23:18:53.7±2.8,9.14N×12672E,h0km,mb3.8/4,mb1 3.9/4, mb1mx3.7/18,mbtmp3.8/4,MS3.4/1,Ms1 3.4/1, ms1mx2.4/25,Error ellipse: s-maj=228.6km s-min=26.6km az=65.0*
*ISCJB **22** 23:18:57.7±1.3,881N±004×12583E±008,h21km±10km, mb3.9/6,Error ellipse: s-maj=13.2km s-min=6.8km az=6.7*
*MAN **22** 23:18:57.7±7,880N×12576E,h8km,mb4.2,ML5.1,MS2.2*
*NEIC **22** 23:18:58.9±1.0,904N×12645E,h35km,mb4.0/2,Error ellipse: s-maj=34.2km s-min=13.2km az=72.0*
ISC 22 23:18:58.6±1.3,882N±004×12579E±006,h19km±8km,n25, σ1°41/27,mb3.9/6,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.23**	**311**	*e*P	**Pg**	**23 19 03.1**	**-0.9**
SCPH	**Surigao**	**1.00**	**343**	⇑*e*P	**Pb**	**23 19 15.9**	**-1.5**
CGP	**Cagayan de Oro**	**1.14**	**252**	*i* S	**Sb**	**23 19 32.9**	**-1.4**
BUKP	**Musuan**	**1.18**	**218**	*e*P	**Pn**	**23 19 18.9**	**-1.3**
BUKP				*e*S	**Sb**	**23 19 36.5**	**+1.1**
MSLP	**Maasin**	**1.60**	**325**	*e*P	**Pn**	**23 19 25.2**	**-0.6**
DAV	**Davao City (W)**	**1.75**	**187**	*e*P	**Pn**	**23 19 30.0**	**+2.0**
DAV	**Davao City (W)**	**1.75**	**187**	*e*Pn	**Pn**	**23 19 31.7**	**+3.7**
MATI	**Mati**	**1.92**	**166**	*e*P	**Pn**	**23 19 30.9**	**+0.6**
KCP	**Kidapawan**	**1.93**	**201**	⇓*e*P	**Pn**	**23 19 29.6**	**-0.9**
TBP	**Tagbilaran**	**2.09**	**295**	*e*P	**Pg**	**23 19 41.5**	**+2.7**
TBP				*e*S	**Sg**	**23 20 11.7**	**+5.7**
LLP	**Lapu-Lapu**	**2.34**	**310**	*e*P	**Pn**	**23 19 34.9**	**-1.1**
LLP				*e*S	**Sn**	**23 19 59.2**	**-5.0**
DCPH	**Dipolog City**	**2.42**	**265**	*e*P	**Pn**	**23 19 37.2**	**-0.1**
PLP	**Palo**	**2.46**	**341**	*e*P	**Pn**	**23 19 39.2**	**+1.4**
OCLP	**Ormoc**	**2.50**	**332**	*e*P	**Pn**	**23 19 39.6**	**+1.2**
PAGZ	**Pagadian**	**2.57**	**248**	*e*P	**Pn**	**23 19 41.1**	**+1.9**
PVCP	**Virac**	**5.01**	**341**	*e*P	**Pn**	**23 20 15.9**	**+3.1**
WRA	**Warramunga Arr**	**29.79**	**164**	P	**P**	**23 25 03.5**	**-0.8**
	0.9nm,0.7s,mb3.6,baz=346,slow=9.2,SNR=4.3						
MJAR	**Matsushiro Arr**	**29.82**	**20**	LR	LR	23 35 42.4	
	comp=Z,70nm,19.9s,baz=40,slow=34						
ASAR	**Alice Springs**	**33.25**	**166**	P	**P**	**23 25 34.4**	**-0.2**
	0.8nm,0.6s,mb3.8,baz=345,slow=7.3,SNR=9.6						
CTAO	**Charters Tower**	**35.08**	**145**	*e*P	**P**	**23 25 51.4**	**+0.9**
	1.6nm,0.6s,mb4.1						
LSA	**Lhasa**	**38.51**	**307**	P	**P**	**23 26 22.7**	**+3.0**
STKA	**Stephens Creek**	**43.20**	**160**	P	**P**	**23 26 55.7**	**-2.6**
	1.5nm,0.7s,mb3.8,baz=316,slow=7.4,SNR=1.6						
STKA	**Stephens Creek**	**43.20**	**160**	P	**P**	**23 26 55.7**	**-2.7**
MKAR	**Makanchi Array**	**52.90**	**324**	P	**P**	**23 28 13.7**	**+0.3**
	1.4nm,0.8s,mb3.9,baz=138,slow=7.0,SNR=4.3						
BRVK	**Borovoye**	**62.66**	**326**	*e*P	**P**	**23 29 19.8**	**-2.2**
	0.3nm,0.3s,mb3.9						

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*MOS **22** 23:18:53.7±1.0,3616N×7065E,h158km,mb4.5/1,Error ellipse: s-maj=20.2km s-min=9.6km az=92.1*
*NEIC **22** 23:18:54.8±2.5,3616N×7067E,h155km±23km,mb4.1/6, Error ellipse: s-maj=19.7km s-min=10.1km az=215.0*
*ISCJB **22** 23:18:58.9±0.5,3646N±003×7079E±009,h203km±7km, mb3.6/8,Error ellipse: s-maj=12.3km s-min=5.6km az=3.3*
*IDC **22** 23:18:58.2±5.8,3626N×7073E,h185km±54km,mb3.3/7, mb1 3.4/10,mb1mx3.2/23,mbtmp3.9/10,Error ellipse: s-maj=27.9km s-min=19.4km az=23.0*
*NNC **22** 23:19:05.4±16.0,3695N×7093E,h204km±150km,mb2.5, mpv4.4,Error ellipse: s-maj=197.1km s-min=152.2km az=79.0*
**ISC 22 23:18:59.8±0.5,3646N±003×7080E±009,h198km±6km, n45, σ0°91/49,m

WRAB Tennant Creek 82.11 122 *eP* **P 23 30 58.5 +0.3**
comp=Z,5.5nm,0.9s,mb4.2
ASAR Alice Springs 84.37 125 P **P 23 31 09.3 -0.4**
comp=Z,0.2nm,0.3s,mb3.4,baz=311,slow=4.8,SNR=4.9

NDI 22 23:21:11.3±4.0, 3178N×7546E, h15km, ML2.8, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.88**	**29**	*eP*	Pb	23 21 28.0	-0.2
SDNR	**Sundarnagar**	**1.32**	**102**	*eP*	Pn	23 21 21.0	-14
SDNR				*eS*	Sb	23 21 55.4	+2.9
KLP	**Kalpa**	**2.39**	**95**	*eP*	Pn	23 21 49.7	-0.2
KLP				*eS*	Sn	23 22 18.5	-0.5
KLP				AML	AML	23 22 19.8	
	comp=E,80nm,0.6s						
KLP				AML	AML	23 22 25.4	
	comp=N,94nm,0.6s						
KHET	**Khetri**	**3.70**	**175**	*eS*	Sn	23 22 49.5	-1.8
KHET				AML	AML	23 22 50.9	
	comp=E,13nm,0.2s						
KHET				AML	AML	23 22 51.2	
	comp=N,19nm,0.3s						
JOSI	**Joshimath**	**3.72**	**108**	*eP*	Pn	23 22 02.7	-5.5
JOSI				*eS*	Sn	23 22 42.5	-9.3
JOSI				AML	AML	23 22 46.2	
	comp=E,48nm,0.9s						
JOSI				AML	AML	23 22 46.9	
	comp=N,42nm,0.4s						

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*IDC **22** 23:27:05.6±1.2, 1404N×122.12E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=24.3km s-min=13.1km az=19.0*
*MAN **22** 23:27:07.4, 1340N×120.12E, h1km, mb2.6*
*NEIC **22** 23:27:10.7±0.7, 1400N×121.99E, h35km, mb3.8/1, Error ellipse: s-maj=20.9km s-min=11.6km az=59.0*
*ISCJB **22** 23:27:12.9±3.7, 139N±02×1218E±05, h74km±33km, mb3.6/5, Error ellipse: s-maj=90.6km s-min=18.4km az=132.3*
ISC 22 23:27:08.6±2.5, 140N±01×12204E±009, h18km±15km, n9, σ0°79/10, mb3.6/5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.07**	**273**	⇓*iP*	**Pb**	**23 27 30.8**	**+2.1**
TGY				*iS*	**Sb**	**23 27 41.8**	**-0.5**
TGY	**Tagaytay City**	**1.07**	**273**	Pg	**Pg**	**23 27 28.8**	**-0.7**
	653nm,0.3s,baz=218,slow=3.3,SNR=22						
TGY				Lg		23 27 42.3	
	407nm,0.3s,baz=143,slow=20,SNR=28						
PGP	**Puerto Galera**	**1.19**	**243**	*eP*	**Pn**	**23 27 23.0**	**-7.3**
WRA	**Warramunga Arr**	**35.87**	**160**	P	**P**	**23 34 07.5**	**+0.2**
	1.6nm,0.5s,mb4.2,baz=338,slow=9.5,SNR=7.7						
SONM	**Songino Array**	**36.12**	**342**	P	**P**	**23 34 10.1**	**+0.6**
	0.3nm,0.6s,mb3.4,baz=164,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**39.23**	**163**	P	**P**	**23 34 35.5**	**-0.3**
	1.5nm,0.6s,mb3.9,baz=340,slow=7.0,SNR=19						
TLY	**Talaya**	**40.36**	**342**	P	**P**	**23 34 44.9**	**-0.3**
MKAR	**Makanchi Array**	**46.54**	**323**	P	**P**	**23 35 34.5**	**-0.6**
	0.1nm,0.6s,mb2.9,baz=119,slow=12,SNR=2.0						
BRVK	**Borovoye**	**56.30**	**325**	*eP*	**P**	**23 36 48.2**	**0.0**
	0.3nm,0.3s,mb3.8						

MAN 23 00:08:08.1, 1031N×12514E, h30km, mb2.0, ML3.8, MS1.1, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.33**	**237**	*eP*	Pb	00 08 17.8	+1.9
MSLP				*eS*	Sb	00 08 24.8	+3.6
SCPH	**Surigao**	**0.63**	**147**	⇓*eP*	Pb	00 08 20.9	+0.3
SCPH				*iS*	Sb	00 08 31.4	+2.2
PLP	**Palo**	**0.86**	**349**	*eP*	Pn	00 08 24.0	-0.1
PLP				*eS*	Sb	00 08 36.3	+0.7

IDC 23 00:14:21.4±55.0, 1575S×17183W, h0km, mb4.3/3, mb1 4.5/3, mb1mx4.0/15, mbtmp4.3/3, Error ellipse: s-maj=1073.0km s-min=183.8km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.18**	**241**	P	P	00 22 39.9	-0.1
	1.7nm,0.5s,baz=94,slow=8.5,SNR=7.4						
WRA	**Warramunga Arr**	**51.24**	**257**	P	P	00 23 27.0	+0.2
	0.6nm,0.4s,baz=93,slow=7.0,SNR=4.6						
ASAR	**Alice Springs**	**51.44**	**252**	P	P	00 23 29.2	+0.9
	5.1nm,0.4s,baz=89,slow=8.1,SNR=88						

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*BJI **23** 00:24:15.0, 52.10N×177.10E, h4km, mB4.6, mb4.8, Ms4.2, Msz4.0*
*NEIC **23** 00:24:18.8, 52.10N×177.14E, h5km, ML3.6(AEIC), After AEIC.*
*IDC **23** 00:24:19.4±1.3, 5233N×17678E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, MS3.1/2, Ms1 3.1/2, ms1mx2.8/17, Error ellipse: s-maj=41.9km s-min=25.1km az=171.0*
*ISCJB **23** 00:24:20.3±0.7, 517N±02×17687E±009, h33km, mb3.9/8, MS3.3/3, Error ellipse: s-maj=22.8km s-min=6.2km az=28.5*
ISC 23 00:24:22.0±0.6, 517N±02×17696E±009, h35km, n18, σ1°15/19, mb3.9/8, MS3.3/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.51**	**103**	P	**Pn**	**00 24 46.2**	**-0.2**
AMKA				S	**Sn**	**00 25 05.7**	**+0.8**
SMY	**Shemya**	**2.02**	**301**	P	**Pn**	**00 24 52.1**	**-1.4**
SMY				S	**Sn**	**00 25 18.5**	**+1.0**
ATKA	**Atka Island**	**5.49**	**82**	P	**Pn**	**00 25 38.8**	**-2.4**
ASAJ	**Asahikawa**	**24.07**	**265**	LR	LR	00 37 07.2	
	comp=Z,42nm,20.1s,MS2.9,baz=85,slow=32						
DAWY	**Dawson**	**25.69**	**44**	*eP*	**P**	**00 29 49.9**	**+1.2**
MDJ	**Mudanjiang**	**31.90**	**276**	P	**P**	**00 30 42.8**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,20nm,4.3s						
CN2	**Changchun**	**34.88**	**278**	*eP*	**P**	**00 31 11.4**	**+1.5**
YKA	**Yellowknife Ar**	**36.90**	**46**	P	**P**	**00 31 26.9**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.6,baz=285,slow=8.3,SNR=3.4						
YKA				LR	LR	00 47 02.5	
	comp=Z,40nm,21.0s,MS3.2,baz=255,slow=37						
YKA	**Yellowknife Ar**	**36.90**	**46**	P	**P**	**00 31 26.9**	**-0.3**
YKA				LR	LR	00 47 02.5	
SONM	**Songino Array**	**44.10**	**294**	P	**P**	**00 32 27.1**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.4,baz=71,slow=8.2,SNR=3.6						
NJ2	**Nanjing**	**46.16**	**268**	*eP*	**P**	**00 32 42.6**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
PDAR	**Pinedale Array**	**48.70**	**70**	P	**P**	**00 33 04.0**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=284,slow=6.0,SNR=3.5						
LZH	**Lanzhou**	**52.73**	**283**	*eP*	**P**	**00 33 34.1**	**+0.9**
LZH				AP	pP	00 33 38.6	-5.1
LZH				XP	sP	00 33 41.1	-6.7
LZH				PP	PP	00 35 35.0	+2.4
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
WMQ	**Urumqi**	**56.90**	**300**	*eP*	**P**	**00 34 04.5**	**+1.1**
WMQ				LR	LR		
	comp=N,40nm,21.0s,MS3.7						
WMQ				LR	LR		
	comp=E,50nm,24.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,20nm,18.0s						
MKAR	**Makanchi Array**	**57.71**	**306**	P	**P**	**00 34 07.5**	**-1.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=41,slow=5.7,SNR=3.0						
MKAR	**Makanchi Array**	**57.71**	**306**	P	**P**	**00 34 07.5**	**-1.6**
BVAR	**Borovoye Array**	**58.87**	**317**	P	**P**	**00 34 16.0**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=35,slow=6.0,SNR=5.1						
ASAR	**Alice Springs**	**84.02**	**219**	P	**P**	**00 36 53.8**	**+5.0**
	comp=Z,0.5nm,0.8s,mb3.7,baz=22,slow=5.7,SNR=3.0						

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*SZGRF **23** 00:28:43.5, 1757S×17771W, h33km, Fiji Islands region*
*MOS **23** 00:29:33.3±2.0, 1699S×17872W, h435km, mb5.0/27, Error ellipse: s-maj=12.9km s-min=9.7km az=80.6*
*BJI **23** 00:29:37.1, 1740S×17860W, h485km, mB4.5, mb4.7*
*NEIC **23** 00:29:37.2±2.1, 1739S×17864W, h486km±22km, mb4.5/35, Error ellipse: s-maj=25.3km s-min=9.2km az=149.0*
*IDC **23** 00:29:43.8±1.3, 1798S×17844W, h584km±15km, mb4.0/14, mb1 4.2/16, mb1mx4.1/19, mbtmp4.9/16, Error ellipse: s-maj=16.6km s-min=10.0km az=138.0*
*ISCJB **23** 00:29:45.5±1.2, 1791S±009×17866W±005, h612km±15km, mb4.5/60, Error ellipse: s-maj=14.0km s-min=5.4km az=133.1*
ISC 23 00:29:48.1±1.5, 1790S±009×17865W±005, h627km±19km, n456, σ0°65/248, mb4.5/60, 126C-63D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.71**	**60**	P	**P**	**00 31 38.3**	**-7.4**
	14nm,0.3s,baz=295,slow=5.8,SNR=22						
AFI				S	**S**	**00 33 12.7**	**-9.2**
	5.2nm,0.3s,baz=20,slow=24,SNR=4.7						
DZM	**Mont Dzumac**	**14.61**	**251**	P	**P**	**00 32 51.4**	**-0.1**
	1.9nm,0.3s,baz=85,slow=19,SNR=14						
ARMA	**Armidale**	**29.75**	**240**	*eP*	**P**	**00 35 06.6**	**+0.5**
CTA	**Charters Tower**	**33.22**	**261**	⇓*iP*	**P**	**00 35 35.8**	**+0.3**
	9.9nm,0.6s,mb4.6						
CTA	**Charters Tower**	**33.22**	**261**	P	**P**	**00 35 35.6**	**+0.1**
	9.9nm,0.4s,mb4.8,baz=95,slow=12,SNR=14						
CTA	**Charters Tower**	**33.22**	**261**	⇓*iP*	**P**	**00 35 35.8**	**+0.3**
CTA				pmax	pmax		
	comp=Z,19nm,0.6s						
CNB	**Canberra Magne**	**33.25**	**232**	*eP*	**P**	**00 35 35.9**	**+0.1**
	comp=Z,26nm,0.5s,mb5.1						
TOO	**Toolangi**	**37.00**	**231**	*eP*	**P**	**00 36 06.7**	**0.0**
	comp=Z,22nm,0.8s,mb4.7						
TOO	**Toolangi**	**37.00**	**231**	*eP*	**P**	**00 36 06.7**	**0.0**
TOO				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**38.43**	**241**	⇓*iP*	**P**	**00 36 16.7**	**-1.5**
	comp=Z,16nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**38.43**	**241**	P	**P**	**00 36 16.9**	**-1.4**
	comp=Z,21nm,0.8s,mb4.7,baz=93,slow=8.6,SNR=35						
WB2	**Warramunga Arr**	**44.39**	**260**	*eP*	**P**	**00 37 04.6**	**-0.4**
WB2				*eS*	**S**	**00 42 56.4**	**+0.8**
WRAB	**Tennant Creek**	**44.40**	**260**	*eP*	**P**	**00 37 05.2**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.6						
WRAB	**Tennant Creek**	**44.40**	**260**	*eP*	**P**	**00 37 05.2**	**+0.3**
	comp=Z,8.1nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**44.41**	**260**	P	**P**	**00 37 04.9**	**-0.2**
	comp=Z,6.6nm,0.5s,mb4.5,baz=96,slow=7.0,SNR=62						
WRA				PcP	PcP	00 38 34.8	+0.3
	comp=Z,2.3nm,0.4s,baz=88,slow=3.4,SNR=8.3						
WRA				S	**S**	**00 42 54.4**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=100,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**44.41**	**260**	P	**P**	**00 37 04.9**	**-0.2**
WRA						00 38 34.8	
AS31	**Alice Springs**	**44.57**	**254**	⇓*iP*	**P**	**00 37 06.6**	**+0.3**
AS31				*eS*	**S**	**00 42 59.0**	**+1.0**
ASAR	**Alice Springs**	**44.57**	**254**	P	**P**	**00 37 06.6**	**+0.3**
	comp=Z,35nm,0.5s,mb5.1,baz=87,slow=8.8,SNR=481						
ASAR				PcP	PcP	00 38 35.6	+0.5
	comp=Z,4.4nm,0.5s,baz=98,slow=4.0,SNR=12						
ASAR				S	**S**	**00 42 58.9**	**+0.8**
	comp=Z,4.1nm,1.0s,baz=89,slow=14,SNR=16						
ASAR	**Alice Springs**	**44.57**	**254**	P	**P**	**00 37 06.6**	**+0.3**
ASAR						00 38 35.6	
ASPA	**Alice Springs**	**44.57**	**254**	⇓*iP*	**P**	**00 37 06.6**	**+0.3**
ASPA				*eS*	**S**	**00 42 59.0**	**+0.9**
KAKA	**Kakadu**	**47.35**	**269**	*eP*	**P**	**00 37 27.6**	**+0.3**
	comp=Z,6.9nm,0.4s,mb4.5						
FORT	**Forrest**	**49.80**	**245**	*eP*	**P**	**00 37 44.6**	**-0.7**
	comp=Z,17nm,0.6s,mb4.7						
VNDA	**Vanda**	**60.44**	**185**	P	**P**	**00 38 57.6**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=352,slow=7.5,SNR=13						
MJAR	**Matsushiro Arr**	**67.76**	**323**	P	**P**	**00 39 45.2**	**+0.2**
	comp=Z,16nm,0.7s,mb4.6,baz=159,slow=6.0,SNR=27						
MAJO	**Matsushiro**	**67.76**	**323**	*eP*	**P**	**00 39 45.6**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**67.76**	**323**	*eP*	**P**	**00 39 45.6**	**+0.6**
	comp=Z,12nm,0.8s,mb4.4						
MAT	**Matsushiro**	**67.76**	**323**	P	**P**	**00 39 45.3**	**+0.3**
MAT	**Matsushiro**	**67.76**	**323**	*eP*	**P**	**00 39 45.0**	**0.0**
MAT				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
MAT	**Matsushiro**	**67.76**	**323**	*eP*	**P**	**00 39 45.0**	**0.0**
	comp=Z,14nm,0.8s,mb4.5						
ASAJ	**Asahikawa**	**71.16**	**332**	P	**P**	**00 40 06.8**	**+1.6**
	comp=Z,15nm,0.7s,mb4.7,baz=269,slow=33,SNR=14						
QSPA	**South Pole Qui**	**72.16**	**180**	*eP*	**P**	**00 40 09.6**	**-1.3**
	comp=Z,10.0nm,0.9s,mb4.3						
KSM	**Kuching**	**72.45**	**277**	*eP*	**P**	**00 40 14.4**	**+1.8**
YSS	**Yuzh-Sakhalins**	**73.30**	**334**	⇑*eP*	**P**	**00 40 18.0**	**+0.5**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
PET	**Petropavlovsk**	**73.31**	**346**	*diP*	**P**	**00 40 16.9**	**-0.6**
PET				pmax	pmax		
	comp=Z,31nm,1.6s,mb4.6						
VLA	**Vladivostok**	**75.81**	**325**	*eP*	**P**	**00 40 28.9**	**-2.5**
VLA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.5						
HAST	**Hastings Reser**	**76.30**	**44**	⇑P	**P**	**00 40 34.5**	**+0.3**
	baz=76,SNR=5.1						
V04C	**Ramage Ranch,**	**76.33**	**45**	⇑P	**P**	**00 40 34.5**	**+0.2**
	baz=76						
PKD	**Parkfield**	**76.72**	**45**	⇑P	**P**	**00 40 36.4**	**-0.1**
	baz=76						
U04C	**Hernandez Rese**	**76.79**	**45**	⇓P	**P**	**00 40 37.5**	**+0.7**
	baz=77						
PACP	**Pacheco Peak**	**76.82**	**44**	P	**P**	**00 40 37.7**	**+0.8**
	baz=77,SNR=6.4						
S04C	**Ingram Canyon,**	**77.07**	**43**	⇑P	**P**	**00 40 38.6**	**+0.2**
	baz=77						
MNRC	**McLaughlin Nat**	**77.15**	**42**	⇑P	**P**	**00 40 39.2**	**+0.5**
	baz=77						
GASB	**Alder Springs**	**77.43**	**41**	⇓P	**P**	**00 40 41.0**	**+0.7**
	baz=77						
109C	**Camp Elliot, M**	**77.49**	**49**	⇓P	**P**	**00 40 40.1**	**-0.5**
	baz=77						
S05C	**Merced**	**77.64**	**44**	⇓P	**P**	**00 40 41.0**	**-0.5**
	baz=78						
O02C	**Red Bluff**	**77.70**	**40**	⇑P	**P**	**00 40 42.1**	**+0.4**
	baz=78						
NJ2	**Nanjing**	**77.75**	**310**	*eP*	**P**	**00 40 44.1**	**+2.1**
NJ2				PCP	PcP	00 40 52.1	+3.0
NJ2				AP	pP	00 42 29.0	-22
NJ2				XP	sP	00 43 18.0	-37
NJ2				PP	PP	00 43 50.0	+0.6
NJ2				S	S	00 49 54.0	+9.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,60nm,8.0s						
T06C	**Millerton Lake**	**77.87**	**45**	⇑P	**P**	**00 40 42.3**	**-0.4**
	baz=78						
HABR	**Khabarovsk**	**77.89**	**331**	*eP*	**P**	**00 40 43.9**	**+1.2**
HABR				*eS*	S	00 49 57.1	+11
HABR				pmax	pmax		
	comp=Z,39nm,1.0s,mb4.8						
ISA	**Isabella**	**77.98**	**46**	⇓P	**P**	**00 40 43.3**	**+0.1**
	baz=78,SNR=5.4						
CMB	**Columbia Colle**	**77.99**	**43**	*eP*	**P**	**00 40 42.8**	**-0.5**
CMB				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
CMB	**Columbia Colle**	**77.99**	**43**	*eP*	**P**	**00 40 42.8**	**-0.5**
	comp=Z,16nm,1.0s,mb4.4						
CMB	**Columbia Colle**	**77.99**	**43**	⇓P	**P**	**00 40 43.1**	**-0.2**
	baz=78,SNR=9.2						
MDJ	**Mudanjiang**	**78.04**	**325**	P	**P**	**00 40 43.9**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,30nm,3.3s						
MDJ	**Mudanjiang**	**78.04**	**325**	*eP*	**P**	**00 40 44.4**	**+0.8**
	comp=Z,21nm,0.8s,mb4.6						
WDC	**Whiskeytown Da**	**78.08**	**40**	⇑P	**P**	**00 40 43.7**	**-0.1**
	baz=78						
ORV	**Oroville**	**78.14**	**42**	⇑P	**P**	**00 40 43.7**	**-0.4**
	baz=78,SNR=7.6						
LAVA	**Lava Cap Winer**	**78.17**	**43**	⇑P	**P**	**00 40 43.9**	**-0.4**
	baz=78						
K01A	**Sixes**	**78.27**	**38**	⇑P	**P**	**00 40 45.4**	**+0.6**
	baz=78						
KCC	**Kaiser Creek**	**78.30**	**44**	⇓P	**P**	**00 40 45.1**	**+0.2**
	baz=78						
PFO	**Pinyon Flat Ob**	**78.33**	**49**	⇑P	**P**	**00 40 44.6**	**-0.4**
	baz=78						
M02C	**Callahan**	**78.38**	**39**	⇓P	**P**	**00 40 45.9**	**+0.5**
	baz=78						
KDAK	**Kodiak Island**	**78.45**	**14**	P	**P**	**00 40 44.1**	**-1.6**
	comp=Z,16nm,0.7s,mb4.5,baz=179,slow=2.6,SNR=12						
P05C	**Yuba Gap, Truc**	**78.56**	**42**	⇑P	**P**	**00 40 46.5**	**+0.2**
	baz=78,SNR=5.4						
R05C	**Kirkwood Meado**	**78.56**	**43**	⇓P	**P**	**00 40 46.4**	**+0.1**
	baz=78						
CWC	**Cottonwood Cre**	**78.66**	**46**	⇓P	**P**	**00 40 47.2**	**+0.3**
	baz=78						
YBH	**Yreka Blue Hor**	**78.66**	**39**	*eP*	**P**	**00 40 47.3**	**+0.5**
YBH				pmax	pmax		
	comp=Z,20nm,1.2s						
YBH	**Yreka Blue Hor**	**78.66**	**39**	*eP*	**P**	**00 40 47.3**	**+0.4**
	comp=Z,20nm,1.2s,mb4.3						
YBH	**Yreka Blue Hor**	**78.66**	**39**	⇑P	**P**	**00 40 47.2**	**+0.3**
	baz=78,SNR=8.9						
O05C	**Quincy**	**78.74**	**42**	⇑P	**P**	**00 40 47.0**	**-0.2**
	baz=78						
M03C	**McCloud**	**78.75**	**40**	⇑P	**P**	**00 40 47.1**	**-0.2**
	baz=78						
MLAC	**Mammoth Lakes**	**78.79**	**44**	⇑P	**P**	**00 40 47.9**	**+0.4**
	baz=79						
K02A	**Glendale**	**78.82**	**38**	⇓P	**P**	**00 40 47.5**	**-0.2**
	baz=79						
O04C	**Chester**	**78.83**	**41**	⇑P	**P**	**00 40 47.9**	**+0.2**
	baz=79,SNR=6.1						
TIN	**Tinemaha**	**78.89**	**45**	⇓P	**P**	**00 40 48.0**	**0.0**
	baz=79						
HATC	**Hat Creek Radi**	**78.89**	**41**	⇓P	**P**	**00 40 48.2**	**+0.1**
	baz=79,SNR=5.3						
R07C	**Lee Vining**	**78.90**	**44**	⇑P	**P**	**00 40 48.3**	**+0.2**
	baz=79,SNR=8.7						
GSC	**Goldstone**	**78.94**	**47**	⇑P	**P**	**00 40 48.1**	**-0.2**
	baz=79						
LBCM	**Butte Creek Ri**	**78.97**	**41**	P	**P**	**00 40 48.6**	**+0.1**
HUMO	**Hull Mountain**	**79.04**	**38**	*eP*	**P**	**00 40 49.1**	**+0.2**
	comp=Z,14nm,1.0s,mb4.2						
HUMO	**Hull Mountain**	**79.04**	**38**	⇑P	**P**	**00 40 49.1**	**+0.3**
	baz=79,SNR=5.4						
WCN	**Washoe City**	**79.11**	**43**	P	**P**	**00 40 49.6**	**+0.4**
	baz=79,SNR=8.9						
J02A	**Umpqua**	**79.14**	**38**	⇓P	**P**	**00 40 49.2**	**-0.2**
	baz=79						
S08C	**White Mtn Res**	**79.17**	**45**	⇑P	**P**	**00 40 50.1**	**+0.6**
	baz=79,SNR=14						
M04C	**Macdoel**	**79.22**	**40**	⇑P	**P**	**00 40 49.9**	**+0.1**
	baz=79,SNR=5.1						
GLA	**Glamis**	**79.22**	**50**	⇑P	**P**	**00 40 50.3**	**+0.5**
	baz=79,SNR=7.3						
P06A	**Stead Airport,**	**79.23**	**42**	⇑P	**P**	**00 40 50.0**	**+0.2**
	baz=79						
ELFS	**Eagle Lake Fie**	**79.23**	**41**	⇓P	**P**	**00 40 50.0**	**+0.1**
	baz=79						
BUOR	**Burton Butte**	**79.27**	**39**	P	**P**	**00 40 50.6**	**+0.5**
I02A	**Mapleton**	**79.37**	**37**	⇓P	**P**	**00 40 50.5**	**-0.1**
	baz=79						
M05C	**Lookout**	**79.39**	**40**	⇓P	**P**	**00 40 50.6**	**-0.1**
	baz=79						
L04A	**Klamath Falls**	**79.42**	**39**	⇑P	**P**	**00 40 50.7**	**-0.1**
	baz=79						
J03A	**Ideyld Park**	**79.49**	**38**	⇑P	**P**	**00 40 51.5**	**+0.3**
	baz=79						
O06A	**Flanigan**	**79.54**	**42**	⇑P	**P**	**00 40 51.6**	**+0.1**
	baz=79,SNR=16						
HOG	**Hogback Mounta**	**79.57**	**39**	P	**P**	**00 40 52.2**	**+0.6**
NVAR	**Mina Array Bea**	**79.58**	**44**	P	**P**	**00 40 51.9**	**+0.2**
	comp=Z,8.2nm,0.8s,mb4.1,baz=216,slow=7.4,SNR=52						
TUQ	**Turquoise Mtn.**	**79.63**	**48**	⇑P	**P**	**00 40 52.0**	**+0.1**
	baz=79,SNR=6.3						
R08A	**Mina**	**79.66**	**44**	⇓P	**P**	**00 40 52.2**	**+0.1**
	baz=80						
I03A	**Eugene**	**79.67**	**37**	⇑P	**P**	**00 40 52.0**	**-0.1**
	baz=80						
MNV	**Mina**	**79.68**	**44**	*eP*	**P**	**00 40 52.2**	**0.0**
MNV				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.3						
MNV	**Mina**	**79.68**	**44**	*eP*	**P**	**00 40 52.2**	**+0.1**
	comp=Z,24nm,1.4s,mb4.3						
M06C	**Likely Place G**	**79.72**	**41**	⇓P	**P**	**00 40 52.6**	**+0.2**
	baz=80,SNR=8.3						
Y12C	**Blythe**	**79.79**	**50**	⇓P	**P**	**00 40 53.0**	**+0.2**
	baz=80						
P07A	**Fallon**	**79.80**	**43**	⇑P	**P**	**00 40 53.0**	**+0.2**
	baz=80						
SNY	**Shenyang**	**79.83**	**320**	⇓P	**P**	**00 40 54.1**	**+1.1**
SNY				AMB	AMB		
	comp=Z,10.0nm,2.0s,mb3.8						
SNY				AMB	AMB		
	comp=Z,40nm,4.7s						
MPOR	**Mary's Peak**	**79.84**	**37**	P	**P**	**00 40 53.4**	**+0.4**
U10A	**Ash Meadows, A**	**79.85**	**47**	⇑P	**P**	**00 40 53.5**	**+0.4**
	baz=80						
CN2	**Changchun**	**79.87**	**322**	*eP*	**P**	**00 40 54.4**	**+1.2**
CN2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.7						
S09A	**Goldfield**	**79.92**	**45**	⇑P	**P**	**00 40 53.2**	**-0.3**
	baz=80						
KLR	**Kul'dur**	**79.98**	**330**	*eP*	**P**	**00 40 51.2**	**-2.6**
KLR				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.3						
L05A	**Lakeview**	**79.99**	**40**	⇓P	**P**	**00 40 54.3**	**+0.5**
	baz=80						
Q08A	**Gabbs**	**80.06**	**44**	⇓P	**P**	**00 40 54.1**	**-0.1**
	baz=80,SNR=7.6						
H03A	**Soap Creek Ran**	**80.09**	**37**	⇓P	**P**	**00 40 54.4**	**+0.1**
	baz=80						
O07A	**Toulon**	**80.14**	**42**	⇓P	**P**	**00 40 54.5**	**-0.1**
	baz=80,SNR=11						
TPNV	**Topopah Spring**	**80.18**	**46**	*eP*	**P**	**00 40 55.0**	**+0.2**
TPNV				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.2						
TPNV	**Topopah Spring**	**80.18**	**46**	*eP*	**P**	**00 40 55.0**	**+0.2**
	comp=Z,15nm,1.3s,mb4.2						
V11A	**Goodsprings**	**80.18**	**47**	⇑P	**P**	**00 40 54.6**	**-0.2**
	baz=80			

O09A	Fish Creek Ran	81.24	43	⇓P		P	00 40 59.6	-0.6	
	baz=81,SNR=17								
H05A	Madras	81.25	37	⇑P		P	00 41 00.0	-0.3	
	baz=81								
116A	Eloy	81.30	52	⇓P		P	00 41 01.1	+0.5	
	baz=81,SNR=6.1								
K07A	Rock Creek Ran	81.31	40	⇓P		P	00 41 00.8	+0.2	
	baz=81,SNR=27								
D03A	Wishkah Elem.	81.32	34	⇓P		P	00 41 00.9	+0.3	
	baz=81								
X14A	Yava	81.32	50	⇑P		P	00 41 01.4	+0.7	
	baz=81,SNR=15								
F04A	Amboy	81.33	36	⇓P		P	00 41 00.2	-0.5	
	baz=81								
LVP	Lakeview Peak	81.42	36	P		P	00 41 01.2	0.0	
SLKM	Skilak Lake	81.44	14	*e*P		P	00 41 00.0	-1.2	
I06A	Prineville	81.44	38	⇑P		P	00 41 01.6	+0.4	
	baz=81,SNR=23								
W14A	Seligman	81.54	49	⇑P		P	00 41 02.4	+0.6	
	baz=81,SNR=14								
G05A	Wamic	81.55	37	⇑P		P	00 41 01.5	-0.3	
	baz=81								
WVOR	Wild Horse Val	81.55	40	P		P	00 41 02.0	+0.2	
Q11A	Duckwater	81.56	45	⇓P		P	00 41 01.8	0.0	
	baz=81								
E04A	Onalaska	81.57	35	⇓P		P	00 41 01.9	0.0	
	baz=81								
L08A	Fields	81.60	41	⇑P		P	00 41 02.1	0.0	
	baz=81								
M09A	Marrel Ranch,	81.74	42	⇓P		P	00 41 03.2	+0.4	
	baz=82,SNR=8.7								
X15A	Humboldt	81.81	50	⇓P		P	00 41 03.8	+0.7	
	baz=82,SNR=14								
F05A	White Salmon	81.84	36	⇑P		P	00 41 03.0	-0.3	
	baz=82								
TUC	Tucson	81.88	52	*e*P		P	00 41 03.9	+0.4	
TUC				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.3								
TUC	Tucson	81.88	52	*e*P		P	00 41 03.9	+0.5	
	comp=Z,11nm,1.1s,mb4.3								
L09A	Wilkinson Ranc	81.92	41	⇑P		P	00 41 03.6	-0.1	
	baz=82								
N10A	Dunphy	81.97	43	⇑P		P	00 41 04.0	+0.1	
	baz=82								
E05A	Randle	82.08	36	P		P	00 41 04.0	-0.5	
	baz=82,SNR=7.7								
W15A	Williams	82.11	49	⇓P		P	00 41 05.4	+0.7	
	baz=82								
C04A	Brinnon	82.11	34	⇑P		P	00 41 04.6	-0.1	
	baz=82								
O11A	Cowboy Ranch,	82.22	44	⇓P		P	00 41 05.3	+0.1	
	baz=82								
D05A	Enumclaw	82.33	35	⇓P		P	00 41 05.9	+0.2	
	baz=82,SNR=5.4								
M10A	I.L. Ranch, Tu	82.37	42	⇑P		P	00 41 06.5	+0.6	
	baz=82,SNR=9.9								
P12A	McGill	82.38	44	⇓P		P	00 41 05.9	-0.1	
	baz=82								
CCUT	Cedar City	82.47	47	*e*P		P	00 41 06.9	+0.4	
TTA	Tatalina	82.50	10	*e*P		P	00 41 05.4	-1.2	
TTA				pmax		pmax			
	comp=Z,55nm,1.4s,mb4.9								
TTA	Tatalina	82.50	10	*e*P		P	00 41 05.3	-1.3	
	comp=Z,55nm,1.4s,mb4.9								
N11A	Elko Archery C	82.52	43	⇓P		P	00 41 07.0	+0.3	
	baz=82								
ARUT	Antelope Range	82.53	47	*e*P		P	00 41 07.4	+0.6	
PMR	Palmer	82.65	14	*e*P		P	00 41 05.2	-2.1	
PMR				pmax		pmax			
	comp=Z,16nm,0.5s,mb4.8								
PMR	Palmer	82.65	14	*e*P		P	00 41 05.2	-2.1	
	comp=Z,16nm,0.5s,mb4.8								
C05A	Tolt Reservoir	82.79	35	⇑P		P	00 41 07.5	-0.6	
	baz=83,SNR=7.8								
M11A	Holland Ranch,	82.81	42	⇓P		P	00 41 08.6	+0.5	
	baz=83,SNR=12								
ELK	Elko	82.81	43	*e*P		P	00 41 03.0	-5.1	
ELK				pmax		pmax			
	comp=Z,7.0nm,0.7s								
ELK	Elko	82.81	43	*e*P		P	00 41 03.0	-5.1	
	comp=Z,6.5nm,0.7s,mb4.3								
A04A	Legoe Bay, Lum	82.86	34	⇑P		P	00 41 07.9	-0.5	
	baz=83								
B05A	Bryant	82.91	34	⇑P		P	00 41 08.5	-0.1	
	baz=83								
N12A	Wells--Clov Va	82.99	43	⇑P		P	00 41 09.2	+0.2	
	baz=83,SNR=7.0								
CMW	Cultus Mountai	83.00	34	P		P	00 41 09.4	+0.3	
SML	Sawmill	83.02	14	*e*P		P	00 41 07.6	-1.6	
HAWA	Hanford	83.23	37	*e*P		P	00 41 10.0	-0.3	
M12A	Wells	83.36	43	⇑P		P	00 41 11.1	+0.2	
	baz=83,SNR=12								
N13A	West Wendover	83.54	44	⇓P		P	00 41 11.9	+0.1	
	baz=83								
BMO	Blue Mountains	83.68	39	*e*P		P	00 41 11.9	-0.6	
BMO				pmax		pmax			
	comp=Z,20nm,0.7s,mb4.8								
BMO	Blue Mountains	83.68	39	*e*P		P	00 41 11.9	-0.5	
	comp=Z,2.2nm,0.7s,mb3.8								
MSU	Marysvale	83.76	46	*e*P		P	00 41 13.2	+0.4	
MAW	Mawson	83.79	200	P		P	00 41 12.1	-0.9	
	comp=Z,3.3nm,0.5s,mb4.1,baz=87,slow=4.3,SNR=9.2								
M13A	Montello	83.82	43	⇓P		P	00 41 13.1	0.0	
	baz=84,SNR=5.6								
OD2	Odessa Site #2	84.26	36	P		P	00 41 15.2	-0.1	
MCK	McKinley	84.58	13	*e*P		P	00 41 15.4	-1.5	
MCK				pmax		pmax			
	comp=Z,13nm,0.9s,mb4.6								
MCK	McKinley	84.58	13	*e*P		P	00 41 15.4	-1.4	
	comp=Z,13nm,0.9s,mb4.5								
HLID	Hailey	84.77	41	*e*P		P	00 41 17.9	+0.1	
	comp=Z,9.8nm,0.8s,mb4.5								
TMUT	Trail Mountain	84.79	46	*e*P		P	00 41 18.7	+0.8	
PNT	Penticton	84.86	34	P		P	00 41 17.8	-0.4	
SRU	San Rafael	85.18	46	*e*P		P	00 41 20.1	+0.4	
SRU				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.3								
SRU	San Rafael	85.18	46	*e*P		P	00 41 20.1	+0.4	
	comp=Z,6.0nm,0.8s,mb4.3								
NEW	Newport	85.64	36	*e*P		P	00 41 21.1	-0.8	
NEW				pmax		pmax			
	comp=Z,30nm,0.7s								
NEW	Newport	85.64	36	*e*P		P	00 41 21.1	-0.8	
	comp=Z,2.8nm,0.7s,mb4.0								
HWUT	Hardware Ranch	85.64	44	*e*P		P	00 41 21.3	-0.6	
	comp=Z,3.3nm,0.8s,mb4.0								
BNM	Barren Site	85.81	52	*e*P		P	00 41 23.1	+0.3	
COLA	College	85.81	13	*c i*P		P	00 41 20.8	-2.0	
COLA	College	85.81	13	*e*P		P	00 41 21.1	-1.6	
	comp=Z,10nm,0.6s,mb4.6								
XAN	Xi'an	86.07	307	P		P	00 41 25.3	+1.3	
XAN				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.7								
PV01	Paradox Valley	86.10	48	*e*P		P	00 41 23.8	-0.3	
LTX	Lajitas	86.19	58	*e*P		P	00 41 25.6	+1.1	
LTX				pmax		pmax			
	comp=Z,22nm,1.2s,mb4.7								
LTX	Lajitas	86.19	58	*e*P		P	00 41 25.6	+1.1	
	comp=Z,22nm,1.2s,mb4.7								
ANMO	Albuquerque	86.27	52	*c i*P		P	00 41 24.9	0.0	
ANMO	Albuquerque	86.27	52	*e*P		P	00 41 24.8	-0.2	
	comp=Z,6.5nm,1.0s,mb4.2								
MCMT	McKenzie Canyo	86.38	41	*e*P		P	00 41 25.8	+0.4	
BILL	Bilibino	86.40	354	*e*P		P	00 41 24.9	-0.6	
BILL				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.5								
BSMT	Bassoo Peak	86.75	37	P		P	00 41 26.5	-0.6	
DLMT	Dillon	86.80	40	*e*P		P	00 41 27.3	-0.1	
	comp=Z,12nm,0.7s,mb4.7								
REDW	Red Top Meadow	86.94	43	*e*P		P	00 41 28.3	+0.2	
	comp=Z,25nm,1.1s,mb4.9								
IMW	Indian Meadow	87.13	42	*e*P		P	00 41 28.6	-0.4	
	comp=Z,23nm,1.0s,mb4.9								
DAWY	Dawson	87.14	16	*e*P		P	00 41 28.3	-0.7	
CHMT	Chamberlain Mo	87.17	39	*e*P		P	00 41 28.4	-0.7	
QLMT	Earthquake Lak	87.27	41	*e*P		P	00 41 29.4	-0.1	
PDAR	Pinedale Array	87.50	44	P		P	00 41 30.4	-0.3	
	comp=Z,7.0nm,0.6s,mb4.6,baz=223,slow=3.1,SNR=67								
BOZ	Bozeman (W)	87.53	40	*e*P		P	00 41 30.5	-0.3	
BOZ				pmax		pmax			
	comp=Z,12nm,1.4s,mb4.4								
BOZ	Bozeman (W)	87.53	40	*e*P		P	00 41 30.5	-0.3	
	comp=Z,12nm,1.4s,mb4.4								
HRY	Holter Researc	87.92	39	*e*P		P	00 41 32.4	-0.2	
GCMT	Greycliff	88.81	41	*e*P		P	00 41 37.0	+0.2	
YAK	Yakutsk	89.48	338	*e*P		P	00 41 39.4	-0.5	
YAK				pmax		pmax			
	comp=Z,9.0nm,0.6s,mb4.8								
LZH	Lanzhou	90.70	308	*e*P		P	00 41 47.0	+1.5	
LZH				AMB		AMB			
	comp=Z,20nm,1.2s,mb4.9								
INK	Inuvik	91.94	15	P		P	00 41 49.5	-1.6	
	comp=Z,8.5nm,0.7s,mb4.9,baz=234,slow=3.0,SNR=15								
INK	Inuvik	91.94	15	*e*P		P	00 41 49.8	-1.4	
INK				pmax		pmax			
	comp=Z,11nm,0.8s								
INK	Inuvik	91.94	15	*e*P		P	00 41 49.8	-1.4	
	comp=Z,11nm,0.8s,mb5.0								
ULN	Ulaanbaatar	93.00	320	⇑*i*P		P	00 41 55.3	-0.7	
SONM	Songino Array	93.39	319	P		P	00 41 57.8	0.0	
	comp=Z,1.0nm,0.6s,mb4.0,baz=121,slow=4.0,SNR=8.6								
YKA	Yellowknife Ar	94.42	25	P		P	00 42 01.1	-1.4	
	comp=Z,2.5nm,0.7s,mb4.5,baz=240,slow=4.6,SNR=17								
TIXI	Tiksi	96.09	345	⇑*e*P		P	00 42 08.2	-1.8	
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.9s,mb4.3								
ZAK	Zakamensk	96.23	321	*e*P		P	00 42 09.9	-0.8	
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.8s,mb4.3								
MKAR	Makanchi Array	108.96	314	Pdiff		Pdif	00 43 08.9	+1.6	
	comp=Z,0.2nm,0.5s,baz=103,slow=3.1,SNR=3.6								
MKAR				PKiKP		PKiKP	00 47 06.5	-1.1	
	comp=Z,1.5nm,0.5s,baz=9.9,slow=0.5,SNR=20								
AAK	Ala-Archa	114.19	309	⇑*i*PKIKP		PKiKP	00 47 16.6	-1.0	
ARU	Arti	122.71	326	*i*PKIKP		PKPdf	00 47 32.9	-1.1	
ARU				*e*			00 49 15.0		
ARU	Arti	122.71	326	*e*PKPdf		PKPdf	00 47 33.3	-0.6	
KEV	Kevo	125.81	349	*e*pkp		PKPdf	00 47 38.3	-1.6	
ARCES	ARCESS Array B	126.26	350	PKP		PKPdf	00 47 39.5	-1.2	
	comp=Z,5.4nm,0.6s,baz=37,slow=1.0,SNR=24								
JOF	Joensuu	130.48	343	*e*pkp		PKPdf	00 47 47.1	-1.7	
KAF	Kangasniemi	132.49	344	*e*pkp		PKPdf	00 47 50.5	-2.1	
	baz=52,slow=1.0								
FINES	FINESS Array B	133.11	344	PKhKP			00 47 38.1		
	comp=Z,0.9nm,0.8s,baz=11,slow=3.9,SNR=5.8								
FINES				PKP		PKPdf	00 47 51.7	-2.1	
	comp=Z,2.9nm,0.6s,baz=84,slow=2.4,SNR=18								
OBN	Obninsk	134.18	332	*i*PKIKP		PKPdf	00 47 55.5	-0.3	
OBN				pmax		pmax			
	comp=Z,8.0nm,0.8s								
NB2	NORSAR Subarra	136.34	353	PKPa			00 47 48.6		
	comp=Z,2.6nm,1.0s,baz=17,slow=2.6								
NOA	NORSAR Array B	136.34	353	PKhKP			00 47 47.9		
	comp=Z,1.4nm,0.7s,baz=23,slow=3.9,SNR=5.7								
NOA				PKP		PKPdf	00 47 58.9	-0.9	
	comp=Z,2.5nm,0.8s,baz=14,slow=4.1,SNR=7.0								
SUW	Suwalki	140.20	340	*e*PKP		PKPdf	00 48 02.8	-4.0	
AKASG	Malin Array Be	140.44	332	PKhKP			00 48 00.4		
	comp=Z,2.5nm,0.4s,baz=43,slow=4.1,SNR=17								
AKASG				PKP		PKPdf	00 48 08.4	+1.1	
	comp=Z,2.4nm,0.4s,baz=42,slow=2.7,SNR=8.5								
AKASG	Malin Array Be	140.44	332	PKP		PKPdf	00 48 00.4	-6.8	
AKASG				PKP		PKPdf	00 48 08.4	+1.1	
WAR	Warsaw	142.39	340	*e*PKP		PKPdf	00 48 08.2	-2.5	
GKP	Gorka Klasztor	142.59	344	*e*PKP		PKPdf	00 48 08.7	-2.4	
GZT	Gaziantep	142.82	309	*i* P		PKPdf	00 48 10.4	-1.1	
BOYT	Boyabat	142.95	316	*i* P		PKPdf	00 48 11.2	-0.5	
LVV	L'vov	143.30	335	*e*PKHKP		PKPdf	00 48 10.7	-1.6	
BSEG	Bad Segeberg	143.37	351	*e*PKPbc		PKPdf	00 48 10.4	-2.0	
DMUB	Kingscourt	143.50	8	⇑*i*P		PKPdf	00 48 10.7	-2.0	
IAS	Iasi	143.71	329	PKHKP		PKPdf	00 48 12.1	-0.9	
BALT	Daday	143.88	317	*i* P		PKPdf	00 48 13.6	+0.3	
KWP	Kalwaria	143.97	336	*e*PKP		PKPdf	00 48 13.4	-0.1	
DCN	Croghan	143.99	9	⇑*i*P		PKPdf	00 48 12.2	-1.3	
COBT	Iskenderun	144.10	308	*i* P		PKPdf	00 48 14.4	+0.7	
RUE	Ruedersdorf	144.13	347	*e*PKPbc		PKPdf	00 48 13.5	-0.3	
RUE	Ruedersdorf	144.13	347	*e*PKP		PKPdf	00 48 13.5	-0.2	
DLF	Lyons Farm	144.14	8	⇑*i*P		PKPdf	00 48 12.8	-1.0	
AVNT	Avonos	144.20	312	*i* P		PKPdf	00 48 14.6	+0.7	
ELDT	Eldivan	144.38	316	*i* P		PKPdf	00 48 15.5	+1.3	
BURAR	Bucovina Array	144.50	332	⇓*i*P		PKPdf	00 48 15.2	+0.8	
BURAR	Bucovina Array	144.50	332	⇓P		PKPdf	00 48 15.2	+0.9	
OJC	Ojcow	144.52	339	*e*PKP		PKPdf	00 48 14.8	+0.4	
BR131	Keskin Array S	144.61	315	*e*PKP		PKPdf	00 48 15.6	+1.0	
BRTR	Keskin Array B	144.61	315	PKP		PKPdf	00 48 14.2	-0.3	
	comp=Z,13nm,0.9s,baz=134,slow=4.3,SNR=58								
STHS	Stebnicka Huta	144.69	337	*i* PKP		PKPdf	00 48 15.8	+1.1	
KOLS	Kolonicke sedl	144.70	336	*i* PKP		PKPdf	00 48 16.4	+1.7	
WIT	Witteveen	144.91	354	*e*PKP		PKPdf	00 48 16.5	+1.4	
	comp=Z,372nm,1.0s								
ASF	Jabal al Asfar	144.97	301	PKPbc		PKPdf	00 48 17.1	+1.9	
	comp=Z,7.3nm,0.8s,baz=322,slow=2.1,SNR=15								
NIE	Niedzica	145.03	338	*i* PKPc		PKPbc	00 48 17.0	+0.7	
KSP	Ksiaz	145.03	343	*e*PKP		PKPdf	00 48 16.9	+1.6	
KSP	Ksiaz	145.03	343	*e*PKP		PKPdf	00 48 16.1	+0.8	
CRVS	Cervenica-Dubn	145.04	337	*i* PKP		PKPdf	00 48 16.9	+1.6	
VRI	Vrincioaia	145.05	328	⇑*i*P		PKPdf	00 48 16.8	+1.5	
VRI	Vrincioaia	145.05	328	P		PKPdf	00 48 16.6	+1.3	
ANO	Ankara	145.11	315	*e*PKHKP		PKPdf	00 48 16.0	+0.6	
TIRR	Tirgusor	145.13	325	⇑P		PKPdf	00 48 16.8	+1.3	
TIRR	Tirgusor	145.13	325	⇑P		PKPdf	00 48 16.8	+1.3	
RAC	Raciborz	145.16	341	*e*PKP		PKPdf	00 48 17.0	+1.5	
SGKT	Sivrigoynuk	145.24	317	*i* P		PKPdf	00 48 15.7	0.0	
IBBN	Ibbenburen	145.29	353	*e*PKPbc		PKPbc	00 48 16.6	-0.5	
CLZ	Clausthal	145.39	350	*e*PKPbc		PKPbc	00 48 16.5	-0.9	
OKC	Ostrava-Krasne	145.39	341	*e*PKP		PKPdf	00 48 17.2	+1.3	
CLL	Collm	145.40	347	*e*PKPbc		PKPbc	00 48 16.5	-0.9	
CLL	Collm	145.40	347	⇑*i*PKPdf		PKPdf	00 48 17.3	+1.4	
	comp=Z,68nm,0.9s								
CLL	Collm	145.40	347	⇑*i*PKIKP		PKPdf	00 48 17.3	+1.4	
CLL				pmax		pmax			
	comp=Z,68nm,0.9s								
UPC	Upice	145.41	343	*e*PKP		PKPbc	00 48 17.8	+0.4	
BHL	Bhannes	145.46	304	*e*P		PKPdf	00 48 18.4	+2.4	
DPC	Dobruska-Polom	145.47	343	*e*PKP		PKPdf	00 48 18.2	+2.2	
BRG	Berggiesshubel	145.60	346	*e*PKPbc		PKPbc	00 48 16.8	-1.2	
BRG	Berggiesshubel	145.60	346	*e*PKHKP		PKPbc	00 48 16.5	-1.5	
BRG				*i*			00 48 18.1		
BRG				*e*			00 50 05.6		
BRG				*e*			00 50 46.8		
BRG				pmax		pmax			
	comp=Z,2.0nm,0.9s								
BRG				pmax		pmax			
	comp=Z,16nm,0.8s								
BRG				pmax		pmax			
	comp=Z,7.0nm,1.1s								
BRG				pmax		pmax			
	comp=Z,2.0nm,1.0s								
BRG				pmax		pmax			
	comp=N,3.0nm,1.1s								
BRG	Berggiesshubel	145.60	346	*e*PKP		PKPdf	00 48 16.5	+0.2	
BRG				*i* PKP		PKPdf	00 48 18.1	+1.9	
BRG				*i* PKP		PKPdf	00 48 24.6	+8.4	
MORC	Moravsky Berou	145.63	341	⇑*i*P		PKPbc	00 48 18.3	+0.3	
MORC	Moravsky Berou	145.63	341	*e*PKP		PKPdf	00 48 17.5	+1.1	
MLR	Muntele Rosu	145.70	329	⇑*i*P		PKPbc	00 48 18.4	+0.2	
MLR	Muntele Rosu	145.70	329	P		PKPbc	00 48 18.7	+0.4	
WTSB	Winterswijk	145.73	354	*e*PKP		PKPbc	00 48 18.0	-0.3	
	comp=N,57nm,1.6s								
KECS	Kecovo	145.75	337	*i* PKP		PKPbc	00 48 18.6	+0.2	
PVCC	Panska Ves	145.77	345	*e*PKP		PKPbc	00 48 18.8	+0.4	
VOIR		146.18	329	⇓*i*P		PKPbc	00 48 19.9	+0.3	
VOIR		146.18	329	⇓P		PKPbc	00 48 19.9	+0.3	
BUG	Bochum--Univer	146.20	353	*e*PKPbc		PKPbc	00 48 19.1	-0.5	
DRGR		146.22	333	⇑*i*P		PKPbc	00 48 20.0	+0.3	
DRGR		146.22	333	⇑P		PKPbc	00 48 20.0	+0.3	
KDHN	Kadinhani	146.23	314	*i* P		PKPbc	00 48 19.9	+0.2	
PRU	Pruhonice	146.27	345	*e*PKP		PKPbc	00 48 19.8	0.0	
PRU				*ex*		x	00 48 22.0		
MOX	Moxa	146.31	348	*e*PKP		PKPbc	00 48 19.8	-0.1	
	comp=N,23nm,1.3s								
VYHS	Vyhne	146.32	339	*i* PKP		PKPbc	00 48 20.4	+0.4	
VRAC	Vranov	146.33	342	⇑*i*P		PKPbc	00 48 20.3	+0.3	
VRAC	Vranov	146.33	342	⇑P		PKPbc	00 48 20.3	+0.3	
TANN	Tannenbergstha	146.36	347	*e*PKPbc		PKPbc	00 48 20.2	+0.1	
WERD	Werda	146.36	347	*e*PKPbc		PKPbc	00 48 20.1	0.0	
WERD				*e*PKPab		PKPab	00 48 22.8	0.0	
KOLL	Kolacno	146.40	339	*e*PKP		PKPbc	00 48 20.6	+0.4	
PSZ	Piszkesteto	146.44	337	⇑*e*PKP/F		PKPbc	00 48 20.4	+0.1	
PSZ	Piszkesteto	146.44	337	⇑*i*P		PKPbc	00 48 20.7	+0.4	
PSZ	Piszkesteto	146.44	337	P		PKPbc	00 48 20.7	+0.5	
UBBA	Unterbreizbach	146.44	350	*e*PKPbc		PKPbc	00 48 19.9	-0.4	
ERMK	Ermenek	146.52	310	*i* P		PKPdf	00 48 13.9	-3.9	
NKC	Novy Kostel	146.53	347	*e*PKP		PKPbc	00 48 20.5	0.0	
TREC	Trest	146.66	343	*e*PKP		PKPbc	00 48 20.8	-0.1	
MANZ	Manzenberg	146.84	347	*e*PKPbc		PKPbc	00 48 20.9	-0.4	
MANZ				*e*PKPab		PKPab	00 48 23.9	-0.9	
CSS	Prodhromos	146.89	307	*e*PKPdf		PKPdf	00 48 18.6	+0.1	
HGN	Heimansgroeve	147.01	355	*e*PKP		PKPbc	00 48 21.4	-0.4	
	comp=N,23nm,0.9s								
ROTZ	Rotzenmuhle	147.03	347	*e*PKPbc		PKPbc	00 48 22.1	+0.3	
UCC	Uccle	147.09	356	PKPbc		PKPbc	00 48 21.6	-0.4	
BUD	Budapest	147.12	338	⇓*e*PKP/F		PKPbc	00 48 22.7	+0.6	
MEM	Membach	147.15	355	PKPbc		PKPbc	00 48 21.8	-0.3	
ZST	Bratislava	147.16	340	*e*PKP		PKPbc	00 48 22.4	+0.2	
EIL	Elat	147.21	297	*e*PKP		PKPdf	00 48 19.5	+0.5	
TNS	Taunus Mts	147.25	352	*e*PKPbc		PKPbc	00 48 22.6	+0.2	
TNS				*e*PKPab		PKPab	00 48 26.2	-0.3	
TNS	Taunus Mts	147.25	352	*e*PKP2		PKPab	00 48 26.2	-0.3	
GRA1	Grafenberg Arr	147.30	348	*e*PKPbc		PKPbc	00 48 22.6	+0.1	
GRA1				*e*PKPab		PKPab	00 48 26.8	+0.2	
GRF	Grafenberg Arr	147.30	348	*e*PKPbc		PKPbc	00 48 22.6	+0.1	
GRF				*e*PKPab		PKPab	00 48 26.8	+0.2	
GRF	Grafenberg Arr	147.30	348	*e*PKP2		PKPab	00 48 26.8	+0.2	
GRF	Grafenberg Arr	147.30	348	*e*PKIKP		PKPbc	00 48 22.6	+0.1	
GRF				*e*			00 48 26.8		
KHC	Kasperske Hory	147.31	345	*e*PKP		PKPbc	00 48 22.8	+0.2	
KHC				*ex*		x	00 48 26.9		
SNF	Seneffe	147.38	357	PKPbc		PKPbc	00 48 22.7	-0.1	
WET	Wettzell	147.46	346	*e*PKPbc		PKPbc	00 48 22.7	-0.3	
WET				*e*PKPab		PKPab	00 48 27.7	+0.4	
WET	Wettzell	147.46	346	*e*PKP2		PKPab	00 48 27.7	+0.4	
GEC2	GERESS Array S	147.54	345	*e*PKPbc		PKPbc	00 48 23.2	0.0	
GEC2				*e*PKPab		PKPab	00 48 28.0	+0.4	
GEC2	GERESS Array S	147.54	345	*e*PKP2		PKPab	00 48 28.0	+0.4	
GERES	GERESS Array B	147.54	345	PKPbc		PKPbc	00 48 23.2	0.0	
	comp=N,18nm,0.7s,baz=36,slow=5.6,SNR=114								
BZS	Buzias	147.62	333	⇑*i*P		PKPbc	00 48 23.4	0.0	
BZS	Buzias	147.62	333	P		PKPbc	00 48 23.4	+0.1	
TKTP	Tekketepe	147.69	314	*i* P		PKPbc	00 48 21.9	-1.6	
ABH	Alteburg	147.71	352	PKP		PKPbc	00 48 23.5	-0.1	
GIVF	Givet	147.75	356	⇑*i*PKP1		PKPbc	00 48 23.7	0.0	
	comp=N,48nm,0.6s								
DOU	Dourbes	147.77	356	PKPbc		PKPbc	00 48 23.7	-0.1	
DOU				PKPab		PKPab	00 48 26.1	-2.5	
CONA	Conrad Observa	147.78	342	⇑*i*PKPbc		PKPbc	00 48 24.4	+0.6	
	comp=N,34nm,1.1s,SNR=20								
SOP	Sopron	147.78	341	⇑*e*PKP/F		PKPbc	00 48 24.1	+0.3	
TOD	Tromm	147.80	351	PKIKP		PKPbc	00 48 23.8	0.0	
BAIF	Baives	147.83	357	⇑*i*PKP1		PKPbc	00 48 24.0	+0.1	
	comp=N,38nm,0.7s								
RUP	Ruppelstein	147.94	353

MBDF	**Montbardon**	**152.87**	**352**⇑	*i*PKP1	PKPbc	00 48 35.9	+0.4
	comp=N,16nm,0.8s						
SNTG	**Esanatoglia**	**152.88**	**341**	PKP	PKPbc	00 48 35.5	-0.1
VIVF	**Saint-Julien-l**	**152.98**	**355**⇑	*i*PKP1	PKPbc	00 48 36.0	+0.2
	comp=N,8.2nm,0.8s						
LFF	**La Frestale**	**153.03**	**1**	*e*PKP1	PKPbc	00 48 35.6	-0.3
CAF	**Calviac**	**153.05**	**359**⇑	*i*PKP1	PKPbc	00 48 36.0	+0.1
	comp=N,12nm,0.9s						
LASF	**Ste Croix**	**153.82**	**356**⇑	*i*PKP1	PKPbc	00 48 37.9	+0.3
	comp=N,24nm,1.2s						
ETSF	**Etsaut**	**155.03**	**3**⇑	*i*PKP1	PKPdf	00 48 40.3	+10
	comp=N,5.3nm,0.7s						
ESDC	**Sonseca Array**	**157.82**	**11**	PKPab	PKPab	00 49 10.8	-0.5
	comp=N,1.6nm,0.6s,baz=336,slow=4.0,SNR=9.8						
TORD	**Torodi Ar. Bea**	**175.27**	**184**	PKP	PKPdf	00 48 46.6	-0.7
	comp=N,2.6nm,1.0s,baz=309,slow=0.9,SNR=9.3						
TORD				PKPab	PKPab	00 50 27.4	-1.1
	comp=N,0.4nm,0.6s,baz=193,slow=4.4,SNR=7.9						

*ISCJB **23** 00:34:07.0±0.4, 4932N±002×680E±003, h0km, Error ellipse: s-maj=3.2km s-min=2.8km az=117.2*
*CSEM **23** 00:34:08.9±0.1, 4937N×690E, h1km, ML2.5/14, Error ellipse: s-maj=1.0km s-min=0.9km az=52.0*
*BGR **23** 00:34:08.4, 4936N×688E, h1km, ML1.6/3*
*NEIC **23** 00:34:08.2±0.5, 4934N×686E, h5km, ML2.5(LDG), Error ellipse: s-maj=5.4km s-min=4.4km az=51.0*
*LDG **23** 00:34:08.7±0.1, 4938N×692E, h1km, Md2.8/3, Ml2.5/18, Error ellipse: s-maj=1.4km s-min=1.2km az=73.0, Suspected Mining induced.*

ISC 23 00:34:07.9±0.4, 4935N±002×685E±003, h0km, n44, σ1§01/92, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.56**	**305**	*e*Pg	**Pg**	**00 34 19.7**	**+1.2**
	SNR=3.5						
WLF				*e*Sg	**Sg**	**00 34 25.6**	**-0.2**
	SNR=2.8						
WLF	**Walferdange**	**0.56**	**305**	P	**Pg**	**00 34 19.7**	**+1.2**
WLF				S	**Sg**	**00 34 25.5**	**-0.2**
	comp=E,7.9nm,0.0s						
WLF	**Walferdange**	**0.56**	**305**	*e*Pg	**Pg**	**00 34 19.7**	**+1.2**
WLF				*e*Sg	**Sg**	**00 34 25.5**	**-0.2**
CDF	**Champ du Feu**	**0.98**	**163**	*e*Pn	**Pn**	**00 34 28.2**	**-0.6**
CDF				*e*Sg	**Sg**	**00 34 40.1**	**+0.9**
	comp=E,9.5nm,0.2s						
CDF	**Champ du Feu**	**0.98**	**163**	*e*Pg	**Pg**	**00 34 27.6**	**+1.0**
CDF				*e*Pn	**Pn**	**00 34 28.2**	**-0.6**
CDF				*e*Sg	**Sg**	**00 34 40.1**	**+0.9**
CDF	**Champ du Feu**	**0.98**	**163**	*e*Pn	**Pn**	**00 34 28.2**	**-0.6**
CDF				*e*Sg	**Sg**	**00 34 40.1**	**+0.9**
	comp=E,4.8nm,0.2s						
RFYF	**Reffroy**	**1.16**	**232**	*e*Pg	**Pg**	**00 34 31.5**	**+1.5**
	baz=57						
RFYF				*e*Sg	**Sg**	**00 34 47.9**	**+2.9**
	comp=E,10nm,0.2s						
RFYF	**Reffroy**	**1.16**	**232**	*e*Pg	**Pg**	**00 34 31.5**	**+1.5**
RFYF				*e*Sg	**Sg**	**00 34 47.9**	**+2.9**
	comp=E,5.2nm,0.2s						
TNS	**Taunus Mts**	**1.36**	**49**	*e*Pg	**Pg**	**00 34 34.1**	**+0.2**
TNS				*e*Sg	**Sg**	**00 34 50.7**	**-0.8**
	SNR=3.5						
TNS	**Taunus Mts**	**1.36**	**49**	*e*Pg	**Pg**	**00 34 34.1**	**+0.2**
TNS				*e*Sg	**Sg**	**00 34 52.2**	**+0.7**
HAU	**Haudompre**	**1.38**	**194**	*e*Pg	**Pg**	**00 34 35.5**	**+1.1**
HAU				*e*Sg	**Sg**	**00 34 53.6**	**+1.3**
	comp=E,13nm,0.3s						
HAU	**Haudompre**	**1.38**	**194**	*e*Pn	**Pn**	**00 34 34.1**	**-0.3**
HAU				*e*Pg	**Pg**	**00 34 35.5**	**+1.1**
HAU				*e*Sg	**Sg**	**00 34 53.6**	**+1.3**
HAU	**Haudompre**	**1.38**	**194**	*e*Pg	**Pg**	**00 34 35.5**	**+1.1**
HAU				*e*Sg	**Sg**	**00 34 53.6**	**+1.3**
	comp=E,6.7nm,0.3s						
BFO	**Black Forest**	**1.41**	**136**	*e*Pg	**Pg**	**00 34 35.9**	**+1.0**
	SNR=3.9						
BFO				*e*Sg	**Sg**	**00 34 52.5**	**-0.7**
	SNR=5.9						
BFO	**Black Forest**	**1.41**	**136**	*e*Pg	**Pg**	**00 34 35.8**	**+0.9**
BFO				*e*Sg	**Sg**	**00 34 54.0**	**+0.8**
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pg	**Pg**	**00 34 36.8**	**+1.0**
	baz=48						
MEZF				*e*Sg	**Sg**	**00 34 56.1**	**+1.4**
	comp=E,7.9nm,0.4s						
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pg	**Pg**	**00 34 36.8**	**+1.0**
MEZF				*e*Sg	**Sg**	**00 34 56.1**	**+1.4**
	comp=E,4.0nm,0.4s						
GIVF	**Givet**	**1.52**	**301**	*e*Pg	**Pg**	**00 34 37.4**	**+0.4**
GIVF				*e*Sg	**Sg**	**00 34 57.0**	**+0.3**
	comp=E,13nm,0.4s						
GIVF	**Givet**	**1.52**	**301**	*e*Pg	**Pg**	**00 34 37.4**	**+0.4**
GIVF				*e*Sg	**Sg**	**00 34 57.0**	**+0.3**
	comp=E,6.4nm,0.4s						
HINF	**Hinteralfeld**	**1.53**	**180**	*e*Pg	**Pg**	**00 34 37.9**	**+0.7**
HINF				*e*Sg	**Sg**	**00 34 58.2**	**+1.2**
	comp=E,29nm,0.2s						
HINF	**Hinteralfeld**	**1.53**	**180**	*e*Pg	**Pg**	**00 34 37.9**	**+0.7**
HINF				*e*Sg	**Sg**	**00 34 58.2**	**+1.2**
	comp=E,14nm,0.2s						
SFTF	**Sexfontaines**	**1.66**	**227**	*e*Pn	**Pn**	**00 34 37.8**	**-0.4**
	baz=55						
SFTF				*e*Sn	**Sn**	**00 34 58.9**	**-1.2**
	comp=E,6.9nm,0.4s						
SFTF	**Sexfontaines**	**1.66**	**227**	*e*Pn	**Pn**	**00 34 37.8**	**-0.4**
SFTF				*e*Sn	**Sn**	**00 34 58.9**	**-1.2**
	comp=E,3.5nm,0.4s						
BAIF	**Baives**	**1.86**	**294**	*e*Pg	**Pg**	**00 34 43.9**	**+0.4**
BAIF				*e*Sg	**Sg**	**00 35 07.9**	**+0.3**
	comp=E,3.6nm,0.3s						
BAIF	**Baives**	**1.86**	**294**	*e*Pn	**Pn**	**00 34 40.8**	**-0.2**
BAIF				*e*Pg	**Pg**	**00 34 43.9**	**+0.4**
BAIF				*e*Sg	**Sg**	**00 35 07.9**	**+0.3**
BAIF	**Baives**	**1.86**	**294**	*e*Pg	**Pg**	**00 34 43.9**	**+0.4**
BAIF				*e*Sg	**Sg**	**00 35 07.9**	**+0.3**
	comp=E,1.8nm,0.3s						
CABF	**La Chapelle**	**2.78**	**191**	*e*Pn	**Pn**	**00 34 53.4**	**-0.3**
CABF				*e*Sg	**Sg**	**00 35 37.8**	**+0.5**
	comp=E,2.6nm,0.3s						
CABF	**La Chapelle**	**2.78**	**191**	*e*Pn	**Pn**	**00 34 53.4**	**-0.3**
CABF				*e*Sg	**Sg**	**00 35 37.8**	**+0.5**
	comp=E,1.3nm,0.3s						
LOR	**Lormes**	**2.88**	**225**	*e*Pn	**Pn**	**00 34 54.2**	**-0.8**
	baz=44						
LOR				*e*Sn	**Sn**	**00 35 28.2**	**-2.2**
LOR				*e*Sg	**Sg**	**00 35 40.7**	**+0.2**
	comp=E,2.3nm,0.3s						
LOR	**Lormes**	**2.88**	**225**	*e*Pn	**Pn**	**00 34 54.2**	**-0.8**
LOR				*e*Sn	**Sn**	**00 35 28.2**	**-2.2**
LOR				*e*Sg	**Sg**	**00 35 40.7**	**+0.2**
	comp=E,1.1nm,0.3s						
SSF	**Saint Saulge**	**3.20**	**226**	*e*Pn	**Pn**	**00 34 58.2**	**-1.2**
SSF				*e*Sg	**Sg**	**00 35 50.7**	**+0.1**
	comp=E,2.1nm,0.3s						
SSF	**Saint Saulge**	**3.20**	**226**	*e*Pn	**Pn**	**00 34 58.2**	**-1.2**
SSF				*e*Sg	**Sg**	**00 35 50.7**	**+0.1**
	comp=E,1.0nm,0.3s						
SMF	**Signal de Mont**	**3.37**	**218**	*e*Pn	**Pn**	**00 35 00.6**	**-1.2**
SMF				*e*Sg	**Sg**	**00 35 56.3**	**0.0**
	comp=E,3.4nm,0.3s						
SMF	**Signal de Mont**	**3.37**	**218**	*e*Pn	**Pn**	**00 35 00.6**	**-1.2**
SMF				*e*Sg	**Sg**	**00 35 56.3**	**0.0**
	comp=E,1.7nm,0.3s						
AVF	**Avril sur Loir**	**3.47**	**224**	*e*Pn	**Pn**	**00 35 02.4**	**-0.7**
AVF				*e*Sn	**Sn**	**00 35 42.4**	**-2.5**
	comp=E,1.2nm,0.4s						
AVF	**Avril sur Loir**	**3.47**	**224**	*e*Pn	**Pn**	**00 35 02.4**	**-0.7**
AVF				*e*Sn	**Sn**	**00 35 42.4**	**-2.5**
	comp=E,0.6nm,0.4s						
HYF	**Humbligny**	**3.50**	**235**	*e*Pn	**Pn**	**00 35 03.1**	**-0.4**
HYF				*e*Sg	**Sg**	**00 36 00.3**	**+0.1**
LPL	**La Plagne**	**3.83**	**181**	*e*Pn	**Pn**	**00 35 07.3**	**-0.8**
LPL				*e*Sn	**Sn**	**00 35 50.8**	**-3.0**
	comp=E,0.8nm,0.2s						
LPL	**La Plagne**	**3.83**	**181**	*e*Pn	**Pn**	**00 35 07.3**	**-0.8**
LPL				*e*Sn	**Sn**	**00 35 50.8**	**-3.0**
	comp=E,0.4nm,0.2s						
LPG	**La Plagne**	**3.85**	**181**	*e*Pn	**Pn**	**00 35 07.4**	**-0.9**
LPG				*e*Sn	**Sn**	**00 35 51.2**	**-3.1**
	comp=E,1.0nm,0.4s						
LPG	**La Plagne**	**3.85**	**181**	*e*Pn	**Pn**	**00 35 07.4**	**-0.9**
LPG				*e*Sn	**Sn**	**00 35 51.2**	**-3.1**
	comp=E,0.5nm,0.4s						
BGF	**Bois d'Agland**	**3.88**	**225**	*e*Pn	**Pn**	**00 35 08.3**	**-0.4**
BGF				*e*Sg	**Sg**	**00 36 11.6**	**-0.8**
	comp=E,9.2nm,0.6s						
BGF	**Bois d'Agland**	**3.88**	**225**	*e*Pn	**Pn**	**00 35 08.3**	**-0.4**
BGF				*e*Sg	**Sg**	**00 36 11.6**	**-0.8**
	comp=E,4.6nm,0.6s						
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**00 35 17.8**	**+0.2**

CASC 23 00:37:59.5±4.5, 1370N×9121W, h138km±87km, MD3.6, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.74**	**326**⇑	*e*P	Pn	00 38 21.6	+0.6
FUG	**Fuego 3**	**0.82**	**25**⇓	*e*P	Pn	00 38 22.6	+1.0
TP2	**Tecpan 2**	**1.09**	**9**⇓	*i*P	Pn	00 38 26.9	+3.0
TP2				*e*S	Sn	00 38 43.2	+0.6
TP2				*e*S	Sn	00 38 44.7	+2.2
RTR	**El Retiro**	**1.53**	**82**	*e*P	x	00 38 50.8	
RTR				*e*S	x	00 39 15.6	
RBDL	**Robledal**	**1.53**	**74**⇑	*e*P	x	00 38 49.8	
RBDL				*e*S	x	00 39 15.2	
SBLS	**San Blas**	**1.54**	**85**	*e*P	x	00 38 51.2	
SBLS				*e*S	x	00 39 13.7	

*ISCJB **23** 01:05:43.4±2.6, 389N±02×734E±02, h147km±46km, Error ellipse: s-maj=34.9km s-min=19.1km az=38.6*
*NNC **23** 01:05:45.5±1.3, 3899N×7343E, h155km±15km, mb2.1, mpv2.8, Error ellipse: s-maj=14.7km s-min=7.4km az=4.0*

ISC 23 01:05:44.0±2.6, 389N±02×734E±02, h147km±42km, n10, σ0§51/12, 4C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.27**	**4**	P	**Pn**	**01 06 34.5**	**-0.1**
	SNR=13						
UCH	**Uchtor**	**3.46**	**14**	P	**Pn**	**01 06 37.1**	**0.0**
	SNR=45						
KZA	**Kyzart**	**3.50**	**23**	P	**Pn**	**01 06 36.9**	**-0.7**
	SNR=26						
EKS2	**Erkin-Say**	**3.80**	**4**	P	**Pn**	**01 06 41.9**	**+0.4**
	SNR=29						
KBK	**Karagaybulak**	**3.96**	**17**	P	**Pn**	**01 06 44.7**	**+1.1**
	SNR=9.2						
ULHL	**Ulahol**	**4.00**	**32**	P	**Pn**	**01 06 43.4**	**-0.8**
	SNR=12						
TKM2	**Tokmak 2**	**4.38**	**21**	P	**Pn**	**01 06 49.2**	**+0.2**
	SNR=6.4						
TKM2	**Tokmak 2**	**4.38**	**21**	⇑P	**Pn**	**01 06 49.1**	**+0.1**
	0.1nm,0.4s						
TKM2				⇓S	**Sn**	**01 07 39.8**	**+0.1**
	0.3nm,0.5s						
KK31	**Karatay Array**	**4.77**	**333**	⇑P	**Pn**	**01 06 54.5**	**+0.3**
	4.2nm,0.4s,baz=148,slow=15,SNR=123						
KK31				⇑S	**Sn**	**01 07 48.7**	**-0.3**
	1.5nm,0.3s,baz=137,slow=21,SNR=4.5						
AB31	**Akbulak array**	**14.18**	**321**	⇑P	**Pn**	**01 08 58.1**	**-0.1**
	0.7nm,0.5s,baz=130,slow=14,SNR=8.3						

IDC 23 01:05:43.0±2.3, 596S×12644E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/15, mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=332.6km s-min=31.2km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.88**	**152**	Pn	Pn	01 09 30.0	+2.2
	0.2nm,0.3s,baz=331,slow=13,SNR=5.7						
ASAR	**Alice Springs**	**19.01**	**159**	P	Pn	01 10 05.7	-1.2
	0.1nm,0.3s,baz=345,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**65.45**	**328**	P	P	01 16 27.9	+0.2
	0.3nm,0.5s,baz=111,slow=7.9,SNR=3.6						

CASC 23 01:14:24.7±1.6, 1529N×9074W, h26km±10km, MD3.5, 1C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**0.57**	**209**⇓	*e*P	Pb	01 14 35.8	-0.3
TP2				*e*S	Sb	01 14 45.4	+1.5
FUG	**Fuego 3**	**0.84**	**187**⇑	*e*P	Pb	01 14 40.8	+0.2
TER	**Terranova**	**0.98**	**177**	*e*P	Pn	01 14 42.7	0.0
TER				*e*S	Sb	01 14 56.0	+0.6
JAT	**Jato**	**1.30**	**222**	*e*P	Pn	01 14 46.9	-0.3
RTR	**El Retiro**	**1.74**	**142**⇓	*e*P	x	01 15 14.1	
RTR				*e*S	x	01 15 36.7	
SNJE	**San Jose**	**1.78**	**142**	*e*P	x	01 15 14.7	
SNJE				*e*S	x	01 15 37.6	
SBLS	**San Blas**	**1.80**	**143**	*e*P	x	01 15 15.1	
SBLS				*e*S	x	01 15 38.1	

*LDG **23** 01:23:31.4±0.1, 4264N×065E, h5km, Md1.9/3, Ml1.6/4, Error ellipse: s-maj=3.3km s-min=2.1km az=37.0*

MDD 23 01:23:31.1±0.5, 4265N×065E, h0km, mbLg1.6/4, Error ellipse: s-maj=4.3km s-min=3.1km az=24.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBIE	**Bielsa**	**0.38**	**276**	Pg	Pg	01 23 38.4	0.0
	SNR=7.9						
EBIE				Lg		01 23 43.5	
	0.7nm,0.1s,SNR=12						
SALF	**Salau**	**0.41**	**74**	Pg	Pg	01 23 39.2	+0.1
SALF				Lg		01 23 44.8	
CSOR	**Sort**	**0.45**	**127**	Pg	Pg	01 23 39.5	-0.2
CSOR				Lg		01 23 45.7	
	0.9nm,0.1s						
EPF	**Esparros**	**0.45**	**329**	*e*Pg	Pg	01 23 40.3	+0.6
EPF				*e*Sg	Sg	01 23 45.8	+0.3
	5.9nm,0.2s						
EPF	**Esparros**	**0.45**	**329**	Pg	Pg	01 23 40.3	+0.6
EPF				Lg		01 23 45.8	
	3.0nm,0.2s						
EGRA	**Graus**	**0.52**	**209**	Pg	Pg	01 23 40.9	-0.1
	0.3nm,0.1s,SNR=7.9						
EGRA				Lg		01 23 48.2	
	0.6nm,0.1s,SNR=5.6						
CORG	**Organya**	**0.64**	**130**	Pg	Pg	01 23 43.1	-0.4
CORG				Lg		01 23 52.1	
CAVN	**Les Avellanes**	**0.77**	**175**	Pg	Pg	01 23 46.3	+0.4
CAVN				Lg		01 23 56.9	
ETSF	**Etsaut**	**0.93**	**286**	*e*Pg	Pg	01 23 49.0	+0.1
ETSF				*e*Sg	Sg	01 24 00.5	-0.5
	0.8nm,0.2s						
ETSF	**Etsaut**	**0.93**	**286**	Pg	Pg	01 23 49.0	+0.1
ETSF				Lg		01 24 00.5	
	0.4nm,0.2s						
EMIR	**Miracle**	**0.98**	**138**	Pg	Pg	01 23 50.2	+0.3
	0.3nm,0.1s,SNR=7.9						
EMIR				Lg		01 24 03.9	
	4.8nm,0.4s,SNR=7.9						
CLLI	**Llivia**	**0.99**	**99**	Pg	Pg	01 23 49.3	-0.8
ESAC	**San Caprasio**	**1.25**	**222**	Lg		01 24 12.0	
	4.8nm,0.1s,SNR=7.1						
MTLF	**Montolieu**	**1.34**	**58**	*e*Pg	Pg	01 23 57.2	+0.4
MTLF				*e*Sg	Sg	01 24 14.8	+0.6
	1.4nm,0.2s						
MTLF	**Montolieu**	**1.34**	**58**	Pg	Pg	01 23 57.2	+0.4
MTLF				Lg		01 24 14.8	
	0.7nm,0.2s						
SJPF	**Ste Jean**	**1.46**	**289**	*e*Pg	Pg	01 23 58.6	-0.5
SJPF				*e*Sg	Sg	01 24 16.8	-1.2
	1.9nm,0.4s						
SJPF	**Ste Jean**	**1.46**	**289**	Pg	Pg	01 23 58.6	-0.5
SJPF				Lg		01 24 16.8	
	0.9nm,0.4s						
EALK	**Alkurruntz**	**1.69**	**291**	Lg		01 24 25.9	
	9.2nm,0.5s,SNR=4.0						
ERTA	**Horta de San J**	**1.71**	**188**	Pg	Pg	01 24 03.2	-0.6
	0.1nm,0.1s,SNR=7.9						
ERTA				Lg		01 24 26.2	
	3.6nm,0.8s,SNR=6.3						
CAF	**Calviac**	**2.50**	**24**	*e*Pn	Pn	01 24 11.9	-1.1
CAF				*e*Sg	Sg	01 24 50.0	-1.4
	0.7nm,0.3s						
CAF	**Calviac**	**2.50**	**24**	Pn	Pn	01 24 11.9	-1.1
CAF				Lg		01 24 50.0	
	0.3nm,0.3s						

*NEIC **23** 01:43:36.8, 3935N×2088E, h5km, MD3.6(ATH), After ATH.*

*ISCJB **23** 01:43:37.0±0.5, 3937N±002×2085E±004, h5km±4km, Error ellipse: s-maj=4.7km s-min=3.4km az=162.7*
*CSEM **23** 01:43:37.2±0.1, 3937N×2088E, h0km±1km, MD3.6, Error ellipse: s-maj=2.5km s-min=2.3km az=20.0*
*THE **23** 01:43:37.4, 3938N×2088E, h10km, ML2.8*
*ATH **23** 01:43:37.3, 3936N×2088E, h7km±3km, MD3.6/11*
*SKO **23** 01:43:42.7, 3948N×2114E, h24km*

ISC 23 01:43:37.4±0.5, 3936N±002×2084E±004, h7km±4km, n34, σ0§94/49, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.30**	**1**	*e*PG	**Pg**	**01 43 42.5**	**-0.7**
JAN				*e*SG	**Sg**	**01 43 47.3**	**+0.1**
IGT	**Igoumenitsa**	**0.43**	**294**	*e*Pg	**Pg**	**01 43 45.4**	**-0.4**
IGT				*e*Sg	**Sg**	**01 43 53.0**	**+1.6**
IGT	**Igoumenitsa**	**0.43**	**294**	*e*Pg	**Pg**	**01 43 45.4**	**-0.4**
IGT				*e*Sg	**Sg**	**01 43 53.0**	**+1.6**
MEV	**Metsovon**	**0.52**	**35**	*e*Pg	**Pg**	**01 43 46.2**	**-1.2**
MEV				*e*Sg	**Sg**	**01 43 54.2**	**-0.1**
LKD	**Levkas**	**0.67**	**193**	*e*Pg	**Pg**	**01 43 50.4**	**+0.2**
LKD				*e*Sg	**Sg**	**01 44 01.6**	**+2.8**
LSK	**Leskovik**	**0.81**	**347**	*i* Pg	**Pg**	**01 43 53.6**	**+0.6**
LSK				*i* Sg	**Sg**	**01 44 10.0**	**+6.4**
SRN	**Sarande**	**0.83**	**309**	*i* Pg	**Pg**	**01 43 53.1**	**-0.3**
SRN				*i* Sg	**Sg**	**01 44 09.0**	**+4.7**
EVR	**Evrytania**	**0.87**	**120**	*e*PB	**Pb**	**01 43 53.4**	**-1.4**
KEK	**Kerkira**	**0.88**	**294**	*e*PB	**Pb**	**01 43 54.5**	**-0.5**
KZN	**Kozani**	**1.19**	**37**	*e*PB	**Pb**	**01 43 59.5**	**-0.7**
KZN	**Kozani**	**1.19**	**37**	*e*Pb	**Pb**	**01 44 00.7**	**+0.5**
VLS	**Valsamata**	**1.19**	**190**	*e*PG	**Pg**	**01 43 59.9**	**-0.4**
VLS	**Valsamata**	**1.19**	**190**	*e*Pn	**Pg**	**01 43 59.1**	**-1.2**
AGG	**Agios Georgios**	**1.20**	**106**	*e*Pg	**Pg**	**01 43 59.4**	**-1.0**
AGG				*e*Sg	**Sg**	**01 44 17.3**	**+1.3**
RLS	**Riolos of Patr**	**1.39**	**159**	*e*PB	**Pb**	**01 44 03.4**	**-0.2**
LIT	**Litokhoron**	**1.47**	**59**	*e*Pg	**Pn**	**01 44 04.2**	**-0.1**
FNA	**Florina**	**1.48**	**16**	*e*Pg	**Pn**	**01 44 03.8**	**-0.6**
BIA	**Bitola**	**1.70**	**12**	*e*Pb	**Pn**	**01 44 06.6**	**-0.9**
BIA	**Bitola**	**1.70**	**12**	*e*Pn	**Pn**	**01 44 06.6**	**-0.8**
BIA				*e*Sn	**Sn**	**01 44 29.0**	**-0.5**
OHR	**Ohrid**	**1.75**	**359**	*e*Pb	**Pn**	**01 44 07.8**	**-0.4**
OHR	**Ohrid**	**1.75**	**359**	*e*Pn	**Pn**	**01 44 09.1**	**+0.9**
OHR				*e*Sn	**Sn**	**01 44 30.5**	**-0.3**
OHR				*e*Sg	**Sg**	**01 44 35.2**	**+1.5**
XOR	**Xorichti**	**1.82**	**89**	*e*Pb	**Pn**	**01 44 09.5**	**+0.5**
XOR				*e*Sb	**Sb**	**01 44 34.3**	**+0.4**
LKR	**Lokris**	**1.82**	**112**	*e*PG	**Pn**	**01 44 10.1**	**+1.0**
NEO	**Neokhori**	**1.85**	**91**	*e*PN	**Pn**	**01 44 10.7**	**+1.3**
GRG	**Griva**	**2.00**	**36**	*e*Pb	**Pn**	**01 44 10.9**	**-0.6**
GRG				*e*Sb	**Sb**	**01 44 38.2**	**-0.8**
PLG	**Polygyros**	**2.25**	**62**	*e*PN	**Pn**	**01 44 16.1**	**+1.2**
PAIG	**Paliouri**	**2.26**	**75**	*e*Pn	**Pn**	**01 44 15.0**	**-0.2**
PAIG				*e*Sn	**Sn**	**01 44 43.9**	**+0.6**
ITM	**Ithomi**	**2.33**	**158**	*e*PN	**Pb**	**01 44 19.2**	**-0.6**
VAY	**Valandovo**	**2.37**	**33**	*e*Pn	**Pn**	**01 44 17.8**	**+1.2**
KNT	**Kendrikon**	**2.39**	**40**	*e*Pn	**Pn**	**01 44 16.5**	**-0.5**
KNT				*e*Sn	**Sn**	**01 44 47.8**	**+1.3**
SOH	**Sokhos**	**2.42**	**52**	*e*Pn	**Pn**	**01 44 17.4**	**0.0**
SKO	**Skopje**	**2.65**	**10**	*e*Pn	**Pb**	**01 44 23.6**	**-1.6**
SRS	**Serrai**	**2.74**	**49**	*e*Pn	**Pn**	**01 44 22.4**	**+0.6**
VLI	**Veliai**	**3.11**	**147**	*e*PB	**Pb**	**01 44 30.4**	**-2.6**

*ISCJB **23** 01:49:13.2±0.9, 3641N±007×759E±0.1, h33km, mb3.4/1, Error ellipse: s-maj=16.5km s-min=9.0km az=143.1*
*NEIC **23** 01:49:15.1±0.7, 3634N×7577E, h35km, mb3.2/2, Error ellipse: s-maj=19.6km s-min=7.4km az=54.0*

ISC 23 01:49:15.5±0.9, 3644N±007×759E±01, h35km, n10, σ0§64/12, mb3.4/1, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.89**	**179**	*e*P	**Sn**	**01 50 58.0**	**+0.9**
KOLN	**Koldanda**	**10.83**	**141**	*e*P	**Pn**	**01 51 46.7**	**-1.4**
	4.2nm,0.3s						
GKN	**Gorkha**	**11.20**	**136**	*e*P	**Pn**	**01 51 53.1**	**0.0**
	12nm,0.5s						
GKN				*e*S	**Sn**	**01 54 14.7**	**+18**
KKN	**Kakani**	**11.73**	**135**	*e*P	**Pn**	**01 52 00.4**	**+0.1**
DMN	**Daman**	**11.77**	**136**	*e*P	**Pn**	**01 52 00.9**	**0.0**
	5.5nm,0.3s						
GUN	**Gumba**	**11.99**	**132**	*e*P	**Pn**	**01 52 03.9**	**0.0**
	4.3nm,0.3s						
JIRN	**Jiri**	**12.36**	**132**	*e*P	**Pn**	**01 52 09.1**	**+0.1**
	6.9nm,0.3s						
JIRN				*e*S	**Sn**	**01 54 44.2**	**+19**
BRVK	**Borovoye**	**17.08**	**348**	*e*P	**Pn**	**01 53 12.2**	**+0.7**
	0.5nm,0.5s						
ULN	**Ulaanbaatar**	**25.60**	**54**	*e*P	**P**	**01 54 41.9**	**+0.4**
	0.4nm,0.3s,mb3.4						
MALT	**Malatya**	**29.70**	**285**	P	**P**	**01 55 17.2**	**-0.9**

*ISCJB **23** 01:51:07.6±2.7, 66S±0.1×1277E±02, h407km±38km, mb3.3/3, Error ellipse: s-maj=39.0km s-min=12.3km az=120.5*
*IDC **23** 01:51:10.5±3.0, 667S×12758E, h434km±38km, mb3.0/3, mb1 3.1/6, mb1mx3.0/14, mbtmp3.9/6, Error ellipse: s-maj=64.5km s-min=13.5km az=68.0*
*NEIC **23** 01:51:11.8±1.4, 675

*CSEM **23** 02:24:24.0±0.2,3771N×2084E,h4km,ML3.7,Error ellipse: s-maj=3.7km s-min=1.8km az=38.0*
*THE **23** 02:24:24.8,3773N×2077E,h7km,ML3.1*
*NEIC **23** 02:24:24.6,3776N×2090E,h19km,ML3.7(ATH),After ATH.*
*ATH **23** 02:24:24.4,3775N×2090E,h18km±1km,MD3.5/14,ML3.7*
ISC 23 02:24:24.0±1.0,3769N±004×2086E±005,h4km±6km,n33, σ0°99/40,2D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.53**	**336**	⇓*i*PB	**Pg**	**02 24 34.3**	**0.0**
VLS				*e*SB	**Sg**	02 24 42.6	+1.4
RLS	**Riolos of Patr**	**0.60**	**52**	⇓*i*PN	**Pg**	**02 24 34.8**	**-0.8**
RLS				*e*SN	**Sg**	02 24 43.5	0.0
ITM	**Ithomi**	**0.99**	**121**	*e*PN	**Pn**	**02 24 43.0**	**-1.6**
ITM				*e*SN	**Sn**	02 24 57.5	-1.5
ITM	**Ithomi**	**0.99**	**121**	*e*Pb	**Pb**	**02 24 42.6**	**-1.1**
ITM				*e*Sn	**Sn**	02 24 58.2	-0.8
LKD	**Levkas**	**1.03**	**351**	*e*Pg	**Pg**	**02 24 42.5**	**-1.3**
LKD				*e*Sg	**Sg**	02 24 57.7	+0.5
EVR	**Evrytania**	**1.43**	**31**	*e*PN	**Pn**	**02 24 49.5**	**-1.3**
AGG	**Agios Georgios**	**1.76**	**40**	*e*Pb	**Pb**	**02 24 55.1**	**-1.8**
IGT	**Igoumenitsa**	**1.89**	**347**	*e*Pb	**Pn**	**02 24 56.5**	**-0.5**
IGT				*e*Sb	**Sn**	02 25 19.2	-2.0
VLI	**Veliai**	**1.92**	**120**	*e*PN	**Pn**	**02 24 58.7**	**+1.3**
MGER	**Gerania Oros**	**1.92**	**80**	*e*PN	**Pn**	**02 24 58.5**	**+1.1**
LKR	**Lokris**	**1.94**	**60**	*e*PN	**Pn**	**02 24 58.2**	**+0.5**
JAN	**Janina**	**1.96**	**360**	*e*PN	**Pn**	**02 24 58.0**	**-0.1**
JAN	**Janina**	**1.96**	**360**	*e*Pb	**Pn**	**02 24 57.0**	**-1.1**
NAIG	**Nisos Aigina**	**2.08**	**87**	*e*PN	**Pn**	**02 25 00.5**	**+0.8**
MEV	**Metsovon**	**2.11**	**8**	*e*Pn	**Pn**	**02 24 59.8**	**-0.3**
KEK	**Kerkira**	**2.19**	**338**	*e*PB	**Pn**	**02 25 00.8**	**-0.3**
KYTH	**Kithira**	**2.24**	**128**	*e*PN	**Pn**	**02 25 03.5**	**+1.7**
KYTH	**Kithira**	**2.24**	**128**	*e*Pn	**Pn**	**02 25 04.2**	**+2.4**
ATH	**Athens Observa**	**2.28**	**82**	*e*PN	**Pn**	**02 25 03.1**	**+0.8**
KVR	**Kavouri**	**2.31**	**86**	*e*PN	**Pn**	**02 25 03.5**	**+0.7**
PTL	**Penteli**	**2.40**	**80**	*e*PN	**Pn**	**02 25 04.5**	**+0.4**
NEO	**Neokhori**	**2.46**	**48**	*e*PN	**Pn**	**02 25 04.8**	**0.0**
XOR	**Xorichti**	**2.48**	**47**	*e*Pn	**Pn**	**02 25 05.1**	**0.0**
KZN	**Kozani**	**2.71**	**15**	*e*PB	**Pn**	**02 25 09.3**	**+1.0**
LIT	**Litokhoron**	**2.72**	**27**	*e*Pn	**Pn**	**02 25 08.5**	**0.0**
LIT				*e*Sn	**Sn**	02 25 42.6	+0.8
AOS	**Alonnisos**	**2.79**	**57**	*e*Pn	**Pn**	**02 25 09.3**	**-0.1**
FNA	**Florina**	**3.12**	**7**	*e*Pn	**Pn**	**02 25 14.1**	**+0.2**
GRG	**Griva**	**3.48**	**20**	*e*Pn	**Pn**	**02 25 18.8**	**0.0**
KNT	**Kendrikon**	**3.81**	**24**	*e*Pn	**Pn**	**02 25 23.5**	**0.0**
HAVL	**Avola**	**4.63**	**263**	Pn	**Pn**	**02 25 32.8**	**-1.9**
MGR	**Morigerati**	**4.81**	**302**	Pn	**Pn**	**02 25 38.2**	**+1.0**
SLCN	**Sala Consilina**	**4.88**	**305**	Pn	**Pn**	**02 25 39.9**	**+1.7**
SGO	**Sicignano**	**5.18**	**305**	Pn	**Pn**	**02 25 42.3**	**0.0**
	2.0nm,0.4s						

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*LDG **23** 02:29:34.9±0.4,4307N×206W,h4km,Md2.2/3,Ml2.1/3, Error ellipse: s-maj=9.6km s-min=5.5km az=30.0*
MDD 23 02:29:37.0±1.5,4296N×192W,h0km±14km,mbLg1.3/11, Error ellipse: s-maj=11.1km s-min=4.7km az=95.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUSE	**Utxeti**	**0.28**	**92**	Pg	Pg	02 29 41.7	-0.6
	8.4nm,0.1s,SNR=7.9						
IUSE				Lg		02 29 46.0	
	18nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.31**	**126**	Pg	Pg	02 29 42.5	-0.5
	22nm,0.4s,SNR=9.5						
EARA				Lg		02 29 47.1	
	41nm,0.4s,SNR=14						
ELIZ	**Elizondo**	**0.35**	**55**	Pg	Pg	02 29 43.5	-0.2
	3.6nm,0.3s,SNR=20						
ELIZ				Lg		02 29 49.2	
	11nm,0.4s,SNR=14						
EALK	**Alkurruntz**	**0.40**	**49**	Pg	Pg	02 29 44.8	+0.2
	4.4nm,0.3s,SNR=15						
EALK				Lg		02 29 50.3	
	18nm,0.6s,SNR=18						
IPRE	**Itoiz**	**0.44**	**110**	Pg	Pg	02 29 45.5	0.0
	5.6nm,0.3s,SNR=6.9						
IPRE				Lg		02 29 51.7	
	6.8nm,0.3s,SNR=7.7						
SJPF	**Ste Jean**	**0.54**	**73**	*e*Pg	Pg	02 29 46.6	-0.6
SJPF				*e*Sg	Sg	02 29 54.3	+0.1
	11nm,0.4s						
SJPF	**Ste Jean**	**0.54**	**73**	Pg	Pg	02 29 46.6	-0.6
SJPF				Lg		02 29 54.3	
	5.7nm,0.4s						
ETSF	**Etsaut**	**1.00**	**93**	*e*Pg	Pg	02 29 55.5	-0.7
ETSF				*e*Sg	Sg	02 30 10.7	+1.5
	3.0nm,0.2s						
ETSF	**Etsaut**	**1.00**	**93**	Pg	Pg	02 29 55.5	-0.7
ETSF				Lg		02 30 10.7	
	1.5nm,0.2s						
EBIE	**Bielsa**	**1.54**	**99**	Pg	Pg	02 30 06.5	-0.1
	1.4nm,0.3s,SNR=13						
EBIE				Lg		02 30 27.3	
	3.1nm,0.4s,SNR=4.7						
ESAC	**San Caprasio**	**1.64**	**138**	Pg	Pg	02 30 07.9	-0.6
	2.9nm,0.5s,SNR=7.9						
ESAC				Lg		02 30 29.0	
	7.3nm,0.3s,SNR=6.0						
EPF	**Esparros**	**1.66**	**87**	*e*Pg	Pg	02 30 07.7	-1.1
EPF				*e*Sg	Sg	02 30 30.5	+0.1
	5.6nm,0.5s						
EPF	**Esparros**	**1.66**	**87**	Pg	Pg	02 30 07.7	-1.1
EPF				Lg		02 30 30.5	
	2.8nm,0.5s						
EGRA	**Graus**	**1.82**	**114**	Pg	Pg	02 30 11.4	-0.5
	0.1nm,0.4s,SNR=7.9						
EGRA				Lg		02 30 36.9	
	3.3nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.14**	**183**	Pg	Pg	02 30 17.8	-0.2
	0.2nm,0.3s,SNR=7.9						
ETOR				Lg		02 30 45.7	
	0.7nm,0.3s,SNR=7.9						
CAF	**Calviac**	**3.49**	**54**	*e*Pn	Pn	02 30 28.4	-4.0
CAF				*e*Sn	Sn	02 31 07.2	-7.2
	0.6nm,0.2s						
CAF	**Calviac**	**3.49**	**54**	Pn	Pn	02 30 28.4	-4.0
CAF				Sn	Sn	02 31 07.2	-7.2
	0.3nm,0.2s						

IDC 23 02:45:53.7±4.7,2453N×9508E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.3/21,mbtmp3.5/3,Error ellipse: s-maj=442.0km s-min=30.2km az=59.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.46**	**338**	P	P	02 51 14.3	+0.1
	0.7nm,0.5s,baz=148,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**58.43**	**136**	P	P	02 55 51.5	+0.3
	0.3nm,0.3s,baz=323,slow=7.4,SNR=9.2						
ASAR	**Alice Springs**	**60.93**	**139**	P	P	02 56 08.7	+0.3
	0.2nm,0.3s,baz=324,slow=7.4,SNR=4.2						

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*ISCJB **23** 03:27:24.3±0.7,491N±0.1×1513E±02,h296km±10km, mb3.6/8,Error ellipse: s-maj=22.9km s-min=10.2km az=92.8*
*MOS **23** 03:27:24.4±0.8,4908N×15128E,h300km,mb4.0/2,Error ellipse: s-maj=18.4km s-min=13.9km az=74.8*
*NEIC **23** 03:27:26.8±0.7,4910N×151.15E,h300km,mb4.0/5,Error ellipse: s-maj=18.5km s-min=9.2km az=113.0*
*IDC **23** 03:27:28.0±5.0,4907N×15106E,h314km±46km,mb3.3/5, mb1 3.4/7,mb1mx3.1/21,mbtmp4.0/7,Error ellipse: s-maj=55.4km s-min=39.0km az=106.0*
ISC 23 03:27:24.9±0.7,491N±01×1513E±02,h291km±11km,n25, σ0°65/26,mb3.6/8,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.51**	**60**	*e*PN	**Pn**	**03 28 24.9**	**-0.4**
SKR				*e*S	**S**	**03 29 13.4**	**-0.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.6s						
SKR				smax			
	comp=N,130nm,0.2s						
SKR				smax			
	comp=E,130nm,0.2s						
SKR				smax			
	comp=Z,60nm,0.2s						

2006 JUN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.77**	**234**	P	**Pn**	**03 29 17.4**	**+1.9**
	comp=Z,1.9nm,0.3s,baz=52,slow=11,SNR=34						
ASAJ	**Asahikawa**	**7.77**	**234**	PN	**Pn**	**03 29 17.5**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**12.81**	**278**	*e*PN	**Pn**	**03 30 17.4**	**0.0**
MAJO	**Matsushiro**	**15.74**	**222**	*e*P	**Pn**	**03 30 51.8**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MAJO	**Matsushiro**	**15.74**	**222**	*e*P	**Pn**	**03 30 51.8**	**-0.4**
	comp=Z,8.1nm,0.7s						
MAT	**Matsushiro**	**15.74**	**222**	P	**Pn**	**03 30 52.4**	**+0.2**
MAT	**Matsushiro**	**15.74**	**222**	*e*P	**Pn**	**03 30 52.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MAT	**Matsushiro**	**15.74**	**222**	*e*P	**Pn**	**03 30 52.0**	**-0.2**
	comp=Z,7.0nm,0.5s						
MJAR	**Matsushiro Arr**	**15.74**	**222**	P	**Pn**	**03 30 51.3**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=22,slow=11,SNR=16						
SONM	**Songino Array**	**29.50**	**285**	P	**P**	**03 33 02.2**	**-0.4**
	comp=Z,0.2nm,0.4s,mb2.9,baz=72,slow=9.5,SNR=4.0						
MKAR	**Makanchi Array**	**44.85**	**295**	P	**P**	**03 35 10.7**	**0.0**
	comp=Z,1.1nm,0.5s,mb3.3,baz=62,slow=8.2,SNR=9.4						
MKAR				PcP	PcP	03 36 45.4	-1.4
	comp=Z,0.6nm,0.4s,baz=49,slow=5.2,SNR=7.3						
MKAR	**Makanchi Array**	**44.85**	**295**	P	**P**	**03 35 10.7**	**0.0**
MKAR				PcP	PcP	03 36 45.4	-1.5
CHKZ	**Chkalovo**	**48.04**	**308**	*e*P	**P**	**03 35 35.1**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**48.04**	**308**	*e*P	**P**	**03 35 35.1**	**-0.3**
	comp=Z,3.7nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**49.24**	**308**	*e*P	**P**	**03 35 44.5**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.4						
ARU	**Arti**	**52.51**	**316**	*e*P	**P**	**03 36 08.4**	**-0.2**
NEW	**Newport**	**56.75**	**53**	*e*P	**P**	**03 36 39.9**	**+1.0**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NEW	**Newport**	**56.75**	**53**	*e*P	**P**	**03 36 39.9**	**+1.0**
	comp=Z,1.3nm,0.4s,mb3.7						
JOF	**Joensuu**	**58.73**	**332**	*e*p	**P**	**03 36 53.3**	**+0.7**
KAF	**Kangasniemi**	**60.84**	**334**	*e*p	**P**	**03 37 07.4**	**+0.5**
FINES	**FINESS Array B**	**61.44**	**333**	P	**P**	**03 37 10.2**	**-0.7**
	comp=Z,1.2nm,0.4s,mb3.8,baz=38,slow=7.2,SNR=26						
FINES				PcP	PcP	03 37 51.1	+1.2
	comp=Z,2.6nm,1.1s,baz=53,slow=5.2,SNR=4.7						
NB2	**NORSAR Subarra**	**65.66**	**340**	P	**P**	**03 37 38.4**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**65.66**	**340**	P	**P**	**03 37 38.5**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.5,baz=28,slow=6.7,SNR=3.3						
AKASG	**Malin Array Be**	**68.97**	**325**	P	**P**	**03 37 58.2**	**-0.7**
	comp=Z,1.9nm,0.5s,mb4.1,baz=34,slow=6.1,SNR=4.3						

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*ISCJB **23** 03:57:27.9±0.6,3439S×003×6993W×004,h17km,mb3.8/2, MS3.6/2,Error ellipse: s-maj=5.2km s-min=4.2km az=99.2*
*NEIC **23** 03:57:27.2,3435S×6989W,h17km,mb3.7/1,ML3.4(GUC), After GUC.*
*GUC **23** 03:57:27.3±0.7,3435S×6989W,h17km±2km,MD4.0, ML3.4*
*IDC **23** 03:57:29.9±1.9,3439S×6945W,h0km,mb4.0/3,mb1 3.9/7, mb1mx3.8/18,mbtmp3.9/7,ML3.6/4,MS3.4/5,Ms1 3.4/5, ms1mx3.0/24,Error ellipse: s-maj=59.8km s-min=15.9km az=102.0*
ISC 23 03:57:28.5±0.6,3436S±003×6996W±004,h17km,n35, σ1°04/50,mb3.8/2,MS3.6/2,10C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.38**	**276**	⇑*i*P	**Pg**	**03 57 35.7**	**-0.7**
CICH				*i*S	**Sg**	**03 57 42.2**	**+0.4**
LMEL	**Las Melosas**	**0.55**	**339**	⇑*i*P	**Pg**	**03 57 38.2**	**-1.3**
LMEL				*i*S	**Sg**	**03 57 46.7**	**-0.1**
LMEL				AML	AML	03 57 47.3	
	comp=E,5μm,0.4s						
LMEL	**Las Melosas**	**0.55**	**339**	⇑*i*P	**Pg**	**03 57 38.2**	**-1.3**
LMEL				*i*S	**Sg**	**03 57 46.7**	**-0.1**
CACH	**El Canelo**	**0.58**	**294**	⇓*i*P	**Pg**	**03 57 39.0**	**-1.1**
CACH				*i*S	**Sg**	**03 57 47.7**	**-0.2**
CHCH	**Chadas Angostu**	**0.71**	**306**	⇑*i*P	**Pb**	**03 57 41.5**	**-0.9**
CHCH				*i*S	**Sb**	**03 57 52.2**	**+0.3**
PCH	**Pirque**	**0.87**	**328**	⇓*i*P	**Pb**	**03 57 44.1**	**-1.0**
PCH				*i*S	**Sb**	**03 57 56.9**	**+0.5**
SFDO	**San Fernando**	**0.91**	**253**	⇑*i*P	**Pb**	**03 57 45.2**	**-0.5**
SFDO				*i*S	**Sb**	**03 57 58.6**	**+1.1**
ANTU	**Antumapu**	**0.96**	**325**	⇑*i*P	**Pb**	**03 57 45.6**	**-1.2**
ANTU				*i*S	**Sb**	**03 57 59.7**	**+0.5**
ANTU				AML	AML	03 58 01.3	
	comp=E,2μm,0.4s						
ANTU	**Antumapu**	**0.96**	**325**	⇑*i*P	**Pb**	**03 57 45.6**	**-1.2**
ANTU				*i*S	**Sb**	**03 57 59.7**	**+0.5**
FCH	**Farellones**	**1.06**	**345**	⇑*i*P	**Pb**	**03 57 47.3**	**-1.2**
FCH				*i*S	**Sb**	**03 58 02.9**	**+0.8**
FCH				AML	AML	03 58 04.4	
	comp=E,855nm,0.5s						
CLCH	**Cerro Calan**	**1.07**	**333**	*e*P	**Pb**	**03 57 47.6**	**-0.9**
CLCH				*i*S	**Sb**	**03 58 03.2**	**+0.9**
CLCH				AML	AML	03 58 05.9	
	comp=E,3μm,0.7s						
CLCH				AML	AML	03 58 06.4	
	comp=E,4μm,0.6s						
TACH	**Talagante**	**1.07**	**311**	⇓*i*P	**Pb**	**03 57 47.9**	**-0.7**
TACH				*i*S	**Sb**	**03 58 03.1**	**+0.8**
SAN	**Santiago**	**1.07**	**327**	⇑*i*P	**Pb**	**03 57 47.3**	**-1.3**
SAN				*i*S	**Sb**	**03 58 03.0**	**+0.7**
SAN				AML	AML	03 58 05.3	
	comp=E,770nm,0.4s						
SAN	**Santiago**	**1.07**	**327**	⇑*i*P	**Pb**	**03 57 47.3**	**-1.3**
SAN				*i*S	**Sb**	**03 58 03.0**	**+0.7**
DSCH	**Colegio Aleman**	**1.08**	**332**	*i*S	**Sb**	**03 58 02.9**	**+0.3**
RCDM	**Rinconada Maip**	**1.12**	**321**	*e*P	**Pn**	**03 57 48.4**	**-1.0**
RCDM				*i*S	**Sb**	**03 58 04.1**	**+0.6**
RCDM				AML	AML	03 58 06.0	
	comp=E,778nm,0.2s						
RCDM	**Rinconada Maip**	**1.12**	**321**	*e*P	**Pn**	**03 57 48.4**	**-1.0**
RCDM				*i*S	**Sb**	**03 58 04.1**	**+0.6**
PEL	**Peldehue**	**1.35**	**333**	⇓*i*P	**Pn**	**03 57 52.2**	**-0.4**
PEL				*i*S	**Sn**	**03 58 10.6**	**+0.5**
PEL				AML	AML	03 58 18.7	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**1.35**	**333**	⇓*i*P	**Pn**	**03 57 52.2**	**-0.4**
PEL				*i*S	**Sn**	**03 58 10.6**	**+0.5**
TALC	**Talca**	**1.72**	**233**	AML	AML	03 58 31.1	
	comp=E,1μm,0.5s						
MDZ	**Mendoza**	**1.74**	**33**	*e*P	**Pn**	**03 57 58.7**	**+0.8**
MDZ				S	**Sn**	**03 58 12.8**	**-6.8**
CFAA	**Coronel Fontan**	**3.11**	**28**	Pn	**Pn**	**03 58 19.2**	**+2.5**
	comp=E,0.2nm,0.3s,baz=202,slow=16,SNR=21						
CFAA				Lg		03 59 04.0	
	comp=E,8.3nm,0.3s,baz=266,slow=19,SNR=34						
PLCA	**Paso Flores**	**6.38**	**184**	Pn	**Pn**	**03 59 06.9**	**+5.2**
	comp=E,0.2nm,0.3s,baz=6.0,slow=16,SNR=4.9						
PLCA				Pg	Pn	03 59 24.0	+22
	comp=E,0.3nm,0.3s,baz=8.2,slow=17,SNR=5.6						
PLCA				Lg		04 00 51.5	
	comp=E,0.6nm,0.3s,baz=315,slow=20,SNR=2.6						
PLCA				LR	LR	04 01 38.8	
	comp=E,331nm,18.4s,baz=353,slow=39						
PLCA	**Paso Flores**	**6.38**	**184**	Pn	**Pn**	**03 59 06.9**	**+5.2**
PLCA				Pg	Pn	03 59 24.0	+22
PLCA				Lg		04 00 51.5	
PLCA				LR	LR	04 01 38.8	
TRQA	**Tornquist**	**7.43**	**122**	*e*Pn	**Pn**	**03 59 15.7**	**-0.4**
LVC	**Limon Verde**	**11.74**	**5**	LR	LR	04 04 24.1	
	comp=E,66nm,19.2s,baz=25,slow=35						
CPUP	**Villa Florida**	**13.52**	**57**	Pn	**Pn**	**04 00 37.1**	**-2.4**
	comp=E,0.1nm,0.3s,baz=233,slow=18,SNR=3.8						
CPUP				Lg		04 04 39.9	
	comp=E,0.4nm,0.3s,baz=301,slow=20,SNR=4.7						
CPUP				LR	LR	04 06 23.5	
	comp=E,128nm,19.8s,baz=59,slow=40						
LPAZ	**La Paz**	**18.07**	**6**	P	**Pn**	**04 01 42.0**	**+3.3**
	comp=E,0.0nm,0.3s,baz=195,slow=9.8,SNR=6.7						
LPAZ	**La Paz**	**18.07**	**6**	*e*P	**Pn**	**04 01 42.0**	**+3.3**
	comp=E,8.4nm,1.5s						
SIV	**San Ignacio**	**19.96**	**26**	P	**Pn**	**04 02 02.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=209,slow=12,SNR=27						
USHA	**Ushuaia**	**20.50**	**177**	P	**P**	**04 02 08.2**	**+2.7**
	comp=E,19nm,1.0s,baz=353,slow=13,SNR=3.5						
BDFB	**Brasilia**	**27.15**	**52**	LR	LR	04 14 09.4	
	comp=E,68nm,18.7s,MS3.2,baz=231,slow=37						
VNDA	**Vanda**	**64.08**	**191**	LR	LR	04 37 34.9	
	comp=E,73nm,18.4s,MS3.9,baz=288,slow=38						
BOSA	**Boshof**	**78.38**	**117**	P	**P**	**04 09 29.4**	**+1.4**
	comp=E,1.1nm,0.5s,mb4.0,baz=225,slow=5.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**82.72**	**69**	P	**P**	**04 09 55.7**	**+4.4**
	comp=E,0.4nm,0.8s,mb3.5,baz=212,slow=5.1,SNR=2.9						

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*MDD **23** 04:00:52.0±0.5,3952N×793W,h0km,mbLg1.7/13,Error ellipse: s-maj=4.8km s-min=3.9km az=104.0,PRXIMO*
INMG 23 04:00:53.0±1.4,3954N×796W,h2km±6km,MD1.7,ML1.6, Error ellipse: s-maj=3.6km s-min=2.0km az=109.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTOM	**Tomar**	**0.36**	**283**	*i*Pg	**Pg**	04 00 59.6	-0.3
PTOM				*e*Sg	Sg	04 01 04.5	0.0
PTOM							
	33nm,0.1s						
PCBR	**Castelo Branco**	**0.48**	**51**	*i*Pg	Pg	04 01 01.9	-0.2
PCBR				*e*Sg	Sg	04 01 08.2	-0.1
PCBR							
	32nm,0.2s						
MTE	**Manteigas**	**0.92**	**20**	*e*P	Pg	04 01 10.1	-0.5
MTE				*e*S	Sg	04 01 22.0	-0.4
MTE							
	15nm,0.3s						
MOE	**Montemor**	**1.06**	**197**	*e*P	Pg	04 01 12.2	-1.1
MOE				*e*S	Sg	04 01 26.2	-0.9
EBAD	**Badajoz**	**1.07**	**137**	Pg	Pg	04 01 12.2	-1.4
	1.0nm,0.3s,SNR=27						
EBAD				Lg		04 01 26.1	
	10nm,0.3s,SNR=37						
PLOU	**Loures**	**1.14**	**235**	*e*P	Pg	04 01 14.2	-0.6
PLOU				*e*S	Sg	04 01 30.1	+0.6
PLOU							
	10nm,0.2s						
PVIS	**Viseu**	**1.18**	**2**	*e*P	Pg	04 01 14.9	-0.6
PVIS				*e*S	Sg	04 01 30.7	-0.1
PVIS							
	14nm,0.1s						
PBEJ	**Beja**	**1.51**	**177**	*e*P	Pn	04 01 19.7	-1.4
PBEJ				*e*S	Sn	04 01 38.1	-3.3
PBEJ							
	4.6nm,0.2s						
EMIN	**Mina Concepcio**	**2.04**	**150**	Pn	Pn	04 01 27.4	-0.9
	0.1nm,0.4s,SNR=7.9						
EMIN				Pg	Pg	04 01 29.0	-3.0
	0.3nm,0.1s,SNR=5.5						
EMIN				Lg		04 01 55.3	
	1.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.04**	**169**	Pn	Pn	04 01 27.1	-1.2
	0.1nm,0.1s,SNR=7.9						
EGRO				Pg	Pg	04 01 29.8	-2.2
	2.5nm,0.5s,SNR=5.3						
EGRO				Lg		04 01 56.1	
	24nm,1.5s						
PTEO	**Sao Teotonio**	**2.08**	**197**	*e*Sg	Sg	04 01 57.6	-2.2
PCAB	**Cabril**	**2.17**	**359**	*e*Sg	Sg	04 02 00.4	-2.3
PCAB							
	2.3nm,0.2s						
PCAB	**Cabril**	**2.17**	**359**	Lg		04 02 00.4	
	1.1nm,0.2s						
ELOB	**Lobios**	**2.33**	**358**	Pn	Pn	04 01 31.9	-0.4
	0.2nm,0.2s,SNR=7.9						
ELOB				Pg	Pg	04 01 34.6	-3.0
	0.3nm,0.1s,SNR=7.9						
ELOB				Lg		04 02 05.9	
	0.8nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**2.44**	**22**	*e*Sn	Sn	04 02 00.8	-3.6
PBRG				*e*Sg	Sg	04 02 10.1	-1.4
ECAL	**Calabor**	**2.57**	**21**	Lg		04 02 14.1	
	5.8nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.97**	**116**	Pn	Pn	04 01 40.4	-0.8
	0.1nm,1.0s,SNR=7.9						
EADA				Lg		04 02 24.4	
	1.6nm,0.3s,SNR=7.9						

IDC 23 04:07:11.1±2.0,2226S×14819E,h0km,mb3.7/1, mb1 3.6/4,mb1mx3.5/10,mbtmp3.5/4,ML3.2/3,MS2.9/1, Ms1 2.9/1,ms1mx2.1/21,Error ellipse: s-maj=30.7km s-min=22.0km az=48.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.81**	**320**	Pn	Pn	04 07 58.3	+1.0
	6.6nm,0.3s,baz=137,slow=16,SNR=79						
CTA				Pg	Pg	04 08 03.6	-1.4
	14nm,0.3s,baz=139,slow=17,SNR=28						
CTA				Lg		04 08 40.6	
	8.6nm,0.3s,baz=141,slow=18,SNR=5.9						
WRA	**Warramunga Arr**	**13.13**	**278**	Pn	Pn	04 10 17.1	-1.7
	0.1nm,0.3s,baz=97,slow=13,SNR=3.7						
WRA				Lg		04 14 08.5	
	0.2nm,0.3s,baz=102,slow=28,SNR=12						
WRA				LR	LR	04 15 54.4	
	comp=Z,51nm,21.4s,baz=200,slow=40						
ASAR	**Alice Springs**	**13.24**	**261**	Pn	Pn	04 10 18.3	-2.0
	0.1nm,0.3s,baz=94,slow=10,SNR=3.8						
ASAR				Lg		04 14 11.9	
	0.1nm,0.3s,baz=82,slow=28,SNR=7.5						
SONM	**Songino Array**	**79.22**	**333**	P	P	04 19 18.6	+0.6
	0.1nm,0.3s,baz=142,slow=5.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**146.89**	**260**	PKPbc	PKPbc	04 26 54.8	-0.5
	1.0nm,0.9s,baz=120

SDV Santo Domingo 23.54 3 P **P 04 21 26.5 +7.0**
3.2nm,0.4s,mb4.0,baz=208,slow=12,SNR=6.0
SDV Santo Domingo 23.54 3 *e*P **P 04 21 23.0 +3.4**
12nm,1.1s,mb4.2
TORD Torodi Ar. Bea 77.94 73 P **P 04 28 05.0 +0.1**
0.7nm,0.8s,mb3.4,baz=262,slow=4.9,SNR=7.1
SONM Songino Array 147.01 2 PKPbc PKPbc 04 35 50.5 +1.9
1.0nm,0.8s,baz=332,slow=2.3,SNR=7.0
SONM Songino Array 147.01 2 PKPbc PKPbc 04 35 50.5 +1.8

NEIC ***23*** *04:26:15.6, 37.02N×109.3W, h0km, MN2.8(MDD), After MDD.*
ISCJB ***23*** *04:26:15.3±1.2, 37.13N±0.05×108.8W±0.08, h10km, Error ellipse: s-maj=9.3km s-min=6.5km az=122.0*
IGIL ***23*** *04:26:15.6, 36.81N×111.7W, h31km, ML2.8*
INMG ***23*** *04:26:16.2±1.0, 36.95N×110.3W, h9km±29km, ML2.1, Error ellipse: s-maj=32.7km s-min=3.9km az=61.0*
CSEM ***23*** *04:26:17.0±0.8, 36.73N×105.9W, h10km, ML3.1/4, Error ellipse: s-maj=14.2km s-min=11.2km az=67.0*
MDD ***23*** *04:26:18.2±2.0, 37.04N×108.3W, h99km±19km, mb2.7/8, Error ellipse: s-maj=16.2km s-min=9.2km az=67.0, PRXIMO*

ISC 23 04:26:16.8±1.2, 37.09N±0.05×104.8W±0.07, h10km, n32, σ0.85/58, 1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.74**	**74**	*e*Pn	**Pn**	**04 26 47.4**	**+0.3**
PTEO				*e*Sn	**Sn**	**04 27 10.6**	**+1.2**
PTEO	12nm,0.5s						
MORF	**Marmelete**	**1.76**	**82**	*e*P	**Pn**	**04 26 47.1**	**-0.2**
MORF				*e*S	**Sn**	**04 27 09.8**	**+0.1**
MORF				*e*S	**Sn**	**04 27 09.8**	**+0.1**
MORF	comp=N,64nm,0.2s			AML	AML	04 27 12.9	
MORF	**Marmelete**	**1.76**	**82**	*e*P	**Pn**	**04 26 47.1**	**-0.2**
MORF				*e*S	**Sn**	**04 27 09.8**	**+0.1**
PLOU	**Loures**	**2.23**	**36**	*i* Pn	**Pn**	**04 26 54.2**	**+0.4**
PLOU				*e*Sn	**Sn**	**04 27 22.8**	**+1.4**
PLOU	comp=N,13nm,0.5s						
MOE	**Montemor**	**2.43**	**53**	*e*Pn	**Pn**	**04 26 57.1**	**+0.5**
MOE				*e*Sn	**Sn**	**04 27 28.1**	**+1.7**
PBEJ	**Beja**	**2.54**	**68**	*e*Sn	**Sn**	**04 27 29.6**	**+0.6**
PBEJ	comp=N,5.8nm,0.1s						
PBEJ	**Beja**	**2.54**	**68**	S	**Sn**	**04 27 29.6**	**+0.6**
	comp=N,2.9nm,0.1s						
EGRO	**El Granado**	**2.71**	**80**	P	**Pn**	**04 27 00.5**	**+0.1**
	comp=N,2.0nm,0.7s,SNR=14						
EGRO				S	**Sn**	**04 27 32.8**	**-0.4**
	comp=N,5.1nm,0.1s,SNR=15						
EGRO	**El Granado**	**2.71**	**80**	P	**Pn**	**04 27 00.5**	**+0.1**
	comp=N,2.0nm,0.7s,SNR=14						
EGRO				S	**Sn**	**04 27 32.8**	**-0.4**
	comp=N,5.1nm,0.1s,SNR=15						
PTOM	**Tomar**	**3.16**	**36**	*e*Sn	**Sn**	**04 27 45.0**	**+0.6**
PTOM							
	comp=N,6.9nm,0.1s						
PTOM	**Tomar**	**3.16**	**36**	*e*Sn	**Sn**	**04 27 45.0**	**+0.6**
	comp=N,6.9nm,0.1s						
EMIN	**Mina Concepcio**	**3.38**	**77**	⇓P	**Pn**	**04 27 09.7**	**0.0**
	comp=N,1.4nm,0.1s,SNR=18						
EMIN				S	**Sn**	**04 27 49.8**	**0.0**
	comp=N,6.1nm,0.2s,SNR=13						
EMIN	**Mina Concepcio**	**3.38**	**77**	P	**Pn**	**04 27 09.7**	**+0.1**
	comp=N,1.4nm,0.1s,SNR=18						
EMIN				S	**Sn**	**04 27 49.8**	**0.0**
	comp=N,6.1nm,0.2s,SNR=13						
EBAD	**Badajoz**	**3.45**	**60**	P	**Pn**	**04 27 10.9**	**+0.3**
	comp=N,1.2nm,0.1s,SNR=10						
EBAD				S	**Sn**	**04 27 52.3**	**+0.8**
	comp=N,10nm,0.2s,SNR=8.0						
EBAD	**Badajoz**	**3.45**	**60**	P	**Pn**	**04 27 10.9**	**+0.3**
	comp=N,1.2nm,0.1s,SNR=10						
EBAD				S	**Sn**	**04 27 52.3**	**+0.8**
	comp=N,10nm,0.2s,SNR=8.0						
PCBR	**Castelo Branco**	**3.81**	**43**	*e*Pn	**Pn**	**04 27 15.8**	**+0.3**
PCBR				*e*Sn	**Sn**	**04 28 00.3**	**0.0**
PCBR	comp=N,1.8nm,0.3s						
PCBR	**Castelo Branco**	**3.81**	**43**	*e*Pn	**Pn**	**04 27 15.8**	**+0.3**
PCBR				*e*Sn	**Sn**	**04 28 00.3**	**0.0**
	comp=N,1.8nm,0.3s						
ESPR	**Espera**	**3.99**	**92**	P	**Pn**	**04 27 17.9**	**-0.1**
	comp=N,3.3nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**04 28 04.2**	**-0.7**
	comp=N,6.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.99**	**92**	P	**Pn**	**04 27 17.9**	**-0.2**
ESPR				S	**Sn**	**04 28 03.5**	**-1.4**
ESPR	**Espera**	**3.99**	**92**	P	**Pn**	**04 27 17.9**	**-0.2**
	comp=N,3.3nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**04 28 03.5**	**-1.4**
	comp=N,6.4nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.19**	**37**	*e*Pn	**Pn**	**04 27 20.9**	**+0.2**
MTE				*e*Sn	**Sn**	**04 28 10.4**	**+0.7**
MTE	comp=N,1.9nm,0.2s						
MTE	**Manteigas**	**4.19**	**37**	*e*Pn	**Pn**	**04 27 20.9**	**+0.2**
MTE				*e*Sn	**Sn**	**04 28 10.4**	**+0.7**
	comp=N,1.9nm,0.2s						
PVIS	**Viseu**	**4.28**	**31**	*e*Pn	**Pn**	**04 27 22.1**	**0.0**
PVIS				*e*Sn	**Sn**	**04 28 12.1**	**0.0**
PVIS	comp=N,3.0nm,0.3s						
EADA	**Adamuz**	**5.08**	**76**	P	**Pn**	**04 27 33.3**	**+0.3**
	comp=N,0.6nm,0.1s,SNR=12						
EADA				S	**Sn**	**04 28 30.6**	**-1.2**
	comp=N,4.8nm,0.2s,SNR=9.4						
EADA	**Adamuz**	**5.08**	**76**	P	**Pn**	**04 27 33.3**	**+0.3**
	comp=N,0.6nm,0.1s,SNR=12						
EADA				S	**Sn**	**04 28 30.6**	**-1.2**
	comp=N,4.8nm,0.2s,SNR=9.4						
PCAB	**Cabril**	**5.10**	**24**	*e*Pn	**Pn**	**04 27 32.6**	**-0.7**
PCAB				*e*Sn	**Sn**	**04 28 30.8**	**-1.4**
PCAB	comp=N,2.1nm,0.2s						
ELOB	**Lobios**	**5.23**	**23**	P	**Pn**	**04 27 35.0**	**-0.1**
	comp=N,0.7nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**04 28 33.6**	**-1.7**
	comp=N,2.4nm,0.1s,SNR=6.1						
PBRG	**Braganca**	**5.67**	**33**	*e*Sn	**Sn**	**04 28 44.7**	**-1.6**
PBRG							
	comp=N,1.6nm,0.2s						
PBRG	**Braganca**	**5.67**	**33**	S	**Sn**	**04 28 44.7**	**-1.6**
	comp=N,0.8nm,0.2s						
EQES	**Quesada**	**6.22**	**81**	P	**Pn**	**04 27 48.8**	**+0.2**
	comp=N,0.3nm,0.2s,SNR=6.1						
EQES				S	**Sn**	**04 28 57.0**	**-2.7**
	comp=N,0.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.22**	**81**	P	**Pn**	**04 27 48.8**	**+0.2**
	comp=N,0.3nm,0.2s,SNR=6.1						
ETOR	**Torete**	**7.79**	**59**	P	**Pn**	**04 28 10.5**	**+0.3**
	comp=N,0.7nm,0.2s,SNR=5.5						
ETOR				S	**Sn**	**04 29 34.4**	**-4.0**
	comp=N,0.5nm,0.3s,SNR=7.9						

ISCJB ***23*** *04:59:04.2±0.6, 47.12S±0.10×328E±03, h10km, mb4.0/10, MS3.6/4, Error ellipse: s-maj=28.4km s-min=10.1km az=135.2*
IDC ***23*** *04:59:04.3±0.8, 47.10S×330.8E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/21, mbtmp4.0/10, ML3.7/2, MS3.7/6, Ms1 3.6/6, ms1mx3.2/27, Error ellipse: s-maj=38.5km s-min=17.6km az=63.0*
NEIC ***23*** *04:59:05.8±0.5, 47.11S×329.0E, h10km, mb4.3/5, Error ellipse: s-maj=24.2km s-min=9.3km az=68.0*

ISC 23 04:59:05.8±0.6, 47.13S±0.10×329.0E±03, h10km, n23, σ0.91/18, mb4.0/10, MS3.6/4, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.38**	**324**	P	**Pn**	**05 03 08.0**	**-0.3**
	0.3nm,0.3s,baz=132,slow=14,SNR=3.3						
SUR				LR	LR	05 09 11.1	
	comp=Z,140nm,18.7s,baz=47,slow=35						
SUR	**Sutherland**	**17.38**	**324**	P	**Pn**	**05 03 08.0**	**-0.3**
SUR				LR	LR	05 09 11.2	
BOSA	**Boshof**	**19.42**	**339**	P	**Pn**	**05 03 32.1**	**-1.2**
	0.1nm,0.3s,baz=162,slow=10,SNR=3.5						
BOSA				LR	LR	05 09 33.8	
	comp=Z,192nm,19.5s,baz=189,slow=32						
BOSA	**Boshof**	**19.42**	**339**	*e*P	**Pn**	**05 03 31.9**	**-1.4**
	7.9nm,1.0s						
LBTB	**Lobatse**	**22.82**	**343**	P	**P**	**05 04 09.9**	**+1.1**
	8.2nm,1.0s,mb4.1,baz=170,slow=12,SNR=4.1						
LBTB				LR	LR	05 11 56.8	
	comp=Z,162nm,18.4s,MS3.5,baz=12,slow=34						
LBTB	**Lobatse**	**22.82**	**343**	*e*P	**P**	**05 04 09.3**	**+0.5**
	26nm,1.4s,mb4.5						
MAW	**Mawson**	**25.65**	**154**	LR	LR	05 12 57.8	
	comp=Z,122nm,19.9s,MS3.4,baz=248,slow=32						
MAW	**Mawson**	**25.65**	**154**	*e*P	**P**	**05 04 36.5**	**+1.0**
	7.5nm,1.0s,mb4.2						
MATP	**Matopo**	**26.88**	**351**	P	**P**	**05 04 47.5**	**+0.8**
	2.8nm,0.9s,mb3.8,baz=180,slow=8.1,SNR=2.3						
MATP				LR	LR	05 13 27.6	
	comp=Z,207nm,19.7s,MS3.7,baz=146,slow=32						
SNAA	**Sanae**	**29.72**	**202**	P	**P**	**05 05 12.9**	**+0.9**
	0.3nm,0.8s,mb3.1,baz=67,slow=14,SNR=2.9						
LSZ	**Lusaka**	**32.00**	**351**	*e*P	**P**	**05 05 33.3**	**+1.2**
	5.6nm,1.0s,mb4.3						
VNDA	**Vanda**	**51.71**	**168**	P	**P**	**05 08 12.0**	**-1.0**
	0.8nm,0.9s,mb3.7,baz=260,slow=6.3,SNR=3.9						
VNDA				LR	LR	05 27 32.3	
	comp=Z,113nm,20.4s,MS3.9,baz=230,slow=33						
VNDA	**Vanda**	**51.71**	**168**	*e*P	**P**	**05 08 11.8**	**-1.2**
	1.9nm,0.9s,mb4.0						
TORD	**Torodi Ar. Bea**	**66.18**	**327**	P	**P**	**05 09 52.7**	**-0.8**
	0.5nm,0.7s,mb3.7,baz=166,slow=6.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**66.18**	**327**	P	**P**	**05 09 52.7**	**-0.8**
STKA	**Stephens Creek**	**78.61**	**125**	P	**P**	**05 11 06.3**	**-1.3**
	1.8nm,0.6s,mb4.2,baz=299,slow=4.9,SNR=5.9						
STKA	**Stephens Creek**	**78.61**	**125**	*e*P	**P**	**05 11 06.4**	**-1.3**
ASAR	**Alice Springs**	**80.10**	**114**	P	**P**	**05 11 16.1**	**+0.2**
	1.8nm,0.6s,mb4.2,baz=223,slow=4.6,SNR=19						
WRA	**Warramunga Arr**	**83.10**	**112**	P	**P**	**05 11 31.7**	**0.0**
	1.9nm,1.1s,mb4.0,baz=219,slow=4.2,SNR=6.7						
BNM	**Barren Site**	**147.02**	**262**	*e*PKPbc	PKPbc	05 18 47.5	-1.2
ANMO	**Albuquerque**	**147.37**	**263**	*e*PKPdf	PKPdf	05 18 46.3	-0.9
RSSD	**Black Hills**	**150.00**	**280**	*e*PKPdf	PKPdf	05 18 51.3	-0.2
RSSD				*e*PKPbc	PKPbc	05 18 55.5	-1.0
RSSD				*e*PKPab	PKPab	05 19 01.6	-0.5
PDAR	**Pinedale Array**	**153.24**	**275**	PKPbc	PKPbc	05 19 05.3	+1.5
	0.6nm,0.9s,baz=60,slow=2.2,SNR=3.5						

ISCJB ***23*** *05:10:46.5±5.4, 87S±03×148.4E±06, h110km±24km, mb3.9/2, Error ellipse: s-maj=102.2km s-min=35.6km az=40.2*
IDC ***23*** *05:10:47.2±4.6, 870S×148.45E, h100km±26km, mb3.5/3, mb1 3.6/4, mb1mx3.3/12, mbtmp3.8/4, Error ellipse: s-maj=65.7km s-min=34.1km az=114.0*
NEIC ***23*** *05:10:48.9±3.5, 858S×148.16E, h105km±13km, mb3.7/1, Error ellipse: s-maj=89.6km s-min=21.9km az=113.0*

ISC 23 05:10:47.6±5.0, 87S±03×148.4E±05, h104km±24km, n7, σ0.36/7, mb3.9/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.43**	**239**	P	**Pn**	**05 11 12.9**	**-0.2**
	8.3nm,0.3s,baz=60,slow=6.8,SNR=25						
PMG				S	**Sn**	**05 11 32.6**	**+0.2**
	47nm,0.3s,baz=356,slow=16,SNR=12						
WRAB	**Tennant Creek**	**17.61**	**229**	*e*P	**Pn**	**05 14 45.9**	**-0.4**
	3.8nm,0.8s						
WRA	**Warramunga Arr**	**17.62**	**229**	P	**Pn**	**05 14 46.5**	**+0.1**
	0.6nm,0.3s,baz=55,slow=12,SNR=32						
ASAR	**Alice Springs**	**20.37**	**221**	P	**P**	**05 15 16.2**	**+0.4**
	0.6nm,0.4s,baz=57,slow=9.2,SNR=9.5						
FITZ	**Fitzroy Crossi**	**24.02**	**245**	P	**P**	**05 15 52.5**	**-0.2**
	2.3nm,0.3s,mb3.9,baz=62,slow=11,SNR=37						
MKAR	**Makanchi Array**	**80.42**	**320**	P	**P**	**05 22 47.9**	**+0.2**
	0.8nm,0.4s,mb3.9,baz=99,slow=6.5,SNR=8.3						
TORD	**Torodi Ar. Bea**	**147.02**	**281**	PKPbc	PKPbc	05 30 20.1	+1.9
	1.3nm,0.7s,baz=66,slow=2.2,SNR=6.3						

IDC 23 05:28:10.2±18.0, 25.05S×176.16W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.2/5, Error ellipse: s-maj=340.3km s-min=140.0km az=84.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.98**	**270**	P	P	05 35 04.9	+0.8
	5.0nm,0.4s,baz=101,slow=11,SNR=9.0						
STKA	**Stephens Creek**	**37.58**	**250**	P	P	05 35 25.6	-0.7
	1.3nm,0.4s,baz=103,slow=10.0,SNR=4.3						
ASAR	**Alice Springs**	**45.31**	**261**	P	P	05 36 30.4	+0.7
	0.5nm,0.4s,baz=92,slow=7.5,SNR=9.6						
WRA	**Warramunga Arr**	**45.82**	**266**	P	P	05 36 33.5	-0.3
	1.2nm,0.3s,baz=104,slow=8.2,SNR=54						
FITZ	**Fitzroy Crossi**	**54.23**	**265**	P	P	05 37 38.4	+0.7
	1.6nm,0.8s,baz=114,slow=12,SNR=4.7						

ISCJB ***23*** *05:34:04.3±1.1, 2351N±003×70.13E±002, h8km±6km, mb4.7/118, MS3.8/17, Error ellipse: s-maj=4.3km s-min=3.3km az=7.0*
MOS ***23*** *05:34:04.8±1.0, 2349N×7003E, h10km, mb5.2/63, Error ellipse: s-maj=7.4km s-min=3.9km az=121.0*
SZGRF ***23*** *05:34:04.0, 2257N×6996E, h17km, mb5.0, Southern India*
IDC ***23*** *05:34:05.0±0.5, 2350N×7002E, h0km, mb4.4/22, mb1 4.5/23, mb1mx4.5/26, mbtmp4.4/23, ML4.8/1, MS3.6/11, Ms1 3.7/11, ms1mx3.5/32, Error ellipse: s-maj=15.1km s-min=13.2km az=42.0*
NEIC ***23*** *05:34:06.4±0.2, 2346N×7012E, h10km, mb4.8/68, Error ellipse: s-maj=6.2km s-min=4.1km az=198.0*
NEIC Felt [IV] at Rajkot. Felt at Ahmadabad, Chotila, Halwad, Limbdi, Ratanpur, Surendranager, Than and Wadhwan. Also felt in parts of Kachchh.
HRVD ***23*** *05:34:06.4±0.8, 2336N×7026E, h21km±1km, MW4.8/49, Centroid moment Tensor Solution. LP body waves: s10,c11, Mantle waves: s49,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.81±.21; $M_{\theta\theta}$-1.44±.12; $M_{\phi\phi}$-0.36±.12; $M_{r\theta}$0.76±.20; $M_{\theta\phi}$0.13±.08; $M_{\phi r}$0.74±.33; Best double couple: $M_0$1.90200×10^{16} NP1:ϕ_s288.00000°, δ35.00000°, λ118.00000°. NP2: ϕ_s75.00000°, δ60.00000°, λ72.00000°. Principal axes: T 2.1960, Plg70.0000°, Azm306.0000°; N -0.5850, Plg16.0000°, Azm85.0000°; P -1.6080, Plg13.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NDI ***23*** *05:34:07.3±3.8, 2353N×7008E, h10km, ML4.8, mb4.8(NEIC)*
BJI ***23*** *05:34:07.9, 2372N×7039E, h10km, mB4.9, mb4.7, Ms4.7, Msz4.0*

ISC 23 05:34:07.0±0.8, 2352N±003×7013E±002, h12km±5km, h18km±3.0km: pP-P, n358, σ1.03/364, mb4.7/118, MS3.8/17, 28C-15D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**0.51**	**239**	*e*P	**Pg**	**05 34 17.1**	**+0.1**
BHJ				*e*S	**Sg**	**05 34 24.0**	**+0.2**
BHJ				AML	AML	05 34 25.3	
	comp=E,40μm,0.4s						
BHJ				AML	AML	05 34 25.8	
	comp=N,61μm,0.5s						
BHV	**Bhavnagar**	**2.56**	**133**	*e*P	**Pn**	**05 34 49.0**	**+0.7**
BHV				*e*x	x	05 35 36.5	
AJM	**Ajmer**	**5.04**	**53**	*e*P	**Pn**	**05 35 22.8**	**+0.3**
AJM				*e*S	**Sn**	**05 36 18.6**	**-2.0**
AJM				AML	AML	05 36 49.9	
	comp=N,972nm,0.3s						
AJM				AML	AML	05 36 50.2	
	comp=E,2μm,0.3s						
BOM	**Bombay**	**5.24**	**151**	*e*P	**Pn**	**05 35 25.4**	**+0.3**
BOM				*e*S	**Sn**	**05 36 23.6**	**-1.7**
BOM				AML	AML	05 36 58.9	
	comp=E,10μm,0.3s						
BOM				AML	AML	05 37 09.0	
	comp=N,12μm,0.8s						
POO	**Poona**	**6.06**	**144**	*e*x	x	05 36 16.7	
POO				*e*x	x	05 37 37.6	
BHPL	**Bhopal**	**6.70**	**91**	*e*P	**Pn**	**05 35 46.3**	**+1.0**
BHPL				*e*S	**Sn**	**05 36 58.9**	**-2.7**
BHPL				AML	AML	05 37 44.3	
	comp=E,410nm,0.3s						
BHPL				AML	AML	05 37 44.4	
	comp=N,815nm,0.4s						
AKL	**Akola**	**6.97**	**112**	*i* P	**Pn**	**05 35 58.4**	**+10**
AKL				*i* S	**Sn**	**05 37 15.6**	**+7.5**
KAD	**Karad**	**7.25**	**148**	*e*P	**Pn**	**05 35 52.5**	**-0.3**
KAD				*e*x	x	05 37 13.5	
LATR	**Latur**	**7.86**	**129**	*e*P	**Pn**	**05 36 02.0**	**+0.8**
LATR				*e*x	x	05 37 10.5	
NDI	**New Delhi**	**8.18**	**50**	*e*x	x	05 36 04.0	
NDI				*e*S	**Sn**	**05 37 32.5**	**-5.5**
DRP	**Derazinda**	**8.19**	**0**	⇓P	**Pn**	**05 36 05.1**	**-0.6**
NGP	**Nagpur**	**8.58**	**104**	*e*P	**Pn**	**05 36 09.7**	**-1.4**
NGP				*e*S	**Sn**	**05 37 43.2**	**-4.6**
SARP	**Sargodha**	**8.67**	**14**	P	**Pn**	**05 36 10.2**	**-2.0**
GOA	**Goa**	**8.71**	**156**	*e*P	**Pn**	**05 36 15.0**	**+2.2**
GOA				*e*x	x	05 37 36.0	
SBDP	**Sheikh Budin**	**8.77**	**4**	⇓P	**Pn**	**05 36 11.7**	**-1.9**
JBP	**Jabalpur**	**9.06**	**90**	*e*P	**Pn**	**05 36 16.9**	**-0.6**
JBP				*e*S	**Sn**	**05 37 54.0**	**-5.5**
THW	**Thamme Wali**	**9.35**	**8**	⇑P	**Pn**	**05 36 20.5**	**-1.1**
BHK	**Bhakra**	**9.64**	**34**	*e*x	x	05 36 31.0	
BHK				*e*x	x	05 38 10.2	
DDI	**Dehra Dun**	**9.79**	**44**	*e*x	x	05 38 07.5	
SMLA	**Simla**	**9.82**	**38**	*e*P	**Pn**	**05 36 28.0**	**0.0**
SMLA				*e*S	**Sn**	**05 38 11.8**	**-6.4**
SMLA				AML	AML	05 38 46.3	
	comp=N,217nm,0.4s						
SMLA				AML	AML	05 38 46.6	
	comp=E,352nm,0.6s						
PONG	**Pong**	**9.85**	**30**	*e*P	**Pn**	**05 36 30.0**	**+1.5**
HYB	**Hyderabad**	**9.95**	**126**	*i* P	**Pn**	**05 36 31.0**	**+1.2**
HYB				*e*S	**Sn**	**05 38 24.0**	**+2.5**
HYB				LR	LR	05 40 04.0	
	comp=E,4.2nm,8.0s						
HYB	**Hyderabad**	**9.95**	**126**	*e*P	**Pn**	**05 36 27.0**	**-2.8**
HYB				*e*S	**Sn**	**05 38 14.0**	**-7.5**
SDNR	**Sundarnagar**	**10.00**	**36**	*e*P	**Pn**	**05 36 32.0**	**+1.6**
SDNR				*e*x	x	05 38 34.0	
WBK	**Wadi Bani Khal**	**10.32**	**267**	⇓P	**Pn**	**05 36 33.4**	**-1.4**
	SNR=10						
DLH	**Dalhousie**	**10.36**	**29**	*e*P	**Pn**	**05 36 36.0**	**+0.6**
DLH				*e*x	x	05 38 28.0	
CHCP	**Chirah Chowk**	**10.47**	**15**	⇓P	**Pn**	**05 36 36.9**	**0.0**
WSAR	**Wadi Sarin**	**10.57**	**271**	Pn	**Pn**	**05 36 36.3**	**-2.0**
	comp=E,8.2nm,0.3s,baz=82,slow=9.0,SNR=98						
WSAR				Sn	**Sn**	**05 38 28.3**	**-8.3**
	comp=E,3.7nm,0.3s,baz=270,slow=19,SNR=3.6						
LGTI	**Lohaghat**	**10.81**	**55**	*i* P	**Pn**	**05 36 38.5**	**-3.1**
LGTI				*e*x	x	05 39 37.5	
PTH	**Pithoragarh**	**10.84**	**54**	*e*x	x	05 38 40.9	
BIDO	**Bidbid**	**11.02**	**272**	⇑P	**Pn**	**05 36 42.8**	**-1.6**
	SNR=22						
SMDO	**Samad**	**11.12**	**270**	⇓P	**Pn**	**05 36 44.4**	**-1.4**
	SNR=11						
JMDO	**Jabal Madar**	**11.14**	**266**	⇓P	**Pn**	**05 36 45.6**	**-0.6**
	SNR=19						
BLSP	**Bilaspur**	**11.15**	**95**	*e*x	x	05 36 43.0	
BLSP				*e*S	**Sn**	**05 38 45.0**	**-5.9**
HOQ	**Hoqain**	**11.76**	**273**	P	**Pn**	**05 36 52.9**	**-1.7**
	SNR=12						
BSY	**Bisya**	**11.93**	**269**	⇓P	**Pn**	**05 36 56.5**	**-0.4**
	SNR=20						
ARQ	**Araqi**	**12.50**	**272**	⇑P	**Pn**	**05 37 06.4**	**+1.7**
	SNR=14						
BANOM	**Banah**	**12.80**	**284**	⇑P	**Pn**	**05 37 08.2**	**-0.5**
	SNR=16						
KOLN	**Koldanda**	**12.86**	**68**	*e*P	**Pn**	**05 37 07.8**	**-1.8**
	comp=E,137nm,0.7s						
KOLN				*e*S	**Sn**	**05 39 25.7**	**-7.0**
ASHO	**Ashiyiah**	**12.91**	**278**	⇑P	**Pn**	**05 37 10.2**	**0.0**
VIS	**Vishakhapatnam**	**13.63**	**113**	*i* P	**Pn**	**05 37 19.9**	**-0.2**
VIS				*i* S	**Sn**	**05 39 42.2**	**-9.2**
GKN	**Gorkha**	**13.81**	**68**	*e*P	**Pn**	**05 37 20.3**	**-2.2**
	comp=E,96nm,0.5s						
DMN	**Daman**	**14.11**	**70**	*e*P	**Pn**	**05 37 23.3**	**-3.4**
	comp=E,91nm,0.6s						
MDRS	**Chennai**	**14.14**	**136**	*e*x	x	05 38 45.0	
KKN	**Kakani**	**14.30**	**70**	*e*P	**Pn**	**05 37 25.8**	**-3.5**
	comp=E,102nm,0.6s						
KKN	**Kakani**	**14.30**	**70**	*e*P	**Pn**	**05 37 25.8**	**-3.5**
KKN				pmax	pmax		
	comp=Z,102nm,0.6s						
PKI	**Pulchoki**	**14.37**	**71**	*e*P	**Pn**	**05 37 26.5**	**-3.6**
	comp=Z,120nm,0.6s						
PKI	**Pulchoki**	**14.37**	**71**	*e*P	**Pn**	**05 37 26.5**	**-3.6**
PKI				pmax	pmax		
	comp=Z,120nm,0.6s						
BOK	**Bokaro**	**14.44**	**86**	*e*P	**Pn**	**05 37 28.8**	**-2.4**
BOK				*i* S	**Sn**	**05 39 58.6**	**-13**
GUN	**Gumba**	**14.85**	**70**	*e*P	**Pn**	**05 37 33.2**	**-3.5**
	comp=Z,478nm,0.9s						
JIRN	**Jiri**	**15.06**	**71**	*e*P	**Pn**	**05 37 35.5**	**-4.1**
	comp=Z,66nm,0.4s						
JIRN				*e*S	**Sn**	**05 40 14.8**	**-12**
WHFO	**Wadi Hawf**	**16.29**	**253**	⇓P	**Pn**	**05 37 59.9**	**+4.4**
	SNR=10.0						
KSH	**Kashi**	**16.70**	**16**	*e*P	**Pn**	**05 38 01.8**	**+1.0**
KSH				LR	LR		
	comp=N,1μm,6.4s						
KSH				LR	LR		
	comp=E,1μm,3.8s						
AML	**Almayashu**	**18.80**	**8**	P	**Pn**	**05 38 27.9**	**+1.2**
	SNR=11						
KZA	**Kyzart**	**18.99**	**12**	P	**Pn**	**05 38 28.5**	**-0.6**
	SNR=22						
UCH	**Uchtor**	**19.01**	**10**	P	**Pn**	**05 38 30.0**	**+0.7**
	SNR=39						
EKS2	**Erkin-Say**	**19.33**	**8**	P	**Pn**	**05 38 33.4**	**+0.3**
	SNR=17						
ULHL	**Ulahol**	**19.36**	**14**	P	**Pn**	**05 38 37.9**	**+4.4**
	SNR=21						
AAK	**Ala-Archa**	**19.40**	**10**	P	**Pn**	**05 38 35.6**	**+1.6**
	SNR=23						
AAK	**Ala-Archa**	**19.40**	**10**	⇑P	**Pn**	**05 38 34.9**	**+0.8**
	SNR=35						
AAK	**Ala-Archa**	**19.40**	**10**	*e*P	**Pn**	**05

comp=N,420nm,21.0s
WMQ LR LR
comp=E,280nm,10.0s
WMQ LR LR
comp=Z,220nm,20.0s,MS3.7
MK31 Makanchi Array 25.20 20 P **P** **05 39 32.8 +0.4**
MK31 pmax pmax
comp=Z,30nm,1.0s,mb4.8
MKAR Makanchi Array 25.20 20 P **P** **05 39 32.6 +0.2**
comp=Z,13nm,0.9s,mb4.5,baz=207,slow=9.5,SNR=42
AB31 Akbulak array 26.91 345 *i* P **P** **05 39 48.9 +0.9**
AB31 pmax pmax
comp=Z,16nm,0.8s,mb4.6
MAK Makhachkala 26.95 321 *eP* **P** **05 39 48.8 +0.5**
MAK MLR MLR
comp=Z,236nm,15.0s,MS3.9
GNI Garni 27.07 314 P **P** **05 39 51.6 +2.3**
comp=Z,14nm,0.7s,mb4.6,baz=322,slow=4.4,SNR=11
GNI LR LR 05 51 42.0
comp=Z,89nm,19.2s,MS3.3,baz=307,slow=39
GNI Garni 27.07 314 *eP* **P** **05 39 52.0 +2.6**
GNI pmax pmax
comp=Z,36nm,1.0s
GNI Garni 27.07 314 *eP* **P** **05 39 52.0 +2.7**
comp=Z,36nm,1.0s,mb4.9
AKTK Aktyubinsk 28.48 344 P **P** **05 40 02.4 +0.4**
AKTK LR LR 05 54 04.5
AKTO Aktyubinsk 28.48 344 P **P** **05 40 02.4 +0.4**
comp=Z,1.9nm,0.5s,mb4.0,baz=155,slow=12,SNR=8.1
AKTO LR LR 05 54 04.5
comp=Z,64nm,18.9s,MS3.2,baz=134,slow=42
AKTO Aktyubinsk 28.48 344 P **P** **05 40 02.4 +0.4**
AKTO pmax pmax
comp=Z,20nm,0.5s,mb5.0
AKTO MLR MLR
comp=Z,64nm,18.9s,MS3.2
ATD Arta Tunnel 28.56 250 LR LR 05 51 22.6
comp=Z,45nm,20.3s,MS3.1,baz=12,slow=36
ZRNK Zerenda 29.40 359 *eP* **P** **05 40 11.4 +1.2**
ZRNK pmax pmax
comp=Z,23nm,1.3s,mb4.8
ZRNK Zerenda 29.40 359 *eP* **P** **05 40 11.4 +1.3**
comp=Z,23nm,1.3s,mb4.8
BVAR Borovoye Array 29.46 0 P **P** **05 40 10.8 +0.1**
comp=Z,0.9nm,0.4s,mb3.8,baz=163,slow=10,SNR=8.4
BVAR LR LR 05 54 25.4
comp=Z,168nm,18.2s,MS3.7,baz=124,slow=41
BVAR Borovoye Array 29.46 0 P **P** **05 40 10.8 +0.1**
BVAR pmax pmax
comp=Z,10.0nm,0.4s
BVAR MLR MLR
comp=Z,168nm,18.2s
BRVK Borovoye 29.50 0 *eP* **P** **05 40 12.7 +1.7**
BRVK pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
BRVK Borovoye 29.50 0 *eP* **P** **05 40 12.7 +1.7**
comp=Z,8.5nm,1.1s,mb4.4
GTA Gaotai 29.69 51 ⇑P **P** **05 40 14.5 +1.8**
GTA PP PP 05 41 12.3 -7.4
GTA S **S** **05 45 07.8 -0.5**
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,80nm,5.0s
GTA LR LR
comp=N,310nm,10.7s,MS4.3
GTA LR LR
comp=E,270nm,14.1s,MS4.3
GTA LR LR
comp=Z,270nm,13.8s,MS4.0
CHKZ Chkalovo 30.12 1 P **P** **05 40 16.4 -0.1**
CHKZ pmax pmax
comp=Z,14nm,1.8s,mb4.4
CHKZ Chkalovo 30.12 1 *eP* **P** **05 40 16.7 +0.2**
comp=Z,5.8nm,0.9s,mb4.3
KIV Kislovodsk 30.37 319 P **P** **05 40 21.5 +2.7**
SNR=7.1
KIV Kislovodsk 30.37 319 *eP* **P** **05 40 20.9 +2.1**
KIV pmax pmax
comp=Z,28nm,1.1s,mb4.9
KIV Kislovodsk 30.37 319 *eP* **P** **05 40 20.9 +2.1**
comp=Z,28nm,1.1s,mb4.9
CD2 Chengdu 30.71 69 *eP* **P** **05 40 21.5 -0.3**
CD2 AP pP 05 40 31.5 +6.1
CD2 XP sP 05 40 35.0 +8.2
CD2 PP PP 05 41 22.8 -8.3
CD2 S **S** **05 45 20.8 -3.5**
CD2 XS sS 05 45 36.5 +6.2
CD2 SS SS 05 47 03.5 -32
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,160nm,10.8s
CD2 LR LR
comp=Z,160nm,10.8s,MS3.9
MALT Malatya 30.76 306 *eP* **P** **05 40 23.6 +1.4**
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.7
MALT Malatya 30.76 306 *eP* **P** **05 40 23.6 +1.3**
comp=Z,13nm,1.1s,mb4.7
ZAL Zalesovo 32.32 16 P **P** **05 40 36.0 +0.1**
comp=Z,3.0nm,0.8s,mb4.2,baz=267,slow=8.4,SNR=14
NVS Novosibirsk 32.77 14 *i* P **P** **05 40 39.1 -0.8**
GYA Guiyang 33.17 77 *eP* **P** **05 40 43.8 +0.4**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
ARU Arti 33.95 348 ⇓*iP* **P** **05 40 49.8 -0.4**
ARU *e* 05 42 01.0
ARU *e*S **S** **05 46 13.4 -1.4**
ARU *e*SS SS 05 48 20.4 -21
ARU pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ARU Arti 33.95 348 *eP* **P** **05 40 50.6 +0.4**
comp=Z,7.3nm,0.6s,mb4.8
KULM Kulim 34.53 117 *eP* **P** **05 40 56.8 +1.5**
PSI Prapat 34.64 122 P **P** **05 40 58.2 +2.1**
comp=Z,12nm,0.9s,mb4.8,baz=292,slow=9.0,SNR=4.5
BRTR Keskin Array B 34.75 306 P **P** **05 40 56.5 -0.5**
comp=Z,0.9nm,0.5s,mb3.9,baz=99,slow=7.6,SNR=5.9
VRHR Novokhopersk 35.26 329 *eP* **P** **05 41 01.9 +0.5**
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
VRHR pmax pmax
comp=E,10.0nm,0.4s
XAN Xi'an 35.39 64 P **P** **05 41 02.8 +0.2**
XAN AMB AMB
comp=Z,20nm,1.0s,mb5.0
ZAK Zakamensk 37.17 35 *eP* **P** **05 41 18.9 +1.1**
ZAK *e* 05 42 44.0
ZAK pmax pmax
comp=Z,12nm,1.7s,mb4.5
BTO Baotou 37.49 53 *eP* **P** **05 41 21.4 +0.9**
SONM Songino Array 37.64 41 P **P** **05 41 24.0 +2.2**
comp=Z,16nm,0.9s,mb4.8,baz=240,slow=8.4,SNR=108
SONM LR LR 05 58 28.5
comp=Z,41nm,20.5s,MS3.2,baz=346,slow=39
ULN Ulaanbaatar 38.05 41 *eP* **P** **05 41 26.7 +1.5**
ULN pmax pmax
comp=Z,12nm,1.0s,mb4.6
ULN Ulaanbaatar 38.05 41 *eP* **P** **05 41 26.7 +1.4**
comp=Z,12nm,1.0s,mb4.6
TLY Talaya 38.09 34 *eP* **P** **05 41 27.9 +2.3**
TLY *e* 05 42 50.6
TLY *e*PPP 05 43 13.6
TLY *e*S **S** **05 47 26.0 +7.8**
TLY *e*SS SS 05 50 33.8 +28
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
TLY MLR MLR
comp=Z,177nm,16.0s,MS4.0
TIRR Tirgusor 39.86 312 ⇓*iP* **P** **05 41 40.7 +0.3**
TIRR Tirgusor 39.86 312 ⇓P **P** **05 41 40.7 +0.3**
MOS Moscow 40.09 332 *eP* **P** **05 41 41.5 -0.8**
MOS *e* 05 43 14.6
MOS pmax pmax
comp=Z,80nm,1.3s,mb5.3
OBN Obninsk 40.16 330 *eP* **P** **05 41 43.7 +0.8**
OBN *e* 05 43 17.1
OBN *e* 05 43 47.1
OBN pmax pmax
comp=Z,52nm,1.4s,mb5.1
OBN Obninsk 40.16 330 *eP* **P** **05 41 43.3 +0.3**

CFR Carcaliu 40.27 313 ⇑*iP* **P** **05 41 44.5 +0.7**
CFR Carcaliu 40.27 313 ⇑P **P** **05 41 44.5 +0.6**
KMBO Kilima Mbogo 40.27 237 LR LR 05 57 40.7
comp=Z,97nm,19.0s,MS3.7,baz=274,slow=35
SANT Santorini 40.44 299 *eP* **P** **05 41 45.2 0.0**
comp=Z,56nm,0.4s,mb5.7
APE Apeiranthos 40.46 300 ⇓*iP* **P** **05 41 45.8 +0.4**
APE Apeiranthos 40.46 300 ⇓P **P** **05 41 45.8 +0.4**
PLOR Plostina 41.47 313 ⇑*iP* **P** **05 41 55.0 +1.3**
AKASG Malin Array Be 41.64 321 P **P** **05 41 54.8 -0.3**
comp=Z,6.9nm,0.9s,mb4.3,baz=120,slow=6.6,SNR=15
AKASG PP PP 05 43 34.3 +3.0
comp=Z,0.2nm,0.2s,baz=106,slow=9.1,SNR=4.1
MLR Muntele Rosu 41.84 313 ⇑*iP* **P** **05 41 58.7 +1.9**
MLR Muntele Rosu 41.84 313 ⇑P **P** **05 41 58.7 +2.0**
BJT Baijiatuau 41.97 56 *eP* **P** **05 41 57.4 -0.4**
BJT pmax pmax
comp=Z,18nm,0.9s
BJT Baijiatuau 41.97 56 *eP* **P** **05 41 57.4 -0.4**
comp=Z,18nm,0.9s,mb4.7
VOIR 42.43 312 ⇑*iP* **P** **05 42 02.3 +0.7**
VOIR 42.43 312 ⇑P **P** **05 42 02.3 +0.7**
KLMR Klimovskoe 42.89 339 *eP* **P** **05 42 04.3 -1.0**
BURAR Bucovina Array 42.95 315 ⇑*iP* **P** **05 42 06.7 +0.9**
BURAR Bucovina Array 42.95 315 ⇑P **P** **05 42 06.7 +1.0**
CIT Chita 43.62 38 *eP* **P** **05 42 12.7 +1.5**
CIT *e* pP 05 42 16.6 +1.7
NJ2 Nanjing 43.63 68 *eP* **P** **05 42 12.8 +1.5**
NJ2 AP pP 05 42 21.5 +6.5
NJ2 PP PP 05 43 55.1 +2.3
NJ2 S **S** **05 48 40.0 -0.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
NJ2 AMB AMB
comp=Z,80nm,5.9s
NJ2 LR LR
comp=N,520nm,17.1s,MS4.6
NJ2 LR LR
comp=E,300nm,14.0s,MS4.6
NJ2 LR LR
comp=Z,160nm,18.1s,MS4.0
BZS Buzias 44.81 312 ⇑*iP* **P** **05 42 21.5 +0.7**
BZS Buzias 44.81 312 ⇑P **P** **05 42 21.5 +0.7**
KOLS Kolonicke sedl 45.22 316 *eP* **P** **05 42 24.1 +0.1**
KOLS *e* 05 42 30.0
KOLS pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
KOLS Kolonicke sedl 45.22 316 *eP* **P** **05 42 24.1 +0.1**
comp=Z,9.9nm,1.2s,mb4.5
KOLS *e* 05 42 30.0
CRVS Cervenica-Dubn 45.72 316 *eP* **P** **05 42 27.8 -0.2**
CRVS pmax pmax
comp=Z,11nm,1.6s,mb4.5
CRVS Cervenica-Dubn 45.72 316 *eP* **P** **05 42 27.8 -0.2**
comp=Z,11nm,1.6s,mb4.5
STHS Stebnicka Huta 46.00 317 *eP* **P** **05 42 30.2 0.0**
STHS *e* 05 42 44.5
STHS Stebnicka Huta 46.00 317 *eP* **P** **05 42 30.3 +0.1**
STHS pmax pmax
comp=Z,40nm,1.0s,mb5.3
STHS Stebnicka Huta 46.00 317 *eP* **P** **05 42 30.3 +0.1**
comp=Z,3.6nm,1.0s,mb4.3
STHS *e* 05 42 44.5
KECS Kecovo 46.24 315 *eP* **P** **05 42 32.9 +0.8**
KECS pmax pmax
comp=Z,30nm,0.7s,mb5.3
KECS Kecovo 46.24 315 *eP* **P** **05 42 32.9 +0.8**
comp=Z,2.6nm,0.7s,mb4.3
VSU Vasula 46.52 330 *c iP* **P** **05 42 33.9 -0.4**
NIE Niedzica 46.59 317 *eP* **P** **05 42 36.6 +1.8**
PKSM Moragy 46.97 312 ⇑*iP* **P** **05 42 38.0 +0.2**
PKSM Moragy 46.97 312 ⇑P **P** **05 42 38.0 +0.2**
OJC Ojcow 47.12 318 *eP* **P** **05 42 39.5 +0.5**
JOF Joensuu 47.15 337 *ep* **P** **05 42 38.3 -0.9**
VYHS Vyhne 47.31 315 *eP* **P** **05 42 40.5 +0.1**
VYHS pmax pmax
comp=Z,70nm,1.6s,mb5.3
VYHS Vyhne 47.31 315 *eP* **P** **05 42 40.5 +0.1**
comp=Z,7.3nm,1.6s,mb4.4
OPO Ambohidratompo 47.45 210 P **P** **05 42 42.7 +1.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=327,slow=5.5,SNR=4.8
TIP Timpagrande 47.52 302 *eP* **P** **05 42 42.3 +0.2**
OKC Ostrava-Krasne 48.06 317 *eP* **P** **05 42 47.1 +0.9**
FINES FINESS Array B 48.32 333 P **P** **05 42 47.7 -0.6**
comp=Z,3.3nm,0.7s,mb4.5,baz=132,slow=9.4,SNR=21
FINES LR LR 06 06 25.6
comp=Z,79nm,20.9s,MS3.7,baz=126,slow=40
FINES FINESS Array B 48.32 333 P **P** **05 42 47.7 -0.6**
FINES LR LR 06 06 25.6
MORC Moravsky Berou 48.42 316 ⇑*iP* **P** **05 42 48.7 -0.4**
MORC Moravsky Berou 48.42 316 *eP* **P** **05 42 48.8 -0.3**
comp=Z,2.2nm,0.6s,mb4.4
KAF Kangasniemi 48.58 334 *ep* **P** **05 42 49.4 -0.9**
CRES Cresnjev 49.10 311 *eP* **P** **05 42 54.5 +0.3**
CONA Conrad Observa 49.15 314 ⇑*eP* **P** **05 42 55.6 +1.0**
comp=Z,6.7nm,1.3s,mb4.5
LEGS Legarje 49.21 311 *i* P **P** **05 42 55.5 +0.3**
ARSA Arzberg 49.26 313 ⇓*eP* **P** **05 42 56.3 +0.8**
comp=Z,5.5nm,0.7s,mb4.7
CN2 Changchun 49.31 52 *eP* **P** **05 42 56.5 +0.6**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
DPC Dobruska-Polom 49.32 317 *eP* **P** **05 42 56.9 +1.0**
UPC Upice 49.54 317 *eP* **P** **05 42 58.6 +0.9**
CEY Cerknica 49.80 311 *eP* **P** **05 42 59.7 +0.1**
MOA Molln 50.19 313 ⇑*iP* **P** **05 43 02.8 +0.2**
comp=Z,12nm,1.5s,mb4.7
AQU L'Aquila 50.24 306 *eP* **P** **05 43 04.0 +1.1**
AQU pmax pmax
comp=Z,11nm,0.6s,mb5.1
AQU L'Aquila 50.24 306 *eP* **P** **05 43 04.0 +1.0**
comp=Z,11nm,0.6s,mb5.1
CADS Cadrg 50.34 311 *eP* **P** **05 43 03.4 -0.3**
PVCC Panska Ves 50.45 317 *eP* **P** **05 43 05.4 +0.9**
SNTG Esanatoglia 50.63 307 P **P** **05 43 05.9 0.0**
comp=Z,15nm,0.7s,mb5.0
ARV Arcevia 50.65 308 P **P** **05 43 06.3 +0.3**
KBA Koelnbreinsper 50.71 312 ⇑*eP* **P** **05 43 06.8 +0.3**
comp=Z,19nm,1.0s,mb5.0
GEC2 GERESS Array S 50.72 315 *eP* **P** **05 43 06.7 +0.1**
comp=Z,20nm,1.3s,mb4.9
GEC2 GERESS Array S 50.72 315 *eP* **P** **05 43 06.7 +0.1**
GEC2 pmax pmax
comp=Z,20nm,1.3s,mb4.9
GERES GERESS Array B 50.72 315 P **P** **05 43 06.6 +0.1**
comp=Z,3.0nm,0.8s,mb4.3,baz=102,slow=6.2,SNR=20
GERES PcP PcP 05 44 23.9 +0.3
comp=Z,1.6nm,0.6s,baz=131,slow=4.0,SNR=4.8
KHC Kasperske Hory 50.84 315 *eP* **P** **05 43 07.2 -0.3**
BRG Berggiesshubel 50.91 317 *eP* **P** **05 43 08.9 +0.9**
comp=Z,22nm,0.9s,mb5.1
BRG Berggiesshubel 50.91 317 *eP* **P** **05 43 09.1 +1.1**
BRG *e* pP 05 43 13.5 +1.8
BRG pmax pmax
comp=Z,13nm,0.9s,mb4.9
BRG pmax pmax
comp=Z,12nm,1.0s,mb4.8
BRG Berggiesshubel 50.91 317 *eP* **P** **05 43 09.1 +1.1**
comp=Z,13nm,0.9s,mb4.9
BRG *e* pP 05 43 13.5 +1.8
KS15 Wonju Array Si 50.95 60 *eP* **P** **05 43 08.0 -0.3**
FBE Freiberg 51.28 317 *eP* **P** **05 43 11.9 +1.1**
comp=Z,43nm,1.2s,mb5.2
WET Wettzell 51.30 315 *eP* **P** **05 43 11.2 +0.3**
comp=Z,7.0nm,1.4s,mb4.4
WET Wettzell 51.30 315 *eP* **P** **05 43 11.2 +0.3**
WET pmax pmax
comp=Z,70nm,1.4s,mb5.4
SFI Santa Sofia 51.47 308 P **P** **05 43 13.4 +1.2**
SFI pmax pmax
comp=Z,30nm,0.8s,mb5.3
SFI Santa Sofia 51.47 308 P **P** **05 43 13.4 +1.2**
comp=Z,2.9nm,0.8s,mb4.3
CLL Collm 51.57 318 *eP* **P** **05 43 13.6 +0.6**
comp=Z,21nm,1.4s,mb4.9
CLL Collm 51.57 318 *i* P **P** **05 43 13.7 +0.7**
comp=Z,21nm,1.4s,mb4.9
CLL *i* pP pP 05 43 17.7 +1.0
CLL Collm 51.57 318 *i* P **P** **05 43 13.7 +0.7**
CLL *i* pP 05 43 17.7 +1.0
CLL pmax pmax
comp=Z,21nm,1.4s,mb4.9
VMG Vicchio 51.69 308 P **P** **05 43 14.9 +1.0**
comp=Z,10nm,0.5s,mb5.0
NKC Novy Kostel 51.74 316 *eP* **P** **05 43 14.8 +0.6**

TANN Tannenbergstha 51.76 317 *eP* **P** **05 43 15.0 +0.6**
comp=Z,9.0nm,1.1s,mb4.6
ROTZ Rotzenmuhle 51.82 316 *eP* **P** **05 43 15.5 +0.7**
comp=Z,18nm,1.3s,mb4.8
WERD Werda 51.86 317 *eP* **P** **05 43 15.3 +0.2**
comp=Z,11nm,1.1s,mb4.7
WTTA Wattenberg 51.89 312 ⇓*eP* **P** **05 43 13.8 -1.5**
comp=Z,11nm,0.7s,mb4.9,SNR=8.1
MANZ Manzenberg 51.92 316 *eP* **P** **05 43 17.1 +1.6**
comp=Z,25nm,1.4s,mb5.0
WATA Walderalm 51.94 313 ⇑*eP* **P** **05 43 15.4 -0.3**
comp=Z,4.9nm,0.4s,mb4.8
SQTA Sankt Quirin 52.17 312 ⇑*iP* **P** **05 43 16.6 -0.9**
comp=Z,6.5nm,0.5s,mb4.8
MOTA Moosalm 52.26 312 *eP* **P** **05 43 17.3 -0.8**
comp=Z,9.6nm,0.5s,mb5.0,SNR=9.7
MOX Moxa 52.33 317 *eP* **P** **05 43 19.4 +0.8**
comp=Z,32nm,1.2s,mb5.1
MOX Moxa 52.33 317 *eP* **P** **05 43 19.4 +0.8**
MOX pmax pmax
comp=Z,35nm,1.2s,mb5.2
MDJ Mudanjiang 52.35 51 *eP* **P** **05 43 19.6 +0.8**
comp=Z,6.3nm,0.8s,mb4.6
GRA1 Grafenberg Arr 52.44 315 *eP* **P** **05 43 20.1 +0.6**
comp=Z,30nm,0.7s,mb5.3
GRA1 *e*pP pP 05 43 24.8 +1.6
GRF Grafenberg Arr 52.44 315 *eP* **P** **05 43 20.1 +0.6**
comp=Z,30nm,0.7s,mb5.3
GRF *e*pP pP 05 43 24.8 +1.6
GRF Grafenberg Arr 52.44 315 *eP* **P** **05 43 20.1 +0.6**
GRF *e**PP pP 05 43 24.8 +1.6
GRF pmax pmax
comp=Z,30nm,0.7s,mb5.3
GRF Grafenberg Arr 52.44 315 *eP* **P** **05 43 20.1 +0.6**
GRF *e**PP pP 05 43 24.8 +1.6
GRF pmax pmax
comp=Z,30nm,0.7s,mb5.3
ERBM Eremo 52.52 309 P **P** **05 43 21.2 +1.1**
comp=Z,27nm,0.8s,mb5.2
ARCES ARCESS Array B 53.04 342 P **P** **05 43 23.7 -0.2**
comp=Z,9.5nm,0.9s,mb4.7,baz=125,slow=6.2,SNR=16
ARCES LR LR 06 07 34.2
comp=Z,68nm,18.4s,MS3.7,baz=106,slow=38
ARE0 ARCESS Array S 53.04 342 *eP* **P** **05 43 23.9 0.0**
DAVA Damuels 53.08 312 ⇑*iP* **P** **05 43 23.5 -0.7**
comp=Z,32nm,1.0s,mb5.2,SNR=10
CLZ Clausthal 53.27 318 *eP* **P** **05 43 26.1 +0.5**
comp=Z,21nm,1.1s,mb5.0
CLZ Clausthal 53.27 318 *eP* **P** **05 43 26.1 +0.5**
CLZ pmax pmax
comp=Z,21nm,1.1s,mb5.0
UBBA Unterbreizbach 53.37 317 *eP* **P** **05 43 27.1 +0.8**
PGF Pioggiola 53.50 306 *eP* **P** **05 43 26.1 -1.2**
KLR Kul'dur 54.15 45 *eP* **P** **05 43 29.3 -2.7**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,30nm,1.2s,mb5.1
SBF Sospel 54.65 308 *eP* **P** **05 43 33.3 -2.4**
comp=Z,16nm,0.7s,mb4.9
SBF Sospel 54.65 308 *eP* **P** **05 43 33.3 -2.4**
SBF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
SBF Sospel 54.65 308 *eP* **P** **05 43 33.3 -2.4**
comp=Z,8.0nm,0.7s,mb4.9
NB2 NORSAR Subarra 54.74 329 P **P** **05 43 34.8 -1.5**
comp=Z,12nm,1.0s,mb4.9,baz=106,slow=7.4
NB2 NORSAR Subarra 54.74 329 P **P** **05 43 34.8 -1.5**
NB2 pmax pmax
comp=Z,12nm,1.0s,mb4.9
NOA NORSAR Array B 54.74 329 P **P** **05 43 34.5 -1.8**
comp=Z,4.9nm,0.8s,mb4.6,baz=105,slow=7.4,SNR=15
NOA LR LR 06 11 30.6
comp=Z,81nm,18.1s,MS3.8,baz=90,slow=41
CDF Champ du Feu 54.91 314 *eP* **P** **05 43 36.6 -0.9**
comp=Z,11nm,0.8s,mb4.7
CDF Champ du Feu 54.91 314 *eP* **P** **05 43 36.6 -0.9**
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
CDF Champ du Feu 54.91 314 *eP* **P** **05 43 36.6 -0.9**
comp=Z,5.7nm,0.8s,mb4.7
MBDF Montbardon 55.13 309 *eP* **P** **05 43 37.7 -1.5**
comp=Z,12nm,0.7s,mb4.8
MBDF Montbardon 55.13 309 *eP* **P** **05 43 37.7 -1.5**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
MBDF Montbardon 55.13 309 *eP* **P** **05 43 37.7 -1.5**
comp=Z,6.3nm,0.7s,mb4.8
LPG La Plagne 55.16 310 *eP* **P** **05 43 38.4 -0.9**
comp=Z,13nm,0.8s,mb4.7
LPG La Plagne 55.16 310 *eP* **P** **05 43 38.4 -0.9**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
LPG La Plagne 55.16 310 *eP* **P** **05 43 38.4 -0.9**
comp=Z,6.6nm,0.8s,mb4.7
HINF Hinteralfeld 55.16 313 *eP* **P** **05 43 38.4 -1.0**
comp=Z,18nm,0.8s,mb4.9
HINF Hinteralfeld 55.16 313 *eP* **P** **05 43 38.4 -1.0**
HINF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
HINF Hinteralfeld 55.16 313 *eP* **P** **05 43 38.4 -1.0**
comp=Z,8.9nm,0.8s,mb4.8
LPL La Plagne 55.17 310 *eP* **P** **05 43 38.4 -1.0**
comp=Z,9.2nm,0.6s,mb4.7
LPL La Plagne 55.17 310 *eP* **P** **05 43 38.4 -1.0**
LPL pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
LPL La Plagne 55.17 310 *eP* **P** **05 43 38.4 -1.0**
comp=Z,4.6nm,0.6s,mb4.7
BNI Bardonecchia 55.20 309 *eP* **P** **05 43 38.2 -1.5**
BNI pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BNI Bardonecchia 55.20 309 *eP* **P** **05 43 38.2 -1.5**
comp=Z,5.9nm,0.8s,mb4.7
FRF La Foret Royal 55.23 308 *eP* **P** **05 43 38.9 -0.9**
HAU Haudompre 55.51 313 *eP* **P** **05 43 42.0 +0.1**
CABF La Chapelle 55.64 311 *eP* **P** **05 43 42.5 -0.3**
comp=Z,62nm,1.2s,mb5.2
CABF La Chapelle 55.64 311 *eP* **P** **05 43 42.5 -0.3**
CABF pmax pmax
comp=Z,31nm,1.2s,mb5.2
CABF La Chapelle 55.64 311 *eP* **P** **05 43 42.5 -0.3**
comp=Z,31nm,1.2s,mb5.2
WLF Walferdange 55.72 315 *eP* **P** **05 43 43.8 +0.4**
comp=Z,13nm,0.9s,mb5.0
WLF Walferdange 55.72 315 P **P** **05 43 43.5 +0.2**
comp=Z,5.6nm,0.9s,mb4.6
WLF Walferdange 55.72 315 *eP* **P** **05 43 43.5 +0.1**
WLF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
WLF Walferdange 55.72 315 *eP* **P** **05 43 43.5 +0.2**
comp=Z,9.6nm,0.8s,mb4.9
MEM Membach 55.87 316 P **P** **05 43 44.0 -0.4**
LSZ Lusaka 56.29 231 *eP* **P** **05 43 47.3 -0.2**
LSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
LSZ Lusaka 56.29 231 *eP* **P** **05 43 47.3 -0.1**
comp=Z,4.7nm,1.0s,mb4.5
GIVF Givet 56.60 316 *eP* **P** **05 43 50.0 +0.3**
VIVF Saint-Julien-l 56.63 309 *eP* **P** **05 43 48.9 -1.0**
comp=Z,30nm,1.0s,mb5.0
VIVF Saint-Julien-l 56.63 309 *eP* **P** **05 43 48.9 -1.0**
VIVF pmax pmax
comp=Z,15nm,1.0s,mb5.0
VIVF Saint-Julien-l 56.63 309 *eP* **P** **05 43 48.9 -1.0**
comp=Z,15nm,1.0s,mb5.0
DOU Dourbes 56.75 315 P **P** **05 43 51.3 +0.6**
BAIF Baives 56.99 315 *eP* **P** **05 43 52.7 +0.2**
LOR Lormes 57.17 312 *eP* **P** **05 43 52.7 -1.1**
comp=Z,11nm,1.0s,mb4.6
LOR Lormes 57.17 312 *eP* **P** **05 43 52.7 -1.1**
LOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
LOR Lormes 57.17 312 *eP* **P** **05 43 52.7 -1.1**
comp=Z,5.7nm,1.0s,mb4.6
SMF Signal de Mont 57.19 311 *eP* **P** **05 43 52.8 -1.1**
comp=Z,13nm,0.8s,mb4.7
SMF Signal de Mont 57.19 311 *eP* **P** **05 43 52.8 -1.1**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SMF Signal de Mont 57.19 311 *eP* **P** **05 43 52.8 -1.1**
comp=Z,6.7nm,0.8s,mb4.7
LASF Ste Croix 57.23 308 *eP* **P** **05 43 53.5 -0.7**
comp=Z,47nm,1.1s,mb5.1
SSF Saint Saulge 57.42 312 *eP* **P** **05 43 54.5 -1.0**
comp=Z,23nm,1.1s,mb4.8
SSF Saint Saulge 57.42 312 *eP* **P** **05 43 54.5 -1.0**

SSF pmax pmax
comp=Z,12nm,1.1s,mb4.8
SSF Saint Saulge 57.42 312 *eP* **P 05 43 54.5 -1.0**
comp=Z,12nm,1.1s,mb4.8
AVF Avril sur Loir 57.52 312 *eP* **P 05 43 54.9 -1.3**
comp=Z,9.0nm,0.9s,mb4.5
AVF Avril sur Loir 57.52 312 *eP* **P 05 43 54.9 -1.3**
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
AVF Avril sur Loir 57.52 312 *eP* **P 05 43 54.9 -1.3**
comp=Z,4.5nm,0.9s,mb4.5
BGF Bois d'Agland 57.88 311 *eP* **P 05 43 57.7 -1.0**
TIXI Tiksi 58.18 19 *eP* **P 05 43 58.5 -2.3**
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 58.32 311 *eP* **P 05 44 01.0 -0.8**
comp=Z,11nm,0.9s,mb4.6
TCF Toulx Ste Croi 58.32 311 *eP* **P 05 44 01.0 -0.8**
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 58.32 311 *eP* **P 05 44 01.0 -0.8**
comp=Z,5.7nm,0.9s,mb4.6
MTLF Montolieu 58.46 308 *eP* **P 05 44 01.9 -0.9**
comp=Z,8.1nm,0.8s,mb4.5
MTLF Montolieu 58.46 308 *eP* **P 05 44 01.9 -0.9**
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MTLF Montolieu 58.46 308 *eP* **P 05 44 01.9 -0.9**
comp=Z,4.1nm,0.8s,mb4.5
CAF Calviac 58.48 309 *eP* **P 05 44 02.3 -0.6**
comp=Z,22nm,1.0s,mb4.8
CAF Calviac 58.48 309 *eP* **P 05 44 02.3 -0.6**
CAF pmax pmax
comp=Z,11nm,1.0s,mb4.8
CAF Calviac 58.48 309 *eP* **P 05 44 02.3 -0.6**
comp=Z,11nm,1.0s,mb4.8
RJF Les Rejaudoux 58.85 310 *eP* **P 05 44 05.0 -0.5**
comp=Z,18nm,0.8s,mb4.9
RJF Les Rejaudoux 58.85 310 *eP* **P 05 44 05.0 -0.5**
RJF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
RJF Les Rejaudoux 58.85 310 *eP* **P 05 44 05.0 -0.5**
comp=Z,9.3nm,0.8s,mb4.9
MAJO Matsushiro 59.25 60 *eP* **P 05 44 08.8 +0.5**
MAJO pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
MAJO Matsushiro 59.25 60 *eP* **P 05 44 08.8 +0.5**
comp=Z,3.8nm,0.5s,mb4.7
MJAR Matsushiro Art 59.25 60 P **P 05 44 08.7 +0.4**
comp=Z,2.6nm,0.8s,mb4.3,baz=280,slow=8.1,SNR=8.8
LFF La Frestale 59.42 309 *eP* **P 05 44 08.8 -0.6**
LDF La Druitiere 59.83 314 *eP* **P 05 44 11.3 -1.0**
comp=Z,9.1nm,0.8s,mb4.5
LDF La Druitiere 59.83 314 *eP* **P 05 44 11.3 -1.0**
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LDF La Druitiere 59.83 314 *eP* **P 05 44 11.3 -1.0**
comp=Z,4.6nm,0.8s,mb4.6
MFF Saint Martin d 59.94 311 *eP* **P 05 44 11.8 -1.2**
comp=Z,16nm,1.0s,mb4.7
MFF Saint Martin d 59.94 311 *eP* **P 05 44 11.8 -1.2**
MFF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MFF Saint Martin d 59.94 311 *eP* **P 05 44 11.8 -1.2**
comp=Z,7.8nm,1.0s,mb4.7
FLN La Foliniere 60.06 314 *eP* **P 05 44 12.9 -1.0**
ETSF Etsaut 60.52 307 *eP* **P 05 44 16.4 -0.6**
comp=Z,16nm,0.9s,mb4.9
ETSF Etsaut 60.52 307 *eP* **P 05 44 16.4 -0.6**
ETSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ETSF Etsaut 60.52 307 *eP* **P 05 44 16.4 -0.6**
comp=Z,8.0nm,0.9s,mb4.8
SJPF Ste Jean 60.98 307 *eP* **P 05 44 19.5 -0.7**
SGMF Saint Gilles 61.47 313 *eP* **P 05 44 22.8 -0.6**
YSS Yuzh-Sakhalins 61.52 48 *eP* **P 05 44 24.0 +0.2**
YSS pmax pmax
comp=Z,13nm,0.5s,mb5.3
YSS Yuzh-Sakhalins 61.52 48 *eP* **P 05 44 24.0 +0.2**
comp=Z,13nm,0.5s,mb5.3
QUIF Quistinic 61.90 313 *eP* **P 05 44 25.2 -1.1**
ROSF Rostrenen 61.94 314 *eP* **P 05 44 25.7 -0.9**
ESDC Sonseca Array 63.48 304 P **P 05 44 34.9 -2.0**
comp=Z,1.5nm,0.7s,mb4.2,baz=82,slow=6.8,SNR=5.1
LBTB Lobatse 64.74 225 *eP* **P 05 44 45.7 +0.6**
LBTB pmax pmax
comp=Z,13nm,0.9s,mb5.0
LBTB Lobatse 64.74 225 *eP* **P 05 44 45.7 +0.6**
comp=Z,13nm,0.9s,mb5.0
TORD Torodi Ar. Bea 65.27 274 P **P 05 44 48.7 +0.1**
comp=Z,9.2nm,1.1s,mb4.7,baz=74,slow=5.3,SNR=29
MA2 Magadan 65.32 34 *eP* **P 05 44 49.3 +0.4**
MA2 pmax pmax
comp=Z,11nm,1.0s,mb4.8
MA2 Magadan 65.32 34 *eP* **P 05 44 49.3 +0.4**
comp=Z,11nm,1.0s,mb4.9
TSUM Tsumeb 66.56 235 *eP* **P 05 44 56.9 -0.1**
comp=Z,8.3nm,1.0s,mb4.7
BOSA Boshof 67.49 222 P **P 05 45 03.2 +0.4**
comp=Z,32nm,1.4s,mb5.2,baz=35,slow=7.5,SNR=8.2
BOSA Boshof 67.49 222 *eP* **P 05 45 02.9 +0.1**
BOSA pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BOSA Boshof 67.49 222 *eP* **P 05 45 02.9 +0.1**
comp=Z,7.8nm,0.9s,mb4.7
BILL Bilibino 70.69 23 *eP* **P 05 45 23.7 +1.0**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
SUMG Summit 73.13 343 *eP* **P 05 45 37.7 +0.3**
comp=Z,20nm,1.6s,mb4.8
DBIC Dimbokro 73.62 270 P **P 05 45 39.6 -0.7**
comp=Z,2.4nm,0.7s,mb4.2,baz=83,slow=5.1,SNR=4.8
LIC Lamto 73.95 270 *eP* **P 05 45 42.5 +0.3**
comp=Z,22nm,1.1s,mb4.7
LIC Lamto 73.95 270 *eP* **P 05 45 42.5 +0.3**
comp=Z,11nm,1.1s,mb4.7
WRA Warramunga Arr 76.04 119 P **P 05 45 54.8 +0.5**
comp=Z,6.0nm,1.0s,mb4.5,baz=312,slow=5.2,SNR=30
WRA Warramunga Arr 76.04 119 *i* P **P 05 45 54.7 +0.5**
WRA pmax pmax
comp=Z,6.0nm,1.0s
WRAB Tennant Creek 76.05 119 *i* P **P 05 45 54.2 -0.1**
WRAB Tennant Creek 76.05 119 *eP* **P 05 45 54.6 +0.3**
comp=Z,24nm,1.2s,mb5.0
WB2 Warramunga Arr 76.05 119 *eP* **P 05 45 54.7 +0.4**
ASAR Alice Springs 77.67 123 P **P 05 46 04.0 +0.5**
comp=Z,3.4nm,0.7s,mb4.4,baz=307,slow=5.5,SNR=31
CTA Charters Tower 85.90 114 P **P 05 46 47.5 +0.7**
comp=Z,5.4nm,0.8s,mb4.8,baz=297,slow=4.5,SNR=2.9
INK Inuvik 86.80 9 *eP* **P 05 46 50.6 -0.7**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 86.80 9 *eP* **P 05 46 50.6 -0.7**
comp=Z,4.7nm,1.1s,mb4.6
COLA College 87.14 15 *eP* **P 05 46 52.8 -0.1**
COLA pmax pmax
comp=Z,5.0nm,1.1s,mb4.7
COLA College 87.14 15 *eP* **P 05 46 52.8 -0.1**
comp=Z,4.8nm,1.1s,mb4.6
STKA Stephens Creek 87.72 126 P **P 05 46 54.1 -1.6**
comp=Z,0.9nm,0.3s,mb4.5,baz=308,slow=1.5,SNR=3.5
DAWY Dawson 89.70 13 *eP* **P 05 47 04.7 -0.3**
MAW Mawson 91.01 183 *eP* **P 05 47 11.4 +0.3**
MAW pmax pmax
comp=Z,20nm,0.9s
MAW Mawson 91.01 183 *eP* **P 05 47 11.4 +0.3**
comp=Z,2.4nm,0.9s,mb4.5
KDAK Kodiak Island 91.50 21 LR LR 06 35 37.7
comp=Z,78nm,21.3s,MS4.1,baz=29,slow=40
YKA Yellowknife Ar 94.20 2 P **P 05 47 25.5 -0.3**
comp=Z,0.7nm,0.8s,mb4.2,baz=343,slow=5.3,SNR=7.0
YKA Yellowknife Ar 94.20 2 P **P 05 47 25.5 -0.4**
YKA pmax pmax
comp=Z,10.0nm,0.8s
DLBC Dease Lake 96.65 11 LR LR 06 34 09.8
comp=Z,78nm,18.5s,MS4.2,baz=123,slow=37
PDAR Pinedale Array 114.05 360 PKP PKiKP 05 52 46.0 -0.1
comp=Z,0.6nm,0.6s,baz=55,slow=2.7,SNR=6.3
NVAR Mina Array Bea 117.87 7 PKP PKPdf 05 52 54.3 +0.9
comp=Z,0.3nm,0.5s,baz=302,slow=0.8,SNR=5.1
SAML Samuel 133.12 280 *e*PKPdf PKPdf 05 53 23.7 +1.2
LPAZ La Paz 140.21 273 *e*PKIKP PKPdf 05 53 37.2 +1.5
OTAV Otavalo 141.42 303 *e*PKPdf PKPdf 05 53 39.9 +2.1
PLCA Paso Flores 142.90 233 *e*PKIKP PKPdf 05 53 40.9 +0.4

ISCJB ***23*** *05:40:31.2±0.4, 5527S×007×289W±0.1, h38km, mb4.8/24, MS4.4/21, Error ellipse: s-maj=11.3km s-min=7.8km az=66.7*
MOS ***23*** *05:40:31.7±1.0, 5533S×2892W, h33km, mb5.1/11, Error ellipse: s-maj=28.1km s-min=15.8km az=104.7*
IDC ***23*** *05:40:32.8±0.5, 5528S×2878W, h37km±4km, mb4.5/12, mb1 4.6/13, mb1mx4.4/18, mbtmp4.7/13, ML4.8/1, MS4.3/19, Ms1 4.2/19, ms1mx4.1/28, Error ellipse: s-maj=18.1km s-min=13.4km az=32.0*
BJI ***23*** *05:40:33.0, 5530S×2890W, h38km, mB5.1, Ms5.2, Msz4.9*
HRVD ***23*** *05:40:33.0±0.3, 5516S×2869W, h19km±1km, MW5.0/48, Centroid moment Tensor Solution. LP body waves: s19,c24;Mantle waves: s48,c68; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.63±.25; Mθθ-2.85±.17; Mφφ0.21±.15; Mrθ-1.66±.32; Mθφ1.90±.10; Mφr1.00±.34; Best double couple: M0 3.74000×10^16 NP1:φs109.00000°, δ30.00000°, λ81.00000°. NP2: φs300.00000°, δ61.00000°, λ95.00000°. Principal axes: T 3.1830, Plg74.0000°, Azm224.0000°; N 1.1070, Plg5.0000°, Azm117.0000°; P -4.2970, Plg16.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *05:40:33.0±0.2, 5525S×2890W, mb4.9/18 Error ellipse: s-maj=8.9km s-min=5.8km az=21.0*
ISC 23 05:40:33.1±0.4, 5532S±007×289W±01, h40km, h40km±1.1km:pP-P, n123, σ1°10/43, mb4.8/24, MS4.4/21,
3C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.52**	**280**	*e*Pn			**Pn**	**05 41 37.4**	**-1.5**
HOPE				*e*Sn			**Sn**	**05 42 23.4**	**-6.8**
VNA1	**Neumayer--Stat**	**17.84**	**157**	‖*i*			**Pn**	**05 44 38.1**	**-0.1**
VNA1				*e*				05 44 45.8	
VNA1				*e*				05 44 52.6	
VNA1				*e*				05 44 59.5	
VNA1				*e*				05 45 02.5	
VNA1				*e*				05 45 21.5	
VNA1				*e*				05 45 38.1	
SNAA	**Sanae**	**19.81**	**156**	P			**Pn**	**05 44 59.0**	**-2.9**
	2.9nm,0.3s,baz=313,slow=9.3,SNR=274								
USHA	**Ushuaia**	**22.44**	**255**	P			**P**	**05 45 29.1**	**+0.7**
	33nm,0.9s,mb4.7,baz=86,slow=7.9,SNR=6.2								
TRQA	**Tornquist**	**28.14**	**294**	*e*P			**P**	**05 46 21.4**	**0.0**
	9.1nm,0.8s,mb4.5								
PLCA	**Paso Flores**	**30.92**	**281**	P			**P**	**05 46 45.5**	**-0.5**
	2.2nm,0.9s,mb4.0,baz=147,slow=12,SNR=3.7								
PLCA					PcP		PcP	05 49 41.1	-0.7
	2.8nm,0.9s,baz=110,slow=5.7,SNR=3.5								
PLCA					LR		LR	05 58 39.6	
	comp=Z,232nm,19.2s,MS3.9,baz=132,slow=35								
PLCA	**Paso Flores**	**30.92**	**281**	P			**P**	**05 46 45.5**	**-0.5**
PLCA								05 49 41.1	
PLCA					pmax	pmax			
	comp=Z,20nm,0.9s								
PLCA					MLR	MLR			
	comp=Z,232nm,19.3s								
PLCA	**Paso Flores**	**30.92**	**281**	*e*P			**P**	**05 46 45.0**	**-1.0**
	comp=Z,11nm,1.3s,mb4.5								
SYO	**Syowa Base**	**32.76**	**142**	‖*e*P			pP	05 47 13.2	0.0
QSPA	**South Pole Qui**	**34.94**	**180**	*e*P			**P**	**05 47 22.3**	**+1.3**
	comp=Z,18nm,0.7s,mb5.1								
CPUP	**Villa Florida**	**35.60**	**313**	P			**P**	**05 47 26.0**	**-0.8**
	comp=Z,26nm,0.7s,mb5.3,baz=135,slow=7.5,SNR=100								
CPUP					LR		LR	06 00 59.6	
	comp=Z,252nm,19.0s,MS4.0,baz=141,slow=34								
CFAA	**Coronel Fontan**	**36.38**	**294**	P			**P**	**05 47 32.6**	**-0.8**
	comp=Z,1.2nm,0.7s,mb4.0,baz=143,slow=8.4,SNR=44								
CFAA					PcP		PcP	05 49 57.0	-0.2
	comp=Z,0.3nm,0.7s,baz=163,slow=2.6,SNR=3.6								
MAW	**Mawson**	**41.31**	**145**	P			**P**	**05 48 13.6**	**-1.1**
	comp=Z,4.2nm,0.5s,mb4.3,baz=234,slow=7.2,SNR=11								
MAW					LR		LR	06 05 03.5	
	comp=Z,202nm,20.5s,MS4.0,baz=80,slow=36								
MAW	**Mawson**	**41.31**	**145**	P			**P**	**05 48 13.6**	**-1.1**
MAW					pmax	pmax			
	comp=Z,40nm,0.5s								
MAW					MLR	MLR			
	comp=Z,202nm,20.5s								
MAW	**Mawson**	**41.31**	**145**	*e*P			**P**	**05 48 13.3**	**-1.4**
	comp=Z,9.7nm,0.9s,mb4.4								
SUR	**Sutherland**	**41.40**	**77**	P			**P**	**05 48 14.8**	**-0.6**
	comp=Z,13nm,0.9s,mb4.5,baz=219,slow=3.8,SNR=4.1								
SUR	**Sutherland**	**41.40**	**77**	*e*P			**P**	**05 48 15.9**	**+0.5**
	comp=Z,16nm,0.9s,mb4.7								
BDFB	**Brasilia**	**42.25**	**332**	P			**P**	**05 48 23.0**	**+0.6**
	comp=Z,6.7nm,0.9s,mb4.3,baz=173,slow=6.5,SNR=9.9								
BDFB					LR		LR	06 02 59.0	
	comp=Z,223nm,18.4s,MS4.1,baz=161,slow=32								
LVC	**Limon Verde**	**44.09**	**301**	*e*P			**P**	**05 48 38.3**	**+1.1**
	comp=Z,25nm,1.0s,mb4.9								
BOSA	**Boshof**	**46.74**	**78**	P			**P**	**05 48 56.7**	**-1.5**
	comp=Z,8.6nm,1.0s,mb4.7,baz=214,slow=4.4,SNR=8.4								
BOSA					LR		LR	06 04 04.6	
	comp=Z,327nm,18.2s,MS4.3,baz=221,slow=30								
BOSA	**Boshof**	**46.74**	**78**	*e*P			**P**	**05 48 58.5**	**+0.3**
BOSA					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
BOSA	**Boshof**	**46.74**	**78**	*e*P			**P**	**05 48 58.5**	**+0.3**
	comp=Z,9.8nm,0.9s,mb4.7								
SBA	**Scott Base**	**46.74**	**184**	*e*P			**P**	**05 48 59.4**	**+1.2**
SBA					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
SBA	**Scott Base**	**46.74**	**184**	*e*P			**P**	**05 48 59.4**	**+1.1**
	comp=Z,6.5nm,0.9s,mb4.6								
VNDA	**Vanda**	**47.26**	**183**	P			**P**	**05 49 02.7**	**+0.5**
	comp=Z,8.5nm,0.7s,mb4.8,baz=189,slow=6.1,SNR=78								
VNDA					LR		LR	06 07 16.1	
	comp=Z,146nm,18.4s,MS4.0,baz=168,slow=34								
VNDA	**Vanda**	**47.26**	**183**	*e*P			**P**	**05 49 03.1**	**+0.8**
VNDA					pmax	pmax			
	comp=Z,9.0nm,0.7s								
VNDA	**Vanda**	**47.26**	**183**	*e*P			**P**	**05 49 03.1**	**+0.9**
	comp=Z,8.9nm,0.7s,mb4.8								
LPAZ	**La Paz**	**49.16**	**307**	P			**P**	**05 49 18.4**	**+1.5**
	comp=Z,19nm,0.7s,mb5.2,baz=208,slow=10,SNR=92								
LPAZ					LR		LR	06 09 03.3	
	comp=Z,118nm,18.7s,MS3.9,baz=276,slow=35								
LPAZ	**La Paz**	**49.16**	**307**	*e*P			**P**	**05 49 18.1**	**+1.2**
	comp=Z,20nm,0.7s,mb5.3								
LBTB	**Lobatse**	**49.74**	**75**	*e*P			**P**	**05 49 21.9**	**+0.6**
LBTB					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9								
LBTB	**Lobatse**	**49.74**	**75**	*e*P			**P**	**05 49 21.9**	**+0.5**
	comp=Z,6.8nm,0.6s,mb4.8								
TSUM	**Tsumeb**	**50.19**	**63**	*e*P			**P**	**05 49 23.7**	**-1.0**
	comp=Z,35nm,1.6s,mb5.1								
TSUM					*e*pP		pP	05 49 35.3	-1.0
SAML	**Samuel**	**53.60**	**316**	*e*P			**P**	**05 49 49.2**	**-0.9**
	comp=Z,29nm,1.1s,mb5.1								
SAML					*e*pP		pP	05 50 00.7	-1.1
LSZ	**Lusaka**	**59.02**	**71**	*e*P			**P**	**05 50 30.6**	**+1.8**
LSZ					pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.5								
LSZ	**Lusaka**	**59.02**	**71**	*e*P			**P**	**05 50 30.6**	**+1.7**
	comp=Z,7.4nm,1.3s,mb4.6								
DBIC	**Dimbokro**	**64.92**	**27**	LR			LR	06 12 08.0	
	comp=Z,150nm,21.8s,MS4.2,baz=238,slow=29								
OTAV	**Otavalo**	**68.44**	**305**	*e*P			**P**	**05 51 32.2**	**+1.4**
	comp=Z,26nm,1.4s,mb5.1								
OTAV					*e*pP		pP	05 51 42.5	-0.3
PCRV	**Puerto La Cruz**	**71.78**	**323**	LR			LR	06 24 27.4	
	comp=Z,182nm,21.1s,MS4.3,baz=97,slow=37								
SDV	**Santo Domingo**	**72.81**	**316**	*e*P			**P**	**05 51 57.2**	**-0.3**
	comp=Z,23nm,0.9s,mb5.1								
SDV					*e*pP		pP	05 52 09.0	-0.5
TORD	**Torodi Ar. Bea**	**72.91**	**31**	P			**P**	**05 51 57.4**	**-0.6**
	comp=Z,9.7nm,0.9s,mb4.7,baz=199,slow=6.1,SNR=32								
TORD					pP		pP	05 52 08.8	-1.3
	comp=Z,7.8nm,0.7s,baz=198,slow=5.5,SNR=9.0								
TORD					LR		LR	06 16 53.4	
	comp=Z,450nm,21.8s,MS4.7,baz=195,slow=30								
KMBO	**Kilima Mbogo**	**75.69**	**71**	LR			LR	06 24 12.8	
	comp=Z,331nm,18.2s,MS4.7,baz=273,slow=35								
SJG	**San Juan**	**79.68**	**324**	LR			LR	06 26 33.5	
	comp=Z,65nm,18.6s,MS4.0,baz=268,slow=35								
JTS	**JuntasAbangare**	**80.30**	**304**	*i* P			**P**	**05 52 41.2**	**+1.4**
JTS	**JuntasAbangare**	**80.30**	**304**	*e*P			**P**	**05 52 37.2**	**-2.6**
	comp=Z,47nm,1.5s,mb5.2								
URZ	**Urewera**	**84.17**	**200**	LR			LR	06 29 24.5	
	comp=Z,164nm,18.5s,MS4.5,baz=214,slow=35								
MDT	**Midelt**	**90.22**	**20**	LR			LR	06 27 18.7	
	comp=Z,170nm,21.2s,MS4.5,baz=176,slow=31								
TEIG	**Tepich**	**90.49**	**306**	*e*P			**P**	**05 53 31.1**	**+0.5**
	comp=Z,15nm,1.0s,mb5.3								
TEIG					*e*pP		pP	05 53 43.2	+0.2
RAO	**Raoul Island**	**91.69**	**207**	LR			LR	06 25 42.4	
	comp=Z,241nm,21.2s,MS4.6,baz=277,slow=30								
STKA	**Stephens Creek**	**92.78**	**172**	P			**P**	**05 53 37.8**	**-3.4**
	comp=Z,3.3nm,0.8s,mb4.8,baz=146,slow=8.6,SNR=6.7								
STKA					LR		LR	06 35 05.5	
	comp=Z,313nm,18.4s,MS4.8,baz=203,slow=35								
STKA	**Stephens Creek**	**92.78**	**172**	*e*P			**P**	**05 53 38.2**	**-3.0**
RAR	**Rarotonga**	**93.09**	**225**	LR			LR	06 29 53.6	
	comp=Z,371nm,21.9s,MS4.8,baz=303,slow=32								
ESDC	**Sonseca Array**	**96.99**	**19**	LR			LR	06 32 10.0	
	comp=Z,123nm,19.8s,MS4.4,baz=210,slow=32								
ASAR	**Alice Springs**	**99.97**	**164**	P			Pdif	05 54 12.3	-1.5
	comp=Z,1.7nm,0.8s,baz=192,slow=3.6,SNR=17								
ASAR					PP		PP	05 58 15.2	-4.0
	comp=Z,0.7nm,0.8s,baz=179,slow=7.3,SNR=4.5								
ASAR					LR		LR	06 40 00.2	
	comp=Z,176nm,18.5s,MS4.6,baz=188,slow=36								
ASAR	**Alice Springs**	**99.97**	**164**	P			Pdif	05 54 12.3	-1.5
ASAR								05 58 15.2	
WRA	**Warramunga Arr**	**103.69**	**164**	Pdiff			Pdif	05 54 30.8	+0.4
	comp=Z,0.5nm,0.8s,baz=185,slow=3.9,SNR=4.7								
SMCO	**Snowmass**	**115.12**	**303**	*e*PKP			PKiKP	05 59 10.1	+0.3
AKASG	**Malin Array Be**	**116.18**	**37**	pPKP			pPKPdf	05 59 21.6	-3.0
	comp=Z,0.3nm,0.3s,baz=240,slow=1.5,SNR=2.8								
MSU	**Marysvale**	**117.15**	**299**	*e*PKIKP			PKPdf	05 59 14.4	+0.6
RSSD	**Black Hills**	**117.62**	**308**	*e*PKIKP			PKPdf	05 59 13.7	-1.0
DUG	**Dugway**	**118.76**	**300**	*e*PKIKP			PKPdf	05 59 16.6	-0.3
DUG				*e*				05 59 28.9	
ULM	**Lac du Bonnet**	**119.05**	**317**	PKP			PKPdf	05 59 15.2	-2.3
	comp=Z,1.3nm,0.7s,baz=180,slow=4.0,SNR=3.2								
ULM					pPKP		pPKPdf	05 59 27.2	-2.9
	comp=Z,1.0nm,0.9s,baz=177,slow=6.1,SNR=2.6								
PDAR	**Pinedale Array**	**119.13**	**304**	PKP			PKPdf	05 59 16.2	-1.4
	comp=Z,0.4nm,0.5s,baz=158,slow=3.6,SNR=5.7								
PDAR					pPKP		pPKPdf	05 59 28.0	-2.3
	comp=Z,0.5nm,0.5s,baz=131,slow=4.7,SNR=4.8								
HWUT	**Hardware Ranch**	**119.22**	**302**	*e*PKPdf			PKPdf	05 59 17.2	-0.6
NVAR	**Mina Array Bea**	**120.22**	**295**	PKP			PKPdf	05 59 20.6	+0.9
	comp=Z,0.4nm,0.5s,baz=192,slow=1.8,SNR=5.6								
NB2	**NORSAR Subarra**	**120.26**	**21**	PKPd			pPKPdf	05 59 30.1	-2.4
	comp=Z,0.2nm,0.5s,baz=202,slow=1.9								
NOA	**NORSAR Array B**	**120.26**	**21**	PKP			PKPdf	05 59 19.5	-0.3
	comp=Z,0.4nm,0.7s,baz=208,slow=2.8,SNR=2.3								
NOA					pPKP		pPKPdf	05 59 30.6	-1.9
	comp=Z,1.0nm,0.6s,baz=206,slow=2.0,SNR=3.1								
NOA					PP		PP	06 00 41.8	-3.9
	comp=Z,0.4nm,0.6s,baz=248,slow=7.0,SNR=3.3								
ELK	**Elko**	**120.38**	**298**	*e*PKIKP			PKPdf	05 59 20.0	0.0
HLID	**Hailey**	**122.07**	**301**	*e*PKPdf			PKPdf	05 59 22.9	-0.3
HRY	**Holter Researc**	**123.16**	**305**	*e*PKPdf			PKPdf	05 59 25.3	0.0
HRY				*e*pPKPdf			pPKPdf	05 59 35.7	-2.3
WVOR	**Wild Horse Val**	**123.35**	**298**	*e*PKIKP			PKPdf	05 59 26.2	+0.5
DDI	**Dehra Dun**	**123.80**	**84**	*ex*			x	05 59 45.5	
FINES	**FINESS Array B**	**124.19**	**28**	PKP			PKPdf	05 59 25.6	-1.7
	comp=Z,2.1nm,0.8s,baz=132,slow=2.8,SNR=7.4								
FINES					pPKP		pPKPdf	05 59 37.1	-2.9
	comp=Z,5.7nm,0.5s,baz=154,slow=2.1,SNR=13								
FINES	**FINESS Array B**	**124.19**	**28**	*i* PKIKP			PKPdf	05 59 25.7	-1.6
FINES					pmax	pmax			
	comp=Z,20nm,0.8s								
MSO	**Missoula**	**124.24**	**304**	*e*PKPdf			PKPdf	05 59 26.8	-0.6
MSO				*e*pPKPdf			pPKPdf	05 59 38.3	-1.8
BMO	**Blue Mountains**	**124.44**	**300**	*e*PKIKP			PKPdf	05 59 27.5	-0.3
KOLN	**Koldanda**	**125.03**	**91**	*e*P			PKPdf	05 59 28.1	-0.8
DMN	**Daman**	**125.77**	**92**	*e*P			PKPdf	05 59 30.5	+0.2
GKN	**Gorkha**	**125.80**	**92**	*e*P			PKPdf	05 59 29.5	-0.9
PKI	**Pulchoki**	**125.92**	**93**	*e*P			PKPdf	05 59 30.1	-0.5
KKN	**Kakani**	**126.01**	**92**	*e*P			PKPdf	05 59 30.0	-0.8
JIRN	**Jiri**	**126.43**	**93**	*e*P			PKPdf	05 59 31.7	+0.1
GUN	**Gumba**	**126.44**	**93**	*e*P			PKPdf	05 59 31.4	-0.2
AKTK	**Aktyubinsk**	**127.67**	**54**	PKP			PKPdf	05 59 32.2	-1.8
AKTK				pPKP			pPKPdf	05 59 44.5	-2.2
AKTO	**Aktyubinsk**	**127.67**	**54**	PKP			PKPdf	05 59 32.2	-1.8
	comp=Z,2.3nm,0.9s,baz=150,slow=4.2,SNR=5.8								
AKTO					pPKP		pPKPdf	05 59 44.5	-2.2
	comp=Z,1.5nm,0.8s,baz=169,slow=5.8,SNR=3.9								
AKTO	**Aktyubinsk**	**127.67**	**54**	PKIKP			PKPdf	05 59 32.2	-1.8
AKTO								05 59 44.5	
AKTO					pmax	pmax			
	comp=Z,20nm,0.9s								
SUMG	**Summit**	**127.77**	**356**	*e*PKPdf			PKPdf	05 59 33.9	-0.3
EDM	**Edmonton**	**128.49**	**310**	*e*PKIKP			PKPdf	05 59 34.1	-1.4
EDM				*e*				05 59 46.1	
ARCES	**ARCESS Array B**	**130.62**	**22**	PKP			PKPdf	05 59 38.0	-1.6
	comp=Z,4.7nm,0.9s,baz=29,slow=2.8,SNR=8.3								
ARCES					pPKP		pPKPdf	05 59 49.9	-2.4
	comp=Z,4.8nm,0.6s,baz=190,slow=1.6,SNR=6.3								
ARE0	**ARCESS Array S**	**130.62**	**22**	*e*PKPdf			PKPdf	05 59 37.9	-1.6
AAK	**Ala-Archa**	**130.64**	**71**	*e*PKIKP			PKPdf	05 59 38.8	-0.8
AAK				*e*				05 59 49.5	
ARU	**Arti**	**131.92**	**48**	*i* PKIKP			PKPdf	05 59 39.8	-2

comp=N,90nm,17.8s,MS5.3
HHC LR LR
comp=E,470nm,19.0s,MS5.3
HHC LR LR
comp=Z,160nm,17.8s,MS4.9
ZAK Zakamensk 151.16 80 *e*PKIKP PKPbc 06 00 21.0 -0.9
ZAK pmax pmax
comp=Z,17nm,1.1s
SONM Songino Array 151.64 86 PKPbc PKPbc 06 00 21.5 -1.5
comp=Z,7.0nm,0.9s,baz=228,slow=3.0,SNR=26
SONM pPKPbc pPKPbc 06 00 33.9 -1.8
comp=Z,16nm,0.7s,baz=226,slow=3.0,SNR=24
TLY Talaya 151.97 77⇑*i*PKIKP PKPbc 06 00 23.5 -0.3
SVW2 Sparrevohn 152.02 304 *e*PKPbc PKPbc 06 00 21.8 -2.1
SVW2 *e*PKPab PKPab 06 00 33.3 -0.1
ULN Ulaanbaatar 152.03 87⇑*i*PKIKP PKPbc 06 00 23.5 -0.4
ULN Ulaanbaatar 152.03 87 *e*PKPbc PKPbc 06 00 22.8 -1.2
TTA Tatalina 152.55 308 *e*PKIKP PKPbc 06 00 24.3 -0.8

ISCJB ***23*** *05:58:13.2±0.5, 3817N±003×2355E±004, h4km±5km, Error ellipse: s-maj=6.0km s-min=4.0km az=134.2*
CSEM ***23*** *05:58:13.8±0.1, 3812N×2354E, h8km, ML3.3, Error ellipse: s-maj=2.4km s-min=1.6km az=91.0*
NEIC ***23*** *05:58:13.2, 3810N×2353E, h23km, ML3.3(ATH), After ATH.*
ATH ***23*** *05:58:13.2, 3811N×2354E, h23km± 1km, MD3.5/14, ML3.3*
THE ***23*** *05:58:15.6, 3822N×2362E, h10km, ML3.1*
ISC 23 05:58:13.8±0.5, 3814N±003×2356E±004, h6km±5km, n29, σ0§86/33, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.21**	**143**	*e*PB	**Pg**	**05 58 18.5**	**+0.5**
PTL	**Penteli**	**0.26**	**111**	*e*PB	**Pg**	**05 58 20.0**	**+1.1**
MGER	**Gerania Oros**	**0.28**	**236**	*e*PB	**Pg**	**05 58 19.0**	**-0.3**
KVR	**Kavouri**	**0.36**	**152**	*e*PB	**Pg**	**05 58 20.5**	**-0.2**
NAIG	**Nisos Aigina**	**0.39**	**188**	*e*PB	**Pg**	**05 58 21.0**	**-0.3**
LKR	**Lokris**	**0.67**	**319**⇑	*i*PN	**Pg**	**05 58 26.3**	**-0.4**
AOS	**Alonnisos**	**1.06**	**14**	*e*Pg	**Pg**	**05 58 33.6**	**-0.4**
AOS				*e*Sg	**Sg**	**05 58 48.7**	**+0.9**
NEO	**Neokhori**	**1.19**	**347**	*e*PN	**Pn**	**05 58 36.5**	**-0.5**
XOR	**Xorichti**	**1.25**	**347**	*e*Pg	**Pg**	**05 58 36.9**	**-0.9**
AGG	**Agios Georgios**	**1.30**	**313**	*e*Pg	**Pg**	**05 58 37.7**	**-1.1**
AGG				*e*Sg	**Sg**	**05 58 56.7**	**+1.1**
VLI	**Veliai**	**1.50**	**199**	*e*PN	**Pn**	**05 58 39.7**	**-1.6**
EVR	**Evrytania**	**1.57**	**300**	*e*PN	**Pn**	**05 58 42.5**	**+0.3**
ITM	**Ithomi**	**1.61**	**234**⇑	*i*PN	**Pn**	**05 58 42.2**	**-0.6**
RLS	**Riolos of Patr**	**1.65**	**268**	*e*PN	**Pn**	**05 58 43.7**	**+0.4**
PAIG	**Paliouri**	**1.78**	**3**	*e*Pb	**Pn**	**05 58 44.2**	**-0.9**
APE	**Apeiranthos**	**1.90**	**124**	*e*Pb	**Pn**	**05 58 45.8**	**-0.9**
APE				*e*Sb	**Sb**	**05 59 12.4**	**-0.4**
KYTH	**Kithira**	**1.91**	**193**	*e*PN	**Pn**	**05 58 46.0**	**-0.8**
CHOS	**Chios island**	**1.98**	**82**	*e*Pb	**Pn**	**05 58 47.3**	**-0.5**
LIT	**Litokhoron**	**2.12**	**337**	*e*Pn	**Pn**	**05 58 49.4**	**-0.4**
LOS	**Limnos**	**2.15**	**33**	*e*Pn	**Pn**	**05 58 50.1**	**0.0**
PLG	**Polygyros**	**2.23**	**358**	*e*PN	**Pn**	**05 58 50.8**	**-0.4**
THR3	**Thira Island,**	**2.27**	**139**	*e*Pn	**Pn**	**05 58 53.7**	**+1.8**
LKD	**Levkas**	**2.35**	**285**	*e*Pn	**Pn**	**05 58 55.1**	**+2.2**
SOH	**Sokhos**	**2.68**	**357**	*e*Pn	**Pn**	**05 58 57.8**	**+0.4**
KARN	**Karanos**	**2.75**	**174**	*e*Pn	**Pn**	**05 58 59.9**	**+1.5**
KARN				*e*Sn	**Sn**	**05 59 36.1**	**+4.1**
GRG	**Griva**	**2.95**	**343**	*e*Pn	**Pn**	**05 59 01.1**	**0.0**
KNT	**Kendrikon**	**3.06**	**351**	*e*Pn	**Pn**	**05 59 03.1**	**+0.4**
TIP	**Timpagrande**	**5.42**	**283**	*e*Pn	**Pn**	**05 59 35.6**	**+0.5**
TIP	**Timpagrande**	**5.42**	**283**	*e*Pn	**Pn**	**05 59 35.7**	**+0.6**

TEH ***23*** *06:20:00.3, 2750N×5426E, h27km, ML4.9*
BJI ***23*** *06:21:00.7, 2787N×5361E, h14km, mB5.1, mb5.0, Ms4.7, Msz4.4*
CSEM ***23*** *06:21:05.5±0.0, 2789N×5428E, h13km, mb4.9/99, ML4.7/1, Ms3.9, Error ellipse: s-maj=1.7km s-min=1.1km az=10.0*
MOS ***23*** *06:21:05.3±0.8, 2792N×5427E, h10km, mb5.1/72, MS4.0/19, Error ellipse: s-maj=5.9km s-min=3.0km az=123.6*
ISCJB ***23*** *06:21:06.6±0.1, 2794N±002×5429E±002, h16km, mb4.9/205, MS4.2/51, Error ellipse: s-maj=2.5km s-min=1.9km az=68.0*
NEIC ***23*** *06:21:08.4, 2809N×5444E, h14km, mb5.0/141, MS4.1/15, ML4.6(THR), MN4.9(TEH), After THR.*
THR ***23*** *06:21:08.4±0.7, 2813N×5449E, h15km, ML4.4*
IDC ***23*** *06:21:09.8±2.8, 2801N×5432E, h26km±18km, mb4.7/37, mb1 4.7/42, mb1mx4.7/44, mbtmp4.8/42, ML4.3/4, MS4.0/21, Ms1 4.0/21, ms1mx3.7/41, Error ellipse: s-maj=10.7km s-min=9.2km az=97.0*
SZGRF ***23*** *06:21:11.2, 2808N×5426E, h33km, mb4.7, MS3.9, Southern Iran*
ISC 23 06:21:08.6±0.1, 2794N±002×5430E±002, h17km, h17km±1.7km: pP-P, n710, σ1§01/758, mb4.9/205, MS4.2/51, 102C-30D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.21**	**287**	*e*PG	**Pg**	**06 21 33.1**	**+1.2**
GHIR	**Ghir-Karzin**	**1.21**	**287**	*e*Pg	**Pg**	**06 21 32.0**	**+0.1**
GHIR				*e*Sg	**Sg**	**06 21 50.0**	**+2.3**
BNDS	**Bandar-Abbas**	**1.75**	**107**	*e*PG	**Pg**	**06 21 38.8**	**-3.5**
BNDS				*e*SG	**Sg**	**06 22 01.2**	**-3.8**
BNDS	**Bandar-Abbas**	**1.75**	**107**	*e*Pg	**Pg**	**06 21 39.0**	**-3.2**
BNDS				*e*Sg	**Sg**	**06 22 01.0**	**-4.0**
ISRV	**Sarvestan**	**1.78**	**324**	*e*Pn	**Pn**	**06 21 41.0**	**+2.5**
ISRV				*e*Sn	**Sn**	**06 22 05.9**	**+5.3**
ISRV	**Sarvestan**	**1.78**	**324**	Pn	**Pn**	**06 21 40.9**	**+2.4**
ISRV				Sn	**Sn**	**06 22 05.9**	**+5.3**
IMOK	**Mook**	**1.78**	**309**	*e*Pn	**Pn**	**06 21 40.7**	**+2.2**
IMOK				*e*Sn	**Sn**	**06 22 02.8**	**+2.2**
IMOK	**Mook**	**1.78**	**309**	Pn	**Pn**	**06 21 40.6**	**+2.1**
IMOK				Sn	**Sn**	**06 22 02.8**	**+2.2**
SHI	**Shiraz**	**2.31**	**318**	*e*Pn	**Pn**	**06 21 48.1**	**+2.3**
BANOM	**Banah**	**2.69**	**138**	⇓*i*P	**Pn**	**06 21 52.4**	**+1.4**
	SNR=56						
IKAZ	**Kazeroon**	**2.83**	**311**	*e*Pn	**Pn**	**06 21 53.7**	**+0.7**
IKAZ	**Kazeroon**	**2.83**	**311**	Pn	**Pn**	**06 21 53.6**	**+0.6**
IMEH	**Mehriz**	**3.45**	**5**	*e*Pn	**Pn**	**06 22 04.0**	**+2.5**
IMEH				*e*Sn	**Sn**	**06 22 45.7**	**+3.7**
IMEH	**Mehriz**	**3.45**	**5**	Pn	**Pn**	**06 22 04.0**	**+2.5**
IMEH				Sn	**Sn**	**06 22 45.6**	**+3.6**
ASHO	**Ashiyiah**	**3.60**	**154**	⇓*i*P	**Pn**	**06 22 05.3**	**+1.7**
	SNR=24						
IBAF	**Bafgh**	**3.81**	**17**	*e*Pn	**Pn**	**06 22 08.0**	**+1.6**
IBAF				*e*Sn	**Sn**	**06 22 54.1**	**+3.4**
IBAF	**Bafgh**	**3.81**	**17**	Pn	**Pn**	**06 22 08.0**	**+1.6**
IBAF				Sn	**Sn**	**06 22 54.0**	**+3.3**
ICHK	**Chekchek**	**4.29**	**1**	*e*Pn	**Pn**	**06 22 15.2**	**+2.1**
ICHK				*e*Sn	**Sn**	**06 23 05.7**	**+2.9**
ICHK	**Chekchek**	**4.29**	**1**	Pn	**Pn**	**06 22 15.1**	**+2.0**
ICHK				Sn	**Sn**	**06 23 05.6**	**+2.8**
ARQ	**Araqi**	**5.00**	**156**	P	**Pn**	**06 22 24.6**	**+1.8**
	SNR=8.1						
NASN	**Na'in**	**5.01**	**346**	*e*PN	**Pn**	**06 22 24.3**	**+1.3**
NASN				Sn	**Sn**	**06 23 18.4**	**-2.1**
NASN				AML	AML	06 24 00.6	
	comp=N,239nm,0.7s						
NASN	**Na'in**	**5.01**	**346**	*e*Pn	**Pn**	**06 22 24.0**	**+1.0**
NASN				*e*Sg	**Sg**	**06 23 40.0**	**-10**
NASN	**Na'in**	**5.01**	**346**	*e*Pn	**Pn**	**06 22 24.3**	**+1.3**
	SNR=52						
NASN				Sn	**Sn**	**06 23 18.4**	**-2.1**
	comp=N,239nm,0.7s,SNR=52						
NASN				*e*Sg	**Sg**	**06 23 40.0**	**-10**
HOQ	**Hoqain**	**5.12**	**147**	P	**Pn**	**06 22 26.3**	**+1.9**
	SNR=11						
IZEF	**Zefreh**	**5.23**	**342**	*e*Pn	**Pn**	**06 22 26.6**	**+0.7**
IZEF	**Zefreh**	**5.23**	**342**	Pn	**Pn**	**06 22 26.5**	**+0.6**
IPIR	**Pirpir**	**5.57**	**329**	*e*Pn	**Pn**	**06 22 30.9**	**+0.3**
IPIR				*e*Sn	**Sn**	**06 23 34.9**	**+0.7**
BIDO	**Bidbid**	**5.59**	**141**	⇓*i*P	**Pn**	**06 22 32.2**	**+1.3**
	SNR=16						
QRN	**Al-Qurain**	**5.68**	**280**	*e*P	**Pn**	**06 22 31.8**	**-0.3**
QRN				AML	AML	06 23 38.1	
	comp=Z,421nm,0.4s						
BSY	**Bisya**	**5.80**	**152**	⇓*i*P	**Pn**	**06 22 35.9**	**+2.1**
	SNR=33						
BSYO	**Bisya**	**5.83**	**152**	P	**Pn**	**06 22 35.9**	**+1.7**
	SNR=33						
IKLH	**Kalahroud**	**5.85**	**337**	*e*Pn	**Pn**	**06 22 35.1**	**+0.6**
IKLH				*e*Sn	**Sn**	**06 23 41.0**	**-0.2**
IKLH	**Kalahroud**	**5.85**	**337**	Pn	**Pn**	**06 22 35.0**	**+0.5**
IKLH				Sn	**Sn**	**06 23 41.0**	**-0.2**
SMDO	**Samad**	**5.92**	**144**	P	**Pn**	**06 22 37.4**	**+1.9**
	SNR=23						
ZHSF	**Zahedan**	**5.93**	**72**	*e*Pn	**Pn**	**06 22 35.0**	**-0.5**
KBD	**Kabd**	**5.94**	**284**	*e*P	**Pn**	**06 22 35.3**	**-0.3**
KBD				AML	AML	06 23 43.0	
	comp=Z,498nm,0.4s						
UMR	**Umm Al-Rimmam**	**6.00**	**287**	*e*P	**Pn**	**06 22 36.9**	**+0.4**
UMR				AML	AML	06 23 47.1	
	comp=Z,617nm,0.4s						
RDF	**Al-Radifah**	**6.02**	**281**	*e*P	**Pn**	**06 22 36.5**	**-0.3**
RDF				AML	AML	06 23 47.4	
	comp=Z,251nm,0.5s						
RDF	**Al-Radifah**	**6.02**	**281**	*e*P	**Pn**	**06 22 36.5**	**-0.3**
WSAR	**Wadi Sarin**	**6.10**	**139**	Pn	**Pn**	**06 22 39.2**	**+1.3**
	comp=Z,5.3nm,0.3s,baz=319,slow=11,SNR=65						
WSAR				Sn	**Sn**	**06 23 46.6**	**-0.6**
	comp=Z,8.1nm,0.3s,baz=341,slow=24,SNR=7.5						
WSAR				LR	LR	06 25 40.8	
	comp=Z,2μm,19.9s,baz=323,slow=44						
WSAR	**Wadi Sarin**	**6.10**	**139**	Pn	**Pn**	**06 22 39.2**	**+1.3**
WSAR				Sn	**Sn**	**06 23 46.6**	**-0.6**
WSAR				LR	LR	06 25 40.8	
NAY	**Al-Naaiem**	**6.34**	**284**	*e*P	**Pn**	**06 22 40.6**	**-0.6**
NAY				AML	AML	06 23 55.0	
	comp=Z,150nm,0.4s						
MIB	**Mutribah**	**6.38**	**289**	*e*P	**Pn**	**06 22 41.5**	**-0.2**
MIB				AML	AML	06 23 54.7	
	comp=Z,249nm,0.3s						
JMDO	**Jabal Madar**	**6.53**	**147**	P	**Pn**	**06 22 45.8**	**+2.0**
	SNR=18						
ISFB	**Sefidab**	**6.64**	**345**	*e*Pn	**Pn**	**06 22 46.1**	**+0.8**
ISFB				*e*Sn	**Sn**	**06 24 00.5**	**0.0**
ISFB	**Sefidab**	**6.64**	**345**	Pn	**Pn**	**06 22 46.1**	**+0.8**
ISFB				Sn	**Sn**	**06 24 00.4**	**-0.1**
WBK	**Wadi Bani Khal**	**6.78**	**140**	⇓P	**Pn**	**06 22 48.4**	**+1.1**
	SNR=12						
IANJ	**Anjiloo**	**7.52**	**358**	*e*Pn	**Pn**	**06 22 58.3**	**+1.0**
IANJ				*e*Sn	**Sn**	**06 24 22.5**	**+0.4**
IANJ	**Anjiloo**	**7.52**	**358**	Pn	**Pn**	**06 22 58.3**	**+1.0**
IANJ				Sn	**Sn**	**06 24 22.4**	**+0.3**
ASAO	**Ashtian**	**7.54**	**332**	*e*Pn	**Pn**	**06 22 58.5**	**+0.9**
ASAO				AML	AML	06 25 19.2	
	comp=N,69nm,0.7s						
ASAO				AML	AML	06 25 36.6	
	comp=E,46nm,0.8s						
ASAO	**Ashtian**	**7.54**	**332**	*e*Pn	**Pn**	**06 22 59.0**	**+1.4**
IFIR	**Firoozkooh**	**7.79**	**351**	*e*Pn	**Pn**	**06 23 02.7**	**+1.6**
IFIR				*e*Sn	**Sn**	**06 24 30.2**	**+1.3**
IFIR	**Firoozkooh**	**7.79**	**351**	Pn	**Pn**	**06 23 02.6**	**+1.5**
IFIR				Sn	**Sn**	**06 24 30.1**	**+1.2**
IDMV	**Damavand**	**7.86**	**346**	*e*Pn	**Pn**	**06 23 03.0**	**+1.0**
IDMV				*e*Sn	**Sn**	**06 24 29.5**	**-1.0**
DAMV	**Damavand**	**7.92**	**346**	*e*PN	**Pn**	**06 23 04.1**	**+1.2**
DAMV				AML	AML	06 25 07.6	
	comp=N,42nm,0.6s						
DAMV				AML	AML	06 25 41.4	
	comp=E,41nm,0.8s						
DAMV	**Damavand**	**7.92**	**346**	*e*Pn	**Pn**	**06 23 04.0**	**+1.1**
IRAZ	**Razeghan**	**8.32**	**335**	*e*Pn	**Pn**	**06 23 08.6**	**+0.2**
IRAZ				*e*Sn	**Sn**	**06 24 39.7**	**-2.2**
IRAZ	**Razeghan**	**8.32**	**335**	Pn	**Pn**	**06 23 08.5**	**+0.1**
IRAZ				Sn	**Sn**	**06 24 39.6**	**-2.3**
IRAZ	**Razeghan**	**8.32**	**335**	*e*Pn	**Pn**	**06 23 08.6**	**+0.2**
IRAZ				Sn	**Sn**	**06 24 39.6**	**-2.3**
IGLO	**Galoogah**	**8.38**	**356**	*e*Pn	**Pn**	**06 23 13.6**	**+4.5**
IGLO	**Galoogah**	**8.38**	**356**	Pn	**Pn**	**06 23 13.5**	**+4.4**
IKOM	**Komasi**	**8.51**	**319**	*e*Pn	**Pn**	**06 23 09.8**	**-1.2**
IKOM	**Komasi**	**8.51**	**319**	Pn	**Pn**	**06 23 09.7**	**-1.3**
IVIS	**Veys**	**9.15**	**318**	*e*Pn	**Pn**	**06 23 18.3**	**-1.4**
IVIS	**Veys**	**9.15**	**318**	Pn	**Pn**	**06 23 18.2**	**-1.5**
IGHG	**Ghaleghazi**	**9.19**	**316**	*e*Pn	**Pn**	**06 23 19.6**	**-0.7**
IGHG				*e*Sn	**Sn**	**06 24 59.2**	**-4.0**
ILIN	**Laeen**	**9.36**	**320**	*e*Pn	**Pn**	**06 23 21.5**	**-1.1**
ILIN				*e*Sn	**Sn**	**06 25 02.3**	**-5.2**
ILIN	**Laeen**	**9.36**	**320**	Pn	**Pn**	**06 23 21.5**	**-1.1**
ILIN				Sn	**Sn**	**06 25 02.2**	**-5.3**
IDHR	**Dehrash**	**9.55**	**317**	*e*Sn	**Sn**	**06 25 07.0**	**-5.0**
MRVT	**Maraveh tapeh**	**9.81**	**8**	*e*Pn	**Pn**	**06 23 29.0**	**+0.1**
SHAO	**Shalim**	**9.94**	**173**	⇓P	**Pn**	**06 23 29.6**	**-1.0**
	SNR=19						
WHFO	**Wadi Hawf**	**9.98**	**183**	⇑P	**Pn**	**06 23 30.9**	**-0.3**
	SNR=18						
BHD	**Baghdad**	**10.06**	**304**	*ex*	x	06 23 36.0	
BHD				*ex*	x	06 24 34.0	
BHD				*ex*	x	06 25 28.0	
BHD				*ex*	x	06 27 11.0	
BHD				*ex*	x	06 29 23.0	
RBK	**Rabkut**	**10.38**	**180**	P	**Pn**	**06 23 36.6**	**-0.1**
	SNR=6.4						
ABKT	**Ailbek**	**10.47**	**17**	Pn	**Pn**	**06 23 41.7**	**+3.9**
	comp=E,128nm,1.1s,SNR=6.1						
ABKT	**Ailbek**	**10.47**	**17**	Pn	**Pn**	**06 23 41.5**	**+3.7**
ABTO	**Aybut**	**10.57**	**185**	P	**Pn**	**06 23 38.6**	**-0.6**
	SNR=11						
MSL	**Mosul**	**12.62**	**314**	*ex*	x	06 24 01.0	
MSL				*ex*	x	06 25 09.0	
MSL				*ex*	x	06 26 18.0	
CUKT	**Cukurca**	**12.93**	**319**	*e*PN	**Pn**	**06 24 08.5**	**-3.0**
GNI	**Garni**	**14.52**	**330**	*e*PN	**Pn**	**06 24 34.1**	**+1.0**
GNI	**Garni**	**14.52**	**330**	Pn	**Pn**	**06 24 34.2**	**+1.1**
	comp=E,1.3nm,0.3s,baz=32,slow=15,SNR=5.7						
GNI				LR	LR	06 30 58.6	
	comp=E,606nm,20.2s,baz=140,slow=41						
GNI	**Garni**	**14.52**	**330**	P	**Pn**	**06 24 34.2**	**+1.1**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,606nm,20.2s						
MARD	**Mardin**	**14.72**	**313**	*i*P	**Pn**	**06 24 32.1**	**-3.9**
DGRG	**David-gareji**	**15.34**	**334**	P	**Pn**	**06 24 48.3**	**+4.2**
ASF	**Jabal al Asfar**	**15.64**	**290**	Pn	**Pn**	**06 24 46.4**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=313,slow=3.2,SNR=10						
ASF				Sn	**Sn**	**06 27 28.2**	**-13**
	comp=Z,0.9nm,0.3s,baz=340,slow=16,SNR=3.2						
HAJJ	**Hajjah**	**15.70**	**221**	*i*S	**Sn**	**06 27 42.5**	**+0.1**
MTA	**Mtatsminda**	**15.77**	**333**	P	**Pn**	**06 24 53.4**	**+3.5**
MAK	**Makhachkala**	**15.97**	**342**	*e*P	**Pn**	**06 24 53.8**	**+1.4**
MAK				*e*S	**Sn**	**06 27 52.3**	**+3.3**
MAK				pmax	pmax		
	comp=Z,239nm,1.3s						
MAK				MLR	MLR		
	comp=Z,675nm,15.0s						
MAK	**Makhachkala**	**15.97**	**342**	*e*P	**Pn**	**06 24 53.8**	**+1.4**
	comp=Z,239nm,1.3s						
MAK				*e*S	**Sn**	**06 27 52.3**	**+3.3**
ERZM	**Erzurum**	**16.03**	**321**	*i*P	**Pn**	**06 24 54.2**	**+1.0**
EZM	**Erzurum**	**16.03**	**321**	*e*PN	**Pn**	**06 24 54.1**	**+0.9**
RADA	**Ahram - Rada'a**	**16.05**	**215**⇑	*e*P	**Pn**	**06 24 49.1**	**-4.2**
URFA	**Urfa**	**16.09**	**310**	*e*PN	**Pn**	**06 24 58.6**	**+4.7**
AKH	**Akhalkalaki**	**16.09**	**329**	P	**Pn**	**06 24 55.8**	**+1.8**
LBOS		**16.34**	**213**⇓	*e*P	**Pn**	**06 24 53.4**	**-3.7**
LBOS				AMb	AMB	06 24 54.5	
	comp=Z,90nm,1.0s						
LBOS				*i*S	**Sn**	**06 27 57.9**	**0.0**
ELZG	**Elazig**	**16.56**	**313**	*i*P	**Pn**	**06 24 57.0**	**-2.9**
SMRH	**Sumara - IBB G**	**16.57**	**216**⇑	*e*P	**Pn**	**06 24 56.8**	**-3.2**
ARTV	**Artvin**	**16.66**	**326**	*i*P	**Pn**	**06 25 02.1**	**+0.9**
MALT	**Malatya**	**16.82**	**312**	*e*P	**Pn**	**06 25 02.0**	**-1.2**
MALT				pmax	pmax		
	comp=Z,59nm,0.9s						
MALT	**Malatya**	**16.82**	**312**	*e*Pn	**Pn**	**06 25 02.0**	**-1.2**
	comp=Z,60nm,0.9s						
MALT	**Malatya**	**16.82**	**312**	*e*P	**Pn**	**06 25 02.0**	**-1.2**
	comp=Z,59nm,0.9s						
MYA	**Malataya**	**16.83**	**312**	*e*PN	**Pn**	**06 25 02.7**	**-0.6**
GZT	**Gaziantep**	**16.91**	**308**	*e*P	**Pn**	**06 25 02.7**	**-1.7**
ZEI	**Tsey**	**17.04**	**333**	*e*P	**Pn**	**06 25 06.3**	**+0.4**
EIL	**Elat**	**17.05**	**280**	*e*P	**Pn**	**06 25 05.1**	**-0.9**
	comp=Z,273nm,0.7s						
EIL	**Elat**	**17.05**	**280**	*e*P	**Pn**	**06 25 05.1**	**-0.9**
	comp=Z,273nm,0.7s						
MMAI	**Mount Meron Ar**	**17.05**	**292**	P	**Pn**	**06 25 05.6**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=104,slow=17,SNR=21						
MMAI				LR	LR	06 33 23.5	
	comp=Z,224nm,18.8s,baz=235,slow=43						
ONI	**Oni**	**17.06**	**332**	P	**Pn**	**06 25 07.3**	**+1.1**
AMRG		**17.14**	**331**	P	**Pn**	**06 25 12.3**	**+5.1**
TRBA	**At Turbah**	**17.44**	**215**⇑	*e*P	**Pn**	**06 25 07.1**	**-3.9**
TRBA				*i*S	**Sn**	**06 28 25.0**	**+0.2**
COBT	**Iskenderun**	**17.48**	**304**	*i*P	**Pn**	**06 25 12.2**	**+0.7**
AJM	**Ajmer**	**18.16**	**90**	*e*P	**Pn**	**06 25 20.0**	**+0.2**
AJM				AMb	AMB	06 25 23.6	
	comp=Z,59nm,1.3s						
KOZT	**Kozan**	**18.20**	**306**	*e*PN	**Pn**	**06 25 19.7**	**-0.6**
KIV	**Kislovodsk**	**18.51**	**333**	P	**Pn**	**06 25 25.4**	**+1.3**
	comp=Z,349nm,1.1s,SNR=8.2						
KIV	**Kislovodsk**	**18.51**	**333**	P	**Pn**	**06 25 25.9**	**+1.8**
	SNR=15						
KIV				P		06 25 26.2	
	SNR=6.3						
KIV	**Kislovodsk**	**18.51**	**333**	*c i*P	**Pn**	**06 25 24.8**	**+0.7**
KIV				pmax	pmax		
	comp=Z,91nm,1.3s						
KIV				MLR	MLR		
	comp=Z,200nm,16.0s						
KIV	**Kislovodsk**	**18.51**	**333**	*i* P	**Pn**	**06 25 24.8**	**+0.7**
	comp=Z,200nm,16.0s						
SVSK	**Karacayir**	**18.64**	**314**	*e*PN	**Pn**	**06 25 25.9**	**+0.2**
BNN	**Bunyan**	**18.83**	**310**	*e*PN	**Pn**	**06 25 28.4**	**+0.4**
MERS	**Mersin**	**18.90**	**303**	*e*PN	**Pn**	**06 25 27.4**	**-1.4**
CSS	**Prodhromos**	**19.19**	**297**	*e*P	**Pn**	**06 25 33.3**	**+1.0**
	comp=Z,56nm,0.9s						
CSS	**Prodhromos**	**19.19**	**297**	*e*P	**Pn**	**06 25 33.3**	**+1.0**
	comp=Z,56nm,0.9s						
GOF	**Gofitskoye**	**19.30**	**335**	*e*P	**Pn**	**06 25 35.5**	**+1.8**
GOF				pmax	pmax		
	comp=Z,70nm,0.8s						
GOF	**Gofitskoye**	**19.30**	**335**	*e*P	**Pn**	**06 25 35.5**	**+1.8**
	comp=Z,70nm,0.8s						
AVNT	**Avonos**	**19.47**	**309**	*i* P	**Pn**	**06 25 36.2**	**+0.5**
ATD	**Arta Tunnel**	**19.53**	**216**	P	**Pn**	**06 25 35.3**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=300,slow=20,SNR=4.0						
SOC	**Sochi**	**19.54**	**327**	*d i*P	**Pn**	**06 25 35.5**	**-1.1**
SOC				*e*		06 29 14.4	
SOC				pmax	pmax		
	comp=Z,69nm,1.3s						
SOC				MLR	MLR		
	comp=Z,374nm,10.0s						
SOC	**Sochi**	**19.54**	**327**	*i* Pr		06 25 35.5	
	comp=Z,69nm,1.3s						
SOC				*e*		06 29 14.4	
SOC	**Sochi**	**19.54**	**327**	*i* P	**Pn**	**06 25 35.5**	**-1.1**
	comp=Z,69nm,1.3s						
KK31	**Karatay Array**	**20.03**	**37**	*i* P	**P**	**06 25 40.4**	**-0.1**
KK31				pmax	pmax		
	comp=Z,27nm,0.9s						
KK31	**Karatay Array**	**20.03**	**37**	*i* P	**P**	**06 25 40.4**	**-0.1**
	comp=Z,27nm,0.9s						
KKAR	**Karatay Array**	**20.03**	**37**	*i* P	**P**	**06 25 40.4**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,26nm,1.0s						
KKAR	**Karatay Array**	**20.03**	**37**	*i* P	**P**	**06 25 40.4**	**-0.1**
	comp=Z,26nm,1.0s						
SMLA	**Simla**	**20.15**	**75**	*e*P	**P**	**06 25 41.4**	**-0.4**
CDAG	**Cicekdag**	**20.20**	**310**	*i* P	**P**	**06 25 43.0**	**+0.6**
CORM	**Corum**	**20.31**	**312**	*e*PN	**P**	**06 25 45.3**	**+1.7**
CTKT	**Corum**	**20.44**	**313**	*i* P	**P**	**06 25 46.8**	**+1.8**
KAMT	**Kaman**	**20.53**	**309**	*e*PN	**P**	**06 25 47.1**	**+1.1**
BR131	**Keskin Array S**	**20.75**	**310**	*e*P	**P**	**06 25 49.2**	**+0.9**
	comp=Z,34nm,0.8s						
BR131	**Keskin Array S**	**20.75**	**310**	*e*P	**P**	**06 25 49.2**	**+0.9**
	comp=Z,34nm,0.8s						
BRTR	**Keskin Array B**	**20.75**	**310**	P	**P**	**06 25 49.0**	**+0.7**
	comp=Z,40nm,0.7s,baz=129,slow=13,SNR=70						
BRTR				ScP	ScP	06 33 32.5	-0.7
	comp=Z,1.0nm,0.7s,baz=108,slow=4.0,SNR=4.8						
BOYT	**Boyabat**	**20.80**	**315**	*i* P	**P**	**06 25 49.5**	**+0.5**
KONT	**Konya--Tatoy**	**20.90**	**304**	*e*PN	**P**	**06 25 52.0**	**+2.0**
TOS	**Tosya**	**21.15**	**313**	*e*PN	**P**	**06 25 53.7**	**+1.0**
KAD	**Karad**	**21.16**	**116**	*e*P	**P**	**06 25 52.1**	**-0.7**
CANT	**Cankiri**	**21.19**	**312**	*e*PN	**P**	**06 25 54.1**	**+1.0**
AML	**Almayashu**	**21.21**	**43**	P	**P**	**06 25 57.8**	**+4.5**
	SNR=6.0		

comp=Z,23nm,0.8s,mb4.7
SIM e 06 26 44.0
SIM S **S** **06 30 29.0 +0.6**
ORR Orenburg 23.66 1 *e*P **P** **06 26 18.9 -0.2**
ORR pmax pmax
comp=Z,130nm,1.1s,mb5.3
ORR Orenburg 23.66 1 *e*P **P** **06 26 18.9 -0.2**
comp=Z,130nm,1.1s,mb5.3
ADVT Abdulvahap 23.75 308 *e*PN **P** **06 26 20.4 +0.5**
HRT Hereke 23.95 309 *e*PN **P** **06 26 21.4 -0.5**
AKS Akhisar 24.57 303 *e*PN **P** **06 26 28.9 +1.4**
HYB Hyderabad 24.66 110 *i* P **P** **06 26 30.0 +1.7**
HYB Hyderabad 24.66 110 *e*P **P** **06 26 30.0 +1.7**
BNT Bandirma 25.00 307 *e*PN **P** **06 26 32.0 +0.6**
VRHR Novokhopersk 25.04 341 *e*P **P** **06 26 31.9 +0.2**
VRHR pmax pmax
comp=Z,200nm,1.0s,mb5.6
VRHR pmax pmax
comp=N,240nm,1.4s
VRHR pmax pmax
comp=E,130nm,1.5s
VRHR Novokhopersk 25.04 341 *e*P **P** **06 26 31.9 +0.2**
comp=E,240nm,1.4s,mb5.5
LAST Lasithi 25.53 294 *e*P **P** **06 26 36.5 +0.3**
CHOS Chios island 25.74 301 *e*P **P** **06 26 39.4 +1.2**
SANT Santorini 25.75 296 *e*P **P** **06 26 38.5 +0.3**
SANT Santorini 25.75 296 *e*P **P** **06 26 38.5 +0.3**
APE Apeiranthos 25.83 298 ⇓*i*P **P** **06 26 39.9 +1.0**
APE Apeiranthos 25.83 298 ⇓P **P** **06 26 39.9 +0.9**
BLSP Bilaspur 25.84 97 *e*x x 06 26 18.1
BLSP AMb AMB 06 26 42.9
comp=Z,26nm,1.1s,mb4.7
KOLN Koldanda 25.89 83 *e*P **P** **06 26 40.2 +0.8**
comp=Z,66nm,1.0s,mb5.1
IDI Anoyia 26.03 294 P **P** **06 26 41.8 +1.0**
comp=Z,35nm,0.6s,mb5.0,baz=107,slow=7.7,SNR=25
VOR Voronezh 26.34 339 *e*P **P** **06 26 42.0 -1.5**
VOR pmax pmax
comp=Z,140nm,1.2s,mb5.4
VOR Voronezh 26.34 339 *e*P **P** **06 26 42.0 -1.5**
comp=Z,140nm,1.2s,mb5.4
ENEZ Enez 26.39 306 *e*PN **P** **06 26 42.3 -1.7**
TIRR Tirgusor 26.45 315 ⇓*i*P **P** **06 26 44.5 0.0**
TIRR Tirgusor 26.45 315 *e*P **P** **06 26 43.9 -0.6**
comp=Z,18nm,0.8s,mb4.6
PRD Provadia 26.50 312 *i* P **P** **06 26 44.9 -0.1**
ALN Alexandroupoli 26.52 307 *e*P **P** **06 26 45.7 +0.5**
GKN Gorkha 26.77 83 *e*P **P** **06 26 47.6 +0.2**
comp=Z,45nm,0.9s,mb5.0
DMN Daman 27.23 83 *e*P **P** **06 26 52.3 +0.7**
ZRNK Zerenda 27.27 20 *e*P **P** **06 26 51.9 0.0**
KKN Kakani 27.36 83 *e*P **P** **06 26 53.2 +0.5**
PKI Pulchoki 27.50 83 *e*P **P** **06 26 54.4 +0.4**
comp=Z,77nm,0.9s,mb5.3
PKI Pulchoki 27.50 83 *e*P **P** **06 26 54.4 +0.4**
PKI pmax pmax
comp=Z,77nm,0.9s,mb5.3
VOSK Vostochnaya 27.70 22 P **P** **06 26 55.3 -0.5**
VOSK pmax pmax
comp=Z,17nm,0.8s,mb4.7
VOSK Vostochnaya 27.70 22 P **P** **06 26 55.3 -0.5**
comp=Z,17nm,0.8s,mb4.7
BRVK Borovoye 27.76 21 P **P** **06 26 56.9 +0.6**
comp=Z,191nm,1.0s,mb5.7,SNR=10
BRVK Borovoye 27.76 21 P **P** **06 26 56.5 +0.2**
SNR=14
BRVK Borovoye 27.76 21 *e*P **P** **06 26 56.2 -0.1**
BVA0 Borovoye Array 27.76 21 *i* P **P** **06 26 56.3 0.0**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
BVA0 Borovoye Array 27.76 21 *i* P **P** **06 26 56.3 0.0**
comp=Z,5.0nm,0.9s,mb4.1
BVAR Borovoye Array 27.76 21 P **P** **06 26 56.4 +0.1**
comp=Z,28nm,0.7s,mb5.0,baz=208,slow=8.4,SNR=143
BVAR PcP PcP 06 30 12.3 -0.3
comp=Z,4.7nm,0.6s,baz=220,slow=2.8,SNR=6.9
BVAR LR LR 06 38 07.3
comp=Z,146nm,19.7s,MS3.6,baz=139,slow=37
BVAR Borovoye Array 27.76 21 P **P** **06 26 56.4 +0.1**
BVAR *e* 06 30 12.3
BVAR Borovoye Array 27.76 21 PcP PcP 06 30 12.3 -0.3
GUN Gumba 27.87 83 *e*P **P** **06 26 57.7 +0.4**
comp=Z,40nm,0.7s,mb5.2
PLD Plovdiv 27.89 308 *i* P **P** **06 26 58.0 +0.5**
JIRN Jiri 28.18 83 *e*P **P** **06 27 00.2 +0.2**
comp=Z,60nm,0.8s,mb5.2
SRS Serrai 28.35 306 *e*P **P** **06 27 02.4 +0.9**
CHKZ Chkalovo 28.39 21 *e*P **P** **06 27 01.2 -0.7**
MMB Musomiste 28.40 307 *i* P **P** **06 27 01.6 -0.4**
PGB Panagyurishte 28.42 309 *i* P **P** **06 27 03.0 +0.8**
SOH Sokhos 28.43 305 *e*P **P** **06 27 03.4 +1.1**
MLR Muntele Rosu 28.48 316 LR LR 06 40 17.8
comp=Z,407nm,21.0s,MS4.0,baz=325,slow=40
MLR Muntele Rosu 28.48 316 ⇑*i*P **P** **06 27 05.6 +2.9**
MLR Muntele Rosu 28.48 316 ⇑P **P** **06 27 05.6 +2.9**
ARU Arti 28.64 5 ⇓*i*P **P** **06 27 03.9 -0.2**
ARU *e* 06 27 52.8
ARU *e*PPP 06 28 03.7
ARU *e*S **S** **06 31 51.6 -0.4**
ARU *e*SS SS 06 33 11.4 -42
ARU pmax pmax
comp=Z,19nm,1.2s,mb4.7
ARU MLR MLR
comp=Z,200nm,20.0s,MS3.7
ARU MLR MLR
comp=N,200nm,22.0s,MS3.9
ARU MLR MLR
comp=E,200nm,20.0s,MS3.9
ARU Arti 28.64 5 ⇓*i*P **P** **06 27 03.9 -0.2**
comp=E,19nm,1.2s,mb4.7
ARU *e* 06 27 52.8
ARU *e*PPP 06 28 03.7
ARU *e*S **S** **06 31 51.6 -0.4**
ARU *e*SS SS 06 33 11.4 -42
ARU LR LR
comp=Z,200nm,20.0s,MS3.7
ARU Arti 28.64 5 *i* P **P** **06 27 03.9 -0.2**
comp=Z,19nm,1.2s,mb4.7
ARU *e*S **S** **06 31 51.6 -0.4**
comp=Z,200nm,20.0s
BOK Bokaro 28.68 91 *e*P **P** **06 27 04.3 -0.2**
BOK AMb AMB 06 27 07.5
comp=Z,36nm,1.6s,mb4.8
MKAR Makanchi Array 28.91 42 P **P** **06 27 06.7 +0.1**
comp=Z,8.9nm,0.8s,mb4.5,baz=224,slow=8.5,SNR=56
MKAR Makanchi Array 28.91 42 *e*P **P** **06 27 06.6 0.0**
KKB Krupnik 28.95 307 *i* P **P** **06 27 06.2 -0.7**
VOIR 29.02 315 ⇓*i*P **P** **06 27 08.6 +1.1**
VOIR 29.02 315 ⇓P **P** **06 27 08.6 +1.1**
VAY Valandovo 29.14 306 *e*P **P** **06 27 06.0 -2.6**
GRG Griva 29.16 305 *e*P **P** **06 27 09.2 +0.4**
KURK Kurchatov 29.28 32 P **P** **06 27 10.0 +0.2**
comp=Z,114nm,0.8s,mb5.7,SNR=13
KURK Kurchatov 29.28 32 P **P** **06 27 10.1 +0.2**
KURK Kurchatov 29.28 32 P **P** **06 27 10.1 +0.3**
AKASG Malin Array Be 29.62 327 P **P** **06 27 11.7 -1.2**
comp=Z,4.9nm,0.6s,mb4.5,baz=135,slow=8.4,SNR=17
LKD Levkas 29.94 300 *e*P **P** **06 27 15.1 -0.6**
BIA Bitola 29.96 304 *e*P **P** **06 27 11.9 -4.0**
BURAR Bucovina Array 29.96 319 ⇑*i*P **P** **06 27 16.1 +0.2**
OBN Obninsk 30.05 340*c i*P **P** **06 27 16.6 0.0**
OBN pmax pmax
comp=Z,51nm,1.1s,mb5.2
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.5
OBN Obninsk 30.05 340 ⇑*i*P **P** **06 27 16.6 0.0**
comp=Z,51nm,1.1s,mb5.2
OBN LR LR
comp=Z,100nm,19.0s,MS3.5
OBN Obninsk 30.05 340 *i* P **P** **06 27 16.6 0.0**
comp=Z,100nm,19.0s
SKO Skopje 30.15 306 *e*P **P** **06 27 15.5 -2.0**
SKO Skopje 30.15 306 *e*P **P** **06 27 15.4 -2.1**
MOS Moscow 30.27 341 *e*P **P** **06 27 18.8 +0.2**
MOS pmax pmax
comp=Z,90nm,1.1s,mb5.4
MOS Moscow 30.27 341 *e*P **P** **06 27 18.8 +0.2**
comp=Z,90nm,1.1s,mb5.4
OHR Ohrid 30.37 304 *e*P **P** **06 27 19.2 -0.3**
OHR Ohrid 30.37 304 *e*P **P** **06 27 18.0 -1.5**
DRGR 31.08 316 ⇓*i*P **P** **06 27 26.4 +0.7**
DRGR 31.08 316 ⇓P **P** **06 27 26.4 +0.7**
WMQ Urumqi 31.11 50 P **P** **06 27 26.8 +0.8**
WMQ PP PP 06 28 29.5 -6.8

WMQ S **S** **06 32 29.4 -1.3**
WMQ SCS ScS 06 38 00.3 0.0
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,150nm,4.0s
WMQ LR LR
comp=N,740nm,26.0s,MS4.3
WMQ LR LR
comp=E,260nm,22.0s,MS4.3
WMQ LR LR
comp=Z,300nm,20.0s,MS4.0
BZS Buzias 31.28 313 ⇑*i*P **P** **06 27 27.6 +0.1**
BZS Buzias 31.28 313 ⇑P **P** **06 27 27.6 +0.1**
SOKR Solikamsk 31.67 2 ⇓*i*P **P** **06 27 31.6 +0.6**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,390nm,18.0s,MS4.1
SOKR Solikamsk 31.67 2 ⇓*i*P **P** **06 27 31.6 +0.6**
comp=Z,50nm,1.0s,mb5.3
SOKR LR LR
comp=Z,390nm,18.0s,MS4.1
KOLS Kolonicke sedl 32.33 319 *e*P **P** **06 27 37.7 +1.0**
KOLS *e* pP 06 27 44.2 +2.1
KOLS pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
KOLS Kolonicke sedl 32.33 319 *e*P **P** **06 27 37.7 +1.0**
comp=Z,10nm,1.0s,mb4.6
KOLS *e* pP 06 27 44.2 +2.1
KWP Kalwaria 32.42 321 *e*P **P** **06 27 37.4 -0.1**
CRVS Cervenica-Dubn 32.78 319 *e*P **P** **06 27 41.4 +0.7**
CRVS *e* pP 06 27 47.7 +1.6
CRVS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
CRVS Cervenica-Dubn 32.78 319 *e*P **P** **06 27 41.4 +0.7**
comp=Z,6.1nm,1.1s,mb4.4
CRVS *e* pP 06 27 47.7 +1.6
TIP Timpagrande 33.01 300 *e*P **P** **06 27 43.3 +0.6**
TIP Timpagrande 33.01 300 *e*P **P** **06 27 43.3 +0.6**
STHS Stebnicka Huta 33.15 319 *e*P **P** **06 27 43.5 -0.4**
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
STHS Stebnicka Huta 33.15 319 *e*P **P** **06 27 43.5 -0.4**
comp=Z,2.8nm,0.8s,mb4.2
KECS Kecovo 33.17 317 *i* P **P** **06 27 44.4 +0.3**
KECS *e* 06 27 51.5
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KECS Kecovo 33.17 317 *i* P **P** **06 27 44.4 +0.3**
comp=Z,7.6nm,1.0s,mb4.6
KECS *e* 06 27 51.5
KMBO Kilima Mbogo 33.21 212 P **P** **06 27 46.0 +1.6**
comp=Z,1.8nm,0.8s,mb4.1,baz=18,slow=14,SNR=4.3
KMBO LR LR 06 41 23.2
comp=Z,283nm,18.0s,MS4.0,baz=276,slow=36
KMBO Kilima Mbogo 33.21 212 ⇑*e*P **P** **06 27 47.5 +3.0**
PKSM Moragy 33.43 313 ⇓*i*P **P** **06 27 46.5 +0.1**
PKSM Moragy 33.43 313 ⇓P **P** **06 27 46.5 +0.2**
SHL Shillong 33.56 85 *e*x x 06 23 49.3
CUC Castrocucco 33.86 301 P **P** **06 27 50.7 +0.6**
comp=Z,43nm,0.9s,mb5.4
SLCN Sala Consilina 34.06 302 P **P** **06 27 53.0 +1.2**
comp=Z,140nm,1.2s,mb5.8
MGR Morigerati 34.08 301 P **P** **06 27 52.4 +0.4**
comp=Z,23nm,0.8s,mb5.2
NVS Novosibirsk 34.10 30 *i* P **P** **06 27 50.7 -1.5**
NVS pmax pmax
comp=N,25nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS pmax pmax
comp=Z,26nm,1.3s,mb5.0
NVS Novosibirsk 34.10 30 *i* P **P** **06 27 50.7 -1.5**
comp=Z,26nm,1.3s,mb5.0
VYHS Vyhne 34.17 317 *i* P **P** **06 27 52.5 -0.3**
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 34.17 317 *i* P **P** **06 27 52.5 -0.3**
comp=Z,5.0nm,1.1s,mb4.4
MRLC Muro Lucano 34.23 302 P **P** **06 27 53.9 +0.6**
comp=Z,44nm,1.3s,mb5.2
LIKS Likavka 34.24 318 *e*P **P** **06 27 52.7 -0.7**
LIKS pmax pmax
comp=Z,34nm,0.5s,mb5.5
LIKS Likavka 34.24 318 *e*P **P** **06 27 52.7 -0.7**
comp=Z,34nm,0.5s,mb5.5
ZAL Zalesovo 34.25 32 P **P** **06 27 53.4 -0.1**
comp=Z,13nm,0.6s,mb5.1,baz=229,slow=7.4,SNR=50
ZAL LR LR 06 44 27.1
comp=Z,644nm,19.1s,MS4.4,baz=240,slow=41
SGO Sicignano 34.33 302 P **P** **06 27 55.1 +0.9**
SGO pmax pmax
comp=Z,85nm,1.1s,mb5.6
SGO Sicignano 34.33 302 P **P** **06 27 55.1 +0.9**
comp=Z,85nm,1.1s,mb5.6
OJC Ojcow 34.35 320 *e*Pc **P** **06 27 53.8 -0.6**
KLMR Klimovskoe 34.39 347 *e*P **P** **06 27 53.9 -0.8**
KOLL Kolacno 34.47 317 *i* P **P** **06 27 55.3 -0.1**
SUW Suwalki 34.59 328 *e*P **P** **06 27 55.8 -0.6**
OKC Ostrava-Krasne 35.14 318 *e*P **P** **06 28 00.1 -1.1**
OKC AMS AMS 06 47 40.0
comp=Z,300nm,21.4s
OKC Ostrava-Krasne 35.14 318 *e*P **P** **06 28 00.1 -1.1**
comp=Z,300nm,21.4s
CRES Cresnjev 35.41 311 *e*P **P** **06 28 03.6 +0.1**
BOJS Bojanci 35.45 310 *i* P **P** **06 28 04.0 +0.1**
MORC Moravsky Berou 35.47 318 ⇓*i*P **P** **06 28 03.9 -0.1**
MORC Moravsky Berou 35.47 318 *e*P **P** **06 28 03.5 -0.5**
comp=Z,14nm,0.8s,mb4.9
MORC Moravsky Berou 35.47 318 *e*P **P** **06 28 03.5 -0.5**
INTR Introdacqua 35.62 304 P **P** **06 28 04.5 -0.8**
comp=Z,42nm,0.7s,mb5.5
SDI San Donato 35.63 303 P **P** **06 28 05.5 +0.1**
comp=Z,5.6nm,0.3s,mb5.0
ARSA Arzberg 35.80 313 ⇑*i*P **P** **06 28 06.7 -0.1**
comp=Z,2.7nm,0.5s,mb4.4
VVLD Villa Vallelon 35.80 304 P **P** **06 28 06.9 +0.1**
comp=Z,32nm,0.9s,mb5.3
CONA Conrad Observa 35.81 314 ⇑*i*P **P** **06 28 06.5 -0.4**
comp=Z,14nm,1.5s,mb4.7
VISS Visnje 35.81 311 *e*P **P** **06 28 06.9 0.0**
VRAC Vranov 35.85 317 P **P** **06 28 07.2 -0.1**
comp=Z,10nm,0.7s,mb4.9,baz=102,slow=7.7,SNR=13
VRAC Vranov 35.85 317 ⇓*i*P **P** **06 28 07.5 +0.2**
VRAC Vranov 35.85 317 ⇓P **P** **06 28 07.5 +0.2**
VRAC Vranov 35.85 317 *e*P **P** **06 28 07.2 -0.1**
VSU Vasula 36.03 336*c i*P **P** **06 28 07.9 -0.9**
VSU Vasula 36.03 336 *i* P **P** **06 28 07.9 -0.9**
AQU L'Aquila 36.04 304 *e*P **P** **06 28 08.4 -0.5**
LJU Ljubljana 36.09 311 *e*P **P** **06 28 09.7 +0.3**
OBKA Obir 36.21 312 ⇑P **P** **06 28 10.3 -0.1**
comp=Z,9.0nm,1.2s,mb4.6
JAVS Javornik 36.36 310 *e*P **P** **06 28 11.4 -0.3**
DPC Dobruska-Polom 36.42 318 *e*P **P** **06 28 11.5 -0.7**
DPC *e*pP pP 06 28 17.3 -0.3
DPC AMS AMS 06 45 30.0
comp=Z,300nm,13.8s
VOY Vojsko 36.51 311 *e*P **P** **06 28 12.3 -0.7**
TREC Trest 36.52 316 *e*P **P** **06 28 13.0 0.0**
VOJS Vojsko 36.52 311 *e*P **P** **06 28 12.5 -0.5**
SNTG Esanatoglia 36.54 306 P **P** **06 28 13.7 +0.5**
comp=Z,5.8nm,0.4s,mb4.8
MNS Montasola 36.57 304 P **P** **06 28 08.4 -5.1**
ARV Arcevia 36.59 306 P **P** **06 28 14.1 +0.5**
comp=Z,17nm,0.9s,mb4.9
KSP Ksiaz 36.64 319 *e*P **P** **06 28 13.1 -0.9**
UPC Upice 36.67 319 *e*P **P** **06 28 13.6 -0.7**
MOA Molln 36.80 314 ⇑*i*P **P** **06 28 14.9 -0.4**
comp=Z,12nm,0.9s,mb4.7,SNR=6.2
PTCC Patocco-Chiusa 36.97 311 P **P** **06 28 16.6 -0.3**
comp=Z,15nm,0.8s,mb4.9
BADI Badiali 37.09 306 P **P** **06 28 19.6 +1.8**
KBA Koelnbreinsper 37.16 312 *i* P **P** **06 28 18.5 0.0**
comp=Z,12nm,0.7s,mb4.8,SNR=8.4
PRU Pruhonice 37.34 317 *e*P **P** **06 28 19.0 -1.0**
SFI Santa Sofia 37.44 307 P **P** **06 28 22.3 +1.4**
SFI pmax pmax
comp=Z,60nm,0.9s,mb5.4
SFI Santa Sofia 37.44 307 P **P** **06 28 22.3 +1.4**
comp=Z,60nm,0.9s,mb5.4
GEC2 GERESS Array S 37.47 315 *e*P **P** **06 28 19.9 -1.2**
comp=Z,4.0nm,1.0s,mb4.2
GEC2 GERESS Array S 37.47 315 *e*P **P** **06 28 19.9 -1.2**
GEC2 pmax pmax

comp=Z,4.0nm,1.0s,mb4.2
GERES GERESS Array B 37.47 315 P **P** **06 28 20.1 -0.9**
comp=Z,2.3nm,0.7s,mb4.1,baz=116,slow=9.3,SNR=14
GERES PcP PcP 06 30 37.4 -2.0
comp=Z,0.5nm,0.3s,baz=103,slow=4.2,SNR=3.5
GERES ScP ScP 06 34 24.3 -1.4
comp=Z,0.4nm,0.2s,baz=116,slow=3.1,SNR=4.9
GERES GERESS Array B 37.47 315 P **P** **06 28 20.1 -1.0**
GERES 06 30 37.4
GERES GERESS Array B 37.47 315 PcP PcP 06 30 37.4 -1.9
PVCC Panska Ves 37.53 318 *e*P **P** **06 28 20.8 -0.8**
KHC Kasperske Hory 37.64 315 *e*P **P** **06 28 21.7 -0.8**
KHC pP pP 06 28 27.5 -0.4
KHC AMS AMS 06 39 20.0
comp=Z,300nm,20.8s
KHC Kasperske Hory 37.64 315 *e*P **P** **06 28 21.7 -0.8**
KHC *e* pP 06 28 27.5 -0.4
KHC MLR MLR
comp=Z,300nm,20.8s,MS4.1
KHC Kasperske Hory 37.64 315 *i* P **P** **06 28 21.9 -0.6**
KHC Kasperske Hory 37.64 315 *e*P **P** **06 28 21.7 -0.8**
KHC *e* pP 06 28 27.5 -0.4
KHC LR LR
comp=Z,300nm,20.8s,MS4.1
VMG Vicchio 37.67 307 P **P** **06 28 24.4 +1.6**
comp=Z,103nm,0.8s,mb5.6
BRG Berggiesshubel 38.02 318 *e*P **P** **06 28 25.0 -0.8**
comp=Z,16nm,1.3s,mb4.6
BRG Berggiesshubel 38.02 318 *e*P **P** **06 28 24.9 -0.9**
BRG pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
BRG MLR MLR
comp=N,199nm,21.5s
BRG MLR MLR
comp=E,80nm,15.5s
BRG MLR MLR
comp=Z,151nm,17.4s,MS3.9
BRG Berggiesshubel 38.02 318 *e*P **P** **06 28 24.9 -0.9**
comp=Z,6.0nm,0.8s,mb4.4
BRG LR LR
comp=Z,150nm,17.4s,MS3.9
BRG Berggiesshubel 38.02 318 *e*P **P** **06 28 24.9 -0.9**
comp=Z,151nm,17.4s
CTI Castel Tesino 38.03 310 P **P** **06 28 25.6 -0.2**
CTI pmax pmax
comp=Z,15nm,0.7s,mb4.8
CTI Castel Tesino 38.03 310 P **P** **06 28 25.6 -0.2**
comp=Z,15nm,0.7s,mb4.8
WET Wettzell 38.08 315 *e*P **P** **06 28 25.1 -1.1**
comp=Z,5.0nm,0.7s,mb4.3
WET Wettzell 38.08 315 *e*P **P** **06 28 25.1 -1.1**
WET pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
JOF Joensuu 38.08 343 *e*p **P** **06 28 24.8 -1.4**
comp=Z,23nm,0.7s,mb5.0
JOF Joensuu 38.08 343 *e*P **P** **06 28 24.8 -1.4**
JOF pmax pmax
comp=Z,23nm,0.7s,mb5.0
BRES Bressanone 38.13 311 P **P** **06 28 26.9 +0.2**
ZCCA Zocca 38.14 307 P **P** **06 28 28.7 +1.9**
WTTA Wattenberg 38.34 312 ⇑*i*P **P** **06 28 27.4 -1.0**
comp=Z,30nm,1.1s,mb4.9,SNR=7.3
FBE Freiberg 38.39 318 *e*P **P** **06 28 27.9 -0.9**
comp=Z,6.0nm,0.7s,mb4.4
WATA Walderalm 38.39 312 ⇓*i*P **P** **06 28 28.2 -0.7**
comp=Z,10nm,0.6s,mb4.7
GSCL Gusciola 38.42 307 P **P** **06 28 30.1 +1.0**
comp=Z,22nm,1.0s,mb4.8
FINES FINESS Array B 38.44 339 P **P** **06 28 28.6 -0.7**
comp=Z,9.5nm,0.6s,mb4.7,baz=143,slow=9.8,SNR=67
FINES LR LR 06 47 09.4
comp=Z,109nm,18.7s,MS3.7,baz=164,slow=41
ERBM Eremo 38.55 307 P **P** **06 28 31.2 +1.0**
comp=Z,51nm,1.1s,mb5.2
SQTA Sankt Quirin 38.61 312 ⇑*i*P **P** **06 28 29.9 -0.8**
comp=Z,19nm,0.5s,mb5.1,SNR=8.8
ROTZ Rotzenmuhle 38.69 316 *e*P **P** **06 28 31.0 -0.4**
comp=Z,15nm,1.2s,mb4.6
NKC Novy Kostel 38.69 317 *e*P **P** **06 28 31.3 -0.1**
MOTA Moosalm 38.71 312 ⇓*i*P **P** **06 28 30.6 -0.9**
comp=Z,10nm,0.6s,mb4.8
CLL Collm 38.73 319 ⇑*i*P **P** **06 28 31.1 -0.6**
comp=Z,20nm,0.9s,mb4.8
CLL *i* sP sP 06 28 37.3 -2.0
CLL *es*PP 06 30 06.0
CLL LmH 06 44 00.0
comp=N,300nm,21.0s
CLL LmH 06 44 00.0
comp=E,400nm,19.8s
CLL Collm 38.73 319 ⇑*i*P **P** **06 28 31.1 -0.6**
CLL *i* *SP sP 06 28 37.3 -2.0
CLL pmax pmax
comp=Z,20nm,0.9s,mb4.8
CLL MLR MLR
comp=Z,200nm,17.6s,MS4.0
CLL Collm 38.73 319 ⇑*i*P **P** **06 28 31.1 -0.6**
comp=Z,20nm,0.9s,mb4.8
CLL *i* sP sP 06 28 37.3 -2.0
CLL LR LR
comp=Z,200nm,17.6s,MS4.0
CLL Collm 38.73 319 *e*P **P** **06 28 31.1 -0.6**
comp=Z,16nm,0.9s,mb4.8
VSL Villasalto 38.74 299 *e*P **P** **06 28 32.9 +1.1**
VSL Villasalto 38.74 299 *e*P **P** **06 28 32.9 +1.1**
TANN Tannenbergstha 38.75 317 *e*P **P** **06 28 31.3 -0.5**
comp=Z,3.0nm,0.8s,mb4.1
KAF Kangasniemi 38.86 339 *e*p **P** **06 28 31.6 -1.2**
baz=138,slow=8.7
GTA Gaotai 39.20 61 ⇑P **P** **06 28 36.8 +1.1**
GTA pmax pmax
comp=Z,30nm,0.7s,mb5.1
GTA AMB AMB
comp=Z,90nm,4.6s
GTA LR LR
comp=N,220nm,15.3s,MS4.3
GTA LR LR
comp=E,280nm,14.9s,MS4.3
GTA LR LR
comp=Z,220nm,16.0s,MS4.1
GRA1 Grafenberg Arr 39.28 316 *e*P **P** **06 28 35.6 -0.7**
comp=Z,22nm,0.8s,mb4.9
GRA1 LR LR
comp=Z,200nm,18.1s,MS4.0
GRF Grafenberg Arr 39.28 316 *e*P **P** **06 28 35.6 -0.7**
comp=Z,22nm,0.8s,mb4.9
GRF *e*L 06 48 40.9
comp=Z,155nm,18.1s
GRF Grafenberg Arr 39.28 316 *e*P **P** **06 28 35.6 -0.7**
GRF pmax pmax
comp=Z,22nm,0.8s,mb4.9
GRF MLR MLR
comp=Z,200nm,18.1s,MS4.0
GRF Grafenberg Arr 39.28 316 *e*P **P** **06 28 35.6 -0.7**
GRF pmax pmax
comp=Z,22nm,0.8s,mb4.9
GRF MLR MLR
comp=Z,200nm,18.1s,MS4.0
BOB Bobbio (Coli) 39.29 308 P **P** **06 28 35.7 -0.7**
BOB pmax pmax
comp=Z,39nm,0.8s,mb5.2
BOB Bobbio (Coli) 39.29 308 P **P** **06 28 35.7 -0.7**
comp=Z,39nm,0.8s,mb5.2
PGF Pioggiola 39.29 304 ⇑*i*P **P** **06 28 35.8 -0.6**
comp=Z,11nm,0.6s,mb4.5
PGF Pioggiola 39.29 304 ⇑*i*P **P** **06 28 35.8 -0.6**
PGF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
PGF Pioggiola 39.29 304 ⇑*i*P **P** **06 28 35.8 -0.6**
comp=Z,5.7nm,0.6s,mb4.5
DAVOX Davos 39.39 311 P **P** **06 28 36.3 -0.9**
comp=Z,7.8nm,0.5s,mb4.7,baz=111,slow=6.6,SNR=10
DAVA Damuels 39.50 311 *i* P **P** **06 28 37.3 -0.8**
comp=Z,39nm,0.5s,mb5.4,SNR=21
VAI Varese 39.96 309 P **P** **06 28 40.6 -1.4**
comp=Z,8.0nm,0.4s,mb4.8
UBBA Unterbreizbach 40.36 317 *e*P **P** **06 28 44.2 -1.1**
comp=Z,4.0nm,0.6s,mb4.3
CLZ Clausthal 40.46 318 *e*P **P** **06 28 46.1 0.0**
comp=Z,40nm,1.2s,mb5.0
CLZ Clausthal 40.46 318 *e*P **P** **06 28 46.1 0.0**
CLZ pmax pmax
comp=Z,40nm,1.2s,mb5.0
SBF Sospel 40.59 306 ⇑*i*P **P** **06 28 46.6 -0.6**
comp=Z,81nm,1.0s,mb5.0
SBF Sospel 40.59 306 ⇑*i*P **P** **06 28 46.6 -0.6**
SBF pmax pmax
comp=Z,40nm,1.0s,mb5.0

SBF Sospel 40.59 306⇑iP P 06 28 46.6 -0.6
comp=Z,40nm,1.0s,mb5.0
BFO Black Forest 40.76 313 eP **P 06 28 48.1 -0.5**
comp=Z,4.0nm,0.9s,mb4.0
BFO Black Forest 40.76 313 eP **P 06 28 48.1 -0.5**
BFO pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
NRDL Niedersach Rie 40.83 319 eP **P 06 28 49.4 +0.2**
comp=Z,48nm,1.1s,mb5.0
FRF La Foret Royal 41.12 305 eP **P 06 28 50.7 -0.9**
MBDF Montbardon 41.17 307⇑iP P 06 28 50.9 -1.1
comp=Z,16nm,0.6s,mb4.5
MBDF Montbardon 41.17 307⇑iP P 06 28 50.9 -1.1
MBDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
MBDF Montbardon 41.17 307⇑iP P 06 28 50.9 -1.1
comp=Z,7.8nm,0.6s,mb4.5
LMR La Mourre 41.20 305 eP **P 06 28 51.3 -0.9**
BNI Bardonecchia 41.28 307 eP **P 06 28 52.1 -0.8**
BNI pmax pmax
comp=Z,12nm,0.8s,mb4.6
BNI Bardonecchia 41.28 307 eP **P 06 28 52.1 -0.8**
comp=Z,12nm,0.8s,mb4.6
LPG La Plagne 41.29 308 eP **P 06 28 52.1 -0.9**
comp=Z,37nm,0.9s,mb4.7
LPG La Plagne 41.29 308 eP **P 06 28 52.1 -0.9**
LPG pmax pmax
comp=Z,19nm,0.9s,mb4.7
LPG La Plagne 41.29 308 eP **P 06 28 52.1 -0.9**
comp=Z,19nm,0.9s,mb4.7
LPL La Plagne 41.31 308 eP **P 06 28 52.1 -1.0**
comp=Z,20nm,0.7s,mb4.6
LPL La Plagne 41.31 308 eP **P 06 28 52.1 -1.0**
LPL pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
LPL La Plagne 41.31 308 eP **P 06 28 52.1 -1.0**
comp=Z,10nm,0.7s,mb4.6
CDF Champ du Feu 41.46 313⇑iP P 06 28 52.4 -2.0
HINF Hinteralfeld 41.62 312⇑iP P 06 28 54.2 -1.5
APA Apatity 41.62 348⇑iP P 06 28 56.0 +0.3
APA i pP 06 28 59.6 -1.5
APA i 06 30 29.5
APA eS **S 06 35 15.0 +3.8**
APA pmax pmax
comp=Z,69nm,1.3s,mb5.1
APA MLR MLR
comp=Z,500nm,16.0s,MS4.5
APA Apatity 41.62 348iP **P 06 28 56.0 +0.3**
comp=Z,69nm,1.3s,mb5.1
APA i pP 06 28 59.6 -1.5
APA i 06 30 29.5
APA eS **S 06 35 15.0 +3.8**
APA LR LR
comp=Z,500nm,16.0s,MS4.5
ORIF Oris-en-Rattie 41.83 307 eP **P 06 28 57.2 -0.2**
ORIF eR
comp=Z,252nm,19.2s
CABF La Chapelle 41.92 310⇑iP P 06 28 57.4 -0.7
comp=Z,35nm,0.8s,mb4.8
CABF La Chapelle 41.92 310⇑iP P 06 28 57.4 -0.7
CABF pmax pmax
comp=Z,17nm,0.8s,mb4.7
CABF La Chapelle 41.92 310⇑iP P 06 28 57.4 -0.7
comp=Z,17nm,0.8s,mb4.8
SMRF Simiane la Rot 41.94 306 eP **P 06 28 57.4 -0.9**
comp=Z,18nm,1.1s,mb4.3
SMRF Simiane la Rot 41.94 306 eP **P 06 28 57.4 -0.9**
comp=Z,9.1nm,1.1s,mb4.3
HAU Haudompre 41.99 312⇑iP P 06 28 58.1 -0.6
HAU eR
comp=Z,161nm,22.8s
HAU Haudompre 41.99 312⇑iP P 06 28 58.1 -0.6
HAU LR LR
comp=Z,160nm,22.8s,MS3.8
BUG Bochum--Univer 42.19 317 eP **P 06 29 00.9 +0.6**
comp=Z,17nm,0.9s,mb4.7
HFS Hagfors 42.30 331 P **P 06 29 00.1 -1.1**
comp=Z,9.5nm,0.6s,mb4.6,baz=125,slow=9.4,SNR=35
LZH Lanzhou 42.42 66 ⇑P P 06 29 02.3 +0.1
LZH AP pP 06 29 07.0 -0.6
LZH XP sP 06 29 10.5 +0.7
LZH PP PP 06 30 44.0 +3.5
LZH eS **S 06 35 22.3 -0.7**
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,200nm,5.2s
LZH LR LR
comp=N,780nm,13.9s
LZH LR LR
comp=Z,1μm,14.2s,MS5.0
LZH Lanzhou 42.42 66 ⇑P P 06 29 02.3 +0.1
comp=Z,40nm,1.0s,mb5.0
LZH pP pP 06 29 07.0 -0.6
LZH sP sP 06 29 10.5 +0.7
LZH PP PP 06 30 44.0 +3.5
LZH eS **S 06 35 22.3 -0.7**
LZH sS sS 06 35 32.0 +0.1
LZH SS SS 06 38 26.0 -6.2
LZH LR LR
comp=Z,1μm,14.2s,MS5.0
WLF Walferdange 42.45 314 eP **P 06 29 01.6 -0.9**
comp=Z,13nm,1.0s,mb4.5
WLF Walferdange 42.45 314 P **P 06 29 01.8 -0.7**
comp=Z,5.5nm,0.8s,mb4.2
VIVF Saint-Julien-l 42.67 307 eP **P 06 29 02.9 -1.3**
comp=Z,10nm,0.7s,mb4.4
VIVF Saint-Julien-l 42.67 307 eP **P 06 29 02.9 -1.3**
VIVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
VIVF Saint-Julien-l 42.67 307 eP **P 06 29 02.9 -1.3**
comp=Z,5.2nm,0.7s,mb4.4
CD2 Chengdu 42.91 74 eP **P 06 29 04.5 -1.7**
CD2 AP pP 06 29 09.0 -2.6
CD2 XP sP 06 29 11.5 -2.3
CD2 PP PP 06 30 46.5 +0.7
CD2 S **S 06 35 27.1 -3.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=E,110nm,15.6s
CD2 LR LR
comp=Z,130nm,16.8s,MS3.9
MEZF Maizieres J'vi 42.93 312 eP **P 06 29 05.4 -1.0**
ZAK Zakamensk 43.14 45 eP **P 06 29 08.2 +0.2**
ZAK e 06 30 52.9
ZAK pmax pmax
comp=Z,12nm,1.6s,mb4.4
ZAK pmax pmax
comp=Z,6.0nm,2.1s,mb4.0
ZAK Zakamensk 43.14 45 eP **P 06 29 08.2 +0.2**
comp=Z,12nm,1.6s,mb4.4
ZAK e 06 30 52.9
ZAK Zakamensk 43.14 45 eP **P 06 29 08.2 +0.2**
comp=Z,12nm,1.6s,mb4.4
LASF Ste Croix 43.18 306 eP **P 06 29 07.4 -1.0**
comp=Z,27nm,1.1s,mb4.6
LASF Ste Croix 43.18 306 eP **P 06 29 07.4 -1.0**
comp=Z,14nm,1.1s,mb4.6
KMI Kunming 43.22 82 P **P 06 29 08.9 +0.2**
KMI AP pP 06 29 13.0 -1.1
KMI XP sP 06 29 14.8 -1.5
KMI PP PP 06 30 50.8 +1.7
KMI S **S 06 35 32.3 -2.4**
KMI AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
KMI LR LR
comp=N,160nm,22.3s
KMI LR LR
comp=E,80nm,9.4s
KMI LR LR
comp=Z,100nm,12.2s
KMI Kunming 43.22 82 P **P 06 29 08.9 +0.2**
comp=Z,16nm,1.1s,mb4.7
KMI pP pP 06 29 13.0 -1.1
KMI sP sP 06 29 14.7 -1.6
KMI PP PP 06 30 50.8 +1.7
KMI PPP 06 31 24.6
KMI S **S 06 35 32.3 -2.4**
KMI sS sS 06 35 39.3 -4.4
KMI SS SS 06 38 36.6 -11
KMI SSS 06 39 24.0
KMI LR LR
comp=Z,110nm,12.2s,MS4.0
GIVF Givet 43.38 315⇑iP P 06 29 09.7 -0.3
comp=Z,13nm,0.6s,mb4.5
GIVF Givet 43.38 315⇑iP P 06 29 09.7 -0.3
GIVF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
GIVF Givet 43.38 315⇑iP P 06 29 09.7 -0.3
comp=Z,6.4nm,0.6s,mb4.5
SMF Signal de Mont 43.46 309⇑iP P 06 29 09.4 -1.2
comp=Z,34nm,0.8s,mb4.8
SMF Signal de Mont 43.46 309⇑iP P 06 29 09.4 -1.2
SMF pmax pmax
comp=Z,17nm,0.8s,mb4.8
SMF Signal de Mont 43.46 309⇑iP P 06 29 09.4 -1.2
comp=Z,17nm,0.8s,mb4.8
DOU Dourbes 43.53 315 P **P 06 29 11.0 -0.1**
LOR Lormes 43.53 310⇑iP P 06 29 09.8 -1.4
comp=Z,15nm,0.8s,mb4.5
LOR eR
comp=Z,225nm,18.5s
LOR Lormes 43.53 310⇑iP P 06 29 09.8 -1.4
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
LOR MLR MLR
comp=Z,220nm,18.5s,MS4.1
LOR Lormes 43.53 310⇑iP P 06 29 09.8 -1.4
comp=Z,7.7nm,0.8s,mb4.5
LOR LR LR
comp=Z,220nm,18.5s,MS4.1
TLY Talaya 43.65 43 P **P 06 29 13.8 +1.6**
SNR=6.8
TLY Talaya 43.65 43 eP **P 06 29 13.0 +0.8**
TLY e 06 31 01.2
TLY eS **S 06 35 43.5 +2.4**
TLY pmax pmax
comp=Z,15nm,1.9s,mb4.4
TLY MLR MLR
comp=Z,799nm,14.0s,MS4.8
TLY Talaya 43.65 43 eP **P 06 29 13.0 +0.8**
TLY e 06 31 01.2
TLY eS **S 06 35 43.5 +2.4**
TLY Talaya 43.65 43 eP **P 06 29 13.0 +0.8**
comp=Z,15nm,1.9s,mb4.4
TLY eS **S 06 35 43.5 +2.4**
comp=Z,799nm,14.0s
SSF Saint Saulge 43.74 310⇑iP P 06 29 11.8 -1.1
comp=Z,26nm,0.8s,mb4.7
SSF Saint Saulge 43.74 310⇑iP P 06 29 11.8 -1.1
SSF pmax pmax
comp=Z,13nm,0.8s,mb4.7
SSF Saint Saulge 43.74 310⇑iP P 06 29 11.8 -1.1
comp=Z,13nm,0.8s,mb4.7
BAIF Baives 43.76 314 eP **P 06 29 13.1 0.0**
comp=Z,73nm,1.1s,mb5.0
BAIF Baives 43.76 314 eP **P 06 29 13.1 0.0**
BAIF pmax pmax
comp=Z,37nm,1.1s,mb5.0
BAIF Baives 43.76 314 eP **P 06 29 13.1 0.0**
comp=Z,36nm,1.1s,mb5.0
SNF Seneffe 43.80 315 P **P 06 29 13.4 0.0**
comp=Z,7.4nm,0.0s
AVF Avril sur Loir 43.81 310⇑iP P 06 29 12.0 -1.4
comp=Z,16nm,0.9s,mb4.4
AVF Avril sur Loir 43.81 310⇑iP P 06 29 12.0 -1.4
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
AVF Avril sur Loir 43.81 310⇑iP P 06 29 12.0 -1.4
comp=Z,8.2nm,0.9s,mb4.4
NB2 NORSAR Subarra 43.81 331 P **P 06 29 11.7 -1.8**
comp=Z,6.0nm,0.6s,mb4.5,baz=119,slow=7.9
NB2 NORSAR Subarra 43.81 331 P **P 06 29 11.7 -1.8**
NB2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
NOA NORSAR Array B 43.81 331 P **P 06 29 11.8 -1.6**
comp=Z,6.7nm,0.8s,mb4.4,baz=120,slow=8.1,SNR=20
NOA LR LR 06 51 01.2
comp=Z,100nm,18.1s,MS3.8,baz=215,slow=41
ETOS Mallorca 43.81 299 P **P 06 29 13.9 +0.5**
comp=Z,37nm,0.8s,mb5.2
ETOS Mallorca 43.81 299 P **P 06 29 13.9 +0.4**
comp=Z,37nm,0.8s,mb5.2
BGF Bois d'Agland 44.13 309 eP **P 06 29 15.0 -1.0**
comp=Z,15nm,0.7s,mb4.5
BGF Bois d'Agland 44.13 309 eP **P 06 29 15.0 -1.0**
BGF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
BGF Bois d'Agland 44.13 309 eP **P 06 29 15.0 -1.0**
comp=Z,7.4nm,0.7s,mb4.5
MTLF Montolieu 44.32 305⇑iP P 06 29 17.3 -0.2
HYF Humbligny 44.35 310 eP **P 06 29 17.5 -0.3**
CAF Calviac 44.52 307⇑iP P 06 29 18.6 -0.6
comp=Z,21nm,0.7s,mb4.8
CAF Calviac 44.52 307⇑iP P 06 29 18.6 -0.6
CAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CAF Calviac 44.52 307⇑iP P 06 29 18.6 -0.6
comp=Z,10nm,0.7s,mb4.8
TCF Toulx Ste Croi 44.54 309⇑iP P 06 29 18.4 -0.9
comp=Z,18nm,0.6s,mb4.8
TCF Toulx Ste Croi 44.54 309⇑iP P 06 29 18.4 -0.9
TCF pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
TCF Toulx Ste Croi 44.54 309⇑iP P 06 29 18.4 -0.9
comp=Z,8.8nm,0.6s,mb4.8
KEV Kevo 44.72 347 ep **P 06 29 19.5 -1.2**
comp=Z,36nm,1.0s,mb5.2
KEV Kevo 44.72 347 eP **P 06 29 19.5 -1.2**
KEV pmax pmax
comp=Z,36nm,1.0s,mb5.2
SONM Songino Array 44.72 49 P **P 06 29 21.2 +0.5**
comp=Z,10nm,0.9s,mb4.7,baz=258,slow=8.7,SNR=54
SONM S **S 06 35 49.4 -7.2**
comp=Z,0.4nm,0.5s,baz=223,slow=13,SNR=3.5
SONM LR LR 06 48 45.2
comp=Z,289nm,18.9s,MS4.2,baz=106,slow=37
SONM Songino Array 44.72 49 P **P 06 29 21.2 +0.5**
SONM S **S 06 35 49.4 -7.2**
EMIR Miracle 44.79 302 P **P 06 29 21.7 +0.4**
comp=Z,40nm,0.9s,mb5.2
EMIR Miracle 44.79 302 P **P 06 29 21.7 +0.4**
comp=Z,40nm,0.9s,mb5.2
ARCES ARCESS Array B 44.85 346 P **P 06 29 21.3 -0.5**
comp=Z,5.3nm,0.6s,mb4.6,baz=150,slow=9.2,SNR=36
ARCES PP PP 06 31 02.1 -4.5
comp=Z,3.3nm,0.7s,baz=123,slow=11,SNR=3.0
ARCES LR LR 06 50 14.3
comp=Z,184nm,18.8s,MS4.0,baz=263,slow=39
ARCES ARCESS Array B 44.85 346 P **P 06 29 21.3 -0.5**
ARCES 06 31 02.1
ARCES ARCESS Array B 44.85 346 PcP PcP 06 31 02.1 -1.3
RJF Les Rejaudoux 44.94 307⇑iP P 06 29 22.1 -0.4
comp=Z,29nm,0.7s,mb4.9
RJF eR
comp=Z,197nm,21.2s
RJF Les Rejaudoux 44.94 307⇑iP P 06 29 22.1 -0.4
RJF pmax pmax
comp=Z,14nm,0.7s,mb4.9
RJF MLR MLR
comp=Z,200nm,21.3s,MS4.0
RJF Les Rejaudoux 44.94 307⇑iP P 06 29 22.1 -0.4
comp=Z,14nm,0.7s,mb4.9
RJF LR LR
comp=Z,200nm,21.3s,MS4.0
EIBI Ibiza 44.97 298 P **P 06 29 23.0 +0.3**
comp=Z,34nm,0.7s,mb5.3
EIBI Ibiza 44.97 298 P **P 06 29 23.0 +0.3**
comp=Z,34nm,0.7s,mb5.3
ULN Ulaanbaatar 45.16 49 P **P 06 29 24.9 +0.6**
SNR=8.9
ULN Ulaanbaatar 45.16 49 eP **P 06 29 24.6 +0.3**
comp=Z,15nm,0.8s,mb4.9
ULN LR LR
comp=Z,278nm,19.0s,MS4.2
ULN Ulaanbaatar 45.16 49 eP **P 06 29 24.6 +0.3**
comp=Z,15nm,0.8s,mb4.9
LFF La Frestale 45.46 307⇑iP P 06 29 26.3 -0.3
comp=Z,37nm,0.6s,mb5.1
LFF La Frestale 45.46 307⇑iP P 06 29 26.3 -0.3
LFF pmax pmax
comp=Z,19nm,0.6s,mb5.1
LFF La Frestale 45.46 307⇑iP P 06 29 26.3 -0.3
comp=Z,19nm,0.6s,mb5.1
EBR Ebro Roquetas 45.57 301 eP **P 06 29 28.0 +0.5**
ERTA Horta de San J 45.69 301 P **P 06 29 28.6 +0.1**
comp=Z,53nm,0.9s,mb5.5
ERTA Horta de San J 45.69 301 P **P 06 29 28.6 +0.2**
comp=Z,53nm,0.9s,mb5.5
EGRA Graus 45.69 303 P **P 06 29 28.5 0.0**
comp=Z,11nm,0.6s,mb5.0
EBIE Bielsa 45.82 304 P **P 06 29 30.3 +0.8**
comp=Z,5.7nm,0.7s,mb4.6
EBIE Bielsa 45.82 304 P **P 06 29 30.3 +0.8**
comp=Z,5.7nm,0.7s,mb4.6
MFF Saint Martin d 46.19 309 eP **P 06 29 31.0 -1.4**
comp=Z,13nm,0.8s,mb4.6
MFF Saint Martin d 46.19 309 eP **P 06 29 31.0 -1.4**
MFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MFF Saint Martin d 46.19 309 eP **P 06 29 31.0 -1.4**
comp=Z,6.4nm,0.8s,mb4.6
EBEN Beniarda 46.21 298 P **P 06 29 32.8 +0.2**
comp=Z,40nm,1.2s,mb5.2
EBEN Beniarda 46.21 298 P **P 06 29 32.8 +0.3**
comp=Z,40nm,1.2s,mb5.2
ESAC San Caprasio 46.28 302 P **P 06 29 32.9 -0.2**
comp=Z,65nm,0.7s,mb5.7
ESAC San Caprasio 46.28 302 P **P 06 29 32.9 -0.2**
comp=Z,65nm,0.7s,mb5.7
GYA Guiyang 46.31 79 P **P 06 29 32.8 -0.5**
GYA AP pP 06 29 36.9 -1.9
GYA XP sP 06 29 38.3 -2.7
GYA PP PP 06 31 20.9 -1.1
GYA SCP ScP 06 35 01.6 +0.7
GYA S **S 06 36 16.8 -2.7**
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,160nm,4.2s
GYA LR LR
comp=N,460nm,17.6s,MS4.7
GYA LR LR
comp=E,540nm,17.8s,MS4.7
GYA LR LR
comp=Z,490nm,17.9s,MS4.5
EMOS Mosqueruela 46.32 300 P **P 06 29 34.6 +1.2**
comp=Z,83nm,1.3s,mb5.5
ETSF Etsaut 46.34 304⇑iP P 06 29 33.6 0.0
comp=Z,33nm,0.9s,mb5.0
ETSF Etsaut 46.34 304⇑iP P 06 29 33.6 0.0
ETSF pmax pmax
comp=Z,17nm,0.9s,mb5.0
ETSF Etsaut 46.34 304⇑iP P 06 29 33.6 0.0
comp=Z,16nm,0.9s,mb5.0
LDF La Druitiere 46.35 312⇑iP P 06 29 32.1 -1.5
comp=Z,22nm,0.7s,mb4.9
LDF La Druitiere 46.35 312⇑iP P 06 29 32.1 -1.5
LDF pmax pmax
comp=Z,11nm,0.7s,mb4.9
LDF La Druitiere 46.35 312⇑iP P 06 29 32.1 -1.5
comp=Z,11nm,0.7s,mb4.9
FLN La Foliniere 46.60 312⇑iP P 06 29 34.2 -1.4
comp=Z,42nm,1.0s,mb5.0
FLN La Foliniere 46.60 312⇑iP P 06 29 34.2 -1.4
FLN pmax pmax
comp=Z,21nm,1.0s,mb5.0
FLN La Foliniere 46.60 312⇑iP P 06 29 34.2 -1.4
comp=Z,21nm,1.0s,mb5.0
ECHE Chera 46.73 299 P **P 06 29 37.4 +0.8**
comp=Z,7.1nm,0.4s,mb5.0
ECHE Chera 46.73 299 P **P 06 29 37.4 +0.7**
comp=Z,7.1nm,0.4s,mb5.0
OPO Ambohidratompo 46.74 189 P **P 06 29 39.3 +2.6**
comp=Z,8.6nm,0.8s,mb4.7,baz=27,slow=9.5,SNR=8.2
XAN Xi'an 46.77 68 P **P 06 29 36.4 -0.5**
XAN AP pP 06 29 46.1 +3.7
XAN AMB AMB
comp=Z,40nm,1.1s,mb5.3
GRR Gorron 46.81 311 eP **P 06 29 36.8 -0.5**
SJPF Ste Jean 46.83 304⇑iP P 06 29 37.5 +0.1
comp=Z,26nm,0.6s,mb5.0
SJPF Ste Jean 46.83 304⇑iP P 06 29 37.5 +0.1
SJPF pmax pmax
comp=Z,13nm,0.6s,mb5.0
SJPF Ste Jean 46.83 304⇑iP P 06 29 37.5 +0.1
comp=Z,13nm,0.6s,mb5.0
BTO Baotou 47.04 59 eP **P 06 29 39.3 +0.3**
ETOB Tobarra 47.25 298 P **P 06 29 41.3 +0.6**
comp=Z,28nm,0.7s,mb5.3
ETOB Tobarra 47.25 298 P **P 06 29 41.3 +0.6**
comp=Z,28nm,0.7s,mb5.3
ETOR Torete 47.50 301 P **P 06 29 42.1 -0.5**
comp=Z,2.7nm,0.4s,mb4.6
ETOR Torete 47.50 301 P **P 06 29 42.1 -0.6**
comp=Z,2.7nm,0.4s,mb4.6
SGMF Saint Gilles 47.93 311⇑iP P 06 29 44.8 -1.2
comp=Z,23nm,0.7s,mb5.0
SGMF Saint Gilles 47.93 311⇑iP P 06 29 44.8 -1.2
SGMF pmax pmax
comp=Z,12nm,0.7s,mb5.0
SGMF Saint Gilles 47.93 311⇑iP P 06 29 44.8 -1.2
comp=Z,12nm,0.7s,mb5.0
EVIA Vianos 47.99 298 P **P 06 29 46.9 +0.4**
EVIA pmax pmax
comp=Z,30nm,0.7s,mb5.4
EVIA Vianos 47.99 298 P **P 06 29 46.9 +0.5**
comp=Z,30nm,0.7s,mb5.4
EVIA Vianos 47.99 298 P **P 06 29 46.9 +0.4**
comp=Z,30nm,0.7s,mb5.4
EHUE Huescar 48.14 297 P **P 06 29 47.2 -0.4**
EHUE pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
EHUE Huescar 48.14 297 P **P 06 29 47.2 -0.3**
comp=Z,6.9nm,0.7s,mb4.8
EHUE Huescar 48.14 297 P **P 06 29 47.2 -0.4**
comp=Z,7.0nm,0.7s,mb4.8
HHC Hu-ho-hao-te 48.20 59 ⇑P P 06 29 48.3 +0.2
HHC AP pP 06 29 52.5 -1.1
HHC XP sP 06 29 55.1 -0.6
HHC SCS ScS 06 39 38.9 -1.4
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,60nm,5.2s
HHC LR LR
comp=N,260nm,19.0s,MS4.3
HHC LR LR
comp=E,210nm,19.0s,MS4.3
HHC LR LR
comp=Z,160nm,17.8s,MS4.0
QUIF Quistinic 48.32 311⇑iP P 06 29 47.6 -1.4
comp=Z,22nm,0.8s,mb5.0
QUIF Quistinic 48.32 311⇑iP P 06 29 47.6 -1.4
QUIF pmax pmax
comp=Z,11nm,0.8s,mb4.9
QUIF Quistinic 48.32 311⇑iP P 06 29 47.6 -1.4
comp=Z,11nm,0.8s,mb5.0
ROSF Rostrenen 48.42 311 eP **P 06 29 48.5 -1.2**
comp=Z,32nm,0.9s,mb5.0
ROSF Rostrenen 48.42 311 eP **P 06 29 48.5 -1.2**
ROSF pmax pmax
comp=Z,16nm,0.9s,mb5.0
ROSF Rostrenen 48.42 311 eP **P 06 29 48.5 -1.2**
comp=Z,16nm,0.9s,mb5.0
EBER Berja 48.47 296 P **P 06 29 51.0 +0.8**
comp=Z,5.8nm,0.6s,mb4.8
EBER Berja 48.47 296 P **P 06 29 51.0 +0.8**
comp=Z,5.8nm,0.6s,mb4.8
EQES Quesada 48.52 297 P **P 06 29 50.2 -0.3**
comp=Z,13nm,0.6s,mb5.1
EQES Quesada 48.52 297 P **P 06 29 50.2 -0.3**
comp=Z,13nm,0.6s,mb5.1
ECOG Cogollos-Vega 48.97 296 P **P 06 29 53.2 -0.7**
comp=Z,15nm,0.4s,mb5.4
ECOG Cogollos-Vega 48.97 296 P **P 06 29 53.2 -0.8**
comp=Z,15nm,0.4s,mb5.4
EGUA Guajares 49.02 296 P **P 06 29 54.4 0.0**
EGUA pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
EGUA Guajares 49.02 296 P **P 06 29 54.4 0.0**
comp=Z,2.0nm,0.7s,mb4.3
EGUA Guajares 49.02 296 P **P 06 29 54.4 0.0**
comp=Z,2.0nm,0.7s,mb4.3
ESDC Sonseca Array 49.04 300 P **P 06 29 54.2 -0.3**
comp=Z,5.4nm,0.5s,mb4.8,baz=68,slow=7.5,SNR=18
ESDC LR LR 06 52 09.7
comp=Z,68nm,18.8s,MS3.7,baz=20,slow=38
ESDC Sonseca Array 49.04 300 P **P 06 29 54.2 -0.3**
comp=Z,23nm,0.6s,mb5.4
ESLA Sonseca Array 49.04 300 eP **P 06 29 54.4 -0.1**
ESLA Sonseca Array 49.04 300 eP **P 06 29 54.4 -0.1**
GUD Guadarrama 49.11 301 P **P 06 29 55.0 0.0**
GUD pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
GUD Guadarrama 49.11 301 P **P 06 29 55.0 -0.1**

comp=Z,9.3nm,0.7s,mb4.9
GUD Guadarrama 49.11 301 P **P 06 29 55.0 0.0**
comp=Z,9.0nm,0.7s,mb4.9
ERON Agron 49.19 296 P **P 06 29 55.8 +0.2**
comp=Z,22nm,0.6s,mb5.4
ERON Agron 49.19 296 P **P 06 29 55.8 +0.1**
comp=Z,22nm,0.6s,mb5.4
ELOJ Sierra Loja 49.45 296 P **P 06 29 56.4 -1.2**
ELOJ pmax pmax
comp=Z,17nm,0.8s,mb5.1
ELOJ Sierra Loja 49.45 296 P **P 06 29 56.4 -1.2**
comp=Z,17nm,0.8s,mb5.1
ELOJ Sierra Loja 49.45 296 P **P 06 29 56.4 -1.2**
comp=Z,17nm,0.8s,mb5.1
EADA Adamuz 49.66 298 P **P 06 29 59.1 -0.1**
comp=Z,69nm,1.0s,mb5.6
EADA Adamuz 49.66 298 P **P 06 29 59.1 -0.2**
comp=Z,69nm,1.0s,mb5.6
LSZ Lusaka 49.85 214 P **P 06 30 02.8 +2.0**
comp=Z,9.4nm,0.9s,mb4.8,baz=46,slow=6.6,SNR=12
LSZ Lusaka 49.85 214 *e*P **P 06 30 03.1 +2.4**
LSZ pmax pmax
comp=Z,16nm,1.0s,mb5.0
LSZ Lusaka 49.85 214 *e*P **P 06 30 03.1 +2.3**
comp=Z,16nm,1.0s,mb5.0
EMIJ Mijas 50.02 296 P **P 06 30 00.8 -1.2**
comp=Z,52nm,1.0s,mb5.5
EMIJ Mijas 50.02 296 P **P 06 30 00.8 -1.2**
comp=Z,52nm,1.0s,mb5.5
ZFT Errachidia 50.43 290 *i*P **P 06 30 06.0 +0.9**
MDT Midelt 50.50 291 P **P 06 30 06.4 +0.8**
comp=Z,9.2nm,0.8s,mb4.9,baz=85,slow=9.3,SNR=28
CZD Col de Zad 50.81 291 *i*P **P 06 30 09.0 +1.0**
ESPR Espera 50.84 296 P **P 06 30 07.0 -1.2**
comp=Z,33nm,0.7s,mb5.4
ESPR Espera 50.84 296 P **P 06 30 07.0 -1.2**
comp=Z,33nm,0.7s,mb5.4
MIF Mishlifen 50.90 292 *i*P **P 06 30 08.0 -0.6**
PBRG Braganca 50.96 303 *e*P **P 06 30 09.0 -0.1**
TORD Torodi Ar. Bea 51.04 264 P **P 06 30 09.5 -0.2**
comp=Z,26nm,0.6s,mb5.3,baz=60,slow=8.2,SNR=219
TORD LR LR 06 54 49.1
comp=Z,193nm,18.0s,MS4.2,baz=70,slow=40
QIZ Qiongzhong 51.35 87 P **P 06 30 12.8 +0.8**
QIZ S **S 06 37 26.8 -3.7**
QIZ XS sS 06 37 43.3 +3.6
QIZ AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
QIZ LR LR
comp=N,120nm,20.9s
QIZ LR LR
comp=Z,140nm,18.4s,MS4.0
QIZ Qiongzhong 51.35 87 *e*P **P 06 30 12.7 +0.7**
comp=Z,19nm,1.3s,mb4.9
QIZ Qiongzhong 51.35 87 *e*P **P 06 30 12.7 +0.7**
comp=Z,19nm,1.3s,mb4.9
EMIN Mina Concepcio 51.35 297 P **P 06 30 11.2 -0.8**
comp=Z,22nm,1.0s,mb5.0
EMIN Mina Concepcio 51.35 297 P **P 06 30 11.2 -0.9**
comp=Z,22nm,1.0s,mb5.0
EBAD Badajoz 51.49 299 P **P 06 30 12.5 -0.6**
comp=Z,4.7nm,0.6s,mb4.6
EBAD Badajoz 51.49 299 P **P 06 30 12.5 -0.6**
comp=Z,4.7nm,0.6s,mb4.6
MTE Manteigas 51.70 301 *e*P **P 06 30 15.6 +0.9**
comp=Z,34nm,1.2s,mb5.2
PCBR Castelo Branco 51.72 300 *e*P **P 06 30 14.6 -0.2**
comp=Z,35nm,1.2s,mb5.2
KIB El Ksiba 51.72 291 *i*P **P 06 30 15.5 +0.7**
PVRL Vila Real 51.74 302 *e*P **P 06 30 15.3 +0.4**
BJI Beijing 51.77 60 *e*P **P 06 30 15.6 +0.4**
comp=Z,21nm,1.0s,mb5.0
BJI sP sP 06 30 22.0 -0.9
BJI PP PP 06 32 13.2 +0.3
BJI S **S 06 37 33.0 -3.4**
BJI SS SS 06 41 14.0 +1.1
BJI LR LR
comp=Z,110nm,19.6s,MS3.9
WHN Wuhan 51.93 72 ⇑P **P 06 30 15.5 -0.8**
PVIS Viseu 51.93 301 *e*P **P 06 30 17.0 +0.6**
comp=Z,40nm,1.7s,mb5.1
EGRO El Granado 52.02 297 P **P 06 30 16.1 -1.0**
comp=Z,28nm,1.2s,mb5.1
EGRO El Granado 52.02 297 P **P 06 30 16.1 -1.0**
comp=Z,28nm,1.2s,mb5.1
TZC Tazercounte 52.19 290 *i*P **P 06 30 19.0 +0.7**
PBEJ Beja 52.25 298 *e*P **P 06 30 18.6 -0.2**
comp=Z,36nm,1.3s,mb5.2
PTOM Tomar 52.46 300 *e*P **P 06 30 20.7 +0.4**
HIA Hailar 53.63 48 *e*P **P 06 30 29.4 +0.4**
MATP Matopo 54.16 210 P **P 06 30 33.7 +0.9**
comp=Z,17nm,0.9s,mb5.0,baz=36,slow=8.4,SNR=19
MATP Matopo 54.16 210 P **P 06 30 33.7 +0.9**
KBS Kingsbay 54.29 351 *i*P **P 06 30 33.3 -0.5**
NJ2 Nanjing 55.33 69 *e*P **P 06 30 41.0 -0.3**
NJ2 AP pP 06 30 45.9 -1.0
NJ2 XP sP 06 30 49.1 +0.1
NJ2 PP PP 06 32 46.0 +1.0
NJ2 S **S 06 38 22.0 -2.6**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,60nm,10.0s
NJ2 LR LR
comp=N,580nm,22.0s,MS4.7
NJ2 LR LR
comp=E,350nm,18.0s,MS4.7
NJ2 LR LR
comp=Z,170nm,11.9s
DL2 Dalian 56.12 60 P **P 06 30 47.3 +0.4**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
SNY Shenyang 57.08 56 ⇑P **P 06 30 52.6 -1.1**
SNY AP pP 06 30 59.8 +0.5
SNY XP sP 06 31 04.3 +2.8
SNY PP PP 06 32 59.3 -1.2
SNY XS sS 06 38 56.3 -0.7
SNY AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
SNY AMB AMB
comp=Z,60nm,6.7s
SNY LR LR
comp=N,150nm,10.8s
SNY LR LR
comp=E,240nm,16.2s
SNY LR LR
comp=Z,230nm,16.2s
SSE Sheshan 57.49 69 *e*P **P 06 30 55.3 -1.4**
SSE AP pP 06 30 58.4 -3.9
SSE PCP PcP 06 31 50.6 +0.4
SSE PP PP 06 33 01.1 -3.2
SSE S **S 06 38 49.5 -3.8**
SSE SCS ScS 06 40 41.8 -3.6
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,30nm,4.3s
SSE LR LR
comp=N,130nm,16.4s,MS4.2
SSE LR LR
comp=E,90nm,16.4s,MS4.2
SSE LR LR
comp=Z,190nm,18.1s,MS4.2
SSE Sheshan 57.49 69 *e*P **P 06 30 55.3 -1.4**
comp=Z,24nm,0.8s,mb5.3
SSE pP pP 06 30 58.4 -3.9
SSE sP sP 06 30 59.7 -4.7
SSE PcP PcP 06 31 50.6 +0.4
SSE PP PP 06 33 01.1 -3.2
SSE S **S 06 38 49.5 -3.8**
SSE sS sS 06 38 57.4 -5.1
SSE ScS ScS 06 40 41.7 -3.7
SSE LR LR
comp=Z,200nm,18.1s,MS4.3
CN2 Changchun 58.10 54 *e*P **P 06 31 01.8 +0.8**
CN2 *e*XP sP 06 31 08.1 -0.6
CN2 *e*S **S 06 38 58.1 -3.2**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,19.0s,MS4.5
CN2 LR LR
comp=E,200nm,19.0s,MS4.5
CN2 LR LR
comp=Z,300nm,19.0s,MS4.4
TSUM Tsumeb 58.80 221 P **P 06 31 06.6 +0.7**
comp=Z,5.6nm,0.9s,mb4.6,baz=32,slow=11,SNR=3.2
TIXI Tiksi 58.90 21⇓*e*P **P 06 31 05.8 -0.7**
TIXI pmax pmax
comp=Z,19nm,1.5s,mb4.9
TIXI MLR MLR
comp=Z,200nm,18.0s,MS4.3
TIXI Tiksi 58.90 21⇓*e*P **P 06 31 05.8 -0.7**
comp=Z,19nm,1.5s,mb4.9
TIXI LR LR
comp=Z,200nm,18.0s,MS4.3
TIXI Tiksi 58.90 21 *e*P **P 06 31 05.8 -0.7**
comp=Z,200nm,18.0s
YAK Yakutsk 58.92 32 *e*P **P 06 31 05.5 -1.2**
YAK pmax pmax
comp=Z,20nm,1.2s,mb5.0
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,13nm,1.4s
YAK Yakutsk 58.92 32 *e*P **P 06 31 05.5 -1.2**
comp=E,4.0nm,1.3s,mb4.3
DAG Danmarks Havn 59.12 345⇓*i*P **P 06 31 07.3 -0.8**
comp=E,2.7nm,0.7s,mb4.4
DAG Danmarks Havn 59.12 345⇓*i*P **P 06 31 07.3 -0.8**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LBTB Lobatse 59.46 210 P **P 06 31 11.4 +1.0**
comp=Z,12nm,0.8s,mb5.0,baz=26,slow=9.7,SNR=8.6
LBTB Lobatse 59.46 210 P **P 06 31 11.4 +1.0**
LBTB LR LR
comp=Z,157nm,18.1s,MS4.2
YHNB Yeheng 59.54 76 *e*P **P 06 31 12.5 +1.5**
YHNB Yeheng 59.54 76 *e*P **P 06 31 12.5 +1.5**
DBIC Dimbokro 59.71 261 P **P 06 31 12.1 -0.1**
comp=Z,17nm,0.8s,mb5.2,baz=41,slow=7.7,SNR=18
DBIC LR LR 06 57 13.2
comp=Z,116nm,21.0s,MS4.0,baz=48,slow=36
DBIC Dimbokro 59.71 261 P **P 06 31 12.1 0.0**
DBIC pmax pmax
comp=Z,17nm,0.8s
DBIC MLR MLR
comp=Z,117nm,21.0s
DBIC Dimbokro 59.71 261 *e*P **P 06 31 11.4 -0.7**
comp=Z,22nm,0.8s,mb5.2
DBIC LR LR
comp=Z,184nm,21.0s,MS4.2
LIC Lamto 60.07 261⇑*i*P **P 06 31 14.5 -0.1**
comp=Z,26nm,0.7s,mb5.1
LIC *e*R
comp=Z,129nm,19.5s
LIC Lamto 60.07 261⇑*i*P **P 06 31 14.5 -0.1**
comp=Z,13nm,0.7s,mb5.1
LIC LR LR
comp=Z,60nm,19.5s,MS3.7
LIC Lamto 60.07 261⇑*i*P **P 06 31 14.5 -0.1**
comp=Z,13nm,0.7s,mb5.1
MDJ Mudanjiang 60.88 52 P **P 06 31 18.5 -1.7**
MDJ AP pP 06 31 21.5 -4.3
MDJ PP PP 06 33 34.9 +0.6
MDJ S **S 06 39 35.1 -2.1**
MDJ XS sS 06 39 49.4 +2.9
MDJ AMB AMB
comp=Z,50nm,5.2s
MDJ LR LR
comp=N,170nm,13.3s,MS4.5
MDJ LR LR
comp=E,180nm,17.4s,MS4.5
MDJ LR LR
comp=Z,160nm,15.3s,MS4.3
KS15 Wonju Array Si 61.24 61 *e*P **P 06 31 21.2 -1.4**
KS15 Wonju Array Si 61.24 61 *e*P **P 06 31 21.2 -1.4**
KLR Kul'dur 61.45 47 *e*P **P 06 31 19.2 -4.8**
KLR MLR MLR
comp=N,500nm,13.0s,MS5.2
KLR MLR MLR
comp=E,900nm,13.0s,MS5.2
KLR MLR MLR
comp=Z,1μm,13.0s,MS5.2
BOSA Boshof 62.73 209 P **P 06 31 32.5 -0.1**
comp=Z,7.4nm,0.8s,mb4.9,baz=81,slow=5.8,SNR=8.4
BOSA LR LR 07 02 41.2
comp=Z,174nm,18.1s,MS4.3,baz=186,slow=40
HABR Khabarovsk 63.74 47 *e*P **P 06 31 38.1 -1.2**
HABR *e*S **S 06 40 11.2 -2.0**
HABR pmax pmax
comp=Z,48nm,1.7s,mb5.2
SUMG Summit 64.43 341 *e*P **P 06 31 44.5 +0.7**
comp=Z,31nm,0.9s,mb5.3
SUMG Summit 64.43 341 *e*P **P 06 31 44.5 +0.7**
comp=Z,31nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 69.16 47⇑*e*P **P 06 32 12.5 -1.5**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS MLR MLR
comp=Z,500nm,17.0s,MS4.8
YSS MLR MLR
comp=E,500nm,16.0s
YSS Yuzh-Sakhalins 69.16 47⇑*e*P **P 06 32 12.5 -1.5**
comp=E,30nm,1.0s,mb5.2
YSS LR LR
comp=Z,500nm,17.0s,MS4.8
YSS Yuzh-Sakhalins 69.16 47 *e*P **P 06 32 12.5 -1.5**
comp=Z,500nm,17.0s
MJAR Matsushiro Arr 69.40 59 P **P 06 32 14.3 -1.2**
comp=Z,21nm,0.5s,mb4.3,baz=276,slow=8.0,SNR=7.7
MJAR LR LR 07 06 22.0
comp=Z,184nm,18.5s,MS4.3,baz=280,slow=39
MJAR Matsushiro Arr 69.40 59 P **P 06 32 14.3 -1.2**
MJAR LR LR 07 06 22.0
MA2 Magadan 69.49 33*c*e*P **P 06 32 15.6 -0.4**
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MA2 Magadan 69.49 33 *e*P **P 06 32 15.6 -0.4**
comp=Z,20nm,0.8s,mb5.1
ASAJ Asahikawa 69.99 50 P **P 06 32 17.8 -1.3**
comp=Z,11nm,0.7s,mb4.9,baz=297,slow=11,SNR=8.9
ASAJ Asahikawa 69.99 50 P **P 06 32 17.8 -1.3**
ASAJ pmax pmax
comp=Z,11nm,0.7s
SFJD Kangerlussuaq 70.18 336 *e*P **P 06 32 14.5 -5.8**
comp=Z,28nm,0.9s,mb5.2
BILL Bilibino 72.11 22*c i*P **P 06 32 31.9 0.0**
BILL *e* 06 32 54.5
BILL pmax pmax
comp=Z,19nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.5
BILL Bilibino 72.11 22⇑*i*P **P 06 32 31.9 0.0**
comp=Z,19nm,1.0s,mb5.0
BILL *e* 06 32 54.5
BILL LR LR
comp=Z,200nm,16.0s,MS4.5
CBIJ Chichi jima 76.10 67 LR LR 07 08 32.9
comp=Z,46nm,20.4s,MS3.8,baz=104,slow=37
FRB Frobisher Bay 78.23 338 P **P 06 33 05.2 -2.0**
comp=Z,13nm,0.8s,mb5.0,baz=23,slow=7.0,SNR=4.3
FITZ Fitzroy Crossi 82.80 115 P **P 06 33 31.8 0.0**
comp=Z,5.3nm,0.8s,mb4.7,baz=184,slow=6.4,SNR=9.9
FITZ Fitzroy Crossi 82.80 115 *e*P **P 06 33 31.8 0.0**
comp=Z,9.3nm,0.8s,mb4.9
SCHQ Schefferville 83.37 330 P **P 06 33 34.5 -0.2**
comp=Z,12nm,0.9s,mb5.0,baz=51,slow=4.7,SNR=12
SCHQ Schefferville 83.37 330 *e*P **P 06 33 33.9 -0.8**
comp=Z,36nm,1.3s,mb5.2
SCHQ Schefferville 83.37 330 *e*P **P 06 33 33.9 -0.8**
comp=Z,36nm,1.3s,mb5.2
INK Inuvik 83.87 3 P **P 06 33 36.6 -0.7**
comp=Z,4.6nm,0.8s,mb4.7,baz=14,slow=6.9,SNR=12
INK Inuvik 83.87 3 P **P 06 33 36.6 -0.7**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 83.87 3 *e*P **P 06 33 35.8 -1.4**
NWAO Narrogin (SRO) 85.04 131 P **P 06 33 42.0 -1.2**
comp=Z,6.2nm,0.6s,mb4.9,baz=298,slow=4.7,SNR=7.3
NWAO Narrogin (SRO) 85.04 131 P **P 06 33 42.0 -1.2**
KAKA Kakadu 85.67 107 *e*P **P 06 33 46.0 -0.3**
comp=Z,18nm,0.7s,mb5.4
COLA College 85.90 9*c i*P **P 06 33 46.8 -0.7**
COLA College 85.90 9 *i*P **P 06 33 46.8 -0.7**
TTA Tatalina 86.28 13 *e*P **P 06 33 49.0 -0.3**
MCK McKinley 86.81 10 *e*P **P 06 33 51.3 -0.7**
MCK pmax pmax
comp=Z,16nm,1.2s,mb5.1
MCK McKinley 86.81 10 *e*P **P 06 33 51.3 -0.6**
comp=Z,16nm,1.2s,mb5.1
MCK McKinley 86.81 10 *e*P **P 06 33 51.3 -0.7**
comp=Z,16nm,1.2s,mb5.1
DAWY Dawson 87.68 6 *e*P **P 06 33 56.1 0.0**
YKW3 Yellowknife Ar 89.38 355 *e*P **P 06 34 03.8 -0.4**
YKA Yellowknife Ar 89.45 355 P **P 06 34 04.2 -0.3**
comp=Z,12nm,0.6s,mb5.4,baz=6.1,slow=5.2,SNR=129
YKA PP PP 06 37 30.1 -5.6
comp=Z,0.6nm,0.9s,baz=10,slow=7.8,SNR=4.1
YKA Yellowknife Ar 89.45 355 P **P 06 34 04.2 -0.3**
YKA PP PP 06 37 30.1 -5.6
WRA Warramunga Arr 90.81 112 P **P 06 34 10.5 -0.4**
comp=Z,2.7nm,0.8s,mb4.6,baz=314,slow=4.1,SNR=16
WB2 Warramunga Arr 90.82 112 *e*P **P 06 34 10.7 -0.2**
FORT Forrest 91.40 124 *e*P **P 06 34 13.6 0.0**
comp=Z,7.5nm,0.8s,mb5.1
KDAK Kodiak Island 91.68 14 LR LR 07 16 19.9
comp=Z,87nm,20.7s,MS4.2,baz=111,slow=36
ASAR Alice Springs 92.28 116 P **P 06 34 16.9 -0.7**
comp=Z,3.1nm,0.7s,mb4.7,baz=304,slow=4.8,SNR=29
MAW Mawson 95.46 177 LR LR 07 12 13.8
comp=Z,100nm,18.9s,MS4.3,baz=246,slow=32
SADO Sadowa 96.10 329 P **P 06 34 33.7 -1.5**
comp=Z,5.9nm,1.0s,mb5.0,baz=27,slow=4.5,SNR=3.7
SADO Sadowa 96.10 329 P **P 06 34 33.7 -1.5**
ULM Lac du Bonnet 97.78 341 LR LR 07 22 40.2
comp=Z,50nm,18.1s,MS4.0,baz=288,slow=38
EDM Edmonton 98.47 353 *e*P **P 06 34 45.9 0.0**
NVAR Mina Array Bea 113.62 354 PKiKP PKiKP 06 39 46.4 +0.5
comp=Z,0.6nm,0.7s,baz=53,slow=3.2,SNR=4.5
LPAZ La Paz 125.84 270 PKP PKPdf 06 40 10.9 +1.6
comp=Z,1.5nm,1.0s,baz=336,slow=1.0,SNR=4.6
LVC Limon Verde 128.75 262 PKP PKPdf 06 40 16.1 +1.2
comp=Z,3.1nm,0.8s,baz=349,slow=6.4,SNR=4.1
CFAA Coronel Fontan 130.47 251 PKP PKPdf 06 40 18.8 +0.6
comp=Z,0.6nm,0.9s,baz=347,slow=2.1,SNR=9.8
CFAA Coronel Fontan 130.47 251 PKP PKPdf 06 40 18.8 +0.6

NEIC ***23*** *06:22:04.6, 1952N×6925W, h139km, MD3.9(RSPR), After RSPR.*
RSPR 23 06:22:04.6, 1952N×6925W, h139km±15km, MD3.9/12, MD3.9/12, 13C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.28**	**117**⇑	*e*P		Pn	06 22 42.3	-0.2
AGPR				*e*S		Sn	06 23 11.9	+0.3
LSP	**Las Mesas**	**2.45**	**123**⇑	*e*P		Pn	06 22 43.7	-0.9
LSP				*e*S		Sn	06 23 16.1	+0.8
CRPR	**Cabo Rojo, PR**	**2.53**	**126**⇑	*e*P		Pn	06 22 43.3	-2.3
CRPR				*e*S		Sn	06 23 16.8	-0.2
MGP	**Maguayo**	**2.54**	**126**⇑	*e*P		Pn	06 22 45.4	-0.3
MGP				*e*S		Sn	06 23 17.8	+0.4
LRS	**Lares**	**2.59**	**118**⇑	*e*P		Pn	06 22 46.5	+0.3
LRS				*e*S		Sn	06 23 19.6	+1.3
AOPR	**Arecibo Observ**	**2.64**	**116**⇑	*e*P		Pn	06 22 47.6	+0.6
AOPR				*e*S		Sn	06 23 20.6	+1.0
OBIP	**Obispado Ponce**	**2.91**	**120**⇑	*e*P		Pn	06 22 50.7	+0.4
OBIP				*e*S		Sn	06 23 27.1	+1.5
CELP	**Cerrillos**	**2.91**	**119**⇑	*e*P		Pn	06 22 51.3	+0.9
CELP				*e*S		Sn	06 23 26.6	+0.9
SJG	**San Juan**	**3.26**	**115**⇑	*e*P		Pn	06 22 55.9	+1.1
SJG				*e*S		Sn	06 23 35.4	+1.7
SJG	**San Juan**	**3.26**	**115**⇑	*e*P		Pn	06 22 55.2	+0.4
SJG				*e*S		Sn	06 23 34.2	+0.6
HUMP	**Col San Antoni**	**3.50**	**113**⇑	*e*P		Pn	06 22 57.6	-0.4
HUMP				*e*S		Sn	06 23 39.6	+0.3
CULB	**Culebra**	**3.90**	**107**⇑	*e*P		Pn	06 23 02.8	-0.4
CULB	**Culebra**	**3.90**	**107**	*e*S		Sn	06 23 50.0	+1.3
STVI	**Saint Thomas**	**4.22**	**105**⇑	*e*P		Pn	06 23 08.5	+1.0
STVI				*e*S		Sn	06 23 58.3	+2.0

IDC ***23*** *06:56:56.4±1.0, 885S×1164E8, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/18, mbtmp4.2/7, ML3.6/1, Error ellipse: s-maj=100.7km s-min=19.7km az=47.0*
NEIC ***23*** *06:56:58.5±9.1, 899S×1163E, h16km±55km, mb4.1/1, Error ellipse: s-maj=30.7km s-min=20.8km az=215.0*
ISCJB ***23*** *06:56:59.8±0.8, 9.1S±02×1164E±02, h33km, mb4.3/5, Error ellipse: s-maj=37.6km s-min=12.8km az=104.0*
ISC 23 06:57:01.9±0.8, 91S±02×1164E±02, h35km, n14, σ0.9 95/13, mb4.3/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**12.46**	**165**	*e*Pn		**Pn**	**06 59 56.1**	**-0.6**
MBWA				*e*Sn		**Sn**	**07 02 03.1**	**-11**
FITZ	**Fitzroy Crossi**	**12.70**	**136**	*e*P		**Pn**	**06 59 59.6**	**-0.4**
	3.3nm,0.4s							
FITZ				*e*S		**Sn**	**07 02 12.6**	**-7.6**
FITZ	**Fitzroy Crossi**	**12.70**	**136**	Pn		**Pn**	**06 59 57.5**	**-2.5**
	0.2nm,0.3s,baz=306,slow=14,SNR=6.7							
FITZ				Sn		**Sn**	**07 02 11.5**	**-8.6**
	0.2nm,0.3s,baz=186,slow=19,SNR=2.9							
WRA	**Warramunga Arr**	**20.44**	**124**	P		**P**	**07 01 36.1**	**0.0**
	4.3nm,0.6s,baz=301,slow=12,SNR=47							
WRAB	**Tennant Creek**	**20.44**	**124**	*e*P		**P**	**07 01 36.1**	**-0.1**
	6.6nm,0.7s							
ASAR	**Alice Springs**	**22.17**	**133**	P		**P**	**07 01 55.7**	**+1.0**
	4.7nm,0.5s,mb4.2,baz=306,slow=9.8,SNR=29							
STKA	**Stephens Creek**	**32.59**	**138**	P		**P**	**07 03 31.2**	**+1.3**
	3.0nm,0.7s,mb4.3,baz=329,slow=10,SNR=6.9							
BVAR	**Borovoye Array**	**73.15**	**333**	P		**P**	**07 08 28.5**	**-0.3**
	2.5nm,0.9s,mb4.2,baz=142,slow=11,SNR=5.2							
MMAI	**Mount Meron Ar**	**87.42**	**304**	P		**P**	**07 09 46.7**	**+1.1**
	0.4nm,0.3s,mb4.1,baz=105,slow=11,SNR=2.7							
ARCES	**ARCESS Array B**	**98.73**	**339**	P		**P**	**07 10 36.5**	**-1.2**
	1.7nm,0.8s,mb4.7,baz=80,slow=5.0,SNR=6.8							
YKA	**Yellowknife Ar**	**115.28**	**24**	PKP		PKPdf	07 15 37.8	-1.8
	0.2nm,0.7s,baz=261,slow=3.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**115.94**	**280**	PKP		PKPdf	07 15 41.5	+0.6
	0.4nm,0.5s,baz=70,slow=1.8,SNR=7.7							
CPUP	**Villa Florida**	**144.31**	**190**	PKP		PKPdf	07 16 34.7	+0.6
	0.5nm,0.4s,baz=176,slow=3.1,SNR=4.1							
CPUP	**Villa Florida**	**144.31**	**190**	PKP		PKPdf	07 16 34.7	+0.6

IDC ***23*** *06:59:54.5±0.7, 2040N×9253E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/24, mbtmp4.1/15, ML3.9/1, MS3.8/10, Ms1 3.8/10, ms1mx3.4/26, Error ellipse: s-maj=26.4km s-min=15.1km az=61.0*
ISCJB ***23*** *06:59:56.2±1.7, 2051N±004×9248E±004, h24km±13km, mb4.2/18, MS3.8/10, Error ellipse: s-maj=7.0km s-min=5.7km az=110.8*
BJI ***23*** *06:59:56.1, 2073N×9274E, h10km, mB4.5, mb4.4, Ms4.0, Msz3.7*
NEIC ***23*** *06:59:56.0±0.3, 2039N×9251E, h10km, mb4.7/4, Error ellipse: s-maj=8.4km s-min=4.3km az=53.0*
MOS ***23*** *06:59:57.0±0.8, 2035N×9245E, h33km, mb5.0/2, Error ellipse: s-maj=20.0km s-min=11.2km az=114.3*
ISC 23 06:59:59.6±1.6, 2052N±003×9252E±004, h32km±13km, n62, σ1.9 12/75, mb4.2/18, MS3.8/10, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAL	**Calcutta**	**4.38**	**298**	*e*P		**Pn**	**07 01 03.4**	**-0.5**
CAL				*e*S		**Sn**	**07 01 54.8**	**+1.1**
CAL				AML		AML	07 01 57.2	
	comp=E,6μm,0.2s							
CAL				AML		AML	07 01 57.3	
	comp=N,3μm,0.2s							
SHL	**Shillong**	**5.06**	**354**	*e*P		**Pn**	**07 01 12.5**	**-0.6**
SHL				*e*P			07 01 16.9	
SHL				*e*S		**Sn**	**07 02 09.5**	**-0.9**
SHL				*e*S		**Sn**	**07 02 13.7**	**+3.4**
BOK	**Bokaro**	**6.96**	**299**	*i*P		**Pn**	**07 01 40.1**	**+1.0**
BOK				*i*S		**Sn**	**07 02 54.1**	**-3.0**
BOK				*e*S		**Sn**	**07 02 55.0**	**-2.1**
BOK				AML		AML	07 03 00.7	
	comp=N,201nm,0.5s							
BOK				AML		AML	07 03 00.8	
	comp=E,237nm,0.3s							
GTK	**Gangtok**	**7.66**	**333**	*e*x		x	07 02 18.0	
VIS	**Vishakhapatnam**	**9.12**	**254**	*e*P		**Pn**	**07 02 07.4**	**-1.5**
VIS				*i*P			07 02 08.4	
VIS				*e*S		**Sn**	**07 03 40.3**	**-10**
JIRN	**Jiri**	**9.16**	**322**	*e*Pn		**Pn**	**07 02 10.3**	**+0.9**
JIRN				*e*Sn		**Sn**	**07 03 51.2**	**-0.1**
	comp=E,201nm,0.4s							
LSA	**Lhasa**	**9.22**	**353**	P		**Pn**	**07 02 10.1**	**-0.2**
LSA	**Lhasa**	**9.22**	**353**	*e*P		**Pn**	**07 02 11.3**	**+1.0**
LSA				*e*			07 03 55.4	

LSA pmax pmax
comp=Z,39nm,0.5s
LSA Lhasa 9.22 353 *e*Pn **Pn 07 02 11.3 +1.0**
comp=Z,39nm,0.5s
LSA *e*Sn **Sn 07 03 55.4 +2.4**
GUN Gumba 9.53 322 *e*Pn **Pn 07 02 15.4 +1.0**
GUN *e*Sn **Sn 07 04 00.8 +0.4**
comp=Z,182nm,0.4s
PKI Pulchoki 9.56 319 *e*Pn **Pn 07 02 15.5 +0.6**
PKI *e*Sn **Sn 07 04 00.5 -0.7**
comp=Z,206nm,0.6s
DMN Daman 9.78 318 *e*Pn **Pn 07 02 18.1 +0.2**
DMN *e*Sn **Sn 07 04 04.1 -2.4**
comp=Z,119nm,0.5s
KKN Kakani 9.80 319 *e*Pn **Pn 07 02 18.4 +0.3**
KKN *e*Sn **Sn 07 04 05.4 -1.6**
comp=Z,385nm,1.0s
BLSP Bilaspur 9.81 281 *e*P **Pn 07 02 18.0 -0.3**
BLSP *e*P 07 02 19.0
BLSP *e*S **Sn 07 04 01.0 -6.3**
BLSP *e*S **Sn 07 04 01.9 -5.4**
GKN Gorkha 10.35 318 *e*Pn **Pn 07 02 25.6 -0.1**
GKN *e*Sn **Sn 07 04 18.2 -2.3**
comp=Z,121nm,0.4s
KOLN Koldanda 10.88 313 *e*Pn **Pn 07 02 32.8 -0.1**
KOLN *e*Sn **Sn 07 04 30.5 -2.9**
comp=Z,112nm,0.3s
JBP Jabalpur 11.93 285 *e*P **Pn 07 02 47.5 +0.2**
JBP *e*x x 07 02 52.8
comp=Z,51nm,0.3s
JBP *e*S **Sn 07 04 51.1 -8.2**
HYB Hyderabad 13.56 259 *i*P **Pn 07 03 10.0 +0.4**
HYB *e*S **Sn 07 05 39.0 -0.2**
HYB Hyderabad 13.56 259 *e*P **Pn 07 03 08.0 -1.6**
HYB *e*S **Sn 07 05 30.0 -9.2**
LGTI Lohaghat 14.23 311 *e*x x 07 05 50.7
BHPL Bhopal 14.27 284 *e*P **Pn 07 03 20.1 +0.8**
BHPL AMb AMB 07 03 21.4
comp=Z,15nm,0.2s
AKL Akola 14.52 273 *e*P **Pn 07 03 15.7 -6.9**
AKL *e*S **Sn 07 05 57.8 -4.5**
LATR Latur 15.19 265 *e*x x 07 06 08.5
NDI New Delhi 16.10 303 *e*x x 07 03 23.0
SMLA Simla 17.37 311 *e*P **Pn 07 04 00.6 +1.2**
SMLA *e*x x 07 06 59.3
AJM Ajmer 17.43 293 *i*P **Pn 07 04 00.0 -0.1**
AJM *e*P 07 04 00.9
AJM AMb AMB 07 04 01.8
comp=Z,15nm,0.6s
KAD Karad 17.64 263 *e*P **Pn 07 04 01.9 -0.8**
KAD *e*S **Sn 07 07 20.6 +2.4**
POO Poona 17.71 267 *e*P **Pn 07 04 04.0 +0.4**
POO *i*x x 07 04 23.0
POO *i*x x 07 07 08.0
POO *i*x x 07 07 41.0
LZH Lanzhou 18.41 30 *e*P **Pn 07 04 10.0 -2.3**
LZH AP pP 07 04 20.0 -0.6
LZH PP 07 04 27.0
LZH S **Sn 07 07 36.5 -0.5**
LZH AMB AMB
comp=Z,60nm,1.5s
LZH AMB AMB
comp=Z,370nm,5.5s
LZH LR LR
comp=E,2μm,13.0s
LZH LR LR
comp=Z,2μm,15.5s
PSI Prapat 18.69 160 P **Pn 07 04 15.3 -0.3**
comp=Z,0.3nm,0.3s,baz=324,slow=18,SNR=4.8
PSI Prapat 18.69 160 P **Pn 07 04 15.3 -0.3**
XAN Xi'an 19.81 44 P **Pn 07 04 24.8 -4.2**
XAN AP pP 07 04 30.3 -5.6
XAN S **Sn 07 07 57.4 -13**
XAN LR LR
comp=N,150nm,14.0s
XAN LR LR
comp=E,160nm,11.8s
XAN LR LR
comp=Z,280nm,16.7s
GTA Gaotai 19.85 17 *e*P **Pn 07 04 27.1 -2.3**
GTA AP pP 07 04 33.4 -2.9
GTA XP sP 07 04 36.9 -3.5
WHN Wuhan 22.05 59 *e*P **P 07 04 50.5 -1.0**
MKAR Makanchi Array 27.50 345 P **P 07 05 44.3 +1.4**
comp=Z,8.5nm,0.8s,mb4.4,baz=153,slow=9.5,SNR=49
SONM Songino Array 29.47 19 P **P 07 06 00.4 -0.1**
comp=Z,1.3nm,0.9s,mb3.7,baz=196,slow=9.4,SNR=7.0
WSAR Wadi Sarin 31.52 281 LR LR 07 19 09.8
comp=Z,82nm,20.5s,MS3.4,baz=195,slow=37
ZAL Zalesovo 33.88 352 P **P 07 06 40.0 +0.8**
comp=Z,2.2nm,0.6s,mb4.3,baz=312,slow=8.0,SNR=13
BVAR Borovoye Array 36.66 338 P **P 07 07 04.0 +0.9**
comp=Z,1.0nm,0.6s,mb3.8,baz=125,slow=9.3,SNR=7.1
ZRNK Zerenda 37.11 336 *e*P **P 07 07 07.9 +1.0**
comp=Z,4.6nm,0.9s,mb4.3
ZRNK *e*PP PP 07 08 34.0 +2.2
CHKZ Chkalovo 37.11 338 *e*P **P 07 07 07.6 +0.7**
CHKZ *e* 07 09 27.7
CHKZ pmax pmax
comp=Z,18nm,1.2s,mb4.8
CHKZ Chkalovo 37.11 338 *e*P **P 07 07 07.6 +0.7**
comp=Z,18nm,1.2s,mb4.8
CHKZ *e*PcP PcP 07 09 27.7 +0.8
AKTK Aktyubinsk 40.37 326 P **P 07 07 35.2 +0.9**
AKTK LR LR 07 25 48.2
AKTO Aktyubinsk 40.37 326 P **P 07 07 35.2 +0.9**
comp=Z,1.5nm,0.6s,mb3.9,baz=116,slow=8.4,SNR=6.9
AKTO LR LR 07 25 48.2
comp=Z,95nm,19.2s,MS3.7,baz=0.0,slow=38
MJAR Matsushiro Arr 42.79 58 P **P 07 07 55.5 +1.3**
comp=Z,1.2nm,0.4s,mb3.9,baz=271,slow=11,SNR=4.8
MJAR LR LR 07 27 43.4
comp=Z,160nm,19.8s,MS3.9,baz=230,slow=39
GNI Garni 45.04 307 LR LR 07 28 58.8
comp=Z,86nm,18.1s,MS3.7,baz=101,slow=39
ATD Arta Tunnel 48.41 267 LR LR 07 28 14.4
comp=Z,53nm,20.1s,MS3.5,baz=235,slow=35
MBWA Marble Bar 49.23 146 *e*P **P 07 08 43.4 -1.5**
comp=Z,8.5nm,1.0s,mb4.7
WRA Warramunga Arr 57.39 132 P **P 07 09 44.0 -0.8**
comp=Z,3.7nm,1.0s,mb4.4,baz=322,slow=7.2,SNR=9.8
WRAB Tennant Creek 57.39 132 *e*P **P 07 09 43.7 -1.1**
WRAB pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
WRAB Tennant Creek 57.39 132 *e*P **P 07 09 43.7 -1.1**
comp=Z,9.1nm,1.0s,mb4.8
AKASG Malin Array Be 57.53 318 P **P 07 09 45.6 -0.2**
comp=Z,0.9nm,0.6s,mb4.0,baz=87,slow=6.4,SNR=5.7
ASAR Alice Springs 59.62 135 P **P 07 09 60.0 -0.4**
comp=Z,1.5nm,0.8s,mb4.1,baz=311,slow=6.7,SNR=6.6
FINES FINESS Array B 60.95 330 P **P 07 10 09.3 -0.1**
comp=Z,0.8nm,0.6s,mb4.0,baz=100,slow=6.4,SNR=6.9
FINES LR LR 07 40 01.4
comp=Z,141nm,20.4s,MS4.1,baz=105,slow=39
ARCES ARCESS Array B 62.94 339 P **P 07 10 24.1 +1.3**
comp=Z,4.8nm,1.1s,mb4.5,baz=121,slow=8.7,SNR=4.7
ARCES LR LR 07 42 15.9
comp=Z,110nm,18.5s,MS4.1,baz=130,slow=40
GERES GERESS Array B 67.56 315 P **P 07 10 53.7 +1.0**
comp=Z,1.5nm,0.7s,mb4.1,baz=79,slow=6.9,SNR=8.4
GERES LR LR 07 45 43.6
comp=Z,34nm,19.2s,MS3.6,baz=78,slow=41
GERES GERESS Array B 67.56 315 P **P 07 10 53.7 +1.0**
GERES LR LR 07 45 43.6
NOA NORSAR Array B 68.07 329 P **P 07 10 55.5 -0.5**
comp=Z,0.7nm,0.7s,mb3.8,baz=89,slow=5.9,SNR=3.3
NOA LR LR 07 43 51.7
comp=Z,70nm,20.6s,MS3.9,baz=115,slow=39
STKA Stephens Creek 70.17 137 LR LR 07 44 26.1
comp=Z,88nm,19.2s,MS4.0,baz=207,slow=38
MATP Matopo 74.68 241 P **P 07 11 36.9 +1.0**
comp=Z,4.7nm,1.1s,mb4.3,baz=86,slow=16,SNR=5.3
SDV Santo Domingo 146.41 329 *e*PKPdf PKPdf 07 19 37.0 +1.2
CPUP Villa Florida 151.77 252 PKPbc PKPbc 07 19 50.8 -0.1
comp=Z,0.4nm,0.4s,baz=26,slow=4.8,SNR=3.6

*ISCJB **23** 07:00:17.1±0.8, 552S±01×287W±02, h10km, mb4.2/7, MS3.5/2, Error ellipse: s-maj=23.7km s-min=12.9km az=105.4*
*NEIC **23** 07:00:18.8±0.4, 5516S×2864W, h10km, mb4.2/4, Error ellipse: s-maj=15.3km s-min=9.3km az=50.0*
*IDC **23** 07:00:23.2±0.8, 5518S×2858W, h37km±6km, mb3.9/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.1/5, ML4.0/1, MS3.5/2, Ms1 3.4/2, ms1mx2.7/18, Error ellipse: s-maj=32.3km s-min=20.3km az=66.0*

ISC 23 07:00:18.9±0.8, 553S±01×288W±02, h10km, n19, σ1s16/12, mb4.2/7, MS3.5/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.57**	**279**	*e*Pn	**Pn**	**07 01 27.7**	**-0.4**
HOPE				*e*Sn	**Sn**	**07 02 16.8**	**-4.5**
VNA1	**Neumayer--Stat**	**17.87**	**158**	*e*	**Pn**	**07 04 37.0**	**+9.4**
VNA1				*e*		07 04 38.1	
VNA1				*e*		07 04 39.9	
VNA1				*e*		07 04 45.1	
VNA1				*e*		07 04 48.4	
VNA1				*e*		07 04 53.6	
SNAA	**Sanae**	**19.84**	**156**	P	**Pn**	**07 04 49.5**	**-1.9**
	0.5nm,0.3s,baz=302,slow=11,SNR=69						
PLCA	**Paso Flores**	**30.98**	**280**	LR	LR	07 17 43.2	
	comp=Z,38nm,20.4s,MS3.0,baz=3.3,slow=34						
QSPA	**South Pole Qui**	**35.00**	**180**	*e*P	**P**	**07 07 12.3**	**+0.8**
	2.8nm,0.6s,mb4.4						
CPUP	**Villa Florida**	**35.61**	**313**	P	**P**	**07 07 16.4**	**-0.2**
	3.0nm,0.6s,mb4.4,baz=134,slow=7.5,SNR=18						
LVC	**Limon Verde**	**44.12**	**301**	P	**P**	**07 08 28.5**	**+1.1**
	1.9nm,0.5s,mb4.1						
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**07 08 53.4**	**+0.6**
	1.3nm,0.8s,mb3.9,baz=183,slow=6.1,SNR=9.5						
LPAZ	**La Paz**	**49.18**	**306**	P	**P**	**07 09 08.6**	**+1.5**
	2.4nm,0.7s,mb4.3,baz=153,slow=7.5,SNR=8.5						
LPAZ	**La Paz**	**49.18**	**306**	*e*P	**P**	**07 09 08.6**	**+1.5**
SAML	**Samuel**	**53.60**	**316**	*e*P	**P**	**07 09 39.6**	**-0.7**
	2.3nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**72.82**	**31**	P	**P**	**07 11 46.9**	**-0.8**
	1.6nm,0.7s,mb4.0,baz=209,slow=5.7,SNR=12						
TORD				pP	pP	07 11 59.0	+8.0
	1.0nm,0.5s,baz=201,slow=5.8,SNR=4.5						
TORD				LR	LR	07 37 15.8	
	comp=Z,62nm,18.6s,MS3.9,baz=190,slow=30						
FINES	**FINESS Array B**	**124.10**	**28**	PKP	PKPdf	07 19 15.7	-1.9
	1.4nm,0.9s,baz=273,slow=3.4,SNR=5.1						
FINES				pPKP	pPKPdf	07 19 27.5	+6.5
	0.5nm,0.5s,baz=163,slow=2.0,SNR=2.0						
FINES	**FINESS Array B**	**124.10**	**28**	PKP	PKPdf	07 19 15.7	-1.9
FINES				pPKP	pPKPdf	07 19 27.5	+6.5
ARCES	**ARCESS Array B**	**130.54**	**22**	PKP	PKPdf	07 19 27.4	-2.4
	2.0nm,0.9s,baz=316,slow=3.3,SNR=3.8						
YKA	**Yellowknife Ar**	**134.98**	**319**	PKP	PKPdf	07 19 36.4	-1.9
	0.3nm,0.6s,baz=122,slow=1.8,SNR=6.0						
INK	**Inuvik**	**144.62**	**322**	PKP	PKPdf	07 19 53.0	-2.8
	2.5nm,0.6s,baz=94,slow=2.8,SNR=5.9						
KDAK	**Kodiak Island**	**149.65**	**298**	PKPbc	PKPbc	07 20 08.1	-0.6
	4.3nm,0.6s,baz=202,slow=1.9,SNR=5.1						
SONM	**Songino Array**	**151.57**	**86**	PKPbc	PKPbc	07 20 12.1	-1.3
	1.2nm,0.6s,baz=228,slow=3.2,SNR=11						
SONM				pPKPbc	pPKPbc	07 20 23.6	+6.8
	2.2nm,0.8s,baz=216,slow=5.2,SNR=6.6						

IDC 23 07:04:49.5±13.0, 542S×12869E, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML3.4/2, Error ellipse: s-maj=196.8km s-min=146.6km az=137.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.45**	**160**	Pn	Pn	07 08 29.1	+0.5
	0.1nm,0.3s,baz=342,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**18.82**	**165**	P	Pn	07 09 10.5	-0.6
	0.2nm,0.3s,baz=348,slow=11,SNR=19						
STKA	**Stephens Creek**	**28.96**	**157**	P	P	07 10 50.9	+0.4
	0.5nm,0.3s,baz=349,slow=10,SNR=3.0						

*NEIC **23** 07:12:10.2±0.6, 383N×9539E, h30km, mb4.7/7, Error ellipse: s-maj=19.9km s-min=6.8km az=222.0*
*ISCJB **23** 07:12:14.9±2.4, 4.1N±0.1×958E±01, h84km±21km, mb4.2/18, Error ellipse: s-maj=24.6km s-min=11.4km az=99.5*
*IDC **23** 07:12:14.2±5.4, 409N×9569E, h60km±45km, mb3.7/10, mb1 3.9/11, mb1mx3.7/23, mbtmp4.0/11, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/33, Error ellipse: s-maj=69.1km s-min=17.1km az=55.0*

ISC 23 07:12:16.1±2.4, 41N±01×957E±01, h77km±21km, n26, σ0s63/26, mb4.2/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.44**	**111**	P	**Pn**	**07 13 06.6**	**-0.7**
	5.0nm,0.3s,baz=324,slow=8.8,SNR=17						
PSI				LR	LR	07 14 45.7	
	comp=Z,246nm,20.0s,baz=347,slow=43						
KULM	**Kulim**	**5.07**	**76**	*e*Pn	**Pn**	**07 13 29.7**	**+0.1**
KULM				*e*Sn	**Sn**	**07 14 26.9**	**+0.2**
JIRN	**Jiri**	**25.17**	**340**	*e*P	**P**	**07 17 34.9**	**+0.7**
	16nm,0.7s,mb4.6						
GUN	**Gumba**	**25.50**	**339**	*e*P	**P**	**07 17 37.9**	**+0.7**
	16nm,0.6s,mb4.7						
DMN	**Daman**	**25.51**	**338**	*e*P	**P**	**07 17 37.9**	**+0.6**
KKN	**Kakani**	**25.61**	**338**	*e*P	**P**	**07 17 38.9**	**+0.7**
	5.6nm,0.0s,mb5.5						
GKN	**Gorkha**	**26.05**	**337**	*e*P	**P**	**07 17 42.7**	**+0.6**
	6.4nm,0.3s,mb4.5						
KOLN	**Koldanda**	**26.26**	**335**	*e*P	**P**	**07 17 44.9**	**+0.9**
	15nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**44.13**	**347**	P	**P**	**07 20 16.1**	**-0.8**
	1.2nm,0.4s,mb4.0,baz=157,slow=7.5,SNR=21						
SONM	**Songino Array**	**44.57**	**10**	P	**P**	**07 20 20.1**	**-0.3**
	2.1nm,0.8s,mb3.9,baz=199,slow=7.4,SNR=7.6						
SONM				PcP	PcP	07 22 02.5	+0.3
	0.7nm,0.5s,baz=206,slow=2.1,SNR=3.9						
SONM	**Songino Array**	**44.57**	**10**	P	**P**	**07 20 20.1**	**-0.3**
SONM				PcP	PcP	07 22 02.5	+0.3
WRA	**Warramunga Arr**	**44.82**	**124**	P	**P**	**07 20 22.6**	**+0.2**
	1.9nm,0.6s,mb4.0,baz=302,slow=9.1,SNR=20						
WRAB	**Tennant Creek**	**44.83**	**124**	*e*P	**P**	**07 20 22.8**	**+0.3**
	4.0nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**44.83**	**124**	*e*P	**P**	**07 20 22.5**	**0.0**
ASAR	**Alice Springs**	**46.31**	**128**	P	**P**	**07 20 34.7**	**+0.6**
	0.4nm,0.3s,mb3.6,baz=306,slow=8.0,SNR=9.4						
ZAL	**Zalesovo**	**50.52**	**352**	P	**P**	**07 21 06.4**	**-0.1**
	3.1nm,0.4s,mb4.7,baz=305,slow=5.7,SNR=6.0						
BVAR	**Borovoye Array**	**53.08**	**341**	P	**P**	**07 21 25.0**	**-0.5**
	2.0nm,0.7s,mb4.3,baz=140,slow=8.1,SNR=10						
ZRNK	**Zerenda**	**53.48**	**340**	*e*P	**P**	**07 21 27.9**	**-0.5**
	2.1nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**53.56**	**342**	*e*P	**P**	**07 21 28.6**	**-0.4**
	4.5nm,0.7s,mb4.6						
AKTK	**Aktyubinsk**	**56.03**	**332**	P	**P**	**07 21 45.9**	**-1.0**
AKTO	**Aktyubinsk**	**56.03**	**332**	P	**P**	**07 21 45.9**	**-1.0**
	3.1nm,0.4s,mb3.8,baz=117,slow=11,SNR=4.7						
KMBO	**Kilima Mbogo**	**58.65**	**266**	LR	LR	07 41 54.4	
	comp=Z,61nm,21.6s,baz=262,slow=30						
FINES	**FINESS Array B**	**76.80**	**332**	P	**P**	**07 23 59.0**	**-0.4**
	0.5nm,0.5s,mb3.5,baz=102,slow=6.4,SNR=6.3						
FINES	**FINESS Array B**	**76.80**	**332**	P	**P**	**07 23 59.0**	**-0.4**
ARCES	**ARCESS Array B**	**79.36**	**340**	P	**P**	**07 24 12.7**	**-0.9**
	1.3nm,0.6s,mb3.9,baz=98,slow=6.5,SNR=6.3						
GERES	**GERESS Array B**	**81.70**	**319**	P	**P**	**07 24 27.2**	**+1.1**
	0.5nm,0.4s,mb3.7,baz=101,slow=5.1,SNR=3.2						

*CSEM **23** 07:13:57.3, 3599N×2196E, h5km, MD3.6/5, After ATH*

ATH 23 07:13:56.9, 3598N×2193E, h5km, MD3.6/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.94**	**71**	*e*PB	Pb	07 14 15.0	-0.7
KYTH				*e*SB	Sb	07 14 28.5	-0.1
VLI	**Veliai**	**1.10**	**48**	*e*PB	Pb	07 14 18.0	-0.3
ITM	**Ithomi**	**1.20**	**360**	*e*PB	Pb	07 14 19.7	-0.4
VAM	**Vamos**	**1.93**	**107**	*e*PN	Pn	07 14 33.4	+3.0
MGER	**Gerania Oros**	**2.27**	**28**	*e*PN	Pn	07 14 38.0	+3.0
MGER	**Gerania Oros**	**2.27**	**28**	*e*Pg	Pg	07 14 39.4	-1.0

IDC 23 07:18:48.0±6.0, 670S×14973E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.3/12, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=175.3km s-min=37.9km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.92**	**227**	P	Pn	07 23 22.3	-0.5
	0.0nm,0.3s,baz=53,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**22.72**	**220**	P	P	07 23 51.0	-0.3
	0.4nm,0.8s,baz=64,slow=8.4,SNR=3.4						
MKAR	**Makanchi Array**	**79.77**	**320**	P	P	07 30 58.1	+0.3
	0.4nm,0.6s,baz=114,slow=5.6,SNR=3.5						

*ISCJB **23** 07:44:08.4±0.7, 2466N±009×12233E±006, h86km±7km, mb3.4/4, Error ellipse: s-maj=15.1km s-min=8.8km az=11.2*
*JMA **23** 07:44:09.7±0.1, 2471N×12238E, h75km±2km, M3.4*
*NEIC **23** 07:44:09.0±1.0, 2459N×12231E, h76km±11km, MG3.4(JMA), Error ellipse: s-maj=18.1km s-min=13.2km az=205.0*
*IDC **23** 07:44:11.2±8.6, 2468N×12249E, h100km±94km, mb3.2/4, mb1 3.3/5, mb1mx3.2/20, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=67.3km s-min=19.5km az=60.0*

ISC 23 07:44:09.3±0.7, 2464N±009×12232E±006, h77km±8km, n14, σ0s43/22, mb3.4/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.66**	**105**	P	**Pn**	**07 44 24.2**	**-0.1**
YOJ				S	**Sn**	**07 44 35.0**	**-0.4**
TATO	**Taipei**	**0.82**	**294**	*e*Pn	**Pn**	**07 44 25.9**	**-0.2**
IRIF	**Iriomote-Funau**	**1.32**	**103**	P	**Pn**	**07 44 32.1**	**-0.1**
IRIF				S	**Sn**	**07 44 49.0**	**-0.4**
HATJ	**Hateruma jima**	**1.48**	**113**	P	**Pn**	**07 44 34.6**	**+0.4**
HATJ				S	**Sn**	**07 44 53.2**	**+0.2**
JKRS	**Kuro-shima**	**1.59**	**104**	P	**Pn**	**07 44 36.0**	**+0.3**
JKRS				S	**Sn**	**07 44 55.9**	**+0.2**
JIJ	**Ishigaki jima**	**1.69**	**99**	P	**Pn**	**07 44 36.9**	**-0.1**
JIJ				S	**Sn**	**07 44 57.4**	**-0.5**
JTJ	**Tarama**	**2.17**	**89**	P	**Pn**	**07 44 44.4**	**+1.0**
JTJ				S	**Sn**	**07 45 10.1**	**+0.7**
JMJ	**Miyako jima 2**	**2.71**	**86**	*e*S	**Sn**	**07 45 22.6**	**+0.1**
JOW	**Kunigami**	**5.80**	**67**	P	**Pn**	**07 45 32.9**	**+0.1**
	3.7nm,0.3s,baz=191,slow=10,SNR=15						
JOW				S	**Sn**	**07 46 37.0**	**-0.8**
	1.0nm,0.3s,baz=103,slow=24,SNR=1.9						
JOW	**Kunigami**	**5.80**	**67**	P	**Pn**	**07 45 33.0**	**+0.2**
JOW				*e*S	**Sn**	**07 46 36.9**	**-1.0**
SONM	**Songino Array**	**26.37**	**335**	P	**P**	**07 49 38.5**	**+0.2**
	0.5nm,0.5s,mb3.2,baz=155,slow=8.4,SNR=4.8						
MKAR	**Makanchi Array**	**38.74**	**315**	P	**P**	**07 51 26.1**	**+0.2**
	0.3nm,0.4s,mb3.5,baz=96,slow=8.8,SNR=4.1						
WRA	**Warramunga Arr**	**45.83**	**164**	P	**P**	**07 52 23.5**	**0.0**
	0.7nm,0.4s,mb3.7,baz=347,slow=8.6,SNR=21						
ASAR	**Alice Springs**	**49.31**	**166**	P	**P**	**07 52 49.9**	**-0.7**
	0.1nm,0.3s,mb3.2,baz=355,slow=8.5,SNR=4.4						

*ISCJB **23** 08:02:44.9±0.3, 1911N±006×4606W±004, h10km, mb4.5/68, MS3.9/22, Error ellipse: s-maj=9.0km s-min=4.7km az=149.5*
*MOS **23** 08:02:44.8±0.9, 1910N×4606W, h10km, mb5.0/30, Error ellipse: s-maj=9.2km s-min=6.2km az=50.8*
*IDC **23** 08:02:44.9±0.5, 1909N×4609W, h0km, mb4.2/23, mb1 4.3/25, mb1mx4.2/33, mbtmp4.2/25, ML3.6/1, MS3.8/21, Ms1 3.8/21, ms1mx3.7/34, Error ellipse: s-maj=18.0km s-min=11.5km az=140.0*
*BJI **23** 08:02:46.5, 1910N×4600W, h10km, mB5.3, Ms5.2, Msz4.7*
*HRVD **23** 08:02:46.6±0.4, 1904N×4613W, h12km, MW4.8/62, Centroid moment Tensor Solution. LP body waves: s14,c16;Mantle waves: s62,c94; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.95±.09; $M_{\theta\theta}$0.90±.09; $M_{\phi\phi}$1.05±.10; $M_{r\theta}$-0.53±.25; $M_{\theta\phi}$1.18±.07; $M_{\phi r}$0.10±.31; Best double couple: $M_0$2.12900×10^{16} NP1:ϕ_s210.00000°, δ43.00000°, λ-110.00000°. NP2: ϕ_s56.00000°, δ51.00000°, λ-72.00000°. Principal axes: T 2.1780, Plg4.0000°, Azm134.0000°; N -0.0990, Plg14.0000°, Azm225.0000°; P -2.0800, Plg76.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 08:02:46.6±0.2, 1907N×4603W, h10km, mb4.7/43 Error ellipse: s-maj=5.8km s-min=3.2km az=165.0*
*SZGRF **23** 08:02:52.9, 1953N×4601W, h33km, mb4.6, Northern Mid-Atlantic Ridge*

ISC 23 08:02:47.0±0.3, 1911N±006×4602W±004, h10km, n178, σ0s81/162, mb4.5/68, MS3.9/22, 4C, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.10**	**270**	P	**Pn**	**08 07 09.1**	**-1.6**
	3.0nm,0.3s,baz=86,slow=9.4,SNR=7.7						
SJG				LR	LR	08 12 59.1	
	comp=Z,607nm,20.8s,baz=91,slow=32						
SJG	**San Juan**	**19.10**	**270**	*e*P	**Pn**	**08 07 10.0**	**-0.7**
PCRV	**Puerto La Cruz**	**20.06**	**246**	P	**P**	**08 07 20.7**	**+0.4**
	0.2nm,0.3s,baz=178,slow=2.8,SNR=2.1						
SDV	**Santo Domingo**	**25.91**	**250**	P	**P**	**08 08 19.3**	**+0.1**
	10nm,0.7s,mb4.5,baz=68,slow=6.1,SNR=8.8						
SDV				LR	LR	08 17 20.0	
	comp=Z,138nm,19.8s,MS3.5,baz=203,slow=34						
SDV	**Santo Domingo**	**25.91**	**250**	*e*P	**P**	**08 08 19.1**	**-0.1**
	13nm,0.8s,mb4.5						
BDFB	**Brasilia**	**34.58**	**183**	P	**P**	**08 09 35.2**	**-0.8**
	1.9nm,0.6s,mb4.2,baz=358,slow=7.0,SNR=4.8						
BDFB				LR	LR	08 23 05.8	
	comp=Z,155nm,19.1s,MS3.8,baz=201,slow=35						
OTAV	**Otavalo**	**36.92**	**243**	*e*P	**P**	**08 09 58.9**	**+2.9**
	13nm,1.4s,mb4.6						
SIV	**San Ignacio**	**37.89**	**204**	P	**P**	**08 10 02.7**	**-1.5**
	1.5nm,1.0s,mb3.7,baz=46,slow=14,SNR=5.4						
EVO	**Evora**	**38.17**	**51**	*e*P	**P**	**08 10 05.2**	**-1.4**
	52nm,1.3s,mb4.8						
EVO				*e*R			
	154nm,19.2s						
SCHQ	**Schefferville**	**39.03**	**341**	LR	LR	08 24 50.8	
	comp=Z,193nm,18.2s,MS4.0,baz=40,slow=34						
PLAL	**Pickwick Lake**	**40.34**	**302**	*e*P	**P**	**08 10 24.9**	**+0.2**
	16nm,1.2s,mb4.6						
WVT	**Waverly**	**40.40**	**304**	*e*P	**P**	**08 10 24.7**	**-0.5**
WVT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
WVT	**Waverly**	**40.40**	**304**	*e*P	**P**	**08 10 24.7**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.2						
ATAH	**Atahualpa**	**41.12**	**234**	P	**P**	**08 10 31.9**	**+0.7**
	comp=Z,17nm,1.1s,mb4.6,baz=348,slow=1.0,SNR=5.7						
LPAZ	**La Paz**	**41.35**	**213**	P	**P**	**08 10 33.6**	**+0.6**
	comp=Z,2.3nm,0.9s,mb3.8,baz=18,slow=14,SNR=6.2						
LPAZ				LR	LR	08 27 01.6	
	comp=Z,89nm,18.6s,MS3.7,baz=355,slow=35						
LPAZ	**La Paz**	**41.35**	**213**	*e*P	**P**	**08 10 33.2**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPAZ	**La Paz**	**41.35**	**213**	*e*P	**P**	**08 10 33.2**	**+0.2**
	comp=Z,2.8nm,1.0s,mb3.9						
ESDC	**Sonseca Array**	**41.52**	**51**	P	**P**	**08 10 34.6**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.2,baz=256,slow=7.1,SNR=5.8						
ESDC				LR	LR	08 23 44.0	
	comp=Z,66nm,18.4s,MS3.5,baz=240,slow=30						
DBIC	**Dimbokro**	**41.87**	**102**	LR	LR	08 24 48.5	
	comp=Z,371nm,20.7s,MS4.2,baz=270,slow=32						
**FV

QUIF pmax pmax
comp=Z,27nm,1.4s,mb4.9
QUIF Quistinic 45.01 40 *eP* **P 08 11 02.1 -0.5**
comp=Z,27nm,1.4s,mb4.9
ROSF Rostrenen 45.12 40 *eP* **P 08 11 02.9 -0.6**
SGMF Saint Gilles 45.52 40 *eP* **P 08 11 06.2 -0.5**
comp=Z,40nm,1.2s,mb4.9
SGMF Saint Gilles 45.52 40 *eP* **P 08 11 06.2 -0.5**
SGMF pmax pmax
comp=Z,20nm,1.2s,mb4.9
SGMF Saint Gilles 45.52 40 *eP* **P 08 11 06.2 -0.5**
comp=Z,20nm,1.2s,mb4.9
EPF Esparros 45.60 48 *eP* **P 08 11 07.6 +0.3**
comp=Z,61nm,1.5s,mb5.0
EPF Esparros 45.60 48 *eP* **P 08 11 07.6 +0.3**
EPF pmax pmax
comp=Z,31nm,1.5s,mb5.0
EPF Esparros 45.60 48 *eP* **P 08 11 07.6 +0.3**
comp=Z,31nm,1.5s,mb5.0
TORD Torodi Ar. Bea 46.11 90 P **P 08 11 10.6 -0.8**
comp=Z,5.2nm,1.1s,mb4.4,baz=289,slow=7.4,SNR=35
TORD LR LR 08 29 14.5
comp=Z,335nm,18.1s,MS4.3,baz=260,slow=34
MFF Saint Martin d 46.41 43 *eP* **P 08 11 13.4 -0.3**
comp=Z,48nm,1.2s,mb5.0
MFF Saint Martin d 46.41 43 *eP* **P 08 11 13.4 -0.3**
MFF pmax pmax
comp=Z,24nm,1.2s,mb5.0
MFF Saint Martin d 46.41 43 *eP* **P 08 11 13.4 -0.3**
comp=Z,24nm,1.2s,mb5.0
CPUP Villa Florida 46.48 194 P **P 08 11 12.6 -1.7**
comp=Z,16nm,1.2s,mb4.8,baz=0.8,slow=8.8,SNR=10
CPUP LR LR 08 29 01.7
comp=Z,88nm,21.6s,MS3.7,baz=228,slow=34
MTLF Montolieu 47.00 48 *eP* **P 08 11 17.9 -0.5**
RJF Les Rejaudoux 47.08 45 *eP* **P 08 11 18.0 -0.9**
RJF *eR*
comp=Z,69nm,21.0s
LVC Limon Verde 47.11 209 *eP* **P 08 11 18.7 -0.5**
comp=Z,9.1nm,1.1s,mb4.6
TCF Toulx Ste Croi 47.84 44 *eP* **P 08 11 24.5 -0.4**
comp=Z,45nm,1.3s,mb5.0
TCF Toulx Ste Croi 47.84 44 *eP* **P 08 11 24.5 -0.4**
TCF pmax pmax
comp=Z,23nm,1.3s,mb5.0
TCF Toulx Ste Croi 47.84 44 *eP* **P 08 11 24.5 -0.4**
comp=Z,23nm,1.3s,mb5.0
LASF Ste Croix 48.34 48 *eP* **P 08 11 27.3 -1.4**
BGF Bois d'Agland 48.34 44 *eP* **P 08 11 28.3 -0.5**
AVF Avril sur Loir 48.74 44 *eP* **P 08 11 31.3 -0.6**
comp=Z,16nm,0.9s,mb4.7
AVF Avril sur Loir 48.74 44 *eP* **P 08 11 31.3 -0.6**
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
AVF Avril sur Loir 48.74 44 *eP* **P 08 11 31.3 -0.6**
comp=Z,8.1nm,0.9s,mb4.8
SSF Saint Saulge 48.93 44 *eP* **P 08 11 32.6 -0.7**
SMF Signal de Mont 49.02 44 *eP* **P 08 11 33.6 -0.4**
comp=Z,15nm,1.0s,mb4.7
SMF Signal de Mont 49.02 44 *eP* **P 08 11 33.6 -0.4**
SMF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SMF Signal de Mont 49.02 44 *eP* **P 08 11 33.6 -0.4**
comp=Z,7.4nm,1.0s,mb4.7
LOR Lormes 49.22 43 *eP* **P 08 11 34.8 -0.7**
SMRF Simiane la Rot 49.52 48 *eP* **P 08 11 37.0 -0.8**
comp=Z,60nm,1.5s,mb5.1
SMRF Simiane la Rot 49.52 48 *eP* **P 08 11 37.0 -0.8**
comp=Z,60nm,1.5s,mb5.4
ULM Lac du Bonnet 50.14 320 P **P 08 11 41.2 -1.3**
comp=Z,3.5nm,1.0s,mb4.3,baz=95,slow=5.0,SNR=4.2
ULM LR LR 08 29 55.3
comp=Z,208nm,22.0s,MS4.1,baz=142,slow=32
ULM Lac du Bonnet 50.14 320 P **P 08 11 41.2 -1.3**
ULM LR LR 08 29 55.3
BAIF Baives 50.31 40 *eP* **P 08 11 42.9 -0.9**
MEZF Maizieres J'vi 50.35 42 *eP* **P 08 11 43.6 -0.5**
CABF La Chapelle 50.50 45 *eP* **P 08 11 45.0 -0.3**
comp=Z,30nm,1.1s,mb4.8
CABF La Chapelle 50.50 45 *eP* **P 08 11 45.0 -0.3**
CABF pmax pmax
comp=Z,15nm,1.1s,mb4.8
CABF La Chapelle 50.50 45 *eP* **P 08 11 45.0 -0.3**
comp=Z,15nm,1.1s,mb4.8
MBDF Montbardon 50.52 47 *eP* **P 08 11 46.0 +0.6**
GIVF Givet 50.70 40 *eP* **P 08 11 45.9 -0.8**
HAU Haudompre 51.04 43 *eP* **P 08 11 49.4 +0.1**
HAU *eR*
comp=Z,32nm,22.2s
CDF Champ du Feu 51.75 43 *eP* **P 08 11 53.5 -1.1**
FCC Fort Churchill 52.63 331 *eP* **P 08 12 00.6 -0.6**
FCC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
FCC Fort Churchill 52.63 331 *eP* **P 08 12 00.6 -0.5**
comp=Z,9.9nm,1.0s,mb4.7
GDL2 Guadalupe Moun 53.61 296 *eP* **P 08 12 16.4 +8.0**
SUMG Summit 53.66 3 *eP* **P 08 12 08.7 -0.1**
comp=Z,9.3nm,1.1s,mb4.6
MNTX Cornudas Mount 54.48 296 *eP* **P 08 12 14.2 -0.6**
comp=Z,7.4nm,1.3s,mb4.5
GRA1 Grafenberg Arr 54.57 42 *eP* **P 08 12 15.6 +0.2**
comp=Z,5.0nm,0.9s,mb4.5
GRF Grafenberg Arr 54.57 42 *eP* **P 08 12 15.6 +0.2**
comp=Z,5.0nm,0.9s,mb4.5
GRF Grafenberg Arr 54.57 42 *eP* **P 08 12 15.6 +0.2**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
GRF Grafenberg Arr 54.57 42 *eP* **P 08 12 15.6 +0.2**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ISCO Idaho Springs 54.82 306 *eP* **P 08 12 17.2 0.0**
ISCO pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
ISCO Idaho Springs 54.82 306 *eP* **P 08 12 17.2 0.0**
comp=Z,6.5nm,1.2s,mb4.5
MOX Moxa 55.03 41 *eP* **P 08 12 19.2 +0.5**
FFC Flin Flon 55.10 324 *eP* **P 08 12 18.4 -0.9**
FFC pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
FFC Flin Flon 55.10 324 *eP* **P 08 12 18.4 -0.9**
comp=Z,7.5nm,0.9s,mb4.7
ANMO Albuquerque 55.34 300⇑ *eP* **P 08 12 21.9 +1.0**
WERD Werda 55.42 41 *eP* **P 08 12 22.7 +1.2**
BNM Barren Site 55.48 299 *eP* **P 08 12 22.8 +0.8**
TANN Tannenbergstha 55.51 41 *eP* **P 08 12 22.5 +0.3**
WET Wettzell 55.52 43 *eP* **P 08 12 23.4 +1.1**
SMCO Snowmass 55.84 305 *eP* **P 08 12 25.8 +1.3**
KHC Kasperske Hory 55.97 43⇑ *eP* **P 08 12 26.1 +0.6**
LAO LASA Array 55.98 314 *eP* **P 08 12 25.1 -0.5**
comp=Z,6.3nm,0.8s,mb4.7
GEC2 GERESS Array S 56.00 43 *eP* **P 08 12 26.5 +0.8**
GERES GERESS Array B 56.00 43 P **P 08 12 25.4 -0.3**
comp=Z,0.3nm,0.2s,mb3.9,baz=254,slow=5.0,SNR=7.6
CLL Collm 56.03 40 *eP* **P 08 12 27.0 +1.1**
RWWY Rawlins 56.16 308 *eP* **P 08 12 27.5 +0.7**
comp=Z,6.6nm,0.7s,mb4.8
JMIC Jan Mayen 56.41 14 LR LR 08 29 36.6
comp=Z,70nm,19.1s,MS3.8,baz=292,slow=29
BRG Berggiesshubel 56.52 41 *eP* **P 08 12 29.1 -0.4**
NOA NORSAR Array B 57.77 29 P **P 08 12 38.0 -0.4**
comp=Z,3.7nm,1.1s,mb4.3,baz=250,slow=7.0,SNR=2.7
PDAR Pinedale Array 57.97 309 P **P 08 12 38.4 -1.3**
comp=Z,3.7nm,1.0s,mb4.4,baz=95,slow=6.4,SNR=23
BW06 Boulder Array 57.97 309 *eP* **P 08 12 39.0 -0.6**
comp=Z,6.1nm,1.0s,mb4.6
GCMT Greycliff 58.25 313 *eP* **P 08 12 42.0 +0.3**
EGMT Eagleton 58.53 315 *eP* **P 08 12 43.5 -0.1**
comp=Z,5.4nm,1.1s,mb4.5
SRU San Rafael 58.59 305 *eP* **P 08 12 43.6 -0.4**
LOHW Long Hollow 58.77 310 *eP* **P 08 12 45.1 -0.2**
comp=Z,6.6nm,1.0s,mb4.6
SNOW Snow King Moun 58.88 310 *eP* **P 08 12 46.1 +0.1**
comp=Z,7.9nm,1.2s,mb4.6
IMW Indian Meadow 59.03 310 *eP* **P 08 12 47.5 +0.4**
comp=Z,5.3nm,0.8s,mb4.6
TUC Tucson 59.04 297 *eP* **P 08 12 47.6 +0.5**
DAU Daniels Canyon 59.17 306 *eP* **P 08 12 48.6 +0.6**
RRI2 Red Ridge 59.28 310 *eP* **P 08 12 58.1 +9.3**
HWUT Hardware Ranch 59.41 308 *eP* **P 08 12 49.5 -0.2**
comp=Z,8.3nm,1.0s,mb4.7
BOZ Bozeman (W) 59.62 312 *eP* **P 08 12 51.0 -0.1**
BOZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BOZ Bozeman (W) 59.62 312 *eP* **P 08 12 51.0 -0.1**
comp=Z,2.7nm,1.0s,mb4.2
HRY Holter Researc 59.82 313 *eP* **P 08 12 52.4 -0.1**

MSU Marysvale 59.89 304 *eP* **P 08 12 53.5 +0.5**
SPUT South Promonto 60.08 307 *eP* **P 08 12 54.1 -0.2**
DUG Dugway 60.36 306 *eP* **P 08 12 56.4 +0.2**
DUG pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
DUG Dugway 60.36 306 *eP* **P 08 12 56.4 +0.2**
comp=Z,4.3nm,1.0s,mb4.4
BGU Big Grassy Mou 60.52 307 *eP* **P 08 12 57.3 0.0**
ARUT Antelope Range 60.91 303 *eP* **P 08 13 01.2 +1.2**
MSO Missoula 61.27 313 *eP* **P 08 13 02.6 +0.1**
EDM Edmonton 61.37 321 *eP* **P 08 13 02.8 -0.3**
HLID Hailey 61.54 310 *eP* **P 08 13 04.3 0.0**
comp=Z,3.2nm,1.0s,mb4.4
ELK Elko 62.20 307 *eP* **P 08 13 09.0 +0.3**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 62.20 307 *eP* **P 08 13 09.0 +0.4**
comp=Z,5.3nm,1.0s,mb4.6
TPNV Topopah Spring 63.19 302 *eP* **P 08 13 15.4 +0.1**
TPNV pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
TPNV Topopah Spring 63.19 302 *eP* **P 08 13 15.4 +0.1**
comp=Z,4.5nm,1.1s,mb4.5
YKA Yellowknife Ar 63.35 331 P **P 08 13 14.6 -1.7**
comp=Z,1.4nm,0.8s,mb4.1,baz=100,slow=7.4,SNR=11
YKA LR LR 08 38 43.6
comp=Z,105nm,20.1s,MS4.0,baz=95,slow=34
NEW Newport 63.47 315 *eP* **P 08 13 17.0 -0.1**
PLCA Paso Flores 63.75 201 LR LR 08 41 42.2
comp=Z,84nm,18.5s,MS4.0,baz=3.0,slow=37
BAR Barrett 63.96 298 *eP* **P 08 13 19.8 -0.5**
NVAR Mina Array Bea 64.70 304 P **P 08 13 25.6 +0.4**
comp=Z,0.3nm,0.8s,mb3.4,baz=108,slow=6.2,SNR=3.8
FINES FINESS Array B 64.85 30 P **P 08 13 25.7 -0.5**
comp=Z,2.3nm,0.9s,mb4.2,baz=251,slow=5.8,SNR=4.1
FINES LR LR 08 37 14.5
comp=Z,71nm,19.2s,MS3.9,baz=312,slow=32
FINES FINESS Array B 64.85 30 P **P 08 13 25.7 -0.6**
FINES LR LR 08 37 14.5
ARCES ARCESS Array B 65.80 21 P **P 08 13 31.6 -0.7**
comp=Z,3.8nm,1.0s,mb4.4,baz=278,slow=8.7,SNR=3.8
ARCES LR LR 08 35 58.0
comp=Z,39nm,18.1s,MS3.6,baz=273,slow=30
AKASG Malin Array Be 66.16 42 P **P 08 13 34.4 -0.3**
comp=Z,0.3nm,0.3s,mb3.8,baz=274,slow=5.6,SNR=7.7
BR131 Keskin Array S 70.25 54 *eP* **P 08 14 01.3 +1.0**
comp=Z,3.3nm,0.8s,mb4.3
BRTR Keskin Array B 70.25 54 P **P 08 14 00.6 +0.3**
comp=Z,4.0nm,1.0s,mb4.3,baz=289,slow=3.8,SNR=13
BRTR LR LR 08 41 37.9
comp=Z,17nm,21.3s,MS3.3,baz=107,slow=33
OBN Obninsk 70.35 37 *i* P **P 08 14 02.7 +1.8**
OBN *e* 08 14 20.7
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
DLBC Dease Lake 70.81 326 *eP* **P 08 14 04.3 +0.5**
KLMR Klimovskoe 71.36 31 *eP* **P 08 14 05.5 -1.6**
INK Inuvik 71.50 337 *eP* **P 08 14 06.9 -1.0**
MMAI Mount Meron Ar 72.85 60 P **P 08 14 17.3 +1.3**
comp=Z,2.7nm,0.7s,mb4.3,baz=239,slow=4.7,SNR=6.0
EIL Elat 73.18 64 *eP* **P 08 14 19.4 +1.4**
SOC Sochi 74.06 49 *ceP* **P 08 14 23.9 +0.7**
SOC *e* 08 14 36.2
SOC *eP*PP 08 18 48.1
SOC *eS* S 08 23 55.1 -0.8
SOC pmax pmax
comp=Z,17nm,1.1s,mb4.9
MALT Malatya 74.17 54 *eP* **P 08 14 24.7 +0.9**
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MALT Malatya 74.17 54 *eP* **P 08 14 24.7 +0.9**
comp=Z,5.9nm,0.8s,mb4.6
ASF Jabal al Asfar 74.26 61 P **P 08 14 26.5 +2.1**
comp=Z,0.7nm,0.4s,mb4.0,baz=196,slow=4.3,SNR=6.7
DAWY Dawson 74.47 333 *eP* **P 08 14 25.2 -0.3**
KIV Kislovodsk 76.09 48 *i* P **P 08 14 36.8 +1.9**
KIV *e* 08 14 47.4
KIV pmax pmax
comp=Z,15nm,1.3s,mb4.8
GNI Garni 78.50 51 P **P 08 14 49.5 +1.1**
comp=Z,1.5nm,0.3s,mb4.4,baz=183,slow=5.1,SNR=4.8
GNI Garni 78.50 51⇑ *eP* **P 08 14 50.0 +1.6**
GNI pmax pmax
comp=Z,25nm,1.5s
ARU Arti 82.06 33 *eP* **P 08 15 07.4 -0.1**
ARU *e* 08 18 14.9
ARU *eS* S 08 25 19.7 -2.3
ARU *eSS* SS 08 30 39.5 -1.5
KMBO Kilima Mbogo 84.01 93 LR LR 08 49 27.4
comp=Z,163nm,20.7s,MS4.4,baz=280,slow=33
AKTK Aktyubinsk 84.06 39 P **P 08 15 18.3 +0.4**
AKTK LR LR 08 49 54.5
AKTO Aktyubinsk 84.06 39 P **P 08 15 18.3 +0.4**
comp=Z,1.8nm,0.8s,mb4.3,baz=299,slow=6.6,SNR=9.7
AKTO LR LR 08 49 54.5
comp=Z,27nm,18.9s,MS3.7,baz=105,slow=34
ZRNK Zerenda 89.03 33 *eP* **P 08 15 42.7 +0.5**
ZRNK pmax pmax
comp=Z,9.0nm,1.4s,mb4.9
ZRNK Zerenda 89.03 33 *eP* **P 08 15 42.7 +0.5**
comp=Z,8.5nm,1.4s,mb4.9
TIXI Tiksi 89.41 2 *i* P **P 08 15 46.3 +2.3**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
CHKZ Chkalovo 89.47 32 *eP* **P 08 15 44.9 +0.6**
BRVK Borovoye 89.63 33 *eP* **P 08 15 46.2 +1.2**
BRVK pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
BRVK Borovoye 89.63 33 *eP* **P 08 15 46.2 +1.1**
comp=Z,4.6nm,1.2s,mb4.7
BVAR Borovoye Array 89.70 33 P **P 08 15 45.4 +0.1**
comp=Z,0.3nm,0.3s,mb4.1,baz=304,slow=1.1,SNR=5.8
BVAR LR LR 08 52 37.4
comp=Z,39nm,20.4s,MS3.8,baz=139,slow=33
BILL Bilibino 89.95 348 *eP* **P 08 15 46.7 +0.1**
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
WSAR Wadi Sarin 95.30 63 LR LR 08 57 39.7
comp=Z,50nm,20.3s,MS4.0,baz=8.3,slow=34
ZAL Zalesovo 95.92 27 LR LR 09 00 11.9
comp=Z,40nm,19.6s,MS3.9,baz=338,slow=36
POO Poona 110.13 61 *ex* x 08 17 30.0
HHC Hu-ho-hao-te 116.82 19 *e*PKP PKPdf 08 21 27.8 -3.9
HHC PP PP 08 22 40.0 -0.1
HHC PKS 08 25 02.8
HHC LR LR
comp=N,110nm,15.5s
HHC LR LR
comp=E,130nm,21.4s
HHC LR LR
comp=Z,70nm,19.0s,MS4.3
CN2 Changchun 116.92 7 *e*PKP PKPdf 08 21 33.1 +1.2
LZH Lanzhou 118.14 27 *e*PKP PKPdf 08 21 35.6 +1.3
CD2 Chengdu 122.41 31 *e*PKP PKPdf 08 21 40.5 -2.0
KMI Kunming 126.55 36 PKP PKPdf 08 21 49.6 -0.8
NJ2 Nanjing 127.11 16 *e*PKP PKPdf 08 21 48.0 -3.5
NJ2 PP PP 08 23 52.0 +2.0
NJ2 PKS 08 25 23.0
NJ2 PP PP
comp=Z,80nm,7.6s
NJ2 LR LR
comp=N,810nm,26.8s,MS5.4
NJ2 LR LR
comp=E,720nm,28.6s,MS5.4
NJ2 LR LR
comp=Z,1μm,30.5s,MS5.3
SSE Sheshan 128.60 14 *e*PKP PKPdf 08 21 55.8 +1.5
CASY Casey 130.43 168 *e*PKPdf PKPdf 08 21 56.0 -1.8

ISCJB ***23*** *08:17:15.8±2.4, 0.1S±0.1×1230E±02, h212km±27km, mb3.8/10, Error ellipse: s-maj=40.9km s-min=11.2km az=123.5*
NEIC ***23*** *08:17:15.9±1.9, 0.11S×12292E, h200km±20km, mb4.3/5, Error ellipse: s-maj=32.0km s-min=8.8km az=66.0*
IDC ***23*** *08:17:15.2±5.8, 009S×12308E, h192km±56km, mb3.3/6, mb1 3.5/7, mb1mx3.4/17, mbtmp3.9/7, Error ellipse: s-maj=84.6km s-min=15.8km az=68.0*
ISC 23 08:17:16.4±2.5, 01S±.01×1230E±.02, h200km±28km, n18, σ0§71/18, mb3.8/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**9.09**	**312**	*e*Pn	**Pn**	**08 19 22.9**	**-0.8**
KKM				*e*Sn	**Sn**	**08 21 06.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**18.07**	**172**	*e*P	**P**	**08 21 13.3**	**+0.5**
9.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**18.07**	**172**	P	**P**	**08 21 13.3**	**+0.5**
0.6nm,0.3s,baz=3.0,slow=7.1,SNR=19							
MBWA	**Marble Bar**	**21.15**	**188**	*e*P	**P**	**08 21 45.2**	**-0.6**
3.6nm,0.7s,mb4.0							
WRAB	**Tennant Creek**	**22.64**	**151**	*e*P	**P**	**08 22 00.3**	**0.0**
6.3nm,1.0s,mb4.1							
WRA	**Warramunga Arr**	**22.64**	**151**	P	**P**	**08 22 00.1**	**-0.3**
2.2nm,0.7s,mb3.8,baz=327,slow=11,SNR=37							
WB2	**Warramunga Arr**	**22.65**	**151**	*e*P	**P**	**08 22 00.5**	**+0.1**
AS31	**Alice Springs**	**25.71**	**156**	*e*P	**P**	**08 22 29.4**	**+1.2**
ASPA	**Alice Springs**	**25.71**	**156**	*e*P	**P**	**08 22 29.4**	**+1.2**
ASAR	**Alice Springs**	**25.71**	**156**	P	**P**	**08 22 27.4**	**-0.8**
0.5nm,0.5s,mb3.4,baz=342,slow=13,SNR=8.0							
ASAR				PcP	PcP	08 25 53.8	+1.1
0.5nm,0.6s,baz=332,slow=1.8,SNR=4.7							
FORT	**Forrest**	**30.88**	**171**	*e*P	**P**	**08 23 14.3**	**+0.4**
4.6nm,0.6s,mb4.3							
KLBR	**Kellerberrin**	**31.69**	**188**	*e*P	**P**	**08 23 20.7**	**-0.3**
6.8nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**36.18**	**153**	P	**P**	**08 23 58.1**	**-1.5**
3.5nm,0.7s,mb4.0,baz=323,slow=8.8,SNR=7.1							
SONM	**Songino Array**	**49.88**	**345**	P	**P**	**08 25 49.6**	**+0.2**
0.7nm,0.6s,mb3.1,baz=160,slow=6.0,SNR=3.6							
MKAR	**Makanchi Array**	**58.68**	**328**	P	**P**	**08 26 52.5**	**-0.3**
0.5nm,0.3s,mb3.5,baz=118,slow=8.6,SNR=6.1							
MKAR	**Makanchi Array**	**58.68**	**328**	P	**P**	**08 26 52.5**	**-0.3**
VNDA	**Vanda**	**80.14**	**172**	P	**P**	**08 29 04.5**	**+0.3**
0.7nm,0.8s,mb3.3,baz=320,slow=7.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**120.39**	**285**	PKP	PKPdf	08 35 43.5	-0.2
0.5nm,0.6s,baz=56,slow=2.2,SNR=9.0							

ISCJB ***23*** *08:35:49.1±1.0, 471S±02×326E±03, h10km, mb3.8/7, MS3.7/2, Error ellipse: s-maj=33.2km s-min=23.6km az=142.5*
IDC ***23*** *08:35:49.3±1.1, 4703S×3276E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, MS3.7/3, Ms1 3.7/3, ms1mx2.9/35, Error ellipse: s-maj=37.3km s-min=26.8km az=65.0*
NEIC ***23*** *08:35:50.8±0.8, 4703S×3269E, h10km, mb3.9/1, Error ellipse: s-maj=27.9km s-min=20.0km az=70.0*
ISC 23 08:35:50.9±1.0, 471S±02×327E±.03, h10km, n10, σ0§60/8, mb3.8/7, MS3.7/2, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.26**	**324**	LR	LR	08 45 37.4	
comp=Z,178nm,18.1s,baz=86,slow=34							
MAW	**Mawson**	**25.75**	**154**	P	**P**	**08 41 22.7**	**+1.0**
1.5nm,0.7s,mb3.6,baz=336,slow=10,SNR=5.9							
MAW	**Mawson**	**25.75**	**154**	*e*P	**P**	**08 41 22.3**	**+0.7**
2.4nm,0.8s,mb3.8							
SNAA	**Sanae**	**29.70**	**202**	P	**P**	**08 41 56.8**	**-0.2**
0.2nm,0.6s,mb3.0,baz=74,slow=5.3,SNR=7.1							
KMBO	**Kilima Mbogo**	**45.96**	**6**	LR	LR	09 01 37.2	
comp=Z,83nm,18.0s,MS3.7,baz=276,slow=34							
VNDA	**Vanda**	**51.78**	**168**	P	**P**	**08 44 58.5**	**-0.2**
0.5nm,0.7s,mb3.6,baz=243,slow=8.4,SNR=5.7							
VNDA				LR	LR	09 07 32.9	
comp=Z,78nm,19.2s,MS3.8,baz=220,slow=37							
TORD	**Torodi Ar. Bea**	**66.06**	**327**	P	**P**	**08 46 38.1**	**+0.2**
0.9nm,1.0s,mb3.7,baz=166,slow=5.7,SNR=5.6							
STKA	**Stephens Creek**	**78.75**	**125**	P	**P**	**08 47 52.5**	**-1.1**
2.5nm,0.6s,mb4.3,baz=252,slow=6.0,SNR=15							
ASAR	**Alice Springs**	**80.26**	**114**	P	**P**	**08 48 02.5**	**+0.6**
2.6nm,0.6s,mb4.3,baz=223,slow=4.7,SNR=63							
WRA	**Warramunga Arr**	**83.26**	**112**	P	**P**	**08 48 17.5**	**-0.2**
1.3nm,0.7s,mb4.1,baz=214,slow=3.9,SNR=12							

CSEM ***23*** *08:36:43.8±1.0, 3913N×2842W, h6km±8km, ML1.3, Error ellipse: s-maj=6.0km s-min=3.9km az=153.0, After PDA*
PDA ***23*** *08:36:43.8±1.0, 3913N×2842W, h6km±8km, MD2.9, ML1.3, Error ellipse: s-maj=6.0km s-min=3.9km az=153.0*
SVSA 23 08:36:43.8±1.0, 3913N×2842W, h6km±8km, MD2.9, ML1.3, Error ellipse: s-maj=6.0km s-min=3.9km az=153.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVIA	**Vitoria**	**0.29**	**102**	*e*S	Sg	08 36 53.3	-0.1
PVIA							
7.4nm,0.1s							
SRBC	**Serra Branca**	**0.31**	**108**	*e*P	Pg	08 36 49.7	-0.1
SRBC				*e*S	Sg	08 36 53.8	-0.1
STGR	**Santa Cruz**	**0.33**	**99**	*e*S	Sg	08 36 54.1	-0.4
STGR							
20nm,0.1s							
PGRA	**Graciosa**	**0.36**	**106**	*e*P	Pg	08 36 50.0	-0.7
PGRA				*e*S	Sg	08 36 54.9	-0.5
PGRA							
16nm,0.1s							
PGRA	**Graciosa**	**0.36**	**106**	*e*P	Pg	08 36 50.0	-0.7
PGRA				*e*S	Sg	08 36 54.9	-0.5
ROSA	**Rosais**	**0.43**	**161**	*e*P	Pg	08 36 51.0	-1.2
ROSA				*e*S	Sg	08 36 56.9	-1.0
PLUZ	**Luz**	**0.45**	**255**	*e*S	Sg	08 36 54.6	-3.7
PLUZ							
6.7nm,0.1s							
PCED	**Cedros**	**0.55**	**204**	*i* P	Pg	08 36 53.1	-1.2
PCED				*e*S	Sg	08 37 00.1	-1.4
PCED							
52nm,0.2s							
PCED	**Cedros**	**0.55**	**204**	*e*S	Sg	08 37 00.1	-1.4
CALA	**Caldeira**	**0.59**	**202**	*e*P	Pg	08 36 54.1	-1.1
CALA				*e*S	Sg	08 37 01.2	-1.7
PICO	**Pico**	**0.63**	**180**	*e*S	Sg	08 37 02.6	-1.5

IDC ***23*** *08:48:52.2±4.2, 3465N×7367E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/22, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=90.8km s-min=36.1km az=122.0*
ISCJB ***23*** *08:48:53.3±0.8, 348N±0.1×734E±02, h10km, mb3.7/3, Error ellipse: s-maj=24.2km s-min=6.0km az=103.5*
NDI ***23*** *08:48:54.0±2.6, 3474N×7272E, h33km, ML3.3*
ISC 23 08:48:55.5±0.8, 3484N±009×735E±02, h10km, n12, σ1§50/16, mb3.7/3, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**3.09**	**137**	*e*P	**Pg**	**08 49 52.0**	**-2.6**
DLH				*e*S	**Sg**	**08 50 31.0**	**-3.7**
SMLA	**Simla**	**4.82**	**139**	*e*P	**Pn**	**08 50 10.7**	**+2.6**
SMLA				*e*S	**Sn**	**08 51 04.1**	**+0.1**
244nm,0.4s							
KLP	**Kalpa**	**5.18**	**128**	*e*P	**Pn**	**08 50 15.4**	**+2.4**
KLP				*e*S	**Sn**	**08 51 13.9**	**+1.1**
KLP				AML	AML	08 51 41.8	
comp=N,111nm,0.6s							
KLP				AML	AML	08 51 42.3	
comp=E,71nm,0.4s							
KUDL	**Kundal**	**7.15**	**158**	*e*S	**Sn**	**08 51 53.2**	**-8.1**
KUDL				AML	AML	08 52 54.9	
comp=E,4.4nm,0.5s							
KUDL				AML	AML	08 52 55.8	
comp=N,5.2nm,0.4s							
SONA	**Sohna**	**7.25**	**154**	*e*S	**Sn**	**08 51 57.6**	**-6.2**
SONA				AML	AML	08 52 46.0	
comp=N,27nm,0.7s							
SONA				AML	AML	08 52 47.2	
comp=E,14nm,0.3s							
KK31	**Karatay Array**	**8.57**	**345**	⇓Pn	**Pn**	**08 51 01.5**	**+2.0**
comp=E,3.3nm,0.4s,baz=162,slow=13,SNR=55							
KK31				⇑Sn	**Sn**	**08 52 34.6**	**-1.7**
comp=E,0.6nm,0.3s,baz=176,slow=25,SNR=4.8							
BVAR	**Borovoye Array**	**18.31**	**354**	P	**Pn**	**08 53 10.6**	**+1.0**
comp=E,0.3nm,0.3s,baz=156,slow=11,SNR=5.2							
AKTO	**Aktyubinsk**	**19.23**	**329**	P	**Pn**	**08 53 20.5**	**-0.2**
comp=E,0.3nm,0.3s,baz=110,slow=9.6,SNR=5.8							
ZAL	**Zalesovo**	**20.68**	**19**	P	**P**	**08 53 34.9**	**-0.7**
comp=E,1.9nm,0.4s,baz=59,slow=6.6,SNR=3.2							
FINES	**FINESS Array B**	**39.98**	**327**	P	**P**	**08 56 29.4**	**-0.8**
comp=E,2.7nm,1.1s,mb3.9,baz=98,slow=14,SNR=3.7							
ARCES	**ARCESS Array B**	**43.45**	**338**	P	**P**	**08 56 58.6**	**+0.1**
comp=E,0.9nm,0.5s,mb3.7,baz=112,slow=8.3,SNR=7.6							
TORD	**Torodi Ar. Bea**	**67.73**	**271**	P	**P**	**08 59 53.0**	**-0.1**
comp=E,0.3nm,0.5s,mb3.6,baz=44,slow=6.5,SNR=5.9							

ISCJB ***23*** *08:56:46.9±0.4, 47.11S±007×327E±02, h10km, mb4.2/15,*

MS3.7/11, Error ellipse: s-maj=16.8km s-min=9.2km az=141.7
*IDC **23** 08:56:46.7±0.6, 4711S×3276E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.1/13, ML3.6/1, MS3.7/13, Ms1 3.7/13, ms1mx3.5/26, Error ellipse: s-maj=25.0km s-min=15.2km az=64.0*
*NEIC **23** 08:56:48.4±0.3, 47.10S×3276E, h10km, mb4.4/8, Error ellipse: s-maj=14.7km s-min=7.1km az=69.0*
ISC 23 08:56:48.5±0.4, 4711S±007×327E±02, h10km, n42, σ0§57/28, mb4.2/15, MS3.7/11, 1C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.30**	**324**	LR	LR	09 05 41.3	
	comp=Z,291nm,19.9s,baz=36,slow=31						
BOSA	**Boshof**	**19.37**	**340**	P			
	0.1nm,0.3s,baz=162,slow=16,SNR=3.2				**Pn**	**09 01 15.4**	**0.0**
BOSA				LR	LR	09 06 55.1	
	comp=Z,228nm,19.8s,baz=166,slow=31						
SYO	**Syowa Base**	**22.23**	**173⇑**	*e*pP	pP	09 01 50.0	+1.9
LBTB	**Lobatse**	**22.77**	**343**	P			
	1.9nm,0.5s,mb3.8,baz=175,slow=13,SNR=3.8				**P**	**09 01 50.5**	**-0.5**
LBTB				LR	LR	09 09 21.3	
	comp=Z,291nm,18.7s,MS3.8,baz=170,slow=33						
LBTB	**Lobatse**	**22.77**	**343**	P			
	8.4nm,0.8s,mb4.2				**P**	**09 01 50.3**	**-0.7**
MAW	**Mawson**	**25.71**	**154**	P			
	2.5nm,0.8s,mb3.8,baz=297,slow=11,SNR=7.8				**P**	**09 02 18.7**	**-0.2**
MAW				LR	LR	09 08 56.4	
	comp=Z,141nm,21.7s,MS3.5,baz=144,slow=28						
MAW	**Mawson**	**25.71**	**154**	*e*P			
	9.4nm,0.9s,mb4.3				**P**	**09 02 18.2**	**-0.7**
MAW				*e*pP	pP	09 02 28.0	+6.1
MATP	**Matopo**	**26.84**	**351**	P			
	1.4nm,0.7s,mb3.6,baz=182,slow=11,SNR=5.2				**P**	**09 02 29.5**	**+0.5**
MATP				LR	LR	09 11 43.2	
	comp=Z,233nm,18.1s,MS3.8,baz=143,slow=33						
MATP	**Matopo**	**26.84**	**351**	P			
MATP				LR	LR	09 11 43.2	
					P	**09 02 29.5**	**+0.5**
SNAA	**Sanae**	**29.70**	**202**	P			
	0.5nm,0.7s,mb3.4,baz=103,slow=6.2,SNR=12				**P**	**09 02 54.5**	**-0.1**
TSUM	**Tsumeb**	**30.47**	**331**	*e*P			
	3.1nm,0.8s,mb4.1				**P**	**09 03 01.4**	**0.0**
VNA1	**Neumayer--Stat**	**30.63**	**205**	*e*			
VNA1				*e*	**P**	**09 03 03.5**	**+0.7**
VNA1				*e*		09 03 09.8	
VNA1				*e*		09 03 13.2	
VNA1				*e*		09 03 19.4	
QSPA	**South Pole Qui**	**43.11**	**180**	*e*P			
QSPA				*e*P	**P**	**09 04 48.0**	**-0.8**
QSPA				*e*PcP	PcP	09 04 48.4	
QSPA				*e*PcP	PcP	09 06 38.4	-0.2
KMBO	**Kilima Mbogo**	**45.97**	**6**	LR	LR	09 22 25.0	
	comp=Z,164nm,20.8s,MS4.0,baz=264,slow=34						
VNDA	**Vanda**	**51.75**	**168**	P			
	1.6nm,0.8s,mb4.0,baz=259,slow=7.1,SNR=9.9				**P**	**09 05 55.6**	**-0.4**
VNDA				LR	LR	09 26 13.9	
	comp=Z,169nm,19.4s,MS4.1,baz=222,slow=34						
VNDA	**Vanda**	**51.75**	**168**	*e*P			
	3.1nm,0.8s,mb4.3				**P**	**09 05 55.6**	**-0.4**
SBA	**Scott Base**	**52.17**	**169**	*e*P			
	11nm,1.1s,mb4.7				**P**	**09 05 59.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**66.11**	**327**	P			
	1.4nm,0.7s,mb4.1,baz=168,slow=7.3,SNR=8.8				**P**	**09 07 35.2**	**-0.5**
TORD				LR	LR	09 38 21.0	
	comp=Z,44nm,18.2s,MS3.7,baz=185,slow=38						
TORD	**Torodi Ar. Bea**	**66.11**	**327**	P			
TORD				LR	LR	09 38 21.0	
					P	**09 07 35.2**	**-0.6**
PLCA	**Paso Flores**	**69.17**	**232**	LR	LR	09 32 09.7	
	comp=Z,69nm,19.8s,MS3.9,baz=358,slow=31						
CPUP	**Villa Florida**	**71.24**	**251**	P			
	1.8nm,0.8s,mb4.0,baz=113,slow=5.3,SNR=6.0				**P**	**09 08 07.3**	**-0.5**
CPUP	**Villa Florida**	**71.24**	**251**	P	**P**	**09 08 07.3**	**-0.5**
BDFB	**Brasilia**	**72.45**	**266**	P	**P**	**09 08 15.9**	**+0.8**
	2.3nm,0.7s,mb4.2,baz=196,slow=12,SNR=4.1						
CFAA	**Coronel Fontan**	**74.33**	**240**	LR	LR	09 35 09.8	
	comp=Z,9.1nm,18.0s,MS3.1,baz=248,slow=31						
STKA	**Stephens Creek**	**78.70**	**125**	*e*P			
	5.8nm,0.8s,mb4.6				**P**	**09 08 49.6**	**-1.3**
STKA	**Stephens Creek**	**78.70**	**125**	P			
	6.8nm,0.8s,mb4.6,baz=243,slow=3.5,SNR=14				**P**	**09 08 49.4**	**-1.5**
ASPA	**Alice Springs**	**80.20**	**114**	*e*P			
ASAR	**Alice Springs**	**80.21**	**114**	P			
	5.4nm,0.7s,mb4.6,baz=221,slow=4.6,SNR=47				**P**	**09 08 59.8**	**+0.7**
					P	**09 08 59.4**	**+0.2**
AS31	**Alice Springs**	**80.21**	**114**	*e*P			
WRA	**Warramunga Arr**	**83.21**	**112**	P			
	2.6nm,0.8s,mb4.3,baz=219,slow=4.2,SNR=18				**P**	**09 08 59.8**	**+0.7**
WB2	**Warramunga Arr**	**83.22**	**112**	*e*P			
WRAB	**Tennant Creek**	**83.22**	**112**	*e*P			
	8.1nm,0.9s,mb4.8				**P**	**09 09 15.0**	**0.0**
					P	**09 09 15.0**	**-0.2**
BRTR	**Keskin Array B**	**86.46**	**1**	P			
	0.8nm,0.7s,mb4.0,baz=168,slow=6.3,SNR=4.8				**P**	**09 09 31.5**	**+0.2**
BRTR				LR	LR	09 52 30.4	
	comp=Z,26nm,18.7s,MS3.7,baz=0.3,slow=39						
ESDC	**Sonseca Array**	**92.39**	**333**	LR	LR	09 52 58.2	
	comp=Z,52nm,22.0s,MS3.9,baz=305,slow=36						
GERES	**GERESS Array B**	**96.99**	**347**	LR	LR	09 59 41.0	
	comp=Z,36nm,19.1s,MS3.9,baz=277,slow=39						
PPT	**Papeete**	**115.59**	**178**	*e*LR	LR	09 49 42.3	
	139nm,23.5s						
ULM	**Lac du Bonnet**	**146.47**	**295**	PKPbc	PKPbc	09 16 28.1	-1.7
	2.5nm,0.8s,baz=54,slow=3.1,SNR=7.1						
MVCO	**Mesa Verde**	**149.88**	**265**	*e*PKPbc	PKPbc	09 16 39.0	+0.2
MVCO				*e*PKPab	PKPab	09 16 45.8	+1.4
RSSD	**Black Hills**	**149.89**	**280**	*e*PKPbc	PKPbc	09 16 38.2	-0.7
RSSD				*e*PKPab	PKPab	09 16 45.5	+1.1
SRU	**San Rafael**	**152.21**	**267**	*e*PKPbc	PKPbc	09 16 43.3	-1.0
TMUT	**Trail Mountain**	**152.76**	**267**	*e*PKPbc	PKPbc	09 16 45.8	+0.3
PDAR	**Pinedale Array**	**153.13**	**275**	PKPbc	PKPbc	09 16 44.8	-1.6
	0.8nm,0.9s,baz=114,slow=3.6,SNR=6.1						

*ISCJB **23** 08:59:58.6±0.7, 6467N±003×307E±0.1, h0km, Error ellipse: s-maj=7.8km s-min=4.2km az=2.5*
*HEL **23** 09:00:00.3±0.1, 6467N×3075E, h0km, ML1.8, ML2.1(NAO), Explosion*
*IDC **23** 09:00:00.3±2.2, 6465N×31.14E, h0km, mb1 3.1/4, mb1mx3.0/21, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=30.3km s-min=9.2km az=102.0*
*NAO **23** 09:00:01.4±0.9, 6475N×3028E, ML2.1*
*BER **23** 09:00:02.1±3.5, 6477N×3032E, h0km, ML2.1(NAO), Suspected explosion*
ISC 23 08:59:59.2±0.6, 6470N±003×307E±01, h0km, n17, σ1§03/35, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.42**	**330**	*e*P	**Pn**	**09 00 25.6**	**-0.6**
MSF				*e*S	**Sg**	**09 00 43.9**	**-0.8**
KJN	**Kajaani**	**1.45**	**246**	*e*P	**Pn**	**09 00 26.1**	**-0.6**
KJN				*e*S	**Sg**	**09 00 45.1**	**-0.8**
KJN				MSG		09 00 47.2	
	comp=Z,8.9nm,0.2s						
KU4	**Liikasenvaara**	**1.75**	**344**	*e*P	**Pn**	**09 00 31.8**	**+1.0**
KU4				*e*S	**Sn**	**09 00 54.7**	**+1.0**
JOF	**Joensuu**	**1.80**	**172**	*e*P	**Pn**	**09 00 31.5**	**0.0**
JOF				*e*S	**Sn**	**09 00 54.8**	**-0.3**
JOF				MSG		09 00 58.0	
	comp=Z,8.1nm,0.1s						
OUL	**Oulu**	**2.10**	**283**	*e*P	**Pn**	**09 00 37.2**	**+1.5**
OUL				*e*S	**Sn**	**09 01 03.3**	**+0.8**
APA0	**Apatity Array**	**3.06**	**16**	*e*P	**Pn**	**09 00 50.0**	**+1.1**
APA0				*e*SG	**Sg**	**09 01 36.3**	**-1.4**
APA0	**Apatity Array**	**3.06**	**16**	Pn	**Pn**	**09 00 50.0**	**+1.1**
	baz=202,slow=18						
APA0				Lg		09 01 36.3	
	baz=200,slow=37						
FIA0	**FINESS Array S**	**3.89**	**215**	*e*P	**Pn**	**09 01 01.1**	**+0.9**
FIA0				*e*PG	**Pg**	**09 01 09.2**	**-4.6**
FIA0				*e*S	**Sn**	**09 01 47.2**	**+0.5**
FIA0				*e*SG	**Sg**	**09 01 59.2**	**-5.0**
FIA0	**FINESS Array S**	**3.89**	**215**	Pn	**Pn**	**09 01 01.1**	**+0.9**
	baz=33,slow=14						
FIA0				Pg	**Pg**	**09 01 09.2**	**-4.6**
	baz=31,slow=16						
FIA0				Sn	**Sn**	**09 01 47.2**	**+0.5**
	baz=39,slow=22						
FIA0				Lg		09 01 59.2	
	baz=34,slow=28						
FINES	**FINESS Array B**	**3.89**	**215**	Pn	**Pn**	**09 01 01.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=38,slow=13,SNR=10						
FINES				Pg	**Pg**	**09 01 09.5**	**-4.3**
	comp=Z,0.4nm,0.3s,baz=32,slow=15,SNR=16						
FINES				Sn	**Sn**	**09 01 46.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=45,slow=22,SNR=6.2						
FINES				Lg		09 01 59.0	
	comp=Z,0.5nm,0.3s,baz=45,slow=28,SNR=5.4						
FINES				Rg		09 02 16.2	
	comp=Z,12nm,1.0s,baz=25,slow=29,SNR=7.9						
ARA0	**ARCESS Array S**	**5.27**	**340**	Pn	**Pn**	**09 01 19.0**	**-0.2**
	baz=153,slow=14						
ARA0				Sn	**Sn**	**09 02 16.7**	**-4.0**
	baz=144,slow=37						
ARA0				Lg		09 02 37.9	
	baz=153,slow=37						
ARA0	**ARCESS Array S**	**5.27**	**340**	*e*P	**Pn**	**09 01 19.0**	**-0.2**
ARA0				*e*S	**Sn**	**09 02 16.7**	**-4.0**
ARA0				*e*SB	**Sb**	**09 02 37.9**	**+1.8**
ARCES	**ARCESS Array B**	**5.27**	**340**	Pn	**Pn**	**09 01 19.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=157,slow=14,SNR=19						
ARCES				Sn	**Sn**	**09 02 18.3**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=155,slow=26,SNR=4.0						
ARCES				Lg		09 02 40.1	
	comp=Z,0.6nm,0.3s,baz=149,slow=28,SNR=7.7						
HFS	**Hagfors**	**9.12**	**248**	Pn	**Pn**	**09 02 10.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=58,slow=12,SNR=6.6						
HFS				Sn	**Sn**	**09 03 50.4**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=65,slow=21,SNR=3.2						
NB2	**NORSAR Subarra**	**9.62**	**257**	Pn	**Pn**	**09 02 18.0**	**-1.0**
	baz=56,slow=12						
NB2	**NORSAR Subarra**	**9.62**	**257**	*e*P	**Pn**	**09 02 18.0**	**-1.0**
NOA	**NORSAR Array B**	**9.62**	**257**	Pn	**Pn**	**09 02 19.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=54,slow=13,SNR=3.0						
NOA				Lg		09 04 55.7	
	comp=Z,0.2nm,0.3s,baz=41,slow=21,SNR=5.1						

*ISCJB **23** 09:22:38.9±1.7, 1090N±005×14144E±008, h73km±16km, mb4.6/35, Error ellipse: s-maj=13.7km s-min=7.7km az=166.6*
*BJI **23** 09:22:38.3, 1090N×14150E, h70km, mB4.8, mb4.7, Ms4.8, Msz4.3*
*IDC **23** 09:22:38.7±3.2, 1095N×14137E, h52km±28km, mb4.2/15, mb1 4.4/16, mb1mx4.3/20, mbtmp4.5/16, ML4.7/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/27, Error ellipse: s-maj=22.9km s-min=12.5km az=79.0*
*NEIC **23** 09:22:40.3±1.6, 1093N×14148E, h70km±15km, mb4.8/14, Error ellipse: s-maj=12.0km s-min=6.9km az=85.0*
ISC 23 09:22:41.2±1.4, 1095N±005×14160E±008, h80km±14km, n61, σ1§17/54, mb4.6/35, 2C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.14**	**50**	P	**Pn**	**09 23 42.5**	**+0.5**
	46nm,0.3s,baz=204,slow=4.7,SNR=23						
GUMO				S	**Sn**	**09 24 27.0**	**-2.1**
	93nm,0.3s,baz=33,slow=23,SNR=18						
CBIJ	**Chichi jima**	**16.08**	**2**	P	**Pn**	**09 26 24.6**	**+2.2**
	11nm,0.3s,baz=208,slow=2.2,SNR=17						
CBIJ				LR	LR	09 32 08.3	
	comp=Z,91nm,18.1s,baz=114,slow=35						
JOW	**Kunigami**	**20.19**	**323**	P	**P**	**09 27 10.3**	**+1.1**
	31nm,0.7s,baz=154,slow=17,SNR=12						
JOW				LR	LR	09 34 30.7	
	comp=Z,26nm,19.6s,baz=134,slow=36						
PMG	**Port Moresby**	**20.96**	**165**	P	**P**	**09 27 18.2**	**+0.6**
	16nm,0.7s,baz=324,slow=13,SNR=4.3						
YHNB	**Yeheng**	**23.56**	**308**	*e*P	**P**	**09 27 44.4**	**+0.1**
MJAR	**Matsushiro Arr**	**25.67**	**354**	P	**P**	**09 28 01.5**	**-2.0**
	1.0nm,0.4s,mb3.6,baz=186,slow=11,SNR=7.9						
MJAR				LR	LR	09 36 33.0	
	comp=Z,105nm,21.7s,baz=75,slow=33						
MAJO	**Matsushiro**	**25.67**	**354**	P	**P**	**09 28 02.5**	**-1.0**
	2.8nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**31.50**	**193**	*e*P	**P**	**09 28 55.0**	**-0.4**
	11nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**31.51**	**193⇑**	*i*P	**P**	**09 28 55.2**	**-0.3**
WRA	**Warramunga Arr**	**31.51**	**193**	P	**P**	**09 28 55.1**	**-0.4**
	7.5nm,0.5s,mb4.6,baz=13,slow=9.6,SNR=130						
WRA				PcP	PcP	09 31 47.3	+0.8
	0.4nm,0.5s,baz=4.4,slow=3.0,SNR=7.2						
AS31	**Alice Springs**	**35.21**	**192**	*e*P	**P**	**09 29 27.7**	**+0.1**
ASAR	**Alice Springs**	**35.21**	**192**	P	**P**	**09 29 27.8**	**+0.1**
	5.8nm,0.5s,mb4.7,baz=19,slow=12,SNR=160						
ASAR				PcP	PcP	09 31 58.2	+1.3
	2.5nm,0.6s,baz=32,slow=2.7,SNR=19						
ASAR				LR	LR	09 42 19.5	
	comp=Z,140nm,21.4s,baz=11,slow=34						
ASPA	**Alice Springs**	**35.21**	**192**	*e*P	**P**	**09 29 27.7**	**0.0**
BJT	**Baijiatuan**	**36.69**	**326**	*e*P	**P**	**09 29 38.0**	**-2.3**
	5.3nm,0.5s,mb4.7						
CD2	**Chengdu**	**40.27**	**305**	*e*P	**P**	**09 30 08.8**	**-1.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
DZM	**Mont Dzumac**	**40.87**	**143**	P	**P**	**09 30 16.9**	**+1.7**
	comp=Z,11nm,0.8s,mb4.7,baz=50,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**42.58**	**180**	*e*P	**P**	**09 30 27.1**	**-2.0**
	comp=Z,4.5nm,1.2s,mb4.1						
STKA	**Stephens Creek**	**42.58**	**180**	P	**P**	**09 30 26.7**	**-2.5**
	comp=Z,3.7nm,0.7s,mb4.2,baz=353,slow=9.0,SNR=6.8						
STKA				LR	LR	09 49 06.7	
	comp=Z,169nm,18.4s,baz=23,slow=37						
STKA	**Stephens Creek**	**42.58**	**180**	*e*P	**P**	**09 30 27.2**	**-1.9**
FORT	**Forrest**	**43.48**	**197⇑**	*i*P	**P**	**09 30 37.2**	**+0.8**
	comp=Z,27nm,0.7s,mb5.1						
GTA	**Gaotai**	**46.64**	**315**	P	**P**	**09 31 02.3**	**+0.8**
ULN	**Ulaanbaatar**	**46.83**	**328**	*e*P	**P**	**09 31 02.3**	**-0.7**
	comp=Z,2.1nm,0.6s,mb4.0						
SONM	**Songino Array**	**47.16**	**328**	P	**P**	**09 31 06.0**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.0,baz=136,slow=6.5,SNR=16						
SONM				PcP	PcP	09 32 36.4	+0.5
	comp=Z,1.4nm,0.7s,baz=152,slow=4.1,SNR=4.7						
SONM				LR	LR	09 49 52.0	
	comp=Z,56nm,21.4s,baz=333,slow=35						
KLBR	**Kellerberrin**	**48.07**	**208**	*e*P	**P**	**09 31 11.8**	**-0.8**
	comp=Z,26nm,1.7s,mb4.8						
MUN	**Mundaring**	**49.12**	**209**	*e*P	**P**	**09 31 20.6**	**0.0**
JIRN	**Jiri**	**54.44**	**296**	*e*P	**P**	**09 32 01.7**	**+1.5**
GUN	**Gumba**	**54.74**	**296**	*e*P	**P**	**09 32 03.6**	**+1.3**
	comp=Z,26nm,0.9s,mb5.3						
PKI	**Pulchoki**	**55.12**	**296**	*e*P	**P**	**09 32 05.8**	**+0.7**
KKN	**Kakani**	**55.25**	**296**	*e*P	**P**	**09 32 07.2**	**+1.1**
DMN	**Daman**	**55.39**	**296**	*e*P	**P**	**09 32 07.0**	**0.0**
	comp=Z,9.5nm,0.6s,mb5.0						
GKN	**Gorkha**	**55.84**	**296**	*e*P	**P**	**09 32 11.1**	**+0.8**
	comp=Z,4.9nm,0.3s,mb5.0						
KOLN	**Kolhanda**	**56.73**	**296**	*e*P	**P**	**09 32 17.4**	**+0.8**
	comp=Z,20nm,1.0s,mb5.1						
SPIA	**Saint Paul Isl**	**59.00**	**28**	*e*P	**P**	**09 32 34.5**	**+2.1**
BILL	**Bilibino**	**59.30**	**11**	*e*P	**P**	**09 32 34.5**	**-0.1**
	comp=Z,3.8nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**61.22**	**318**	P	**P**	**09 32 48.2**	**+0.6**
	comp=Z,2.1nm,0.5s,mb4.4,baz=78,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**61.22**	**318**	P	**P**	**09 32 48.2**	**+0.6**
ZAL	**Zalesovo**	**61.96**	**326**	P	**P**	**09 32 52.4**	**-0.2**
	comp=Z,3.2nm,0.5s,mb4.6,baz=24,slow=6.0,SNR=8.3						
ZAL				LR	LR	09 59 35.2	
	comp=Z,36nm,19.6s,baz=173,slow=36						
BVAR	**Borovoye Array**	**70.04**	**323**	LR	LR	10 02 59.1	
	comp=Z,68nm,20.7s,baz=139,slow=35						
BRVK	**Borovoye**	**70.11**	**323**	*e*P	**P**	**09 33 45.7**	**+0.9**
	comp=Z,4.8nm,0.6s,mb4.5						
INK	**Inuvik**	**78.01**	**22**	*e*P	**P**	**09 34 31.9**	**+1.0**
	comp=Z,2.9nm,0.9s,mb4.0						
YKA	**Yellowknife Ar**	**86.66**	**27**	P	**P**	**09 35 17.2**	**+1.3**
	comp=Z,1.5nm,0.4s,mb4.2,baz=292,slow=4.9,SNR=17						
RES	**Resolute Bay**	**87.83**	**13**	*e*P	**P**	**09 35 22.8**	**+1.2**
	comp=Z,2.8nm,0.9s,mb4.3						
UMR	**Umm Al-Rimmam**	**88.02**	**300**	*e*P	**P**	**09 35 20.8**	**-1.6**
UMR				AMb	AMB	09 35 23.1	
	comp=Z,8.4nm,0.8s,mb4.8						
RDF	**Al-Radifah**	**88.28**	**299**	*e*P	**P**	**09 35 22.3**	**-1.4**
RDF				AMb	AMB	09 35 24.7	
	comp=Z,16nm,1.1s,mb5.0						
MIB	**Mutribah**	**88.29**	**300**	*e*P	**P**	**09 35 22.6**	**-1.2**
MIB				AMb	AMB	09 35 26.4	
	comp=Z,18nm,0.7s,mb5.2						
NAY	**Al-Naaiem**	**88.48**	**299**	*e*P	**P**	**09 35 23.6**	**-1.1**
NAY				AMb	AMB	09 35 27.3	
	comp=Z,12nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**88.59**	**342**	P	**P**	**09 35 24.6**	**-0.5**
	comp=Z,5.3nm,0.8s,mb4.6,baz=72,slow=8.0,SNR=16						
VNDA	**Vanda**	**89.06**	**176**	P	**P**	**09 35 27.1**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.2,baz=7.2,slow=7.8,SNR=7.8						
JOF	**Joensuu**	**89.32**	**335**	*ep*	**P**	**09 35 26.6**	**-2.0**
NVAR	**Mina Array Bea**	**91.06**	**51**	P	**P**	**09 35 39.6**	**+2.9**
	comp=Z,3.6nm,0.8s,mb4.5,baz=259,slow=8.7,SNR=27						
KAF	**Kangasniemi**	**91.77**	**335**	*ep*	**P**	**09 35 37.1**	**-2.9**
	comp=Z,2.7nm,0.6s,mb4.7,baz=68,slow=5.3						
FINES	**FINESS Array B**	**92.17**	**334**	P	**P**	**09 35 40.3**	**-1.5**
	comp=Z,1.5nm,0.4s,mb4.5,baz=67,slow=4.6,SNR=24						
MAW	**Mawson**	**95.78**	**202**	P	**P**	**09 35 58.3**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.6,baz=100,slow=1.7,SNR=5.1						
PDAR	**Pinedale Array**	**96.08**	**44**	P	**P**	**09 36 00.1**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.8,baz=286,slow=11,SNR=4.1						
NOA	**NORSAR Array B**	**98.33**	**338**	LR	LR	10 24 03.5	
	comp=Z,31nm,21.4s,baz=270,slow=38						
TORD	**Torodi Ar. Bea**	**133.57**	**300**	PKP	PKPdf	09 41 49.9	+1.6
	comp=Z,0.5nm,0.7s,baz=48,slow=2.4,SNR=4.9						
PLCA	**Paso Flores**	**138.98**	**142**	PKP	PKPdf	09 42 00.9	+2.5
	comp=Z,1.9nm,0.8s,baz=89,slow=11,SNR=4.6						
LPAZ	**La Paz**	**150.64**	**104**	PKPbc	PKPbc	09 42 27.8	+3.9
	comp=Z,11nm,0.6s,baz=289,slow=2.1,SNR=48						
LPAZ	**La Paz**	**150.64**	**104**	*e*PKPbc	PKPbc	09 42 27.8	+3.9
CPUP	**Villa Florida**	**156.47**	**133**	PKPab	PKPab	09 42 56.7	+1.1
	comp=Z,0.2nm,0.3s,baz=234,slow=6.8,SNR=5.0						
SIV	**San Ignacio**	**157.40**	**105**	PKPab	PKPab	09 43 03.2	+3.5
	comp=Z,3.3nm,0.9s,baz=233,slow=3.2,SNR=15						

*ISCJB **23** 09:26:17.5±0.3, 4249N±001×4335E±003, h10km, Error ellipse: s-maj=2.8km s-min=2.1km az=163.5*
*CSEM **23** 09:26:17.9±0.1, 4243N×4335E, h2km, mb4.4, Error ellipse: s-maj=1.8km s-min=1.5km az=52.0*
*TIF **23** 09:26:17.5, 4243N×4334E, h12km±1km*
*MOS **23** 09:26:20.2±1.0, 4254N×4357E, h10km, mb4.4/1, Error ellipse: s-maj=8.8km s-min=4.9km az=87.2*
ISC 23 09:26:18.3±0.3, 4247N±001×4337E±003, h10km, n43, σ1§04/72, 1C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.13**	**29**	P	**Pg**	**09 26 21.2**	**-0.1**
ONI				S	**Sg**	**09 26 23.9**	**+0.5**
ONI	**Oni**	**0.13**	**29**	*e*Pg	**Pg**	**09 26 21.2**	**-0.1**
AMRG		**0.18**	**286**	P	**Pg**	**09 26 21.5**	**-0.6**
AMRG				S	**Sg**	**09 26 24.1**	**-0.6**
DIGR	**Digorskoe uzhe**	**0.46**	**20**	*i* Pg	**Pg**	**09 26 27.4**	**+0.1**
DIGR				*i* Sg	**Sg**	**09 26 34.4**	**+1.0**
ZEI	**Tsey**	**0.50**	**52**	*i* Pg	**Pg**	**09 26 28.2**	**+0.2**
ZEI				*i* Sg	**Sg**	**09 26 35.9**	**+1.4**
GOR	**Gori**	**0.73**	**131**	P	**Pg**	**09 26 33.3**	**+0.8**
GOR				S	**Sg**	**09 26 42.7**	**+0.7**
LACR	**Lac**	**0.77**	**62**	*i* Pg	**Pg**	**09 26 33.1**	**-0.2**
LACR				*i* Sg	**Sg**	**09 26 44.3**	**+0.9**
KORR	**Kora**	**0.81**	**40**	*e*Pg	**Pg**	**09 26 33.7**	**-0.2**
KORR				*i* Sg	**Sg**	**09 26 45.2**	**+0.8**
BCHG	**Becho**	**0.81**	**315**	P	**Pg**	**09 26 47.1**	**+13**
BCHG				S	Sg	09 27 07.2	+23
ARNR	**Ardon**	**0.99**	**43**	*e*Pg	**Pg**	**09 26 36.8**	**-0.5**
ARNR				*e*Sg	**Sg**	**09 26 50.8**	**+0.7**
AKH	**Akhalkalaki**	**1.06**	**175**	P	**Pg**	**09 26 37.9**	**-0.8**
AKH				S	**Sg**	**09 26 52.7**	**+0.2**
VLKR	**Vladikavkaz**	**1.13**	**59**	*i* Pg	**Pg**	**09 26 39.1**	**-0.9**
VLKR				*i* Sg	**Sg**	**09 26 54.7**	**+0.1**
KMSR	**Komsomolskaya**	**1.13**	**37**	*i* Pg	**Pg**	**09 26 39.1**	**-1.0**
KMSR				*i* Sg	**Sg**	**09 26 54.8**	**0.0**
SNJR	**Sundja**	**1.22**	**60**	*i* Pg	**Pg**	**09 26 40.6**	**-1.2**
SNJR				*e*Sg	**Sg**	**09 26 57.3**	**-0.4**
BTKR	**Batakoyurt**	**1.25**	**43**	*e*Pg	**Pg**	**09 26 41.0**	**-1.3**
BTKR				*e*Sg	**Sg**	**09 26 58.1**	**-0.5**
TBLG	**Delisi**	**1.26**	**125**	P	**Pn**	**09 26 41.5**	**-0.4**
TBLG				S	**Sb**	**09 26 58.7**	**+0.3**
TBLG	**Delisi**	**1.26**	**125**	*e*Pg	**Pg**	**09 26 41.5**	**-1.0**
TBLG				Sg	**Sg**	**09 26 58.8**

FWVZ	Far West T-bar	1.91	217	*e*PN	Pn	09 27 58.2	+1.2
MOVZ	Moawhango	1.94	211	PN	Pn	09 27 57.4	-0.1
MTAZ	Motutapu	1.94	299	PN	Pn	09 27 57.7	+0.2
KAAZ	Kauri Point	2.07	296	*e*PN	Pn	09 27 59.6	+0.4
PXZ	Pawanui	2.29	183	PN	Pn	09 28 00.8	-1.2
PXZ				SN	Sn	09 28 27.9	-2.0
WAZ	Wanganui	2.57	218	*e*PN	Pn	09 28 05.5	-0.2
BFZ	Birch Farm	3.00	192	PN	Pn	09 28 10.0	-1.4

NIED ***23*** *09:41:00, 24.30N×122.70E, h41km, Mw3.8 Best double couple: M0=5.49000×10^14 NP1:φs=228.00000°, δ54.00000°, λ.99.00000°. NP2:φs=33.00000°, δ37.00000°, λ.78.00000°.*

JMA 23 09:41:13.8±0.1, 2434N×12266E, h55km±1km, M3.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.34	69	P	Pn	09 41 23.8	0.0
YOJ				S	Sn	09 41 31.0	+0.1
IRIF	Iriomote-Funau	0.98	90	P	Pn	09 41 31.3	0.0
IRIF				*e*S	Sn	09 41 45.1	+0.8
HATJ	Hateruma jima	1.08	105	P	Pn	09 41 33.0	+0.3
HATJ				*e*S	Sn	09 41 47.2	+0.4
JKRS	Kuro-shima	1.23	94	P	Pn	09 41 35.2	+0.4
JKRS				S	Sn	09 41 51.0	+0.6
JIJ	Ishigaki jima	1.35	89	P	Pn	09 41 36.4	0.0
JIJ				S	Sn	09 41 53.3	0.0
JTJ	Tarama	1.88	80	P	Pn	09 41 44.6	+1.0
JTJ				S	Sn	09 42 07.8	+1.6
JMJ	Miyako jima 2	2.44	78	P	Pn	09 41 52.6	+1.4
JMJ				*e*S	Sn	09 42 21.3	+1.4
JOGS	Gusukube	2.54	80	P	Pn	09 41 53.8	+1.3
JOGS				*e*S	Sn	09 42 24.0	+1.8
JKE	Kume jima 2	4.22	61	P	Pn	09 42 17.9	+2.3
JAGN	Aguni-jima	4.71	61	P	Pn	09 42 24.1	+1.9
JOW	Kunigami	5.64	63	P	Pn	09 42 36.2	+1.1
JTK	Tokunoshima	6.62	57	P	Pn	09 42 48.3	-0.1
JAM	Amami Oshima	7.43	55	P	Pn	09 43 01.7	+2.1

BJI 23 09:49:53.9, 2323N×10141E, h21km, ML3.3, Msz3.6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	2.24	33	PG	Pn	09 50 34.1	+4.3
KMI				SG	Sn	09 51 02.6	+5.8
KMI				Smax			
	comp=N,60nm,0.7s						
KMI				Smax			
	comp=E,70nm,0.9s						
KMI				LR	LR		
	comp=N,100nm,3.8s						
KMI				LR	LR		
	comp=E,150nm,3.8s						
KMI				LR	LR		
	comp=Z,110nm,5.1s						
CD2	Chengdu	7.93	15	*e*P	Pn	09 51 51.3	+3.4
CD2				S	Sn	09 53 22.1	+5.1
CD2				Smax			
	comp=N,10.0nm,2.0s						
CD2				Smax			
	comp=E,10.0nm,1.8s						

NEIC ***23*** *09:53:27.7, 3732S×17689E, h207km, MG4.4(WEL), After WEL.*

WEL 23 09:53:27.5±0.6, 3730S×17694E, h209km±5km, ML4.4/20, 1C, Error ellipse: s-maj=6.2km s-min=5.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.97	172	⇑PN	Pn	09 53 57.8	-0.3
URZ				SN	Sn	09 54 21.2	-0.6
URZ	Urewera	0.97	172	P	Pn	09 53 57.8	-0.2
TAZ	Tarawera	0.99	200	PN	Pn	09 53 59.0	+0.8
MXZ	Matakaoa Point	1.11	104	PN	Pn	09 53 58.9	-0.1
MXZ				SN	Sn	09 54 23.7	+0.2
MXZ	Matakaoa Point	1.11	104	P	Pn	09 53 58.9	-0.1
MXZ				S	Sn	09 54 23.7	+0.2
MWZ	Matawai	1.13	156	PN	Pn	09 53 59.1	0.0
PATZ	Paeroa	1.21	207	PN	Pn	09 54 00.2	+0.5
PUZ	Puketiti	1.30	127	PN	Pn	09 54 00.7	+0.4
PUZ				SN	Sn	09 54 25.8	-0.2
PUZ	Puketiti	1.30	127	P	Pn	09 54 00.7	+0.3
PUZ				S	Sn	09 54 25.8	-0.1
KNZ	Kokohu	1.81	162	PN	Pn	09 54 05.3	+0.5
KNZ	Kokohu	1.81	162	P	Pn	09 54 05.3	+0.4
RITZ	Rihia Road	1.88	207	PN	Pn	09 54 05.9	+0.3
BKZ	Black Stump Fm	1.90	191	PN	Pn	09 54 05.4	-0.3
BKZ				SN	Sn	09 54 34.8	-0.7
BKZ	Black Stump Fm	1.90	191	P	Pn	09 54 05.4	-0.3
HIZ	Hauiti	2.05	233	PN	Pn	09 54 07.1	-0.1
HIZ	Hauiti	2.05	233	P	Pn	09 54 07.1	-0.1
TUVZ	Tukino	2.21	207	PN	Pn	09 54 09.3	+0.4
FWVZ	Far West T-bar	2.24	209	PN	Pn	09 54 09.4	+0.2
FWVZ	Far West T-bar	2.24	209	P	Pn	09 54 09.4	+0.2
TRVZ	Turoa	2.28	208	PN	Pn	09 54 10.0	+0.4
MOVZ	Moawhango	2.30	204	PN	Pn	09 54 09.2	-0.6
MOVZ	Moawhango	2.30	204	P	Pn	09 54 09.2	-0.6
VRZ	Vera Road	2.51	223	PN	Pn	09 54 12.5	+0.4
PXZ	Pawanui	2.73	181	PN	Pn	09 54 13.9	-0.6
TSZ	Takapari Road	2.86	195	PN	Pn	09 54 15.3	-0.8
TSZ	Takapari Road	2.86	195	P	Pn	09 54 15.1	-0.9
WAZ	Wanganui	2.89	211	PN	Pn	09 54 15.6	-0.8
WAZ	Wanganui	2.89	211	P	Pn	09 54 15.7	-0.7
BFZ	Birch Farm	3.42	189	PN	Pn	09 54 21.5	-1.0
BFZ	Birch Farm	3.42	189	P	Pn	09 54 21.4	-1.2
MRZ	Mangatainoka R	3.52	197	PN	Pn	09 54 21.9	-1.9
MRZ	Mangatainoka R	3.52	197	P	Pn	09 54 21.9	-1.9
KIW	Kapiti Island	3.89	203	P	Pn	09 54 26.0	-2.3
MTW	Mount Morrison	4.01	196	P	Pn	09 54 27.2	-2.6
CAW	Cannon Point	4.07	200	P	Pn	09 54 28.0	-2.5
PAWZ	Paruwai Farm	4.24	196	P	Pn	09 54 30.3	-2.3
MRW	Makara Radio	4.29	203	P	Pn	09 54 30.7	-2.5
MSWZ	Moikau Station	4.31	197	P	Pn	09 54 30.7	-2.8
WEL	Wellington	4.32	202	P	Pn	09 54 30.9	-2.7
SNZO	South Karori	4.36	203	P	Pn	09 54 31.1	-3.0
TCW	Tory Channel	4.42	207	P	Pn	09 54 32.2	-2.6
NNZ	Nelson	4.79	214	*e*P	Pn	09 54 36.0	-3.5
THZ	Tophouse	5.44	214	*e*P	Pn	09 54 45.0	-2.7
KHZ	Kahutara	5.74	206	*e*P	Pn	09 54 48.4	-3.2
DSZ	Denniston Nort	5.96	220	*e*P	Pn	09 54 50.3	-4.0
LTZ	Lake Taylor	6.54	212	*e*P	Pn	09 54 58.2	-3.7
MOZ	McQueen's Vall	7.18	206	*e*P	Pn	09 55 05.8	-4.4
RPZ	Rata Peaks	7.82	213	*e*P	Pn	09 55 15.0	-3.4
ODZ	Otahua Downs	9.07	210	*e*P	Pn	09 55 31.2	-3.5
JCZ	Jackson Bay	9.19	220	*e*P	Pn	09 55 32.0	-4.1

NIED ***23*** *10:17:00, 3060N×131.10E, h32km, Mw4.3 Best double couple: M0=2.94000×10^15 NP1:φs=34.00000°, δ72.00000°, λ.103.00000°. NP2:φs=176.00000°, δ22.00000°, λ.55.00000°.*

MOS ***23*** *10:17:54.9±1.1, 3068N×13108E, h47km, mb5.0/3, Error ellipse: s-maj=16.8km s-min=10.2km az=102.8*

ISCJB ***23*** *10:17:55.1±0.6, 3058N±004×131.12E±006, h48km±4km, mb4.1/20, MS3.7/6, Error ellipse: s-maj=9.7km s-min=6.2km az=63.8*

JMA ***23*** *10:17:55.9±0.1, 3060N×131.12E, h31km±1km, M4.1*

JMA Felt II J1.

IDC ***23*** *10:17:56.9±2.8, 3067N×13099E, h44km±27km, mb3.7/14, mb1 3.8/16, mb1mx3.8/24, mbtmp3.9/16, ML3.2/2, MS3.6/5, Ms1 3.7/5, ms1mx3.1/37, Error ellipse: s-maj=22.8km s-min=16.4km az=80.0*

BJI ***23*** *10:17:57.5, 3060N×13100E, h54km, mB4.4, mb4.3, Ms3.8, Msz3.7*

NEIC ***23*** *10:17:57.6±0.9, 3060N×13105E, h54km±8km, mb4.4/4, Error ellipse: s-maj=10.7km s-min=8.4km az=104.0*

NEIC Recorded [2 JMA] on Tanega-shima. Recorded [1 JMA] in Kagoshima Prefecture.

ISC 23 10:17:56.3±0.6, 3060N±004×13107E±006, h40km±4km, n44, σ1§01/50, mb4.1/20, MS3.7/6, 1C-6D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	0.09	306	⇓P	Pn	10 18 01.4	-1.5
JTN				S	Sn	10 18 05.6	-1.8
JTSR	Tashiro 2	0.58	348	⇓P	Pn	10 18 07.4	-0.7
JTSR				S	Sn	10 18 15.6	-0.8
JKC	Kuchinoerabu	0.77	260	⇓P	Pn	10 18 10.8	+0.2
JKC				S	Sn	10 18 22.0	+1.1
JNAR	Kushima--Naru	0.94	11	⇓P	Pn	10 18 13.2	+0.2
JNAR				S	Sn	10 18 25.5	+0.2
JSU	Suzuyama	1.05	330	⇓P	Pn	10 18 14.5	+0.1
JSU				S	Sn	10 18 28.6	+0.8
JNN	Nakanoshima	1.28	234	P	Pn	10 18 18.6	+1.0
JTZ	Takazaki	1.30	1	⇑P	Pn	10 18 18.6	+0.7
JTZ				S	Sn	10 18 36.4	+2.3
JSJ	Shimokoshiki	1.58	313	P	Pn	10 18 21.7	-0.1
JTSN	Tsuno	1.68	13	P	Pn	10 18 23.2	0.0
JOW	Kunigami	4.48	214	P	Pn	10 19 02.4	+0.7
	1.6nm,0.3s,baz=96,slow=22,SNR=17						
KS15	Wonju Array Si	7.32	340	*e*P	Pn	10 19 43.4	+2.8
MAT	Matsushiro	8.40	43	P	Pn	10 19 56.6	+1.1
MAT				*e*S	Sn	10 21 36.0	+7.0
MAT	Matsushiro	8.40	43	*e*P	Pn	10 19 57.0	+1.5
MJAR	Matsushiro Arr	8.40	43	P	Pn	10 19 55.4	0.0
	0.6nm,0.3s,baz=211,slow=47,SNR=5.2						
MJAR	Matsushiro Arr	8.40	43	P	Pn	10 19 55.4	0.0
CBIJ	Chichi jima	10.35	107	LR	LR	10 23 49.0	
	comp=Z,148nm,21.1s,baz=248,slow=34						
CN2	Changchun	13.91	343	*e*P	Pn	10 21 17.6	+6.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KLR	Kul'dur	18.62	1	*e*P	Pn	10 22 07.7	-3.1
CD2	Chengdu	23.45	278	*e*P	P	10 23 01.4	-0.8
CD2				AP		10 23 14.4	
CD2				XP	sP	10 23 20.9	+3.4
CD2				PP		10 23 35.4	
CD2				S	S	10 27 06.9	-5.7
CD2				XS	sS	10 27 27.9	-2.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
CD2				LR	LR		
	comp=N,100nm,14.4s						
CD2				LR	LR		
	comp=Z,120nm,16.8s,MS3.4						
ULN	Ulaanbaatar	25.20	320	*d*P	P	10 23 19.0	+0.9
ULN	Ulaanbaatar	25.20	320	*e*P	P	10 23 18.3	+0.1
	comp=Z,4.8nm,1.0s,mb4.0						
SONM	Songino Array	25.55	319	P	P	10 23 21.0	-0.3
	comp=Z,1.3nm,0.6s,mb3.6,baz=132,slow=8.4,SNR=9.2						
SONM				LR	LR	10 34 31.0	
	comp=Z,142nm,18.2s,MS3.5,baz=63,slow=39						
GTA	Gaotai	26.96	298	*e*P	P	10 23 35.8	+1.8
GTA				LR	LR		
	comp=N,80nm,13.8s,MS3.7						
GTA				LR	LR		
	comp=E,130nm,15.3s,MS3.7						
GTA				LR	LR		
	comp=Z,140nm,14.5s,MS3.7						
ZAL	Zalesovo	40.46	319	P	P	10 25 31.5	+0.6
	comp=Z,1.3nm,0.4s,mb4.0,baz=347,slow=6.9,SNR=5.6						
ZAL				LR	LR	10 44 17.4	
	comp=Z,120nm,19.5s,MS3.8,baz=39,slow=39						
MKAR	Makanchi Array	40.68	308	P	P	10 25 32.0	-0.7
	comp=Z,0.3nm,0.3s,mb3.5,baz=91,slow=9.9,SNR=5.7						
CHKZ	Chkalovo	48.70	316	*e*P	P	10 26 34.8	-1.8
	comp=Z,1.6nm,0.5s,mb4.3						
BVAR	Borovoye Array	48.80	316	P	P	10 26 37.3	-0.1
	comp=Z,4.9nm,0.5s,mb4.8,baz=95,slow=9.5,SNR=23						
BRVK	Borovoye	48.87	316	*e*P	P	10 26 37.7	-0.2
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BRVK	Borovoye	48.87	316	*e*P	P	10 26 37.7	-0.2
	comp=Z,3.8nm,0.6s,mb4.6						
ZRNK	Zerenda	49.63	315	*e*P	P	10 26 43.5	-0.3
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ZRNK	Zerenda	49.63	315	*e*P	P	10 26 43.5	-0.3
	comp=Z,4.6nm,0.8s,mb4.6						
WRA	Warramunga Arr	50.35	176	P	P	10 26 49.4	+0.2
	comp=Z,0.8nm,0.9s,mb3.7,baz=355,slow=8.4,SNR=6.1						
ASAR	Alice Springs	54.02	177	P	P	10 27 17.9	+1.4
	comp=Z,0.4nm,0.5s,mb3.6,baz=9,slow=14,SNR=11						
ORR	Orenburg	58.45	315	*e*P	P	10 27 47.6	-0.5
ORR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
INK	Inuvik	63.90	24	P	P	10 28 24.6	-0.3
	comp=Z,1.8nm,0.5s,mb4.3,baz=330,slow=6.6,SNR=9.8						
ARCES	ARCESS Array B	66.87	338	P	P	10 28 43.7	-0.5
	comp=Z,1.1nm,0.7s,mb4.0,baz=46,slow=6.9,SNR=3.9						
ARCES	ARCESS Array B	66.87	338	P	P	10 28 43.7	-0.5
FINES	FINESS Array B	70.31	330	P	P	10 29 04.3	-1.3
	comp=Z,1.9nm,0.6s,mb4.2,baz=75,slow=6.3,SNR=17						
FINES				LR	LR	11 03 32.6	
	comp=Z,67nm,18.0s,MS3.9,baz=332,slow=39						
YKA	Yellowknife Ar	73.52	26	P	P	10 29 24.8	-0.1
	comp=Z,0.9nm,0.7s,mb3.8,baz=298,slow=5.9,SNR=5.8						
AKASG	Malin Array Be	73.84	320	P	P	10 29 25.4	-1.4
	comp=Z,0.6nm,0.3s,mb4.0,baz=55,slow=6.4,SNR=4.4						
BRTR	Keskin Array B	76.33	308	P	P	10 29 40.6	-0.5
	comp=Z,1.6nm,0.8s,mb4.0,baz=87,slow=5.1,SNR=8.8						
NOA	NORSAR Array B	76.49	334	P	P	10 29 41.1	-1.0
	comp=Z,0.3nm,0.5s,mb3.5,baz=50,slow=5.5,SNR=2.4						
NOA				LR	LR	11 09 53.6	
	comp=Z,32nm,18.0s,MS3.7,baz=20,slow=41						
PDAR	Pinedale Array	88.21	40	P	P	10 30 44.4	+1.2
	comp=Z,0.3nm,0.8s,mb3.5,baz=51,slow=3.1,SNR=3.6						
PMSA	Palmer Station	144.52	169	*e*PKPdf	PKPdf	10 37 26.3	-2.0

BJI ***23*** *10:18:03.7, 52.10N×177.10E, h4km, mB4.6, mb4.6, Ms4.6, Msz4.0*

IDC ***23*** *10:18:05.2±0.8, 5199N×17705E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/25, mbtmp3.9/11, ML4.2/1, MS3.7/1, Ms1 3.6/1, ms1mx2.7/34, Error ellipse: s-maj=29.5km s-min=16.2km az=162.0*

NEIC ***23*** *10:18:07.7, 5207N×17709E, h5km, mb4.7/5, ML4.0(AEIC), After AEIC.*

MOS ***23*** *10:18:08.7±1.4, 5196N×17701E, h33km, mb5.2/3, Error ellipse: s-maj=18.4km s-min=15.0km az=92.6*

ISCJB ***23*** *10:18:09.3±1.0, 5209N±008×17706E±007, h36km±9km, mb4.2/15, MS3.7/3, Error ellipse: s-maj=12.9km s-min=7.2km az=177.0*

ISC 23 10:18:10.0±2.3, 5200N±008×17705E±006, h29km±17km, h12km±1.8km: pP-P, n43, σ1§00/46, mb4.2/15, MS3.7/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.53	113	P	Pn	10 18 35.2	-0.2
AMKA				S	Sn	10 18 55.3	+1.0
SMY	Shemya	1.95	293	P	Pn	10 18 40.9	-0.2
SMY				S	Sn	10 19 07.3	+2.6
ATKA	Atka Island	5.40	84	P	Pn	10 19 28.6	+0.1
SPIA	Saint Paul Isl	9.01	50	*e*P	Pn	10 20 18.4	+0.3
PET	Petropavlovsk	11.26	282	*e*P	Pn	10 20 47.7	-1.2
PET				*e*S	Sn	10 22 51.6	-2.1
PET				MLR	MLR		
	comp=Z,200nm,18.0s						
BILL	Bilibino	16.92	346	*e*P	Pn	10 22 07.0	+2.4
BILL				pmax	pmax		
	comp=Z,17nm,0.9s						
BILL	Bilibino	16.92	346	*e*P	Pn	10 22 07.0	+2.4
	comp=Z,17nm,0.9s						
KDAK	Kodiak Island	18.29	60	P	Pn	10 22 20.1	-1.5
	comp=Z,0.7nm,0.3s,baz=234,slow=9.3,SNR=4.7						
SML	Sawmill	21.04	49	*e*P	P	10 22 50.9	-0.5
COLA	College	22.07	41	*e*P	P	10 23 03.5	+0.9
	comp=Z,5.0nm,0.8s,mb4.0						
ASAJ	Asahikawa	24.16	265	P	P	10 23 23.8	+0.3
	comp=Z,7.1nm,1.1s,mb4.0,baz=49,slow=14,SNR=3.6						
ASAJ	Asahikawa	24.16	265	P	P	10 23 23.8	+0.3
ASAJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
DAWY	Dawson	25.45	45	*e*P	P	10 23 35.6	+0.2
INK	Inuvik	28.46	36	P	P	10 24 02.3	-0.1
	comp=Z,1.6nm,1.0s,mb3.6,baz=232,slow=12,SNR=3.8						
MDJ	Mudanjiang	31.93	276	P	P	10 24 31.9	-1.1
MDJ				AMB	AMB		
	comp=Z,40nm,5.3s						
CN2	Changchun	34.90	277	*e*P	P	10 25 00.4	+1.5
YKW3	Yellowknife Ar	36.65	46	*e*P	P	10 25 14.1	+0.2
YKA	Yellowknife Ar	36.67	46	P	P	10 25 14.2	+0.1
	comp=Z,3.1nm,0.7s,mb4.2,baz=283,slow=8.4,SNR=18						
YKA	Yellowknife Ar	36.67	46	P	P	10 25 14.2	+0.1
EDM	Edmonton	40.75	60	*e*P	P	10 25 47.6	-0.7
SONM	Songino Array	44.05	294	P	P	10 26 14.0	-1.1
	comp=Z,0.5nm,0.5s,mb3.5,baz=55,slow=7.5,SNR=3.8						
SONM				PcP	PcP	10 27 59.6	-0.6
	comp=Z,0.6nm,0.6s,baz=58,slow=2.7,SNR=4.0						
NVAR	Mina Array Bea	46.02	81	P	P	10 26 29.6	-1.2
	comp=Z,0.3nm,0.4s,mb3.5,baz=280,slow=12,SNR=3.6						
NJ2	Nanjing	46.23	268	*e*P	P	10 26 32.3	-0.2
NJ2				AP	pP	10 26 37.1	-4.1
NJ2				XP	sP	10 26 40.1	-4.6
NJ2				PCP	PcP	10 28 08.6	+0.8
NJ2				S	S	10 33 16.0	-1.1
NJ2				XS	sS	10 33 24.0	-7.5
NJ2				AMB	AMB		
	comp=Z,110nm,6.0s						
NJ2				LR	LR		
	comp=N,130nm,11.5s,MS4.2						
NJ2				LR	LR		
	comp=E,150nm,14.1s,MS4.2						
NJ2				LR	LR		
	comp=Z,110nm,19.6s						
PDAR	Pinedale Array	48.56	70	P	P	10 26 49.2	-1.3
	comp=Z,0.5nm,0.7s,mb3.6,baz=302,slow=4.1,SNR=5.4						
ULM	Lac du Bonnet	51.47	55	LR	LR	10 49 37.7	
	comp=Z,69nm,18.5s,MS3.7,baz=297,slow=37						
GTA	Gaotai	52.93	289	*e*P	P	10 27 24.1	+0.6
GTA				AP	pP	10 27 27.1	-5.3
CD2	Chengdu	56.32	278	*e*P	P	10 27 48.8	+0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,40nm,5.6s						
MKAR	Makanchi Array	57.60	306	P	P	10 27 55.9	-1.3
	comp=Z,0.3nm,0.3s,mb3.8,baz=66,slow=5.5,SNR=3.4						
BVAR	Borovoye Array	58.71	317	P	P	10 28 04.1	-0.9
	comp=Z,1.7nm,0.5s,mb4.3,baz=46,slow=8.5,SNR=5.3						
KMI	Kunming	61.09	274	P	P	10 28 23.8	+2.5
KMI				AP	pP	10 28 26.9	-3.4
KMI				LR	LR		
	comp=Z,30nm,39.0s,MS3.1						
GUN	Gumba	69.22	289	*e*P	P	10 29 14.8	+0.8
	comp=Z,18nm,0.5s,mb5.2						
JIRN	Jiri	69.22	288	*e*P	P	10 29 15.0	+0.9
KKN	Kakani	69.66	289	*e*P	P	10 29 17.4	+0.7
	comp=Z,4.4nm,0.2s,mb5.0						
KKN	Kakani	69.66	289	*e*P	P	10 29 17.4	+0.7
KKN				pmax	pmax		
	comp=Z,4.0nm,0.2s,mb5.0						
PKI	Pulchoki	69.75	289	*e*P	P	10 29 17.7	+0.4
GKN	Gorkha	69.88	290	*e*P	P	10 29 18.6	+0.5
DMN	Daman	69.90	289	*e*P	P	10 29 18.6	+0.4
KOLN	Koldanda	70.65	290	*e*P	P	10 29 21.5	-1.3
MAK	Makhachkala	75.83	324	*i*P	P	10 29 48.3	-5.1
MAK				*e*		10 29 53.9	
MAK				pmax	pmax		
	comp=Z,12nm,0.1s						
WB2	Warramunga Arr	80.74	220	*e*P	P	10 30 20.5	0.0
WRA	Warramunga Arr	80.74	220	P	P	10 30 20.4	-0.2
	comp=Z,2.1nm,0.7s,mb4.2,baz=32,slow=6.2,SNR=20						
FITZ	Fitzroy Crossi	82.88	229	*e*P	P	10 30 32.5	+0.7
	comp=Z,6.9nm,1.2s,mb4.6						
ASAR	Alice Springs	84.27	219	P	P	10 30 38.8	-0.2
	comp=Z,1.1nm,0.6s,mb4.1,baz=16,slow=5.5,SNR=9.0						

ISCJB ***23*** *10:29:40.8±0.4, 5517S±008×286W±0.1, h10km, mb4.6/15, MS4.1/5, Error ellipse: s-maj=13.7km s-min=9.1km az=98.2*

HRVD ***23*** *10:29:41.3±0.6, 5531S×2855W, h13km±3km, MW4.9/38, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s38,c50; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.10±.15; Mθθ-0.55±.16; Mφφ0.44±.12; Mrθ-1.24±.55; Mrφ1.99±.14; Mθf1.64±.62; Best double couple: M0=2.75900×10^16 NP1:φs77.00000°, δ50.00000°, λ-6.00000°. NP2: φs171.00000°, δ85.00000°, λ-140.00000°. Principal axes: T 2.2320, Plg23.0000°, Azm297.0000°; N 1.0540, Plg50.0000°, Azm176.0000°; P -3.2850, Plg31.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *10:29:41.3±4.1, 5519S×2862W, h4km±25km, mb4.9/5 Error ellipse: s-maj=11.5km s-min=7.3km az=45.0*

BJI ***23*** *10:29:43.2, 5520S×2860W, h3km*

IDC ***23*** *10:29:46.8±0.7, 5526S×2863W, h39km±5km, mb4.3/11, mb1 4.4/12, mb1mx4.3/18, mbtmp4.5/12, ML4.5/1, MS4.1/5, Ms1 4.1/5, ms1mx3.7/16, Error ellipse: s-maj=21.3km s-min=15.3km az=58.0*

ISC 23 10:29:42.4±0.5, 5522S±008×286W±01, h10km, n48, σ1§08/20, mb4.6/15, MS4.1/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.64	278	*e*P	Pn	10 30 51.2	-1.3
VNA1	Neumayer--Stat	17.88	158	*e*	Pn	10 33 53.2	+2.1
VNA1				*e*		10 34 02.4	
VNA1				*e*		10 34 06.3	
VNA1				*e*		10 34 10.3	
VNA1				*e*		10 34 11.9	
SNAA	Sanae	19.84	156	P	Pn	10 34 12.5	-2.3
	1.5nm,0.3s,baz=306,slow=11,SNR=203						
PLCA	Paso Flores	31.05	280	LR	LR	10 48 47.4	
	comp=Z,376nm,18.5s,MS4.1,baz=130,slow=37						
QSPA	South Pole Qui	35.03	180	*e*P	P	10 36 36.2	+1.0
	8.5nm,0.6s,mb4.8						
CPUP	Villa Florida	35.64	312	P	P	10 36 40.1	-0.3
	19nm,0.7s,mb5.1,baz=134,slow=7.3,SNR=50						
CPUP				LR	LR	10 50 15.6	
	comp=Z,326nm,19.8s,MS4.1,baz=141,slow=34						
MAW	Mawson	41.31	145	P	P	10 37 27.6	-0.4
	1.8nm,0.5s,mb4.0,baz=251,slow=6.4,SNR=8.9						
MAW	Mawson	41.31	145	*e*P	P	10 37 26.0	-2.0
MAW				P	pP	10 37 27.6	-3.5
BDFB	Brasilia	42.24	332	P	P	10 37 36.5	+0.9
	5.8nm,1.0s,mb4.2,baz=177,slow=12,SNR=4.9						
BDFB				LR	LR	10 52 00.3	
	comp=Z,163nm,18.3s,MS4.0,baz=166,slow=32						
LVC	Limon Verde	44.17	301	*e*P	P	10 37 52.2	+0.9
	18nm,1.0

YKA	Yellowknife Ar	135.00	319	PKP	PKPdf	10 48 59.3	-2.5
BVAR	Borovoye Array	135.03	58	PKP	PKPdf	10 49 01.3	-0.5
	1.2nm,0.7s,baz=246,slow=2.9,SNR=6.4						
CHKZ	Chkalovo	135.53	57	ePKPdf	PKPdf	10 49 01.6	-1.1
MKAR	Makanchi Array	137.40	71	PKP	PKPdf	10 49 04.7	-1.6
	0.2nm,0.2s,baz=90,slow=2.0,SNR=4.1						
CD2	Chengdu	138.68	106	ePKP	PKPdf	10 49 06.8	-1.7
GTA	Gaotai	142.59	93	ePKP	PKPdf	10 49 16.0	+0.4
INK	Inuvik	144.64	322	ePKPdf	PKPdf	10 49 16.2	-3.0
DAWY	Dawson	145.62	313	ePKPdf	PKPdf	10 49 19.1	-1.9
DAWY				e		10 49 32.0	
DIV	Divide	147.50	307	PKPbc	PKPbc	10 49 25.4	-1.3
SML	Sawmill	148.87	307	ePKPbc	PKPbc	10 49 28.8	-1.5
BTO	Baotou	149.19	101	ePKP	PKPdf	10 49 30.3	+3.5
COLA	College	149.37	313	ePKPbc	PKPbc	10 49 29.3	-2.2
SLKM	Skilak Lake	149.39	304	ePKPbc	PKPbc	10 49 30.3	-1.3
MCK	McKinley	149.60	311	ePKPbc	PKPbc	10 49 31.0	-1.1
SONM	Songino Array	151.49	86	PKP	PKPdf	10 49 29.7	-0.7
	1.0nm,1.1s,baz=229,slow=2.2,SNR=3.9						
SONM				PKPbc	PKPbc	10 49 36.4	-0.2
	4.0nm,0.8s,baz=213,slow=4.0,SNR=20						
SONM				pPKPbc	pPKPbc	10 49 47.8	+7.8
	5.6nm,0.6s,baz=213,slow=3.3,SNR=15						
TLY	Talaya	151.81	77	ePKPbc	PKPbc	10 49 36.9	-0.4
TLY				e		10 49 48.9	
ULN	Ulaanbaatar	151.89	87	ePKPbc	PKPbc	10 49 36.3	-1.2

*NEIC **23** 10:35:09.9, 34.34S×69.94W, h1km, MG3.6(GUC), After GUC.*

GUC 23 10:35:09.9±0.8, 34.34S×69.94W, h1km±4km, MD4.1, ML3.6, 8C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	Cipreses	0.40	272	⇑iP	Pg	10 35 18.1	+0.5
LMEL	Las Melosas	0.54	336	⇑iP	Pg	10 35 25.0	+4.8
LMEL				i S	Sg	10 35 33.6	+6.5
LMEL				AML	AML	10 35 34.5	
	comp=E,9μm,0.3s						
LMEL	Las Melosas	0.54	336	⇑iP	Pg	10 35 25.0	+4.8
LMEL				i S	Sg	10 35 33.6	+6.5
CACH	El Canelo	0.59	292	⇓iP	Pg	10 35 21.3	+0.1
CHCH	Chadas Angostu	0.71	304	⇑iP	Pg	10 35 23.8	+0.2
CHCH				i S	Sg	10 35 34.6	+1.8
SJCH	San Jose de Ma	0.78	334	i P	Pg	10 35 24.6	-0.2
SJCH				i S	Sg	10 35 35.9	+1.1
SJCH				AML	AML	10 35 36.6	
	comp=E,3μm,0.6s						
SJCH	San Jose de Ma	0.78	334	i P	Pg	10 35 24.6	-0.2
SJCH				i S	Sg	10 35 35.9	+1.1
PCH	Pirque	0.86	326	eP	Pg	10 35 26.5	+0.1
PCH				i S	Sg	10 35 38.6	+1.1
SFDO	San Fernando	0.93	252	eP	Pg	10 35 27.3	-0.4
SFDO				i S	Sg	10 35 40.5	+0.8
ANTU	Antumapu	0.96	323	eP	Pg	10 35 28.3	0.0
ANTU				i S	Sg	10 35 42.3	+1.6
ANTU				AML	AML	10 35 43.6	
	comp=E,3μm,0.3s						
ANTU	Antumapu	0.96	323	eP	Pg	10 35 28.3	0.0
ANTU				i S	Sg	10 35 42.3	+1.6
FCH	Farellones	1.05	344	⇑iP	Pg	10 35 29.6	-0.4
FCH				i S	Sg	10 35 44.7	+1.1
FCH				AML	AML	10 35 47.3	
	comp=E,2μm,0.6s						
CLCH	Cerro Calan	1.06	332	⇑iP	Pg	10 35 30.1	-0.1
CLCH				i S	Sg	10 35 45.5	+1.5
CLCH				AML	AML	10 35 48.2	
	comp=E,4μm,0.8s						
CLCH				AML	AML	10 35 48.8	
	comp=E,5μm,0.7s						
SAN	Santiago	1.07	326	eP	Pg	10 35 30.2	-0.2
SAN				i S	Sg	10 35 45.4	+1.2
SAN				AML	AML	10 35 47.7	
	comp=E,1μm,0.8s						
SAN	Santiago	1.07	326	eP	Pg	10 35 30.2	-0.2
SAN				i S	Sg	10 35 45.4	+1.2
STL	Santa Lucia	1.07	327	eP	Pg	10 35 29.4	-1.0
STL				i S	Sg	10 35 45.1	+0.7
DSCH	Colegio Aleman	1.07	331	i P	Pg	10 35 29.9	-0.6
DSCH				i S	Sg	10 35 45.4	+1.0
TACH	Talagante	1.07	309	eP	Pg	10 35 30.1	-0.3
TACH				i S	Sg	10 35 44.9	+0.6
RCDM	Rinconada Maip	1.11	319	i P	Pg	10 35 30.9	-0.2
RCDM				i S	Sg	10 35 46.6	+1.1
RCDM				AML	AML	10 35 48.3	
	comp=E,1μm,0.7s						
RCDM	Rinconada Maip	1.11	319	i P	Pg	10 35 30.9	-0.2
RCDM				i S	Sg	10 35 46.6	+1.1
NICH	Los Niches	1.25	238	i P	Pg	10 35 41.8	+7.9
NICH				i S	Sg	10 35 59.0	+8.9
PEL	Peldehue	1.34	332	⇓iP	Pg	10 35 34.8	-0.9
PEL				i S	Sg	10 35 54.1	+1.1
PEL				AML	AML	10 35 56.9	
	comp=E,2μm,0.6s						
PEL	Peldehue	1.34	332	⇓iP	Pg	10 35 34.8	-0.9
PEL				i S	Sg	10 35 54.1	+1.1
LCCH	Las Cruces	1.60	302	i P	Pn	10 35 39.3	-0.1
LCCH				i S	Sn	10 36 01.9	+1.2
ROCH	El Roble	1.63	326	⇑iP	Pn	10 35 40.3	+0.6
MDZ	Mendoza	1.71	32	⇑iP	Pn	10 35 41.0	+0.2
MDZ				i		10 35 49.1	
MDZ				i S	Sn	10 36 05.1	+1.7
JACH	Jahuel	1.74	342	eP	Pn	10 35 41.9	+0.7
TALC	Talca	1.75	232	i P	Pn	10 35 42.5	+1.2
TALC				i S	Sn	10 36 05.4	+1.1
TALC				AML	AML	10 36 13.7	
	comp=E,2μm,0.5s						
TALC	Talca	1.75	232	i P	Pn	10 35 42.5	+1.2
TALC				S	Sn	10 36 05.4	+1.1
IHA	Instituto Hidr	1.93	312	eP	Pn	10 35 44.9	+1.1
IHA				i S	Sn	10 36 12.4	+3.7
LNCH	Linares	2.03	222	⇓iP	Pn	10 35 47.2	+2.0
LNCH				i S	Sn	10 36 15.0	+3.7
LNCH				AML	AML	10 36 22.1	
	comp=N,2μm,0.4s						
LNCH	Linares	2.03	222	⇓iP	Pn	10 35 47.2	+2.0
LNCH				i S	Sn	10 36 15.0	+3.7
CHNG	Los Chungos	2.77	331	eP	Pn	10 35 58.1	+2.7
CHNG				i S	Sn	10 36 35.3	+5.7
CHNG				AML	AML	10 36 41.9	
	comp=N,553nm,0.6s						
PLCA	Paso Flores	6.40	184	eP	Pn	10 36 43.4	-1.9
	comp=N,20nm,0.8s						

*ISCJB **23** 10:41:15.9±0.4, 47.16S±0.006×324E±0.2, h10km, mb4.4/17, Error ellipse: s-maj=15.4km s-min=8.2km az=140.2*
*IDC **23** 10:41:15.7±0.6, 47.17S×32.51E, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.4/21, mbtmp4.4/15, ML3.7/2, Error ellipse: s-maj=24.8km s-min=13.8km az=67.0*
*NEIC **23** 10:41:17.6±0.2, 47.16S×32.46E, h10km, mb4.8/7, Error ellipse: s-maj=11.9km s-min=6.4km az=67.0*

ISC 23 10:41:17.5±0.4, 4717S±0.006×324E±0.2, h10km, n60, σ0.59/68/30, mb4.4/17, 8C-8D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	17.23	325	P	Pn	10 45 17.9	-0.3
	0.3nm,0.3s,baz=142,slow=18,SNR=3.2						
BOSA	Boshof	19.36	341	P	Pn	10 45 43.2	-1.0
	0.2nm,0.3s,baz=179,slow=12,SNR=5.5						
BOSA	Boshof	19.36	341	P	Pn	10 45 43.2	-1.0
LBTB	Lobatse	22.77	344	P	P	10 46 19.4	-0.6
	4.0nm,0.3s,mb4.3,baz=170,slow=11,SNR=16						
LBTB	Lobatse	22.77	344	eP	P	10 46 19.5	-0.5
	23nm,1.1s,mb4.5						
MAW	Mawson	25.75	153	P	P	10 46 48.6	+0.4
	9.0nm,0.8s,mb4.4,baz=299,slow=10,SNR=21						
SNAA	Sanae	29.57	202	P	P	10 47 22.3	-0.1
	0.8nm,0.9s,mb3.5,baz=77,slow=5.5,SNR=11						
TSUM	Tsumeb	30.43	331	P	P	10 47 30.9	+0.9
	4.0nm,0.9s,mb4.1,baz=207,slow=14,SNR=3.1						
TSUM	Tsumeb	30.43	331	P	P	10 47 30.9	+0.9
VNA1	Neumayer--Stat	30.50	205	e	P	10 47 31.5	+0.9
VNA1	Neumayer--Stat	30.50	205	e	P	10 47 31.5	+0.9
VNA1				e	pP	10 47 33.0	-0.7
VNA1				e		10 47 39.5	
LSZ	Lusaka	31.99	352	eP	P	10 47 44.5	+0.7
	536nm,2.7s						
QSPA	South Pole Qui	43.05	180	eP	P	10 49 16.6	-0.8
	8.1nm,0.8s,mb4.5						
KMBO	Kilima Mbogo	46.05	7	P	P	10 49 42.1	+0.8
	1.6nm,0.9s,mb3.9,baz=195,slow=18,SNR=2.9						
VNDA	Vanda	51.73	168	P	P	10 50 24.8	-0.2
	3.7nm,0.8s,mb4.4,baz=244,slow=7.4,SNR=21						
SBA	Scott Base	52.16	169	eP	P	10 50 29.2	+1.1
	32nm,1.4s,mb5.1						
TORD	Torodi Ar. Bea	66.05	327	P	P	10 52 04.4	0.0
	2.2nm,0.8s,mb4.2,baz=167,slow=6.3,SNR=11						
PLCA	Paso Flores	68.99	232	P	P	10 52 22.9	-0.1
	0.6nm,0.3s,mb4.0,baz=104,slow=4.2,SNR=3.2						
CPUP	Villa Florida	71.04	252	P	P	10 52 35.2	-0.4
	0.4nm,0.3s,mb3.8,baz=95,slow=3.4,SNR=3.5						
CPUP	Villa Florida	71.04	252	P	P	10 52 35.2	-0.4
FORT	Forrest	71.65	116	eP	P	10 52 39.4	+0.1
	11nm,0.7s,mb4.9						
STKA	Stephens Creek	78.83	125	eP	P	10 53 18.6	-2.0
	13nm,0.7s,mb5.0						
STKA	Stephens Creek	78.83	125	P	P	10 53 18.9	-1.8
	15nm,0.7s,mb5.0,baz=217,slow=3.7,SNR=36						
FITZ	Fitzroy Crossi	79.07	105	eP	P	10 53 23.0	+1.0
	10nm,0.9s,mb4.8						
ASPA	Alice Springs	80.36	114	eP	P	10 53 28.7	-0.2
ASAR	Alice Springs	80.36	114	P	P	10 53 28.9	0.0
	13nm,0.7s,mb5.0,baz=223,slow=4.7,SNR=212						
AS31	Alice Springs	80.36	114	eP	P	10 53 28.7	-0.3
WRA	Warramunga Arr	83.36	112	P	P	10 53 44.4	-0.4
	8.8nm,0.9s,mb4.8,baz=220,slow=4.1,SNR=48						
WB2	Warramunga Arr	83.37	112	⇑iP	P	10 53 44.7	-0.1
BRTR	Keskin Array B	86.52	1	P	P	10 54 01.1	+0.5
	1.1nm,0.7s,mb4.2,baz=177,slow=8.7,SNR=6.0						
RKT	Rikitea	109.13	192	eLR	LR	11 31 47.5	
TBI	Tubuai	109.80	178	eLR	LR	11 32 03.3	
	899nm,25.5s						
PPT	Papeete	115.54	178	eLR	LR	11 34 43.1	
	1μm,23.5s,baz=186						
ULM	Lac du Bonnet	146.32	295	PKPbc	PKPbc	11 00 56.6	-1.8
	3.6nm,0.7s,baz=90,slow=6.2,SNR=7.4						
ANMO	Albuquerque	147.07	263	ePKPbc	PKPbc	11 01 01.0	+0.5
BILL	Bilibino	148.77	32	ePKPbc	PKPbc	11 01 05.1	0.0
ISCO	Idaho Springs	148.99	272	ePKPbc	PKPbc	11 01 06.0	+0.4
116A	Eloy	149.16	255	⇑P	PKPbc	11 01 06.3	+0.2
	baz=149						
115A	Sonoran Desert	149.59	254	⇑P	PKPbc	11 01 07.8	+0.6
	baz=150						
SMCO	Snowmass	149.62	270	ePKPdf	PKPdf	11 01 03.8	+1.2
SMCO				ePKPbc	PKPbc	11 01 08.2	+0.9
RSSD	Black Hills	149.71	280	ePKPbc	PKPbc	11 01 07.0	-0.5
Z14A	Wintersburg	150.47	255	⇓P	PKPbc	11 01 09.7	+0.4
	baz=150						
X15A	Humboldt	150.69	257	⇓P	PKPbc	11 01 10.5	+0.7
	baz=151						
Y14A	Wickenburg	150.86	256	⇓P	PKPbc	11 01 10.7	+0.4
	baz=151						
X14A	Yava	151.11	257	⇓P	PKPbc	11 01 11.4	+0.6
	baz=151						
Y13A	Salome	151.33	254	⇑P	PKPbc	11 01 11.5	+0.2
	baz=151						
GLA	Glamis	151.51	252	⇑P	PKPbc	11 01 12.0	+0.2
	baz=152						
W14A	Seligman	151.67	258	⇓P	PKPbc	11 01 12.7	+0.6
	baz=152						
Y12C	Blythe	151.75	254	⇑P	PKPbc	11 01 12.7	+0.4
	baz=152						
X13A	Yucca	151.80	256	⇓P	PKPbc	11 01 12.7	+0.3
	baz=152						
SRU	San Rafael	152.01	267	ePKPbc	PKPbc	11 01 12.7	-0.2
MSU	Marysvale	152.84	264	ePKPbc	PKPbc	11 01 15.7	+0.9
PFO	Pinyon Flat Ob	152.92	251	⇓P	PKPbc	11 01 15.2	+0.3
	baz=153						
PDAR	Pinedale Array	152.94	275	PKP	PKPdf	11 01 07.7	0.0
	1.0nm,0.9s,baz=142,slow=5.1,SNR=3.5						
PDAR				PKPbc	PKPbc	11 01 13.3	-1.7
	1.3nm,0.8s,baz=101,slow=2.9,SNR=12						
DAU	Daniels Canyon	153.12	269	ePKPbc	PKPbc	11 01 15.8	+0.5
V12A	Nelson	153.15	257	⇑P	PKPbc	11 01 15.6	+0.2
	baz=153						
CCUT	Cedar City	153.15	262	ePKPbc	PKPbc	11 01 16.5	+1.1
HWUT	Hardware Ranch	153.85	271	ePKPbc	PKPbc	11 01 15.8	-1.1
GSC	Goldstone	154.19	254	⇓P	PKPbc	11 01 17.6	0.0
	baz=154						
U10A	Ash Meadows, A	154.52	256	⇑P	PKPbc	11 01 19.4	+1.0
	baz=155						

*ISCJB **23** 10:41:55.0±0.4, 47.17S±0.007×325E±0.1, h10km, mb4.6/19, Error ellipse: s-maj=14.6km s-min=8.3km az=123.9*
*IDC **23** 10:41:54.8±0.5, 47.16S×32.66E, h0km, mb4.5/15, mb1 4.6/17, mb1mx4.5/22, mbtmp4.5/17, ML4.2/2, Error ellipse: s-maj=23.5km s-min=13.1km az=67.0*
*HRVD **23** 10:41:56.7±0.2, 47.24S×32.50E, h12km, MW5.2/69, Centroid moment Tensor Solution. LP body waves: s43,c57;Mantle waves: s69,c115; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.33±.17; $M_{\theta\theta}$6.96±.16; $M_{\phi\phi}$-0.62±.19; $M_{r\theta}$1.95±.43; $M_{r\phi}$-1.25±.14; $M_{\theta\phi}$1.19±.49; Best double couple: $M_0$7.14600×10^{16} NP1:ϕ_s113.00000°, δ39.00000°, λ-69.00000°. NP2: ϕ_s266.00000°, δ54.00000°, λ-107.00000°. Principal axes: T 7.3850, Plg7.0000°, Azm8.0000°; N -0.4770, Plg13.0000°, Azm276.0000°; P -6.9070, Plg75.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 10:41:56.7±0.3, 47.18S×32.51E, h10km, mb5.2/6 Error ellipse: s-maj=12.8km s-min=7.2km az=58.0*

ISC 23 10:41:56.7±0.4, 4717S±0.007×325E±0.1, h10km, n55, σ0.59/35, mb4.6/19, 12C-3D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	17.27	325	P	Pn	10 45 57.1	-0.8
	1.4nm,0.3s,baz=137,slow=20,SNR=9.2						
SUR				S	Sn	10 48 55.8	-14
	0.5nm,0.3s,baz=278,slow=10,SNR=3.2						
SUR	Sutherland	17.27	325	P	Pn	10 45 57.1	-0.8
SUR				S	Sn	10 48 55.8	-14
BOSA	Boshof	19.38	340	P	Pn	10 46 23.4	-0.3
	0.3nm,0.3s,baz=164,slow=13,SNR=3.6						
BOSA				S	Sn	10 49 45.0	-16
	0.4nm,0.3s,baz=56,slow=15,SNR=2.5						
BOSA	Boshof	19.38	340	eP	Pn	10 46 24.0	+0.3
	30nm,1.2s						
BOSA				S	Sn	10 49 45.0	-16
LBTB	Lobatse	22.79	344	P	P	10 46 59.9	+0.5
	11nm,0.7s,mb4.4,baz=177,slow=14,SNR=4.6						
MAW	Mawson	25.72	154	P	P	10 47 27.7	+0.6
	18nm,0.9s,mb4.6,baz=298,slow=9.8,SNR=12						
MATP	Matopo	26.88	352	P	P	10 47 38.1	+0.5
	4.7nm,0.9s,mb4.0,baz=181,slow=9.9,SNR=6.0						
SNAA	Sanae	29.59	202	P	P	10 48 01.9	+0.1
	1.8nm,0.8s,mb3.9,baz=89,slow=6.9,SNR=9.1						
TSUM	Tsumeb	30.46	331	P	P	10 48 09.0	-0.4
	7.1nm,0.8s,mb4.5,baz=146,slow=6.3,SNR=7.1						
TSUM	Tsumeb	30.46	331	P	P	10 48 09.0	-0.4
VNA1	Neumayer--Stat	30.52	205	e	P	10 48 10.3	+0.3
VNA1	Neumayer--Stat	30.52	205	e	P	10 48 10.3	+0.3
VNA1				e	pP	10 48 12.9	-0.2
VNA1				e		10 48 18.2	
VNA1				e		10 48 23.4	
KMBO	Kilima Mbogo	46.04	7	P	P	10 50 21.3	+0.9
	3.3nm,0.9s,mb4.3,baz=60,slow=22,SNR=5.7						
VNDA	Vanda	51.72	168	P	P	10 51 03.9	-0.1
	6.6nm,0.9s,mb4.5,baz=241,slow=9.2,SNR=5.8						
DBIC	Dimbokro	62.99	317	P	P	10 52 23.1	-0.4
	2.3nm,0.7s,mb4.4,baz=141,slow=10,SNR=4.1						
MUN	Mundaring	63.31	109	eP	P	10 52 26.2	+0.5
KLBR	Kellerberrin	64.56	110	eP	P	10 52 34.2	+0.3
	39nm,1.3s,mb5.3						
TORD	Torodi Ar. Bea	66.08	327	P	P	10 52 43.8	0.0
	2.3nm,0.6s,mb4.4,baz=167,slow=5.8,SNR=10						
PLCA	Paso Flores	69.03	232	P	P	10 53 02.9	+0.5
	1.5nm,0.8s,mb4.0,baz=121,slow=5.9,SNR=3.5						
CPUP	Villa Florida	71.09	252	P	P	10 53 15.2	+0.1
	0.5nm,0.3s,mb3.9,baz=116,slow=4.4,SNR=6.4						
FORT	Forrest	71.60	115	eP	P	10 53 18.1	0.0
	13nm,0.9s,mb4.9						
STKA	Stephens Creek	78.78	125	⇓iP	P	10 53 57.9	-1.6
	19nm,0.9s,mb5.0						
STKA	Stephens Creek	78.78	125	P	P	10 53 57.5	-2.0
	15nm,0.8s,mb5.0,baz=222,slow=2.9,SNR=12						
FITZ	Fitzroy Crossi	79.01	105	eP	P	10 54 02.1	+1.3
	23nm,1.1s,mb5.0						
ASPA	Alice Springs	80.30	114	eP	P	10 54 07.7	-0.1
ASAR	Alice Springs	80.30	114	P	P	10 54 07.2	-0.6
	14nm,0.9s,mb4.9,baz=217,slow=5.6,SNR=18						
AS31	Alice Springs	80.30	114	eP	P	10 54 07.7	-0.1
WRA	Warramunga Arr	83.31	112	P	P	10 54 23.0	-0.6
	16nm,1.1s,mb5.0,baz=219,slow=4.5,SNR=18						
WB2	Warramunga Arr	83.31	112	eP	P	10 54 23.3	-0.4
WRAB	Tennant Creek	83.32	112	eP	P	10 54 23.5	-0.2
	49nm,1.3s,mb5.4						
BRTR	Keskin Array B	86.52	1	P	P	10 54 39.8	-0.1
	1.5nm,0.8s,mb4.3,baz=180,slow=7.4,SNR=6.9						
SWET	Sewanee	133.31	278	ePKPdf	PKPdf	11 01 14.5	+1.6
RES	Resolute Bay	144.59	339	ePKPdf	PKPdf	11 01 32.0	-1.4
ULM	Lac du Bonnet	146.37	295	PKPbc	PKPbc	11 01 35.9	-1.9
	5.0nm,0.9s,baz=101,slow=2.5,SNR=6.6						
ANMO	Albuquerque	147.12	263	ePKPbc	PKPbc	11 01 37.8	-2.1
BILL	Bilibino	148.74	32	ePKPbc	PKPbc	11 01 44.4	+0.2
ISCO	Idaho Springs	149.05	272	ePKPdf	PKPdf	11 01 41.1	+0.2
116A	Eloy	149.21	255	⇑P	PKPbc	11 01 46.6	+1.2
	baz=149						
115A	Sonoran Desert	149.65	254	⇓P	PKPbc	11 01 47.6	+1.2
	baz=150						
SMCO	Snowmass	149.69	270	ePKPdf	PKPdf	11 01 41.3	-0.6
RSSD	Black Hills	149.77	280	PKPbc	PKPbc	11 01 45.1	-1.7
Z14A	Wintersburg	150.53	255	⇓P	PKPbc	11 01 48.8	+0.1
	baz=151						
X15A	Humboldt	150.75	257	⇑P	PKPbc	11 01 50.1	+1.0
	baz=151						
Y14A	Wickenburg	150.92	255	⇑P	PKPbc	11 01 50.0	+0.5
	baz=151						
X14A	Yava	151.16	256	⇑P	PKPbc	11 01 51.6	+1.5
	baz=151						
GLA	Glamis	151.57	252	⇑P	PKPbc	11 01 51.1	+0.1
	baz=152						
W14A	Seligman	151.73	258	⇑P	PKPbc	11 01 52.0	+0.6
	baz=152						
Y12C	Blythe	151.80	254	⇑P	PKPbc	11 01 52.8	+1.2
	baz=152						
X13A	Yucca	151.86	256	⇑P	PKPdf	11 01 46.4	+1.1
	baz=152						
PFO	Pinyon Flat Ob	152.97	251	⇑P	PKPbc	11 01 55.7	+1.5
	baz=153						
PDAR	Pinedale Array	153.00	275	PKP	PKPdf	11 01 46.6	-0.3
	0.3nm,0.8s,baz=33,slow=5.7,SNR=2.5						
PDAR				PKPbc	PKPbc	11 01 53.2	-1.1
	1.1nm,0.8s,baz=101,slow=3.0,SNR=6.4						
V12A	Nelson	153.20	257	⇑P	PKPbc	11 01 55.8	+1.0
	baz=153						
U12A	Valley of Fire	153.40	258	⇑P	PKPbc	11 01 56.8	+1.7
	baz=153						
NLU	North Lily Min	153.53	267	PKPbc	PKPbc	11 01 56.0	+0.5
GSC	Goldstone	154.24	254	⇑P	PKPbc	11 01 58.7	+1.8
	baz=154						

IDC 23 10:50:44.6±6.2, 1736S×17935W, h445km±153km, mb3.3/4, mb1 3.5/5, mb1mx3.2/14, mbtmp4.2/5, Error ellipse: s-maj=159.2km s-min=25.9km az=128.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.06	66	P	P	10 52 42.1	+1.5
	3.5nm,0.3s,baz=277,slow=4.4,SNR=5.8						
AFI				S	S	10 54 15.4	-0.4
	0.9nm,0.3s,baz=101,slow=21,SNR=2.3						
STKA	Stephens Creek	38.11	240	P	P	10 57 23.2	-0.6
	1.9nm,0.5s,baz=74,slow=9.3,SNR=5.9						
WRA	Warramunga Arr	43.85	259	P	P	10 58 09.6	-0.2
	0.6nm,0.8s,baz=94,slow=7.8,SNR=12						
ASAR	Alice Springs	44.08	254	P	P	10 58 12.6	+1.1
	5.1nm,0.5s,baz=89,slow=8.0,SNR=132						
MJAR	Matsushiro Arr	66.94	324	P	P	11 00 51.5	0.0
	0.4nm,0.5s,baz=165,slow=5.0,SNR=4.6						

*IDC **23** 11:08:58.5±1.0, 1334N×12003E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, Error ellipse: s-maj=21.2km s-min=14.2km az=122.0*
*NEIC **23** 11:08:59.8±0.7, 1332N×12008E, h10km, mb4.6/1, Error ellipse: s-maj=22.5km s-min=11.4km az=80.0*
*MAN **23** 11:09:00.8, 1335N×120.15E, h4km, mb2.8, ML4.3, MS1.3*
*ISCJB **23** 11:09:01.4±0.9, 1339N±004×12005E±005, h27km±7km, mb4.1/6, Error ellipse: s-maj=9.1km s-min=5.8km az=37.2*

ISC 23 11:09:01.2±1.1, 1337N±004×12006E±005, h13km±7km, n36, σ1.21/42, mb4.1/6, 1C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.40	26	eP	Pg	11 09 08.4	-0.9
LUBP	Lubang	0.40	26	eP	Pg	11 09 08.4	-0.9
LUBP				eS	Sg	11 09 13.7	-1.0
PGP	Puerto Galera	0.88	81	⇓iP	Pg	11 09 16.6	-1.6
PGP				i S	Sg	11 09 31.4	+1.8
TGY	Tagaytay City	1.12	49	⇓iP	Pb	11 09 24.3	+1.9
TGY				eS	Sb	11 09 37.7	+0.9
TGY	Tagaytay City	1.12	49	Pn	Pn	11 09 22.2	-0.3
	896nm,0.3s,baz=239,slow=2.5,SNR=41						
TGY				Lg		11 09 36.6	
	652nm,0.3s,baz=343,slow=23,SNR=35						
BUSP	Coron	1.37	174	eP	Pn	11 09 26.5	+0.6
BUSP	Coron	1.37	174	eP	Pn	11 09 26.5	+0.6
BUSP				eS	Sn	11 09 44.5	+0.6

3.5nm,0.8s,mb4.0,baz=314,slow=10,SNR=9.3
MAW LR LR 11 44 57.6
comp=Z,88nm,18.3s,MS3.3,baz=258,slow=30
MATP Matopo 26.88 352 P **P 11 37 38.6 +0.9**
4.0nm,1.0s,mb3.9,baz=186,slow=8.6,SNR=4.2
MATP LR LR 11 46 33.7
comp=Z,128nm,18.9s,MS3.5,baz=109,slow=33
KMBO Kilima Mbogo 46.05 7 LR LR 11 57 32.6
comp=Z,90nm,18.4s,MS3.8,baz=96,slow=33
VNDA Vanda 51.72 168 P **P 11 41 04.4 +0.2**
1.4nm,0.8s,mb4.0,baz=260,slow=6.7,SNR=8.4
VNDA LR LR 12 01 52.7
comp=Z,64nm,19.3s,MS3.7,baz=297,slow=35
TORD Torodi Ar. Bea 66.06 327 P **P 11 42 43.5 -0.3**
0.9nm,0.7s,mb3.9,baz=163,slow=6.7,SNR=5.5
TORD Torodi Ar. Bea 66.06 327 P **P 11 42 43.5 -0.3**
STKA Stephens Creek 78.81 125 *eP* **P 11 43 58.6 -1.2**
4.6nm,0.7s,mb4.5
STKA Stephens Creek 78.81 125 P **P 11 43 58.2 -1.6**
4.9nm,0.7s,mb4.5,baz=245,slow=2.3,SNR=15
FITZ Fitzroy Crossi 79.05 105 *eP* **P 11 44 00.9 -0.2**
5.9nm,0.9s,mb4.5
ASPA Alice Springs 80.34 114 *eP* **P 11 44 08.5 +0.4**
ASAR Alice Springs 80.34 114 P **P 11 44 08.4 +0.3**
5.7nm,0.7s,mb4.6,baz=222,slow=4.8,SNR=91
AS31 Alice Springs 80.34 114 *eP* **P 11 44 08.5 +0.4**
WRA Warramunga Arr 83.35 112 P **P 11 44 23.9 0.0**
3.3nm,0.8s,mb4.4,baz=213,slow=3.7,SNR=20
WB2 Warramunga Arr 83.35 112 *eP* **P 11 44 23.8 -0.2**
PDAR Pinedale Array 152.96 275 PKPbc PKPbc 11 51 53.4 -0.9
1.4nm,1.1s,baz=81,slow=2.8,SNR=6.2

CSEM 23 12:04:01.0±0.8, 4294N×620W, h22km±3km, mb3.9/1, Error ellipse: s-maj=8.2km s-min=5.1km az=173.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.80**	**300**	Pg	Pb	12 04 14.5	-1.6
	4.3nm,0.3s,SNR=7.9						
EPON				Lg		12 04 27.7	
	20nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**0.81**	**63**	Pg	Pb	12 04 15.7	-0.7
	2.8nm,0.4s,SNR=7.9						
EARI				Lg		12 04 27.4	
	3.0nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**1.07**	**202**	Pg	Pn	12 04 20.4	-0.3
	13nm,0.3s,SNR=5.3						
ECAL				Lg		12 04 35.1	
	40nm,0.4s,SNR=5.0						
ELOB	**Lobios**	**1.75**	**233**	Pn	Pn	12 04 29.2	-0.7
	2.4nm,0.2s,SNR=7.9						
ELOB				Lg		12 04 55.0	
	22nm,0.5s,SNR=7.9						
EMAZ	**Mazaricos**	**2.04**	**271**	Lg		12 05 02.6	
	2.8nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**2.76**	**146**	Lg		12 05 25.1	
	3.2nm,0.4s,SNR=7.9						

IDC 23 12:13:26.9±1.5, 4704S×3277E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.9/5, MS3.3/5, Ms1 3.3/5, ms1mx3.1/26, Error ellipse: s-maj=90.9km s-min=27.0km az=56.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.26**	**324**	LR	LR	12 22 32.8	
	comp=Z,114nm,19.5s,baz=20,slow=32						
BOSA	**Boshof**	**19.31**	**340**	LR	LR	12 23 56.1	
	comp=Z,67nm,20.1s,baz=27,slow=33						
LBTB	**Lobatse**	**22.71**	**343**	LR	LR	12 26 00.5	
	comp=Z,68nm,19.9s,baz=290,slow=33						
MAW	**Mawson**	**25.76**	**154**	P	P	12 18 58.9	-0.3
	3.2nm,1.0s,baz=302,slow=10,SNR=5.0						
MAW				LR	LR	12 26 35.3	
	comp=Z,92nm,18.3s,baz=246,slow=31						
MATP	**Matopo**	**26.77**	**351**	LR	LR	12 28 02.1	
	comp=Z,75nm,19.8s,baz=111,slow=33						
TORD	**Torodi Ar. Bea**	**66.06**	**327**	P	P	12 24 15.4	-0.1
	0.6nm,0.8s,baz=161,slow=6.5,SNR=4.8						
ASAR	**Alice Springs**	**80.21**	**114**	P	P	12 25 39.5	+0.3
	1.3nm,0.7s,baz=222,slow=4.6,SNR=31						
WRA	**Warramunga Arr**	**83.21**	**112**	P	P	12 25 54.9	-0.1
	0.8nm,1.0s,baz=215,slow=3.6,SNR=4.7						
BRTR	**Keskin Array B**	**86.39**	**1**	P	P	12 26 10.9	-0.1
	0.4nm,0.5s,baz=182,slow=3.6,SNR=3.2						

BJI ***23*** *12:18:51.3, 5234N×177.18E, h9km, mB5.4, mb5.5, Ms5.3, Msz4.9*

ISCJB ***23*** *12:18:53.0±0.5, 5196N±003×177.15E±002, h12km±2km, mb5.3/250, MS4.9/177, Error ellipse: s-maj=4.6km s-min=1.9km az=5.1*

HRVD ***23*** *12:18:54.4±0.1, 5214N×177.08E, h12km, MW5.4/110, Centroid moment Tensor Solution. LP body waves: s103,c198; Mantle waves: s110,c248; Half duration: 1±3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.63±.02; $M_{\theta\theta}$0.38±.02; $M_{\phi\phi}$1.25±.02; $M_{r\theta}$0.09±.05; $M_{\theta\phi}$-0.88±.01; $M_{\phi r}$0.34±.04; Best double couple: $M_0$1.75300×10^{17} NP1:ϕ_s319.00000°, δ42.00000°, λ-104.00000°. NP2: ϕ_s158.00000°, δ50.00000°, λ-77.00000°. Principal axes: T 1.8160, Plg4.0000°, Azm239.0000°; N -0.1290, Plg10.0000°, Azm329.0000°; P -1.6910, Plg80.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *12:18:54.4±0.1, 5198N×177.12E, h10km, mb5.4/142, MS4.8/131, MW5.4, ML5.3(AEIC) Error ellipse: s-maj=3.7km s-min=2.0km az=181.0, Moment Tensor Solution. s60 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.51; $M_{\theta\theta}$0.40; $M_{\phi\phi}$1.10; $M_{r\theta}$-0.19; $M_{\theta\phi}$-0.79; $M_{\phi r}$0.00; Best double couple: $M_0$1.60000×10^{17} NP1:ϕ_s141.00000°, δ47.00000°, λ-99.00000°. NP2:ϕ_s333.00000°, δ43.00000°, λ-81.00000°. Principal axes: T 1.6200, Plg2.0000°, Azm237.0000°; N -0.0900, Plg6.0000°, Azm147.0000°; P -1.5300, Plg83.0000°, Azm344.0000°;*

IDC ***23*** *12:18:54.9±2.6, 5211N×177.05E, h12km±15km, mb5.0/22, mb1 5.1/23, mb1mx5.1/25, mbtmp5.1/23, ML5.1/1, MS4.8/25, Ms1 4.8/25, ms1mx4.5/39 Error ellipse: s-maj=16.4km s-min=10.8km az=158.0*

MOS ***23*** *12:18:56.4±1.0, 5205N×177.11E, h33km, mb5.4/93, MS4.8/74, Error ellipse: s-maj=6.5km s-min=4.1km az=94.3*

SZGRF ***23*** *12:18:57.0, 5207N×177.12E, h31km, mb5.2, MS4.8, Rat Islands, Aleutian Islands, United States*

ISC 23 12:18:56.1±0.5, 5205N±003×17713E±002, h21km±3km, h18km±1.7km: pP-P, n945, σ0s82/979, mb5.3/250, MS4.9/177, 116C-165D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.51**	**116**	P	**Pn**	**12 19 21.4**	**-0.5**
AMKA				S	**Sn**	**12 19 42.1**	**+1.3**
SMY	**Shemya**	**1.98**	**291**	P	**Pn**	**12 19 26.6**	**-1.8**
SMY	**Shemya**	**1.98**	**291**	P	**Pn**	**12 19 26.5**	**-1.9**
SMY				S	**Sn**	**12 19 52.9**	**+0.4**
ATKA	**Atka Island**	**5.34**	**85**	P	**Pn**	**12 20 15.5**	**+0.9**
ATKA				S	**Sn**	**12 21 19.0**	**+3.4**
NIKO	**Nikolski**	**8.60**	**78**	P	**Pn**	**12 21 00.6**	**+1.3**
SPIA	**Saint Paul Isl**	**8.94**	**50**	*e*Pn	**Pn**	**12 21 04.9**	**+1.0**
UNV	**Unalaska Valle**	**10.04**	**73**	*e*Pn	**Pn**	**12 21 21.1**	**+2.1**
AKUT	**Akutan**	**10.49**	**72**	*eP*	**Pn**	**12 21 28.3**	**+3.1**
	96nm,0.5s						
PET	**Petropavlovsk**	**11.30**	**282**	*eP*	**Pn**	**12 21 37.3**	**+1.0**
PET				*e*S	**Sn**	**12 23 35.6**	**-6.3**
PET				pmax	pmax		
	comp=N,82nm,1.1s						
PET				pmax	pmax		
	comp=Z,101nm,1.8s						
PET				smax			
	comp=E,453nm,0.8s						
PET				smax			
	comp=N,537nm,0.8s						
PET				MLR	MLR		
	comp=Z,4μm,15.0s						
PET				MLR	MLR		
	comp=Z,5μm,18.0s						
PET	**Petropavlovsk**	**11.30**	**282**	*e*Pn	**Pn**	**12 21 36.7**	**+0.5**
FALS	**False Pass**	**11.93**	**69**	*e*Pn	**Pn**	**12 21 51.1**	**+6.2**
GAMB	**Gambell**	**13.14**	**22**	*eP*	**Pn**	**12 22 03.0**	**+1.5**
SKR	**Severo-Kuril's**	**13.20**	**272**	*eP*	**Pn**	**12 21 57.5**	**-4.7**
SKR				pmax	pmax		
	comp=N,150nm,0.9s						
SKR				pmax	pmax		
	comp=E,130nm,0.9s						
SKR				pmax	pmax		
	comp=Z,210nm,0.9s						
SKR				pmax	pmax		
	comp=N,1μm,6.0s						
SKR				pmax	pmax		
	comp=E,2μm,6.0s						
SKR				pmax	pmax		
	comp=Z,2μm,6.0s						
SKR				MLR	MLR		
	comp=E,4μm,18.0s						
SKR				MLR	MLR		
	comp=Z,4μm,18.0s						
SKR				MLR	MLR		
	comp=N,5μm,16.0s						
SDPT	**Sand Point**	**13.65**	**67**	*eP*	**Pn**	**12 22 13.0**	**+4.6**
	comp=N,451nm,1.3s						
CHGN	**Chignik**	**14.90**	**64**	*eP*	**Pn**	**12 22 28.4**	**+2.9**
TNA	**Tin City**	**15.54**	**24**	*eP*	**Pn**	**12 22 36.6**	**+2.8**
	comp=N,202nm,1.3s						
MA2	**Magadan**	**16.54**	**307**	⇓*eP*	**Pn**	**12 22 50.1**	**+3.4**
MA2				pmax	pmax		
	comp=Z,99nm,2.2s						
MA2				MLR	MLR		
	comp=Z,3μm,13.0s						
MA2	**Magadan**	**16.54**	**307**	*eP*	**Pn**	**12 22 47.5**	**+0.8**
BILL	**Bilibino**	**16.89**	**346**	*d iP*	**Pn**	**12 22 52.5**	**+1.4**
BILL				*i* S	**Sn**	**12 26 00.8**	**+2.7**
BILL				pmax	pmax		
	comp=Z,823nm,1.1s						
BILL				MLR	MLR		
	comp=Z,3μm,12.0s						
BILL	**Bilibino**	**16.89**	**346**	*eP*	**Pn**	**12 22 52.9**	**+1.8**
	comp=Z,526nm,1.0s						
SVW2	**Sparrevohn**	**17.43**	**48**	*eP*	**Pn**	**12 23 00.0**	**+2.2**
TTA	**Tatalina**	**17.93**	**42**	*eP*	**Pn**	**12 23 05.3**	**+1.3**
TTA	**Tatalina**	**17.93**	**42**	*eP*	**Pn**	**12 23 06.6**	**+2.6**
KDAK	**Kodiak Island**	**18.23**	**60**	P	**Pn**	**12 23 08.1**	**+0.4**
	comp=Z,1μm,0.9s,SNR=20						
KDAK	**Kodiak Island**	**18.23**	**60**	P	**Pn**	**12 23 08.7**	**+1.0**
	comp=Z,6.1nm,0.3s,baz=241,slow=4.4,SNR=67						
KDAK	**Kodiak Island**	**18.23**	**60**	*eP*	**Pn**	**12 23 08.0**	**+0.3**
SLKM	**Skilak Lake**	**19.82**	**52**	P	**Pn**	**12 23 25.9**	**-1.0**
SLKM	**Skilak Lake**	**19.82**	**52**	*eP*	**Pn**	**12 23 25.5**	**-1.4**
PMR	**Palmer**	**20.55**	**49**	*eP*	**P**	**12 23 32.9**	**-0.3**
PMR	**Palmer**	**20.55**	**49**	*eP*	**P**	**12 23 32.6**	**-0.7**
	comp=Z,95nm,1.0s						
SML	**Sawmill**	**20.97**	**49**	*eP*	**P**	**12 23 38.2**	**+0.4**
MCK	**McKinley**	**21.20**	**43**	*eP*	**P**	**12 23 40.8**	**+0.6**
MCK				pmax	pmax		
	comp=Z,95nm,1.1s,mb5.0						
MCK				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.3						
MCK	**McKinley**	**21.20**	**43**	*eP*	**P**	**12 23 40.8**	**+0.6**
	comp=Z,95nm,1.1s,mb5.0						
MCK				LR	LR		
	comp=Z,1μm,20.0s,MS4.3						
COLA	**College**	**22.00**	**41**	*eP*	**P**	**12 23 49.2**	**+0.3**
COLA				pmax	pmax		
	comp=Z,163nm,1.0s,mb5.4						
COLA				MLR	MLR		
	comp=Z,3μm,21.0s,MS4.6						
COLA	**College**	**22.00**	**41**	*eP*	**P**	**12 23 49.2**	**+0.3**
	comp=Z,163nm,1.0s,mb5.4						
COLA				LR	LR		
	comp=Z,3μm,21.0s,MS4.6						
EYAK	**Cordova Ski Ar**	**22.01**	**53**	*eP*	**P**	**12 23 49.3**	**+0.4**
DIV	**Divide**	**22.07**	**51**	*eP*	**P**	**12 23 50.6**	**+1.1**
DIV				LR	LR		
	comp=Z,9μm,21.0s,MS5.2						
YUK	**Yuzh-Kuril'sk**	**22.25**	**261**	*eP*	**P**	**12 23 52.0**	**+0.5**
YUK				*e*SS		12 27 44.8	
YUK				*e*S	**S**	**12 27 52.0**	**-3.6**
YUK				pmax	pmax		
	comp=N,2μm,2.0s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
YUK				pmax	pmax		
	comp=Z,6μm,2.0s						
YUK				pmax	pmax		
	comp=Z,820nm,1.0s,mb6.1						
YUK				pmax	pmax		
	comp=N,230nm,0.6s						
YUK				pmax	pmax		
	comp=E,820nm,1.0s						
YUK				smax			
	comp=E,6μm,2.0s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				MLR	MLR		
	comp=Z,4μm,14.0s,MS5.0						
YUK				MLR	MLR		
	comp=E,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**22.76**	**271**	*d iP*	**P**	**12 23 57.8**	**+0.9**
YSS				pmax	pmax		
	comp=Z,72nm,0.8s,mb5.2						
YSS				MLR	MLR		
	comp=Z,2μm,24.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**22.76**	**271**	*eP*	**P**	**12 23 58.3**	**+1.4**
	comp=Z,220nm,1.0s,mb5.5						
YSS				*e*pP		12 24 03.5	
YSS				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
ASAJ	**Asahikawa**	**24.21**	**265**	P	**P**	**12 24 11.6**	**+0.4**
	comp=Z,124nm,1.0s,mb5.3,baz=53,slow=6.5,SNR=69						
ASAJ				PcP	PcP	12 27 51.1	-0.2
	comp=Z,15nm,1.0s,baz=266,slow=5.6,SNR=5.9						
ASAJ				S	**S**	**12 28 29.6**	**+1.1**
	comp=Z,5.3nm,1.1s,baz=305,slow=32,SNR=2.3						
ASAJ	**Asahikawa**	**24.21**	**265**	P	**P**	**12 24 11.6**	**+0.4**
ASAJ						12 27 51.1	
ASAJ				S	**S**	**12 28 29.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,124nm,1.0s						
ASAJ				smax			
	comp=N,5.0nm,1.1s						
ERM	**Erimo**	**25.02**	**260**	P	**P**	**12 24 20.9**	**+2.3**
	comp=N,590nm,1.2s,mb6.0,SNR=5.6						
DAWY	**Dawson**	**25.39**	**45**	*eP*	**P**	**12 24 22.8**	**+0.9**
DAWY				*e*ScP	ScP	12 31 33.3	+1.4
HABR	**Khabarovsk**	**26.86**	**279**	⇓*iP*	**P**	**12 24 35.4**	**+0.2**
HABR				*e*S	**S**	**12 29 11.4**	**+0.8**
HABR				pmax	pmax		
	comp=Z,132nm,1.6s,mb5.2						
HABR				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.7						
YAK	**Yakutsk**	**27.07**	**310**	*d iP*	**P**	**12 24 35.3**	**-1.7**
YAK				*e*		12 25 24.2	
YAK				*e*PPP		12 25 35.3	
YAK				*e*SS		12 30 51.5	
YAK				*e*		12 35 24.2	
YAK				pmax	pmax		
	comp=Z,42nm,1.2s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,27nm,1.5s						
YAK				MLR	MLR		
	comp=N,2μm,14.0s,MS4.9						
YAK				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,2μm,16.0s,MS4.9						
YAK	**Yakutsk**	**27.07**	**310**	*eP*	**P**	**12 24 35.0**	**-2.0**
YAK				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
SKAG	**Skagway**	**27.24**	**55**	*eP*	**P**	**12 24 40.7**	**+2.1**
	comp=Z,139nm,1.4s,mb5.3						
SIT	**Sitka**	**27.56**	**61**	*eP*	**P**	**12 24 42.7**	**+1.2**
SIT	**Sitka**	**27.56**	**61**	*eP*	**P**	**12 24 42.9**	**+1.4**
	comp=Z,183nm,1.6s,mb5.5						
SIT				LR	LR		
	comp=Z,4μm,19.0s,MS5.0						
INK	**Inuvik**	**28.39**	**36**	P	**P**	**12 24 49.6**	**+0.7**
	comp=Z,26nm,0.8s,mb4.9,baz=248,slow=7.8,SNR=71						
INK				PcP	PcP	12 28 00.0	-1.0
	comp=Z,14nm,0.9s,baz=97,slow=2.5,SNR=3.2						
INK				LR	LR	12 35 43.2	
	comp=Z,1μm,21.9s,MS4.5,baz=241,slow=36						
INK	**Inuvik**	**28.39**	**36**	*eP*	**P**	**12 24 49.6**	**+0.7**
INK				pmax	pmax		
	comp=Z,43nm,0.8s						
INK	**Inuvik**	**28.39**	**36**	*eP*	**P**	**12 24 49.6**	**+0.7**
	comp=Z,42nm,0.8s,mb5.1						
KLR	**Kul'dur**	**28.56**	**283**	*eP*	**P**	**12 24 46.6**	**-3.8**
KLR				*e*PPP		12 25 52.0	
KLR				*e*S	**S**	**12 29 34.0**	**-3.4**
KLR				pmax	pmax		
	comp=E,100nm,1.8s						
KLR				pmax	pmax		
	comp=Z,140nm,1.8s,mb5.4						
KLR				MLR	MLR		
	comp=E,2μm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s,MS5.1						
TIXI	**Tiksi**	**28.81**	**331**	*d iP*	**P**	**12 24 51.9**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,3μm,22.0s,MS4.9						
TIXI	**Tiksi**	**28.81**	**331**	*i* Pr		12 24 51.0	
TIXI				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
DLBC	**Dease Lake**	**30.10**	**57**	*eP*	**P**	**12 25 06.2**	**+2.1**
CLNS	**Chul'man**	**30.13**	**300**	*eP*	**P**	**12 25 02.8**	**-1.5**
CLNS				*e*PPP		12 26 02.1	
CLNS				*e*		12 28 03.9	
CLNS				*e*S	**S**	**12 29 58.3**	**-3.7**
CLNS				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,22nm,1.0s						
CLNS				smax			
	comp=E,19nm,0.9s						
CLNS				smax			
	comp=Z,11nm,0.7s						
CLNS				smax			
	comp=N,24nm,1.3s						
CLNS				MLR	MLR		
	comp=Z,2μm,15.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,5μm,16.0s,MS5.2						
CLNS				MLR	MLR		
	comp=E,1μm,14.0s,MS5.2						
NRGR	**Nerungri**	**30.26**	**300**	*eP*	**P**	**12 25 04.9**	**-0.6**
NRGR				S	**S**	**12 30 04.1**	**0.0**
NRGR				smax			
	comp=E,11nm,0.2s						
VLA	**Vladivostok**	**31.34**	**272**	*c iP*	**P**	**12 25 15.6**	**+0.6**
VLA				*e*		12 25 29.7	
VLA				*e*		12 28 07.6	
VLA				*i* S	**S**	**12 30 21.9**	**+0.9**
VLA				pmax	pmax		
	comp=Z,113nm,1.4s,mb5.5						
VLA				MLR	MLR		
	comp=Z,1μm,14.7s,MS4.7						
VLA	**Vladivostok**	**31.34**	**272**	⇑*iP*	**P**	**12 25 15.3**	**+0.3**
MJAR	**Matsushiro Arr**	**31.44**	**256**	P	**P**	**12 25 16.6**	**+0.8**
	comp=Z,17nm,1.0s,mb4.8,baz=43,slow=8.1,SNR=55						
MJAR				PcP	PcP	12 28 09.0	+0.1
	comp=Z,6.1nm,0.8s,baz=82,slow=1.7,SNR=9.8						
MJAR				ScP	ScP	12 31 51.8	+1.0
	comp=Z,0.7nm,0.7s,baz=72,slow=4.1,SNR=4.1						
MJAR				LR	LR	12 36 16.4	
	comp=Z,940nm,19.2s,MS4.5,baz=45,slow=33						
MJAR	**Matsushiro Arr**	**31.44**	**256**	P	**P**	**12 25 16.6**	**+0.7**
MJAR						12 28 09.0	
MAJO	**Matsushiro**	**31.44**	**256**	*eP*	**P**	**12 25 16.5**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.5						
MAJO	**Matsushiro**	**31.44**	**256**	*eP*	**P**	**12 25 16.5**	**+0.6**
	comp=Z,78nm,1.1s,mb5.5						
MAJO				LR	LR		
	comp=Z,1μm,21.0s,MS4.5						
MAT	**Matsushiro**	**31.44**	**256**	P	**P**	**12 25 16.6**	**+0.7**
MAT				S	**S**	**12 30 24.0**	**+1.5**
MAT	**Matsushiro**	**31.44**	**256**	*eP*	**P**	**12 25 17.0**	**+1.1**
MAT				*e*S	**S**	**12 30 25.0**	**+2.5**
MAT				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.4						
MAT				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.8						
MAT	**Matsushiro**	**31.44**	**256**	*eP*	**P**	**12 25 17.0**	**+1.1**
	comp=Z,63nm,1.0s,mb5.4						
MAT				*e*S	**S**	**12 30 25.0**	**+2.5**
MAT				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
MDJ	**Mudanjiang**	**31.98**	**276**	P	**P**	**12 25 20.0**	**-0.6**
MDJ				AP	pP	12 25 23.0	-3.9
MDJ				PP	PP	12 26 28.9	-4.0
MDJ				S	**S**	**12 30 31.0**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,240nm,9.4s						
MDJ				LR	LR		
	comp=N,2μm,18.1s,MS4.8						
MDJ				LR	LR		
	comp=E,1μm,17.5s,MS4.8						
MDJ				LR	LR		
	comp=Z,2μm,14.8s,MS4.8						
MDJ	**Mudanjiang**	**31.98**	**276**	*eP*	**P**	**12 25 19.3**	**-1.3**
	comp=Z,16nm,0.9s,mb4.8						
MDJ				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
WAKE	**Wake Island**	**33.71**	**198**	PFAKE		12 25 50.0	+14
WAKE				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
CN2	**Changchun**	**34.94**	**277**	*eP*	**P**	**12 25 45.0**	**-1.5**
CN2				*e*AP	pP	12 25 57.1	+4.3
CN2				PP	PP	12 27 02.4	-3.4
CN2				*e*S	**S**	**12 31 10.1**	**-6.8**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,400nm,10.0s						
CN2				LR	LR		
	comp=N,2μm,18.0s,MS5.0						
CN2				LR	LR		
	comp=E,2μm,18.0s,MS5.0						
CN2				LR	LR		
	comp=Z,2μm,16.0s,MS5.0						
BOD	**Bodaibo**	**35.53**	**305**	*eP*	**P**	**12 25 49.6**	**-1.9**
BOD				pmax	pmax		
	comp=Z,52nm,1.6s,mb5.2						
HIA	**Hailar**	**35.68**	**289**	*eP*	**P**	**12 25 51.6**	**-1.2**
HIA				pmax	pmax		
	comp=Z,43nm,1.1s						
HIA				MLR	MLR		
	comp=Z,2μm,19.0s						
HIA	**Hailar**	**35.68**	**289**	*eP*	**P**	**12 25 51.6**	**-1.2**
	comp=Z,43nm,1.1s,mb5.3						
HIA				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
KIP	**Kipapa**	**36.12**	**138**	*eP*	**P**	**12 25 55.8**	**-0.8**
KIP	**Kipapa**	**36.12**	**138**	*eP*	**P**	**12 25 59.6**	**+3.0**
YKW3	**Yellowknife Ar**	**36.58**	**46**	*eP*	**P**	**12 26 01.1**	**+0.6**
YKA	**Yellowknife Ar**	**36.60**	**46**	P	**P**	**12 26 01.5**	**+0.8**
	comp=Z,92nm,0.8s,mb5.7,baz=286,slow=8.4,SNR=343						
YKA				PcP	PcP	12 28 23.5	-0.1
	comp=Z,4.8nm,0.8s,baz=288,slow=3.5,SNR=4.9						
YKA				S	**S**	**12 31 45.9**	**+3.6**
	comp=Z,0.4nm,0.8s,baz=273,slow=12,SNR=2.1						
YKA				ScP	ScP	12 32 09.0	0.0
	comp=Z,1.4nm,1.0s,baz=292,slow=4.5,SNR=5.0						
YKA				LR	LR	12 41 16.2	
	comp=Z,1μm,20.1s,MS4.8,baz=280,slow=37						
YKA				P3KPbc		12 56 30.4	
	comp=Z,0.8nm,0.8s,baz=102,slow=5.6,SNR=6.6						
YKA	**Yellowknife Ar**	**36.60**	**46**	P	**P**	**12 26 01.5**	**+0.8**
YKA						12 28 23.6	
YKA				S	**S**	**12 31 45.9**	**+3.5**
YKA	**Yellowknife Ar**	**36.60**	**46**	P	**P**	**12 26 01.5**	**+0.8**
YKA				PcP	PcP	12 28 23.6	-0.1
YKA				S	**S**	**12 31 45.9**	**+3.6**
YKA				ScP	ScP	12 32 09.1	0.0
YKA				LR	LR	12 41 16.2	
YKA				*e*		12 56 30.4	
KS15	**Wonju Array Si**	**37.16**	**267**	*eP*	**P**	**12 26 06.0**	**+0.6**
OCWA	**Octopus Mounta**	**37.16**	**

SNY	Shenyang	37.18	276	⇓P	P	12 26 05.8	+0.2
SNY				PP	PP	12 27 32.6	+2.2
SNY				S	S	12 31 54.8	+3.7
SNY				SS	SS	12 34 19.8	-14
SNY				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.9						
SNY				AMB	AMB		
	comp=Z,390nm,9.4s						
SNY				LR	LR		
	comp=N,1µm,15.0s,MS5.0						
SNY				LR	LR		
	comp=E,1µm,16.2s,MS5.0						
SNY				LR	LR		
	comp=Z,1µm,13.8s,MS4.9						
B04A	Port Angeles	37.40	72	⇑P	P	12 26 07.2	-0.3
	baz=37						
B04A				⇑S	S	12 31 59.7	+5.1
	baz=37						
A04A	Legoe Bay, Lum	37.55	70	⇓P	P	12 26 08.5	-0.2
	baz=37						
A04A				⇑S	S	12 31 58.3	+1.5
	baz=37						
D03A	Wishkah Elem.	37.71	73	⇓P	P	12 26 09.3	-0.8
	baz=38						
D03A				⇓S	S	12 32 04.0	+4.8
	baz=38						
VDB	Vedder Mountai	37.76	70	P	P	12 26 10.4	-0.1
A05A	Maple Falls	37.78	70	⇑P	P	12 26 10.7	0.0
	baz=38,SNR=5.9						
A05A				⇓S	S	12 32 00.2	0.0
	baz=38						
C04A	Brinnon	37.88	72	⇓P	P	12 26 11.4	-0.1
	baz=38						
C04A				⇑S	S	12 32 01.9	+0.1
	baz=38						
INCN	Inchon	37.90	268	*e*P	P	12 26 12.4	+0.7
INCN				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
CIT	Chita	37.99	296	*e*P	P	12 26 11.8	-0.6
CIT				*e*		12 26 26.4	
CIT				*e*S	S	12 31 59.9	-3.5
CIT				pmax	pmax		
	comp=Z,137nm,2.8s,mb5.2						
MBW	Mount Baker	37.99	70	P	P	12 26 12.9	+0.5
CMW	Cultus Mountai	38.04	71	P	P	12 26 13.7	+0.8
GNW	Green Mountain	38.04	72	*e*P	P	12 26 13.7	+0.8
GNW				*e*PcP	PcP	12 28 29.2	+1.2
E03A	Lebam	38.12	74	⇓P	P	12 26 13.2	-0.3
	baz=38,SNR=7.7						
E03A				⇓S	S	12 32 05.6	+0.2
	baz=38						
B05A	Bryant	38.13	71	⇑P	P	12 26 13.4	-0.2
	baz=38,SNR=12						
B05A				⇓S	S	12 32 05.8	+0.3
	baz=38						
D04A	Dobbs Creek Ra	38.29	73	⇑P	P	12 26 14.8	-0.1
	baz=38						
F03A	Seaside	38.44	75	⇓P	P	12 26 15.4	-0.8
	baz=38						
E04A	Onalaska	38.60	73	⇓P	P	12 26 17.3	-0.3
	baz=38						
C05A	Tolt Reservoir	38.65	71	⇑P	P	12 26 17.6	-0.4
	baz=38,SNR=9.1						
C05A				⇓S	S	12 32 12.9	-0.5
	baz=38						
D05A	Enumclaw	38.72	72	⇑P	P	12 26 18.6	0.0
	baz=39,SNR=8.9						
D05A				⇑S	S	12 32 16.2	+1.7
	baz=39						
PNT	Penticton	39.05	68	P	P	12 26 21.5	+0.2
LON	Longmire	39.05	73	*e*P	P	12 26 22.3	+0.9
RCM	Mount Rainier-	39.06	73	P	P	12 26 22.6	+1.2
F04A	Amboy	39.12	74	⇑P	P	12 26 21.2	-0.7
	baz=39,SNR=10						
F04A				⇓S	S	12 32 23.9	+3.5
	baz=39						
E05A	Randle	39.18	73	⇑P	P	12 26 22.0	-0.5
	baz=39,SNR=6.6						
E05A				⇑S	S	12 32 22.7	+1.3
	baz=39						
H03A	Soap Creek Ran	39.26	76	⇓P	P	12 26 22.5	-0.6
	baz=39						
H03A				⇓S	S	12 32 21.4	-1.3
	baz=39						
COR	Corvallis	39.31	77	PFAKE		12 26 40.0	+17
COR				LR	LR		
	comp=Z,938nm,19.0s,MS4.6						
I02A	Mapleton	39.31	78	⇓P	P	12 26 22.8	-0.7
	baz=39						
G04A	Mulino	39.46	75	⇑P	P	12 26 24.3	-0.5
	baz=39						
ETW	Entiat	39.48	71	P	P	12 26 25.3	+0.3
I03A	Eugene	39.66	77	⇓P	P	12 26 26.2	-0.2
	baz=40						
I03A				⇓S	S	12 32 29.2	+0.6
	baz=40						
SSOR	Sweet Springs	39.67	76	P	P	12 26 27.4	+0.9
EBG	Ellensburg	39.70	72	P	P	12 26 27.2	+0.4
F05A	White Salmon	39.71	74	⇓P	P	12 26 26.8	-0.1
	baz=40						
F05A				⇓S	S	12 32 30.7	+1.3
	baz=40						
J02A	Umpqua	39.81	78	⇓P	P	12 26 27.6	-0.1
	baz=40						
J02A				⇑S	S	12 32 31.3	+0.4
	baz=40						
HOOD	Mount Hood Mea	39.90	75	*e*P	P	12 26 29.5	+1.1
H04A	Detroit Lake	39.92	76	⇓P	P	12 26 28.3	-0.3
	baz=40,SNR=18						
H04A				⇓S	S	12 32 32.4	-0.2
	baz=40						
BROR	Big Rock Looko	39.99	76	P	P	12 26 29.9	+0.7
VFP	Flag Point	40.01	74	P	P	12 26 29.9	+0.6
DL2	Dalian	40.11	273	PR	P	12 26 30.4	+0.2
DL2				PP	PP	12 28 06.6	+4.1
DL2				PCP	PcP	12 28 34.6	+0.1
DL2				S	S	12 32 33.5	-1.8
DL2				SS	SS	12 35 21.4	-12
DL2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
DL2				AMB	AMB		
	comp=Z,160nm,4.6s						
DL2				LR	LR		
	comp=N,710nm,15.3s,MS4.7						
DL2				LR	LR		
	comp=E,470nm,15.5s,MS4.7						
DL2				LR	LR		
	comp=Z,620nm,17.8s,MS4.5						
G05A	Wamic	40.14	74	⇑P	P	12 26 30.7	+0.3
	baz=40,SNR=6.1						
RES	Resolute Bay	40.18	24	*e*P	P	12 26 31.4	+0.6
RES				pmax	pmax		
	comp=Z,101nm,1.3s,mb5.4						
RES	Resolute Bay	40.18	24	*e*P	P	12 26 31.4	+0.7
	comp=Z,101nm,1.3s,mb5.4						
K02A	Glendale	40.20	79	⇓P	P	12 26 29.0	-1.9
	baz=40						
M01C	Crescent City	40.34	81	⇓P	P	12 26 31.8	-0.3
	baz=40						
L02A	Cave Junction	40.48	80	⇓P	P	12 26 33.4	+0.2
	baz=40						
L02A				⇓S	S	12 32 43.2	+2.3
	baz=40						
H05A	Madras	40.51	75	⇓P	P	12 26 33.6	+0.1
	baz=40						
H05A				⇓S	S	12 32 43.7	+2.3
	baz=40						
OD2	Odessa Site #2	40.54	70	P	P	12 26 33.4	-0.3
HAWA	Hanford	40.58	72	*e*P	P	12 26 33.9	-0.2
HAWA				*e*pP	pP	12 26 38.1	-2.4
HAWA				*e*PcP	PcP	12 28 36.5	+0.5
HAWA				LR	LR		
	comp=Z,62nm,20.0s						
HUMO	Hull Mountain	40.62	79	*e*P	P	12 26 34.9	+0.5
HUMO				*e*PcP	PcP	12 28 37.2	+1.1
HUMO				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
HUMO	Hull Mountain	40.62	79	⇑P	P	12 26 34.5	+0.1
	baz=40						
HUMO				⇓S	S	12 32 44.3	+1.4
	baz=40						
EDM	Edmonton	40.68	60	*e*P	P	12 26 35.1	+0.2
I05A	Bend	40.76	76	⇓P	P	12 26 35.1	-0.4
	baz=41						
NEW	Newport	41.00	68	*e*P	P	12 26 37.2	-0.4
NEW				*e*		12 28 37.2	
NEW				MLR	MLR		
	comp=Z,925nm,19.0s						
KHMM	Horse Mountain	41.15	82	*e*P	P	12 26 40.8	+2.0
YBH	Yreka Blue Hor	41.27	80	*e*P	P	12 26 40.3	+0.5
YBH				*e*		12 28 38.4	
YBH				MLR	MLR		
	comp=Z,1µm,19.0s						
YBH	Yreka Blue Hor	41.27	80	⇓P	P	12 26 39.9	+0.2
	baz=41,SNR=11						
YBH				⇓S	S	12 32 53.3	+0.6
	baz=41						
K04A	Chilquin	41.36	78	⇑P	P	12 26 40.7	+0.2
	baz=41						
K04A				⇑S	S	12 32 54.1	+0.1
	baz=41						
M02C	Callahan	41.39	80	⇑P	P	12 26 40.8	+0.1
	baz=41,SNR=5.6						
M02C				⇑S	S	12 32 55.1	+0.7
	baz=41						
N02C	Big Bar	41.44	81	⇓P	P	12 26 41.2	0.0
	baz=41,SNR=6.3						
N02C				⇑S	S	12 32 59.2	+4.0
	baz=41						
L04A	Klamath Falls	41.51	79	⇓P	P	12 26 41.7	-0.1
	baz=41,SNR=9.2						
L04A				⇑S	S	12 32 56.2	0.0
	baz=41						
I06A	Prineville	41.52	75	⇓P	P	12 26 41.8	0.0
	baz=41,SNR=7.4						
I06A				⇓S	S	12 32 57.3	+1.0
	baz=41						
LHEM	Herd Peak	41.63	80	P	P	12 26 44.0	+1.3
M04C	Macdoel	41.77	79	⇓P	P	12 26 43.9	0.0
	baz=42,SNR=7.0						
M04C				⇓S	S	12 33 02.0	+1.9
	baz=42						
M03C	McCloud	41.90	80	⇑P	P	12 26 45.1	+0.2
	baz=42,SNR=5.0						
M03C				⇑S	S	12 33 02.0	+0.1
	baz=42						
J06A	Christmas Vall	41.94	76	⇓P	P	12 26 45.4	+0.1
	baz=42,SNR=21						
J06A				⇑S	S	12 33 03.5	+0.9
	baz=42						
WDC	Whiskeytown Da	42.05	81	*e*P	P	12 26 46.8	+0.6
WDC				*e*		12 28 41.2	
WDC				MLR	MLR		
	comp=Z,582nm,19.0s,MS4.5						
WDC	Whiskeytown Da	42.05	81	⇓P	P	12 26 46.5	+0.3
	baz=42,SNR=11						
WDC				⇓S	S	12 33 05.1	+0.9
	baz=42						
K06A	Valley Falls	42.14	77	⇑P	P	12 26 46.9	0.0
	baz=42,SNR=14						
K06A				⇓S	S	12 33 14.2	+8.7
	baz=42						
O02C	Red Bluff	42.14	82	⇓P	P	12 26 47.3	+0.4
	baz=42,SNR=10						
O02C				⇑S	S	12 33 05.8	+0.3
	baz=42						
L05A	Lakeview	42.23	78	⇑P	P	12 26 47.9	+0.4
	baz=42,SNR=5.9						
P01C	Double 8 Ranch	42.24	83	⇓P	P	12 26 47.7	0.0
	baz=42						
LTIM	Timbered Crate	42.34	80	P	P	12 26 49.7	+1.2
ALE	Alert	42.40	10	P	P	12 26 49.0	0.0
	comp=Z,627nm,0.7s,mb6.3,SNR=54						
WALA	Waterton Lakes	42.42	66	*e*P	P	12 26 48.8	-0.3
	comp=Z,54nm,1.0s,mb5.1						
WALA				*e*PcP	PcP	12 28 43.4	+1.3
M05C	Lookout	42.44	79	⇓P	P	12 26 49.2	-0.1
	baz=42,SNR=13						
M05C				⇑S	S	12 33 08.3	-1.6
	baz=42						
GASB	Alder Springs	42.51	82	⇓P	P	12 26 50.0	+0.2
	baz=42,SNR=10.0						
GASB				⇑S	S	12 33 11.4	+0.5
	baz=42						
BSMT	Bassoo Peak	42.56	68	*e*P	P	12 26 50.1	-0.2
HATC	Hat Creek Radi	42.57	80	⇑P	P	12 26 50.4	0.0
	baz=42,SNR=11						
MOD	Modoc	42.63	78	*e*P	P	12 26 51.6	+0.7
MOD				*e*PcP	PcP	12 28 42.3	-0.5
MOD				LR	LR		
	comp=Z,786nm,19.0s,MS4.6						
HOPS	Hopland	42.69	83	*e*P	P	12 26 52.7	+1.3
	comp=Z,61nm,1.1s,mb5.2						
HOPS				LR	LR		
	comp=Z,1µm,19.0s,MS4.7						
HOPS	Hopland	42.69	83	⇓P	P	12 26 50.5	-0.9
	baz=43						
O03C	Acorn Hollow,	42.72	81	⇓P	P	12 26 50.9	-0.7
	baz=43						
BMO	Blue Mountains	42.73	73	*e*P	P	12 26 51.4	-0.2
BMO				*e*pP	pP	12 26 55.2	-2.9
BMO				*e*PcP	PcP	12 28 42.6	-0.5
BMO				LR	LR		
	comp=Z,873nm,19.0s,MS4.7						
BJT	Baijiatuau	42.78	279	*e*P	P	12 26 52.5	+0.4
	comp=Z,73nm,1.1s,mb5.3						
BJT				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
K07A	Rock Creek Ran	42.80	76	⇑P	P	12 26 51.9	-0.4
	baz=43,SNR=44						
K07A				⇑S	S	12 33 13.2	-2.1
	baz=43						
IRK	Irkutsk	42.93	300	*e*P	P	12 26 49.4	-3.9
IRK				*e*		12 28 42.8	
IRK				pmax	pmax		
	comp=Z,70nm,2.0s,mb5.0						
M06C	Likely Place G	42.94	79	⇓P	P	12 26 53.2	-0.2
	baz=43,SNR=6.6						
M06C				⇑S	S	12 33 16.9	-0.3
	baz=43						
O04C	Chester	43.09	80	⇓P	P	12 26 54.4	-0.3
	baz=43,SNR=22						
O04C				⇓S	S	12 33 19.1	-0.5
	baz=43						
ELFS	Eagle Lake Fie	43.13	80	⇓P	P	12 26 54.6	-0.3
	baz=43,SNR=6.2						
L07A	Adell	43.14	77	⇑P	P	12 26 54.9	-0.1
	baz=43,SNR=27						
L07A				⇓S	S	12 33 19.6	-0.7
	baz=43						
MNRC	McLaughlin Nat	43.15	83	⇑P	P	12 26 54.7	-0.3
	baz=43						
MNRC				⇓S	S	12 33 22.1	+1.7
	baz=43						
ORV	Oroville	43.31	82	⇑P	P	12 26 55.8	-0.6
	baz=43,SNR=11						
ORV				⇑S	S	12 33 21.6	-1.1
	baz=43						
WVOR	Wild Horse Val	43.32	76	PFAKE		12 27 10.0	+14
WVOR				LR	LR		
	comp=Z,960nm,19.0s,MS4.7						
MCCM	Marconi Confer	43.34	84	⇑P	P	12 26 56.2	-0.4
	baz=43						
O05C	Quincy	43.42	81	⇑P	P	12 26 56.6	-0.6
	baz=43,SNR=7.5						
O05C				⇓S	S	12 33 25.3	+1.0
	baz=43						
OHCM	Honcut	43.45	82	*e*P	P	12 26 58.0	+0.5
CVS	Carmenet Viney	43.47	84	⇓P	P	12 26 57.2	-0.4
	baz=43						
FARB	Farallon Islan	43.54	85	⇓P	P	12 26 57.6	-0.7
	baz=43						
TLY	Talaya	43.55	300	P	P	12 26 58.1	-0.2
	comp=Z,81nm,1.3s,mb5.3,SNR=10						
TLY	Talaya	43.55	300	*d*P	P	12 26 56.0	-2.3
TLY				*e*		12 28 43.9	
TLY				*e*S	S	12 33 24.0	-2.3
TLY				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
TLY				MLR	MLR		
	comp=Z,1µm,17.0s,MS4.9						
TLY	Talaya	43.55	300	*e*P	P	12 26 58.0	-0.3
TLY				*e*PcP	PcP	12 28 46.6	+0.7
TLY				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
MSO	Missoula	43.59	68	*e*P	P	12 26 57.6	-1.1
MSO				*e*PcP	PcP	12 28 45.5	-0.4
MSO				LR	LR		
	comp=Z,555nm,19.0s,MS4.5						
M07A	Soldier Meadow	43.62	78	⇑P	P	12 26 58.6	-0.2
	baz=44,SNR=54						
M07A				⇑S	S	12 33 27.9	+0.7
	baz=44						
L08A	Fields	43.64	76	⇑P	P	12 26 58.8	-0.3
	baz=44,SNR=25						
L08A				⇑S	S	12 33 20.9	-6.7
	baz=44						
ULN	Ulaanbaatar	43.69	294	*i*P	P	12 26 58.9	-0.5
ULN	Ulaanbaatar	43.69	294	*e*P	P	12 26 59.3	-0.1
ULN				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
Q04C	Lincoln	43.82	82	⇑P	P	12 26 59.8	-0.7
	baz=44						
CHMT	Chamberlain Mo	43.94	68	*e*P	P	12 27 00.8	-0.7
CHMT				*e*pP	pP	12 27 04.2	-3.7
O06A	Flanigan	43.96	80	⇓P	P	12 27 01.1	-0.5
	baz=44,SNR=17						
O06A				⇓S	S	12 33 32.4	+0.2
	baz=44						
P05C	Yuba Gap, Truc	44.01	81	⇓P	P	12 27 01.6	-0.4
	baz=44,SNR=9.8						
P05C				⇓S	S	12 33 32.7	-0.2
	baz=44						
M08A	Happy Creek Ra	44.06	77	⇓P	P	12 27 02.1	-0.3
	baz=44,SNR=13						
M08A				⇑S	S	12 33 37.9	+4.2
	baz=44						
SONM	Songino Array	44.07	294	P	P	12 27 02.5	0.0
	comp=Z,12nm,0.8s,mb4.7,baz=57,slow=9.3,SNR=69						
SONM				PcP	PcP	12 28 47.8	+0.2
	comp=Z,11nm,0.6s,baz=70,slow=2.0,SNR=7.7						
SONM				LR	LR	12 46 45.2	
	comp=Z,1µm,18.0s,MS5.0,baz=61,slow=38						
SONM	Songino Array	44.07	294	P	P	12 27 02.5	0.0
SONM						12 28 47.8	
BDM	Black Diamond	44.08	84	⇓P	P	12 27 01.9	-0.7
	baz=44						
L09A	Wilkinson Ranc	44.15	76	⇑P	P	12 27 02.9	-0.2
	baz=44,SNR=19						
L09A				⇓S	S	12 33 34.1	-0.9
	baz=44						
JRSC	Jasper Ridge	44.20	85	⇓P	P	12 27 03.1	-0.4
	baz=44						
P06A	Stead Airport,	44.21	80	⇑P	P	12 27 03.2	-0.4
	baz=44						
LAVA	Lava Cap Winer	44.27	82	⇑P	P	12 27 03.5	-0.6
	baz=44,SNR=19						
LAVA				⇑S	S	12 33 32.9	-3.7
	baz=44						
WENL	Wente Brothers	44.36	84	⇓P	P	12 27 03.9	-0.9
	baz=44						
BNLO	Ben Lomond	44.41	85	⇓P	P	12 27 04.7	-0.5
	baz=44						
ZAK	Zakamensk	44.43	299	*e*P	P	12 27 05.2	-0.2
ZAK				pmax	pmax		
	comp=Z,71nm,1.7s,mb5.1						
ZAK				pmax	pmax		
	comp=Z,32nm,1.9s,mb4.7						
R04C	Big Horse Ranc	44.45	83	⇓P	P	12 27 05.0	-0.5
	baz=44						
R04C				⇑S	S	12 33 35.4	-4.1
	baz=44						
PAHR	Pah Rah Range	44.51	80	*e*P	P	12 27 06.5	+0.5
	comp=Z,31nm,1.1s,mb5.0						
PAHR				*e*PcP	PcP	12 28 47.9	-1.2
WCN	Washoe City	44.53	81	⇓P	P	12 27 06.1	0.0
	baz=44,SNR=15						
O07A	Toulon	44.54	79	⇓P	P	12 27 06.1	-0.1
	baz=44,SNR=8.9						
O07A				⇓S	S	12 33 39.8	-0.8
	baz=44						
TIA	Tai'an	44.58	274	*e*P	P	12 27 06.3	-0.3
N08A	GE Springer Mi	44.61	78	⇑P	P	12 27 06.2	-0.6
	baz=44,SNR=16						
N08A				⇑S	S	12 33 40.4	-1.3
	baz=44						
M09A	Marrel Ranch,	44.64	77	⇑P	P	12 27 06.7	-0.3
	baz=44,SNR=5.7						
M09A				⇑S	S	12 33 41.6	-0.5
	baz=44						
S04C	Ingram Canyon,	44.70	84	⇓P	P	12 27 07.2	-0.3
	baz=45						
S04C				⇑S	S	12 33 41.7	-1.2
	baz=45						
R05C	Kirkwood Meado	44.71	82	⇑P	P	12 27 07.6	0.0
	baz=45,SNR=12						
HRY	Holter Researc	44.86	67	*e*P	P	12 27 08.2	-0.6
CMB	Columbia Colle	44.94	83	*e*P	P	12 27 09.9	+0.5
CMB				*e*		12 28 49.9	
CMB				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.0						
CMB				MLR	MLR		
	comp=Z,1µm,22.0s,MS4.8						
CMB	Columbia Colle	44.94	83	*e*P	P	12 27 09.8	+0.4
	comp=Z,33nm,1.2s,mb5.0						
CMB				*e*PcP	PcP	12 28 49.9	-0.7
CMB				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
CMB	Columbia Colle	44.94	83	⇓P	P	12 27 09.1	-0.3
	baz=45,SNR=13						
CMB				⇑S	S	12 33 44.6	-1.8
	baz=45						
LRM	Limekiln Ridge	45.01	69	*e*P	P	12 27 09.2	-0.8
PACP	Pacheco Peak	45.04	84	⇑P	P	12 27 09.9	-0.3
	baz=45,SNR=6.9						
PACP				⇓S	S	12 33 47.2	-0.7
	baz=45						
HHC	Hu-ho-hao-te	45.07	283	⇓P	P	12 27 10.9	+0.4
HHC				AP	pP	12 27 15.5	-1.5
HHC				XP	sP	12 27 18.0	-1.5
HHC				PCP	PcP	12 28 52.4	+1.4
HHC				PP	PP	12 28 56.0	+0.1
HHC				PCS	PcS	12 32 44.8	0.0
HHC				S	S	12 33 46.3	-2.1
HHC				XS	sS	12 33 53.8	-5.3
HHC				SS	SS	12 36 59.5	-11
HHC				SCS	ScS	12 37 05.3	-1.1
HHC				AMB	AMB		
	comp=Z,60nm,1.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,450nm,4.8s						
HHC				LR	LR		
	comp=N,2µm,14.3s,MS5.3						
HHC				LR	LR		
	comp=E,1µm,13.1s,MS5.3						
HHC				LR	LR		
	comp=Z,1µm,12.8s,MS5.0						
SAO	San Andreas Ge	45.09	85	*e*P	P	12 27 11.5	+0.8
SAO				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.1						
SAO				MLR	MLR		
	comp=Z,778nm,21.0s,MS4.6						
SAO	San Andreas Ge	45.09	85	*e*P	P	12 27 11.5	+0.8
	comp=Z,46nm,1.3s,mb5.1						
SAO				LR	LR		
	comp=Z,778nm,21.0s,MS4.6						
M10A	I.L. Ranch, Tu	45.12	76	⇑P	P	12 27 10.5	-0.4
	baz=45,SNR=10						
M10A				⇑S	S	12 33 48.2	-0.9
	baz=45						
HLID	Hailey	45.17	72	*e*P	P	12 27 10.9	-0.4
HLID				*e*PcP	PcP	12 28 52.5	+1.1
HLID				LR	LR		
	comp=Z,872nm,20.0s,MS4.7						
DLMT	Dillon	45.19	69	*e*P	P	12 27 10.3	-1.1
DLMT				*e*PcP	PcP	12 28 52.0	+0.5
DLMT				*e*ScP	ScP	12 32 43.6	+0.8
WAKR	Walker	45.22	81	*e*P	P	12 27 12.4	+0.8
HAST	Hastings Reser	45.27	85	⇑P	P	12 27 11.9	-0.2
	baz=45,SNR=13						
EGMT	Eagleton	45.30	65	*e*P	P	12 27 11.4	-0.9
	comp=Z,23nm,0.9s,mb5.0						
EGMT				LR	LR		
	comp=Z,640nm,20.0s,MS4.5						
P08A	Dixie Valley	45.31	79	⇑P	P	12 27 12.2	-0.2
	baz=45						
MCMT	McKenzie Canyo	45.35	70	P	P	12 27 11.8	-0.9
S06C	San Francisco	45.36	82	⇓P	P	12 27 12.7	-0.1
	baz=45						
S06C				⇓S	S	12 33 48.0	-4.6
	baz=45						
S05C	Merced	45.41	83	⇓P	P	12 27 12.6	-0.5
	baz=45,SNR=12						
S05C				⇓S	S	12 33 54.7	+1.5
	baz=45						
SSE	Sheshan	45.50	265	⇓P	P	12 27 14.3	+0.4
SSE				PCP	PcP	12 28 53.9	+1.4
SSE				PP	PP	12 29 00.6	+0.1
SSE				S	S	12 33 50.6	-4.0

SSE SCS ScS 12 37 07.3 -1.9
SSE AMB AMB
comp=Z,70nm,1.3s,mb5.4
SSE AMB AMB
comp=Z,360nm,5.4s
SSE LR LR
comp=N,470nm,15.5s,MS4.8
SSE LR LR
comp=E,690nm,15.5s,MS4.8
SSE LR LR
comp=Z,740nm,23.9s
O09A Fish Creek Ran 45.55 78 ⇓P **P 12 27 14.2 -0.1**
baz=45,SNR=8.8
O09A ⇑S **S 12 33 50.6 -4.7**
baz=45
BOZ Bozeman (W) 45.58 68 *e*P **P 12 27 14.1 -0.4**
BOZ pmax pmax
comp=Z,37nm,1.2s,mb5.2
BOZ MLR MLR
comp=Z,794nm,21.0s,MS4.6
BOZ Bozeman (W) 45.58 68 *e*P **P 12 27 14.1 -0.5**
comp=Z,37nm,1.2s,mb5.2
BOZ LR LR
comp=Z,794nm,21.0s,MS4.6
M11A Holland Ranch, 45.63 76 ⇑P **P 12 27 14.9 0.0**
baz=46,SNR=13
M11A ⇑S **S 12 33 55.8 -0.5**
baz=46
N10A Dunphy 45.63 77 ⇓P **P 12 27 14.5 -0.4**
baz=46
V03C Hunter Liggett 45.70 85 ⇓P **P 12 27 15.4 -0.1**
baz=46,SNR=5.3
R07C Lee Vining 45.72 82 ⇓P **P 12 27 15.7 +0.1**
baz=46,SNR=13
U04C Hernandez Rese 45.76 85 ⇓P **P 12 27 16.0 +0.1**
baz=46,SNR=12
FFC Flin Flon 45.78 53 P **P 12 27 16.0 -0.1**
comp=Z,122nm,0.7s,mb5.9,SNR=8.0
FFC Flin Flon 45.78 53 *e*P **P 12 27 15.9 -0.2**
FFC pmax pmax
comp=Z,54nm,1.4s,mb5.3
FFC MLR MLR
comp=Z,2μm,19.0s,MS5.1
FFC Flin Flon 45.78 53 *e*P **P 12 27 15.9 -0.2**
comp=Z,54nm,1.4s,mb5.3
FFC LR LR
comp=Z,2μm,19.0s,MS5.1
Q08A Gabbs 45.92 80 ⇓P **P 12 27 17.2 0.0**
baz=46,SNR=20
NVAR Mina Array Bea 45.96 81 P **P 12 27 17.8 +0.3**
comp=Z,7.3nm,0.7s,mb4.8,baz=285,slow=9.5,SNR=64
NVAR PcP PcP 12 28 54.9 +0.7
comp=Z,11nm,0.8s,baz=276,slow=5.2,SNR=6.0
NVAR ScP ScP 12 32 46.6 +0.6
comp=Z,0.9nm,0.8s,baz=293,slow=4.6,SNR=3.5
NVAR Mina Array Bea 45.96 81 P **P 12 27 17.8 +0.2**
NVAR PcP PcP 12 28 54.9 +0.7
NVAR ScP ScP 12 32 46.6 +0.6
T06C Millerton Lake 46.00 83 ⇑P **P 12 27 17.3 -0.6**
baz=46
N11A Elko Archery C 46.03 76 ⇓P **P 12 27 17.8 -0.2**
baz=46
N11A ⇓S **S 12 34 05.4 +3.3**
baz=46
KCC Kaiser Creek 46.04 83 ⇑P **P 12 27 17.6 -0.6**
baz=46
KCC ⇓S **S 12 34 02.5 +0.1**
baz=46
MNV Mina 46.05 81 *e*P **P 12 27 18.6 +0.4**
MNV pmax pmax
comp=Z,27nm,1.1s,mb5.1
MNV MLR MLR
comp=Z,1μm,20.0s,MS4.8
MNV Mina 46.05 81 *e*P **P 12 27 18.6 +0.4**
comp=Z,27nm,1.1s,mb5.1
MNV LR LR
comp=Z,1μm,20.0s,MS4.8
R08A Mina 46.13 81 ⇓P **P 12 27 18.7 -0.2**
baz=46,SNR=16
MLAC Mammoth Lakes 46.14 82 ⇑P **P 12 27 19.4 +0.4**
baz=46
BTO Baotou 46.15 283 *e*P **P 12 27 19.8 +0.8**
M12A Wells 46.16 75 ⇓P **P 12 27 19.1 0.0**
baz=46,SNR=14
M12A ⇑S **S 12 34 05.5 +1.5**
baz=46
QLMT Earthquake Lak 46.17 69 *e*P **P 12 27 18.4 -0.8**
QLMT *e*PcP PcP 12 28 56.0 +1.1
V04C Ramage Ranch, 46.18 85 ⇓P **P 12 27 19.7 +0.4**
baz=46,SNR=10
PKD Parkfield 46.18 85 ⇑P **P 12 27 18.9 -0.4**
baz=46,SNR=14
NJ2 Nanjing 46.28 268 *e*P **P 12 27 20.3 +0.2**
NJ2 AP pP 12 27 24.3 -2.3
NJ2 XP sP 12 27 27.6 -1.5
NJ2 PCP PcP 12 28 56.5 +1.2
NJ2 S **S 12 34 06.0 +0.2**
NJ2 XS sS 12 34 15.0 -1.5
NJ2 AMB AMB
comp=Z,60nm,1.1s,mb5.4
NJ2 AMB AMB
comp=Z,390nm,7.2s
NJ2 LR LR
comp=N,2μm,18.9s,MS5.2
NJ2 LR LR
comp=E,1μm,19.6s,MS5.2
NJ2 LR LR
comp=Z,1μm,20.0s,MS4.8
P10A Eureka 46.33 78 ⇓P **P 12 27 20.3 -0.2**
baz=46
ELK Elko 46.37 76 *e*P **P 12 27 21.0 +0.2**
ELK *e* 12 28 56.3
ELK MLR MLR
comp=Z,828nm,19.0s
Q09A Carvers 46.39 79 ⇓P **P 12 27 20.5 -0.4**
baz=46
Q09A ⇓S **S 12 34 09.0 +1.6**
baz=46
N12A Wells--Clov Va 46.43 76 ⇓P **P 12 27 20.9 -0.3**
baz=46,SNR=21
N12A ⇑S **S 12 34 08.5 +0.6**
baz=46
MTUM Tungsten Hills 46.48 82 *e*P **P 12 27 22.7 +1.0**
O11A Cowboy Ranch, 46.50 77 ⇓P **P 12 27 21.3 -0.4**
baz=46,SNR=8.9
O11A ⇓S **S 12 34 10.9 +2.0**
baz=46
YMR Madison River 46.53 69 *e*P **P 12 27 21.6 -0.4**
comp=Z,102nm,1.5s,mb5.5
YMR LR LR
comp=Z,1μm,19.0s,MS4.8
GCMT Greycliff 46.62 67 *e*P **P 12 27 22.1 -0.7**
V05C Boulder Hill, 46.62 84 ⇑P **P 12 27 22.5 -0.2**
baz=46
S08C White Mtn Res 46.63 82 ⇓P **P 12 27 22.8 0.0**
baz=46,SNR=35
M13A Montello 46.64 75 ⇓P **P 12 27 22.5 -0.3**
baz=46,SNR=19
M13A ⇑S **S 12 34 13.9 +3.0**
baz=46
KRAR Krasnoyarsk 46.73 310 ⇓*e*P **P 12 27 22.2 -1.4**
KRAR pmax pmax
comp=Z,38nm,0.7s,mb5.4
KRAR MLR MLR
comp=Z,1μm,13.0s,MS5.1
YFT Old Faithful 46.74 69 *e*P **P 12 27 24.2 +0.6**
P11A Circle Ranch, 46.81 78 ⇑P **P 12 27 23.8 -0.3**
baz=47
R09A Tonopah 46.83 80 ⇑P **P 12 27 23.9 -0.5**
baz=47,SNR=51
R09A ⇑S **S 12 34 13.3 -0.3**
baz=47
TIN Tinemaha 46.88 82 ⇓P **P 12 27 24.6 -0.1**
baz=47
LKWY Lake 46.92 69 *e*P **P 12 27 26.9 +1.8**
LKWY *e* 12 29 00.5
LKWY pmax pmax
comp=Z,25nm,1.0s,mb5.1
LKWY MLR MLR
comp=Z,1μm,21.0s,MS4.8
LKWY Lake 46.92 69 *e*P **P 12 27 26.9 +1.8**
comp=Z,24nm,1.0s,mb5.1
LKWY *e*PcP PcP 12 29 00.5 +3.0
LKWY LR LR
comp=Z,1μm,21.0s,MS4.8
N13A West Wendover 46.92 75 ⇑P **P 12 27 24.6 -0.5**
baz=47,SNR=8.0
N13A ⇑S **S 12 34 17.0 +2.0**
baz=47
IMW Indian Meadow 47.01 70 *e*P **P 12 27 25.6 -0.2**
S09A Goldfield 47.07 81 ⇑P **P 12 27 25.8 -0.4**
baz=47,SNR=15
S09A ⇓S **S 12 34 19.7 +2.6**
baz=47
RRI2 Red Ridge 47.11 71 *e*pP pP 12 27 36.5 +3.4
HVU Hansel Valley 47.21 73 *e*P **P 12 27 27.0 -0.3**
HVU *e* 12 28 59.2
MOOW Moose Ponds 47.21 70 *e*P **P 12 27 27.5 +0.2**
R10A Warm Springs 47.27 79 ⇓P **P 12 27 27.3 -0.5**
baz=47,SNR=10
FCC Fort Churchill 47.31 45 *e*P **P 12 27 27.3 -0.8**
Q11A Duckwater 47.31 78 ⇓P **P 12 27 27.5 -0.6**
baz=47,SNR=18
Q11A ⇓S **S 12 34 26.2 +5.8**
baz=47
P12A McGill 47.36 77 ⇑P **P 12 27 28.1 -0.5**
baz=47,SNR=16
P12A ⇓S **S 12 34 24.0 +2.7**
baz=47
CWC Cottonwood Cre 47.37 83 ⇑P **P 12 27 28.6 0.0**
baz=47
LOHW Long Hollow 47.37 70 *e*P **P 12 27 28.7 +0.2**
comp=Z,32nm,1.5s,mb5.0
REDW Red Top Meadow 47.38 71 *e*P **P 12 27 29.4 +0.8**
comp=Z,60nm,1.7s,mb5.2
BGU Big Grassy Mou 47.58 74 *e*P **P 12 27 29.5 -0.7**
AHID Auburn Hatcher 47.59 71 PFAKE 12 27 40.0 +10
AHID LR LR
comp=Z,869nm,19.0s,MS4.7
ISA Isabella 47.63 84 *e*P **P 12 27 30.5 -0.1**
ISA pmax pmax
comp=Z,25nm,1.1s,mb5.2
ISA MLR MLR
comp=Z,175nm,20.0s,MS4.0
ISA Isabella 47.63 84 *e*P **P 12 27 30.4 -0.2**
comp=Z,25nm,1.1s,mb5.2
ISA LR LR
comp=Z,175nm,20.0s,MS4.0
ISA Isabella 47.63 84 ⇑P **P 12 27 29.8 -0.9**
baz=48,SNR=5.3
SBC Santa Barbara 47.68 86 ⇑P **P 12 27 30.8 -0.1**
baz=48
SPUT South Promonto 47.69 74 *e*P **P 12 27 30.4 -0.7**
HWUT Hardware Ranch 48.03 73 *e*P **P 12 27 33.0 -0.6**
HWUT LR LR
comp=Z,869nm,19.0s,MS4.8
LAO LASA Array 48.04 64 *e*P **P 12 27 33.7 -0.1**
comp=Z,22nm,0.8s,mb5.2
LAO LR LR
comp=Z,916nm,19.0s,MS4.8
TPNV Topopah Spring 48.16 81 *e*P **P 12 27 35.0 +0.3**
TPNV pmax pmax
comp=Z,54nm,1.0s,mb5.5
TPNV MLR MLR
comp=Z,1μm,21.0s,MS4.8
TPNV Topopah Spring 48.16 81 *e*P **P 12 27 35.0 +0.3**
comp=Z,54nm,1.0s,mb5.5
TPNV LR LR
comp=Z,1μm,21.0s,MS4.8
DUG Dugway 48.17 75 *e*P **P 12 27 34.1 -0.6**
DUG pmax pmax
comp=Z,19nm,0.6s,mb5.3
DUG MLR MLR
comp=Z,726nm,19.0s,MS4.7
DUG Dugway 48.17 75 *e*P **P 12 27 34.1 -0.6**
comp=Z,19nm,0.6s,mb5.3
DUG LR LR
comp=Z,726nm,19.0s,MS4.7
OSI Osito Adit 48.17 85 ⇓P **P 12 27 34.6 -0.2**
baz=48
TCUT Toone Canyon 48.42 73 *e*P **P 12 27 36.9 +0.2**
U10A Ash Meadows, A 48.45 81 ⇑P **P 12 27 36.8 -0.2**
baz=48,SNR=12
BW06 Boulder Array 48.49 70 *e*P **P 12 27 36.7 -0.6**
comp=Z,28nm,1.1s,mb5.2
BW06 LR LR
comp=Z,735nm,20.0s,MS4.7
PDAR Pinedale Array 48.49 70 P **P 12 27 36.5 -0.7**
comp=Z,20nm,1.0s,mb5.1,baz=303,slow=4.0,SNR=103
PDAR LR LR 12 47 48.3
comp=Z,496nm,20.2s,MS4.5,baz=92,slow=36
SNCC San Nicolas Is 48.60 87 *e*P **P 12 27 38.5 +0.5**
comp=Z,32nm,0.6s,mb5.5
SNCC LR LR
comp=Z,1μm,19.0s,MS5.0
SNCC San Nicolas Is 48.60 87 ⇑P **P 12 27 37.5 -0.5**
baz=48
NLU North Lily Min 48.76 75 *e*P **P 12 27 39.0 -0.3**
MWC Mount Wilson 48.84 85 *e*P **P 12 27 40.2 +0.2**
GSC Goldstone 48.90 83 *e*P **P 12 27 40.5 +0.1**
GSC *e* 12 29 05.7
GSC Goldstone 48.90 83 ⇓P **P 12 27 40.0 -0.4**
baz=49,SNR=52
DAU Daniels Canyon 48.96 74 P **P 12 27 41.3 +0.5**
DAU Daniels Canyon 48.96 74 *e*P **P 12 27 41.5 +0.6**
DAU *e*PcP PcP 12 29 05.7 +0.9
MPU Maple Canyon 48.98 75 *e*P **P 12 27 41.8 +0.8**
MPU *e*PcP PcP 12 29 04.0 -0.9
MPU LR LR
comp=Z,2μm,22.0s,MS5.0
KBS Kingsbay 48.99 356 *d*P **P 12 27 41.5 +0.4**
KBS Kingsbay 48.99 356 *e*P **P 12 27 41.7 +0.6**
comp=Z,31nm,0.8s,mb5.4
KBS LR LR
comp=Z,425nm,20.0s,MS4.4
FMP Fort Macarthur 49.05 85 ⇓P **P 12 27 40.8 -0.7**
baz=49
SHPR Sheep Range 49.11 80 *e*P **P 12 27 42.5 +0.5**
ARUT Antelope Range 49.32 78 *e*P **P 12 27 43.4 -0.2**
TUQ Turquoise Mtn. 49.35 82 ⇓P **P 12 27 43.1 -0.7**
baz=49,SNR=15
V11A Goodsprings 49.38 81 ⇑P **P 12 27 43.7 -0.4**
baz=49,SNR=10.0
V11A ⇓S **S 12 34 47.6 -2.2**
baz=49
CCUT Cedar City 49.52 78 *e*P **P 12 27 45.3 +0.1**
U12A Valley of Fire 49.54 80 ⇑P **P 12 27 44.7 -0.5**
baz=49,SNR=7.8
U12A ⇓S **S 12 34 50.6 -1.3**
baz=49
MSU Marysvale 49.61 76 P **P 12 27 46.2 +0.3**
MSU Marysvale 49.61 76 *e*P **P 12 27 46.3 +0.4**
MSU *e*PcP PcP 12 29 07.9 +0.7
TMUT Trail Mountain 49.69 75 *e*P **P 12 27 46.7 +0.3**
TATO Taipei 49.72 259 PFAKE 12 28 00.0 +13
TATO LR LR
comp=Z,758nm,20.0s,MS4.7
V12A Nelson 49.81 81 ⇓P **P 12 27 47.0 -0.4**
baz=50,SNR=10
YHNB Yeheng 50.01 259 *e*P **P 12 27 47.9 -1.0**
W12A Cal Nev Ari 50.08 81 ⇓P **P 12 27 49.1 -0.3**
baz=50
WHN Wuhan 50.10 270 P **P 12 27 48.5 -1.1**
WHN S **S 12 35 01.8 +1.9**
WHN LR LR
comp=Z,1μm,18.7s,MS5.0
SRU San Rafael 50.22 75 *e*P **P 12 27 50.9 +0.5**
PFO Pinyon Flat Ob 50.24 84 P **P 12 27 51.0 +0.4**
comp=Z,75nm,0.9s,mb5.7,SNR=8.8
PFO Pinyon Flat Ob 50.24 84 *e*P **P 12 27 50.5 -0.1**
PFO *e*PcP PcP 12 29 09.7 +0.2
PFO LR LR
comp=Z,843nm,19.0s,MS4.8
PFO Pinyon Flat Ob 50.24 84 ⇑P **P 12 27 49.7 -0.9**
baz=50,SNR=12
NACB Ninganchiao 50.25 258 *e*P **P 12 27 50.1 -0.6**
109C Camp Elliot, M 50.33 85 ⇓P **P 12 27 50.7 -0.5**
baz=50,SNR=5.1
RWWY Rawlins 50.53 70 *e*P **P 12 27 51.7 -1.1**
comp=Z,54nm,1.4s,mb5.3
BAR Barrett 50.74 85 *e*P **P 12 27 54.6 +0.2**
RSSD Black Hills 50.82 66 *e*P **P 12 27 54.5 -0.5**
RSSD Black Hills 50.82 66 *e*P **P 12 27 53.2 -1.8**
RSSD LR LR
comp=Z,920nm,22.0s,MS4.8
XAN Xi'an 51.05 278 P **P 12 27 56.1 -0.7**
XAN PP PP 12 29 54.3 +0.9
XAN S **S 12 35 08.9 -4.2**
XAN AMB AMB
comp=Z,40nm,1.1s,mb5.3
XAN AMB AMB
comp=Z,330nm,8.1s
XAN LR LR
comp=N,900nm,16.9s,MS5.0
XAN LR LR
comp=E,890nm,15.2s,MS5.0
XAN LR LR
comp=Z,870nm,15.2s,MS4.9
DAG Danmarks Havn 51.06 5 ⇓*i*P **P 12 27 56.4 -0.4**
comp=Z,19nm,0.6s,mb5.2
DAG Danmarks Havn 51.06 5 ⇓*i*P **P 12 27 56.4 -0.4**
DAG pmax pmax
comp=Z,19nm,0.6s,mb5.2
X13A Yucca 51.19 81 ⇓P **P 12 27 57.3 -0.5**
baz=51,SNR=13
W14A Seligman 51.23 80 ⇓P **P 12 27 57.8 -0.3**
baz=51,SNR=18
Y12C Blythe 51.33 83 ⇓P **P 12 27 58.5 -0.3**
baz=51,SNR=17
ULM Lac du Bonnet 51.41 55 P **P 12 27 58.4 -1.0**
comp=Z,32nm,1.0s,mb5.2,baz=302,slow=8.1,SNR=36
ULM LR LR 12 50 25.4
comp=Z,1μm,18.4s,MS5.0,baz=320,slow=37
QZH Quanzhou 51.51 262 ⇓*i*P **P 12 28 01.4 +1.3**
QZH S **S 12 35 20.3 +1.0**
QZH AMB AMB
comp=Z,310nm,1.2s,mb6.1
QZH LR LR
comp=N,460nm,10.4s,MS4.9
QZH LR LR
comp=E,620nm,15.2s,MS4.9
QZH LR LR
comp=Z,1μm,22.4s
GLA Glamis 51.62 84 *e*P **P 12 28 01.1 +0.1**
GLA Glamis 51.62 84 ⇑P **P 12 28 00.4 -0.6**
baz=52,SNR=24
ZAL Zalesovo 51.73 311 P **P 12 27 59.0 -2.8**
comp=Z,1.5nm,0.4s,mb4.3,baz=61,slow=3.6,SNR=6.9
ZAL LR LR 12 51 25.7
comp=Z,929nm,18.3s,MS4.8,baz=58,slow=38
ZAL Zalesovo 51.73 311 P **P 12 27 59.0 -2.8**
ZAL LR LR 12 51 25.7
W15A Williams 51.74 80 ⇑P **P 12 28 02.0 0.0**
baz=52,SNR=5.8
PHWY Pilot Hill 51.79 69 *e*P **P 12 28 02.9 +0.6**
X14A Yava 51.84 81 ⇓P **P 12 28 02.5 -0.2**
baz=52,SNR=21
NVS Novosibirsk 51.88 313 *i*P **P 12 28 01.1 -1.9**
NVS *e*PPP 12 29 59.8
NVS *e*S **S 12 35 21.4 -3.1**
NVS pmax pmax
comp=N,75nm,2.0s
NVS pmax pmax
comp=Z,105nm,2.0s,mb5.4
NVS pmax pmax
comp=E,59nm,1.8s
NVS smax
comp=N,48nm,2.2s
NVS smax
comp=E,20nm,1.9s
Y14A Wickenburg 52.13 81 ⇓P **P 12 28 04.3 -0.5**
baz=52,SNR=13
X15A Humboldt 52.23 80 ⇓P **P 12 28 05.3 -0.2**
baz=52,SNR=14
SMCO Snowmass 52.28 72 *e*P **P 12 28 05.5 -0.4**
Z14A Wintersburg 52.56 82 ⇑P **P 12 28 07.2 -0.8**
baz=52
ISCO Idaho Springs 52.67 71 *e*P **P 12 28 09.0 +0.2**
ISCO MLR MLR
comp=Z,1μm,21.0s,MS4.9
LZH Lanzhou 52.77 283 P **P 12 28 10.5 +1.0**
LZH AP pP 12 28 15.1 -1.0
LZH XP sP 12 28 20.0 +1.4
LZH PP PP 12 30 12.0 +3.1
LZH S **S 12 35 37.3 +0.7**
LZH XS sS 12 35 47.0 -0.4
LZH AMB AMB
comp=Z,170nm,1.2s,mb5.8
LZH AMB AMB
comp=Z,720nm,4.3s
LZH LR LR
comp=N,5μm,16.4s
LZH LR LR
comp=Z,5μm,17.5s,MS5.6
GTA Gaotai 52.96 289 ⇓P **P 12 28 11.0 0.0**
GTA PCP PcP 12 29 19.8 +0.2
GTA PP PP 12 30 13.9 +3.3
GTA S **S 12 35 37.1 -2.1**
GTA SCS ScS 12 37 52.6 -6.9
GTA SS SS 12 39 16.8 -1.5
GTA AMB AMB
comp=Z,80nm,0.8s,mb5.7
GTA AMB AMB
comp=Z,520nm,6.1s
GTA LR LR
comp=N,3μm,16.8s,MS5.5
GTA LR LR
comp=E,3μm,17.2s,MS5.5
GTA LR LR
comp=Z,2μm,15.7s,MS5.2
SUMG Summit 53.23 13 *e*P **P 12 28 12.7 -0.2**
115A Sonoran Desert 53.45 82 ⇑P **P 12 28 14.2 -0.3**
baz=53,SNR=17
116A Eloy 53.87 82 ⇓P **P 12 28 17.4 -0.2**
baz=54
TUC Tucson 54.60 81 *e*P **P 12 28 23.2 +0.2**
TUC pmax pmax
comp=Z,24nm,1.1s,mb5.1
TUC MLR MLR
comp=Z,390nm,19.0s,MS4.5
TUC Tucson 54.60 81 *e*P **P 12 28 23.2 +0.2**
comp=Z,24nm,1.1s,mb5.1
TUC LR LR
comp=Z,390nm,19.0s,MS4.5
EYMN Ely 55.09 55 *e*P **P 12 28 26.1 -0.4**
EYMN LR LR
comp=Z,2μm,19.0s,MS5.1
APYP Conner 55.28 254 *e*P **P 12 28 27.5 -0.4**
LAZ Ladron 55.37 77 *e*P **P 12 28 29.1 +0.5**
ANMO Albuquerque 55.41 76 *e*P **P 12 28 28.8 0.0**
ANMO MLR MLR
comp=Z,605nm,20.0s
LENM Lemitar 55.63 77 *e*P **P 12 28 30.9 +0.4**
CAUP Cauayan 55.65 252 *e*P **P 12 28 32.0 +1.5**
LPM Los Pinos Moun 55.74 77 *e*P **P 12 28 31.3 +0.2**
BNM Barren Site 55.85 77 *e*P **P 12 28 32.4 +0.4**
SFJD Kangerlussuaq 55.95 21 *i*P **P 12 28 32.5 -0.1**
comp=Z,53nm,1.0s,mb5.5
SFJD Kangerlussuaq 55.95 21 *i*P **P 12 28 32.5 -0.1**
SFJD pmax pmax
comp=Z,53nm,1.0s,mb5.5
GZH Guangzhou 56.09 265 P **P 12 28 29.3 -4.4**
GZH S **S 12 36 14.6 -6.8**
GZH AMB AMB
comp=Z,50nm,1.3s,mb5.4
GZH LR LR
comp=N,610nm,17.7s,MS4.9
GZH LR LR
comp=E,390nm,14.0s,MS4.9
GZH LR LR
comp=Z,730nm,16.5s,MS4.8
CD2 Chengdu 56.37 278 P **P 12 28 35.5 -0.1**
CD2 PP PP 12 30 40.9 -0.3
CD2 S **S 12 36 19.5 -5.5**
CD2 SS SS 12 40 06.8 -5.2
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
CD2 AMB AMB
comp=Z,240nm,4.7s
CD2 LR LR
comp=E,550nm,16.2s
CD2 LR LR
comp=Z,640nm,18.0s,MS4.8
KEV Kevo 56.57 348 PFAKE 12 28 50.0 +13
KEV LR LR
comp=Z,747nm,19.0s,MS4.8
KURK Kurchatov 56.70 311 P **P 12 28 37.9 -0.1**
comp=Z,576nm,1.1s,SNR=26
KURK Kurchatov 56.70 311 P **P 12 28 37.1 -0.9**
KURK pmax pmax
comp=Z,149nm,1.5s,mb5.8
BALP Baler 56.74 252 *e*P **P 12 28 39.1 +0.8**
WMQ Urumqi 56.84 300 P **P 12 28 39.1 +0.1**
WMQ PCP PcP 12 29 35.8 +1.3
WMQ PP PP 12 30 43.8 -1.6
WMQ PCS PcS 12 33 32.6 -2.7
WMQ S **S 12 36 30.4 -0.8**
WMQ XS sS 12 36 36.8 -5.3
WMQ SCS ScS 12 38 24.3 -2.8

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WMQ                                  SS    SS     12 40 17.8 -1.6
WMQ                                  AMB   AMB
     comp=Z,40nm,1.1s,mb5.4
WMQ                                  AMB   AMB
     comp=Z,510nm,5.4s
WMQ                                  LR    LR
     comp=N,4µm,19.0s,MS5.6
WMQ                                  LR    LR
     comp=E,2µm,18.0s,MS5.6
WMQ                                  LR    LR
     comp=Z,2µm,17.5s,MS5.2
PVCP Virac            56.96 248  eP        P      12 28 41.3 +1.4
ARCES ARCESS Array B  56.97 349  P         P      12 28 39.3 -0.6
     comp=Z,6.6nm,0.9s,mb4.7,baz=27,slow=7.7,SNR=17
ARCES                                LR    LR     12 58 20.8
     comp=Z,943nm,18.4s,MS4.9,baz=199,slow=42
ARE0 ARCESS Array S   56.97 349  eP        P      12 28 39.4 -0.5
LVZ  Lovozero         57.14 344  P         P      12 28 40.1 -1.0
     comp=Z,419nm,1.0s,SNR=8.2
LVZ  Lovozero         57.14 344  PFAKE              12 28 50.0 +8.9
LVZ                                  LR    LR
     comp=Z,746nm,19.0s,MS4.8
BOLP Bolinao          57.22 254  eP        P      12 28 41.9 +0.2
MK31 Makanchi Array   57.61 306  P         P      12 28 43.0 -1.5
MK31                                 pmax  pmax
     comp=Z,16nm,0.9s,mb5.0
MKAR Makanchi Array   57.61 306  P         P      12 28 43.2 -1.3
     comp=Z,8.2nm,0.6s,mb4.9,baz=52,slow=7.9,SNR=69
MKAR Makanchi Array   57.61 306  P         P      12 28 43.2 -1.3
MKAR                                 P'P'           12 58 29.7
APA  Apatity          57.65 344⇓ i P       P      12 28 44.0 -0.7
APA                                  i PPP          12 32 22.0
APA                                  eS    S      12 36 30.0 -12
APA                                  pmax  pmax
     comp=Z,108nm,1.6s,mb5.6
APA                                  MLR   MLR
     comp=Z,700nm,20.0s,MS4.8
GYA  Guiyang          57.75 273  P         P      12 28 45.6 +0.2
GYA                                  AP    pP     12 28 50.3 -1.8
GYA                                  XP    sP     12 28 52.8 -1.8
GYA                                  PP    PP     12 30 55.4 +1.9
GYA                                  SCP   ScP    12 33 36.0 -0.9
GYA                                  S     S      12 36 44.0 +0.7
GYA                                  SS    SS     12 40 34.6 +0.8
GYA                                  AMB   AMB
     comp=Z,70nm,1.1s,mb5.6
GYA                                  AMB   AMB
     comp=Z,460nm,4.8s
GYA                                  LR    LR
     comp=N,530nm,16.5s,MS4.9
GYA                                  LR    LR
     comp=E,620nm,18.2s,MS4.9
GYA                                  LR    LR
     comp=Z,600nm,15.9s,MS4.8
CHKZ Chkalovo         58.15 318  eP        P      12 28 47.0 -1.3
SCIA State Center     58.25  61  eP        P      12 28 48.5 -0.4
AMTX Amarillo         58.29  73  eP        P      12 28 49.1 -0.2
AMTX                                 LR    LR
     comp=Z,513nm,20.0s,MS4.6
MNTX Cornudas Mount   58.31  78  eP        P      12 28 49.5 +0.2
     comp=Z,21nm,1.0s,mb5.1
MNTX                                 LR    LR
     comp=Z,624nm,19.0s,MS4.8
GDL2 Guadalupe Moun   58.57  77  eP        P      12 28 45.0 -6.2
GDL2                                 eScP  ScP    12 33 32.6 -7.9
VOSK Vostochnaya      58.68 317  P         P      12 28 50.9 -1.1
VOSK                                 pmax  pmax
     comp=Z,38nm,1.0s,mb5.4
BVA0 Borovoye Array   58.72 317  i P       P      12 28 51.3 -0.9
BVA0                                 pmax  pmax
     comp=Z,12nm,1.1s,mb4.8
BVAR Borovoye Array   58.72 317  LR        LR     12 55 42.0
     comp=Z,2µm,18.6s,MS5.2,baz=322,slow=38
BVAR                                 PKPPKP         12 58 29.7
     comp=Z,0.6nm,0.7s,baz=184,slow=4.5,SNR=3.8
BRVK Borovoye         58.73 317  P         P      12 28 51.0 -1.3
     comp=Z,394nm,0.6s,SNR=27
BRVK Borovoye         58.73 317  eP        P      12 28 51.5 -0.8
BRVK                                 pmax  pmax
     comp=Z,29nm,0.8s,mb5.4
BRVK                                 MLR   MLR
     comp=Z,975nm,20.0s,MS4.9
BRVK Borovoye         58.73 317  eP        P      12 28 51.5 -0.8
     comp=Z,28nm,0.8s,mb5.3
BRVK                                 LR    LR
     comp=Z,975nm,20.0s,MS4.9
SOKR Solikamsk        58.79 329  eP        P      12 28 52.6 -0.1
SOKR                                 i S   S      12 36 54.3 -2.6
SOKR                                 pmax  pmax
     comp=Z,90nm,1.6s,mb5.5
SOKR                                 MLR   MLR
     comp=Z,2µm,20.0s,MS5.3
LUBP Lubang           59.11 252  eP        P      12 28 53.3 -1.6
OTRP Odiongan         59.17 249  eP        P      12 28 57.1 +1.7
ZRNK Zerenda          59.34 318  eP        P      12 28 55.6 -1.0
MSLP Maasin           59.37 245  eP        P      12 28 57.3 +0.6
GUIM Jordan           60.25 247  eP        P      12 29 03.2 +0.5
FUNA Funafuti         60.35 178  PFAKE              12 29 20.0 +17
FUNA                                 LR    LR
     comp=Z,10µm,19.0s
BUSP Coron            60.51 250  eP        P      12 29 04.9 +0.3
ARU  Arti             60.67 326  P         P      12 29 05.9 +0.3
     comp=Z,398nm,1.3s,SNR=19
ARU  Arti             60.67 326⇓ i P       P      12 29 05.1 -0.5
ARU                                  e              12 29 47.7
ARU                                  e              12 31 20.3
ARU                                  ePPP           12 32 44.3
ARU                                  eS    S      12 37 20.1 -0.9
ARU                                  e              12 38 51.4
ARU                                  eSSS           12 44 00.4
ARU                                  pmax  pmax
     comp=Z,70nm,1.0s,mb5.8
ARU                                  MLR   MLR
     comp=Z,2µm,16.0s,MS5.2
ARU                                  MLR   MLR
     comp=N,800nm,15.0s,MS5.1
ARU                                  MLR   MLR
     comp=E,900nm,16.5s,MS5.1
ARU  Arti             60.67 326  eP        P      12 29 05.2 -0.5
ARU                                  LR    LR
     comp=Z,1µm,19.0s,MS5.1
SNPH Sibulan          60.92 246  eP        P      12 29 07.0 -0.4
CUYO Cuyo Island      60.97 249  eP        P      12 29 08.6 +1.0
SCHQ Schefferville    61.01  36  P         P      12 29 07.9 -0.1
     comp=Z,59nm,0.9s,mb5.7,baz=332,slow=7.2,SNR=53
SCHQ                                 LR    LR     12 57 46.4
     comp=Z,823nm,19.0s,MS4.9,baz=127,slow=38
SCHQ Schefferville    61.01  36  eP        P      12 29 07.6 -0.4
     comp=Z,93nm,0.9s,mb5.9
SCHQ                                 LR    LR
     comp=Z,1µm,19.0s,MS5.1
LTX  Lajitas          61.03  79  eP        P      12 29 08.1  0.0
LTX                                  pmax  pmax
     comp=Z,31nm,1.0s,mb5.4
LTX                                  MLR   MLR
     comp=Z,464nm,19.0s,MS4.7
LTX  Lajitas          61.03  79  eP        P      12 29 08.1  0.0
     comp=Z,31nm,1.0s,mb5.4
LTX                                  LR    LR
     comp=Z,464nm,19.0s,MS4.7
BUKP Musuan           61.10 243  eP        P      12 29 09.6 +1.0
KMI  Kunming          61.14 275  P         P      12 29 09.1 +0.3
KMI                                  PCP   PcP    12 29 51.5 -0.1
KMI                                  PP    PP     12 31 26.3 +2.8
KMI                                  SCP   ScP    12 33 47.5 -4.4
KMI                                  PCS   PcS    12 33 52.8 -1.6
KMI                                  S     S      12 37 23.0 -4.0
KMI                                  SCS   ScS    12 38 52.3 -6.6
KMI                                  SS    SS     12 41 24.9 -2.1
KMI                                  AMB   AMB
     comp=Z,30nm,1.2s,mb5.3
KMI                                  AMB   AMB
     comp=Z,340nm,5.8s
KMI                                  LR    LR
     comp=N,530nm,21.3s,MS4.8
KMI                                  LR    LR
     comp=E,500nm,20.1s,MS4.8
KMI                                  LR    LR
     comp=Z,760nm,29.5s
QIZ  Qiongzhong       61.28 264  P         P      12 29 11.6 +1.8
QIZ                                  AP    pP     12 29 16.1 -0.4
QIZ                                  S     S      12 37 35.5 +6.6
QIZ                                  XS    sS     12 37 44.6 +4.7
QIZ                                  SS    SS     12 41 28.6 -0.7
QIZ                                  AMB   AMB
     comp=Z,20nm,1.4s,mb5.0
QIZ                                  AMB   AMB
     comp=Z,360nm,7.1s
QIZ                                  LR    LR
     comp=E,550nm,18.1s
QIZ                                  LR    LR
     comp=Z,720nm,16.8s,MS4.9
QIZ  Qiongzhong       61.28 264  eP        P      12 29 10.9 +1.1
     comp=Z,92nm,1.5s,mb5.7
QIZ                                  LR    LR
     comp=Z,393nm,20.0s,MS4.6
DAV  Davao City (W)   61.49 242  PFAKE              12 29 20.0 +8.8
DAV                                  LR    LR
     comp=Z,509nm,19.0s,MS4.7
ENPP El Nido          61.60 251  eP        P      12 29 13.0 +1.1
CCM  Cathedral Cave   62.03  63  eP        P      12 29 13.3 -1.6
CCM                                  pmax  pmax
     comp=Z,65nm,1.9s,mb5.4
CCM  Cathedral Cave   62.03  63  eP        P      12 29 13.1 -1.8
     comp=Z,66nm,1.9s,mb5.4
CCM                                  LR    LR
     comp=Z,703nm,22.0s,MS4.8
JOF  Joensuu          62.26 343  ep        P      12 29 14.7 -1.7
KLMR Klimovskoe       62.45 338  i P       P      12 29 16.9 -0.8
KLMR                                 eS    S      12 37 44.3 +0.6
JCT  Junction City    62.53  75  eP        P      12 29 17.4 -0.8
JCT                                  pmax  pmax
     comp=Z,18nm,0.6s,mb5.4
JCT                                  MLR   MLR
     comp=Z,610nm,19.0s,MS4.8
JCT  Junction City    62.53  75  eP        P      12 29 17.4 -0.8
     comp=Z,18nm,0.6s,mb5.4
JCT                                  LR    LR
     comp=Z,610nm,19.0s,MS4.8
FVM  French Village   62.53  63  eP        P      12 29 17.0 -1.2
BORG Borgarnes        62.67   9  eP        P      12 29 19.6 +0.4
HNR  Honiara          62.99 199  PFAKE              12 29 30.0 +8.7
HNR                                  LR    LR
     comp=Z,826nm,20.0s,MS4.9
PPR  Puerto Princes   63.15 250⇑ i P       P      12 29 24.0 +1.6
MIAR Mount Ida        63.24  68  eP        P      12 29 22.4 -0.5
MIAR                                 MLR   MLR
     comp=Z,682nm,19.0s,MS4.8
SIUC Southern Illin   63.39  62  eP        P      12 29 23.7 -0.2
     comp=Z,25nm,0.9s,mb5.3
TKM2 Tokmak 2         63.71 307  P         P      12 29 26.2 +0.2
     SNR=28
TKM2 Tokmak 2         63.71 307  P         P      12 29 25.6 -0.4
TKM2                                 pmax  pmax
     comp=Z,36nm,1.0s,mb5.4
KAF  Kangasniemi      63.86 345  ep        P      12 29 25.1 -1.9
     comp=Z,30nm,0.9s,mb5.3,baz=16,slow=5.8
KAF  Kangasniemi      63.86 345  eP        P      12 29 25.1 -1.9
KAF                                  pmax  pmax
     comp=Z,30nm,0.9s,mb5.3
ULHL Ulahol           63.89 306  P         P      12 29 27.8 +0.6
     SNR=5.4
USP  Ospenovka        63.99 308  P         P      12 29 27.8 -0.1
     SNR=43
USIN University of    64.05  61  eP        P      12 29 27.5 -0.8
CHMS Chumysh          64.07 307  P         P      12 29 28.3 -0.1
     SNR=14
KBK  Karagaybulak     64.23 307  P         P      12 29 29.5 +0.1
     SNR=13
FRU  Bishkek          64.26 307  eP        P      12 29 30.0 +0.4
FRU                                  pmax  pmax
     comp=Z,160nm,1.8s,mb5.8
AAK  Ala-Archa        64.47 307  P         P      12 29 30.9 -0.1
     SNR=11
AAK  Ala-Archa        64.47 307  P         P      12 29 30.5 -0.5
     comp=Z,230nm,0.7s,mb6.3,SNR=14
AAK  Ala-Archa        64.47 307  eP        P      12 29 29.9 -1.1
AAK                                  LR    LR
     comp=Z,597nm,20.0s,MS4.8
KZA  Kyzart           64.51 306  P         P      12 29 31.9 +0.7
     SNR=14
FINES FINESS Array B  64.53 345  P         P      12 29 30.2 -1.2
     comp=Z,15nm,0.8s,mb5.0,baz=35,slow=7.0,SNR=43
FINES                                PKPPKP         12 58 19.4
     comp=Z,2.9nm,0.9s,baz=104,slow=8.0,SNR=6.8
FINES                                PKP2ab         12 58 27.8
     comp=Z,1.2nm,0.7s,baz=311,slow=15,SNR=4.0
FINES                                LR    LR     12 58 45.9
     comp=Z,387nm,20.8s,MS4.6,baz=16,slow=37
WCI  Wyandotte Cave   64.60  60  eP        P      12 29 30.9 -1.0
WCI                                  pmax  pmax
     comp=Z,30nm,0.9s,mb5.3
WCI                                  MLR   MLR
     comp=Z,993nm,20.0s,MS5.0
WCI  Wyandotte Cave   64.60  60  eP        P      12 29 30.9 -0.9
     comp=Z,30nm,0.9s,mb5.3
WCI                                  LR    LR
     comp=Z,993nm,20.0s,MS5.0
NATX Nacogdoches      64.63  70  eP        P      12 29 30.7 -1.4
NATX                                 LR    LR
     comp=Z,655nm,21.0s,MS4.8
UCH  Uchtor           64.76 307  P         P      12 29 33.7 +0.8
     SNR=17
EKS2 Erkin-Say        64.80 308  P         P      12 29 33.6 +0.4
     SNR=18
LSA  Lhasa            64.83 286  P         P      12 29 29.6 -3.8
LSA  Lhasa            64.83 286  eP        P      12 29 33.8 +0.4
LSA                                  pmax  pmax
     comp=Z,133nm,1.1s,mb5.9
LSA                                  MLR   MLR
     comp=Z,749nm,21.0s,MS4.9
LSA  Lhasa            64.83 286  eP        P      12 29 33.8 +0.4
     comp=Z,133nm,1.1s,mb5.9
LSA                                  LR    LR
     comp=Z,749nm,21.0s,MS4.9
ACSO Alum Creek Sta   64.86  56  eP        P      12 29 33.0 -0.6
     comp=Z,27nm,1.0s,mb5.2
ACSO                                 LR    LR
     comp=Z,488nm,19.0s,MS4.7
ERPA Erie             64.97  53  eP        P      12 29 34.1 -0.2
ERPA                                 LR    LR
     comp=Z,1µm,20.0s,MS5.0
AML  Almayashu        65.24 307  P         P      12 29 37.0 +1.0
     SNR=7.5
ALLY Alegheny Colle   65.24  54  eP        P      12 29 36.4 +0.4
HKT  Hockley          65.27  73  eP        P      12 29 36.9 +0.7
HKT                                  pmax  pmax
     comp=Z,46nm,1.5s,mb5.3
HKT                                  MLR   MLR
     comp=Z,588nm,19.0s,MS4.8
HKT  Hockley          65.27  73  eP        P      12 29 36.9 +0.7
     comp=Z,46nm,1.5s,mb5.3
HKT                                  LR    LR
     comp=Z,588nm,19.0s,MS4.8
WVT  Waverly          65.31  63  P         P      12 29 35.1 -1.4
WVT                                  pmax  pmax
     comp=Z,23nm,1.0s,mb5.2
WVT  Waverly          65.31  63  eP        P      12 29 34.9 -1.6
     comp=Z,23nm,1.0s,mb5.2
WVT                                  LR    LR
     comp=Z,831nm,19.0s,MS5.0
OXF  Oxford           65.62  65  eP        P      12 29 38.0 -0.5
OXF                                  MLR   MLR
     comp=Z,940nm,19.0s,MS5.0
AKTO Aktyubinsk       65.64 322  LR        LR     13 00 44.6
     comp=Z,1µm,19.2s,MS5.2,baz=226,slow=38
AKTO Aktyubinsk       65.64 322  P         P      12 29 38.1 -0.5
AKTO                                 pmax  pmax
     comp=Z,52nm,1.6s,mb5.3
LONY Lake Ozonia      65.66  48  eP        P      12 29 37.1 -1.7
AB31 Akbulak array    65.84 320  i P       P      12 29 39.5 -0.4
AB31                                 pmax  pmax
     comp=Z,4.0nm,0.5s,mb4.7
ORR  Orenburg         65.88 325⇓ i P       P      12 29 39.7 -0.5
ORR                                  pmax  pmax
     comp=Z,50nm,1.1s,mb5.5
ORR                                  MLR   MLR
     comp=Z,2µm,19.0s,MS5.4
FRNY Flat Rock        65.95  47  eP        P      12 29 39.2 -1.4
PLAL Pickwick Lake    66.01  64  eP        P      12 29 38.7 -2.3
     comp=Z,46nm,1.1s,mb5.4
PLAL                                 LR    LR
     comp=Z,624nm,21.0s,MS4.8
KKAR Karatay Array    66.04 310  i P       P      12 29 40.4 -0.8
KKAR                                 pmax  pmax
     comp=Z,23nm,0.8s,mb5.3
KSH  Kashi            66.05 304  eP        P      12 29 40.6 -0.7
KSH                                  eAP   pP     12 29 45.1 -2.9
KSH                                  eXP   sP     12 29 47.6 -2.9
KSH                                  eS    S      12 38 22.9 -5.3
KSH                                  eSCS  ScS    12 39 33.6 -2.7
KSH                                  AMB   AMB
     comp=Z,50nm,0.4s,mb5.9
KSH                                  AMB   AMB
     comp=Z,790nm,3.5s
KSH                                  LR    LR
     comp=N,1µm,12.4s,MS5.7
KSH                                  LR    LR
     comp=E,4µm,16.4s,MS5.7
KSH                                  LR    LR
     comp=Z,2µm,17.5s,MS5.5
NCB  Newcomb          66.32  48  eP        P      12 29 41.7 -1.3
     comp=Z,54nm,1.4s,mb5.4
NCB                                  LR    LR
     comp=Z,2µm,19.0s,MS5.4
AFI  Afiamalu         66.38 168  LR        LR     12 53 55.4
     comp=Z,340nm,19.1s,MS4.6,baz=5.2,slow=32
PMG  Port Moresby     66.41 213  PFAKE              12 30 00.0 +16
PMG                                  LR    LR
     comp=Z,1µm,20.0s,MS5.0
MIV  Mineville/With   66.56  48  eP        P      12 29 42.4 -2.1
NB2  NORSAR Subarra   66.70 353  P         P      12 29 44.6 -0.9
     comp=Z,29nm,0.8s,mb5.3,baz=8.7,slow=6.5
NB2  NORSAR Subarra   66.70 353  P         P      12 29 44.6 -0.9
NB2                                  pmax  pmax
     comp=Z,29nm,0.8s,mb5.4
NOA  NORSAR Array B   66.70 353  P         P      12 29 44.9 -0.6
     comp=Z,18nm,0.9s,mb5.1,baz=9.8,slow=6.4,SNR=31
NOA                                  PKPPKP         12 58 08.6
     comp=Z,1.1nm,0.7s,baz=125,slow=2.5,SNR=3.5
NOA                                  PKP2bc         12 58 16.1
     comp=Z,2.0nm,1.1s,baz=170,slow=2.7,SNR=3.5
NOA  NORSAR Array B   66.70 353  P         P      12 29 44.9 -0.6
NOA                                  P'P'           12 58 08.6
NOA                                  ⇑e             12 58 16.1
BINY Binghamton       66.85  51  eP        P      12 29 45.7 -0.7
BINY                                 epP   pP     12 29 51.1 -2.1
BINY                                 LR    LR
     comp=Z,1µm,21.0s,MS5.1
MCWV Mont Chateau     66.89  55  eP        P      12 29 46.6  0.0
     comp=Z,14nm,0.6s,mb5.2
MCWV                                 LR    LR
     comp=Z,2µm,20.0s,MS5.2
SWET Sewanee          67.02  62  eP        P      12 29 46.1 -1.3
ACCN Adirondack Com   67.03  48  eP        P      12 29 46.4 -1.1
ACCN                                 epP   pP     12 29 51.8 -2.5
SSPA Standing Stone   67.12  53  eP        P      12 29 47.6 -0.5
SSPA                                 LR    LR
     comp=Z,1µm,22.0s,MS5.1
LBNH Lisbon           67.16  47  eP        P      12 29 47.2 -1.2
LBNH                                 pmax  pmax
     comp=Z,43nm,1.1s,mb5.4
LBNH                                 MLR   MLR
     comp=Z,2µm,19.0s,MS5.3
LBNH Lisbon           67.16  47  eP        P      12 29 47.2 -1.2
     comp=Z,43nm,1.1s,mb5.4
LBNH                                 LR    LR
     comp=Z,2µm,19.0s,MS5.3
VSU  Vasula           67.24 344  i P       P      12 29 48.5 -0.4
VSU  Vasula           67.24 344  i Pr      P      12 29 48.5 -0.4
TZTN Tazewell         67.31  59  eP        P      12 29 49.4 +0.1
SHL  Shillong         67.43 283  eP        P      12 29 50.0 -0.1
SHL                                  eS    S      12 38 49.2 +4.2
MOS  Moscow           67.48 337  eP        P      12 29 49.6 -0.8
MOS                                  e              12 30 17.0
MOS                                  e              12 32 19.1
MOS                                  pmax  pmax
     comp=Z,86nm,0.8s,mb5.8
MOS                                  MLR   MLR
     comp=Z,1µm,17.3s,MS5.2
CPCT Cooper Cave      67.61  61  eP        P      12 29 51.3 +0.1
KKM  Kota Kinabalu    67.62 250  P         P      12 29 52.4 +1.2
KKM  Kota Kinabalu    67.62 250  eP        P      12 29 52.0 +0.8
WVL  Waterville       67.91  45  eP        P      12 29 52.6 -0.5
     comp=Z,28nm,1.0s,mb5.2
FWV  Forest Hill      67.97  57  eP        P      12 29 53.0 -0.4
LRAL Lakeview Retre   68.06  64  PFAKE              12 30 10.0 +16
LRAL                                 LR    LR
     comp=Z,774nm,20.0s,MS4.9
TSM  Tawau            68.08 248  P         P      12 29 54.9 +0.7
KONO Kongsberg        68.21 353  eP        P      12 29 54.6 -0.4
KONO                                 MLR   MLR
     comp=Z,577nm,20.0s,MS4.8
ELN  Prospectdale     68.27  57  eP        P      12 29 54.8 -0.5
OBN  Obninsk          68.31 337 d i P      P      12 29 55.4 -0.2
OBN                                  e              12 30 12.9
OBN                                  eS    S      12 39 13.3 +18
OBN                                  pmax  pmax
     comp=Z,127nm,1.6s,mb5.7
OBN                                  MLR   MLR
     comp=Z,1µm,16.0s,MS5.1
OBN  Obninsk          68.31 337  eP        P      12 29 55.1 -0.4
OBN                                  LR    LR
     comp=Z,1µm,20.0s,MS5.1
MVL  Millersville     68.37  52  eP        P      12 29 55.2 -0.8
BLA  Blacksburg       68.45  57  eP        P      12 29 55.9 -0.6
BLA                                  pmax  pmax
     comp=Z,3.0nm,1.1s
BLA                                  MLR   MLR
     comp=Z,71nm,21.0s,MS3.9
BLA  Blacksburg       68.45  57  eP        P      12 29 55.9 -0.6
     comp=Z,3.4nm,1.1s,mb4.3
BLA                                  LR    LR
     comp=Z,71nm,21.0s,MS3.9
QUA2 Belchertown      68.50  48  P         P      12 29 56.1 -0.7
     comp=Z,86nm,1.4s,mb5.6
HRV  Harvard--Oak R   68.69  48  PFAKE              12 30 10.0 +12
HRV                                  LR    LR
     comp=Z,1µm,19.0s,MS5.2
EMMW East Machias     68.75  44  eP        P      12 29 58.0 -0.4
PAL  Palisades        68.77  50  eP        P      12 29 57.8 -0.7
PAL                                  pmax  pmax
     comp=Z,74nm,1.3s,mb5.5
PAL  Palisades        68.77  50  eP        P      12 29 57.8 -0.7
     comp=Z,74nm,1.3s,mb5.5
WES  Weston           68.89  48  eP        P      12 29 58.4 -0.8
WES                                  pmax  pmax
     comp=Z,37nm,1.0s,mb5.3
WES                                  MLR   MLR
     comp=Z,2µm,21.0s,MS5.3
WES  Weston           68.89  48  eP        P      12 29 58.4 -0.8
     comp=Z,37nm,1.0s,mb5.3
WES                                  LR    LR
     comp=Z,2µm,21.0s,MS5.3
CPNY Central Park     68.91  50  eP        P      12 29 59.6 +0.3
CBN  Corbin           69.24  54  PFAKE              12 30 10.0 +8.6
CBN                                  LR    LR
     comp=Z,2µm,19.0s,MS5.4
GUN  Gumba            69.25 289  eP        P      12 30 02.0 +0.5
     comp=Z,432nm,0.7s
JIRN Jiri             69.26 288  eP        P      12 30 02.2 +0.7
     comp=Z,354nm,0.7s
KKN  Kakani           69.69 289  eP        P      12 30 04.4 +0.2
     comp=Z,198nm,0.7s,mb6.1
GOGA Godfrey          69.72  62  eP        P      12 30 03.6 -0.8
GOGA                                 epP   pP     12 30 08.5 -2.6
GOGA                                 LR    LR
     comp=Z,15µm,22.0s
PKI  Pulchoki         69.78 289  eP        P      12 30 05.0 +0.3
GKN  Gorkha           69.91 290  eP        P      12 30 05.3 -0.2
     comp=Z,341nm,1.0s,mb6.2
DMN  Daman            69.93 289  eP        P      12 30 05.9 +0.2
     comp=Z,186nm,0.8s,mb6.0
JSC  Jenkinsville     70.24  60  eP        P      12 30 06.7 -0.9
KOLN Koldanda         70.68 290  eP        P      12 30 10.3  0.0
     comp=Z,234nm,1.0s,mb6.0
VOR  Voronezh         70.69 334  eP        P      12 30 08.5 -1.8
VOR                                  pmax  pmax
     comp=Z,140nm,1.7s,mb5.6
MNK  Minsk            70.79 342  eP        sP     12 30 20.0 -0.2
TAOE Nuku Hiva Isla   70.84 135  eLR       LR     12 51 41.7
     comp=Z,1µm,21.1s
LGTI Lohaghat         71.33 294  eP        P      12 30 13.7 -0.5
MUD  Monsted U'grnd   71.41 353  i P       P      12 30 18.3 +3.6
MUD                                  i              12 34 42.4
MUD
     comp=Z,330nm,17.0s
MUD  Monsted U'grnd   71.41 353  i P       P      12 30 18.3 +3.6
MUD                                  i              12 34 42.4
SMLA Simla            71.77 297  eP        P      12 30 16.2 -0.6
COP  Copenhagen       71.89 351  i P       P      12 30 19.7 +2.1
     comp=Z,27nm,1.0s,mb5.1
COP                                  e              12 32 55.2
COP
     comp=Z,200nm,18.0s
COP  Copenhagen       71.89 351  i P       P      12 30 19.7 +2.1
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COP *e* 12 32 55.2
COP pmax pmax
comp=Z,27nm,1.0s,mb5.1
COP MLR MLR
comp=Z,200nm,18.0s,MS4.4
NIL Nilore 71.93 302 P **P 12 30 18.1 +0.3**
comp=Z,164nm,0.7s,mb6.1,SNR=5.4
SUW Suwalki 72.10 344 *e*P **P 12 30 18.8 0.0**
BOK Bokaro 72.35 286 *e*P **P 12 30 20.1 -0.2**
BOK AMb AMB 12 30 25.2
comp=Z,110nm,1.9s,mb5.5
ESK Eskdalemuir 73.01 0 *e*P **P 12 30 24.1 -0.1**
ESK MLR MLR
comp=Z,378nm,20.0s,MS4.7
PMOR Pomariorio Ree 73.34 145 *e*P **P 12 30 27.7 +1.5**
comp=Z,72nm,1.0s,mb5.6
NDI New Delhi 73.62 296 *e*P **P 12 30 26.0 -1.8**
AKASG Malin Array Be 74.08 339 P **P 12 30 29.3 -1.3**
comp=Z,6.0nm,0.4s,mb4.8,baz=22,slow=5.8,SNR=74
AKASG LR LR 13 07 17.1
comp=Z,576nm,18.8s,MS4.9,baz=25,slow=39
AKASG Malin Array Be 74.08 339 *i* P **P 12 30 29.8 -0.8**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
DMUB Kingscourt 74.37 2⇑*i*P **P 12 30 32.4 +0.2**
DZM Mont Dzumac 74.39 190 *e*P **P 12 30 27.3 -5.0**
DZM Mont Dzumac 74.39 190 LR LR 12 56 60.0
comp=Z,1μm,19.8s,MS5.2,baz=22,slow=31
KAPI Kappang 74.73 240 P **P 12 30 34.6 +0.3**
comp=Z,214nm,0.8s,mb6.1,SNR=7.0
KSM Kuching 74.75 252 *e*P **P 12 30 34.8 +0.4**
DWPF Disney 74.90 64 PFAKE 12 30 50.0 +15
DWPF LR LR
comp=Z,684nm,20.0s,MS5.0
DCN Croghan 74.92 3⇑*i*P **P 12 30 35.4 0.0**
DLF Lyons Farm 74.99 2⇑*i*P **P 12 30 35.9 +0.1**
DSB Dublin 75.04 2 *e*P **P 12 30 36.1 0.0**
comp=Z,40nm,1.0s,mb5.3
DSB *e*pP pP 12 30 41.5 -1.5
PPT Papeete 75.14 147 *e*LR LR 12 53 37.8
comp=Z,799nm,20.8s,baz=352
PPT Papeete 75.14 147 LR LR 12 57 37.1
comp=Z,856nm,20.2s,MS5.0,baz=311,slow=31
KAKA Kakadu 75.14 225⇑*i*P **P 12 30 36.7 0.0**
comp=Z,144nm,0.6s,mb6.1
NRDL Niedersach Rie 75.26 352 *e*P **P 12 30 37.2 -0.2**
comp=Z,20nm,1.2s,mb4.9
IBBN Ibbenburen 75.64 353 *e*P **P 12 30 39.7 +0.2**
comp=Z,70nm,1.2s,mb5.5
MAK Makhachkala 75.83 324 *e*P **P 12 30 39.1 -1.5**
MAK *i* PPP 12 35 16.6
MAK *e*S S 12 40 18.2 -3.5
MAK pmax pmax
comp=Z,499nm,2.1s,mb6.1
MAK MLR MLR
comp=Z,2μm,18.0s,MS5.5
BLSP Bilaspur 75.84 288 *e*P **P 12 30 40.7 0.0**
BLSP AMb AMB 12 30 42.8
comp=Z,88nm,1.6s,mb5.5
ABKT Ailbek 75.84 315 P **P 12 30 41.4 +0.7**
comp=Z,202nm,0.9s,mb6.0,SNR=7.6
CLZ Clausthal 75.89 352 *e*P **P 12 30 41.2 +0.2**
comp=Z,35nm,1.3s,mb5.1
CLZ Clausthal 75.89 352 *e*P **P 12 30 41.2 +0.2**
CLZ pmax pmax
comp=Z,35nm,1.3s,mb5.1
LVV L'vov 75.97 342 *e*P **P 12 30 40.7 -0.7**
WTSB Winterswijk 76.04 354 *e*P **P 12 30 42.0 +0.1**
comp=Z,44nm,1.8s,mb5.1
CLL Collm 76.15 350 *e*P **P 12 30 41.8 -0.7**
comp=Z,28nm,1.6s,mb4.9
CLL Collm 76.15 350 *i* P **P 12 30 41.8 -0.7**
comp=Z,107nm,2.5s,mb5.3
CLL LmV 12 12 00.0
comp=Z,500nm,18.6s
CLL *i* (sP) sP 12 30 49.9 -1.9
CLL *i* x x 12 30 58.5
CLL *e*x x 12 31 12.0
CLL *e*PS 12 41 06.0
CLL Collm 76.15 350 *i* P **P 12 30 41.8 -0.7**
CLL *i* pP 12 30 49.9 +0.6
CLL *i* 12 30 58.5
CLL pmax pmax
comp=Z,107nm,2.5s,mb5.3
CLL MLR MLR
comp=Z,500nm,18.6s,MS4.8
CLL Collm 76.15 350 *i* P **P 12 30 41.8 -0.7**
comp=Z,107nm,2.5s,mb5.3
CLL *i* pP 12 30 49.9 +0.6
CLL *i* 12 30 58.5
CLL LR LR
comp=Z,500nm,18.6s,MS4.8
KSP Ksiaz 76.21 348 *e*P **P 12 30 42.8 0.0**
KSP Ksiaz 76.21 348 *e*P **P 12 30 42.1 -0.7**
KSP LR LR
comp=Z,1μm,18.0s,MS5.3
OJC Ojcow 76.31 345 *e*Pd 12 30 43.6
KWP Kalwaria 76.39 343 *e*P **P 12 30 44.4 +0.6**
BRG Berggiesshubel 76.47 349 *e*P **P 12 30 43.7 -0.6**
comp=Z,14nm,1.2s,mb4.8
BRG Berggiesshubel 76.47 349 *e*P **P 12 30 44.5 +0.2**
BRG S 12 41 14.0
BRG pmax pmax
comp=Z,14nm,1.6s,mb4.6
BRG MLR MLR
comp=N,360nm,16.6s,MS4.9
BRG MLR MLR
comp=E,369nm,16.9s,MS4.9
BRG MLR MLR
comp=Z,527nm,17.0s,MS4.9
BRG Berggiesshubel 76.47 349 *e*P **P 12 30 44.5 +0.1**
comp=Z,14nm,1.6s,mb4.7
BRG *i* 12 31 35.3
BRG S 12 41 14.0
BRG LR LR
comp=Z,530nm,16.9s,MS4.9
BUG Bochum–Univer 76.53 353 *e*P **P 12 30 44.4 -0.2**
comp=Z,36nm,1.4s,mb5.1
UPC Upice 76.58 348 *e*P **P 12 30 44.7 -0.2**
KIV Kislovodsk 76.61 328 *d*i P **P 12 30 45.8 +0.7**
KIV *e* 12 33 38.1
KIV *e*S S 12 40 29.1 -1.1
KIV pmax pmax
comp=Z,67nm,1.4s,mb5.4
KIV Kislovodsk 76.61 328 *e*P **P 12 30 45.7 +0.7**
comp=Z,32nm,0.8s,mb5.3
KIV LR LR
comp=Z,622nm,20.0s,MS4.9
DPC Dobruska-Polom 76.69 348 *e*P **P 12 30 45.9 +0.4**
DPC *e*x x 12 40 20.9
DPC AMS AMS 13 11 20.0
comp=Z,700nm,17.3s
CTA Charters Tower 76.72 210⇑*i*P **P 12 30 46.1 +0.4**
comp=Z,39nm,0.8s,mb5.4
CTA Charters Tower 76.72 210⇑*i*P **P 12 30 46.1 +0.4**
CTA pmax pmax
comp=Z,39nm,0.8s
CTAO Charters Tower 76.72 210 *e*P **P 12 30 45.3 -0.4**
CTAO MLR MLR
comp=Z,571nm,20.0s,MS4.9
PVCC Panska Ves 76.74 349 *e*P **P 12 30 46.4 +0.6**
AJM Ajmer 76.76 296 *i* P **P 12 30 45.0 -0.9**
AJM *e*P 12 30 45.8
AJM AMb AMB 12 30 48.1
comp=Z,82nm,1.6s,mb5.4
STHS Stebnicka Huta 76.85 344 *i* P **P 12 30 47.5 +1.1**
comp=Z,44nm,1.4s,mb5.2
UBBA Unterbreizbach 76.93 352 *e*P **P 12 30 46.5 -0.4**
comp=Z,43nm,2.0s,mb5.0
OKC Ostrava-Krasne 76.94 346 *e*P **P 12 30 46.7 -0.2**
OKC AMS AMS 13 06 50.0
comp=Z,700nm,17.9s
MOX Moxa 76.95 351 *e*P **P 12 30 46.8 -0.2**
comp=Z,18nm,1.4s,mb4.8
MOX Moxa 76.95 351 *e*P **P 12 30 46.9 -0.1**
MOX
comp=Z,400nm,19.0s
TEIG Tepich 77.06 74 PFAKE 12 31 00.0 +12
TEIG LR LR
comp=Z,477nm,20.0s,MS4.8
MORC Moravsky Berou 77.08 347⇓*i*P **P 12 30 48.2 +0.5**
MORC Moravsky Berou 77.08 347 *e*P **P 12 30 47.6 -0.1**
MORC pmax pmax
comp=Z,25nm,1.4s,mb5.0
MORC Moravsky Berou 77.08 347 *e*P **P 12 30 47.5 -0.2**
comp=Z,25nm,1.4s,mb5.0
TANN Tannenbergstha 77.09 350 *e*P **P 12 30 47.7 -0.1**
comp=Z,34nm,1.9s,mb5.0
TANN *e*PP PP 12 33 41.8 +0.4
KOLS Kolonicke sedl 77.14 343 *e*P **P 12 30 49.3 +1.2**
KOLS pmax pmax
comp=Z,18nm,0.9s,mb5.0
KOLS Kolonicke sedl 77.14 343 *e*P **P 12 30 49.3 +1.2**
comp=Z,18nm,0.9s,mb5.0
ZEI Tsey 77.26 327 *e*P **P 12 30 49.1 +0.4**
ZEI *e**PP pP 12 30 57.2 +1.7
ZEI *e* 12 33 45.1
ZEI pmax pmax
comp=Z,55nm,1.1s,mb5.4
NKC Novy Kostel 77.27 350 *e*P **P 12 30 48.9 +0.1**
NKC AMS AMS 13 13 30.0
comp=Z,500nm,18.5s
PRU Pruhonice 77.27 349 *e*P **P 12 30 49.0 +0.2**
BEBN Eben Emael 77.28 354 AP pP 12 30 53.2 -2.4
HGN Heimansgroeve 77.30 354 *e*P **P 12 30 49.1 +0.2**
comp=Z,42nm,2.4s,mb5.0
HGN *e*S S 12 40 38.0 +0.3
HGN *e*SS SS 12 45 27.5 -8.5
HGN *e*SSS 12 49 37.9
HGN *e*x x 12 51 31.8
CRVS Cervenica-Dubn 77.31 344 *e*P **P 12 30 50.0 +1.0**
CRVS *e*PP PP 12 33 43.1 -0.2
UCC Uccle 77.35 355 P **P 12 30 49.2 -0.1**
MEM Membach 77.45 354 P **P 12 30 49.5 -0.3**
ANN Anapa 77.47 332 *e*P **P 12 30 53.6 +3.7**
ANN *e* pP 12 30 59.8 +3.1
ANN *i* *PP sP 12 31 04.0 +4.8
ANN *e* 12 33 47.3
ANN *e*S S 12 40 48.6 +8.9
ANN pmax pmax
comp=Z,40nm,1.2s,mb5.2
KULM Kulim 77.54 263 *e*P **P 12 30 50.5 +0.2**
MANZ Manzenberg 77.55 350 *e*P **P 12 30 50.3 -0.1**
comp=Z,31nm,1.7s,mb5.0
MANZ *e*PP PP 12 33 44.8 -0.5
LIKS Likavka 77.56 345 *e*P **P 12 30 51.5 +1.1**
ONI Oni 77.58 327 P **P 12 30 50.2 -0.3**
SNF Seneffe 77.64 355 P **P 12 30 50.2 -0.7**
KIS Kishinev 77.66 338 *e*P **P 12 30 49.0 -2.0**
KIS *e* 12 33 48.0
KIS *e*S S 12 40 35.0 -6.8
KIS *e* 12 40 54.0
KIS *e*SS SS 12 45 36.0 -5.5
KIS pmax pmax
comp=Z,500nm,6.0s
VRAC Vranov 77.67 347 P **P 12 30 51.9 +0.9**
MENF Mencas 77.69 357 *e*P **P 12 30 51.4 +0.3**
BHPL Bhopal 77.72 292 *e*P **P 12 30 51.1 -0.2**
BHPL AMb AMB 12 30 53.3
comp=Z,136nm,1.5s,mb5.7
AMRG 77.74 327 P **P 12 30 52.5 +1.1**
ROTZ Rotzenmuhle 77.76 350 *e*P **P 12 30 51.6 +0.1**
comp=Z,23nm,1.6s,mb4.9
ROTZ *e*PP PP 12 33 45.6 -1.4
TREC Trest 77.83 348 *e*P **P 12 30 51.3 -0.6**
BURAR Bucovina Array 77.85 341⇑*i*P **P 12 30 52.5 +0.5**
BURAR Bucovina Array 77.85 341⇑P **P 12 30 52.5 +0.4**
KECS Kecovo 77.89 344 *e*P **P 12 30 52.6 +0.4**
KECS pmax pmax
comp=Z,11nm,1.0s,mb4.7
KECS Kecovo 77.89 344 *e*P **P 12 30 52.6 +0.4**
comp=Z,11nm,1.0s,mb4.8
TBLG Delisi 77.89 326 P **P 12 30 53.0 +0.8**
TBLG Delisi 77.89 326 P **P 12 30 53.3 +1.1**
SOC Sochi 77.89 330 *d*i P **P 12 30 52.6 +0.4**
SOC *e* 12 33 43.8
SOC *e*S S 12 40 41.1 -3.1
SOC *e* 12 41 11.3
SOC pmax pmax
comp=Z,36nm,0.8s,mb5.3
SOC Sochi 77.89 330 *i* P **P 12 30 52.9 +0.7**
SOC Sochi 77.89 330 *i* P **P 12 30 52.9 +0.7**
MTA Mtatsminda 77.90 326 P **P 12 30 53.3 +0.9**
DGRG David-gareji 77.91 325 P **P 12 30 53.0 +0.6**
GRA1 Grafenberg Arr 77.94 351 *e*P **P 12 30 52.8 +0.3**
comp=Z,31nm,1.2s,mb5.1
GRA1 *e*pP pP 12 31 01.7 +2.4
GRA1 *e*S S 12 40 54.1 +9.4
GRA1 *e*SS SS 12 45 55.7 +10
GRA1 LR LR
comp=Z,400nm,18.5s,MS4.8
GRF Grafenberg Arr 77.94 351 *e*P **P 12 30 52.8 +0.3**
comp=Z,31nm,1.2s,mb5.1
GRF *e*pP pP 12 31 01.7 +2.4
GRF *e*S S 12 40 54.1 +9.4
GRF *e*SS SS 12 45 55.7 +10
GRF *e*L 13 17 19.6
comp=Z,383nm,18.5s
GRF Grafenberg Arr 77.94 351 *e*P **P 12 30 52.8 +0.3**
GRF *e**PP pP 12 31 01.7 +2.4
GRF *e*S S 12 40 54.1 +9.4
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.1
GRF Grafenberg Arr 77.94 351 *e*P **P 12 30 52.8 +0.3**
GRF *e**PP pP 12 31 01.7 +2.4
GRF *e*S S 12 40 54.1 +9.4
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.1
GRF MLR MLR
comp=Z,400nm,18.5s,MS4.8
IPM Ipoh 77.94 262 P **P 12 30 54.5 +1.9**
GIVF Givet 78.02 355 *e*P **P 12 30 52.7 -0.3**
DOU Dourbes 78.04 355 P **P 12 30 51.2 -1.9**
BAIF Baives 78.10 355 *e*P **P 12 30 53.4 0.0**
KOLL Kolacno 78.12 346 *e*P **P 12 30 54.2 +0.7**
VYHS Vyhne 78.14 345 *e*P **P 12 30 53.8 +0.2**
VYHS *e*PP PP 12 33 50.0 -0.2
VYHS Vyhne 78.14 345 *e*P **P 12 30 53.8 +0.2**
VYHS *e* 12 33 50.0
VYHS pmax pmax
comp=Z,24nm,1.5s,mb4.9
VYHS MLR MLR
comp=Z,400nm,22.0s,MS4.7
VYHS Vyhne 78.14 345 *e*P **P 12 30 53.8 +0.2**
comp=Z,24nm,1.5s,mb4.9
VYHS *e*PP PP 12 33 50.0 -0.2
VYHS LR LR
comp=Z,400nm,22.0s,MS4.7
KHC Kasperske Hory 78.23 349 *e*P **P 12 30 53.6 -0.6**
KHC *e*S S 12 40 52.9 +5.0
KHC AMS AMS 13 12 00.0
comp=Z,800nm,16.8s
TOD Tromm 78.24 352 *e*P **P 12 30 54.0 -0.2**
SIM Simferopol' 78.26 334 P **P 12 30 55.6 +1.3**
SIM 12 33 52.0
SIM pmax pmax
comp=Z,19nm,1.0s,mb5.0
RUP Ruppelstein 78.28 353 *e*P **P 12 30 54.5 +0.1**
WET Wettzell 78.30 350 *e*P **P 12 30 54.7 +0.2**
comp=Z,25nm,1.6s,mb4.9
WET Wettzell 78.30 350 *e*P **P 12 30 54.7 +0.2**
WET pmax pmax
comp=Z,25nm,1.6s,mb4.9
WLF Walferdange 78.38 354 P **P 12 30 55.3 +0.3**
NGP Nagpur 78.40 289 *e*P **P 12 30 53.0 -2.1**
NGP AMb AMB 12 30 55.0
comp=Z,112nm,1.4s,mb5.6
KGM Kluang 78.49 258 P **P 12 30 56.7 +1.1**
GEC2 GERESS Array S 78.50 349 *e*P **P 12 30 55.6 0.0**
comp=Z,32nm,1.7s,mb5.0
GEC2 *e*PP PP 12 33 54.1 +0.9
GEC2 GERESS Array S 78.50 349 *e*P **P 12 30 55.6 0.0**
GEC2 *e* 12 33 54.1
GEC2 pmax pmax
comp=Z,32nm,1.7s,mb5.0
GERES GERESS Array B 78.50 349 P **P 12 30 55.1 -0.5**
comp=Z,2.4nm,0.8s,baz=29,slow=3.0,SNR=15
GERES LR LR 13 12 01.5
comp=Z,595nm,18.0s,MS5.0,baz=13,slow=41
VIS Vishakhapatnam 78.53 284 *e*P **P 12 30 55.4 -0.4**
VIS AMb AMB 12 31 03.3
comp=Z,61nm,1.8s,mb5.2
PSZ Piszkesteto 78.53 345⇓*e*P **P 12 30 57.1 +1.3**
PSZ Piszkesteto 78.53 345 *e*P **P 12 30 57.0 +1.2**
comp=Z,52nm,1.4s,mb5.3
AKH Akhalkalaki 78.60 326 P **P 12 30 57.6 +1.4**
ZST Bratislava 78.69 347 *e*P **P 12 30 57.2 +0.5**
ZST pmax pmax
comp=Z,24nm,1.2s,mb5.0
ZST Bratislava 78.69 347 *e*P **P 12 30 57.2 +0.5**
comp=Z,24nm,1.2s,mb5.0
LANF Langenberg 78.94 353 *e*P **P 12 30 58.4 +0.3**
BUD Budapest 79.09 345⇓*e*P **P 12 31 00.3 +1.4**
CONA Conrad Observa 79.12 347⇓*i*P **P 12 30 59.9 +0.8**
comp=Z,18nm,1.1s,mb4.9,SNR=13
DRGR 79.13 342⇓*i*P **P 12 30 59.2 +0.1**
DRGR 79.13 342 P **P 12 30 59.6 +0.5**
VRI Vrincioaia 79.20 339 P **P 12 31 01.0 +1.5**
SOP Sopron 79.27 347⇓*e*P **P 12 31 01.1 +1.2**
GNI Garni 79.28 325 *e*P **P 12 30 59.8 -0.1**
GNI pmax pmax
comp=Z,51nm,1.2s
GNI Garni 79.28 325 *i* Pr 12 31 01.9
GNI LR LR
comp=Z,2μm,19.0s,MS5.4
MOA Molln 79.41 348⇓*i*P **P 12 31 01.1 +0.4**
comp=Z,3.3nm,0.5s,mb4.5
CFR Carcaliu 79.54 338⇓*i*P **P 12 31 01.7 +0.4**
CFR Carcaliu 79.54 338 ⇓P **P 12 31 01.7 +0.4**
WLS Welschbruch 79.54 353 *e*P **P 12 31 01.5 +0.2**
BFO Black Forest 79.55 352 *e*P **P 12 31 01.2 -0.2**
comp=Z,26nm,1.5s,mb4.9
BFO Black Forest 79.55 352 P **P 12 31 01.0 -0.4**
CDF Champ du Feu 79.55 353 *e*P **P 12 31 01.0 -0.4**
comp=Z,18nm,1.0s,mb4.7
CDF Champ du Feu 79.55 353 *e*P **P 12 31 01.0 -0.4**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CDF Champ du Feu 79.55 353 *e*P **P 12 31 01.0 -0.4**
comp=Z,8.8nm,1.0s,mb4.6
FLN La Foliniere 79.55 358 *e*P **P 12 31 00.9 -0.5**
comp=Z,104nm,1.2s,mb5.3
FLN *e*R
comp=Z,311nm,20.2s
FLN La Foliniere 79.55 358 *e*P **P 12 31 00.9 -0.5**
FLN pmax pmax
comp=Z,52nm,1.2s,mb5.3
FLN MLR MLR
comp=Z,310nm,20.3s,MS4.6
FLN La Foliniere 79.55 358 *e*P **P 12 31 00.9 -0.5**
comp=Z,52nm,1.2s,mb5.3
FLN LR LR
comp=Z,310nm,20.3s,MS4.6
MEZF Maizieres J'vi 79.60 355 *e*P **P 12 31 01.6 -0.1**
LDF La Druitiere 79.71 358 *e*P **P 12 31 01.7 -0.6**
comp=Z,89nm,1.1s,mb5.3
LDF La Druitiere 79.71 358 *e*P **P 12 31 01.7 -0.6**
comp=Z,44nm,1.1s,mb5.3
MLR Muntele Rosu 79.73 340⇑*i*P **P 12 31 04.1 +1.8**
MLR Muntele Rosu 79.73 340 P **P 12 31 03.7 +1.3**
ECH Echery 79.75 353 *e*P **P 12 31 02.6 +0.1**
ARSA Arzberg 79.83 347 *i* P **P 12 31 03.8 +0.9**
comp=Z,25nm,1.5s,mb4.9,SNR=10
GRR Gorron 79.93 359 *e*P **P 12 31 03.1 -0.3**
comp=Z,85nm,1.1s,mb5.3
GRR Gorron 79.93 359 *e*P **P 12 31 03.1 -0.3**
comp=Z,43nm,1.1s,mb5.3
VOIR 79.97 340⇓*i*P **P 12 31 04.8 +1.2**
VOIR 79.97 340 ⇓P **P 12 31 04.8 +1.1**
ROSF Rostrenen 80.00 0 *e*P **P 12 31 03.7 -0.1**
comp=Z,114nm,1.3s,mb5.3
ROSF Rostrenen 80.00 0 *e*P **P 12 31 03.7 -0.1**
ROSF pmax pmax
comp=Z,57nm,1.3s,mb5.3
ROSF Rostrenen 80.00 0 *e*P **P 12 31 03.7 -0.1**
comp=Z,57nm,1.3s,mb5.3
HAU Haudompre 80.02 354 *e*P **P 12 31 04.5 +0.6**
HAU *e*R
comp=Z,575nm,19.8s
HAU Haudompre 80.02 354 *e*P **P 12 31 04.5 +0.6**
HAU LR LR
comp=Z,570nm,19.8s,MS4.9
FELD Feldberg im Sc 80.02 353 *e*P **P 12 31 03.6 -0.4**
BBSR BB Station 80.08 49 PFAKE 12 31 20.0 +16
BBSR LR LR
comp=Z,621nm,20.0s,MS5.0
SGMF Saint Gilles 80.08 360 *e*P **P 12 31 04.1 -0.2**
comp=Z,29nm,0.6s,mb5.1
SGMF Saint Gilles 80.08 360 *e*P **P 12 31 04.1 -0.2**
comp=Z,14nm,0.6s,mb5.1
MOF Molkenrain 80.11 353 *e*P **P 12 31 04.3 -0.1**
TIRR Tirgusor 80.16 338⇑*i*P **P 12 31 04.7 0.0**
TIRR Tirgusor 80.16 338 P **P 12 31 04.6 -0.1**
TIRR Tirgusor 80.16 338 P **P 12 31 04.8 +0.2**
WATA Walderalm 80.23 350⇓*e*P **P 12 31 05.4 +0.3**
comp=Z,4.7nm,0.5s,mb4.6
MOTA Moosalm 80.27 350⇓*e*P **P 12 31 05.6 +0.4**
comp=Z,15nm,1.0s,mb4.9
KBA Koelnbreinsper 80.28 349⇓*i*P **P 12 31 05.9 +0.5**
comp=Z,46nm,0.9s,mb5.4,SNR=19
WTTA Wattenberg 80.29 350⇓*i*P **P 12 31 05.6 +0.2**
comp=Z,20nm,1.0s,mb5.0,SNR=9.2
SQTA Sankt Quirin 80.38 350⇓*i*P **P 12 31 04.0 -1.9**
comp=Z,5.5nm,0.3s,mb5.0
PKSM Moragy 80.39 345⇓*i*P **P 12 31 06.2 +0.3**
PKSM Moragy 80.39 345 P **P 12 31 06.4 +0.4**
QUIF Quistinic 80.42 0 *e*P **P 12 31 05.6 -0.5**
DAVA Damuels 80.45 351⇓*i*P **P 12 31 05.7 -0.5**
comp=Z,9.7nm,1.3s,mb4.6
BZS Buzias 80.46 343⇑*i*P **P 12 31 06.6 +0.3**
BZS Buzias 80.46 343 P **P 12 31 06.7 +0.4**
BBS Basel-Blauen 80.47 353 *e*P **P 12 31 06.5 +0.1**
PSI Prapat 80.55 262 LR LR 13 09 33.4
comp=Z,276nm,18.5s,MS4.6,baz=217,slow=38
TBI Tubuai 80.57 149 *e*SS SS 12 46 26.3 +1.2
comp=Z,194nm,28.5s
TBI *e*LR LR 12 56 08.3
comp=Z,836nm,23.2s,baz=338
GROS Grobnik 80.61 347 *e*P **P 12 31 07.5 +0.4**
LOMF Lomont 80.64 353 *e*P **P 12 31 07.4 +0.2**
OBKA Obir 80.69 348⇑*i*P **P 12 31 07.9 +0.3**
comp=Z,29nm,1.2s,mb5.1,SNR=9.4
WRAB Tennant Creek 80.80 220 P **P 12 31 08.0 -0.1**
comp=Z,477nm,1.2s,mb6.3,SNR=18
WRAB Tennant Creek 80.80 220 *e*P **P 12 31 07.4 -0.7**
WRAB LR LR
comp=Z,511nm,19.0s,MS4.9
WB2 Warramunga Arr 80.81 220 *e*P **P 12 31 07.9 -0.3**
WRA Warramunga Arr 80.81 220 P **P 12 31 07.6 -0.6**
comp=Z,51nm,0.7s,mb5.6,baz=30,slow=5.7,SNR=350
WRA PKiKP PKiKP 12 36 34.7 -0.5
comp=Z,0.6nm,0.7s,baz=346,slow=1.5,SNR=6.1
WRA PKKPbc PKKPbc 12 49 45.0 -1.6
comp=Z,1.9nm,0.6s,baz=225,slow=2.1,SNR=26
BRES Bressanone 80.84 350 P **P 12 31 08.9 +0.6**
comp=Z,127nm,2.2s,mb5.5
LOR Lormes 80.90 355 *e*P **P 12 31 08.3 -0.3**
comp=Z,64nm,1.3s,mb5.1
LOR *e*R
comp=Z,504nm,19.8s
LOR Lormes 80.90 355 *e*P **P 12 31 08.3 -0.3**
LOR pmax pmax
comp=Z,32nm,1.3s,mb5.1
LOR MLR MLR
comp=Z,500nm,19.8s,MS4.9
LOR Lormes 80.90 355 *e*P **P 12 31 08.3 -0.3**
comp=Z,32nm,1.3s,mb5.1
LOR LR LR
comp=Z,500nm,19.8s,MS4.9
PTCC Patocco-Chiusa 80.94 349 P **P 12 31 08.6 -0.3**
comp=Z,6.6nm,0.6s,mb4.7
RAO Raoul Island 81.06 176 LR LR 12 59 37.2
comp=Z,698nm,19.6s,MS5.0,baz=309,slow=30
SSF Saint Saulge 81.12 356 *e*P **P 12 31 09.5 -0.3**
comp=Z,22nm,0.9s,mb4.8
SSF Saint Saulge 81.12 356 *e*P **P 12 31 09.5 -0.3**
SSF pmax pmax
comp=Z,11nm,0.9s,mb4.8
SSF Saint Saulge 81.12 356 *e*P **P 12 31 09.5 -0.3**
comp=Z,11nm,0.9s,mb4.8
LJU Ljubljana 81.15 348 *e*P **P 12 31 09.2 -0.8**
BRMO Bormio 81.20 351 P **P 12 31 10.7 +0.4**
comp=Z,15nm,1.0s,mb4.9
CRES Cresnjev 81.24 347 *e*P **P 12 31 10.6 +0.1**
TUE Stuetta 81.30 351 P **P 12 31 11.6 +0.8**
comp=Z,48nm,1.8s,mb5.1
AVF Avril sur Loir 81.40 356 *e*P **P 12 31 11.0 -0.3**
comp=Z,56nm,1.4s,mb5.0
AVF Avril sur Loir 81.40 356 *e*P **P 12 31 11.0 -0.3**
AVF pmax pmax
comp=Z,28nm,1.4s,mb5.0
AVF Avril sur Loir 81.40 356 *e*P **P 12 31 11.0 -0.3**
comp=Z,28nm,1.4s,mb5.0
CABF La Chapelle 81.42 354 *e*P **P 12 31 11.4 0.0**

comp=Z,61nm,1.4s,mb5.0
CABF La Chapelle 81.42 354 *e*P **P 12 31 11.4 0.0**
CABF pmax pmax
comp=Z,31nm,1.4s,mb5.0
CABF La Chapelle 81.42 354 *e*P **P 12 31 11.4 0.0**
comp=Z,31nm,1.4s,mb5.0
BEO Belgrade 81.44 343⇓*i*P **P 12 31 11.5 -0.1**
CEY Cerknica 81.47 348 *e*P **P 12 31 11.8 +0.1**
SMF Signal de Mont 81.52 355 *e*P **P 12 31 11.7 -0.3**
PRD Provadia 81.58 338 *i*P **P 12 31 11.8 -0.5**
BOJS Bojanci 81.58 347 *i*P **P 12 31 12.4 +0.1**
BOJS *e* 12 42 17.0
HYB Hyderabad 81.61 287 *i*P **P 12 31 12.0 -0.4**
HYB Hyderabad 81.61 287 *e*P **P 12 31 12.0 -0.4**
comp=Z,120nm,1.0s,mb5.8
BGF Bois d'Agland 81.65 356 *e*P **P 12 31 12.5 -0.2**
MFF Saint Martin d 81.70 358 *e*P **P 12 31 12.8 -0.1**
comp=Z,61nm,1.3s,mb5.1
MFF Saint Martin d 81.70 358 *e*P **P 12 31 12.8 -0.1**
MFF pmax pmax
comp=Z,31nm,1.3s,mb5.1
MFF Saint Martin d 81.70 358 *e*P **P 12 31 12.8 -0.1**
comp=Z,30nm,1.3s,mb5.1
SZH Strazhica 81.85 339 *i*P **P 12 31 14.2 +0.5**
TCF Toulx Ste Croi 81.95 356 *e*P **P 12 31 14.0 -0.2**
VAI Varese 81.95 352 P **P 12 31 14.1 -0.1**
VAI pmax pmax
comp=Z,19nm,0.9s,mb5.0
VAI Varese 81.95 352 P **P 12 31 14.1 -0.1**
comp=Z,19nm,0.9s,mb5.0
BOLS Boljevac 82.12 342⇓*i*P **P 12 31 14.1 -1.0**
PLDF La Plantade 82.21 355 *e*P **P 12 31 15.9 +0.3**
DIVS Divcibare 82.22 344⇓*i*P **P 12 31 15.5 -0.1**
LPL La Plagne 82.47 353 *e*P **P 12 31 17.8 +0.9**
LPG La Plagne 82.48 353 *e*P **P 12 31 18.2 +1.2**
BBLS Bajina Basta - 82.54 344 *i*P **P 12 31 18.5 +1.1**
BNI Bardonecchia 82.93 353 *e*P **P 12 31 20.2 +0.9**
comp=Z,17nm,0.9s,mb5.1
FITZ Fitzroy Crossi 82.94 229⇑*i*P **P 12 31 19.8 +0.4**
comp=Z,83nm,0.8s,mb5.8
RJF Les Rejaudoux 82.96 357 *e*P **P 12 31 19.2 -0.3**
comp=Z,46nm,1.2s,mb5.1
RJF *e*R
comp=Z,374nm,19.8s
RJF Les Rejaudoux 82.96 357 *e*P **P 12 31 19.2 -0.3**
comp=Z,23nm,1.2s,mb5.1
RJF LR LR
comp=Z,370nm,19.8s,MS4.8
LBL Lubilhac 82.96 356 *e*P **P 12 31 20.3 +0.8**
BOB Bobbio (Coli) 82.98 351 P **P 12 31 19.1 -0.5**
BOB pmax pmax
comp=Z,42nm,0.8s,mb5.5
BOB Bobbio (Coli) 82.98 351 P **P 12 31 19.1 -0.5**
comp=Z,42nm,0.8s,mb5.5
MALT Malatya 83.08 328⇑*i*P **P 12 31 21.3 +1.2**
MALT Malatya 83.08 328 *e*P **P 12 31 20.9 +0.8**
MALT pmax pmax
comp=Z,52nm,1.3s,mb5.4
MALT Malatya 83.08 328 *e*P **P 12 31 20.9 +0.8**
comp=Z,52nm,1.3s,mb5.4
DIM Dimitrovgrad 83.10 339 *i*P **P 12 31 19.6 -0.6**
ORIF Oris-en-Rattie 83.12 354 *e*P **P 12 31 21.0 +0.7**
comp=Z,35nm,1.0s,mb5.0
ORIF *e*R
comp=Z,598nm,18.8s
ORIF Oris-en-Rattie 83.12 354 *e*P **P 12 31 21.0 +0.7**
ORIF pmax pmax
comp=Z,17nm,1.0s,mb5.0
ORIF Oris-en-Rattie 83.12 354 *e*P **P 12 31 21.0 +0.7**
comp=Z,17nm,1.0s,mb5.0
PLD Plovdiv 83.23 340 *i*P **P 12 31 20.6 -0.3**
BR131 Keskin Array S 83.24 332 *e*P **P 12 31 21.1 +0.2**
BR131 LR LR
comp=Z,120nm,19.0s,MS4.3
BRTR Keskin Array B 83.24 332 P **P 12 31 21.1 +0.1**
comp=Z,6.1nm,0.7s,mb4.7,baz=44,slow=2.5,SNR=30
BRTR PKKPbc PKKPbc 12 49 40.1 -0.9
comp=Z,0.8nm,0.6s,baz=132,slow=3.7,SNR=4.4
BRTR PKPPKP 12 57 44.4
comp=Z,0.7nm,0.8s,baz=114,slow=1.5,SNR=4.0
BRTR LR LR 13 12 43.4
comp=Z,208nm,18.2s,MS4.5,baz=258,slow=39
ZCCA Zocca 83.24 350 P **P 12 31 19.8 -1.1**
comp=Z,24nm,2.9s,mb4.7
MBDF Montbardon 83.25 353 *e*P **P 12 31 21.6 +0.6**
comp=Z,26nm,0.8s,mb5.0
MBDF Montbardon 83.25 353 *e*P **P 12 31 21.6 +0.6**
comp=Z,13nm,0.8s,mb5.0
VIVF Saint-Julien-I 83.26 355 *e*P **P 12 31 21.2 +0.2**
MSL Mosul 83.31 324 *ex* x 12 31 19.0
CAF Calviac 83.32 356 *e*P **P 12 31 21.5 +0.2**
comp=Z,88nm,1.5s,mb5.3
CAF Calviac 83.32 356 *e*P **P 12 31 21.5 +0.2**
comp=Z,44nm,1.5s,mb5.3
ANTO Ankara 83.34 333 *e*P **P 12 31 22.9 +1.4**
ANTO pmax pmax
comp=Z,19nm,1.0s,mb5.1
ANTO MLR MLR
comp=Z,376nm,19.0s,MS4.8
ANTO Ankara 83.34 333 *e*P **P 12 31 22.9 +1.4**
comp=Z,19nm,1.0s,mb5.1
ANTO LR LR
comp=Z,376nm,19.0s,MS4.8
LFF La Frestale 83.34 357 *e*P **P 12 31 21.8 +0.3**
FNVD Fontana Vidola 83.41 350 P **P 12 31 23.2 +1.4**
comp=Z,396nm,2.5s,mb6.0
PESA Pesaro 83.43 349 P **P 12 31 23.5 +1.6**
comp=Z,64nm,0.8s,mb5.7
POO Poona 83.47 292⇑*i*P **P 12 31 20.0 -2.1**
RSM Repubblica di 83.49 349 P **P 12 31 24.0 +1.8**
comp=Z,350nm,2.6s,mb5.9
SURF Saint Ours 83.49 353 *e*P **P 12 31 23.5 +1.3**
VLC Villacollemand 83.49 350 P **P 12 31 22.2 0.0**
SEI Scarperia 83.49 350 P **P 12 31 21.4 -0.8**
comp=Z,93nm,0.6s,mb6.0
KDZ Kurdzhali 83.50 339 *i*P **P 12 31 23.0 +0.7**
VMG Vicchio 83.56 350 P **P 12 31 23.9 +1.3**
comp=Z,44nm,0.7s,mb5.7
RZN Rozhen 83.62 340 *i*P **P 12 31 22.5 -0.4**
OG25 Le Caire 83.66 354 *e*P **P 12 31 21.9 -1.2**
FSSB Fossombrone 83.69 349 P **P 12 31 24.1 +0.9**
comp=Z,16nm,0.5s,mb5.4
KKB Krupnik 83.79 341 *i*P **P 12 31 24.0 +0.2**
STON Ston 83.80 345 *i*P **P 12 31 23.1 -0.7**
CRE Caprese Michel 83.86 349 P **P 12 31 25.2 +1.1**
comp=Z,192nm,3.1s
ARV Arcevia 83.86 348 P **P 12 31 25.0 +0.9**
comp=Z,84nm,1.5s,mb5.7
PII Pisa 83.91 350 P **P 12 31 24.5 +0.1**
comp=Z,79nm,1.7s,mb5.6
TOUF Mont Tournerai 83.92 353 *e*P **P 12 31 25.0 +0.6**
SAOF Saorge 83.92 352 *e*P **P 12 31 24.4 -0.1**
AUTN L'Aution 83.93 353 *e*P **P 12 31 25.1 +0.6**
MMB Musomiste 83.93 340 *i*P **P 12 31 28.4 +3.9**
BADI Badiali 83.93 349 P **P 12 31 25.4 +0.9**
CING Cingoli 83.95 348 P **P 12 31 25.3 +0.7**
comp=Z,55nm,1.6s,mb5.4
SKO Skopje 84.01 342 *e*P **P 12 31 20.9 -4.0**
LUCF Luceram 84.03 353 *e*P **P 12 31 25.5 +0.5**
MVIF Mont Vial 84.05 353 *e*P **P 12 31 25.6 +0.5**
SBF Sospel 84.06 353 *e*P **P 12 31 25.1 0.0**
CSNT Castellina Chi 84.08 350 P **P 12 31 25.2 0.0**
comp=Z,82nm,2.0s,mb5.5
SMRF Simiane la Rot 84.08 354 *e*P **P 12 31 26.3 +1.1**
LASF Ste Croix 84.08 355 *e*P **P 12 31 25.5 +0.2**
SNTG Esanatoglia 84.10 348 P **P 12 31 25.9 +0.6**
comp=Z,17nm,0.6s,mb5.3
STIP Stip 84.14 341 *e*P **P 12 31 22.6 -2.9**
MURB Monte Urbino 84.14 349 P **P 12 31 26.7 +1.1**
comp=Z,154nm,1.5s,mb5.9
VILF Villemus 84.19 354 *e*P **P 12 31 27.4 +1.6**
KAD Karad 84.24 291 *e*P **P 12 31 26.1 +0.1**
KAD AMb AMB 12 31 28.3
comp=Z,96nm,1.7s,mb5.7
PRAF Pradon 84.28 354 *e*P **P 12 31 27.4 +1.1**
AS31 Alice Springs 84.33 219⇑*i*P **P 12 31 26.7 +0.2**
ASAR Alice Springs 84.34 219 P **P 12 31 26.5 -0.1**
comp=Z,24nm,0.7s,mb5.4,baz=20,slow=5.5,SNR=334
ASAR PKiKP PKiKP 12 36 40.0 -0.8
comp=Z,0.4nm,0.6s,baz=350,slow=1.5,SNR=4.1
ASAR PKKPbc PKKPbc 12 49 39.0 +0.5
comp=Z,0.7nm,0.8s,baz=198,slow=2.4,SNR=6.4
ASAR PKPPKP 12 57 37.9
comp=Z,0.9nm,0.9s,baz=149,slow=2.6,SNR=4.1
ASAR LR LR 13 03 50.2
comp=Z,376nm,21.7s,MS4.7,baz=16,slow=32
ASPA Alice Springs 84.34 219⇑*i*P **P 12 31 26.7 +0.1**
TAVF Tavernes 84.41 354 *e*P **P 12 31 27.9 +1.0**
FRF La Foret Royal 84.42 353 *e*P **P 12 31 26.8 -0.2**
VAY Valandovo 84.42 341 *e*P **P 12 31 23.6 -3.4**
GRFL Gerfalco 84.43 350 P **P 12 31 27.0 0.0**
comp=Z,34nm,1.2s,mb5.3
NRCA Norcia 84.49 348 P **P 12 31 27.7 +0.4**
comp=Z,51nm,1.1s,mb5.6
PUYF Puylaubier 84.51 354 *e*P **P 12 31 28.6 +1.2**
TERO Teramo 84.64 348 P **P 12 31 28.8 +0.7**
comp=Z,44nm,1.2s,mb5.5
LMR La Mourre 84.65 353 *e*P **P 12 31 27.8 -0.4**
MTLF Montolieu 84.89 356 *e*P **P 12 31 29.6 +0.2**
comp=Z,27nm,0.9s,mb5.1
MTLF Montolieu 84.89 356 *e*P **P 12 31 29.6 +0.2**
comp=Z,14nm,0.9s,mb5.1
AQU L'Aquila 84.93 348 *e*P **P 12 31 30.6 +1.1**
AQU pmax pmax
comp=Z,30nm,0.8s,mb5.5
AQU L'Aquila 84.93 348 *e*P **P 12 31 30.6 +1.1**
comp=Z,30nm,0.8s,mb5.5
BIA Bitola 84.96 342 *e*P **P 12 31 25.9 -3.7**
OHR Ohrid 84.97 342 *e*P **P 12 31 26.2 -3.6**
MNS Montasola 84.99 349 P **P 12 31 29.5 -0.3**
MNS pmax pmax
comp=Z,71nm,2.0s,mb5.5
MNS Montasola 84.99 349 P **P 12 31 29.5 -0.3**
comp=Z,71nm,2.0s,mb5.5
FIAM Fiamignano 85.05 348 P **P 12 31 30.9 +0.8**
comp=Z,77nm,1.5s,mb5.6
ARMA Armidale 85.11 202⇑*i*P **P 12 31 32.1 +1.7**
INTR Introdacqua 85.20 348 P **P 12 31 30.1 -0.8**
comp=Z,44nm,0.7s,mb5.7
SJPF Ste Jean 85.21 359 *e*P **P 12 31 31.5 +0.5**
comp=Z,24nm,0.8s,mb5.1
SJPF Ste Jean 85.21 359 *e*P **P 12 31 31.5 +0.5**
comp=Z,12nm,0.8s,mb5.1
PGF Pioggiola 85.22 351 *e*P **P 12 31 31.1 +0.1**
comp=Z,32nm,0.9s,mb5.2
PGF Pioggiola 85.22 351 *e*P **P 12 31 31.1 +0.1**
comp=Z,16nm,0.9s,mb5.2
EPF Esparros 85.26 358 *e*P **P 12 31 30.6 -0.6**
comp=Z,46nm,1.4s,mb5.1
EPF Esparros 85.26 358 *e*P **P 12 31 30.6 -0.6**
comp=Z,23nm,1.4s,mb5.1
LRDF Laroque-de-Fa 85.28 356 *e*P **P 12 31 32.1 +0.8**
MLS Moulis 85.31 357 *e*P **P 12 31 31.9 +0.4**
VVLD Villa Vallelon 85.37 348 P **P 12 31 31.9 +0.1**
comp=Z,56nm,1.4s,mb5.5
CIGN Sant'Elia a Pi 85.41 347 P **P 12 31 32.5 +0.5**
ETSF Etsaut 85.42 358 *e*P **P 12 31 31.7 -0.3**
comp=Z,36nm,0.8s,mb5.2
ETSF Etsaut 85.42 358 *e*P **P 12 31 31.7 -0.3**
comp=Z,18nm,0.8s,mb5.2
CORF Corte 85.46 351 *e*P **P 12 31 31.9 -0.3**
RNI2 Rionero Sannit 85.47 347 P **P 12 31 33.4 +1.2**
JTS JuntasAbangare 86.80 77 PFAKE 12 31 50.0 +11
JTS LR LR
comp=Z,475nm,20.0s,MS4.9
PVRL Vila Real 86.96 4 *e*P **P 12 31 39.4 -0.2**
comp=Z,40nm,1.3s,mb5.5
MIB Mutribah 87.40 318 *e*P **P 12 31 41.3 -0.4**
MIB AMb AMB 12 31 47.3
comp=Z,157nm,0.8s,mb6.3
UMR Umm Al-Rimmam 87.47 318 *e*P **P 12 31 41.2 -0.9**
UMR AMb AMB 12 31 47.4
comp=Z,66nm,0.8s,mb5.9
PVIS Viseu 87.51 4 *e*P **P 12 31 42.3 0.0**
comp=Z,45nm,1.1s,mb5.6
TIP Timpagrande 87.55 345 *e*P **P 12 31 42.0 -0.5**
KBD Kabd 87.80 317 *e*P **P 12 31 42.9 -0.8**
KBD AMb AMB 12 31 45.4
comp=Z,301nm,1.0s
MTE Manteigas 87.84 4 *e*P **P 12 31 43.7 -0.1**
WSAR Wadi Sarin 87.85 306 LR LR 13 11 33.3
comp=Z,462nm,20.7s,MS4.9,baz=44,slow=36
NAY Al-Naaiem 87.93 318 *e*P **P 12 31 43.3 -1.0**
NAY AMb AMB 12 31 49.6
comp=Z,31nm,0.8s,mb5.6
RDF Al-Radifah 88.08 317 *e*P **P 12 31 44.3 -0.7**
RDF AMb AMB 12 31 50.1
comp=Z,88nm,0.8s,mb6.0
QRN Al-Qurain 88.09 317 *e*P **P 12 31 44.3 -0.7**
QRN AMb AMB 12 31 50.1
comp=Z,48nm,1.0s,mb5.7
MBWA Marble Bar 88.38 232 *e*P **P 12 31 45.6 -0.8**
MBWA LR LR
comp=Z,291nm,22.0s,MS4.7
ESDC Sonseca Array 88.65 1 P **P 12 31 46.6 -1.1**
comp=Z,0.7nm,0.3s,mb4.5,baz=21,slow=2.6,SNR=8.0
ESLA Sonseca Array 88.65 1 PFAKE 12 32 00.0 +12
ESLA LR LR
comp=Z,3μm,20.0s,MS5.7
STKA Stephens Creek 89.18 210 *e*P **P 12 31 48.9 -1.3**
comp=Z,56nm,0.9s,mb5.9
STKA Stephens Creek 89.18 210 P **P 12 31 49.0 -1.2**
comp=Z,68nm,0.9s,mb6.0,baz=353,slow=6.1,SNR=91
STKA LR LR 13 13 31.7
comp=Z,364nm,18.1s,MS4.8,baz=20,slow=37
SJG San Juan 91.21 58 PFAKE 12 32 10.0 +10
SJG LR LR
comp=Z,544nm,20.0s,MS5.0
FORT Forrest 93.00 221 *e*P **P 12 32 07.7 -0.2**
comp=Z,50nm,0.7s,mb6.0
TOO Toolangi 93.42 205 *e*P **P 12 32 10.5 +0.6**
comp=Z,6.5nm,0.7s,mb5.2
TOO Toolangi 93.42 205 *e*P **P 12 32 10.5 +0.6**
TOO pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
SDV Santo Domingo 96.33 67 PFAKE 12 32 30.0 +6.8
SDV LR LR
comp=Z,302nm,22.0s,MS4.7
ROSC El Rosal 97.44 72 LR LR 13 23 07.3
comp=Z,209nm,18.4s,MS4.7,baz=15,slow=40
OTAV Otavalo 98.66 78 PFAKE 12 32 50.0 +16
OTAV LR LR
comp=Z,242nm,22.0s,MS4.7
NWAO Narrogin (SRO) 99.50 228 P **P 12 32 37.2 -0.1**
comp=Z,10nm,0.9s,mb5.3,baz=118,slow=4.8,SNR=4.8
NWAO LR LR 13 12 25.4
comp=Z,246nm,21.6s,MS4.7,baz=28,slow=32
NNA Nana 109.22 85 PFAKE 12 37 40.0 +16
NNA LR LR
comp=Z,391nm,21.0s,MS5.0
TORD Torodi Ar. Bea 114.96 355 PKP PKiKP 12 37 34.6 -0.8
comp=Z,2.7nm,0.6s,baz=356,slow=2.3,SNR=26
TORD PKKPbc PKKPbc 12 48 10.4 -1.0
comp=Z,1.0nm,0.6s,baz=171,slow=1.3,SNR=7.5
TORD SKKP 12 52 05.4
comp=Z,1.6nm,1.1s,baz=209,slow=3.1,SNR=3.6
SAML Samuel 115.07 71 PFAKE 12 37 50.0 +14
SAML LR LR
comp=Z,314nm,20.0s,MS4.9
LPAZ La Paz 117.87 81 PKP PKPdf 12 37 41.6 +0.7
comp=Z,1.6nm,0.9s,baz=47,slow=5.6,SNR=6.0
LPAZ La Paz 117.87 81 PKP PKPdf 12 37 41.6 +0.7
LPAZ LR LR
comp=Z,352nm,21.0s,MS5.0
KMBO Kilima Mbogo 119.18 312 PKP PKPdf 12 37 43.4 -0.1
comp=Z,2.6nm,1.0s,baz=242,slow=24,SNR=4.2
KMBO Kilima Mbogo 119.18 312 PKP PKPdf 12 37 43.4 -0.1
KMBO LR LR
comp=Z,353nm,20.0s,MS5.0
DBIC Dimbokro 121.49 2 PKP PKPdf 12 37 47.6 -0.3
comp=Z,4.1nm,0.5s,baz=351,slow=2.0,SNR=17
DBIC Dimbokro 121.49 2 PKP PKPdf 12 37 47.6 -0.3
DBIC LR LR
comp=Z,520nm,19.0s,MS5.2
DRV Dumont d'Urvil 121.68 196 SP SP 12 49 08.0 -3.5
DRV SS SS 12 56 02.0 +6.1
SIV San Ignacio 121.89 74 PKKPab PKKPab 12 47 47.3 +0.2
comp=Z,1.9nm,1.0s,baz=163,slow=4.8,SNR=6.4
LIC Lamto 121.93 3 *e*PKIKP PKPdf 12 37 48.0 -0.7
comp=Z,18nm,0.9s
LIC *e*R
comp=Z,581nm,20.8s
LIC Lamto 121.93 3 *e*PKPdf PKPdf 12 37 48.0 -0.7
LIC LR LR
comp=Z,290nm,20.8s,MS4.9
RCBR Riachuelo 126.47 42 PFAKE 12 38 10.0 +13
RCBR LR LR
comp=Z,613nm,21.0s,MS5.2
CASY Casey 128.32 208 *e*P PKPdf 12 37 59.7 -1.3
CASY LR LR
comp=Z,419nm,22.0s,MS5.1
OPO Ambohidratompo128.69 291 PKP PKPdf 12 38 02.3 +0.7
comp=Z,4.8nm,1.1s,baz=286,slow=11,SNR=3.7
BDFB Brasilia 129.08 62 PKP PKPdf 12 38 02.5 0.0
comp=Z,19nm,0.9s,baz=264,slow=2.5,SNR=15
VNDA Vanda 129.65 184 PKP PKPdf 12 38 03.0 -0.5
comp=Z,3.9nm,1.0s,baz=320,slow=4.4,SNR=10
VNDA Vanda 129.65 184 PKP PKPdf 12 38 03.0 -0.5
VNDA LR LR
comp=Z,235nm,19.0s,MS4.9
SBA Scott Base 129.79 183 *e*PKIKP PKPdf 12 38 03.5 -0.3
SBA MLR MLR
comp=Z,449nm,20.0s,MS5.2
CPUP Villa Florida 132.00 79 PKP PKPdf 12 38 07.2 -0.8
comp=Z,6.2nm,0.8s,baz=298,slow=2.0,SNR=17
PLCA Paso Flores 133.59 104 PKP PKPdf 12 38 11.2 +0.3
comp=Z,8.3nm,0.7s,baz=254,slow=2.0,SNR=27
PLCA SKKP 12 51 32.7
comp=Z,2.7nm,1.0s,baz=27,slow=10,SNR=2.9
PLCA Paso Flores 133.59 104 *e*PKPdf PKPdf 12 38 10.8 -0.1
PLCA LR LR
comp=Z,399nm,19.0s,MS5.2
LSZ Lusaka 135.77 314 PFAKE 12 38 30.0 +15
LSZ LR LR
comp=Z,331nm,19.0s,MS5.1
TRQA Tornquist 137.15 95 *e*PKPdf PKPdf 12 38 17.1 -0.5
MATP Matopo 140.13 310 PKhKP 12 38 15.0
comp=Z,3.6nm,0.9s,baz=302,slow=4.0,SNR=5.4
MATP PKP PKPdf 12 38 21.5 -1.5
comp=Z,7.2nm,1.0s,baz=159,slow=2.1,SNR=6.2
MATP Matopo 140.13 310 PKP PKPdf 12 38 21.5 -1.5
QSPA South Pole Qui 141.80 180 *e*P PKPdf 12 38 19.5 -6.6
TSUM Tsumeb 143.51 326 PKP PKPdf 12 38 26.7 -2.4
comp=Z,11nm,1.1s,baz=58,slow=3.1,SNR=7.5
TSUM Tsumeb 143.51 326 PKP PKPdf 12 38 26.7 -2.4
TSUM LR LR
comp=Z,369nm,21.0s,MS5.1
LBTB Lobatse 145.42 310 PKPbc PKPbc 12 38 32.3 -0.1
LBTB Lobatse 145.42 310 PKPbc PKPbc 12 38 32.4 0.0
comp=Z,85nm,0.8s,baz=46,slow=2.3,SNR=93
LBTB Lobatse 145.42 310 *e*PKPdf PKPdf 12 38 32.3 -0.1
MAW Mawson 145.46 218 *e*P PKPdf 12 38 30.4 -2.1
comp=Z,28nm,0.5s
MAW Mawson 145.46 218 PKPbc PKPbc 12 38 31.0 -1.5
comp=Z,32nm,0.6s,baz=74,slow=3.0,SNR=157
EFI East Falkland 146.61 112 PKP2 PKPab 12 38 34.3 -2.8
BOSA Boshof 148.60 307 PKPbc PKPbc 12 38 41.5 0.0
comp=Z,19nm,0.6s,baz=30,slow=1.5,SNR=43
BOSA Boshof 148.60 307 *e*PKPbc PKPbc 12 38 40.7 -0.8
SUR Sutherland 153.86 310 PKPbc PKPbc 12 38 54.3 +0.6
comp=Z,6.2nm,0.5s,baz=99,slow=8.5,SNR=7.5
SYO Syowa Base 153.88 214⇓*e*PKPdf PKPdf 12 38 45.8 0.0
SYO Syowa Base 153.88 214⇓*e*pPKPdf pPKPdf 12 38 48.6 -4.3
VNA1 Neumayer--Stat 161.17 174 *e*PKPdf PKPab 12 39 36.9 -1.4
VNA1 *e* 12 39 42.2
VNA1 *e* 12 39 46.4
VNA1 *e* 12 39 50.4
VNA1 *e* 12 39 55.7

NEIC ***23*** *12:57:01.7±0.9, 506N×9442E, h30km, mb4.4/3, Error ellipse: s-maj=40.4km s-min=7.7km az=51.0*
ISCJB ***23*** *12:57:04.7±3.8, 52N±02×946E±03, h72km±29km, mb4.0/12, Error ellipse: s-maj=60.1km s-min=12.1km az=105.3*
IDC ***23*** *12:57:06.5±5.5, 521N×9469E, h67km±45km, mb3.7/9, mb1 3.8/10, mb1mx3.6/23, mbtmp4.0/10, Error ellipse: s-maj=73.2km s-min=16.4km az=55.0*
ISC 23 12:57:06.6±3.5, 52N±02×946E±03, h69km±27km, n17, σ0:34/18, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.93**	**119**	P		**Pn**		**12 58 17.6**	**-0.5**
3.7nm,0.3s,baz=302,slow=11,SNR=8.8									
PSI					S		**Sn**	**12 59 14.3**	**+0.5**
3.1nm,0.3s,baz=141,slow=21,SNR=4.1									
MKAR	**Makanchi Array**	**42.80**	**348**		P		**P**	**13 04 57.8**	**+0.4**
0.8nm,0.4s,mb3.8,baz=168,slow=8.2,SNR=9.8									
SONM	**Songino Array**	**43.69**	**12**		P		**P**	**13 05 03.8**	**-0.8**
0.5nm,0.6s,mb3.4,baz=192,slow=8.8,SNR=4.9									
WRA	**Warramunga Arr**	**46.37**	**124**		P		**P**	**13 05 25.8**	**-0.1**
1.7nm,0.6s,mb4.0,baz=300,slow=9.8,SNR=28									
WRAB	**Tennant Creek**	**46.38**	**124**		*e*P		**P**	**13 05 25.8**	**-0.1**
2.6nm,0.6s,mb4.1									
WB2	**Warramunga Arr**	**46.38**	**124**		*e*P		**P**	**13 05 25.8**	**-0.1**
ASPA	**Alice Springs**	**47.88**	**128**		*e*P		**P**	**13 05 37.6**	**0.0**
ASAR	**Alice Springs**	**47.88**	**128**		P		**P**	**13 05 37.7**	**+0.1**
0.8nm,0.4s,mb3.9,baz=300,slow=7.9,SNR=29									
AS31	**Alice Springs**	**47.88**	**128**		*e*P		**P**	**13 05 37.6**	**0.0**
ZAL	**Zalesovo**	**49.26**	**352**		P		**P**	**13 05 48.1**	**-0.1**
4.0nm,0.4s,mb4.7,baz=103,slow=22,SNR=8.9									
BVAR	**Borovoye Array**	**51.67**	**342**		P		**P**	**13 06 06.5**	**+0.2**
0.7nm,0.5s,mb4.0,baz=142,slow=7.5,SNR=5.6									
ZRNK	**Zerenda**	**52.05**	**341**		*e*P		**P**	**13 06 09.2**	**0.0**
1.1nm,0.5s,mb4.1									
CHKZ	**Chkalovo**	**52.15**	**342**		*e*P		**P**	**13 06 10.5**	**+0.6**
11nm,1.4s,mb4.7									
AKTK	**Aktyubinsk**	**54.52**	**332**		P		**P**	**13 06 27.4**	**+0.1**
AKTO	**Aktyubinsk**	**54.52**	**332**		P		**P**	**13 06 27.4**	**+0.1**
1.0nm,0.5s,mb4.1,baz=93,slow=11,SNR=5.3									
FINES	**FINESS Array B**	**75.29**	**332**		P		**P**	**13 08 41.6**	**-0.5**
0.3nm,0.4s,mb3.4,baz=104,slow=8.0,SNR=5.8									
ARCES	**ARCESS Array B**	**77.93**	**340**		P		**P**	**13 08 57.2**	**+0.1**
0.9nm,0.7s,mb3.6,baz=103,slow=5.4,SNR=6.2									

ISCJB ***23*** *12:59:56.9±0.8, 471S±01×325E±04, h10km, mb4.2/10, MS3.3/2, Error ellipse: s-maj=39.5km s-min=15.6km az=136.2*
IDC ***23*** *12:59:57.1±1.1, 4701S×3284E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/17, mbtmp4.2/7, MS3.4/4, Ms1 3.3/4, ms1mx3.2/25, Error ellipse: s-maj=59.9km s-min=21.0km az=61.0*
NEIC ***23*** *12:59:58.5±0.6, 4709S×3259E, h10km, mb4.5/2, Error ellipse: s-maj=32.3km s-min=12.5km az=68.0*
ISC 23 12:59:58.4±0.8, 471S±01×325E±04, h10km, n14, σ0:57/11, mb4.2/10, MS3.3/2, 2C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.24**	**325**		LR		LR	13 10 38.8	
comp=Z,115nm,18.1s,baz=210,slow=37									
BOSA	**Boshof**	**19.35**	**340**		LR		LR	13 11 18.5	
comp=Z,54nm,18.6s,baz=163,slow=35									
LBTB	**Lobatse**	**22.76**	**344**		P		**P**	**13 05 00.8**	**-0.1**
2.1nm,0.5s,mb3.9,baz=186,slow=10.0,SNR=3.4									
LBTB					LR		LR	13 13 43.0	
comp=Z,102nm,18.6s,MS3.3,baz=46,slow=36									
MAW	**Mawson**	**25.75**	**154**		P		**P**	**13 05 30.0**	**+0.9**
1.7nm,0.7s,mb3.7,baz=286,slow=12,SNR=9.4									
MATP	**Matopo**	**26.85**	**352**		LR		LR	13 14 33.2	
comp=Z,104nm,21.6s,MS3.4,baz=249,slow=33									
QSPA	**South Pole Qui**	**43.08**	**180**		*e*P		**P**	**13 07 58.1**	**-0.4**
3.8nm,0.7s,mb4.2									
VNDA	**Vanda**	**51.75**	**168**		P		**P**	**13 09 06.0**	**0.0**
1.0nm,0.7s,mb3.8,baz=248,slow=8.3,SNR=6.5									
VNDA	**Vanda**	**51.75**	**168**		P		**P**	**13 09 06.0**	**0.0**
TORD	**Torodi Ar. Bea**	**66.05**	**327**		P		**P**	**13 10 45.6**	**+0.3**
1.0nm,0.7s,mb3.9,baz=162,slow=5.9,SNR=6.0									
STKA	**Stephens Creek**	**78.80**	**125**		P		**P**	**13 12 00.1**	**-1.3**
4.2nm,0.7s,mb4.5,baz=264,slow=4.4,SNR=14									
ASAR	**Alice Springs**	**80.33**	**114**		P		**P**	**13 12 09.9**	**+0.2**
5.0nm,0.7s,mb4.6,baz=222,slow=4.8,SNR=104									
WRA	**Warramunga Arr**	**83.33**	**112**		P		**P**	**13 12 25.7**	**+0.1**
3.0nm,0.8s,mb4.4,baz=211,slow=3.7,SNR=19									
WRAB	**Tennant Creek**	**83.34**	**112**		*e*P		**P**	**13 12 25.9**	**+0.3**
3.6nm,0.7s,mb4.5									
AB31	**Akbulak array**	**98.92**	**18**		⇑P		**P**	**13 13 33.8**	**-5.2**
0.2nm,0.3s,mb4.1,baz=351,slow=12,SNR=16									
AB31					⇑S			13 13 55.4	
1.1nm,0.6s,baz=351,slow=24,SNR=7.9									

MAN ***23*** *13:06:48.5, 1835N×11964E, h1km, mb4.0, ML5.0, MS7.6*
NEIC ***23*** *13:06:51.2±0.5, 1803N×11994E, h10km, mb4.4/5, Error ellipse: s-maj=15.1km s-min=9.8km az=67.0*
ISCJB ***23*** *13:06:53.6±0.4, 1809N±006×11972E±006, h33km, mb4.1/13, MS3.6/5, Error ellipse: s-maj=9.9km s-min=5.0km az=86.8*
IDC ***23*** *13:06:57.3±6.8, 1814N×12028E, h58km±65km, mb3.7/8, mb1 3.9/9, mb1mx3.7/20, mbtmp4.1/9, ML3.6/1, MS3.7/6, Ms1 3.7/6, ms1mx3.2/28, Error ellipse: s-maj=48.0km*

s-min=15.4km az=69.0
*BJI **23** 13:06:59.9, 1862N×119.13E, h10km, mB4.6, mb4.2, ML3.8, Ms4.1, Msz3.9*
ISC 23 13:06:55.0±2.2, 1809N±005×11977E±006, h32km±18km, n38, σ1§43/39, mb4.1/13, MS3.6/5, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.00**	**116**	*eP*	**Pn**	**13 07 11.3**	**-1.4**
ABRA				*eS*	**Sn**	**13 07 24.9**	**-0.8**
APYP	**Conner**	**1.42**	**99**	*eP*	**Pn**	**13 07 16.6**	**-1.9**
APYP				*eS*	**Sn**	**13 07 40.6**	**+4.5**
BOLP	**Bolinao**	**1.70**	**175**	*eP*	**Pn**	**13 07 23.6**	**+1.1**
BCPH	**Baguio City Da**	**1.87**	**155**	⇑*iP*	**Pn**	**13 07 23.6**	**-1.0**
BCPH				*i* S	**Sn**	**13 07 49.5**	**+2.4**
CVP	**Callao Caves**	**1.99**	**101**	⇑*iP*	**Pn**	**13 07 26.5**	**+0.1**
CVP				*eS*	**Sn**	**13 08 01.5**	**+11**
SGCP	**Mt. Cagua**	**2.17**	**86**	*eP*	**Pn**	**13 07 28.4**	**-0.5**
CAUP	**Cauayan**	**2.27**	**120**	*eP*	**Pn**	**13 07 32.1**	**+1.9**
SCZP	**Santa Cruz**	**2.30**	**177**	*eP*	**Pn**	**13 07 38.8**	**+8.2**
PALP	**Palanan**	**2.73**	**112**	*eP*	**Pn**	**13 07 38.1**	**+1.6**
PCPH	**Palayan**	**2.81**	**153**	⇓*eP*	**Pn**	**13 07 43.2**	**+5.5**
BALP	**Baler**	**2.90**	**143**	*eP*	**Pn**	**13 07 41.2**	**+2.3**
QIZ	**Qiongzhong**	**9.46**	**277**	P	**Pn**	**13 09 07.6**	**-1.4**
QIZ				S	**Sn**	**13 10 51.1**	**-3.1**
QIZ				AMB	AMB		
	comp=Z,10.0nm,0.8s						
QIZ				LR	LR		
	comp=E,540nm,11.2s						
QIZ				LR	LR		
	comp=Z,850nm,11.2s						
QIZ	**Qiongzhong**	**9.46**	**277**	*eP*	**Pn**	**13 09 07.4**	**-1.6**
	comp=Z,13nm,0.6s						
JOW	**Kunigami**	**11.72**	**41**	P	**Pn**	**13 09 36.5**	**-3.4**
	comp=Z,0.9nm,0.3s,baz=279,slow=16,SNR=5.1						
JOW				LR	LR	13 13 51.1	
	comp=Z,288nm,21.4s,baz=111,slow=36						
XAN	**Xi'an**	**18.61**	**331**	P	**Pn**	**13 11 09.9**	**-0.2**
XAN				AP	pP	13 11 19.6	+1.4
CD2	**Chengdu**	**19.34**	**314**	*eP*	**Pn**	**13 11 18.8**	**0.0**
CD2				AP	pP	13 11 22.5	-3.7
CD2				XP	sP	13 11 25.9	-4.4
CD2				PP		13 11 36.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CD2				LR	LR		
	comp=N,510nm,13.2s						
CD2				LR	LR		
	comp=Z,340nm,12.0s						
BJT	**Baijiatuau**	**22.07**	**353**	P	**P**	**13 11 48.5**	**+1.4**
CBIJ	**Chichi jima**	**22.52**	**63**	LR	LR	13 18 55.4	
	comp=Z,145nm,18.4s,MS3.4,baz=70,slow=32						
LZH	**Lanzhou**	**22.80**	**325**	*eP*	**P**	**13 12 01.0**	**+6.2**
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
MJAR	**Matsushiro Arr**	**24.54**	**38**	P	**P**	**13 12 09.3**	**-2.3**
	comp=Z,1.5nm,0.8s,mb3.6,baz=221,slow=7.3,SNR=5.2						
MJAR				LR	LR	13 21 41.3	
	comp=Z,201nm,18.5s,MS3.6,baz=40,slow=36						
GUMO	**Guam**	**24.55**	**97**	LR	LR	13 20 47.6	
	comp=Z,107nm,20.5s,MS3.3,baz=274,slow=34						
PSI	**Prapat**	**25.46**	**236**	LR	LR	13 22 10.3	
	comp=Z,257nm,18.0s,MS3.8,baz=208,slow=35						
SONM	**Songino Array**	**31.62**	**343**	LR	LR	13 26 25.7	
	comp=Z,200nm,18.1s,MS3.8,baz=53,slow=37						
WRAB	**Tennant Creek**	**40.40**	**159**	*eP*	**P**	**13 14 28.4**	**-1.5**
	comp=Z,10nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**40.41**	**159**	P	**P**	**13 14 28.6**	**-1.4**
	comp=Z,3.6nm,0.8s,mb4.1,baz=342,slow=9.0,SNR=22						
WB2	**Warramunga Arr**	**40.41**	**159**	*eP*	**P**	**13 14 28.6**	**-1.4**
MKAR	**Makanchi Array**	**42.02**	**321**	P	**P**	**13 14 45.5**	**+2.2**
	comp=Z,1.3nm,0.8s,mb3.6,baz=104,slow=10,SNR=5.3						
AS31	**Alice Springs**	**43.73**	**161**	*eP*	**P**	**13 14 57.3**	**+0.2**
ASAR	**Alice Springs**	**43.73**	**161**	P	**P**	**13 14 57.0**	**-0.1**
	comp=Z,4.0nm,0.8s,mb4.2,baz=343,slow=6.9,SNR=38						
ASPA	**Alice Springs**	**43.73**	**161**	*eP*	**P**	**13 14 57.3**	**+0.2**
KURK	**Kurchatov**	**46.09**	**325**	*eP*	**P**	**13 15 17.3**	**+1.4**
	comp=Z,4.0nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**51.69**	**324**	P	**P**	**13 16 00.5**	**+1.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=102,slow=12,SNR=6.1						
CHKZ	**Chkalovo**	**51.82**	**325**	*eP*	**P**	**13 15 59.1**	**-0.7**
	comp=Z,6.0nm,1.4s,mb4.3						
ZRNK	**Zerenda**	**52.43**	**324**	*eP*	**P**	**13 16 06.0**	**+1.6**
	comp=Z,5.1nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**53.91**	**157**	*eP*	**P**	**13 16 13.4**	**-1.8**
	comp=Z,2.9nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**53.91**	**157**	P	**P**	**13 16 13.1**	**-2.1**
	comp=Z,4.0nm,0.8s,mb4.4,baz=333,slow=7.9,SNR=7.4						
FINES	**FINESS Array B**	**76.04**	**330**	P	**P**	**13 18 38.6**	**-0.5**
	comp=Z,2.7nm,1.1s,mb4.1,baz=70,slow=2.2,SNR=5.4						
AKASG	**Malin Array Be**	**76.56**	**319**	P	**P**	**13 18 43.3**	**+1.3**
	comp=Z,0.4nm,0.3s,mb3.8,baz=64,slow=5.5,SNR=4.1						

*ISCJB **23** 13:10:25.4±0.8, 1497N±006×9457W±004, h10km, mb4.0/8, MS4.1/2, Error ellipse: s-maj=8.8km s-min=5.5km az=179.6*
*IDC **23** 13:10:26.1±3.4, 1526N×9391W, h0km, mb3.9/6, mb1 4.2/7, mb1mx4.0/21, mbtmp4.0/7, ML3.8/1, MS3.8/3, Ms1 3.8/3, ms1mx3.3/33, Error ellipse: s-maj=90.5km s-min=36.6km az=41.0*
*NEIC **23** 13:10:28.1, 1485N×9467W, h9km, mb4.1/6, MD4.5(MEX), After MEX.*
*MEX **23** 13:10:28.4±1.2, 1482N×9467W, h37km±561km, MD4.5*
ISC 23 13:10:26.9±0.8, 1497N±006×9456W±004, h10km, n39, σ1§44/55, mb4.0/8, MS4.1/2, 1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.69**	**298**	⇑*iP*	**Pn**	**13 10 54.4**	**-2.1**
HUIG				*i* S	**Sn**	**13 11 12.7**	**-5.5**
HUIG	**Huatulco**	**1.69**	**298**	*i* P	**Pn**	**13 10 53.9**	**-2.6**
HUIG				*i* S	**Sn**	**13 11 13.4**	**-4.9**
CMIG	**Matias Romero**	**2.13**	**352**	Pn	**Pn**	**13 11 02.0**	**-0.5**
	34nm,0.3s,baz=161,slow=11,SNR=314						
CMIG				Sn	**Sn**	**13 11 29.1**	**+0.1**
	73nm,0.3s,baz=130,slow=19,SNR=11						
CMIG				LR	LR	13 11 34.0	
	comp=Z,600nm,19.8s,baz=342,slow=33						
CMIG	**Matias Romero**	**2.13**	**352**	*i* P	**Pn**	**13 11 01.3**	**-1.2**
CMIG				*i* S	**Sn**	**13 11 28.8**	**-0.2**
CMIG	**Matias Romero**	**2.13**	**352**	*i* P	**Pn**	**13 11 01.3**	**-1.2**
CMIG				Pn	**Pn**	**13 11 02.0**	**-0.5**
CMIG				*i* S	**Sn**	**13 11 28.8**	**-0.2**
CMIG				Sn	**Sn**	**13 11 29.1**	**+0.1**
CMIG				LR	LR	13 11 34.0	
SCX	**San Cristobal**	**2.55**	**46**	*i* P	**Pn**	**13 11 09.5**	**+1.3**
SCX				*i* S	**Sn**	**13 11 40.0**	**+0.7**
SCX	**San Cristobal**	**2.55**	**46**	*i* P	**Pn**	**13 11 09.5**	**+1.3**
SCX				*i* S	**Sn**	**13 11 44.5**	**+5.2**
CCIG	**Comitan**	**2.67**	**60**	*i* P	**Pn**	**13 11 09.6**	**-0.3**
CCIG				*i* S	**Sn**	**13 11 41.3**	**-1.0**
CCIG	**Comitan**	**2.67**	**60**	*i* P	**Pn**	**13 11 10.4**	**+0.5**
CCIG				*i* S	**Sn**	**13 11 44.1**	**+1.8**
OXX	**Oaxaca**	**2.96**	**316**	*i* P	**Pn**	**13 11 16.0**	**+2.1**
VHO	**Vista Hermosa**	**2.96**	**315**	*eP*	**Pn**	**13 11 12.2**	**-1.7**
VHO				*i* S	**Sn**	**13 11 45.1**	**-4.3**
VHO	**Vista Hermosa**	**2.96**	**315**	*i* P	**Pn**	**13 11 14.5**	**+0.6**
VHO				*i* S	**Sn**	**13 11 48.8**	**-0.6**
TUIG	**Tuzandepetl**	**3.05**	**2**	*eP*	**Pn**	**13 11 16.6**	**+1.5**
TUIG				*i* S	**Sn**	**13 11 50.4**	**-1.2**
TUIG	**Tuzandepetl**	**3.05**	**2**	*i* P	**Pn**	**13 11 18.2**	**+3.1**
UTMO	**Huajuapan**	**4.22**	**313**	*eP*	**Pn**	**13 11 30.8**	**-0.4**
UTMO				*i* S	**Sn**	**13 12 18.9**	**-1.6**
SCIG		**5.12**	**39**	*i* P	**Pn**	**13 11 43.2**	**-0.4**
SCIG				*i* S	**Sn**	**13 12 43.2**	**+0.5**
PPM	**Popocatepetl**	**5.63**	**317**	*eP*	**Pn**	**13 11 52.8**	**+2.2**
PPM				*i* S	**Sn**	**13 12 50.3**	**-5.1**
PPM	**Popocatepetl**	**5.63**	**317**	*i* P	**Pn**	**13 11 54.1**	**+3.4**
PPM				*i* S	**Sn**	**13 13 01.6**	**+6.2**
TEIG	**Tepich**	**7.95**	**48**	*eP*	**Pn**	**13 12 19.9**	**-2.5**
	21nm,0.5s						
JCT	**Junction City**	**16.17**	**344**	*eP*	**Pn**	**13 14 13.7**	**-0.5**
LTX	**Lajitas**	**16.59**	**331**	*eP*	**Pn**	**13 14 20.0**	**+0.6**
	19nm,1.4s						
MNTX	**Cornudas Mount**	**19.37**	**331**	*eP*	**Pn**	**13 14 54.3**	**+0.6**
	12nm,1.5s						
MIAR	**Mount Ida**	**19.51**	**2**	*eP*	**Pn**	**13 14 52.9**	**-2.6**
	6.9nm,0.8s						
AMTX	**Amarillo**	**20.84**	**343**	*eP*	**P**	**13 15 09.1**	**+0.4**
	16nm,0.7s						
OTAV	**Otavalo**	**21.63**	**131**	*eP*	**P**	**13 15 15.8**	**-1.3**
BNM	**Barren Site**	**21.99**	**332**	*eP*	**P**	**13 15 23.4**	**+2.4**
LAZ	**Ladron**	**22.43**	**332**	*eP*	**P**	**13 15 29.0**	**+3.2**
ANMO	**Albuquerque**	**22.59**	**334**	P	**P**	**13 15 28.9**	**+1.4**
	1.9nm,0.7s,mb3.6,baz=160,slow=10.0,SNR=6.7						
SMCO	**Snowmass**	**26.47**	**338**	*eP*	**P**	**13 16 03.7**	**-0.4**
	11nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**30.56**	**338**	P	**P**	**13 16 41.3**	**+0.8**
	1.1nm,0.8s,mb3.7,baz=141,slow=7.6,SNR=9.6						
MNV	**Mina**	**31.30**	**323**	*eP*	**P**	**13 16 49.9**	**+2.9**
	3.0nm,1.1s,mb4.0						
NVAR	**Mina Array Bea**	**31.38**	**323**	P	**P**	**13 16 50.4**	**+2.6**
	1.5nm,0.7s,mb3.9,baz=150,slow=7.7,SNR=13						
ULM	**Lac du Bonnet**	**35.20**	**359**	P	**P**	**13 17 19.1**	**-2.0**
	1.0nm,0.6s,mb3.9,baz=163,slow=14,SNR=2.3						
SCHQ	**Schefferville**	**45.22**	**22**	LR	LR	13 39 21.7	
	comp=Z,187nm,18.4s,MS4.0,baz=209,slow=39						
YKA	**Yellowknife Ar**	**49.54**	**348**	P	**P**	**13 19 16.8**	**-0.9**
	1.7nm,0.7s,mb4.2,baz=155,slow=7.2,SNR=14						
YKA	**Yellowknife Ar**	**49.54**	**348**	P	**P**	**13 19 16.8**	**-0.9**
NB2	**NORSAR Subarra**	**84.47**	**28**	P	**P**	**13 22 59.9**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.2,baz=293,slow=5.1						
NOA	**NORSAR Array B**	**84.47**	**28**	P	**P**	**13 22 58.2**	**-1.6**
	comp=Z,1.1nm,0.7s,mb4.1,baz=291,slow=5.3,SNR=4.5						
GERES	**GERESS Array B**	**90.42**	**39**	LR	LR	14 02 45.6	
	comp=Z,82nm,18.8s,MS4.2,baz=86,slow=35						

*BJI **23** 13:22:06.6, 5190N×17700E, h9km, mB4.8, mb4.6, Ms4.5, Msz4.1*
*IDC **23** 13:22:08.4±0.7, 5211N×17668E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/25, mbtmp4.0/14, ML3.8/1, MS3.8/5, Ms1 3.8/5, ms1mx3.4/37, Error ellipse: s-maj=24.8km s-min=14.9km az=155.0*
*NEIC **23** 13:22:09.6, 5194N×17697E, h9km, mb4.3/9, ML4.1(AEIC), After AEIC.*
*ISCJB **23** 13:22:11.2±0.3, 5202N±006×17702E±005, h33km, mb4.1/21, MS3.9/6, Error ellipse: s-maj=9.2km s-min=4.7km az=176.9*
*MOS **23** 13:22:11.0±1.4, 5201N×17706E, h33km, mb4.4/8, Error ellipse: s-maj=17.6km s-min=11.3km az=70.1*
ISC 23 13:22:12.9±0.3, 5198N±006×17700E±005, h35km, (h6km±6.3km:pP-P), n54, σ1§20/51, mb4.1/21, MS3.9/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.55**	**112**	P	**Pn**	**13 22 36.3**	**-1.7**
AMKA				S	**Sn**	**13 22 57.9**	**+0.9**
SMY	**Shemya**	**1.93**	**294**	P	**Pn**	**13 22 42.1**	**-1.2**
SMY				S	**Sn**	**13 23 07.5**	**+1.2**
ATKA	**Atka Island**	**5.43**	**84**	P	**Pn**	**13 23 31.0**	**-0.4**
SPIA	**Saint Paul Isl**	**9.05**	**50**	*eP*	**Pn**	**13 24 21.4**	**+0.4**
UNV	**Unalaska Valle**	**10.14**	**73**	*eP*	**Pn**	**13 24 36.8**	**+0.8**
	188nm,1.3s						
BILL	**Biiibino**	**16.93**	**346**	*eP*	**Pn**	**13 26 09.1**	**+2.0**
BILL				pmax	pmax		
	comp=Z,22nm,1.1s						
BILL	**Biiibino**	**16.93**	**346**	*eP*	**Pn**	**13 26 09.1**	**+2.0**
	comp=Z,22nm,1.1s						
SVW2	**Sparrevohn**	**17.53**	**48**	*eP*	**Pn**	**13 26 15.7**	**+1.2**
TTA	**Tatalina**	**18.03**	**42**	*eP*	**Pn**	**13 26 22.1**	**+1.4**
TTA				pmax	pmax		
	comp=Z,29nm,1.4s						
TTA	**Tatalina**	**18.03**	**42**	*eP*	**Pn**	**13 26 22.1**	**+1.4**
	comp=Z,29nm,1.4s						
KDAK	**Kodiak Island**	**18.33**	**60**	P	**Pn**	**13 26 23.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=180,slow=6.1,SNR=3.4						
SLKM	**Skilak Lake**	**19.92**	**52**	*eP*	**Pn**	**13 26 40.6**	**-2.8**
PMR	**Palmer**	**20.66**	**49**	P	**P**	**13 26 48.1**	**-1.5**
PMR				pmax	pmax		
	comp=Z,26nm,1.4s						
PMR	**Palmer**	**20.66**	**49**	P	**P**	**13 26 48.1**	**-1.4**
	comp=Z,26nm,1.4s						
SML	**Sawmill**	**21.08**	**49**	*eP*	**P**	**13 26 54.1**	**0.0**
MCK	**McKinley**	**21.30**	**43**	*eP*	**P**	**13 26 55.4**	**-1.1**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
MCK	**McKinley**	**21.30**	**43**	*eP*	**P**	**13 26 55.4**	**-1.1**
	comp=Z,5.5nm,1.0s,mb3.8						
COLA	**College**	**22.11**	**41**	*eP*	**P**	**13 27 02.0**	**-3.1**
COLA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
COLA	**College**	**22.11**	**41**	*eP*	**P**	**13 27 02.0**	**-3.1**
	comp=Z,11nm,1.0s,mb4.2						
YSS	**Yuzh-Sakhalins**	**22.68**	**271**	*eP*	**P**	**13 27 11.7**	**+0.5**
YSS				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.4						
YSS	**Yuzh-Sakhalins**	**22.68**	**271**	*eP*	**P**	**13 27 11.7**	**+0.5**
	comp=Z,18nm,1.2s,mb4.4						
ASAJ	**Asahikawa**	**24.12**	**265**	P	**P**	**13 27 25.8**	**+0.4**
	comp=Z,14nm,0.9s,mb4.4,baz=2.8,slow=2.6,SNR=17						
ASAJ				LR	LR	13 35 48.6	
	comp=Z,174nm,19.7s,MS3.5,baz=78,slow=34						
ASAJ	**Asahikawa**	**24.12**	**265**	P	**P**	**13 27 25.8**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,175nm,19.7s						
DAWY	**Dawson**	**25.49**	**45**	*eP*	**P**	**13 27 38.5**	**+0.7**
INK	**Inuvik**	**28.50**	**36**	P	**P**	**13 28 06.1**	**+1.3**
	comp=Z,1.4nm,0.6s,mb3.8,baz=259,slow=10,SNR=5.2						
MJAR	**Matsushiro Arr**	**31.34**	**256**	P	**P**	**13 28 29.8**	**-0.3**
	comp=Z,1.9nm,0.9s,mb3.9,baz=43,slow=6.9,SNR=5.4						
MDJ	**Mudanjiang**	**31.90**	**276**	P	**P**	**13 28 33.9**	**-1.0**
CN2	**Changchun**	**34.87**	**277**	*eP*	**P**	**13 29 02.4**	**+1.6**
YKA	**Yellowknife Ar**	**36.71**	**46**	P	**P**	**13 29 16.7**	**+0.2**
	comp=Z,2.0nm,0.9s,mb4.0,baz=289,slow=8.5,SNR=12						
YKA	**Yellowknife Ar**	**36.71**	**46**	P	**P**	**13 29 16.7**	**+0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**44.03**	**294**	P	**P**	**13 30 16.9**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.4,baz=55,slow=7.0,SNR=4.1						
SONM				LR	LR	13 48 37.9	
	comp=Z,144nm,18.3s,MS3.9,baz=200,slow=36						
NVAR	**Mina Array Bea**	**46.05**	**80**	P	**P**	**13 30 36.3**	**+3.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=287,slow=10,SNR=3.0						
NJ2	**Nanjing**	**46.20**	**268**	*eP*	**P**	**13 30 34.9**	**+0.6**
NJ2				AP	pP	13 30 39.1	-5.6
NJ2				XP	sP	13 30 42.1	-6.8
NJ2				PCP	PcP	13 32 10.1	+0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,160nm,10.0s						
NJ2				LR	LR		
	comp=N,270nm,13.0s,MS4.5						
NJ2				LR	LR		
	comp=E,290nm,16.6s,MS4.5						
NJ2				LR	LR		
	comp=Z,130nm,16.2s,MS4.0						
PDAR	**Pinedale Array**	**48.59**	**70**	P	**P**	**13 30 55.0**	**+2.0**
	comp=Z,0.5nm,0.8s,mb3.6,baz=327,slow=7.1,SNR=4.1						
ULM	**Lac du Bonnet**	**51.51**	**55**	LR	LR	13 53 07.7	
	comp=Z,144nm,19.7s,MS4.0,baz=16,slow=36						
ZAL	**Zalesovo**	**51.71**	**311**	LR	LR	13 56 50.3	
	comp=Z,58nm,20.2s,MS3.6,baz=256,slow=40						
LZH	**Lanzhou**	**52.70**	**283**	*eP*	**P**	**13 31 25.1**	**+1.2**
LZH				AP	pP	13 31 29.6	-4.9
LZH				XP	sP	13 31 32.3	-6.3
LZH				PP	PP	13 33 24.9	+1.6
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
GTA	**Gaotai**	**52.91**	**289**	*eP*	**P**	**13 31 25.9**	**+0.5**
GTA				AP	pP	13 31 28.3	-7.7
GTA				XP	sP	13 31 29.9	-10
KURK	**Kurchatov**	**56.69**	**311**	*eP*	**P**	**13 31 51.8**	**-1.0**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
KURK	**Kurchatov**	**56.69**	**311**	*eP*	**P**	**13 31 51.8**	**-1.0**
	comp=Z,8.9nm,1.1s,mb4.7						
MKAR	**Makanchi Array**	**57.59**	**306**	P	**P**	**13 31 56.5**	**-2.7**
	comp=Z,0.3nm,0.3s,mb3.9,baz=71,slow=7.8,SNR=6.3						
BVAR	**Borovoye Array**	**58.71**	**317**	P	**P**	**13 32 05.3**	**-1.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=66,slow=7.3,SNR=7.7						
ZRNK	**Zerenda**	**59.34**	**318**	*eP*	**P**	**13 32 10.1**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ZRNK	**Zerenda**	**59.34**	**318**	*eP*	**P**	**13 32 10.1**	**-1.3**
	comp=Z,3.5nm,1.1s,mb4.3						
KMI	**Kunming**	**61.06**	**274**	P	**P**	**13 32 23.5**	**+0.3**
SCHQ	**Schefferville**	**61.11**	**36**	LR	LR	14 02 38.5	
	comp=Z,90nm,18.2s,MS4.0,baz=209,slow=40						
AKASG	**Malin Array Be**	**74.12**	**339**	P	**P**	**13 33 44.0**	**-1.5**
	comp=Z,0.3nm,0.4s,mb3.6,baz=26,slow=6.0,SNR=6.1						
WB2	**Warramunga Arr**	**80.70**	**220**	*eP*	**P**	**13 34 22.0**	**-0.4**
WRA	**Warramunga Arr**	**80.71**	**220**	P	**P**	**13 34 22.8**	**+0.4**
	comp=Z,4.3nm,0.9s,mb4.4,baz=36,slow=5.9,SNR=21						
FITZ	**Fitzroy Crossi**	**82.84**	**228**	*eP*	**P**	**13 34 34.2**	**+0.6**
	comp=Z,12nm,1.0s,mb4.9						
ASAR	**Alice Springs**	**84.23**	**219**	P	**P**	**13 34 41.6**	**+0.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=33,slow=5.6,SNR=13						
STKA	**Stephens Creek**	**89.08**	**210**	P	**P**	**13 35 03.3**	**-1.2**
	comp=Z,5.1nm,1.0s,mb4.8,baz=4.1,slow=5.0,SNR=8.0						
QSPA	**South Pole Qui**	**141.73**	**180**	*ePKPpre*		13 41 34.4	
MAW	**Mawson**	**145.35**	**218**	PKPbc	PKPbc	13 41 45.3	-1.6
	comp=Z,1.4nm,0.4s,baz=86,slow=3.6,SNR=7.7						

*BJI **23** 13:24:23.8, 52.10N×177.00E, h5km, mB4.8, mb4.7, Ms4.4, Msz4.1*
*IDC **23** 13:24:27.3±0.8, 5207N×17687E, h0km, mb4.0/10, mb1 4.2/11, mb1mx3.9/25, mbtmp4.0/11, ML3.7/1, Error ellipse: s-maj=30.5km s-min=19.6km az=143.0*
*NEIC **23** 13:24:28.9, 5206N×17703E, h6km, mb4.0/2, ML3.8(AEIC), After AEIC.*
*ISCJB **23** 13:24:30.8±0.9, 5205N±008×17701E±007, h40km±9km, mb4.1/13, MS4.1/3, Error ellipse: s-maj=13.8km s-min=7.5km az=14.8*
ISC 23 13:24:29.0±2.9, 5193N±009×17697E±007, h14km±18km, h14km±1.4km:pP-P, n30, σ0§98/32, mb4.1/13, MS4.1/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.56**	**110**	P	**Pn**	**13 24 56.6**	**+0.3**
AMKA				S	**Sn**	**13 25 16.4**	**+0.1**
SMY	**Shemya**	**1.93**	**296**	P	**Pn**	**13 25 01.4**	**-0.2**
SMY				S	**Sn**	**13 25 27.2**	**+1.5**
ATKA	**Atka Island**	**5.46**	**84**	*eP*	**Pn**	**13 25 50.9**	**+0.8**
SPIA	**Saint Paul Isl**	**9.10**	**50**	*eP*	**Pn**	**13 26 39.5**	**-0.4**
UNV	**Unalaska Valle**	**10.18**	**73**	P	**Pn**	**13 26 55.6**	**+0.9**
BILL	**Bilibino**	**16.98**	**346**	*eP*	**Pn**	**13 28 29.0**	**+2.9**
	14nm,1.0s						
KDAK	**Kodiak Island**	**18.38**	**59**	P	**Pn**	**13 28 43.2**	**-0.3**
	0.2nm,0.3s,baz=224,slow=6.9,SNR=3.1						
KDAK	**Kodiak Island**	**18.38**	**59**	P	**Pn**	**13 28 43.1**	**-0.3**
COLA	**College**	**22.16**	**41**	*eP*	**P**	**13 29 24.0**	**-0.5**
	7.7nm,1.3s,mb4.0						
ASAJ	**Asahikawa**	**24.10**	**265**	P	**P**	**13 29 45.7**	**+1.5**
	4.3nm,0.8s,mb3.9,baz=9.5,slow=4.5,SNR=4.6						
DAWY	**Dawson**	**25.55**	**45**	*eP*	**P**	**13 29 57.4**	**+0.1**
CN2	**Changchun**	**34.86**	**277**	*eP*	**P**	**13 31 18.8**	**-0.9**
YKA	**Yellowknife Ar**	**36.76**	**46**	P	**P**	**13 31 35.6**	**-0.5**
	2.1nm,0.8s,mb4.0,baz=286,slow=8.5,SNR=8.0						
NJ2	**Nanjing**	**46.17**	**268**	*eP*	**P**	**13 32 51.1**	**-2.2**
NJ2				AP	pP	13 32 54.8	-2.8
NJ2				XP	sP	13 32 58.4	-0.9
NJ2				PCP	PcP	13 34 27.3	-1.7
NJ2				S	**S**	**13 39 34.0**	**-5.0**
NJ2				XS	sS	13 39 45.0	-1.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,90nm,5.6s						
NJ2				LR	LR		
	comp=N,140nm,16.1s,MS4.2						
NJ2				LR	LR		
	comp=E,190nm,14.6s,MS4.2						
NJ2				LR	LR		
	comp=Z,120nm,12.0s,MS4.1						
PDAR	**Pinedale Array**	**48.63**	**70**	P	**P**	**13 33 13.1**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.8,baz=308,slow=7.2,SNR=3.6						
LZH	**Lanzhou**	**52.69**	**283**	*eP*	**P**	**13 33 43.1**	**0.0**
LZH				AP	pP	13 33 47.5	+0.1
LZH				XP	sP	13 33 50.1	+1.0
LZH				PP	PP	13 35 42.8	+0.6
LZH				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
GTA	**Gaotai**	**52.90**	**289**	*eP*	**P**	**13 33 45.4**	**+0.8**
GTA				AP	pP	13 33 48.4	-0.5
GTA				XP	sP	13 33 50.1	-0.5
KURK	**Kurchatov**	**56.70**	**311**	P	**P**	**13 34 11.5**	**-0.7**
WMQ	**Urumqi**	**56.81**

1.4nm,0.6s,mb3.9,baz=166,slow=9.8,SNR=28
CTAO Charters Tower 33.57 8 *e*P **P 13 41 26.7 -0.3**
WRA Warramunga Arr 33.93 348 P **P 13 41 30.3 +0.2**
2.3nm,0.8s,mb4.2,baz=173,slow=7.7,SNR=23
QSPA South Pole Qui 36.61 180 *e*P **P 13 41 52.9 -0.2**
6.4nm,0.9s,mb4.5
DZM Mont Dzumac 36.75 41 LR LR 13 53 37.9
comp=Z,108nm,20.5s,MS3.6,baz=24,slow=31
FITZ Fitzroy Crossi 37.37 335 P **P 13 41 59.4 -0.2**
1.9nm,0.8s,mb4.0,baz=119,slow=13,SNR=5.7

*ISCJB **23** 13:43:31.0±0.7,4051N±003×2134E±004,h10km,Error ellipse: s-maj=5.3km s-min=4.4km az=84.1*
*THE **23** 13:43:32.1,4053N×2136E,h10km,ML2.5*
*SKO **23** 13:43:34.5,4084N×2137E,h35km*
ISC 23 13:43:31.8±0.7,4052N±003×2133E±004,h10km,n12, σ0°77/19,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.27**	**8**	*e*Pg	**Pg**	**13 43 37.3**	**+0.1**
BIA	**Bitola**	**0.50**	**360**	*e*Pg	**Pg**	**13 43 41.0**	**-0.6**
BIA	**Bitola**	**0.50**	**360**	*e*Pg	**Pg**	**13 43 40.9**	**-0.7**
BIA				*e*Sg	**Sg**	**13 43 48.5**	**+0.3**
BIA				*e*Lg		13 43 49.6	
	comp=E,64nm,0.4s						
BIA				*e*Lg		13 43 50.5	
	comp=N,83nm,0.4s						
OHR	**Ohrid**	**0.72**	**326**	*e*Pg	**Pg**	**13 43 45.5**	**-0.1**
OHR				*e*Sg	**Sg**	**13 43 56.2**	**+1.2**
OHR	**Ohrid**	**0.72**	**326**	*e*Pg	**Pg**	**13 43 45.3**	**-0.4**
OHR				*e*Sg	**Sg**	**13 43 55.7**	**+0.6**
OHR				*e*Lg		13 43 58.9	
	comp=E,64nm,0.5s						
OHR				*e*Lg		13 43 59.1	
	comp=N,46nm,0.4s						
MEV	**Metsovon**	**0.73**	**186**	*e*Pg	**Pg**	**13 43 46.4**	**+0.4**
GRG	**Griva**	**0.93**	**61**	*e*Pg	**Pg**	**13 43 48.8**	**-0.8**
GRG				*e*Sg	**Sg**	**13 44 02.1**	**+0.5**
LIT	**Litokhoron**	**0.98**	**115**	*e*Pg	**Pg**	**13 43 49.5**	**-1.1**
LIT				*e*Sg	**Sg**	**13 44 04.4**	**+1.0**
VAY	**Valandovo**	**1.24**	**49**	*e*Pg	**Pg**	**13 43 54.1**	**-1.4**
VAY				*e*Sg	**Sg**	**13 44 07.2**	**-4.5**
VAY				*e*Lg		13 44 15.6	
	comp=E,75nm,0.7s						
VAY				*e*Lg		13 44 17.0	
	comp=N,53nm,0.6s						
IGT	**Igoumenitsa**	**1.25**	**218**	*e*Pg	**Pg**	**13 43 55.9**	**+0.2**
THE	**Thessaloniki**	**1.25**	**84**	*e*Pg	**Pg**	**13 43 56.1**	**+0.2**
KNT	**Kendrikon**	**1.35**	**61**	*e*Pg	**Pg**	**13 43 57.1**	**-0.7**
KNT				*e*Sg	**Sg**	**13 44 16.6**	**+1.2**

IDC 23 13:46:18.8±61.0,1701S×17570W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.8/13,mbtmp4.2/3,1D,Error ellipse: s-maj=1145.0km s-min=163.9km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.32**	**241**	*e*P	P	13 54 06.9	+0.8
	1.0nm,0.4s						
STKA	**Stephens Creek**	**41.32**	**241**	P	P	13 54 06.8	+0.7
	1.5nm,0.5s,baz=98,slow=12,SNR=8.6						
WRA	**Warramunga Arr**	**47.34**	**258**	P	P	13 54 54.1	-0.2
	0.5nm,0.4s,baz=98,slow=7.3,SNR=17						
ASAR	**Alice Springs**	**47.52**	**253**	P	P	13 54 56.2	+0.5
	6.3nm,0.6s,baz=88,slow=8.1,SNR=148						
ASPA	**Alice Springs**	**47.52**	**253**	⇓*i*P	P	13 54 56.2	+0.4

CASC 23 13:52:26.7±2.5,1281N×8903W,h35km±999km,MD3.8, ML3.3,4C-8D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.81**	**358**	⇑*e*P	x	13 53 05.9	
LFRS				*e*S	x	13 53 18.6	
SNVI	**San Vicente**	**0.81**	**13**	*e*P	x	13 53 06.5	
SNVI				*e*S	x	13 53 16.9	
LCBS	**La Ceiba**	**0.84**	**4**	⇑*e*P	x	13 53 06.2	
LCBS				*e*S	x	13 53 18.6	
SNET	**Serv Nac Est T**	**0.89**	**347**	*e*P	x	13 52 42.4	
LBRS	**Las Brisas**	**0.92**	**359**	⇓*e*P	x	13 53 08.0	
LBRS				*e*S	x	13 53 20.9	
LFU	**La Fuente**	**0.93**	**355**	⇓*e*P	x	13 53 07.9	
LFU				*e*S	x	13 53 21.0	
BOQS	**Boqueron**	**0.95**	**345**	⇑*e*P	x	13 53 08.4	
BOQS				*e*S	x	13 53 21.5	
VSM	**San Miguel**	**0.96**	**50**	⇓*e*P	x	13 53 08.4	
VSM				*e*S	x	13 53 23.1	
BLLM	**Bellamira**	**0.99**	**51**	⇓*e*P	x	13 53 08.5	
BLLM				*e*S	x	13 53 23.3	
SBLS	**San Blas**	**1.17**	**331**	⇓*e*P	x	13 53 11.5	
SBLS				*e*S	x	13 53 27.4	
SNJE	**San Jose**	**1.19**	**332**	⇓*e*P	x	13 53 11.7	
SNJE				*e*S	x	13 53 27.2	
RTR	**El Retiro**	**1.23**	**331**	⇓*e*P	x	13 53 12.5	
RTR				*e*S	x	13 53 28.5	
CNCH	**Conchagua**	**1.25**	**68**	*e*P	x	13 53 12.1	
CNCH				*e*S	x	13 53 28.9	
RBDL	**Robledal**	**1.44**	**334**	⇓*e*P	x	13 53 15.6	
RBDL				*e*S	x	13 53 35.8	
CRIN	**San Cristobal**	**1.94**	**93**	*e*P	Pn	13 52 58.0	+0.9
CRIN				*e*S	Sn	13 53 22.2	+2.0
LEON	**Leon**	**2.12**	**100**	*e*P	Pn	13 52 59.5	-0.2
LEON				*e*S	Sn	13 53 24.6	-0.3
LEON				*i*		13 53 29.6	
	comp=Z,94nm,0.2s						
TELN	**Telica**	**2.16**	**95**	*e*P	Pn	13 53 00.7	+0.5
MIRN	**Miramar**	**2.29**	**99**	*e*P	Pn	13 53 02.7	+0.7
MIRN				*e*S	Sn	13 53 29.1	0.0
CNGN	**Cerro Negro**	**2.30**	**98**	*e*P	Pn	13 53 03.4	+1.3
CNGN				*e*S	Sn	13 53 29.1	-0.1
COPN	**Copaltepe**	**2.46**	**105**	⇑*e*P	Pn	13 53 03.7	-0.7
MOMJ	**Momotombo**	**2.46**	**99**	*e*P	Pn	13 53 04.9	+0.5
APYN	**Apoyeque**	**2.68**	**102**	*e*P	Pn	13 53 08.2	+0.8
TICN	**Ticuantepe**	**2.84**	**106**	*e*P	Pn	13 53 10.1	+0.5

*ISCJB **23** 13:52:55.6±0.5,2086S±004×6727W±006,h192km±5km, mb4.2/14,Error ellipse: s-maj=8.7km s-min=7.1km az=13.3*
*IDC **23** 13:52:56.5±0.7,2087S×6733W,h186km±7km,mb4.0/6, mb1 4.0/13,mb1mx3.9/20,mbtmp4.4/13,Error ellipse: s-maj=15.1km s-min=9.5km az=102.0*
*NEIC **23** 13:52:57.2±0.7,2084S×6725W,h191km±6km,mb4.4/9, Error ellipse: s-maj=10.6km s-min=8.8km az=72.0*
ISC 23 13:52:56.5±0.5,2087S±004×6723W±006,h186km±5km, n38,σ1°18/37,mb4.2/14,2C,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.33**	**222**	P	**Pn**	**13 53 38.4**	**+0.8**
	51nm,0.3s,baz=33,slow=9.2,SNR=523						
LVC				S	**Sn**	**13 54 09.0**	**-0.6**
	162nm,0.3s,baz=216,slow=20,SNR=74						
LPAZ	**La Paz**	**4.64**	**349**	P	**Pn**	**13 54 07.8**	**+1.9**
	50nm,0.3s,baz=160,slow=6.4,SNR=431						
LPAZ				S	**Sn**	**13 55 01.6**	**+1.2**
	baz=67,slow=22,SNR=1.7						
LPAZ	**La Paz**	**4.64**	**349**	⇑*i*P	**Pn**	**13 54 07.6**	**+1.6**
LPAZ				S	**Sn**	**13 55 01.6**	**+1.2**
ARE	**Arequipa**	**5.96**	**317**	⇑*i*P	**Pn**	**13 54 20.6**	**-2.5**
ARE				*e*S	**Sn**	**13 55 26.0**	**-5.3**
SIV	**San Ignacio**	**7.60**	**51**	P	**Pn**	**13 54 45.0**	**+0.6**
	11nm,0.3s,baz=248,slow=11,SNR=256						
SIV				S	**Sn**	**13 56 08.4**	**-1.5**
	0.6nm,0.3s,baz=295,slow=21,SNR=12						
CPUP	**Villa Florida**	**10.57**	**123**	P	**Pn**	**13 55 24.6**	**+1.3**
	1.4nm,0.3s,baz=276,slow=10,SNR=7.6						
CFAA	**Coronel Fontan**	**10.73**	**185**	P	**Pn**	**13 55 24.1**	**-1.2**
	0.6nm,0.3s,baz=3.3,slow=12,SNR=21						
CFAA				S	**Sn**	**13 57 16.3**	**-8.3**
	0.2nm,0.3s,baz=246,slow=23,SNR=5.1						
MDZ	**Mendoza**	**12.05**	**187**	*e*P	**Pn**	**13 55 31.3**	**-11**
SAML	**Samuel**	**12.48**	**19**	*e*P	**Pn**	**13 55 46.6**	**-1.3**
	12nm,1.1s						
ATAH	**Atahualpa**	**17.52**	**320**	P	**Pn**	**13 56 49.4**	**-0.2**
	1.2nm,0.3s,baz=145,slow=12,SNR=5.0						
ATAH				S	**S**	**13 59 53.3**	**-7.1**
	1.5nm,0.3s,baz=90,slow=15,SNR=4.1						
TRQA	**Tornquist**	**17.72**	**166**	*e*P	**Pn**	**13 56 50.6**	**-1.3**
	10nm,0.6s						
BDFB	**Brasilia**	**18.97**	**77**	P	**P**	**13 57 06.1**	**+2.4**
	0.7nm,0.3s,baz=255,slow=14,SNR=3.9						
PLCA	**Paso Flores**	**20.00**	**187**	P	**P**	**13 57 16.2**	**+1.4**
	0.3nm,0.3s,baz=1.8,slow=10,SNR=8.3						
SWET	**Sewanee**	**58.54**	**342**	*e*P	**P**	**14 02 32.2**	**-1.3**
CCM	**Cathedral Cave**	**62.81**	**339**	*e*P	**P**	**14 02 59.4**	**-2.9**
	6.5nm,0.8s,mb4.5						
DBIC	**Dimbokro**	**67.05**	**73**	P	**P**	**14 03 28.4**	**-1.3**
	6.8nm,1.2s,mb4.3,baz=196,slow=7.4,SNR=2.7						
SRU	**San Rafael**	**72.12**	**326**	*e*P	**P**	**14 04 01.1**	**+0.4**
	6.4nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**74.37**	**329**	P	**P**	**14 04 13.9**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=121,slow=8.3,SNR=7.0						
HWUT	**Hardware Ranch**	**74.50**	**327**	*e*P	**P**	**14 04 14.6**	**+0.1**
	2.4nm,0.6s,mb4.1						
ULM	**Lac du Bonnet**	**75.21**	**341**	P	**P**	**14 04 17.5**	**-1.1**
	5.0nm,0.5s,mb4.4,baz=158,slow=4.7,SNR=16						
SCHQ	**Schefferville**	**75.40**	**0**	P	**P**	**14 04 18.4**	**-1.2**
	4.5nm,0.8s,mb4.2,baz=192,slow=6.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**75.67**	**70**	P	**P**	**14 04 21.7**	**+0.5**
	4.6nm,0.6s,mb4.3,baz=253,slow=5.4,SNR=32						
IMW	**Indian Meadow**	**75.88**	**329**	*e*P	**P**	**14 04 23.1**	**+0.6**
	12nm,1.4s,mb4.3						
NVAR	**Mina Array Bea**	**75.98**	**321**	P	**P**	**14 04 23.6**	**+0.6**
	0.8nm,0.7s,mb3.5,baz=138,slow=7.2,SNR=7.9						
HLID	**Hailey**	**77.36**	**327**	*e*P	**P**	**14 04 31.6**	**+0.9**
	5.6nm,1.0s,mb4.2						
PAHR	**Pah Rah Range**	**77.45**	**321**	*e*P	**P**	**14 04 32.7**	**+1.4**
	9.1nm,1.0s,mb4.4						
MCMT	**McKenzie Canyo**	**77.49**	**329**	*e*P	**P**	**14 04 32.5**	**+1.0**
BMO	**Blue Mountains**	**79.75**	**326**	*e*P	**P**	**14 04 44.1**	**+0.3**
	7.3nm,1.2s,mb4.2						
YKA	**Yellowknife Ar**	**91.13**	**340**	P	**P**	**14 05 39.6**	**-0.5**
	5.7nm,0.7s,mb4.7,baz=131,slow=4.4,SNR=51						
YKA				pP	pP	14 06 28.8	+2.6
	0.6nm,0.7s,baz=129,slow=4.1,SNR=3.6						
YKA	**Yellowknife Ar**	**91.13**	**340**	P	**P**	**14 05 39.6**	**-0.5**
YKA				pP	pP	14 06 28.8	+2.6
ASAR	**Alice Springs**	**131.18**	**206**	PKP	PKPdf	14 11 47.0	+0.7
	0.8nm,0.5s,baz=131,slow=1.8,SNR=14						
ZRNK	**Zerenda**	**133.68**	**35**	*e*P	PKPdf	14 11 51.9	+0.9
CHKZ	**Chkalovo**	**134.20**	**34**	*e*P	PKPdf	14 11 52.8	+0.8
WRA	**Warramunga Arr**	**134.27**	**209**	PKhKP		14 11 39.7	
	0.7nm,1.1s,baz=214,slow=1.3,SNR=5.3						
WRA				PKP	PKPdf	14 11 52.7	+0.6
	0.9nm,0.5s,baz=154,slow=1.8,SNR=24						
KURK	**Kurchatov**	**139.94**	**34**	*e*P	PKPdf	14 12 02.5	-0.1
MKAR	**Makanchi Array**	**144.20**	**37**	PKP	PKPdf	14 12 09.4	-0.7
	5.6nm,0.8s,baz=316,slow=3.3,SNR=37						
SONM	**Songino Array**	**152.61**	**9**	PKP	PKPdf	14 12 24.4	+0.7
	0.9nm,0.8s,baz=288,slow=1.2,SNR=6.5						
SONM				PKPbc	PKPbc	14 12 31.4	+0.5
	1.9nm,0.5s,baz=306,slow=1.4,SNR=15						
SONM				PKPab	PKPab	14 12 42.2	0.0
	0.8nm,0.7s,baz=319,slow=3.4,SNR=4.3						
MJAR	**Matsushiro Arr**	**152.88**	**311**	PKPbc	PKPbc	14 12 31.3	-0.2
	1.7nm,0.8s,baz=94,slow=3.5,SNR=5.1						

IDC 23 14:09:26.1±1.9,1891S×6926W,h120km±17km,mb3.7/2, mb1 3.7/5,mb1mx3.4/19,mbtmp3.9/5,Error ellipse: s-maj=30.7km s-min=13.9km az=108.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.82**	**23**	P	Pn	14 10 10.8	+0.7
	4.3nm,0.3s,baz=205,slow=12,SNR=135						
LVC	**Limon Verde**	**3.69**	**175**	P	Pn	14 10 22.4	+0.8
	4.8nm,0.3s,baz=328,slow=10,SNR=43						
LVC				S	Sn	14 11 05.3	+0.8
	12nm,0.3s,baz=70,slow=21,SNR=7.9						
SIV	**San Ignacio**	**8.34**	**71**	P	Pn	14 11 24.3	+0.1
	1.0nm,0.3s,baz=262,slow=11,SNR=16						
SIV				S	Sn	14 12 57.6	+1.0
	0.1nm,0.3s,baz=347,slow=20,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.81**	**71**	P	P	14 21 05.0	+0.4
	0.7nm,0.4s,baz=253,slow=5.4,SNR=11						
YKA	**Yellowknife Ar**	**88.65**	**341**	P	P	14 22 04.5	-1.2
	0.6nm,0.5s,baz=138,slow=5.0,SNR=8.3						
YKA				pP	pP	14 22 31.6	-5.1
	0.3nm,0.5s,baz=134,slow=4.8,SNR=4.3						
SONM	**Songino Array**	**150.94**	**6**	PKPbc	PKPbc	14 29 05.5	+0.9
	1.3nm,0.6s,baz=326,slow=1.9,SNR=10						
SONM				pPKPbc	pPKPbc	14 29 33.8	-3.1
	1.3nm,0.8s,baz=341,slow=2.0,SNR=6.3						

*NEIC **23** 14:13:38.0±5.3,148N×12761E,h201km±53km,mb3.9/3, Error ellipse: s-maj=35.1km s-min=8.5km az=59.0*
*IDC **23** 14:13:37.0±3.4,150N×12772E,h191km±31km,mb3.4/7, mb1 3.5/8,mb1mx3.4/17,mbtmp3.8/8,Error ellipse: s-maj=78.8km s-min=11.3km az=71.0*
*ISCJB **23** 14:13:39.1±6.0,14N±02×127±E±03,h226km±59km, mb3.7/9,Error ellipse: s-maj=47.4km s-min=14.0km az=116.9*
ISC 23 14:13:37.0±3.6,15N±01×1275E±02,h189km±34km,n16, σ0°57/17,mb3.8/9,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**17.21**	**270**	P	**Pn**	**14 17 26.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.55**	**185**	P	**P**	**14 17 50.5**	**+0.3**
	0.1nm,0.3s,baz=300,slow=20,SNR=7.7						
WRAB	**Tennant Creek**	**22.31**	**163**	*e*P	**P**	**14 18 19.1**	**+0.2**
	6.3nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**22.31**	**163**	P	**P**	**14 18 19.2**	**+0.3**
	3.5nm,0.4s,mb4.1,baz=335,slow=11,SNR=81						
WRA				S	**S**	**14 22 10.6**	**+0.5**
	0.9nm,0.7s,baz=335,slow=19,SNR=6.1						
WB2	**Warramunga Arr**	**22.32**	**163**	*e*P	**P**	**14 18 19.1**	**+0.2**
ASAR	**Alice Springs**	**25.75**	**166**	P	**P**	**14 18 50.5**	**+0.4**
	0.5nm,0.3s,mb3.6,baz=338,slow=9.6,SNR=13						
STKA	**Stephens Creek**	**35.76**	**159**	*e*P	**P**	**14 20 16.3**	**-1.4**
	1.7nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**35.76**	**159**	P	**P**	**14 20 16.3**	**-1.4**
	2.2nm,0.3s,mb4.3,baz=338,slow=8.5,SNR=14						
STKA	**Stephens Creek**	**35.76**	**159**	*e*P	**P**	**14 20 16.3**	**-1.5**
ULN	**Ulaanbaatar**	**49.49**	**342**	P	**P**	**14 22 08.1**	**-0.1**
SONM	**Songino Array**	**49.67**	**341**	P	**P**	**14 22 10.3**	**+0.8**
	0.3nm,0.6s,mb3.1,baz=147,slow=8.1,SNR=3.0						
MKAR	**Makanchi Array**	**59.85**	**326**	P	**P**	**14 23 23.2**	**+0.7**
	0.5nm,0.3s,mb3.8,baz=119,slow=9.6,SNR=6.0						
BVAR	**Borovoye Array**	**69.63**	**327**	P	**P**	**14 24 25.2**	**-0.6**
	0.5nm,0.6s,mb3.4,baz=111,slow=8.1,SNR=3.7						
ZRNK	**Zerenda**	**70.35**	**327**	*e*P	**P**	**14 24 29.7**	**-0.4**
	1.3nm,0.6s,mb3.8						
VNDA	**Vanda**	**81.11**	**173**	P	**P**	**14 25 30.7**	**-0.5**
	0.8nm,0.7s,mb3.5,baz=315,slow=6.4,SNR=6.6						
VNDA	**Vanda**	**81.11**	**173**	P	**P**	**14 25 30.7**	**-0.5**
	0.7nm,0.9s,mb3.3						

*CSEM **23** 15:44:07.4,3791N×2016E,h10km,MD3.5/3,After ATH*
ATH 23 15:44:07.4,3791N×2016E,h10km,MD3.5/3,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.43**	**52**	*e*PG	Pg	15 44 15.5	-0.4
EVR	**Evrytania**	**1.64**	**52**	*e*PB	Pb	15 44 39.0	+1.3
KEK	**Kerkira**	**1.82**	**351**	*e*PN	Pn	15 44 41.0	+2.2

*TEH **23** 15:59:49.4,2755N×5430E,h21km,ML4.9*
*BJI **23** 16:00:32.9,2777N×5334E,h33km,mB4.8,mb4.9,Ms4.6, Msz4.2*
*IDC **23** 16:00:36.4±0.6,2798N×5419E,h0km,mb4.5/26, mb1 4.6/29,mb1mx4.6/32,mbtmp4.5/29,ML4.4/2,MS3.5/17, Ms1 3.5/17,ms1mx3.4/37,Error ellipse: s-maj=13.7km s-min=12.8km az=33.0*
*MOS **23** 16:00:36.3±0.8,2792N×5406E,h10km,mb4.8/56,Error ellipse: s-maj=11.5km s-min=3.6km az=128.5*
*CSEM **23** 16:00:37.1±0.1,2769N×5433E,h35km,mb4.7/99,Ms3.5, Error ellipse: s-maj=2.6km s-min=2.1km az=142.0*
*ISCJB **23** 16:00:38.0±0.8,2788N±002×5416E±002,h24km±6km, mb4.7/147,MS3.6/24,Error ellipse: s-maj=3.6km s-min=2.7km az=83.0*
*THR **23** 16:00:38.8±1.0,2783N×5438E,h46km±8km,ML4.5*
*NEIC **23** 16:00:41.2±1.4,2795N×5417E,h34km±9km,mb4.7/95, ML4.4(THR),MN4.9(TEH),Error ellipse: s-maj=5.8km s-min=4.2km az=181.0*
*SZGRF **23** 16:00:42.2,2825N×5430E,h33km,mb4.6,Southern Iran*

ISC 23 16:00:41.6±0.3,2790N±002×5417E±002,h38km±3km, h19km±6.1km:pP-P,n480,σ1°02/554,mb4.7/147,MS3.6/24, 66C-8D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.11**	**291**	*e*PG	**Pn**	**16 01 03.1**	**+2.4**
GHIR				*e*Sg	**Sn**	**16 01 22.0**	**+7.2**
GHIR				AML	AML	16 01 24.4	
	comp=E,16μm,0.8s						
GHIR				AML	AML	16 01 27.7	
	comp=N,10μm,0.5s						
GHIR	**Ghir-Karzin**	**1.11**	**291**	*e*Pg	**Pn**	**16 01 03.1**	**+2.4**
	SNR=107						
GHIR				*e*Sg	**Sn**	**16 01 22.0**	**+7.2**
	SNR=107						
IMOK	**Mook**	**1.72**	**312**	*e*Pn	**Pn**	**16 01 10.6**	**+1.6**
IMOK				*e*Sg	**Sn**	**16 01 34.3**	**+4.6**
IMOK				*e*Sn	**Sn**	**16 01 34.4**	**+4.7**
IMOK				*e*Lg		16 01 40.4	
IMOK	**Mook**	**1.72**	**312**	Pn	**Pn**	**16 01 10.5**	**+1.5**
IMOK				Sg	**Sn**	**16 01 34.3**	**+4.6**
IMOK				Sn	**Sn**	**16 01 34.4**	**+4.7**
IMOK				Lg		16 01 40.4	
IMOK	**Mook**	**1.72**	**312**	*e*Pn	**Pn**	**16 01 10.6**	**+1.6**
IMOK				*e*Sn	**Sn**	**16 01 34.4**	**+4.7**
ISRV	**Sarvestan**	**1.75**	**328**	*e*Pn	**Pn**	**16 01 11.0**	**+1.6**
ISRV				*e*Sn	**Sn**	**16 01 35.1**	**+4.7**
ISRV				*e*Sn	**Sn**	**16 01 35.3**	**+4.9**
ISRV	**Sarvestan**	**1.75**	**328**	Pn	**Pn**	**16 01 10.9**	**+1.5**
ISRV				Sn	**Sn**	**16 01 35.1**	**+4.7**
ISRV	**Sarvestan**	**1.75**	**328**	*e*Pn	**Pn**	**16 01 11.0**	**+1.6**
ISRV				*e*Sn	**Sn**	**16 01 35.1**	**+4.7**
BNDS	**Bandar-Abbas**	**1.85**	**105**	*e*PG	**Pn**	**16 01 09.2**	**-1.5**
BNDS				AML	AML	16 01 49.8	
	comp=N,2μm,0.7s						
SHI	**Shiraz**	**2.27**	**321**	*e*Pn	**Pn**	**16 01 18.1**	**+1.6**
SHI				*e*Sn	**Sn**	**16 01 43.3**	**+0.1**
SHI				*e*Sn	**Sn**	**16 01 44.3**	**+1.1**
SHI	**Shiraz**	**2.27**	**321**	P	**Pn**	**16 01 18.1**	**+1.6**
SHI						16 01 43.3	
BANOM	**Banah**	**2.74**	**135**	P	**Pn**	**16 01 22.4**	**-0.6**
	SNR=49						
IMEH	**Mehriz**	**3.50**	**6**	*e*Pn	**Pn**	**16 01 34.3**	**+0.8**
IMEH				*e*Sn	**Sn**	**16 02 16.2**	**+2.5**
IMEH	**Mehriz**	**3.50**	**6**	Pn	**Pn**	**16 01 34.2**	**+0.7**
IMEH				Sn	**Sn**	**16 02 16.1**	**+2.4**
ASHO	**Ashiyiah**	**3.62**	**152**	P	**Pn**	**16 01 35.8**	**+0.6**
	SNR=87						
IBAF	**Bafgh**	**3.88**	**18**	*e*Pn	**Pn**	**16 01 38.3**	**-0.4**
IBAF				*e*Sn	**Sn**	**16 02 23.5**	**+0.5**
IBAF				*e*Sn	**Sn**	**16 02 24.4**	**+1.4**
IBAF	**Bafgh**	**3.88**	**18**	Pn	**Pn**	**16 01 38.3**	**-0.4**
IBAF				Sn	**Sn**	**16 02 23.4**	**+0.4**
IBAF				Sn	**Sn**	**16 02 24.3**	**+1.3**
IBAF	**Bafgh**	**3.88**	**18**	*e*Pn	**Pn**	**16 01 38.3**	**-0.4**
IBAF				*e*Sn	**Sn**	**16 02 23.5**	**+0.5**
ISAD	**Sadrabad**	**4.02**	**354**	*e*Sn	**Sn**	**16 02 28.4**	**+1.8**
ISAD				*e*Sn	**Sn**	**16 02 29.0**	**+2.4**
ICHK	**Chekchek**	**4.34**	**3**	*e*Pn	**Pn**	**16 01 45.4**	**+0.4**
ICHK				*e*Sn	**Sn**	**16 02 36.6**	**+2.3**
ICHK				*e*Sn	**Sn**	**16 02 36.9**	**+2.6**
ICHK	**Chekchek**	**4.34**	**3**	Pn	**Pn**	**16 01 45.3**	**+0.3**
ICHK				Sn	**Sn**	**16 02 36.5**	**+2.2**
ICHK				Sn	**Sn**	**16 02 36.9**	**+2.6**
ICHK	**Chekchek**	**4.34**	**3**	*e*Pn	**Pn**	**16 01 45.4**	**+0.4**
ICHK				*e*Sn	**Sn**	**16 02 36.6**	**+2.3**
ARQ	**Araqi**	**5.01**	**154**	⇑⇑P	**Pn**	**16 01 54.6**	**+0.2**
	SNR=9.1						
NASN	**Na'in**	**5.02**	**347**	*e*Pn	**Pn**	**16 01 54.8**	**+0.3**
NASN				*e*Sg	Sn	16 03 13.8	+23
IZEF	**Zefreh**	**5.23**	**343**	*e*Pn	**Pn**	**16 01 56.9**	**-0.4**
IZEF				*e*Sn	**Sn**	**16 02 56.6**	**+0.3**
IZEF				*e*Sn	**Sn**	**16 02 57.0**	**+0.7**
IZEF	**Zefreh**	**5.23**	**343**	Pn	**Pn**	**16 01 56.9**	**-0.4**
IZEF				Sn	**Sn**	**16 02 56.5**	**+0.2**
IZEF				Sn	**Sn**	**16 02 57.0**	**+0.7**
IZEF	**Zefreh**	**5.23**	**343**	*e*Pn	**Pn**	**16 01 56.9**	**-0.4**
IZEF				*e*Sn	**Sn**	**16 02 56.6**	**+0.3**
IPIR	**Pirpir**	**5.55**	**330**	*e*Pn	**Pn**	**16 02 00.8**	**-0.8**
IPIR				*e*Sn	**Sn**	**16 03 05.3**	**+1.1**
IPIR				*e*Sn	**Sn**	**16 03 05.3**	**+1.1**
IPIR	**Pirpir**	**5.55**	**330**	Pn	**Pn**	**16 02 00.8**	**-0.8**
IPIR				Sn	**Sn**	**16 03 05.2**	**+1.1**
QRN	**Al-Qurain**	**5.57**	**280**	*e*P	**Pn**	**16 02 01.7**	**-0.3**
QRN				AML	AML	16 02 37.5	
	comp=Z,163nm,0.5s						
BIDO	**Bidbid**	**5.63**	**140**	⇓P	**Pn**	**16 02 02.8**	**0.0**
	SNR=7.5						
BIDO	**Bidbid**	**5.63**	**140**	P	**Pn**	**16 02 02.8**	**0.0**
	SNR=7.5						
BSY	**Bisya**	**5.82**	**151**	P	**Pn**	**16 02

IDMV Damavand 7.87 347 Pn **Pn 16 02 33.3 -0.2**
IDMV Sn **Sn 16 03 59.3 -2.0**
IDMV Sn **Sn 16 04 00.5 -0.8**
IDMV Damavand 7.87 347 *e*Pn **Pn 16 02 33.4 -0.1**
IDMV *e*Sn **Sn 16 03 59.3 -2.0**
DAMV Damavand 7.93 347 *e*Pn **Pn 16 02 34.3 0.0**
IKIA Kiasar 8.29 357 *e*Pn **Pn 16 02 39.9 +0.5**
IKIA *e*Sn **Sn 16 04 10.5 -1.2**
IKIA *e*Sn **Sn 16 04 10.8 -0.9**
IKIA Kiasar 8.29 357 Pn **Pn 16 02 39.8 +0.4**
IKIA Sn **Sn 16 04 10.4 -1.4**
IKIA Sn **Sn 16 04 10.8 -0.9**
IRAZ Razeghan 8.31 335 *e*Pn 16 02 52.1
IRAZ *e*Sn **Sn 16 04 10.0 -2.1**
IRAZ *e*Sn **Sn 16 04 10.9 -1.2**
IRAZ Razeghan 8.31 335 Pn 16 02 52.0
IRAZ Sn **Sn 16 04 10.0 -2.1**
IRAZ Sn **Sn 16 04 10.9 -1.2**
IGLO Galoogah 8.40 356 *e*Pn **Pn 16 02 45.0 +4.1**
IGLO *e*Sn **Sn 16 04 17.8 +3.3**
IGLO *e*Sn **Sn 16 04 18.2 +3.7**
IGLO Galoogah 8.40 356 Pn **Pn 16 02 45.0 +4.1**
IGLO Sn **Sn 16 04 17.7 +3.2**
IGLO Sn **Sn 16 04 18.2 +3.7**
IKOM Komasi 8.47 319 *e*Pn **Pn 16 02 39.7 -2.0**
IKOM *e*Sn **Sn 16 04 14.1 -1.9**
IKOM *e*Sn **Sn 16 04 14.5 -1.5**
IPRN Paran-Amol 8.48 349 *e*Pn **Pn 16 02 43.1 +1.2**
IPRN *e*Sn **Sn 16 04 12.5 -3.8**
IPRN *e*Sn **Sn 16 04 14.4 -1.9**
IPRN Paran-Amol 8.48 349 Pn **Pn 16 02 43.1 +1.2**
IPRN Sn **Sn 16 04 12.4 -3.9**
IPRN Sn **Sn 16 04 14.4 -1.9**
IGHG Ghaleghazi 9.14 316 *e*Pn **Pn 16 02 49.8 -1.1**
IGHG *e*Sn **Sn 16 04 28.9 -3.5**
IGHG *e*Sn **Sn 16 04 28.9 -3.5**
IGHG Ghaleghazi 9.14 316 Pn **Pn 16 02 49.7 -1.2**
IGHG Sn **Sn 16 04 28.8 -3.6**
ILIN Laeen 9.32 320 *e*Pn **Pn 16 02 51.5 -1.9**
ILIN *e*Sn **Sn 16 04 33.8 -3.1**
ILIN *e*Sn **Sn 16 04 34.6 -2.3**
ILIN Laeen 9.32 320 Pn **Pn 16 02 51.4 -2.0**
ILIN Sn **Sn 16 04 33.7 -3.2**
ILIN Sn **Sn 16 04 34.6 -2.3**
IDHR Dehrash 9.50 317 *e*Sn **Sn 16 04 38.5 -2.8**
IDHR *e*Sn **Sn 16 04 39.5 -1.8**
SHAO Shalim 9.92 172 P **Pn 16 03 01.2 -0.4**
SNR=9.8
WHFO Wadi Hawf 9.94 182 ⇑P **Pn 16 03 02.0 +0.1**
SNR=8.8
BHD Baghdad 9.99 305 *ex* x 16 03 03.0
BHD *ex* x 16 04 48.0
RBK Rabkut 10.35 180 ⇑P **Pn 16 03 07.5 0.0**
SNR=15
ABTO Aybut 10.53 185 ⇑P **Pn 16 03 08.9 -1.0**
SNR=10
MSL Mosul 12.57 314 *ex* x 16 03 30.0
MSL *ex* x 16 05 47.0
MSL *ex* x 16 08 08.0
GNI Garni 14.49 330 Pn **Pn 16 04 05.8 +1.7**
comp=Z,0.5nm,0.3s,baz=139,slow=19,SNR=3.2
GNI LR LR 16 09 07.0
comp=Z,141nm,19.9s,baz=328,slow=35
GNI Garni 14.49 330 *e*P **Pn 16 04 02.4 -1.7**
GNI pmax pmax
comp=Z,25nm,0.8s
GNI Garni 14.49 330 *e*Pn **Pn 16 04 02.4 -1.7**
comp=Z,25nm,0.8s
GNI LR LR 16 09 07.0
SBDP Sheikh Budin 15.05 69 P **Pn 16 04 13.9 +2.3**
ASF Jabal al Asfar 15.55 290 Pn **Pn 16 04 16.2 -1.8**
comp=Z,3.3nm,0.3s,baz=307,slow=2.9,SNR=25
ASF Sn **Sn 16 07 11.4 +2.3**
comp=Z,0.6nm,0.3s,baz=313,slow=18,SNR=3.8
ASF LR LR 16 11 03.3
comp=Z,60nm,20.4s,baz=202,slow=40
ASF Jabal al Asfar 15.55 290 P **Pn 16 04 16.2 -1.8**
ASF 16 07 11.4
ASF Jabal al Asfar 15.55 290 S **S 16 07 11.4 -12**
THW Thamme Wali 15.94 68 P **Pn 16 04 20.7 -2.3**
ERZM Erzurum 15.99 322 *i* P **Pn 16 04 24.1 +0.4**
LBOS 16.24 213‖ *e*P **Pn 16 04 23.6 -3.3**
LBOS *i* S S 16 07 15.2 -22
ELZG Elazig 16.51 314 *i* P **Pn 16 04 25.6 -4.6**
ARTV Artvin 16.63 326 *i* P **Pn 16 04 32.7 +0.9**
MALT Malatya 16.76 312 *e*P **Pn 16 04 31.0 -2.5**
MALT *e* 16 07 31.1
MALT pmax pmax
comp=Z,50nm,0.8s
MALT Malatya 16.76 312 *e*Pn **Pn 16 04 31.0 -2.5**
comp=Z,50nm,0.8s
MALT *e*Sn **Sn 16 07 31.1 -7.5**
GZT Gaziantep 16.85 308 *i* P **Pn 16 04 32.3 -2.3**
EIL Elat 16.94 281 *e*Pn **Pn 16 04 33.4 -2.3**
comp=Z,478nm,0.9s
ZEI Tsey 17.02 333 *e*P **Pn 16 04 38.6 +1.9**
CHCP Chirah Chowk 17.38 66 P **Pn 16 04 37.0 -4.1**
COBT Iskenderun 17.41 304 *i* P **Pn 16 04 42.1 +0.6**
AJM Ajmer 18.27 90 *e*P **Pn 16 04 52.1 -0.1**
KIV Kislovodsk 18.49 333*c i*P **Pn 16 04 55.3 +0.5**
KIV pmax pmax
comp=Z,42nm,1.6s
KIV MLR MLR
comp=Z,100nm,19.0s
KIV Kislovodsk 18.49 333 *e*Pn **Pn 16 04 55.1 +0.2**
comp=Z,28nm,0.8s
KIV Kislovodsk 18.49 333 *i* P **Pn 16 04 55.3 +0.5**
comp=Z,100nm,19.0s
CSS Prodhromos 19.11 297 *e*Pn **Pn 16 05 01.9 -0.3**
comp=Z,40nm,0.8s
CSS Prodhromos 19.11 297 *e*Pn **Pn 16 05 02.0 -0.2**
comp=Z,40nm,0.8s
KHET Khetri 19.11 84 *e*P **Pn 16 05 02.3 0.0**
AVNT Avonos 19.41 309 *i* P **Pn 16 05 06.0 +0.2**
ATD Arta Tunnel 19.44 215 LR LR 16 13 10.9
comp=Z,127nm,19.1s,baz=323,slow=39
SOC Sochi 19.51 327 *e*P **Pn 16 05 06.7 -0.4**
SOC *e* 16 08 36.1
SOC pmax pmax
comp=Z,41nm,1.2s
SOC MLR MLR
comp=Z,206nm,14.0s
SOC Sochi 19.51 327 *e*P **Pn 16 05 06.7 -0.4**
comp=Z,206nm,14.0s
KUDL Kundal 19.71 84 *e*P **Pn 16 05 07.1 -2.3**
CDAG Cicekdag 20.14 311 *i* P **P 16 05 14.7 +2.2**
SONA Sohna 20.22 84 *e*P **P 16 05 13.7 +0.4**
SONA AMb AMB 16 05 20.1
comp=Z,19nm,0.6s
AYAN Aya Nagar 20.24 83 *e*P **P 16 05 12.9 -0.6**
AYAN AMb AMB 16 05 21.2
comp=Z,20nm,1.1s
SMLA Simla 20.27 75 *e*P **P 16 05 14.8 +1.0**
SMLA AMb AMB 16 05 28.9
comp=Z,32nm,1.2s
CTKT Corum 20.38 314 *i* P **P 16 05 16.9 +1.8**
BR131 Keskin Array S 20.69 310 *e*P **P 16 05 19.5 +1.2**
comp=Z,20nm,0.7s
BR131 Keskin Array S 20.69 310 *e*P **P 16 05 19.5 +1.2**
comp=Z,20nm,0.7s
BRTR Keskin Array B 20.69 310 P **P 16 05 19.6 +1.2**
comp=Z,27nm,0.7s,baz=130,slow=13,SNR=74
BRTR LR LR 16 15 11.0
comp=Z,98nm,19.1s,MS3.2,baz=302,slow=42
BRTR Keskin Array B 20.69 310 P **P 16 05 19.5 +1.2**
BOYT Boyabat 20.75 316 *i* P **P 16 05 15.6 -3.5**
AGRA Agra 21.09 86 *e*P **P 16 05 23.4 +0.7**
AGRA AMb AMB 16 05 24.0
comp=Z,71nm,0.7s,mb5.1
ELDT Eldivan 21.20 312 *i* P **P 16 05 25.1 +1.2**
KLP Kalpa 21.22 74 *e*P **P 16 05 23.6 -0.5**
KLP AMb AMB 16 05 34.3
comp=Z,23nm,0.9s,mb4.5
KDHN Kadinhani 21.23 306 *i* P **P 16 05 25.7 +1.5**
KAD Karad 21.24 116 *e*P **P 16 05 24.1 -0.3**
KAD AMb AMB 16 05 26.1
comp=Z,34nm,1.2s,mb4.5
BHPL Bhopal 21.48 97 *e*P **P 16 05 26.8 -0.1**
BHPL AMb AMB 16 05 33.5
comp=Z,21nm,0.9s,mb4.5
ANN Anapa 21.52 326 *e*P **P 16 05 25.3 -2.0**
ANN *e* 16 05 46.7
ANN *e*S **S 16 09 22.5 -1.2**
ANN pmax pmax
comp=Z,17nm,0.8s,mb4.5
ANN Anapa 21.52 326 *e*P **P 16 05 25.3 -2.0**
comp=Z,17nm,0.8s,mb4.5
BALT Daday 21.77 314 *i* P **P 16 05 30.1 +0.2**
AB31 Akbulak array 21.79 10 *e*P **P 16 05 29.1 -1.1**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
AB31 Akbulak array 21.79 10 *e*P **P 16 05 29.1 -1.1**
comp=Z,4.0nm,0.6s,mb4.0
AKL Akola 22.00 104 *ex* x 16 05 38.6
AKL AMb AMB 16 05 43.8
comp=Z,29nm,0.9s,mb4.7
AAK Ala-Archa 22.09 43 *i* P **P 16 05 33.9 +0.5**
AAK pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
AAK MLR MLR
comp=Z,300nm,21.0s,MS3.7
AAK Ala-Archa 22.09 43 *e*P **P 16 05 32.9 -0.6**
comp=Z,16nm,1.0s,mb4.4
AAK Ala-Archa 22.09 43 *e*P **P 16 05 32.9 -0.5**
comp=Z,16nm,1.0s,mb4.4
SGKT Sivrigoynuk 22.16 311 *i* P **P 16 05 34.7 +0.6**
JOSI Joshimath 22.30 77 *ex* x 16 05 27.4
JOSI AMb AMB 16 05 34.8
comp=Z,199nm,0.9s,mb5.5
TKTP Tekketepe 22.36 303 *i* P **P 16 05 36.2 -0.1**
AKTK Aktyubinsk 22.70 6 P **P 16 05 40.0 +0.1**
AKTK Aktyubinsk 22.70 6 P **P 16 05 40.0 +0.1**
comp=Z,6.0nm,0.6s,mb4.2
AKTO Aktyubinsk 22.70 6 P **P 16 05 40.0 +0.1**
comp=Z,6.3nm,0.6s,mb4.2,baz=168,slow=13,SNR=21
AKTO Aktyubinsk 22.70 6 P **P 16 05 40.0 +0.1**
AKTO pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
HENT Hendek 23.05 310 *i* P **P 16 05 44.2 +0.6**
DNZL Cakiroluk 23.20 301 *i* P **P 16 05 46.7 +1.4**
SIM Simferopol' 23.35 322 P **P 16 05 48.2 +1.5**
SIM pmax pmax
comp=Z,12nm,0.7s,mb4.4
SIM MLR MLR
comp=Z,170nm,20.5s,MS3.5
ORR Orenburg 23.70 1 *e*P **P 16 05 52.6 +2.7**
ORR pmax pmax
comp=Z,40nm,1.5s,mb4.6
BTOK Tokmak 24.63 305 *i* P **P 16 05 59.1 +0.6**
VRHR Novokhopersk 25.04 341 *e*P **P 16 06 02.0 -0.2**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb4.8
VRHR pmax pmax
comp=N,40nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR Novokhopersk 25.04 341 *e*P **P 16 06 02.0 -0.2**
comp=E,40nm,1.1s,mb4.9
SANT Santorini 25.67 296 *e*P **P 16 06 08.0 +0.1**
comp=E,48nm,0.5s,mb5.3
SANT Santorini 25.67 296 *e*P **P 16 06 08.0 +0.1**
comp=E,48nm,0.5s,mb5.3
IDI Anoyia 25.94 294 P **P 16 06 11.7 +1.3**
comp=E,23nm,0.7s,mb4.8,baz=92,slow=8.5,SNR=27
BOZC Bozcaada 26.10 304 *i* P **P 16 06 12.4 +0.6**
VOR Voronezh 26.33 339 P **P 16 06 14.0 +0.1**
VOR pmax pmax
comp=Z,50nm,1.4s,mb4.8
VOR Voronezh 26.33 339 P **P 16 06 14.0 +0.1**
comp=Z,50nm,1.4s,mb4.8
TIRR Tirgusor 26.40 316⇑ *i*P **P 16 06 13.8 -0.7**
TIRR Tirgusor 26.40 316 *e*P **P 16 06 13.5 -1.0**
TIRR Tirgusor 26.40 316 *e*P **P 16 06 13.5 -1.0**
PRD Provadia 26.45 312 *i* P **P 16 06 19.6 +4.7**
KDZ Kurdzhali 27.16 308 *i* P **P 16 06 25.9 +4.5**
ZRNK Zerenda 27.34 20 *e*P **P 16 06 21.9 -1.1**
comp=Z,4.2nm,0.8s,mb4.0
ZRNK Zerenda 27.34 20 *e*P **P 16 06 21.9 -1.1**
comp=Z,4.2nm,0.8s,mb4.0
BRVK Borovoye 27.83 21 *e*P **P 16 06 26.5 -0.8**
comp=Z,3.1nm,0.5s,mb4.2
BRVK Borovoye 27.83 21 *e*P **P 16 06 26.5 -0.9**
comp=Z,3.1nm,0.5s,mb4.2
BVAR Borovoye Array 27.84 21 P **P 16 06 26.8 -0.6**
comp=Z,5.2nm,0.6s,mb4.3,baz=216,slow=7.5,SNR=20
BVAR LR LR 16 19 34.6
comp=Z,54nm,18.6s,MS3.2,baz=210,slow=41
MMB Musomiste 28.33 307 *i* P **P 16 06 32.2 +0.4**
PGB Panagyurishte 28.36 309 *i* P **P 16 06 32.6 +0.6**
MLR Muntele Rosu 28.43 316⇑ *i*P **P 16 06 35.7 +3.0**
CHKZ Chkalovo 28.46 21 *e*P **P 16 06 31.5 -1.5**
comp=Z,3.5nm,1.0s,mb3.9
CHKZ Chkalovo 28.46 21 *e*P **P 16 06 31.5 -1.5**
comp=Z,3.5nm,1.0s,mb3.9
ARU Arti 28.69 5 *e*P **P 16 06 35.4 +0.4**
ARU *e* 16 07 25.6
ARU *e*PPP 16 07 36.9
ARU *e*S **S 16 11 24.2 +2.8**
ARU *e*SS SS 16 12 46.5 -37
ARU Arti 28.69 5 P **P 16 06 34.6 -0.4**
ARU Arti 28.69 5 P **P 16 06 34.6 -0.4**
KKB Krupnik 28.88 307 *i* P **P 16 06 37.4 +0.7**
MKAR Makanchi Array 29.01 42 P **P 16 06 37.5 -0.3**
comp=Z,2.4nm,0.6s,mb4.1,baz=236,slow=9.9,SNR=20
MKAR Makanchi Array 29.01 42 P **P 16 06 37.5 -0.4**
KURK Kurchatov 29.37 32 *e*P **P 16 06 40.3 -0.8**
comp=Z,2.9nm,0.6s,mb4.2
KURK Kurchatov 29.37 32 *e*P **P 16 06 40.3 -0.7**
comp=Z,2.9nm,0.6s,mb4.2
AKASG Malin Array Be 29.59 327 P **P 16 06 41.8 -1.2**
comp=Z,2.6nm,0.4s,mb4.3,baz=135,slow=8.5,SNR=13
BURAR Bucovina Array 29.92 319‖ *i*P **P 16 06 46.0 +0.1**
OBN Obninsk 30.04 340 *i* P **P 16 06 46.6 -0.4**
OBN *e* 16 07 48.4
OBN pmax pmax
comp=Z,18nm,0.5s,mb5.1
OBN Obninsk 30.04 340 *i* P **P 16 06 46.6 -0.4**
comp=Z,18nm,0.5s,mb5.1
WMQ Urumqi 31.22 50 P **P 16 06 57.5 +0.1**
WMQ LR LR
comp=N,200nm,23.0s,MS4.2
WMQ LR LR
comp=E,660nm,25.0s,MS4.2
WMQ LR LR
comp=Z,180nm,25.0s,MS3.6
BZS Buzias 31.22 313⇑ *i*P **P 16 06 57.6 +0.2**
SOKR Solikamsk 31.71 3⇑ *i*P **P 16 07 03.8 +2.1**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
SOKR Solikamsk 31.71 3 *i* P **P 16 07 03.8 +2.1**
comp=Z,10.0nm,0.8s,mb4.7
DIVS Divibaze 31.75 310‖ *i*P **P 16 07 01.8 -0.2**
KOLS Kolonicke sedl 32.28 319 *e*P **P 16 07 07.8 +1.1**
KWP Kalwaria 32.38 321 *e*P **P 16 07 06.6 -1.0**
KWP pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
KWP Kalwaria 32.38 321 *e*P **P 16 07 06.6 -1.0**
comp=Z,5.5nm,0.8s,mb4.4
KWP Kalwaria 32.38 321 *e*P **P 16 07 06.6 -1.0**
comp=Z,6.0nm,0.8s,mb4.5
CRVS Cervenica-Dubn 32.74 319 *e*P **P 16 07 11.1 +0.4**
TIP Timpagrande 32.94 300 *e*P **P 16 07 12.1 -0.3**
TIP Timpagrande 32.94 300 *e*P **P 16 07 12.1 -0.3**
STHS Stebnicka Huta 33.11 319 *e*P **P 16 07 14.5 +0.6**
KMBO Kilima Mbogo 33.12 212 LR LR 16 21 35.8
comp=Z,49nm,22.0s,MS3.2,baz=92,slow=38
KECS Kecovo 33.12 318 *i* P **P 16 07 14.5 +0.4**
KECS Kecovo 33.12 318 *i* P **P 16 07 14.5 +0.4**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KECS Kecovo 33.12 318 *i* P **P 16 07 14.5 +0.4**
comp=Z,3.4nm,0.7s,mb4.4
PSZ Piszkesteto 33.24 316 P **P 16 07 14.9 -0.2**
PKSM Moragy 33.37 313‖ *e*P **P 16 07 16.8 +0.6**
CUC Castrocucco 33.78 301 P **P 16 07 20.8 +1.0**
comp=Z,27nm,0.8s,mb5.2
SLCN Sala Consilina 33.98 302 P **P 16 07 23.1 +1.6**
comp=Z,41nm,0.6s,mb5.5
VYHS Vyhne 34.12 317 *e*P **P 16 07 23.0 +0.2**
VYHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
VYHS Vyhne 34.12 317 *e*P **P 16 07 23.0 +0.2**
comp=Z,2.2nm,0.8s,mb4.1
MRLC Muro Lucano 34.15 302 P **P 16 07 24.0 +1.0**
comp=Z,20nm,0.9s,mb5.0
OJC Ojcow 34.31 320 *e*P **P 16 07 22.6 -1.8**
ZAL Zalesovo 34.34 32 P **P 16 07 23.5 -1.2**
comp=Z,6.7nm,0.3s,mb5.1,baz=234,slow=6.9,SNR=14
ZAL LR LR 16 23 55.7
comp=Z,71nm,21.4s,MS3.4,baz=238,slow=41
KLMR Klimovskoe 34.41 347 *e*P **P 16 07 23.3 -1.9**
OKC Ostrava-Krasne 35.09 319 *e*P **P 16 07 30.6 -0.6**
GCIS Gornji Cirnik 35.24 311 *e*P **P 16 07 32.7 +0.2**
GOLS Golise 35.29 311 *e*P **P 16 07 33.1 +0.3**
BOJS Bojanci 35.39 310 *e*P **P 16 07 34.0 +0.2**
MORC Moravsky Berou 35.42 318 *e*P **P 16 07 33.5 -0.5**
MORC pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MORC Moravsky Berou 35.42 318 *e*P **P 16 07 33.5 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
MORC Moravsky Berou 35.42 318 *e*P **P 16 07 33.5 -0.5**
comp=Z,6.0nm,0.8s,mb4.6
PDKS Podkum 35.72 311 *e*P **P 16 07 37.3 +0.8**
ARSA Arzberg 35.74 313⇑ *i*P **P 16 07 36.8 +0.1**
comp=Z,2.9nm,0.6s,mb4.4
CONA Conrad Observa 35.75 314⇑ *i*P **P 16 07 36.4 -0.4**
comp=Z,6.1nm,1.4s,mb4.3
CONA Conrad Observa 35.75 314 P **P 16 07 36.4 -0.4**
comp=Z,6.1nm,1.4s,mb4.3
VRAC Vranov 35.80 317 P **P 16 07 37.1 -0.1**
comp=Z,8.4nm,0.7s,mb4.8,baz=101,slow=8.7,SNR=11
VRAC LR LR 16 22 56.9
comp=Z,68nm,21.8s,MS3.4,baz=110,slow=38
TERO Teramo 35.87 305 P **P 16 07 38.7 +0.8**
comp=Z,18nm,0.6s,mb5.2
AQU L'Aquila 35.97 305 *e*P **P 16 07 38.8 +0.1**
AQU pmax pmax
comp=Z,29nm,0.8s,mb5.3
AQU L'Aquila 35.97 305 *e*P **P 16 07 38.8 +0.1**
comp=Z,29nm,0.8s,mb5.3
AQU L'Aquila 35.97 305 *e*P **P 16 07 38.8 +0.1**
comp=Z,29nm,0.8s,mb5.3
VSU Vasula 36.02 336 *i* P **P 16 07 41.1 +2.0**
LJU Ljubljana 36.03 311 *e*P **P 16 07 40.1 +0.9**
NRCA Norcia 36.27 305 P **P 16 07 42.2 +1.0**
comp=Z,12nm,0.8s,mb4.9
DPC Dobruska-Polom 36.38 318 *e*P **P 16 07 41.8 -0.4**
DPC *ex* x 16 07 45.6
TREC Trest 36.47 316 *e*P **P 16 07 42.9 -0.1**
TREC epP pP 16 07 47.5 -6.2
UPC Upice 36.62 319 *e*P **P 16 07 43.6 -0.6**
UPC *ex* x 16 07 48.0
UPC Upice 36.62 319 *e*P **P 16 07 43.6 -0.6**
UPC *e* 16 07 48.0
MOA Molln 36.74 314⇑ *i*P **P 16 07 45.0 -0.3**
comp=Z,8.1nm,0.9s,mb4.5
PTCC Patocco-Chiusa 36.91 311 P **P 16 07 46.8 +0.1**
comp=Z,4.1nm,0.5s,mb4.5
KBA Koelnbreinsper 37.11 312⇑ *i*P **P 16 07 48.5 +0.2**
comp=Z,6.8nm,0.6s,mb4.6,SNR=5.8
SFI Santa Sofia 37.38 307 P **P 16 07 52.2 +1.5**
SFI pmax pmax
comp=Z,15nm,0.6s,mb5.0
SFI Santa Sofia 37.38 307 P **P 16 07 52.2 +1.5**
comp=Z,15nm,0.6s,mb5.0
GEC2 GERESS Array S 37.42 315 *e*P **P 16 07 50.2 -0.8**
comp=Z,1.0nm,0.6s,mb3.8
GEC2 GERESS Array S 37.42 315 *e*P **P 16 07 50.2 -0.8**
GEC2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
GERES GERESS Array B 37.42 315 P **P 16 07 50.3 -0.7**
comp=Z,1.3nm,0.5s,mb4.0,baz=104,slow=7.5,SNR=15
KHC Kasperske Hory 37.59 316 *e*P **P 16 07 51.8 -0.6**
KHC Kasperske Hory 37.59 316*c i*P **P 16 07 51.7 -0.7**
KHC Kasperske Hory 37.59 316 *i* P **P 16 07 51.7 -0.7**
VMG Vicchio 37.60 307 P **P 16 07 54.8 +2.2**
comp=Z,63nm,0.8s,mb5.4
BRG Berggiesshubel 37.98 318 *e*P **P 16 07 55.1 -0.6**
comp=Z,4.0nm,0.7s,mb4.3
BRG Berggiesshubel 37.98 318 *i* P **P 16 07 55.0 -0.7**
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
BRG Berggiesshubel 37.98 318 *i* P **P 16 07 55.0 -0.7**
comp=Z,2.6nm,0.7s,mb4.1
BRG Berggiesshubel 37.98 318 *i* P **P 16 07 55.0 -0.7**
comp=Z,3.0nm,0.7s,mb4.1
WET Wettzell 38.03 315 *e*P **P 16 07 55.1 -1.0**
comp=Z,5.0nm,0.8s,mb4.3
WET Wettzell 38.03 315 *e*P **P 16 07 55.1 -1.0**
WET pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
JOF Joensuu 38.08 343 *ep* P **P 16 07 56.3 -0.3**
comp=Z,10nm,0.9s,mb4.5
JOF Joensuu 38.08 343 *e*P **P 16 07 56.3 -0.3**
JOF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
WTTA Wattenberg 38.28 312⇑ *i*P **P 16 07 57.8 -0.4**
comp=Z,11nm,0.5s,mb4.8
WATA Walderalm 38.34 312⇓ *i*P **P 16 07 58.2 -0.5**
comp=Z,7.2nm,0.4s,mb4.7
FINES FINESS Array B 38.43 339 P **P 16 07 58.8 -0.7**
comp=Z,4.1nm,0.6s,mb4.3,baz=144,slow=10.0,SNR=41
FINES LR LR 16 25 16.5
comp=Z,47nm,19.2s,MS3.3,baz=122,slow=39
SQTA Sankt Quirin 38.55 312 *i* P **P 16 08 00.0 -0.5**
comp=Z,16nm,0.4s,mb5.1,SNR=13
ROTZ Rotzenmuhle 38.64 316 *e*P **P 16 08 00.8 -0.5**
comp=Z,5.0nm,0.6s,mb4.4
MOTA Moosalm 38.65 312‖ *e*P **P 16 08 00.6 -0.8**
comp=Z,5.6nm,0.5s,mb4.5
VSL Villasalto 38.66 299 *e*P **P 16 08 02.8 +1.4**
comp=Z,35nm,0.8s,mb5.1
VSL Villasalto 38.66 299 *e*P **P 16 08 02.8 +1.3**
comp=Z,35nm,0.8s,mb5.1
CLL Collm 38.69 319‖ *i*P **P 16 08 00.7 -1.0**
comp=Z,8.0nm,0.8s,mb4.5
CLL Lm 16 25 00.0
comp=Z,100nm,19.0s
CLL Collm 38.69 319‖ *i*P **P 16 08 00.7 -1.0**
CLL pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CLL MLR MLR
comp=Z,100nm,19.0s,MS3.7
CLL Collm 38.69 319 *e*P **P 16 08 00.6 -1.1**
comp=Z,8.0nm,0.8s,mb4.5
KAF Kangasniemi 38.86 339 *ep* P **P 16 08 02.0 -1.1**
baz=136,slow=8.6
PGF Pioggiola 39.22 304⇑ *i*P **P 16 08 06.0 -0.2**
comp=Z,12nm,0.6s,mb4.5
PGF Pioggiola 39.22 304⇑ *i*P **P 16 08 06.0 -0.2**
PGF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
PGF Pioggiola 39.22 304⇑ *i*P **P 16 08 06.0 -0.2**
comp=Z,5.9nm,0.6s,mb4.5
GRA1 Grafenberg Arr 39.22 316 *e*P **P 16 08 05.8 -0.4**
comp=Z,13nm,0.7s,mb4.8
GRF Grafenberg Arr 39.22 316 *e*P **P 16 08 05.8 -0.4**
comp=Z,13nm,0.7s,mb4.8
GRF Grafenberg Arr 39.22 316 *e*P **P 16 08 05.8 -0.4**
GRF pmax pmax
comp=Z,13nm,0.7s,mb4.8
GRF Grafenberg Arr 39.22 316 *e*P **P 16 08 05.8 -0.4**
GRF pmax pmax
comp=Z,13nm,0.7s,mb4.8
BOB Bobbio (Coli) 39.23 308 P **P 16 08 05.8 -0.4**
BOB pmax pmax
comp=Z,21nm,0.8s,mb4.9
BOB Bobbio (Coli) 39.23 308 P **P 16 08 05.8 -0.4**
comp=Z,21nm,0.8s,mb4.9
GTA Gaotai 39.32 61 *e*P **P 16 08 07.3 +0.3**
GTA AP pP 16 08 12.3 -5.4
GTA AMB AMB
comp=Z,30nm,4.6s
GTA LR LR
comp=N,190nm,13.7s,MS4.2
GTA LR LR
comp=E,140nm,13.7s,MS4.2
GTA LR LR
comp=Z,110nm,16.7s,MS3.8
DAVOX Davos 39.33 311 P **P 16 08 06.8 -0.2**
comp=Z,6.9nm,0.5s,mb4.7,baz=104,slow=4.2,SNR=9.3
DAVOX LR LR 16 26 11.9
comp=Z,88nm,18.2s,MS3.6,baz=62,slow=39
DAVOX Davos 39.33 311 P **P 16 08 06.8 -0.3**
DAVA Damuels 39.44 312 *i* P **P 16 08 07.5 -0.5**
comp=Z,31nm,0.5s,mb5.3,SNR=19
CLZ Clausthal 40.41 319 *e*P **P 16 08 16.2 +0.1**
comp=Z,14nm,0.8s,mb4.7
CLZ Clausthal 40.41 319 *e*P **P 16 08 16.2 +0.1**
CLZ pmax pmax
comp=Z,14nm,0.8s,mb4.7
SBF Sospel 40.52 306⇑ *i*P **P 16 08 16.8 -0.2**
comp=Z,25nm,0.8s,mb4.6
SBF Sospel 40.52 306⇑ *i*P **P 16 08 16.8 -0.2**

SBF pmax pmax
comp=Z,12nm,0.8s,mb4.6
SBF Sospel 40.52 306⇑*i*P P 16 08 16.8 -0.2
comp=Z,12nm,0.8s,mb4.6
BFO Black Forest 40.70 313 *e*P P 16 08 18.8 +0.3
comp=Z,4.0nm,1.1s,mb4.0
BFO Black Forest 40.70 313 *e*P P 16 08 18.8 +0.3
BFO pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
NRDL Niedersach Rie 40.78 319 *e*P P 16 08 19.5 +0.4
comp=Z,18nm,0.9s,mb4.7
FRF La Foret Royal 41.05 305 *e*P P 16 08 20.7 -0.6
MBDF Montbardon 41.10 307 *e*P P 16 08 21.1 -0.7
comp=Z,9.6nm,0.5s,mb4.4
MBDF Montbardon 41.10 307 *e*P P 16 08 21.1 -0.7
MBDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
MBDF Montbardon 41.10 307 *e*P P 16 08 21.1 -0.7
comp=Z,4.8nm,0.5s,mb4.4
LMR La Mourre 41.13 305 *e*P P 16 08 21.8 -0.2
comp=Z,11nm,0.8s,mb4.2
LMR La Mourre 41.13 305 *e*P P 16 08 21.8 -0.2
LMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
LMR La Mourre 41.13 305 *e*P P 16 08 21.8 -0.2
comp=Z,5.6nm,0.8s,mb4.2
BNI Bardonecchia 41.22 308 *e*P P 16 08 21.2 -1.5
BNI pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
BNI Bardonecchia 41.22 308 *e*P P 16 08 21.2 -1.5
comp=Z,7.7nm,0.9s,mb4.3
BNI Bardonecchia 41.22 308 *e*P P 16 08 21.2 -1.5
comp=Z,8.0nm,0.9s,mb4.3
LPG La Plagne 41.23 308 *e*P P 16 08 22.1 -0.7
comp=Z,21nm,0.7s,mb4.6
LPG La Plagne 41.23 308 *e*P P 16 08 22.1 -0.7
LPG pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
LPG La Plagne 41.23 308 *e*P P 16 08 22.1 -0.7
comp=Z,10nm,0.7s,mb4.6
LPL La Plagne 41.24 308 *e*P P 16 08 22.2 -0.7
comp=Z,13nm,0.6s,mb4.5
LPL La Plagne 41.24 308 *e*P P 16 08 22.2 -0.7
LPL pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
LPL La Plagne 41.24 308 *e*P P 16 08 22.2 -0.7
comp=Z,6.6nm,0.6s,mb4.5
CDF Champ du Feu 41.40 313 *e*P P 16 08 22.9 -1.3
comp=Z,2.8nm,0.5s,mb3.8
CDF Champ du Feu 41.40 313 *e*P P 16 08 22.9 -1.3
CDF pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
CDF Champ du Feu 41.40 313 *e*P P 16 08 22.9 -1.3
comp=Z,1.4nm,0.5s,mb3.8
ORIF Oris-en-Rattie 41.76 307 *e*P P 16 08 26.8 -0.3
ORIF *e*R
comp=Z,112nm,21.8s
CABF La Chapelle 41.86 310⇑*i*P P 16 08 27.5 -0.5
comp=Z,13nm,0.5s,mb4.5
CABF La Chapelle 41.86 310⇑*i*P P 16 08 27.5 -0.5
CABF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
CABF La Chapelle 41.86 310⇑*i*P P 16 08 27.5 -0.5
comp=Z,6.7nm,0.5s,mb4.5
SMRF Simiane la Rot 41.87 306 *e*P P 16 08 27.0 -1.0
comp=Z,4.3nm,0.6s,mb3.9
SMRF Simiane la Rot 41.87 306 *e*P P 16 08 27.0 -1.0
comp=Z,2.2nm,0.6s,mb3.9
HAU Haudompre 41.93 312 *e*P P 16 08 28.2 -0.3
HAU *e*R
comp=Z,70nm,19.8s
HAU Haudompre 41.93 312 *e*P P 16 08 28.2 -0.3
HAU LR LR
comp=Z,70nm,19.8s,MS3.5
HFS Hagfors 42.27 331 P P 16 08 30.5 -0.9
comp=Z,4.9nm,0.5s,mb4.4,baz=124,slow=9.2,SNR=27
HFS LR LR 16 29 37.1
comp=Z,78nm,18.9s,MS3.6,baz=120,slow=41
WLF Walferdange 42.40 314 P P 16 08 31.2 -1.1
LZH Lanzhou 42.53 66 *e*P P 16 08 33.5 0.0
LZH AP pP 16 08 43.5 -0.8
LZH XP sP 16 08 48.0 -0.8
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
VIVF Saint-Julien-l 42.60 307⇑*i*P P 16 08 33.6 -0.4
comp=Z,4.6nm,0.5s,mb4.2
VIVF Saint-Julien-l 42.60 307⇑*i*P P 16 08 33.6 -0.4
VIVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
VIVF Saint-Julien-l 42.60 307⇑*i*P P 16 08 33.6 -0.4
comp=Z,2.3nm,0.5s,mb4.2
MEZF Maizieres J'vi 42.87 312 *e*P P 16 08 35.5 -0.7
comp=Z,16nm,0.5s,mb4.7
MEZF Maizieres J'vi 42.87 312 *e*P P 16 08 35.5 -0.7
comp=Z,8.1nm,0.5s,mb4.7
CD2 Chengdu 43.03 74 *e*P P 16 08 36.3 -1.2
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
LASF Ste Croix 43.11 306⇑*i*P P 16 08 37.6 -0.5
comp=Z,6.4nm,0.8s,mb4.1
LASF Ste Croix 43.11 306⇑*i*P P 16 08 37.6 -0.5
comp=Z,3.2nm,0.8s,mb4.1
GIVF Givet 43.33 315 *e*P P 16 08 39.8 -0.1
SMF Signal de Mont 43.39 309⇑*i*P P 16 08 39.5 -0.9
comp=Z,13nm,0.6s,mb4.5
SMF Signal de Mont 43.39 309⇑*i*P P 16 08 39.5 -0.9
SMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
SMF Signal de Mont 43.39 309⇑*i*P P 16 08 39.5 -0.9
comp=Z,6.3nm,0.6s,mb4.5
LOR Lormes 43.47 310⇑*i*P P 16 08 39.9 -1.1
comp=Z,5.8nm,0.5s,mb4.2
LOR *e*R
comp=Z,117nm,19.5s
LOR Lormes 43.47 310⇑*i*P P 16 08 39.9 -1.1
LOR pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
LOR MLR MLR
comp=Z,120nm,19.5s,MS3.8
LOR Lormes 43.47 310⇑*i*P P 16 08 39.9 -1.1
comp=Z,2.9nm,0.5s,mb4.3
LOR LR LR
comp=Z,120nm,19.5s,MS3.8
DOU Dourbes 43.47 315 P P 16 08 40.6 -0.4
SSF Saint Saulge 43.68 310⇑*i*P P 16 08 41.9 -0.8
BAIF Baives 43.71 314 *e*P P 16 08 43.2 +0.2
comp=Z,17nm,0.7s,mb4.6
BAIF Baives 43.71 314 *e*P P 16 08 43.2 +0.2
BAIF pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
BAIF Baives 43.71 314 *e*P P 16 08 43.2 +0.2
comp=Z,8.6nm,0.7s,mb4.6
AVF Avril sur Loir 43.75 310 *e*P P 16 08 42.3 -1.0
comp=Z,4.6nm,0.6s,mb4.1
AVF Avril sur Loir 43.75 310 *e*P P 16 08 42.3 -1.0
AVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
AVF Avril sur Loir 43.75 310 *e*P P 16 08 42.3 -1.0
comp=Z,2.3nm,0.6s,mb4.1
NB2 NORSAR Subarra 43.79 331 P P 16 08 41.6 -2.0
comp=Z,2.0nm,0.5s,mb4.1,baz=120,slow=8.6
NB2 NORSAR Subarra 43.79 331 P P 16 08 41.6 -2.0
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
NB2 NORSAR Subarra 43.79 331 P P 16 08 41.6 -2.0
comp=Z,2.0nm,0.5s,mb4.1,baz=120,slow=8.0,SNR=6.3
NOA NORSAR Array B 43.79 331 P P 16 08 42.2 -1.4
comp=Z,3.2nm,0.7s,mb4.2,baz=120,slow=8.0,SNR=18
NOA LR LR 16 27 54.5
comp=Z,49nm,21.2s,MS3.4,baz=90,slow=38
BGF Bois d'Agland 44.06 309 *e*P P 16 08 45.1 -0.7
comp=Z,7.7nm,0.5s,mb4.4
BGF Bois d'Agland 44.06 309 *e*P P 16 08 45.1 -0.7
BGF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
BGF Bois d'Agland 44.06 309 *e*P P 16 08 45.1 -0.7
comp=Z,3.8nm,0.5s,mb4.4
MTLF Montolieu 44.25 305⇑*i*P P 16 08 47.5 +0.2
comp=Z,8.9nm,0.7s,mb4.3
MTLF Montolieu 44.25 305⇑*i*P P 16 08 47.5 +0.2
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
MTLF Montolieu 44.25 305⇑*i*P P 16 08 47.5 +0.2
comp=Z,4.4nm,0.7s,mb4.3
CAF Calviac 44.46 307⇑*i*P P 16 08 48.7 -0.2
comp=Z,12nm,0.7s,mb4.5
CAF Calviac 44.46 307⇑*i*P P 16 08 48.7 -0.2
CAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
CAF Calviac 44.46 307⇑*i*P P 16 08 48.7 -0.2
comp=Z,6.2nm,0.7s,mb4.5
TCF Toulx Ste Croi 44.47 309⇑*i*P P 16 08 48.6 -0.5
comp=Z,13nm,0.6s,mb4.5
TCF Toulx Ste Croi 44.47 309⇑*i*P P 16 08 48.6 -0.5
TCF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 44.47 309⇑*i*P P 16 08 48.6 -0.5
comp=Z,6.3nm,0.6s,mb4.5
EMIR Miracle 44.72 303 P P 16 08 52.1 +1.1
comp=Z,23nm,1.0s,mb5.0
EMIR Miracle 44.72 303 P P 16 08 52.2 +1.2
comp=Z,23nm,1.0s,mb5.0
KEV Kevo 44.73 347 *e*p P 16 08 50.7 -0.4
SONM Songino Array 44.83 49 P P 16 08 52.0 0.0
comp=Z,1.5nm,0.8s,mb3.9,baz=269,slow=8.8,SNR=12
SONM LR LR 16 28 25.5
comp=Z,186nm,20.0s,MS4.0,baz=262,slow=37
ARCES ARCESS Array B 44.86 346 P P 16 08 51.5 -0.6
comp=Z,2.6nm,0.6s,mb4.3,baz=149,slow=11,SNR=13
RJF Les Rejaudoux 44.87 307⇑*i*P P 16 08 52.2 -0.1
comp=Z,13nm,0.6s,mb4.7
RJF Les Rejaudoux 44.87 307⇑*i*P P 16 08 52.2 -0.1
RJF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
RJF Les Rejaudoux 44.87 307⇑*i*P P 16 08 52.2 -0.1
comp=Z,6.6nm,0.6s,mb4.7
ULN Ulaanbaatar 45.27 49 *e*P P 16 08 54.7 -0.8
comp=Z,2.3nm,0.6s,mb4.2
ULN Ulaanbaatar 45.27 49 *e*P P 16 08 54.7 -0.8
comp=Z,2.3nm,0.6s,mb4.2
LFF La Frestale 45.40 307 *e*P P 16 08 56.0 -0.4
comp=Z,27nm,0.5s,mb5.0
LFF La Frestale 45.40 307 *e*P P 16 08 56.0 -0.4
LFF pmax pmax
comp=Z,14nm,0.5s,mb5.0
LFF La Frestale 45.40 307 *e*P P 16 08 56.0 -0.4
comp=Z,14nm,0.5s,mb5.0
EBR Ebro Roquetas 45.49 301 *e*P P 16 08 58.5 +1.3
EBR *e*Ts 16 22 56.3
ERTA Horta de San J 45.61 301 P P 16 08 59.0 +0.8
comp=Z,18nm,0.5s,mb5.2
ERTA Horta de San J 45.61 301 P P 16 08 59.0 +0.9
comp=Z,18nm,0.5s,mb5.2
EGRA Graus 45.62 303 P P 16 08 59.1 +0.9
comp=Z,5.3nm,0.4s,mb4.8
EGRA Graus 45.62 303 P P 16 08 59.1 +0.9
comp=Z,5.3nm,0.4s,mb4.8
EBIE Bielsa 45.75 304 P P 16 09 00.4 +1.2
comp=Z,2.5nm,0.5s,mb4.4
EBIE Bielsa 45.75 304 P P 16 09 00.4 +1.2
comp=Z,2.5nm,0.5s,mb4.4
MFF Saint Martin d 46.12 309 *e*P P 16 09 01.0 -1.2
ESAC San Caprasio 46.21 302 P P 16 09 03.4 +0.6
comp=Z,32nm,0.5s,mb5.5
ESAC San Caprasio 46.21 302 P P 16 09 03.4 +0.6
comp=Z,32nm,0.5s,mb5.5
EMOS Mosqueruela 46.24 300 P P 16 09 04.6 +1.5
comp=Z,12nm,0.7s,mb4.9
EMOS Mosqueruela 46.24 300 P P 16 09 04.6 +1.5
comp=Z,12nm,0.7s,mb4.9
ETSF Etsaut 46.27 304 *e*P P 16 09 03.7 +0.4
LDF La Druitiere 46.29 312⇑*i*P P 16 09 02.2 -1.3
comp=Z,14nm,0.4s,mb4.9
LDF La Druitiere 46.29 312⇑*i*P P 16 09 02.2 -1.3
LDF pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
LDF La Druitiere 46.29 312⇑*i*P P 16 09 02.2 -1.3
comp=Z,7.0nm,0.4s,mb4.9
FLN La Foliniere 46.54 312⇑*i*P P 16 09 04.3 -1.2
comp=Z,11nm,0.5s,mb4.7
FLN *e*R
comp=Z,60nm,20.5s
FLN La Foliniere 46.54 312⇑*i*P P 16 09 04.3 -1.2
FLN pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
FLN MLR MLR
comp=Z,60nm,20.5s,MS3.5
FLN La Foliniere 46.54 312⇑*i*P P 16 09 04.3 -1.2
comp=Z,5.3nm,0.5s,mb4.7
FLN LR LR
comp=Z,60nm,20.5s,MS3.5
ECHE Chera 46.66 299 P P 16 09 07.9 +1.6
ECHE pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ECHE Chera 46.66 299 P P 16 09 07.9 +1.6
comp=Z,5.8nm,0.5s,mb4.8
ECHE Chera 46.66 299 P P 16 09 07.9 +1.6
comp=Z,6.0nm,0.5s,mb4.8
OPO Ambohidratompo 46.68 189 P P 16 09 09.2 +2.6
comp=Z,3.8nm,0.8s,mb4.4,baz=3.1,slow=10,SNR=7.2
GRR Gorron 46.75 311 *e*P P 16 09 06.3 -0.8
comp=Z,8.7nm,0.4s,mb4.8
GRR Gorron 46.75 311 *e*P P 16 09 06.3 -0.8
GRR pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
GRR Gorron 46.75 311 *e*P P 16 09 06.3 -0.8
comp=Z,4.3nm,0.4s,mb4.8
SJPF Ste Jean 46.76 304⇑*i*P P 16 09 07.6 +0.5
comp=Z,14nm,0.5s,mb4.8
SJPF Ste Jean 46.76 304⇑*i*P P 16 09 07.6 +0.5
SJPF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
SJPF Ste Jean 46.76 304⇑*i*P P 16 09 07.6 +0.5
comp=Z,7.2nm,0.5s,mb4.8
XAN Xi'an 46.88 68 P P 16 09 08.3 +0.2
XAN AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
ETOB Tobarra 47.16 298 P P 16 09 11.6 +1.2
comp=Z,13nm,0.8s,mb4.9
ETOB Tobarra 47.16 298 P P 16 09 11.6 +1.3
comp=Z,13nm,0.8s,mb4.9
ETOR Torete 47.43 301 P P 16 09 12.9 +0.5
ETOR pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ETOR Torete 47.43 301 P P 16 09 12.9 +0.5
comp=Z,2.2nm,0.5s,mb4.3
ETOR Torete 47.43 301 P P 16 09 12.9 +0.5
comp=Z,2.0nm,0.5s,mb4.3
SGMF Saint Gilles 47.87 311⇑*i*P P 16 09 15.0 -0.8
comp=Z,6.5nm,0.4s,mb4.7
SGMF Saint Gilles 47.87 311⇑*i*P P 16 09 15.0 -0.8
SGMF pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
SGMF Saint Gilles 47.87 311⇑*i*P P 16 09 15.0 -0.8
comp=Z,3.2nm,0.4s,mb4.7
EVIA Vianos 47.91 298 P P 16 09 16.6 +0.5
EVIA pmax pmax
comp=Z,22nm,0.8s,mb5.2
EVIA Vianos 47.91 298 P P 16 09 16.6 +0.5
comp=Z,22nm,0.8s,mb5.2
EVIA Vianos 47.91 298 P P 16 09 16.6 +0.5
comp=Z,22nm,0.8s,mb5.2
EHUE Huescar 48.06 297 P P 16 09 17.9 +0.7
EHUE pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
EHUE Huescar 48.06 297 P P 16 09 17.9 +0.7
comp=Z,5.3nm,0.6s,mb4.8
EHUE Huescar 48.06 297 P P 16 09 17.9 +0.7
comp=Z,5.0nm,0.6s,mb4.7
QUIF Quistinic 48.26 311⇑*i*P P 16 09 17.8 -1.0
comp=Z,15nm,0.7s,mb4.9
QUIF Quistinic 48.26 311⇑*i*P P 16 09 17.8 -1.0
QUIF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
QUIF Quistinic 48.26 311⇑*i*P P 16 09 17.8 -1.0
comp=Z,7.5nm,0.7s,mb4.9
HHC Hu-ho-hao-te 48.31 59 *e*P P 16 09 20.4 +1.2
HHC AP pP 16 09 24.9 -5.3
HHC PCP PcP 16 10 47.5 +1.9
HHC PP PP 16 11 11.8 -0.1
HHC S **S** **16 16 17.6 +1.0**
HHC SCS ScS 16 19 09.3 +0.3
HHC SS SS 16 19 41.5 -4.8
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,70nm,4.4s
HHC LR LR
comp=N,170nm,17.8s,MS4.1
HHC LR LR
comp=E,90nm,16.7s,MS4.1
HHC LR LR
comp=Z,130nm,17.8s,MS4.0
ROSF Rostrenen 48.36 311 *e*P P 16 09 18.5 -1.0
comp=Z,9.5nm,0.8s,mb4.6
ROSF Rostrenen 48.36 311 *e*P P 16 09 18.5 -1.0
ROSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ROSF Rostrenen 48.36 311 *e*P P 16 09 18.5 -1.0
comp=Z,4.8nm,0.8s,mb4.6
EBER Berja 48.39 296 P **P 16 09 19.9 +0.1**
comp=Z,29nm,1.3s,mb5.2
EBER Berja 48.39 296 P **P 16 09 19.9 +0.1**
comp=Z,29nm,1.3s,mb5.2
EQES Quesada 48.44 297 P **P 16 09 20.7 +0.6**
comp=Z,13nm,0.8s,mb5.0
EQES Quesada 48.44 297 P **P 16 09 20.7 +0.5**
comp=Z,13nm,0.8s,mb5.0
ECOG Cogollos-Vega 48.88 296 P **P 16 09 22.6 -1.0**
ECOG pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
ECOG Cogollos-Vega 48.88 296 P **P 16 09 22.6 -1.0**
comp=Z,3.5nm,0.3s,mb4.9
ECOG Cogollos-Vega 48.88 296 P **P 16 09 22.6 -1.0**
comp=Z,4.0nm,0.3s,mb4.9
ESDC Sonseca Array 48.96 300 P **P 16 09 24.4 +0.2**
comp=Z,4.4nm,0.5s,mb4.7,baz=76,slow=7.3,SNR=16
ESDC Sonseca Array 48.96 300 P **P 16 09 24.5 +0.4**
comp=Z,3.2nm,0.4s,mb4.7
ESDC Sonseca Array 48.96 300 P **P 16 09 24.5 +0.3**
comp=Z,3.2nm,0.4s,mb4.7
ESLA Sonseca Array 48.96 300 *e*P P 16 09 23.2 -0.9
comp=Z,0.9nm,0.6s,mb4.0
ESLA Sonseca Array 48.96 300 *e*P P 16 09 23.2 -1.0
comp=Z,0.9nm,0.6s,mb4.0
EBAN Banos Encina 48.96 298 P **P 16 09 24.3 +0.1**
EBAN pmax pmax
comp=Z,14nm,0.6s,mb5.2
EBAN Banos Encina 48.96 298 P **P 16 09 24.3 +0.1**
comp=Z,14nm,0.6s,mb5.2
EBAN Banos Encina 48.96 298 P **P 16 09 24.3 +0.1**
comp=Z,14nm,0.6s,mb5.2
EKA Eskdalemuir Ar 49.08 320 P **P 16 09 24.1 -1.0**
comp=Z,2.3nm,0.6s,mb4.4,baz=112,slow=7.3,SNR=11
ERON Agron 49.10 296 P **P 16 09 26.0 +0.8**
comp=Z,10nm,0.6s,mb5.0
ERON Agron 49.10 296 P **P 16 09 26.0 +0.7**
comp=Z,10nm,0.6s,mb5.0
ELOJ Sierra Loja 49.36 296 P **P 16 09 26.1 -1.2**
ELOJ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ELOJ Sierra Loja 49.36 296 P **P 16 09 26.1 -1.2**
comp=Z,9.3nm,0.8s,mb4.9
ELOJ Sierra Loja 49.36 296 P **P 16 09 26.1 -1.2**
comp=Z,9.0nm,0.8s,mb4.8
EADA Adamuz 49.58 298 P **P 16 09 29.2 +0.3**
comp=Z,10nm,0.6s,mb5.0
EADA Adamuz 49.58 298 P **P 16 09 29.2 +0.3**
comp=Z,10nm,0.6s,mb5.0
EMIJ Mijas 49.93 296 P **P 16 09 31.2 -0.4**
comp=Z,21nm,0.8s,mb5.2
ESPR Espera 50.75 296 P **P 16 09 37.3 -0.5**
comp=Z,14nm,0.6s,mb5.1
TORD Torodi Ar. Bea 50.92 264 P **P 16 09 39.5 +0.4**
comp=Z,20nm,0.7s,mb5.2,baz=60,slow=7.4,SNR=181
TORD Torodi Ar. Bea 50.92 264 P **P 16 09 39.5 +0.4**
EMIN Mina Concepcio 51.27 297 P **P 16 09 41.4 -0.3**
comp=Z,6.2nm,0.6s,mb4.7
EMIN Mina Concepcio 51.27 297 P **P 16 09 41.4 -0.3**
comp=Z,6.2nm,0.6s,mb4.7
EBAD Badajoz 51.41 299 P **P 16 09 41.9 -0.8**
comp=Z,7.6nm,0.6s,mb4.8
EBAD Badajoz 51.41 299 P **P 16 09 41.9 -0.8**
comp=Z,7.6nm,0.6s,mb4.8
PCBR Castelo Branco 51.64 300 *e*P P 16 09 45.6 +1.2
comp=Z,32nm,1.3s,mb5.1
PBEJ Beja 52.17 298 *e*P P 16 09 48.8 +0.4
PTOM Tomar 52.38 300 *e*P P 16 09 50.8 +0.9
comp=Z,59nm,1.1s,mb5.4
NJ2 Nanjing 55.45 69 *e*P P 16 10 12.9 +0.5
NJ2 AP pP 16 10 22.3 -1.2
NJ2 XP sP 16 10 27.1 -0.8
NJ2 PCP PcP 16 11 10.9 -1.3
NJ2 S **S** **16 17 54.0 -0.6**
NJ2 XS sS 16 18 10.0 -3.0
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,100nm,6.9s
NJ2 LR LR
comp=N,350nm,23.9s,MS4.5
NJ2 LR LR
comp=E,200nm,20.0s,MS4.5
NJ2 LR LR
comp=Z,200nm,19.2s,MS4.2
CN2 Changchun 58.22 54 *e*P P 16 10 34.8 +2.8
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
DBIC Dimbokro 59.59 261 P **P 16 10 42.4 +0.9**
comp=Z,8.5nm,0.7s,mb4.9,baz=41,slow=8.7,SNR=13
DBIC Dimbokro 59.59 261 P **P 16 10 42.4 +0.9**
DBIC pmax pmax
comp=Z,9.0nm,0.7s
DBIC Dimbokro 59.59 261 *e*P P 16 10 41.5 0.0
comp=Z,12nm,0.9s,mb4.9
DBIC Dimbokro 59.59 261 *e*P P 16 10 41.5 0.0
comp=Z,12nm,0.9s,mb4.9
YHNB Yeheng 59.66 76 P **P 16 10 44.6 +2.6**
LIC Lamto 59.95 261 *e*P P 16 10 44.5 +0.5
comp=Z,40nm,1.0s,mb5.1
LIC *e*R
comp=Z,114nm,22.5s
LIC Lamto 59.95 261 *e*P P 16 10 44.5 +0.5
comp=Z,20nm,1.0s,mb5.1
LIC LR LR
comp=Z,60nm,22.5s,MS3.7
LIC Lamto 59.95 261 *e*P P 16 10 44.5 +0.5
comp=Z,20nm,1.0s,mb5.1
BOSA Boshof 62.65 209 P **P 16 11 03.7 +1.5**
comp=Z,2.5nm,0.4s,mb4.7,baz=345,slow=17,SNR=9.7
BOSA LR LR 16 39 48.8
comp=Z,57nm,18.1s,MS3.8,baz=171,slow=38
SUMG Summit 64.43 341 *e*P P 16 11 13.7 -0.3
comp=Z,10nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 69.27 47 *e*P P 16 11 43.6 -1.2
comp=Z,4.1nm,0.7s,mb4.5
MJAR Matsushiro Ar 69.52 59 P **P 16 11 48.4 +2.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=279,slow=7.5,SNR=4.7
MJAR LR LR 16 42 34.4
comp=Z,79nm,21.8s,MS3.9,baz=195,slow=36
ASAJ Asahikawa 70.10 50 LR LR 16 44 17.1
comp=Z,83nm,21.2s,MS4.0,baz=186,slow=37
BILL Bilibino 72.18 21 *i*P P 16 12 03.7 +1.2
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
SCHQ Schefferville 83.35 330 P **P 16 13 05.3 +0.7**
comp=Z,3.9nm,0.7s,mb4.5,baz=64,slow=7.1,SNR=5.2
SCHQ Schefferville 83.35 330 P **P 16 13 05.3 +0.7**
NWAO Narrogin (SRO) 85.10 131 *e*P P 16 13 15.2 +1.6
NWAO pmax pmax
comp=Z,31nm,1.5s
NWAO Narrogin (SRO) 85.10 131 *e*P P 16 13 15.2 +1.7
comp=Z,31nm,1.5s,mb5.2
YKA Yellowknife Ar 89.48 355 P **P 16 13 34.6 -0.1**
comp=Z,2.9nm,0.7s,mb4.7,baz=7.0,slow=5.2,SNR=13
WRA Warramunga Arr 90.90 112 P **P 16 13 41.1 -0.2**
comp=Z,1.2nm,0.8s,mb4.3,baz=314,slow=4.1,SNR=11
WRAB Tennant Creek 90.90 112 P **P 16 13 43.0 +1.7**
comp=Z,22nm,1.4s,mb5.3
ASAR Alice Springs 92.36 115 P **P 16 13 47.8 -0.3**
comp=Z,1.8nm,0.8s,mb4.5,baz=304,slow=4.7,SNR=16

IDC 23 16:09:16.3±10.0**, 2089S**×**17378W, h0**km**, mb3.9**/3**, mb1 4.1**/4**, mb1mx3.8**/15**, mbtmp4.0**/4**, ML2.2**/1**, Error ellipse: s-maj=311.2km s-min=36.4km az=125.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.20**	**16**	Pn	Pn	16 11 03.0	+0.1
	2.6nm,0.3s,baz=77,slow=8.5,SNR=4.6						
AFI				Sn	Sn	16 12 15.0	-10
	3.7nm,0.3s,baz=164,slow=23,SNR=2.8						
STKA	**Stephens Creek**	**41.19**	**245**	P	P	16 17 02.4	-0.2
	1.5nm,0.7s,baz=94,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**48.27**	**256**	P	P	16 17 59.9	+0.8
	1.8nm,0.8s,baz=95,slow=8.2,SNR=6.3						
WRA	**Warramunga Arr**	**48.45**	**261**	P	P	16 18 00.9	+0.4
	0.6nm,0.4s,baz=95,slow=8.3,SNR=4.6						

IDC ***23*** *16:11:17.5±4.0, 333S×13008E, h0km, mb4.0/2, mb1 4.3/4, mb1mx3.8/16, mbtmp4.1/4, ML3.9/2, Error ellipse: s-maj=90.9km s-min=37.4km az=84.0*
ISCJB ***23*** *16:11:19.5±2.2, 321S±008×1299E±01, h42km±24km, mb4.0/3, Error ellipse: s-maj=25.2km s-min=9.5km az=138.1*
NEIC ***23*** *16:11:25.6±2.2, 351S×12950E, h77km±22km, mb4.0/3, Error ellipse: s-maj=31.5km s-min=10.5km az=58.0*
ISC 23 16:11:22.9±2.3,323S±010×1298E±01,h58km±24km,n15,σ1§10/23,mb4.0/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.77**	**165**	*e*P	**Pn**	**16 13 41.0**	**+0.3**
	13nm,0.6s						
KAKA				*e*S	**Sn**	**16 15 31.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**15.34**	**195**	*e*P	**Pn**	**16 14 53.9**	**-1.9**
	5.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.34**	**195**	Pn	**Pn**	**16 14 54.1**	**-1.7**
	0.3nm,0.3s,baz=31,slow=12,SNR=13						
FITZ				Sn	**Sn**	**16 17 44.9**	**+0.3**
	0.1nm,0.3s,baz=264,slow=15,SNR=1.9						
KKM	**Kota Kinabalu**	**16.42**	**304**	P	**Pn**	**16 15 10.2**	**+0.7**
WRAB	**Tennant Creek**	**17.18**	**165**	*e*Pn	**Pn**	**16 15 17.9**	**-1.0**
WRAB				*e*Sn	**Sn**	**16 18 21.4**	**-7.8**
WRA	**Warramunga Arr**	**17.18**	**165**	P	**Pn**	**16 15 17.7**	**-1.3**
	0.6nm,0.3s,baz=349,slow=12,SNR=35						
WRA				S	**S**	**16 18 26.8**	**-8.9**
	0.4nm,0.3s,baz=333,slow=22,SNR=4.8						
WB2	**Warramunga Arr**	**17.19**	**165**	*e*P	**Pn**	**16 15 17.9**	**-1.1**
WB2				*e*S	**S**	**16 18 26.3**	**-9.4**
MBWA	**Marble Bar**	**20.35**	**208**	P	**P**	**16 15 50.6**	**-3.8**
	6.1nm,0.9s						
AS31	**Alice Springs**	**20.69**	**169**	*e*P	**P**	**16 15 58.9**	**+0.7**
AS31				*e*S	**S**	**16 19 50.0**	**+3.9**
ASAR	**Alice Springs**	**20.70**	**169**	P	**P**	**16 15 59.0**	**+0.8**
	5.4nm,0.5s,baz=348,slow=11,SNR=198						
ASAR				S	**S**	**16 19 50.4**	**+4.2**
	1.5nm,0.7s,baz=347,slow=20,SNR=7.4						
ASPA	**Alice Springs**	**20.70**	**169**	*e*P	**P**	**16 15 58.9**	**+0.7**
ASPA				*e*S	**S**	**16 19 50.0**	**+3.9**
STKA	**Stephens Creek**	**30.57**	**160**	P	**P**	**16 17 30.7**	**-0.3**
	0.5nm,0.3s,mb3.8,baz=342,slow=9.8,SNR=5.6						
STKA	**Stephens Creek**	**30.57**	**160**	*e*P	**P**	**16 17 30.0**	**-1.0**
KURK	**Kurchatov**	**69.24**	**328**	*e*P	**P**	**16 22 17.2**	**-6.4**
	3.4nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**75.53**	**327**	*e*P	**P**	**16 23 01.8**	**+0.7**
	1.0nm,0.7s,mb3.9						

TEH ***23*** *16:14:14.8, 2781N×5425E, h24km, ML4.6*
BJI ***23*** *16:14:31.5, 2793N×5347E, h36km, mB5.0, mb4.8, Ms4.6, Msz4.5*
MOS ***23*** *16:14:32.6±1.0, 2801N×5414E, h10km, mb4.6/46, Error ellipse: s-maj=6.9km s-min=4.0km az=123.0*
NEIC ***23*** *16:14:33.2±0.3, 2779N×5414E, h10km, mb4.5/54, ML4.3(THR), MN4.6(TEH), Error ellipse: s-maj=6.3km s-min=4.2km az=178.0*
CSEM ***23*** *16:14:33.7±0.1, 2779N×5424E, h30km, mb4.5/54, Ms3.4, Error ellipse: s-maj=1.5km s-min=1.4km az=26.0*
ISCJB ***23*** *16:14:34.9±0.9, 2793N±002×5416E±002, h29km±6km, mb4.4/92, MS3.5/12, Error ellipse: s-maj=3.8km s-min=3.0km az=66.4*
THR ***23*** *16:14:34.9±0.6, 2811N×5446E, h15km, ML4.4*
IDC ***23*** *16:14:35.9±4.3, 2803N×5409E, h17km±26km, mb4.3/27, mb1 4.4/29, mb1mx4.3/32, mbtmp4.4/29, ML4.3/2, MS3.4/8, Ms1 3.4/8, ms1mx3.2/27, Error ellipse: s-maj=13.9km s-min=12.6km az=5.0*
ISC 23 16:14:37.8±0.3,2793N±002×5420E±002,h38km±3km, h40km±6.1km;pP-P,n359,σ1§12/429,mb4.4/92,MS3.5/12, 49C-10D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.13**	**289**	*e*PG	**Pn**	**16 14 59.4**	**+2.3**
GHIR				AML	AML	16 15 21.9	
	comp=N,6μm,0.4s						
GHIR				AML	AML	16 15 24.2	
	comp=E,11μm,0.6s						
IMOK	**Mook**	**1.72**	**311**	*e*Pn	**Pn**	**16 15 06.9**	**+1.7**
IMOK				*e*Sn	**Sn**	**16 15 28.7**	**+2.8**
IMOK				*e*Sn	**Sn**	**16 15 28.7**	**+2.8**
IMOK	**Mook**	**1.72**	**311**	Pn	**Pn**	**16 15 06.8**	**+1.6**
IMOK				Sn	**Sn**	**16 15 28.6**	**+2.7**
IMOK				Sn	**Sn**	**16 15 28.7**	**+2.8**
ISRV	**Sarvestan**	**1.74**	**327**	*e*Pn	**Pn**	**16 15 07.4**	**+2.0**
ISRV				*e*Sn	**Sn**	**16 15 28.7**	**+2.4**
ISRV				*e*Sn	**Sn**	**16 15 28.7**	**+2.4**
ISRV	**Sarvestan**	**1.74**	**327**	Pn	**Pn**	**16 15 07.4**	**+2.0**
ISRV				Sn	**Sn**	**16 15 28.6**	**+2.3**
BNDS	**Bandar-Abbas**	**1.82**	**106**	*e*PG	**Pn**	**16 15 05.4**	**-1.2**
BNDS				*e*SG	**Sn**	**16 15 28.2**	**-0.4**
SHI	**Shiraz**	**2.26**	**319**	*e*Pn	**Pn**	**16 15 14.3**	**+1.7**
SHI				*e*Sn	**Sn**	**16 15 41.9**	**+2.6**
SHI				*e*Sn	**Sn**	**16 15 42.3**	**+3.0**
SHI	**Shiraz**	**2.26**	**319**	P	**Pn**	**16 15 14.3**	**+1.7**
SHI						16 15 41.8	
SHI	**Shiraz**	**2.26**	**319**	Pn	**Pn**	**16 15 14.3**	**+1.7**
SHI				Sn	**Sn**	**16 15 41.8**	**+2.5**
SHI				Sn	**Sn**	**16 15 42.2**	**+2.9**
SHI	**Shiraz**	**2.26**	**319**	*e*Pn	**Pn**	**16 15 14.3**	**+1.7**
SHI				*e*Sn	**Sn**	**16 15 41.9**	**+2.6**
BANOM	**Banah**	**2.74**	**136**	⇓P	**Pn**	**16 15 18.5**	**-0.7**
IMEH	**Mehriz**	**3.47**	**6**	*e*Pn	**Pn**	**16 15 30.6**	**+1.4**
IMEH				*e*Sn	**Sn**	**16 16 10.4**	**+1.3**
IMEH	**Mehriz**	**3.47**	**6**	Pn	**Pn**	**16 15 30.6**	**+1.4**
IMEH				Sn	**Sn**	**16 16 10.3**	**+1.2**
ASHO	**Ashiyiah**	**3.63**	**152**	P	**Pn**	**16 15 32.1**	**+0.6**
	SNR=57						
IBAF	**Bafgh**	**3.84**	**18**	*e*Pn	**Pn**	**16 15 34.6**	**+0.3**
IBAF				*e*Sn	**Sn**	**16 16 18.9**	**+0.7**
IBAF				*e*Sn	**Sn**	**16 16 18.9**	**+0.7**
IBAF	**Bafgh**	**3.84**	**18**	Pn	**Pn**	**16 15 34.6**	**+0.3**
IBAF				Sn	**Sn**	**16 16 18.8**	**+0.6**
ISAD	**Sadrabad**	**4.00**	**354**	*e*Pn	**Pn**	**16 15 38.7**	**+2.2**
ISAD				*e*Sn	**Sn**	**16 16 22.3**	**+0.2**
ISAD	**Sadrabad**	**4.00**	**354**	Pn	**Pn**	**16 15 38.6**	**+2.1**
ISAD				Sn	**Sn**	**16 16 22.3**	**+0.2**
ICHK	**Chekchek**	**4.31**	**2**	*e*Pn	**Pn**	**16 15 41.9**	**+1.2**
ICHK				*e*Sn	**Sn**	**16 16 30.3**	**+0.6**
ICHK				*e*Sn	**Sn**	**16 16 30.4**	**+0.7**
ICHK	**Chekchek**	**4.31**	**2**	Pn	**Pn**	**16 15 41.8**	**+1.1**
ICHK				Sn	**Sn**	**16 16 30.3**	**+0.6**
NASN	**Na'in**	**5.00**	**346**	*e*PN	**Pn**	**16 15 50.7**	**+0.4**
NASN				AML	AML	16 16 51.3	
	comp=E,192nm,0.6s						
ARQ	**Araqi**	**5.03**	**155**	⇑P	**Pn**	**16 15 51.0**	**+0.4**
	SNR=24						
IZEF	**Zefreh**	**5.21**	**342**	*e*Pn	**Pn**	**16 15 53.3**	**+0.2**
IZEF				*e*Sn	**Sn**	**16 16 51.5**	**-0.5**
IZEF				*e*Sn	**Sn**	**16 16 51.8**	**-0.2**
IPIR	**Pirpir**	**5.54**	**330**	*e*Pn	**Pn**	**16 15 57.5**	**-0.2**
IPIR				*e*Sn	**Sn**	**16 16 59.2**	**-0.8**
IPIR				*e*Sn	**Sn**	**16 16 59.6**	**-0.4**
IPIR	**Pirpir**	**5.54**	**330**	*e*Pn	**Pn**	**16 15 57.5**	**-0.2**
IPIR				*e*Sn	**Sn**	**16 16 59.6**	**-0.4**
IPIR	**Pirpir**	**5.54**	**330**	Pn	**Pn**	**16 15 57.4**	**-0.3**
IPIR				Sn	**Sn**	**16 16 59.2**	**-0.8**
IPIR				Sn	**Sn**	**16 16 59.5**	**-0.5**
IKLH	**Kalahroud**	**5.83**	**338**	*e*Pn	**Pn**	**16 16 01.8**	**+0.1**
IKLH				*e*Sn	**Sn**	**16 17 06.4**	**-0.8**
IKLH				*e*Sn	**Sn**	**16 17 06.7**	**-0.5**
IKLH	**Kalahroud**	**5.83**	**338**	Pn	**Pn**	**16 16 01.8**	**+0.1**
IKLH				Sn	**Sn**	**16 17 06.4**	**-0.8**
IKLH				Sn	**Sn**	**16 17 06.6**	**-0.6**
KBD	**Kabd**	**5.86**	**284**	*e*P	**Pn**	**16 16 01.6**	**-0.5**
KBD				AML	AML	16 17 08.8	
	comp=Z,183nm,0.4s						
UMR	**Umm Al-Rimmam**	**5.92**	**287**	*e*P	**Pn**	**16 16 02.6**	**-0.3**
UMR				AML	AML	16 17 04.6	
	comp=Z,82nm,0.3s						
RDF	**Al-Radifah**	**5.94**	**281**	*e*P	**Pn**	**16 16 02.8**	**-0.4**
RDF				AML	AML	16 17 08.8	
	comp=Z,80nm,0.5s						
RDF				*e*S	**Sn**	**16 17 11.3**	**+1.3**
SMDO	**Samad**	**5.96**	**144**	P	**Pn**	**16 16 03.7**	**+0.2**
	SNR=13						
ZHSF	**Zahedan**	**6.01**	**72**	*e*PN	**Pn**	**16 16 01.8**	**-2.3**
WSAR	**Wadi Sarin**	**6.15**	**138**	Pn	**Pn**	**16 16 05.8**	**-0.2**
	comp=Z,3.3nm,0.3s,baz=320,slow=9.5,SNR=40						
WSAR				Sn	**Sn**	**16 17 12.9**	**-2.1**
	comp=Z,2.4nm,0.3s,baz=151,slow=22,SNR=3.4						
WSAR				LR	LR	16 19 07.6	
	comp=Z,580nm,19.2s,baz=312,slow=43						
NAY	**Al-Naaiem**	**6.26**	**284**	*e*P	**Pn**	**16 16 06.9**	**-0.6**
NAY				AML	AML	16 17 14.5	
	comp=Z,29nm,0.4s						
NAY				*e*S	**Sn**	**16 17 19.4**	**+1.5**
MIB	**Mutribah**	**6.30**	**289**	*e*P	**Pn**	**16 16 08.0**	**-0.1**
MIB				AML	AML	16 17 18.2	
	comp=Z,83nm,0.5s						
MIB				*e*S	**Sn**	**16 17 20.3**	**+1.5**
MIB	**Mutribah**	**6.30**	**289**	*e*P	**Pn**	**16 16 08.0**	**-0.1**
MIB				*e*S	**Sn**	**16 17 19.5**	**+0.6**
RST	**Umm Al-Ruwaisa**	**6.52**	**286**	*e*P	**Pn**	**16 16 10.3**	**-0.8**
ISFB	**Sefidab**	**6.62**	**346**	*e*Pn	**Pn**	**16 16 12.7**	**+0.1**
ISFB				*e*Sn	**Sn**	**16 17 25.2**	**-1.6**
ISFB				*e*Sn	**Sn**	**16 17 25.6**	**-1.2**
ISFB	**Sefidab**	**6.62**	**346**	Pn	**Pn**	**16 16 12.6**	**0.0**
ISFB				Sn	**Sn**	**16 17 25.1**	**-1.7**
ISFB				Sn	**Sn**	**16 17 25.5**	**-1.3**
IVRN	**Varamin**	**7.36**	**344**	*e*Pn	**Pn**	**16 16 23.0**	**+0.4**
IVRN				*e*Sn	**Sn**	**16 17 42.6**	**-2.2**
IVRN				*e*Sn	**Sn**	**16 17 42.9**	**-1.9**
IVRN	**Varamin**	**7.36**	**344**	Pn	**Pn**	**16 16 23.0**	**+0.4**
IVRN				Sn	**Sn**	**16 17 42.5**	**-2.3**
IVRN				Sn	**Sn**	**16 17 42.8**	**-2.0**
IVRN	**Varamin**	**7.36**	**344**	*e*Pn	**Pn**	**16 16 23.0**	**+0.4**
IVRN				*e*Sn	**Sn**	**16 17 42.6**	**-2.2**
ASAO	**Ashtian**	**7.50**	**333**	*e*Pn	**Pn**	**16 16 25.1**	**+0.5**
ILAS	**Lasjerd**	**7.51**	**352**	*e*Pn	**Pn**	**16 16 25.2**	**+0.5**
ILAS				*e*Sn	**Sn**	**16 17 45.7**	**-2.8**
ILAS				*e*Sn	**Sn**	**16 17 47.0**	**-1.5**
ILAS	**Lasjerd**	**7.51**	**352**	Pn	**Pn**	**16 16 25.2**	**+0.5**
ILAS				Sn	**Sn**	**16 17 45.6**	**-2.9**
ILAS				Sn	**Sn**	**16 17 46.9**	**-1.6**
ILAS	**Lasjerd**	**7.51**	**352**	*e*Pn	**Pn**	**16 16 25.2**	**+0.5**
ILAS				*e*Sn	**Sn**	**16 17 45.7**	**-2.8**
IANJ	**Anjiloo**	**7.52**	**358**	*e*Pn	**Pn**	**16 16 25.4**	**+0.5**
IANJ				*e*Sn	**Sn**	**16 17 47.3**	**-1.6**
IANJ	**Anjiloo**	**7.52**	**358**	Pn	**Pn**	**16 16 25.3**	**+0.4**
IANJ				Sn	**Sn**	**16 17 47.2**	**-1.7**
IDMV	**Damavand**	**7.85**	**347**	*e*Pn	**Pn**	**16 16 30.5**	**+1.1**
IDMV				*e*Sn	**Sn**	**16 17 54.1**	**-2.8**
IDMV				*e*Sn	**Sn**	**16 17 55.2**	**-1.7**
IDMV	**Damavand**	**7.85**	**347**	*e*Pn	**Pn**	**16 16 30.5**	**+1.1**
IDMV				*e*Sn	**Sn**	**16 17 54.1**	**-2.8**
ISHM	**Shahmirzad**	**7.89**	**355**	*e*Pn	**Pn**	**16 16 30.7**	**+0.7**
ISHM				*e*Sn	**Sn**	**16 17 55.4**	**-2.6**
ISHM				*e*Sn	**Sn**	**16 17 56.0**	**-2.0**
ISHM	**Shahmirzad**	**7.89**	**355**	*e*Pn	**Pn**	**16 16 30.7**	**+0.7**
ISHM				*e*Sn	**Sn**	**16 17 55.4**	**-2.6**
DAMV	**Damavand**	**7.91**	**347**	*e*PN	**Pn**	**16 16 30.4**	**+0.2**
IKIA	**Kiasar**	**8.27**	**357**	*e*Pn	**Pn**	**16 16 35.7**	**+0.6**
IKIA				*e*Sn	**Sn**	**16 18 04.2**	**-3.0**
IKIA				*e*Sn	**Sn**	**16 18 04.3**	**-2.9**
IKIA	**Kiasar**	**8.27**	**357**	Pn	**Pn**	**16 16 35.7**	**+0.6**
IKIA				Sn	**Sn**	**16 18 04.2**	**-3.0**
IRAZ	**Razeghan**	**8.29**	**335**	*e*Pn		16 16 49.0	
IRAZ				*e*Sn	**Sn**	**16 18 04.8**	**-3.1**
IRAZ				*e*Sn	**Sn**	**16 18 05.1**	**-2.8**
IRAZ	**Razeghan**	**8.29**	**335**	*e*Sn	**Sn**	**16 18 05.1**	**-2.8**
IPRN	**Paran-Amol**	**8.46**	**349**	*e*Pn	**Pn**	**16 16 39.4**	**+1.7**
IPRN				*e*Sn	**Sn**	**16 18 06.7**	**-5.1**
IPRN				*e*Sn	**Sn**	**16 18 07.6**	**-4.2**
IPRN	**Paran-Amol**	**8.46**	**349**	Pn	**Pn**	**16 16 39.4**	**+1.7**
IPRN				Sn	**Sn**	**16 18 06.7**	**-5.1**
IPRN				Sn	**Sn**	**16 18 07.5**	**-4.3**
IKOM	**Komasi**	**8.46**	**319**	*e*Pn	**Pn**	**16 16 36.5**	**-1.3**
IKOM				*e*Sn	**Sn**	**16 18 09.2**	**-2.9**
IKOM				*e*Sn	**Sn**	**16 18 09.2**	**-2.9**
WHFO	**Wadi Hawf**	**9.97**	**182**	⇓P	**Pn**	**16 16 58.1**	**-0.3**
BHD	**Baghdad**	**10.00**	**305**	*e*x	x	16 17 05.0	
BHD				*e*x	x	16 18 51.0	
RBK	**Rabkut**	**10.38**	**180**	⇑P	**Pn**	**16 17 02.9**	**-1.1**
ABTO	**Aybut**	**10.56**	**185**	⇑P	**Pn**	**16 17 02.4**	**-2.1**
MSL	**Mosul**	**12.57**	**314**	*e*x	x	16 17 27.5	
MSL				*e*x	x	16 19 41.5	
MSL				*e*x	x	16 22 21.5	
GNI	**Garni**	**14.48**	**330**	LR	LR	16 24 45.3	
	comp=Z,136nm,21.8s,baz=140,slow=42						
GNI	**Garni**	**14.48**	**330**	Pn	**Pn**	**16 17 56.8**	**-3.3**
GNI	**Garni**	**14.48**	**330**	*i* P	**Pn**	**16 18 01.6**	**+1.5**
DGRG	**David-gareji**	**15.31**	**334**	P	**Pn**	**16 18 15.7**	**+4.7**
ASF	**Jabal al Asfar**	**15.57**	**290**	Pn	**Pn**	**16 18 12.4**	**-2.0**
	comp=Z,2.5nm,0.3s,baz=289,slow=2.1,SNR=15						
ASF				Sn	**Sn**	**16 21 02.7**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=232,slow=20,SNR=3.9						
MTA	**Mtatsminda**	**15.74**	**333**	P	**Pn**	**16 18 06.9**	**-10**
TBLG	**Delisi**	**15.79**	**333**	P	**Pn**	**16 18 06.5**	**-11**
THW	**Thamme Wali**	**15.90**	**68**	P	**Pn**	**16 18 17.0**	**-1.6**
AKH	**Akhalkalaki**	**16.06**	**330**	P	**Pn**	**16 18 26.3**	**+5.6**
GOR	**Gori**	**16.26**	**332**	P	**Pn**	**16 18 22.4**	**-0.9**
LBOS		**16.28**	**213**	*e*P	**Pn**	**16 18 22.8**	**-0.7**
ELZG	**Elazig**	**16.51**	**314**	*i* P	**Pn**	**16 18 23.0**	**-3.4**
MALT	**Malatya**	**16.77**	**312**	⇑*i*P	**Pn**	**16 18 28.7**	**-0.9**
MALT	**Malatya**	**16.77**	**312**	*e*P	**Pn**	**16 18 28.2**	**-1.4**
MALT				pmax	pmax		
	comp=Z,29nm,0.8s						
MALT	**Malatya**	**16.77**	**312**	*e*Pn	**Pn**	**16 18 28.2**	**-1.4**
	comp=Z,30nm,0.8s						
MALT	**Malatya**	**16.77**	**312**	*e*P	**Pn**	**16 18 28.2**	**-1.4**
	comp=Z,29nm,0.8s						
GZT	**Gaziantep**	**16.85**	**308**	*i* P	**Pn**	**16 18 27.0**	**-3.7**
EIL	**Elat**	**16.96**	**280**	*e*Pn	**Pn**	**16 18 31.1**	**-1.1**
	comp=Z,247nm,0.8s						
EIL	**Elat**	**16.96**	**280**	*e*Pn	**Pn**	**16 18 31.1**	**-1.0**
	comp=Z,247nm,0.8s						
ZEI	**Tsey**	**17.01**	**333**	*e*P	**Pn**	**16 18 33.4**	**+0.8**
ONI	**Oni**	**17.03**	**332**	P	**Pn**	**16 18 34.8**	**+1.9**
CHCP	**Chirah Chowk**	**17.34**	**66**	P	**Pn**	**16 18 37.1**	**+0.3**
TRBA	**At Turbah**	**17.39**	**215**	*e*P	**Pn**	**16 18 35.9**	**-1.5**
COBT	**Iskenderun**	**17.41**	**304**	*i* P	**Pn**	**16 18 38.4**	**+0.7**
KIV	**Kislovodsk**	**18.48**	**333**	*i* P	**Pn**	**16 18 51.8**	**+1.0**
KIV				pmax	pmax		
	comp=Z,16nm,0.9s						
KIV	**Kislovodsk**	**18.48**	**333**	*e*Pn	**Pn**	**16 18 47.8**	**-3.0**
	comp=Z,25nm,1.0s						
KIV	**Kislovodsk**	**18.48**	**333**	*i* P	**Pn**	**16 18 51.8**	**+1.0**
	comp=Z,16nm,0.9s						
CSS	**Prodhromos**	**19.12**	**297**	*e*Pn	**Pn**	**16 18 54.9**	**-3.6**
	comp=Z,20nm,0.8s						
AVNT	**Avonos**	**19.41**	**309**	*i* P	**Pn**	**16 19 02.6**	**+0.7**
ATD	**Arta Tunnel**	**19.48**	**215**	LR	LR	16 26 56.4	
	comp=Z,61nm,18.2s,baz=326,slow=38						
SOC	**Sochi**	**19.50**	**327**	*e*P	**Pn**	**16 19 02.7**	**-0.4**
SOC				*e*		16 22 35.7	
SOC				pmax	pmax		
	comp=Z,35nm,1.3s						
SOC				MLR	MLR		
	comp=Z,159nm,15.0s						
SOC	**Sochi**	**19.50**	**327**	*e*P	**Pn**	**16 19 02.7**	**-0.4**
	comp=Z,159nm,15.0s						
SOC				*e*S	**S**	**16 22 35.7**	**-4.2**
KK31	**Karatay Array**	**20.08**	**37**	*i* P	**P**	**16 19 06.7**	**-1.2**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KK31	**Karatay Array**	**20.08**	**37**	*i* P	**P**	**16 19 06.7**	**-1.2**
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**20.08**	**37**	*i* P	**P**	**16 19 06.7**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**20.08**	**37**	*i* P	**P**	**16 19 06.7**	**-1.2**
	comp=Z,2.0nm,0.6s						
CTKT	**Corum**	**20.38**	**313**	*i* P	**P**	**16 19 13.5**	**+2.3**
BRTR	**Keskin Array B**	**20.69**	**310**	P	**P**	**16 19 14.8**	**+0.3**
	comp=Z,13nm,0.6s,baz=130,slow=13,SNR=82						
BRTR				ScP	ScP	16 26 59.2	+2.3
	comp=Z,0.6nm,0.6s,baz=94,slow=2.4,SNR=3.9						
BRTR	**Keskin Array B**	**20.69**	**310**	*i* P	**P**	**16 19 15.8**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,13nm,0.6s						
BR131	**Keskin Array S**	**20.69**	**310**	*e*P	**P**	**16 19 15.7**	**+1.2**
	comp=Z,10nm,0.6s						
BOYT	**Boyabat**	**20.75**	**315**	*i* P	**P**	**16 19 16.1**	**+0.9**
ELDT	**Eldivan**	**21.20**	**312**	*i* P	**P**	**16 19 21.2**	**+1.2**
KDHN	**Kadinhani**	**21.23**	**305**	*i* P	**P**	**16 19 22.0**	**+1.6**
ANTO	**Ankara**	**21.33**	**309**	P	**P**	**16 19 23.5**	**+2.0**
	SNR=9.2						
ANTO	**Ankara**	**21.33**	**309**	*e*P	**P**	**16 19 19.8**	**-1.6**
ANTO				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.6						
ANTO	**Ankara**	**21.33**	**309**	*e*P	**P**	**16 19 19.8**	**-1.6**
	comp=Z,27nm,0.8s,mb4.6						
ANTO	**Ankara**	**21.33**	**309**	*e*P	**P**	**16 19 19.8**	**-1.6**
	comp=Z,27nm,0.8s,mb4.6						
ANN	**Anapa**	**21.51**	**326**	*e*P	**P**	**16 19 33.1**	**+10**
ANN				*e*PP		16 19 42.4	
ANN				*e*		16 19 57.3	
ANN				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.6						
AB31	**Akbulak array**	**21.75**	**10**	*e*P	**P**	**16 19 25.5**	**-0.4**
AAK	**Ala-Archa**	**22.05**	**43**	*e*P	**P**	**16 19 30.0**	**+0.9**
AAK	**Ala-Archa**	**22.05**	**43**	*e*P	**P**	**16 19 29.3**	**+0.2**
	comp=Z,5.4nm,0.7s,mb4.1						
AAK	**Ala-Archa**	**22.05**	**43**	*e*P	**P**	**16 19 29.3**	**+0.2**
	comp=Z,5.4nm,0.7s,mb4.1						
SGKT	**Sivrigoynuk**	**22.16**	**310**	*i* P	**P**	**16 19 30.2**	**-0.1**
TKTP	**Tekketepe**	**22.37**	**303**	*i* P	**P**	**16 19 33.4**	**+0.9**
AKTK	**Aktyubinsk**	**22.66**	**6**	P	**P**	**16 19 36.3**	**+0.7**
	comp=Z,3.0nm,0.4s,mb4.1						
AKTO	**Aktyubinsk**	**22.66**	**6**	P	**P**	**16 19 36.3**	**+0.7**
	comp=Z,3.1nm,0.4s,mb4.0,baz=163,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**22.66**	**6**	P	**P**	**16 19 36.3**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.1						
HENT	**Hendek**	**23.05**	**310**	*i* P	**P**	**16 19 40.2**	**+0.5**
ORR	**Orenburg**	**23.67**	**1**	*e*P	**P**	**16 19 49.3**	**+3.5**
ORR				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
SANT	**Santorini**	**25.68**	**296**	*e*P	**P**	**16 20 04.0**	**-0.1**
	comp=Z,40nm,0.6s,mb5.1						
SANT	**Santorini**	**25.68**	**296**	*e*P	**P**	**16 20 04.0**	**-0.1**
	comp=Z,40nm,0.6s,mb5.1						
APE	**Apeiranthos**	**25.76**	**298**	⇑*i*P	**P**	**16 20 05.3**	**+0.4**
APE	**Apeiranthos**	**25.76**	**298**	⇑P	**P**	**16 20 05.3**	**+0.5**
IDI	**Anoyia**	**25.95**	**294**	P	**P**	**16 20 07.9**	**+1.3**
	comp=Z,8.2nm,0.4s,mb4.6,baz=78,slow=8.4,SNR=16						
KOLN	**Koldanda**	**25.97**	**83**	*e*P	**P**	**16 20 08.5**	**+1.8**
	comp=Z,31nm,1.3s,mb4.7						
TIRR	**Tirgusor**	**26.40**	**316**	⇑*i*P	**P**	**16 20 10.5**	**-0.1**
TIRR	**Tirgusor**	**26.40**	**316**	⇑P	**P**	**16 20 10.5**	**-0.1**
GKN	**Gorkha**	**26.85**	**83**	*e*P	**P**	**16 20 14.5**	**-0.2**
	comp=Z,17nm,0.9s,mb4.6						
CFR	**Carcaliu**	**26.93**	**317**	⇑*i*P	**P**	**16 20 16.1**	**+0.7**
CFR	**Carcaliu**	**26.93**	**317**	⇑P	**P**	**16 20 16.1**	**+0.7**
ZRNK	**Zerenda**	**27.31**	**20**	*e*P	**P**	**16 20 17.3**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**27.31**	**20**	*e*P	**P**	**16 20 17.3**	**-1.5**
	comp=Z,1.8nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**27.31**	**20**	*e*P	**P**	**16 20 17.3**	**-1.5**
	comp=Z,2.0nm,0.6s,mb3.8						
DMN	**Daman**	**27.32**	**83**	*e*P	**P**	**16 20 19.8**	**+1.0**
	comp=Z,17nm,0.8s,mb4.6						
KKN	**Kakani**	**27.44**	**83**	*e*P	**P**	**16 20 20.3**	**+0.3**
	comp=Z,24nm,0.9s,mb4.8						
KKN	**Kakani**	**27.44**	**83**	*e*P	**P**	**16 20 20.3**	**+0.3**
KKN				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
PKI	**Pulchoki**	**27.59**	**83**	*e*P	**P**	**16 20 22.2**	**+0.9**
	comp=Z,13nm,0.7s,mb4.7						
PKI	**Pulchoki**	**27.59**	**83**	*e*P	**P**	**16 20 22.2**	**+0.9**
PKI				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
VOSK	**Vostochnaya**	**27.74**	**22**	P	**P**	**16 20 22.1**

MORC Moravsky Berou 35.42 318 P **P 16 21 26.0 -4.1**
comp=Z,4.0nm,0.9s,mb4.3
VRAC Vranov 35.80 317 P **P 16 21 31.9 -1.4**
comp=Z,5.0nm,0.8s,mb4.5,baz=105,slow=9.2,SNR=4.5
AQU L'Aquila 35.98 304 P **P 16 21 36.6 +1.7**
AQU pmax pmax
comp=Z,14nm,0.7s,mb5.0
AQU L'Aquila 35.98 304 P **P 16 21 36.6 +1.7**
comp=Z,14nm,0.7s,mb5.0
AQU L'Aquila 35.98 304 P **P 16 21 36.6 +1.7**
comp=Z,14nm,0.7s,mb5.0
DPC Dobruska-Polom 36.37 318 *eP* **P 16 21 37.3 -0.9**
TREC Trest 36.47 316 *eP* **P 16 21 39.3 +0.2**
UPC Upice 36.62 319 *eP* **P 16 21 39.9 -0.4**
MOA Molln 36.74 314⇑ *iP* **P 16 21 41.5 +0.1**
comp=Z,3.6nm,0.8s,mb4.3
KBA Koelnbreinsper 37.11 312⇑ *iP* **P 16 21 44.8 +0.3**
GERES GERESS Array B 37.42 315 P **P 16 21 46.6 -0.5**
comp=Z,0.8nm,0.5s,mb3.8,baz=108,slow=8.6,SNR=8.8
KHC Kasperske Hory 37.59 315 *eP* **P 16 21 48.4 -0.1**
BRG Berggiesshubel 37.97 318 *eP* **P 16 21 51.8 0.0**
BRG pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
BRG Berggiesshubel 37.97 318 *eP* **P 16 21 51.8 -0.1**
comp=Z,1.3nm,0.5s,mb3.9
BRG Berggiesshubel 37.97 318 *eP* **P 16 21 51.8 0.0**
comp=Z,1.0nm,0.5s,mb3.8
JOF Joensuu 38.06 343 *ep* **P 16 21 52.1 -0.5**
WTTA Wattenberg 38.28 312⇑ *iP* **P 16 21 54.2 -0.2**
comp=Z,6.0nm,0.5s,mb4.6
FINES FINESS Array B 38.41 339 P **P 16 21 55.2 -0.3**
comp=Z,2.7nm,0.6s,mb4.2,baz=140,slow=9.8,SNR=25
FINES FINESS Array B 38.41 339 P **P 16 21 55.2 -0.3**
SQTA Sankt Quirin 38.55 312⇑ *iP* **P 16 21 56.3 -0.3**
comp=Z,12nm,0.4s,mb5.0
VSL Villasalto 38.67 299 *eP* **P 16 21 58.7 +1.0**
comp=Z,13nm,0.8s,mb4.7
VSL Villasalto 38.67 299 *eP* **P 16 21 58.7 +1.0**
comp=Z,13nm,0.8s,mb4.7
CLL Collm 38.69 319⇓ *iP* **P 16 21 56.8 -1.0**
comp=Z,6.0nm,0.9s,mb4.3
CLL *i* x x 16 22 11.5
CLL Collm 38.69 319⇓ *iP* **P 16 21 56.8 -1.0**
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
KAF Kangasniemi 38.84 339 *ep* **P 16 22 00.3 +1.2**
PGF Pioggiola 39.23 304 *eP* **P 16 22 02.2 -0.2**
GTA Gaotai 39.28 61 *eP* **P 16 22 03.5 +0.7**
GTA AP pP 16 22 11.3 -2.3
GTA XP sP 16 22 14.6 -3.6
DAVOX Davos 39.33 311 P **P 16 22 03.0 -0.2**
comp=Z,4.5nm,0.5s,mb4.4,baz=165,slow=4.3,SNR=7.8
DAVA Damuels 39.45 312⇑ *iP* **P 16 22 03.7 -0.4**
comp=Z,20nm,0.5s,mb5.1
SBF Sospel 40.53 306 *eP* **P 16 22 13.1 0.0**
comp=Z,23nm,0.9s,mb4.5
SBF Sospel 40.53 306 *eP* **P 16 22 13.1 0.0**
SBF pmax pmax
comp=Z,11nm,0.9s,mb4.5
SBF Sospel 40.53 306 *eP* **P 16 22 13.1 0.0**
comp=Z,11nm,0.9s,mb4.5
FRF La Foret Royal 41.06 305 *eP* **P 16 22 17.1 -0.4**
MBDF Montbardon 41.11 307 *eP* **P 16 22 17.4 -0.5**
comp=Z,11nm,0.6s,mb4.4
MBDF Montbardon 41.11 307 *eP* **P 16 22 17.4 -0.5**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
MBDF Montbardon 41.11 307 *eP* **P 16 22 17.4 -0.5**
comp=Z,5.7nm,0.6s,mb4.4
BNI Bardonecchia 41.22 307 *eP* **P 16 22 17.6 -1.2**
BNI pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
BNI Bardonecchia 41.22 307 *eP* **P 16 22 17.6 -1.2**
comp=Z,4.0nm,0.7s,mb4.2
LPG La Plagne 41.23 308 *eP* **P 16 22 18.4 -0.5**
comp=Z,13nm,0.7s,mb4.3
LPG La Plagne 41.23 308 *eP* **P 16 22 18.4 -0.5**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
LPG La Plagne 41.23 308 *eP* **P 16 22 18.4 -0.5**
comp=Z,6.4nm,0.7s,mb4.3
LPL La Plagne 41.25 308 *eP* **P 16 22 18.5 -0.6**
comp=Z,11nm,0.6s,mb4.3
LPL La Plagne 41.25 308 *eP* **P 16 22 18.5 -0.6**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
LPL La Plagne 41.25 308 *eP* **P 16 22 18.5 -0.6**
comp=Z,5.6nm,0.6s,mb4.4
CDF Champ du Feu 41.41 313 *eP* **P 16 22 18.9 -1.5**
CABF La Chapelle 41.86 310⇑ *iP* **P 16 22 23.8 -0.3**
comp=Z,7.7nm,0.5s,mb4.3
CABF La Chapelle 41.86 310⇑ *iP* **P 16 22 23.8 -0.3**
CABF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
CABF La Chapelle 41.86 310⇑ *iP* **P 16 22 23.8 -0.3**
comp=Z,3.8nm,0.5s,mb4.3
HAU Haudompre 41.93 312 *eP* **P 16 22 24.3 -0.4**
HAU *eR*
comp=Z,51nm,22.0s
HAU Haudompre 41.93 312 *eP* **P 16 22 24.3 -0.4**
HAU LR LR
comp=Z,50nm,22.0s,MS3.4
HFS Hagfors 42.26 331 P **P 16 22 26.7 -0.6**
comp=Z,3.2nm,0.5s,mb4.2,baz=119,slow=9.3,SNR=19
LZH Lanzhou 42.50 66 *eP* **P 16 22 32.8 +3.5**
LZH AP pP 16 22 45.0 +4.8
LZH XP sP 16 22 50.4 +5.7
LZH PP PP 16 24 14.5 +6.3
LZH AMB AMB
comp=Z,20nm,1.4s,mb4.5
VIVF Saint-Julien-l 42.61 307 *eP* **P 16 22 29.4 -0.8**
comp=Z,4.0nm,0.6s,mb4.0
VIVF Saint-Julien-l 42.61 307 *eP* **P 16 22 29.4 -0.8**
VIVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
VIVF Saint-Julien-l 42.61 307 *eP* **P 16 22 29.4 -0.8**
comp=Z,2.0nm,0.6s,mb4.0
MEZF Maizieres J'vi 42.87 312 *eP* **P 16 22 31.7 -0.6**
comp=Z,7.4nm,0.4s,mb4.5
MEZF Maizieres J'vi 42.87 312 *eP* **P 16 22 31.7 -0.6**
comp=Z,3.7nm,0.4s,mb4.5
CD2 Chengdu 42.99 74 *eP* **P 16 22 32.3 -1.0**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
LASF Ste Croix 43.12 306 *eP* **P 16 22 33.8 -0.5**
comp=Z,7.9nm,0.9s,mb4.2
LASF Ste Croix 43.12 306 *eP* **P 16 22 33.8 -0.5**
comp=Z,4.0nm,0.9s,mb4.2
ZAK Zakamensk 43.20 45 *eP* **P 16 22 35.3 +0.3**
ZAK pmax pmax
comp=Z,6.0nm,2.0s,mb4.0
ZAK Zakamensk 43.20 45 *eP* **P 16 22 35.3 +0.3**
comp=Z,6.0nm,2.0s,mb4.0
GIVF Givet 43.33 315 *eP* **P 16 22 36.1 +0.1**
SMF Signal de Mont 43.40 309⇑ *iP* **P 16 22 35.8 -0.8**
comp=Z,7.4nm,0.5s,mb4.3
SMF Signal de Mont 43.40 309⇑ *iP* **P 16 22 35.8 -0.8**
SMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
SMF Signal de Mont 43.40 309⇑ *iP* **P 16 22 35.8 -0.8**
comp=Z,3.7nm,0.5s,mb4.3
LOR Lormes 43.47 310 *eP* **P 16 22 36.1 -1.0**
comp=Z,3.9nm,0.6s,mb4.0
LOR *eR*
comp=Z,78nm,20.8s
LOR Lormes 43.47 310 *eP* **P 16 22 36.1 -1.0**
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
LOR MLR MLR
comp=Z,80nm,20.8s,MS3.6
LOR Lormes 43.47 310 *eP* **P 16 22 36.1 -1.0**
comp=Z,2.0nm,0.6s,mb4.0
LOR LR LR
comp=Z,80nm,20.8s,MS3.6
DOU Dourbes 43.47 315 P **P 16 22 37.3 +0.1**
DOU E 16 23 05.2
BAIF Baives 43.71 314 *eP* **P 16 22 39.5 +0.4**
comp=Z,11nm,0.7s,mb4.4
BAIF Baives 43.71 314 *eP* **P 16 22 39.5 +0.4**
BAIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
BAIF Baives 43.71 314 *eP* **P 16 22 39.5 +0.4**
comp=Z,5.5nm,0.7s,mb4.4
NB2 NORSAR Subarra 43.78 331 P **P 16 22 38.3 -1.3**
comp=Z,1.2nm,0.5s,mb3.9,baz=120,slow=7.9
NB2 NORSAR Subarra 43.78 331 P **P 16 22 38.3 -1.3**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
NOA NORSAR Array B 43.78 331 P **P 16 22 38.6 -1.0**
comp=Z,1.9nm,0.6s,mb4.0,baz=120,slow=8.0,SNR=8.7
NOA LR LR 16 41 40.6
comp=Z,32nm,19.8s,MS3.2,baz=100,slow=37
BGF Bois d'Agland 44.07 309 *eP* **P 16 22 41.2 -0.8**
MTLF Montolieu 44.26 305 *eP* **P 16 22 43.7 +0.2**
comp=Z,3.4nm,0.5s,mb4.0
MTLF Montolieu 44.26 305 *eP* **P 16 22 43.7 +0.2**
MTLF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
MTLF Montolieu 44.26 305 *eP* **P 16 22 43.7 +0.2**
comp=Z,1.7nm,0.5s,mb4.0
CAF Calviac 44.46 307⇑ *iP* **P 16 22 44.8 -0.3**
comp=Z,11nm,0.8s,mb4.3
CAF Calviac 44.46 307⇑ *iP* **P 16 22 44.8 -0.3**
CAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CAF Calviac 44.46 307⇑ *iP* **P 16 22 44.8 -0.3**
comp=Z,5.4nm,0.8s,mb4.3
TCF Toulx Ste Croi 44.48 309 *eP* **P 16 22 44.8 -0.4**
comp=Z,7.5nm,0.5s,mb4.4
TCF Toulx Ste Croi 44.48 309 *eP* **P 16 22 44.8 -0.4**
TCF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
TCF Toulx Ste Croi 44.48 309 *eP* **P 16 22 44.8 -0.4**
comp=Z,3.8nm,0.5s,mb4.4
KEV Kevo 44.71 347 *ep* **P 16 22 46.8 -0.3**
SONM Songino Array 44.79 49 P **P 16 22 48.2 +0.5**
comp=Z,3.2nm,0.8s,mb4.2,baz=269,slow=9.2,SNR=19
SONM LR LR 16 44 23.3
comp=Z,87nm,18.4s,MS3.7,baz=261,slow=40
ARCES ARCESS Array B 44.84 346 P **P 16 22 48.4 +0.3**
comp=Z,2.1nm,0.7s,mb4.1,baz=152,slow=9.1,SNR=12
ARCES ARCESS Array B 44.84 346 P **P 16 22 48.4 +0.3**
ARE0 ARCESS Array S 44.84 346 P **P 16 22 48.5 +0.4**
ARE0 ARCESS Array S 44.84 346 P **P 16 22 48.5 +0.4**
RJF Les Rejaudoux 44.88 307⇑ *iP* **P 16 22 48.5 +0.1**
comp=Z,9.0nm,0.5s,mb4.6
RJF Les Rejaudoux 44.88 307⇑ *iP* **P 16 22 48.5 +0.1**
RJF pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
RJF Les Rejaudoux 44.88 307⇑ *iP* **P 16 22 48.5 +0.1**
comp=Z,4.5nm,0.5s,mb4.6
ULN Ulaanbaatar 45.23 49 *eP* **P 16 22 50.1 -1.1**
ULN pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ULN Ulaanbaatar 45.23 49 *eP* **P 16 22 50.1 -1.1**
comp=Z,6.6nm,0.8s,mb4.5
ULN Ulaanbaatar 45.23 49 *eP* **P 16 22 50.1 -1.1**
comp=Z,7.0nm,0.8s,mb4.5
LFF La Frestale 45.40 307 *eP* **P 16 22 52.7 +0.1**
comp=Z,13nm,0.5s,mb4.7
LFF La Frestale 45.40 307 *eP* **P 16 22 52.7 +0.1**
LFF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LFF La Frestale 45.40 307 *eP* **P 16 22 52.7 +0.1**
comp=Z,6.6nm,0.5s,mb4.7
EPF Esparros 45.62 304 *eP* **P 16 22 53.4 -0.9**
MFF Saint Martin d 46.13 309 *eP* **P 16 22 57.4 -0.9**
ETSF Etsaut 46.28 304 *eP* **P 16 23 00.0 +0.5**
LDF La Druitiere 46.29 312⇑ *iP* **P 16 22 58.4 -1.2**
comp=Z,8.8nm,0.4s,mb4.7
LDF La Druitiere 46.29 312⇑ *iP* **P 16 22 58.4 -1.2**
comp=Z,4.4nm,0.4s,mb4.7
FLN La Foliniere 46.55 312⇑ *iP* **P 16 23 00.5 -1.1**
comp=Z,8.1nm,0.5s,mb4.6
FLN La Foliniere 46.55 312⇑ *iP* **P 16 23 00.5 -1.1**
FLN pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
FLN La Foliniere 46.55 312⇑ *iP* **P 16 23 00.5 -1.1**
comp=Z,4.1nm,0.5s,mb4.6
OPO Ambohidratompo 46.72 189 P **P 16 23 05.3 +2.3**
comp=Z,1.3nm,0.6s,mb4.0,baz=66,slow=2.6,SNR=6.7
GRR Gorron 46.76 311 *eP* **P 16 23 02.5 -0.7**
comp=Z,4.8nm,0.4s,mb4.5
GRR Gorron 46.76 311 *eP* **P 16 23 02.5 -0.7**
comp=Z,2.4nm,0.4s,mb4.5
SJPF Ste Jean 46.77 304⇑ *iP* **P 16 23 03.8 +0.5**
comp=Z,8.1nm,0.5s,mb4.6
SJPF Ste Jean 46.77 304⇑ *iP* **P 16 23 03.8 +0.5**
SJPF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
SJPF Ste Jean 46.77 304⇑ *iP* **P 16 23 03.8 +0.5**
comp=Z,4.1nm,0.5s,mb4.6
SGMF Saint Gilles 47.88 311 *eP* **P 16 23 11.2 -0.7**
QUIF Quistinic 48.26 311⇑ *iP* **P 16 23 13.9 -1.0**
comp=Z,9.3nm,0.6s,mb4.7
QUIF Quistinic 48.26 311⇑ *iP* **P 16 23 13.9 -1.0**
QUIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
QUIF Quistinic 48.26 311⇑ *iP* **P 16 23 13.9 -1.0**
comp=Z,4.7nm,0.6s,mb4.7
HHC Hu-ho-hao-te 48.27 59 *eP* **P 16 23 17.9 +2.9**
HHC AP pP 16 23 30.3 +4.2
HHC XP sP 16 23 35.6 +5.0
HHC PP PP 16 25 09.3 +1.7
HHC PCS PcS 16 28 39.8 +2.4
HHC S **S** **16 30 11.4 -0.7**
HHC XS sS 16 30 32.8 +2.4
HHC SCS ScS 16 33 04.1 -0.7
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,100nm,5.7s
HHC LR LR
comp=N,110nm,19.0s
HHC LR LR
comp=E,90nm,11.9s
HHC LR LR
comp=Z,60nm,16.6s,MS3.6
ROSF Rostrenen 48.36 311 *eP* **P 16 23 14.8 -0.9**
comp=Z,5.1nm,0.5s,mb4.5
ROSF Rostrenen 48.36 311 *eP* **P 16 23 14.8 -0.9**
ROSF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ROSF Rostrenen 48.36 311 *eP* **P 16 23 14.8 -0.9**
comp=Z,2.5nm,0.5s,mb4.5
ESDC Sonseca Array 48.97 300 P **P 16 23 20.7 +0.3**
comp=Z,2.6nm,0.5s,mb4.5,baz=77,slow=7.0,SNR=9.1
ESLA Sonseca Array 48.97 300 *eP* **P 16 23 19.8 -0.5**
comp=Z,0.9nm,0.7s,mb3.9
EKA Eskdalemuir Ar 49.08 320 P **P 16 23 20.4 -0.8**
comp=Z,1.2nm,0.5s,mb4.2,baz=105,slow=9.0,SNR=6.4
TORD Torodi Ar. Bea 50.95 264 P **P 16 23 35.7 +0.2**
comp=Z,10nm,0.6s,mb4.9,baz=61,slow=7.7,SNR=113
TORD Torodi Ar. Bea 50.95 264 P **P 16 23 35.7 +0.2**
BJT Baijiatuau 51.85 60 *eP* **P 16 23 44.8 +2.7**
BJT pmax pmax
comp=Z,9.0nm,1.1s
BJT Baijiatuau 51.85 60 *eP* **P 16 23 44.8 +2.7**
comp=Z,9.4nm,1.1s,mb4.6
NJ2 Nanjing 55.41 69 *eP* **P 16 24 08.4 +0.2**
NJ2 PCP PcP 16 25 08.5 +0.3
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,90nm,5.5s
NJ2 LR LR
comp=N,220nm,16.4s,MS4.4
NJ2 LR LR
comp=E,220nm,20.5s,MS4.4
NJ2 LR LR
comp=Z,160nm,15.5s,MS4.2
YAK Yakutsk 58.97 32⇑ *eP* **P 16 24 35.2 +1.8**
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
YAK Yakutsk 58.97 32 *eP* **P 16 24 34.6 +1.2**
comp=Z,9.5nm,0.8s,mb4.9
YAK Yakutsk 58.97 32 *eP* **P 16 24 35.2 +1.8**
comp=Z,10.0nm,1.0s,mb4.8
DBIC Dimbokro 59.62 261 P **P 16 24 38.5 +0.7**
comp=Z,7.8nm,0.9s,mb4.7,baz=40,slow=8.0,SNR=8.6
DBIC Dimbokro 59.62 261 P **P 16 24 38.5 +0.6**
DBIC pmax pmax
comp=Z,8.0nm,0.9s
DBIC Dimbokro 59.62 261 *eP* **P 16 24 37.6 -0.2**
comp=Z,6.2nm,0.8s,mb4.7
YHNB Yeheng 59.62 76 *eP* **P 16 24 41.8 +3.9**
LIC Lamto 59.98 261 *eP* **P 16 24 40.8 +0.5**
comp=Z,13nm,0.8s,mb4.7
LIC *eR*
comp=Z,100nm,17.2s
LIC Lamto 59.98 261 *eP* **P 16 24 40.8 +0.5**
comp=Z,6.4nm,0.8s,mb4.7
LIC LR LR
comp=Z,50nm,17.3s,MS3.7
LIC Lamto 59.98 261 *eP* **P 16 24 40.8 +0.5**
comp=Z,6.4nm,0.8s,mb4.7
KLR Kul'dur 61.52 47 *eP* **P 16 24 50.7 -0.1**
BOSA Boshof 62.69 209 P **P 16 24 59.8 +1.2**
comp=Z,4.1nm,0.7s,mb4.7,baz=247,slow=22,SNR=6.3
SUMG Summit 64.41 341 *eP* **P 16 25 10.2 +0.1**
comp=Z,7.6nm,0.9s,mb4.7
YSS Yuzh-Sakhalins 69.22 47⇑ *eP* **P 16 25 43.0 +2.4**
YSS pmax pmax
comp=Z,20nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 69.22 47 *eP* **P 16 25 40.0 -0.7**
comp=Z,14nm,0.9s,mb4.9
MAJO Matsushiro 69.48 59 P **P 16 25 44.5 +2.3**
MAJO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MAJO Matsushiro 69.48 59 P **P 16 25 44.5 +2.3**
comp=Z,4.4nm,0.8s,mb4.4
MJAR Matsushiro Arr 69.48 59 P **P 16 25 44.7 +2.5**
comp=Z,1.7nm,0.8s,mb4.0,baz=273,slow=7.3,SNR=5.8
ASAJ Asahikawa 70.06 50 P **P 16 25 48.1 +2.3**
comp=Z,4.8nm,0.8s,mb4.5,baz=257,slow=7.2,SNR=8.5
ASAJ Asahikawa 70.06 50 P **P 16 25 48.1 +2.3**
ASAJ pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 72.14 21 *iP* **P 16 26 00.9 +2.5**
BILL pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BILL Bilibino 72.14 21 *eP* **P 16 25 58.4 0.0**
comp=Z,2.3nm,0.8s,mb4.2
PET Petropavlovsk 76.24 37 *iP* **P 16 26 21.6 -0.7**
SCHQ Schefferville 83.33 330 P **P 16 27 01.9 +1.1**
comp=Z,3.6nm,1.0s,mb4.4,baz=55,slow=10,SNR=3.7
YKA Yellowknife Ar 89.45 355 P **P 16 27 31.2 +0.5**
comp=Z,2.5nm,0.6s,mb4.7,baz=7.5,slow=5.1,SNR=12
YKA Yellowknife Ar 89.45 355 *iP* **P 16 27 31.2 +0.5**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 89.45 355 *iP* **P 16 27 31.2 +0.5**
comp=Z,3.0nm,0.6s,mb4.8
WRA Warramunga Arr 90.88 112 P **P 16 27 40.5 +3.2**
comp=Z,1.4nm,1.0s,mb4.2,baz=311,slow=3.9,SNR=7.8
WRA Warramunga Arr 90.88 112 *iP* **P 16 27 40.5 +3.2**
WRA pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 92.35 115 P **P 16 27 47.0 +2.8**
comp=Z,1.0nm,0.7s,mb4.2,baz=302,slow=4.8,SNR=16
ASAR Alice Springs 92.35 115 P **P 16 27 47.0 +2.9**
ASAR pmax pmax
comp=Z,1.0nm,0.7s

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*ISCJB **23** 16:16:23.6±1.3, 1368N±009×92.29W±005, h10km, Error ellipse: s-maj=12.8km s-min=6.4km az=6.1*
*CASC **23** 16:16:25.5±3.4, 1374N×9210W, h4km±26km, MD4.2*
*NEIC **23** 16:16:30.6, 1386N×9238W, h118km, MD4.4(MEX), After MEX.*
*MEX **23** 16:16:30.5±0.5, 1377N×9255W, h15km±157km, MD4.4*
ISC 23 16:16:23.9±1.7, 1369N±009×9222W±005, h3km±10km, n15, σ1§26/20, 1C-2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.84**	**42⇑**	*eP*		**Pg**	**16 16 42.7**	**+2.7**
JAT				*eS*		**Sg**	16 16 49.4	-1.5
FUG	**Fuego 3**	**1.53**	**60⇓**	*eP*		**Pn**	**16 16 51.7**	**-0.4**
TP2	**Tecpan 2**	**1.59**	**47⇓**	*eP*		**Pn**	**16 16 51.8**	**-1.1**
TP2				*eS*		**Sn**	**16 17 15.0**	**+1.1**
TER	**Terranova**	**1.61**	**68**	*eP*		**Pn**	**16 16 52.2**	**-0.9**
RBDL	**Robledal**	**2.50**	**80**	*eP*		x	16 17 30.2	
RBDL				*eS*		x	16 18 00.5	
SBLS	**San Blas**	**2.53**	**86**	*eP*		x	16 17 31.4	
SBLS				*eS*		x	16 18 02.5	
CCIG	**Comitan**	**2.58**	**2**	*iP*		**Pn**	**16 17 08.3**	**+1.9**
CCIG				*iS*		**Sn**	**16 17 37.6**	**-0.7**
SCX	**San Cristobal**	**3.06**	**353**	*eP*		**Pn**	**16 17 15.0**	**+2.0**
SCX				*iS*		**Sn**	**16 17 50.0**	**0.0**
LFRS	**El Faro**	**3.07**	**91**	*eP*		x	16 17 38.5	
LFRS				*eS*		x	16 18 16.0	
CMIG	**Matias Romero**	**4.25**	**323**	*iP*		**Pn**	**16 17 28.6**	**-0.7**
CMIG				*iS*		**Sn**	**16 18 15.3**	**-4.1**
OXX	**Oaxaca**	**5.50**	**308**	*eP*		**Pn**	**16 17 45.0**	**-1.6**
OXX				*iS*		**Sn**	**16 18 46.5**	**-3.8**
OXX	**Oaxaca**	**5.50**	**308**	*eP*		**Pn**	**16 17 55.5**	**+8.9**
VHO	**Vista Hermosa**	**5.50**	**308**	*eP*		**Pn**	**16 17 47.5**	**+0.9**
VHO				*iS*		**Sn**	**16 18 43.2**	**-7.1**
VHO	**Vista Hermosa**	**5.50**	**308**	*iP*		**Pb**	**16 17 59.8**	**-0.7**
VHO				*iS*		**Sn**	**16 18 54.3**	**+3.9**
UTMO	**Huajuapan**	**6.77**	**308**	*iS*		**Sn**	**16 19 21.7**	**+0.1**

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*BJI **23** 16:17:11.5, 52.10N×177.10E, h10km, mB4.9, mb4.7, Ms4.3, Msz4.0*
*IDC **23** 16:17:14.5±1.2, 5193N×17694E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/23, mbtmp3.8/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/30, Error ellipse: s-maj=35.6km s-min=28.2km az=124.0*
*NEIC **23** 16:17:16.6, 52.10N×177.15E, h10km, ML3.5(AEIC), After AEIC.*
*ISCJB **23** 16:17:18.2±0.9, 519N±0.1×177.13E±008, h44km±9km, mb4.4/15, MS3.6/2, Error ellipse: s-maj=17.4km s-min=7.4km az=29.6*
ISC 23 16:17:19.3±0.9, 5192N±010×17713E±008, h39km±9km, h9km±5.3km:pP-P, n26, σ0§92/29, mb4.4/15, MS3.6/2, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.46**	**111**	P		**Pn**	**16 17 43.2**	**0.0**
AMKA				*eS*		**Sn**	**16 17 58.8**	**-2.2**
AMKA				S		**Sn**	**16 18 03.3**	**+2.2**
SMY	**Shemya**	**2.03**	**295**	P		**Pn**	**16 17 49.5**	**-1.5**
SMY				S		**Sn**	**16 18 15.3**	**+0.3**
ATKA	**Atka Island**	**5.36**	**84**	P		**Pn**	**16 18 37.0**	**+0.2**
BILL	**Bilibino**	**17.01**	**346**	*eP*		**Pn**	**16 21 16.5**	**+2.4**
	9.0nm,1.1s							
SLKM	**Skilak Lake**	**19.90**	**52**	*eP*		**Pn**	**16 21 48.0**	**-1.3**
DAWY	**Dawson**	**25.48**	**45**	*eP*		**P**	**16 22 42.8**	**-0.9**
CN2	**Changchun**	**34.95**	**277**	*eP*		**P**	**16 24 08.4**	**+0.9**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
YKA	**Yellowknife Ar**	**36.69**	**46**	P		**P**	**16 24 23.4**	**+1.0**
	comp=Z,1.3nm,0.7s,mb3.8,baz=280,slow=7.8,SNR=7.6							
SONM	**Songino Array**	**44.12**	**294**	P		**P**	**16 25 24.0**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.2,baz=56,slow=8.4,SNR=4.0							
JOW	**Kunigami**	**44.22**	**255**	LR		LR	16 39 42.0	
	comp=Z,32nm,21.7s,MS3.2,baz=273,slow=31							
NJ2	**Nanjing**	**46.27**	**268**	*eP*		**P**	**16 25 40.5**	**-0.4**
NJ2				AP		pP	16 25 45.0	-7.1
NJ2				XP		sP	16 25 47.6	-9.1
NJ2				PCP		PcP	16 27 16.3	+0.5
NJ2				S		**S**	**16 32 24.0**	**-1.0**
NJ2				XS		sS	16 32 33.0	-11
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,100nm,6.1s							
NJ2				LR		LR		
	comp=N,130nm,12.7s,MS4.2							
NJ2				LR		LR		
	comp=E,140nm,15.8s,MS4.2							
NJ2				LR		LR		
	comp=Z,150nm,18.6s,MS4.0							
LZH	**Lanzhou**	**52.79**	**283**	*eP*		**P**	**16 26 31.1**	**+0.6**
LZH				AP		pP	16 26 35.8	-6.1
LZH				XP		sP	16 26 38.3	-8.2
LZH				PP		PP	16 28 30.6	+0.5
LZH				AMB		AMB		
	comp=Z,20nm,1.4s,mb4.8							
GTA	**Gaotai**	**53.00**	**289**	P		**P**	**16 26 32.6**	**+0.6**
GTA				AP		pP	16 26 36.3	-7.1
GTA				XP		sP	16 26 38.8	-9.2
WMQ	**Urumqi**	**56.89**	**300**	*eP*		**P**	**16 27 01.0**	**+0.8**
BVAR	**Borovoye Array**	**58.80**	**317**	P		**P**	**16 27 13.0**	**-0.6**
	comp=Z,1.0nm,0.4s,mb4.2,baz=54,slow=6.6,SNR=8.3							
AKTK	**Aktyubinsk**	**65.74**	**322**	P		**P**	**16 28 00.0**	**0.0**
AKTO	**Aktyubinsk**	**65.74**	**322**	P		**P**	**16 28 00.0**	**0.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=45,slow=10,SNR=5.1							
GUN	**Gumba**	**69.29**	**289**	*eP*		**P**	**16 28 22.7**	**+0.3**
	comp=Z,17nm,0.6s,mb5.2							
JIRN	**Jiri**	**69.29**	**289**	*eP*		**P**	**16 28 22.4**	**-0.1**

comp=Z,8.0nm,0.5s,mb4.9
KKN Kakani 69.73 289 *e*P **P 16 28 25.4 +0.2**
comp=Z,8.5nm,0.8s,mb4.8
PKI Pulchoki 69.82 289 *e*P **P 16 28 24.9 -0.8**
comp=Z,4.2nm,0.5s,mb4.7
GKN Gorkha 69.94 290 *e*P **P 16 28 26.6 +0.1**
comp=Z,20nm,1.2s,mb4.9
DMN Daman 69.97 289 *e*P **P 16 28 25.7 -0.9**
KOLN Koldanda 70.72 290 *e*P **P 16 28 29.1 -2.1**
comp=Z,3.8nm,0.4s,mb4.7
WRA Warramunga Arr 80.71 220 P **P 16 29 28.8 +0.5**
comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=5.9,SNR=8.3
ASAR Alice Springs 84.24 219 P **P 16 29 47.5 +0.8**
comp=Z,0.3nm,0.6s,mb3.6,baz=24,slow=5.1,SNR=8.8

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*ISCJB **23** 16:29:49.9±6.4, 190S±0.1×1732W±02, h25km±49km, mb4.3/6, Error ellipse: s-maj=35.1km s-min=11.9km az=46.4*
*IDC **23** 16:29:50.1±2.2, 1898S×17349W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/17, mbtmp4.2/6, ML1.8/1, Error ellipse: s-maj=59.1km s-min=29.4km az=119.0*
*NEIC **23** 16:29:51.4±5.8, 1896S×17327W, h20km±48km, mb4.6/3, Error ellipse: s-maj=21.8km s-min=14.9km az=88.0*
ISC 23 16:29:51.7±6.4, 190S±01×1732W±02, h22km±50km, n13, σ0§19/13, mb4.3/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.22**	**15**	Pn	**Pn**	**16 31 08.5**	**+0.1**
	1.8nm,0.3s,baz=16,slow=19,SNR=3.1						
AFI				Sn	**Sn**	**16 32 08.0**	**-0.1**
	5.7nm,0.3s,baz=176,slow=22,SNR=5.2						
URZ	**Urewera**	**20.98**	**202**	P	**P**	**16 34 33.2**	**-0.2**
	5.6nm,0.4s,baz=272,slow=10,SNR=9.8						
CTA	**Charters Tower**	**38.15**	**261**	P	**P**	**16 37 09.7**	**+0.4**
	6.6nm,0.6s,mb4.5,baz=86,slow=7.6,SNR=9.8						
CTAO	**Charters Tower**	**38.15**	**261**	*e*P	**P**	**16 37 09.3**	**0.0**
	9.0nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**42.50**	**243**	P	**P**	**16 37 45.3**	**0.0**
	0.7nm,0.4s,mb3.8,baz=92,slow=13,SNR=4.5						
AS31	**Alice Springs**	**49.26**	**255**	*e*P	**P**	**16 38 38.9**	**+0.3**
ASAR	**Alice Springs**	**49.26**	**255**	P	**P**	**16 38 38.7**	**+0.1**
	3.3nm,0.9s,mb4.4,baz=93,slow=8.4,SNR=46						
ASPA	**Alice Springs**	**49.27**	**255**	*e*P	**P**	**16 38 38.9**	**+0.2**
WB2	**Warramunga Arr**	**49.28**	**260**	*e*P	**P**	**16 38 38.6**	**-0.2**
WRAB	**Tennant Creek**	**49.28**	**260**	*e*P	**P**	**16 38 38.6**	**-0.2**
	18nm,1.4s,mb4.9						
WRA	**Warramunga Arr**	**49.29**	**260**	P	**P**	**16 38 38.6**	**-0.3**
	1.1nm,0.5s,mb4.1,baz=98,slow=7.7,SNR=42						
QSPA	**South Pole Qui**	**71.09**	**180**	*e*P	**P**	**16 41 08.3**	**+0.1**
	1.6nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**148.97**	**317**	PKPbc	PKPbc	16 49 40.9	+3.1
	1.0nm,0.9s,baz=58,slow=3.1,SNR=4.8						

WEL 23 16:35:49.8±0.4, 3605S×17848E, h211km±9km, ML3.8/8, Error ellipse: s-maj=10.0km s-min=8.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.03**	**185**	PN	Pn	16 36 29.5	+0.1
PUZ				SN	S	16 36 59.2	-1.1
MWZ	**Matawai**	**2.41**	**198**	PN	Pn	16 36 33.4	+0.1
MWZ				*e*SN	S	16 37 07.8	+0.5
URZ	**Urewera**	**2.46**	**206**	PN	Pn	16 36 33.6	-0.3
URZ				SN	S	16 37 08.4	-0.1
KNZ	**Kokohu**	**3.04**	**192**	PN	Pn	16 36 40.6	+0.2
BKZ	**Black Stump Fm**	**3.49**	**206**	*e*PN	Pn	16 36 45.7	0.0
MRZ	**Mangatainoka R**	**5.14**	**205**	*e*PN	Pn	16 37 04.2	-2.0
MRZ				SN	S	16 38 03.9	-2.7
KIW	**Kapiti Island**	**5.56**	**209**	*e*PN	Pn	16 37 09.1	-2.5
CAW	**Cannon Point**	**5.72**	**207**	*e*PN	Pn	16 37 11.1	-2.4
TUWZ	**Tuamarina**	**6.44**	**212**	*e*PN	Pn	16 37 20.1	-2.6
NNZ	**Nelson**	**6.53**	**216**	PN	Pn	16 37 21.2	-2.7
QRZ	**Quartz Range**	**6.68**	**223**	*e*PN	Pn	16 37 22.6	-3.2
THZ	**Tophouse**	**7.17**	**216**	*e*PN	Pn	16 37 29.2	-3.1
LTZ	**Lake Taylor**	**8.26**	**214**	*e*PN	Pn	16 37 43.2	-3.2

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*ISCJB **23** 17:00:18.6±0.7, 24.16S±005×667W±0.1, h178km±17km, mb3.1/1, Error ellipse: s-maj=18.4km s-min=8.6km az=6.9*
*NEIC **23** 17:00:19.8±0.6, 2407S×6670W, h190km±8km, mb3.7/1, Error ellipse: s-maj=11.4km s-min=8.8km az=102.0*
*IDC **23** 17:00:19.6±1.0, 24.16S×6675W, h176km±13km, mb3.1/1, mb1 3.2/7, mb1mx3.1/19, mbtmp3.6/7, Error ellipse: s-maj=17.8km s-min=12.9km az=84.0*
ISC 23 17:00:19.5±0.7, 2417S±005×666W±01, h162km±17km, n16, σ1§22/18, mb3.1/1, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.60**	**306**	P	**Pn**	**17 01 04.0**	**+1.5**
	18nm,0.3s,baz=132,slow=6.6,SNR=197						
LVC				S	**Sn**	**17 01 36.3**	**+0.7**
	23nm,0.3s,baz=242,slow=23,SNR=45						
LVC	**Limon Verde**	**2.60**	**306**	*e*Pn	**Pn**	**17 01 03.8**	**+1.4**
LVC				*e*Sn	**Sn**	**17 01 25.6**	**-10**
CFAA	**Coronel Fontan**	**7.54**	**190**	P	**Pn**	**17 02 07.8**	**+1.2**
	0.1nm,0.3s,baz=21,slow=11,SNR=7.1						
CFAA				S	**Sn**	**17 03 29.3**	**-1.7**
	0.2nm,0.3s,baz=126,slow=22,SNR=7.8						
CFAA	**Coronel Fontan**	**7.54**	**190**	P	**Pn**	**17 02 07.8**	**+1.2**
CFAA				S	**Sn**	**17 03 29.3**	**-1.7**
LPAZ	**La Paz**	**7.97**	**350**	P	**Pn**	**17 02 12.2**	**-0.1**
	0.2nm,0.3s,baz=185,slow=5.9,SNR=6.0						
LPAZ				S	**Sn**	**17 03 39.0**	**-2.4**
	0.2nm,0.3s,baz=258,slow=22,SNR=6.5						
LPAZ	**La Paz**	**7.97**	**350**	*e*Pn	**Pn**	**17 02 11.7**	**-0.7**
LPAZ				*e*Sn	**Sn**	**17 03 36.7**	**-4.7**
CPUP	**Villa Florida**	**8.70**	**106**	P	**Pn**	**17 02 23.2**	**+1.2**
	0.3nm,0.3s,baz=268,slow=13,SNR=3.9						
SIV	**San Ignacio**	**9.67**	**34**	P	**Pn**	**17 02 33.9**	**-1.1**
	0.5nm,0.3s,baz=223,slow=14,SNR=8.4						
PLCA	**Paso Flores**	**16.84**	**190**	P	**Pn**	**17 04 04.7**	**-1.0**
	0.1nm,0.3s,baz=356,slow=16,SNR=2.5						
PLCA	**Paso Flores**	**16.84**	**190**	P	**Pn**	**17 04 05.0**	**-0.7**
	3.1nm,0.8s						
BDFB	**Brasilia**	**19.44**	**68**	P	**P**	**17 04 33.0**	**-0.5**
	0.4nm,0.3s,baz=246,slow=12,SNR=5.6						
TORD	**Torodi Ar. Bea**	**76.32**	**69**	P	**P**	**17 11 52.0**	**+1.4**
	0.4nm,0.8s,mb3.1,baz=252,slow=5.6,SNR=2.6						
ASAR	**Alice Springs**	**128.44**	**204**	PKP	PKPdf	17 19 04.5	-2.4
	0.3nm,0.8s,baz=161,slow=1.6,SNR=5.8						
WRA	**Warramunga Arr**	**131.62**	**207**	PKP	PKPdf	17 19 10.2	-2.7
	0.2nm,0.4s,baz=164,slow=1.9,SNR=8.5						
MKAR	**Makanchi Array**	**146.45**	**40**	PKPbc	PKPbc	17 19 38.9	-2.6
	0.4nm,0.5s,baz=338,slow=3.2,SNR=4.5						
MKAR	**Makanchi Array**	**146.45**	**40**	PKPbc	PKPbc	17 19 38.9	-2.6

OTT 23 17:12:02.1±0.8, 6471N×8711W, h18km, MN3.2/3, Wager Bay region, Nu 200km west from Coral Harbour, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QILN	**Qililugaq Expl**	**1.98**	**9**	PN	Pn	17 12 35.1	+0.5
QILN				PG	Pg	17 12 38.1	-2.0
QILN				SN	Sn	17 12 58.6	-0.4
QILN				SG	Sg	17 13 02.5	-3.3
QILN				Trac		17 13 03.5	
	comp=Z,38nm,0.1s						
SRLN	**Sarcpa Lake, N**	**4.14**	**20**	PN	Pn	17 13 03.1	-1.4
SRLN				SN	Sn	17 13 50.5	-1.9
SRLN				SG	Sg	17 14 09.2	-6.0
SRLN				Trac		17 14 13.4	
	comp=Z,10nm,0.1s						
AP3N	**Apex site 3 Nu**	**4.88**	**11**	PN	Pn	17 13 14.4	-0.2
AP3N				SN	Sn	17 14 05.6	-5.1
AP3N				SG	Sg	17 14 31.1	-7.8
AP3N				Trac		17 14 37.1	
	comp=Z,13nm,0.3s						
ILON	**Igloolik, Nuna**	**5.12**	**21**	SN	Sn	17 14 12.1	-4.5
ILON				LG		17 14 39.0	
ILON				Trac		17 14 45.5	
	comp=Z,12nm,0.2s						
GIFN	**Gifford Fjord,**	**5.71**	**19**	PN	Pn	17 13 25.5	-0.5
GIFN				SN	Sn	17 14 26.9	-4.3
GIFN				LG		17 14 56.4	
GIFN				Trac		17 15 01.4	
	comp=Z,6.7nm,0.2s						
FCC	**Fort Churchill**	**6.82**	**212**	PN	Pn	17 13 41.9	+0.6
FCC				SN	Sn	17 14 54.8	-3.7
FCC				SG	Sn	17 15 31.3	+33
FCC				Trac		17 15 32.2	
	comp=Z,10.0nm,0.7s						
RES	**Resolute Bay**	**10.37**	**348**	PN	Pn	17 14 26.4	-3.5
RES				SN	Sn	17 16 13.1	-13
RES				LG		17 17 18.1	
RES				Trac		17 17 24.1	
	comp=Z,3.4nm,0.8s						

IDC 23 17:21:46.0±2.3, 341S×12898E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=167.9km s-min=27.1km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.24**	**163**	P	Pn	17 25 47.1	-1.0
	0.2nm,0.3s,baz=345,slow=12,SNR=11						
ASAR	**Alice Springs**	**20.69**	**167**	P	P	17 26 28.5	+0.9
	1.5nm,0.7s,baz=349,slow=11,SNR=47						
MKAR	**Makanchi Array**	**64.69**	**326**	P	P	17 32 25.9	+0.1
	0.3nm,0.6s,baz=114,slow=8.8,SNR=2.8						

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*ISCJB **23** 17:22:05.5±0.6, 2425N±002×10243E±007, h10km, mb3.8/6, MS3.0/2, Error ellipse: s-maj=9.2km s-min=3.4km az=169.4*
*BJI **23** 17:22:06.9, 2428N×10256E, h12km, mB4.1, mb4.4, ML3.9, Ms3.8, Msz3.6*
*IDC **23** 17:22:06.7±1.1, 2437N×10250E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, MS3.2/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=76.5km s-min=18.2km az=63.0*
*PLV **23** 17:22:07.7±1.6, 24.16N×102.16E, h0km±15km, ML4.2*
ISC 23 17:22:07.3±0.6, 2427N±002×10236E±006, h10km, n18, σ1§14/26, mb3.8/6, MS3.0/2, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.92**	**22**	PG	**Pg**	**17 22 24.3**	**-0.7**
KMI				SG	**Sg**	**17 22 35.5**	**-1.5**
KMI				Smax			
	comp=N,3μm,0.6s						
KMI				Smax			
	comp=E,3μm,0.7s						
KMI				LR	LR		
	comp=N,2μm,3.8s						
KMI				LR	LR		
	comp=E,3μm,3.8s						
KMI				LR	LR		
	comp=Z,460nm,3.0s						
LCVN	**Lai Chau**	**2.34**	**162**	*e*PN	**Pn**	**17 22 47.0**	**+1.2**
LCVN				*e*PG	**Pg**	**17 22 51.3**	**-0.9**
LCVN				*e*SG	**Sg**	**17 23 21.4**	**-1.1**
LCVN				*e*		17 23 25.3	
	comp=E,1μm,0.4s						
DBV	**Dienbien**	**2.93**	**168**	*e*PN	**Pn**	**17 22 55.5**	**+1.6**
DBV				*e*PG	**Pg**	**17 23 02.1**	**-1.4**
DBV				*e*SG	**Sg**	**17 23 40.4**	**-1.1**
SLVN	**Son La**	**3.25**	**154**	*e*PG	**Pg**	**17 23 09.3**	**-0.4**
SLVN				*e*SG	**Sg**	**17 23 52.8**	**+1.0**
GYA	**Guiyang**	**4.46**	**60**	P	**Pn**	**17 23 15.9**	**+0.9**
GYA				Smax			
	comp=N,190nm,1.0s						
GYA				Smax			
	comp=E,100nm,0.9s						
CD2	**Chengdu**	**6.73**	**10⇑**	*i*P	**Pn**	**17 23 46.6**	**+0.4**
CD2				S	**Sn**	**17 25 02.4**	**-0.5**
CD2				Smax			
	comp=N,50nm,0.7s						
CD2				Smax			
	comp=E,80nm,0.6s						
CD2				LR	LR		
	comp=E,440nm,10.2s						
CD2				LR	LR		
	comp=Z,170nm,10.8s						
QIZ	**Qiongzhong**	**8.70**	**125**	P	**Pn**	**17 24 12.5**	**-0.7**
QIZ				AMB	AMB		
	comp=Z,10.0nm,0.6s						
QIZ				LR	LR		
	comp=Z,240nm,7.1s						
GZH	**Guangzhou**	**10.14**	**94**	P	**Pn**	**17 24 31.0**	**-1.9**
GZH				S	**Sn**	**17 26 27.9**	**+1.2**
XAN	**Xi'an**	**11.29**	**29**	P	**Pn**	**17 24 46.3**	**-2.4**
GTA	**Gaotai**	**15.25**	**352**	*e*P	**Pn**	**17 25 48.0**	**+5.4**
GTA				AP	pP	17 25 51.3	+0.9
GTA				XP	sP	17 25 53.4	+1.7
NJ2	**Nanjing**	**16.47**	**58**	*e*P	**Pn**	**17 25 58.5**	**0.0**
NJ2				AP	pP	17 26 02.6	-1.4
NJ2				XP	sP	17 26 06.1	+0.8
NJ2				PP		17 26 11.8	
NJ2				S	**Sn**	**17 29 04.0**	**+2.7**
NJ2				XS	sS	17 29 11.0	-6.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,100nm,4.7s						
NJ2				LR	LR		
	comp=N,460nm,8.4s						
NJ2				LR	LR		
	comp=E,500nm,8.2s						
NJ2				LR	LR		
	comp=Z,160nm,8.4s						
JOW	**Kunigami**	**23.51**	**78**	LR	LR	17 36 21.5	
	comp=Z,63nm,18.3s,MS3.1,baz=108,slow=37						
SONM	**Songino Array**	**23.73**	**7**	P	**P**	**17 27 19.4**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.4,baz=187,slow=8.8,SNR=8.0						
SONM				LR	LR	17 37 54.8	
	comp=Z,48nm,19.7s,MS3.0,baz=335,slow=40						
MKAR	**Makanchi Array**	**27.63**	**329**	P	**P**	**17 27 55.8**	**+0.8**
	comp=Z,2.0nm,0.7s,mb3.9,baz=134,slow=10,SNR=13						
ZAL	**Zalesovo**	**32.42**	**341**	P	**P**	**17 28 38.0**	**+0.5**
	comp=Z,1.1nm,0.4s,mb4.1,baz=320,slow=11,SNR=7.5						
WRA	**Warramunga Arr**	**53.87**	**142**	P	**P**	**17 31 31.5**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.8,baz=332,slow=8.3,SNR=14						
ASAR	**Alice Springs**	**56.63**	**145**	P	**P**	**17 31 51.9**	**+1.4**
	comp=Z,0.3nm,0.5s,mb3.6,baz=328,slow=6.6,SNR=10						
FINES	**FINESS Array B**	**62.45**	**328**	P	**P**	**17 32 31.2**	**+0.5**
	comp=Z,1.0nm,0.7s,mb4.0,baz=97,slow=7.9,SNR=4.1						

GUC 23 17:53:54.2±0.6, 3317S×7027W, h3km±4km, MD3.6, ML1.9, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.16**	**185⇑**	*i*P	Pg	17 53 58.1	+0.7
FCH				*i* S	Sg	17 54 00.8	+1.3
FCH				AML	AML	17 54 01.0	
	comp=E,661nm,0.2s						
CLCH	**Cerro Calan**	**0.32**	**224⇑**	*i*P	Pg	17 54 01.2	+0.8
CLCH				*i* S	Sg	17 54 06.2	+1.7
CLCH				AML	AML	17 54 08.6	
	comp=E,449nm,0.8s						
PEL	**Peldehue**	**0.35**	**273⇑**	*i*P	Pg	17 54 00.8	-0.1
PEL				*i* S	Sg	17 54 05.9	+0.5
PEL				AML	AML	17 54 08.6	
	comp=E,145nm,0.4s						
LMEL	**Las Melosas**	**0.68**	**175**	*e*P	Pg	17 54 07.5	+0.2
LMEL				*i* S	Sg	17 54 17.3	+1.2
LMEL				AML	AML	17 54 18.0	
	comp=N,76nm,0.2s						
SCR	**San Cristobal**	**0.69**	**241⇑**	*i*P	Pg	17 54 02.3	-5.2
SCR				*i* S	Sg	17 54 07.7	-8.8
CHCH	**Chadas Angostu**	**0.83**	**202**	*i* P	Pg	17 54 10.0	-0.1
CHCH				*i* S	Sg	17 54 22.1	+1.2
CACH	**El Canelo**	**0.99**	**196⇓**	*i*P	Pg	17 54 13.5	+0.4
CACH				*i* S	Sg	17 54 27.9	+2.0
CICH	**Cipreses**	**1.16**	**186⇑**	*i*P	Pg	17 54 16.0	-0.4
CICH				*i* S	Sg	17 54 32.2	+0.8

CASC 23 17:57:21.3±3.6, 1335N×9127W, h34km±14km, MD3.8, 4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.03**	**340⇓**	*e*P	Pn	17 57 41.1	+1.8
JAT				*e*S	Sn	17 57 53.7	+1.2
TER	**Terranova**	**1.10**	**31**	*e*P	Pn	17 57 40.6	+0.3
IXG	**Ixpaco**	**1.14**	**44⇓**	*e*P	Pn	17 57 40.3	-0.5
IXG				*e*S	Sn	17 57 56.6	+1.5
FUG	**Fuego 3**	**1.17**	**21**	*e*P	Pn	17 57 43.5	+2.3
TP2	**Tecpan 2**	**1.44**	**9⇓**	*e*P	Pn	17 57 45.3	+0.3
TP2				*e*S	Sn	17 58 02.7	-0.1
RTR	**El Retiro**	**1.67**	**71**	*e*P	x	17 58 17.3	
RTR				*e*S	x	17 58 38.7	
SBLS	**San Blas**	**1.67**	**73**	*e*P	x	17 58 14.9	
SBLS				*e*S	x	17 58 36.1	
RBDL	**Robledal**	**1.71**	**64⇓**	*e*P	x	17 58 16.0	
RBDL				*e*S	x	17 58 39.4	
LFRS	**El Faro**	**2.16**	**83**	*e*P	x	17 58 23.4	
LFRS				*e*S	x	17 58 50.8	

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*NEIC **23** 17:58:39.1, 2821S×7041W, h65km, MG3.7(GUC), After GUC.*
GUC 23 17:58:39.1±0.5, 2821S×7041W, h65km±6km, ML3.7, 2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.48**	**220**	*i* P	Pn	17 58 47.8	-3.5
VACH				*i* S	Sn	17 58 57.4	-2.7
VACH				AML	AML	17 58 58.1	
	comp=E,5μm,0.1s						
VACH	**Vallenar**	**0.48**	**220**	*i* P	Pn	17 58 47.8	-3.5
VACH				*i* S	Sn	17 58 57.4	-2.7
CPCH	**Copiapo**	**0.85**	**3⇓**	*i*P	Pn	17 58 55.8	+0.4
CPCH				*i* S	Sn	17 59 08.3	+0.9
CPCH				AML	AML	17 59 11.7	
	comp=E,5μm,0.1s						
CPCH	**Copiapo**	**0.85**	**3⇓**	*i*P	Pn	17 58 55.8	+0.4
CPCH				*i* S	Sn	17 59 08.3	+0.9
CDCH	**Caldera**	**1.19**	**342**	*e*P	Pn	17 59 00.1	+0.4
CDCH				*i* S	Sn	17 59 15.8	+0.6
TLL	**Tololo Astrono**	**1.98**	**190**	*e*P	Pn	17 59 11.6	+1.2
TLL				*i* S	Sn	17 59 36.0	+1.8

CASC 23 18:06:05.5±1.4, 1278N×9030W, h20km±15km, MD3.9, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.24**	**32**	*e*P	x	18 06 54.5	
SBLS				*e*S	x	18 07 11.8	
SNJE	**San Jose**	**1.27**	**32**	*e*P	x	18 06 54.9	
SNJE				*e*S	x	18 07 12.4	
RTR	**El Retiro**	**1.28**	**30**	*e*P	x	18 06 55.1	
RTR				*e*S	x	18 07 12.8	
BOQS	**Boqueron**	**1.37**	**46**	*e*P	x	18 06 56.5	
BOQS				*e*S	x	18 07 15.8	
IXG	**Ixpaco**	**1.39**	**354**	*e*P	Pn	18 06 29.3	-0.4
IXG				*e*S	Sn	18 06 49.0	+1.5
RBDL	**Robledal**	**1.45**	**24**	*e*P	x	18 06 58.0	
RBDL				*e*S	x	18 07 17.2	
LFRS	**El Faro**	**1.47**	**55**	*e*P	x	18 06 57.5	
LCBS	**La Ceiba**	**1.55**	**56**	*e*P	x	18 06 59.6	
TP2	**Tecpan 2**	**2.11**	**341**	*e*P	Pn	18 06 40.8	+1.2

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*ISCJB **23** 18:10:41.4±0.4, 3531N±004×2732E±006, h71km±17km, Error ellipse: s-maj=8.8km s-min=6.0km az=39.8*
*CSEM **23** 18:10:41.2±0.1, 3526N×2737E, h40km, MD3.4, Error ellipse: s-maj=4.1km s-min=2.1km az=72.0*
*ISK **23** 18:10:42.6, 3540N×2725E, h32km, MD3.4*
*NEIC **23** 18:10:43.9, 3554N×27.18E, h47km, MD3.6(ATH), After ATH.*
*ATH **23** 18:10:43.9, 3554N×27.18E, h47km±7km, MD3.6/5*
*HLW **23** 18:10:48.3, 3456N×2758E, h0km, Mb3.4*
ISC 23 18:10:43.0±0.4, 3533N±003×2730E±006, h50km±20km, n29, σ0§92/39, 7C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.24**	**332**	*e*P	**Pn**	**18 10 51.5**	**-0.1**
ARG	**Arkhangelos**	**1.11**	**37**	*e*P	**Pn**	**18 11 03.0**	**+0.9**
NPS	**Neapolis**	**1.39**	**268**	*e*P	**Pn**	**18 11 07.3**	**+1.4**
XRY	**Khrisi**	**1.40**	**251**	*e*P	**Pn**	**18 11 07.5**	**+1.5**
DAT	**Datca**	**1.41**	**9**	*i* PN	**Pn**	**18 11 05.9**	**-0.3**
DAT				*i* SN	**Sn**	**18 11 22.8**	**-0.9**
BODT	**Bodrum**	**1.73**	**0**	PN	**Pn**	**18 11 10.1**	**-0.4**
BODT				SN	**Sn**	**18 11 30.2**	**-1.2**
BDRM	**Kayabasi**	**1.73**	**4**	*i* P	**Pn**	**18 11 10.4**	**-0.2**
BDRM				*i* S	**Sn**	**18 11 31.1**	**-0.4**
DALT	**Dalyan (Mudla)**	**1.79**	**37**	*e*PN	**Pn**	**18 11 11.9**	**+0.4**
SANT	**Santorini**	**1.82**	**305**	*i* P	**Pn**	**18 11 12.6**	**+0.8**
SANT				*i* S	**Sn**	**18 11 31.2**	**-2.6**
SANT	**Santorini**	**1.82**	**305**	*e*P	**Pn**	**18 11 11.9**	**+0.1**
SANT	**Santorini**	**1.82**	**305**	*e*P	**Pn**	**18 11 11.9**	**+0.1**
SANT				*i* S	**Sn**	**18 11 31.2**	**-2.5**
FETY	**Fethiye**	**1.94**	**48**	*e*PN	**Pn**	**18 11 14.0**	**+0.5**
YER	**Yerkesik**	**1.96**	**23**	*e*PN	**Pn**	**18 11 14.1**	**+0.3**
AYDN	**Tasoluk**	**2.37**	**11**	*i* P	**Pn**	**18 11 20.6**	**+1.2**
AYDN				*i* S	**Sn**	**18 11 47.3**	**+0.1**
ELL	**Elmali**	**2.54**	**55**	*e*PN	**Pn**	**18 11 22.3**	**+0.6**
DNZL	**Cakiroluk**	**2.74**	**30**	*i* P	**Pn**	**18 11 27.1**	**+2.6**
DNZL				*i* S	**Sn**	**18 12 03.9**	**+7.6**
DNZL	**Cakiroluk**	**2.74**	**30**	*i* P	**Pn**	**18 11 27.0**	**+2.6**
VLI	**Veliai**	**3.80**	**293**	*e*P	**Pn**	**18 11 39.0**	**0.0**
SLUM		**4.21**	**205**	⇑P	**Pn**	**18 11 45.7**	**+1.1**
HMAT	**Matruh**	**4.23**	**182**	⇑P	**Pn**	**18 11 43.4**	**-1.5**
HMAT				S	**Sn**	**18 12 23.4**	**-10**
SWA1		**6.20**	**193**	⇑P	**Pn**	**18 12 12.1**	**+0.2**
SWA1				S	**Sn**	**18 13 12.8**	**-8.7**
SWA2		**6.27**	**195**	⇓P	**Pn**	**18 12 13.3**	**+0.4**
SWA2				S	**Sn**	**18 13 14.9**	**-8.2**
KOT	**Kottamia**	**6.60**	**143**	⇑P	**Pn**	**18 12 17.0**	**-0.4**
HSAF	**As Saff**	**6.74**	**147**	⇑P	**Pn**	**18 12 18.4**	**-0.8**
GLL	**Jalalah**	**6.84**	**146**	⇑P	**Pn**	**18 12 20.3**	**-0.3**
SUZ		**7.19**	**138**	⇓P	**Pn**	**18 12 25.4**	**-0.2**
HHRG	**Al Ghardaqah**	**9.70**	**145**	⇑P	**Pn**	**18 12 59.0**	**-0.9**
HDK1	**Dakhla**	**9.92**	**169**	⇓P	**Pn**	**18 13 02.0**	**-0.8**
HDK1	**Dakhla**	**9.92**	**169**	P	**Pn**	**18 13 02.0**	**-0.9**

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*IDC **23** 18:13:10.9±1.2, 3641N×7157E, h0km, mb3.3/4, mb1 3.6/8, mb1mx3.5/23, mbtmp3.5/8, ML3.6/4, Error ellipse: s-maj=28.5km s-min=23.2km az=79.0*
*NEIC **23** 18:13:14.4±1.0, 3673N×7121E, h10km, mb4.6/3, Error ellipse: s-maj=19.5km s-min=8.0km az=59.0*
*ISCJB **23** 18:13:22.9±0.6, 3691N±003×7170E±008, h124km±9km, mb3.0/4, Error ellipse: s-maj=10.7km s-min=4.5km az=147.1*
*NNC **23** 18:13:37.2±5.4, 3811N×7159E, h224km±54km, mb2.2, mpv3.5, Error ellipse: s-maj=81.1km s-min=42.7km az=36.0*
**ISC 23

SNR=20
TKM2 Tokmak 2 6.70 25 ⇓P **Pn 18 15 00.9 +0.8**
1.3nm,0.6s
SDNR Sundarnagar 6.92 140 *ex* x 18 15 57.5
SDNR *eS* **Sn 18 16 20.5 +0.2**
SMLA Simla 7.32 140 *eP* **Pn 18 15 07.5 -0.9**
SMLA *eS* **Sn 18 16 26.8 -3.2**
KLP Kalpa 7.61 133 *eP* **Pn 18 15 13.6 +1.3**
KLP *eS* **Sn 18 16 36.0 -0.9**
JOSI Joshimath 9.09 132 *eP* **Pn 18 15 30.4 -2.0**
JOSI AMb AMB 18 15 31.8
comp=Z,46nm,0.9s
JOSI *ex* x 18 17 04.5
KHET Khetri 9.46 158 *ex* x 18 15 28.5
KHET AMb AMB 18 15 35.5
comp=Z,2.1nm,0.3s
AYAN Aya Nagar 9.55 150 *eP* **Pn 18 15 37.2 -1.4**
AYAN AMb AMB 18 15 41.9
comp=Z,6.6nm,0.3s
AYAN *eS* **Sn 18 17 18.6 -5.5**
KUDL Kundal 9.62 154 *eP* **Pn 18 15 35.2 -4.3**
KUDL AMb AMB 18 15 42.6
comp=Z,7.5nm,0.7s
KUDL *eS* **Sn 18 17 19.4 -6.2**
SONA Sohna 9.74 151 *eS* **Sn 18 17 23.8 -4.8**
MKAR Makanchi Array 12.62 35 Pn **Pn 18 16 18.1 -1.2**
comp=Z,0.1nm,0.3s,baz=222,slow=14,SNR=9.6
KOLN Koldanda 13.54 129 *eP* **Pn 18 16 30.3 -1.1**
comp=Z,15nm,0.6s
GKN Gorkha 14.04 126 *eP* **Pn 18 16 37.8 0.0**
comp=Z,24nm,0.7s
KKN Kakani 14.61 125 *eP* **Pn 18 16 44.2 -0.8**
comp=Z,9.7nm,0.5s
DMN Daman 14.62 126 *eP* **Pn 18 16 44.8 -0.2**
comp=Z,6.0nm,0.4s
PKI Pulchoki 14.84 125 *eP* **Pn 18 16 47.9 0.0**
comp=Z,13nm,0.7s
GUN Gumba 14.93 123 *eP* **Pn 18 16 50.4 +1.4**
comp=Z,30nm,0.7s
AB31 Akbulak array 15.02 329 ⇑P **Pn 18 16 46.4 -3.8**
comp=Z,0.7nm,0.4s,baz=154,slow=12,SNR=27
AB31 ⇑S S 18 19 15.6 -30
comp=Z,2.3nm,0.6s,baz=143,slow=23,SNR=3.0
JIRN Jiri 15.30 123 *eP* **Pn 18 16 53.4 -0.2**
comp=Z,30nm,0.7s
BVAR Borovoye Array 16.14 357 Pn **Pn 18 17 02.5 -1.5**
comp=Z,0.2nm,0.3s,baz=162,slow=14,SNR=6.5
ZRNK Zerenda 16.15 354 P **Pn 18 17 04.2 -0.1**
comp=Z,1.2nm,0.6s
AKTK Aktyubinsk 16.73 328 Pn **Pn 18 17 09.5 -1.8**
AKTO Aktyubinsk 16.73 328 ⇓P **Pn 18 17 10.6 -0.7**
comp=Z,0.1nm,1.1s
AKTO ⇑S **S 18 20 01.5 -16**
comp=Z,0.2nm,1.4s
AKTO Aktyubinsk 16.73 328 Pn **Pn 18 17 09.5 -1.8**
comp=Z,0.2nm,0.3s,baz=129,slow=17,SNR=4.5
ZAL Zalesovo 19.28 24 P **P 18 17 40.9 +1.4**
comp=Z,0.9nm,0.3s,baz=257,slow=8.2,SNR=7.2
SONM Songino Array 27.62 56 P **P 18 19 04.5 +4.3**
comp=Z,0.1nm,0.4s,mb2.7,baz=261,slow=9.6,SNR=2.2
TORD Torodi Ar. Bea 66.31 269 P **P 18 23 59.7 0.0**
comp=Z,0.2nm,0.5s,mb3.2,baz=42,slow=6.0,SNR=2.5
WRA Warramunga Arr 81.71 122 P **P 18 25 30.8 +1.6**
comp=Z,0.1nm,0.4s,mb3.0,baz=323,slow=4.7,SNR=7.4
ASAR Alice Springs 84.01 125 P **P 18 25 42.7 +1.6**
comp=Z,0.2nm,0.5s,mb3.2,baz=303,slow=4.8,SNR=4.6

CASC 23 18:17:04.6±3.1, 1286N×9033W, h16km±15km, MD4.3, ML3.2, 7C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.20**	**35**	*eP*	x	18 17 52.6	
SBLS				*eS*	x	18 18 10.5	
SNJE	**San Jose**	**1.23**	**35**	⇓*eP*	x	18 17 53.1	
SNJE				*eS*	x	18 18 10.0	
RTR	**El Retiro**	**1.23**	**33**	*eP*	x	18 17 53.1	
RTR				*eS*	x	18 18 13.0	
IXG	**Ixpaco**	**1.31**	**355**	⇑*eP*	Pn	18 17 27.3	-1.0
BOQS	**Boqueron**	**1.35**	**50**	⇓*eP*	x	18 17 54.6	
BOQS				*eS*	x	18 18 14.1	
RBDL	**Robledal**	**1.40**	**27**	⇑*eP*	x	18 17 55.3	
RBDL				*eS*	x	18 18 13.8	
TER	**Terranova**	**1.48**	**347**	⇑*eP*	Pn	18 17 30.5	-0.1
LBRS	**Las Brisas**	**1.53**	**55**	⇑*eP*	x	18 17 57.4	
LBRS				*eS*	x	18 18 17.0	
LCBS	**La Ceiba**	**1.54**	**59**	⇓*eP*	x	18 17 56.8	
LCBS				*eS*	x	18 18 17.9	
FUG	**Fuego 3**	**1.66**	**343**	⇑*eP*	Pn	18 17 33.4	+0.4
MTO2	**Montecristo 2**	**1.80**	**32**	*eP*	x	18 18 01.7	
MTO2				*eS*	x	18 18 26.0	
JAT	**Jato**	**1.93**	**319**	*eP*	Pn	18 17 38.3	+1.5
TP2	**Tecpan 2**	**2.03**	**341**	⇑*eP*	Pn	18 17 38.4	+0.3
TP2				*eS*	Sn	18 18 04.1	+1.0
VSM	**San Miguel**	**2.08**	**74**	⇓*eP*	x	18 18 05.2	
VSM				*eS*	x	18 18 31.7	
CRIN	**San Cristobal**	**3.21**	**92**	⇑*eP*	Pn	18 17 54.7	+0.4
CRIN				*eS*	Sn	18 18 32.3	0.0
TELN	**Telica**	**3.43**	**94**	*eP*	Pn	18 17 57.3	-0.1
CNGN	**Cerro Negro**	**3.57**	**95**	*eP*	Pn	18 17 58.1	-1.2
COPN	**Copaltepe**	**3.72**	**100**	⇓*eP*	Pn	18 18 00.5	-0.8
COPN				*i*		18 18 48.9	
comp=Z,86nm,0.4s							
MOMJ	**Momotombo**	**3.73**	**96**	*eP*	Pn	18 18 00.7	-0.9
LIM1	**Limonal**	**5.42**	**113**	*eP*	Pn	18 18 25.5	+0.8

SZGRF ***23*** *19:00:15.8, 2495S×17574E, h33km, South of Fiji Islands*
IDC ***23*** *19:00:28.3±1.7, 1664S×17636E, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.2/12, mbtmp4.1/6, MS4.1/21, Ms1 4.1/21, ms1mx4.1/28, Error ellipse: s-maj=64.8km s-min=25.0km az=143.0*
ISCJB ***23*** *19:00:32.2±0.6, 167S±0.1×17624E±009, h33km, mb4.2/8, MS4.2/19, Error ellipse: s-maj=21.2km s-min=13.0km az=175.4*
HRVD ***23*** *19:00:34.4±0.2, 1649S×17659E, h23km±1km, MW5.2/94, Centroid moment Tensor Solution. LP body waves: s57,c89;Mantle waves: s94,c157; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.19±.17; Mθθ-0.84±.15; Mφφ0.64±.14; Mrθ0.24±.23; Mθφ6.95±.13; Mφr-1.27±.23; Best double couple: M0=7.10700×10^16 NP1:φs=267.00000°, δ80.00000°, λ-1.00000°. NP2: φs=357.00000°, δ89.00000°, λ-170.00000°. Principal axes: T 6.9870, Plg7.0000°, Azm131.0000°; N 0.2410, Plg80.0000°, Azm2.0000°; P -7.2270, Plg8.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *19:00:34.4±0.6, 1659S×176.12E, h30km, mb4.7/3 Error ellipse: s-maj=28.8km s-min=17.2km az=141.0*
ISC 23 19:00:34.4±0.6, 167S±01×17626E±009, h35km, n60, σ1§29/13, mb4.2/8, MS4.2/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.87**	**78**	LR	LR	19 06 34.6	
comp=Z,799nm,18.8s,baz=250,slow=31							
RAO	**Raoul Island**	**13.61**	**158**	LR	LR	19 08 01.7	
comp=Z,1μm,20.2s,baz=290,slow=33							
URZ	**Urewera**	**21.52**	**178**	LR	LR	19 11 25.2	
comp=Z,553nm,19.6s,MS4.0,baz=291,slow=30							
RAR	**Rarotonga**	**23.11**	**105**	LR	LR	19 11 23.8	
comp=Z,409nm,21.6s,MS3.8,baz=99,slow=28							
CTA	**Charters Tower**	**28.66**	**259**	LR	LR	19 15 56.4	
comp=Z,371nm,18.7s,MS4.0,baz=84,slow=32							
PMG	**Port Moresby**	**29.23**	**281**	LR	LR	19 16 44.0	
comp=Z,365nm,19.7s,MS4.0,baz=35,slow=33							
PPT	**Papeete**	**32.64**	**97**	*eS*	**S**	**19 12 14.7**	**-1.8**
147nm,22.5s							
PPT				*e*LQ		19 14 23.6	
3μm,26.5s							
PPT				*e*LR	LR	19 15 31.1	
1μm,30.2s							
PPT	**Papeete**	**32.64**	**97**	LR	LR	19 16 23.9	
comp=Z,302nm,21.9s,MS4.0,baz=273,slow=29							
TBI	**Tubuai**	**32.83**	**107**	*eS*	**S**	**19 12 21.0**	**+1.5**
218nm,28.2s							
TBI				*e*LQ		19 14 29.3	
2μm,26.2s							
TBI				*e*LR	LR	19 15 43.3	
1μm,32.8s							
STKA	**Stephens Creek**	**34.86**	**238**	*eP*	**P**	**19 07 21.9**	**-0.2**
8.6nm,1.5s,mb4.5							
STKA	**Stephens Creek**	**34.86**	**238**	P	**P**	**19 07 22.1**	**0.0**
17nm,1.2s,mb4.9,baz=69,slow=7.2,SNR=14							
STKA				LR	LR	19 20 21.7	
comp=Z,584nm,19.9s,MS4.3,baz=43,slow=34							
WRAB	**Tennant Creek**	**39.85**	**259**	*eP*	**P**	**19 07 59.0**	**-5.4**
WRA	**Warramunga Arr**	**39.86**	**259**	P	**P**	**19 08 04.1**	**-0.4**
1.7nm,0.6s,mb4.0,baz=92,slow=9.0,SNR=30							
WRA				LR	LR	19 21 49.1	
comp=Z,145nm,19.1s,MS3.8,baz=85,slow=32							
ASAR	**Alice Springs**	**40.25**	**253**	P	**P**	**19 08 08.3**	**+0.6**
2.5nm,0.7s,mb4.0,baz=81,slow=9.3,SNR=36							
GUMO	**Guam**	**43.20**	**312**	LR	LR	19 25 19.2	
comp=Z,155nm,19.3s,MS3.9,baz=108,slow=34							
FITZ	**Fitzroy Crossi**	**48.20**	**260**	LR	LR	19 26 22.8	
comp=Z,183nm,21.8s,MS4.0,baz=92,slow=32							
VNDA	**Vanda**	**61.30**	**184**	LR	LR	19 33 50.9	
comp=Z,154nm,19.0s,MS4.2,baz=24,slow=33							
SBA	**Scott Base**	**61.38**	**182**	*eP*	**P**	**19 10 47.6**	**+0.8**
11nm,1.1s,mb4.9							
MJAR	**Matsushiro Arr**	**63.97**	**326**	P	**P**	**19 11 03.0**	**-1.1**
1.3nm,0.8s,mb4.0,baz=154,slow=6.3,SNR=3.7							
RPN	**Rapa Nui**	**68.97**	**113**	LR	LR	19 35 06.2	
comp=Z,220nm,18.7s,MS4.4,baz=302,slow=30							
QSPA	**South Pole Qui**	**73.37**	**180**	*eP*	**P**	**19 11 59.7**	**-2.9**
12nm,1.2s,mb4.7							
KDAK	**Kodiak Island**	**78.55**	**16**	LR	LR	19 39 57.6	
comp=Z,137nm,21.6s,MS4.2,baz=90,slow=30							
NVAR	**Mina Array Bea**	**82.16**	**46**	P	**P**	**19 12 50.3**	**-1.3**
1.9nm,1.1s,mb4.0,baz=222,slow=6.1,SNR=6.9							
LPIG	**La Paz**	**82.30**	**62**	LR	LR	19 44 05.2	
comp=Z,191nm,19.4s,MS4.5,baz=220,slow=32							
TPNV	**Topopah Spring**	**82.92**	**48**	*eP*	**P**	**19 12 57.5**	**+1.9**
MAW	**Mawson**	**83.25**	**201**	LR	LR	19 43 35.8	
comp=Z,136nm,18.8s,MS4.3,baz=265,slow=31							
NEW	**Newport**	**87.59**	**38**	LR	LR	19 47 21.1	
comp=Z,168nm,19.9s,MS4.5,baz=228,slow=32							
SONM	**Songino Array**	**89.33**	**321**	P	**P**	**19 13 28.4**	**+1.3**
0.2nm,0.6s,mb3.6,baz=106,slow=4.7,SNR=2.9							
PDAR	**Pinedale Array**	**90.03**	**45**	LR	LR	19 45 55.2	
comp=Z,120nm,21.1s,MS4.3,baz=248,slow=30							
INK	**Inuvik**	**92.11**	**17**	LR	LR	19 52 26.4	
comp=Z,105nm,18.1s,MS4.3,baz=186,slow=34							
YKA	**Yellowknife Ar**	**95.40**	**26**	LR	LR	19 50 56.1	
comp=Z,54nm,19.4s,MS4.0,baz=235,slow=32							
PLCA	**Paso Flores**	**95.83**	**135**	LR	LR	19 47 30.0	
comp=Z,114nm,20.4s,MS4.3,baz=232,slow=30							
NRDL	**Niedersach Rie**	**142.62**	**346**	*e*PKPbc	PKPdf	19 20 04.7	+1.0
VYHS	**Vyhne**	**143.29**	**335**	*e*	PKPdf	19 20 12.3	+7.4
TANN	**Tannenbergstha**	**143.90**	**342**	*e*PKPbc	PKPdf	19 20 07.9	+2.0
WERD	**Werda**	**143.92**	**343**	*e*PKPbc	PKPdf	19 20 07.2	+1.2
ROTZ	**Rotzenmuhle**	**144.56**	**342**	*e*PKPbc	PKPdf	19 20 08.6	+1.5
KHC	**Kasperske Hory**	**144.69**	**340**	*e*PKP	PKPdf	19 20 08.5	+1.2
GEC2	**GERESS Array S**	**144.90**	**340**	*e*PKPbc	PKPdf	19 20 09.1	+1.4
GERES	**GERESS Array B**	**144.90**	**340**	PKP	PKPdf	19 20 08.6	+0.9
1.8nm,1.0s,baz=72,slow=4.3,SNR=12							
WET	**Wettzell**	**144.90**	**341**	*e*PKPbc	PKPdf	19 20 09.7	+2.0
GRA1	**Grafenberg Arr**	**144.91**	**343**	*e*PKPbc	PKPdf	19 20 09.0	+1.3
GRF	**Grafenberg Arr**	**144.91**	**343**	*e*PKPbc	PKPdf	19 20 09.0	+1.3
GIVF	**Givet**	**145.95**	**350**	*e*PKP1	PKPbc	19 20 10.1	-0.1
BAIF	**Baives**	**146.09**	**351**	*e*PKP1	PKPbc	19 20 10.0	-0.6
35nm,1.4s							
WLF	**Walferdange**	**146.13**	**348**	*e*PKPbc	PKPbc	19 20 13.0	+2.2
BFO	**Black Forest**	**146.91**	**345**	*e*PKPbc	PKPbc	19 20 14.8	+1.7
CDF	**Champ du Feu**	**147.09**	**346**	*e*PKP1	PKPbc	19 20 11.6	-1.9
15nm,1.0s							
HAU	**Haudompre**	**147.67**	**347**	*e*PKP1	PKPbc	19 20 12.3	-2.9
FLN	**La Foliniere**	**147.89**	**356**	*e*PKP1	PKPbc	19 20 15.3	-0.4
26nm,1.1s							
LDF	**La Druitiere**	**148.03**	**355**	*e*PKP1	PKPbc	19 20 15.9	-0.2
GRR	**Gorron**	**148.28**	**356**	*e*PKP1	PKPbc	19 20 16.6	-0.2
14nm,0.9s							
SGMF	**Saint Gilles**	**148.49**	**358**	*e*PKP1	PKPbc	19 20 16.7	-0.6
43nm,1.4s							
LOR	**Lormes**	**148.85**	**350**	*e*PKP1	PKPbc	19 20 20.8	+2.6
12nm,1.0s							
CABF	**La Chapelle**	**149.05**	**347**	*e*PKP1	PKPbc	19 20 15.5	-3.3
47nm,1.6s							
SSF	**Saint Saulge**	**149.11**	**350**	*e*PKP1	PKPbc	19 20 21.5	+2.6
22nm,1.2s							
AVF	**Avril sur Loir**	**149.40**	**350**	*e*PKP1	PKPbc	19 20 21.8	+2.2
SMF	**Signal de Mont**	**149.46**	**350**	*e*PKP1	PKPbc	19 20 22.0	+2.2
MFF	**Saint Martin d**	**150.01**	**355**	*e*PKP1	PKPbc	19 20 21.0	-0.1
46nm,1.5s							
TCF	**Toulx Ste Croi**	**150.06**	**352**	*e*PKP1	PKPbc	19 20 22.4	+1.2

ISCJB ***23*** *19:21:36.7±0.2, 4266N±001×1246E±002, h2km, Error ellipse: s-maj=2.5km s-min=1.7km az=115.9*
CSEM ***23*** *19:21:37.5±0.0, 4264N×1257E, h12km, ML3.0/9, Error ellipse: s-maj=1.1km s-min=0.8km az=49.0*
NEIC ***23*** *19:21:37.5, 4263N×1255E, h2km, ML2.6(LDG), ML2.8(ROM), After ROM.*
ROM ***23*** *19:21:37.5±0.3, 4263N×1255E, h2km±3km, Md3.0/52, Ml2.8/32, Error ellipse: s-maj=1.8km s-min=1.3km az=125.0*
LDG ***23*** *19:21:39.1±0.1, 4264N×1261E, h10km, Ml2.6/8, Error ellipse: s-maj=2.9km s-min=1.8km az=47.0*
ISC 23 19:21:38.2±0.2, 4263N±001×1250E±002, h11km±2km, n87, σ1§19/129, 8C-7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNS	**Montasola**	**0.28**	**151**	Pg	**Pg**	**19 21 43.9**	**0.0**
MNS				Sg	**Sg**	**19 21 48.5**	**+0.8**
1μm,0.3s							
SACS	**San Casciano d**	**0.48**	**297**	Pg	**Pg**	**19 21 48.6**	**+0.9**
SACS				Sg	**Sg**	**19 21 57.2**	**+3.1**
654nm,0.7s							
NRCA	**Norcia**	**0.50**	**66**	⇑*i*Pg	**Pg**	**19 21 47.4**	**-0.6**
LATE	**Laterza**	**0.51**	**269**	Pg	**Pg**	**19 21 49.2**	**+1.0**
LATE				Sg	**Sg**	**19 21 59.0**	**+4.1**
2μm,0.5s							
FIAM	**Fiamignano**	**0.58**	**128**	Pg	**Pg**	**19 21 49.0**	**-0.6**
FIAM				Sg	**Sg**	**19 21 57.9**	**+0.7**
442nm,0.5s							
MTCE	**Montecelio**	**0.63**	**163**	Pg	**Pg**	**19 21 50.3**	**-0.2**
MTCE				Sg	**Sg**	**19 21 59.7**	**+0.9**
368nm,0.4s							
MURB	**Monte Urbino**	**0.63**	**2**	Pg	**Pg**	**19 21 50.6**	**+0.1**
MURB				Sg	**Sg**	**19 22 02.2**	**+3.4**
2μm,0.3s							
TOLF	**Tolfa**	**0.67**	**213**	Pg	**Pg**	**19 21 51.6**	**+0.3**
TOLF				Sg	**Sg**	**19 22 02.5**	**+2.4**
465nm,0.6s							
CAMP	**Campotosto**	**0.68**	**98**	Pg	**Pg**	**19 21 50.5**	**-0.9**
CAMP				Sg	**Sg**	**19 22 01.0**	**+0.7**
522nm,0.6s							
SNTG	**Esanatoglia**	**0.71**	**27**	⇑*i*Pg	**Pg**	**19 21 51.3**	**-0.6**
143nm,0.4s							
AQU	**L'Aquila**	**0.72**	**112**	Pg	**Pg**	**19 21 51.2**	**-1.0**
240nm,0.7s							
CERT	**Cerreto**	**0.77**	**152**	Pg	**Pg**	**19 21 52.4**	**-0.7**
CERT				Sg	**Sg**	**19 22 03.6**	**+0.5**
412nm,0.5s							
ARCI	**Arcidosso**	**0.79**	**287**	Pg	**Pg**	**19 21 54.2**	**+0.8**
ARCI				Sg	**Sg**	**19 22 05.8**	**+2.2**
101nm,0.5s							
TERO	**Teramo**	**0.82**	**90**	Pg	**Pg**	**19 21 52.5**	**-1.5**
TERO				Sg	**Sg**	**19 22 04.5**	**-0.1**
370nm,0.4s							
MA9	**Marino**	**0.87**	**172**	Pg	**Pg**	**19 21 55.6**	**+0.7**
329nm,0.5s							
FAGN	**Fagnano**	**0.88**	**114**	Pg	**Pg**	**19 21 53.8**	**-1.4**
653nm,0.4s							
RDP	**Rocca di Papa**	**0.89**	**169**	Pg	**Pg**	**19 21 56.1**	**+0.8**
RDP				Sg	**Sg**	**19 22 09.4**	**+2.6**
1μm,0.4s							
BADI	**Badiali**	**0.90**	**348**	Pg	**Pg**	**19 21 55.5**	**-0.1**
BADI				Sg	**Sg**	**19 22 10.7**	**+3.4**
51μm,16.0s							
CING	**Cingoli**	**0.91**	**34**	Pg	**Pg**	**19 21 54.8**	**-0.9**
CING				Sg	**Sg**	**19 22 08.6**	**+1.1**
423nm,0.6s							
OFFI	**Offida**	**0.93**	**70**	Pg	**Pg**	**19 21 55.7**	**-0.4**
1μm,0.6s							
ARV	**Arcevia**	**0.93**	**20**	⇑*i*Pg	**Pg**	**19 21 55.3**	**-0.8**
123nm,0.5s							
ARVD	**Arcevia**	**0.93**	**20**	Pg	**Pg**	**19 21 55.2**	**-0.9**
198nm,0.7s							
VCEL	**Villa Celiera**	**1.02**	**103**	Pg	**Pg**	**19 21 56.8**	**-1.1**
388nm,0.5s							
MAON	**Monte Argentar**	**1.03**	**259**	Pg	**Pg**	**19 21 57.2**	**-0.8**
178nm,1.1s							
GUAR	**Guarcino**	**1.03**	**144**	Pg	**Pg**	**19 21 57.2**	**-0.8**
GUAR				Sg	**Sg**	**19 22 13.3**	**+1.9**
171nm,0.3s							
CRE	**Caprese Michel**	**1.07**	**338**	Pg	**Pg**	**19 21 59.1**	**+0.3**
108nm,0.4s							
FSSB	**Fossombrone**	**1.08**	**11**	Pg	**Pg**	**19 21 58.1**	**-0.9**
489nm,0.4s							
VVLD	**Villa Vallelon**	**1.13**	**132**	Pg	**Pg**	**19 21 59.9**	**0.0**
237nm,0.5s							
GIUL	**Giuliano Di Ro**	**1.21**	**152**	Pg	**Pg**	**19 21 59.5**	**-1.9**
GIUL				Sg	**Sg**	**19 22 16.6**	**-0.6**
105nm,0.5s							
INTR	**Introdacqua**	**1.21**	**120**	Pg	**Pg**	**19 21 59.3**	**-2.2**
278nm,0.7s							
CSNT	**Castellina Chi**	**1.22**	**314**	Pg	**Pg**	**19 22 01.7**	**0.0**
31nm,0.5s							
AOI	**Ancona**	**1.23**	**41**	Pg	**Pg**	**19 22 00.6**	**-1.2**
188nm,0.3s							
GRFL	**Gerfalco**	**1.23**	**295**	Pg	**Pg**	**19 22 01.4**	**-0.5**
7.0nm,0.2s							
RSM	**Repubblica di**	**1.30**	**359**	Pg	**Pg**	**19 22 03.8**	**+0.6**
63nm,0.5s							
PESA	**Pesaro**	**1.34**	**11**	Pg	**Pg**	**19 22 04.1**	**+0.2**
SDI	**San Donato**	**1.34**	**133**	Pg	**Pg**	**19 22 03.6**	**-0.4**
25nm,0.2s							
SFI	**Santa Sofia**	**1.36**	**340**	Pg	**Pg**	**19 22 04.1**	**-0.2**
59nm,0.6s							
VMG	**Vicchio**	**1.50**	**333**	Pg	**Pg**	**19 22 06.5**	**-0.6**
218nm,0.9s							
RNI2	**Rionero Sannit**	**1.54**	**126**	Pg	**Pg**	**19 22 07.7**	**-0.1**
MIDA	**Miranda**	**1.64**	**126**	Pg	**Pg**	**19 22 08.4**	**-1.2**
51nm,0.5s							
SEI	**Scarperia**	**1.65**	**330**	Pg	**Pg**	**19 22 10.1**	**+0.2**
TRIV	**Trivento**	**1.75**	**119**	Pn	**Pn**	**19 22 11.1**	**+2.6**
VAGA	**Valle Agricola**	**1.77**	**133**	Pg	**Pg**	**19 22 11.6**	**-0.6**
PII	**Pisa**	**1.81**	**308**	Pg	**Pg**	**19 22 11.8**	**-1.1**
FNVD	**Fontana Vidola**	**1.84**	**327**	Pg	**Pg**	**19 22 10.9**	**-2.5**
PZZT	**Monte Pizzetto**	**1.92**	**322**	Pg	**Pg**	**19 22 12.0**	**-3.0**
26nm,0.6s							
BDI	**Bagni Di Lucca**	**1.99**	**317**	Pg	**Pg**	**19 22 12.5**	**-3.9**
20nm,0.5s							
ZCCA	**Zocca**	**2.05**	**328**	Pn	**Pn**	**19 22 14.3**	**+1.7**
GSCL	**Gusciola**	**2.21**	**322**	Pn	**Pn**	**19 22 15.5**	**+0.7**
9.0nm,0.6s							
PGF	**Pioggiola**	**2.58**	**269**	*e*Pn	**Pn**	**19 22 20.6**	**+0.6**
PGF				*e*Sn	**Sn**	**19 22 50.8**	**-0.6**
5.1nm,0.4s							
PGF	**Pioggiola**	**2.58**	**269**	*e*Pn	**Pn**	**19 22 20.6**	**+0.6**
PGF				*e*Sn	**Sn**	**19 22 50.8**	**-0.6**
2.5nm,0.4s							
NVLJ	**Novalja**	**2.59**	**41**	*i* Pn	**Pn**	**19 22 19.3**	**-0.8**
NVLJ				*i* Sn	**Sn**	**19 22 51.0**	**-0.6**
NVLJ	**Novalja**	**2.59**	**41**	*i* Pn	**Pn**	**19 22 19.2**	**-0.9**
NVLJ				*i* Sn	**Sn**	**19 22 50.9**	**-0.6**
CTI	**Castel Tesino**	**3.47**	**350**	Pn	**Pn**	**19 22 33.2**	**+1.0**
22nm,0.3s							
VOY	**Vojsko**	**3.55**	**16**	*e*Pn	**Pn**	**19 22 34.6**	**+1.4**
VOY				*e*Sn	**Sn**	**19 23 16.3**	**+1.2**
PTCC	**Patocco-Chiusa**	**3.83**	**9**	Pn	**Pn**	**19 22 39.8**	**+2.8**
SBF	**Sospel**	**3.90**	**290**	*e*Pn	**Pn**	**19 22 38.5**	**+0.5**
SBF				*e*Sn	**Sn**	**19 23 21.7**	**-2.1**
2.8nm,0.4s							
SBF	**Sospel**	**3.90**	**290**	*e*Pn	**Pn**	**19 22 38.5**	**+0.5**
SBF				*e*Sn	**Sn**	**19 23 21.7**	**-2.1**
1.4nm,0.4s							
VSL	**Villasalto**	**3.92**	**218**	Pn	**Pn**	**19 22 39.3**	**+1.0**
13nm,0.8s							
FVI	**Forni Avoltri**	**3.97**	**3**	Pn	**Pn**	**19 22 40.2**	**+1.1**
FVI				Sg	**Sn**	**19 23 25.7**	**+0.1**
3.0nm,0.2s							
OBKA	**Obir**	**4.15**	**20**	⇓*e*Pn	**Pn**	**19 22 41.0**	**-0.5**
OBKA				⇑*e*Sn	**Sn**	**19 23 31.7**	**+1.8**
0.4nm,0.1s							
FRF	**La Foret Royal**	**4.38**	**284**	*e*Pn	**Pn**	**19 22 45.1**	**+0.4**
FRF				*e*Sn	**Sn**	**19 23 33.9**	**-1.9**
4.6nm,0.3s							
FRF	**La Foret Royal**	**4.38**	**284**	*e*Pn	**Pn**	**19 22 45.1**	**+0.4**
FRF				*e*Sn	**Sn**	**19 23 33.9**	**-1.9**
1.9nm,0.4s							
LMR	**La Mourre**	**4.45**	**281**	*e*Pn	**Pn**	**19 22 45.9**	**+0.3**
LMR				*e*Sn	**Sn**	**19 23 35.4**	**-2.0**
0.9nm,0.4s							
LMR	**La Mourre**	**4.45**	**281**	*e*Pn	**Pn**	**19 22 45.9**	**+0.3**
LMR				*e*Sn	**Sn**	**19 23 35.4**	**-2.0**
1.3nm,0.4s							
LMR	**La Mourre**	**4.45**	**281**	*e*Pn	**Pn**	**19 22 45.9**	**+0.3**
LMR				*e*Sn	**Sn**	**19 23 35.4**	**-2.0**
0.6nm,0.4s							
KBA	**Koelnbreinsper**	**4.49**	**7**	⇓*i*Pn	**Pn**	**19 22 48.1**	**+1.9**
1.5nm,0.3s							
KBA				⇓*i*Sn	**Sn**	**19 23 39.7**	**+1.3**
4.9nm,0.4s							
MBDF	**Montbardon**	**4.65**	**299**	*e*Pn	**Pn**	**19 22 48.8**	**+0.4**
MBDF				*e*Sn	**Sn**	**19 23 40.2**	**-2.2**
1.4nm,0.3s							
MBDF	**Montbardon**	**4.65**	**299**	*e*Pn	**Pn**	**19 22 48.8**	**+0.4**
MBDF				*e*Sn	**Sn**	**19 23 40.2**	**-2.2**
0.7nm,0.3s							
MOTA	**Moosalm**	**4.82**	**349**	⇑*i*Pn	**Pn**	**19 22 51.1**

ASAR Alice Springs 47.25 256 P **P 19 35 03.5 -0.3**
2.5nm,0.6s,mb3.7,baz=95,slow=8.2,SNR=57
WB2 Warramunga Arr 47.33 261 *eP* **P 19 35 03.8 -0.5**
WRAB Tennant Creek 47.33 261 *eP* **P 19 35 03.9 -0.5**
6.3nm,0.7s,mb4.0
WRA Warramunga Arr 47.34 261 P **P 19 35 04.3 -0.2**
3.2nm,0.5s,mb4.0,baz=96,slow=5.2,SNR=100
FITZ Fitzroy Crossi 55.77 261 P **P 19 36 09.2 +2.5**
1.4nm,0.6s,mb3.7,baz=108,slow=6.4,SNR=8.8
AKASG Malin Array Be 143.87 334 PKP PKPdf 19 46 05.2 +3.9
0.5nm,0.4s,baz=34,slow=3.4,SNR=5.2
BRTR Keskin Array B 148.49 315 PKPbc PKPbc 19 46 19.1 +6.2
0.8nm,0.5s,baz=131,slow=4.9,SNR=6.3
GERES GERESS Array B 150.40 348 PKPbc PKPbc 19 46 23.7 +6.2
0.1nm,0.3s,baz=354,slow=4.0,SNR=6.2

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*ISCJB **23** 19:43:09.1±1.1, 4284N±009×7760E±009, h10km, Error ellipse: s-maj=14.4km s-min=7.5km az=130.1*
*NNC **23** 19:43:09.3±3.4, 4313N×7731E, h0km, mb2.4, mpv2.2, Error ellipse: s-maj=58.1km s-min=10.1km az=157.0*
*KNET **23** 19:43:10.7±0.4, 4291N×7720E, h2km±2km, ml2.2, Error ellipse: s-maj=3.2km s-min=3.0km az=16.0*
ISC 23 19:43:10.0±1.2, 428N±01×7757E±009, h10km, n12, σ1°39/22, 14C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.11**	**243**	⇑P	**Pb**	**19 43 29.4**	**-1.9**
	11nm,0.2s,SNR=5.7						
ULHL				⇓S	**Sg**	**19 43 43.6**	**-2.2**
	17nm,0.1s						
TKM2	**Tokmak 2**	**1.46**	**277**	⇓P	**Pn**	**19 43 33.5**	**-3.0**
	2.5nm,0.1s,SNR=22						
TKM2				⇑S	**Sn**	**19 43 51.0**	**-4.7**
	31nm,0.1s						
TKM2	**Tokmak 2**	**1.46**	**277**	⇑P	**Pn**	**19 43 32.8**	**-3.7**
	0.1nm,0.3s						
TKM2				⇑S	**Sn**	**19 43 51.2**	**-4.5**
	0.3nm,0.2s						
KZA	**Kyzart**	**1.85**	**249**	⇑P	**Pn**	**19 43 42.2**	**+0.4**
	5.5nm,0.1s,SNR=24						
KZA				⇑S	**Sn**	**19 44 06.8**	**+1.6**
	4.3nm,0.1s						
KBK	**Karagaybulak**	**1.94**	**268**	⇓P	**Pn**	**19 43 42.7**	**-0.3**
	7.7nm,0.1s,SNR=9.4						
KBK				⇓S	**Sn**	**19 44 07.0**	**-0.3**
	95nm,0.5s						
CHMS	**Chumysh**	**2.09**	**278**	⇓P	**Pn**	**19 43 44.1**	**-1.0**
	2.3nm,0.1s,SNR=7.6						
CHMS				⇑S	**Sn**	**19 44 10.1**	**-1.1**
	20nm,0.2s						
AAK	**Ala-Archa**	**2.27**	**268**	⇓P	**Pn**	**19 43 48.2**	**+0.6**
	7.2nm,0.3s,SNR=5.6						
AAK				⇓S	**Sn**	**19 44 17.5**	**+1.9**
	12nm,0.3s						
USP	**Ospenovka**	**2.31**	**284**	⇓P	**Pn**	**19 43 47.6**	**-0.5**
	6.4nm,0.2s,SNR=5.4						
USP				⇑S	**Sn**	**19 44 16.1**	**-0.5**
	16nm,0.2s						
UCH	**Uchtor**	**2.32**	**258**	⇓P	**Pn**	**19 43 50.1**	**+1.8**
	5.4nm,0.3s,SNR=6.4						
UCH				⇑S	**Sn**	**19 44 20.3**	**+3.3**
	2.8nm,0.2s						
EKS2	**Erkin-Say**	**2.80**	**269**	⇑P	**Pn**	**19 43 56.3**	**+1.5**
	2.3nm,0.2s,SNR=8.0						
EKS2				⇑S	**Sn**	**19 44 31.4**	**+2.8**
	4.4nm,0.2s						
KK31	**Karatay Array**	**5.20**	**276**	⇓Pg	**Pb**	**19 44 39.6**	**-1.4**
	0.4nm,0.6s,baz=95,slow=15,SNR=5.5						
KK31				⇑Lg		19 45 45.3	
	1.9nm,0.6s,baz=106,slow=26,SNR=15						
MK02	**Makanchi Array**	**5.24**	**38**	⇑Pn	**Pn**	**19 44 28.5**	**+0.1**
	1.9nm,1.1s,baz=208,slow=15						
MK02				⇑Lg		19 45 48.3	
	1.0nm,0.6s,baz=225,slow=29						

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*ISCJB **23** 19:54:54.9±0.6, 3855N±010×1339E±01, h468km±13km, mb3.3/6, Error ellipse: s-maj=20.3km s-min=12.3km az=67.2*
*JMA **23** 19:54:55.8±0.3, 3847N×13398E, h465km, M3.0*
*NEIC **23** 19:54:55.4±0.6, 3855N×13372E, h449km±14km, mb3.9/2, Error ellipse: s-maj=22.6km s-min=14.1km az=78.0*
*IDC **23** 19:54:55.3±1.6, 3856N×13375E, h447km±25km, mb2.8/5, mb1 3.0/7, mb1mx2.8/22, mbtmp3.7/7, Error ellipse: s-maj=33.1km s-min=18.7km az=63.0*
ISC 23 19:54:55.6±0.6, 3854N±010×1338E±02, h457km±14km, n22, σ0°61/25, mb3.3/6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**3.03**	**110**	P	**P**	**19 56 03.7**	**+0.4**
JKG	**Kaga**	**3.04**	**137**	P	**P**	**19 56 03.7**	**+0.3**
JWT	**Wachi**	**3.50**	**158**	P	**P**	**19 56 07.5**	**+0.6**
JWT				*eS*	**S**	**19 57 04.1**	**-0.9**
MAJO	**Matsushiro**	**4.04**	**118**	*eP*	**P**	**19 56 11.4**	**-0.1**
MAT	**Matsushiro**	**4.04**	**118**	P	**P**	**19 56 11.0**	**-0.5**
MAT				*eS*	**S**	**19 57 13.5**	**+0.2**
MAT	**Matsushiro**	**4.04**	**118**	P	**P**	**19 56 11.3**	**-0.2**
MAT	**Matsushiro**	**4.04**	**118**	*eP*	**P**	**19 56 11.0**	**-0.5**
MJAR	**Matsushiro Arr**	**4.05**	**118**	P	**P**	**19 56 11.9**	**+0.4**
	1.0nm,0.3s,baz=299,slow=9.0,SNR=22						
JIE	**Ise**	**4.76**	**149**	P	**P**	**19 56 18.1**	**+0.1**
JRY	**Ryogami san**	**4.80**	**120**	P	**P**	**19 56 18.9**	**+0.6**
JMK	**Ichinoseki**	**5.83**	**84**	P	**P**	**19 56 28.8**	**+0.4**
JMK				*eS*	**S**	**19 57 40.2**	**-4.0**
JOT	**Ohata**	**6.26**	**61**	P	**P**	**19 56 33.5**	**+0.7**
JKB	**Kayabe**	**6.48**	**57**	P	**P**	**19 56 35.6**	**+0.6**
BSO1	**Boso 1**	**6.97**	**122**	P	**P**	**19 56 38.5**	**-1.6**
ASAJ	**Asahikawa**	**8.66**	**47**	P	**P**	**19 56 57.0**	**-1.1**
	1.9nm,0.3s,baz=241,slow=12,SNR=22						
YSS	**Yuzh-Sakhalins**	**10.68**	**35**	*eP*	**P**	**19 57 19.6**	**-0.4**
	4.9nm,0.5s						
SONM	**Songino Array**	**21.93**	**304**	P	**P**	**19 59 13.9**	**-0.1**
	0.9nm,0.6s,mb3.5,baz=116,slow=10,SNR=9.1						
MKAR	**Makanchi Array**	**38.16**	**300**	P	**P**	**20 01 34.0**	**-0.3**
	0.4nm,0.5s,mb3.1,baz=77,slow=11,SNR=7.6						
ZRNK	**Zerenda**	**45.87**	**310**	*eP*	**P**	**20 02 35.2**	**-0.3**
	1.5nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**58.17**	**179**	P	**P**	**20 04 05.0**	**+0.5**
	0.2nm,0.8s,mb2.5,baz=355,slow=7.4,SNR=6.3						
FINES	**FINESS Array B**	**64.56**	**330**	P	**P**	**20 04 46.5**	**0.0**
	1.2nm,0.6s,mb3.7,baz=84,slow=5.6,SNR=15						
NOA	**NORSAR Array B**	**70.33**	**334**	P	**P**	**20 05 22.5**	**+0.4**
	0.5nm,0.6s,mb3.2,baz=42,slow=6.1,SNR=3.7						

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*CSEM **23** 19:57:00.2±1.1, 3824N×2671W, h5km±7km, ML3.0, Error ellipse: s-maj=5.3km s-min=3.4km az=35.0, After PDA*
*PDA **23** 19:57:00.2±1.1, 3824N×2671W, h5km±7km, MD3.6, ML3.0, Error ellipse: s-maj=5.3km s-min=3.4km az=35.0*
SVSA 23 19:57:00.2±1.1, 3824N×2671W, h5km±7km, MD3.6, ML3.0, Error ellipse: s-maj=5.3km s-min=3.4km az=35.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.58**	**315**	*eP*	Pg	19 57 09.6	-1.9
ADH				*eS*	Sg	19 57 17.7	-1.4
PSBA	**Serra de Santa**	**0.71**	**317**	*i P*	Pg	19 57 11.5	-2.4
PSBA				*eS*	Sg	19 57 21.0	-2.2
PSBA							
	478nm,0.2s						
PDA	**Ponta Delgada**	**0.96**	**121**	*eS*	Sg	19 57 26.8	-4.3
PID	**Ribeirinha**	**1.13**	**281**	*eP*	Pg	19 57 17.9	-4.0
PID				*eS*	Sg	19 57 30.9	-5.6
PMAN	**Manadas**	**1.15**	**290**	*eP*	Pg	19 57 19.0	-3.3
PMAN				*eS*	Sg	19 57 31.7	-5.6
PMAN							
	100nm,0.2s						
PMAN	**Manadas**	**1.15**	**290**	*eP*	Pg	19 57 19.0	-3.3
PMAN				*eS*	Sg	19 57 31.7	-5.6
PGRA	**Graciosa**	**1.27**	**309**	*eP*	Pg	19 57 20.2	-4.4
PGRA				*eS*	Sg	19 57 34.4	-6.7
PGRA							
	59nm,0.3s						
PGRA	**Graciosa**	**1.27**	**309**	*eP*	Pg	19 57 20.2	-4.4
PGRA				*eS*	Sg	19 57 34.4	-6.7
ROSA	**Rosais**	**1.30**	**292**	*eP*	Pn	19 57 20.4	-4.5
ROSA				*eS*	Sg	19 57 34.9	-7.0
SRBC	**Serra Branca**	**1.31**	**308**	*eS*	Sg	19 57 35.8	-6.6
PICO	**Pico**	**1.38**	**281**	*eP*	Pn	19 57 21.6	-4.4
PICO				*eS*	Sb	19 57 36.8	-7.5
HOR	**Horta**	**1.54**	**281**	*eS*	Sn	19 57 41.0	-7.6
CALA	**Caldeira**	**1.60**	**283**	*eP*	Pn	19 57 24.5	-4.7
CALA				*eS*	Sn	19 57 42.8	-7.4
PCED	**Cedros**	**1.61**	**284**	*eP*	Pn	19 57 24.6	-4.7
PCED				*eS*	Sn	19 57 42.4	-8.1
PCED							
	79nm,0.3s						
PCED	**Cedros**	**1.61**	**284**	*eP*	Pn	19 57 24.6	-4.7
PCED				*eS*	Sn	19 57 42.4	-8.1

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*ISCJB **23** 20:08:15.5±0.6, 4306N±007×064W±004, h14km±5km, Error ellipse: s-maj=11.8km s-min=4.5km az=16.5*
*STR **23** 20:08:16.1±0.2, 4316N×064W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **23** 20:08:16.4±0.1, 4305N×066W, h4km, Md1.7/3, Ml1.3/1, Error ellipse: s-maj=2.7km s-min=1.4km az=10.0*
*MDD **23** 20:08:16.9±0.4, 4304N×065W, h0km, mbLg0.9/4, Error ellipse: s-maj=4.0km s-min=2.2km az=24.0, PRXIMO*
ISC 23 20:08:16.0±0.6, 4306N±007×065W±004, h12km±5km, n16, σ0°40/21, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.05**	**300**	Pg	**Pg**	**20 08 18.1**	**-0.2**
ATE				Sg	**Sg**	**20 08 19.3**	**-0.7**
ATE	**Arette**	**0.05**	**300**	Pg	**Pg**	**20 08 18.1**	**-0.2**
ATE				Lg		20 08 19.4	
ETSF	**Etsaut**	**0.17**	**159**	*e*Pg	**Pg**	**20 08 20.2**	**+0.2**
ETSF				*e*Sg	**Sg**	**20 08 22.3**	**-0.4**
	19nm,0.2s						
ETSF	**Etsaut**	**0.17**	**159**	Pg	**Pg**	**20 08 20.2**	**+0.2**
ETSF				Lg		20 08 22.3	
	9.6nm,0.2s						
REYF	**Montagne du Re**	**0.18**	**88**	Pg	**Pg**	**20 08 20.1**	**-0.1**
REYF				Sg	**Sg**	**20 08 23.2**	**+0.2**
REYF	**Montagne du Re**	**0.18**	**88**	Pg	**Pg**	**20 08 20.3**	**+0.1**
REYF				Lg		20 08 23.2	
LARF	**Larrau**	**0.25**	**265**	Pg	**Pg**	**20 08 21.6**	**+0.2**
LARF				Lg		20 08 25.7	
SJPF	**Ste Jean**	**0.43**	**277**	*e*Pg	**Pg**	**20 08 24.3**	**-0.2**
SJPF				*e*Sg	**Sg**	**20 08 30.3**	**+0.1**
	3.2nm,0.2s						
SJPF	**Ste Jean**	**0.43**	**277**	Pg	**Pg**	**20 08 24.3**	**-0.2**
SJPF				Lg		20 08 30.3	
	1.6nm,0.2s						
EALK	**Alkurruntz**	**0.65**	**284**	Pg	**Pg**	**20 08 29.2**	**+0.5**
	0.4nm,0.1s,SNR=6.9						
EALK				Lg		20 08 37.8	
	1.1nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.66**	**279**	Pg	**Pg**	**20 08 29.0**	**+0.2**
	0.6nm,0.4s,SNR=7.9						
ELIZ				Lg		20 08 39.1	
	0.9nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.67**	**260**	Lg		20 08 37.9	
	1.3nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.69**	**123**	Pg	**Pg**	**20 08 22.5**	**-6.9**
	1.0nm,0.2s,SNR=7.9						
EBIE				Lg		20 08 37.8	
	0.4nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.72**	**92**	*e*Pg	**Pg**	**20 08 30.4**	**+0.4**
EPF				*e*Sg	**Sg**	**20 08 40.1**	**+0.6**
	0.8nm,0.2s						
EPF	**Esparros**	**0.72**	**92**	Pg	**Pg**	**20 08 30.4**	**+0.4**
EPF				Lg		20 08 40.1	
	0.4nm,0.2s						
MTLF	**Montolieu**	**2.11**	**81**	*e*Pn	**Pn**	**20 08 51.1**	**0.0**
MTLF				*e*Sn	**Sn**	**20 09 16.4**	**-0.9**
	0.4nm,0.3s						

IDC 23 20:22:45.9±1.8, 730S×12455E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.5/16, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=114.8km s-min=26.6km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.45**	**125**	*eP*	Pn	20 25 14.9	+12
	9.1nm,0.4s						
KAKA				*eS*	Sn	20 26 55.3	+5.2
FITZ	**Fitzroy Crossi**	**10.79**	**174**	Pn	Pn	20 25 21.3	-0.2
	0.1nm,0.3s,baz=355,slow=15,SNR=14						
FITZ				Sn	Sn	20 27 07.0	-16
	1.3nm,0.3s,baz=139,slow=15,SNR=13						
WRA	**Warramunga Arr**	**15.75**	**144**	Pn	Pn	20 26 31.0	+2.0
	0.3nm,0.3s,baz=319,slow=12,SNR=22						
WRA				Sn	Sn	20 29 15.2	-9.0
	0.3nm,0.3s,baz=316,slow=27,SNR=5.4						
WB2	**Warramunga Arr**	**15.76**	**144**	*eP*	Pn	20 26 32.0	+2.9
ASAR	**Alice Springs**	**18.59**	**152**	P	Pn	20 27 04.0	-0.6
	0.1nm,0.3s,baz=329,slow=12,SNR=13						
ASAR				S	Sn	20 30 22.5	-11
	0.1nm,0.3s,baz=313,slow=20,SNR=5.3						
MKAR	**Makanchi Array**	**65.62**	**330**	P	P	20 33 31.9	+0.2
	0.2nm,0.6s,baz=130,slow=7.8,SNR=5.0						

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*NEIC **23** 20:30:05.1±2.7, 2511S×17980E, h519km±24km, mb4.2/4, Error ellipse: s-maj=36.3km s-min=16.8km az=45.0*
*ISCJB **23** 20:30:06.7±2.9, 2548±03×1795E±03, h526km±24km, mb3.9/8, Error ellipse: s-maj=61.2km s-min=19.3km az=91.9*
*IDC **23** 20:30:07.4±2.8, 2506S×17964E, h534km±31km, mb3.3/7, mb1 3.5/8, mb1mx3.4/13, mbtmp4.3/8, Error ellipse: s-maj=39.4km s-min=21.7km az=22.0*
ISC 23 20:30:07.2±2.8, 254S±03×1796E±03, h517km±20km, n23, σ0°70/20, mb3.9/8, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.46**	**283**	P	**P**	**20 32 51.6**	**+1.2**
	0.3nm,0.3s,baz=95,slow=19,SNR=3.4						
URZ	**Urewera**	**13.01**	**189**	P	**P**	**20 32 55.7**	**-0.6**
	1.0nm,0.3s,baz=56,slow=14,SNR=6.5						
CTA	**Charters Tower**	**31.11**	**273**	⇓*iP*	**P**	**20 35 43.7**	**+0.7**
	5.9nm,0.3s,mb4.6						
CTA	**Charters Tower**	**31.11**	**273**	P	**P**	**20 35 43.8**	**+0.8**
	12nm,0.5s,mb4.7,baz=96,slow=9.7,SNR=30						
CTAO	**Charters Tower**	**31.11**	**273**	*eP*	**P**	**20 35 43.5**	**+0.5**
STKA	**Stephens Creek**	**33.82**	**250**	*eP*	**P**	**20 36 05.1**	**-0.9**
	1.4nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**33.82**	**250**	P	**P**	**20 36 05.1**	**-0.9**
	1.0nm,0.4s,mb3.7,baz=109,slow=12,SNR=8.2						
AS31	**Alice Springs**	**41.42**	**262**	⇓*iP*	**P**	**20 37 08.3**	**+0.2**
ASAR	**Alice Springs**	**41.42**	**262**	P	**P**	**20 37 08.4**	**+0.3**
	1.6nm,0.3s,mb4.0,baz=93,slow=7.0,SNR=97						
ASAR				S	**S**	**20 42 46.5**	**+1.0**
	0.3nm,0.7s,baz=102,slow=14,SNR=5.8						
ASPA	**Alice Springs**	**41.42**	**262**	⇓*iP*	**P**	**20 37 08.3**	**+0.2**
WB2	**Warramunga Arr**	**41.92**	**268**	*eP*	**P**	**20 37 11.4**	**-0.6**
WRAB	**Tennant Creek**	**41.92**	**268**	*eP*	**P**	**20 37 11.4**	**-0.7**
WRA	**Warramunga Arr**	**41.93**	**268**	P	**P**	**20 37 11.8**	**-0.3**
	3.7nm,0.3s,mb4.4,baz=99,slow=6.9,SNR=224						
KAKA	**Kakadu**	**46.06**	**277**	*eP*	**P**	**20 37 43.2**	**-1.0**
	8.9nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.33**	**267**	*eP*	**P**	**20 38 16.3**	**+0.3**
	4.4nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**50.33**	**267**	P	**P**	**20 38 16.3**	**+0.3**
	2.6nm,0.5s,mb3.9,baz=141,slow=11,SNR=21						
VNDA	**Vanda**	**52.88**	**185**	P	**P**	**20 38 35.4**	**+0.9**
	0.5nm,0.7s,mb3.0,baz=359,slow=3.6,SNR=3.2						
MBWA	**Marble Bar**	**54.74**	**261**	*eP*	**P**	**20 38 46.8**	**-0.8**
MAW	**Mawson**	**76.23**	**201**	P	**P**	**20 41 02.9**	**+0.7**
	0.7nm,0.4s,mb3.4,baz=139,slow=9.3,SNR=3.7						
ARCES	**ARCESS Array B**	**133.24**	**348**	PKP	PKPdf	20 48 20.8	-3.2
	2.2nm,0.9s,baz=81,slow=2.8,SNR=5.9						
FINES	**FINESS Array B**	**139.71**	**341**	PKhKP		20 48 26.8	
	1.7nm,1.1s,baz=98,slow=3.9,SNR=3.9						
FINES	**FINESS Array B**	**139.71**	**341**	PKP	PKPdf	20 48 26.8	-9.2
NOA	**NORSAR Array B**	**143.47**	**350**	PKP	PKPdf	20 48 38.2	-4.5
	0.3nm,0.4s,baz=30,slow=4.7,SNR=2.8						

IDC 23 20:49:25.1±2.8, 069S×13533E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=102.1km s-min=26.6km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.16**	**183**	P	Pn	20 53 50.2	-0.6
	0.2nm,0.3s,baz=1.4,slow=12,SNR=15						
FITZ	**Fitzroy Crossi**	**19.75**	**208**	P	Pn	20 53 57.3	-0.6
	0.1nm,0.3s,baz=49,slow=14,SNR=5.2						
ASAR	**Alice Springs**	**22.88**	**183**	P	P	20 54 30.4	+0.2
	1.0nm,0.6s,baz=9.9,slow=11,SNR=12						
MKAR	**Makanchi Array**	**66.15**	**323**	P	P	21 00 14.5	+0.1
	0.2nm,0.5s,baz=108,slow=7.9,SNR=4.9						

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*LDG **23** 20:56:00.1±0.6, 2370S×7090W, h10km, Mb5.1/19, Ms4.0/8, Error ellipse: s-maj=51.6km s-min=36.9km az=102.0*
*ISCJB **23** 20:56:01.0±0.2, 2464S±003×7067W±005, h27km, mb5.0/64, MS4.1/10, Error ellipse: s-maj=6.1km s-min=3.7km az=159.3*
*GUC **23** 20:56:01.6±0.8, 2463S×7015W, h50km, ML4.7*
*NEIC **23** 20:56:02.2±0.2, 2460S×7077W, mb5.0/52, MS4.3/3, ML4.7(GUC), Error ellipse: s-maj=7.2km s-min=5.1km az=86.0*
*HRVD **23** 20:56:02.2±0.6, 2459S×7127W, h34km±1km, MW4.9/42, Centroid moment Tensor Solution. LP body waves: s18,c20; Mantle waves: s42,c59; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.21±.17; $M_{\theta\theta}$0.01±.10; $M_{\phi\phi}$-2.22±.11; $M_{r\theta}$-0.38±.10; $M_{\theta\phi}$0.35±.08; $M_{\phi r}$-1.19±.13; Best double couple: $M_0$2.56600×10^{16} NP1:ϕ_s339.00000°, δ33.00000°, λ69.00000°. NP2:ϕ_s184.00000°, δ59.00000°, λ103.00000°. Principal axes: T 2.5900, Plg72.0000°, Azm125.0000°; N -0.0490, Plg11.0000°, Azm357.0000°; P -2.5430, Plg14.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **23** 20:56:03.2, 2460S×7080W, h27km, mB5.3, Ms5.2, Msz4.8*
*IDC **23** 20:56:03.5±4.1, 2453S×7071W, h33km±29km, mb4.7/11, mb1 4.7/17, mb1mx4.6/20, mbtmp4.7/17, ML4.6/4, MS4.0/9, Ms1 4.0/9, ms1mx3.8/20, Error ellipse: s-maj=23.3km s-min=15.7km az=93.0*
ISC 23 20:56:02.8±0.2, 2465S±003×7066W±004, h28km, h28km±.8km: pP-P, n227, σ0°97/187, mb5.0/64, MS4.1/10, 34C-30D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.23**	**83**	*eP*	**Pb**	**20 56 11.1**	**+1.9**
CPN1				*i* S	**Sb**	**20 56 18.0**	**+4.5**
CPN1				AML	AML	20 56 21.4	
	comp=E,132μm,0.5s						
CEN1	**Los Morros**	**1.32**	**18**	⇑*iP*	**Pn**	**20 56 20.8**	**-4.6**
CEN1				*i* S	**Sn**	**20 56 34.8**	**-7.4**
CEN1				AML	AML	20 56 37.7	
	comp=E,21μm,0.3s						
CRCH	**Chaqaral**	**1.69**	**179**	*eP*	**Pn**	**20 56 30.0**	**-0.4**
CRCH				*i* S	**Sn**	**20 56 51.0**	**0.0**
CRCH				AML	AML	20 57 10.7	
	comp=E,7μm,0.6s						
CRCH	**Chaqaral**	**1.69**	**179**	*eP*	**Pn**	**20 56 30.0**	**-0.4**
CRCH				S	**Sn**	**20 56 51.0**	**0.0**
CDCH	**Caldera**	**2.42**	**184**	AML	AML	20 57 27.8	
	comp=E,2μm,0.6s						
LVC	**Limon Verde**	**2.58**	**39**	Pn	**Pn**	**20 56 44.5**	**+1.7**
	comp=E,61nm,0.3s,baz=227,slow=12,SNR=102						
LVC				Sn	**Sn**	**20 57 16.7**	**+3.4**
	comp=E,283nm,0.3s,baz=220,slow=9.1,SNR=6.9						
CPCH	**Copiapo**	**2.71**	**174**	⇑*iP*	**Pn**	**20 56 44.0**	**-0.4**
CPCH				*i* S	**Sn**	**20 57 16.5**	**+0.2**
CPCH				AML	AML	20 57 19.4	
	comp=E,8μm,0.1s						
CPCH	**Copiapo**	**2.71**	**174**	⇑*iP*	**Pn**	**20 56 44.0**	**-0.4**
CPCH				*i* S	**Sn**	**20 57 16.5**	**+0.2**
VACH	**Vallenar**	**3.91**	**181**	⇓*iP*	**Pn**	**20 57 00.1**	**-0.9**
VACH				*i* S	**Sn**	**20 57 45.1**	**-0.8**
CFAA	**Coronel Fontan**	**7.25**	**163**	Pn	**Pn**	**20 57 48.2**	**+1.4**
	comp=E,1.0nm,0.3s,baz=334,slow=12,SNR=41						
CFAA				LR	LR	21 00 26.4	
	comp=E,65nm,21.2s,baz=326,slow=36						
ARE	**Arequipa**	**8.19**	**354**	*eP*	**Pn**	**20 57 56.0**	**-3.7**
MDZ	**Mendoza**	**8.35**	**169**	*eP*		20 58 16.1	
MDZ				*e*		20 59 33.2	
MDZ				*e*		20 59 51.3	
LPAZ	**La Paz**	**8.65**	**16**	Pn	**Pn**	**20 58 07.1**	**+1.0**
	comp=E,2.0nm,0.3s,baz=180,slow=7.4,SNR=21						
LPAZ	**La Paz**	**8.65**	**16**	Pn	**Pn**	**20 58 07.1**	**+1.0**
CPUP	**Villa Florida**	**12.15**	**101**	Pn	**Pn**	**20 58 56.2**	**+2.1**
	baz=231,slow=4.9,SNR=2.3						
CPUP				LR	LR	21 04 15.1	
	comp=E,1μm,18.5s,baz=265,slow=40						
CPUP	**Villa Florida**	**12.15**	**101**	Pn	**Pn**	**20 58 56.2**	**+2.1**
CPUP				LR	LR	21 04 15.1	
SIV	**San Ignacio**	**12.45**	**48**	Pn	**Pn**	**20 58 56.1**	**-2.0**
	baz=233,slow=14						
TRQA	**Tornquist**	**15.27**	**153**	*eP*	**Pn**	**20 59 34.5**	**-1.9**
	comp=E,115nm,0.8s						
TRQA				*e*		20 59 41.6	
PLCA	**Paso Flores**	**16.04**	**180**	Pn	**Pn**	**20 59 46.0**	**-0.3**
	comp=E,0.7nm,0.3s,baz=360,slow=13,SNR=50						
PLCA				LR	LR	21 06 21.2	
	comp=E,427nm,19.6s,baz=0.7,slow=38						
SAML	**Samuel**	**17.17**	**26**	*eP*	**Pn**	**21 00 00.8**	**+0.2**
	comp=E,15nm,0.8s						
SAML				*e*		21 00 13.1	
ATAH	**Atahualpa**	**19.05**	**336**	LR	LR	21 06 45.9	
	comp=E,296nm,18.5s,baz=13,slow=34						
BDFB	**Brasilia**	**23.04**	**71**	P	**P**	**21 01 04.9**	**-0.9**
	comp=E,25nm,0.8s,mb4.7,baz=248,slow=11,SNR=35						
BAO	**Brasilia Array**	**23.07**	**71**	P	**P**	**21 01 06.0**	**0.0**
OTAV	**Otavalo**	**25.87**	**342**	*eP*	**P**	**21 01 28.7**	**-3.3**
	comp=E,18nm,1.4s,mb4.4						
ROSC	**El Rosal**	**29.55**	**353**	LR	LR	21 14 22.8	
	comp=E,232nm,21.6s,MS3.8,baz=184,slow=37						
RPN	**Rapa Nui**	**34.79**	**257**	LR	LR	21 13 06.9	
	comp

	baz=72						
SMCO	Snowmass	72.01	331	eP		P	21 07 24.2 +0.2
	comp=Z,8.9nm,0.9s,mb4.7						
SMCO				epP		pP	21 07 33.3 +0.5
PFO	Pinyon Flat Ob	72.49	321	⇓P		P	21 07 27.9 +1.0
	baz=73						
V12A	Nelson	73.16	324	⇑P		P	21 07 31.4 +0.5
	baz=73						
VNDA	Vanda	73.48	190	P		P	21 07 33.8 +1.0
	comp=Z,4.8nm,0.9s,mb4.4,baz=127,slow=6.1,SNR=17						
VNDA				LR		LR	21 36 10.3
	comp=Z,72nm,18.6s,MS4.0,baz=153,slow=33						
U12A	Valley of Fire	73.52	324	⇑P		P	21 07 34.1 +1.1
	baz=74						
TUQ	Turquoise Mtn.	73.53	323	⇓P		P	21 07 33.7 +0.7
	baz=74						
MSU	Marysvale	73.90	327	eP		P	21 07 35.7 +0.5
GSC	Goldstone	73.92	322	⇓P		P	21 07 35.9 +0.6
	baz=74						
SYO	Syowa Base	74.13	159	⇓iP		P	21 07 36.3 -0.2
SYO	Syowa Base	74.13	159	⇓iP		P	21 07 37.8 +1.3
U10A	Ash Meadows, A	74.48	323	⇓P		P	21 07 37.6 -1.0
	baz=75						
TPNV	Topopah Spring	74.82	324	eP		P	21 07 41.7 +1.1
	comp=Z,5.8nm,1.0s,mb4.5						
TPNV				epP		pP	21 07 49.7 +0.2
Q11A	Duckwater	75.92	325	⇓P		P	21 07 47.3 +0.4
	baz=76						
P12A	McGill	76.00	326	⇓P		P	21 07 48.5 +1.1
	baz=76						
HWUT	Hardware Ranch	76.03	330	P		P	21 07 47.5 0.0
	comp=Z,7.8nm,0.9s,mb4.6						
R09A	Tonopah	76.21	324	⇓P		P	21 07 49.1 +0.5
	baz=76						
S08C	White Mtn Res	76.27	323	⇑P		P	21 07 49.6 +0.7
	baz=76						
P10A	Eureka	76.91	325	⇓P		P	21 07 52.9 +0.4
	baz=77						
U04C	Hernandez Rese	76.93	321	⇓P		P	21 07 53.2 +0.5
	baz=77						
V03C	Hunter Liggett	76.97	320	⇑P		P	21 07 54.1 +1.3
	baz=77						
NVAR	Mina Array Bea	77.01	323	P		P	21 07 53.0 0.0
	comp=Z,2.0nm,0.8s,mb4.1,baz=146,slow=6.9,SNR=6.7						
M13A	Montello	77.07	328	⇓P		P	21 07 53.8 +0.4
	baz=77						
N12A	Wells--Clov Va	77.11	327	⇑P		P	21 07 54.0 +0.4
	baz=77						
Q08A	Gabbs	77.12	324	⇓P		P	21 07 53.7 +0.1
	baz=77						
ELK	Elko	77.13	327	eP		P	21 07 53.6 -0.1
ELK				epP		pP	21 08 02.1 -0.6
R07C	Lee Vining	77.18	323	⇑P		P	21 07 55.0 +1.0
	baz=77						
S05C	Merced	77.37	321	⇑P		P	21 07 55.8 +0.7
	baz=78						
M12A	Wells	77.48	327	⇓P		P	21 07 55.9 +0.3
	baz=78						
SAO	San Andreas Ge	77.60	320	eP		P	21 07 52.5 -3.8
	comp=Z,10nm,0.6s,mb4.9						
O09A	Fish Creek Ran	77.69	325	⇓P		P	21 07 57.5 +0.6
	baz=78						
ULM	Lac du Bonnet	77.85	344	P		P	21 07 55.8 -1.9
	comp=Z,9.6nm,1.1s,mb4.6,baz=155,slow=4.9,SNR=8.6						
CMB	Columbia Colle	77.88	322	P		P	21 07 54.6 -3.3
M11A	Holland Ranch,	77.92	327	⇓P		P	21 07 58.7 +0.6
	baz=78						
YMR	Madison River	78.20	332	eP		P	21 08 00.8 +1.2
	comp=Z,24nm,0.8s,mb5.2						
PAHR	Pah Rah Range	78.52	324	eP		P	21 08 01.9 +0.4
	comp=Z,16nm,1.0s,mb4.9						
PAHR				epP		pP	21 08 10.5 +0.1
O07A	Toulon	78.57	324	⇓P		P	21 08 01.9 +0.2
	baz=79						
LAVA	Lava Cap Winer	78.59	322	⇑P		P	21 08 02.5 +0.6
	baz=79						
N08A	GE Springer Mi	78.63	325	⇑P		P	21 08 01.1 -0.9
	baz=79						
M09A	Marrel Ranch,	78.75	326	⇓P		P	21 08 03.2 +0.5
	baz=79						
HLID	Hailey	78.88	329	eP		P	21 08 03.8 +0.4
	comp=Z,11nm,1.1s,mb4.7						
HLID				epP		pP	21 08 12.3 -0.1
N07B	Gerlach	79.07	325	⇓P		P	21 08 04.6 +0.2
	baz=79						
SCHQ	Schefferville	79.22	2	P		P	21 08 03.5 -1.9
	comp=Z,4.2nm,0.7s,mb4.5,baz=175,slow=3.6,SNR=3.8						
SCHQ				LR		LR	21 41 20.3
	comp=Z,51nm,21.8s,MS3.8,baz=112,slow=34						
DLMT	Dillon	79.45	331	eP		P	21 08 06.5 0.0
	comp=Z,16nm,1.2s,mb4.8						
ORV	Oroville	79.56	322	⇑P		P	21 08 07.5 +0.3
	baz=80						
M07A	Soldier Meadow	79.61	325	⇑P		P	21 08 07.5 0.0
	baz=80						
L08A	Fields	79.76	326	⇑P		P	21 08 08.2 0.0
	baz=80						
O04C	Chester	79.87	323	⇓P		P	21 08 08.6 -0.2
	baz=80						
TORD	Torodi Ar. Bea	79.92	71	P		P	21 08 09.6 +0.5
	comp=Z,46nm,0.6s,mb5.6,baz=258,slow=5.1,SNR=592						
L07A	Adell	80.15	325	⇑P		P	21 08 10.5 +0.1
	baz=80						
M06C	Likely Place G	80.17	324	⇓P		P	21 08 10.9 +0.5
	baz=80						
MOD	Modoc	80.57	325	eP		P	21 08 12.0 -0.6
	comp=Z,10nm,1.2s,mb4.6						
K07A	Rock Creek Ran	80.59	326	⇑P		P	21 08 12.5 -0.2
	baz=81						
TSUM	Tsumeb	80.68	107	eP		P	21 08 14.8 +1.6
	comp=Z,45nm,1.3s,mb5.2						
WDC	Whiskeytown Da	80.85	323	eP		P	21 08 12.5 -1.6
WDC				epP		pP	21 08 20.6 -2.5
L05A	Lakeview	80.95	325	⇑P		P	21 08 15.1 +0.4
	baz=81						
J07A	Hines	81.11	326	⇑P		P	21 08 16.1 +0.6
	baz=81						
K06A	Valley Falls	81.18	325	⇑P		P	21 08 16.3 +0.5
	baz=81						
BMO	Blue Mountains	81.21	328	eP		P	21 08 15.8 -0.3
	comp=Z,10nm,1.4s,mb4.6						
M04C	Macdoel	81.30	324	⇑P		P	21 08 16.5 0.0
	baz=82						
N02C	Big Bar	81.44	322	⇓P		P	21 08 16.9 -0.3
	baz=82						
J06A	Christmas Vall	81.45	326	⇑P		P	21 08 17.0 -0.3
	baz=82						
M02C	Callahan	81.58	323	⇑P		P	21 08 17.2 -0.7
	baz=82						
L04A	Klamath Falls	81.60	324	⇑P		P	21 08 18.1 0.0
	baz=82						
YBH	Yreka Blue Hor	81.74	323	⇓P		P	21 08 17.5 -1.3
	baz=82						
MAW	Mawson	81.78	164	⇑iP		P	21 08 19.2 +0.2
	comp=Z,20nm,1.1s,mb5.0						
MAW	Mawson	81.78	164	P		P	21 08 19.4 +0.4
	comp=Z,26nm,1.0s,mb5.1,baz=229,slow=6.7,SNR=33						
MAW				LR		LR	21 48 17.3
	comp=Z,121nm,18.4s,MS4.3,baz=60,slow=38						
I06A	Prineville	81.97	326	⇓P		P	21 08 20.4 +0.4
	baz=82						
WALA	Waterton Lakes	82.91	333	eP		P	21 08 23.9 -1.0
	comp=Z,13nm,0.9s,mb5.0						
BOSA	Boshof	83.39	118	P		P	21 08 28.2 +0.9
	comp=Z,24nm,0.9s,mb5.2,baz=244,slow=5.0,SNR=18						
BOSA				LR		LR	21 42 36.5
	comp=Z,202nm,18.7s,MS4.5,baz=182,slow=34						
PTEO	Sao Teotonio	84.92	45	eP		P	21 08 36.0 +0.8
	comp=Z,103nm,0.9s,mb6.0						
LBTB	Lobatse	85.15	115	eP		P	21 08 37.6 +1.3
	comp=Z,12nm,0.9s,mb5.0						
EGRO	El Granado	85.71	45	P		P	21 08 40.3 +1.1
	comp=Z,23nm,0.8s,mb5.5						
MOE	Montemor	85.73	44	eP		P	21 08 38.9 -0.3
PBEJ	Beja	85.75	45	eP		P	21 08 40.3 +1.0
	comp=Z,28nm,1.1s,mb5.4						
EDM	Edmonton	85.94	336	eP		P	21 08 35.7 -4.6
EVO	Evora	85.95	44	eP		P	21 08 39.5 -0.8
	comp=Z,29nm,0.9s,mb5.2						
EVO				eR			
	comp=Z,89nm,21.0s						
PTOM	Tomar	86.34	43	eP		P	21 08 43.1 +0.9
	comp=Z,23nm,0.9s,mb5.4						
EMIN	Mina Concepcio	86.37	46	P		P	21 08 43.6 +1.2
	comp=Z,11nm,0.8s,mb5.2						
ESPR	Espera	86.39	47	P		P	21 08 44.0 +1.5
	comp=Z,25nm,0.9s,mb5.4						
EJIF	Jimena Fronter	86.42	47	P		P	21 08 44.2 +1.5
	comp=Z,9.7nm,0.8s,mb5.1						
EBAD	Badajoz	86.72	45	P		P	21 08 44.2 +0.1
	comp=Z,59nm,2.1s,mb5.5						
EMIJ	Mijas	86.94	47	P		P	21 08 45.6 +0.4
	comp=Z,37nm,2.1s,mb5.2						
PCBR	Castelo Branco	87.05	43	eP		P	21 08 46.1 +0.4
MTE	Manteigas	87.34	43	eP		P	21 08 48.0 +0.9
PVRL	Vila Real	87.74	42	eP		P	21 08 49.1 0.0
	comp=Z,8.1nm,0.8s,mb5.0						
EADA	Adamuz	87.96	46	P		P	21 08 50.1 0.0
	comp=Z,4.4nm,0.7s,mb4.8						
EBAN	Banos Encina	88.48	46	P		P	21 08 53.7 +1.2
	comp=Z,4.0nm,0.5s,mb4.9						
ECAL	Calabor	88.72	42	P		P	21 08 53.5 -0.2
	comp=Z,76nm,2.6s,mb5.6						
ESDC	Sonseca Array	89.19	45	P		P	21 08 55.6 -0.3
	comp=Z,0.4nm,0.6s,mb4.0,baz=262,slow=3.9,SNR=6.5						
ESDC	Sonseca Array	89.19	45	P		P	21 08 56.1 +0.2
	comp=Z,2.1nm,0.8s,mb4.5						
CASY	Casey	89.35	180	eP		P	21 08 56.9 +0.2
ETOB	Tobarra	90.22	47	P		P	21 08 59.5 -1.2
	comp=Z,18nm,3.2s						
ETOR	Torete	91.04	45	P		P	21 09 05.3 +0.8
	comp=Z,3.9nm,0.8s,mb4.8						
ERTA	Horta de San J	92.66	46	P		P	21 09 12.7 +0.7
	comp=Z,7.5nm,0.9s,mb5.1						
YKA	Yellowknife Ar	93.62	341	P		P	21 09 14.3 -2.2
	comp=Z,4.6nm,0.7s,mb5.0,baz=137,slow=4.3,SNR=20						
QUIF	Quistinic	94.16	39	eP		P	21 09 17.3 -1.6
ROSF	Rostrenen	94.33	38	eP		P	21 09 18.2 -1.5
	comp=Z,24nm,1.2s,mb5.2						
ROSF	Rostrenen	94.33	38	eP		P	21 09 18.2 -1.5
	comp=Z,12nm,1.2s,mb5.2						
SGMF	Saint Gilles	94.69	38	eP		P	21 09 19.5 -1.9
LFF	La Frestale	94.92	43	eP		P	21 09 21.6 -0.8
	comp=Z,20nm,1.1s,mb5.2						
LFF	La Frestale	94.92	43	eP		P	21 09 21.6 -0.8
	comp=Z,10nm,1.1s,mb5.2						
MTLF	Montolieu	95.06	44	eP		P	21 09 22.2 -0.9
	comp=Z,7.0nm,1.0s,mb4.7						
MTLF	Montolieu	95.06	44	eP		P	21 09 22.2 -0.9
	comp=Z,3.5nm,1.0s,mb4.7						
MFF	Saint Martin d	95.23	41	eP		P	21 09 22.7 -1.1
	comp=Z,15nm,0.9s,mb5.1						
MFF	Saint Martin d	95.23	41	eP		P	21 09 22.7 -1.1
	comp=Z,7.4nm,0.9s,mb5.1						
RJF	Les Rejaudoux	95.58	42	eP		P	21 09 24.3 -1.1
	comp=Z,10nm,1.0s,mb4.9						
RJF				eR			
	comp=Z,121nm,18.8s						
RJF	Les Rejaudoux	95.58	42	eP		P	21 09 24.3 -1.1
	comp=Z,5.1nm,1.0s,mb4.9						
RJF				LR		LR	
	comp=Z,120nm,18.8s,MS4.4						
GRR	Gorron	95.72	39	eP		P	21 09 24.2 -1.9
	comp=Z,21nm,1.1s,mb5.2						
GRR	Gorron	95.72	39	eP		P	21 09 24.2 -1.9
	comp=Z,10nm,1.1s,mb5.2						
CAF	Calviac	95.73	43	eP		P	21 09 25.3 -0.8
FLN	La Foliniere	96.13	39	eP		P	21 09 26.4 -1.5
LDF	La Druitiere	96.25	39	eP		P	21 09 26.9 -1.6
DLBC	Dease Lake	96.25	333	eP		P	21 09 27.4 -1.1
TCF	Toulx Ste Croi	96.49	42	eP		P	21 09 28.2 -1.4
BGF	Bois d'Agland	97.00	42	eP		P	21 09 30.8 -1.1
	comp=Z,18nm,1.1s,mb5.1						
BGF	Bois d'Agland	97.00	42	eP		P	21 09 30.8 -1.1
	comp=Z,8.8nm,1.1s,mb5.1						
AVF	Avril sur Loir	97.42	42	eP		P	21 09 32.5 -1.3
	comp=Z,9.0nm,1.1s,mb4.8						
AVF	Avril sur Loir	97.42	42	eP		P	21 09 32.5 -1.3
	comp=Z,4.5nm,1.1s,mb4.8						
SSF	Saint Saulge	97.64	42	eP		P	21 09 33.1 -1.7
	comp=Z,11nm,1.2s,mb5.0						
SSF	Saint Saulge	97.64	42	eP		P	21 09 33.1 -1.7
	comp=Z,5.5nm,1.2s,mb5.0						
SMF	Signal de Mont	97.65	42	eP		P	21 09 33.8 -1.0
	comp=Z,17nm,1.0s,mb5.2						
SMF	Signal de Mont	97.65	42	eP		P	21 09 33.8 -1.0
	comp=Z,8.6nm,1.0s,mb5.2						
LMR	La Mourre	97.83	46	eP		P	21 09 35.2 -0.4
	comp=Z,14nm,1.1s,mb5.1						
LMR	La Mourre	97.83	46	eP		P	21 09 35.2 -0.4
	comp=Z,7.3nm,1.0s,mb5.2						
LOR	Lormes	97.95	42	eP		P	21 09 34.5 -1.7
	comp=Z,10.0nm,1.1s,mb5.0						
LOR				eR			
	comp=Z,73nm,18.2s						
LOR	Lormes	97.95	42	eP		P	21 09 34.5 -1.7
	comp=Z,5.0nm,1.1s,mb5.0						
LOR				LR		LR	
	comp=Z,70nm,18.3s,MS4.2						
FRF	La Foret Royal	98.02	46	eP		P	21 09 35.1 -1.4
ORIF	Oris-en-Rattie	98.13	44	eP		P	21 09 36.9 -0.1
	comp=Z,8.7nm,1.1s,mb4.9						
ORIF				eR			
	comp=Z,101nm,19.5s						
ORIF	Oris-en-Rattie	98.13	44	eP		P	21 09 36.9 -0.1
	comp=Z,4.3nm,1.1s,mb4.9						
LPL	La Plagne	98.93	44	eP		P	21 09 40.7 +0.1
	comp=Z,6.3nm,0.8s,mb4.9						
LPL	La Plagne	98.93	44	eP		P	21 09 40.7 +0.1
	comp=Z,3.2nm,0.8s,mb4.9						
LPG	La Plagne	98.94	44	eP		P	21 09 40.9 +0.3
	comp=Z,14nm,1.1s,mb5.1						
LPG	La Plagne	98.94	44	eP		P	21 09 40.9 +0.3
	comp=Z,7.2nm,1.1s,mb5.1						
HAU	Haudompre	99.78	42	eP	Pdif		21 09 43.4 -1.0
HAU				eR			
	comp=Z,63nm,22.5s						
HAU	Haudompre	99.78	42	eP	Pdif		21 09 43.4 -1.0
HAU				LR	LR		
	comp=Z,60nm,22.5s,MS4.0						
CDF	Champ du Feu	100.52	42	eP	Pdif		21 09 47.6 0.0
AKASG	Malin Array Be	114.80	44	PKP	PKiKP		21 14 38.6 -2.0
	comp=Z,0.7nm,0.4s,baz=255,slow=3.5,SNR=6.7						
BRTR	Keskin Array B	115.93	56	PKP	PKPdf		21 14 43.0 +0.1
	comp=Z,1.3nm,0.9s,baz=195,slow=3.8,SNR=6.7						
AS31	Alice Springs	126.39	208	eP	PKPdf		21 15 02.8 -0.1
ASAR	Alice Springs	126.39	208	PKP	PKPdf		21 15 03.0 0.0
	comp=Z,7.0nm,0.7s,baz=132,slow=1.9,SNR=86						
ASPA	Alice Springs	126.39	208	eP	PKPdf		21 15 02.8 -0.1
WB2	Warramunga Arr	129.43	211	eP	PKPdf		21 15 08.9 +0.2
WRA	Warramunga Arr	129.44	211	PKP	PKPdf		21 15 09.1 +0.3
	comp=Z,8.4nm,0.8s,baz=163,slow=1.8,SNR=70						
FITZ	Fitzroy Crossi	134.63	202	eP	PKPdf		21 15 19.4 +0.8
	comp=Z,5.9nm,0.6s						
FITZ	Fitzroy Crossi	134.63	202	PKP	PKPdf		21 15 19.4 +0.9
	comp=Z,2.7nm,0.6s,baz=185,slow=3.5,SNR=11						
ZRNK	Zerenda	138.58	36	ePKPpre			21 15 21.2
ZRNK				ePKPdf	PKPdf		21 15 26.3 +0.4
KURK	Kurchatov	144.83	34	ePKPdf	PKPdf		21 15 36.0 -1.1
KURK				epPKPdf	pPKPdf		21 15 45.3 -1.1
YSS	Yuzh-Sakhalins	145.34	318	ePKPdf	PKPdf		21 15 37.4 -0.6
ZAL	Zalesovo	145.48	26	PKPbc	PKPbc		21 15 38.4 +0.1
	comp=Z,49nm,0.7s,baz=152,slow=3.0,SNR=224						
EKS2	Erkin-Say	145.69	50	P	PKPdf		21 15 40.0 +1.5
	SNR=36						
USP	Ospenovka	145.97	48	P	PKPdf		21 15 40.4 +1.4
	SNR=14						
AAK	Ala-Archa	146.20	49	P	PKPbc		21 15 42.4 +1.9
	SNR=18						
AAK	Ala-Archa	146.20	49	ePKPdf	PKPdf		21 15 39.9 +0.5
CHMS	Chumysh	146.24	49	P	PKPdf		21 15 41.6 +2.1
	SNR=20						
UCH	Uchtor	146.35	50	P	PKPdf		21 15 41.8 +2.1
	SNR=55						
KBK	Karagaybulak	146.50	49	P	PKPbc		21 15 43.2 +1.8
	SNR=38						
TKM2	Tokmak 2	146.85	48	P	PKPdf		21 15 41.9 +1.4
	SNR=28						
KZA	Kyzart	146.92	50	P	PKPbc		21 15 44.5 +2.0
	SNR=12						
ULHL	Ulahol	147.54	49	P	PKPdf		21 15 43.7 +2.0
	SNR=35						
MKAR	Makanchi Array	149.11	37	PKP	PKPdf		21 15 43.9 -0.4
	comp=Z,24nm,0.7s,baz=343,slow=1.3,SNR=117						
MKAR				PKPbc	PKPbc		21 15 48.3 -0.1
	comp=Z,24nm,0.7s,baz=328,slow=2.5,SNR=175						
NDI	New Delhi	151.06	75	eP	PKPbc		21 15 51.0 -2.1
MJAR	Matsushiro Arr	152.58	302	PKPbc	PKPbc		21 15 56.3 -0.2
	comp=Z,3.0nm,0.8s,baz=46,slow=1.0,SNR=9.8						
MAJO	Matsushiro	152.58	302	ePKPbc	PKPbc		21 15 56.2 -0.3
KOLN	Koldanda	156.71	77	eP	PKPab		21 16 24.9 +0.2
SONM	Songino Array	156.75	5	PKP	PKPdf		21 15 54.9 -0.5
	comp=Z,1.3nm,0.8s,baz=282,slow=2.0,SNR=11						
SONM				PKPbc	PKPdf		21 16 04.3 +9.0
	comp=Z,2.0nm,0.9s,baz=299,slow=0.9,SNR=10						
SONM				PKPab	PKPab		21 16 24.0 -0.8
	comp=Z,2.8nm,0.9s,baz=316,slow=2.9,SNR=9.9						
SONM				PP	PP		21 20 02.0 -1.0
	comp=Z,0.7nm,1.0s,baz=356,slow=4.5,SNR=5.1						
ULN	Ulaanbaatar	156.76	4	ePKPdf	PKPdf		21 15 55.8 +0.4
ULN				ePKPab	PKPab		21 16 24.6 -0.3
GKN	Gorkha	157.62	76	eP	PKPab		21 16 28.9 +0.3
	comp=Z,21nm,0.8s						
DMN	Daman	158.05	77	eP	PKPab		21 16 30.9 +0.4
	comp=Z,27nm,0.9s						
KKN	Kakani	158.19	77	eP	PKPab		21 16 31.4 +0.3
	comp=Z,26nm,0.9s						
PKI	Pulchoki	158.32	77	eP	PKPab		21 16 31.9 +0.3
GUN	Gumba	158.72	76	eP	PKPab		21 16 33.9 +0.5
	comp=Z,28nm,1.0s						
JIRN	Jiri	159.01	77	eP	PKPab		21 16 34.9 +0.3
	comp=Z,12nm,0.9s						
LSA	Lhasa	163.05	69	ePKPdf	PKPdf		21 16 04.4 +2.0
LSA				ePKPab	PKPab		21 16 53.9 +1.6
GTA	Gaotai	163.23	26	ePKP	PKPdf		21 16 03.3 +0.7
NJ2	Nanjing	168.85	314	ePKP	PKPdf		21 16 06.8 -0.3
CD2	Chengdu	172.04	37	ePKP	PKPdf		21 16 05.5 -3.3
CD2				APKP			21 16 16.3
CD2				APKP			21 16 20.1
CD2				PKP2	PKPab		21 17 30.6 -1.4
CD2				PP	PP		21 21 22.8 -0.3
CD2				SKS	SKSdf		21 23 03.6 -6.5
CD2				SKKS	SKKSac		21 28 04.4 -3.5
CD2				SS	SS		21 42 25.5 -4.9
CD2				PP	PP		
	comp=Z,80nm,9.0s						
CD2				LR	LR		
	comp=E,120nm,25.2s						
CD2				LR	LR		
	comp=Z,90nm,24.8s						

IDC 23 20:56:38.7±3.4, 274S×14097E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/12, mbtmp3.6/4, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/13, Error ellipse: s-maj=99.4km s-min=30.4km az=93.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	18.00	164	LR	LR	21 08 41.1	
	comp=Z,42nm,18.1s,baz=225,slow=40						
WRA	Warramunga Arr	18.28	200	P	Pn	21 00 53.9	+0.1
	0.4nm,0.3s,baz=23,slow=12,SNR=25						
FITZ	Fitzroy Crossi	21.43	224	P	P	21 01 28.0	-0.3
	5.1nm,1.1s,baz=66,slow=16,SNR=7.6						
ASAR	Alice Springs	21.90	198	P	P	21 01 33.3	0.0
	1.0nm,0.9s,baz=24,slow=12,SNR=9.3						
ASAR				LR	LR	21 11 12.8	
	comp=Z,36nm,21.2s,baz=34,slow=40						
MKAR	Makanchi Array	71.20	322	P	P	21 08 00.3	+0.8
	0.3nm,0.7s,baz=110,slow=8.4,SNR=3.5						

NDI 23 21:19:02.8±3.8, 2367N×7004E, h14km±34km, ML3.9, 1C, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	Bhuj	0.55	220	⇑eP	Pg	21 19 13.6	+0.1
BHJ				eS	Sg	21 19 20.9	+0.1
BHJ				eS	Sg	21 19 21.1	+0.3
BHJ				AML	AML	21 19 21.5	
	comp=E,12μm,0.2s						
BHJ				AML	AML	21 19 21.6	
	comp=N,25μm,0.3s						
AJM	Ajmer	5.02	55	eP	Pn	21 20 18.2	+0.5
AJM				eS	Sn	21 21 11.2	-4.4
AJM				AML	AML	21 21 45.9	
	comp=N,304nm,0.5s						
AJM				AML	AML	21 21 46.6	
	comp=E,366nm,0.3s						
BOM	Bombay	5.41	151	eP	Pn	21 20 22.9	-0.2
BOM				eP		21 20 24.0	
BOM				eS	Sn	21 21 21.6	-3.6
BOM				eS	Sn	21 21 21.6	-3.6
BOM				AML	AML	21 21 55.2	
	comp=N,130nm,0.4s						
BOM				AML	AML	21 21 60.0	
	comp=E,190nm,0.5s						
POO	Poona	6.23	144	ex	x	21 22 33.1	
BHPL	Bhopal	6.79	92	eP	Pn	21 20 42.1	0.0
BHPL				eS	Sn	21 21 53.3	-6.0
BHPL				AML	AML	21 22 38.1	
	comp=E,68nm,0.1s						
BHPL				AML	AML	21 22 40.1	
	comp=N,145nm,0.6s						
AKL	Akola	7.11	113	ex	x	21 22 12.1	
AKL				AML	AML	21 23 11.0	
	comp=N,66nm,0.4s						
AKL				AML	AML	21 23 16.2	
	comp=E,69nm,0.3s						
KAD	Karad	7.43	148	ex	x	21 22 24.4	
KAD				AML	AML	21 23 01.0	
	comp=N,45nm,0.1s						
KAD				AML	AML	21 23 01.1	
	comp=E,85nm,0.5s						
LATR	Latur	8.03	129	eP	Pn	21 20 58.0	-1.0
LATR				eS	Sn	21 22 23.0	-6.6
DRP	Derazinda	8.04	1	P	Pn	21 21 04.0	+4.8
NDI	New Delhi	8.15	51	eS	Sn	21 22 27.0	-5.6
NDI				ex	x	21 23 19.0	
SBDP	Sheikh Budin	8.62	4	P	Pn	21 21 10.8	+3.6
NGP	Nagpur	8.71	105	eP	Pn	21 21 06.1	-2.2
NGP				eS	Sn	21 22 40.3	-6.0
NGP				ex	x	21 22 49.7	
NGP				AML	AML	21 23 43.8	
	comp=N,58nm,0.5s						
NGP				AML	AML	21 23 44.3	
	comp=E,34nm,0.3s						
THW	Thamme Wali	9.21	9	P	Pn	21 21 19.7	+4.5

WRA S **S** **21 33 40.4 -13**
0.6nm,0.3s,baz=15,slow=23,SNR=8.0
CTAO Charters Tower 17.96 160 *e*P **Pn** **21 30 39.6 -0.8**
FITZ Fitzroy Crossi 20.30 222 *e*P **P** **21 31 06.1 +0.5**
3.4nm,0.3s
FITZ *e*S **S** **21 34 44.4 -4.9**
FITZ Fitzroy Crossi 20.30 222 P **P** **21 31 06.0 +0.4**
2.0nm,0.3s,baz=30,slow=9.9,SNR=29
FITZ S **S** **21 34 44.6 -4.8**
8.2nm,0.8s,baz=182,slow=13,SNR=8.5
FITZ LR LR 21 39 52.1
comp=Z,53nm,18.6s,baz=90,slow=39
AS31 Alice Springs 21.14 195 *e*P **P** **21 31 15.6 +0.9**
ASAR Alice Springs 21.14 195 P **P** **21 31 15.6 +0.9**
2.7nm,0.6s,mb3.7,baz=27,slow=9.9,SNR=32
ASAR S **S** **21 35 06.3 +0.3**
1.8nm,0.8s,baz=16,slow=28,SNR=4.8
ASPA Alice Springs 21.15 195 *e*P **P** **21 31 15.6 +0.8**
MBWA Marble Bar 26.45 226 *e*P **P** **21 32 07.5 +1.6**
4.7nm,0.9s,mb3.9
STKA Stephens Creek 28.60 177 P **P** **21 32 23.9 -1.1**
1.3nm,0.5s,mb3.9,baz=0.3,slow=9.0,SNR=8.9
STKA LR LR 21 46 04.6
comp=Z,84nm,18.3s,baz=242,slow=41
MKAR Makanchi Array 70.81 322 P **P** **21 37 43.9 -0.7**
0.5nm,0.5s,mb3.6,baz=114,slow=7.9,SNR=7.5
BVAR Borovoye Array 80.30 325 LR LR 22 16 36.7
comp=Z,72nm,18.8s,baz=140,slow=38

MAN 23 21:31:46.8, 1163N×12592E, h12km, mb3.7, ML4.8, MS1.6, 2C-3D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.47**	**267**	*e*P	Pg	21 31 56.7	+0.6
PLP	**Palo**	**1.03**	**244**	*i* P	Pb	21 32 04.5	-2.1
PLP				*e*S	Sb	21 32 14.3	-5.7
OCLP	**Ormoc**	**1.41**	**246**	*e*P	Pn	21 32 11.6	-0.7
OCLP				*e*S	Sn	21 32 26.9	-3.8
MSLP	**Maasin**	**1.81**	**215**	*e*P	Pn	21 32 18.8	+1.0
MSLP				*e*S	Sn	21 32 42.7	+2.0
SCPH	**Surigao**	**1.88**	**193**↓	*e*P	Pn	21 32 18.9	+0.1
LLP	**Lapu-Lapu**	**2.32**	**236**↓	*e*P	Pn	21 32 25.3	+0.5
PVCP	**Virac**	**2.60**	**319**↓	*e*P	Pn	21 32 34.0	+5.3
PVCP				*i* S	Sn	21 33 08.0	+7.7
PVCP	**Virac**	**2.60**	**319**	*e*P	Pn	21 32 29.3	+0.5
TBP	**Tagbilaran**	**2.79**	**227**	*e*P	Pn	21 32 39.6	+8.4
TBP				*e*S	Sn	21 33 11.8	+6.9
RCP	**Roxas**	**3.11**	**269**↑	*e*P	Pn	21 32 37.2	+1.6
GUIM	**Jordan**	**3.42**	**253**	*e*P	Pn	21 32 40.5	+0.6
DCPH	**Dipolog City**	**3.94**	**220**↑	*e*P	Pn	21 32 47.3	+0.2
DCPH				*e*S	Sn	21 33 31.5	-1.8
PAGZ	**Pagadian**	**4.51**	**214**	*e*P	Pn	21 32 56.0	+1.0
CUYO	**Cuyo Island**	**4.87**	**261**	*e*P	Pn	21 33 01.2	+1.4
LUBP	**Lubang**	**5.92**	**291**	*e*P	Pn	21 33 16.4	+2.1
CAUP	**Cauayan**	**6.61**	**324**	*e*P	Pn	21 33 25.3	+1.5

*TIF **23** 21:49:27.5, 4183N×4669E, h15km±4km*
*ISCJB **23** 21:49:28.3±1.4, 4181N±006×4691E±0.10, h31km±7km, Error ellipse: s-maj=15.1km s-min=5.0km az=76.1*
*MOS **23** 21:49:30.1±1.5, 4200N×4661E, h22km, mb3.9/1, Error ellipse: s-maj=35.5km s-min=10.8km az=77.6*
*CSEM **23** 21:49:30.1, 4200N×4661E, h22km, mb3.9, After OBN*
ISC 23 21:49:28.4±1.3, 4183N±006×4671E±010, h9km±6km, n21, σ1§30/39, 1C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNBR	**Gunib**	**0.59**	**19**↑	*i*PG	**Pg**	**21 49 39.4**	**-0.4**
GNBR				*i* S	**Sg**	**21 49 48.2**	**+0.7**
GNBR				pmax	pmax		
comp=Z,85nm,0.3s							
GNBR	**Gunib**	**0.59**	**19**	*i* Pg	**Pg**	**21 49 39.4**	**-0.4**
comp=Z,85nm,0.3s							
GNBR				*i* Sg	**Sg**	**21 49 48.2**	**+0.7**
XNZR	**Khunzakh**	**0.71**	**360**↓↓	*i*PG	**Pg**	**21 49 43.1**	**+1.0**
XNZR				*i* S	**Sg**	**21 49 53.1**	**+1.7**
XNZR				pmax	pmax		
comp=Z,145nm,0.2s							
XNZR	**Khunzakh**	**0.71**	**360**	*i* Pg	**Pg**	**21 49 43.1**	**+1.0**
comp=Z,145nm,0.2s							
XNZR				*i* Sg	**Sg**	**21 49 53.1**	**+1.7**
UNCR	**Uncukul**	**0.88**	**4**↓↓	*i*PG	**Pg**	**21 49 43.8**	**-1.6**
UNCR				*e*S	**Sg**	**21 49 56.8**	**-0.1**
UNCR				pmax	pmax		
comp=Z,72nm,0.2s							
UNCR	**Uncukul**	**0.88**	**4**	*i* Pg	**Pg**	**21 49 43.8**	**-1.6**
comp=Z,72nm,0.2s							
UNCR				*e*Sg	**Sg**	**21 49 56.8**	**-0.1**
KRNR	**Karanay**	**1.00**	**8**	*e*PG	**Pg**	**21 49 48.0**	**+0.3**
KRNR				*e*S	**Sg**	**21 50 02.0**	**+1.2**
KRNR				pmax	pmax		
comp=Z,40nm,0.2s							
KRNR	**Karanay**	**1.00**	**8**	*e*Pg	**Pg**	**21 49 48.0**	**+0.3**
comp=Z,40nm,0.2s							
KRNR				*e*Sg	**Sg**	**21 50 02.0**	**+1.2**
BUJR	**Buynaksk**	**1.03**	**16**↓↓	*i*PG	**Pg**	**21 49 49.0**	**+0.7**
BUJR				pmax	pmax		
comp=Z,69nm,0.1s							
BUJR	**Buynaksk**	**1.03**	**16**	*i* Pg	**Pg**	**21 49 49.0**	**+0.7**
comp=Z,69nm,0.1s							
DGRG	**David-gareji**	**1.07**	**250**	P	**Pb**	**21 49 49.2**	**0.0**
DGRG				S	**Sb**	**21 50 05.6**	**+2.3**
DBC	**Dubki**	**1.19**	**4**	*i* PG	**Pg**	**21 49 48.0**	**-3.3**
DBC				*e*S	**Sb**	**21 50 03.0**	**-3.6**
DLMR	**Dylym**	**1.24**	**357**	*e*PG	**Pg**	**21 49 49.0**	**-3.2**
DLMR				*i* S	**Sb**	**21 50 06.5**	**-1.5**
MTA	**Mtatsminda**	**1.44**	**265**	P	**Pn**	**21 49 54.0**	**-0.7**
MTA				S	**Sn**	**21 50 13.4**	**-0.4**
TBLG	**Delisi**	**1.48**	**267**	P	**Pn**	**21 49 54.8**	**-0.4**
TBLG				S	**Sn**	**21 50 14.4**	**-0.2**
TBLG	**Delisi**	**1.48**	**267**	Pg	**Pg**	**21 49 55.1**	**-1.7**
TBLG				Sg	**Sg**	**21 50 15.1**	**-0.9**
KZR	**Kazreti**	**1.78**	**256**	P	**Pn**	**21 49 59.3**	**0.0**
KZR				S	**Sn**	**21 50 21.4**	**-0.6**
GOR	**Gori**	**1.95**	**275**	P	**Pn**	**21 50 02.8**	**+1.2**
GOR				S	**Sn**	**21 50 27.8**	**+1.6**
AKH	**Akhalkalaki**	**2.45**	**261**	P	**Pn**	**21 50 10.8**	**+2.3**
AKH				S	**Sn**	**21 50 42.4**	**+3.8**
ONI	**Oni**	**2.54**	**288**	P	**Pn**	**21 50 13.6**	**+3.9**
ONI				S	**Sn**	**21 50 46.2**	**+5.5**
AMRG		**2.74**	**286**	P	**Pn**	**21 50 10.9**	**-1.7**

IDC 23 21:50:04.5±1.9, 1092S×16016E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.9/14, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=48.5km s-min=29.1km az=98.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.62**	**152**	Pn	Pn	21 53 04.0	-1.3
0.3nm,0.3s,baz=25,slow=20,SNR=6.3							
CTA	**Charters Tower**	**16.20**	**234**	Pn	Pn	21 53 57.7	+4.2
0.3nm,0.3s,baz=55,slow=14,SNR=3.5							
WRA	**Warramunga Arr**	**26.43**	**247**	P	P	21 55 43.6	+0.7
0.8nm,0.8s,baz=73,slow=9.6,SNR=5.4							
STKA	**Stephens Creek**	**27.01**	**217**	P	P	21 55 50.0	+1.9
2.1nm,0.7s,baz=42,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**28.03**	**240**	P	P	21 55 56.0	-1.3
0.2nm,0.3s,baz=60,slow=10,SNR=3.9							
SONM	**Songino Array**	**75.40**	**326**	P	P	22 01 50.5	+0.5
1.2nm,0.7s,baz=138,slow=5.3,SNR=8.4							
MKAR	**Makanchi Array**	**89.71**	**318**	P	P	22 03 04.6	+0.1
0.4nm,0.8s,baz=98,slow=3.7,SNR=3.7							

*SZGRF **23** 21:50:32.4, 2144S×17693W, h18km, mb5.0, Fiji Islands region*
*NEIC **23** 21:50:34.3±6.6, 2074S×1761W, h22km±45km, mb5.3/36, MS4.9/126, Error ellipse: s-maj=11.4km s-min=8.4km az=144.0*
*BGS **23** 21:50:34.8±2.3, 2058S×17624W, h19km, mb5.3(NEIC)*
*HRVD **23** 21:50:34.3±0.1, 2077S×17591W, h18km, MW5.4/108, Centroid moment Tensor Solution. LP body waves: s68,c116;Mantle waves: s108,c193; Half duration: 1±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.22±.02; $M_{\theta\theta}$-1.17±.02; $M_{\phi\phi}$1.39±.02; $M_{r\theta}$-0.49±.05; $M_{\theta\phi}$-0.21±.02; $M_{\phi r}$0.13±.04; Best double couple: $M_0$1.40600×10^{17}*

NP1:ϕ_s38.00000°, δ70.00000°, λ-12.00000°. NP2: ϕ_s-133.00000°, δ79.00000°, λ-159.00000°. Principal axes: T 1.4240, Plg6.0000°, Azm264.0000°; N -0.0370, Plg66.0000°, Azm160.0000°; P -1.3880, Plg23.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*BJI **23** 21:50:35.5, 2035S×17593W, h18km, mB5.3, mb4.9, Ms5.1, Msz4.8*
*ISCJB **23** 21:50:36.9±1.7, 2075S±007×176.11W±005, h51km±15km, mb5.1/56, MS4.9/151, Error ellipse: s-maj=12.3km s-min=6.4km az=122.1*
*MOS **23** 21:50:38.4±3.2, 2060S×17605W, h33km, mb5.4/21, MS4.8/28, Error ellipse: s-maj=11.7km s-min=9.5km az=56.0*
*IDC **23** 21:50:44.8±7.8, 2067S×17622W, h108km±66km, mb4.4/11, mb1 4.6/12, mb1mx4.5/16, mbtmp4.7/12, MS4.7/20, Ms1 4.7/20, ms1mx4.7/22, Error ellipse: s-maj=25.1km s-min=20.8km az=86.0*
*ORF **23** 21:50:53.9, 1569S×17687E, h30km, mb5.7*
ISC 23 21:50:39.8±1.5, 2074S±007×17612W±005, h62km±13km, h18km±2.6km; pP-P, n515, σ0§82/212, mb5.1/56, 74C-61D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.95**	**32**	P	**Pn**	**21 52 31.7**	**-1.0**
7.4nm,0.3s,baz=124,slow=6.4,SNR=4.2							
AFI				LR	LR	21 55 01.2	
comp=Z,1μm,19.5s,baz=203,slow=32							
RAO	**Raoul Island**	**8.64**	**191**	LR	LR	21 55 15.1	
comp=Z,4μm,20.1s,baz=156,slow=31							
RAR	**Rarotonga**	**15.28**	**95**	LR	LR	21 58 35.2	
comp=Z,3μm,21.0s,baz=250,slow=31							
DZM	**Mont Dzumac**	**16.30**	**262**	*e*P	**Pn**	**21 54 24.9**	**+0.3**
DZM	**Mont Dzumac**	**16.30**	**262**	P	**Pn**	**21 54 26.6**	**+2.0**
1.0nm,0.3s,baz=82,slow=19,SNR=17							
DZM				LR	LR	21 59 36.2	
comp=Z,9μm,20.6s,baz=290,slow=33							
NOUC	**Port Laguerre**	**16.43**	**262**	*e*P	**Pn**	**21 54 27.6**	**+1.4**
URZ	**Urewera**	**18.42**	**197**	P	**Pn**	**21 54 44.9**	**-5.8**
0.9nm,0.3s,baz=180,slow=2.8,SNR=4.0							
URZ				LR	LR	22 00 48.6	
comp=Z,7μm,21.5s,baz=11,slow=33							
SNZO	**South Karori**	**21.94**	**199**	PFAKE		21 55 40.0	+12
SNZO				LR	LR		
comp=Z,2μm,19.0s							
TBI	**Tubuai**	**24.83**	**101**	*e*LR	LR	22 01 56.3	
comp=Z,5μm,29.5s,baz=270							
PAE	**Paea**	**25.24**	**88**	*e*P	**P**	**21 56 00.1**	**+0.2**
comp=Z,263nm,1.1s,mb5.7							
PPT	**Papeete**	**25.26**	**87**	*e*P	**P**	**21 56 00.4**	**+0.3**
comp=Z,283nm,1.3s,mb5.6							
PPT	**Papeete**	**25.26**	**87**	*e*LR	LR	22 02 02.4	
comp=Z,9μm,28.5s,baz=256							
PPT	**Papeete**	**25.26**	**87**	LR	LR	22 03 18.8	
comp=Z,2μm,18.3s,baz=263,slow=30							
TVO	**Taravao**	**25.52**	**88**	*e*P	**P**	**21 56 02.8**	**+0.3**
comp=Z,407nm,1.3s,mb5.8							
HNR	**Honiara**	**25.66**	**292**	PFAKE		21 56 10.0	+6.3
HNR				LR	LR		
comp=Z,1μm,22.0s							
ARMA	**Armidale**	**30.56**	**245**	*e*P	**P**	**21 56 49.5**	**+2.0**
CNB	**Canberra Magne**	**33.56**	**237**	*e*P	**P**	**21 57 11.6**	**-2.2**
comp=Z,24nm,0.9s,mb5.1							
CTA	**Charters Tower**	**35.22**	**264**	*e*P	**P**	**21 57 28.9**	**+0.8**
comp=Z,111nm,1.0s,mb5.7							
CTA				*e*S	**S**	**22 02 52.4**	**-4.8**
CTA	**Charters Tower**	**35.22**	**264**	P	**P**	**21 57 28.9**	**+0.8**
comp=Z,143nm,1.0s,mb5.9,baz=89,slow=10,SNR=28							
CTA				LR	LR	22 10 23.7	
comp=Z,3μm,20.2s,baz=91,slow=34							
CTA	**Charters Tower**	**35.22**	**264**	*e*P	**P**	**21 57 28.9**	**+0.8**
CTA				pmax	pmax		
comp=Z,111nm,1.0s							
CTAO	**Charters Tower**	**35.22**	**264**	*e*P	**P**	**21 57 29.0**	**+0.9**
CTAO				pmax	pmax		
comp=Z,239nm,1.1s,mb6.0							
CTAO				MLR	MLR		
comp=Z,3μm,21.0s							
CTAO	**Charters Tower**	**35.22**	**264**	*e*P	**P**	**21 57 29.0**	**+0.9**
comp=Z,239nm,1.1s,mb6.0							
CTAO				LR	LR		
comp=Z,3μm,21.0s							
TAOE	**Nuku Hiva Isla**	**36.63**	**77**	*e*LR	LR	22 07 14.4	
comp=Z,15μm,28.2s							
PMG	**Port Moresby**	**37.11**	**282**	P	**P**	**21 57 44.4**	**+0.1**
comp=Z,135nm,1.1s,mb5.7,baz=248,slow=4.0,SNR=3.2							
PMG	**Port Moresby**	**37.11**	**282**	*e*P	**P**	**21 57 42.5**	**-1.8**
PMG				pmax	pmax		
comp=Z,236nm,1.1s							
PMG				MLR	MLR		
comp=Z,1μm,20.0s							
PMG	**Port Moresby**	**37.11**	**282**	*e*P	**P**	**21 57 42.5**	**-1.8**
comp=Z,236nm,1.1s,mb5.9							
PMG				LR	LR		
comp=Z,1μm,20.0s							
TAU	**Tasmania Unive**	**37.71**	**226**	PFAKE		21 58 00.0	+11
TAU				LR	LR		
comp=Z,1μm,19.0s							
STKA	**Stephens Creek**	**39.28**	**245**	*e*P	**P**	**21 58 00.3**	**-2.2**
comp=Z,11nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**39.28**	**245**	P	**P**	**21 58 00.8**	**-1.7**
comp=Z,14nm,1.0s,mb4.6,baz=92,slow=10,SNR=6.6							
STKA				LR	LR	22 12 17.5	
comp=Z,2μm,18.5s,baz=76,slow=33							
WAKE	**Wake Island**	**43.20**	**336**	PFAKE		21 58 50.0	+15
WAKE				LR	LR		
comp=Z,1μm,21.0s							
ASAR	**Alice Springs**	**46.18**	**257**	P	**P**	**21 58 58.6**	**+0.3**
comp=Z,9.8nm,0.8s,mb4.8,baz=90,slow=8.0,SNR=40							
ASAR				LR	LR	22 17 22.5	
comp=Z,2μm,19.6s,baz=105,slow=35							
WB2	**Warramunga Arr**	**46.30**	**262**	*e*P	**P**	**21 58 57.5**	**-1.8**
WRAB	**Tennant Creek**	**46.30**	**262**	P	**P**	**21 58 59.3**	**0.0**
comp=Z,323nm,1.2s,mb6.1,SNR=8.1							
WRAB	**Tennant Creek**	**46.30**	**262**	*e*P	**P**	**21 58 58.7**	**-0.6**
WRAB				pmax	pmax		
comp=Z,122nm,1.2s,mb5.7							
WRAB				MLR	MLR		
comp=Z,2μm,19.0s							
WRAB	**Tennant Creek**	**46.30**	**262**	*e*P	**P**	**21 58 58.7**	**-0.7**
comp=Z,122nm,1.2s,mb5.7							
WRAB				LR	LR		
comp=Z,2μm,19.0s							
WRA	**Warramunga Arr**	**46.31**	**262**	P	**P**	**21 58 59.4**	**0.0**
comp=Z,37nm,1.1s,mb5.2,baz=97,slow=6.6,SNR=31							
WRA				LR	LR	22 18 39.7	
comp=Z,2μm,18.2s,baz=90,slow=36							
KAKA	**Kakadu**	**49.74**	**271**	*e*P	**P**	**21 59 30.4**	**+4.6**
comp=Z,51nm,0.9s,mb5.6							
FORT	**Forrest**	**50.82**	**247**	*e*P	**P**	**21 59 32.5**	**-1.5**
comp=Z,18nm,0.7s,mb5.1							
GUMO	**Guam**	**51.32**	**308**	LR	LR	22 19 31.8	
comp=Z,440nm,19.7s,baz=119,slow=34							
DRV	**Dumont d'Urvil**	**53.73**	**200**	S	**S**	**22 07 34.0**	**+8.8**
FITZ	**Fitzroy Crossi**	**54.74**	**262**	*e*P	**P**	**22 00 08.2**	**+5.3**
comp=Z,37nm,1.1s,mb5.3							
FITZ				*e*S	**S**	**22 07 45.8**	**+7.0**
SBA	**Scott Base**	**57.76**	**184**	*e*P	**P**	**22 00 24.6**	**+0.2**
SBA				pmax	pmax		
comp=Z,30nm,1.4s,mb5.1							
SBA				MLR	MLR		
comp=Z,707nm,21.0s							
SBA	**Scott Base**	**57.76**	**184**	*e*P	**P**	**22 00 24.6**	**+0.2**
comp=Z,30nm,1.4s,mb5.1							
SBA				LR	LR		
comp=Z,707nm,21.0s							
VNDA	**Vanda**	**57.84**	**186**	P	**P**	**22 00 25.0**	**0.0**
comp=Z,4.1nm,1.0s,mb4.4,baz=5.5,slow=7.5,SNR=11							
VNDA				LR	LR	22 21 39.7	
comp=Z,419nm,19.6s,baz=26,slow=32							
VNDA	**Vanda**	**57.84**	**186**	*e*P	**P**	**22 00 25.1**	**+0.1**
VNDA				pmax	pmax		
comp=Z,13nm,1.3s							
VNDA				MLR	MLR		
comp=Z,519nm,20.0s							
VNDA	**Vanda**	**57.84**	**186**	*e*P	**P**	**22 00 25.1**	**+0.1**
comp=Z,13nm,1.3s,mb4.8							
VNDA				LR	LR		
comp=Z,519nm,20.0s							
MBWA	**Marble Bar**	**59.52**	**257**	*e*P	**P**	**22 00 34.5**	**-2.2**
comp=Z,18nm,1.0s,mb5.1							
MBWA				LR	LR		
comp=Z,3μm,19.0s							
NWAO	**Narrogin (SRO)**	**59.84**	**243**	PFAKE		22 00 50.0	+11
NWAO				LR	LR		
comp=Z,1μm,19.0s							
DAV	**Davao City (W)**	**63.57**	**289**	PFAKE		22 01 20.0	+16
DAV				LR	LR		
comp=Z,389nm,21.0s							
CASY	**Casey**	**64.51**	**205**	*e*P	**P**	**22 01 09.3**	**-0.8**
CASY				LR	LR		
comp=Z,715nm,20.0s							
QSPA	**South Pole Qui**	**69.34**	**180**	*e*P	**P**	**22 01 40.2**	**-0.5**
comp=Z,31nm,1.2s,mb5.1							
QSPA				LR	LR		
comp=Z,795nm,21.0s							
MJAR	**Matsushiro Arr**	**71.45**	**323**	P	**P**	**22 01 52.7**	**-0.9**
comp=Z,2.1nm,0.9s,mb4.1,baz=149,slow=5.7,SNR=3.3							
MJAR				LR	LR	22 32 10.2	
comp=Z,303nm,19.4s,baz=115,slow=35							
MJAR	**Matsushiro Arr**	**71.45**	**323**	P	**P**	**22 01 52.7**	**-0.9**
MJAR				LR	LR	22 32 10.2	
MAJO	**Matsushiro**	**71.45**	**323**	PFAKE		22 02 00.0	+6.3
MAJO				LR	LR		
comp=Z,489nm,19.0s							
MAT	**Matsushiro**	**71.45**	**323**	P	**P**	**22 01 57.1**	**+3.4**
MAT				S	S	22 11 07.0	-0.4
MAT	**Matsushiro**	**71.45**	**323**	*e*P	**P**	**22 01 57.0**	**+3.3**
MAT				*e*S	S	22 11 07.0	-0.4
MIR	**Mirnyy**	**71.53**	**205**	*d*iP	**P**	**22 01 56.5**	**+2.4**
MIR				pmax	pmax		
comp=Z,200nm,1.5s,mb5.8							
ATKA	**Atka Island**	**72.64**	**1**	*e*P	**P**	**22 01 59.0**	**-1.8**
SMY	**Shemya**	**73.64**	**354**	PFAKE		22 02 20.0	+13
SMY				LR	LR		
comp=Z,1μm,19.0s							
UNV	**Unalaska Valle**	**74.73**	**6**	PFAKE		22 02 20.0	+7.0
UNV				LR	LR		
comp=Z,1μm,21.0s							
KSM	**Kuching**	**75.19**	**277**	*e*P	**P**	**22 02 16.5**	**+0.9**
TATO	**Taipei**	**75.77**	**304**	PFAKE		22 02 30.0	+11
TATO				LR	LR		
comp=Z,349nm,21.0s							
PET	**Petropavlovsk**	**76.64**	**345**	*e*P	**P**	**22 02 24.2**	**+0.3**
PET				*e*S	S	22 12 08.4	+2.7
PET				*e*PS		22 12 50.0	
PET				MLR	MLR		
comp=Z,200nm,18.0s							
PET	**Petropavlovsk**	**76.64**	**345**	PFAKE		22 02 30.0	+6.1
PET				LR	LR		
comp=Z,907nm,22.0s							
V03C	**Hunter Liggett**	**76.67**	**43**	↑P	**P**	**22 02 24.5**	**+0.4**
baz=77							
HAST	**Hastings Reser**	**76.70**	**42**	↓P	**P**	**22 02 24.6**	**+0.3**
baz=77							
YSS	**Yuzh-Sakhalins**	**76.90**	**332**	*i* P	**P**	**22 02 26.1**	**+0.7**
YSS				MLR	MLR		
comp=Z,300nm,28.0s							
YSS	**Yuzh-Sakhalins**	**76.90**	**332**	PFAKE		22 02 40.0	+15
YSS				LR	LR		
comp=Z,637nm,22.0s							
SAO	**San Andreas Ge**	**77.00**	**42**	PFAKE		22 02 40.0	+14
SAO				LR	LR		
comp=Z,551nm,19.0s							
U04C	**Hernandez Rese**	**77.17**	**43**	↓P	**P**	**22 02 27.4**	**+0.5**
baz=77							
PACP	**Pacheco Peak**	**77.25**	**42**	↓P	**P**	**22 02 27.5**	**+0.1**
baz=78							
HOPS	**Hopland**	**77.41**	**40**	PFAKE		22 02 40.0	+12
HOPS				LR	LR		
comp=Z,545nm,19.0s							
S04C	**Ingram Canyon,**	**77.53**	**42**	↑P	**P**	**22 02 29.0**	**+0.1**
baz=78							
QZH	**Quanzhou**	**78.02**	**303**	P	**P**	**22 02 33.4**	**+1.8**
QZH				S	S	22 12 25.6	+5.1
QZH				LR	LR		
comp=Z,730nm,32.7s							
ISA	**Isabella**	**78.25**	**45**	PFAKE		22 02 40.0	+7.1
ISA				LR	LR		
comp=Z,124nm,19.0s							
ISA	**Isabella**	**78.25**	**45**	↑P	**P**	**22 02 33.0**	**+0.1**
baz=78,SNR=5.3							
PFO	**Pinyon Flat Ob**	**78.42**	**47**	*e*P	**P**	**22 02 33.9**	**0.0**
PFO				pmax	pmax		
comp=Z,35nm,1.4s,mb5.1							
PFO				MLR	MLR		
comp=Z,678nm,20.0s							
PFO	**Pinyon Flat Ob**	**78.42**	**47**	*e*P	**P**	**22 02 33.9**	**0.0**
comp=Z,35nm,1.4s,mb5.1							
PFO				LR	LR		
comp=Z,678nm,20.0s							
PFO	**Pinyon Flat Ob**	**78.42**	**47**	↑P	**P**	**22 02 33.8**	**0.0**
baz=79							
CMB	**Columbia Colle**	**78.45**	**42**	*e*P	**P**	**22 02 33.5**	**-0.5**
CMB				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
CMB				MLR	MLR		
comp=Z,515nm,21.0s							
CMB	**Columbia Colle**	**78.45**	**42**	*e*P	**P**	**22 02 33.5**	**-0.5**
comp=Z,1.2nm,0.4s,mb4.2							
CMB				LR	LR		
comp=Z,515nm,21.0s							
CMB	**Columbia Colle**	**78.45**	**42**	↑P	**P**	**22 02 34.2**	**+0.2**
baz=79							
LAVA	**Lava Cap Winer**	**78.68**	**41**	↑P	**P**	**22 02 34.7**	**-0.6**
baz=79							
S06C	**San Francisco**	**78.69**	**42**	↑P	**P**	**22 02 34.8**	**-0.5**
baz=79							
ORV	**Oroville**	**78.71**	**40**	↑P	**P**	**22 02 34.6**	**-0.8**
baz=79							
WDC	**Whiskeytown Da**	**78.74**	**39**	PFAKE		22 02 50.0	+14
WDC				LR	LR		
comp=Z,462nm,21.0s							
WDC	**Whiskeytown Da**	**78.74**	**39**	↓P	**P**	**22 02 35.2**	**-0.4**
baz=79							
CWC	**Cottonwood Cre**	**78.96**	**44**	↓P	**P**	**22 02 36.6**	**-0.2**
baz=79							
R05C	**Kirkwood Meado**	**79.05**	**41**	↓P	**P**	**22 02 37.4**	**+0.1**
baz=79							
INCN	**Inchon**	**79.07**	**317**	PFAKE		22 02 50.0	+13
INCN				LR	LR		
comp=Z,599nm,19.0s							
P05C	**Yuba Gap, Truc**	**79.09**	**41**	↓P	**P**	**22 02 37.1**	**-0.4**
baz=79							
GSC	**Goldstone**	**79.15**	**46**	↓P	**P**	**22 02 37.9**	**+0.1**
baz=79,SNR=12							
SSE	**Sheshan**	**79.20**	**309**	*e*P	**P**	**22 02 39.4**	**+1.3**
SSE				AP	pP	22 02 46.1	-9.1
SSE				PCP	PcP	22 02 47.4	+1.2
SSE				PP	PP	22 05 37.5	-0.7
SSE				S	S	22 12 37.3	+4.2
SSE				XS	sS	22 12 49.8	-12
SSE				SCS	ScS	22 12 59.6	+4.1
SSE				AMB	AMB		
comp=Z,20nm,0.8s,mb5.1							
SSE				AMB	AMB		
comp=Z,50nm,5.8s							
SS

baz=80
HUMO Hull Mountain 79.81 37 PFAKE 22 02 50.0 +8.6
HUMO LR LR
comp=Z,319nm,20.0s
TUQ Turquoise Mtn. 79.82 46 ⇑P **P 22 02 41.9 +0.5**
baz=80,SNR=5.8
Y12C Blythe 79.84 48 ⇑P **P 22 02 42.0 +0.4**
baz=80
M04C Macdoel 79.91 38 ⇓P **P 22 02 41.7 -0.2**
baz=80
NVAR Mina Array Bea 80.00 42 P **P 22 02 42.6 +0.2**
comp=Z,5.2nm,1.0s,mb4.4,baz=217,slow=7.1,SNR=20
M05C Lookout 80.05 39 ⇓P **P 22 02 42.5 -0.2**
baz=80
R08A Mina 80.07 43 ⇑P **P 22 02 42.6 -0.2**
baz=80
PAHR Pah Rah Range 80.09 41 *e*P **P 22 02 42.6 -0.3**
comp=Z,28nm,1.3s,mb5.0
MNV Mina 80.09 43 *e*P **P 22 02 42.9 0.0**
MNV pmax pmax
comp=Z,36nm,1.4s,mb5.1
MNV MLR MLR
comp=Z,616nm,22.0s
MNV Mina 80.09 43 *e*P **P 22 02 42.9 -0.1**
comp=Z,36nm,1.4s,mb5.1
MNV LR LR
comp=Z,616nm,22.0s
O06A Flanigan 80.09 40 ⇓P **P 22 02 43.0 0.0**
baz=80,SNR=12
U10A Ash Meadows, A 80.10 45 ⇑P **P 22 02 43.5 +0.4**
baz=80,SNR=15
I02A Mapleton 80.24 35 ⇑P **P 22 02 42.9 -0.8**
baz=80
S09A Goldfield 80.27 44 ⇓P **P 22 02 44.0 +0.1**
baz=80
M06C Likely Place G 80.34 39 ⇓P **P 22 02 44.4 0.0**
baz=81
Y13A Salome 80.36 48 ⇓P **P 22 02 44.6 +0.2**
baz=81
V11A Goodsprings 80.38 46 ⇑P **P 22 02 44.8 +0.3**
baz=81
TPNV Topopah Spring 80.46 45 *e*P **P 22 02 45.2 +0.3**
TPNV pmax pmax
comp=Z,23nm,1.1s,mb5.0
TPNV Topopah Spring 80.46 45 *e*P **P 22 02 45.2 +0.3**
comp=Z,23nm,1.1s,mb5.0
Q08A Gabbs 80.48 42 ⇑P **P 22 02 45.2 +0.1**
baz=81
KDAK Kodiak Island 80.65 13 LR LR 22 34 02.7
comp=Z,621nm,18.8s,baz=3.6,slow=32
KDAK Kodiak Island 80.65 13 PFAKE 22 03 00.0 +14
KDAK LR LR
comp=Z,197nm,20.0s
R09A Tonopah 80.67 43 P **P 22 02 46.5 +0.5**
baz=81,SNR=9.8
L05A Lakeview 80.67 38 ⇑P **P 22 02 45.9 -0.2**
baz=81
O07A Toulon 80.67 41 ⇓P **P 22 02 45.9 -0.2**
baz=81,SNR=11
V12A Nelson 80.71 46 ⇑P **P 22 02 46.7 +0.4**
baz=81
Z14A Wintersburg 80.74 49 ⇑P **P 22 02 46.9 +0.5**
baz=81
X13A Yucca 80.78 48 ⇓P **P 22 02 47.0 +0.4**
baz=81
MOD Modoc 80.88 39 *e*P **P 22 02 46.9 -0.3**
comp=Z,32nm,1.4s,mb5.0
MOD LR LR
comp=Z,365nm,21.0s
115A Sonoran Desert 80.90 50 ⇑P **P 22 02 48.6 +1.3**
baz=81
COR Corvallis 80.91 35 PFAKE 22 03 00.0 +13
COR LR LR
comp=Z,491nm,19.0s
Q09A Carvers 80.94 43 ⇓P **P 22 02 47.5 0.0**
baz=81
Y14A Wickenburg 81.01 49 ⇑P **P 22 02 48.6 +0.8**
baz=81
R10A Warm Springs 81.19 44 ⇓P **P 22 02 49.0 +0.2**
baz=81,SNR=6.3
116A Eloy 81.21 50 ⇑P **P 22 02 49.4 +0.5**
baz=81
M07A Soldier Meadow 81.24 40 ⇑P **P 22 02 49.3 +0.2**
baz=82
U12A Valley of Fire 81.30 46 ⇑P **P 22 02 50.0 +0.6**
baz=82
X14A Yava 81.37 48 ⇑P **P 22 02 50.5 +0.7**
baz=82,SNR=11
NJ2 Nanjing 81.39 309 *e*P **P 22 02 56.4 +6.5**
NJ2 AP pP 22 03 01.8 -5.2
NJ2 XP sP 22 03 04.1 -10
NJ2 S S 22 13 07.0 +11
NJ2 XS sS 22 13 15.0 -10
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,130nm,6.8s
NJ2 LR LR
comp=N,580nm,22.2s
NJ2 LR LR
comp=E,420nm,20.7s
NJ2 LR LR
comp=Z,490nm,29.4s
K06A Valley Falls 81.47 38 ⇓P **P 22 02 50.3 0.0**
baz=82,SNR=14
N08A GE Springer Mi 81.50 41 ⇑P **P 22 02 50.5 0.0**
baz=82
L07A Adell 81.52 39 ⇓P **P 22 02 50.5 -0.1**
baz=82,SNR=5.3
H04A Detroit Lake 81.57 36 ⇓P **P 22 02 50.5 -0.3**
baz=82
W14A Seligman 81.63 48 ⇑P **P 22 02 52.2 +1.1**
baz=82,SNR=12
O09A Fish Creek Ran 81.72 42 ⇑P **P 22 02 51.5 -0.1**
baz=82,SNR=5.3
MDJ Mudanjiang 81.73 324 PFAKE 22 03 00.0 +8.3
MDJ LR LR
comp=Z,443nm,20.0s
TUC Tucson 81.75 51 *e*P **P 22 02 52.6 +0.8**
TUC MLR MLR
comp=Z,401nm,19.0s
M08A Happy Creek Ra 81.75 40 ⇓P **P 22 02 51.6 -0.1**
baz=82,SNR=5.5
G04A Mulino 81.76 35 ⇑P **P 22 02 51.5 -0.4**
baz=82
J06A Christmas Vall 81.81 38 ⇑P **P 22 02 51.6 -0.5**
baz=82,SNR=9.7
X15A Humboldt 81.83 49 ⇑P **P 22 02 53.0 +0.8**
baz=82,SNR=13
P10A Eureka 81.86 42 ⇑P **P 22 02 52.0 -0.3**
baz=82
Q11A Duckwater 81.93 43 ⇓P **P 22 02 52.5 -0.2**
baz=82,SNR=14
MAW Mawson 81.94 199 *e*P **P 22 02 52.1 -0.6**
comp=Z,7.2nm,1.0s,mb4.6
MAW Mawson 81.94 199 P **P 22 02 52.3 -0.5**
comp=Z,9.6nm,1.0s,mb4.7,baz=105,slow=8.5,SNR=11
MAW LR LR 22 36 04.0
comp=Z,596nm,21.7s,baz=117,slow=33
MAW Mawson 81.94 199 *e*P **P 22 02 52.1 -0.6**
MAW pmax pmax
comp=Z,7.0nm,1.0s
K07A Rock Creek Ran 81.98 39 ⇑P **P 22 02 52.3 -0.7**
baz=82,SNR=11
E03A Lebam 82.06 34 ⇑P **P 22 02 53.1 -0.4**
baz=82
W15A Williams 82.18 48 ⇑P **P 22 02 55.1 +1.1**
baz=82
WVOR Wild Horse Val 82.19 39 *e*P **P 22 02 52.9 -1.2**
WVOR pmax pmax
comp=Z,33nm,1.4s,mb5.1
WVOR MLR MLR
comp=Z,565nm,19.0s
WVOR Wild Horse Val 82.19 39 *e*P **P 22 02 52.9 -1.2**
comp=Z,33nm,1.4s,mb5.1
WVOR LR LR
comp=Z,565nm,19.0s
I06A Prineville 82.20 37 ⇓P **P 22 02 54.4 +0.3**
baz=82
L08A Fields 82.22 39 ⇓P **P 22 02 54.0 -0.2**
baz=82,SNR=12
M09A Marrel Ranch, 82.29 40 ⇑P **P 22 02 54.5 -0.1**
baz=82
D03A Wishkah Elem. 82.33 33 ⇑P **P 22 02 54.6 -0.3**
baz=83
C03A Quillayute Air 82.49 32 ⇓P **P 22 02 55.1 -0.5**
baz=83
OCWA Octopus Mounta 82.55 32 *e*P **P 22 02 54.9 -1.1**
comp=Z,38nm,1.3s,mb5.3
OCWA LR LR
comp=Z,302nm,19.0s
QIZ Qiongzhong 82.56 293 PFAKE 22 03 10.0 +14
QIZ LR LR
comp=Z,198nm,20.0s
CCUT Cedar City 82.70 45 *e*P **P 22 02 57.8 +1.0**
M10A I.L. Ranch, Tu 82.91 41 ⇑P **P 22 02 57.9 0.0**
baz=83
N11A Elko Archery C 83.00 42 ⇓P **P 22 02 58.3 +0.1**
baz=83
E05A Randle 83.01 34 ⇑P **P 22 02 57.8 -0.5**
baz=83
COCO West Island 83.05 260 PFAKE 22 03 10.0 +11
COCO LR LR
comp=Z,765nm,19.0s
B04A Port Angeles 83.09 32 ⇓P **P 22 02 57.4 -1.4**
baz=83
ELK Elko 83.27 42 *e*P **P 22 02 59.8 +0.1**
ELK pmax pmax
comp=Z,31nm,1.4s
ELK Elko 83.27 42 *e*P **P 22 02 59.8 +0.1**
comp=Z,31nm,1.4s,mb5.2
D05A Enumclaw 83.30 34 ⇓P **P 22 02 59.8 0.0**
baz=84
M11A Holland Ranch, 83.31 41 ⇑P **P 22 03 00.1 +0.2**
baz=84,SNR=6.4
N12A Wells--Clov Va 83.45 42 ⇓P **P 22 03 00.2 -0.4**
baz=84,SNR=12
PGC Sidney 83.51 32 P **P 22 03 02.4 +1.5**
comp=Z,89nm,1.4s,mb5.7
CN2 Changchun 83.57 322 *e*P **P 22 03 03.3 +2.1**
CN2 *e*XP pP 22 03 12.3 -6.1
CN2 *e*S S 22 13 23.1 +4.7
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,260nm,21.0s
KLR Kul'dur 83.63 329 *e*P **P 22 03 04.0 +2.4**
C05A Tolt Reservoir 83.78 34 ⇓P **P 22 03 01.6 -0.7**
baz=84
M12A Wells 83.85 42 ⇑P **P 22 03 02.6 0.0**
baz=84,SNR=14
A04A Lege Bay, Lum 83.93 32 ⇑P **P 22 03 02.6 -0.4**
baz=84
B05A Bryant 83.94 33 ⇓P **P 22 03 02.6 -0.5**
baz=84
N13A West Wendover 83.98 42 ⇓P **P 22 03 03.3 0.0**
baz=84,SNR=5.6
WHN Wuhan 84.01 306 *e*P **P 22 03 08.5 +5.0**
HAWA Hanford 84.10 36 *e*P **P 22 03 03.8 -0.2**
comp=Z,3.7nm,1.4s,mb4.3
HAWA LR LR
comp=Z,35nm,20.0s
M13A Montello 84.28 42 ⇑P **P 22 03 04.6 -0.3**
baz=84
BMO Blue Mountains 84.41 38 *e*P **P 22 03 05.0 -0.6**
comp=Z,32nm,1.5s,mb5.2
BMO LR LR
comp=Z,361nm,20.0s
A05A Maple Falls 84.42 32 ⇑P **P 22 03 05.0 -0.5**
baz=85
MA2 Magadan 84.49 344 *i* P **P 22 03 09.4 +3.5**
MA2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
MA2 MLR MLR
comp=Z,100nm,14.0s
MA2 Magadan 84.49 344 PFAKE 22 03 20.0 +14
MA2 LR LR
comp=Z,629nm,22.0s
DUG Dugway 84.50 43 PFAKE 22 03 20.0 +14
DUG LR LR
comp=Z,404nm,21.0s
SIT Sitka 84.70 21 PFAKE 22 03 20.0 +13
SIT LR LR
comp=Z,630nm,21.0s
PMR Palmer 84.85 13 PFAKE 22 03 20.0 +12
PMR LR LR
comp=Z,346nm,19.0s
TTA Tatalina 84.88 9 *e*P **P 22 03 07.0 -0.9**
DIV Divide 85.16 14 PFAKE 22 03 20.0 +11
DIV LR LR
comp=Z,2μm,20.0s
MPU Maple Canyon 85.17 44 PFAKE 22 03 20.0 +11
MPU LR LR
comp=Z,566nm,19.0s
HLID Hailey 85.36 40 *e*P **P 22 03 10.2 -0.1**
comp=Z,15nm,1.1s,mb5.0
HLID LR LR
comp=Z,361nm,19.0s
LAZ Ladron 85.43 51 *e*P **P 22 03 11.4 +0.8**
Y22C IRIS PASSCAL I 85.43 51 ⇑P **P 22 03 10.5 -0.1**
baz=86
LENM Lemitar 85.44 51 *e*P **P 22 03 11.5 +0.9**
MNTX Cornudas Mount 85.46 54 *e*P **P 22 03 11.2 +0.5**
comp=Z,42nm,1.4s,mb5.4
BNM Barren Site 85.68 51 *e*P **P 22 03 12.4 +0.5**
BNM *e* 22 03 18.3
LTX Lajitas 85.70 57 *e*P **P 22 03 12.5 +0.5**
LTX *e* 22 03 18.5
LTX pmax pmax
comp=Z,35nm,1.3s,mb5.4
LTX MLR MLR
comp=Z,465nm,22.0s
LTX Lajitas 85.70 57 *e*P **P 22 03 12.5 +0.5**
comp=Z,35nm,1.3s,mb5.4
LTX *e* 22 03 18.5
LTX LR LR
comp=Z,465nm,22.0s
LPM Los Pinos Moun 85.75 51 *e*P **P 22 03 13.1 +0.9**
LPM *e* 22 03 19.0
PAYG Puerto Ayora 85.86 89 PFAKE 22 03 20.0 +7.2
PAYG LR LR
comp=Z,959nm,20.0s
HWUT Hardware Ranch 86.06 43 PFAKE 22 03 20.0 +6.3
HWUT LR LR
comp=Z,512nm,21.0s
ANMO Albuquerque 86.18 51 *e*P **P 22 03 14.4 +0.1**
ANMO *e* 22 03 20.6
ANMO pmax pmax
comp=Z,26nm,1.1s
ANMO Albuquerque 86.18 51 *e*P **P 22 03 14.4 +0.1**
comp=Z,26nm,1.1s,mb5.4
ANMO *e* 22 03 20.6
TNA Tin City 86.25 3 PFAKE 22 03 20.0 +5.3
TNA LR LR
comp=Z,455nm,22.0s
NEW Newport 86.54 35 PFAKE 22 03 30.0 +14
NEW LR LR
comp=Z,444nm,20.0s
MCK McKinley 86.83 12 *e*P **P 22 03 16.5 -1.0**
MCK pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
MCK McKinley 86.83 12 *e*P **P 22 03 16.5 -1.0**
comp=Z,6.8nm,0.9s,mb4.9
SYO Syowa Base 86.88 192 ⇓*e*P **P 22 03 15.8 -1.9**
AHID Auburn Hatcher 86.96 42 PFAKE 22 03 30.0 +12
AHID LR LR
comp=Z,371nm,19.0s
BJT Baijiatuau 87.30 315 PFAKE 22 03 30.0 +10
BJT LR LR
comp=Z,440nm,19.0s
MSO Missoula 87.47 37 PFAKE 22 03 30.0 +9.4
MSO LR LR
comp=Z,279nm,20.0s
DLBC Dease Lake 87.59 22 *e*P **P 22 03 21.1 -0.1**
PLCA Paso Flores 87.83 133 P **P 22 03 22.9 +0.6**
comp=Z,1.0nm,0.7s,mb4.2,baz=239,slow=8.2,SNR=3.6
PLCA LR LR 22 34 59.7
comp=Z,201nm,20.1s,baz=148,slow=30
PLCA Paso Flores 87.83 133 P **P 22 03 22.9 +0.6**
SMCO Snowmass 87.85 47 P **P 22 03 21.7 -0.7**
QLMT Earthquake Lak 87.85 40 *e*P **P 22 03 23.0 +0.5**
CHMT Chamberlain Mo 87.91 38 *e*P **P 22 03 21.9 -0.8**
BW06 Boulder Array 87.93 43 PFAKE 22 03 30.0 +7.2
BW06 LR LR
comp=Z,319nm,21.0s
PDAR Pinedale Array 87.93 43 LR LR 22 36 56.8
comp=Z,229nm,19.0s,baz=242,slow=32
COLA College 88.07 12 *i* P **P 22 03 21.8 -1.6**
COLA College 88.07 12 *e*P **P 22 03 20.3 -3.1**
COLA LR LR
comp=Z,611nm,20.0s
BOZ Bozeman (W) 88.17 39 *e*P **P 22 03 23.9 0.0**
BOZ pmax pmax
comp=Z,25nm,1.5s,mb5.2
BOZ MLR MLR
comp=Z,295nm,20.0s
BOZ Bozeman (W) 88.17 39 *e*P **P 22 03 23.9 0.0**
comp=Z,25nm,1.5s,mb5.2
BOZ LR LR
comp=Z,295nm,20.0s
GYA Guiyang 88.30 299 P **P 22 03 30.1 +5.6**
GYA AP pP 22 03 36.5 -5.4
GYA XP sP 22 03 39.3 -9.3
GYA SKS 22 13 57.8
GYA S 22 14 17.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,140nm,4.9s
GYA LR LR
comp=N,460nm,20.4s
GYA LR LR
comp=E,410nm,19.8s
GYA LR LR
comp=Z,480nm,19.4s
LKWY Lake 88.34 41 PFAKE 22 03 40.0 +15
LKWY LR LR
comp=Z,467nm,19.0s
WALA Waterton Lakes 88.74 36 *e*P **P 22 03 26.2 -0.4**
comp=Z,38nm,1.6s,mb5.5
ISCO Idaho Springs 89.07 47 PFAKE 22 03 40.0 +12
ISCO LR LR
comp=Z,345nm,19.0s
DAWY Dawson 89.21 15 *e*P **P 22 03 28.3 -0.6**
JCT Junction City 89.22 57 PFAKE 22 03 40.0 +11
JCT LR LR
comp=Z,489nm,21.0s
BILL Bilibino 89.46 353 *e*P **P 22 03 28.3 -1.7**
BILL pmax pmax
comp=Z,11nm,1.8s,mb4.9
BILL Bilibino 89.46 353 PFAKE 22 03 40.0 +10
BILL LR LR
comp=Z,583nm,22.0s
AMTX Amarillo 89.65 52 PFAKE 22 03 40.0 +9.1
AMTX LR LR
comp=Z,537nm,19.0s
XAN Xi'an 89.68 307 P **P 22 03 31.3 +0.3**
XAN AP pP 22 03 43.9 -4.5
HIA Hailar 89.91 324 PFAKE 22 03 40.0 +7.9
HIA LR LR
comp=Z,506nm,20.0s
EGMT Eagleton 90.51 38 PFAKE 22 03 50.0 +15
EGMT LR LR
comp=Z,264nm,20.0s
HHC Hu-ho-hao-te 90.78 314 *e*P **P 22 03 37.5 +1.3**
HHC AP pP 22 03 44.0 -10
HHC XP sP 22 03 46.6 -14
HHC PP PP 22 07 15.8 +3.5
HHC SKS 22 14 05.8
HHC S 22 14 30.8
HHC XS sS 22 14 41.3 -16
HHC SS SS 22 20 37.1 +6.1
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb5.2
HHC AMB AMB
comp=Z,100nm,4.4s
HHC LR LR
comp=N,190nm,16.7s
HHC LR LR
comp=E,140nm,14.3s
HHC LR LR
comp=Z,310nm,19.0s
KMI Kunming 91.03 296 P **P 22 03 40.1 +2.8**
KMI AP pP 22 03 46.6 -8.1
KMI XP sP 22 03 49.0 -12
KMI PP PP 22 07 18.3 +4.0
KMI SKS 22 14 09.0
KMI S 22 14 33.6
KMI XS sS 22 14 44.0 -15
KMI SS SS 22 20 40.0 +5.5
KMI AMB AMB
comp=Z,60nm,6.4s
KMI LR LR
comp=N,140nm,18.0s
KMI LR LR
comp=E,190nm,19.3s
KMI LR LR
comp=Z,290nm,19.6s
LAO LASA Array 91.94 40 *e*P **P 22 03 42.0 +0.5**
comp=Z,89nm,1.5s,mb5.9
LAO LR LR
comp=Z,327nm,20.0s
RSSD Black Hills 92.11 43 *e*P **P 22 03 42.4 +0.1**
RSSD pmax pmax
comp=Z,41nm,1.3s,mb5.6
RSSD MLR MLR
comp=Z,338nm,19.0s
RSSD Black Hills 92.11 43 *e*P **P 22 03 42.4 +0.1**
comp=Z,41nm,1.3s,mb5.6
RSSD LR LR
comp=Z,338nm,19.0s
HKT Hockley 92.16 59 *e*P **P 22 03 43.1 +0.5**
HKT pmax pmax
comp=Z,28nm,1.5s,mb5.4
HKT MLR MLR
comp=Z,378nm,20.0s
HKT Hockley 92.16 59 *e*P **P 22 03 43.1 +0.5**
comp=Z,28nm,1.5s,mb5.4
HKT LR LR
comp=Z,378nm,20.0s
CD2 Chengdu 92.40 302 *e*P **P 22 03 42.6 -1.1**
CD2 PP PP 22 07 26.3 +1.2
CD2 SKS 22 14 13.3
CD2 S 22 14 42.4
CD2 SS SS 22 20 57.1 +2.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,50nm,9.2s
CD2 LR LR
comp=E,110nm,15.6s
CD2 LR LR
comp=Z,110nm,21.6s
YAK Yakutsk 93.00 337 PFAKE 22 04 00.0 +14
YAK LR LR
comp=Z,291nm,22.0s
NATX Nacogdoches 93.78 58 PFAKE 22 04 00.0 +10
NATX LR LR
comp=Z,631nm,19.0s
INK Inuvik 94.05 15 *e*P **P 22 03 49.9 -1.3**
INK pmax pmax
comp=Z,23nm,1.5s
INK Inuvik 94.05 15 *e*P **P 22 03 49.9 -1.4**
comp=Z,24nm,1.5s,mb5.4
NNA Nana 94.30 104 PFAKE 22 04 00.0 +7.6
NNA LR LR
comp=Z,799nm,22.0s
LZH Lanzhou 94.31 307 *e*P **P 22 03 58.3 +5.8**
LZH AP pP 22 04 04.0 -5.9
LZH XP sP 22 04 08.0 -8.6
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,120nm,5.1s
LZH LR LR
comp=E,520nm,19.0s
LZH LR LR
comp=Z,630nm,20.0s
JTS JuntasAbangare 94.66 81 PFAKE 22 04 10.0 +16
JTS LR LR
comp=Z,671nm,21.0s
TEIG Tepich 95.04 70 PFAKE 22 04 10.0 +14
TEIG LR LR
comp=Z,315nm,21.0s
MIAR Mount Ida 95.65 55 PFAKE 22 04 10.0 +11
MIAR LR LR
comp=Z,303nm,21.0s
YKA Yellowknife Ar 95.99 24 P **P 22 03 58.7 -1.4**
comp=Z,0.6nm,0.6s,mb4.2,baz=232,slow=4.3,SNR=2.9
YKA LR LR 22 44 34.0
comp=Z,346nm,19.1s,baz=220,slow=34
YKA Yellowknife Ar 95.99 24 P **P 22 03 58.7 -1.4**
YKA LR LR 22 44 34.0

ULN Ulaanbaatar 96.70 319 PFAKE 22 04 10.0 +6.7
ULN LR LR
comp=Z,251nm,22.0s
SONM Songino Array 97.09 318 LR LR 22 45 26.3
comp=Z,268nm,20.8s,baz=217,slow=34
OTAV Otavalo 97.26 92 PFAKE 22 04 20.0 +14
OTAV LR LR
comp=Z,391nm,20.0s
FFC Flin Flon 97.95 34 PFAKE 22 04 20.0 +11
FFC LR LR
comp=Z,437nm,21.0s
GTA Gaotai 98.49 309 *e*P **P** **22 04 16.8 +5.4**
GTA AP pP 22 04 22.5 -6.3
GTA AMB AMB
comp=Z,90nm,4.9s
GTA LR LR
comp=N,120nm,20.5s
GTA LR LR
comp=E,190nm,20.9s
GTA LR LR
comp=Z,250nm,20.1s
CCM Cathedral Cave 98.63 53 PFAKE 22 04 20.0 +8.0
CCM LR LR
comp=Z,346nm,20.0s
OXF Oxford 98.87 57 PFAKE 22 04 20.0 +6.9
OXF LR LR
comp=Z,561nm,19.0s
TIXI Tiksi 99.43 345 PFAKE 22 04 30.0 +14
TIXI LR LR
comp=Z,1μm,22.0s
ULM Lac du Bonnet 99.67 40 LR LR 22 42 43.6
comp=Z,224nm,19.8s,baz=5.8,slow=31
PLAL Pickwick Lake 100.06 56 PFAKE 22 04 30.0 +12
PLAL LR LR
comp=Z,464nm,20.0s
TLY Talaya 100.17 321 PFAKE 22 04 30.0 +11
TLY LR LR
comp=Z,317nm,22.0s
LRAL Lakeview Retre 100.31 59 PFAKE 22 04 30.0 +11
LRAL LR LR
comp=Z,353nm,19.0s
LPAZ La Paz 100.34 112 PFAKE 22 04 30.0 +10
LPAZ LR LR
comp=Z,593nm,19.0s
WVT Waverly 100.60 55 PFAKE 22 04 30.0 +9.2
WVT LR LR
comp=Z,609nm,22.0s
EYMN Ely 101.63 43 PFAKE 22 04 40.0 +15
EYMN LR LR
comp=Z,317nm,20.0s
LSA Lhasa 102.26 297 PFAKE 22 04 40.0 +12
LSA LR LR
comp=Z,291nm,20.0s
WCI Wyandotte Cave 102.39 54 PFAKE 22 04 40.0 +11
WCI LR LR
comp=Z,310nm,19.0s
GOGA Godfrey 103.24 59 PFAKE 22 04 40.0 +7.4
GOGA LR LR
comp=Z,4μm,21.0s
DWPF Disney 103.44 65 PFAKE 22 04 50.0 +17
DWPF LR LR
comp=Z,405nm,22.0s
PALK Pallekele 104.83 272 PFAKE 22 04 50.0 +10
PALK LR LR
comp=Z,747nm,21.0s
ACSO Alum Creek Sta 105.40 52 PFAKE 22 09 10.0 +14
ACSO LR LR
comp=Z,201nm,22.0s
BLA Blacksburg 106.63 56 PFAKE 22 09 10.0 +12
BLA LR LR
comp=Z,34nm,22.0s
SDV Santo Domingo 107.52 87 PFAKE 22 09 10.0 +10
SDV LR LR
comp=Z,192nm,22.0s
MCWV Mont Chateau 107.62 54 PFAKE 22 09 10.0 +10
MCWV LR LR
comp=Z,530nm,22.0s
SAML Samuel 107.82 107 PFAKE 22 09 10.0 +10
SAML LR LR
comp=Z,298nm,21.0s
ERPA Erie 108.03 51 PFAKE 22 09 10.0 +10
ERPA LR LR
comp=Z,428nm,19.0s
WMQ Urumqi 108.41 311 *e*PDIF Pdif 22 04 56.8 +1.3
WMQ PP PP 22 09 30.8 +4.4
WMQ S Sdif 22 16 57.4 -0.5
WMQ SS SS 22 24 38.9 +1.8
WMQ PP PP
comp=Z,80nm,6.0s
WMQ LR LR
comp=N,200nm,23.0s
WMQ LR LR
comp=E,190nm,23.0s
WMQ LR LR
comp=Z,210nm,25.0s
CBN Corbin 109.20 56 PFAKE 22 09 10.0 +7.3
CBN LR LR
comp=Z,580nm,19.0s
SSPA Standing Stone 109.29 53 PFAKE 22 09 10.0 +7.1
SSPA LR LR
comp=Z,303nm,20.0s
BINY Binghamton 110.97 52 PFAKE 22 09 20.0 +14
BINY LR LR
comp=Z,512nm,19.0s
NCB Newcomb 112.51 50 PFAKE 22 09 20.0 +11
NCB LR LR
comp=Z,318nm,20.0s
MKAR Makanchi Array 112.64 313 PKiKP PKiKP 22 09 08.1 -1.1
comp=Z,1.2nm,0.8s,baz=52,slow=2.0,SNR=9.9
LBNH Lisbon 114.18 50 PFAKE 22 09 20.0 +7.9
LBNH LR LR
comp=Z,341nm,19.0s
HRV Harvard--Oak R 114.26 52 PFAKE 22 09 20.0 +7.7
HRV LR LR
comp=Z,507nm,19.0s
SJG San Juan 114.38 79 PFAKE 22 09 30.0 +17
SJG LR LR
comp=Z,206nm,19.0s
WES Weston 114.42 52 PFAKE 22 09 20.0 +7.4
WES LR LR
comp=Z,580nm,22.0s
KURK Kurchatov 115.36 317 PFAKE 22 09 30.0 +16
KURK LR LR
comp=Z,315nm,21.0s
SCHQ Schefferville 117.77 38 PFAKE 22 09 30.0 +11
SCHQ LR LR
comp=Z,347nm,20.0s
AAK Ala-Archa 117.83 308 PFAKE 22 09 30.0 +11
AAK LR LR
comp=Z,257nm,20.0s
BBSR BB Station 118.48 64 PFAKE 22 09 30.0 +10
BBSR LR LR
comp=Z,256nm,21.0s
BVAR Borovoye Array 120.39 320 PKP PKPdf 22 09 22.7 -1.4
comp=Z,4.2nm,0.8s,baz=280,slow=0.9,SNR=20
BRVK Borovoye 120.45 320 PFAKE 22 09 40.0 +16
BRVK LR LR
comp=Z,181nm,20.0s
KBS Kingsbay 121.63 358 PFAKE 22 09 40.0 +14
KBS LR LR
comp=Z,394nm,21.0s
ARU Arti 126.39 326 *i* PKIKP PKPdf 22 09 35.1 -0.5
ARU *e* 22 11 32.7
ARU *e* 22 16 38.3
ARU *e*SS SS 22 28 34.6 +3.9
ARU Arti 126.39 326 *e*P PKPdf 22 09 34.2 -1.3
KEV Kevo 129.02 350 PFAKE 22 09 50.0 +9.4
KEV LR LR
comp=Z,527nm,22.0s
LVZ Lovozero 129.06 346 PFAKE 22 09 50.0 +9.3
LVZ LR LR
comp=Z,418nm,21.0s
LBTB Lobatse 129.86 206 PFAKE 22 09 50.0 +7.8
LBTB LR LR
comp=Z,307nm,19.0s
ORR Orenburg 130.05 321 *i* PKIKP PKPdf 22 09 46.6 +4.0
ORR pmax pmax
comp=Z,10.0nm,1.2s
RCBR Riachuelo 132.85 120 PFAKE 22 10 00.0 +12
RCBR LR LR
comp=Z,268nm,19.0s
BORG Borgarnes 132.94 14 PFAKE 22 10 00.0 +12
BORG LR LR
comp=Z,415nm,19.0s
LSZ Lusaka 136.98 216 PFAKE 22 10 10.0 +14
LSZ LR LR
comp=Z,367nm,20.0s
OBN Obninsk 137.79 332 *i* PKIKP PKPdf 22 10 02.1 +5.0
OBN pmax pmax
comp=Z,14nm,1.3s
OBN MLR MLR
comp=Z,200nm,16.0s
OBN Obninsk 137.79 332 PFAKE 22 10 10.0 +13
OBN LR LR
comp=Z,339nm,22.0s
GNI Garni 140.24 308 PFAKE 22 10 10.0 +8.5
GNI LR LR
comp=Z,198nm,20.0s
KMBO Kilima Mbogo 140.78 240 PFAKE 22 10 20.0 +17
KMBO LR LR
comp=Z,157nm,19.0s
SUW Suwalki 143.66 341 *e*PKP PKPdf 22 10 10.8 +3.2
AKASG Malin Array Be 144.06 332 *i* PKHKP PKPdf 22 10 04.6 -3.7
comp=Z,2.9nm,0.8s,baz=43,slow=4.3,SNR=6.1
AKASG Malin Array Be 144.06 332 *i* PKHKP PKPdf 22 10 05.1 -3.2
AKASG pmax pmax
comp=Z,3.0nm,0.8s
EAU Auchinoon 144.51 7 *e*P PKPdf 22 10 08.8 -0.3
EAU AMb AMB 22 10 17.3
comp=Z,121nm,1.5s
GMK Mull of Kintyr 144.71 9 *e*P PKPdf 22 10 07.1 -2.4
ELZG Elazig 144.99 308 *i* P PKPbc 22 10 10.4 +1.0
ESK Eskdalemuir 145.06 7 PFAKE 22 10 20.0 +10
ESK LR LR
comp=Z,361nm,21.0s
ECK Cauldkaine Hil 145.20 7 *e*P PKPbc 22 10 09.4 -0.7
SIM Simferopol' 145.29 321 *ce*PKIKP PKiKP 22 10 16.6 +2.2
SIM pmax pmax
comp=Z,30nm,0.9s
GAL1 Galloway 145.31 9 *e*P PKPbc 22 10 08.9 -1.5
MALT Malatya 145.47 308 ⇓*i*P PKiKP 22 10 14.8 0.0
MALT Malatya 145.47 308 *e*PKPdf PKPdf 22 10 11.0 +0.2
MALT ⇓P PKiKP 22 10 14.8 0.0
BBO1 Bothel 145.62 7 *e*P PKPdf 22 10 09.9 -1.1
CKE Keswick 145.79 7 *e*P PKPdf 22 10 10.7 -0.6
XDE Dent Fell 145.82 8 *e*P PKPdf 22 10 11.2 -0.2
XDE AMb AMB 22 10 21.2
comp=Z,105nm,1.5s
WAR Warsaw 145.85 341 *e*PKP PKPdf 22 10 13.7 +2.3
DMUB Kingscourt 145.88 11 ⇓*i*P PKPdf 22 10 11.4 -0.1
GKP Gorka Klasztor 145.94 346 *e*PKP PKPdf 22 10 12.9 +1.3
WIM Isle of Man 146.01 9 *e*P PKPdf 22 10 10.9 -0.8
WIM AMb AMB 22 10 13.6
comp=Z,45nm,1.5s
MBAR Mbarara 146.24 234 *i* PKHKP PKPdf 22 10 14.0 +1.9
DCN Croghan 146.34 12 ⇓*i*P PKPdf 22 10 14.1 +1.8
GZT Gaziantep 146.44 307 *i* P PKPbc 22 10 15.5 +1.6
BSEG Bad Segeberg 146.49 353 *e*PKPbc PKPbc 22 10 13.0 -1.0
DLF Lyons Farm 146.52 11 ⇓*i*P PKPdf 22 10 13.6 +1.0
BOYT Boyabat 146.64 315 *i* P PKPdf 22 10 14.5 +1.8
WCB1 Church Bay 146.78 9 *e*P PKPdf 22 10 13.4 +0.4
WCB1 AMb AMB 22 10 20.3
comp=Z,32nm,1.0s
LVV L'vov 146.86 336 *i* PKHKP 22 10 00.9
WLF1 Llynfaes 146.88 9 *e*P PKPdf 22 10 12.6 -0.6
WLF1 AMb AMB 22 10 14.3
comp=Z,15nm,1.0s
YRC Rhoscolyn 146.90 9 *e*P PKPdf 22 10 12.7 -0.5
YRC AMb AMB 22 10 20.7
comp=Z,21nm,1.3s
LHO Holmfirth 146.95 6 *e*P PKPdf 22 10 13.3 0.0
KBI1 Birley Grange 147.27 6 *e*P PKPdf 22 10 13.7 -0.2
IAS Iasi 147.35 329 PKP2 PKPab 22 10 21.6 +3.2
RUE Ruedersdorf 147.40 349 *e*PKPbc PKPbc 22 10 15.9 -0.7
SBD1 Bryn Du 147.42 8 *e*P PKPdf 22 10 15.2 +1.1
KWE Weaver Farm 147.47 6 *e*P PKPdf 22 10 13.9 -0.2
KWP Kalwaria 147.51 337 *e*PKP PKPbc 22 10 16.5 -0.4
BALT Daday 147.57 316 *i* P PKPab 22 10 21.1 +1.8
CDAG Cicekdag 147.84 313 *i* P PKPab 22 10 20.6 +0.3
HLM1 Long Mynd 147.84 8 *e*P PKPdf 22 10 16.3 +1.5
HLM1 AMb AMB 22 10 26.4
comp=Z,48nm,1.6s
WIT Witteveen 147.91 357 *e*PKP PKPbc 22 10 18.4 +0.4
comp=Z,295nm,1.5s
NRDL Niedersach Rie 147.93 353 *e*PKPbc PKPbc 22 10 16.7 -1.3
OJC Ojcow 147.99 341 *e*PKP PKPbc 22 10 17.6 -0.6
ELDT Eldivan 148.07 315 *i* P PKPbc 22 10 18.8 +0.4
BURAR Bucovina Array 148.11 332 ⇓*i*P PKPab 22 10 23.2 +1.8
STHS Stebnicka Huta 148.21 338 *e*PKP PKPbc 22 10 19.3 +0.6
STHS *e* 22 10 24.3
STHS *e* 22 10 35.4
KOLS Kolonicke sedl 148.25 337 *e* PKPab 22 10 23.7 +1.7
KOLS *e* 22 10 38.0
BR131 Keskin Array S 148.29 313 *e*P PKPbc 22 10 18.8 -0.2
BR131 LR LR
comp=Z,267nm,21.0s
BRTR Keskin Array B 148.29 313 PKPbc PKPbc 22 10 18.4 -0.5
comp=Z,4.6nm,0.9s,baz=133,slow=5.4,SNR=14
BRTR Keskin Array B 148.29 313 *i* PKP2 PKPab 22 10 21.7 -0.5
BRTR pmax pmax
comp=Z,5.0nm,1.0s
MCH1 Michaelchurch 148.34 8 *e*P PKPdf 22 10 16.2 +0.6
IBBN Ibbenburen 148.34 355 *e*PKPbc PKPbc 22 10 19.6 +0.5
KSP Ksiaz 148.40 345 *e*PKP PKPbc 22 10 19.7 +0.5
KSP Ksiaz 148.40 345 *e*PKP PKPdf 22 10 17.1 +1.4
KSP *e* 22 10 24.9
KSP LR LR
comp=Z,900nm,26.5s
CFR Carcaliu 148.47 326 ⇑*i*P PKPbc 22 10 22.7 +3.3
NIE Niedzica 148.52 339 *e*PKP PKPbc 22 10 19.9 +0.3
CLZ Clausthal 148.54 352 *e*PKPbc PKPbc 22 10 19.9 +0.3
CRVS Cervenica-Dubn 148.57 338 *e*PKP PKPab 22 10 31.5 +8.2
CLL Collm 148.66 349 *e*PKPbc PKPbc 22 10 18.9 -1.0
CLL Collm 148.66 349 *i* PKPbc PKPbc 22 10 19.8 -0.1
comp=Z,30nm,1.5s
CLL *i* PKPab PKPab 22 10 22.1 -1.6
comp=Z,29nm,1.4s
CLL ⇑*i*pPKPbc pPKPbc 22 10 25.2 -13
comp=Z,44nm,1.0s
CLL *i* sPKPbc 22 10 28.2
CLL Collm 148.66 349 ⇑*i*PKIKP PKPbc 22 10 19.8 -0.1
CLL *i* 22 10 25.2
CLL *i* 22 10 28.2
CLL pmax pmax
comp=Z,30nm,1.5s
CLL pmax pmax
comp=Z,44nm,1.0s
CLL MLR MLR
comp=Z,400nm,23.5s
VRI Vrincioaia 148.71 329 ⇓*i*P PKPab 22 10 25.5 +1.7
WTSB Winterswijk 148.75 357 *e*PKP PKPbc 22 10 19.4 -0.8
comp=Z,32nm,1.7s
PLOR Plostina 148.75 329 ⇑*i*P PKPab 22 10 22.8 -1.2
UPC Upice 148.78 345 *e*PKPbc PKPbc 22 10 20.4 +0.2
UPC *e*PKPab PKPab 22 10 25.7 +1.5
ANTO Ankara 148.80 314 PFAKE 22 10 30.0 +14
ANTO LR LR
comp=Z,224nm,19.0s
TIRR Tirgusor 148.81 325 ⇓*i*P PKPab 22 10 25.2 +0.9
TIRR Tirgusor 148.81 325 ⇓P PKPab 22 10 25.2 +0.9
OKC Ostrava-Krasne 148.83 342 *e*PKPbc PKPbc 22 10 19.8 -0.5
OKC *e*PKPab PKPab 22 10 25.7 +1.4
OKC AMS AMS 23 14 10.0
comp=Z,500nm,20.7s
OKC Ostrava-Krasne 148.83 342 *e*PKP PKPbc 22 10 19.8 -0.5
OKC *e* 22 10 25.7
DPC Dobruska-Polom 148.85 345 *e*PKPbc PKPbc 22 10 20.6 +0.2
DPC *e*PKPab PKPab 22 10 26.0 +1.6
DPC AMS AMS 23 10 40.0
comp=Z,400nm,24.7s
BRG Berggiesshubel 148.90 348 *e*PKPbc PKPbc 22 10 19.7 -0.8
BRG Berggiesshubel 148.90 348 *e*PKIKP PKPbc 22 10 20.3 -0.2
BRG *i* 22 10 24.4
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=N,333nm,33.0s
BRG MLR MLR
comp=E,284nm,28.5s
BRG MLR MLR
comp=Z,50nm,18.5s
BRG Berggiesshubel 148.90 348 *e*PKP PKPbc 22 10 20.3 -0.2
BRG *i* 22 10 24.4
BRG LR LR
comp=Z,50nm,18.5s
SGKT Sivrigoynuk 148.93 316 *i* P PKPbc 22 10 21.5 +0.9
FBE Freiberg 148.97 348 *e*PKPbc PKPbc 22 10 20.0 -0.7
MORC Moravsky Berou 149.05 343 ⇑*i*P PKPbc 22 10 20.0 -0.9
MORC Moravsky Berou 149.05 343 P PKPbc 22 10 21.5 +0.6
PVCC Panska Ves 149.09 347 *e*PKPbc PKPbc 22 10 21.3 +0.3
PVCC *e*pPKP pPKPdf 22 10 29.6 -5.3
PVCC AMS AMS 23 16 10.0
comp=Z,300nm,17.5s
HEX Exmoor 149.13 9 *e*P PKPdf 22 10 17.2 +0.3
KECS Kecovo 149.27 338 *e*PKP PKPbc 22 10 20.9 -0.5
KECS *e* 22 10 26.8
KECS *e* 22 10 43.8
KECS Kecovo 149.27 338 *e*PKHKP PKPbc 22 10 20.9 -0.5
KECS *e* 22 10 26.8
MEST Erdemli 149.27 307 *i* P PKPbc 22 10 21.7 +0.3
MLR Muntele Rosu 149.36 329 ⇑*i*P PKPbc 22 10 22.1 +0.4
MLR Muntele Rosu 149.36 329 P PKPbc 22 10 21.9 +0.3
MOX Moxa 149.53 350 *e*PKP PKPbc 22 10 21.6 -0.5
comp=Z,62nm,1.6s
MOX
comp=Z,100nm,21.0s
PRA Prague 149.55 347 PKPbc PKPbc 22 10 24.0 +1.9
PRA PKPab PKPab 22 10 28.0 +0.7
UBBA Unterbreizbach 149.59 352 *e*PKPbc PKPbc 22 10 22.5 +0.3
PRU Pruhonice 149.61 346 *e*PKPbc PKPbc 22 10 22.5 +0.2
PRU *e*PKPab PKPab 22 10 27.5 0.0
WERD Werda 149.61 349 *e*PKPbc PKPbc 22 10 21.4 -0.9
TANN Tannenbergstha 149.61 349 *e*PKPbc PKPbc 22 10 21.5 -0.8
SNX Sinaia 149.66 329 ⇑*i*P PKPbc 22 10 25.8 +3.4
DYA Yadsworthy 149.72 10 *e*P PKPdf 22 10 17.9 +0.1
VRAC Vranov 149.74 343 ⇑*i*P PKPab 22 10 27.9 -0.1
NKC Novy Kostel 149.79 349 *e*PKPbc PKPbc 22 10 22.8 +0.1
NKC *e*PKPab PKPab 22 10 27.5 -0.8
NKC AMS AMS 23 11 50.0
comp=Z,300nm,19.8s
NKC Novy Kostel 149.79 349 *e*PKP PKPbc 22 10 22.8 +0.1
NKC *e* 22 10 27.5
VYHS Vyhne 149.81 340 *e*PKP PKPbc 22 10 22.5 -0.3
VYHS *e* 22 10 28.3
VYHS *e* 22 10 37.3
VYHS Vyhne 149.81 340 *e*PKHKP PKPbc 22 10 22.5 -0.3
VYHS *e* 22 10 28.3
VYHS Vyhne 149.81 340 *e*PKP PKPbc 22 10 22.5 -0.3
VYHS *e* 22 10 28.3
VYHS *e* 22 10 37.3
VYHS LR LR
comp=Z,300nm,24.2s
DRGR 149.82 334 ⇓*i*P PKPbc 22 10 22.6 -0.2
DRGR 149.82 334 P PKPbc 22 10 23.1 +0.3
VOIR 149.83 330 ⇓*i*P PKPbc 22 10 25.8 +3.0
KOLL Kolacno 149.87 341 *e*PKP PKPbc 22 10 23.1 +0.2
KOLL *e* 22 10 28.6
PSZ Piszkesteto 149.96 338 *e*PKP/p PKPab 22 10 29.1 +0.2
PSZ Piszkesteto 149.96 338 P PKPbc 22 10 23.7 +0.5
UCC Uccle 150.00 359 PKP PKPdf 22 10 17.2 -1.1
UCC PKPab PKPab 22 10 28.3 -0.9
TREC Trest 150.03 345 *e*PKPbc PKPbc 22 10 23.1 -0.2
TREC *e*PKPab PKPab 22 10 28.6 -0.7
TREC AMS AMS 23 15 40.0
comp=Z,400nm,21.6s
MANZ Manzenberg 150.09 349 *e*PKPbc PKPbc 22 10 23.0 -0.5
MEM Membach 150.14 357 PKPbc PKPbc 22 10 23.4 -0.2
MEM APKPbc 22 10 29.1
ERMK Ermenek 150.16 308 *i* P PKPdf 22 10 19.7 +1.2
PRD Provadia 150.19 324 *i* P PKPab 22 10 29.8 -0.1
MENF Mencas 150.21 2 PKP PKPbc 22 10 25.9 +2.2
MENF Mencas 150.21 2 *e*P PKPbc 22 10 25.9 +2.2
ROTZ Rotzenmuhle 150.28 349 *e*PKPbc PKPbc 22 10 23.3 -0.6
BORA Eskisehir 150.34 316 *i* P PKPbc 22 10 28.2 +4.1
GRF Grafenberg Arr 150.52 350 *e*PKPbc PKPbc 22 10 24.2 -0.3
GRF *e*pPKPbc pPKPbc 22 10 29.7 -13
GRF *e*L 23 18 22.1
comp=Z,250nm,21.9s
ZST Bratislava 150.60 342 *e*PKP PKPbc 22 10 25.3 +0.6
ZST *e* 22 10 30.9
KHC Kasperske Hory 150.62 347 *e*PKPbc PKPbc 22 10 23.6 -0.1
KHC *e*PKPab PKPab 22 10 30.4 -1.3
KHC AMS AMS 23 16 40.0
comp=Z,300nm,20.7s
KHC Kasperske Hory 150.62 347 *c i*PKIKP PKPbc 22 10 24.4 -0.3
BUD Budapest 150.63 339 *e*pPKP/F PKPab 22 10 27.6 -4.1
GIVF Givet 150.69 359 *e*PKIKP PKPbc 22 10 24.5 -0.4
comp=Z,146nm,1.5s
DOU Dourbes 150.70 359 PKPbc PKPbc 22 10 24.4 -0.5
DOU APKPbc 22 10 30.3
BAIF Baives 150.74 360 *e*PKIKP PKPbc 22 10 24.7 -0.3
comp=Z,87nm,1.5s
WET Wettzell 150.75 348 *e*PKPbc PKPbc 22 10 24.3 -0.7
ABH Alteburg 150.77 355 *e*P PKPbc 22 10 24.5 -0.6
GEC2 GERESS Array S 150.87 347 *e*PKPbc PKPbc 22 10 24.4 -0.9
GERES GERESS Array B 150.87 347 PKPbc PKPbc 22 10 23.8 -1.5
comp=Z,7.6nm,1.1s,baz=52,slow=2.2,SNR=24
GZR Gura Zlata 150.90 332 ⇓*i*P PKPbc 22 10 25.6 +0.2
RUP Ruppelstein 150.99 356 *e*PKIKP PKPbc 22 10 25.6 0.0
WLF Walferdange 151.08 357 *e*PKPbc PKPbc 22 10 25.4 -0.4
WLF Walferdange 151.08 357 PKPbc PKPbc 22 10 24.6 -1.2
WLF E 22 10 26.3
WLF APKPbc 22 10 32.1
WLF Walferdange 151.08 357 *e*P PKPbc 22 10 24.5 -1.3
JVM Valle D.L. Mar 151.17 8 *e*P PKPdf 22 10 21.0 +1.0
CONA Conrad Observa 151.20 343 ⇓*e*PKIKP PKiKP 22 10 26.5 -0.1
comp=Z,9.2nm,1.2s
CONA ⇓*i*PKPab PKPab 22 10 32.3 -1.8
comp=Z,35nm,1.1s
BZS Buzias 151.22 334 ⇓*i*P PKPbc 22 10 28.6 +2.5
BZS Buzias 151.22 334 PKIKP PKPbc 22 10 26.0 -0.1
SOP Sopron 151.22 342 *es*PKP/F PKPab 22 10 32.1 -2.1
LANF Langenberg 151.64 355 PKP PKPbc 22 10 25.8 -1.3
LANF Langenberg 151.64 355 *e*P PKPbc 22 10 32.1 +5.0
MOA Molin 151.68 345 ⇑*i*P PKPbc 22 10 27.7 +0.5
comp=Z,13nm,1.3s
STU Stuttgart 151.70 353 *e*PKPbc PKPbc 22 10 27.4 +0.2
FLN La Foliniere 151.82 6 *e*PKIKP PKPbc 22 10 26.6 -0.9
comp=Z,130nm,1.7s
PKSM Moragy 151.86 338 ⇓*i*P PKPbc 22 10 32.1 +4.5
PKSM Moragy 151.86 338 P PKPbc 22 10 26.2 -1.4
ROSF Rostrenen 151.87 10 *e*PKIKP PKPbc 22 10 26.5 -1.1
comp=Z,51nm,1.4s
ARSA Arzberg 151.91 343 ⇑*e* PKPab 22 10 43.0 +5.9
comp=Z,13nm,1.1s
ARSA Arzberg 151.91 343 ⇓*e*PKiKP PKiKP 22 10 28.7 +0.7
comp=Z,7.8nm,1.6s
ARSA ⇑*e*PKPab PKPab 22 10 43.0 +5.9
comp=Z,13nm,1.1s
BTOK Tokmak 151.96 318 *i* P PKPbc 22 10 25.9 -1.9
DIM Dimitrovgrad 151.98 324 *i* P PKPab 22 10 32.2 -5.2
FUR Furstenfeldbru 151.99 349 *e*PKPbc PKPbc 22 10 26.7 -1.2
LDF La Druitiere 152.02 6 *e*PKIKP PKPbc 22 10 27.1 -0.9
comp=Z,29nm,1.1s
SGMF Saint Gilles 152.06 9 *e*PKIKP PKPbc 22 10 26.9 -1.1
comp=Z,18nm,0.8s
GRR Gorron 152.15 7 *e*PKIKP PKPbc 22 10 27.3 -0.9
comp=Z,29nm,0.8s
BFO Black Forest 152.24 354 *e*PKPbc PKPbc 22 10 27.4 -1.0
WLS Welschbruch 152.25 355 PKP PKPbc 22 10 28.9 +0.4
WLS Welschbruch 152.25 355 *e*P PKPbc 22 10 33.4 +4.9
CDF Champ du Feu 152.25 355 *e*PKIKP PKPbc 22 10 27.9 -0.6
comp=Z,43nm,1.3s
MEZF Maizieres J'vi 152.28 358 *e*PKIKP PKPbc 22 10 28.3 -0.2
comp=Z,83nm,1.5s
ECH Echery 152.46 355 PKP PKPbc 22 10 29.3 +0.4
ECH Echery 152.46 355 *e*P PKPbc 22 10 32.7 +3.8
THEF They Montfort 152.52 357 PKP PKPbc 22 10 29.3 +0.2
KBA Koelnbreinsper 152.62 346 ⇑*i* PKPab 22 10 35.0 -5.0
comp=Z,17nm,1.1s
KBA Koelnbreinsper 152.62 346 ⇑*i*PKPbc PKPbc 22 10 28.0 -1.3
comp=Z,4.8nm,1.3s
KBA ⇑*i*PKPab PKPab 22 10 35.0 -5.0
comp=Z,17nm,1.1s
WATA Walderalm 152.74 349 ⇓*i* PKPab 22 10 36.1 -4.5
comp=Z,2.5nm,0.4s
WATA Walderalm 152.74 349 ⇑*e*PKiKP PKiKP 22 10 29.3 -0.5
comp=Z,1.6nm,0.4s
WATA ⇓*i*PKPab PKPab 22 10 36.1 -4.5
comp=Z,2.5nm,0.4s
WTTA Wattenberg 152.80 348 ⇑*i* PKPab 22 10 36.0 -4.8
comp=Z,28nm,1.1s
WTTA Wattenberg 152.80 348 ⇑*i*PKPbc PKPbc 22 10 28.8 -0.9
comp=Z,7.4nm,1.4s
WTTA ⇑*i*PKPab PKPab 22 10 36.0 -4.8
comp=Z,28nm,1.1s
MOTA Moosalm 152.81 349 ⇓*i* PKPab 22 10 35.3 -5.6
comp=Z,18nm,1.2s
MOTA Moosalm 152.81 349 ⇓*i*PKPbc PKPbc 22 10 29.0 -0.7
comp=Z,3.6nm,1.1s
MOTA ⇓*i*PKPab PKPab 22 10 35.3 -5.6

comp=Z,18nm,1.2s
MOF Molkenrain 152.82 355 *e*P PKPbc 22 10 33.0 +3.3
OBKA Obir 152.85 344⇑*i* PKPab 22 10 36.7 -4.4
comp=Z,13nm,1.1s
OBKA Obir 152.85 344⇑*i*PKPdf PKPdf 22 10 23.2 +0.6
comp=Z,8.0nm,1.6s
OBKA ⇑*i*PKPab PKPab 22 10 36.7 -4.4
comp=Z,13nm,1.1s
DAVA Damuels 153.07 351⇓*i*PKiKP PKiKP 22 10 30.1 -0.3
comp=Z,6.0nm,1.1s
DAVA ⇑*i*PKPab PKPab 22 10 36.9 -5.0
comp=Z,32nm,1.3s
DIVS Divcibare 153.12 334 *i* PKP PKPbc 22 10 27.9 -2.6
GCIS Gornji Cirnik 153.14 342 *e*PKPbc PKPbc 22 10 35.2 +4.7
LJU Ljubljana 153.29 343 *e*PKPbc PKPbc 22 10 36.0 +5.2
LOMF Lomont 153.34 356 *e*P PKPbc 22 10 37.7 +6.8
KKB Krupnik 153.41 327 *i* P PKPab 22 10 35.4 -8.0
LOR Lormes 153.53 0 *e*PKIKP PKPdf 22 10 29.1 +5.5
comp=Z,15nm,1.0s
LOR *e*R
comp=Z,598nm,22.2s
BOJS Bojanci 153.58 342 *e*PKPbc PKPbc 22 10 36.4 +5.0
SSF Saint Saulge 153.74 1 *e*PKIKP PKPbc 22 10 29.7 -2.0
comp=Z,28nm,1.0s
MFF Saint Martin d 153.99 6 *e*PKIKP PKPbc 22 10 30.4 -1.9
TCF Toulx Ste Croi 154.47 3 *e*PKIKP PKPbc 22 10 30.8 -2.5
comp=Z,13nm,1.0s
PLDF La Plantade 154.83 0 *e*P pPKPbc 22 10 54.5 +2.4
RJF Les Rejaudoux 155.42 4 *e*PKIKP PKPdf 22 10 32.5 +6.3
RJF *e*R
comp=Z,622nm,20.0s
LFF La Frestale 155.72 5 *e*PKIKP PKPdf 22 10 33.0 +6.4
MTLF Montolieu 157.42 3 *e*PKIKP PKPdf 22 10 35.4 +6.6
comp=Z,9.2nm,1.2s
ESDC Sonseca Array 159.96 18 PKPab PKPab 22 11 11.0 -0.5
comp=Z,1.2nm,0.8s,baz=326,slow=4.6,SNR=4.4
ESLA Sonseca Array 159.96 18 PFAKE 22 10 40.0 +8.2
ESLA LR LR
comp=Z,2μm,20.0s
DBIC Dimbokro 163.65 148 PFAKE 22 10 50.0 +14
DBIC LR LR
comp=Z,412nm,21.0s
TORD Torodi Ar. Bea 172.17 164 PKP PKPdf 22 10 40.9 -0.6
comp=Z,1.2nm,1.0s,baz=354,slow=1.5,SNR=3.7
TORD PKPab PKPab 22 12 06.2 +0.8
comp=Z,1.2nm,1.1s,baz=199,slow=2.6,SNR=2.6
TORD Torodi Ar. Bea 172.17 164 PKP PKPdf 22 10 40.9 -0.6
TORD PKPab PKPab 22 12 06.2 +0.8

*IDC **23** 22:07:47.9±1.8,2732N×8843E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.4/21,mbtmp3.4/4,Error ellipse: s-maj=61.6km s-min=27.1km az=63.0*
*ISCJB **23** 22:07:48.6±0.9,2749N±005×8870E±009,h10km,mb3.5/3, Error ellipse: s-maj=11.0km s-min=7.7km az=13.9*
*NDI **23** 22:08:00.7±3.5,2630N×8861E,h10km,MD2.6*
ISC 23 22:07:50.1±0.8,**2748N**±005×**8869E**±007,**h10**km,**n6**, σ0°**93**/9,**mb3.5**/3,**Sikkim**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGI	**Shiliguri**	**0.81**	**198**	*i* PG	**Pg**	**22 08 06.5**	**+0.8**
SLGI				*i* SG	**Sg**	**22 08 16.0**	**-0.3**
SHL	**Shillong**	**3.43**	**123**	*e*PN	**Pn**	**22 08 50.0**	**+6.3**
SHL				*e*x	x	22 09 05.0	
SHL				*e*SN	**Sn**	**22 09 25.0**	**+0.6**
SHL				*e*SG	**Sg**	**22 09 39.5**	**-0.9**
MKAR	**Makanchi Array**	**19.93**	**347**	P	**Pn**	**22 12 23.1**	**-0.7**
0.4nm,0.5s,baz=155,slow=11,SNR=6.9							
SONM	**Songino Array**	**24.58**	**30**	P	**P**	**22 13 12.0**	**+1.8**
0.1nm,0.3s,mb2.8,baz=231,slow=9.1,SNR=2.6							
FINES	**FINESS Array B**	**53.21**	**328**	P	**P**	**22 17 07.3**	**-1.3**
0.5nm,0.8s,mb3.5,baz=100,slow=8.5,SNR=4.3							
WRA	**Warramunga Arr**	**64.61**	**132**	P	**P**	**22 18 28.0**	**+0.2**
1.2nm,0.7s,mb4.1,baz=324,slow=6.7,SNR=8.6							

IDC 23 22:14:15.6±65.0,**2138S**×**17800W**,**h0**km,**mb4.0**/3, **mb1 4.2**/3,**mb1mx3.8**/11,**mbtmp4.0**/3,**Error ellipse: s-maj=1186.0km s-min=164.5km az=84.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.42**	**245**	P	P	22 21 29.4	-1.0
1.1nm,0.5s,baz=74,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**44.33**	**258**	P	P	22 22 28.1	+0.7
2.0nm,0.7s,baz=96,slow=7.7,SNR=18							
WRA	**Warramunga Arr**	**44.49**	**263**	P	P	22 22 29.4	+0.7
1.0nm,0.3s,baz=95,slow=8.1,SNR=22							

*ISCJB **23** 22:18:47.8±0.7,3452N±007×2445E±0.1,h10km,Error ellipse: s-maj=18.2km s-min=7.5km az=140.6*
*ATH **23** 22:18:55.1,3512N×2442E,h28km±3km,MD3.5/5*
*NEIC **23** 22:18:55.1,3513N×2442E,h28km,MD3.5(ATH),After ATH.*
*CSEM **23** 22:18:56.2±0.2,3520N×2452E,h20km,MD3.5,Error ellipse: s-maj=12.6km s-min=1.7km az=25.0*
*HLW **23** 22:18:58.8,3411N×2493E,h33km,Mb3.0*
ISC 23 22:18:49.2±0.8,**3454N**±007×**243E**±01,**h10**km,**n10**, σ0°**96**/10,**4C-1D**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.88**	**354**	*e*PB	**Pb**	**22 19 03.0**	**-3.5**
XRY	**Khrisi**	**1.18**	**73**	*e*PN	**Pn**	**22 19 15.5**	**+3.7**
NPS	**Neapolis**	**1.29**	**55**	*e*PN	**Pn**	**22 19 14.0**	**+0.8**
KYTH	**Kithira**	**2.03**	**329**	*e*PN	**Pn**	**22 19 24.0**	**+0.6**
VLI	**Veliai**	**2.45**	**333**	*e*PN	**Pn**	**22 19 28.8**	**-0.4**
SLUM		**3.13**	**166**	⇓P	**Pn**	**22 19 38.9**	**+0.4**
SLUM				S	Sx	22 20 07.8	
HMAT	**Matruh**	**4.15**	**145**	⇑P	**Pn**	**22 19 51.3**	**-1.3**
SWA2		**5.36**	**169**	⇑P	**Pn**	**22 20 09.7**	**+0.4**
SWA2				S	Sx	22 21 02.3	
SWA1		**5.39**	**167**	⇑P	**Pn**	**22 20 09.9**	**+0.4**
SWA1				S	Sx	22 21 01.8	
AMAG	**Maghara**	**8.44**	**115**	⇑P	**Pn**	**22 20 50.8**	**-0.7**

*ISCJB **23** 22:42:50.4±0.6,1473S±004×7156W±005,h108km±6km, mb4.4/27,Error ellipse: s-maj=8.2km s-min=6.1km az=112.8*
*IDC **23** 22:42:50.1±2.5,1474S×7141W,h91km±23km,mb4.2/13, mb1 4.3/17,mb1mx4.2/22,mbtmp4.5/17,MS3.2/3, Ms1 3.3/3,ms1mx3.0/28,Error ellipse: s-maj=22.1km s-min=12.9km az=68.0*
*BJI **23** 22:42:51.5,1550S×7160W,h108km,mB5.0*
*NEIC **23** 22:42:52.1±0.6,1480S×7148W,h109km±6km,mb4.6/16, Error ellipse: s-maj=8.7km s-min=5.2km az=66.0*
ISC 23 22:42:53.5±0.6,**1482S**±004×**7142W**±005,**h122**km±6km, **n75**,σ0°**86**/67,**mb4.4**/27,**3C-1D**,**Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.63**	**182**	⇓*i*P	**Pn**	**22 43 22.5**	**-0.1**
ARE				*i* S	**Sn**	**22 43 45.0**	**+0.3**
LPAZ	**La Paz**	**3.49**	**115**	P	**Pn**	**22 43 51.3**	**+5.1**
24nm,0.3s,baz=297,slow=13,SNR=276							
LPAZ				LR	LR	22 44 43.2	
comp=Z,429nm,19.1s,baz=201,slow=32							
LPAZ	**La Paz**	**3.49**	**115**	⇑*i*Pn	**Pn**	**22 43 51.2**	**+5.0**
NNA	**Nana**	**5.98**	**297**	⇑*i*Pn	**Pn**	**22 44 14.7**	**-5.0**
604nm,0.8s							
NNA				*e*Sn	**Sn**	**22 45 19.7**	**-7.2**
LVC	**Limon Verde**	**8.11**	**163**	P	**Pn**	**22 44 46.7**	**-1.6**
16nm,0.3s,baz=329,slow=9.6,SNR=48							
LVC				S	**Sn**	**22 46 12.4**	**-5.9**
17nm,0.3s,baz=146,slow=21,SNR=30							
SAML	**Samuel**	**9.95**	**55**	*e*Pn	**Pn**	**22 45 13.4**	**+0.2**
48nm,1.0s							
SAML				*e*Sn	**Sn**	**22 47 03.2**	**+0.3**
SIV	**San Ignacio**	**10.05**	**98**	P	**Pn**	**22 45 15.0**	**+0.4**
2.3nm,0.3s,baz=284,slow=12,SNR=113							
SIV				S	**Sn**	**22 47 20.0**	**+15**
0.5nm,0.3s,baz=328,slow=12,SNR=4.0							
ATAH	**Atahualpa**	**10.36**	**318**	P	**Pn**	**22 45 13.6**	**-5.1**
0.9nm,0.3s,baz=165,slow=21,SNR=6.5							
ATAH				S	**Sn**	**22 47 13.0**	**+0.2**
1.2nm,0.3s,baz=224,slow=16,SNR=3.5							
OTAV	**Otavalo**	**16.50**	**334**	*e*Pn	**Pn**	**22 46 39.4**	**+1.7**
25nm,1.0s							

CFAA	**Coronel Fontan**	**16.96**	**171**	P	**Pn**	**22 46 42.5**	**-0.8**
0.3nm,0.3s,baz=348,slow=9.8,SNR=21							
CFAA				LR	LR	22 53 11.6	
comp=Z,19nm,18.5s,baz=245,slow=36							
CPUP	**Villa Florida**	**17.45**	**133**	P	**Pn**	**22 46 48.5**	**-0.7**
1.7nm,0.3s,baz=293,slow=11,SNR=71							
MDZ	**Mendoza**	**18.13**	**173**	*e*P	**P**	**22 46 57.1**	**+1.0**
ROSC	**El Rosal**	**19.76**	**351**	P	**P**	**22 47 16.6**	**+2.7**
0.6nm,0.3s,baz=277,slow=22,SNR=8.3							
BDFB	**Brasilia**	**22.60**	**95**	P	**P**	**22 47 44.7**	**+0.7**
38nm,0.8s,mb4.8,baz=270,slow=12,SNR=48							
BAO	**Brasilia Array**	**22.62**	**95**	P	**P**	**22 47 45.0**	**+0.8**
SDV	**Santo Domingo**	**23.57**	**2**	P	**P**	**22 47 53.2**	**+0.4**
66nm,0.9s,mb5.0,baz=236,slow=7.9,SNR=29							
TRQA	**Tornquist**	**24.61**	**162**	*e*P	**P**	**22 48 02.5**	**+0.1**
3.5nm,0.6s,mb4.0							
PCRV	**Puerto La Cruz**	**25.73**	**16**	LR	LR	22 58 18.2	
comp=Z,160nm,19.4s,baz=116,slow=36							
PLCA	**Paso Flores**	**25.83**	**178**	P	**P**	**22 48 13.1**	**-0.3**
2.3nm,0.5s,mb3.9,baz=356,slow=11,SNR=14							
PLCA	**Paso Flores**	**25.83**	**178**	P	**P**	**22 48 13.1**	**-0.3**
JTS	**JuntasAbangare**	**28.33**	**331**	*e*P	**P**	**22 48 34.8**	**-0.9**
7.1nm,0.9s,mb4.2							
CPD	**Cerro la Pandu**	**33.10**	**10**	*e*P	**P**	**22 49 16.6**	**-1.1**
SJG	**San Juan**	**33.13**	**9**	P	**P**	**22 49 16.9**	**-1.1**
13nm,0.6s,mb5.0,baz=198,slow=6.4,SNR=5.1							
CBYP	**Canovanas**	**33.34**	**10**	*e*P	**P**	**22 49 18.7**	**-1.1**
TEIG	**Tepich**	**38.57**	**334**	*e*P	**P**	**22 50 03.2**	**-1.2**
1.6nm,0.5s,mb4.1							
LRAL	**Lakeview Retre**	**49.86**	**343**	*e*P	**P**	**22 51 33.6**	**-0.7**
10nm,0.9s,mb4.8							
PLAL	**Pickwick Lake**	**51.99**	**343**	*e*P	**P**	**22 51 49.1**	**-1.1**
8.7nm,0.9s,mb4.8							
TZTN	**Tazewell**	**52.35**	**348**	*e*P	**P**	**22 51 51.3**	**-1.6**
BLA	**Blacksburg**	**52.44**	**351**	*e*P	**P**	**22 51 54.3**	**+0.7**
1.3nm,0.8s,mb4.0							
ELN	**Prospectdale**	**52.51**	**351**	*e*P	**P**	**22 51 55.0**	**+0.9**
FWV	**Forest Hill**	**52.87**	**351**	*e*P	**P**	**22 51 57.2**	**+0.5**
WVT	**Waverly**	**53.00**	**343**	*e*P	**P**	**22 51 55.9**	**-1.7**
6.2nm,0.9s,mb4.6							
MIAR	**Mount Ida**	**53.42**	**337**	*e*P	**P**	**22 52 00.7**	**0.0**
9.9nm,0.8s,mb4.9							
WCI	**Wyandotte Cave**	**54.58**	**346**	*e*P	**P**	**22 52 08.0**	**-1.2**
8.6nm,0.6s,mb5.0							
MCWV	**Mont Chateau**	**54.76**	**352**	*e*P	**P**	**22 52 11.3**	**+0.9**
SIUC	**Southern Illin**	**54.87**	**343**	*e*P	**P**	**22 52 11.0**	**-0.3**
FVM	**French Village**	**55.47**	**342**	*e*P	**P**	**22 52 14.3**	**-1.3**
17nm,0.6s,mb5.2							
MNTX	**Cornudas Mount**	**56.58**	**325**	*e*P	**P**	**22 52 22.9**	**-0.5**
ALLY	**Alegheny Colle**	**56.76**	**352**	*e*P	**P**	**22 52 25.1**	**+0.4**
BINY	**Binghamton**	**56.89**	**356**	*e*P	**P**	**22 52 25.6**	**-0.1**
14nm,0.8s,mb5.0							
ERPA	**Erie**	**57.20**	**352**	*e*P	**P**	**22 52 28.3**	**+0.5**
LAZ	**Ladron**	**59.58**	**326**	*e*P	**P**	**22 52 45.0**	**+0.7**
ANMO	**Albuquerque**	**59.63**	**327**	*e*P	**P**	**22 52 45.2**	**+0.5**
SRU	**San Rafael**	**64.90**	**327**	*e*P	**P**	**22 53 20.6**	**+0.8**
MSU	**Marysvale**	**65.35**	**326**	*e*P	**P**	**22 53 24.0**	**+1.3**
ARUT	**Antelope Range**	**65.53**	**324**	*e*P	**P**	**22 53 24.8**	**+0.9**
PDAR	**Pinedale Array**	**67.16**	**330**	P	**P**	**22 53 34.1**	**-0.1**
0.5nm,0.5s,mb3.6,baz=160,slow=4.7,SNR=6.2							
ULM	**Lac du Bonnet**	**68.27**	**343**	P	**P**	**22 53 40.1**	**-1.1**
7.8nm,0.8s,mb4.6,baz=151,slow=6.8,SNR=15							
LOHW	**Long Hollow**	**68.30**	**330**	*e*P	**P**	**22 53 42.2**	**+0.8**
3.7nm,0.7s,mb4.3							
DBIC	**Dimbokro**	**69.34**	**77**	P	**P**	**22 53 47.3**	**-0.6**
0.8nm,0.3s,mb4.0,baz=270,slow=15,SNR=3.6							
SCHQ	**Schefferville**	**69.48**	**3**	P	**P**	**22 53 47.6**	**-1.1**
4.7nm,1.0s,mb4.3,baz=137,slow=0.4,SNR=4.2							
MCMT	**McKenzie Canyo**	**70.28**	**330**	*e*P	**P**	**22 53 54.4**	**+0.8**
BOZ	**Bozeman (W)**	**70.31**	**331**	*e*P	**P**	**22 53 54.4**	**+0.6**
QSPA	**South Pole Qui**	**75.33**	**180**	*e*P	**P**	**22 54 23.9**	**+0.5**
4.7nm,0.8s,mb4.3							
FCC	**Fort Churchill**	**75.63**	**348**	*e*P	**P**	**22 54 24.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**77.51**	**73**	P	**P**	**22 54 35.6**	**-0.1**
0.9nm,0.4s,mb3.9,baz=262,slow=4.8,SNR=25							
VNDA	**Vanda**	**82.98**	**190**	P	**P**	**22 55 05.6**	**+0.6**
0.7nm,0.7s,mb3.6,baz=126,slow=6.6,SNR=5.2							
SYO	**Syowa Base**	**83.56**	**160**⇑*e*X		**P**	**22 55 07.9**	**-0.1**
YKA	**Yellowknife Ar**	**84.13**	**341**	P	**P**	**22 55 10.3**	**-0.5**
4.0nm,0.6s,mb4.4,baz=136,slow=5.2,SNR=18							
BOSA	**Boshof**	**88.72**	**119**	P	**P**	**22 55 34.6**	**+1.3**
3.2nm,0.7s,mb4.5,baz=274,slow=17,SNR=6.9							
SUMG	**Summit**	**89.88**	**9**	*e*P	**P**	**22 55 39.2**	**+0.5**
14nm,1.1s,mb5.0							
MAW	**Mawson**	**91.38**	**164**	P	**P**	**22 55 45.9**	**+0.3**
1.8nm,1.0s,mb4.2,baz=239,slow=2.0,SNR=4.7							
MKAR	**Makanchi Array**	**141.30**	**29**	PKhKP		23 02 04.4	
0.4nm,0.6s,baz=308,slow=4.0,SNR=5.4							
MKAR				SKPbc	SKPbc	23 05 36.7	+1.2
0.8nm,0.8s,baz=349,slow=2.6,SNR=5.5							
MDJ	**Mudanjiang**	**145.36**	**333**	PKP	PKPdf	23 02 19.8	+2.9
MJAR	**Matsushiro Arr**	**145.87**	**315**	PKPbc	PKPbc	23 02 18.7	+0.1
4.4nm,0.8s,baz=69,slow=2.1,SNR=13							
MAJO	**Matsushiro**	**145.87**	**315**	*e*PKPdf	PKPdf	23 02 18.4	+0.7
WMQ	**Urumqi**	**146.04**	**28**	PKP	PKPdf	23 02 21.1	+3.0
ULN	**Ulaanbaatar**	**147.03**	**2**	*e*PKPdf	PKPdf	23 02 20.6	+0.8
SONM	**Songino Array**	**147.03**	**3**	PKPbc	PKPbc	23 02 23.2	+1.3
2.9nm,0.7s,baz=330,slow=2.0,SNR=24							
CN2	**Changchun**	**147.72**	**337**	*e*PKP	PKPdf	23 02 23.3	+2.4
CN2				PP	PP	23 05 54.3	+2.8
CN2				PP	PP		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,200nm,19.0s							
CN2				LR	LR		
comp=E,200nm,19.0s							
CN2				LR	LR		
comp=Z,200nm,21.0s							
HHC	**Hu-ho-hao-te**	**153.94**	**355**	*e*PKP	PKPdf	23 02 32.5	+2.1
HHC				PKP2	PKPab	23 02 55.1	+2.9
HHC				APKP		23 02 59.3	
HHC				XPKP		23 03 09.9	
HHC				PKS		23 06 05.4	
HHC				PP	PP	23 06 29.9	+2.8
HHC				SKS	SKSdf	23 09 27.8	+1.8
HHC				SKKS	SKKSac	23 13 07.6	+2.0
HHC				PP	PP		
comp=Z,80nm,7.2s							
HHC				LR	LR		
comp=N,150nm,19.0s							
HHC				LR	LR		
comp=E,100nm,16.7s							
HHC				LR	LR		
comp=Z,170nm,17.8s							
LZH	**Lanzhou**	**158.40**	**10**	*e*PKP	PKPdf	23 02 38.9	+2.6
LZH				APKP		23 03 05.8	
LZH				XPKP		23 03 16.4	
LZH				LR	LR		
comp=N,130nm,19.8s							
LZH				LR	LR		
comp=Z,350nm,20.5s							
SSE	**Sheshan**	**160.10**	**327**	*e*PKP	PKPdf	23 02 39.9	+1.6
CD2	**Chengdu**	**163.39**	**15**	*e*PKP	PKPdf	23 02 42.1	+0.5
CD2				APKP		23 03 09.3	
CD2				XPKP		23 03 19.9	
CD2				PP	PP	23 07 22.4	+3.9
CD2				SKS	SKSdf	23 09 35.5	+0.5
CD2				SKKS	SKKSac	23 13 59.4	+4.4
CD2				SS	SS	23 27 40.1	+5.3
CD2				PP	PP		
comp=Z,60nm,9.2s							
CD2				LR	LR		
comp=E,50nm,21.6s							
CD2				LR	LR		
comp=Z,40nm,23.5s							
KMI	**Kunming**	**168.38**	**27**	PKP	PKPdf	23 02 47.4	+1.8

*LDG **23** 23:07:08.8±0.1,4267N×473E,h4km,Md2.8/2,Ml2.4/17, Error ellipse: s-maj=2.1km s-min=1.0km az=172.0*
*ISCJB **23** 23:07:10.2±1.0,4273N±005×472E±004,h30km±7km, Error ellipse: s-maj=8.5km s-min=4.8km az=153.6*
*MDD **23** 23:07:10.8±1.2,4279N×476E,h24km±9km,mbLg1.7/5, Error ellipse: s-maj=13.8km s-min=6.7km az=168.0, PRXIMO*
*STR **23** 23:07:11.9±0.6,4283N×484E,h20km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 23 23:07:09.8±0.9,**4271N**±005×**472E**±004,**h22**km±6km,**n49**, σ1°**01**/84,**Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELF	**Grande-Etoile**	**0.85**	**37**	Pg	**Pb**	**23 07 25.3**	**-0.6**
BERF	**Bertagne**	**0.94**	**49**	Pg	**Pb**	**23 07 27.5**	**+0.2**
BERF				Sg	**Sb**	**23 07 38.6**	**-0.7**
TREF	**Trevaresse**	**1.04**	**28**	Pg	**Pb**	**23 07 29.1**	**0.0**
TREF				Sg	**Sb**	**23 07 42.1**	**-0.2**
PUYF	**Puyloubier**	**1.09**	**41**	Pg	**Pn**	**23 07 30.1**	**+0.3**
PUYF				Sg	**Sb**	**23 07 42.2**	**-1.7**
PRAF	**Pradon**	**1.15**	**17**	Pg	**Pn**	**23 07 30.7**	**+0.2**
TAVF	**Tavernes**	**1.34**	**47**	Pg	**Pn**	**23 07 34.5**	**+1.4**
VILF	**Villemus**	**1.36**	**32**	Pg	**Pn**	**23 07 34.1**	**+0.7**
EJON	**La Jonquera**	**1.37**	**260**	Pg	**Pn**	**23 07 38.4**	**+4.8**
1.4nm,0.4s,SNR=7.9							
EJON				Lg		23 07 57.9	
2.4nm,0.2s,SNR=7.9							
SMRF	**Simiane la Rot**	**1.42**	**26**	*e*Pg	**Pn**	**23 07 35.4**	**+1.2**
SNR=1.0							
SMRF				*e*Sn	**Sn**	**23 07 52.4**	**+0.3**
14nm,0.3s,SNR=1.0							
SMRF	**Simiane la Rot**	**1.42**	**26**	Pg	**Pn**	**23 07 35.4**	**+1.2**
SMRF				Sn	**Sn**	**23 07 52.4**	**+0.3**
14nm,0.3s							
LMR	**La Mourre**	**1.46**	**64**	*e*Pg	**Pn**	**23 07 36.2**	**+1.5**
LMR				*e*Sn	**Sn**	**23 07 52.9**	**-0.2**
24nm,0.2s							
LMR	**La Mourre**	**1.46**	**64**	Pg	**Pn**	**23 07 36.2**	**+1.5**
LMR				Sn	**Sn**	**23 07 52.9**	**-0.2**
12nm,0.2s							
LASF	**Ste Croix**	**1.50**	**336**	*e*Pn	**Pn**	**23 07 35.8**	**+0.4**
SNR=1.0							
LASF	**Ste Croix**	**1.50**	**336**	*e*Pg	**Pn**	**23 07 37.1**	**+1.7**
SNR=1.0							
LASF				*e*Sn	**Sn**	**23 07 54.9**	**+0.6**
7.9nm,0.2s,SNR=1.0							
LASF	**Ste Croix**	**1.50**	**336**	Pn	**Pn**	**23 07 35.8**	**+0.4**
LASF				Pg	**Pn**	**23 07 37.1**	**+1.7**
LASF				Sn	**Sn**	**23 07 54.9**	**+0.6**
4.0nm,0.2s							
STOF	**St-Etienne Org**	**1.56**	**34**	Pg	**Pn**	**23 07 38.8**	**+2.7**
FRF	**La Foret Royal**	**1.65**	**58**	*e*P	**Pn**	**23 07 38.5**	**+1.1**
FRF	**La Foret Royal**	**1.65**	**58**	*e*Pg	**Pn**	**23 07 39.4**	**+2.0**
SNR=1.0							
FRF				*e*Sn	**Sn**	**23 07 57.6**	**-0.3**
21nm,0.3s,SNR=1.0							
FRF	**La Foret Royal**	**1.65**	**58**	Pg	**Pn**	**23 07 39.4**	**+2.0**
FRF				Sn	**Sn**	**23 07 57.6**	**-0.3**
10nm,0.3s							
MTLF	**Montolieu**	**1.94**	**290**	*e*Pn	**Pn**	**23 07 41.1**	**-0.3**
MTLF	**Montolieu**	**1.94**	**290**	*e*Pg	**Pn**	**23 07 44.8**	**+3.4**
SNR=1.0							
MTLF				*e*Sn	**Sn**	**23 08 04.5**	**-0.5**
2.1nm,0.2s,SNR=1.0							
MTLF	**Montolieu**	**1.94**	**290**	Pn	**Pn**	**23 07 41.1**	**-0.3**
MTLF				Pg	**Pn**	**23 07 44.8**	**+3.4**
MTLF				Sn	**Sn**	**23 08 04.5**	**-0.5**
1.1nm,0.2s							
VIVF	**Saint-Julien-l**	**2.15**	**359**	*e*Pn	**Pn**	**23 07 44.3**	**0.0**
SNR=1.0							
VIVF	**Saint-Julien-l**	**2.15**	**359**	*e*Pg	**Pn**	**23 07 49.3**	**+5.0**
VIVF				*e*Sn	**Sn**	**23 08 10.2**	**0.0**
1.7nm,0.2s							
VIVF	**Saint-Julien-l**	**2.15**	**359**	Pn	**Pn**	**23 07 44.3**	**0.0**
VIVF				Pg	**Pn**	**23 07 49.3**	**+5.0**
VIVF				Sn	**Sn**	**23 08 10.2**	**0.0**
0.9nm,0.2s							
SBF	**Sospel**	**2.30**	**59**	*e*P	**Pn**	**23 07 48.3**	**+2.0**
SBF	**Sospel**	**2.30**	**59**	*e*Pg	**Pn**	**23 07 51.6**	**+5.3**
SNR=1.0							
SBF				*e*Sn	**Sn**	**23 08 12.5**	**-1.4**
SNR=1.0							
SBF				*e*Sg	**Sn**	**23 08 21.1**	**+7.2**
9.7nm,0.2s,SNR=1.0							
SBF	**Sospel**	**2.30**	**59**	Pg	**Pn**	**23 07 51.6**	**+5.3**
SBF				Sn	**Sn**	**23 08 12.5**	**-1.4**
SBF				Lg		23 08 21.1	
4.8nm,0.2s							
ORIF	**Oris-en-Rattie**	**2.37**	**20**	*e*Pn	**Pn**	**23 07 47.6**	**+0.4**
ORIF				*e*Sn	**Sn**	**23 08 15.5**	**-0.1**
1.0nm,0.3s							
ORIF	**Oris-en-Rattie**	**2.37**	**20**	Pn	**Pn**	**23 07 47.6**	**+0.4**
ORIF				Sn	**Sn**	**23 08 15.5**	**-0.1**
0.5nm,0.3s							
MBDF	**Montbardon**	**2.51**	**36**	*e*Pg	**Pn**	**23 07 55.8**	**+6.6**
SNR=1.0							
MBDF				*e*Sn	**Sn**	**23 08 18.7**	**-0.4**
2.1nm,0.4s							
MBDF	**Montbardon**	**2.51**	**36**	Pg	**Pn**	**23 07 55.8**	**+6.6**
MBDF				Sn	**Sn**	**23 08 18.7**	**-0.4**
1.1nm,0.4s							
CAF	**Calviac**	**2.93**	**320**	*e*Pn	**Pn**	**23 07 54.7**	**-0.3**
CAF				*e*Sg	**Sn**	**23 08 42.2**	**+13**
1.6nm,0.2s,SNR=1.0							
CAF	**Calviac**	**2.93**	**320**	Pn	**Pn**	**23 07 54.7**	**-0.3**
CAF				Lg		23 08 42.2	
0.8nm,0.2s							
LPG	**La Plagne**	**3.15**	**27**	*e*Pn	**Pn**	**23 07 57.9**	**-0.1**
LPG	**La Plagne**	**3.15**	**27**	*e*Sn	**Sn**	**23 08 34.4**	**-0.6**
0.7nm,0.2s							
LPG	**La Plagne**	**3.15**	**27**	Pn	**Pn**	**23 07 57.9**	**-0.1**
LPG				Sn	**Sn**	**23 08 34.4**	**-0.6**
0.3nm,0.2s							
LPL	**La Plagne**	**3.16**	**27**	*e*Pn	**Pn**	**23 07 58.1**	**-0.1**
LPL				*e*Sn	**Sn**	**23 08 34.7**	**-0.5**
0.6nm,0.2s							
LPL	**La Plagne**	**3.16**	**27**	Pn	**Pn**	**23 07 58.1**	**-0.1**
LPL			

2.2nm,0.7s,mb3.8
WRA Warramunga Arr 25.86 164 P **P 23 30 08.5 +0.2**
2.5nm,0.7s,mb3.9,baz=344,slow=10,SNR=5.2
ASAR Alice Springs 29.31 167 P **P 23 30 40.1 +0.9**
0.6nm,0.5s,mb3.5,baz=356,slow=8.5,SNR=14
STKA Stephens Creek 39.27 160 P **P 23 32 03.8 -1.5**
1.0nm,0.5s,mb3.9,baz=342,slow=11,SNR=5.2
STKA Stephens Creek 39.27 160 *eP* **P 23 32 04.0 -1.3**
ULN Ulaanbaatar 45.96 341 *eP* **P 23 33 00.4 +0.7**
1.9nm,0.8s,mb4.1
SONM Songino Array 46.14 341 P **P 23 33 03.2 +2.2**
0.9nm,0.6s,mb3.9,baz=152,slow=8.8,SNR=9.3
TLY Talaya 50.37 341 P **P 23 33 33.4 -0.3**
2.8nm,0.6s,mb4.5
MKAR Makanchi Array 56.60 325 P **P 23 34 19.4 0.0**
0.5nm,0.5s,mb3.8,baz=118,slow=7.1,SNR=11
KURK Kurchatov 60.76 327 *eP* **P 23 34 48.1 -0.2**
1.0nm,0.5s,mb4.2
BRVK Borovoye 66.41 327 P **P 23 35 24.8 -0.8**
0.6nm,0.7s,mb3.7
ZRNK Zerenda 67.07 326 *eP* **P 23 35 29.8 0.0**
0.6nm,0.5s,mb3.9
ARCES ARCESS Array B 89.31 340 P **P 23 37 32.0 -0.7**
1.8nm,0.9s,mb4.4,baz=65,slow=6.8,SNR=5.0
FINES FINESS Array B 90.78 332 P **P 23 37 38.9 -0.7**
1.2nm,0.9s,mb4.2,baz=99,slow=4.5,SNR=3.9

IDC 23 23:36:58.2±8.9, 540S×14969E, h66km±68km, mb3.3/2, mb1 3.7/3, mb1mx3.3/13, mbtmp3.7/3, ML2.7/1, Error ellipse: s-maj=145.7km s-min=58.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.70**	**212**	P	Pn	23 38 06.8	+0.2
	2.5nm,0.3s,baz=32,slow=10,SNR=6.3						
PMG				S	Sn	23 39 00.9	+1.1
	4.7nm,0.3s,baz=342,slow=19,SNR=3.5						
WB2	**Warramunga Arr**	**20.77**	**225**	*eP*	P	23 41 34.6	+0.9
WRA	**Warramunga Arr**	**20.78**	**225**	P	P	23 41 34.4	+0.6
	1.4nm,0.3s,baz=50,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**23.68**	**218**	P	P	23 42 03.6	-0.2
	1.6nm,0.8s,baz=54,slow=9.1,SNR=17						
TORD	**Torodi Ar. Bea**	**147.52**	**286**	PKPbc	PKPbc	23 56 35.5	+0.7
	3.6nm,0.6s,baz=56,slow=2.5,SNR=48						

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*BJI **23** 23:37:08.2, 7.10S×105.60E, h30km, mB4.9, mb4.8, Ms4.6, Msz4.6*
*ISCJB **23** 23:37:10.9±0.4, 7.18S±0.06×105.42E±0.05, h31km, mb4.6/37, MS3.7/4, Error ellipse: s-maj=9.2km s-min=6.4km az=30.1*
*MOS **23** 23:37:11.3±1.0, 6.96S×105.66E, h33km, mb5.1/10, Error ellipse: s-maj=20.3km s-min=10.5km az=110.2*
*NEIC **23** 23:37:12.2±0.2, 7.13S×105.56E, mb4.9/17, Error ellipse: s-maj=9.7km s-min=5.6km az=53.0*
*IDC **23** 23:37:12.4±0.7, 7.09S×105.57E, h30km±5km, mb4.1/13, mb1 4.3/13, mb1mx4.1/19, mbtmp4.3/13, MS3.7/3, Ms1 3.7/3, ms1mx3.1/31, Error ellipse: s-maj=24.6km s-min=12.8km az=45.0*
ISC 23 23:37:13.3±0.4, 715S±006×105.49E±005, h32km, h32km±.8km: pP-P, n79, σ1§09/72, mb4.6/37, MS3.7/4, 5C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**1.20**	**32**	P	**Pn**	**23 37 33.7**	**-0.2**
	2μm,1.6s						
TNG	**Tangerang**	**1.50**	**50**	P	**Pn**	**23 37 40.6**	**+2.6**
	2μm,1.1s						
CBJI	**Citeko**	**1.53**	**62**	P	**Pn**	**23 37 38.1**	**-0.3**
	7μm,0.6s						
LEM	**Lembang**	**2.13**	**82**	P	**Pn**	**23 37 47.8**	**+1.1**
	2μm,0.8s						
KLI	**Kotabumi**	**2.35**	**344**	P	**Pn**	**23 37 52.0**	**+2.3**
	1μm,0.7s						
JCJI	**Jatiwangi**	**2.83**	**77**	P	**Pn**	**23 37 57.1**	**+0.8**
	720nm,0.8s						
BJII	**Banjamegara**	**4.19**	**93**	P	**Pn**	**23 38 17.5**	**+2.6**
	80nm,0.8s						
KSI	**Kapahiang**	**4.51**	**320**	P	**Pn**	**23 38 20.5**	**+1.1**
	510nm,0.8s						
KRKI	**Karangkates**	**6.97**	**99**	P	**Pn**	**23 38 58.7**	**+5.5**
	195nm,0.8s						
COCO	**West Island**	**9.90**	**239**	*e*Pn	**Pn**	**23 39 32.8**	**-0.5**
	76nm,0.6s						
MBWA	**Marble Bar**	**19.59**	**137**	*eP*	**Pn**	**23 41 35.4**	**-4.7**
	10nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.45**	**121**	*eP*	**P**	**23 42 09.1**	**-0.4**
	25nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**22.45**	**121**	P	**P**	**23 42 09.3**	**-0.2**
	15nm,0.9s,mb4.4,baz=288,slow=7.2,SNR=15						
FITZ				LR	LR	23 50 12.3	
	comp=Z,128nm,19.5s,MS3.4,baz=162,slow=35						
NWAO	**Narrogin (SRO)**	**27.88**	**159**	LR	LR	23 53 01.4	
	comp=Z,184nm,20.1s,MS3.7,baz=3.7,slow=34						
WRA	**Warramunga Arr**	**30.73**	**117**	P	**P**	**23 43 24.9**	**-0.5**
	3.5nm,0.9s,mb4.2,baz=290,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**31.83**	**124**	P	**P**	**23 43 35.2**	**+0.1**
	6.8nm,1.0s,mb4.4,baz=297,slow=8.2,SNR=24						
ASAR				LR	LR	23 56 41.3	
	comp=Z,139nm,19.4s,MS3.6,baz=317,slow=37						
JIRN	**Jiri**	**39.32**	**332**	*eP*	**P**	**23 44 39.6**	**+0.3**
	36nm,1.0s,mb5.1						
PKI	**Pulchoki**	**39.60**	**331**	*eP*	**P**	**23 44 41.5**	**-0.2**
GUN	**Gumba**	**39.67**	**332**	*eP*	**P**	**23 44 42.5**	**+0.2**
	33nm,0.9s,mb5.1						
DMN	**Daman**	**39.78**	**331**	*eP*	**P**	**23 44 42.6**	**-0.6**
KKN	**Kakani**	**39.85**	**331**	*eP*	**P**	**23 44 43.0**	**-0.8**
	42nm,1.1s,mb5.1						
KKN	**Kakani**	**39.85**	**331**	*eP*	**P**	**23 44 43.0**	**-0.8**
KKN				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.1						
GKN	**Gorkha**	**40.34**	**331**	*eP*	**P**	**23 44 47.1**	**-0.7**
	comp=Z,33nm,0.9s,mb5.1						
KOLN	**Koldanda**	**40.66**	**330**	*eP*	**P**	**23 44 50.2**	**-0.2**
	comp=Z,42nm,0.9s,mb5.1						
NJ2	**Nanjing**	**41.01**	**17**	*eP*	**P**	**23 44 47.1**	**-6.3**
NJ2				AP	pP	23 44 56.3	-6.6
NJ2				XP	sP	23 45 01.1	-5.7
NJ2				PP	PP	23 46 22.8	-5.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,120nm,6.0s						
NJ2				LR	LR		
	comp=N,120nm,14.4s						
NJ2				LR	LR		
	comp=E,170nm,19.8s						
NJ2				LR	LR		
	comp=Z,150nm,19.7s						
STKA	**Stephens Creek**	**41.66**	**131**	⇑*iP*	**P**	**23 44 57.1**	**-1.6**
	comp=Z,9.1nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**41.66**	**131**	P	**P**	**23 44 57.2**	**-1.5**
	comp=Z,17nm,0.8s,mb4.7,baz=307,slow=7.9,SNR=23						
STKA				pP	pP	23 45 06.2	-2.0
	comp=Z,12nm,0.6s,baz=301,slow=7.4,SNR=9.5						
NDI	**New Delhi**	**44.86**	**324**	*ex*	x	23 45 23.0	
CN2	**Changchun**	**53.83**	**18**	*eP*	**P**	**23 46 32.1**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
SONM	**Songino Array**	**54.75**	**1**	P	**P**	**23 46 38.7**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.1,baz=173,slow=8.0,SNR=10						
SONM				PcP	PcP	23 47 41.3	-0.7
	comp=Z,1.4nm,0.7s,baz=166,slow=4.0,SNR=6.1						
ULN	**Ulaanbaatar**	**54.79**	**1**	*eP*	**P**	**23 46 38.2**	**-1.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ULN	**Ulaanbaatar**	**54.79**	**1**	*eP*	**P**	**23 46 38.2**	**-1.8**
	comp=Z,0.7nm,0.5s,mb4.0						
VLA	**Vladivostok**	**55.48**	**23**	⇓*eP*	**P**	**23 46 41.2**	**-3.8**
VLA				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
AAK	**Ala-Archa**	**57.02**	**333**	*eP*	**P**	**23 46 55.4**	**-0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**57.02**	**333**	*eP*	**P**	**23 46 55.4**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.1						
MKAR	**Makanchi Array**	**57.53**	**341**	P	**P**	**23 46 58.1**	**-1.5**
	comp=Z,2.4nm,0.7s,mb4.3,baz=140,slow=7.8,SNR=18						
MKAR	**Makanchi Array**	**57.53**	**341**	⇑*eP*	**P**	**23 46 58.5**	**-1.0**
KURK	**Kurchatov**	**62.14**	**341**	*eP*	**P**	**23 47 30.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.9						
KURK	**Kurchatov**	**62.14**	**341**	*eP*	**P**	**23 47 30.6**	**-0.7**
	comp=Z,11nm,1.2s,mb4.9						
YSS	**Yuzh-Sakhalins**	**63.19**	**28**	⇑*eP*	**P**	**23 47 37.0**	**-1.3**
YSS				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.8						
YSS				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
ZAL	**Zalesovo**	**63.31**	**346**	P	**P**	**23 47 38.1**	**-0.9**
	comp=Z,4.1nm,0.4s,mb4.9,baz=321,slow=3.6,SNR=30						
NVS	**Novosibirsk**	**64.50**	**346**	*eP*	**P**	**23 47 38.7**	**-8.2**
RDF	**Al-Radifah**	**66.28**	**306**	*eP*	**P**	**23 47 58.5**	**+0.1**
UMR	**Umm Al-Rimmam**	**66.39**	**306**	*eP*	**P**	**23 47 59.7**	**+0.6**
NAY	**Al-Naaiem**	**66.66**	**306**	*eP*	**P**	**23 48 01.0**	**+0.2**
NAY				AMb	AMB	23 48 06.9	
	comp=Z,7.9nm,1.1s,mb4.7						
MIB	**Mutribah**	**66.80**	**307**	*eP*	**P**	**23 48 02.2**	**+0.5**
MIB				AMb	AMB	23 48 11.6	
	comp=Z,13nm,1.4s,mb4.8						
BRVK	**Borovoye**	**66.99**	**338**	*eP*	**P**	**23 48 02.2**	**-0.7**
BRVK				*e**PP	pP	23 48 12.5	-0.5
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**66.99**	**338**	*eP*	**P**	**23 48 02.2**	**-0.7**
	comp=Z,7.2nm,1.0s,mb4.7						
BRVK				*e*pP	pP	23 48 12.5	-0.5
CHKZ	**Chkalovo**	**67.36**	**338**	*eP*	**P**	**23 48 04.5**	**-0.7**
CHKZ				*e**PP	pP	23 48 14.1	-1.2
CHKZ				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
CHKZ	**Chkalovo**	**67.36**	**338**	*eP*	**P**	**23 48 04.5**	**-0.7**
	comp=Z,18nm,0.9s,mb5.1						
CHKZ				*e*pP	pP	23 48 14.1	-1.2
ZRNK	**Zerenda**	**67.39**	**337**	*eP*	**P**	**23 48 04.7**	**-0.8**
ZRNK				*e**PP	pP	23 48 13.8	-1.7
ZRNK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
ZRNK	**Zerenda**	**67.39**	**337**	*eP*	**P**	**23 48 04.7**	**-0.8**
	comp=Z,11nm,0.9s,mb4.9						
ZRNK				*e*pP	pP	23 48 13.8	-1.7
ORR	**Orenburg**	**72.85**	**330**	*eP*	**P**	**23 48 38.4**	**-0.5**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
ARU	**Arti**	**74.11**	**335**	⇓*iP*	**P**	**23 48 46.1**	**-0.2**
ARU				*e*		23 49 01.3	
ARU				*e*		23 51 32.6	
ARU				*e*S	S	23 58 13.0	-4.1
ARU				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
ARU	**Arti**	**74.11**	**335**	*eP*	**P**	**23 48 46.3**	**-0.1**
	comp=Z,23nm,1.1s,mb5.0						
PET	**Petropavlovsk**	**74.88**	**30**	*iP*	**P**	**23 48 49.5**	**-1.3**
PET				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.7						
MA2	**Magadan**	**75.58**	**22**	*iP*	**P**	**23 48 54.2**	**-0.6**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
LSZ	**Lusaka**	**75.94**	**256**	P	**P**	**23 48 57.5**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=104,slow=4.2,SNR=3.0						
LSZ				pP	pP	23 49 07.5	+0.4
	comp=Z,2.5nm,0.6s,baz=94,slow=4.2,SNR=5.4						
LSZ	**Lusaka**	**75.94**	**256**	P	**P**	**23 48 57.5**	**+0.6**
LSZ				pP	pP	23 49 07.5	+0.4
VNDA	**Vanda**	**76.10**	**169**	P	**P**	**23 48 57.3**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.7,baz=291,slow=8.4,SNR=4.7						
EIL	**Elat**	**76.89**	**303**	*eP*	**P**	**23 49 03.4**	**+1.1**
	comp=Z,56nm,0.8s,mb5.5						
EIL				*e*pP	pP	23 49 11.7	-0.7
BOSA	**Boshof**	**78.06**	**242**	P	**P**	**23 49 09.3**	**+0.5**
	comp=Z,5.0nm,1.1s,mb4.3,baz=104,slow=4.2,SNR=3.4						
BOSA				pP	pP	23 49 19.3	+0.3
	comp=Z,5.7nm,1.2s,baz=97,slow=11,SNR=2.2						
BR131	**Keskin Array S**	**80.81**	**312**	*eP*	**P**	**23 49 23.9**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.0						
BR131				*e*		23 49 31.4	
BRTR	**Keskin Array B**	**80.81**	**312**	P	**P**	**23 49 24.1**	**+0.3**
	comp=Z,1.7nm,0.6s,mb4.1,baz=140,slow=6.4,SNR=14						
BRTR				pP	pP	23 49 34.1	+0.1
	comp=Z,2.1nm,0.9s,baz=131,slow=6.7,SNR=5.9						
SIM	**Simferopol'**	**82.07**	**317**	P	**P**	**23 49 33.4**	**+3.0**
SIM				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
OBN	**Obninsk**	**84.04**	**327**	*iP*	**P**	**23 49 42.7**	**+2.1**
OBN				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
AKASG	**Malin Array Be**	**86.88**	**322**	P	**P**	**23 49 54.0**	**-0.8**
	comp=Z,0.6nm,0.5s,mb4.1,baz=87,slow=4.2,SNR=6.1						
AKASG	**Malin Array Be**	**86.88**	**322**	*iP*	**P**	**23 49 55.7**	**+0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**86.88**	**322**	P	**P**	**23 49 54.0**	**-0.8**
VRI	**Vrincioaia**	**87.32**	**317**	⇓*iP*	**P**	**23 49 58.3**	**+1.4**
PLOR	**Plostina**	**87.37**	**317**	⇑*iP*	**P**	**23 49 58.7**	**+1.5**
MLR	**Muntele Rosu**	**87.78**	**316**	⇑*iP*	**P**	**23 50 06.6**	**+1.5**
BURAR	**Bucovina Array**	**88.72**	**318**	⇓*iP*	**P**	**23 50 05.7**	**+2.1**
ARCES	**ARCESS Array B**	**93.15**	**340**	P	**P**	**23 50 22.2**	**-2.0**
	comp=Z,1.3nm,0.8s,mb4.4,baz=108,slow=4.0,SNR=5.3						
CPUP	**Villa Florida**	**142.78**	**206**	pPKP	pPKPdf	23 56 51.6	-2.3
	comp=Z,0.7nm,0.4s,baz=176,slow=1.1,SNR=2.4						
BDFB	**Brasilia**	**145.34**	**229**	pPKPbc	pPKPbc	23 56 59.7	+1.5
	comp=Z,6.4nm,0.7s,baz=140,slow=2.8,SNR=7.6						
CCM	**Cathedral Cave**	**145.69**	**24**	*e*PKIKP	PKPdf	23 56 47.9	-0.5
MIAR	**Mount Ida**	**147.56**	**30**	*e*PKP2	PKPab	23 56 52.1	-4.3
WVT	**Waverly**	**148.68**	**21**	*e*PKP2	PKPab	23 56 56.9	-4.0

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*NEIC **23** 23:52:59.5, 383.1S×176.14E, h144km, MG3.9(WEL), After WEL.*
WEL 23 23:52:59.5±0.3, 3836S×17616E, h147km±2km, ML3.8/5, Error ellipse: s-maj=2.4km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	**Paeroa**	**0.08**	**104**	PN	Pn	23 53 19.6	+0.4
TAZ	**Tarawera**	**0.30**	**65**	PN	Pn	23 53 19.8	+0.2
URZ	**Urewera**	**0.75**	**82**	PN	Pn	23 53 21.6	-0.3
URZ				SN	Sn	23 53 38.7	-0.3
URZ	**Urewera**	**0.75**	**82**	P	Pn	23 53 21.6	-0.4
BKZ	**Black Stump Fm**	**0.84**	**162**	PN	Pn	23 53 22.9	+0.3
BKZ				SN	Sn	23 53 40.4	+0.1
BKZ	**Black Stump Fm**	**0.84**	**162**	P	Pn	23 53 22.9	+0.3
BKZ				S	Sn	23 53 40.4	+0.1
TWVZ	**Taurewa**	**0.91**	**219**	PN	Pn	23 53 23.2	+0.1
TWVZ	**Taurewa**	**0.91**	**219**	P	Pn	23 53 23.2	+0.1
WPVZ	**Whakapapa**	**0.97**	**210**	PN	Pn	23 53 23.9	+0.3
TUVZ	**Tukino**	**0.99**	**204**	PN	Pn	23 53 24.2	+0.4
TUVZ	**Tukino**	**0.99**	**204**	P	Pn	23 53 24.2	+0.4
FWVZ	**Far West T-bar**	**1.01**	**208**	PN	Pn	23 53 24.0	0.0
TRVZ	**Turoa**	**1.05**	**207**	PN	Pn	23 53 24.5	+0.2
MWZ	**Matawai**	**1.07**	**89**	PN	Pn	23 53 24.5	0.0
MWZ				SN	Sn	23 53 43.5	-0.1
MWZ	**Matawai**	**1.07**	**89**	P	Pn	23 53 24.5	0.0
MWZ				S	Sn	23 53 43.3	-0.4
MOVZ	**Moawhango**	**1.09**	**197**	PN	Pn	23 53 24.4	-0.3
MTVZ	**Mangateitei**	**1.16**	**208**	PN	Pn	23 53 25.4	+0.1
VRZ	**Vera Road**	**1.34**	**235**	PN	Pn	23 53 27.1	0.0
VRZ				SN	Sn	23 53 47.8	-0.4
VRZ	**Vera Road**	**1.34**	**235**	P	Pn	23 53 27.1	0.0
KNZ	**Kokohu**	**1.35**	**120**	PN	Pn	23 53 27.5	+0.3
KNZ	**Kokohu**	**1.35**	**120**	*e*P	Pn	23 53 27.5	+0.3
WAZ	**Wanganui**	**1.67**	**213**	PN	Pn	23 53 30.2	-0.4
PUZ	**Puketiti**	**1.67**	**81**	PN	Pn	23 53 30.2	-0.4
TSZ	**Takapari Road**	**1.70**	**185**	PN	Pn	23 53 30.4	-0.6
TSZ	**Takapari Road**	**1.70**	**185**	P	Pn	23 53 30.4	-0.6
PXZ	**Pawanui**	**1.75**	**162**	PN	Pn	23 53 31.3	-0.2
BFZ	**Birch Farm**	**2.32**	**178**	*e*PN	Pn	23 53 36.9	-1.2
MRZ	**Mangatainoka R**	**2.34**	**191**	PN	Pn	23 53 36.8	-1.6
MRZ				SN	Sn	23 54 06.7	-1.8
TIWZ	**Tintock**	**2.42**	**185**	PN	Pn	23 53 38.0	-1.5
KIW	**Kapiti Island**	**2.68**	**201**	PN	Pn	23 53 40.2	-2.4

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*NEIC **23** 23:59:59.2, 3137S×7272W, h78km, mb3.2/2, After GUC.*
GUC 23 23:59:59.2±1.0, 3137S×7272W, h78km±20km, ML4.1, 11C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**1.16**	**117**	⇓*iP*	Pn	00 00 20.5	+0.4
CHNG				*i* S	Sn	00 00 36.1	+0.3
CHNG				AML	AML	00 00 36.9	
	comp=N,2μm,0.3s						
CMCH	**Combarbala**	**1.49**	**83**	⇑*iP*	Pn	00 00 24.6	+0.4
CMCH				*i* S	Sn	00 00 44.6	+1.5
CMCH				AML	AML	00 00 45.7	
	comp=N,6μm,0.6s						
CMCH	**Combarbala**	**1.49**	**83**	⇑*iP*	Pn	00 00 24.6	+0.4
CMCH				*i* S	Sn	00 00 44.6	+1.5
OVCH	**Ovalle**	**1.51**	**60**	⇑*iP*	Pn	00 00 24.1	-0.4
OVCH				*i* S	Sn	00 00 44.0	+0.4
OVCH				AML	AML	00 00 49.9	
	comp=E,1μm,0.6s						
OVCH	**Ovalle**	**1.51**	**60**	⇑*iP*	Pn	00 00 24.1	-0.4
OVCH				*i* S	Sn	00 00 44.0	+0.4
TLL	**Tololo Astrono**	**2.04**	**55**	⇓*iP*	Pn	00 00 32.1	+0.6
TLL				*i* S	Sn	00 00 58.1	+2.0
TLL				AML	AML	00 01 00.6	
	comp=N,1μm,0.7s						
TLL	**Tololo Astrono**	**2.04**	**55**	⇓*iP*	Pn	00 00 32.1	+0.6
TLL				*i* S	Sn	00 00 58.1	+2.0
ROCH	**El Roble**	**2.16**	**138**	⇓*iP*	Pn	00 00 33.6	+0.4
JACH	**Jahuel**	**2.23**	**126**	⇑*iP*	Pn	00 00 35.2	+1.0
JACH				*i* S	Sn	00 01 02.4	+1.5
LCCH	**Las Cruces**	**2.32**	**155**	⇓*iP*	Pn	00 00 34.6	-0.7
PEL	**Peldehue**	**2.47**	**136**	⇑*iP*	Pn	00 00 38.1	+0.7
PEL				*i* S	Sn	00 01 07.2	+0.7
PEL				AML	AML	00 01 07.7	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**2.67**	**143**	*i* P	Pn	00 00 40.6	+0.7
RCDM				*i* S	Sn	00 01 12.0	+0.8
RCDM				AML	AML	00 01 13.0	
	comp=E,765nm,0.6s						
RCDM	**Rinconada Maip**	**2.67**	**143**	*i* P	Pn	00 00 40.6	+0.7
RCDM				*i* S	Sn	00 01 12.0	+0.8
SAN	**Santiago**	**2.71**	**141**	*i* S	Sn	00 01 13.0	+0.6
TACH	**Talagante**	**2.73**	**147**	*e*P	Pn	00 00 41.4	+0.5
TACH				*i* S	Sn	00 01 13.2	+0.3
CLCH	**Cerro Calan**	**2.74**	**138**	⇓*iP*	Pn	00 00 41.9	+0.9
CLCH				*i* S	Sn	00 01 13.7	+0.6
CLCH				AML	AML	00 01 17.0	
	comp=E,644nm,0.3s						
ANTU	**Antumapu**	**2.82**	**142**	*e*P	Pn	00 00 42.9	+0.9
ANTU				*i* S	Sn	00 01 15.8	+0.9
ANTU				AML	AML	00 01 17.5	
	comp=E,1μm,0.3s						
ANTU	**Antumapu**	**2.82**	**142**	*e*P	Pn	00 00 42.9	+0.9
ANTU				*i* S	Sn	00 01 15.8	+0.9
FCH	**Farellones**	**2.84**	**134**	⇓*iP*	Pn	00 00 43.5	+1.2
FCH				*i* S	Sn	00 01 16.7	+1.3
FCH				AML	AML	00 01 17.5	
	comp=N,535nm,0.3s						
PCH	**Pirque**	**2.92**	**141**	⇑*iP*	Pn	00 00 44.6	+1.2
CHCH	**Chadas Angostu**	**3.10**	**146**	⇑*iP*	Pn	00 00 46.9	+1.1
CHCH				*i* S	Sn	00 01 21.9	+0.2
LMEL	**Las Melosas**	**3.26**	**140**	⇑*iP*	Pn	00 00 49.8	+1.8
LMEL				*i* S	Sn	00 01 27.9	+2.2
LMEL				AML	AML	00 01 30.9	
	comp=N,723nm,0.3s						
LMEL	**Las Melosas**	**3.26**	**140**	⇑*iP*	Pn	00 00 49.8	+1.8
LMEL				*i* S	Sn	00 01 27.9	+2.2
VACH	**Vallenar**	**3.26**	**32**	*i* S	Sn	00 01 25.8	0.0
VACH				AML	AML	00 01 27.9	
	comp=E,2μm,0.4s						
CACH	**El Canelo**	**3.27**	**147**	*e*P	Pn	00 00 50.1	+1.9
CACH				*i* S	Sn	00 01 27.6	+1.6
CICH	**Cipreses**	**3.52**	**147**	⇑*iP*	Pn	00 00 53.0	+1.4
MDZ	**Mendoza**	**3.62**	**116**	*e*P	Pn	00 00 55.5	+2.7
MDZ				*e*		00 01 51.4	
CPCH	**Copiapo**	**4.50**	**28**	*i* S	Sn	00 01 56.0	+0.1
TRQA	**Tornquist**	**11.07**	**130**	*e*P	Pn	00 02 35.9	+1.4
	comp=E,1.5nm,0.6s						
LPAZ	**La Paz**	**15.58**	**17**	*e*Pn	Pn	00 03 34.7	+0.5
	comp=E,1.7nm,0.8s						
SAML	**Samuel**	**24.01**	**24**	*e*P	P	00 05 05.9	-0.7
	comp=E,0.4nm,0.5s						

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*BJI **24** 00:02:59.7, 378S×127.87E, h35km, mB5.4, mb5.2, Ms4.6, Msz4.3*
*IDC **24** 00:03:05.8±1.8, 304S×127.10E, h18km±10km, mb4.8/17, mb1 4.8/19, mb1mx4.8/22, mbtmp4.9/19, ML5.0/3, MS4.4/9, Ms1 4.4/9, ms1mx4.2/19, Error ellipse: s-maj=18.0km s-min=8.0km az=70.0*
*MOS **24** 00:03:06.4±1.3, 302S×127.06E, h33km, mb5.2/31, Error ellipse: s-maj=12.6km s-min=6.0km az=109.6*
*ISCJB **24** 00:03:06.2±0.2, 305S±003×127.26E±004, h33km, mb5.0/80, MS4.3/31, Error ellipse: s-maj=5.6km s-min=3.6km az=136.5*
*NEIC **24** 00:03:07.7±0.2, 307S×127.18E, mb5.1/47, MS4.2/6, Error ellipse: s-maj=7.9km s-min=4.5km az=71.0*
*HRVD **24** 00:03:08.1±0.2, 293S×127.14E, h20km, MW5.2/91, Centroid moment Tensor Solution. LP body waves: s67,c101;Mantle waves: s91,c139; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.92±.19; $M_{\theta\theta}$-4.08±.12; $M_{\phi\phi}$-0.83±.14; $M_{r\theta}$-3.87±.26; $M_{\theta\phi}$2.51±.08; $M_{\phi r}$1.75±.30; Best double couple: $M_0$6.70200×10^{16} NP1:ϕ_s122.00000°, δ25.00000°, λ96.00000°. NP2: ϕ_s296.00000°, δ65.00000°, $\l

AS31				*e*ScS	ScS	00 19 14.2	-0.4
ASPA	**Alice Springs**	**21.50**	**163**	*e*P	**P**	**00 07 54.2**	**-0.2**
ASPA				*e*pP		00 08 01.6	
ASPA				*e*S	**S**	**00 11 50.6**	**-0.2**
ASPA				*e*SCS	ScS	00 19 14.2	-0.4
ASAR	**Alice Springs**	**21.50**	**163**	P	**P**	**00 07 54.8**	**+0.4**
	76nm,0.9s,mb5.1,baz=340,slow=9.1,SNR=122						
ASAR				S	**S**	**00 11 54.1**	**+3.3**
	36nm,0.9s,baz=349,slow=23,SNR=13						
ASAR				ScP	ScP	00 15 32.5	+2.0
	7.5nm,0.8s,baz=352,slow=2.2,SNR=16						
ASAR	**Alice Springs**	**21.50**	**163**	P	**P**	**00 07 54.8**	**+0.4**
ASAR				S	**S**	**00 11 54.1**	**+3.3**
GUMO	**Guam**	**24.02**	**46**	LR	LR	00 16 32.3	
	comp=Z,382nm,19.2s,MS3.9,baz=212,slow=33						
KSI	**Kapahiang**	**24.65**	**268**	P	**P**	**00 08 28.0**	**+2.2**
	126nm,0.6s,mb5.6						
CTA	**Charters Tower**	**25.12**	**134**	⇓*i*P	**P**	**00 08 33.6**	**+3.5**
	28nm,0.8s,mb4.8						
CTA	**Charters Tower**	**25.12**	**134**	P	**P**	**00 08 33.0**	**+2.9**
	34nm,0.8s,mb4.9,baz=315,slow=12,SNR=25						
CTA	**Charters Tower**	**25.12**	**134**	P	**P**	**00 08 33.0**	**+2.9**
CTA				pmax	pmax		
	comp=Z,34nm,0.8s						
CTAO	**Charters Tower**	**25.12**	**134**	*e*P	**P**	**00 08 33.4**	**+3.3**
CTAO				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**25.12**	**134**	*e*P	**P**	**00 08 33.4**	**+3.3**
	comp=Z,38nm,0.8s,mb5.0						
PPI	**Padang Panjang**	**26.98**	**275**	P	**P**	**00 08 49.9**	**+2.9**
	comp=Z,76nm,0.9s,mb5.2						
NACB	**Ningaanchiao**	**27.59**	**349**	*e*P	**P**	**00 08 51.3**	**-1.1**
FORT	**Forrest**	**27.62**	**179**	*e*P	**P**	**00 08 50.5**	**-2.2**
	comp=Z,99nm,0.7s,mb5.5						
QIZ	**Qiongzhong**	**27.82**	**323**	P	**P**	**00 08 55.4**	**+0.9**
QIZ				AP	pP	00 09 05.5	+1.0
QIZ				XP	sP	00 09 08.8	+0.1
QIZ				S	**S**	**00 13 36.4**	**+1.1**
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
QIZ				LR	LR		
	comp=N,360nm,15.0s						
QIZ				LR	LR		
	comp=Z,360nm,13.0s,MS4.1						
KULM	**Kulim**	**27.85**	**287**	P	**P**	**00 08 54.9**	**+0.2**
YHNB	**Yeheng**	**28.11**	**349**	*e*P	**P**	**00 08 55.7**	**-1.4**
PSI	**Prapat**	**28.92**	**281**	P	**P**	**00 09 04.3**	**0.0**
	comp=Z,15nm,0.7s,mb4.8,baz=107,slow=4.9,SNR=9.2						
QZH	**Quanzhou**	**29.05**	**344**	⇑*i*P	**P**	**00 09 06.3**	**+0.9**
QZH				S	**S**	**00 13 57.5**	**+3.0**
QZH				AMB	AMB		
	comp=Z,300nm,1.0s,mb6.0						
QZH				LR	LR		
	comp=N,590nm,8.7s						
QZH				LR	LR		
	comp=E,470nm,9.3s						
QZH				LR	LR		
	comp=Z,790nm,14.6s,MS4.5						
GZH	**Guangzhou**	**29.29**	**333**	P	**P**	**00 09 08.8**	**+1.2**
GZH				S	**S**	**00 14 04.5**	**+6.2**
GZH				LR	LR		
	comp=N,300nm,12.4s						
GZH				LR	LR		
	comp=E,340nm,23.0s						
GZH				LR	LR		
	comp=Z,500nm,21.4s						
JOW	**Kunigami**	**29.69**	**2**	P	**P**	**00 09 11.6**	**+0.5**
	comp=Z,36nm,0.8s,mb5.2,baz=208,slow=6.3,SNR=15						
JOW				LR	LR	00 20 30.7	
	comp=Z,638nm,19.8s,MS4.2,baz=307,slow=35						
KLBR	**Kellerberrin**	**29.80**	**196**	*e*P	**P**	**00 09 09.4**	**-2.7**
	comp=Z,18nm,0.9s,mb4.8						
MUN	**Mundaring**	**30.63**	**199**	*e*P	**P**	**00 09 20.0**	**+0.6**
NWAO	**Narrogin (SRO)**	**31.20**	**196**	P	**P**	**00 09 21.9**	**-2.6**
	comp=Z,9.4nm,0.5s,mb4.9,baz=19,slow=6.3,SNR=9.6						
NWAO	**Narrogin (SRO)**	**31.20**	**196**	P	**P**	**00 09 21.9**	**-2.6**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**31.20**	**196**	*e*P	**P**	**00 09 21.1**	**-3.4**
	comp=Z,9.5nm,0.7s,mb4.7						
COCO	**West Island**	**31.48**	**252**	P	**P**	**00 09 24.7**	**-2.2**
	comp=Z,166nm,1.0s,mb5.8						
STKA	**Stephens Creek**	**31.71**	**156**	⇓*i*P	**P**	**00 09 25.9**	**-3.1**
	comp=Z,22nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**31.71**	**156**	P	**P**	**00 09 25.9**	**-3.0**
	comp=Z,26nm,0.8s,mb5.1,baz=328,slow=9.7,SNR=48						
STKA				PcP	PcP	00 12 17.2	-2.8
	comp=Z,6.4nm,0.6s,baz=346,slow=1.9,SNR=3.3						
CBIJ	**Chichi jima**	**33.22**	**25**	P	**P**	**00 09 41.1**	**-1.1**
	comp=Z,74nm,0.9s,mb5.6,baz=149,slow=6.2,SNR=6.5						
ADE	**Adelaide**	**33.52**	**163**	*e*P	**P**	**00 09 43.2**	**-1.5**
SSE	**Sheshan**	**34.42**	**351**	P	**P**	**00 09 56.3**	**+3.7**
SSE				AP	pP	00 10 07.3	+4.7
SSE				XP	sP	00 10 12.1	+5.3
SSE				S	**S**	**00 15 23.3**	**+5.0**
SSE				XS	sS	00 15 41.9	+7.1
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,120nm,8.7s						
SSE				LR	LR		
	comp=N,60nm,21.0s,MS3.7						
SSE				LR	LR		
	comp=E,130nm,21.0s,MS3.7						
SSE				LR	LR		
	comp=Z,210nm,24.0s,MS3.8						
SSE	**Sheshan**	**34.42**	**351**	P	**P**	**00 09 56.2**	**+3.6**
	comp=Z,36nm,0.7s,mb5.4						
SSE				pP	pP	00 10 07.2	+4.6
SSE				sP	sP	00 10 12.1	+5.3
SSE				S	**S**	**00 15 23.3**	**+5.0**
SSE				sS	sS	00 15 41.9	+7.1
SSE				SS	SS	00 17 54.6	+6.5
SSE				LR	LR		
	comp=Z,210nm,24.0s,MS3.8						
GYA	**Guiyang**	**35.44**	**327**	P	**P**	**00 10 02.9**	**+1.5**
GYA				AP	pP	00 10 12.4	+1.0
GYA				XP	sP	00 10 16.0	+0.4
GYA				S	**S**	**00 15 33.4**	**-0.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,3.8s						
GYA				LR	LR		
	comp=N,430nm,12.6s,MS4.6						
GYA				LR	LR		
	comp=E,500nm,14.4s,MS4.6						
GYA				LR	LR		
	comp=Z,300nm,13.2s,MS4.2						
WHN	**Wuhan**	**35.58**	**341**	P	**P**	**00 10 03.5**	**+0.9**
ARMA	**Armidale**	**35.69**	**142**	*e*P	**P**	**00 10 04.7**	**+1.2**
NJ2	**Nanjing**	**35.78**	**348**	*e*P	**P**	**00 10 05.3**	**+1.0**
NJ2				AP	pP	00 10 15.4	+1.0
NJ2				XP	sP	00 10 19.6	+1.0
NJ2				PP	PP	00 11 26.4	+0.5
NJ2				S	**S**	**00 15 40.0**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,210nm,5.6s						
NJ2				LR	LR		
	comp=N,490nm,15.5s,MS4.5						
NJ2				LR	LR		
	comp=E,380nm,14.6s,MS4.5						
NJ2				LR	LR		
	comp=Z,310nm,19.7s						
KMI	**Kunming**	**36.73**	**321**	P	**P**	**00 10 16.0**	**+3.5**
KMI				AP	pP	00 10 26.0	+3.5
KMI				XP	sP	00 10 30.1	+3.4
KMI				PP	PP	00 11 42.3	+5.9
KMI				S	**S**	**00 15 58.0**	**+4.2**
KMI				XS	sS	00 16 15.3	+4.9
KMI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=N,220nm,12.7s,MS4.3						
KMI				LR	LR		
	comp=E,280nm,14.4s,MS4.3						
KMI				LR	LR		
	comp=Z,230nm,13.3s,MS4.1						
KMI	**Kunming**	**36.73**	**321**	P	**P**	**00 10 16.0**	**+3.5**
	comp=Z,27nm,1.2s,mb5.0						
KMI				pP	pP	00 10 26.0	+3.5
KMI				sP	sP	00 10 30.1	+3.4
KMI				PP	PP	00 11 42.2	+5.8
KMI				PPP		00 12 03.1	
KMI				S	**S**	**00 15 58.0**	**+4.2**
KMI				sS	sS	00 16 15.2	+4.8
KMI				SS	SS	00 18 27.8	-7.3
KMI				SSS		00 18 58.5	
KMI				LR	LR		
	comp=Z,240nm,13.3s,MS4.2						
CNB	**Canberra Magne**	**38.11**	**150**	*e*P	**P**	**00 10 24.8**	**+0.7**
	comp=Z,13nm,0.8s,mb4.7						
TOO	**Toolangi**	**38.23**	**156**	*e*P	**P**	**00 10 25.6**	**+0.4**
	comp=Z,13nm,0.9s,mb4.7						
TOO	**Toolangi**	**38.23**	**156**	*e*P	**P**	**00 10 25.6**	**+0.4**
TOO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
KS15	**Wonju Array Si**	**40.26**	**1**	*e*P	**P**	**00 10 42.6**	**+0.5**
INCN	**Inchon**	**40.30**	**359**	*e*P	**P**	**00 10 42.9**	**+0.5**
	comp=Z,40nm,0.8s,mb5.2						
INCN				*e*PcP	PcP	00 12 45.6	+0.1
CD2	**Chengdu**	**40.51**	**328**	P	**P**	**00 10 44.9**	**+0.8**
CD2				AP	pP	00 10 54.8	+0.5
CD2				XP	sP	00 10 58.0	-0.5
CD2				S	**S**	**00 16 51.0**	**+0.2**
CD2				XS	sS	00 17 10.3	+2.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
CD2				AMB	AMB		
	comp=Z,50nm,3.4s						
CD2				LR	LR		
	comp=N,240nm,13.2s						
CD2				LR	LR		
	comp=Z,190nm,12.6s,MS4.2						
MAJO	**Matsushiro**	**40.66**	**14**	*e*P	**P**	**00 10 44.2**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**40.66**	**14**	*e*P	**P**	**00 10 44.2**	**-1.2**
	comp=Z,29nm,0.8s,mb5.0						
MAT	**Matsushiro**	**40.66**	**14**	P	**P**	**00 10 44.0**	**-1.4**
MAT				S	**S**	**00 16 52.4**	**-0.6**
MAT	**Matsushiro**	**40.66**	**14**	*e*P	**P**	**00 10 44.0**	**-1.4**
MAT				*e*S	**S**	**00 16 52.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6						
MAT				MLR	MLR		
	comp=Z,350nm,20.0s,MS4.2						
MAT	**Matsushiro**	**40.66**	**14**	*e*P	**P**	**00 10 44.0**	**-1.4**
	comp=Z,17nm,1.0s,mb4.6						
MAT				*e*S	**S**	**00 16 52.0**	**-1.0**
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.2						
MJAR	**Matsushiro Arr**	**40.66**	**14**	P	**P**	**00 10 44.1**	**-1.3**
	comp=Z,24nm,0.9s,mb4.8,baz=183,slow=10,SNR=56						
MJAR				LR	LR	00 27 06.4	
	comp=Z,379nm,18.8s,MS4.3,baz=190,slow=35						
XAN	**Xi'an**	**40.72**	**336**	P	**P**	**00 10 45.5**	**-0.4**
XAN				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
DL2	**Dalian**	**42.04**	**353**	P	**P**	**00 10 56.8**	**+0.1**
DL2				S	**S**	**00 17 12.9**	**-0.6**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
DL2				LR	LR		
	comp=N,130nm,15.0s,MS4.1						
DL2				LR	LR		
	comp=E,110nm,13.2s,MS4.1						
DL2				LR	LR		
	comp=Z,180nm,13.9s,MS4.1						
DZM	**Mont Dzumac**	**42.46**	**120**	P	**P**	**00 11 01.6**	**+1.5**
	comp=Z,7.8nm,0.8s,mb4.4,baz=36,slow=9.6,SNR=6.0						
BJI	**Beijing**	**44.04**	**348**	*e*P	**P**	**00 11 12.3**	**-0.6**
	comp=Z,42nm,0.9s,mb5.2						
BJI				sP	sP	00 11 25.9	-1.4
BJI				S	**S**	**00 17 38.4**	**-4.4**
BJI				sS	sS	00 17 56.8	-2.9
BJI				SS	SS	00 21 05.5	+4.9
BJI				LR	LR		
	comp=Z,170nm,19.5s,MS4.0						
SHL	**Shillong**	**44.53**	**312**	*e*P	**P**	**00 11 19.0**	**+2.2**
SHL				*e*S	**S**	**00 17 52.0**	**+2.1**
LZH	**Lanzhou**	**44.64**	**333**	P	**P**	**00 11 19.3**	**+1.6**
LZH				AP	pP	00 11 29.3	+1.3
LZH				XP	sP	00 11 33.6	+1.5
LZH				PP	PP	00 13 06.0	+3.8
LZH				S	**S**	**00 17 53.3**	**+1.8**
LZH				XS	sS	00 18 10.0	+1.6
LZH				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.5						
LZH				AMB	AMB		
	comp=Z,240nm,4.2s						
LZH				LR	LR		
	comp=N,2μm,12.6s						
LZH				LR	LR		
	comp=Z,3μm,15.4s,MS5.3						
LZH	**Lanzhou**	**44.64**	**333**	P	**P**	**00 11 19.3**	**+1.6**
	comp=Z,80nm,1.1s,mb5.5						
LZH				pP	pP	00 11 29.2	+1.2
LZH				sP	sP	00 11 33.6	+1.5
LZH				PP	PP	00 13 06.0	+3.8
LZH				S	**S**	**00 17 53.2**	**+1.7**
LZH				sS	sS	00 18 18.0	+10
LZH				SS	SS	00 21 04.0	-8.2
LZH				LR	LR		
	comp=Z,3μm,15.4s,MS5.3						
SNY	**Shenyang**	**44.76**	**356**	⇓P	**P**	**00 11 17.9**	**-0.7**
SNY				AP	pP	00 11 28.1	-0.8
SNY				XP	sP	00 11 32.3	-0.8
SNY				PP	PP	00 13 03.9	+0.4
SNY				S	**S**	**00 17 56.5**	**+3.2**
SNY				XS	sS	00 18 13.9	+3.7
SNY				SS	SS	00 21 16.3	+1.7
SNY				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
SNY				AMB	AMB		
	comp=Z,100nm,2.7s,mb5.2						
SNY				LR	LR		
	comp=N,190nm,16.8s,MS4.3						
SNY				LR	LR		
	comp=E,250nm,18.0s,MS4.3						
SNY				LR	LR		
	comp=Z,300nm,25.7s						
HHC	**Hu-ho-hao-te**	**45.96**	**343**	*e*P	**P**	**00 11 32.1**	**+4.0**
HHC				AP	pP	00 11 42.0	+3.6
HHC				XP	sP	00 11 45.9	+3.3
HHC				PP	PP	00 13 20.4	+4.2
HHC				S	**S**	**00 18 15.0**	**+4.5**
HHC				XS	sS	00 18 31.4	+3.9
HHC				SCS	ScS	00 21 22.3	+1.2
HHC				SS	SS	00 21 32.9	-2.6
HHC				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
HHC				AMB	AMB		
	comp=Z,100nm,5.2s						
HHC				LR	LR		
	comp=N,210nm,16.7s,MS4.3						
HHC				LR	LR		
	comp=E,150nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=Z,220nm,16.6s,MS4.2						
VLA	**Vladivostok**	**46.12**	**5**	*i*P	**P**	**00 11 30.0**	**+0.6**
VLA				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
VLA	**Vladivostok**	**46.12**	**5**	*i*P	**P**	**00 11 30.0**	**+0.6**
	comp=Z,38nm,0.9s,mb5.3						
CN2	**Changchun**	**46.64**	**358**	*e*P	**P**	**00 11 37.8**	**+4.3**
CN2				*e*AP	pP	00 11 47.8	+4.0
CN2				*e*S	**S**	**00 18 26.3**	**+6.0**
CN2				SS	SS	00 21 46.0	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=E,200nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=Z,300nm,16.0s,MS4.3						
LSA	**Lhasa**	**47.47**	**316**	P	**P**	**00 11 41.0**	**+1.1**
MDJ	**Mudanjiang**	**47.47**	**2**	P	**P**	**00 11 39.8**	**-0.1**
MDJ				AP	pP	00 11 48.8	-1.5
MDJ				XP	sP	00 11 52.6	-1.8
MDJ				PCP	PcP	00 13 09.8	-0.1
MDJ				PP	PP	00 13 30.8	-0.6
MDJ				SCP	ScP	00 17 01.3	0.0
MDJ				PCS	PcS	00 17 05.1	-0.1
MDJ				S	**S**	**00 18 33.0**	**+0.9**
MDJ				XS	sS	00 18 48.0	-1.1
MDJ				SCS	ScS	00 21 31.3	+0.3
MDJ				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,50nm,4.4s						
MDJ				LR	LR		
	comp=N,230nm,25.3s						
MDJ				LR	LR		
	comp=E,80nm,15.2s						
MDJ				LR	LR		
	comp=Z,300nm,23.1s,MS4.2						
GTA	**Gaotai**	**49.20**	**332**	*e*P	**P**	**00 11 54.3**	**+1.0**
GTA				AP	pP	00 12 05.8	+2.1
GTA				XP	sP	00 12 09.3	+1.5
GTA				PCP	PcP	00 13 16.3	+0.2
GTA				PP	PP	00 13 49.4	+2.2
GTA				S	**S**	**00 18 57.8**	**+1.2**
GTA				SS	SS	00 22 26.1	-2.0
GTA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
GTA				AMB	AMB		
	comp=Z,210nm,6.8s						
GTA				LR	LR		
	comp=N,220nm,16.7s,MS4.4						
GTA				LR	LR		
	comp=E,220nm,16.0s,MS4.4						
GTA				LR	LR		
	comp=Z,240nm,13.7s,MS4.3						
JIRN	**Jiri**	**49.95**	**310**	*e*P	**P**	**00 11 59.3**	**+0.3**
GUN	**Gumba**	**50.31**	**310**	*e*P	**P**	**00 12 02.3**	**+0.6**
	comp=Z,87nm,0.7s,mb5.9						
PKI	**Pulchoki**	**50.50**	**310**	*e*P	**P**	**00 12 03.8**	**+0.6**
KKN	**Kakani**	**50.71**	**310**	*e*P	**P**	**00 12 04.7**	**0.0**
	comp=Z,35nm,0.8s,mb5.4						
KKN	**Kakani**	**50.71**	**310**	*e*P	**P**	**00 12 04.7**	**0.0**
KKN				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.3						
DMN	**Daman**	**50.75**	**310**	*e*P	**P**	**00 12 05.3**	**+0.2**
	comp=Z,59nm,0.9s,mb5.5						
GKN	**Gorkha**	**51.30**	**310**	*e*P	**P**	**00 12 09.3**	**+0.1**
	comp=Z,75nm,0.9s,mb5.6						
YSS	**Yuzh-Sakhalins**	**51.60**	**13**	*i*P	**P**	**00 12 12.2**	**+0.8**
YSS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**51.60**	**13**	*i*P	**P**	**00 12 12.2**	**+0.8**
	comp=Z,13nm,1.0s,mb4.8						
KOLN	**Koldanda**	**51.99**	**309**	*e*P	**P**	**00 12 14.8**	**+0.4**
	comp=Z,54nm,0.7s,mb5.6						
HYB	**Hyderabad**	**52.16**	**295**	*i*P	**P**	**00 12 19.0**	**+3.4**
HYB	**Hyderabad**	**52.16**	**295**	*e*P	**P**	**00 12 19.0**	**+3.4**
KLR	**Kul'dur**	**52.18**	**4**	*e*P	**P**	**00 12 12.6**	**-3.2**
KLR				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.2						
ULN	**Ulaanbaatar**	**53.68**	**343**	*e*P	**P**	**00 12 27.0**	**+0.2**
ULN				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5						
ULN	**Ulaanbaatar**	**53.68**	**343**	*e*P	**P**	**00 12 27.0**	**+0.2**
	comp=Z,50nm,0.8s,mb5.5						
SONM	**Songino Array**	**53.84**	**343**	P	**P**	**00 12 28.1**	**0.0**
	comp=Z,25nm,0.9s,mb5.1,baz=156,slow=8.1,SNR=142						
SONM				LR	LR	00 36 35.6	
	comp=Z,185nm,21.3s,MS4.1,baz=159,slow=37						
CIT	**Chita**	**56.06**	**350**	*e*P	**P**	**00 12 43.6**	**-0.4**
CIT				*e*	pP	00 12 51.2	-3.3
CIT				pmax	pmax		
	comp=Z,38nm,1.9s,mb5.1						
CIT	**Chita**	**56.06**	**350**	*e*P	**P**	**00 12 43.6**	**-0.4**
	comp=Z,38nm,1.9s,mb5.1						
CIT				*e*	pP	00 12 51.2	-3.3
ZAK	**Zakamensk**	**57.05**	**342**	*e*P	**P**	**00 12 50.2**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,12nm,1.9s,mb4.6						
ZAK	**Zakamensk**	**57.05**	**342**	*e*P	**P**	**00 12 50.2**	**-0.9**
	comp=Z,12nm,1.9s,mb4.6						
TLY	**Talaya**	**58.08**	**343**	*e*P	**P**	**00 12 58.7**	**+0.4**
TLY				*e*		00 15 08.9	
TLY				*e*S	**S**	**00 20 53.8**	**-3.1**
TLY				*e*SS	SS	00 24 42.4	-6.1
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TLY				MLR	MLR		
	comp=Z,118nm,18.0s,MS4.0						
TLY	**Talaya**	**58.08**	**343**	*e*P	**P**	**00 12 58.7**	**+0.4**
TLY				*e*		00 15 08.9	
TLY				*e*S	**S**	**00 20 53.8**	**-3.1**
TLY				*e*SS	SS	00 24 42.4	-6.1
IRK	**Irkutsk**	**58.40**	**344**	*e*P	**P**	**00 12 54.4**	**-6.2**
IRK				pmax	pmax		
	comp=Z,32nm,2.5s,mb4.9						
IRK	**Irkutsk**	**58.40**	**344**	*e*P	**P**	**00 12 54.4**	**-6.2**
	comp=Z,32nm,2.5s,mb4.9						
WMQ	**Urumqi**	**58.60**	**327**	P	**P**	**00 13 02.9**	**+1.0**
WMQ				XP	sP	00 13 16.6	0.0
WMQ				PP	PP	00 15 14.5	+2.8
WMQ				S	**S**	**00 21 03.6**	**0.0**
WMQ				SCS	ScS	00 22 46.4	-2.7
WMQ				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,370nm,4.0s						
WMQ				LR	LR		
	comp=N,250nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=E,130nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,110nm,24.0s,MS3.9						
MOY	**Mondy**	**58.89**	**341**	*e*P	**P**	**00 13 04.7**	**+0.8**
MOY				pmax	pmax		
	comp=Z,49nm,2.4s,mb5.1						
MOY	**Mondy**	**58.89**	**341**	*e*P	**P**	**00 13 04.7**	**+0.8**
	comp=Z,49nm,2.4s,mb5.1						
CLNS	**Chul'man**	**59.69**	**358**	*e*P	**P**	**00 13 07.4**	**-2.1**
CLNS				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.4						
CLNS				pmax	pmax		
	comp=N,20nm,0.9s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
BOD	**Bodaibo**	**61.58**	**352**	*e*P	**P**	**00 13 19.7**	**-2.7**
BOD				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.2						
BOD	**Bodaibo**	**61.58**	**352**	*e*P	**P**	**00 13 19.7**	**-2.7**
	comp=Z,24nm,1.1s,mb5.2						
PET	**Petropavlovsk**	**61.75**	**21**	*e*P	**P**	**00 13 23.7**	**+0.2**
PET				*e*		00 15 44.4	
PET				*e*S	**S**	**00 21 45.2**	**+1.1**
PET				*e*SSS		00 28 34.6	
PET				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.5						
PET				pmax	pmax		
	comp=Z,200nm,17.0s						
PET	**Petropavlovsk**	**61.75**	**21**	*e*P	**P**	**00 13 23.7**	**+0.2**
	comp=Z,32nm,0.9s,mb5.5						
PET				*e*		00 15 44.4	
PET				*e*S	**S**	**00 21 45.2**	**+1.1**
PET				*e*SSS		00 28 34.6	
MK31	**Makanchi Array**	**63.43**	**327**	P	**P**	**00 13 34.1**	**-0.6**
MK31				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
MK31	**Makanchi Array**	**63.43**	**327**	P	**P**	**00 13 34.1**	**-0.6**
	comp=Z,12nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**63.43**	**327**	P	**P**	**00 13 34.4**	**-0.3**
	comp=Z,9.0nm,0.6s,mb5.1,baz=122,slow=7.5,SNR=79						
YAK	**Yakutsk**	**64.90**	**1**	*e*P	**P**	**00 13 44.4**	**+0.1**
MA2	**Magadan**	**65.10**	**13**	*e*P	**P**	**00 13 46.7**	**+1.0**
MA2				*e*S	S	00 22 26.4	+0.6
MA2				*e*SS	SS	00 26 41.8	+3.5
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MA2				MLR	MLR		
	comp=Z,200nm,21.3s,MS4.3						
MA2

KURK pmax pmax
comp=Z,38nm,0.8s,mb5.5
NVS Novosibirsk 68.12 334⇑ *i*P **P 00 14 03.2 -1.8**
NVS *e* 00 23 51.6
NVS pmax pmax
comp=Z,24nm,1.1s,mb5.1
NVS pmax pmax
comp=N,16nm,1.2s
NVS pmax pmax
comp=E,23nm,1.4s
NVS Novosibirsk 68.12 334⇑ *i*P **P 00 14 03.2 -1.8**
comp=E,24nm,1.1s,mb5.1
NVS *e* 00 23 51.6
KK31 Karatay Array 68.58 319 *i*P **P 00 14 07.3 -0.5**
KK31 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KK31 Karatay Array 68.58 319 *i*P **P 00 14 07.3 -0.5**
comp=Z,8.0nm,0.8s,mb4.7
KKAR Karatay Array 68.58 319 *i*P **P 00 14 07.3 -0.5**
KKAR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KKAR Karatay Array 68.58 319 *i*P **P 00 14 07.3 -0.5**
comp=Z,7.0nm,0.9s,mb4.6
WSAR Wadi Sarin 71.70 296 P **P 00 14 31.2 +4.3**
comp=Z,4.8nm,0.8s,mb4.5,baz=116,slow=3.0,SNR=3.7
WSAR LR LR 00 45 25.3
comp=Z,118nm,19.1s,MS4.2,baz=334,slow=36
BRVK Borovoye 73.34 328 *e*P **P 00 14 35.8 -0.9**
BRVK *e**PP pP 00 14 46.0 -1.5
BRVK *e**SP sP 00 14 50.7 -0.8
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRVK Borovoye 73.34 328 *e*P **P 00 14 35.8 -0.9**
comp=Z,8.0nm,0.8s,mb4.7
BRVK *e*pP pP 00 14 46.0 -1.5
BRVK *e*sP sP 00 14 50.7 -0.8
TIXI Tiksi 74.54 1 *i*P **P 00 14 43.6 -0.1**
TIXI pmax pmax
comp=Z,13nm,0.8s,mb4.9
TIXI MLR MLR
comp=Z,200nm,18.0s,MS4.5
TIXI Tiksi 74.54 1 *i*P **P 00 14 43.6 -0.1**
comp=Z,13nm,0.8s,mb4.9
TIXI LR LR
comp=Z,200nm,18.0s,MS4.5
VNDA Vanda 76.71 173 P **P 00 14 57.0 +0.8**
comp=Z,14nm,0.9s,mb4.9,baz=313,slow=6.5,SNR=6.2
VNDA LR LR 00 47 13.1
comp=Z,513nm,20.7s,MS4.8,baz=334,slow=34
SBA Scott Base 77.62 172 *e*P **P 00 14 58.9 -2.3**
SBA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SBA Scott Base 77.62 172 *e*P **P 00 14 58.9 -2.3**
comp=Z,9.5nm,0.9s,mb4.7
MAW Mawson 77.66 201 P **P 00 14 58.9 -2.6**
comp=Z,3.4nm,0.8s,mb4.4,baz=141,slow=2.0,SNR=4.5
MAW LR LR 00 44 45.0
comp=Z,522nm,20.2s,MS4.8,baz=77,slow=32
AB31 Akbulak array 77.72 322 *i*P **P 00 15 00.2 -1.6**
AB31 pmax pmax
comp=Z,13nm,1.2s,mb4.7
AB31 Akbulak array 77.72 322 *i*P **P 00 15 00.2 -1.6**
comp=Z,13nm,1.2s,mb4.7
AKTO Aktyubinsk 79.28 323 LR LR 00 54 01.3
comp=Z,126nm,21.2s,MS4.2,baz=129,slow=39
OPO Ambohidratompo 79.65 252 P **P 00 15 11.6 -0.8**
comp=Z,3.2nm,0.6s,mb4.4,baz=80,slow=4.1,SNR=16
ARU Arti 80.91 328 *e*P **P 00 15 23.4 +4.2**
ARU *e* 00 18 30.9
ARU *e*PPP 00 20 19.9
ARU *e*S S 00 25 35.5 +10
ARU Arti 80.91 328 *e*P **P 00 15 20.2 +1.0**
ARU *e*P 00 15 23.4
ARU *e* 00 18 30.9
ARU *e*PPP 00 20 19.9
ARU *e*S S 00 25 35.5 +10
ORR Orenburg 81.60 323 *e*P **P 00 15 22.9 0.0**
ORR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
GNI Garni 86.22 310 *i*P **P 00 15 47.1 +0.7**
TTA Tatalina 86.65 26 *e*P **P 00 15 49.0 +0.5**
QSPA South Pole Qui 86.93 180 *e*P **P 00 15 46.7 -3.2**
comp=Z,9.4nm,0.8s,mb5.1
ZEI Tsey 87.17 313 *e*P **P 00 15 49.8 -1.3**
ZEI *e**PP pP 00 16 01.9 -0.2
ZEI pmax pmax
comp=Z,9.0nm,0.5s,mb5.3
ZEI Tsey 87.17 313 *e*P **P 00 15 49.8 -1.3**
ZEI *e*pP pP 00 16 01.9 -0.2
KIV Kislovodsk 88.17 314 *e*P **P 00 15 55.9 0.0**
KIV *e*S 00 26 25.9
KIV *i*SS SS 00 32 25.2 -1.6
KIV pmax pmax
comp=Z,3.0nm,2.5s,mb4.1
KIV MLR MLR
comp=Z,100nm,22.0s,MS4.2
KIV Kislovodsk 88.17 314 *e*P **P 00 15 55.9 0.0**
comp=Z,3.0nm,2.5s,mb4.1
KIV *e*S 00 26 25.9
KIV *i*SS SS 00 32 25.2 -1.6
KIV LR LR
comp=Z,100nm,22.0s,MS4.2
KMBO Kilima Mbogo 89.96 269 P **P 00 16 04.5 +0.2**
comp=Z,1.9nm,0.8s,mb4.5,baz=32,slow=6.8,SNR=6.5
KMBO Kilima Mbogo 89.96 269 *e*P **P 00 16 05.4 +1.1**
KMBO pmax pmax
comp=Z,21nm,1.7s
KMBO Kilima Mbogo 89.96 269 *e*P **P 00 16 05.4 +1.1**
comp=Z,21nm,1.7s,mb5.2
SML Sawmill 89.98 28 *e*P **P 00 16 03.8 -0.6**
SOC Sochi 90.29 313*c i*P **P 00 16 04.2 -1.6**
SOC *e**PP pP 00 16 11.5 -5.3
SOC *e* 00 19 41.5
SOC *e*S 00 26 31.5
SOC *e**SS sS 00 26 54.6 -21
SOC *e*SS SS 00 33 03.1 +5.6
SOC *e*SSS 00 36 33.4
SOC pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
SOC MLR MLR
comp=Z,116nm,21.0s,MS4.3
SOC Sochi 90.29 313⇑ *i*P **P 00 16 04.2 -1.6**
comp=Z,8.0nm,0.6s,mb5.2
SOC *e*pP pP 00 16 11.5 -5.3
SOC *e* 00 19 41.5
SOC *e*S 00 26 31.5
SOC *e*SS sS 00 26 54.6 -21
SOC *e*SS SS 00 33 03.1 +5.6
SOC *e*SSS 00 36 33.4
SOC LR LR
comp=Z,120nm,21.0s,MS4.3
MALT Malatya 90.94 308 *e*P **P 00 16 16.6 +7.7**
OBN Obninsk 92.86 325 *e*P **P 00 16 17.2 -0.5**
OBN *e* 00 19 57.8
OBN pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
OBN MLR MLR
comp=Z,100nm,25.0s,MS4.2
OBN Obninsk 92.86 325 *e*P **P 00 16 17.2 -0.5**
comp=Z,6.0nm,1.1s,mb4.9
OBN *e* 00 19 57.8
OBN LR LR
comp=Z,100nm,25.0s,MS4.2
DAWY Dawson 94.16 26 *e*P **P 00 16 24.5 +0.8**
APA Apatity 94.25 337 *e*P **P 00 16 26.5 +2.4**
BRTR Keskin Array B 94.71 309 P **P 00 16 25.8 -0.4**
comp=Z,0.5nm,1.0s,baz=17,slow=1.3,SNR=2.8
ARCES ARCESS Array B 96.93 340 P **P 00 16 34.2 -2.1**
comp=Z,2.4nm,0.9s,mb4.7,baz=72,slow=4.0,SNR=5.8
ARCES PKKPbc PKKPbc 00 33 16.4 -0.8
comp=Z,0.8nm,0.6s,baz=302,slow=5.6,SNR=4.5
ARCES ARCESS Array B 96.93 340 P **P 00 16 34.2 -2.1**
ARCES PKKPbc PKKPbc 00 33 16.4 -0.8
LSZ Lusaka 97.96 254 *e*P **P 00 16 39.9 -1.1**
LSZ pmax pmax
comp=Z,4.0nm,0.8s,mb5.0
LSZ Lusaka 97.96 254 *e*P **P 00 16 39.9 -1.1**
comp=Z,3.8nm,0.8s,mb5.0
BOSA Boshof 99.08 241 P **P 00 16 44.2 -1.8**
comp=Z,5.0nm,0.8s,mb5.1,baz=133,slow=14,SNR=5.8
BOSA Boshof 99.08 241 P **P 00 16 44.2 -1.8**
VRI Vrincioaia 99.51 316 S 00 27 33.4
PLOR Plostina 99.56 316 S 00 27 35.2
CLL Collm 107.36 323 *e*SKSac SKSac 00 28 02.0 +1.8
CLL *e*Sdif Sdif 00 29 30.0 +6.4
CLL *e*PS PS 00 31 14.0 +2.1
CLL *e*SPP 00 32 00.0
CLL *e*SS SS 00 37 06.0 +9.3
CLL *e*x x 00 47 12.0
GERES GERESS Array B 107.64 321 PKiKP PKiKP 00 21 31.7 -0.2
comp=Z,0.8nm,0.7s,baz=54,slow=2.5,SNR=6.2
GERES PP PP 00 21 56.1 +3.7
comp=Z,1.1nm,0.9s,baz=57,slow=4.9,SNR=4.4
OHCM Honcut 108.28 50 *e*PKiKP PKiKP 00 21 27.4 -5.6
OHCM *e*PKKPab PKKPab 00 33 03.5 +6.1
BSMT Bassoo Peak 110.72 40 *e*PKiKP PKiKP 00 21 38.0 +0.3
HLID Hailey 112.35 44 *e*PKiKP PKiKP 00 21 38.1 -2.6
CABF La Chapelle 113.23 320 *e*PKiKP PKiKP 00 21 40.6 -1.8
comp=Z,9.3nm,0.9s
BNI Bardonecchia 113.40 318 *e*PKiKP PKiKP 00 21 47.4 +4.6
BOZ Bozeman (W) 113.52 41 *e*PKKPab PKKPab 00 32 32.3 -1.9
SSF Saint Saulge 114.69 321 *e*PKiKP PKiKP 00 21 43.9 -1.3
comp=Z,9.8nm,0.9s
VIVF Saint-Julien-l 114.80 319 *e*PKiKP PKiKP 00 21 43.4 -2.0
SNOW Snow King Moun 114.89 43 *e*PKiKP PKiKP 00 21 47.9 +2.2
BGF Bois d'Agland 115.31 321 *e*PKiKP PKPdf 00 21 44.4 -2.0
comp=Z,14nm,0.9s
DAU Daniels Canyon 115.59 46 *e*PKKPab PKKPab 00 32 28.8 +3.8
TCF Toulx Ste Croi 115.82 321 *e*PKiKP PKPdf 00 21 46.2 -1.2
comp=Z,9.0nm,1.0s
PDAR Pinedale Array 115.96 43 PKP PKPdf 00 21 49.4 +1.7
comp=Z,0.3nm,0.4s,baz=132,slow=1.5,SNR=3.7
PV01 Paradox Valley 118.31 48 *e*PKPdf PKPdf 00 21 52.3 +0.1
TUC Tucson 118.37 55 *e*PKiKP PKPdf 00 21 54.0 +1.7
RSSD Black Hills 119.07 40 *e*PKiKP PKPdf 00 21 54.3 +0.7
ULM Lac du Bonnet 120.52 31 PKP PKPdf 00 21 56.8 +0.4
comp=Z,2.3nm,0.7s,baz=264,slow=6.5,SNR=3.2
ANMO Albuquerque 121.00 51 *e*PKiKP PKPdf 00 22 00.0 +2.6
MNTX Cornudas Mount 122.94 54 *e*PKPdf PKPdf 00 22 02.7 +1.6
GDL2 Guadalupe Moun 123.59 53 *e*PKKPab PKKPab 00 31 44.6 -5.7
TORD Torodi Ar. Bea 125.30 284 PKP PKPdf 00 22 05.5 -0.1
comp=Z,4.7nm,0.8s,baz=60,slow=2.1,SNR=21
TORD PKKPbc 00 31 46.0
comp=Z,0.6nm,0.8s,baz=295,slow=4.0,SNR=2.7
TORD Torodi Ar. Bea 125.30 284 PKP PKPdf 00 22 05.5 -0.1
TORD PKKPbc 00 31 46.0
SCHQ Schefferville 127.09 10 PKP PKPdf 00 22 09.9 +0.9
comp=Z,2.3nm,0.8s,baz=78,slow=9.4,SNR=2.3
JCT Junction City 127.85 53 *e*PKiKP PKPdf 00 22 12.3 +1.8
MIAR Mount Ida 130.78 45 *e*PKiKP PKPdf 00 22 19.0 +3.0
DBIC Dimbokro 132.18 276 PKP PKPdf 00 22 19.9 +1.2
comp=Z,3.9nm,0.7s,baz=1.4,slow=1.7,SNR=7.5
DBIC SKPbc SKPbc 00 25 44.6 +2.1
comp=Z,5.4nm,0.8s,baz=82,slow=10,SNR=5.4
DBIC SKP 00 25 53.1
comp=Z,7.1nm,0.9s,baz=120,slow=2.8,SNR=5.4
LIC Lamto 132.36 276 *e*PKiKP PKPdf 00 22 20.6 +1.6
comp=Z,16nm,0.7s
PLCA Paso Flores 133.51 161 PKP PKPdf 00 22 22.2 +1.0
comp=Z,1.8nm,0.9s,baz=211,slow=14,SNR=5.1
PLCA SKP 00 25 54.8
comp=Z,2.2nm,1.0s,baz=218,slow=3.8,SNR=3.3
PLCA Paso Flores 133.51 161 PKP PKPdf 00 22 22.2 +1.0
PLCA SKP 00 25 54.8
LRAL Lakeview Retre 136.19 43 *e*PKPdf PKPdf 00 22 28.0 +1.8
CFAA Coronel Fontan 142.54 158 PKhKP 00 22 32.9
comp=Z,0.6nm,0.6s,baz=227,slow=3.6,SNR=13
CFAA PKP PKPdf 00 22 43.1 +5.4
comp=Z,0.7nm,0.6s,baz=199,slow=3.8,SNR=8.2
CFAA SKPbc SKPbc 00 26 15.4 +2.4
comp=Z,0.5nm,0.8s,baz=214,slow=3.9,SNR=6.8
CFAA Coronel Fontan 142.54 158 PKP PKPdf 00 22 32.9 -4.9
CFAA PKP PKPdf 00 22 43.1 +5.4
CFAA SKPbc SKPbc 00 26 15.4 +2.4
JTS JuntasAbangare 147.21 76 *e*PKP2 PKPab 00 22 50.0 +0.1
MGV Manicaragua 147.44 52 *e*P PKPab 00 22 50.8 0.0
LVC Limon Verde 150.02 149 *e*PKPdf PKPbc 00 22 56.9 +1.6
CPUP Villa Florida 150.49 172 PKPbc PKPbc 00 22 55.7 -0.8
comp=Z,9.4nm,0.7s,baz=149,slow=1.8,SNR=32
NNA Nana 151.77 122 *e*PKPdf PKPbc 00 23 00.4 +1.0
ATAH Atahualpa 152.51 111 PKPbc PKPbc 00 23 03.9 +2.7
comp=Z,15nm,0.7s,baz=148,slow=6.7,SNR=12
CAM4 Nova Friburgo 152.90 201 *e*P PKPbc 00 23 02.3 +0.3
CAM4 *i* 00 23 05.7
CAM4 *i* 00 23 07.3
CAM4 *i* 00 23 12.1
LPAZ La Paz 155.51 142 PKP PKPdf 00 23 00.7 +2.3
comp=Z,2.9nm,0.8s,baz=142,slow=0.8,SNR=14
LPAZ PKPab PKPab 00 23 24.3 0.0
comp=Z,4.5nm,0.7s,baz=215,slow=9.6,SNR=5.9
LPAZ La Paz 155.51 142 PKP2 PKPab 00 23 24.3 0.0
LPAZ pmax pmax
comp=Z,5.0nm,0.7s
LPAZ La Paz 155.51 142 *e*PKPdf PKPdf 00 23 00.9 +2.5
SIV San Ignacio 159.39 157 PKP PKPdf 00 23 04.5 +1.2
comp=Z,2.6nm,0.7s,baz=112,slow=3.0,SNR=9.9
SDV Santo Domingo 161.27 71 *e*PKPdf PKPdf 00 23 07.4 +2.0
SAML Samuel 164.19 139 *e*PKPdf PKPdf 00 23 09.0 +0.8

MAN 24 00:04:44.9, 425N×12575E, h93km, mb4.7, ML5.4, MS4.8, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**3.31**	**333**	*e*P	Pn	00 05 35.8	+1.2
CTBH				*i* S	Sn	00 06 14.4	+1.3
BUKP	**Musuan**	**3.67**	**349**	*e*P	Pn	00 05 41.6	+2.1
BUKP	**Musuan**	**3.67**	**349**	*e*P	Pn	00 05 41.8	+2.3
BUTP	**Butuan**	**4.69**	**358**	*e*P	Pn	00 05 55.6	+2.4
SCPH	**Surigao**	**5.50**	**357⇑**	*e*P	Pn	00 06 05.8	+1.5
MSLP	**Maasin**	**5.92**	**351**	*e*P	Pn	00 06 11.7	+1.8
MSLP	**Maasin**	**5.92**	**351**	*e*P	Pn	00 06 11.5	+1.6

*ISCJB **24** 00:05:17.9±0.7, 591S±02×1516W±02, h10km, mb4.4/13, MS4.4/14, Error ellipse: s-maj=23.1km s-min=13.6km az=158.3*
*IDC **24** 00:05:18.9±0.8, 5922S×15151W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.2/14, mbtmp4.1/9, MS4.4/14, Ms1 4.4/14, ms1mx4.3/19, Error ellipse: s-maj=39.1km s-min=19.1km az=177.0*
*NEIC **24** 00:05:20.0±0.6, 5925S×15153W, h10km, mb4.8/8, Error ellipse: s-maj=20.0km s-min=13.0km az=169.0*
*HRVD **24** 00:05:20.0±0.3, 5982S×15052W, h21km±2km, MW5.1/63, Centroid moment Tensor Solution. LP body waves: s33,c40;Mantle waves: s63,c85; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}0.49±.24; $M_{\theta\theta}$2.58±.21; $M_{\phi\phi}$-3.07±.17; $M_{r\theta}$-1.77±.41; $M_{\theta\phi}$3.29±.15; $M_{r\phi}$0.38±.30; Best double couple: $M_0$4.71500×10^16^ NP1:ϕ_s199.00000°, δ67.00000°, λ174.00000°. NP2:ϕ_s292.00000°, δ85.00000°, λ23.00000°. Principal axes: T 4.6170, Plg20.0000°, Azm158.0000°; N 0.1920, Plg66.0000°, Azm304.0000°; P -4.8130, Plg12.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 00:05:19.9±0.7, 593S±01×1516W±02, h10km, n32, σ1§03/20, mb4.4/13, MS4.4/14, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**23.08**	**201**	*e*P	**P**	**00 10 26.4**	**+0.6**
	81nm,1.8s,mb4.8						
VNDA	**Vanda**	**23.88**	**203**	P	**P**	**00 10 34.1**	**+0.5**
	4.9nm,1.3s,mb3.8,baz=64,slow=10,SNR=6.2						
VNDA				LR	LR	00 17 28.4	
	comp=Z,329nm,19.4s,MS3.8,baz=72,slow=30						
VNDA	**Vanda**	**23.88**	**203**	*e*P	**P**	**00 10 34.0**	**+0.4**
	24nm,1.8s,mb4.3						
VNDA				LR	LR	00 17 28.4	
URZ	**Urewera**	**29.01**	**303**	LR	LR	00 20 35.6	
	comp=Z,422nm,19.7s,MS4.1,baz=282,slow=32						
QSPA	**South Pole Qui**	**30.86**	**180**	*e*P	**P**	**00 11 33.8**	**-2.5**
	20nm,1.2s,mb4.8						
TBI	**Tubuai**	**35.93**	**3**	*e*S	**S**	**00 18 07.5**	**+8.8**
	110nm,25.5s						
TBI				*e*LR	LR	00 21 59.9	
	1μm,28.5s,baz=187						
PPT	**Papeete**	**41.68**	**3**	*e*S	**S**	**00 19 34.0**	**+8.7**
	152nm,23.5s						
PPT				*e*LQ		00 22 57.2	
	911nm,25.0s						
PPT				*e*LR	LR	00 24 41.2	
	1μm,25.5s,baz=188						
PPT	**Papeete**	**41.68**	**3**	LR	LR	00 26 55.4	
	comp=Z,433nm,18.1s,MS4.4,baz=176,slow=31						
RPN	**Rapa Nui**	**43.29**	**61**	LR	LR	00 26 52.0	
	comp=Z,725nm,20.8s,MS4.6,baz=316,slow=30						
MAW	**Mawson**	**50.92**	**196**	P	**P**	**00 14 22.4**	**+1.1**
	1.9nm,1.0s,mb4.0,baz=139,slow=6.3,SNR=3.9						
TAOE	**Nuku Hiva Isla**	**51.06**	**15**	*e*LR	LR	00 29 05.9	
	1μm,28.1s						
PLCA	**Paso Flores**	**51.79**	**107**	P	**P**	**00 14 28.1**	**+0.3**
	5.6nm,1.1s,mb4.4,baz=208,slow=13,SNR=4.0						
PLCA				LR	LR	00 30 05.5	
	comp=Z,147nm,18.8s,MS4.0,baz=218,slow=29						
PLCA	**Paso Flores**	**51.79**	**107**	*e*P	**P**	**00 14 27.8**	**0.0**
	11nm,1.3s,mb4.6						
PLCA				LR	LR	00 30 05.5	
TRQA	**Tornquist**	**58.03**	**111**	*e*P	**P**	**00 15 12.6**	**-0.3**
	9.9nm,1.1s,mb4.8						
CTA	**Charters Tower**	**58.77**	**284**	LR	LR	00 35 58.5	
	comp=Z,263nm,18.9s,MS4.4,baz=221,slow=31						
CFAA	**Coronel Fontan**	**60.12**	**102**	P	**P**	**00 15 27.2**	**-0.2**
	0.1nm,0.3s,baz=229,slow=6.7,SNR=3.8						
ASAR	**Alice Springs**	**62.08**	**270**	P	**P**	**00 15 41.2**	**+0.5**
	2.0nm,0.7s,mb4.4,baz=138,slow=6.4,SNR=7.1						
ASAR				LR	LR	00 39 17.7	
	comp=Z,573nm,18.7s,MS4.8,baz=180,slow=33						
NWAO	**Narrogin (SRO)**	**62.91**	**251**	LR	LR	00 35 21.8	
	comp=Z,461nm,18.0s,MS4.7,baz=297,slow=29						
WRA	**Warramunga Arr**	**64.94**	**273**	P	**P**	**00 15 59.6**	**-0.1**
	1.3nm,0.7s,mb4.1,baz=156,slow=5.6,SNR=2.9						
WRA				LR	LR	00 40 06.2	
	comp=Z,272nm,21.8s,MS4.4,baz=60,slow=32						
WRAB	**Tennant Creek**	**64.94**	**273**	P	**P**	**00 15 58.5**	**-1.2**
	8.8nm,0.8s,mb4.8						
CPUP	**Villa Florida**	**69.86**	**108**	P	**P**	**00 16 29.2**	**-1.7**
	3.2nm,0.8s,mb4.3,baz=212,slow=4.4,SNR=6.8						
CPUP	**Villa Florida**	**69.86**	**108**	P	**P**	**00 16 29.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**70.94**	**267**	LR	LR	00 43 31.3	
	comp=Z,320nm,20.4s,MS4.6,baz=335,slow=32						
LPAZ	**La Paz**	**72.82**	**93**	P	**P**	**00 16 51.4**	**+2.6**
	2.2nm,1.0s,mb4.0,baz=217,slow=4.8,SNR=8.4						
LPAZ				LR	LR	00 40 50.6	
	comp=Z,134nm,21.9s,MS4.2,baz=18,slow=29						
LPAZ	**La Paz**	**72.82**	**93**	*e*P	**P**	**00 16 48.6**	**-0.2**
	18nm,1.6s,mb4.8						
LPAZ				LR	LR	00 40 50.6	
SIV	**San Ignacio**	**76.68**	**99**	P	**P**	**00 17 12.0**	**+0.9**
	2.2nm,1.1s,mb4.0,baz=219,slow=8.9,SNR=5.9						
SAML	**Samuel**	**81.57**	**93**	*e*P	**P**	**00 17 38.5**	**+0.7**
	6.2nm,1.2s,mb4.4						
BDFB	**Brasília**	**83.47**	**110**	LR	LR	00 50 18.1	
	comp=Z,196nm,19.1s,MS4.5,baz=211,slow=32						
ROSC	**El Rosal**	**87.67**	**77**	LR	LR	00 50 09.2	
	comp=Z,149nm,18.0s,MS4.4,baz=28,slow=31						
SUR	**Sutherland**	**88.47**	**174**	LR	LR	00 57 14.1	
	comp=Z,275nm,18.1s,MS4.7,baz=135,slow=35						
MKAR	**Makanchi Array**	**146.25**	**273**	PKPbc	PKPbc	00 25 00.4	-0.2
	4.9nm,0.8s,baz=106,slow=3.9,SNR=26						
ESDC	**Sonseca Array**	**151.68**	**119**	PKPbc	PKPbc	00 25 14.0	-0.5
	3.4nm,0.9s,baz=235,slow=1.5,SNR=12						
ESDC				PKPab	PKPab	00 25 21.6	-1.7
	1.0nm,0.7s,baz=242,slow=2.1,SNR=4.7						

IDC 24 00:27:38.7±15.0, 269N×12874E, h298km±166km, mb3.1/5, mb1 3.2/5, mb1mx3.0/16, mbtmp3.7/5, Error ellipse: s-maj=150.3km s-min=30.0km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.16**	**166**	P	P	00 32 20.0	+0.8
	0.5nm,0.3s,baz=348,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**26.68**	**169**	P	P	00 32 50.5	-0.3
	0.3nm,0.5s,baz=354,slow=8.1,SNR=6.0						
SONM	**Songino Array**	**48.93**	**340**	P	P	00 35 55.2	0.0
	0.1nm,0.4s,baz=151,slow=6.6,SNR=3.7						
MKAR	**Makanchi Array**	**59.55**	**325**	P	P	00 37 11.3	+0.1
	1.1nm,0.5s,baz=116,slow=7.6,SNR=14						
ARCES	**ARCESS Array B**	**92.10**	**340**	P	P	00 40 14.0	-0.3
	1.5nm,0.9s,baz=57,slow=7.4,SNR=4.2						

*ISCJB **24** 00:34:42.4±0.8, 4963S×009×1230E±03, h10km, mb4.2/7, Error ellipse: s-maj=29.2km s-min=12.3km az=16.1*
*IDC **24** 00:34:42.8±1.0, 4962S×12294E, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.3/13, mbtmp4.3/7, ML2.8/1, Error ellipse: s-maj=41.9km s-min=18.5km az=104.0*
*NEIC **24** 00:34:44.2±0.5, 4962S×12291E, h10km, mb4.3/2, Error ellipse: s-maj=19.6km s-min=8.8km az=99.0*

ISC 24 00:34:44.0±0.8, 4965S±009×1230E±03, h10km, n12, σ0§32/10, mb4.2/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.25**	**344**	P	**Pn**	**00 38 45.4**	**+0.4**
	1.8nm,0.3s,baz=159,slow=10,SNR=18						
NWAO	**Narrogin (SRO)**	**17.25**	**344**	*e*Pn	**Pn**	**00 38 44.8**	**-0.2**
	10nm,0.6s						
STKA	**Stephens Creek**	**22.57**	**45**	P	**P**	**00 39 44.3**	**-0.1**
	3.7nm,0.7s,mb3.9,baz=200,slow=9.6,SNR=8.3						
ASAR	**Alice Springs**	**27.32**	**22**	P	**P**	**00 40 28.7**	**-0.2**
	6.1nm,0.7s,mb4.2,baz=193,slow=8.8,SNR=47						
WRA	**Warramunga Arr**	**31.01**	**21**	P	**P**	**00 41 01.4**	**-0.3**
	5.1nm,1.2s,mb4.2,baz=198,slow=10.0,SNR=6.6						
FITZ	**Fitzroy Crossi**	**31.55**	**5**	P	**P**	**00 41 07.0**	**+0.5**
	6.5nm,1.0s,mb4.4,baz=184,slow=8.9,SNR=6.7						
VNDA	**Vanda**	**31.59**	**165**	P	**P**	**00 41 07.0**	**+0.2**
	3.1nm,0.9s,mb4.1,baz=295,slow=8.3,SNR=14						
VNDA	**Vanda**	**31.59**	**165**	P	**P**	**00 41 07.0**	**+0.2**
MAW	**Mawson**	**34.30**	**216**	P	**P**	**00 41 30.0**	**-0.4**
	2.3nm,1.0s,mb4.1,baz=74,slow=8.6,SNR=3.8						
QSPA	**South Pole Qui**	**40.47**	**180**	*e*P	**P**	**00 42 23.0**	**+0.2**
	8.0nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**146.61**	**45**	PKPbc	PKPbc	00 54 25.3	-0.5
	2.1nm,0.9s,baz=292,slow=2.7,SNR=3.8						
EKA	**Eskdalemuir Ar**	**147.42**	**301**	PKPbc	PKPbc	00 54 26.2	-1.8
	0.6nm,0.6s,baz=91,slow=0.5,SNR=4.5						

*ISCJB **24** 01:08:58.0±0.4, 4439N×003×994E±004, h13km±5km, Error ellipse: s-maj=6.2km s-min=4.3km az=90.7*
*ROM **24** 01:08:58.0±0.2, 4447N×1001E, h10km, Md2.4/11, Ml1.7/5, Error ellipse: s-maj=3.6km s-min=1.8km az=29.0*
*LDG **24** 01:09:00.8±0.1, 4431N×993E, h5km, Ml2.2/12, Error ellipse: s-maj=2.6km s-min=1.7km az=86.0*

ISC 24 01:08:58.7±0.5, 4438N±003×994E±004, h10km±5km, n26, σ0§98/43, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERBM	**Eremo**	**0.34**	**82**	Pg	**Pg**	**01 09 04.7**	**-0.7**
ERBM				Sg	**Sg**	**01 09 08.9**	**-1.1**
	93nm,0.3s						
VLC	**Villacollemand**	**0.39**	**124**	Pg	**Pg**	**01 09 06.2**	**-0.1**
VLC				Sg	**Sg**	**01 09 12.8**	**+1.4**
	58nm,0.2s						
GSCL	**Gusciola**	**0.47**	**93**	Pg	**Pg**	**01 09 07.2**	**-0.5**
GSCL				Sg	**Sg**	**01 09 13.2**	**-0.7**
	12nm,0.2s						
BOB	**Bobbio (Coli)**	**0.53**	**318**	Pg	**Pg**	**01 09 07.3**	**-1.6**
BOB				Sg	**Sg**	**01 09 15.3**	**-0.5**
	55nm,1.1s						
BDI	**Bagni Di Lucca**	**0.57**	**123**	Pg	**Pg**	**01 09 09.1**	**-0.6**
BDI				Sg	**Sg**	**01 09 17.8**	**+0.7**
	70nm,0.5s						
PZZT	**Monte Pizzetto**	**0.70**	**110**	Pg	**Pg**	**01 09 11.5**	**-0.8**
	33nm,0.4s						
PII	**Pisa**	**0.78**	**147**	Pg	**Pg**	**01 09 13.7**	**0.0**
	36nm,0.2s						
FNVD	**Fontana Vidola**	**0.87**	**103**	Pg	**Pg**	**01 09 15.0**	**-0.5**
GROG	**Isola di Gorgo**	**0.95**	**182**	Pg	**Pg**	**01 09 18.3**	**+1.4**
FIN	**Finale Ligure**	**1.25**	**263**	Pg	**Pg**	**01 09 22.5**	**-0.3**
	3.0nm,0.2s						
SBF	**Sospel**	**1.88**	**255**	*e*Pn	**Pn**	**01 09 31.8**	**+1.0**
SBF				*e*Sn	**Sn**	**01 09 54.0**	**-0.6**
	4.6nm,0.2s						
PGF	**Pioggiola**	**1.95**	**201**	*e*Pn	**Pn**	**01 09 32.1**	**+0.2**
PGF				*e*Sn	**Sn**	**01 09 55.3**	**-1.1**
	4.6nm,0.4s						
CTI	**Castel Tesino**	**2.06**	**35**	Pg	**Pn**	**01 09 32.5**	**-0.9**
MBDF	**Montbardon**

LPL *e*Sn **Sn** **01 10 11.4 +0.2**
1.6nm,0.2s
LMR La Moure 2.69 248 *e*Pn **Pn** **01 09 42.1 0.0**
LMR *e*Sn **Sn** **01 10 13.2 -1.5**
2.8nm,0.3s
ORIF Oris-en-Rattie 2.95 282 *e*Pn **Pn** **01 09 46.7 +1.1**
ORIF *e*Sn **Sn** **01 10 20.7 -0.4**
1.3nm,0.4s
SMRF Simiane la Rot 3.17 264 *e*Pn **Pn** **01 09 49.7 +1.1**
SMRF *e*Sn **Sn** **01 10 25.1 -1.3**
0.8nm,0.3s
CABF La Chapelle 3.51 311 *e*Pn **Pn** **01 09 55.0 +1.7**
VIVF Saint-Julien-l 3.79 279 *e*Pn **Pn** **01 09 57.9 +0.7**
VIVF *e*Sn **Sn** **01 10 40.5 -1.4**
0.4nm,0.2s
LASF Ste Croix 4.38 268 *e*Pn **Pn** **01 10 06.0 +0.7**
LASF *e*Sn **Sn** **01 10 54.3 -2.1**
0.4nm,0.3s
HAU Haudompre 4.41 327 *e*Pn **Pn** **01 10 06.9 +1.3**
HAU *e*Sn **Sn** **01 10 56.5 -0.5**
4.4nm,0.3s
AVF Avril sur Loir 5.22 300 *e*Pn **Pn** **01 10 17.8 +1.0**
CAF Calviac 5.65 278 *e*Pn **Pn** **01 10 22.9 +0.2**

IDC 24 01:13:32.9±29.0, 2366S×17391W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/12, mbtmp4.2/4, Error ellipse: s-maj=529.5km s-min=155.3km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.06**	**268**	P	P	01 20 45.1	+0.6
	6.5nm,0.5s,baz=103,slow=13,SNR=13						
STKA	**Stephens Creek**	**39.99**	**248**	P	P	01 21 09.1	-0.1
	0.7nm,0.4s,baz=103,slow=14,SNR=4.2						
ASAR	**Alice Springs**	**47.57**	**259**	P	P	01 22 10.6	+0.4
	0.6nm,0.3s,baz=95,slow=6.9,SNR=11						
WRA	**Warramunga Arr**	**47.99**	**264**	P	P	01 22 13.6	+0.2
	1.8nm,0.3s,baz=103,slow=7.9,SNR=10						

*IDC **24** 01:20:24.9±6.4, 37.14N×7188E, h105km±58km, mb3.5/7, mb1 3.6/10, mb1mx3.4/23, mbtmp3.9/10, MS4.1/2, Ms1 4.1/2, ms1mx2.8/20, Error ellipse: s-maj=43.2km s-min=22.7km az=167.0*
*NEIC **24** 01:20:25.5±1.2, 37.16N×7189E, h111km±14km, mb4.3/11, Error ellipse: s-maj=12.3km s-min=5.4km az=56.0*
*BJI **24** 01:20:25.5, 3720N×7190E, h110km*
*ISCJB **24** 01:20:26.6±0.9, 37.19N±004×7191E±010, h143km±12km, mb3.7/11, Error ellipse: s-maj=13.5km s-min=5.4km az=132.9*
ISC 24 01:20:27.7±0.8, 3719N±004×7194E±010, h137km±11km, n41, σ1§02/45, mb3.7/11, 1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.93**	**53**	P	**Pn**	**01 21 28.8**	**+2.1**
KSH				S	**Sn**	**01 22 13.4**	**+1.0**
KSH				Smax			
	comp=N,300nm,0.8s						
KSH				Smax			
	comp=E,180nm,0.6s						
AML	**Almayashu**	**5.12**	**15**	P	**Pn**	**01 21 42.5**	**0.0**
	SNR=14						
UCH	**Uchtor**	**5.41**	**21**	P	**Pn**	**01 21 46.5**	**+0.2**
	SNR=65						
KZA	**Kyzart**	**5.51**	**27**	P	**Pn**	**01 21 47.4**	**-0.3**
	SNR=30						
EKS2	**Erkin-Say**	**5.64**	**14**	P	**Pn**	**01 21 49.5**	**0.0**
	SNR=19						
DLH	**Dalhousie**	**5.70**	**143**	*e*PN	**Pn**	**01 21 52.0**	**+1.8**
DLH				*e*SN	**Sn**	**01 22 55.0**	**+0.4**
AAK	**Ala-Archa**	**5.78**	**19**	P	**Pn**	**01 21 51.7**	**+0.3**
	SNR=29						
AAK	**Ala-Archa**	**5.78**	**19**	*i*Pn	**Pn**	**01 21 50.4**	**-0.9**
	comp=E,31nm,0.5s						
AAK				*e*Sn	**Sn**	**01 22 51.5**	**-5.0**
KBK	**Karagaybulak**	**5.93**	**22**	P	**Pn**	**01 21 54.8**	**+1.5**
	SNR=12						
ULHL	**Ulahol**	**6.04**	**32**	P	**Pn**	**01 21 54.0**	**-0.8**
	SNR=16						
CHMS	**Chumysh**	**6.19**	**20**	P	**Pn**	**01 21 56.5**	**-0.2**
	SNR=21						
TKM2	**Tokmak 2**	**6.37**	**25**	P	**Pn**	**01 21 59.2**	**0.0**
	SNR=6.2						
USP	**Ospenovka**	**6.38**	**17**	P	**Pn**	**01 21 58.5**	**-0.8**
	SNR=14						
SDNR	**Sundarnagar**	**7.04**	**142**	*e*P	**Pn**	**01 22 10.0**	**+1.8**
SDNR				*e*S	**Sn**	**01 23 24.0**	**-2.8**
MKAR	**Makanchi Array**	**12.29**	**35**	P	**Pn**	**01 23 16.1**	**-2.0**
	comp=E,0.2nm,0.3s,baz=214,slow=12,SNR=8.9						
KOLN	**Koldanda**	**13.59**	**130**	*e*P	**Pn**	**01 23 34.0**	**-0.9**
	comp=E,5.9nm,0.3s						
GKN	**Gorkha**	**14.08**	**127**	*e*P	**Pn**	**01 23 40.5**	**-0.5**
	comp=E,15nm,0.4s						
KURK	**Kurchatov**	**14.34**	**17**	*e*Pn	**Pn**	**01 23 44.8**	**+0.4**
	comp=E,6.1nm,0.8s						
KKN	**Kakani**	**14.63**	**126**	*e*P	**Pn**	**01 23 47.1**	**-1.0**
DMN	**Daman**	**14.65**	**127**	*e*P	**Pn**	**01 23 47.5**	**-0.7**
PKI	**Pulchoki**	**14.87**	**126**	*e*P	**Pn**	**01 23 50.4**	**-0.6**
	comp=E,4.4nm,0.2s						
GUN	**Gumba**	**14.95**	**124**	*e*P	**Pn**	**01 23 51.5**	**-0.4**
	comp=E,6.5nm,0.3s						
JIRN	**Jiri**	**15.32**	**124**	*e*P	**Pn**	**01 23 56.3**	**-0.3**
	comp=E,10nm,0.2s						
BVAR	**Borovoye Array**	**15.87**	**357**	P	**Pn**	**01 24 01.5**	**-1.9**
	comp=E,0.2nm,0.3s,baz=241,slow=42,SNR=7.2						
AKTK	**Aktyubinsk**	**16.58**	**327**	P	**Pn**	**01 24 11.5**	**-0.6**
AKTK				S	**S**	**01 27 05.4**	**-11**
AKTO	**Aktyubinsk**	**16.58**	**327**	P	**Pn**	**01 24 11.5**	**-0.6**
	comp=E,0.9nm,0.3s,baz=135,slow=9.6,SNR=20						
AKTO				S	**S**	**01 27 05.4**	**-11**
	comp=E,0.3nm,0.3s,baz=357,slow=22,SNR=7.5						
SONM	**Songino Array**	**27.32**	**56**	P	**P**	**01 26 01.3**	**+1.7**
	comp=E,0.8nm,0.8s,mb3.4,baz=259,slow=10,SNR=6.4						
ASF	**Jabal al Asfar**	**29.14**	**271**	P	**P**	**01 26 16.2**	**+0.5**
	comp=E,1.1nm,0.6s,mb3.8,baz=338,slow=5.9,SNR=3.9						
BR131	**Keskin Array S**	**29.95**	**287**	P	**P**	**01 26 24.0**	**+1.2**
	comp=E,0.6nm,0.5s,mb3.6						
BRTR	**Keskin Array B**	**29.95**	**287**	P	**P**	**01 26 24.4**	**+1.6**
	comp=E,0.7nm,0.5s,mb3.6,baz=104,slow=7.7,SNR=7.0						
JOF	**Joensuu**	**35.65**	**329**	*e*p	**P**	**01 27 12.4**	**-0.1**
	comp=E,0.8nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**37.34**	**325**	P	**P**	**01 27 26.7**	**0.0**
	comp=E,0.4nm,0.4s,mb3.5,baz=122,slow=10,SNR=11						
ARCES	**ARCESS Array B**	**40.80**	**337**	P	**P**	**01 27 55.2**	**-0.3**
	comp=E,0.8nm,0.6s,mb3.5,baz=108,slow=7.8,SNR=6.0						
GERES	**GERESS Array B**	**43.15**	**305**	LR	LR	01 50 43.3	
	comp=E,106nm,21.0s,baz=351,slow=42						
VSL	**Villasalto**	**48.24**	**293**	P	**P**	**01 28 53.7**	**-0.9**
	comp=E,3.8nm,0.9s,mb4.0						
JHJ	**Hachijo jima 2**	**54.55**	**73**	LR	LR	01 52 33.8	
	comp=E,433nm,21.4s,baz=59,slow=35						
ESDC	**Sonseca Array**	**57.80**	**298**	P	**P**	**01 30 05.1**	**+0.5**
	comp=E,0.3nm,0.4s,mb3.4,baz=56,slow=7.3,SNR=4.1						
ESLA	**Sonseca Array**	**57.80**	**298**	*e*P	**P**	**01 30 05.1**	**+0.5**
	comp=E,1.7nm,1.1s,mb3.8						
TORD	**Torodi Ar. Bea**	**66.49**	**269**	P	**P**	**01 31 02.2**	**-0.3**
	comp=E,0.3nm,0.5s,mb3.4,baz=45,slow=5.6,SNR=17						
TORD	**Torodi Ar. Bea**	**66.49**	**269**	P	**P**	**01 31 02.2**	**-0.3**
WRAB	**Tennant Creek**	**81.72**	**123**	*e*P	**P**	**01 32 38.1**	**+1.9**
	comp=E,3.1nm,0.5s,mb4.2						

*LDG **24** 01:22:20.9±0.4, 1321S×16785E, h10km, Mb4.1/1, Error ellipse: s-maj=80.7km s-min=13.0km az=92.0*
*NEIC **24** 01:22:42.2±3.2, 1436S×16701E, h187km±29km, mb4.4/3, Error ellipse: s-maj=28.5km s-min=16.6km az=170.0*
*ISCJB **24** 01:22:44.4±3.6, 146S±02×1670E±02, h221km±34km, mb4.0/9, Error ellipse: s-maj=38.1km s-min=33.6km az=145.3*
*IDC **24** 01:22:44.6±4.5, 1453S×167.11E, h220km±39km, mb3.7/6, mb1 3.8/7, mb1mx3.6/13, mbtmp4.2/7, Error ellipse: s-maj=33.5km s-min=30.4km az=146.0*
ISC 24 01:22:44.8±3.6, 146S±02×1672E±02, h220km±34km, n41, σ0§46/15, mb4.0/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.51**	**185**	P	**Pn**	**01 24 31.7**	**0.0**
	0.8nm,0.3s,baz=35,slow=18,SNR=7.3						
STKA	**Stephens Creek**	**29.04**	**229**	*e*P	**P**	**01 28 24.1**	**-0.3**
	5.2nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**29.04**	**229**	P	**P**	**01 28 24.3**	**-0.1**
	5.7nm,0.5s,mb4.5,baz=51,slow=8.4,SNR=26						
STKA				PcP	PcP	01 31 25.3	-1.5
	1.1nm,0.5s,baz=18,slow=3.2,SNR=4.6						
STKA	**Stephens Creek**	**29.04**	**229**	*e*P	**P**	**01 28 24.0**	**-0.4**
WB2	**Warramunga Arr**	**31.77**	**256**	*e*P	**P**	**01 28 48.2**	**-0.2**
WRA	**Warramunga Arr**	**31.79**	**256**	P	**P**	**01 28 47.7**	**-0.8**
	1.1nm,0.4s,mb3.8,baz=86,slow=9.4,SNR=5.0						
AS31	**Alice Springs**	**32.66**	**249**	*e*P	**P**	**01 28 55.9**	**-0.2**
ASAR	**Alice Springs**	**32.66**	**249**	P	**P**	**01 28 55.9**	**-0.2**
	2.3nm,0.3s,mb4.1,baz=80,slow=9.1,SNR=56						
ASPA	**Alice Springs**	**32.66**	**249**	*e*P	**P**	**01 28 55.9**	**-0.2**
KAKA	**Kakadu**	**33.80**	**269**	*e*P	**P**	**01 29 06.3**	**+0.4**
	7.0nm,0.8s,mb4.2						
FORT	**Forrest**	**39.31**	**239**	*e*P	**P**	**01 29 53.2**	**+0.7**
	9.5nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**39.97**	**259**	*e*P	**P**	**01 29 58.9**	**+1.1**
	6.5nm,1.1s,mb4.0						
MAW	**Mawson**	**82.01**	**202**	P	**P**	**01 34 40.2**	**0.0**
	1.5nm,0.6s,mb3.8,baz=142,slow=5.4,SNR=9.9						
SONM	**Songino Array**	**82.31**	**324**	P	**P**	**01 34 41.7**	**-0.1**
	0.4nm,0.5s,mb3.3,baz=144,slow=5.5,SNR=4.4						
MKAR	**Makanchi Array**	**97.02**	**316**	P	**P**	**01 35 51.4**	**-0.1**
	0.3nm,0.3s,mb4.1,baz=51,slow=6.4,SNR=5.3						
ARCES	**ARCESS Array B**	**120.07**	**345**	PKP	PKPdf	01 41 07.7	-1.5
	0.6nm,0.3s,baz=81,slow=2.0,SNR=18						
FINES	**FINESS Array B**	**125.53**	**338**	PKP	PKPdf	01 41 19.6	-0.1
	1.4nm,0.8s,baz=60,slow=1.4,SNR=6.7						
LOR	**Lormes**	**144.55**	**340**	*e*PKP1	PKPdf	01 41 53.9	-1.0
	2.6nm,0.6s						
SSF	**Saint Saulge**	**144.84**	**341**	*e*PKP1	PKPdf	01 41 55.1	-0.3
	8.1nm,0.7s						
GRR	**Gorron**	**144.85**	**346**	*e*PKP1	PKPdf	01 41 54.5	-0.9
	3.5nm,0.6s						
LPL	**La Plagne**	**145.00**	**336**	*e*PKP1	PKPbc	01 41 56.2	+0.7
	7.2nm,0.8s						
LPG	**La Plagne**	**145.01**	**336**	*e*PKP1	PKPbc	01 41 56.2	+0.7
	7.0nm,0.7s						
SMF	**Signal de Mont**	**145.10**	**340**	*e*PKP1	PKPbc	01 41 55.6	-0.2
	11nm,1.0s						
AVF	**Avril sur Loir**	**145.13**	**340**	*e*PKP1	PKPbc	01 41 55.7	-0.2
	12nm,1.2s						
SGMF	**Saint Gilles**	**145.34**	**348**	*e*PKP1	PKPbc	01 41 56.1	-0.5
BGF	**Bois d'Agland**	**145.50**	**341**	*e*PKP1	PKPbc	01 41 57.0	-0.1
MBDF	**Montbardon**	**145.64**	**335**	*e*PKP1	PKPbc	01 41 57.6	+0.1
ORIF	**Oris-en-Rattie**	**145.84**	**336**	*e*PKP1	PKPbc	01 41 58.4	+0.3
	12nm,0.7s						
TCF	**Toulx Ste Croi**	**145.94**	**341**	*e*PKP1	PKPbc	01 41 58.3	-0.1
SBF	**Sospel**	**146.06**	**333**	*e*PKP1	PKPbc	01 41 58.5	-0.2
	16nm,0.8s						
MFF	**Saint Martin d**	**146.34**	**344**	*e*PKP1	PKPbc	01 41 59.3	-0.2
	6.2nm,0.8s						
PGF	**Pioggiola**	**146.37**	**330**	*e*PKP1	PKPbc	01 42 00.8	+1.2
	20nm,1.1s						
FRF	**La Foret Royal**	**146.64**	**334**	*e*PKP1	PKPbc	01 42 00.3	-0.1
SMRF	**Simiane la Rot**	**146.74**	**335**	*e*PKP1	PKPbc	01 42 01.1	+0.4
	8.2nm,0.8s						
LMR	**La Mourre**	**146.88**	**334**	*e*PKP1	PKPbc	01 42 01.0	-0.1
	8.3nm,1.0s						
RJF	**Les Rejaudoux**	**147.04**	**341**	*e*PKP1	PKPbc	01 42 01.6	+0.1
CAF	**Calviac**	**147.20**	**340**	*e*PKP1	PKPbc	01 42 02.2	+0.2
LASF	**Ste Croix**	**147.32**	**337**	*e*PKP1	PKPbc	01 42 02.6	+0.3
	6.2nm,0.9s						
MTLF	**Montolieu**	**148.55**	**339**	*e*PKP1	PKPbc	01 42 05.8	+0.3
	4.8nm,0.7s						
EPF	**Esparros**	**149.45**	**341**	*e*PKP1	PKPbc	01 42 08.3	+0.6
ETSF	**Etsaut**	**149.85**	**342**	*e*PKP1	PKPbc	01 42 09.5	+0.8

*LDG **24** 01:25:23.9±0.1, 4331N×8.10E, h20km, Md2.1/3, Ml1.8/5, Error ellipse: s-maj=3.8km s-min=1.9km az=39.0*
STR 24 01:25:25.8±0.7, 4347N×818E, h10km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REVF	**Revere**	**0.65**	**295**	Pg	Pg	01 25 38.1	-0.3
REVF				Sg	Sg	01 25 47.8	+0.9
SBF	**Sospel**	**0.67**	**306**	*e*Pg	Pg	01 25 38.6	-0.1
SBF				*e*Sg	Sg	01 25 48.1	+0.6
	7.8nm,0.2s						
LUCF	**Luceram**	**0.74**	**305**	Pg	Pg	01 25 39.8	-0.2
LUCF				Sg	Sg	01 25 50.0	+0.3
AUTN	**L'Aution**	**0.76**	**314**	Pg	Pg	01 25 41.2	+0.8
AUTN				Sg	Sg	01 25 51.0	+0.7
TOUF	**Mont Tournerai**	**0.87**	**309**	Pg	Pg	01 25 41.7	-0.8
TOUF				Sg	Sg	01 25 54.3	+0.5
PGF	**Pioggiola**	**1.10**	**147**	*e*Pn	Pn	01 25 41.6	-5.6
PGF				*e*Sn	Sn	01 25 53.7	-8.8
	1.3nm,0.2s						
FRF	**La Foret Royal**	**1.12**	**275**	*e*Pg	Pg	01 25 44.7	-2.6
FRF				*e*Sg	Sg	01 25 59.0	-2.9
	5.0nm,0.2s						
LMR	**La Mourre**	**1.23**	**264**	*e*Pg	Pg	01 25 46.0	-3.3
LMR				*e*Sg	Sg	01 26 01.0	-4.3
	1.3nm,0.2s						
MBDF	**Montbardon**	**1.61**	**322**	*e*Pg	Pg	01 25 55.9	-0.9
MBDF				*e*Sg	Sg	01 26 18.2	+0.5
	1.1nm,0.3s						
SMRF	**Simiane la Rot**	**1.96**	**286**	*e*Pn	Pn	01 25 54.3	-4.7
SMRF				*e*Sn	Sn	01 26 15.9	-7.7
	0.3nm,0.3s						
VIVF	**Saint-Julien-l**	**2.88**	**300**	*e*Sn	Sn	01 26 39.4	-7.0
LASF	**Ste Croix**	**3.19**	**282**	*e*Sn	Sn	01 26 45.3	-8.8

*ISCJB **24** 01:35:48.5±0.5, 3798N±002×2700E±004, h3km±4km, Error ellipse: s-maj=5.0km s-min=3.3km az=144.3*
*CSEM **24** 01:35:48.7±0.1, 3800N×2704E, h8km, MD3.4, Error ellipse: s-maj=2.4km s-min=1.2km az=95.0*
*ISK **24** 01:35:48.3, 3800N×2697E, h9km, MD3.4*
*ATH **24** 01:35:49.1, 3800N×2684E, h10km, MD3.3/3*
ISC 24 01:35:48.7±0.5, 3798N±002×2697E±004, h1km±4km, n31, σ0§95/46, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.29**	**201**	*e*PG	**Pg**	**01 35 55.0**	**+0.8**
BLCB	**Balcova**	**0.41**	**8**	*i* PG	**Pg**	**01 35 56.5**	**-0.1**
BLCB				*i* SG	**Sg**	**01 36 02.1**	**+0.2**
IZM	**Izmir**	**0.48**	**29**	*i* PG	**Pg**	**01 35 57.9**	**0.0**
IZM				*i* SG	**Sg**	**01 36 04.9**	**+0.8**
URLA	**Izmir**	**0.48**	**323**	*i* P	**Pg**	**01 35 58.2**	**+0.3**
URLA				*i* S	**Sg**	**01 36 05.3**	**+1.2**
URLA	**Izmir**	**0.48**	**323**	*i* P	**Pg**	**01 35 58.2**	**+0.3**
URLA				*i* S	**Sg**	**01 36 05.3**	**+1.2**
KDAG	**Bornova**	**0.49**	**29**	*i* P	**Pg**	**01 35 57.9**	**-0.1**
KDAG				*i* S	**Sg**	**01 36 04.2**	**-0.1**
AYDN	**Tasoluk**	**0.79**	**113**	*i* P	**Pg**	**01 36 04.0**	**+0.2**
AYDN				*i* S	**Sg**	**01 36 13.7**	**-0.3**
MLSB	**Milas**	**0.94**	**136**	*i* PG	**Pg**	**01 36 06.7**	**+0.1**
BODT	**Bodrum**	**0.95**	**163**	*i* PG	**Pg**	**01 36 07.8**	**+0.8**
BDRM	**Kayabasi**	**0.99**	**157**	*i* P	**Pg**	**01 36 07.6**	**0.0**
BDRM				*i* S	**Sg**	**01 36 20.1**	**-0.3**
AKS	**Akhisar**	**1.12**	**36**	*i* PN	**Pn**	**01 36 09.8**	**-1.7**
DAT	**Datca**	**1.34**	**158**	PN	**Pn**	**01 36 13.5**	**-1.0**
YER	**Yerkesik**	**1.34**	**128**	PN	**Pn**	**01 36 13.4**	**-1.2**
AYVA	**Ayvalik**	**1.35**	**351**	*i* P	**Pg**	**01 36 14.2**	**-0.4**
AYVA				*i* S	**Sg**	**01 36 32.2**	**+0.3**
AYVA	**Ayvalik**	**1.35**	**351**	*i* P	**Pg**	**01 36 14.1**	**-0.4**
AYVA				*i* S	**Sg**	**01 36 32.2**	**+0.2**
MANT	**Manisa**	**1.35**	**67**	*i* P	**Pg**	**01 36 14.0**	**-0.7**
MANT				*i* S	**Sg**	**01 36 30.1**	**-2.1**
PRK	**Paraskevi**	**1.38**	**337**	*e*PB	**Pb**	**01 36 14.0**	**-1.3**
APE	**Apeiranthos**	**1.46**	**232**	*e*PB	**Pb**	**01 36 15.5**	**-1.1**
DENT	**Denizli**	**1.65**	**97**	PN	**Pn**	**01 36 18.8**	**0.0**
DNZL	**Cakiroluk**	**1.67**	**99**	*i* P	**Pn**	**01 36 19.9**	**+0.8**
DNZL				*i* S	**Sn**	**01 36 43.8**	**+2.7**
DALT	**Dalyan (Mudla)**	**1.80**	**132**	*e*PN	**Pn**	**01 36 21.2**	**+0.4**
BTOK	**Tokmak**	**1.97**	**25**	*i* P	**Pn**	**01 36 24.1**	**+0.9**
BTOK				*i* S	**Sn**	**01 36 49.6**	**+1.2**
BOZC	**Bozcaada**	**1.99**	**339**	*i* P	**Pn**	**01 36 25.9**	**+2.4**
BOZC				*i* S	**Sn**	**01 36 46.1**	**-3.0**
FETY	**Fethiye**	**2.15**	**128**	*e*PN	**Pn**	**01 36 26.2**	**+0.5**
EDC	**Edincik**	**2.47**	**16**	*e*PN	**Pn**	**01 36 30.0**	**0.0**
BNT	**Bandirma**	**2.49**	**17**	*e*PN	**Pn**	**01 36 30.4**	**+0.1**
KCT	**Karacabey**	**2.53**	**25**	*e*PN	**Pn**	**01 36 29.7**	**-1.2**
TKTP	**Tekketepe**	**2.65**	**88**	*i* P	**Pn**	**01 36 28.0**	**-4.6**
TKTP				*i* S	**Sg**	**01 37 15.2**	**+1.3**
ENEZ	**Enez**	**2.83**	**347**	*e*PN	**Pn**	**01 36 34.8**	**-0.2**
YLV	**Yalova**	**3.19**	**35**	*e*PN	**Pn**	**01 36 40.2**	**+0.2**
SGKT	**Sivrigoynuk**	**4.72**	**55**	*i* P	**Pg**	**01 37 18.5**	**-0.7**
SGKT				*i* S	**Sg**	**01 38 16.1**	**-4.4**

IDC 24 01:36:10.1±7.3, 232S×11822E, h0km, mb4.3/3, mb1 4.5/4, mb1mx3.8/16, mbtmp4.3/4, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.0/22, 1C, Error ellipse: s-maj=194.6km s-min=111.4km az=60.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.29**	**156**	*e*P	Pn	01 40 12.5	-0.4
	6.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.29**	**156**	P	Pn	01 40 12.7	-0.2
	0.3nm,0.3s,baz=338,slow=11,SNR=8.6						
WRA	**Warramunga Arr**	**23.56**	**139**	P	P	01 41 21.9	-0.3
	4.9nm,0.4s,baz=313,slow=11,SNR=14						
WB2	**Warramunga Arr**	**23.57**	**139**	⇑*i*P	P	01 41 23.5	+1.1
ASPA	**Alice Springs**	**26.09**	**146**	*e*P	P	01 41 46.6	+1.2
ASAR	**Alice Springs**	**26.10**	**146**	P	P	01 41 46.5	+1.0
	5.3nm,0.5s,baz=339,slow=14,SNR=51						
NWAO	**Narrogin (SRO)**	**30.46**	**182**	LR	LR	01 53 19.7	
	comp=Z,62nm,21.5s,baz=27,slow=34						
STKA	**Stephens Creek**	**36.73**	**146**	P	P	01 43 19.1	0.0
	2.6nm,0.4s,baz=321,slow=8.9,SNR=16						

*IDC **24** 01:38:23.4±1.9, 4017N×7851E, h0km, mb3.6/6, mb1 3.8/9, mb1mx3.6/23, mbtmp3.7/9, ML3.7/3, Error ellipse: s-maj=34.2km s-min=19.3km az=141.0*
*ISCJB **24** 01:38:26.6±0.7, 4016N±004×7864E±006, h43km±10km, mb3.6/7, Error ellipse: s-maj=7.4km s-min=6.1km az=122.0*
*BJI **24** 01:38:27.2, 4027N×7866E, h23km, mb4.1, ML4.1*
*NEIC **24** 01:38:27.6±0.5, 4015N×7850E, h35km, mb3.9/2, Error ellipse: s-maj=15.2km s-min=7.2km az=63.0*
ISC 24 01:38:28.5±0.5, 4013N±004×7855E±005, h40km±9km, n36, σ1§13/44, mb3.6/7, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.07**	**254**	P	**Pn**	**01 39 02.1**	**+1.4**
KSH				S	**Sn**	**01 39 31.1**	**+5.8**
KSH				Smax			
	comp=N,1μm,0.4s						
KSH				Smax			
	comp=E,1μm,0.6s						
ULHL	**Ulahol**	**2.74**	**321**	P	**Pn**	**01 39 10.6**	**+0.7**
	SNR=338						
KZA	**Kyzart**	**3.16**	**309**	P	**Pn**	**01 39 15.5**	**-0.2**
	SNR=58						
TKM2	**Tokmak 2**	**3.56**	**323**	P	**Pn**	**01 39 22.1**	**+0.9**
	SNR=12						
UCH	**Uchtor**	**3.70**	**306**	P	**Pn**	**01 39 22.7**	**-0.3**
	SNR=67						
KBK	**Karagaybulak**	**3.70**	**314**	P	**Pn**	**01 39 23.6**	**+0.5**
	SNR=21						
AAK	**Ala-Archa**	**3.94**	**311**	P	**Pn**	**01 39 26.9**	**+0.4**
	SNR=40						
AAK	**Ala-Archa**	**3.94**	**311**	*e*Pn	**Pn**	**01 39 25.2**	**-1.3**
AAK				*e*Sn	**Sn**	**01 40 19.3**	**+7.8**
CHMS	**Chumysh**	**4.04**	**316**	P	**Pn**	**01 39 28.5**	**+0.7**
	SNR=5.3						
AML	**Almayashu**	**4.18**	**300**	P	**Pn**	**01 39 37.3**	**+7.7**
	SNR=13						
USP	**Ospenovka**	**4.36**	**317**	P	**Pn**	**01 39 39.0**	**+6.8**
	SNR=121						
EKS2	**Erkin-Say**	**4.39**	**307**	P	**Pn**	**01 39 33.0**	**+0.4**
	SNR=32						
MKAR	**Makanchi Array**	**7.20**	**21**	Pn	**Pn**	**01 40 10.2**	**-0.9**
	comp=E,2.0nm,0.3s,baz=210,slow=14,SNR=24						
MKAR				Pg	**Pn**	**01 40 29.4**	**+18**
	comp=E,1.3nm,0.3s,baz=197,slow=13,SNR=5.2						
MKAR				Sn	**Sn**	**01 41 30.2**	**-1.4**
	comp=E,2.2nm,0.3s,baz=200,slow=23,SNR=5.1						
MKAR				Lg		01 42 04.1	
	comp=E,0.8nm,0.3s,baz=208,slow=24,SNR=2.5						
MKAR	**Makanchi Array**	**7.20**	**21**	Pn	**Pn**	**01 40 10.2**	**-0.9**
MKAR				Pg	**Pn**	**01 40 29.4**	**+18**
MKAR				Sn	**Sn**	**01 41 30.2**	**-1.4**
MKAR				Lg		01 42 04.1	
WMQ	**Urumqi**	**7.75**	**59**	*e*P	**Pn**	**01 40 20.1**	**+1.4**
WMQ				S	**Sn**	**01 41 45.0**	**-0.2**
WMQ				Smax			
	comp=N,60nm,0.5s						
WMQ				Smax			
	comp=E,70nm,0.5s						
KURK	**Kurchatov**	**10.59**	**0**	*e*Pn	**Pn**	**01 40 55.0**	**-2.6**
	comp=E,20nm,0.7s						
KURK				*e*Sn	**Sn**	**01 42 56.0**	**+1.2**
KOLN	**Koldanda**	**13.02**	**160**	*e*P	**Pn**	**01 41 28.5**	**-2.2**
	comp=E,4.9nm,0.3s						
GKN	**Gorkha**	**13.10**	**156**	*e*P	**Pn**	**01 41 32.1**	**+0.2**
	com

KHZ	Kahutara	0.73	153	⇓ePN	Pn	01 57 27.4	+0.1
KHZ				SN	Sn	01 57 39.3	-1.0
DSZ	Denniston Nort	0.96	271	⇓PN	Pn	01 57 29.4	-0.3
QRZ	Quartz Range	1.03	336	PN	Pn	01 57 30.5	0.0
QRZ				SN	Sn	01 57 44.4	-1.4
TCW	Tory Channel	1.05	58	PN	Pn	01 57 30.9	+0.2
TCW				SN	Sn	01 57 45.0	-1.2
DUWZ	D'Urville Isla	1.15	33	PN	Pn	01 57 32.4	+0.5
LTZ	Lake Taylor	1.18	211	PN	Pn	01 57 31.8	-0.4
SNZO	South Karori	1.30	70	PN	Pn	01 57 33.2	-0.4
MRW	Makara Radio	1.32	66	PN	Pn	01 57 33.6	-0.4
CAW	Cannon Point	1.63	67	PN	Pn	01 57 37.1	-0.6
CAW				SN	Sn	01 57 57.2	-1.4
KIW	Kapiti Island	1.64	57	PN	Pn	01 57 37.7	-0.1
MSWZ	Moikau Station	1.66	78	PN	Pn	01 57 37.0	-1.0
PAWZ	Paruwai Farm	1.80	78	PN	Pn	01 57 38.5	-1.3
MTW	Mount Morrison	1.91	72	PN	Pn	01 57 40.1	-1.2
MQZ	McQueen's Vall	1.96	189	ePN	Pn	01 57 40.5	-1.4
MQZ				SN	Sn	01 58 02.6	-3.7
TRWZ	Traveller	1.98	80	SN	Sn	01 58 05.1	-1.7
BFZ	Birch Farm	2.62	66	SN	Sn	01 58 19.0	-2.7
PKE	Pukeiti	2.66	15	PN	Pn	01 57 52.1	+1.0
HIZ	Hauiti	3.52	23	ePN	Pn	01 58 02.5	-0.2
HIZ				SN	Sn	01 58 41.6	-1.8
ODZ	Otahua Downs	3.73	208	ePN	Pn	01 58 04.1	-1.4
JCZ	Jackson Bay	3.93	233	ePN	Pn	01 58 06.8	-1.3
JCZ				SN	Sn	01 58 48.1	-5.1

MEX 24 01:58:38.1±0.9, 1597N×9841W, h6km±10km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.50	33	i P		Pg	01 58 47.8	+0.1
PNIG				i S		Sg	01 58 54.1	-0.1
UTMO	Huajuapan	1.94	17	eP		Pn	01 59 08.3	-3.3
UTMO				i S		Sn	01 59 32.2	-4.1
VHO	Vista Hermosa	1.95	56	i P		Pn	01 59 07.6	-4.2
VHO				i S		Sn	01 59 32.8	-3.7
OXX	Oaxaca	1.96	56	eP		Pn	01 59 09.0	-2.9

LDG ***24*** *02:09:24.7±0.1, 4306N×004W, h11km, Md1.7/3, Ml1.6/6, Error ellipse: s-maj=2.0km s-min=1.3km az=175.0*
STR ***24*** *02:09:25.1±0.1, 4300N×003W, h4km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 24 02:09:25.2±0.2, 4301N×004W, h11km, mbLg1.3/4, 1D, Error ellipse: s-maj=2.2km s-min=1.4km az=31.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.09	62	Pg		Pg	02 09 27.5	-0.3
LABF				Sg		Sg	02 09 29.2	-0.5
LABF	Labassere	0.09	62	Pg		Pg	02 09 27.6	-0.2
LABF				Lg			02 09 29.2	
VIEF	Viey	0.13	160	Pg		Pg	02 09 28.2	-0.2
VIEF				Sg		Sg	02 09 30.3	-0.3
VIEF	Viey	0.13	160	Pg		Pg	02 09 28.3	-0.1
VIEF				Lg			02 09 30.3	
REYF	Montagne du Re	0.27	284	Pg		Pg	02 09 30.3	-0.5
REYF				Sg		Sg	02 09 34.8	+0.3
REYF	Montagne du Re	0.27	284	Pg		Pg	02 09 30.4	-0.4
REYF				Lg			02 09 34.5	
EPF	Esparros	0.28	85	ePg		Pg	02 09 30.6	-0.3
EPF				eSg		Sg	02 09 34.8	+0.1
	10nm,0.2s							
EPF	Esparros	0.28	85	Pg		Pg	02 09 30.6	-0.3
EPF				Lg			02 09 34.8	
	5.2nm,0.2s							
RESF	Ens	0.34	126	Pg		Pg	02 09 31.9	-0.1
RESF				Sg		Sg	02 09 36.7	+0.1
RESF	Ens	0.34	126	Pg		Pg	02 09 31.9	-0.1
RESF				Lg			02 09 36.6	
EBIE	Bielsa	0.34	158	⇓Pg		Pg	02 09 32.0	-0.1
	0.1nm,0.0s,SNR=18							
EBIE				Lg			02 09 36.7	
	8.2nm,0.1s,SNR=33							
ETSF	Etsaut	0.40	255	ePg		Pg	02 09 32.9	-0.2
ETSF				eSg		Sg	02 09 37.9	-0.6
	7.2nm,0.2s							
ETSF	Etsaut	0.40	255	Pg		Pg	02 09 32.9	-0.2
ETSF				Lg			02 09 37.9	
	3.6nm,0.2s							
ATE	Arette	0.49	280	Pg		Pg	02 09 34.9	0.0
ATE				Sg		Sg	02 09 41.7	+0.2
ATE	Arette	0.49	280	Pg		Pg	02 09 34.8	-0.1
ATE				Lg			02 09 41.7	
EGRA	Graus	0.85	162	Pg		Pg	02 09 41.7	0.0
	0.1nm,0.1s,SNR=7.9							
EGRA				Lg			02 09 52.6	
	4.4nm,0.8s,SNR=7.9							
SJPF	Ste Jean	0.88	277	ePg		Pg	02 09 41.2	-1.0
SJPF				eSg		Sg	02 09 52.2	-1.5
	1.5nm,0.2s							
SJPF	Ste Jean	0.88	277	Pg		Pg	02 09 41.2	-1.0
SJPF				Lg			02 09 52.2	
	0.8nm,0.2s							
SALF	Salau	0.93	105	Pg		Pg	02 09 42.8	-0.4
SALF				Sg		Sg	02 09 55.2	-0.2
SALF	Salau	0.93	105	Pg		Pg	02 09 43.0	-0.2
SALF				Lg			02 09 55.3	
EALK	Alkurruntz	1.10	282	Pg		Pg	02 09 44.4	-2.0
	0.0nm,0.1s,SNR=7.9							
EALK				Lg			02 10 00.7	
	1.5nm,0.3s,SNR=7.9							
ESAC	San Caprasio	1.32	194	Pg		Pg	02 09 49.0	-1.6
	1.1nm,0.2s,SNR=7.9							
ESAC				Lg			02 10 07.5	
	5.4nm,0.2s,SNR=7.9							
MTLF	Montolieu	1.68	78	ePg		Pg	02 09 56.1	-1.4
MTLF				eSg		Sg	02 10 17.8	-1.5
	1.0nm,0.2s							
MTLF	Montolieu	1.68	78	Pg		Pg	02 09 56.1	-1.4
MTLF				Lg			02 10 17.8	
	0.5nm,0.2s							
LFF	La Frestale	2.01	16	ePg		Pg	02 10 01.0	-2.8
LFF				eSg		Sg	02 10 26.0	-4.0
	0.4nm,0.2s							
LFF	La Frestale	2.01	16	Pg		Pg	02 10 01.0	-2.8
LFF				Lg			02 10 26.0	
	0.2nm,0.2s							
CAF	Calviac	2.45	38	ePg		Pg	02 10 09.1	-3.0
CAF				eSg		Sg	02 10 40.3	-3.5
	0.6nm,0.2s							
CAF	Calviac	2.45	38	Pg		Pg	02 10 09.1	-3.0
CAF				Lg			02 10 40.3	
	0.3nm,0.2s							
RJF	Les Rejaudoux	2.56	25	eSg		Sg	02 10 43.0	-4.3
	0.7nm,0.3s							
RJF	Les Rejaudoux	2.56	25	Lg			02 10 43.0	
	0.3nm,0.3s							
LASF	Ste Croix	3.03	68	eSg		Sg	02 10 59.5	-2.9
	0.6nm,0.3s							
LASF	Ste Croix	3.03	68	Lg			02 10 59.5	
	0.3nm,0.3s							

NIED ***24*** *02:23:00, 33.10N×13700E, h11km, Mw3.6 Best double couple: M0 3.35000×10^14 NP1:φ=296.00000°, δ=54.00000°, λ=102.00000°. NP2:φ=96.00000°, δ=38.00000°, λ=74.00000°.*
JMA 24 02:23:42.7±0.1, 3314N×13701E, H41km±3km, M3.8, 2C-7D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.79	38	P		Pn	02 23 57.5	+0.1
TK01				eS		Sn	02 24 07.6	-0.4
TK02	Tokai 2	1.02	38	⇓P		Pn	02 24 00.8	+0.3
TK02				S		Sn	02 24 14.2	+0.6
JWZ	Kozaga	1.15	290	⇑P		Pn	02 24 02.7	+0.4
JWZ				S		Sn	02 24 16.7	-0.2
JKN2	Miekihoku	1.26	331	⇓P		Pn	02 24 04.6	+0.8
JKN2				S		Sn	02 24 19.3	-0.1
JIE	Ise	1.27	349	⇓P		Pn	02 24 05.1	+1.1
JIE				S		Sn	02 24 20.5	+0.6
TK03	Tokai 3	1.30	38	P		Pn	02 24 04.8	+0.5
TK03				S		Sn	02 24 21.1	+0.7
TK04	Tokai 4	1.44	30	⇓P		Pn	02 24 07.1	+0.9
TK04				S		Sn	02 24 24.4	+0.5
JWM	Minabe	1.55	298	⇑P		Pn	02 24 08.6	+0.8
JWM				S		Sn	02 24 26.8	0.0
JWY	Kouya	1.60	313	⇓P		Pn	02 24 10.0	+1.6
JWY				S		Sn	02 24 28.9	+1.1
TSUJ	Tsu 2	1.64	343	⇓P		Pn	02 24 10.2	+1.2
TSUJ				S		Sn	02 24 29.6	+0.7
JHE	Heguri	1.87	324	⇓P		Pn	02 24 13.6	+1.4
JHE				S		Sn	02 24 35.6	+1.1
SHZ3	Shizuoka 3	2.16	27	P		Pn	02 24 16.8	+0.6
SHZ3				S		Sn	02 24 41.3	-0.5
JAJ2	Tsuna	2.18	306	P		Pn	02 24 18.2	+1.7
JAJ2				S		Sn	02 24 43.3	+1.1
JIZS	Izushimoda	2.21	44	P		Pn	02 24 17.5	+0.6
JIZS				S		Sn	02 24 42.4	-0.6
JAI	Aioi	2.23	288	P		Pn	02 24 18.4	+1.2
JAI				S		Sn	02 24 43.4	-0.2
JMY	Miyakejima3	2.29	65	P		Pn	02 24 18.8	+0.9
JMY				S		Sn	02 24 46.7	+1.9
JHJ2	Mitsune	2.35	90	P		Pn	02 24 20.0	+1.2
JHJ2				S		Sn	02 24 47.6	+1.1
MAT	Matsushiro	3.53	16	P		Pn	02 24 37.4	+2.4
MAT				S		Sn	02 25 17.0	+1.4

NEIC ***24*** *02:40:59.9, 1721N×9487W, h119km, MD4.2(MEX), After MEX.*
MEX 24 02:40:59.9±1.2, 1721N×9487W, h115km±18km, MD4.2, 1C, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	0.93	27	i P		Pn	02 41 19.8	-0.9
TUIG				i S		Sn	02 41 34.3	-2.1
OXX	Oaxaca	1.77	266	i P		Pn	02 41 30.5	+0.2
OXX				i S		Sn	02 41 54.5	+1.1
VHO	Vista Hermosa	1.79	266	i P		Pn	02 41 30.1	-0.3
VHO				i S		Sn	02 41 53.3	-0.4
VHO	Vista Hermosa	1.79	266	i P		Pn	02 41 30.1	-0.3
VHO				i S		Sn	02 41 54.8	+1.1
HUIG	Huatulco	1.86	220	⇑iP		Pn	02 41 28.9	-2.4
HUIG				i S		Sn	02 41 54.0	-1.3
HUIG	Huatulco	1.86	220	i P		Pn	02 41 28.8	-2.5
HUIG				i S		Sn	02 41 54.2	-1.1
SCX	San Cristobal	2.19	102	i P		Pn	02 41 35.0	-0.5
SCX				i S		Sn	02 42 01.0	-1.7
SCX	San Cristobal	2.19	102	i P		Pn	02 41 35.0	-0.5
SCX				i S		Sn	02 42 03.0	+0.3
CCIG	Comitan	2.78	109	i P		Pn	02 41 42.4	-0.6
CCIG				i S		Sn	02 42 14.9	-1.3
UTMO	Huajuapan	2.87	283	i P		Pn	02 41 43.7	-0.6
UTMO				i S		Sn	02 42 15.4	-3.0
PNIG	Pinotepa	3.22	256	i P		Pn	02 41 48.0	-0.9
PNIG				i S		Sn	02 42 24.7	-2.1
PNIG	Pinotepa	3.22	256	i P		Pn	02 41 46.0	-2.9
PNIG				i S		Sn	02 42 24.1	-2.7
SCIG		3.92	63	i P		Pn	02 41 55.5	-2.7
SCIG				i S		Sn	02 42 40.3	-3.1
PLIG	Platanillo	4.57	286	i P		Pn	02 42 06.2	-0.7
PLIG				i S		Sn	02 42 54.8	-4.2
PLIG	Platanillo	4.57	286	i P		Pn	02 42 06.2	-0.7
PLIG				i S		Sn	02 42 54.2	-4.8
MEIG	Mezcala	4.59	280	i P		Pn	02 42 06.5	-0.7
MEIG				i S		Sn	02 42 55.8	-3.7
ACX	Acapulco	4.84	267	i P		Pn	02 42 07.0	-3.6

ORF ***24*** *02:48:48.3, 3630N×2347E, h30km, mb4.5, ML5.7*
BGS ***24*** *02:49:22.4±1.9, 3800N×2104E, h15km±999km, mb4.6*
LDG ***24*** *02:49:24.6±0.3, 3845N×2061E, h10km, Mb4.7/47, Ms3.7/10, Error ellipse: s-maj=15.7km s-min=7.3km az=28.0*
HLW ***24*** *02:49:25.0, 3785N×1930E, h33km, Mb4.8*
HRVD ***24*** *02:49:26.4±0.6, 3837N×2034E, h18km±2km, MW4.7/51, Centroid moment Tensor Solution. LP body waves: s19,c20;Mantle waves: s51,c76; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.67±.13; Mθθ1.22±.09; Mφφ-1.89±.10; Mrθ0.21±.22; Mθφ-0.14±.07; Mφr-0.01±.19; Best double couple: M0 1.59600×10^16 NP1:φs46.00000°, δ77.00000°, λ167.00000°. NP2:φs139.00000°, δ77.00000°, λ13.00000°. Principal axes: T 1.2960, Plg19.0000°, Azm3.0000°; N 0.6030, Plg71.0000°, Azm182.0000°; P -1.8960, Plg0.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CSEM ***24*** *02:49:26.1, 3843N×2043E, h10km, ML4.6*
ISCJB ***24*** *02:49:26.6±0.1, 3841N±001×2040E±001, h13km, mb4.7/110, MS4.0/37, Error ellipse: s-maj=1.8km s-min=1.2km az=29.4*
CRAAG ***24*** *02:49:26.1, 3843N×2043E, Mb4.6*
ATH ***24*** *02:49:26.5, 3836N×2050E, h13km, MD4.4/22, ML4.3*
MOS ***24*** *02:49:26.0±1.1, 3843N×2042E, h10km, mb4.9/39, Error ellipse: s-maj=3.1km s-min=2.1km az=104.7*
NEIC ***24*** *02:49:26.4, 3836N×2050E, h14km, mb4.5/109, ML4.4(ATH), ML4.6(THE), ML5.0(PDG), After ATH.*
PDG ***24*** *02:49:26.7±0.5, 3840N×2043E, h11km±2km*
PRU ***24*** *02:49:27.2, 3848N×1988E, h0km, M4.5*
IDC ***24*** *02:49:27.5±0.9, 3876N×2070E, h0km, mb4.6/14, mb1 4.7/20, mb1mx4.6/23, mbtmp4.5/20, ML3.9/6, MS4.0/25, Ms1 4.0/25, ms1mx3.9/33, Error ellipse: s-maj=24.2km s-min=12.3km az=41.0*
BJI ***24*** *02:49:27.1, 3872N×2060E, h6km, mB5.0, mb4.8, Ms4.8, Msz4.3*
THE ***24*** *02:49:28.6, 3839N×2046E, h8km, ML4.7*
SKO ***24*** *02:49:28.7, 3834N×2076E, h9km*
ISC 24 02:49:28.7±0.1, 3842N±001×2041E±001, h14km, h14km±.5km: pP-P, n860, σ1=28/938, mb4.7/110, MS4.0/37, 48C-34D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.28	150	ePG		Pg	02 49 31.3	-3.2
VLS				eSG		Sg	02 49 34.8	-3.7
LKD	Levkas	0.34	33	ePg		Pg	02 49 34.9	-0.8
LKD				eSg		Sg	02 49 41.4	+1.0
RLS	Riolos of Patr	0.90	113	ePB		Pb	02 49 42.1	-4.1
IGT	Igoumenitsa	1.11	357	ePg		Pg	02 49 49.3	-0.9
IGT				eSg		Sg	02 50 07.1	+2.4
EVR	Evrytania	1.20	65	ePN		Pn	02 49 48.3	-2.8
JAN	Janina	1.28	15	ePB		Pb	02 49 51.5	-1.1
JAN	Janina	1.28	15	ePb		Pb	02 49 52.1	-0.5
KEK	Kerkira	1.38	340	ePB		Pb	02 49 53.7	-0.6
SRN	Sarande	1.49	348	i Pn		Pn	02 49 57.3	+2.2
SRN				i Sn		Sg	02 50 24.7	+7.8
SRN	Sarande	1.49	348	ePn		Pn	02 49 57.3	+2.2
SRN				eSn		Sg	02 50 24.7	+7.8
MEV	Metsovon	1.50	25	ePg		Pn	02 49 55.8	+0.5
AGG	Agios Georgios	1.61	68	ePg		Pn	02 49 57.3	+0.5
ITM	Ithomi	1.72	135	ePG		Pn	02 49 56.7	-1.6
LSK	Leskovik	1.73	5	i Pn		Pn	02 50 00.9	+2.5
LSK				i Sn		Sg	02 50 31.2	+6.7
LSK	Leskovik	1.73	5	ePn		Pn	02 50 00.9	+2.5
LSK				eSn		Sg	02 50 31.2	+6.7
TPE	Tepelena	1.90	351	i Pn		Pn	02 50 02.1	+1.4
TPE	Tepelena	1.90	351	ePg		Pn	02 50 02.1	+1.4
LKR	Lokris	2.04	83	ePN		Pn	02 50 02.1	-0.5
KZN	Kozani	2.16	29	ePN		Pn	02 50 05.6	+1.3
KBN	Korca	2.22	7	i Pn		Pg	02 50 08.5	-2.8
KBN	Korca	2.22	7	ePg		Pg	02 50 08.5	-2.8
MGER	Gerania Oros	2.28	100	ePN		Pn	02 50 05.0	-1.0
LIT	Litokhoron	2.33	43	ePn		Pn	02 50 06.5	-0.1
LIT				eSn		Sn	02 50 36.5	+1.5
XOR	Xorichti	2.37	66	ePn		Pn	02 50 06.8	-0.3
NEO	Neokhori	2.37	67	ePN		Pn	02 50 06.5	-0.6
FNA	Florina	2.48	17	ePn		Pn	02 50 09.6	+1.0
NAIG	Nisos Aigina	2.51	104	ePN		Pn	02 50 08.0	-1.1
NAIG	Nisos Aigina	2.51	104	ePb		Pn	02 50 07.5	-1.6
LCI	Lecce	2.62	318	P		Pn	02 50 10.2	-0.4
VLI	Veliai	2.63	129	ePN		Pn	02 50 10.4	-0.3
ATH	Athens Observa	2.64	99	ePB		Pn	02 50 09.8	-1.1
BIA	Bitola	2.69	15	ePn		Pn	02 50 12.0	+0.5
BIA				eSn		Sn	02 50 45.5	+1.5
BIA	Bitola	2.69	15	ePn		Pn	02 50 12.8	+1.2
BIA				eSn		Sn	02 50 45.8	+1.9
OHR	Ohrid	2.71	6	ePn		Pn	02 50 12.8	+1.0
OHR				eSn		Sn	02 50 46.6	+2.3
OHR	Ohrid	2.71	6	ePn		Pn	02 50 13.1	+1.3
OHR				eSn		Sn	02 50 47.1	+2.8
KVR	Kavouri	2.71	102	ePN		Pn	02 50 11.0	-0.9
PTL	Penteli	2.74	97	ePN		Pn	02 50 11.0	-1.3
AOS	Alonnisos	2.81	73	ePn		Pn	02 50 12.2	-1.0
PAIG	Paliouri	2.95	58	ePn		Pn	02 50 14.2	-1.0
TIP	Timpagrande	2.96	286	ePn		Pn	02 50 15.0	-0.2
TIP				eSn		Sn	02 50 49.1	-1.4
TIP	Timpagrande	2.96	286	ePn		Pn	02 50 15.0	-0.2
TIP				eSn		Sn	02 50 49.1	-1.4
TIR	Tirane	2.96	352	ePn		Pn	02 50 15.7	+0.5
GRG	Griva	2.96	31	ePn		Pn	02 50 16.6	+1.3
THE	Thessaloniki	2.96	41	ePn		Pn	02 50 14.7	-0.7
THE				eSn		Sn	02 50 52.0	+1.4
KYTH	Kithira	2.99	135	ePN		Pn	02 50 15.0	-0.6
PLG	Polygyros	3.05	49	ePN		Pn	02 50 16.3	-0.3
GRI	Girifalco	3.15	279	P		Pn	02 50 17.9	-0.1
LACI	Lac	3.26	351	i Pn		Pn	02 50 19.3	-0.1
LACI	Lac	3.26	351	ePn		Pn	02 50 19.3	-0.1
SOH	Sokhos	3.30	42	ePn		Pn	02 50 20.2	+0.2
SOH				eSn		Sn	02 51 00.2	+1.1
VAY	Valandovo	3.34	29	ePn		Pn	02 50 20.5	0.0
VAY	Valandovo	3.34	29	ePn		Pn	02 50 20.3	-0.2
VAY				eSn		Sn	02 50 59.3	-0.7
VAY	Valandovo	3.34	29	ePn		Pn	02 50 20.2	-0.3
VAY				eSn		Sn	02 50 59.3	-0.7
KNT	Kendrikon	3.34	34	ePn		Pn	02 50 20.9	+0.3
KNT				eSn		Sn	02 51 02.3	+2.3
OUR	Ouranopolis	3.36	54	ePn		Pn	02 50 21.1	+0.3
SOI	Samo	3.45	266	P		Pn	02 50 21.2	-0.8
ORI	Oriolo Calabro	3.49	299	P		Pn	02 50 23.1	+0.5
SKO	Skopje	3.63	12	ePn		Pn	02 50 25.8	+1.2
SKO	Skopje	3.63	12	ePn		Pn	02 50 25.9	+1.3
SKO				eSn		Sn	02 51 07.7	+0.4
SKO	Skopje	3.63	12	ePn		Pn	02 50 25.8	+1.2
SKO				eSn		Sn	02 51 07.6	+0.3
SRS	Serrai	3.64	41	ePn		Pn	02 50 24.2	-0.4
ULC	Ulcinj	3.65	346	⇓iPn		Pn	02 50 24.0	-0.8
ULC				eSn		Sn	02 51 08.1	+0.5
KKS	Kukesi	3.65	360	i Pn		Pn	02 50 25.9	+1.1
KKS	Kukesi	3.65	360	ePg		Pn	02 50 25.9	+1.1
SDA	Shkodra	3.70	349	i Pn		Pn	02 50 25.3	-0.1
SDA	Shkodra	3.70	349	ePn		Pn	02 50 25.3	-0.1
SCLL	Scilla	3.70	269	P		Pn	02 50 24.6	-0.8
MTTG	Motta San Giov	3.74	265	P		Pn	02 50 25.0	-1.0
SG1	Sgolgore (BA)	3.76	311	ePn		Pn	02 50 26.2	-0.1
BAI	Bari	3.83	316	ePn		Pn	02 50 27.1	-0.1
MSI	Messina ING	3.83	268	P		Pn	02 50 26.7	-0.5
CUC	Castrocucco	3.90	295	P		Pn	02 50 28.7	+0.5
BCI	Bajram Curri	3.95	356	i Pn		Pn	02 50 30.1	+1.2
BCI				i Sn		Sn	02 51 16.1	+1.0
BCI	Bajram Curri	3.95	356	ePn		Pn	02 50 30.1	+1.2
PTRP	Pietrapertosa	3.97	303	P		Pn	02 50 30.2	+1.0
LIA	Limnos Island	3.99	67	ePn		Pn	02 50 26.9	-2.5
KKB	Krupnik	4.00	30	P		Pn	02 50 29.2	-0.5
BUM	Brajici-Budva	4.05	344	⇓iPn		Pn	02 50 29.4	-0.8
BUM				eSn		Sn	02 51 17.9	+0.5
TTG	Podgorica	4.10	348	⇓iPn		Pn	02 50 30.2	-0.8
TTG				eSn		Sn	02 51 19.7	+1.0
KARN	Karanos	4.12	136	ePn		Pn	02 50 29.5	-1.7
MGR	Morigerati	4.14	296	P		Pn	02 50 32.0	+0.4
CDT	Castel del Mon	4.15	311	ePn		Pn	02 50 31.9	+0.2
PVY	Plav	4.18	356	⇓iPn		Pn	02 50 32.6	+0.5
PVY				eSn		Sn	02 51 21.6	+0.7
SLCN	Sala Consilina	4.19	299	P		Pn	02 50 30.5	-1.8
VAM	Vamos	4.27	134	ePN		Pn	02 50 31.9	-1.4
APE	Apeiranthos	4.27	107	ePn		Pn	02 50 35.7	+2.4
APE	Apeiranthos	4.27	107	ePN		Pn	02 50 33.5	+0.2
APE	Apeiranthos	4.27	107	ePn		Pn	02 50 32.1	-1.2
APE	Apeiranthos	4.27	107	⇓iP		Pn	02 50 35.2	+1.9
HCY	Herceg Novi	4.28	341	⇓iPn		Pn	02 50 32.1	-1.4
HCY				eSn		Sn	02 51 23.3	+0.1
SLNA	Salina	4.38	274	P		Pn	02 50 34.1	-0.7
CHOS	Chios island	4.43	89	ePn		Pn	02 50 34.9	-0.6
THR3	Thira Island,	4.45	115	ePn		Pn	02 50 38.1	+2.3
MRLC	Muro Lucano	4.46	303	P		Pn	02 50 36.3	+0.3
IVA	Berane	4.47	355	⇓iPn		Pn	02 50 36.5	+0.5
IVA				eSn		Sn	02 51 28.8	+1.1
SGO	Sicignano	4.49	300	P		Pn	02 50 37.3	+0.9
SANT	Santorini	4.51	115	ePn		Pn	02 50 37.6	+1.1
THR1	Thera Island	4.51	115	ePn		Pn	02 50 36.6	+0.1
NKY	Niksic	4.52	347	⇓iPn		Pn	02 50 36.2	-0.5
NKY				eSn		Sn	02 51 29.5	+0.5
MNO	Monte Soro	4.53	266	P		Pn	02 50 36.0	-0.9
BOZC	Bozcaada	4.61	70	i P		Pn	02 50 37.0	-1.0
GVD	Gavdhos	4.63	139	ePn		Pn	02 50 38.8	+0.5
RZN	Rozhen	4.64	44	P		Pn	02 50 38.9	+0.5
FG4	Candela	4.64	307	P		Pn	02 50 39.2	+0.8
PRK	Paraskevi	4.65	78	ePN		Pn	02 50 38.5	0.0
PRK	Paraskevi	4.65	78	ePn		Pn	02 50 38.1	-0.4
BRY	Bratogost	4.70	343	⇓iPn		Pn	02 50 38.0	-1.1
BRY				eSn		Sn	02 51 33.8	+0.3
FGMS	Monte Sant'Ang	4.74	315	P		Pn	02 50 39.8	0.0
MS1	Monte Sant'Ang	4.75	315	ePn		Pn	02 50 39.8	-0.1
IDI	Anoyia	4.76	130	Pn		Pn	02 50 40.7	+0.7
	3.1nm,0.3s,baz=321,slow=14,SNR=24							
IDI				Sn		Sn	02 51 35.7	+0.7
	18nm,0.3s,baz=124,slow=22,SNR=5.6							
IDI				Lg			02 51 59.3	

DJES Djerdap 6.41 14 *i* Pn Pn 02 51 03.3 +0.6
ARG Arkhangelos 6.53 107 *e*PN Pn 02 51 05.2 +0.9
AQU L'Aquila 6.64 308 ⇓*i*P Pn 02 51 08.0 +2.1
AQU L'Aquila 6.64 308 *e*P Pn 02 51 07.3 +1.4
AQU pmax pmax
comp=Z,187nm,0.8s
AQU L'Aquila 6.64 308 *e*Pn Pn 02 51 07.3 +1.5
comp=Z,187nm,0.8s
TERO Teramo 6.67 311 P Pn 02 51 07.4 +1.1
CERT Cerreto 6.69 304 P Pn 02 51 07.3 +0.7
DALT Dalyan (Mudla) 6.73 102 *e*P Pn 02 51 03.1 -4.0
LAV9 Lanuvio 6.75 301 P Pn 02 51 08.2 +0.8
RDP Rocca di Papa 6.78 302 P Pn 02 51 08.2 +0.4
MA9 Marino 6.82 302 P Pn 02 51 09.1 +0.7
DNZL Cakiroluk 6.85 93 *i* P Pn 02 51 10.2 +1.4
MTCE Montecelio 6.89 304 P Pn 02 51 09.5 +0.3
ROM9 Roma 6.94 302 P Pn 02 51 11.3 +1.3
NRCA Norcia 7.09 311 P Pn 02 51 13.0 +1.0
MNS Montasola 7.11 306 P Pn 02 51 13.4 +1.1
FETY Fethiye 7.12 102 *e*P Pn 02 51 14.9 +2.5
GDZ Gediz 7.12 82 *i* P Pn 02 51 12.7 +0.3
GZR Gura Zlata 7.19 13 ⇑*i*P Pn 02 51 12.8 -0.6
GZR Gura Zlata 7.19 13 ⇑P Pn 02 51 12.8 -0.6
BZS Buzias 7.25 7 ⇓*i*P Pn 02 51 12.0 -2.2
BZS Buzias 7.25 7 P Pn 02 51 15.4 +1.2
BZS Buzias 7.25 7 ⇓P Pn 02 51 12.0 -2.2
YLV Yalova 7.25 70 *e*P Pn 02 51 13.6 -0.7
AOI Ancona 7.27 317 P Pn 02 51 14.4 -0.1
CING Cingoli 7.38 314 P Pn 02 51 16.4 +0.5
TOLF Tolfa 7.39 302 P Pn 02 51 16.7 +0.5
NVLJ Novalja 7.42 328 *i* Pn Pn 02 51 15.5 -0.9
NVLJ *i* Sn Sn 02 52 35.8 -4.6
SNTG Esanatoglia 7.44 313 P Pn 02 51 17.4 +0.5
ADVT Abdulvahap 7.49 72 *e*P Pn 02 51 14.9 -2.7
ARV Arcevia 7.60 314 P Pn 02 51 18.9 -0.1
ALT Altintas 7.61 82 *e*P Pn 02 51 19.9 +0.8
MTUR Matau 7.63 26 ⇑*i*P Pn 02 51 17.1 -2.4
MTUR Matau 7.63 26 P Pn 02 51 21.0 +1.5
MTUR Matau 7.63 26 ⇑P Pn 02 51 17.1 -2.4
RHK3 Tenkes 7.63 349 ⇓*i*P Pn 02 51 18.1 -1.4
MURB Monte Urbino 7.69 311 P Pn 02 51 22.2 +1.9
TKTP Tekketepe 7.81 90 *i* P Pn 02 51 23.2 +1.4
FSSB Fossombrone 7.81 315 P Pn 02 51 21.9 0.0
VOIR 7.82 25 ⇑*i*P Pn 02 51 23.2 +1.2
VOIR 7.82 25 ⇑P Pn 02 51 23.2 +1.2
PKSM Moragy 7.90 351 ⇑*i*P Pn 02 51 21.1 -2.0
PKSM Moragy 7.90 351 P Pn 02 51 25.4 +2.3
PKSM Moragy 7.90 351 ⇑P Pn 02 51 21.1 -2.0
SNX Sinaia 7.91 27 ⇓*i*P Pn 02 51 27.7 +4.5
SNX Sinaia 7.91 27 ⇓P Pn 02 51 27.7 +4.5
BORA Eskisehir 7.94 76 *i* P Pn 02 51 24.4 +0.8
PESA Pesaro 7.94 316 P Pn 02 51 23.1 -0.6
SLUM 7.95 149 P Pn 02 51 19.8 -4.1
BADI Badiali 8.00 312 P Pn 02 51 26.3 +1.7
BOJS Bojanci 8.05 333 *e*Pn Pn 02 51 24.9 -0.4
BOJS *e*Sn Sn 02 52 53.1 -3.0
ISR Istrita 8.11 32 ⇓*i*P Pn 02 51 33.0 +7.0
ISR Istrita 8.11 32 ⇓P Pn 02 51 33.0 +6.9
MAON Monte Argentar 8.13 302 P Pn 02 51 26.1 -0.3
RSM Repubblica di 8.15 315 P Pn 02 51 27.3 +0.8
MLR Muntele Rosu 8.18 28 ⇑*i*P Pn 02 51 28.9 +1.9
MLR Muntele Rosu 8.18 28 P Pn 02 51 28.7 +1.7
PKS6 Bocsa 8.20 356 ⇑*e*P Pn 02 51 25.7 -1.6
CRE Caprese Michel 8.24 312 P Pn 02 51 29.4 +1.6
ANY8 Antalya 8.26 97 *e*P Pn 02 51 35.8 +7.7
HENT Hendek 8.44 70 *i* P Pn 02 51 30.4 -0.1
VISS Visnje 8.46 332 *e*Sn Sn 02 53 02.9 -3.2
SFI Santa Sofia 8.47 313 P Pn 02 51 32.7 +1.7
TIRR Tirgusor 8.51 42 ⇑*i*P Pn 02 51 31.2 -0.3
TIRR Tirgusor 8.51 42 *e*Pn Pn 02 51 31.2 -0.3
DRGR 8.54 11 ⇑*i*P Pn 02 51 32.3 +0.4
DRGR 8.54 11 ⇑P Pn 02 51 32.3 +0.4
CSNT Castellina Chi 8.55 309 P Pn 02 51 33.8 +1.7
PKS8 Sarbogard 8.55 352 *e*P Pn 02 51 30.0 -2.1
CEY Cerknica 8.56 331 P Pn 02 51 31.8 -0.4
GRFL Gerfalco 8.57 306 P Pn 02 51 34.1 +1.7
DGI Dorgali Grotta 8.58 286 P Pn 02 51 32.5 0.0
VSL Villasalto 8.67 281 *e*Pn Pn 02 51 31.9 -1.8
comp=Z,35nm,0.8s
VMG Vicchio 8.68 312 P Pn 02 51 35.9 +2.1
PLOR Plostina 8.75 30 ⇓*i*P Pn 02 51 36.3 +1.5
LJU Ljubljana 8.78 332 *e*Pn Pn 02 51 34.4 -0.8
LJU *e*Sn Sn 02 53 11.7 -2.2
VRI Vrincioaia 8.79 30 ⇓*i*P Pn 02 51 36.7 +1.3
VRI Vrincioaia 8.79 30 P Pn 02 51 36.4 +1.0
CFR Carcaliu 8.88 38 ⇑*i*P Pn 02 51 36.8 +0.2
CFR Carcaliu 8.88 38 ⇑P Pn 02 51 36.8 +0.2
KIZT Kizilcal 8.98 84 *e*P Pn 02 51 37.1 -0.9
VOY Vojsko 9.01 330 *e*Pn Pn 02 51 37.2 -1.2
VOY *e*Sn Sn 02 53 13.9 -5.8
PERS Pernice 9.09 336 *i* Pn Pn 02 51 38.1 -1.4
BUD Budapest 9.12 354 ⇑*e*Pn Pn 02 51 44.4 +4.6
BUD *e*Sn Sn 02 53 20.7 -1.6
OBKA Obir 9.17 334 ⇑*e*Pn Pn 02 51 40.4 -0.2
comp=Z,58nm,0.7s,SNR=49
OBKA ⇓*e*Sn Sn 02 53 20.1 -3.5
comp=Z,97nm,0.7s
OBKA Obir 9.17 334 P Pn 02 51 40.8 +0.2
KDHN Kadinhani 9.18 86 *i* P Pn 02 51 42.5 +1.8
CADS Cadrg 9.23 330 *i* Pn Pn 02 51 40.6 -0.9
CADS *e*Sn Sn 02 53 18.2 -7.0
SGKT Sivrigoynuk 9.25 73 *i* P Pn 02 51 43.0 +1.3
MAIM 9.28 309 P Pn 02 51 43.5 +1.5
ROBS Robic 9.34 329 *i* Pn Pn 02 51 41.4 -1.5
ROBS *e*Sn Sn 02 53 21.6 -6.1
RAVA Ravarino 9.41 315 P Pn 02 51 45.2 +1.4
KONT Konya--Tatoy 9.42 89 *e*P Pn 02 51 43.7 -0.3
CORF Corte 9.43 298 *e*P Pn 02 51 44.8 +0.7
VLC Villacollemand 9.47 310 *e*Pn Pn 02 51 44.7 -0.1
comp=Z,22nm,0.4s
SARO Sassorosso 9.48 311 P Pn 02 51 45.9 +1.1
PSZ Piszkesteto 9.50 358 ⇑*e* Pn 02 51 45.4 +0.3
PSZ *e*Sn Sn 02 53 26.5 -5.2
PSZ Piszkesteto 9.50 358 *e*Pn Pn 02 51 43.8 -1.3
comp=Z,63nm,1.1s
PSZ Piszkesteto 9.50 358 ⇓*i*P Pn 02 51 45.7 +0.6
ARSA Arzberg 9.53 339 ⇓*i*Pn Pn 02 51 44.0 -1.5
comp=Z,8.3nm,0.3s,SNR=33
ARSA ⇑*e*Sn Sn 02 53 31.7 -0.7
comp=Z,17nm,0.6s
VINC Vinca 9.61 310 P Pn 02 51 48.7 +2.2
PGF Pioggiola 9.62 299 *e*P Pn 02 51 48.1 +1.3
comp=Z,90nm,0.8s
PGF Pioggiola 9.62 299 *e*P Pn 02 51 48.1 +1.3
comp=Z,45nm,0.8s
VALM 9.66 311 P Pn 02 51 49.8 +2.5
SOP Sopron 9.68 344 ⇑*e* Pn 02 51 49.6 +2.1
SOP *e*Sn Sn 02 53 34.2 -1.9
ANTO Ankara 9.73 78 *e*P Pn 02 51 47.6 -0.6
ANTO Ankara 9.73 78 *e*P Pn 02 51 48.6 +0.4
ANTO pmax pmax
comp=Z,21nm,0.9s
ANTO Ankara 9.73 78 *e*Pn Pn 02 51 48.6 +0.4
comp=Z,21nm,0.9s
BACM 9.73 310 P Pn 02 51 50.6 +2.4
BURAR Bucovina Array 9.84 19 ⇑*i*P Pn 02 51 51.2 +1.5
BURAR Bucovina Array 9.84 19 ⇑P Pn 02 51 51.2 +1.5
CODM 9.92 310 P Pn 02 51 53.2 +2.3
KECS Kecovo 10.06 0 *e*Pn Pn 02 51 52.7 -0.1
comp=Z,4.8nm,0.9s
SWA2 10.06 154 ⇑P Pn 02 51 47.3 -5.5
ZST Bratislava 10.06 347 *e*PN Pn 02 51 49.9 -2.9
ZST *e*SN Sn 02 53 38.4 -7.1
ZST *e* 03 29 29.6
ZST Bratislava 10.06 347 *e*Pn Pn 02 51 49.9 -2.9
ZST *e*Sn Sn 02 53 38.4 -7.1
CONA Conrad Observa 10.07 342 ⇓*e*Pn Pn 02 51 51.6 -1.2
comp=Z,20nm,0.9s
ERMK Ermenek 10.09 96 *i* P Pn 02 51 50.3 -2.8
KBA Koelnbreinsper 10.09 331 *e*Pn Pn 02 51 52.6 -0.5
comp=Z,21nm,0.6s,SNR=17
KBA ⇑*e*Sn Sn 02 53 42.7 -3.4
comp=Z,28nm,0.5s
KBA Koelnbreinsper 10.09 331 P Pn 02 51 53.5 +0.3
SC2M Scurtabr 10.12 310 P Pn 02 51 56.2 +2.6
SWA1 10.13 153 ⇑P Pn 02 51 48.5 -5.3
SWA1 S Sn 02 53 33.7 -14
VYHS Vyhne 10.14 354 *e*PN Pn 02 51 52.2 -1.6
VYHS *e*SN Sn 02 53 42.7 -4.6
KOLL Kolacno 10.26 352 *e*PN Pn 02 51 54.2 -1.3
KOLL *e*SN Sn 02 53 44.3 -6.0

UZH Uzhgorod 10.30 7 *e*P Pn 02 51 58.0 +2.0
UZH *e*S Sn 02 53 56.0 +4.7
UZH MLR MLR
comp=Z,2μm,11.0s
SMOL Smolenice 10.32 349 *e*SN Sn 02 53 45.2 -6.6
BR131 Keskin Array S 10.37 79 *e*Pn Pn 02 51 57.8 +0.8
comp=Z,7.2nm,0.6s
BRTR Keskin Array B 10.37 79 Pn Pn 02 51 56.7 -0.3
comp=Z,1.0nm,0.3s,baz=258,slow=13,SNR=27
BRTR Lg 02 54 56.0
baz=273,slow=28,SNR=2.2
KAMT Kaman 10.41 81 *e*P Pn 02 52 00.3 +2.8
MOA Molln 10.44 337 ⇑*i*Pn Pn 02 51 56.7 -1.3
comp=Z,41nm,0.7s,SNR=92
MOA ⇓*e*Sn Sn 02 53 51.7 -3.0
comp=Z,23nm,0.5s
CMAH Djebel Manchou 10.48 264 P Pn 02 52 00.0 +1.5
CRVS Cervenica-Dubn 10.51 4 *e*PN Pn 02 51 59.8 +0.9
ABSA Djebel Ababsia 10.52 262 P Pn 02 52 02.0 +2.9
PCP Pian Castagno 10.80 308 P Pn 02 52 03.9 +1.0
FIN Finale Ligure 10.85 306 P Pn 02 52 05.1 +1.6
FIN Finale Ligure 10.85 306 P Pn 02 52 04.9 +1.4
RORO 10.89 305 P Pn 02 52 06.0 +1.8
CDAG Cicekdag 10.93 79 *i* P Pn 02 52 06.2 +1.5
CSS Prodhromos 10.93 104 *e*Pn Pn 02 52 04.6 -0.1
comp=Z,18nm,0.6s
WTTA Wattenberg 10.93 327 *e*Pn Pn 02 52 05.5 +0.8
comp=Z,31nm,0.4s,SNR=25
WTTA ⇑*e*Sn Sn 02 54 03.3 -3.5
comp=Z,145nm,0.7s
WTTA Wattenberg 10.93 327 P Pn 02 52 05.1 +0.4
BRMO Bormio 10.94 321 P Pn 02 52 05.0 +0.2
NIE Niedzica 11.00 360 *e*P Pn 02 52 07.1 +1.5
NEGI Negi 11.01 304 P Pn 02 52 06.9 +1.1
STHS Stebnicka Huta 11.01 3 *e*PN Pn 02 52 06.1 +0.3
WATA Walderalm 11.01 327 *e*Pn Pn 02 52 06.0 +0.2
comp=Z,20nm,0.4s,SNR=25
WATA ⇑*e*Sn Sn 02 54 05.0 -3.8
comp=Z,28nm,0.5s
MEST Erdemli 11.06 95 *i* P Pn 02 52 07.7 +1.3
MONE Monesi 11.08 305 P Pn 02 52 09.4 +2.7
CKFL Kef-Lekhel 11.08 264 P Pn 02 52 10.0 +3.3
SQTA Sankt Quirin 11.09 325 ⇑*i*Pn Pn 02 52 07.4 +0.6
comp=Z,20nm,0.4s,SNR=14
ROB Roburent 11.10 306 P Pn 02 52 08.8 +1.8
CORM Corum 11.16 76 *e*P Pn 02 52 11.2 +3.4
REVF Revere 11.19 302 *e*P Pn 02 52 09.1 +0.9
SBF Sospel 11.19 303 *e*P Pn 02 52 09.2 +0.9
comp=Z,101nm,0.9s
SBF Sospel 11.19 303 *e*P Pn 02 52 09.2 +0.9
SBF pmax pmax
comp=Z,50nm,0.9s
SBF Sospel 11.19 303 *e*P Pn 02 52 09.2 +0.9
comp=Z,50nm,0.9s
MOTA Moosalm 11.23 326 *e*Pn Pn 02 52 09.3 +0.5
comp=Z,39nm,0.6s,SNR=39
MOTA ⇑*e*Sn Sn 02 54 10.5 -3.5
comp=Z,33nm,0.5s
VRAC Vranov 11.23 347 Pn Pn 02 52 07.2 -1.5
comp=Z,0.4nm,0.3s,baz=174,slow=13,SNR=10
VRAC Vranov 11.23 347 ⇓P Pn 02 52 08.0 -0.7
VRAC Vranov 11.23 347 ⇓*i*P Pn 02 52 08.0 -0.8
AUTN L'Aution 11.25 304 *e*P Pn 02 52 10.5 +1.4
LUCF Luceram 11.26 303 *e*P Pn 02 52 10.2 +1.0
CASM Ain Smara 11.29 263 P Pn 02 52 13.0 +3.3
KWP Kalwaria 11.33 8 *e*P Pn 02 52 13.3 +3.2
KWP Kalwaria 11.33 8 *e*P Pn 02 52 09.4 -0.7
KWP pmax pmax
comp=Z,19nm,1.0s
KWP Kalwaria 11.33 8 *e*Pn Pn 02 52 09.4 -0.8
comp=Z,19nm,1.0s
KWP *e*P 02 52 13.3
ENR Entracque 11.36 305 P Pn 02 52 12.4 +1.9
MVIF Mont Vial 11.39 303 *e*P Pn 02 52 12.3 +1.3
DAVOS Davos 11.40 321 Pn Pn 02 52 11.8 +0.8
comp=Z,2.2nm,0.3s,baz=127,slow=21,SNR=23
DAVOX Sn Sn 02 54 16.4 -1.8
comp=Z,8.3nm,0.3s,baz=335,slow=22,SNR=6.5
DAVOX Lg 02 55 38.7
baz=149,slow=23,SNR=1.6
DAVOX LR LR 02 57 02.7
comp=Z,890nm,19.1s,baz=124,slow=40
VAI Varese 11.40 314 P Pn 02 52 10.2 -0.9
VAI pmax pmax
comp=Z,20nm,0.8s
VAI Varese 11.40 314 Pn Pn 02 52 10.2 -0.9
comp=Z,20nm,0.8s
STV Sta Anna Valdi 11.43 305 P Pn 02 52 14.2 +2.7
STV Sta Anna Valdi 11.43 305 P Pn 02 52 14.4 +2.9
TREC Trest 11.44 344 *e*P Pn 02 52 11.0 -0.6
TREC *e*S Sn 02 54 11.7 -7.4
TREC AMS AMS 02 57 20.0
comp=Z,1μm,14.8s
TUE Stuetta 11.46 318 P Pn 02 52 12.3 +0.3
GEC2 GERESS Array S 11.49 337 *e*P Pn 02 52 10.7 -1.7
GERES GERESS Array B 11.49 337 Pn Pn 02 52 10.1 -2.3
comp=Z,2.2nm,0.3s,baz=153,slow=12,SNR=46
GERES Sn Sn 02 54 15.8 -4.8
comp=Z,5.6nm,0.3s,baz=154,slow=24,SNR=10
GERES Lg 02 55 32.2
baz=164,slow=28,SNR=1.8
GERES GERESS Array B 11.49 337 P Pn 02 52 10.1 -2.3
GERES 02 54 15.8
GERES GERESS Array B 11.49 337 Pn Pn 02 52 10.1 -2.3
GERES Sn Sn 02 54 15.8 -4.8
GERES Lg 02 55 32.2
OKC Ostrava-Krasne 11.53 353 *e*P Pn 02 52 13.7 +0.8
OKC *e*S Sn 02 54 15.3 -6.2
OKC AMS AMS 02 58 50.0
comp=Z,1μm,8.8s
OKC Ostrava-Krasne 11.53 353 *e*Pn Pn 02 52 13.7 +0.8
OKC *e*Sn Sn 02 54 15.3 -6.2
MORC Moravsky Berou 11.54 351 ⇑*i*P Pn 02 52 13.4 +0.4
MORC Moravsky Berou 11.54 351 *e*Pn Pn 02 52 12.1 -1.0
comp=Z,8.2nm,0.8s
DOI San Damiano 11.59 306 P Pn 02 52 15.5 +1.7
FRF La Foret Royal 11.60 301 *e*P Pn 02 52 13.3 -0.5
comp=Z,14nm,0.6s
FRF La Foret Royal 11.60 301 *e*P Pn 02 52 13.3 -0.5
FRF pmax pmax
comp=Z,7.0nm,0.6s
FRF La Foret Royal 11.60 301 *e*P Pn 02 52 13.3 -0.5
comp=Z,7.2nm,0.6s
LMR La Mourre 11.61 299 *e*P Pn 02 52 13.3 -0.7
comp=Z,61nm,1.2s
LMR La Mourre 11.61 299 *e*P Pn 02 52 13.3 -0.7
LMR pmax pmax
comp=Z,30nm,1.2s
LMR La Mourre 11.61 299 *e*P Pn 02 52 13.3 -0.7
comp=Z,30nm,1.2s
KARA Karaisali 11.64 91 *e*P Pn 02 52 15.1 +0.7
PZZ Prazzo 11.69 306 P Pn 02 52 16.4 +1.4
LVV L'vov 11.69 12 *e*P Pn 02 52 19.5 +4.5
LVV *e*S Sn 02 54 33.0 +7.7
LVV MLR MLR
comp=Z,860nm,9.0s
DFRA Djebel Bou Aff 11.70 265 P Pn 02 52 17.0 +1.8
ORO Oropa 11.71 312 P Pn 02 52 14.8 -0.6
DAVA Damuels 11.75 322 ⇓*e*Pn Pn 02 52 16.0 +0.1
comp=Z,6.6nm,0.4s,SNR=14
DAVA ⇑*e*Sn Sn 02 54 25.2 -1.7
comp=Z,80nm,0.5s
RAC Raciborz 11.77 353 *e*P Pn 02 52 20.8 +4.6
RAC L 02 57 39.0
comp=Z,0.7nm,19.1s
MANS Anshas 11.78 126 P Pn 02 52 22.3 +6.0
KHC Kasperske Hory 11.79 337 *e*P Pn 02 52 13.1 -3.3
KHC *e*S Sn 02 54 18.7 -9.0
KHC AMS AMS 02 57 40.0
comp=Z,2μm,12.9s
KHC Kasperske Hory 11.79 337 ⇑*e*P Pn 02 52 16.5 +0.1
KHC Kasperske Hory 11.79 337 *e*Pn Pn 02 52 13.1 -3.3
KHC *e*Sn Sn 02 54 18.7 -9.0
TRAV 11.79 311 P Pn 02 52 15.6 -0.8
FUR Furstenfeldbru 11.79 329 P Pn 02 52 16.6 +0.2
OJC Ojcow 11.81 358 *e*P Pn 02 52 18.5 +1.8
SURF Saint Ours 11.86 305 *e*P Pn 02 52 22.9 +5.5
MCGN Macugnaga 11.89 313 Pn Pn 02 52 17.0 -0.9
RSP Reno Superiore 11.90 309 P Pn 02 52 19.9 +2.0
UBR Uberruh 11.93 324 P Pn 02 52 18.8 +0.5
FENE Fenestrelle 11.96 308 P Pn 02 52 20.3 +1.6
MBDF Montbardon 12.00 306 *e*P Pn 02 52 20.0 +0.7
comp=Z,85nm,0.8s
MBDF Montbardon 12.00 306 *e*P Pn 02 52 20.0 +0.7

MBDF pmax pmax
comp=Z,43nm,0.8s
MBDF Montbardon 12.00 306 *e*P Pn 02 52 20.0 +0.7
comp=Z,42nm,0.8s
WET Wettzell 12.02 336 *e*P Pn 02 52 19.6 +0.1
TAVF Tavernes 12.02 300 *e*P Pn 02 52 19.6 0.0
RRL Cesana Torines 12.08 307 P Pn 02 52 21.8 +1.4
CKHR Kef el Ahmar 12.12 263 P Pn 02 52 21.0 0.0
SIM Simferopol' 12.14 53 *e*P Pn 02 52 21.9 +0.7
SIM *e*S Sn 02 54 42.0 +5.7
SIM pmax pmax
comp=Z,19nm,0.9s
SIM MLR MLR
comp=Z,380nm,15.3s
SET Setif 12.16 264 P Pn 02 52 24.0 +2.5
AANS 12.16 129 P Pn 02 52 22.3 +0.7
BERF Bertagne 12.17 298 *e*P Pn 02 52 21.3 -0.3
KOZT Kozan 12.21 90 *e*P Pn 02 52 22.9 +0.8
BNI Bardonecchia 12.21 307 *e*P Pn 02 52 23.2 +1.1
BNI pmax pmax
comp=Z,19nm,1.0s
BNI Bardonecchia 12.21 307 *e*Pn Pn 02 52 23.2 +1.1
comp=Z,19nm,1.0s
PUYF Puyloubier 12.23 299 *e*P Pn 02 52 22.8 +0.3
STOF St-Etienne Org 12.26 302 *e*P Pn 02 52 25.4 +2.6
DPC Dobruska-Polom 12.28 348 *e*P Pn 02 52 23.0 -0.1
DPC *e*S Sn 02 54 32.9 -6.9
DPC AMS AMS 02 58 00.0
comp=Z,2μm,11.4s
DPC Dobruska-Polom 12.28 348 *e*Pn Pn 02 52 23.0 -0.1
DPC *e*Sn Sn 02 54 32.9 -6.9
PRU Pruhonice 12.30 342 *e*P Pn 02 52 21.7 -1.8
VILF Villemus 12.34 301 *e*P Pn 02 52 25.0 +1.1
LPG La Plagne 12.38 309 *e*P Pn 02 52 25.0 +0.5
comp=Z,43nm,0.7s
LPG La Plagne 12.38 309 *e*P Pn 02 52 25.0 +0.5
LPG pmax pmax
comp=Z,21nm,0.7s
LPG La Plagne 12.38 309 *e*P Pn 02 52 25.0 +0.5
comp=Z,22nm,0.7s
LPL La Plagne 12.40 309 *e*P Pn 02 52 25.4 +0.6
comp=Z,24nm,0.5s
LPL La Plagne 12.40 309 *e*P Pn 02 52 25.4 +0.6
LPL pmax pmax
comp=Z,12nm,0.5s
LPL La Plagne 12.40 309 *e*P Pn 02 52 25.4 +0.6
comp=Z,12nm,0.5s
SMRF Simiane la Rot 12.47 301 *e*P Pn 02 52 27.2 +1.4
comp=Z,22nm,0.8s
SMRF Simiane la Rot 12.47 301 *e*P Pn 02 52 27.2 +1.4
comp=Z,11nm,0.8s
TREF Trevaresse 12.48 299 *e*P Pn 02 52 24.7 -1.2
UPC Upice 12.48 347 *e*P Pn 02 52 24.4 -1.6
ORIF Oris-en-Rattie 12.65 305 *e*P Pn 02 52 28.1 -0.1
comp=Z,46nm,0.8s
ORIF *e*R
comp=Z,662nm,17.0s
ORIF Oris-en-Rattie 12.65 305 *e*P Pn 02 52 28.1 -0.1
ORIF pmax pmax
comp=Z,23nm,0.8s
ORIF Oris-en-Rattie 12.65 305 *e*P Pn 02 52 28.1 -0.1
comp=Z,23nm,0.8s
ROTZ Rotzenmuhle 12.78 335 *e*P Pn 02 52 29.4 -0.5
PVCC Panska Ves 12.80 343 *e*P Pn 02 52 29.5 -0.8
PVCC AMS AMS 02 58 30.0
comp=Z,1μm,12.8s
SVSK Karacayir 12.96 78 *e*P Pn 02 52 29.5 -3.0
MANZ Manzenberg 13.00 336 *e*P Pn 02 52 32.2 -0.8
GRA1 Grafenberg Arr 13.05 333 *e*P Pn 02 52 31.2 -2.5
GRF Grafenberg Arr 13.05 333 *e*P Pn 02 52 31.2 -2.5
GRF *e*L 02 57 33.8
comp=Z,505nm,18.7s
FELD Feldberg im Sc 13.08 320 *e*P Pn 02 52 32.1 -1.9
NKC Novy Kostel 13.11 337 *e*P Pn 02 52 33.7 -0.7
NKC *e*S Sn 02 54 48.6 -11
NKC AMS AMS 02 58 40.0
comp=Z,2μm,11.6s
NKC Novy Kostel 13.11 337 *e*Pn Pn 02 52 33.7 -0.7
NKC *e*Sn Sn 02 54 48.6 -11
STU Stuttgart 13.14 326 *e*P Pn 02 52 33.2 -1.8
STU Stuttgart 13.14 326 *e*P Pn 02 52 33.1 -1.9
STU pmax pmax
comp=Z,33nm,0.8s
STU Stuttgart 13.14 326 *e*Pn Pn 02 52 33.1 -1.8
comp=Z,33nm,0.8s
BFO Black Forest 13.23 322 *e*P Pn 02 52 37.4 +1.3
BRG Berggiesshubel 13.27 342 *e*P Pn 02 52 33.8 -2.9
BRG Berggiesshubel 13.27 342 *e*P Pn 02 52 35.3 -1.4
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG pmax pmax
comp=Z,18nm,1.6s
BRG MLR MLR
comp=N,519nm,10.8s
BRG MLR MLR
comp=E,927nm,11.9s
BRG MLR MLR
comp=Z,317nm,8.6s
BRG Berggiesshubel 13.27 342 *e*P Pn 02 52 35.3 -1.3
comp=Z,2.1nm,0.8s
BRG *e* 02 52 40.3
WERD Werda 13.34 337 *e*P Pn 02 52 37.3 -0.3
CABF La Chapelle 13.35 312 *e*P Pn 02 52 36.7 -1.1
comp=Z,19nm,0.5s
CABF La Chapelle 13.35 312 *e*P Pn 02 52 36.7 -1.1
CABF pmax pmax
comp=Z,10.0nm,0.5s
CABF La Chapelle 13.35 312 *e*P Pn 02 52 36.7 -1.1
comp=Z,9.5nm,0.5s
LOMF Lomont 13.36 316 *e*P Pn 02 52 37.2 -0.7
VIVF Saint-Julien-l 13.41 304 *e*P Pn 02 52 38.9 +0.4
comp=Z,24nm,0.9s
VIVF Saint-Julien-l 13.41 304 *e*P Pn 02 52 38.9 +0.4
VIVF pmax pmax
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 13.41 304 *e*P Pn 02 52 38.9 +0.4
comp=Z,12nm,0.9s
MOF Molkenrain 13.51 319 *e*P Pn 02 52 38.8 -1.1
GZT Gaziantep 13.59 89 *i* P Pn 02 52 41.8 +0.7
LASF Ste Croix 13.67 300 *e*P Pn 02 52 41.7 -0.5
comp=Z,14nm,0.9s
LASF Ste Croix 13.67 300 *e*P Pn 02 52 41.7 -0.5
comp=Z,7.1nm,0.9s
MOX Moxa 13.73 336 *e*PN Pn 02 52 42.5 -0.4
MOX *e*SN Sn 02 55 08.5 -6.6
MOX
comp=Z,1μm,17.0s
MOX Moxa 13.73 336 *e*P Pn 02 52 42.5 -0.4
MOX *e* 02 55 08.5
MOX Moxa 13.73 336 *e*Pn Pn 02 52 42.5 -0.4
MOX *e*Sn Sn 02 55 08.5 -6.6
MOX Moxa 13.73 336 *e*P Pn 02 52 42.4 -0.5
ECH Echery 13.73 320 *e*P Pn 02 52 42.2 -0.7
ETOS Mallorca 13.74 281 P Pn 02 52 48.3 +5.2
comp=Z,11nm,0.8s
AKASG Malin Array Be 13.78 24 Pn Pn 02 52 41.6 -2.0
comp=Z,1.4nm,0.3s,baz=211,slow=12,SNR=18
AKASG Sn Sn 02 55 31.5 +15
baz=212,slow=19,SNR=5.8
AKASG Lg 02 56 53.4
comp=Z,0.3nm,0.3s,baz=333,slow=11,SNR=2.5
AKASG PcP PcP 02 58 09.0 +2.0
comp=Z,0.6nm,0.3s,baz=237,slow=1.4,SNR=7.5
AKASG Malin Array Be 13.78 24 Pn Pn 02 52 41.6 -2.0
AKASG Sn Sn 02 55 31.5 +15
AKASG Lg 02 56 53.4
AKASG PcP PcP 02 58 09.0 +2.0
CDF Champ du Feu 13.80 321 *e*P Pn 02 52 41.6 -2.3
comp=Z,14nm,0.4s
CDF Champ du Feu 13.80 321 *e*P Pn 02 52 41.6 -2.3
CDF pmax pmax
comp=Z,7.0nm,0.4s
CDF Champ du Feu 13.80 321 *e*P Pn 02 52 41.6 -2.3
comp=Z,7.1nm,0.4s
CLL Collm 13.91 340 *e*pP 02 52 46.0
CLL ⇓*i*sPP 02 52 58.1
comp=Z,32nm,1.2s
TOD Tromm 13.94 327 *e*P Pn 02 52 45.1 -0.7
HAU Haudompre 14.02 318 *e*P Pn 02 52 46.0 -0.8
comp=Z,24nm,0.4s
HAU *e*R
comp=Z,941nm,19.2s
HAU Haudompre 14.02 318 *e*P Pn 02 52 46.0 -0.8
HAU pmax pmax
comp=Z,12nm,0.4s

HAU	**Haudompre**	14.02	318	*e*P		**Pn**	02 52 46.0 -0.8
	comp=Z,12nm,0.4s						
EMHD	**Djebel Mahouad**	14.08	266	P		**Pn**	02 52 54.0 +6.3
MALT	**Malatya**	14.14	85⇑	*i*P		**Pn**	02 52 55.3 +6.8
MALT	**Malatya**	14.14	85	*e*P		**Pn**	02 52 50.6 +2.1
MALT				pmax	pmax		
	comp=Z,61nm,1.0s						
MALT	**Malatya**	14.14	85	*e*Pn		**Pn**	02 52 50.6 +2.1
	comp=Z,61nm,1.0s						
MALT				P			02 52 56.0
ANN	**Anapa**	14.23	58	*e*P		**Pn**	02 52 52.3 +2.6
ANN				*e*S		**Sn**	02 55 33.5 +6.1
ANN				pmax	pmax		
	comp=Z,37nm,1.4s						
ANN				MLR	MLR		
	comp=Z,345nm,12.0s						
THEF	**They Montfort**	14.34	318	*e*P		**Pn**	02 52 50.4 -0.9
URFA	**Urfa**	14.56	88	*e*P		**Pn**	02 52 58.2 +3.9
MTLF	**Montolieu**	14.61	295	*e*P		**Pn**	02 52 53.3 -1.7
	comp=Z,19nm,0.9s						
MTLF	**Montolieu**	14.61	295	*e*P		**Pn**	02 52 53.3 -1.7
MTLF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MTLF	**Montolieu**	14.61	295	*e*P		**Pn**	02 52 53.3 -1.7
	comp=Z,9.6nm,0.9s						
SMF	**Signal de Mont**	14.71	309	*e*P		**Pn**	02 52 55.8 -0.5
	comp=Z,37nm,0.9s						
SMF	**Signal de Mont**	14.71	309	*e*P		**Pn**	02 52 55.8 -0.5
SMF				pmax	pmax		
	comp=Z,19nm,0.9s						
SMF	**Signal de Mont**	14.71	309	*e*P		**Pn**	02 52 55.8 -0.5
	comp=Z,18nm,0.9s						
RUP	**Ruppelstein**	14.79	324	*e*P		**Pn**	02 53 06.3 +9.0
RUE	**Ruedersdorf**	14.80	344	*e*Pn		**Pn**	02 52 57.8 +0.3
ASF	**Jabal al Asfar**	14.82	110	Pn		**Pn**	02 52 58.2 +0.3
	comp=Z,0.3nm,0.3s,baz=270,slow=10,SNR=4.2						
EMIR	**Miracle**	14.86	290	P		**Pn**	02 53 00.3 +2.0
	comp=Z,2.7nm,0.4s						
EIL	**Elat**	14.86	122	*e*Pn		**Pn**	02 52 56.0 -2.4
	comp=Z,474nm,0.8s						
EIBI	**Ibiza**	14.90	278	P		**Pn**	02 53 03.1 +4.1
	comp=Z,92nm,2.0s						
LOR	**Lormes**	15.00	311	*e*P		**Pn**	02 52 58.8 -1.5
	comp=Z,16nm,0.5s						
LOR				*e*R			
	comp=Z,569nm,18.2s						
LOR	**Lormes**	15.00	311	*e*P		**Pn**	02 52 58.8 -1.5
LOR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LOR	**Lormes**	15.00	311	*e*P		**Pn**	02 52 58.8 -1.5
	comp=Z,7.8nm,0.5s						
MEZF	**Maizieres J'vi**	15.01	317	*e*P		**Pn**	02 53 01.3 +1.0
	comp=Z,92nm,1.0s						
MEZF	**Maizieres J'vi**	15.01	317	*e*P		**Pn**	02 53 01.3 +1.0
	comp=Z,46nm,1.0s						
GKP	**Gorka Klasztor**	15.02	353	*e*P		**Pn**	02 53 09.3 +8.8
AVF	**Avril sur Loir**	15.07	309	*e*P		**Pn**	02 53 00.5 -0.7
	comp=Z,7.8nm,0.6s						
AVF	**Avril sur Loir**	15.07	309	*e*P		**Pn**	02 53 00.5 -0.7
AVF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AVF	**Avril sur Loir**	15.07	309	*e*P		**Pn**	02 53 00.5 -0.7
	comp=Z,3.9nm,0.6s						
SSF	**Saint Saulge**	15.11	310	*e*P		**Pn**	02 53 00.9 -0.8
	comp=Z,16nm,0.7s						
SSF	**Saint Saulge**	15.11	310	*e*P		**Pn**	02 53 00.9 -0.8
SSF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SSF	**Saint Saulge**	15.11	310	*e*P		**Pn**	02 53 00.9 -0.8
	comp=Z,7.8nm,0.7s						
CLZ	**Clausthal**	15.16	336	*e*P		**Pn**	02 53 07.5 +5.2
CAF	**Calviac**	15.16	301	*e*P		**Pn**	02 53 02.3 -0.1
	comp=Z,14nm,0.8s						
CAF	**Calviac**	15.16	301	*e*P		**Pn**	02 53 02.3 -0.1
CAF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CAF	**Calviac**	15.16	301	*e*P		**Pn**	02 53 02.3 -0.1
	comp=Z,6.9nm,0.8s						
EBNR	**Beni Rached**	15.17	268	P		**Pn**	02 53 04.0 +1.5
HDHB	**Dhahab**	15.27	125	P		**Pn**	02 53 06.9 +3.0
BGF	**Bois d'Agland**	15.28	308	*e*P		**Pn**	02 53 03.5 -0.4
	comp=Z,22nm,0.7s						
BGF	**Bois d'Agland**	15.28	308	*e*P		**Pn**	02 53 03.5 -0.4
BGF				pmax	pmax		
	comp=Z,11nm,0.7s						
BGF	**Bois d'Agland**	15.28	308	*e*P		**Pn**	02 53 03.5 -0.4
	comp=Z,11nm,0.7s						
ECHA	**Ech Chlef**	15.33	267	P		**Pn**	02 53 06.0 +1.4
MLS	**Moulis**	15.34	293	*e*P		**Pn**	02 53 08.9 +4.2
SOC	**Sochi**	15.45	64	*e*P		**Pn**	02 53 05.4 -0.8
SOC				*e*			02 55 56.5
SOC				pmax	pmax		
	comp=Z,24nm,1.3s						
SOC				MLR	MLR		
	comp=Z,130nm,13.0s						
TCF	**Toulx Ste Croi**	15.56	306	*e*P		**Pn**	02 53 10.7 +3.0
	comp=Z,18nm,0.8s						
TCF	**Toulx Ste Croi**	15.56	306	*e*P		**Pn**	02 53 10.7 +3.0
TCF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TCF	**Toulx Ste Croi**	15.56	306	*e*P		**Pn**	02 53 10.7 +3.0
	comp=Z,8.9nm,0.8s						
ETRT	**Tiaret**	15.59	265	P		**Pn**	02 53 12.0 +4.0
EANR	**'Ain N'Sour**	15.59	267	P		**Pn**	02 53 09.0 +1.0
RJF	**Les Rejaudoux**	15.65	302	*e*P		**Pn**	02 53 10.7 +1.9
	comp=Z,34nm,1.1s						
RJF				*e*R			
	comp=Z,241nm,21.6s						
RJF	**Les Rejaudoux**	15.65	302	*e*P		**Pn**	02 53 10.7 +1.9
RJF				pmax	pmax		
	comp=Z,17nm,1.1s						
RJF	**Les Rejaudoux**	15.65	302	*e*P		**Pn**	02 53 10.7 +1.9
	comp=Z,17nm,1.1s						
ERTA	**Horta de San J**	15.67	286	P		**Pn**	02 53 12.6 +3.6
	comp=Z,9.2nm,0.8s						
SUW	**Suwalki**	15.71	6	*e*P		**Pn**	02 53 11.9 +2.3
SUW	**Suwalki**	15.71	6	*e*P		**Pn**	02 53 08.2 -1.4
SUW				pmax	pmax		
	comp=Z,90nm,0.6s						
SUW	**Suwalki**	15.71	6	*e*Pn		**Pn**	02 53 08.2 -1.4
	comp=Z,90nm,0.6s						
SUW				*e*P			02 53 11.9
EGRA	**Graus**	15.79	290	P		**Pn**	02 53 12.8 +2.3
	comp=Z,9.2nm,0.6s						
NRDL	**Niedersach Rie**	15.80	336	*e*P		**Pn**	02 53 15.5 +4.8
EPF	**Esparros**	15.89	293	*e*P		**Pn**	02 53 14.7 +2.8
	comp=Z,8.7nm,0.8s						
EPF	**Esparros**	15.89	293	*e*P		**Pn**	02 53 14.7 +2.8
EPF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EPF	**Esparros**	15.89	293	*e*P		**Pn**	02 53 14.7 +2.8
	comp=Z,4.3nm,0.8s						
MEM	**Membach**	15.90	325	PN		**Pn**	02 53 11.7 -0.4
MEM	**Membach**	15.90	325	P		**Pn**	02 53 13.9 +1.8
MEM				XPN			02 53 17.7
MEM				AP		pP	02 53 18.8 -0.8
MEM				XP		sP	02 53 20.4 -1.0
EBIE	**Bielsa**	15.98	292	P		**Pn**	02 53 14.2 +1.1
	comp=Z,9.7nm,0.7s						
HGN	**Heimansgroeve**	16.05	325	*e*P		**Pn**	02 53 17.9 +3.9
	comp=Z,11nm,1.4s						
HGN				*i* x		x	02 53 23.2
	comp=Z,39nm,1.1s						
HGN				*e*S		**Sn**	02 56 25.9 +14
LFF	**La Frestale**	16.06	300	*e*P		**Pn**	02 53 16.6 +2.5
	comp=Z,16nm,0.7s						
LFF	**La Frestale**	16.06	300	*e*P		**Pn**	02 53 16.6 +2.5
LFF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LFF	**La Frestale**	16.06	300	*e*P		**Pn**	02 53 16.6 +2.5
	comp=Z,7.9nm,0.7s						
GIVF	**Givet**	16.12	321	*e*P		**Pn**	02 53 19.2 +4.3
	comp=Z,128nm,1.0s						
GIVF	**Givet**	16.12	321	*e*P		**Pn**	02 53 19.2 +4.3
GIVF				pmax	pmax		
	comp=Z,64nm,1.0s						
GIVF	**Givet**	16.12	321	*e*P		**Pn**	02 53 19.2 +4.3
	comp=Z,64nm,1.0s						
MARD	**Mardin**	16.12	88	*i* P		**Pn**	02 53 16.6 +1.7
EBEN	**Beniarda**	16.15	277	P		**Pn**	02 53 19.4 +4.2
	comp=Z,179nm,4.4s						
DOU	**Dourbes**	16.23	321	PN		**Pn**	02 53 15.3 -1.0
DOU	**Dourbes**	16.23	321	P		**Pn**	02 53 18.3 +2.0
DOU				XPN			02 53 21.5
DOU				XP		sP	02 53 23.5 -1.5
EMOS	**Mosqueruela**	16.26	283	P		**Pn**	02 53 19.4 +2.6
	comp=Z,9.0nm,0.7s						
ESAC	**San Caprasio**	16.32	288	P		**Pn**	02 53 20.4 +3.0
	comp=Z,78nm,2.1s						
BAIF	**Baives**	16.40	320	*e*P		**Pn**	02 53 19.7 +1.3
	comp=Z,75nm,0.8s						
BAIF	**Baives**	16.40	320	*e*P		**Pn**	02 53 19.7 +1.3
BAIF				pmax	pmax		
	comp=Z,38nm,0.8s						
BAIF	**Baives**	16.40	320	*e*P		**Pn**	02 53 19.7 +1.3
	comp=Z,38nm,0.8s						
BEST	**Besiri**	16.42	85	*i* P		**Pn**	02 53 17.6 -1.1
IBBN	**Ibbenburen**	16.46	332	*e*P		**Pn**	02 53 22.7 +3.5
ETSF	**Etsaut**	16.52	292	*e*P		**Pn**	02 53 19.9 -0.1
	comp=Z,65nm,1.2s						
ETSF	**Etsaut**	16.52	292	*e*P		**Pn**	02 53 19.9 -0.1
ETSF				pmax	pmax		
	comp=Z,32nm,1.2s						
ETSF	**Etsaut**	16.52	292	*e*P		**Pn**	02 53 19.9 -0.1
	comp=Z,32nm,1.2s						
WTSB	**Winterswijk**	16.56	329	*e*P		**Pn**	02 53 25.0 +4.5
	comp=Z,16nm,2.2s						
WTSB				*e*x		x	02 53 30.3
	comp=Z,50nm,1.3s						
SNF	**Seneffe**	16.65	322	E			02 53 28.7
ECHE	**Chera**	16.66	281	P		**Pn**	02 53 25.7 +3.9
ECHE				pmax	pmax		
	comp=Z,14nm,0.8s						
ECHE	**Chera**	16.66	281	P		**Pn**	02 53 25.7 +3.9
	comp=Z,14nm,0.8s						
UCC	**Uccle**	16.80	323	APN			02 53 26.3
UCC				AP		pP	02 53 28.7 -0.8
UCC				XP		sP	02 53 29.9 -1.5
UCC				PNPN			02 53 32.5
MNK	**Minsk**	16.86	15	*e*P		**Pn**	02 53 22.0 -2.3
CART	**Cartagena**	16.90	274	*e*P		**Pn**	02 53 24.3 -0.5
	comp=Z,17nm,0.8s						
SJPF	**Ste Jean**	17.04	293	*e*P		**Pn**	02 53 28.2 +1.7
	comp=Z,52nm,1.3s						
SJPF	**Ste Jean**	17.04	293	*e*P		**Pn**	02 53 28.2 +1.7
SJPF				pmax	pmax		
	comp=Z,26nm,1.3s						
SJPF	**Ste Jean**	17.04	293	*e*P		**Pn**	02 53 28.2 +1.7
	comp=Z,26nm,1.3s						
EMUR	**La Murta**	17.05	275	P		**Pn**	02 53 24.6 -2.0
	comp=Z,15nm,0.8s						
ETOB	**Tobarra**	17.19	278	P		**Pn**	02 53 25.8 -2.6
	comp=Z,17nm,1.0s						
MFF	**Saint Martin d**	17.19	305	*e*P		**Pn**	02 53 29.5 +1.1
	comp=Z,37nm,1.0s						
MFF	**Saint Martin d**	17.19	305	*e*P		**Pn**	02 53 29.5 +1.1
MFF				pmax	pmax		
	comp=Z,19nm,1.0s						
MFF	**Saint Martin d**	17.19	305	*e*P		**Pn**	02 53 29.5 +1.1
	comp=Z,19nm,1.0s						
EALK	**Alkurruntz**	17.26	293	P		**Pn**	02 53 28.4 -0.8
	comp=Z,84nm,2.3s						
ELIZ	**Elizondo**	17.27	293	P		**Pn**	02 53 33.7 +4.3
ELIZ				pmax	pmax		
	comp=Z,13nm,0.9s						
ELIZ	**Elizondo**	17.27	293	P		**Pn**	02 53 33.7 +4.4
	comp=Z,13nm,0.9s						
ETOR	**Torete**	17.47	285	P		**Pn**	02 53 34.3 +2.4
ETOR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ETOR	**Torete**	17.47	285	P		**Pn**	02 53 34.3 +2.3
	comp=Z,5.6nm,0.5s						
KIV	**Kislovodsk**	17.63	65	*c i* P		**Pn**	02 53 33.4 -0.5
KIV				*i* S		**Sn**	02 56 51.8 +1.7
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV				MLR	MLR		
	comp=Z,300nm,18.0s						
EVIA	**Vianos**	17.93	278	P		**Pn**	02 53 37.9 +0.3
EVIA				pmax	pmax		
	comp=Z,13nm,0.6s						
EVIA	**Vianos**	17.93	278	P		**Pn**	02 53 37.9 +0.3
	comp=Z,13nm,0.6s						
AKH	**Akhalkalaki**	17.95	73	P		**Pn**	02 53 40.8 +3.0
ENIJ	**Nijar**	17.96	272	P		**Pn**	02 53 39.5 +1.6
ENIJ				pmax	pmax		
	comp=Z,13nm,0.7s						
ENIJ	**Nijar**	17.96	272	P		**Pn**	02 53 39.5 +1.5
	comp=Z,13nm,0.7s						
LDF	**La Druitiere**	17.98	311	*e*P		**Pn**	02 53 38.0 -0.3
	comp=Z,16nm,0.7s						
LDF	**La Druitiere**	17.98	311	*e*P		**Pn**	02 53 38.0 -0.3
LDF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LDF	**La Druitiere**	17.98	311	*e*P		**Pn**	02 53 38.0 -0.3
	comp=Z,7.9nm,0.7s						
ONI	**Oni**	17.99	69	S		**Sn**	02 57 05.5 +6.7
EHUE	**Huescar**	18.11	275	P		**Pn**	02 53 41.2 +1.4
EHUE				pmax	pmax		
	comp=Z,28nm,1.6s						
EHUE	**Huescar**	18.11	275	P		**Pn**	02 53 41.2 +1.3
	comp=Z,28nm,1.6s						
MSL	**Mosul**	18.15	90	*e*x		x	02 53 37.0
MSL				*e*x		x	02 53 57.0
MSL				*e*x		x	02 57 05.0
FLN	**La Foliniere**	18.27	311	*e*P		**Pn**	02 53 42.8 +1.0
	comp=Z,20nm,0.6s						
FLN				*e*R			
	comp=Z,370nm,18.5s						
FLN	**La Foliniere**	18.27	311	*e*P		**Pn**	02 53 42.8 +1.0
FLN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
FLN	**La Foliniere**	18.27	311	*e*P		**Pn**	02 53 42.8 +1.0
	comp=Z,10nm,0.6s						
CLDR	**Caldiran**	18.33	80	*e*P		**Pn**	02 53 49.2 +6.7
GRR	**Gorron**	18.34	310	*e*P		**Pn**	02 53 42.2 -0.4
	comp=Z,16nm,0.7s						
GRR	**Gorron**	18.34	310	*e*P		**Pn**	02 53 42.2 -0.4
GRR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GRR	**Gorron**	18.34	310	*e*P		**Pn**	02 53 42.2 -0.4
	comp=Z,8.2nm,0.7s						
ZEI	**Tsey**	18.34	69	*e*P		**Pn**	02 53 42.7 +0.1
EQES	**Quesada**	18.49	275	P		**Pn**	02 53 45.8 +1.4
	comp=Z,13nm,0.8s						
EBER	**Berja**	18.51	273	P		**Pn**	02 53 46.0 +1.3
	comp=Z,14nm,0.8s						
EALB	**Alboran**	18.84	270	P		**Pn**	02 53 48.6 -0.1
	comp=Z,146nm,1.8s						
TBLG	**Delisi**	18.89	72	P		**Pn**	02 53 49.4 +0.1
GNI	**Garni**	18.90	77	P		**Pn**	02 53 48.2 -1.2
	comp=Z,0.8nm,0.3s,baz=271,slow=5.2,SNR=9.2						
GNI				LR		LR	03 01 06.0
	comp=Z,259nm,18.2s,baz=90,slow=38						
GNI	**Garni**	18.90	77	P		**Pn**	02 53 48.6 -0.8
	SNR=29						
GNI	**Garni**	18.90	77⇑	*e*P		**Pn**	02 53 48.4 -1.0
GNI				pmax	pmax		
	comp=Z,53nm,1.6s						
GNI				MLR	MLR		
	comp=Z,300nm,14.0s						
GNI	**Garni**	18.90	77	*e*P		**Pn**	02 53 46.8 -2.7
	comp=Z,179nm,1.4s						
GNI	**Garni**	18.90	77	*e*P		**Pn**	02 53 49.3 -0.1
MTA	**Mtatsminda**	18.93	72	P		**Pn**	02 53 49.9 +0.1
MTA				S		**Sn**	02 57 34.9 +13
ESDC	**Sonseca Array**	18.97	281	P		**Pn**	02 53 48.9 -1.3
	comp=Z,1.9nm,0.3s,baz=76,slow=11,SNR=21						
ESLA	**Sonseca Array**	18.97	281	*e*P		**Pn**	02 53 48.8 -1.4
	comp=Z,5.6nm,1.0s						
EBAN	**Banos Encina**	18.99	277	P		**Pn**	02 53 50.3 -0.2
EBAN				pmax	pmax		
	comp=Z,13nm,0.6s						
EBAN	**Banos Encina**	18.99	277	P		**Pn**	02 53 50.3 -0.2
	comp=Z,13nm,0.6s						
EGUA	**Guajares**	19.05	273	P		**Pn**	02 53 52.4 +1.1
EGUA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
EGUA	**Guajares**	19.05	273	P		**Pn**	02 53 52.4 +1.1
	comp=Z,7.5nm,1.5s						
GUD	**Guadarrama**	19.07	284	P		**Pn**	02 53 50.4 -1.1
GUD				pmax	pmax		
	comp=Z,11nm,0.6s						
GUD	**Guadarrama**	19.07	284	P		**Pn**	02 53 50.4 -1.1
	comp=Z,11nm,0.6s						
ERON	**Agron**	19.20	273	P		**Pn**	02 53 53.4 +0.3
	comp=Z,1.9nm,0.4s						
SGMF	**Saint Gilles**	19.32	308	*e*P		**Pn**	02 53 53.9 -0.6
	comp=Z,24nm,0.9s						
SGMF	**Saint Gilles**	19.32	308	*e*P		**Pn**	02 53 53.9 -0.6
SGMF				pmax	pmax		
	comp=Z,12nm,0.9s						
SGMF	**Saint Gilles**	19.32	308	*e*P		**Pn**	02 53 53.9 -0.6
	comp=Z,12nm,0.9s						
DGRG	**David-gareji**	19.36	73	P		**Pn**	02 53 53.9 -1.0
DGRG				S		**Sn**	02 57 44.5 +13
ELOJ	**Sierra Loja**	19.45	274	P		**Pn**	02 53 57.2 +1.2
ELOJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ELOJ	**Sierra Loja**	19.45	274	P		**Pn**	02 53 57.2 +1.2
	comp=Z,5.4nm,0.8s						
JVM	**Valle D.L. Mar**	19.49	311	*e*P		**Pn**	02 53 55.2 -1.4
MUD	**Monsted U'grnd**	19.53	341	*i* P		**Pn**	02 54 01.1 +4.0
QUIF	**Quistinic**	19.58	307	*e*P		**Pn**	02 53 57.1 -0.5
	comp=Z,25nm,0.8s						
QUIF	**Quistinic**	19.58	307	*e*P		**Pn**	02 53 57.1 -0.5
QUIF				pmax	pmax		
	comp=Z,12nm,0.8s						
QUIF	**Quistinic**	19.58	307	*e*P		**Pn**	02 53 57.1 -0.5
	comp=Z,12nm,0.8s						
EADA	**Adamuz**	19.61	277	P		**Pn**	02 53 56.1 -1.9
	comp=Z,31nm,0.7s						
ROSF	**Rostrenen**	19.80	308	*e*P		**Pn**	02 53 58.4 -1.8
	comp=Z,35nm,0.9s						
ROSF	**Rostrenen**	19.80	308	*e*P		**Pn**	02 53 58.4 -1.8
ROSF				pmax	pmax		
	comp=Z,17nm,0.9s						
ROSF	**Rostrenen**	19.80	308	*e*P		**Pn**	02 53 58.4 -1.8
	comp=Z,17nm,0.9s						
SKP1	**Kophill**	19.94	319	*e*P		**Pn**	02 54 00.4 -1.6
OBN	**Obninsk**	19.95	28	*c e*P		**Pn**	02 54 00.4 -1.6
OBN				pmax	pmax		
	comp=Z,42nm,1.2s						
OBN				MLR	MLR		
	comp=Z,800nm,18.0s						
OBN	**Obninsk**	19.95	28	*e*P		**Pn**	02 53 58.9 -3.1
	comp=Z,38nm,0.8s						
EARI	**Arriondas**	19.95	292	P		**Pn**	02 54 00.4 -1.7
	comp=Z,17nm,1.1s						
EMIJ	**Mijas**	20.06	273	P		**P**	02 53 59.8 -1.6
	comp=Z,11nm,0.6s						
TZK	**Tazeka**	20.28	265	*i* P		**P**	02 54 06.0 +2.1
SWK	**Warminster**	20.41	316	*e*P		**P**	02 54 06.0 +0.7
VSU	**Vasula**	20.47	10	*c i*P		**P**	02 54 04.5 -1.5
SSW	**Stow on the Wo**	20.62	318	*e*P		**P**	02 54 07.8 +0.3
EJIF	**Jimena Fronter**	20.63	273	P		**P**	02 54 08.0 +0.3
EJIF				pmax	pmax		
	comp=Z,27nm,1.3s						
EJIF	**Jimena Fronter**	20.63	273	P		**P**	02 54 08.0 +0.3
	comp=Z,27nm,1.3s						
MOS	**Moscow**	20.82	28	*e*P		**P**	02 54 10.7 +1.0
MOS				*e*			02 54 42.1
MOS				pmax	pmax		
	comp=Z,200nm,1.9s						
MOS				pmax	pmax		
	comp=Z,129nm,1.6s						
MOS				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.3						
ESPR	**Espera**	20.84	274	P		**P**	02 54 08.4 -1.6
	comp=Z,57nm,1.5s						
HGH	**Gray Hill**	20.96	317	*e*P		**P**	02 54 11.5 +0.3
HGH				AMb	AMB		02 54 21.6
	comp=Z,62nm,1.7s						
TGT	**Taghat**	20.97	266	*e*P		**P**	02 54 09.0 -2.4
MAK	**Makhachkala**	21.00	69	*i* P		**P**	02 54 10.7 -1.0
MAK				*e*			02 54 30.5
MAK				*e*S		**S**	02 58 03.0 -2.2
MAK				*i*			02 58 32.3
MAK				pmax	pmax		
	comp=Z,77nm,1.3s						
MAK				MLR	MLR		
	comp=Z,269nm,15.0s,MS3.8						
ECAL	**Calabor**	21.01	288	P		**P**	02 54 12.9 +1.2
	comp=Z,49nm,1.5s,mb4.6						
PBRG	**Braganca**	21.01	288	*e*P		**P**	02 54 11.3 -0.5
	comp=Z,21nm,1.7s,mb4.2						
DYA	**Yadsworthy**	21.02	313	*e*P		**P**	02 54 12.6 +0.7
MDT	**Midelt**	21.07	262	P		**P**	02 54 11.1 -1.4
	comp=Z,13nm,0.9s,mb4.3,baz=94,slow=10,SNR=13						
MDT				LR	LR		03 03 35.9
	comp=Z,76nm,18.2s,MS3.1,baz=35,slow=40						
KBI1	**Birley Grange**	21.18	322	*e*P		**P**	02 54 13.8 +0.2
ZFT	**Errachidia**	21.18	260	*i* P		**P**	02 54 14.5 +0.9
KWE	**Weaver Farm**	21.20	321	*e*P		**P**	02 54 14.8 +1.0
HEX	**Exmoor**	21.23	314	*e*P		**P**	02 54 14.6 +0.4
MCH1	**Michaelchurch**	21.24	317	*e*P		**P**	02 54 15.1 +0.7
EMIN	**Mina Concepcio**	21.31	277	P		**P**	02 54 14.1 -0.9
	comp=Z,104nm,2.3s,mb4.8						
ERUA	**La Rua**	21.32	289	P		**P**	02 54 12.4 -2.7
ERUA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ERUA	**La Rua**	21.32	289	P		**P**	02 54 12.4 -2.7
	comp=Z,0.9nm,0.6s						
MIF	**Mishlifen**	21.33	264	*i* P		**P**	02 54 16.0 +0.7
EPON	**Pontenova**	21.36	292	P		**P**	02 54 15.4 -0.2
	comp=Z,111nm,2.0s,mb4.8						
EBAD	**Badajoz**	21.42	279	P		**P**	02 54 14.7 -1.5
	comp=Z,45nm,1.4s,mb4.6						
HTR	**Trewern Hill**	21.43	317	*e*P		**P**	02 54 16.5 +0.2
HTR				AMb	AMB		02 54 23.3
	comp=Z,38nm,1.2s,mb4.6						
HLM1	**Long Mynd**	21.45	319	*e*P		**P**	02 54 16.9 +0.3
HLM1				AMb	AMB		02 54 22.0
	comp=Z,42nm,1.4s,mb4.6						
LHO	**Holmfirth**	21.51	322	*e*P		**P**	02 54 17.6 +0.5
CSA1	**St Austell**	21.55	312	*e*P		**P**	02 54 18.1 +0.5
PCBR	**Castelo Branco**	21.65	283	*e*P		**P**	02 54 17.3 -1.4
	comp=Z,34nm,1.1s,mb4.7						
MTE	**Manteigas**	21.66	284	*e*P		**P**	02 54 17.5 -1.3
	comp=Z,22nm,1.2s,mb4.5						

comp=Z,1.6nm,0.9s,baz=185,slow=8.2,SNR=4.2
FINES LR LR 03 03 51.8
comp=Z,75nm,20.2s,MS3.1,baz=21,slow=38
FINES FINESS Array B 23.32 7 P **P** **02 54 33.9 -2.5**
FINES 02 58 24.6
NB2 NORSAR Subarra 23.37 349 P **P** **02 54 34.9 -2.0**
comp=Z,24nm,0.8s,mb4.7,baz=160,slow=10
NB2 NORSAR Subarra 23.37 349 P **P** **02 54 34.9 -2.0**
NB2 pmax pmax
comp=Z,24nm,0.8s,mb4.7
NOA NORSAR Array B 23.37 349 P **P** **02 54 32.0 -4.9**
comp=Z,11nm,0.8s,mb4.4,baz=243,slow=14,SNR=29
NOA PcP PcP 02 58 25.3 +1.9
comp=Z,1.6nm,0.7s,baz=137,slow=2.4,SNR=3.6
NOA LR LR 03 05 14.7
comp=Z,168nm,18.2s,MS3.5,baz=170,slow=41
NOA NORSAR Array B 23.37 349 P **P** **02 54 32.0 -4.9**
NOA 02 58 25.3
NOA NORSAR Array B 23.37 349 P **P** **02 54 32.0 -4.9**
NOA PcP PcP 02 58 25.3 +1.9
NOA LR LR 03 05 14.7
EDI Edinburgh 23.56 326 *e*P **P** **02 54 38.1 -0.8**
EDI AMb AMB 02 54 42.0
comp=Z,35nm,1.3s,mb4.6
EAU Auchinoon 23.62 325 *e*P **P** **02 54 38.2 -1.3**
EAU AMb AMB 02 54 42.5
comp=Z,31nm,2.8s,mb4.2
RST Umm Al-Ruwaisa 23.71 104 *e*P **P** **02 54 36.0 -4.3**
RST AMb AMB 02 54 39.8
comp=Z,27nm,0.7s,mb4.8
DLF Lyons Farm 23.75 318 *e*P **P** **02 54 43.0 +2.3**
MIB Mutribah 23.83 103 *e*P **P** **02 54 37.3 -4.0**
MIB AMb AMB 02 54 40.5
comp=Z,54nm,1.1s,mb4.9
KAF Kangasniemi 24.00 7 *e*p **P** **02 54 40.0 -2.9**
comp=Z,16nm,0.5s,mb4.7,baz=188,slow=9.3
KAF Kangasniemi 24.00 7 *e*P **P** **02 54 40.0 -2.9**
KAF pmax pmax
comp=Z,16nm,0.5s,mb4.7
NAY Al-Naaiem 24.02 104 *e*P **P** **02 54 38.8 -4.3**
NAY AMb AMB 02 54 41.7
comp=Z,9.3nm,0.6s,mb4.4
DCN Croghan 24.17 317 *e*P **P** **02 54 44.0 -0.5**
EAB Aberfoyle 24.23 325 *e*P **P** **02 54 43.9 -1.1**
DMUB Kingscourt 24.24 319 *e*P **P** **02 54 44.0 -1.1**
OUK Oukaimeden 24.25 261 *e*P **P** **02 54 42.0 -3.2**
DOMB Dombas 24.66 347 *e*P **P** **02 54 49.6 +0.7**
DOMB AMb AMB 02 54 54.7
comp=Z,38nm,1.0s,mb4.9
DOMB Dombas 24.66 347 *e*P **P** **02 54 49.7 +0.7**
comp=Z,38nm,1.0s,mb4.9,SNR=28
QRN Al-Qurain 24.78 105 *e*P **P** **02 54 45.8 -4.3**
QRN AMb AMB 02 54 49.0
comp=Z,48nm,1.1s,mb4.9
VAL Valentia 25.27 312 *e*P **P** **02 54 52.9 -1.6**
JOF Joensuu 25.41 12 *e*p **P** **02 54 53.0 -2.8**
comp=Z,27nm,0.7s,mb4.9
JOF Joensuu 25.41 12 *e*P **P** **02 54 53.0 -2.8**
JOF pmax pmax
comp=Z,27nm,0.7s,mb4.9
KLMR Klimovskoe 25.45 22 *e*P **P** **02 54 55.3 -0.8**
KLMR *e* 03 05 54.1
LRW Lerwick 25.67 335 *e*P **P** **02 54 57.5 -0.6**
NSS Namsos 26.62 352 *e*P **P** **02 55 04.5 -2.3**
NSS *es*P sP 02 55 11.0 -1.6
NSS Namsos 26.62 352 *e*P **P** **02 55 04.4 -2.4**
SNR=28
NSS *es*P sP 02 55 11.0 -1.7
SNR=164
ORR Orenburg 27.35 50 *e*P **P** **02 55 10.6 -2.7**
ORR S **S** **02 59 46.3 -6.4**
ORR pmax pmax
comp=Z,60nm,2.0s,mb4.8
ORR MLR MLR
comp=Z,160nm,15.0s,MS3.7
AKTK Aktyubinsk 29.10 53 P **P** **02 55 25.5 -3.4**
AKTK LR LR 03 08 05.8
AKTO Aktyubinsk 29.10 53 P **P** **02 55 25.5 -3.4**
comp=Z,2.8nm,0.5s,mb4.2,baz=260,slow=12,SNR=12
AKTO LR LR 03 08 05.8
comp=Z,235nm,20.2s,MS3.8,baz=0.0,slow=39
AKTO Aktyubinsk 29.10 53 P **P** **02 55 25.5 -3.4**
AKTO pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
AKTO MLR MLR
comp=Z,235nm,20.3s,MS3.8
TORD Torodi Ar. Bea 30.16 218 P **P** **02 55 36.5 -1.9**
comp=Z,12nm,0.6s,mb4.8,baz=34,slow=8.8,SNR=82
TORD ScP ScP 03 02 26.3 +5.1
comp=Z,1.4nm,1.1s,baz=6.4,slow=5.0,SNR=4.2
TORD Torodi Ar. Bea 30.16 218 P **P** **02 55 36.5 -1.9**
TORD ScP ScP 03 02 26.3 +5.1
KTK1 Kautokeino 30.69 2 *e*P **P** **02 55 43.0 +0.1**
KTK1 AMb AMB 02 55 48.4
comp=Z,45nm,1.9s,mb5.0
KTK1 Kautokeino 30.69 2 *e*P **P** **02 55 48.4 +5.4**
KTK1 Kautokeino 30.69 2 *e*P **P** **02 55 43.0 0.0**
comp=Z,45nm,1.9s,mb5.0,SNR=27
ARU Arti 30.94 42 ⇓*i*P **P** **02 55 45.4 +0.3**
ARU *e* 02 56 45.8
ARU *e*PPP 02 56 54.6
ARU *e* 02 58 42.0
ARU *e*S **S** **03 00 50.7 +1.6**
ARU *e*SS SS 03 02 28.3 -33
ARU pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
ARU MLR MLR
comp=Z,300nm,15.0s,MS4.1
ARU MLR MLR
comp=N,200nm,18.5s,MS4.0
ARU MLR MLR
comp=E,200nm,15.0s,MS4.0
ARU Arti 30.94 42 *e*P **P** **02 55 45.4 +0.3**
comp=E,4.5nm,0.4s,mb4.7
SOKR Solikamsk 31.29 36 ⇓*i*P **P** **02 55 49.2 +1.0**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb4.9
SOKR MLR MLR
comp=Z,410nm,21.0s,MS4.1
TRO Tromso 31.29 359 *e*P **P** **02 55 46.3 -1.9**
ARCES ARCESS Array B 31.30 3 P **P** **02 55 44.7 -3.6**
comp=Z,8.7nm,0.9s,mb4.6,baz=186,slow=8.5,SNR=21
ARCES PcP PcP 02 58 42.6 +0.3
comp=Z,3.6nm,0.8s,baz=154,slow=3.6,SNR=6.4
ARCES LR LR 03 09 32.8
comp=Z,325nm,18.8s,MS4.0,baz=294,slow=39
ARCES ARCESS Array B 31.30 3 P **P** **02 55 44.7 -3.6**
ARCES 02 58 42.7
ARE0 ARCESS Array S 31.30 3 *e*P **P** **02 55 48.1 -0.3**
ARQ Araqi 34.20 105 ⇑P **P** **02 56 11.1 -2.7**
SNR=5.2
SMDO Samad 35.52 104 ⇑P **P** **02 56 23.8 -1.3**
SNR=7.8
BORG Borgarnes 35.86 331 *e*P **P** **02 56 26.8 -1.2**
comp=Z,49nm,1.5s,mb5.2
BRVK Borovoye 36.97 50 *e*P **P** **02 56 36.1 -1.4**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.7
BRVK Borovoye 36.97 50 *e*P **P** **02 56 36.1 -1.4**
comp=Z,11nm,0.9s,mb4.7
KK31 Karatay Array 37.78 67 *i*P **P** **02 56 42.2 -2.2**
KK31 pmax pmax
comp=Z,11nm,0.5s,mb4.8
KKAR Karatay Array 37.78 67 *i*P **P** **02 56 42.2 -2.2**
KKAR pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
DBIC Dimbokro 39.01 222 P **P** **02 56 53.1 -1.7**
comp=Z,10nm,0.7s,mb4.7,baz=14,slow=9.3,SNR=20
DBIC LR LR 03 13 43.9
comp=Z,201nm,18.0s,MS4.0,baz=10,slow=37
DBIC Dimbokro 39.01 222 P **P** **02 56 53.1 -1.7**
DBIC pmax pmax
comp=Z,10.0nm,0.7s
DBIC MLR MLR
comp=Z,201nm,18.0s
DBIC Dimbokro 39.01 222 *e*P **P** **02 56 52.4 -2.3**
comp=Z,10nm,0.7s,mb4.7
LIC Lamto 39.48 222⇑*i*P **P** **02 56 56.9 -1.7**
comp=Z,33nm,0.6s,mb5.0
LIC *e*R
comp=Z,290nm,18.0s
LIC Lamto 39.48 222⇑*i*P **P** **02 56 56.9 -1.7**
comp=Z,16nm,0.6s,mb4.9
LIC LR LR
comp=Z,150nm,18.0s,MS3.9
LIC Lamto 39.48 222⇑*i*P **P** **02 56 56.9 -1.7**
comp=Z,16nm,0.6s,mb5.0
AAK Ala-Archa 40.74 66 ⇓P **P** **02 57 12.9 +3.8**
SNR=6.5
AAK Ala-Archa 40.74 66 *e*P **P** **02 57 10.2 +1.1**
AAK pmax pmax
comp=Z,13nm,1.0s,mb4.5
AAK Ala-Archa 40.74 66 *e*P **P** **02 57 10.2 +1.0**
comp=Z,12nm,1.0s,mb4.5
FRU Bishkek 40.78 66 *e*P **P** **02 57 09.0 -0.5**
FRU pmax pmax
comp=Z,45nm,2.0s,mb4.8
KURK Kurchatov 42.20 54 *e*P **P** **02 57 20.9 -0.2**
KURK pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
KURK Kurchatov 42.20 54 *e*P **P** **02 57 20.9 -0.2**
comp=Z,9.6nm,0.9s,mb4.4
KMBO Kilima Mbogo 42.30 155 P **P** **02 57 21.2 -0.7**
comp=Z,2.3nm,0.9s,mb3.8,baz=2.7,slow=8.5,SNR=4.3
KMBO LR LR 03 17 41.7
comp=Z,152nm,18.9s,MS3.9,baz=102,slow=40
KMBO Kilima Mbogo 42.30 155 *i*P **P** **02 57 22.7 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 42.30 155 *e*P **P** **02 57 21.7 -0.2**
comp=Z,5.3nm,1.3s,mb4.0
SUMG Summit 44.57 338 *e*P **P** **02 57 40.4 +0.2**
comp=Z,13nm,1.0s,mb4.7
NVS Novosibirsk 44.57 47 *e*P **P** **02 57 38.0 -2.3**
NVS *e* 02 59 24.1
NVS pmax pmax
comp=Z,48nm,1.4s,mb5.1
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,20nm,1.0s
MK31 Makanchi Array 45.25 59 P **P** **02 57 42.4 -3.2**
MK31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
MKAR Makanchi Array 45.25 59 P **P** **02 57 42.8 -2.8**
comp=Z,3.5nm,0.5s,mb4.5,baz=272,slow=7.4,SNR=31
ZAL Zalesovo 45.58 48 P **P** **02 57 45.5 -2.8**
comp=Z,13nm,0.4s,mb5.2,baz=185,slow=5.9,SNR=14
ZAL PP PP 02 59 34.9 -0.1
comp=Z,3.2nm,0.7s,baz=202,slow=9.6,SNR=3.3
ZAL LR LR 03 20 14.2
comp=Z,219nm,18.0s,MS4.1,baz=6.4,slow=41
ZAL Zalesovo 45.58 48 P **P** **02 57 45.5 -2.8**
ZAL 02 59 34.9
ZAL Zalesovo 45.58 48 P **P** **02 57 45.5 -2.8**
ZAL PP PP 02 59 34.9 -0.1
ZAL LR LR 03 20 14.2
WMQ Urumqi 49.72 61 P **P** **02 58 21.9 +1.5**
WMQ PCP PcP 02 59 41.8 +0.4
WMQ S **S** **03 05 30.1 +1.2**
WMQ XS sS 03 05 37.1 +1.0
WMQ SCS ScS 03 08 07.4 -4.3
WMQ SS SS 03 08 59.4 -1.8
WMQ AMB AMB
comp=Z,50nm,3.4s
WMQ LR LR
comp=N,200nm,8.0s
WMQ LR LR
comp=E,130nm,9.0s
WMQ LR LR
comp=Z,110nm,26.0s,MS3.7
KOLN Koldanda 53.07 82 *e*P **P** **02 58 45.4 -0.1**
GKN Gorkha 53.77 81 *e*P **P** **02 58 48.8 -1.8**
LSZ Lusaka 53.91 171 *e*P **P** **02 58 50.2 -1.4**
LSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LSZ Lusaka 53.91 171 *e*P **P** **02 58 50.2 -1.4**
comp=Z,5.9nm,0.9s,mb4.5
DMN Daman 54.32 81 *e*P **P** **02 58 53.8 -0.9**
comp=Z,19nm,0.7s,mb5.1
KKN Kakani 54.37 81 *e*P **P** **02 58 53.7 -1.3**
HYB Hyderabad 54.55 96 *i*P **P** **02 58 57.0 +0.7**
HYB Hyderabad 54.55 96 *e*P **P** **02 58 57.0 +0.7**
PKI Pulchoki 54.57 81 *e*P **P** **02 58 55.9 -0.6**
GUN Gumba 54.77 80 *e*P **P** **02 58 57.0 -0.9**
JIRN Jiri 55.13 80 *e*P **P** **02 58 59.2 -1.4**
TLY Talaya 57.19 47 *e*P **P** **02 59 17.1 +1.9**
TLY *e*S **S** **03 07 05.6 -4.7**
TLY *e* 03 09 01.3
TLY *e*SS SS 03 11 02.3 +3.0
TLY pmax pmax
comp=Z,14nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,158nm,15.0s,MS4.2
TLY Talaya 57.19 47 *e*P **P** **02 59 16.5 +1.3**
comp=Z,16nm,1.2s,mb4.9
ZAK Zakamensk 57.46 49⇓*i*P **P** **02 59 18.8 +1.6**
ZAK pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
SCHQ Schefferville 58.23 317 P **P** **02 59 21.4 -1.1**
comp=Z,6.7nm,0.5s,mb4.9,baz=53,slow=4.2,SNR=19
SCHQ LR LR 03 23 05.8
comp=Z,90nm,18.5s,MS3.9,baz=100,slow=35
SCHQ Schefferville 58.23 317 *e*P **P** **02 59 21.3 -1.2**
comp=Z,8.2nm,0.5s,mb5.0
TIXI Tiksi 59.45 20↑*e*P **P** **02 59 33.0 +1.9**
TIXI pmax pmax
comp=Z,23nm,1.5s,mb5.0
RES Resolute Bay 59.52 344 *e*P **P** **02 59 31.3 -0.2**
RES pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
RES Resolute Bay 59.52 344 *e*P **P** **02 59 31.3 -0.2**
comp=Z,7.2nm,1.1s,mb4.6
GTA Gaotai 59.79 62 *e*P **P** **02 59 33.8 +0.4**
GTA AP pP 02 59 37.3 -0.5
GTA XP sP 02 59 40.3 +0.8
GTA PP PP 03 01 49.3 +4.1
GTA S **S** **03 07 48.8 +4.6**
GTA XS sS 03 07 55.9 +4.4
GTA AMB AMB
comp=Z,50nm,3.8s
GTA LR LR
comp=N,110nm,16.0s,MS4.3
GTA LR LR
comp=E,130nm,14.4s,MS4.3
GTA LR LR
comp=Z,140nm,14.8s,MS4.2
SONM Songino Array 60.37 51 P **P** **02 59 35.1 -2.3**
comp=Z,5.1nm,0.9s,mb4.5,baz=290,slow=8.3,SNR=31
ULN Ulaanbaatar 60.76 50 *e*P **P** **02 59 40.9 +0.9**
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
ULN Ulaanbaatar 60.76 50 *e*P **P** **02 59 40.9 +0.9**
comp=Z,5.8nm,0.9s,mb4.7
CIT Chita 62.62 44 *e*P **P** **02 59 51.9 -0.6**
LBTB Lobatse 63.28 175 *e*P **P** **02 59 55.9 -1.1**
LBTB pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LBTB Lobatse 63.28 175 *e*P **P** **02 59 55.9 -1.1**
comp=Z,7.6nm,1.0s,mb4.8
LZH Lanzhou 64.17 63 *e*P **P** **03 00 03.5 +0.7**
LZH AP pP 03 00 09.5 +2.2
LZH XP sP 03 00 14.0 +5.0
LZH PP PP 03 02 26.5 +2.6
LZH AMB AMB
comp=Z,20nm,1.2s,mb5.0
YAK Yakutsk 64.94 29 *e*P **P** **03 00 08.2 +0.3**
YAK pmax pmax
comp=Z,28nm,0.7s,mb5.4
YAK Yakutsk 64.94 29 *e*P **P** **03 00 08.2 +0.3**
comp=Z,28nm,0.7s,mb5.4
CD2 Chengdu 66.76 68 *e*P **P** **03 00 16.3 -3.3**
CD2 AP pP 03 00 21.0 -3.1
CD2 PP PP 03 02 43.5 -3.1
CD2 S S 03 09 05.6 -5.7
CD2 SS SS 03 13 24.4 -4.7
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 LR LR
comp=E,60nm,12.0s
CD2 LR LR
comp=Z,60nm,19.2s
BOSA Boshof 66.84 175 P **P** **03 00 18.4 -1.7**
comp=Z,3.8nm,0.7s,mb4.5,baz=350,slow=1.3,SNR=4.9
BOSA LR LR 03 31 39.6
comp=Z,308nm,18.5s,MS4.5,baz=1.2,slow=38
BOSA Boshof 66.84 175 P **P** **03 00 18.4 -1.7**
BOSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BOSA MLR MLR
comp=Z,308nm,18.5s,MS4.5
BOSA Boshof 66.84 175 *e*P **P** **03 00 18.2 -1.9**
comp=Z,8.3nm,1.0s,mb4.7
BOSA *e*pP pP 03 00 23.5 -1.0
HHC Hu-ho-hao-te 66.97 56 *e*P **P** **03 00 21.3 +0.4**
HHC AP pP 03 00 25.9 +0.5
HHC XP sP 03 00 28.0 +0.9
HHC PCP PcP 03 00 50.0 +0.7
HHC PP PP 03 02 50.1 +1.7
HHC S S 03 09 11.8 -2.0
HHC XS sS 03 09 19.4 -1.8
HHC SCS ScS 03 10 14.3 -3.7
HHC SS SS 03 13 31.1 -1.2
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,100nm,4.6s
HHC LR LR
comp=N,120nm,13.1s,MS4.5
HHC LR LR
comp=E,190nm,14.3s,MS4.5
HHC LR LR
comp=Z,130nm,14.3s,MS4.3
XAN Xi'an 68.79 63 P **P** **03 00 33.5 +1.1**
KMI Kunming 69.12 74 P **P** **03 00 35.6 +1.2**
KMI XP sP 03 00 41.3 +0.7
KMI S S 03 09 39.8 +0.3
KMI LR LR
comp=Z,60nm,32.0s,MS3.6
INK Inuvik 71.81 350 LR LR 03 34 25.3
comp=Z,68nm,20.2s,MS3.9,baz=25,slow=38
INK Inuvik 71.81 350 *e*P **P** **03 00 50.0 -0.9**
INK *e*PP pP 03 00 52.9 -2.5
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 71.81 350 *e*P **P** **03 00 50.0 -0.9**
comp=Z,3.9nm,0.7s,mb4.5
INK *e*pP pP 03 00 52.9 -2.5
YKA Yellowknife Ar 73.14 340 P **P** **03 00 58.0 -0.8**
comp=Z,2.6nm,0.9s,mb4.2,baz=31,slow=6.1,SNR=5.3
YKA LR LR 03 37 12.7
comp=Z,54nm,18.2s,MS3.9,baz=55,slow=39
YKA Yellowknife Ar 73.14 340 P **P** **03 00 58.0 -0.8**
YKA LR LR 03 37 12.7
KLR Kul'dur 73.74 39 *e*P **P** **03 00 58.8 -3.5**
CN2 Changchun 73.78 47 *e*P **P** **03 01 04.1 +1.5**
CN2 *e*AP pP 03 01 08.8 +1.7
CN2 *e*XP sP 03 01 11.1 +2.3
CN2 *e*S S 03 10 32.6 -0.8
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,18.0s,MS4.6
CN2 LR LR
comp=E,200nm,18.0s,MS4.6
CN2 LR LR
comp=Z,200nm,14.0s,MS4.6
SNY Shenyang 73.89 49 ⇓P **P** **03 01 02.0 -1.2**
MA2 Magadan 74.11 24 *e*P **P** **03 01 06.9 +2.4**
MA2 *e* 03 18 40.1
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MA2 Magadan 74.11 24 *e*P **P** **03 01 06.8 +2.3**
comp=Z,39nm,1.4s,mb5.2
FFC Flin Flon 74.93 330 *e*P **P** **03 01 08.5 -0.8**
FFC pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
FFC Flin Flon 74.93 330 *e*P **P** **03 01 08.5 -0.8**
comp=Z,3.4nm,0.7s,mb4.4
FWV Forest Hill 75.27 306 *e*P **P** **03 01 10.8 -0.4**
FWV *e*pP pP 03 01 15.1 -0.7
ULM Lac du Bonnet 75.46 324 P **P** **03 01 11.6 -0.7**
comp=Z,4.9nm,0.7s,mb4.6,baz=68,slow=6.0,SNR=4.9
ULM LR LR 03 34 31.1
comp=Z,119nm,19.8s,MS4.2,baz=302,slow=36
MDJ Mudanjiang 75.59 44 P **P** **03 01 12.0 -1.1**
MDJ AP pP 03 01 14.8 -2.8
MDJ XP sP 03 01 16.9 -2.3
MDJ PCP PcP 03 01 25.6 -0.3
MDJ PP PP 03 04 00.8 -1.6
MDJ S S 03 10 51.9 -1.7
MDJ SCS ScS 03 11 24.6 -1.7
MDJ SS SS 03 15 44.6 0.0
MDJ AMB AMB
comp=Z,50nm,4.3s
MDJ LR LR
comp=N,120nm,16.8s,MS4.5
MDJ LR LR
comp=E,190nm,16.8s,MS4.5
MDJ LR LR
comp=Z,110nm,20.7s,MS4.1
DAWY Dawson 76.61 351 *e*P **P** **03 01 18.1 -0.7**
DAWY *e*pP pP 03 01 21.8 -1.6
COLA College 76.63 355↑*e*P **P** **03 01 21.5 +2.5**
NJ2 Nanjing 76.77 60 *e*P **P** **03 01 21.8 +2.1**
NJ2 AP pP 03 01 25.4 +1.1
NJ2 XP sP 03 01 28.1 +2.2
NJ2 PCP PcP 03 01 32.1 +1.1
NJ2 S S 03 11 06.0 -0.5
NJ2 XS sS 03 11 15.0 +1.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,110nm,3.9s
NJ2 LR LR
comp=N,410nm,22.6s,MS4.8
NJ2 LR LR
comp=E,240nm,22.0s,MS4.8
NJ2 LR LR
comp=Z,240nm,20.0s,MS4.5
VLA Vladivostok 77.83 44 *i*P **P** **03 01 26.4 +0.7**
VLA *i* 03 01 27.8
MCK McKinley 77.84 355 *e*P **P** **03 01 25.6 -0.1**
MCK pmax pmax
comp=Z,12nm,1.3s,mb4.7
MCK McKinley 77.84 355 *e*P **P** **03 01 25.6 -0.1**
comp=Z,12nm,1.3s,mb4.7
QIZ Qiongzhong 78.00 75 P **P** **03 01 28.4 +1.8**
QIZ S S 03 11 20.4 +0.5
QIZ AMB AMB
comp=Z,50nm,7.3s
WCI Wyandotte Cave 78.26 310 *e*P **P** **03 01 27.0 -1.1**
WCI *e*PP pP 03 01 31.6 -1.0
WCI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WCI Wyandotte Cave 78.26 310 *e*P **P** **03 01 27.0 -1.0**
comp=Z,8.0nm,0.9s,mb4.7
WCI *e*pP pP 03 01 31.6 -1.0
SSE Sheshan 78.93 59 P **P** **03 01 30.3 -1.5**
SSE AP pP 03 01 33.3 -3.0
SSE S S 03 11 27.4 -2.4
SSE SS SS 03 16 31.1 -3.8
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,70nm,8.3s
SSE LR LR
comp=N,40nm,18.0s,MS4.0
SSE LR LR
comp=E,60nm,18.0s,MS4.0
SSE LR LR
comp=Z,40nm,16.5s,MS3.8
SML Sawmill 79.70 355 *e*P **P** **03 01 38.2 +2.2**
EDM Edmonton 80.34 334 *e*P **P** **03 01 38.8 -0.7**
EDM *e*PP pP 03 01 42.9 -1.1
ECSD EROS,Sioux Fal 80.36 319 *e*P **P** **03 01 39.0 -0.6**
ECSD *e*pP pP 03 01 42.9 -1.3
WVT Waverly 80.55 309 *e*P **P** **03 01 38.9 -1.7**
WVT *e*PP pP 03 01 43.3 -1.9
WVT pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
WVT Waverly 80.55 309 *e*P **P** **03 01 38.9 -1.6**
comp=Z,2.8nm,0.6s,mb4.4
WVT *e*pP pP 03 01 43.3 -1.8
YSS Yuzh-Sakhalins 80.62 36 *e*P **P** **03 01 43.0 +2.0**
YSS pmax pmax
comp=Z,92nm,1.1s,mb5.6
YSS Yuzh-Sakhalins 80.62 36 *e*P **P** **03 01 43.0 +2.0**
comp=Z,92nm,1.1s,mb5.6
CCM Cathedral Cave 81.31 312 *e*P **P** **03 01 44.0 -0.7**
CCM *e*PP pP 03 01 48.0 -1.2
CCM pmax pmax

comp=Z,6.0nm,0.6s,mb4.7
CCM Cathedral Cave 81.31 312 *e*P **P 03 01 44.0 -0.7**
comp=Z,6.2nm,0.6s,mb4.7
CCM *e*pP pP 03 01 48.0 -1.2
PLAL Pickwick Lake 81.45 308 *e*P **P 03 01 43.1 -2.3**
comp=Z,9.7nm,1.2s,mb4.6
LRAL Lakeview Retre 82.05 306 *e*P **P 03 01 48.0 -0.5**
comp=Z,7.8nm,0.6s,mb4.8
LRAL *e*pP pP 03 01 52.0 -1.1
ASAJ Asahikawa 82.65 38 LR LR 03 42 24.9
comp=Z,180nm,18.5s,MS4.5,baz=330,slow=39
BDFB Brasilia 83.54 244 P **P 03 01 56.1 -0.2**
comp=Z,2.6nm,0.7s,mb4.5,baz=91,slow=5.2,SNR=4.2
BDFB LR LR 03 41 23.1
comp=Z,59nm,19.9s,MS4.0,baz=63,slow=37
GCMT Greycliff 84.94 327 *e*P **P 03 02 03.5 +0.1**
GCMT *e*pP pP 03 02 07.8 -0.2
MIAR Mount Ida 85.08 311 *e*P **P 03 02 03.5 -0.6**
MIAR *e**PP pP 03 02 08.2 -0.5
MIAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MIAR Mount Ida 85.08 311 *e*P **P 03 02 03.5 -0.6**
comp=Z,4.8nm,0.7s,mb4.7
MIAR *e*pP pP 03 02 08.2 -0.5
SDV Santo Domingo 85.37 278 *e*P **P 03 02 05.4 -0.2**
comp=Z,6.0nm,0.7s,mb4.8
SDV *e*pP pP 03 02 09.6 -0.6
NEW Newport 85.80 333 LR LR 03 40 25.1
comp=Z,136nm,18.9s,MS4.4,baz=33,slow=36
NEW Newport 85.80 333 *e*P **P 03 02 08.4 +0.7**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 85.80 333 *e*P **P 03 02 08.4 +0.7**
comp=Z,4.1nm,0.9s,mb4.7
MSO Missoula 85.82 331 *e*P **P 03 02 07.5 -0.3**
comp=Z,3.7nm,1.0s,mb4.6
BOZ Bozeman (W) 85.87 329 *e*P **P 03 02 08.3 +0.3**
BOZ *e**PP pP 03 02 12.4 -0.2
BOZ pmax pmax
comp=Z,7.0nm,1.4s,mb4.7
BOZ Bozeman (W) 85.87 329 *e*P **P 03 02 08.3 +0.3**
comp=Z,7.0nm,1.4s,mb4.7
BOZ *e*pP pP 03 02 12.4 -0.3
MAJO Matsushiro 85.88 46 *e*P **P 03 02 09.7 +1.6**
MAJO pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
MAJO Matsushiro 85.88 46 *e*P **P 03 02 09.7 +1.6**
comp=Z,4.0nm,0.6s,mb4.8
MAT Matsushiro 85.88 46 P **P 03 02 09.9 +1.8**
MAT Matsushiro 85.88 46 *e*P **P 03 02 10.0 +1.9**
MAT pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
MAT Matsushiro 85.88 46 *e*P **P 03 02 10.0 +1.9**
comp=Z,7.0nm,1.0s,mb4.8
MJAR Matsushiro Arr 85.88 46 P **P 03 02 09.3 +1.3**
comp=Z,10nm,0.8s,mb5.1,baz=316,slow=4.6,SNR=31
SMY Shemya 86.39 16 *e*P **P 03 02 08.7 -1.9**
DLMT Dillon 86.50 329 *e*P **P 03 02 11.6 +0.5**
comp=Z,5.5nm,1.2s,mb4.7
BW06 Boulder Array 87.30 326 *e*P **P 03 02 15.1 0.0**
comp=Z,1.4nm,0.9s,mb4.2
PDAR Pinedale Array 87.30 326 P **P 03 02 17.1 +2.1**
comp=Z,0.6nm,0.6s,mb4.0,baz=57,slow=5.3,SNR=5.8
PDAR LR LR 03 40 59.4
comp=Z,102nm,19.1s,MS4.2,baz=233,slow=36
BMO Blue Mountains 88.76 331 *e*P **P 03 02 20.8 -1.2**
comp=Z,2.2nm,0.7s,mb4.6
BMO *e*pP pP 03 02 24.8 -1.9
HWUT Hardware Ranch 89.12 326 *e*P **P 03 02 23.3 -0.4**
comp=Z,14nm,1.4s,mb5.1
JHJ Hachijo jima 2 89.24 47 LR LR 03 48 12.8
comp=Z,84nm,18.6s,MS4.2,baz=86,slow=40
HKT Hockley 89.66 309 *e*P **P 03 02 25.1 -1.1**
HKT pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
HKT Hockley 89.66 309 *e*P **P 03 02 25.1 -1.2**
comp=Z,1.8nm,0.8s,mb4.5
SAML Samuel 90.52 259 *e*P **P 03 02 30.0 -0.3**
comp=Z,6.4nm,1.5s,mb4.7
PV01 Paradox Valley 90.53 322 *e*P **P 03 02 30.1 -0.2**
PV10 Paradox Valley 90.56 323 *e*P **P 03 02 30.8 +0.4**
SRU San Rafael 90.67 324 *e*P **P 03 02 30.6 -0.3**
SRU pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
SRU San Rafael 90.67 324 *e*P **P 03 02 30.6 -0.3**
comp=Z,3.5nm,0.7s,mb4.8
DUG Dugway 90.82 326 *e*P **P 03 02 31.4 -0.2**
DUG *e**PP pP 03 02 35.5 -0.7
DUG pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
DUG Dugway 90.82 326 *e*P **P 03 02 31.4 -0.3**
comp=Z,3.2nm,1.0s,mb4.6
DUG *e*pP pP 03 02 35.5 -0.7
WVOR Wild Horse Val 91.33 331 *e*P **P 03 02 32.6 -1.4**
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
WVOR Wild Horse Val 91.33 331 *e*P **P 03 02 32.5 -1.4**
comp=Z,2.9nm,0.8s,mb4.7
MSU Marysvale 91.91 325 *e*P **P 03 02 36.9 +0.2**
ANMO Albuquerque 91.97 319⇑ *e*P **P 03 02 38.2 +1.3**
ANMO Albuquerque 91.97 319 *e*P **P 03 02 35.4 -1.5**
comp=Z,0.6nm,0.5s,mb4.2
YBH Yreka Blue Hor 93.44 333 LR LR 03 43 21.9
comp=Z,66nm,18.7s,MS4.1,baz=113,slow=35
MNTX Cornudas Mount 93.90 316 *e*P **P 03 02 44.9 -1.0**
comp=Z,4.8nm,1.3s,mb4.8
MNTX *e*pP pP 03 02 48.8 -1.7
NVAR Mina Array Bea 94.62 329 P **P 03 02 51.7 +2.5**
comp=Z,0.6nm,0.7s,mb4.1,baz=41,slow=3.0,SNR=4.0
CPUP Villa Florida 97.08 242 LR LR 03 45 54.0
comp=Z,112nm,18.4s,MS4.4,baz=32,slow=35
LPAZ La Paz 98.82 256 LR LR 03 48 05.2
comp=Z,54nm,20.0s,MS4.0,baz=55,slow=36
WRA Warramunga Arr 120.63 92 PKP PKPdf 03 08 19.5 -0.6
comp=Z,0.8nm,0.5s,baz=319,slow=2.1,SNR=3.4
ASAR Alice Springs 122.28 96 PKP PKPdf 03 08 20.9 -2.3
comp=Z,1.1nm,0.7s,baz=307,slow=1.5,SNR=12
STKA Stephens Creek 132.16 101 PKP PKPdf 03 08 42.3 +0.2
comp=Z,1.2nm,0.6s,baz=279,slow=5.0,SNR=3.1

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*ISCJB **24** 02:56:45.9±0.8, 3836N±004×2039E±004, h11km±5km, Error ellipse: s-maj=6.6km s-min=5.3km az=34.4*
*NEIC **24** 02:56:45.7, 3835N×2045E, h9km, ML3.7(ATH), After ATH.*
*ATH **24** 02:56:45.8, 3835N×2045E, h7km±2km, MD3.7/10, ML3.8*
*CSEM **24** 02:56:46.2±0.1, 3833N×2043E, h2km, ML3.7, Error ellipse: s-maj=2.9km s-min=2.2km az=25.0*
*THE **24** 02:56:46.5, 3833N×2060E, h1km, ML3.3*
ISC 24 02:56:46.1±0.8, 3836N±004×2041E±004, h5km±6km, n29, σ1§04/36, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**142**	*e*PG	**Pg**	**02 56 50.0**	**-0.7**
LKD	**Levkas**	**0.39**	**29**	*e*Pg	**Pg**	**02 56 53.0**	**-0.7**
LKD				*e*Sg	**Sg**	**02 56 59.6**	**+0.8**
IGT	**Igoumenitsa**	**1.17**	**357**	*e*Pg	**Pg**	**02 57 08.4**	**-0.1**
IGT				*e*Sg	**Sg**	**02 57 27.3**	**+3.6**
IGT	**Igoumenitsa**	**1.17**	**357**	*e*Pg	**Pg**	**02 57 08.4**	**-0.1**
IGT				*e*Sg	**Sg**	**02 57 27.3**	**+3.6**
EVR	**Evrytania**	**1.23**	**63**	*e*PB	**Pg**	**02 57 08.5**	**-1.2**
JAN	**Janina**	**1.34**	**15**	*e*PB	**Pb**	**02 57 11.0**	**-0.6**
KEK	**Kerkira**	**1.43**	**341**	*e*PB	**Pb**	**02 57 13.0**	**-0.2**
SRN	**Sarande**	**1.55**	**348**	*e*Sn	**Sg**	**02 57 42.8**	**+7.0**
ITM	**Ithomi**	**1.69**	**134**	*e*PB	**Pb**	**02 57 17.0**	**-0.6**
LIT	**Litokhoron**	**2.37**	**42**	*e*Pn	**Pn**	**02 57 25.6**	**-0.1**
LIT				*e*Sn	**Sn**	**02 57 54.9**	**-0.2**
NAIG	**Nisos Aigina**	**2.51**	**103**	*e*PN	**Pn**	**02 57 29.0**	**+1.5**
NAIG	**Nisos Aigina**	**2.51**	**103**	*e*Pb	**Pn**	**02 57 26.5**	**-1.0**
VLI	**Veliai**	**2.60**	**128**	*e*PN	**Pn**	**02 57 31.0**	**+2.3**
VLI	**Veliai**	**2.60**	**128**	*e*Pg	**Pn**	**02 57 32.0**	**+3.3**
ATH	**Athens Observa**	**2.64**	**98**	*e*PN	**Pn**	**02 57 30.5**	**+1.2**
LCI	**Lecce**	**2.65**	**319**	Pn	**Pn**	**02 57 28.4**	**-1.1**
PTL	**Penteli**	**2.74**	**96**	*e*PB	**Pn**	**02 57 31.2**	**+0.5**
TIP	**Timpagrande**	**2.96**	**287**	*e*Pn	**Pn**	**02 57 33.2**	**-0.6**
TIP				*e*Sn	**Sn**	**02 58 07.5**	**-2.2**
TIP	**Timpagrande**	**2.96**	**287**	*e*Pn	**Pn**	**02 57 33.2**	**-0.6**
TIP				*e*Sn	**Sn**	**02 58 07.5**	**-2.2**
PAIG	**Paliouri**	**2.99**	**57**	*e*Pn	**Pn**	**02 57 32.9**	**-1.2**
PAIG	**Paliouri**	**2.99**	**57**	*e*Pn	**Pn**	**02 57 32.8**	**-1.3**
PLG	**Polygyros**	**3.10**	**49**	*e*PN	**Pn**	**02 57 36.5**	**+0.9**
SOH	**Sokhos**	**3.35**	**42**	*e*Pn	**Pn**	**02 57 39.4**	**+0.4**
SOH				*e*Sn	**Sn**	**02 58 18.2**	**-0.9**
PE1	**Pezze di Greco**	**3.35**	**318**	*e*Pn	**Pn**	**02 57 38.8**	**-0.3**
SG1	**Sgolgore (BA)**	**3.79**	**312**	*e*Pn	**Pn**	**02 57 45.1**	**-0.1**
BAI	**Bari**	**3.86**	**316**	*e*Pn	**Pn**	**02 57 46.1**	**0.0**
SLCN	**Sala Consilina**	**4.22**	**300**	Pn	**Pn**	**02 57 52.9**	**+1.9**
SGO	**Sicignano**	**4.51**	**301**	Pn	**Pn**	**02 57 56.4**	**+1.3**
FG5	**Orsara di Pugl**	**4.91**	**308**	Pn	**Pn**	**02 58 01.9**	**+1.3**

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*NEIC **24** 02:57:06.1, 3182S×7193W, h20km, ML3.5(GUC), After GUC.*
GUC 24 02:57:06.1±0.8, 3182S×7193W, h20km±3km, MD4.0, ML3.5, 12C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.37**	**100⇑**	*i*P	Pb	02 57 13.8	-0.1
CHNG				*i* S	Sb	02 57 19.3	0.0
CMCH	**Combarbala**	**1.02**	**51⇑**	*i*P	Pb	02 57 24.2	-0.8
CMCH				*i* S	Sb	02 57 38.0	+0.1
CMCH				AML	AML	02 57 39.3	
comp=E,3μm,0.4s
CMCH	**Combarbala**	**1.02**	**51⇑**	*i*P	Pb	02 57 24.2	-0.8
CMCH				*i* S	Sb	02 57 38.0	+0.1
IHA	**Instituto Hidr**	**1.23**	**169⇑**	*i*P	Pn	02 57 27.5	-0.7
OVCH	**Ovalle**	**1.36**	**27⇑**	*i*P	Pn	02 57 30.0	+0.2
OVCH				*i* S	Sn	02 57 46.9	-0.3
OVCH				AML	AML	02 57 52.8	
comp=N,1μm,0.6s
OVCH	**Ovalle**	**1.36**	**27⇑**	*i*P	Pn	02 57 30.0	+0.2
OVCH				*i* S	Sn	02 57 46.9	-0.3
ROCH	**El Roble**	**1.39**	**146⇑**	*i*P	Pn	02 57 30.5	+0.2
ROCH				*i* S	Sn	02 57 48.8	+0.8
JACH	**Jahuel**	**1.42**	**128⇑**	*i*P	Pn	02 57 30.8	+0.1
JACH				*i* S	Sn	02 57 49.2	+0.3
PEL	**Peldehue**	**1.69**	**142**	*e*P	Pn	02 57 35.0	+0.6
PEL				*i* S	Sn	02 57 56.8	+1.3
PEL				AML	AML	02 58 01.4	
comp=E,2μm,0.3s
PEL	**Peldehue**	**1.69**	**142**	*e*P	Pn	02 57 35.0	+0.6
PEL				*i* S	Sn	02 57 56.8	+1.3
TLL	**Tololo Astrono**	**1.91**	**31**	*e*P	Pn	02 57 38.5	+1.1
TLL				*i* S	Sn	02 58 03.5	+2.7
TLL				AML	AML	02 58 10.5	
comp=N,751nm,0.6s
TLL	**Tololo Astrono**	**1.91**	**31**	*e*P	Pn	02 57 38.5	+1.1
TLL				*i* S	Sn	02 58 03.5	+2.7
RCDM	**Rinconada Maip**	**1.92**	**151**	*e*P	Pn	02 57 38.5	+0.9
RCDM				*i* S	Sn	02 58 02.5	+1.4
RCDM				AML	AML	02 58 11.1	
comp=E,351nm,0.5s
RCDM	**Rinconada Maip**	**1.92**	**151**	*e*P	Pn	02 57 38.5	+0.9
RCDM				*i* S	Sn	02 58 02.5	+1.4
SAN	**Santiago**	**1.95**	**147**	*e*P	Pn	02 57 38.6	+0.6
SAN				*i* S	Sn	02 58 04.2	+2.3
SAN				AML	AML	02 58 14.9	
comp=E,483nm,0.6s
SAN	**Santiago**	**1.95**	**147**	*e*P	Pn	02 57 38.6	+0.6
SAN				*i* S	Sn	02 58 04.2	+2.3
CLCH	**Cerro Calan**	**1.96**	**144**	*e*P	Pn	02 57 39.2	+0.9
CLCH				*i* S	Sn	02 58 04.2	+2.0
CLCH				AML	AML	02 58 12.7	
comp=N,519nm,0.5s
CLCH				AML	AML	02 58 16.7	
comp=N,598nm,0.5s
TACH	**Talagante**	**2.01**	**156**	*e*P	Pn	02 57 39.8	+0.9
TACH				*i* S	Sn	02 58 05.4	+2.0
FCH	**Farellones**	**2.04**	**138⇑**	*i*P	Pn	02 57 39.9	+0.5
FCH				*i* S	Sn	02 58 06.9	+2.6
FCH				AML	AML	02 58 09.1	
comp=N,328nm,0.3s
ANTU	**Antumapu**	**2.06**	**148**	*e*P	Pn	02 57 40.6	+1.0
ANTU				*i* S	Sn	02 58 07.0	+2.4
ANTU				AML	AML	02 58 14.7	
comp=N,372nm,0.4s
ANTU	**Antumapu**	**2.06**	**148**	*e*P	Pn	02 57 40.6	+1.0
ANTU				*i* S	Sn	02 58 07.0	+2.4
PCH	**Pirque**	**2.16**	**147**	*i* P	Pn	02 57 42.5	+1.6
PCH				*i* S	Sn	02 58 10.2	+3.2
LMEL	**Las Melosas**	**2.49**	**145⇑**	*i*P	Pn	02 57 46.4	+1.0
LMEL				*i* S	Sn	02 58 18.1	+2.8
LMEL				AML	AML	02 58 27.1	
comp=N,315nm,0.4s
LMEL	**Las Melosas**	**2.49**	**145⇑**	*i*P	Pn	02 57 46.4	+1.0
LMEL				*i* S	Sn	02 58 18.1	+2.8
CICH	**Cipreses**	**2.80**	**154⇑**	*i*P	Pn	02 57 51.0	+1.3
SFDO	**San Fernando**	**2.89**	**165⇓**	*i*P	Pn	02 57 52.3	+1.3

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*NEIC **24** 03:08:07.2, 3506S×7042W, h13km, ML2.6(GUC), After GUC.*
GUC 24 03:08:07.2±0.8, 3506S×7042W, h13km±5km, MD3.5, ML2.6, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.73**	**0⇓**	*i*P	Pg	03 08 20.8	-0.6
CICH				*i* S	Sg	03 08 31.2	+0.1
CACH	**El Canelo**	**0.95**	**351⇑**	*i*P	Pb	03 08 24.5	-1.0
CACH				*i* S	Sg	03 08 37.2	-0.6
CHCH	**Chadas Angostu**	**1.14**	**350⇑**	*i*P	Pb	03 08 28.1	-0.6
CHCH				*i* S	Sb	03 08 44.4	+1.1
LMEL	**Las Melosas**	**1.22**	**9⇑**	*i*P	Pn	03 08 30.1	+0.1
LMEL				*i* S	Sb	03 08 47.0	+1.3
LMEL				AML	AML	03 08 49.3	
comp=N,112nm,0.2s
LMEL	**Las Melosas**	**1.22**	**9⇑**	*i*P	Pn	03 08 30.1	+0.1
LMEL				*i* S	Sb	03 08 47.0	+1.3
RCDM	**Rinconada Maip**	**1.59**	**348**	*e*P	Pn	03 08 35.8	+0.7
RCDM				*i* S	Sn	03 08 57.7	+2.1
RCDM				AML	AML	03 08 58.9	
comp=N,145nm,0.1s
RCDM	**Rinconada Maip**	**1.59**	**348**	*e*P	Pn	03 08 35.8	+0.7
RCDM				*i* S	Sn	03 08 57.7	+2.1
CLCH	**Cerro Calan**	**1.66**	**357**	*i* P	Pn	03 08 37.5	+1.5
CLCH				*i* S	Sn	03 09 00.4	+3.2
CLCH				AML	AML	03 09 04.5	
comp=E,122nm,0.5s
FCH	**Farellones**	**1.73**	**4**	*e*P	Pn	03 08 39.0	+2.1
FCH				*i* S	Sn	03 09 02.7	+3.9
FCH				AML	AML	03 09 04.0	
comp=E,88nm,0.2s
PEL	**Peldehue**	**1.92**	**353**	*i* P	Pn	03 08 41.1	+1.5
PEL				*i* S	Sn	03 09 07.7	+4.2
PEL				AML	AML	03 09 13.6	
comp=N,162nm,0.3s
PEL	**Peldehue**	**1.92**	**353**	*i* P	Pn	03 08 41.1	+1.5
PEL				*i* S	Sn	03 09 07.7	+4.2

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*INMG **24** 03:15:09.6±0.7, 3818N×15.17W, h10km, ML2.2, Error ellipse: s-maj=6.8km s-min=5.5km az=59.0*
MDD 24 03:15:06.8±2.7, 3831N×1484W, h0km, mb3.9/7, Error ellipse: s-maj=23.7km s-min=20.4km az=72.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**4.89**	**97**	*e*Pn	Pn	03 16 19.9	-1.7
PTEO				*e*Sn	Sn	03 17 13.2	-5.8
PTEO							
5.1nm,0.3s
MOE	**Montemor**	**5.10**	**86**	*e*Pn	Pn	03 16 22.6	-1.9
PTOM	**Tomar**	**5.18**	**73**	*e*Sn	Sn	03 17 22.9	-3.0
PTOM							
3.3nm,0.1s
PTOM	**Tomar**	**5.18**	**73**	Sn	Sn	03 17 22.9	-3.0
1.6nm,0.1s
PBEJ	**Beja**	**5.50**	**91**	*e*Pn	Pn	03 16 29.3	-0.7
PBEJ				*e*Sn	Sn	03 17 28.6	-5.3
PBEJ							
2.0nm,0.1s
EGRO	**El Granado**	**5.87**	**95**	Pn	Pn	03 16 34.1	-0.9
1.7nm,0.3s,SNR=5.5
EGRO				Sn	Sn	03 17 37.3	-5.7
0.8nm,0.1s,SNR=7.9
EGRO	**El Granado**	**5.87**	**95**	P	Pn	03 16 34.1	-0.9
1.7nm,0.3s,SNR=5.5
EGRO				S	Sn	03 17 37.3	-5.7
0.8nm,0.1s,SNR=7.9
PVIS	**Viseu**	**5.88**	**64**	*e*Pn	Pn	03 16 34.3	-0.9
PVIS				*e*Sn	Sn	03 17 38.3	-5.0
PVIS							
2.0nm,0.1s
PCBR	**Castelo Branco**	**5.93**	**73**	*e*Pn	Pn	03 16 34.9	-0.9
PCBR				*e*Sn	Sn	03 17 39.6	-4.8
PCBR							
0.7nm,0.1s
MTE	**Manteigas**	**6.02**	**68**	*e*Sn	Sn	03 17 43.7	-3.1
EBAD	**Badajoz**	**6.15**	**83**	Pn	Pn	03 16 37.9	-1.0
0.2nm,0.1s,SNR=7.9
EBAD				Sn	Sn	03 17 44.7	-5.2
1.5nm,0.2s,SNR=7.9
EBAD	**Badajoz**	**6.15**	**83**	P	Pn	03 16 37.9	-1.0
0.2nm,0.1s,SNR=7.9
EBAD				S	Sn	03 17 44.7	-5.2
1.5nm,0.2s,SNR=7.9
PCAB	**Cabril**	**6.23**	**55**	*e*Pn	Pn	03 16 39.4	-0.6
PCAB				*e*Sn	Sn	03 17 46.4	-5.5
PCAB							
1.3nm,0.1s
ELOB	**Lobios**	**6.29**	**54**	Pn	Pn	03 16 39.2	-1.6
1.1nm,0.3s,SNR=7.9
ELOB				Sn	Sn	03 17 46.6	-6.8
0.3nm,0.1s,SNR=7.9
ELOB	**Lobios**	**6.29**	**54**	P	Pn	03 16 39.2	-1.6
1.1nm,0.3s,SNR=7.9
ELOB				S	Sn	03 17 46.7	-6.7
0.3nm,0.1s,SNR=7.9
EMAZ	**Mazaricos**	**6.43**	**42**	Pn	Pn	03 16 42.0	-0.7
0.7nm,0.2s,SNR=7.9
EMAZ				Sn	Sn	03 17 48.2	-8.5
0.5nm,0.1s,SNR=7.9
EMAZ	**Mazaricos**	**6.43**	**42**	P	Pn	03 16 42.0	-0.7
0.7nm,0.2s,SNR=7.9
EMAZ				S	Sn	03 17 48.2	-8.5
0.5nm,0.1s,SNR=7.9
EMIN	**Mina Concepcio**	**6.47**	**92**	Pn	Pn	03 16 42.3	-1.0
0.5nm,0.1s,SNR=9.8
EMIN				Sn	Sn	03 17 51.3	-6.5
0.3nm,0.1s,SNR=7.9
EMIN	**Mina Concepcio**	**6.47**	**92**	P	Pn	03 16 42.3	-1.0
0.5nm,0.1s,SNR=9.8
EMIN				S	Sn	03 17 51.3	-6.5
0.3nm,0.1s,SNR=7.9
ECAL	**Calabor**	**7.19**	**57**	Pn	Pn	03 16 51.1	-2.0
1.2nm,0.3s,SNR=4.0
ECAL				Sn	Sn	03 18 10.2	-5.2
0.3nm,0.2s,SNR=7.9
ECAL	**Calabor**	**7.19**	**57**	P	Pn	03 16 51.1	-2.0
1.2nm,0.3s,SNR=4.0
ECAL				S	Sn	03 18 10.2	-5.3
0.3nm,0.2s,SNR=7.9
EADA	**Adamuz**	**8.08**	**88**	Pn	Pn	03 17 04.3	-1.1
0.8nm,0.1s,SNR=9.5
EADA				Sn	Sn	03 18 30.6	-6.8
0.4nm,0.1s,SNR=7.9
EADA	**Adamuz**	**8.08**	**88**	P	Pn	03 17 04.3	-1.1
0.8nm,0.1s,SNR=9.5
EADA				S	Sn	03 18 30.6	-6.8
0.4nm,0.1s,SNR=7.9

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*ATH **24** 03:23:11.4, 3877N×27.14E, h10km, MD3.6/3*
*CSEM **24** 03:23:22.5±0.1, 3840N×2672E, h12km, MD3.4, Error ellipse: s-maj=1.6km s-min=1.3km az=47.0*
*ISCJB **24** 03:23:23.0±0.4, 3839N±002×2670E±003, h12km±3km, Error ellipse: s-maj=4.1km s-min=3.7km az=76.5*
*ISK **24** 03:23:23.1, 3842N×2675E, h16km, MD3.4*
ISC 24 03:23:23.3±0.4, 3838N±002×2670E±003, h13km±2km, n40, σ0§81/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.09**	**257**	*i* P	**Pg**	**03 23 26.4**	**+0.3**
URLA				*i* S	**Sg**	**03 23 28.7**	**+0.6**
BLCB	**Balcova**	**0.27**	**89**	*i* PG	**Pg**	**03 23 28.4**	**-0.5**
BLCB				*i* SG	**Sg**	**03 23 32.1**	**-0.5**
IZM	**Izmir**	**0.44**	**87**	*i* PG	**Pg**	**03 23 31.9**	**-0.2**
IZM				*i* SG	**Sg**	**03 23 38.6**	**+0.6**
KDAG	**Bornova**	**0.45**	**87**	*i* P	**Pg**	**03 23 31.8**	**-0.4**
KDAG				*i* S	**Sg**	**03 23 38.2**	**+0.1**
CHOS	**Chios island**	**0.51**	**271**	*e*P	**Pg**	**03 23 34.0**	**+0.8**
CHOS	**Chios island**	**0.51**	**271**	*e*P	**Pg**	**03 23 34.0**	**+0.7**
SMG	**Samos**	**0.68**	**171**	*e*PG	**Pg**	**03 23 31.5**	**-5.0**
AYVA	**Ayvalik**	**0.93**	**359**	*i* P	**Pg**	**03 23 40.4**	**-0.9**
AYVA				*i* S	**Sg**	**03 23 53.8**	**+0.4**
AKS	**Akhisar**	**1.00**	**60**	*i* PG	**Pg**	**03 23 41.9**	**-0.8**
AYDN	**Tasoluk**	**1.17**	**127**	*i* P	**Pn**	**03 23 45.2**	**-0.3**
AYDN				*i* S	**Sb**	**03 24 00.6**	**-0.1**
MLSB	**Milas**	**1.38**	**141**	*i* PN	**Pn**	**03 23 47.8**	**-0.5**
BODT	**Bodrum**	**1.40**	**160**	PN	**Pn**	**03 23 49.6**	**+1.0**
BDRM	**Kayabasi**	**1.44**	**156**	*i* P	**Pn**	**03 23 49.5**	**+0.4**
BDRM				*i* S	**Sn**	**03 24 06.0**	**-1.9**
MANT	**Manisa**	**1.46**	**85**	*i* P	**Pn**	**03 23 50.5**	**+1.0**
MANT				*i* S	**Sn**	**03 24 08.8**	**+0.3**
EZN	**Ezine**	**1.47**	**349**	*i* PN	**Pn**	**03 23 49.2**	**-0.4**
BOZC	**Bozcaada**	**1.55**	**341**	*i* P	**Pn**	**03 23 50.0**	**-0.6**
BOZC				*i* S	**Sn**	**03 24 11.1**	**+0.5**
BALB	**Balikesir**	**1.56**	**36**	PN	**Pn**	**03 23 49.6**	**-1.2**
APE	**Apeiranthos**	**1.60**	**216**	*e*PN	**Pn**	**03 23 50.0**	**-1.4**
BTOK	**Tokmak**	**1.73**	**36**	*i* P	**Pn**	**03 23 54.2**	**+1.1**
BTOK				*i* S	**Sn**	**03 24 14.8**	**-0.2**
YER	**Yerkesik**	**1.77**	**134**	PN	**Pn**	**03 23 54.0**	**+0.4**
DAT	**Datca**	**1.79**	**157**	PN	**Pn**	**03 23 54.3**	**+0.4**
DENT	**Denizli**	**1.94**	**108**	PN	**Pn**	**03 23 56.2**	**+0.1**
DNZL	**Cakiroluk**	**1.98**	**110**	*i* P	**Pn**	**03 23 57.0**	**+0.5**
DNZL				*i* S	**Sg**	**03 24 25.4**	**-1.4**
EDC	**Edincik**	**2.16**	**24**	PN	**Pn**	**03 23 59.4**	**+0.3**
BNT	**Bandirma**	**2.19**	**25**	PN	**Pn**	**03 23 58.5**	**-0.9**
THR3	**Thira Island,**	**2.22**	**208**	*e*P	**Pb**	**03 24 03.7**	**+0.3**
THR1	**Thera Island**	**2.24**	**207**	*e*P	**Pn**	**03 24 00.7**	**+0.6**
KCT	**Karacabey**	**2.28**	**34**	PN	**Pn**	**03 24 00.8**	**+0.1**
GDZ	**Gediz**	**2.29**	**71**	*i* P	**Pb**	**03 24 04.6**	**+0.1**
GDZ				*i* S	**Sb**	**03 24 34.2**	**+1.6**
MRMT	**Marmara Adasi**	**2.33**	**17**	PN	**Pn**	**03 24 00.4**	**-0.9**
RKY	**Sarkoy-Tekirda**	**2.33**	**9**	*e*PN	**Pn**	**03 24 01.3**	**-0.2**
ENEZ	**Enez**	**2.39**	**350**	*e*PN	**Pn**	**03 24 02.8**	**+0.6**
MFT	**Murefte**	**2.45**	**10**	*e*PN	**Pn**	**03 24 02.2**	**-0.8**
FETY	**Fethiye**	**2.57**	**132**	*e*PN	**Pn**	**03 24 05.0**	**+0.3**
TKTP	**Tekketepe**	**2.87**	**96**	*i* P	**Pn**	**03 24 11.7**	**+2.9**
TKTP				*i* S	**Sb**	**03 24 50.4**	**+0.9**
YLV	**Yalova**	**3.01**	**43**	*e*PN	**Pn**	**03 24 10.6**	**-0.1**
ADVT	**Abdulvahap**	**3.12**	**48**	*e*PN	**Pn**	**03 24 11.6**	**-0.7**
KLYT	**Kilyos**	**3.39**	**31**	*e*PN	**Pn**	**03 24 16.7**	**+0.7**
EDRB	**Edirne**	**3.46**	**1**	*e*PN	**Pn**	**03 24 16.7**	**-0.3**
SGKT	**Sivrigoynuk**	**4.69**	**60**	*i* P	**Pb**	**03 24 43.4**	**-2.0**
SGKT				*i* S	**Sg**	**03 25 54.7**	**+0.9**

KRSC 24 03:23:43.9±0.4, 5381N×16174E, h12km±3km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.75**

CIRR	**Tsirk**	**2.38 346**	*e*P		03 24 24.1
CIRR			*e*S		03 24 53.7
RUS	**Russkaya**	**2.38 236**	*e*P		03 24 23.9
RUS			*e*S		03 24 53.2
KBTR	**Krutoberegovo**	**2.48 14**	*e*P		03 24 25.8
KBTR			*e*S		03 24 55.9
KOZ	**Kozyrevsk**	**2.50 335**	*e*P		03 24 25.9
KOZ			*e*S		03 24 56.5
KRSR	**Krestovskiy**	**2.50 345**	*e*P		03 24 26.2
KRSR			*e*S		03 24 57.0
KBG	**Krutoberegovo**	**2.51 12**	*e*S		03 24 56.8
KBG			Smax		
	410nm,0.8s				
GRL	**Gorelyy**	**2.54 242**	*i* P		03 24 26.8
GRL			*i* S		03 24 57.9
KLY	**Klyuchi**	**2.59 346**	*e*P		03 24 27.1
KLY			*e*S		03 24 58.4
SRDR	**Sredinnyy**	**2.77 336**	*e*P		03 24 28.8
SRDR			*e*S		03 25 02.0
BDR	**Baidarnaya**	**2.78 354**	*e*P		03 24 29.7
BDR			*e*S		03 25 03.1
SMKR	**Semkarok**	**2.78 357**	*e*P		03 24 30.2
SMKR			*e*S		03 25 03.5
BKI	**Bering**	**2.83 59**	*i* S		03 24 58.4
BKI			Smax		
	30nm,0.9s				
SRKR	**Sorokina**	**2.87 354**	*e*P		03 24 30.6
SRKR			*e*S		03 25 04.4
APC	**Apacha**	**2.88 254**	*e*P		03 24 30.4
APC			*e*S		03 25 04.8
APC			Smax		
	100nm,0.8s				
MIPR	**Malaya Ipel'ka**	**3.38 245**	*e*P		03 24 38.7
PAU	**Pauzhetka**	**3.81 234**	*e*P		03 24 44.4
ALID	**Alaid**	**4.80 235**	*e*P		03 24 58.1

IDC 24 03:24:01.6±15.0,5431N×15726E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.5/20,mbtmp3.8/3,Error ellipse: s-maj=505.8km s-min=33.4km az=109.0,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.11**	**224**	P	P	03 28 58.4	-0.1
	2.0nm,0.6s,baz=18,slow=11,SNR=7.8						
FINES	**FINESS Array B**	**58.31**	**335**	P	P	03 33 57.9	-0.4
	1.5nm,0.8s,baz=22,slow=12,SNR=5.1						
NB2	**NORSAR Subarra**	**61.88**	**342**	P	P	03 34 21.3	-1.4
	comp=Z,0.5nm,0.6s,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**61.88**	**342**	P	P	03 34 21.8	-0.9
	comp=Z,0.6nm,0.6s,baz=21,slow=6.7,SNR=3.7						

*ISCJB **24** 03:50:24.4±0.6,4249N×003×233E±004,h6km±9km,Error ellipse: s-maj=6.2km s-min=4.4km az=118.4*
*LDG **24** 03:50:25.7±0.1,4242N×237E,h3km,Md2.2/3,Ml1.7/6, Error ellipse: s-maj=1.3km s-min=0.9km az=122.0*
*MDD **24** 03:50:26.0±0.3,4242N×239E,h0km,mbLg1.1/6,Error ellipse: s-maj=2.8km s-min=1.8km az=152.0,PRXIMO SOLUCIN POBRE*

ISC 24 03:50:24.9±0.7,4244N±003×237E±004,h12km±8km,n24, σ0.980/31,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FILF	**Fillols**	**0.19**	**49**	Pg	**Pg**	**03 50 28.6**	**-0.5**
FILF				Lg		03 50 30.8	
CBRU	**Bruguera**	**0.20**	**223**	Pg	**Pg**	**03 50 29.5**	**+0.2**
CBRU				Lg		03 50 32.8	
	22nm,0.2s						
VALF	**Valcebollere**	**0.26**	**263**	Pg	**Pg**	**03 50 30.8**	**+0.5**
VALF				Lg		03 50 34.5	
CLLI	**Llivia**	**0.29**	**279**	Pg	**Pg**	**03 50 31.7**	**+0.8**
CLLI				Lg		03 50 36.0	
	3.1nm,0.2s						
EJON	**La Jonquera**	**0.39**	**88**	Pg	**Pg**	**03 50 32.3**	**-0.2**
	0.9nm,0.2s,SNR=7.9						
EJON				Lg		03 50 38.1	
	4.1nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**0.67**	**176**	Pg	**Pg**	**03 50 38.3**	**+0.4**
EMIR	**Miracle**	**0.81**	**231**	Lg		03 50 52.8	
	4.4nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**0.91**	**353**	*e*Pg	**Pg**	**03 50 43.1**	**+0.6**
MTLF				*e*Sg	**Sg**	**03 50 54.7**	**+0.3**
MTLF				*e*Sn	**Sn**	**03 50 57.1**	**+0.5**
	1.7nm,0.3s						
MTLF	**Montolieu**	**0.91**	**353**	Pg	**Pg**	**03 50 43.1**	**+0.6**
MTLF				Lg		03 50 54.7	
MTLF				Sn	**Sn**	**03 50 57.1**	**+0.5**
	0.9nm,0.3s						
CSOR	**Sort**	**0.92**	**267**	Pg	**Pg**	**03 50 43.3**	**+0.8**
CSOR				Lg		03 50 56.9	
	1.4nm,0.4s						
EGRA	**Graus**	**1.54**	**262**	Pg	**Pg**	**03 50 55.9**	**+1.5**
	2.5nm,0.5s,SNR=6.1						
EGRA				Lg		03 51 17.3	
	0.7nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.61**	**292**	*e*Pg	**Pg**	**03 50 55.6**	**-0.1**
EPF				*e*Sg	**Sg**	**03 51 16.6**	**0.0**
	1.1nm,0.3s						
EPF	**Esparros**	**1.61**	**292**	Pg	**Pg**	**03 50 55.6**	**-0.1**
EPF				Lg		03 51 16.6	
	0.6nm,0.3s						
EBIE	**Bielsa**	**1.66**	**279**	Pg	**Pg**	**03 50 58.5**	**+1.7**
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		03 51 21.8	
	1.2nm,0.4s,SNR=6.2						
LASF	**Ste Croix**	**1.97**	**33**	*e*Pg	**Pg**	**03 51 02.5**	**-0.1**
LASF				*e*Sg	**Sg**	**03 51 27.8**	**-0.3**
	0.4nm,0.2s						
LASF	**Ste Croix**	**1.97**	**33**	Pg	**Pg**	**03 51 02.5**	**-0.1**
LASF				Lg		03 51 27.8	
	0.2nm,0.2s						
ERTA	**Horta de San J**	**2.12**	**227**	Pg	**Pg**	**03 51 02.8**	**-2.7**
	0.2nm,0.1s,SNR=4.0						
ERTA				Lg		03 51 32.7	
	0.7nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**2.21**	**283**	*e*Pg	**Pg**	**03 51 06.3**	**-0.9**
ETSF				*e*Sg	**Sg**	**03 51 35.1**	**-0.7**
	1.3nm,0.3s						
ETSF	**Etsaut**	**2.21**	**283**	Pg	**Pg**	**03 51 06.3**	**-0.9**
ETSF				Lg		03 51 35.1	
	0.6nm,0.3s						
ESAC	**San Caprasio**	**2.23**	**252**	Pg	**Pg**	**03 51 07.1**	**-0.5**
	1.0nm,0.2s,SNR=7.9						
ESAC				Lg		03 51 36.5	
	3.0nm,0.2s,SNR=4.5						
CAF	**Calviac**	**2.50**	**355**	*e*Pg	**Pg**	**03 51 12.4**	**-0.4**
CAF				*e*Sg	**Sg**	**03 51 45.0**	**-0.2**
	0.6nm,0.2s						
CAF	**Calviac**	**2.50**	**355**	Pg	**Pg**	**03 51 12.4**	**-0.4**
CAF				Lg		03 51 45.0	
	0.3nm,0.2s						
SJPF	**Ste Jean**	**2.73**	**286**	*e*Pg	**Pg**	**03 51 16.5**	**-0.7**
SJPF				*e*Sg	**Sg**	**03 51 51.6**	**-1.0**
	0.7nm,0.3s						
SJPF	**Ste Jean**	**2.73**	**286**	Pg	**Pg**	**03 51 16.5**	**-0.7**
SJPF				Lg		03 51 51.6	
	0.3nm,0.3s						

IDC 24 04:07:23.0±2.2,651S×12929E,h0km,mb3.7/1,mb1 3.8/3, mb1mx3.5/13,mbtmp3.6/3,ML3.7/2,Error ellipse: s-maj=144.6km s-min=31.0km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.23**	**160**	Pn	Pn	04 10 45.1	-0.6
	0.5nm,0.3s,baz=343,slow=13,SNR=7.0						
WRA				Sn	Sn	04 13 08.3	-16
	0.9nm,0.3s,baz=323,slow=24,SNR=6.0						
ASAR	**Alice Springs**	**17.63**	**166**	P	Pn	04 11 30.8	+0.8
	0.2nm,0.3s,baz=341,slow=10,SNR=15						
ASAR				S	Sn	04 14 30.5	-16
	0.2nm,0.3s,baz=347,slow=26,SNR=6.2						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	04 18 20.6	+0.2
	0.3nm,0.4s,baz=129,slow=5.7,SNR=3.6						

IDC 24 04:18:28.6±5.2,2244S×14860E,h0km,mb1 3.6/3, mb1mx3.5/10,mbtmp3.4/3,ML3.1/3,Error ellipse: s-maj=48.2km s-min=20.4km az=79.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**3.20**	**317**	Pg	Pg	04 19 25.6	-4.4
	1.6nm,0.3s,baz=135,slow=15,SNR=71						
CTA				Lg		04 20 12.6	
	18nm,0.3s,baz=49,slow=17,SNR=14						
STKA	**Stephens Creek**	**11.28**	**212**	Pn	Pn	04 21 11.9	+0.9
	0.1nm,0.3s,baz=32,slow=13,SNR=1.9						
STKA				Sn	Sn	04 23 18.8	+1.0
	0.2nm,0.3s,baz=128,slow=19,SNR=2.4						
STKA				Lg		04 24 25.8	
	0.2nm,0.3s,baz=90,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**13.53**	**278**	Pn	Pn	04 21 42.1	+0.3
	0.1nm,0.3s,baz=97,slow=11,SNR=2.7						
WRA				Sn	Sn	04 24 08.8	-4.1
	0.1nm,0.3s,baz=99,slow=21,SNR=2.6						
WRA				Lg		04 25 36.7	
	0.1nm,0.3s,baz=99,slow=29,SNR=4.8						
ASAR	**Alice Springs**	**13.58**	**262**	Pn	Pn	04 21 43.0	+0.5
	0.1nm,0.3s,baz=90,slow=13,SNR=7.8						
ASAR				Sn	Sn	04 24 12.4	-1.8
	0.1nm,0.3s,baz=87,slow=25,SNR=3.9						
ASAR				Lg		04 25 38.2	
	0.1nm,0.3s,baz=86,slow=28,SNR=3.8						

*ISCJB **24** 04:25:05.0±0.7,2917S±005×3305E±005,h10km,mb4.1/9, MS3.7/4,Error ellipse: s-maj=7.9km s-min=6.4km az=151.5*
*NEIC **24** 04:25:05.7±0.8,2920S×3342E,h10km,mb4.4/2,Error ellipse: s-maj=14.9km s-min=9.2km az=162.0*
*PRE **24** 04:25:07.2±1.3,2931S×3298E,h5km,ML4.2*
*IDC **24** 04:25:07.1±0.8,2874S×3326E,h0km,mb4.2/9, mb1 4.3/13,mb1mx4.1/25,mbtmp4.2/13,ML3.6/4,MS3.3/9, Ms1 3.3/9,ms1mx3.2/25,Error ellipse: s-maj=22.4km s-min=18.0km az=56.0*

ISC 24 04:25:06.8±0.7,2916S±005×3316E±005,h10km,n39, σ1.933/56,mb4.1/9,MS3.7/4,Off coast of South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**2.25**	**322**	*e*P	**Pn**	**04 25 45.6**	**+1.6**
POGA				*e*S	**Sn**	**04 26 12.9**	**+1.1**
POGA				AML	AML	04 26 28.5	
	comp=Z,615nm,0.3s						
KSD	**Kokstad**	**3.53**	**246**	*e*P	**Pn**	**04 26 00.8**	**-0.8**
KSD				*e*S	**Sn**	**04 26 38.7**	**-4.8**
ERPM	**east rand prop**	**5.24**	**303**	*e*P	**Pn**	**04 26 26.5**	**+1.3**
ERPM				*e*S	**Sn**	**04 27 24.8**	**-0.9**
ERPM				AML	AML	04 27 28.4	
	comp=Z,176nm,0.3s						
SLR	**Silverton**	**5.52**	**307**	*e*P	**Pn**	**04 26 30.5**	**+1.5**
SLR				*e*S	**Sn**	**04 27 31.4**	**-1.0**
SLR				AML	AML	04 28 30.3	
	comp=Z,153nm,0.6s						
KSR	**Koster**	**6.47**	**299**	*e*P	**Pn**	**04 26 43.3**	**+1.3**
KSR				*e*S	**Sn**	**04 27 53.3**	**-2.5**
KSR				AML	AML	04 28 47.8	
	comp=Z,59nm,0.7s						
BOSA	**Boshof**	**6.95**	**273**	*e*P	**Pn**	**04 26 49.0**	**+0.3**
BOSA				*e*S	**Sn**	**04 28 03.7**	**-4.1**
BOSA				AML	AML	04 29 10.7	
	comp=Z,38nm,0.6s						
BOSA	**Boshof**	**6.95**	**273**	Pn	**Pn**	**04 26 51.6**	**+3.0**
	comp=Z,2.9nm,0.3s,baz=99,slow=13,SNR=62						
BOSA				Sn	**Sn**	**04 28 07.2**	**-0.6**
	comp=Z,11nm,0.3s,baz=156,slow=16,SNR=9.0						
BOSA				Lg		04 28 46.7	
	comp=Z,5.0nm,0.3s,baz=187,slow=20,SNR=3.8						
BOSA				LR	LR	04 29 41.3	
	comp=Z,184nm,21.5s,baz=359,slow=39						
BOSA	**Boshof**	**6.95**	**273**	*e*Pn	**Pn**	**04 26 51.4**	**+2.7**
	comp=Z,14nm,0.5s						
GRM	**Grahamstown**	**7.04**	**232**	*e*P	**Pn**	**04 26 48.9**	**-1.0**
GRM				*e*S	**Sn**	**04 28 01.5**	**-8.4**
GRM				AML	AML	04 28 24.6	
	comp=Z,91nm,0.5s						
SWZ	**Schweizer**	**7.19**	**284**	*e*P	**Pn**	**04 26 52.0**	**+0.1**
SWZ				*e*S	**Sn**	**04 28 09.1**	**-4.5**
LBTB	**Lobatse**	**7.91**	**300**	Pn	**Pn**	**04 27 05.0**	**+3.3**
	comp=Z,9.2nm,0.3s,baz=130,slow=12,SNR=88						
LBTB				Sn	**Sn**	**04 28 30.2**	**-1.0**
	comp=Z,44nm,0.3s,baz=346,slow=18,SNR=15						
LBTB				Lg		04 29 11.5	
	comp=Z,5.6nm,0.3s,baz=227,slow=19,SNR=2.7						
LBTB				LR	LR	04 29 45.2	
	comp=Z,48nm,20.8s,baz=313,slow=36						
LBTB	**Lobatse**	**7.91**	**300**	*e*Pn	**Pn**	**04 27 05.0**	**+3.2**
	comp=Z,27nm,0.5s						
LBTB				*e*Sn	**Sn**	**04 28 29.6**	**-1.7**
MATP	**Matopo**	**9.67**	**333**	Pn	**Pn**	**04 27 27.2**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=162,slow=13,SNR=36						
MATP				Sn	**Sn**	**04 29 07.7**	**-6.9**
	comp=Z,17nm,0.3s,baz=181,slow=15,SNR=9.5						
MATP				Lg		04 30 03.9	
	baz=68,slow=19,SNR=1.9						
MATP				LR	LR	04 30 24.4	
	comp=Z,50nm,19.6s,baz=147,slow=34						
MATP	**Matopo**	**9.67**	**333**	Pn	**Pn**	**04 27 27.2**	**+1.3**
MATP				Sn	**Sn**	**04 29 07.7**	**-6.9**
MATP				Lg		04 30 03.9	
MATP				LR	LR	04 30 24.4	
UPI	**Upington**	**10.48**	**271**	*e*P	**Pn**	**04 27 38.3**	**+1.2**
UPI				*e*S	**Sn**	**04 29 26.7**	**-7.8**
SUR	**Sutherland**	**11.10**	**250**	*e*P	**Pn**	**04 27 45.0**	**-0.5**
SUR				*e*S	**Sn**	**04 29 41.0**	**-8.6**
SUR	**Sutherland**	**11.10**	**250**	Pn	**Pn**	**04 27 46.9**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=84,slow=13,SNR=24						
SUR				Sn	**Sn**	**04 29 49.3**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=78,slow=14,SNR=4.7						
SUR				Lg		04 30 47.2	
	comp=Z,2.8nm,0.3s,baz=32,slow=21,SNR=4.5						
SUR	**Sutherland**	**11.10**	**250**	*e*Pn	**Pn**	**04 27 47.0**	**+1.6**
SUR				*e*Sn	**Sn**	**04 29 48.0**	**-1.6**
LSZ	**Lusaka**	**14.56**	**341**	Pn	**Pn**	**04 28 31.3**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=155,slow=13,SNR=6.2						
LSZ				Sn	**Sn**	**04 31 03.0**	**-11**
	comp=Z,2.2nm,0.3s,baz=57,slow=23,SNR=5.6						
LSZ				Lg		04 32 42.6	
	comp=Z,0.3nm,0.3s,baz=272,slow=18,SNR=3.7						
LSZ				LR	LR	04 34 04.7	
	comp=Z,141nm,21.4s,baz=168,slow=38						
LSZ	**Lusaka**	**14.56**	**341**	*e*Pn	**Pn**	**04 28 31.8**	**-1.0**
	comp=Z,8.0nm,1.3s						
LSZ				*e*Sn	**Sn**	**04 31 04.0**	**-10**
OPO	**Ambohidratompo**	**16.59**	**54**	Pn	**Pn**	**04 28 57.5**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=317,slow=19,SNR=3.7						
OPO				Sn	**Sn**	**04 31 44.8**	**-19**
	comp=Z,0.7nm,0.3s,baz=287,slow=8.2,SNR=3.8						
TSUM	**Tsumeb**	**17.31**	**301**	P	**Pn**	**04 29 09.8**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=125,slow=11,SNR=4.3						
TSUM				S	**Sn**	**04 32 10.8**	**-10**
	comp=Z,0.3nm,0.3s,baz=217,slow=18,SNR=3.4						
TSUM				Lg		04 34 16.6	
	comp=Z,0.1nm,0.3s,baz=264,slow=20,SNR=2.4						
TSUM				LR	LR	04 36 48.5	
	comp=Z,32nm,18.1s,baz=228,slow=41						
TSUM	**Tsumeb**	**17.31**	**301**	*e*P	**Pn**	**04 29 09.8**	**+1.3**
	comp=Z,14nm,0.8s						
KMBO	**Kilima Mbogo**	**28.15**	**9**	P	**P**	**04 30 58.4**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.7,baz=26,slow=23,SNR=3.9						
KMBO				LR	LR	04 43 00.3	
	comp=Z,193nm,18.4s,MS3.7,baz=97,slow=39						
KMBO	**Kilima Mbogo**	**28.15**	**9**	P	**P**	**04 30 58.4**	**-0.7**
KMBO				LR	LR	04 43 00.3	
MAW	**Mawson**	**42.36**	**164**	P	**P**	**04 33 04.9**	**+3.8**
	comp=Z,2.0nm,0.8s,mb3.8,baz=323,slow=9.9,SNR=8.2						
DBIC	**Dimbokro**	**51.06**	**308**	P	**P**	**04 34 10.3**	**+1.1**
	comp=Z,7.3nm,0.6s,mb4.8,baz=118,slow=9.1,SNR=16						
DBIC	**Dimbokro**	**51.06**	**308**	*e*P	**P**	**04 34 10.0**	**+0.8**
	comp=Z,7.7nm,0.7s,mb4.7						
TORD	**Torodi Ar. Bea**	**51.89**	**320**	P	**P**	**04 34 16.6**	**+1.2**
	comp=Z,12nm,0.8s,mb4.9,baz=130,slow=6.4,SNR=187						
VNDA	**Vanda**	**69.25**	**170**	P	**P**	**04 36 19.7**	**+5.7**
	comp=Z,1.0nm,0.6s,mb3.9,baz=270,slow=5.8,SNR=8.4						
VNDA				LR	LR	05 02 15.0	
	comp=Z,74nm,19.9s,MS3.9,baz=288,slow=32						
VNDA	**Vanda**	**69.25**	**170**	P	**P**	**04 36 19.7**	**+5.7**
VNDA				LR	LR	05 02 15.0	
BDFB	**Brasilia**	**74.98**	**260**	LR	LR	05 05 26.0	
	comp=Z,60nm,20.4s,MS3.9,baz=167,slow=32						
ESDC	**Sonseca Array**	**76.70**	**331**	P	**P**	**04 36 57.9**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.1,baz=137,slow=6.0,SNR=6.2						
GERES	**GERESS Array B**	**79.58**	**347**	P	**P**	**04 37 13.9**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=168,slow=6.8,SNR=4.6						
AKASG	**Malin Array Be**	**79.59**	**357**	P	**P**	**04 37 12.9**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=182,slow=5.5,SNR=5.1						
MKAR	**Makanchi Array**	**87.65**	**31**	P	**P**	**04 37 53.9**	**-1.5**
	comp=Z,1.0nm,0.5s,mb4.3,baz=223,slow=4.2,SNR=8.5						
NOA	**NORSAR Array B**	**91.64**	**350**	LR	LR	05 20 32.4	
	comp=Z,13nm,20.1s,MS3.4,baz=45,slow=36						
DAWY	**Dawson**	**144.76**	**354**	*e*P	PKPdf	04 44 40.8	-3.1
PDAR	**Pinedale Array**	**147.19**	**305**	PKP	PKPdf	04 44 47.1	-0.9
	comp=Z,1.6nm,1.0s,baz=338,slow=1.9,SNR=9.9						
PDAR				PKPbc	PKPbc	04 44 50.1	-0.1
	comp=Z,1.4nm,0.9s,baz=92,slow=3.9,SNR=10						

*MOS **24** 04:25:09.5±1.4,5035N×152.15E,h573km,mb4.3/1,Error ellipse: s-maj=99.9km s-min=36.6km az=50.6*

KRSC 24 04:25:08.8±0.9,5033N×15196E,h594km±12km,ML3.9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.35**	**75**	*e*P	P	04 26 25.0	+1.0
PAU	**Pauzhetka**	**3.27**	**68**	*i* P	P	04 26 30.4	+1.4
MIPR	**Malaya Ipel'ka**	**3.59**	**55**	*e*P	P	04 26 30.4	-0.6
APC	**Apacha**	**4.15**	**49**	*i* P	P	04 26 33.6	-1.2
KRMR	**Karymshinskiy**	**4.59**	**55**	*e*P	P	04 26 38.5	+0.5
RUS	**Russkaya**	**4.61**	**60**	P	P	04 26 38.3	+0.1
RUS				S	S	04 27 44.3	-7.0
RUS	**Russkaya**	**4.61**	**60**	*e*P	P	04 26 38.3	+0.1
RUS				*e*S	S	04 27 44.3	-7.0
GNL	**Ganaly**	**5.00**	**45**	*e*P	P	04 26 40.9	-0.3
KOK	**Koryaka**	**5.09**	**52**	*e*P	P	04 26 42.6	+0.6
AVH	**Avacha**	**5.13**	**52**	*e*P	P	04 26 44.2	+1.9
UGLR	**Uglovaya**	**5.14**	**53**	*e*P	P	04 26 42.9	+0.5
SMAR	**Somma**	**5.16**	**53**	*e*P	P	04 26 43.6	+1.1
SDLR	**Sedlovina**	**5.21**	**53**	*e*P	P	04 26 43.4	+0.5
NLC	**Nalytchevo**	**5.40**	**55**	P	P	04 26 45.0	+0.6
NLC				S	S	04 27 55.4	-7.3
NLC	**Nalytchevo**	**5.40**	**55**	P	P	04 26 45.1	+0.7
NLC				*e*S	S	04 27 55.8	-6.9
SPN	**Mys Shipunski**	**5.73**	**58**	P	P	04 26 47.9	+0.7
SPN				S	S	04 27 59.4	-8.3
SPN	**Mys Shipunski**	**5.73**	**58**	*e*P	P	04 26 47.3	+0.1
SPN				*e*S	S	04 27 58.4	-9.3
TUMR	**Tumrok**	**7.01**	**42**	*e*P	P	04 27 01.5	+2.9
MKZ	**Mys Kozlova**	**7.32**	**51**	P	P	04 27 03.0	+1.6
MKZ				S	S	04 28 23.9	-10
MKZ	**Mys Kozlova**	**7.32**	**51**	*e*P	P	04 27 01.5	+0.1
MKZ				*e*S	S	04 28 23.8	-10
SRDR	**Sredinnyy**	**7.58**	**35**	*e*P	P	04 27 05.2	+1.3
LGNR	**Loginova**	**7.79**	**39**	*e*P	P	04 27 07.1	+1.3
KBG	**Krutoberegovo**	**8.75**	**43**	*e*S	S	04 28 48.4	-10
KBTR	**Krutoberegovo**	**8.77**	**44**	P	P	04 27 16.3	+1.1
KBTR				S	S	04 28 49.5	-9.5
KBTR	**Krutoberegovo**	**8.77**	**44**	*e*P	P	04 27 14.7	-0.5

*NEIC **24** 04:32:00.3±2.8,606S×15451E,h114km±23km,mb4.3/5, Error ellipse: s-maj=20.6km s-min=15.0km az=53.0*
*IDC **24** 04:32:00.1±4.8,620S×15450E,h101km±37km,mb3.7/6, mb1 4.0/8,mb1mx3.8/15,mbtmp4.2/8,MS3.4/1,Ms1 3.4/1, ms1mx2.4/22,Error ellipse: s-maj=38.2km s-min=24.4km az=4.0*
*ISCJB **24** 04:32:02.7±4.1,60S±01×1543E±02,h137km±32km, mb4.1/15,Error ellipse: s-maj=28.6km s-min=21.3km az=163.4*

ISC 24 04:32:00.6±2.8,61S±01×1545E±01,h111km±22km,n24, σ0.999/24,mb4.1/15,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.99**	**245**	P	**Pn**	**04 33 54.7**	**+0.9**
	2.9nm,0.3s,baz=70,slow=7.0,SNR=8.5						
PMG				S	**Sn**	**04 35 21.9**	**-0.5**
	3.8nm,0.3s,baz=115,slow=23,SNR=3.6						
DZM	**Mont Dzumac**	**19.64**	**145**	P	**P**	**04 36 19.2**	**-1.1**
	1.6nm,0.3s,baz=300,slow=15,SNR=11						
DZM				LR	LR	04 42 50.1	
	comp=Z,100nm,19.4s,baz=186,slow=33						
WRAB	**Tennant Creek**	**23.93**	**233**	*e*P	**P**	**04 37 04.4**	**+0.2**
	2.6nm,0.6s,mb3.7						
WB2	**Warramunga Arr**	**23.93**	**233**	*e*P	**P**	**04 37 05.5**	**+1.3**
WRA	**Warramunga Arr**	**23.94**	**233**	P	**P**	**04 37 04.6**	**+0.3**
	2.2nm,0.6s,mb3.7,baz=55,slow=9.2,SNR=9.7						
WRA				PcP	PcP	04 40 45.6	+1.9
	0.7nm,0.5s,baz=62,slow=2.3,SNR=5.1						
ASAR	**Alice Springs**	**26.42**	**226**	P	**P**	**04 37 26.0**	**-0.7**
	1.4nm,0.6s,mb3.6,baz=60,slow=8.7,SNR=18						
ASAR				PcP	PcP	04 40 51.6	+2.3
	0.7nm,0.5s,baz=64,slow=2.2,SNR=11						
STKA	**Stephens Creek**	**28.35**	**204**	P	**P**	**04 37 40.5**	**-3.5**
	4.1nm,1.0s,mb3.9,baz=32,slow=11,SNR=4.8						
STKA				PcP	PcP	04 40 53.5	-0.4
	0.7nm,0.4s,baz=342,slow=6.8,SNR=2.9						
STKA	**Stephens Creek**	**28.35**	**204**	*e*P	**P**	**04 37 41.1**	**-2.9**
STKA				PcP	PcP	04 40 53.5	-0.4
FITZ	**Fitzroy Crossi**	**30.58**	**244**	*e*P	**P**	**04 38 04.3**	**+0.6**
	8.1nm,1.2s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.58**	**244**	P	**P**	**04 38 03.3**	**-0.4**
	2.0nm,0.7s,mb4.0,baz=304,slow=15,SNR=5.5						
VNDA	**Vanda**	**71.49**	**178**	P	**P**	**04 43 08.9**	**-0.2**
	0.6nm,0.8s,mb3.5,baz=8.0,slow=3.7,SNR=3.8						
JIRN	**Jiri**	**73.90**	**301**	*e*P	**P**	**04 43 23.8**	**+0.4**
	15nm,0.6s,mb4.9						
GUN	**Gumba**	**74.23**	**301**	*e*P	**P**	**04 43 24.2**	**-1.1**
	6.8nm,0.4s,mb4.7						
KKN	**Kakani**	**74.71**	**301**	*e*P	**P**	**04 43 28.

630nm,0.3s
UGL AMB AMB 04 35 02.0
5μm,0.2s
UGL eSg **Sg** **04 35 12.1 -0.5**
UGL eSg **Sg** **04 35 13.0 +0.4**
UGL A 04 35 15.0
10μm,0.5s
UGL A 04 35 15.0
12μm,0.5s
UGL Uglegorsk 0.79 333 ePN **Pg** **04 35 00.5 -1.7**
UGL e 04 35 12.0
UGL pmax pmax
comp=Z,5μm,0.2s
UGL pmax pmax
comp=N,640nm,0.3s
UGL pmax pmax
comp=E,630nm,0.3s
UGL pmax pmax
comp=Z,5μm,0.2s
UGL smax
comp=N,10μm,0.5s
UGL smax
comp=E,12μm,0.5s
UGL smax
comp=N,31μm,1.0s
UGL smax
comp=E,35μm,1.0s
YSS Yuzh-Sakhalins 1.43 176 *i* P **Pn** **04 35 11.6 -0.2**
YSS AMB AMB 04 35 12.5
comp=E,2μm,0.7s
YSS AMB AMB 04 35 12.5
comp=E,450nm,0.7s
YSS AMB AMB 04 35 12.5
comp=E,2μm,0.7s
YSS pP 04 35 15.5
YSS sP 04 35 17.0
YSS *i* Sn **Sn** **04 35 29.8 -0.4**
YSS A 04 35 32.2
comp=E,8μm,2.0s
YSS eSg **Sg** **04 35 33.0 +0.1**
YSS Yuzh-Sakhalins 1.43 176⇑ ePn **Pn** **04 35 11.6 -0.3**
YSS eSn **Sn** **04 35 30.3 +0.1**
TYV Tymovskoe 2.49 1 ePn **Pn** **04 35 27.0 +0.5**
TYV ePb **Pb** **04 35 30.9 -0.1**
TYV ePg **Pg** **04 35 37.7 +3.1**
TYV AMB AMB 04 35 39.3
comp=E,256nm,0.7s
TYV AMB AMB 04 35 39.3
comp=E,688nm,0.7s
TYV AMB AMB 04 35 40.0
comp=E,900nm,2.0s
TYV AMB AMB 04 35 40.0
comp=E,2μm,2.0s
TYV eSn **Sn** **04 36 02.4 +6.0**
TYV eSg **Sg** **04 36 10.4 +3.5**
TYV A 04 36 19.0
comp=E,3μm,3.0s
TYV A 04 36 19.0
comp=E,3μm,3.0s
ASAJ Asahikawa 4.26 180 P **Pn** **04 35 51.8 +0.9**
comp=E,23nm,0.3s,baz=10.0,slow=16,SNR=64
ASAJ S **Sn** **04 36 40.0 0.0**
baz=11,slow=17,SNR=3.1
ASAJ Asahikawa 4.26 180 PN **Pn** **04 35 51.8 +1.0**
ASAJ pmax pmax
comp=Z,23nm,0.3s
GRNR Gornyy 4.68 303 ePn **Pn** **04 35 50.6 -6.0**
GRNR ePg **Pg** **04 36 12.0 -4.4**
GRNR eSg **Sg** **04 37 08.0 -9.1**
YUK Yuzh-Kuril'sk 4.90 151 PN **Pb** **04 36 13.3 +1.3**
YUK pmax pmax
comp=Z,110nm,0.5s
NKL Nikolayevsk 4.93 346 eP **Pn** **04 35 55.9 -4.2**
NKL ePg **Pg** **04 36 14.7 -6.6**
NKL AMB AMB 04 36 18.4
comp=Z,220nm,1.0s
NKL AMB AMB 04 36 18.4
comp=Z,390nm,1.0s
NKL AMB AMB 04 36 18.5
comp=Z,400nm,1.5s
NKL AMB AMB 04 36 18.5
comp=Z,6μm,1.5s
NKL AMB AMB 04 36 18.5
comp=Z,300nm,1.0s
NKL eSn **Sn** **04 36 49.2 -7.5**
NKL eSg **Sg** **04 37 21.0 -4.2**
NKL A 04 37 37.0
comp=Z,1μm,4.5s
NKL A 04 37 39.0
comp=Z,480nm,1.0s
NKL A 04 37 39.0
comp=Z,240nm,1.0s
OKH Okha 5.19 2 eS **Sn** **04 37 03.8 +0.9**
TEY Ternei 5.31 233 eP **Pn** **04 36 03.4 -1.8**
TEY eS **Sn** **04 36 59.7 -6.2**
KLR Kul'dur 7.22 281 ePN **Pn** **04 36 32.6 +1.1**
KLR MLR MLR
comp=N,800nm,11.0s
KLR MLR MLR
comp=E,2μm,11.0s
EKMR Ekimchan 7.72 311 eP **Pn** **04 36 36.0 -2.3**
SKR Severo-Kuril's 9.09 70 ePN **Pn** **04 36 55.0 -2.1**
MDJ Mudanjiang 9.73 252 P **Pn** **04 37 05.8 -0.1**
MDJ S **Sn** **04 38 55.1 +0.4**
MDJ PCP PcP 04 43 18.9 -1.1
MDJ SCP ScP 04 46 51.4 +0.1
MDJ PCS PcS 04 46 55.1 +1.7
MDJ SCS ScS 04 50 28.0 +2.1
MDJ AMB AMB
comp=Z,50nm,6.7s
MDJ LR LR
comp=N,260nm,9.1s
MDJ LR LR
comp=E,370nm,14.5s
MDJ LR LR
comp=Z,550nm,13.6s
PET Petropavlovsk 11.19 59 ePN **Pn** **04 37 25.4 -0.4**
PET MLR MLR
comp=Z,300nm,16.0s
MA2 Magadan 12.19 20 PN **Pn** **04 37 40.5 +0.9**
MAJO Matsushiro 12.26 197 ePN **Pn** **04 37 41.7 +1.2**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 12.26 197 ePn **Pn** **04 37 41.7 +1.2**
comp=Z,9.2nm,0.8s
MAT Matsushiro 12.26 197 P **Pn** **04 37 40.2 -0.3**
MAT Matsushiro 12.26 197 P **Pn** **04 37 40.0 -0.5**
MJAR Matsushiro Arr 12.26 197 P **Pn** **04 37 40.7 +0.2**
comp=Z,0.2nm,0.3s,baz=11,slow=14,SNR=6.1
CN2 Changchun 12.75 255 eP **Pn** **04 37 48.8 +1.6**
CN2 eXP 04 37 55.3
CN2 eS **Sn** **04 40 10.0 +1.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,13.0s
CN2 LR LR
comp=E,400nm,13.0s
CN2 LR LR
comp=Z,400nm,13.0s
JHJ Hachijo jima 2 15.39 189 LR LR 04 45 09.4
comp=Z,101nm,19.2s,baz=150,slow=40
YAK Yakutsk 15.50 337‖ eP **Pn** **04 38 30.7 +6.3**
YAK pmax pmax
comp=Z,20nm,1.2s
CIT Chita 18.89 292 eP **Pn** **04 39 08.6 +1.7**
CIT pmax pmax
comp=Z,37nm,2.0s
CBIJ Chichi jima 21.25 181 LR LR 04 46 43.3
comp=Z,29nm,21.6s,baz=131,slow=34
BILL Bilibino 23.04 23 *i* P **P** **04 39 51.4 +0.4**
BILL *e* 04 39 58.0
BILL pmax pmax
comp=Z,7.0nm,1.2s,mb4.0
BILL MLR MLR
comp=Z,100nm,17.0s,MS3.3
BILL Bilibino 23.04 23 eP **P** **04 39 51.8 +0.8**
comp=Z,12nm,1.0s,mb4.3
HHC Hu-ho-hao-te 23.22 263 eP **P** **04 39 52.6 -0.4**
HHC AP 04 39 56.6
HHC XP sP 04 39 59.4 -0.9
HHC PP 04 40 21.8
HHC PCP PcP 04 43 42.8 +2.3
HHC S **S** **04 43 55.8 -8.2**
HHC SS 04 44 42.4
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
HHC AMB AMB
comp=Z,50nm,3.5s
HHC LR LR
comp=N,240nm,10.9s,MS4.0
HHC LR LR
comp=E,200nm,12.9s,MS4.0
HHC LR LR
comp=Z,320nm,14.9s,MS3.9
SSE Sheshan 23.73 231 P **P** **04 39 58.1 +0.1**
SSE AMB AMB
comp=Z,30nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,50nm,4.2s
SONM Songino Array 24.05 282 P **P** **04 40 00.8 -0.1**
comp=Z,1.0nm,0.5s,mb3.5,baz=77,slow=9.1,SNR=15
SONM LR LR 04 50 36.2
comp=Z,84nm,18.1s,MS3.3,baz=168,slow=39
TIXI Tiksi 24.21 349 *i* P **P** **04 40 02.4 0.0**
TIXI pmax pmax
comp=Z,11nm,1.5s,mb4.1
NJ2 Nanjing 24.24 236 eP **P** **04 40 03.0 +0.3**
NJ2 AP 04 40 07.5
NJ2 XP sP 04 40 11.1 +1.0
NJ2 PP 04 40 38.3
NJ2 S **S** **04 44 17.0 -3.5**
NJ2 XS sS 04 44 27.0 -2.2
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
NJ2 AMB AMB
comp=Z,70nm,10.0s
NJ2 LR LR
comp=N,480nm,16.8s
NJ2 LR LR
comp=E,200nm,10.3s
NJ2 LR LR
comp=Z,220nm,22.9s
TLY Talaya 25.04 292 eP **P** **04 40 10.3 +0.4**
TLY pmax pmax
comp=Z,3.0nm,1.0s,mb3.8
TLY MLR MLR
comp=Z,152nm,13.0s,MS3.7
ZAK Zakamensk 25.48 289 eP **P** **04 40 14.6 +0.7**
ZAK pmax pmax
comp=Z,11nm,1.4s,mb4.2
LZH Lanzhou 30.89 261 eP **P** **04 41 03.5 +1.3**
LZH AP pP 04 41 07.9 +0.3
LZH XP sP 04 41 10.5 +0.7
LZH PP PP 04 42 04.3 -7.7
LZH AMB AMB
comp=Z,20nm,1.4s,mb4.8
CD2 Chengdu 34.18 254 eP **P** **04 41 30.1 -1.0**
CD2 AP pP 04 41 34.5 -1.9
CD2 XP sP 04 41 37.1 -1.5
CD2 PP PP 04 42 44.1 -4.4
CD2 S **S** **04 46 54.6 -2.1**
CD2 SS SS 04 49 02.1 -23
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,170nm,18.0s
CD2 LR LR
comp=Z,70nm,12.0s
ZAL Zalesovo 35.80 301 P **P** **04 41 44.0 -1.0**
comp=Z,0.9nm,0.3s,mb4.2,baz=168,slow=9.3,SNR=2.5
ZAL PcP PcP 04 44 12.4 -0.1
comp=Z,1.2nm,0.5s,baz=28,slow=2.7,SNR=3.8
WMQ Urumqi 37.66 284 eP **P** **04 42 02.3 +1.4**
WMQ LR LR
comp=N,30nm,13.0s,MS3.6
WMQ LR LR
comp=E,50nm,13.0s,MS3.6
WMQ LR LR
comp=Z,50nm,15.0s,MS3.4
KDAK Kodiak Island 38.62 51 P **P** **04 42 08.6 -0.4**
comp=Z,12nm,1.0s,mb4.6,baz=281,slow=5.2,SNR=4.2
KMI Kunming 38.87 248 P **P** **04 42 12.5 +1.4**
KMI AP pP 04 42 17.3 +0.8
KMI PP PP 04 43 44.0 +3.9
KMI S **S** **04 48 09.6 +1.4**
KMI SS SS 04 50 52.3 -7.4
KMI AMB AMB
comp=Z,100nm,5.4s
KMI LR LR
comp=N,210nm,15.5s,MS4.2
KMI LR LR
comp=E,130nm,12.1s,MS4.2
KMI LR LR
comp=Z,150nm,15.5s,MS3.9
MCK McKinley 39.07 41 eP **P** **04 42 13.0 +0.2**
MCK pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
MCK McKinley 39.07 41 eP **P** **04 42 13.0 +0.3**
comp=Z,2.0nm,0.6s,mb4.0
COLA College 39.34 39 eP **P** **04 42 14.6 -0.4**
COLA pmax pmax
comp=Z,12nm,0.9s,mb4.6
COLA College 39.34 39 eP **P** **04 42 14.6 -0.4**
comp=Z,12nm,0.9s,mb4.6
MKAR Makanchi Array 39.79 291 P **P** **04 42 18.9 +0.1**
comp=Z,1.8nm,0.6s,mb4.0,baz=73,slow=8.3,SNR=16
MKAR PcP PcP 04 44 24.4 -0.4
comp=Z,0.4nm,0.3s,baz=59,slow=3.2,SNR=4.5
MKAR Makanchi Array 39.79 291 *i* P **P** **04 42 19.6 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 39.79 291 P **P** **04 42 18.9 +0.1**
MKAR PcP PcP 04 44 24.4 -0.4
DAWY Dawson 43.09 39 eP **P** **04 42 45.4 -0.4**
CHKZ Chkalovo 43.80 305 eP **P** **04 42 50.9 -0.7**
CHKZ *e* 04 44 37.2
CHKZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
CHKZ Chkalovo 43.80 305 eP **P** **04 42 50.9 -0.7**
comp=Z,2.5nm,0.8s,mb4.0
CHKZ ePcP PcP 04 44 37.2 -0.8
INK Inuvik 44.09 32 P **P** **04 42 53.1 -0.8**
comp=Z,5.1nm,0.7s,mb4.4,baz=289,slow=6.5,SNR=8.2
INK Inuvik 44.09 32 P **P** **04 42 53.1 -0.8**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 44.09 32‖ eP **P** **04 42 53.6 -0.2**
comp=Z,7.2nm,1.0s,mb4.4
BVAR Borovoye Array 44.19 304 P **P** **04 42 54.3 -0.4**
comp=Z,0.4nm,0.3s,mb3.6,baz=69,slow=8.1,SNR=4.5
BVAR PcP PcP 04 44 38.8 -0.5
comp=Z,1.9nm,0.4s,baz=76,slow=6.3,SNR=7.5
ZRNK Zerenda 44.98 305 eP **P** **04 43 00.9 -0.2**
ZRNK *e* 04 44 41.7
ZRNK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ZRNK Zerenda 44.98 305 eP **P** **04 43 00.9 -0.2**
comp=Z,4.2nm,0.9s,mb4.3
ZRNK ePcP PcP 04 44 41.6 -0.4
AAK Ala-Archa 46.65 290 eP **P** **04 43 14.0 -0.2**
AAK pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
AAK Ala-Archa 46.65 290 eP **P** **04 43 14.0 -0.3**
comp=Z,1.5nm,0.3s,mb4.4
ARU Arti 48.84 313⇑ *i* P **P** **04 43 30.9 -0.3**
ARU *e* 04 44 54.3
ARU *e* 04 45 23.2
ARU ePPP 04 46 12.2
ARU eS **S** **04 50 35.3 +1.6**
ARU eSS SS 04 54 03.1 -1.2
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ARU MLR MLR
comp=Z,100nm,16.0s,MS3.9
ARU MLR MLR
comp=N,80nm,19.0s,MS4.0
ARU MLR MLR
comp=E,90nm,15.0s,MS4.0
ARU Arti 48.84 313 eP **P** **04 43 30.7 -0.4**
comp=E,5.5nm,0.7s,mb4.7
DLBC Dease Lake 49.46 44 P **P** **04 43 36.6 +0.7**
comp=E,2.1nm,0.8s,mb4.2,baz=259,slow=6.6,SNR=5.7
RES Resolute Bay 51.44 17 eP **P** **04 43 50.4 -0.5**
RES e*PP pP 04 43 55.2 -1.3
RES pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
RES Resolute Bay 51.44 17 eP **P** **04 43 50.4 -0.5**
comp=Z,9.7nm,0.9s,mb4.7
RES epP pP 04 43 55.2 -1.3
APA Apatity 52.84 333⇑ *i* P **P** **04 44 05.8 +4.5**
APA *i* 04 46 08.0
APA pmax pmax
comp=Z,18nm,1.2s,mb4.9
ORR Orenburg 53.25 309 eP **P** **04 44 03.0 -1.3**
ORR pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
YKA Yellowknife Ar 53.73 34 P **P** **04 44 07.5 -0.3**
comp=Z,6.5nm,0.7s,mb4.7,baz=304,slow=7.0,SNR=11
YKA Yellowknife Ar 53.73 34 *i* P **P** **04 44 07.5 -0.4**
YKA pmax pmax
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 53.78 337 P **P** **04 44 08.5 +0.3**
comp=Z,2.6nm,0.9s,mb4.2,baz=46,slow=5.2,SNR=5.9
KLMR Klimovskoe 54.83 324 eP **P** **04 44 14.6 -1.3**
JOF Joensuu 56.51 329 ep **P** **04 44 27.0 -0.9**
comp=Z,8.8nm,0.7s,mb4.9
JOF Joensuu 56.51 329 eP **P** **04 44 27.0 -0.9**
JOF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
KAF Kangasniemi 58.74 330 ep **P** **04 44 41.4 -2.3**
comp=Z,8.2nm,0.8s,mb4.8,baz=42,slow=6.6
KAF Kangasniemi 58.74 330 eP **P** **04 44 41.4 -2.3**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
FINES FINESS Array B 59.30 330 P **P** **04 44 47.2 -0.3**
comp=Z,5.2nm,0.7s,mb4.7,baz=53,slow=8.4,SNR=43
FINES LR LR 05 13 43.6
comp=Z,48nm,19.1s,MS3.6,baz=12,slow=39
FINES FINESS Array B 59.30 330 P **P** **04 44 47.2 -0.3**
FINES LR LR 05 13 43.6
SUMG Summit 59.35 0 eP **P** **04 44 47.3 -0.5**
comp=Z,11nm,1.1s,mb4.8
OBN Obninsk 59.72 320⇑ eP **P** **04 44 50.8 +0.4**
OBN *e* pP 04 44 55.1 -0.9
OBN *e* 04 45 36.8
OBN pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
OBN MLR MLR
comp=Z,100nm,13.0s,MS4.1
EDM Edmonton 60.12 42 eP **P** **04 44 53.3 +0.1**
NEW Newport 61.64 48 eP **P** **04 45 03.8 +0.3**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 61.64 48 eP **P** **04 45 03.8 +0.3**
comp=Z,3.2nm,0.8s,mb4.5
WALA Waterton Lakes 62.67 46 eP **P** **04 45 10.7 +0.3**
comp=Z,2.8nm,0.6s,mb4.6
FCC Fort Churchill 63.56 29 eP **P** **04 45 15.6 -0.7**
FCC e*PP pP 04 45 20.8 -1.2
FCC pmax pmax
comp=Z,11nm,0.6s,mb5.1
FCC Fort Churchill 63.56 29 eP **P** **04 45 15.6 -0.7**
comp=Z,11nm,0.6s,mb5.1
FCC epP pP 04 45 20.8 -1.2
FFC Flin Flon 63.83 36 eP **P** **04 45 17.9 -0.2**
FFC e*PP pP 04 45 23.1 -0.6
FFC pmax pmax
comp=Z,12nm,0.9s,mb4.9
FFC Flin Flon 63.83 36 eP **P** **04 45 17.9 -0.2**
comp=Z,12nm,0.9s,mb4.9
FFC epP pP 04 45 23.1 -0.7
NB2 NORSAR Subarra 64.12 336 P **P** **04 45 19.7 -0.3**
comp=Z,4.5nm,0.7s,mb4.6,baz=32,slow=6.9
NB2 NORSAR Subarra 64.12 336 P **P** **04 45 19.7 -0.3**
NB2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
NOA NORSAR Array B 64.12 336 P **P** **04 45 19.8 -0.2**
comp=Z,2.5nm,0.6s,mb4.4,baz=33,slow=6.4,SNR=15
NOA NORSAR Array B 64.12 336 P **P** **04 45 19.8 -0.2**
MSO Missoula 64.20 48 eP **P** **04 45 20.9 +0.4**
comp=Z,2.8nm,0.8s,mb4.3
KIV Kislovodsk 64.37 308 *c i* P **P** **04 45 22.4 +0.8**
KIV *i* pP 04 45 27.8 +0.5
KIV *i* 04 45 59.1
KIV *i* 04 55 13.9
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.0
NAO01 NORSAR Array S 64.37 336 eP **P** **04 45 21.2 -0.5**
comp=Z,2.9nm,0.7s,mb4.4
WVOR Wild Horse Val 64.80 54 eP **P** **04 45 25.2 +0.8**
WVOR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
WVOR Wild Horse Val 64.80 54 eP **P** **04 45 25.2 +0.8**
comp=Z,2.0nm,0.5s,mb4.4
HRY Holter Researc 65.31 47 eP **P** **04 45 28.7 +0.9**
EGMT Eagleton 65.37 45 eP **P** **04 45 28.3 +0.2**
comp=Z,9.8nm,1.0s,mb4.8
GNI Garni 65.87 304 *i* P **P** **04 45 33.4 +2.0**
GNI pmax pmax
comp=Z,14nm,1.4s
DLMT Dillon 65.89 48 eP **P** **04 45 32.1 +0.6**
comp=Z,9.3nm,0.8s,mb4.9
AKASG Malin Array Be 65.99 320 P **P** **04 45 31.1 -1.0**
comp=Z,2.1nm,0.6s,mb4.4,baz=38,slow=6.4,SNR=9.9
AKASG Malin Array Be 65.99 320 *i* P **P** **04 45 31.3 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
BOZ Bozeman (W) 66.17 48 eP **P** **04 45 33.9 +0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BOZ Bozeman (W) 66.17 48 eP **P** **04 45 33.9 +0.6**
comp=Z,2.8nm,0.6s,mb4.5
HLID Hailey 66.24 51 eP **P** **04 45 34.4 +0.6**
comp=Z,1.7nm,0.8s,mb4.1
CMB Columbia Colle 66.86 58 eP **P** **04 45 37.3 -0.4**
CMB pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CMB Columbia Colle 66.86 58 eP **P** **04 45 37.2 -0.5**
comp=Z,7.5nm,0.6s,mb4.9
FITZ Fitzroy Crossi 67.89 197 P **P** **04 45 42.8 -1.4**
comp=Z,2.1nm,0.9s,mb4.1,baz=292,slow=19,SNR=3.0
CTA Charters Tower 68.23 176 P **P** **04 45 43.8 -2.6**
comp=Z,6.5nm,1.0s,mb4.6,baz=323,slow=5.1,SNR=3.5
WRAB Tennant Creek 68.39 188 eP **P** **04 45 47.0 -0.4**
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
WRAB Tennant Creek 68.39 188 eP **P** **04 45 47.0 -0.4**
comp=Z,8.4nm,0.8s,mb4.8
WB2 Warramunga Arr 68.40 188 eP **P** **04 45 47.0 -0.5**
WRA Warramunga Arr 68.40 188 P **P** **04 45 45.8 -1.7**
comp=Z,2.1nm,0.6s,mb4.4,baz=8.4,slow=6.6,SNR=16
WRA Warramunga Arr 68.40 188 *i* P **P** **04 45 47.2 -0.3**
WRA pmax pmax
comp=Z,2.0nm,0.6s
HWUT Hardware Ranch 69.11 51 eP **P** **04 45 52.5 +0.6**
comp=Z,5.5nm,0.9s,mb4.5
BW06 Boulder Array 69.28 49 eP **P** **04 45 53.4 +0.4**
comp=Z,4.7nm,0.8s,mb4.5
PDAR Pinedale Array 69.28 49 P **P** **04 45 53.5 +0.6**
comp=Z,4.6nm,0.7s,mb4.5,baz=334,slow=2.4,SNR=37
DUG Dugway 69.48 52 eP **P** **04 45 55.3 +1.1**
DUG e*PP pP 04 46 01.3 +1.4
DUG pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
DUG Dugway 69.48 52 eP **P** **04 45 55.3 +1.1**
comp=Z,6.2nm,1.3s,mb4.4
DUG epP pP 04 46 01.3 +1.4
ULM Lac du Bonnet 69.66 36 P **P** **04 45 54.7 -0.6**
comp=Z,8.4nm,0.6s,mb4.8,baz=319,slow=6.6,SNR=26
ULM Lac du Bonnet 69.66 36 P **P** **04 45 54.7 -0.6**
TPNV Topopah Spring 69.95 57 eP **P** **04 45 58.1 +1.0**
TPNV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
TPNV Topopah Spring 69.95 57 eP **P** **04 45 58.1 +1.0**
comp=Z,2.9nm,0.6s,mb4.4
RSSD Black Hills 70.94 44 eP **P** **04 46 03.4 +0.3**
RSSD e*PP pP 04 46 08.8 0.0
RSSD pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
RSSD Black Hills 70.94 44 eP **P** **04 46 03.4 +0.3**
comp=Z,8.2nm,0.8s,mb4.7
RSSD epP pP 04 46 08.8 0.0
MSU Marysvale 71.05 53 eP **P** **04 46 04.9 +1.2**
OKC Ostrava-Krasne 71.11 326 AMS AMS 05 19 10.0
UPC Upice 71.35 327 epP pP 04 46 11.3 0.0
DPC Dobruska-Polom 71.37 327 eP **P** **04 46 06.8 +1.1**
DPC AMS AMS 05 20 40.0
MORC Moravsky Berou 71.39 326 eP **P** **04 46 06.1 +0.3**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4

MORC Moravsky Berou 71.39 326 *eP* **P 04 46 06.1 +0.3**
comp=Z,3.8nm,0.8s,mb4.4
CLL Collm 71.74 329 *i P* **P 04 46 07.5 -0.4**
comp=Z,6.0nm,0.7s,mb4.6
CLL *ep*P pP 04 46 12.0 -1.6
CLL Collm 71.74 329 *i P* **P 04 46 07.5 -0.4**
CLL *e**PP pP 04 46 12.0 -1.6
CLL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
PVCC Panska Ves 71.85 328 *eP* **P 04 46 09.1 +0.5**
PVCC AMS AMS 05 20 00.0
BRTR Keskin Array B 72.10 310 P **P 04 46 09.8 -0.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=67,slow=4.2,SNR=5.1
BRTR LR LR 05 19 42.2
comp=Z,21nm,18.4s,MS3.5,baz=260,slow=37
BRTR Keskin Array B 72.10 310 *i P* **P 04 46 10.5 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
AS31 Alice Springs 72.13 188 *eP* **P 04 46 10.2 -0.1**
ASAR Alice Springs 72.13 188 P **P 04 46 10.6 +0.3**
comp=Z,4.3nm,0.5s,mb4.7,baz=2.8,slow=5.3,SNR=86
ASPA Alice Springs 72.13 188 *eP* **P 04 46 10.2 -0.1**
ESK Eskdalemuir 72.77 340 *eP* **P 04 46 13.8 -0.3**
ESK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ESK Eskdalemuir 72.77 340 *eP* **P 04 46 13.8 -0.3**
comp=Z,6.6nm,0.8s,mb4.6
PV10 Paradox Valley 72.80 51 *eP* **P 04 46 15.3 +1.1**
NKC Novy Kostel 72.83 329 AMS AMS 05 19 10.0
EYMN Ely 73.21 35 *eP* **P 04 46 15.8 -0.9**
comp=Z,10nm,0.9s,mb4.8
SMCO Snowmass 73.26 50 *eP* **P 04 46 17.5 +0.5**
comp=Z,1.4nm,0.5s,mb4.2
KHC Kasperske Hory 73.37 328 *eP* **P 04 46 18.4 +0.8**
KHC *ep*P pP 04 46 23.4 0.0
KHC AMS AMS 05 21 10.0
comp=Z,100nm,9.6s
KHC Kasperske Hory 73.37 328 *eP* **P 04 46 18.4 +0.8**
KHC *ep*P pP 04 46 23.4 0.0
GERES GERESS Array B 73.57 328 P **P 04 46 18.7 -0.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=37,slow=5.2,SNR=12
GERES LR LR 05 21 36.8
comp=Z,54nm,20.2s,MS3.8,baz=215,slow=38
GRA1 Grafenberg Arr 73.71 329 *eP* **P 04 46 20.2 +0.6**
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 73.71 329 *eP* **P 04 46 20.2 +0.6**
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 73.71 329 *eP* **P 04 46 20.2 +0.6**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 73.71 329 *eP* **P 04 46 20.2 +0.6**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SCHQ Schefferville 74.22 17 P **P 04 46 22.3 -0.3**
comp=Z,2.8nm,0.5s,mb4.5,baz=346,slow=6.9,SNR=9.0
GIVF Givet 75.39 333 *eP* **P 04 46 29.0 -0.4**
BAIF Baives 75.61 334 *eP* **P 04 46 30.2 -0.5**
CDF Champ du Feu 76.12 331 *eP* **P 04 46 33.5 -0.1**
ANMO Albuquerque 76.75 52 *eP* **P 04 46 38.1 +1.0**
ANMO pmax pmax
comp=Z,1.0nm,0.4s
ANMO Albuquerque 76.75 52 *eP* **P 04 46 38.1 +1.0**
comp=Z,0.9nm,0.4s,mb4.0
SCIA State Center 77.51 39 *eP* **P 04 46 40.7 -0.7**
CABF La Chapelle 78.09 331 *eP* **P 04 46 44.7 +0.1**
FLN La Foliniere 78.11 336 *eP* **P 04 46 44.3 -0.4**
comp=Z,18nm,1.0s,mb4.7
FLN La Foliniere 78.11 336 *eP* **P 04 46 44.3 -0.4**
FLN pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
FLN La Foliniere 78.11 336 *eP* **P 04 46 44.3 -0.4**
comp=Z,9.1nm,1.0s,mb4.7
LDF La Druitiere 78.16 336 *eP* **P 04 46 44.6 -0.5**
LOR Lormes 78.21 333 *eP* **P 04 46 44.8 -0.5**
comp=Z,9.7nm,0.8s,mb4.5
LOR Lormes 78.21 333 *eP* **P 04 46 44.8 -0.5**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LOR Lormes 78.21 333 *eP* **P 04 46 44.8 -0.5**
comp=Z,4.8nm,0.8s,mb4.5
SSF Saint Saulge 78.50 333 *eP* **P 04 46 46.4 -0.5**
comp=Z,5.9nm,0.8s,mb4.3
SSF Saint Saulge 78.50 333 *eP* **P 04 46 46.4 -0.5**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SSF Saint Saulge 78.50 333 *eP* **P 04 46 46.4 -0.5**
comp=Z,3.0nm,0.8s,mb4.3
GRR Gorron 78.55 336 *eP* **P 04 46 46.9 -0.3**
comp=Z,30nm,1.2s,mb4.8
GRR Gorron 78.55 336 *eP* **P 04 46 46.9 -0.3**
GRR pmax pmax
comp=Z,15nm,1.2s,mb4.8
GRR Gorron 78.55 336 *eP* **P 04 46 46.9 -0.3**
comp=Z,15nm,1.2s,mb4.8
SMF Signal de Mont 78.77 332 *eP* **P 04 46 48.1 -0.3**
comp=Z,22nm,1.1s,mb4.7
SMF Signal de Mont 78.77 332 *eP* **P 04 46 48.1 -0.3**
SMF pmax pmax
comp=Z,11nm,1.1s,mb4.7
SMF Signal de Mont 78.77 332 *eP* **P 04 46 48.1 -0.3**
comp=Z,11nm,1.1s,mb4.7
AVF Avril sur Loir 78.79 333 *eP* **P 04 46 48.2 -0.3**
comp=Z,20nm,1.2s,mb4.6
AVF Avril sur Loir 78.79 333 *eP* **P 04 46 48.2 -0.3**
AVF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
AVF Avril sur Loir 78.79 333 *eP* **P 04 46 48.2 -0.3**
comp=Z,9.9nm,1.2s,mb4.6
LPL La Plagne 78.84 330 *eP* **P 04 46 49.2 +0.4**
comp=Z,6.5nm,0.7s,mb4.4
LPL La Plagne 78.84 330 *eP* **P 04 46 49.2 +0.4**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LPL La Plagne 78.84 330 *eP* **P 04 46 49.2 +0.4**
comp=Z,3.3nm,0.7s,mb4.4
LPG La Plagne 78.85 330 *eP* **P 04 46 49.5 +0.6**
comp=Z,9.8nm,0.8s,mb4.5
LPG La Plagne 78.85 330 *eP* **P 04 46 49.5 +0.6**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPG La Plagne 78.85 330 *eP* **P 04 46 49.5 +0.6**
comp=Z,4.9nm,0.8s,mb4.5
EIL Elat 78.98 302 *eP* **P 04 46 48.9 -0.6**
comp=Z,155nm,1.3s
EIL *ep*P pP 04 46 54.9 -0.4
SGMF Saint Gilles 79.12 337 *eP* **P 04 46 50.5 +0.2**
comp=Z,17nm,1.0s,mb4.6
SGMF Saint Gilles 79.12 337 *eP* **P 04 46 50.5 +0.2**
SGMF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SGMF Saint Gilles 79.12 337 *eP* **P 04 46 50.5 +0.2**
comp=Z,8.6nm,1.0s,mb4.6
ROSF Rostrenen 79.23 338 *eP* **P 04 46 51.1 +0.2**
comp=Z,36nm,1.1s,mb4.9
ROSF Rostrenen 79.23 338 *eP* **P 04 46 51.1 +0.2**
ROSF pmax pmax
comp=Z,18nm,1.1s,mb4.9
ROSF Rostrenen 79.23 338 *eP* **P 04 46 51.1 +0.2**
comp=Z,18nm,1.1s,mb4.9
AMTX Amarillo 79.25 49 *eP* **P 04 46 51.5 +0.5**
comp=Z,4.4nm,0.7s,mb4.5
BNI Bardonecchia 79.27 330 *eP* **P 04 46 49.6 -1.5**
BNI pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BNI Bardonecchia 79.27 330 *eP* **P 04 46 49.5 -1.6**
comp=Z,4.1nm,0.9s,mb4.4
MBDF Montbardon 79.53 330 *eP* **P 04 46 52.2 -0.3**
comp=Z,5.4nm,0.7s,mb4.3
MBDF Montbardon 79.53 330 *eP* **P 04 46 52.2 -0.3**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MBDF Montbardon 79.53 330 *eP* **P 04 46 52.2 -0.3**
comp=Z,2.7nm,0.7s,mb4.3
TCF Toulx Ste Croi 79.59 333 *eP* **P 04 46 52.8 -0.1**
QUIF Quistinic 79.59 337 *eP* **P 04 46 52.8 -0.1**
ORIF Oris-en-Rattie 79.66 330 *eP* **P 04 46 53.5 +0.3**
comp=Z,6.3nm,0.7s,mb4.3
ORIF Oris-en-Rattie 79.66 330 *eP* **P 04 46 53.5 +0.3**
ORIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ORIF Oris-en-Rattie 79.66 330 *eP* **P 04 46 53.5 +0.3**
comp=Z,3.2nm,0.7s,mb4.4
MNTX Cornudas Mount 79.83 53 *eP* **P 04 46 54.7 +0.6**
comp=Z,2.1nm,0.8s,mb4.1
MNTX *ep*P pP 04 47 00.7 +0.8
FORT Forrest 79.86 193 *eP* **P 04 46 54.2 -0.2**
comp=Z,7.4nm,0.5s,mb4.9
STKA Stephens Creek 79.89 181 P **P 04 46 53.0 -1.5**
comp=Z,2.4nm,0.9s,mb4.1,baz=337,slow=7.8,SNR=3.4
STKA Stephens Creek 79.89 181 *eP* **P 04 46 52.8 -1.8**
MFF Saint Martin d 79.99 335 *eP* **P 04 46 55.2 +0.2**
comp=Z,15nm,0.9s,mb4.6
MFF Saint Martin d 79.99 335 *eP* **P 04 46 55.2 +0.2**
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MFF Saint Martin d 79.99 335 *eP* **P 04 46 55.2 +0.2**
comp=Z,7.6nm,0.9s,mb4.6
SBF Sospel 80.06 329 *eP* **P 04 46 55.0 -0.4**
VIVF Saint-Julien-l 80.10 331 *eP* **P 04 46 55.8 +0.1**
comp=Z,7.3nm,0.9s,mb4.3
VIVF Saint-Julien-l 80.10 331 *eP* **P 04 46 55.8 +0.1**
VIVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VIVF Saint-Julien-l 80.10 331 *eP* **P 04 46 55.8 +0.1**
comp=Z,3.7nm,0.9s,mb4.3
FRF La Foret Royal 80.60 329 *eP* **P 04 46 57.7 -0.6**
LMR La Mourre 80.84 329 *eP* **P 04 46 59.0 -0.6**
CAF Calviac 80.86 333 *eP* **P 04 47 00.2 +0.5**
comp=Z,16nm,1.2s,mb4.5
CAF Calviac 80.86 333 *eP* **P 04 47 00.2 +0.5**
CAF pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
CAF Calviac 80.86 333 *eP* **P 04 47 00.2 +0.5**
comp=Z,8.2nm,1.2s,mb4.5
LFF La Frestale 81.25 334 *eP* **P 04 47 02.2 +0.4**
CCM Cathedral Cave 81.55 40 *eP* **P 04 47 02.9 -0.5**
CCM *e**PP pP 04 47 07.7 -1.5
CCM pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CCM Cathedral Cave 81.55 40 *eP* **P 04 47 02.9 -0.5**
comp=Z,4.5nm,0.8s,mb4.5
CCM *ep*P pP 04 47 07.7 -1.5
EPF Esparros 83.10 333 *eP* **P 04 47 10.7 -0.8**
MIAR Mount Ida 83.44 44 *eP* **P 04 47 13.5 +0.3**
MIAR *e**PP pP 04 47 18.0 -1.0
MIAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
MIAR Mount Ida 83.44 44 *eP* **P 04 47 13.5 +0.2**
comp=Z,4.1nm,0.7s,mb4.6
MIAR *ep*P pP 04 47 18.0 -1.0
WCI Wyandotte Cave 83.45 37 *eP* **P 04 47 13.0 -0.3**
WCI *e**PP pP 04 47 18.3 -0.8
WCI pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
WCI Wyandotte Cave 83.45 37 *eP* **P 04 47 13.0 -0.3**
comp=Z,8.3nm,0.6s,mb4.9
WCI *ep*P pP 04 47 18.3 -0.8
ETSF Etsaut 83.49 334 *eP* **P 04 47 14.3 +0.8**
comp=Z,8.9nm,0.7s,mb4.6
ETSF Etsaut 83.49 334 *eP* **P 04 47 14.3 +0.8**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ETSF Etsaut 83.49 334 *eP* **P 04 47 14.3 +0.8**
comp=Z,4.4nm,0.7s,mb4.6
JCT Junction City 83.71 50 *eP* **P 04 47 15.0 +0.3**
JCT pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
JCT Junction City 83.71 50 *eP* **P 04 47 15.0 +0.3**
comp=Z,4.4nm,0.6s,mb4.8
WVT Waverly 84.63 39 *eP* **P 04 47 18.8 -0.5**
WVT *e* pP 04 47 24.4 -0.7
WVT pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
WVT Waverly 84.63 39 *eP* **P 04 47 18.8 -0.5**
comp=Z,2.5nm,0.5s,mb4.6
WVT *e* pP 04 47 24.4 -0.8
NATX Nacogdoches 85.23 46 *eP* **P 04 47 23.0 +0.7**
comp=Z,25nm,0.6s,mb5.5
NATX *ep*P pP 04 47 28.8 +0.7
PLAL Pickwick Lake 85.50 40 *eP* **P 04 47 22.5 -1.2**
comp=Z,7.4nm,0.8s,mb5.0
PLAL *ep*P pP 04 47 28.2 -1.3
ESDC Sonseca Array 87.45 335 P **P 04 47 33.2 0.0**
comp=Z,1.3nm,0.5s,mb4.5,baz=17,slow=4.1,SNR=16
VNDA Vanda 126.19 175 PKP PKPdf 04 53 46.1 -2.1
comp=Z,0.5nm,0.6s,baz=345,slow=2.2,SNR=3.1
VNDA Vanda 126.19 175 PKIKP PKPdf 04 53 46.1 -2.1
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA Vanda 126.19 175 *e*PKPdf PKPdf 04 53 46.2 -2.0
LPAZ La Paz 139.30 49 PKP PKPdf 04 54 14.4 +1.5
comp=Z,1.0nm,0.8s,baz=0.7,slow=9.6,SNR=3.5
LPAZ La Paz 139.30 49 *e*PKPdf PKPdf 04 54 14.1 +1.3
LVC Limon Verde 144.11 55 *e*PKPdf PKPdf 04 54 20.5 -0.9
BDFB Brasilia 146.21 19 PKPbc PKPbc 04 54 26.4 +0.2
comp=Z,4.4nm,0.9s,baz=35,slow=3.3,SNR=5.0
CPUP Villa Florida 153.04 42 PKPbc PKPbc 04 54 42.5 -0.7
comp=Z,3.6nm,1.0s,baz=320,slow=3.0,SNR=6.0
PLCA Paso Flores 155.32 84 PKPbc PKPdf 04 54 47.3 +8.2
comp=Z,2.7nm,0.9s,baz=141,slow=7.6,SNR=5.2
PLCA Paso Flores 155.32 84 *e*PKPbc PKPdf 04 54 47.9 +8.8

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*IDC **24** 04:49:05.2±2.0, 5124N×17928W, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/23, mbtmp4.1/12, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=55.0km s-min=20.2km az=175.0*
*ISCJB **24** 04:49:11.2±0.9, 513N±0.1×17924W±005, h52km±6km, mb4.3/28, MS3.4/4, Error ellipse: s-maj=24.8km s-min=5.4km az=171.2*
*NEIC **24** 04:49:11.6±0.9, 51.18N×17927W, h46km±6km, mb4.2/16, ML3.8(AEIC), Error ellipse: s-maj=18.2km s-min=4.7km az=179.0*
*BJI **24** 04:49:11.5, 5120N×17930W, h45km, mB4.8, mb4.7, Ms4.4, Msz3.9*
ISC 24 04:49:13.3±0.9, 514N±01×17925W±006, h54km±6km, n54, σ0 94/55, mb4.3/28, MS3.4/4, 2C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.91**	**270**	P	**Pn**	**04 49 26.3**	**-3.6**
AMKA				S	**Sn**	**04 49 41.9**	**-0.2**
ATKA	**Atka Island**	**3.24**	**73**	P	**Pn**	**04 50 00.8**	**-0.8**
ATKA				S	**Sn**	**04 50 40.9**	**+2.0**
SMY	**Shemya**	**4.32**	**291**	P	**Pn**	**04 50 16.2**	**-0.2**
NIKO	**Nikolski**	**6.59**	**72**	P	**Pn**	**04 50 46.8**	**-0.7**
UNV	**Unalaska Valle**	**8.14**	**67**	*e*Pn	**Pn**	**04 51 09.0**	**+0.3**
SVW2	**Sparrevohn**	**16.26**	**44**	*e*Pn	**Pn**	**04 52 59.7**	**+1.7**
SVW2				*eP*		04 53 01.9	
KDAK	**Kodiak Island** 0.7nm,0.3s,baz=300,slow=20,SNR=4.4	**16.66**	**57**	Pn	**Pn**	**04 53 01.4**	**-1.5**
KDAK	**Kodiak Island** 35nm,1.3s	**16.66**	**57**	*eP*	**Pn**	**04 53 02.5**	**-0.4**
MA2	**Magadan** 15nm,1.0s	**18.73**	**308**	*eP*	**Pn**	**04 53 28.2**	**-0.1**
DAWY	**Dawson**	**24.29**	**43**	*eP*	**P**	**04 54 25.1**	**-0.4**
ASAJ	**Asahikawa** comp=Z,42nm,18.9s,MS3.0,baz=352,slow=35	**26.43**	**269**	LR	LR	05 04 18.5	
INK	**Inuvik** 1.8nm,0.7s,mb3.8,baz=201,slow=8.2,SNR=3.7	**27.61**	**35**	P	**P**	**04 54 55.8**	**+0.2**
INK	**Inuvik** 2.5nm,0.9s,mb3.8	**27.61**	**35**	*eP**	**P**	**04 54 57.6**	**+2.1**
MDJ	**Mudanjiang**	**34.30**	**279**	P	**P**	**04 55 54.0**	**-0.3**
MDJ				PP	PP	04 57 10.5	-2.3
MDJ				S	**S**	**05 01 21.8**	**+4.1**
MDJ				SCP	ScP	05 02 15.3	+5.3
MDJ				LR	LR		
	comp=Z,30nm,20.3s,MS3.0						
YKA	**Yellowknife Ar** 0.7nm,0.3nm,0.5s,mb3.5,baz=84,slow=28,SNR=4.1	**35.43**	**46**	P	**P**	**04 56 03.6**	**-0.5**
CN2	**Changchun** comp=Z,10.0nm,0.6s,mb4.8	**37.27**	**281**	*eP*	**P**	**04 56 22.3**	**+2.5**
CN2				AMB	AMB		
NEW	**Newport** comp=Z,1.9nm,0.7s,mb3.9	**39.14**	**69**	*eP*	**P**	**04 56 35.5**	**-0.1**
HLID	**Hailey** comp=Z,1.8nm,1.0s,mb3.8	**43.21**	**74**	*eP*	**P**	**04 57 09.0**	**+0.1**
BOZ	**Bozeman (W)** comp=Z,1.3nm,0.6s,mb3.8	**43.71**	**70**	*eP*	**P**	**04 57 12.8**	**-0.2**
FFC	**Flin Flon** comp=Z,1.0nm,0.6s,mb3.7	**44.37**	**54**	*eP*	**P**	**04 57 19.4**	**+1.2**
AHID	**Auburn Hatcher** comp=Z,13nm,0.6s,mb5.0	**45.65**	**73**	*eP*	**P**	**04 57 26.8**	**-1.6**
ULN	**Ulaanbaatar** comp=Z,2.1nm,0.3s,mb4.5	**46.01**	**296**	*eP*	**P**	**04 57 31.1**	**-0.1**
DUG	**Dugway** comp=Z,2.0nm,0.8s,mb4.1	**46.14**	**77**	*eP*	**P**	**04 57 32.1**	**-0.2**
SONM	**Songino Array** comp=Z,1.1nm,0.7s,mb3.9,baz=60,slow=9.4,SNR=13	**46.39**	**296**	P	**P**	**04 57 34.6**	**+0.3**
SONM				PcP	PcP	04 59 07.6	-0.9
	comp=Z,0.6nm,0.6s,baz=50,slow=2.9,SNR=4.6						
BW06	**Boulder Array** comp=Z,2.7nm,0.9s,mb4.2	**46.57**	**72**	*eP*	**P**	**04 57 35.4**	**-0.3**
PDAR	**Pinedale Array** comp=Z,1.6nm,0.7s,mb4.0,baz=311,slow=3.9,SNR=14	**46.57**	**72**	P	**P**	**04 57 34.7**	**-1.0**
HHC	**Hu-ho-hao-te**	**47.42**	**286**	*eP*	**P**	**04 57 41.9**	**-0.3**
HHC				AP	pP	04 57 54.1	-2.4
HHC				XP	sP	04 57 59.5	-3.3
HHC				PCP	PcP	04 59 13.1	+1.1
HHC				PP	PP	04 59 32.0	-1.8
HHC				PCS	PcS	05 03 07.8	+0.4
HHC				S	**S**	**05 04 30.6**	**-2.0**
HHC				XS	sS	05 04 50.8	-5.8
HHC				SCS	ScS	05 07 29.0	-2.2
HHC				SS	SS	05 07 51.6	-9.1
HHC				AMB	AMB		
	comp=Z,70nm,5.8s						
HHC				LR	LR		
	comp=N,100nm,15.7s,MS4.2						
HHC				LR	LR		
	comp=E,160nm,12.7s,MS4.2						
HHC				LR	LR		
	comp=Z,120nm,20.2s						
RSSD	**Black Hills** comp=Z,1.1nm,0.5s,mb4.1	**49.02**	**67**	*eP*	**P**	**04 57 54.0**	**-0.5**
PV01	**Paradox Valley**	**50.00**	**76**	*eP*	**P**	**04 58 01.9**	**-0.1**
ZAL	**Zalesovo** comp=Z,29nm,18.5s,MS3.4,baz=95,slow=36	**53.84**	**313**	LR	LR	05 21 10.5	
LZH	**Lanzhou**	**55.11**	**286**	*eP*	**P**	**04 58 41.9**	**+2.0**
LZH				PP	PP	05 00 46.8	+3.3
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
GTA	**Gaotai**	**55.30**	**291**	*eP*	**P**	**04 58 41.3**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,2.0nm,0.7s,mb4.2,baz=34,slow=8.8,SNR=5.3	**58.04**	**350**	P	**P**	**04 58 60.0**	**-0.7**
KURK	**Kurchatov** comp=Z,3.2nm,0.6s,mb4.5	**58.81**	**313**	*eP*	**P**	**04 59 05.6**	**-0.4**
WMQ	**Urumqi**	**59.10**	**303**	*eP*	**P**	**04 59 12.8**	**+4.8**
MKAR	**Makanchi Array** comp=Z,1.5nm,0.4s,mb4.3,baz=56,slow=7.4,SNR=15	**59.81**	**308**	P	**P**	**04 59 12.5**	**-0.4**
ZRNK	**Zerenda** comp=Z,1.1nm,0.6s,mb4.2	**61.32**	**320**	*eP*	**P**	**04 59 22.8**	**-0.4**
JOF	**Joensuu** comp=Z,2.0nm,0.5s,mb4.4	**63.52**	**345**	*ep*	**P**	**04 59 36.2**	**-1.7**
KAF	**Kangasniemi** comp=Z,3.0nm,0.6s,mb4.5	**65.04**	**347**	*ep*	**P**	**04 59 46.5**	**-1.3**
FINES	**FINESS Array B** comp=Z,1.3nm,0.5s,mb4.2,baz=20,slow=6.5,SNR=14	**65.72**	**347**	P	**P**	**04 59 51.5**	**-0.7**
NOA	**NORSAR Array B** comp=Z,0.2nm,0.4s,mb3.5,baz=349,slow=5.0,SNR=2.7	**67.61**	**355**	P	**P**	**05 00 03.9**	**-0.4**
GUN	**Gumba** comp=Z,16nm,0.4s,mb5.3	**71.59**	**292**	*eP*	**P**	**05 00 29.6**	**+0.8**
JIRN	**Jiri** comp=Z,14nm,0.6s,mb5.1	**71.60**	**291**	*eP*	**P**	**05 00 29.7**	**+0.8**
KKN	**Kakani**	**72.03**	**292**	*eP*	**P**	**05 00 32.1**	**+0.7**
GKN	**Gorkha**	**72.25**	**293**	*eP*	**P**	**05 00 33.2**	**+0.5**
KOLN	**Koldanda**	**73.02**	**293**	*eP*	**P**	**05 00 37.5**	**+0.2**
AKASG	**Malin Array Be** comp=Z,4.7nm,0.4s,mb4.8,baz=20,slow=5.9,SNR=15	**75.46**	**342**	P	**P**	**05 00 51.0**	**-0.5**
AKASG	**Malin Array Be**	**75.46**	**342**	P	**P**	**05 00 51.0**	**-0.5**
BURAR	**Bucovina Array**	**79.17**	**343**	‖ *iP*	**P**	**05 01 12.9**	**+0.6**
GERES	**GERESS Array B** comp=Z,0.7nm,0.6s,mb3.8,baz=33,slow=5.1,SNR=7.4	**79.54**	**351**	P	**P**	**05 01 14.0**	**-0.3**
MLR	**Muntele Rosu**	**81.08**	**342**	‖ *iP*	**P**	**05 01 24.5**	**+1.9**
GZR	**Gura Zlata**	**81.74**	**345**	‖ *iP*	**P**	**05 01 27.1**	**+1.0**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.7s,mb4.1,baz=86,slow=3.2,SNR=6.4	**84.82**	**335**	P	**P**	**05 01 42.3**	**+0.4**
TSUM	**Tsumeb** comp=Z,3.8nm,0.9s,baz=45,slow=7.5,SNR=6.4	**145.25**	**331**	PKPbc	PKPbc	05 08 44.7	+0.1

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*LDG **24** 05:22:34.7±0.3, 4294N×126W, h5km, Md0.9/3, Ml1.0/1, Error ellipse: s-maj=7.4km s-min=2.2km az=46.0*
MDD 24 05:22:35.6±0.6, 4310N×119W, h17km±4km, mbLg0.7/3, Error ellipse: s-maj=9.6km s-min=2.7km az=17.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean** 9.2nm,0.2s	**0.03**	**289**	*eP*g	Pg	05 22 38.5	0.0
SJPF				*eS*g	Sg	05 22 40.5	0.0
SJPF	**Ste Jean** 4.6nm,0.2s	**0.03**	**289**	Pg	Pg	05 22 38.5	0.0
SJPF				Lg		05 22 40.5	
ELIZ	**Elizondo** 0.5nm,0.1s,SNR=7.5	**0.26**	**284**	Pg	Pg	05 22 41.0	-0.3
ELIZ				Lg		05 22 44.9	
EALK	**Alkurruntz** 1.3nm,0.1s,SNR=7.9 1.0nm,0.1s,SNR=5.7	**0.26**	**296**	Pg	Pg	05 22 41.0	-0.3
EALK				Lg		05 22 44.9	
IUSE	**Utxeti** 1.3nm,0.1s,SNR=6.2 0.5nm,0.1s,SNR=4.0	**0.31**	**240**	Lg		05 22 47.1	
ETSF	**Etsaut** 0.9nm,0.2s	**0.50**	**114**	*eP*g	Pg	05 22 44.6	-1.1
ETSF				*eS*g	Sg	05 22 51.5	-1.0
ETSF	**Etsaut** 0.4nm,0.2s	**0.50**	**114**	Pg	Pg	05 22 44.6	-1.1
ETSF				Lg		05 22 51.5	
EBIE	**Bielsa** 0.4nm,0.2s 0.0nm,0.3s,SNR=7.9	**1.06**	**113**	Pg	Pg	05 22 55.1	-1.0
EBIE				Lg		05 23 09.4	
EPF	**Esparros** 0.3nm,0.2s	**1.12**	**93**	*eP*g	Pg	05 22 56.8	-0.5
EPF				*eS*g	Sg	05 23 12.4	+0.5
EPF	**Esparros** 0.2nm,0.2s	**1.12**	**93**	Pg	Pg	05 22 56.8	-0.5
EPF				Lg		05 23 12.4	

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*CSEM **24** 05:36:52.4±0.1, 4833N×664E, h10km, ML2.5/17, Error ellipse: s-maj=1.4km s-min=1.2km az=10.0*
*STR **24** 05:36:52.5±0.2, 4832N×665E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **24** 05:36:52.5, 4832N×665E, h5km, ML2.1(STR), ML2.5(LDG), After STR.*
LDG 24 05:36:52.4±0.1, 4834N×663E, h8km, Md2.7/3, Ml2.5/18, Error ellipse: s-maj=1.0km s-min=0.8km az=165.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.37**	**108**	Pg	Pg	05 36 59.4	-0.3
ECH				Sg	Sg	05 37 04.1	-0.5
HAU	**Haudompre** SNR=1.0	**0.38**	**210**	*eP*g	Pg	05 37 00.0	+0.2
HAU				*eS*g	Sg	05 37 05.1	+0.3
HAU	**Haudompre** SNR=1.0 42nm,0.2s	**0.38**	**210**	*eP*g	Pg	05 37 00.0	+0.2
HAU				*eS*g	Sg	05 37 05.1	+0.3
CDF	**Champ du Feu** SNR=1.0 21nm,0.2s	**0.44**	**80**	*eP*g	Pg	05 37 00.5	-0.4
CDF				*eS*g	Sg	05 37 06.3	-0.4
CDF	**Champ du Feu** SNR=1.0 19nm,0.2s,SNR=1.0	**0.44**	**80**	*eP*g	Pg	05 37 00.5	-0.4
CDF				*eS*g	Sg	05 37 06.3	-0.4
THEF	**They Montfort** 9.6nm,0.2s,SNR=1.0	**0.44**	**256**	Pg	Pg	05 37 00.9	-0.1
THEF				Sg	Sg	05 37 07.1	+0.3
WLS	**Welschbruch**	**0.49**	**81**	Pg	Pg	05 37 01.5	-0.4
MOF	**Molkenrain**	**0.59**	**145**	Pg	Pg	05 37 03.4	-0.4
LIBD	**Limburg**	**0.68**	**106**	Pg	Pg	05 37 05.5	0.0
RFYF	**Reffroy** baz=117 39nm,0.2s	**0.82**	**291**	*eP*g	Pg	05 37 08.4	+0.2
RFYF				*eS*g	Sg	05 37 18.8	-0.1
RFYF	**Reffroy** baz=117 19nm,0.2s	**0.82**	**291**	*eP*g	Pg	05 37 08.4	+0.2
RFYF				*eS*g	Sg	05 37 18.8	-0.1
LOMF	**Lomont**	**0.99**	**172**	Pg	Pg	05 37 11.4	-0.1
LOMF				Sg	Sg	05 37 24.6	+0.2
FELD	**Feldberg im Sc**	**1.03**	**116**	Pg	Pg	05 37 11.4	-0.8
BBS	**Basel-Blauen**	**1.05**	**145**	Pg	Pg	05 37 12.2	-0.4
MEZF	**Maizieres J'vi** baz=96,SNR=1.0 13nm,0.2s	**1.06**	**280**	*eP*g	Pg	05 37 12.5	-0.3
MEZF				*eS*g	Sg	05 37 26.5	-0.1
MEZF	**Maizieres J'vi**	**1.06**	**280**	*eP*g	Pg	05 37 12.5	-0.3

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     baz=96,SNR=1.0
MEZF                          eSg      Sg      05 37 26.5  -0.1
     6.7nm,0.2s
SFTF Sexfontaines     1.07 264 ePg      Pg      05 37 12.5  -0.4
     baz=88
SFTF                          eSg      Sg      05 37 26.7  -0.1
     16nm,0.2s
SFTF Sexfontaines     1.07 264 ePg      Pg      05 37 12.5  -0.4
     baz=88
SFTF                          eSg      Sg      05 37 26.7  -0.1
     8.0nm,0.2s
BFO  Black Forest     1.14  90 ePg      Pg      05 37 13.2  -1.0
BFO                           eSg      Sg      05 37 26.2  -2.8
RUP  Ruppelstein      1.40  12 Pn       Pn      05 37 18.3  +0.1
CABF La Chapelle      1.76 192 ePg      Pg      05 37 25.4  -0.8
CABF                          eSg      Sg      05 37 48.0  -1.1
     10nm,0.6s,SNR=1.0
CABF La Chapelle      1.76 192 ePn      Pn      05 37 21.4  -1.8
CABF                          ePg      Pg      05 37 25.4  -0.8
CABF                          eSg      Sg      05 37 48.0  -1.1
CABF La Chapelle      1.76 192 ePg      Pg      05 37 25.4  -0.8
CABF                          eSg      Sg      05 37 48.0  -1.1
     5.2nm,0.6s,SNR=1.0
GIVF Givet            2.13 327 ePg      Pg      05 37 32.0  -1.2
GIVF                          eSg      Sg      05 37 59.7  -1.1
     6.3nm,0.2s,SNR=1.0
GIVF Givet            2.13 327 ePg      Pg      05 37 32.0  -1.2
GIVF                          eSg      Sg      05 37 59.7  -1.1
     3.2nm,0.2s,SNR=1.0
LOR  Lormes           2.15 241 ePn      Pn      05 37 26.7  -1.8
     baz=67,SNR=1.0
LOR  Lormes           2.15 241 ePg      Pg      05 37 32.6  -1.0
     baz=57,SNR=1.0
LOR                           eSg      Sg      05 37 59.9  -1.6
     6.9nm,0.2s,SNR=1.0
LOR  Lormes           2.15 241 ePn      Pn      05 37 26.7  -1.8
LOR                           ePg      Pg      05 37 32.6  -1.0
LOR                           eSg      Sg      05 37 59.9  -1.6
LOR  Lormes           2.15 241 ePg      Pg      05 37 32.6  -1.0
     baz=57,SNR=1.0
LOR                           eSg      Sg      05 37 59.9  -1.6
     3.5nm,0.2s,SNR=1.0
TNS  Taunus Mts       2.23  32 eSg      Sg      05 38 02.2  -2.0
BAIF Baives           2.34 318 ePg      Pg      05 37 35.5  -1.8
BAIF                          eSg      Sg      05 38 05.2  -2.5
     3.0nm,0.3s,SNR=1.0
BAIF Baives           2.34 318 ePg      Pg      05 37 35.5  -1.8
BAIF                          eSg      Sg      05 38 05.2  -2.5
     1.5nm,0.3s,SNR=1.0
SSF  Saint Saulge     2.46 240 ePg      Pg      05 37 37.9  -1.7
SSF                           eSn      Sn      05 37 59.5  -3.6
     SNR=1.0
SSF                           eSg      Sg      05 38 09.6  -2.0
     2.7nm,0.2s,SNR=1.0
SSF  Saint Saulge     2.46 240 ePn      Pn      05 37 31.0  -1.8
SSF                           ePg      Pg      05 37 37.9  -1.7
SSF                           eSn      Sn      05 37 59.5  -3.6
SSF                           eSg      Sg      05 38 09.6  -2.0
SSF  Saint Saulge     2.46 240 ePg      Pg      05 37 37.9  -1.7
SSF                           eSn      Sn      05 37 59.5  -3.6
     SNR=1.0
SSF                           eSg      Sg      05 38 09.6  -2.0
     1.4nm,0.2s,SNR=1.0
SMF  Signal de Mont   2.54 229 ePg      Pg      05 37 39.7  -1.3
     SNR=1.0
SMF                           eSn      Sn      05 38 00.8  -4.1
SMF                           eSg      Sg      05 38 11.8  -2.1
     8.6nm,0.2s,SNR=1.0
SMF  Signal de Mont   2.54 229 ePn      Pn      05 37 31.7  -2.1
SMF                           ePg      Pg      05 37 39.7  -1.3
SMF                           eSn      Sn      05 38 00.8  -4.1
SMF                           eSg      Sg      05 38 11.8  -2.1
SMF  Signal de Mont   2.54 229 ePg      Pg      05 37 39.7  -1.3
     SNR=1.0
SMF                           eSn      Sn      05 38 00.8  -4.1
SMF                           eSg      Sg      05 38 11.8  -2.1
     4.3nm,0.2s,SNR=1.0
AVF  Avril sur Loir   2.70 236 ePg      Pg      05 37 42.7  -1.5
     SNR=1.0
AVF                           eSn      Sn      05 38 05.5  -3.5
     SNR=1.0
AVF                           eSg      Sg      05 38 17.8  -1.4
     1.7nm,0.2s,SNR=1.0
AVF  Avril sur Loir   2.70 236 ePn      Pn      05 37 34.2  -1.9
AVF                           ePg      Pg      05 37 42.7  -1.5
AVF                           eSn      Sn      05 38 05.5  -3.5
AVF                           eSg      Sg      05 38 17.8  -1.4
AVF  Avril sur Loir   2.70 236 ePg      Pg      05 37 42.7  -1.5
     SNR=1.0
AVF                           eSn      Sn      05 38 05.5  -3.5
     SNR=1.0
AVF                           eSg      Sg      05 38 17.8  -1.4
     0.9nm,0.2s,SNR=1.0
LPL  La Plagne        2.82 179 ePg      Pg      05 37 44.9  -1.6
LPL                           eSg      Sg      05 38 21.4  -1.6
     0.9nm,0.2s
LPL  La Plagne        2.82 179 ePg      Pg      05 37 44.9  -1.6
LPL                           eSg      Sg      05 38 21.4  -1.6
     0.4nm,0.2s
LPG  La Plagne        2.84 178 ePg      Pg      05 37 45.4  -1.4
LPG                           eSg      Sg      05 38 22.0  -1.6
     1.5nm,0.4s
LPG  La Plagne        2.84 178 ePg      Pg      05 37 45.4  -1.4
LPG                           eSg      Sg      05 38 22.0  -1.6
     0.8nm,0.4s
BGF  Bois d'Agland    3.12 237 ePg      Pg      05 37 50.3  -1.9
     SNR=1.0
BGF                           eSg      Sg      05 38 30.3  -2.4
     10nm,0.4s,SNR=1.0
BGF  Bois d'Agland    3.12 237 ePn      Pn      05 37 40.3  -1.6
BGF                           ePg      Pg      05 37 50.3  -1.9
BGF                           eSg      Sg      05 38 30.3  -2.4
BGF  Bois d'Agland    3.12 237 ePg      Pg      05 37 50.3  -1.9
     SNR=1.0
BGF                           eSg      Sg      05 38 30.3  -2.4
     5.2nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie   3.46 189 ePg      Pg      05 37 56.5  -2.1
ORIF                          eSg      Sg      05 38 40.5  -2.9
     2.5nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie   3.46 189 ePg      Pg      05 37 56.5  -2.1
ORIF                          eSg      Sg      05 38 40.5  -2.9
     1.2nm,0.4s,SNR=1.0
MBDF Montbardon       3.61 178 ePg      Pg      05 37 59.3  -2.3
MBDF                          eSg      Sg      05 38 46.0  -2.4
     2.6nm,0.6s
MBDF Montbardon       3.61 178 ePg      Pg      05 37 59.3  -2.3
MBDF                          eSg      Sg      05 38 46.0  -2.4
     1.3nm,0.6s
TCF  Toulx Ste Croi   3.64 237 eSg      Sg      05 38 46.3  -2.9
     3.0nm,0.4s,SNR=1.0
TCF  Toulx Ste Croi   3.64 237 eSg      Sg      05 38 46.3  -2.9
     1.5nm,0.4s,SNR=1.0
VIVF Saint-Julien-l   3.73 202 ePg      Pg      05 38 01.6  -2.3
VIVF                          eSg      Sg      05 38 49.4  -2.9
     1.2nm,0.2s
VIVF Saint-Julien-l   3.73 202 ePg      Pg      05 38 01.6  -2.3
VIVF                          eSg      Sg      05 38 49.4  -2.9
     0.6nm,0.2s
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BJI **24** *05:59:12.8, 442N×9504E, h55km, mB4.8, mb4.8, Ms4.4, Msz3.8*
MOS **24** *05:59:14.0±0.9, 503N×9517E, h33km, mb4.7/28, Error ellipse: s-maj=18.2km s-min=6.3km az=116.6*
NEIC **24** *05:59:14.7±0.2, 486N×9495E, h30km, mb4.7/26, Error ellipse: s-maj=11.0km s-min=4.8km az=223.0*
NEIC Felt [II] at Banda Aceh.
IDC **24** *05:59:15.9±3.9, 491N×9499E, h40km±34km, mb4.2/14, mb1 4.3/15, mb1mx4.2/22, mbtmp4.4/15, ML4.3/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/34, Error ellipse: s-maj=30.8km s-min=14.1km az=53.0*
ISCJB **24** *05:59:18.6±1.3, 494N×006×9517E±006, h78km±12km, mb4.5/55, Error ellipse: s-maj=12.6km s-min=7.2km az=101.2*
ISC 24 05:59:19.8±1.1, 495N±006×9513E±006, h71km±10km, h53km±3.8km: pP-P, n140, σ0 89/131, mb4.5/55, 10C-12D, Northern Sumatera

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Code Station Name      Δ°   AZ°   Phase ID      Time      Res
                                  Op    ISC     h m s     ISC
PSI  Prapat           4.34 119    P             Pn        06 00 23.6 +0.3
     15nm,0.3s,baz=314,slow=11,SNR=46
PSI                               S             Sn        06 01 12.7 +0.1
     6.9nm,0.3s,baz=314,slow=16,SNR=3.0
PSI                               LR            LR        06 02 28.7
     comp=Z,315nm,19.3s,baz=158,slow=43
PSI  Prapat           4.34 119    P             Pn        06 00 23.6 +0.3
PSI                               S             Sn        06 01 12.7 +0.1
PSI  Prapat           4.34 119    P             Pn        06 00 23.6 +0.3
PSI                               S             Sn        06 01 12.7 +0.1
PSI                               LR            LR        06 02 28.7
KULM Kulim            5.51  86 ePn              Pn        06 00 38.9 -0.3
IPM  Ipoh             5.89  94    P             Pn        06 00 44.3 -0.2
QIZ  Qiongzhong      20.05  44    P             P         06 03 47.8 +0.7
QIZ                               S             S         06 07 31.8 +3.3
QIZ                               LR            LR
     comp=Z,110nm,18.8s
GYA  Guiyang         24.07  26    P             P         06 04 29.8 +1.4
GYA                               AMB           AMB
     comp=Z,10.0nm,0.8s,mb4.2
JIRN Jiri            24.14 340 eP                P         06 04 29.4 +0.3
     comp=Z,18nm,0.3s,mb4.8
PKI  Pulchoki        24.33 339 eP                P         06 04 31.4 +0.6
GUN  Gumba           24.48 340 eP                P         06 04 31.9 -0.2
     comp=Z,18nm,0.4s,mb4.8
DMN  Daman           24.48 338 eP                P         06 04 32.0 -0.1
     comp=Z,5.4nm,0.3s,mb4.4
KKN  Kakani          24.58 339 eP                P         06 04 32.9 -0.2
     comp=Z,8.1nm,0.4s,mb4.5
KKN  Kakani          24.58 339 eP                P         06 04 32.9 -0.2
KKN                               pmax          pmax
     comp=Z,8.0nm,0.4s,mb4.5
GKN  Gorkha          25.01 338 eP                P         06 04 37.0  0.0
     comp=Z,25nm,0.3s,mb5.1
KOLN Koldanda        25.21 335 eP                P         06 04 38.9 +0.1
     comp=Z,27nm,0.5s,mb4.9
CD2  Chengdu         27.07  16 ⇑iP                P         06 04 54.6 -1.0
CD2                               AP            pP        06 05 09.3 -3.0
CD2                               XP            sP        06 05 16.3 -4.4
CD2                               PP            PP        06 05 43.1
CD2                               S             S         06 09 27.3 -1.1
CD2                               XS            sS        06 09 51.9 -5.4
CD2                               AMB           AMB
     comp=Z,10.0nm,0.7s,mb4.5
CD2                               LR            LR
     comp=E,150nm,15.4s
CD2                               LR            LR
     comp=Z,50nm,14.4s
XAN  Xi'an           31.66  22    P             P         06 05 35.6 -0.6
XAN                               AMB           AMB
     comp=Z,20nm,0.7s,mb5.0
GTA  Gaotai          34.57   6 eP                P         06 06 01.3 -0.3
NJ2  Nanjing         34.94  37 eP                P         06 06 04.0 -0.8
NJ2                               PP            PP        06 07 22.8 -2.3
NJ2                               S             S         06 11 34.0 +2.8
NJ2                               AMB           AMB
     comp=Z,10.0nm,0.8s,mb4.7
NJ2                               AMB           AMB
     comp=Z,80nm,5.8s
NJ2                               LR            LR
     comp=N,330nm,26.0s
NJ2                               LR            LR
     comp=E,230nm,31.4s
NJ2                               LR            LR
     comp=Z,140nm,19.6s
MBWA Marble Bar      35.43 138 eP                P         06 06 07.9 -1.1
     comp=Z,21nm,1.3s,mb4.8
SSE  Sheshan         35.72  40    P             P         06 06 09.3 -2.2
SSE                               AMB           AMB
     comp=Z,40nm,0.7s,mb5.5
SSE                               AMB           AMB
     comp=Z,50nm,4.3s
JOW  Kunigami        38.38  52    P             P         06 06 35.5 +1.5
     comp=Z,3.4nm,0.4s,mb4.5,baz=105,slow=28,SNR=4.8
HHC  Hu-ho-hao-te    38.67  20 eP                P         06 06 38.9 +2.4
HHC                               AP            pP        06 06 51.1 -2.6
HHC                               XP            sP        06 06 56.5 -5.4
HHC                               PP            PP        06 08 12.8 +6.6
HHC                               PCP           PcP       06 08 49.8 +2.6
HHC                               S             S         06 12 32.0 +4.0
HHC                               PCS           PcS       06 12 38.1 +1.5
HHC                               XS            sS        06 12 53.5 -4.0
HHC                               SS            SS        06 15 16.6 -4.2
HHC                               SCS           ScS       06 16 42.0 +2.3
HHC                               AMB           AMB
     comp=Z,10.0nm,0.8s,mb4.7
HHC                               AMB           AMB
     comp=Z,90nm,6.4s
HHC                               LR            LR
     comp=N,80nm,19.0s
HHC                               LR            LR
     comp=E,90nm,16.7s
HHC                               LR            LR
     comp=Z,120nm,16.6s
ULHL Ulahol          40.77 338    P             P         06 06 54.6 +0.7
     SNR=17
UCH  Uchtor          41.41 337    P             P         06 07 00.5 +1.3
     SNR=15
TKM2 Tokmak 2        41.59 338    P             P         06 07 01.4 +0.8
     SNR=13
TKM2 Tokmak 2        41.59 338    P             P         06 07 01.4 +0.7
TKM2                              pmax          pmax
     comp=Z,4.0nm,0.6s,mb4.3
KBK  Karagaybulak    41.61 337    P             P         06 07 02.2 +1.4
     SNR=17
AAK  Ala-Archa       41.77 337 eP                P         06 07 02.0 -0.1
AAK                               pmax          pmax
     comp=Z,9.0nm,1.0s,mb4.5
AAK  Ala-Archa       41.77 337 eP                P         06 07 02.8 +0.7
     comp=Z,4.2nm,0.7s,mb4.3
EKS2 Erkin-Say       42.07 336    P             P         06 07 05.7 +1.2
     SNR=9.7
USP  Ospenovka       42.30 338    P             P         06 07 07.3 +0.9
     SNR=7.6
MKAR Makanchi Array  43.14 347    P             P         06 07 12.9 -0.3
     comp=Z,7.7nm,0.5s,mb4.7,baz=154,slow=7.6,SNR=94
MKAR                              PcP           PcP       06 09 01.9 +0.1
     comp=Z,1.1nm,0.6s,baz=193,slow=3.1,SNR=3.5
MK31 Makanchi Array  43.14 347    P             P         06 07 12.6 -0.6
MK31                              pmax          pmax
     comp=Z,2.0nm,0.5s,mb4.1
KK31 Karatay Array   43.81 334 iP                P         06 07 18.9 +0.3
KK31                              pmax          pmax
     comp=Z,3.0nm,0.5s,mb4.3
KKAR Karatay Array   43.81 334 eP                P         06 07 18.9 +0.3
KKAR                              pmax          pmax
     comp=Z,2.0nm,0.6s,mb4.0
SONM Songino Array   43.81  11    P             P         06 07 17.6 -1.0
     comp=Z,1.1nm,0.5s,mb3.9,baz=189,slow=9.2,SNR=16
SONM                              PcP           PcP       06 09 04.3 +0.3
     comp=Z,0.9nm,0.5s,baz=195,slow=4.1,SNR=6.5
ULN  Ulaanbaatar     43.97  12 eP                P         06 07 18.9 -0.9
ULN                               pmax          pmax
     comp=Z,2.0nm,0.6s,mb4.0
ULN  Ulaanbaatar     43.97  12 eP                P         06 07 18.9 -0.9
     comp=Z,1.7nm,0.6s,mb4.0
SNY  Shenyang        44.63  30 ⇓iP                P         06 07 25.5 +0.3
SNY                               AMB           AMB
     comp=Z,10.0nm,0.5s,mb4.8
WRA  Warramunga Arr  45.79 124    P             P         06 07 34.3 -0.1
     comp=Z,14nm,0.6s,mb4.9,baz=302,slow=9.3,SNR=66
WRAB Tennant Creek   45.80 124 eP                P         06 07 34.5 +0.1
WRAB                              pmax          pmax
     comp=Z,18nm,0.6s,mb5.0
WRAB Tennant Creek   45.80 124 eP                P         06 07 34.5 +0.1
     comp=Z,18nm,0.6s,mb5.0
WB2  Warramunga Arr  45.80 124 ⇑iP                P         06 07 34.6 +0.2
TLY  Talaya          47.12   7 eP                P         06 07 44.1 -0.6
ASPA Alice Springs   47.31 129 eP                P         06 07 46.4 +0.2
ASAR Alice Springs   47.31 129    P             P         06 07 46.0 -0.2
     comp=Z,1.9nm,0.4s,mb4.2,baz=299,slow=7.9,SNR=53
AS31 Alice Springs   47.31 129 eP                P         06 07 46.4 +0.2
KURK Kurchatov       47.67 346 eP                P         06 07 48.5 -0.5
KURK                              e                       06 09 17.4
KURK                              pmax          pmax
     comp=Z,4.0nm,0.3s,mb4.7
KURK Kurchatov       47.67 346 eP                P         06 07 48.5 -0.5
     comp=Z,3.7nm,0.3s,mb4.7
KURK                              ePcP          PcP       06 09 17.4 -0.1
ZAL  Zalesovo        49.56 352    P             P         06 08 03.1 -0.4
     comp=Z,6.2nm,0.5s,mb4.8,baz=304,slow=6.6,SNR=24
BRVK Borovoye        52.12 341 eP                P         06 08 22.0 -0.7
BRVK                              pmax          pmax
     comp=Z,11nm,0.6s,mb5.1
BRVK Borovoye        52.12 341 eP                P         06 08 22.0 -0.7
     comp=Z,11nm,0.6s,mb5.1
ZRNK Zerenda         52.45 340 eP                P         06 08 24.4 -0.8
ZRNK                              pmax          pmax
     comp=Z,12nm,0.6s,mb5.1
ZRNK Zerenda         52.45 340 eP                P         06 08 24.4 -0.8
     comp=Z,12nm,0.6s,mb5.1
CHKZ Chkalovo        52.54 342 eP                P         06 08 25.4 -0.5
CHKZ                              pmax          pmax
     comp=Z,37nm,0.6s,mb5.6
CHKZ Chkalovo        52.54 342 eP                P         06 08 25.4 -0.4
     comp=Z,37nm,0.6s,mb5.6
AB31 Akbulak array   53.26 332    P             P         06 08 31.6 +0.5
AB31                              pmax          pmax
     comp=Z,3.0nm,0.7s,mb4.4
STKA Stephens Creek  57.39 133    P             P         06 09 02.1 +1.3
     comp=Z,1.2nm,0.6s,mb4.1,baz=74,slow=11,SNR=3.0
KMBO Kilima Mbogo    58.13 266    LR            LR        06 30 39.2
     comp=Z,48nm,19.2s,baz=103,slow=32
YSS  Yuzh-Sakhalins  58.51  36 eP                P         06 09 09.4 +0.8
YSS                               pmax          pmax
     comp=Z,9.0nm,0.6s,mb5.0
YSS  Yuzh-Sakhalins  58.51  36 eP                P         06 09 09.4 +0.8
     comp=Z,9.0nm,0.6s,mb5.0
ARU  Arti            58.95 337 ⇓iP                P         06 09 10.6 -1.1
ARU                               e                       06 09 54.0
ARU                               e                       06 11 17.4
ARU                               eS            S         06 17 17.2 +4.6
ARU                               eSS           SS        06 21 09.7 +2.5
ARU                               pmax          pmax
     comp=Z,4.0nm,0.7s,mb4.6
ARU  Arti            58.95 337 eP                P         06 09 11.0 -0.7
     comp=Z,2.4nm,0.6s,mb4.4
KIV  Kislovodsk      60.14 319 eP                P         06 09 21.4 +1.5
KIV                               eS            S         06 17 31.5 +3.6
KIV                               pmax          pmax
     comp=Z,7.0nm,0.8s,mb4.7
BR131 Keskin Array S 65.09 312 eP                P         06 09 51.8 -1.0
     comp=Z,2.3nm,0.6s,mb4.2
BRTR Keskin Array B  65.09 312    P             P         06 09 52.0 -0.9
     comp=Z,3.1nm,0.5s,mb4.4,baz=132,slow=6.9,SNR=21
BRTR Keskin Array B  65.09 312 iP                P         06 09 52.2 -0.6
BRTR                              pmax          pmax
     comp=Z,3.0nm,0.5s
OBN  Obninsk         68.37 328 eP                P         06 10 14.1 +0.4
OBN                               e             pP        06 10 28.1 -4.3
OBN                               pmax          pmax
     comp=Z,3.0nm,0.7s,mb4.2
TIXI Tiksi           69.90  11 eP                P         06 10 21.7 -1.5
TIXI                              pmax          pmax
     comp=Z,5.0nm,0.5s,mb4.6
CFR  Carcaliu        70.37 316 ⇑iP                P         06 10 25.6 -0.5
CFR  Carcaliu        70.37 316 ⇑P                 P         06 10 25.6 -0.5
AKASG Malin Array Be 71.05 322    P             P         06 10 28.4 -1.7
     comp=Z,2.5nm,0.6s,mb4.2,baz=94,slow=5.1,SNR=11
AKASG Malin Array Be 71.05 322 iP                P         06 10 28.8 -1.4
AKASG                             pmax          pmax
     comp=Z,3.0nm,0.6s
VRI  Vrincioaia      71.49 317 ⇓iP                P         06 10 33.5 +0.7
PLOR Plostina        71.54 317 ⇓iP                P         06 10 33.7 +0.6
MLR  Muntele Rosu    71.95 316 ⇓iP                P         06 10 36.2 +0.6
MLR  Muntele Rosu    71.95 316 ⇓P                 P         06 10 36.1 +0.6
VOIR                 72.56 316 ⇑iP                P         06 10 39.0 -0.2
VOIR                 72.56 316 ⇑P                 P         06 10 39.0 -0.2
BURAR Bucovina Array 72.87 318 ⇓iP                P         06 10 41.7 +0.6
BURAR Bucovina Array 72.87 318 ⇓P                 P         06 10 41.7 +0.6
JOF  Joensuu         73.90 335 ep                P         06 10 45.5 -1.6
     comp=Z,3.9nm,0.3s,mb4.6
JOF  Joensuu         73.90 335 eP                P         06 10 45.5 -1.6
JOF                               pmax          pmax
     comp=Z,4.0nm,0.3s,mb4.6
DRGR                 74.40 317 ⇓iP                P         06 10 50.6 +0.6
DRGR                 74.40 317 ⇓P                 P         06 10 50.6 +0.6
KWP  Kalwaria        74.89 320 eP                P         06 10 52.8 -0.1
KWP                               pmax          pmax
     comp=Z,3.0nm,0.5s,mb4.3
KWP  Kalwaria        74.89 320 eP                P         06 10 52.8  0.0
     comp=Z,3.3nm,0.5s,mb4.3
BOSA Boshof          74.89 239    LR            LR        06 38 09.5
     comp=Z,39nm,18.7s,baz=177,slow=31
KOLS Kolonicke sedl  75.05 319 eP                P         06 10 55.6 +1.8
KOLS Kolonicke sedl  75.05 319 eP                P         06 10 55.7 +1.9
FINES FINESS Array B 75.75 332    P             P         06 10 56.8 -0.9
     comp=Z,2.0nm,0.3s,mb4.3,baz=114,slow=6.9,SNR=48
FINES FINESS Array B 75.75 332 iP                P         06 10 56.9 -0.9
FINES                             pmax          pmax
     comp=Z,2.0nm,0.3s
STHS Stebnicka Huta  75.79 320 eP                P         06 10 58.7 +0.7
STHS                              e                       06 11 05.1
STHS                              pmax          pmax
     comp=Z,5.0nm,0.6s,mb4.4
STHS Stebnicka Huta  75.79 320 eP                P         06 10 58.7 +0.7
     comp=Z,5.1nm,0.6s,mb4.4
STHS                              e                       06 11 05.1
KAF  Kangasniemi     75.83 333 ep                P         06 10 56.9 -1.4
     comp=Z,3.7nm,0.5s,mb4.4,baz=103,slow=5.3
KAF  Kangasniemi     75.83 333 eP                P         06 10 56.9 -1.4
KAF                               pmax          pmax
     comp=Z,4.0nm,0.5s,mb4.4
KECS Kecovo          76.15 319 eP                P         06 11 00.0  0.0
KECS                              pmax          pmax
     comp=Z,3.0nm,0.7s,mb4.1
KECS Kecovo          76.15 319 eP                P         06 11 00.0  0.0
     comp=Z,2.5nm,0.7s,mb4.0
OJC  Ojcow           76.84 320 eP                P         06 11 04.0  0.0
PKSM Moragy          77.10 316 ⇓iP                P         06 11 05.0 -0.4
PKSM Moragy          77.10 316 ⇓P                 P         06 11 05.0 -0.4
VYHS Vyhne           77.23 318 iP                P         06 11 06.1 -0.1
VYHS                              pmax          pmax
     comp=Z,2.0nm,0.7s,mb4.0
VYHS Vyhne           77.23 318 iP                P         06 11 06.1 -0.1
     comp=Z,1.5nm,0.7s,mb3.8
KEV  Kevo            77.91 341 ep                P         06 11 07.8 -2.1
     comp=Z,3.1nm,0.5s,mb4.3
KEV  Kevo            77.91 341 eP                P         06 11 07.8 -2.1
KEV                               pmax          pmax
     comp=Z,3.0nm,0.5s,mb4.3
MORC Moravsky Berou  78.23 320 ⇑iP                P         06 11 12.0 +0.3
MORC Moravsky Berou  78.23 320 eP                P         06 11 12.0 +0.3
MORC                              pmax          pmax
     comp=Z,3.0nm,0.6s,mb4.2
MORC Moravsky Berou  78.23 320 eP                P         06 11 11.9 +0.2
     comp=Z,2.7nm,0.6s,mb4.2
ARCES ARCESS Array B 78.34 340    P             P         06 11 11.8 -0.5
     comp=Z,3.8nm,0.5s,mb4.4,baz=93,slow=5.7,SNR=72
ARE0 ARCESS Array S  78.34 340 eP                P         06 11 11.5 -0.8
BILL Bilibino        78.43  21 eP                P         06 11 11.7 -1.1
BILL                              pmax          pmax
     comp=Z,2.0nm,1.1s,mb3.8
DPC  Dobruska-Polom  79.07 320 eP                P         06 11 17.2 +0.9
GERES GERESS Array B 80.66 319    P             P         06 11 25.0 +0.1
     comp=Z,3.0nm,0.6s,mb4.3,baz=90,slow=5.3,SNR=32
KHC  Kasperske Hory  80.75 319 eP                P         06 11 26.1 +0.7
KHC  Kasperske Hory  80.75 319 eP                P         06 11 24.7 -0.7
KHC  Kasperske Hory  80.75 319 eP                P         06 11 26.1 +0.7
NB2  NORSAR Subarra  82.75 331    P             P         06 11 34.7 -1.2
     comp=Z,0.9nm,0.6s,mb3.8,baz=95,slow=5.3
NB2  NORSAR Subarra  82.75 331    P             P         06 11 34.7 -1.2
NB2                               pmax          pmax
     comp=Z,1.0nm,0.6s,mb3.8
NOA  NORSAR Array B  82.75 331    P             P         06 11 34.5 -1.4
     comp=Z,1.5nm,0.8s,mb3.9,baz=93,slow=5.2,SNR=8.2
LPG  La Plagne       85.37 315 ⇑iP                P         06 11 49.4 +0.2
     comp=Z,7.2nm,0.6s,mb4.5
LPG  La Plagne       85.37 315 ⇑iP                P         06 11 49.4 +0.2
LPG                               pmax          pmax
     comp=Z,4.0nm,0.6s,mb4.5
LPG  La Plagne       85.37 315 ⇑iP                P         06 11 49.4 +0.2
     comp=Z,3.6nm,0.6s,mb4.5
TORD Torodi Ar. Bea  92.23 283    P             P         06 12 22.1 +0.3
     comp=Z,0.4nm,0.7s,mb3.8,baz=85,slow=4.0,SNR=3.2
EGMT Eagleton        122.91  20 ePKPdf         PKPdf     06 18 08.2 +0.4
WVOR Wild Horse Val  123.75  30 ePKIKP         PKPdf     06 18 10.7 +1.3
ULM  Lac du Bonnet   124.21   9 PKP            PKPdf     06 18 09.6 -0.7
     comp=Z,1.2nm,0.4s,baz=36,slow=2.4,SNR=4.5
ULM  Lac du Bonnet   124.21   9 PKP            PKPdf     06 18 09.6 -0.7
BOZ  Bozeman (W)     124.26  22 ePKIKP         PKPdf     06 18 11.3 +0.9
HLID Hailey          124.84  26 ePKPdf         PKPdf     06 18 12.8 +1.3
ELK  Elko            126.69  29 ePKIKP         PKPdf     06 18 16.5 +1.5
NVAR Mina Array Bea  126.87  33 PKP            PKPdf     06 18 17.1 +1.7
     comp=Z,0.4nm,0.5s,baz=286,slow=4.8,SNR=3.6
BW06 Boulder Array   127.49  23 ePKPdf         PKPdf     06 18 17.0 +0.5
PDAR Pinedale Array  127.49  23 PKP            PKPdf     06 18 16.9 +0.3
     comp=Z,0.7nm,0.5s,baz=108,slow=2.6,SNR=11
HWUT Hardware Ranch  127.65  25 ePKPdf         PKPdf     06 18 18.0 +1.1
DUG  Dugway          128.25  27 ePKIKP         PKPdf     06 18 19.7 +1.7
SMCO Snowmass        131.58  23 ePKPdf         PKPdf     06 18 26.4 +2.1
ANMO Albuquerque     135.41  26 ePKIKP         PKPdf     06 18 32.0 +0.5
JCT  Junction City   141.99  21 ePKIKP         PKPdf     06 18 47.0 +3.5
CPUP Villa Florida   146.16 228 PKPbc          PKPbc     06 18 52.1 +0.2
```

comp=Z,0.5nm,0.5s,baz=118,slow=7.3,SNR=3.3

*NEIC **24** 06:14:09.0±0.8,3670N×7104E,h10km,mb3.6/3,Error ellipse: s-maj=14.7km s-min=7.9km az=63.0*
*ISCJB **24** 06:14:19.4±0.7,3664N±004×7154E±010,h220km±12km, mb3.3/3,Error ellipse: s-maj=12.9km s-min=4.8km az=146.5*
*IDC **24** 06:14:19.8±4.0,3665N×7174E,h219km±57km,mb3.1/3, mb1 3.2/8,mb1mx3.0/24,mbtmp3.8/8,Error ellipse: s-maj=45.6km s-min=16.7km az=115.0*
*NNC **24** 06:14:28.8±1.1,3739N×7143E,h164km±20km,mb3.0, mpv3.8,Error ellipse: s-maj=12.4km s-min=5.2km az=173.0*

ISC 24 06:14:20.8±0.7,3672N±004×715E±01,h220km±11km,n42, σ1§22/55,mb3.3/3,8C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.56**	**137**	*e*S	**S**	**06 16 44.0**	**-3.7**
AML	**Almayashu** SNR=29	**5.66**	**17**	P	**Pn**	**06 15 44.3**	**+0.3**
UCH	**Uchtor** SNR=72	**5.97**	**22**	P	**Pn**	**06 15 48.4**	**+0.5**
KZA	**Kyzart** SNR=12	**6.08**	**27**	P	**Pn**	**06 15 49.5**	**+0.1**
EKS2	**Erkin-Say** SNR=38	**6.18**	**16**	P	**Pn**	**06 15 50.9**	**+0.2**
AAK	**Ala-Archa** SNR=25	**6.34**	**20**	P	**Pn**	**06 15 53.0**	**+0.4**
AAK	**Ala-Archa** 30nm,0.6s	**6.34**	**20**	*e*P	**Pn**	**06 15 52.0**	**-0.6**
KK31	**Karatay Array** 5.6nm,0.3s,baz=179,slow=12,SNR=125	**6.42**	**353**	⇑P	**Pn**	**06 15 52.2**	**-1.5**
KK31	31nm,0.8s,baz=181,slow=21,SNR=12			⇓S	**S**	**06 16 57.5**	**-10**
KK31	**Karatay Array** 5.6nm,0.3s,baz=179,slow=12,SNR=125	**6.42**	**353**	⇑P	**Pn**	**06 15 52.2**	**-1.5**
KK31	31nm,0.8s,baz=181,slow=21,SNR=12			⇓S	**S**	**06 16 57.5**	**-10**
KBK	**Karagaybulak** SNR=22	**6.49**	**23**	P	**Pn**	**06 15 55.7**	**+1.1**
ULHL	**Ulahol** SNR=12	**6.62**	**32**	P	**Pn**	**06 15 57.1**	**+0.8**
CHMS	**Chumysh** SNR=16	**6.75**	**21**	P	**Pn**	**06 15 57.8**	**-0.1**
SDNR	**Sundarnagar**	**6.90**	**137**	*ex*	x	06 16 27.0	
SDNR				*e*S	**S**	**06 17 14.4**	**-4.4**
USP	**Ospenovka** SNR=10	**6.93**	**18**	P	**Pn**	**06 15 59.6**	**-0.6**
TKM2	**Tokmak 2** SNR=61	**6.94**	**26**	P	**Pn**	**06 16 00.8**	**+0.4**
TKM2	**Tokmak 2** 2.9nm,0.6s	**6.94**	**26**	⇑P	**Pn**	**06 16 00.8**	**+0.4**
TKM2	3.0nm,1.2s			⇑S	**S**	**06 17 13.5**	**-6.4**
TKM2	**Tokmak 2** 2.9nm,0.6s	**6.94**	**26**	⇑P	**Pn**	**06 16 00.8**	**+0.4**
TKM2	3.0nm,1.2s			⇑S	**S**	**06 17 13.5**	**-6.4**
KLP	**Kalpa**	**7.61**	**131**	*e*P	**Pn**	**06 16 10.9**	**+1.9**
KLP				*e*S	**S**	**06 17 34.5**	**-1.0**
JOSI	**Joshimath**	**9.10**	**130**	*e*P	**Pn**	**06 16 07.3**	**-21**
JOSI				*e*S	S	06 17 47.2	-23
NDI	**New Delhi**	**9.34**	**147**	*e*S	**S**	**06 18 08.0**	**-8.3**
KUDL	**Kundal**	**9.53**	**152**	*e*P	**Pn**	**06 16 33.4**	**-0.2**
KUDL				*e*S	**S**	**06 18 11.9**	**-8.8**
KUDL	comp=E,26nm,0.6s			AML	AML	06 18 15.2	
KUDL	comp=N,22nm,0.4s			AML	AML	06 18 19.7	
SONA	**Sohna**	**9.67**	**149**	*e*P	**Pn**	**06 16 36.6**	**+1.2**
SONA				*e*S	**S**	**06 18 17.5**	**-6.5**
SONA	comp=N,56nm,0.6s			AML	AML	06 18 20.9	
SONA	comp=E,36nm,0.6s			AML	AML	06 18 22.8	
MKAR	**Makanchi Array** comp=E,0.2nm,0.3s,baz=220,slow=15,SNR=5.6	**12.87**	**35**	P	**Pn**	**06 17 15.0**	**-1.0**
MKAR	comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=2.3			S	**S**	**06 19 34.2**	**-5.1**
KOLN	**Koldanda** comp=E,6.8nm,0.4s	**13.56**	**128**	*e*P	**Pn**	**06 17 27.5**	**+2.9**
GKN	**Gorkha** comp=E,15nm,0.4s	**14.08**	**124**	*e*P	**Pn**	**06 17 33.8**	**+2.9**
KKN	**Kakani**	**14.65**	**124**	*e*P	**Pn**	**06 17 38.3**	**+0.4**
KURK	**Kurchatov** comp=E,4.6nm,1.1s	**14.89**	**18**	*e*Pn	**Pn**	**06 17 40.4**	**-0.5**
GUN	**Gumba**	**14.98**	**122**	*e*P	**Pn**	**06 17 45.7**	**+3.9**
AB31	**Akbulak array** comp=E,1.6nm,0.7s,baz=136,slow=12,SNR=14	**15.10**	**330**	⇑P	**Pn**	**06 17 45.8**	**+2.5**
AB31	comp=E,1.9nm,0.7s,baz=153,slow=22,SNR=4.3			⇓S	**S**	**06 20 29.1**	**-1.2**
AB31	**Akbulak array** comp=E,1.6nm,0.7s,baz=136,slow=12,SNR=14	**15.10**	**330**	⇑P	**Pn**	**06 17 45.8**	**+2.5**
AB31	comp=E,1.9nm,0.7s,baz=153,slow=22,SNR=4.3			⇓S	**S**	**06 20 29.1**	**-1.2**
JIRN	**Jiri** comp=E,24nm,0.4s	**15.35**	**122**	*e*P	**Pn**	**06 17 49.5**	**+3.2**
BVAR	**Borovoye Array** comp=E,0.4nm,0.3s,baz=158,slow=12,SNR=12	**16.32**	**358**	P	**P**	**06 17 57.7**	**+0.8**
BVAR	comp=E,0.2nm,0.3s,baz=153,slow=9.7,SNR=3.4			S	**S**	**06 20 56.2**	**-0.4**
ZRNK	**Zerenda** comp=E,3.0nm,0.6s	**16.32**	**355**	*e*Pn	**Pn**	**06 17 57.8**	**-0.2**
BRVK	**Borovoye** comp=E,1.4nm,0.6s	**16.36**	**357**	*e*P	**P**	**06 18 00.0**	**+2.7**
AKTK	**Aktyubinsk**	**16.80**	**329**	P	**P**	**06 18 02.7**	**+0.5**
AKTK				S	**S**	**06 21 04.6**	**-1.5**
AKTO	**Aktyubinsk** comp=E,0.3nm,0.3s,baz=172,slow=14,SNR=2.6	**16.80**	**329**	P	**P**	**06 18 02.7**	**+0.5**
AKTO	comp=E,0.1nm,0.3s,baz=12,slow=20,SNR=4.1			S	**S**	**06 21 04.6**	**-1.5**
WSAR	**Wadi Sarin** comp=E,0.4nm,0.3s,baz=344,slow=15,SNR=2.9	**17.44**	**223**	P	**P**	**06 18 08.4**	**-0.8**
ZAL	**Zalesovo** comp=E,0.8nm,0.3s,baz=252,slow=5.8,SNR=5.6	**19.53**	**24**	P	**P**	**06 18 30.2**	**-1.5**
FINES	**FINESS Array B** comp=E,1.7nm,1.0s,mb3.5,baz=94,slow=14,SNR=3.1	**37.53**	**326**	P	**P**	**06 21 13.9**	**+0.2**
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.6s,mb3.0,baz=93,slow=7.9	**44.45**	**323**	P	**P**	**06 22 11.2**	**+1.2**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.6s,mb3.2,baz=96,slow=7.8,SNR=5.3	**44.45**	**323**	P	**P**	**06 22 11.0**	**+1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,1.1s,mb3.2,baz=36,slow=6.2,SNR=5.6	**66.13**	**269**	P	**P**	**06 24 44.8**	**+0.3**

*ISCJB **24** 06:21:54.1±2.1,141S±0.1×1675E±03,h33km,mb3.8/6, MS3.0/2,Error ellipse: s-maj=40.9km s-min=10.5km az=132.4*
*LDG **24** 06:21:58.4±0.5,1433S×16785E,h10km,Error ellipse: s-maj=120.4km s-min=7.3km az=95.0*
*IDC **24** 06:22:04.0±6.2,1497S×16848E,h164km±67km,mb3.5/6, mb1 3.7/7,mb1mx3.5/16,mbtmp4.0/7,MS3.1/3,Ms1 3.1/3, ms1mx2.8/13,Error ellipse: s-maj=68.0km s-min=40.0km az=134.0*

ISC 24 06:21:56.9±2.0,141S±01×1675E±03,h35km,n32, σ1§44/13,mb3.8/6,MS3.0/2,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.64**	**168**	*i* P	**Pn**	**06 22 53.6**	**+2.9**
BKM				S	**Sn**	**06 23 32.0**	**-0.4**
DZM	**Mont Dzumac**	**8.00**	**187**	*e*P	**Pn**	**06 23 49.9**	**-0.7**
DZM				*e*S	**Sn**	**06 25 07.5**	**-12**
DZM	**Mont Dzumac** 9.1nm,0.3s,baz=51,slow=16,SNR=325	**8.00**	**187**	P	**Pn**	**06 23 49.6**	**-1.1**
DZM	0.8nm,0.3s,baz=319,slow=19,SNR=2.7			S	**Sn**	**06 25 09.4**	**-10**
DZM	comp=Z,133nm,19.9s,baz=42,slow=34			LR	LR	06 26 11.7	
NOUC	**Port Laguerre**	**8.05**	**188**	*e*P	**Pn**	**06 23 51.3**	**0.0**
CTA	**Charters Tower** 3.4nm,0.8s,mb3.7,baz=59,slow=12,SNR=5.2	**21.13**	**251**	P	**P**	**06 26 43.3**	**+4.7**
STKA	**Stephens Creek** 4.2nm,0.7s,mb4.3,baz=45,slow=9.4,SNR=11	**29.56**	**229**	P	**P**	**06 27 55.3**	**-2.9**
WRA	**Warramunga Arr** 1.3nm,0.9s,mb3.8,baz=86,slow=8.0,SNR=6.0	**32.17**	**255**	P	**P**	**06 28 21.8**	**+0.4**
ASAR	**Alice Springs** 1.3nm,0.8s,mb3.9,baz=79,slow=9.2,SNR=12	**33.09**	**248**	P	**P**	**06 28 29.4**	**0.0**
ASAR	comp=Z,58nm,19.9s,MS3.3,baz=356,slow=35			LR	LR	06 41 44.5	
GUMO	**Guam**	**35.45**	**320**	LR	LR	06 43 14.8	
	comp=Z,12nm,18.2s,MS2.7,baz=119,slow=35						
FITZ	**Fitzroy Crossi** 2.2nm,0.9s,mb3.9,baz=81,slow=16,SNR=3.0	**40.33**	**259**	P	**P**	**06 29 33.0**	**+2.0**
SONM	**Songino Array** 0.2nm,0.5s,mb3.3,baz=122,slow=5.4,SNR=2.8	**82.10**	**323**	P	**P**	**06 34 12.6**	**-1.2**
BAIF	**Baives**	**141.61**	**343**	*e*PKP1	PKPdf	06 41 29.9	+5.5
CABF	**La Chapelle**	**144.01**	**338**	*e*PKP1	PKPdf	06 41 33.5	+4.8
LOR	**Lormes**	**144.20**	**341**	*e*PKP1	PKPdf	06 41 33.8	+4.8
GRR	**Gorron** 6.6nm,0.7s	**144.46**	**347**	*e*PKP1	PKPdf	06 41 34.5	+5.1
SSF	**Saint Saulge** 9.4nm,0.8s	**144.49**	**341**	*e*PKP1	PKPdf	06 41 34.9	+5.4
LPL	**La Plagne** 5.7nm,0.7s	**144.69**	**336**	*e*PKP1	PKPdf	06 41 35.8	+6.0
LPG	**La Plagne** 10nm,0.9s	**144.69**	**336**	*e*PKP1	PKPdf	06 41 35.8	+5.9
SMF	**Signal de Mont** 6.6nm,0.8s	**144.75**	**340**	*e*PKP1	PKPdf	06 41 35.5	+5.5
AVF	**Avril sur Loir** 3.7nm,0.8s	**144.78**	**341**	*e*PKP1	PKPdf	06 41 35.5	+5.5
SGMF	**Saint Gilles**	**144.94**	**348**	*e*PKP1	PKPdf	06 41 36.1	+5.8
MBDF	**Montbardon**	**145.33**	**336**	*e*PKP1	PKPbc	06 41 37.3	+6.5
ORIF	**Oris-en-Rattie** 9.4nm,0.7s	**145.52**	**337**	*e*PKP1	PKPbc	06 41 38.0	+6.6
TCF	**Toulx Ste Croi** 3.2nm,0.6s	**145.59**	**342**	*e*PKP1	PKPbc	06 41 38.1	+6.5
SBF	**Sospel** 13nm,0.7s	**145.76**	**334**	*e*PKP1	PKPbc	06 41 38.0	+5.8
MFF	**Saint Martin d** 8.8nm,0.8s	**145.96**	**345**	*e*PKP1	PKPbc	06 41 39.1	+6.3
FRF	**La Foret Royal** 7.4nm,0.9s	**146.34**	**334**	*e*PKP1	PKPbc	06 41 39.7	+5.8
SMRF	**Simiane la Rot** 4.1nm,0.8s	**146.43**	**336**	*e*PKP1	PKPbc	06 41 40.6	+6.4
RJF	**Les Rejaudoux** 3.5nm,0.6s	**146.68**	**342**	*e*PKP1	PKPbc	06 41 41.3	+6.4
LASF	**Ste Croix** 9.9nm,0.9s	**146.99**	**338**	*e*PKP1	PKPbc	06 41 42.2	+6.4
MTLF	**Montolieu**	**148.21**	**339**	*e*PKP1	PKPbc	06 41 44.4	+5.3
ETSF	**Etsaut** 3.6nm,0.7s	**149.49**	**343**	*e*PKP1	PKPbc	06 41 49.6	+7.2

*ISCJB **24** 06:35:04.6±0.3,4262N±002×1249E±002,h7km±3km, Error ellipse: s-maj=2.9km s-min=2.7km az=77.5*
*CSEM **24** 06:35:04.7±0.1,4262N×1257E,h12km,ML3.4/12,Error ellipse: s-maj=1.2km s-min=1.0km az=37.0*
*ROM **24** 06:35:04.5±0.2,4262N×1255E,h3km±3km,Md3.3/35, Ml3.2/27,Error ellipse: s-maj=1.7km s-min=1.4km az=52.0*
*NEIC **24** 06:35:04.5,4262N×1255E,h3km,ML2.9(LDG), ML3.2(ROM),After ROM.*
NEIC Felt [IV] at Terni.
*LDG **24** 06:35:06.3±0.1,4261N×1262E,h10km,Ml2.9/7,Error ellipse: s-maj=3.2km s-min=2.4km az=41.0*

ISC 24 06:35:05.4±0.3,4262N±002×1250E±002,h4km±3km,n67, σ1§12/99,7C-1D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNS	**Montasola**	**0.27**	**150**	Pg	**Pg**	**06 35 10.8**	**+0.1**
MNS	4μm,0.4s			Sg	**Sg**	**06 35 14.9**	**+0.7**
SACS	**San Casciano d**	**0.49**	**298**	Pg	**Pg**	**06 35 15.6**	**+0.7**
SACS	1μm,1.1s			Sg	**Sg**	**06 35 23.8**	**+2.5**
NRCA	**Norcia**	**0.50**	**64**	⇑*i*Pg	**Pg**	**06 35 14.4**	**-0.7**
LATE	**Laterza**	**0.51**	**270**	Pg	**Pg**	**06 35 16.2**	**+0.9**
LATE	2μm,0.5s			Sg	**Sg**	**06 35 25.7**	**+3.7**
FIAM	**Fiamignano**	**0.58**	**127**	Pg	**Pg**	**06 35 15.8**	**-0.7**
FIAM	2μm,0.5s			Sg	**Sg**	**06 35 24.3**	**+0.3**
MTCE	**Montecelio**	**0.62**	**163**	Pg	**Pg**	**06 35 17.2**	**-0.2**
MTCE	959nm,0.4s			Sg	**Sg**	**06 35 27.5**	**+2.0**
TOLF	**Tolfa**	**0.67**	**214**	⇑*i*Pg	**Pg**	**06 35 18.6**	**+0.4**
TOLF	877nm,0.7s			Sg	**Sg**	**06 35 29.0**	**+2.1**
CAMP	**Campotosto**	**0.68**	**97**	⇑*i*Pg	**Pg**	**06 35 17.4**	**-1.0**
CAMP	2μm,0.4s			Sg	**Sg**	**06 35 27.4**	**+0.2**
SNTG	**Esanatoglia**	**0.71**	**27**	⇑*i*Pg	**Pg**	**06 35 18.4**	**-0.7**
AQU	**L'Aquila**	**0.72**	**111**	Pg	**Pg**	**06 35 17.9**	**-1.3**
CERT	**Cerreto**	**0.76**	**152**	Pg	**Pg**	**06 35 19.4**	**-0.6**
CERT	1μm,0.5s			Sg	**Sg**	**06 35 30.7**	**+0.8**
ARCI	**Arcidosso** 330nm,1.0s	**0.79**	**287**	Pg	**Pg**	**06 35 21.3**	**+0.7**
TERO	**Teramo**	**0.81**	**89**	Pg	**Pg**	**06 35 19.6**	**-1.5**
TERO	2μm,0.8s			Sg	**Sg**	**06 35 31.7**	**+0.1**
FAGN	**Fagnano** 3μm,0.4s	**0.88**	**113**	Pg	**Pg**	**06 35 21.3**	**-1.0**
BADI	**Badiali** 142μm,23.0s	**0.91**	**348**	Pg	**Pg**	**06 35 24.0**	**+1.1**
CING	**Cingoli**	**0.91**	**34**	Pg	**Pg**	**06 35 21.9**	**-1.0**
CING	830nm,0.7s			Sg	**Sg**	**06 35 35.6**	**+0.8**
OFFI	**Offida**	**0.93**	**70**	Pg	**Pg**	**06 35 22.7**	**-0.5**
OFFI	3μm,0.6s			Sg	**Sg**	**06 35 35.6**	**+0.3**
ARV	**Arcevia**	**0.94**	**20**	Pg	**Pg**	**06 35 22.3**	**-1.1**
ARVD	**Arcevia** 371nm,0.7s	**0.94**	**20**	Pg	**Pg**	**06 35 22.5**	**-0.9**
VCEL	**Villa Celiera** 2μm,0.5s	**1.02**	**102**	Pg	**Pg**	**06 35 23.6**	**-1.3**
GUAR	**Guarcino**	**1.02**	**144**	Pg	**Pg**	**06 35 24.5**	**-0.5**
GUAR	484nm,0.4s			Sg	**Sg**	**06 35 39.3**	**+1.0**
MAON	**Monte Argentar** 477nm,1.3s	**1.03**	**260**	Pg	**Pg**	**06 35 24.2**	**-1.0**
CRE	**Caprese Michel** 376nm,0.9s	**1.08**	**338**	Pg	**Pg**	**06 35 26.9**	**+0.8**
FSSB	**Fossombrone** 564nm,0.5s	**1.09**	**11**	Pg	**Pg**	**06 35 26.2**	**-0.2**
VVLD	**Villa Vallelon** 935nm,0.6s	**1.12**	**132**	Pg	**Pg**	**06 35 26.7**	**-0.2**
GIUL	**Giuliano Di Ro**	**1.20**	**152**	Pg	**Pg**	**06 35 26.4**	**-2.0**
GIUL	355nm,0.5s			Sg	**Sg**	**06 35 44.9**	**+0.9**
INTR	**Introdacqua** 944nm,0.7s	**1.21**	**120**	Pg	**Pg**	**06 35 26.8**	**-1.8**
AOI	**Ancona**	**1.23**	**41**	Pn	**Pn**	**06 35 27.5**	**-2.0**
AOI	457nm,0.8s			Sn	**Sn**	**06 35 45.7**	**-0.9**
GRFL	**Gerfalco** 77nm,1.0s	**1.24**	**296**	Pg	**Pg**	**06 35 28.7**	**-0.5**
RSM	**Repubblica di** 140nm,0.7s	**1.31**	**358**	Pn	**Pn**	**06 35 31.0**	**+0.4**
SDI	**San Donato** 138nm,0.4s	**1.33**	**133**	Pn	**Pn**	**06 35 29.8**	**-1.1**
VMG	**Vicchio** 294nm,0.8s	**1.51**	**333**	Pn	**Pn**	**06 35 34.2**	**+0.9**
RNI2	**Rionero Sannit**	**1.53**	**126**	Pn	**Pn**	**06 35 34.6**	**+1.0**
MIDA	**Miranda** 232nm,0.6s	**1.63**	**126**	Pn	**Pn**	**06 35 36.0**	**+1.1**
SEI	**Scarperia**	**1.66**	**330**	Pn	**Pn**	**06 35 35.6**	**+0.2**
VAGA	**Valle Agricola**	**1.77**	**132**	Pn	**Pn**	**06 35 36.6**	**-0.2**
PZZT	**Monte Pizzetto** 81nm,0.8s	**1.93**	**322**	Pn	**Pn**	**06 35 38.9**	**-0.1**
GSCL	**Gusciola** 11nm,0.4s	**2.22**	**322**	Pn	**Pn**	**06 35 44.1**	**+1.0**
SGRT	**San Giovanni R**	**2.56**	**109**	Pn	**Pn**	**06 35 49.5**	**+1.7**
PGF	**Pioggiola**	**2.59**	**270**	*e*Pn	**Pn**	**06 35 47.9**	**-0.2**
PGF	6.2nm,0.4s			*e*Sn	**Sn**	**06 36 17.7**	**-2.3**
PGF	**Pioggiola**	**2.59**	**270**	*e*Pn	**Pn**	**06 35 47.9**	**-0.2**
PGF	3.1nm,0.4s			*e*Sn	**Sn**	**06 36 17.7**	**-2.3**
MSAG	**Monte S. Angel**	**2.69**	**109**	Pn	**Pn**	**06 35 52.1**	**+2.5**
CEY	**Cerknica**	**3.41**	**23**	*e*Pn	**Pn**	**06 36 01.3**	**+1.9**
CEY				*e*Sn	**Sn**	**06 36 40.1**	**-0.3**
BOJS	**Bojanci**	**3.50**	**34**	*e*Pn	**Pn**	**06 36 03.5**	**+2.8**
BOJS				*i* Sn	**Sn**	**06 36 43.8**	**+1.2**
VOY	**Vojsko**	**3.56**	**16**	*e*Pn	**Pn**	**06 36 03.3**	**+1.9**
VOY				*e*		06 36 14.3	
VOY				*e*Sn	**Sn**	**06 36 44.7**	**+0.8**
SG1	**Sgolgore (BA)**	**3.60**	**118**	*e*Pn	**Pn**	**06 35 55.3**	**-6.7**
PTCC	**Patocco-Chiusa** 15nm,0.9s	**3.83**	**9**	Pn	**Pn**	**06 36 05.9**	**+0.6**
SBF	**Sospel**	**3.90**	**290**	*e*Pn	**Pn**	**06 36 05.4**	**-0.8**
SBF	18nm,0.9s			*e*Sn	**Sn**	**06 36 48.3**	**-4.2**
SBF	**Sospel**	**3.90**	**290**	*e*Pn	**Pn**	**06 36 05.4**	**-0.8**
SBF	9.1nm,0.9s			*e*Sn	**Sn**	**06 36 48.3**	**-4.2**
VSL	**Villasalto**	**3.91**	**218**	Pn	**Pn**	**06 36 06.9**	**+0.6**
VSL	15nm,0.6s			Sn	**Sn**	**06 36 51.6**	**-1.1**
FRF	**La Foret Royal**	**4.39**	**284**	*e*Pn	**Pn**	**06 36 11.5**	**-1.4**
LMR	**La Mourre**	**4.45**	**281**	*e*Pn	**Pn**	**06 36 13.1**	**-0.7**
KBA	**Koelnbreinsper**	**4.50**	**7**	⇑*e*Pn	**Pn**	**06 36 14.0**	**-0.4**
KBA	9.5nm,0.5s			⇑*e*Sn	**Sn**	**06 37 07.2**	**0.0**
MBDF	**Montbardon**	**4.66**	**299**	*e*Pn	**Pn**	**06 36 16.1**	**-0.5**
LPG	**La Plagne**	**5.04**	**307**	*e*Pn	**Pn**	**06 36 21.8**	**-0.1**
LPG	3.2nm,0.6s			*e*Sn	**Sn**	**06 37 16.9**	**-3.7**
LPG	**La Plagne**	**5.04**	**307**	*e*Pn	**Pn**	**06 36 21.8**	**-0.1**
LPG	1.6nm,0.6s			*e*Sn	**Sn**	**06 37 16.9**	**-3.7**
LPL	**La Plagne**	**5.07**	**307**	*e*Pn	**Pn**	**06 36 22.3**	**+0.1**
LPL	3.5nm,0.6s			*e*Sn	**Sn**	**06 37 17.8**	**-3.4**
LPL	**La Plagne**	**5.07**	**307**	*e*Pn	**Pn**	**06 36 22.3**	**+0.1**
LPL	1.8nm,0.6s			*e*Sn	**Sn**	**06 37 17.8**	**-3.4**
SMRF	**Simiane la Rot**	**5.23**	**287**	*e*Pn	**Pn**	**06 36 23.9**	**-0.6**
ORIF	**Oris-en-Rattie**	**5.32**	**298**	*e*Pn	**Pn**	**06 36 25.3**	**-0.3**
MOA	**Molln**	**5.38**	**13**	⇓*e*Pn	**Pn**	**06 36 28.0**	**+1.5**
MOA	5.0nm,0.6s			⇑*i*Sn	**Sn**	**06 37 30.5**	**+1.7**
VIVF	**Saint-Julien-l**	**6.09**	**294**	*e*Pn	**Pn**	**06 36 35.4**	**-0.9**
BFO	**Black Forest** 3.9nm,0.9s	**6.42**	**334**	*e*Pn	**Pn**	**06 36 42.9**	**+2.1**
LASF	**Ste Croix** 0.7nm,0.3s	**6.47**	**286**	*e*Pn	**Pn**	**06 36 40.6**	**-0.9**
LASF				*e*Sn	**Sn**	**06 37 50.4**	**-5.3**
LASF	**Ste Croix** 0.3nm,0.3s	**6.47**	**286**	*e*Pn	**Pn**	**06 36 40.6**	**-0.9**
LASF				*e*Sn	**Sn**	**06 37 50.4**	**-5.3**
CDF	**Champ du Feu** 3.6nm,0.6s	**6.86**	**329**	*e*Pn	**Pn**	**06 36 46.0**	**-0.8**
CDF				*e*Sn	**Sn**	**06 37 59.3**	**-6.0**
HAU	**Haudompre** 15nm,0.8s	**6.91**	**323**	*e*Pn	**Pn**	**06 36 46.2**	**-1.4**
HAU				*e*Sn	**Sn**	**06 38 01.3**	**-5.4**

*ISCJB **24** 07:16:33.5±0.2,4264N±001×1243E±002,h5km,mb3.0/1, Error ellipse: s-maj=2.3km s-min=1.8km az=75.6*
*ROM **24** 07:16:34.4±0.3,4262N×1255E,h5km±3km,Md3.1/38, Ml3.1/29,Error ellipse: s-maj=1.8km s-min=1.4km az=59.0*
*IDC **24** 07:16:34.7±1.8,4273N×1285E,h0km,mb3.2/2,mb1 3.3/4, mb1mx3.2/21,mbtmp3.2/4,ML2.8/2,Error ellipse: s-maj=79.7km s-min=16.0km az=100.0*
*CSEM **24** 07:16:35.5±0.1,4262N×1269E,h12km,ML2.9/10,Error ellipse: s-maj=1.3km s-min=1.0km az=46.0*
*NEIC **24** 07:16:36.3,4260N×1258E,h10km,ML2.9(LDG), ML3.1(ROM),After LDG.*
*LDG **24** 07:16:36.3±0.1,4260N×1258E,h10km,Ml2.9/10,Error ellipse: s-maj=3.7km s-min=2.3km az=46.0*

ISC 24 07:16:35.3±0.3,4260N±001×1251E±002,h12km±2km,n92, σ1§15/141,mb3.0/1,13C-4D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNS	**Montasola**	**0.26**	**149**	Pg	**Pg**	**07 16 40.5**	**-0.1**
MNS	3μm,0.4s			Sg	**Sg**	**07 16 44.7**	**+0.5**
SACS	**San Casciano d**	**0.50**	**299**	Pg	**Pg**	**07 16 45.2**	**+0.1**
SACS	985nm,0.3s			Sg	**Sg**	**07 16 53.3**	**+1.5**
NRCA	**Norcia**	**0.50**	**63**	⇑*i*Pg	**Pg**	**07 16 44.1**	**-1.1**
LATE	**Laterza**	**0.52**	**271**	Pg	**Pg**	**07 16 45.7**	**+0.3**
LATE	2μm,0.4s			Sg	**Sg**	**07 16 54.6**	**+2.3**
FIAM	**Fiamignano**	**0.56**	**126**	Pg	**Pg**	**07 16 45.3**	**-1.0**
FIAM	755nm,0.5s			Sg	**Sg**	**07 16 53.9**	**+0.2**
MTCE	**Montecelio**	**0.61**	**163**	Pg	**Pg**	**07 16 46.8**	**-0.3**
MTCE	453nm,0.5s			Sg	**Sg**	**07 16 56.8**	**+1.7**
TOLF	**Tolfa**	**0.66**	**215**	Pg	**Pg**	**07 16 48.1**	**0.0**
TOLF	681nm,0.6s			Sg	**Sg**	**07 16 58.7**	**+2.0**
MURB	**Monte Urbino**	**0.66**	**1**	Pg	**Pg**	**07 16 48.5**	**+0.4**
MURB	5μm,0.5s			Sg	**Sg**	**07 16 58.1**	**+1.4**
CAMP	**Campotosto**	**0.67**	**96**	⇑*i*Pg	**Pg**	**07 16 47.0**	**-1.3**
CAMP	601nm,0.4s			Sg	**Sg**	**07 16 56.5**	**-0.6**
AQU	**L'Aquila**	**0.71**	**110**	*e*Pg	**Pg**	**07 16 48.0**	**-1.1**
AQU				*e*Sg	**Sg**	**07 16 57.9**	**-0.5**
AQU	**L'Aquila**	**0.71**	**110**	Pg	**Pg**	**07 16 48.0**	**-1.0**
AQU				*e*Sg	**Sg**	**07 16 57.9**	**-0.4**
SNTG	**Esanatoglia**	**0.72**	**26**	⇑*i*Pg	**Pg**	**07 16 48.0**	**-1.3**
SNTG	432nm,0.5s			Sg	**Sg**	**07 16 59.5**	**+0.7**
CERT	**Cerreto**	**0.74**	**151**	Pg	**Pg**	**07 16 48.9**	**-0.8**
CERT	561nm,0.4s			Sg	**Sg**	**07 17 00.0**	**+0.5**
ARCI	**Arcidosso** 269nm,0.7s	**0.80**	**288**	Pg	**Pg**	**07 16 50.9**	**+0.2**
TERO	**Teramo**	**0.81**	**88**	⇑*i*Pg	**Pg**	**07 16 49.2**	**-1.8**
TERO	728nm,0.4s			Sg	**Sg**	**07 17 01.2**	**-0.4**
RDP	**Rocca di Papa** 1μm,0.4s	**0.86**	**169**	Pg	**Pg**	**07 16 52.8**	**+0.9**
FAGN	**Fagnano** 1μm,0.4s	**0.87**	**113**	Pg	**Pg**	**07 16 51.5**	**-0.5**
CING	**Cingoli**	**0.92**	**33**	⇑*i*Pg	**Pg**	**07 16 51.5**	**-1.6**
CING	893nm,0.6s			Sg	**Sg**	**07 17 05.1**	**0.0**
BADI	**Badiali** 161μm,24.0s	**0.93**	**348**	Pg	**Pg**	**07 16 52.9**	**-0.2**
OFFI	**Offida**	**0.93**	**69**	Pg	**Pg**	**07 16 52.4**	**-0.8**
OFFI	2μm,0.7s			Sg	**Sg**	**07 17 07.8**	**+2.5**
ARVD	**Arcevia** 436nm,0.7s	**0.95**	**20**	Pg	**Pg**	**07 16 52.0**	**-1.6**
VCEL	**Villa Celiera** 716nm,0.4s	**1.01**	**102**	Pg	**Pg**	**07 16 53.2**	**-1.5**
MAON	**Monte Argentar** 253nm,1.0s	**1.03**	**261**	Pg	**Pg**	**07 16 53.7**	**-1.5**
CRE	**Caprese Michel** 263nm,0.6s	**1.09**	**338**	Pg	**Pg**	**07 16 55.7**	**-0.6**
FSSB	**Fossombrone**	**1.10**	**10**	Pg	**Pg**	**07 16 55.3**	**-1.3**
FSSB	934nm,0.5s			Sg	**Sg**	**07 17 13.2**	**+2.2**

NVLJ				*i* Sn	Sn	07 17 48.5	-0.2
CEY	**Cerknica**	**3.42**	**23**	*e*Pn	Pn	07 17 28.8	+0.4
CEY				*e*Sn	Sn	07 18 09.2	+0.3
BOJS	**Bojanci**	**3.51**	**33**	*e*Pn	Pn	07 17 31.5	+1.9
BOJS				*e*Sn	Sn	07 18 12.6	+1.5
VOY	**Vojsko**	**3.57**	**16**	*e*Pn	Pn	07 17 30.4	0.0
VOY				*e*Sn	Sn	07 18 12.7	+0.2
VSL	**Villasalto**	**3.90**	**218**	Pn	Pn	07 17 35.9	+0.9
	12nm,0.2s						
SBF	**Sospel**	**3.91**	**290**	*e*Pn	Pn	07 17 35.4	+0.3
SBF				*e*Sn	Sn	07 18 20.3	-0.7
	21nm,0.8s						
SBF	**Sospel**	**3.91**	**290**	*e*Pn	Pn	07 17 35.4	+0.3
SBF				*e*Sn	Sn	07 18 20.3	-0.7
	11nm,0.8s						
OBKA	**Obir**	**4.17**	**20**⇑	*e*Pn	Pn	07 17 39.9	+1.3
	comp=Z,1.0nm,0.2s						
FRF	**La Foret Royal**	**4.40**	**285**	*e*Pn	Pn	07 17 41.2	-0.6
FRF				*e*Sn	Sn	07 18 31.7	-1.2
	3.4nm,0.4s						
FRF	**La Foret Royal**	**4.40**	**285**	*e*Pn	Pn	07 17 41.2	-0.6
FRF				*e*Sn	Sn	07 18 31.7	-1.2
	1.7nm,0.4s						
LMR	**La Mourre**	**4.46**	**281**	*e*Pn	Pn	07 17 42.2	-0.5
LMR				*e*Sn	Sn	07 18 32.8	-1.7
	3.2nm,0.4s						
LMR	**La Mourre**	**4.46**	**281**	*e*Pn	Pn	07 17 42.2	-0.5
LMR				*e*Sn	Sn	07 18 32.8	-1.7
	1.6nm,0.4s						
KBA	**Koelnbreinsper**	**4.51**	**7**⇓	*i*Pn	Pn	07 17 44.7	+1.3
	3.8nm,0.3s						
KBA				⇓*i*Sn	Sn	07 18 36.5	+0.8
	8.5nm,0.5s						
DAVOX	**Davos**	**4.58**	**337**	Pn	Pn	07 17 47.0	+2.8
	0.7nm,0.3s,baz=159,slow=23,SNR=4.8						
DAVOX				Sn	Sn	07 18 37.2	-0.2
	0.9nm,0.3s,baz=330,slow=20,SNR=3.0						
DAVOX	**Davos**	**4.58**	**337**	Pn	Pn	07 17 47.0	+2.8
DAVOX				Sn	Sn	07 18 37.2	-0.1
MBDF	**Montbardon**	**4.67**	**299**	*e*Pn	Pn	07 17 46.7	+1.2
WTTA	**Wattenberg**	**4.70**	**353**⇑	*e*Pn	Pn	07 17 48.5	+2.5
	2.0nm,0.2s						
WTTA				⇑*e*Sn	Sn	07 18 41.4	+1.0
	13nm,0.4s						
MOTA	**Moosalm**	**4.84**	**349**⇓	*i*Pn	Pn	07 17 51.0	+3.1
	1.7nm,0.3s						
MOTA				⇑*e*Sn	Sn	07 18 46.6	+2.6
	6.0nm,0.5s						
LPG	**La Plagne**	**5.06**	**307**	*e*Pn	Pn	07 17 51.5	+0.7
LPG				*e*Sn	Sn	07 18 47.4	-1.8
	3.4nm,0.5s						
LPG	**La Plagne**	**5.06**	**307**	*e*Pn	Pn	07 17 51.5	+0.7
LPG				*e*Sn	Sn	07 18 47.4	-1.8
	1.7nm,0.5s						
LPL	**La Plagne**	**5.08**	**307**	*e*Pn	Pn	07 17 51.4	+0.3
ARSA	**Arzberg**	**5.12**	**24**⇑	*e*Pn	Pn	07 17 51.1	-0.5
	1.1nm,0.2s						
ARSA				⇑*i*Sn	Sn	07 18 48.5	-2.1
	2.7nm,0.3s						
SMRF	**Simiane la Rot**	**5.24**	**288**	*e*Pn	Pn	07 17 53.6	+0.2
ORIF	**Oris-en-Rattie**	**5.33**	**298**	*e*Pn	Pn	07 17 54.8	+0.2
ORIF				*e*Sn	Sn	07 18 53.5	-2.3
	1.6nm,0.3s						
MOA	**Molln**	**5.39**	**13**⇑	*e*Pn	Pn	07 17 56.6	+1.1
	comp=Z,1.1nm,0.1s						
CONA	**Conrad Observa**	**5.83**	**23**⇑	*e*Pn	Pn	07 18 02.4	+1.0
	0.7nm,0.2s						
CONA				⇓*i*Sn	Sn	07 19 06.9	-1.2
	3.9nm,0.5s						
CABF	**La Chapelle**	**6.08**	**313**	*e*Pn	Pn	07 18 05.0	0.0
VIVF	**Saint-Julien-l**	**6.11**	**294**	*e*Pn	Pn	07 18 05.4	+0.1
GERES	**GERESS Array B**	**6.30**	**7**	Pn	Pn	07 18 07.4	-0.5
	0.1nm,0.3s,baz=188,slow=13,SNR=3.0						
GERES				Sn	Sn	07 19 15.8	-4.0
	0.6nm,0.3s,baz=177,slow=31,SNR=4.4						
LASF	**Ste Croix**	**6.48**	**286**	*e*Pn	Pn	07 18 10.5	+0.1
CDF	**Champ du Feu**	**6.87**	**329**	*e*Pn	Pn	07 18 15.6	-0.2
CDF				*e*Sn	Sn	07 19 30.1	-3.8
	2.0nm,0.2s						
CDF	**Champ du Feu**	**6.87**	**329**	*e*Pn	Pn	07 18 15.6	-0.2
CDF				*e*Sn	Sn	07 19 30.1	-3.8
	1.0nm,0.2s						
HAU	**Haudompre**	**6.93**	**323**	*e*Pn	Pn	07 18 16.5	-0.1
HAU				*e*Sn	Sn	07 19 31.5	-3.8
	6.5nm,0.5s						
HAU	**Haudompre**	**6.93**	**323**	*e*Pn	Pn	07 18 16.5	-0.1
HAU				*e*Sn	Sn	07 19 31.5	-3.8
	3.2nm,0.5s						
SMF	**Signal de Mont**	**7.38**	**306**	*e*Pn	Pn	07 18 22.6	-0.2
SMF				*e*Sn	Sn	07 19 42.7	-3.8
	2.2nm,0.4s						
SMF	**Signal de Mont**	**7.38**	**306**	*e*Pn	Pn	07 18 22.6	-0.2
SMF				*e*Sn	Sn	07 19 42.7	-3.8
	1.1nm,0.4s						
MTLF	**Montolieu**	**7.58**	**279**	*e*Pn	Pn	07 18 25.4	-0.1
LOR	**Lormes**	**7.70**	**310**	*e*Pn	Pn	07 18 26.3	-0.9
LOR				*e*Sn	Sn	07 19 49.4	-5.0
	0.8nm,0.3s						
LOR	**Lormes**	**7.70**	**310**	*e*Pn	Pn	07 18 26.3	-0.9
LOR				*e*Sn	Sn	07 19 49.4	-5.0
	0.4nm,0.3s						
CAF	**Calviac**	**7.91**	**291**	*e*Pn	Pn	07 18 29.4	-0.6
BGF	**Bois d'Agland**	**7.95**	**303**	*e*Pn	Pn	07 18 30.0	-0.5
RJF	**Les Rejaudoux**	**8.38**	**293**	*e*Pn	Pn	07 18 35.7	-0.7
LFF	**La Frestale**	**8.83**	**289**	*e*Pn	Pn	07 18 40.4	-2.2
EPF	**Esparros**	**8.95**	**277**	*e*Pn	Pn	07 18 44.3	-0.1
BAIF	**Baives**	**9.40**	**325**	*e*Pn	Pn	07 18 49.6	-0.9
MFF	**Saint Martin d**	**9.87**	**298**	*e*Pn	Pn	07 18 55.6	-1.3
SJPF	**Ste Jean**	**10.10**	**278**	*e*Pn	Pn	07 18 58.7	-1.3
GRR	**Gorron**	**11.01**	**306**	*e*Pn	Pn	07 19 11.5	-1.1
FINES	**FINESS Array B**	**20.55**	**19**	P	P	07 21 13.8	+0.2
	1.3nm,0.8s,baz=174,slow=15,SNR=4.1						
TORD	**Torodi Ar. Bea**	**30.81**	**201**	P	P	07 22 53.3	+2.5
	0.2nm,0.7s,mb3.0,baz=4.1,slow=7.3,SNR=3.7						

CASC 24 07:40:39.3±2.0, 1385N×9243W, h75km±56km, MD4.0, 3C-3D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.90**	**59**⇑	*e*P	Pn	07 40 57.1	+0.3
FUG	**Fuego 3**	**1.65**	**69**⇑	*e*P	Pn	07 41 07.0	+0.6
TP2	**Tecpan 2**	**1.65**	**56**⇓	*e*P	Pn	07 41 07.0	+0.7
TP2				⇑*e*P		07 41 08.3	
TP2				*e*S	Sn	07 41 28.8	+2.0
TER	**Terranova**	**1.75**	**75**	*e*P	Pn	07 41 08.9	+1.2
TER				*e*S	Sn	07 41 29.7	+0.5
IXG	**Ixpaco**	**1.94**	**80**⇓	*e*P	Pn	07 41 10.4	+0.2
RBDL	**Robledal**	**2.67**	**84**⇓	*e*P	x	07 41 53.9	
RBDL				*e*S	x	07 42 26.5	
SBLS	**San Blas**	**2.73**	**90**	*e*P	x	07 41 54.2	
SBLS				*e*S	x	07 42 28.8	
BOQS	**Boqueron**	**3.06**	**92**	*e*P	x	07 41 59.8	
BOQS				*e*S	x	07 42 36.9	
LFRS	**El Faro**	**3.28**	**94**	*e*P	x	07 42 02.4	
LFRS				*e*S	x	07 42 40.5	
LCBS	**La Ceiba**	**3.36**	**93**	*e*P	x	07 42 03.8	
LCBS				*e*S	x	07 42 42.8	

IDC 24 07:59:49.4±1.7, 131N×12640E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML3.3/1, Error ellipse: s-maj=106.1km s-min=23.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.31**	**182**	P	Pn	08 04 15.8	-1.1
	0.1nm,0.3s,baz=322,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**22.51**	**160**	P	P	08 04 51.1	+0.5
	14nm,0.9s,baz=339,slow=11,SNR=63						
WB2	**Warramunga Arr**	**22.52**	**160**	*e*P	P	08 04 51.6	+1.0
ASAR	**Alice Springs**	**25.88**	**164**	P	P	08 05 23.9	+1.2
	1.1nm,0.4s,baz=343,slow=8.7,SNR=27						
STKA	**Stephens Creek**	**36.01**	**158**	P	P	08 06 50.9	-1.2
	0.7nm,0.6s,baz=328,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**59.36**	**326**	P	P	08 09 53.5	+0.2
	0.3nm,0.5s,baz=116,slow=8.2,SNR=5.4						

*ISCJB **24** 08:01:02.1±0.6, 3300N±004×14027E±009, h141km±5km, mb3.5/3, Error ellipse: s-maj=12.6km s-min=6.5km az=163.6*

*IDC **24** 08:01:03.3±2.6, 3247N×13894E, h87km±43km, mb3.3/3, mb1 3.4/5, mb1mx3.2/20, mbtmp3.6/5, Error ellipse: s-maj=69.3km s-min=14.8km az=71.0*
*JMA **24** 08:01:04.7±0.1, 33.13N×140.18E, h134km±1km, M3.2*
*NEIC **24** 08:01:04.7, 33.13N×140.18E, h134km, MG3.2(JMA), After JMA.*

ISC 24 08:01:03.5±0.6, 3303N±004×14025E±009, h138km±5km, n22, σ0°75/33, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.37**	**282**	P	Pn	08 01 23.5	+0.6
JHJ2				S	Sn	08 01 38.0	+0.5
JHJ	**Hachijo jima 2**	**0.40**	**282**	P	Pn	08 01 23.6	+0.6
	149nm,0.3s,baz=75,slow=22,SNR=135						
JHJ				S	Sn	08 01 37.5	-0.2
	191nm,0.3s,baz=39,slow=23,SNR=37						
JKO	**Kozu shima**	**1.48**	**321**	P	Pn	08 01 32.1	+0.2
NJJJ	**Nii jima 2**	**1.58**	**330**	P	Pn	08 01 33.2	+0.1
BSO1	**Boso 1**	**1.73**	**20**	P	Pn	08 01 35.3	+0.6
BSO1				S	Sn	08 01 58.5	0.0
BSO2	**Boso 2**	**1.76**	**14**	S	Sn	08 01 59.6	+0.3
BSO3	**Boso 3**	**1.78**	**7**	P	Pn	08 01 35.6	+0.3
BSO3				*e*S	Sn	08 01 59.7	+0.1
JIM2	**Oshima 3**	**1.81**	**338**	P	Pn	08 01 35.7	0.0
JIM2				S	Sn	08 01 59.6	-0.7
BSO4	**Boso 4**	**1.95**	**2**	P	Pn	08 01 37.9	+0.5
BSO4				S	Sn	08 02 03.1	-0.2
JIZS	**Izushimoda**	**2.03**	**326**	P	Pn	08 01 38.3	0.0
TK04	**Tokai 4**	**2.40**	**305**	P	Pn	08 01 43.2	+0.5
JOD2	**Odawara 2**	**2.42**	**337**	P	Pn	08 01 43.4	+0.3
JOD2				S	Sn	08 02 12.3	-1.2
SHZ3	**Shizuoka 3**	**2.64**	**321**	P	Pn	08 01 46.5	+0.7
JYN	**Shimob**	**2.83**	**331**	P	Pn	08 01 49.3	+1.0
JRY	**Ryogami san**	**3.18**	**340**	P	Pn	08 01 53.0	+0.3
JRY				S	Sn	08 02 29.0	-1.7
MJAR	**Matsushiro Arr**	**3.88**	**335**	P	Pn	08 02 02.0	+0.1
	1.1nm,0.3s,baz=157,slow=12,SNR=8.2						
MAT	**Matsushiro**	**3.88**	**335**	P	Pn	08 02 02.1	+0.2
MAT				S	Sn	08 02 46.1	-1.1
MAT	**Matsushiro**	**3.88**	**335**	*e*P	Pn	08 02 02.0	+0.1
MAT				*e*S	Sn	08 02 46.0	-1.2
CBIJ	**Chichi jima**	**6.15**	**164**	P	Pn	08 02 30.4	-1.7
	1.6nm,0.3s,baz=314,slow=20,SNR=5.0						
CBIJ				S	Sn	08 03 37.7	-3.6
	7.8nm,0.3s,baz=278,slow=21,SNR=9.9						
MKAR	**Makanchi Array**	**45.54**	**305**	P	P	08 09 09.4	+0.1
	0.3nm,0.3s,mb3.4,baz=85,slow=9.8,SNR=3.7						
WRA	**Warramunga Arr**	**52.98**	**187**	P	P	08 10 05.9	0.0
	0.6nm,0.3s,mb3.7,baz=1.7,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**56.71**	**187**	P	P	08 10 33.4	+0.7
	0.3nm,0.4s,mb3.5,baz=3.5,slow=6.7,SNR=10						

*ISCJB **24** 08:05:28.6±0.4, 1896N±003×6722W±003, h18km, mb3.8/1, MS3.6/2, Error ellipse: s-maj=5.3km s-min=3.5km az=95.9*
*RSPR **24** 08:05:31.8, 1888N×6725W, h18km, MD3.8/20, MD3.8/20*
*NEIC **24** 08:05:31.8, 1888N×6725W, h18km, mb4.0/2, MD3.8(RSPR), After RSPR.*
NEIC Felt in northwestern Puerto Rico.
*IDC **24** 08:05:33.6±1.8, 1874N×6723W, h48km±18km, mb3.5/9, mb1 3.8/11, mb1mx3.6/21, mbtmp3.9/11, ML4.2/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/28, Error ellipse: s-maj=17.9km s-min=15.9km az=56.0*
*TRN **24** 08:07:16.2, 1583N×6160W, h3km, M1.6(FDF)*

ISC 24 08:05:31.8±0.7, 1880N±004×6722W±003, h33km±5km, n54, σ1°02/64, mb3.8/11, MS3.6/2, 11C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.34**	**162**⇑	*i*P	Pb	08 05 40.1	0.0
AGPR				*e*S	Sb	08 05 46.4	+0.7
MPR	**Mayaguez**	**0.59**	**172**⇑	*e*P	Pb	08 05 43.3	-0.5
MPR				*e*S	Sb	08 05 52.5	+0.6
LRS	**Lares**	**0.62**	**144**⇓	*i*P	Pn	08 05 43.6	-0.6
LSP	**Las Mesas**	**0.63**	**168**⇓	*i*P	Pn	08 05 44.1	-0.3
AOPR	**Arecibo Observ**	**0.64**	**135**⇑	*e*P	Pn	08 05 43.7	-0.8
CRPR	**Cabo Rojo, PR**	**0.79**	**172**⇑	*i*P	Pn	08 05 46.4	-0.3
CRPR				*e*S	Sn	08 05 58.0	+0.6
MGP	**Maguayo**	**0.80**	**171**⇓	*i*P	Pn	08 05 46.5	-0.2
CELP	**Cerrillos**	**0.94**	**140**⇑	*i*P	Pn	08 05 48.6	-0.1
OBIP	**Obispado Ponce**	**0.95**	**142**⇑	*e*P	Pn	08 05 48.7	-0.1
OBIP				*e*S	Sn	08 06 02.4	+1.1
ICM	**Isla Caja Muer**	**1.12**	**143**⇑	*e*P	Pn	08 05 51.7	+0.5
SJG	**San Juan**	**1.23**	**124**⇓	*e*P	Pn	08 05 52.4	-0.2
SJG	**San Juan**	**1.23**	**124**	*e*S	Sn	08 06 07.7	-0.3
SJG	**San Juan**	**1.23**	**124**⇓	*e*P	Pn	08 05 52.3	-0.3
SJG				*e*S	Sn	08 06 08.6	+0.5
SJG	**San Juan**	**1.23**	**124**	P	Pn	08 05 52.7	+0.1
	361nm,0.3s,baz=311,slow=9.8,SNR=382						
SJG				S	Sn	08 06 09.3	+1.3
	533nm,0.3s,baz=266,slow=23,SNR=12						
SJG	**San Juan**	**1.23**	**124**⇓	*e*P	Pn	08 05 52.4	-0.2
SJG				*e*Sn	Sn	08 06 04.7	-3.3
SJG				*e*S	Sn	08 06 07.7	-0.3
CBYP	**Canovanas**	**1.40**	**112**⇓	*e*P	Pn	08 05 54.3	-0.7
CPD	**Cerro la Pandu**	**1.45**	**121**⇑	*e*P	Pn	08 05 55.4	-0.3
HUMP	**Col San Antoni**	**1.46**	**116**⇑	*e*P	Pn	08 05 55.5	-0.3
CULB	**Culebra**	**1.86**	**105**⇓	*e*P	Pn	08 06 00.3	-1.0
CULB	**Culebra**	**1.86**	**105**	*e*S	Sn	08 06 24.7	+1.0
STVI	**Saint Thomas**	**2.19**	**101**⇑	*e*P	Pn	08 06 05.0	-0.9
TBVI	**Tortola**	**2.51**	**98**⇓	*e*P	Pn	08 06 09.2	-1.0
TBVI				*e*S	Sn	08 06 39.4	-0.3
CDVI	**St. Croix**	**2.56**	**114**⇑	*e*P	Pn	08 06 11.6	+0.6
CDVI				*e*S	Sn	08 06 42.2	+1.3
ABV	**Anegada**	**2.74**	**91**⇑	*e*P	Pn	08 06 13.7	+0.3
LZG	**Guadaloupe-1**	**5.83**	**116**	*e*P	Pn	08 06 56.1	+0.2
SEG	**Port Louis**	**5.95**	**113**	*e*P	Pn	08 06 55.8	-1.8
MASC	**Masc**	**6.75**	**283**	*e*P	Pn	08 07 07.9	-0.7
	baz=158						
MASC				*e*S	Sn	08 08 18.4	-5.9
	comp=N,1.0nm,0.3s						
MASC				*e*			
	comp=E,1.0nm,0.3s						
MOAC	**Moa**	**7.52**	**286**	*e*P	Pn	08 07 16.0	-3.1
	baz=42						
MOAC				*e*S	Sn	08 08 33.3	-10
	comp=N,2.0nm,0.3s						
MOAC				*e*			
	comp=E,2.0nm,0.3s						
RCC	**Rio Carpintero**	**8.08**	**280**	*e*P	Pn	08 07 25.7	-1.2
	baz=76						
RCC				*e*S	Sn	08 08 49.1	-8.0
	comp=N,11nm,0.7s						
RCC				*e*			
	comp=E,14nm,0.4s						
PCRV	**Puerto La Cruz**	**8.93**	**163**	P	Pn	08 07 41.2	+2.7
	comp=E,2.7nm,0.3s,baz=332,slow=7.3,SNR=12						
PCRV				S	Sn	08 09 15.5	-2.4
	comp=E,2.0nm,0.3s,baz=334,slow=5.5,SNR=3.5						
PCRV				LR	LR	08 11 22.1	
	comp=E,44nm,20.0s,baz=65,slow=39						
LMGC	**Las Mercedes**	**9.31**	**279**	*e*P	Pn	08 07 44.5	+0.8
	baz=115						
LMGC				*e*S	Sn	08 09 18.1	-9.2
	comp=N,12nm,0.4s						
LMGC				*e*			
	comp=E,17nm,0.4s						
SDV	**Santo Domingo**	**10.39**	**199**	P	Pn	08 08 01.2	+2.7
	comp=E,2.0nm,0.3s,baz=73,slow=8.5,SNR=11						
SDV				S	Sn	08 09 53.5	-0.2
	comp=E,0.9nm,0.3s,baz=98,slow=18,SNR=2.7						
SDV	**Santo Domingo**	**10.39**	**199**	*e*Pn	Pn	08 08 01.1	+2.6
ROSC	**El Rosal**	**15.50**	**207**	P	Pn	08 09 16.8	+9.0
	comp=E,1.7nm,0.3s,baz=102,slow=9.5,SNR=9.3						
JSC	**Jenkinsville**	**19.85**	**324**	*e*Pn	Pn	08 10 04.0	+2.4
LRAL	**Lakeview Retre**	**22.69**	**313**	*e*P	P	08 10 30.4	-0.1
	comp=E,7.2nm,1.1s,mb4.0						
PLAL	**Pickwick Lake**	**24.53**	**315**	*e*P	P	08 10 48.9	+0.6
	comp=E,3.4nm,0.8s,mb3.9						
LPAZ	**La Paz**	**34.88**	**182**	P	P	08 12 20.2	+0.2
	comp=E,0.3nm,0.3s,mb3.6,baz=10,slow=11,SNR=2.9						
LPAZ	**La Paz**	**34.88**	**182**	P	P	08 12 20.2	+0.2
SCHQ	**Schefferville**	**35.97**	**0**	P	P	08 12 29.0	-0.4
	comp=E,2.1nm,0.8s,mb4.1,baz=180,slow=9.1,SNR=3.9						
SCHQ	**Schefferville**	**35.97**	**0**	P	P	08 12 29.0	-0.4
ULM	**Lac du Bonnet**	**38.81**	**331**	P	P	08 12 52.1	-1.3
	comp=E,1.2nm,0.6s,mb3.8,baz=122,slow=12,SNR=3.3						
PDAR	**Pinedale Array**	**42.91**	**313**	P	P	08 13 28.7	+1.4
	comp=E,0.1nm,0.5s,mb2.8,baz=92,slow=9.1,SNR=2.7						
PDAR				PcP	PcP	08 15 18.1	+0.5
	comp=E,0.9nm,0.5s,baz=102,slow=5.1,SNR=11						
CPUP	**Villa Florida**	**45.88**	**168**	P	P	08 13 49.2	-1.7
	comp=E,0.2nm,0.3s,mb3.5,baz=352,slow=7.1,SNR=3.4						
NVAR	**Mina Array Bea**	**48.27**	**305**	P	P	08 14 10.8	+1.2
	comp=E,0.7nm,0.5s,mb4.0,baz=72,slow=32,SNR=11						
ESDC	**Sonseca Array**	**57.82**	**55**	LR	LR	08 32 50.9	
	comp=E,67nm,19.8s,MS3.8,baz=235,slow=28						
TORD	**Torodi Ar. Bea**	**66.15**	**84**	P	P	08 16 17.0	+1.1
	comp=E,0.5nm,0.6s,mb3.7,baz=291,slow=6.5,SNR=5.4						
GERES	**GERESS Array B**	**70.17**	**44**	LR	LR	08 40 49.6	
	comp=E,31nm,21.2s,MS3.5,baz=355,slow=30						
ARCES	**ARCESS Array B**	**73.50**	**21**	P	P	08 17 01.6	+0.4
	comp=E,2.0nm,0.7s,mb4.1,baz=285,slow=4.6,SNR=4.8						
FINES	**FINESS Array B**	**75.25**	**30**	P	P	08 17 12.1	+0.8
	comp=E,0.9nm,0.5s,mb3.9,baz=271,slow=5.2,SNR=9.6						
CTA	**Charters Tower**	**148.43**	**262**	PKPbc	PKPbc	08 25 15.7	+0.8
	comp=E,3.3nm,0.6s,baz=90,slow=4.0,SNR=4.9						
STKA	**Stephens Creek**	**150.98**	**238**	PKPbc	PKPbc	08 25 20.5	-0.7
	comp=E,2.4nm,0.7s,baz=112,slow=5.4,SNR=6.0						
WRA	**Warramunga Arr**	**159.62**	**263**	PKP	PKPdf	08 25 28.0	+0.9
	comp=E,0.6nm,0.7s,baz=71,slow=0.9,SNR=6.2						
WRA				PKPab	PKPab	08 26 05.4	-0.2
	comp=E,0.3nm,0.6s,baz=92,slow=4.0,SNR=4.7						
ASAR	**Alice Springs**	**159.72**	**253**	PKP	PKPdf	08 25 28.4	+1.2
	comp=E,0.5nm,1.1s,baz=90,slow=2.0,SNR=4.5						
ASAR				PKPab	PKPab	08 26 06.2	+0.1
	comp=E,0.5nm,0.5s,baz=91,slow=4.6,SNR=6.3						

*ISCJB **24** 08:57:50.5±1.1, 152S±02×1749W±01, h228km±14km, mb4.0/12, Error ellipse: s-maj=28.5km s-min=16.8km az=129.0*
*IDC **24** 08:57:52.0±1.9, 1522S×17491W, h230km±19km, mb3.7/8, mb1 3.9/9, mb1mx3.7/15, mbtmp4.2/9, Error ellipse: s-maj=23.9km s-min=13.0km az=141.0*
*NEIC **24** 08:57:52.4±1.1, 1520S×17490W, h235km±11km, mb4.1/3, Error ellipse: s-maj=19.4km s-min=11.3km az=143.0*

ISC 24 08:57:51.9±1.1, 153S±02×1748W±01, h226km±14km, n21, σ0°78/19, mb4.0/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.26**	**65**	P	Pn	08 58 47.5	+1.6
	35nm,0.3s,baz=72,slow=1.0,SNR=27						
AFI				S	S	08 59 27.6	-1.0
	2.4nm,0.3s,baz=76,slow=22,SNR=3.7						
URZ	**Urewera**	**23.95**	**196**	P	P	09 02 44.2	-1.4
	6.3nm,0.4s,mb4.6,baz=293,slow=19,SNR=10.0						
CTA	**Charters Tower**	**37.32**	**257**	P	P	09 04 42.6	+0.2
	1.9nm,0.5s,mb3.9,baz=67,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**42.90**	**239**	P	P	09 05 26.7	-1.5
	1.3nm,0.2s,mb4.0,baz=77,slow=8.4,SNR=11						
STKA	**Stephens Creek**	**42.90**	**239**	P	P	09 05 26.7	-1.5
WB2	**Warramunga Arr**	**48.51**	**257**	*e*P	P	09 06 11.9	-0.1
WRA	**Warramunga Arr**	**48.52**	**257**	P	P	09 06 11.3	-0.8
	1.9nm,0.3s,mb3.9,baz=94,slow=7.8,SNR=71						
AS31	**Alice Springs**	**48.83**	**252**	*e*P	P	09 06 14.8	+0.4
ASAR	**Alice Springs**	**48.83**	**252**	P	P	09 06 14.9	+0.5
	34nm,0.6s,mb4.9,baz=87,slow=7.9,SNR=421						
ASPA	**Alice Springs**	**48.83**	**252**	*e*P	P	09 06 14.8	+0.4
FORT	**Forrest**	**54.23**	**243**	*e*P	P	09 06 54.4	+0.1
	7.8nm,0.6s,mb4.4						
MBWA	**Marble Bar**	**62.06**	**254**	*e*P	P	09 07 48.9	+0.3
	2.1nm,0.6s,mb3.9						
VNDA	**Vanda**	**63.34**	**186**	P	P	09 07 58.1	+1.2
	1.3nm,0.7s,mb3.7,baz=8.5,slow=7.0,SNR=7.2						
QSPA	**South Pole Qui**	**74.75**	**180**	*e*P	P	09 09 07.1	+0.2
	3.7nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**75.18**	**43**	P	P	09 09 08.8	-0.7
	0.3nm,0.5s,mb3.2,baz=225,slow=8.9,SNR=3.7						
NVAR	**Mina Array Bea**	**75.18**	**43**	P	P	09 09 08.8	-0.7
PDAR	**Pinedale Array**	**83.11**	**42**	P	P	09 09 52.4	0.0
	1.0nm,0.7s,mb3.6,baz=212,slow=2.1,SNR=11						
MAW	**Mawson**	**87.45**	**199**	P	P	09 10 14.2	+0.5
	2.0nm,0.7s,mb4.0,baz=122,slow=10,SNR=9.2						
ARCES	**ARCESS Array B**	**124.31**	**351**	PKP	PKPdf	09 16

IDC 24 10:03:56.5±1.8, 193N×12770E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=95.7km s-min=23.6km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.00**	**186**	P	P	10 08 31.4	+0.7
	1.5nm,0.8s,baz=20,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**22.69**	**164**	P	P	10 09 00.9	+1.3
	1.6nm,0.5s,baz=342,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.15**	**167**	P	P	10 09 32.7	+0.4
	0.5nm,0.5s,baz=351,slow=7.5,SNR=10						
STKA	**Stephens Creek**	**36.11**	**160**	P	P	10 10 58.6	-1.5
	0.9nm,0.6s,baz=14,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**59.58**	**325**	P	P	10 14 02.3	+0.4
	0.5nm,0.3s,baz=116,slow=7.2,SNR=5.7						

*NEIC **24** 10:06:17.3±2.2, 8.19S×11001E, h35km, mb4.8/1, Error ellipse: s-maj=104.0km s-min=14.4km az=52.0*
NEIC Felt [III] at Bantul.

IDC 24 10:06:12.6±2.4, 807S×11009E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.7/1, 1C, Error ellipse: s-maj=117.7km s-min=19.2km az=54.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.12**	**125**	P	Pn	10 10 25.2	-0.4
	0.2nm,0.3s,baz=307,slow=12,SNR=6.1						
WRA	**Warramunga Arr**	**26.28**	**119**	P	P	10 11 50.2	+0.6
	0.7nm,0.8s,baz=295,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**27.59**	**127**	P	P	10 12 02.4	+1.0
	0.8nm,0.7s,baz=302,slow=8.9,SNR=10.0						
STKA	**Stephens Creek**	**37.67**	**133**	⇑iP	P	10 13 29.0	-0.4
	6.2nm,0.4s						
STKA	**Stephens Creek**	**37.67**	**133**	P	P	10 13 29.1	-0.3
	6.8nm,0.5s,baz=311,slow=9.3,SNR=58						
SONM	**Songino Array**	**55.76**	**357**	P	P	10 15 51.8	+0.7
	0.4nm,0.6s,baz=193,slow=5.6,SNR=3.1						
MKAR	**Makanchi Array**	**59.97**	**338**	P	P	10 16 20.2	-0.4
	0.2nm,0.3s,baz=163,slow=6.9,SNR=2.8						

*NEIC **24** 10:11:35.2, 3502S×7214W, h53km, MG3.2(GUC), After GUC.*

GUC 24 10:11:35.2±0.8, 3502S×7214W, h53km±13km, MD3.6, ML3.2, 11C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.56**	**133**	⇑iP	Pn	10 11 47.6	+0.4
TALC				*i* S	Sn	10 11 56.8	+0.8
TALC				AML	AML	10 11 59.2	
	comp=E,4μm,0.2s						
TALC	**Talca**	**0.56**	**133**	⇑iP	Pn	10 11 47.6	+0.4
TALC				*i* S	Sn	10 11 56.8	+0.8
SFDO	**San Fernando**	**1.01**	**67**	⇑iP	Pn	10 11 53.8	+0.7
SFDO				*i* S	Sn	10 12 07.5	+1.2
LNV	**Longovilo**	**1.22**	**30**	⇑iP	Pn	10 11 56.5	+0.6
LNV				*i* S	Sn	10 12 12.4	+1.1
CACH	**El Canelo**	**1.56**	**55**	⇓iP	Pn	10 12 01.2	+0.7
CACH				*i* S	Sn	10 12 21.5	+2.0
CICH	**Cipreses**	**1.58**	**64**	⇑iP	Pn	10 12 01.3	+0.6
CICH				*i* S	Sn	10 12 20.7	+0.7
CCHI	**Chillan**	**1.58**	**178**	*i* P	Pn	10 12 01.0	+0.2
CCHI				*i* S	Sn	10 12 20.6	+0.5
CCHI				AML	AML	10 12 24.0	
	comp=E,351nm,0.3s						
CCHI	**Chillan**	**1.58**	**178**	*i* P	Pn	10 12 01.0	+0.2
CCHI				*i* S	Sn	10 12 20.6	+0.5
LCCH	**Las Cruces**	**1.61**	**17**	*e*P	Pn	10 12 01.8	+0.6
CHCH	**Chadas Angostu**	**1.64**	**49**	⇓iP	Pn	10 12 02.5	+0.9
CHCH				*i* S	Sn	10 12 22.6	+1.1
TACH	**Talagante**	**1.69**	**36**	⇑iP	Pn	10 12 02.9	+0.7
TACH				*i* S	Sn	10 12 24.0	+1.3
RCDM	**Rinconada Maip**	**1.88**	**36**	*e*P	Pn	10 12 05.5	+0.5
RCDM				*i* S	Sn	10 12 28.3	+0.8
RCDM				AML	AML	10 12 30.2	
	comp=E,289nm,0.1s						
RCDM	**Rinconada Maip**	**1.88**	**36**	*e*P	Pn	10 12 05.5	+0.5
RCDM				*i* S	Sn	10 12 28.3	+0.8
ANTU	**Antumapu**	**1.91**	**41**	⇑iP	Pn	10 12 06.1	+0.8
ANTU				*i* S	Sn	10 12 29.8	+1.7
ANTU				AML	AML	10 12 30.9	
	comp=N,327nm,0.3s						
ANTU	**Antumapu**	**1.91**	**41**	⇑iP	Pn	10 12 06.1	+0.8
ANTU				*i* S	Sn	10 12 29.8	+1.7
PCH	**Pirque**	**1.94**	**44**	*e*P	Pn	10 12 06.5	+0.8
PCH				*i* S	Sn	10 12 30.0	+1.2
LMEL	**Las Melosas**	**1.98**	**54**	⇑iP	Pn	10 12 07.2	+1.0
LMEL				*i* S	Sn	10 12 31.9	+2.0
LMEL				AML	AML	10 12 34.3	
	comp=N,199nm,0.3s						
LMEL	**Las Melosas**	**1.98**	**54**	⇑iP	Pn	10 12 07.2	+1.0
LMEL				*i* S	Sn	10 12 31.9	+2.0
CLCH	**Cerro Calan**	**2.09**	**40**	⇑iP	Pn	10 12 08.4	+0.6
CLCH				*i* S	Sn	10 12 34.1	+1.4
CLCH				AML	AML	10 12 35.4	
	comp=N,300nm,0.6s						
PEL	**Peldehue**	**2.23**	**33**	*e*P	Pn	10 12 10.6	+1.0
PEL				*i* S	Sn	10 12 37.2	+1.3
PEL				AML	AML	10 12 41.9	
	comp=N,261nm,0.3s						
PEL	**Peldehue**	**2.23**	**33**	*e*P	Pn	10 12 10.6	+1.0
PEL				*i* S	Sn	10 12 37.2	+1.3
FCH	**Farellones**	**2.28**	**43**	⇓iP	Pn	10 12 11.3	+1.0
FCH				*i* S	Sn	10 12 38.7	+1.4
FCH				AML	AML	10 12 40.1	
	comp=N,111nm,0.3s						
JACH	**Jahuel**	**2.66**	**29**	*i* P	Pn	10 12 16.5	+0.9
JACH				*i* S	Sn	10 12 48.7	+2.0
TLL	**Tololo Astrono**	**4.97**	**13**	*i* S	Sn	10 13 43.7	+0.3

*NEIC **24** 10:16:51.4, 3103S×7154W, h72km, MG3.4(GUC), After GUC.*

GUC 24 10:16:51.4±1.0, 3103S×7154W, h72km±7km, MD3.6, ML3.4, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.48**	**107**	⇑iP	Pn	10 17 04.9	+0.7
CMCH				*i* S	Sn	10 17 14.6	+1.1
CMCH				AML	AML	10 17 17.0	
	comp=E,4μm,0.7s						
CMCH	**Combarbala**	**0.48**	**107**	⇑iP	Pn	10 17 04.9	+0.7
CMCH				*i* S	Sn	10 17 14.6	+1.1
OVCH	**Ovalle**	**0.51**	**34**	⇑iP	Pn	10 17 05.0	+0.5
OVCH				*i* S	Sn	10 17 14.6	+0.5
OVCH				AML	AML	10 17 17.6	
	comp=N,1μm,0.3s						
OVCH	**Ovalle**	**0.51**	**34**	⇑iP	Pn	10 17 05.0	+0.5
OVCH				*i* S	Sn	10 17 14.6	+0.5
CHNG	**Los Chungos**	**0.85**	**178**	*i* P	Pn	10 17 08.3	+0.2
CHNG				*i* S	Sn	10 17 20.7	+0.2
TLL	**Tololo Astrono**	**1.07**	**36**	⇓iP	Pn	10 17 11.7	+0.9
TLL				*i* S	Sn	10 17 27.2	+1.8
TLL				AML	AML	10 17 28.8	
	comp=N,2μm,0.6s						
TLL	**Tololo Astrono**	**1.07**	**36**	⇓iP	Pn	10 17 11.7	+0.9
TLL				*i* S	Sn	10 17 27.2	+1.8
LCO	**Las Campanas**	**2.14**	**20**	⇓iP	Pn	10 17 25.6	+0.6
LCO				*i* S	Sn	10 17 51.5	+0.9
PEL	**Peldehue**	**2.22**	**161**	*e*P	Pn	10 17 27.2	+1.1
PEL				*i* S	Sn	10 17 53.1	+0.6
PEL				AML	AML	10 17 55.4	
	comp=E,332nm,0.3s						
PEL	**Peldehue**	**2.22**	**161**	*e*P	Pn	10 17 27.2	+1.1
PEL				*i* S	Sn	10 17 53.1	+0.6
CLCH	**Cerro Calan**	**2.50**	**160**	*e*P	Pn	10 17 31.3	+1.5
CLCH				*i* S	Sn	10 18 00.5	+1.2
CLCH				AML	AML	10 18 02.6	
	comp=E,172nm,0.8s						
FCH	**Farellones**	**2.52**	**156**	*i* P	Pn	10 17 32.7	+2.6
FCH				*i* S	Sn	10 18 03.0	+3.3
FCH				AML	AML	10 18 05.9	
	comp=N,135nm,0.4s						
RCDM	**Rinconada Maip**	**2.52**	**166**	*i* S	Sn	10 18 00.8	+1.0
RCDM				AML	AML	10 18 01.4	
	comp=E,252nm,0.1s						
MDZ	**Mendoza**	**2.94**	**130**	*e*P	Sn	10 18 02.6	-7.3
LMEL	**Las Melosas**	**3.02**	**158**	*i* P	Pn	10 17 38.8	+1.9
LMEL				*i* S	Sn	10 18 13.8	+1.8
LMEL				AML	AML	10 18 15.9	
	comp=N,148nm,0.2s						
LMEL	**Las Melosas**	**3.02**	**158**	*i* P	Pn	10 17 38.8	+1.9
LMEL				*i* S	Sn	10 18 13.8	+1.8

*BJI **24** 10:22:07.5, 1770S×4180E, h1km, mB5.2, mb4.8, Ms4.8, Msz4.1*
*ISCJB **24** 10:22:08.9±0.3, 1766S±005×4183E±005, h10km, mb4.7/95, MS4.0/20, Error ellipse: s-maj=7.6km s-min=6.8km az=73.2*
*HRVD **24** 10:22:09.1±0.4, 1750S×4167E, h18km±1km, MW4.8/40, Centroid moment Tensor Solution. LP body waves: s9,c11;Mantle waves: s40,c49; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.75±.21; Mθθ-0.01±.12; Mφφ 1.77±.15; Mrθ 0.40±.35; Mrφ-0.41±.09; Mθφ 0.70±.30; Best double couple: M0 1.97800×1016 NP1:φ=332.00000°, δ38.00000°, λ-115.00000°. NP2:φ=183.00000°, δ56.00000°, λ-72.00000°. Principal axes: T 1.9600, Plg9.0000°, Azm260.0000°; N 0.0410, Plg15.0000°, Azm353.0000°; P -1.9960, Plg72.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **24** 10:22:09.1, 1809S×4200E, h33km, mb4.8, Mozambique Channel*
*NEIC **24** 10:22:09.1±2.5, 1772S×4183E, h1km±15km, mb5.0/53, Error ellipse: s-maj=5.8km s-min=5.4km az=93.0*
*IDC **24** 10:22:09.0±0.5, 1767S×4180E, h0km, mb4.3/20, mb1 4.4/24, mb1mx4.3/28, mbtmp4.3/24, ML4.2/4, MS3.9/21, Ms1 3.9/21, ms1mx3.7/37, Error ellipse: s-maj=16.0km s-min=14.8km az=70.0*
*MOS **24** 10:22:09.0±0.7, 1765S×4179E, h10km, mb5.0/51, Error ellipse: s-maj=12.5km s-min=5.3km az=101.8*
*LDG **24** 10:22:12.3±0.3, 1695S×4201E, h10km, Mb5.0/35, Ms3.8/5, Error ellipse: s-maj=24.6km s-min=5.4km az=24.0*

ISC 24 10:22:10.8±0.3, 1768S±005×4179E±005, h10km, (h28km±4.1km:pP-P), n361, c0:74/243, mb4.7/95, MS4.0/20, 47C-1D, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.21**	**101**	P	**Pn**	**10 23 28.2**	**-0.6**
	38nm,0.3s,baz=274,slow=14,SNR=296						
OPO				Sn	**Sn**	**10 24 22.9**	**-6.0**
	33nm,0.3s,baz=306,slow=14,SNR=4.8						
MATP	**Matopo**	**12.86**	**256**	Pn	**Pn**	**10 25 06.4**	**-7.2**
	0.7nm,0.3s,baz=68,slow=15,SNR=11						
MATP				Sn	**Sn**	**10 27 21.6**	**-15**
	1.1nm,0.3s,baz=348,slow=20,SNR=3.9						
MATP				LR	LR	10 30 35.4	
	comp=Z,708nm,18.1s,baz=84,slow=39						
LSZ	**Lusaka**	**13.26**	**278**	Pn	**Pn**	**10 25 16.2**	**-2.9**
	1.5nm,0.3s,baz=121,slow=17,SNR=8.5						
LSZ				LR	LR	10 30 20.2	
	comp=Z,665nm,19.8s,baz=120,slow=37						
LBTB	**Lobatse**	**16.75**	**241**	Pn	**Pn**	**10 26 05.1**	**-0.3**
	0.6nm,0.3s,baz=77,slow=9.1,SNR=9.3						
LBTB				Sn	**Sn**	**10 28 55.2**	**-16**
	0.4nm,0.3s,baz=114,slow=12,SNR=3.5						
LBTB				LR	LR	10 33 25.9	
	comp=Z,178nm,18.3s,baz=78,slow=40						
KMBO	**Kilima Mbogo**	**17.04**	**344**	P	**Pn**	**10 26 08.5**	**-0.6**
	0.2nm,0.3s,baz=234,slow=24,SNR=2.8						
KMBO				S	**Sn**	**10 29 17.2**	**-1.4**
	0.1nm,0.3s,baz=235,slow=23,SNR=2.3						
KMBO				LR	LR	10 33 47.9	
	comp=Z,201nm,18.7s,baz=102,slow=41						
KMBO	**Kilima Mbogo**	**17.04**	**344**	P	**Pn**	**10 26 08.5**	**-0.6**
KMBO				S	**Sn**	**10 29 17.2**	**-1.4**
BOSA	**Boshof**	**18.68**	**231**	P	**Pn**	**10 26 27.9**	**-1.4**
	0.5nm,0.3s,baz=52,slow=12,SNR=9.0						
BOSA				LR	LR	10 33 37.7	
	comp=Z,357nm,18.8s,baz=59,slow=37						
TSUM	**Tsumeb**	**23.01**	**262**	P	**P**	**10 27 15.4**	**-0.4**
	4.7nm,0.8s,mb4.0,baz=65,slow=10,SNR=5.1						
TSUM				LR	LR	10 35 45.1	
	comp=Z,325nm,21.1s,MS3.8,baz=98,slow=35						
SUR	**Sutherland**	**23.93**	**228**	P	**P**	**10 27 25.6**	**+0.7**
	321nm,1.0s,mb5.7,SNR=8.1						
SUR	**Sutherland**	**23.93**	**228**	P	**P**	**10 27 25.3**	**+0.4**
	48nm,0.9s,mb4.9,baz=66,slow=3.8,SNR=15						
SUR				LR	LR	10 36 29.2	
	comp=Z,249nm,19.7s,MS3.7,baz=46,slow=36						
SUR	**Sutherland**	**23.93**	**228**	P	**P**	**10 27 25.3**	**+0.4**
SUR				LR	LR	10 36 29.2	
ATD	**Arta Tunnel**	**29.04**	**2**	LR	LR	10 42 33.5	
	comp=Z,94nm,18.3s,MS3.4,baz=104,slow=42						
WSAR	**Wadi Sarin**	**43.87**	**23**	LR	LR	10 45 34.7	
	comp=Z,156nm,19.5s,MS3.9,baz=25,slow=32						
ASF	**Jabal al Asfar**	**49.78**	**355**	P	**P**	**10 31 04.8**	**+1.2**
	2.8nm,0.8s,mb4.3,baz=12,slow=3.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**50.04**	**305**	P	**P**	**10 31 05.9**	**+0.4**
	4.0nm,0.9s,mb4.5,baz=120,slow=7.0,SNR=20						
TORD				PcP	PcP	10 32 25.0	-0.3
	2.8nm,1.1s,baz=119,slow=4.6,SNR=4.1						
TORD				LR	LR	10 52 55.0	
	comp=Z,381nm,18.1s,MS4.4,baz=125,slow=37						
TORD	**Torodi Ar. Bea**	**50.04**	**305**	P	**P**	**10 31 05.9**	**+0.4**
TORD				PcP	PcP	10 32 25.0	-0.3
TORD				LR	LR	10 52 55.0	
MAW	**Mawson**	**51.71**	**170**	P	**P**	**10 31 18.2**	**+0.1**
	2.2nm,0.7s,mb4.2,baz=353,slow=7.3,SNR=5.1						
DBIC	**Dimbokro**	**52.02**	**294**	P	**P**	**10 31 20.7**	**+0.2**
	4.5nm,0.6s,mb4.6,baz=110,slow=8.8,SNR=9.2						
DBIC				LR	LR	10 53 09.9	
	comp=Z,257nm,19.2s,MS4.3,baz=110,slow=36						
DBIC	**Dimbokro**	**52.02**	**294**	P	**P**	**10 31 20.7**	**+0.2**
DBIC				LR	LR	10 53 09.9	
MALT	**Malatya**	**55.78**	**357**	*e*P	**P**	**10 31 49.4**	**+1.5**
MALT				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.2						
MALT	**Malatya**	**55.78**	**357**	*e*P	**P**	**10 31 49.4**	**+1.5**
	comp=Z,40nm,1.8s,mb5.2						
GNI	**Garni**	**57.59**	**3**	LR	LR	10 58 01.3	
	comp=Z,76nm,19.1s,MS3.8,baz=355,slow=37						
GNI	**Garni**	**57.59**	**3**	*e*P	**P**	**10 32 01.4**	**+0.6**
GNI				pmax	pmax		
	comp=Z,18nm,1.5s						
BRTR	**Keskin Array B**	**57.61**	**353**	P	**P**	**10 32 01.1**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.3,baz=168,slow=7.6,SNR=13						
BRTR				LR	LR	10 57 49.2	
	comp=Z,30nm,19.6s,MS3.4,baz=289,slow=37						
BR131	**Keskin Array S**	**57.61**	**353**	*e*P	**P**	**10 32 01.3**	**+0.4**
	comp=Z,0.8nm,0.5s,mb4.0						
KOLN	**Koldanda**	**60.67**	**43**	*e*P	**P**	**10 32 22.1**	**0.0**
	comp=Z,63nm,1.4s,mb5.5						
KIV	**Kislovodsk**	**61.33**	**1**	*e*P	**P**	**10 32 26.6**	**0.0**
KIV				*i*		10 33 09.6	
KIV				pmax	pmax		
	comp=Z,20nm,1.7s,mb5.0						
KIV				MLR	MLR		
	comp=Z,41μm,17.0s						
GKN	**Gorkha**	**61.50**	**43**	*e*P	**P**	**10 32 27.4**	**-0.4**
	comp=Z,34nm,1.0s,mb5.4						
DMN	**Daman**	**61.55**	**44**	*e*P	**P**	**10 32 27.9**	**-0.2**
	comp=Z,21nm,1.0s,mb5.2						
PKI	**Pulchoki**	**61.72**	**44**	*e*P	**P**	**10 32 29.2**	**0.0**
KKN	**Kakani**	**61.78**	**44**	*e*P	**P**	**10 32 29.5**	**-0.1**
GUN	**Gumba**	**62.26**	**44**	*e*P	**P**	**10 32 33.1**	**+0.2**
JIRN	**Jiri**	**62.30**	**45**	*e*P	**P**	**10 32 33.4**	**+0.3**
CFR	**Carcaliu**	**63.77**	**349**	⇑iP	**P**	**10 32 43.2**	**+0.3**
CFR	**Carcaliu**	**63.77**	**349**	⇑iP	**P**	**10 32 43.2**	**+0.3**
MLR	**Muntele Rosu**	**64.49**	**348**	⇑iP	**P**	**10 32 49.3**	**+1.7**
MLR	**Muntele Rosu**	**64.49**	**348**	⇑iP	**P**	**10 32 49.2**	**+1.6**
VOIR		**64.63**	**347**	⇓iP	**P**	**10 32 48.5**	**0.0**
VOIR		**64.63**	**347**	⇓iP	**P**	**10 32 48.5**	**0.0**
VRI	**Vrincioaia**	**64.70**	**348**	⇓iP	**P**	**10 32 50.0**	**+1.0**
VRI	**Vrincioaia**	**64.70**	**348**	⇓iP	**P**	**10 32 50.0**	**+1.0**
PLOR	**Plostina**	**64.70**	**348**	⇑iP	**P**	**10 32 50.1**	**+1.1**
GZR	**Gura Zlata**	**65.10**	**345**	⇑iP	**P**	**10 32 52.4**	**+0.8**
BZS	**Buzias**	**65.60**	**345**	⇑iP	**P**	**10 32 55.4**	**+0.6**
BZS	**Buzias**	**65.60**	**345**	⇑iP	**P**	**10 32 55.4**	**+0.6**
BURAR	**Bucovina Array**	**66.67**	**348**	⇑iP	**P**	**10 33 02.7**	**+1.0**
BURAR	**Bucovina Array**	**66.67**	**348**	⇑iP	**P**	**10 33 02.7**	**+1.0**
PKSM	**Moragy**	**66.95**	**343**	⇓iP	**P**	**10 33 03.7**	**+0.2**
PKSM	**Moragy**	**66.95**	**343**	⇓iP	**P**	**10 33 03.7**	**+0.2**
PGF	**Pioggiola**	**67.11**	**334**	*e*P	**P**	**10 33 04.7**	**+0.2**
	comp=Z,48nm,1.3s,mb5.1						
PGF	**Pioggiola**	**67.11**	**334**	*e*P	**P**	**10 33 04.7**	**+0.2**
PGF				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
PGF	**Pioggiola**	**67.11**	**334**	*e*P	**P**	**10 33 04.7**	**+0.2**
	comp=Z,24nm,1.3s,mb5.1						
AAK	**Ala-Archa**	**67.15**	**26**	*e*P	**P**	**10 33 04.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
AAK	**Ala-Archa**	**67.15**	**26**	*e*P	**P**	**10 33 04.8**	**0.0**
	comp=Z,17nm,1.4s,mb4.9						
FRU	**Bishkek**	**67.36**	**26**	*e*P	**P**	**10 33 06.0**	**-0.1**
CEY	**Cerknica**	**67.82**	**340**	*e*P	**P**	**10 33 08.9**	**0.0**
GROS	**Grobnik**	**68.11**	**341**	*e*P	**P**	**10 33 10.9**	**+0.1**
PSZ	**Piszkesteto**	**68.18**	**344**	*e*P	**P**	**10 33 11.2**	**0.0**
PSZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
PSZ	**Piszkesteto**	**68.18**	**344**	*e*P	**P**	**10 33 11.2**	**0.0**
	comp=Z,6.6nm,0.8s,mb4.7						
OBKA	**Obir**	**68.46**	**340**	⇓*i*P	**P**	**10 33 13.4**	**+0.4**
	comp=Z,15nm,1.2s,mb4.9						
KOLS	**Kolonicke sedl**	**68.55**	**346**	*e*P	**P**	**10 33 15.1**	**+1.5**
KECS	**Kecovo**	**68.55**	**345**	*i* P	**P**	**10 33 13.3**	**-0.3**
KECS				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
KECS	**Kecovo**	**68.55**	**345**	*i* P	**P**	**10 33 13.3**	**-0.3**
	comp=Z,6.3nm,1.2s,mb4.4						
ROBS	**Robic**	**68.57**	**339**	*e*P	**P**	**10 33 13.4**	**-0.3**
ARSA	**Arzberg**	**68.81**	**341**	⇑*i*P	**P**	**10 33 15.5**	**+0.3**
	comp=Z,9.9nm,1.3s,mb4.6						
SBF	**Sospel**	**68.84**	**334**	*e*P	**P**	**10 33 15.8**	**+0.4**
	comp=Z,31nm,1.1s,mb4.9						
SBF	**Sospel**	**68.84**	**334**	*e*P	**P**	**10 33 15.8**	**+0.4**
SBF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
SBF	**Sospel**	**68.84**	**334**	*e*P	**P**	**10 33 15.8**	**+0.4**
	comp=Z,16nm,1.1s,mb4.8						
AKASG	**Malin Array Be**	**68.97**	**351**	P	**P**	**10 33 14.8**	**-1.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=171,slow=5.4,SNR=14						
VYHS	**Vyhne**	**68.98**	**344**	*i* P	**P**	**10 33 16.1**	**-0.2**
VYHS				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.5						
VYHS	**Vyhne**	**68.98**	**344**	*i* P	**P**	**10 33 16.1**	**-0.2**
	comp=Z,11nm,1.6s,mb4.5						
VYHS				*e*		10 33 27.8	
KOLL	**Kolacno**	**69.18**	**344**	*e*P	**P**	**10 33 17.5**	**0.0**
ZST	**Bratislava**	**69.19**	**343**	*e*P	**P**	**10 33 15.8**	**-1.8**
ZST				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ZST	**Bratislava**	**69.19**	**343**	*e*P	**P**	**10 33 15.8**	**-1.8**
	comp=Z,5.6nm,0.9s,mb4.5						
STHS	**Stebnicka Huta**	**69.24**	**346**	*e*P	**P**	**10 33 17.5**	**-0.4**
STHS	**Stebnicka Huta**	**69.24**	**346**	*e*P	**P**	**10 33 17.6**	**-0.3**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
STHS	**Stebnicka Huta**	**69.24**	**346**	*e*P	**P**	**10 33 17.6**	**-0.3**
	comp=Z,3.3nm,1.1s,mb4.2						
CONA	**Conrad Observa**	**69.31**	**342**	*e*P	**P**	**10 33 18.6**	**+0.3**
	comp=Z,14nm,1.4s,mb4.7						
KBA	**Koelnbreinsper**	**69.35**	**340**	⇑*i*P	**P**	**10 33 18.8**	**+0.2**
	comp=Z,8.7nm,1.1s,mb4.6						
SMRF	**Simiane la Rot**	**69.73**	**333**	*e*P	**P**	**10 33 22.2**	**+1.3**
	comp=Z,17nm,1.2s,mb4.5						
SMRF	**Simiane la Rot**	**69.73**	**333**	*e*P	**P**	**10 33 22.2**	**+1.3**
	comp=Z,17nm,1.2s,mb4.8						
MOA	**Molln**	**69.73**	**341**	⇑*i*P	**P**	**10 33 21.0**	**+0.1**
	comp=Z,15nm,1.1s,mb4.8						
MBDF	**Montbardon**	**69.82**	**334**	*e*P	**P**	**10 33 22.8**	**+1.3**
	comp=Z,44nm,1.1s,mb5.0						
MBDF	**Montbardon**	**69.82**	**334**	*e*P	**P**	**10 33 22.8**	**+1.3**
MBDF				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
MBDF	**Montbardon**	**69.82**	**334**	*e*P	**P**	**10 33 22.8**	**+1.3**
	comp=Z,22nm,1.1s,mb5.1						
ORR	**Orenburg**	**69.92**	**9**	*e*P	**P**	**10 33 21.1**	**-1.0**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
WTTA	**Wattenberg**	**70.09**	**339**	⇑*i*P	**P**	**10 33 23.7**	**+0.6**
	comp=Z,11nm,1.4s,mb4.6						
BNI	**Bardonecchia**	**70.13**	**334**	*e*P	**P**	**10 33 24.6**	**+1.3**
BNI				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
BNI	**Bardonecchia**	**70.13**	**334**	*e*P	**P**	**10 33 24.6**	**+1.3**
	comp=Z,28nm,1.3s,mb5.0						
OJC	**Ojcow**	**70.33**	**345**	*e*P	**P**	**10 33 24.0**	**-0.6**
MOTA	**Moosalm**	**70.35**	**338**	⇑*e*P	**P**	**10 33 23.0**	**-1.7**
	comp=Z,1.5nm,0.5s,mb4.2						
ORIF	**Oris-en-Rattie**	**70.35**	**334**	*e*P	**P**	**10 33 25.4**	**+0.7**
	comp=Z,16nm,1.1s,mb4.6						
ORIF	**Oris-en-Rattie**	**70.35**	**334**	*e*P	**P**	**10 33 25.4**	**+0.7**
ORIF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
ORIF	**Oris-en-Rattie**	**70.35**	**334**	*e*P	**P**	**10 33 25.4**	**+0.7**
	comp=Z,7.8nm,1.1s,mb4.5						
OKC	**Ostrava-Krasne**	**70.40**	**344**	*e*P	**P**	**10 33 24.9**	**-0.1**
LPG	**La Plagne**	**70.46**	**335**	*e*P	**P**	**10 33 25.3**	**-0.1**
	comp=Z,22nm,1.0s,mb

MANZ **Manzenberg 72.29 340** *e*P P **10 33 36.5 +0.1**
comp=Z,5.0nm,0.3s,mb4.9
GRA1 **Grafenberg Arr 72.33 340** *e*P P **10 33 36.2 -0.4**
comp=Z,11nm,0.8s,mb4.8
GRF **Grafenberg Arr 72.33 340** *e*P P **10 33 36.2 -0.4**
comp=Z,11nm,0.8s,mb4.8
GRF **Grafenberg Arr 72.33 340** *e*P P **10 33 36.2 -0.4**
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.8
GRF **Grafenberg Arr 72.33 340** *e*P P **10 33 36.2 -0.4**
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.8
NKC **Novy Kostel 72.40 341** *e*P P **10 33 38.0 +0.9**
BRG **Berggiesshubel 72.50 342** *e*P P **10 33 37.2 -0.5**
comp=Z,6.0nm,1.1s,mb4.4
BRG **Berggiesshubel 72.50 342** *e*P P **10 33 37.4 -0.4**
comp=Z,3.5nm,1.1s,mb4.2
TANN **Tannenbergstha 72.55 341** *e*P P **10 33 37.6 -0.4**
comp=Z,21nm,1.5s,mb4.8
RJF **Les Rejaudoux 72.57 331** *e*P P **10 33 38.7 +0.6**
comp=Z,37nm,1.5s,mb4.8
RJF **Les Rejaudoux 72.57 331** *e*P P **10 33 38.7 +0.6**
RJF pmax pmax
comp=Z,19nm,1.5s,mb4.8
RJF **Les Rejaudoux 72.57 331** *e*P P **10 33 38.7 +0.6**
comp=Z,18nm,1.5s,mb4.8
SMF **Signal de Mont 72.59 334** *e*P P **10 33 38.2 0.0**
comp=Z,32nm,1.0s,mb4.9
SMF **Signal de Mont 72.59 334** *e*P P **10 33 38.2 0.0**
SMF pmax pmax
comp=Z,16nm,1.0s,mb4.9
SMF **Signal de Mont 72.59 334** *e*P P **10 33 38.2 0.0**
comp=Z,16nm,1.0s,mb4.9
WERD **Werda 72.63 341** *e*P P **10 33 38.4 -0.1**
comp=Z,21nm,1.5s,mb4.8
OBN **Obninsk 72.63 357** *e*P P **10 33 37.2 -1.3**
OBN *e* 10 36 19.8
OBN pmax pmax
comp=Z,32nm,1.7s,mb5.0
CDF **Champ du Feu 72.64 337** *e*P P **10 33 37.9 -0.6**
comp=Z,23nm,1.1s,mb4.7
CDF **Champ du Feu 72.64 337** *e*P P **10 33 37.9 -0.6**
CDF pmax pmax
comp=Z,12nm,1.1s,mb4.7
CDF **Champ du Feu 72.64 337** *e*P P **10 33 37.9 -0.6**
comp=Z,12nm,1.1s,mb4.7
LFF **La Frestale 72.65 331** *e*P P **10 33 39.2 +0.6**
comp=Z,26nm,1.1s,mb4.8
LFF **La Frestale 72.65 331** *e*P P **10 33 39.2 +0.6**
LFF pmax pmax
comp=Z,13nm,1.1s,mb4.8
LFF **La Frestale 72.65 331** *e*P P **10 33 39.2 +0.6**
comp=Z,13nm,1.1s,mb4.8
HAU **Haudompre 72.66 336** *e*P P **10 33 39.4 +0.7**
comp=Z,36nm,1.1s,mb4.9
HAU *e*R
comp=Z,36nm,21.5s
HAU **Haudompre 72.66 336** *e*P P **10 33 39.4 +0.7**
HAU pmax pmax
comp=Z,18nm,1.1s,mb4.9
HAU **Haudompre 72.66 336** *e*P P **10 33 39.4 +0.7**
comp=Z,18nm,1.1s,mb4.9
FBE **Freiberg 72.72 342** *e*P P **10 33 38.6 -0.4**
comp=Z,4.0nm,0.9s,mb4.3
AVF **Avril sur Loir 72.91 333** *e*P P **10 33 40.2 +0.1**
comp=Z,27nm,1.1s,mb4.8
AVF **Avril sur Loir 72.91 333** *e*P P **10 33 40.2 +0.1**
AVF pmax pmax
comp=Z,14nm,1.1s,mb4.8
AVF **Avril sur Loir 72.91 333** *e*P P **10 33 40.2 +0.1**
comp=Z,14nm,1.1s,mb4.8
BGF **Bois d'Agland 72.95 333** *e*P P **10 33 40.6 +0.3**
KMI **Kunming 73.01 56** P P **10 33 41.0 +0.3**
KMI AP pP 10 33 51.4 +7.4
KMI S S 10 43 15.5 +7.7
KMI LR LR
comp=Z,50nm,29.3s,MS3.6
TCF **Toulx Ste Croi 73.02 332** *e*P P **10 33 41.6 +0.8**
comp=Z,30nm,1.0s,mb4.9
TCF **Toulx Ste Croi 73.02 332** *e*P P **10 33 41.6 +0.8**
TCF pmax pmax
comp=Z,15nm,1.0s,mb4.9
TCF **Toulx Ste Croi 73.02 332** *e*P P **10 33 41.6 +0.8**
comp=Z,15nm,1.0s,mb4.9
MOX **Moxa 73.02 340** *e*P P **10 33 40.6 -0.2**
comp=Z,3.0nm,0.7s,mb4.3
SSF **Saint Saulge 73.06 334** *e*P P **10 33 40.8 -0.2**
comp=Z,13nm,1.0s,mb4.5
SSF **Saint Saulge 73.06 334** *e*P P **10 33 40.8 -0.2**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SSF **Saint Saulge 73.06 334** *e*P P **10 33 40.8 -0.2**
comp=Z,6.5nm,1.0s,mb4.5
LOR **Lormes 73.07 334** *e*P P **10 33 41.2 +0.1**
comp=Z,37nm,1.1s,mb4.9
LOR *e*R
comp=Z,65nm,18.8s
LOR **Lormes 73.07 334** *e*P P **10 33 41.2 +0.1**
LOR pmax pmax
comp=Z,18nm,1.1s,mb4.9
LOR **Lormes 73.07 334** *e*P P **10 33 41.2 +0.1**
comp=Z,18nm,1.1s,mb4.9
CLL **Collm 73.17 342** *e*P P **10 33 41.6 -0.1**
comp=Z,6.0nm,0.9s,mb4.5
CLL **Collm 73.17 342** *i*P P **10 33 41.3 -0.4**
comp=Z,12nm,1.4s,mb4.6
CLL *i*pP pP 10 33 46.9 +2.0
comp=Z,11nm,1.2s
CLL **Collm 73.17 342** *i*P P **10 33 41.3 -0.4**
CLL *i* 10 33 46.9
CLL pmax pmax
comp=Z,12nm,1.4s,mb4.6
MEZF **Maizieres J'vi 73.57 335** *e*P P **10 33 44.3 +0.3**
comp=Z,49nm,1.4s,mb5.0
MEZF **Maizieres J'vi 73.57 335** *e*P P **10 33 44.3 +0.3**
comp=Z,49nm,1.4s,mb5.2
UBBA **Unterbreizbach 73.70 340** *e*P P **10 33 45.5 +0.7**
comp=Z,9.0nm,1.2s,mb4.6
MKAR **Makanchi Array 73.81 28** P P **10 33 45.1 -0.3**
comp=Z,3.1nm,0.6s,mb4.4,baz=215,slow=6.4,SNR=24
RUE **Ruedersdorf 73.98 343** *e*P P **10 33 47.3 +0.9**
RUE **Ruedersdorf 73.98 343** *e*P P **10 33 46.8 +0.4**
ZRNK **Zerenda 74.17 17** *e*P P **10 33 47.0 -0.6**
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ZRNK **Zerenda 74.17 17** *e*P P **10 33 47.0 -0.5**
comp=Z,5.0nm,1.0s,mb4.4
WMQ **Urumqi 74.22 33** *e*P P **10 33 48.8 +1.0**
MFF **Saint Martin d 74.31 331** *e*P P **10 33 48.6 +0.2**
comp=Z,22nm,1.3s,mb4.6
MFF **Saint Martin d 74.31 331** *e*P P **10 33 48.6 +0.2**
MFF pmax pmax
comp=Z,11nm,1.3s,mb4.6
MFF **Saint Martin d 74.31 331** *e*P P **10 33 48.6 +0.2**
comp=Z,11nm,1.3s,mb4.6
CLZ **Clausthal 74.45 340** *e*P P **10 33 49.6 +0.4**
comp=Z,20nm,1.5s,mb4.8
CLZ **Clausthal 74.45 340** *e*P P **10 33 49.6 +0.4**
CLZ pmax pmax
comp=Z,20nm,1.5s,mb4.8
BVAR **Borovoye Array 74.63 17** LR LR 11 06 40.7
comp=Z,35nm,20.9s,MS3.6,baz=155,slow=36
GIVF **Givet 74.95 336** *e*P P **10 33 52.1 0.0**
BUG **Bochum--Univer 75.15 338** *e*P P **10 33 53.4 +0.2**
comp=Z,8.0nm,0.6s,mb4.8
BAIF **Baives 75.15 336** *e*P P **10 33 53.2 0.0**
comp=Z,16nm,1.0s,mb4.6
BAIF **Baives 75.15 336** *e*P P **10 33 53.2 0.0**
BAIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BAIF **Baives 75.15 336** *e*P P **10 33 53.2 0.0**
comp=Z,7.8nm,1.0s,mb4.6
ARU **Arti 75.16 10**⇑*i*P P **10 33 52.3 -1.0**
ARU *e* 10 36 43.6
ARU *e*S S 10 43 34.9 +3.0
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ARU **Arti 75.16 10** *e*P P **10 33 52.8 -0.5**
comp=Z,3.8nm,0.3s,mb4.8
CHKZ **Chkalovo 75.27 17** *e*P P **10 33 53.5 -0.4**
CHKZ pmax pmax
comp=Z,14nm,1.5s,mb4.7
CHKZ **Chkalovo 75.27 17** *e*P P **10 33 53.5 -0.4**
comp=Z,14nm,1.5s,mb4.7
KURK **Kurchatov 75.39 23** P P **10 33 54.4 -0.2**
comp=Z,65nm,1.1s,mb5.5,SNR=6.8
KURK **Kurchatov 75.39 23** *e*P P **10 33 54.3 -0.3**
KURK pmax pmax
comp=Z,24nm,1.4s,mb4.9
KURK **Kurchatov 75.39 23** *e*P P **10 33 54.3 -0.3**
comp=Z,24nm,1.4s,mb4.9
LDF **La Druitiere 75.80 333** *e*P P **10 33 56.8 -0.1**
comp=Z,44nm,1.5s,mb4.9
LDF **La Druitiere 75.80 333** *e*P P **10 33 56.8 -0.1**
LDF pmax pmax
comp=Z,22nm,1.5s,mb4.9
LDF **La Druitiere 75.80 333** *e*P P **10 33 56.8 -0.1**
comp=Z,22nm,1.5s,mb4.9
GRR **Gorron 75.97 332** *e*P P **10 33 57.8 -0.1**
FLN **La Foliniere 76.08 333** *e*P P **10 33 58.4 -0.2**
SGMF **Saint Gilles 76.64 331** *e*P P **10 34 01.3 -0.4**
comp=Z,45nm,1.4s,mb4.9
SGMF **Saint Gilles 76.64 331** *e*P P **10 34 01.3 -0.4**
SGMF pmax pmax
comp=Z,23nm,1.4s,mb4.9
SGMF **Saint Gilles 76.64 331** *e*P P **10 34 01.3 -0.4**
comp=Z,23nm,1.4s,mb4.9
CD2 **Chengdu 76.66 51** *e*P P **10 34 02.3 +0.5**
CD2 PP PP 10 36 56.5 +2.4
CD2 S S 10 43 49.4 +1.0
CD2 SS SS 10 48 48.1 +4.3
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.5
CD2 AMB AMB
comp=Z,120nm,6.2s
CD2 LR LR
comp=E,250nm,18.2s
CD2 LR LR
comp=Z,310nm,19.4s,MS4.6
QUIF **Quistinic 76.67 331** *e*P P **10 34 01.9 0.0**
comp=Z,81nm,1.5s,mb5.1
QUIF **Quistinic 76.67 331** *e*P P **10 34 01.9 0.0**
QUIF pmax pmax
comp=Z,41nm,1.5s,mb5.1
QUIF **Quistinic 76.67 331** *e*P P **10 34 01.9 0.0**
comp=Z,41nm,1.5s,mb5.1
GYA **Guiyang 76.75 56** P P **10 34 02.8 +0.4**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
VSU **Vasula 76.87 352** *e*P P **10 34 01.7 -1.3**
ROSF **Rostrenen 77.02 331** *e*P P **10 34 03.4 -0.5**
comp=Z,34nm,1.3s,mb4.8
ROSF **Rostrenen 77.02 331** *e*P P **10 34 03.4 -0.5**
ROSF pmax pmax
comp=Z,17nm,1.3s,mb4.8
ROSF **Rostrenen 77.02 331** *e*P P **10 34 03.4 -0.5**
comp=Z,17nm,1.3s,mb4.8
KLMR **Klimovskoe 78.28 359** *e*P P **10 34 09.9 -1.0**
GTA **Gaotai 78.45 42** *e*P P **10 34 12.5 +0.7**
GTA AP pP 10 34 17.1 +2.0
GTA XP sP 10 34 19.8 +3.5
VNDA **Vanda 79.01 169** P P **10 34 15.6 +0.6**
comp=Z,1.0nm,1.0s,mb3.7,baz=243,slow=6.8,SNR=4.0
FITZ **Fitzroy Crossi 79.03 106** P P **10 34 15.9 +0.9**
comp=Z,2.3nm,1.0s,mb4.0,baz=278,slow=21,SNR=3.8
FINES **FINESS Array B 79.84 352** P P **10 34 18.5 -1.0**
comp=Z,1.1nm,0.8s,mb3.8,baz=134,slow=5.5,SNR=4.7
FINES **FINESS Array B 79.84 352** P P **10 34 18.5 -1.0**
ZAL **Zalesovo 80.28 24** P P **10 34 21.6 -0.3**
comp=Z,7nm,0.9s,mb4.2,baz=250,slow=5.9,SNR=16
NVS **Novosibirsk 80.38 23** *e*P P **10 34 21.5 -0.8**
NVS pmax pmax
comp=Z,32nm,1.4s,mb5.1
KAF **Kangasniemi 80.47 353** *e*p P **10 34 19.0 -3.8**
comp=Z,6.8nm,0.8s,mb4.6
KAF **Kangasniemi 80.47 353** *e*P P **10 34 19.0 -3.8**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NB2 **NORSAR Subarra 82.19 346** P P **10 34 30.6 -1.4**
comp=Z,3.6nm,1.0s,mb4.3,baz=131,slow=7.9
NB2 **NORSAR Subarra 82.19 346** P P **10 34 30.6 -1.4**
NB2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
NOA **NORSAR Array B 82.19 346** P P **10 34 31.9 -0.1**
comp=Z,2.5nm,0.9s,mb4.2,baz=141,slow=5.2,SNR=4.9
ASAR **Alice Springs 84.94 113** P P **10 34 46.2 +0.1**
comp=Z,2.3nm,0.8s,mb4.3,baz=265,slow=4.3,SNR=16
ASAR LR LR 11 07 30.0
comp=Z,160nm,22.0s,MS4.4,baz=1.3,slow=32
BDFB **Brasilia 85.18 255** LR LR 11 10 48.5
comp=Z,125nm,18.5s,MS4.3,baz=116,slow=34
BTO **Baotou 85.78 45** *e*P P **10 34 50.5 +0.2**
WRA **Warramunga Arr 86.42 110** P P **10 34 53.3 -0.2**
comp=Z,1.4nm,1.0s,mb4.2,baz=248,slow=2.9,SNR=11
ZAK **Zakamensk 86.59 34** *e*P P **10 34 53.9 -0.4**
ZAK pmax pmax
comp=Z,12nm,1.8s,mb4.8
SONM **Songino Array 86.99 38** P P **10 34 56.4 +0.2**
comp=Z,1.3nm,1.0s,mb4.1,baz=237,slow=4.2,SNR=6.7
SONM LR LR 11 12 21.9
comp=Z,30nm,18.3s,MS3.7,baz=292,slow=35
SONM **Songino Array 86.99 38** P P **10 34 56.4 +0.2**
SONM LR LR 11 12 21.9
ARCES **ARCESS Array B 87.75 354** P P **10 34 58.9 -1.0**
comp=Z,2.8nm,1.0s,mb4.4,baz=168,slow=5.3,SNR=3.7
NJ2 **Nanjing 88.75 56** *e*P P **10 35 02.1 -2.6**
NJ2 AP pP 10 35 13.0 +5.0
NJ2 XP sP 10 35 17.6 +8.4
NJ2 SKS 10 45 28.0
NJ2 S 10 45 49.0
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,120nm,5.0s
NJ2 LR LR
comp=N,130nm,15.4s,MS4.8
NJ2 LR LR
comp=E,280nm,19.9s,MS4.8
NJ2 LR LR
comp=Z,140nm,20.8s,MS4.4
CPUP **Villa Florida 90.14 242** LR LR 11 09 51.1
comp=Z,100nm,21.4s,MS4.2,baz=124,slow=32
SSE **Sheshan 90.27 57** P P **10 35 07.9 -3.9**
SSE AP pP 10 35 17.4 +2.3
SSE XP sP 10 35 21.3 +5.0
SSE S 10 46 03.3
SSE SS SS 10 52 08.4 +3.1
SSE AMB AMB
comp=Z,30nm,0.6s,mb5.8
SSE AMB AMB
comp=Z,40nm,4.8s
SSE LR LR
comp=N,70nm,20.0s,MS4.1
SSE LR LR
comp=E,10.0nm,20.0s,MS4.1
SSE LR LR
comp=Z,50nm,25.9s
PLCA **Paso Flores 94.54 225** LR LR 11 13 56.2
comp=Z,57nm,18.0s,MS4.1,baz=175,slow=33
JOW **Kunigami 94.78 64** LR LR 11 12 10.5
comp=Z,37nm,20.5s,MS3.8,baz=329,slow=32
SNY **Shenyang 95.67 48** ⇑P P **10 35 34.6 -2.1**
CTA **Charters Tower 96.94 114** LR LR 11 15 32.4
comp=Z,110nm,18.1s,MS4.4,baz=235,slow=33
BILL **Bilibino 118.86 21** *e*PKIKP PKPdf 10 40 52.1 -7.3
BILL *e*S SKSac 10 47 45.8 -8.6
BILL *e*SS SS 10 58 46.5 +9.3
BILL pmax pmax
comp=Z,1.0nm,1.3s
GCMT **Greycliff 143.28 326** *e*PKPdf PKPdf 10 41 42.6 -2.7
ISCO **Idaho Springs 144.21 315** *e*PKIKP PKPdf 10 41 45.8 -1.1
CHMT **Chamberlain Mo 144.32 330** *e*PKPdf PKPdf 10 41 45.8 -1.2
BOZ **Bozeman (W) 144.41 327** *e*PKIKP PKPdf 10 41 46.4 -0.8
YMR **Madison River 144.71 326** *e*PKPdf PKPdf 10 41 49.0 +1.2
YFT **Old Faithful 144.78 325** *e*PKPdf PKPdf 10 41 49.4 +1.5
QLMT **Earthquake Lak 144.85 326** *e*PKPdf PKPdf 10 41 48.9 +0.9
NEW **Newport 144.98 335** *e*PKIKP PKPdf 10 41 47.5 -0.7
DLMT **Dillon 145.10 328** *e*PKPdf PKPdf 10 41 49.2 +0.8
PDAR **Pinedale Array 145.11 322** PKPbc PKPbc 10 41 47.9 -0.1
comp=Z,8.1nm,1.2s,baz=104,slow=3.8,SNR=29
IMW **Indian Meadow 145.20 325** *e*PKPdf PKPdf 10 41 49.2 +0.7
SMCO **Snowmass 145.44 315** *e*PKPdf PKPdf 10 41 50.0 +1.0
REDW **Red Top Meadow 145.49 324** *e*PKPdf PKPdf 10 41 49.2 +0.1
MCMT **McKenzie Canyo 145.60 327** *e*PKPdf PKPdf 10 41 51.1 +1.8
AHID **Auburn Hatcher 146.01 323** *e*PKPdf PKPdf 10 41 51.5 +1.5
A05A **Maple Falls 146.13 341** ⇓P PKPdf 10 41 48.4 -1.8
baz=146
LTX **Lajitas 146.39 297** *e*PKP2 PKPab 10 41 52.9 +0.2
A04A **Legoe Bay, Lum 146.57 341** ⇑P PKPdf 10 41 53.1 +2.2
baz=147
B05A **Bryant 146.78 340** ⇓P PKPdf 10 41 51.6 +0.3
baz=147
ANMO **Albuquerque 146.94 308** *e*PKP2 PKPab 10 41 54.4 -0.5
HWUT **Hardware Ranch 147.00 322** *e*PKPbc PKPbc 10 41 53.7 0.0
PV01 **Paradox Valley 147.04 314** *e*PKPbc PKPbc 10 41 54.9 +1.2
C05A **Tolt Reservoir 147.14 339** ⇑P PKPbc 10 41 55.2 +1.1
baz=147
TCUT **Toone Canyon 147.21 321** *e*PKPbc PKPbc 10 41 55.0 +0.7
PV10 **Paradox Valley 147.23 315** *e*PKPbc PKPbc 10 41 55.8 +1.5
HLID **Hailey 147.28 327** *e*PKPbc PKPbc 10 41 55.4 +0.9
LPM **Los Pinos Moun 147.31 307** *e*PKPbc PKPbc 10 41 55.6 +1.1
BNM **Barren Site 147.37 306** *e*PKPbc PKPbc 10 41 55.9 +1.2
B04A **Port Angeles 147.40 342** ⇓P PKPdf 10 41 52.4 +0.1
baz=147
MVCO **Mesa Verde 147.44 313** *e*PKPbc PKPbc 10 41 55.8 +0.9
HAWA **Hanford 147.45 336** *e*PKPbc PKPbc 10 41 56.0 +1.1
C04A **Brinnon 147.53 341** ⇑P PKPdf 10 41 53.1 +0.6
baz=148
DAU **Daniels Canyon 147.54 320** *e*PKIKP PKPdf 10 41 50.7 -1.9
DAU *e* 10 41 55.0
HVU **Hansel Valley 147.59 323** *e*PKIKP PKPdf 10 41 52.6 0.0
HVU *e* 10 41 56.2
Y22C **IRIS PASSCAL I 147.62 306** ⇓P PKPdf 10 41 55.1 +2.4
baz=148
LENM **Lemitar 147.63 307** *e*PKPbc PKPbc 10 41 56.4 +1.0
LAZ **Ladron 147.66 307** *e*PKPbc PKPbc 10 41 57.4 +1.8
LAZ *e*PKPab PKPab 10 41 59.9 +2.1
D05A **Enumclaw 147.68 339** ⇓P PKPdf 10 41 54.4 +1.6
baz=148
SPUT **South Promonto 147.71 322** *e*PKPbc PKPbc 10 41 56.5 +0.9
BMO **Blue Mountains 147.74 332** *e*PKIKP PKPdf 10 41 55.6 +2.7
SRU **San Rafael 147.82 317** *e*PKP2 PKPab 10 41 56.6 -1.8
E05A **Randle 148.14 338** ⇓P PKPdf 10 41 53.5 -0.1
baz=148
TMUT **Trail Mountain 148.16 318** *e*PKPdf PKPdf 10 41 55.2 +1.6
TMUT *e*PKPbc PKPbc 10 41 58.2 +1.3
TMUT *e*PKPab PKPab 10 42 01.5 +1.8
NLU **North Lily Min 148.31 320** *e*PKPbc PKPbc 10 41 56.7 -0.6
NLU *e*PKPab PKPab 10 42 01.6 +1.2
DUG **Dugway 148.62 321** *e*PKP2 PKPab 10 41 57.3 -4.3
M13A **Montello 148.66 324** ⇑P PKPdf 10 41 55.3 +0.9
baz=149
F04A **Amboy 148.92 338** ⇓P PKPbc 10 41 58.4 -0.4
baz=149
N13A **West Wendover 149.01 323** ⇓P PKPdf 10 41 56.6 +1.7
baz=149
M12A **Wells 149.04 325** ⇓P PKPdf 10 41 56.3 +1.3
baz=149
MSU **Marysvale 149.23 318** *e*PKIKP PKPdf 10 41 57.0 +1.7
MSU *e* 10 42 01.3
MSU *e* 10 42 05.2
F03A **Seaside 149.31 340** ⇓P PKPbc 10 42 01.2 +1.5
baz=149
N12A **Wells--Clov Va 149.49 324** ⇓P PKPdf 10 41 56.5 +0.8
baz=150
M11A **Holland Ranch, 149.50 326** ⇑P PKPdf 10 41 55.9 +0.1
baz=150
I06A **Prineville 149.73 334** ⇑P PKPdf 10 41 59.2 +3.0
baz=150,SNR=6.2
M10A **I.L. Ranch, Tu 149.84 326** ⇓P PKPdf 10 41 59.9 +3.6
baz=150
N11A **Elko Archery C 149.90 325** ⇓P PKPdf 10 41 57.7 +1.3
baz=150
I05A **Bend 149.99 335** ⇑P PKPbc 10 42 02.2 +0.7
baz=150
L09A **Wilkinson Ranc 150.06 328** ⇓P PKPdf 10 42 00.4 +3.8
baz=150
WVOR **Wild Horse Val 150.22 330** *e*PKIKP PKPdf 10 41 57.1 +0.2
WVOR *e* 10 42 02.7
L08A **Fields 150.26 329** ⇑P PKPdf 10 41 58.2 +1.2
baz=150,SNR=6.6
J06A **Christmas Vall 150.26 333** ⇑P PKPbc 10 42 02.8 +0.7
baz=150,SNR=15
K07A **Rock Creek Ran 150.30 331** ⇓P PKPbc 10 42 02.5 +0.3
baz=150,SNR=6.1
H03A **Soap Creek Ran 150.31 338** ⇓P PKPbc 10 42 01.4 -0.8
baz=150
O11A **Cowboy Ranch, 150.32 324** ⇑P PKPdf 10 41 59.6 +2.6
baz=150
P12A **McGill 150.32 322** ⇑P PKPdf 10 41 58.1 +1.0
baz=150
M09A **Marrel Ranch, 150.38 327** ⇑P PKPdf 10 42 00.5 +3.3
baz=150
N10A **Dunphy 150.39 325** ⇓P PKPdf 10 41 59.5 +2.3
baz=150
ARUT **Antelope Range 150.46 318** *e*PKIKP PKPdf 10 41 57.7 +0.4
ARUT *e* 10 42 03.3
CCUT **Cedar City 150.54 317** *e*PKPbc PKPbc 10 42 00.6 -2.1
CCUT *e*PKPab PKPab 10 42 04.5 -5.0
K06A **Valley Falls 150.67 332** ⇓P PKPbc 10 42 03.3 +0.2
baz=151,SNR=8.0
M08A **Happy Creek Ra 150.83 328** ⇓P PKPdf 10 42 01.5 +3.7
baz=151
L07A **Adell 150.87 330** ⇑P PKPbc 10 42 02.0 -1.5
baz=151,SNR=7.5
W15A **Williams 151.09 312** ⇑P PKPbc 10 42 02.3 -1.7
baz=151
P10A **Eureka 151.12 324** ⇓P PKPbc 10 42 04.0 -0.2
baz=151
O09A **Fish Creek Ran 151.14 325** ⇓P PKPdf 10 42 02.0 +3.7
baz=151
Q11A **Duckwater 151.16 322** ⇑P PKPdf 10 42 00.2 +1.9
baz=151
N08A **GE Springer Mi 151.20 327** ⇓P PKPdf 10 42 02.1 +3.7
baz=151,SNR=7.4
M07A **Soldier Meadow 151.27 329** ⇓P PKPbc 10 42 02.8 -1.7
baz=151
TUC **Tucson 151.29 306** *e*PKIKP PKPdf 10 42 00.2 +1.6
TUC *e* 10 42 05.8
TUC *e* 10 42 12.4
J03A **Ideyld Park 151.31 336** ⇓P PKPbc 10 42 04.9 +0.3
baz=151
X15A **Humboldt 151.41 311** ⇓P PKPdf 10 42 01.6 +2.9
baz=151,SNR=5.7
K04A **Chilquin 151.46 334** ⇑P PKPbc 10 42 06.1 +1.2
baz=152
L05A **Lakeview 151.53 332** ⇑P PKPbc 10 42 05.9 +0.8
baz=152
N07B **Gerlach 151.63 328** ⇑P PKPbc 10 42 04.2 -1.1
baz=152,SNR=6.1
W14A **Seligman 151.64 313** ⇑P PKPdf 10 42 02.7 +3.7
baz=152,SNR=6.8
X14A **Yava 151.89 311** ⇓P PKPdf 10 42 03.7 +4.2
baz=152
116A **Eloy 151.89 307** ⇑P PKPbc 10 42 05.2 -0.8
baz=152
R10A **Warm Springs 151.92 321** ⇓P PKPdf 10 42 02.2 +2.7
baz=152
HUMO **Hull Mountain 151.96 336** *e*PKPdf PKPdf 10 41 59.2 -0.4
HUMO *e*PKPbc PKPbc 10 42 06.6 +0.5
HUMO **Hull Mountain 151.96 336** ⇑P PKPbc 10 42 06.7 +0.7
baz=152
U12A **Valley of Fire 151.96 316** ⇓P PKPdf 10 42 04.4 +4.8
baz=152
M04C **Macdoel 152.19 333** ⇓P PKPbc 10 42 08.4 +1.8
baz=152
M05C **Lookout 152.22 332** ⇑P PKPdf 10 42 04.5 +4.6
baz=152
Y14A **Wickenburg 152.23 311** ⇓P PKPbc 10 42 05.6 -1.0
baz=152
R09A **Tonopah 152.40 322** ⇓P PKPdf 10 42 03.4 +3.2
baz=152,SNR=5.8
Q08A **Gabbs 152.47 324** ⇓P PKPdf 10 42 04.5 +4.2
baz=152
X13A **Yucca 152.49 312** ⇓P PKPbc 10 42 05.4 -1.9
baz=152
O06A **Flanigan 152.53 328** ⇓P PKPbc 10 42 07.3 0.0
baz=152
V12A **Nelson 152.57 316** ⇓P PKPbc 10 42 07.7 +0.2
baz=153,SNR=5.3
HATC **Hat Creek Radi 152.79 331** ⇑P PKPbc 10 42 07.7 -0.2
baz=153
S09A **Goldfield 152.84 322** P PKPbc 10 42 09.5 +1.5
baz=153,SNR=7.7
V11A **Goodsprings 152.89 316** ⇓P PKPbc 10 42 08.5 +0.4
baz=153
M02C **Callahan 152.94 334** ⇑P PKPbc 10 42 10.7 +2.5
baz=153
O04C **Chester 153.02 330** ⇓P PKPbc 10 42 09.3 +0.9
baz=153
U10A **Ash Meadows, A 153.12 318** ⇓P PKPbc 10 42 10.5 +1.8
baz=153
WCN **Washoe City 153.13 327** ⇓P PKPbc 10 42 07.1 -1.6
baz=153
Y12C **Blythe 153.42 312** ⇑P PKPbc 10 42 09.6 +0.3
baz=154
TUQ **Turquoise Mtn. 153.45 316** ⇓P PKPbc 10 42 08.4 -1.0
baz=154

S08C	White Mtn Res	153.54 322	⇑P	PKPbc	10 42 09.7 +0.1
	baz=154				
P05C	Yuba Gap, Truc	153.57 328	⇓P	PKPbc	10 42 10.3 +0.7
	baz=154				
R07C	Lee Vining	153.64 324	⇑P	PKPbc	10 42 10.8 +1.0
	baz=154				
R05C	Kirkwood Meado	153.75 327	⇓P	PKPbc	10 42 10.9 +0.9
	baz=154				
Q04C	Lincoln	154.31 329	⇑P	PKPbc	10 42 11.0 -0.2
	baz=154				

*IDC **24** 10:36:38.9±1.9, 34.35N×73.71E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.5/23, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=65.2km s-min=26.7km az=61.0*
*ISCJB **24** 10:36:42.1±0.9, 34.48N±0.09×73.8E±0.2, h33km, mb3.6/2, Error ellipse: s-maj=23.5km s-min=6.8km az=120.8*

ISC 24 10:36:44.6±1.5, 34.53N±0.09×73.8E±0.2, h38km±19km, n10, σ0°92/10, mb3.6/2, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	2.67 137		ex	x	10 37 31.0	
DLH				eS	Sn	10 38 02.0	+5.8
SDNR	Sundarnagar	4.01 138		ex	x	10 37 47.0	
SDNR				ex	x	10 38 45.0	
KLP	Kalpa	4.77 128		eS	Sn	10 38 46.4	-1.5
KLP				AML	AML	10 39 16.6	
	comp=E,91nm,0.9s						
KLP				AML	AML	10 39 19.9	
	comp=N,92nm,0.6s						
SONA	Sohna	6.85 155		eS	Sn	10 39 39.7	+0.5
SONA				AML	AML	10 40 22.3	
	comp=E,25nm,0.3s						
SONA				AML	AML	10 40 28.9	
	comp=N,30nm,0.6s						
KK31	Karatay Array	8.95 344		⇑Pn	Pn	10 38 52.1	+0.8
	comp=N,2.0nm,0.5s,baz=149,slow=11,SNR=40						
KK31				⇑Sn	Sn	10 40 29.5	-1.2
	comp=N,1.3nm,0.3s,baz=156,slow=23,SNR=9.7						
MKAR	Makanchi Array	13.83 25		Pn	Pn	10 39 59.4	+1.4
	comp=N,0.1nm,0.3s,baz=218,slow=14,SNR=2.3						
BVAR	Borovoye Array	18.66 354		P	Pn	10 40 59.9	+0.2
	comp=N,2.6nm,0.3s,baz=159,slow=9.8,SNR=36						
AKTO	Aktyubinsk	19.65 329		P	Pn	10 41 10.8	-0.8
	comp=N,0.5nm,0.3s,baz=125,slow=9.2,SNR=10						
ARCES	ARCESS Array B	43.84 338		P	P	10 44 47.0	0.0
	comp=N,1.8nm,1.0s,mb3.8,baz=112,slow=8.9,SNR=4.3						
WRA	Warramunga Arr	78.99 123		P	P	10 48 44.8	+0.3
	comp=N,0.2nm,0.4s,mb3.4,baz=314,slow=4.2,SNR=7.8						

IDC 24 11:01:08.4±66.0, 17.83S×179.53W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=1201.0km s-min=164.8km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.93 240		P	P	11 08 27.4	-0.1
	0.6nm,0.6s,baz=101,slow=10,SNR=2.9						
WRA	Warramunga Arr	43.67 259		P	P	11 09 15.4	+0.6
	0.2nm,0.3s,baz=93,slow=7.6,SNR=9.2						
ASAR	Alice Springs	43.89 254		P	P	11 09 16.9	+0.3
	2.4nm,0.6s,baz=88,slow=8.2,SNR=58						

IDC 24 11:16:43.1±27.0, 23.28S×175.57W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.9/4, Error ellipse: s-maj=502.9km s-min=151.5km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.38 267		P	P	11 23 58.8	+1.1
	2.4nm,0.5s,baz=77,slow=10.0,SNR=3.9						
STKA	Stephens Creek	40.42 248		P	P	11 24 21.2	-1.8
	0.7nm,0.5s,baz=82,slow=7.1,SNR=3.3						
ASAR	Alice Springs	47.95 259		P	P	11 25 23.9	+0.6
	0.2nm,0.3s,baz=100,slow=8.4,SNR=17						
WRA	Warramunga Arr	48.33 263		P	P	11 25 27.0	+0.6
	0.6nm,0.3s,baz=100,slow=8.2,SNR=42						

*ISCJB **24** 11:29:50.2±0.5, 16.05S±0.07×69.30W±0.06, h236km±4km, mb4.0/14, Error ellipse: s-maj=11.5km s-min=8.5km az=71.7*
*NEIC **24** 11:29:50.9±0.6, 16.04S×69.26W, h225km±6km, mb4.3/4, Error ellipse: s-maj=11.4km s-min=8.3km az=60.0*
*IDC **24** 11:29:51.5±0.6, 15.98S×69.18W, h231km±4km, mb3.7/12, mb1 3.7/16, mb1mx3.7/23, mbtmp4.2/16, Error ellipse: s-maj=15.7km s-min=10.9km az=54.0*

ISC 24 11:29:51.3±0.5, 16.07S±0.07×69.31W±0.06, h231km±4km, n33, σ0°92/31, mb4.0/14, 1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.15 101		P	Pn	11 30 27.0	+1.8
	42nm,0.3s,baz=286,slow=5.5,SNR=884						
LPAZ				S	S	11 30 52.4	+0.7
	22nm,0.3s,baz=144,slow=24,SNR=6.8						
LPAZ	La Paz	1.15 101		P	Pn	11 30 27.0	+1.8
LPAZ				S	S	11 30 52.4	+0.7
ARE	Arequipa	2.13 259		⇓iP	Pn	11 30 33.0	-0.4
ARE				eS	S	11 31 06.0	-0.5
LVC	Limon Verde	6.51 177		P	Pn	11 31 24.3	-1.2
	40nm,0.3s,baz=4.8,slow=9.5,SNR=352						
LVC				S	S	11 32 35.3	-5.5
	36nm,0.3s,baz=92,slow=21,SNR=15						
SIV	San Ignacio	7.92 91		P	Pn	11 31 42.0	-1.5
	0.7nm,0.3s,baz=279,slow=11,SNR=28						
ATAH	Atahualpa	12.67 314		P	Pn	11 32 42.9	-0.7
	2.8nm,0.3s,baz=142,slow=8.4,SNR=14						
CPUP	Villa Florida	15.12 134		P	Pn	11 33 13.1	-0.5
	0.6nm,0.3s,baz=310,slow=9.7,SNR=5.7						
CFAA	Coronel Fontan	15.49 177		P	Pn	11 33 18.4	+0.3
	0.2nm,0.3s,baz=346,slow=12,SNR=17						
CFAA				S	S	11 35 58.8	-10
	0.0nm,0.3s,baz=94,slow=20,SNR=2.6						
OTAV	Otavalo	18.55 330		eP	P	11 33 51.0	+0.1
	15nm,0.9s						
BDFB	Brasilia	20.49 92		P	P	11 34 11.6	-0.1
	6.3nm,0.5s,baz=263,slow=10,SNR=9.4						
TRQA	Tornquist	22.83 165		eP	P	11 34 33.8	-0.5
	25nm,1.1s,mb4.7						
PLCA	Paso Flores	24.59 182		P	P	11 34 50.5	+0.2
	3.1nm,0.7s,mb4.0,baz=1.0,slow=11,SNR=8.4						
SDV	Santo Domingo	24.83 357		P	P	11 34 52.9	+0.4
	2.1nm,0.3s,mb4.2,baz=177,slow=17,SNR=3.3						
CMIG	Matias Romero	41.49 321		P	P	11 37 17.1	+1.3
	6.8nm,0.7s,mb4.2,baz=129,slow=6.7,SNR=13						
SNAA	Sanae	67.51 162		eP	P	11 40 24.8	+2.3
	2.8nm,0.7s,mb4.0						
DBIC	Dimbokro	67.66 76		P	P	11 40 23.0	-0.5
	4.1nm,0.4s,mb4.4,baz=234,slow=7.4,SNR=11						
TPNV	Topopah Spring	68.83 321		eP	P	11 40 31.6	+0.9
	1.2nm,0.6s,mb3.7						
PDAR	Pinedale Array	69.26 329		P	P	11 40 33.3	0.0
	0.5nm,0.5s,mb3.4,baz=120,slow=8.2,SNR=7.2						
ULM	Lac du Bonnet	70.06 342		P	P	11 40 36.3	-1.9
	3.2nm,0.5s,mb4.2,baz=165,slow=5.6,SNR=14						
NVAR	Mina Array Bea	71.03 321		P	P	11 40 44.6	+0.5
	0.7nm,0.8s,mb3.4,baz=129,slow=7.2,SNR=6.4						
TORD	Torodi Ar. Bea	75.96 72		P	P	11 41 12.0	-0.7
	5.1nm,0.6s,mb4.3,baz=257,slow=5.6,SNR=31						
TORD	Torodi Ar. Bea	75.96 72		P	P	11 41 12.0	-0.7
VNDA	Vanda	82.10 190		P	P	11 41 46.9	+0.9
	0.5nm,0.5s,mb3.4,baz=133,slow=7.6,SNR=3.4						
VNDA	Vanda	82.10 190		P	P	11 41 46.9	+0.9
YKA	Yellowknife Ar	85.97 341		P	P	11 42 04.8	-0.7
	1.0nm,0.8s,mb3.6,baz=135,slow=5.1,SNR=4.9						
MAW	Mawson	89.61 164		P	P	11 42 23.1	+0.3
	1.7nm,0.5s,mb4.2,baz=217,slow=6.3,SNR=9.3						
ZRNK	Zerenda	130.81 32		ePKPdf	PKPdf	11 48 36.0	+1.1
BVAR	Borovoye Array	131.47 31		PKP	PKPdf	11 48 37.7	+1.5
	0.3nm,0.4s,baz=66,slow=1.8,SNR=3.9						
BVAR				SKPab		11 51 39.5	
	1.4nm,0.8s,baz=281,slow=2.4,SNR=7.5						
ASAR	Alice Springs	134.45 210		PKP	PKPdf	11 48 42.5	+0.8
	0.8nm,0.7s,baz=136,slow=2.0,SNR=7.6						
ASAR				SKPbc	SKPbc	11 51 50.8	+1.2
	0.8nm,0.8s,baz=141,slow=4.3,SNR=5.8						
ZAL	Zalesovo	137.16 22		PKP	PKPdf	11 48 48.2	+1.4
	2.3nm,0.5s,baz=198,slow=3.0,SNR=12						
ZAL				SKP		11 51 59.0	
	2.8nm,0.8s,baz=180,slow=2.9,SNR=14						
WRA	Warramunga Arr	137.32 214		PKP	PKPdf	11 48 48.4	+1.3
	1.3nm,0.7s,baz=148,slow=1.8,SNR=6.9						
WRA				SKPbc	SKPbc	11 51 59.3	+0.9
	1.5nm,1.1s,baz=142,slow=2.8,SNR=8.7						
MKAR	Makanchi Array	141.35 32		PKP	PKPdf	11 48 54.6	+0.2
	0.6nm,0.4s,baz=8.5,slow=2.5,SNR=5.7						
SONM	Songino Array	148.13 5		PKP	PKPdf	11 49 07.6	+1.5
	3.1nm,0.7s,baz=314,slow=2.6,SNR=21						
SONM				PKPbc	PKPbc	11 49 10.8	+1.1
	3.5nm,0.7s,baz=321,slow=2.2,SNR=21						

*ISCJB **24** 11:30:05.2±1.1, 30.88S±0.08×178.6W±0.3, h403km±16km, mb3.2/1, Error ellipse: s-maj=42.2km s-min=9.7km az=25.8*
*IDC **24** 11:30:07.7±1.3, 30.69S×179.38W, h346km±16km, mb3.0/1, mb1 3.5/2, mb1mx2.9/12, mbtmp4.1/2, Error ellipse: s-maj=46.6km s-min=19.9km az=122.0*

ISC 24 11:30:10.2±1.6, 31.03S±0.07×179.2W±0.3, h394km±15km, n28, σ1°05/33, mb3.2/1, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.08 32		P	Pn	11 30 58.1	-7.9
	57nm,0.3s,baz=181,slow=20,SNR=4.1						
RAO				S	S	11 31 26.7	-24
	102nm,0.3s,baz=86,slow=22,SNR=2.5						
MXZ	Matakaoa Point	6.84 197		ePN	Pn	11 31 52.8	+1.0
PUZ	Puketiti	7.34 196		ePN	Pn	11 31 57.7	+0.3
PUZ				SN	S	11 33 25.7	+0.5
MWZ	Matawai	7.78 199		ePN	Pn	11 32 02.8	+0.4
URZ	Urewera	7.83 202		P	Pn	11 32 03.4	+0.3
	5.2nm,0.3s,baz=243,slow=2.1,SNR=34						
URZ				S	S	11 33 35.4	-0.1
	2.0nm,0.3s,baz=83,slow=19,SNR=5.4						
URZ	Urewera	7.83 202		ePN	Pn	11 32 02.6	-0.5
URZ				SN	S	11 33 35.9	+0.4
BKZ	Black Stump Fm	8.86 202		ePN	Pn	11 32 14.6	-0.3
FWVZ	Far West T-bar	9.27 206		ePN	Pn	11 32 19.8	+0.2
TSZ	Takapari Road	9.84 202		PN	Pn	11 32 27.7	+1.4
WAZ	Wanganui	9.92 207		ePN	Pn	11 32 27.5	+0.3
BFZ	Birch Farm	10.32 200		ePN	Pn	11 32 33.8	+2.0
BFZ				SN	S	11 34 30.6	+2.7
MRZ	Mangatainoka R	10.51 202		ePN	Pn	11 32 32.7	-1.3
MRZ				SN	S	11 34 30.2	-1.7
KIW	Kapiti Island	10.92 204		ePN	Pn	11 32 38.4	-0.4
KIW				SN	S	11 34 39.7	-0.4
CAW	Cannon Point	11.08 203		ePN	Pn	11 32 39.6	-1.0
MRW	Makara Radio	11.31 204		ePN	Pn	11 32 43.5	+0.1
TCW	Tory Channel	11.45 206		ePN	Pn	11 32 44.8	-0.2
NNZ	Nelson	11.81 209		ePN	Pn	11 32 47.8	-1.3
NNZ				SN	S	11 34 58.1	-0.1
QRZ	Quartz Range	11.86 212		ePN	Pn	11 32 48.9	-0.8
THZ	Tophouse	12.46 209		ePN	Pn	11 32 55.1	-1.6
THZ				SN	S	11 35 12.6	+1.2
KHZ	Kahutara	12.77 205		ePN	Pn	11 32 59.3	-1.0
DSZ	Denniston Nort	12.92 212		ePN	Pn	11 33 00.2	-1.8
LTZ	Lake Taylor	13.57 208		ePN	P	11 33 08.9	+1.7
DZM	Mont Dzumac	15.64 301		P	P	11 33 30.7	+0.9
	0.4nm,0.3s,baz=94,slow=15,SNR=5.5						
WRA	Warramunga Arr	43.11 273		P	P	11 37 33.5	+0.1
	0.5nm,0.4s,mb3.2,baz=110,slow=7.9,SNR=14						
KAF	Kangasniemi	144.79 339		ep	PKPdf	11 48 59.6	-1.2
	2.8nm,0.6s						
FINES	FINESS Array B	145.37 339		PKPbc	PKPbc	11 49 02.4	-0.2
	5.8nm,0.7s,baz=50,slow=4.2,SNR=31						
NB2	NORSAR Subarra	149.21 350		PKPa	PKPbc	11 49 14.2	+1.4
	comp=Z,1.2nm,0.7s,baz=24,slow=2.9						
NOA	NORSAR Array B	149.21 350		PKPab	PKPab	11 49 19.0	+0.2
	comp=Z,0.8nm,0.7s,baz=21,slow=2.7,SNR=4.5						

IDC 24 11:36:58.0±1.1, 55.52S×288.7W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, MS3.5/1, Ms1 3.4/1, ms1mx2.7/19, Error ellipse: s-maj=40.1km s-min=28.7km az=69.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.57 283		eP	Pn	11 38 09.3	+1.0
CPUP	Villa Florida	35.75 313		P	P	11 43 57.8	-0.6
	0.6nm,0.4s,baz=136,slow=7.0,SNR=4.3						
BDFB	Brasilia	42.44 332		LR	LR	11 59 37.8	
	comp=Z,51nm,18.1s,baz=242,slow=32						
VNDA	Vanda	47.06 183		P	P	11 45 29.9	-1.4
	0.5nm,0.6s,baz=179,slow=3.9,SNR=2.9						
LPAZ	La Paz	49.29 307		P	P	11 45 49.6	+1.0
	1.2nm,0.7s,baz=165,slow=7.4,SNR=5.5						
TORD	Torodi Ar. Bea	73.07 31		P	P	11 48 29.1	-0.8
	0.8nm,0.6s,baz=200,slow=6.8,SNR=8.2						
SONM	Songino Array	151.64 87		PKPbc	PKPbc	11 56 54.4	+0.1
	1.0nm,0.9s,baz=212,slow=3.2,SNR=6.1						

*NIED **24** 11:50:00, 29.80N×138.40E, h35km, Mw3.9 Best double couple: M0 9.18000×10^14 NP1:φ=274.00000°, δ=59.00000°, λ=75.00000°. NP2:φ=121.00000°, δ=34.00000°, λ=114.00000°.*
*JMA **24** 11:50:58.4±0.2, 29.77N×138.45E, h49km, M3.7*
*ISCJB **24** 11:50:59.6±0.8, 29.90N±0.05×138.6E±0.1, h33km, mb3.5/4, Error ellipse: s-maj=17.5km s-min=5.2km az=142.8*
*IDC **24** 11:51:00.4±1.1, 29.65N×138.97E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.4/21, mbtmp3.5/6, ML3.4/2, MS2.8/3, Ms1 2.8/3, ms1mx2.5/23, Error ellipse: s-maj=35.5km s-min=18.2km az=70.0*

ISC 24 11:51:03.6±1.0, 29.91N±0.05×138.3E±0.2, h35km, n17, σ0°76/20, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	3.45 21		Pn	Pn	11 51 54.4	-0.4
	1.5nm,0.3s,baz=255,slow=24,SNR=2.3						
JHJ				Sn	Sn	11 52 39.1	+4.8
	4.0nm,0.3s,baz=258,slow=22,SNR=2.2						
TK02	Tokai 2	4.05 354		eS	Sn	11 52 50.1	+0.8
JWZ	Kozaga	4.23 329		eS	Sn	11 52 54.2	+0.7
CBIJ	Chichi jima	4.43 128		Pn	Pn	11 52 02.1	-6.1
	10nm,0.3s,baz=296,slow=16,SNR=25						
CBIJ				Sn	Sn	11 52 46.8	-12
	8.2nm,0.3s,baz=275,slow=22,SNR=3.9						
CBIJ	Chichi jima	4.43 128		P	Pn	11 52 02.0	-6.2
CBIJ				eS	Sn	11 52 47.2	-11
JIE	Ise	4.67 344		P	Pn	11 52 10.1	-1.4
JIE				S	Sn	11 53 03.7	-0.7
JAO	Obara	5.41 351		S	Sn	11 53 22.5	-0.3
JNY	Yasuok	5.45 356		S	Sn	11 53 22.8	-0.8
MJAR	Matsushiro Arr	6.62 359		Pn	Pn	11 52 39.1	+0.8
	0.2nm,0.3s,baz=173,slow=13,SNR=4.1						
MJAR				Sn	Sn	11 53 53.2	+0.7
	0.1nm,0.3s,baz=161,slow=29,SNR=3.3						
MAT	Matsushiro	6.62 359		P	Pn	11 52 43.5	+5.2
MAT				S	Sn	11 53 52.7	+0.2
JOW	Kunigami	9.34 253		LR	LR	11 56 39.1	
	comp=Z,43nm,18.2s,baz=139,slow=34						
ASAJ	Asahikawa	14.59 12		LR	LR	12 00 30.8	
	comp=Z,42nm,18.4s,baz=343,slow=39						
GUMO	Guam	17.34 158		LR	LR	12 00 08.7	
	comp=Z,36nm,20.4s,baz=108,slow=32						
MKAR	Makanchi Array	46.05 308		P	P	11 59 30.5	+6.7
	0.2nm,0.2s,mb3.6,baz=74,slow=11,SNR=3.4						
WRA	Warramunga Arr	49.71 185		P	P	11 59 51.6	-0.5
	0.2nm,0.4s,mb3.5,baz=2.6,slow=7.8,SNR=9.0						
ASAR	Alice Springs	53.43 185		P	P	12 00 20.8	+0.8
	0.2nm,0.7s,mb3.2,baz=358,slow=11,SNR=2.7						
BVAR	Borovoye Array	53.65 316		P	P	12 00 29.4	+7.8
	1.1nm,0.7s,mb3.9,baz=96,slow=8.8,SNR=6.5						

*ISCJB **24** 12:06:40.8±1.2, 67.57N±0.04×34.0E±0.2, h0km, Error ellipse: s-maj=11.6km s-min=5.0km az=149.3*
*CSEM **24** 12:06:42.2±0.3, 67.63N×34.15E, h0km±1km, ML2.4, Error ellipse: s-maj=5.2km s-min=2.6km az=103.0, Mining explosion.*
*NEIC **24** 12:06:43.5±2.2, 67.60N×34.09E, h10km, Error ellipse: s-maj=28.1km s-min=11.4km az=91.0*
*HEL **24** 12:06:43.7±0.5, 67.65N×34.05E, h0km, ML2.5, ML2.2(BER), ML2.4(NAO), Explosion*
*NAO **24** 12:06:44.5±1.2, 67.67N×33.87E, ML2.4*
*IDC **24** 12:06:47.3±2.0, 67.71N×33.45E, h0km, mb1 3.3/4, mb1mx3.1/21, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=20.4km s-min=8.9km az=78.0*

ISC 24 12:06:43.3±1.0, 67.60N±0.03×339.E±0.2, h0km, n40, σ1°53/71, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.35 271		iP	Pg	12 06 51.0	+1.0
APA0				iS	Sg	12 06 55.8	+1.2
APA0				eRG		12 06 58.1	
APA0	Apatity Array	0.35 271		Pg	Pg	12 06 51.0	+1.0
	baz=99,slow=16						
APA0				Lg		12 06 55.8	
	baz=96,slow=37						
APA0				Rg		12 06 58.1	
	baz=84,slow=37						
KU4	Liikasenvaara	2.11 236		eP	Pn	12 07 21.6	+1.8
KU4				eS	Sn	12 07 50.7	+4.0
KU4				MSG		12 07 54.1	
	comp=Z,30nm,0.1s						
KU4	Liikasenvaara	2.11 236		P	Pn	12 07 21.6	+1.8
KU4				S	Sn	12 07 50.7	+4.0
	comp=Z,30nm,0.1s						
MSF	Maaselka	2.57 231		eP	Pn	12 07 28.3	+2.1
MSF				eS	Sn	12 08 00.8	+2.7
MSF				MSG		12 08 06.4	
	comp=Z,21nm,0.2s						
MSF	Maaselka	2.57 231		P	Pn	12 07 28.3	+2.1
MSF				S	Sn	12 08 00.8	+2.7
	comp=Z,21nm,0.2s						
SGF	Sodankyl	2.84 270		eP	Pn	12 07 30.5	+0.6
SGF				ePG	Pg	12 07 35.0	-2.7
SGF				eS	Sn	12 08 09.2	+4.4
SGF				MSG		12 08 12.6	
	comp=Z,25nm,0.2s						
SGF	Sodankyl	2.84 270		P	Pn	12 07 30.5	+0.6
SGF				S	Sn	12 08 09.1	+4.3
	comp=Z,25nm,0.2s						
KEV	Kevo	3.32 314		eP	Pn	12 07 37.6	+1.1
KEV				eS	Sn	12 08 18.1	+1.5
KEV	Kevo	3.32 314		ePn	Pn	12 07 37.5	+1.0
KEV				eSn	Sn	12 08 06.1	-10
KEV	Kevo	3.32 314		P	Pn	12 07 37.5	+1.0
KEV	Kevo	3.32 314		ePn	Pn	12 07 37.5	+1.0
KEV				S	Sn	12 08 18.1	+1.5
ARA0	ARCESS Array S	3.64 306		Pn	Pn	12 07 41.5	+0.6
	baz=123,slow=16						
ARA0				Sn	Sn	12 08 23.9	-0.7
	baz=124,slow=28						
ARA0				Lg		12 08 34.8	
	baz=117,slow=37						
ARA0	ARCESS Array S	3.64 306		eP	Pn	12 07 41.5	+0.6
ARA0				eS	Sn	12 08 23.9	-0.7
ARA0				eSG		12 08 34.8	
ARCES	ARCESS Array B	3.64 306		Pn	Pn	12 07 41.5	+0.6
	comp=Z,9.4nm,0.3s,baz=122,slow=15,SNR=933						
ARCES				Pg	Pg	12 07 49.0	-4.1
	comp=Z,3.2nm,0.3s,baz=115,slow=15,SNR=10						
ARCES				Sn	Sn	12 08 22.8	-1.8
	comp=Z,4.3nm,0.3s,baz=120,slow=24,SNR=9.0						
ARCES				Lg		12 08 33.4	
	comp=Z,8.7nm,0.3s,baz=119,slow=28,SNR=11						
ARCES	ARCESS Array B	3.64 306		Pn	Pn	12 07 41.5	+0.6
ARCES				Pg	Pg	12 07 49.0	-4.1
ARCES				Sn	Sn	12 08 22.8	-1.8
ARCES				Lg		12 08 33.4	
ARCES	ARCESS Array B	3.64 306		Pg	Pg	12 07 49.0	-4.1
ARE0	ARCESS Array S	3.64 306		ePn	Pn	12 07 41.0	+0.1
ARE0				eSn	Sn	12 08 22.4	-2.2
ARE0	ARCESS Array S	3.64 306		ePn	Pn	12 07 41.0	+0.1
ARE0				eSn	Sn	12 08 22.4	-2.2
OUL	Oulu	4.10 236		eP	Pn	12 07 48.8	+1.6
OUL				eSG	Sg	12 08 53.9	-1.1
KTK1	Kautokeino	4.20 295		eP	Pn	12 07 50.2	+1.5
KTK1				AML	AML	12 08 54.5	
	comp=Z,19nm,0.2s						
KJN	Kajaani	4.35 219		eP	Pn	12 07 52.4	+1.7
KJN				eS	Sn	12 08 42.9	+0.8
KJN	Kajaani	4.35 219		P	Pn	12 07 52.3	+1.6
JOF	Joensuu	4.83 194		eP	Pn	12 07 56.0	-1.2
JOF				eS	Sn	12 08 51.6	-2.3
TRO	Tromso	5.84 297		eP	Pn	12 08 10.8	-0.3
TRO				AML	AML	12 09 16.8	
	comp=Z,4.1nm,0.4s						
FIA0	FINESS Array S	7.04 212		Pn	Pn	12 08 27.6	0.0
	baz=24,slow=14						
FIA0				Sn	Sn	12 09 45.5	-2.8
	baz=34,slow=22						
FIA0				Lg		12 10 20.5	
	baz=27,slow=37						
FIA0	FINESS Array S	7.04 212		eP	Pn	12 08 27.6	0.0
FIA0				eS	Sn	12 09 45.5	-2.8
FIA0				eSG		12 10 20.5	
FIA0	FINESS Array S	7.04 212		Pn	Pn	12 08 27.6	0.0
	SNR=0.3						
FINES	FINESS Array B	7.04 212		Pn	Pn	12 08 28.6	+1.0
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=13						
FINES				Sn	Sn	12 09 47.9	-0.5
	comp=Z,0.3nm,0.3s,baz=28,slow=21,SNR=4.1						
FINES				Lg		12 10 19.6	
	comp=Z,0.7nm,0.3s,baz=18,slow=23,SNR=7.9						
MOR8	Moi Rana	7.78 268		eP	Pn	12 08 34.1	-3.7
HFS	Hagfors	11.58 239		eP	Pn	12 09 28.7	-1.1
HFS				eS	Sn	12 11 29.3	-11
HFS	Hagfors	11.58 239		Pn	Pn	12 09 28.3	-1.6
	comp=Z,0.1nm,0.3s,baz=43,slow=12,SNR=5.8						
HFS				Sn	Sn	12 11 32.1	-7.8
	comp=Z,0.2nm,0.3s,baz=47,slow=28,SNR=3.9						
HFS	Hagfors	11.58 239		Pn	Pn	12 09 28.7	-1.1
	baz=28,slow=11						
HFS				Sn	Sn	12 11 29.3	-11
HFS	Hagfors	11.58 239		Pn	Pn	12 09 28.7	-1.2
	SNR=7.8						
HFS				Sn	Sn	12 11 32.1	-7.8
SPA0	Spitsbergen Ar	11.72 342		Pn	Pn	12 09 28.1	-3.7
	baz=150,slow=14						
SPA0	Spitsbergen Ar	11.72 342		eP	Pn	12 09 28.1	-3.7
NB2	NORSAR Subarra	11.77 247		Pn	Pn	12 09 30.9	-1.6
	baz=49,slow=12						
NB2	NORSAR Subarra	11.77 247		eP	Pn	12 09

WEL.

WEL 24 12:30:47.2±1.0, 3532S×17908E, h161km±19km, ML3.8/8, Error ellipse: s-maj=27.2km s-min=14.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.33**	**195**	*e*PN	Pn	12 31 27.1	+0.3
MXZ	**Matakaoa Point**	**2.33**	**195**	*e*P	Pn	12 31 27.3	+0.5
PUZ	**Puketiti**	**2.83**	**193**	PN	Pn	12 31 33.7	+0.8
PUZ				SN	Sn	12 32 07.1	-1.1
PUZ	**Puketiti**	**2.83**	**193**	P	Pn	12 31 33.7	+0.8
PUZ				S	Sn	12 32 07.1	-1.1
MWZ	**Matawai**	**3.26**	**202**	*e*PN	Pn	12 31 39.5	+1.3
MWZ				SN	Sn	12 32 18.5	+0.6
MWZ	**Matawai**	**3.26**	**202**	*e*P	Pn	12 31 39.6	+1.3
URZ	**Urewera**	**3.34**	**208**	*e*PN	Pn	12 31 40.3	+1.1
URZ				SN	Sn	12 32 20.6	+1.0
URZ	**Urewera**	**3.34**	**208**	*e*P	Pn	12 31 40.3	+1.1
BKZ	**Black Stump Fm**	**4.37**	**207**	*e*PN	Pn	12 31 52.7	+0.2
BFZ	**Birch Farm**	**5.81**	**202**	*e*PN	Pn	12 32 10.7	-0.7
TIWZ	**Tintock**	**6.01**	**204**	SN	Sn	12 33 19.8	-2.3
MRZ	**Mangatainoka R**	**6.01**	**206**	*e*PN	Pn	12 32 12.0	-2.1
MRZ				SN	Sn	12 33 19.2	-3.1
KIW	**Kapiti Island**	**6.44**	**209**	PN	Pn	12 32 18.2	-1.6
CAW	**Cannon Point**	**6.59**	**207**	*e*PN	Pn	12 32 19.6	-2.2
NNZ	**Nelson**	**7.41**	**216**	*e*PN	Pn	12 32 31.2	-1.4
NNZ				SN	Sn	12 33 52.9	-2.7
QRZ	**Quartz Range**	**7.55**	**221**	*e*PN	Pn	12 32 33.5	-1.0
THZ	**Tophouse**	**8.05**	**215**	*e*PN	Pn	12 32 39.4	-1.8
THZ				SN	Sn	12 34 08.2	-2.9
LTZ	**Lake Taylor**	**9.14**	**213**	*e*PN	Pn	12 32 52.7	-2.9
LTZ				SN	Sn	12 34 31.0	-6.2
MQZ	**McQueen's Vall**	**9.74**	**209**	SN	Sn	12 34 43.2	-8.4
ODZ	**Otahua Downs**	**11.66**	**211**	*e*PN	Pn	12 33 25.4	-3.3

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*ISCJB **24** 13:04:32.2±3.6, 78S±03×1170E±03, h328km±46km, mb3.4/4, Error ellipse: s-maj=61.3km s-min=21.2km az=97.0*

*NEIC **24** 13:04:35.6±5.2, 781S×117.17E, h348km±66km, mb4.1/3, Error ellipse: s-maj=52.3km s-min=18.1km az=225.0*

*IDC **24** 13:04:37.4±12.0, 777S×11726E, h366km±145km, mb3.1/5, mb1 3.2/6, mb1mx3.0/17, mbtmp3.8/6, Error ellipse: s-maj=107.1km s-min=31.1km az=59.0*

ISC 24 13:04:33.7±3.7, 78S±03×1171E±03, h325km±47km, n13, σ0°75/14, mb3.4/4, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.20**	**142**	*e*P	**Pn**	**13 07 30.2**	**+0.1**
	2.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**13.20**	**142**	P	**Pn**	**13 07 30.6**	**+0.5**
	0.5nm,0.3s,baz=336,slow=13,SNR=25						
FITZ				S	**S**	**13 10 02.0**	**+6.6**
	0.1nm,0.3s,baz=166,slow=14,SNR=4.5						
MBWA	**Marble Bar**	**13.53**	**169**	P	**Pn**	**13 07 33.7**	**-0.4**
	8.2nm,1.1s						
WRA	**Warramunga Arr**	**20.61**	**128**	P	**P**	**13 08 48.3**	**-0.8**
	0.7nm,0.6s,baz=306,slow=10,SNR=12						
WRAB	**Tennant Creek**	**20.62**	**128**	P	**P**	**13 08 48.4**	**-0.7**
	12nm,1.3s						
WB2	**Warramunga Arr**	**20.62**	**128**	*e*P	**P**	**13 08 48.4**	**-0.8**
ASPA	**Alice Springs**	**22.56**	**136**	*e*P	**P**	**13 09 08.0**	**+1.2**
AS31	**Alice Springs**	**22.56**	**136**	*e*P	**P**	**13 09 08.0**	**+1.2**
ASAR	**Alice Springs**	**22.56**	**136**	P	**P**	**13 09 07.7**	**+0.8**
	1.5nm,0.4s,mb3.5,baz=310,slow=8.8,SNR=42						
STKA	**Stephens Creek**	**33.08**	**140**	P	**P**	**13 10 39.1**	**-0.7**
	0.9nm,0.5s,mb3.3,baz=307,slow=5.1,SNR=4.8						
STKA	**Stephens Creek**	**33.08**	**140**	*e*P	**P**	**13 10 38.9**	**-1.0**
SONM	**Songino Array**	**56.18**	**351**	P	**P**	**13 13 40.8**	**+0.3**
	1.2nm,0.6s,mb3.4,baz=170,slow=8.7,SNR=8.9						
MKAR	**Makanchi Array**	**62.54**	**334**	P	**P**	**13 14 23.5**	**-0.2**
	0.5nm,0.3s,mb3.5,baz=153,slow=5.8,SNR=8.0						

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*NIED **24** 13:18:00, 3320N×13580E, h17km, Mw3.7 Best double couple: M0=4.26000×10^14 NP1:φ1=150.00000°, δ82.00000°, λ70.00000°. NP2:φ2=38.00000°, δ21.00000°, λ157.00000°.*

JMA 24 13:18:44.3, 3334N×13574E, h28km, M4.0, 2C-3D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.19**	**354**	⇓P	Pb	13 18 49.9	-0.3
JWZ				S	Sb	13 18 54.0	-0.1
JWM	**Minabe**	**0.60**	**328**	⇓P	Pb	13 18 56.0	-0.3
JWM				S	Sb	13 19 04.1	-0.3
JWY	**Kouya**	**0.89**	**352**	⇑P	Pn	13 19 00.3	-0.6
JWY				S	Sb	13 19 12.6	+0.1
JKN2	**Miekihoku**	**1.00**	**26**	⇑P	Pn	13 19 01.9	-0.6
JKN2				S	Sn	13 19 15.6	0.0
JAI	**Aioi**	**1.17**	**293**	⇓P	Pn	13 19 04.0	-0.7
MAT	**Matsushiro**	**3.78**	**32**	P	Pn	13 19 41.1	+0.4
MAT				*e*S	Sn	13 20 26.4	+2.1

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*NEIC **24** 13:31:23.9, 31.17S×6856W, h150km, mb4.4/3, After GUC.*

GUC 24 13:31:23.9±0.8, 3117S×6856W, h150km, MD3.8, ML3.8, 8C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.72**	**188**	*e*P	Pn	13 31 53.4	-2.4
MDZ				*i* S	Sn	13 32 15.3	-5.0
CMCH	**Combarbala**	**2.10**	**269**	⇑*i*P	Pn	13 32 00.4	+0.3
CMCH				*i* S	Sn	13 32 28.8	+0.9
CMCH				AML	AML	13 32 30.8	
	comp=E,5μm,0.7s						
CMCH	**Combarbala**	**2.10**	**269**	⇑*i*P	Pn	13 32 00.4	+0.3
CMCH				*i* S	Sn	13 32 28.8	+0.9
TLL	**Tololo Astrono**	**2.18**	**297**	⇑*i*P	Pn	13 32 02.5	+1.4
TLL				*i* S	Sn	13 32 31.5	+1.7
TLL				AML	AML	13 32 37.7	
	comp=N,932nm,0.6s						
TLL	**Tololo Astrono**	**2.18**	**297**	⇑*i*P	Pn	13 32 02.5	+1.4
TLL				*i* S	Sn	13 32 31.5	+1.7
JACH	**Jahuel**	**2.29**	**228**	*e*P	Pn	13 32 04.4	+1.9
JACH				*i* S	Sn	13 32 34.4	+2.2
OVCH	**Ovalle**	**2.34**	**283**	*i* P	Pn	13 32 03.4	+0.4
OVCH				*i* S	Sn	13 32 33.7	+0.5
OVCH				AML	AML	13 32 36.9	
	comp=E,674nm,0.2s						
OVCH	**Ovalle**	**2.34**	**283**	*i* P	Pn	13 32 03.4	+0.4
OVCH				*i* S	Sn	13 32 33.7	+0.5
FCH	**Farellones**	**2.60**	**214**	*e*P	Pn	13 32 07.6	+1.4
FCH				*i* S	Sn	13 32 41.1	+2.2
FCH				AML	AML	13 32 47.2	
	comp=E,80nm,0.3s						
CHNG	**Los Chungos**	**2.61**	**254**	*i* P	Pn	13 32 07.0	+0.7
CHNG				*i* S	Sn	13 32 38.7	-0.3
CHNG				AML	AML	13 32 49.8	
	comp=E,172nm,0.6s						
PEL	**Peldehue**	**2.67**	**222**	⇑*i*P	Pn	13 32 07.7	+0.7
PEL				*i* S	Sn	13 32 40.5	+0.1
PEL				AML	AML	13 32 43.3	
	comp=E,218nm,0.4s						
PEL	**Peldehue**	**2.67**	**222**	⇑*i*P	Pn	13 32 07.7	+0.7
PEL				*i* S	Sn	13 32 40.5	+0.1
CLCH	**Cerro Calan**	**2.78**	**217**	⇓*i*P	Pn	13 32 09.5	+1.0
CLCH				*i* S	Sn	13 32 44.1	+1.2
CLCH				AML	AML	13 32 46.2	
	comp=N,177nm,0.6s						
PCH	**Pirque**	**2.95**	**214**	*e*P	Pn	13 32 11.7	+1.1
RCDM	**Rinconada Maip**	**2.99**	**219**	⇓*i*P	Pn	13 32 11.8	+0.6
RCDM				*i* S	Sn	13 32 48.7	+1.1
RCDM				AML	AML	13 32 53.8	
	comp=E,132nm,0.1s						
RCDM	**Rinconada Maip**	**2.99**	**219**	⇓*i*P	Pn	13 32 11.8	+0.6
RCDM				*i* S	Sn	13 32 48.7	+1.1
TACH	**Talagante**	**3.19**	**219**	*e*P	Pn	13 32 13.8	+0.2
CHCH	**Chadas Angostu**	**3.27**	**212**	⇓*i*P	Pn	13 32 15.2	+0.5
CACH	**El Canelo**	**3.40**	**210**	⇑*i*P	Pn	13 32 17.5	+1.2
CACH				*i* S	Sn	13 32 58.8	+1.8
CICH	**Cipreses**	**3.51**	**206**	⇑*i*P	Pn	13 32 18.5	+0.8
LVC	**Limon Verde**	**8.53**	**358**	*e*Pn	Pn	13 33 23.5	-0.8
	comp=E,4.0nm,0.3s						
TRQA	**Tornquist**	**8.74**	**144**	*e*Pn	Pn	13 33 24.1	-3.0
	comp=E,5.5nm,0.4s						
LPAZ	**La Paz**	**14.82**	**2**	*e*Pn	Pn	13 34 47.9	+1.9
SAML	**Samuel**	**22.67**	**14**	*e*P	P	13 36 18.5	+5.9
	comp=E,1.0nm,0.5s						

CASC 24 13:40:01.7±2.4, 1381N×9130W, h35km±999km, MD3.5, 9C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.60**	**327**	⇑*e*P	Pn	13 40 14.7	+0.9
JAT				*e*S	Sn	13 40 22.0	-0.3
TER	**Terranova**	**0.77**	**51**	⇓*e*P	Pn	13 40 16.0	0.0
TER				*e*S	Sn	13 40 27.0	+0.7
FUG	**Fuego 3**	**0.77**	**35**	*e*P	Pn	13 40 16.6	+0.5
PCG	**Pacaya**	**0.88**	**49**	⇑*e*P	Pn	13 40 20.3	+2.7
PCG				*e*S	Sn	13 40 31.6	+2.4
IXG	**Ixpaco**	**0.89**	**66**	⇑*e*P	Pn	13 40 16.6	-1.2
IXG				*e*S	Sn	13 40 29.5	+0.1
TP2	**Tecpan 2**	**1.00**	**15**	⇑*e*P	Pn	13 40 19.3	0.0
TP2				*e*S	Sn	13 40 34.1	+2.0
RBDL	**Robledal**	**1.59**	**79**	*e*P	x	13 40 28.3	
RBDL				*e*S	x	13 40 49.1	
RTR	**El Retiro**	**1.60**	**87**	⇑*e*P	x	13 40 28.3	
RTR				*e*S	x	13 40 49.4	
SBLS	**San Blas**	**1.62**	**89**	⇑*e*P	x	13 40 28.3	
SBLS				*e*S	x	13 40 48.5	
SNJE	**San Jose**	**1.64**	**88**	⇑*e*P	x	13 40 28.7	
SNJE				*e*S	x	13 40 49.1	
LFRS	**El Faro**	**2.18**	**95**	⇑*e*P	x	13 40 36.2	
LFRS				*e*S	x	13 41 02.1	
LCBS	**La Ceiba**	**2.26**	**94**	⇑*e*P	x	13 40 37.3	

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*CSEM **24** 13:47:13.9±0.1, 3839N×2673E, h8km, MD3.0, Error ellipse: s-maj=2.6km s-min=1.8km az=13.0*

*ISCJB **24** 13:47:14.5±0.6, 3845N±003×2672E±003, h7km±4km, Error ellipse: s-maj=5.5km s-min=4.6km az=14.9*

*ISK **24** 13:47:14.2, 3845N×2676E, h16km, MD3.0*

*NEIC **24** 13:47:14.3, 3841N×2691E, h42km, MD3.1(ATH), After ATH.*

*ATH **24** 13:47:14.3, 3839N×2682E, h33km±4km, MD3.1/4*

ISC 24 13:47:14.7±0.6, 3845N±003×2672E±004, h7km±4km, n15, σ0°90/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.13**	**229**	*i* P	**Pg**	**13 47 17.6**	**0.0**
URLA				*i* S	**Sg**	**13 47 20.1**	**+0.6**
BLCB	**Balcova**	**0.26**	**104**	PG	**Pg**	**13 47 19.7**	**-0.1**
BLCB				SG	**Sg**	**13 47 23.2**	**-0.1**
IZM	**Izmir**	**0.43**	**97**	PG	**Pg**	**13 47 23.0**	**0.0**
IZM				SG	**Sg**	**13 47 29.2**	**+0.6**
KDAG	**Bornova**	**0.43**	**96**	*i* P	**Pg**	**13 47 23.0**	**0.0**
KDAG				*i* S	**Sg**	**13 47 29.5**	**+0.8**
SMG	**Samos**	**0.74**	**173**	*e*P	**Pg**	**13 47 28.0**	**-1.0**
SMG				*e*S	**Sg**	**13 47 39.8**	**+1.1**
PRK	**Paraskevi**	**0.87**	**336**	*e*PN	**Pn**	**13 47 32.9**	**-0.4**
PRK				*e*SN	**Sn**	**13 47 46.0**	**-0.2**
AKS	**Akhisar**	**0.95**	**63**	*e*PG	**Pg**	**13 47 32.1**	**-1.0**
AYDN	**Tasoluk**	**1.21**	**130**	*i* P	**Pb**	**13 47 36.4**	**-1.4**
AYDN				*i* S	**Sg**	**13 47 52.4**	**-1.1**
MLSB	**Milas**	**1.42**	**144**	*e*PN	**Pn**	**13 47 39.1**	**-1.8**
MANT	**Manisa**	**1.44**	**88**	*i* P	**Pn**	**13 47 42.4**	**+1.3**
MANT				*i* S	**Sn**	**13 48 00.5**	**+0.2**
BOZC	**Bozcaada**	**1.49**	**340**	*i* P	**Pn**	**13 47 42.7**	**+0.9**
BOZC				*i* S	**Sn**	**13 48 06.7**	**+5.2**
BDRM	**Kayabasi**	**1.50**	**157**	*i* P	**Pn**	**13 47 44.2**	**+2.3**
BDRM				*i* S	**Sn**	**13 48 02.4**	**+0.8**
APE	**Apeiranthos**	**1.67**	**215**	*e*PN	**Pn**	**13 47 43.3**	**-1.0**
YER	**Yerkesik**	**1.80**	**136**	*e*PN	**Pn**	**13 47 45.8**	**-0.3**
LIA	**Limnos Island**	**1.88**	**321**	*e*PN	**Pn**	**13 47 47.5**	**+0.3**

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*IDC **24** 14:07:46.8±2.2, 6065×13025E, h0km, mb4.0/1, mb1 4.7/4, mb1mx4.1/13, mbtmp4.5/4, ML4.6/2, Error ellipse: s-maj=90.7km s-min=27.5km az=77.0*

*NEIC **24** 14:07:48.0±1.2, 6105×13033E, h10km, Error ellipse: s-maj=24.1km s-min=13.2km az=66.0*

*ISCJB **24** 14:07:49.8±1.4, 6265±01×1303E±02, h33km, mb4.0/1, Error ellipse: s-maj=27.7km s-min=12.4km az=126.7*

ISC 24 14:07:51.9±1.4, 6265±01×1303E±02, h35km, n11, σ0°66/12, mb4.0/1, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.83**	**162**	⇓*i*P	**Pn**	**14 09 35.1**	**+5.5**
	252nm,0.6s						
KAKA				*e*S	**Sn**	**14 10 45.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**12.72**	**201**	*e*P	**Pn**	**14 10 50.1**	**-0.1**
	14nm,0.4s						
FITZ				*e*S	Sx	14 12 57.9	
FITZ	**Fitzroy Crossi**	**12.72**	**201**	Pn	**Pn**	**14 10 50.2**	**0.0**
	2.3nm,0.3s,baz=27,slow=12,SNR=62						
FITZ				Sn	Sx	14 12 59.3	
	4.3nm,0.3s,baz=0.5,slow=21,SNR=8.1						
WRAB	**Tennant Creek**	**14.23**	**164**	*e*Pn	**Pn**	**14 11 10.4**	**-0.4**
	21nm,0.5s						
WRAB				*e*Sn	Sx	14 13 32.1	
WRA	**Warramunga Arr**	**14.24**	**164**	Pn	**Pn**	**14 11 10.9**	**-0.1**
	2.6nm,0.3s,baz=347,slow=13,SNR=80						
WRA				Sn	Sx	14 13 37.8	
	3.1nm,0.3s,baz=332,slow=22,SNR=9.3						
WB2	**Warramunga Arr**	**14.24**	**164**	*e*P	**Pn**	**14 11 09.8**	**-1.2**
WB2				*e*S	Sx	14 13 36.2	
AS31	**Alice Springs**	**17.74**	**169**	*e*P	**Pn**	**14 11 56.9**	**+0.9**
AS31				*e*S	Sx	14 15 02.8	
ASAR	**Alice Springs**	**17.74**	**169**	P	**Pn**	**14 11 57.0**	**+0.9**
	2.1nm,0.3s,baz=347,slow=11,SNR=105						
ASAR				S	Sx	14 15 03.3	
	0.7nm,0.3s,baz=356,slow=26,SNR=5.3						
ASPA	**Alice Springs**	**17.74**	**169**	*e*P	**Pn**	**14 11 56.9**	**+0.9**
ASPA				*e*S	Sx	14 15 02.8	
MBWA	**Marble Bar**	**18.10**	**214**	*e*Pn	**Pn**	**14 12 00.3**	**-0.2**
MBWA				*e*Sn	Sx	14 15 02.4	
MKAR	**Makanchi Array**	**67.71**	**326**	P	**P**	**14 18 45.4**	**-0.3**
	0.8nm,0.5s,mb4.0,baz=119,slow=7.9,SNR=8.7						

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*NIED **24** 14:10:00, 3580N×13750E, h8km, Mw3.7 Best double couple: M0=4.38000×10^14 NP1:φ1=12.00000°, δ54.00000°, λ58.00000°. NP2:φ2=239.00000°, δ46.00000°, λ126.00000°.*

*ISCJB **24** 14:10:44.9±0.6, 3580N±003×13744E±004, h13km±4km, mb3.7/9, Error ellipse: s-maj=6.1km s-min=4.6km az=60.9*

*IDC **24** 14:10:44.2±0.8, 3574N×13749E, h0km, mb3.8/8, mb1 3.7/10, mb1mx3.7/22, mbtmp3.7/10, ML2.8/2, Error ellipse: s-maj=19.3km s-min=10.7km az=127.0*

*NEIC **24** 14:10:46.0±2.0, 3575N×13761E, h15km±13km, mb4.1/1, Error ellipse: s-maj=15.2km s-min=13.9km az=50.0*

NEIC Felt in southern Nagano and at Nakatsugawa, Gifu.

*JMA **24** 14:10:45.7, 3579N×13746E, h9km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φ=241.00000°, δ40.00000°, λ133.00000°. NP2: φ=10.00000°, δ62.00000°, λ60.00000°. Principal axes: T Plg61.0000°, Azm234.0000°; N Plg26.0000°, Azm25.0000°; P Plg12.0000°, Azm121.0000°;*

JMA Felt IV J1.

ISC 24 14:10:45.7±0.5, 3579N±003×13747E±004, h9km±4km, n24, σ0°67/32, mb3.7/9, 1C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**0.21**	**205**	⇑P	**Pg**	**14 10 50.0**	**0.0**
JGF				S	**Sg**	**14 10 52.9**	**0.0**
JGM	**Miyama**	**0.62**	**262**	⇓P	**Pg**	**14 10 57.3**	**-0.3**
JGM				S	**Sg**	**14 11 05.4**	**-0.2**
JTT	**Ttatey**	**0.82**	**352**	⇓P	**Pg**	**14 11 01.4**	**0.0**
JTT				S	**Sg**	**14 11 12.6**	**+0.5**
JYN	**Shimob**	**0.93**	**108**	⇓P	**Pg**	**14 11 03.6**	**+0.1**
SHZ3	**Shizuoka 3**	**0.94**	**140**	⇓P	**Pg**	**14 11 03.5**	**-0.3**
SHZ3				S	**Sg**	**14 11 16.6**	**+0.5**
MAJO	**Matsushiro**	**0.96**	**38**	*e*Pg	**Pg**	**14 11 03.9**	**-0.2**
MAJO				*e*Sg	**Sg**	**14 11 16.8**	**+0.2**
MAT	**Matsushiro**	**0.96**	**38**	P	**Pg**	**14 11 03.8**	**-0.3**
MAT				S	**Sg**	**14 11 16.3**	**-0.3**
MAT	**Matsushiro**	**0.96**	**38**	P	**Pg**	**14 11 03.9**	**-0.2**
MAT				S	**Sg**	**14 11 16.3**	**-0.3**
MAT	**Matsushiro**	**0.96**	**38**	*e*P	**Pg**	**14 11 04.0**	**-0.1**
MAT				*e*S	**Sg**	**14 11 16.0**	**-0.6**
MJAR	**Matsushiro Arr**	**0.96**	**39**	Pg	**Pg**	**14 11 03.8**	**-0.3**
	97nm,0.3s,baz=244,slow=18,SNR=824						
MJAR				Lg		14 11 16.6	
	221nm,0.3s,baz=230,slow=35,SNR=46						
JHJ	**Hachijo jima 2**	**3.28**	**144**	Pn	**Pn**	**14 11 38.2**	**+1.0**
	5.0nm,0.3s,baz=53,slow=20,SNR=4.7						
KS15	**Wonju Array Si**	**7.88**	**285**	Pn	**Pn**	**14 12 41.6**	**+1.2**
ASAJ	**Asahikawa**	**9.20**	**24**	Pn	**Pn**	**14 12 59.0**	**+0.5**
	0.1nm,0.3s,baz=198,slow=20,SNR=2.5						
SONM	**Songino Array**	**25.92**	**307**	P	**P**	**14 16 20.2**	**+2.2**
	0.3nm,0.5s,mb3.1,baz=116,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**42.09**	**303**	P	**P**	**14 18 38.1**	**+0.2**
	0.2nm,0.3s,mb3.2,baz=81,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**42.09**	**303**	P	**P**	**14 18 38.1**	**+0.2**
ZRNK	**Zerenda**	**49.90**	**313**	P	**P**	**14 19 38.0**	**-1.5**
	1.6nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**55.51**	**184**	P	**P**	**14 20 20.1**	**-0.9**
	0.4nm,0.5s,mb3.7,baz=360,slow=7.6,SNR=6.5						
AKTK	**Aktyubinsk**	**57.12**	**312**	P	**P**	**14 20 32.2**	**-0.3**
AKTO	**Aktyubinsk**	**57.12**	**312**	P	**P**	**14 20 32.2**	**-0.3**
	1.3nm,0.7s,mb4.1,baz=78,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**59.23**	**184**	P	**P**	**14 20 46.7**	**-0.5**
	0.3nm,0.7s,mb3.4,baz=356,slow=5.2,SNR=4.6						
FINES	**FINESS Array B**	**68.40**	**331**	P	**P**	**14 21 47.1**	**-0.6**
	1.0nm,0.9s,mb3.8,baz=60,slow=5.5,SNR=2.8						
AKASG	**Malin Array Be**	**73.29**	**321**	P	**P**	**14 22 17.0**	**-0.5**
	2.0nm,0.6s,mb4.2,baz=52,slow=6.1,SNR=10						
BRTR	**Keskin Array B**	**77.25**	**310**	P	**P**	**14 22 41.0**	**+0.8**
	1.0nm,0.7s,mb3.9,baz=64,slow=3.4,SNR=6.0						

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*CSEM **24** 14:15:05.1±0.1, 3705N×224W, h5km, ML2.5/6, Error ellipse: s-maj=1.6km s-min=1.1km az=144.0*

*SFS **24** 14:15:05.0, 3705N×223W, h5km, ML2.3*

*NEIC **24** 14:15:05.2, 3705N×223W, h5km, MN2.3(MDD), After MDD.*

NEIC Felt [II] at Lucainena de las Torres, Nijar and Turrillas.

MDD 24 14:15:04.9±0.2, 3702N×221W, h10km, mbLg2.3/16, 5C, Error ellipse: s-maj=3.4km s-min=2.3km az=168.0, PRXIMO II TURRILLAS, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.05**	**175**	Pg	Pg	14 15 06.9	0.0
	118nm,0.1s,SNR=176						
ENIJ				Lg		14 15 07.8	
	190nm,0.2s,SNR=5.6						
EBER	**Berja**	**0.56**	**257**	⇑Pg	Pg	14 15 15.3	-0.4
	52nm,0.1s,SNR=337						
EBER				Lg		14 15 22.0	
	276nm,0.3s,SNR=14						
EBER	**Berja**	**0.56**	**257**	Pg	Pg	14 15 15.3	-0.4
	52nm,0.1s,SNR=337						
EBER				Lg		14 15 22.0	
	276nm,0.3s,SNR=14						
EHUE	**Huescar**	**0.85**	**339**	Pg	Pg	14 15 20.0	-1.2
	6.4nm,0.1s,SNR=7.9						
EHUE				Lg		14 15 31.6	
	15nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**1.00**	**281**	⇑Pg	Pg	14 15 22.9	-1.2
	21nm,0.2s,SNR=18						
EQUE				Lg		14 15 36.6	
	45nm,0.3s,SNR=8.5						
EQES	**Quesada**	**1.04**	**319**	⇑Pg	Pg	14 15 24.8	-0.1
	6.1nm,0.1s,SNR=18						
EQES				Lg		14 15 38.7	
	19nm,0.2s,SNR=9.2						
EQES	**Quesada**	**1.04**	**319**	Pg	Pg	14 15 24.8	0.0
	6.1nm,0.1s,SNR=18						
EQES				Lg		14 15 38.7	
	19nm,0.2s,SNR=9.2						
EGUA	**Guajares**	**1.10**	**261**	⇑Pg	Pg	14 15 25.0	-1.1
	7.3nm,0.2s,SNR=18						
EGUA				Lg		14 15 39.8	
	3.3nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.11**	**284**	Pg	Pg	14 15 25.2	-1.0
	14nm,0.2s,SNR=14						
ECOG				Lg		14 15 39.5	
	17nm,0.2s,SNR=5.0						
CART	**Cartagena**	**1.12**	**59**	Pg	Pg	14 15 23.7	-2.7
CART				Lg		14 15 37.3	
CART	**Cartagena**	**1.12**	**59**	*e*P	Pb	14 15 23.7	-2.6
CART				*e*S	Sb	14 15 37.3	-3.5
EMUR	**La Murta**	**1.13**	**43**	⇑Pg	Pg	14 15 24.6	-2.0
	48nm,0.3s,SNR=18						
EMUR				Lg		14 15 39.8	
	73nm,0.4s,SNR=8.8						
EMUR	**La Murta**	**1.13**	**43**	Pg	Pg	14 15 24.6	-1.9
	48nm,0.3s,SNR=18						
EMUR				Lg		14 15 39.8	
	73nm,0.4s,SNR=8.8						
EALB	**Alboran**	**1.27**	**212**	Pg	Pg	14 15 29.2	0.0
	5.7nm,0.1s,SNR=7.9						
EALB				Lg		14 15 45.4	
	30nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.27**	**212**	Pg	Pg	14 15 29.2	0.0
	5.7nm,0.1s,SNR=7.9						
EALB				Lg		14 15 45.4	
	30nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.28**	**270**	Pg	Pg	14 15 28.1	-1.3
	15nm,0.2s,SNR=16						
ERON				Lg		14 15 45.2	
	9.2nm,0.3s,SNR=5.0						
ELOJ	**Sierra Loja**	**1.56**	**275**	Pg	Pg	14 15 34.7	0.0
	3.5nm,0.2s,SNR=5.5						
ELOJ				Lg		14 15 55.9	
	4.5nm,0.2s,SNR=7.2						
EVIA	**Vianos**	**1.63**	**352**	Pg	Pg	14 15 35.4	-0.7
	SNR=7.9						
EVIA				Lg		14 15 55.8	
	SNR=7.9						
EBAN	**Banos Encina**	**1.

ESDC				Lg		14 16 39.9		
	1.8nm,0.1s,SNR=9.9							
EIBI	**Ibiza**	**3.45**	**53**	Pn	Pn	14 15 57.1	-1.5	
	5.0nm,0.2s,SNR=9.6							
EIBI				Sn	Sn	14 16 36.9	-2.5	
	1.7nm,0.2s,SNR=5.0							
EIBI	**Ibiza**	**3.45**	**53**	Pn	Pn	14 15 57.1	-1.5	
	5.0nm,0.2s,SNR=9.6							
EIBI				Sn	Sn	14 16 36.9	-2.5	
	1.7nm,0.2s,SNR=5.0							
EMOS	**Mosqueruela**	**3.60**	**22**	Pn	Pn	14 16 03.1	+2.4	
	0.1nm,0.1s,SNR=4.0							
EMOS				Lg		14 16 57.1		
	1.1nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**3.60**	**22**	Pn	Pn	14 16 03.1	+2.4	
	0.1nm,0.1s,SNR=4.0							
EMOS				Lg		14 16 57.1		
	1.1nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.63**	**283**	Pn	Pn	14 16 00.1	-1.0	
	0.1nm,0.1s,SNR=7.9							
EMIN				Sn	Sn	14 16 42.3	-1.6	
	1.2nm,0.3s,SNR=7.9							
EMIN				Lg		14 16 57.5		
	1.9nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.63**	**283**	Pn	Pn	14 16 00.1	-1.0	
	0.1nm,0.1s,SNR=7.9							
EMIN				Sn	Sn	14 16 42.3	-1.6	
	1.2nm,0.3s,SNR=7.9							
EMIN				Lg		14 16 57.5		
	1.9nm,0.4s,SNR=7.9							
ETOR	**Torete**	**3.79**	**2**	Pn	Pn	14 16 04.1	+0.7	
	SNR=7.9							
ETOR				Pg	Pg	14 16 14.9	-2.7	
	1.4nm,0.3s,SNR=7.0							
ETOR				Sn	Sn	14 16 45.9	-2.1	
	0.4nm,0.2s,SNR=4.0							
ETOR				Lg		14 17 02.8		
	1.6nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**3.92**	**338**	Pn	Pn	14 16 05.2	+0.1	
	1.2nm,0.6s,SNR=7.9							
GUD				Pg	Pg	14 16 17.5	-2.5	
	1.2nm,0.2s,SNR=7.9							
GUD				Lg		14 17 09.1		
	3.5nm,0.4s,SNR=7.9							
EBAD	**Badajoz**	**4.17**	**296**	Pn	Pn	14 16 01.5	-7.0	
	0.5nm,0.1s,SNR=7.9							
EBAD				Sn	Sn	14 16 55.0	-2.4	
	2.8nm,0.2s,SNR=7.9							
EBAD				Lg		14 17 14.2		
	8.0nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**4.24**	**279**	Pn	Pn	14 16 06.4	-3.0	
	1.2nm,0.3s,SNR=4.0							
ETOS	**Mallorca**	**4.81**	**54**	Pn	Pn	14 16 14.7	-2.6	
	SNR=7.9							

NIED ***24*** *14:34:00,4100N×14280E,h41km,Mw4.0 Best double couple: M0 1.21000×10^15 NP1:φs 17.00000°,δ80.00000°, λ68.00000°. NP2:φs 263.00000°,δ24.00000°,λ154.00000°.*
ISCJB ***24*** *14:34:45.9±0.5,4103N±003×14296E±007,h53km±5km, mb3.9/13,MS3.2/2,Error ellipse: s-maj=9.3km s-min=3.8km az=53.1*
JMA ***24*** *14:34:45.7±0.1,4104N×14281E,h23km,M3.9*
MOS ***24*** *14:34:46.0±0.9,4109N×14302E,h56km,mb4.3/5,Error ellipse: s-maj=16.4km s-min=8.7km az=79.3*
NEIC ***24*** *14:34:49.1±1.0,4113N×14280E,h58km±8km,mb4.0/5, Error ellipse: s-maj=15.5km s-min=7.5km az=102.0*
IDC ***24*** *14:34:49.2±1.9,4105N×14279E,h59km±16km,mb3.6/9, mb1 3.7/12,mb1mx3.6/22,mbtmp3.9/12,MS3.2/2, Ms1 3.2/2,ms1mx2.4/29,Error ellipse: s-maj=28.8km s-min=11.6km az=93.0*

ISC 24 14:34:47.0±0.5,4106N±003×14298E±006,h47km±6km, n45,σ1§15/59,mb3.9/13,MS3.2/2,8D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.97**	**8**	⇓P	**Pn**	**14 35 03.9**	**-0.3**
JEM				S	**Sn**	**14 35 17.5**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.23**	**352**	⇓P	**Pn**	**14 35 07.9**	**+0.1**
JNBK				S	**Sn**	**14 35 23.8**	**+0.5**
JANG	**Nango**	**1.30**	**239**	⇓P	**Pn**	**14 35 06.8**	**-2.0**
JTM	**Tenmabayashi**	**1.47**	**260**	⇓P	**Pn**	**14 35 09.8**	**-1.3**
JTM				S	**Sn**	**14 35 26.6**	**-2.5**
JOT	**Ohata**	**1.49**	**283**	⇓P	**Pn**	**14 35 09.5**	**-1.8**
JCH	**Churui**	**1.58**	**10**	P	**Pn**	**14 35 12.8**	**+0.2**
JCH				S	**Sn**	**14 35 32.9**	**+1.1**
JKB	**Kayabe**	**1.68**	**300**	⇓P	**Pn**	**14 35 12.3**	**-1.6**
JOM	**Ohasama**	**2.04**	**220**	⇓P	**Pn**	**14 35 18.6**	**-0.3**
JOM				S	**Sn**	**14 35 42.4**	**-0.7**
JEW	**Eniwo**	**2.11**	**328**	P	**Pn**	**14 35 20.0**	**+0.1**
JEW				S	**Sn**	**14 35 46.2**	**+1.3**
JFR	**Furan**	**2.12**	**352**	P	**Pn**	**14 35 21.0**	**+1.0**
JAR	**Ashorobuto**	**2.31**	**14**	P	**Pn**	**14 35 22.4**	**-0.2**
JAR				S	**Sn**	**14 35 50.0**	**+0.2**
JAK	**Akkeshi**	**2.32**	**33**	⇓P	**Pn**	**14 35 22.9**	**+0.2**
JAK				S	**Sn**	**14 35 49.7**	**-0.3**
JMK	**Ichinoseki**	**2.50**	**213**	P	**Pn**	**14 35 25.7**	**+0.5**
ASAJ	**Asahikawa**	**3.07**	**355**	P	**Pn**	**14 35 34.3**	**+1.3**
	10nm,0.3s,baz=214,slow=13,SNR=105						
ASAJ				S	**Sn**	**14 36 11.4**	**+3.0**
	3.0nm,0.3s,baz=166,slow=19,SNR=4.1						
ASAJ	**Asahikawa**	**3.07**	**355**	P	**Pn**	**14 35 34.3**	**+1.3**
ASAJ				S	**Sn**	**14 36 11.4**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.66**	**35**	P	**Pn**	**14 35 41.2**	**+0.1**
YUK				*e*S	**Sn**	**14 36 20.5**	**-2.5**
YUK				pmax	pmax		
	comp=Z,150nm,0.3s						
YUK				smax			
	comp=N,1μm,0.8s						
YUK				smax			
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,510nm,0.3s						
YUK				smax			
	comp=E,350nm,0.4s						
KUR	**Kuril'sk**	**5.50**	**39**	*e*P	**Pn**	**14 36 04.5**	**-1.8**
KUR				*i* S	**Sn**	**14 37 06.0**	**-2.2**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
KUR				smax			
	comp=N,80nm,0.4s						
KUR				smax			
	comp=E,60nm,0.4s						
MAJO	**Matsushiro**	**5.85**	**221**	*e*P	**Pn**	**14 36 13.0**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAJO	**Matsushiro**	**5.85**	**221**	*e*Pn	**Pn**	**14 36 13.0**	**+1.9**
	comp=Z,6.9nm,0.6s						
MAT	**Matsushiro**	**5.85**	**221**	P	**Pn**	**14 36 13.1**	**+2.0**
MAT				*e*S	**Sn**	**14 37 18.4**	**+1.6**
MJAR	**Matsushiro Arr**	**5.85**	**221**	P	**Pn**	**14 36 12.7**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=17						
YSS	**Yuzh-Sakhalins**	**5.90**	**359**	*e*P	**Pn**	**14 36 12.8**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.90**	**359**	Pn	**Pn**	**14 36 12.3**	**+0.6**
JHJ	**Hachijo jima 2**	**8.32**	**199**	P	**Pn**	**14 36 44.6**	**-0.4**
	comp=Z,3.2nm,0.3s,baz=90,slow=20,SNR=5.1						
JHJ				S	**Sn**	**14 38 11.6**	**-6.1**
	comp=Z,4.6nm,0.3s,baz=73,slow=19,SNR=2.9						
ULN	**Ulaanbaatar**	**26.35**	**297**	P	**P**	**14 40 17.4**	**-1.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**26.35**	**297**	P	**P**	**14 40 17.4**	**-1.2**
	comp=Z,1.8nm,0.6s,mb3.8						
SONM	**Songino Array**	**26.79**	**297**	P	**P**	**14 40 22.4**	**-0.2**
	comp=Z,1.5nm,0.6s,mb3.7,baz=80,slow=8.8,SNR=14						
SONM				LR	LR	14 51 41.8	
	comp=Z,37nm,18.4s,MS3.0,baz=74,slow=38						
ZAL	**Zalesovo**	**40.23**	**309**	P	**P**	**14 42 20.1**	**+1.0**
	comp=Z,1.5nm,0.6s,mb3.9,baz=13,slow=9.9,SNR=4.8						
MKAR	**Makanchi Array**	**43.13**	**299**	P	**P**	**14 42 42.4**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.7,baz=75,slow=11,SNR=11						
KURK	**Kurchatov**	**44.51**	**305**	*e*P	**P**	**14 42 53.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
KURK	**Kurchatov**	**44.51**	**305**	*e*P	**P**	**14 42 53.0**	**-0.9**
	comp=Z,1.5nm,0.4s,mb4.2						
ZRNK	**Zerenda**	**49.66**	**310**	*e*P	**P**	**14 43 39.0**	**+5.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**49.66**	**310**	*e*P	**P**	**14 43 39.0**	**+5.0**
	comp=Z,1.9nm,0.6s,mb4.3						
INK	**Inuvik**	**50.27**	**29**	P	**P**	**14 43 39.6**	**+1.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=322,slow=7.8,SNR=4.9						
ARU	**Arti**	**54.20**	**317**	*e*P	**P**	**14 44 07.7**	**-0.1**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ARU	**Arti**	**54.20**	**317**	*e*P	**P**	**14 44 07.7**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**61.22**	**189**	P	**P**	**14 44 57.8**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.6,baz=6.4,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**61.22**	**189**	P	**P**	**14 44 57.8**	**+0.7**
ASAR	**Alice Springs**	**64.94**	**189**	P	**P**	**14 45 22.9**	**+1.1**
	comp=Z,0.2nm,0.6s,mb3.3,baz=0.0,slow=5.9,SNR=3.6						
FINES	**FINESS Array B**	**65.83**	**332**	P	**P**	**14 45 27.2**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.3,baz=51,slow=7.2,SNR=25						
FINES				LR	LR	15 17 04.0	
	comp=Z,24nm,19.1s,MS3.4,baz=349,slow=38						
NB2	**NORSAR Subarra**	**70.95**	**337**	P	**P**	**14 45 59.3**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=37,slow=6.5						
NB2	**NORSAR Subarra**	**70.95**	**337**	P	**P**	**14 45 59.3**	**-0.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**70.95**	**337**	P	**P**	**14 45 59.5**	**0.0**
	comp=Z,1.2nm,1.0s,mb3.8,baz=37,slow=6.2,SNR=4.6						
AKASG	**Malin Array Be**	**71.86**	**322**	P	**P**	**14 46 04.0**	**-1.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=46,slow=5.6,SNR=7.7						
AKASG	**Malin Array Be**	**71.86**	**322**	P	**P**	**14 46 04.0**	**-1.0**

ISCJB ***24*** *14:52:37.3±0.6,5151N±003×16.13E±003,h0km,Error ellipse: s-maj=4.4km s-min=2.9km az=33.3*
IPEC ***24*** *14:52:38.0±0.2,5159N×1619E,h0km,ML2.2/3,Error ellipse: s-maj=1.6km s-min=0.9km az=41.0*
NEIC ***24*** *14:52:38.9±0.9,5158N×1608E,h5km,ML2.5(BRG), ML2.6(CLL),Error ellipse: s-maj=11.7km s-min=8.5km az=219.0*
VIE ***24*** *14:52:39.9±0.9,5143N×1610E,h0km,mb2.2/2,ML2.9/3, Error ellipse: s-maj=5.3km s-min=4.2km az=16.0 73 km WNW of Breslau Suspected Mining induced.*
CSEM ***24*** *14:52:39.7±0.2,5153N×1612E,h2km,ML3.3/6,Error ellipse: s-maj=3.6km s-min=2.0km az=11.0*
WAR ***24*** *14:52:39.9,5154N×1609E,ML2.6,Mining Induced*
PRU ***24*** *14:52:40.2,5149N×1609E,h0km*

ISC 24 14:52:38.4±0.6,5155N±003×1612E±003,h0km,n24, σ0§83/49,3C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**171**	*e*Pg	**Pg**	**14 52 52.8**	**+0.6**
KSP				*e*Sg	**Sg**	**14 53 02.2**	**+0.7**
UPC	**Upice**	**1.05**	**184**	*e*PG	**Pg**	**14 52 58.8**	**+0.3**
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG	**Pg**	**14 53 01.5**	**-0.1**
DPC				*e*SG	**Sg**	**14 53 17.3**	**0.0**
	50nm,0.6s						
PVCC	**Panska Ves**	**1.42**	**224**	*e*Pg	**Pg**	**14 53 05.8**	**+0.2**
PVCC				*e*Sg	**Sg**	**14 53 24.9**	**+1.0**
BRG	**Berggiesshubel**	**1.53**	**244**	Pn	**Pn**	**14 53 07.0**	**+0.1**
BRG				Pg	**Pg**	**14 53 07.8**	**+0.1**
BRG				Sg	**Sg**	**14 53 27.9**	**+0.4**
BRG	**Berggiesshubel**	**1.53**	**244**	Pn	**Pn**	**14 53 07.1**	**+0.2**
BRG	**Berggiesshubel**	**1.53**	**244**	Pg	**Pg**	**14 53 07.8**	**+0.1**
BRG				*e*Sg	**Sg**	**14 53 27.7**	**+0.2**
PRU	**Pruhonice**	**1.86**	**213**	*e*PN	**Pn**	**14 53 12.5**	**+1.0**
PRU				*e*SG	**Sg**	**14 53 38.0**	**-0.1**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**14 53 12.0**	**-1.0**
CLL				*i* Pg	**Pg**	**14 53 15.6**	**-0.5**
CLL				*ex*	x	14 53 20.0	
CLL				*i* Sg	**Sg**	**14 53 40.8**	**-0.8**
	comp=Z,31nm,0.6s						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**14 53 12.0**	**-1.0**
CLL				*i* Pg	**Pg**	**14 53 15.6**	**-0.5**
CLL				*i* Sg	**Sg**	**14 53 40.8**	**-0.8**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**14 53 12.8**	**-0.6**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**14 53 12.8**	**-0.6**
MORC				*e*Sg	**Sg**	**14 53 41.6**	**-1.0**
	comp=Z,17nm,0.3s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pg**	**14 53 19.1**	**-0.5**
OKC				*e*SG	**Sg**	**14 53 46.8**	**-0.7**
	comp=Z,29nm,0.4s						
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**14 53 17.6**	**+0.5**
VRAC				*e*Sg	**Sg**	**14 53 49.4**	**-1.9**
	comp=Z,16nm,0.3s						
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**14 53 20.9**	**+0.6**
KRUC	**Moravsky**	**2.50**	**176**	*e*Pg	**Pg**	**14 53 24.8**	**-1.5**
KRUC				*e*Sg	**Sg**	**14 53 57.2**	**-1.6**
	comp=Z,8.6nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**14 53 23.1**	**+0.4**
NKC				*e*PG	**Pg**	**14 53 29.5**	**-0.1**
NKC				*e*SG	**Sg**	**14 54 05.5**	**+1.2**
	comp=Z,57nm,0.6s						
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**14 53 30.4**	**+0.5**
OJC				*e*Sg	**Sg**	**14 54 05.7**	**+1.0**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**14 53 26.7**	**+0.6**
KHC				*e*PG	**Pg**	**14 53 32.3**	**-2.1**
KHC				*e*SN	**Sn**	**14 54 01.2**	**-0.7**
KHC				*e*SG	**Sg**	**14 54 11.7**	**-0.5**
	comp=Z,11nm,0.4s						
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn	**Pn**	**14 53 35.7**	**+0.4**
CONA	**Conrad Observa**	**3.63**	**183**	⇑*i*Pn	**Pn**	**14 53 36.7**	**+0.8**
	comp=Z,0.4nm,0.1s						
CONA				⇓*i*Sg	**Sg**	**14 54 35.8**	**+0.7**
	comp=Z,14nm,0.4s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**14 53 34.8**	**-1.2**
BSD				*i* S	**Sn**	**14 54 14.9**	**-4.7**
MOA	**Molln**	**3.90**	**199**	⇑*i*Pn	**Pn**	**14 53 40.0**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**14 54 45.0**	**+1.4**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PG	**Pg**	**14 53 54.1**	**+0.7**
STHS				*e*SG	**Sg**	**14 54 44.6**	**+0.5**

ISC 24 15:33:51.5±0.8,4091N±006×3139E±005,h10km,n7, σ1§14/13,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.38**	**257**	*i* P	**Pg**	**15 33 58.7**	**-0.4**
HENT				*i* S	**Sg**	**15 34 05.3**	**+1.2**
MDU	**Mudurnu**	**0.47**	**197**	PG	**Pg**	**15 33 59.8**	**-0.8**
MDU				SG	**Sg**	**15 34 07.1**	**+0.4**
SGKT	**Sivrigoynuk**	**0.61**	**124**	*i* P	**Pg**	**15 34 01.4**	**-1.9**
SGKT				*i* S	**Sg**	**15 34 12.5**	**+1.2**
SAFT	**Safranbolu**	**1.03**	**71**	*e*PG	**Pg**	**15 34 07.4**	**-4.0**
ELDT	**Eldivan**	**1.60**	**105**	*i* P	**Pn**	**15 34 19.7**	**-0.2**
ELDT				*i* S	**Sn**	**15 34 40.6**	**-0.1**
BALT	**Daday**	**1.63**	**67**	*i* P	**Pn**	**15 34 18.6**	**-1.6**
BALT				*i* S	**Sn**	**15 34 42.2**	**+0.9**
BOYT	**Boyabat**	**2.70**	**78**	*i* P	**Pn**	**15 34 35.0**	**0.0**
BOYT				*i* S	**Sn**	**15 35 10.6**	**+2.9**

ISCJB ***24*** *15:39:47.0±0.4,5148N±002×16.10E±002,h0km,mb2.9/1, MS3.0/1,Error ellipse: s-maj=3.1km s-min=1.9km az=39.3*
BGR ***24*** *15:39:48.4±0.6,5153N×1616E,h1km,ML3.2,Error ellipse: s-maj=12.2km s-min=7.8km az=146.0*
NEIC ***24*** *15:39:48.9±0.4,5154N×1610E,h5km,ML2.8(CLL), ML3.4(SZGRF),Error ellipse: s-maj=5.4km s-min=4.3km az=209.0*
IDC ***24*** *15:39:49.4±0.7,5148N×1591E,h0km,mb3.1/1,mb1 3.3/8, mb1mx3.2/23,mbtmp3.2/8,ML3.0/7,MS3.1/1,Ms1 3.1/1, ms1mx1.9/18,Error ellipse: s-maj=11.2km s-min=6.1km az=107.0*
WAR ***24*** *15:39:49.9,5150N×1609E,ML2.9,Mining Induced*
IPEC ***24*** *15:39:49.2±0.2,5151N×1617E,h8km±1km,ML2.7/3,Error ellipse: s-maj=1.6km s-min=0.7km az=43.0*
CSEM ***24*** *15:39:50.2±0.1,5147N×1609E,h2km,ML3.5/10,Error ellipse: s-maj=2.1km s-min=1.3km az=19.0*
VIE ***24*** *15:39:50.8±0.9,5134N×1605E,h0km,mb2.6/6,ML3.1/7, Error ellipse: s-maj=9.0km s-min=5.0km az=51.0 72 km WNW of Breslau Suspected Mining induced.*
PRU ***24*** *15:39:50.0,5148N×1607E,h0km*

ISC 24 15:39:47.9±0.3,5154N±002×1612E±002,h0km,n69, σ1§09/133,mb2.9/1,MS3.0/1,6C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**171**	*i* Pgd	**Pg**	**15 40 02.2**	**+0.7**
KSP				*e*Sg	**Sg**	**15 40 11.2**	**+0.5**
KSP				*e*L		15 40 16.0	
KSP	**Ksiaz**	**0.71**	**171**	⇓*i*Pg	**Pg**	**15 40 02.2**	**+0.7**
KSP				*e*Sg	**Sg**	**15 40 11.2**	**+0.5**
UPC	**Upice**	**1.04**	**184**	*e*PG	**Pg**	**15 40 08.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pg**	**15 40 11.1**	**+0.1**
DPC				*e*SG	**Sg**	**15 40 25.7**	**-0.8**
	114nm,0.6s						
PVCC	**Panska Ves**	**1.41**	**225**	*e*Pg	**Pg**	**15 40 14.8**	**-0.2**
PVCC				*e*Sg	**Sg**	**15 40 33.3**	**0.0**
BRG	**Berggiesshubel**	**1.53**	**245**	*e*Pn	**Pn**	**15 40 15.9**	**-0.5**
BRG				*e*Sg	**Sg**	**15 40 37.5**	**+0.5**
BRG	**Berggiesshubel**	**1.53**	**245**	Pn	**Pn**	**15 40 15.8**	**-0.6**
BRG				Pg	**Pg**	**15 40 17.4**	**+0.2**
BRG				Sg	**Sg**	**15 40 37.2**	**+0.2**
BRG	**Berggiesshubel**	**1.53**	**245**	*e*Pn	**Pn**	**15 40 17.2**	**+0.8**
BRG				*e*Sg	**Sg**	**15 40 36.9**	**-0.1**
RUE	**Ruedersdorf**	**1.73**	**304**	*e*Pn	**Pn**	**15 40 19.0**	**-0.1**
RUE				*e*Sg	**Sg**	**15 40 45.4**	**+2.1**
RUE	**Ruedersdorf**	**1.73**	**304**	*e*Pn	**Pn**	**15 40 19.0**	**-0.2**
RUE				*e*Sg	**Sg**	**15 40 45.4**	**+2.0**
RUE	**Ruedersdorf**	**1.73**	**304**	Pn	**Pn**	**15 40 19.0**	**-0.2**
RUE				*e*Sg	**Sg**	**15 40 45.0**	**+1.6**
FBE	**Freiberg**	**1.85**	**251**	*e*Sg	**Sg**	**15 40 46.8**	**-0.5**
PRU	**Pruhonice**	**1.85**	**213**	*e*PN	**Pn**	**15 40 20.5**	**-0.4**
PRU				*e*PG	**Pg**	**15 40 22.0**	**-1.4**
PRU				*i* x	x	15 40 40.0	
PRU				*e*SG	**Sg**	**15 40 45.5**	**-2.0**
RAC	**Raciborz**	**1.96**	**137**	*e*Pg	**Pg**	**15 40 25.8**	**+0.2**
RAC				*e*Sg	**Sg**	**15 40 50.2**	**-0.9**
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**15 40 22.2**	**-0.4**
CLL				*i* Pg	**Pg**	**15 40 24.5**	**-1.1**
CLL				*i* Sg	**Sg**	**15 40 51.5**	**+0.3**
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**15 40 22.0**	**-0.5**
CLL				*i* Pg	**Pg**	**15 40 24.5**	**-1.1**
CLL				*i* x	x	15 40 29.3	
CLL				*i* Sg	**Sg**	**15 40 51.5**	**+0.3**
	comp=Z,62nm,0.7s						
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**15 40 22.0**	**-0.5**
CLL				*i* Pg	**Pg**	**15 40 24.5**	**-1.1**
CLL				*i* Sg	**Sg**	**15 40 51.5**	**+0.3**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**15 40 22.5**	**-0.2**
MORC				*e*Sn	**Sn**	**15 40 47.7**	**-0.6**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**15 40 22.5**	**-0.3**
MORC				*e*Sn	**Sn**	**15 40 47.7**	**-0.6**
MORC				*e*Sg	**Sg**	**15 40 50.2**	**-1.5**
	comp=Z,51nm,0.4s						
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PN	**Pn**	**15 40 24.9**	**0.0**
OKC				*e*PG	**Pg**	**15 40 28.9**	**0.0**
OKC				*e*SG	**Sg**	**15 40 56.4**	**-0.2**
	comp=Z,98nm,0.6s						
VRAC	**Vranov**	**2.26**	**172**	Pn	**Pn**	**15 40 26.7**	**+0.2**
	comp=Z,2.7nm,0.3s,baz=338,slow=12,SNR=11						
VRAC				Lg		15 40 59.7	
	comp=Z,6.8nm,0.3s,baz=75,slow=17,SNR=4.6						
VRAC	**Vranov**	**2.26**	**172**	Pn	**Pn**	**15 40 26.7**	**+0.2**
VRAC				*e*Sg	**Sg**	**15 40 58.0**	**-2.5**
	comp=Z,42nm,0.6s						
KRUC	**Moravsky**	**2.49**	**176**	*e*Pn	**Pn**	**15 40 30.3**	**+0.6**
KRUC				*e*Sg	**Sg**	**15 41 06.3**	**-1.7**
	comp=Z,28nm,0.4s						
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**15 40 31.2**	**+0.3**
TANN				*e*Sg	**Sg**	**15 41 10.4**	**-0.3**
WERD	**Werda**	**2.65**	**247**	*e*Pn	**Pn**	**15 40 32.0**	**+0.1**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**15 40 32.4**	**+0.2**
NKC				*e*PG	**Pg**	**15 40 39.1**	**0.0**
NKC				*e*SG	**Sg**	**15 41 13.9**	**+0.1**
	comp=Z,81nm,0.3s						
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**15 40 39.5**	**+0.2**
OJC				*e*Sg	**Sg**	**15 41 14.9**	**+0.9**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**15 40 35.7**	**+0.2**
KHC				*e*PG	**Pg**	**15 40 41.7**	**-2.1**
KHC				*e*SN	**Sn**	**15 41 10.6**	**-0.6**
KHC				*e*SG	**Sg**	**15 41 21.4**	**-0.2**
	comp=Z,28nm,0.6s						
KHC	**Kasperske Hory**	**2.91**	**215**	*e*Pn	**Pn**	**15 40 35.4**	**-0.1**
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**15 40 36.6**	**+0.2**
MOX				*e*Pg	**Pg**	**15 40 44.6**	**-0.5**
MOX				*e*Sg	**Sg**	**15 41 24.6**	**+0.9**
MOX	**Moxa**	**2.98**	**254**	*e*PN	**Pn**	**15 40 37.4**	**+1.0**
MOX				*e*PG	**Pg**	**15 40 44.6**	**-0.5**
MOX				*e*SG	**Sg**	**15 41 24.7**	**+1.0**
MOX	**Moxa**	**2.98**	**254**	Pg	**Pg**	**15 40 44.6**	**-0.5**
MOX				*e*Sg	**Sg**	**15 41 23.9**	**+0.2**
MANZ	**Manzenberg**	**2.99**	**240**	*e*Pn	**Pn**	**15 40 37.3**	**+0.8**
MANZ				*e*Sg	**Sg**	**15 41 25.4**	**+1.4**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn	**Pn**	**15 40 38.2**	**+0.6**
ROTZ				*e*Sg	**Sg**	**15 41 24.8**	**-1.5**
GEC2	**GERESS Array S**	**3.12**	**211**	*e*Pn	**P

HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**15 41 54.9 -0.3**
HFS				Sn	**Sn**	**15 43 30.6 -3.6**
FINES	**FINES Array B**	**11.33**	**25**	Pn	**Pn**	**15 42 29.6 -1.4**
	comp=Z,0.2nm,0.3s,baz=206,slow=11,SNR=14					
FINES				Sn	**Sn**	**15 44 30.7 -7.6**
	comp=Z,0.2nm,0.3s,baz=218,slow=22,SNR=5.1					
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn	**Pn**	**15 42 39.5 -2.0**
	comp=Z,0.1nm,0.3s,baz=101,slow=14,SNR=3.6					
ARCES	**ARCESS Array B**	**18.59**	**10**	P	**Pn**	**15 44 02.9 -3.8**
	comp=Z,0.1nm,0.3s,baz=192,slow=14,SNR=7.8					
BVAR	**Borovoye Array**	**32.57**	**66**	LR	LR	15 59 37.3
	comp=Z,28nm,18.8s,MS3.0,baz=132,slow=36					
TORD	**Torodi Ar. Bea**	**40.03**	**202**	P	**P**	**15 47 24.5 -0.1**
	comp=Z,0.2nm,0.7s,mb2.9,baz=8.9,slow=10,SNR=2.5					

*IDC **24** 15:45:18.8±0.9, 0.04N×96.99E, h0km, mb4.0/10, mb1 4.0/11, mb1mx3.9/21, mbtmp3.9/11, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/21, Error ellipse: s-maj=36.3km s-min=16.8km az=49.0*
*ISCJB **24** 15:45:22.3±0.7, 0.18N±0.10×972E±0.1, h33km, mb4.0/12, Error ellipse: s-maj=15.8km s-min=12.2km az=102.6*
*NEIC **24** 15:45:23.6±0.6, 0.12N×97.13E, h30km, mb4.4/2, Error ellipse: s-maj=14.5km s-min=10.8km az=50.0*

ISC 24 15:45:24.7±0.7, 020N±010×972E±01, h35km, n18, σ0.87/18, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.10**	**34**	Pn	**Pn**	**15 46 10.6**	**-0.6**
	2.3nm,0.3s,baz=236,slow=6.3,SNR=10						
PSI				LR	LR	15 47 43.1	
	comp=Z,197nm,20.7s,baz=227,slow=44						
PSI	**Prapat**	**3.10**	**34**	Pn	**Pn**	**15 46 10.6**	**-0.6**
PSI				LR	LR	15 47 43.0	
KULM	**Kulim**	**6.12**	**34**	*e*Pn	**Pn**	**15 46 52.6**	**0.0**
KKM	**Kota Kinabalu**	**19.85**	**73**	*e*P	**Pn**	**15 49 53.9**	**-0.4**
WRA	**Warramunga Arr**	**41.52**	**121**	P	**P**	**15 53 08.9**	**+0.3**
	1.4nm,0.6s,mb3.8,baz=304,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**41.52**	**121**	P	**P**	**15 53 08.9**	**+0.3**
	15nm,1.3s,mb4.5						
ASAR	**Alice Springs**	**42.80**	**126**	P	**P**	**15 53 20.6**	**+1.5**
	1.3nm,0.8s,mb3.7,baz=299,slow=7.6,SNR=21						
SONM	**Songino Array**	**48.11**	**8**	P	**P**	**15 54 00.8**	**-0.2**
	0.7nm,0.6s,mb3.9,baz=205,slow=30,SNR=7.5						
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**15 54 03.0**	**+1.3**
	0.7nm,0.5s,mb3.9,baz=157,slow=6.9,SNR=8.7						
STKA	**Stephens Creek**	**52.70**	**132**	P	**P**	**15 54 34.1**	**-1.6**
	1.4nm,0.9s,mb3.9,baz=298,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**52.70**	**132**	P	**P**	**15 54 33.9**	**-1.8**
KURK	**Kurchatov**	**52.75**	**345**	P	**P**	**15 54 36.4**	**+0.3**
	2.3nm,0.8s,mb4.2						
KURK				*e*	pP	15 54 46.1	-0.5
ZAL	**Zalesovo**	**54.53**	**351**	P	**P**	**15 54 50.6**	**+1.5**
	1.9nm,0.3s,mb4.6,baz=246,slow=0.9,SNR=6.9						
BRTR	**Keskin Array B**	**69.78**	**313**	P	**P**	**15 56 30.9**	**-0.5**
	0.9nm,0.7s,mb3.8,baz=146,slow=6.5,SNR=7.0						
IDI	**Anoyia**	**75.49**	**306**	P	**P**	**15 57 05.0**	**-0.3**
	1.8nm,0.5s,mb4.2,baz=78,slow=14,SNR=3.5						
AKASG	**Malin Array Be**	**76.04**	**323**	P	**P**	**15 57 07.3**	**-1.2**
	1.3nm,0.6s,mb4.1,baz=96,slow=4.4,SNR=5.7						
FINES	**FINESS Array B**	**80.88**	**333**	P	**P**	**15 57 34.9**	**-0.2**
	0.7nm,0.6s,mb3.8,baz=108,slow=6.2,SNR=7.1						
FINES	**FINESS Array B**	**80.88**	**333**	P	**P**	**15 57 34.9**	**-0.2**

IDC 24 15:46:02.2±1.7, 2419S×6988E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, MS3.8/3, Ms1 3.7/3, ms1mx3.2/19, Error ellipse: s-maj=57.3km s-min=28.9km az=77.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**40.04**	**254**	LR	LR	16 09 24.1	
	comp=Z,127nm,18.6s,baz=133,slow=35						
ASAR	**Alice Springs**	**58.03**	**104**	P	P	15 55 58.3	+1.4
	0.8nm,0.9s,baz=254,slow=5.9,SNR=5.1						
WRA	**Warramunga Arr**	**59.43**	**100**	P	P	15 56 06.3	-0.4
	0.9nm,1.0s,baz=254,slow=6.8,SNR=3.4						
VNDA	**Vanda**	**66.99**	**166**	P	P	15 56 56.4	-0.4
	1.9nm,1.0s,baz=279,slow=7.9,SNR=7.2						
MKAR	**Makanchi Array**	**71.53**	**9**	P	P	15 57 24.6	-0.4
	0.5nm,0.7s,baz=188,slow=8.7,SNR=3.7						
SONM	**Songino Array**	**78.85**	**24**	P	P	15 58 07.6	+0.5
	0.3nm,0.8s,baz=197,slow=4.4,SNR=3.5						
SONM				LR	LR	16 31 00.2	
	comp=Z,51nm,21.3s,baz=234,slow=34						
DBIC	**Dimbokro**	**78.95**	**282**	LR	LR	16 28 41.2	
	comp=Z,47nm,19.2s,baz=111,slow=32						

IDC 24 16:01:06.7±1.1, 519N×7356W, h153km±7km, mb1 3.6/1, mb1mx2.9/20, mbtmp4.3/1, Error ellipse: s-maj=48.0km s-min=12.3km az=133.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**0.83**	**247**	P	Pn	16 01 32.1	+1.7
	62nm,0.3s,baz=68,slow=1.2,SNR=76						
ROSC				S	Sn	16 01 49.6	+1.1
	120nm,0.3s,baz=108,slow=20,SNR=27						
SDV	**Santo Domingo**	**4.69**	**38**	P	Pn	16 02 18.2	+2.2
	7.0nm,0.3s,baz=210,slow=14,SNR=26						
SDV				S	Sn	16 03 09.8	-0.2
	11nm,0.3s,baz=278,slow=23,SNR=20						
ASAR	**Alice Springs**	**147.79**	**232**	PKPbc	PKPbc	16 20 33.7	+0.3
	0.1nm,0.3s,baz=131,slow=3.4,SNR=5.4						
WRA	**Warramunga Arr**	**149.15**	**239**	PKPbc	PKPbc	16 20 37.1	+0.2
	0.2nm,0.3s,baz=107,slow=3.1,SNR=9.0						

MAN 24 16:27:32.1, 903N×12514E, h1km, mb1.6, ML3.5, MS0.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.47**	**97**	*e*P	Pg	16 27 41.5	+0.4
SCPH	**Surigao**	**0.82**	**24**	⇓*e*P	Pg	16 27 48.4	+0.6
BUKP	**Musuan**	**1.14**	**184**	*e*P	Pg	16 27 54.1	+0.1

*IDC **24** 16:38:33.4±2.4, 823S×10996E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=110.8km s-min=19.3km az=54.0*
*ISCJB **24** 16:38:34.8±1.2, 85S±02×1096E±03, h33km, mb3.9/8, Error ellipse: s-maj=47.7km s-min=11.8km az=110.4*
*NEIC **24** 16:38:36.6±1.1, 8.10S×110.27E, h10km, mb4.7/4, Error ellipse: s-maj=35.8km s-min=15.4km az=60.0*

ISC 24 16:38:37.4±1.3, 85S±02×1096E±03, h35km, n13, σ0.79/14, mb3.9/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**15.93**	**143**	*e*Pn	**Pn**	**16 42 18.3**	**-0.5**
MBWA				*e*Sn	**Sn**	**16 44 56.2**	**-18**
FITZ	**Fitzroy Crossi**	**18.27**	**123**	P	**Pn**	**16 42 47.0**	**-1.0**
	0.1nm,0.3s,baz=313,slow=15,SNR=5.7						
WRA	**Warramunga Arr**	**26.49**	**118**	P	**P**	**16 44 10.6**	**-0.7**
	0.7nm,0.7s,mb3.3,baz=290,slow=12,SNR=4.1						
WRAB	**Tennant Creek**	**26.49**	**118**	P	**P**	**16 44 12.4**	**+1.1**
	6.8nm,1.0s,mb4.1						
ASAR	**Alice Springs**	**27.72**	**126**	P	**P**	**16 44 22.9**	**+0.6**
	0.5nm,0.7s,mb3.3,baz=302,slow=8.8,SNR=7.7						
CTAO	**Charters Tower**	**37.24**	**112**	P	**P**	**16 45 38.5**	**-7.0**
	25nm,1.4s,mb4.9						
STKA	**Stephens Creek**	**37.73**	**133**	P	**P**	**16 45 50.5**	**+0.9**
	3.0nm,0.5s,mb4.3,baz=299,slow=7.7,SNR=18						
MAT	**Matsushiro**	**52.23**	**29**	P	**P**	**16 47 45.2**	**+0.4**
MAT	**Matsushiro**	**52.23**	**29**	P	**P**	**16 47 45.0**	**+0.2**
SONM	**Songino Array**	**56.15**	**357**	P	**P**	**16 48 12.7**	**-0.7**
	0.2nm,0.7s,mb3.3,baz=165,slow=6.0,SNR=2.6						
AAK	**Ala-Archa**	**60.13**	**331**	P	**P**	**16 48 40.5**	**-0.8**
MKAR	**Makanchi Array**	**60.18**	**339**	P	**P**	**16 48 42.5**	**+0.9**
	0.2nm,0.6s,mb3.3,baz=156,slow=7.3,SNR=3.5						
MAW	**Mawson**	**66.72**	**198**	*e*P	**P**	**16 49 33.2**	**+8.4**
	2.7nm,0.7s,mb4.4						

*ISCJB **24** 16:42:12.5±0.7, 170S±04×1792E±0.1, h100km, mb4.6/8, Error ellipse: s-maj=61.7km s-min=7.9km az=147.1*
*NEIC **24** 16:42:13.8±0.8, 17.12S×179.21E, h100km, mb4.6/6, Error ellipse: s-maj=54.5km s-min=12.1km az=164.0*
*IDC **24** 16:42:24.0±11.0, 1764S×179.94W, h255km±183km, mb3.8/4, mb1 4.0/5, mb1mx3.5/15, mbtmp4.5/5, Error ellipse: s-maj=142.2km s-min=63.3km az=121.0*

ISC 24 16:42:12.8±4.8, 171S±04×1791E±03, h77km±64km, n15, σ0.73/17, mb4.6/8, 1D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.34**	**71**	P	**Pn**	**16 44 24.5**	**+0.1**
	3.4nm,0.3s,baz=76,slow=17,SNR=6.6						
AFI				S	**Sn**	**16 46 08.0**	**+0.2**
	3.2nm,0.3s,baz=141,slow=21,SNR=6.8						
AFI	**Afiamalu**	**9.34**	**71**	P	**Pn**	**16 44 24.5**	**+0.1**
AFI				*e*Sn	**Sn**	**16 46 07.5**	**-0.3**
CTAO	**Charters Tower**	**31.26**	**259**	P	**P**	**16 48 30.5**	**+5.3**
	6.0nm,0.9s,mb4.3						
PMG	**Port Moresby**	**32.01**	**280**	P	**P**	**16 48 30.9**	**-0.9**
	54nm,1.1s,mb5.2						
STKA	**Stephens Creek**	**36.96**	**240**	⇓*i*P	**P**	**16 49 13.4**	**-1.1**
	2.6nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**36.96**	**240**	P	**P**	**16 49 13.6**	**-0.8**
	2.9nm,0.5s,mb4.5,baz=88,slow=9.8,SNR=18						
WB2	**Warramunga Arr**	**42.45**	**259**	*e*P	**P**	**16 50 00.3**	**+0.3**
WRAB	**Tennant Creek**	**42.45**	**259**	*e*P	**P**	**16 49 59.4**	**-0.6**
	9.8nm,1.1s,mb4.5						
WRAB				*e*pP	pP	16 50 35.8	+17
WRA	**Warramunga Arr**	**42.46**	**259**	P	**P**	**16 50 00.8**	**+0.7**
	2.1nm,0.5s,mb4.1,baz=98,slow=7.2,SNR=64						
AS31	**Alice Springs**	**42.74**	**254**	*e*P	**P**	**16 50 02.9**	**+0.5**
ASAR	**Alice Springs**	**42.74**	**254**	P	**P**	**16 50 02.9**	**+0.5**
	20nm,0.5s,mb5.1,baz=88,slow=8.1,SNR=171						
ASPA	**Alice Springs**	**42.75**	**254**	*e*P	**P**	**16 50 02.9**	**+0.5**
KAKA	**Kakadu**	**45.25**	**269**	*e*P	**P**	**16 50 23.5**	**+1.1**
	7.0nm,0.3s,mb4.9						
FITZ	**Fitzroy Crossi**	**50.84**	**260**	*e*P	**P**	**16 51 04.0**	**-1.5**
	2.6nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**50.84**	**260**	P	**P**	**16 51 04.3**	**-1.1**
	1.0nm,0.4s,mb4.2,baz=116,slow=7.4,SNR=15						

*NEIC **24** 16:46:06.2, 3859S×17538E, h255km, MG3.8(WEL), After WEL.*

WEL 24 16:46:06.0±0.4, 3853S×17537E, h252km±3km, ML3.9/18, 1C, Error ellipse: s-maj=5.0km s-min=3.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.54**	**174**	PN	Pn	16 46 39.6	+0.4
TWVZ				SN	S	16 47 05.3	0.0
WTVZ	**West Tongariro**	**0.61**	**164**	PN	Pn	16 46 40.0	+0.5
WTVZ				SN	S	16 47 06.0	+0.2
WTVZ	**West Tongariro**	**0.61**	**164**	P	Pn	16 46 40.0	+0.5
WTVZ				S	S	16 47 06.0	+0.2
WPVZ	**Whakapapa**	**0.69**	**169**	PN	Pn	16 46 40.2	+0.5
WPVZ				SN	S	16 47 07.5	+1.2
WPVZ	**Whakapapa**	**0.69**	**169**	P	Pn	16 46 40.2	+0.4
FWVZ	**Far West T-bar**	**0.74**	**169**	*e*PN	Pn	16 46 40.3	+0.4
FWVZ				SN	S	16 47 06.8	+0.1
FWVZ	**Far West T-bar**	**0.74**	**169**	*e*P	Pn	16 46 40.4	+0.4
VRZ	**Vera Road**	**0.76**	**219**	*e*PN	Pn	16 46 39.9	-0.2
VRZ	**Vera Road**	**0.76**	**219**	*e*P	Pn	16 46 39.9	-0.2
TUVZ	**Tukino**	**0.77**	**163**	*e*PN	Pn	16 46 40.2	+0.1
TUVZ				SN	S	16 47 06.0	-0.9
TRVZ	**Turoa**	**0.78**	**170**	*e*PN	Pn	16 46 40.3	+0.1
MTVZ	**Mangateitei**	**0.86**	**175**	PN	Pn	16 46 40.6	+0.1
MTVZ				SN	S	16 47 07.0	-0.7
MOVZ	**Moawhango**	**0.93**	**161**	PN	Pn	16 46 40.8	-0.1
MOVZ				SN	S	16 47 06.5	-1.8
MOVZ	**Moawhango**	**0.93**	**161**	P	Pn	16 46 40.8	0.0
MOVZ				S	S	16 47 06.5	-1.7
BKZ	**Black Stump Fm**	**1.08**	**126**	PN	Pn	16 46 42.0	+0.3
BKZ	**Black Stump Fm**	**1.08**	**126**	P	Pn	16 46 42.0	+0.3
WAZ	**Wanganui**	**1.26**	**194**	PN	Pn	16 46 42.6	-0.2
WAZ				SN	S	16 47 11.1	-0.7
WAZ	**Wanganui**	**1.26**	**194**	P	Pn	16 46 42.6	-0.2
WAZ				S	S	16 47 11.5	-0.3
PKE	**Pukeiti**	**1.27**	**238**	PN	Pn	16 46 42.5	-0.3
NRZ	**Ngariki Road**	**1.38**	**234**	PN	Pn	16 46 43.3	-0.3
URZ	**Urewera**	**1.39**	**79**	PN	Pn	16 46 43.6	-0.1
URZ				SN	S	16 47 12.2	-1.2
URZ	**Urewera**	**1.39**	**79**	*e*P	Pn	16 46 43.6	-0.1
TSZ	**Takapari Road**	**1.60**	**163**	PN	Pn	16 46 44.8	-0.5
TSZ	**Takapari Road**	**1.60**	**163**	P	Pn	16 46 44.8	-0.4
MWZ	**Matawai**	**1.71**	**84**	PN	Pn	16 46 46.3	+0.2
MWZ	**Matawai**	**1.71**	**84**	P	Pn	16 46 46.4	+0.3
KNZ	**Kokohu**	**1.87**	**106**	PN	Pn	16 46 47.8	+0.4
KNZ	**Kokohu**	**1.87**	**106**	*e*P	Pn	16 46 47.8	+0.4
PXZ	**Pawanui**	**1.90**	**143**	PN	Pn	16 46 47.7	0.0
MRZ	**Mangatainoka R**	**2.14**	**176**	PN	Pn	16 46 48.1	-1.8
MRZ	**Mangatainoka R**	**2.14**	**176**	P	Pn	16 46 48.2	-1.7
BFZ	**Birch Farm**	**2.25**	**163**	PN	Pn	16 46 49.7	-1.3
BFZ	**Birch Farm**	**2.25**	**163**	*e*P	Pn	16 46 49.7	-1.3
TIWZ	**Tintock**	**2.28**	**170**	PN	Pn	16 46 49.5	-1.7
PUZ	**Puketiti**	**2.32**	**80**	PN	Pn	16 46 51.4	-0.1
PUZ	**Puketiti**	**2.32**	**80**	P	Pn	16 46 51.6	0.0
KIW	**Kapiti Island**	**2.36**	**189**	PN	Pn	16 46 49.8	-2.1
KIW	**Kapiti Island**	**2.36**	**189**	P	Pn	16 46 49.9	-2.1
DUWZ	**D'Urville Isla**	**2.53**	**206**	PN	Pn	16 46 51.5	-2.2
CAW	**Cannon Point**	**2.59**	**185**	PN	Pn	16 46 52.0	-2.3
CAW	**Cannon Point**	**2.59**	**185**	P	Pn	16 46 52.0	-2.2
MTW	**Mount Morrison**	**2.63**	**178**	PN	Pn	16 46 52.3	-2.3
MTW	**Mount Morrison**	**2.63**	**178**	P	Pn	16 46 52.4	-2.3
MRW	**Makara Radio**	**2.75**	**191**	PN	Pn	16 46 53.3	-2.6
MRW	**Makara Radio**	**2.75**	**191**	P	Pn	16 46 53.4	-2.5
WEL	**Wellington**	**2.79**	**189**	PN	Pn	16 46 53.7	-2.7
WEL	**Wellington**	**2.79**	**189**	P	Pn	16 46 53.8	-2.6
TCW	**Tory Channel**	**2.81**	**197**	PN	Pn	16 46 54.0	-2.5
TCW	**Tory Channel**	**2.81**	**197**	P	Pn	16 46 54.1	-2.5
SNZO	**South Karori**	**2.82**	**190**	PN	Pn	16 46 53.9	-2.8
SNZO	**South Karori**	**2.82**	**190**	P	Pn	16 46 54.0	-2.7
PAWZ	**Paruwai Farm**	**2.85**	**179**	PN	Pn	16 46 54.6	-2.4
PAWZ	**Paruwai Farm**	**2.85**	**179**	P	Pn	16 46 54.6	-2.4
MSWZ	**Moikau Station**	**2.88**	**182**	PN	Pn	16 46 54.7	-2.7
MSWZ	**Moikau Station**	**2.88**	**182**	P	Pn	16 46 54.9	-2.4
NNZ	**Nelson**	**3.09**	**209**	⇑PN	Pn	16 46 56.5	-3.0
NNZ	**Nelson**	**3.09**	**209**	P	Pn	16 46 56.6	-3.0
QRZ	**Quartz Range**	**3.17**	**223**	PN	Pn	16 46 56.7	-3.8
QRZ	**Quartz Range**	**3.17**	**223**	*e*P	Pn	16 46 56.8	-3.7
THZ	**Tophouse**	**3.74**	**210**	PN	Pn	16 47 03.1	-3.8
THZ	**Tophouse**	**3.74**	**210**	*e*P	Pn	16 47 03.3	-3.6
KHZ	**Kahutara**	**4.13**	**199**	PN	Pn	16 47 08.0	-3.4
KHZ	**Kahutara**	**4.13**	**199**	P	Pn	16 47 08.0	-3.4
DSZ	**Denniston Nort**	**4.22**	**219**	PN	Pn	16 47 07.9	-4.5
DSZ	**Denniston Nort**	**4.22**	**219**	*e*P	Pn	16 47 08.1	-4.3
LTZ	**Lake Taylor**	**4.86**	**208**	PN	Pn	16 47 15.6	-4.5
LTZ	**Lake Taylor**	**4.86**	**208**	P	Pn	16 47 15.7	-4.4
CRLZ	**Canterbury Las**	**5.45**	**202**	PN	Pn	16 47 21.9	-5.4
CRLZ	**Canterbury Las**	**5.45**	**202**	*e*P	Pn	16 47 22.2	-5.2
MQZ	**McQueen's Vall**	**5.56**	**201**	PN	Pn	16 47 23.6	-5.2
MQZ	**McQueen's Vall**	**5.56**	**201**	*e*P	Pn	16 47 23.6	-5.2
WVZ	**Waitaha Valley**	**5.74**	**216**	SN	S	16 48 28.6	-10
FOZ	**Fox Glacier**	**6.61**	**219**	*e*PN	Pn	16 47 35.2	-6.6
ODZ	**Otahua Downs**	**7.40**	**207**	PN	Pn	16 47 47.0	-4.7
ODZ	**Otahua Downs**	**7.40**	**207**	*e*P	Pn	16 47 47.3	-4.5
JCZ	**Jackson Bay**	**7.45**	**220**	*e*PN	Pn	16 47 46.9	-5.4
JCZ	**Jackson Bay**	**7.45**	**220**	*e*P	Pn	16 47 47.0	-5.3

*ISCJB **24** 16:49:26.8±0.3, 1450N±005×56.19E±004, h10km, mb4.4/68, MS4.7/3, Error ellipse: s-maj=7.5km s-min=6.1km az=37.8*
*IDC **24** 16:49:27.3±0.6, 1448N×5626E, h0km, mb4.0/20, mb1 4.1/21, mb1mx4.1/24, mbtmp4.0/21, ML3.2/1, MS4.7/2, Ms1 4.7/2, ms1mx3.8/26, Error ellipse: s-maj=18.2km s-min=13.2km az=103.0*
*BJI **24** 16:49:28.4, 1450N×5620E, h10km, mB5.0, mb4.6, Ms4.8, Msz4.6*
*NEIC **24** 16:49:28.5±0.2, 1447N×5621E, h10km, mb4.6/42, Error ellipse: s-maj=6.1km s-min=5.4km az=216.0*
*SZGRF **24** 16:49:29.1, 1480N×5732E, h33km, mb4.2, Owen Fracture Zone region*
*CSEM **24** 16:49:29.6±0.1, 1440N×5608E, h33km, mb4.6/40, Ms4.2, Error ellipse: s-maj=5.6km s-min=3.4km az=10.0*

ISC 24 16:49:28.9±0.3, 1450N±005×5621E±004, h10km, n150, σ0.93/147, mb4.4/68, MS4.7/3, 3C, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**8.99**	**14**	Pn	**Pn**	**16 51 39.3**	**+0.6**
	0.3nm,0.3s,baz=196,slow=10,SNR=4.6						
HYB	**Hyderabad**	**21.67**	**79**	*i* P	**P**	**16 54 21.0**	**+1.3**
HYB	**Hyderabad**	**21.67**	**79**	*e*P	**P**	**16 54 21.0**	**+1.3**
KMBO	**Kilima Mbogo**	**24.36**	**232**	P	**P**	**16 54 47.7**	**+0.8**
	0.6nm,0.3s,mb3.5,baz=50,slow=15,SNR=2.9						
KMBO	**Kilima Mbogo**	**24.36**	**232**	P	**P**	**16 54 48.1**	**+1.1**
	8.9nm,1.4s,mb4.0						
KMBO	**Kilima Mbogo**	**24.36**	**232**	P	**P**	**16 54 48.1**	**+1.2**
	8.9nm,1.4s,mb4.0						
EIL	**Elat**	**24.76**	**311**	*e*P	**P**	**16 54 53.4**	**+2.8**
	281nm,1.1s						
EIL				*e*		16 54 58.8	
ASF	**Jabal al Asfar**	**24.91**	**318**	P	**P**	**16 54 56.0**	**+4.0**
	1.0nm,0.2s,mb3.9,baz=303,slow=5.0,SNR=5.5						
PALK	**Pallekele**	**25.08**	**104**	P	**P**	**16 54 53.2**	**-0.3**
	18nm,1.0s,mb4.5						
PALK	**Pallekele**	**25.08**	**104**	P	**P**	**16 54 53.2**	**-0.3**
	18nm,1.0s,mb4.5						
MMAI	**Mount Meron Ar**	**26.42**	**318**	P	**P**	**16 55 10.5**	**+4.9**
	0.2nm,0.3s,baz=260,slow=8.6,SNR=3.1						
GNI	**Garni**	**27.46**	**341**	P	**P**	**16 55 16.0**	**+1.0**
	2.0nm,0.4s,mb4.0,baz=135,slow=11,SNR=2.1						
GNI	**Garni**	**27.46**	**341**	P	**P**	**16 55 15.5**	**+0.5**
	73nm,1.8s,mb4.9						
GNI	**Garni**	**27.46**	**341**	P	**P**	**16 55 15.5**	**+0.5**
	73nm,1.8s,mb4.9						
MALT	**Malatya**	**28.47**	**330**	*e*P	**P**	**16 55 24.8**	**+0.8**
	21nm,1.5s,mb4.5						
MALT	**Malatya**	**28.47**	**330**	*e*P	**P**	**16 55 24.8**	**+0.8**
	21nm,1.5s,mb4.5						
BRTR	**Keskin Array B**	**32.00**	**326**	P	**P**	**16 55 54.8**	**-0.4**
	0.1nm,0.3s,baz=122,slow=1.9,SNR=2.3						
AAK	**Ala-Archa**	**32.16**	**26**	*e*P	**P**	**16 55 56.8**	**+0.1**
	25nm,1.5s,mb4.8						
AAK	**Ala-Archa**	**32.16**	**26**	*e*P	**P**	**16 55 56.8**	**+0.1**
	25nm,1.5s,mb4.8						
AKTK	**Aktyubinsk**	**35.87**	**2**	P	**P**	**16 56 27.8**	**-1.1**
AKTK	**Aktyubinsk**	**35.87**	**2**	P	**P**	**16 56 27.8**	**-1.1**
AKTO	**Aktyubinsk**	**35.87**	**2**	P	**P**	**16 56 27.8**	**-1.1**
	0.8nm,0.5s,mb3.9,baz=197,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**38.88**	**29**	P	**P**	**16 56 55.2**	**+0.8**
	1.5nm,0.8s,mb3.8,baz=201,slow=6.5,SNR=9.8						
MKAR				PcP	PcP	16 59 05.9	+0.6
	1.4nm,0.9s,baz=229,slow=3.3,SNR=4.8						
MKAR	**Makanchi Array**	**38.88**	**29**	P	**P**	**16 56 55.2**	**+0.8**
MKAR				PcP	PcP	16 59 05.9	+0.6
ZRNK	**Zerenda**	**39.69**	**12**	*e*P	**P**	**16 57 00.7**	**-0.4**
	8.4nm,1.5s,mb4.2						
ZRNK	**Zerenda**	**39.69**	**12**	*e*P	**P**	**16 57 00.7**	**-0.4**
	8.4nm,1.5s,mb4.2						
WMQ	**Urumqi**	**39.69**	**36**	*e*P	**P**	**16 57 03.1**	**+1.9**
WMQ				AMB	AMB		
	comp=Z,170nm,4.0s						
BVAR	**Borovoye Array**	**40.05**	**13**	P	**P**	**16 57 05.1**	**+0.9**
	comp=Z,1.0nm,0.9s,mb3.5,baz=207,slow=9.2,SNR=4.4						
BVAR				PcP	PcP	16 59 09.5	+0.5
	comp=Z,3.1nm,0.8s,baz=195,slow=4.0,SNR=13						
KURK	**Kurchatov**	**40.42**	**22**	*e*P	**P**	**16 57 07.8**	**+0.5**
	comp=Z,8.0nm,1.4s,mb4.3						
LSZ	**Lusaka**	**40.53**	**224**	*e*P	**P**	**16 57 08.0**	**-0.2**
	comp=Z,13nm,1.4s,mb4.4						
LSZ	**Lusaka**	**40.53**	**224**	*e*P	**P**	**16 57 07.9**	**-0.3**
	comp=Z,13nm,1.4s,mb4.4						
CHKZ	**Chkalovo**	**40.71**	**13**	*e*P	**P**	**16 57 10.0**	**+0.4**
	comp=Z,6.0nm,1.2s,mb4.1						
CHKZ	**Chkalovo**	**40.71**	**13**	*e*P	**P**	**16 57 10.0**	**+0.4**
	comp=Z,5.9nm,1.2s,mb4.1						
ARU	**Arti**	**41.89**	**2**	P	**P**	**16 57 18.8**	**-0.5**
	comp=Z,4.2nm,0.9s,mb4.1						
AKASG	**Malin Array Be**	**42.20**	**335**	P	**P**	**

BOSA	Boshof	52.28 215	P	P	16 58 40.9	+0.5
	comp=Z,2.7nm,0.9s,mb4.2,baz=55,slow=12,SNR=5.0					
BOSA	Boshof	52.28 215	*eP*	P	16 58 39.2	-1.2
	comp=Z,8.1nm,1.0s,mb4.6					
CDF	Champ du Feu	52.45 321	*eP*	P	16 58 40.8	-0.9
	comp=Z,11nm,1.1s,mb4.4					
CDF	Champ du Feu	52.45 321	*eP*	P	16 58 40.8	-0.9
	comp=Z,5.7nm,1.1s,mb4.4					
CABF	La Chapelle	52.54 318	*eP*	P	16 58 42.2	-0.1
	comp=Z,29nm,1.1s,mb4.8					
CABF	La Chapelle	52.54 318	*eP*	P	16 58 42.2	-0.1
	comp=Z,15nm,1.1s,mb4.8					
TORD	Torodi Ar. Bea	52.85 276	P	P	16 58 45.6	+0.9
	comp=Z,0.5nm,0.6s,mb3.6,baz=89,slow=5.6,SNR=5.7					
VIVF	Saint-Julien-l	52.89 316	*eP*	P	16 58 44.6	-0.4
SONM	Songino Array	53.01 40	P	P	16 58 46.1	+0.3
	comp=Z,0.9nm,0.8s,mb3.7,baz=233,slow=8.8,SNR=9.0					
LASF	Ste Croix	53.22 315	*eP*	P	16 58 47.0	-0.4
	comp=Z,18nm,1.4s,mb4.5					
LASF	Ste Croix	53.22 315	*eP*	P	16 58 47.0	-0.4
	comp=Z,8.8nm,1.4s,mb4.5					
ULN	Ulaanbaatar	53.43 41	P	P	16 58 49.8	+0.8
	comp=Z,4.2nm,1.3s,mb4.2					
ULN	Ulaanbaatar	53.43 41	P	P	16 58 49.8	+0.8
	comp=Z,4.2nm,1.3s,mb4.2					
MEZF	Maizieres J'vi	53.86 320	*eP*	P	16 58 51.7	-0.4
	comp=Z,36nm,1.2s,mb4.9					
MEZF	Maizieres J'vi	53.86 320	*eP*	P	16 58 51.7	-0.4
	comp=Z,18nm,1.2s,mb4.9					
SMF	Signal de Mont	54.01 318	*eP*	P	16 58 52.2	-1.0
MTLF	Montolieu	54.16 313	*eP*	P	16 58 53.8	-0.5
	comp=Z,12nm,1.1s,mb4.4					
MTLF	Montolieu	54.16 313	*eP*	P	16 58 53.8	-0.5
	comp=Z,5.9nm,1.1s,mb4.4					
LOR	Lormes	54.20 318	*eP*	P	16 58 53.7	-0.8
	comp=Z,14nm,0.9s,mb4.6					
LOR	Lormes	54.20 318	*eP*	P	16 58 53.7	-0.8
	comp=Z,7.2nm,0.9s,mb4.6					
SSF	Saint Saulge	54.36 318	*eP*	P	16 58 54.9	-0.8
	comp=Z,7.7nm,0.8s,mb4.4					
SSF	Saint Saulge	54.36 318	*eP*	P	16 58 54.9	-0.8
	comp=Z,3.8nm,0.8s,mb4.4					
AVF	Avril sur Loir	54.37 318	*eP*	P	16 58 54.7	-1.1
HHC	Hu-ho-hao-te	54.56 50	*eP*	P	16 58 57.1	-0.1
HHC			AP	pP	16 59 01.8	+1.4
HHC			XP	sP	16 59 04.3	+2.7
HHC			PCP	PcP	16 59 59.9	-0.4
HHC			PP	PP	17 01 00.6	+1.1
HHC			AMB	AMB		
	comp=Z,100nm,5.2s					
HHC			LR	LR		
	comp=N,360nm,19.0s,MS4.5					
HHC			LR	LR		
	comp=E,180nm,15.5s,MS4.5					
HHC			LR	LR		
	comp=Z,540nm,19.0s,MS4.6					
GIVF	Givet	54.58 322	*eP*	P	16 58 56.7	-0.7
CAF	Calviac	54.69 315	*eP*	P	16 58 57.8	-0.3
BAIF	Baives	54.94 322	*eP*	P	16 58 59.3	-0.6
	comp=Z,16nm,0.9s,mb4.7					
BAIF	Baives	54.94 322	*eP*	P	16 58 59.3	-0.6
	comp=Z,8.1nm,0.9s,mb4.7					
TCF	Toulx Ste Croi	54.97 317	*eP*	P	16 58 59.5	-0.7
	comp=Z,11nm,1.1s,mb4.5					
TCF	Toulx Ste Croi	54.97 317	*eP*	P	16 58 59.5	-0.7
	comp=Z,5.3nm,1.1s,mb4.5					
RJF	Les Rejaudoux	55.16 315	*eP*	P	16 59 01.4	-0.2
LFF	La Frestale	55.60 315	*eP*	P	16 59 04.2	-0.5
NOA	NORSAR Array B	56.59 336	P	P	16 59 10.8	-0.9
	comp=Z,0.3nm,0.6s,mb3.5,baz=94,slow=12,SNR=3.1					
MFF	Saint Martin d	56.62 317	*eP*	P	16 59 10.8	-1.2
LDF	La Druitiere	57.15 319	*eP*	P	16 59 14.6	-1.1
	comp=Z,18nm,1.1s,mb4.7					
LDF	La Druitiere	57.15 319	*eP*	P	16 59 14.6	-1.1
	comp=Z,8.9nm,1.1s,mb4.7					
FLN	La Foliniere	57.42 319	*eP*	P	16 59 16.4	-1.3
GRR	Gorron	57.56 318	*eP*	P	16 59 17.2	-1.5
	comp=Z,32nm,1.3s,mb4.9					
GRR	Gorron	57.56 318	*eP*	P	16 59 17.2	-1.5
	comp=Z,16nm,1.3s,mb4.9					
ESDC	Sonseca Array	58.00 308	P	P	16 59 22.7	+0.9
	comp=Z,2.2nm,0.7s,mb4.3,baz=86,slow=6.1,SNR=9.9					
ESLA	Sonseca Array	58.00 308	P	P	16 59 22.1	+0.3
	comp=Z,2.5nm,1.0s,mb4.2					
ESLA	Sonseca Array	58.00 308	P	P	16 59 22.1	+0.4
	comp=Z,2.5nm,1.0s,mb4.2					
ARCES	ARCESS Array B	58.28 348	P	P	16 59 22.0	-1.7
	comp=Z,2.7nm,0.9s,mb4.3,baz=139,slow=6.4,SNR=5.3					
ARCES	ARCESS Array B	58.28 348	P	P	16 59 22.0	-1.7
SGMF	Saint Gilles	58.62 318	*eP*	P	16 59 25.3	-0.8
	comp=Z,15nm,1.1s,mb4.7					
SGMF	Saint Gilles	58.62 318	*eP*	P	16 59 25.3	-0.8
	comp=Z,7.7nm,1.1s,mb4.7					
ROSF	Rostrenen	59.11 318	*eP*	P	16 59 28.3	-1.2
	comp=Z,22nm,1.1s,mb4.8					
ROSF	Rostrenen	59.11 318	*eP*	P	16 59 28.3	-1.2
	comp=Z,11nm,1.1s,mb4.8					
EVO	Evora	61.01 306	*eP*	P	16 59 41.2	-1.3
	comp=Z,5.5nm,0.7s,mb4.5					
CN2	Changchun	65.15 48	*eP*	P	17 00 10.8	+0.8
CN2			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8					
MDJ	Mudanjiang	68.16 47	P	P	17 00 28.8	-0.5
MDJ			PCP	PcP	17 00 53.3	-1.8
MDJ			PP	PP	17 02 59.1	-0.5
MDJ			AMB	AMB		
	comp=Z,40nm,4.7s					
MDJ			LR	LR		
	comp=N,260nm,14.7s					
MDJ			LR	LR		
	comp=E,230nm,24.9s					
MDJ			LR	LR		
	comp=Z,350nm,22.6s					
YAK	Yakutsk	69.56 29	*eP*	P	17 00 37.1	-0.8
	comp=Z,12nm,0.9s,mb4.8					
YAK	Yakutsk	69.56 29	*eP*	P	17 00 37.1	-0.8
	comp=Z,12nm,0.9s,mb4.8					
MAJO	Matsushiro	75.16 56	P	P	17 01 09.0	-2.4
MAJO	Matsushiro	75.16 56	P	P	17 01 09.0	-2.4
MJAR	Matsushiro Arr	75.16 56	P	P	17 01 17.0	+5.6
	comp=Z,1.1nm,0.9s,mb3.8,baz=270,slow=7.4,SNR=4.6					
MJAR	Matsushiro Arr	75.16 56	P	P	17 01 17.0	+5.6
FITZ	Fitzroy Crossi	75.70 113	*eP*	P	17 01 14.4	-0.1
	comp=Z,7.1nm,1.2s,mb4.5					
MAW	Mawson	82.01 177	P	P	17 01 49.3	+0.1
	comp=Z,2.4nm,1.0s,mb4.1,baz=315,slow=5.6,SNR=4.4					
WRA	Warramunga Arr	84.08 112	P	P	17 01 59.0	-0.9
	comp=Z,5.4nm,0.9s,mb4.7,baz=297,slow=4.2,SNR=29					
WRAB	Tennant Creek	84.09 112	*eP*	P	17 01 59.3	-0.6
	comp=Z,24nm,1.1s,mb5.2					
WB2	Warramunga Arr	84.09 112	*eP*	P	17 01 59.8	-0.1
ASPA	Alice Springs	84.83 116	*eP*	P	17 02 03.4	-0.3
ASAR	Alice Springs	84.83 116	P	P	17 02 03.0	-0.7
	comp=Z,4.4nm,0.9s,mb4.6,baz=294,slow=4.8,SNR=34					
AS31	Alice Springs	84.83 116	*eP*	P	17 02 03.4	-0.3
PDAR	Pinedale Array	121.54 348	PKP	PKPdf	17 08 23.6	+1.0
	comp=Z,1.5nm,0.5s,baz=294,slow=1.6,SNR=4.6					
NVAR	Mina Array Bea	127.11 355	PKP	PKPdf	17 08 35.5	+2.2
	comp=Z,1.1nm,0.7s,baz=57,slow=1.8,SNR=6.9					

BJI ***24*** *16:52:10.7, 1376N×5571E, h10km, mB5.1, mb4.7, Ms5.0, Msz4.8*

CSEM ***24*** *16:52:16.9±0.6, 1463N×5670E, h26km, mb5.0/50, Ms4.4, Error ellipse: s-maj=28.7km s-min=9.4km az=104.0, After LDG*

ISCJB ***24*** *16:52:17.2±0.2, 1451N±004×5625E±002, h10km, mb5.0/208, MS4.6/79, Error ellipse: s-maj=5.2km s-min=3.2km az=21.7*

MOS ***24*** *16:52:17.6±1.4, 1456N×5620E, h10km, mb5.2/89, Error ellipse: s-maj=7.3km s-min=3.4km az=121.0*

IDC ***24*** *16:52:17.5±0.5, 1453N×5640E, h0km, mb4.4/27, mb1 4.5/28, mb1mx4.5/30, mbtmp4.4/28, ML3.9/1, MS4.6/30, Ms1 4.6/30, ms1mx4.5/34, Error ellipse: s-maj=13.5km s-min=11.6km az=110.0*

NEIC ***24*** *16:52:19.0±0.3, 1451N×5625E, h10km, mb5.0/139, MS4.3/12, Error ellipse: s-maj=7.5km s-min=5.1km az=196.0*

HRVD ***24*** *16:52:19.0±0.2, 1447N×5621E, h12km, MW5.3/108, Centroid moment Tensor Solution. LP body waves: s79,c133;Mantle waves: s108,c214; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.03±.01; $M_{\theta\theta}$0.95±.01; $M_{\phi\phi}$0.07±.02; $M_{r\theta}$0.39±.04; $M_{r\phi}$-0.31±.01; $M_{\theta\phi}$-0.14±.04; Best double couple: $M_0$1.12000×10^{17} NP1:ϕ_s107.00000°, δ34.00000°, λ-92.00000°. NP2: ϕ_s289.00000°, δ56.00000°, λ-89.00000°. Principal axes: T 1.1310, Plg11.0000°, Azm18.0000°; N -0.0210, Plg1.0000°, Azm108.0000°; P -1.1090, Plg79.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***24*** *16:52:24.2, 1434N×5489E, h29km, mb5.0, MS4.3, Owen Fracture Zone region*

ISC 24 16:52:19.5±0.2, 1453N±003×5626E±002, h10km, (h21km±1.5km:pP-P), n584, σ1§30/597, mb5.0/208, MS4.6/79, 35C-31D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RBK	Rabkut	3.55	327	P	⇓	P	Pn	16 53 14.5	-0.2
ABTO	Aybut	4.00	315	P	⇓	P	Pn	16 53 20.3	-0.4
WHFO	Wadi Hawf	4.13	325	P	⇓	P	Pn	16 53 23.3	+0.8
	SNR=6.1								
BSY	Bisya	8.21	6	P		P	Pn	16 54 19.0	+0.3
	SNR=9.4								
WBK	Wadi Bani Khal	8.43	17	P	⇓	P	Pn	16 54 22.3	+0.6
ARQ	Araqi	8.76	2	P	⇓	P	Pn	16 54 26.9	+0.7
	SNR=15								
WSAR	Wadi Sarin	8.95	14	Pn		P	Pn	16 54 27.0	-1.7
	1.2nm,0.3s,baz=204,slow=13,SNR=10								
WSAR				Sn			Sn	16 56 06.4	-3.1
	0.7nm,0.3s,baz=151,slow=8.7,SNR=3.0								
WSAR				LR			LR	16 57 46.5	
	comp=Z,16μm,20.2s,baz=173,slow=37								
HOQ	Hoqain	9.05	6	P	⇓	P	Pn	16 54 30.1	-0.1
	SNR=8.4								
BANOM	Banah	11.33	0	P		P	Pn	16 55 02.8	+1.5
	SNR=6.9								
ATD	Arta Tunnel	13.40	259	LR			LR	17 00 48.4	
	comp=Z,153nm,18.1s,baz=78,slow=38								
RDF	Al-Radifah	16.43	332	*eP*		P	Pn	16 56 07.6	-2.6
RDF				AMb			AMB	16 56 16.5	
	comp=Z,361nm,1.0s								
BOM	Bombay	16.44	72	*eP*		P	Pn	16 56 10.7	+0.5
BOM				*ex*			x	16 56 25.5	
	comp=Z,137nm,1.7s								
BOM				*ex*			x	17 00 00.3	
KBD	Kabd	16.59	333	*eP*		P	Pn	16 56 09.2	-2.9
KBD				AMb			AMB	16 56 18.2	
	comp=Z,1μm,1.2s								
NAY	Al-Naaiem	16.85	332	*eP*		P	Pn	16 56 12.3	-3.1
NAY				AMb			AMB	16 56 20.9	
	comp=Z,93nm,1.4s								
UMR	Umm Al-Rimmam	16.90	334	*eP*		P	Pn	16 56 13.5	-2.5
UMR				AMb			AMB	16 56 17.7	
	comp=Z,176nm,1.1s								
RST	Umm Al-Ruwaisa	17.18	332	*eP*		P	Pn	16 56 16.3	-3.2
RST				AMb			AMB	16 56 24.4	
	comp=Z,138nm,1.2s								
MIB	Mutribah	17.28	333	*eP*		P	Pn	16 56 18.5	-2.3
POO	Poona	17.33	74	*eP*		P	Pn	16 56 23.5	+2.1
KAD	Karad	17.46	79	*ex*			x	16 57 15.8	
KAD				AMb			AMB	16 57 17.9	
	comp=Z,48nm,1.4s								
AKL	Akola	20.70	70	*ex*			x	16 57 07.5	
AKL				AMb			AMB	16 57 17.1	
	comp=Z,52nm,1.6s								
AJM	Ajmer	20.89	52	*i P*			P	16 57 01.0	-0.8
AJM				*eP*				16 57 01.9	
BHD	Baghdad	21.55	332	*ex*			x	16 57 09.0	
BHD				*ex*			x	17 00 49.0	
BHD				*ex*			x	17 01 06.0	
BHD				*ex*			x	17 01 40.0	
BHD				*ex*			x	17 04 10.5	
BHD				*ex*			x	17 05 18.0	
HYB	Hyderabad	21.62	79	*i P*			P	16 57 11.0	+1.3
HYB				*eS*			S	17 01 06.0	-3.1
HYB	Hyderabad	21.62	79	*eP*			P	16 57 11.0	+1.3
BHPL	Bhopal	21.80	63	*eP*			P	16 57 11.9	+0.3
BHPL				AMb			AMB	16 57 22.1	
	comp=Z,83nm,1.6s,mb4.9								
ABKT	Ailbek	23.36	4	P			P	16 57 28.1	-0.1
	comp=Z,360nm,1.0s,mb5.8,SNR=11								
NDI	New Delhi	23.99	51	*eP*			P	16 57 34.5	+0.4
KMBO	Kilima Mbogo	24.41	232	P			P	16 57 38.7	+0.7
	comp=Z,4.4nm,0.8s,mb4.0,baz=33,slow=13,SNR=8.9								
KMBO				LR			LR	17 07 40.7	
	comp=Z,4μm,18.2s,MS5.0,baz=57,slow=38								
KMBO	Kilima Mbogo	24.41	232	*eP*			P	16 57 39.2	+1.2
KMBO				pmax			pmax		
	comp=Z,45nm,1.6s								
KMBO	Kilima Mbogo	24.41	232	*eP*			P	16 57 39.2	+1.1
	comp=Z,45nm,1.6s,mb4.7								
MSL	Mosul	24.66	334	*ex*			x	16 57 39.0	
MSL				*ex*			x	16 57 45.0	
MSL				*ex*			x	16 58 14.0	
MSL				*ex*			x	17 02 06.0	
EIL	Elat	24.76	311	*eP*			P	16 57 42.5	+1.3
	comp=Z,1μm,1.2s								
ASF	Jabal al Asfar	24.91	318	P			P	16 57 45.7	+3.2
	comp=Z,11nm,1.0s,mb4.4,baz=31,slow=3.2,SNR=12								
PALK	Pallekele	25.05	104	P			P	16 57 50.5	+6.7
SMLA	Simla	25.31	46	*eP*			P	16 57 46.0	-0.1
SMLA				AMb			AMB	16 58 06.4	
	comp=Z,38nm,1.3s,mb4.8								
VIS	Vishakhapatnam	26.19	79	*eP*			P	16 57 55.2	+1.1
MMAI	Mount Meron Ar	26.42	318	P			P	16 57 58.7	+2.5
	comp=Z,12nm,1.0s,mb4.4,baz=124,slow=10,SNR=16								
MMAI				LR			LR	17 08 52.1	
	comp=Z,986nm,19.0s,MS4.4,baz=115,slow=38								
RCY	Rachaya	26.45	319	*eP*			P	16 57 59.3	+2.8
MARD	Mardin	26.54	332	*i P*			P	16 57 59.9	+2.6
BHL	Bhannes	26.83	320	*eP*			P	16 58 05.5	+5.5
GNI	Garni	27.44	341	P			P	16 58 05.7	+0.3
	comp=Z,14nm,0.8s,mb4.5,baz=207,slow=2.9,SNR=8.4								
GNI				LR			LR	17 10 42.2	
	comp=Z,2μm,20.5s,MS4.6,baz=310,slow=40								
GNI	Garni	27.44	341	*eP*			P	16 58 06.5	+1.1
GNI				pmax			pmax		
	comp=Z,148nm,1.5s								
GNI	Garni	27.44	341	*eP*			P	16 58 06.5	+1.0
	comp=Z,148nm,1.5s,mb5.3								
BNGL	BINGOL	27.73	334	*i P*			P	16 58 11.4	+3.4
GZT	Gaziantep	28.16	327	*i P*			P	16 58 14.8	+2.9
ELZG	Elazig	28.33	331	*i P*			P	16 58 16.8	+3.4
MALT	Malatya	28.46	330	*i P*	⇓		P	16 58 18.8	+4.3
MALT	Malatya	28.46	330	*eP*			P	16 58 18.4	+3.9
MALT				pmax			pmax		
	comp=Z,55nm,1.4s,mb5.0								
MALT	Malatya	28.46	330	*eP*			P	16 58 18.4	+3.9
	comp=Z,55nm,1.4s,mb5.0								
KOLN	Koldanda	28.62	58	*eP*			P	16 58 14.5	-1.5
KOLN	Koldanda	28.62	58	*eP*			P	16 58 17.4	+1.4
	comp=Z,40nm,1.3s,mb5.0								
KOLN	Koldanda	28.62	58	*eP*			P	16 58 17.4	+1.4
	comp=Z,40nm,1.3s,mb5.0								
MAK	Makhachkala	29.31	347	*eP*			P	16 58 24.1	+2.0
MAK				*e*PPP				16 59 29.9	
MAK				*eS*			S	17 03 11.0	-4.3
MAK				*e*SS			SS	17 04 42.3	-37
MAK				pmax			pmax		
	comp=Z,326nm,2.4s,mb5.6								
MAK				MLR			MLR		
	comp=Z,3μm,22.0s,MS4.9								
GKN	Gorkha	29.56	58	*eP*			P	16 58 24.7	+0.4
	comp=Z,24nm,1.0s,mb4.9								
GKN	Gorkha	29.56	58	*eP*			P	16 58 25.2	+0.9
	comp=Z,24nm,1.0s,mb4.9								
GKN	Gorkha	29.56	58	*eP*			P	16 58 25.2	+0.9
	comp=Z,24nm,1.0s,mb4.9								
DMN	Daman	29.81	59	*eP*			P	16 58 27.1	+0.6
	comp=Z,42nm,1.2s,mb5.0								
DMN	Daman	29.81	59	*eP*			P	16 58 28.1	+1.6
	comp=Z,42nm,1.2s,mb5.0								
DMN	Daman	29.81	59	*eP*			P	16 58 28.1	+1.6
	comp=Z,42nm,1.2s,mb5.0								
KKN	Kakani	30.02	59	*eP*			P	16 58 29.4	+1.0
	comp=Z,54nm,1.3s,mb5.1								
KKN	Kakani	30.02	59	*eP*			P	16 58 29.5	+1.1
	comp=Z,54nm,1.3s,mb5.1								
KKN	Kakani	30.02	59	*eP*			P	16 58 29.5	+1.1
KKN				pmax			pmax		
	comp=Z,54nm,1.3s,mb5.1								
KKN	Kakani	30.02	59	*eP*			P	16 58 29.5	+1.1
	comp=Z,54nm,1.3s,mb5.1								
PKI	Pulchoki	30.05	60	*eP*			P	16 58 30.0	+1.3
PKI	Pulchoki	30.05	60	*eP*			P	16 58 30.6	+1.9
	comp=Z,52nm,1.4s,mb5.1								
PKI	Pulchoki	30.05	60	*eP*			P	16 58 30.6	+1.9
PKI				pmax			pmax		
	comp=Z,52nm,1.4s,mb5.1								
PKI	Pulchoki	30.05	60	*eP*			P	16 58 30.6	+1.9
	comp=Z,52nm,1.4s,mb5.1								
ZEI	Tsey	30.08	342	*eP*			P	16 58 30.0	+1.1
ZEI				*e*				16 59 27.2	
ZEI				pmax			pmax		
	comp=Z,19nm,0.6s,mb5.0								
ERMK	Ermenek	30.31	321	*i P*			P	16 58 33.8	+2.8
GUN	Gumba	30.56	59	*eP*			P	16 58 34.5	+1.4
GUN	Gumba	30.56	59	*eP*			P	16 58 34.9	+1.8
GUN	Gumba	30.56	59	*eP*			P	16 58 34.9	+1.8
GRSN	GIRESUNGRSN	30.61	333	*i P*			P	16 58 35.8	+2.2
JIRN	Jiri	30.73	60	*eP*			P	16 58 36.1	+1.4
JIRN	Jiri	30.73	60	*eP*			P	16 58 36.3	+1.6
JIRN	Jiri	30.73	60	*eP*			P	16 58 36.3	+1.6
KIV	Kislovodsk	31.53	341	P			P	16 58 44.4	+2.7
	comp=Z,222nm,1.1s,mb5.9,SNR=8.0								
KIV	Kislovodsk	31.53	341	*c i P*			P	16 58 43.1	+1.4
KIV				*i*				16 59 53.5	
KIV				*i*				17 01 34.6	
KIV				*i* S			S	17 03 46.1	-4.0
KIV				*i* SS			SS	17 05 32.9	-32
KIV				pmax			pmax		
	comp=Z,51nm,1.3s,mb5.2								
KIV				MLR			MLR		
	comp=Z,2μm,16.0s,MS4.8								
BRTR	Keskin Array B	31.99	326	P			P	16 58 46.6	+0.9
	comp=Z,0.9nm,0.7s,baz=137,slow=11,SNR=7.2								
BRTR				LR			LR	17 13 03.2	
	comp=Z,1μm,20.1s,MS4.5,baz=118,slow=39								
BRTR	Keskin Array B	31.99	326	*eP*			P	16 58 47.9	+2.2
BR131	Keskin Array S	31.99	326	*eP*			P	16 58 45.8	0.0
	comp=Z,4.8nm,1.0s,mb4.3								
KDHN	Kadinhani	32.02	323	*i P*			P	16 58 50.1	+4.1
AAK	Ala-Archa	32.11	26	P			P	16 58 48.0	+1.2
	comp=Z,106nm,1.1s,mb5.6,SNR=6.2								
AAK	Ala-Archa	32.11	26	*eP*			P	16 58 45.6	-1.2
AAK				pmax			pmax		
	comp=Z,36nm,1.3s,mb5.0								
AAK	Ala-Archa	32.11	26	*eP*			P	16 58 45.6	-1.2
	comp=Z,36nm,1.3s,mb5.0								
SOC	Sochi	32.23	337	*eP*			P	16 58 48.7	+0.8
SOC				*e*PP			pP	16 58 57.6	+6.7
SOC				*e*				16 59 51.7	
SOC				*e*PPP				17 00 06.1	
SOC				*e*				17 01 34.9	
SOC				*e*S			S	17 03 59.9	-1.1
SOC				*e*SSS				17 06 17.4	
SOC				pmax			pmax		
	comp=Z,20nm,1.0s,mb4.9								
SOC				MLR			MLR		
	comp=Z,1μm,14.0s,MS4.7								
BOYT	Boyabat	32.58	329	*i P*			P	16 58 51.9	+1.0
ELDT	Eldivan	32.65	327	*i P*			P	16 58 53.8	+2.2
SGKT	Sivrigoynuk	33.45	325	*i P*			P	16 59 00.1	+1.6
ANN	Anapa	34.14	336	*eP*			P	16 59 04.2	-0.3
ANN				*e*PP			pP	16 59 11.5	+3.9
ANN				*i*				17 00 16.5	
ANN				*e*S			S	17 04 30.2	-0.4
ANN				pmax			pmax		
	comp=Z,52nm,1.4s,mb5.3								
ANN				MLR			MLR		
	comp=Z,1μm,18.0s,MS4.6								
IDI	Anoyia	34.93	312	LR			LR	17 16 26.8	
	comp=Z,287nm,19.9s,MS4.0,baz=108,slow=41								
GVD	Gavdhos	35.30	311	*eP*			P	16 59 16.8	+2.2
	comp=Z,42nm,1.3s,mb5.2								
SIM	Simferopol'	35.65	333	*c i P*			P	16 59 20.3	+2.7
SIM				*e*				17 00 43.0	
SIM				*e*S			S	17 04 59.2	+5.3
SIM				pmax			pmax		
	comp=Z,67nm,1.2s,mb5.5								
SIM				MLR			MLR		
	comp=Z,1μm,20.2s,MS4.6								
AKTK	Aktyubinsk	35.83	2	P			P	16 59 19.2	0.0
AKTK				PcP			PcP	17 01 46.2	-0.4
AKTK				LR			LR	17 16 07.4	
AKTO	Aktyubinsk	35.83	2	P			P	16 59 19.2	0.0
	comp=Z,4.5nm,0.8s,mb4.5,baz=179,slow=10,SNR=9.3								
AKTO				PcP			PcP	17 01 46.2	-0.4
	comp=Z,3.1nm,0.8s,baz=142,slow=5.9,SNR=4.6								
AKTO				LR			LR	17 16 07.4	
	comp=Z,2μm,21.6s,MS4.7,baz=1.5,slow=40								
ORR	Orenburg	37.01	358	*eP*			P	16 59 30.3	+1.1
ORR				pmax			pmax		
	comp=Z,20nm,1.3s,mb4.8								
TIRR	Tirgusor	38.07	327	⇑ *i P*			P	16 59 39.1	+0.9
TIRR	Tirgusor	38.07	327	*eP*			P	16 59 38.5	+0.3
TIRR				*e*PP			PP	17 01 03.7	-1.4
CFR	Carcaliu	38.70	328	⇓ *i P*			P	16 59 46.7	+3.2
CFR	Carcaliu	38.70	328	⇓ P			P	16 59 46.7	+3.2
MKAR	Makanchi Array	38.83	29	P			P	16 59 44.9	+0.3
	comp=Z,3.6nm,0.7s,mb4.2,baz=218,slow=7.4,SNR=17								
MKAR				PcP			PcP	17 01 55.0	-0.6
	comp=Z,1.4nm,0.7s,baz=247,slow=2.3,SNR=4.6								
VOR	Voronezh	39.55	343	*eP*			P	16 59

comp=Z,27nm,1.4s,mb4.7
LSZ Lusaka 40.59 224 *e*P **P 17 00 01.0 +1.8**
comp=Z,27nm,1.4s,mb4.7
CHKZ Chkalovo 40.66 13 *e*P **P 16 59 59.9 +0.1**
comp=Z,18nm,1.1s,mb4.6
CHKZ *e*PcP PcP 17 02 00.9 -0.6
BOLS Boljevac 41.31 322⇓*i*P **P 17 00 05.3 +0.1**
GZR Gura Zlata 41.74 324⇑*i*P **P 17 00 10.5 +1.8**
GZR Gura Zlata 41.74 324⇑P **P 17 00 10.5 +1.7**
BURAR Bucovina Array 41.84 328⇑*i*P **P 17 00 12.5 +3.0**
BURAR Bucovina Array 41.84 328⇑P **P 17 00 12.5 +3.0**
ARU Arti 41.85 2 *e*P **P 17 00 10.0 +0.4**
ARU *e* 17 01 50.4
ARU *e*PPP 17 02 18.9
ARU *e*S **S 17 06 28.1 +0.7**
ARU MLR MLR
comp=Z,900nm,26.0s,MS4.5
ARU MLR MLR
comp=N,700nm,26.5s
ARU MLR MLR
comp=E,400nm,21.0s
ARU Arti 41.85 2 *e*P **P 17 00 10.7 +1.1**
comp=E,22nm,1.4s,mb4.6
GRUS Gruza 42.10 321 *i*P **P 17 00 15.7 +4.1**
AKASG Malin Array Be 42.18 335 P **P 17 00 12.1 -0.2**
comp=E,5.2nm,0.9s,mb4.2,baz=141,slow=7.5,SNR=20
AKASG PP PP 17 01 50.7 +0.8
comp=E,3.0nm,0.9s,baz=137,slow=10,SNR=6.8
AKASG LR LR 17 21 01.1
comp=E,1μm,20.2s,MS4.7,baz=155,slow=41
AKASG Malin Array Be 42.18 335 *i*P **P 17 00 12.3 0.0**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 42.18 335 P **P 17 00 12.1 -0.2**
AKASG PP PP 17 01 50.7 +0.8
AKASG LR LR 17 21 01.1
TIP Timpagrande 42.46 313 *e*P **P 17 00 16.1 +1.6**
BZS Buzias 42.54 324⇓*i*P **P 17 00 16.7 +1.5**
BZS Buzias 42.54 324⇓P **P 17 00 16.7 +1.5**
GRI Girifalco 42.56 312 P **P 17 00 17.5 +2.1**
GRI pmax pmax
comp=Z,27nm,0.9s,mb5.0
GRI Girifalco 42.56 312 P **P 17 00 17.5 +2.1**
comp=Z,27nm,0.9s,mb5.0
DRGR 42.63 326⇑*i*P **P 17 00 17.4 +1.5**
DRGR 42.63 326⇑P **P 17 00 17.4 +1.5**
DIVS Divcibare 42.65 321⇓*i*P **P 17 00 16.4 +0.3**
BBLS Bajina Basta - 42.88 320 *i*P **P 17 00 19.4 +1.4**
OBN Obninsk 43.28 344 *e*P **P 17 00 22.0 +0.8**
OBN *e* 17 00 28.1
OBN *e* 17 02 09.9
OBN pmax pmax
comp=Z,64nm,1.5s,mb5.1
OBN MLR MLR
comp=Z,600nm,16.0s,MS4.6
CUC Castrocucco 43.46 314 P **P 17 00 23.8 +1.1**
comp=Z,71nm,1.3s,mb5.2
MOS Moscow 43.56 345 *e*P **P 17 00 24.6 +1.1**
MOS *e* 17 02 08.1
MOS pmax pmax
comp=Z,79nm,1.3s,mb5.3
MOS MLR MLR
comp=Z,1μm,20.0s,MS4.8
PSI Prapat 43.67 101 P **P 17 00 24.2 -0.1**
comp=Z,4.4nm,0.7s,mb4.3,baz=312,slow=14,SNR=4.6
PSI LR LR 17 16 26.7
comp=Z,593nm,20.3s,MS4.5,baz=257,slow=33
MGR Morigerati 43.70 314 P **P 17 00 25.7 +1.1**
comp=Z,70nm,1.5s,mb5.2
SLCN Sala Consilina 43.75 314 P **P 17 00 27.2 +2.2**
comp=Z,87nm,1.4s,mb5.3
LVV L'vov 43.89 330 *e*P **P 17 00 25.9 -0.2**
LVV MLR MLR
comp=E,300nm,16.0s,MS4.3
LVV MLR MLR
comp=Z,300nm,16.0s,MS4.3
LVV MLR MLR
comp=N,100nm,15.0s,MS4.3
MRLC Muro Lucano 44.00 314 P **P 17 00 28.3 +1.3**
SGO Sicignano 44.05 314 P **P 17 00 29.0 +1.6**
SGO pmax pmax
comp=Z,25nm,1.1s,mb4.9
SGO Sicignano 44.05 314 P **P 17 00 29.0 +1.6**
comp=Z,25nm,1.1s,mb4.9
FG4 Candela 44.14 315 P **P 17 00 30.2 +2.1**
FG4 pmax pmax
comp=Z,98nm,0.9s,mb5.5
FG4 Candela 44.14 315 P **P 17 00 30.2 +2.1**
comp=Z,98nm,0.9s,mb5.5
MATP Matopo 44.17 219 P **P 17 00 29.7 +1.3**
comp=Z,9.5nm,0.6s,mb4.7,baz=36,slow=9.8,SNR=24
KOLS Kolonicke sedl 44.19 328 *e*P **P 17 00 30.0 +1.5**
KOLS *e* 17 00 44.4
KOLS *e*PP PP 17 02 18.8 +7.3
KOLS Kolonicke sedl 44.19 328 *e*P **P 17 00 30.0 +1.5**
KOLS *e* 17 02 18.8
KOLS pmax pmax
comp=Z,56nm,1.9s,mb5.0
KOLS MLR MLR
comp=Z,400nm,26.4s,MS4.2
KOLS Kolonicke sedl 44.19 328 *e*P **P 17 00 30.0 +1.5**
comp=Z,56nm,1.9s,mb5.0
KOLS *e* 17 00 44.4
KOLS LR LR
comp=Z,400nm,26.4s,MS4.2
RGNG Rignano Grg 44.32 316 P **P 17 00 30.9 +1.3**
CSSN Cassano Irpino 44.36 314 P **P 17 00 33.3 +3.4**
KWP Kalwaria 44.42 329 *e*P **P 17 00 31.4 +1.0**
PKSM Moragy 44.59 323⇑*i*P **P 17 00 32.6 +0.9**
PKSM Moragy 44.59 323⇑P **P 17 00 32.6 +0.9**
CRVS Cervenica-Dubn 44.59 328 *e*P **P 17 00 35.2 +3.5**
CRVS pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
CRVS MLR MLR
comp=Z,300nm,23.7s,MS4.1
CRVS Cervenica-Dubn 44.59 328 *e*P **P 17 00 35.2 +3.5**
comp=Z,10nm,1.2s,mb4.5
CRVS LR LR
comp=Z,300nm,23.7s,MS4.1
KULM Kulim 44.61 97 *e*P **P 17 00 31.0 -0.9**
CIGN Sant'Elia a Pi 44.77 315 P **P 17 00 35.0 +1.8**
KMI Kunming 44.79 69 P **P 17 00 33.1 -0.2**
KMI AP pP 17 00 36.0 -0.4
KMI XP sP 17 00 37.3 -0.4
KMI PCP PcP 17 02 15.8 +0.5
KMI PP PP 17 02 18.8 +1.0
KMI SCP ScP 17 06 06.8 -0.8
KMI PCS PcS 17 06 08.0 -0.8
KMI S **S 17 07 09.6 -0.8**
KMI SCS ScS 17 10 28.4 -2.7
KMI AMB AMB
comp=Z,220nm,6.8s
KMI LR LR
comp=N,360nm,21.5s,MS4.5
KMI LR LR
comp=E,620nm,23.2s,MS4.5
KMI LR LR
comp=Z,890nm,23.2s,MS4.6
PSZ Piszkesteto 44.84 326 *e* **P 17 00 35.6 +1.9**
PSZ Piszkesteto 44.84 326 *e*P **P 17 00 34.7 +1.0**
PSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
PSZ Piszkesteto 44.84 326 *e*P **P 17 00 34.7 +1.0**
comp=Z,9.1nm,0.9s,mb4.6
KECS Kecovo 44.85 327 *e*P **P 17 00 34.1 +0.3**
KECS *e*PP PP 17 02 21.1 +2.6
KECS Kecovo 44.85 327 *e*P **P 17 00 34.1 +0.3**
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
KECS Kecovo 44.85 327 *e*P **P 17 00 34.1 +0.3**
comp=Z,4.7nm,0.8s,mb4.4
KECS *e*PP PP 17 02 21.1 +2.6
STHS Stebnicka Huta 45.02 328 *e*P **P 17 00 36.9 +1.7**
STHS *e* 17 00 46.5
STHS Stebnicka Huta 45.02 328 *e*P **P 17 00 36.9 +1.7**
STHS pmax pmax
comp=Z,13nm,1.5s,mb4.5
STHS Stebnicka Huta 45.02 328 *e*P **P 17 00 36.9 +1.7**
comp=Z,13nm,1.5s,mb4.5
STHS *e* 17 00 46.5
MIDA Miranda 45.21 315 P **P 17 00 38.0 +1.3**
ZAL Zalesovo 45.24 23 P **P 17 00 36.5 -0.4**
comp=Z,6.3nm,0.7s,mb4.5,baz=245,slow=8.1,SNR=22
ZAL LR LR 17 22 24.0
comp=Z,1μm,19.5s,MS4.9,baz=239,slow=40

ZAL Zalesovo 45.24 23 *i*P **P 17 00 37.5 +0.6**
ZAL pmax pmax
comp=Z,6.0nm,0.7s
RNI2 Rionero Sannit 45.31 315 P **P 17 00 41.0 +3.6**
NVS Novosibirsk 45.36 22 *e*P **P 17 00 37.0 -0.9**
NVS pmax pmax
comp=Z,64nm,1.4s,mb5.3
NVS pmax pmax
comp=N,75nm,2.0s
GTA Gaotai 45.46 48 *e*P **P 17 00 38.6 -0.1**
GTA AP pP 17 00 41.8 0.0
GTA XP sP 17 00 44.1 +1.0
GTA PP PP 17 02 25.4 +0.4
GTA SCP ScP 17 06 10.0 -0.4
GTA S **S 17 07 17.8 -2.4**
GTA AMB AMB
comp=Z,200nm,6.1s
GTA LR LR
comp=N,380nm,18.3s,MS4.9
GTA LR LR
comp=E,1μm,22.0s,MS4.9
GTA LR LR
comp=Z,2μm,22.0s,MS5.0
SDI San Donato 45.54 315 P **P 17 00 40.8 +1.5**
SDI pmax pmax
comp=Z,30nm,1.1s,mb5.1
SDI San Donato 45.54 315 P **P 17 00 40.8 +1.5**
comp=Z,30nm,1.1s,mb5.1
INTR Introdacqua 45.60 315 P **P 17 00 39.9 +0.1**
comp=Z,78nm,1.6s,mb5.4
VYHS Vyhne 45.75 326 *e*P **P 17 00 41.0 +0.1**
VYHS pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
VYHS Vyhne 45.75 326 *e*P **P 17 00 41.0 +0.1**
comp=Z,10nm,1.3s,mb4.6
TERO Teramo 46.05 316 P **P 17 00 43.7 +0.3**
comp=Z,42nm,1.5s,mb5.2
AQU L'Aquila 46.08 316 *e*P **P 17 00 45.6 +2.0**
AQU pmax pmax
comp=Z,61nm,1.4s,mb5.3
AQU L'Aquila 46.08 316 *e*P **P 17 00 45.6 +2.0**
comp=Z,61nm,1.4s,mb5.3
OJC Ojcow 46.25 328 *e*P **P 17 00 45.0 +0.1**
OJC *e*S **S 17 07 49.2 +18**
OJC L 17 27 13.0
comp=Z,1.4nm,19.8s
BOJS Bojanci 46.27 320 *e*P **P 17 00 45.5 +0.5**
CD2 Chengdu 46.39 61 *e*P **P 17 00 41.8 -4.2**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.9s
CD2 LR LR
comp=E,400nm,21.6s
CD2 LR LR
comp=Z,450nm,19.2s,MS4.4
NRCA Norcia 46.47 316 P **P 17 00 47.7 +1.1**
comp=Z,38nm,1.3s,mb5.2
ZST Bratislava 46.55 324 *e*P **P 17 00 46.8 -0.4**
ZST *e*PP PP 17 02 41.2 +4.7
ZST Bratislava 46.55 324 *e*P **P 17 00 46.8 -0.4**
comp=Z,21nm,1.3s,mb4.9
ZST *e*PP PP 17 02 41.2 +4.7
ZST LR LR
comp=Z,100nm,20.0s,MS3.8
SOP Sopron 46.58 324⇓*e* **P 17 00 47.6 +0.1**
CING Cingoli 46.64 317 P **P 17 00 48.8 +0.8**
comp=Z,53nm,1.2s,mb5.3
SNTG Esanatoglia 46.76 317 P **P 17 00 49.9 +1.0**
comp=Z,49nm,1.3s,mb5.3
KNDS Knezji Dol 46.82 320 *e*P **P 17 00 48.8 -0.6**
ARV Arcevia 46.86 317 P **P 17 00 50.6 +0.9**
comp=Z,49nm,1.0s,mb5.4
OKC Ostrava-Krasne 46.89 327 *e*P **P 17 00 49.8 -0.1**
OKC *e*pP pP 17 00 56.8 +3.8
OKC *e*x x 17 01 01.1
OKC *e*PP PP 17 02 40.7 +0.6
OKC *e*S **S 17 07 41.4 +0.7**
OKC *e*SS SS 17 11 20.8 +14
OKC AMS AMS 17 22 10.0
comp=Z,500nm,22.6s
OKC Ostrava-Krasne 46.89 327 *e*P **P 17 00 49.8 -0.1**
OKC *e* 17 00 56.8
OKC *e* 17 02 40.7
OKC *e*S **S 17 07 41.4 +0.7**
OKC MLR MLR
comp=Z,500nm,22.6s,MS4.4
OKC Ostrava-Krasne 46.89 327 *e*P **P 17 00 49.8 -0.1**
OKC *e* 17 00 56.8
OKC *e*pP pP 17 01 01.1 +8.1
OKC *e*PP PP 17 02 40.7 +0.6
OKC *e*S **S 17 07 41.4 +0.7**
OKC *e*SS SS 17 11 20.8 +14
PERS Pernice 46.90 322 *e*P **P 17 00 51.2 +1.3**
ARSA Arzberg 46.96 323⇑*e*P **P 17 00 51.4 +1.0**
comp=Z,24nm,1.2s,mb5.0
RAC Raciborz 47.01 327 *e*P **P 17 00 51.9 +1.1**
RAC L 17 22 39.9
comp=Z,0.7nm,25.9s
FSSB Fossombrone 47.05 317 P **P 17 00 52.4 +1.3**
comp=Z,141nm,1.6s,mb5.7
CONA Conrad Observa 47.11 323⇑*e*P **P 17 00 52.3 +0.7**
comp=Z,36nm,1.1s,mb5.2,SNR=13
SUW Suwalki 47.14 334 *e*P **P 17 00 52.1 +0.3**
MORC Moravsky Berou 47.18 326⇑*i*P **P 17 00 53.3 +1.2**
MORC Moravsky Berou 47.18 326 *e*P **P 17 00 52.1 -0.1**
comp=Z,33nm,1.3s,mb5.1
OBKA Obir 47.18 321⇑*e*P **P 17 00 53.2 +1.0**
comp=Z,28nm,1.0s,mb5.1,SNR=12
VOY Vojsko 47.36 320 *e*(P) **P 17 00 54.3 +0.7**
VOY *e* 17 01 00.7
RSM Repubblica di 47.36 317 P **P 17 00 55.1 +1.5**
RSM pmax pmax
comp=Z,110nm,1.1s,mb5.7
RSM Repubblica di 47.36 317 P **P 17 00 55.1 +1.5**
comp=Z,110nm,1.1s,mb5.7
VRAC Vranov 47.43 325⇓*i*P **P 17 00 55.6 +1.5**
VRAC Vranov 47.43 325⇓P **P 17 00 55.6 +1.5**
LZH Lanzhou 47.52 54 *e*P **P 17 00 53.9 -1.0**
LZH AP pP 17 00 59.0 +1.0
LZH XP sP 17 01 03.0 +3.8
LZH PP PP 17 02 46.0 -0.2
LZH AMB AMB
comp=Z,20nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,80nm,4.7s
LZH LR LR
comp=N,1μm,17.6s
LZH LR LR
comp=Z,2μm,20.0s,MS5.0
SFI Santa Sofia 47.75 317 P **P 17 00 58.8 +2.2**
comp=Z,30nm,0.8s,mb5.4
KLMR Klimovskoe 47.82 349 *e*P **P 17 00 56.4 -0.8**
KLMR *e*S **S 17 07 44.2 -10**
KLMR *e*SS SS 17 11 22.5 +0.1
PTCC Patocco-Chiusa 47.86 321 P **P 17 00 57.5 0.0**
comp=Z,10nm,0.7s,mb5.0
MOA Molln 48.00 323 *i*P **P 17 00 59.1 +0.5**
comp=Z,23nm,1.1s,mb5.1,SNR=8.5
TREC Trest 48.03 325 *e*P **P 17 00 58.9 +0.1**
TREC *e*pP pP 17 01 05.9 +3.9
TREC *e*x x 17 01 09.8
TREC *e*PP PP 17 02 55.2 +4.3
TREC *e*S **S 17 07 58.7 +1.7**
TREC AMS AMS 17 26 50.0
comp=Z,600nm,18.8s
TREC Trest 48.03 325 *e*P **P 17 00 58.9 +0.1**
TREC *e* 17 01 05.9
TREC *e* 17 02 55.2
TREC *e*S **S 17 07 58.7 +1.7**
TREC MLR MLR
comp=Z,600nm,18.8s,MS4.6
GRFL Gerfalco 48.04 316 P **P 17 00 59.0 +0.2**
comp=Z,42nm,1.5s,mb5.2
DPC Dobruska-Polom 48.15 326 *e*P **P 17 00 59.8 +0.1**
DPC *e*pP pP 17 01 06.6 +3.7
DPC *e*x x 17 01 10.6
DPC *e*PP PP 17 02 53.0 +1.1
DPC *e*S **S 17 08 00.0 +1.4**
DPC *e*SS SS 17 11 44.2 +17
DPC AMS AMS 17 18 40.0
comp=Z,800nm,25.0s
DPC Dobruska-Polom 48.15 326 *e*P **P 17 00 59.8 +0.1**
DPC *e* 17 01 06.6

DPC *e* 17 02 53.0
DPC *e*S **S 17 08 00.0 +1.4**
DPC MLR MLR
comp=Z,800nm,25.0s,MS4.6
KBA Koelnbreinsper 48.18 321⇑*e*P **P 17 01 00.3 +0.4**
comp=Z,19nm,1.0s,mb5.1,SNR=7.7
FVI Forni Avoltri 48.30 321 P **P 17 01 01.2 +0.3**
FVI pmax pmax
comp=Z,15nm,1.2s,mb4.9
FVI Forni Avoltri 48.30 321 P **P 17 01 01.2 +0.3**
comp=Z,14nm,1.2s,mb4.9
FNVD Fontana Vidola 48.33 317 P **P 17 01 03.0 +1.9**
UPC Upice 48.40 327 *e*P **P 17 01 01.8 +0.2**
UPC *e*pP pP 17 01 08.5 +3.7
UPC *e*x x 17 01 11.8
UPC Upice 48.40 327 *e*P **P 17 01 01.8 +0.2**
UPC *e* 17 01 08.5
GYA Guiyang 48.41 67 P **P 17 01 01.8 +0.1**
GYA AP pP 17 01 06.3 +1.4
GYA XP sP 17 01 08.8 +2.7
GYA PP PP 17 02 53.1 -1.2
GYA SCP ScP 17 06 22.6 -0.2
GYA S **S 17 08 01.0 -1.3**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,240nm,5.4s
GYA LR LR
comp=N,320nm,24.0s,MS4.5
GYA LR LR
comp=E,530nm,21.3s,MS4.5
GYA LR LR
comp=Z,670nm,23.1s,MS4.6
KSP Ksiaz 48.44 327 *e*P **P 17 01 02.5 +0.6**
KSP Ksiaz 48.44 327 *e*P **P 17 01 01.6 -0.3**
KSP *e*S **S 17 08 00.0 -2.7**
KSP LR LR
comp=Z,1μm,19.5s,MS5.0
ZCCA Zocca 48.50 317 P **P 17 01 04.4 +2.0**
comp=Z,119nm,1.5s,mb5.7
GSCL Gusciola 48.76 317 P **P 17 01 05.6 +1.2**
comp=Z,64nm,1.1s,mb5.6
CTI Castel Tesino 48.77 319 P **P 17 01 04.8 +0.3**
comp=Z,38nm,1.3s,mb5.3
GEC2 GERESS Array S 48.82 324 *e*P **P 17 01 03.1 -1.7**
comp=Z,44nm,2.3s,mb5.1
GEC2 GERESS Array S 48.82 324 *e*P **P 17 01 03.1 -1.7**
GEC2 pmax pmax
comp=Z,44nm,2.3s,mb5.1
GERES GERESS Array B 48.82 324 P **P 17 01 03.7 -1.2**
comp=Z,1.3nm,0.8s,mb4.0,baz=126,slow=6.8,SNR=6.9
GERES LR LR 17 23 39.1
comp=Z,348nm,20.5s,MS4.3,baz=113,slow=38
ERBM Eremo 48.90 317 P **P 17 01 06.9 +1.4**
PRU Pruhonice 48.92 325 *e*P **P 17 01 05.0 -0.7**
KHC Kasperske Hory 49.03 324 *e*P **P 17 01 05.8 -0.7**
KHC *e*pP pP 17 01 12.6 +3.0
KHC *e*x x 17 01 16.7
KHC *e*PP PP 17 03 04.2 +4.2
KHC *e*S **S 17 08 08.8 -2.2**
KHC *e*SS SS 17 12 04.5 +23
KHC AMS AMS 17 22 00.0
comp=Z,500nm,23.4s
KHC Kasperske Hory 49.03 324 *e*P **P 17 01 05.8 -0.7**
KHC *e* 17 01 12.6
KHC *e* 17 03 04.2
KHC *e*S **S 17 08 08.8 -2.2**
KHC MLR MLR
comp=Z,500nm,23.4s,MS4.4
VSU Vasula 49.07 340 *e*P **P 17 01 07.1 +0.3**
PGF Pioggiola 49.18 314 *e*P **P 17 01 07.0 -0.6**
comp=Z,92nm,1.5s,mb5.3
PGF Pioggiola 49.18 314 *e*P **P 17 01 07.0 -0.6**
PGF pmax pmax
comp=Z,46nm,1.5s,mb5.3
PGF Pioggiola 49.18 314 *e*P **P 17 01 07.0 -0.6**
comp=Z,46nm,1.5s,mb5.3
PVCC Panska Ves 49.19 326 *e*P **P 17 01 08.5 +0.8**
PVCC *e*pP pP 17 01 14.4 +3.5
PVCC *e*x x 17 01 18.4
PVCC *e*PP PP 17 02 58.6 -2.8
PVCC *e*S **S 17 08 11.7 -1.6**
PVCC AMS AMS 17 24 40.0
comp=Z,500nm,21.8s
PVCC Panska Ves 49.19 326 *e*P **P 17 01 08.5 +0.8**
PVCC *e* 17 01 14.4
PVCC *e* 17 02 58.6
PVCC *e*S **S 17 08 11.7 -1.6**
PVCC MLR MLR
comp=Z,200nm,21.8s,MS4.1
WTTA Wattenberg 49.30 321⇑*i* **P 17 01 15.7 +7.2**
comp=Z,31nm,1.0s,mb5.3
WTTA Wattenberg 49.30 321⇑*i*P **P 17 01 08.3 -0.3**
comp=Z,16nm,1.1s,mb5.0
WTTA ⇑*i*pP pP 17 01 15.7 +4.0
comp=Z,31nm,1.0s
WATA Walderalm 49.37 321⇓*i* **P 17 01 16.1 +7.0**
comp=Z,19nm,1.0s,mb5.1
WATA Walderalm 49.37 321⇑*i*P **P 17 01 09.4 +0.3**
comp=Z,1.9nm,0.4s,mb4.5
WATA ⇓*i*pP pP 17 01 16.1 +3.9
comp=Z,19nm,1.0s
LBTB Lobatse 49.39 218 *e*P **P 17 01 10.9 +1.7**
LBTB pmax pmax
comp=Z,50nm,1.3s,mb5.4
LBTB Lobatse 49.39 218 *e*P **P 17 01 10.8 +1.6**
comp=Z,50nm,1.3s,mb5.4
WET Wettzell 49.44 324 *e*P **P 17 01 07.2 -2.4**
comp=Z,9.0nm,1.5s,mb4.6
WET Wettzell 49.44 324 *e*P **P 17 01 07.2 -2.4**
WET pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
SQTA Sankt Quirin 49.55 321 *i*P **P 17 01 10.1 -0.4**
comp=Z,9.4nm,0.6s,mb5.0,SNR=7.2
MOTA Moosalm 49.66 321⇓*i* **P 17 01 18.2 +6.9**
comp=Z,26nm,0.9s,mb5.2
MOTA Moosalm 49.66 321 *i*P **P 17 01 09.1 -2.2**
comp=Z,8.9nm,0.4s,mb5.1,SNR=6.2
MOTA ⇓*i*pP pP 17 01 18.2 +3.7
comp=Z,26nm,0.9s
BOB Bobbio (Coli) 49.67 317 P **P 17 01 13.6 +2.2**
BRG Berggiesshubel 49.71 326 *e*P **P 17 01 10.0 -1.7**
comp=Z,16nm,1.2s,mb4.9
BRG Berggiesshubel 49.71 326 *e*P **P 17 01 11.5 -0.2**
BRG *i* 17 01 18.3
BRG *e* 17 03 13.8
BRG S **S 17 08 20.0 -0.5**
BRG pmax pmax
comp=Z,30nm,1.3s,mb5.2
BRG Berggiesshubel 49.71 326 *e*P **P 17 01 11.5 -0.2**
comp=Z,3.2nm,1.3s,mb4.2
BRG *i* 17 01 18.3
BRG *e* 17 03 13.8
BRG *e* 17 06 31.4
BRG S **S 17 08 20.0 -0.5**
BRG LR LR
comp=Z,240nm,19.2s,MS4.2
FUR Furstenfeldbru 49.92 322 *e*P **P 17 01 11.2 -2.1**
comp=Z,68nm,1.0s,mb5.6
FUR Furstenfeldbru 49.92 322 *e*P **P 17 01 11.2 -2.1**
FUR pmax pmax
comp=Z,68nm,1.0s,mb5.6
KRAR Krasnoyarsk 49.99 26 *e*P **P 17 01 14.4 +0.6**
KRAR pmax pmax
comp=Z,25nm,1.2s,mb5.1
KRAR MLR MLR
comp=Z,600nm,15.0s,MS4.7
FBE Freiberg 50.05 326 *e*P **P 17 01 12.8 -1.5**
comp=Z,19nm,1.2s,mb5.0
ROTZ Rotzenmuhle 50.12 324 *e*P **P 17 01 13.1 -1.7**
comp=Z,13nm,1.1s,mb4.9
DAVOX Davos 50.18 320 P **P 17 01 15.4 +0.1**
comp=Z,3.6nm,0.5s,mb4.6,baz=108,slow=6.9
DAVOX LR LR 17 24 34.0
comp=Z,430nm,21.8s,MS4.4,baz=85,slow=38
NKC Novy Kostel 50.21 325 *e*P **P 17 01 15.9 +0.4**
NKC *e*pP pP 17 01 22.4 +3.8
NKC *e*x x 17 01 26.4
NKC *e*PP PP 17 03 04.2 -6.5
NKC *e*S **S 17 08 27.9 +0.4**
NKC AMS AMS 17 28 40.0
comp=Z,400nm,17.1s
NKC Novy Kostel 50.21 325 *e*P **P 17 01 15.9 +0.4**
NKC *e* 17 01 22.4
NKC *e* 17 03 04.2

NKC eS S 17 08 27.9 +0.4
NKC MLR MLR
comp=Z,400nm,17.1s,MS4.5
NKC Novy Kostel 50.21 325 eP P 17 01 15.9 +0.4
NKC e 17 01 22.4
NKC epP pP 17 01 26.4 +7.8
NKC ePP PP 17 03 04.2 -6.5
NKC eS S 17 08 27.9 +0.4
MANZ Manzenberg 50.28 324 eP P 17 01 14.4 -1.6
comp=Z,11nm,1.1s,mb4.8
TANN Tannenbergstha 50.29 325 eP P 17 01 14.8 -1.3
comp=Z,39nm,1.8s,mb5.1
FIN Finale Ligure 50.29 316 P P 17 01 17.1 +1.0
FIN pmax pmax
comp=Z,44nm,1.2s,mb5.4
FIN Finale Ligure 50.29 316 P P 17 01 17.1 +1.0
comp=Z,44nm,1.2s,mb5.4
DAVA Damuels 50.39 320 ||i P P 17 01 16.1 -0.8
comp=Z,27nm,1.2s,mb5.1
WERD Werda 50.39 325 eP P 17 01 15.4 -1.5
comp=Z,19nm,1.2s,mb5.0
CLL Collm 50.44 326 eP P 17 01 17.2 0.0
comp=Z,53nm,1.8s,mb5.3
CLL ePP PP 17 03 18.0 +5.2
CLL ePPPP 17 04 23.1
CLL eS S 17 08 33.0 +2.2
CLL eSS SS 17 12 12.3 +7.8
CLL eSSS 17 13 40.6
CLL eLR LR 17 16 55.8
CLL eL 17 25 54.8
comp=Z,493nm,20.0s
CLL Collm 50.44 326 i P P 17 01 16.6 -0.6
comp=Z,28nm,1.5s,mb5.1
CLL i pP pP 17 01 23.9 +3.5
comp=Z,52nm,1.8s
CLL esP sP 17 01 27.0 +5.4
CLL ex x 17 01 51.0
CLL ePP PP 17 03 24.0 +11
CLL ePPPP 17 04 24.0
CLL eS S 17 08 31.0 +0.2
CLL eSS SS 17 12 24.0 +19
CLL eSSS 17 13 36.0
CLL Collm 50.44 326 i P P 17 01 16.6 -0.6
CLL i 17 01 23.9
CLL eS S 17 08 24.0 -6.8
CLL pmax pmax
comp=Z,28nm,1.5s,mb5.1
CLL Collm 50.44 326 i P P 17 01 16.6 -0.6
comp=Z,28nm,1.5s,mb5.1
CLL i 17 01 23.9
CLL eS S 17 08 24.0 -6.8
VAI Varese 50.53 318 P P 17 01 17.1 -0.8
VAI pmax pmax
comp=Z,56nm,1.4s,mb5.3
VAI Varese 50.53 318 P P 17 01 17.1 -0.8
comp=Z,56nm,1.4s,mb5.3
RUE Ruedersdorf 50.64 328 eP P 17 01 17.4 -1.4
comp=Z,75nm,1.4s,mb5.4
GRA1 Grafenberg Arr 50.65 324 eP P 17 01 16.6 -2.2
comp=Z,22nm,1.0s,mb5.0
GRA1 epP pP 17 01 24.6 +2.6
GRA1 esP sP 17 01 28.3 +5.1
GRA1 eS S 17 08 37.6 +4.0
GRA1 LR LR
comp=Z,300nm,21.8s,MS4.3
GRA1 Grafenberg Arr 50.65 324 eP P 17 01 16.6 -2.2
comp=Z,22nm,1.0s,mb5.0
GRA1 epP pP 17 01 24.6 +2.6
GRA1 esP sP 17 01 28.3 +5.1
GRF Grafenberg Arr 50.65 324 eP P 17 01 16.6 -2.2
comp=Z,22nm,1.0s,mb5.0
GRF epP pP 17 01 24.6 +2.6
GRF esP sP 17 01 28.3 +5.1
GRF eS S 17 08 37.6 +4.0
GRF eL 17 24 33.4
comp=Z,341nm,21.8s
GRF Grafenberg Arr 50.65 324 eP P 17 01 16.6 -2.2
GRF e*PP pP 17 01 24.6 +2.6
GRF eS S 17 08 37.6 +4.0
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.0
GRF MLR MLR
comp=Z,300nm,21.8s,MS4.3
GRF Grafenberg Arr 50.65 324 eP P 17 01 16.6 -2.2
GRF e*PP pP 17 01 24.6 +2.6
GRF eS S 17 08 37.6 +4.0
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.0
GRF MLR MLR
comp=Z,300nm,21.8s,MS4.3
SAOF Saorge 50.66 315 eP P 17 01 19.5 +0.6
SBF Sospel 50.70 315 eP P 17 01 19.0 -0.2
comp=Z,38nm,1.0s,mb5.0
SBF Sospel 50.70 315 eP P 17 01 19.0 -0.2
SBF pmax pmax
comp=Z,19nm,1.0s,mb5.0
SBF Sospel 50.70 315 eP P 17 01 19.0 -0.2
comp=Z,19nm,1.0s,mb5.0
REVF Revere 50.70 315 eP P 17 01 20.6 +1.4
TSUM Tsumeb 50.73 230 eP P 17 01 21.5 +2.1
comp=Z,12nm,1.1s,mb4.7
AUTN L'Aution 50.75 315 eP P 17 01 20.8 +1.3
LUCF Luceram 50.77 315 eP P 17 01 22.6 +2.9
MOX Moxa 50.88 325 eP P 17 01 20.4 -0.1
comp=Z,22nm,1.3s,mb4.9
MOX
comp=Z,300nm,20.0s
MOX Moxa 50.88 325 eP P 17 01 19.2 -1.3
comp=Z,12nm,0.9s,mb4.8
TOUF Mont Tournerai 50.88 315 eP P 17 01 22.6 +2.1
FRF La Foret Royal 51.14 315 eP P 17 01 22.2 -0.3
comp=Z,89nm,1.3s,mb5.2
FRF La Foret Royal 51.14 315 eP P 17 01 22.2 -0.3
FRF pmax pmax
comp=Z,44nm,1.3s,mb5.2
FRF La Foret Royal 51.14 315 eP P 17 01 22.2 -0.3
comp=Z,44nm,1.3s,mb5.2
LMR La Mourre 51.16 314 eP P 17 01 22.3 -0.4
comp=Z,129nm,1.2s,mb5.4
LMR La Mourre 51.16 314 eP P 17 01 22.3 -0.4
LMR pmax pmax
comp=Z,64nm,1.2s,mb5.4
LMR La Mourre 51.16 314 eP P 17 01 22.3 -0.4
comp=Z,64nm,1.2s,mb5.4
XAN Xi'an 51.20 58 P P 17 01 22.3 -0.6
XAN AP pP 17 01 29.1 +3.0
XAN S S 17 08 38.3 -2.9
XAN AMB AMB
comp=Z,70nm,7.9s
XAN LR LR
comp=N,320nm,18.6s,MS4.7
XAN LR LR
comp=E,550nm,17.5s,MS4.7
XAN LR LR
comp=Z,620nm,19.2s,MS4.7
JOF Joensuu 51.42 346 ep P 17 01 22.8 -1.8
comp=Z,9.3nm,0.9s,mb4.7
JOF Joensuu 51.42 346 eP P 17 01 22.8 -1.8
JOF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
STU Stuttgart 51.43 322 eP P 17 01 21.9 -2.8
comp=Z,9.0nm,0.6s,mb4.9
MBDF Montbardon 51.44 316 eP P 17 01 24.3 -0.4
comp=Z,8.8nm,0.7s,mb4.5
MBDF Montbardon 51.44 316 eP P 17 01 24.3 -0.4
comp=Z,4.4nm,0.7s,mb4.5
BSD Bornholm Skovb 51.55 331 i P P 17 01 34.6 +9.0
BSD e 17 06 08.6
BSD i S S 17 08 45.4 -0.7
BSD
comp=Z,490nm,18.0s
BSD Bornholm Skovb 51.55 331 eP P 17 01 34.6 +9.0
BSD e 17 06 08.6
BSD i S S 17 08 45.4 -0.7
TAVF Tavernes 51.56 315 eP P 17 01 26.7 +1.0
BNI Bardonecchia 51.61 316 eP P 17 01 25.4 -0.6
comp=Z,24nm,1.5s,mb4.9
FINES FINESS Array B 51.61 342 P P 17 01 25.4 -0.6
comp=Z,8.0nm,1.0s,mb4.6,baz=144,slow=5.7,SNR=16
FINES LR LR 17 25 55.9
comp=Z,814nm,20.7s,MS4.7,baz=134,slow=39
LPG La Plagne 51.71 317 eP P 17 01 25.9 -0.9
comp=Z,104nm,1.2s,mb5.3
LPG La Plagne 51.71 317 eP P 17 01 25.9 -0.9
LPG pmax pmax
comp=Z,52nm,1.2s,mb5.3
LPG La Plagne 51.71 317 eP P 17 01 25.9 -0.9
comp=Z,52nm,1.2s,mb5.3
BERF Bertagne 51.72 314 eP P 17 01 27.5 +0.6
LPL La Plagne 51.73 317 eP P 17 01 25.0 -1.9
comp=Z,58nm,1.0s,mb5.2
LPL La Plagne 51.73 317 eP P 17 01 25.0 -1.9
LPL pmax pmax
comp=Z,29nm,1.0s,mb5.2
LPL La Plagne 51.73 317 eP P 17 01 25.0 -1.9
comp=Z,29nm,1.0s,mb5.2
BFO Black Forest 51.77 321 eP P 17 01 25.2 -2.0
comp=Z,16nm,1.2s,mb4.8
BFO Black Forest 51.77 321 eP P 17 01 25.2 -2.0
BFO pmax pmax
comp=Z,16nm,1.2s,mb4.8
PUYF Puyloubier 51.78 314 eP P 17 01 28.2 +0.9
STOF St-Étienne Org 51.78 315 eP P 17 01 29.1 +1.8
OG25 Le Caire 51.79 315 eP P 17 01 25.3 -2.1
FELD Feldberg im Sc 51.79 320 eP P 17 01 24.7 -2.7
UBBA Unterbreizbach 51.86 324 eP P 17 01 26.2 -1.7
comp=Z,24nm,1.7s,mb4.8
GELF Grande-Etoile 51.93 314 eP P 17 01 29.3 +0.9
BBS Basel-Blauen 51.94 320 eP P 17 01 28.2 -0.3
RGN Rugen 51.99 330 eP P 17 01 28.0 -0.9
comp=Z,47nm,1.1s,mb5.3
SMRF Simiane la Rot 52.01 315 eP P 17 01 28.9 -0.1
comp=Z,66nm,1.4s,mb5.1
SMRF Simiane la Rot 52.01 315 eP P 17 01 28.9 -0.1
comp=Z,33nm,1.4s,mb5.1
KAF Kangasniemi 52.08 343 ep P 17 01 27.5 -2.0
comp=Z,11nm,0.8s,mb4.8,baz=142,slow=7.4
KAF Kangasniemi 52.08 343 eP P 17 01 27.5 -2.0
KAF pmax pmax
comp=Z,11nm,0.8s,mb4.8
ORIF Oris-en-Rattie 52.10 316 eP P 17 01 29.3 -0.4
ORIF eR
comp=Z,261nm,20.5s
ZAK Zakamensk 52.11 36 eP P 17 01 25.3 -4.4
ZAK pmax pmax
comp=Z,18nm,2.0s,mb4.7
CLZ Clausthal 52.13 326 eP P 17 01 28.9 -1.0
comp=Z,15nm,0.9s,mb4.9
CLZ Clausthal 52.13 326 eP P 17 01 28.9 -1.0
CLZ pmax pmax
comp=Z,15nm,0.9s,mb4.9
MOF Molkenrain 52.32 320 eP P 17 01 30.8 -0.5
LOMF Lomont 52.33 319 eP P 17 01 31.2 -0.2
BOSA Boshof 52.34 215 P P 17 01 32.5 +1.1
comp=Z,9.0nm,0.9s,mb4.7,baz=50,slow=8.8,SNR=9.3
BOSA Boshof 52.34 215 eP P 17 01 32.2 +0.8
BOSA pmax pmax
comp=Z,20nm,1.0s,mb5.0
BOSA Boshof 52.34 215 eP P 17 01 32.1 +0.7
comp=Z,20nm,1.0s,mb5.0
WLS Welschbruch 52.40 321 eP P 17 01 29.1 -2.8
ECH Echery 52.45 320 eP P 17 01 31.9 -0.4
CDF Champ du Feu 52.45 321 eP P 17 01 31.0 -1.3
comp=Z,46nm,1.1s,mb5.0
CDF Champ du Feu 52.45 321 eP P 17 01 31.0 -1.3
CDF pmax pmax
comp=Z,23nm,1.1s,mb5.0
CDF Champ du Feu 52.45 321 eP P 17 01 31.0 -1.3
comp=Z,23nm,1.1s,mb5.0
HINF Hinteralfeld 52.49 320 eP P 17 01 31.1 -1.4
comp=Z,51nm,1.6s,mb4.9
HINF Hinteralfeld 52.49 320 eP P 17 01 31.1 -1.4
HINF pmax pmax
comp=Z,26nm,1.6s,mb4.9
HINF Hinteralfeld 52.49 320 eP P 17 01 31.1 -1.4
comp=Z,26nm,1.6s,mb4.9
TNS Taunus Mts 52.49 323 eP P 17 01 30.5 -2.1
CABF La Chapelle 52.53 318 eP P 17 01 32.5 -0.4
comp=Z,121nm,1.2s,mb5.4
CABF La Chapelle 52.53 318 eP P 17 01 32.5 -0.4
CABF pmax pmax
comp=Z,61nm,1.2s,mb5.4
CABF La Chapelle 52.53 318 eP P 17 01 32.5 -0.4
comp=Z,61nm,1.2s,mb5.4
NRDL Niedersach Rie 52.59 326 eP P 17 01 32.3 -1.0
comp=Z,48nm,1.2s,mb5.3
TLY Talaya 52.89 35 eP P 17 01 37.0 +1.5
TLY e 17 03 37.8
TLY eS S 17 09 01.2 -3.3
TLY eSS SS 17 12 44.9 +1.6
TLY pmax pmax
comp=Z,70nm,1.3s,mb5.4
TLY MLR MLR
comp=Z,699nm,17.0s,MS4.8
TORD Torodi Ar. Bea 52.89 276 P P 17 01 36.5 +0.9
comp=Z,3.5nm,1.0s,mb4.2,baz=96,slow=5.5,SNR=10
TORD LR LR 17 23 31.4
comp=Z,452nm,19.7s,MS4.5,baz=90,slow=35
TORD Torodi Ar. Bea 52.89 276 P P 17 01 36.5 +0.9
TORD LR LR 17 23 31.4
VIVF Saint-Julien-l 52.89 316 eP P 17 01 34.9 -0.7
comp=Z,72nm,1.7s,mb5.0
VIVF Saint-Julien-l 52.89 316 eP P 17 01 34.9 -0.7
VIVF pmax pmax
comp=Z,36nm,1.7s,mb5.0
VIVF Saint-Julien-l 52.89 316 eP P 17 01 34.9 -0.7
comp=Z,36nm,1.7s,mb5.0
SONM Songino Array 52.95 40 P P 17 01 36.7 +0.7
comp=Z,2.2nm,0.8s,mb4.2,baz=241,slow=7.9,SNR=15
SONM LR LR 17 27 32.5
comp=Z,1µm,19.5s,MS4.9,baz=260,slow=40
COP Copenhagen 53.04 331 i P P 17 01 46.4 +10
COP i S S 17 08 59.0 -7.6
COP
comp=Z,130nm,18.0s
COP Copenhagen 53.04 331 eP P 17 01 46.4 +10
COP i S S 17 08 59.0 -7.6
COP LR LR
comp=Z,140nm,18.0s,MS4.0
BSEG Bad Segeberg 53.18 328 eP P 17 01 36.0 -1.7
LASF Ste Croix 53.22 315 eP P 17 01 37.4 -0.6
comp=Z,43nm,1.2s,mb5.0
LASF Ste Croix 53.22 315 eP P 17 01 37.4 -0.6
comp=Z,21nm,1.2s,mb5.0
IRK Irkutsk 53.49 35 eP P 17 01 38.8 -1.1
IRK pmax pmax
comp=Z,30nm,1.8s,mb4.9
WLF Walferdange 53.62 322 P P 17 01 39.5 -1.4
WLF E 17 01 47.0
BUG Bochum--Univer 53.68 324 eP P 17 01 39.8 -1.6
comp=Z,10.0nm,0.9s,mb4.8
COLF Collangettes 53.75 316 eP P 17 01 41.4 -0.5
IBBN Ibbenburen 53.78 325 eP P 17 01 41.0 -1.1
comp=Z,25nm,1.3s,mb5.0
MEZF Maizieres J'vi 53.86 320 eP P 17 01 41.8 -0.9
comp=Z,97nm,1.2s,mb5.3
MEZF Maizieres J'vi 53.86 320 eP P 17 01 41.8 -0.9
comp=Z,49nm,1.2s,mb5.3
PLDF La Plantade 53.94 317 eP P 17 01 43.3 0.0
LBL Lubilhac 53.97 316 eP P 17 01 43.3 -0.2
SMF Signal de Mont 54.01 318 eP P 17 01 42.5 -1.2
comp=Z,45nm,1.4s,mb4.9
SMF Signal de Mont 54.01 318 eP P 17 01 42.5 -1.2
SMF pmax pmax
comp=Z,23nm,1.4s,mb4.9
SMF Signal de Mont 54.01 318 eP P 17 01 42.5 -1.2
comp=Z,23nm,1.4s,mb4.9
MEM Membach 54.07 323 AP pP 17 01 47.4 0.0
MTLF Montolieu 54.16 313 eP P 17 01 44.1 -0.8
comp=Z,35nm,1.3s,mb4.8
MTLF Montolieu 54.16 313 eP P 17 01 44.1 -0.8
MTLF pmax pmax
comp=Z,18nm,1.3s,mb4.8
MTLF Montolieu 54.16 313 eP P 17 01 44.1 -0.8
comp=Z,18nm,1.3s,mb4.8
LOR Lormes 54.19 318 eP P 17 01 44.1 -1.0
comp=Z,77nm,1.1s,mb5.2
LOR eR
comp=Z,299nm,18.8s
LOR Lormes 54.19 318 eP P 17 01 44.1 -1.0
LOR pmax pmax
comp=Z,39nm,1.1s,mb5.2
LOR MLR MLR
comp=Z,300nm,18.8s,MS4.4
LOR Lormes 54.19 318 eP P 17 01 44.1 -1.0
comp=Z,38nm,1.1s,mb5.2
LOR LR LR
comp=Z,300nm,18.8s,MS4.4
EMIR Miracle 54.31 311 P P 17 01 43.9 -2.1
comp=Z,10nm,0.9s,mb4.8
SSF Saint Saulge 54.36 318 eP P 17 01 45.1 -1.2
comp=Z,23nm,0.9s,mb4.8
SSF Saint Saulge 54.36 318 eP P 17 01 45.1 -1.2
SSF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SSF Saint Saulge 54.36 318 eP P 17 01 45.1 -1.2
comp=Z,12nm,0.9s,mb4.8
AVF Avril sur Loir 54.37 318 eP P 17 01 45.0 -1.4
comp=Z,24nm,0.9s,mb4.8
AVF Avril sur Loir 54.37 318 eP P 17 01 45.0 -1.4
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.8
AVF Avril sur Loir 54.37 318 eP P 17 01 45.0 -1.4
comp=Z,12nm,0.9s,mb4.8
HHC Hu-ho-hao-te 54.51 50 eP P 17 01 47.4 0.0
HHC AP pP 17 01 52.1 +1.5
HHC XP sP 17 01 54.6 +2.8
HHC PCP PcP 17 02 50.8 +0.1
HHC PP PP 17 03 50.6 +1.0
HHC PCS PcS 17 06 49.3 -1.0
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
HHC AMB AMB
comp=Z,210nm,4.4s
HHC LR LR
comp=N,690nm,19.0s,MS5.1
HHC LR LR
comp=E,1µm,20.2s,MS5.1
HHC LR LR
comp=Z,2µm,21.1s,MS5.1
GIVF Givet 54.58 322 eP P 17 01 47.0 -0.9
comp=Z,38nm,1.2s,mb5.0
GIVF Givet 54.58 322 eP P 17 01 47.0 -0.9
GIVF pmax pmax
comp=Z,19nm,1.2s,mb5.0
GIVF Givet 54.58 322 eP P 17 01 47.0 -0.9
comp=Z,19nm,1.2s,mb5.0
BGF Bois d'Agland 54.63 317 eP P 17 01 47.5 -0.8
CAF Calviac 54.69 315 eP P 17 01 47.7 -1.0
DOU Dourbes 54.71 322 ||P P 17 01 48.4 -0.5
DOU AP pP 17 01 51.7 -0.4
DOU E 17 01 55.6
EBR Ebro Roquetas 54.84 310 eP P 17 01 47.5 -2.3
BAIF Baives 54.93 322 eP P 17 01 49.6 -0.9
comp=Z,53nm,1.0s,mb5.2
BAIF Baives 54.93 322 eP P 17 01 49.6 -0.9
BAIF pmax pmax
comp=Z,26nm,1.0s,mb5.2
BAIF Baives 54.93 322 eP P 17 01 49.6 -0.9
comp=Z,26nm,1.0s,mb5.2
TCF Toulx Ste Croi 54.97 317 eP P 17 01 49.8 -1.0
comp=Z,16nm,1.0s,mb4.7
TCF Toulx Ste Croi 54.97 317 eP P 17 01 49.8 -1.0
TCF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
TCF Toulx Ste Croi 54.97 317 eP P 17 01 49.8 -1.0
comp=Z,8.2nm,1.0s,mb4.7
ERTA Horta de San J 54.98 310 P P 17 01 48.1 -2.8
comp=Z,9.7nm,1.2s,mb4.7
MUD Monsted U'grnd 55.00 330 i P P 17 01 58.0 +7.0
comp=Z,19nm,1.0s,mb5.1
MUD i S S 17 09 43.4 +10
MUD
comp=Z,450nm,19.0s
MUD Monsted U'grnd 55.00 330 i P P 17 01 58.0 +7.0
MUD i S S 17 09 43.4 +10
MUD pmax pmax
comp=Z,19nm,1.0s,mb5.1
MUD MLR MLR
comp=Z,460nm,19.0s,MS4.6
MUD Monsted U'grnd 55.00 330 i P P 17 01 58.0 +7.0
comp=Z,19nm,1.0s,mb5.1
MUD i S S 17 09 43.4 +10
SNF Seneffe 55.05 322 E P 17 01 58.1 +6.8
APA Apatity 55.06 350 eP P 17 01 53.5 +2.1
APA i S S 17 09 36.0 +2.2
APA MLR MLR
comp=Z,1µm,20.0s,MS4.9
RJF Les Rejaudoux 55.16 315 eP P 17 01 51.4 -0.7
RJF eR
comp=Z,428nm,22.2s
RJF Les Rejaudoux 55.16 315 eP P 17 01 51.4 -0.7
RJF LR LR
comp=Z,430nm,22.3s,MS4.5
EGRA Graus 55.26 311 P P 17 01 51.2 -1.6
comp=Z,12nm,1.0s,mb4.9
EPF Esparros 55.42 312 eP P 17 01 53.5 -0.5
EMOS Mosqueruela 55.47 309 P P 17 01 49.6 -4.7
comp=Z,6.6nm,1.0s,mb4.6
EBIE Bielsa 55.49 312 P P 17 01 53.4 -1.1
comp=Z,6.4nm,0.7s,mb4.8
LFF La Frestale 55.60 315 eP P 17 01 54.4 -0.9
comp=Z,59nm,1.2s,mb5.2
LFF La Frestale 55.60 315 eP P 17 01 54.4 -0.9
LFF pmax pmax
comp=Z,29nm,1.2s,mb5.2
LFF La Frestale 55.60 315 eP P 17 01 54.4 -0.9
comp=Z,30nm,1.2s,mb5.2
EMUR La Murta 55.64 306 P P 17 01 53.9 -1.7
comp=Z,5.9nm,0.6s,mb4.8
ECHE Chera 55.71 308 P P 17 01 52.6 -3.5
ECHE pmax pmax
comp=Z,17nm,1.0s,mb5.0
ECHE Chera 55.71 308 P P 17 01 52.6 -3.5
comp=Z,17nm,1.0s,mb5.0
ESAC San Caprasio 55.73 311 P P 17 01 55.4 -0.8
comp=Z,16nm,1.1s,mb5.0
ETOB Tobarra 56.00 307 P P 17 01 56.6 -1.6
comp=Z,11nm,1.0s,mb4.8
ENIJ Nijar 56.29 305 P P 17 01 57.2 -3.0
ENIJ pmax pmax
comp=Z,15nm,1.0s,mb5.0
ENIJ Nijar 56.29 305 P P 17 01 57.2 -3.0
comp=Z,15nm,1.0s,mb5.0
KONO Kongsberg 56.47 334 eP P 17 02 04.2 +2.7
KONO eS S 17 09 48.5 -4.1
KONO Kongsberg 56.47 334 eP P 17 02 04.2 +2.7
SNR=22
KONO eS S 17 09 48.5 -4.1
SNR=24
NB2 NORSAR Subarra 56.57 336 P P 17 02 01.1 -1.1
comp=Z,6.9nm,0.9s,mb4.7,baz=120,slow=7.9
NB2 NORSAR Subarra 56.57 336 P P 17 02 01.1 -1.1
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
NOA NORSAR Array B 56.57 336 P P 17 02 00.8 -1.4
comp=Z,2.1nm,0.8s,mb4.2,baz=122,slow=7.6,SNR=5.0
NOA LR LR 17 29 10.8
comp=Z,402nm,20.1s,MS4.5,baz=145,slow=39
NAO01 NORSAR Array S 56.59 335 eP P 17 02 02.4 +0.1
comp=Z,5.6nm,0.7s,mb4.7
MFF Saint Martin d 56.62 317 eP P 17 02 01.4 -1.2
EVIA Vianos 56.74 307 P P 17 02 03.6 +0.2
EVIA pmax pmax
comp=Z,21nm,0.6s,mb5.3
EVIA Vianos 56.74 307 P P 17 02 03.6 +0.1
comp=Z,21nm,0.6s,mb5.3
EALK Alkurruntz 56.78 312 P P 17 02 02.8 -0.9
comp=Z,5.3nm,0.9s,mb4.6
ELIZ Elizondo 56.79 312 P P 17 02 00.7 -3.1
ELIZ pmax pmax
comp=Z,11nm,1.4s,mb4.7
ELIZ Elizondo 56.79 312 P P 17 02 00.7 -3.1
comp=Z,11nm,1.4s,mb4.7
EBER Berja 56.82 305 P P 17 02 03.1 -0.9
comp=Z,18nm,0.8s,mb5.1
EQES Quesada 57.08 306 P P 17 02 06.0 +0.1
comp=Z,13nm,1.2s,mb4.8
LDF La Druitiere 57.15 319 eP P 17 02 04.8 -1.5
comp=Z,57nm,1.1s,mb5.2
LDF La Druitiere 57.15 319 eP P 17 02 04.8 -1.5
LDF pmax pmax
comp=Z,28nm,1.1s,mb5.2
LDF La Druitiere 57.15 319 eP P 17 02 04.8 -1.5
comp=Z,28nm,1.1s,mb5.2
EGUA Guajares 57.35 305 P P 17 02 07.7 -0.1
EGUA pmax pmax
comp=Z,20nm,0.8s,mb5.2
EGUA Guajares 57.35 305 P P 17 02 07.7 -0.1
comp=Z,2.0nm,0.8s,mb4.2
ECOG Cogollos-Vega 57.40 305 P P 17 02 07.0 -1.1
ECOG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ECOG Cogollos-Vega 57.40 305 P P 17 02 07.0 -1.1
comp=Z,7.9nm,0.8s,mb4.8
FLN La Foliniere 57.42 319 eP P 17 02 06.7 -1.6
comp=Z,55nm,1.2s,mb5.2

FLN eR
comp=Z,417nm,21.2s
FLN La Foliniere 57.42 319 eP **P 17 02 06.7 -1.6**
FLN pmax pmax
comp=Z,28nm,1.2s,mb5.2
FLN MLR MLR
comp=Z,420nm,21.3s,MS4.5
FLN La Foliniere 57.42 319 eP **P 17 02 06.7 -1.6**
comp=Z,28nm,1.2s,mb5.2
FLN LR LR
comp=Z,420nm,21.3s,MS4.5
GRR Gorron 57.56 318 eP **P 17 02 07.8 -1.4**
comp=Z,34nm,1.2s,mb5.0
GRR Gorron 57.56 318 eP **P 17 02 07.8 -1.4**
GRR pmax pmax
comp=Z,17nm,1.2s,mb5.0
GRR Gorron 57.56 318 eP **P 17 02 07.8 -1.4**
comp=Z,17nm,1.2s,mb5.0
ERON Agron 57.57 305 P **P 17 02 10.2 +0.9**
comp=Z,6.9nm,0.7s,mb4.8
EBAN Banos Encina 57.68 306 P **P 17 02 08.5 -1.6**
EBAN pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
EBAN Banos Encina 57.68 306 P **P 17 02 08.5 -1.6**
comp=Z,2.1nm,0.4s,mb4.5
ELOJ Sierra Loja 57.85 305 P **P 17 02 07.4 -3.9**
ELOJ pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ELOJ Sierra Loja 57.85 305 P **P 17 02 07.4 -3.9**
comp=Z,7.4nm,0.8s,mb4.8
MDT Midelt 57.90 300 LR LR 17 27 38.3
comp=Z,454nm,18.9s,MS4.6,baz=338,slow=37
ESDC Sonseca Array 58.01 308 P **P 17 02 12.3 0.0**
comp=Z,4.7nm,0.6s,mb4.7,baz=84,slow=6.4,SNR=20
ESDC LR LR 17 29 46.7
comp=Z,155nm,19.8s,MS4.1,baz=110,slow=39
ESDC Sonseca Array 58.01 308 P **P 17 02 10.5 -1.9**
comp=Z,18nm,0.9s,mb5.1
ESLA Sonseca Array 58.01 308 eP **P 17 02 12.0 -0.4**
comp=Z,7.4nm,1.1s,mb4.6
ARCES ARCESS Array B 58.25 348 P **P 17 02 13.1 -1.0**
comp=Z,6.2nm,0.8s,mb4.7,baz=144,slow=7.3,SNR=13
ARCES LR LR 17 31 02.3
comp=Z,554nm,20.0s,MS4.7,baz=140,slow=40
GUD Guadarrama 58.29 309 P **P 17 02 13.9 -0.4**
GUD pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
GUD Guadarrama 58.29 309 P **P 17 02 13.9 -0.4**
comp=Z,3.8nm,0.8s,mb4.5
EMIJ Mijas 58.29 304 P **P 17 02 12.0 -2.4**
comp=Z,13nm,0.6s,mb5.1
EADA Adamuz 58.30 306 P **P 17 02 12.6 -1.8**
comp=Z,11nm,1.1s,mb4.8
SGMF Saint Gilles 58.62 318 eP **P 17 02 14.9 -1.8**
comp=Z,37nm,1.0s,mb5.1
SGMF Saint Gilles 58.62 318 eP **P 17 02 14.9 -1.8**
SGMF pmax pmax
comp=Z,18nm,1.0s,mb5.1
SGMF Saint Gilles 58.62 318 eP **P 17 02 14.9 -1.8**
comp=Z,18nm,1.0s,mb5.1
BER Bergen 58.69 333 eP **P 17 02 23.5 +6.4**
BER e 17 05 58.5
BER eS **S 17 10 16.8 -5.0**
BER AMS AMS 17 31 51.2
comp=Z,283nm,23.6s,MS4.3
BER Bergen 58.69 333 eP **P 17 02 27.2 +10**
BER LR LR
comp=Z,280nm,23.6s,MS4.3
BER Bergen 58.69 333 eP **P 17 02 23.5 +6.4**
SNR=22
BER eS **S 17 10 16.8 -5.0**
SNR=23
CIT Chita 58.71 37 eP **P 17 02 17.6 +0.3**
CIT pmax pmax
comp=Z,46nm,2.2s,mb5.1
EJIF Jimena Fronter 58.84 304 P **P 17 02 17.4 -0.8**
EJIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
EJIF Jimena Fronter 58.84 304 P **P 17 02 17.4 -0.8**
comp=Z,7.8nm,0.8s,mb4.8
ROSF Rostrenen 59.11 318 eP **P 17 02 18.2 -1.8**
comp=Z,24nm,1.0s,mb4.9
ROSF Rostrenen 59.11 318 eP **P 17 02 18.2 -1.8**
ROSF pmax pmax
comp=Z,12nm,1.0s,mb4.9
ROSF Rostrenen 59.11 318 eP **P 17 02 18.2 -1.8**
comp=Z,12nm,1.0s,mb4.9
ESPR Espera 59.19 304 P **P 17 02 19.1 -1.5**
comp=Z,16nm,0.6s,mb5.2
NJ2 Nanjing 59.33 61 eP **P 17 02 22.4 +0.8**
NJ2 AP pP 17 02 27.1 +2.3
NJ2 XP sP 17 02 30.4 +4.4
NJ2 PCP PcP 17 03 09.3 -0.3
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,110nm,6.8s
NJ2 LR LR
comp=N,590nm,22.6s,MS4.8
NJ2 LR LR
comp=E,490nm,24.4s,MS4.8
NJ2 LR LR
comp=Z,390nm,29.8s
KKM Kota Kinabalu 59.45 92 eP **P 17 02 22.4 -0.1**
TRO Tromso 59.79 346 eS **S 17 10 34.7 -1.3**
TRO AMS AMS 17 32 29.2
comp=Z,470nm,20.3s,MS4.6
EMIN Mina Concepcio 59.91 305 P **P 17 02 24.6 -1.0**
comp=Z,7.0nm,0.6s,mb4.9
EBAD Badajoz 60.26 306 P **P 17 02 26.0 -2.0**
comp=Z,5.5nm,0.8s,mb4.6
ECAL Calabor 60.39 310 P **P 17 02 24.0 -4.9**
comp=Z,4.6nm,0.9s,mb4.5
DBIC Dimbokro 60.43 269 P **P 17 02 30.3 +1.1**
comp=Z,5.7nm,0.9s,mb4.6,baz=45,slow=9.9,SNR=4.9
DBIC LR LR 17 28 38.8
comp=Z,298nm,19.3s,MS4.5,baz=205,slow=36
DBIC Dimbokro 60.43 269 eP **P 17 02 30.1 +1.0**
DBIC pmax pmax
comp=Z,19nm,1.2s
DBIC Dimbokro 60.43 269 eP **P 17 02 30.1 +0.9**
comp=Z,19nm,1.2s,mb5.0
EGRO El Granado 60.53 305 P **P 17 02 28.2 -1.7**
comp=Z,9.5nm,1.3s,mb4.8
LIC Lamto 60.70 269 eP **P 17 02 31.3 +0.3**
comp=Z,49nm,1.4s,mb5.2
LIC eR
comp=Z,342nm,21.2s
LIC Lamto 60.70 269 eP **P 17 02 31.3 +0.3**
comp=Z,24nm,1.4s,mb5.1
LIC LR LR
comp=Z,170nm,21.3s,MS4.2
LIC Lamto 60.70 269 eP **P 17 02 31.3 +0.3**
comp=Z,24nm,1.4s,mb5.2
ESK Eskdalemuir 60.93 326 eP **P 17 02 31.3 -1.2**
ESK pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ESK Eskdalemuir 60.93 326 eP **P 17 02 31.3 -1.2**
comp=Z,6.3nm,0.8s,mb4.8
EVO Evora 61.02 306 eP **P 17 02 31.8 -1.4**
comp=Z,27nm,1.1s,mb5.0
EVO eR
comp=Z,118nm,19.5s
SSE Sheshan 61.30 62 P **P 17 02 34.0 -1.1**
SSE AP pP 17 02 37.3 -1.0
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,130nm,8.7s
SSE LR LR
comp=N,180nm,25.5s,MS4.4
SSE LR LR
comp=E,270nm,25.5s,MS4.4
SSE LR LR
comp=Z,330nm,27.4s,MS4.3
DL2 Dalian 61.91 54 P **P 17 02 38.3 -0.9**
DL2 S **S 17 11 04.9 +1.8**
DL2 AMB AMB
comp=Z,100nm,4.4s
DL2 LR LR
comp=N,140nm,16.6s,MS4.4
DL2 LR LR
comp=E,200nm,18.9s,MS4.4
DL2 LR LR
comp=Z,260nm,15.8s,MS4.5
EMAZ Mazaricos 62.15 311 P **P 17 02 32.4 -8.4**
comp=Z,5.8nm,1.1s,mb4.6

DMUB Kingscourt 62.63 324 eP **P 17 02 42.8 -1.2**
DCN Croghan 62.72 323 eP **P 17 02 44.0 -0.6**
SNY Shenyang 63.59 50 ⇑P **P 17 02 51.8 +1.4**
SNY AP pP 17 02 55.1 +1.5
SNY XP sP 17 02 57.9 +3.0
SNY PP PP 17 05 14.6 +4.4
SNY AMB AMB
comp=Z,160nm,8.5s
SNY LR LR
comp=N,270nm,19.0s,MS4.6
SNY LR LR
comp=E,340nm,23.7s,MS4.6
SNY LR LR
comp=Z,470nm,36.8s
CN2 Changchun 65.10 48 eP **P 17 03 00.4 +0.1**
CN2 eXP sP 17 03 07.4 +2.7
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,18.0s,MS4.9
CN2 LR LR
comp=E,400nm,18.0s,MS4.9
CN2 LR LR
comp=Z,400nm,21.0s,MS4.6
EFAM Famara 65.57 296 P **P 17 02 58.1 -5.2**
comp=Z,16nm,0.7s,mb5.2
JOW Kunigami 67.72 67 P **P 17 03 15.8 -1.3**
comp=Z,13nm,0.9s,mb4.9,baz=353,slow=28,SNR=4.9
KBS Kingsbay 67.75 352 eP **P 17 03 25.3 +8.0**
KBS AMS AMS 17 38 21.9
comp=Z,248nm,22.8s,MS4.4
MDJ Mudanjiang 68.11 48 P **P 17 03 19.0 -0.5**
MDJ AP pP 17 03 22.3 -0.4
MDJ XP sP 17 03 23.6 -0.3
MDJ PCP PcP 17 03 45.0 -0.5
MDJ PP PP 17 05 48.8 -0.9
MDJ AMB AMB
comp=Z,60nm,4.8s
MDJ LR LR
comp=N,410nm,18.4s
MDJ LR LR
comp=E,280nm,25.3s
MDJ LR LR
comp=Z,370nm,25.3s
JMIC Jan Mayen 68.23 341 LR LR 17 35 59.5
comp=Z,317nm,21.9s,MS4.5,baz=332,slow=38
JMIC Jan Mayen 68.23 341 AMS AMS 17 35 36.5
comp=Z,434nm,21.3s,MS4.7
YAK Yakutsk 69.50 29 eP **P 17 03 27.2 -1.0**
YAK e*PP pP 17 03 34.6 +3.2
YAK e 17 03 51.5
YAK e 17 05 58.9
YAK eS S 17 12 32.3 -3.5
YAK e 17 13 27.7
YAK eSS SS 17 16 59.5 -3.7
YAK pmax pmax
comp=Z,13nm,0.8s,mb4.9
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK smax
comp=E,91nm,12.2s
YAK smax
comp=N,42nm,10.7s
YAK MLR MLR
comp=E,291nm,17.0s,MS4.7
YAK MLR MLR
comp=Z,307nm,17.0s,MS4.6
YAK MLR MLR
comp=N,150nm,16.0s,MS4.7
YAK Yakutsk 69.50 29 eP **P 17 03 27.0 -1.2**
comp=N,48nm,0.9s,mb5.4
TIXI Tiksi 70.84 19 eP **P 17 03 36.4 0.0**
TIXI pmax pmax
comp=Z,19nm,1.2s,mb4.9
TIXI MLR MLR
comp=Z,600nm,19.0s,MS4.9
DAG Danmarks Havn 72.50 347 ⇑iP **P 17 03 45.0 -1.4**
comp=Z,4.8nm,0.7s,mb4.5
DAG Danmarks Havn 72.50 347 ⇑eP **P 17 03 45.0 -1.4**
DAG pmax pmax
comp=Z,50nm,0.7s,mb5.5
DAG Danmarks Havn 72.50 347 ⇑eP **P 17 03 45.0 -1.4**
comp=Z,4.8nm,0.7s,mb4.5
MAJO Matsushiro 75.11 56 eP **P 17 04 01.0 -0.7**
MAJO pmax pmax
comp=Z,30nm,0.9s,mb5.2
MAJO Matsushiro 75.11 56 eP **P 17 04 01.0 -0.7**
comp=Z,3.0nm,0.9s,mb4.2
MAT Matsushiro 75.11 56 P **P 17 04 02.7 +1.0**
MAT S S 17 13 42.2 +2.2
MAT Matsushiro 75.11 56 P **P 17 04 03.0 +1.3**
MAT eS S 17 13 42.0 +2.0
MJAR Matsushiro Arr 75.11 56 P **P 17 04 00.9 -0.8**
comp=Z,0.8nm,0.7s,baz=274,slow=6.2,SNR=5.4
MJAR LR LR 17 40 30.8
comp=Z,228nm,20.8s,MS4.5,baz=235,slow=39
FITZ Fitzroy Crossi 75.68 113 eP **P 17 03 57.3 -7.7**
comp=Z,5.9nm,0.9s,mb4.5
YSS Yuzh-Sakhalins 77.16 45 P **P 17 04 14.0 +0.6**
YSS MLR MLR
comp=E,400nm,18.0s
YSS MLR MLR
comp=Z,300nm,18.0s,MS4.7
SUMG Summit 77.65 342 eP **P 17 04 15.5 -0.6**
comp=Z,34nm,1.4s,mb5.1
MAW Mawson 82.05 177 P **P 17 04 38.7 -1.2**
comp=Z,3.3nm,0.9s,mb4.2,baz=334,slow=5.8,SNR=4.3
MAW LR LR 17 35 49.3
comp=Z,685nm,19.0s,MS5.0,baz=50,slow=32
BILL Bilibino 83.89 21 eP **P 17 04 49.3 -0.2**
BILL pmax pmax
comp=Z,29nm,1.3s,mb5.2
BILL Bilibino 83.89 21 eP **P 17 04 49.3 -0.1**
comp=Z,29nm,1.3s,mb5.2
WRA Warramunga Arr 84.06 112 P **P 17 04 48.7 -1.6**
comp=Z,4.1nm,0.8s,mb4.6,baz=298,slow=4.2,SNR=21
WRAB Tennant Creek 84.06 112 eP **P 17 04 49.3 -1.0**
WRAB pmax pmax
comp=Z,12nm,0.9s,mb5.0
WRAB Tennant Creek 84.06 112 eP **P 17 04 49.3 -1.0**
comp=Z,12nm,0.9s,mb5.0
WB2 Warramunga Arr 84.07 112 eP **P 17 04 48.7 -1.7**
ASPA Alice Springs 84.81 116 eP **P 17 04 53.0 -1.1**
AS31 Alice Springs 84.81 116 eP **P 17 04 53.0 -1.2**
ASAR Alice Springs 84.81 116 P **P 17 04 52.7 -1.4**
comp=Z,3.4nm,0.8s,mb4.5,baz=296,slow=5.0,SNR=26
ASAR LR LR 17 37 09.7
comp=Z,313nm,18.4s,MS4.7,baz=332,slow=32
PET Petropavlovsk 85.81 36 eP **P 17 05 01.0 +1.9**
PET eS 17 15 27.9
PET ePS 17 16 28.0
PET eSS SS 17 21 07.1 -1.8
PET MLR MLR
comp=Z,400nm,20.0s,MS4.8
PMG Port Moresby 93.19 99 LR LR 17 42 32.9
comp=Z,128nm,21.4s,MS4.3,baz=213,slow=32
STKA Stephens Creek 93.68 122 eP **P 17 05 41.0 +4.8**
comp=Z,3.1nm,1.6s,mb4.5
STKA Stephens Creek 93.68 122 LR LR 17 42 43.9
comp=Z,417nm,20.6s,MS4.9,baz=108,slow=32
SCHQ Schefferville 95.88 331 LR LR 17 55 16.2
comp=Z,106nm,18.1s,MS4.4,baz=96,slow=39
WVT Waverly 119.25 327 ePKIKP PKPdf 17 11 10.1 +1.3
BW06 Boulder Array 121.51 348 ePKPdf PKPdf 17 11 12.8 -0.4
PDAR Pinedale Array 121.51 348 PKP PKPdf 17 11 13.0 -0.2
comp=Z,1.7nm,0.7s,baz=73,slow=3.9,SNR=9.1
HLID Hailey 121.56 352 ePKPdf PKPdf 17 11 14.4 +1.1
J06A Christmas Vall 122.41 357 ⇑P PKPdf 17 11 16.0 +1.1
baz=122
K07A Rock Creek Ran 122.91 356 ⇑P PKPdf 17 11 16.4 +0.5
baz=123
HWUT Hardware Ranch 123.02 349 ePKPdf PKPdf 17 11 16.3 +0.2
M13A Montello 123.69 351 ⇓P PKPdf 17 11 18.6 +1.2
baz=123
M12A Wells 123.74 352 ⇑P PKPdf 17 11 18.5 +1.1
baz=124
M07A Soldier Meadow 124.20 356 ⇓P PKPdf 17 11 19.8 +1.4
baz=124
N12A Wells--Clov Va 124.31 352 ⇑P PKPdf 17 11 21.1 +2.5
baz=124
SMCO Snowmass 124.32 344 ePKPdf PKPdf 17 11 18.6 +0.1
DUG Dugway 124.61 350 ePKIKP PKPdf 17 11 20.2 +1.1

O09A Fish Creek Ran 125.24 354 ⇑P PKPdf 17 11 21.7 +1.4
baz=125
O04C Chester 125.37 358 ⇓P PKPdf 17 11 21.5 +0.9
baz=125
O07A Toulon 125.40 355 ⇓P PKPdf 17 11 22.1 +1.4
baz=125
O06A Flanigan 125.47 356 ⇓P PKPdf 17 11 22.5 +1.8
baz=125
LPAZ La Paz 126.50 260 PKP PKPdf 17 11 25.1 +2.4
comp=Z,1.0nm,1.0s,baz=337,slow=0.8,SNR=3.7
LPAZ La Paz 126.50 260 PKPdf PKPdf 17 11 24.2 +1.5
NVAR Mina Array Bea 127.07 355 PKP PKPdf 17 11 25.1 +1.2
comp=Z,2.4nm,0.7s,baz=56,slow=1.8,SNR=16
PLCA Paso Flores 127.08 230 PKP PKPdf 17 11 24.7 +0.8
comp=Z,1.4nm,0.9s,baz=121,slow=1.9,SNR=2.0
PLCA Paso Flores 127.08 230 ePKPdf PKPdf 17 11 25.3 +1.4
R09A Tonopah 127.14 353 ⇑P PKPdf 17 11 25.2 +1.2
baz=127
S09A Goldfield 127.67 353 ⇓P PKPdf 17 11 26.4 +1.4
baz=127
ANMO Albuquerque 128.12 342 ePKIKP PKPdf 17 11 27.9 +2.0
TUC Tucson 131.80 345 ePKIKP PKPdf 17 11 34.4 +1.6
TBI Tubuai 154.18 114 eLR LR 18 03 45.8
comp=Z,275nm,28.8s
PPT Papeete 155.00 100 eLR LR 18 04 09.0
comp=Z,298nm,22.8s

NIED ***24*** *16:56:00, 4420N×141.10E, h5km, Mw3.9 Best double couple: M0:8.57000×10^14 NP1:φ0=26.00000°, δ57.00000°, λ129.00000°. NP2:φ0=150.00000°, δ49.00000°, λ46.00000°.*
ISCJB ***24*** *16:56:54.4±1.0, 4422N±003×141.14E±007, h9km±7km, mb3.7/2, Error ellipse: s-maj=8.1km s-min=5.1km az=26.5*
IDC ***24*** *16:56:55.0±3.5, 4361N×14383E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.5/20, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=79.5km s-min=12.4km az=44.0*
JMA ***24*** *16:56:54.6, 4422N×141.12E, h10km±2km, M4.3 Broadband fault plane solution: P waves. NP1: φ0=144.00000°, δ54.00000°, λ31.00000°. NP2:φ0=35.00000°, δ66.00000°, λ140.00000°. Principal axes: T Plg45.0000°, Azm355.0000°; N Plg44.0000°, Azm189.0000°; P Plg7.0000°, Azm92.0000°;*
JMA Felt I J1.
NEIC ***24*** *16:56:55.8±1.0, 4400N×142.17E, h10km, MG4.3(JMA) Error ellipse: s-maj=112.0km s-min=12.3km az=105.0*
NEIC Recorded [1 JMA] in the Otaru area and in northern Hokkaido.

ISC 24 16:56:54.9±0.7, 4422N±003×14115E±006, h9km±5km, n16, σ0:90/22, mb3.7/2, 2C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.29**	**44**	⇓P	**Pg**	**16 57 00.4**	**-0.2**
JYG				eS	**Sg**	**16 57 04.6**	**+0.1**
JSS	**Shosan**	**0.54**	**70**	⇓P	**Pg**	**16 57 05.4**	**+0.1**
JSS				eS	**Sg**	**16 57 13.5**	**+1.2**
JHR	**Hokuryu**	**0.63**	**139**	⇓P	**Pg**	**16 57 07.2**	**+0.1**
JHR				eS	**Sg**	**16 57 16.5**	**+1.1**
JRR	**Rishiri**	**0.93**	**7**	⇑P	**Pg**	**16 57 11.9**	**-0.7**
JSK	**Shakotan**	**0.99**	**209**	⇓P	**Pg**	**16 57 13.5**	**-0.5**
JSK				eS	**Sg**	**16 57 27.1**	**+0.2**
ASAJ	**Asahikawa**	**1.05**	**95**	Pg	**Pg**	**16 57 14.1**	**-1.0**
	330nm,0.3s,baz=279,slow=12,SNR=2489						
ASAJ				Lg		16 57 29.4	
	2μm,0.3s,baz=98,slow=32,SNR=86						
ASAJ	**Asahikawa**	**1.05**	**95**	⇓P	**Pg**	**16 57 14.0**	**-1.0**
JAB	**Ashibetsu**	**1.06**	**132**	⇓P	**Pg**	**16 57 14.4**	**-0.8**
JKK2	**Kamakawa 2**	**1.21**	**106**	⇓P	**Pb**	**16 57 16.7**	**-1.2**
JKK2				eS	**Sb**	**16 57 33.1**	**-0.4**
JWK2	**Keihoku**	**1.22**	**26**	⇑P	**Pn**	**16 57 17.2**	**-0.9**
JWK2				eS	**Sb**	**16 57 34.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**2.96**	**22**	ePn	**Pn**	**16 57 42.0**	**0.0**
MAJO	**Matsushiro**	**7.99**	**197**	ePn	**Pn**	**16 58 53.4**	**+2.2**
MJAR	**Matsushiro Arr**	**7.99**	**197**	Pn	**Pn**	**16 58 56.2**	**+5.1**
	0.2nm,0.3s,baz=13,slow=15,SNR=7.5						
MA2	**Magadan**	**16.45**	**17**	Pn	**Pn**	**17 00 48.0**	**+2.1**
WRA	**Warramunga Arr**	**64.15**	**187**	P	**P**	**17 07 28.7**	**-1.0**
	0.9nm,1.0s,mb3.8,baz=5.7,slow=7.0,SNR=5.0						
ASAR	**Alice Springs**	**67.88**	**187**	P	**P**	**17 07 53.5**	**-0.1**
	0.6nm,0.8s,mb3.7,baz=2.4,slow=6.9,SNR=7.6						

SZGRF ***24*** *16:57:26.8, 1355N×5803E, h24km, mb4.4, Owen Fracture Zone region*
BJI ***24*** *16:57:30.5, 14.16N×5577E, h10km, mB5.1, mb4.9, Ms4.9, Msz4.7*
IDC ***24*** *16:57:35.4±0.6, 1450N×5639E, h0km, mb4.2/27, mb1 4.3/28, mb1mx4.2/32, mbtmp4.2/28, ML3.6/1, Error ellipse: s-maj=16.8km s-min=12.2km az=104.0*
MOS ***24*** *16:57:35.1±1.1, 1450N×5632E, h10km, mb5.0/45, Error ellipse: s-maj=10.3km s-min=4.6km az=118.0*
ISCJB ***24*** *16:57:35.1±0.4, 1449N±005×5636E±004, h10km, mb4.5/94, MS4.6/7, Error ellipse: s-maj=7.9km s-min=6.2km az=176.8*
HRVD ***24*** *16:57:36.8±0.3, 1446N×5624E, h13km±1km, MW5.0/77, Centroid moment Tensor Solution. LP body waves: s30,c33;Mantle waves: s77,c132; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.09±.27; Mθθ3.74±.18; Mφφ0.35±.17; Mrθ0.64±.38; Mφφ-1.29±.11; Mφr-0.30±.48; Best double couple: M0:4.19300×10^16 NP1:φ0=107.00000°, δ40.00000°, λ-92.00000°. NP2: φ0=290.00000°, δ50.00000°, λ-88.00000°. Principal axes: T 4.2350, Plg5.0000°, Azm19.0000°; N -0.0810, Plg1.0000°, Azm109.0000°; P -4.1510, Plg85.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *16:57:36.8±0.3, 1448N×5638E, h10km, mb4.6/47 Error ellipse: s-maj=7.0km s-min=6.8km az=131.0*
CSEM ***24*** *16:57:36.9±0.1, 1453N×5624E, h21km, mb4.6/44, Ms4.4, Mw5.0, Error ellipse: s-maj=6.3km s-min=3.6km az=164.0*

ISC 24 16:57:37.2±0.4, 1450N±006×5638E±004, h10km, (h23km±1.3km:pP-P), n241, σ1:05/239, mb4.5/94, MS4.6/7, 15C-13D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.96**	**13**	Pn	**Pn**	**16 59 47.3**	**+0.8**
	0.7nm,0.3s,baz=199,slow=17,SNR=4.6						
KMBO	**Kilima Mbogo**	**24.48**	**232**	P	**P**	**17 02 56.2**	**-0.1**
	0.9nm,0.4s,baz=44,slow=14,SNR=4.4						
KMBO	**Kilima Mbogo**	**24.48**	**232**	eP	**P**	**17 02 57.6**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,50nm,1.1s						
KMBO	**Kilima Mbogo**	**24.48**	**232**	eP	**P**	**17 02 57.6**	**+1.3**
	comp=Z,5.1nm,1.1s,mb3.9						
KMBO	**Kilima Mbogo**	**24.48**	**232**	eP	**P**	**17 02 57.6**	**+1.2**
	comp=Z,5.1nm,1.1s,mb3.9						
EIL	**Elat**	**24.88**	**311**	eP	**P**	**17 03 01.1**	**+1.1**
	comp=Z,741nm,1.3s						
EIL	**Elat**	**24.88**	**311**	eP	**P**	**17 03 01.1**	**+1.1**
	comp=Z,741nm,1.3s						
ASF	**Jabal al Asfar**	**25.02**	**318**	P	**P**	**17 03 03.0**	**+1.7**
	comp=Z,8.5nm,1.1s,mb4.2,baz=0.0,slow=11,SNR=2.5						
MMAI	**Mount Meron Ar**	**26.52**	**318**	P	**P**	**17 03 17.5**	**+2.6**
	comp=Z,14nm,1.1s,mb4.4,baz=112,slow=9.1,SNR=9.5						
GNI	**Garni**	**27.51**	**340**	P	**P**	**17 03 24.2**	**+0.4**
	comp=Z,4.4nm,0.4s,mb4.4,baz=155,slow=14,SNR=4.5						
GNI	**Garni**	**27.51**	**340**	eP	**P**	**17 03 25.0**	**+1.2**
GNI				pmax	pmax		
	comp=Z,80nm,1.5s						
GNI	**Garni**	**27.51**	**340**	eP	**P**	**17 03 25.0**	**+1.2**
	comp=Z,80nm,1.5s,mb5.1						
GNI	**Garni**	**27.51**	**340**	eP	**P**	**17 03 25.0**	**+1.2**
	comp=Z,80nm,1.5s,mb5.1						
MALT	**Malatya**	**28.55**	**330**	⇑iP	**P**	**17 03 36.9**	**+3.8**
MALT	**Malatya**	**28.55**	**330**	eP	**P**	**17 03 36.5**	**+3.4**
MALT				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.7						
MALT	**Malatya**	**28.55**	**330**	eP	**P**	**17 03 36.5**	**+3.4**
	comp=Z,20nm,1.3s,mb4.7						
AKH	**Akhalkalaki**	**29.06**	**340**	P	**P**	**17 03 45.5**	**+7.9**
ONI	**Oni**	**30.12**	**341**	P	**P**	**17 03 43.9**	**-3.1**
ZEI	**Tsey**	**30.16**	**342**	eP	**P**	**17 03 43.2**	**-4.1**
ZEI				e*PP	pP	17 03 50.0	-0.4
ZEI				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.0						
KIV	**Kislovodsk**	**31.61**	**341**	c iP	**P**	**17 03 59.8**	**-0.3**
KIV				pmax	pmax		
	comp=Z,31nm,1.7s,mb4.9						

KIV MLR MLR
comp=Z,900nm,16.0s,MS4.5
BRTR Keskin Array B 32.08 326 P **P 17 04 04.8 +0.4**
comp=Z,0.8nm,0.8s,mb3.6,baz=145,slow=8.9,SNR=4.5
BR131 Keskin Array S 32.08 326 *e*P **P 17 04 06.5 +2.2**
comp=Z,7.5nm,1.5s,mb4.3
BR131 Keskin Array S 32.08 326 *e*P **P 17 04 06.6 +2.3**
comp=Z,7.5nm,1.5s,mb4.3
AAK Ala-Archa 32.09 26 *e*P **P 17 04 05.9 +1.5**
AAK pmax pmax
comp=Z,29nm,1.4s,mb4.9
AAK Ala-Archa 32.09 26 *e*P **P 17 04 05.9 +1.5**
comp=Z,29nm,1.4s,mb4.9
AAK Ala-Archa 32.09 26 *e*P **P 17 04 05.9 +1.5**
comp=Z,29nm,1.4s,mb4.9
SOC Sochi 32.31 337 *e*P **P 17 04 05.6 -0.7**
SOC *e*PPP 17 05 14.3
SOC pmax pmax
comp=Z,19nm,1.2s,mb4.8
FRU Bishkek 32.31 26 *e*P **P 17 04 10.0 +3.7**
IDI Anoyia 35.04 312 P **P 17 04 31.3 +1.3**
comp=Z,18nm,1.1s,mb4.9,baz=65,slow=8.0,SNR=3.3
SIM Simferopol' 35.74 333 *i* P **P 17 04 39.2 +3.1**
SIM *i* 17 04 46.0
SIM pmax pmax
comp=Z,32nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,820nm,17.5s,MS4.5
AKTK Aktyubinsk 35.87 2 P **P 17 04 36.7 -0.5**
AKTK Aktyubinsk 35.87 2 P **P 17 04 36.7 -0.5**
AKTO Aktyubinsk 35.87 2 P **P 17 04 36.7 -0.5**
comp=Z,2.5nm,0.7s,mb4.2,baz=192,slow=9.9,SNR=5.6
TIRR Tirgusor 38.16 327⇑*i*P **P 17 04 57.9 +1.2**
MKAR Makanchi Array 38.81 29 P **P 17 05 03.0 +1.0**
comp=Z,1.9nm,0.7s,mb3.9,baz=220,slow=8.4,SNR=8.7
MKAR Makanchi Array 38.81 29 P **P 17 05 03.0 +0.9**
WMQ Urumqi 39.60 36 *e*P **P 17 05 09.1 +0.4**
WMQ AMB AMB
comp=Z,10.0nm,1.5s,mb4.3
WMQ AMB AMB
comp=Z,180nm,3.6s
ZRNK Zerenda 39.65 12 *e*P **P 17 05 10.0 +0.8**
ZRNK pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
ZRNK Zerenda 39.65 12 *e*P **P 17 05 10.0 +0.8**
comp=Z,9.1nm,1.2s,mb4.4
VRI Vrincioaia 39.99 327⇑*i*P **P 17 05 14.7 +2.7**
VRI Vrincioaia 39.99 327⇑P **P 17 05 14.7 +2.7**
BVAR Borovoye Array 40.02 13 P **P 17 05 11.9 -0.3**
comp=Z,0.4nm,0.6s,mb3.4,baz=229,slow=6.6,SNR=4.0
BVAR PcP PcP 17 07 17.2 0.0
comp=Z,1.7nm,0.8s,baz=221,slow=3.9,SNR=5.9
BVAR Borovoye Array 40.02 13 PcP PcP 17 07 17.2 0.0
BRVK Borovoye 40.02 13 *e*P **P 17 05 11.1 -1.1**
BRVK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
BRVK Borovoye 40.02 13 *e*P **P 17 05 11.1 -1.2**
comp=Z,4.0nm,1.2s,mb4.0
BRVK Borovoye 40.02 13 *e*P **P 17 05 11.1 -1.1**
comp=Z,4.0nm,1.2s,mb4.0
PLOR Plostina 40.02 327⇑*i*P **P 17 05 14.8 +2.5**
MLR Muntele Rosu 40.16 326⇑*i*P **P 17 05 16.1 +2.7**
MLR Muntele Rosu 40.16 326⇑P **P 17 05 16.1 +2.7**
KURK Kurchatov 40.37 22 *e*P **P 17 05 15.1 0.0**
KURK pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
KURK Kurchatov 40.37 22 *e*P **P 17 05 15.1 0.0**
comp=Z,8.5nm,1.1s,mb4.4
KURK Kurchatov 40.37 22 *e*P **P 17 05 15.1 0.0**
comp=Z,8.5nm,1.1s,mb4.4
VOIR 40.61 326⇑*i*P **P 17 05 18.1 +1.0**
VOIR 40.61 326⇑P **P 17 05 18.1 +1.0**
LSZ Lusaka 40.64 224 P **P 17 05 18.7 +1.4**
comp=Z,2.5nm,0.6s,mb4.0,baz=49,slow=9.6,SNR=4.3
LSZ Lusaka 40.64 224 *e*P **P 17 05 21.2 +3.8**
LSZ pmax pmax
comp=Z,14nm,1.4s,mb4.4
LSZ Lusaka 40.64 224 *e*P **P 17 05 21.2 +3.9**
comp=Z,14nm,1.4s,mb4.4
BOLS Boljevac 41.42 322⇑*i*P **P 17 05 23.1 -0.6**
ARU Arti 41.88 2 *e*P **P 17 05 25.3 -2.3**
ARU *e*PPP 17 07 18.2
ARU MLR MLR
comp=Z,700nm,16.0s,MS4.6
ARU MLR MLR
comp=N,500nm,17.0s,MS4.5
ARU MLR MLR
comp=E,200nm,18.0s,MS4.5
ARU Arti 41.88 2 P **P 17 05 25.2 -2.4**
ARU Arti 41.88 2 P **P 17 05 25.2 -2.4**
BURAR Bucovina Array 41.93 328⇓*i*P **P 17 05 32.4 +4.4**
AKASG Malin Array Be 42.27 334 P **P 17 05 30.2 -0.5**
comp=E,4.8nm,0.9s,mb4.2,baz=139,slow=7.6,SNR=14
AKASG Malin Array Be 42.27 334 *i* P **P 17 05 31.1 +0.4**
AKASG pmax pmax
comp=Z,50nm,0.9s
AKASG Malin Array Be 42.27 334 P **P 17 05 30.2 -0.5**
TIP Timpagrande 42.57 313 *e*P **P 17 05 34.4 +1.2**
TIP Timpagrande 42.57 313 *e*P **P 17 05 34.4 +1.2**
BZS Buzias 42.64 324⇓*i*P **P 17 05 34.4 +0.7**
BZS Buzias 42.64 324⇓P **P 17 05 34.4 +0.7**
DRGR 42.73 326⇓*i*P **P 17 05 35.9 +1.5**
DRGR 42.73 326⇓P **P 17 05 35.9 +1.5**
OBN Obninsk 43.35 344 *e*P **P 17 05 35.8 -3.7**
OBN *e* 17 07 29.8
OBN pmax pmax
comp=Z,30nm,1.3s,mb4.9
OBN Obninsk 43.35 344 *e*P **P 17 05 39.5 0.0**
comp=Z,23nm,1.0s,mb4.9
MOS Moscow 43.63 345 *e*P **P 17 05 47.0 +5.3**
MOS pmax pmax
comp=Z,45nm,1.2s,mb5.1
MATP Matopo 44.22 219 P **P 17 05 47.1 +0.6**
comp=Z,2.8nm,0.5s,mb4.2,baz=28,slow=10,SNR=13
KOLS Kolonicke sedl 44.29 328 *e*P **P 17 05 48.8 +1.8**
KOLS pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
KOLS Kolonicke sedl 44.29 328 *e*P **P 17 05 48.8 +1.8**
comp=Z,8.4nm,1.3s,mb4.3
KWP Kalwaria 44.51 329 *e*P **P 17 05 49.8 +1.0**
KWP pmax pmax
comp=Z,33nm,1.3s,mb5.0
KWP Kalwaria 44.51 329 *e*P **P 17 05 49.8 +1.0**
comp=Z,34nm,1.3s,mb5.0
KWP Kalwaria 44.51 329 *e*P **P 17 05 49.8 +1.0**
comp=Z,34nm,1.3s,mb5.0
PKSM Moragy 44.69 323⇓*i*P **P 17 05 49.2 -1.1**
PKSM Moragy 44.69 323⇓P **P 17 05 49.2 -1.1**
KECS Kecovo 44.95 326 *e*P **P 17 05 49.3 -3.0**
KECS pmax pmax
comp=Z,20nm,0.8s,mb5.0
KECS Kecovo 44.95 326 *e*P **P 17 05 49.3 -3.0**
comp=Z,1.8nm,0.8s,mb4.0
KECS *e*PP PP 17 07 41.0 +3.7
STHS Stebnicka Huta 45.12 328 *e*P **P 17 05 56.9 +3.3**
STHS pmax pmax
comp=Z,30nm,1.0s,mb5.1
STHS Stebnicka Huta 45.12 328 *e*P **P 17 05 56.9 +3.3**
comp=Z,2.9nm,1.0s,mb4.1
STHS *e*PP PP 17 07 42.4 +3.3
ZAL Zalesovo 45.23 23 P **P 17 05 55.1 +0.5**
comp=Z,3.7nm,0.8s,mb4.3,baz=249,slow=8.0,SNR=12
ZAL Zalesovo 45.23 23 *i* P **P 17 05 55.7 +1.1**
ZAL pmax pmax
comp=Z,4.0nm,0.8s
NVS Novosibirsk 45.35 22 *e*P **P 17 05 55.4 -0.1**
NVS pmax pmax
comp=Z,21nm,1.1s,mb4.9
NVS pmax pmax
comp=N,11nm,1.2s
NVS Novosibirsk 45.35 22 *e*P **P 17 05 55.4 -0.1**
comp=N,11nm,1.2s,mb4.6
VYHS Vyhne 45.84 326 *e*P **P 17 05 59.2 -0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.8s,mb4.4
VYHS Vyhne 45.84 326 *e*P **P 17 05 59.2 -0.2**
comp=Z,9.5nm,1.8s,mb4.4
CD2 Chengdu 46.31 61 *e*P **P 17 06 02.3 -0.8**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
OJC Ojcow 46.35 328 *e*P **P 17 06 03.7 +0.3**
OKC Ostrava-Krasne 46.98 327 *e*P **P 17 06 08.6 +0.2**
OKC *e*pP pP 17 06 15.3 +3.8
ARSA Arzberg 47.06 323⇓*e*P **P 17 06 10.0 +1.0**
comp=Z,6.8nm,1.0s,mb4.5
CONA Conrad Observa 47.21 323⇓*e*P **P 17 06 10.9 +0.8**
comp=Z,13nm,1.3s,mb4.7
MORC Moravsky Berou 47.27 326⇓*i*P **P 17 06 10.8 +0.2**
MORC Moravsky Berou 47.27 326 *e*P **P 17 06 10.4 -0.2**
comp=Z,18nm,1.4s,mb4.8
MORC Moravsky Berou 47.27 326 *e*P **P 17 06 10.4 -0.2**
comp=Z,18nm,1.4s,mb4.8
OBKA Obir 47.28 321⇑*e*P **P 17 06 11.4 +0.7**
comp=Z,11nm,1.4s,mb4.6
LZH Lanzhou 47.45 54 *e*P **P 17 06 14.0 +2.0**
LZH AP pP 17 06 20.0 +4.8
LZH XP sP 17 06 23.0 +6.6
LZH PP PP 17 08 05.1 +1.8
LZH AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
VRAC Vranov 47.53 325 P **P 17 06 12.9 +0.3**
comp=Z,2.4nm,0.7s,mb4.3,baz=91,slow=10,SNR=4.9
VRAC Vranov 47.53 325⇓*i*P **P 17 06 13.1 +0.5**
VRAC Vranov 47.53 325⇓P **P 17 06 13.1 +0.5**
MOA Molln 48.10 323⇓*e*P **P 17 06 17.0 0.0**
comp=Z,5.2nm,0.9s,mb4.6
TREC Trest 48.13 325 *e*P **P 17 06 19.1 +1.8**
TREC *e*pP pP 17 06 24.0 +3.5
DPC Dobruska-Polom 48.24 326 *e*P **P 17 06 19.0 +0.8**
DPC *e*pP pP 17 06 24.8 +3.5
UPC Upice 48.50 326 *e*P **P 17 06 20.9 +0.8**
UPC *e*pP pP 17 06 27.1 +3.8
GERES GERESS Array B 48.92 324 P **P 17 06 22.6 -0.7**
comp=Z,0.8nm,0.7s,mb3.9,baz=140,slow=6.9,SNR=5.6
KHC Kasperske Hory 49.13 324 *e*P **P 17 06 24.7 -0.3**
KHC *e*pP pP 17 06 31.2 +3.1
VSU Vasula 49.15 340 *e*P **P 17 06 22.5 -2.6**
PGF Pioggiola 49.29 314 *e*P **P 17 06 25.9 -0.3**
comp=Z,18nm,1.2s,mb4.7
PGF Pioggiola 49.29 314 *e*P **P 17 06 25.9 -0.3**
PGF pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
PGF Pioggiola 49.29 314 *e*P **P 17 06 25.9 -0.3**
comp=Z,9.1nm,1.2s,mb4.7
PVCC Panska Ves 49.29 326 *e*P **P 17 06 26.1 -0.1**
WTTA Wattenberg 49.41 321⇑*e*P **P 17 06 27.1 0.0**
comp=Z,8.8nm,1.2s,mb4.7
LBTB Lobatse 49.43 218 P **P 17 06 29.0 +1.7**
comp=Z,9.8nm,1.2s,mb4.7,baz=47,slow=8.6,SNR=7.0
LBTB Lobatse 49.43 218 *e*P **P 17 06 28.6 +1.4**
LBTB pmax pmax
comp=Z,34nm,1.4s,mb5.2
LBTB Lobatse 49.43 218 *e*P **P 17 06 28.6 +1.3**
comp=Z,34nm,1.4s,mb5.2
LBTB Lobatse 49.43 218 *e*P **P 17 06 28.6 +1.4**
comp=Z,34nm,1.4s,mb5.2
SQTA Sankt Quirin 49.65 321 *e*P **P 17 06 28.3 -0.7**
comp=Z,3.6nm,0.6s,mb4.6
DAVOX Davos 50.29 320 P **P 17 06 32.9 -0.9**
comp=Z,2.7nm,0.6s,mb4.5,baz=109,slow=4.9,SNR=4.6
NKC Novy Kostel 50.31 325 *e*P **P 17 06 34.6 +0.7**
NKC *e*pP pP 17 06 40.4 +3.3
DAVA Damuels 50.50 320⇑*e*P **P 17 06 34.7 -0.7**
comp=Z,4.3nm,0.5s,mb4.7
CLL Collm 50.54 326 *e*P **P 17 06 35.0 -0.7**
comp=Z,20nm,1.8s,mb4.8
CLL *i* pP pP 17 06 42.4 +3.5
CLL Collm 50.54 326 *e*P **P 17 06 35.0 -0.7**
CLL *i* 17 06 42.4
CLL pmax pmax
comp=Z,20nm,1.8s,mb4.8
GRA1 Grafenberg Arr 50.75 324 *e*P **P 17 06 36.8 -0.5**
comp=Z,7.0nm,1.3s,mb4.4
GRA1 *e*pP pP 17 06 43.2 +2.8
GRF Grafenberg Arr 50.75 324 *e*P **P 17 06 36.8 -0.5**
comp=Z,7.0nm,1.3s,mb4.4
GRF *e*pP pP 17 06 43.2 +2.8
GRF Grafenberg Arr 50.75 324 *e*P **P 17 06 36.8 -0.5**
GRF *e**PP pP 17 06 43.2 +2.8
GRF pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
GRF Grafenberg Arr 50.75 324 *e*P **P 17 06 36.8 -0.5**
GRF *e**PP pP 17 06 43.2 +2.8
GRF pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
SBF Sospel 50.81 315 *e*P **P 17 06 38.2 +0.5**
FRF La Foret Royal 51.25 315 *e*P **P 17 06 41.3 +0.3**
comp=Z,52nm,1.4s,mb5.0
FRF La Foret Royal 51.25 315 *e*P **P 17 06 41.3 +0.3**
FRF pmax pmax
comp=Z,26nm,1.4s,mb5.0
FRF La Foret Royal 51.25 315 *e*P **P 17 06 41.3 +0.3**
comp=Z,26nm,1.4s,mb5.0
LMR La Mourre 51.27 314 *e*P **P 17 06 41.2 0.0**
comp=Z,61nm,1.3s,mb5.1
LMR La Mourre 51.27 314 *e*P **P 17 06 41.2 0.0**
LMR pmax pmax
comp=Z,30nm,1.3s,mb5.1
LMR La Mourre 51.27 314 *e*P **P 17 06 41.2 0.0**
comp=Z,30nm,1.3s,mb5.1
JOF Joensuu 51.49 346 *e*p **P 17 06 41.5 -1.3**
comp=Z,7.9nm,0.9s,mb4.6
JOF Joensuu 51.49 346 *e*P **P 17 06 41.5 -1.3**
JOF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBDF Montbardon 51.55 316 *e*P **P 17 06 43.5 +0.2**
comp=Z,6.2nm,0.8s,mb4.3
MBDF Montbardon 51.55 316 *e*P **P 17 06 43.5 +0.2**
MBDF pmax pmax
comp=Z,30nm,0.8s,mb5.3
MBDF Montbardon 51.55 316 *e*P **P 17 06 43.5 +0.2**
comp=Z,3.1nm,0.8s,mb4.3
FINES FINESS Array B 51.69 342 P **P 17 06 43.0 -1.3**
comp=Z,3.5nm,0.8s,mb4.3,baz=138,slow=10,SNR=18
FINES FINESS Array B 51.69 342 *i* P **P 17 06 44.7 +0.4**
FINES pmax pmax
comp=Z,4.0nm,0.9s
LPG La Plagne 51.82 317 *e*P **P 17 06 45.0 -0.3**
comp=Z,24nm,1.0s,mb4.8
LPG La Plagne 51.82 317 *e*P **P 17 06 45.0 -0.3**
LPG pmax pmax
comp=Z,12nm,1.0s,mb4.8
LPG La Plagne 51.82 317 *e*P **P 17 06 45.0 -0.3**
comp=Z,12nm,1.0s,mb4.8
LPL La Plagne 51.84 317 *e*P **P 17 06 45.1 -0.4**
comp=Z,13nm,0.8s,mb4.6
LPL La Plagne 51.84 317 *e*P **P 17 06 45.1 -0.4**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPL La Plagne 51.84 317 *e*P **P 17 06 45.1 -0.4**
comp=Z,6.7nm,0.8s,mb4.6
SMRF Simiane la Rot 52.12 315 *e*P **P 17 06 47.9 +0.4**
comp=Z,46nm,1.7s,mb4.8
SMRF Simiane la Rot 52.12 315 *e*P **P 17 06 47.9 +0.4**
comp=Z,23nm,1.7s,mb4.8
KAF Kangasniemi 52.15 343 *e*p **P 17 06 47.2 -0.5**
comp=Z,6.1nm,0.8s,mb4.6
KAF Kangasniemi 52.15 343 *e*P **P 17 06 47.2 -0.5**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ORIF Oris-en-Rattie 52.21 316 *e*P **P 17 06 48.3 +0.1**
BOSA Boshof 52.37 215 P **P 17 06 49.5 +0.1**
comp=Z,3.1nm,0.7s,mb4.3,baz=49,slow=6.9,SNR=6.5
BOSA Boshof 52.37 215 *e*P **P 17 06 49.6 +0.2**
BOSA pmax pmax
comp=Z,17nm,1.0s,mb4.9
BOSA Boshof 52.37 215 *e*P **P 17 06 49.5 +0.1**
comp=Z,17nm,1.0s,mb4.9
BOSA Boshof 52.37 215 *e*P **P 17 06 49.5 +0.1**
comp=Z,17nm,1.0s,mb4.9
CDF Champ du Feu 52.55 321 *e*P **P 17 06 50.0 -0.8**
comp=Z,6.6nm,0.8s,mb4.3
CDF Champ du Feu 52.55 321 *e*P **P 17 06 50.0 -0.8**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CDF Champ du Feu 52.55 321 *e*P **P 17 06 50.0 -0.8**
comp=Z,3.3nm,0.8s,mb4.3
HINF Hinteralfeld 52.59 320 *e*P **P 17 06 49.9 -1.1**
CABF La Chapelle 52.64 318 *e*P **P 17 06 51.6 +0.2**
TLY Talaya 52.85 35 *e*P **P 17 06 55.7 +2.7**
TLY pmax pmax
comp=Z,5.0nm,2.0s,mb4.1
TLY Talaya 52.85 35 P **P 17 06 54.1 +1.1**
comp=Z,2.0nm,1.1s,mb4.0
TLY Talaya 52.85 35 P **P 17 06 54.1 +1.1**
comp=Z,2.0nm,1.1s,mb4.0
SONM Songino Array 52.91 40 P **P 17 06 53.9 +0.5**
comp=Z,1.0nm,0.8s,mb3.8,baz=240,slow=7.8,SNR=7.5
VIVF Saint-Julien-l 53.00 316 *e*P **P 17 06 53.6 -0.5**
comp=Z,15nm,1.2s,mb4.5
VIVF Saint-Julien-l 53.00 316 *e*P **P 17 06 53.6 -0.5**
VIVF pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
VIVF Saint-Julien-l 53.00 316 *e*P **P 17 06 53.6 -0.5**
comp=Z,7.3nm,1.2s,mb4.5
TORD Torodi Ar. Bea 53.01 276 P **P 17 06 54.5 +0.3**
comp=Z,1.7nm,0.9s,mb4.0,baz=93,slow=6.7,SNR=5.6
TORD Torodi Ar. Bea 53.01 276 P **P 17 06 54.5 +0.3**
LASF Ste Croix 53.33 315 *e*P **P 17 06 56.3 -0.2**
comp=Z,20nm,1.2s,mb4.6
LASF Ste Croix 53.33 315 *e*P **P 17 06 56.3 -0.2**
comp=Z,10nm,1.2s,mb4.6
ULN Ulaanbaatar 53.33 40 *e*P **P 17 06 57.6 +1.1**
ULN pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
ULN Ulaanbaatar 53.33 40 *e*P **P 17 06 57.6 +1.1**
comp=Z,5.8nm,1.5s,mb4.3
ULN Ulaanbaatar 53.33 40 *e*P **P 17 06 57.6 +1.1**
comp=Z,5.8nm,1.5s,mb4.3
MEZF Maizieres J'vi 53.96 320 *e*P **P 17 07 00.8 -0.3**
comp=Z,34nm,1.2s,mb4.9
MEZF Maizieres J'vi 53.96 320 *e*P **P 17 07 00.8 -0.3**
comp=Z,17nm,1.2s,mb4.9
SMF Signal de Mont 54.11 318 *e*P **P 17 07 01.5 -0.7**
MTLF Montolieu 54.28 313 *e*P **P 17 07 03.4 0.0**
comp=Z,13nm,1.3s,mb4.4
MTLF Montolieu 54.28 313 *e*P **P 17 07 03.4 0.0**
MTLF pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
MTLF Montolieu 54.28 313 *e*P **P 17 07 03.4 0.0**
comp=Z,6.3nm,1.3s,mb4.4
LOR Lormes 54.30 318 *e*P **P 17 07 03.0 -0.6**
comp=Z,36nm,1.2s,mb4.9
LOR Lormes 54.30 318 *e*P **P 17 07 03.0 -0.6**
LOR pmax pmax
comp=Z,18nm,1.2s,mb4.9
LOR Lormes 54.30 318 *e*P **P 17 07 03.0 -0.6**
comp=Z,18nm,1.2s,mb4.9
HHC Hu-ho-hao-te 54.44 50 *e*P **P 17 07 04.9 +0.3**
HHC AP pP 17 07 09.3 +1.5
HHC XP sP 17 07 11.4 +2.3
HHC PP PP 17 09 08.3 +1.6
HHC S **S 17 14 41.8 -1.5**
HHC SCS ScS 17 16 49.0 -5.1
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,90nm,4.2s
HHC LR LR
comp=N,400nm,16.6s,MS4.8
HHC LR LR
comp=E,500nm,17.8s,MS4.8
HHC LR LR
comp=Z,660nm,19.0s,MS4.7
SSF Saint Saulge 54.46 318 *e*P **P 17 07 04.2 -0.6**
comp=Z,8.0nm,0.8s,mb4.4
SSF Saint Saulge 54.46 318 *e*P **P 17 07 04.2 -0.6**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SSF Saint Saulge 54.46 318 *e*P **P 17 07 04.2 -0.6**
comp=Z,4.0nm,0.8s,mb4.4
AVF Avril sur Loir 54.48 318 *e*P **P 17 07 04.0 -0.9**
GIVF Givet 54.68 322 *e*P **P 17 07 06.1 -0.3**
BGF Bois d'Agland 54.74 317 *e*P **P 17 07 06.5 -0.3**
comp=Z,17nm,0.8s,mb4.8
BGF Bois d'Agland 54.74 317 *e*P **P 17 07 06.5 -0.3**
BGF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BGF Bois d'Agland 54.74 317 *e*P **P 17 07 06.5 -0.3**
comp=Z,8.4nm,0.8s,mb4.8
CAF Calviac 54.80 315 *e*P **P 17 07 06.5 -0.7**
BAIF Baives 55.03 322 *e*P **P 17 07 08.7 -0.2**
comp=Z,23nm,1.1s,mb4.8
BAIF Baives 55.03 322 *e*P **P 17 07 08.7 -0.2**
BAIF pmax pmax
comp=Z,11nm,1.1s,mb4.8
BAIF Baives 55.03 322 *e*P **P 17 07 08.7 -0.2**
comp=Z,11nm,1.1s,mb4.8
TCF Toulx Ste Croi 55.08 317 *e*P **P 17 07 08.8 -0.5**
HFS Hagfors 55.13 336 P **P 17 07 08.0 -1.6**
comp=Z,2.3nm,0.9s,mb4.2,baz=122,slow=14,SNR=4.0
RJF Les Rejaudoux 55.27 315 *e*P **P 17 07 10.1 -0.5**
LFF La Frestale 55.71 315 *e*P **P 17 07 13.4 -0.4**
NOA NORSAR Array B 56.66 336 P **P 17 07 19.7 -0.8**
comp=Z,2.1nm,1.0s,mb4.1,baz=119,slow=8.0,SNR=2.9
MFF Saint Martin d 56.73 317 *e*P **P 17 07 20.1 -1.0**
comp=Z,24nm,1.4s,mb4.7
MFF Saint Martin d 56.73 317 *e*P **P 17 07 20.1 -1.0**
MFF pmax pmax
comp=Z,12nm,1.4s,mb4.7
MFF Saint Martin d 56.73 317 *e*P **P 17 07 20.1 -1.0**
comp=Z,12nm,1.4s,mb4.7
LDF La Druitiere 57.25 319 *e*P **P 17 07 23.9 -0.9**
comp=Z,39nm,1.3s,mb5.0
LDF La Druitiere 57.25 319 *e*P **P 17 07 23.9 -0.9**
LDF pmax pmax
comp=Z,19nm,1.3s,mb5.0
LDF La Druitiere 57.25 319 *e*P **P 17 07 23.9 -0.9**
comp=Z,20nm,1.3s,mb5.0
FLN La Foliniere 57.53 319 *e*P **P 17 07 25.7 -1.0**
GRR Gorron 57.67 318 *e*P **P 17 07 27.1 -0.6**
comp=Z,7.7nm,0.8s,mb4.5
GRR Gorron 57.67 318 *e*P **P 17 07 27.1 -0.6**
GRR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
GRR Gorron 57.67 318 *e*P **P 17 07 27.1 -0.6**
comp=Z,3.8nm,0.8s,mb4.5
MDT Midelt 58.01 300 P **P 17 07 27.4 -2.8**
comp=Z,3.1nm,1.0s,mb4.3,baz=104,slow=7.3,SNR=4.7
ESDC Sonseca Array 58.12 308 P **P 17 07 29.3 -1.6**
comp=Z,1.5nm,0.5s,mb4.2,baz=79,slow=6.0,SNR=10
ESLA Sonseca Array 58.12 308 *e*P **P 17 07 29.9 -1.0**
comp=Z,2.0nm,1.0s,mb4.1
ARCES ARCESS Array B 58.32 348 P **P 17 07 31.1 -1.2**
comp=Z,2.6nm,0.8s,mb4.3,baz=146,slow=6.8,SNR=9.5
SGMF Saint Gilles 58.73 318 *e*P **P 17 07 33.8 -1.3**
NJ2 Nanjing 59.24 61 *e*P **P 17 07 40.0 +1.3**
NJ2 AP pP 17 07 50.3 +8.4
NJ2 PCP PcP 17 08 30.0 +3.1
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
NJ2 AMB AMB
comp=Z,110nm,6.8s
NJ2 LR LR
comp=N,970nm,19.8s,MS5.1
NJ2 LR LR
comp=E,1μm,23.8s,MS5.1
NJ2 LR LR
comp=Z,510nm,19.8s,MS4.7
EKA Eskdalemuir Ar 61.01 326 P **P 17 07 49.5 -1.2**
comp=Z,1.5nm,0.8s,mb4.2,baz=110,slow=7.3,SNR=7.8
EVO Evora 61.14 306 *e*P **P 17 07 51.3 -0.4**
comp=Z,25nm,1.3s,mb4.9
SSE Sheshan 61.22 62 P **P 17 07 52.3 +0.1**
SSE AP pP 17 08 01.5 +6.0
SSE XP sP 17 08 05.1 +8.4
SSE SCS ScS 17 17 40.3 -3.4
SSE AMB AMB
comp=Z,20nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,60nm,5.2s
SSE LR LR
comp=N,180nm,25.5s,MS4.4
SSE LR LR
comp=E,270nm,25.5s,MS4.4
SSE LR LR
comp=Z,330nm,27.4s,MS4.3
SNY Shenyang 63.53 50 ⇑P **P 17 08 07.6 -0.1**
SNY AMB AMB
comp=Z,20nm,0.5s,mb5.4
CN2 Changchun 65.04 48 *e*P **P 17 08 18.8 +1.2**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
MDJ Mudanjiang 68.05 47 P **P 17 08 35.8 -1.0**
MDJ XP sP 17 08 41.6 +0.3
MDJ PCP PcP 17 09 00.5 -2.5
MDJ PP PP 17 11 05.3 -1.6
MDJ S S 17 17 36.6 +0.3
MDJ SCS ScS 17 18 33.1 -2.9
MDJ AMB AMB
comp=Z,40nm,3.6s
MDJ LR LR
comp=N,260nm,17.1s,MS4.6
MDJ LR LR
comp=E,230nm,21.9s,MS4.6
MDJ LR LR
comp=Z,350nm,28.1s

YAK	Yakutsk	69.48	29	*e*P	P	17 08 45.0	-0.8
YAK				pmax	pmax		
comp=Z,19nm,1.4s,mb4.8							
YAK	Yakutsk	69.48	29	*e*P	P	17 08 43.6	-2.2
comp=Z,11nm,0.6s,mb5.0							
MJAR	Matsushiro Arr	75.03	56	P	P	17 09 24.5	+5.5
comp=Z,0.8nm,0.8s,mb3.7,baz=293,slow=11,SNR=4.1							
MAW	Mawson	82.01	177	P	P	17 09 57.4	0.0
MAW				pmax	pmax		
comp=Z,4.0nm,1.2s							
MAW	Mawson	82.01	177	P	P	17 09 57.4	0.0
comp=Z,4.1nm,1.2s,mb4.2							
BILL	Bilibino	83.89	21	*e*P	P	17 10 06.6	-0.6
BILL				*e*		17 10 15.1	
BILL				pmax	pmax		
comp=Z,10.0nm,1.4s,mb4.8							
BILL	Bilibino	83.89	21	*e*P	P	17 10 06.2	-1.0
comp=Z,14nm,1.5s,mb4.8							
WRA	Warramunga Arr	83.93	112	P	P	17 10 06.7	-0.7
comp=Z,1.3nm,0.7s,mb4.2,baz=299,slow=4.3,SNR=10							
WRAB	Tennant Creek	83.94	112	*e*P	P	17 10 05.9	-1.5
WRAB				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.8							
WRAB	Tennant Creek	83.94	112	*e*P	P	17 10 05.9	-1.6
comp=Z,6.8nm,1.0s,mb4.7							
ASAR	Alice Springs	84.69	116	P	P	17 10 10.8	-0.5
comp=Z,1.5nm,0.8s,mb4.2,baz=293,slow=5.0,SNR=14							
PDAR	Pinedale Array	121.58	348	PKP	PKPdf	17 16 31.1	+0.1
comp=Z,0.6nm,0.7s,baz=357,slow=3.0,SNR=5.8							
NVAR	Mina Array Bea	127.12	355	PKP	PKPdf	17 16 43.0	+1.3
comp=Z,0.9nm,0.8s,baz=81,slow=1.7,SNR=5.6							

*ISCJB **24** 17:00:39.9±1.2, 143N±02×56.1E±02, h10km, mb3.8/6, Error ellipse: s-maj=37.6km s-min=25.6km az=71.6*
*IDC **24** 17:00:40.2±1.3, 143.6N×5623E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=63.4km s-min=28.8km az=35.0*
*NEIC **24** 17:00:41.5±0.9, 1422N×5613E, h10km, mb4.5/1, Error ellipse: s-maj=29.7km s-min=21.0km az=215.0*
*CSEM **24** 17:00:41.5, 1422N×5613E, h10km, mb4.5/1, After NEIC*

ISC 24 17:00:42.1±1.2, 143N±02×561E±02, h10km, n8, σ0s72/7, mb3.8/6, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	32.40	26	P	P	17 07 13.1	+1.1
10nm,1.8s,mb4.3							
AAK	Ala-Archa	32.40	26	P	P	17 07 13.1	+1.1
10nm,1.8s,mb4.3							
SONM	Songino Array	53.24	40	P	P	17 09 59.6	-1.1
0.4nm,0.8s,mb3.4,baz=237,slow=8.0,SNR=3.6							
ESDC	Sonseca Array	58.06	308	P	P	17 10 35.7	+0.4
0.1nm,0.3s,mb3.3,baz=92,slow=7.1,SNR=4.2							
EKA	Eskdalemuir Ar	61.05	326	P	P	17 10 55.4	-0.6
0.4nm,0.8s,mb3.6,baz=123,slow=9.2,SNR=3.5							
WRA	Warramunga Arr	84.08	112	P	P	17 13 12.9	-0.2
1.2nm,0.8s,mb4.1,baz=300,slow=4.2,SNR=7.1							
ASAR	Alice Springs	84.82	116	P	P	17 13 17.2	+0.4
0.7nm,0.7s,mb3.9,baz=296,slow=4.9,SNR=9.6							
PDAR	Pinedale Array	121.74	348	PKP	PKPdf	17 19 36.3	+0.1
0.3nm,0.6s,baz=28,slow=4.1,SNR=3.6							

*ISCJB **24** 17:27:40.4±0.6, 1451N±009×564E±0.1, h10km, mb3.9/21, Error ellipse: s-maj=18.3km s-min=11.1km az=59.1*
*IDC **24** 17:27:40.6±0.7, 1448N×5643E, h0km, mb3.8/13, mb1 3.9/13, mb1mx3.8/21, mbtmp3.8/13, MS3.4/3, Ms1 3.4/3, ms1mx2.9/35, Error ellipse: s-maj=22.8km s-min=17.5km az=116.0*
*NEIC **24** 17:27:42.1±0.5, 1452N×5643E, h10km, mb4.2/7, Error ellipse: s-maj=17.4km s-min=10.5km az=119.0*

ISC 24 17:27:42.5±0.6, 1454N±009×564E±01, h10km, n30, σ1s14/26, mb3.9/21, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	8.90	13	LR	LR	17 33 00.8	
comp=Z,154nm,20.2s,baz=225,slow=36							
ATD	Arta Tunnel	13.57	259	LR	LR	17 34 42.2	
comp=Z,177nm,18.3s,baz=290,slow=31							
KMBO	Kilima Mbogo	24.55	232	LR	LR	17 42 27.0	
comp=Z,143nm,19.8s,baz=95,slow=36							
MALT	Malatya	28.54	329	P	P	17 33 41.9	+3.6
4.0nm,1.0s,mb4.1							
AAK	Ala-Archa	32.03	26	*e*P	P	17 34 11.9	+2.7
3.0nm,0.8s,mb4.2							
BRTR	Keskin Array B	32.08	326	P	P	17 34 16.2	+6.6
0.2nm,0.5s,mb3.2,baz=134,slow=8.8,SNR=4.1							
MKAR	Makanchi Array	38.74	29	P	P	17 35 06.4	-0.5
0.8nm,0.8s,mb3.5,baz=199,slow=6.3,SNR=4.0							
ZRNK	Zerenda	39.60	12	P	P	17 35 13.8	-0.2
3.3nm,1.2s,mb3.9							
BVAR	Borovoye Array	39.96	13	P	P	17 35 18.2	+1.1
0.4nm,0.6s,mb3.4,baz=116,slow=3.4,SNR=4.0							
BVAR				PcP	PcP	17 37 22.6	+0.3
0.7nm,0.7s,baz=228,slow=1.7,SNR=3.9							
KURK	Kurchatov	40.31	22	P	P	17 35 20.6	+0.7
2.9nm,1.0s,mb4.0							
CHKZ	Chkalovo	40.62	13	P	P	17 35 21.9	-0.6
4.5nm,1.1s,mb4.0							
AKASG	Malin Array Be	42.25	334	P	P	17 35 35.7	-0.2
0.4nm,0.4s,mb3.4,baz=138,slow=7.6,SNR=4.5							
AKASG	Malin Array Be	42.25	334	P	P	17 35 35.7	-0.2
MATP	Matopo	44.28	219	P	P	17 35 52.7	+0.4
2.5nm,0.7s,mb4.1,baz=33,slow=7.6,SNR=7.9							
MATP	Matopo	44.28	219	P	P	17 35 52.7	+0.4
ZAL	Zalesovo	45.17	23	P	P	17 36 00.2	+0.8
1.3nm,0.6s,mb3.9,baz=239,slow=8.7,SNR=7.4							
LBTB	Lobatse	49.49	218	P	P	17 36 34.0	+1.0
FINES	FINESS Array B	51.66	342	P	P	17 36 47.9	-1.5
0.7nm,0.7s,mb3.7,baz=134,slow=11,SNR=5.3							
FINES	FINESS Array B	51.66	342	P	P	17 36 47.9	-1.5
BOSA	Boshof	52.44	215	P	P	17 36 55.5	+0.3
1.3nm,0.7s,mb4.0,baz=26,slow=9.9,SNR=2.8							
SONM	Songino Array	52.84	40	P	P	17 37 00.0	+1.8
0.5nm,0.5s,mb3.7,baz=237,slow=7.6,SNR=5.8							
TORD	Torodi Ar. Bea	53.05	276	P	P	17 37 00.3	+0.5
0.4nm,0.8s,mb3.4,baz=101,slow=5.1,SNR=2.4							
ULN	Ulaanbaatar	53.27	41	P	P	17 37 01.3	0.0
SUR	Sutherland	57.78	216	*e*P	P	17 37 29.9	-3.9
28nm,1.2s,mb5.2							
ESDC	Sonseca Array	58.14	308	P	P	17 37 35.4	-0.9
0.5nm,0.5s,mb3.8,baz=91,slow=6.6,SNR=4.1							
ARCES	ARCESS Array B	58.28	348	P	P	17 37 36.4	-1.0
2.4nm,0.9s,mb4.2,baz=163,slow=10,SNR=4.9							
YAK	Yakutsk	69.42	29	P	P	17 38 48.2	-2.5
5.6nm,0.6s,mb4.7							
WRA	Warramunga Arr	83.90	112	P	P	17 40 11.9	-0.7
0.6nm,0.9s,mb3.7,baz=289,slow=3.0,SNR=3.8							
ASAR	Alice Springs	84.67	116	P	P	17 40 15.3	-1.1
3.0nm,1.3s,mb4.3,baz=291,slow=5.2,SNR=8.9							
NVAR	Mina Array Bea	127.08	355	PKP	PKPdf	17 46 48.2	+1.3
0.2nm,0.4s,baz=94,slow=0.6,SNR=3.7							

MAN 24 17:42:50.3, 1128N×12551E, h32km, mb2.3, ML3.9, MS1.8, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.32	348	*e*P	Pb	17 42 59.7	+1.4
BESP				*e*S	Sb	17 43 07.0	+3.4
PLP	Palo	0.53	257	*e*P	Pb	17 43 01.8	+0.5
PLP				*i* S	Sb	17 43 10.3	+1.5
OCLP	Ormoc	0.91	255	*e*P	Pn	17 43 07.8	+1.0
MSLP	Maasin	1.31	209	*e*P	Pn	17 43 13.6	+1.3
SCPH	Surigao	1.49	181⇑	*e*P	Pn	17 43 14.6	-0.2
PVCP	Virac	2.65	330	*e*P	Pn	17 43 31.4	+0.6
GUIM	Jordan	2.94	257	*e*P	Pn	17 43 35.8	+1.1
CAUP	Cauayan	6.67	328	*e*P	Pn	17 44 27.2	+1.3

MAN 24 17:48:48.6, 1374N×12057E, h92km, mb1.6, ML3.5, MS3.9, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.31	269	*e*P	Pn	17 49 03.9	+1.5
LUBP				*e*S	Sn	17 49 23.9	+11
BOAC	Boac	1.27	103	*e*P	Pn	17 49 12.1	+0.5
BUSP	Coron	1.77	192	*e*P	Pn	17 49 19.1	+1.3
SCZP	Santa Cruz	2.12	343	*e*P	Pn	17 49 23.5	+1.0
BALP	Baler	2.21	26	*e*P	Pn	17 49 24.6	+0.9
BOLP	Bolinao	2.70	347	*e*P	Pn	17 49 30.8	+0.6
ENPP	El Nido	2.76	204	*e*P	Pn	17 49 31.4	+0.5

*ISCJB **24** 18:13:44.3±1.2, 3024S×0.10E×1798E±02, h481km±18km, mb3.9/9, Error ellipse: s-maj=24.3km s-min=14.6km az=28.9*
*NEIC **24** 18:13:44.2±1.3, 2994S×17966E, h451km±15km, mb4.2/5, Error ellipse: s-maj=14.7km s-min=13.3km az=107.0*
*IDC **24** 18:13:45.5±4.6, 3015S×17957E, h458km±45km, mb3.4/5, mb1 3.6/6, mb1mx3.4/12, mbtmp4.4/6, Error ellipse: s-maj=42.4km s-min=22.3km az=42.0*

ISC 24 18:13:49.3±2.3, 305S±02×1791E±02, h471km±17km, n58, σ0s86/52, mb3.9/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTAZ	Motutapu	7.23	208	PN	P	18 15 41.8	+4.8
OTAZ	Otara	7.37	207	PN	P	18 15 43.3	+4.9
WTAZ	Waiatarua	7.50	209	PN	P	18 15 44.5	+4.8
PUZ	Puketiti	7.64	185	PN	P	18 15 41.6	+0.4
URZ	Urewera	7.97	192	P	P	18 15 45.4	+0.7
19nm,0.3s,baz=311,slow=3.2,SNR=62							
URZ				S	S	18 17 20.7	+1.3
1.2nm,0.3s,baz=122,slow=3.7,SNR=3.2							
URZ	Urewera	7.97	192	*e*PN	P	18 15 43.5	-1.2
MWZ	Matawai	7.98	189	*e*PN	P	18 15 44.7	-0.1
KNZ	Kokohu	8.63	188	*e*PN	P	18 15 53.3	+1.5
HIZ	Hauiti	8.78	203	PN	P	18 15 57.6	+4.2
BKZ	Black Stump Fm	8.96	193	*e*PN	P	18 15 54.4	-0.9
FWVZ	Far West T-bar	9.26	198	*e*PN	P	18 15 60.0	+1.5
MTVZ	Mangateitei	9.41	198	*e*PN	P	18 16 01.3	+1.3
BFZ	Birch Farm	10.47	192	*e*PN	P	18 16 11.7	+0.2
MRZ	Mangatainoka R	10.59	195	*e*PN	P	18 16 11.9	-0.8
KIW	Kapiti Island	10.94	197	*e*PN	P	18 16 16.0	-0.5
CAW	Cannon Point	11.13	196	*e*PN	P	18 16 17.8	-0.8
MRW	Makara Radio	11.34	197	PN	P	18 16 20.3	-0.5
TCW	Tory Channel	11.44	199	PN	P	18 16 21.0	-0.8
QRZ	Quartz Range	11.66	206	PN	P	18 16 25.0	+0.8
NNZ	Nelson	11.71	202	PN	P	18 16 24.4	-0.4
TUWZ	Tuamarina	11.73	200	*e*PN	P	18 16 24.2	-0.8
THZ	Tophouse	12.36	202	*e*PN	P	18 16 30.9	-0.8
DSZ	Dennistoun Nort	12.73	206	*e*PN	P	18 16 36.0	+0.3
KHZ	Kahutara	12.76	199	*e*PN	P	18 16 36.4	+0.3
LTZ	Lake Taylor	13.48	202	*e*PN	P	18 16 43.0	-0.7
WVZ	Waitaha Valley	14.27	206	*e*PN	P	18 16 52.5	+0.2
FOZ	Fox Glacier	15.09	207	*e*PN	P	18 16 59.9	-1.0
LBZ	Lake Benmore	15.61	204	*e*PN	P	18 17 06.3	0.0
JCZ	Jackson Bay	15.89	208	*e*PN	P	18 17 09.0	-0.3
WKZ	Wanaka	16.41	206	*e*PN	P	18 17 14.0	-0.8
EAZ	Earnscleugh	16.65	205	*e*PN	P	18 17 15.7	-1.6
AFI	Afiamalu	18.47	29	*e*P	P	18 17 24.9	-11
119nm,1.7s							
CTA	Charters Tower	31.37	281	*e*P	P	18 19 31.1	+1.0
5.7nm,1.0s,mb4.0							
CTA	Charters Tower	31.37	281	P	P	18 19 31.1	+1.0
3.0nm,0.4s,mb4.1,baz=28,slow=20,SNR=9.2							
CTAO	Charters Tower	31.37	281	*e*P	P	18 19 30.8	+0.8
7.9nm,0.9s,mb4.1							
STKA	Stephens Creek	32.05	258	*e*P	P	18 19 36.5	+0.6
2.2nm,0.3s,mb4.1							
STKA	Stephens Creek	32.05	258	P	P	18 19 36.2	+0.3
2.3nm,0.3s,mb4.1,baz=100,slow=10,SNR=16							
STKA	Stephens Creek	32.05	258	P	P	18 19 36.2	+0.3
STKA				*e*P		18 19 36.3	
AS31	Alice Springs	40.63	268	*e*P	P	18 20 47.6	+0.5
ASAR	Alice Springs	40.63	268	P	P	18 20 47.4	+0.3
1.4nm,0.4s,mb3.8,baz=100,slow=7.2,SNR=49							
ASPA	Alice Springs	40.63	268	*e*P	P	18 20 47.6	+0.5
WB2	Warramunga Arr	41.61	274	*e*P	P	18 20 55.0	+0.1
WRAB	Tennant Creek	41.62	274	*e*P	P	18 20 54.8	-0.1
5.1nm,0.7s,mb4.1							
WRA	Warramunga Arr	41.62	274	P	P	18 20 55.0	0.0
2.5nm,0.4s,mb4.0,baz=111,slow=8.0,SNR=44							
VNDA	Vanda	47.81	185	*e*P	P	18 21 43.8	+0.9
0.5nm,0.7s,mb3.0							
MBWA	Marble Bar	53.75	265	P	P	18 22 26.6	+0.3
CASY	Casey	53.94	208	*e*P	P	18 22 27.1	-0.5
12nm,0.8s,mb4.3							
QSPA	South Pole Qui	59.66	180	*e*P	P	18 23 07.9	+0.8
8.4nm,0.8s,mb4.2							
KKM	Kota Kinabalu	70.23	290	P	P	18 24 12.1	-1.8
MAW	Mawson	71.38	201	P	P	18 24 20.9	+0.1
0.5nm,0.3s,mb3.5,baz=111,slow=13,SNR=7.0							
KSM	Kuching	72.60	282	P	P	18 24 31.3	+3.4
ARCES	ARCESS Array B	138.08	346	PKP	PKPdf	18 32 17.1	-2.7
3.3nm,1.0s,baz=56,slow=1.9,SNR=5.0							
KAF	Kangasniemi	143.73	339	*e*p	PKPdf	18 32 23.2	-6.7
1.4nm,0.4s							
FINES	FINESS Array B	144.30	338	PKP	PKPdf	18 32 26.1	-4.8
2.2nm,0.3s,baz=56,slow=4.1,SNR=53							
NB2	NORSAR Subarra	148.37	349	PKPa	PKPbc	18 32 36.9	-4.9
comp=Z,0.6nm,0.4s,baz=16,slow=4.1							
NOA	NORSAR Array B	148.37	349	PKPbc	PKPbc	18 32 37.6	-4.2
comp=Z,0.7nm,0.5s,baz=14,slow=4.1,SNR=3.5							
AKASG	Malin Array Be	149.80	321	PKPbc	PKPbc	18 32 41.7	-3.6
comp=Z,1.0nm,0.5s,baz=54,slow=3.0,SNR=5.7							
AKASG	Malin Array Be	149.80	321	PKPbc	PKPbc	18 32 41.7	-3.6

*IDC **24** 18:16:23.7±0.6, 1903N×120.11E, h0km, mb4.1/15, mb1 4.2/17, mb1mx4.1/22, mbtmp4.1/17, ML3.8/2, MS3.3/6, Ms1 3.4/6, ms1mx2.8/28, Error ellipse: s-maj=26.9km s-min=13.4km az=71.0*
*MAN **24** 18:16:27.7, 1892N×12001E, h6km, mb3.8, ML4.9, MS5.7*
*ISCJB **24** 18:16:29.2±0.6, 1906N±003×12008E±006, h53km±7km, mb4.2/29, MS3.5/7, Error ellipse: s-maj=10.2km s-min=5.7km az=163.2*
*NEIC **24** 18:16:29.3±1.0, 1906N×12023E, h40km±9km, mb4.4/12, Error ellipse: s-maj=13.0km s-min=6.5km az=82.0*
*BJI **24** 18:16:34.7, 1952N×11947E, h40km, mB4.6, mb4.3, ML3.4, Ms3.9, Msz3.8*

ISC 24 18:16:30.4±0.6, 1910N±004×12017E±006, h47km±7km, n66, σ1s17/67, mb4.2/29, MS3.5/7, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	1.53	160	*e*P	Pn	18 16 53.0	-2.3
ABRA				*e*S	Sn	18 17 13.2	-0.8
APYP	Conner	1.60	140	*e*P	Pn	18 16 55.6	-0.6
SGCP	Mt. Cagua	1.97	115	*e*P	Pn	18 17 06.7	+1.4
CVP	Callao Caves	2.10	131⇑	*e*P	Pn	18 17 03.0	0.0
CAUP	Cauayan	2.66	144	*e*P	Pn	18 17 12.2	+1.5
CAUP				*e*S	Sn	18 17 44.7	+3.0
BOLP	Bolinao	2.72	185	*e*P	Pn	18 17 09.8	-1.6
BCPH	Baguio City Da	2.73	172 ⇓	*i*P	Pn	18 17 09.5	-2.2
PALP	Palanan	2.95	133	*e*P	Pn	18 17 17.0	+2.3
SCZP	Santa Cruz	3.32	184	*e*P	Pn	18 17 21.0	+1.3
BALP	Baler	3.60	158	*e*P	Pn	18 17 24.2	+0.5
POLP	Polilio Island	4.67	158	*e*P	Pn	18 17 39.9	+1.6
TGY	Tagaytay City	5.03	171	Pn	Pn	18 17 41.4	-1.8
9.0nm,0.3s,baz=225,slow=19,SNR=2.3							
NACB	Ninganchiao	5.22	14	*e*Pn	Pn	18 17 44.2	-1.7
NACB				*e*Sn	Sn	18 18 48.8	+4.1
YHNB	Yeheng	5.65	11	*e*Pn	Pn	18 17 52.6	+0.8
BUSP	Coron	7.06	180	*e*P	Pn	18 18 11.4	+0.3
GZH	Guangzhou	7.50	303	P	Pn	18 18 11.5	-5.7
GZH				LR	LR		
comp=N,340nm,11.5s							
GZH				LR	LR		
comp=E,390nm,11.2s							
GZH				LR	LR		
comp=Z,740nm,10.6s							
QIZ	Qiongzhong	9.77	271	P	Pn	18 18 41.8	-6.4
QIZ				LR	LR		
comp=N,250nm,12.9s							
QIZ				LR	LR		
comp=Z,160nm,12.5s							
JOW	Kunigami	10.72	43	Pn	Pn	18 18 59.9	-1.3
comp=Z,0.9nm,0.3s,baz=176,slow=9.9,SNR=5.4							
JOW				LR	LR	18 23 01.2	
comp=Z,66nm,21.3s,baz=252,slow=37							
KMI	Kunming	17.22	293	P	Pn	18 20 25.4	-2.1
CD2	Chengdu	18.93	312	*e*P	Pn	18 20 49.6	+1.3
CD2				AP	pP	18 20 59.8	+1.5
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s							
CD2				LR	LR		
comp=E,210nm,9.6s							
CD2				LR	LR		
comp=Z,280nm,10.8s							
KS15	Wonju Array Si	19.48	19	*e*P	Pn	18 20 54.3	-0.6
KSM	Kuching	20.01	210	*e*P	Pn	18 21 03.0	+1.9
LZH	Lanzhou	22.21	323	*e*P	P	18 21 23.5	+0.8
LZH				AP		18 21 30.0	
LZH				XP	sP	18 21 36.5	-3.2
LZH				AMB	AMB		
comp=Z,20nm,1.2s,mb4.4							
HHC	Hu-ho-hao-te	22.90	343	*e*P	P	18 21 30.5	+0.5
HHC				AP		18 21 44.5	
HHC				PP		18 22 01.8	
HHC				PCP	PcP	18 25 21.8	+2.5
HHC				S	S	18 25 30.6	-5.8
HHC				AMB	AMB		
comp=Z,20nm,0.6s,mb4.7							
HHC				AMB	AMB		
comp=Z,120nm,4.9s							
HHC				LR	LR		
comp=N,210nm,14.3s,MS3.8							
HHC				LR	LR		
comp=E,90nm,11.9s,MS3.8							
HHC				LR	LR		
comp=Z,180nm,11.9s,MS3.7							
MAJO	Matsushiro	23.52	39	*e*P	P	18 21 35.8	-0.4
comp=Z,14nm,1.0s,mb4.3							
MJAR	Matsushiro Arr	23.52	39	P	P	18 21 35.3	-0.9
comp=Z,2.7nm,1.0s,mb3.6,baz=231,slow=8.4,SNR=5.9							
GTA	Gaotai	26.81	323	*e*P	P	18 22 07.0	+0.9
GTA				AP	pP	18 22 12.8	-5.5
GTA				XP	sP	18 22 16.6	-7.3
GTA				AMB	AMB		
comp=Z,60nm,3.8s							
GTA				LR	LR		
comp=N,110nm,10.6s,MS3.8							
GTA				LR	LR		
comp=E,110nm,10.3s,MS3.8							
GTA				LR	LR		
comp=Z,150nm,9.1s							
ULN	Ulaanbaatar	30.61	343	*e*P	P	18 22 39.7	-0.2
comp=Z,5.3nm,1.1s,mb4.3							
SONM	Songino Array	30.78	342	P	P	18 22 41.6	+0.2
comp=Z,1.8nm,0.8s,mb4.0,baz=160,slow=10,SNR=15							
SONM				LR	LR	18 35 58.3	
comp=Z,68nm,18.9s,MS3.3,baz=212,slow=38							
ASAJ	Asahikawa	31.21	32	P	P	18 22 47.5	+2.2
comp=Z,2.1nm,0.7s,mb4.1,baz=227,slow=9.1,SNR=4.4							
ASAJ				LR	LR	18 35 13.1	
comp=Z,40nm,18.1s,MS3.1,baz=354,slow=36							
TLY	Talaya	35.02	342	P	P	18 23 19.6	+1.3
FITZ	Fitzroy Crossi	37.36	171	*e*P	P	18 23 50.9	+13
comp=Z,8.3nm,1.1s,mb4.5							
WRA	Warramunga Arr	41.21	160	P	P	18 24 09.4	-1.1
comp=Z,2.0nm,0.9s,mb3.8,baz=340,slow=8.9,SNR=8.0							
WRA				PcP	PcP	18 26 09.8	+1.0
comp=Z,0.7nm,0.7s,baz=354,slow=3.3,SNR=5.6							
WB2	Warramunga Arr	41.22	160	*e*P	P	18 24 10.0	-0.6
MKAR	Makanchi Array	41.48	320	P	P	18 24 13.2	+0.5
comp=Z,4.3nm,0.8s,mb4.1,baz=108,slow=10,SNR=22							
YAK	Yakutsk	43.40	7	P	P	18 24 26.6	-1.8
comp=Z,12nm,0.9s,mb4.6							
ZAL	Zalesovo	44.09	331	P	P	18 24 34.5	+0.6
comp=Z,1.1nm,0.8s,mb3.6,baz=339,slow=4.4,SNR=6.7							
ZAL				LR	LR	18 43 38.2	
comp=Z,39nm,19.1s,MS3.3,baz=114,slow=37							
ZAL	Zalesovo	44.09	331	P	P	18 24 34.5	+0.6
ZAL				LR	LR	18 43 38.2	
AS31	Alice Springs	44.57	162	*e*P	P	18 24 37.8	+0.1
ASPA	Alice Springs	44.57	162	*e*P	P	18 24 37.8	+0.1
ASAR	Alice Springs	44.57	162	P	P	18 24 38.0	+0.4
comp=Z,2.2nm,0.9s,mb4.0,baz=342,slow=6.8,SNR=25							
PET	Petropavlovsk	45.06	32	P	P	18 24 40.2	-1.4
comp=Z,6.7nm,0.8s,mb4.5							
KURK	Kurchatov	45.49	324	*e*P	P	18 24 45.8	+0.8
comp=Z,6.7nm,0.8s,mb4.5							
BVAR	Borovoye Array	51.09	324	PcP	PcP	18 26 42.9	-0.5
comp=Z,1.3nm,0.8s,baz=121,slow=5.7,SNR=5.0							
ZRNK	Zerenda	51.85	323	*e*P	P	18 25 34.4	+0.6
comp=Z,5.2nm,1.4s,mb4.3							
STKA	Stephens Creek	54.69	158	*e*P	P	18 25 54.0	-0.7
comp=Z,3.0nm,0.7s,mb4.4							
STKA	Stephens Creek	54.69	158	P	P	18 25 53.5	-1.2
comp=Z,1.8nm,0.7s,mb4.2,baz=339,slow=7.4,SNR=8.6							
BILL	Bilibino	56.77	19	*e*P	P	18 26 10.8	+1.2
comp=Z,3.0nm,0.8s,mb4.4							
AKTK	Aktyubinsk	57.82	318	P	P	18 26 17.4	+0.4
AKTO	Aktyubinsk	57.82	318	P	P	18 26 17.4	+0.4
comp=Z,0.7nm,0.5s,mb4.0,baz=89,slow=7.8,SNR=5.3							
ARU	Arti	58.65	325	*e*P	P	18 26 22.5	-0.3
comp=Z,2.0nm,0.6s,mb4.3							
GNI	Garni	66.97	306	LR	LR	18 59 03.1	
comp=Z,41nm,19.1s,MS3.7,baz=333,slow=38							
JOF	Joensuu	72.67	331	*e*p	P	18 27 50.2	-3.0
comp=Z,6.9nm,0.7s,mb4.7							
MCK	McKinley	73.46	28	P	P	18 27 56.1	-1.7
ARCES	ARCESS Array B	73.89	339	P	P	18 28 01.0	+0.6
comp=Z,2.6nm,0.8s,mb4.2,baz=80,slow=6.7,SNR=5.4							
FINES	FINESS Array B	75.36	330	P	P	18 28 08.2	-0.6
comp=Z,3.1nm,0.9s,mb4.2,baz=101,slow=6.0,SNR=9.8							

CAUP Cauayan 2.67 142 *e*P **Pn 19 14 53.3 +2.3**
BOLP Bolinao 2.68 184 *e*P **Pn 19 14 49.0 -2.1**
BCPH Baguio City Da 2.71 170 ⇓*i*P **Pn 19 14 54.9 +3.3**
BCPH *e*S **Sn 19 15 23.2 -0.2**
PALP Palanan 2.98 132 ⇓*i*P **Pn 19 14 57.5 +2.3**
PALP *e*S **Sn 19 15 32.9 +3.0**
PALP Palanan 2.98 132 *e*P **Pn 19 14 58.0 +2.8**
SCZP Santa Cruz 3.28 183 *e*P **Pn 19 14 57.8 -1.7**
BALP Baler 3.60 157 *e*P **Pn 19 15 04.5 +0.7**
PCPH Palayan 3.62 165 ⇓*e*P **Pn 19 15 04.3 +0.3**
PCPH *e*S **Sn 19 15 47.5 +1.9**
POLP Polilio Island 4.66 158 *e*P **Pn 19 15 13.9 -4.5**
TGY Tagaytay City 5.01 171 Pn **Pn 19 15 23.0 -0.1**
8.4nm,0.3s,baz=255,slow=12,SNR=2.8
NACB Ninganchiao 5.26 15 *e*Pn **Pn 19 15 27.2 +0.6**
LUBP Lubang 5.31 178 *e*P **Pn 19 15 29.6 +2.3**
YHNB Yeheng 5.70 12 *e*Pn **Pn 19 15 33.0 +0.5**
BOAC Boac 5.83 163 *e*P **Pn 19 15 34.4 0.0**
QZH Quanzhou 6.01 347 P **Pn 19 15 33.3 -3.6**
QZH S **Sn 19 16 43.9 -0.7**
QZH LR LR
comp=N,8μm,11.7s
QZH LR LR
comp=E,4μm,11.2s
QZH LR LR
comp=Z,9μm,12.7s
BUSP Coron 7.03 179 *e*P **Pn 19 15 49.9 -1.0**
GZH Guangzhou 7.47 304 P **Pn 19 15 53.0 -3.9**
GZH S **Sn 19 17 12.8 -7.8**
GZH LR LR
comp=N,5μm,11.8s
GZH LR LR
comp=E,4μm,11.5s
GZH LR LR
comp=Z,12μm,10.4s
ENPP El Nido 7.85 185 *e*P **Pn 19 15 60.0 -2.1**
GUIM Jordan 8.73 164 *e*P **Pn 19 16 18.8 +4.6**
JOW Kunigami 10.78 43 Pn **Pn 19 16 41.7 -0.6**
comp=Z,2.0nm,0.3s,baz=218,slow=8.6,SNR=7.0
JOW LR LR 19 21 15.3
comp=Z,606nm,18.3s,baz=146,slow=40
SSE Sheshan 12.01 4 P **Pn 19 17 00.3 +1.1**
SSE S **Sn 19 19 15.8 +3.7**
SSE AMB AMB
comp=Z,20nm,0.9s
SSE AMB AMB
comp=Z,180nm,6.6s
SSE LR LR
comp=N,1μm,13.9s
SSE LR LR
comp=E,790nm,13.9s
SSE LR LR
comp=Z,1μm,16.2s
BUKP Musuan 12.12 156 *e*P **Pn 19 17 05.5 +4.8**
WHN Wuhan 12.56 337 *e*P **Pn 19 17 04.4 -2.2**
WHN S **Sn 19 19 16.0 -9.3**
WHN LR LR
comp=Z,7μm,14.1s
NJ2 Nanjing 12.97 355 *e*P **Pn 19 17 10.5 -1.8**
NJ2 AP 19 17 18.3
NJ2 PP 19 17 20.3
NJ2 XP 19 17 21.3
NJ2 S **Sn 19 19 37.0 +1.4**
NJ2 AMB AMB
comp=Z,30nm,1.2s
NJ2 AMB AMB
comp=Z,210nm,10.0s
NJ2 LR LR
comp=N,6μm,12.6s
NJ2 LR LR
comp=E,5μm,13.2s
NJ2 LR LR
comp=Z,2μm,12.4s
GYA Guiyang 14.40 303 P **Pn 19 17 27.5 -4.3**
GYA AP pP 19 17 34.9 -12
GYA XP sP 19 17 39.8 -11
GYA S **Sn 19 20 03.3 -7.2**
GYA AMB AMB
comp=Z,10.0nm,0.6s
GYA AMB AMB
comp=Z,420nm,12.2s
GYA LR LR
comp=N,2μm,10.2s
GYA LR LR
comp=E,2μm,12.6s
GYA LR LR
comp=Z,4μm,11.7s
KKTK Khon Kaen 16.69 263 P **Pn 19 18 00.0 -1.6**
KMI Kunming 17.17 294 P **Pn 19 18 07.3 -0.4**
KMI AP pP 19 18 14.5 -2.6
KMI XP sP 19 18 18.9 -2.1
KMI PP 19 18 21.9
KMI S **Sn 19 21 17.4 -0.3**
KMI AMB AMB
comp=Z,10.0nm,2.0s
KMI AMB AMB
comp=Z,360nm,9.5s
KMI LR LR
comp=N,2μm,10.3s
KMI LR LR
comp=E,4μm,10.8s
KMI LR LR
comp=Z,3μm,11.2s
TIA Tai'an 17.27 352 *e*P **Pn 19 18 08.6 -0.4**
TIA AMB AMB
comp=Z,590nm,10.0s
TIA LR LR
comp=N,7μm,13.0s
XAN Xi'an 17.93 328 P **Pn 19 18 14.9 -2.2**
XAN AP pP 19 18 23.1 -2.4
XAN AMB AMB
comp=Z,20nm,1.6s
XAN AMB AMB
comp=Z,630nm,10.0s
XAN LR LR
comp=N,2μm,12.8s
XAN LR LR
comp=E,1μm,9.3s
XAN LR LR
comp=Z,2μm,12.8s
CD2 Chengdu 18.91 312 *e*P **Pn 19 18 27.6 -1.3**
CD2 XP sP 19 18 41.3 +1.2
CD2 PP 19 18 43.6
CD2 S **Sn 19 21 52.9 -6.7**
CD2 AMB AMB
comp=Z,10.0nm,0.6s
CD2 AMB AMB
comp=Z,480nm,8.4s
CD2 LR LR
comp=N,2μm,10.8s
CD2 LR LR
comp=Z,4μm,10.3s
INCN Inchon 19.21 16 *e*P **Pn 19 18 31.9 -0.7**
comp=Z,29nm,0.8s
NST Nakhon Sawan 19.36 263 P **Pn 19 18 35.0 +0.7**
KS15 Wonju Array Si 19.53 19 *e*P **Pn 19 18 35.2 -1.2**
DL2 Dalian 19.81 4 *i* PR **Pn 19 18 38.8 -0.9**
DL2 AMB AMB
comp=Z,40nm,0.9s
DL2 AMB AMB
comp=Z,280nm,5.0s
DL2 LR LR
comp=N,520nm,13.0s
DL2 LR LR
comp=E,710nm,11.6s
DL2 LR LR
comp=Z,700nm,11.0s
KSM Kuching 19.95 210 *e*P **Pn 19 18 39.0 -2.4**
NNT Nongplab 20.62 255 P **P 19 18 51.8 +5.0**
LZH Lanzhou 22.19 323 ⇓P **P 19 19 04.3 +0.6**
LZH AP 19 19 13.1
LZH XP sP 19 19 18.0 +2.2
LZH AMB AMB
comp=Z,200nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,630nm,4.4s
LZH LR LR
comp=E,4μm,10.0s
LZH LR LR
comp=Z,5μm,12.1s,MS5.1
JHJ Hachijo jima 2 22.49 48 LR LR 19 26 48.2
comp=Z,43nm,19.1s,baz=88,slow=34
SNY Shenyang 22.88 7 ⇓P **P 19 19 09.4 -1.6**
SNY AP 19 19 18.6
SNY XP sP 19 19 22.6 -0.5
SNY PP 19 19 40.4
SNY AMB AMB
comp=Z,20nm,1.1s,mb4.5
SNY AMB AMB
comp=Z,550nm,8.5s
SNY LR LR
comp=N,670nm,12.2s,MS4.7
SNY LR LR
comp=E,2μm,12.6s,MS4.7
SNY LR LR
comp=Z,790nm,11.8s,MS4.4
HHC Hu-ho-hao-te 22.91 343 *e*P **P 19 19 12.1 +0.8**
HHC AP 19 19 21.4
HHC XP sP 19 19 25.3 +1.9
HHC PP 19 19 42.1
HHC S **S 19 23 16.6 -2.6**
HHC PCS PcS 19 26 39.5 -0.7
HHC AMB AMB
comp=Z,30nm,0.7s,mb4.8
HHC AMB AMB
comp=Z,410nm,6.5s
HHC LR LR
comp=N,2μm,13.9s,MS4.7
HHC LR LR
comp=E,660nm,13.9s,MS4.7
HHC LR LR
comp=Z,2μm,13.9s,MS4.6
BTO Baotou 23.14 340 *e*P **P 19 19 12.5 -1.3**
BTO LR LR
comp=N,2μm,9.6s
BTO LR LR
comp=E,820nm,11.8s
KULM Kulim 23.39 237 *e*P **P 19 19 15.6 -0.8**
KULM *e*pP 19 19 24.1
MAJO Matsushiro 23.58 39 *e*P **P 19 19 17.2 -1.0**
MAJO pmax pmax
comp=Z,34nm,1.0s,mb4.7
MAJO Matsushiro 23.58 39 *e*P **P 19 19 17.1 -1.0**
comp=Z,34nm,1.0s,mb4.7
MAT Matsushiro 23.58 39 P **P 19 19 17.0 -1.2**
MAT S **S 19 23 39.0 +8.8**
MAT Matsushiro 23.58 39 *e*P **P 19 19 17.0 -1.2**
MAT pmax pmax
comp=Z,124nm,2.0s,mb5.0
MAT Matsushiro 23.58 39 *e*P **P 19 19 17.0 -1.2**
comp=Z,124nm,2.0s,mb5.0
MAT *e*S **S 19 23 39.0 +8.8**
MJAR Matsushiro Arr 23.58 39 P **P 19 19 16.8 -1.4**
comp=Z,9.2nm,1.0s,mb4.2,baz=228,slow=8.3,SNR=32
KAPI Kappang 23.94 181 P **P 19 19 21.3 -0.1**
comp=Z,298nm,1.7s,mb5.4,SNR=15
GUMO Guam 24.37 99 LR LR 19 29 00.4
comp=Z,536nm,18.1s,MS4.1,baz=90,slow=37
CN2 Changchun 25.06 9 *e*P **P 19 19 31.5 -0.2**
CN2 *e*AP pP 19 19 40.8 +0.3
CN2 *e*XP sP 19 19 44.8 +0.6
CN2 *e*S **S 19 23 53.4 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.3
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,700nm,11.0s,MS4.7
CN2 LR LR
comp=E,1μm,11.0s,MS4.7
CN2 LR LR
comp=Z,800nm,14.0s,MS4.4
VLA Vladivostok 25.96 20 *c i*P **P 19 19 40.2 +0.4**
VLA *i* *PP pP 19 19 50.6 +2.0
VLA *e* 19 23 06.9
VLA *e*S **S 19 24 10.3 +2.0**
VLA *e**SS sS 19 24 27.2 +4.3
VLA pmax pmax
comp=Z,177nm,1.8s,mb5.3
PSI Prapat 26.28 235 P **P 19 19 42.9 +0.2**
comp=Z,17nm,1.0s,mb4.5,baz=16,slow=2.1,SNR=9.4
PSI LR LR 19 28 39.1
comp=Z,162nm,19.4s,MS3.6,baz=73,slow=33
MDJ Mudanjiang 26.68 15 P **P 19 19 48.6 +2.3**
MDJ AP pP 19 19 54.8 -0.3
MDJ XP sP 19 19 57.9 -0.9
MDJ PCP PcP 19 23 10.9 +1.4
MDJ S **S 19 24 23.0 +3.4**
MDJ SCP ScP 19 26 49.3 +2.0
MDJ PCS PcS 19 26 52.4 +1.7
MDJ SCS ScS 19 30 41.4 +3.6
MDJ AMB AMB
comp=Z,20nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,250nm,9.6s
MDJ LR LR
comp=N,390nm,11.7s,MS4.5
MDJ LR LR
comp=E,670nm,13.8s,MS4.5
MDJ LR LR
comp=Z,560nm,21.4s
GTA Gaotai 26.80 323 ⇓P **P 19 19 47.9 +0.5**
GTA AP pP 19 19 57.3 +1.1
GTA XP sP 19 20 01.5 +1.6
GTA AMB AMB
comp=Z,20nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,260nm,8.0s
GTA LR LR
comp=N,2μm,9.9s
GTA LR LR
comp=E,1μm,9.9s
GTA LR LR
comp=Z,2μm,9.9s
SONM Songino Array 30.79 342 P **P 19 20 23.2 +0.3**
comp=Z,7.2nm,0.8s,mb4.6,baz=160,slow=10.0,SNR=75
SONM LR LR 19 32 48.5
comp=Z,770nm,21.8s,MS4.3,baz=152,slow=36
ASAJ Asahikawa 31.27 32 P **P 19 20 27.6 +0.4**
comp=Z,6.0nm,0.8s,mb4.5,baz=254,slow=23,SNR=6.1
ASAJ LR LR 19 34 05.1
comp=Z,320nm,19.4s,MS4.0,baz=241,slow=38
JIRN Jiri 32.20 292 *e*P **P 19 20 36.0 +0.7**
comp=Z,112nm,1.2s,mb5.6
GUN Gumba 32.51 292 *e*P **P 19 20 38.7 +0.7**
comp=Z,166nm,1.1s,mb5.9
PKI Pulchoki 32.88 291 *e*P **P 19 20 41.5 +0.2**
KKN Kakani 33.02 292 *e*P **P 19 20 42.6 +0.1**
comp=Z,62nm,1.0s,mb5.5
KKN Kakani 33.02 292 *e*P **P 19 20 42.6 +0.1**
KKN pmax pmax
comp=Z,62nm,1.0s,mb5.5
DMN Daman 33.15 291 *e*P **P 19 20 43.5 -0.1**
comp=Z,159nm,1.5s,mb5.7
CIT Chita 33.28 353 *e*P **P 19 20 43.3 -1.5**
CIT pmax pmax
comp=Z,27nm,1.8s,mb4.9
YSS Yuzh-Sakhalins 33.43 29 ⇑*e*P **P 19 20 46.8 +0.7**
YSS *e**PP pP 19 20 56.0 +1.0
YSS S **S 19 26 07.0 +1.5**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS MLR MLR
comp=N,300nm,14.0s,MS4.2
YSS MLR MLR
comp=E,200nm,14.0s,MS4.2
YSS MLR MLR
comp=Z,400nm,14.0s,MS4.3
YSS Yuzh-Sakhalins 33.43 29 *e*P **P 19 20 46.7 +0.6**
comp=Z,23nm,1.0s,mb5.1
YSS *e*pP pP 19 20 55.9 +0.9
GKN Gorkha 33.61 292 *e*P **P 19 20 47.4 -0.3**
comp=Z,93nm,1.0s,mb5.7
KAKA Kakadu 33.84 158 *e*P **P 19 20 48.2 -1.5**
comp=Z,18nm,0.7s,mb5.1
ZAK Zakamensk 33.99 341 *e*P **P 19 20 50.5 -0.5**
ZAK pmax pmax
comp=Z,12nm,1.9s,mb4.5
KOLN Koldanda 34.49 291 *e*P **P 19 20 55.4 +0.1**
comp=Z,65nm,1.0s,mb5.5
TLY Talaya 35.03 342 P **P 19 21 00.7 +0.8**
comp=Z,44nm,0.9s,mb5.4,SNR=7.0
TLY Talaya 35.03 342 P **P 19 21 01.0 +1.0**
SNR=8.4
TLY Talaya 35.03 342 *e*P **P 19 21 00.8 +0.9**
TLY *e*S **S 19 26 34.1 +4.0**
TLY *e*SS SS 19 28 53.6 -9.2
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,568nm,17.0s,MS4.4
TLY Talaya 35.03 342 *e*P **P 19 20 60.0 +0.1**
comp=Z,29nm,1.6s,mb5.0
IRK Irkutsk 35.35 343 *e*P **P 19 21 01.3 -1.4**
IRK *e* 19 22 21.1
IRK pmax pmax
comp=Z,28nm,0.9s,mb5.2
MOY Mondy 35.84 340 *e*P **P 19 21 07.4 +0.5**
MOY pmax pmax
comp=Z,31nm,2.2s,mb4.8
WMQ Urumqi 36.67 319 P **P 19 21 15.0 +1.0**
WMQ AP pP 19 21 24.8 +1.8
WMQ PP PP 19 22 40.9 +3.1
WMQ S **S 19 26 56.4 +1.1**
WMQ SCP ScP 19 27 19.9 -1.0
WMQ PCS PcS 19 27 23.8 -0.5
WMQ SCS ScS 19 31 26.1 -1.5
WMQ AMB AMB
comp=Z,10.0nm,1.7s,mb4.4
WMQ AMB AMB
comp=Z,210nm,4.0s
WMQ LR LR
comp=N,1μm,17.0s,MS4.9
WMQ LR LR
comp=E,930nm,15.0s,MS4.9
WMQ LR LR
comp=Z,610nm,17.0s,MS4.5
FITZ Fitzroy Crossi 37.34 171 *e*P **P 19 21 18.7 -1.0**
comp=Z,9.8nm,0.9s,mb4.6
FITZ *e*pP pP 19 21 26.7 -1.9
FITZ Fitzroy Crossi 37.34 171 P **P 19 21 18.9 -0.8**
comp=Z,7.3nm,0.9s,mb4.5,baz=39,slow=6.2,SNR=6.7
MBWA Marble Bar 39.98 181 *e*P **P 19 21 42.3 +0.4**
comp=Z,20nm,1.1s,mb4.8
MBWA *e*pP pP 19 21 49.9 -1.0
WRAB Tennant Creek 41.20 159 *e*P **P 19 21 51.0 -0.9**
WRAB *e**PP pP 19 21 59.5 -1.5
WRAB pmax pmax
comp=Z,34nm,1.1s,mb4.9
WRAB Tennant Creek 41.20 159 *e*P **P 19 21 51.0 -1.0**
comp=Z,34nm,1.1s,mb4.9
WRAB *e*pP pP 19 21 59.5 -1.5
WRA Warramunga Arr 41.21 159 P **P 19 21 51.1 -0.8**
comp=Z,7.5nm,0.8s,mb4.4,baz=338,slow=9.4,SNR=33
WRA PcP PcP 19 23 51.2 +0.6
comp=Z,2.4nm,0.7s,baz=344,slow=3.4,SNR=8.1
WRA S **S 19 27 59.7 -3.9**
comp=Z,1.2nm,0.9s,baz=337,slow=19,SNR=5.5
WB2 Warramunga Arr 41.21 159 *e*P **P 19 21 51.1 -0.9**
WB2 *e*pP pP 19 21 59.4 -1.6
WB2 *e*S **S 19 28 01.5 -2.2**
MKAR Makanchi Array 41.47 320 P **P 19 21 54.9 +0.8**
comp=Z,20nm,0.8s,mb4.8,baz=114,slow=10.0,SNR=160
MKAR PcP PcP 19 23 51.7 +0.2
comp=Z,3.0nm,0.9s,baz=88,slow=3.0,SNR=3.2
KRAR Krasnoyarsk 42.18 337 *e*P **P 19 22 00.0 +0.1**
KRAR pmax pmax
comp=Z,50nm,1.7s,mb4.9
YAK Yakutsk 43.44 7 *e*P **P 19 22 10.4 +0.3**
YAK pmax pmax
comp=Z,19nm,0.8s,mb4.9
YAK Yakutsk 43.44 7 *e*P **P 19 22 10.4 +0.2**
comp=Z,19nm,0.8s,mb4.9
ULHL Ulahol 43.62 312 P **P 19 22 13.7 +2.1**
SNR=5.1
ZAL Zalesovo 44.09 331 P **P 19 22 15.8 +0.5**
comp=Z,4.7nm,0.9s,mb4.2,baz=353,slow=7.6,SNR=28
ZAL LR LR 19 41 32.4
comp=Z,505nm,19.2s,MS4.5,baz=341,slow=37
ZAL Zalesovo 44.09 331 P **P 19 22 15.8 +0.5**
ZAL LR LR 19 41 32.4
KZA Kyzart 44.27 311 P **P 19 22 19.7 +2.8**
SNR=14
TKM2 Tokmak 2 44.29 312 P **P 19 22 18.9 +2.0**
SNR=5.3
AS31 Alice Springs 44.56 162 *e*P **P 19 22 19.0 -0.1**
AS31 *e*S **S 19 28 56.2 +3.4**
ASPA Alice Springs 44.56 162 *e*P **P 19 22 19.0 -0.1**
ASPA *e*S **S 19 28 56.2 +3.4**
ASAR Alice Springs 44.56 162 P **P 19 22 19.1 -0.1**
comp=Z,8.7nm,0.7s,mb4.7,baz=340,slow=6.9,SNR=69
ASAR S **S 19 28 47.7 -5.1**
comp=Z,0.2nm,0.9s,baz=336,slow=8.0,SNR=2.5
KBK Karagaybulak 44.66 312 P **P 19 22 21.9 +1.9**
SNR=8.0
UCH Uchtor 44.84 311 P **P 19 22 23.9 +2.5**
SNR=19
CHMS Chumysh 44.90 312 P **P 19 22 23.0 +1.1**
SNR=6.8
FRU Bishkek 44.95 312 *e*P **P 19 22 23.5 +1.3**
PET Petropavlovsk 45.12 32 *e*P **P 19 22 24.0 +0.4**
PET *e*S **S 19 29 01.5 +0.6**
PET *e*SS SS 19 32 16.2 -7.6
PET pmax pmax
comp=Z,18nm,0.8s,mb5.0
PET smax
comp=E,100nm,12.4s
PET MLR MLR
comp=Z,200nm,19.0s,MS4.1
PET Petropavlovsk 45.12 32 *e*P **P 19 22 23.9 +0.3**
comp=Z,19nm,0.9s,mb4.9
NVS Novosibirsk 45.36 331 *e*P **P 19 22 24.0 -1.5**
NVS pmax pmax
comp=Z,45nm,1.9s,mb5.0
NVS pmax pmax
comp=N,28nm,1.7s
NVS pmax pmax
comp=E,25nm,1.7s
KURK Kurchatov 45.48 324 P **P 19 22 26.3 -0.2**
comp=E,242nm,0.8s,SNR=33
KURK Kurchatov 45.48 324 P **P 19 22 27.1 +0.7**
SNR=20
KURK Kurchatov 45.48 324 *e*P **P 19 22 26.6 +0.1**
KURK pmax pmax
comp=Z,49nm,1.0s,mb5.3
KURK Kurchatov 45.48 324 *e*P **P 19 22 26.6 +0.1**
comp=Z,49nm,1.0s,mb5.3
EKS2 Erkin-Say 45.49 312 P **P 19 22 28.1 +1.6**
SNR=7.6
MA2 Magadan 46.08 21 *d i*P **P 19 22 31.1 -0.1**
MA2 *e*S **S 19 29 14.4 -0.4**
MA2 *e*PS 19 29 30.3
MA2 pmax pmax
comp=Z,30nm,1.1s,mb5.1
MA2 MLR MLR
comp=Z,200nm,18.0s,MS4.1
MA2 Magadan 46.08 21 *e*P **P 19 22 31.1 -0.1**
comp=Z,15nm,1.0s,mb4.9
FORT Forrest 50.15 171 *e*P **P 19 23 03.4 +0.8**
comp=Z,23nm,0.8s,mb5.3
KLBR Kellerberrin 50.42 183 *e*P **P 19 23 04.4 -0.3**
comp=Z,26nm,1.1s,mb5.2
MUN Mundaring 50.90 184 *e*P **P 19 23 12.8 +4.5**
BVAR Borovoye Array 51.08 324 P **P 19 23 10.2 +0.5**
comp=Z,4.0nm,0.7s,mb4.5,baz=116,slow=10,SNR=27
BVAR PcP PcP 19 24 24.6 -0.5
comp=Z,4.3nm,0.7s,baz=116,slow=3.9,SNR=9.4
BVAR LR LR 19 46 18.0
comp=Z,367nm,19.2s,MS4.4,baz=322,slow=38
BVAR Borovoye Array 51.08 324 P **P 19 23 10.2 +0.6**
BVAR 19 24 24.6
BRVK Borovoye 51.15 324 P **P 19 23 10.1 -0.1**
comp=Z,92nm,0.7s,mb5.8,SNR=9.2
BRVK Borovoye 51.15 324 P **P 19 23 11.2 +1.0**
SNR=10
BRVK Borovoye 51.15 324 *e*P **P 19 23 10.7 +0.5**
BRVK *e**PP pP 19 23 21.1 +1.7
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRVK Borovoye 51.15 324 *e*P **P 19 23 10.7 +0.5**
comp=Z,8.8nm,0.9s,mb4.7
BRVK *e*pP pP 19 23 21.1 +1.7
CHKZ Chkalovo 51.20 325 *e*P **P 19 23 10.6 0.0**
CHKZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHKZ Chkalovo 51.20 325 *e*P **P 19 23 10.6 0.0**
comp=Z,9.5nm,0.8s,mb4.8
NWAO Narrogin (SRO) 51.78 183 P **P 19 23 14.9 +0.1**
comp=Z,7.0nm,0.8s,mb4.6,baz=346,slow=7.5,SNR=4.3
ZRNK Zerenda 51.83 323 *e*P **P 19 23 15.4 +0.1**
ZRNK *e**PP pP 19 23 25.1 +0.6
ZRNK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ZRNK Zerenda 51.83 323 *e*P **P 19 23 15.4 +0.1**
comp=Z,7.6nm,0.8s,mb4.7
ZRNK *e*pP pP 19 23 25.1 +0.6
TIXI Tiksi 52.83 3 *e*P **P 19 23 20.3 -2.4**

TIXI pmax pmax
comp=Z,15nm,1.0s,mb4.9
TIXI MLR MLR
comp=Z,762nm,12.0s,MS5.0
STKA Stephens Creek 54.69 158 *eP* **P 19 23 34.7 -1.6**
comp=Z,10.0nm,0.6s,mb5.0
STKA *ep*P pP 19 23 43.6 -2.0
STKA Stephens Creek 54.69 158 P **P 19 23 34.8 -1.5**
comp=Z,14nm,0.7s,mb5.1,baz=337,slow=7.2,SNR=35
STKA Stephens Creek 54.69 158 *eP* **P 19 23 34.3 -2.0**
STKA *ep*P pP 19 23 42.8 -2.7
ABKT Ailbek 56.63 303 P **P 19 23 51.6 +1.4**
comp=Z,178nm,1.1s,mb6.0,SNR=11
BILL Bilibino 56.82 19*d iP* **P 19 23 51.7 +0.2**
BILL *e* 19 24 47.0
BILL pmax pmax
comp=Z,11nm,0.6s,mb5.1
BILL MLR MLR
comp=Z,200nm,14.0s,MS4.4
BILL Bilibino 56.82 19 *eP* **P 19 23 51.6 0.0**
comp=Z,11nm,0.8s,mb5.0
WSAR Wadi Sarin 57.12 286 P **P 19 23 53.2 -0.5**
comp=Z,4.3nm,0.8s,mb4.5,baz=103,slow=13,SNR=4.1
BIDO Bidbid 57.54 286 ⇑P **P 19 23 57.6 +1.0**
SNR=6.6
AKTK Aktyubinsk 57.80 318 P **P 19 23 58.9 +0.4**
AKTK LR LR 19 49 58.8
AKTO Aktyubinsk 57.80 318 P **P 19 23 58.9 +0.4**
comp=Z,3.6nm,0.6s,mb4.6,baz=104,slow=7.2,SNR=17
AKTO LR LR 19 49 58.8
comp=Z,271nm,21.5s,MS4.3,baz=104,slow=37
ARU Arti 58.64 325 P **P 19 24 04.0 -0.3**
comp=Z,75nm,0.7s,mb5.8,SNR=7.1
ARU Arti 58.64 325 ⇓*iP* **P 19 24 03.7 -0.6**
ARU *e* 19 24 50.0
ARU *e* 19 26 11.6
ARU *e*S **S 19 32 07.2 +0.5**
ARU *e*SS SS 19 36 02.5 +2.8
ARU pmax pmax
comp=Z,27nm,1.9s,mb5.0
ARU MLR MLR
comp=N,100nm,17.0s,MS4.3
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.5
ARU MLR MLR
comp=E,200nm,18.0s,MS4.3
ARU Arti 58.64 325 *eP* **P 19 24 04.0 -0.3**
comp=E,12nm,0.8s,mb5.0
ARU *ep*P pP 19 24 13.0 -0.7
ASHO Ashiyiah 59.24 288 ⇑P **P 19 24 07.8 -0.7**
SNR=6.5
ORR Orenburg 60.01 319 ⇓*iP* **P 19 24 14.5 +0.7**
ORR *i* pP 19 24 22.7 -0.5
ORR pmax pmax
comp=Z,40nm,1.1s,mb5.4
ORR MLR MLR
comp=Z,360nm,15.0s,MS4.6
DZM Mont Dzumac 61.03 130 P **P 19 24 21.9 +1.1**
comp=Z,4.0nm,0.7s,mb4.7,baz=189,slow=23,SNR=2.8
TOO Toolangi 61.20 157 *eP* **P 19 24 24.2 +2.3**
comp=Z,12nm,0.8s,mb5.1
TOO *ep*P pP 19 24 31.9 +0.6
TOO Toolangi 61.20 157 *eP* **P 19 24 24.2 +2.3**
TOO *e**PP pP 19 24 31.9 +0.6
TOO pmax pmax
comp=Z,12nm,0.8s,mb5.1
MAK Makhachkala 64.65 309 *eP* **P 19 24 44.7 -0.1**
MAK *e*S **S 19 33 24.4 +1.6**
MAK pmax pmax
comp=Z,137nm,1.8s,mb5.7
GNI Garni 66.93 306 *eP* **P 19 25 00.5 +0.9**
GNI pmax pmax
comp=Z,35nm,1.3s
GNI Garni 66.93 306 *eP* **P 19 25 01.6 +2.0**
comp=Z,39nm,1.3s,mb5.3
ZEI Tsey 67.31 309 *eP* **P 19 25 02.2 +0.3**
ZEI pmax pmax
comp=Z,24nm,0.7s,mb5.3
KIV Kislovodsk 68.07 311 P **P 19 25 07.3 +0.5**
comp=Z,400nm,0.7s,SNR=15
KIV Kislovodsk 68.07 311*d iP* **P 19 25 07.5 +0.7**
KIV *i* 19 25 30.8
KIV *i* 19 27 39.8
KIV *i* S S 19 34 03.6 -0.7
KIV *i* SS SS 19 38 33.1 +6.2
KIV pmax pmax
comp=Z,66nm,0.9s,mb5.7
KIV MLR MLR
comp=Z,300nm,18.0s,MS4.6
KLMR Klimovskoe 68.96 329 *eP* **P 19 25 03.8 -8.5**
VOR Voronezh 69.68 319 *eP* **P 19 25 15.0 -1.7**
VOR pmax pmax
comp=Z,60nm,1.4s,mb5.3
SOC Sochi 70.25 310 *eP* **P 19 25 18.2 -2.1**
SOC *e*S S 19 34 25.9 -4.2
SOC *e* 19 35 23.6
SOC pmax pmax
comp=Z,18nm,0.9s,mb5.0
SOC MLR MLR
comp=Z,359nm,18.0s,MS4.7
MOS Moscow 70.25 323 *eP* **P 19 25 18.9 -1.4**
MOS *e* pP 19 25 28.1 -1.7
MOS pmax pmax
comp=Z,200nm,2.1s,mb5.7
MOS pmax pmax
comp=Z,88nm,1.6s,mb5.4
TTA Tatalina 70.43 29 *eP* **P 19 25 22.1 +0.7**
TTA pmax pmax
comp=Z,23nm,1.3s,mb5.0
TTA Tatalina 70.43 29 *eP* **P 19 25 22.1 +0.7**
comp=Z,23nm,1.3s,mb4.9
OBN Obninsk 70.91 323 *eP* **P 19 25 23.9 -0.4**
OBN *e**PP pP 19 25 32.5 -1.3
OBN pmax pmax
comp=Z,49nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.7
APA Apatity 71.29 336 ⇓*iP* **P 19 25 26.8 +0.2**
APA *i* 19 25 50.0
APA pmax pmax
comp=Z,30nm,0.8s,mb5.3
APA MLR MLR
comp=Z,800nm,18.0s,MS5.0
ANN Anapa 71.70 312*c iP* **P 19 25 28.1 -1.0**
ANN *e*S S 19 34 47.5 +0.6
ANN pmax pmax
comp=Z,31nm,1.2s,mb5.1
ANN MLR MLR
comp=Z,237nm,20.0s,MS4.5
MALT Malatya 72.05 305 ⇑*iP* **P 19 25 32.8 +1.6**
MALT Malatya 72.05 305 *eP* **P 19 25 32.6 +1.4**
MALT pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MALT Malatya 72.05 305 *eP* **P 19 25 32.6 +1.4**
comp=Z,10nm,1.1s,mb4.7
JOF Joensuu 72.67 331 *ep* **P 19 25 33.6 -1.3**
comp=Z,29nm,0.7s,mb5.3
JOF Joensuu 72.67 331 *eP* **P 19 25 33.6 -1.3**
JOF pmax pmax
comp=Z,29nm,0.7s,mb5.3
MCK McKinley 73.51 28 *eP* **P 19 25 40.0 +0.1**
MCK pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
MCK McKinley 73.51 28 *eP* **P 19 25 40.0 +0.1**
comp=Z,2.3nm,0.5s,mb4.4
COLA College 73.78 26 *eP* **P 19 25 41.7 +0.3**
ARCES ARCESS Array B 73.90 339 P **P 19 25 42.4 +0.2**
comp=Z,10nm,0.8s,mb4.8,baz=78,slow=7.6,SNR=20
ARCES LR LR 20 01 22.2
comp=Z,229nm,18.9s,MS4.5,baz=77,slow=38
ARE0 ARCESS Array S 73.90 339 *eP* **P 19 25 41.8 -0.3**
SIM Simferopol' 74.00 313*d iP* **P 19 25 43.5 +0.8**
SIM *e*S S 19 35 20.7 +7.7
SIM pmax pmax
comp=Z,15nm,1.1s,mb4.8
SIM MLR MLR
comp=Z,180nm,22.1s,MS4.3
SML Sawmill 74.12 30 *eP* **P 19 25 43.5 +0.1**
ASF Jabal al Asfar 74.52 299 P **P 19 25 47.0 +1.3**
comp=Z,4.3nm,0.7s,mb4.5,baz=302,slow=5.0,SNR=8.7
KAF Kangasniemi 75.10 331 *ep* **P 19 25 47.6 -1.5**
comp=Z,16nm,0.8s,mb5.0,baz=76,slow=5.5
KAF Kangasniemi 75.10 331 *eP* **P 19 25 47.6 -1.5**
KAF pmax pmax
comp=Z,16nm,0.8s,mb5.0

FINES FINESS Array B 75.35 330 P **P 19 25 50.5 0.0**
comp=Z,9.9nm,0.8s,mb4.8,baz=94,slow=7.6,SNR=38
BR131 Keskin Array S 75.42 307 *eP* **P 19 25 50.8 -0.2**
comp=Z,0.5nm,0.5s
BRTR Keskin Array B 75.42 307 P **P 19 25 50.4 -0.5**
comp=Z,0.7nm,0.6s,baz=102,slow=3.2,SNR=7.5
BRTR LR LR 20 04 02.3
comp=Z,178nm,19.9s,baz=258,slow=40
VSU Vasula 75.69 327*d iP* **P 19 25 52.2 -0.3**
AKASG Malin Array Be 76.03 319 P **P 19 25 53.6 -0.8**
comp=Z,3.7nm,0.7s,mb4.4,baz=65,slow=5.4,SNR=24
AKASG LR LR 20 00 54.4
comp=Z,146nm,18.7s,MS4.3,baz=90,slow=37
EIL Elat 76.73 297 *eP* **P 19 25 58.8 +0.4**
comp=Z,371nm,1.3s
DAWY Dawson 77.53 26 *eP* **P 19 26 03.3 +0.4**
DAWY *ep*P pP 19 26 12.0 -0.5
CFR Carcaliu 78.08 314 ⇑*iP* **P 19 26 05.7 -0.2**
CFR Carcaliu 78.08 314 ⇑P **P 19 26 05.7 -0.2**
INK Inuvik 78.33 21 LR LR 20 04 00.8
comp=Z,119nm,18.7s,MS4.2,baz=168,slow=38
INK Inuvik 78.33 21 *eP* **P 19 26 04.8 -2.5**
INK pmax pmax
comp=Z,6.0nm,0.9s
INK Inuvik 78.33 21 *eP* **P 19 26 04.8 -2.5**
comp=Z,6.3nm,0.9s,mb4.5
SUW Suwalki 78.76 323 *eP* **P 19 26 09.3 -0.4**
SUW Suwalki 78.76 323 *eP* **P 19 26 09.0 -0.7**
SUW pmax pmax
comp=Z,13nm,0.7s,mb5.0
SUW Suwalki 78.76 323 *eP* **P 19 26 09.0 -0.7**
comp=Z,14nm,0.7s,mb5.0
VRI Vrincioaia 78.85 315 ⇑*iP* **P 19 26 11.3 +1.1**
VRI Vrincioaia 78.85 315 ⇑P **P 19 26 11.3 +1.1**
PLOR Plostina 78.90 315 ⇑*iP* **P 19 26 12.1 +1.6**
BURAR Bucovina Array 79.36 317 ⇑*iP* **P 19 26 13.5 +0.5**
BURAR Bucovina Array 79.36 317 ⇑P **P 19 26 13.5 +0.5**
LVV L'vov 79.48 319 *eP* **P 19 26 05.9 -7.7**
MLR Muntele Rosu 79.48 314 ⇑*iP* **P 19 26 14.3 +0.7**
KOLS Kolonicke sedl 80.84 319 *eP* **P 19 26 24.5 +3.5**
DRGR 81.24 316 ⇓*iP* **P 19 26 23.4 +0.3**
DRGR 81.24 316 ⇓P **P 19 26 23.4 +0.3**
DAG Danmarks Havn 81.24 351 ⇑*iP* **P 19 26 22.1 -1.0**
comp=Z,4.1nm,0.7s,mb4.5
DAG Danmarks Havn 81.24 351 ⇑*iP* **P 19 26 22.1 -1.0**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CRVS Cervenica-Dubn 81.36 319 *eP* **P 19 26 25.5 +1.8**
NIE Niedzica 81.90 319 *eP* **P 19 26 27.7 +1.1**
OJC Ojcow 81.94 320 *eP* **P 19 26 27.0 +0.2**
KECS Kecovo 82.11 319 *eP* **P 19 26 27.9 +0.2**
KECS *e* 19 27 16.2
KECS *e*PP PP 19 29 35.2 -0.6
KECS Kecovo 82.11 319 *eP* **P 19 26 27.9 +0.2**
KECS *e* 19 29 35.2
KECS pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
KECS Kecovo 82.11 319 *eP* **P 19 26 27.9 +0.2**
comp=Z,4.1nm,1.3s,mb4.2
KECS *e* 19 27 16.3
KECS *e*PP PP 19 29 35.2 -0.6
NB2 NORSAR Subarra 82.26 332 P **P 19 26 27.4 -1.1**
comp=Z,9.9nm,0.9s,mb4.7,baz=64,slow=5.1
NB2 NORSAR Subarra 82.26 332 P **P 19 26 27.4 -1.1**
NB2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NOA NORSAR Array B 82.26 332 P **P 19 26 27.5 -0.9**
comp=Z,8.5nm,0.9s,mb4.7,baz=64,slow=5.2,SNR=28
NOA LR LR 20 06 17.9
comp=Z,329nm,18.2s,MS4.7,baz=45,slow=38
NOA NORSAR Array B 82.26 332 P **P 19 26 27.5 -0.9**
NOA LR LR 20 06 17.9
NAO01 NORSAR Array S 82.49 332 *eP* **P 19 26 29.1 -0.5**
comp=Z,10nm,0.9s,mb4.8
LIKS Likavka 82.77 319 *eP* **P 19 26 30.7 -0.4**
OKC Ostrava-Krasne 83.07 320 *eP* **P 19 26 33.3 +0.6**
OKC AMS AMS 20 06 30.0
comp=Z,200nm,18.2s
VYHS Vyhne 83.13 319 *i* P **P 19 26 32.4 -0.6**
VYHS pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
VYHS Vyhne 83.13 319 *i* P **P 19 26 32.4 -0.6**
comp=Z,7.2nm,1.5s,mb4.5
VYHS *e* 19 27 20.6
MORC Moravsky Berou 83.46 320 *eP* **P 19 26 34.4 -0.3**
MORC pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
MORC Moravsky Berou 83.46 320 *eP* **P 19 26 34.4 -0.3**
comp=Z,1.5nm,0.6s,mb4.2
KMBO Kilima Mbogo 83.61 267 P **P 19 26 36.5 +1.1**
comp=Z,2.5nm,0.8s,mb4.4,baz=41,slow=7.9,SNR=5.9
KMBO LR LR 20 01 31.1
comp=Z,71nm,19.1s,MS4.1,baz=92,slow=34
KMBO Kilima Mbogo 83.61 267 *eP* **P 19 26 36.3 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 83.61 267 *eP* **P 19 26 36.3 +0.8**
comp=Z,2.2nm,0.8s,mb4.3
KSP Ksiaz 83.80 322 *eP* **P 19 26 37.0 +0.6**
KSP Ksiaz 83.80 322 *eP* **P 19 26 36.9 +0.5**
RES Resolute Bay 83.84 9 *eP* **P 19 26 36.3 -0.4**
RES pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
RES Resolute Bay 83.84 9 *eP* **P 19 26 36.3 -0.4**
comp=Z,4.0nm,1.0s,mb4.5
DIVS Divcibare 83.94 314 *i* P **P 19 26 35.6 -1.6**
DPC Dobruska-Polom 83.97 321 *eP* **P 19 26 37.6 +0.3**
DPC AMS AMS 20 07 30.0
comp=Z,300nm,10.6s
PKSM Moragy 84.08 317 ⇑*eP* **P 19 26 38.1 +0.3**
UPC Upice 84.09 321 *eP* **P 19 26 37.0 -0.9**
VRAC Vranov 84.21 320 ⇓*iP* **P 19 26 39.2 +0.7**
RUE Ruedersdorf 84.58 324 *eP* **P 19 26 40.7 +0.3**
comp=Z,28nm,0.8s,mb5.4
SOP Sopron 84.85 319 ⇓*eP* **P 19 26 41.8 0.0**
TREC Trest 84.88 321 *eP* **P 19 26 42.4 +0.5**
TREC AMS AMS 20 07 40.0
comp=Z,200nm,14.2s
PVCC Panska Ves 84.93 322 *eP* **P 19 26 42.5 +0.3**
PVCC AMS AMS 20 07 00.0
comp=Z,250nm,9.5s
BRG Berggiesshubel 85.15 322 *eP* **P 19 26 43.0 -0.3**
comp=Z,14nm,1.0s,mb5.0
BRG Berggiesshubel 85.15 322 *eP* **P 19 26 47.2 +3.9**
BRG *e* 19 26 52.0
BRG S 19 37 17.0
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
BRG MLR MLR
comp=N,106nm,20.0s,MS4.5
BRG MLR MLR
comp=E,149nm,15.9s,MS4.5
BRG MLR MLR
comp=Z,225nm,16.7s,MS4.6
BRG Berggiesshubel 85.15 322 *i* P **P 19 26 43.4 +0.1**
comp=Z,7.4nm,0.9s,mb4.8
BRG *e* pP 19 26 52.0 -1.1
BRG *e* 19 27 30.2
BRG S 19 37 17.0
PRU Pruhonice 85.17 321 *eP* **P 19 26 44.0 +0.7**
PRU *ep*P pP 19 26 52.5 -0.6
FBE Freiberg 85.47 323 *eP* **P 19 26 45.0 +0.1**
comp=Z,17nm,0.8s,mb5.2
CLL Collm 85.51 323 *eP* **P 19 26 44.4 -0.7**
comp=Z,12nm,0.9s,mb5.1
CLL Collm 85.51 323 *i* P **P 19 26 44.2 -0.9**
comp=Z,12nm,0.9s,mb5.1
CLL *i* pP pP 19 26 53.2 -1.6
CLL *ex* x 19 27 18.0
CLL *ex* x 19 27 33.0
CLL *e*S 19 37 13.0
CLL *e*PS 19 38 12.0
CLL Collm 85.51 323 *i* P **P 19 26 44.2 -0.9**
CLL *i* pP 19 26 53.2 -1.6
CLL *e*S 19 37 10.0
CLL pmax pmax
comp=Z,12nm,0.9s,mb5.1
CLL Collm 85.51 323 *i* P **P 19 26 44.2 -0.9**
comp=Z,12nm,0.9s,mb5.1
CLL *i* pP 19 26 53.2 -1.6
CLL *e*S 19 37 10.0
KHC Kasperske Hory 86.09 321 *eP* **P 19 26 47.8 -0.1**
KHC AMS AMS 20 10 40.0
comp=Z,200nm,12.2s

GEC2 GERESS Array S 86.14 321 *eP* **P 19 26 48.1 -0.1**
comp=Z,7.0nm,1.0s,mb4.8
GEC2 GERESS Array S 86.14 321 *eP* **P 19 26 48.1 -0.1**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GERES GERESS Array B 86.14 321 P **P 19 26 48.6 +0.4**
comp=Z,3.2nm,0.7s,mb4.6,baz=65,slow=4.7,SNR=29
GERES LR LR 20 12 37.2
comp=Z,195nm,18.5s,MS4.5,baz=218,slow=41
TANN Tannenbergstha 86.20 322 *eP* **P 19 26 48.5 0.0**
comp=Z,6.0nm,1.2s,mb4.7
WERD Werda 86.28 322 *eP* **P 19 26 48.6 -0.3**
comp=Z,6.0nm,1.0s,mb4.8
NKC Novy Kostel 86.29 322 *eP* **P 19 26 49.2 +0.3**
NKC AMS AMS 20 07 50.0
comp=Z,400nm,14.7s
WET Wettzell 86.50 321 *eP* **P 19 26 49.8 -0.2**
comp=Z,8.0nm,1.5s,mb4.7
WET Wettzell 86.50 321 *eP* **P 19 26 49.8 -0.2**
WET pmax pmax
comp=Z,8.0nm,1.5s,mb4.7
MOX Moxa 86.59 323 *eP* **P 19 26 49.9 -0.5**
comp=Z,7.0nm,1.4s,mb4.7
MOX Moxa 86.59 323 *eP* **P 19 26 50.2 -0.2**
MOX
comp=Z,300nm,18.0s
MANZ Manzenberg 86.59 322 *eP* **P 19 26 50.7 +0.3**
comp=Z,7.0nm,1.4s,mb4.7
NRDL Niedersach Rie 86.60 325 *eP* **P 19 26 50.6 +0.1**
comp=Z,18nm,1.7s,mb5.0
ROTZ Rotzenmuhle 86.63 322 *eP* **P 19 26 50.6 0.0**
comp=Z,10.0nm,1.3s,mb4.9
CLZ Clausthal 86.75 324 *eP* **P 19 26 50.8 -0.4**
comp=Z,12nm,1.4s,mb4.9
CLZ Clausthal 86.75 324 *eP* **P 19 26 50.8 -0.4**
CLZ pmax pmax
comp=Z,12nm,1.4s,mb4.9
GRA1 Grafenberg Arr 87.24 322 *eP* **P 19 26 54.1 +0.6**
comp=Z,5.0nm,1.2s,mb4.6
GRA1 *e*S 19 37 30.4
GRA1 *e*SS SS 19 43 28.1 +13
GRA1 LR LR
comp=Z,400nm,18.5s,MS4.9
GRF Grafenberg Arr 87.24 322 *eP* **P 19 26 54.1 +0.6**
comp=Z,5.0nm,1.2s,mb4.6
GRF *e*S 19 37 30.4
GRF *e*SS SS 19 43 28.1 +13
GRF *e*L 20 08 55.5
comp=Z,390nm,18.5s
GRF Grafenberg Arr 87.24 322 *eP* **P 19 26 54.1 +0.6**
GRF *e*S 19 37 30.4
GRF pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
GRF MLR MLR
comp=Z,400nm,18.5s,MS4.9
GRF Grafenberg Arr 87.24 322 *eP* **P 19 26 54.1 +0.6**
GRF *e*S 19 37 30.4
GRF pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
GRF MLR MLR
comp=Z,400nm,18.5s,MS4.9
SUMG Summit 87.45 354 *eP* **P 19 26 54.9 +0.3**
comp=Z,13nm,1.0s,mb5.1
YKW3 Yellowknife Ar 88.01 22 *eP* **P 19 26 57.2 0.0**
TIP Timpagrande 88.01 311 *eP* **P 19 26 57.3 0.0**
YKA Yellowknife Ar 88.05 22 P **P 19 26 57.6 +0.2**
comp=Z,7.0nm,0.8s,mb5.0,baz=316,slow=4.9,SNR=24
YKA LR LR 20 08 54.4
comp=Z,46nm,20.0s,MS3.9,baz=0.0,slow=37
YKA Yellowknife Ar 88.05 22 *i* P **P 19 26 57.5 0.0**
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA Yellowknife Ar 88.05 22 P **P 19 26 57.6 +0.2**
YKA LR LR 20 08 54.4
BUG Bochum--Univer 88.65 325 *eP* **P 19 27 00.1 -0.2**
comp=Z,9.0nm,1.0s,mb5.0
AQU L'Aquila 89.05 315 *eP* **P 19 27 02.2 0.0**
AQU pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
AQU L'Aquila 89.05 315 *eP* **P 19 27 02.2 0.0**
comp=Z,7.5nm,0.9s,mb5.0
BFO Black Forest 89.56 322 *eP* **P 19 27 04.5 0.0**
comp=Z,19nm,2.1s,mb5.1
BFO Black Forest 89.56 322 *eP* **P 19 27 04.5 0.0**
BFO pmax pmax
comp=Z,19nm,2.1s,mb5.1
CDF Champ du Feu 90.13 322 *eP* **P 19 27 06.9 -0.3**
comp=Z,9.0nm,1.0s,mb4.8
CDF Champ du Feu 90.13 322 *eP* **P 19 27 06.9 -0.3**
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
CDF Champ du Feu 90.13 322 *eP* **P 19 27 06.9 -0.3**
comp=Z,4.5nm,1.0s,mb4.8
HINF Hinteralfeld 90.67 322 *eP* **P 19 27 09.1 -0.6**
ESK Eskdalemuir 91.74 331 *eP* **P 19 27 14.2 -0.5**
ESK pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
ESK Eskdalemuir 91.74 331 *eP* **P 19 27 14.2 -0.5**
comp=Z,8.2nm,1.2s,mb4.9
LPG La Plagne 91.88 320 *eP* **P 19 27 15.7 +0.4**
comp=Z,26nm,0.8s,mb5.3
LPG La Plagne 91.88 320 *eP* **P 19 27 15.7 +0.4**
LPG pmax pmax
comp=Z,13nm,0.8s,mb5.3
LPG La Plagne 91.88 320 *eP* **P 19 27 15.7 +0.4**
comp=Z,13nm,0.8s,mb5.3
PGF Pioggiola 91.88 316 *eP* **P 19 27 15.3 0.0**
comp=Z,22nm,0.8s,mb5.2
PGF Pioggiola 91.88 316 *eP* **P 19 27 15.3 0.0**
PGF pmax pmax
comp=Z,11nm,0.8s,mb5.2
PGF Pioggiola 91.88 316 *eP* **P 19 27 15.3 0.0**
comp=Z,11nm,0.8s,mb5.2
LPL La Plagne 91.88 320 *eP* **P 19 27 15.6 +0.3**
comp=Z,20nm,0.8s,mb5.2
LPL La Plagne 91.88 320 *eP* **P 19 27 15.6 +0.3**
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
LPL La Plagne 91.88 320 *eP* **P 19 27 15.6 +0.3**
comp=Z,9.8nm,0.8s,mb5.2
BNI Bardonecchia 92.14 319 *eP* **P 19 27 16.4 -0.2**
BNI pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
BNI Bardonecchia 92.14 319 *eP* **P 19 27 16.4 -0.1**
comp=Z,7.7nm,0.8s,mb5.1
MBDF Montbardon 92.25 319 *eP* **P 19 27 17.5 +0.5**
comp=Z,9.0nm,0.8s,mb4.8
MBDF Montbardon 92.25 319 *eP* **P 19 27 17.5 +0.5**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
MBDF Montbardon 92.25 319 *eP* **P 19 27 17.5 +0.5**
comp=Z,4.5nm,0.8s,mb4.8
SBF Sospel 92.26 318 *eP* **P 19 27 16.6 -0.5**
comp=Z,22nm,0.8s,mb5.3
SBF Sospel 92.26 318 *eP* **P 19 27 16.6 -0.5**
SBF pmax pmax
comp=Z,11nm,0.8s,mb5.2
SBF Sospel 92.26 318 *eP* **P 19 27 16.6 -0.5**
comp=Z,11nm,0.8s,mb5.2
LOR Lormes 92.69 322 *eP* **P 19 27 17.4 -1.7**
LOR *e*R
comp=Z,219nm,18.2s
LOR Lormes 92.69 322 *eP* **P 19 27 17.4 -1.7**
LOR LR LR
comp=Z,220nm,18.3s,MS4.7
ORIF Oris-en-Rattie 92.70 320 *eP* **P 19 27 19.1 0.0**
comp=Z,12nm,0.9s,mb5.0
ORIF *e*R
comp=Z,202nm,21.5s
ORIF Oris-en-Rattie 92.70 320 *eP* **P 19 27 19.1 0.0**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
ORIF Oris-en-Rattie 92.70 320 *eP* **P 19 27 19.1 0.0**
comp=Z,5.9nm,0.9s,mb5.0
FRF La Foret Royal 92.90 318 *eP* **P 19 27 19.7 -0.4**
comp=Z,16nm,1.0s,mb5.1
FRF La Foret Royal 92.90 318 *eP* **P 19 27 19.7 -0.4**
FRF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
FRF La Foret Royal 92.90 318 *eP* **P 19 27 19.7 -0.4**
comp=Z,7.9nm,1.0s,mb5.1
SMF Signal de Mont 93.03 322 *eP* **P 19 27 20.1 -0.6**
LMR La Mourre 93.10 318 *eP* **P 19 27 20.7 -0.3**
comp=Z,19nm,1.2s,mb5.1
LMR La Mourre 93.10 318 *eP* **P 19 27 20.7 -0.3**
LMR pmax pmax

comp=Z,9.0nm,1.2s,mb5.1
LMR La Mourre 93.10 318 *e*P **P 19 27 20.7 -0.3**
comp=Z,9.4nm,1.2s,mb5.1
AVF Avril sur Loir 93.24 322 *e*P **P 19 27 20.9 -0.7**
PPT Papeete 95.88 106 *e*LR LR 19 58 27.0
comp=Z,277nm,32.5s
PPT Papeete 95.88 106 LR LR 20 10 56.4
comp=Z,245nm,18.1s,MS4.7,baz=322,slow=36
LSZ Lusaka 96.64 256 *e*P **P 19 27 37.0 -0.1**
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
LSZ Lusaka 96.64 256 *e*P **P 19 27 37.0 -0.1**
comp=Z,3.2nm,0.8s,mb4.8
VNDA Vanda 99.41 172 LR LR 20 09 06.2
comp=Z,3.7nm,21.7s,baz=281,slow=33
WVT Waverly 119.07 26 *e*PKIKP PKPdf 19 32 56.2 +0.4
SDV Santo Domingo 150.27 22 *e*PKPbc PKPbc 19 33 59.2 +1.1

NEIC ***24*** *19:44:51.2, 4172N±2436E, h11km, MD2.8(SOF), MD3.2(ATH), After SOF.*
CSEM ***24*** *19:44:51.2±0.2, 4178N±2436E, h10km, MD2.8, Error ellipse: s-maj=4.2km s-min=2.7km az=131.0*
ISCJB ***24*** *19:44:51.1±0.6, 4171N±004×2436E±005, h6km±8km, Error ellipse: s-maj=7.2km s-min=5.4km az=139.0*
SOF ***24*** *19:44:51.2, 4172N×2436E, h11km, MD2.8*
THE ***24*** *19:44:52.8, 4158N×2445E, h10km*
ATH ***24*** *19:44:52.7, 4166N×2436E, h4km, MD3.2/3*
ISC 24 19:44:51.5±0.6, 4172N±004×2437E±005, h15km±7km, n13, σ0§83/19, 1C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.26**	**97**	*i* Pg	**Pg**	**19 44 57.3**	**+0.1**
PLD	**Plovdiv**	**0.46**	**33**	*i* Pg	**Pg**	**19 45 01.7**	**+1.0**
MMB	**Musomiste**	**0.50**	**255**	*i* Pg	**Pg**	**19 45 01.3**	**-0.1**
NVR	**Nevrokopi**	**0.53**	**226**	⇑*i* Pb	**Pb**	**19 45 01.9**	**-0.7**
NVR				*e*Sb	**Sb**	**19 45 09.6**	**-0.4**
KDZ	**Kurdzhali**	**0.79**	**95**	*i* Pg	**Pg**	**19 45 06.1**	**-0.8**
SRS	**Serrai**	**0.84**	**224**	*e*Pg	**Pg**	**19 45 07.8**	**0.0**
SRS				*e*Sg	**Sg**	**19 45 19.8**	**+1.0**
PGB	**Panagyurishte**	**0.84**	**350**	*i* Pg	**Pg**	**19 45 07.6**	**-0.3**
KKB	**Krupnik**	**0.97**	**279**	*i* Pg	**Pg**	**19 45 09.6**	**-0.7**
RDO	**Rodhopi**	**1.05**	**123**	⇓*i* PG	**Pg**	**19 45 12.0**	**+0.2**
RDO				*e*SG	**Sg**	**19 45 26.0**	**+0.4**
SOH	**Sokhos**	**1.18**	**221**	*e*Pg	**Pg**	**19 45 13.6**	**-0.7**
SOH				*e*Sg	**Sg**	**19 45 29.9**	**+0.2**
PLG	**Polygyros**	**1.52**	**208**	*e*Pb	**Pb**	**19 45 19.7**	**+0.3**
PLG				*e*Sb	**Sb**	**19 45 40.4**	**+2.0**
STIP	**Stip**	**1.63**	**270**	*e*Pn	**Pn**	**19 45 21.0**	**+1.3**
PAIG	**Paliouri**	**1.87**	**196**	*e*Pb	**Pb**	**19 45 23.7**	**-1.6**
PAIG				*e*Sb	**Sb**	**19 45 47.7**	**-0.8**

MAN 24 19:48:47.2, 993N×12535E, h213km, mb2.4, ML4.0, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.20**	**135**	⇑*e*P	Pn	19 49 15.9	+0.8
MSLP	**Maasin**	**0.52**	**293**	*e*P	Pn	19 49 17.9	+2.0
BUTP	**Butuan**	**0.99**	**164**	*e*P	Pn	19 49 24.6	+6.4
PLP	**Palo**	**1.28**	**344**	*e*P	Pn	19 49 20.9	+0.6
PLP				*i* S	S	19 49 37.0	-9.1
BESP	**Borongan**	**1.67**	**3**	*e*P	Pn	19 49 24.2	+0.7
BUKP	**Musuan**	**2.05**	**188**	*e*P	Pn	19 49 27.6	+0.4

ISCJB ***24*** *19:52:43.3±0.3, 3611N±003×13966E±005, h131km±2km, mb4.1/33, Error ellipse: s-maj=6.6km s-min=4.8km az=154.8*
MOS ***24*** *19:52:43.8±1.4, 3624N×13967E, h136km, mb4.5/14, Error ellipse: s-maj=15.2km s-min=8.6km az=115.3*
BJI ***24*** *19:52:43.0, 3607N×13983E, h161km, mB4.6, mb4.7*
IDC ***24*** *19:52:44.4±0.9, 3611N×13969E, h121km±7km, mb3.7/16, mb1 3.9/18, mb1mx3.8/24, mbtmp4.1/18, Error ellipse: s-maj=17.0km s-min=7.1km az=69.0*
JMA ***24*** *19:52:45.6±0.1, 3611N×13971E, h114km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs=286.00000°, δ19.00000°, λ116.00000°. NP2: ϕs=79.00000°, δ73.00000°, λ82.00000°. Principal axes: T Plg61.0000°, Azm337.0000°; N Plg8.0000°, Azm82.0000°; P Plg28.0000°, Azm176.0000°;*
JMA Felt II J1.
NEIC ***24*** *19:52:45.5±0.8, 3613N×13948E, h132km±6km, mb4.3/17 Error ellipse: s-maj=13.1km s-min=8.8km az=81.0*
NIED ***24*** *19:53:00, 3620N×13970E, h107km, Mw4.0 Best double couple: M0 9.86000×10^14 NP1:ϕs73.00000°, δ71.00000°, λ89.00000°. NP2:ϕs256.00000°, δ19.00000°, λ93.00000°.*
ISC 24 19:52:44.4±0.3, 3612N±003×13966E±005, h125km±2km, n83, σ1§03/104, mb4.2/33, 7C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.34**	**331**	⇑P	**Pn**	**19 53 02.3**	**+0.1**
JAG				S	**Sn**	**19 53 14.9**	**-0.7**
JYT	**Yasato**	**0.44**	**76**	⇑P	**Pn**	**19 53 02.5**	**-0.2**
JYT				S	**Sn**	**19 53 15.2**	**-1.2**
JRY	**Ryogami san**	**0.63**	**260**	⇑P	**Pn**	**19 53 04.4**	**+0.6**
JRY				S	**Sn**	**19 53 18.4**	**0.0**
JKT	**Katashina**	**0.72**	**333**	⇓P	**Pn**	**19 53 05.0**	**+0.5**
JKT				S	**Sn**	**19 53 20.4**	**+0.7**
JOD2	**Odawara 2**	**0.98**	**209**	⇑P	**Pn**	**19 53 06.5**	**-0.2**
JOD2				S	**Sn**	**19 53 22.7**	**-0.9**
JYN	**Shimob**	**1.10**	**236**	⇑P	**Pn**	**19 53 08.5**	**+0.6**
JYN				S	**Sn**	**19 53 26.3**	**+0.5**
JHK	**Hiroka**	**1.24**	**335**	⇓P	**Pn**	**19 53 10.0**	**+0.7**
JHK				*e*S	**Sn**	**19 53 29.3**	**+1.1**
MJAR	**Matsushiro Arr**	**1.25**	**290**	P	**Pn**	**19 53 09.8**	**+0.4**
	68nm,0.3s,baz=114,slow=10,SNR=937						
MJAR				S	**Sn**	**19 53 27.8**	**-0.6**
	56nm,0.3s,baz=212,slow=19,SNR=25						
MJAR	**Matsushiro Arr**	**1.25**	**290**	P	**Pn**	**19 53 09.8**	**+0.4**
MJAR				S	**Sn**	**19 53 27.8**	**-0.6**
MAJO	**Matsushiro**	**1.25**	**290**	*e*Pn	**Pn**	**19 53 10.1**	**+0.7**
MAJO				*e*Sn	**Sn**	**19 53 28.4**	**0.0**
MAT	**Matsushiro**	**1.25**	**290**	P	**Pn**	**19 53 10.0**	**+0.6**
MAT				S	**Sn**	**19 53 29.0**	**+0.6**
MAT	**Matsushiro**	**1.25**	**290**	P	**Pn**	**19 53 10.1**	**+0.7**
MAT				S	**Sn**	**19 53 29.0**	**+0.6**
MAT	**Matsushiro**	**1.25**	**290**	*e*P	**Pn**	**19 53 10.0**	**+0.6**
MAT				*e*S	**Sn**	**19 53 29.0**	**+0.6**
JIM2	**Oshima 3**	**1.42**	**188**	⇑P	**Pn**	**19 53 11.1**	**-0.2**
JNS	**Sasagawa**	**1.71**	**351**	⇓P	**Pn**	**19 53 15.2**	**+0.5**
BSO1	**Boso 1**	**1.82**	**143**	⇑P	**Pn**	**19 53 15.5**	**-0.4**
BSO1				S	**Sn**	**19 53 40.6**	**+0.6**
JMM	**Marumori**	**1.96**	**27**	⇓P	**Pn**	**19 53 17.9**	**+0.2**
JMM				S	**Sn**	**19 53 42.6**	**-0.5**
JHJ	**Hachijo jima 2**	**3.00**	**178**	P	**Pn**	**19 53 30.9**	**0.0**
	178nm,0.3s,baz=30,slow=0.9,SNR=97						
JHJ				S	**Sn**	**19 54 05.5**	**-1.2**
	206nm,0.3s,baz=75,slow=22,SNR=23						
ASAJ	**Asahikawa**	**8.29**	**15**	P	**Pn**	**19 54 39.9**	**-2.0**
	3.0nm,0.3s,baz=232,slow=11,SNR=20						
ASAJ				S	**Sn**	**19 56 06.7**	**-7.1**
	1.3nm,0.3s,baz=295,slow=29,SNR=5.8						
ASAJ	**Asahikawa**	**8.29**	**15**	P	**Pn**	**19 54 39.9**	**-2.0**
ASAJ				S	**Sn**	**19 56 06.7**	**-7.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
CBIJ	**Chichi jima**	**9.25**	**166**	P	**Pn**	**19 54 50.0**	**-4.8**
	comp=N,33nm,0.3s,baz=296,slow=23,SNR=98						
CBIJ				S	**Sn**	**19 56 26.4**	**-11**
	comp=N,31nm,0.3s,baz=269,slow=22,SNR=10						
KS15	**Wonju Array Si**	**9.54**	**281**	Pn	**Pn**	**19 54 55.7**	**-3.0**
KUR	**Kuril'sk**	**11.02**	**32**	P	**Pn**	**19 55 11.0**	**-7.4**
KUR				S	**Sn**	**19 57 09.0**	**-11**
KUR				smax			
	comp=N,40nm,0.8s						
KUR				smax			
	comp=E,60nm,0.8s						
YSS	**Yuzh-Sakhalins**	**11.06**	**11**	*e*P	**Pn**	**19 55 15.5**	**-3.5**
CN2	**Changchun**	**13.32**	**309**	*e*P	**Pn**	**19 55 49.6**	**+1.1**
HHC	**Hu-ho-hao-te**	**22.45**	**291**	*e*P	**P**	**19 57 30.6**	**-2.5**
HHC				AP		19 57 58.4	
HHC				PP		19 58 05.0	
HHC				S	**S**	**20 01 20.4**	**-10**
HHC				PCP	PcP	20 01 24.0	+1.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
HHC				AMB	AMB		
	comp=Z,80nm,4.4s						
HHC				LR	LR		
	comp=N,180nm,8.7s						
HHC				LR	LR		
	comp=E,120nm,9.5s						
HHC				LR	LR		
	comp=Z,170nm,11.9s						
CIT	**Chita**	**24.40**	**319**	*e*P	**P**	**19 57 46.3**	**-4.7**
MA2	**Magadan**	**24.55**	**14**	*d i*P	**P**	**19 57 54.2**	**+1.8**
MA2				pmax	pmax		
	comp=Z,70nm,0.7s,mb5.2						
MA2	**Magadan**	**24.55**	**14**	*e*P	**P**	**19 57 52.9**	**+0.5**
	comp=Z,11nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**26.73**	**306**	*e*P	**P**	**19 58 09.5**	**-2.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ULN	**Ulaanbaatar**	**26.73**	**306**	*e*P	**P**	**19 58 09.5**	**-2.5**
	comp=Z,1.1nm,0.4s,mb3.7						
SONM	**Songino Array**	**27.15**	**306**	P	**P**	**19 58 16.0**	**+0.1**
	comp=Z,1.0nm,0.4s,mb3.7,baz=103,slow=9.0,SNR=14						
CD2	**Chengdu**	**30.27**	**271**	*e*P	**P**	**19 58 40.8**	**-2.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
BILL	**Bilibino**	**35.30**	**17**	*e*P	**P**	**19 59 28.5**	**+1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
BILL	**Bilibino**	**35.30**	**17**	P	**P**	**19 59 27.2**	**-0.1**
	comp=Z,4.1nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**41.51**	**313**	P	**P**	**20 00 19.5**	**+0.3**
	comp=Z,1.8nm,0.4s,mb4.2,baz=23,slow=4.8,SNR=7.9						
ZAL	**Zalesovo**	**41.51**	**313**	P	**P**	**20 00 19.5**	**+0.3**
MKAR	**Makanchi Array**	**43.41**	**303**	P	**P**	**20 00 35.0**	**+0.4**
	comp=Z,3.4nm,0.8s,mb4.1,baz=84,slow=11,SNR=19						
KURK	**Kurchatov**	**45.39**	**309**	*e*P	**P**	**20 00 50.6**	**+0.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**45.39**	**309**	*e*P	**P**	**20 00 50.6**	**+0.3**
	comp=Z,7.9nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**49.68**	**299**	P	**P**	**20 01 20.7**	**-2.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**49.68**	**299**	P	**P**	**20 01 20.7**	**-2.8**
	comp=Z,2.8nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**49.91**	**313**	*e*P	**P**	**20 01 25.0**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**49.91**	**313**	*e*P	**P**	**20 01 25.0**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**50.15**	**313**	P	**P**	**20 01 27.1**	**+0.1**
	comp=Z,1.7nm,0.4s,mb4.3,baz=101,slow=7.6,SNR=16						
BRVK	**Borovoye**	**50.20**	**313**	*e*P	**P**	**20 01 28.2**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
BRVK	**Borovoye**	**50.20**	**313**	*e*P	**P**	**20 01 28.2**	**+0.8**
	comp=Z,3.3nm,1.1s,mb4.2						
ZRNK	**Zerenda**	**50.98**	**313**	*e*P	**P**	**20 01 32.8**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**50.98**	**313**	*e*P	**P**	**20 01 32.8**	**-0.4**
	comp=Z,4.7nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**55.54**	**196**	*e*P	**P**	**20 02 07.8**	**+1.2**
	comp=Z,7.1nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**55.54**	**196**	P	**P**	**20 02 08.1**	**+1.5**
	comp=Z,4.0nm,0.6s,mb4.6,baz=37,slow=9.0,SNR=14						
INK	**Inuvik**	**55.84**	**27**	P	**P**	**20 02 08.4**	**-0.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=280,slow=11,SNR=8.4						
INK	**Inuvik**	**55.84**	**27**	*e*P	**P**	**20 02 08.8**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**55.84**	**27**	*e*P	**P**	**20 02 08.8**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**55.98**	**186**	*e*P	**P**	**20 02 09.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**55.98**	**186**	*e*P	**P**	**20 02 09.6**	**-0.1**
	comp=Z,4.2nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**55.99**	**186**	*e*P	**P**	**20 02 04.2**	**-5.5**
WRA	**Warramunga Arr**	**55.99**	**186**	P	**P**	**20 02 10.0**	**+0.2**
	comp=Z,2.0nm,0.4s,mb4.5,baz=0.9,slow=7.7,SNR=60						
ARU	**Arti**	**56.11**	**319**	*e*P	**P**	**20 02 08.8**	**-1.8**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
ARU	**Arti**	**56.11**	**319**	*e*P	**P**	**20 02 08.8**	**-1.8**
	comp=Z,4.6nm,0.6s,mb4.7						
AS31	**Alice Springs**	**59.71**	**186**	*e*P	**P**	**20 02 37.0**	**+1.2**
ASAR	**Alice Springs**	**59.71**	**186**	P	**P**	**20 02 36.7**	**+0.9**
	comp=Z,0.7nm,0.4s,mb4.0,baz=18,slow=12,SNR=27						
ASPA	**Alice Springs**	**59.71**	**186**	*e*P	**P**	**20 02 37.0**	**+1.2**
MBWA	**Marble Bar**	**60.01**	**202**	*e*P	**P**	**20 02 38.3**	**+0.5**
	comp=Z,12nm,1.0s,mb4.9						
RES	**Resolute Bay**	**63.83**	**14**	*e*P	**P**	**20 03 01.4**	**-1.9**
RES				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
RES	**Resolute Bay**	**63.83**	**14**	*e*P	**P**	**20 03 01.4**	**-1.9**
	comp=Z,9.1nm,1.3s,mb4.5						
ARCES	**ARCESS Array B**	**64.35**	**339**	P	**P**	**20 03 06.7**	**-0.1**
	comp=Z,2.2nm,0.7s,mb4.1,baz=54,slow=7.2,SNR=14						
JOF	**Joensuu**	**66.10**	**332**	*ep*	**P**	**20 03 17.3**	**-0.7**
	comp=Z,1.7nm,0.4s,mb4.2						
JOF	**Joensuu**	**66.10**	**332**	*e*P	**P**	**20 03 17.3**	**-0.7**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**67.67**	**178**	*e*P	**P**	**20 03 26.5**	**-1.5**
	comp=Z,1.8nm,1.0s,mb3.9						
KAF	**Kangasniemi**	**68.46**	**332**	*ep*	**P**	**20 03 29.3**	**-3.6**
	comp=Z,2.0nm,0.6s,mb4.1						
KAF	**Kangasniemi**	**68.46**	**332**	*e*P	**P**	**20 03 29.3**	**-3.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**68.96**	**332**	P	**P**	**20 03 35.8**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.0,baz=76,slow=7.3,SNR=16						
AKASG	**Malin Array Be**	**74.15**	**322**	P	**P**	**20 04 07.1**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=49,slow=5.7,SNR=8.0						
AKASG	**Malin Array Be**	**74.15**	**322**	P	**P**	**20 04 07.1**	**0.0**
NB2	**NORSAR Subarra**	**74.47**	**337**	P	**P**	**20 04 08.9**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.0,baz=41,slow=5.9						
NB2	**NORSAR Subarra**	**74.47**	**337**	P	**P**	**20 04 08.9**	**-0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	**NORSAR Array B**	**74.47**	**337**	P	**P**	**20 04 09.1**	**+0.2**
	comp=Z,1.3nm,0.6s,mb3.9,baz=40,slow=5.8,SNR=7.6						
NVAR	**Mina Array Bea**	**76.66**	**52**	P	**P**	**20 04 23.8**	**+2.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=282,slow=7.1,SNR=5.3						
BRTR	**Keskin Array B**	**78.39**	**311**	P	**P**	**20 04 32.5**	**+1.4**
	comp=Z,0.6nm,0.7s,mb3.4,baz=103,slow=2.7,SNR=4.1						
PDAR	**Pinedale Array**	**79.31**	**44**	P	**P**	**20 04 37.0**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.4,baz=300,slow=1.8,SNR=3.7						
CLL	**Collm**	**81.17**	**329**	*i* P	**P**	**20 04 47.1**	**+1.0**
GERES	**GERESS Array B**	**82.73**	**327**	P	**P**	**20 04 54.0**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.4,baz=57,slow=4.9,SNR=4.3						

MAN ***24*** *19:58:13.6, 1890N×11995E, h3km, MS6.3*
ISCJB ***24*** *19:58:16.0±0.9, 1910N±005×1202E±0.1, h50km±11km, mb4.1/19, Error ellipse: s-maj=17.2km s-min=7.9km az=169.0*
BJI ***24*** *19:58:18.0, 1922N×11996E, h45km, mB4.6, mb4.2, Ms3.6, Msz3.4*
NEIC ***24*** *19:58:20.3±1.1, 1919N×12046E, h74km±11km, mb4.4/8, Error ellipse: s-maj=17.2km s-min=8.4km az=84.0*
IDC ***24*** *19:58:21.8±2.8, 1916N×12054E, h91km±28km, mb3.6/11, mb1 3.8/13, mb1mx3.6/21, mbtmp4.0/13, Error ellipse: s-maj=32.4km s-min=12.5km az=72.0*
ISC 24 19:58:17.6±0.9, 1908N±005×1203E±01, h49km±11km, n37, σ0§88/38, mb4.1/19, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.49**	**163**	*e*P	**Pn**	**19 58 40.0**	**-2.0**
ABRA				*e*S	**Sn**	**19 58 59.8**	**-0.5**
APYP	**Conner**	**1.54**	**142**	*e*P	**Pn**	**19 58 42.1**	**-0.5**
SGCP	**Mt. Cagua**	**1.90**	**116**	*e*P	**Pn**	**19 58 49.9**	**+2.4**
CVP	**Callao Caves**	**2.03**	**132**	⇑*e*P	**Pn**	**19 58 50.0**	**+0.7**
CAUP	**Cauayan**	**2.60**	**145**	*e*P	**Pn**	**19 58 59.2**	**+2.1**
BOLP	**Bolinao**	**2.70**	**187**	*e*P	**Pn**	**19 58 55.2**	**-3.3**
SCZP	**Santa Cruz**	**3.30**	**186**	*e*P	**Pn**	**19 59 13.3**	**+6.5**
BALP	**Baler**	**3.56**	**159**	*e*P	**Pn**	**19 59 10.7**	**+0.5**
TGY	**Tagaytay City**	**5.00**	**172**	P	**Pn**	**19 59 36.0**	**+6.0**
	baz=119,slow=14,SNR=2.9						
NACB	**Ninganchiao**	**5.22**	**14**	*e*Pn	**Pn**	**19 59 32.2**	**-0.9**
YHNB	**Yeheng**	**5.66**	**10**	*e*Pn	**Pn**	**19 59 39.0**	**-0.1**
JOW	**Kunigami**	**10.68**	**42**	P	**Pn**	**20 00 47.4**	**-0.6**
	0.8nm,0.3s,baz=110,slow=29,SNR=4.8						
KS15	**Wonju Array Si**	**19.48**	**18**	*e*P	**Pn**	**20 02 41.5**	**-0.4**
LZH	**Lanzhou**	**22.27**	**323**	*e*P	**P**	**20 03 10.5**	**+0.1**
LZH				AP		20 03 19.5	
LZH				XP	sP	20 03 26.5	-1.6
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,220nm,5.2s						
MAJO	**Matsushiro**	**23.49**	**39**	P	**P**	**20 03 22.4**	**-0.5**
	comp=Z,4.9nm,1.0s,mb3.9						
MJAR	**Matsushiro Arr**	**23.49**	**39**	P	**P**	**20 03 22.4**	**-0.6**
	comp=Z,1.1nm,1.0s,mb3.2,baz=221,slow=7.8,SNR=4.3						
GTA	**Gaotai**	**26.87**	**323**	*e*P	**P**	**20 03 53.8**	**+0.2**
ULN	**Ulaanbaatar**	**30.66**	**342**	*e*P	**P**	**20 04 27.7**	**+0.4**
	comp=Z,1.6nm,0.8s,mb3.9						
ULN				*e*	pP	20 04 36.2	-3.9
SONM	**Songino Array**	**30.82**	**342**	P	**P**	**20 04 28.8**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.7,baz=160,slow=9.3,SNR=9.6						
WRAB	**Tennant Creek**	**41.16**	**160**	*e*P	**P**	**20 05 48.0**	**-9.1**
	comp=Z,8.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.17**	**160**	P	**P**	**20 05 56.4**	**-0.8**
	comp=Z,2.0nm,0.8s,mb3.8,baz=338,slow=9.0,SNR=8.5						
MKAR	**Makanchi Array**	**41.54**	**320**	P	**P**	**20 06 00.7**	**+0.4**
	comp=Z,2.5nm,0.8s,mb3.9,baz=116,slow=9.6,SNR=18						
ZAL	**Zalesovo**	**44.14**	**331**	P	**P**	**20 06 22.9**	**+1.6**
	comp=Z,1.1nm,0.8s,mb3.7,baz=30,slow=6.0,SNR=5.5						
AS31	**Alice Springs**	**44.53**	**162**	*e*P	**P**	**20 06 16.9**	**-7.4**
ASPA	**Alice Springs**	**44.53**	**162**	*e*P	**P**	**20 06 16.9**	**-7.4**
ASAR	**Alice Springs**	**44.53**	**162**	P	**P**	**20 06 24.9**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.0,baz=342,slow=6.9,SNR=27						
KURK	**Kurchatov**	**45.55**	**324**	*e*P	**P**	**20 06 33.1**	**+0.7**
	comp=Z,8.4nm,0.9s,mb4.7						
KURK				*e*	pP	20 06 42.7	-3.0
BVAR	**Borovoye Array**	**51.15**	**324**	P	**P**	**20 07 15.9**	**+0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=114,slow=10,SNR=5.1						
BRVK	**Borovoye**	**51.22**	**324**	*e*P	**P**	**20 07 16.5**	**+0.3**
	comp=Z,4.1nm,1.4s,mb4.2						
STKA	**Stephens Creek**	**54.65**	**158**	*e*P	**P**	**20 07 40.4**	**-1.0**
	comp=Z,2.7nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**54.65**	**158**	P	**P**	**20 07 40.7**	**-0.7**
	comp=Z,3.2nm,0.7s,mb4.5,baz=340,slow=8.5,SNR=10						
ARU	**Arti**	**58.71**	**325**	*e*P	**P**	**20 08 10.1**	**-0.1**
	comp=Z,2.5nm,0.6s,mb4.4						
ARU				*e*		20 08 18.4	
ARCES	**ARCESS Array B**	**73.94**	**339**	P	**P**	**20 09 47.6**	**0.0**
	comp=Z,3.9nm,0.9s,mb4.3,baz=7.5,slow=20,SNR=2.9						
FINES	**FINESS Array B**	**75.41**	**330**	P	**P**	**20 09 55.2**	**-0.9**
	comp=Z,2.5nm,0.9s,mb4.1,baz=145,slow=4.7,SNR=5.6						
FINES	**FINESS Array B**	**75.41**	**330**	P	**P**	**20 09 55.2**	**-0.9**
INK	**Inuvik**	**78.27**	**21**	P	**P**	**20 10 20.7**	**+8.4**
	comp=Z,8.0nm,1.5s,mb4.4						
NOA	**NORSAR Array B**	**82.31**	**332**	P	**P**	**20 10 33.4**	**-0.6**
	comp=Z,1.5nm,1.0s,mb3.9,baz=73,slow=4.5,SNR=3.3						

IDC ***24*** *19:59:48.8±1.1, 1908N×12035E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=160.6km s-min=19.4km az=67.0*
NEIC ***24*** *19:59:53.8±0.7, 1907N×12033E, h35km, mb3.6/1, Error ellipse: s-maj=99.9km s-min=12.6km az=68.0*
MAN ***24*** *19:59:53.2, 1892N×11995E, h14km, MS8.0*
ISCJB ***24*** *19:59:54.0±1.5, 189N±0.1×1199E±02, h53km±16km, mb3.7/7, Error ellipse: s-maj=26.8km s-min=16.0km az=149.2*
ISC 24 19:59:55.1±1.5, 190N±01×1199E±02, h44km±17km, n14, σ1§01/14, mb3.7/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.49**	**150**	*e*P	**Pn**	**20 00 17.7**	**-1.6**
APYP	**Conner**	**1.65**	**131**	*e*P	**Pn**	**20 00 20.2**	**-1.3**
SGCP	**Mt. Cagua**	**2.12**	**109**	*e*P	**Pn**	**20 00 27.5**	**-0.5**
BOLP	**Bolinao**	**2.56**	**180**	*e*P	**Pn**	**20 00 33.6**	**-0.4**
CAUP	**Cauayan**	**2.69**	**138**	*e*P	**Pn**	**20 00 37.3**	**+1.5**
PALP	**Palanan**	**3.02**	**128**	*e*P	**Pn**	**20 00 41.6**	**+1.2**
BALP	**Baler**	**3.56**	**154**	*e*P	**Pn**	**20 00 49.0**	**+1.3**
ULN	**Ulaanbaatar**	**30.69**	**343**	P	**P**	**20 06 05.5**	**0.0**
	0.8n

KMBO	Kilima Mbogo	84.06	93	LR	LR	20 49 59.3		
	comp=Z,66nm,21.6s,MS4.0,baz=89,slow=33							
BVAR	Borovoye Array	89.80	33	P	P	20 16 50.8	+0.7	
	1.4nm,1.0s,mb4.2,baz=323,slow=4.7,SNR=6.2							

ISCJB ***24*** *20:14:30.8±0.5,3843N±004×2672E±004,h12km±4km, Error ellipse: s-maj=6.1km s-min=5.1km az=149.9*
CSEM ***24*** *20:14:30.5±0.1,3843N×2675E,h8km,MD3.0,Error ellipse: s-maj=2.1km s-min=1.6km az=18.0*
ISK ***24*** *20:14:30.8,3842N×2676E,h9km,MD3.0*
NEIC ***24*** *20:14:31.0,3835N×2644E,h22km,MD3.1(ATH), MD3.1(ISK),After ATH.*
ATH ***24*** *20:14:31.0,3835N×2644E,h22km±6km,MD3.1/4*
ISC 24 20:14:31.0±0.5,3842N±004×2671E±004,h14km±4km,n13, σ0§75/20,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.11	237	*i* P	Pg	20 14 34.3	+0.1
URLA				*i* S	Sg	20 14 36.7	+0.2
BLCB	Balcova	0.26	97	*i* Pg	Pg	20 14 35.9	-0.7
BLCB				*i* SG	Sg	20 14 39.6	-0.8
IZM	Izmir	0.43	93	*i* Pg	Pg	20 14 39.3	-0.4
IZM				*i* SG	Sg	20 14 45.4	-0.1
KDAG	Bornova	0.44	92	*i* P	Pg	20 14 39.3	-0.4
KDAG				*i* S	Sg	20 14 46.4	+0.8
SMG	Samos	0.72	172	*e*PN	Pg	20 14 44.4	-0.5
SMG				*e*SN	Sg	20 14 55.4	+1.0
AYVA	Ayvalik	0.89	359	*i* P	Pg	20 14 49.1	+0.9
PRK	Paraskevi	0.90	338	*e*PN	Pn	20 14 48.6	-0.5
PRK				*e*SN	Sn	20 15 01.1	-0.8
AKS	Akhisar	0.98	62	*e*PG	Pg	20 14 49.1	-0.8
AKS				*e*SG	Sg	20 15 03.0	+0.3
AYDN	Tasoluk	1.19	129	*i* P	Pn	20 14 52.8	-0.4
BALB	Balikesir	1.52	36	*e*PN	Pn	20 14 59.3	+1.5
APE	Apeiranthos	1.64	215	*e*PN	Pn	20 14 58.2	-1.2
YER	Yerkesik	1.79	135	*e*PN	Pn	20 15 02.4	+1.0
LIA	Limnos Island	1.90	322	*e*PN	Pn	20 15 03.6	+0.7

ISCJB ***24*** *20:47:36.9±1.7,17N±02×993E±02,h141km±9km,mb3.7/7, Error ellipse: s-maj=43.9km s-min=19.3km az=112.2*
NEIC ***24*** *20:47:38.5±1.2,169N×9933E,h140km±8km,mb3.8/2, Error ellipse: s-maj=27.4km s-min=12.7km az=58.0*
IDC ***24*** *20:47:39.0±1.2,205N×9981E,h130km±12km,mb3.7/6, mb1 3.8/6,mb1mx3.4/20,mbtmp4.1/6,Error ellipse: s-maj=41.8km s-min=19.7km az=55.0*
ISC 24 20:47:38.0±1.7,17N±02×992E±02,h135km±9km,n12, σ0§38/13,mb3.7/7,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.16	344	P	Pn	20 48 03.4	+0.5
	29nm,0.3s,baz=125,slow=19,SNR=78						
PSI				S	Sn	20 48 21.4	-0.3
	4.5nm,0.3s,baz=304,slow=21,SNR=18						
PSI	Prapat	1.16	344	P	Pn	20 48 03.4	+0.5
PSI				S	Sn	20 48 21.4	-0.3
KULM	Kulim	3.86	21	*e*Pn	Pn	20 48 35.8	-0.1
PBA	Port Blair	11.83	327	‖*e*P	x	21 04 20.9	
PBA				*e*S	x	21 04 37.4	
PBA				*e*x	x	21 04 39.1	
	comp=E,128nm,0.6s						
PBA				*e*x	x	21 04 39.2	
	comp=N,162nm,0.4s						
WRA	Warramunga Arr	40.58	124	P	P	20 55 04.2	+0.1
	comp=N,0.9nm,0.4s,mb3.7,baz=304,slow=9.1,SNR=10						
WRAB	Tennant Creek	40.58	124	*e*P	P	20 55 04.1	-0.1
	comp=N,2.1nm,0.6s,mb3.9						
SONM	Songino Array	46.40	7	P	P	20 55 50.8	0.0
	comp=N,1.1nm,0.4s,mb3.9,baz=190,slow=9.2,SNR=13						
ULN	Ulaanbaatar	46.51	7	*e*P	P	20 55 51.9	+0.3
	comp=N,0.9nm,0.6s,mb3.6						
MKAR	Makanchi Array	47.31	344	P	P	20 55 57.9	0.0
	comp=N,0.6nm,0.4s,mb3.5,baz=157,slow=8.6,SNR=16						
ZAL	Zalesovo	53.43	349	P	P	20 56 44.3	+0.4
	comp=N,0.9nm,0.4s,mb3.9,baz=293,slow=6.4,SNR=4.4						
ASAJ	Asahikawa	57.07	36	P	P	20 57 05.7	-4.3
	comp=N,16nm,0.7s,baz=229,slow=8.4,SNR=18						
FINES	FINESS Array B	80.53	332	P	P	20 59 34.5	-0.6
	comp=N,0.3nm,0.4s,mb3.3,baz=111,slow=4.7,SNR=4.0						

NIED ***24*** *20:53:00,2760N×14060E,h5km,Mw4.2 Best double couple: M0:2.16000×10^15 NP1:φs346.00000°,δ69.00000°, λ-92.00000°. NP2:φs171.00000°,δ21.00000°, λ-85.00000°.*
ISCJB ***24*** *20:53:02.5±0.3,2751N±004×14054E±005,h25km, mb4.3/29,MS3.2/1,Error ellipse: s-maj=7.9km s-min=4.7km az=90.7*
BJI ***24*** *20:53:02.4,2754N×14139E,h54km,mB4.8,mb4.3*
MOS ***24*** *20:53:03.2±1.6,2750N×14056E,h33km,mb4.5/11,Error ellipse: s-maj=17.1km s-min=7.6km az=100.0*
JMA ***24*** *20:53:03.6±0.2,2757N×14063E,h23km±5km,M4.2*
IDC ***24*** *20:53:04.3±8.0,2759N×14056E,h29km±57km,mb3.8/13, mb1 4.0/13,mb1mx3.9/20,mbtmp4.0/13,MS3.1/5, Ms1 3.1/5,ms1mx2.8/36,Error ellipse: s-maj=20.8km s-min=16.7km az=61.0*
NEIC ***24*** *20:53:04.4±0.5,2761N×14075E,mb4.7/14,MW4.2(NIED), Error ellipse: s-maj=14.2km s-min=13.3km az=85.0*
ISC 24 20:53:04.6±0.3,2750N±005×14061E±005,h27km, h27km±1.1km:pP-P,n80,σ1§38/79,mb4.3/29,MS3.2/1, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.46	106	Pn	Pn	20 53 29.2	0.0
	82nm,0.3s,baz=299,slow=3.9,SNR=109						
CBIJ				Sn	Sn	20 53 47.0	-0.4
	140nm,0.3s,baz=135,slow=23,SNR=46						
CBIJ	Chichi jima	1.46	106	P	Pn	20 53 29.1	-0.1
CBIJ				S	Sn	20 53 47.1	-0.4
JHHJ	Haha-jima-NKT	1.65	121	P	Pn	20 53 32.0	+0.2
JHHJ				S	Sn	20 53 52.7	+0.6
JHJ	Hachijo jima 2	5.64	353	LR	LR	20 56 21.4	
	comp=Z,109nm,19.7s,baz=116,slow=36						
JMY	Miyakejima3	6.62	352	*e*S	Sn	20 55 50.0	-4.6
NJJJ	Nii jima 2	6.97	351	P	Pn	20 54 51.1	+6.1
BSO1	Boso 1	7.14	2	P	Pn	20 54 52.2	+5.0
BSO3	Boso 3	7.28	359	P	Pn	20 54 50.0	+0.8
JOD2	Odawara 2	7.84	351	P	Pn	20 54 59.5	+2.5
JNY	Yasuok	8.18	344	P	Pn	20 55 04.7	+3.2
JAO	Obara	8.25	341	P	Pn	20 55 06.4	+3.8
JHU	Hanno	8.40	353	P	Pn	20 55 04.6	0.0
JRY	Ryogami san	8.61	351	P	Pn	20 55 08.8	+1.3
JHO	Hitachi	9.08	360	P	Pn	20 55 12.2	-1.7
MJAR	Matsushiro Arr	9.24	348	Pn	Pn	20 55 17.0	+0.9
	0.3nm,0.3s,baz=157,slow=12,SNR=10.0						
MJAR				LR	LR	20 58 01.9	
	comp=Z,49nm,21.4s,baz=215,slow=33						
MJAR	Matsushiro Arr	9.24	348	Pn	Pn	20 55 17.0	+0.9
MJAR				LR	LR	20 58 01.9	
MAJO	Matsushiro	9.24	348	*e*P	Pn	20 55 16.0	-0.1
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAJO	Matsushiro	9.24	348	*e*Pn	Pn	20 55 15.9	-0.2
	comp=Z,6.1nm,0.7s						
MAT	Matsushiro	9.24	348	P	Pn	20 55 19.1	+3.0
MAT	Matsushiro	9.24	348	P	Pn	20 55 21.2	+5.1
MAT	Matsushiro	9.24	348	*e*P	Pn	20 55 20.0	+3.9
MAT				*e*S		20 57 40.0	
JOW	Kunigami	11.00	269	LR	LR	20 59 05.5	
	comp=Z,190nm,21.9s,baz=260,slow=33						
KS15	Wonju Array Si	14.60	316	*e*Pn	Pn	20 56 27.9	-1.4
ASAJ	Asahikawa	16.66	5	Pn	Pn	20 56 57.6	+1.5
	comp=Z,0.4nm,0.3s,baz=194,slow=12,SNR=7.6						
ASAJ				LR	LR	21 03 19.4	
	comp=Z,65nm,20.7s,baz=349,slow=37						
ASAJ	Asahikawa	16.66	5	P	Pn	20 56 57.7	+1.6
YSS	Yuzh-Sakhalins	19.49	4	*e*P	Pn	20 57 32.8	+1.9
XAN	Xi'an	27.92	291	P	P	20 58 52.8	+0.3
XAN				AP	pP	20 59 01.3	+0.9
MA2	Magadan	32.82	10	*e*P	P	20 59 35.2	-0.6
MA2				*e*PP	pP	20 59 42.9	-0.8
MA2				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
MA2	Magadan	32.82	10	*e*P	P	20 59 35.2	-0.6
	comp=Z,12nm,1.0s,mb4.8						
MA2				*e*pP	pP	20 59 42.9	-0.8
ULN	Ulaanbaatar	33.07	317	*e*P	P	20 59 37.7	-0.2
ULN				*e*PP	pP	20 59 45.1	-0.8
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
ULN	Ulaanbaatar	33.07	317	*e*P	P	20 59 37.7	-0.2
	comp=Z,2.8nm,1.1s,mb4.1						
ULN				*e*pP	pP	20 59 45.1	-0.8
SONM	Songino Array	33.45	317	P	P	20 59 40.8	-0.5
	comp=Z,0.5nm,0.6s,mb3.6,baz=124,slow=7.5,SNR=5.7						
SONM				LR	LR	21 11 50.8	
	comp=Z,49nm,20.1s,MS3.2,baz=95,slow=34						
GTA	Gaotai	35.77	300	*e*P	P	21 00 01.8	+0.5
GTA				AP	pP	21 00 06.0	-3.3
ZAK	Zakamensk	36.38	319	*e*P	P	21 00 03.8	-2.8
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.0						
BILL	Bilibino	43.38	14	*e*P	P	21 01 05.5	+0.8
BILL				*e*	pP	21 01 12.2	-0.7
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
WRAB	Tennant Creek	47.54	188	*e*P	P	21 01 38.7	+1.0
WRAB				*e*PP	pP	21 01 47.0	+1.2
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
WRAB	Tennant Creek	47.54	188	*e*P	P	21 01 38.7	+1.0
	comp=Z,10.0nm,0.7s,mb5.0						
WRAB				*e*pP	pP	21 01 47.0	+1.2
WB2	Warramunga Arr	47.55	188	*e*P	P	21 01 38.9	+1.2
WRA	Warramunga Arr	47.55	188	P	P	21 01 39.2	+1.4
	comp=Z,6.5nm,0.7s,mb4.8,baz=9.4,slow=8.5,SNR=50						
JIRN	Jiri	47.89	283	*e*P	P	21 01 44.4	+4.0
GUN	Gumba	48.10	284	*e*P	P	21 01 47.0	+5.0
PKI	Pulchoki	48.59	284	*e*P	P	21 01 48.7	+3.0
KKN	Kakani	48.65	284	*e*P	P	21 01 49.0	+2.8
	comp=Z,24nm,1.2s,mb5.1						
KKN	Kakani	48.65	284	*e*P	P	21 01 49.0	+2.8
KKN				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
DMN	Daman	48.84	284	*e*P	P	21 01 51.0	+3.3
MKAR	Makanchi Array	49.13	309	P	P	21 01 48.6	-1.3
	comp=Z,0.6nm,0.5s,mb3.9,baz=88,slow=9.1,SNR=7.5						
GKN	Gorkha	49.15	284	*e*P	P	21 01 52.9	+2.8
	comp=Z,28nm,1.2s,mb5.2						
KOLN	Koldanda	50.10	284	*e*P	P	21 01 58.3	+1.0
	comp=Z,9.9nm,0.8s,mb4.9						
ASAR	Alice Springs	51.28	188	P	P	21 02 05.7	-0.5
	comp=Z,0.6nm,0.8s,mb3.6,baz=5.0,slow=6.6,SNR=7.8						
KURK	Kurchatov	51.70	314	*e*P	P	21 02 08.8	-0.5
KURK				*e*PP	pP	21 02 16.4	-1.2
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
KURK	Kurchatov	51.70	314	*e*P	P	21 02 08.8	-0.6
	comp=Z,3.8nm,1.1s,mb4.2						
KURK				*e*pP	pP	21 02 16.4	-1.1
CHKZ	Chkalovo	56.63	318	*e*P	P	21 02 43.0	-2.3
CHKZ				*e*PP	pP	21 02 51.1	-2.5
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
CHKZ	Chkalovo	56.63	318	*e*P	P	21 02 43.0	-2.3
	comp=Z,1.1nm,0.7s,mb4.0						
CHKZ				*e*pP	pP	21 02 51.1	-2.5
MCK	McKinley	57.07	30	*e*P	P	21 02 47.9	-0.5
MCK				*e*PP	pP	21 02 56.3	-0.4
MCK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
MCK	McKinley	57.07	30	*e*P	P	21 02 47.9	-0.5
	comp=Z,7.9nm,1.2s,mb4.6						
MCK				*e*pP	pP	21 02 56.3	-0.4
ZRNK	Zerenda	57.63	317	P	P	21 02 50.0	-2.4
STKA	Stephens Creek	59.05	179	*e*P	P	21 03 01.1	-1.2
	comp=Z,1.5nm,0.7s,mb4.1						
STKA	Stephens Creek	59.05	179	P	P	21 03 01.1	-1.2
	comp=Z,2.0nm,0.7s,mb4.2,baz=333,slow=9.6,SNR=4.7						
STKA	Stephens Creek	59.05	179	*e*P	P	21 03 00.9	-1.4
STKA				*e*pP	pP	21 03 09.4	-1.2
INK	Inuvik	63.24	25	*e*P	P	21 03 30.4	-0.3
INK				*e*PP	pP	21 03 37.5	-1.6
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	Inuvik	63.24	25	*e*P	P	21 03 30.4	-0.2
	comp=Z,2.7nm,0.6s,mb4.5						
INK				*e*pP	pP	21 03 37.5	-1.6
AKTK	Aktyubinsk	64.76	315	P	P	21 03 39.2	-1.5
AKTO	Aktyubinsk	64.76	315	P	P	21 03 39.2	-1.5
	comp=Z,0.6nm,0.4s,mb4.0,baz=70,slow=11,SNR=5.1						
AKTO	Aktyubinsk	64.76	315	P	P	21 03 39.2	-1.5
	comp=Z,1.0nm,0.4s,mb4.2						
YKA	Yellowknife Ar	72.45	28	P	P	21 04 27.0	-1.6
	comp=Z,2.6nm,1.0s,mb4.1,baz=299,slow=6.2,SNR=2.8						
ARCES	ARCESS Array B	72.70	341	P	P	21 04 29.1	-0.9
	comp=Z,1.4nm,0.7s,mb4.0,baz=51,slow=9.6,SNR=4.6						
FINES	FINESS Array B	76.96	333	P	P	21 04 52.2	-2.5
	comp=Z,0.4nm,0.6s,mb3.5,baz=86,slow=7.8,SNR=4.2						
NEW	Newport	77.55	42	*e*P	P	21 04 57.7	-0.4
NEW				*e*PP	pP	21 05 06.3	-0.3
NEW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NEW	Newport	77.55	42	*e*P	P	21 04 57.7	-0.4
	comp=Z,2.3nm,0.9s,mb4.1						
NEW				*e*pP	pP	21 05 06.3	-0.4
NVAR	Mina Array Bea	81.36	51	P	P	21 05 19.4	+0.6
	comp=Z,1.1nm,0.8s,mb3.8,baz=280,slow=4.1,SNR=8.0						
HFS	Hagfors	82.49	336	P	P	21 05 21.6	-3.2
	comp=Z,1.0nm,0.7s,mb3.8,baz=335,slow=2.1,SNR=2.2						
LKWY	Lake	83.42	43	*e*P	P	21 05 26.4	-3.2
LKWY				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
LKWY	Lake	83.42	43	*e*P	P	21 05 26.4	-3.2
	comp=Z,23nm,1.0s,mb5.2						
IMW	Indian Meadow	83.45	44	*e*P	P	21 05 30.2	+0.5
	comp=Z,4.6nm,0.8s,mb4.6						
BRTR	Keskin Array B	84.69	312	P	P	21 05 35.0	-1.1
	comp=Z,1.0nm,0.8s,mb4.0,baz=77,slow=4.5,SNR=7.0						
PDAR	Pinedale Array	84.91	44	P	P	21 05 37.5	+0.4
	comp=Z,1.5nm,1.0s,mb4.1,baz=289,slow=4.5,SNR=8.6						
SRU	San Rafael	86.27	48	*e*P	P	21 05 43.6	-0.3
SRU				*e*PP	pP	21 05 52.2	-0.4
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
SRU	San Rafael	86.27	48	*e*P	P	21 05 43.6	-0.3
	comp=Z,4.5nm,0.8s,mb4.8						
SRU				*e*pP	pP	21 05 52.2	-0.4
SAML	Samut	150.93	55	*e*PKPbc	PKPbc	21 12 55.5	+0.7
LPAZ	La Paz	151.16	73	*e*PKIKP	PKPbc	21 12 57.6	+2.3

ISCJB ***24*** *21:08:27.0±1.2,27S±02×1279E±02,h33km,mb3.8/3, Error ellipse: s-maj=37.4km s-min=14.7km az=121.5*
NEIC ***24*** *21:08:29.2±1.2,275S×12790E,h35km,mb3.6/2,Error ellipse: s-maj=38.2km s-min=15.4km az=59.0*
IDC ***24*** *21:08:37.6±15.0,279S×12838E,h123km±162km,mb3.2/3, mb1 3.4/5,mb1mx3.2/15,mbtmp3.6/5,ML3.6/2,Error ellipse: s-maj=127.6km s-min=34.2km az=62.0*
ISC 24 21:08:29.3±1.2,27S±01×1280E±02,h35km,n11,σ1§08/11, mb3.8/3,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.53	189	*e*P	Pn	21 12 07.9	+2.4
	7.8nm,1.2s						
FITZ	Fitzroy Crossi	15.53	189	P	Pn	21 12 07.9	+2.4
	0.1nm,0.3s,baz=2.8,slow=16,SNR=5.2						
WRAB	Tennant Creek	18.25	161	*e*P	Pn	21 12 39.5	-0.2
	1.4nm,0.5s						
WRA	Warramunga Arr	18.25	161	P	Pn	21 12 40.0	+0.3
	0.3nm,0.3s,baz=341,slow=11,SNR=14						
WB2	Warramunga Arr	18.26	161	*e*P	Pn	21 12 40.3	+0.6
AS31	Alice Springs	21.65	165	*e*P	P	21 13 16.5	0.0
ASAR	Alice Springs	21.65	165	P	P	21 13 16.1	-0.5
	6.6nm,0.9s,mb4.1,baz=343,slow=11,SNR=12						
ASPA	Alice Springs	21.65	165	*e*P	P	21 13 16.5	0.0
STKA	Stephens Creek	31.75	158	P	P	21 14 47.3	-2.6
	1.0nm,0.8s,mb3.7,baz=146,slow=6.9,SNR=2.9						
COCO	West Island	32.31	251	P	P	21 14 53.8	-1.1
	95nm,0.4s						
SONM	Songino Array	53.73	342	P	P	21 17 48.8	+1.0
	0.9nm,1.0s,mb3.6,baz=174,slow=7.8,SNR=4.1						

SKO ***24*** *21:08:56.5,3996N×2170E,h0km*
ATH ***24*** *21:08:58.6,4020N±2198E,h15km±1km,MD3.2/5*
NEIC ***24*** *21:08:59.0,4018N±2191E,h17km,MD3.2(ATH),After ATH.*

ISCJB ***24*** *21:08:59.4±0.5,4017N±003×2178E±003,h10km±5km, Error ellipse: s-maj=4.5km s-min=4.1km az=95.7*
CSEM ***24*** *21:09:00.1±0.2,4023N×2173E,h15km,ML2.7,Error ellipse: s-maj=4.6km s-min=4.1km az=136.0*
THE ***24*** *21:09:00.9,4014N×2176E,h4km,ML2.7*
ISC 24 21:09:00.1±0.4,4016N±003×2179E±003,h15km±4km,n25, σ1§32/41,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.14	355	*e*PB	Pg	21 09 03.4	-0.5
KZN				*e*SB	Sg	21 09 06.4	-0.2
LIT	Litokhoron	0.54	96	*e*Pg	Pg	21 09 10.8	0.0
LIT				*e*Sg	Sg	21 09 20.5	+2.5
MEV	Metsovon	0.57	229	*e*Pg	Pg	21 09 11.9	+0.5
JAN	Janina	0.88	235	*e*PN	Pn	21 09 18.1	+0.1
LSK	Leskovik	0.91	269	*e*Pn	Pn	21 09 14.9	-3.5
LSK				*e*Sn	Sn	21 09 31.2	-0.1
GRG	Griva	0.92	30	*e*Pg	Pg	21 09 17.8	-0.1
GRG				*e*Sg	Sg	21 09 33.0	+3.0
BIA	Bitola	0.92	338	*e*Pg	Pg	21 09 18.7	+0.7
BIA	Bitola	0.92	338	*e*Pg	Pg	21 09 15.6	-2.5
BIA				*e*Sg	Sg	21 09 30.6	+0.4
BIA	Bitola	0.92	338	*e*Pg	Pg	21 09 15.5	-2.5
BIA				*e*Sg	Sg	21 09 30.5	+0.3
OHR	Ohrid	1.21	322	*e*Pg	Pg	21 09 21.0	-2.4
OHR				*e*Sg	Sg	21 09 39.6	+0.4
OHR	Ohrid	1.21	322	*e*Pg	Pg	21 09 21.0	-2.4
OHR				*e*Sg	Sg	21 09 39.5	+0.3
AGG	Agios Georgios	1.22	160	*e*Pg	Pg	21 09 23.4	-0.1
EVR	Evrytania	1.25	179	*e*PN	Pn	21 09 22.5	-0.5
EVR				*e*SN	Sn	21 09 40.6	+1.0
EVR	Evrytania	1.25	179	*e*Pb	Pb	21 09 21.4	-2.0
EVR				*e*Sn	Sn	21 09 40.6	+1.0
IGT	Igoumenitsa	1.28	241	*e*Pg	Pg	21 09 23.4	-1.5
IGT				*e*Sg	Sg	21 09 43.1	+1.5
PLG	Polygyros	1.29	80	*e*Pn	Pn	21 09 22.2	-1.4
VAY	Valandovo	1.30	27	*e*Pn	Pn	21 09 24.2	+0.4
VAY				*e*Sn	Sn	21 09 46.1	+5.2
VAY	Valandovo	1.30	27	*e*Pn	Pn	21 09 24.1	+0.3
VAY				*e*Sn	Sn	21 09 46.1	+5.2
SOH	Sokhos	1.36	61	*e*Pg	Pg	21 09 26.4	0.0
SOH				*e*Sg	Sg	21 09 46.4	+2.2
SOH	Sokhos	1.36	61	*e*Pg	Pg	21 09 26.4	0.0
SOH				*e*Sg	Sg	21 09 46.3	+2.2
SRN	Sarande	1.40	259	*e*Pn	Pn	21 09 27.1	+1.9
SRN				*e*Sn	Sn	21 09 47.8	+4.4
PAIG	Paliouri	1.47	99	*e*Pg	Pg	21 09 26.5	-1.9
KEK	Kerkira	1.59	254	*e*PN	Pn	21 09 30.2	+2.4
SRS	Serrai	1.67	55	*e*Pb	Pb	21 09 30.0	-0.6
NVR	Nevrokopi	1.97	52	*e*PN	Pn	21 09 31.9	-1.1

IDC ***24*** *21:09:26.1±2.3,2015S×17434W,h0km,mb3.9/6, mb1 4.1/7,mb1mx4.0/16,mbtmp4.0/7,ML4.2/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/34,Error ellipse: s-maj=50.0km s-min=30.6km az=77.0*
ISCJB ***24*** *21:09:29.1±1.6,202S±02×1743W±03,h33km,mb4.0/8, Error ellipse: s-maj=37.5km s-min=20.9km az=119.9*
NEIC ***24*** *21:09:31.2±1.5,2016S×17431W,h35km,mb4.3/4,Error ellipse: s-maj=33.6km s-min=17.7km az=56.0*
ISC 24 21:09:31.4±1.6,203S±02×1743W±02,h35km,n12, σ0§91/11,mb4.0/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.75	21	LR	LR	21 13 18.2	
	comp=Z,173nm,20.9s,baz=192,slow=35						
URZ	Urewera	19.43	201	P	Pn	21 13 55.4	-0.6
	0.8nm,0.3s,baz=276,slow=6.3,SNR=3.2						
CTA	Charters Tower	36.97	263	P	P	21 16 38.1	+0.9
	2.0nm,0.5s,mb4.2,baz=85,slow=14,SNR=4.4						
CTAO	Charters Tower	36.97	263	*e*P	P	21 16 38.6	+1.4
	1.8nm,0.4s,mb4.2						
STKA	Stephens Creek	41.02	244	P	P	21 17 10.1	-1.0
	1.1nm,0.6s,mb3.7,baz=103,slow=10,SNR=5.5						
ASAR	Alice Springs	47.95	256	P	P	21 18 07.3	+0.9
	0.7nm,0.6s,mb3.9,baz=97,slow=8.0,SNR=12						
WRA	Warramunga Arr	48.07	261	P	P	21 18 06.6	-0.7
	1.2nm,0.7s,mb4.0,baz=100,slow=8.0,SNR=14						
SBA	Scott Base	58.38	185	*e*P	P	21 19 24.6	+1.4
	3.6nm,0.9s,mb4.4						
VNDA	Vanda	58.49	186	P	P	21 19 24.3	+0.3
	0.5nm,0.6s,mb3.7,baz=18,slow=4.9,SNR=5.1						
VNDA	Vanda	58.49	186	*e*P	P	21 19 24.4	+0.4
	0.6nm,0.6s,mb3.8						
QSPA	South Pole Qui	69.82	180	*e*P	P	21 20 37.3	-1.0
	5.9nm,1.7s,mb4.2						
MJAR	Matsushiro Arr	72.12	321	P	P	21 20 51.7	-0.5
	1.0nm,0.6s,mb4.0,baz=158,slow=6.7,SNR=7.4						

BJI ***24*** *21:15:00.9,0405×12320E,h26km,mB6.3,mb5.7,Ms6.1, Msz5.9*
ISCJB ***24*** *21:15:00.5±0.1,0405±002×12333E±002,h36km, mb5.8/148,MS6.0/213,Error ellipse: s-maj=3.5km s-min=2.6km az=119.8*
HRVD ***24*** *21:15:00.9±0.1,0485×12330E,h32km,MW6.3/116, Centroid moment Tensor Solution. LP body waves: s112,c250;Mantle waves: s116,c452; Half duration: 3s5 Moment tensor: Scale 10^18Nm; Mrr1.47±.01; Mθθ0.99±.01; Mφφ-2.46±.02; Mrφ2.83±.03; Mθφ-1.21±.01; Mθr-0.84±.03; Best double couple: M0:3.60800×10^18 NP1:φs163.00000°, δ59.00000°,λ35.00000°. NP2:φs53.00000

DCPH e S Sn 21 18 43.1 -5.3
KKM Kota Kinabalu 9.58 312 P Pn 21 17 22.0 +4.0
KKM Kota Kinabalu 9.58 312 ePn Pn 21 17 21.6 +3.6
KKM eSn Sn 21 19 07.4 +3.1
SNPH Sibulan 9.69 359 eP Pn 21 17 25.0 +5.5
WSI Waingapu 9.69 198 P Pn 21 17 22.7 +3.2
6µm,1.9s
MSLP Maasin 10.58 8 eP Pn 21 17 39.5 +7.8
LLP Lapu-Lapu 10.67 3⇓eP Pn 21 17 39.3 +6.3
2529µm,1.0s
TLE Tual 10.72 119 P Pn 21 17 34.6 +1.0
11µm,1.1s
GUIM Jordan 10.99 356 eP Pn 21 17 43.2 +6.0
PPR Puerto Princes 11.11 336⇓eP Pn 21 17 47.9 +8.9
CUYO Cuyo Island 11.42 348 eP Pn 21 17 48.5 +5.3
KMMI Kalianget 11.45 235 P Pn 21 17 50.4 +6.9
275nm,1.5s
OCLP Ormoc 11.45 6 eP Pn 21 17 52.8 +9.2
PLP Palo 11.61 8 eP Pn 21 17 55.5 +10
KALP Kalibo 12.05 355 eP Pn 21 18 02.0 +10
ENPP El Nido 12.18 341 eP Pn 21 17 56.3 +2.8
BUSP Coron 12.72 346 eP Pn 21 18 06.5 +5.6
OTRP Odiongan 12.75 354 eP Pn 21 18 08.3 +6.9
BAKI Biak 12.79 94 P Pn 21 17 57.6 -4.3
614nm,2.1s
KSM Kuching 13.17 278 ePn Pn 21 18 10.3 +3.2
KSM ePcP PcP 21 23 37.8 +1.3
BOAC Boac 13.86 354 eP Pn 21 18 22.1 +5.7
PVCP Virac 13.94 3 eP Pn 21 18 25.6 +8.1
GQP Guinayangan 14.25 356⇓eP Pn 21 18 28.0 +6.2
LUBP Lubang 14.38 348 eP Pn 21 18 30.3 +6.7
LUBP Lubang 14.38 348 eP Pn 21 18 29.6 +5.9
TGY Tagaytay City 14.61 351⇓eP Pn 21 18 32.9 +6.1
TGY Tagaytay City 14.61 351 P Pn 21 18 34.5 +7.8
68nm,0.3s,baz=201,slow=3.1,SNR=43
TGY LR LR 21 25 31.8
comp=Z,160nm,18.9s,baz=164,slow=43
POLP Polillo Island 15.10 355 eP Pn 21 18 40.0 +6.8
KAKA Kakadu 15.19 144⇓iP Pn 21 18 33.6 -0.8
3µm,1.9s
KAKA eSCP ScP 21 27 11.6 +1.3
KAKA eSCS ScS 21 30 49.0 +0.6
BJII Banjamegara 15.24 243 P Pn 21 18 37.2 +2.2
982nm,1.9s
PCPH Palayan 16.02 352⇓eP Pn 21 18 49.9 +4.8
BALP Baler 16.14 354 eP Pn 21 18 53.6 +7.0
JCJI Jatiwangi 16.21 248 P Pn 21 18 51.1 +3.6
2µm,1.6s
SCZP Santa Cruz 16.43 348 eP Pn 21 18 54.4 +4.0
BCPH Baguio City Da 16.90 351⇓eP Pn 21 19 01.1 +4.8
LEM Lembang 16.93 248 P Pn 21 18 58.9 +2.3
400nm,1.7s
CAUP Cauayan 17.31 355 eP Pn 21 19 06.2 +4.9
PALP Palanan 17.38 357 eP Pn 21 19 08.1 +5.9
JAY Jayapura 17.48 97 P Pn 21 19 04.3 +0.8
257nm,1.5s
CBJI Citeko 17.51 250 P Pn 21 19 05.9 +2.1
1µm,2.0s
FITZ Fitzroy Crossi 17.73 173 eP Pn 21 19 03.8 -2.7
214nm,0.8s
FITZ eS S 21 22 13.8 -15
FITZ eSCP ScP 21 27 16.8 +1.6
FITZ Fitzroy Crossi 17.73 173 P Pn 21 19 04.6 -1.9
3.7nm,0.3s,baz=359,slow=11,SNR=74
FITZ S S 21 22 13.5 -15
0.7nm,0.3s,baz=166,slow=22,SNR=1.4
FITZ ScP ScP 21 27 13.5 -1.7
1.9nm,0.3s,baz=167,slow=2.6,SNR=12
FITZ LR LR 21 28 07.5
comp=Z,28µm,18.8s,baz=357,slow=44
CVP Callao Caves 18.06 355⇑eP Pn 21 19 14.0 +3.4
SBJI Serang 18.09 251 P Pn 21 19 13.1 +2.1
1µm,1.1s
APYP Conner 18.27 354 eP Pn 21 19 16.3 +3.2
MMPI Merauke 18.77 116 P Pn 21 19 19.8 +0.6
3µm,2.1s
KLI Kotabumi 18.98 256 P Pn 21 19 22.4 +0.6
500nm,1.4s
KGM Kluang 20.16 277 P P 21 19 36.7 +2.9
MBWA Marble Bar 20.92 189 eP P 21 19 41.3 -0.7
MBWA LR LR
comp=Z,47µm,19.0s,MS5,9
KSI Kapahiang 20.98 261 P P 21 19 44.9 +2.3
comp=Z,1µm,2.0s
WRAB Tennant Creek 22.20 152 P P 21 19 54.0 -1.6
comp=Z,6µm,0.8s
WRAB Tennant Creek 22.20 152 eP P 21 19 54.4 -1.2
WRAB e*PP 21 20 04.5
WRAB e*SP sP 21 20 09.5 -0.6
WRAB e 21 23 53.8
WRAB pmax pmax
comp=Z,4µm,1.5s,mb6.7
WRAB MLR MLR
comp=Z,43µm,21.0s,MS5.8
WRAB Tennant Creek 22.20 152 eP P 21 19 54.4 -1.2
comp=Z,4µm,1.5s,mb6.7
WRAB epP 21 20 04.5
WRAB esP sP 21 20 09.5 -0.5
WRAB ePcP PcP 21 23 53.8 +2.6
WRAB eScP ScP 21 27 26.3 +0.6
WRAB LR LR
comp=Z,43µm,21.0s,MS5.8
WRA Warramunga Arr 22.20 152 P P 21 19 54.4 -1.2
comp=Z,518nm,0.8s,mb6.0,baz=331,slow=9.7,SNR=265
WRA PcP PcP 21 23 51.4 +0.1
comp=Z,9.0nm,0.7s,baz=323,slow=2.0,SNR=2.9
WRA S S 21 23 56.0 -2.0
comp=Z,58nm,1.2s,baz=334,slow=19,SNR=5.0
WRA ScP ScP 21 27 24.7 -1.0
comp=Z,26nm,0.6s,baz=328,slow=2.6,SNR=15
WRA LR LR 21 28 58.5
comp=Z,29µm,21.8s,MS5.7,baz=320,slow=37
WRA ScS ScS 21 31 07.9 -2.7
comp=Z,3.5nm,0.9s,baz=297,slow=5.5,SNR=4.2
WRA Warramunga Arr 22.20 152 P P 21 19 54.4 -1.2
WRA 21 23 51.4
WRA S S 21 23 56.0 -2.0
WRA 21 31 07.9
WB2 Warramunga Arr 22.21 152⇓iP P 21 19 54.2 -1.5
WB2 eS S 21 23 55.8 -2.3
WB2 eSCP ScP 21 27 25.7 0.0
WB2 eSCS ScS 21 31 08.6 -2.0
IPM Ipoh 22.82 283 P P 21 20 04.4 +2.2
PPI Padang Panjang 22.95 270 P P 21 20 04.6 +1.1
comp=Z,997nm,1.4s,mb6.0
KULM Kulim 23.36 284 eP P 21 20 08.4 +0.5
KULM ePcP PcP 21 23 48.0 -5.6
KULM eScP ScP 21 27 28.7 0.0
QIZ Qiongzhong 23.43 326 P P 21 20 10.3 +1.8
QIZ XP sP 21 20 23.6 +0.5
QIZ S S 21 24 23.3 +4.4
QIZ AMB AMB
comp=Z,130nm,2.6s,mb4.9
QIZ AMB AMB
comp=Z,9µm,13.9s
QIZ LR LR
comp=N,17µm,17.6s
QIZ LR LR
comp=Z,28µm,18.1s,MS5,8
UBT Ubonrachathani 23.87 311⇑P P 21 20 14.6 +2.0
comp=Z,861nm,1.0s,mb6.1
SNG Songkhla 23.89 289 P P 21 20 15.0 +2.3
comp=Z,1µm,1.0s,mb6.2
HKC Hong Kong 24.28 339⇑iP P 21 20 18.0 +1.7
HKC i S S 21 24 28.0 -4.7
NACB Ninganchiao 24.49 356 eP P 21 20 20.3 +2.1
NACB ePcP PcP 21 23 57.4 +1.3
PSI Prapat 24.62 278 P P 21 20 20.6 +1.2
comp=Z,102nm,0.9s,mb5.4,baz=128,slow=3.7,SNR=41
PSI S S 21 24 37.5 -0.6
comp=Z,15nm,0.9s,baz=114,slow=12,SNR=1.5
PSI ScP ScP 21 27 30.6 -1.5
comp=Z,38nm,0.8s,baz=171,slow=6.1,SNR=9.7
PSI LR LR 21 30 26.6
comp=Z,74µm,21.6s,MS6.1,baz=111,slow=37
PSI Prapat 24.62 278 P P 21 20 20.6 +1.2
PSI S S 21 24 37.6 -0.5
YHNB Yeheng 25.00 356 eP P 21 20 24.9 +2.0
YHNB ePcP PcP 21 24 00.1 +2.9
AS31 Alice Springs 25.29 157 eP P 21 20 25.7 +0.2
AS31 eS S 21 24 45.9 -2.9
AS31 eScP ScP 21 27 36.2 +2.2
AS31 eScS ScS 21 31 19.6 -3.1
ASAR Alice Springs 25.29 157 P P 21 20 25.8 +0.2
comp=Z,213nm,1.0s,mb5.7,baz=331,slow=7.2,SNR=697
ASAR PcP PcP 21 23 59.0 +1.2
comp=Z,30nm,0.5s,baz=341,slow=2.2,SNR=13
ASAR S S 21 24 44.3 -4.5
comp=Z,4.5nm,0.6s,baz=336,slow=15,SNR=1.9
ASAR ScP ScP 21 27 32.8 -1.3
comp=Z,16nm,0.7s,baz=337,slow=2.6,SNR=8.4
ASAR LR LR 21 31 18.2
comp=Z,51µm,19.6s,MS6.0,baz=337,slow=38
ASAR ScS ScS 21 31 20.2 -2.5
comp=Z,2.6nm,0.9s,baz=17,slow=2.9,SNR=5.0
ASAR Alice Springs 25.29 157 P P 21 20 25.8 +0.3
ASAR 21 23 59.0
ASAR S S 21 24 44.3 -4.5
ASAR 21 31 20.2
ASPA Alice Springs 25.29 157 eP P 21 20 25.7 +0.2
ASPA eS S 21 24 45.9 -2.9
ASPA eSCP ScP 21 27 36.2 +2.2
ASPA eSCS ScS 21 31 19.6 -3.1
TATO Taipei 25.30 356 P P 21 20 28.4 +2.9
SNR=23
TATO Taipei 25.30 356 eP P 21 20 28.1 +2.6
comp=Z,1µm,1.1s,mb6.4
TATO LR LR
comp=Z,37µm,20.0s,MS5.9
GZH Guangzhou 25.30 338 P P 21 20 30.9 +5.3
GZH S S 21 24 55.6 +6.6
GZH AMB AMB
comp=Z,740nm,1.5s,mb6.0
GZH LR LR
comp=N,16µm,14.6s,MS5.8
GZH LR LR
comp=E,14µm,16.2s,MS5.8
GZH LR LR
comp=Z,43µm,16.8s,MS6.0
PMG Port Moresby 25.33 111 P P 21 20 27.4 +1.6
comp=Z,462nm,0.9s,mb6.0,baz=310,slow=4.4,SNR=67
PMG S S 21 24 46.1 -3.4
comp=Z,24nm,0.8s,baz=293,slow=18,SNR=2.5
PMG Port Moresby 25.33 111 eP P 21 20 27.3 +1.4
PMG e*PP pP 21 20 37.3 +0.9
PMG eS S 21 24 54.5 +5.0
PMG pmax pmax
comp=Z,655nm,1.0s
PMG MLR MLR
comp=Z,25µm,21.0s
PMG Port Moresby 25.33 111 eP P 21 20 27.3 +1.4
comp=Z,656nm,1.0s,mb6.1
PMG epP pP 21 20 37.3 +0.9
PMG eS S 21 24 54.5 +5.0
PMG LR LR
comp=Z,25µm,21.0s,MS5.7
GUMO Guam 25.46 56 P P 21 20 28.6 +1.6
comp=Z,433nm,0.7s,mb6.1,baz=89,slow=1.5,SNR=17
GUMO S S 21 24 48.8 -2.8
comp=Z,9.6nm,0.3s,baz=31,slow=20,SNR=1.7
QZH Quanzhou 25.62 350⇑iP P 21 20 29.4 +0.9
QZH S S 21 24 54.5 +0.5
QZH AMB AMB
comp=Z,2µm,1.3s,mb6.5
QZH AMB AMB
comp=Z,14µm,5.1s
QZH LR LR
comp=N,21µm,12.5s
QZH LR LR
comp=E,27µm,18.4s
QZH LR LR
comp=Z,64µm,20.4s
KKTK Khon Kaen 26.21 310⇑P P 21 20 35.5 +1.7
comp=Z,679nm,0.4s,mb6.5
NNT Nongplab 26.75 300 P P 21 20 41.0 +2.3
JOW Kunigami 27.50 10 P P 21 20 46.5 +1.1
comp=Z,34nm,0.9s,mb4.9,baz=189,slow=10,SNR=7.4
JOW S S 21 25 20.1 -3.6
comp=Z,9.6nm,1.0s,baz=150,slow=23,SNR=1.7
JOW ScP ScP 21 27 37.8 -2.8
comp=Z,62nm,0.9s,baz=176,slow=3.3,SNR=11
JOW LR LR 21 31 30.9
comp=Z,23µm,19.6s,MS5.8,baz=187,slow=36
NST Nakhon Sawan 27.94 306⇓P P 21 20 51.5 +2.1
comp=Z,242nm,1.0s,mb5.8
COCO West Island 28.79 245 eP P 21 20 56.2 -0.7
COCO LR LR
comp=Z,28µm,21.0s,MS5.8
CTA Charters Tower 29.76 133 eP P 21 21 07.1 +1.6
comp=Z,82nm,1.1s,mb5.4
CTA eS S 21 26 00.0 +0.8
CTA eSCP ScP 21 27 49.3 +1.7
CTA Charters Tower 29.76 133 P P 21 21 07.6 +2.1
comp=Z,126nm,1.1s,mb5.5,baz=311,slow=11,SNR=30
CTA LR LR 21 33 57.1
comp=Z,29µm,21.3s,MS5.9,baz=317,slow=38
CTA Charters Tower 29.76 133 eP P 21 21 07.1 +1.6
CTA eS S 21 26 00.0 +0.8
CTA e 21 27 49.3
CTA pmax pmax
comp=Z,82nm,1.1s
CTAO Charters Tower 29.76 133 eP P 21 21 07.4 +1.9
CTAO e 21 24 11.1
CTAO e 21 27 49.1
CTAO pmax pmax
comp=Z,292nm,1.4s,mb5.8
CTAO MLR MLR
comp=Z,27µm,20.0s,MS5,9
CTAO Charters Tower 29.76 133 eP P 21 21 07.4 +1.9
comp=Z,292nm,1.4s,mb5.8
CTAO ePcP PcP 21 24 11.1 +2.5
CTAO eScP ScP 21 27 49.1 +1.5
CTAO LR LR
comp=Z,27µm,20.0s,MS5,9
FORT Forrest 30.54 172 eP P 21 21 12.5 +0.1
comp=Z,139nm,0.6s,mb6.0
FORT eS S 21 26 05.9 -5.5
FORT eSCP ScP 21 27 52.1 +2.0
GYA Guiyang 31.18 330 P P 21 21 20.1 +2.1
GYA PP PP 21 22 23.0 -5.8
GYA S S 21 26 22.8 +1.3
GYA AMB AMB
comp=Z,60nm,0.7s,mb5.5
GYA AMB AMB
comp=Z,3µm,7.3s
GYA LR LR
comp=N,22µm,19.2s,MS5.9
GYA LR LR
comp=E,12µm,17.7s,MS5.9
GYA LR LR
comp=Z,25µm,17.7s,MS5.9
SSE Sheshan 31.40 356 P P 21 21 22.6 +2.6
SSE AP pP 21 21 33.6 +3.0
SSE XP sP 21 21 38.5 +3.4
SSE S S 21 26 29.3 +4.4
SSE AMB AMB
comp=Z,110nm,1.0s,mb5.6
SSE AMB AMB
comp=Z,4µm,11.2s
SSE LR LR
comp=N,16µm,27.8s,MS5.7
SSE LR LR
comp=E,16µm,27.8s,MS5.7
SSE LR LR
comp=Z,28µm,20.0s
KLBR Kellerberrin 31.46 189 eP P 21 21 19.5 -1.1
comp=Z,79nm,1.0s,mb5.5
KLBR epP pP 21 21 31.5 +0.4
WHN Wuhan 31.95 345⇑⇑P P 21 21 26.8 +2.0
WHN LR LR
comp=Z,59µm,18.4s,MS6.3
MUN Mundaring 32.12 191 eP P 21 21 26.7 +0.4
MUN epP pP 21 21 37.2 +0.3
MUN eSCP ScP 21 27 57.8 +2.4
MUN Mundaring 32.12 191 eP P 21 21 26.7 +0.4
MUN e*PP pP 21 21 37.2 +0.3
KMI Kunming 32.27 323⇑⇑P P 21 21 30.5 +2.8
KMI AP pP 21 21 41.8 +3.5
KMI XP sP 21 21 46.3 +3.5
KMI PP PP 21 22 38.5 -2.5
KMI PCP PcP 21 24 18.3 +3.0
KMI S S 21 26 40.1 +1.5
KMI XS sS 21 26 59.0 +2.9
KMI SCP ScP 21 27 57.4 +1.4
KMI PCS PcS 21 28 02.0 +1.8
KMI SS SS 21 28 35.5 -23
KMI SCS ScS 21 31 54.9 -0.1
KMI AMB AMB
comp=Z,170nm,1.3s,mb5.7
KMI AMB AMB
comp=Z,3µm,8.6s
KMI LR LR
comp=N,17µm,17.6s,MS5.9
KMI LR LR
comp=E,16µm,17.3s,MS5.9
KMI LR LR
comp=Z,20µm,17.9s,MS5.8
NJ2 Nanjing 32.56 353 eP P 21 21 32.6 +2.4
NJ2 AP pP 21 21 40.6 -0.2
NJ2 XP sP 21 21 46.9 +1.6
NJ2 PP PP 21 22 40.8 -3.4
NJ2 S S 21 26 43.0 -0.1
NJ2 XS sS 21 26 58.0 -2.6
NJ2 AMB AMB
comp=Z,220nm,1.4s,mb5.9
NJ2 AMB AMB
comp=Z,4µm,10.0s
NJ2 LR LR
comp=N,55µm,18.3s,MS6.5
NJ2 LR LR
comp=E,62µm,18.9s,MS6.5
NJ2 LR LR
comp=Z,27µm,22.8s,MS5.9
PBA Port Blair 32.67 293 eP x 21 21 15.4
PBA ex x 21 21 27.7
comp=Z,311nm,1.0s
PBA eS x 21 26 16.8
CBIJ Chichi jima 32.81 32 P P 21 21 32.4 0.0
comp=Z,1µm,0.6s,baz=227,slow=2.3,SNR=128
CBIJ S S 21 26 40.6 -6.3
comp=Z,61nm,1.1s,baz=270,slow=20,SNR=3.3
CBIJ LR LR 21 32 57.1
comp=Z,23µm,21.8s,MS5.8,baz=196,slow=33
NWAO Narrogin (SRO) 32.85 189 P P 21 21 34.0 +1.2
comp=Z,18nm,0.6s,mb5.2,baz=355,slow=9.0,SNR=10
NWAO LR LR 21 36 24.3
comp=Z,31µm,20.6s,MS6.0,baz=5.0,slow=39
NWAO Narrogin (SRO) 32.85 189 P P 21 21 34.0 +1.2
NWAO pmax pmax
comp=Z,18nm,0.6s
NWAO MLR MLR
comp=Z,31µm,20.6s
NWAO Narrogin (SRO) 32.85 189 eP P 21 21 33.7 +0.9
NWAO epP pP 21 21 41.4 -1.9
NWAO LR LR
comp=Z,24µm,21.0s,MS5.9
STKA Stephens Creek 35.74 153 eP P 21 21 55.6 -2.2
comp=Z,68nm,1.1s,mb5.5
STKA epP pP 21 22 05.5 -2.9
STKA eS S 21 27 29.0 -3.2
STKA eSCP ScP 21 28 08.2 0.0
STKA Stephens Creek 35.74 153 P P 21 21 56.3 -1.5
comp=Z,93nm,1.0s,mb5.7,baz=323,slow=8.1,SNR=157
STKA S S 21 27 21.7 -10
comp=Z,8.0nm,0.9s,baz=214,slow=21,SNR=1.7
STKA ScP ScP 21 28 07.0 -1.2
comp=Z,44nm,1.0s,baz=356,slow=8.1,SNR=4.9
STKA LR LR 21 36 30.7
comp=Z,17µm,21.4s,MS5.8,baz=102,slow=36
CD2 Chengdu 36.28 331 P P 21 22 03.5 +1.1
CD2 AP pP 21 22 17.1 +4.1
CD2 PP PP 21 23 28.3 +3.0
CD2 PCP PcP 21 24 27.3 +0.5
CD2 S S 21 27 40.6 +0.2
CD2 SCP ScP 21 28 08.0 -2.2
CD2 PCS PcS 21 28 13.9 -0.5
CD2 SS SS 21 30 07.9 -12
CD2 SCS ScS 21 32 13.1 -3.2
CD2 AMB AMB
comp=Z,80nm,0.8s,mb5.7
CD2 AMB AMB
comp=Z,2µm,5.1s
CD2 LR LR
comp=E,17µm,11.1s
CD2 LR LR
comp=Z,16µm,13.8s,MS6.0
JHJ Hachijo jima 2 36.77 23 P P 21 22 06.8 +0.2
comp=Z,279nm,0.6s,mb6.2,baz=108,slow=11,SNR=7.8
JHJ LR LR 21 35 28.8
comp=Z,20µm,20.5s,MS5.9,baz=204,slow=33
XAN Xi'an 36.84 340 P P 21 22 07.3 +0.1
XAN AMB AMB
comp=Z,140nm,1.8s,mb5.5
XAN AMB AMB
comp=Z,4µm,9.7s
XAN LR LR
comp=N,12µm,16.5s,MS5.8
XAN LR LR
comp=E,8µm,15.6s,MS5.8
XAN LR LR
comp=Z,24µm,17.8s,MS6.0
TIA Tai'an 36.89 352 eP P 21 22 07.8 +0.2
TIA S S 21 27 43.0 -6.7
TIA AMB AMB
comp=Z,220nm,2.0s,mb5.6
TIA AMB AMB
comp=Z,3µm,8.0s
TIA LR LR
comp=N,4µm,14.0s,MS5.9
TIA LR LR
comp=E,14µm,16.0s,MS5.9
ADE Adelaide 37.26 159⇑iP P 21 22 12.2 +1.5
HNR Honiara 37.52 105 eP P 21 22 13.8 +0.9
HNR pmax pmax
comp=Z,1µm,1.1s,mb6.6
HNR MLR MLR
comp=Z,13µm,21.0s,MS5.7
HNR Honiara 37.52 105 eP P 21 22 13.8 +0.9
comp=Z,1µm,1.1s,mb6.6
HNR LR LR
comp=Z,13µm,21.0s,MS5.7
INCN Inchon 37.82 4 eP P 21 22 16.0 +0.6
comp=Z,751nm,2.0s,mb6.1
INCN epP pP 21 22 25.2 -1.0
INCN e 21 23 46.5
INCN LR LR
comp=Z,23µm,21.0s,MS6.0
KS15 Wonju Array Si 37.89 6 eP P 21 22 18.7 +2.6
KS15 epP pP 21 22 29.2 +2.4
KS15 esP sP 21 22 34.1 +2.8
KS15 eScP ScP 21 28 16.3 +0.1
DL2 Dalian 39.15 358⇑iP P 21 22 26.5 -0.2
DL2 PP PP 21 23 59.0 +2.2
DL2 SCP ScP 21 28 21.4 +0.3
DL2 S S 21 28 24.6 +0.6
DL2 AMB AMB
comp=Z,90nm,0.8s,mb5.5
DL2 AMB AMB
comp=Z,1µm,7.7s
DL2 LR LR
comp=N,5µm,18.4s,MS5.5
DL2 LR LR
comp=E,5µm,16.9s,MS5.5
DL2 LR LR
comp=Z,7µm,17.2s,MS5.5
MAJO Matsushiro 39.27 19⇑iP P 21 22 26.5 -1.1
MAJO e 21 28 21.2
MAJO pmax pmax
comp=Z,220nm,0.7s,mb6.0
MAJO MLR MLR
comp=Z,29µm,22.0s,MS6.1
MAJO Matsushiro 39.27 19⇑iP P 21 22 26.5 -1.2
comp=Z,220nm,0.7s,mb6.0
MAJO eScP ScP 21 28 21.2 -0.3
MAJO LR LR
comp=Z,29µm,22.0s,MS6.1
MAT Matsushiro 39.27 19 P P 21 22 26.7 -0.9
MAT S S 21 28 29.0 +3.3
MAT Matsushiro 39.27 19 eP P 21 22 27.0 -0.6
MAT eS S 21 28 29.0 +3.3
MAT pmax pmax
comp=Z,182nm,2.0s,mb5.5
MAT MLR MLR
comp=Z,2µm,20.0s,MS4.9
MAT Matsushiro 39.27 19 eP P 21 22 27.0 -0.6
comp=Z,182nm,2.0s,mb5.5
MAT eS S 21 28 29.0 +3.3
MAT LR LR
comp=Z,2µm,20.0s,MS4.9
MJAR Matsushiro Arr 39.27 19 P P 21 22 26.9 -0.8
comp=Z,236nm,0.8s,mb6.0,baz=191,slow=8.6,SNR=75
MJAR ScP ScP 21 28 18.7 -2.8
comp=Z,90nm,1.2s,baz=207,slow=4.3,SNR=20
MJAR LR LR 21 37 06.1
comp=Z,27µm,21.7s,MS6.0,baz=205,slow=34

SHL	**Shillong**	**39.88 313**	*e*P	**P**	**21 22 32.5 -0.2**
SHL			*ex*	x	21 28 28.8
ARMA	**Armidale**	**40.16 141**	*e*P	**P**	**21 22 37.2 +2.2**
ARMA			*e*S	**S**	**21 28 41.0 +1.9**
LZH	**Lanzhou**	**40.59 335**	P	**P**	**21 22 41.5 +2.9**
LZH			AP	pP	21 22 53.3 +3.9
LZH			XP	sP	21 22 56.5 +2.7
LZH			PP	PP	21 24 20.0 +7.5
LZH			SCP	ScP	21 28 26.0 -0.6
LZH			S	**S**	**21 28 46.1 +0.6**
LZH			XS	sS	21 29 05.0 +1.7
LZH			SS	SS	21 31 46.0 -0.3
LZH			SCS	ScS	21 32 37.5 -3.6
LZH			AMB	AMB	
	comp=Z,600nm,1.2s,mb6.1				
LZH			AMB	AMB	
	comp=Z,4μm,4.8s				
LZH			LR	LR	
	comp=E,20μm,13.8s				
LZH			LR	LR	
	comp=Z,31μm,15.0s,MS6.3				
CAL	**Calcutta**	**41.02 306**	*e*P	**P**	**21 22 40.3 -1.8**
CAL			*e*S	**S**	**21 28 52.2 +0.3**
CAL			AMP		21 41 44.7
	comp=Z,12μm,15.4s				
SNY	**Shenyang**	**42.04 0**	⇑P	**P**	**21 22 49.4 -1.1**
SNY			AP	pP	21 23 00.3 -1.0
SNY			XP	sP	21 23 04.4 -1.4
SNY			PP	PP	21 24 29.3 +1.1
SNY			S	**S**	**21 28 59.8 -7.2**
SNY			AMB	AMB	
	comp=Z,50nm,1.3s,mb5.0				
SNY			AMB	AMB	
	comp=Z,4μm,12.3s				
SNY			LR	LR	
	comp=N,8μm,25.9s,MS5.8				
SNY			LR	LR	
	comp=E,12μm,24.3s,MS5.8				
SNY			LR	LR	
	comp=Z,21μm,23.9s,MS6.0				
TOO	**Toolangi**	**42.25 154**	*e*P	**P**	**21 22 54.2 +2.0**
	comp=Z,101nm,1.1s,mb5.4				
TOO			*e*S	**S**	**21 29 15.0 +4.9**
TOO	**Toolangi**	**42.25 154**	*e*P	**P**	**21 22 54.2 +2.0**
TOO			*e*S	**S**	**21 29 15.0 +4.9**
TOO			pmax	pmax	
	comp=Z,101nm,1.1s,mb5.4				
RIV	**Riverview**	**42.26 145**	⇓*i*P	**P**	**21 22 55.8 +3.6**
CNB	**Canberra Magne**	**42.36 148**	*e*P	**P**	**21 22 53.6 +0.5**
	comp=Z,83nm,0.7s,mb5.5				
HHC	**Hu-ho-hao-te**	**42.44 347**	*e*P	**P**	**21 22 53.6 -0.1**
HHC			AP	pP	21 23 05.4 +0.9
HHC			XP	sP	21 23 07.6 -1.4
HHC			SCS	ScS	21 32 57.4 +5.1
HHC			AMB	AMB	
	comp=Z,50nm,1.4s,mb5.0				
HHC			AMB	AMB	
	comp=Z,3μm,6.3s				
HHC			LR	LR	
	comp=N,14μm,15.3s,MS6.0				
HHC			LR	LR	
	comp=E,8μm,16.1s,MS6.0				
HHC			LR	LR	
	comp=Z,23μm,25.0s				
BTO	**Baotou**	**42.58 345**	*e*P	**P**	**21 22 54.0 -0.9**
BTO			S	**S**	**21 29 10.4 -4.6**
LSA	**Lhasa**	**42.88 317**	P	**P**	**21 22 59.1 +1.8**
LSA			XP	sP	21 23 10.1 -2.5
LSA			S	**S**	**21 29 15.8 -3.5**
LSA			XS	sS	21 29 38.5 +1.2
LSA			LR	LR	
	comp=N,10μm,23.8s				
LSA			LR	LR	
	comp=E,15μm,31.7s				
LSA			LR	LR	
	comp=Z,19μm,31.7s				
PALK	**Pallekele**	**43.21 281**	PFAKE		21 23 10.0 +10
PALK			LR	LR	
	comp=Z,42μm,21.0s,MS6.3				
VIS	**Vishakhapatnam**	**43.29 297**	*i* P	**P**	**21 23 01.1 +0.5**
VIS			*e*P		21 23 02.3
VIS			AMb	AMB	21 23 15.1
	comp=Z,139nm,0.8s,mb5.7				
VIS			*ex*	x	21 29 09.8
BOK	**Bokaro**	**43.59 306**	*e*P	**P**	**21 23 02.1 -1.0**
BOK			AMb	AMB	21 23 20.7
	comp=Z,77nm,0.9s,mb5.4				
BOK			*ex*	x	21 29 17.3
VLA	**Vladivostok**	**44.01 9**	*d i*P	**P**	**21 23 06.3 -0.1**
VLA			*e*		21 24 48.2
VLA			*e*S	**S**	**21 29 33.4 -2.5**
VLA			*e*SS	SS	21 32 57.0 +3.4
VLA			pmax	pmax	
	comp=Z,120nm,0.8s,mb5.7				
VLA			MLR	MLR	
	comp=Z,8μm,19.0s,MS5.7				
VLA	**Vladivostok**	**44.01 9**	*i* Pr	**P**	**21 23 05.0 -1.4**
CN2	**Changchun**	**44.05 2**	*e*P	**P**	**21 23 07.0 +0.2**
CN2			*e*AP	pP	21 23 16.9 -0.7
CN2			*e*XP	sP	21 23 20.8 -1.3
CN2			PP	PP	21 24 51.6 +1.8
CN2			*e*S	**S**	**21 29 37.6 +1.1**
CN2			AMB	AMB	
	comp=Z,20nm,1.0s,mb4.8				
CN2			LR	LR	
	comp=N,12μm,23.0s,MS5.8				
CN2			LR	LR	
	comp=E,8μm,23.0s,MS5.8				
CN2			LR	LR	
	comp=Z,17μm,23.0s,MS5.9				
GTA	**Gaotai**	**45.10 334**	⇑P	**P**	**21 23 16.3 +1.1**
GTA			AP	pP	21 23 27.5 +1.5
GTA			XP	sP	21 23 30.5 0.0
GTA			PCP	PcP	21 24 59.5 +4.2
GTA			PP	PP	21 25 02.1 +1.1
GTA			SCP	ScP	21 28 45.5 +0.7
GTA			PCS	PcS	21 28 51.9 +2.8
GTA			S	**S**	**21 29 49.3 -2.5**
GTA			XS	sS	21 30 07.3 -2.5
GTA			SCS	ScS	21 33 05.8 -3.3
GTA			AMB	AMB	
	comp=Z,130nm,1.4s,mb5.6				
GTA			AMB	AMB	
	comp=Z,4μm,6.1s				
GTA			LR	LR	
	comp=N,11μm,17.1s,MS6.1				
GTA			LR	LR	
	comp=E,15μm,19.4s,MS6.1				
GTA			LR	LR	
	comp=Z,17μm,19.0s,MS6.0				
MDJ	**Mudanjiang**	**45.17 6**	P	**P**	**21 23 15.3 -0.4**
MDJ			AP	pP	21 23 28.6 +2.0
MDJ			XP	sP	21 23 34.8 +3.8
MDJ			PP	PP	21 25 01.3 -0.4
MDJ			SCP	ScP	21 28 43.4 -1.7
MDJ			PCS	PcS	21 28 49.3 -0.1
MDJ			S	**S**	**21 29 49.5 -3.3**
MDJ			XS	sS	21 30 13.8 +3.1
MDJ			SCS	ScS	21 33 07.6 -1.9
MDJ			AMB	AMB	
	comp=Z,60nm,2.4s,mb5.0				
MDJ			AMB	AMB	
	comp=Z,3μm,8.8s				
MDJ			LR	LR	
	comp=N,16μm,38.0s				
MDJ			LR	LR	
	comp=E,10μm,31.4s				
MDJ			LR	LR	
	comp=Z,21μm,38.7s,MS5.8				
JIRN	**Jiri**	**45.28 311**	*e*P	**P**	**21 23 18.7 +2.2**
	comp=Z,507nm,0.7s,mb6.5				
GUN	**Gumba**	**45.64 311**	*e*P	**P**	**21 23 21.5 +2.1**
	comp=Z,549nm,0.5s,mb6.7				
PKI	**Pulchoki**	**45.82 310**	*e*P	**P**	**21 23 22.4 +1.6**
	comp=Z,432nm,1.1s,mb6.3				
PKI	**Pulchoki**	**45.82 310**	*e*P	**P**	**21 23 22.4 +1.6**
PKI			pmax	pmax	
	comp=Z,432nm,1.1s,mb6.3				
ERM	**Erimo**	**45.86 21**	P	**P**	**21 23 22.9 +1.7**
	comp=Z,794nm,0.9s,mb6.7,SNR=12				
BLSP	**Bilaspur**	**45.98 302**	*e*P	**P**	**21 23 22.0 -0.1**
KKN	**Kakani**	**46.03 311**	*e*P	**P**	**21 23 23.8 +1.3**
	comp=Z,382nm,0.8s,mb6.4				
KKN	**Kakani**	**46.03 311**	*e*P	**P**	**21 23 23.8 +1.3**
KKN			pmax	pmax	
	comp=Z,382nm,0.8s,mb6.4				
DMN	**Daman**	**46.07 310**	*e*P	**P**	**21 23 23.8 +1.0**
	comp=Z,857nm,1.1s,mb6.6				
GKN	**Gorkha**	**46.63 310**	*e*P	**P**	**21 23 28.5 +1.3**
	comp=Z,396nm,0.6s,mb6.5				
WAKE	**Wake Island**	**46.77 63**	PFAKE		21 23 40.0 +12
WAKE			LR	LR	
	comp=Z,6μm,22.0s,MS5.5				
NOUC	**Port Laguerre**	**47.05 120**	*e*P	**P**	**21 23 31.1 +0.6**
TRD	**Trivandrum**	**47.06 282**	*e*P	**P**	**21 23 30.0 -0.5**
TRD			AMb	AMB	21 23 42.4
	comp=Z,156nm,1.4s,mb5.8				
TRD			*ex*	x	21 30 01.7
DZM	**Mont Dzumac**	**47.16 120**	*e*P	**P**	**21 23 32.1 +0.7**
DZM	**Mont Dzumac**	**47.16 120**	P	**P**	**21 23 33.1 +1.7**
	comp=Z,73nm,1.0s,mb5.6,baz=286,slow=8.8,SNR=27				
DZM			S	**S**	**21 30 20.7 -0.7**
	comp=Z,4.8nm,0.9s,baz=121,slow=21,SNR=1.6				
KOLN	**Koldanda**	**47.31 310**	*e*P	**P**	**21 23 33.5 +1.0**
	comp=Z,480nm,0.7s,mb6.6				
TAU	**Tasmania Unive**	**47.46 156**	*e*P	**P**	**21 23 35.2 +1.5**
TAU			pmax	pmax	
	comp=Z,82nm,1.3s,mb5.5				
TAU			MLR	MLR	
	comp=Z,29μm,19.0s,MS6.3				
TAU	**Tasmania Unive**	**47.46 156**	*e*P	**P**	**21 23 35.2 +1.5**
	comp=Z,82nm,1.3s,mb5.5				
TAU			LR	LR	
	comp=Z,29μm,19.0s,MS6.3				
HYB	**Hyderabad**	**47.51 294**	*i* P	**P**	**21 23 34.0 -0.1**
	comp=Z,200nm,1.0s,mb6.1				
HYB			*e*pP	pP	21 23 49.0 +4.0
HYB			*e*PcP	PcP	21 25 06.0 +2.2
HYB			*e*ScP	ScP	21 28 54.0 -0.9
HYB			*e*S	**S**	**21 30 26.0 -0.3**
HYB			LR	LR	21 44 36.0
	comp=Z,17nm,22.0s				
HYB	**Hyderabad**	**47.51 294**	*e*P	**P**	**21 23 34.0 -0.1**
HYB			*e*		21 23 49.0
HYB			*e*S	**S**	**21 30 20.0 -6.3**
HYB			pmax	pmax	
	comp=Z,200nm,1.0s,mb6.1				
HYB	**Hyderabad**	**47.51 294**	*e*P	**P**	**21 23 34.0 -0.1**
	comp=Z,200nm,1.0s,mb6.1				
HYB			*e*		21 23 49.0
HYB			*e*S	**S**	**21 30 20.0 -6.3**
ASAJ	**Asahikawa**	**47.54 19**	P	**P**	**21 23 34.1 -0.1**
	comp=Z,322nm,0.8s,mb6.4,baz=236,slow=11,SNR=114				
ASAJ			S	**S**	**21 30 22.6 -4.2**
	comp=Z,3.0nm,0.9s,baz=33,slow=32,SNR=1.8				
ASAJ			LR	LR	21 41 54.2
	comp=Z,15μm,21.6s,MS5.9,baz=212,slow=34				
ASAJ	**Asahikawa**	**47.54 19**	P	**P**	**21 23 34.2 -0.1**
ASAJ			S	**S**	**21 30 22.6 -4.1**
ASAJ			pmax	pmax	
	comp=Z,322nm,0.8s				
ASAJ			smax		
	comp=N,3.0nm,0.9s				
ASAJ			MLR	MLR	
	comp=Z,15μm,21.6s				
JBP	**Jabalpur**	**48.21 302**	⇑*e*P	**P**	**21 23 38.9 -0.6**
JBP			*ex*	x	21 23 57.6
	comp=Z,197nm,1.2s				
JBP			*e*S	**S**	**21 30 34.5 -1.7**
YUK	**Yuzh-Kuril'sk**	**48.60 22**	⇑*i*P	**P**	**21 23 42.0 -0.4**
YUK			*e*		21 25 35.0
YUK			*i* S	**S**	**21 30 40.0 -1.6**
YUK			pmax	pmax	
	comp=Z,11μm,6.0s				
YUK			pmax	pmax	
	comp=N,4μm,4.0s				
YUK			pmax	pmax	
	comp=N,350nm,0.8s				
YUK			pmax	pmax	
	comp=Z,350nm,0.8s,mb6.4				
YUK			pmax	pmax	
	comp=E,360nm,0.9s				
YUK			smax		
	comp=E,5μm,10.0s				
LATR	**Latur**	**49.62 295**	*e*P	**P**	**21 23 50.0 -0.3**
AKL	**Akola**	**49.91 298**	*i* P	**P**	**21 24 00.2 +7.7**
AKL			*ex*	x	21 24 01.9
AKL			AMb	AMB	21 24 24.0
	comp=Z,266nm,3.2s				
AKL			*i* S	**S**	**21 31 04.4 +4.3**
YSS	**Yuzh-Sakhalins**	**50.14 17**	*α i*P	**P**	**21 23 53.8 -0.4**
YSS			*e*	pP	21 24 06.0 +0.8
YSS			*e*		21 25 14.0
YSS			*i*		21 25 54.0
YSS			*i* S	**S**	**21 31 02.0 -1.2**
YSS			*e*PS		21 31 20.0
YSS			*e*		21 33 42.0
YSS			pmax	pmax	
	comp=Z,180nm,0.9s,mb6.1				
YSS			pmax	pmax	
	comp=Z,3μm,12.0s				
YSS			MLR	MLR	
	comp=N,5μm,19.0s				
YSS			MLR	MLR	
	comp=Z,4μm,19.0s,MS5.5				
YSS	**Yuzh-Sakhalins**	**50.14 17**	*e*P	**P**	**21 23 53.9 -0.3**
	comp=Z,175nm,0.9s,mb6.1				
YSS			LR	LR	
	comp=Z,8μm,22.0s,MS5.7				
SONM	**Songino Array**	**50.26 345**	P	**P**	**21 23 55.0 -0.2**
	comp=Z,69nm,0.9s,mb5.7,baz=159,slow=7.2,SNR=64				
SONM			ScP	ScP	21 29 03.8 -2.8
	comp=Z,16nm,0.9s,baz=157,slow=4.2,SNR=6.3				
SONM			S	**S**	**21 30 59.0 -6.0**
	comp=Z,0.7nm,0.3s,baz=87,slow=27,SNR=3.8				
SONM			LR	LR	21 47 24.8
	comp=Z,14μm,20.3s,MS6.0,baz=163,slow=39				
SONM			PKPPKP		21 54 21.3
	comp=Z,0.3nm,0.6s,baz=243,slow=0.3,SNR=3.3				
SONM	**Songino Array**	**50.26 345**	P	**P**	**21 23 55.0 -0.2**
SONM			S	**S**	**21 30 59.0 -6.0**
BHPL	**Bhopal**	**50.42 301**	*e*P	**P**	**21 23 55.5 -0.9**
BHPL			AMb	AMB	21 24 03.7
	comp=Z,82nm,0.6s,mb5.9				
BHPL			*ex*	x	21 30 54.7
LGTI	**Lohaghat**	**50.70 310**	*e*P	**P**	**21 23 59.0 +0.6**
DGAR	**Diego Garcia**	**51.21 261**	PFAKE		21 24 10.0 +7.7
DGAR			LR	LR	
	comp=Z,23μm,20.0s,MS6.2				
KAD	**Karad**	**51.49 293**	*e*P	**P**	**21 24 03.3 -1.1**
KAD			*ex*	x	21 31 07.8
POO	**Poona**	**52.12 294**	*e*P	**P**	**21 24 10.0 +0.9**
POO			*ex*	x	21 24 49.1
POO			*i* PCP	PcP	21 25 22.0 +1.4
POO			*ex*	x	21 26 12.0
POO			*e*PCS	PcS	21 29 20.0 +1.1
NDI	**New Delhi**	**52.73 307**	*e*P	**P**	**21 24 12.0 -1.6**
CIT	**Chita**	**52.89 352**	*e*P	**P**	**21 24 14.5 -0.3**
CIT			*e*		21 25 26.4
CIT			*e*		21 26 18.2
CIT			pmax	pmax	
	comp=Z,276nm,2.0s,mb5.8				
BOM	**Bombay**	**53.16 294**	*e*P	**P**	**21 24 15.9 -0.9**
BOM			AMb	AMB	21 24 21.5
	comp=Z,92nm,0.8s,mb5.8				
BOM			*ex*	x	21 31 28.1
ZAK	**Zakamensk**	**53.42 344**	⇑*i*P	**P**	**21 24 18.0 -0.7**
ZAK			*e*		21 25 27.1
ZAK			pmax	pmax	
	comp=Z,127nm,1.8s,mb5.5				
SMLA	**Simla**	**53.83 310**	*e*P	**P**	**21 24 22.8 +1.1**
SMLA			AMb	AMB	21 24 31.3
	comp=Z,916nm,1.0s,mb6.7				
AJM	**Ajmer**	**53.96 304**	*i* P	**P**	**21 24 21.0 -1.6**
AJM			*e*P		21 24 22.8
AJM			AMb	AMB	21 24 30.4
	comp=Z,68nm,0.9s,mb5.6				
AJM			*ex*	x	21 31 46.3
SDNR	**Sundarnagar**	**54.15 310**	*e*P	**P**	**21 24 25.0 +1.0**
SDNR			*e*S	**S**	**21 32 01.0 +2.8**
WMQ	**Urumqi**	**54.32 329**	P	**P**	**21 24 25.4 +0.2**
WMQ			AP	pP	21 24 41.4 +5.1
WMQ			PP	PP	21 26 26.3 -1.0
WMQ			S	**S**	**21 31 59.0 -1.5**
WMQ			XS	sS	21 32 21.9 +3.1
WMQ			SCS	ScS	21 34 05.9 -5.6
WMQ			SS	SS	21 35 43.8 +1.0
WMQ			AMB	AMB	
	comp=Z,160nm,1.0s,mb5.9				
WMQ			AMB	AMB	
	comp=Z,1μm,5.0s				
WMQ			LR	LR	
	comp=N,16μm,21.0s,MS6.2				
WMQ			LR	LR	
	comp=E,9μm,18.0s,MS6.2				
WMQ			LR	LR	
	comp=Z,15μm,24.0s				
TLY	**Talaya**	**54.51 345**	P	**P**	**21 24 26.4 -0.2**
	comp=Z,310nm,1.3s,mb6.2,SNR=22				
TLY	**Talaya**	**54.51 345**	P	**P**	**21 24 26.7 +0.1**
	SNR=86				
TLY	**Talaya**	**54.51 345**	*c i*P	**P**	**21 24 26.2 -0.4**
TLY			*e*		21 27 49.4
TLY			*e*S	**S**	**21 31 59.7 -3.3**
TLY			*e*SS	SS	21 35 41.1 -4.6
TLY			pmax	pmax	
	comp=Z,109nm,1.4s,mb5.7				
TLY			MLR	MLR	
	comp=Z,12μm,22.0s,MS5.9				
TLY	**Talaya**	**54.51 345**	*e*P	**P**	**21 24 26.4 -0.2**
TLY			LR	LR	
	comp=Z,9μm,19.0s,MS5.9				
BHK	**Bhakra**	**54.53 310**	*ex*	**P**	**21 24 32.0 +5.2**
IRK	**Irkutsk**	**54.86 346**	*e*P	**P**	**21 24 28.4 -0.8**
IRK			pmax	pmax	
	comp=Z,220nm,2.0s,mb5.8				
PONG	**Pong**	**55.13 310**	*e*P	**P**	**21 24 32.0 +0.9**
MOY	**Mondy**	**55.22 343**	*e*P	**P**	**21 24 31.6 -0.1**
MOY			pmax	pmax	
	comp=Z,293nm,2.0s,mb6.0				
DLH	**Dalhousie**	**55.38 311**	*e*P	**P**	**21 24 32.0 -0.9**
FUNA	**Funafuti**	**56.20 100**	*e*P	**P**	**21 24 40.2 +1.3**
FUNA			LR	LR	
	comp=Z,13μm,20.0s,MS6.0				
NRGR	**Nerungri**	**56.90 1**	*e*P	**P**	**21 24 44.4 +0.7**
NRGR			S	**S**	**21 32 32.2 -2.6**
NRGR			smax		
	comp=E,8.0nm,0.3s				
CLNS	**Chul'man**	**57.08 1**	⇑*i*P	**P**	**21 24 43.6 -1.4**
CLNS			*e**PP	pP	21 24 50.1 -6.1
CLNS			*e*		21 25 39.0
CLNS			pmax	pmax	
	comp=Z,106nm,0.8s,mb5.9				
CLNS			pmax	pmax	
	comp=N,70nm,0.9s				
CLNS			pmax	pmax	
	comp=E,25nm,0.7s				
CLNS			MLR	MLR	
	comp=Z,8μm,17.0s,MS5.9				
CLNS			MLR	MLR	
	comp=N,5μm,15.0s				
CLNS			MLR	MLR	
	comp=E,9μm,27.0s				
BHJ	**Bhuj**	**57.19 298**	*e*P	**P**	**21 24 43.9 -2.0**
NIL	**Nilore**	**57.91 311**	P	**P**	**21 24 51.2 +0.3**
	comp=E,238nm,0.6s,mb6.4,SNR=8.1				
SKR	**Severo-Kuril's**	**58.03 24**	⇑*i*P	**P**	**21 24 46.0 -5.8**
SKR			*e*	pP	21 24 56.5 -6.4
SKR			*e*		21 27 03.0
SKR			*e*PS		21 33 06.0
SKR			pmax	pmax	
	comp=N,2μm,12.0s				
SKR			pmax	pmax	
	comp=E,3μm,12.0s				
SKR			pmax	pmax	
	comp=Z,3μm,12.0s				
SKR			pmax	pmax	
	comp=Z,220nm,1.0s,mb6.1				
SKR			MLR	MLR	
	comp=N,2μm,20.0s,MS5.7				
SKR			MLR	MLR	
	comp=E,5μm,20.0s,MS5.7				
SKR			MLR	MLR	
	comp=Z,4μm,20.0s,MS5.5				
KSH	**Kashi**	**58.71 318**	P	**P**	**21 24 56.6 +0.1**
KSH			*e*AP	pP	21 25 12.5 +4.8
KSH			*e*PCP	PcP	21 25 46.6 +0.5
KSH			*e*PP	PP	21 27 08.0 +1.5
KSH			*e*SCP	ScP	21 29 40.5 -3.0
KSH			*e*S	**S**	**21 32 53.0 -5.6**
KSH			*e*XS	sS	21 33 20.8 +3.7
KSH			*e*SCS	ScS	21 34 37.3 -6.0
KSH			AMB	AMB	
	comp=Z,30nm,0.5s,mb5.6				
KSH			AMB	AMB	
	comp=Z,3μm,6.0s				
KSH			LR	LR	
	comp=N,18μm,16.5s,MS6.4				
KSH			LR	LR	
	comp=E,8μm,11.5s,MS6.4				
KSH			LR	LR	
	comp=Z,18μm,20.1s				
MKAR	**Makanchi Array**	**59.14 328**	P	**P**	**21 24 58.9 -0.6**
	comp=Z,12nm,0.4s,mb5.2,baz=123,slow=8.3,SNR=110				
MKAR			ScP	ScP	21 29 42.6 -2.9
	comp=Z,38nm,0.8s,baz=129,slow=5.0,SNR=10.0				
MKAR			PKPPKP		21 54 23.6
	comp=Z,1.9nm,1.0s,baz=242,slow=2.6,SNR=5.5				
ULHL	**Ulahol**	**59.95 321**	P	**P**	**21 25 04.7 -0.4**
	SNR=8.7				
AAA	**Alma-Ata**	**60.07 322**	*e*P	**P**	**21 25 06.7 +0.8**
AAA			*e*S	**S**	**21 33 13.9 -2.3**
AAA			pmax	pmax	
	comp=Z,26μm,5.5s				
AAA			smax		
	comp=E,54μm,10.8s				
KZA	**Kyzart**	**60.49 320**	P	**P**	**21 25 09.6 +0.8**
	SNR=18				
TKM2	**Tokmak 2**	**60.72 321**	P	**P**	**21 25 10.3 +0.1**
	SNR=32				
PET	**Petropavlovsk**	**60.84 24**	*e*P	**P**	**21 25 11.6 +0.5**
PET			MLR	MLR	
	comp=Z,3μm,21.0s,MS5.4				
KBK	**Karagaybulak**	**60.98 321**	P	**P**	**21 25 12.6 +0.5**
	SNR=14				
UCH	**Uchtor**	**61.04 320**	P	**P**	**21 25 13.3 +0.8**
	SNR=20				
AAK	**Ala-Archa**	**61.26 321**	P	**P**	**21 25 14.4 +0.4**
	SNR=12				
AAK	**Ala-Archa**	**61.26 321**	P	**P**	**21 25 13.6 -0.4**
	comp=Z,290nm,1.1s,mb6.3,SNR=21				
AAK	**Ala-Archa**	**61.26 321**	⇑*i*P	**P**	**21 25 12.8 -1.2**
AAK			LR	LR	
	comp=Z,9μm,21.0s,MS5.9				
FRU	**Bishkek**	**61.28 321**	*αe*P	**P**	**21 25 13.5 -0.6**
FRU			*e*S	**S**	**21 33 32.0 +0.3**
FRU			*e*SS	SS	21 37 35.0 +2.7
FRU			pmax	pmax	
	comp=Z,560nm,3.0s				
FRU			smax		
	comp=N,5μm,14.0s				
FRU			MLR	MLR	
	comp=E,11μm,28.0s				
CHMS	**Chumysh**	**61.29 321**	P	**P**	**21 25 13.8 -0.3**
	SNR=9.0				
MCQ	**Macquarie Isla**	**61.32 157**	*e*P	**P**	**21 25 15.8 +1.4**
MCQ			*e*S	**S**	**21 33 39.0 +6.9**
KRAR	**Krasnoyarsk**	**61.43 341**	*e*P	**P**	**21 25 12.8 -2.3**
KRAR			pmax	pmax	
	comp=Z,92nm,1.9s,mb5.6				
KRAR			MLR	MLR	
	comp=Z,15μm,24.0s,MS6.1				
AML	**Almayashu**	**61.52 320**	P	**P**	**21 25 22.8 +7.1**
	SNR=7.4				
USP	**Ospenovka**	**61.58 321**	P	**P**	**21 25 15.9 -0.2**
	SNR=19				
SNZO	**South Karori**	**61.64 138**	*e*P	**P**	**21 25 16.8 +0.3**
	comp=Z,204nm,0.9s,mb6.2				
SNZO			LR	LR	
	comp=Z,18μm,22.0s,MS6.2				
EKS2	**Erkin-Say**	**61.73 320**	P	**P**	**21 25 17.5 +0.3**
	SNR=21				
URZ	**Urewera**	**61.99 134**	P	**P**	**21 25 19.1 +0.2**
	comp=Z,93nm,1.1s,mb5.8,baz=316,slow=6.2,SNR=11				
YAK	**Yakutsk**	**62.46**	*3c i*P	**P**	**21 25 20.6 -1.5**
YAK			*e**PP	pP	21 25 31.3 -2.0
YAK			*e*		21 25 57.5
YAK			*e*S	**S**	**21 33 41.4 -5.2**
YAK			*e*		21 35 06.6
YAK			*e*SS	SS	21 37 48.4 -2.4
YAK			pmax	pmax	
	comp=E,13nm,0.9s				
YAK			pmax	pmax	
	comp=Z,206nm,0.9s,mb6.3				
YAK			pmax	pmax	

comp=N,56nm,1.0s
YAK smax
comp=N,19nm,1.3s
YAK smax
comp=Z,6.0nm,0.9s
YAK smax
comp=E,13nm,1.4s
YAK Yakutsk 62.46 3 *e*P **P 21 25 21.4 -0.7**
YAK LR LR
comp=Z,7μm,20.0s,MS5.8
RAO Raoul Island 62.81 123 PFAKE 21 25 40.0 +16
RAO LR LR
comp=Z,9μm,19.0s,MS5.9
ZAL Zalesovo 62.82 336 S **S 21 33 45.0 -6.1**
comp=Z,1.6nm,0.8s,baz=82,slow=23,SNR=2.5
ZAL LR LR 21 54 09.0
comp=Z,9μm,19.5s,MS6.0,baz=333,slow=37
ZAL PKPPKP 21 54 27.3
comp=Z,1.7nm,0.8s,baz=186,slow=5.0,SNR=7.6
KURK Kurchatov 63.50 330 P **P 21 25 27.2 -1.7**
comp=Z,2μm,0.8s,SNR=48
KURK Kurchatov 63.50 330 P **P 21 25 28.0 -1.0**
SNR=106
KURK Kurchatov 63.50 330 *e*P **P 21 25 27.8 -1.1**
KURK pmax pmax
comp=Z,213nm,0.8s,mb6.3
KURK MLR MLR
comp=Z,11μm,22.0s,MS6.0
KURK Kurchatov 63.50 330 *e*P **P 21 25 27.8 -1.1**
comp=Z,213nm,0.8s,mb6.3
KURK LR LR
comp=Z,11μm,22.0s,MS6.0
MA2 Magadan 63.53 15*c i*P **P 21 25 29.4 +0.2**
MA2 *e* 21 26 03.1
MA2 *e* 21 27 46.5
MA2 *e*PPP 21 29 27.9
MA2 *i* S **S 21 33 58.3 -1.7**
MA2 *i* 21 35 17.1
MA2 pmax pmax
comp=N,30nm,0.8s
MA2 pmax pmax
comp=Z,500nm,0.8s,mb6.6
MA2 MLR MLR
comp=Z,20μm,20.9s,MS6.3
MA2 Magadan 63.53 15 *e*P **P 21 25 29.6 +0.4**
MA2 LR LR
comp=Z,7μm,21.0s,MS5.8
NVS Novosibirsk 64.11 336⇑*i*P **P 21 25 29.8 -3.2**
NVS *e* 21 27 51.4
NVS *e*S **S 21 34 02.7 -4.4**
NVS pmax pmax
comp=Z,140nm,1.5s,mb5.8
NVS pmax pmax
comp=N,144nm,1.9s
NVS pmax pmax
comp=E,99nm,1.6s
NVS smax
comp=N,172nm,2.5s
NVS smax
comp=E,80nm,2.4s
AFI Afiamalu 65.55 105 P **P 21 25 44.5 +2.1**
comp=E,51nm,0.9s,mb5.5,baz=69,slow=4.2,SNR=7.9
WSAR Wadi Sarin 67.04 295 P **P 21 25 51.2 -0.7**
comp=E,9.7nm,0.8s,mb4.9,baz=76,slow=7.3,SNR=9.2
WSAR ScP 21 30 19.6
comp=E,9.1nm,0.9s,baz=134,slow=4.9,SNR=3.5
WSAR LR LR 21 56 11.6
comp=E,6μm,19.5s,MS5.8,baz=86,slow=37
DRV Dumont d'Urvil 67.16 173 P **P 21 25 53.0 +0.3**
DRV S S 21 34 47.0 +2.6
DRV L 21 43 00.0
DRV R 21 47 00.0
SMY Shemya 67.72 31 *e*P **P 21 25 57.1 +0.9**
SMY pmax pmax
comp=Z,262nm,0.9s,mb6.3
SMY MLR MLR
comp=Z,6μm,20.0s,MS5.8
SMY Shemya 67.72 31 *e*P **P 21 25 57.1 +0.9**
comp=Z,262nm,0.9s,mb6.3
SMY LR LR
comp=Z,6μm,20.0s,MS5.8
BVAR Borovoye Array 69.01 329 P **P 21 26 02.6 -1.6**
comp=Z,5.6nm,0.4s,mb4.8,baz=126,slow=11,SNR=42
BVAR S S 21 34 59.3 -7.1
comp=Z,0.6nm,0.7s,baz=139,slow=7.7,SNR=2.1
BVAR PKPPKP 21 54 17.8
comp=Z,2.2nm,1.0s,baz=318,slow=1.9,SNR=5.3
BVAR Borovoye Array 69.01 329 P **P 21 26 02.6 -1.6**
BVAR S S 21 34 59.3 -7.1
BRVK Borovoye 69.08 329 P **P 21 26 03.1 -1.6**
comp=Z,539nm,1.1s,mb6.4,SNR=23
BRVK Borovoye 69.08 329 P **P 21 26 03.4 -1.3**
SNR=96
BRVK Borovoye 69.08 329 *e*P **P 21 26 03.1 -1.5**
BRVK LR LR
comp=Z,4μm,20.0s,MS5.7
CHKZ Chkalovo 69.23 330 *e*P **P 21 26 02.9 -2.7**
MIR Mirnyy 69.40 192 *i*P **P 21 26 07.5 +0.9**
MIR pmax pmax
comp=Z,1μm,2.0s,mb6.4
MIR MLR MLR
comp=Z,10μm,24.0s,MS6.0
MIR MLR MLR
comp=N,5μm,23.0s,MS5.8
MIR MLR MLR
comp=E,3μm,20.0s,MS5.8
ASHO Ashiyiah 69.61 296⇓P **P 21 26 05.8 -2.2**
SNR=5.3
ZRNK Zerenda 69.69 328 *e*P **P 21 26 06.8 -1.6**
ZRNK pmax pmax
comp=Z,82nm,0.9s,mb5.7
ZRNK Zerenda 69.69 328 *e*P **P 21 26 06.8 -1.7**
comp=Z,82nm,0.9s,mb5.7
ABKT Ailbek 70.91 311 P **P 21 26 15.0 -0.9**
comp=Z,114nm,1.1s,mb5.7,SNR=25
VAN Vannovskaya 70.92 311 *e*P **P 21 26 15.7 -0.3**
TIXI Tiksi 72.03 2 *e*P **P 21 26 19.6 -3.0**
TIXI *e* 21 28 59.9
TIXI *e**SS sS 21 36 09.9 +9.3
TIXI pmax pmax
comp=Z,133nm,0.8s,mb5.9
TIXI MLR MLR
comp=N,6μm,20.0s,MS5.9
TIXI MLR MLR
comp=E,2μm,18.0s,MS5.9
TIXI Tiksi 72.03 2⇑*i*P **P 21 26 20.6 -2.0**
TIXI LR LR
comp=Z,13μm,22.0s,MS6.2
ATKA Atka Island 73.80 35 *e*P **P 21 26 33.6 +0.4**
BILL Bilibino 74.40 15⇑*i*P **P 21 26 35.3 -1.4**
BILL MLR MLR
comp=Z,5μm,21.0s,MS5.8
AKTK Aktyubinsk 74.84 323 P **P 21 26 37.7 -1.5**
AKTK S S 21 36 07.9 -5.5
AKTK LR LR 22 03 29.2
AKTO Aktyubinsk 74.84 323 P **P 21 26 37.7 -1.5**
comp=Z,15nm,0.7s,mb5.0,baz=101,slow=6.4,SNR=23
AKTO S S 21 36 07.9 -5.5
comp=Z,0.5nm,0.5s,baz=173,slow=22,SNR=2.7
AKTO LR LR 22 03 29.2
comp=Z,8μm,22.0s,MS6.0,baz=292,slow=39
AKTO Aktyubinsk 74.84 323 P **P 21 26 37.7 -1.5**
AKTO S S 21 36 07.9 -5.5
AKTO pmax pmax
comp=Z,15nm,0.7s,mb5.0
AKTO smax
comp=N,1.0nm,0.5s
AKTO MLR MLR
comp=Z,8μm,22.0s,MS6.0
ARU Arti 76.65 329 P **P 21 26 47.6 -2.0**
comp=Z,176nm,0.7s,mb6.1,SNR=11
ARU Arti 76.65 329⇑*i*P **P 21 26 47.0 -2.6**
ARU *e* 21 29 39.9
ARU *e*S S 21 36 28.3 -5.1
ARU *e* 21 37 08.3
ARU pmax pmax
comp=Z,64nm,0.8s,mb5.6
ARU MLR MLR
comp=Z,6μm,20.0s,MS5.9
ARU MLR MLR
comp=N,2μm,22.0s,MS5.7
ARU MLR MLR
comp=E,4μm,22.0s,MS5.7
ARU Arti 76.65 329 *e*P **P 21 26 47.0 -2.5**
ARU LR LR
comp=Z,6μm,20.0s,MS5.9

OPO Ambohidratompo 76.75 251 P **P 21 26 51.0 +0.9**
baz=98,slow=5.3
NIKO Nikolski 77.12 35 *e*P **P 21 26 52.2 0.0**
ORR Orenburg 77.17 323⇑*i*P **P 21 26 50.5 -2.0**
ORR S S 21 36 31.6 -7.5
ORR pmax pmax
comp=Z,190nm,1.1s,mb5.9
ORR MLR MLR
comp=Z,10μm,21.0s,MS6.1
KBD Kabd 77.68 300 *e*P **P 21 26 53.2 -2.1**
SPIA Saint Paul Isl 77.76 31 *e*P **P 21 26 56.6 +0.8**
RDF Al-Radifah 77.78 300 *e*P **P 21 26 53.6 -2.3**
RDF AMb AMB 21 26 58.8
comp=Z,46nm,0.8s,mb5.5
MIB Mutribah 78.07 300 *e*P **P 21 26 55.1 -2.4**
MIB AMb AMB 21 27 02.5
comp=Z,98nm,0.7s,mb5.9
NAY Al-Naaiem 78.08 300 *e*P **P 21 26 55.1 -2.5**
NAY AMb AMB 21 27 03.2
comp=Z,28nm,0.8s,mb5.2
RST Umm Al-Ruwaisa 78.33 300 *e*P **P 21 26 56.2 -2.7**
RST AMb AMB 21 27 03.5
comp=Z,124nm,0.5s,mb6.1
SOKR Solikamsk 78.67 332 *e*P **P 21 27 02.3 +1.5**
SOKR *i* S S 21 36 49.6 -5.6
SOKR pmax pmax
comp=Z,60nm,1.3s,mb5.4
SOKR MLR MLR
comp=Z,12μm,26.0s,MS6.1
UNV Unalaska Valle 78.73 35 *e*P **P 21 27 01.7 +0.5**
comp=Z,247nm,0.6s,mb6.3
UNV LR LR
comp=Z,29μm,22.0s,MS6.6
MAW Mawson 78.73 200 *e*P **P 21 27 01.7 +0.5**
comp=Z,80nm,1.3s,mb5.5
MAW *e*S S 21 36 56.8 +0.9
MAW Mawson 78.73 200 P **P 21 27 01.4 +0.3**
comp=Z,145nm,1.3s,mb5.8,baz=58,slow=6.5,SNR=63
MAW S S 21 36 53.5 -2.4
comp=Z,0.5nm,0.6s,baz=214,slow=17,SNR=1.5
MAW PKKPbc PKKPbc 21 45 54.9 -0.4
comp=Z,4.1nm,0.6s,baz=255,slow=3.7,SNR=23
MAW PKPPKP 21 53 58.4
comp=Z,2.4nm,0.7s,baz=175,slow=3.4,SNR=3.5
MAW LR LR 21 58 03.5
comp=Z,6μm,19.8s,MS6.0,baz=51,slow=33
MAW Mawson 78.73 200 P **P 21 27 01.4 +0.2**
MAW S S 21 36 53.5 -2.4
MAW pmax pmax
comp=Z,145nm,1.3s
MAW smax
comp=N,1.0nm,0.6s
MAW Mawson 78.73 200 *e*P **P 21 27 01.7 +0.5**
comp=N,80nm,1.3s,mb5.5
MAW *e*S S 21 36 56.8 +0.9
MAW LR LR
comp=Z,11μm,22.0s,MS6.2
AKUT Akutan 79.22 34 *e*P **P 21 27 03.9 0.0**
GAMB Gambell 79.53 24 *e*P **P 21 27 05.4 -0.1**
KIP Kipapa 79.58 68 *e*P **P 21 27 08.8 +3.0**
KIP pmax pmax
comp=Z,91nm,0.9s,mb5.7
KIP MLR MLR
comp=Z,5μm,21.0s,MS5.8
KIP Kipapa 79.58 68 *e*P **P 21 27 08.8 +3.1**
comp=Z,91nm,0.9s,mb5.7
KIP LR LR
comp=Z,5μm,21.0s,MS5.8
HON Honolulu 79.58 68 *e*P **P 21 27 08.6 +2.8**
VNDA Vanda 79.80 172 P **P 21 27 07.0 +0.1**
VNDA S S 21 37 07.2 0.0
VNDA Vanda 79.80 172 P **P 21 27 07.0 +0.1**
comp=Z,23nm,0.8s,mb5.2,baz=318,slow=6.0,SNR=125
VNDA S S 21 37 07.3 +0.1
comp=Z,0.4nm,0.5s,baz=107,slow=18,SNR=7.2
VNDA PKKPbc PKKPbc 21 45 53.0 0.0
comp=Z,1.2nm,0.8s,baz=341,slow=2.3,SNR=5.6
VNDA LR LR 22 01 50.3
comp=Z,16μm,20.3s,MS6.3,baz=327,slow=35
VNDA Vanda 79.80 172 *e*P **P 21 27 07.0 0.0**
comp=Z,190nm,1.5s,mb5.8
VNDA LR LR
comp=Z,15μm,20.0s,MS6.3
MAK Makhachkala 79.93 314*c i*P **P 21 27 06.0 -1.7**
MAK *e* pP 21 27 16.5 -2.8
MAK *e* 21 30 06.8
MAK *e*PPP 21 32 01.7
MAK *e*S S 21 37 03.8 -4.8
MAK pmax pmax
comp=Z,40nm,0.7s,mb5.5
FALS False Pass 80.74 34 *e*P **P 21 27 12.5 +0.5**
SBA Scott Base 80.75 172 *e*P **P 21 27 13.0 +0.9**
SBA pmax pmax
comp=Z,114nm,1.3s,mb5.6
SBA MLR MLR
comp=Z,16μm,21.0s,MS6.3
SBA Scott Base 80.75 172 *e*P **P 21 27 13.0 +0.9**
comp=Z,114nm,1.3s,mb5.6
SBA LR LR
comp=Z,16μm,21.0s,MS6.3
BHD Baghdad 81.00 304 *ex* x 21 27 10.0
BHD *ex* x 21 30 15.0
BHD *ex* x 21 37 10.0
BHD *ex* x 21 37 26.0
DGRG David-gareji 81.26 312 P **P 21 27 14.3 -0.5**
DGRG S S 21 37 16.7 -5.8
GNI Garni 81.55 311 P **P 21 27 17.0 +0.7**
comp=Z,3.7nm,0.4s,baz=290,slow=4.1,SNR=5.7
GNI S S 21 37 20.3 -5.2
comp=Z,0.9nm,0.3s,baz=46,slow=18,SNR=1.6
GNI LR LR 22 11 24.9
comp=Z,2μm,18.8s,MS5.5,baz=91,slow=42
GNI Garni 81.55 311 P **P 21 27 17.0 +0.7**
GNI S S 21 37 20.3 -5.2
GNI pmax pmax
comp=Z,4.0nm,0.4s
GNI smax
comp=N,1.0nm,0.4s
GNI MLR MLR
comp=Z,2μm,18.8s
GNI Garni 81.55 311 *e*P **P 21 27 18.0 +1.7**
GNI S S 21 37 20.3 -5.2
GNI LR LR 22 11 24.9
TNA Tin City 81.69 23 PFAKE 21 27 30.0 +13
TNA LR LR
comp=Z,3μm,20.0s,MS5.7
MTA Mtatsminda 81.72 312 P **P 21 27 15.4 -1.8**
MTA S S 21 37 20.7 -6.6
TBLG Delisi 81.77 312 P **P 21 27 16.5 -1.0**
TBLG Delisi 81.77 312 P **P 21 27 16.7 -0.8**
POHA Pohakuloa 81.78 70 PFAKE 21 27 30.0 +12
POHA LR LR
comp=Z,5μm,21.0s,MS5.8
TVAN Van 82.38 309 *i* P **P 21 27 19.3 -1.4**
MSL Mosul 82.38 307 *ex* x 21 27 16.0
MSL Mosul 82.38 307 *ex* x 21 37 21.0
MSL *ex* x 21 37 33.0
SDPT Sand Point 82.49 34 *e*P **P 21 27 21.5 +0.2**
ZEI Tsey 82.52 313 *e*P **P 21 27 21.4 0.0**
ZEI *e**PP pP 21 27 31.0 -2.1
ZEI *e* 21 30 35.4
ZEI pmax pmax
comp=Z,31nm,0.6s,mb5.5
DIGO Kars 82.62 311 *i* P **P 21 27 30.3 +8.3**
AKH Akhalkalaki 82.65 312 P **P 21 27 16.7 -5.4**
AKH S S 21 37 37.7 +0.8
ONI Oni 82.83 313 P **P 21 27 21.9 -1.1**
ONI S S 21 37 32.0 -6.7
AMRG 83.05 313 P **P 21 27 26.0 +1.8**
GOF Gofitskoye 83.44 315 *e*P **P 21 27 29.0 +2.8**
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.6
KIV Kislovodsk 83.55 314 P **P 21 27 25.0 -1.7**
comp=Z,226nm,0.8s,mb6.3,SNR=16
KIV Kislovodsk 83.55 314*c i*P **P 21 27 24.8 -1.9**
KIV *i* 21 27 31.1
KIV *i* 21 30 40.6
KIV *i* PPP 21 32 44.1
KIV *i* S S 21 37 40.5 -5.4
KIV *i* 21 37 47.9
KIV pmax pmax
comp=Z,18nm,1.3s,mb5.0
KIV MLR MLR
comp=Z,6μm,24.0s,MS5.9
ARTV Artvin 83.80 311 *i* P **P 21 27 27.6 -0.5**

BEST Besiri 83.98 308 *i* P **P 21 27 27.7 -1.2**
ERZM Erzurum 84.10 310 *i* P **P 21 27 29.2 -0.3**
BNGL BINGOL 84.17 309 *i* P **P 21 27 32.0 +2.1**
MARD Mardin 84.32 307 *i* P **P 21 27 29.2 -1.5**
PECR Pechory 84.38 327 *i* P **P 21 27 28.0 -3.0**
PECR *e* 21 30 47.6
PECR *e*S 21 37 45.4
PECR *e* 21 37 54.8
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.9
PECR pmax pmax
comp=Z,400nm,7.0s
PECR smax
comp=N,1μm,6.0s
PECR smax
comp=E,600nm,3.2s
PECR MLR MLR
comp=N,2μm,16.0s,MS5.7
PECR MLR MLR
comp=E,2μm,16.0s,MS5.7
SOC Sochi 85.65 314*c i*P **P 21 27 35.1 -2.3**
SOC *e**PP pP 21 27 45.5 -3.5
SOC *e* 21 30 53.6
SOC *e* 21 37 53.5
SOC *e*S 21 38 00.8
SOC *e*SSS 21 47 15.0
SOC pmax pmax
comp=Z,32nm,1.2s,mb5.4
SOC pmax pmax
comp=Z,381nm,3.3s
SOC Sochi 85.65 314 *i* P **P 21 27 35.4 -2.0**
ELZG Elazig 85.83 308 *i* P **P 21 27 37.9 -0.3**
SVW2 Sparrevohn 86.03 29 *e*P **P 21 27 39.2 -0.1**
KMBO Kilima Mbogo 86.08 269 P **P 21 27 39.5 0.0**
comp=Z,6.0nm,0.8s,baz=60,slow=8.0,SNR=10
KMBO S 21 37 57.5
comp=Z,0.5nm,0.5s,baz=222,slow=11,SNR=1.7
KMBO LR LR 22 04 34.6
comp=Z,15μm,20.5s,MS6.4,baz=86,slow=34
KMBO Kilima Mbogo 86.08 269 P **P 21 27 40.3 +0.8**
SNR=9.3
KMBO Kilima Mbogo 86.08 269 *e*P **P 21 27 40.2 +0.7**
KMBO LR LR
comp=Z,11μm,20.0s,MS6.2
TTA Tatalina 86.10 27 *e*P **P 21 27 39.3 -0.3**
MALT Malatya 86.25 308⇓*i*P **P 21 27 39.8 -0.5**
MALT Malatya 86.25 308⇓P **P 21 27 39.9 -0.4**
MALT Malatya 86.25 308 *e*P **P 21 27 39.5 -0.8**
comp=Z,68nm,1.4s,mb5.7
GRSN GIRESUNGRSN 86.53 311 *i* P **P 21 27 38.9 -2.8**
VOR Voronezh 86.68 322 *e*P **P 21 27 39.5 -2.9**
VOR *e*S 21 38 09.0
VOR pmax pmax
comp=Z,230nm,1.4s,mb6.2
VOR smax
comp=N,110nm,1.5s
GZT Gaziantep 86.88 307 *i* P **P 21 27 42.0 -1.4**
PAE Paea 87.09 108 *e*P **P 21 27 47.6 +3.2**
comp=N,122nm,1.0s,mb6.1
PPT Papeete 87.09 107 *e*P **P 21 27 47.3 +2.9**
comp=N,65nm,1.2s,mb5.8
PPT Papeete 87.09 107 *e*LQ 21 51 51.1
comp=N,11μm,34.2s
PPT Papeete 87.09 107 *e*PP PP 21 31 02.9 -5.3
comp=N,940nm,27.0s
PPT Papeete 87.09 107 *e*S 21 38 20.3
comp=N,10μm,28.5s
PPT *e*SS SS 21 44 08.0 +3.4
comp=N,4μm,33.5s
PPT *e*LR LR 21 55 37.5
comp=N,8μm,27.0s
PPT Papeete 87.09 107 LR LR 22 02 23.0
comp=N,3μm,20.3s,MS5.6,baz=88,slow=32
KDAK Kodiak Island 87.17 32 P **P 21 27 45.3 +0.5**
comp=N,377nm,0.7s,mb6.7,SNR=7.9
KDAK Kodiak Island 87.17 32 P **P 21 27 44.9 0.0**
comp=N,40nm,0.6s,mb5.8,baz=242,slow=5.3,SNR=39
KDAK S 21 38 05.9
comp=N,7.7nm,0.9s,baz=277,slow=23,SNR=2.1
KDAK Kodiak Island 87.17 32 *e*P **P 21 27 45.2 +0.4**
KDAK LR LR
comp=Z,1μm,22.0s,MS5.3
ASF Jabal al Asfar 87.20 302 P **P 21 27 45.7 +0.7**
comp=Z,20nm,1.1s,mb5.3,baz=313,slow=1.2,SNR=27
ASF S 21 38 14.9
comp=Z,1.0nm,0.7s,baz=301,slow=7.3,SNR=2.6
ASF LR LR 22 12 33.4
comp=Z,3μm,18.1s,MS5.8,baz=159,slow=40
ASF Jabal al Asfar 87.20 302 P **P 21 27 45.7 +0.7**
ASF S 21 38 14.9
TBI Tubuai 87.26 113 *e*PP PP 21 31 09.2 -0.3
comp=Z,808nm,29.0s
TBI Tubuai 87.26 113 *e*S 21 38 21.3
comp=Z,8μm,30.0s
TBI *e*LR LR 21 55 44.9
comp=Z,5μm,25.5s
KLMR Klimovskoe 87.33 331 *i* P **P 21 27 44.1 -1.5**
KLMR *e* 21 31 07.6
KLMR *e*S 21 38 04.1
KLMR *e*SS SS 21 44 08.3 +0.2
KLMR *e*SSS 21 47 44.0
ANN Anapa 87.37 315*c i*P **P 21 27 42.8 -3.0**
ANN *i* *PP pP 21 27 52.3 -5.2
ANN *i* S 21 38 07.3
ANN *e*SSS 21 47 51.5
ANN pmax pmax
comp=Z,79nm,1.4s,mb5.8
SYO Syowa Base 87.37 201⇓*e*P **P 21 27 45.2 -0.6**
SYO Syowa Base 87.37 201⇓*i*P pP 21 27 56.6 -0.9
TVO Taravao 87.41 108 *e*P **P 21 27 49.0 +3.0**
comp=Z,197nm,1.1s,mb6.2
SVST Sivas 87.48 310 *i* P **P 21 27 46.5 +0.2**
COBT Iskenderun 87.89 306 *i* P **P 21 27 47.7 -0.6**
MOS Moscow 87.91 326α*i*P **P 21 27 45.3 -3.1**
MOS *e* 21 31 22.7
MOS *e*S 21 38 10.0
MOS *i* 21 38 20.6
MOS pmax pmax
comp=Z,900nm,4.9s
MOS pmax pmax
comp=Z,151nm,1.7s,mb6.0
BHL Bhannes 88.30 304 *e*P **P 21 27 49.0 -1.2**
OBN Obninsk 88.48 325 P **P 21 27 49.3 -1.8**
comp=Z,367nm,0.5s,SNR=7.7
OBN Obninsk 88.48 325*c i*P **P 21 27 48.3 -2.8**
OBN *e* 21 27 54.9
OBN *e*S 21 38 14.5
OBN pmax pmax
comp=Z,117nm,1.6s,mb5.9
OBN MLR MLR
comp=Z,7μm,24.0s,MS6.0
OBN Obninsk 88.48 325 *e*P **P 21 27 49.1 -1.9**
comp=Z,39nm,0.6s,mb5.8
OBN LR LR
comp=Z,4μm,20.0s,MS5.9
MMAI Mount Meron Ar 88.49 303 P **P 21 27 51.0 -0.2**
comp=Z,8.4nm,0.6s,mb5.2,baz=78,slow=7.9,SNR=23
MMAI S 21 38 22.4
comp=Z,0.1nm,0.2s,baz=90,slow=12,SNR=2.8
MMAI LR LR 22 12 38.7
comp=Z,5μm,21.1s,MS5.9,baz=125,slow=39
SLKM Skilak Lake 88.59 30 *e*P **P 21 27 50.1 -1.5**
PMOR Pomariorio Ree 88.70 105 *e*P **P 21 27 55.6 +3.5**
comp=Z,246nm,1.2s,mb6.4
EIL Elat 88.80 300 *e*P **P 21 27 52.0 -0.5**
BOYT Boyabat 89.09 311 *i* P **P 21 27 53.0 -0.9**
PMR Palmer 89.17 29 *e*P **P 21 27 53.0 -1.3**
PMR pmax pmax
comp=Z,47nm,0.9s,mb5.8
PMR MLR MLR
comp=Z,4μm,22.0s,MS5.8
PMR Palmer 89.17 29 *e*P **P 21 27 53.0 -1.3**
comp=Z,47nm,0.9s,mb5.8
PMR LR LR
comp=Z,4μm,22.0s,MS5.8
MCK McKinley 89.35 26 *e*P **P 21 27 54.3 -0.8**
MCK MLR MLR
comp=Z,1μm,22.0s,MS5.3
CDAG Cicekdag 89.46 309 *i* P **P 21 27 53.5 -2.2**
QSPA South Pole Qui 89.53 180⇑*i*P **P 21 27 56.2 +0.2**
comp=Z,91nm,1.1s,mb6.0
QSPA LR LR
comp=Z,13μm,19.0s,MS6.4
SML Sawmill 89.56 28 *e*P **P 21 27 55.1 -1.0**
MEST Erdemli 89.59 306 *i* P **P 21 27 54.3 -2.0**

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SIM   Simferopol'      89.74 315 eP        P     21 27 57.6 +0.6
SIM                              e             21 31 27.0
SIM                              ePPP          21 33 26.0
SIM                              i S           21 38 42.2
SIM                              pmax    pmax
      comp=Z,20nm,0.6s,mb5.6
COLA  College          89.86  25⇑iP         P     21 27 55.8 -1.7
COLA                             LR      LR
      comp=Z,3µm,20.0s,MS5.7
LVZ   Lovozero         89.88 338 eP        P     21 27 55.1 -2.5
LVZ                              MLR     MLR
      comp=Z,9µm,21.0s,MS6.2
BR131 Keskin Array S   90.03 310 eP        P     21 27 56.5 -1.8
BR131                            LR      LR
      comp=Z,4µm,21.0s,MS5.8
BRTR  Keskin Array B   90.03 310 P         P     21 27 56.5 -1.8
      comp=Z,8.8nm,1.1s,mb5.0,baz=119,slow=4.6,SNR=29
BRTR                             PKKPbc  PKKPbc 21 45 30.1 +1.3
      comp=Z,0.4nm,0.6s,baz=132,slow=2.1,SNR=3.0
BRTR                             PKPPKP        21 53 40.6
      comp=Z,0.6nm,0.8s,baz=188,slow=3.9,SNR=2.7
BRTR                             LR      LR    22 16 42.2
      comp=Z,3µm,19.9s,MS5.7,baz=84,slow=41
ELDT  Eldivan          90.20 310 iP        P     21 27 56.8 -2.3
BALT  Daday            90.23 311 iP        P     21 27 57.9 -1.4
APA   Apatity          90.35 337 eP        P     21 28 02.0 +2.2
APA                              i             21 31 36.0
APA                              i             21 38 22.0
APA                              i S           21 38 50.0
APA                              i PS    PS    21 40 00.0 -2.8
APA                              pmax    pmax
      comp=Z,23nm,1.0s,mb5.5
APA                              MLR     MLR
      comp=Z,11µm,19.0s,MS6.3
ERMK  Ermenek          90.59 306 iP        P     21 28 01.9 +1.0
ANTO  Ankara           90.68 310⇑eP        P     21 27 59.3 -2.1
ANTO                             e*PP    pP    21 28 10.4 -2.7
ANTO                             pmax    pmax
      comp=Z,22nm,1.1s,mb5.4
ANTO                             MLR     MLR
      comp=Z,4µm,21.0s,MS5.8
ANTO  Ankara           90.68 310⇑eP        P     21 27 59.2 -2.1
      comp=Z,22nm,1.1s,mb5.4
ANTO                             epP     pP    21 28 10.4 -2.7
ANTO                             LR      LR
      comp=Z,4µm,21.0s,MS5.8
DIV   Divide           90.78  29 eP        P     21 28 02.1 +0.3
DIV                              LR      LR
      comp=Z,13µm,22.0s,MS6.3
EYAK  Cordova Ski Ar   90.80  30 eP        P     21 28 01.0 -0.9
KDHN  Kadinhani        91.21 308 iP        P     21 27 58.2 -5.7
SGKT  Sivrigoynuk      91.24 310 iP        P     21 28 02.2 -1.7
JOF   Joensuu          91.29 333 ep        P     21 28 00.8 -3.4
      comp=Z,26nm,0.5s,mb5.8
JOF   Joensuu          91.29 333 eP        P     21 28 00.8 -3.4
JOF                              pmax    pmax
      comp=Z,26nm,0.5s,mb5.8
HENT  Hendek           92.12 311 iP        P     21 28 05.2 -2.8
KEV   Kevo             92.58 340 eP        P     21 28 05.0 -5.2
      comp=Z,12nm,0.8s,mb5.4
KEV                              LR      LR
      comp=Z,8µm,21.0s,MS6.1
TKTP  Tekketepe        92.64 308 iP        P     21 28 07.0 -3.4
AKASG Malin Array Be   92.93 321 P         P     21 28 08.8 -3.0
      comp=Z,5.8nm,0.6s,mb5.2,baz=72,slow=4.8,SNR=21
AKASG                            PKiKP   PKiKP 21 32 59.4 +0.2
      comp=Z,1.6nm,0.5s,baz=73,slow=2.1,SNR=6.7
AKASG                            PKKPbc  PKKPbc 21 45 22.2 +0.7
      comp=Z,1.3nm,0.6s,baz=272,slow=3.7,SNR=7.1
AKASG                            LR      LR    22 10 31.6
      comp=Z,3µm,21.7s,MS5.7,baz=85,slow=36
AKASG Malin Array Be   92.93 321 P         P     21 28 08.8 -3.0
ARCES ARCESS Array B   93.13 340 P         P     21 28 10.2 -2.4
      comp=Z,4.9nm,0.7s,mb5.1,baz=83,slow=6.0,SNR=7.5
ARCES                            PKiKP   PKiKP 21 32 58.2 -1.4
      comp=Z,2.7nm,0.5s,baz=109,slow=2.0,SNR=9.0
ARCES                            PKKPbc  PKKPbc 21 45 20.5 -0.5
      comp=Z,1.0nm,0.5s,baz=274,slow=2.3,SNR=10
ARCES                            LR      LR    22 14 44.3
      comp=Z,6µm,21.8s,MS6.0,baz=87,slow=38
ARE0  ARCESS Array S   93.13 340 eP        P     21 28 13.7 +1.0
GDZ   Gediz            93.26 309 iP        P     21 28 09.0 -4.3
KIS   Kishinev         93.39 317 eP        P     21 28 08.0 -5.9
KIS                              e             21 32 00.0
KIS                              e             21 38 41.0
KIS                              ePS     PS    21 40 37.0 +0.5
KIS                              ePPS          21 41 05.0
KIS                              MLR     MLR
      comp=N,1µm,22.0s,MS6.0
KIS                              MLR     MLR
      comp=E,6µm,22.0s,MS6.0
KIS                              MLR     MLR
      comp=Z,8µm,22.0s,MS6.1
KIS                              MLR     MLR
      comp=Z,9µm,22.0s
MNK   Minsk            93.54 324 eP        P     21 28 10.0 -4.6
MNK                              e             21 32 00.0
MNK                              ePPP          21 34 00.0
MNK                              e             21 38 40.0
MNK                              eS            21 39 10.0
MNK                              ePS     PS    21 40 44.0 +5.9
MNK                              eSS     SS    21 45 42.0 +4.2
MNK                              MLR     MLR
      comp=Z,11µm,22.0s,MS6.3
DAWY  Dawson           93.55  26 eP        P     21 28 14.4 -0.3
KAF   Kangasniemi      93.66 332 ep        P     21 28 11.9 -3.2
VSU   Vasula           93.81 328 eP        P     21 28 12.9 -2.9
VSU   Vasula           93.81 328 eP        P     21 28 12.0 -3.8
FINES FINESS Array B   93.84 331 P         P     21 28 14.1 -1.9
      comp=Z,5.0nm,0.6s,mb5.1,baz=96,slow=5.6,SNR=23
FINES                            PKiKP   PKiKP 21 33 01.3 +0.5
      comp=Z,3.6nm,0.6s,baz=104,slow=3.7,SNR=8.5
FINES FINESS Array B   93.84 331 iP        P     21 28 14.6 -1.4
CFR   Carcaliu         93.97 315⇑iP        P     21 28 18.5 +2.0
CFR   Carcaliu         93.97 315⇑P         P     21 28 18.5 +2.0
ELBA  Catalca          93.97 311 iP        P     21 28 13.2 -3.3
BJO   Bjornoya         94.16 345 eP        P     21 28 19.1 +1.7
BJO                              e             21 38 41.6
BJO                              AMS     AMS   22 18 58.8
      comp=Z,6µm,8.5s
BJO1  Bjornoya         94.21 345 eP        P     21 28 19.4 +1.7
MATP  Matopo           94.40 250 P         P     21 28 18.6 +0.1
      comp=Z,31nm,0.8s,mb5.8,baz=98,slow=4.6,SNR=61
KBS   Kingsbay         94.44 350 eP        P     21 28 16.1 -2.6
KBS                              ePP     PP    21 32 00.5 -5.9
KBS                              i             21 40 40.8
KBS                              AMS     AMS   22 15 04.2
      comp=Z,5µm,20.8s,MS5.9
KBS   Kingsbay         94.44 350 eP        P     21 28 16.6 -2.1
KBS   Kingsbay         94.44 350 eP        P     21 28 22.7 +3.9
      comp=Z,45nm,1.0s,mb5.9
KBS                              LR      LR
      comp=Z,8µm,21.0s,MS6.2
LSZ   Lusaka           94.87 255 P         P     21 28 21.1 +0.4
      SNR=13
LSZ   Lusaka           94.87 255 eP        P     21 28 20.6 -0.1
LSZ                              pmax    pmax
      comp=Z,40nm,0.8s,mb5.9
LSZ                              MLR     MLR
      comp=Z,17µm,20.0s,MS6.5
LSZ   Lusaka           94.87 255 eP        P     21 28 20.6 -0.1
      comp=Z,40nm,0.8s,mb5.9
LSZ                              LR      LR
      comp=Z,17µm,20.0s,MS6.5
VRI   Vrincioaia       94.91 316⇑iP        P     21 28 19.8 -1.1
VRI   Vrincioaia       94.91 316⇑P         P     21 28 19.8 -1.1
PLOR  Plostina         94.96 316⇓iP        P     21 28 25.4 +4.3
INK   Inuvik           95.22  21 P         P     21 28 20.9 -1.4
      comp=Z,17nm,0.5s,mb5.7,baz=288,slow=6.0,SNR=52
INK                              PKKPbc  PKKPbc 21 45 15.8 +0.3
      comp=Z,2.2nm,0.8s,baz=115,slow=5.6,SNR=7.4
INK                              SKKPbc        21 48 51.6
      comp=Z,3.3nm,0.9s,baz=135,slow=3.3,SNR=5.4
INK   Inuvik           95.22  21 eP        P     21 28 21.1 -1.2
      comp=Z,18nm,0.6s,mb5.7
TRO   Tromso           95.38 340 eP        P     21 28 23.1 +0.1
TRO                              e             21 38 46.8
MLR   Muntele Rosu     95.49 316 LR        LR    22 14 39.0
      comp=Z,3µm,20.7s,MS5.7,slow=37
MLR   Muntele Rosu     95.49 316⇓iP        P     21 28 22.0 -1.5
MLR   Muntele Rosu     95.49 316⇓P         P     21 28 22.0 -1.5
BURAR Bucovina Array   95.79 318⇓iP        P     21 28 24.6 -0.3
BURAR Bucovina Array   95.79 318⇓P         P     21 28 24.6 -0.3
SKAG  Skagway          96.11  30 eP        P     21 28 26.8 +0.4
VOIR                   96.12 316⇓iP        P     21 28 29.5 +3.1
VOIR                   96.12 316⇓P         P     21 28 29.5 +3.1
SUW   Suwalki          96.31 324 eP        P     21 28 23.7 -3.5
SUW                              epP     pP    21 28 30.1 -8.9
SUW                              eSKS          21 39 00.4
SUW                              eS            21 39 37.3
SUW                              L             22 11 53.1
      comp=Z,9.1nm,27.8s
SUW   Suwalki          96.31 324 eP        P     21 28 24.9 -2.3
SUW                              e             21 39 00.4
SUW                              eS            21 39 37.3
SUW                              pmax    pmax
      comp=Z,29nm,0.8s,mb5.8
SUW   Suwalki          96.31 324 eP        P     21 28 24.9 -2.3
      comp=Z,29nm,0.8s,mb5.8
SUW                              epP     pP    21 28 30.1 -8.9
SUW                              eSKS          21 39 00.4
SUW                              eS            21 39 37.3
LVV   L'vov            96.33 320 eP        P     21 28 25.1 -2.2
LVV                              e             21 32 18.5
LVV                              i S           21 39 39.1
LVV                              ePS     PS    21 41 16.5 +7.8
LVV                              eSS     SS    21 46 25.3 +7.9
LVV                              eSSS          21 50 00.5
LVV                              MLR     MLR
      comp=Z,5µm,22.0s,MS6.0
LVV                              MLR     MLR
      comp=N,3µm,23.0s,MS6.1
LVV                              MLR     MLR
      comp=E,7µm,23.0s,MS6.1
TAOE  Nuku Hiva Isla   96.37  99 ePP       PP    21 32 25.4 +4.0
      comp=E,2µm,30.1s
TAOE  Nuku Hiva Isla   96.37  99 eS            21 39 42.3
      comp=E,22µm,28.3s
TAOE                             eSS     SS    21 46 21.2 +3.2
      comp=E,19µm,34.1s
TAOE                             eLR     LR    21 59 59.5
      comp=E,14µm,24.5s
SIT   Sitka            96.50  33 PFAKE       21 28 40.0 +12
SIT                              LR      LR
      comp=Z,6µm,21.0s,MS6.1
NVL   N'lazarevskaya   96.59 198⇓iP        sP    21 28 44.7 +0.1
NVL                              i S           21 39 02.4
NVL                              e             21 41 18.5
NVL                              pmax    pmax
      comp=Z,58nm,1.8s,mb5.7
NVL                              pmax    pmax
      comp=Z,2µm,18.5s
LBTB  Lobatse          96.85 245 P         P     21 28 30.5 +0.8
      comp=Z,2.1nm,0.4s,mb4.9,baz=152,slow=4.3,SNR=5.8
LBTB  Lobatse          96.85 245 P         P     21 28 30.5 +0.8
LBTB                             LR      LR
      comp=Z,9µm,20.0s,MS6.2
BOSA  Boshof           96.91 241 P         P     21 28 30.4 +0.4
      comp=Z,5.6nm,0.8s,mb5.1,baz=72,slow=5.5,SNR=8.0
BOSA                             PKKPbc  PKKPbc 21 45 12.4 +1.4
      comp=Z,2.6nm,0.9s,baz=122,slow=17,SNR=4.8
BOSA                             LR      LR    22 10 55.3
      comp=Z,10µm,20.2s,MS6.3,baz=101,slow=34
BOSA  Boshof           96.91 241 eP        P     21 28 31.1 +1.1
      comp=Z,30nm,1.1s,mb5.6
BOSA                             LR      LR
      comp=Z,11µm,20.0s,MS6.3
IDI   Anoyia           97.14 305 LR        LR    22 19 55.5
      comp=Z,5µm,21.7s,MS6.0,baz=87,slow=40
KWP   Kalwaria         97.20 320 eP        P     21 28 29.6 -1.7
KWP                              epP     pP    21 28 34.6 -8.5
KWP                              eSKS          21 39 03.5
KWP                              eS            21 39 46.0
KWP                              L             22 14 30.0
      comp=Z,8.5nm,24.8s
KWP   Kalwaria         97.20 320 eP        P     21 28 29.6 -1.7
KWP                              epP     pP    21 28 34.6 -8.5
KWP                              eSKS          21 39 03.5
KWP                              eS            21 39 46.0
DRGR                   97.58 317⇑iP        P     21 28 33.4 +0.4
DRGR                   97.58 317⇑P         P     21 28 33.4 +0.4
KOLS  Kolonicke sedl   97.58 319 eP        P     21 28 31.3 -1.7
KOLS                             ePP     PP    21 32 34.0 +3.3
KOLS                             e             21 39 16.0
KOLS  Kolonicke sedl   97.58 319 eP        P     21 28 31.3 -1.7
      comp=Z,41nm,2.1s,mb5.6
KOLS                             ePP     PP    21 32 34.0 +3.3
KOLS                             e             21 39 16.0
KOLS                             LR      LR
      comp=Z,5µm,25.0s,MS5.9
UZH   Uzhgorod         97.61 319d iP       P     21 28 31.0 -2.1
UZH                              e             21 32 28.0
UZH                              e             21 39 03.0
UZH                              eS            21 39 44.5
UZH                              smax
      comp=Z,6µm,22.0s
CRVS  Cervenica-Dubn   98.11 319 eP        P     21 28 34.0 -1.4
CRVS                             ePP     PP    21 32 39.2 +4.4
CRVS  Cervenica-Dubn   98.11 319 eP        P     21 28 34.0 -1.4
CRVS                             e             21 32 39.3
CRVS                             pmax    pmax
      comp=Z,14nm,1.2s,mb5.4
CRVS                             MLR     MLR
      comp=Z,4µm,25.9s,MS5.8
CRVS  Cervenica-Dubn   98.11 319 eP        P     21 28 34.0 -1.4
      comp=Z,14nm,1.2s,mb5.4
CRVS                             ePP     PP    21 32 39.3 +4.5
CRVS                             LR      LR
      comp=Z,4µm,25.9s,MS5.8
STHS  Stebnicka Huta   98.18 320 eP        P     21 28 34.9 -0.8
STHS                             epP     pP    21 28 42.3 -5.2
STHS                             ePP     PP    21 32 44.4 +9.1
STHS                             e             21 39 12.3
STHS  Stebnicka Huta   98.18 320 eP        P     21 28 34.9 -0.8
STHS                             e             21 28 42.3
STHS                             e             21 32 44.4
STHS                             e             21 39 12.4
STHS                             pmax    pmax
      comp=Z,8.0nm,0.8s,mb5.3
STHS  Stebnicka Huta   98.18 320 eP        P     21 28 34.9 -0.8
      comp=Z,8.0nm,0.8s,mb5.3
STHS                             e             21 28 42.3
STHS                             ePP     PP    21 32 44.4 +9.1
STHS                             e             21 39 12.4
BZS   Buzias           98.49 316⇓iP        P     21 28 36.4 -0.7
BZS   Buzias           98.49 316⇓P         P     21 28 36.4 -0.7
NIE   Niedzica         98.78 320 ePdiff    P     21 28 37.6 -0.8
KECS  Kecovo           98.82 319 e         P     21 28 32.1 -6.5
KECS                             e             21 28 42.1 -8.2
KECS                             ePP     PP    21 32 48.5 +8.3
KECS  Kecovo           98.82 319 eP        P     21 28 42.1 +3.5
KECS                             e             21 32 48.5
KECS  Kecovo           98.82 319 eP        P     21 28 42.1 +3.5
KECS                             ePP     PP    21 32 48.5 +8.3
OJC   Ojcow            98.97 321 ePdiff    P     21 28 37.3 -1.9
OJC                              eSKSac  SKSac 21 39 12.1 -2.4
OJC                              L             22 16 54.3
      comp=Z,40nm,23.2s
DLBC  Dease Lake       99.01  31 P         P     21 28 40.0 +0.6
      comp=Z,4.5nm,0.5s,mb5.2,baz=274,slow=6.3,SNR=13
DLBC  Dease Lake       99.01  31 eP        P     21 28 40.4 +1.0
PSZ   Piszkesteto      99.30 318 eP        P     21 28 46.7 +6.0
NSS   Namsos           99.44 336 eP        P     21 28 37.2 -4.1
NSS                              AMS     AMS   22 20 19.8
      comp=Z,8µm,14.2s,MS6.3
VYHS  Vyhne            99.90 319 e         Pdif  21 28 37.4 -6.0
VYHS                             ePP     PP    21 32 37.0 -11
VYHS                             e             21 45 04.0
VYHS                             e             21 45 13.0
VYHS  Vyhne            99.90 319 eP        Pdif  21 28 37.4 -6.0
VYHS                             ePP     PP    21 32 37.0 -11
VYHS                             e             21 45 04.1
VYHS                             e             21 45 13.0
VYHS                             LR      LR
      comp=Z,5µm,25.0s,MS6.0
GKP   Gorka Klasztor   99.92 324 ePP       PP    21 33 05.2 +17
GKP                              eSKS          21 39 16.4
GKP                              L             22 15 04.0
      comp=Z,8.7nm,24.8s
GKP   Gorka Klasztor   99.92 324 eP        Pdif  21 28 41.4 -2.1
GKP                              ePP     PP    21 33 05.2 +17
GKP                              eSKS          21 39 16.4
GKP                              LR      LR
      comp=Z,9µm,24.8s,MS6.2
RAC   Raciborz         100.01 321 eP       Pdif  21 28 42.6 -1.2
RAC                              ePP     PP    21 32 34.0 -15
RAC                              L             22 15 26.8
      comp=Z,7.5nm,24.6s
OKC   Ostrava-Krasne   100.08 321 ePDIF    Pdif  21 28 42.5 -1.7
OKC                              ePP     PP    21 32 56.1 +6.3
OKC                              eSDIF   Sdif  21 40 07.6 -8.8
OKC                              ex      x     21 42 14.2
OKC                              eSS     SS    21 47 11.6 +1.4
OKC                              ex      x     21 56 56.3
OKC                              AMS     AMS   22 15 10.0
      comp=Z,4µm,22.8s
OKC   Ostrava-Krasne   100.08 321 iP       Pdif  21 28 42.5 -1.7
OKC                              e             21 32 56.1
OKC                              eS      Sdif  21 40 07.6 -8.8
OKC                              eSS     SS    21 47 11.6 +1.4
OKC                              MLR     MLR
      comp=Z,4µm,22.8s,MS5.9
OKC   Ostrava-Krasne   100.08 321 ePdif    Pdif  21 28 42.5 -1.7
OKC                              ePP     PP    21 32 56.1 +6.3
OKC                              eSdif   Sdif  21 40 07.6 -8.8
OKC                              e             21 42 14.2
OKC                              eSS     SS    21 47 11.6 +1.4
OKC                              e             21 56 56.3
SUR   Sutherland       100.36 237 PFAKE       21 29 00.0 +15
SUR                              LR      LR
      comp=Z,9µm,22.0s,MS6.2
PKSM  Moragy           100.45 317⇓eP       Pdif  21 28 44.0 -1.8
MORC  Moravsky Berou   100.48 321⇓iP       Pdif  21 28 44.8 -1.2
MORC  Moravsky Berou   100.48 321 ePdif    Pdif  21 28 45.0 -1.0
RKT   Rikitea          100.58 113 eS       Sdif  21 40 18.7 -1.8
      comp=Z,7µm,31.2s
RKT                              eSS     SS    21 47 20.0 +2.8
      comp=Z,2µm,29.8s
BSD   Bornholm Skovb   100.80 326 iP       Pdif  21 28 45.9 -1.5
      comp=Z,28nm,0.9s
BSD                              i             21 32 21.2
BSD                              i S     SKSac 21 39 22.3 -1.2
BSD                              i             21 40 17.2
BSD
      comp=Z,6µm,19.0s
BSD   Bornholm Skovb   100.80 326 iP       Pdif  21 28 45.9 -1.5
BSD                              i S     SKSac 21 39 22.3 -1.2
BSD                              i             21 40 17.2
BSD                              pmax    pmax
      comp=Z,28nm,0.9s
BSD                              MLR     MLR
      comp=Z,6µm,19.0s,MS6.1
BSD   Bornholm Skovb   100.80 326 iP       Pdif  21 28 45.9 -1.5
      comp=Z,28nm,0.9s
BSD                              i             21 32 21.2
BSD                              i S     SKSac 21 39 22.3 -1.2
BSD                              i             21 40 17.2
DAG   Danmarks Havn    100.86 352⇓iP       Pdif  21 28 44.7 -2.9
      comp=Z,5.0nm,1.0s
DAG
      comp=Z,4µm,20.0s
DAG   Danmarks Havn    100.86 352⇓eP       Pdif  21 28 44.7 -2.9
DAG                              pmax    pmax
      comp=Z,5.0nm,1.0s
DAG                              MLR     MLR
      comp=N,4µm,20.0s
DAG                              MLR     MLR
      comp=Z,4µm,20.0s,MS6.0
DAG   Danmarks Havn    100.86 352⇓eP       Pdif  21 28 44.7 -2.9
      comp=Z,5.0nm,1.0s
DAG                              LR      LR
      comp=Z,4µm,20.0s,MS6.0
NB2   NORSAR Subarra100.92 333 P           Pdif  21 28 45.1 -2.8
      comp=Z.6.6nm,1.0s,baz=70,slow=4.4
NB2   NORSAR Subarra100.92 333 P           Pdif  21 28 45.1 -2.8
NB2                              pmax    pmax
      comp=Z,7.0nm,1.0s
NOA   NORSAR Array B100.92 333 PKiKP       PKiKP 21 33 13.1 -0.2
      comp=Z,2.5nm,0.9s,baz=111,slow=3.0,SNR=4.9
KSP   Ksiaz            101.03 322 eP       Pdif  21 28 47.2 -1.2
KSP   Ksiaz            101.03 322 ePP      PP    21 33 03.2 +6.2
KSP                              eSKS          21 39 21.5
KSP                              eSS     SS    21 48 15.3 +52
KSP                              L             22 17 34.4
      comp=Z,14nm,24.8s
KSP   Ksiaz            101.03 322 eP       Pdif  21 28 47.0 -1.4
KSP                              e             21 39 22.0
KSP                              eS      Sdif  21 40 18.0 -6.3
KSP                              MLR     MLR
      comp=Z,16µm,24.8s,MS6.5
KSP   Ksiaz            101.03 322 ePdif    Pdif  21 28 47.0 -1.4
KSP                              ePP     PP    21 32 50.0 -7.0
KSP                              eSKS          21 39 22.0
KSP                              eSdif   Sdif  21 40 18.0 -6.3
KSP                              eSS     SS    21 47 10.0 -13
KSP                              LR      LR
      comp=Z,16µm,24.8s,MS6.5
DPC   Dobruska-Polom   101.12 321 ePDIF    Pdif  21 28 46.4 -2.4
DPC                              ePP     PP    21 33 04.1 +6.4
DPC                              eSDIF   Sdif  21 40 21.9 -3.1
DPC                              ex      x     21 42 59.3
DPC                              eSS     SS    21 48 08.6 +44
DPC                              ex      x     21 57 10.6
DPC                              AMS     AMS   22 17 10.0
      comp=Z,8µm,22.7s
DPC   Dobruska-Polom   101.12 321 iP       Pdif  21 28 46.4 -2.4
DPC                              e             21 33 04.1
DPC                              eS      Sdif  21 40 21.9 -3.1
DPC                              MLR     MLR
      comp=Z,8µm,22.7s,MS6.2
NAO01 NORSAR Array S 101.14 333 PFAKE      21 29 00.0 +11
NAO01                            LR      LR
      comp=Z,8µm,21.0s,MS6.2
VRAC  Vranov           101.18 320⇓iP       Pdif  21 28 53.3 +4.2
VRAC  Vranov           101.18 320⇓P        Pdif  21 28 53.3 +4.2
UPC   Upice            101.28 322 ePDIF    Pdif  21 28 49.4 -0.1
UPC                              ePP     PP    21 33 05.6 +6.7
RGN   Rugen            101.84 326 ePP      PP    21 33 08.4 +5.3
TREC  Trest            101.89 320 ePDIF    Pdif  21 28 50.7 -1.5
TREC                             ePP     PP    21 33 03.6 +0.1
TREC                             eSDIF   Sdif  21 40 21.8 -10
TREC                             ex      x     21 43 09.4
TREC                             eSS     SS    21 47 29.5 -5.8
TREC                             ex      x     21 57 35.6
TREC                             AMS     AMS   22 18 00.0
      comp=Z,4µm,18.9s
TREC  Trest            101.89 320 iP       Pdif  21 28 50.7 -1.5
TREC                             e             21 33 03.6
TREC                             eS      Sdif  21 40 21.8 -10
TREC                             MLR     MLR
      comp=Z,4µm,18.9s,MS6.0
MOL   Molde            101.99 335 AMS      AMS   22 22 19.7
      comp=Z,12µm,19.5s,MS6.4
COP   Copenhagen       102.00 327 iP       Pdif  21 29 01.9 +9.2
COP                              i             21 33 08.1
COP                              i S     SKSac 21 39 28.1 -1.2
COP                              i             21 40 30.6
COP
      comp=Z,3µm,20.0s
RUE   Ruedersdorf      102.14 324 ePP      PP    21 33 11.3 +5.9
SISC  Sisak            102.15 316 i(P)     PP    21 33 07.9 +2.6
KONO  Kongsberg        102.16 332 eP       Pdif  21 28 51.3 -2.1
KONO                             i             21 33 08.1
KONO  Kongsberg        102.16 332 eP       Pdif  21 28 51.3 -2.1
KONO                             i             21 33 08.1
KONO                             LR      LR
      comp=Z,10µm,21.0s,MS6.3
PVCC  Panska Ves       102.17 322 ePDIF    Pdif  21 28 53.4 -0.1
PVCC                             ePP     PP    21 33 06.8 +1.2
PVCC                             eSDIF   Sdif  21 40 28.8 -5.0
PVCC                             ex      x     21 42 19.4
PVCC                             eSS     SS    21 47 54.2 +15
PVCC                             ex      x     21 57 29.3
PVCC                             AMS     AMS   22 18 00.0
      comp=Z,8µm,23.1s
PVCC  Panska Ves       102.17 322 iP       Pdif  21 28 53.4 -0.1
PVCC                             e             21 33 06.8
PVCC                             eS      Sdif  21 40 28.8 -5.0
PVCC                             e             21 42 19.4
PVCC                             eSS     SS    21 47 54.2 +15
PVCC                             MLR     MLR
      comp=Z,3µm,23.1s,MS5.8
PRU   Pruhonice        102.32 321 ePDIF    Pdif  21 28 58.0 +3.9
ARSA  Arzberg          102.34 318 ⇑P       Pdif  21 28 54.3 +0.1
      comp=Z,4.6nm,1.4s
RES   Resolute Bay     102.45  10 eP       Pdif  21 28 53.9 -0.8
BRG   Berggiesshubel   102.47 322 ePP      PP    21 33 15.1 +7.3
BRG   Berggiesshubel   102.47 322 eP       Pdif  21 28 53.1 -1.7
BRG                              i             21 33 09.0
BRG                              S       Sdif  21 40 31.0 -5.3
BRG                              e             21 43 03.0
```

BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG MLR MLR
comp=N,3µm,21.8s,MS5.9
BRG MLR MLR
comp=E,3µm,22.9s,MS5.9
BRG MLR MLR
comp=Z,4µm,22.4s,MS5.9
BRG Berggiesshubel 102.47 322 *e*PKP Pdif 21 28 53.1 -1.7
comp=Z,3.3nm,1.2s
BRG *e* 21 28 59.1
BRG *e* 21 32 56.6
BRG PP PP 21 33 09.0 +1.2
BRG *e* 21 34 07.0
BRG S Sdif 21 40 31.0 -5.3
BRG *e* 21 43 03.0
BRG SS SS 21 47 35.0 -8.3
BRG LR LR
comp=Z,4µm,22.4s,MS5.9
PERS Pernice 102.75 318 *i* Pdiff Pdif 21 28 53.9 -2.1
PERS *e*PP PP 21 33 20.3 +10
BOJS Bojanci 102.91 317 *e*Pdiff Pdif 21 28 54.6 -2.1
BOJS *e*PP PP 21 33 15.6 +4.5
BOJS *e*SKSac Sdif 21 40 33.2 -6.8
BOJS *e* 21 42 26.5
CLL Collm 102.92 323 *e*Pdiff Pdif 21 28 55.0 -1.8
comp=Z,9.0nm,1.3s
CLL *e*PP PP 21 33 13.9 +2.7
CLL *e*PPP 21 35 28.0
CLL *e*PPPP 21 37 02.5
CLL *e*SKSac SKSac 21 39 30.4 -3.2
CLL *e*Sdiff Sdif 21 40 34.7 -5.4
CLL *e*PS PS 21 42 24.1 +4.5
CLL *e*PPS 21 43 11.3
CLL *e*PKKPbc PKKPbc 21 44 54.8 +0.9
CLL *e*PKKPdf PKKPdf 21 45 04.0 +2.5
CLL *e*SS SS 21 47 48.5 -1.1
CLL *e*SSS 21 51 49.8
CLL *e*L 22 21 57.4
comp=Z,7µm,22.0s
CLL Collm 102.92 323 *e*Pdif Pdif 21 28 55.0 -1.8
CLL LmV 21 21 00.0
comp=Z,7µm,21.3s
CLL *e*x x 21 29 10.0
CLL *e*x x 21 29 18.0
CLL *i* x x 21 32 12.3
CLL *e*PPIp 21 33 10.0
CLL *e*PPk 21 33 25.0
CLL *i* x x 21 33 42.5
CLL *i* x x 21 33 59.4
CLL *e*PPP 21 35 30.0
CLL *e*SKSac SKSac 21 39 33.0 -0.6
CLL *e*Sdif Sdif 21 40 36.0 -4.1
CLL *e*PS PS 21 42 25.0 +5.4
CLL *e*PPS 21 43 11.0
CLL *e*PKKPbc PKKPbc 21 44 54.0 +0.1
CLL *es*PKKPbc 21 45 04.0
CLL *e*SS SS 21 47 38.0 -12
CLL *e*SSS 21 51 41.0
CLL *e*x x 21 57 26.0
CLL Collm 102.92 323 *e*P Pdif 21 28 55.0 -1.8
CLL *e* 21 33 10.0
CLL *e* 21 39 33.0
CLL *e*S Sdif 21 40 36.0 -4.1
CLL MLR MLR
comp=Z,7µm,21.3s,MS6.2
CLL Collm 102.92 323 *e*Pdif Pdif 21 28 55.0 -1.8
CLL *e* 21 29 10.0
CLL *i* 21 32 12.3
CLL *e*PP PP 21 33 10.0 -1.2
CLL *e*SKS 21 39 33.0
CLL *e*Sdif Sdif 21 40 36.0 -4.1
CLL *e*PKKP PKKPbc 21 44 54.0 +0.1
CLL LR LR
comp=Z,7µm,21.3s,MS6.2
JMIC Jan Mayen 103.02 345 *e*P Pdif 21 28 58.6 +1.4
JMIC AMS AMS 22 18 45.8
comp=Z,3µm,20.6s,MS5.8
MOA Molln 103.02 319⇑ *e*P Pdif 21 28 58.4 +1.1
comp=Z,5.0nm,1.1s
GEC2 GERESS Array S 103.14 320 *e*PP PP 21 33 19.6 +6.8
GERES GERESS Array B 103.14 320 Pdiff Pdif 21 28 57.2 -0.5
comp=Z,0.7nm,0.6s,baz=58,slow=3.8,SNR=9.1
GERES PKiKP PKiKP 21 33 18.0 +0.7
comp=Z,1.4nm,0.5s,baz=67,slow=2.8,SNR=11
GERES PKKPbc PKKPbc 21 44 54.9 +1.6
comp=Z,0.8nm,0.7s,baz=225,slow=3.6,SNR=6.1
KHC Kasperske Hory 103.15 321 *e*PDIF Pdif 21 29 05.1 +7.3
KHC *e*PP PP 21 33 13.6 +0.7
KHC *e*SDIF Sdif 21 40 37.3 -4.6
KHC *e*x x 21 42 35.9
KHC *e*SS SS 21 47 58.4 +5.7
KHC *e*x x 21 57 53.9
KHC AMS AMS 22 18 40.0
comp=Z,5µm,18.3s
KHC Kasperske Hory 103.15 321 *i* P Pdif 21 29 05.1 +7.3
KHC *e* 21 33 13.6
KHC *e*S Sdif 21 40 37.3 -4.6
KHC *e*SS SS 21 47 58.4 +5.7
KHC MLR MLR
comp=Z,5µm,18.3s,MS6.0
LJU Ljubljana 103.28 317 *i* Pdiff Pdif 21 28 56.8 -1.6
MUD Monsted U'grnd 103.48 329 *i* P Pdif 21 28 54.8 -4.5
MUD *i* 21 33 15.6
MUD *i* S SKSac 21 39 35.4 -0.8
MUD
comp=Z,6µm,20.0s
MUD Monsted U'grnd 103.48 329 *i* P Pdif 21 28 54.8 -4.5
comp=Z,6.4nm,2.0s
MUD *i* 21 33 15.6
MUD *i* S SKSac 21 39 35.4 -0.8
TANN Tannenbergstha 103.50 322 *e*PP PP 21 33 23.4 +7.9
NKC Novy Kostel 103.56 322 *e*PDIF Pdif 21 28 52.4 -7.2
NKC *e*PP PP 21 33 16.8 +0.8
NKC *e*SDIF Sdif 21 40 42.3 -3.1
NKC *e*x x 21 42 55.9
NKC *e*SS SS 21 48 04.1 +5.7
NKC *e*x x 21 58 08.6
NKC AMS AMS 22 23 30.0
comp=Z,6µm,20.3s
NKC Novy Kostel 103.56 322 *i* P Pdif 21 28 52.4 -7.2
NKC *e* 21 33 16.8
NKC *e*S Sdif 21 40 42.3 -3.1
NKC *e*SS SS 21 48 04.1 +5.7
NKC MLR MLR
comp=Z,6µm,20.3s,MS6.1
NKC Novy Kostel 103.56 322 *e*Pdif Pdif 21 28 52.4 -7.2
NKC *e*PP PP 21 33 16.8 +0.8
NKC *e*Sdif Sdif 21 40 42.3 -3.1
NKC *e* 21 42 55.9
NKC *e*SS SS 21 48 04.1 +5.7
NKC *e* 21 58 08.6
WET Wettzell 103.59 321 *e*PP PP 21 33 23.8 +7.6
BSEG Bad Segeberg 103.71 326 *e*PP PP 21 33 23.2 +6.1
KBA Koelnbreinsper 103.82 319⇑ *e*P Pdif 21 29 05.9 +5.1
comp=Z,3.5nm,1.1s
MANZ Manzenberg 103.84 322 *e*PP PP 21 33 26.2 +8.2
ROTZ Rotzenmuhle 103.84 321 *e*PP PP 21 33 26.1 +8.1
BER Bergen 103.85 333 *e*P Pdif 21 28 57.2 -3.7
BER *e*SKSa 21 39 37.6
BER AMS AMS 22 21 30.3
comp=Z,7µm,12.7s,MS6.4
BER Bergen 103.85 333 *e*P Pdif 21 28 57.2 -3.7
BER *e* 21 39 38.8
BER LR LR
comp=Z,7µm,12.7s,MS6.4
MOX Moxa 103.95 322 *e*PP PP 21 33 26.7 +7.8
MOX Moxa 103.95 322 *e*(P) Pdif 21 29 00.9 -0.5
MOX *e* 21 32 21.0
MOX *e* 21 33 23.8
MOX
comp=Z,4µm,21.0s
NRDL Niedersach Rie 104.29 325 *e*PP PP 21 33 28.3 +6.9
CLZ Clausthal 104.34 324 *e*PP PP 21 33 29.6 +7.8
GRA1 Grafenberg Arr 104.47 322 *e*Pdif Pdif 21 29 02.8 -0.9
GRA1 *e*PP PP 21 33 30.6 +7.8
GRA1 *e*Sdif Sdif 21 40 54.1 +1.1
GRA1 *e*SS SS 21 48 05.9 -5.0
GRA1 LR LR
comp=Z,6µm,20.2s,MS6.1
GRF Grafenberg Arr 104.47 322 *e*Pdiff Pdif 21 29 02.8 -0.9
GRF *e*PP PP 21 33 30.6 +7.8
GRF *e*Sdiff Sdif 21 40 54.1 +1.1
GRF *e*SS SS 21 48 05.9 -5.0
GRF *e*L 22 24 28.2
comp=Z,6µm,20.2s
GRF Grafenberg Arr 104.47 322 *e*P Pdif 21 29 02.8 -0.9
GRF *e* 21 33 30.6
GRF *e*S Sdif 21 40 54.1 +1.1
GRF MLR MLR
comp=Z,6µm,20.2s,MS6.1
GRF Grafenberg Arr 104.47 322 *e*P Pdif 21 29 02.8 -0.9
GRF *e* 21 33 30.6
GRF S Sdif 21 40 54.1 +1.1
GRF MLR MLR
comp=Z,6µm,20.2s,MS6.1
YKA Yellowknife Ar 104.63 24 Pdiff Pdif 21 29 06.4 +2.0
comp=Z,3.1nm,0.7s,baz=297,slow=4.8,SNR=7.1
YKA PKiKP PKiKP 21 33 19.0 -1.0
comp=Z,2.6nm,0.6s,baz=329,slow=2.6,SNR=3.6
YKA PKKPbc PKKPbc 21 44 48.1 -0.7
comp=Z,0.9nm,0.4s,baz=122,slow=3.7,SNR=7.7
YKA SKKPbc 21 48 26.1
comp=Z,1.9nm,0.8s,baz=120,slow=2.3,SNR=4.2
YKA Yellowknife Ar 104.63 24 Pdif Pdif 21 29 06.4 +2.0
TSUM Tsumeb 104.73 250 PFAKE 21 29 20.0 +15
TSUM LR LR
comp=Z,11µm,21.0s,MS6.3
PTCN Pitcairn Islan 104.80 116 *e*Pdif Pdif 21 29 08.5 +3.3
FUR Furstenfeldbru 104.88 320 *e*PP PP 21 33 33.2 +7.4
UBBA Unterbreizbach 104.88 323 *e*PP PP 21 33 33.7 +7.9
WTTA Wattenberg 104.90 319⇑ *e*P Pdif 21 29 04.4 -1.1
comp=Z,9.7nm,1.1s
HLG Helgoland 104.97 327 *e*PP PP 21 33 32.9 +6.4
FIAM Fiamignano 105.15 314 P PKiKP 21 33 28.2 +7.2
SQTA Sankt Quirin 105.19 319⇑ *e*P Pdif 21 29 08.1 +1.2
comp=Z,6.5nm,1.0s
PGC Sidney 105.46 39 *e*Pdif Pdif 21 29 08.6 +0.5
PGC *e*PKPdf PKiKP 21 33 19.1 -2.5
IBBN Ibbenburen 105.71 325 *e*PP PP 21 33 39.0 +7.1
TNS Taunus Mts 106.01 323 *e*PP PP 21 33 42.5 +8.4
E03A Lebam 106.01 41 ⇓P PKiKP 21 33 24.0 +1.4
baz=106
STU Stuttgart 106.02 321 *e*PP PP 21 33 42.1 +7.9
DAVOX Davos 106.19 319 Pdiff Pdif 21 29 10.9 -0.4
comp=Z,4.2nm,0.7s,baz=120,slow=11,SNR=5.9
GNW Green Mountain 106.19 40 *e*Pdif Pdif 21 29 17.6 +6.3
BUG Bochum--Univer 106.30 324 *e*PP PP 21 33 43.9 +7.7
B05A Bryant 106.44 39⇑P PKiKP 21 33 23.7 +0.4
baz=106
BFO Black Forest 106.70 321 *e*PP PP 21 33 47.3 +8.1
BFO Black Forest 106.70 321 *e*PKPdf PKiKP 21 33 22.2 -1.6
COR Corvallis 106.75 43 PFAKE 21 33 40.0 +16
COR LR LR
comp=Z,6µm,22.0s,MS6.1
F04A Amboy 106.95 42 ⇓P PKiKP 21 33 25.3 +1.0
baz=107
SUMG Summit 107.03 354 *e*Pdif Pdif 21 29 19.5 +4.5
comp=Z,9.1nm,0.9s
SUMG *e*PKPdf PKiKP 21 33 25.8 +1.3
L02A Cave Junction 107.21 46⇑P PKiKP 21 33 25.6 +0.8
baz=107
MEM Membach 107.34 324 PP PP 21 33 46.2 +2.3
CDF Champ du Feu 107.34 321 *e*PKiKP PKiKP 21 33 23.1 -1.9
BEBN Eben Emael 107.47 324 PP PP 21 33 47.4 +2.6
WLF Walferdange 107.59 323 E 21 33 17.7
WLF E 21 33 33.0
WLF PP PP 21 33 43.8 -2.0
N02C Big Bar 107.78 47⇑P PKiKP 21 33 26.5 +0.6
baz=108
HINF Hinteralfeld 107.81 321 *e*PKIKP PKiKP 21 33 24.1 -1.8
comp=Z,6.0nm,0.5s
M02C Callahan 107.96 46 ⇓P PKiKP 21 33 27.2 +1.0
baz=108
YBH Yreka Blue Hor 107.97 46 *e*PKPdf PKiKP 21 33 27.4 +1.2
YBH LR LR
comp=Z,4µm,22.0s,MS5.9
YBH Yreka Blue Hor 107.97 46 ⇓P PKiKP 21 33 27.5 +1.3
baz=108
HAU Haudompre 108.06 321 *e*PKIKP PKiKP 21 33 24.6 -1.8
HAU *e*R
comp=Z,3µm,22.8s
HAU Haudompre 108.06 321 *e*PKPdf PKiKP 21 33 24.6 -1.8
HAU LR LR
comp=Z,3µm,22.8s,MS5.8
UCC Uccle 108.24 324 PP PP 21 33 53.0 +2.5
DOU Dourbes 108.37 323 PKiKP PKiKP 21 33 26.5 -0.5
DOU APKiKP 21 33 38.0
DOU PP PP 21 33 49.2 -2.2
WDC Whiskeytown Da 108.41 47 *e*PKPdf PKiKP 21 33 26.9 -0.1
WDC LR LR
comp=Z,5µm,22.0s,MS6.0
L04A Klamath Falls 108.43 45⇑P PKiKP 21 33 28.1 +1.1
baz=108
HOPS Hopland 108.43 49 PFAKE 21 33 40.0 +13
HOPS LR LR
comp=Z,3µm,19.0s,MS5.9
M03C McCloud 108.52 46⇑P PKiKP 21 33 27.7 +0.5
baz=109
M04C Macdoel 108.58 46 ⇓P PKiKP 21 33 27.6 +0.3
baz=109
VSL Villasalto 108.59 312 *e*PKPdf PKiKP 21 33 29.7 +2.4
LPG La Plagne 108.65 318 *e*PKIKP PKiKP 21 33 26.3 -1.2
comp=Z,10nm,0.7s
LPL La Plagne 108.66 318 *e*PKIKP PKiKP 21 33 26.5 -1.0
comp=Z,11nm,0.7s
HAWA Hanford 108.70 41 *e*PKPdf PKiKP 21 33 28.5 +0.9
HAWA LR LR
comp=Z,235nm,21.0s
CABF La Chapelle 108.71 320 *e*PKIKP PKiKP 21 33 26.0 -1.6
comp=Z,7.9nm,0.6s
MBDF Montbardon 108.89 318 *e*PKIKP PKiKP 21 33 26.0 -1.9
comp=Z,11nm,0.7s
MNRC McLaughlin Nat 108.94 49⇑P PKiKP 21 33 29.5 +1.5
baz=109
I06A Prineville 109.06 43⇑P PKiKP 21 33 29.9 +1.6
baz=109
CVS Carmenet Viney 109.07 49⇑P PKiKP 21 33 30.0 +1.7
baz=109
HATC Hat Creek Radi 109.13 47⇑P PKiKP 21 33 30.0 +1.6
baz=109
M05C Lookout 109.20 46⇑P PKiKP 21 33 29.5 +1.0
baz=109
L05A Lakeview 109.22 45⇑P PKiKP 21 33 30.2 +1.7
baz=109
J06A Christmas Vall 109.33 44⇑P PKiKP 21 33 30.3 +1.6
baz=109
K06A Valley Falls 109.40 44 ⇓P PKiKP 21 33 30.2 +1.4
baz=109
ORIF Oris-en-Rattie 109.43 318 *e*PKIKP PKiKP 21 33 27.6 -1.3
comp=Z,9.6nm,0.7s
ORIF *e*R
comp=Z,9µm,22.2s
ORV Oroville 109.46 48 ⇓P PKiKP 21 33 30.0 +1.0
baz=110
O04C Chester 109.54 47 ⇓P PKiKP 21 33 30.5 +1.4
baz=110
NEW Newport 109.55 38 Pdiff Pdif 21 29 28.5 +2.2
comp=Z,6.0nm,1.0s,baz=344,slow=4.1,SNR=6.2
NEW PKIKP PKiKP 21 33 31.1 +1.9
comp=Z,4.4nm,0.7s,baz=210,slow=1.4,SNR=7.6
NEW Newport 109.55 38 Pdif Pdif 21 29 28.5 +2.2
NEW PKPdf PKiKP 21 33 31.1 +1.9
NEW LR LR
comp=Z,5µm,22.0s,MS6.0
BNLO Ben Lomond 109.60 51 ⇓P PKiKP 21 33 30.6 +1.3
baz=110
EDM Edmonton 109.62 32 *e*PKPdf PKiKP 21 33 29.5 +0.2
O05C Quincy 109.77 47⇑P PKiKP 21 33 31.1 +1.5
baz=110
WENL Wente Brothers 109.79 50 ⇓P PKiKP 21 33 30.9 +1.3
baz=110
LOR Lormes 109.90 321 *e*PKIKP PKiKP 21 33 28.4 -1.4
comp=Z,10.0nm,0.9s
LOR *e*R
comp=Z,6µm,20.8s
LOR Lormes 109.90 321 *e*PKPdf PKiKP 21 33 28.4 -1.4
LOR LR LR
comp=Z,6µm,20.8s,MS6.1
SMRF Simiane la Rot 109.95 317 *e*PKIKP PKiKP 21 33 28.4 -1.5
comp=Z,12nm,0.8s
K07A Rock Creek Ran 110.13 44⇑P PKiKP 21 33 31.6 +1.4
baz=110
SMF Signal de Mont 110.14 320 *e*PKIKP PKiKP 21 33 28.7 -1.6
S04C Ingram Canyon, 110.15 50⇑P PKiKP 21 33 32.0 +1.7
baz=110
P05C Yuba Gap, Truc 110.19 48 ⇓P PKiKP 21 33 31.8 +1.4
baz=110
SSF Saint Saulge 110.20 321 *e*PKIKP PKiKP 21 33 29.0 -1.4
comp=Z,9.5nm,0.8s
LAVA Lava Cap Winer 110.25 49⇑P PKiKP 21 33 31.5 +1.0
baz=110
ESK Eskdalemuir 110.25 331 *e*P PKiKP 21 33 31.4 +0.9
ESK Eskdalemuir 110.25 331 PFAKE 21 33 40.0 +10
ESK LR LR
comp=Z,8µm,21.0s,MS6.3
SAO San Andreas Ge 110.26 51 PFAKE 21 33 40.0 +10
SAO LR LR
comp=Z,3µm,21.0s,MS5.8
HAST Hastings Reser 110.28 51 ⇓P PKiKP 21 33 32.3 +1.7
baz=110
L07A Adell 110.28 45⇑P PKiKP 21 33 31.9 +1.4
baz=110
PACP Pacheco Peak 110.32 50⇑P PKiKP 21 33 32.4 +1.8
baz=110
AVF Avril sur Loir 110.40 321 *e*PKIKP PKiKP 21 33 29.1 -1.7
LHO Holmfirth 110.47 329 *e*P PKiKP 21 33 31.1 +0.2
LHO AMb AMB 21 33 32.4
comp=Z,16nm,1.7s
O06A Flanigan 110.51 47⇑P PKiKP 21 33 32.2 +1.2
baz=111
CKE Keswick 110.58 330 *e*P PKiKP 21 33 31.0 -0.1
CKE AMb AMB 21 33 35.9
comp=Z,19nm,1.5s
M07A Soldier Meadow 110.61 45 ⇓P PKiKP 21 33 32.6 +1.5
baz=111
WVOR Wild Horse Val 110.64 44 *e*PKIKP PKiKP 21 33 32.6 +1.4
WVOR MLR MLR
comp=Z,3µm,20.0s,MS5.9
BMO Blue Mountains 110.71 42 PFAKE 21 33 40.0 +8.7
BMO LR LR
comp=Z,3µm,22.0s,MS5.8
KWE Weaver Farm 110.72 328 *e*P PKiKP 21 33 31.8 +0.4
CMB Columbia Colle 110.72 49 *e*PKIKP PKiKP 21 33 31.1 -0.3
CMB MLR MLR
comp=Z,4µm,19.0s,MS6.0
CMB Columbia Colle 110.72 49 ⇓P PKiKP 21 33 32.7 +1.3
baz=111
R05C Kirkwood Meado 110.76 48 ⇓P PKiKP 21 33 33.4 +1.9
baz=111
BGF Bois d'Agland 110.81 320 *e*PKIKP PKiKP 21 33 29.9 -1.6
comp=Z,12nm,0.6s
WCN Washoe City 110.82 48 ⇓P PKiKP 21 33 32.9 +1.3
baz=111
BORG Borgarnes 110.88 345 PFAKE 21 33 40.0 +8.3
BORG LR LR
comp=Z,4µm,20.0s,MS6.0
U04C Hernandez Rese 110.88 51 ⇓P PKiKP 21 33 34.5 +2.8
baz=111
L08A Fields 110.93 44⇑P PKiKP 21 33 33.6 +1.9
baz=111
PAHR Pah Rah Range 110.98 47 *e*PKPdf PKiKP 21 33 33.1 +1.3
V04C Ramage Ranch, 111.00 52 ⇓P PKiKP 21 33 35.2 +3.3
baz=111
LASF Ste Croix 111.08 318 *e*PKIKP PKiKP 21 33 30.2 -1.9
comp=Z,10nm,0.8s
M08A Happy Creek Ra 111.15 45⇑P PKiKP 21 33 34.3 +2.1
baz=111
BSMT Bassoo Peak 111.15 38 *e*Pdif Pdif 21 29 35.1 +1.7
WALA Waterton Lakes 111.17 36 *e*PKPdf PKiKP 21 33 33.4 +1.2
PKD Parkfield 111.18 51 ⇓P PKiKP 21 33 34.0 +1.7
baz=111
O07A Toulon 111.20 47 ⇓P PKiKP 21 33 34.0 +1.7
baz=111
SSW Stow on the Wo 111.23 327 *e*P PKiKP 21 33 31.8 -0.6
L09A Wilkinson Ranc 111.46 44 ⇓P PKiKP 21 33 34.2 +1.5
baz=112
HLM1 Long Mynd 111.51 328 *e*P PKiKP 21 33 33.2 +0.3
N08A GE Springer Mi 111.55 46⇑P PKiKP 21 33 34.5 +1.6
baz=112
WIM Isle of Man 111.59 330 *e*P PKiKP 21 33 32.3 -0.7
WIM AMb AMB 21 33 35.8
comp=Z,45nm,1.4s
R07C Lee Vining 111.72 49⇑P PKiKP 21 33 35.5 +2.2
baz=112
M09A Marrel Ranch, 111.82 45⇑P PKiKP 21 33 35.3 +1.9
baz=112
FLN La Foliniere 111.94 324 *e*PKIKP PKiKP 21 33 32.0 -1.7
comp=Z,7.2nm,0.7s
FLN *e*R
comp=Z,6µm,21.5s
FLN La Foliniere 111.94 324 *e*PKPdf PKiKP 21 33 32.0 -1.7
FLN LR LR
comp=Z,6µm,21.5s,MS6.2
HTR Trewern Hill 111.94 328 *e*P PKiKP 21 33 33.7 0.0
MSO Missoula 112.10 39 PFAKE 21 33 50.0 +16
MSO LR LR
comp=Z,2µm,22.0s,MS5.7
RJF Les Rejaudoux 112.16 320 *e*PKIKP PKiKP 21 33 32.4 -1.7
comp=Z,12nm,0.9s
RJF *e*R
comp=Z,7µm,23.0s
RJF Les Rejaudoux 112.16 320 *e*PKPdf PKiKP 21 33 32.4 -1.7
RJF LR LR
comp=Z,7µm,23.0s,MS6.2
NVAR Mina Array Bea 112.17 48 Pdiff Pdif 21 29 38.3 +0.4
comp=Z,0.5nm,0.6s,baz=211,slow=4.9,SNR=4.0
NVAR PKKPbc PKKPbc 21 44 26.3 +1.3
comp=Z,0.4nm,0.5s,baz=134,slow=5.1,SNR=3.2
NVAR Mina Array Bea 112.17 48 Pdif Pdif 21 29 38.3 +0.4
NVAR PKKPbc PKKPbc 21 44 26.3 +1.3
MNV Mina 112.28 48 *e*PKIKP PKiKP 21 33 36.0 +1.7
MNV MLR MLR
comp=Z,4µm,22.0s,MS5.9
Q08A Gabbs 112.31 48 ⇓P PKiKP 21 33 36.1 +1.7
baz=112
GRR Gorron 112.33 323 *e*PKIKP PKiKP 21 33 32.7 -1.7
comp=Z,14nm,0.9s
O09A Fish Creek Ran 112.42 46⇑P PKiKP 21 33 36.2 +1.6
baz=112
MTLF Montolieu 112.45 317 *e*PKIKP PKiKP 21 33 33.3 -1.4
comp=Z,9.2nm,0.8s
CHMT Chamberlain Mo 112.49 38 *e*PKPdf PKiKP 21 33 34.9 +0.2
S08C White Mtn Res 112.56 49⇑P PKiKP 21 33 36.5 +1.6
baz=113
MFF Saint Martin d 112.68 321 *e*PKIKP PKiKP 21 33 34.7 -0.4
comp=Z,13nm,0.6s
SNCC San Nicolas Is 112.71 54 PFAKE 21 33 50.0 +15
SNCC LR LR
comp=Z,3µm,20.0s,MS5.9
LFF La Frestale 112.81 320 *e*PKIKP PKiKP 21 33 34.0 -1.3
comp=Z,12nm,0.6s
ISA Isabella 112.87 51 PFAKE 21 33 50.0 +15
ISA LR LR
comp=Z,877nm,21.0s,MS5.3
M11A Holland Ranch, 112.98 45 ⇓P PKiKP 21 33 38.0 +2.4
baz=113
HLID Hailey 113.12 42 PFAKE 21 33 50.0 +14
HLID LR LR
comp=Z,3µm,22.0s,MS5.9
DYA Yadsworthy 113.12 326 *e*P PKiKP 21 33 36.9 +1.0
DYA AMb AMB 21 33 37.2
comp=Z,11nm,2.0s
R09A Tonopah 113.15 48 ⇓P PKiKP 21 33 38.2 +2.2
baz=113
S09A Goldfield 113.20 49 ⇓P PKiKP 21 33 37.9 +1.8
baz=113
ETOS Mallorca 113.33 314 PKP PKiKP 21 33 39.0 +2.7
SGMF Saint Gilles 113.40 324 *e*PKIKP PKiKP 21 33 35.3 -1.2
comp=Z,17nm,0.8s
EMIR Miracle 113.47 316 PKP PKiKP 21 33 39.0 +2.4
O11A Cowboy Ranch, 113.54 46 ⇓P PKiKP 21 33 38.7 +2.0
baz=114
DLMT Dillon 113.57 40 *e*PKPdf PKiKP 21 33 38.1 +1.3
M12A Wells 113.60 44 ⇓P PKiKP 21 33 38.4 +1.6
baz=114
ELK Elko 113.62 45 PFAKE 21 33 50.0 +13
ELK LR LR
comp=Z,1µm,19.0s,MS5.6
MCMT McKenzie Canyo 113.63 40 *e*PKPdf PKiKP 21 33 38.1 +1.2
R10A Warm Springs 113.71 48 ⇓P PKiKP 21 33 38.9 +1.9
baz=114
N12A Wells--Clov Va 113.72 45 ⇓P PKiKP 21 33 39.0 +1.9
baz=114
ROSF Rostrenen 113.78 324 *e*PKIKP PKiKP 21 33 36.5 -0.7
EPF Esparros 113.84 318 *e*PKIKP PKiKP 21 33 36.6 -0.7
comp=Z,6.8nm,0.7s
QUIF Quistinic 113.92 324 *e*PKIKP PKiKP 21 33 35.7 -1.8
Q11A Duckwater 114.00 47 ⇓P PKiKP 21 33 39.1 +1.5
baz=114
BOZ Bozeman (W) 114.06 39 PFAKE 21 33 50.0 +12
BOZ LR LR
comp=Z,3µm,21.0s,MS5.9
EGMT Eagleton 114.10 36 *e*PKPdf PKiKP 21 33 38.3 +0.5

EGMT LR LR
comp=Z,2μm,22.0s,MS5.7
EBIE Bielsa 114.11 317 PKP PKiKP 21 33 40.2 +2.4
M13A Montello 114.14 44 ⇓P PKiKP 21 33 39.1 +1.3
baz=114
TPNV Topopah Spring 114.19 49 PFAKE 21 33 50.0 +12
TPNV LR LR
comp=Z,3μm,20.0s,MS6.0
EGRA Graus 114.19 317 PKP PKiKP 21 33 40.6 +2.6
GSC Goldstone 114.28 51 ⇑P PKiKP 21 33 40.0 +1.8
baz=114
U10A Ash Meadows, A 114.30 50 ⇑P PKiKP 21 33 40.1 +1.9
baz=114
N13A West Wendover 114.31 45 ⇓P PKiKP 21 33 39.4 +1.2
baz=114
P12A McGill 114.31 46 ⇓P PKiKP 21 33 40.1 +1.9
baz=114
FFC Flin Flon 114.43 27 *e*PKIKP PKiKP 21 33 38.3 -0.1
FFC *e* 21 37 10.5
FFC MLR MLR
comp=Z,5μm,22.0s,MS6.1
QLMT Earthquake Lak 114.54 40 *e*PKPdf PKiKP 21 33 39.9 +1.2
EBR Ebro Roquetas 114.60 315 *e*Ts 21 33 56.7
ERTA Horta de San J 114.66 316 PKP PKiKP 21 33 41.4 +2.5
PMSA Palmer Station 114.75 177 PFAKE 21 33 50.0 +11
PMSA LR LR
comp=Z,9μm,21.0s,MS6.4
FCC Fort Churchill 114.83 20 *e*PKIKP PKiKP 21 33 38.2 -1.0
YMR Madison River 114.91 40 *e*PKPdf PKiKP 21 33 40.0 +0.6
YMR LR LR
comp=Z,5μm,21.0s,MS6.1
TUQ Turquoise Mtn. 114.92 51 ⇓P PKiKP 21 33 41.3 +1.9
baz=115
HVU Hansel Valley 114.94 43 *e*PKIKP PKiKP 21 33 40.7 +1.3
EALK Alkurruntz 115.00 319 PKP PKiKP 21 33 42.3 +2.8
U11A Corn Creek 115.02 50 ⇑P PKiKP 21 33 41.5 +1.9
baz=115
PFO Pinyon Flat Ob 115.07 53 *e*PKIKP PKiKP 21 33 40.7 +1.0
PFO MLR MLR
comp=Z,3μm,20.0s,MS5.9
PFO Pinyon Flat Ob 115.07 53 ⇑P PKiKP 21 33 41.0 +1.3
baz=115
YFT Old Faithful 115.09 40 *e*PKPdf PKiKP 21 33 42.9 +3.2
V11A Goodsprings 115.17 50 ⇓P PKiKP 21 33 41.8 +1.9
baz=115
GCMT Greycliff 115.22 38 *e*PKPdf PKiKP 21 33 41.1 +1.2
IMW Indian Meadow 115.27 40 *e*PKPdf PKPdf 21 33 41.3 +1.2
LKWY Lake 115.32 40 PFAKE 21 33 50.0 +10
LKWY LR LR
comp=Z,4μm,21.0s,MS6.0
SPUT South Promonto 115.35 44 *e*PKPdf PKPdf 21 33 40.8 +0.6
EMOS Mosqueruela 115.45 315 PKP PKPdf 21 33 41.5 +1.1
DUG Dugway 115.54 45 *e*PKIKP PKPdf 21 33 42.3 +1.7
DUG MLR MLR
comp=Z,2μm,20.0s,MS5.8
REDW Red Top Meadow 115.56 41 *e*PKPdf PKPdf 21 33 42.2 +1.6
REDW *e*SKPdf SKPdf 21 37 13.4 +0.3
V12A Nelson 115.65 50 ⇓P PKPdf 21 33 41.7 +0.9
baz=116
AHID Auburn Hatcher 115.66 42 PFAKE 21 33 50.0 +9.2
AHID LR LR
comp=Z,2μm,21.0s,MS5.8
W12A Cal Nev Ari 115.78 51 ⇓P PKPdf 21 33 43.4 +2.4
baz=116
HWUT Hardware Ranch 115.84 43 *e*PKPdf PKPdf 21 33 42.4 +1.2
HWUT LR LR
comp=Z,4μm,22.0s,MS6.0
EBEN Beniarda 115.91 314 PKP PKPdf 21 33 44.2 +2.9
ARUT Antelope Range 116.00 48 *e*PKIKP PKPdf 21 33 43.1 +1.7
ECHE Chera 116.11 315 PKIKP PKPdf 21 33 44.5 +2.8
CCUT Cedar City 116.14 48 *e*PKPdf PKPdf 21 33 43.9 +2.2
TCUT Toone Canyon 116.15 43 *e*PKPdf PKPdf 21 33 43.1 +1.4
NLU North Lily Min 116.16 45 *e*PKPdf PKPdf 21 33 43.0 +1.2
MPU Maple Canyon 116.44 45 *e*PKPdf PKPdf 21 33 43.9 +1.6
MPU LR LR
comp=Z,4μm,22.0s,MS6.0
GLA Glamis 116.54 53 ⇑P PKPdf 21 33 44.4 +1.9
baz=117
DAU Daniels Canyon 116.54 44 *e*PKIKP PKPdf 21 33 44.0 +1.5
Y12C Blythe 116.56 52 ⇑P PKPdf 21 33 43.9 +1.4
baz=117
MSU Marysvale 116.65 46 *e*PKIKP PKPdf 21 33 44.2 +1.5
BW06 Boulder Array 116.68 41 PFAKE 21 34 00.0 +17
BW06 LR LR
comp=Z,2μm,21.0s,MS5.8
PDAR Pinedale Array 116.68 41 PKP PKPdf 21 33 43.4 +0.6
comp=Z,4.5nm,0.6s,baz=62,slow=0.9,SNR=23
PDAR PKKPbc PKKPbc 21 44 09.5 -0.1
comp=Z,1.8nm,0.7s,baz=133,slow=4.1,SNR=7.2
X13A Yucca 116.82 51 ⇑P PKPdf 21 33 44.5 +1.5
baz=117
LAO LASA Array 116.85 36 PFAKE 21 34 00.0 +17
LAO LR LR
comp=Z,3μm,22.0s,MS5.9
ETOB Tobarra 116.89 314 PKP PKPdf 21 33 45.3 +2.1
TMUT Trail Mountain 117.03 45 *e*PKPdf PKPdf 21 33 45.1 +1.7
Y13A Salome 117.08 52 ⇑P PKPdf 21 33 45.0 +1.5
baz=117
W14A Seligman 117.19 50 ⇑P PKPdf 21 33 45.4 +1.7
baz=117
EARI Arriondas 117.38 320 PKP PKPdf 21 33 46.1 +2.0
EVIA Vianos 117.58 314 PKIKP PKPdf 21 33 46.9 +2.4
SRU San Rafael 117.59 45 *e*PKIKP PKPdf 21 33 45.2 +0.7
X14A Yava 117.59 51 ⇓P PKPdf 21 33 46.2 +1.7
baz=118
Y14A Wickenburg 117.69 51 ⇑P PKPdf 21 33 46.4 +1.7
baz=118
W15A Williams 117.82 50 ⇑P PKPdf 21 33 48.2 +3.2
baz=118
GUD Guadarrama 117.89 317 PKIKP PKPdf 21 33 48.0 +2.9
Z14A Wintersburg 117.92 52 ⇓P PKPdf 21 33 46.6 +1.5
baz=118
ENIJ Nijar 118.03 312 PKIKP PKPdf 21 33 47.8 +2.4
X15A Humboldt 118.09 51 ⇓P PKPdf 21 33 47.5 +2.0
baz=118
ESDC Sonseca Array 118.18 316 PKP PKPdf 21 33 45.6 0.0
comp=Z,1.5nm,0.6s,baz=14,slow=2.5,SNR=13
ESDC PKKPbc PKKPbc 21 44 05.8 +1.6
comp=Z,0.3nm,0.6s,baz=33,slow=30,SNR=3.8
ESDC Sonseca Array 118.18 316 PKP PKPdf 21 33 48.3 +2.6
ESLA Sonseca Array 118.18 316 *e*PKPdf PKPdf 21 33 47.6 +2.0
ESLA LR LR
comp=Z,29μm,22.0s,MS6.9
EQES Quesada 118.33 314 PKP PKPdf 21 33 48.2 +2.3
EBER Berja 118.56 313 PKP PKPdf 21 33 48.9 +2.6
EPON Pontenova 118.60 321 PKP PKPdf 21 33 49.3 +2.8
EBAN Banos Encina 118.69 314 PKIKP PKPdf 21 33 46.8 +0.2
115A Sonoran Desert 118.72 52 ⇑P PKPdf 21 33 48.5 +1.8
baz=119
RWWY Rawlins 118.72 41 *e*PKPdf PKPdf 21 33 47.1 +0.4
RWWY *e*SKPdf SKPdf 21 37 19.7 +0.5
ECOG Cogollos-Vega 118.90 313 PKIKP PKPdf 21 33 47.7 +0.7
PV10 Paradox Valley 118.95 45 *e*PKPdf PKPdf 21 33 48.1 +1.0
ECAL Calabor 119.02 319 PKP PKPdf 21 33 48.6 +1.3
EGUA Guajares 119.08 313 PKIKP PKPdf 21 33 48.8 +1.4
PBRG Braganca 119.08 319 *e*PKPdf PKPdf 21 33 49.1 +1.7
ERON Agron 119.18 313 PKP PKPdf 21 33 49.1 +1.6
116A Eloy 119.18 52 ⇓P PKPdf 21 33 49.3 +1.8
baz=119
EADA Adamuz 119.26 315 PKP PKPdf 21 33 48.2 +0.5
ELOJ Sierra Loja 119.38 313 PKIKP PKPdf 21 33 48.1 +0.1
PV01 Paradox Valley 119.39 45 *e*PKPdf PKPdf 21 33 49.7 +1.7
RSSD Black Hills 119.51 38 *e*PKIKP PKPdf 21 33 48.3 +0.1
RSSD MLR MLR
comp=Z,2μm,21.0s,MS5.8
STS Santiago 119.71 321 PKIKP PKPdf 21 33 51.2 +2.6
ELOB Lobios 119.91 320 PKP PKPdf 21 33 51.2 +2.3
EMAZ Mazaricos 119.94 321 PKP PKPdf 21 33 52.0 +2.9
PVRL Vila Real 119.98 319 *e*PKPdf PKPdf 21 33 50.0 +0.9
TUC Tucson 120.00 52 *e*PKIKP PKPdf 21 33 50.6 +1.5
TUC MLR MLR
comp=Z,2μm,20.0s,MS5.7
PHWY Pilot Hill 120.06 41 *e*PKPdf PKPdf 21 33 49.8 +0.5
EMIJ Mijas 120.08 313 PKP PKPdf 21 33 50.7 +1.4
ULM Lac du Bonnet 120.18 28 PKP PKPdf 21 33 48.4 -1.2
comp=Z,21nm,0.6s,baz=307,slow=2.6,SNR=56
ULM SKP 21 37 19.7
comp=Z,5.8nm,0.8s,baz=304,slow=6.3,SNR=3.6
ULM PKKPbc PKKPbc 21 43 57.8 +0.9
comp=Z,1.7nm,0.6s,baz=130,slow=7.7,SNR=4.5
MTE Manteigas 120.29 318 *e*PKPdf PKPdf 21 33 49.6 -0.1
MTE Manteigas 120.29 318 *e*PP PP 21 35 18.5 +2.7
MTE Manteigas 120.29 318 *e*LQ 22 05 54.4
MTE Manteigas 120.29 318 *e*LR LR 22 16 36.1
comp=Z,4μm,18.9s
MTE Manteigas 120.29 318 *e*PKPdf PKPdf 21 33 50.4 +0.7
PVIS Viseu 120.37 319 *e*PKPdf PKPdf 21 33 52.1 +2.2
PCBR Castelo Branco 120.52 317 *e*PKPdf PKPdf 21 33 52.5 +2.4
EJIF Jimena Fronter 120.63 313 PKIKP PKPdf 21 33 49.9 -0.5
ISCO Idaho Springs 120.69 43 PFAKE 21 34 00.0 +10
ISCO LR LR
comp=Z,5μm,22.0s,MS6.1
EBAD Badajoz 120.71 316 PKP PKPdf 21 33 52.6 +2.1
ESPR Espera 120.73 314 PKP PKPdf 21 33 50.6 0.0
TORD Torodi Ar. Bea 120.84 285 PKP PKPdf 21 33 50.6 -0.2
comp=Z,16nm,0.6s,baz=66,slow=1.3,SNR=78
TORD SKP 21 37 21.2
comp=Z,11nm,0.8s,baz=67,slow=2.6,SNR=5.0
TORD PKKPbc PKKPbc 21 43 56.7 +2.3
comp=Z,4.2nm,0.7s,baz=271,slow=4.1,SNR=14
EMIN Mina Concepcio 120.92 315 PKP PKPdf 21 33 50.5 -0.4
PTOM Tomar 121.25 318 *e*PKPdf PKPdf 21 33 53.9 +2.3
EVO Evora 121.51 316 *e*PKIKP PKPdf 21 33 51.5 -0.5
comp=Z,22nm,0.7s
EVO *e*R
comp=Z,7μm,23.0s
PBEJ Beja 121.64 316 *e*PKPdf PKPdf 21 33 52.9 +0.6
MOE Montemor 121.74 316 *e*PKPdf PKPdf 21 33 53.4 +0.9
LAZ Ladron 122.01 49 *e*PKPdf PKPdf 21 33 54.6 +1.6
LENM Lemitar 122.23 49 *e*PKPdf PKPdf 21 33 54.7 +1.3
ANMO Albuquerque 122.29 48 PKP PKPdf 21 33 55.2 +1.7
comp=Z,13nm,0.7s,baz=251,slow=3.1
ANMO Albuquerque 122.29 48 ⇑*i*PKIKP PKPdf 21 33 53.0 -0.5
ANMO Albuquerque 122.29 48 PKP PKPdf 21 33 55.2 +1.7
ANMO LR LR
comp=Z,2μm,22.0s,MS5.7
Y22C IRIS PASSCAL I 122.31 49 ⇑P PKPdf 21 33 56.2 +2.6
baz=122
LPM Los Pinos Moun 122.43 49 *e*PKPdf PKPdf 21 33 55.6 +1.8
RPN Rapa Nui 122.49 123 PFAKE 21 34 10.0 +16
RPN LR LR
comp=Z,4μm,19.0s,MS6.1
BNM Barren Site 122.50 49 *e*PKPdf PKPdf 21 33 55.5 +1.6
HOPE Hope Point 123.00 194 PFAKE 21 34 10.0 +15
HOPE LR LR
comp=Z,7μm,20.0s,MS6.3
EYMN Ely 123.85 28 *e*PKPdf PKPdf 21 33 55.9 -0.7
EYMN LR LR
comp=Z,3μm,21.0s,MS6.0
SCHQ Schefferville 125.11 7 PKP PKPdf 21 33 58.4 -0.6
comp=Z,30nm,0.6s,baz=8.0,slow=2.5,SNR=63
SCHQ SKP 21 37 29.2
comp=Z,7.2nm,0.7s,baz=14,slow=2.2,SNR=4.3
SCHQ Schefferville 125.11 7 PKP PKPdf 21 33 58.4 -0.6
SCHQ SKP 21 37 29.2
SCHQ LR LR
comp=Z,4μm,21.0s,MS6.1
AMTX Amarillo 125.81 46 *e*PKPdf PKPdf 21 34 01.4 +1.1
AMTX LR LR
comp=Z,3μm,22.0s,MS5.9
SCIA State Center 127.18 34 *e*PKPdf PKPdf 21 34 03.1 +0.2
DBIC Dimbokro 127.96 278 PKP PKPdf 21 34 04.7 +0.3
comp=Z,10nm,0.6s,baz=58,slow=2.0,SNR=25
DBIC SKPbc 21 37 20.1
comp=Z,39nm,1.1s,baz=107,slow=4.2,SNR=9.0
DBIC Dimbokro 127.96 278 PKP PKPdf 21 34 04.7 +0.3
DBIC SKPbc 21 37 20.1
DBIC LR LR
comp=Z,7μm,20.0s,MS6.3
EFI East Falkland 128.09 179 PFAKE 21 34 20.0 +15
EFI LR LR
comp=Z,4μm,22.0s,MS6.1
LIC Lamto 128.16 278 *e*PKIKP PKPdf 21 34 02.1 -2.7
comp=Z,41nm,0.7s
LIC *e*R
comp=Z,12μm,22.2s
LIC Lamto 128.16 278 *e*PKPdf PKPdf 21 34 02.1 -2.7
LIC LR LR
comp=Z,6μm,22.3s,MS6.2
JCT Junction City 129.30 50 PFAKE 21 34 20.0 +13
JCT LR LR
comp=Z,3μm,21.0s,MS6.0
CFTV Fuerteventura 130.69 308 PKP PKPdf 21 34 04.9 -4.7
CCM Cathedral Cave 130.86 36 PFAKE 21 34 20.0 +10
CCM LR LR
comp=Z,3μm,21.0s,MS5.9
FVM French Village 131.39 36 *e*PKIKP PKPdf 21 34 12.0 +1.1
SADO Sadowa 131.54 21 PKP PKPdf 21 34 11.0 -0.2
comp=Z,31nm,0.6s,baz=350,slow=3.4,SNR=8.6
SADO SKPbc SKPbc 21 37 30.5 -3.0
comp=Z,76nm,1.1s,baz=334,slow=4.8,SNR=14
SADO Sadowa 131.54 21 PKP PKPdf 21 34 11.0 -0.2
SADO SKPbc SKPbc 21 37 30.5 -3.0
MIAR Mount Ida 131.60 42 *e*PKIKP PKPdf 21 34 12.5 +1.2
MIAR MLR MLR
comp=Z,4μm,21.0s,MS6.1
NATX Nacogdoches 132.45 45 *e*PKPdf PKPdf 21 34 14.5 +1.6
NATX LR LR
comp=Z,4μm,21.0s,MS6.1
HKT Hockley 132.56 48 PKPdf PKPdf 21 34 14.3 +1.2
HKT SKPbc SKPbc 21 37 38.0 +0.9
HKT Hockley 132.56 48 PFAKE 21 34 30.0 +17
HKT LR LR
comp=Z,3μm,19.0s,MS6.0
PARMO Parma 132.67 37 *e*PKPdf PKPdf 21 34 14.1 +0.7
MSNY Massena 132.76 18 *e*SKPbc SKPbc 21 37 37.5 -0.4
HBAR Harrisburg 132.85 38 *e*PKPdf PKPdf 21 34 15.2 +1.5
GNAR Gosnell 132.98 38 *e*PKPdf PKPdf 21 34 14.7 +0.7
USIN University of 132.98 34 *e*PKPdf PKPdf 21 34 14.9 +1.0
LONY Lake Ozonia 133.19 18 *e*PKPdf PKPdf 21 34 15.4 +1.1
LONY *e*SKPbc SKPbc 21 37 38.3 -1.0
FRNY Flat Rock 133.28 17 *e*PKPdf PKPdf 21 34 14.9 +0.4
ADH Angra Heroismo 133.34 328 *e*LR LR 21 19 30.0
ERPA Erie 133.46 24 *e*PKPdf PKPdf 21 34 14.7 -0.1
ERPA LR LR
comp=Z,3μm,22.0s,MS6.0
WCI Wyandotte Cave 133.54 32 *e*PKIKP PKPdf 21 34 16.5 +1.5
WCI MLR MLR
comp=Z,3μm,21.0s,MS6.0
ACSO Alum Creek Sta 133.69 28 *e*PKPdf PKPdf 21 34 15.7 +0.5
ACSO LR LR
comp=Z,2μm,21.0s,MS5.7
ALLY Alegheny Colle 133.79 24 *e*PKPdf PKPdf 21 34 16.0 +0.6
NCB Newcomb 133.89 18 *e*PKPpre 21 34 02.6
NCB *e*PKPdf PKPdf 21 34 17.0 +1.4
NCB *e*SKPbc SKPbc 21 37 41.0 -0.7
NCB LR LR
comp=Z,5μm,22.0s,MS6.2
MIV Mineville/With 134.00 17 *e*PKPdf PKPdf 21 34 16.2 +0.4
MIV *e*SKPbc SKPbc 21 37 41.7 -0.3
WVT Waverly 134.17 36 *e*PKPdf PKPdf 21 34 17.5 +1.3
WVT *e*SKPdf SKPdf 21 37 42.1 -6.2
WVT LR LR
comp=Z,4μm,22.0s,MS6.0
LBNH Lisbon 134.29 15 *e*PKPdf PKPdf 21 34 16.9 +0.5
LBNH *e*SKPbc SKPbc 21 37 42.3 -0.7
LBNH LR LR
comp=Z,4μm,20.0s,MS6.1
OXF Oxford 134.30 39 PFAKE 21 34 30.0 +14
OXF LR LR
comp=Z,3μm,22.0s,MS6.0
ACCN Adirondack Com 134.59 17 *e*PKPdf PKPdf 21 34 18.5 +1.6
HNH Hanover 134.69 16 *e*PKPdf PKPdf 21 34 18.0 +0.9
PLAL Pickwick Lake 134.81 37 *e*PKPdf PKPdf 21 34 18.5 +1.2
PLAL LR LR
comp=Z,3μm,22.0s,MS6.0
BINY Binghamton 134.90 20 *e*PKPdf PKPdf 21 34 17.4 -0.2
BINY *e*SKPdf SKPdf 21 37 44.6 -5.0
BINY LR LR
comp=Z,4μm,21.0s,MS6.1
SSPA Standing Stone 135.56 23 PFAKE 21 34 30.0 +11
SSPA LR LR
comp=Z,3μm,22.0s,MS6.0
MCWV Mont Chateau 135.57 26 PFAKE 21 34 30.0 +11
MCWV LR LR
comp=Z,4μm,22.0s,MS6.1
SWET Sewanee 135.91 35 *e*PKPdf PKPdf 21 34 20.4 +1.0
QUA2 Belchertown 135.99 17 *e*PKPdf PKPdf 21 34 21.2 +1.6
HRV Harvard--Oak R 136.00 16 *e*PKIKP PKPdf 21 34 20.9 +1.3
HRV MLR MLR
comp=Z,4μm,22.0s,MS6.1
WES Weston 136.18 16 *e*PKIKP PKPdf 21 34 21.7 +1.8
WES MLR MLR
comp=Z,3μm,22.0s,MS6.0
PAL Palisades 136.67 19 *e*PKIKP PKPdf 21 34 21.4 +0.6
MVL Millersville 136.70 22 *e*PKPdf PKPdf 21 34 21.4 +0.5
BRNJ Basking Ridge 136.74 20 *e*SKPbc SKPbc 21 37 50.4 -0.2
LRAL Lakeview Retre 136.78 38 PFAKE 21 34 30.0 +9.0
LRAL LR LR
comp=Z,4μm,21.0s,MS6.1
FWV Forest Hill 136.82 28 *e*PKPdf PKPdf 21 34 25.0 +3.9
CPNY Central Park 136.84 19 *e*PKPdf PKPdf 21 34 20.2 -1.0
CPNY *e*SKPbc SKPbc 21 37 50.6 -0.3
SDMD Soldier's Deli 137.02 23 *e*PKPdf PKPdf 21 34 22.5 +1.0
ASCN Ascension 137.03 258 PFAKE 21 34 30.0 +8.5
ASCN LR LR
comp=Z,7μm,22.0s,MS6.3
ELN Prospectdale 137.13 29 *e*PKPdf PKPdf 21 34 22.9 +1.2
PLCA Paso Flores 137.15 164 PKhKP 21 34 12.8
comp=Z,1.6nm,0.6s,baz=220,slow=7.4,SNR=4.2
PLCA PKP PKPdf 21 34 23.8 +2.1
comp=Z,9.1nm,0.8s,baz=305,slow=1.6,SNR=10
PLCA SKPbc SKPbc 21 37 50.9 -1.0
comp=Z,11nm,0.8s,baz=232,slow=3.5,SNR=6.9
PLCA Paso Flores 137.15 164 PKP PKPdf 21 34 12.8 -8.9
PLCA PKP PKPdf 21 34 23.8 +2.1
PLCA SKPbc SKPbc 21 37 50.9 -1.0
PLCA LR LR
comp=Z,5μm,20.0s,MS6.2
BLA Blacksburg 137.30 28 *e*PKHKP 21 34 13.0
BLA *e* 21 34 22.5
BLA MLR MLR
comp=Z,255nm,20.0s,MS5.0
CBN Corbin 137.84 25 PFAKE 21 34 40.0 +17
CBN LR LR
comp=Z,4μm,21.0s,MS6.1
GOGA Godfrey 138.62 35 *e*PKIKP PKPdf 21 34 25.0 +0.6
GOGA MLR MLR
comp=Z,45μm,22.0s
CMIG Matias Romero 138.88 64 PKhKP 21 34 17.5
comp=Z,6.3nm,0.6s,baz=306,slow=2.8,SNR=17
CMIG SKPbc SKPbc 21 37 55.2 -1.6
comp=Z,33nm,0.9s,baz=293,slow=3.3,SNR=13
CMIG Matias Romero 138.88 64 PKP PKPdf 21 34 17.5 -7.4
CMIG SKPbc SKPbc 21 37 55.2 -1.6
JSC Jenkinsville 139.18 32 *e*PKIKP PKPdf 21 34 28.6 +3.2
COW Cow Castle Cre 140.17 32 *e*PKPdf PKPdf 21 34 28.6 +1.3
TRQA Tornquist 141.41 173 *e*PKPdf PKPdf 21 34 33.5 +4.0
TRQA *e*SKP 21 38 05.0
TRQA LR LR
comp=Z,5μm,20.0s,MS6.2
TP2 Tecpan 2 143.16 66⇑*e*P PKPdf 21 34 31.1 -1.4
TEIG Tepich 143.33 56 *e*PKPdf PKPdf 21 34 31.1 -1.8
TEIG LR LR
comp=Z,1μm,22.0s,MS5.6
DWPF Disney 143.64 39 PFAKE 21 34 50.0 +17
DWPF LR LR
comp=Z,4μm,22.0s,MS6.1
IXG Ixpaco 143.88 66⇑*e*P PKPdf 21 34 33.3 -0.5
CLCH Cerro Calan 143.93 160⇑*i*P PKPdf 21 34 32.9 -1.1
FCH Farellones 144.07 160⇑*i*P PKPdf 21 34 34.0 -0.2
RBDL Robledal 144.60 66⇑*e*P x 21 34 39.7
RTR El Retiro 144.71 66⇓*e*P x 21 34 40.7
SBLS San Blas 144.75 66⇑*e*P x 21 34 40.5
SNJE San Jose 144.75 66⇓*i*P x 21 34 41.3
LPA La Plata 144.85 178 *de*PKP PKPdf 21 34 35.0 -0.5
LPA PKIKP PKPdf 21 34 42.0 +6.5
LPA *ep*PKP pPKPdf 21 34 48.0 +0.4
LPA *e*SKP 21 38 02.0
LPA *e*SKKS SKKSac 21 44 40.0 -2.7
LPA
comp=Z,3μm,21.0s
MDZ Mendoza 144.95 162 *e*PKIKP PKPdf 21 34 36.5 +0.8
MDZ *e* 21 34 44.3
SNET Serv Nac Est T 145.16 66⇑*e*P x 21 34 39.3
LBRS Las Brisas 145.31 66 *e*P x 21 34 41.7
LFRS El Faro 145.33 66⇑*e*P x 21 34 41.7
LCBS La Ceiba 145.40 66⇑*e*P x 21 34 41.9
SNVI San Vicente 145.54 66 *e*P x 21 34 43.3
CMCH Combarbala 145.77 158⇑*i*P PKPdf 21 34 38.8 +1.6
SOR Soroa 146.06 47 *e*P PKPdf 21 34 39.3 +1.7
VSM San Miguel 146.12 66⇑*e*P x 21 34 44.3
PAYG Puerto Ayora 146.35 92 *e*PKPdf PKPdf 21 34 41.0 +2.9
PAYG LR LR
comp=Z,2μm,21.0s,MS5.9
TLL Tololo Astrono 146.74 157⇑*i*P PKPdf 21 34 33.9 -4.8
BBSR BB Station 147.31 13 *e*PKPdf PKPdf 21 34 42.8 +3.1
BBSR LR LR
comp=Z,3μm,22.0s,MS6.0
LCO Las Campanas 147.81 156 *i*P PKPdf 21 34 41.0 +0.5
MGV Manicaragua 148.67 45 *e*P PKPdf 21 34 44.4 +2.5
VCR Vista de Mar 149.61 71 *e*P PKPbc 21 34 49.3 +1.2
LIM1 Limonal 149.79 69⇓*e*P PKPbc 21 34 49.9 +1.4
JTS JuntasAbangare 150.20 70 PKP PKPdf 21 34 45.2 +0.8
comp=Z,9.2nm,0.9s,baz=83,slow=3.1,SNR=4.6
JTS PKPbc PKPbc 21 34 50.7 +1.1
comp=Z,38nm,0.6s,baz=274,slow=2.0,SNR=25
JTS JuntasAbangare 150.20 70 PKP PKPdf 21 34 45.2 +0.8
JTS PKPbc PKPbc 21 34 50.7 +1.1
JTS LR LR
comp=Z,4μm,22.0s,MS6.1
PRS1 Puriscal 150.89 70 *e*P PKPbc 21 34 50.7 -0.5
LCR2 La Lucha 2 151.25 70 *e*P PKPdf 21 34 48.4 +2.3
URSC Urasca 151.44 70 *e*P PKPbc 21 34 54.0 +1.6
LMGC Las Mercedes 152.10 44 *e*P PKPdf 21 34 49.6 +2.3
CEN1 Los Morros 152.93 152⇓*i*P PKPbc 21 34 57.6 +1.8
RCC Rio Carpintero 153.05 43 *e*P PKPdf 21 34 49.4 +0.7
MOAC Moa 153.07 40 *e*P PKPdf 21 34 50.7 +2.0
CPUP Villa Florida 153.41 179 PKP PKPdf 21 34 50.6 +1.4
comp=Z,3.2nm,0.5s,baz=176,slow=1.6,SNR=11
CPUP PKPbc PKPbc 21 34 58.2 +1.4
comp=Z,17nm,0.5s,baz=175,slow=0.9,SNR=55
LVC Limon Verde 154.19 153 *e*PKPdf PKPdf 21 34 53.2 +2.9
LVC LR LR
comp=Z,4μm,21.0s,MS6.2
NNA Nana 156.48 122 *e*PKPdf PKPdf 21 34 54.5 +1.0
NNA LR LR
comp=Z,4μm,19.0s,MS6.3
ATAH Atahualpa 157.10 109 PKP PKPdf 21 34 56.8 +2.5
comp=Z,9.2nm,0.7s,baz=148,slow=5.3,SNR=16
ARE Arequipa 157.75 140 *e*P PKPdf 21 35 05.0 +10
OTAV Otavalo 158.21 90 *e*PKPdf PKPdf 21 34 57.7 +2.1
OTAV LR LR
comp=Z,5μm,21.0s,MS6.3
RCBR Riachuelo 158.37 253 *e*PKPdf PKPdf 21 34 57.0 +1.2
RCBR LR LR
comp=Z,12μm,22.0s,MS6.7
LPAZ La Paz 159.91 146 PKP PKPdf 21 35 00.3 +2.7
comp=Z,7.8nm,0.8s,baz=71,slow=2.6,SNR=32
LPAZ La Paz 159.91 146 PKP PKPdf 21 35 00.3 +2.7
LPAZ LR LR
comp=Z,4μm,21.0s,MS6.2
SJG San Juan 160.09 27 PKP PKPdf 21 34 58.5 +0.8
comp=Z,4.5nm,0.4s,baz=45,slow=7.3,SNR=5.0
SJG PKPab PKPab 21 35 39.3 +1.5
comp=Z,49nm,0.6s,baz=50,slow=6.7,SNR=9.7
SJG San Juan 160.09 27 PKIKP PKPdf 21 34 58.5 +0.7
SJG pmax pmax
comp=Z,5.0nm,0.4s
SJG San Juan 160.09 27 PKP PKPdf 21 34 58.5 +0.8
SJG PKPab PKPab 21 35 39.4 +1.6
SJG LR LR
comp=Z,5μm,22.0s
ROSC El Rosal 161.81 76 PKP PKPdf 21 35 01.8 +2.1
comp=Z,9.4nm,0.7s,baz=88,slow=22,SNR=18
BDFB Brasilia 161.91 208 PKP PKPdf 21 35 01.0 +1.3
comp=Z,5.0nm,0.7s,baz=26,slow=4.7,SNR=6.4
BDFB PKPab PKPab 21 35 46.9 +1.1
comp=Z,12nm,0.7s,baz=136,slow=3.7,SNR=6.7
SDV Santo Domingo 163.73 58 PKP PKPdf 21 35 02.2 +0.7
comp=Z,16nm,0.8s,baz=13,slow=0.6,SNR=23
SDV PKPab PKPab 21 35 55.8 +2.1
comp=Z,36nm,0.6s,baz=321,slow=3.8,SNR=15
SDV Santo Domingo 163.73 58 PKP PKPdf 21 35 02.2 +0.7
SDV PKPab PKPab 21 35 55.8 +2.1
SDV LR LR
comp=Z,5μm,20.0s
SAML Samuel 168.66 145⇑*i*PKPdf PKPdf 21 35 06.3 +0.9
SAML *e*PKPab PKPab 21 36 17.0 +1.5
SAML LR LR
comp=Z,7μm,21.0s

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*JMA **24** 21:20:15.4±0.1, 3320N×13855E, h326km, M4.0*
*IDC **24** 21:20:17.8±6.1, 3297N×137.16E, h240km±54km, mb3.8/3, mb1 3.8/4, mb1mx3.5/20, mbtmp4.4/4, Error ellipse: s-maj=132.0km s-min=39.9km az=53.0*
*ISCJB **24** 21:20:19.8±0.8, 3335N±007×13841E±008, h289km±6km, mb4.0/3, Error ellipse: s-maj=12.3km s-min=10.1km az=123.4*

ISC 24 21:20:20.6±0.8, 3336N±007×13841E±008, h285km±6km, n28, σ0°84/37, mb4.0/3, 6C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.80**	**317**	⇑P	**Pn**	**21 20 58.4**	**0.0**
JKO	**Kozu shima**	**1.02**	**36**	P	**Pn**	**21 20 59.3**	**-0.1**
TK04	**Tokai 4**	**1.11**	**336**	P	**Pn**	**21 21 00.2**	**+0.3**
JMY	**Miyakejima3**	**1.16**	**52**	P	**Pn**	**21 20 59.7**	**-0.4**
JHJ	**Hachijo jima 2**	**1.18**	**102**	P	**Pn**	**21 21 00.4**	**+0.2**
	106nm,0.3s,baz=22,slow=3.2,SNR=30						
JHJ				S	**S**	**21 21 36.9**	**+5.3**
	32nm,0.3s,baz=74,slow=23,SNR=6.2						
JHJ2	**Mitsune**	**1.20**	**102**	P	**Pn**	**21 21 00.1**	**-0.2**
JHJ2				eS	**S**	**21 21 34.5**	**+2.6**
JIM2	**Oshima 3**	**1.59**	**32**	⇓P	**Pn**	**21 21 02.3**	**-0.5**
JIM2				eS	**S**	**21 21 38.5**	**+2.1**
JIE	**Ise**	**1.75**	**306**	⇑P	**Pn**	**21 21 03.7**	**-0.3**
JOD2	**Odawara 2**	**1.98**	**16**	⇓P	**Pn**	**21 21 05.6**	**-0.2**
JOD2				S	**S**	**21 21 41.5**	**-0.2**
JYN	**Shimob**	**2.13**	**3**	P	**Pn**	**21 21 07.7**	**+0.6**
JWZ	**Kozaga**	**2.26**	**275**	⇑P	**Pn**	**21 21 07.5**	**-0.7**
BSO1	**Boso 1**	**2.49**	**58**	P	**Pn**	**21 21 07.9**	**-2.4**
BSO1				S	**S**	**21 21 46.7**	**-3.1**
JWY	**Kouya**	**2.50**	**291**	⇑P	**Pn**	**21 21 10.6**	**+0.3**
JRY	**Ryogami san**	**2.68**	**9**	⇓P	**Pn**	**21 21 12.5**	**+0.4**
JRY				eS	**S**	**21 21 52.8**	**-0.2**
JGM	**Miyama**	**2.72**	**330**	⇑P	**Pn**	**21 21 12.7**	**+0.3**
JWT	**Wachi**	**3.14**	**308**	P	**Pn**	**21 21 16.2**	**-0.5**
JAG	**Ashikaga**	**3.17**	**15**	P	**Pn**	**21 21 16.0**	**-1.0**
JAG				eS	**S**	**21 21 57.8**	**-4.2**
MJAR	**Matsushiro Arr**	**3.18**	**357**	P	**Pn**	**21 21 17.0**	**0.0**
	2.1nm,0.3s,baz=172,slow=10,SNR=31						
MAT	**Matsushiro**	**3.18**	**357**	P	**Pn**	**21 21 17.0**	**-0.1**
MAT				S	**S**	**21 22 02.6**	**+0.5**
MAT	**Matsushiro**	**3.18**	**357**	P	**Pn**	**21 21 17.2**	**+0.1**
MAT				S	**S**	**21 22 02.5**	**+0.4**
JAI	**Aioi**	**3.33**	**278**	P	**Pn**	**21 21 18.2**	**-0.5**
JMN	**Monobe**	**3.80**	**277**	⇑P	**Pn**	**21 21 23.7**	**-0.1**
JHS	**Saijyo**	**4.68**	**292**	P	**Pn**	**21 21 34.1**	**+0.3**
JTO	**Tosashimizu**	**4.73**	**265**	P	**Pn**	**21 21 34.0**	**-0.4**
FINES	**FINESS Array B**	**70.90**	**332**	P	**P**	**21 31 07.8**	**+0.8**
	3.3nm,0.6s,mb4.2,baz=56,slow=6.2,SNR=8.1						
AKASG	**Malin Array Be**	**75.67**	**322**	P	**P**	**21 31 35.5**	**+0.8**
	1.5nm,0.5s,mb3.9,baz=53,slow=5.5,SNR=5.1						
NB2	**NORSAR Subarra**	**76.59**	**337**	P	**P**	**21 31 34.1**	**-5.8**
	comp=Z,1.4nm,0.6s,mb3.9,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**76.59**	**337**	P	**P**	**21 31 40.0**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=42,slow=5.5,SNR=3.5						

*IDC **24** 21:30:56.9±1.9, 023N×124.84E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=200.5km s-min=25.1km az=64.0*
*ISCJB **24** 21:30:58.9±1.5, 05N±02×125.3E±03, h33km, mb3.9/4, Error ellipse: s-maj=45.6km s-min=19.3km az=102.4*
*NEIC **24** 21:31:00.6±1.1, 044N×125.36E, h30km, mb4.1/1, Error ellipse: s-maj=36.7km s-min=15.0km az=52.0*

ISC 24 21:31:01.5±1.5, 05N±02×1254E±03, h35km, n6, σ0°70/6, mb3.9/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.08**	**157**	eP	**P**	**21 35 53.2**	**-0.2**
	5.7nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**22.08**	**157**	P	**P**	**21 35 54.1**	**+0.7**
	2.2nm,0.5s,mb3.8,baz=334,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.36**	**162**	P	**P**	**21 36 25.4**	**+0.3**
	1.7nm,0.4s,mb3.9,baz=331,slow=8.7,SNR=26						
COCO	**West Island**	**30.99**	**245**	P	**P**	**21 37 15.4**	**-0.1**
	128nm,1.0s						
STKA	**Stephens Creek**	**35.62**	**156**	P	**P**	**21 37 54.9**	**-0.9**
MKAR	**Makanchi Array**	**59.51**	**327**	P	**P**	**21 41 01.2**	**+0.1**
	0.4nm,0.5s,mb3.7,baz=121,slow=8.7,SNR=6.0						

*IDC **24** 21:35:47.9±1.0, 051S×123.51E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.4/1, Error ellipse: s-maj=45.8km s-min=15.4km az=78.0*
*ISCJB **24** 21:35:49.2±5.9, 048S±007×123.6E±03, h22km±44km, mb4.2/9, Error ellipse: s-maj=45.5km s-min=11.8km az=169.4*
*NEIC **24** 21:35:52.3±0.7, 048S×123.67E, h30km, mb4.2/1, Error ellipse: s-maj=33.4km s-min=8.9km az=81.0*

ISC 24 21:35:52.3±6.1, 050S±007×1236E±03, h28km±46km, n11, σ0°78/11, mb4.2/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**7.77**	**15**	Pn	**Pn**	**21 37 43.3**	**-0.3**
	168nm,0.4s						
FITZ	**Fitzroy Crossi**	**17.60**	**174**	P	**Pn**	**21 39 56.2**	**+0.6**
	0.1nm,0.3s,baz=346,slow=16,SNR=3.6						
WRAB	**Tennant Creek**	**21.99**	**152**	eP	**P**	**21 40 43.6**	**-0.5**
	4.6nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**21.99**	**152**	P	**P**	**21 40 44.0**	**-0.2**
	12nm,0.8s,mb4.4,baz=332,slow=10.0,SNR=37						
ASAR	**Alice Springs**	**25.10**	**157**	P	**P**	**21 41 15.4**	**+0.8**
	3.9nm,0.4s,mb4.3,baz=338,slow=8.5,SNR=65						
CBIJ	**Chichi jima**	**32.75**	**32**	P	**P**	**21 42 23.3**	**+0.6**
	18nm,0.4s,mb5.3,baz=157,slow=15,SNR=6.4						
STKA	**Stephens Creek**	**35.54**	**153**	P	**P**	**21 42 46.0**	**-0.9**
	0.9nm,0.5s,mb4.0,baz=322,slow=8.2,SNR=6.3						
MJAR	**Matsushiro Arr**	**39.27**	**19**	P	**P**	**21 43 17.8**	**-0.8**
	1.0nm,0.7s,mb3.7,baz=194,slow=9.2,SNR=5.6						
ASAJ	**Asahikawa**	**47.54**	**19**	P	**P**	**21 44 25.9**	**+0.6**
	1.7nm,0.7s,mb4.2,baz=236,slow=11,SNR=3.5						
SONM	**Songino Array**	**50.42**	**345**	P	**P**	**21 44 48.4**	**+1.2**
	0.2nm,0.4s,mb3.5,baz=162,slow=9.3,SNR=3.3						
MKAR	**Makanchi Array**	**59.36**	**328**	P	**P**	**21 45 50.6**	**-1.3**
	0.4nm,0.5s,mb3.7,baz=127,slow=8.3,SNR=8.5						

*IDC **24** 22:05:14.7±3.7, 225N×91.82E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, Error ellipse: s-maj=87.6km s-min=31.8km az=10.0*
*ISCJB **24** 22:05:16.9±2.0, 23N±03×91.87E±008, h33km, mb3.7/3, Error ellipse: s-maj=39.6km s-min=8.4km az=24.7*
*NEIC **24** 22:05:19.4±1.8, 247N×91.92E, h30km, Error ellipse: s-maj=37.4km s-min=11.4km az=193.0*

ISC 24 22:05:20.2±1.9, 24N±03×9185E±008, h35km, n13, σ1°11/16, mb3.7/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.08**	**87**	Pn	**Pn**	**22 06 60.0**	**-1.2**
	2.7nm,0.3s,baz=242,slow=3.9,SNR=11						
PSI				Sn	**Sn**	**22 08 21.9**	**+1.6**
	3.8nm,0.3s,baz=284,slow=9.0,SNR=4.0						
PSI	**Prapat**	**7.08**	**87**	Pn	**Pn**	**22 06 60.0**	**-1.2**
PSI				Sn	**Sn**	**22 08 21.9**	**+1.6**
KULM	**Kulim**	**9.23**	**72**	ePn	**Pn**	**22 07 28.6**	**-2.1**
PALK	**Pallekele**	**12.11**	**294**	ePn	**Pn**	**22 08 10.0**	**-0.1**
	30nm,0.8s						
PALK				eSn	**Sn**	**22 10 12.3**	**-12**
JIRN	**Jiri**	**25.67**	**348**	eP	**P**	**22 10 45.9**	**-0.8**
PKI	**Pulchoki**	**25.75**	**347**	eP	**P**	**22 10 48.2**	**+0.7**
DMN	**Daman**	**25.86**	**346**	eP	**P**	**22 10 48.6**	**+0.1**
GUN	**Gumba**	**25.98**	**348**	eP	**P**	**22 10 48.3**	**-1.2**
KKN	**Kakani**	**26.00**	**347**	eP	**P**	**22 10 49.5**	**-0.2**
GKN	**Gorkha**	**26.35**	**346**	eP	**P**	**22 10 53.3**	**+0.4**
MKAR	**Makanchi Array**	**44.97**	**351**	P	**P**	**22 13 31.6**	**-0.3**
	0.8nm,0.8s,mb3.6,baz=165,slow=9.6,SNR=4.9						
SONM	**Songino Array**	**46.95**	**13**	P	**P**	**22 13 49.7**	**+2.2**
	0.5nm,0.3s,mb3.9,baz=190,slow=8.2,SNR=2.5						
GERES	**GERESS Array B**	**80.38**	**319**	P	**P**	**22 17 29.0**	**+1.0**
	0.3nm,0.5s,mb3.5,baz=99,slow=6.3,SNR=6.0						

*BJI **24** 22:06:36.6, 124S×124.09E, h30km, mB5.1, mb4.9*
*MOS **24** 22:06:42.7±1.2, 043S×123.44E, h33km, mb5.2/4, Error ellipse: s-maj=26.4km s-min=12.1km az=115.5*
*ISCJB **24** 22:06:43.7±0.3, 051S±005×123.46E±007, h33km, mb4.7/25, MS4.0/1, Error ellipse: s-maj=11.4km s-min=5.6km az=136.9*
*NEIC **24** 22:06:44.5±0.4, 039S×123.57E, h30km, mb5.1/12, Error ellipse: s-maj=19.6km s-min=8.0km az=59.0*
*IDC **24** 22:06:45.6±2.9, 047S×123.43E, h44km±26km, mb4.1/12, mb1 4.2/13, mb1mx4.0/20, mbtmp4.3/13, ML3.6/1, MS4.2/1, Ms1 4.2/1, ms1mx2.9/36, Error ellipse: s-maj=31.3km s-min=13.1km az=70.0*

ISC 24 22:06:45.8±0.3, 045S±004×12352E±007, h35km, n53, σ1°36/51, mb4.7/25, MS4.0/1, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.89**	**220**	Pn	**Pn**	**22 08 10.3**	**-0.3**
	740nm,0.5s,SNR=6.8						
CTBH	**Cotabato--PC H**	**7.66**	**5**	eP	**Pn**	**22 08 36.7**	**+1.9**
CTBH				eS	**Sn**	**22 09 58.6**	**-1.7**
BUKP	**Musuan**	**8.42**	**10**	eP	**Pn**	**22 08 49.0**	**+3.7**
KKM	**Kota Kinabalu**	**9.74**	**312**	ePn	**Pn**	**22 09 06.0**	**+2.6**
KKM				eSn	**Sn**	**22 10 47.9**	**-3.6**
FITZ	**Fitzroy Crossi**	**17.66**	**173**	eP	**Pn**	**22 10 51.4**	**+2.4**
	7.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.66**	**173**	P	**Pn**	**22 10 49.4**	**+0.4**
	0.1nm,0.3s,baz=3.6,slow=16,SNR=3.8						
MBWA	**Marble Bar**	**20.91**	**190**	eP	**P**	**22 11 26.1**	**+0.9**
	18nm,0.9s						
WRAB	**Tennant Creek**	**22.07**	**152**	P	**P**	**22 11 39.0**	**+1.4**
	196nm,0.7s,mb5.7,SNR=7.1						
WRAB	**Tennant Creek**	**22.07**	**152**	eP	**P**	**22 11 38.0**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
WRAB	**Tennant Creek**	**22.07**	**152**	eP	**P**	**22 11 38.0**	**+0.3**
	comp=Z,50nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	**22.07**	**152**	P	**P**	**22 11 36.6**	**-1.0**
	comp=Z,24nm,0.8s,mb4.7,baz=330,slow=9.9,SNR=41						
WRA				ScP	ScP	22 19 08.0	-1.1
	comp=Z,0.9nm,0.8s,baz=325,slow=2.8,SNR=8.0						
WRA				LR	LR	22 20 21.6	
	comp=Z,590nm,18.3s,MS4.0,baz=275,slow=37						
WB2	**Warramunga Arr**	**22.08**	**152**	eP	**P**	**22 11 38.0**	**+0.3**
QIZ	**Qiongzhong**	**23.57**	**326**	P	**P**	**22 11 53.6**	**+0.4**
PMG	**Port Moresby**	**25.15**	**111**	P	**P**	**22 12 07.5**	**-0.1**
	comp=Z,18nm,0.7s,mb4.7,baz=311,slow=7.3,SNR=4.5						
PMG	**Port Moresby**	**25.15**	**111**	eP	**P**	**22 12 07.3**	**-0.3**
PMG				pmax	pmax		
	comp=Z,48nm,1.0s						
PMG	**Port Moresby**	**25.15**	**111**	eP	**P**	**22 12 07.3**	**-0.3**
	comp=Z,48nm,1.0s,mb5.0						
AS31	**Alice Springs**	**25.18**	**157**	eP	**P**	**22 12 08.2**	**+0.3**
ASAR	**Alice Springs**	**25.18**	**157**	P	**P**	**22 12 08.3**	**+0.4**
	comp=Z,5.3nm,0.4s,mb4.4,baz=337,slow=8.5,SNR=67						
ASAR				PcP	PcP	22 15 41.0	-0.1
	comp=Z,0.7nm,0.5s,baz=348,slow=2.0,SNR=5.0						
ASPA	**Alice Springs**	**25.18**	**157**	eP	**P**	**22 12 08.2**	**+0.3**
GZH	**Guangzhou**	**25.41**	**338**	P	**P**	**22 12 13.8**	**+3.8**
GYA	**Guiyang**	**31.31**	**330**	⇓iP	**P**	**22 13 04.8**	**+2.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**35.62**	**153**	P	**P**	**22 13 38.5**	**-1.6**
	comp=Z,2.8nm,0.8s,mb4.2,baz=339,slow=6.0,SNR=7.1						
STKA	**Stephens Creek**	**35.62**	**153**	eP	**P**	**22 13 38.2**	**-1.9**
	comp=Z,3.4nm,0.6s,mb4.5						
STKA				e		22 15 11.5	
CD2	**Chengdu**	**36.41**	**331**	P	**P**	**22 13 48.8**	**+1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
MJAR	**Matsushiro Arr**	**39.25**	**19**	P	**P**	**22 14 10.6**	**-0.3**
	comp=Z,4.0nm,0.8s,mb4.2,baz=195,slow=8.8,SNR=17						
MAT	**Matsushiro**	**39.26**	**19**	P	**P**	**22 14 10.5**	**-0.4**
MAT	**Matsushiro**	**39.26**	**19**	eP	**P**	**22 14 11.0**	**+0.1**
ARMA	**Armidale**	**40.01**	**141**	eP	**P**	**22 14 19.3**	**+2.1**
LZH	**Lanzhou**	**40.71**	**335**	eP	**P**	**22 14 25.5**	**+2.5**
LZH				AP	pP	22 14 33.5	+0.3
LZH				XP	sP	22 14 37.5	+0.1
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.7						
PALK	**Pallekele**	**43.40**	**281**	P	**P**	**22 14 43.9**	**-1.0**
	comp=Z,21nm,1.2s,mb4.7						
GTA	**Gaotai**	**45.23**	**334**	eP	**P**	**22 15 01.5**	**+2.0**
GTA				AP	pP	22 15 05.4	-4.5
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
JIRN	**Jiri**	**45.44**	**311**	eP	**P**	**22 15 00.8**	**-0.5**
	comp=Z,27nm,0.7s,mb5.2						
GUN	**Gumba**	**45.81**	**311**	eP	**P**	**22 15 03.2**	**-1.0**
	comp=Z,66nm,0.8s,mb5.6						
PKI	**Pulchoki**	**45.99**	**310**	eP	**P**	**22 15 06.0**	**+0.4**
	comp=Z,18nm,0.7s,mb5.1						
PKI	**Pulchoki**	**45.99**	**310**	eP	**P**	**22 15 06.0**	**+0.4**
PKI				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
KKN	**Kakani**	**46.20**	**311**	eP	**P**	**22 15 07.7**	**+0.5**
	comp=Z,29nm,0.8s,mb5.3						
KKN	**Kakani**	**46.20**	**311**	eP	**P**	**22 15 07.7**	**+0.5**
KKN				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
DMN	**Daman**	**46.24**	**310**	eP	**P**	**22 15 08.5**	**+0.9**
	comp=Z,24nm,0.7s,mb5.2						
GKN	**Gorkha**	**46.80**	**310**	eP	**P**	**22 15 12.0**	**+0.1**
	comp=Z,34nm,0.8s,mb5.3						
KOLN	**Koldanda**	**47.48**	**310**	eP	**P**	**22 15 18.3**	**+1.1**
	comp=Z,54nm,0.7s,mb5.6						
SONM	**Songino Array**	**50.35**	**345**	P	**P**	**22 15 39.0**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.4,baz=162,slow=9.0,SNR=8.9						
ZAK	**Zakamensk**	**53.52**	**344**	eP	**P**	**22 15 59.7**	**-3.1**
MKAR	**Makanchi Array**	**59.27**	**328**	P	**P**	**22 16 42.3**	**-1.5**
	comp=Z,1.6nm,0.5s,mb4.3,baz=125,slow=8.5,SNR=5.8						
BVAR	**Borovoye Array**	**69.14**	**329**	P	**P**	**22 17 47.8**	**-0.7**
	comp=Z,2.4nm,1.0s,mb4.1,baz=138,slow=9.0,SNR=5.7						
AKTK	**Aktyubinsk**	**74.98**	**323**	P	**P**	**22 18 22.0**	**-1.5**
AKTO	**Aktyubinsk**	**74.98**	**323**	P	**P**	**22 18 22.0**	**-1.5**
	comp=Z,2.1nm,0.8s,mb4.1,baz=111,slow=5.5,SNR=7.0						
MAW	**Mawson**	**78.75**	**200**	P	**P**	**22 18 43.1**	**-1.6**
	comp=Z,1.8nm,1.0s,mb4.0,baz=66,slow=17,SNR=2.1						
VNDA	**Vanda**	**79.73**	**172**	P	**P**	**22 18 48.0**	**-2.0**
	comp=Z,1.0nm,0.8s,mb3.8,baz=323,slow=4.8,SNR=6.6						
BRTR	**Keskin Array B**	**90.20**	**310**	P	**P**	**22 19 40.2**	**-2.3**
	comp=Z,1.0nm,0.9s,mb4.2,baz=130,slow=7.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**121.03**	**285**	PKP	PKPdf	22 25 32.9	-1.7
	comp=Z,0.8nm,0.7s,baz=70,slow=1.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**121.03**	**285**	PKP	PKPdf	22 25 32.9	-1.7
ANMO	**Albuquerque**	**122.19**	**48**	PKP	PKPdf	22 25 34.6	-2.2
	comp=Z,0.4nm,0.3s,baz=319,slow=9.3,SNR=1.9						
CPUP	**Villa Florida**	**153.36**	**178**	PKPbc	PKPbc	22 26 42.0	+1.8
	comp=Z,1.9nm,0.7s,baz=223,slow=1.6,SNR=7.2						

*IDC **24** 22:07:08.2±0.8, 001N×97.04E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/20, mbtmp4.1/11, Error ellipse: s-maj=40.6km s-min=20.0km az=49.0*
*ISCJB **24** 22:07:11.5±0.7, 01N±02×97.1E±02, h33km, mb4.1/12, Error ellipse: s-maj=33.6km s-min=16.3km az=100.7*
*NEIC **24** 22:07:12.9±0.7, 011S×96.98E, h30km, Error ellipse: s-maj=30.2km s-min=17.0km az=52.0*

ISC 24 22:07:13.9±0.7, 01N±02×971E±02, h35km, n14, σ0°89/14, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.52**	**121**	P	**P**	**22 14 57.9**	**+0.2**
	1.8nm,0.9s,mb3.7,baz=296,slow=9.3,SNR=2.8						
SONM	**Songino Array**	**48.22**	**8**	P	**P**	**22 15 55.2**	**+4.2**
	3.0nm,0.9s,mb4.3,baz=160,slow=8.5,SNR=5.7						
MKAR	**Makanchi Array**	**48.29**	**346**	P	**P**	**22 15 52.6**	**+1.1**
	1.4nm,0.6s,mb4.2,baz=157,slow=8.0,SNR=5.6						
STKA	**Stephens Creek**	**52.67**	**131**	P	**P**	**22 16 24.1**	**-0.6**
	1.9nm,0.6s,mb4.2,baz=321,slow=2.2,SNR=3.5						
ZAL	**Zalesovo**	**54.62**	**351**	P	**P**	**22 16 40.1**	**+1.2**
	2.7nm,0.6s,mb4.5,baz=322,slow=6.3,SNR=7.8						
AKTK	**Aktyubinsk**	**60.17**	**332**	P	**P**	**22 17 16.5**	**-1.5**
AKTO	**Aktyubinsk**	**60.17**	**332**	P	**P**	**22 17 16.5**	**-1.5**
	1.1nm,0.8s,mb4.0,baz=94,slow=7.9,SNR=3.4						
BRTR	**Keskin Array B**	**69.81**	**313**	P	**P**	**22 18 20.4**	**-0.3**
	1.2nm,0.7s,mb3.9,baz=135,slow=7.2,SNR=10.0						
BOSA	**Boshof**	**74.19**	**240**	P	**P**	**22 18 47.6**	**+0.7**
	4.5nm,1.1s,mb4.3,baz=139,slow=5.0,SNR=3.4						
IDI	**Anoyia**	**75.50**	**306**	P	**P**	**22 18 55.1**	**+0.6**
	5.0nm,0.9s,mb4.4,baz=70,slow=12,SNR=3.7						
AKASG	**Malin Array Be**	**76.09**	**323**	P	**P**	**22 18 57.4**	**-0.5**
	2.0nm,0.6s,mb4.2,baz=94,slow=5.1,SNR=12						
AKASG	**Malin Array Be**	**76.09**	**323**	P	**P**	**22 18 57.4**	**-0.5**
FINES	**FINESS Array B**	**80.94**	**333**	P	**P**	**22 19 24.5**	**-0.1**
	1.5nm,0.7s,mb4.0,baz=84,slow=5.9,SNR=5.8						
GERES	**GERESS Array B**	**85.60**	**319**	P	**P**	**22 19 49.1**	**+0.5**
	0.6nm,0.8s,mb3.9,baz=100,slow=4.1,SNR=4.3						

IDC 24 22:18:55.3±1.7, 013S×12415E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=200.6km s-min=24.7km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.08**	**154**	P	**P**	**22 23 52.2**	**+0.3**
	2.8nm,0.7s,baz=332,slow=10,SNR=16						
ASAR	**Alice Springs**	**25.24**	**159**	P	**P**	**22 24 23.2**	**+0.3**
	0.9nm,0.4s,baz=337,slow=9.7,SNR=23						
MKAR	**Makanchi Array**	**59.33**	**328**	P	**P**	**22 28 59.1**	**+0.1**
	0.2nm,0.3s,baz=130,slow=8.8,SNR=6.7						

*IDC **24** 22:25:31.7±2.1, 7.12S×129.30E, h0km, mb3.9/1, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=81.8km s-min=28.0km az=76.0*
*ISCJB **24** 22:25:35.3±1.5, 7.4S±02×129.2E±03, h33km, mb3.8/1, Error ellipse: s-maj=45.4km s-min=9.5km az=126.2*
*NEIC **24** 22:25:36.9±1.2, 7.26S×129.30E, h30km, Error ellipse: s-maj=34.0km s-min=10.5km az=64.0*

ISC 24 22:25:35.5±1.3, 762S±008×1293E±02, h35km, n6, σ0°50/9, mb3.8/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.00**	**198**	Pn	**Pn**	**22 28 16.7**	**+6.3**
	1.9nm,0.3s,baz=33,slow=13,SNR=78						
FITZ				Sn	**Sn**	**22 30 11.8**	**-0.3**
	3.0nm,0.3s,baz=48,slow=12,SNR=8.1						
WRA	**Warramunga Arr**	**13.19**	**159**	Pn	**Pn**	**22 28 47.1**	**+6.8**
	0.9nm,0.3s,baz=339,slow=10,SNR=38						
WRA				Sn	**Sn**	**22 31 05.9**	**+0.3**
	2.0nm,0.3s,baz=332,slow=23,SNR=8.9						
ASAR	**Alice Springs**	**16.56**	**165**	P	**Pn**	**22 29 31.5**	**+6.6**
	0.3nm,0.3s,baz=337,slow=8.9,SNR=19						
ASAR				S	**S**	**22 32 31.3**	**-7.0**
	0.8nm,0.3s,baz=351,slow=27,SNR=9.2						
KKM	**Kota Kinabalu**	**18.82**	**316**	P	**Pn**	**22 29 52.8**	**0.0**
KSM	**Kuching**	**20.97**	**295**	eP	**P**	**22 30 16.3**	**+0.7**
MKAR	**Makanchi Array**	**68.36**	**327**	P	**P**	**22 36 32.5**	**-0.7**
	0.5nm,0.5s,mb3.8,baz=119,slow=8.1,SNR=6.3						

*BJI **24** 22:26:20.0, 19.10N×120.20E, h35km, mB4.8, mb4.0*
*ISCJB **24** 22:26:23.1±1.2, 1904N±005×120.0E±0.1, h43km±13km, mb3.9/12, Error ellipse: s-maj=19.6km s-min=7.9km az=166.0*
*NEIC **24** 22:26:24.0±0.6, 1909N×120.18E, h35km, mb3.9/4, Error ellipse: s-maj=17.5km s-min=10.3km az=80.0*
*MAN **24** 22:26:24.7, 1879N×120.04E, h17km, MS3.5*
*IDC **24** 22:26:26.6±7.6, 19.14N×120.35E, h65km±75km, mb3.5/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.9/8, ML3.5/1, Error ellipse: s-maj=57.8km s-min=16.9km az=68.0*

ISC 24 22:26:24.7±1.1, 1903N±005×1201E±01, h43km±13km, n22, σ1°04/23, mb3.9/12, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.59**	**136**	eP	**Pn**	**22 26 49.9**	**-0.5**
SGCP	**Mt. Cagua**	**2.01**	**113**	eP	**Pn**	**22 26 57.1**	**+1.0**
CVP	**Callao Caves**	**2.11**	**128**	eP	**Pn**	**22 26 58.0**	**+0.5**
BOLP	**Bolinao**	**2.64**	**184**	eP	**Pn**	**22 27 03.6**	**-1.1**
BALP	**Baler**	**3.56**	**156**	eP	**Pn**	**22 27 17.8**	**+0.4**
YHNB	**Yeheng**	**5.74**	**12**	ePn	**Pn**	**22 27 47.1**	**-0.2**
YHNB				eSn	**Sn**	**22 28 53.6**	**+1.7**
GZH	**Guangzhou**	**7.48**	**304**	P	**Pn**	**22 28 06.3**	**-4.9**
JOW	**Kunigami**	**10.82**	**43**	P	**Pn**	**22 28 54.6**	**-2.4**
	0.8nm,0.3s,baz=228,slow=12,SNR=5.0						
LZH	**Lanzhou**	**22.22**	**323**	eP	**P**	**22 31 18.0**	**+0.6**
LZH				AP		22 31 25.5	
LZH				XP	sP	22 31 29.5	-4.0
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.6						
MJAR	**Matsushiro Arr**	**23.62**	**39**	P	**P**	**22 31 30.6**	**-1.2**
	comp=Z,0.6nm,0.5s,mb3.3,baz=246,slow=9.2,SNR=4.4						
SONM	**Songino Array**	**30.82**	**342**	P	**P**	**22 32 36.1**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.5,baz=160,slow=9.4,SNR=4.3						
WRAB	**Tennant Creek**	**41.17**	**159**	P	**P**	**22 34 07.8**	**+3.0**
	comp=Z,11nm,0.9s,mb4.

mb4.6/19, Error ellipse: s-maj=18.2km s-min=7.3km az=118.9
BJI ***24*** *22:36:57.7, 0.50S×12.30E, h30km, mB4.7, mb4.4*
NEIC ***24*** *22:36:57.8±0.4, 0.52S×12.34E, h30km, mb4.9/12, Error ellipse: s-maj=18.5km s-min=7.0km az=61.0*
IDC ***24*** *22:37:00.9±2.0, 0.52S×12.345E, h56km±16km, mb4.0/10, mb1 4.1/11, mb1mx3.9/18, mbtmp4.2/11, ML3.6/1, Error ellipse: s-maj=29.7km s-min=12.3km az=72.0*
ISC 24 22:37:00.4±1.6, 051S±007×12343E±010, h49km±17km, n43, σ0:99/42, mb4.6/19, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	9.71	312	*e*Pn		**Pn**		22 39 18.1	+0.8
KAKA	**Kakadu**	15.06	144	*e*P		**Pn**		22 40 28.9	-1.1
	10nm,0.6s								
FITZ	**Fitzroy Crossi**	17.62	173	*e*P		**Pn**		22 41 08.1	+5.8
	7.2nm,1.3s								
FITZ	**Fitzroy Crossi**	17.62	173	P		**Pn**		22 41 02.2	0.0
	0.1nm,0.3s,baz=0.0,slow=14,SNR=4.8								
MBWA	**Marble Bar**	20.84	190	*e*Pn		**P**		22 41 37.5	-0.4
	6.4nm,0.8s								
WRAB	**Tennant Creek**	22.07	152	*e*P		**P**		22 41 50.1	-1.0
WRAB				pmax		pmax			
	comp=Z,75nm,1.0s,mb5.1								
WRAB	**Tennant Creek**	22.07	152	*e*P		**P**		22 41 50.1	-1.0
	comp=Z,75nm,1.0s,mb5.1								
WRA	**Warramunga Arr**	22.07	152	P		**P**		22 41 51.3	+0.2
	comp=Z,20nm,0.6s,mb4.7,baz=332,slow=10.0,SNR=69								
WRA				ScP		ScP		22 49 20.9	+0.4
	comp=Z,1.4nm,0.9s,baz=334,slow=3.3,SNR=6.5								
WB2	**Warramunga Arr**	22.08	152	*e*P		**P**		22 41 50.5	-0.7
YHNB	**Yeheng**	25.11	356	*e*P		**P**		22 42 20.8	+0.4
AS31	**Alice Springs**	25.16	157	*e*P		**P**		22 42 22.1	+1.1
ASPA	**Alice Springs**	25.16	157	*e*P		**P**		22 42 22.1	+1.1
ASAR	**Alice Springs**	25.17	157	P		**P**		22 42 21.8	+0.7
	comp=Z,6.9nm,0.4s,mb4.5,baz=339,slow=8.7,SNR=142								
ASAR				ScP		ScP		22 49 29.9	+1.0
	comp=Z,0.2nm,0.4s,baz=18,slow=3.2,SNR=5.9								
PMG	**Port Moresby**	25.22	111	P		**P**		22 42 22.9	+1.4
	comp=Z,9.9nm,0.6s,mb4.5,baz=319,slow=20,SNR=3.9								
KMI	**Kunming**	32.40	323	P		**P**		22 43 26.8	+1.4
CBIJ	**Chichi jima**	32.84	32	P		**P**		22 43 29.1	-0.3
	comp=Z,72nm,0.5s,baz=266,slow=5.3,SNR=26								
STKA	**Stephens Creek**	35.61	153	*e*P		**P**		22 43 51.7	-1.6
	comp=Z,2.7nm,0.6s,mb4.3								
STKA	**Stephens Creek**	35.61	153	P		**P**		22 43 51.4	-1.9
	comp=Z,1.6nm,0.4s,mb4.3,baz=303,slow=6.5,SNR=8.4								
STKA				ScP		ScP		22 50 02.3	-0.7
	comp=Z,1.4nm,0.9s,baz=333,slow=7.7,SNR=4.3								
MJAR	**Matsushiro Arr**	39.33	19	P		**P**		22 44 23.8	-0.9
	comp=Z,2.2nm,0.6s,mb4.0,baz=191,slow=9.0,SNR=14								
MAT	**Matsushiro**	39.34	19	P		**P**		22 44 23.4	-1.4
MAT	**Matsushiro**	39.34	19	*e*P		**P**		22 44 23.0	-1.8
ARMA	**Armidale**	40.03	141	*e*P		**P**		22 44 32.8	+2.3
LSA	**Lhasa**	43.01	317	P		**P**		22 44 56.3	+1.4
GTA	**Gaotai**	45.23	334	*e*P		**P**		22 45 14.4	+1.7
GTA				AP		pP		22 45 16.4	-7.5
JIRN	**Jiri**	45.41	311	*e*P		**P**		22 45 13.9	-0.2
	comp=Z,17nm,0.6s,mb5.1								
GUN	**Gumba**	45.77	311	*e*P		**P**		22 45 16.0	-1.0
	comp=Z,22nm,0.5s,mb5.4								
PKI	**Pulchoki**	45.95	310	*e*P		**P**		22 45 17.8	-0.6
KKN	**Kakani**	46.16	311	*e*P		**P**		22 45 19.4	-0.7
	comp=Z,15nm,0.8s,mb5.0								
KKN	**Kakani**	46.16	311	*e*P		**P**		22 45 19.4	-0.7
KKN				pmax		pmax			
	comp=Z,15nm,0.8s,mb5.0								
DMN	**Daman**	46.20	310	*e*P		**P**		22 45 19.3	-1.1
	comp=Z,15nm,0.7s,mb5.0								
GKN	**Gorkha**	46.76	310	*e*P		**P**		22 45 24.1	-0.6
	comp=Z,19nm,0.7s,mb5.2								
KOLN	**Koldanda**	47.44	310	*e*P		**P**		22 45 29.4	-0.6
	comp=Z,24nm,0.7s,mb5.3								
ULN	**Ulaanbaatar**	50.24	346	*e*P		**P**		22 45 50.1	-1.4
	comp=Z,1.5nm,0.6s,mb4.2								
SONM	**Songino Array**	50.38	345	P		**P**		22 45 53.4	+0.9
	comp=Z,2.4nm,0.7s,mb4.3,baz=159,slow=7.8,SNR=20								
MKAR	**Makanchi Array**	59.27	328	P		**P**		22 46 57.7	+0.9
	comp=Z,2.1nm,0.6s,mb4.4,baz=124,slow=7.8,SNR=13								
MKAR				ScP		ScP		22 51 38.2	-2.9
	comp=Z,0.9nm,0.9s,baz=108,slow=4.7,SNR=3.9								
MKAR	**Makanchi Array**	59.27	328	P		**P**		22 46 57.7	+0.9
MKAR				ScP		ScP		22 51 38.2	-2.9
ZAL	**Zalesovo**	62.95	336	P		**P**		22 47 22.2	+0.5
	comp=Z,1.4nm,0.5s,mb4.3,baz=323,slow=5.6,SNR=8.7								
KURK	**Kurchatov**	63.63	330	*e*P		**P**		22 47 26.7	+0.5
KURK				*e**PP		pP		22 47 39.8	-0.2
KURK				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.8								
KURK	**Kurchatov**	63.63	330	*e*P		**P**		22 47 26.7	+0.4
	comp=Z,9.1nm,0.9s,mb4.8								
KURK				*e*pP		pP		22 47 39.8	-0.2
NVS	**Novosibirsk**	64.24	336	*e*P		**P**		22 47 25.6	-4.7
VNDA	**Vanda**	79.69	172	P		**P**		22 49 02.6	-0.2
	comp=Z,0.6nm,0.8s,mb3.6,baz=340,slow=3.9,SNR=3.7								
FINES	**FINESS Array B**	93.97	331	P		**P**		22 50 12.3	-0.6
	comp=Z,0.3nm,0.5s,mb4.0,baz=101,slow=5.9,SNR=3.0								
TORD	**Torodi Ar. Bea**	120.95	285	PKP		PKPdf		22 55 45.6	-1.6
	comp=Z,0.6nm,0.8s,baz=77,slow=1.3,SNR=7.0								

ATH ***24*** *22:38:35.5, 3846N×2709E, h25km±2km, MD3.2/3*
ISCJB ***24*** *22:38:37.6±0.5, 3842N±002×2675E±003, h6km±4km, Error ellipse: s-maj=4.7km s-min=3.6km az=86.7*
CSEM ***24*** *22:38:37.2±0.1, 3843N×2676E, h8km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.1km az=47.0*
ISK ***24*** *22:38:37.0, 3847N×2676E, h14km, MD3.1*
ISC 24 22:38:38.1±0.5, 3842N±003×2674E±003, h9km±4km, n18, σ0:93/31, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URLA	**Izmir**	0.13	243	*i*P		**Pg**		22 38 40.5	-0.5
URLA				*i*S		**Sg**		22 38 42.8	-0.2
BLCB	**Balcova**	0.24	98	*i*PG		**Pg**		22 38 42.6	-0.3
BLCB				*i*SG		**Sg**		22 38 46.2	0.0
IZM	**Izmir**	0.41	93	*i*PG		**Pg**		22 38 45.7	-0.4
IZM				*i*SG		**Sg**		22 38 52.3	+0.8
KDAG	**Bornova**	0.41	92	*i*P		**Pg**		22 38 45.8	-0.3
KDAG				*i*S		**Sg**		22 38 52.2	+0.6
SMG	**Samos**	0.71	174	*e*PN		**Pg**		22 38 50.5	-1.4
SMG				*e*SN		**Sg**		22 39 02.0	+0.8
AYVA	**Ayvalik**	0.89	357	*i*P		**Pg**		22 38 55.3	+0.1
AYVA				*i*S		**Sg**		22 39 07.5	+0.8
PRK	**Paraskevi**	0.90	336	*e*PN		**Pg**		22 38 55.0	-0.5
PRK				*e*SN		**Sg**		22 39 09.0	+1.8
AKS	**Akhisar**	0.96	61	*e*PG		**Pg**		22 38 55.3	-1.2
AYDN	**Tasoluk**	1.18	130	*i*P		**Pb**		22 38 59.3	-1.3
AYDN				*i*S		**Sb**		22 39 16.4	+0.5
MANT	**Manisa**	1.43	87	*i*P		**Pn**		22 39 05.1	+0.9
MANT				*i*S		**Sn**		22 39 22.9	-0.2
BDRM	**Kayabasi**	1.46	157	*i*P		**Pn**		22 39 06.6	+1.9
BDRM				*i*S		**Sn**		22 39 20.1	-3.8
BDRM	**Kayabasi**	1.46	157	*i*P		**Pn**		22 39 06.6	+1.9
BDRM				*i*S		**Sn**		22 39 20.1	-3.8
BALB	**Balikesir**	1.51	36	*e*PN		**Pn**		22 39 03.6	-1.7
BOZC	**Bozcaada**	1.52	340	*i*P		**Pn**		22 39 04.7	-0.7
BOZC				*i*S		**Sn**		22 39 25.9	+0.6
APE	**Apeiranthos**	1.66	216	*e*PN		**Pn**		22 39 08.1	+0.8
YER	**Yerkesik**	1.77	136	*e*PN		**Pn**		22 39 09.4	+0.5
DNZL	**Cakiroluk**	1.96	111	*i*P		**Pg**		22 39 15.8	+0.1
DNZL				*i*S		**Sg**		22 39 41.5	+0.4
BNT	**Bandirma**	2.14	25	*e*PN		**Pn**		22 39 12.2	-1.8

BJI ***24*** *22:45:42.9, 5970N×3000W, h10km, mB4.8, mb4.8*
CSEM ***24*** *22:45:43.8±0.1, 5977N×3000W, h10km, mb4.5/64, Error ellipse: s-maj=4.3km s-min=1.6km az=20.0*
ISCJB ***24*** *22:45:44.5±0.2, 5981N±005×2996W±006, h10km, mb4.3/90, Error ellipse: s-maj=7.1km s-min=3.8km az=53.9*
MOS ***24*** *22:45:44.4±0.9, 5974N×2995W, h10km, mb4.6/51, Error ellipse: s-maj=10.4km s-min=6.8km az=28.6*
IDC ***24*** *22:45:44.2±0.7, 5975N×3003W, h0km, mb3.9/21, mb1 4.1/25, mb1mx4.1/33, mbtmp4.0/25, ML4.0/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/45, Error ellipse: s-maj=20.0km s-min=10.7km az=8.0*
NEIC ***24*** *22:45:46.0±0.2, 5973N×2997W, h10km, mb4.5/59, Error ellipse: s-maj=6.4km s-min=3.0km az=202.0*
SZGRF ***24*** *22:45:54.7, 5966N×2861W, h33km, mb4.4, Reykjanes Ridge*
ISC 24 22:45:45.9±0.2, 5977N±005×2993W±006, h10km, n263, σ0:86/260, mb4.3/90, 46C-3D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	6.40	35	Pn		**Pn**		22 47 18.9	-1.3
	28nm,0.3s,baz=196,slow=6.5,SNR=58								
BORG				LR		LR		22 49 08.6	
	comp=Z,937nm,20.5s,baz=133,slow=32								
SFJD	**Kangerlussuaq**	11.71	317	Pn		**Pn**		22 48 32.5	-0.5
	1.1nm,0.3s,baz=104,slow=11,SNR=5.2								
SFJD	**Kangerlussuaq**	11.71	317	*i*P		**Pn**		22 48 35.6	+2.6
	25nm,0.8s								
SFJD	**Kangerlussuaq**	11.71	317	*e*P		**Pn**		22 48 35.6	+2.6
SFJD				pmax		pmax			
	comp=Z,25nm,0.8s								
SUMG	**Summit**	13.29	349	*e*Pn		**Pn**		22 48 53.9	-0.6
	comp=Z,19nm,0.8s								
SUMG	**Summit**	13.29	349	*e*Pn		**Pn**		22 48 53.9	-0.7
ESK	**Eskdalemuir**	14.97	96	*e*P		pP		22 49 23.1	-2.8
ESK				pmax		pmax			
	comp=Z,20nm,1.0s								
ESK	**Eskdalemuir**	14.97	96	*e*P		pP		22 49 23.1	-2.8
	comp=Z,20nm,1.0s								
EKA	**Eskdalemuir Ar**	14.99	95	Pn		**Pn**		22 49 17.9	+0.2
	comp=Z,0.1nm,0.3s,baz=293,slow=13,SNR=6.1								
FRB	**Frobisher Bay**	18.49	299	P		**Pn**		22 50 00.3	-1.8
	comp=Z,0.3nm,0.3s,baz=83,slow=9.7,SNR=5.1								
ROSF	**Rostrenen**	19.23	115	*e*P		**Pn**		22 50 10.1	-1.1
	comp=Z,30nm,1.2s								
ROSF	**Rostrenen**	19.23	115	*e*P		**Pn**		22 50 10.1	-1.1
ROSF				pmax		pmax			
	comp=Z,15nm,1.2s								
ROSF	**Rostrenen**	19.23	115	*e*P		**Pn**		22 50 10.1	-1.1
	comp=Z,15nm,1.2s								
QUIF	**Quistinic**	19.59	115	*e*P		**Pn**		22 50 13.4	-2.0
	comp=Z,56nm,1.3s								
QUIF	**Quistinic**	19.59	115	*e*P		**Pn**		22 50 13.4	-2.0
QUIF				pmax		pmax			
	comp=Z,28nm,1.3s								
QUIF	**Quistinic**	19.59	115	*e*P		**Pn**		22 50 13.4	-2.0
	comp=Z,28nm,1.3s								
SGMF	**Saint Gilles**	19.62	114	⇑*i*P		**Pn**		22 50 12.8	-3.0
	comp=Z,55nm,1.3s								
SGMF	**Saint Gilles**	19.62	114	⇑*i*P		**Pn**		22 50 12.8	-3.0
SGMF				pmax		pmax			
	comp=Z,27nm,1.3s								
SGMF	**Saint Gilles**	19.62	114	⇑*i*P		**Pn**		22 50 12.8	-3.0
	comp=Z,28nm,1.3s								
NB2	**NORSAR Subarra**	20.13	69	P		**P**		22 50 19.5	-0.5
	comp=Z,4.9nm,1.1s,baz=283,slow=11								
NB2	**NORSAR Subarra**	20.13	69	P		**P**		22 50 19.5	-0.5
NB2				pmax		pmax			
	comp=Z,5.0nm,1.1s								
NOA	**NORSAR Array B**	20.13	69	P		**P**		22 50 20.6	+0.6
	comp=Z,1.6nm,0.9s,baz=286,slow=10.0,SNR=5.7								
NOA	**NORSAR Array B**	20.13	69	P		**P**		22 50 20.5	+0.5
GRR	**Gorron**	20.32	111	*e*P		**P**		22 50 22.6	+0.5
	comp=Z,142nm,1.7s								
GRR	**Gorron**	20.32	111	*e*P		**P**		22 50 22.6	+0.5
GRR				pmax		pmax			
	comp=Z,71nm,1.7s								
GRR	**Gorron**	20.32	111	*e*P		**P**		22 50 22.6	+0.5
	comp=Z,71nm,1.7s								
MENF	**Mencas**	20.33	103	*e*P		**P**		22 50 21.8	-0.3
SCHQ	**Schefferville**	20.34	272	P		**P**		22 50 22.8	+0.4
	comp=Z,7.3nm,0.8s,baz=52,slow=9.1,SNR=10.0								
LDF	**La Druitiere**	20.53	110	⇑*i*P		**P**		22 50 24.6	+0.3
	comp=Z,40nm,1.2s								
LDF	**La Druitiere**	20.53	110	⇑*i*P		**P**		22 50 24.6	+0.3
LDF				pmax		pmax			
	comp=Z,20nm,1.2s								
LDF	**La Druitiere**	20.53	110	⇑*i*P		**P**		22 50 24.6	+0.3
	comp=Z,20nm,1.2s								
MUD	**Monsted U'grnd**	20.71	82	*i*P		**P**		22 50 27.8	+1.5
	comp=Z,7.4nm,0.8s								
MUD	**Monsted U'grnd**	20.71	82	*i*P		**P**		22 50 27.8	+1.5
MUD				pmax		pmax			
	comp=Z,7.0nm,0.8s								
WIT	**Witteveen**	21.25	93	*e*P		**P**		22 50 32.4	+0.4
	comp=Z,105nm,1.1s,mb5.1								
UCC	**Uccle**	21.27	100	P		**P**		22 50 30.8	-1.5
SNF	**Seneffe**	21.41	100	P		**P**		22 50 33.4	-0.5
HFS	**Hagfors**	21.56	70	P		**P**		22 50 35.1	-0.3
	comp=Z,3.1nm,0.9s,mb3.8,baz=264,slow=10,SNR=5.5								
BAIF	**Baives**	21.66	101	⇑*i*P		**P**		22 50 36.3	-0.2
	comp=Z,59nm,1.2s,mb4.6								
BAIF	**Baives**	21.66	101	⇑*i*P		**P**		22 50 36.3	-0.2
BAIF				pmax		pmax			
	comp=Z,30nm,1.2s,mb4.6								
BAIF	**Baives**	21.66	101	⇑*i*P		**P**		22 50 36.3	-0.2
	comp=Z,30nm,1.2s,mb4.6								
WTSB	**Winterswijk**	21.79	95	⇑*i*P		**P**		22 50 37.2	-0.7
DOU	**Dourbes**	21.83	101	P		**P**		22 50 38.3	0.0
DOU				E				22 50 41.6	
DOU				AP				22 50 43.5	
DOU				XP		sP		22 50 51.1	+8.6
GIVF	**Givet**	21.94	101	*e*P		**P**		22 50 38.8	-0.7
	comp=Z,94nm,1.2s,mb4.8								
GIVF	**Givet**	21.94	101	*e*P		**P**		22 50 38.8	-0.7
GIVF				pmax		pmax			
	comp=Z,47nm,1.2s,mb4.8								
GIVF	**Givet**	21.94	101	*e*P		**P**		22 50 38.8	-0.7
	comp=Z,47nm,1.2s,mb4.8								
MFF	**Saint Martin d**	21.95	114	⇑*i*P		**P**		22 50 39.5	-0.1
	comp=Z,77nm,1.5s,mb4.6								
MFF	**Saint Martin d**	21.95	114	⇑*i*P		**P**		22 50 39.5	-0.1
MFF				pmax		pmax			
	comp=Z,38nm,1.5s,mb4.6								
MFF	**Saint Martin d**	21.95	114	⇑*i*P		**P**		22 50 39.5	-0.1
	comp=Z,38nm,1.5s,mb4.6								
HGN	**Heimansgroeve**	22.08	98	⇓*i*P		**P**		22 50 40.8	-0.2
	comp=Z,14nm,2.3s,mb4.0								
IBBN	**Ibbenburen**	22.08	93	*e*P		**P**		22 50 40.8	-0.2
	comp=Z,29nm,1.0s,mb4.7								
MEM	**Membach**	22.21	98	P		**P**		22 50 41.7	-0.7
MEM				AP				22 50 48.2	
BUG	**Bochum--Univer**	22.34	95	*e*P		**P**		22 50 43.4	-0.4
	comp=Z,68nm,1.8s,mb4.8								
BSEG	**Bad Segeberg**	22.49	87	*e*P		**P**		22 50 44.7	-0.7
	comp=Z,18nm,0.9s,mb4.5								
BSEG	**Bad Segeberg**	22.49	87	*e*P		**P**		22 50 44.7	-0.7
BSEG				pmax		pmax			
	comp=Z,18nm,0.9s,mb4.5								
HYF	**Humbligny**	22.78	109	*e*P		**P**		22 50 47.8	-0.7
WLF	**Walferdange**	22.88	100	AP		pP		22 50 54.7	+2.3
PBRG	**Braganca**	23.00	131	*e*P		**P**		22 50 52.5	+1.8
PVRL	**Vila Real**	23.09	133	*e*P		**P**		22 50 52.9	+1.2
MEZF	**Maizieres J'vi**	23.10	104	⇑*i*P		**P**		22 50 51.2	-0.6
	comp=Z,26nm,0.9s,mb4.4								
MEZF	**Maizieres J'vi**	23.10	104	⇑*i*P		**P**		22 50 51.2	-0.6
	comp=Z,13nm,0.9s,mb4.4								
NRDL	**Niedersach Rie**	23.16	90	*e*P		**P**		22 50 51.8	-0.7
	comp=Z,28nm,1.5s,mb4.5								
TCF	**Toulx Ste Croi**	23.29	111	⇑*i*P		**P**		22 50 52.9	-0.9
	comp=Z,48nm,1.1s,mb4.5								
TCF	**Toulx Ste Croi**	23.29	111	⇑*i*P		**P**		22 50 52.9	-0.9
TCF				pmax		pmax			
	comp=Z,24nm,1.1s,mb4.5								
TCF	**Toulx Ste Croi**	23.29	111	⇑*i*P		**P**		22 50 52.9	-0.9
	comp=Z,24nm,1.1s,mb4.5								
RUP	**Ruppelstein**	23.31	99	*e*P		**P**		22 50 54.7	+0.7
SSF	**Saint Saulge**	23.34	108	⇑*i*P		**P**		22 50 53.2	-1.2
	comp=Z,21nm,0.7s,mb4.3								
SSF	**Saint Saulge**	23.34	108	⇑*i*P		**P**		22 50 53.2	-1.2
SSF				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb4.3								
SSF	**Saint Saulge**	23.34	108	⇑*i*P		**P**		22 50 53.2	-1.2
	comp=Z,10nm,0.7s,mb4.3								
LOR	**Lormes**	23.37	107	⇑*i*P		**P**		22 50 53.4	-1.3
	comp=Z,36nm,1.1s,mb4.4								
LOR	**Lormes**	23.37	107	⇑*i*P		**P**		22 50 53.4	-1.3
LOR				pmax		pmax			
	comp=Z,18nm,1.1s,mb4.4								
LOR	**Lormes**	23.37	107	⇑*i*P		**P**		22 50 53.4	-1.3
	comp=Z,18nm,1.1s,mb4.4								
BGF	**Bois d'Agland**	23.39	110	*e*P		**P**		22 50 53.9	-1.0
	comp=Z,56nm,1.0s,mb4.7								
BGF	**Bois d'Agland**	23.39	110	*e*P		**P**		22 50 53.9	-1.0
BGF				pmax		pmax			
	comp=Z,28nm,1.0s,mb4.7								
BGF	**Bois d'Agland**	23.39	110	*e*P		**P**		22 50 53.9	-1.0
	comp=Z,28nm,1.0s,mb4.7								
ABH	**Alteburg**	23.44	98	*e*P		**P**		22 50 56.0	+0.6
AVF	**Avril sur Loir**	23.46	109	⇑*i*P		**P**		22 50 54.4	-1.3
	comp=Z,26nm,0.9s,mb4.3								
AVF	**Avril sur Loir**	23.46	109	⇑*i*P		**P**		22 50 54.4	-1.3
AVF				pmax		pmax			
	comp=Z,13nm,0.9s,mb4.4								
AVF	**Avril sur Loir**	23.46	109	⇑*i*P		**P**		22 50 54.4	-1.3
	comp=Z,13nm,0.9s,mb4.3								
PVIS	**Viseu**	23.51	134	*e*P		**P**		22 50 57.1	+0.9
	comp=Z,46nm,1.8s,mb4.6								
LFF	**La Frestale**	23.61	115	⇑*i*P		**P**		22 50 56.8	-0.3
	comp=Z,43nm,1.1s,mb4.5								
LFF	**La Frestale**	23.61	115	⇑*i*P		**P**		22 50 56.8	-0.3
LFF				pmax		pmax			
	comp=Z,22nm,1.0s,mb4.5								
LFF	**La Frestale**	23.61	115	⇑*i*P		**P**		22 50 56.8	-0.3
	comp=Z,22nm,1.1s,mb4.5								
CLZ	**Clausthal**	23.67	92	*e*P		**P**		22 50 57.2	-0.5
	comp=Z,21nm,1.5s,mb4.3								
CLZ	**Clausthal**	23.67	92	*e*P		**P**		22 50 57.2	-0.5
CLZ				pmax		pmax			
	comp=Z,21nm,1.5s,mb4.3								
RJF	**Les Rejaudoux**	23.69	114	⇑*i*P		**P**		22 50 57.2	-0.7
	comp=Z,13nm,0.8s,mb4.1								
RJF	**Les Rejaudoux**	23.69	114	⇑*i*P		**P**		22 50 57.2	-0.7
RJF				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.1								
RJF	**Les Rejaudoux**	23.69	114	⇑*i*P		**P**		22 50 57.2	-0.7
	comp=Z,6.7nm,0.8s,mb4.1								
THEF	**They Montfort**	23.75	103	*e*P		**P**		22 50 58.8	+0.4
SMF	**Signal de Mont**	23.80	108	⇑*i*P		**P**		22 50 58.0	-0.9
	comp=Z,42nm,1.1s,mb4.5								
SMF	**Signal de Mont**	23.80	108	⇑*i*P		**P**		22 50 58.0	-0.9
SMF				pmax		pmax			
	comp=Z,21nm,1.1s,mb4.5								
SMF	**Signal de Mont**	23.80	108	⇑*i*P		**P**		22 50 58.0	-0.9
	comp=Z,21nm,1.1s,mb4.5								
AGO	**Saint Agoulin**	23.89	110	*e*P		**P**		22 50 58.8	-0.9
MTE	**Manteigas**	23.92	134	*e*P		**P**		22 51 01.6	+1.7
	comp=Z,25nm,1.0s,mb4.6								
MTE	**Manteigas**	23.92	134	*e*P		**P**		22 50 59.6	-0.4
	comp=Z,18nm,0.9s,mb4.5								
HAU	**Haudompre**	24.07	103	*e*P		**P**		22 51 02.2	+0.8
	comp=Z,22nm,1.1s,mb4.2								
HAU	**Haudompre**	24.07	103	*e*P		**P**		22 51 02.2	+0.8
HAU				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.2								
HAU	**Haudompre**	24.07	103	*e*P		**P**		22 51 02.2	+0.8
	comp=Z,11nm,1.1s,mb4.2								
PLDF	**La Plantade**	24.19	110	*e*P		**P**		22 51 02.0	-0.4
CAF	**Calviac**	24.23	113	*e*P		**P**		22 51 01.9	-0.9
	comp=Z,15nm,1.1s,mb4.0								
CAF	**Calviac**	24.23	113	*e*P		**P**		22 51 01.9	-0.9
CAF				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.0								
CAF	**Calviac**	24.23	113	*e*P		**P**		22 51 01.9	-0.9
	comp=Z,7.3nm,1.1s,mb4.0								
TOD	**Tromm**	24.24	97	*e*P		**P**		22 51 04.9	+2.0
CDF	**Champ du Feu**	24.26	101	*e*P		**P**		22 51 03.6	+0.6
	comp=Z,44nm,1.3s,mb4.4								
CDF	**Champ du Feu**	24.26	101	*e

LPG pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
LPG La Plagne 26.03 107 *eP* **P 22 51 19.7 +0.5**
comp=Z,7.1nm,1.0s,mb4.1
ORIF Oris-en-Rattie 26.04 109⇑ *iP* **P 22 51 19.2 0.0**
comp=Z,31nm,1.2s,mb4.4
ORIF Oris-en-Rattie 26.04 109⇑ *iP* **P 22 51 19.2 0.0**
ORIF pmax pmax
comp=Z,15nm,1.2s,mb4.4
ORIF Oris-en-Rattie 26.04 109⇑ *iP* **P 22 51 19.2 0.0**
comp=Z,15nm,1.2s,mb4.4
BRG Berggiesshubel 26.05 90 *eP* **P 22 51 20.6 +1.3**
comp=Z,4.0nm,1.1s,mb3.9
BRG Berggiesshubel 26.05 90 *eP* **P 22 51 20.9 +1.6**
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb3.8
BRG Berggiesshubel 26.05 90 *eP* **P 22 51 20.9 +1.6**
comp=Z,3.5nm,1.2s,mb3.8
BNI Bardonecchia 26.32 108 *eP* **P 22 51 22.5 +0.7**
BNI pmax pmax
comp=Z,16nm,1.4s,mb4.4
BNI Bardonecchia 26.32 108 *eP* **P 22 51 22.5 +0.7**
comp=Z,16nm,1.4s,mb4.4
BNI Bardonecchia 26.32 108 *eP* **P 22 51 22.5 +0.7**
comp=Z,16nm,1.4s,mb4.4
FUR Furstenfeldbru 26.42 98 *eP* **P 22 51 23.0 +0.3**
comp=Z,19nm,1.3s,mb4.5
FUR Furstenfeldbru 26.42 98 *eP* **P 22 51 23.0 +0.3**
FUR pmax pmax
comp=Z,19nm,1.3s,mb4.5
PVCC Panska Ves 26.58 90 *eP* **P 22 51 26.3 +2.2**
WET Wettzell 26.59 94 *eP* **P 22 51 24.1 -0.1**
comp=Z,8.0nm,1.8s,mb4.0
WET Wettzell 26.59 94 *eP* **P 22 51 24.1 -0.1**
WET pmax pmax
comp=Z,8.0nm,1.8s,mb4.0
SMRF Simiane la Rot 26.60 111 *eP* **P 22 51 24.5 +0.2**
comp=Z,13nm,1.2s,mb4.0
SMRF Simiane la Rot 26.60 111 *eP* **P 22 51 24.5 +0.2**
comp=Z,6.5nm,1.2s,mb4.0
MBDF Montbardon 26.61 108 *eP* **P 22 51 22.7 -1.7**
comp=Z,24nm,1.3s,mb4.3
MBDF Montbardon 26.61 108 *eP* **P 22 51 22.7 -1.7**
MBDF pmax pmax
comp=Z,12nm,1.3s,mb4.3
MBDF Montbardon 26.61 108 *eP* **P 22 51 22.7 -1.7**
comp=Z,12nm,1.3s,mb4.3
KAF Kangasniemi 26.69 60 *ep* **P 22 51 23.8 -1.3**
comp=Z,5.5nm,0.9s,mb4.1
KAF Kangasniemi 26.69 60 *eP* **P 22 51 23.8 -1.3**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
FINES FINESS Array B 26.83 62 P **P 22 51 25.9 -0.5**
comp=Z,1.9nm,0.7s,mb3.7,baz=283,slow=6.6,SNR=8.6
KHC Kasperske Hory 26.95 94 *ep*P pP 22 51 36.5 +6.0
KHC Kasperske Hory 26.95 94⇑ *eP* **P 22 51 27.1 -0.3**
GEC2 GERESS Array S 27.20 94 *eP* **P 22 51 30.2 +0.5**
comp=Z,8.0nm,1.9s,mb3.9
GEC2 GERESS Array S 27.20 94 *eP* **P 22 51 30.2 +0.5**
GEC2 pmax pmax
comp=Z,8.0nm,1.9s,mb3.9
GERES GERESS Array B 27.20 94 P **P 22 51 29.2 -0.5**
comp=Z,0.1nm,0.3s,baz=328,slow=4.7,SNR=3.7
UPC Upice 27.32 89 *eP* **P 22 51 33.1 +2.3**
RES Resolute Bay 27.32 328 *eP* **P 22 51 30.5 -0.3**
RES pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
RES Resolute Bay 27.32 328 *eP* **P 22 51 30.5 -0.4**
comp=Z,6.4nm,1.0s,mb4.1
RES Resolute Bay 27.32 328 *eP* **P 22 51 30.5 -0.3**
comp=Z,6.4nm,1.0s,mb4.1
FRF La Foret Royal 27.42 110 *eP* **P 22 51 31.4 -0.3**
comp=Z,12nm,1.0s,mb4.1
FRF La Foret Royal 27.42 110 *eP* **P 22 51 31.4 -0.3**
FRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
FRF La Foret Royal 27.42 110 *eP* **P 22 51 31.4 -0.3**
comp=Z,5.9nm,1.0s,mb4.1
LMR La Mourre 27.52 110 *eP* **P 22 51 31.6 -1.0**
comp=Z,6.2nm,0.9s,mb3.9
LMR La Mourre 27.52 110 *eP* **P 22 51 31.6 -1.0**
LMR pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
LMR La Mourre 27.52 110 *eP* **P 22 51 31.6 -1.0**
comp=Z,3.1nm,0.9s,mb3.9
SBF Sospel 27.57 108 *eP* **P 22 51 32.4 -0.6**
DPC Dobruska-Polom 27.57 89 *eP* **P 22 51 33.4 +0.4**
VRAC Vranov 28.36 91 P **P 22 51 39.3 -0.8**
comp=Z,0.6nm,0.5s,mb3.5,baz=45,slow=7.1,SNR=3.6
OKC Ostrava-Krasne 28.81 89 *eP* **P 22 51 43.5 -0.6**
PGF Pioggiola 29.31 108 *eP* **P 22 51 48.5 0.0**
comp=Z,34nm,1.2s,mb4.6
PGF Pioggiola 29.31 108 *eP* **P 22 51 48.5 0.0**
PGF pmax pmax
comp=Z,17nm,1.2s,mb4.7
PGF Pioggiola 29.31 108 *eP* **P 22 51 48.5 0.0**
comp=Z,17nm,1.2s,mb4.7
FCC Fort Churchill 31.67 297 *eP* **P 22 52 09.4 +0.1**
FCC pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
FCC Fort Churchill 31.67 297 *eP* **P 22 52 09.4 0.0**
comp=Z,7.2nm,0.9s,mb4.5
FCC Fort Churchill 31.67 297 *eP* **P 22 52 09.4 +0.1**
comp=Z,7.2nm,0.9s,mb4.5
SADO Sadowa 32.77 265 P **P 22 52 16.8 -2.3**
comp=Z,3.9nm,0.7s,mb4.5,baz=39,slow=8.9,SNR=4.2
KLMR Klimovskoe 32.96 57 *eP* **P 22 52 20.4 -0.3**
BZS Buzias 33.36 92⇓ *iP* **P 22 52 25.0 +0.8**
BZS Buzias 33.36 92⇓ *P* **P 22 52 25.0 +0.9**
BURAR Bucovina Array 33.82 86⇑ *iP* **P 22 52 29.7 +1.5**
BURAR Bucovina Array 33.82 86⇑ *P* **P 22 52 29.7 +1.5**
AKASG Malin Array Be 33.84 79 P **P 22 52 28.1 -0.3**
comp=Z,0.3nm,0.3s,mb3.8,baz=305,slow=8.6,SNR=12
GZR Gura Zlata 34.10 91⇑ *iP* **P 22 52 31.4 +0.8**
GZR Gura Zlata 34.10 91⇑ *P* **P 22 52 31.4 +0.8**
OBN Obninsk 34.73 68 *eP* **P 22 52 36.2 +0.2**
OBN *e* 22 55 10.6
OBN *eS* **S 22 58 00.5 -5.6**
OBN pmax pmax
comp=Z,24nm,2.6s,mb4.7
EYMN Ely 36.82 279 *eP* **P 22 52 54.2 +0.2**
comp=Z,6.1nm,0.8s,mb4.5
EYMN Ely 36.82 279 *eP* **P 22 52 54.2 +0.2**
comp=Z,6.1nm,0.8s,mb4.5
ULM Lac du Bonnet 37.46 285 P **P 22 52 58.9 -0.6**
comp=Z,3.0nm,0.8s,mb4.2,baz=34,slow=8.2,SNR=6.7
YKA Yellowknife Ar 38.21 312 P **P 22 53 05.2 -0.5**
comp=Z,1.6nm,0.7s,mb3.9,baz=51,slow=9.0,SNR=3.9
YKA Yellowknife Ar 38.21 312 *i P* **P 22 53 07.9 +2.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 38.21 312 P **P 22 53 05.2 -0.5**
ELN Prospectdale 39.22 258 *eP* **P 22 53 14.7 +0.4**
ELN Prospectdale 39.22 258 *eP* **P 22 53 14.7 +0.5**
INK Inuvik 40.84 326 P **P 22 53 27.0 -0.7**
comp=Z,2.1nm,0.7s,mb3.9,baz=32,slow=10.0,SNR=10
INK Inuvik 40.84 326 P **P 22 53 27.0 -0.7**
ARU Arti 43.57 54⇑ *iP* **P 22 53 50.0 +0.1**
ARU *e* 22 55 27.6
ARU *eS* **S 23 00 10.0 -9.0**
ARU *e*SS SS 23 03 21.1 -13
ARU pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
ARU Arti 43.57 54 *eP* **P 22 53 50.0 0.0**
comp=Z,7.0nm,1.0s,mb4.3
ARU Arti 43.57 54 *eP* **P 22 53 50.0 +0.1**
comp=Z,7.0nm,1.0s,mb4.3
BRTR Keskin Array B 43.72 88 P **P 22 53 52.2 +1.0**
comp=Z,1.1nm,0.7s,mb3.7,baz=329,slow=6.3,SNR=9.8
BRTR Keskin Array B 43.72 88 *i P* **P 22 53 52.7 +1.5**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
CCM Cathedral Cave 43.84 269 *eP* **P 22 53 52.7 +0.5**
CCM pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CCM Cathedral Cave 43.84 269 *eP* **P 22 53 52.7 +0.5**
comp=Z,5.2nm,0.8s,mb4.3
CCM Cathedral Cave 43.84 269 *eP* **P 22 53 52.7 +0.5**
comp=Z,5.2nm,0.8s,mb4.3
KIV Kislovodsk 45.11 77⇑ *iP* **P 22 54 03.1 +0.8**
KIV pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
DAWY Dawson 45.53 324 *eP* **P 22 54 06.4 +0.8**
DAWY Dawson 45.53 324 *eP* **P 22 54 06.4 +0.8**
WALA Waterton Lakes 46.80 296 *eP* **P 22 54 15.6 0.0**
comp=Z,6.0nm,0.9s,mb4.5
WALA Waterton Lakes 46.80 296 *eP* **P 22 54 15.6 0.0**
comp=Z,6.0nm,0.9s,mb4.5
GNI Garni 48.97 79 *eP* **P 22 54 33.3 +0.9**
GNI pmax pmax
comp=Z,18nm,1.3s
PDAR Pinedale Array 49.41 287 P **P 22 54 35.5 -0.3**
comp=Z,1.4nm,0.9s,mb4.0,baz=63,slow=7.5,SNR=8.5
BVAR Borovoye Array 50.76 50 P **P 22 54 46.5 +0.5**
comp=Z,2.5nm,1.0s,mb4.1,baz=298,slow=6.6,SNR=11
BILL Bilibino 51.94 352 *eP* **P 22 54 55.3 +0.4**
BILL *eS* **S 23 02 14.3 -3.6**
BILL *eS*S SS 23 05 50.0 -4.8
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BILL MLR MLR
comp=Z,400nm,18.0s
TORD Torodi Ar. Bea 52.08 140 P **P 22 54 55.0 -0.9**
comp=Z,2.2nm,0.8s,mb4.1,baz=339,slow=6.8,SNR=16
ANMO Albuquerque 53.93 279 *eP* pP 22 55 15.6 +2.8
NVS Novosibirsk 53.95 41 *eP* **P 22 55 09.2 -0.6**
JCT Junction City 54.15 270 *eP* **P 22 55 11.2 0.0**
JCT pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
JCT Junction City 54.15 270 *eP* **P 22 55 11.2 0.0**
comp=Z,7.7nm,0.8s,mb4.7
KURK Kurchatov 55.70 47 *eP* **P 22 55 22.1 -0.4**
KURK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KURK Kurchatov 55.70 47 *eP* **P 22 55 22.1 -0.4**
comp=Z,4.9nm,1.0s,mb4.5
KURK Kurchatov 55.70 47 *eP* **P 22 55 22.1 -0.4**
comp=Z,4.8nm,1.0s,mb4.5
LIC Lamto 56.69 150 *eP* **P 22 55 30.7 +1.2**
comp=Z,17nm,1.0s,mb4.7
LIC Lamto 56.69 150 *eP* **P 22 55 30.7 +1.2**
comp=Z,8.4nm,1.0s,mb4.7
NVAR Mina Array Bea 56.96 291 P **P 22 55 30.1 -1.4**
comp=Z,0.5nm,0.7s,mb3.7,baz=52,slow=5.4,SNR=4.9
MKAR Makanchi Array 60.31 47 P **P 22 55 54.1 -0.7**
comp=Z,1.7nm,0.7s,mb4.2,baz=349,slow=5.7,SNR=15
SONM Songino Array 67.00 30 P **P 22 56 38.9 0.0**
comp=Z,0.3nm,0.4s,mb3.7,baz=320,slow=6.0,SNR=4.7
GTA Gaotai 72.86 39 *eP* **P 22 57 15.4 +0.5**
GTA AP pP 22 57 19.5 +1.3
LZH Lanzhou 77.16 37 *eP* **P 22 57 40.3 +0.5**
LZH AP pP 22 57 44.6 +1.5
LZH XP sP 22 57 47.3 +3.0
LZH AMB AMB
comp=Z,20nm,1.4s,mb4.8
GKN Gorkha 77.48 55 *eP* **P 22 57 42.2 +0.7**
comp=Z,12nm,0.8s,mb4.9
KKN Kakani 77.93 55 *eP* **P 22 57 45.0 +0.9**
comp=Z,17nm,0.8s,mb5.0
KKN Kakani 77.93 55 *eP* **P 22 57 45.0 +0.9**
KKN pmax pmax
comp=Z,17nm,0.8s,mb5.0
DMN Daman 78.02 55 *eP* **P 22 57 45.8 +1.2**
comp=Z,22nm,0.8s,mb5.1
GUN Gumba 78.07 55 *eP* **P 22 57 46.9 +2.0**
PKI Pulchoki 78.18 55 *eP* **P 22 57 46.1 +0.7**
JIRN Jiri 78.42 54 *eP* **P 22 57 48.2 +1.4**
comp=Z,18nm,0.7s,mb5.1
MJAR Matsushiro Arr 83.54 10 P **P 22 58 14.0 -0.1**
comp=Z,2.0nm,0.9s,mb4.3,baz=338,slow=5.7,SNR=8.9
ASAR Alice Springs 142.17 25 PKhKP 23 05 14.1
comp=Z,0.5nm,0.7s,baz=347,slow=3.2,SNR=5.8

*ISCJB **24** 22:48:39.9±1.5, 240S±02×698E±04, h10km, mb3.6/6, Error ellipse: s-maj=53.7km s-min=26.0km az=139.1*
*IDC **24** 22:48:40.1±1.6, 2400S×6980E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=57.4km s-min=26.3km az=67.0*
*NEIC **24** 22:48:41.8±1.2, 2401S×6982E, h10km, Error ellipse: s-maj=43.1km s-min=20.7km az=70.0*
ISC 24 22:48:41.3±1.5, 240S±02×697E±04, h10km, n7, σ0.9 44/7, mb3.6/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**58.27**	**104**	P		P	P	22 58 36.1	0.0
	0.5nm,0.8s,mb3.6,baz=252,slow=6.4,SNR=8.5								
WRA	**Warramunga Arr**	**59.66**	**100**	P		P	P	22 58 45.9	+0.1
	0.6nm,0.8s,mb3.7,baz=256,slow=9.8,SNR=3.5								
VNDA	**Vanda**	**67.19**	**166**	P		P	P	22 59 35.5	-0.1
	1.5nm,1.0s,mb4.0,baz=287,slow=9.7,SNR=4.1								
VNDA	**Vanda**	**67.19**	**166**	P		P	P	22 59 35.5	-0.1
MKAR	**Makanchi Array**	**71.42**	**9**	P		P	P	23 00 00.9	-0.8
	0.7nm,0.9s,mb3.6,baz=167,slow=7.0,SNR=2.9								
BVAR	**Borovoye Array**	**76.74**	**0**	P		P	P	23 00 33.5	+0.7
	0.6nm,0.9s,mb3.5,baz=198,slow=9.1,SNR=3.0								
SONM	**Songino Array**	**78.80**	**24**	P		P	P	23 00 44.5	+0.2
	0.1nm,0.3s,mb3.2,baz=194,slow=5.3,SNR=3.1								

*JMA **24** 23:00:50.6±0.4, 32.13N×138.01E, h420km±4km, M3.8*
*NEIC **24** 23:00:50.6, 32.13N×138.01E, h420km, mb4.6/8, After JMA.*
*ISCJB **24** 23:00:51.6±0.5, 3209N±006×13792E±009, h396km±5km, mb4.0/13, Error ellipse: s-maj=13.4km s-min=9.0km az=128.9*
*MOS **24** 23:00:52.2±1.0, 32.19N×137.65E, h387km, mb4.2/4, Error ellipse: s-maj=24.7km s-min=13.6km az=99.9*
*IDC **24** 23:00:52.5±0.9, 3205N×137.75E, h381km±11km, mb3.1/8, mb1 3.3/12, mb1mx3.1/26, mbtmp4.0/12, Error ellipse: s-maj=27.1km s-min=13.4km az=72.0*
ISC 24 23:00:53.1±0.5, 3216N±007×13787E±010, h388km±5km, n41, σ0.9 90/54, mb4.0/13, 1C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.88**	**59**	P		P	Pn	23 01 47.5	+0.3
	26nm,0.3s,baz=226,slow=22,SNR=5.3								
JHJ				S		S	S	23 02 31.3	+0.5
	48nm,0.3s,baz=253,slow=22,SNR=4.6								
JHJ2	**Mitsune**	**1.90**	**59**	P		P	Pn	23 01 48.1	+0.8
JIM2	**Oshima 3**	**2.87**	**27**	P		P	Pn	23 01 56.3	+2.0
JIM2				S		S	S	23 02 44.7	+1.0
JOD2	**Odawara 2**	**3.26**	**18**	P		P	Pn	23 01 58.1	+0.5
JOD2				S		S	S	23 02 49.5	-0.2
JYN	**Shimob**	**3.38**	**9**	P		P	Pn	23 01 59.5	+0.9
BSO1	**Boso 1**	**3.60**	**45**	P		P	Pn	23 01 59.6	-1.0
BSO1				S		S	S	23 02 50.7	-4.6
JGM	**Miyama**	**3.66**	**345**	P		P	Pn	23 02 02.1	+0.9
JWT	**Wachi**	**3.73**	**327**	P		P	Pn	23 02 02.6	+0.8
JWT				*e*S		S	S	23 02 56.4	-1.1
JRY	**Ryogami san**	**3.95**	**12**	P		P	Pn	23 02 04.0	+0.2
JRY				S		S	S	23 02 58.7	-2.5
MAJO	**Matsushiro**	**4.38**	**4**⇑	*iP*		P	Pn	23 02 07.8	-0.4
MAJO				*e*S		S	S	23 03 09.9	+0.9
MAT	**Matsushiro**	**4.38**	**4**	P		P	Pn	23 02 07.9	-0.3
MAT				S		S	S	23 03 06.6	-2.4
MAT	**Matsushiro**	**4.38**	**4**	*eP*		P	Pn	23 02 08.0	-0.2
MAT				*e*S		S	S	23 03 07.0	-2.0
MJAR	**Matsushiro Arr**	**4.38**	**4**	P		P	Pn	23 02 07.7	-0.4
	6.0nm,0.3s,baz=179,slow=10,SNR=94								
MJAR				S		S	S	23 03 09.4	+0.4
	1.2nm,0.3s,baz=188,slow=17,SNR=7.1								
MJAR	**Matsushiro Arr**	**4.38**	**4**	P		P	Pn	23 02 07.7	-0.4
MJAR				S		S	S	23 03 09.4	+0.4
CBIJ	**Chichi jima**	**6.29**	**142**	P		P	Pn	23 02 25.9	-2.5
	10.0nm,0.3s,baz=119,slow=23,SNR=12								
CBIJ				S		S	S	23 03 38.9	-7.1
	118nm,0.3s,baz=300,slow=22,SNR=37								
CBIJ	**Chichi jima**	**6.29**	**142**	P		P	Pn	23 02 25.7	-2.7
JMK	**Ichinoseki**	**7.31**	**21**	P		P	Pn	23 02 38.3	-1.6
JMK				S		S	S	23 04 01.5	-5.6
INCN	**Inchon**	**10.65**	**303**	*eP*		P	Pn	23 03 18.4	-0.2
	28nm,0.7s								
ASAJ	**Asahikawa**	**12.51**	**16**	P		P	P	23 03 40.3	+1.6
	3.8nm,0.3s,baz=224,slow=12,SNR=23								
ASAJ	**Asahikawa**	**12.51**	**16**	P		P	P	23 03 40.3	+1.6
ASAJ				pmax		pmax	pmax		
	comp=Z,4.0nm,0.3s								
SONM	**Songino Array**	**28.50**	**313**	P		P	P	23 06 14.5	0.0
	comp=Z,0.5nm,0.4s,mb3.2,baz=114,slow=8.3,SNR=7.4								
MA2	**Magadan**	**28.75**	**14**	P		P	P	23 06 10.9	-5.7
MA2				pmax		pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.9								
MA2	**Magadan**	**28.75**	**14**	P		P	P	23 06 10.9	-5.8
	comp=Z,3.4nm,0.5s,mb3.9								
MKAR	**Makanchi Array**	**44.41**	**306**	P		P	P	23 08 26.9	-0.1
	comp=Z,1.4nm,0.5s,mb3.5,baz=81,slow=10,SNR=15								
JIRN	**Jiri**	**44.67**	**278**	*eP*		P	P	23 08 29.8	+0.7
	comp=Z,51nm,0.5s,mb5.1								
GUN	**Gumba**	**44.85**	**279**	*eP*		P	P	23 08 31.1	+0.6
	comp=Z,25nm,0.4s,mb4.9								
PKI	**Pulchoki**	**45.36**	**278**	*eP*		P	P	23 08 34.3	-0.1
	comp=Z,8.6nm,0.6s,mb4.3								
PKI	**Pulchoki**	**45.36**	**278**	*eP*		P	P	23 08 34.3	-0.1
PKI				pmax		pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.3								
KKN	**Kakani**	**45.40**	**279**	*eP*		P	P	23 08 34.8	+0.1
	comp=Z,26nm,0.9s,mb4.6								
KKN	**Kakani**	**45.40**	**279**	*eP*		P	P	23 08 34.8	+0.1
KKN				pmax		pmax	pmax		
	comp=Z,26nm,0.9s,mb4.6								
DMN	**Daman**	**45.60**	**279**	*eP*		P	P	23 08 36.3	0.0
	comp=Z,10nm,0.5s,mb4.4								
GKN	**Gorkha**	**45.87**	**279**	*eP*		P	P	23 08 38.2	-0.1
	comp=Z,12nm,0.5s,mb4.5								
KOLN	**Koldanda**	**46.81**	**279**	*eP*		P	P	23 08 45.7	+0.1
BVAR	**Borovoye Array**	**51.80**	**315**	P		P	P	23 09 22.3	-0.6
	comp=Z,0.4nm,0.3s,baz=91,slow=7.2,SNR=4.1								
WRA	**Warramunga Arr**	**51.91**	**184**	P		P	P	23 09 23.3	-0.4
	comp=Z,0.5nm,0.4s,baz=346,slow=7.5,SNR=2.9								
AKTK	**Aktyubinsk**	**59.82**	**313**	P		P	P	23 10 18.7	-0.3
AKTO	**Aktyubinsk**	**59.82**	**313**	P		P	P	23 10 18.7	-0.3
	comp=Z,0.6nm,0.7s,mb3.2,baz=72,slow=15,SNR=4.4								
AKTO	**Aktyubinsk**	**59.82**	**313**	P		P	P	23 10 18.7	-0.3
AKTO				pmax		pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4								
INK	**Inuvik**	**60.05**	**25**	P		P	P	23 10 21.1	+0.5
	comp=Z,0.4nm,0.3s,mb3.3,baz=279,slow=3.4,SNR=5.6								
ARCES	**ARCESS Array B**	**67.52**	**339**	P		P	P	23 11 08.7	-0.1
	comp=Z,2.3nm,0.9s,mb3.8,baz=57,slow=8.8,SNR=4.9								
FINES	**FINESS Array B**	**71.75**	**332**	P		P	P	23 11 34.0	-0.2
	comp=Z,0.4nm,0.6s,mb3.2,baz=80,slow=4.5,SNR=5.1								

*MOS **24** 23:01:10.7±1.1, 1893N×11989E, h33km, mb4.8/11, Error ellipse: s-maj=20.8km s-min=9.1km az=109.0*
*ISCJB **24** 23:01:10.1±0.3, 1901N±003×11999E±006, h27km, mb4.3/32, MS4.1/3, Error ellipse: s-maj=8.1km s-min=4.1km az=145.0*
*NEIC **24** 23:01:11.4±0.3, 1901N×120.11E, mb4.6/14, Error ellipse: s-maj=11.4km s-min=5.5km az=82.0*
*IDC **24** 23:01:11.3±0.5, 1897N×120.14E, h26km±3km, mb4.0/15, mb1 4.1/15, mb1mx4.0/20, mbtmp4.1/15, MS4.2/1, Ms1 4.2/1, ms1mx3.5/34, Error ellipse: s-maj=29.4km s-min=10.0km az=69.0*
*BJI **24** 23:01:16.3, 1952N×119.47E, h27km, mB4.7, mb4.3, ML3.6, Ms4.0, Msz4.0*
*MAN **24** 23:01:18.2, 1855N×120.23E, h23km, MS2.9*
ISC 24 23:01:12.1±0.3, 1899N±003×11998E±006, h29km, h29km±1.0km:pP-P, n84, σ1.9 18/85, mb4.3/32, MS4.1/3,
Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.50**	**152**	*eP*		P	Pn	23 01 36.3	-0.8
APYP	**Conner**	**1.64**	**133**	*eP*		P	Pn	23 01 38.4	-0.6
APYP				*e*S		S	Sn	23 01 56.2	-3.0
CVP	**Callao Caves**	**2.17**	**126**	*eP*		P	Pn	23 01 46.0	-0.2
BOLP	**Bolinao**	**2.60**	**181**	*eP*		P	Pn	23 01 53.8	+1.7
CAUP	**Cauayan**	**2.69**	**139**	*eP*		P	Pn	23 01 55.7	+2.4
PALP	**Palanan**	**3.01**	**129**	*eP*		P	Pn	23 01 59.8	+2.0
SCZP	**Santa Cruz**	**3.20**	**181**	*eP*		P	Pn	23 02 01.6	+1.2
BALP	**Baler**	**3.57**	**155**	*eP*		P	Pn	23 02 06.6	+1.0
TGY	**Tagaytay City**	**4.95**	**169**	Pn		P	Pn	23 02 30.4	+5.9
	1.8nm,0.3s,baz=90,slow=22,SNR=3.2								
LUBP	**Lubang**	**5.24**	**177**	*eP*		P	Pn	23 02 29.0	+0.7
NACB	**Ninganchiao**	**5.37**	**16**	*e*Pn		P	Pn	23 02 28.1	-2.2
NACB				*e*Sn		S	Sn	23 03 32.4	+1.3
YHNB	**Yeheng**	**5.80**	**13**	*e*Pn		P	Pn	23 02 35.7	-0.3
QZH	**Quanzhou**	**6.06**	**348**	P		P	Pn	23 02 35.8	-3.9
QZH				SG		S	Sn	23 04 00.1	+12
QZH				LR		LR	LR		
	comp=N,1μm,10.3s								
QZH				LR		LR	LR		
	comp=E,550nm,7.8s								
QZH				LR		LR	LR		
	comp=Z,2μm,13.4s								
GZH	**Guangzhou**	**7.42**	**304**	P		P	Pn	23 02 54.6	-3.7
GZH				LR		LR	LR		
	comp=N,510nm,11.8s								
GZH				LR		LR	LR		
	comp=E,800nm,12.4s								
GZH				LR		LR	LR		
	comp=Z,1μm,10.8s								
QIZ	**Qiongzhong**	**9.59**	**272**	P		P	Pn	23 03 25.1	-3.1
QIZ				S		S	Sn	23 05 08.3	-6.6
KSM	**Kuching**	**19.82**	**210**	*eP*		P	Pn	23 05 40.9	-1.2
LZH	**Lanzhou**	**22.19**	**323**	P		P	P	23 06 06.5	+0.6
LZH				AP				23 06 13.5	
LZH				XP		sP		23 06 18.0	+0.7
LZH				AMB		AMB			
	comp=Z,60nm,1.5s,mb4.8								
LZH				AMB		AMB			
	comp=Z,320nm,5.2s								
HHC	**Hu-ho-hao-te**	**22.95**	**343**	*eP*		P	P	23 06 14.3	+0.4
HHC				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.3								
HHC				AMB		AMB			
	comp=Z,250nm,9.2s								
HHC				LR		LR			
	comp=N,450nm,15.5s,MS4.0								
HHC				LR		LR			
	comp=E,260nm,20.2s,MS4.0								
HHC				LR		LR			
	comp=Z,420nm,17.8s,MS3.9								
KULM	**Kulim**	**23.26**	**237**	*eP*		P	P	23 06 17.8	+0.7
MAT	**Matsushiro**	**23.71**	**39**	P		P	P	23 06 13.1	-8.5
MAT				*e*S		S	sP	23 06 37.2	+3.8
MAT	**Matsushiro**	**23.71**	**39**	P		P	P	23 06 13.0	-8.6
MAT				S		S	sP	23 06 37.0	+3.6
MJAR	**Matsushiro Arr**	**23.71**	**39**	P		P	P	23 06 19.8	-1.8
	comp=Z,1.6nm,0.8s,mb3.5,baz=237,slow=7.7,SNR=5.0								
VLA	**Vladivostok**	**26.07**	**20**	*i P*		P	P	23 06 45.6	+2.6
VLA				*i*		pP	pP	23 06 53.7	+2.3
VLA				pmax		pmax	pmax		
	comp=Z,34nm,1.3s,mb4.7								
PSI	**Prapat**	**26.14**	**235**	P		P	P	23 06 44.2	+0.6
	comp=Z,7.3nm,0.8s,mb4.3,baz=23,slow=3.3,SNR=4.5								
GTA	**Gaotai**	**26.79**	**324**	*eP*		P	P	23 06 51.4	+1.9
GTA				AP		pP	pP	23 06 55.3	-2.6
GTA				XP		sP	sP	23 06 58.4	-3.0
GTA				AMB		AMB	AMB		
	comp=Z,260nm,4.6s								
GTA				LR		LR	LR		
	comp=N,350nm,13.3s,MS4.2								
GTA				LR		LR	LR		
	comp=E,290nm,15.2s,MS4.2								
GTA				LR		LR	LR		
	comp=Z,360nm,13.7s,MS4.1								
SONM	**Songino Array**	**30.83**	**342**	P		P	P	23 07 25.8	+0.4
	comp=Z,0.9nm,0.7s,mb3.7,baz=159,slow=9.5,SNR=7.0								
SONM				pP		pP	pP	23 07 34.3	+0.5
	comp=Z,1.5nm,0.7s,baz=161,slow=10.0,SNR=8.0								
SONM				LR		LR	LR	23 20 58.8	
	comp=Z,405nm,19.1s,MS4.1,baz=305,slow=38								
SONM	**Songino Array**	**30.83**	**342**	P		P	P	23 07 25.8	+0.4
SONM				*PP

MKAR			pP	pP	23 09 05.7	+0.9
	comp=Z,5.1nm,0.9s,baz=107,slow=8.1,SNR=12					
MKAR	**Makanchi Array**	**41.45 321**	P	**P**	**23 08 57.4**	**+1.2**
MKAR			pP	pP	23 09 05.7	+0.9
ZAL	**Zalesovo**	**44.10 331**	P	**P**	**23 09 18.8**	**+1.2**
	comp=Z,0.7nm,0.4s,mb3.8,baz=2.6,slow=9.9,SNR=4.3					
AS31	**Alice Springs**	**44.52 162**	*e*P	**P**	**23 09 20.7**	**-0.3**
ASPA	**Alice Springs**	**44.52 162**	*e*P	**P**	**23 09 20.7**	**-0.3**
ASAR	**Alice Springs**	**44.52 162**	P	**P**	**23 09 20.9**	**-0.1**
	comp=Z,3.5nm,0.8s,mb4.2,baz=334,slow=7.0,SNR=14					
ASAR			pP	pP	23 09 29.1	-0.5
	comp=Z,8.3nm,0.7s,baz=339,slow=6.7,SNR=17					
NVS	**Novosibirsk**	**45.38 331**	*e*P	**P**	**23 09 26.2**	**-1.6**
KURK	**Kurchatov**	**45.48 324**	*e*P	**P**	**23 09 28.9**	**+0.3**
KURK			*e**PP	pP	23 09 38.1	+0.8
KURK			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3					
KURK	**Kurchatov**	**45.48 324**	*e*P	**P**	**23 09 28.9**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.2					
KURK			*e*pP	pP	23 09 38.1	+0.8
FORT	**Forrest**	**50.09 171**	*e*P	**P**	**23 10 05.2**	**+0.8**
	comp=Z,24nm,0.8s,mb5.3					
BVAR	**Borovoye Array**	**51.08 324**	pP	pP	23 10 21.7	+1.1
	comp=Z,0.6nm,0.5s,baz=108,slow=8.4,SNR=2.5					
BVAR			PcP	PcP	23 11 26.7	-0.7
	comp=Z,0.8nm,0.7s,baz=120,slow=5.8,SNR=3.7					
NWAO	**Narrogin (SRO)**	**51.69 183**	*e*P	**P**	**23 10 16.3**	**-0.1**
NWAO			pmax	pmax		
	comp=Z,5.0nm,0.7s					
NWAO	**Narrogin (SRO)**	**51.69 183**	*e*P	**P**	**23 10 16.2**	**-0.2**
	comp=Z,5.0nm,0.7s,mb4.5					
ZRNK	**Zerenda**	**51.83 323**	*e*P	**P**	**23 10 17.9**	**+0.5**
ZRNK			*e**PP	pP	23 10 27.2	+1.0
ZRNK			pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2					
ZRNK	**Zerenda**	**51.83 323**	*e*P	**P**	**23 10 17.9**	**+0.5**
	comp=Z,5.1nm,1.5s,mb4.2					
ZRNK			*e*pP	pP	23 10 27.2	+1.0
STKA	**Stephens Creek**	**54.66 157**	*e*P	**P**	**23 10 36.6**	**-1.7**
	comp=Z,16nm,0.8s,mb5.1					
STKA	**Stephens Creek**	**54.66 157**	P	**P**	**23 10 36.9**	**-1.4**
	comp=Z,7.5nm,0.8s,mb4.8,baz=324,slow=8.5,SNR=13					
STKA			pP	pP	23 10 45.0	-2.1
	comp=Z,18nm,0.8s,baz=333,slow=6.4,SNR=15					
STKA	**Stephens Creek**	**54.66 157**	*e*P	**P**	**23 10 36.6**	**-1.7**
STKA	**Stephens Creek**	**54.66 157**	*e*P	**P**	**23 10 36.6**	**-1.7**
	comp=Z,16nm,0.8s,mb5.1					
AKTK	**Aktyubinsk**	**57.78 318**	P	**P**	**23 11 01.3**	**+0.7**
AKTO	**Aktyubinsk**	**57.78 318**	P	**P**	**23 11 01.3**	**+0.7**
	comp=Z,1.0nm,0.7s,mb4.0,baz=108,slow=10.0,SNR=4.2					
ARU	**Arti**	**58.64 325**	*e*P	**P**	**23 11 07.2**	**+0.7**
ARU	**Arti**	**58.64 325**	*e*P	**P**	**23 11 06.3**	**-0.2**
	comp=Z,3.2nm,0.6s,mb4.5					
ARU			*e*pP	pP	23 11 14.9	-0.5
TOO	**Toolangi**	**61.17 157**	*e*P	**P**	**23 11 25.4**	**+1.4**
	comp=Z,5.9nm,1.0s,mb4.7					
TOO	**Toolangi**	**61.17 157**	*e*P	**P**	**23 11 25.4**	**+1.4**
TOO			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7					
TOO	**Toolangi**	**61.17 157**	*e*P	**P**	**23 11 25.4**	**+1.4**
TOO			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7					
JOF	**Joensuu**	**72.68 331**	*e*p	**P**	**23 12 35.7**	**-1.5**
	comp=Z,8.0nm,0.6s,mb4.8					
JOF	**Joensuu**	**72.68 331**	*e*P	**P**	**23 12 35.7**	**-1.5**
JOF			pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8					
ARCES	**ARCESS Array B**	**73.93 339**	P	**P**	**23 12 45.2**	**+0.7**
	comp=Z,2.5nm,0.9s,mb4.1,baz=80,slow=6.5,SNR=3.1					
ARCES			pP	pP	23 12 52.8	-0.7
	comp=Z,2.1nm,0.8s,baz=79,slow=6.3,SNR=1.7					
ARCES	**ARCESS Array B**	**73.93 339**	P	**P**	**23 12 45.2**	**+0.7**
ARCES			pP	pP	23 12 52.8	-0.7
KAF	**Kangasniemi**	**75.11 331**	*e*p	**P**	**23 12 49.9**	**-1.5**
	comp=Z,3.4nm,0.7s,mb4.4					
KAF	**Kangasniemi**	**75.11 331**	*e*P	**P**	**23 12 49.9**	**-1.5**
KAF			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3					
FINES	**FINESS Array B**	**75.36 330**	P	**P**	**23 12 52.7**	**-0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=48,slow=2.8,SNR=6.3					
FINES			pP	pP	23 13 01.0	-0.9
	comp=Z,2.8nm,0.8s,baz=35,slow=4.7,SNR=5.8					
FINES	**FINESS Array B**	**75.36 330**	P	**P**	**23 12 52.7**	**-0.1**
FINES			pP	pP	23 13 01.0	-0.9
AKASG	**Malin Array Be**	**76.01 319**	P	**P**	**23 12 55.6**	**-0.9**
	comp=Z,0.2nm,0.2s,mb3.6,baz=69,slow=4.8,SNR=4.3					
AKASG			pP	pP	23 13 04.4	-1.2
	comp=Z,0.4nm,0.3s,baz=65,slow=5.4,SNR=1.8					
INK	**Inuvik**	**78.44 21**	P	**P**	**23 13 12.3**	**+2.1**
	comp=Z,1.4nm,1.1s,mb3.8,baz=50,slow=7.9,SNR=3.2					
INK	**Inuvik**	**78.44 21**	P	**P**	**23 13 12.3**	**+2.1**
KWP	**Kalwaria**	**80.34 319**	*e*P	**P**	**23 13 20.6**	**+0.1**
KWP			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
KWP	**Kalwaria**	**80.34 319**	*e*P	**P**	**23 13 20.6**	**+0.1**
	comp=Z,6.4nm,0.9s,mb4.5					
NB2	**NORSAR Subarra**	**82.28 332**	P	**P**	**23 13 29.9**	**-0.9**
	comp=Z,4.3nm,1.0s,mb4.3,baz=65,slow=5.6					
NB2	**NORSAR Subarra**	**82.28 332**	P	**P**	**23 13 29.9**	**-0.9**
NB2			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3					
NOA	**NORSAR Array B**	**82.28 332**	P	**P**	**23 13 29.9**	**-0.9**
	comp=Z,1.6nm,0.8s,mb4.0,baz=66,slow=5.0,SNR=5.8					
NOA			pP	pP	23 13 38.3	-1.6
	comp=Z,2.6nm,0.9s,baz=64,slow=5.0,SNR=6.6					
GERES	**GERESS Array B**	**86.12 321**	P	**P**	**23 13 50.7**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.7,baz=73,slow=4.5,SNR=5.3					
GERES			pP	pP	23 13 59.4	-0.1
	comp=Z,0.6nm,0.7s,baz=59,slow=5.1,SNR=5.3					
YKA	**Yellowknife Ar**	**88.17 22**	pP	pP	23 14 08.1	-1.4
	comp=Z,3.1nm,0.8s,baz=322,slow=3.9,SNR=6.1					
LPG	**La Plagne**	**91.87 320**	*e*P	**P**	**23 14 16.0**	**-1.5**
	comp=Z,5.0nm,0.6s,mb4.7					
LPG	**La Plagne**	**91.87 320**	*e*P	**P**	**23 14 16.0**	**-1.5**
LPG			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.8					
LPG	**La Plagne**	**91.87 320**	*e*P	**P**	**23 14 16.0**	**-1.5**
	comp=Z,2.5nm,0.6s,mb4.7					
LPL	**La Plagne**	**91.87 320**	*e*P	**P**	**23 14 16.0**	**-1.5**
SDV	**Santo Domingo**	**150.39 22**	*e*PKPdf	PKPdf	23 20 56.5	+1.2
SDV			*e*PKPbc	PKPbc	23 21 01.7	+1.1

IDC 24 23:03:12.1±11.0, 027S×12360E, h126km±113km, mb3.4/4, mb1 3.6/4, mb1mx3.3/16, mbtmp3.7/4, Error ellipse: s-maj=68.4km s-min=22.4km az=80.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.20 152**		P	P	23 07 57.2	-0.9
	2.0nm,0.6s,baz=332,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**25.31 157**		P	P	23 08 27.9	+1.0
	1.1nm,0.5s,baz=347,slow=13,SNR=26						
MJAR	**Matsushiro Arr**	**39.06 19**		P	P	23 10 27.3	+0.7
	0.9nm,0.8s,baz=185,slow=8.2,SNR=4.2						
MKAR	**Makanchi Array**	**59.16 328**		P	P	23 12 59.4	-0.2
	1.1nm,0.6s,baz=116,slow=8.4,SNR=9.0						
TORD	**Torodi Ar. Bea**	**121.06 285**		PKP	PKPdf	23 21 50.8	+1.0
	0.2nm,0.5s,baz=75,slow=1.2,SNR=5.6						

IDC 24 23:05:54.0±3.4, 1837N×11928E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.7/4, Error ellipse: s-maj=380.1km s-min=25.0km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.93 105**		*e*P	Pn	23 06 23.3	-4.8
WRA	**Warramunga Arr**	**40.84 158**		P	P	23 13 36.8	-0.6
	0.7nm,0.8s,baz=338,slow=8.9,SNR=3.9						
MKAR	**Makanchi Array**	**41.52 321**		P	P	23 13 43.0	0.0
	0.3nm,0.6s,baz=116,slow=7.6,SNR=2.6						
ASAR	**Alice Springs**	**44.15 161**		P	P	23 14 05.0	+0.7
	0.3nm,0.4s,baz=339,slow=6.9,SNR=7.3						
STKA	**Stephens Creek**	**54.35 157**		P	P	23 15 22.6	+0.2
	1.3nm,1.0s,baz=326,slow=7.3,SNR=3.2						

*IDC **24** 23:11:21.1±2.2, 388S×13006E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=109.0km s-min=27.4km az=74.0*

NEIC 24 23:11:25.1±1.4, 387S×13026E, h30km, mb3.7/1, Error ellipse: s-maj=46.4km s-min=16.4km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.85 197**		Pn	Pn	23 14 53.2	+0.2
	0.2nm,0.3s,baz=17,slow=14,SNR=6.3						
WRAB	**Tennant Creek**	**16.46 166**		*e*Pn	Pn	23 15 13.5	-0.3
	3.1nm,0.5s						
WRA	**Warramunga Arr**	**16.47 166**		Pn	Pn	23 15 15.1	+1.3
	0.2nm,0.3s,baz=348,slow=13,SNR=4.8						
WRA				Sn	Sn	23 18 05.9	-10
	0.1nm,0.3s,baz=346,slow=20,SNR=2.2						
ASAR	**Alice Springs**	**20.00 170**		P	Pn	23 15 54.8	-2.2
	1.9nm,0.6s,baz=347,slow=12,SNR=29						
MKAR	**Makanchi Array**	**65.77 326**		P	P	23 22 07.5	+0.2
	0.2nm,0.4s,baz=110,slow=7.8,SNR=6.0						

MEX 24 23:18:01.0±1.1, 1603N×9886W, h21km±71km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.31 310**		*i* P	Pn	23 18 21.5	-2.6
ACX				*i* S	Sn	23 18 37.0	-4.0
MEIG	**Mezcala**	**2.02 339**		*e*P	Pn	23 18 30.2	-3.6
MEIG				*i* S	Sn	23 18 55.0	-3.4
UTMO	**Huajuapan**	**2.06 29**		*e*P	Pn	23 18 31.7	-2.6
UTMO				*i* S	Sn	23 18 56.5	-2.8
OXX	**Oaxaca**	**2.30 63**		*i* P	Pn	23 18 36.0	-1.7
OXX				*i* S	Sn	23 19 05.0	-0.4
PLIG	**Platanillo**	**2.43 345**		*i* P	Pn	23 18 38.4	-1.0
PLIG				*i* S	Sn	23 19 08.3	-0.3

*ISCJB **24** 23:23:36.4±0.4, 1893N±005×12005E±008, h33km, mb4.1/25, MS4.2/1, Error ellipse: s-maj=10.9km s-min=6.7km az=159.0*

*IDC **24** 23:23:37.7±0.7, 1904N×12028E, h27km±5km, mb3.9/16, mb1 4.1/16, mb1mx4.0/21, mbtmp4.1/16, Error ellipse: s-maj=31.6km s-min=11.8km az=65.0*

*NEIC **24** 23:23:38.4±0.3, 1897N×12024E, h35km, mb4.3/9, Error ellipse: s-maj=12.2km s-min=6.3km az=72.0*

*BJI **24** 23:23:40.8, 1923N×11962E, h35km, mB4.8, mb4.2, ML3.8, Ms4.2, Msz4.0*

ISC 24 23:23:34.4±3.5, 1890N±005×11995E±006, h7km±22km, h30km±3.0km: pP-P, n43, σ1 9 23/44, mb4.1/25, MS4.2/1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**5.89**	**13**	*e*Pn	**Pn**	**23 25 03.0**	**+0.9**
YHNB				*e*Sn	**Sn**	**23 26 10.7**	**+0.9**
GZH	**Guangzhou**	**7.44 305**		P	**Pn**	**23 25 21.6**	**-1.8**
GZH				LR	LR		
	comp=N,750nm,11.8s						
GZH				LR	LR		
	comp=E,970nm,12.1s						
GZH				LR	LR		
	comp=Z,2μm,11.8s						
QIZ	**Qiongzhong**	**9.56 272**		P	**Pn**	**23 25 52.4**	**0.0**
QIZ				S	**Sn**	**23 27 37.9**	**-2.2**
KMI	**Kunming**	**17.11 294**		P	**Pn**	**23 27 34.8**	**+0.8**
XAN	**Xi'an**	**18.00 329**		P	**Pn**	**23 27 43.1**	**-1.9**
XAN				AP	pP	23 27 53.9	+6.3
LZH	**Lanzhou**	**22.24 324**		*e*P	**P**	**23 28 32.5**	**+0.8**
LZH				AP		23 28 39.5	
LZH				XP	sP	23 28 43.0	+8.3
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,220nm,5.3s						
MAJO	**Matsushiro**	**23.80**	**39**	*e*P	**P**	**23 28 45.4**	**-2.5**
	comp=Z,14nm,1.3s,mb4.2						
MAT	**Matsushiro**	**23.80**	**39**	P	**P**	**23 28 45.6**	**-2.3**
MAT	**Matsushiro**	**23.80**	**39**	*e*P	**P**	**23 28 46.0**	**-1.9**
MJAR	**Matsushiro Arr**	**23.80**	**39**	P	**P**	**23 28 45.8**	**-2.1**
	comp=Z,2.0nm,0.9s,mb3.6,baz=228,slow=8.1,SNR=9.7						
GTA	**Gaotai**	**26.84 324**		*e*P	**P**	**23 29 16.5**	**+1.0**
GTA				AMB	AMB		
	comp=Z,210nm,4.2s						
GTA				LR	LR		
	comp=N,240nm,12.2s,MS4.2						
GTA				LR	LR		
	comp=E,350nm,13.3s,MS4.2						
GTA				LR	LR		
	comp=Z,380nm,13.3s,MS4.1						
ULN	**Ulaanbaatar**	**30.74 343**		*e*Pn	**P**	**23 29 50.5**	**+0.3**
	comp=Z,2.8nm,0.9s,mb4.1						
ULN				*e*pP	pP	23 30 04.6	+12
ULN				*e*sP	sP	23 30 12.5	+19
SONM	**Songino Array**	**30.90 342**		P	**P**	**23 29 51.7**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.6,baz=160,slow=8.1,SNR=5.2						
WRAB	**Tennant Creek**	**41.10 159**		*e*P	**P**	**23 31 17.6**	**-1.2**
	comp=Z,9.4nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**41.10 159**		P	**P**	**23 31 18.9**	**0.0**
	comp=Z,4.9nm,0.9s,mb4.1,baz=340,slow=9.1,SNR=12						
WRA				PcP	PcP	23 33 19.9	+1.6
	comp=Z,1.5nm,0.7s,baz=344,slow=3.8,SNR=9.3						
WB2	**Warramunga Arr**	**41.11 159**		*e*P	**P**	**23 31 19.0**	**+0.1**
MKAR	**Makanchi Array**	**41.50 321**		P	**P**	**23 31 23.5**	**+1.4**
	comp=Z,2.6nm,0.9s,mb3.9,baz=119,slow=10.0,SNR=14						
MKAR				pP	pP	23 31 31.6	+7.2
	comp=Z,4.9nm,0.9s,baz=116,slow=8.2,SNR=19						
MKAR	**Makanchi Array**	**41.50 321**		P	**P**	**23 31 23.5**	**+1.4**
MKAR				pP	pP	23 31 31.6	+7.3
ZAL	**Zalesovo**	**44.16 331**		P	**P**	**23 31 44.1**	**+0.4**
	comp=Z,1.6nm,0.2s,mb4.3,baz=324,slow=10.0,SNR=6.7						
AS31	**Alice Springs**	**44.45 162**		*e*P	**P**	**23 31 47.1**	**+1.1**
ASAR	**Alice Springs**	**44.45 162**		P	**P**	**23 31 47.1**	**+1.1**
	comp=Z,3.9nm,0.9s,mb4.1,baz=339,slow=6.8,SNR=26						
ASAR				pP	pP	23 31 55.1	+6.8
	comp=Z,3.1nm,0.6s,baz=343,slow=7.5,SNR=13						
ASPA	**Alice Springs**	**44.45 162**		*e*P	**P**	**23 31 47.1**	**+1.1**
KURK	**Kurchatov**	**45.53 324**		*e*P	**P**	**23 31 55.1**	**+0.5**
	comp=Z,10nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**51.13 324**		P	**P**	**23 32 40.3**	**+2.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=113,slow=9.8,SNR=7.7						
BVAR				PcP	PcP	23 33 53.1	-0.3
	comp=Z,1.3nm,0.8s,baz=96,slow=3.0,SNR=6.1						
BRVK	**Borovoye**	**51.20 324**		*e*P	**P**	**23 32 40.0**	**+1.6**
	comp=Z,1.0nm,0.9s,mb3.8						
CHKZ	**Chkalovo**	**51.25 325**		*e*P	**P**	**23 32 38.4**	**-0.4**
	comp=Z,3.2nm,1.3s,mb4.1						
STKA	**Stephens Creek**	**54.59 157**		*e*P	**P**	**23 33 02.7**	**-0.7**
	comp=Z,8.5nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**54.59 157**		P	**P**	**23 33 03.1**	**-0.3**
	comp=Z,8.3nm,0.9s,mb4.8,baz=336,slow=8.0,SNR=13						
AKTK	**Aktyubinsk**	**57.83 318**		P	**P**	**23 33 28.3**	**+1.7**
AKTO	**Aktyubinsk**	**57.83 318**		P	**P**	**23 33 28.3**	**+1.7**
	comp=Z,0.7nm,0.5s,mb4.0,baz=118,slow=9.0,SNR=3.6						
JOF	**Joensuu**	**72.74 331**		*e*p	**P**	**23 35 00.1**	**-3.1**
	comp=Z,7.5nm,0.8s,mb4.7						
ARCES	**ARCESS Array B**	**74.00 339**		P	**P**	**23 35 10.6**	**-0.1**
	comp=Z,5.2nm,0.9s,mb4.5,baz=92,slow=5.8,SNR=4.7						
ARCES	**ARCESS Array B**	**74.00 339**		P	**P**	**23 35 10.6**	**-0.1**
FINES	**FINESS Array B**	**75.42 330**		P	**P**	**23 35 18.4**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.1,baz=108,slow=6.2,SNR=7.8						
FINES				pP	pP	23 35 27.4	+6.1
	comp=Z,1.9nm,0.8s,baz=38,slow=7.2,SNR=4.0						
AKASG	**Malin Array Be**	**76.06 319**		P	**P**	**23 35 22.0**	**-0.5**
	comp=Z,0.2nm,0.3s,mb3.5,baz=68,slow=5.5,SNR=6.0						
INK	**Inuvik**	**78.53**	**21**	P	**P**	**23 35 34.8**	**-1.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=350,slow=4.3,SNR=4.5						
NB2	**NORSAR Subarra**	**82.34 332**		P	**P**	**23 35 56.0**	**-0.9**
	comp=Z,0.9nm,0.8s,mb3.8,baz=63,slow=5.6						
NOA	**NORSAR Array B**	**82.34 332**		P	**P**	**23 35 55.9**	**-1.0**
	comp=Z,2.0nm,0.9s,mb4.0,baz=64,slow=5.0,SNR=5.9						
BRG	**Berggiesshubel**	**85.19 322**		*e*P	**P**	**23 36 11.6**	**+0.1**
	comp=Z,2.8nm,1.2s,mb4.3						
GERES	**GERESS Array B**	**86.17 321**		P	**P**	**23 36 16.8**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.9,baz=73,slow=4.5,SNR=7.6						
YKA	**Yellowknife Ar**	**88.27**	**22**	P	**P**	**23 36 25.7**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.5,baz=320,slow=5.5,SNR=5.8						
YKA	**Yellowknife Ar**	**88.27**	**22**	P	**P**	**23 36 25.7**	**-0.8**
PLCA	**Paso Flores**	**156.45 160**		PKP	PKPdf	23 43 30.2	+0.3
	comp=Z,1.5nm,1.0s,baz=247,slow=5.2,SNR=3.0						

IDC 24 23:27:51.9±1.3, 1910N×12049E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=148.7km s-min=19.5km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**30.87 341**		P	P	23 34 10.0	+0.1
	0.2nm,0.6s,baz=146,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**41.11 160**		P	P	23 35 37.5	0.0
	0.9nm,0.8s,baz=340,slow=9.1,SNR=3.1						
MKAR	**Makanchi Array**	**41.67 320**		P	P	23 35 42.1	0.0
	0.3nm,0.6s,baz=116,slow=9.8,SNR=4.8						
ASAR	**Alice Springs**	**44.48 162**		P	P	23 36 05.0	+0.1
	0.4nm,0.4s,baz=340,slow=6.8,SNR=10						
STKA	**Stephens Creek**	**54.58 158**		P	P	23 37 22.4	+0.4
	0.7nm,0.4s,baz=343,slow=13,SNR=3.6						

*IDC **24** 23:34:41.8±1.6, 1099S×11835E, h0km, mb3.8/2, mb1 3.7/4, mb1mx3.5/15, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=57.9km s-min=26.6km az=60.0*

NEIC 24 23:34:47.0±1.2, 1109S×11819E, h35km, mb4.4/1, Error ellipse: s-maj=36.3km s-min=19.1km az=72.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.02 135**		*e*P	Pn	23 37 04.1	-4.3
	4.3nm,0.6s						
FITZ				*e*S	Sn	23 38 47.1	-12
MBWA	**Marble Bar**	**10.12 172**		*e*Pn	Pn	23 37 02.2	-7.5
MBWA				*e*Sn	Sn	23 38 41.5	-20
WRA	**Warramunga Arr**	**17.86 121**		P	Pn	23 38 49.6	-3.0
	0.1nm,0.3s,baz=290,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**19.50 132**		P	Pn	23 39 11.3	-1.1
	0.1nm,0.3s,baz=316,slow=13,SNR=11						
KLBR	**Kellerberrin**	**20.41 181**		*e*P	P	23 39 20.4	-0.5
	26nm,1.4s						
KLBR				*e*S	S	23 42 38.8	-29
NWAO	**Narrogin (SRO)**	**21.75 182**		P	P	23 39 36.1	+0.8
	6.6nm,0.7s,baz=2.7,slow=13,SNR=6.7						
MKAR	**Makanchi Array**	**65.96 334**		P	P	23 45 29.6	+0.1
	0.3nm,0.5s,baz=146,slow=7.7,SNR=5.1						

*NIED **24** 23:43:00, 4380N×15000E, h5km, Mw5.0 Best double couple: M0:3.89000×10^16 NP1:φs:268.00000°, δ64.00000°, λ-83.00000°. NP2:φs:72.00000°, δ27.00000°, λ-105.00000°.*

*IDC **24** 23:43:32.1±0.5, 4353N×150.14E, h0km, mb4.7/23, mb1 4.8/25, mb1mx4.8/26, mbtmp4.7/25, ML4.3/2, MS4.3/7, Ms1 4.3/7, ms1mx3.7/26, Error ellipse: s-maj=13.9km s-min=12.7km az=137.0*

*SKHL **24** 23:43:34.9±1.9, 4390N×15007E, h34km±1km, mb5.6/5, mbh5.4/5, Ms4.5/5, msh5.4/3*

*BJI **24** 23:43:35.5, 4376N×14979E, h18km, mB5.2, mb5.0, Ms4.7, Msz4.4*

*ISCJB **24** 23:43:35.1±0.1, 4330N±003×14999E±002, h35km, mb5.1/202, MS4.4/27, Error ellipse: s-maj=4.2km s-min=1.8km az=152.2*

*JMA **24** 23:43:36.0±0.5, 4377N×14996E, h30km, M5.4*

*MOS **24** 23:43:37.8±0.8, 4396N×15004E, h33km, mb5.3/106, MS4.5/13, Error ellipse: s-maj=8.2km s-min=3.8km az=108.6*

*HRVD **24** 23:43:38.2±0.6, 4350N×15026E, h18km±1km, MW5.1/53, Centroid moment Tensor Solution. LP body waves: s21,c27;Mantle waves: s53,c82; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.50±.45; Mθθ3.99±.28; Mφφ1.51±.29; Mrθ0.70±.58; Mrφ2.01±.17; Mθφ-0.59±.81; Best double couple: M0:5.37600×10^16 NP1:φs:53.00000°, δ44.00000°, λ-102.00000°. NP2: φs:249.00000°, δ47.00000°, λ-79.00000°. Principal axes: T 5.1220, Plg2.0000°, Azm331.0000°; N 0.5090, Plg8.0000°, Azm61.0000°; P -5.6300, Plg82.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 23:43:38.2±0.1, 4351N×15002E, mb5.2/123, MS4.5/2 Error ellipse: s-maj=4.8km s-min=3.1km az=167.0*

*SZGRF **24** 23:43:43.1, 4373N×14684E, h33km, mb5.2, Kuril Islands, Russia*

ISC 24 23:43:37.4±0.1, 4345N±003×14993E±002, h37km, h37km±2.1km: pP-P, n745, σ0 9 93/777, mb5.1/202, MS4.4/27, 72C-86D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.32 321**		*i* P	**Pn**	**23 44 08.0**	**-5.1**
KUR				*i* P		23 44 08.0	
KUR				AMB	AMB	23 44 10.6	
	4μm,2.0s						
KUR				AMB	AMB	23 44 10.6	
	6μm,2.0s						
KUR				AMB	AMB	23 44 10.6	
	8μm,2.0s						
KUR				AMB	AMB	23 44 11.3	
	903nm,0.8s						
KUR				AMB	AMB	23 44 11.3	
	1μm,0.8s						
KUR				AMB	AMB	23 44 11.3	
	3μm,0.8s						
KUR				*i* S	**Sn**	**23 44 35.0**	**-5.4**
KUR				A		23 44 37.0	
	28μm,2.0s						
KUR				A		23 44 37.0	
	18μm,2.0s						
KUR				A		23 44 37.2	
	25μm,2.0s						
KUR				A		23 44 38.0	
	14μm,0.8s						
KUR				A		23 44 38.0	
	8μm,0.8s						
KUR	**Kuril'sk**	**2.32 321**	↑	*i* PN	**Pn**

JTKR	**Abashiri--Toko**	**4.40 279**	P	**Pn**	**23 44 42.0**	**+0.3**
JOB	**Onbets**	**4.49 265**	P	**Pn**	**23 44 42.6**	**-0.4**
JOB			*e*S	**Sn**	**23 45 31.0**	**-3.0**
JAR	**Ashorobuto**	**4.50 270**	P	**Pn**	**23 44 42.7**	**-0.3**
JAR			*e*S	**Sn**	**23 45 32.3**	**-1.8**
JMP	**Maruseppu**	**4.80 279**	P	**Pn**	**23 44 47.6**	**+0.5**
JCH	**Churui**	**4.89 262**	P	**Pn**	**23 44 47.9**	**-0.5**
JCH			*e*S	**Sn**	**23 45 40.7**	**-3.0**
ERM	**Erimo**	**5.19 256**	Pn	**Pn**	**23 44 54.4**	**+1.8**
	comp=E,1μm,0.5s,SNR=43					
JEM	**Erimo**	**5.19 256**	P	**Pn**	**23 44 53.4**	**+0.8**
ASAJ	**Asahikawa**	**5.35 280**	Pn	**Pn**	**23 44 56.5**	**+1.7**
	comp=E,12nm,0.3s,baz=116,slow=8.0,SNR=66					
ASAJ			Sn	**Sn**	**23 45 59.9**	**+4.7**
	baz=50,slow=27,SNR=5.9					
ASAJ	**Asahikawa**	**5.35 280**	P	**Pn**	**23 44 56.3**	**+1.5**
ASAJ	**Asahikawa**	**5.35 280**	PN	**Pn**	**23 44 56.5**	**+1.7**
ASAJ					23 45 59.9	
ASAJ			pmax	pmax		
	comp=Z,12nm,0.3s					
JFR	**Furan**	**5.36 269**	P	**Pn**	**23 44 55.4**	**+0.5**
JFR			*e*S	**Sn**	**23 45 53.6**	**-1.8**
JNBK	**Urakawa-nobuka**	**5.41 260**	P	**Pn**	**23 44 54.9**	**-0.6**
JNBK			*e*S	**Sn**	**23 45 52.3**	**-4.2**
JSE	**Soyaes**	**5.50 288**	P	**Pn**	**23 44 57.2**	**+0.5**
JBT2	**Biratori 2**	**5.58 266**	P	**Pn**	**23 44 57.6**	**-0.3**
JBT2			*e*S	**Sn**	**23 45 55.1**	**-5.7**
JAB	**Ashibetsu**	**5.61 273**	P	**Pn**	**23 44 59.9**	**+1.6**
JSS	**Shosan**	**5.91 282**	P	**Pn**	**23 45 04.4**	**+1.9**
JHR	**Hokuryu**	**5.97 276**	P	**Pn**	**23 45 05.6**	**+2.4**
JWK2	**Keihoku**	**6.05 291**	P	**Pn**	**23 45 07.0**	**+2.6**
YSS	**Yuzh-Sakhalins**	**6.17 307**	*e*P	**Pn**	**23 45 05.7**	**-0.2**
YSS			AMB	AMB	23 45 08.0	
	comp=Z,20nm,0.4s					
YSS			*i* sP		23 45 19.0	
YSS			*e*S	**Sn**	**23 46 09.0**	**-6.2**
YSS			A		23 46 17.1	
	comp=Z,230nm,1.0s					
YSS			AMS	AMS	23 49 02.0	
	comp=Z,2μm,16.0s					
YSS			AMS	AMS	23 49 02.0	
	comp=Z,2μm,13.0s					
YSS	**Yuzh-Sakhalins**	**6.17 307**	*e*PN	**Pn**	**23 45 05.7**	**-0.2**
YSS			pmax	pmax		
	comp=E,20nm,0.4s					
YSS			pmax	pmax		
	comp=Z,20nm,0.4s					
YSS			MLR	MLR		
	comp=E,2μm,16.0s					
YSS			MLR	MLR		
	comp=Z,2μm,16.0s					
YSS			MLR	MLR		
	comp=N,2μm,13.0s					
YSS	**Yuzh-Sakhalins**	**6.17 307**	*e*Pn	**Pn**	**23 45 06.2**	**+0.3**
YSS			*e*Sn	**Sn**	**23 46 16.0**	**+0.8**
JEW	**Eniwo**	**6.24 267**	P	**Pn**	**23 45 07.6**	**+0.7**
JNB	**Noboribetsu**	**6.60 265**	P	**Pn**	**23 45 12.2**	**+0.3**
JNB			*e*S	**Sn**	**23 46 24.1**	**-1.8**
JKB	**Kayabe**	**6.74 260**	P	**Pn**	**23 45 13.4**	**-0.5**
JKB			*e*S	**Sn**	**23 46 25.2**	**-4.2**
JSK	**Shakotan**	**6.89 272**	P	**Pn**	**23 45 16.5**	**+0.6**
JTH	**Tanohata**	**6.98 243**	P	**Pn**	**23 45 14.8**	**-2.4**
JTH			*e*S	**Sn**	**23 46 28.1**	**-7.2**
JANG	**Nango**	**6.99 247**	P	**Pn**	**23 45 15.3**	**-2.0**
JANG			*e*S	**Sn**	**23 46 28.7**	**-6.8**
JTM	**Tenmabayashi**	**7.11 251**	P	**Pn**	**23 45 18.3**	**-0.6**
JTM			*e*S	**Sn**	**23 46 32.9**	**-5.5**
JYM2	**Yakumo 2**	**7.16 263**	P	**Pn**	**23 45 19.9**	**+0.3**
JSH	**Shimam**	**7.29 267**	P	**Pn**	**23 45 22.6**	**+1.2**
JSR	**Shiriuchi**	**7.29 258**	P	**Pn**	**23 45 21.0**	**-0.4**
OFUJ	**Ofunato**	**7.60 238**	P	**Pn**	**23 45 23.5**	**-2.1**
OFUJ			*e*S	**Sn**	**23 46 44.3**	**-6.2**
JOSM	**Okushiri--Mats**	**7.82 264**	P	**Pn**	**23 45 28.1**	**-0.5**
UGL	**Uglegorsk**	**7.83 319**	*e*P	**Pn**	**23 45 20.0**	**-8.9**
UGL			pP		23 45 30.0	
UGL			AMB	AMB	23 45 35.0	
	comp=N,500nm,7.0s					
UGL			AMB	AMB	23 45 35.0	
	comp=N,600nm,7.0s					
UGL			AMS	AMS	23 50 10.0	
	comp=N,2μm,14.0s					
UGL			AMS	AMS	23 50 10.0	
	comp=N,2μm,16.0s					
UGL			AMS	AMS	23 50 10.0	
	comp=N,4μm,15.0s					
UGL	**Uglegorsk**	**7.83 319**	*e*PN	**Pn**	**23 45 20.0**	**-8.9**
UGL			*e*		23 46 56.0	
UGL			MLR	MLR		
	comp=Z,4μm,15.0s					
UGL			MLR	MLR		
	comp=N,2μm,16.0s					
UGL			MLR	MLR		
	comp=E,2μm,14.0s					
JRG	**Rokugo**	**8.07 243**	P	**Pn**	**23 45 30.6**	**-1.5**
JIO	**Ouri**	**8.19 235**	P	**Pn**	**23 45 31.5**	**-2.2**
JIO			*e*S	**Sn**	**23 46 56.7**	**-8.2**
JOG2	**Oga 2**	**8.37 248**	P	**Pn**	**23 45 35.9**	**-0.3**
SKR	**Severo-Kuril's**	**8.38 28**	*e*P	**Pn**	**23 45 27.4**	**-8.9**
SKR			AMB	AMB	23 45 30.2	
	comp=E,150nm,0.5s					
SKR			AMB	AMB	23 45 30.2	
	comp=E,70nm,0.5s					
SKR			AMB	AMB	23 45 30.2	
	comp=E,230nm,0.5s					
SKR			*e*S	**Sn**	**23 46 53.0**	**-17**
SKR			A		23 47 03.5	
	comp=E,140nm,0.5s					
SKR			A		23 47 03.5	
	comp=E,150nm,0.5s					
SKR			A		23 47 03.5	
	comp=E,80nm,0.5s					
SKR			A		23 47 14.0	
	comp=E,1μm,10.0s					
SKR			A		23 47 14.0	
	comp=E,2μm,10.0s					
SKR			A		23 47 14.0	
	comp=E,1μm,10.0s					
TYV	**Tymovskoe**	**8.92 329**	*e*P	**Pn**	**23 45 43.0**	**-0.7**
TYV			AMB	AMB	23 45 54.0	
	comp=E,900nm,9.0s					
TYV			AMB	AMB	23 45 54.0	
	comp=E,600nm,9.0s					
TYV			AMB	AMB	23 45 54.0	
	comp=E,1μm,9.0s					
TYV			AMS	AMS	23 50 38.0	
	comp=E,2μm,15.0s					
TYV			AMS	AMS	23 50 38.0	
	comp=E,2μm,14.0s					
TYV			AMS	AMS	23 50 38.0	
	comp=E,2μm,14.0s					
JYA	**Atsumi**	**9.12 241**	P	**Pn**	**23 45 45.8**	**-0.6**
JFK	**Kawauchi**	**9.20 232**	P	**Pn**	**23 45 45.1**	**-2.4**
JAW	**Awa shima**	**9.49 242**	P	**Pn**	**23 45 51.0**	**-0.6**
JAW			S	**Sn**	**23 47 32.1**	**-4.9**
TEY	**Ternei**	**9.70 284**	*e*P	**Pn**	**23 45 54.0**	**-0.4**
TEY			AMB	AMB	23 45 55.0	
	comp=E,40nm,1.0s					
TEY			AMS	AMS	23 51 45.0	
	comp=E,2μm,15.0s					
TEY			AMS	AMS	23 51 45.0	
	comp=E,2μm,15.0s					
JFY	**Yanaizu**	**9.86 236**	P	**Pn**	**23 45 55.5**	**-1.1**
JSD	**Sado**	**10.37 243**	P	**Pn**	**23 46 02.6**	**-1.0**
JHK	**Hiroka**	**10.38 237**	P	**Pn**	**23 46 03.0**	**-0.7**
JHK			S	**Sn**	**23 47 55.7**	**-2.9**
JIZZ	**Izumozaki**	**10.39 239**	P	**Pn**	**23 46 04.3**	**+0.5**
JAG	**Ashikaga**	**10.67 232**	P	**Pn**	**23 46 06.2**	**-1.5**
JJN	**Nakama**	**10.99 239**	P	**Pn**	**23 46 11.9**	**-0.2**
OKH	**Okha**	**11.12 338**	*i* PN	**Pn**	**23 46 11.2**	**-2.6**
OKH			pmax	pmax		
	comp=Z,1μm,8.0s					
PET	**Petropavlovsk**	**11.20 28**	*e*PN	**Pn**	**23 46 08.9**	**-6.0**
PET			pmax	pmax		
	comp=Z,230nm,0.5s					
PET			MLR	MLR		
	comp=N,1μm,14.0s					
PET			MLR	MLR		
	comp=E,900nm,14.0s					
PET			MLR	MLR		
	comp=Z,2μm,14.0s					
PET	**Petropavlovsk**	**11.20 28**	*e*Pn	**Pn**	**23 46 09.8**	**-5.2**
PET			*e*Sn	**Sn**	**23 48 06.6**	**-12**
MJAR	**Matsushiro Arr**	**11.33 236**	Pn	**Pn**	**23 46 16.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=61					
MAJO	**Matsushiro**	**11.33 236**	*e*PN	**Pn**	**23 46 16.5**	**-0.2**
MAT	**Matsushiro**	**11.33 236**	P	**Pn**	**23 46 16.2**	**-0.5**
MAT			S	**Sn**	**23 48 20.0**	**-2.0**
MAT	**Matsushiro**	**11.33 236**	P	**Pn**	**23 46 16.7**	**0.0**
MAT			S	**Sn**	**23 48 24.2**	**+2.2**
MAT	**Matsushiro**	**11.33 236**	*e*PN	**Pn**	**23 46 16.0**	**-0.7**
MAT			pmax	pmax		
	comp=Z,28nm,1.0s					
MAT	**Matsushiro**	**11.33 236**	*e*P	**Pn**	**23 46 16.0**	**-0.7**
	comp=Z,28nm,1.0s					
MAT			*e*S	**Sn**	**23 48 20.0**	**-2.0**
JNG	**Nsakai**	**11.48 236**	P	**Pn**	**23 46 18.3**	**-0.5**
NKL	**Nikolayevsk**	**11.49 331**	*i* P	**Pn**	**23 46 15.0**	**-3.9**
NKL			AMB	AMB	23 46 17.3	
	comp=Z,70nm,1.1s					
NKL			AMB	AMB	23 46 23.0	
	comp=Z,400nm,9.0s					
NKL			AMB	AMB	23 46 23.0	
	comp=Z,500nm,9.0s					
NKL			AMB	AMB	23 46 23.0	
	comp=Z,800nm,9.0s					
GRNR	**Gornyy**	**11.75 313**	*e*P	**Pn**	**23 46 18.6**	**-3.9**
GRNR			AMB	AMB	23 46 20.7	
	comp=Z,50nm,1.1s					
JGN	**Niukaw**	**12.08 238**	P	**Pn**	**23 46 27.2**	**+0.2**
VLA	**Vladivostok**	**13.15 275**	*d i* PN	**Pn**	**23 46 41.6**	**0.0**
VLA			pmax	pmax		
	comp=Z,67nm,1.3s					
VLA			MLR	MLR		
	comp=Z,900nm,15.6s					
MDJ	**Mudanjiang**	**14.68 282**	P	**Pn**	**23 47 02.3**	**-0.2**
MDJ			AP	pP	23 47 10.0	-7.5
MDJ			XP	sP	23 47 14.6	-7.6
MDJ			S	**Sn**	**23 49 42.0**	**-1.8**
MDJ			SCP	ScP	23 55 46.8	+2.5
MDJ			PCS	PcS	23 55 50.4	+2.0
MDJ			SCS	ScS	23 59 24.4	+2.4
MDJ			AMB	AMB		
	comp=Z,120nm,4.8s					
MDJ			LR	LR		
	comp=N,1μm,21.1s					
MDJ			LR	LR		
	comp=E,770nm,16.3s					
MDJ			LR	LR		
	comp=Z,990nm,19.4s					
MA2	**Magadan**	**16.16 2**	*c i* P	**Pn**	**23 47 17.6**	**-4.1**
MA2			pmax	pmax		
	comp=Z,70nm,1.2s					
MA2	**Magadan**	**16.16 2**	*e*Pn	**Pn**	**23 47 17.7**	**-4.0**
CBIJ	**Chichi jima**	**17.48 204**	P	**Pn**	**23 47 35.8**	**-2.6**
	comp=Z,2.4nm,0.3s,baz=261,slow=19,SNR=3.0					
CBIJ			S	S	23 50 35.8	-23
	comp=Z,2.0nm,0.3s,baz=270,slow=20,SNR=4.0					
CN2	**Changchun**	**17.72 280**	*e*P	**Pn**	**23 47 38.6**	**-2.6**
CN2			*e*XP	sP	23 47 55.5	-0.4
CN2			AMB	AMB		
	comp=Z,10.0nm,1.3s					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,800nm,14.0s					
CN2			LR	LR		
	comp=E,900nm,14.0s					
CN2			LR	LR		
	comp=Z,1μm,15.0s					
BMKR	**Bomnak**	**17.75 317**	*e*P	**Pn**	**23 47 41.4**	**-0.2**
BMKR			AMB	AMB	23 47 42.6	
	comp=Z,76nm,0.5s					
ZEA	**Zeya**	**18.12 313**	*e*P	**Pn**	**23 47 41.9**	**-4.2**
ZEA			AMB	AMB	23 47 46.0	
	comp=Z,600nm,4.0s					
ZEA			AMB	AMB	23 47 46.0	
	comp=Z,800nm,4.0s					
ZEA			AMB	AMB	23 47 46.8	
	comp=Z,59nm,1.0s					
ZEA			AMB	AMB	23 47 46.8	
	comp=Z,87nm,1.0s					
ZEA			A		23 51 07.0	
	comp=Z,200nm,5.0s					
KROS	**Kirovskiy**	**18.57 314**	*e*P	**Pn**	**23 47 46.5**	**-5.1**
KROS			AMB	AMB	23 47 50.6	
	comp=Z,11nm,0.6s					
KROS			AMB	AMB	23 47 50.6	
	comp=Z,19nm,0.6s					
KROS			pP	pP	23 47 54.0	-6.6
SNY	**Shenyang**	**19.43 274**	⇑P	**Pn**	**23 48 01.5**	**-0.5**
SNY			AP	pP	23 48 04.5	-5.6
SNY			XP	sP	23 48 07.5	-7.3
SNY			PP		23 48 19.1	
SNY			AMB	AMB		
	comp=Z,20nm,1.7s					
SNY			AMB	AMB		
	comp=Z,400nm,7.6s					
SNY			LR	LR		
	comp=N,290nm,13.9s					
SNY			LR	LR		
	comp=E,590nm,15.7s					
SNY			LR	LR		
	comp=Z,780nm,17.8s					
CLNS	**Chul'man**	**20.75 319**	*e*P	**P**	**23 48 14.2**	**-0.7**
CLNS			*e*		23 48 28.2	
CLNS			*e*PPP		23 48 35.3	
CLNS			*e*S	**S**	**23 52 01.6**	**-2.9**
CLNS			*e*		23 52 18.6	
CLNS			pmax	pmax		
	comp=N,12nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,33nm,0.7s					
CLNS			pmax	pmax		
	comp=E,14nm,0.8s					
CLNS			smax			
	comp=Z,14nm,0.8s					
CLNS			smax			
	comp=N,37nm,1.0s					
CLNS			smax			
	comp=E,20nm,0.9s					
CLNS			MLR	MLR		
	comp=N,1μm,14.0s,MS4.5					
CLNS			MLR	MLR		
	comp=E,1μm,14.0s,MS4.5					
CLNS			MLR	MLR		
	comp=Z,2μm,14.0s,MS4.6					
DL2	**Dalian**	**21.73 268**	P	**P**	**23 48 26.3**	**+0.8**
DL2			S	**S**	**23 52 26.5**	**+2.7**
DL2			AMB	AMB		
	comp=Z,40nm,1.2s,mb4.7					
DL2			AMB	AMB		
	comp=Z,210nm,5.7s					
DL2			LR	LR		
	comp=N,320nm,16.2s,MS3.9					
DL2			LR	LR		
	comp=E,190nm,15.9s,MS3.9					
DL2			LR	LR		
	comp=Z,360nm,16.7s,MS3.9					
YAK	**Yakutsk**	**22.11 334**	*e*P	**P**	**23 48 25.6**	**-3.9**
YAK			*e*		23 48 38.8	
YAK			*e*S	**S**	**23 52 22.2**	**-9.0**
YAK			pmax	pmax		
	comp=Z,45nm,0.8s,mb5.0					
YAK			pmax	pmax		
	comp=N,42nm,1.3s					
YAK			pmax	pmax		
	comp=E,49nm,1.1s					
YAK			smax			
	comp=E,49nm,1.5s					
YAK			smax			
	comp=Z,48nm,1.9s					
YAK			smax			
	comp=N,110nm,1.3s					
YAK			MLR	MLR		
	comp=N,302nm,15.0s,MS4.0					
YAK			MLR	MLR		
	comp=Z,418nm,15.0s,MS4.0					
YAK			MLR	MLR		
	comp=E,369nm,18.0s,MS4.0					
YAK	**Yakutsk**	**22.11 334**	*e*P	**P**	**23 48 26.5**	**-3.1**
CIT	**Chita**	**25.70 302**	*e*P	**P**	**23 49 03.6**	**-0.5**
CIT			*e*	pP	23 49 15.6	+1.2
CIT			*e*		23 49 53.1	
CIT			*e*S	**S**	**23 53 33.2**	**+3.0**
CIT			pmax	pmax		
	comp=Z,110nm,1.5s,mb5.2					
TIA	**Tai'an**	**26.09 265**	*e*P	**P**	**23 49 09.0**	**+1.4**
BILL	**Bilibino**	**26.13 14**	*d i* P	**P**	**23 49 06.0**	**-1.9**
BILL			*e*		23 49 12.4	
BILL			*e*		23 52 34.7	
BILL			*e*S	**S**	**23 53 37.5**	**+0.5**
BILL			*e*SS		23 54 34.1	
BILL			pmax	pmax		
	comp=Z,120nm,1.2s,mb5.3					
BILL			MLR	MLR		
	comp=Z,1μm,18.0s,MS4.5					
BILL	**Bilibino**	**26.13 14**	*e*P	**P**	**23 49 07.0**	**-0.9**
	comp=Z,9.9nm,0.6s,mb4.5					
BOD	**Bodaibo**	**26.56 315**	*e*P	**P**	**23 49 05.4**	**-6.4**
BOD			pmax	pmax		
	comp=Z,35nm,1.2s,mb4.8					
NJ2	**Nanjing**	**26.93 255**	*e*P	**P**	**23 49 20.3**	**+5.1**
NJ2			AP	pP	23 49 29.9	+4.4
NJ2			XP	sP	23 49 33.4	+3.5
NJ2			PP		23 50 05.6	
NJ2			S	**S**	**23 53 53.0**	**+3.4**
NJ2			AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0					
NJ2			AMB	AMB		
	comp=Z,170nm,7.9s					
NJ2			LR	LR		
	comp=N,680nm,20.6s,MS4.3					
NJ2			LR	LR		
	comp=E,640nm,21.0s,MS4.3					
NJ2			LR	LR		
	comp=Z,190nm,15.6s					
HHC	**Hu-ho-hao-te**	**28.40 278**	*e*P	**P**	**23 49 30.5**	**+2.2**
HHC			AP	pP	23 49 39.8	+1.1
HHC			XP	sP	23 49 43.8	+0.7
HHC			PP	PP	23 50 21.6	-11
HHC			PCP	PcP	23 52 42.4	+2.3
HHC			S	**S**	**23 54 12.8**	**0.0**
HHC			XS	sS	23 54 29.6	-0.4
HHC			SS	SS	23 55 38.5	-35
HHC			PCS	PcS	23 56 22.9	+0.5
HHC			AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9					
HHC			AMB	AMB		
	comp=Z,290nm,5.4s					
HHC			LR	LR		
	comp=N,480nm,16.6s,MS4.3					
HHC			LR	LR		
	comp=E,430nm,14.3s,MS4.3					
HHC			LR	LR		
	comp=Z,660nm,19.0s,MS4.2					
TIXI	**Tiksi**	**30.09 347**	*e*P	**P**	**23 49 41.1**	**-2.2**
SONM	**Songino Array**	**30.45 294**	P	**P**	**23 49 47.6**	**+1.1**
	comp=Z,15nm,0.5s,mb4.9,baz=79,slow=7.8,SNR=82					
WHN	**Wuhan**	**30.96 257**	⇓P	**P**	**23 49 52.4**	**+1.4**
TLY	**Talaya**	**31.84 301**	*e*P	**P**	**23 49 59.4**	**+0.7**
TLY			*e*		23 50 58.5	
TLY			*e*S	**S**	**23 55 12.1**	**+5.4**
TLY			pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8					
ZAK	**Zakamensk**	**32.17 299**	*e*P	**P**	**23 50 02.4**	**+0.8**
ZAK			pmax	pmax		
	comp=Z,40nm,1.5s,mb5.0					
XAN	**Xi'an**	**33.05 268**	P	**P**	**23 50 10.0**	**+0.6**
XAN			AP	pP	23 50 22.3	+2.5
XAN			AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5					
MOY	**Mondy**	**33.48 302**	*e*P	**P**	**23 50 14.6**	**+1.5**
MOY			pmax	pmax		
	comp=Z,26nm,1.8s,mb4.9					
LZH	**Lanzhou**	**35.81 274**	⇑P	**P**	**23 50 35.8**	**+2.6**
LZH			AP	pP	23 50 47.9	+4.2
LZH			PP	PP	23 51 57.0	+2.1
LZH			S	**S**	**23 56 09.0**	**+0.9**
LZH			XS	sS	23 56 26.0	+0.5
LZH			*e*SS	SS	23 58 30.0	-15
LZH			AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2					
LZH			AMB	AMB		
	comp=Z,130nm,4.5s					
LZH			LR	LR		
	comp=E,1μm,14.3s					
LZH			LR	LR		
	comp=Z,2μm,16.0s,MS4.9					
TTA	**Tatalina**	**36.40 39**	*e*P	**P**	**23 50 37.2**	**-1.0**
SVW2	**Sparrevohn**	**36.44 42**	*e*P	**P**	**23 50 37.4**	**-1.2**
GTA	**Gaotai**	**37.34 281**	*e*P	**P**	**23 50 47.6**	**+1.4**
GTA			AP	pP	23 50 57.5	+0.7
GTA			XP	sP	23 51 01.4	+0.2
GTA			PP	PP	23 52 17.6	+5.8
GTA			PCP	PcP	23 53 06.5	+1.7
GTA			S	**S**	**23 56 35.8**	**+4.3**
GTA			XS	sS	23 56 51.4	+2.5
GTA			AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.4					
GTA			AMB	AMB		
	comp=Z,350nm,4.9s					
GTA			LR	LR		
	comp=N,400nm,18.6s,MS4.4					
GTA			LR	LR		
	comp=E,260nm,15.2s,MS4.4					
GTA			LR	LR		
	comp=Z,530nm,19.0s,MS4.4					
KRAR	**Krasnoyarsk**	**37.87 310**	*e*P	**P**	**23 50 49.1**	**-1.6**
KRAR			pmax	pmax		
	comp=Z,22nm,0.6s,mb5.1					
KDAK	**Kodiak Island**	**37.97 47**	P	**P**	**23 50 49.0**	**-2.6**
	comp=Z,348nm,0.7s,mb6.2,SNR=11					
KDAK	**Kodiak Island**	**37.97 47**	P	**P**	**23 50 50.1**	**-1.5**
	comp=Z,40nm,0.7s,mb5.3,baz=291,slow=4.9,SNR=15					
KDAK	**Kodiak Island**	**37.97 47**	*e*P	**P**	**23 50 49.7**	**-1.9**
CD2	**Chengdu**	**38.40 267**	⇑*i*P	**P**	**23 50 55.9**	**+0.7**
CD2			AP	pP	23 51 05.8	+0.1
CD2			XP	sP	23 51 09.6	-0.5
CD2			PP	PP	23 52 27.8	+4.4
CD2			S	**S**	**23 56 48.3**	**+0.8**
CD2			XS	sS	23 57 04.4	-0.6
CD2			SS	SS	23 59 28.8	-8.5
CD2			AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2					
CD2			AMB	AMB		
	comp=Z,120nm,5.9s					
CD2			LR	LR		
	comp=N,280nm,12.0s					
CD2			LR	LR		
	comp=Z,220nm,22.8s					
GYA	**Guiyang**	**38.83 259**	⇓*i*P	**P**	**23 50 59.6**	**+0.8**
GYA			AP	pP	23 51 08.8	-0.5
GYA			XP	sP	23 51 12.9	-0.8
GYA			PP	PP	23 52 32.3	+4.2
GYA			PCP	PcP	23 53 12.4	+3.0
GYA			S	**S**	**23 56 53.8**	**-0.2**
GYA			XS	sS	23 57 09.5	-1.9
GYA			SS	SS	23 59 35.8	-10
GYA			AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0					
GYA			AMB	AMB		
	comp=Z,130nm,5.2s					
GYA			LR	LR		
	comp=N,540nm,16.9s,MS4.6					
GYA			LR	LR		
	comp=E,480nm,17.0s,MS4.6					
GYA			LR	LR		
	comp=Z,450nm,16.8s,MS4.4					
MCK	**McKinley**	**39.63 38**	*e*P	**P**	**23 51 02.5**	**-3.0**
SML	**Sawmill**	**39.93 41**	*e*P	**P**	**23 51 06.7**	**-1.3**
COLA	**College**	**40.13 36**	*d i*P	**P**	**23 51 07.9**	**-1.7**
COLA	**College**	**40.13 36**	*e*P	**P**	**23 51 08.8**	**-0.8**
	comp=Z,18nm,0.8s,mb4.8					
KMI	**Kunming**	**42.44 260**	P	**P**	**23 51 30.3**	**+1.7**
KMI			AP	pP	23 51 42.8	+3.5
KMI			AMB	AMB		
	comp=Z,20nm,1.3s,mb4.6					
ZAL	**Zalesovo**	**42.80 308**	P	**P**	**23 51 32.5**	**+0.9**
	comp=Z,3.2nm,0.5s,mb4.3,baz=16,slow=8.0,SNR=14					
ZAL			PcP	PcP	23 53 22.5	+0.2
	comp=Z,2.2nm,0.8s,baz=340,slow=2.9,SNR=3.5					
ZAL	**Zalesovo**	**42.80 308**	P	**P**	**23 51 32.5**	**+0.9**
ZAL			PcP	PcP	23 53 22.5	+0.2
NVS	**Novosibirsk**	**43.48 309**	⇑*i*P	**P**	**23 51 36.4**	**-0.6**
NVS			*i*		23 53 30.8	
NVS			*e*S	**S**	**23 58 00.4**	**-2.7**
NVS			pmax	pmax		
	comp=Z,60nm,2.1s,mb5.0					
NVS			pmax	pmax		
	comp=E,30nm,1.9s					
NVS			smax			
	comp=E,35nm,2.0s					
DAWY	**Dawson**	**43.83 37**	*e*P	**P**	**23 51 39.0**	**-0.8**
WMQ	**Urumqi**	**44.08 293**	P	**P**	**23 51 43.3**	**+1.5**

WMQ AP pP 23 51 53.8 +1.3
WMQ PP PP 23 53 28.1 +3.2
WMQ S **S** **23 58 12.3 +0.5**
WMQ XS sS 23 58 28.8 -0.7
WMQ AMB AMB
comp=Z,50nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,370nm,4.5s
WMQ LR LR
comp=N,750nm,17.0s,MS4.8
WMQ LR LR
comp=E,600nm,14.0s,MS4.8
WMQ LR LR
comp=Z,580nm,17.0s,MS4.6
INK Inuvik 45.64 30 P **P 23 51 53.2 -1.0**
comp=Z,10nm,0.9s,mb4.8,baz=283,slow=6.2,SNR=31
INK Inuvik 45.64 30 *e*P **P 23 51 53.4 -0.9**
INK pmax pmax
comp=Z,9.0nm,0.6s
INK Inuvik 45.64 30 *e*P **P 23 51 53.4 -0.9**
comp=Z,8.8nm,0.6s,mb4.9
MKAR Makanchi Array 46.51 299 P **P 23 52 01.7 +0.6**
comp=Z,32nm,0.8s,mb5.3,baz=70,slow=10,SNR=61
KURK Kurchatov 47.37 305 ⇓P **P 23 52 08.1 +0.3**
SNR=31
KURK Kurchatov 47.37 305⇑*e*P **P 23 52 08.0 +0.2**
KURK Kurchatov 47.37 305 *e*P **P 23 52 09.7 +1.9**
DLBC Dease Lake 49.53 43 *e*P **P 23 52 24.2 -0.3**
DLBC *e*PP PP 23 54 19.8 +0.9
CHKZ Chkalovo 50.87 311 *e*P **P 23 52 34.2 -0.4**
CHKZ pmax pmax
comp=Z,35nm,1.0s,mb5.2
CHKZ Chkalovo 50.87 311 *e*P **P 23 52 34.2 -0.4**
comp=Z,35nm,1.0s,mb5.2
BVAR Borovoye Array 51.25 310 P **P 23 52 38.0 +0.5**
comp=Z,5.1nm,0.5s,mb4.7,baz=71,slow=11,SNR=30
BRVK Borovoye 51.30 310 *e*P **P 23 52 38.4 +0.6**
BRVK pmax pmax
comp=Z,14nm,0.8s,mb4.9
BRVK Borovoye 51.30 310 *e*P **P 23 52 38.4 +0.6**
comp=Z,14nm,0.8s,mb4.9
ZRNK Zerenda 52.05 311 *e*P **P 23 52 43.6 +0.2**
ZRNK pmax pmax
comp=Z,12nm,0.6s,mb5.0
ZRNK Zerenda 52.05 311 *e*P **P 23 52 43.6 +0.2**
comp=Z,12nm,0.6s,mb5.0
ULHL Ulahol 52.35 296 P **P 23 52 46.9 +1.3**
SNR=11
TKM2 Tokmak 2 52.45 297 P **P 23 52 48.1 +1.7**
SNR=14
JIRN Jiri 52.97 275 *e*P **P 23 52 52.2 +2.0**
comp=Z,27nm,0.6s,mb5.3
KBK Karagaybulak 53.00 297 P **P 23 52 51.9 +1.4**
SNR=8.2
USP Ospenovka 53.00 298 P **P 23 52 51.6 +1.1**
SNR=16
GUN Gumba 53.05 275 *e*P **P 23 52 52.6 +1.8**
comp=Z,46nm,0.7s,mb5.5
KZA Kyzart 53.08 296 P **P 23 52 54.0 +3.0**
SNR=11
FRU Bishkek 53.13 297 *e*P **P 23 52 52.5 +1.1**
FRU pmax pmax
comp=Z,100nm,2.1s,mb5.4
AAK Ala-Archa 53.30 297 ⇑P **P 23 52 53.6 +0.9**
SNR=11
AAK Ala-Archa 53.30 297*d i*P **P 23 52 52.5 -0.2**
AAK pmax pmax
comp=Z,21nm,1.7s,mb4.8
AAK Ala-Archa 53.30 297 *e*P **P 23 52 52.8 +0.1**
comp=Z,18nm,0.9s,mb5.0
KKN Kakani 53.56 276 *e*P **P 23 52 56.1 +1.6**
comp=Z,201nm,1.7s,mb5.8
KKN Kakani 53.56 276 *e*P **P 23 52 56.1 +1.6**
KKN pmax pmax
comp=Z,201nm,1.7s,mb5.8
PKI Pulchoki 53.59 275 *e*P **P 23 52 56.2 +1.4**
comp=Z,84nm,1.4s,mb5.5
PKI Pulchoki 53.59 275 *e*P **P 23 52 56.2 +1.4**
PKI pmax pmax
comp=Z,84nm,1.4s,mb5.5
EKS2 Erkin-Say 53.76 297 P **P 23 52 57.3 +1.3**
SNR=9.1
DMN Daman 53.79 275 *e*P **P 23 52 57.8 +1.6**
comp=Z,45nm,0.9s,mb5.4
GKN Gorkha 53.90 276 *e*P **P 23 52 58.3 +1.2**
comp=Z,91nm,1.1s,mb5.6
RES Resolute Bay 54.67 17 *e*P **P 23 53 01.8 -0.9**
RES pmax pmax
comp=Z,22nm,0.6s,mb5.4
RES Resolute Bay 54.67 17 *e*P **P 23 53 01.8 -0.9**
comp=Z,22nm,0.6s,mb5.4
KOLN Koldanda 54.78 277 *e*P **P 23 53 05.0 +1.5**
comp=Z,61nm,1.1s,mb5.5
YKW3 Yellowknife Ar 54.88 34 *e*P **P 23 53 04.1 -0.1**
YKA Yellowknife Ar 54.92 34 P **P 23 53 03.3 -1.2**
comp=Z,6.6nm,0.9s,mb4.7,baz=298,slow=7.1,SNR=8.5
YKA Yellowknife Ar 54.92 34⇑*e*P **P 23 53 03.7 -0.8**
SOKR Solikamsk 55.28 322 *i*P **P 23 53 08.1 +1.0**
SOKR *i* pP 23 53 19.9 +1.9
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.5
ARU Arti 55.94 318 P **P 23 53 11.9 +0.1**
comp=Z,347nm,0.7s,mb6.5,SNR=15
ARU Arti 55.94 318 ⇓*i*P **P 23 53 11.3 -0.5**
ARU *e* 23 55 14.1
ARU *e*PPP 23 56 26.5
ARU *e*S **S** **00 00 59.7 +2.6**
ARU *e*SS SS 00 04 42.6 -0.6
ARU pmax pmax
comp=Z,47nm,0.8s,mb5.6
ARU MLR MLR
comp=N,100nm,16.0s,MS4.3
ARU MLR MLR
comp=E,200nm,16.0s,MS4.3
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.5
ARU Arti 55.94 318 *e*P **P 23 53 13.2 +1.4**
LGTI Lohaghat 56.24 280 *i*P **P 23 53 15.5 +1.5**
KULM Kulim 57.60 243 *e*P **P 23 53 24.3 +0.7**
KAKA Kakadu 58.13 200 *e*P **P 23 53 28.4 +1.1**
comp=Z,30nm,0.7s,mb5.4
B05A Bryant 58.19 52 ⇑P **P 23 53 26.8 -0.9**
baz=58
E03A Lebam 58.23 54 ⇓P **P 23 53 27.6 -0.4**
baz=58
NDI New Delhi 58.85 281 *e*P **P 23 53 32.0 -0.3**
LVZ Lovozero 58.90 336⇑*e*P **P 23 53 30.6 -2.0**
LVZ pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
F04A Amboy 59.23 54 ⇓P **P 23 53 34.1 -0.8**
baz=59
AKTK Aktyubinsk 59.26 312 P **P 23 53 35.4 +0.2**
AKTO Aktyubinsk 59.26 312 P **P 23 53 35.4 +0.2**
comp=Z,4.8nm,0.5s,mb4.8,baz=68,slow=5.2,SNR=18
AKTO Aktyubinsk 59.26 312 P **P 23 53 35.4 +0.3**
AKTO pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
E05A Randle 59.28 53 ⇓P **P 23 53 34.5 -0.8**
baz=59
APA Apatity 59.47 337 *e*P **P 23 53 36.0 -0.6**
APA MLR MLR
comp=Z,600nm,20.0s,MS4.7
TWW Teanaway 59.49 52 P **P 23 53 37.7 +0.9**
KEV Kevo 59.70 340 *ep* **P 23 53 36.8 -1.4**
comp=Z,5.1nm,0.5s,mb4.8
KEV Kevo 59.70 340 *e*P **P 23 53 36.8 -1.4**
KEV pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
EBG Ellensburg 59.79 52 P **P 23 53 39.4 +0.6**
DAG Danmarks Havn 59.84 357 ⇓*i*P **P 23 53 39.0 -0.2**
comp=Z,4.5nm,0.8s,mb4.5
DAG Danmarks Havn 59.84 357 ⇓*i*P **P 23 53 39.0 -0.2**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VFP Flag Point 60.12 54 P **P 23 53 41.6 +0.5**
ARCES ARCESS Array B 60.22 340 P **P 23 53 41.5 -0.2**
comp=Z,4.0nm,0.5s,mb4.7,baz=43,slow=8.6,SNR=22
ARCES LR LR 00 25 42.0
comp=Z,285nm,18.4s,MS4.5,baz=32,slow=42
EDM Edmonton 60.24 43 *e*P **P 23 53 41.7 -0.2**
K02A Glendale 60.29 58 ⇑P **P 23 53 41.0 -1.2**
baz=60
ORR Orenburg 60.35 314⇑*i*P **P 23 53 42.0 -0.6**
ORR pmax pmax
comp=Z,30nm,1.1s,mb5.2
ORR MLR MLR
comp=Z,670nm,19.0s,MS4.8
HAWA Hanford 60.67 53 *e*P **P 23 53 45.0 +0.2**
NEW Newport 61.00 50 *e*P **P 23 53 46.9 -0.2**
NEW pmax pmax
comp=Z,20nm,1.4s
NEW Newport 61.00 50 *e*P **P 23 53 46.9 -0.2**
comp=Z,20nm,1.4s,mb5.0
JCC Jacoby Creek 61.03 60 ⇑P **P 23 53 47.8 +0.5**
baz=61
KTK1 Kautokeino 61.16 341 *e*P **P 23 53 48.8 +0.6**
KTK1 AMb AMB 23 53 56.6
comp=Z,29nm,0.9s,mb5.4
KTK1 Kautokeino 61.16 341 *e*P **P 23 53 50.6 +2.5**
YBH Yreka Blue Hor 61.34 58 *e*P **P 23 53 50.5 +1.1**
YBH Yreka Blue Hor 61.34 58 ⇓P **P 23 53 49.8 +0.4**
baz=61
M02C Callahan 61.45 59 ⇓P **P 23 53 50.4 +0.3**
baz=61
O01C Eel River Cons 61.54 60 ⇓P **P 23 53 51.6 +0.8**
baz=61
L04A Klamath Falls 61.60 58 ⇓P **P 23 53 51.1 -0.1**
baz=61
I06A Prineville 61.63 55 ⇓P **P 23 53 51.3 -0.1**
baz=61
TRO Tromso 61.67 343 *e*P **P 23 53 50.1 -1.5**
TRO AMb AMB 23 53 53.1
comp=Z,44nm,1.2s,mb5.5
TRO *ep*P pP 23 54 03.6 +0.9
TRO Tromso 61.67 343 *e*P **P 23 53 50.1 -1.5**
TRO pmax pmax
comp=Z,44nm,1.2s,mb5.5
TRO Tromso 61.67 343 *e*P **P 23 53 50.1 -1.5**
comp=Z,44nm,1.2s,mb5.5
LHEM Herd Peak 61.71 58 P **P 23 53 52.9 +1.0**
KLMR Klimovskoe 61.76 329 *e*P **P 23 53 51.9 -0.3**
M04C Macdoel 61.85 58 ⇑P **P 23 53 53.1 +0.2**
baz=62
M03C McCloud 61.97 59 ⇓P **P 23 53 53.5 -0.1**
baz=62
J06A Christmas Vall 62.06 56 ⇑P **P 23 53 54.2 0.0**
baz=62,SNR=6.5
WDC Whiskeytown Da 62.10 59 *e*P **P 23 53 54.4 -0.1**
WDC pmax pmax
comp=Z,12nm,1.3s,mb4.9
WDC Whiskeytown Da 62.10 59 *e*P **P 23 53 54.4 -0.1**
comp=Z,12nm,1.3s,mb4.8
WDC Whiskeytown Da 62.10 59 ⇑P **P 23 53 54.3 -0.2**
baz=62
O02C Red Bluff 62.17 60 ⇑P **P 23 53 55.3 +0.3**
baz=62
P01C Double 8 Ranch 62.22 61 ⇑P **P 23 53 56.1 +0.7**
baz=62
K06A Valley Falls 62.25 56 P **P 23 53 55.8 +0.3**
baz=62,SNR=9.7
WALA Waterton Lakes 62.31 48 *e*P **P 23 53 55.3 -0.6**
comp=Z,26nm,1.5s,mb5.1
WALA *e* 23 54 35.8
L05A Lakeview 62.32 57 ⇑P **P 23 53 56.4 +0.4**
baz=62,SNR=7.8
GASB Alder Springs 62.51 60 ⇓P **P 23 53 57.7 +0.4**
baz=62
M05C Lookout 62.52 58 ⇓P **P 23 53 57.3 0.0**
baz=62
BSMT Bassoo Peak 62.52 49 *e*P **P 23 53 57.5 +0.2**
HATC Hat Creek Radi 62.64 59 ⇓P **P 23 53 58.2 +0.1**
baz=62
LBCM Butte Creek Ri 62.70 59 P **P 23 53 59.1 +0.7**
O03C Acorn Hollow, 62.75 60 ⇑P **P 23 53 58.5 -0.3**
baz=62
BMO Blue Mountains 62.83 53 *e*P **P 23 53 59.5 +0.1**
comp=Z,15nm,1.5s,mb4.9
K07A Rock Creek Ran 62.92 56 ⇑P **P 23 54 00.0 +0.1**
baz=63,SNR=7.5
M06C Likely Place G 63.02 58 ⇓P **P 23 54 00.8 +0.1**
baz=63
MNRC McLaughlin Nat 63.13 61 ⇓P **P 23 54 01.6 +0.2**
baz=63
L07A Adell 63.25 57 ⇓P **P 23 54 02.3 +0.1**
baz=63,SNR=6.1
JOF Joensuu 63.28 333 *ep* **P 23 54 00.6 -1.8**
comp=Z,14nm,0.5s,mb5.4
JOF Joensuu 63.28 333 *e*P **P 23 54 00.6 -1.8**
JOF pmax pmax
comp=Z,14nm,0.5s,mb5.3
ORV Oroville 63.34 60 ⇑P **P 23 54 01.6 -1.2**
baz=63
WVOR Wild Horse Val 63.44 56 *e*P **P 23 54 03.1 -0.3**
WVOR *e**PP pP 23 54 15.1 +0.6
WVOR pmax pmax
comp=Z,12nm,1.1s,mb4.9
WVOR Wild Horse Val 63.44 56 *e*P **P 23 54 03.1 -0.3**
comp=Z,12nm,1.1s,mb4.9
WVOR *ep*P pP 23 54 15.1 +0.5
MSO Missoula 63.59 50 *e*P **P 23 54 04.0 -0.4**
M07A Soldier Meadow 63.72 57 ⇓P **P 23 54 05.4 +0.1**
baz=63,SNR=11
L08A Fields 63.76 56 ⇑P **P 23 54 05.5 0.0**
baz=64,SNR=7.9
Q04C Lincoln 63.83 60 ⇑P **P 23 54 05.6 -0.4**
baz=64
CHMT Chamberlain Mo 63.92 49 *e*P **P 23 54 06.0 -0.5**
O06A Flanigan 64.03 58 ⇓P **P 23 54 07.2 -0.1**
baz=64,SNR=6.4
SUMG Summit 64.13 3 *e*P **P 23 54 07.9 0.0**
M08A Happy Creek Ra 64.17 57 ⇓P **P 23 54 08.1 -0.1**
baz=64
L09A Wilkinson Ranc 64.26 56 ⇓P **P 23 54 08.7 -0.1**
baz=64
LAVA Lava Cap Winer 64.28 60 ⇑P **P 23 54 08.3 -0.7**
baz=64
WCN Washoe City 64.58 59 ⇑P **P 23 54 10.9 0.0**
baz=64
O07A Toulon 64.62 58 ⇓P **P 23 54 10.8 -0.3**
baz=64,SNR=5.4
S04C Ingram Canyon, 64.65 62 ⇓P **P 23 54 11.5 +0.2**
baz=64
WRAB Tennant Creek 64.67 196 P **P 23 54 12.0 +0.5**
comp=Z,88nm,0.8s,mb5.8,SNR=5.4
WRAB Tennant Creek 64.67 196 *e*P **P 23 54 12.1 +0.6**
WB2 Warramunga Arr 64.68 196 *e*P **P 23 54 11.4 -0.2**
WRA Warramunga Arr 64.68 196 P **P 23 54 12.3 +0.7**
comp=Z,8.9nm,0.7s,mb4.9,baz=15,slow=6.7,SNR=29
N08A GE Springer Mi 64.71 57 P **P 23 54 11.7 -0.1**
baz=64,SNR=5.8
FFC Flin Flon 64.72 38 *e*P **P 23 54 10.9 -0.9**
M09A Marrel Ranch, 64.75 56 ⇑P **P 23 54 11.9 -0.1**
baz=64
HYB Hyderabad 64.80 270 *i*P **P 23 54 13.0 +0.7**
HYB Hyderabad 64.80 270 *e*P **P 23 54 13.0 +0.7**
CMB Columbia Colle 64.94 61 *e*P **P 23 54 13.2 0.0**
CMB Columbia Colle 64.94 61 ⇓P **P 23 54 12.8 -0.5**
baz=65
LRM Limekiln Ridge 65.02 50 *e*P **P 23 54 13.3 -0.4**
EGMT Eagleton 65.14 47 *e*P **P 23 54 14.2 -0.3**
comp=Z,25nm,1.2s,mb5.1
HAST Hastings Reser 65.17 63 ⇓P **P 23 54 14.4 -0.3**
baz=65
FITZ Fitzroy Crossi 65.18 206 *e*P **P 23 54 16.1 +1.3**
comp=Z,22nm,1.3s,mb5.0
FITZ Fitzroy Crossi 65.18 206 P **P 23 54 16.7 +1.9**
comp=Z,16nm,1.2s,mb4.9,baz=25,slow=8.2,SNR=6.7
M10A I.L. Ranch, Tu 65.24 56 ⇑P **P 23 54 15.1 -0.1**
baz=65
WAKR Walker 65.26 60 *e*P **P 23 54 16.0 +0.7**
FCC Fort Churchill 65.26 31 *e*P **P 23 54 13.7 -1.6**
FCC pmax pmax
comp=Z,14nm,0.8s,mb5.0
FCC Fort Churchill 65.26 31 *e*P **P 23 54 13.7 -1.6**
comp=Z,14nm,0.8s,mb5.1
HLID Hailey 65.27 53 *e*P **P 23 54 14.9 -0.4**
comp=Z,3.3nm,0.9s,mb4.4
S05C Merced 65.38 61 ⇓P **P 23 54 15.4 -0.7**
baz=65
P08A Dixie Valley 65.39 58 ⇓P **P 23 54 16.4 +0.2**
baz=65
KAF Kangasniemi 65.47 335 *ep* **P 23 54 15.5 -1.2**
comp=Z,14nm,0.8s,mb5.0,baz=40,slow=6.1
KAF Kangasniemi 65.47 335 *e*P **P 23 54 15.5 -1.2**
KAF pmax pmax
comp=Z,14nm,0.8s,mb5.0
MOR8 Moi Rana 65.47 342 *e*P **P 23 54 14.7 -2.0**
MOR8 AMb AMB 23 54 20.3
comp=Z,48nm,0.7s,mb5.6
MOR8 *ep*P pP 23 54 26.0 -1.9
MOR8 Moi Rana 65.47 342 *e*P **P 23 54 14.7 -2.0**
comp=Z,48nm,0.7s,mb5.6
BOZ Bozeman (W) 65.58 50 *e*P **P 23 54 17.4 0.0**
BOZ pmax pmax
comp=Z,37nm,1.6s,mb5.2
BOZ Bozeman (W) 65.58 50 *e*P **P 23 54 17.4 0.0**
comp=Z,37nm,1.6s,mb5.2
O09A Fish Creek Ran 65.65 57 ⇑P **P 23 54 17.8 -0.1**
baz=65
U04C Hernandez Rese 65.68 62 ⇓P **P 23 54 18.2 +0.1**
baz=65
N10A Dunphy 65.73 56 ⇑P **P 23 54 18.5 +0.1**
baz=65
M11A Holland Ranch, 65.74 55 ⇑P **P 23 54 18.5 +0.1**
baz=65,SNR=8.1
R07C Lee Vining 65.75 60 ⇑P **P 23 54 18.8 +0.3**
baz=66
MOS Moscow 65.87 325 *e*P **P 23 54 18.2 -1.1**
MOS *e* 23 54 35.6
MOS *e* 23 56 41.6
MOS *e*PPP 23 58 17.8
MOS *e*S S 00 03 03.2 -0.5
MOS pmax pmax
comp=Z,47nm,1.2s,mb5.4
Q08A Gabbs 65.98 59 ⇑P **P 23 54 19.7 -0.3**
baz=66
NVAR Mina Array Bea 66.01 59 P **P 23 54 20.1 -0.1**
comp=Z,3.8nm,0.7s,mb4.5,baz=294,slow=5.7,SNR=18
FINES FINESS Array B 66.05 334 P **P 23 54 19.2 -1.2**
comp=Z,13nm,0.6s,mb5.2,baz=46,slow=8.2,SNR=38
FINES LR LR 00 28 07.6
comp=Z,196nm,18.1s,MS4.4,baz=87,slow=40
PKD Parkfield 66.09 63 ⇓P **P 23 54 20.1 -0.5**
baz=66
MNV Mina 66.10 59 *e*P **P 23 54 20.5 -0.3**
N11A Elko Archery C 66.14 56 ⇓P **P 23 54 20.9 -0.1**
baz=66
MLAC Mammoth Lakes 66.16 60 ⇑P **P 23 54 21.3 +0.2**
baz=66
R08A Mina 66.18 59 ⇑P **P 23 54 21.1 -0.2**
baz=66
QLMT Earthquake Lak 66.19 50 *e*P **P 23 54 21.6 +0.3**
M12A Wells 66.27 55 ⇓P **P 23 54 22.0 +0.2**
baz=66,SNR=9.1
ABKT Ailbek 66.35 300 P **P 23 54 23.3 +1.0**
comp=Z,70nm,1.0s,mb5.6,SNR=5.2
P10A Eureka 66.43 57 ⇓P **P 23 54 22.9 0.0**
baz=66
Q09A Carvers 66.47 58 ⇓P **P 23 54 22.9 -0.2**
baz=66
N12A Wells--Clov Va 66.54 55 ⇓P **P 23 54 23.5 -0.1**
baz=66
V05C Boulder Hill, 66.55 62 ⇓P **P 23 54 23.3 -0.2**
baz=66
GCMT Greycliff 66.57 49 *e*P **P 23 54 23.5 -0.3**
GCMT *ep*P pP 23 54 35.5 +0.6
O11A Cowboy Ranch, 66.61 56 ⇓P **P 23 54 23.8 -0.2**
baz=66
S08C White Mtn Res 66.66 60 ⇑P **P 23 54 24.3 0.0**
baz=66,SNR=7.0
OBN Obninsk 66.74 325*d i*P **P 23 54 24.1 -0.7**
OBN *e* pP 23 54 32.3 -3.7
OBN *e* pP 23 54 37.2 +1.2
OBN pmax pmax
comp=Z,65nm,1.7s,mb5.4
OBN Obninsk 66.74 325 *e*P **P 23 54 24.6 -0.2**
comp=Z,20nm,0.5s,mb5.4
M13A Montello 66.75 55 ⇑P **P 23 54 24.9 0.0**
baz=66,SNR=5.1
R09A Tonopah 66.90 59 P **P 23 54 25.6 -0.3**
baz=67,SNR=15
P11A Circle Ranch, 66.91 57 ⇓P **P 23 54 26.2 +0.2**
baz=67
N13A West Wendover 67.04 55 ⇑P **P 23 54 26.5 -0.2**
baz=67
IMW Indian Meadow 67.05 51 *e*P **P 23 54 27.5 +0.7**
comp=Z,23nm,1.3s,mb5.0
S09A Goldfield 67.12 59 ⇓P **P 23 54 27.0 -0.3**
baz=67
MOOW Moose Ponds 67.25 51 *e*P **P 23 54 28.9 +0.8**
comp=Z,15nm,1.3s,mb4.9
TPAW Teton Pass 67.30 51 *e*P **P 23 54 28.9 +0.5**
R10A Warm Springs 67.34 58 ⇑P **P 23 54 28.7 0.0**
baz=67
CWC Cottonwood Cre 67.36 61 ⇓P **P 23 54 28.5 -0.3**
baz=67
Q11A Duckwater 67.40 57 ⇓P **P 23 54 28.9 -0.1**
baz=67,SNR=5.2
LOHW Long Hollow 67.42 51 *e*P **P 23 54 29.8 +0.7**
comp=Z,34nm,1.6s,mb5.1
NSS Namsos 67.42 342 *e*P **P 23 54 27.1 -2.0**
NSS AMb AMB 23 54 32.1
comp=Z,16nm,0.8s,mb5.1
REDW Red Top Meadow 67.43 51 *e*P **P 23 54 30.2 +1.0**
comp=Z,29nm,1.4s,mb5.1
P12A McGill 67.47 57 ⇓P **P 23 54 29.4 0.0**
baz=67
ISA Isabella 67.59 62 ⇓P **P 23 54 30.2 0.0**
baz=67
VOR Voronezh 67.90 321 *e*P **P 23 54 30.5 -1.7**
VOR pmax pmax
comp=Z,70nm,1.4s,mb5.5
OSI Osito Adit 68.08 63 ⇓P **P 23 54 33.0 -0.3**
baz=68
VSU Vasula 68.08 332*d i*P **P 23 54 32.3 -1.0**
HWUT Hardware Ranch 68.13 53 *e*P **P 23 54 34.6 +1.0**
comp=Z,18nm,1.4s,mb4.9
TPNV Topopah Spring 68.21 59 *e*P **P 23 54 33.6 -0.5**
TPNV pmax pmax
comp=Z,26nm,1.6s,mb5.0
TPNV Topopah Spring 68.21 59 *e*P **P 23 54 33.6 -0.5**
comp=Z,26nm,1.6s,mb5.0
DUG Dugway 68.28 55 *e*P **P 23 54 34.8 +0.2**
DUG pmax pmax
comp=Z,20nm,1.3s,mb5.0
DUG Dugway 68.28 55 *e*P **P 23 54 34.8 +0.2**
comp=Z,20nm,1.3s,mb5.0
AS31 Alice Springs 68.39 196 *e*P **P 23 54 36.4 +1.2**
ASAR Alice Springs 68.39 196 P **P 23 54 36.5 +1.3**
comp=Z,3.0nm,0.7s,mb4.4,baz=12,slow=5.8,SNR=33
ASPA Alice Springs 68.39 196 *e*P **P 23 54 36.4 +1.1**
U10A Ash Meadows, A 68.48 60 ⇑P **P 23 54 35.6 -0.3**
baz=68
BW06 Boulder Array 68.55 51 *e*P **P 23 54 36.0 -0.2**
PDAR Pinedale Array 68.55 51 P **P 23 54 35.4 -0.8**
comp=Z,2.3nm,0.8s,mb4.1,baz=298,slow=3.2,SNR=17
GSC Goldstone 68.88 61 ⇓P **P 23 54 37.6 -0.7**
baz=69
U11A Corn Creek 69.08 59 ⇑P **P 23 54 39.2 -0.3**
baz=69
SHPR Sheep Range 69.17 59 *e*P **P 23 54 40.6 +0.5**
TUQ Turquoise Mtn. 69.36 60 ⇑P **P 23 54 40.8 -0.5**
baz=69
V11A Goodsprings 69.41 60 ⇑P **P 23 54 41.4 -0.3**
baz=69
U12A Valley of Fire 69.60 59 ⇓P **P 23 54 42.7 -0.1**
baz=69
CCUT Cedar City 69.62 57 *e*P **P 23 54 43.1 +0.2**
CCUT *ep*P pP 23 54 55.3 +1.2
MSU Marysvale 69.73 56 *e*P **P 23 54 44.4 +0.9**
V12A Nelson 69.85 60 ⇑P **P 23 54 44.1 -0.2**
baz=70
W12A Cal Nev Ari 70.11 60 ⇑P **P 23 54 45.4 -0.5**
baz=70
PFO Pinyon Flat Ob 70.17 62 ⇑P **P 23 54 45.5 -0.8**
baz=70
SRU San Rafael 70.33 55 *e*P **P 23 54 47.4 +0.1**
ULM Lac du Bonnet 70.50 38 P **P 23 54 46.1 -2.2**
comp=Z,2.3nm,0.4s,mb4.4,baz=320,slow=5.5,SNR=7.0
GOF Gofitskoye 70.53 314⇑*i*P **P 23 54 49.0 +0.5**
GOF pmax pmax
comp=Z,120nm,0.8s,mb5.9
NB2 NORSAR Subarra 70.60 340 P **P 23 54 47.9 -1.0**
comp=Z,25nm,0.7s,mb5.2,baz=32,slow=6.5
NB2 NORSAR Subarra 70.60 340 P **P 23 54 47.9 -1.0**
NB2 pmax pmax
comp=Z,25nm,0.7s,mb5.2
NOA NORSAR Array B 70.60 340 P **P 23 54 48.1 -0.8**
comp=Z,13nm,0.5s,mb5.1,baz=30,slow=6.5,SNR=55
NOA LR LR 00 31 52.9
comp=Z,102nm,19.7s,MS4.1,baz=30,slow=41
MNK Minsk 70.68 328 *e*P **P 23 54 49.0 -0.4**
RSSD Black Hills 70.70 47 *e*P **P 23 54 49.0 -0.5**
RSSD pmax pmax
comp=Z,29nm,1.4s,mb5.0
RSSD Black Hills 70.70 47 *e*P **P 23 54 49.0 -0.5**
comp=Z,29nm,1.4s,mb5.0
X13A Yucca 71.22 60 ⇓P **P 23 54 52.2 -0.4**
baz=71,SNR=6.2
W14A Seligman 71.29 59 P **P 23 54 53.2 +0.1**

baz=71,SNR=8.6
Y12C Blythe 71.32 61 ⇑P P 23 54 52.8 -0.4
baz=71
KIV Kislovodsk 71.46 313 P P 23 54 55.0 +0.9
comp=Z,622nm,0.7s,mb6.7,SNR=12
KIV Kislovodsk 71.46 313 *d iP* **P 23 54 55.2 +1.1**
KIV *i* *PP pP 23 55 10.4 +5.0
KIV *i* 23 55 15.6
KIV pmax pmax
comp=Z,72nm,1.7s,mb5.3
KIV MLR MLR
comp=Z,300nm,22.0s,MS4.5
GLA Glamis 71.57 62 ⇑P P 23 54 54.1 -0.7
baz=71
ZEI Tsey 71.61 312 *eP* **P 23 54 56.1 +1.1**
ZEI *e*PP pP 23 55 02.7 -3.6
ZEI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PV10 Paradox Valley 71.69 54 *eP* **P 23 54 56.2 +0.7**
Y13A Salome 71.72 61 ⇓P P 23 54 55.3 -0.4
baz=71
W15A Williams 71.81 59 ⇓P P 23 54 56.6 +0.4
baz=72
X14A Yava 71.89 60 ⇑P P 23 54 57.1 +0.4
baz=72,SNR=6.3
BORG Borgarnes 71.93 356 *eP* **P 23 55 03.1 +6.2**
PV01 Paradox Valley 72.13 54 *eP* **P 23 54 58.2 +0.1**
PV01 *ep*P pP 23 55 09.7 +0.4
Y14A Wickenburg 72.16 60 ⇑P P 23 54 57.9 -0.5
baz=72
X15A Humboldt 72.28 59 ⇓P P 23 54 59.2 +0.2
baz=72,SNR=13
Z14A Wintersburg 72.57 61 ⇓P P 23 55 00.3 -0.5
baz=72
ISCO Idaho Springs 72.73 51 *eP* **P 23 55 01.7 0.0**
ISCO pmax pmax
comp=Z,14nm,1.2s,mb4.8
ISCO Idaho Springs 72.73 51 *eP* **P 23 55 01.7 0.0**
comp=Z,14nm,1.2s,mb4.8
SUW Suwalki 72.78 330 *eP* **P 23 55 01.6 -0.4**
GNI Garni 72.92 309 *eP* **P 23 55 05.7 +2.9**
AKASG Malin Array Be 73.00 325 P P 23 55 02.7 -0.6
comp=Z,10nm,0.6s,mb5.0,baz=37,slow=5.8,SNR=70
AKASG LR LR 00 30 16.7
comp=Z,154nm,19.1s,MS4.3,baz=35,slow=38
AKASG Malin Array Be 73.00 325 P **P 23 55 02.7 -0.6**
AKASG LR LR 00 30 16.7
SOC Sochi 73.27 315 *c iP* **P 23 55 05.0 +0.1**
SOC *e*PP pP 23 55 12.1 -4.1
SOC *e*PPP 23 59 36.4
SOC *e*S S 00 04 35.2 +4.5
SOC *e* 00 05 24.8
SOC pmax pmax
comp=Z,19nm,0.9s,mb5.0
SOC MLR MLR
comp=Z,182nm,19.0s,MS4.4
115A Sonoran Desert 73.46 61 ⇑P P 23 55 05.8 -0.2
baz=73
DIGO Kars 73.50 310 *i P* pP 23 55 16.1 -1.4
ANN Anapa 73.57 317 *eP* **P 23 55 05.3 -1.4**
ANN pmax pmax
comp=Z,40nm,1.7s,mb5.1
ARTV Artvin 73.77 312 *i P* **P 23 55 12.1 +4.3**
116A Eloy 73.89 60 ⇑P P 23 55 07.9 -0.6
baz=74
EYMN Ely 74.15 38 *eP* **P 23 55 08.4 -1.6**
comp=Z,30nm,1.3s,mb5.1
TUC Tucson 74.63 60 *eP* **P 23 55 13.1 +0.2**
BSD Bornholm Skovb 74.64 335 *i P* **P 23 55 12.9 0.0**
comp=Z,24nm,0.6s,mb5.3
BSD Bornholm Skovb 74.64 335 *i P* **P 23 55 12.9 0.0**
BSD pmax pmax
comp=Z,24nm,0.6s,mb5.3
TVAN Van 74.78 309 *i P* **P 23 55 17.0 +3.3**
ECSD EROS,Sioux Fal 74.82 44 *eP* **P 23 55 12.2 -1.7**
ECSD *ep*P pP 23 55 24.6 -0.6
COP Copenhagen 74.89 337 *i P* **P 23 55 16.6 +2.2**
comp=Z,26nm,1.2s,mb5.0
COP Copenhagen 74.89 337 *eP* **P 23 55 16.6 +2.2**
COP pmax pmax
comp=Z,26nm,1.2s,mb5.0
COP Copenhagen 74.89 337 *eP* **P 23 55 16.6 +2.2**
comp=Z,26nm,1.2s,mb5.0
ERZM Erzurum 74.96 311 *i P* **P 23 55 17.0 +2.2**
SIM Simferopol' 75.09 319 *eP* **P 23 55 16.5 +1.0**
SIM pmax pmax
comp=Z,20nm,1.0s,mb5.0
MUD Monsted U'grnd 75.12 339 *i P* **P 23 55 15.3 -0.4**
comp=Z,11nm,1.1s,mb4.7
MUD Monsted U'grnd 75.12 339 *i P* **P 23 55 15.3 -0.4**
MUD pmax pmax
comp=Z,11nm,1.1s,mb4.7
STKA Stephens Creek 75.35 187 *eP* **P 23 55 15.8 -1.2**
comp=Z,3.0nm,0.9s,mb4.2
STKA Stephens Creek 75.35 187 P P 23 55 16.1 -0.9
comp=Z,5.0nm,1.1s,mb4.4,baz=8.2,slow=7.1,SNR=5.4
GKP Gorka Klasztor 75.45 333 *eP* **P 23 55 18.0 +0.4**
LAZ Ladron 75.48 56 *eP* **P 23 55 18.1 +0.3**
ANMO Albuquerque 75.52 56⇑ *eP* **P 23 55 16.9 -1.1**
ANMO Albuquerque 75.52 56 *eP* **P 23 55 18.5 +0.5**
LVV L'vov 75.79 327 *i P* **P 23 55 19.3 -0.2**
Y22C IRIS PASSCAL I 75.84 56 ⇓P P 23 55 20.3 +0.5
baz=76
IAS Iasi 76.39 324 P P 23 55 23.4 +0.4
KWP Kalwaria 76.46 328 *eP* **P 23 55 23.9 +0.6**
MSL Mosul 76.51 307 *ex* x 23 55 21.0
FORT Forrest 76.54 199 *eP* **P 23 55 25.6 +1.8**
comp=Z,36nm,0.7s,mb5.4
BSEG Bad Segeberg 77.02 337 *eP* **P 23 55 26.3 -0.2**
comp=Z,33nm,1.3s,mb5.1
BSEG Bad Segeberg 77.02 337 *eP* **P 23 55 26.3 -0.2**
BSEG pmax pmax
comp=Z,33nm,1.3s,mb5.1
BURAR Bucovina Array 77.06 325 *⇓iP* **P 23 55 27.4 +0.7**
BURAR Bucovina Array 77.06 325 *⇓iP* **P 23 55 27.4 +0.7**
OJC Ojcow 77.08 330 *eP* **P 23 55 26.8 0.0**
MARD Mardin 77.11 309 *i P* **P 23 55 28.5 +1.5**
KOLS Kolonicke sedl 77.19 328 *eP* **P 23 55 28.8 +1.3**
KOLS Kolonicke sedl 77.19 328 *eP* **P 23 55 28.9 +1.4**
KOLS pmax pmax
comp=Z,13nm,0.9s,mb4.9
KOLS Kolonicke sedl 77.19 328 *eP* **P 23 55 28.9 +1.4**
comp=Z,13nm,0.9s,mb4.9
STHS Stebnicka Huta 77.20 328 *i P* **P 23 55 28.1 +0.6**
STHS pmax pmax
comp=Z,17nm,1.0s,mb4.9
STHS Stebnicka Huta 77.20 328 *i P* **P 23 55 28.1 +0.6**
comp=Z,17nm,1.0s,mb4.9
SCHQ Schefferville 77.21 21 P P 23 55 26.3 -1.3
comp=Z,37nm,0.8s,mb4.3,baz=15,slow=7.2,SNR=5.0
RUE Ruedersdorf 77.24 334 *eP* **P 23 55 27.9 +0.2**
comp=Z,35nm,1.2s,mb5.2
HLG Helgoland 77.48 338 *eP* **P 23 55 30.3 +1.2**
comp=Z,208nm,1.1s,mb6.0
CRVS Cervenica-Dubn 77.53 328 *eP* **P 23 55 30.7 +1.3**
CRVS pmax pmax
comp=Z,12nm,1.3s,mb4.7
CRVS Cervenica-Dubn 77.53 328 *eP* **P 23 55 30.7 +1.3**
comp=Z,12nm,1.3s,mb4.7
NIE Niedzica 77.55 329 *eP* **P 23 55 30.1 +0.7**
MALT Malatya 77.70 311⇑ *iP* **P 23 55 32.7 +2.4**
MALT Malatya 77.70 311 *eP* **P 23 55 32.0 +1.7**
MALT pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
MALT Malatya 77.70 311 *eP* **P 23 55 32.0 +1.7**
comp=Z,7.9nm,0.6s,mb4.8
CFR Carcaliu 77.70 322⇑ *iP* **P 23 55 31.1 +0.8**
RAC Raciborz 77.78 331 *eP* **P 23 55 32.0 +1.3**
VRI Vrincioaia 77.79 323 *⇓iP* **P 23 55 32.5 +1.7**
VRI Vrincioaia 77.79 323 *⇓iP* **P 23 55 32.5 +1.7**
KSP Ksiaz 77.81 332 *eP* **P 23 55 31.2 +0.3**
KSP Ksiaz 77.81 332 *eP* **P 23 55 30.9 0.0**
PLOR Plostina 77.84 323⇑ *iP* **P 23 55 32.2 +1.1**
SCIA State Center 77.85 43 *eP* **P 23 55 30.8 -0.4**
BALT Daday 77.98 317 *i P* **P 23 55 33.8 +1.9**
OKC Ostrava-Krasne 78.00 330 *eP* **P 23 55 32.5 +0.5**
OKC *ep*P pP 23 55 39.4 -3.9
UPC Upice 78.18 332 *eP* **P 23 55 33.6 +0.6**
UPC *ep*P pP 23 55 39.0 -5.4
DPC Dobruska-Polom 78.21 332 *eP* **P 23 55 34.0 +0.9**
KECS Kecovo 78.25 328 *eP* **P 23 55 33.0 -0.3**
KECS *e* pP 23 55 45.8 +1.1
KECS pmax pmax
comp=Z,60nm,1.0s,mb5.5
KECS Kecovo 78.25 328 *eP* **P 23 55 33.0 -0.3**
comp=Z,6.3nm,1.0s,mb4.5
KECS *e* pP 23 55 45.8 +1.1
MORC Moravsky Berou 78.26 331⇑ *iP* **P 23 55 34.1 +0.7**
MORC Moravsky Berou 78.26 331 P P 23 55 33.7 +0.3
MORC Moravsky Berou 78.26 331 *eP* **P 23 55 35.4 +2.0**
comp=Z,26nm,1.1s,mb5.1
LIKS Likavka 78.30 329 *eP* **P 23 55 34.2 +0.6**
LIKS pmax pmax
comp=Z,22nm,0.9s,mb5.1
LIKS Likavka 78.30 329 *eP* **P 23 55 34.2 +0.6**
comp=Z,22nm,0.9s,mb5.1
NRDL Niedersach Rie 78.35 336 *eP* **P 23 55 34.0 +0.1**
comp=Z,27nm,1.4s,mb5.0
UMR Umm Al-Rimmam 78.35 300 *eP* **P 23 55 34.6 +0.7**
AMTX Amarillo 78.39 53 *eP* **P 23 55 34.9 +0.8**
MIB Mutribah 78.42 300 *eP* **P 23 55 35.1 +0.8**
MLR Muntele Rosu 78.42 323⇑ *iP* **P 23 55 36.2 +1.9**
MLR Muntele Rosu 78.42 323 P P 23 55 35.1 +0.8
CLL Collm 78.50 334 *eP* **P 23 55 33.5 -1.2**
comp=Z,64nm,1.4s,mb5.4
CLL Collm 78.50 334 *i P* **P 23 55 34.2 -0.5**
comp=Z,27nm,1.0s,mb5.1
CLL *i* P(2) 23 55 38.6
CLL *i* pP pP 23 55 41.3 -4.8
CLL *i* x x 23 55 46.4
CLL *i* x x 23 56 12.6
CLL Collm 78.50 334 *i P* **P 23 55 34.2 -0.5**
CLL *i* 23 55 41.3
CLL pmax pmax
comp=Z,27nm,1.0s,mb5.1
CLL MLR MLR
comp=Z,200nm,13.4s,MS4.6
CLL Collm 78.50 334 *i P* **P 23 55 34.2 -0.5**
comp=Z,27nm,1.0s,mb5.1
CLL *i* 23 55 38.6
CLL *i* 23 55 41.3
CLL LR LR
comp=Z,200nm,13.4s,MS4.6
BRG Berggiesshubel 78.56 333 *eP* **P 23 55 34.3 -0.8**
comp=Z,18nm,1.4s,mb4.8
BRG Berggiesshubel 78.56 333 *eP* **P 23 55 35.1 0.0**
BRG pmax pmax
comp=Z,80nm,1.2s,mb5.5
BRG Berggiesshubel 78.56 333 *eP* **P 23 55 35.1 0.0**
comp=Z,8.0nm,1.2s,mb4.5
PVCC Panska Ves 78.65 333 *eP* **P 23 55 36.2 +0.6**
PVCC *ep*P pP 23 55 43.0 -4.0
FBE Freiberg 78.72 334 *eP* **P 23 55 35.2 -0.7**
comp=Z,43nm,1.5s,mb5.2
ELDT Eldivan 78.74 316 *i P* **P 23 55 37.5 +1.5**
DRGR 78.75 326⇑ *iP* **P 23 55 36.0 -0.1**
DRGR 78.75 326⇑P P 23 55 36.1 0.0
DRGR 78.75 326 P P 23 55 36.5 +0.4
QRN Al-Qurain 78.77 299 *eP* **P 23 55 36.6 +0.3**
RST Umm Al-Ruwaisa 78.84 300 *eP* **P 23 55 36.9 +0.3**
CLZ Clausthal 78.84 336 *eP* **P 23 55 36.4 -0.2**
comp=Z,40nm,1.2s,mb5.2
CLZ Clausthal 78.84 336 *eP* **P 23 55 36.4 -0.2**
CLZ pmax pmax
comp=Z,40nm,1.2s,mb5.2
VOIR 78.85 324⇑ *iP* **P 23 55 37.6 +0.9**
VOIR 78.85 324⇑P P 23 55 37.6 +1.0
NAY Al-Naaiem 78.86 300 *eP* **P 23 55 36.7 0.0**
VYHS Vyhne 78.86 329 *i P* **P 23 55 37.0 +0.3**
VYHS pmax pmax
comp=Z,12nm,1.4s,mb4.6
VYHS Vyhne 78.86 329 *i P* **P 23 55 37.0 +0.3**
comp=Z,12nm,1.4s,mb4.7
GZT Gaziantep 78.86 311 *i P* **P 23 55 38.0 +1.3**
RDF Al-Radifah 78.88 299 *eP* **P 23 55 37.4 +0.6**
CDAG Cicekdag 78.90 315 *i P* **P 23 55 38.6 +1.7**
PSZ Piszkesteto 78.94 328⇓ *eP* **P 23 55 38.6 +1.5**
PSZ Piszkesteto 78.94 328 *eP* **P 23 55 38.0 +0.9**
KOLL Kolacno 78.95 330 *i P* **P 23 55 37.5 +0.3**
VRAC Vranov 78.99 331⇑ *iP* **P 23 55 38.3 +0.8**
VRAC Vranov 78.99 331 P P 23 55 37.8 +0.3
ESK Eskdalemuir 79.00 345 *eP* **P 23 55 37.4 -0.1**
WIT Witteveen 79.03 338 *eP* **P 23 55 38.9 +1.2**
comp=Z,106nm,1.5s,mb5.6
PRU Pruhonice 79.12 333 *eP* **P 23 55 38.0 -0.2**
IBBN Ibbenburen 79.19 337 *eP* **P 23 55 38.6 +0.1**
comp=Z,72nm,1.5s,mb5.4
BR131 Keskin Array S 79.20 315 *eP* **P 23 55 39.7 +1.1**
BRTR Keskin Array B 79.20 315 P P 23 55 39.5 +1.0
comp=Z,3.9nm,0.8s,mb4.4,baz=66,slow=4.3,SNR=28
BRTR Keskin Array B 79.20 315⇑ *eP* **P 23 55 39.5 +0.9**
SMOL Smolenice 79.36 330 *eP* **P 23 55 39.9 +0.4**
SGKT Sivrigoynuk 79.36 317 *i P* **P 23 55 41.0 +1.5**
TREC Trest 79.39 332 *eP* **P 23 55 40.3 +0.7**
TREC *ep*P pP 23 55 47.4 -3.6
TANN Tannenbergstha 79.44 334 *eP* **P 23 55 39.3 -0.6**
comp=Z,13nm,1.5s,mb4.6
WERD Werda 79.46 334 *eP* **P 23 55 39.5 -0.5**
comp=Z,11nm,1.0s,mb4.7
MOX Moxa 79.51 334 *eP* **P 23 55 39.7 -0.6**
comp=Z,26nm,1.4s,mb5.0
MOX Moxa 79.51 334 *eP* **P 23 55 39.8 -0.5**
comp=Z,23nm,1.3s,mb5.0
MOX Moxa 79.51 334 *eP* **P 23 55 39.8 -0.5**
MOX pmax pmax
comp=Z,23nm,1.3s,mb5.0
ANTO Ankara 79.52 316 P P 23 55 41.9 +1.6
SNR=10
ANTO Ankara 79.52 316 *eP* **P 23 55 41.8 +1.5**
ANTO *e* 23 55 47.8
ANTO pmax pmax
comp=Z,25nm,0.6s,mb5.3
ANTO Ankara 79.52 316 *eP* **P 23 55 41.8 +1.4**
comp=Z,25nm,0.6s,mb5.3
ANTO *e*PcP PcP 23 55 47.8 -0.4
NKC Novy Kostel 79.60 334 *eP* **P 23 55 41.1 +0.3**
NKC *ep*P pP 23 55 47.6 -4.6
BUD Budapest 79.63 329 *e*Pd 23 55 42.4
HENT Hendek 79.75 318 *i P* **P 23 55 43.0 +1.4**
ZST Bratislava 79.75 330 *eP* **P 23 55 41.5 -0.1**
comp=Z,18nm,1.3s,mb4.8
ZST LR LR
comp=Z,100nm,16.2s,MS4.2
WTSB Winterswijk 79.76 338 *eP* **P 23 55 41.1 -0.5**
comp=Z,15nm,1.4s,mb4.8
GZR Gura Zlata 79.85 325⇑ *iP* **P 23 55 42.1 0.0**
GZR Gura Zlata 79.85 325⇑P P 23 55 42.1 0.0
UBBA Unterbreizbach 79.85 335 *eP* **P 23 55 41.4 -0.7**
comp=Z,18nm,1.6s,mb4.8
MANZ Manzenberg 79.92 334 *eP* **P 23 55 42.2 -0.3**
comp=Z,9.0nm,0.8s,mb4.8
ROTZ Rotzenmuhle 80.08 334 *eP* **P 23 55 43.4 0.0**
comp=Z,20nm,1.5s,mb4.8
BUG Bochum--Univer 80.10 337 *eP* **P 23 55 42.7 -0.7**
comp=Z,19nm,1.0s,mb5.0
BZS Buzias 80.14 326⇑ *iP* **P 23 55 44.0 +0.3**
BZS Buzias 80.14 326 P P 23 55 43.8 +0.1
KHC Kasperske Hory 80.18 333 *eP* **P 23 55 44.1 +0.2**
KHC *ep*P pP 23 55 51.7 -3.6
KHC Kasperske Hory 80.18 333⇑ *eP* **P 23 55 43.9 0.0**
SOP Sopron 80.38 330⇓ *eP* **P 23 55 46.7 +1.7**
SOP Sopron 80.38 330⇓ *eP* **P 23 55 46.6 +1.6**
GEC2 GERESS Array S 80.39 332 *eP* **P 23 55 44.7 -0.3**
comp=Z,8.0nm,0.9s,mb4.7
GEC2 GERESS Array S 80.39 332 *eP* **P 23 55 44.7 -0.3**
comp=Z,8.0nm,0.9s,mb4.7
GERES GERESS Array B 80.39 332 P P 23 55 44.7 -0.3
comp=Z,2.5nm,0.6s,mb4.3,baz=35,slow=5.1,SNR=29
GERES LR LR 00 35 24.5
comp=Z,248nm,18.4s,MS4.6,baz=348,slow=39
WET Wettzell 80.41 333 *eP* **P 23 55 45.2 +0.1**
comp=Z,33nm,1.5s,mb5.0
WET Wettzell 80.41 333 *eP* **P 23 55 45.2 +0.1**
WET pmax pmax
comp=Z,33nm,1.5s,mb5.0
CONA Conrad Observa 80.42 331⇓ *iP* **P 23 55 45.8 +0.6**
comp=Z,16nm,1.0s,mb4.9,SNR=13
GRA1 Grafenberg Arr 80.46 334 *eP* **P 23 55 45.4 0.0**
comp=Z,31nm,0.7s,mb5.3
GRF Grafenberg Arr 80.46 334 *eP* **P 23 55 45.4 0.0**
comp=Z,31nm,0.7s,mb5.3
GRF Grafenberg Arr 80.46 334 *eP* **P 23 55 45.4 0.0**
GRF pmax pmax
comp=Z,31nm,0.7s,mb5.3
GRF Grafenberg Arr 80.46 334 *eP* **P 23 55 45.4 0.0**
GRF pmax pmax
comp=Z,31nm,0.7s,mb5.3
PKSM Moragy 80.83 328 P P 23 55 47.4 0.0
TNS Taunus Mts 80.84 336 *eP* **P 23 55 47.7 +0.2**
comp=Z,11nm,0.8s,mb4.8
TNS Taunus Mts 80.84 336 *eP* **P 23 55 47.7 +0.2**
TNS pmax pmax
comp=Z,11nm,0.8s,mb4.8
DMUB Kingscourt 81.02 346 *eP* **P 23 55 45.9 -2.5**
MOA Molln 81.05 332 *⇓iP* **P 23 55 48.4 -0.1**
comp=Z,5.5nm,0.8s,mb4.5,SNR=6.6
HGN Heimansgroeve 81.08 338 *eP* **P 23 55 48.1 -0.5**
comp=Z,19nm,1.2s,mb4.9
ARSA Arzberg 81.12 330 *⇓iP* **P 23 55 49.2 +0.3**
comp=Z,12nm,1.7s,mb4.5
BEBN Eben Emael 81.12 338 P P 23 55 48.9 0.0
BEBN E 23 55 54.5
LTX Lajitas 81.12 58 *eP* **P 23 55 49.0 +0.1**
MEM Membach 81.20 338 P P 23 55 49.3 -0.1
MEM E 23 55 56.3
TOD Tromm 81.29 336 *eP* **P 23 55 49.5 -0.3**
ABH Alteburg 81.41 336 *eP* **P 23 55 50.1 -0.4**
BOLS Boljevac 81.46 325 *⇓iP* **P 23 55 49.5 -1.3**
UCC Uccle 81.47 339 P P 23 55 50.9 +0.1
UCC E 23 55 57.7
DLF Lyons Farm 81.53 346 *eP* **P 23 55 47.3 -3.8**
RUP Ruppelstein 81.72 337 *eP* **P 23 55 51.6 -0.5**
CCM Cathedral Cave 81.75 44 *eP* **P 23 55 51.0 -1.3**
CCM pmax pmax
comp=Z,30nm,1.1s,mb5.1
CCM Cathedral Cave 81.75 44 *eP* **P 23 55 51.0 -1.3**
comp=Z,30nm,1.1s,mb5.1
GDZ Gediz 81.78 317 *i P* **P 23 55 52.0 -0.4**
FUR Furstenfeldbru 81.78 333 *eP* **P 23 55 52.5 +0.1**
comp=Z,26nm,1.0s,mb5.1
FUR Furstenfeldbru 81.78 333 *eP* **P 23 55 52.5 +0.1**
FUR pmax pmax
comp=Z,26nm,1.0s,mb5.1
PERS Pernice 81.79 330 *eP* **P 23 55 52.2 -0.3**
ERMK Ermenek 81.89 314 *i P* **P 23 55 51.8 -1.2**
STU Stuttgart 81.91 335 *eP* **P 23 55 52.8 -0.3**
comp=Z,18nm,1.0s,mb5.0
STU Stuttgart 81.91 335 *eP* **P 23 55 53.3 +0.2**
STU pmax pmax
comp=Z,15nm,0.8s,mb5.0
STU Stuttgart 81.91 335 *eP* **P 23 55 53.3 +0.2**
comp=Z,15nm,0.8s,mb5.0
GIVF Givet 81.98 338 *eP* **P 23 55 52.6 -0.9**
WLF Walferdange 82.01 337 *eP* **P 23 55 55.1 +1.5**
comp=Z,23nm,1.5s,mb4.9
WLF Walferdange 82.01 337 P P 23 55 52.8 -0.8
WLF E 23 55 55.5
WLF AP pP 23 56 04.5 -0.6
WLF XP sP 23 56 08.1 -1.1
WLF Walferdange 82.01 337 *eP* **P 23 55 54.3 +0.7**
WLF pmax pmax
comp=Z,25nm,1.3s,mb5.0
WLF Walferdange 82.01 337 *eP* **P 23 55 54.2 +0.6**
comp=Z,25nm,1.3s,mb5.0
KBA Koelnbreinsper 82.03 332 *⇓iP* **P 23 55 54.2 +0.5**
comp=Z,14nm,0.6s,mb5.1,SNR=8.7
DOU Dourbes 82.05 338 P P 23 55 52.8 -1.0
DOU E 23 56 00.6
DOU AP pP 23 56 04.4 -0.9
OBKA Obir 82.10 331 *⇓iP* **P 23 55 54.6 +0.5**
comp=Z,4.4nm,0.9s,mb4.4
PPT Papeete 82.15 123 LR LR 00 33 29.5
comp=Z,222nm,18.2s,MS4.6,baz=332,slow=36
TKTP Tekketepe 82.17 316 *i P* **P 23 55 54.8 +0.3**
BAIF Baives 82.18 339 *eP* **P 23 55 53.9 -0.6**
comp=Z,21nm,1.1s,mb4.7
BAIF Baives 82.18 339 *eP* **P 23 55 53.9 -0.6**
BAIF pmax pmax
comp=Z,11nm,1.1s,mb4.7
BAIF Baives 82.18 339 *eP* **P 23 55 53.9 -0.6**
comp=Z,11nm,1.1s,mb4.7
FVM French Village 82.22 44 *eP* **P 23 55 54.0 -0.7**
FVM pmax pmax
comp=Z,33nm,1.4s,mb5.1
FVM French Village 82.22 44 *eP* **P 23 55 54.0 -0.7**
comp=Z,33nm,1.4s,mb5.1
WATA Walderalm 82.41 333 *i P* **P 23 55 56.0 +0.3**
comp=Z,14nm,1.0s,mb4.8,SNR=12
WTTA Wattenberg 82.45 333 *⇓iP* **P 23 55 56.3 +0.4**
comp=Z,25nm,0.7s,mb5.2,SNR=10
MOTA Moosalm 82.56 333 *i P* **P 23 55 56.6 +0.1**
comp=Z,18nm,0.9s,mb5.1,SNR=9.2
BFO Black Forest 82.56 335 *eP* **P 23 55 56.2 -0.3**
comp=Z,11nm,1.1s,mb4.8
BFO Black Forest 82.56 335 *eP* **P 23 55 56.2 -0.3**
BFO pmax pmax
comp=Z,11nm,1.1s,mb4.8
VISS Visnje 82.60 330 *eP* **P 23 55 55.9 -0.8**
SQTA Sankt Quirin 82.63 333 *⇓iP* **P 23 55 58.0 +1.1**
comp=Z,9.2nm,0.9s,mb4.8
JCT Junction City 82.64 55 *eP* **P 23 55 56.4 -0.5**
JCT pmax pmax
comp=Z,17nm,0.8s,mb5.1
JCT Junction City 82.64 55 *eP* **P 23 55 56.4 -0.6**
comp=Z,17nm,0.8s,mb5.1
FVI Forni Avoltri 82.64 332 P P 23 56 00.9 +4.0
BOJS Bojanci 82.70 330 *eP* **P 23 55 57.3 +0.1**
BOJS *e* 23 56 03.5
WLS Welschbruch 82.78 336 *eP* **P 23 55 57.5 -0.2**
CDF Champ du Feu 82.81 336 *eP* **P 23 55 57.1 -0.7**
comp=Z,23nm,0.9s,mb4.9
CDF Champ du Feu 82.81 336 *eP* **P 23 55 57.1 -0.7**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.9
CDF Champ du Feu 82.81 336 *eP* **P 23 55 57.1 -0.7**
comp=Z,12nm,0.9s,mb4.9
DAVA Damuels 83.00 334 *⇓iP* **P 23 55 59.4 +0.6**
comp=Z,15nm,1.1s,mb5.0,SNR=8.8
ECH Echery 83.02 336⇓ *eP* **P 23 55 58.1 -0.8**
SIUC Southern Illin 83.04 43 *eP* **P 23 55 59.1 +0.1**
FELD Feldberg im Sc 83.07 335 *eP* **P 23 55 59.0 -0.1**
MOF Molkenrain 83.35 336 *eP* **P 23 55 58.3 -2.3**
THEF They Montfort 83.35 337 *eP* **P 23 56 00.1 -0.5**
MEZF Maizieres J'vi 83.37 337 *eP* **P 23 56 00.2 -0.5**
comp=Z,19nm,0.8s,mb4.9
MEZF Maizieres J'vi 83.37 337 *eP* **P 23 56 00.2 -0.5**
comp=Z,19nm,0.8s,mb5.2
HAU Haudompre 83.45 336 *eP* **P 23 56 01.2 +0.1**
comp=Z,11nm,0.7s,mb4.7
HAU *eR*
comp=Z,176nm,18.5s
HAU Haudompre 83.45 336 *eP* **P 23 56 01.2 +0.1**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
HAU MLR MLR
comp=Z,180nm,18.5s,MS4.5
HAU Haudompre 83.45 336 *eP* **P 23 56 01.2 +0.1**
comp=Z,5.3nm,0.7s,mb4.7
HAU LR LR
comp=Z,180nm,18.5s,MS4.5
HINF Hinteralfeld 83.47 336 *eP* **P 23 56 00.2 -1.0**
comp=Z,12nm,0.9s,mb4.6
HINF Hinteralfeld 83.47 336 *eP* **P 23 56 00.2 -1.0**
HINF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
HINF Hinteralfeld 83.47 336 *eP* **P 23 56 00.2 -1.0**
comp=Z,5.8nm,0.9s,mb4.6
CTI Castel Tesino 83.51 332 P P 23 56 00.6 -0.8
BRMO Bormio 83.56 333 P P 23 56 01.2 -0.5
BBS Basel-Blauen 83.59 335 *eP* **P 23 56 01.6 -0.2**
AYDN Tasoluk 83.68 317 *i P* **P 23 56 03.3 +1.0**
WCI Wyandotte Cave 84.06 41 *eP* **P 23 56 04.0 -0.3**
ALLY Alegheny Colle 84.07 35 *eP* **P 23 56 01.9 -2.3**
FLN La Foliniere 84.57 341 *eP* **P 23 56 06.0 -0.8**
comp=Z,41nm,1.1s,mb5.2
FLN La Foliniere 84.57 341 *eP* **P 23 56 06.0 -0.8**
FLN pmax pmax
comp=Z,20nm,1.1s,mb5.2
FLN La Foliniere 84.57 341 *eP* **P 23 56 06.0 -0.8**
comp=Z,20nm,1.1s,mb5.2
LDF La Druitiere 84.64 341 *eP* **P 23 56 06.4 -0.8**
comp=Z,80nm,1.6s,mb5.3
LDF La Druitiere 84.64 341 *eP* **P 23 56 06.4 -0.8**
LDF pmax pmax
comp=Z,40nm,1.6s,mb5.3
LDF La Druitiere 84.64 341 *eP* **P 23 56 06.4 -0.8**
comp=Z,40nm,1.6s,mb5.3
CABF La Chapelle 84.78 336 *eP* **P 23 56 07.5 -0.4**
comp=Z,23nm,1.2s,mb4.9
CABF La Chapelle 84.78 336 *eP* **P 23 56 07.5 -0.4**
CABF pmax pmax
comp=Z,12nm,1.2s,mb4.9
CABF La Chapelle 84.78 336 *eP* **P 23 56 07.5 -0.4**

comp=Z,12nm,1.2s,mb4.9
LOR Lormes 84.83 338 *e*P **P 23 56 07.5 -0.6**
comp=Z,82nm,1.6s,mb5.3
LOR *e*R
comp=Z,181nm,17.2s
LOR Lormes 84.83 338 *e*P **P 23 56 07.5 -0.6**
LOR pmax pmax
comp=Z,41nm,1.6s,mb5.3
LOR MLR MLR
comp=Z,180nm,17.3s,MS4.5
LOR Lormes 84.83 338 *e*P **P 23 56 07.5 -0.6**
comp=Z,41nm,1.6s,mb5.3
LOR LR LR
comp=Z,180nm,17.3s,MS4.5
GRR Gorron 85.01 341 *e*P **P 23 56 08.4 -0.6**
comp=Z,56nm,1.1s,mb5.3
GRR Gorron 85.01 341 *e*P **P 23 56 08.4 -0.6**
GRR pmax pmax
comp=Z,28nm,1.1s,mb5.3
GRR Gorron 85.01 341 *e*P **P 23 56 08.4 -0.6**
comp=Z,28nm,1.1s,mb5.3
RSM Repubblica di 85.07 331 P **P 23 56 10.0 +0.7**
SSF Saint Saulge 85.11 338 *e*P **P 23 56 09.1 -0.4**
comp=Z,10.0nm,0.7s,mb4.8
SSF Saint Saulge 85.11 338 *e*P **P 23 56 09.1 -0.4**
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
SSF Saint Saulge 85.11 338 *e*P **P 23 56 09.1 -0.4**
comp=Z,5.0nm,0.7s,mb4.8
HYF Humbligny 85.16 338 *e*P **P 23 56 09.6 -0.2**
FSSB Fossombrone 85.16 330 P **P 23 56 09.8 0.0**
comp=Z,23nm,0.9s,mb5.3
ZCCA Zocca 85.22 332 P **P 23 56 11.8 +1.7**
comp=Z,16nm,0.7s,mb5.2
ARV Arcevia 85.27 330 P **P 23 56 10.4 +0.1**
SFI Santa Sofia 85.31 331 P **P 23 56 11.1 +0.6**
SFI pmax pmax
comp=Z,63nm,1.5s,mb5.5
SFI Santa Sofia 85.31 331 P **P 23 56 11.1 +0.6**
comp=Z,63nm,1.5s,mb5.5
FNVD Fontana Vidola 85.33 332 P **P 23 56 11.2 +0.6**
comp=Z,44nm,1.3s,mb5.4
SEI Scarperia 85.35 331 P **P 23 56 12.0 +1.3**
comp=Z,59nm,0.6s,mb5.9
ERBM Eremo 85.36 332 P **P 23 56 11.7 +0.9**
comp=Z,44nm,1.0s,mb5.5
GSCL Gusciola 85.36 332 P **P 23 56 11.3 +0.5**
comp=Z,29nm,1.2s,mb5.3
HKT Hockley 85.36 53 *e*P **P 23 56 10.5 -0.3**
HKT pmax pmax
comp=Z,15nm,1.4s,mb4.9
HKT Hockley 85.36 53 *e*P **P 23 56 10.5 -0.3**
comp=Z,15nm,1.4s,mb4.9
VMG Vicchio 85.37 331 P **P 23 56 12.0 +1.2**
comp=Z,23nm,0.5s,mb5.6
BOB Bobbio (Coli) 85.37 333 P **P 23 56 11.7 +0.9**
BOB pmax pmax
comp=Z,105nm,1.7s,mb5.7
BOB Bobbio (Coli) 85.37 333 P **P 23 56 11.7 +0.9**
comp=Z,105nm,1.7s,mb5.7
SMF Signal de Mont 85.40 337 *e*P **P 23 56 10.6 -0.4**
comp=Z,149nm,1.4s,mb5.6
SMF Signal de Mont 85.40 337 *e*P **P 23 56 10.6 -0.4**
SMF pmax pmax
comp=Z,74nm,1.4s,mb5.6
SMF Signal de Mont 85.40 337 *e*P **P 23 56 10.6 -0.4**
comp=Z,74nm,1.4s,mb5.6
AVF Avril sur Loir 85.40 338 *e*P **P 23 56 10.7 -0.3**
comp=Z,113nm,1.4s,mb5.5
AVF Avril sur Loir 85.40 338 *e*P **P 23 56 10.7 -0.3**
AVF pmax pmax
comp=Z,56nm,1.4s,mb5.5
AVF Avril sur Loir 85.40 338 *e*P **P 23 56 10.7 -0.3**
comp=Z,56nm,1.4s,mb5.5
OXF Oxford 85.42 45 *e*P **P 23 56 11.2 +0.1**
SNTG Esanatoglia 85.48 330 P **P 23 56 11.3 -0.1**
BADI Badiali 85.51 331 P **P 23 56 12.4 +0.9**
comp=Z,66nm,1.3s,mb5.7
SGMF Saint Gilles 85.53 342 *e*P **P 23 56 11.3 -0.3**
comp=Z,18nm,0.6s,mb5.2
SGMF Saint Gilles 85.53 342 *e*P **P 23 56 11.3 -0.3**
SGMF pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
SGMF Saint Gilles 85.53 342 *e*P **P 23 56 11.3 -0.3**
comp=Z,8.8nm,0.6s,mb5.2
LPL La Plagne 85.57 335 *e*P **P 23 56 12.1 +0.3**
comp=Z,42nm,1.2s,mb5.2
LPL La Plagne 85.57 335 *e*P **P 23 56 12.1 +0.3**
LPL pmax pmax
comp=Z,21nm,1.2s,mb5.2
LPL La Plagne 85.57 335 *e*P **P 23 56 12.1 +0.3**
comp=Z,21nm,1.2s,mb5.2
LPG La Plagne 85.58 335 *e*P **P 23 56 12.3 +0.4**
comp=Z,74nm,1.3s,mb5.5
LPG La Plagne 85.58 335 *e*P **P 23 56 12.3 +0.4**
LPG pmax pmax
comp=Z,37nm,1.3s,mb5.5
LPG La Plagne 85.58 335 *e*P **P 23 56 12.3 +0.4**
comp=Z,37nm,1.3s,mb5.5
ROSF Rostrenen 85.61 342 *e*P **P 23 56 11.5 -0.5**
comp=Z,90nm,1.3s,mb5.5
ROSF Rostrenen 85.61 342 *e*P **P 23 56 11.5 -0.5**
ROSF pmax pmax
comp=Z,45nm,1.3s,mb5.5
ROSF Rostrenen 85.61 342 *e*P **P 23 56 11.5 -0.5**
comp=Z,45nm,1.3s,mb5.5
MURB Monte Urbino 85.63 330 P **P 23 56 13.1 +1.0**
comp=Z,38nm,1.1s,mb5.5
PLAL Pickwick Lake 85.74 44 *e*P **P 23 56 11.6 -1.0**
comp=Z,10nm,1.1s,mb5.0
BGF Bois d'Agland 85.75 338 *e*P **P 23 56 12.5 -0.2**
comp=Z,64nm,1.5s,mb5.3
BGF Bois d'Agland 85.75 338 *e*P **P 23 56 12.5 -0.2**
BGF pmax pmax
comp=Z,32nm,1.5s,mb5.3
BGF Bois d'Agland 85.75 338 *e*P **P 23 56 12.5 -0.2**
comp=Z,32nm,1.5s,mb5.3
RGNG Rignano Grg 85.84 328 P **P 23 56 12.1 -1.1**
SSPA Standing Stone 85.85 34 *e*P **P 23 56 11.2 -2.0**
QUIF Quistinic 85.98 342 *e*P **P 23 56 13.2 -0.7**
comp=Z,12nm,0.6s,mb5.0
QUIF Quistinic 85.98 342 *e*P **P 23 56 13.2 -0.7**
QUIF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
QUIF Quistinic 85.98 342 *e*P **P 23 56 13.2 -0.7**
comp=Z,6.1nm,0.6s,mb5.0
EIL Elat 86.00 308 *e*P **P 23 56 15.3 +1.3**
BNI Bardonecchia 86.00 335 *e*P **P 23 56 14.8 +0.8**
BNI pmax pmax
comp=Z,14nm,1.0s,mb5.2
BNI Bardonecchia 86.00 335 *e*P **P 23 56 14.8 +0.8**
comp=Z,14nm,1.0s,mb5.2
AQU L'Aquila 86.09 329 ⇑*i*P **P 23 56 14.9 +0.5**
AQU L'Aquila 86.09 329 P **P 23 56 15.1 +0.7**
AQU L'Aquila 86.09 329 *e*P **P 23 56 14.8 +0.4**
AGO Saint Agoulin 86.14 338 *e*P **P 23 56 15.7 +1.1**
TCF Toulx Ste Croi 86.18 338 *e*P **P 23 56 14.7 -0.1**
comp=Z,39nm,1.2s,mb5.2
TCF Toulx Ste Croi 86.18 338 *e*P **P 23 56 14.7 -0.1**
TCF pmax pmax
comp=Z,20nm,1.2s,mb5.2
TCF Toulx Ste Croi 86.18 338 *e*P **P 23 56 14.7 -0.1**
comp=Z,20nm,1.2s,mb5.2
MBDF Montbardon 86.27 335 *e*P **P 23 56 14.9 -0.4**
comp=Z,30nm,1.0s,mb5.2
MBDF Montbardon 86.27 335 *e*P **P 23 56 14.9 -0.4**
MBDF pmax pmax
comp=Z,15nm,1.0s,mb5.2
MBDF Montbardon 86.27 335 *e*P **P 23 56 14.9 -0.4**
comp=Z,15nm,1.0s,mb5.2
FIAM Fiamignano 86.27 329 P **P 23 56 15.0 -0.3**
MNS Montasola 86.33 330 P **P 23 56 14.6 -1.0**
ORIF Oris-en-Rattie 86.37 335 *e*P **P 23 56 15.9 +0.1**
comp=Z,36nm,0.9s,mb5.3
ORIF *e*R
comp=Z,170nm,17.8s
ORIF Oris-en-Rattie 86.37 335 *e*P **P 23 56 15.9 +0.1**
ORIF pmax pmax
comp=Z,18nm,0.9s,mb5.3
ORIF Oris-en-Rattie 86.37 335 *e*P **P 23 56 15.9 +0.1**
comp=Z,18nm,0.9s,mb5.3
VVLD Villa Vallelon 86.43 329 P **P 23 56 15.3 -0.8**
comp=Z,37nm,1.4s,mb5.4
PYM Petit Puy Mans 86.45 337 *e*P **P 23 56 17.1 +0.9**
COLF Collangettes 86.47 337 *e*P **P 23 56 16.6 +0.3**
MFF Saint Martin d 86.50 340 *e*P **P 23 56 16.3 -0.1**
comp=Z,22nm,0.7s,mb5.2
MFF Saint Martin d 86.50 340 *e*P **P 23 56 16.3 -0.1**
MFF pmax pmax
comp=Z,11nm,0.7s,mb5.2
MFF Saint Martin d 86.50 340 *e*P **P 23 56 16.3 -0.1**
comp=Z,11nm,0.7s,mb5.2
SWET Sewanee 86.63 43 *e*P **P 23 56 16.5 -0.6**
IMI Imperia 86.64 334 P **P 23 56 17.2 +0.1**
AUTN L'Aution 86.72 334 *e*P **P 23 56 17.2 -0.3**
TOUF Mont Tournerai 86.76 334 *e*P **P 23 56 17.8 +0.1**
VIVF Saint-Julien-l 86.79 336 *e*P **P 23 56 17.9 +0.1**
comp=Z,101nm,1.7s,mb5.5
VIVF Saint-Julien-l 86.79 336 *e*P **P 23 56 17.9 +0.1**
VIVF pmax pmax
comp=Z,50nm,1.7s,mb5.5
VIVF Saint-Julien-l 86.79 336 *e*P **P 23 56 17.9 +0.1**
comp=Z,50nm,1.7s,mb5.5
OG25 Le Caire 86.81 335 ⇓*e*P **P 23 56 16.1 -1.8**
SBF Sospel 86.83 334 *e*P **P 23 56 17.2 -0.9**
comp=Z,75nm,1.1s,mb5.5
SBF Sospel 86.83 334 *e*P **P 23 56 17.2 -0.9**
SBF pmax pmax
comp=Z,38nm,1.1s,mb5.5
SBF Sospel 86.83 334 *e*P **P 23 56 17.2 -0.9**
comp=Z,38nm,1.1s,mb5.5
LUCF Luceram 86.84 334 *e*P **P 23 56 17.7 -0.4**
WES Weston 86.87 29 *e*P **P 23 56 17.7 -0.5**
MVIF Mont Vial 86.89 334 *e*P **P 23 56 17.5 -0.8**
REVF Revere 86.97 334 *e*P **P 23 56 18.0 -0.7**
RJF Les Rejaudoux 87.27 338 *e*P **P 23 56 20.2 0.0**
comp=Z,45nm,1.3s,mb5.2
RJF *e*R
comp=Z,220nm,20.2s
RJF Les Rejaudoux 87.27 338 *e*P **P 23 56 20.2 0.0**
RJF pmax pmax
comp=Z,23nm,1.3s,mb5.2
RJF MLR MLR
comp=Z,220nm,20.3s,MS4.6
RJF Les Rejaudoux 87.27 338 *e*P **P 23 56 20.2 0.0**
comp=Z,22nm,1.3s,mb5.2
RJF LR LR
comp=Z,220nm,20.3s,MS4.6
SMRF Simiane la Rot 87.32 335 *e*P **P 23 56 20.5 +0.1**
comp=Z,35nm,1.2s,mb5.2
SMRF Simiane la Rot 87.32 335 *e*P **P 23 56 20.5 +0.1**
comp=Z,35nm,1.2s,mb5.5
FRF La Foret Royal 87.36 334 *e*P **P 23 56 19.8 -0.8**
comp=Z,63nm,1.3s,mb5.4
FRF La Foret Royal 87.36 334 *e*P **P 23 56 19.8 -0.8**
FRF pmax pmax
comp=Z,31nm,1.3s,mb5.4
FRF La Foret Royal 87.36 334 *e*P **P 23 56 19.8 -0.8**
comp=Z,31nm,1.3s,mb5.4
VILF Villemus 87.39 335 *e*P **P 23 56 20.9 +0.2**
CAF Calviac 87.47 338 *e*P **P 23 56 21.6 +0.5**
comp=Z,21nm,0.7s,mb5.2
CAF Calviac 87.47 338 *e*P **P 23 56 21.6 +0.5**
CAF pmax pmax
comp=Z,11nm,0.7s,mb5.2
CAF Calviac 87.47 338 *e*P **P 23 56 21.6 +0.5**
comp=Z,11nm,0.7s,mb5.2
PGF Pioggiola 87.49 332 *e*P **P 23 56 21.6 +0.4**
comp=Z,22nm,0.8s,mb5.1
PGF Pioggiola 87.49 332 *e*P **P 23 56 21.6 +0.4**
PGF pmax pmax
comp=Z,11nm,0.8s,mb5.1
PGF Pioggiola 87.49 332 *e*P **P 23 56 21.6 +0.4**
comp=Z,11nm,0.8s,mb5.1
TAVF Tavernes 87.49 335 ⇓*e*P **P 23 56 21.3 +0.1**
PRAF Pradon 87.60 335 ⇓*e*P **P 23 56 22.2 +0.5**
LMR La Mourre 87.61 334 *e*P **P 23 56 21.2 -0.6**
comp=Z,60nm,1.0s,mb5.5
LMR La Mourre 87.61 334 *e*P **P 23 56 21.2 -0.6**
LMR pmax pmax
comp=Z,30nm,1.0s,mb5.5
LMR La Mourre 87.61 334 *e*P **P 23 56 21.2 -0.6**
comp=Z,30nm,1.0s,mb5.5
PUYF Puyloubier 87.68 335 ⇓*e*P **P 23 56 22.2 +0.1**
TREF Trevaresse 87.69 335 ⇓*e*P **P 23 56 23.0 +0.8**
LASF Ste Croix 87.74 336 *e*P **P 23 56 22.9 +0.5**
comp=Z,8.7nm,0.7s,mb4.8
LFF La Frestale 87.82 339 *e*P **P 23 56 23.1 +0.3**
comp=Z,20nm,0.6s,mb5.2
LFF La Frestale 87.82 339 *e*P **P 23 56 23.1 +0.3**
LFF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
LFF La Frestale 87.82 339 *e*P **P 23 56 23.1 +0.3**
comp=Z,9.8nm,0.6s,mb5.2
GELF Grande-Etoile 87.90 335 ⇓*e*P **P 23 56 23.7 +0.5**
MTLF Montolieu 88.89 337 *e*P **P 23 56 28.5 +0.6**
comp=Z,6.3nm,0.8s,mb4.7
MTLF Montolieu 88.89 337 *e*P **P 23 56 28.5 +0.6**
MTLF pmax pmax
comp=Z,30nm,0.8s,mb5.7
MTLF Montolieu 88.89 337 *e*P **P 23 56 28.5 +0.6**
comp=Z,3.2nm,0.8s,mb4.7
GOGA Godfrey 89.29 42 *e*P **P 23 56 29.8 0.0**
EPF Esparros 89.69 338 *e*P **P 23 56 32.2 +0.6**
comp=Z,5.8nm,0.6s,mb4.8
EPF Esparros 89.69 338 *e*P **P 23 56 32.2 +0.6**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
EPF Esparros 89.69 338 *e*P **P 23 56 32.2 +0.6**
comp=Z,2.9nm,0.6s,mb4.8
ESDC Sonseca Array 93.96 340 P **P 23 56 53.5 +2.1**
comp=Z,0.2nm,0.4s,mb3.9,baz=31,slow=4.1,SNR=3.0
ESDC LR LR 00 43 50.7
comp=Z,84nm,21.0s,MS4.2,baz=40,slow=38
TORD Torodi Ar. Bea 116.64 325 PKP PKPdf 00 02 17.3 -0.3
comp=Z,0.6nm,0.4s,baz=17,slow=2.4,SNR=11
VNDA Vanda 120.92 177 PKP PKPdf 00 02 25.4 -0.4
comp=Z,1.3nm,0.8s,baz=296,slow=5.0,SNR=4.1
MAW Mawson 128.22 209 PKP PKPdf 00 02 40.0 +0.2
comp=Z,2.6nm,0.9s,baz=351,slow=3.2,SNR=4.5
QSPA South Pole Qui 133.18 180 *e*P PKPdf 00 02 49.2 0.0
NVL N'lazarevskaya 145.71 203 ⇓*i*PKP2 PKPab 00 03 16.2 +3.5
BDFB Brasilia 148.34 34 PKPbc PKPbc 00 03 20.1 +0.4
comp=Z,9.5nm,0.7s,baz=328,slow=2.0,SNR=12
BDFB Brasilia 148.34 34 PKP2 PKPbc 00 03 20.1 +0.4
BDFB pmax pmax
comp=Z,10.0nm,0.7s
PLCA Paso Flores 150.04 99 PKPbc PKPbc 00 03 24.4 +0.4
comp=Z,7.0nm,1.0s,baz=305,slow=3.8,SNR=11
PLCA Paso Flores 150.04 99 PKIKP PKPbc 00 03 24.4 +0.4
PLCA pmax pmax
comp=Z,7.0nm,1.0s
CPUP Villa Florida 152.04 61 PKP PKPdf 00 03 23.0 +0.9
comp=Z,1.0nm,0.7s,baz=32,slow=1.0,SNR=3.7
CPUP PKPbc PKPbc 00 03 28.6 -0.1
comp=Z,6.0nm,0.9s,baz=336,slow=3.1,SNR=6.9

IDC 24 23:43:48.8±13.0, 193N×12278E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=239.2km s-min=128.7km az=124.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.10**	**172**	P	P	P	23 48 23.5	-0.6
	0.8nm,0.3s,baz=28,slow=19,SNR=15							
WRA	**Warramunga Arr**	**24.52**	**153**	P	P	P	23 49 10.0	+0.1
	3.1nm,0.5s,baz=336,slow=9.6,SNR=10							
ASAR	**Alice Springs**	**27.65**	**158**	P	P	P	23 49 38.6	+0.4
	0.6nm,0.4s,baz=331,slow=8.2,SNR=21							
STKA	**Stephens Creek**	**38.07**	**154**	P	P	P	23 51 09.9	+0.8
	1.0nm,0.5s,baz=345,slow=12,SNR=4.7							

NNC 24 23:46:17.0±0.3, 3976N×6830E, h0km, mb3.2, mpv2.5, 1D, Error ellipse: s-maj=4.2km s-min=2.2km az=157.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.73**	**26**	Pn	Pn	Pn	23 47 18.6	+2.8
	0.7nm,0.3s,baz=213,slow=11,SNR=144							
KK31					⇓Lg		23 48 14.1	
	11nm,0.4s,baz=209,slow=29,SNR=6.1							
TKM2	**Tokmak 2**	**6.34**	**58**	Pn	Pn	Pn	23 47 51.4	-0.2
	0.2nm,0.8s							
TKM2					Sn	Sn	23 49 06.2	+1.6
	0.6nm,0.7s							
TKM2					Lg		23 49 38.8	
	1.2nm,0.7s							
AB31	**Akbulak array**	**11.20**	**331**	Pn	Pn	Pn	23 48 58.3	0.0
	0.7nm,0.4s,baz=165,slow=10,SNR=32							

IDC ***24*** *23:52:00.2±1.2, 1903N×12035E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.1/5, Error ellipse: s-maj=147.2km s-min=19.4km az=66.0*
NEIC ***24*** *23:52:05.2±0.8, 1909N×12051E, h35km, mb4.5/3, Error ellipse: s-maj=96.4km s-min=10.8km az=65.0*
ISCJB ***24*** *23:52:08.0±1.2, 190N±0.1×1204E±02, h80km±13km, mb4.1/7, Error ellipse: s-maj=28.0km s-min=15.7km az=135.4*
MAN ***24*** *23:52:16.2, 1845N×12067E, h28km, mb3.1, ML4.4, MS2.7*
ISC 24 23:52:09.0±1.2, 191N±01×1204E±02, h70km±13km, n14, σ0°73/14, mb4.1/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.42**	**147**	*e*P	**Pn**	**Pn**	**23 52 31.3**	**-1.6**
SGCP	**Mt. Cagua**	**1.74**	**117**	*e*P	**Pn**	**Pn**	**23 52 38.6**	**+1.5**
CVP	**Callao Caves**	**1.89**	**135**	*e*P	**Pn**	**Pn**	**23 52 39.0**	**-0.1**
CAUP	**Cauayan**	**2.49**	**147**	*e*P	**Pn**	**Pn**	**23 52 47.1**	**-0.1**
BOLP	**Bolinao**	**2.71**	**190**	*e*P	**Pn**	**Pn**	**23 52 51.2**	**+1.1**
BALP	**Baler**	**3.48**	**161**	*e*P	**Pn**	**Pn**	**23 53 00.0**	**-0.6**
SONM	**Songino Array**	**30.89**	**341**	P	**P**	**P**	**23 58 18.6**	**-0.2**
	0.6nm,0.8s,mb3.4,baz=160,slow=9.2,SNR=3.7							
WRAB	**Tennant Creek**	**41.08**	**160**	*e*P	**P**	**P**	**23 59 45.6**	**-0.1**
	18nm,1.1s,mb4.8							
WRA	**Warramunga Arr**	**41.09**	**160**	P	**P**	**P**	**23 59 45.9**	**+0.1**
	4.1nm,0.9s,mb4.3,baz=339,slow=9.4,SNR=8.0							
MKAR	**Makanchi Array**	**41.67**	**320**	P	**P**	**P**	**23 59 50.2**	**-0.3**
	1.3nm,0.9s,mb3.7,baz=116,slow=9.8,SNR=5.9							
ASAR	**Alice Springs**	**44.45**	**162**	P	**P**	**P**	**00 00 13.8**	**+0.7**
	1.8nm,0.5s,mb4.1,baz=342,slow=6.7,SNR=27							
KURK	**Kurchatov**	**45.67**	**324**	*e*P	**P**	**P**	**00 00 22.9**	**+0.2**
	4.0nm,1.1s,mb4.1							
STKA	**Stephens Creek**	**54.56**	**158**	*e*P	**P**	**P**	**00 01 29.4**	**-0.5**
	4.7nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**54.56**	**158**	P	**P**	**P**	**00 01 29.4**	**-0.5**
	4.1nm,0.8s,mb4.5,baz=325,slow=5.2,SNR=8.6							

IDC ***24*** *23:58:47.2±2.2, 3725N×14209E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=45.4km s-min=24.8km az=155.0*
ISCJB ***24*** *23:58:49.5±1.4, 3730N±005×14193E±007, h19km±8km, mb3.3/3, Error ellipse: s-maj=10.0km s-min=6.9km az=56.9*
JMA ***24*** *23:58:51.9±0.2, 3729N×14181E, h40km±3km, M3.7*
ISC 24 23:58:50.6±1.3, 3731N±005×14184E±006, h14km±7km, n15, σ0°78/26, mb3.3/3, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.77**	**274**	⇓P		**Pg**	**23 59 06.1**	**+0.6**
JFK				S		**Sg**	**23 59 15.8**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.86**	**256**	⇓P		**Pg**	**23 59 07.1**	**-0.1**
ONAJ				S		**Sg**	**23 59 17.7**	**-0.7**
JMM	**Marumori**	**1.00**	**304**	⇓P		**Pb**	**23 59 09.7**	**+0.1**
JMM				S		**Sb**	**23 59 22.3**	**-0.3**
JIO	**Ouri**	**1.20**	**341**	⇑P		**Pn**	**23 59 12.7**	**-0.3**
JIO				S		**Sb**	**23 59 26.8**	**-1.8**
JFT	**Otama**	**1.21**	**280**	⇓P		**Pn**	**23 59 13.5**	**+0.4**
JFT				S		**Sb**	**23 59 28.3**	**-0.6**
JHO	**Hitachi**	**1.23**	**236**	P		**Pn**	**23 59 12.0**	**-1.4**
JOU	**Okura**	**1.40**	**319**	P		**Pn**	**23 59 16.3**	**+0.6**
JOU				S		**Sn**	**23 59 34.4**	**+0.3**
JYS	**Shiratake**	**1.67**	**303**	P		**Pn**	**23 59 20.7**	**+1.3**
JYS				S		**Sn**	**23 59 41.9**	**+1.2**
JFY	**Yanaizu**	**1.70**	**274**	P		**Pn**	**23 59 20.1**	**+0.2**
JFY				*e*S		**Sn**	**23 59 41.1**	**-0.4**
JMK	**Ichinoseki**	**1.71**	**344**	⇑P		**Pn**	**23 59 20.2**	**+0.3**
JMK				S		**Sn**	**23 59 40.5**	**-1.1**
MJAR	**Matsushiro Arr**	**3.01**	**256**	Pn		**Pn**	**23 59 38.9**	**+1.1**
	3.1nm,0.3s,baz=171,slow=24,SNR=19							
MJAR				Sn		**Sn**	**00 00 19.9**	**+6.2**
	5.3nm,0.3s,baz=83,slow=13,SNR=6.9							
MJAR				LR		LR	00 00 21.4	
	comp=Z,368nm,21.5s,baz=20,slow=30							
ASAJ	**Asahikawa**	**6.82**	**5**	Pn		**Pn**	**00 00 30.7**	**+0.5**
	1.3nm,0.3s,baz=214,slow=13,SNR=11							
ASAJ				Sn		**Sn**	**00 01 48.5**	**+0.9**
	0.6nm,0.3s,baz=294,slow=20,SNR=3.8							
SONM	**Songino Array**	**27.91**	**303**	P		**P**	**00 04 40.6**	**+0.4**
	0.2nm,0.4s,mb3.1,baz=90,slow=7.2,SNR=2.8							
MKAR	**Makanchi Array**	**44.26**	**302**	P		**P**	**00 06 59.4**	**-0.2**
	0.5nm,0.7s,mb3.4,baz=92,slow=8.7,SNR=5.9							
NVAR	**Mina Array Bea**	**74.55**	**53**	P		**P**	**00 10 27.6**	**-1.3**
	0.4nm,0.6s,mb3.5,baz=284,slow=3.6,SNR=3.8							

ISCJB ***25*** *00:07:30.4±0.4, 3675N±005×13731E±009, h244km±3km, mb3.5/13, Error ellipse: s-maj=13.0km s-min=7.2km az=55.4*
JMA ***25*** *00:07:31.3±0.2, 3662N×13745E, h242km±2km, M3.2*
NEIC ***25*** *00:07:31.3, 3662N×13745E, h242km, mb4.1/3, After JMA.*
IDC ***25*** *00:07:31.6±0.8, 3696N×13733E, h233km±11km, mb3.2/11, mb1 3.4/12, mb1mx3.3/21, mbtmp3.8/12, Error ellipse: s-maj=34.3km s-min=14.8km az=76.0*
ISC 25 00:07:31.1±0.4, 3672N±006×13734E±009, h242km±4km, n33, σ0°85/39, mb3.5/13, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.12**	**184**	P		**Pn**	**00 08 02.7**	**+0.4**
MAJO	**Matsushiro**	**0.72**	**104**	⇓*i*Pn		**Pn**	**00 08 03.9**	**+0.1**
MAT	**Matsushiro**	**0.72**	**104**	P		**Pn**	**00 08 03.9**	**+0.1**
MAT				*e*S		**S**	**00 08 30.5**	**+1.0**
MAT	**Matsushiro**	**0.72**	**104**	*e*P		**Pn**	**00 08 04.0**	**+0.2**
MJAR	**Matsushiro Arr**	**0.72**	**104**	P		**Pn**	**00 08 04.1**	**+0.3**
	26nm,0.3s,baz=292,slow=4.9,SNR=350							
JSZ	**Suzu**	**0.73**	**1**	P		**Pn**	**00 08 04.5**	**+0.7**
JSZ				S		**S**	**00 08 30.0**	**+0.5**
JGM	**Miyama**	**1.14**	**207**	P		**Pn**	**00 08 06.1**	**+0.1**
JGM				S		**S**	**00 08 32.9**	**-0.6**
JRY	**Ryogami san**	**1.44**	**119**	P		**Pn**	**00 08 07.5**	**-0.6**
JSD	**Sado**	**1.50**	**29**	P		**Pn**	**00 08 09.5**	**+0.9**
JSD				S		**S**	**00 08 38.1**	**0.0**
JYN	**Shimob**	**1.56**	**141**	P		**Pn**	**00 08 08.3**	**-0.8**
JAG	**Ashikaga**	**1.72**	**99**	P		**Pn**	**00 08 09.4**	**-1.0**
JNS	**Sasagawa**	**1.92**	**55**	P		**Pn**	**00 08 12.6**	**+0.5**
JOD2	**Odawara 2**	**2.03**	**135**	P		**Pn**	**00 08 12.6**	**-0.5**
JWT	**Wachi**	**2.13**	**228**	P		**Pn**	**00 08 14.2**	**+0.2**
JWT				S		**S**	**00 08 47.3**	**-0.6**
JAW	**Awa shima**	**2.30**	**41**	S		**S**	**00 08 51.6**	**+0.7**
JIE	**Ise**	**2.38**	**193**	P		**Pn**	**00 08 16.5**	**0.0**
JIE				S		**S**	**00 08 51.8**	**-0.5**
ASAJ	**Asahikawa**	**8.40**	**27**	P		**Pn**	**00 09 27.7**	**-1.7**
	8.3nm,0.3s,baz=244,slow=10,SNR=31							
YSS	**Yuzh-Sakhalins**	**10.99**	**20**	*e*Pn		**Pn**	**00 09 59.3**	**-2.8**
	40nm,1.2s							
SONM	**Songino Array**	**25.28**	**306**	P		**P**	**00 12 34.8**	**-0.6**
	0.3nm,0.5s,mb3.2,baz=106,slow=10.0,SNR=2.8							
ZAL	**Zalesovo**	**39.73**	**313**	P		**P**	**00 14 40.0**	**-0.2**
	0.8nm,0.3s,mb3.6,baz=358,slow=7.6,SNR=3.3							
ZAL	**Zalesovo**	**39.73**	**313**	P		**P**	**00 14 40.0**	**-0.2**
MKAR	**Makanchi Array**	**41.52**	**302**	P		**P**	**00 14 55.0**	**+0.2**
	0.9nm,0.6s,mb3.4,baz=82,slow=10,SNR=9.9							
MKAR	**Makanchi Array**	**41.52**	**302**	P		**P**	**00 14 55.0**	**+0.2**
KURK	**Kurchatov**	**43.55**	**308**	*e*P		**P**	**00 15 11.2**	**+0.2**
	5.9nm,0.6s,mb4.1							
ZRNK	**Zerenda**	**49.20**	**312**	*e*P		**P**	**00 15 55.1**	**+0.3**
	1.7nm,0.3s,mb3.9							
WRA	**Warramunga Arr**	**56.43**	**183**	P		**P**	**00 16 50.4**	**+2.8**
	0.5nm,0.3s,mb3.6,baz=358,slow=7.6,SNR=3.9							
ASAR	**Alice Springs**	**60.15**	**184**	P		**P**	**00 17 16.8**	**+3.5**
	0.2nm,0.5s,mb3.0,baz=356,slow=5.5,SNR=4.2							
ARCES	**ARCESS Array B**	**63.12**	**339**	P		**P**	**00 17 32.2**	**-0.8**
	3.1nm,1.0s,mb3.9,baz=55,slow=7.4,SNR=6.6							
FINES	**FINESS Array B**	**67.54**	**331**	P		**P**	**00 18 01.4**	**+0.1**
	1.0nm,0.6s,mb3.6,baz=81,slow=5.9,SNR=11							
AKASG	**Malin Array Be**	**72.51**	**321**	P		**P**	**00 18 31.1**	**-0.4**
	0.5nm,0.4s,mb3.5,baz=53,slow=6.2,SNR=4.5							
NOA	**NORSAR Array B**	**73.17**	**336**	P		**P**	**00 18 35.1**	**-0.2**
	0.3nm,

IDC ***25*** *00:08:54.4±0.9, 044S×12343E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=40.8km s-min=16.3km az=77.0*
ISCJB ***25*** *00:08:58.4±3.5, 036S±008×1234E±01, h40km±36km, mb4.1/8, Error ellipse: s-maj=23.9km s-min=9.9km az=129.0*
NEIC ***25*** *00:08:59.7±0.5, 037S×12355E, h35km, Error ellipse: s-maj=21.8km s-min=8.9km az=60.0*
ISC 25 00:09:00.9±2.2, 039S±008×1235E±01, h43km±25km, n15, σ0 78/15, mb4.1/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.68**	**311**	*e*Pn	**Pn**	**00 11 17.1**	**-0.4**
KKM				*e*Sn	**Sn**	00 13 05.2	+0.3
WRAB	**Tennant Creek**	**22.14**	**152**	*e*P	**P**	**00 13 53.1**	**+0.3**
WRA	**Warramunga Arr**	**22.14**	**152**	P	**P**	**00 13 51.9**	**-0.9**
	5.7nm,0.7s,mb4.1,baz=331,slow=10.0,SNR=20						
WB2	**Warramunga Arr**	**22.15**	**152**	*e*P	**P**	**00 13 53.2**	**+0.3**
AS31	**Alice Springs**	**25.25**	**157**	*e*P	**P**	**00 14 23.8**	**+1.0**
ASAR	**Alice Springs**	**25.25**	**157**	P	**P**	**00 14 22.7**	**-0.1**
	2.8nm,0.5s,mb4.0,baz=343,slow=15,SNR=43						
ASAR				PcP	PcP	00 17 56.1	+0.9
	0.6nm,0.8s,baz=343,slow=1.3,SNR=4.3						
ASPA	**Alice Springs**	**25.25**	**157**	*e*P	**P**	**00 14 23.8**	**+1.0**
COCO	**West Island**	**28.94**	**245**	P	**P**	**00 14 56.4**	**+0.5**
	36nm,0.3s						
CBIJ	**Chichi jima**	**32.70**	**32**	P	**P**	**00 15 29.9**	**+0.8**
	33nm,0.9s,mb5.3,baz=191,slow=16,SNR=2.7						
STKA	**Stephens Creek**	**35.69**	**153**	P	**P**	**00 15 52.5**	**-2.5**
	0.6nm,0.5s,mb3.8,baz=278,slow=7.1,SNR=3.1						
MJAR	**Matsushiro Arr**	**39.20**	**19**	P	**P**	**00 16 24.6**	**-0.1**
	0.5nm,0.6s,mb3.4,baz=183,slow=7.8,SNR=6.9						
ASAJ	**Asahikawa**	**47.47**	**19**	P	**P**	**00 17 31.6**	**+0.2**
	1.7nm,0.5s,mb4.3,baz=186,slow=19,SNR=2.9						
SONM	**Songino Array**	**50.28**	**345**	P	**P**	**00 17 52.6**	**-0.3**
	0.8nm,0.6s,mb3.9,baz=166,slow=9.2,SNR=7.8						
MKAR	**Makanchi Array**	**59.20**	**328**	P	**P**	**00 18 56.8**	**-0.7**
	0.5nm,0.4s,mb3.9,baz=126,slow=8.6,SNR=11						
TORD	**Torodi Ar. Bea**	**120.99**	**285**	PKP	PKPdf	00 27 51.0	+2.4
	0.4nm,0.5s,baz=104,slow=1.8,SNR=8.8						

CSEM ***25*** *00:10:20.9±0.1, 3819N×2670E, h10km, MD3.0, Error ellipse: s-maj=2.2km s-min=1.9km az=106.0*
ISCJB ***25*** *00:10:21.3±0.8, 3817N±003×2670E±004, h6km±5km, Error ellipse: s-maj=6.2km s-min=4.9km az=117.5*
ATH ***25*** *00:10:21.2, 3816N×2673E, h34km±4km, MD3.0/3*
ISK ***25*** *00:10:22.0, 3821N×2676E, h16km, MD3.0*
NEIC ***25*** *00:10:22.0, 3821N×2676E, h16km, MD3.0(ATH), MD3.0(ISK), After ISK.*
ISC 25 00:10:22.0±0.6, 3818N±003×2671E±004, h11km±4km, n15, σ0 72/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**334**	*i* P	**Pg**	**00 10 26.1**	**-0.1**
URLA				*i* S	**Sg**	**00 10 29.4**	**+0.3**
BLCB	**Balcova**	**0.33**	**52**	*i* PG	**Pg**	**00 10 28.4**	**-0.2**
BLCB				*i* SG	**Sg**	**00 10 32.7**	**-0.5**
SMG	**Samos**	**0.48**	**167**	*e*PB	**Pg**	**00 10 31.6**	**+0.2**
SMG				*e*SB	**Sg**	**00 10 38.9**	**+1.1**
IZM	**Izmir**	**0.49**	**64**	*i* PG	**Pg**	**00 10 31.5**	**0.0**
IZM				*i* SG	**Sg**	**00 10 38.2**	**+0.2**
KDAG	**Bornova**	**0.49**	**63**	*i* P	**Pg**	**00 10 31.4**	**-0.2**
KDAG				*i* S	**Sg**	**00 10 37.7**	**-0.5**
AYDN	**Tasoluk**	**1.06**	**119**	*i* P	**Pb**	**00 10 42.2**	**-0.1**
AYDN				*i* S	**Sb**	**00 10 56.0**	**-0.3**
AKS	**Akhisar**	**1.11**	**51**	PG	**Pg**	**00 10 42.7**	**-0.7**
PRK	**Paraskevi**	**1.11**	**342**	*e*PN	**Pn**	**00 10 42.5**	**-1.0**
PRK				*e*SN	**Sn**	**00 10 58.1**	**-0.7**
AYVA	**Ayvalik**	**1.12**	**359**	*i* P	**Pb**	**00 10 46.5**	**+3.1**
AYVA				*i* S	**Sb**	**00 10 59.5**	**+1.4**
BODT	**Bodrum**	**1.22**	**157**	PN	**Pn**	**00 10 44.7**	**-0.2**
MLSB	**Milas**	**1.23**	**136**	*e*PN	**Pn**	**00 10 45.0**	**0.0**
APE	**Apeiranthos**	**1.45**	**220**	*e*PN	**Pn**	**00 10 47.0**	**-1.1**
MANT	**Manisa**	**1.49**	**77**	*i* P	**Pn**	**00 10 49.7**	**+1.1**
MANT				*i* S	**Sn**	**00 11 08.5**	**+0.5**
YER	**Yerkesik**	**1.63**	**129**	*e*PN	**Pn**	**00 10 50.4**	**-0.2**
BALB	**Balikesir**	**1.72**	**32**	*e*PN	**Pn**	**00 10 51.8**	**0.0**

MAN ***25*** *00:30:09.0, 1835N×119.18E, h52km, mb3.7, ML4.8, MS4.7*
IDC ***25*** *00:30:14.6±1.0, 1855N×11936E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=49.1km s-min=19.1km az=72.0*
ISCJB ***25*** *00:30:18.5±1.9, 1869N±010×1198E±02, h44km±19km, mb3.7/8, Error ellipse: s-maj=27.5km s-min=11.5km az=126.5*
NEIC ***25*** *00:30:19.4±0.8, 1858N×11933E, h35km, mb4.0/2, Error ellipse: s-maj=26.4km s-min=13.8km az=83.0*
ISC 25 00:30:20.0±1.8, 1866N±010×1198E±02, h39km±19km, n16, σ1 65/18, mb3.7/8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.88**	**112**	‖*e*P	**Pn**	**00 30 33.0**	**-2.9**
PIP				*e*S	**Sn**	**00 30 46.4**	**-1.0**
ABRA	**Dolores**	**1.35**	**138**	*e*P	**Pn**	**00 30 42.6**	**+0.2**
APYP	**Conner**	**1.61**	**119**	*e*P	**Pn**	**00 30 41.6**	**-4.4**
APYP				*e*S	**Sn**	**00 31 06.0**	**+0.5**
SGCP	**Mt. Cagua**	**2.21**	**100**	*e*P	**Pn**	**00 30 51.5**	**-2.7**
CAUP	**Cauayan**	**2.60**	**131**	*e*P	**Pn**	**00 31 01.5**	**+1.9**
BALP	**Baler**	**3.38**	**149**	*e*P	**Pn**	**00 31 14.3**	**+4.1**
YHNB	**Yeheng**	**6.17**	**14**	*e*Pn	**Pn**	**00 31 50.5**	**+2.0**
MAJO	**Matsushiro**	**24.10**	**39**	*e*P	**P**	**00 35 34.1**	**+2.3**
	2.1nm,0.4s,mb3.9						
MJAR	**Matsushiro Arr**	**24.10**	**39**	P	**P**	**00 35 36.0**	**+4.1**
	1.5nm,1.0s,mb3.4,baz=234,slow=7.1,SNR=4.6						
SONM	**Songino Array**	**31.08**	**342**	P	**P**	**00 36 32.5**	**-1.8**
	0.2nm,0.3s,mb3.4,baz=165,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**40.94**	**159**	P	**P**	**00 37 59.1**	**+0.4**
	1.7nm,0.9s,mb3.7,baz=336,slow=9.6,SNR=4.9						
MKAR	**Makanchi Array**	**41.58**	**321**	P	**P**	**00 38 03.9**	**0.0**
	0.4nm,0.7s,mb3.1,baz=115,slow=9.7,SNR=3.6						
MKAR	**Makanchi Array**	**41.58**	**321**	P	**P**	**00 38 03.9**	**0.0**
ASAR	**Alice Springs**	**44.27**	**161**	P	**P**	**00 38 27.8**	**+2.1**
	1.7nm,0.8s,mb3.8,baz=341,slow=6.7,SNR=14						
KURK	**Kurchatov**	**45.62**	**324**	*e*P	**P**	**00 38 34.3**	**-2.2**
	2.1nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**54.44**	**157**	P	**P**	**00 39 42.3**	**-1.0**
	3.0nm,0.8s,mb4.3,baz=322,slow=7.4,SNR=5.9						

IDC ***25*** *00:41:14.2±1.1, 1845N×11934E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, MS4.1/3, Ms1 4.1/3, ms1mx3.4/41, Error ellipse: s-maj=49.0km s-min=19.6km az=72.0*
NEIC 25 00:41:19.2±0.8, 1843N×11933E, h35km, Error ellipse: s-maj=34.1km s-min=14.3km az=74.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**24.54**	**39**	P	P	00 46 35.5	+0.1
	0.3nm,0.3s,baz=241,slow=11,SNR=4.7						
SONM	**Songino Array**	**31.17**	**343**	P	P	00 47 35.5	+0.6
	0.3nm,0.6s,baz=169,slow=10,SNR=2.2						
WRA	**Warramunga Arr**	**40.88**	**158**	P	P	00 48 58.1	+0.3
	1.1nm,0.8s,baz=341,slow=9.8,SNR=5.2						
MKAR	**Makanchi Array**	**41.50**	**321**	P	P	00 49 02.6	-0.3
	0.1nm,0.4s,baz=99,slow=8.9,SNR=2.7						
ASAR	**Alice Springs**	**44.19**	**161**	P	P	00 49 26.1	+1.5
	0.7nm,0.4s,baz=341,slow=6.8,SNR=13						
STKA	**Stephens Creek**	**54.39**	**157**	P	P	00 50 41.6	-1.0
	1.0nm,0.6s,baz=323,slow=9.7,SNR=3.8						

IDC ***25*** *00:43:40.3±0.6, 1900N×12022E, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.4/21, mbtmp4.3/16, ML4.6/1, MS3.9/6, Ms1 3.9/6, ms1mx3.4/43, Error ellipse: s-maj=33.7km s-min=12.5km az=69.0*
MOS ***25*** *00:43:43.6±0.7, 1897N×120.13E, h33km, mb5.0/22, Error ellipse: s-maj=15.5km s-min=7.0km az=107.9*
ISCJB ***25*** *00:43:43.5±0.2, 1902N±003×12008E±005, h30km, mb4.6/49, MS4.1/11, Error ellipse: s-maj=6.8km s-min=3.7km az=160.8*
MAN ***25*** *00:43:43.6, 1907N×11992E, h31km, mb4.0, ML5.0, MS4.2*
NEIC ***25*** *00:43:44.8±0.2, 1897N×120.18E, mb4.7/23, Error ellipse: s-maj=7.7km s-min=3.9km az=82.0*
BJI ***25*** *00:43:50.2, 1960N×11958E, h30km, mB4.8, mb4.3, ML3.8, Ms4.5, Msz4.4*
SZGRF ***25*** *00:44:38.5, 19.12N×120.81E, h33km, mb4.7, Philippine Islands region*
ISC 25 00:43:45.4±0.2, 1902N±003×12012E±005, h31km, h31km±1.9km: pP-P, n122, σ0 94/120, mb4.6/49, MS4.1/11, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.48**	**157**	*e*P	**Pn**	**00 44 16.0**	**+6.2**
APYP	**Conner**	**1.57**	**137**	*e*P	**Pn**	**00 44 10.9**	**-0.3**
APYP				*e*S	**Sn**	**00 44 21.5**	**-9.0**
SGCP	**Mt. Cagua**	**1.99**	**113**	*e*P	**Pn**	**00 44 18.3**	**+1.4**
CAUP	**Cauayan**	**2.63**	**142**	*e*P	**Pn**	**00 44 28.5**	**+2.8**
BOLP	**Bolinao**	**2.63**	**184**	*e*P	**Pn**	**00 44 25.3**	**-0.4**
BCPH	**Baguio City Da**	**2.66**	**170**	*e*P	**Pn**	**00 44 25.4**	**-0.8**
SCZP	**Santa Cruz**	**3.23**	**184**	*e*P	**Pn**	**00 44 36.1**	**+2.1**
BALP	**Baler**	**3.54**	**157**	*e*P	**Pn**	**00 44 39.7**	**+1.4**
TGY	**Tagaytay City**	**4.95**	**171**	Pn	**Pn**	**00 44 57.0**	**-0.6**
	25nm,0.3s,baz=330,slow=7.0,SNR=1.8						
LUBP	**Lubang**	**5.26**	**179**	*e*P	**Pn**	**00 45 04.9**	**+3.1**
NACB	**Ninganchiao**	**5.31**	**15**	*e*Pn	**Pn**	**00 45 01.8**	**-0.8**
NACB				*e*Sn	**Sn**	**00 46 02.1**	**-0.6**
YHNB	**Yeheng**	**5.75**	**12**	*e*Pn	**Pn**	**00 45 08.8**	**+0.3**
YHNB				*e*Sn	**Sn**	**00 46 16.3**	**+2.9**
QZH	**Quanzhou**	**6.06**	**347**	P	**Pn**	**00 45 08.3**	**-4.6**
QZH				S	**Sn**	**00 46 14.8**	**-6.5**
QZH				LR	LR		
	comp=N,3μm,10.5s						
QZH				LR	LR		
	comp=E,1μm,6.4s						
QZH				LR	LR		
	comp=Z,4μm,12.7s						
TATO	**Taipei**	**6.06**	**12**	*e*Pn	**Pn**	**00 45 14.8**	**+1.9**
	comp=Z,26nm,0.5s						
BUSP	**Coron**	**6.97**	**179**	*e*P	**Pn**	**00 45 27.1**	**+1.7**
GZH	**Guangzhou**	**7.51**	**304**	P	**Pn**	**00 45 28.8**	**-4.0**
GZH				SG	Sn	00 47 22.0	+25
GZH				LR	LR		
	comp=N,1μm,14.3s						
GZH				LR	LR		
	comp=E,2μm,11.8s						
GZH				LR	LR		
	comp=Z,3μm,11.8s						
JOW	**Kunigami**	**10.81**	**43**	LR	LR	00 50 38.5	
	comp=Z,788nm,19.6s,baz=224,slow=39						
GYA	**Guiyang**	**14.44**	**303**	*e*P	**Pn**	**00 47 03.6**	**-4.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KMI	**Kunming**	**17.21**	**294**	P	**Pn**	**00 47 42.3**	**-1.1**
KMI				S	**Sn**	**00 50 44.8**	**-9.0**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.9s						
KMI				AMB	AMB		
	comp=Z,150nm,4.7s						
KMI				LR	LR		
	comp=N,2μm,13.4s						
KMI				LR	LR		
	comp=E,1μm,11.5s						
KMI				LR	LR		
	comp=Z,1μm,9.6s						
XAN	**Xi'an**	**17.98**	**329**	P	**Pn**	**00 47 52.1**	**-0.9**
XAN				AP	pP	00 48 00.9	-0.6
XAN				AMB	AMB		
	comp=Z,10.0nm,2.6s						
KSM	**Kuching**	**19.91**	**210**	*e*P	**Pn**	**00 48 14.6**	**-1.6**
LZH	**Lanzhou**	**22.24**	**323**	P	**P**	**00 48 40.0**	**+0.4**
LZH				AP		00 48 50.3	
LZH				XP	sP	00 48 55.9	+4.1
LZH				AMB	AMB		
	comp=Z,80nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,350nm,4.9s						
LZH				LR	LR		
	comp=N,1μm,12.3s						
LZH				LR	LR		
	comp=Z,2μm,13.2s,MS4.8						
HHC	**Hu-ho-hao-te**	**22.96**	**343**	*e*P	**P**	**00 48 46.6**	**-0.6**
HHC				AP		00 48 56.1	
HHC				XP	sP	00 49 00.8	+1.4
HHC				S	**S**	**00 52 39.0**	**-16**
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
HHC				LR	LR		
	comp=N,580nm,11.9s,MS4.3						
HHC				LR	LR		
	comp=E,330nm,11.9s,MS4.3						
HHC				LR	LR		
	comp=Z,500nm,11.9s,MS4.2						
BTO	**Baotou**	**23.20**	**340**	*e*P	**P**	**00 48 50.0**	**+0.3**
MAJO	**Matsushiro**	**23.61**	**39**	*e*P	**P**	**00 48 52.9**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.3						
MAJO	**Matsushiro**	**23.61**	**39**	*e*P	**P**	**00 48 52.9**	**-0.9**
	comp=Z,14nm,1.0s,mb4.3						
MAT	**Matsushiro**	**23.61**	**39**	P	**P**	**00 48 52.8**	**-1.0**
MAT	**Matsushiro**	**23.61**	**39**	*e*P	**P**	**00 48 53.0**	**-0.8**
MJAR	**Matsushiro Arr**	**23.61**	**39**	P	**P**	**00 48 53.0**	**-0.8**
	comp=Z,3.3nm,1.0s,mb3.7,baz=226,slow=8.8,SNR=12						
MJAR	**Matsushiro Arr**	**23.61**	**39**	P	**P**	**00 48 53.0**	**-0.8**
GUMO	**Guam**	**24.35**	**99**	LR	LR	00 56 22.3	
	comp=Z,117nm,20.0s,MS3.4,baz=317,slow=31						
VLA	**Vladivostok**	**26.00**	**20**	*e*P	**P**	**00 49 16.6**	**+1.1**
VLA				*i*		00 49 27.1	
VLA				pmax	pmax		
	comp=Z,50nm,1.7s,mb4.8						
GTA	**Gaotai**	**26.85**	**323**	*e*P	**P**	**00 49 23.9**	**+0.8**
GTA				AP	pP	00 49 28.3	-3.7
GTA				XP	sP	00 49 31.3	-4.5
GTA				AMB	AMB		
	comp=Z,90nm,4.6s						
GTA				LR	LR		
	comp=N,370nm,10.6s,MS4.5						
GTA				LR	LR		
	comp=E,550nm,10.6s,MS4.5						
GTA				LR	LR		
	comp=Z,620nm,11.8s,MS4.4						
ULN	**Ulaanbaatar**	**30.68**	**343**	*e*P	**P**	**00 49 57.0**	**-0.2**
ULN				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2						
ULN	**Ulaanbaatar**	**30.68**	**343**	*e*P	**P**	**00 49 57.0**	**-0.3**
	comp=Z,4.3nm,1.0s,mb4.2						
SONM	**Songino Array**	**30.84**	**342**	P	**P**	**00 49 58.2**	**-0.5**
	comp=Z,0.9nm,0.9s,mb3.6,baz=163,slow=9.7,SNR=6.6						
SONM				LR	LR	01 03 07.9	
	comp=Z,309nm,18.9s,MS4.0,baz=151,slow=38						
JIRN	**Jiri**	**32.23**	**292**	*e*P	**P**	**00 50 12.0**	**+1.1**
	comp=Z,57nm,1.1s,mb5.3						
GUN	**Gumba**	**32.54**	**292**	*e*P	**P**	**00 50 14.5**	**+0.9**
	comp=Z,60nm,1.1s,mb5.4						
PKI	**Pulchoki**	**32.91**	**292**	*e*P	**P**	**00 50 17.1**	**+0.3**
KKN	**Kakani**	**33.05**	**292**	*e*P	**P**	**00 50 18.5**	**+0.4**
	comp=Z,38nm,1.2s,mb5.2						
DMN	**Daman**	**33.18**	**292**	*e*P	**P**	**00 50 19.3**	**+0.1**
	comp=Z,56nm,1.3s,mb5.3						
YSS	**Yuzh-Sakhalins**	**33.47**	**29**	P	**P**	**00 50 21.7**	**-0.1**
YSS				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
YSS	**Yuzh-Sakhalins**	**33.47**	**29**	P	**P**	**00 50 21.6**	**-0.1**
	comp=Z,11nm,0.7s,mb4.9						
GKN	**Gorkha**	**33.64**	**292**	*e*P	**P**	**00 50 23.3**	**+0.1**
	comp=Z,43nm,1.1s,mb5.3						
ZAK	**Zakamensk**	**34.05**	**341**	*e*P	**P**	**00 50 24.2**	**-2.5**
KOLN	**Koldanda**	**34.52**	**292**	*e*P	**P**	**00 50 31.2**	**+0.3**
	comp=Z,30nm,1.1s,mb5.1						
TLY	**Talaya**	**35.08**	**342**	*e*P	**P**	**00 50 35.9**	**+0.2**
TLY				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
TLY	**Talaya**	**35.08**	**342**	*e*P	**P**	**00 50 35.9**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.0						
MOY	**Mondy**	**35.89**	**340**	*e*P	**P**	**00 50 43.2**	**+0.6**
MOY				pmax	pmax		
	comp=Z,31nm,3.9s						
FITZ	**Fitzroy Crossi**	**37.28**	**171**	*e*P	**P**	**00 50 53.1**	**-1.4**
	comp=Z,23nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**37.28**	**171**	P	**P**	**00 50 53.7**	**-0.8**
	comp=Z,13nm,0.9s,mb4.8,baz=8.1,slow=7.1						
WRAB	**Tennant Creek**	**41.15**	**159**	*e*P	**P**	**00 51 25.8**	**-1.0**
WRAB				*e*PP	pP	00 51 34.8	-1.1
WRAB				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**41.15**	**159**	*e*P	**P**	**00 51 25.8**	**-1.0**
	comp=Z,41nm,1.0s,mb5.0						
WRAB				*e*pP	pP	00 51 34.8	-1.1
WRA	**Warramunga Arr**	**41.15**	**159**	P	**P**	**00 51 25.6**	**-1.3**
	comp=Z,18nm,1.0s,mb4.7,baz=342,slow=9.6,SNR=4.6						
WRA				PcP	PcP	00 53 26.4	+0.7
	comp=Z,3.6nm,0.9s,baz=346,slow=3.6,SNR=8.2						
WB2	**Warramunga Arr**	**41.16**	**159**	*e*P	**P**	**00 51 25.9**	**-1.0**
ZAL	**Zalesovo**	**44.14**	**331**	P	**P**	**00 51 52.0**	**+0.9**
	comp=Z,1.0nm,0.5s,mb3.8,baz=344,slow=4.9,SNR=9.2						
ZAL	**Zalesovo**	**44.14**	**331**	P	**P**	**00 51 52.0**	**+0.9**
AS31	**Alice Springs**	**44.51**	**162**	‖*i*P	**P**	**00 51 54.0**	**0.0**
ASPA	**Alice Springs**	**44.51**	**162**	‖*i*P	**P**	**00 51 54.0**	**0.0**
ASAR	**Alice Springs**	**44.51**	**162**	P	**P**	**00 51 53.9**	**-0.1**
	comp=Z,17nm,0.9s,mb4.8,baz=334,slow=7.0,SNR=56						
KURK	**Kurchatov**	**45.53**	**324**	*e*P	**P**	**00 52 02.0**	**-0.1**
KURK				*e*PP	pP	00 52 11.3	-0.1
KURK				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
KURK	**Kurchatov**	**45.53**	**324**	*e*P	**P**	**00 52 02.0**	**-0.2**
	comp=Z,16nm,1.2s,mb4.8						
KURK				*e*pP	pP	00 52 11.3	-0.1
FORT	**Forrest**	**50.09**	**171**	*e*P	**P**	**00 52 37.1**	**-0.4**
	comp=Z,23nm,0.8s,mb5.3						
BVAR	**Borovoye Array**	**51.13**	**324**	P	**P**	**00 52 45.4**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=108,slow=9.8,SNR=7.9						
BVAR				PcP	PcP	00 54 00.5	-0.1
	comp=Z,1.4nm,0.7s,baz=99,slow=4.2,SNR=4.8						
BRVK	**Borovoye**	**51.20**	**324**	*e*P	**P**	**00 52 46.5**	**+0.7**
BRVK				*e*PP	pP	00 52 55.5	+0.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BRVK	**Borovoye**	**51.20**	**324**	*e*P	**P**	**00 52 46.5**	**+0.6**
	comp=Z,4.5nm,1.1s,mb4.3						
BRVK				*e*pP	pP	00 52 55.5	+0.3
CHKZ	**Chkalovo**	**51.25**	**325**	*e*P	**P**	**00 52 46.1**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
CHKZ	**Chkalovo**	**51.25**	**325**	*e*P	**P**	**00 52 46.1**	**-0.1**
	comp=Z,6.0nm,1.3s,mb4.4						
ZRNK	**Zerenda**	**51.88**	**323**	*e*P	**P**	**00 52 51.5**	**+0.6**
ZRNK				*e*PP	pP	00 53 00.1	-0.2
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
ZRNK	**Zerenda**	**51.88**	**323**	*e*P	**P**	**00 52 51.5**	**+0.6**
	comp=Z,10.0nm,1.3s,mb4.6						
ZRNK				*e*pP	pP	00 53 00.1	-0.2
STKA	**Stephens Creek**	**54.63**	**158**	*e*P	**P**	**00 53 09.6**	**-1.6**
	comp=Z,22nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**54.63**	**158**	P	**P**	**00 53 09.6**	**-1.5**
	comp=Z,28nm,1.0s,mb5.3,baz=341,slow=7.5,SNR=37						
BILL	**Bilibino**	**56.86**	**19**	P	**P**	**00 53 27.0**	**-0.2**
BILL				*e*	pP	00 53 37.8	+1.2
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
AKTK	**Aktyubinsk**	**57.85**	**318**	P	**P**	**00 53 35.0**	**+0.9**
AKTO	**Aktyubinsk**	**57.85**	**318**	P	**P**	**00 53 35.0**	**+0.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=127,slow=5.9,SNR=4.1						
AKTO	**Aktyubinsk**	**57.85**	**318**	P	**P**	**00 53 35.0**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
ARU	**Arti**	**58.69**	**325**	*e*P	**P**	**00 53 39.3**	**-0.7**
ARU				*e*PP	pP	00 53 48.8	-0.6
ARU				*SP	sP	00 53 52.7	-0.4
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ARU	**Arti**	**58.69**	**325**	*e*P	**P**	**00 53 39.3**	**-0.6**
	comp=Z,6.6nm,1.0s,mb4.6						
ARU				*e*pP	pP	00 53 48.8	-0.6
ARU				sP	sP	00 53 52.6	-0.4
ORR	**Orenburg**	**60.06**	**319**	*e*P	**P**	**00 53 50.9**	**+1.5**
ORR				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1						
GNI	**Garni**	**66.97**	**306**	LR	LR	01 28 50.3	
	comp=Z,74nm,18.6s,MS3.9,baz=110,slow=40						
OBN	**Obninsk**	**70.96**	**323**	‖*e*P	**P**	**00 54 59.8**	**-0.1**
OBN				*e*		00 55 06.6	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MALT	**Malatya**	**72.09**	**305**	*e*P	**P**	**00 55 05.7**	**-1.0**
MALT				*e*PP	pP	00 55 15.6	-0.7
MALT				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MALT	**Malatya**	**72.09**	**305**	*e*P	**P**	**00 55 05.7**	**-1.0**
	comp=Z,3.4nm,1.0s,mb4.2						
MALT				*e*pP	pP	00 55 15.6	-0.8
JOF	**Joensuu**	**72.72**	**331**	*e*p	**P**	**00 55 09.6**	**-0.9**
	comp=Z,7.4nm,0.7s,mb4.7						
JOF	**Joensuu**	**72.72**	**331**	*e*P	**P**	**00 55 09.6**	**-0.9**
JOF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
ARCES	**ARCESS Array B**	**73.95**	**339**	P	**P**	**00 55 16.6**	**-1.1**
	comp=Z,3.7nm,1.0s,mb4.3,baz=101,slow=10,SNR=5.4						
ARCES				LR	LR	01 31 18.9	
	comp=Z,89nm,19.7s,MS4.1,baz=320,slow=39						
KAF	**Kangasniemi**	**75.15**	**331**	*e*p	**P**	**00 55 23.7**	**-1.0**
	comp=Z,5.3nm,0.9s,mb4.5						
KAF	**Kangasniemi**	**75.15**	**331**	*e*P	**P**	**00 55 23.7**	**-1.0**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						

LPL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
LPL	**La Plagne**	**91.93**	**320**	*e*P	**P**	**00 56 51.4**	**+0.5**
	comp=Z,5.3nm,0.9s,mb4.9						
GRR	**Gorron**	**94.77**	**325**	*e*P	**P**	**00 57 03.8**	**-0.1**
	comp=Z,28nm,1.4s,mb5.2						
GRR	**Gorron**	**94.77**	**325**	*e*P	**P**	**00 57 03.8**	**-0.1**
GRR				pmax	pmax		
	comp=Z,14nm,1.4s,mb5.2						
GRR	**Gorron**	**94.77**	**325**	*e*P	**P**	**00 57 03.8**	**-0.1**
	comp=Z,14nm,1.4s,mb5.2						

CSEM ***25*** *01:03:50.7±0.1, 43.16N×102W, h15km, ML2.1, Error ellipse: s-maj=2.4km s-min=1.2km az=20.0*
STR ***25*** *01:03:50.8±0.1, 43.18N×101W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 25 01:03:50.8±0.6, 4315N×102W, h17km±4km, mbLg0.9/4, Error ellipse: s-maj=3.6km s-min=2.2km az=14.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.09**	**46**	Pg	Pg	01 03 54.0	-0.1
ORDF				Lg		01 03 56.7	
LARF	**Larrau**	**0.12**	**168**	Pg	Pg	01 03 54.1	-0.4
LARF				Sg	Sg	01 03 56.7	-0.2
LARF	**Larrau**	**0.12**	**168**	Pg	Pg	01 03 54.2	-0.3
LARF				Lg		01 03 56.8	
OSSF	**Osses**	**0.20**	**300**	Pg	Pg	01 03 55.4	-0.2
OSSF				Sg	Sg	01 03 58.3	-0.6
OSSF	**Osses**	**0.20**	**300**	P	Pg	01 03 55.3	-0.3
OSSF				Lg		01 03 58.4	
ATE	**Arette**	**0.24**	**106**	Pg	Pg	01 03 55.9	-0.4
ATE				Sg	Sg	01 03 59.8	-0.2
ATE	**Arette**	**0.24**	**106**	Pg	Pg	01 03 56.0	-0.3
ATE				Lg		01 03 59.9	
EALK	**Alkurruntz**	**0.36**	**281**	Pg	Pg	01 03 57.9	-0.4
	0.4nm,0.1s,SNR=7.9						
EALK				Lg		01 04 03.1	
	1.0nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.37**	**272**	Pg	Pg	01 03 58.4	0.0
	0.4nm,0.1s,SNR=7.9						
ELIZ				Lg		01 04 03.4	
	1.7nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.44**	**242**	Pg	Pg	01 03 59.3	-0.4
	0.7nm,0.1s,SNR=7.9						
IUSE				Lg		01 04 04.9	
	1.2nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.44**	**242**	Pg	Pg	01 03 59.3	-0.4
	0.7nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.53**	**222**	Pg	Pg	01 04 01.0	-0.3
	0.3nm,0.1s,SNR=7.9						
IUNC				Lg		01 04 08.8	
	2.9nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.53**	**222**	Pg	Pg	01 04 01.0	-0.3
	0.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.97**	**118**	Pg	Pg	01 04 07.7	-2.0
	0.4nm,0.3s,SNR=7.9						
EBIE				Lg		01 04 20.3	
	1.1nm,0.4s,SNR=7.9						

VIE ***25*** *01:12:25.5±1.1, 49.28N×20.37E, h0km, mb2.7/3, ML2.9/3, Error ellipse: s-maj=13.0km s-min=2.3km az=79.0 88 km NW of Kosice Suspected Mining induced.*
WAR ***25*** *01:12:26.1, 49.26N×20.01E, ML3.1, Mining Induced*
ISCJB ***25*** *01:12:26.9±0.3, 49.24N±002×2007E±002, h5km, Error ellipse: s-maj=3.0km s-min=2.2km az=15.1*
IDC ***25*** *01:12:27.9±0.8, 49.17N×20.15E, h0km, mb3.4/1, mb1 3.5/8, mb1mx3.3/22, mbtmp3.3/8, ML3.0/7, Error ellipse: s-maj=13.9km s-min=7.5km az=171.0*
NEIC ***25*** *01:12:27.2±0.5, 49.25N×20.12E, h5km, ML3.1(BUC), Error ellipse: s-maj=7.2km s-min=5.2km az=192.0*
PRU ***25*** *01:12:27.5, 49.25N×20.11E, h0km*
ISC 25 01:12:28.0±0.3, 4924N±002×2009E±002, h5km, n60, σ1°37/93, 9C-8D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.23**	**39**	*e*Pgd	**Pg**	**01 12 31.2**	**-1.3**
NIE				e		01 12 35.1	
NIE				*e*Sg	**Sg**	**01 12 35.9**	**+0.3**
NIE	**Niedzica**	**0.23**	**39**	*e*Pg	**Pg**	**01 12 31.2**	**-1.3**
NIE				*e*Sg	**Sg**	**01 12 35.9**	**+0.3**
LIKS	**Likavka**	**0.67**	**254**	*e*PG	**Pg**	**01 12 37.5**	**-3.4**
LIKS				e		01 12 45.0	
STHS	**Stebnicka Huta**	**0.78**	**76**	*e*PN	**Pg**	**01 12 41.7**	**-1.2**
STHS				*e*SN	**Sg**	**01 12 54.9**	**+1.9**
KECS	**Kecovo**	**0.80**	**161**	*e*PG	**Pg**	**01 12 42.1**	**-1.3**
KECS				*e*SG	**Sg**	**01 12 52.5**	**-1.3**
CRVS	**Cervenica-Dubn**	**0.96**	**110**	*e*PN	**Pg**	**01 12 44.8**	**-1.7**
CRVS				*e*SN	**Sg**	**01 12 58.2**	**-0.8**
CRVS	**Cervenica-Dubn**	**0.96**	**110**	*e*Pn	**Pg**	**01 12 44.9**	**-1.6**
CRVS				*e*Sn	**Sg**	**01 12 58.2**	**-0.8**
OJC	**Ojcow**	**1.00**	**349**	*e*Pg	**Pg**	**01 12 46.1**	**-1.1**
OJC				*e*Sg	**Sg**	**01 13 01.2**	**+1.1**
VYHS	**Vyhne**	**1.11**	**228**	*e*PN	**Pn**	**01 12 47.8**	**-2.4**
VYHS				*e*SN	**Sn**	**01 13 02.6**	**-3.4**
KOLL	**Kolacno**	**1.29**	**240**	*e*PN	**Pn**	**01 12 51.2**	**-1.5**
KOLL				*e*SN	**Sn**	**01 13 10.2**	**-0.2**
PSZ	**Piszkesteto**	**1.33**	**186⇑**	*e*Pn	**Pn**	**01 12 52.4**	**-0.8**
PSZ				*e*Sn	**Sn**	**01 13 10.6**	**-0.6**
PSZ	**Piszkesteto**	**1.33**	**186**	⇓*i*P	**Pn**	**01 12 52.7**	**-0.5**
PSZ	**Piszkesteto**	**1.33**	**186**	P	**Pn**	**01 12 52.7**	**-0.5**
OKC	**Ostrava-Krasne**	**1.40**	**296**	*e*PG	**Pg**	**01 12 53.7**	**-1.1**
OKC				*e*SG	**Sg**	**01 13 13.7**	**+0.7**
	139nm,0.5s						
KOLS	**Kolonicke sedl**	**1.47**	**101**	*e*PN	**Pn**	**01 12 54.1**	**-1.0**
KOLS				*e*SN	**Sn**	**01 13 17.1**	**+2.4**
RAC	**Raciborz**	**1.49**	**305**	*e*Pg	**Pg**	**01 12 55.8**	**-0.8**
RAC				*e*Sg	**Sg**	**01 13 17.3**	**+1.3**
MORC	**Moravsky Berou**	**1.75**	**289**	⇓*i*P	**Pn**	**01 13 00.2**	**+1.3**
MORC	**Moravsky Berou**	**1.75**	**289**	P	**Pn**	**01 12 59.7**	**+0.8**
KWP	**Kalwaria**	**1.75**	**76**	*e*Pn	**Pn**	**01 12 59.5**	**+0.5**
KWP				*e*Sg	**Sg**	**01 13 25.6**	**+1.3**
BUD	**Budapest**	**1.90**	**202**	*e*PB	**Pb**	**01 13 05.2**	**+2.1**
SMOL	**Smolenice**	**1.90**	**249**	*e*PN	**Pn**	**01 13 00.8**	**-0.3**
SMOL				*e*SN	**Sn**	**01 13 26.1**	**+0.7**
PKSG		**2.17**	**212⇑**	*e*P	**Pn**	**01 13 08.2**	**+3.5**
ZST	**Bratislava**	**2.24**	**243**	*e*PN	**Pn**	**01 13 05.1**	**-0.6**
ZST				*e*SN	**Sn**	**01 13 33.9**	**+0.2**
VRAC	**Vranov**	**2.29**	**273**	Pn	**Pn**	**01 13 07.2**	**+0.8**
	2.4nm,0.3s,baz=84,slow=15,SNR=16						
VRAC				Sn	**Sn**	**01 13 36.2**	**+1.2**
	1.8nm,0.3s,baz=113,slow=14,SNR=5.3						
VRAC	**Vranov**	**2.29**	**273⇑**	*i*P	**Pn**	**01 13 08.1**	**+1.7**
VRAC	**Vranov**	**2.29**	**273**	P	**Pn**	**01 13 07.1**	**+0.7**
PKS8	**Sarbogard**	**2.54**	**202**	*e*P	**Pn**	**01 13 14.5**	**+4.6**
DPC	**Dobruska-Polom**	**2.68**	**296**	*e*PN	**Pn**	**01 13 12.8**	**+1.0**
DPC				*e*PG	**Pg**	**01 13 16.3**	**-3.1**
DPC				*e*SG	**Sg**	**01 13 51.6**	**-2.6**
	15nm,0.5s						
SOP	**Sopron**	**2.82**	**238⇑**	*e*Pn	**Pn**	**01 13 12.9**	**-0.8**
SOP				*e*Sg	**Sg**	**01 13 59.7**	**+1.1**
KSP	**Ksiaz**	**2.93**	**305**	Pn	**Pn**	**01 13 17.3**	**+2.1**
KSP				*e*Pg	**Pg**	**01 13 22.6**	**-1.5**
KSP				Sn	**Sn**	**01 13 50.5**	**-0.2**
KSP				*e*Sg	**Sg**	**01 13 58.6**	**-3.4**
KSP	**Ksiaz**	**2.93**	**305**	*e*Pn	**Pn**	**01 13 17.3**	**+2.1**
KSP				*e*Pg	**Pg**	**01 13 22.6**	**-1.5**
KSP				*e*Sn	**Sn**	**01 13 50.5**	**-0.2**
KSP				*e*Sg	**Sg**	**01 13 58.6**	**-3.4**
UPC	**Upice**	**2.93**	**297**	*e*PN	**Pn**	**01 13 15.4**	**+0.2**
UPC				*e*PG	**Pg**	**01 13 20.1**	**-4.0**
DRGR		**3.02**	**143**	⇓*i*P	**Pn**	**01 13 16.6**	**+0.2**
DRGR		**3.02**	**143**	⇓P	**Pn**	**01 13 16.6**	**+0.2**
CONA	**Conrad Observa**	**3.10**	**247**	*i* Pn	**Pn**	**01 13 18.1**	**+0.5**
	SNR=12						
PKSM	**Moragy**	**3.18**	**198⇑**	*i*P	**Pn**	**01 13 20.3**	**+1.6**
PKSM	**Moragy**	**3.18**	**198⇑**	P	**Pn**	**01 13 20.2**	**+1.6**
PRU	**Pruhonice**	**3.69**	**284**	*e*PG	**Pg**	**01 13 36.2**	**-2.4**
BZS	**Buzias**	**3.77**	**163⇑**	*i*P	**Pn**	**01 13 27.6**	**+0.8**
BZS	**Buzias**	**3.77**	**163**	P	**Pn**	**01 13 27.4**	**+0.7**
BURAR	**Bucovina Array**	**3.78**	**114**	⇓*i*P	**Pn**	**01 13 27.7**	**+0.8**
BURAR	**Bucovina Array**	**3.78**	**114**	⇓P	**Pn**	**01 13 27.7**	**+0.8**
PVCC	**Panska Ves**	**3.80**	**292**	*e*SG	**Sg**	**01 14 28.3**	**-1.6**
GERES	**GERESS Array B**	**4.22**	**267**	Pn	**Pn**	**01 13 34.0**	**+1.0**
	1.0nm,0.3s,baz=86,slow=14,SNR=32						
GERES				Sn	**Sn**	**01 14 24.8**	**+2.1**
	2.6nm,0.3s,baz=88,slow=25,SNR=21						
GZR	**Gura Zlata**	**4.26**	**154⇑**	*i*P	**Pn**	**01 13 34.6**	**+1.1**
GZR	**Gura Zlata**	**4.26**	**154⇑**	P	**Pn**	**01 13 34.6**	**+1.1**
KHC	**Kasperske Hory**	**4.27**	**271**	*e*PN	**Pn**	**01 13 32.7**	**-1.0**
KHC				*ex*	x	01 14 36.0	
	16nm,0.7s						
CLL	**Collm**	**4.99**	**297**	*e*Sg	**Sg**	**01 15 11.0**	**+2.6**
	comp=Z,11nm,0.6s						
NKC	**Novy Kostel**	**5.05**	**284**	*e*SG	**Sg**	**01 15 05.6**	**-4.7**
MLR	**Muntele Rosu**	**5.47**	**131**	Pn	**Pn**	**01 13 52.3**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=325,slow=22,SNR=4.9						
MLR	**Muntele Rosu**	**5.47**	**131**	⇓*i*P	**Pn**	**01 13 52.0**	**+1.9**
MLR	**Muntele Rosu**	**5.47**	**131**	⇓P	**Pn**	**01 13 52.0**	**+1.9**
MOX	**Moxa**	**5.65**	**288**	*e*SG	**Sg**	**01 15 30.4**	**+1.0**
AKASG	**Malin Array Be**	**6.07**	**73**	Pn	**Pn**	**01 13 56.5**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=258,slow=13,SNR=5.2						
AKASG				Pg	**Pg**	**01 14 16.1**	**-8.2**
	comp=Z,0.6nm,0.3s,baz=259,slow=15,SNR=4.5						
AKASG				Sn	**Sn**	**01 15 04.0**	**-4.3**
	comp=Z,2.1nm,0.3s,baz=251,slow=24,SNR=4.8						
AKASG	**Malin Array Be**	**6.07**	**73**	Pn	**Pn**	**01 13 56.5**	**-1.9**
AKASG				Pg	**Pg**	**01 14 16.1**	**-8.2**
AKASG				Sn	**Sn**	**01 15 04.0**	**-4.3**
DAVOX	**Davos**	**7.28**	**254**	Pn	**Pn**	**01 14 15.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=324,slow=16,SNR=4.5						
HFS	**Hagfors**	**11.52**	**344**	Pn	**Pn**	**01 15 12.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=122,slow=14,SNR=6.5						
FINES	**FINESS Array B**	**12.69**	**13**	Pn	**Pn**	**01 15 25.4**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=190,slow=11,SNR=11						
FINES				Sn	**Sn**	**01 17 42.8**	**-8.0**
	comp=Z,0.1nm,0.3s,baz=176,slow=20,SNR=5.2						
NOA	**NORSAR Array B**	**12.85**	**340**	Pn	**Pn**	**01 15 27.2**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=140,slow=12,SNR=2.4						
ARCES	**ARCESS Array B**	**20.53**	**5**	P	**P**	**01 17 08.1**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=195,slow=14,SNR=3.3						

NEIC ***25*** *01:12:26.4, 36.35N×.950W, h0km, MN2.5(MDD), After MDD.*
MDD ***25*** *01:12:26.4±1.6, 36.38N×.955W, h0km, mbLg2.5/11, Error ellipse: s-maj=13.5km s-min=11.1km az=62.0, PRXIMO*
IGIL ***25*** *01:12:27.6, 36.22N×.966W, h31km, ML2.5*
ISCJB ***25*** *01:12:28.0±1.3, 36.56N±006×.936W±007, h10km, Error ellipse: s-maj=10.0km s-min=6.3km az=90.5*
INMG ***25*** *01:12:27.9±0.9, 36.33N×.961W, h15km±20km, ML2.2, Error ellipse: s-maj=18.9km s-min=3.2km az=47.0*
CSEM ***25*** *01:12:28.8±0.8, 36.27N×.917W, h15km, ML3.5/3, Error ellipse: s-maj=14.3km s-min=9.1km az=29.0*
ISC 25 01:12:28.4±1.2, 3651N±005×940W±007, h10km, n38, σ1°09/67, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.99**	**37**	*e*P	**Pg**	**01 12 49.1**	**+1.6**
MORF				*e*S	**Sg**	**01 13 04.7**	**+4.2**
MORF				*e*S	**Sg**	**01 13 04.7**	**+4.2**
MORF				AML	AML	01 13 06.2	
	comp=E,55nm,0.1s						
MORF	**Marmelete**	**0.99**	**37**	*e*P	**Pg**	**01 12 49.1**	**+1.6**
MORF				*e*S	**Sg**	**01 13 04.7**	**+4.2**
PTEO	**Sao Teotonio**	**1.17**	**27**	*e*P	**Pb**	**01 12 51.3**	**+0.7**
PTEO				*e*S	**Sb**	**01 13 08.8**	**+3.0**
PTEO							
	comp=E,20nm,0.2s						
EGRO	**El Granado**	**1.84**	**56**	⇑P	**Pn**	**01 13 00.6**	**+0.5**
	comp=E,1.8nm,0.1s,SNR=18						
EGRO				S	**Sn**	**01 13 25.3**	**+1.9**
	comp=E,7.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.84**	**56**	P	**Pn**	**01 13 00.6**	**+0.6**
	comp=E,1.8nm,0.1s,SNR=18						
EGRO				S	**Sn**	**01 13 25.3**	**+1.9**
	comp=E,7.7nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.94**	**38**	*e*Pn	**Pn**	**01 13 01.8**	**+0.3**
PBEJ				*e*Sn	**Sn**	**01 13 27.5**	**+1.6**
PBEJ							
	comp=E,5.2nm,0.1s						
PBEJ	**Beja**	**1.94**	**38**	*e*Pn	**Pn**	**01 13 01.8**	**+0.3**
PBEJ				*e*Sn	**Sn**	**01 13 27.5**	**+1.6**
	comp=E,5.2nm,0.1s						
MOE	**Montemor**	**2.17**	**22**	*e*Pn	**Pn**	**01 13 05.0**	**+0.4**
MOE				*e*Sn	**Sn**	**01 13 33.4**	**+1.8**
PLOU	**Loures**	**2.38**	**5**	*e*Sn	**Sn**	**01 13 36.7**	**0.0**
PLOU							
	comp=E,12nm,0.1s						
PLOU	**Loures**	**2.38**	**5**	*e*Sn	**Sn**	**01 13 36.7**	**0.0**
	comp=E,12nm,0.1s						
EMIN	**Mina Concepcio**	**2.51**	**59**	P	**Pn**	**01 13 09.4**	**+0.2**
	comp=E,0.0nm,0.0s,SNR=7.8						
EMIN				S	**Sn**	**01 13 41.3**	**+1.3**
	comp=E,0.9nm,0.1s,SNR=8.1						
EMIN	**Mina Concepcio**	**2.51**	**59**	P	**Pn**	**01 13 09.4**	**+0.2**
EMIN				S	**Sn**	**01 13 41.3**	**+1.3**
EMIN	**Mina Concepcio**	**2.51**	**59**	P	**Pn**	**01 13 09.4**	**+0.1**
	SNR=7.8						
EMIN				S	**Sn**	**01 13 41.3**	**+1.3**
	comp=E,0.9nm,0.1s,SNR=8.1						
ESPR	**Espera**	**2.87**	**82**	P	**Pn**	**01 13 13.5**	**-0.6**
	comp=E,1.0nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**01 13 48.4**	**-0.3**
	comp=E,13nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.87**	**82**	P	**Pn**	**01 13 13.5**	**-0.7**
	comp=E,1.0nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**01 13 48.4**	**-0.3**
	comp=E,13nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**2.93**	**39**	P	**Pn**	**01 13 15.1**	**+0.1**
	comp=E,0.4nm,0.1s,SNR=5.5						
EBAD				S	**Sn**	**01 13 51.8**	**+1.4**
	comp=E,1.3nm,0.0s,SNR=6.6						
EBAD	**Badajoz**	**2.93**	**39**	P	**Pn**	**01 13 15.1**	**0.0**
	comp=E,0.4nm,0.1s,SNR=5.5						
EBAD				S	**Sn**	**01 13 51.8**	**+1.5**
	comp=E,1.3nm,0.0s,SNR=6.6						
PTOM	**Tomar**	**3.20**	**14**	*e*Pn	**Pn**	**01 13 18.9**	**+0.2**
PTOM				*e*Sn	**Sn**	**01 13 56.7**	**-0.2**
PTOM							
	comp=E,7.3nm,0.1s						
PTOM	**Tomar**	**3.20**	**14**	*e*Pn	**Pn**	**01 13 18.9**	**+0.2**
PTOM				*e*Sn	**Sn**	**01 13 56.7**	**-0.2**
	comp=E,7.3nm,0.1s						
PCBR	**Castelo Branco**	**3.65**	**24**	*e*Pn	**Pn**	**01 13 25.3**	**+0.3**
PCBR				*e*Sn	**Sn**	**01 14 07.4**	**-0.7**
MTE	**Manteigas**	**4.15**	**20**	*e*Pn	**Pn**	**01 13 32.1**	**+0.3**
MTE				*e*Sn	**Sn**	**01 14 19.7**	**-0.6**
MTE							
	comp=E,2.0nm,0.4s						
EADA	**Adamuz**	**4.18**	**65**	P	**Pn**	**01 13 32.4**	**+0.2**
	comp=E,0.3nm,0.1s,SNR=6.1						
EADA				S	**Sn**	**01 14 20.8**	**-0.3**
	comp=E,1.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.18**	**65**	P	**Pn**	**01 13 32.4**	**+0.2**
	comp=E,0.3nm,0.1s,SNR=6.1						
EADA				S	**Sn**	**01 14 20.8**	**-0.3**
	comp=E,1.1nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**4.77**	**68**	S	**Sn**	**01 14 34.0**	**-1.5**
	comp=E,0.7nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.94**	**15**	*e*Sn	**Sn**	**01 14 37.9**	**-1.8**
EQES	**Quesada**	**5.21**	**74**	S	**Sn**	**01 14 45.8**	**-0.8**
	comp=E,0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.21**	**74**	S	**Sn**	**01 14 45.8**	**-0.8**
	comp=E,0.2nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.30**	**11**	*e*Pn	**Pn**	**01 13 47.1**	**-0.5**
PCAB				*e*Sn	**Sn**	**01 14 46.4**	**-2.3**
ESDC	**Sonseca Array**	**5.32**	**52**	P	**Pn**	**01 13 48.3**	**+0.4**
	comp=E,2.4nm,0.1s,baz=236,slow=13,SNR=14						
ESDC				S	**Sn**	**01 14 47.9**	**-1.4**
	comp=E,0.9nm,0.3s,baz=238,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**5.32**	**52**	P	**Pn**	**01 13 48.3**	**+0.4**
ESDC				S	**Sn**	**01 14 47.9**	**-1.4**
	comp=E,0.9nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**5.45**	**11**	S	**Sn**	**01 14 50.9**	**-1.5**
	comp=E,0.8nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.45**	**11**	S	**Sn**	**01 14 50.9**	**-1.5**
	comp=E,0.8nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.80**	**20**	P	**Pn**	**01 13 54.1**	**-0.5**
	comp=E,0.2nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**01 15 01.1**	**0.0**
	comp=E,1.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.80**	**20**	P	**Pn**	**01 13 54.1**	**-0.5**
ECAL				S	**Sn**	**01 15 01.1**	**0.0**
ECAL	**Calabor**	**5.80**	**20**	P	**Pn**	**01 13 54.1**	**-0.4**
	comp=E,0.2nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**01 15 01.1**	**0.0**
	comp=E,1.0nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**5.82**	**43**	P	**Pn**	**01 13 55.2**	**+0.5**
	comp=E,0.2nm,0.1s,SNR=4.0						
GUD				S	**Sn**	**01 15 00.5**	**-1.1**
	SNR=7.9						
EMAZ	**Mazaricos**	**6.44**	**3**	S	**Sn**	**01 15 10.7**	**-6.0**
	comp=E,1.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.59**	**69**	S	**Sn**	**01 15 17.6**	**-2.8**
	comp=E,0.2nm,0.1s,SNR=4.0						

TEH ***25*** *01:20:32.9, 35.95N×61.03E, h6km, Mn3.7*
CSEM ***25*** *01:20:33.0±0.1, 35.82N×60.76E, h2km, ML3.7, Error ellipse: s-maj=2.9km s-min=2.4km az=93.0*
ISCJB ***25*** *01:20:34.2±1.1, 35.80N±006×60.69E±008, h10km, Error ellipse: s-maj=9.8km s-min=7.7km az=50.4*
ISC 25 01:20:36.9±1.1, 3585N±006×6066E±008, h10km, n9, σ0°98/13, 2C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMYA	**Miamay**	**0.67**	**317**	*e*Pg	**Pg**	**01 20 48.7**	**-1.1**
IMYA				*e*Sg	**Sg**	**01 20 58.8**	**+0.3**
IMOG	**Moghan**	**1.10**	**284**	*e*Pg	**Pg**	**01 20 54.8**	**-3.3**
IEMG	**Emamqoli**	**2.24**	**314**	*e*Pn	**Pn**	**01 21 14.7**	**+0.6**
ISHV	**Shirvan**	**2.92**	**306**	*e*Pn	**Pn**	**01 21 27.4**	**+4.1**
ISHM	**Shahmirzad**	**5.99**	**272**	*e*Pn	**Pn**	**01 22 08.3**	**+2.7**
ISHM				*e*Sn	**Sn**	**01 23 14.2**	**0.0**
IBAF	**Bafgh**	**6.01**	**226**	*e*Pn	**Pn**	**01 22 05.7**	**-0.1**
ICHK	**Chekchek**	**6.32**	**237**	*e*Pn	**Pn**	**01 22 09.7**	**-0.4**
ICHK				*e*Sn	**Sn**	**01 23 22.1**	**-0.2**
KK31	**Karatay Array**	**10.50**	**43**	⇑P	**Pn**	**01 23 07.4**	**-0.1**
	0.5nm,0.4s,baz=231,slow=14,SNR=2.6						
KK31				⇓S	**Sn**	**01 25 00.3**	**-4.8**
	1.0nm,0.5s,baz=226,slow=23,SNR=5.0						
AB31	**Akbulak array**	**13.41**	**358**	⇑P	**Pn**	**01 23 47.2**	**0.0**
	0.3nm,0.5s,baz=185,slow=13,SNR=4.8						

LDG ***25*** *01:39:27.8±0.1, 43.37N×.092W, h10km, Md2.4/1, Ml1.8/7, Error ellipse: s-maj=2.1km s-min=1.7km az=115.0*
STR ***25*** *01:39:28.2±0.3, 43.06N×.106W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 25 01:39:29.0±0.3, 4317N×102W, h17km±2km, mbLg1.8/11, 1C, Error ellipse: s-maj=2.8km s-min=1.1km az=13.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.08**	**53**	Pg	Pg	01 39 32.3	+0.1
ORDF				Sg	Sg	01 39 35.2	+0.8
ORDF	**Ordiarp**	**0.08**	**53**	Pg	Pg	01 39 32.4	+0.1
ORDF				Lg		01 39 35.2	
LARF	**Larrau**	**0.13**	**170**	Pg	Pg	01 39 32.5	-0.3
LARF				Lg		01 39 35.1	
OSSF	**Osses**	**0.20**	**297**	Pg	Pg	01 39 33.5	-0.2
OSSF				Sg	Sg	01 39 36.6	-0.4
OSSF	**Osses**	**0.20**	**297**	Pg	Pg	01 39 33.6	-0.2
OSSF				Lg		01 39 36.7	
ATE	**Arette**	**0.25**	**109**	Pg	Pg	01 39 34.2	-0.3
ATE				Sg	Sg	01 39 38.0	-0.3
ATE	**Arette**	**0.25**	**109**	Pg	Pg	01 39 34.0	-0.5
ATE				Lg		01 39 38.2	
EALK	**Alkurruntz**	**0.36**	**278**	⇑Pg	Pg	01 39 36.2	-0.3
	7.9nm,0.2s,SNR=18						
EALK				Lg		01 39 41.4	
	30nm,0.2s,SNR=73						
ELIZ	**Elizondo**	**0.37**	**270**	Pg	Pg	01 39 36.3	-0.4
	2.7nm,0.1s,SNR=27						
ELIZ				Lg		01 39 41.4	
	20nm,0.1s,SNR=29						
IUSE	**Utxeti**	**0.45**	**241**	Pg	Pg	01 39 37.3	-0.7
	2.0nm,0.1s,SNR=7.9						
IUSE				Lg		01 39 43.5	
	13nm,0.1s,SNR=7.9						
REYF	**Montagne du Re**	**0.47**	**102**	Pg	Pg	01 39 37.8	-0.6
REYF				Sg	Sg	01 39 43.7	-1.1
REYF	**Montagne du Re**	**0.47**	**102**	Pg	Pg	01 39 38.1	-0.3
REYF				Lg		01 39 43.9	
FDAF	**Les Forges d'A**	**0.48**	**136**	Pg	Pg	01 39 37.9	-0.7
FDAF				Lg		01 39 44.9	
IUNC	**Unciti**	**0.54**	**221**	Pg	Pg	01 39 39.4	-0.4
	1.6nm,0.1s,SNR=7.9						
IUNC				Lg	

LASF			Sn	Sn	01 40 59.8	-7.7
LASF			Lg		01 41 19.1	
	0.2nm,0.4s					
ECAL	**Calabor**	**4.40 256**	Pn	Pn	01 40 35.3	+0.3
	0.1nm,0.1s,SNR=7.9					
ECAL			Sn	Sn	01 41 24.5	-1.3
	16nm,1.1s,SNR=7.9					

STR ***25*** *01:42:44.3±0.3, 43.14N×105W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 25 01:42:43.5±0.6, 4316N×102W, h17km±4km, mbLg0.9/6, Error ellipse: s-maj=3.4km s-min=2.1km az=12.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.08**	**50**	Pg	Pg	01 42 46.7	-0.1
ORDF				Sg	Sg	01 42 49.5	+0.6
ORDF	**Ordiarp**	**0.08**	**50**	Pg	Pg	01 42 46.7	-0.1
ORDF				Lg		01 42 49.5	
LARF	**Larrau**	**0.12**	**169**	Pg	Pg	01 42 46.8	-0.4
LARF				Sg	Sg	01 42 49.5	-0.2
LARF	**Larrau**	**0.12**	**169**	Pg	Pg	01 42 46.9	-0.4
LARF				Lg		01 42 49.5	
OSSF	**Osses**	**0.20**	**298**	Pg	Pg	01 42 47.9	-0.4
OSSF				Sg	Sg	01 42 51.0	-0.5
OSSF	**Osses**	**0.20**	**298**	Pg	Pg	01 42 48.0	-0.3
OSSF				Lg		01 42 51.1	
ATE	**Arette**	**0.25**	**108**	Pg	Pg	01 42 48.4	-0.6
ATE				Sg	Sg	01 42 52.5	-0.2
ATE	**Arette**	**0.25**	**108**	Pg	Pg	01 42 48.4	-0.6
ATE				Lg		01 42 52.6	
EALK	**Alkurruntz**	**0.36**	**280**	Pg	Pg	01 42 50.3	-0.6
	0.4nm,0.1s,SNR=7.9						
EALK				Lg		01 42 55.9	
	6.4nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**0.37**	**271**	Pg	Pg	01 42 51.6	+0.4
	0.7nm,0.2s,SNR=7.9						
ELIZ				Lg		01 42 55.8	
	1.5nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.44**	**241**	Lg		01 42 57.8	
	1.2nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.54**	**221**	Lg		01 43 01.7	
	2.6nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.56**	**227**	Lg		01 43 02.1	
	1.7nm,0.2s,SNR=7.9						
LABF	**Labassere**	**0.81**	**98**	Lg		01 43 08.7	
EBIE	**Bielsa**	**0.98**	**119**	Lg		01 43 13.8	
	0.5nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.50**	**164**	Lg		01 43 32.0	
	2.0nm,0.2s,SNR=7.9						

BJI ***25*** *01:46:38.0, 5254N×17766E, h12km, mB4.8, mb4.7, Ms4.7, Msz4.3*

ISCJB ***25*** *01:46:41.9±0.3, 5207N±006×177.13E±005, h20km, mb4.4/43, MS4.0/29, Error ellipse: s-maj=8.4km s-min=4.0km az=179.0*

HRVD ***25*** *01:46:41.7±0.5, 5213N×17709E, h18km±1km, MW4.8/76, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s76,c106; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.12±.17; Mθθ~1.08±.11; Mφφ2.20±.13; Mrθ0.10±.29; Mrφ~1.25±.09; Mθφ0.69±.24; Best double couple: M0=2.21400×10^16 NP1:φs=299.00000°, δ61.00000°, λ-162.00000°. NP2: φs=200.00000°, δ74.00000°, λ-31.00000°. Principal axes: T 2.7210, Plg9.0000°, Azm252.0000°; N -1.0150, Plg56.0000°, Azm356.0000°; P -1.7060, Plg32.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *01:46:41.7, 5203N×177.16E, h5km, mb4.6/20, ML4.2(AEIC), After AEIC.*

MOS ***25*** *01:46:44.2±0.9, 5220N×177.11E, h33km, mb4.5/15, Error ellipse: s-maj=13.5km s-min=9.0km az=86.1*

IDC ***25*** *01:46:47.1±5.0, 5215N×17706E, h45km±46km, mb3.8/17, mb1 4.0/18, mb1mx3.9/23, mbtmp4.0/18, ML4.2/1, MS4.0/22, Ms1 4.0/22, ms1mx3.7/41, Error ellipse: s-maj=22.1km s-min=14.1km az=158.0*

ISC 25 01:46:43.6±0.3, 5208N±006×17716E±005, h21km, h21km±2.7km: pP-P, n115, σ0=97/109, mb4.4/43, MS4.0/29, 3C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.51**	**117**	P	**Pn**	**01 47 08.2**	**-1.1**
AMKA				S	**Sn**	**01 47 28.1**	**-0.2**
SMY	**Shemya**	**1.98**	**290**	P	**Pn**	**01 47 14.8**	**-1.1**
SMY				S	**Sn**	**01 47 41.5**	**+1.3**
ATKA	**Atka Island**	**5.33**	**85**	P	**Pn**	**01 48 02.2**	**+0.4**
NIKO	**Nikolski**	**8.58**	**79**	*e*Pn	**Pn**	**01 48 50.2**	**+3.7**
SPIA	**Saint Paul Isl**	**8.90**	**50**	*e*Pn	**Pn**	**01 48 54.5**	**+3.5**
PET	**Petropavlovsk**	**11.31**	**282**	*e*P	**Pn**	**01 49 33.0**	**+9.1**
BILL	**Bilibino**	**16.86**	**346**	*b*P	**Pn**	**01 50 38.9**	**+0.7**
BILL				pmax	pmax		
	comp=Z,32nm,1.6s						
BILL				MLR	MLR		
	comp=Z,300nm,14.0s						
BILL	**Bilibino**	**16.86**	**346**	*e*Pn	**Pn**	**01 50 39.2**	**+1.0**
	comp=Z,94nm,1.4s						
SVW2	**Sparrevohn**	**17.39**	**48**	*e*Pn	**Pn**	**01 50 46.9**	**+2.0**
TTA	**Tatalina**	**17.89**	**42**	*e*P	**Pn**	**01 50 53.8**	**+2.7**
TTA				pmax	pmax		
	comp=Z,14nm,1.2s						
TTA	**Tatalina**	**17.89**	**42**	*e*Pn	**Pn**	**01 50 53.8**	**+2.7**
	comp=Z,14nm,1.2s						
KDAK	**Kodiak Island**	**18.19**	**60**	P	**Pn**	**01 50 55.1**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=154,slow=2.2,SNR=7.1						
SLKM	**Skilak Lake**	**19.78**	**52**	*e*P	**Pn**	**01 51 12.7**	**-1.3**
SML	**Sawmill**	**20.93**	**49**	*e*P	**P**	**01 51 26.0**	**+1.1**
SML				*e*S	**S**	**01 55 20.8**	**+3.5**
MCK	**McKinley**	**21.16**	**43**	*e*P	**P**	**01 51 27.1**	**-0.2**
MCK				*e*S	**S**	**01 55 20.0**	**-1.7**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
MCK	**McKinley**	**21.16**	**43**	*e*P	**P**	**01 51 27.1**	**-0.2**
	comp=Z,7.3nm,1.0s,mb4.0						
MCK				*e*S	**S**	**01 55 20.0**	**-1.6**
COLA	**College**	**21.96**	**41**	*e*P	**P**	**01 51 35.8**	**-0.2**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
COLA	**College**	**21.96**	**41**	*e*P	**P**	**01 51 35.8**	**-0.1**
	comp=Z,12nm,0.8s,mb4.4						
DIV	**Divide**	**22.03**	**51**	*e*P	**P**	**01 51 38.0**	**+1.3**
	comp=Z,63nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**22.77**	**271**	*e*P	**P**	**01 51 45.0**	**+0.4**
YSS				*e*S	**S**	**01 55 54.0**	**+1.3**
YSS				MLR	MLR		
	comp=Z,300nm,19.0s,MS3.8						
MENT	**Mentasta**	**23.26**	**47**	*e*P	**P**	**01 51 48.4**	**-1.3**
ASAJ	**Asahikawa**	**24.23**	**265**	P	**P**	**01 51 59.4**	**+0.5**
	comp=Z,5.1nm,0.9s,mb3.9,baz=65,slow=17,SNR=3.5						
ASAJ				LR	LR	02 00 34.8	
	comp=Z,298nm,20.8s,MS3.8,baz=9.1,slow=34						
ASAJ	**Asahikawa**	**24.23**	**265**	P	**P**	**01 51 59.4**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,298nm,20.8s						
DAWY	**Dawson**	**25.35**	**45**	*e*P	**P**	**01 52 09.3**	**+0.3**
INK	**Inuvik**	**28.35**	**36**	P	**P**	**01 52 36.9**	**+0.8**
	comp=Z,1.4nm,0.6s,mb3.8,baz=188,slow=6.1,SNR=11						
INK				LR	LR	02 04 30.0	
	comp=Z,270nm,18.4s,MS3.9,baz=72,slow=38						
INK	**Inuvik**	**28.35**	**36**	*e*P	**P**	**01 52 36.5**	**+0.4**
INK				LR	LR	02 04 30.0	
DLBC	**Dease Lake**	**30.07**	**57**	*e*P	**P**	**01 52 55.1**	**+3.8**
MAT	**Matsushiro**	**31.46**	**256**	P	**P**	**01 53 11.3**	**+7.7**
MAT				S	**S**	**01 58 20.0**	**+10**
MAT	**Matsushiro**	**31.46**	**256**	*e*P	**P**	**01 53 11.0**	**+7.4**
MAT				*e*S	**S**	**01 58 20.0**	**+10**
MJAR	**Matsushiro Arr**	**31.46**	**256**	P	**P**	**01 53 04.2**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.7,baz=46,slow=6.7,SNR=5.9						
MJAR				LR	LR	02 04 02.0	
	comp=Z,256nm,19.4s,MS3.9,baz=70,slow=33						
MDJ	**Mudanjiang**	**31.99**	**276**	P	**P**	**01 53 07.6**	**-0.7**
MDJ				AP	pP	01 53 10.9	-3.7
MDJ				PP	PP	01 54 19.1	-1.5
MDJ				PCP	PcP	01 55 57.3	-0.6
MDJ				S	**S**	**01 58 17.6**	**-1.1**
MDJ				SCP	ScP	01 59 40.0	-0.2
MDJ				SCS	ScS	02 03 39.0	+0.3
MDJ				AMB	AMB		
	comp=Z,60nm,10.4s						
MDJ				LR	LR		
	comp=N,100nm,27.4s,MS3.6						
MDJ				LR	LR		
	comp=E,170nm,32.3s,MS3.6						
MDJ				LR	LR		
	comp=Z,250nm,24.2s						
CBIJ	**Chichi jima**	**36.17**	**240**	LR	LR	02 05 15.2	
	comp=Z,170nm,20.1s,MS3.8,baz=334,slow=31						
YKA	**Yellowknife Ar**	**36.57**	**46**	P	**P**	**01 53 49.6**	**+1.7**
	comp=Z,3.3nm,0.7s,mb4.3,baz=283,slow=8.3,SNR=9.0						
YKA				LR	LR	02 10 00.4	
	comp=Z,375nm,19.0s,MS4.2,baz=280,slow=38						
CIT	**Chita**	**37.99**	**296**	*e*P	**P**	**01 53 59.1**	**-0.8**
RES	**Resolute Bay**	**40.14**	**24**	*e*P	**P**	**01 54 17.8**	**-0.2**
RES				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.4						
RES	**Resolute Bay**	**40.14**	**24**	*e*P	**P**	**01 54 17.8**	**-0.2**
	comp=Z,9.8nm,1.3s,mb4.4						
EDM	**Edmonton**	**40.65**	**60**	*e*P	**P**	**01 54 22.3**	**+0.1**
NEW	**Newport**	**40.97**	**68**	LR	LR	02 10 30.8	
	comp=Z,157nm,18.9s,MS3.9,baz=291,slow=35						
YBH	**Yreka Blue Hor**	**41.25**	**80**	LR	LR	02 10 57.5	
	comp=Z,273nm,18.0s,MS4.2,baz=295,slow=35						
WALA	**Waterton Lakes**	**42.39**	**66**	*e*P	**P**	**01 54 36.2**	**-0.2**
	comp=Z,7.7nm,1.2s,mb4.2						
ULN	**Ulaanbaatar**	**43.69**	**294**	*e*P	**P**	**01 54 46.9**	**0.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**43.69**	**294**	*e*P	**P**	**01 54 46.9**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.0						
SONM	**Songino Array**	**44.08**	**294**	P	**P**	**01 54 49.8**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.7,baz=57,slow=7.7,SNR=8.7						
SONM				LR	LR	02 12 49.8	
	comp=Z,278nm,20.5s,MS4.2,baz=56,slow=36						
JOW	**Kunigami**	**44.29**	**255**	LR	LR	02 10 38.6	
	comp=Z,124nm,20.8s,MS3.8,baz=89,slow=32						
ZAK	**Zakamensk**	**44.42**	**299**	*e*P	**P**	**01 54 53.0**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.8						
BOZ	**Bozeman (W)**	**45.55**	**68**	*e*P	**P**	**01 55 01.1**	**-0.7**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BOZ	**Bozeman (W)**	**45.55**	**68**	*e*P	**P**	**01 55 01.1**	**-0.7**
	comp=Z,1.8nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**45.94**	**81**	P	**P**	**01 55 05.7**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=282,slow=10.0,SNR=6.0						
GUMO	**Guam**	**46.29**	**226**	LR	LR	02 13 16.8	
	comp=Z,89nm,18.8s,MS3.7,baz=74,slow=34						
NJ2	**Nanjing**	**46.30**	**268**	*e*P	**P**	**01 55 09.3**	**+1.6**
NJ2				AP	pP	01 55 13.4	-0.8
NJ2				XP	sP	01 55 17.1	+0.3
NJ2				PCP	PcP	01 56 43.4	+0.5
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
NJ2				LR	LR		
	comp=N,140nm,15.0s,MS4.3						
NJ2				LR	LR		
	comp=E,180nm,14.2s,MS4.3						
NJ2				LR	LR		
	comp=Z,50nm,17.2s,MS3.5						
FCC	**Fort Churchill**	**47.27**	**45**	*e*P	**P**	**01 55 14.5**	**-0.8**
FCC				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
FCC	**Fort Churchill**	**47.27**	**45**	*e*P	**P**	**01 55 14.5**	**-0.8**
	comp=Z,15nm,1.2s,mb4.8						
TPNV	**Topopah Spring**	**48.13**	**81**	*e*P	**P**	**01 55 22.2**	**+0.2**
TPNV				*e**PP	pP	01 55 30.6	+2.1
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
TPNV	**Topopah Spring**	**48.13**	**81**	*e*P	**P**	**01 55 22.2**	**+0.2**
	comp=Z,4.2nm,0.9s,mb4.5						
TPNV				*e*pP	pP	01 55 30.6	+2.0
PDAR	**Pinedale Array**	**48.46**	**70**	P	**P**	**01 55 24.1**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.9,baz=308,slow=4.4,SNR=8.1						
PDAR				LR	LR	02 16 12.0	
	comp=Z,96nm,18.6s,MS3.8,baz=323,slow=36						
ULM	**Lac du Bonnet**	**51.37**	**55**	P	**P**	**01 55 45.9**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.0,baz=316,slow=11,SNR=2.7						
ULM				LR	LR	02 18 28.5	
	comp=Z,269nm,18.5s,MS4.3,baz=182,slow=37						
LZH	**Lanzhou**	**52.78**	**283**	*e*P	**P**	**01 55 58.3**	**+1.2**
LZH				AP	pP	01 56 02.8	-0.9
LZH				XP	sP	01 56 05.3	-0.9
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
GTA	**Gaotai**	**52.97**	**289**	*e*P	**P**	**01 55 59.3**	**+0.8**
GTA				AP	pP	01 56 03.8	-1.3
GTA				XP	sP	01 56 06.3	-1.3
GTA				PP	PP	01 57 59.8	+1.6
GTA				S	**S**	**02 03 22.1**	**-4.8**
GTA				AMB	AMB		
	comp=Z,70nm,6.5s						
GTA				LR	LR		
	comp=N,450nm,17.5s,MS4.7						
GTA				LR	LR		
	comp=E,320nm,16.4s,MS4.7						
GTA				LR	LR		
	comp=Z,320nm,14.1s,MS4.5						
SUMG	**Summit**	**53.19**	**13**	*e*P	**P**	**01 56 00.3**	**+0.1**
	comp=Z,16nm,1.0s,mb4.9						
EYMN	**Ely**	**55.06**	**55**	*e*P	**P**	**01 56 13.2**	**-0.6**
	comp=Z,6.1nm,1.2s,mb4.5						
EYMN				*e*pP	pP	01 56 22.6	+2.3
KURK	**Kurchatov**	**56.69**	**311**	*e*P	**P**	**01 56 24.6**	**-0.9**
KURK				*e**PP	pP	01 56 31.8	-0.3
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**56.69**	**311**	*e*P	**P**	**01 56 24.6**	**-0.9**
	comp=Z,8.3nm,0.8s,mb4.8						
KURK				*e*pP	pP	01 56 31.8	-0.3
WMQ	**Urumqi**	**56.83**	**300**	*e*P	**P**	**01 56 29.3**	**+2.8**
WMQ				AMB	AMB		
	comp=Z,20nm,3.2s						
WMQ				LR	LR		
	comp=N,870nm,17.0s,MS5.0						
WMQ				LR	LR		
	comp=E,340nm,16.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,180nm,18.0s,MS4.2						
ARCES	**ARCESS Array B**	**56.94**	**349**	LR	LR	02 20 25.8	
	comp=Z,110nm,20.8s,MS3.9,baz=207,slow=36						
MKAR	**Makanchi Array**	**57.61**	**306**	P	**P**	**01 56 30.1**	**-1.9**
	comp=Z,1.2nm,0.8s,mb4.0,baz=55,slow=4.6,SNR=9.2						
CHKZ	**Chkalovo**	**58.14**	**318**	*e*P	**P**	**01 56 34.7**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**58.14**	**318**	*e*P	**P**	**01 56 34.7**	**-1.0**
	comp=Z,5.4nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**58.70**	**317**	LR	LR	02 22 57.8	
	comp=Z,217nm,19.6s,MS4.3,baz=318,slow=37						
ZRNK	**Zerenda**	**59.33**	**318**	*e*P	**P**	**01 56 42.8**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**59.33**	**318**	*e*P	**P**	**01 56 42.8**	**-1.2**
	comp=Z,4.2nm,0.7s,mb4.6						
ARU	**Arti**	**60.65**	**326**	*e*P	**P**	**01 56 51.9**	**-1.1**
ARU				*e*		01 57 32.6	
ARU				*e*		01 59 02.4	
ARU				*e*S	**S**	**02 05 06.4**	**-1.9**
ARU				*e*SS	SS	02 09 04.0	-2.8
ARU				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.3						
ARU				MLR	MLR		
	comp=N,100nm,17.0s,MS4.2						
ARU				MLR	MLR		
	comp=E,100nm,18.0s,MS4.2						
ARU	**Arti**	**60.65**	**326**	*e*P	**P**	**01 56 52.0**	**-1.0**
	comp=E,7.1nm,0.8s,mb4.8						
LPIG	**La Paz**	**60.74**	**88**	LR	LR	02 19 02.4	
	comp=E,75nm,21.1s,MS3.8,baz=4.6,slow=32						
SCHQ	**Schefferville**	**60.97**	**36**	P	**P**	**01 56 55.2**	**0.0**
	comp=E,2.1nm,0.4s,mb4.6,baz=342,slow=9.6,SNR=3.9						
SCHQ				LR	LR	02 27 38.9	
	comp=E,136nm,18.6s,MS4.1,baz=42,slow=40						
SCHQ	**Schefferville**	**60.97**	**36**	P	**P**	**01 56 55.2**	**0.0**
SCHQ				LR	LR	02 27 38.9	
KMI	**Kunming**	**61.15**	**275**	P	**P**	**01 56 58.3**	**+1.8**
KMI				AP	pP	01 57 03.8	+0.7
KMI				XP	sP	01 57 07.8	+2.2
KMI				PP	PP	01 59 13.4	+2.2
KMI				S	**S**	**02 05 14.3**	**-0.5**
KMI				XS	sS	02 05 23.8	-1.9
KMI				SS	SS	02 09 16.9	+2.2
KMI				AMB	AMB		
	comp=Z,90nm,6.8s						
KMI				LR	LR		
	comp=N,150nm,17.2s,MS4.3						
KMI				LR	LR		
	comp=E,130nm,18.1s,MS4.3						
KMI				LR	LR		
	comp=Z,130nm,16.2s,MS4.2						
JOF	**Joensuu**	**62.23**	**343**	*e*p	**P**	**01 57 02.6**	**-1.1**
	comp=Z,8.6nm,1.0s,mb4.8						
JOF	**Joensuu**	**62.23**	**343**	*e*P	**P**	**01 57 02.6**	**-1.1**
JOF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KAF	**Kangasniemi**	**63.83**	**345**	*e*p	**P**	**01 57 13.0**	**-1.4**
	comp=Z,4.6nm,0.8s,mb4.6						
KAF	**Kangasniemi**	**63.83**	**345**	*e*P	**P**	**01 57 13.0**	**-1.4**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
FINES	**FINESS Array B**	**64.50**	**345**	P	**P**	**01 57 17.1**	**-1.7**
	comp=Z,1.8nm,0.8s,mb4.2,baz=46,slow=8.2,SNR=8.5						
AFI	**Afiamalu**	**66.41**	**168**	LR	LR	02 21 29.2	
	comp=Z,141nm,21.7s,MS4.1,baz=18,slow=31						
NB2	**NORSAR Subarra**	**66.67**	**353**	P	**P**	**01 57 31.9**	**-0.9**
	comp=Z,0.7nm,0.5s,mb4.0,baz=8.4,slow=6.5						
NB2	**NORSAR Subarra**	**66.67**	**353**	P	**P**	**01 57 31.9**	**-0.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**66.67**	**353**	P	**P**	**01 57 32.4**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.2,baz=9.4,slow=6.4,SNR=10						
NOA				LR	LR	02 30 56.7	
	comp=Z,42nm,18.6s,MS3.7,baz=0.0,slow=40						
NOA	**NORSAR Array B**	**66.67**	**353**	P	**P**	**01 57 32.4**	**-0.4**
NOA				LR	LR	02 30 56.7	
OBN	**Obninsk**	**68.28**	**337**	P	**P**	**01 57 43.0**	**+0.1**
OBN						01 58 08.0	
GUN	**Gumba**	**69.26**	**289**	*e*P	**P**	**01 57 49.1**	**+0.1**
	comp=Z,22nm,0.4s,mb5.4						
JIRN	**Jiri**	**69.26**	**289**	*e*P	**P**	**01 57 48.9**	**-0.2**
	comp=Z,20nm,0.7s,mb5.1						
KKN	**Kakani**	**69.70**	**289**	*e*P	**P**	**01 57 51.7**	**-0.1**
	comp=Z,9.1nm,0.5s,mb5.0						
PKI	**Pulchoki**	**69.79**	**289**	*e*P	**P**	**01 57 52.1**	**-0.2**
	comp=Z,9.6nm,0.5s,mb5.0						
GKN	**Gorkha**	**69.91**	**290**	*e*P	**P**	**01 57 52.8**	**-0.3**
DMN	**Daman**	**69.93**	**289**	*e*P	**P**	**01 57 53.2**	**0.0**
	comp=Z,11nm,0.6s,mb5.0						
KOLN	**Koldanda**	**70.69**	**290**	*e*P	**P**	**01 57 57.8**	**0.0**
	comp=Z,11nm,0.9s,mb4.8						
AKASG	**Malin Array Be**	**74.06**	**339**	P	**P**	**01 58 17.4**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=24,slow=6.1,SNR=9.0						
AKASG				LR	LR	02 37 44.7	
	comp=Z,64nm,18.2s,MS4.0,baz=15,slow=41						
AKASG	**Malin Array Be**	**74.06**	**339**	P	**P**	**01 58 17.4**	**-0.5**
AKASG				LR	LR	02 37 44.7	
PPT	**Papeete**	**75.16**	**147**	*e*LR	LR	02 21 00.2	
	comp=Z,171nm,22.5s						
PPT	**Papeete**	**75.16**	**147**	LR	LR	02 24 54.2	
	comp=Z,191nm,21.1s,MS4.4,baz=354,slow=30						
KWP	**Kalwaria**	**76.36**	**343**	*e*P	**P**	**01 58 31.0**	**-0.2**
KWP				*e**PP	pP	01 58 38.6	+0.6
KWP				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
KWP	**Kalwaria**	**76.36**	**343**	*e*P	**P**	**01 58 31.0**	**-0.2**
	comp=Z,17nm,1.1s,mb4.9						
KWP				*e*pP	pP	01 58 38.6	+0.6
BURAR	**Bucovina Array**	**77.82**	**341**	↑*i*P	**P**	**01 58 39.8**	**+0.4**
GERES	**GERESS Array B**	**78.47**	**349**	P	**P**	**01 58 42.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=289,slow=4.1,SNR=3.5						
GERES				LR	LR	02 39 55.9	
	comp=Z,68nm,18.3s,MS4.0,baz=20,slow=41						
GERES	**GERESS Array B**	**78.47**	**349**	P	**P**	**01 58 42.6**	**-0.4**
GERES				LR	LR	02 39 55.9	
DRGR		**79.10**	**342**	↑*i*P	**P**	**01 58 46.9**	**+0.5**
GNI	**Garni**	**79.26**	**325**	LR	LR	02 39 11.5	
	comp=Z,177nm,18.4s,MS4.4,baz=25,slow=40						
MLR	**Muntele Rosu**	**79.70**	**340**	↓↓*i*P	**P**	**01 58 51.3**	**+1.6**
TBI	**Tubuai**	**80.59**	**149**	*e*LR	LR	02 23 31.2	
	comp=Z,192nm,23.8s						
WRA	**Warramunga Arr**	**80.85**	**220**	P	**P**	**01 58 55.7**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=34,slow=6.2,SNR=6.5						
BRTR	**Keskin Array B**	**83.21**	**332**	P	**P**	**01 59 08.9**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=68,slow=5.3,SNR=3.5						
ASAR	**Alice Springs**	**84.38**	**219**	P	**P**	**01 59 14.4**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.3,baz=23,slow=5.1,SNR=17						
TORD	**Torodi Ar. Bea**	**114.92**	**355**	PKP	PKiKP	02 05 21.0	-1.8
	comp=Z,0.3nm,0.7s,baz=344,slow=2.3,SNR=9.1						
PLCA	**Paso Flores**	**133.58**	**104**	PKP	PKPdf	02 05 57.6	-0.9
	comp=Z,0.8nm,0.6s,baz=265,slow=4.0,SNR=5.5						
LBTB	**Lobatse**	**145.41**	**310**	PKPbc	PKPbc	02 06 19.8	-0.1
	comp=Z,2.6nm,0.6s,baz=40,slow=6.7,SNR=7.3						
MAW	**Mawson**	**145.50**	**218**	PKPbc	PKPbc	02 06 18.9	-1.3
	comp=Z,1.5nm,0.5s,baz=339,slow=1.2,SNR=13						
BOSA	**Boshof**	**148.60**	**307**	PKPbc	PKPbc	02 06 27.4	-1.6
	comp=Z,3.5nm,0.9s,baz=108,slow=22,SNR=5.2						

ISCJB ***25*** *02:04:43.6±4.5, 6.1N±02×1277E±03, h63km±39km, mb4.0/10, Error ellipse: s-maj=63.0km s-min=10.7km az=125.8*

IDC ***25*** *02:04:43.7±1.4, 635N×12850E, h54km±8km, mb3.8/7, mb1 3.9/7, mb1mx3.7/17, mbtmp4.0/7, Error ellipse: s-maj=148.2km s-min=13.7km az=69.0*

NEIC ***25*** *02:04:44.4±0.5, 6.10N×12784E, mb4.4/4, Error ellipse: s-maj=27.4km s-min=7.8km az=63.0*

**ISC 25 02:04:43.9±4.6, 61N±02×1

ISC 25 02:16:18.2±0.2,**6011N**±004×**15378W**±004,**h160**km, **h160**km±1.7km;**pP-P**,**n203**,c0°**89**/192,**mb4.7**/67,**9C-9D**, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVW2	**Sparrevohn**	**1.33**	**319**	P	**Pn**	**02 16 47.8**	**+1.0**
SLKM	**Skilak Lake**	**1.82**	**76**	P	**Pn**	**02 16 51.4**	**-0.4**
FIB	**Fire Island**	**2.07**	**58**	P	**Pn**	**02 16 55.4**	**+0.8**
SEW	**Seward**	**2.17**	**88**	P	**Pn**	**02 16 55.1**	**-0.7**
SEW				S	**Sn**	**02 17 22.8**	**-2.1**
RC01	**Rabbit Creek A**	**2.22**	**62**	P	**Pn**	**02 16 56.0**	**-0.4**
RC01				S	**Sn**	**02 17 25.1**	**-0.9**
KDAK	**Kodiak Island**	**2.42**	**165**	P	**Pn**	**02 16 55.9**	**-2.9**
	56nm,0.3s,baz=355,slow=4.8,SNR=368						
KDAK				S	**Sn**	**02 17 25.1**	**-4.9**
	1μm,0.3s,baz=172,slow=20,SNR=38						
KDAK				LR	LR	02 17 26.0	
	comp=Z,908nm,19.0s,baz=334,slow=30						
PMR	**Palmer**	**2.72**	**55**	*e*P	**Pn**	**02 17 01.0**	**-1.4**
GHO	**Glory Hole Cre**	**2.90**	**53**	P	**Pn**	**02 17 03.8**	**-0.8**
TTA	**Tatalina**	**3.02**	**340**	P	**Pn**	**02 17 07.2**	**+1.0**
SML	**Sawmill**	**3.16**	**55**	*e*Pn	**Pn**	**02 17 06.7**	**-1.1**
SML				*e*Sn	**Sn**	**02 17 43.4**	**-2.9**
KTH	**Kantishna Hill**	**3.71**	**20**	P	**Pn**	**02 17 15.1**	**+0.2**
TRF	**Thorofare Moun**	**3.74**	**25**	P	**Pn**	**02 17 15.6**	**+0.4**
MID	**Middleton Isla**	**3.83**	**97**	P	**Pn**	**02 17 15.2**	**-1.2**
EYAK	**Cordova Ski Ar**	**4.02**	**80**	P	**Pn**	**02 17 18.1**	**-0.8**
MCK	**McKinley**	**4.29**	**30**	P	**Pn**	**02 17 22.6**	**+0.2**
CHGN	**Chignik**	**4.54**	**215**	P	**Pn**	**02 17 23.7**	**-1.9**
GCSA	**Galena City Sc**	**4.87**	**344**	P	**Pn**	**02 17 31.5**	**+1.5**
COLA	**College**	**5.51**	**27**	P	**Pn**	**02 17 38.3**	**-0.1**
MENT	**Mentasta**	**5.59**	**55**	*e*P	**Pn**	**02 17 39.4**	**0.0**
SDPT	**Sand Point**	**5.97**	**220**	*e*P	**Pn**	**02 17 41.4**	**-3.1**
YKU2	**Yakutat**	**7.14**	**89**	*e*P	**Pn**	**02 18 01.9**	**+1.8**
PNL	**Peninsula**	**7.25**	**87**	P	**Pn**	**02 18 00.3**	**-1.2**
COLD	**Coldfoot**	**7.32**	**11**	P	**Pn**	**02 18 02.5**	**+0.1**
FALS	**False Pass**	**7.39**	**229**	*e*Pn	**Pn**	**02 18 02.4**	**-0.9**
DAWY	**Dawson**	**7.82**	**53**	P	**Pn**	**02 18 09.7**	**+0.6**
AKUT	**Akutan**	**8.85**	**233**	*e*P	**Pn**	**02 18 21.6**	**-1.1**
SPIA	**Saint Paul Isl**	**9.07**	**258**	*e*Pn	**Pn**	**02 18 26.4**	**+0.8**
SKAG	**Skagway**	**9.33**	**86**	*e*P	**Pn**	**02 18 29.3**	**+0.3**
	153nm,1.1s						
UNV	**Unalaska Valle**	**9.35**	**233**	P	**Pn**	**02 18 27.6**	**-1.8**
SIT	**Sitka**	**10.10**	**100**	*e*P	**Pn**	**02 18 38.2**	**-1.1**
SIT				pmax	pmax		
	comp=Z,124nm,1.0s						
SIT	**Sitka**	**10.10**	**100**	*e*P	**Pn**	**02 18 38.2**	**-1.1**
	comp=Z,124nm,1.0s						
NIKO	**Nikolski**	**10.95**	**236**	*e*Pn	**Pn**	**02 18 49.8**	**-0.6**
CRAG	**Craig**	**11.94**	**104**	*e*P	**Pn**	**02 19 03.2**	**-0.1**
	comp=Z,31nm,0.6s						
INK	**Inuvik**	**11.99**	**38**	P	**Pn**	**02 19 03.4**	**-0.5**
	comp=Z,8.4nm,0.3s,baz=232,slow=16,SNR=168						
INK				ScP	ScP	02 27 49.5	-3.8
	comp=Z,0.1nm,0.3s,baz=131,slow=1.9,SNR=4.1						
INK	**Inuvik**	**11.99**	**38**	*e*P	**Pn**	**02 19 03.5**	**-0.4**
INK				pmax	pmax		
	comp=Z,73nm,0.6s						
INK	**Inuvik**	**11.99**	**38**	*e*Pn	**Pn**	**02 19 03.5**	**-0.5**
	comp=Z,73nm,0.6s						
DLBC	**Dease Lake**	**12.24**	**87**	P	**Pn**	**02 19 07.9**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=266,slow=13,SNR=17						
DLBC	**Dease Lake**	**12.24**	**87**	*e*Pn	**Pn**	**02 19 07.7**	**+0.5**
BBB	**Bella Bella**	**16.27**	**108**	P	**Pn**	**02 19 57.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=323,slow=10,SNR=2.4						
BBB	**Bella Bella**	**16.27**	**108**	P	**Pn**	**02 19 57.9**	**+0.4**
YKW3	**Yellowknife Ar**	**18.75**	**66**	*e*Pn	**Pn**	**02 20 24.8**	**-2.3**
YKA	**Yellowknife Ar**	**18.76**	**66**	P	**P**	**02 20 25.3**	**+0.4**
	baz=277,slow=10,SNR=47						
YKA				PcP	PcP	02 24 44.2	-1.0
	baz=280,slow=1.5,SNR=16						
YKA				ScP	ScP	02 28 03.0	-2.8
	baz=286,slow=2.5,SNR=10						
YKA	**Yellowknife Ar**	**18.76**	**66**	P	**P**	**02 20 25.3**	**+0.4**
YKA				PcP	PcP	02 24 44.2	-1.0
YKA				ScP	ScP	02 28 03.0	-2.8
BILL	**Bilibino**	**18.84**	**312**α	*i*P	**P**	**02 20 26.5**	**+0.7**
BILL				pmax	pmax		
	comp=Z,31nm,0.8s						
BILL	**Bilibino**	**18.84**	**312**	*e*P	**P**	**02 20 26.3**	**+0.5**
	comp=Z,12nm,0.5s						
EDM	**Edmonton**	**22.95**	**89**	*e*P	**P**	**02 21 08.5**	**0.0**
EDM				*e**PP		02 21 39.8	
NEW	**Newport**	**24.16**	**103**	P	**P**	**02 21 20.6**	**+1.2**
	comp=Z,3.6nm,0.9s,mb3.9,baz=297,slow=8.7,SNR=5.4						
NEW				pP		02 21 51.3	
	comp=Z,5.0nm,0.8s,baz=319,slow=6.0,SNR=5.3						
NEW	**Newport**	**24.16**	**103**	*e*P	**P**	**02 21 20.8**	**+1.4**
NEW				*e**PP		02 21 52.0	
NEW				pmax	pmax		
	comp=Z,30nm,1.0s						
NEW	**Newport**	**24.16**	**103**	*e*P	**P**	**02 21 20.8**	**+1.4**
	comp=Z,3.5nm,1.0s,mb3.8						
NEW				*e*pP		02 21 52.0	
RES	**Resolute Bay**	**25.42**	**32**	*e*P	**P**	**02 21 30.6**	**-0.2**
RES				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
RES	**Resolute Bay**	**25.42**	**32**	*e*P	**P**	**02 21 30.6**	**-0.2**
	comp=Z,5.5nm,0.6s,mb4.3						
MA2	**Magadan**	**27.18**	**293***c*	*i*P	**P**	**02 21 46.8**	**+0.2**
MA2				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.0						
MA2	**Magadan**	**27.18**	**293**	*e*P	**P**	**02 21 46.7**	**+0.1**
	comp=Z,27nm,0.8s,mb4.9						
EGMT	**Eagleton**	**27.96**	**96**	*e*P	**P**	**02 21 54.5**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.2						
EGMT				*e*pP	pP	02 22 28.8	+1.9
BOZ	**Bozeman (W)**	**28.68**	**101**	*e*P	**P**	**02 22 00.9**	**+0.9**
BOZ				*e**PP	pP	02 22 33.8	+0.4
FCC	**Fort Churchill**	**29.49**	**66**	*e*P	**P**	**02 22 07.5**	**+0.3**
GCMT	**Greycliff**	**29.55**	**99**	*e*P	**P**	**02 22 08.6**	**+0.9**
GCMT				*e*pP	pP	02 22 43.0	+1.9
IMW	**Indian Meadow**	**30.29**	**103**	*e*P	**P**	**02 22 16.9**	**+2.8**
	comp=Z,2.9nm,0.7s,mb4.1						
IMW				*e*pP	pP	02 22 48.8	+1.1
NVAR	**Mina Array Bea**	**31.12**	**118**	P	**P**	**02 22 22.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=321,slow=6.7,SNR=6.0						
NVAR				pP	pP	02 22 55.2	+0.1
	comp=Z,0.5nm,0.6s,baz=48,slow=20,SNR=4.0						
NVAR				PcP	PcP	02 25 13.6	+0.8
	comp=Z,0.7nm,0.5s,baz=333,slow=0.9,SNR=5.6						
NVAR				ScP	ScP	02 28 39.6	-1.0
	comp=Z,2.8nm,0.7s,baz=323,slow=2.2,SNR=20						
PDAR	**Pinedale Array**	**31.80**	**103**	P	**P**	**02 22 27.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=341,slow=8.6,SNR=3.7						
PDAR				pP	pP	02 23 00.8	-0.4
	comp=Z,4.6nm,1.0s,baz=323,slow=3.4,SNR=11						
PDAR				ScP	ScP	02 28 41.4	-1.5
	comp=Z,1.1nm,0.7s,baz=359,slow=0.8,SNR=8.5						
TPNV	**Topopah Spring**	**33.26**	**117**	*e*P	**P**	**02 22 41.8**	**+1.7**
TPNV				*e**PP	pP	02 23 15.6	+1.6
TPNV				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0						
TPNV	**Topopah Spring**	**33.26**	**117**	*e*P	**P**	**02 22 41.8**	**+1.6**
	comp=Z,1.9nm,0.7s,mb3.9						
TPNV				*e*pP	pP	02 23 15.6	+1.6
ULM	**Lac du Bonnet**	**33.44**	**81**	P	**P**	**02 22 42.6**	**+0.8**
	comp=Z,1.8nm,0.7s,mb3.9,baz=311,slow=9.9,SNR=4.5						
ULM				pP	pP	02 23 14.8	-0.7
	comp=Z,3.4nm,0.9s,baz=294,slow=9.9,SNR=3.3						
ULM				ScP	ScP	02 28 46.5	-2.1
	comp=Z,3.2nm,0.6s,baz=318,slow=6.1,SNR=5.1						
ULM	**Lac du Bonnet**	**33.44**	**81**	P	**P**	**02 22 42.6**	**+0.8**
ULM				pP	pP	02 23 14.8	-0.7
ULM				ScP	ScP	02 28 46.5	-2.1
RSSD	**Black Hills**	**33.53**	**96**	*e*P	**P**	**02 22 43.6**	**+1.1**
RSSD				*e**PP	pP	02 23 18.2	+1.8
RSSD				*e*		02 25 19.0	
RSSD				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.3						
RSSD	**Black Hills**	**33.53**	**96**	*e*P	**P**	**02 22 43.6**	**+1.1**
	comp=Z,3.0nm,0.5s,mb4.3						
RSSD				*e*pP	pP	02 23 18.2	+1.8
RSSD				*e*PcP	PcP	02 25 19.0	-0.5
SRU	**San Rafael**	**34.15**	**108**	*e*P	**P**	**02 22 50.4**	**+2.5**
SRU				*e**PP	pP	02 23 23.9	+2.1
SRU				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.8						
SRU	**San Rafael**	**34.15**	**108**	*e*P	**P**	**02 22 50.4**	**+2.6**
	comp=Z,18nm,0.9s,mb4.8						
SRU				*e*pP	pP	02 23 23.9	+2.1
YAK	**Yakutsk**	**35.09**	**307**	*e*P	**P**	**02 22 55.0**	**-0.9**
YAK				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.1						
YAK	**Yakutsk**	**35.09**	**307**	*e*P	**P**	**02 22 54.9**	**-1.0**
	comp=Z,41nm,0.8s,mb5.1						
PV01	**Paradox Valley**	**35.86**	**107**	*e*P	**P**	**02 23 04.6**	**+2.1**
PV01				*e*pP	pP	02 23 34.5	-2.2
YSS	**Yuzh-Sakhalins**	**38.39**	**279**	*e*P	**P**	**02 23 23.9**	**+0.1**
YSS				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.3						
SUMG	**Summit**	**40.47**	**25**	*e*P	**P**	**02 23 41.1**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.1						
ASAJ	**Asahikawa**	**40.47**	**276**	P	**P**	**02 23 41.0**	**-0.1**
	comp=Z,3.1nm,0.4s,mb4.3,baz=273,slow=4.6,SNR=5.7						
DAG	**Danmarks Havn**	**40.49**	**14**⇓	*i*P	**P**	**02 23 40.1**	**-1.1**
	comp=Z,2.8nm,0.5s,mb4.2						
DAG	**Danmarks Havn**	**40.49**	**14**⇓	*e*P	**P**	**02 23 40.1**	**-1.1**
DAG				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.2						
DAG	**Danmarks Havn**	**40.49**	**14**⇓	*e*P	**P**	**02 23 40.1**	**-1.1**
	comp=Z,2.8nm,0.5s,mb4.2						
SCHQ	**Schefferville**	**43.83**	**57**	P	**P**	**02 24 07.8**	**-0.5**
	comp=Z,1.7nm,0.5s,mb3.9,baz=292,slow=6.8,SNR=8.4						
JCT	**Junction City**	**46.28**	**105**	*e*P	**P**	**02 24 29.0**	**+1.4**
JCT				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
JCT	**Junction City**	**46.28**	**105**	*e*P	**P**	**02 24 29.0**	**+1.4**
	comp=Z,18nm,0.6s,mb4.9						
MDJ	**Mudanjiang**	**46.48**	**287**	P	**P**	**02 24 32.9**	**+3.8**
MDJ				PCP	PcP	02 26 06.5	+5.6
MDJ				PP	PP	02 26 23.1	+2.6
MDJ				AMB	AMB		
	comp=Z,50nm,5.9s						
ALLY	**Alegheny Colle**	**47.25**	**78**	*e*P	**P**	**02 24 36.1**	**+1.0**
OXF	**Oxford**	**48.16**	**92**	*e*P	**P**	**02 24 42.5**	**+0.4**
OXF				*e**PP	pP	02 25 18.7	+0.7
OXF				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.9						
OXF	**Oxford**	**48.16**	**92**	*e*P	**P**	**02 24 42.5**	**+0.4**
	comp=Z,19nm,0.6s,mb4.9						
OXF				*e*pP	pP	02 25 18.7	+0.8
MAJO	**Matsushiro**	**48.38**	**273**	*e*P	**P**	**02 24 44.0**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**48.38**	**273**	*e*P	**P**	**02 24 44.0**	**+0.2**
	comp=Z,20nm,0.9s,mb4.7						
MAT	**Matsushiro**	**48.38**	**273**	P	**P**	**02 24 44.4**	**+0.6**
MAT	**Matsushiro**	**48.38**	**273**	*e*P	**P**	**02 24 44.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6						
MAT	**Matsushiro**	**48.38**	**273**	*e*P	**P**	**02 24 44.0**	**+0.2**
	comp=Z,17nm,1.0s,mb4.6						
MJAR	**Matsushiro Arr**	**48.38**	**273**	P	**P**	**02 24 44.9**	**+1.1**
	comp=Z,3.8nm,0.5s,mb4.3,baz=17,slow=7.1,SNR=16						
PLAL	**Pickwick Lake**	**48.46**	**91**	*e*P	**P**	**02 24 45.3**	**+1.0**
	comp=Z,43nm,1.5s,mb4.8						
PLAL				*e*pP	pP	02 25 19.8	-0.5
CN2	**Changchun**	**49.07**	**289**	*e*P	**P**	**02 24 48.6**	**-0.4**
CN2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.4						
SSPA	**Standing Stone**	**49.13**	**77**	*e*P	**P**	**02 24 49.9**	**+0.4**
	comp=Z,22nm,1.6s,mb4.5						
SSPA				*e*pP	pP	02 25 26.2	+0.7
ARCES	**ARCESS Array B**	**50.65**	**0**	P	**P**	**02 25 00.3**	**-0.6**
	comp=Z,1.9nm,0.6s,mb3.9,baz=352,slow=7.5,SNR=8.3						
TLY	**Talaya**	**52.45**	**310**	P	**P**	**02 25 15.6**	**+1.3**
	SNR=7.5						
TLY	**Talaya**	**52.45**	**310**	*e*P	**P**	**02 25 15.0**	**+0.7**
TLY	**Talaya**	**52.45**	**310**	*e*P	**P**	**02 25 14.8**	**+0.5**
	comp=Z,2.3nm,0.7s,mb3.9						
KRAR	**Krasnoyarsk**	**52.79**	**320**	*e*P	**P**	**02 25 16.4**	**-0.4**
KRAR				pmax	pmax		
	comp=Z,78nm,1.0s,mb5.4						
ZAK	**Zakamensk**	**53.62**	**309**	*e*P	**P**	**02 25 23.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,70nm,1.9s,mb5.1						
CBIJ	**Chichi jima**	**54.01**	**262**	P	**P**	**02 25 24.8**	**-0.9**
	comp=Z,136nm,0.6s,baz=333,slow=4.3,SNR=26						
ULN	**Ulaanbaatar**	**54.11**	**305**	*e*P	**P**	**02 25 27.0**	**+0.6**
ULN				*e*		02 26 28.8	
ULN				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
ULN	**Ulaanbaatar**	**54.11**	**305**	*e*P	**P**	**02 25 27.0**	**+0.5**
	comp=Z,11nm,0.6s,mb4.8						
ULN				*e*PcP	PcP	02 26 28.8	-0.3
SONM	**Songino Array**	**54.41**	**305**	P	**P**	**02 25 29.4**	**+0.8**
	comp=Z,24nm,0.7s,mb5.0,baz=43,slow=6.7,SNR=162						
SONM				PcP	PcP	02 26 30.8	+0.5
	comp=Z,5.7nm,0.6s,baz=139,slow=2.0,SNR=12						
NVS	**Novosibirsk**	**56.75**	**325**⇑	*i*P	**P**	**02 25 44.0**	**-1.2**
NVS				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.2						
NVS				pmax	pmax		
	comp=N,12nm,0.7s						
NVS				pmax	pmax		
	comp=E,23nm,1.0s						
JOF	**Joensuu**	**57.23**	**357**	*e*p	**P**	**02 25 48.1**	**-0.6**
	comp=E,3.1nm,0.7s,mb4.2						
JOF	**Joensuu**	**57.23**	**357**	*e*P	**P**	**02 25 48.1**	**-0.6**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
HHC	**Hu-ho-hao-te**	**57.78**	**297**	*e*P	**P**	**02 25 53.3**	**+0.8**
HHC				AP	pP	02 26 30.5	+0.9
HHC				XP	sP	02 26 48.6	+1.5
HHC				PP	PP	02 28 04.1	+1.8
HHC				S	**S**	**02 33 35.4**	**-3.6**
HHC				XS	sS	02 34 39.6	-3.8
HHC				SCS	ScS	02 35 22.6	-3.5
HHC				SS	SS	02 37 26.1	-6.0
HHC				AMB	AMB		
	comp=Z,30nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,80nm,3.9s						
HHC				LR	LR		
	comp=N,80nm,16.6s						
HHC				LR	LR		
	comp=E,80nm,19.0s						
HHC				LR	LR		
	comp=Z,80nm,14.3s						
KAF	**Kangasniemi**	**58.10**	**360**	*e*p	**P**	**02 25 53.7**	**-1.0**
	comp=Z,2.0nm,0.4s,mb4.3						
KAF	**Kangasniemi**	**58.10**	**360**	*e*P	**P**	**02 25 53.7**	**-1.0**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
SOKR	**Solikamsk**	**58.30**	**342**⇓	*i*P	**P**	**02 25 55.3**	**-0.8**
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
NB2	**NORSAR Subarra**	**58.62**	**8**	P	**P**	**02 25 57.2**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.8,baz=352,slow=6.9						
NB2	**NORSAR Subarra**	**58.62**	**8**	P	**P**	**02 25 57.2**	**-1.1**
NB2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
NOA	**NORSAR Array B**	**58.62**	**8**	P	**P**	**02 25 58.0**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.6,baz=352,slow=6.8,SNR=4.9						
NOA				pP	pP	02 26 34.1	-1.4
	comp=Z,1.6nm,0.8s,baz=352,slow=6.9,SNR=4.4						
FINES	**FINESS Array B**	**58.77**	**0**	P	**P**	**02 25 58.4**	**-1.0**
	comp=Z,2.9nm,0.8s,mb4.2,baz=9.6,slow=7.2,SNR=15						
FINES				ScP	ScP	02 30 29.6	-2.9
	comp=Z,1.1nm,1.0s,baz=36,slow=7.1,SNR=3.6						
FINES	**FINESS Array B**	**58.77**	**0**	*i*P	**P**	**02 25 58.4**	**-1.0**
FINES				pmax	pmax		
	comp=Z,30nm,0.8s						
KLMR	**Klimovskoe**	**58.93**	**352**	*e*P	**P**	**02 25 59.8**	**-0.6**
ARU	**Arti**	**61.01**	**340***c*	*i*P	**P**	**02 26 14.0**	**-0.6**
ARU				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.3						
ARU	**Arti**	**61.01**	**340**	*e*P	**P**	**02 26 13.9**	**-0.7**
	comp=Z,37nm,0.8s,mb5.3						
CHKZ	**Chkalovo**	**61.13**	**332**	*e*P	**P**	**02 26 14.7**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,41nm,0.6s,mb5.4						
CHKZ	**Chkalovo**	**61.13**	**332**	*e*P	**P**	**02 26 14.7**	**-0.7**
	comp=Z,42nm,0.6s,mb5.4						
SSE	**Sheshan**	**61.18**	**283**	P	**P**	**02 26 16.8**	**+1.0**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,60nm,3.9s						
NJ2	**Nanjing**	**61.53**	**285**	*e*P	**P**	**02 26 18.5**	**+0.4**
NJ2				PCP	PcP	02 26 58.0	-0.4
NJ2				AP	pP	02 26 59.4	+3.7
NJ2				S	**S**	**02 34 21.0**	**-6.0**
NJ2				XS	sS	02 35 32.0	-0.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,140nm,7.0s						
NJ2				LR	LR		
	comp=N,520nm,25.8s						
NJ2				LR	LR		
	comp=E,390nm,21.8s						
NJ2				LR	LR		
	comp=Z,440nm,37.9s						
KURK	**Kurchatov**	**61.72**	**325**	P	**P**	**02 26 19.2**	**-0.1**
	SNR=9.0						
KURK	**Kurchatov**	**61.72**	**325***c*	*i*P	**P**	**02 26 19.0**	**-0.3**
KURK	**Kurchatov**	**61.72**	**325**	*e*P	**P**	**02 26 18.8**	**-0.6**
	comp=Z,20nm,0.8s,mb5.0						
KURK				*e*pP	pP	02 26 55.8	-1.1
KURK				*e*PcP	PcP	02 26 58.2	-0.9
BRVK	**Borovoye**	**61.78**	**332**	P	**P**	**02 26 19.8**	**0.0**
	SNR=13						
BRVK	**Borovoye**	**61.78**	**332**	*e*P	**P**	**02 26 19.3**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.1						
BRVK	**Borovoye**	**61.78**	**332**	*e*P	**P**	**02 26 19.3**	**-0.5**
	comp=Z,26nm,0.8s,mb5.1						
BVAR	**Borovoye Array**	**61.78**	**331**	P	**P**	**02 26 19.7**	**-0.1**
	comp=Z,39nm,0.6s,mb5.4,baz=31,slow=6.7,SNR=219						
ZRNK	**Zerenda**	**62.18**	**332**	*e*P	**P**	**02 26 21.9**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,53nm,0.7s,mb5.5						
ZRNK	**Zerenda**	**62.18**	**332**	*e*P	**P**	**02 26 21.9**	**-0.6**
	comp=Z,53nm,0.7s,mb5.5						
GTA	**Gaotai**	**64.04**	**304**	⇑P	**P**	**02 26 34.8**	**+0.1**
GTA				PP	PP	02 28 55.8	-1.7
GTA				S	**S**	**02 34 54.3**	**-4.0**
GTA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GTA				AMB	AMB		
	comp=Z,50nm,3.4s						
MKAR	**Makanchi Array**	**64.10**	**321**	P	**P**	**02 26 34.6**	**-0.4**
	comp=Z,8.5nm,0.7s,mb4.7,baz=46,slow=6.9,SNR=41						
XAN	**Xi'an**	**64.57**	**294**	P	**P**	**02 26 38.0**	**-0.1**
XAN				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
WMQ	**Urumqi**	**64.91**	**315**	P	**P**	**02 26 41.3**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,90nm,4.0s						
WMQ				LR	LR		
	comp=N,30nm,20.0s						
WMQ				LR	LR		
	comp=E,30nm,20.0s						
WMQ				LR	LR		
	comp=Z,20nm,22.0s						
WHN	**Wuhan**	**64.94**	**288**	⇓P	**P**	**02 26 40.8**	**+0.3**
LZH	**Lanzhou**	**65.12**	**299**	*e*P	**P**	**02 26 41.0**	**-0.7**
LZH				PP	PP	02 29 06.6	-0.4
LZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,540nm,6.1s						
ORR	**Orenburg**	**66.27**	**341**⇓	*i*P	**P**	**02 26 48.6**	**-0.5**
ORR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
AKTK	**Aktyubinsk**	**66.85**	**338**	P	**P**	**02 26 52.2**	**-0.5**
AKTO	**Aktyubinsk**	**66.85**	**338**	P	**P**	**02 26 52.2**	**-0.5**
	comp=Z,14nm,0.6s,mb5.0,baz=28,slow=7.1,SNR=76						
PVCC	**Panska Ves**	**69.31**	**8**	*e*pP	pP	02 27 47.4	+0.9
UPC	**Upice**	**69.43**	**7**	*e*pP	pP	02 27 44.5	-2.7
NKC	**Novy Kostel**	**69.45**	**9**	*e*pP	pP	02 27 48.1	+0.8
AKASG	**Malin Array Be**	**69.52**	**358**	P	**P**	**02 27 08.1**	**-1.3**
	comp=Z,2.7nm,0.5s,mb4.2,baz=4.7,slow=6.2,SNR=20						
AKASG	**Malin Array Be**	**69.52**	**358**	*i* P	**P**	**02 27 08.1**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,30nm,0.5s						
AKASG	**Malin Array Be**	**69.52**	**358**	P	**P**	**02 27 08.1**	**-1.3**
CD2	**Chengdu**	**69.54**	**296**⇑	*i*P	**P**	**02 27 09.1**	**-0.4**
CD2				AP	pP	02 27 47.8	-0.1
CD2				XP	sP	02 28 05.3	+0.2
CD2				PP	PP	02 29 46.5	+1.2
CD2				XS	sS	02 37 07.8	-3.1
CD2				SS	SS	02 40 31.9	-3.2
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
CD2				AMB	AMB		
	comp=Z,150nm,5.9s						
DPC	**Dobruska-Polom**	**69.60**	**7**	*e*pP	pP	02 27 49.5	+1.2
DPC				*e*x	x	02 27 59.1	
TKM2	**Tokmak 2**	**69.65**	**324**	P	**P**	**02 27 10.7**	**+0.5**
	SNR=14						
USP	**Ospenovka**	**69.66**	**324**	P	**P**	**02 27 10.5**

GNI					pmax	pmax		
	comp=Z,9.0nm,1.5s							
GUN	**Gumba**	**79.68**	**309**	*e*P		**P**	**02 28 08.4**	**+0.5**
	comp=Z,65nm,0.9s,mb5.3							
JIRN	**Jiri**	**79.78**	**309**	*e*P		**P**	**02 28 09.1**	**+0.6**
KKN	**Kakani**	**80.02**	**310**	*e*P		**P**	**02 28 10.2**	**+0.5**
	comp=Z,29nm,0.5s,mb5.1							
GKN	**Gorkha**	**80.08**	**310**	*e*P		**P**	**02 28 09.9**	**-0.1**
	comp=Z,68nm,0.8s,mb5.3							
PKI	**Pulchoki**	**80.17**	**309**	*e*P		**P**	**02 28 10.5**	**0.0**
	comp=Z,42nm,0.6s,mb5.2							
DMN	**Daman**	**80.25**	**310**	*e*P		**P**	**02 28 11.3**	**+0.3**
	comp=Z,51nm,0.7s,mb5.3							
BR131	**Keskin Array S**	**80.33**	**354**	*e*P		**P**	**02 28 11.0**	**-0.4**
	comp=Z,3.6nm,0.9s,mb4.0							
BRTR	**Keskin Array B**	**80.33**	**354**	P		**P**	**02 28 11.1**	**-0.3**
	comp=Z,1.6nm,0.6s,mb3.9,baz=3.9,slow=3.5,SNR=13							
KOLN	**Koldanda**	**80.68**	**311**	*e*P		**P**	**02 28 13.3**	**0.0**
	comp=Z,61nm,0.8s,mb5.3							
TIP	**Timpagrande**	**80.76**	**7**	*e*P		**P**	**02 28 13.5**	**-0.2**
MALT	**Malatya**	**81.41**	**350**	*e*P		**P**	**02 28 17.6**	**+0.5**
MALT					pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9							
MALT	**Malatya**	**81.41**	**350**	*e*P		**P**	**02 28 17.6**	**+0.5**
	comp=Z,2.6nm,1.0s,mb3.8							
NDI	**New Delhi**	**82.16**	**316**	*e*P		**P**	**02 28 20.0**	**-1.1**
KKM	**Kota Kinabalu**	**84.81**	**273**	*e*P		**P**	**02 28 34.7**	**+0.2**
WSAR	**Wadi Sarin**	**92.83**	**330**	P		**P**	**02 29 12.0**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.6,baz=127,slow=9.4,SNR=4.4							
KMBO	**Kilima Mbogo**	**120.56**	**347**	PKP		PKPdf	02 34 50.1	-0.6
	comp=Z,0.8nm,0.6s,baz=34,slow=7.3,SNR=6.7							
PLCA	**Paso Flores**	**121.18**	**118**	PKP		PKPdf	02 34 50.2	-1.6
	comp=Z,0.6nm,0.6s,baz=350,slow=6.1,SNR=3.4							
TRQA	**Tornquist**	**122.94**	**110**	*e*PKPdf		PKPdf	02 34 53.9	-1.4
LSZ	**Lusaka**	**135.21**	**357**	*e*PKIKP		PKPdf	02 35 18.6	0.0
CASY	**Casey**	**144.25**	**224**	*e*PKPdf		PKPdf	02 35 30.3	-4.7
LBTB	**Lobatse**	**144.92**	**1**	PKPbc		PKPdf	02 35 35.0	-1.1
	comp=Z,17nm,0.7s,baz=2.4,slow=2.6,SNR=27							
LBTB	**Lobatse**	**144.92**	**1**	*e*PKPdf		PKPdf	02 35 34.8	-1.3
BOSA	**Boshof**	**148.50**	**2**	PKPbc		PKPbc	02 35 44.7	-1.2
	comp=Z,14nm,0.6s,baz=17,slow=2.2,SNR=50							
BOSA	**Boshof**	**148.50**	**2**	*e*PKPbc		PKPbc	02 35 44.4	-1.5
QSPA	**South Pole Qui**	**149.91**	**180**	*e*PKPdf		PKPdf	02 35 40.7	-3.7
QSPA				*e*PKPbc		PKPbc	02 35 46.8	-2.5
MAW	**Mawson**	**162.45**	**229**	PKPab		PKPab	02 36 46.2	-3.1
	comp=Z,4.9nm,0.9s,baz=91,slow=3.3,SNR=10							

*ISCJB **25** 02:30:12.9±0.7, 20N±01×9663E±009, h22km, mb4.3/20, MS3.7/1, Error ellipse: s-maj=17.9km s-min=9.9km az=78.3*
*NEIC **25** 02:30:14.6±0.5, 202N×9659E, mb4.3/6, Error ellipse: s-maj=12.2km s-min=7.5km az=220.0*
*IDC **25** 02:30:19.0±5.8, 211N×9678E, h54km±47km, mb3.8/9, mb1 3.9/10, mb1mx3.7/20, mbtmp4.0/10, ML3.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/20, Error ellipse: s-maj=54.1km s-min=18.3km az=56.0*

ISC 25 02:30:15.4±0.7, 20N±01×9665E±010, h24km, h24km±1.8km: pP-P, n22, σ0s77/22, mb4.3/20, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.40**	**71**	P		**Pn**	**02 30 53.6**	**+0.5**
	5.8nm,0.3s,baz=267,slow=8.9,SNR=33						
KULM	**Kulim**	**5.14**	**51**	*e*Pn		**Pn**	**02 31 31.1**	**+0.2**
KULM				*e*pPn			02 31 38.8	
JIRN	**Jiri**	**27.39**	**340**	*e*P		**P**	**02 36 00.2**	**+1.3**
	10.0nm,0.4s,mb4.7							
GUN	**Gumba**	**27.73**	**339**	*e*P		**P**	**02 36 03.0**	**+1.1**
	25nm,0.6s,mb5.0							
KKN	**Kakani**	**27.84**	**338**	*e*P		**P**	**02 36 03.6**	**+0.7**
	7.3nm,0.4s,mb4.6							
GKN	**Gorkha**	**28.27**	**337**	*e*P		**P**	**02 36 07.8**	**+1.0**
	7.1nm,0.3s,mb4.7							
KOLN	**Koldanda**	**28.49**	**335**	*e*P		**P**	**02 36 10.0**	**+1.3**
	20nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**42.93**	**122**	P		**P**	**02 38 12.5**	**+0.3**
	3.7nm,0.7s,mb4.2,baz=301,slow=9.1,SNR=15							
WRAB	**Tennant Creek**	**42.94**	**122**	*e*P		**P**	**02 38 12.4**	**+0.2**
	4.9nm,0.7s,mb4.3							
ASAR	**Alice Springs**	**44.32**	**127**	P		**P**	**02 38 23.5**	**+0.1**
	1.5nm,1.0s,mb3.7,baz=311,slow=7.2,SNR=8.4							
ASAR				LR		LR	02 59 15.8	
	comp=Z,101nm,19.9s,MS3.7,baz=193,slow=39							
MKAR	**Makanchi Array**	**46.32**	**346**	P		**P**	**02 38 38.8**	**-0.5**
	4.0nm,0.6s,mb4.5,baz=161,slow=8.4,SNR=45							
SONM	**Songino Array**	**46.41**	**9**	P		**P**	**02 38 39.3**	**-0.7**
	1.1nm,0.3s,mb4.2,baz=164,slow=6.5,SNR=12							
ULN	**Ulaanbaatar**	**46.54**	**10**	*e*P		**P**	**02 38 40.5**	**-0.5**
	2.2nm,0.8s,mb4.1							
ULN				*e*pP		pP	02 38 47.9	-0.5
KURK	**Kurchatov**	**50.86**	**345**	*e*P		**P**	**02 39 13.6**	**-0.6**
	3.4nm,1.0s,mb4.2							
KURK				*e*pP		pP	02 39 20.6	-1.0
MJAR	**Matsushiro Arr**	**51.46**	**43**	P		**P**	**02 39 18.0**	**-0.8**
	1.8nm,1.0s,mb4.0,baz=232,slow=7.7,SNR=5.9							
ZAL	**Zalesovo**	**52.66**	**351**	P		**P**	**02 39 27.6**	**-0.1**
	4.0nm,0.5s,mb4.6,baz=281,slow=5.1,SNR=13							
CTAO	**Charters Tower**	**53.36**	**117**	*e*P		**P**	**02 39 33.0**	**+0.2**
	23nm,1.3s,mb4.9							
CTAO				*e*pP		pP	02 39 37.6	-2.6
ZRNK	**Zerenda**	**55.70**	**340**	*e*P		**P**	**02 39 48.3**	**-1.5**
	2.0nm,0.8s,mb4.2							
ZRNK				*e*pP		pP	02 39 55.7	-1.5
CHKZ	**Chkalovo**	**55.78**	**342**	*e*P		**P**	**02 39 49.1**	**-1.2**
	3.0nm,0.6s,mb4.5							
CHKZ				*e*pP		pP	02 39 56.7	-1.1
FINES	**FINESS Array B**	**79.02**	**333**	P		**P**	**02 42 16.6**	**-0.8**
	0.4nm,0.4s,mb3.7,baz=111,slow=6.6,SNR=16							
ARCES	**ARCESS Array B**	**81.58**	**340**	P		**P**	**02 42 30.6**	**-0.6**
	0.8nm,0.4s,mb4.0,baz=100,slow=4.9,SNR=22							
GERES	**GERESS Array B**	**83.84**	**319**	P		**P**	**02 42 43.4**	**+0.5**
	1.0nm,1.1s,mb3.9,baz=79,slow=7.2,SNR=4.2							

GUC 25 02:43:24.4±0.6, 3395S×7238W, h31km±5km, MD3.5, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.80**	**91**	||*i*P	Pn	02 43 39.4	-0.2
LNV				*i* S		Sn	02 43 50.3	-0.2
CHCH	**Chadas Angostu**	**1.44**	**90**	*e*P		Pn	02 43 49.4	+1.1
CHCH				*i* S		Sn	02 44 07.9	+1.9
CACH	**El Canelo**	**1.49**	**97**	*e*P		Pn	02 43 50.1	+1.2
CACH				*i* S		Sn	02 44 10.8	+3.5
CICH	**Cipreses**	**1.67**	**103**	*i* S		Sn	02 44 15.0	+3.3

*CSEM **25** 03:05:22.4, 3582N×2329E, h18km, MD3.4/9, After ATH*
*NEIC **25** 03:05:22.4, 3582N×2329E, h18km, MD3.4(ATH), After ATH.*

ATH 25 03:05:22.4, 3581N×2327E, h17km±2km, MD3.4/9, ML3.6, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.51**	**338**	*e*PN		Pg	03 05 32.3	-0.2
KYTH				*e*SN		Sg	03 05 39.5	+0.1
VAM	**Vamos**	**0.86**	**118**	*e*PN		Pn	03 05 39.3	-0.4
VAM				*e*SN		Sn	03 05 51.5	-0.3
VLI	**Veliai**	**0.94**	**344**	||*i*PN	Pn	03 05 40.4	-0.5
VLI				*e*SN		Sn	03 05 52.8	-1.2
GVD	**Gavdhos**	**1.18**	**145**	*e*PN		Pn	03 05 44.5	+0.4
ITM	**Ithomi**	**1.74**	**322**	*e*PN		Pn	03 05 54.3	+2.4
NAIG	**Nisos Aigina**	**1.95**	**5**	*e*PN		Pn	03 05 57.0	+2.3
NPS	**Neapolis**	**1.99**	**105**	*e*PB		Pb	03 05 56.1	-2.0
ATH	**Athens Observa**	**2.19**	**9**	*e*PB		Pb	03 05 59.7	-1.8
RLS	**Riolos of Patr**	**2.67**	**328**	*e*PN		Pn	03 06 06.9	+2.3
LKR	**Lokris**	**2.84**	**356**	*e*PN		Pn	03 06 08.3	+1.3
EVR	**Evrytania**	**3.31**	**340**	*e*PN		Pn	03 06 15.9	+2.5

*NEIC **25** 03:10:12.3±0.7, 605N×94.17E, h30km, mb4.1/6, Error ellipse: s-maj=24.9km s-min=8.1km az=225.0*
*ISCJB **25** 03:10:16.0±3.0, 6.1N±02×945E±02, h80km±26km, mb3.9/15, Error ellipse: s-maj=42.0km s-min=15.7km az=114.3*
*IDC **25** 03:10:16.9±4.7, 608N×9439E, h72km±43km, mb3.6/9, mb1 3.8/10, mb1mx3.5/22, mbtmp3.9/10, ML4.3/1, Error ellipse: s-maj=50.4km s-min=17.8km az=55.0*

ISC 25 03:10:17.8±2.6, 62N±02×945E±02, h76km±23km, n18, σ0s27/18, mb3.9/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.57**	**127**	P		**Pn**	**03 11 38.2**	**+0.2**
	8.9nm,0.3s,baz=298,slow=10,SNR=30						
PSI	**Prapat**	**5.57**	**127**	P		**Pn**	**03 11 38.2**	**+0.2**
KULM	**Kulim**	**6.22**	**98**	*e*Pn		**Pn**	**03 11 46.6**	**-0.3**
MKAR	**Makanchi Array**	**41.80**	**347**	P		**P**	**03 18 00.1**	**+0.2**
	1.5nm,0.6s,mb3.9,baz=167,slow=8.1,SNR=20						
SONM	**Songino Array**	**42.74**	**12**	P		**P**	**03 18 07.8**	**+0.4**
	1.3nm,0.6s,mb3.9,baz=197,slow=8.5,SNR=12						
ULN	**Ulaanbaatar**	**42.91**	**12**	*e*P		**P**	**03 18 08.4**	**-0.3**
	1.5nm,0.6s,mb3.9						
KURK	**Kurchatov**	**46.32**	**346**	*e*P		**P**	**03 18 36.1**	**+0.1**
	1.5nm,0.7s,mb3.8						
WRA	**Warramunga Arr**	**47.03**	**124**	P		**P**	**03 18 41.4**	**-0.1**
	1.1nm,0.5s,mb3.8,baz=306,slow=8.8,SNR=5.7						
WRAB	**Tennant Creek**	**47.03**	**124**	*e*P		**P**	**03 18 41.7**	**+0.2**
	2.8nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**48.59**	**129**	P		**P**	**03 18 53.5**	**0.0**
	0.6nm,0.5s,mb3.8,baz=303,slow=7.8,SNR=20						
BVAR	**Borovoye Array**	**50.69**	**341**	P		**P**	**03 19 09.7**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=136,slow=9.2,SNR=6.9						
BRVK	**Borovoye**	**50.75**	**341**	*e*P		**P**	**03 19 10.0**	**+0.1**
	1.3nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**51.08**	**340**	*e*P		**P**	**03 19 12.0**	**-0.3**
	1.7nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**51.17**	**342**	*e*P		**P**	**03 19 13.4**	**+0.3**
	2.2nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**63.78**	**311**	P		**P**	**03 20 41.4**	**-0.3**
	0.5nm,0.8s,mb3.4,baz=120,slow=7.3,SNR=3.6						
FINES	**FINESS Array B**	**74.35**	**332**	P		**P**	**03 21 46.8**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=102,slow=5.1,SNR=13						
ARCES	**ARCESS Array B**	**76.96**	**340**	P		**P**	**03 22 01.6**	**-0.4**
	2.8nm,0.9s,mb4.0,baz=98,slow=5.0,SNR=7.9						
GERES	**GERESS Array B**	**79.30**	**318**	P		**P**	**03 22 15.3**	**+0.3**
	0.8nm,0.7s,mb3.7,baz=94,slow=4.0,SNR=11						

*IDC **25** 03:22:42.6±8.4, 5457N×16935W, h263km±63km, mb3.4/8, mb1 3.6/9, mb1mx3.2/25, mbtmp4.0/9, Error ellipse: s-maj=66.8km s-min=22.9km az=41.0*
*ISCJB **25** 03:22:43.2±0.5, 5451N±008×1693W±01, h289km±4km, mb3.5/21, Error ellipse: s-maj=12.9km s-min=10.0km az=135.3*
*NEIC **25** 03:22:44.0±0.3, 5448N×16930W, h284km±2km, mb3.7/18, Error ellipse: s-maj=6.2km s-min=4.8km az=162.0*

ISC 25 03:22:43.9±0.5, 5452N±008×1693W±01, h284km±4km, n46, σ0s53/48, mb3.5/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKCE	**Okmok Cone E**	**1.29**	**147**	P		**Pn**	**03 23 24.1**	**+0.1**
OKCD	**Okmok Cone D**	**1.30**	**146**	P		**Pn**	**03 23 24.3**	**+0.2**
NIKO	**Nikolski**	**1.57**	**170**	P		**Pn**	**03 23 25.2**	**-0.7**
UNV	**Unalaska Valle**	**1.79**	**111**	P		**Pn**	**03 23 27.2**	**-0.2**
AKGG	**Akutan Green G**	**1.98**	**98**	P		**Pn**	**03 23 29.4**	**+0.5**
AKGG				S		**S**	**03 24 04.7**	**-0.1**
AKUT	**Akutan**	**2.12**	**99**	*e*Pn		**Pn**	**03 23 29.8**	**-0.4**
SPIA	**Saint Paul Isl**	**2.72**	**349**	*e*Pn		**Pn**	**03 23 39.3**	**+3.6**
ATKA	**Atka Island**	**3.73**	**233**	P		**Pn**	**03 23 46.6**	**+0.4**
SDPT	**Sand Point**	**5.17**	**77**	*e*Pn		**Pn**	**03 24 02.4**	**-0.3**
SVW2	**Sparrevohn**	**9.85**	**42**	*e*Pn		**Pn**	**03 25 01.6**	**+1.5**
KDAK	**Kodiak Island**	**9.89**	**64**	P		**Pn**	**03 24 59.9**	**-0.8**
	2.3nm,0.3s,baz=215,slow=4.3,SNR=14						
KDAK				S		**S**	**03 26 45.4**	**-6.9**
	0.7nm,0.3s,baz=136,slow=24,SNR=6.9						
TTA	**Tatalina**	**10.89**	**34**	*e*Pn		**Pn**	**03 25 12.7**	**-0.3**
	9.0nm,1.0s						
TTA				*e*P			03 25 16.1	
SLKM	**Skilak Lake**	**11.87**	**52**	*e*Pn		**Pn**	**03 25 25.6**	**+0.6**
SML	**Sawmill**	**13.22**	**48**	*e*Pn		**Pn**	**03 25 41.7**	**+0.2**
MCK	**McKinley**	**13.89**	**40**	*e*Pn		**Pn**	**03 25 48.8**	**-0.8**
DIV	**Divide**	**14.13**	**53**	*e*P		**Pn**	**03 25 52.2**	**-0.2**
	17nm,0.5s						
COLA	**College**	**14.91**	**37**	*e*P		**Pn**	**03 26 01.2**	**-0.5**
	4.1nm,0.9s						
DAWY	**Dawson**	**17.85**	**46**	*e*P		**P**	**03 26 32.9**	**+0.1**
INK	**Inuvik**	**21.56**	**36**	P		**P**	**03 27 11.7**	**+0.6**
	7.9nm,0.7s,mb4.1,baz=238,slow=9.1,SNR=36						
INK	**Inuvik**	**21.56**	**36**	*e*P		**P**	**03 27 10.8**	**-0.3**
	7.7nm,0.7s,mb4.1						
DLBC	**Dease Lake**	**21.83**	**64**	P		**P**	**03 27 14.9**	**+1.4**
	2.4nm,0.5s,mb3.8,baz=194,slow=3.9,SNR=8.0						
DLBC	**Dease Lake**	**21.83**	**64**	*e*P		**P**	**03 27 14.2**	**+0.7**
EDM	**Edmonton**	**32.29**	**69**	*e*P		**P**	**03 28 46.4**	**-0.2**
NEW	**Newport**	**32.52**	**79**	P		**P**	**03 28 49.4**	**+0.8**
	4.8nm,0.6s,mb4.2,baz=310,slow=7.6,SNR=10						
NEW	**Newport**	**32.52**	**79**	*e*P		**P**	**03 28 48.6**	**+0.1**
	3.9nm,0.5s,mb4.2						
WALA	**Waterton Lakes**	**33.94**	**76**	*e*P		**P**	**03 29 00.8**	**+0.1**
	5.9nm,1.4s,mb3.9						
MSO	**Missoula**	**35.11**	**79**	*e*P		**P**	**03 29 11.0**	**+0.3**
	1.3nm,0.5s,mb3.7						
HLID	**Hailey**	**36.72**	**84**	*e*P		**P**	**03 29 24.7**	**+0.4**
	1.2nm,0.6s,mb3.5						
BOZ	**Bozeman (W)**	**37.10**	**79**	*e*P		**P**	**03 29 27.6**	**+0.1**
	1.9nm,0.7s,mb3.6						
NVAR	**Mina Array Bea**	**37.73**	**94**	P		**P**	**03 29 33.0**	**+0.2**
	0.6nm,0.7s,mb3.1,baz=300,slow=8.9,SNR=3.9						
HWUT	**Hardware Ranch**	**39.58**	**85**	*e*P		**P**	**03 29 48.1**	**+0.1**
	1.9nm,0.7s,mb3.5						
DUG	**Dugway**	**39.76**	**87**	*e*P		**P**	**03 29 49.5**	**0.0**
	2.3nm,0.8s,mb3.6						
TPNV	**Topopah Spring**	**39.93**	**94**	*e*P		**P**	**03 29 51.2**	**+0.4**
	1.2nm,0.7s,mb3.3						
BW06	**Boulder Array**	**40.02**	**82**	*e*P		**P**	**03 29 51.6**	**0.0**
	2.1nm,0.8s,mb3.5						
PDAR	**Pinedale Array**	**40.02**	**82**	P		**P**	**03 29 51.9**	**+0.3**
	1.6nm,0.7s,mb3.5,baz=311,slow=4.5,SNR=14						
RSSD	**Black Hills**	**42.34**	**76**	*e*P		**P**	**03 30 10.1**	**-0.3**
	1.3nm,0.5s,mb3.4						
ULM	**Lac du Bonnet**	**43.15**	**64**	P		**P**	**03 30 16.2**	**-0.7**
	0.7nm,0.7s,mb3.0,baz=281,slow=6.0,SNR=3.4						
PV01	**Paradox Valley**	**43.60**	**86**	*e*P		**P**	**03 30 20.4**	**0.0**
JCT	**Junction City**	**54.12**	**87**	*e*P		**P**	**03 31 39.0**	**-1.0**
	2.5nm,0.6s,mb3.7						
KURK	**Kurchatov**	**60.79**	**318**	*e*P		**P**	**03 32 26.5**	**+0.2**
	0.6nm,0.5s,mb3.4						
BRVK	**Borovoye**	**61.98**	**324**	*e*P		**P**	**03 32 34.0**	**-0.2**
	0.6nm,0.5s,mb3.5						
ZRNK	**Zerenda**	**62.51**	**325**	*e*P		**P**	**03 32 37.7**	**0.0**
	1.1nm,0.6s,mb3.7						
FINES	**FINESS Array B**	**63.74**	**352**	P		**P**	**03 32 45.0**	**-0.7**
	1.0nm,0.9s,mb3.5,baz=359,slow=5.7,SNR=5.5						
FINES	**FINESS Array B**	**63.74**	**352**	P		**P**	**03 32 45.0**	**-0.7**
NB2	**NORSAR Subarra**	**64.79**	**360**	P		**P**	**03 32 52.1**	**-0.4**
	comp=Z,0.1nm,0.8s,mb2.5,baz=1.3,slow=6.2							
NOA	**NORSAR Array B**	**64.79**	**360**	P		**P**	**03 32 51.9**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.5,baz=0.5,slow=6.3,SNR=4.4							

*CSEM **25** 03:28:49.7±1.0, 3913N×2849W, h0km±5km, ML2.2, Error ellipse: s-maj=5.5km s-min=2.2km az=148.0, After PDA*
*PDA **25** 03:28:49.7±1.0, 3913N×2849W, h0km±5km, MD3.2, ML2.2, Error ellipse: s-maj=5.5km s-min=2.2km az=148.0*

SVSA 25 03:28:49.7±1.0, 3913N×2849W, h0km±5km, MD3.2, ML2.2, Error ellipse: s-maj=5.5km s-min=2.2km az=148.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVIA	**Vitoria**	**0.35**	**100**	*e*S		Sg	03 29 01.7	+0.8
PVIA							
	31nm,0.2s						
SRBC	**Serra Branca**	**0.36**	**105**	*i* P		Pg	03 28 56.4	-0.3
SRBC				*e*S		Sg	03 29 01.6	+0.2
SRBC	**Serra Branca**	**0.36**	**105**	*e*S		Sg	03 29 01.6	+0.2
STGR	**Santa Cruz**	**0.38**	**98**	*e*P		Pg	03 28 57.2	+0.1
STGR				*e*S		Sg	03 29 02.5	+0.5
STGR							
	87nm,0.1s						
STGR	**Santa Cruz**	**0.38**	**98**	*e*P		Pg	03 28 57.2	+0.1
STGR				*e*S		Sg	03 29 02.5	+0.5
PLUZ	**Luz**	**0.40**	**253**	*e*P		Pg	03 28 57.7	+0.4
PLUZ				*e*S		Sg	03 29 03.5	+1.1
PLUZ							
	120nm,0.2s						
PGRA	**Graciosa**	**0.41**	**104**	*i* P		Pg	03 28 56.9	-0.7
PGRA				*i* S		Sg	03 29 02.8	-0.1
PGRA							
	284nm,0.3s						
PGRA	**Graciosa**	**0.41**	**104**	*i* S		Sg	03 29 02.8	-0.1
ROSA	**Rosais**	**0.46**	**155**	*i* P		Pg	03 28 58.0	-0.4
ROSA				*e*S		Sg	03 29 04.0	-0.4
ROSA	**Rosais**	**0.46**	**155**	*e*S		Sg	03 29 04.0	-0.4
PAMA	**Santo Amaro**	**0.51**	**152**	*e*P		Pg	03 28 59.1	-0.4
PAMA				*e*S		Sg	03 29 06.3	+0.1
PAMA							
	31nm,0.1s						
PCED	**Cedros**	**0.53**	**198**	*i* P		Pg	03 28 59.2	-0.6
PCED				*e*S		Sg	03 29 06.6	-0.1
PCED							
	190nm,0.3s						
PCED	**Cedros**	**0.53**	**198**	*e*S		Sg	03 29 06.6	-0.1
CALA	**Caldeira**	**0.57**	**197**	*i* P		Pg	03 29 00.2	-0.5
PMAN	**Manadas**	**0.59**	**148**	*e*S		Sg	03 29 07.9	-0.7
PMAN							
	168nm,0.1s						
PTCA	**Ponta do Capel**	**0.60**	**204**	*e*P		Pg	03 29 00.4	-0.7
PTCA				*e*S		Sg	03 29 08.1	-0.8
PTCA							
	34nm,0.2s						
PTCA	**Ponta do Capel**	**0.60**	**204**	*e*P		Pg	03 29 00.4	-0.7
PTCA				*e*S		Sg	03 29 08.1	-0.8
HOR	**Horta**	**0.61**	**190**	*i* P		Pg	03 29 00.4	-1.1
HOR				*e*S		Sg	03 29 09.1	-0.3
HOR	**Horta**	**0.61**	**190**	*e*S		Sg	03 29 09.1	-0.3
PICO	**Pico**	**0.63**	**175**	*e*P		Pg	03 29 00.9	-0.9
PICO				*e*S		Sg	03 29 09.7	-0.3
PTEI	**Pico do Teixo**	**0.65**	**171**	*e*S		Sg	03 29 09.6	-0.8
PTEI							
	30nm,0.3s						
PCND	**Candelaria**	**0.66**	**178**	*e*P		Pg	03 29 01.3	-1.1
PCND				*e*S		Sg	03 29 10.2	-0.8
PCND							
	71nm,0.2s						
PBOI	**Pico dos Bois**	**0.70**	**172**	*e*S		Sg	03 29 10.8	-1.4
PBOI							
	20nm,0.2s						
PID	**Ribeirinha**	**0.75**	**157**	*e*P		Pg	03 29 03.1	-0.9
PID				*e*S		Sg	03 29 12.3	-1.4
PIED	**Piedade**	**0.79**	**154**	*e*S		Sg	03 29 13.4	-1.7
PSBA	**Serra de Santa**	**0.98**	**111**	*i* P		Pg	03 29 05.7	-2.8
PSBA				*e*S		Sg	03 29 17.9	-3.3
PSBA							
	36nm,0.4s						
ASBA	**Santa Barbara**	**1.00**	**114**	*e*S		Sg	03 29 18.7	-3.1
ASBA							
	15nm,0.1s						

*ISCJB **25** 03:30:04.5±1.1, 552S±004×14687E±007, h96km±10km, mb4.6/35, Error ellipse: s-maj=11.7km s-min=5.8km az=25.5*
*IDC **25** 03:30:06.5±1.7, 564S×14677E, h97km±16km, mb4.3/14, mb1 4.4/16, mb1mx4.4/18, mbtmp4.7/16, MS3.4/5, Ms1 3.4/5, ms1mx3.0/23, Error ellipse: s-maj=15.7km s-min=8.4km az=97.0*
*BJI **25** 03:30:07.0, 491S×14684E, h86km, mB4.9, mb5.0, Ms4.3, Msz4.0*
*NEIC **25** 03:30:07.7±1.1, 559S×14683E, h109km±10km, mb4.6/18, Error ellipse: s-maj=9.0km s-min=6.0km az=82.0*

ISC 25 03:30:08.4±1.0, 562S±004×14683E±007, h116km±10km, n71, σ0s99/72, mb4.6/35, 1C-3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.78**	**175**	P		**Pn**	**03 31 03.7**	**-1.2**
	83nm,0.3s,baz=336,slow=5.9,SNR=230						
PMG				S		**Sn**	**03 31 45.4**	**-3.1**
	170nm,0.3s,baz=32,slow=13,SNR=6.0						
PMG	**Port Moresby**	**3.78**	**175**	*e*Pn		**Pn**	**03 31 03.6**	**-1.3**
PMG				*e*Sn		**Sn**	**03 31 46.0**	**-2.6**
CTA	**Charters Tower**	**14.39**	**182**	LR		LR	03 38 16.4	
	comp=Z,92nm,21.4s,baz=18,slow=34							
CTAO	**Charters Tower**	**14.39**	**182**	*e*P		**Pn**	**03 33 27.5**	**+0.8**
	188nm,0.7s							
KAKA	**Kakadu**	**15.85**	**243**	||*i*P	**Pn**	**03 33 44.6**	**-0.3**
	97nm,0.6s							
WRAB	**Tennant

CD2			AP	pP	03 39 54.4	-0.1
CD2			PP	PP	03 41 34.0	+3.1
CD2			S	**S**	**03 46 59.5**	**+0.2**
CD2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0					
CD2			AMB	AMB		
	comp=Z,40nm,5.9s					
CD2			LR	LR		
	comp=E,50nm,14.4s					
CD2			LR	LR		
	comp=Z,40nm,12.0s					
HHC	**Hu-ho-hao-te**	**56.42 328**	*eP*	**P**	**03 39 40.4**	**+2.6**
HHC			PCP	PcP	03 40 35.3	+1.8
HHC			PP	PP	03 41 48.8	+4.3
HHC			S	**S**	**03 47 20.1**	**+0.4**
HHC			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0					
HHC			AMB	AMB		
	comp=Z,80nm,4.8s					
HHC			LR	LR		
	comp=N,120nm,19.0s					
HHC			LR	LR		
	comp=E,90nm,15.5s					
HHC			LR	LR		
	comp=Z,80nm,14.3s					
GTA	**Gaotai**	**62.34 320**	*eP*	**P**	**03 40 19.4**	**+0.9**
GTA			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0					
ULN	**Ulaanbaatar**	**63.69 331**	*eP*	**P**	**03 40 27.6**	**+0.1**
	comp=Z,5.8nm,0.8s,mb4.5					
SONM	**Songino Array**	**63.99 331**	P	**P**	**03 40 30.0**	**+0.6**
	comp=Z,3.0nm,0.7s,mb4.2,baz=139,slow=7.8,SNR=19					
CASY	**Casey**	**65.57 195**	*eP*	**P**	**03 40 39.5**	**-0.2**
	comp=Z,5.0nm,0.3s,mb4.8					
JIRN	**Jiri**	**67.17 303**	*eP*	**P**	**03 40 50.0**	**+0.1**
	comp=Z,8.3nm,0.4s,mb4.9					
GUN	**Gumba**	**67.51 303**	*eP*	**P**	**03 40 52.3**	**+0.3**
	comp=Z,14nm,0.4s,mb5.1					
PKI	**Pulchoki**	**67.80 303**	*eP*	**P**	**03 40 53.4**	**-0.4**
KKN	**Kakani**	**67.97 303**	*eP*	**P**	**03 40 54.6**	**-0.3**
DMN	**Daman**	**68.06 303**	*eP*	**P**	**03 40 55.3**	**-0.2**
GKN	**Gorkha**	**68.58 303**	*eP*	**P**	**03 40 58.3**	**-0.4**
	comp=Z,12nm,0.6s,mb4.9					
KOLN	**Koldanda**	**69.38 302**	*eP*	**P**	**03 41 03.3**	**-0.3**
	comp=Z,11nm,0.7s,mb4.8					
VNDA	**Vanda**	**72.30 177**	P	**P**	**03 41 21.7**	**+0.4**
	comp=Z,4.5nm,0.6s,mb4.5,baz=331,slow=6.6,SNR=58					
VNDA	**Vanda**	**72.30 177**	*eP*	**P**	**03 41 21.5**	**+0.2**
	comp=Z,2.2nm,0.5s,mb4.2					
MKAR	**Makanchi Array**	**77.09 320**	P	**P**	**03 41 48.7**	**-0.3**
	comp=Z,1.1nm,0.6s,mb3.7,baz=97,slow=7.2,SNR=12					
MKAR	**Makanchi Array**	**77.09 320**	P	**P**	**03 41 48.7**	**-0.3**
ZAL	**Zalesovo**	**78.61 328**	P	**P**	**03 41 56.9**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.2,baz=65,slow=4.3,SNR=11					
ZAL	**Zalesovo**	**78.61 328**	P	**P**	**03 41 56.9**	**-0.4**
MAW	**Mawson**	**82.53 203**	*eP*	**P**	**03 42 18.0**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.2					
MAW	**Mawson**	**82.53 203**	P	**P**	**03 42 18.2**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.2,baz=103,slow=6.6,SNR=22					
QSPA	**South Pole Qui**	**84.34 180**	*eP*	**P**	**03 42 27.4**	**-0.1**
	comp=Z,4.5nm,0.7s,mb4.4					
CHKZ	**Chkalovo**	**86.39 325**	*eP*	**P**	**03 42 37.1**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.0					
BRVK	**Borovoye**	**86.43 324**	*eP*	**P**	**03 42 38.3**	**+0.4**
	comp=Z,1.5nm,0.9s,mb3.9					
ZRNK	**Zerenda**	**87.16 324**	*eP*	**P**	**03 42 39.0**	**-2.4**
	comp=Z,1.0nm,0.5s,mb4.0					
NEW	**Newport**	**98.19 42**	*eP*	**P**	**03 43 32.7**	**+0.4**
	comp=Z,2.5nm,1.0s,mb4.7					
VNA1	**Neumayer--Stat**	**102.07 188**	*e*Pdiff	Pdif	03 43 51.2	+1.6
VNA1			*e*		03 43 55.8	
PDAR	**Pinedale Array**	**103.79 47**	Pdiff	Pdif	03 43 57.3	+0.1
	comp=Z,0.4nm,0.8s,baz=90,slow=0.6,SNR=4.3					
PLCA	**Paso Flores**	**122.53 147**	PKP	PKPdf	03 48 51.2	+1.0
	comp=Z,0.7nm,0.5s,baz=122,slow=2.7,SNR=5.4					
PLCA	**Paso Flores**	**122.53 147**	PKP	PKPdf	03 48 51.2	+1.0
LVC	**Limon Verde**	**135.18 130**	*e*PKPdf	PKPdf	03 49 16.8	+2.7
SAML	**Samuel**	**146.77 116**	*e*PKPbc	PKPbc	03 49 37.4	+0.5
DBIC	**Dimbokro**	**151.83 274**	PKPbc	PKPbc	03 49 52.2	+2.7
	comp=Z,1.4nm,0.4s,baz=173,slow=3.0,SNR=9.8					
DBIC	**Dimbokro**	**151.83 274**	*e*PKPbc	PKPbc	03 49 51.8	+2.3
BDFB	**Brasilia**	**154.27 145**	PKPbc	PKPbc	03 49 56.5	+1.6
	comp=Z,2.3nm,0.4s,baz=294,slow=6.1,SNR=9.4					

*NEIC **25** 03:32:46.1,3287S×7300W,h20km±3km,ML2.8(GUC),After GUC.*

GUC 25 03:32:46.1±0.6,3287S×7300W,h20km±3km,MD3.7, ML2.8,2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**1.35**	**117**	*i* P	Pn	03 33 09.8	+0.1
LCCH				*i* S	Sn	03 33 26.9	-0.1
LNV	**Longovilo**	**1.72**	**130**	*e*P	Pn	03 33 15.1	+0.3
LNV				*i* S	Sn	03 33 37.3	+1.2
TACH	**Talagante**	**1.90**	**115**	⇓*i*P	Pn	03 33 18.2	+0.8
TACH				*i* S	Sn	03 33 41.9	+1.3
PEL	**Peldehue**	**1.97**	**99**	*e*P	Pn	03 33 19.1	+0.9
PEL				*i* S	Sn	03 33 44.7	+2.4
PEL				AML	AML	03 33 46.3	
	comp=N,156nm,0.4s						
PEL	**Peldehue**	**1.97**	**99**	*e*P	Pn	03 33 19.1	+0.9
PEL				*i* S	Sn	03 33 44.7	+2.4
PCH	**Pirque**	**2.22**	**111**	*e*P	Pn	03 33 23.3	+1.7
PCH				*i* S	Sn	03 33 51.7	+3.2
FCH	**Farellones**	**2.32**	**102**	*e*P	Pn	03 33 24.9	+1.7
FCH				*i* S	Sn	03 33 54.2	+3.2
FCH				AML	AML	03 33 58.9	
	comp=N,45nm,0.2s						
CACH	**El Canelo**	**2.36**	**123**	⇓*i*P	Pn	03 33 25.9	+2.1
CACH				*i* S	Sn	03 33 56.3	+4.2
SFDO	**San Fernando**	**2.41**	**137**	*e*P	Pn	03 33 25.3	+1.1
SFDO				*i* S	Sn	03 33 55.5	+2.4
CICH	**Cipreses**	**2.60**	**125**	*i* S	Sn	03 34 00.5	+2.7

*CSEM **25** 03:37:09.6±1.2,3913N×2848W,h0km±9km,ML1.6,Error ellipse: s-maj=7.5km s-min=3.2km az=150.0,After PDA*
*PDA **25** 03:37:09.6±1.2,3913N×2848W,h0km±9km,MD3.0,ML1.6, Error ellipse: s-maj=7.5km s-min=3.2km az=150.0*

SVSA 25 03:37:09.6±1.2,3913N×2848W,h0km±9km,MD3.0,ML1.6, Error ellipse: s-maj=7.5km s-min=3.2km az=150.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**0.34**	**100**	*e*S	Sg	03 37 21.2	+0.6
PVIA							
	11nm,0.1s						
SRBC	**Serra Branca**	**0.36**	**104**	*e*P	Pg	03 37 16.1	-0.3
SRBC				*e*S	Sg	03 37 20.9	-0.1
STGR	**Santa Cruz**	**0.38**	**97**	*e*P	Pg	03 37 16.6	-0.2
STGR				*e*S	Sg	03 37 22.3	+0.6
STGR							
	31nm,0.1s						
STGR	**Santa Cruz**	**0.38**	**97**	*e*P	Pg	03 37 16.6	-0.2
STGR				*e*S	Sg	03 37 22.3	+0.6
PLUZ	**Luz**	**0.40**	**254**	*e*S	Sg	03 37 23.1	+0.7
PLUZ							
	34nm,0.2s						
PGRA	**Graciosa**	**0.40**	**104**	*e*P	Pg	03 37 17.0	-0.3
PGRA				*e*S	Sg	03 37 22.6	0.0
PGRA							
	75nm,0.2s						
PGRA	**Graciosa**	**0.40**	**104**	*e*P	Pg	03 37 17.0	-0.3
PGRA				*e*S	Sg	03 37 22.6	0.0
ROSA	**Rosais**	**0.45**	**155**	*e*P	Pg	03 37 17.8	-0.4
ROSA				*e*S	Sg	03 37 23.9	-0.1
PAMA	**Santo Amaro**	**0.51**	**152**	*e*S	Sg	03 37 25.5	-0.3
PAMA							
	9.2nm,0.1s						
PCED	**Cedros**	**0.53**	**199**	*i* P	Pg	03 37 19.0	-0.7
CALA	**Caldeira**	**0.57**	**197**	*e*P	Pg	03 37 19.9	-0.6
CALA				*e*S	Sg	03 37 27.8	-0.1
PMAN	**Manadas**	**0.58**	**148**	*e*P	Pg	03 37 20.3	-0.4
PMAN				*e*S	Sg	03 37 27.6	-0.7
PMAN							
	50nm,0.1s						
PMAN	**Manadas**	**0.58**	**148**	*e*P	Pg	03 37 20.3	-0.4
PMAN				*e*S	Sg	03 37 27.6	-0.7
HOR	**Horta**	**0.61**	**191**	*e*P	Pg	03 37 20.4	-0.9
PICO	**Pico**	**0.63**	**176**	*e*P	Pg	03 37 20.9	-0.7
PICO				*e*S	Sg	03 37 29.5	-0.2
PTEI	**Pico do Teixo**	**0.64**	**171**	*e*S	Sg	03 37 29.8	-0.3
PTEI							
	14nm,0.3s						
PCND	**Candelaria**	**0.66**	**179**	*e*S	Sg	03 37 29.7	-1.0
PCND							
	12nm,0.1s						
PBOI	**Pico dos Bois**	**0.69**	**173**	*e*S	Sg	03 37 30.5	-1.4
PBOI							
	11nm,0.2s						
PID	**Ribeirinha**	**0.74**	**157**	*e*S	Sg	03 37 31.7	-1.7
PSBA	**Serra de Santa**	**0.97**	**111**	*e*P	Pg	03 37 25.4	-2.8

*BJI **25** 03:40:50.3,195N×12862E,h44km,mB5.0,mb4.7*
*IDC **25** 03:40:51.6±0.8,266N×12841E,h0km,mb4.2/9,mb1 4.4/9, mb1mx4.2/17,mbtmp4.2/9,MS3.4/2,Ms1 3.4/2, ms1mx2.7/23,Error ellipse: s-maj=55.6km s-min=14.3km az=77.0*
*NEIC **25** 03:40:57.5±4.9,262N×128.18E,h45km±48km,mb4.3/8, Error ellipse: s-maj=24.5km s-min=11.1km az=85.0*
*ISCJB **25** 03:41:00.0±6.5,261N±008×1283E±0.1,h84km±63km, mb4.4/20,Error ellipse: s-maj=23.7km s-min=11.1km az=137.7*

ISC 25 03:41:01.2±5.5,259N±008×1283E±01,h78km±54km,n33, σ0°90/31,mb4.4/20,1C-1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.67**	**55**	LR	LR	03 52 28.5	
	comp=Z,42nm,19.7s,baz=40,slow=36						
FITZ	**Fitzroy Crossi**	**20.73**	**187**	P	**P**	**03 45 34.4**	**-0.9**
	1.5nm,0.7s,baz=355,slow=12,SNR=3.5						
WRAB	**Tennant Creek**	**23.14**	**165**	*e*P	**P**	**03 46 01.2**	**+0.4**
WRA	**Warramunga Arr**	**23.15**	**165**	P	**P**	**03 46 01.5**	**+0.7**
	10nm,0.7s,mb4.3,baz=341,slow=10,SNR=25						
WB2	**Warramunga Arr**	**23.15**	**165**	⇑*i*P	**P**	**03 46 01.8**	**+1.0**
MBWA	**Marble Bar**	**25.05**	**199**	*e*P	**P**	**03 46 16.7**	**-1.5**
	16nm,1.2s,mb4.3						
ASAR	**Alice Springs**	**26.65**	**169**	P	**P**	**03 46 33.5**	**+0.9**
	1.8nm,0.5s,mb3.9,baz=353,slow=7.7,SNR=28						
ASAR				PcP	PcP	03 49 56.0	+1.4
	0.6nm,0.5s,baz=349,slow=2.4,SNR=7.8						
JHJ	**Hachijo jima 2**	**32.22**	**18**	LR	LR	03 57 51.3	
	comp=Z,214nm,21.8s,baz=264,slow=32						
KMI	**Kunming**	**33.31**	**315**	P	**P**	**03 47 33.0**	**+1.6**
MJAR	**Matsushiro Arr**	**35.00**	**14**	P	**P**	**03 47 45.1**	**-1.0**
	2.1nm,0.7s,mb4.1,baz=184,slow=9.5,SNR=14						
MAJO	**Matsushiro**	**35.00**	**14**	*e*P	**P**	**03 47 44.9**	**-1.2**
	2.8nm,0.7s,mb4.2						
XAN	**Xi'an**	**36.16**	**332**	P	**P**	**03 47 55.8**	**-0.2**
XAN				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CD2	**Chengdu**	**36.51**	**323**	*e*P	**P**	**03 47 59.9**	**+1.0**
STKA	**Stephens Creek**	**36.52**	**161**	⇓*i*P	**P**	**03 47 57.8**	**-1.2**
	comp=Z,7.4nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**36.52**	**161**	P	**P**	**03 47 58.2**	**-0.7**
	comp=Z,7.6nm,0.8s,mb4.7,baz=333,slow=6.6,SNR=15						
STKA	**Stephens Creek**	**36.52**	**161**	*e*P	**P**	**03 47 57.9**	**-1.1**
LZH	**Lanzhou**	**40.30**	**329**	P	**P**	**03 48 31.5**	**+0.8**
LZH				AP	pP	03 48 40.5	-9.0
LZH				XP	sP	03 48 46.0	-12
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,220nm,5.1s						
JIRN	**Jiri**	**47.33**	**306**	*e*P	**P**	**03 49 27.0**	**-0.1**
	comp=Z,12nm,0.7s,mb4.7						
GUN	**Gumba**	**47.69**	**306**	*e*P	**P**	**03 49 29.4**	**-0.4**
DMN	**Daman**	**48.19**	**305**	*e*P	**P**	**03 49 34.0**	**+0.3**
GKN	**Gorkha**	**48.73**	**306**	*e*P	**P**	**03 49 38.2**	**+0.4**
SONM	**Songino Array**	**48.89**	**340**	P	**P**	**03 49 39.0**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=152,slow=7.9,SNR=16						
KOLN	**Koldanda**	**49.48**	**305**	*e*P	**P**	**03 49 43.1**	**-0.5**
	comp=Z,28nm,0.8s,mb5.2						
WMQ	**Urumqi**	**54.57**	**325**	P	**P**	**03 50 22.5**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,100nm,4.5s						
MKAR	**Makanchi Array**	**59.40**	**325**	P	**P**	**03 50 55.6**	**+0.2**
	comp=Z,5.3nm,0.7s,mb4.7,baz=121,slow=8.1,SNR=57						
ZAL	**Zalesovo**	**62.33**	**333**	P	**P**	**03 51 16.1**	**+0.7**
	comp=Z,1.2nm,0.5s,mb4.2,baz=261,slow=5.4,SNR=4.7						
KURK	**Kurchatov**	**63.56**	**327**	*e*P	**P**	**03 51 22.9**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.3						
BRVK	**Borovoye**	**69.22**	**327**	*e*P	**P**	**03 51 58.9**	**-0.7**
	comp=Z,2.5nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**69.30**	**327**	*e*P	**P**	**03 51 57.6**	**-2.5**
	comp=Z,2.1nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**69.88**	**326**	*e*P	**P**	**03 52 02.8**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.2						
UNV	**Unalaska Valle**	**73.46**	**34**	*e*P	**P**	**03 52 26.5**	**+1.3**
	comp=Z,12nm,0.6s,mb4.9						
VNDA	**Vanda**	**82.10**	**173**	P	**P**	**03 53 13.5**	**+0.3**
	comp=Z,1.2nm,0.9s,mb3.7,baz=322,slow=6.9,SNR=4.4						
VNDA	**Vanda**	**82.10**	**173**	*e*P	**P**	**03 53 13.2**	**+0.1**
	comp=Z,1.5nm,0.9s,mb3.8						

*CSEM **25** 03:47:16.9±1.1,3909N×2849W,h1km±10km,ML1.7,Error ellipse: s-maj=8.1km s-min=3.7km az=139.0,After PDA*
*PDA **25** 03:47:16.9±1.1,3909N×2849W,h1km±10km,MD3.3, ML1.7,Error ellipse: s-maj=8.1km s-min=3.7km az=139.0*

SVSA 25 03:47:16.9±1.1,3909N×2849W,h1km±10km,MD3.3, ML1.7,Error ellipse: s-maj=8.1km s-min=3.7km az=139.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**0.35**	**93**	*e*S	Sg	03 47 28.0	0.0
PVIA							
	14nm,0.2s						
SRBC	**Serra Branca**	**0.36**	**98**	*e*S	Sg	03 47 28.1	-0.2
STGR	**Santa Cruz**	**0.38**	**91**	*e*S	Sg	03 47 29.3	+0.1
STGR							
	31nm,0.2s						
PLUZ	**Luz**	**0.38**	**260**	*e*S	Sg	03 47 29.9	+0.7
PLUZ							
	27nm,0.1s						
ROSA	**Rosais**	**0.41**	**152**	*e*P	Pg	03 47 24.4	-0.4
ROSA				*e*S	Sg	03 47 30.1	-0.1
PAMA	**Santo Amaro**	**0.47**	**149**	*e*S	Sg	03 47 32.3	+0.2
PAMA							
	12nm,0.1s						
CALA	**Caldeira**	**0.53**	**198**	*e*P	Pg	03 47 26.5	-0.5
CALA				*e*S	Sg	03 47 34.3	+0.4
PMAN	**Manadas**	**0.55**	**145**	*e*P	Pg	03 47 26.2	-1.3
PMAN				*e*S	Sg	03 47 34.1	-0.5
PMAN							
	65nm,0.1s						
PMAN	**Manadas**	**0.55**	**145**	*e*P	Pg	03 47 26.2	-1.3
PMAN				*e*S	Sg	03 47 34.1	-0.5
HOR	**Horta**	**0.57**	**191**	*e*P	Pg	03 47 26.8	-1.0
PICO	**Pico**	**0.59**	**175**	*e*P	Pg	03 47 27.4	-0.7
PICO				*e*S	Sg	03 47 34.6	-1.1
PID	**Ribeirinha**	**0.71**	**155**	*e*P	Pg	03 47 29.3	-1.1
PID				*e*S	Sg	03 47 37.9	-1.7

*IDC **25** 03:50:44.2±0.7,241N×12699E,h0km,mb4.1/10, mb1 4.3/10,mb1mx4.2/16,mbtmp4.2/10,MS3.4/2, Ms1 3.4/2,ms1mx2.4/26,Error ellipse: s-maj=48.8km s-min=14.3km az=76.0*
*ISCJB **25** 03:50:50.7±3.0,245N±007×1270E±0.1,h62km±28km, mb4.3/17,Error ellipse: s-maj=21.5km s-min=9.5km az=142.1*
*NEIC **25** 03:50:51.3±1.5,242N×127.11E,h52km±14km,mb4.3/11, Error ellipse: s-maj=12.0km s-min=5.1km az=74.0*

ISC 25 03:50:52.1±2.3,241N±007×1271E±01,h59km±22km,n30, σ0°62/29,mb4.3/17,MS3.3/2,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.43**	**289**	*e*Pn	**Pn**	**03 53 32.1**	**-0.4**
KAKA	**Kakadu**	**15.94**	**161**	*e*P	**Pn**	**03 54 36.5**	**+4.0**
	14nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.44**	**184**	*e*P	**P**	**03 55 24.8**	**+0.3**
	4.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.44**	**184**	P	**P**	**03 55 23.6**	**-0.9**
	1.7nm,0.3s,baz=28,slow=13,SNR=20						
WRAB	**Tennant Creek**	**23.32**	**163**	*e*P	**P**	**03 55 55.6**	**+0.6**
	19nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**23.33**	**163**	P	**P**	**03 55 54.8**	**-0.2**
	5.5nm,0.3s,mb4.4,baz=339,slow=11,SNR=22						
WB2	**Warramunga Arr**	**23.33**	**163**	*e*P	**P**	**03 55 55.6**	**+0.5**
MBWA	**Marble Bar**	**24.51**	**197**	*e*P	**P**	**03 56 05.7**	**-0.2**
	6.4nm,0.8s,mb4.2						
KULM	**Kulim**	**26.53**	**277**	*e*P	**P**	**03 56 25.3**	**+1.1**
ASAR	**Alice Springs**	**26.76**	**166**	P	**P**	**03 56 26.6**	**+0.5**
	0.9nm,0.4s,mb3.7,baz=342,slow=7.9,SNR=21						
ASAR				PcP	PcP	03 59 49.9	+1.8
	0.8nm,0.7s,baz=353,slow=1.8,SNR=5.8						
MJAR	**Matsushiro Arr**	**35.48**	**16**	P	**P**	**03 57 43.0**	**+0.1**
	2.6nm,0.6s,mb4.3,baz=191,slow=8.9,SNR=16						
MJAR				LR	LR	04 11 24.6	
	comp=Z,59nm,21.6s,MS3.3,baz=180,slow=35						
MAJO	**Matsushiro**	**35.48**	**16**	*e*P	**P**	**03 57 42.5**	**-0.3**
	5.4nm,0.8s,mb4.5						
MAT	**Matsushiro**	**35.48**	**16**	P	**P**	**03 57 43.1**	**+0.2**
MAT	**Matsushiro**	**35.48**	**16**	*e*P	**P**	**03 57 43.0**	**+0.1**
STKA	**Stephens Creek**	**36.78**	**159**	*e*P	**P**	**03 57 52.5**	**-1.5**
	7.3nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**36.78**	**159**	P	**P**	**03 57 52.8**	**-1.2**
	5.3nm,0.4s,mb4.7,baz=339,slow=8.1,SNR=30						
STKA	**Stephens Creek**	**36.78**	**159**	*e*P	**P**	**03 57 53.3**	**-0.7**
ASAJ	**Asahikawa**	**43.74**	**16**	LR	LR	04 14 54.0	
	comp=Z,48nm,21.8s,MS3.4,baz=7.4,slow=33						
ULN	**Ulaanbaatar**	**48.47**	**342**	*e*P	**P**	**03 59 29.9**	**+1.2**
	2.8nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**58.84**	**326**	P	**P**	**04 00 44.0**	**-0.6**
	1.5nm,0.7s,mb4.1,baz=125,slow=8.2,SNR=16						
ZAL	**Zalesovo**	**61.92**	**333**	P	**P**	**04 01 05.0**	**-0.5**
	0.8nm,0.3s,mb4.3,baz=299,slow=8.1,SNR=2.4						
KURK	**Kurchatov**	**63.04**	**328**	*e*P	**P**	**04 01 12.4**	**-0.6**
	3.9nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**68.61**	**327**	P	**P**	**04 01 49.1**	**+0.2**
	0.6nm,0.4s,mb3.9,baz=141,slow=7.6,SNR=5.2						
BRVK	**Borovoye**	**68.69**	**327**	*e*P	**P**	**04 01 49.5**	**+0.2**
CHKZ	**Chkalovo**	**68.78**	**328**	*e*P	**P**	**04 01 50.5**	**+0.6**
	0.7nm,0.4s,mb3.9						
ZRNK	**Zerenda**	**69.34**	**327**	*e*P	**P**	**04 01 52.7**	**-0.7**
	1.9nm,0.5s,mb4.3						
VNDA	**Vanda**	**82.08**	**173**	P	**P**	**04 03 06.2**	**+0.1**
	1.1nm,0.7s,mb3.9,baz=307,slow=6.3,SNR=8.2						
VNDA	**Vanda**	**82.08**	**173**	*e*P	**P**	**04 03 05.4**	**-0.7**
	0.7nm,0.4s,mb3.9						
MAW	**Mawson**	**82.65**	**200**	P	**P**	**04 03 08.9**	**-0.2**
	1.4nm,0.9s,mb4.0,baz=104,slow=7.6,SNR=4.3						
RES	**Resolute Bay**	**99.03**	**10**	*e*P	**P**	**04 04 26.4**	**0.0**
	1.1nm,0.6s,mb4.6						

WEL 25 04:06:46.6±0.3,3857S×17592E,h159km±2km,ML3.5/11, 1C,Error ellipse: s-maj=2.4km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.63**	**216**	PN	Pn	04 07 09.7	+0.1
TUVZ	**Tukino**	**0.73**	**196**	PN	Pn	04 07 10.5	+0.3
FWVZ	**Far West T-bar**	**0.74**	**202**	PN	Pn	04 07 10.5	+0.2
FWVZ				*e*SN	Sn	04 07 28.6	+0.2
BKZ	**Black Stump Fm**	**0.75**	**143**	PN	Pn	04 07 10.6	+0.3
BKZ				SN	Sn	04 07 27.8	-0.7
HIZ	**Hauiti**	**0.83**	**273**	PN	Pn	04 07 10.8	-0.1
MOVZ	**Moawhango**	**0.85**	**189**	PN	Pn	04 07 10.9	-0.2
WAZ	**Wanganui**	**1.39**	**211**	PN	Pn	04 07 15.5	-0.2
WAZ				SN	Sn	04 07 38.0	-0.1
TSZ	**Takapari Road**	**1.49**	**179**	⇑PN	Pn	04 07 16.6	-0.1
TSZ				SN	Sn	04 07 39.9	0.0
MRZ	**Mangatainoka R**	**2.11**	**187**	PN	Pn	04 07 22.4	-1.1
MRZ				SN	Sn	04 07 48.8	-3.1
BFZ	**Birch Farm**	**2.13**	**173**	PN	Pn	04 07 22.9	-0.8
TIWZ	**Tintock**	**2.21**	**181**	PN	Pn	04 07 23.7	-1.0
TIWZ				*e*SN	Sn	04 07 51.0	-3.0
KIW	**Kapiti Island**	**2.42**	**198**	PN	Pn	04 07 25.5	-1.7
CAW	**Cannon Point**	**2.62**	**194**	PN	Pn	04 07 28.0	-1.6
MRW	**Makara Radio**	**2.82**	**199**	PN	Pn	04 07 30.0	-2.0
MSWZ	**Moikau Station**	**2.89**	**190**	PN	Pn	04 07 30.8	-2.1
SNZO	**South Karori**	**2.89**	**198**	PN	Pn	04 07 30.7	-2.3
TCW	**Tory Channel**	**2.93**	**205**	PN	Pn	04 07 31.3	-2.1
TUWZ	**Tuamarina**	**3.24**	**207**	PN	Pn	04 07 34.8	-2.5
NNZ	**Nelson**	**3.29**	**216**	SN	Sn	04 08 13.7	-4.1
QRZ	**Quartz Range**	**3.45**	**228**	PN	Pn	04 07 36.6	-3.4
MQZ	**McQueen's Vall**	**5.70**	**205**	*e*SN	Sn	04 09 05.0	-9.1

IDC 25 04:10:46.5±3.2,2173N×14359E,h311km±24km,mb3.0/4, mb1 3.1/5,mb1mx2.8/20,mbtmp3.7/5,Error ellipse: s-maj=169.6km s-min=18.9km az=82.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.49**	**347**	P	Pn	04 12 11.3	+1.1
	3.8nm,0.3s,baz=290,slow=19,SNR=6.6						
CBIJ				S	S	04 13 17.2	-0.4
	3.5nm,0.3s,baz=127,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**42.39**	**193**	P	P	04 18 10.9	-0.2
	0.2nm,0.3s,baz=15,slow=9.2,SNR=4.6						
ASAR	**Alice Springs**	**46.09**	**192**	P	P	04 18 40.4	+0.2
	0.3nm,0.7s,baz=19,slow=12,SNR=4.0						
BVAR

PLCA	Paso Flores	18.10	191	eP		P	04 19 13.8	-0.7
	comp=N,62nm,0.9s							
BDFB	Brasilia	18.64	70	P		P	04 19 21.8	+1.4
	comp=N,6.2nm,0.3s,baz=250,slow=11,SNR=151							
BDFB				S		S	04 22 41.2	+0.4
	comp=N,0.4nm,0.3s,baz=61,slow=19,SNR=2.5							
BAO	Brasilia Array	18.66	70	P		P	04 19 22.5	+1.9
ATAH	Atahualpa	19.73	322	P		P	04 19 32.5	+0.5
	comp=N,0.4nm,0.3s,baz=133,slow=9.3,SNR=4.1							
OTAV	Otavalo	25.95	331	eP		P	04 20 33.2	+2.1
	comp=N,4.6nm,1.0s,mb4.1							
SDV	Santo Domingo	31.94	352	eP		P	04 21 26.0	+2.0
	comp=N,4.5nm,0.3s,mb4.5							
PCRV	Puerto La Cruz	32.97	3	P		P	04 21 32.6	-0.4
	comp=N,4.4nm,0.5s,mb4.2,baz=171,slow=6.6,SNR=7.0							
RCBR	Riachuelo	33.82	64	eP		P	04 21 40.1	-0.2
	comp=N,47nm,1.2s,mb4.9							
JCT	Junction City	62.15	327	eP		P	04 25 17.1	+0.4
	comp=N,2.0nm,0.7s,mb3.9							
WVT	Waverly	62.22	340	eP		P	04 25 17.3	+0.1
	comp=N,8.1nm,1.1s,mb4.3							
WCI	Wyandotte Cave	63.72	342	eP		P	04 25 25.0	-2.0
	comp=N,4.3nm,0.7s,mb4.2							
BINY	Binghamton	65.45	352	eP		P	04 25 37.9	-0.3
	comp=N,9.6nm,0.9s,mb4.4							
LIC	Lamto	66.43	72	⇑iP		P	04 25 43.8	-0.6
	comp=N,10nm,0.5s,mb4.4							
LIC	Lamto	66.43	72	⇑iP		P	04 25 43.8	-0.6
	comp=N,5.1nm,0.5s,mb4.4							
DBIC	Dimbokro	66.79	72	P		P	04 25 46.4	-0.4
	comp=N,7.4nm,0.4s,mb4.7,baz=220,slow=6.8,SNR=8.8							
DBIC	Dimbokro	66.79	72	eP		P	04 25 46.4	-0.3
	comp=N,14nm,0.7s,mb4.7							
QSPA	South Pole Qui	67.24	180	eP		P	04 25 51.1	+1.5
	comp=N,5.5nm,0.7s,mb4.3							
ANMO	Albuquerque	69.10	325	eP		P	04 26 04.9	+3.8
	comp=N,1.5nm,0.8s,mb3.7							
SMCO	Snowmass	72.62	328	eP		P	04 26 23.9	+1.6
	comp=N,1.6nm,0.7s,mb3.8							
SYO	Syowa Base	74.26	159	⇓eP		P	04 26 32.0	+0.2
MSU	Marysvale	74.80	324	eP		P	04 26 36.6	+1.7
DUG	Dugway	76.36	325	eP		P	04 26 44.8	+1.0
	comp=N,0.8nm,0.7s,mb3.5							
PDAR	Pinedale Array	76.63	329	P		P	04 26 45.4	+0.1
	comp=N,0.3nm,0.5s,mb3.1,baz=123,slow=11,SNR=4.4							
SCHQ	Schefferville	77.47	360	P		P	04 26 48.8	-1.1
	comp=N,4.5nm,0.7s,mb4.2,baz=175,slow=5.0,SNR=7.0							
HLID	Hailey	79.62	327	eP		P	04 27 02.7	+1.1
	comp=N,1.8nm,0.9s,mb3.7							
PAHR	Pah Rah Range	79.66	321	eP		P	04 27 02.3	+0.4
	comp=N,4.0nm,0.8s,mb4.1							
MCMT	McKenzie Canyo	79.75	328	eP		P	04 27 03.6	+1.3
BOSA	Boshof	80.56	117	P		P	04 27 07.0	+0.3
	comp=N,3.7nm,0.5s,mb4.2,baz=254,slow=4.1,SNR=17							
BOSA	Boshof	80.56	117	eP		P	04 27 06.2	-0.5
	comp=N,5.6nm,0.7s,mb4.3							
EGRO	El Granado	81.66	43	P		P	04 27 13.0	+0.5
	comp=N,25nm,0.8s,mb4.9							
PBEJ	Beja	81.72	43	eP		P	04 27 13.2	+0.5
	comp=N,12nm,0.8s,mb4.6							
EVO	Evora	81.93	42	eP		P	04 27 13.9	0.0
	comp=N,31nm,1.0s,mb4.6							
LBTB	Lobatse	82.14	114	eP		P	04 27 14.8	-0.2
	comp=N,9.8nm,1.0s,mb4.4							
MAW	Mawson	82.21	163	P		P	04 27 16.2	+0.9
	comp=N,2.6nm,0.7s,mb4.0,baz=198,slow=5.8,SNR=8.3							
ESPR	Espera	82.30	45	P		P	04 27 16.0	+0.2
EJIF	Jimena Fronter	82.31	45	P		P	04 27 16.8	+1.0
	comp=N,4.5nm,0.6s,mb4.3							
EMIN	Mina Concepcio	82.31	44	P		P	04 27 16.2	+0.4
	comp=N,26nm,0.9s,mb4.9							
PTOM	Tomar	82.35	41	eP		P	04 27 16.4	+0.3
	comp=N,46nm,1.0s,mb5.1							
EBAD	Badajoz	82.69	43	P		P	04 27 18.2	+0.4
	comp=N,16nm,0.7s,mb4.9							
PCBR	Castelo Branco	83.06	42	eP		P	04 27 19.6	-0.1
	comp=N,7.8nm,0.9s,mb4.4							
MTE	Manteigas	83.36	41	eP		P	04 27 21.4	+0.2
	comp=N,16nm,1.3s,mb4.6							
ELOJ	Sierra Loja	83.58	45	P		P	04 27 23.3	+1.0
	comp=N,1.6nm,0.2s,mb4.4							
ERON	Agron	83.73	46	P		P	04 27 23.4	+0.3
	comp=N,2.8nm,0.5s,mb4.2							
PVRL	Vila Real	83.79	40	eP		P	04 27 23.6	+0.2
	comp=N,19nm,1.2s,mb4.7							
PCAB	Cabril	83.87	40	eP		P	04 27 24.0	+0.2
	comp=N,17nm,1.1s,mb4.7							
ELOB	Lobios	83.95	40	P		P	04 27 24.2	0.0
	comp=N,6.2nm,0.6s,mb4.5							
STS	Santiago	84.29	39	P		P	04 27 26.2	+0.3
	comp=N,0.8nm,0.2s,mb4.1							
EBAN	Banos Encina	84.39	45	P		P	04 27 27.0	+0.5
	comp=N,19nm,0.8s,mb4.9							
FCC	Fort Churchill	84.63	346	eP		P	04 27 26.5	-1.1
	comp=N,7.6nm,0.8s,mb4.5							
EQES	Quesada	84.66	45	P		P	04 27 27.4	-0.4
	comp=N,154nm,3.3s							
PBRG	Braganca	84.69	40	eP		P	04 27 28.6	+0.7
	comp=N,24nm,1.7s,mb4.7							
ECAL	Calabor	84.78	40	P		P	04 27 28.2	-0.2
	comp=N,23nm,1.1s,mb4.8							
ERUA	La Rua	84.81	40	P		P	04 27 29.1	+0.6
	comp=N,2.7nm,0.8s,mb4.0							
ESDC	Sonseca Array	85.14	43	P		P	04 27 30.7	+0.5
	comp=N,9.7nm,0.8s,mb4.6,baz=242,slow=4.5,SNR=46							
ESDC	Sonseca Array	85.14	43	⇑P		P	04 27 30.2	0.0
	comp=N,15nm,0.9s,mb4.7							
ESLA	Sonseca Array	85.14	43	eP		P	04 27 30.7	+0.5
	comp=N,3.9nm,1.2s,mb4.0							
EPON	Pontenova	85.37	39	P		P	04 27 31.4	+0.1
	comp=N,1.9nm,0.3s,mb4.3							
EVIA	Vianos	85.49	45	P		P	04 27 32.2	+0.3
	comp=N,28nm,1.0s,mb4.9							
GUD	Guadarrama	85.58	42	P		P	04 27 32.7	+0.3
	comp=N,9.6nm,0.8s,mb4.6							
ETOB	Tobarra	86.12	45	P		P	04 27 34.7	-0.3
	comp=N,35nm,1.0s,mb5.0							
ECHE	Chera	87.02	45	P		P	04 27 40.0	+0.7
	comp=N,5.6nm,0.8s,mb4.3							
EGRA	Graus	89.24	43	P		P	04 27 50.0	+0.2
	comp=N,6.6nm,0.8s,mb4.5							
EPF	Esparros	89.70	42	eP		P	04 27 50.5	-1.4
	comp=N,8.8nm,0.9s,mb4.3							
EPF	Esparros	89.70	42	eP		P	04 27 50.5	-1.4
	comp=N,4.4nm,0.9s,mb4.3							
LFF	La Frestale	90.96	41	eP		P	04 27 57.4	-0.4
	comp=N,5.7nm,0.5s,mb4.4							
LFF	La Frestale	90.96	41	eP		P	04 27 57.4	-0.4
	comp=N,2.8nm,0.5s,mb4.5							
MTLF	Montolieu	91.03	43	eP		P	04 27 57.5	-0.6
	comp=N,9.4nm,1.0s,mb4.4							
MTLF	Montolieu	91.03	43	eP		P	04 27 57.5	-0.6
	comp=N,4.7nm,1.0s,mb4.4							
MFF	Saint Martin d	91.32	39	eP		P	04 27 58.3	-1.2
	comp=N,7.1nm,0.9s,mb4.3							
MFF	Saint Martin d	91.32	39	eP		P	04 27 58.3	-1.2
	comp=N,3.5nm,0.9s,mb4.3							
CAF	Calviac	91.75	41	eP		P	04 28 01.5	0.0
	comp=N,2.8nm,0.6s,mb4.1							
CAF	Calviac	91.75	41	eP		P	04 28 01.5	0.0
	comp=N,1.4nm,0.6s,mb4.1							
GRR	Gorron	91.88	37	eP		P	04 28 00.8	-1.3
	comp=N,4.7nm,0.5s,mb4.4							
GRR	Gorron	91.88	37	eP		P	04 28 00.8	-1.3
	comp=N,2.3nm,0.5s,mb4.4							
LDF	La Druitiere	92.41	37	eP		P	04 28 03.3	-1.2
	comp=N,6.1nm,0.8s,mb4.3							
LDF	La Druitiere	92.41	37	eP		P	04 28 03.3	-1.2
	comp=N,3.0nm,0.8s,mb4.3							
LASF	Ste Croix	92.43	43	eP		P	04 28 02.9	-1.7
VIVF	Saint-Julien-l	93.32	42	eP		P	04 28 07.9	-0.8
SMRF	Simiane la Rot	93.46	43	eP		P	04 28 08.3	-1.0
AVF	Avril sur Loir	93.48	40	eP		P	04 28 08.9	-0.5
SMF	Signal de Mont	93.70	40	eP		P	04 28 08.4	-2.0
	comp=N,4.3nm,0.8s,mb4.3							
SMF	Signal de Mont	93.70	40	eP		P	04 28 08.4	-2.0
	comp=N,2.2nm,0.8s,mb4.2							
SSF	Saint Saulge	93.70	40	eP		P	04 28 09.6	-0.8
LMR	La Mourre	93.75	44	eP		P	04 28 10.5	-0.2
	comp=N,17nm,1.1s,mb4.7							
LMR	La Mourre	93.75	44	eP		P	04 28 10.5	-0.2
	comp=N,8.6nm,1.1s,mb4.7							
LOR	Lormes	94.02	40	eP		P	04 28 10.0	-1.9
ORIF	Oris-en-Rattie	94.10	43	eP		P	04 28 12.2	-0.1
	comp=N,3.4nm,0.6s,mb4.3							
ORIF	Oris-en-Rattie	94.10	43	eP		P	04 28 12.2	-0.1
	comp=N,1.7nm,0.6s,mb4.2							
LPL	La Plagne	94.92	42	eP		P	04 28 15.8	-0.2
	comp=N,3.9nm,0.7s,mb4.3							
LPL	La Plagne	94.92	42	eP		P	04 28 15.8	-0.2
	comp=N,2.0nm,0.7s,mb4.4							
LPG	La Plagne	94.92	42	eP		P	04 28 16.0	0.0
	comp=N,3.1nm,0.5s,mb4.4							
LPG	La Plagne	94.92	42	eP		P	04 28 16.0	0.0
	comp=N,1.5nm,0.5s,mb4.4							
CABF	La Chapelle	95.03	41	eP		P	04 28 15.0	-1.5
BAIF	Baives	95.59	38	eP		P	04 28 17.8	-1.3
AKASG	Malin Array Be	110.78	43	PKiKP		PKiKP	04 33 23.9	-1.6
	comp=N,0.5nm,0.6s,baz=268,slow=2.2,SNR=5.0							
AKTK	Aktyubinsk	129.03	43	PKP		PKPdf	04 34 00.8	+0.5
AKTO	Aktyubinsk	129.03	43	PKP		PKPdf	04 34 00.8	+0.5
	comp=N,1.2nm,0.6s,baz=208,slow=1.8,SNR=6.2							
ASAR	Alice Springs	129.70	204	PKP		PKPdf	04 34 02.1	+0.5
	comp=N,1.0nm,0.7s,baz=143,slow=1.9,SNR=8.5							
WRA	Warramunga Arr	132.88	207	PKP		PKPdf	04 34 08.6	+0.9
	comp=N,0.6nm,0.3s,baz=160,slow=1.7,SNR=4.6							
WRA				SKPbc		SKPbc	04 37 13.1	-0.8
	comp=N,4.9nm,1.0s,baz=156,slow=3.0,SNR=12							
WRAB	Tennant Creek	132.88	207	ePKPdf		PKPdf	04 34 08.9	+1.2
ZRNK	Zerenda	134.80	37	ePKPdf		PKPdf	04 34 11.8	+0.6
MA2	Magadan	135.12	334	ePKPdf		PKPdf	04 34 11.1	-0.8
CHKZ	Chkalovo	135.37	35	ePKPdf		PKPdf	04 34 12.4	0.0
FITZ	Fitzroy Crossi	137.58	197	PKP		PKPdf	04 34 18.5	+2.1
	comp=N,3.1nm,1.0s,baz=129,slow=14,SNR=3.0							
ZAL	Zalesovo	142.14	28	PKP		PKPdf	04 34 24.6	0.0
	comp=N,3.7nm,0.6s,baz=178,slow=2.3,SNR=9.9							
MKAR	Makanchi Array	145.26	39	PKPbc		PKPbc	04 34 30.7	+0.3
	comp=N,1.8nm,0.8s,baz=312,slow=3.5,SNR=121							
HYB	Hyderabad	146.53	93	iPKP		PKPdf	04 34 37.5	+5.2
NDI	New Delhi	146.68	72	eP		PKPdf	04 34 34.0	+1.5
ASAJ	Asahikawa	148.30	319	PKPbc		PKPbc	04 34 36.8	-2.1
	comp=N,4.7nm,0.9s,baz=191,slow=10.0,SNR=4.4							
KOLN	Koldanda	152.34	74	eP		PKPdf	04 34 54.6	+13
	comp=N,10nm,0.5s							
GKN	Gorkha	153.24	73	eP		PKPdf	04 34 56.3	+13
	comp=N,20nm,0.4s							
DMN	Daman	153.68	74	eP		PKPdf	04 34 58.3	+15
	comp=N,29nm,0.8s							
KKN	Kakani	153.83	73	eP		PKPdf	04 34 58.7	+15
SONM	Songino Array	154.48	12	PKP		PKPdf	04 34 45.7	+1.1
	comp=N,1.2nm,0.8s,baz=268,slow=0.6,SNR=9.7							
SONM				PKPbc		PKPbc	04 34 53.1	0.0
	comp=N,1.9nm,0.5s,baz=326,slow=1.8,SNR=16							
SONM				PKPab		PKPab	04 35 08.6	+0.1
	comp=N,1.7nm,0.7s,baz=315,slow=3.8,SNR=7.0							
ULN	Ulaanbaatar	154.57	11	ePKPab		PKPab	04 35 09.1	+0.2
JIRN	Jiri	154.64	74	eP		PKPdf	04 35 00.4	+16
MDJ	Mudanjiang	154.81	333	PKP		PKPdf	04 34 45.8	+0.8
HHC	Hu-ho-hao-te	162.06	5	ePKP		PKPdf	04 34 51.4	-2.3
HHC				XPKP			04 36 13.8	
HHC				PKS			04 38 23.0	
HHC				PP		PP	04 39 26.8	+0.9
HHC				SKS		SKSdf	04 41 32.1	-4.9
HHC				SKKS		SKKSac	04 45 50.3	-1.6
HHC				SS		SS	04 59 24.8	-1.7
HHC				PP		PP		
	comp=Z,80nm,6.9s							
HHC				LR		LR		
	comp=N,90nm,17.8s							
HHC				LR		LR		
	comp=E,280nm,19.0s							
HHC				LR		LR		
	comp=Z,80nm,21.4s							
CD2	Chengdu	168.06	46	ePKP		PKPdf	04 34 54.9	-3.8

CASC 25 04:33:05.8±2.2, 1426N×9051W, h6km±8km, MD3.8, ML4.3, 6C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.10	149	⇑eP		Pg	04 33 08.3	+0.4
IXG				eS		Sg	04 33 10.4	+1.0
IXG				AML		AML	04 33 13.8	
	comp=E,411μm,0.5s							
PCG	Pacaya	0.17	324	⇓eP		Pg	04 33 10.5	+1.3
TER	Terranova	0.18	284	⇓eP		Pg	04 33 09.7	+0.4
FUG	Fuego 3	0.38	300	⇑iP		Pg	04 33 13.7	+0.6
TP2	Tecpan 2	0.72	316	⇑eP		Pg	04 33 19.8	+0.1
TP2				eS		Sg	04 33 30.2	+1.1
RBDL	Robledal	0.81	100	⇑iP		x	04 33 29.1	
RBDL				eS		x	04 33 41.0	
SNJE	San Jose	0.96	114	⇑eP		x	04 33 32.1	
SNJE				eS		x	04 33 46.9	
MTO2	Montecristo 2	1.12	83	⇑eP		x	04 33 34.5	
MTO2				eS		x	04 33 50.0	
SNET	Serv Nac Est T	1.36	114	⇓eP		x	04 33 26.1	
SNET				eP		x	04 33 30.6	
SNET				eS		x	04 33 49.8	
LFRS	El Faro	1.54	114	⇓eP		x	04 33 41.7	
LFRS				eS		x	04 34 03.3	
LCBS	La Ceiba	1.60	112	eP		x	04 33 43.4	
LCBS				eS		x	04 34 07.1	

IDC ***25*** *04:51:55.5±0.5, 1762S×4182E, h0km, mb4.7/24, mb1 4.8/28, mb1mx4.7/32, mbtmp4.7/28, ML4.4/4, MS4.3/15, Ms1 4.3/15, ms1mx3.9/33, Error ellipse: s-maj=14.6km s-min=13.4km az=88.0*

MOS ***25*** *04:51:55.9±0.9, 1750S×4182E, h10km, mb5.2/84, Error ellipse: s-maj=11.5km s-min=3.8km az=104.8*

BJI ***25*** *04:51:55.7, 17.19S×4105E, h20km, mB5.2, mb5.2, Ms5.2, Msz4.9*

ISCJB ***25*** *04:51:55.3±0.2, 1763S±004×4181E±004, h10km, mb5.0/180, MS4.4/21, Error ellipse: s-maj=6.6km s-min=5.4km az=40.9*

LDG ***25*** *04:51:56.4±0.6, 1733S×4181E, h10km, Mb5.2/42, Ms4.0/8, Error ellipse: s-maj=36.4km s-min=6.2km az=17.0*

HRVD ***25*** *04:51:56.9±0.3, 1736S×4177E, h15km±1km, MW4.9/61, Centroid moment Tensor Solution. LP body waves: s22,c25;Mantle waves: s61,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.81±.20; $M_{\theta\theta}$0.17±.11; $M_{\phi\phi}$2.63±.14; $M_{r\theta}$0.64±.27; $M_{\theta\phi}$-0.14±.09; $M_{\phi r}$-0.00±.22; Best double couple: $M_0$2.78900×10^{16} NP1:ϕ_s188.00000°, δ46.00000°, λ-74.00000°. NP2: ϕ_s345.00000°, δ47.00000°, λ-106.00000°. Principal axes: T 2.6380, Plg0.0000°, Azm87.0000°; N 0.2950, Plg12.0000°, Azm357.0000°; P -2.9400, Plg78.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *04:51:56.9±0.2, 1770S×4181E, h10km, mb5.1/100 Error ellipse: s-maj=5.6km s-min=4.5km az=66.0*

SZGRF ***25*** *04:52:08.4, 1569S×4248E, h33km, mb5.1, Mozambique Channel*

ISC 25 04:51:55.8±2.8, 1765S±005×**4179E**±004, **h1**km±17km, **n643**, $_{c0}$**6**^{s}**81**/479, **mb5.1**/180, **MS4.4**/21, **77C-60D, Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	5.21	101	Pn		Pn	04 53 14.3	-0.6
	45nm,0.3s,baz=269,slow=13,SNR=216							
OPO				Sn		Sn	04 54 10.6	-5.0
	57nm,0.3s,baz=234,slow=11,SNR=4.0							
MATP	Matopo	12.87	256	Pn		Pn	04 54 52.3	-7.5
	0.9nm,0.3s,baz=67,slow=15,SNR=18							
MATP				Sn		Sn	04 57 08.0	-16
	1.7nm,0.3s,baz=343,slow=19,SNR=3.6							
MATP				LR		LR	05 00 12.9	
	comp=Z,1μm,19.7s,baz=84,slow=39							
LSZ	Lusaka	13.26	278	Pn		Pn	04 55 03.4	-1.8
	1.8nm,0.3s,baz=106,slow=14,SNR=14							
LSZ				LR		LR	05 00 15.1	
	comp=Z,2μm,18.1s,baz=123,slow=38							
LSZ	Lusaka	13.26	278	eP		Pn	04 55 03.4	-1.8
LSZ				pmax		pmax		
	comp=Z,42nm,0.9s							
LSZ	Lusaka	13.26	278	ePn		Pn	04 55 03.4	-1.9
	comp=Z,42nm,0.9s							
LBTB	Lobatse	16.76	241	Pn		Pn	04 55 48.9	-2.9
	comp=Z,0.7nm,0.3s,baz=63,slow=13,SNR=13							
LBTB				Sn		Sn	04 58 45.6	-13
	comp=Z,0.6nm,0.3s,baz=348,slow=20,SNR=3.8							
LBTB				LR		LR	05 02 02.0	
	comp=Z,710nm,21.4s,baz=76,slow=36							
LBTB	Lobatse	16.76	241	eP		Pn	04 55 50.3	-1.5
LBTB				pmax		pmax		
	comp=Z,27nm,0.8s							
LBTB	Lobatse	16.76	241	ePn		Pn	04 55 50.3	-1.6
	comp=Z,27nm,0.8s							
KMBO	Kilima Mbogo	17.02	344	Pn		Pn	04 55 54.4	-0.6
	comp=Z,0.2nm,0.3s,baz=156,slow=13,SNR=12							
KMBO				Sn		Sn	04 59 09.8	+5.1
	comp=Z,0.4nm,0.3s,baz=253,slow=20,SNR=3.6							
KMBO				LR		LR	05 02 48.9	
	comp=Z,366nm,18.2s,baz=93,slow=38							
KMBO	Kilima Mbogo	17.02	344	eP		Pn	04 55 55.3	+0.3
KMBO				pmax		pmax		
	comp=Z,32nm,1.4s							
KMBO	Kilima Mbogo	17.02	344	ePn		Pn	04 55 55.3	+0.3
	comp=Z,32nm,1.4s							
BOSA	Boshof	18.69	231	P		Pn	04 56 15.0	-0.7
	comp=Z,0.9nm,0.3s,baz=64,slow=11,SNR=25							
BOSA				LR		LR	05 03 24.7	
	comp=Z,639nm,19.1s,baz=66,slow=37							
BOSA	Boshof	18.69	231	eP		Pn	04 56 15.8	0.0
BOSA				pmax		pmax		
	comp=Z,35nm,1.0s							
BOSA	Boshof	18.69	231	ePn		Pn	04 56 15.8	0.0
	comp=Z,35nm,1.0s							
TSUM	Tsumeb	23.02	262	P		P	04 57 01.9	-0.3
	comp=Z,8.3nm,0.8s,mb4.3,baz=78,slow=7.3,SNR=31							
TSUM				LR		LR	05 06 04.3	
	comp=Z,610nm,20.5s,MS4.0,baz=264,slow=37							
TSUM	Tsumeb	23.02	262	eP		P	04 57 01.8	-0.4
	comp=Z,28nm,0.9s,mb4.8							
SUR	Sutherland	23.95	228	P		P	04 57 12.7	+1.2
	comp=Z,565nm,0.7s,mb6.2,SNR=21							
SUR	Sutherland	23.95	228	P		P	04 57 11.5	+0.1
	comp=Z,56nm,0.7s,mb5.2,baz=64,slow=8.5,SNR=51							
SUR				LR		LR	05 06 24.3	
	comp=Z,377nm,20.8s,MS3.9,baz=17,slow=36							
SUR	Sutherland	23.95	228	eP		P	04 57 11.6	+0.2
	comp=Z,72nm,0.8s,mb5.2							
ATD	Arta Tunnel	29.01	2	P		P	04 57 57.1	-0.1
	comp=Z,24nm,1.2s,mb4.9,baz=108,slow=20,SNR=2.2							
WSAR	Wadi Sarin	43.84	23	P		P	05 00 03.7	+0.2
	comp=Z,5.4nm,0.9s,mb4.3,baz=210,slow=6.0,SNR=5.1							
WSAR				LR		LR	05 15 10.2	
	comp=Z,256nm,19.0s,MS4.2,baz=273,slow=32							
WSAR	Wadi Sarin	43.84	23	P		P	05 00 03.7	+0.2
WSAR				LR		LR	05 15 10.2	
KBD	Kabd	46.90	7	eP		P	05 00 28.8	+1.1
KBD				AMb		AMB	05 00 29.7	
	comp=Z,105nm,0.6s,mb6.1							
NAY	Al-Naaiem	46.92	7	eP		P	05 00 29.1	+1.2
NAY				AMb		AMB	05 00 31.8	
	comp=Z,22nm,1.1s,mb5.2							
UMR	Umm Al-Rimmam	47.27	7	eP		P	05 00 32.1	+1.4
UMR				AMb		AMB	05 00 33.0	
	comp=Z,55nm,0.8s,mb5.8							
MIB	Mutribah	47.48	7	eP		P	05 00 33.2	+0.9
MIB				AMb		AMB	05 00 34.5	
	comp=Z,71nm,0.7s,mb5.9							
ASF	Jabal al Asfar	49.76	355	P		P	05 00 52.1	+2.3
	comp=Z,3.8nm,0.7s,mb4.4,baz=15,slow=3.0,SNR=15							
TORD	Torodi Ar. Bea	50.03	305	LR		LR	05 22 40.9	
	comp=Z,882nm,18.1s,MS4.8,baz=130,slow=37							
MMAI	Mount Meron Ar	50.75	353	P		P	05 00 57.1	-0.2
	comp=Z,4.4nm,0.6s,mb4.6,baz=176,slow=12,SNR=7.9							
SYO	Syowa Base	51.36	181	⇑eP		P	05 01 02.0	+0.1
MAW	Mawson	51.73	170	P		P	05 01 04.6	-0.1
	comp=Z,3.0nm,0.7s,mb4.4,baz=326,slow=8.7,SNR=17							
LIC	Lamto	51.96	293	eP		P	05 01 06.2	-0.2
	comp=Z,21nm,0.8s,mb4.8							
LIC				eR				
	comp=Z,915nm,21.5s							
LIC	Lamto	51.96	293	eP		P	05 01 06.2	-0.2
	comp=Z,10nm,0.8s,mb4.8							
LIC				LR		LR		
	comp=Z,460nm,21.5s,MS4.5							
DBIC	Dimbokro	52.02	294	P		P	05 01 06.8	-0.1
	comp=Z,10nm,0.5s,mb5.0,baz=105,slow=8.4,SNR=35							
DBIC				LR		LR	05 22 56.2	
	comp=Z,578nm,19.2s,MS4.6,baz=107,slow=36							
DBIC	Dimbokro	52.02	294	eP		P	05 01 06.6	-0.2
DBIC				pmax		pmax		
	comp=Z,11nm,0.6s							
DBIC	Dimbokro	52.02	294	eP		P	05 01 06.6	-0.2
	comp=Z,11nm,0.6s,mb5.0							
MSL	Mosul	53.66	1	ex		x	05 02 19.0	
COBT	Iskenderun	54.13	354	iP		P	05 01 24.1	+1.7
ERMK	Ermenek	54.65	351	iP		P	05 01 27.1	+0.9
GZT	Gaziantep	54.85	356	iP

comp=Z,20nm,0.8s,mb5.4
TERO Teramo 65.36 337 P P 05 02 39.6 -0.1
KIS Kishinev 65.40 350 eP P 05 02 38.0 -2.0
KIS e 05 02 45.0
BZS Buzias 65.58 345⇑iP P 05 02 42.1 +0.9
BZS Buzias 65.58 345 P P 05 02 41.5 +0.4
NRCA Norcia 65.72 337 P P 05 02 42.0 -0.1
KK31 Karatay Array 65.97 23 iP P 05 02 43.3 -0.4
KK31 pmax pmax
comp=Z,22nm,0.7s,mb5.5
KKAR Karatay Array 65.97 23 iP P 05 02 43.3 -0.4
KKAR pmax pmax
comp=Z,15nm,0.7s,mb5.3
DRGR 66.41 346⇓iP P 05 02 47.4 +0.9
DRGR 66.41 346 P P 05 02 47.4 +0.9
BURAR Bucovina Array 66.65 348⇑iP P 05 02 49.3 +1.3
BURAR Bucovina Array 66.65 348⇑P P 05 02 49.3 +1.3
UCH Uchtor 66.80 26 P P 05 02 50.1 +1.1
SNR=16
GRFL Gerfalco 66.80 336 P P 05 02 49.2 +0.2
CORF Corte 66.82 334 eP P 05 02 49.8 +0.7
EKS2 Erkin-Say 66.85 25 P P 05 02 50.2 +0.9
SNR=12
PKSM Moragy 66.92 343⇑iP P 05 02 49.7 -0.1
PKSM Moragy 66.92 343⇑eP P 05 02 50.2 +0.4
KZA Kyzart 66.98 26 P P 05 02 51.6 +1.4
SNR=10
PGF Pioggiola 67.09 334 eP P 05 02 50.1 -0.8
comp=Z,35nm,1.2s,mb5.2
PGF Pioggiola 67.09 334 eP P 05 02 50.1 -0.8
PGF pmax pmax
comp=Z,17nm,1.2s,mb5.2
PGF Pioggiola 67.09 334 eP P 05 02 50.1 -0.8
comp=Z,17nm,1.2s,mb5.2
BOJS Bojanci 67.32 340 eP P 05 02 51.8 -0.5
KBK Karagaybulak 67.33 26 P P 05 02 52.9 +0.5
SNR=17
FRU Bishkek 67.34 26⇑eP P 05 02 53.0 +0.6
FRU e 05 03 22.5
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.5
CHMS Chumysh 67.53 26 P P 05 02 54.1 +0.4
SNR=7.0
CRES Cresnjev 67.54 340 eP P 05 02 53.7 0.0
ULHL Ulahol 67.54 27 P P 05 02 54.4 +0.6
SNR=12
KNDS Knezji Dol 67.62 340 eP P 05 02 54.4 +0.1
USP Ospenovka 67.65 25 P P 05 02 54.0 -0.4
SNR=19
TKM2 Tokmak 2 67.82 26 P P 05 02 55.6 +0.1
SNR=30
TKM2 Tokmak 2 67.82 26 iP P 05 02 55.6 +0.1
TKM2 pmax pmax
comp=Z,50nm,0.9s,mb5.7
MUN Mundaring 67.88 118 eP P 05 02 56.8 +0.9
EIBI Ibiza 67.90 327 P P 05 02 57.5 +1.5
comp=Z,48nm,1.5s,mb5.5
BUD Budapest 67.98 344⇑eP P 05 02 57.0 +0.5
LJU Ljubljana 68.03 340 eP P 05 02 56.3 -0.5
JAVS Javornik 68.05 339 eP P 05 02 56.6 -0.3
PSZ Piszkesteto 68.15 344⇑eP P 05 02 57.6 0.0
PSZ Piszkesteto 68.15 344⇓iP P 05 02 57.8 +0.2
VOY Vojsko 68.23 339 eP P 05 02 58.2 +0.1
VOY e 05 03 04.2
PERS Pernice 68.36 341 eP P 05 02 59.0 +0.1
EMUR La Murta 68.43 324 P P 05 03 00.9 +1.6
comp=Z,39nm,1.0s,mb5.6
OBKA Obir 68.43 340 iP P 05 03 00.0 +0.7
comp=Z,16nm,0.7s,mb5.3,SNR=13
CADS Cadrg 68.45 339 eP P 05 02 59.3 -0.1
KOLS Kolonicke sedl 68.53 346 eP P 05 03 00.8 +0.9
KOLS pmax pmax
comp=Z,11nm,1.5s,mb4.9
KOLS Kolonicke sedl 68.53 346 eP P 05 03 00.8 +0.9
comp=Z,11nm,1.5s,mb4.8
KOLS e 05 03 13.4
KECS Kecovo 68.53 345 eP P 05 02 59.4 -0.5
KECS pmax pmax
comp=Z,13nm,1.4s,mb5.0
KECS Kecovo 68.53 345 eP P 05 02 59.4 -0.5
comp=Z,13nm,1.4s,mb5.0
AB31 Akbulak array 68.53 13 iP P 05 02 58.9 -1.1
AB31 pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
NWAO Narrogin (SRO) 68.62 119 P P 05 03 00.3 -0.2
comp=Z,9.0nm,0.7s,mb5.1,baz=235,slow=8.5,SNR=7.1
NWAO LR LR 05 27 14.1
comp=Z,259nm,19.2s,MS4.5,baz=19,slow=31
GMNA Gemona 68.66 339 P P 05 03 00.6 -0.2
IMI Imperia 68.67 334 P P 05 02 59.7 -1.1
comp=Z,13nm,0.9s,mb5.2
CRVS Cervenica-Dubn 68.68 346 eP P 05 03 00.7 -0.2
CRVS pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
CRVS Cervenica-Dubn 68.68 346 eP P 05 03 00.7 -0.2
comp=Z,4.4nm,1.0s,mb4.6
PTCC Patocco-Chiusa 68.74 339 P P 05 03 01.1 -0.1
REVF Revere 68.75 334 eP P 05 03 02.2 +0.9
ARSA Arzberg 68.78 341⇓iP P 05 03 01.8 +0.3
comp=Z,17nm,1.4s,mb5.1,SNR=11
LMR La Mourre 68.78 333 eP P 05 03 00.8 -0.7
comp=Z,16nm,1.1s,mb4.8
LMR La Mourre 68.78 333 eP P 05 03 00.8 -0.7
LMR pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
LMR La Mourre 68.78 333 eP P 05 03 00.8 -0.7
comp=Z,7.8nm,1.1s,mb4.8
FIN Finale Ligure 68.79 335 P P 05 03 02.1 +0.6
FIN pmax pmax
comp=Z,32nm,1.0s,mb5.5
FIN Finale Ligure 68.79 335 P P 05 03 02.1 +0.6
comp=Z,32nm,1.0s,mb5.5
SBF Sospel 68.82 334 eP P 05 03 01.4 -0.4
comp=Z,30nm,0.9s,mb5.2
SBF Sospel 68.82 334 eP P 05 03 01.4 -0.4
SBF pmax pmax
comp=Z,15nm,0.9s,mb5.2
SBF Sospel 68.82 334 eP P 05 03 01.4 -0.4
comp=Z,15nm,0.9s,mb5.2
SOP Sopron 68.86 342⇑eP P 05 03 02.3 +0.3
LUCF Luceram 68.88 334 eP P 05 03 03.3 +1.2
FRF La Foret Royal 68.91 333 eP P 05 03 01.7 -0.6
comp=Z,15nm,1.1s,mb4.8
FRF La Foret Royal 68.91 333 eP P 05 03 01.7 -0.6
FRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
FRF La Foret Royal 68.91 333 eP P 05 03 01.7 -0.6
comp=Z,7.4nm,1.0s,mb4.9
AUTN L'Aution 68.93 334 eP P 05 03 03.5 +1.0
AKASG Malin Array Be 68.95 351 P P 05 03 01.2 -1.3
comp=Z,4.8nm,0.7s,mb4.9,baz=173,slow=6.0,SNR=31
AKASG Malin Array Be 68.95 351 iP P 05 03 01.5 -1.0
AKASG pmax pmax
comp=Z,5.0nm,0.7s
VYHS Vyhne 68.96 344 iP P 05 03 02.2 -0.4
VYHS Vyhne 68.96 344 iP P 05 03 02.3 -0.3
VYHS pmax pmax
comp=Z,17nm,1.6s,mb5.0
VYHS Vyhne 68.96 344 iP P 05 03 02.3 -0.3
comp=Z,17nm,1.6s,mb5.0
MVIF Mont Vial 68.97 334 eP P 05 03 03.1 +0.4
TOUF Mont Tournerai 69.02 334 eP P 05 03 03.7 +0.7
KWP Kalwaria 69.09 347 eP P 05 03 03.2 -0.2
FVI Forni Avoltri 69.10 339 P P 05 03 03.7 +0.2
VOR Voronezh 69.12 358 P P 05 03 00.0 -3.6
VOR pmax pmax
comp=N,30nm,1.5s
VOR pmax pmax
comp=Z,90nm,1.5s,mb5.8
KOLL Kolacno 69.15 344 iP P 05 03 03.7 -0.1
ZST Bratislava 69.17 343 eP P 05 03 03.6 -0.3
ZST pmax pmax
comp=Z,26nm,1.8s,mb5.2
ZST Bratislava 69.17 343 eP P 05 03 03.6 -0.3
comp=Z,26nm,1.8s,mb5.2
TAVF Tavernes 69.21 333 eP P 05 03 05.1 +0.9
STHS Stebnicka Huta 69.21 346 iP P 05 03 04.3 +0.1
STHS pmax pmax
comp=Z,11nm,1.5s,mb4.9
STHS Stebnicka Huta 69.21 346 iP P 05 03 04.3 +0.1
comp=Z,11nm,1.5s,mb4.8
AKTO Aktyubinsk 69.28 11 iP P 05 03 02.3 -2.3
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
CONA Conrad Observa 69.29 342 iP P 05 03 04.8 +0.2
comp=Z,18nm,1.0s,mb5.2,SNR=10
PUYF Puyloubier 69.30 333 eP P 05 03 05.5 +0.8
KBA Koelnbreinsper 69.33 340⇑iP P 05 03 05.2 +0.3
comp=Z,7.3nm,0.7s,mb5.0
SMOL Smolenice 69.36 343 eP P 05 03 04.2 -0.9
SEST Monte Rota 69.42 339 P P 05 03 06.2 +0.7
EQES Quesada 69.43 323 P P 05 03 05.6 +0.1
comp=Z,26nm,0.9s,mb5.5
NIE Niedzica 69.44 345 eP P 05 03 06.0 +0.4
ECHE Chera 69.53 326 P P 05 03 06.8 +0.6
ECHE pmax pmax
comp=Z,16nm,0.9s,mb5.2
ECHE Chera 69.53 326 P P 05 03 06.8 +0.7
comp=Z,16nm,0.9s,mb5.1
VILF Villemus 69.55 333 eP P 05 03 07.4 +1.1
STOF St-Etienne Org 69.58 333 eP P 05 03 08.7 +2.2
SURF Saint Ours 69.58 334 eP P 05 03 08.0 +1.5
SMRF Simiane la Rot 69.70 333 eP P 05 03 07.7 +0.5
comp=Z,36nm,1.3s,mb5.0
SMRF Simiane la Rot 69.70 333 eP P 05 03 07.7 +0.5
comp=Z,36nm,1.3s,mb5.3
MOA Molln 69.71 341⇓iP P 05 03 06.8 -0.5
comp=Z,14nm,0.7s,mb5.2,SNR=26
MBDF Montbardon 69.80 334 eP P 05 03 08.1 +0.3
comp=Z,56nm,0.8s,mb5.4
MBDF Montbardon 69.80 334 eP P 05 03 08.1 +0.3
MBDF pmax pmax
comp=Z,28nm,0.8s,mb5.4
MBDF Montbardon 69.80 334 eP P 05 03 08.1 +0.3
comp=Z,28nm,0.8s,mb5.4
OG25 Le Caire 69.81 334 eP P 05 03 06.7 -1.2
EMOS Mosqueruela 69.83 327 P P 05 03 09.7 +1.7
comp=Z,66nm,1.4s,mb5.6
ERTA Horta de San J 69.85 328 P P 05 03 07.5 -0.7
comp=Z,40nm,1.2s,mb5.4
ORR Orenburg 69.90 9⇑iP P 05 03 07.9 -0.5
ORR pmax pmax
comp=Z,40nm,1.8s,mb5.2
VAI Varese 69.94 336 P P 05 03 08.4 -0.3
EMIR Miracle 69.97 329 P P 05 03 09.5 +0.6
comp=Z,31nm,1.6s,mb5.2
ORO Oropa 70.05 335 P P 05 03 08.3 -1.1
ORO pmax pmax
comp=Z,14nm,0.8s,mb5.1
ORO Oropa 70.05 335 P P 05 03 08.3 -1.1
comp=Z,14nm,0.8s,mb5.1
WTTA Wattenberg 70.07 339⇓eP P 05 03 09.6 +0.1
comp=Z,17nm,1.5s,mb5.0
BNI Bardonecchia 70.10 334 eP P 05 03 10.4 +0.7
BNI pmax pmax
comp=Z,40nm,1.1s,mb5.5
BNI Bardonecchia 70.10 334 eP P 05 03 10.4 +0.7
comp=Z,40nm,1.1s,mb5.5
WATA Walderalm 70.15 339⇓eP P 05 03 09.7 -0.3
comp=Z,2.4nm,0.4s,mb4.7
SQTA Sankt Quirin 70.18 338⇓iP P 05 03 09.7 -0.4
comp=Z,9.2nm,0.6s,mb5.1
TUE Stuetta 70.22 337 P P 05 03 10.0 -0.4
comp=Z,19nm,1.2s,mb5.1
OJC Ojcow 70.31 345 eP P 05 03 09.8 -1.1
OJC Ojcow 70.31 345⇓eP P 05 03 09.7 -1.2
VRAC Vranov 70.31 343⇓iP P 05 03 10.4 -0.6
VRAC Vranov 70.31 343 ⇓P P 05 03 10.4 -0.6
MCGN Macugnaga 70.32 336 P P 05 03 10.2 -0.8
comp=Z,13nm,0.9s,mb5.1
MOTA Moosalm 70.33 338⇓iP P 05 03 10.9 -0.2
comp=Z,9.2nm,0.9s,mb4.9,SNR=7.3
ORIF Oris-en-Rattie 70.33 334 eP P 05 03 11.0 -0.1
comp=Z,33nm,1.2s,mb5.0
ORIF Oris-en-Rattie 70.33 334 eP P 05 03 11.0 -0.1
ORIF pmax pmax
comp=Z,17nm,1.2s,mb5.0
ORIF Oris-en-Rattie 70.33 334 eP P 05 03 11.0 -0.1
comp=Z,17nm,1.2s,mb5.0
OKC Ostrava-Krasne 70.37 344 eP P 05 03 10.8 -0.5
OKC ex x 05 03 19.8
LPG La Plagne 70.44 335 eP P 05 03 10.9 -0.8
comp=Z,28nm,0.7s,mb5.2
LPG La Plagne 70.44 335 eP P 05 03 10.9 -0.8
LPG pmax pmax
comp=Z,14nm,0.7s,mb5.2
LPG La Plagne 70.44 335 eP P 05 03 10.9 -0.8
comp=Z,14nm,0.7s,mb5.2
LPL La Plagne 70.46 335 eP P 05 03 11.0 -0.9
comp=Z,30nm,0.7s,mb5.2
LPL La Plagne 70.46 335 eP P 05 03 11.0 -0.9
LPL pmax pmax
comp=Z,15nm,0.7s,mb5.2
LPL La Plagne 70.46 335 eP P 05 03 11.0 -0.9
comp=Z,15nm,0.7s,mb5.2
GDM Grand'Maison 70.46 334 eP P 05 03 13.1 +1.2
MORC Moravsky Berou 70.48 344⇓iP P 05 03 12.5 +0.5
MORC Moravsky Berou 70.48 344 eP P 05 03 11.5 -0.5
MORC pmax pmax
comp=Z,32nm,1.3s,mb5.3
MORC Moravsky Berou 70.48 344 ⇓P P 05 03 12.5 +0.5
MORC Moravsky Berou 70.48 344 eP P 05 03 11.5 -0.5
comp=Z,32nm,1.3s,mb5.3
EADA Adamuz 70.54 323 P P 05 03 12.3 0.0
comp=Z,4.2nm,0.5s,mb4.8
LASF Ste Croix 70.54 332 eP P 05 03 12.1 -0.3
comp=Z,36nm,1.4s,mb5.0
RAC Raciborz 70.59 344 eP P 05 03 11.5 -1.1
TREC Trest 70.62 342 eP P 05 03 11.8 -1.1
DAVA Damuels 70.71 338⇓iP P 05 03 13.5 0.0
comp=Z,45nm,1.6s,mb5.4,SNR=14
MTLF Montolieu 70.72 331 eP P 05 03 12.9 -0.6
GEC2 GERESS Array S 70.77 341 eP P 05 03 13.3 -0.4
comp=Z,14nm,0.8s,mb5.1
GEC2 GERESS Array S 70.77 341 eP P 05 03 13.3 -0.4
GEC2 pmax pmax
comp=Z,14nm,0.8s,mb5.1
GERES GERESS Array B 70.77 341 P P 05 03 12.8 -0.9
comp=Z,7.1nm,0.6s,mb5.0,baz=147,slow=5.0,SNR=96
VIVF Saint-Julien-I 70.80 333 eP P 05 03 14.0 +0.1
comp=Z,88nm,1.5s,mb5.4
VIVF Saint-Julien-I 70.80 333 eP P 05 03 14.0 +0.1
VIVF pmax pmax
comp=Z,44nm,1.5s,mb5.4
VIVF Saint-Julien-I 70.80 333 eP P 05 03 14.0 +0.1
comp=Z,44nm,1.5s,mb5.4
FUR Furstenfeldbru 70.97 339 eP P 05 03 15.2 +0.2
comp=Z,37nm,1.3s,mb5.3
FUR Furstenfeldbru 70.97 339 eP P 05 03 15.2 +0.2
FUR pmax pmax
comp=Z,37nm,1.3s,mb5.3
KHC Kasperske Hory 71.06 341 eP P 05 03 14.3 -1.2
KHC epP 05 03 20.1
ESDC Sonseca Array 71.23 324 P P 05 03 17.7 +1.2
comp=Z,5.0nm,0.7s,mb4.7,baz=134,slow=5.6,SNR=36
ESDC Sonseca Array 71.23 324 P P 05 03 17.2 +0.6
comp=Z,9.0nm,0.9s,mb4.9
ESLA Sonseca Array 71.23 324 eP P 05 03 16.7 +0.1
comp=Z,2.9nm,0.9s,mb4.4
EBIE Bielsa 71.23 329 P P 05 03 17.5 +1.0
comp=Z,33nm,1.3s,mb5.3
WET Wettzell 71.29 340 eP P 05 03 16.0 -0.9
comp=Z,4.0nm,0.8s,mb4.6
WET Wettzell 71.29 340 eP P 05 03 16.0 -0.9
WET pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
DPC Dobruska-Polom 71.33 343 eP P 05 03 16.8 -0.4
DPC epP 05 03 24.8
EPF Esparros 71.39 329 eP P 05 03 17.3 -0.2
comp=Z,36nm,1.2s,mb5.1
EPF Esparros 71.39 329 eP P 05 03 17.3 -0.2
EPF pmax pmax
comp=Z,18nm,1.2s,mb5.1
EPF Esparros 71.39 329 eP P 05 03 17.3 -0.2
comp=Z,18nm,1.2s,mb5.1
EMIN Mina Concepcio 71.50 321 P P 05 03 18.2 0.0
comp=Z,66nm,1.7s,mb5.5
PRU Pruhonice 71.52 342 eP P 05 03 17.0 -1.3
UPC Upice 71.56 343 eP P 05 03 18.2 -0.4
UPC ex x 05 03 26.8
CABF La Chapelle 71.61 335 eP P 05 03 18.3 -0.6
comp=Z,52nm,0.7s,mb5.5
CABF La Chapelle 71.61 335 eP P 05 03 18.3 -0.6
CABF pmax pmax
comp=Z,26nm,0.7s,mb5.5
CABF La Chapelle 71.61 335 eP P 05 03 18.3 -0.6
comp=Z,26nm,0.7s,mb5.5
LBL Lubilhac 71.72 332 eP P 05 03 20.8 +1.3
BBS Basel-Blauen 71.75 336 eP P 05 03 20.2 +0.5
KSP Ksiaz 71.78 343 eP P 05 03 20.1 +0.2
KSP Ksiaz 71.78 343⇑eP P 05 03 19.8 -0.1
EGRO El Granado 71.84 321 P P 05 03 21.1 +0.9
comp=Z,20nm,1.3s,mb5.1
FELD Feldberg im Sc 71.90 337 eP P 05 03 21.1 +0.5
LOMF Lomont 71.92 336 eP P 05 03 21.5 +0.8
PVCC Panska Ves 71.99 342 eP P 05 03 20.4 -0.7
GUD Guadarrama 72.00 325 P P 05 03 21.8 +0.6
GUD pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
GUD Guadarrama 72.00 325 P P 05 03 21.8 +0.6
comp=Z,4.9nm,0.8s,mb4.7
CAF Calviac 72.01 331 eP P 05 03 21.1 -0.2
comp=Z,45nm,1.3s,mb5.1
CAF Calviac 72.01 331 eP P 05 03 21.1 -0.2
CAF pmax pmax
comp=Z,23nm,1.3s,mb5.2
CAF Calviac 72.01 331 eP P 05 03 21.1 -0.2
comp=Z,23nm,1.3s,mb5.1
ROTZ Rotzenmuhle 72.05 340 eP P 05 03 21.2 -0.3
comp=Z,11nm,1.0s,mb4.9
BFO Black Forest 72.16 337 P P 05 03 21.5 -0.6
comp=Z,63nm,1.0s,mb5.7,SNR=7.0
BFO Black Forest 72.16 337 eP P 05 03 22.4 +0.3
comp=Z,14nm,1.1s,mb5.0
BFO Black Forest 72.16 337 eP P 05 03 22.4 +0.3
BFO pmax pmax
comp=Z,14nm,1.1s,mb5.0
MOF Molkenrain 72.21 336 eP P 05 03 22.6 +0.1
STU Stuttgart 72.22 338 eP P 05 03 22.9 +0.4
comp=Z,32nm,1.5s,mb5.2
STU Stuttgart 72.22 338 eP P 05 03 22.3 -0.2
STU pmax pmax
comp=Z,40nm,1.6s,mb5.3
STU Stuttgart 72.22 338 eP P 05 03 22.3 -0.2
comp=Z,40nm,1.6s,mb5.3
PYM Petit Puy Mans 72.23 333 eP P 05 03 24.1 +1.5
MANZ Manzenberg 72.27 340 eP P 05 03 22.7 -0.1
comp=Z,16nm,1.3s,mb5.0
HINF Hinteralfeld 72.29 336 eP P 05 03 21.8 -1.1
comp=Z,28nm,1.1s,mb5.0
HINF Hinteralfeld 72.29 336 eP P 05 03 21.8 -1.1
HINF pmax pmax
comp=Z,14nm,1.1s,mb5.0
HINF Hinteralfeld 72.29 336 eP P 05 03 21.8 -1.1
comp=Z,14nm,1.1s,mb5.0
GRA1 Grafenberg Arr 72.30 340 eP P 05 03 23.0 0.0
comp=Z,33nm,0.8s,mb5.5
GRF Grafenberg Arr 72.30 340 eP P 05 03 23.0 0.0
comp=Z,33nm,0.8s,mb5.5
GRF Grafenberg Arr 72.30 340 eP P 05 03 23.0 0.0
GRF pmax pmax
comp=Z,33nm,0.8s,mb5.5
GRFO Grafenberg 72.30 340 eP P 05 03 23.1 +0.1
comp=Z,29nm,0.8s,mb5.5
GRFO Grafenberg 72.30 340 eP P 05 03 23.1 +0.1
GRFO pmax pmax
comp=Z,29nm,0.8s,mb5.5
EBAD Badajoz 72.35 322 P P 05 03 23.5 +0.2
comp=Z,32nm,1.8s,mb5.2
NKC Novy Kostel 72.38 341 eP P 05 03 23.0 -0.4
PBEJ Beja 72.39 321 eP P 05 03 24.8 +1.3
BRG Berggiesshubel 72.48 342 eP P 05 03 23.7 -0.4
comp=Z,17nm,1.5s,mb5.0
BRG Berggiesshubel 72.48 342 eP P 05 03 23.1 -1.0
BRG pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
BRG Berggiesshubel 72.48 342 eP P 05 03 23.1 -1.0
comp=Z,10nm,1.5s,mb4.7
ECH Echery 72.50 337 eP P 05 03 24.3 +0.1
TANN Tannenbergstha 72.53 341 eP P 05 03 24.5 +0.1
comp=Z,20nm,1.0s,mb5.2
RJF Les Rejaudoux 72.55 331 eP P 05 03 24.2 -0.3
comp=Z,36nm,1.3s,mb5.0
RJF eR
comp=Z,165nm,19.0s
RJF Les Rejaudoux 72.55 331 eP P 05 03 24.2 -0.3
RJF pmax pmax
comp=Z,18nm,1.3s,mb5.0
RJF MLR MLR
comp=Z,170nm,19.0s,MS4.3
RJF Les Rejaudoux 72.55 331 eP P 05 03 24.2 -0.3
comp=Z,18nm,1.3s,mb5.0
RJF LR LR
comp=Z,170nm,19.0s,MS4.3
SMF Signal de Mont 72.57 334 eP P 05 03 23.8 -0.8
comp=Z,50nm,1.0s,mb5.3
SMF Signal de Mont 72.57 334 eP P 05 03 23.8 -0.8
SMF pmax pmax
comp=Z,25nm,1.0s,mb5.3
SMF Signal de Mont 72.57 334 eP P 05 03 23.8 -0.8
comp=Z,25nm,1.0s,mb5.3
WLS Welschbruch 72.59 337 eP P 05 03 24.7 0.0
WERD Werda 72.61 341 eP P 05 03 24.9 +0.1
comp=Z,24nm,1.1s,mb5.2
OBN Obninsk 72.61 357diP P 05 03 23.9 -0.9
OBN e 05 03 32.6
OBN pmax pmax
comp=Z,71nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
CDF Champ du Feu 72.62 337 eP P 05 03 23.5 -1.4
comp=Z,58nm,1.4s,mb5.2
CDF Champ du Feu 72.62 337 eP P 05 03 23.5 -1.4
CDF pmax pmax
comp=Z,29nm,1.4s,mb5.2
CDF Champ du Feu 72.62 337 eP P 05 03 23.5 -1.4
comp=Z,29nm,1.4s,mb5.2
LFF La Frestale 72.63 331 eP P 05 03 24.7 -0.3
comp=Z,73nm,1.3s,mb5.3
LFF La Frestale 72.63 331 eP P 05 03 24.7 -0.3
LFF pmax pmax
comp=Z,36nm,1.3s,mb5.3
LFF La Frestale 72.63 331 eP P 05 03 24.7 -0.3
comp=Z,36nm,1.3s,mb5.3
HAU Haudompre 72.64 336 eP P 05 03 25.0 0.0
comp=Z,52nm,0.9s,mb5.4
HAU eR
comp=Z,59nm,17.0s
HAU Haudompre 72.64 336 eP P 05 03 25.0 0.0
HAU pmax pmax
comp=Z,26nm,0.9s,mb5.4
HAU MLR MLR
comp=Z,60nm,17.0s,MS3.9
HAU Haudompre 72.64 336 eP P 05 03 25.0 0.0
comp=Z,26nm,0.9s,mb5.4
HAU LR LR
comp=Z,60nm,17.0s,MS3.9
FBE Freiberg 72.70 342 eP P 05 03 25.0 -0.4
comp=Z,29nm,2.0s,mb5.1
EVO Evora 72.80 321 eP P 05 03 26.6 +0.6
comp=Z,27nm,1.2s,mb4.9
EVO eR
comp=Z,173nm,19.8s
AVF Avril sur Loir 72.89 333 eP P 05 03 25.8 -0.7
comp=Z,78nm,1.3s,mb5.4
AVF Avril sur Loir 72.89 333 eP P 05 03 25.8 -0.7
AVF pmax pmax
comp=Z,39nm,1.3s,mb5.4
AVF Avril sur Loir 72.89 333 eP P 05 03 25.8 -0.7
comp=Z,39nm,1.3s,mb5.4
LANF Langenberg 72.89 337 eP P 05 03 26.7 +0.2
MBWA Marble Bar 72.90 107 eP P 05 03 26.3 -0.3
comp=Z,6.8nm,0.7s,mb4.9
BGF Bois d'Agland 72.92 333 eP P 05 03 26.2 -0.5
comp=Z,52nm,1.1s,mb5.3
BGF Bois d'Agland 72.92 333 eP P 05 03 26.2 -0.5
BGF pmax pmax
comp=Z,26nm,1.1s,mb5.3
BGF Bois d'Agland 72.92 333 eP P 05 03 26.2 -0.5
comp=Z,26nm,1.1s,mb5.3
THEF They Montfort 72.96 336 eP P 05 03 27.1 +0.2
KMI Kunming 72.99 56 P P 05 03 27.9 +0.8
KMI AP 05 03 34.4
KMI XP sP 05 03 36.8 +9.1
KMI PP PP 05 06 14.6 +5.1
KMI S S 05 12 57.3 +2.3
KMI SS SS 05 17 39.8 +4.4
KMI AMB AMB
comp=Z,10.0nm,1.5s,mb4.7
KMI AMB AMB
comp=Z,40nm,4.7s
KMI LR LR
comp=N,100nm,18.9s,MS4.3
KMI LR LR
comp=E,90nm,16.6s,MS4.3
KMI LR LR
comp=Z,110nm,18.3s,MS4.2

TCF	**Toulx Ste Croi**	**72.99**	**332**	*e*P	**P**	**05 03 27.1**	**0.0**
	comp=Z,61nm,1.0s,mb5.4						
TCF	**Toulx Ste Croi**	**72.99**	**332**	*e*P	**P**	**05 03 27.1**	**0.0**
TCF				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
TCF	**Toulx Ste Croi**	**72.99**	**332**	*e*P	**P**	**05 03 27.1**	**0.0**
	comp=Z,30nm,1.0s,mb5.4						
MOX	**Moxa**	**73.00**	**340**	*e*P	**P**	**05 03 27.1**	**0.0**
	comp=Z,12nm,1.0s,mb5.0						
MOX	**Moxa**	**73.00**	**340**	*e*P	**P**	**05 03 27.0**	**-0.1**
	comp=Z,22nm,1.5s,mb5.1						
MOX	**Moxa**	**73.00**	**340**	*e*P	**P**	**05 03 27.0**	**-0.1**
MOX				pmax	pmax		
	comp=Z,22nm,1.5s,mb5.1						
SSF	**Saint Saulge**	**73.04**	**334**	*e*P	**P**	**05 03 26.4**	**-1.0**
	comp=Z,20nm,1.0s,mb4.9						
SSF	**Saint Saulge**	**73.04**	**334**	*e*P	**P**	**05 03 26.4**	**-1.0**
SSF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
SSF	**Saint Saulge**	**73.04**	**334**	*e*P	**P**	**05 03 26.4**	**-1.0**
	comp=Z,10.0nm,1.0s,mb4.9						
LOR	**Lormes**	**73.05**	**334**	*e*P	**P**	**05 03 26.7**	**-0.8**
	comp=Z,93nm,1.2s,mb5.5						
LOR				*e*R			
	comp=Z,67nm,18.5s						
LOR	**Lormes**	**73.05**	**334**	*e*P	**P**	**05 03 26.7**	**-0.8**
LOR				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.5						
LOR				MLR	MLR		
	comp=Z,70nm,18.5s,MS4.0						
LOR	**Lormes**	**73.05**	**334**	*e*P	**P**	**05 03 26.7**	**-0.8**
	comp=Z,46nm,1.2s,mb5.5						
LOR				LR	LR		
	comp=Z,70nm,18.5s,MS4.0						
TOD	**Tromm**	**73.06**	**338**	*e*P	**P**	**05 03 27.8**	**+0.3**
SUW	**Suwalki**	**73.14**	**349**	*e*P	**P**	**05 03 27.5**	**-0.5**
CLL	**Collm**	**73.15**	**342**	*e*P	**P**	**05 03 27.8**	**-0.2**
	comp=Z,17nm,1.0s,mb5.1						
CLL	**Collm**	**73.15**	**342⇑**	*i*P	**P**	**05 03 27.6**	**-0.4**
	comp=Z,17nm,1.0s,mb5.1						
CLL				*i* pP		05 03 33.0	
CLL				*i* (sP)	sP	05 03 36.7	+8.1
CLL				LmH		05 38 00.0	
	comp=N,100nm,20.5s						
CLL				LmH		05 38 00.0	
	comp=E,100nm,21.9s						
CLL	**Collm**	**73.15**	**342⇑**	*i*P	**P**	**05 03 27.6**	**-0.4**
CLL				*i*		05 03 33.0	
CLL				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
CLL	**Collm**	**73.15**	**342⇑**	*i*P	**P**	**05 03 27.6**	**-0.4**
	comp=Z,17nm,1.0s,mb5.1						
CLL				*i*		05 03 33.0	
MOS	**Moscow**	**73.18**	**358**	*e*P	**P**	**05 03 26.4**	**-1.8**
MOS				pmax	pmax		
	comp=Z,65nm,1.5s,mb5.5						
MEZF	**Maizieres J'vi**	**73.55**	**335**	*e*P	**P**	**05 03 29.8**	**-0.6**
	comp=Z,116nm,1.5s,mb5.4						
MEZF	**Maizieres J'vi**	**73.55**	**335**	*e*P	**P**	**05 03 29.8**	**-0.6**
	comp=Z,116nm,1.5s,mb5.7						
UBBA	**Unterbreizbach**	**73.67**	**340**	*e*P	**P**	**05 03 31.4**	**+0.3**
	comp=Z,10.0nm,0.9s,mb4.8						
TNS	**Taunus Mts**	**73.70**	**338**	*e*P	**P**	**05 03 31.6**	**+0.3**
	comp=Z,22nm,1.3s,mb5.0						
TNS	**Taunus Mts**	**73.70**	**338**	*e*P	**P**	**05 03 31.6**	**+0.3**
TNS				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
ABH	**Alteburg**	**73.73**	**338**	*e*P	**P**	**05 03 31.7**	**+0.2**
GKP	**Gorka Klasztor**	**73.74**	**345**	*e*P	**P**	**05 03 32.2**	**+0.7**
MTE	**Manteigas**	**73.74**	**323**	*e*P	**P**	**05 03 36.1**	**+4.6**
MTE				*e*-		05 11 01.4	
MTE				*i* -		05 21 00.3	
MTE				*e*LQ		05 28 28.3	
MTE				*e*LR	LR	05 32 22.3	
	comp=Z,182nm,18.0s						
RUP	**Ruppelstein**	**73.76**	**337**	*e*P	**P**	**05 03 31.9**	**+0.2**
MK31	**Makanchi Array**	**73.79**	**28**	P	**P**	**05 03 31.1**	**-0.7**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
MKAR	**Makanchi Array**	**73.79**	**28**	P	**P**	**05 03 31.2**	**-0.6**
	comp=Z,16nm,0.5s,mb5.3,baz=214,slow=6.5,SNR=156						
RUE	**Ruedersdorf**	**73.95**	**343**	*e*P	**P**	**05 03 32.9**	**+0.1**
	comp=Z,67nm,1.3s,mb5.5						
RUE	**Ruedersdorf**	**73.95**	**343**	*e*P	**P**	**05 03 32.4**	**-0.3**
	comp=Z,36nm,1.0s,mb5.4						
WLF	**Walferdange**	**74.07**	**337**	*e*P	**P**	**05 03 33.7**	**+0.2**
	comp=Z,11nm,0.9s,mb4.9						
WLF	**Walferdange**	**74.07**	**337**	P	**P**	**05 03 33.4**	**-0.1**
WLF				XP	sP	05 03 38.1	+4.1
WLF				E		05 03 58.3	
WLF	**Walferdange**	**74.07**	**337**	*e*P	**P**	**05 03 33.5**	**0.0**
WLF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
WLF	**Walferdange**	**74.07**	**337**	*e*P	**P**	**05 03 33.5**	**0.0**
	comp=Z,12nm,1.0s,mb4.9						
ZRNK	**Zerenda**	**74.15**	**17**	*e*P	**P**	**05 03 32.8**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
ZRNK	**Zerenda**	**74.15**	**17**	*e*P	**P**	**05 03 32.8**	**-1.1**
	comp=Z,24nm,1.4s,mb5.0						
PVIS	**Viseu**	**74.15**	**323**	*e*P	**P**	**05 03 34.4**	**+0.5**
	comp=Z,37nm,1.7s,mb5.1						
WMQ	**Urumqi**	**74.20**	**33**	*e*P	**P**	**05 03 30.4**	**-3.8**
WMQ				AMB	AMB		
	comp=Z,150nm,3.0s						
MFF	**Saint Martin d**	**74.29**	**331**	*e*P	**P**	**05 03 34.2**	**-0.5**
	comp=Z,46nm,1.4s,mb5.0						
MFF	**Saint Martin d**	**74.29**	**331**	*e*P	**P**	**05 03 34.2**	**-0.5**
MFF				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.0						
MFF	**Saint Martin d**	**74.29**	**331**	*e*P	**P**	**05 03 34.2**	**-0.5**
	comp=Z,23nm,1.4s,mb5.0						
ECAL	**Calabor**	**74.31**	**325**	P	**P**	**05 03 35.6**	**+0.7**
	comp=Z,46nm,1.5s,mb5.3						
CLZ	**Clausthal**	**74.43**	**340**	*e*P	**P**	**05 03 36.0**	**+0.5**
	comp=Z,44nm,1.6s,mb5.2						
CLZ	**Clausthal**	**74.43**	**340**	*e*P	**P**	**05 03 36.0**	**+0.5**
CLZ				pmax	pmax		
	comp=Z,44nm,1.6s,mb5.2						
BVA2	**Borovoye Array**	**74.60**	**17**	P	**P**	**05 03 35.4**	**-1.1**
BVA2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**74.60**	**17**	P	**P**	**05 03 35.3**	**-1.2**
	comp=Z,97nm,0.6s,mb6.0,SNR=6.7						
BRVK	**Borovoye**	**74.60**	**17**	*e*P	**P**	**05 03 35.4**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**74.60**	**17**	*e*P	**P**	**05 03 35.4**	**-1.2**
	comp=Z,3.4nm,0.6s,mb4.5						
PCAB	**Cabril**	**74.88**	**324**	*e*P	**P**	**05 03 39.4**	**+1.2**
MEM	**Membach**	**74.90**	**337**	P	**P**	**05 03 38.0**	**-0.3**
MEM				E		05 03 47.8	
GIVF	**Givet**	**74.93**	**336**	*e*P	**P**	**05 03 37.5**	**-1.0**
DOU	**Dourbes**	**75.01**	**336**	P	**P**	**05 03 38.9**	**0.0**
DOU				E		05 03 47.9	
HGN	**Heimansgroeve**	**75.05**	**337**	*e*P	**P**	**05 03 39.0**	**-0.2**
	comp=Z,22nm,1.2s,mb5.1						
NRDL	**Niedersach Rie**	**75.07**	**341**	*e*P	**P**	**05 03 39.9**	**+0.6**
	comp=Z,19nm,1.4s,mb4.9						
BUG	**Bochum--Univer**	**75.13**	**338**	*e*P	**P**	**05 03 40.3**	**+0.7**
	comp=Z,30nm,1.3s,mb5.2						
ARU	**Arti**	**75.13**	**10**	P	**P**	**05 03 39.2**	**-0.4**
	comp=Z,137nm,0.7s,mb6.1,SNR=5.2						
ARU	**Arti**	**75.13**	**10⇓**	*i*P	**P**	**05 03 38.3**	**-1.3**
ARU				*e*		05 06 26.8	
ARU				*e*PPP		05 08 13.8	
ARU				*e*S	S	05 13 15.7	-3.3
ARU				*e*SS	SS	05 18 06.6	-1.4
ARU				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
ARU	**Arti**	**75.13**	**10**	*e*P	**P**	**05 03 38.4**	**-1.2**
	comp=Z,15nm,0.8s,mb5.1						
ARU				LR	LR		
	comp=Z,58nm,19.0s,MS3.9						
BAIF	**Baives**	**75.13**	**336**	*e*P	**P**	**05 03 38.8**	**-0.8**
	comp=Z,74nm,1.5s,mb5.2						
BAIF	**Baives**	**75.13**	**336**	*e*P	**P**	**05 03 38.8**	**-0.8**
BAIF				pmax	pmax		
	comp=Z,37nm,1.5s,mb5.2						
BAIF	**Baives**	**75.13**	**336**	*e*P	**P**	**05 03 38.8**	**-0.8**
	comp=Z,37nm,1.5s,mb5.2						
BEBN	**Eben Emael**	**75.17**	**337**	P	**P**	**05 03 40.1**	**+0.2**
BEBN				AP		05 03 42.8	
BEBN				E		05 03 46.4	
CHKZ	**Chkalovo**	**75.24**	**17**	*e*P	**P**	**05 03 39.3**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
CHKZ	**Chkalovo**	**75.24**	**17**	*e*P	**P**	**05 03 39.3**	**-1.0**
	comp=Z,9.0nm,0.7s,mb4.9						
KURK	**Kurchatov**	**75.37**	**23**	P	**P**	**05 03 41.4**	**+0.4**
	comp=Z,183nm,0.8s,mb6.2,SNR=15						
KURK	**Kurchatov**	**75.37**	**23⇑**	*e*P	**P**	**05 03 40.2**	**-0.8**
KURK	**Kurchatov**	**75.37**	**23**	*e*P	**P**	**05 03 39.8**	**-1.2**
	comp=Z,22nm,0.8s,mb5.2						
SNF	**Seneffe**	**75.46**	**336**	P	**P**	**05 03 42.4**	**+0.9**
SNF				E		05 03 48.9	
UCC	**Uccle**	**75.67**	**337**	P	**P**	**05 03 43.1**	**+0.4**
UCC				E		02 11 17.1	
IBBN	**Ibbenburen**	**75.68**	**339**	*e*P	**P**	**05 03 43.5**	**+0.7**
	comp=Z,28nm,1.4s,mb5.2						
WTSB	**Winterswijk**	**75.73**	**339**	*e*P	**P**	**05 03 43.5**	**+0.5**
	comp=Z,20nm,2.2s,mb4.9						
LDF	**La Druitiere**	**75.78**	**333**	*e*P	**P**	**05 03 42.4**	**-0.9**
	comp=Z,17nm,0.6s,mb5.0						
LDF	**La Druitiere**	**75.78**	**333**	*e*P	**P**	**05 03 42.4**	**-0.9**
LDF				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1						
LDF	**La Druitiere**	**75.78**	**333**	*e*P	**P**	**05 03 42.4**	**-0.9**
	comp=Z,8.7nm,0.6s,mb5.1						
STS	**Santiago**	**75.94**	**324**	P	**P**	**05 03 45.4**	**+1.1**
STS				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.8						
STS	**Santiago**	**75.94**	**324**	P	**P**	**05 03 45.4**	**+1.1**
	comp=Z,3.4nm,0.4s,mb4.8						
GRR	**Gorron**	**75.95**	**332**	*e*P	**P**	**05 03 43.2**	**-1.1**
	comp=Z,36nm,1.3s,mb5.0						
GRR	**Gorron**	**75.95**	**332**	*e*P	**P**	**05 03 43.2**	**-1.1**
GRR				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.0						
GRR	**Gorron**	**75.95**	**332**	*e*P	**P**	**05 03 43.2**	**-1.1**
	comp=Z,18nm,1.3s,mb5.0						
FLN	**La Foliniere**	**76.06**	**333**	*e*P	**P**	**05 03 43.8**	**-1.2**
	comp=Z,19nm,0.7s,mb5.0						
FLN	**La Foliniere**	**76.06**	**333**	*e*P	**P**	**05 03 43.8**	**-1.2**
FLN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
FLN	**La Foliniere**	**76.06**	**333**	*e*P	**P**	**05 03 43.8**	**-1.2**
	comp=Z,9.4nm,0.7s,mb5.0						
BSEG	**Bad Segeberg**	**76.24**	**341**	*e*P	**P**	**05 03 46.1**	**+0.1**
	comp=Z,41nm,1.5s,mb5.3						
BSEG	**Bad Segeberg**	**76.24**	**341**	*e*P	**P**	**05 03 46.1**	**+0.1**
BSEG				pmax	pmax		
	comp=Z,41nm,1.5s,mb5.3						
MENF	**Mencas**	**76.33**	**335**	*e*P	**P**	**05 03 46.9**	**+0.4**
SGMF	**Saint Gilles**	**76.61**	**331**	*e*P	**P**	**05 03 46.8**	**-1.3**
	comp=Z,101nm,1.7s,mb5.4						
SGMF	**Saint Gilles**	**76.61**	**331**	*e*P	**P**	**05 03 46.8**	**-1.3**
SGMF				pmax	pmax		
	comp=Z,50nm,1.7s,mb5.4						
SGMF	**Saint Gilles**	**76.61**	**331**	*e*P	**P**	**05 03 46.8**	**-1.3**
	comp=Z,50nm,1.7s,mb5.4						
CD2	**Chengdu**	**76.64**	**51**	*e*P	**P**	**05 03 48.5**	**+0.3**
CD2				AP		05 03 53.3	
CD2				XP	sP	05 03 55.5	+6.7
CD2				PP	PP	05 06 42.8	+2.4
CD2				S	S	05 13 34.1	-1.5
CD2				SS	SS	05 18 33.0	+2.2
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.6						
CD2				AMB	AMB		
	comp=Z,100nm,6.2s						
QUIF	**Quistinic**	**76.65**	**331**	*e*P	**P**	**05 03 47.5**	**-0.8**
	comp=Z,73nm,1.4s,mb5.3						
QUIF	**Quistinic**	**76.65**	**331**	*e*P	**P**	**05 03 47.5**	**-0.8**
QUIF				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.3						
QUIF	**Quistinic**	**76.65**	**331**	*e*P	**P**	**05 03 47.5**	**-0.8**
	comp=Z,36nm,1.4s,mb5.3						
GYA	**Guiyang**	**76.74**	**56⇑**	*i*P	**P**	**05 03 49.1**	**+0.3**
GYA				AP		05 03 53.8	
GYA				XP	sP	05 03 56.4	+7.1
GYA				PP	PP	05 06 43.6	+2.4
GYA				S	S	05 13 34.8	-2.0
GYA				SKS		05 13 55.6	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,110nm,3.9s						
GYA				LR	LR		
	comp=N,420nm,18.9s,MS4.9						
GYA				LR	LR		
	comp=E,390nm,19.0s,MS4.9						
GYA				LR	LR		
	comp=Z,410nm,19.4s,MS4.8						
ROSF	**Rostrenen**	**77.00**	**331**	*e*P	**P**	**05 03 49.9**	**-0.4**
	comp=Z,24nm,1.1s,mb5.0						
ROSF	**Rostrenen**	**77.00**	**331**	*e*P	**P**	**05 03 49.9**	**-0.4**
ROSF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
ROSF	**Rostrenen**	**77.00**	**331**	*e*P	**P**	**05 03 49.9**	**-0.4**
	comp=Z,12nm,1.1s,mb4.9						
SOKR	**Solikamsk**	**77.91**	**8**	*e*P	**P**	**05 03 53.7**	**-1.7**
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.4						
KLMR	**Klimovskoe**	**78.25**	**359**	*e*P	**P**	**05 03 55.5**	**-1.8**
GTA	**Gaotai**	**78.42**	**42**	P	**P**	**05 03 59.4**	**+1.2**
GTA				AP		05 04 02.8	
GTA				XP	sP	05 04 04.8	+6.0
GTA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**79.03**	**106**	P	**P**	**05 04 01.9**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.4,baz=143,slow=2.8,SNR=4.3						
LZH	**Lanzhou**	**79.32**	**47**	*e*P	**P**	**05 04 04.0**	**+0.8**
LZH				AP		05 04 10.0	
LZH				XP	sP	05 04 16.0	+12
LZH				PP	PP	05 07 06.3	+3.4
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,250nm,5.5s						
FINES	**FINESS Array B**	**79.82**	**352**	P	**P**	**05 04 04.1**	**-1.8**
	comp=Z,4.7nm,0.9s,mb4.4,baz=151,slow=6.9,SNR=19						
FINES	**FINESS Array B**	**79.82**	**352**	*i* P	**P**	**05 04 05.0**	**-0.9**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAL	**Zalesovo**	**80.26**	**24**	P	**P**	**05 04 07.4**	**-0.8**
	comp=Z,9.9nm,0.7s,mb4.8,baz=245,slow=6.1,SNR=20						
NVS	**Novosibirsk**	**80.35**	**23**	*e*P	**P**	**05 04 08.2**	**-0.5**
NVS				pmax	pmax		
	comp=Z,67nm,1.2s,mb5.5						
NVS				pmax	pmax		
	comp=N,49nm,1.3s						
KAF	**Kangasniemi**	**80.44**	**353**	*e*p	**P**	**05 04 07.2**	**-2.0**
	comp=N,10nm,0.5s,mb5.0						
KAF	**Kangasniemi**	**80.44**	**353**	*e*P	**P**	**05 04 07.2**	**-2.0**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
JOF	**Joensuu**	**80.72**	**355**	*e*p	**P**	**05 04 10.0**	**-0.7**
	comp=Z,14nm,1.2s,mb4.9						
JOF	**Joensuu**	**80.72**	**355**	*e*P	**P**	**05 04 10.0**	**-0.7**
JOF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
KONO	**Kongsberg**	**81.36**	**344**	*e*P	**P**	**05 04 13.2**	**-0.9**
KONO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KONO	**Kongsberg**	**81.36**	**344**	*e*P	**P**	**05 04 13.2**	**-0.9**
	comp=Z,10nm,0.8s,mb4.9						
XAN	**Xi'an**	**81.96**	**51**	P	**P**	**05 04 17.6**	**+0.3**
XAN				AP		05 04 24.3	
XAN				AMB	AMB		
	comp=Z,20nm,2.0s,mb4.9						
ESK	**Eskdalemuir**	**82.06**	**336**	*e*P	**P**	**05 04 17.6**	**-0.2**
ESK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
ESK	**Eskdalemuir**	**82.06**	**336**	*e*P	**P**	**05 04 17.6**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.7						
NAO01	**NORSAR Array S**	**82.08**	**345**	*e*P	**P**	**05 04 17.3**	**-0.6**
	comp=Z,9.5nm,0.7s,mb5.0						
NB2	**NORSAR Subarra**	**82.17**	**346**	P	**P**	**05 04 17.9**	**-0.5**
	comp=Z,0.8nm,0.7s,mb4.0,baz=143,slow=5.6						
NOA	**NORSAR Array B**	**82.17**	**346**	P	**P**	**05 04 18.1**	**-0.2**
	comp=Z,5.3nm,0.8s,mb4.8,baz=140,slow=5.3,SNR=30						
WHN	**Wuhan**	**84.59**	**56**	⇑P	**P**	**05 04 31.5**	**+0.6**
ASAR	**Alice Springs**	**84.95**	**113**	P	**P**	**05 04 32.9**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.8,baz=259,slow=4.6,SNR=49						
ASAR				LR	LR	05 39 14.5	
	comp=Z,241nm,18.4s,MS4.6,baz=203,slow=33						
BDFB	**Brasilia**	**85.19**	**255**	P	**P**	**05 04 35.8**	**+2.0**
	comp=Z,5.8nm,0.8s,mb4.9,baz=96,slow=6.4,SNR=9.2						
BDFB				LR	LR	05 40 44.4	
	comp=Z,217nm,18.0s,MS4.6,baz=222,slow=34						
APA	**Apatity**	**85.20**	**357⇓**	*e*P	**P**	**05 04 33.5**	**-0.4**
APA				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.5						
WRA	**Warramunga Arr**	**86.43**	**110**	P	**P**	**05 04 40.5**	**+0.5**
	comp=Z,1.8nm,0.7s,mb4.3,baz=257,slow=3.6,SNR=7.9						
WRAB	**Tennant Creek**	**86.44**	**110**	*e*P	**P**	**05 04 40.5**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
WRAB	**Tennant Creek**	**86.44**	**110**	*e*P	**P**	**05 04 40.5**	**+0.4**
	comp=Z,11nm,1.1s,mb4.9						
ZAK	**Zakamensk**	**86.57**	**34**	*e*P	**P**	**05 04 40.7**	**0.0**
ZAK				pmax	pmax		
	comp=Z,16nm,1.9s,mb4.9						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.6						
HHC	**Hu-ho-hao-te**	**86.92**	**45**	*e*P	**P**	**05 04 42.6**	**+0.2**
HHC				AP		05 04 47.3	
HHC				XP	sP	05 04 49.6	+6.6
HHC				PP	PP	05 08 07.6	+2.4
HHC				SKS		05 15 06.6	
HHC				S		05 15 18.5	
HHC				SS	SS	05 21 05.1	+1.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.2						
HHC				AMB	AMB		
	comp=Z,140nm,4.6s						
HHC				LR	LR		
	comp=N,120nm,14.3s,MS4.6						
HHC				LR	LR		
	comp=E,140nm,15.5s,MS4.6						
HHC				LR	LR		
	comp=Z,90nm,16.6s,MS4.2						
SONM	**Songino Array**	**86.97**	**38**	P	**P**	**05 04 42.0**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.3,baz=244,slow=4.6,SNR=11						
ULN	**Ulaanbaatar**	**87.37**	**38⇑**	*e*P	**P**	**05 04 44.3**	**-0.3**
ULN	**Ulaanbaatar**	**87.37**	**38**	*e*P	**P**	**05 04 43.6**	**-1.0**
	comp=Z,7.6nm,1.3s,mb4.8						
TLY	**Talaya**	**87.47**	**33**	*e*P	**P**	**05 04 45.9**	**+0.8**
TLY				pmax	pmax		
	comp=Z,12nm,2.3s,mb4.7						
ARCES	**ARCESS Array B**	**87.72**	**354**	P	**P**	**05 04 45.8**	**-0.5**
	comp=Z,6.1nm,0.6s,mb5.1,baz=158,slow=3.9,SNR=24						
ARE0	**ARCESS Array S**	**87.72**	**354**	*e*P	**P**	**05 04 45.9**	**-0.4**
NJ2	**Nanjing**	**88.73**	**56**	*e*P	**P**	**05 04 51.4**	**+0.3**
NJ2				AP		05 04 56.6	
NJ2				XP	sP	05 04 59.3	+7.6
NJ2				PP	PP	05 08 22.0	+2.3
NJ2				SKS		05 15 19.0	
NJ2				S		05 15 35.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,70nm,10.1s						
NJ2				LR	LR		
	comp=N,940nm,14.4s,MS5.5						
NJ2				LR	LR		
	comp=E,770nm,11.0s,MS5.5						
NJ2				LR	LR		
	comp=Z,520nm,10.6s,MS5.2						
STKA	**Stephens Creek**	**88.84**	**123**	*e*P	**P**	**05 04 48.7**	**-2.9**
TRQA	**Tornquist**	**89.67**	**230**	*e*P	**P**	**05 04 56.9**	**+1.5**
	comp=Z,7.0nm,0.9s,mb4.9						
CPUP	**Villa Florida**	**90.16**	**242**	P	**P**	**05 04 59.8**	**+2.0**
	comp=Z,2.0nm,0.9s,mb4.4,baz=110,slow=4.1,SNR=4.3						
CPUP				LR	LR	05 43 57.9	
	comp=Z,155nm,18.3s,MS4.5,baz=108,slow=35						
SSE	**Sheshan**	**90.25**	**57**	P	**P**	**05 04 57.1**	**-1.1**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,80nm,7.3s						
CN2	**Changchun**	**97.56**	**47**	*e*P	**P**	**05 05 32.6**	**+0.8**
CN2				*e*S		05 16 54.0	
MDJ	**Mudanjiang**	**100.65**	**47**	P	Pdif	05 05 44.8	-0.8
MDJ				PP	PP	05 09 50.3	-2.3
MDJ				S	Sdif	05 17 20.1	-3.7
MDJ				SS	SS	05 24 20.0	-0.1
MDJ				AMB	AMB		
	comp=Z,20nm,4.9s						
MDJ				LR	LR		
	comp=N,400nm,21.9s,MS4.9						
MDJ				LR	LR		
	comp=E,100nm,23.1s,MS4.9						
MDJ				LR	LR		
	comp=Z,190nm,15.6s						
RES	**Resolute Bay**	**118.36**	**348**	*e*PKIKP	PKPdf	05 10 44.0	-1.0
OTAV	**Otavalo**	**118.78**	**260**	*e*PKPdf	PKPdf	05 10 47.7	+1.9
BILL	**Bilibino**	**118.83**	**21**	*i* PKIKP	PKPdf	05 10 46.0	+0.1
FCC	**Fort Churchill**	**127.88**	**333**	*e*PKIKP	PKPdf	05 11 02.6	-0.7
JTS	**JuntasAbangare**	**127.94**	**269**	*e*PKIKP	PKPdf	05 11 04.2	+0.8
INK	**Inuvik**	**129.28**	**358**	*e*PKIKP	PKPdf	05 11 04.8	-1.1
WVT	**Waverly**	**132.00**	**303**	*e*PKIKP	PKPdf	05 11 11.0	-0.1
TEIG	**Tepich**	**132.84**	**281**	*e*PKPdf	PKPdf	05 11 13.0	+0.3
FFC	**Flin Flon**	**133.76**	**332**	*e*PKIKP	PKPdf	05 11 13.3	-1.1
CCM	**Cathedral Cave**	**134.32**	**306**	*e*PKIKP	PKPdf	05 11 15.1	-0.4
ECSD	**EROS,Sioux Fal**	**136.43**	**316**	*e*PKPdf	PKPdf	05 11 18.8	-0.6
RSSD	**Black Hills**	**141.01**	**320**	*e*PKIKP	PKPdf	05 11 28.5	+0.7
EGMT	**Eagleton**	**141.83**	**329**	*e*PKPdf	PKPdf	05 11 27

BMO	Blue Mountains	147.72	332	ePKIKP	PKPdf	05 11 39.9 +0.5
BMO				e		05 11 42.0
SRU	San Rafael	147.81	317	ePKIKP	PKPdf	05 11 40.6 +1.0
SRU				e		05 11 43.0
MPU	Maple Canyon	147.99	320	ePKPbc	PKPbc	05 11 43.1 +0.1
E05A	Randle	148.12	338	⇓P	PKPbc	05 11 43.5 +0.3
	baz=148					
TMUT	Trail Mountain	148.14	318	ePKPdf	PKPdf	05 11 40.7 +0.6
TMUT				ePKPbc	PKPbc	05 11 43.7 +0.4
NLU	North Lily Min	148.30	320	ePKPdf	PKPdf	05 11 38.6 -1.8
NLU				ePKPbc	PKPbc	05 11 44.1 +0.3
DUG	Dugway	148.60	321	ePKIKP	PKPdf	05 11 42.1 +1.2
M13A	Montello	148.64	324	⇑P	PKPbc	05 11 45.5 +0.8
	baz=149					
E03A	Lebam	148.74	340	⇑P	PKPbc	05 11 45.8 +0.9
	baz=149					
N13A	West Wendover	148.99	323	⇑P	PKPbc	05 11 46.7 +1.1
	baz=149					
M12A	Wells	149.02	325	⇑P	PKPbc	05 11 46.9 +1.3
	baz=149					
VFP	Flag Point	149.07	337	P	PKPbc	05 11 46.8 +1.0
G05A	Wamic	149.08	336	⇓P	PKPbc	05 11 46.7 +0.9
	baz=149					
MSU	Marysvale	149.21	318	ePKIKP	PKPdf	05 11 43.8 +1.9
MSU				e		05 11 47.6
N12A	Wells--Clov Va	149.47	324	⇑P	PKPbc	05 11 47.9 +1.1
	baz=150					
M11A	Holland Ranch,	149.48	326	⇑P	PKPbc	05 11 48.3 +1.6
	baz=150					
ELK	Elko	149.65	324	ePKPbc	PKPbc	05 11 47.9 +0.7
ELK				ePKPab	PKPab	05 11 53.5 +1.2
I06A	Prineville	149.71	334	P	PKPbc	05 11 48.9 +1.5
	baz=150,SNR=7.9					
M10A	I.L. Ranch, Tu	149.82	327	⇓P	PKPbc	05 11 49.0 +1.4
	baz=150					
N11A	Elko Archery C	149.88	325	⇑P	PKPbc	05 11 48.9 +1.1
	baz=150					
H04A	Detroit Lake	149.88	337	⇑P	PKPbc	05 11 48.0 +0.2
	baz=150					
I05A	Bend	149.97	335	⇑P	PKPbc	05 11 49.2 +1.2
	baz=150					
L09A	Wilkinson Ranc	150.03	328	⇓P	PKPbc	05 11 49.5 +1.3
	baz=150,SNR=8.0					
WVOR	Wild Horse Val	150.19	330	ePKIKP	PKPdf	05 11 44.3 +0.9
WVOR				e		05 11 49.1
L08A	Fields	150.24	329	⇑P	PKPbc	05 11 49.9 +1.3
	baz=150,SNR=9.8					
J06A	Christmas Vall	150.24	333	⇑P	PKPbc	05 11 49.6 +1.0
	baz=150,SNR=16					
K07A	Rock Creek Ran	150.28	331	P	PKPbc	05 11 50.0 +1.3
	baz=150,SNR=7.4					
H03A	Soap Creek Ran	150.28	338	⇓P	PKPbc	05 11 49.7 +1.0
	baz=150					
O11A	Cowboy Ranch,	150.30	324	⇑P	PKPbc	05 11 49.9 +1.1
	baz=150					
M09A	Marrel Ranch,	150.37	327	⇓P	PKPbc	05 11 50.1 +1.2
	baz=150					
N10A	Dunphy	150.37	325	⇓P	PKPbc	05 11 50.0 +1.1
	baz=150					
ARUT	Antelope Range	150.44	318	ePKIKP	PKPdf	05 11 46.1 +2.3
K06A	Valley Falls	150.65	332	P	PKPbc	05 11 50.9 +1.3
	baz=151,SNR=6.7					
P11A	Circle Ranch,	150.74	323	⇓P	PKPbc	05 11 51.2 +1.4
	baz=151					
M08A	Happy Creek Ra	150.81	328	P	PKPbc	05 11 51.5 +1.5
	baz=151,SNR=9.2					
L07A	Adell	150.85	330	⇑P	PKPbc	05 11 51.2 +1.1
	baz=151,SNR=6.0					
I03A	Eugene	150.90	338	⇑P	PKPbc	05 11 51.4 +1.2
	baz=151					
W15A	Williams	151.07	312	⇓P	PKPbc	05 11 52.2 +1.6
	baz=151,SNR=5.2					
P10A	Eureka	151.10	324	⇓P	PKPbc	05 11 51.7 +1.1
	baz=151					
O09A	Fish Creek Ran	151.12	325	⇑P	PKPbc	05 11 51.6 +0.9
	baz=151					
Q11A	Duckwater	151.15	322	⇓P	PKPbc	05 11 51.7 +1.0
	baz=151,SNR=8.1					
N08A	GE Springer Mi	151.18	327	⇑P	PKPbc	05 11 51.9 +1.0
	baz=151,SNR=12					
M07A	Soldier Meadow	151.25	329	⇓P	PKPbc	05 11 52.2 +1.2
	baz=151,SNR=7.6					
TUC	Tucson	151.28	306	ePKIKP	PKPdf	05 11 46.2 +1.1
TUC				e		05 11 52.1
TUC	Tucson	151.28	306	ePKPdf	PKPdf	05 11 46.2 +1.1
TUC				ePKPbc	PKPbc	05 11 52.1 +1.0
TUC				ePKPab	PKPab	05 12 00.2 +1.1
X15A	Humboldt	151.40	311	⇑P	PKPbc	05 11 53.0 +1.7
	baz=151,SNR=15					
K04A	Chilquin	151.44	334	⇓P	PKPbc	05 11 52.1 +0.7
	baz=151					
L05A	Lakeview	151.50	332	⇑P	PKPbc	05 11 52.8 +1.2
	baz=152,SNR=7.4					
J02A	Umpqua	151.52	337	⇓P	PKPbc	05 11 52.7 +1.1
	baz=152					
W14A	Seligman	151.63	313	⇓P	PKPbc	05 11 53.9 +2.0
	baz=152,SNR=16					
L04A	Klamath Falls	151.87	334	⇑P	PKPbc	05 11 53.1 +0.6
	baz=152					
X14A	Yava	151.87	311	⇑P	PKPbc	05 11 53.9 +1.5
	baz=152,SNR=5.5					
116A	Eloy	151.88	307	P	PKPbc	05 11 53.4 +0.9
	baz=152,SNR=8.9					
R10A	Warm Springs	151.90	321	⇑P	PKPbc	05 11 53.6 +1.1
	baz=152					
U12A	Valley of Fire	151.94	316	⇓P	PKPbc	05 11 53.6 +1.0
	baz=152					
P08A	Dixie Valley	151.95	326	⇑P	PKPbc	05 11 53.4 +0.8
	baz=152					
K02A	Glendale	152.01	337	⇑P	PKPbc	05 11 53.8 +1.1
	baz=152					
M06C	Likely Place G	152.02	331	⇑P	PKPbc	05 11 53.8 +1.0
	baz=152					
O07A	Toulon	152.03	327	⇑P	PKPbc	05 11 53.7 +0.9
	baz=152					
M04C	Macdoel	152.17	333	⇓P	PKPbc	05 11 53.9 +0.8
	baz=152					
M05C	Lookout	152.20	332	⇓P	PKPbc	05 11 54.0 +0.8
	baz=152					
Y14A	Wickenburg	152.22	311	⇓P	PKPbc	05 11 54.1 +0.9
	baz=152					
115A	Sonoran Desert	152.22	308	⇓P	PKPbc	05 11 54.0 +0.8
	baz=152					
R09A	Tonopah	152.38	322	⇑P	PKPbc	05 11 54.6 +1.0
	baz=152,SNR=6.4					
Q08A	Gabbs	152.45	324	⇑P	PKPbc	05 11 54.2 +0.5
	baz=152					
Z14A	Wintersburg	152.46	309	⇓P	PKPbc	05 11 54.8 +1.0
	baz=152					
X13A	Yucca	152.48	313	⇓P	PKPbc	05 11 55.3 +1.5
	baz=152,SNR=6.8					
O06A	Flanigan	152.51	328	P	PKPbc	05 11 54.8 +0.9
	baz=152,SNR=7.3					
V12A	Nelson	152.55	316	P	PKPbc	05 11 55.8 +1.8
	baz=153,SNR=8.2					
PAHR	Pah Rah Range	152.62	327	ePKPdf	PKPdf	05 11 48.4 +1.2
PAHR				ePKPbc	PKPbc	05 11 54.4 +0.2
LBCM	Butte Creek Ri	152.71	331	P	PKPbc	05 11 55.0 +0.7
HATC	Hat Creek Radi	152.77	331	⇓P	PKPbc	05 11 55.5 +1.0
	baz=153					
S09A	Goldfield	152.82	322	⇓P	PKPbc	05 11 55.9 +1.4
	baz=153,SNR=8.8					
V11A	Goodsprings	152.87	316	⇑P	PKPbc	05 11 56.1 +1.4
	baz=153					
MNV	Mina	152.88	324	ePKIKP	PKPdf	05 11 48.6 +1.1
MNV				e		05 11 55.4
Y13A	Salome	152.88	311	⇑P	PKPbc	05 11 55.9 +1.2
	baz=153					
P06A	Stead Airport,	152.91	328	⇑P	PKPbc	05 11 55.7 +0.9
	baz=153					
R08A	Mina	152.91	324	⇓P	PKPbc	05 11 55.9 +1.1
	baz=153					
M02C	Callahan	152.91	334	⇑P	PKPbc	05 11 55.5 +0.7
	baz=153					
NVAR	Mina Array Bea	152.96	324	PKP	PKPdf	05 11 49.9 +2.3
	comp=Z,0.9nm,0.7s,baz=115,slow=3.0,SNR=7.4					
NVAR				PKPbc	PKPbc	05 11 55.5 +0.7
	comp=Z,3.3nm,0.8s,baz=87,slow=3.7,SNR=16					
NVAR	Mina Array Bea	152.96	324	PKP	PKPdf	05 11 49.9 +2.3
NVAR				PKPbc	PKPbc	05 11 55.5 +0.7
U10A	Ash Meadows, A	153.11	318	⇑P	PKPbc	05 11 57.1 +1.9
	baz=153					
WCN	Washoe City	153.12	327	⇓P	PKPbc	05 11 56.6 +1.4
	baz=153					
Y12C	Blythe	153.40	312	⇑P	PKPbc	05 11 57.2 +1.4
	baz=153					
TUQ	Turquoise Mtn.	153.44	316	⇑P	PKPbc	05 11 57.4 +1.5
	baz=154					
S08C	White Mtn Res	153.53	322	⇑P	PKPbc	05 11 57.9 +1.8
	baz=154					
P05C	Yuba Gap, Truc	153.55	328	⇓P	PKPbc	05 11 56.9 +0.7
	baz=154					
N02C	Big Bar	153.58	334	⇑P	PKPbc	05 11 57.1 +0.9
	baz=154					
R07C	Lee Vining	153.62	324	⇑P	PKPbc	05 11 57.9 +1.6
	baz=154					
O03C	Acorn Hollow,	153.69	331	⇓P	PKPbc	05 11 57.2 +0.8
	baz=154					
R05C	Kirkwood Meado	153.73	327	⇑P	PKPbc	05 11 57.7 +1.2
	baz=154					
ORV	Oroville	153.79	330	⇑P	PKPbc	05 11 57.4 +0.7
	baz=154					
O02C	Red Bluff	153.89	332	⇓P	PKPbc	05 11 57.6 +0.7
	baz=154					
GLA	Glamis	153.98	311	⇑P	PKPbc	05 11 58.1 +1.0
	baz=154					
LAVA	Lava Cap Winer	154.03	328	⇓P	PKPbc	05 11 57.7 +0.5
	baz=154					
SUTB	Sutter Buttes	154.19	330	⇓P	PKPbc	05 11 57.8 +0.2
	baz=154					
S06C	San Francisco	154.21	325	⇑P	PKPbc	05 11 58.9 +1.3
	baz=154					
GASB	Alder Springs	154.29	332	⇓P	PKPbc	05 11 59.0 +1.2
	baz=154					
Q04C	Lincoln	154.29	329	⇓P	PKPbc	05 11 58.9 +1.1
	baz=154					
O01C	Eel River Cons	154.36	334	⇑P	PKPbc	05 11 58.7 +0.8
	baz=154					
CMB	Columbia Colle	154.38	326	⇓P	PKPbc	05 11 58.6 +0.6
	baz=154					
PFO	Pinyon Flat Ob	154.84	313	⇑P	PKPbc	05 12 00.4 +1.5
	baz=155					

*ISCJB **25** 04:55:56.3±0.5, 1756S±009×4183E±008, h10km, mb4.1/19, Error ellipse: s-maj=13.5km s-min=10.7km az=124.6*
*IDC **25** 04:55:56.6±0.8, 1755S×4179E, h0km, mb4.0/11, mb1 4.2/14, mb1mx4.0/25, mbtmp4.1/14, ML4.4/3, Error ellipse: s-maj=22.0km s-min=18.9km az=135.0*
*NEIC **25** 04:55:57.9±0.3, 1759S×4179E, h10km, mb4.4/11, Error ellipse: s-maj=9.3km s-min=7.1km az=160.0*

ISC 25 04:55:57.5±5.7, 176S±01×4187E±007, h8km±36km, n50, σ0984/29, mb4.1/19, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	5.14	102	Pn	Pn	Sn	04 57 15.6	+0.8
	13nm,0.3s,baz=281,slow=17,SNR=9.8							
OPO				Sn		Sn	04 58 11.5	-2.9
	12nm,0.3s,baz=211,slow=18,SNR=3.5							
LSZ	Lusaka	13.33	278	Pn	Pn	Sn	04 59 04.7	-2.3
	2.2nm,0.3s,baz=161,slow=17,SNR=3.6							
LSZ	Lusaka	13.33	278	ePn	Pn	Sn	04 59 04.8	-2.2
BOSA	Boshof	18.78	231	P	Pn	Sn	05 00 17.7	+0.1
	0.7nm,0.3s,baz=348,slow=9.3,SNR=3.7							
TSUM	Tsumeb	23.10	262	P	P		05 01 04.3	+0.5
	2.8nm,0.8s,mb3.8,baz=80,slow=11,SNR=3.2							
TSUM	Tsumeb	23.10	262	eP	P		05 01 03.7	0.0
	12nm,1.2s,mb4.2							
SUR	Sutherland	24.03	228	P	P		05 01 12.8	-0.2
	22nm,0.9s,mb4.6,baz=46,slow=6.8,SNR=5.8							
SUR	Sutherland	24.03	228	eP	P		05 01 12.9	-0.1
	25nm,0.8s,mb4.7							
TORD	Torodi Ar. Bea	50.07	305	P	P		05 04 53.3	+0.5
	1.5nm,0.8s,mb4.1,baz=126,slow=6.8,SNR=7.5							
MAW	Mawson	51.77	170	P	P		05 05 06.4	+0.8
	0.7nm,0.4s,mb3.9,baz=0.7,slow=11,SNR=4.5							
DBIC	Dimbokro	52.07	294	P	P		05 05 08.1	+0.3
	1.3nm,0.5s,mb4.1,baz=109,slow=14,SNR=5.1							
DBIC	Dimbokro	52.07	294	eP	P		05 05 07.7	-0.1
	3.4nm,0.8s,mb4.3							
BRTR	Keskin Array B	57.55	352	P	P		05 05 48.5	+1.0
	0.8nm,0.7s,mb3.9,baz=173,slow=11,SNR=5.3							
PSZ	Piszkesteto	68.13	344	eP	P		05 06 58.2	+0.2
	3.4nm,0.8s,mb4.4							
BNI	Bardonecchia	70.10	334	eP	P		05 07 12.1	+1.8
	5.1nm,1.0s,mb4.4							
GERES	GERESS Array B	70.75	341	P	P		05 07 13.8	-0.4
	0.9nm,0.7s,mb3.8,baz=145,slow=4.9,SNR=7.5							
ESDC	Sonseca Array	71.23	324	P	P		05 07 16.2	-0.9
	0.4nm,0.5s,mb3.6,baz=133,slow=5.6,SNR=3.9							
MKAR	Makanchi Array	73.71	28	P	P		05 07 32.2	+0.2
	2.0nm,0.7s,mb4.2,baz=216,slow=6.3,SNR=10							
MKAR	Makanchi Array	73.71	28	P	P		05 07 32.2	+0.2
ZRNK	Zerenda	74.08	17	eP	P		05 07 33.3	-0.8
	2.1nm,0.9s,mb4.1							
BRVK	Borovoye	74.53	17	eP	P		05 07 36.5	-0.3
	1.0nm,0.6s,mb3.9							
ARU	Arti	75.07	10	eP	P		05 07 39.3	-0.6
	2.2nm,0.5s,mb4.3							
CHKZ	Chkalovo	75.17	17	eP	P		05 07 40.6	+0.1
	2.1nm,0.8s,mb4.1							
KURK	Kurchatov	75.30	23	eP	P		05 07 41.0	-0.1
	4.2nm,0.9s,mb4.4							
ZAL	Zalesovo	80.18	24	P	P		05 08 09.1	+0.7
	1.3nm,0.7s,mb4.0,baz=226,slow=8.3,SNR=4.3							
NAO01	NORSAR Array S	82.05	345	eP	P		05 08 18.2	-0.2
	5.7nm,1.0s,mb4.5							
NOA	NORSAR Array B	82.14	345	P	P		05 08 18.8	0.0
	1.5nm,1.0s,mb3.9,baz=157,slow=4.5,SNR=3.5							
NOA	NORSAR Array B	82.14	345	P	P		05 08 18.8	0.0
DLMT	Dillon	145.08	328	ePKPdf	PKPdf		05 15 36.4	+0.9
PDAR	Pinedale Array	145.10	322	PKPbc	PKPbc		05 15 35.2	+0.2
	0.9nm,0.8s,baz=64,slow=4.1,SNR=5.9							
IMW	Indian Meadow	145.19	325	ePKPdf	PKPdf		05 15 35.8	+0.1
IMW				e			05 15 42.6	
SMCO	Snowmass	145.44	315	ePKPbc	PKPbc		05 15 37.4	+1.3
MCMT	McKenzie Canyo	145.58	327	ePKPbc	PKPbc		05 15 38.0	+1.5
LTX	Lajitas	146.43	297	ePKPbc	PKPbc		05 15 39.5	+0.4
HWUT	Hardware Ranch	146.99	322	ePKPbc	PKPbc		05 15 41.2	+0.4
PV01	Paradox Valley	147.04	314	ePKPbc	PKPbc		05 15 41.8	+0.9
TCUT	Toone Canyon	147.20	321	ePKPbc	PKPbc		05 15 41.3	0.0
PV10	Paradox Valley	147.24	315	ePKPbc	PKPbc		05 15 42.7	+1.3
BNM	Barren Site	147.39	306	ePKPbc	PKPbc		05 15 42.2	+0.4
MVCO	Mesa Verde	147.45	313	ePKPbc	PKPbc		05 15 42.2	+0.1
HVU	Hansel Valley	147.59	323	ePKPbc	PKPbc		05 15 43.2	+0.8
BMO	Blue Mountains	147.72	332	ePKPbc	PKPbc		05 15 42.4	-0.4
SRU	San Rafael	147.82	317	ePKPbc	PKPbc		05 15 43.5	+0.4
SRU				ePKPab	PKPab		05 15 48.9	+3.4
DUG	Dugway	148.61	321	ePKPdf	PKPdf		05 15 41.5	0.0
DUG				ePKPbc	PKPbc		05 15 44.7	-0.4
MSU	Marysvale	149.23	318	ePKPbc	PKPbc		05 15 44.9	-1.8
ELK	Elko	149.66	324	ePKPbc	PKPbc		05 15 48.1	+0.4
ELK				ePKPab	PKPab		05 15 53.4	+0.5
ARUT	Antelope Range	150.46	318	ePKPdf	PKPdf		05 15 45.0	+0.6
ARUT				ePKPbc	PKPbc		05 15 49.8	+0.1
TUC	Tucson	151.32	306	ePKPbc	PKPbc		05 15 52.3	+0.6
TUC				ePKPab	PKPab		05 15 59.5	-0.3
NVAR	Mina Array Bea	152.97	324	PKPbc	PKPbc		05 15 56.2	+0.8
	1.2nm,0.9s,baz=91,slow=2.5,SNR=3.7							
NVAR	Mina Array Bea	152.97	324	PKPbc	PKPbc		05 15 56.2	+0.7

*IDC **25** 05:03:35.6±1.3, 643S×1296E, h0km, mb3.8/3, mb1 4.3/6, mb1mx4.0/15, mbtmp4.1/6, ML4.3/3, Error ellipse: s-maj=50.8km s-min=21.7km az=67.0*
*NEIC **25** 05:03:41.4±3.2, 661S×1295E, h45km±35km, mb4.0/3, Error ellipse: s-maj=27.2km s-min=16.1km az=198.0*
*ISCJB **25** 05:03:49.8±2.9, 7.1S±0.1×1294E±02, h155km±30km, mb3.7/4, Error ellipse: s-maj=30.4km s-min=14.8km az=123.0*

ISC 25 05:03:55.3±2.1, 74S±01×1292E±02, h200km±22km, n11, σ0973/15, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.20	198	Pn	Pn		05 06 30.7	+0.9
	0.5nm,0.3s,baz=0.8,slow=15,SNR=25							
FITZ				Sn		Sn	05 08 31.1	-3.6
	2.5nm,0.3s,baz=99,slow=20,SNR=11							
WRAB	Tennant Creek	13.45	159	ePn	Pn		05 06 57.2	-1.0
	16nm,0.3s							
WRAB				eSn		Sn	05 09 21.2	-7.2
WRA	Warramunga Arr	13.45	159	Pn	Pn		05 06 58.2	-0.2
	2.2nm,0.3s,baz=343,slow=11,SNR=23							
WRA				Sn		Sn	05 09 20.6	-7.9
	3.1nm,0.3s,baz=331,slow=22,SNR=9.7							
MBWA	Marble Bar	16.46	213	eP	P		05 07 39.4	+5.3
	15nm,1.2s							
ASAR	Alice Springs	16.82	165	P	P		05 07 42.4	+4.3
	2.7nm,0.3s,baz=347,slow=11,SNR=175							
ASAR				S		S	05 10 43.2	-0.1
	0.4nm,0.3s,baz=331,slow=19,SNR=4.8							
CTA	Charters Tower	20.82	129	P	P		05 08 22.2	+0.9
	4.2nm,0.8s,baz=276,slow=10,SNR=2.8							
SONM	Songino Array	58.55	342	P	P		05 13 30.1	-0.7
	0.4nm,0.6s,mb3.2,baz=160,slow=6.2,SNR=3.9							
MKAR	Makanchi Array	68.10	327	P	P		05 14 32.9	-0.5
	0.6nm,0.3s,mb3.7,baz=119,slow=8.1,SNR=7.9							
MKAR	Makanchi Array	68.10	327	P	P		05 14 32.9	-0.5
KURK	Kurchatov	72.42	329	eP	P		05 14 60.0	+0.3
	1.1nm,0.4s,mb3.8							
ZRNK	Zerenda	78.64	328	eP	P		05 15 35.5	+0.5
	0.9nm,0.5s,mb3.7							

*ISCJB **25** 05:14:01.1±0.2, 4888N±001×8.16E±002, h10km±2km, Error ellipse: s-maj=2.3km s-min=2.0km az=12.2*
*CSEM **25** 05:14:02.5±0.1, 4887N×824E, h12km, ML2.8/18, Error ellipse: s-maj=1.1km s-min=0.9km az=168.0*
*LEDBW **25** 05:14:02.8±0.2, 4887N±002×825E±002, h7km±4km, ML2.2, Error ellipse: s-maj=7.6km s-min=4.8km az=62.0*
*STR **25** 05:14:02.7±0.2, 4888N×820E, h13km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **25** 05:14:02.2±0.3, 4889N×829E, h10km, ML1.9/4, Error ellipse: s-maj=5.6km s-min=2.2km az=145.0*
*NEIC **25** 05:14:02.7, 4888N×820E, h13km, ML2.1(LEDBW), ML2.1(STR), ML2.7(LDG), After STR.*
*LDG **25** 05:14:02.9±0.1, 4888N×821E, h11km, Md3.0/3, Ml2.7/15, Error ellipse: s-maj=1.1km s-min=1.1km az=155.0*
*ZUR **25** 05:14:02.4, 4888N×8.15E, h10km, ML2.1/8*

ISC 25 05:14:01.9±0.2, 4888N±001×819E±002, h18km±2km, n119, σ1903/238, 9C-18D, Germany

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LANF	Langenberg	0.27	291	⇑iP*	Pg		05 14 08.9	+1.0
LANF	Langenberg	0.27	291	Pg	Pg		05 14 08.7	+0.8
LANF	Langenberg	0.27	291	⇑iPg	Pg		05 14 08.9	+1.0
KTD	Kalmit	0.44	351	Pg	Pg		05 14 12.0	+1.1
BFO	Black Forest	0.56	170	⇓iP*	Pb		05 14 13.1	-0.1
BFO				PmP			05 14 15.0	
BFO				S*		Sb	05 14 21.6	+0.7
BFO	Black Forest	0.56	170	ePg	Pg		05 14 12.7	-0.4
BFO	Black Forest	0.56	170	PmP	Pb		05 14 15.0	+1.8
BFO				Sx		Sb	05 14 21.6	+0.7
STU	Stuttgart	0.67	99	ePg	Pg		05 14 14.8	-0.3
STU				eSg		Sg	05 14 26.0	+1.8
STU	Stuttgart	0.67	99	ePg	Pg		05 14 14.8	-0.4
STU				eSg		Sg	05 14 26.0	+1.9
SWS	Schriesheim-Wi	0.69	29	⇓iP*	Pb		05 14 15.5	+0.1
SWS				PmP			05 14 16.6	
SWS				S*		Sb	05 14 26.5	+1.8
SWS	Schriesheim-Wi	0.69	29	⇓iP	Pb		05 14 15.5	+0.1
TUBL	Tuebingen-Lenn	0.69	121	Pg	Pg		05 14 15.5	0.0
WLS	Welschbruch	0.73	230	P*	Pb		05 14 16.8	+0.7
WLS				eSg	Sg		05 14 27.5	+1.7
	SNR=3.6							
WLS	Welschbruch	0.73	230	Pg	Pg		05 14 16.5	+0.3
WLS				Sg	Sg		05 14 27.7	+1.9
CDF	Champ du Feu	0.77	233	ePn	Pn		05 14 18.2	+0.3
CDF				eSg	Sg		05 14 27.6	+0.5
CDF				eSn	Sn		05 14 29.9	+0.9
	63nm,0.2s							
CDF	Champ du Feu	0.77	233	ePg	Pg		05 14 17.0	+0.1
CDF				ePn	Pn		05 14 18.2	+0.3
CDF				eSg	Sg		05 14 27.6	+0.5
CDF				eSn	Sn		05 14 29.9	+0.9
CDF	Champ du Feu	0.77	233	ePn	Pn		05 14 18.2	+0.3
CDF				eSg	Sg		05 14 27.6	+0.5
CDF				eSn	Sn		05 14 29.9	+0.9
	32nm,0.2s							
TOD	Tromm	0.83	29	Pg	Pg		05 14 18.3	+0.2
TOD	Tromm	0.83	29	Pg	Pg		05 14 18.0	-0.1
LIBD	Limburg	0.83	208	P	Pb		05 14 19.4	+1.6
LIBD	Limburg	0.83	208	Pg	Pg		05 14 19.2	+1.1
LIBD				Sg	Sg		05 14 31.2	+2.1
LIBD	Limburg	0.83	208	Pg	Pg		05 14 19.4	+1.3
BHBD	Braunhartsberg	0.83	139	ePg	Pg		05 14 18.3	+0.1
BHBD	Braunhartsberg	0.83	139	ePmP	Pg		05 14 18.8	+0.7
BHBD				eSg	Sg		05 14 29.0	-0.2
BHBD				eSmS			05 14 30.3	
SPAK	Spaichingen-Ko	0.88	153	P*	Pb		05 14 19.6	+1.0
SPAK				Sg	Sg		05 14 31.1	+0.6
SPAK	Spaichingen-Ko	0.88	153	P	Pb		05 14 19.6	+1.0
SPAK				Sg	Sg		05 14 31.1	+0.6
KIZ	Kirchzarten	0.94	191	⇓iP	Pb		05 14 20.4	+0.6
KIZ				S	Sb		05 14 33.2	+1.3
KIZ	Kirchzarten	0.94	191	⇓iP	Pb		05 14 20.4	+0.6
KIZ				S	Sb		05 14 33.3	+1.3
KIZ	Kirchzarten	0.94	191	P	Pb		05 14 20.4	+0.6
KIZ				S	Sb		05 14 33.2	+1.2
ECH	Echery	0.96	226	Pg	Pg		05 14 20.6	+0.1
ECH				Sg	Sg		05 14 33.6	+0.5
ECH	Echery	0.96	226	P	Pb		05 14 20.7	+0.7
ECH				S	Sn		05 14 33.6	0.0
ECH	Echery	0.96	226	Sn	Sn		05 14 33.6	0.0
FELD	Feldberg im Sc	1.01	187	⇓iPn	Pn		05 14 21.6	+0.3
FELD				⇑iPg	Pg	

58nm,0.3s
THEF They Montfort 1.60 247 Pn **Pn 05 14 29.9 +0.5**
THEF Sg **Sg 05 14 54.3 +0.6**
THEF They Montfort 1.60 247 P **Pn 05 14 29.9 +0.5**
THEF Sg **Sg 05 14 54.4 +0.7**
BOURR Bourrignon 1.62 204 *e*Pn **Pn 05 14 29.9 +0.2**
58nm,0.7s
UBR Ueberruh 1.76 132 Pg **Pg 05 14 36.1 +0.4**
UBR Sg **Sg 05 14 58.1 -0.4**
LOMF Lomont 1.78 211 Pg **Pg 05 14 39.0 +2.8**
RFYF Reffroy 1.81 263 *e*Pn **Pn 05 14 33.6 +1.3**
baz=83
RFYF Reffroy 1.81 263 *e*Pg **Pg 05 14 37.0 +0.2**
baz=85
RFYF *e*Sn **Sn 05 14 55.0 +0.1**
baz=65
RFYF *e*Sg **Sg 05 15 00.4 0.0**
14nm,0.2s,baz=76
RFYF Reffroy 1.81 263 *e*Pn **Pn 05 14 33.6 +1.3**
RFYF *e*Pg **Pg 05 14 37.0 +0.2**
RFYF *e*Sn **Sn 05 14 55.0 +0.1**
RFYF *e*Sg **Sg 05 15 00.4 0.0**
RFYF Reffroy 1.81 263 *e*Pg **Pg 05 14 37.0 +0.2**
RFYF *e*Sn **Sn 05 14 55.0 +0.1**
RFYF *e*Sg **Sg 05 15 00.4 0.0**
6.8nm,0.2s
DAVA Damuels 1.96 144⇑*e*Pg **Pg 05 14 40.7 +1.1**
0.9nm,0.1s
DAVA ⇑*i*Sn **Sn 05 15 05.3 +6.9**
11nm,0.4s
BNALP Bannalp 2.02 175⇓*i*Pn **Pn 05 14 36.4 +1.3**
BNALP Bannalp 2.02 175⇓*i*P **Pn 05 14 36.0 +0.9**
MEZF Maizieres J'vi 2.11 261 *e*Pg **Pg 05 14 42.2 -0.3**
baz=76
MEZF *e*Sg **Sg 05 15 09.8 -0.2**
8.8nm,0.4s
MEZF Maizieres J'vi 2.11 261 *e*Pg **Pg 05 14 42.2 -0.3**
MEZF *e*Sg **Sg 05 15 09.8 -0.2**
4.4nm,0.4s
HASLI Hasliberg 2.13 181 *e*Pn **Pn 05 14 37.2 +0.6**
27nm,0.3s
GRF Grafenberg Arr 2.14 67 *e*Pg **Pg 05 14 41.5 -1.5**
SNR=4.2
GRF *e*Sg **Sg 05 15 08.6 -2.3**
SNR=2.8
SFTF Sexfontaines 2.20 253 *e*Pg **Pg 05 14 43.8 -0.4**
baz=65
SFTF *e*Sn **Sn 05 15 04.2 -0.2**
SFTF *e*Sg **Sg 05 15 12.2 -0.5**
7.0nm,0.2s,baz=70
SFTF Sexfontaines 2.20 253 *e*Pn **Pn 05 14 38.1 +0.5**
SFTF *e*Pg **Pg 05 14 43.8 -0.4**
SFTF *e*Sn **Sn 05 15 04.2 -0.2**
SFTF *e*Sg **Sg 05 15 12.2 -0.5**
SFTF Sexfontaines 2.20 253 *e*Pg **Pg 05 14 43.8 -0.4**
SFTF *e*Sn **Sn 05 15 04.2 -0.2**
SFTF *e*Sg **Sg 05 15 12.2 -0.5**
3.5nm,0.2s
MOTA Moosalm 2.48 127⇑*i*Pg **Pg 05 14 49.7 +0.1**
0.4nm,0.1s
MOTA ⇓*i*Sg **Sg 05 15 21.1 -0.7**
4.2nm,0.2s
GIVF Givet 2.51 300 *e*Pn **Pn 05 14 42.4 +0.5**
GIVF *e*Sg **Sg 05 15 22.2 -0.5**
3.7nm,0.3s
GIVF Givet 2.51 300 *e*Pn **Pn 05 14 42.4 +0.5**
GIVF *e*Sg **Sg 05 15 22.2 -0.5**
1.9nm,0.3s
SQTA Sankt Quirin 2.62 128⇑*e*Pn **Pn 05 14 45.4 +2.0**
0.9nm,0.2s
SQTA ⇓*i*Sg **Sg 05 15 25.7 -0.5**
7.8nm,0.3s
CABF La Chapelle 2.68 213 *e*Pg **Pg 05 14 52.8 -0.5**
CABF *e*Sn **Sn 05 15 14.9 -1.3**
CABF *e*Sg **Sg 05 15 27.2 -0.8**
2.8nm,0.3s
CABF La Chapelle 2.68 213 *e*Pn **Pn 05 14 44.3 +0.1**
CABF *e*Pg **Pg 05 14 52.8 -0.5**
CABF *e*Sn **Sn 05 15 14.9 -1.3**
CABF *e*Sg **Sg 05 15 27.2 -0.8**
CABF La Chapelle 2.68 213 *e*Pg **Pg 05 14 52.8 -0.5**
CABF *e*Sn **Sn 05 15 14.9 -1.3**
CABF *e*Sg **Sg 05 15 27.2 -0.8**
1.4nm,0.3s
GIMEL Gimel 2.69 210 *e*Pn **Pn 05 14 44.3 0.0**
WTTA Wattenberg 2.82 124⇑Pn **Pg 05 14 50.8 -5.2**
0.5nm,0.2s
WTTA ⇓*e*Sn **Sg 05 15 31.4 -1.2**
0.7nm,0.1s
MOX Moxa 2.84 50 *e*Pg **Pg 05 14 54.5 -1.8**
MOX *e*Sg **Sg 05 15 30.9 -2.2**
SNR=2.9
MOX Moxa 2.84 50 *e*PG **Pg 05 14 54.5 -1.8**
MOX *e*SG **Sg 05 15 33.8 +0.7**
MOX Moxa 2.84 50 *e*Pg **Pg 05 14 54.5 -1.8**
MOX *e*Sg **Sg 05 15 33.8 +0.7**
BAIF Baives 2.85 296 *e*Pg **Pg 05 14 56.2 -0.4**
BAIF *e*Sg **Sg 05 15 32.6 -1.0**
1.2nm,0.3s
BAIF Baives 2.85 296 *e*Pn **Pn 05 14 46.5 -0.1**
BAIF *e*Pg **Pg 05 14 56.2 -0.4**
BAIF *e*Sg **Sg 05 15 32.6 -1.0**
BAIF Baives 2.85 296 *e*Pg **Pg 05 14 56.2 -0.4**
BAIF *e*Sg **Sg 05 15 32.6 -1.0**
0.6nm,0.3s
WET Wettzell 3.10 83 *e*Pg **Pg 05 15 00.4 -0.9**
SNR=2.2
WET *e*Sg **Sg 05 15 39.4 -2.1**
SNR=1.1
WERD Werda 3.10 58 *e*Pg **Pg 05 14 59.0 -2.3**
SNR=4.0
WERD *e*Sg **Sg 05 15 37.9 -3.6**
SNR=3.2
TANN Tannenbergstha 3.17 59 *e*Pg **Pg 05 14 59.9 -2.8**
SNR=2.8
TANN *e*Sg **Sg 05 15 41.3 -2.5**
SNR=2.7
LOR Lormes 3.32 243 *e*Pn **Pn 05 14 52.5 -0.5**
baz=59
LOR Lormes 3.32 243 *e*Pg **Pg 05 15 04.6 -1.0**
baz=65
LOR *e*Sn **Sn 05 15 30.7 -1.4**
baz=58
LOR *e*Sg **Sg 05 15 48.0 -0.7**
4.7nm,0.2s
LOR Lormes 3.32 243 *e*Pn **Pn 05 14 52.5 -0.5**
LOR *e*Pg **Pg 05 15 04.6 -1.0**
LOR *e*Sn **Sn 05 15 30.7 -1.4**
LOR *e*Sg **Sg 05 15 48.0 -0.7**
LOR Lormes 3.32 243 *e*Pg **Pg 05 15 04.6 -1.0**
LOR *e*Sn **Sn 05 15 30.7 -1.4**
LOR *e*Sg **Sg 05 15 48.0 -0.7**
2.3nm,0.2s
SSF Saint Saulge 3.64 242 *e*Pn **Pn 05 14 56.9 -0.4**
SSF *e*Sn **Sn 05 15 38.7 -1.1**
SSF *e*Sg **Sg 05 15 57.1 -1.6**
3.2nm,0.3s
SSF Saint Saulge 3.64 242 *e*Pn **Pn 05 14 56.9 -0.4**
SSF *e*Sn **Sn 05 15 38.7 -1.1**
SSF *e*Sg **Sg 05 15 57.1 -1.6**
1.6nm,0.3s
SMF Signal de Mont 3.69 234 *e*Pg **Pg 05 15 11.7 -0.9**
SMF *e*Sn **Sn 05 15 39.2 -1.9**
SMF *e*Sg **Sg 05 15 58.8 -1.6**
7.5nm,0.3s
SMF Signal de Mont 3.69 234 *e*Pn **Pn 05 14 58.0 -0.1**
SMF *e*Pg **Pg 05 15 11.7 -0.9**
SMF *e*Sn **Sn 05 15 39.2 -1.9**
SMF *e*Sg **Sg 05 15 58.8 -1.6**
SMF Signal de Mont 3.69 234 *e*Pg **Pg 05 15 11.7 -0.9**
SMF *e*Sn **Sn 05 15 39.2 -1.9**
SMF *e*Sg **Sg 05 15 58.8 -1.6**
3.8nm,0.3s
AVF Avril sur Loir 3.87 239 *e*Pg **Pg 05 15 15.1 -1.0**
AVF *e*Sn **Sn 05 15 43.9 -1.7**
AVF *e*Sg **Sg 05 16 04.8 -1.5**
1.3nm,0.2s
AVF Avril sur Loir 3.87 239 *e*Pn **Pn 05 15 00.0 -0.6**
AVF *e*Pg **Pg 05 15 15.1 -1.0**
AVF *e*Sn **Sn 05 15 43.9 -1.7**
AVF *e*Sg **Sg 05 16 04.8 -1.5**
AVF Avril sur Loir 3.87 239 *e*Pg **Pg 05 15 15.1 -1.0**
AVF *e*Sn **Sn 05 15 43.9 -1.7**
AVF *e*Sg **Sg 05 16 04.8 -1.5**

0.6nm,0.2s
HYF Humbligny 4.06 249 *e*Pg **Pg 05 15 18.1 -1.5**
BGF Bois d'Agland 4.29 239 *e*Pg **Pg 05 15 22.3 -1.8**
BGF *e*Sg **Sg 05 16 17.4 -2.3**
7.0nm,0.4s
BGF Bois d'Agland 4.29 239 *e*Pn **Pn 05 15 06.0 -0.3**
BGF *e*Pg **Pg 05 15 22.3 -1.8**
BGF *e*Sg **Sg 05 16 17.4 -2.3**
BGF Bois d'Agland 4.29 239 *e*Pg **Pg 05 15 22.3 -1.8**
BGF *e*Sg **Sg 05 16 17.4 -2.3**
3.5nm,0.4s
TCF Toulx Ste Croi 4.81 240 *e*Pn **Pn 05 15 13.5 +0.1**
TCF *e*Sg **Sg 05 16 33.7 -2.5**
3.0nm,0.5s
TCF Toulx Ste Croi 4.81 240 *e*Pn **Pn 05 15 13.5 +0.1**
TCF *e*Sg **Sg 05 16 33.7 -2.5**
1.5nm,0.5s

NEIC 25 05:27:46.1,5830N×15505W,h0km,ML2.7(AEIC),**After AEIC.,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.41**	**110**	P	Pn	05 28 11.7	-1.3
KDAK				S	Sg	05 28 31.1	-0.3
CHGN	**Chignik**	**2.71**	**224**	*e*P	Pn	05 28 32.1	+1.3
SVW2	**Sparrevohn**	**2.82**	**355**	*e*P	Pn	05 28 32.2	-0.2
SLKM	**Skilak Lake**	**3.32**	**46**	*e*Pn	Pn	05 28 41.8	+2.6
SDPT	**Sand Point**	**4.20**	**228**	*e*P	Pn	05 28 53.6	+2.3
PMR	**Palmer**	**4.45**	**39**	*e*Pn	Pn	05 28 54.3	-0.4
TTA	**Tatalina**	**4.67**	**355**	*e*Pn	Pn	05 28 53.3	-4.6
TTA				*e*Pg	Pg	05 29 11.4	-4.3
TTA				*e*Sg	Sg	05 30 08.4	-7.9
SML	**Sawmill**	**4.87**	**41**	*e*Pn	Pn	05 29 02.1	+1.5
MCK	**McKinley**	**6.21**	**26**	*e*Pn	Pn	05 29 18.1	-0.8
	5.2nm,1.0s						
COLA	**College**	**7.43**	**24**	*e*Pn	Pn	05 29 35.4	-0.4
	6.4nm,1.0s						
DAWY	**Dawson**	**9.50**	**46**	*e*Pn	Pn	05 30 04.8	+0.6
SKAG	**Skagway**	**10.27**	**75**	*e*Pn	Pn	05 30 14.6	-0.1

BJI ***25*** *05:32:03.1,4529N×9748E,h11km,mB4.7,mb4.6,ML5.1, Ms4.5,Msz4.3*
NNC ***25*** *05:32:03.4±8.6,4402N×9662E,h0km,mb4.4,Error ellipse: s-maj=121.7km s-min=110.4km az=87.0*
IDC ***25*** *05:32:03.4±0.6,4524N×9762E,h0km,mb4.2/15, mb1 4.4/19,mb1mx4.3/24,mbtmp4.2/19,ML3.8/4,MS3.8/10, Ms1 3.8/10,ms1mx3.6/25,Error ellipse: s-maj=21.4km s-min=12.2km az=27.0*
ISCJB ***25*** *05:32:04.2±0.2,4522N±002×9754E±003,h11km, mb4.5/66,MS4.0/20,Error ellipse: s-maj=3.8km s-min=2.8km az=75.6*
LDG ***25*** *05:32:04.1±0.1,4522N×9739E,h10km,Mb4.6/16,Ms3.5/6, Error ellipse: s-maj=6.8km s-min=5.3km az=133.0*
MOS ***25*** *05:32:05.0±1.0,4527N×9754E,h17km,mb4.7/48,Error ellipse: s-maj=7.8km s-min=5.1km az=119.1*
NEIC ***25*** *05:32:05.8±0.2,4521N×9755E,mb4.6/45,Error ellipse: s-maj=7.1km s-min=4.4km az=188.0*
ISC 25 05:32:06.1±0.2,4523N±002×9756E±003,h12km, h12km±1.3km:pP-P,n243,σ1§11/259,mb4.5/66,MS4.0/20, 10C-15D,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**6.05**	**163**	P	**Pn**	**05 33 37.0**	**+1.7**
GTA				PG	**Pg**	**05 33 56.5**	**-5.4**
GTA				S	**Sn**	**05 34 46.0**	**+1.5**
GTA				SG	**Sg**	**05 35 15.3**	**-5.0**
GTA				Smax			
	comp=N,900nm,0.6s						
GTA				Smax			
	comp=E,1μm,0.9s						
GTA				LR	LR		
	comp=N,3μm,7.6s						
GTA				LR	LR		
	comp=E,7μm,8.4s						
GTA				LR	LR		
	comp=Z,2μm,7.6s						
ZAK	**Zakamensk**	**6.43**	**35**	*e*P	**Pn**	**05 33 41.2**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,192nm,1.4s						
SONM	**Songino Array**	**6.63**	**64**	Pn	**Pn**	**05 33 43.5**	**+0.2**
	comp=Z,15nm,0.3s,baz=244,slow=14,SNR=379						
SONM				Lg		05 35 29.9	
	comp=Z,99nm,0.3s,baz=250,slow=30,SNR=15						
SONM				LR	LR	05 36 29.1	
	comp=Z,648nm,18.2s,baz=253,slow=40						
MOY	**Mondy**	**6.83**	**18**	*e*P	**Pn**	**05 33 46.8**	**+0.7**
MOY				pmax	pmax		
	comp=Z,287nm,1.4s						
ULN	**Ulaanbaatar**	**7.06**	**65**	⇑P	**Pn**	**05 33 49.4**	**+0.2**
	SNR=15						
ULN	**Ulaanbaatar**	**7.06**	**65**	*c i*P	**Pn**	**05 33 49.2**	**+0.1**
ULN	**Ulaanbaatar**	**7.06**	**65**	*e*Pn	**Pn**	**05 33 49.1**	**0.0**
	comp=Z,181nm,1.0s						
ULN				*e*Sn	**Sn**	**05 35 19.4**	**+10**
WMQ	**Urumqi**	**7.19**	**262**	P	**Pn**	**05 33 51.6**	**+0.6**
WMQ				S	**Sn**	**05 35 05.9**	**-6.7**
WMQ				SG	**Sg**	**05 35 42.6**	**-14**
WMQ				Smax			
	comp=N,740nm,0.9s						
WMQ				Smax			
	comp=E,980nm,1.0s						
WMQ				LR	LR		
	comp=N,2μm,19.0s						
WMQ				LR	LR		
	comp=E,580nm,21.0s						
TLY	**Talaya**	**7.61**	**30**	⇑P	**Pn**	**05 33 57.4**	**+0.6**
	SNR=33						
TLY				⇑S	**Pb**	**05 34 20.8**	**+2.8**
TLY	**Talaya**	**7.61**	**30**	*e*P	**Pn**	**05 33 57.5**	**+0.7**
TLY				pmax	pmax		
	comp=Z,105nm,0.6s						
TLY	**Talaya**	**7.61**	**30**	*e*Pn	**Pn**	**05 33 57.5**	**+0.7**
IRK	**Irkutsk**	**8.30**	**30**	*e*P	**Pn**	**05 34 08.3**	**+2.1**
IRK				pmax	pmax		
	comp=Z,160nm,0.5s						
LZH	**Lanzhou**	**10.30**	**150**	*e*P	**Pn**	**05 34 34.3**	**+0.7**
LZH				AP		05 34 39.5	
LZH				XP		05 34 43.5	
LZH				*e*S	**Sn**	**05 36 33.0**	**+4.0**
LZH				XS		05 36 38.0	
LZH				*e*SS		05 36 45.0	
LZH				AMB	AMB		
	comp=Z,40nm,1.1s						
LZH				AMB	AMB		
	comp=Z,160nm,4.1s						
LZH				LR	LR		
	comp=E,1μm,8.0s						
LZH				LR	LR		
	comp=Z,2μm,9.8s						
MK05	**Makanchi Array**	**10.74**	**284**	⇓Pn	**Pn**	**05 34 36.7**	**-2.9**
	comp=Z,10nm,0.7s,baz=97,slow=15						
MK05				⇑Lg		05 37 39.0	
	comp=Z,90nm,0.9s,baz=105,slow=26						
MKAR	**Makanchi Array**	**10.74**	**284**	Pn	**Pn**	**05 34 38.7**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=92,slow=15,SNR=14						
MKAR	**Makanchi Array**	**10.74**	**284**	Pn	**Pn**	**05 34 38.7**	**-0.9**
HHC	**Hu-ho-hao-te**	**11.14**	**108**	*e*P	**Pn**	**05 34 44.3**	**-0.9**
HHC				AP		05 34 47.5	
HHC				XP		05 34 50.5	
HHC				PP		05 34 52.8	
HHC				S	**Sn**	**05 36 48.3**	**-1.4**
HHC				SS		05 37 01.4	
HHC				AMB	AMB		
	comp=Z,70nm,0.9s						
HHC				AMB	AMB		
	comp=Z,120nm,5.4s						
HHC				LR	LR		
	comp=N,810nm,3.9s						
HHC				LR	LR		
	comp=E,1μm,5.7s						
HHC				LR	LR		
	comp=Z,1μm,8.9s						
ZAL	**Zalesovo**	**12.00**	**321**	Pn	**Pn**	**05 34 56.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=332,slow=11,SNR=13						
ZAL				Lg		05 38 15.6	
	comp=Z,0.7nm,0.3s,baz=222,slow=12,SNR=7.1						
ZAL				LR	LR	05 40 22.8	
	comp=Z,284nm,20.4s,baz=336,slow=42						
ZAL	**Zalesovo**	**12.00**	**321**	Pn	**Pn**	**05 34 56.3**	**-0.7**

ZAL Lg 05 38 15.6
ZAL LR LR 05 40 22.8
CIT Chita 12.56 52 *e*P **Pn 05 35 06.6 +2.1**
CIT pmax pmax
comp=Z,95nm,1.7s
NVS Novosibirsk 13.29 321 *e*P **Pn 05 35 14.3 -0.2**
NVS *e* 05 37 39.6
KURK Kurchatov 13.81 300⇓Pn **Pn 05 35 21.8 +0.2**
comp=Z,27nm,0.8s
KURK ⇑Lg 05 39 21.4
comp=Z,107nm,1.1s
KURK Kurchatov 13.81 300⇑P **Pn 05 35 19.6 -2.0**
SNR=28
KURK Kurchatov 13.81 300⇑*e*P **Pn 05 35 19.9 -1.7**
KURK Kurchatov 13.81 300 *e*Pn **Pn 05 35 19.3 -2.3**
XAN Xi'an 14.18 138 P **Pn 05 35 25.1 -1.6**
XAN AP pP 05 35 36.3 -1.2
XAN S **Sn 05 38 09.3 +5.4**
XAN AMB AMB
comp=Z,50nm,6.8s
XAN LR LR
comp=N,330nm,15.2s
XAN LR LR
comp=E,680nm,14.1s
XAN LR LR
comp=Z,720nm,12.9s
CD2 Chengdu 15.10 159 *e*P **Pn 05 35 37.0 -2.2**
CD2 AP pP 05 35 40.4 -7.3
CD2 XP sP 05 35 44.0 -5.3
CD2 PP 05 35 49.3
CD2 S **Sn 05 38 26.0 -0.3**
CD2 XS sS 05 38 31.4 -18
CD2 SS 05 38 43.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s
CD2 AMB AMB
comp=Z,40nm,6.2s
CD2 LR LR
comp=E,1μm,12.0s
CD2 LR LR
comp=Z,400nm,8.4s
ULHL Ulahol 15.69 267 P **Pn 05 35 52.2 +5.3**
SNR=15
TKM2 Tokmak 2 15.95 269 P **Pn 05 35 55.7 +5.5**
SNR=7.6
KBK Karagaybulak 16.48 269 P **Pn 05 36 00.9 +3.9**
SNR=6.4
USP Ospenovka 16.63 271 P **Pn 05 36 02.9 +4.0**
SNR=9.7
FRU Bishkek 16.66 270 *e*P **Pn 05 36 04.0 +4.6**
FRU pmax pmax
comp=Z,80nm,1.9s
FRU pmax pmax
comp=E,140nm,2.0s
UCH Uchtor 16.91 268 P **Pn 05 36 04.1 +1.6**
SNR=8.6
EKS2 Erkin-Say 17.30 270 P **Pn 05 36 08.6 +1.2**
SNR=16
TIA Tai'an 17.32 115 *e*P **Pn 05 36 08.3 +0.7**
VOSK Vostochnaya 18.91 303 P **Pn 05 36 25.8 -1.4**
comp=E,22nm,1.1s
DL2 Dalian 18.92 101 P **Pn 05 36 27.3 +0.1**
DL2 *e*S **Sn 05 40 02.8 +3.9**
DL2 AMB AMB
comp=Z,10.0nm,0.5s
DL2 AMB AMB
comp=Z,110nm,5.6s
DL2 LR LR
comp=N,300nm,16.8s
DL2 LR LR
comp=E,250nm,15.8s
DL2 LR LR
comp=Z,370nm,11.4s
SNY Shenyang 19.14 91 ⇓P **Pn 05 36 30.9 +1.0**
SNY AP pP 05 36 37.8 +5.3
SNY AMB AMB
comp=Z,10.0nm,1.1s
SNY LR LR
comp=E,850nm,13.2s
SNY LR LR
comp=Z,1μm,9.6s
BVA0 Borovoye Array 19.33 304 P **Pn 05 36 30.8 -1.4**
comp=Z,6.6nm,0.8s,baz=101,slow=15,SNR=211
BVA0 Borovoye Array 19.33 304 *i* P **Pn 05 36 30.7 -1.5**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 19.33 304 P **Pn 05 36 30.6 -1.6**
comp=Z,2.4nm,0.3s,baz=103,slow=11,SNR=92
BVAR Lg 05 42 08.7
comp=Z,0.1nm,0.3s,baz=111,slow=24,SNR=3.6
BVAR LR LR 05 44 07.5
comp=Z,435nm,21.6s,baz=332,slow=37
CHKZ Chkalovo 19.35 306 ⇑P **Pn 05 36 31.7 -0.8**
comp=Z,15nm,0.8s
CHKZ Chkalovo 19.35 306 *i* P **Pn 05 36 31.7 -0.8**
CHKZ pmax pmax
comp=Z,15nm,0.8s
CHKZ Chkalovo 19.35 306 *e*P **Pn 05 36 30.2 -2.2**
BRVK Borovoye 19.40 304 ⇓P **Pn 05 36 33.2 +0.2**
SNR=23
BRVK Borovoye 19.40 304 *e*P **Pn 05 36 31.5 -1.5**
BRVK pmax pmax
comp=Z,29nm,0.8s
BRVK Borovoye 19.40 304 *e*P **Pn 05 36 31.5 -1.5**
comp=Z,29nm,0.8s
KK31 Karatay Array 19.49 273 P **Pn 05 36 32.6 -1.5**
comp=Z,23nm,1.6s,baz=63,slow=15,SNR=51
KKAR Karatay Array 19.49 273 *i* P **Pn 05 36 32.5 -1.6**
GUN Gumba 19.63 212 *e*P **Pn 05 36 36.0 +0.2**
comp=Z,74nm,1.0s
WHN Wuhan 19.70 132 ⇓P **Pn 05 36 34.4 -2.3**
WHN S **Sn 05 40 07.0 -11**
WHN LR LR
comp=Z,2μm,13.0s
JIRN Jiri 19.74 211 *e*P **Pn 05 36 37.1 0.0**
comp=Z,40nm,0.6s
CN2 Changchun 19.90 84 *e*P **Pn 05 36 37.9 -1.2**
CN2 *e*AP pP 05 36 42.6 +1.8
CN2 XP sP 05 36 45.8 +3.4
CN2 *e*S **Sn 05 40 15.8 -6.9**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,10.0s
CN2 LR LR
comp=E,600nm,10.0s
KKN Kakani 19.97 213 *e*P **Pn 05 36 38.7 -1.1**
comp=E,67nm,0.8s
GKN Gorkha 20.04 215 *e*P **P 05 36 39.0 +0.2**
comp=E,38nm,0.9s
GYA Guiyang 20.11 156⇓*i*P **P 05 36 40.9 +1.3**
GYA AP 05 36 45.3
GYA XP sP 05 36 48.6 +4.0
GYA PP 05 37 02.4
GYA S **S 05 40 20.1 -5.2**
GYA AMB AMB
comp=Z,40nm,0.9s
GYA AMB AMB
comp=Z,80nm,3.4s
GYA LR LR
comp=N,340nm,12.4s,MS4.2
GYA LR LR
comp=E,490nm,11.6s,MS4.2
GYA LR LR
comp=Z,430nm,11.8s,MS4.0
PKI Pulchoki 20.11 213 *e*P **P 05 36 41.2 +1.5**
ZRNK Zerenda 20.13 303 P **P 05 36 37.9 -1.9**
comp=Z,19nm,0.8s
ZRNK Zerenda 20.13 303 *e*P **P 05 36 38.9 -1.0**
ZRNK *e**PP 05 36 42.3
ZRNK pmax pmax
comp=Z,23nm,0.8s
ZRNK Zerenda 20.13 303 *e*P **P 05 36 38.9 -1.0**
comp=Z,23nm,0.8s
ZRNK *e*pP 05 36 42.3
DMN Daman 20.20 214 *e*P **P 05 36 41.3 +0.7**
comp=Z,38nm,0.8s
NRGR Nerungri 20.43 46 *e*P **P 05 36 46.8 +3.6**
KMI Kunming 20.50 166 P **P 05 36 44.6 +0.8**
KMI AP 05 36 49.4
KMI XP sP 05 36 51.8 +3.0
KMI PP 05 37 04.8
KMI S **S 05 40 32.1 -0.9**
KMI XS sS 05 40 37.0 -1.4

KMI SS 05 41 02.1
KMI AMB AMB
comp=Z,10.0nm,0.9s
KMI AMB AMB
comp=Z,60nm,3.1s
KMI LR LR
comp=N,330nm,10.2s,MS4.2
KMI LR LR
comp=E,400nm,12.0s,MS4.2
KMI LR LR
comp=Z,300nm,10.2s,MS4.0
CLNS Chul'man 20.59 46 *e*P **P 05 36 41.2 -3.6**
CLNS *e*PPP 05 37 09.9
CLNS *e*S **S 05 40 35.3 +0.5**
CLNS *e* 05 48 13.2
CLNS pmax pmax
comp=Z,48nm,0.9s
CLNS pmax pmax
comp=N,26nm,1.0s
CLNS pmax pmax
comp=E,48nm,1.0s
CLNS smax
comp=N,157nm,16.0s
CLNS smax
comp=Z,145nm,13.5s
CLNS smax
comp=E,261nm,14.3s
CLNS MLR MLR
comp=Z,400nm,14.0s,MS3.9
CLNS MLR MLR
comp=N,200nm,11.0s,MS3.9
CLNS MLR MLR
comp=E,200nm,13.0s,MS3.9
KOLN Koldanda 20.67 217 *e*P **P 05 36 46.1 +0.3**
comp=E,32nm,0.9s
NJ2 Nanjing 21.13 121 *e*P **P 05 36 52.4 +1.7**
NJ2 AP 05 36 55.5
NJ2 XP sP 05 36 58.8 +3.1
NJ2 PP 05 37 15.4
NJ2 S **S 05 40 44.0 -1.5**
NJ2 XS sS 05 40 50.0 -1.0
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb4.6
NJ2 AMB AMB
comp=Z,410nm,9.1s
NJ2 LR LR
comp=N,940nm,14.4s,MS4.5
NJ2 LR LR
comp=E,770nm,11.0s,MS4.5
NJ2 LR LR
comp=Z,520nm,10.6s,MS4.2
MDJ Mudanjiang 22.62 80 P **P 05 37 06.4 -0.2**
MDJ S **S 05 41 12.3 -2.2**
MDJ AMB AMB
comp=Z,90nm,6.0s
MDJ LR LR
comp=N,750nm,13.4s,MS4.3
MDJ LR LR
comp=E,130nm,12.2s,MS4.3
MDJ LR LR
comp=Z,610nm,9.2s
NDI New Delhi 23.07 231 *ex* x 05 36 53.0
SSE Sheshan 23.22 119 P **P 05 37 12.3 -0.7**
SSE AMB AMB
comp=Z,30nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,110nm,3.8s
SSE LR LR
comp=N,100nm,15.3s,MS3.6
SSE LR LR
comp=E,120nm,15.3s,MS3.6
SSE LR LR
comp=Z,230nm,17.2s,MS3.7
KS15 Wonju Array Si 23.96 98 P **P 05 37 21.3 +1.1**
VLA Vladivostok 24.61 83 *e*P **P 05 37 27.8 +1.7**
VLA pmax pmax
comp=Z,14nm,0.8s,mb4.5
VLA MLR MLR
comp=Z,700nm,12.3s,MS4.4
YAK Yakutsk 25.02 36 *e*P **P 05 37 30.4 +0.5**
YAK pmax pmax
comp=Z,21nm,0.8s,mb4.7
YAK Yakutsk 25.02 36 *e*P **P 05 37 31.1 +1.3**
comp=Z,12nm,0.4s,mb4.8
AB31 Akbulak array 25.67 293 P **P 05 37 34.8 -1.0**
comp=Z,25nm,0.7s,mb4.8,baz=86,slow=9.9,SNR=226
AB31 Akbulak array 25.67 293 *i* P **P 05 37 34.7 -1.1**
AB31 pmax pmax
comp=Z,17nm,0.7s,mb4.7
ARU Arti 26.69 309 ⇓*i*P **P 05 37 45.9 +0.9**
ARU *e*PPP 05 38 31.9
ARU *e*S **S 05 42 20.2 +0.1**
ARU *e*SS 05 43 26.4
ARU pmax pmax
comp=Z,13nm,0.8s,mb4.5
ARU MLR MLR
comp=Z,300nm,20.0s,MS3.8
ARU MLR MLR
comp=N,70nm,17.0s,MS3.9
ARU MLR MLR
comp=E,300nm,19.0s,MS3.9
ARU Arti 26.69 309 *e*P **P 05 37 44.6 -0.4**
comp=E,11nm,0.8s,mb4.4
AKTK Aktyubinsk 26.82 296 P **P 05 37 45.2 -0.9**
AKTK LR LR 05 48 48.3
AKTO Aktyubinsk 26.82 296 ⇓P **P 05 37 45.6 -0.5**
comp=E,1.1nm,1.4s
AKTO Aktyubinsk 26.82 296 P **P 05 37 45.2 -0.9**
comp=E,10nm,0.6s,mb4.5,baz=90,slow=9.2,SNR=36
AKTO LR LR 05 48 48.3
comp=E,325nm,20.1s,MS3.9,baz=96,slow=37
AKTO Aktyubinsk 26.82 296 P **P 05 37 45.3 -0.8**
AKTO pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
AKTO MLR MLR
comp=Z,325nm,20.1s,MS3.9
ORR Orenburg 28.78 298 *e*P **P 05 38 06.1 +2.4**
ORR pmax pmax
comp=Z,20nm,0.6s,mb5.0
MJAR Matsushiro Arr 31.65 91 P **P 05 38 27.9 -1.2**
comp=Z,1.9nm,1.0s,mb3.9,baz=295,slow=8.0,SNR=7.0
KLMR Klimovskoe 36.86 316 *e*P **P 05 39 14.8 +0.6**
VRHR Novokhopersk 36.99 300 *e*P **P 05 39 16.5 +1.2**
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s,mb5.0
VRHR pmax pmax
comp=N,7.0nm,0.5s
GOF Gofitskoye 37.83 290 *e*P **P 05 39 24.8 +2.3**
ZEI Tsey 38.09 286 *e*P **P 05 39 25.8 +1.2**
ZEI pmax pmax
comp=Z,7.0nm,0.4s,mb4.7
GNI Garni 38.58 282 ⇑P **P 05 39 33.0 +4.3**
SNR=7.3
GNI Garni 38.58 282 P **P 05 39 28.3 -0.4**
GNI *e**PP pP 05 39 32.9 +0.5
GNI pmax pmax
comp=Z,9.0nm,0.6s
GNI Garni 38.58 282 P **P 05 39 28.3 -0.4**
comp=Z,9.3nm,0.6s,mb4.7
GNI *e*pP pP 05 39 32.9 +0.5
OBN Obninsk 39.10 307 *de*P **P 05 39 33.4 +0.3**
OBN pmax pmax
comp=Z,16nm,1.0s,mb4.7
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.0
KULM Kulim 39.88 175 *e*P **P 05 39 39.4 -0.2**
JOF Joensuu 40.59 320 *e*p **P 05 39 46.3 +0.8**
comp=Z,6.3nm,0.8s,mb4.3
JOF Joensuu 40.59 320 *e*P **P 05 39 46.3 +0.8**
JOF pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
BILL Bilibino 41.23 32 P **P 05 39 54.0 +3.3**
BILL 05 41 34.0
BILL *e* 05 41 50.6
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
BILL MLR MLR
comp=Z,400nm,21.0s,MS4.3
ANN Anapa 41.63 292 *e*P **P 05 39 55.0 +0.9**
ANN *e*S **S 05 46 13.7 +3.5**
ANN pmax pmax
comp=Z,48nm,1.7s,mb4.8
KEV Kevo 41.82 331 *e*p **P 05 39 55.2 -0.4**
comp=Z,12nm,1.1s,mb4.4
KEV Kevo 41.82 331 *e*P **P 05 39 55.2 -0.4**
KEV pmax pmax
comp=Z,12nm,1.1s,mb4.4
ARCES ARCESS Array B 42.36 330 P **P 05 39 58.5 -1.6**
comp=Z,4.3nm,0.7s,mb4.2,baz=84,slow=11,SNR=17
ARCES LR LR 06 00 49.6
comp=Z,83nm,18.5s,MS3.6,baz=233,slow=41
ARE0 ARCESS Array S 42.36 330 *e*P **P 05 40 00.3 +0.3**
KAF Kangasniemi 43.01 319 *e*p **P 05 40 03.0 -2.3**
comp=Z,4.3nm,0.7s,mb4.3
KAF Kangasniemi 43.01 319 *e*P **P 05 40 03.0 -2.3**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
FINES FINESS Array B 43.25 318 P **P 05 40 06.5 -0.8**
comp=Z,2.7nm,0.7s,mb4.1,baz=87,slow=7.6,SNR=17
FINES LR LR 05 59 37.6
comp=Z,109nm,19.9s,MS3.8,baz=134,slow=38
MALT Malatya 43.78 283 ⇓*i*P **P 05 40 14.6 +3.1**
MALT Malatya 43.78 283 *e*P **P 05 40 11.7 +0.2**
MALT *e**PP pP 05 40 15.5 +0.3
MALT pmax pmax
comp=Z,15nm,1.3s,mb4.6
MALT Malatya 43.78 283 *e*P **P 05 40 11.7 +0.2**
comp=Z,16nm,1.3s,mb4.6
MALT *e*pP pP 05 40 15.5 +0.2
AKASG Malin Array Be 44.60 303 P **P 05 40 16.3 -1.8**
comp=Z,4.9nm,0.7s,mb4.5,baz=59,slow=8.3,SNR=17
BR131 Keskin Array S 46.37 287 *e*P **P 05 40 32.5 +0.4**
comp=Z,6.5nm,0.8s,mb4.6
BR131 *e*pP pP 05 40 34.8 -1.1
BRTR Keskin Array B 46.37 287 P **P 05 40 32.1 0.0**
comp=Z,6.2nm,0.8s,mb4.6,baz=72,slow=7.9,SNR=31
TIRR Tirgusor 47.62 295 ⇓*i*P **P 05 40 43.8 +1.9**
VRI Vrincioaia 48.06 297 ⇓*i*P **P 05 40 48.4 +3.1**
BURAR Bucovina Array 48.24 300 ⇓*i*P **P 05 40 46.9 +0.2**
MLR Muntele Rosu 48.72 297 ⇓*i*P **P 05 40 52.3 +1.9**
KWP Kalwaria 48.88 304 *e*P **P 05 40 51.8 +0.2**
NB2 NORSAR Subarra 50.20 321 P **P 05 40 59.1 -2.6**
comp=Z,3.9nm,0.8s,mb4.5,baz=67,slow=7.9
NB2 NORSAR Subarra 50.20 321 P **P 05 40 59.1 -2.6**
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
NOA NORSAR Array B 50.20 321 P **P 05 40 59.5 -2.2**
comp=Z,2.6nm,0.8s,mb4.3,baz=67,slow=7.6,SNR=20
NOA LR LR 06 03 20.3
comp=Z,80nm,18.8s,MS3.8,baz=35,slow=37
NOA NORSAR Array B 50.20 321 P **P 05 40 59.5 -2.2**
NOA LR LR 06 03 20.3
OJC Ojcow 50.32 305 *e*P **P 05 41 04.1 +1.5**
EIL Elat 50.84 275 *e*P **P 05 41 05.1 -1.4**
comp=Z,278nm,1.4s
EIL *e*pP pP 05 41 09.1 -1.3
BZS Buzias 51.36 299 ⇓*i*P **P 05 41 12.0 +1.6**
VYHS Vyhne 51.67 304 *i* P **P 05 41 14.6 +1.9**
VYHS pmax pmax
comp=Z,11nm,2.0s,mb4.4
VYHS Vyhne 51.67 304 *i* P **P 05 41 14.6 +1.9**
comp=Z,11nm,2.0s,mb4.4
MORC Moravsky Berou 51.82 306 *e*P **P 05 41 11.6 -2.2**
MORC *e**PP pP 05 41 15.4 -2.2
MORC pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
MORC Moravsky Berou 51.82 306 *e*P **P 05 41 11.6 -2.3**
comp=Z,6.3nm,1.4s,mb4.3
MORC *e*pP pP 05 41 15.4 -2.3
DPC Dobruska-Polom 52.25 307 *e*P **P 05 41 15.9 -1.1**
UPC Upice 52.35 307 *e*P **P 05 41 17.1 -0.7**
PVCC Panska Ves 53.15 308 *e*P **P 05 41 25.3 +1.6**
BRG Berggiesshubel 53.33 308 *e*P **P 05 41 26.4 +1.4**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BRG Berggiesshubel 53.33 308 *e*P **P 05 41 26.4 +1.4**
comp=Z,2.8nm,1.1s,mb4.1
CLL Collm 53.64 309 *e*P **P 05 41 26.0 -1.3**
comp=Z,4.0nm,0.9s,mb4.3
CLL *e*sP sP 05 41 31.0 -1.6
CLL Collm 53.64 309 *e*P **P 05 41 26.0 -1.3**
CLL *e* pP 05 41 31.0 -0.1
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CLL MLR MLR
comp=Z,300nm,10.6s,MS4.6
CLL Collm 53.64 309 *e*P **P 05 41 26.0 -1.3**
comp=Z,4.0nm,0.9s,mb4.3
CLL *e* pP 05 41 31.0 -0.1
CLL LR LR
comp=Z,300nm,10.6s,MS4.6
KHC Kasperske Hory 54.40 307 *e*P **P 05 41 33.8 +1.0**
GERES GERESS Array B 54.47 306 P **P 05 41 34.3 +0.9**
comp=Z,0.2nm,0.5s,baz=58,slow=5.3,SNR=5.3
GERES LR LR 06 05 33.0
comp=Z,158nm,19.1s,baz=84,slow=37
GVD Gavdhos 55.41 287 *e*P **P 05 41 38.8 -1.3**
comp=Z,99nm,1.3s
GVD *e*pP pP 05 41 41.2 -2.7
TTA Tatalina 57.47 31 *e*P **P 05 41 54.8 -0.1**
TIP Timpagrande 57.79 295 *e*P **P 05 41 57.4 +0.2**
AQU L'Aquila 58.11 300 *e*P **P 05 41 57.8 -1.6**
AQU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AQU L'Aquila 58.11 300 *e*P **P 05 41 57.8 -1.6**
comp=Z,6.9nm,0.8s,mb4.7
CDF Champ du Feu 58.31 308 *e*P **P 05 42 01.0 +0.2**
SVW2 Sparrevohn 58.74 33 *e*P **P 05 42 04.0 +0.2**
HINF Hinteralfeld 58.88 308 *e*P **P 05 42 04.9 +0.2**
BAIF Baives 59.05 311 *e*P **P 05 42 06.4 +0.5**
COLA College 59.05 27 *e*P **P 05 42 05.1 -0.8**
COLA pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
COLA College 59.05 27 *e*P **P 05 42 05.1 -0.8**
comp=Z,6.4nm,0.4s,mb5.0
HAU Haudompre 59.05 308 *e*P **P 05 42 07.3 +1.4**
comp=Z,8.7nm,1.0s,mb4.5
HAU *e*R
comp=Z,61nm,19.2s
HAU Haudompre 59.05 308 *e*P **P 05 42 07.3 +1.4**
HAU pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
HAU MLR MLR
comp=Z,60nm,19.3s,MS3.7
HAU Haudompre 59.05 308 *e*P **P 05 42 07.3 +1.4**
comp=Z,4.3nm,1.0s,mb4.4
HAU LR LR
comp=Z,60nm,19.3s,MS3.7
MCK McKinley 59.45 28 *e*P **P 05 42 08.6 -0.1**
MCK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
MCK McKinley 59.45 28 *e*P **P 05 42 08.6 -0.1**
comp=Z,3.5nm,1.0s,mb4.3
MEZF Maizieres J'vi 59.48 310 *e*P **P 05 42 09.7 +0.8**
ESK Eskdalemuir 59.66 319 *e*P **P 05 42 10.2 +0.1**
ESK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ESK Eskdalemuir 59.66 319 *e*P **P 05 42 10.2 +0.1**
comp=Z,5.9nm,0.9s,mb4.6
CABF La Chapelle 60.00 307 *e*P **P 05 42 12.5 +0.1**
RES Resolute Bay 60.08 4 *e*P **P 05 42 11.6 -1.4**
RES pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
RES Resolute Bay 60.08 4 *e*P **P 05 42 11.6 -1.4**
comp=Z,5.8nm,1.0s,mb4.6
LPG La Plagne 60.27 306 *e*P **P 05 42 15.5 +1.2**
comp=Z,7.6nm,0.9s,mb4.4
LPG La Plagne 60.27 306 *e*P **P 05 42 15.5 +1.2**
LPG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LPG La Plagne 60.27 306 *e*P **P 05 42 15.5 +1.2**
comp=Z,3.8nm,0.9s,mb4.4
LPL La Plagne 60.27 306 *e*P **P 05 42 15.3 +1.0**
INK Inuvik 60.54 19 *e*P **P 05 42 15.0 -1.2**
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 60.54 19 *e*P **P 05 42 15.0 -1.1**
comp=Z,3.2nm,0.8s,mb4.5
BNI Bardonecchia 60.57 306 *e*P **P 05 42 15.2 -1.2**
BNI pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BNI Bardonecchia 60.57 306 *e*P **P 05 42 15.2 -1.1**
comp=Z,3.0nm,0.8s,mb4.5
MBDF Montbardon 60.70 305 *e*P **P 05 42 17.8 +0.5**
comp=Z,6.1nm,0.7s,mb4.5
MBDF Montbardon 60.70 305 *e*P **P 05 42 17.8 +0.5**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
MBDF Montbardon 60.70 305 *e*P **P 05 42 17.8 +0.5**
comp=Z,3.0nm,0.7s,mb4.5
SBF Sospel 60.83 304 *e*P **P 05 42 18.5 +0.4**
LOR Lormes 60.85 309 *e*P **P 05 42 18.0 -0.3**
comp=Z,8.8nm,1.1s,mb4.5
LOR *e*R
comp=Z,72nm,21.5s
LOR Lormes 60.85 309 *e*P **P 05 42 18.0 -0.3**
LOR pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
LOR MLR MLR
comp=Z,70nm,21.5s,MS3.8
LOR Lormes 60.85 309 *e*P **P 05 42 18.0 -0.3**
comp=Z,4.4nm,1.1s,mb4.5
LOR LR LR
comp=Z,70nm,21.5s,MS3.8
SML Sawmill 60.95 30 *e*P **P 05 42 18.5 -0.4**
ORIF Oris-en-Rattie 61.10 306 *e*P **P 05 42 20.5 +0.5**
comp=Z,7.7nm,0.9s,mb4.5
ORIF *e*R
comp=Z,238nm,19.0s
ORIF Oris-en-Rattie 61.10 306 *e*P **P 05 42 20.5 +0.5**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 61.10 306 *e*P **P 05 42 20.5 +0.5**
comp=Z,3.8nm,0.9s,mb4.5
SSF Saint Saulge 61.17 309 *e*P **P 05 42 20.2 -0.2**
comp=Z,8.1nm,1.2s,mb4.4
SSF Saint Saulge 61.17 309 *e*P **P 05 42 20.2 -0.2**
SSF pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
SSF Saint Saulge 61.17 309 *e*P **P 05 42 20.2 -0.2**
comp=Z,4.1nm,1.2s,mb4.4
SMF Signal de Mont 61.23 308 *e*P **P 05 42 20.7 -0.2**
AVF Avril sur Loir 61.41 309 *e*P **P 05 42 21.9 -0.2**
FRF La Foret Royal 61.47 304 *e*P **P 05 42 22.5 +0.1**
comp=Z,9.0nm,0.9s,mb4.6
FRF La Foret Royal 61.47 304 *e*P **P 05 42 22.5 +0.1**
FRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
FRF La Foret Royal 61.47 304 *e*P **P 05 42 22.5 +0.1**
comp=Z,4.5nm,0.9s,mb4.6
MENT Mentasta 61.71 27 *e*P **P 05 42 24.0 -0.1**
VIVF Saint-Julien-l 61.83 306 *e*P **P 05 42 25.0 +0.1**
KDAK Kodiak Island 62.04 35 *e*P **P 05 42 25.1 -1.2**
comp=Z,9.9nm,0.7s,mb5.0
LDF La Druitiere 62.20 312 *e*P **P 05 42 27.3 -0.1**
comp=Z,7.0nm,0.7s,mb4.6
LDF La Druitiere 62.20 312 *e*P **P 05 42 27.3 -0.1**
LDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
LDF La Druitiere 62.20 312 *e*P **P 05 42 27.3 -0.1**
comp=Z,3.5nm,0.7s,mb4.6
DAWY Dawson 62.22 25 *e*P **P 05 42 27.0 -0.6**
GRR Gorron 62.71 312 *e*P **P 05 42 30.6 -0.2**
comp=Z,12nm,0.9s,mb4.8
GRR Gorron 62.71 312 *e*P **P 05 42 30.6 -0.2**
GRR pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
GRR Gorron 62.71 312 *e*P **P 05 42 30.6 -0.2**
comp=Z,6.3nm,0.9s,mb4.8
LASF Ste Croix 62.77 306 *e*P **P 05 42 31.9 +0.7**
RJF Les Rejaudoux 63.33 308 *e*P **P 05 42 35.4 +0.5**
comp=Z,4.0nm,0.8s,mb4.3
RJF *e*R
comp=Z,101nm,18.5s
RJF Les Rejaudoux 63.33 308 *e*P **P 05 42 35.4 +0.5**
RJF pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
RJF MLR MLR
comp=Z,100nm,18.5s,MS4.0
RJF Les Rejaudoux 63.33 308 *e*P **P 05 42 35.4 +0.5**
comp=Z,2.0nm,0.8s,mb4.3
RJF LR LR
comp=Z,100nm,18.5s,MS4.0
MFF Saint Martin d 63.44 310 *e*P **P 05 42 36.0 +0.4**
comp=Z,6.3nm,0.9s,mb4.5
MFF Saint Martin d 63.44 310 *e*P **P 05 42 36.0 +0.4**
MFF pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
MFF Saint Martin d 63.44 310 *e*P **P 05 42 36.0 +0.4**
comp=Z,3.2nm,0.9s,mb4.5
LFF La Frestale 63.99 308 *e*P **P 05 42 40.0 +0.7**
QUIF Quistinic 64.21 313 *e*P **P 05 42 40.9 +0.2**
comp=Z,8.4nm,0.7s,mb4.6
QUIF Quistinic 64.21 313 *e*P **P 05 42 40.9 +0.2**
QUIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
QUIF Quistinic 64.21 313 *e*P **P 05 42 40.9 +0.2**
comp=Z,4.2nm,0.7s,mb4.6
MBWA Marble Bar 69.09 158 *e*P **P 05 43 11.3 -0.6**
comp=Z,12nm,0.9s,mb4.8
YKA Yellowknife Ar 69.58 15 P **P 05 43 13.8 -1.1**
comp=Z,3.1nm,0.7s,mb4.3,baz=333,slow=6.5,SNR=7.4
YKA LR LR 06 16 56.0
comp=Z,37nm,18.1s,MS3.7,baz=150,slow=39
ESDC Sonseca Array 70.06 306 P **P 05 43 18.0 +0.1**
comp=Z,0.2nm,0.4s,mb3.4,baz=44,slow=4.9,SNR=5.5
KMBO Kilima Mbogo 70.36 247 *e*P **P 05 43 19.9 +0.2**
KMBO *e**PP pP 05 43 22.8 -0.8
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 70.36 247 *e*P **P 05 43 19.9 +0.2**
comp=Z,5.5nm,1.1s,mb4.4
KMBO *e*pP pP 05 43 22.8 -0.8
WRAB Tennant Creek 72.98 144 *e*P **P 05 43 35.0 -0.5**
WRAB *e**PP pP 05 43 38.1 -1.3
WRAB pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
WRAB Tennant Creek 72.98 144 *e*P **P 05 43 35.0 -0.5**
comp=Z,3.9nm,0.7s,mb4.5
WRAB *e*pP pP 05 43 38.1 -1.3
WRA Warramunga Arr 72.99 144 P **P 05 43 34.8 -0.8**
comp=Z,3.3nm,0.8s,mb4.3,baz=342,slow=6.1,SNR=13
WB2 Warramunga Arr 72.99 144 *e*P **P 05 43 34.9 -0.7**
ASAR Alice Springs 76.15 146 P **P 05 43 53.5 -0.3**
comp=Z,1.7nm,0.8s,mb4.0,baz=342,slow=6.0,SNR=26
EDM Edmonton 78.42 18 *e*P **P 05 44 05.5 -1.1**
FFC Flin Flon 79.05 11 *e*P **P 05 44 07.9 -2.2**
FFC pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
FFC Flin Flon 79.05 11 *e*P **P 05 44 07.9 -2.1**
comp=Z,5.0nm,1.1s,mb4.4
NEW Newport 82.06 23 *e*P **P 05 44 25.3 -0.9**
NEW pmax pmax
comp=Z,1.0nm,0.6s
NEW Newport 82.06 23 *e*P **P 05 44 25.3 -0.9**
comp=Z,1.4nm,0.6s,mb4.1
WALA Waterton Lakes 82.16 20 *e*P **P 05 44 26.7 0.0**
comp=Z,1.2nm,0.6s,mb4.0
BSMT Bassoo Peak 83.06 21 *e*P **P 05 44 31.9 +0.4**
TORD Torodi Ar. Bea 84.86 283 P **P 05 44 41.8 +1.1**
comp=Z,1.6nm,1.1s,mb4.0,baz=35,slow=3.4,SNR=6.3
TORD LR LR 06 24 09.7
comp=Z,55nm,21.7s,MS3.9,baz=35,slow=37
BMO Blue Mountains 85.13 24 *e*P **P 05 44 46.8 +4.8**
BOZ Bozeman (W) 85.90 20 *e*P **P 05 44 46.1 +0.3**
BOZ pmax pmax
comp=Z,1.0nm,0.9s,mb4.0
BOZ Bozeman (W) 85.90 20 *e*P **P 05 44 46.1 +0.3**
comp=Z,1.3nm,0.9s,mb4.2
STKA Stephens Creek 86.54 144 P **P 05 44 46.1 -2.9**
comp=Z,2.7nm,0.9s,mb4.5,baz=332,slow=4.2,SNR=4.2
STKA Stephens Creek 86.54 144 *e*P **P 05 44 49.3 +0.3**
LSZ Lusaka 86.85 245 *e*P **P 05 44 51.1 +0.6**
LSZ pmax pmax
comp=Z,10.0nm,1.3s,mb4.9
LSZ Lusaka 86.85 245 *e*P **P 05 44 51.1 +0.7**
comp=Z,9.7nm,1.3s,mb4.9
RSSD Black Hills 88.99 15 *e*P **P 05 45 00.5 -0.2**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
RSSD Black Hills 88.99 15 *e*P **P 05 45 00.5 -0.3**
comp=Z,3.9nm,0.8s,mb4.8
ECSD EROS,Sioux Fal 90.53 10 *e*P **P 05 45 07.1 -0.8**
NVAR Mina Array Bea 90.68 27 P **P 05 45 09.3 +0.7**
comp=Z,0.4nm,0.6s,mb3.9,baz=295,slow=6.5,SNR=3.7
DUG Dugway 90.69 23 *e*P **P 05 45 08.4 -0.3**
DUG pmax pmax
comp=Z,1.0nm,0.8s,mb4.2
DUG Dugway 90.69 23 *e*P **P 05 45 08.4 -0.2**
comp=Z,1.0nm,0.8s,mb4.2
PHWY Pilot Hill 91.42 17 *e*P **P 05 45 12.4 +0.4**
PHWY *e*pP pP 05 45 15.4 -0.7
SMCO Snowmass 93.12 19 *e*P **P 05 45 20.2 +0.3**
comp=Z,2.4nm,1.0s,mb4.6
PV10 Paradox Valley 93.39 21 *e*P **P 05 45 21.1 -0.1**

SAML	**Samuel**	**140.21**	**329**	*e*PKPdf	PKPdf	05 51 33.1	-1.5
NNA	**Nana**	**146.53**	**350**	*e*PKPbc	PKPbc	05 51 47.3	0.0
LPAZ	**La Paz**	**148.74**	**333**	*e*PKP2	PKPbc	05 51 54.9	+1.6
CPUP	**Villa Florida**	**152.42**	**305**	PKPbc	PKPbc	05 51 59.4	-2.6

comp=Z,1.6nm,0.5s,baz=30,slow=2.2,SNR=11

MAN 25 05:36:53.7, 980N×12537E, h28km, mb4.3, ML5.2, MS3.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.12**	**96**	*e*P	Pb	05 37 23.1	+24
SCPH				*e*S	Sb	05 37 37.6	+35
MSLP	**Maasin**	**0.61**	**304**	*e*P	Pb	05 37 06.0	+0.1
MSLP	**Maasin**	**0.61**	**304**	*e*P	Pb	05 37 06.2	+0.3
BUTP	**Butuan**	**0.86**	**163**	*e*P	Pn	05 37 09.3	-0.6
BUTP				*e*S	Sb	05 37 14.7	-6.5
BUTP	**Butuan**	**0.86**	**163**	*e*P	Pn	05 37 09.3	-0.6
CGP	**Cagayan de Oro**	**1.49**	**207**	⇑*i*P	Pn	05 37 19.7	+1.1
CGP				*i* S	Sn	05 37 37.3	+0.2
BUKP	**Musuan**	**1.93**	**189**	*e*P	Pn	05 37 25.2	+0.6
BUKP	**Musuan**	**1.93**	**189**	*e*P	Pn	05 37 24.9	+0.2

ISCJB ***25*** *05:44:13.4±1.0, 195S±02×1772W±02, h606km±34km, mb4.2/7, Error ellipse: s-maj=36.3km s-min=24.1km az=57.2*
NEIC ***25*** *05:44:13.6±0.9, 1969S×17746W, h548km±15km, mb4.2/4, Error ellipse: s-maj=22.7km s-min=13.9km az=145.0*
IDC ***25*** *05:44:14.3±1.7, 1973S×17758W, h549km±25km, mb3.4/3, mb1 3.6/6, mb1mx3.2/16, mbtmp4.4/6, Error ellipse: s-maj=32.4km s-min=21.8km az=143.0*

ISC 25 05:44:13.7±1.3, 196S±02×1772W±03, h578km±50km, n16, σ0§83/17, mb4.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.65**	**44**	P	**P**	**05 46 10.4**	**+1.6**
	7.3nm,0.3s,baz=38,slow=9.5,SNR=10						
AFI				S	**S**	**05 47 41.8**	**-1.5**
	1.5nm,0.3s,baz=30,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**15.49**	**258**	P	**P**	**05 47 26.3**	**-0.9**
	0.5nm,0.3s,baz=77,slow=20,SNR=5.7						
URZ	**Urewera**	**19.29**	**194**	P	**P**	**05 48 01.2**	**-0.6**
	1.0nm,0.3s,baz=32,slow=22,SNR=5.5						
CTA	**Charters Tower**	**34.33**	**263**	*e*P	**P**	**05 50 13.5**	**+0.4**
	8.3nm,1.2s,mb4.2						
CTAO	**Charters Tower**	**34.33**	**263**	*e*P	**P**	**05 50 13.1**	**0.0**
	8.2nm,0.5s,mb4.6						
TOO	**Toolangi**	**37.05**	**233**	*e*P	**P**	**05 50 36.5**	**+0.9**
	7.2nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**38.87**	**243**	P	**P**	**05 50 49.3**	**-1.0**
	1.7nm,0.5s,mb3.9,baz=98,slow=13,SNR=6.0						
STKA	**Stephens Creek**	**38.87**	**243**	*e*P	**P**	**05 50 49.1**	**-1.2**
WB2	**Warramunga Arr**	**45.46**	**261**	*e*P	**P**	**05 51 41.9**	**0.0**
AS31	**Alice Springs**	**45.46**	**256**	*e*P	**P**	**05 51 42.3**	**+0.4**
ASAR	**Alice Springs**	**45.46**	**256**	P	**P**	**05 51 42.4**	**+0.5**
	3.8nm,0.4s,mb4.3,baz=89,slow=7.7,SNR=84						
ASAR				PcP	PcP	05 53 10.9	+2.5
	0.4nm,0.4s,baz=111,slow=4.3,SNR=4.4						
ASAR				S	**S**	**05 57 40.2**	**-1.7**
	0.3nm,0.6s,baz=93,slow=16,SNR=3.1						
WRAB	**Tennant Creek**	**45.46**	**261**	*e*P	**P**	**05 51 41.8**	**-0.1**
	2.9nm,0.4s,mb4.2						
ASPA	**Alice Springs**	**45.47**	**256**	*e*P	**P**	**05 51 42.3**	**+0.4**
WRA	**Warramunga Arr**	**45.47**	**261**	P	**P**	**05 51 42.2**	**+0.3**
	1.9nm,0.3s,mb4.2,baz=97,slow=7.1,SNR=22						
MBWA	**Marble Bar**	**58.79**	**257**	*e*P	**P**	**05 53 17.6**	**+0.4**
	7.3nm,0.6s,mb4.0						
GERES	**GERESS Array B**	**149.48**	**346**	PKPbc	PKPbc	06 03 02.2	+4.0
	0.3nm,0.6s,baz=5.7,slow=2.7,SNR=3.9						

NIED ***25*** *06:07:00, 28.10N×12800E, h5km, Mw4.6 Best double couple: M0 7.96000×10^15 NP1:φs 98.00000°, δ84.00000°, λ-46.00000°. NP2:φs 194.00000°, δ44.00000°, λ-172.00000°.*
BJI ***25*** *06:07:37.2, 2742N×12853E, h12km, mB4.6, mb4.2, Ms4.5, Msz4.1*
IDC ***25*** *06:07:41.5±1.0, 2785N×12784E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/22, mbtmp4.0/8, ML3.2/1, MS3.8/15, Ms1 3.8/15, ms1mx3.6/28, Error ellipse: s-maj=47.6km s-min=13.0km az=64.0*
JMA ***25*** *06:07:41.0±0.3, 2811N×12805E, h10km±3km, M4.7*
ISCJB ***25*** *06:07:43.5±1.0, 2803N±004×128.11E±005, h29km±9km, mb4.3/14, MS4.1/15, Error ellipse: s-maj=8.2km s-min=5.3km az=66.8*
HRVD ***25*** *06:07:43.1±0.6, 2804N×128.10E, h12km, MW4.6/49, Centroid moment Tensor Solution. LP body waves: s4,c4;Mantle waves: s49,c65; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.09±.05; Mθθ 0.50±.05; Mφφ-0.41±.05; Mrθ-0.13±.15; Mθφ 0.83±.04; Mφr-0.02±.15; Best double couple: M0 0.95900×10^16 NP1:φs 194.00000°, δ83.00000°, λ178.00000°. NP2:φs 284.00000°, δ88.00000°, λ7.00000°. Principal axes: T 1.0060, Plg6.0000°, Azm150.0000°; N -0.0950, Plg83.0000°, Azm301.0000°; P -0.9110, Plg3.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *06:07:43.1±3.4, 2787N×12782E, h12km±23km, mb4.7/4, MW4.5(NIED) Error ellipse: s-maj=9.6km s-min=7.7km az=106.0*
MOS ***25*** *06:07:44.0±0.6, 2795N×12791E, h33km, mb4.7/5, Error ellipse: s-maj=20.6km s-min=13.2km az=105.2*

ISC 25 06:07:42.6±2.0, 2801N±003×12814E±004, h11km±14km, n55, σ0§97/51, mb4.3/14, MS4.1/15, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.75**	**107**	P	**Pb**	**06 07 57.2**	**-0.4**
JTK				S	**Sb**	**06 08 09.0**	**+1.2**
JIH	**Iheya**	**0.98**	**189**	P	**Pb**	**06 08 01.3**	**-0.3**
JIH				S	**Sb**	**06 08 15.0**	**+0.5**
JOW	**Kunigami**	**1.18**	**174**	Pn	**Pn**	**06 08 04.4**	**-0.6**
	227nm,0.3s,baz=351,slow=16,SNR=216						
JOW				Sn	**Sn**	**06 08 21.3**	**+0.3**
	205nm,0.3s,baz=127,slow=26,SNR=25						
JOW	**Kunigami**	**1.18**	**174**	P	**Pn**	**06 08 04.5**	**-0.5**
JOW				S	**Sn**	**06 08 21.3**	**+0.3**
JAM	**Amami Oshima**	**1.35**	**72**	P	**Pn**	**06 08 06.8**	**-0.6**
JAM				S	**Sn**	**06 08 25.0**	**-0.3**
JAGN	**Aguni-jima**	**1.62**	**210**	P	**Pn**	**06 08 10.6**	**-0.5**
JZK	**Kikaishima**	**1.64**	**79**	P	**Pn**	**06 08 11.4**	**0.0**
NAH1	**Naha**	**1.84**	**193**	P	**Pn**	**06 08 14.4**	**+0.3**
JJT2	**Tamagusuku 2**	**1.90**	**191**	P	**Pn**	**06 08 15.6**	**+0.8**
JKE	**Kume jima 2**	**2.07**	**216**	P	**Pn**	**06 08 16.0**	**-1.2**
JNN	**Nakanoshima**	**2.38**	**39**	P	**Pn**	**06 08 20.6**	**-0.9**
JKC	**Kuchinoerabu**	**3.03**	**36**	P	**Pn**	**06 08 30.5**	**0.0**
JTN	**Tanegashima 3**	**3.62**	**43**	P	**Pn**	**06 08 39.0**	**+0.5**
YHNB	**Yeheng**	**6.92**	**243**	*e*Pn	**Pn**	**06 09 19.9**	**-4.1**
NAB	**Ninganchiao**	**7.02**	**239**	*e*Pn	**Pn**	**06 09 21.2**	**-4.0**
NJ2	**Nanjing**	**9.00**	**299**	*e*P	**Pn**	**06 10 00.9**	**+8.4**
NJ2				S	**Sn**	**06 11 52.4**	**+19**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
NJ2				Smax			
	comp=N,340nm,1.7s						
NJ2				Smax			
	comp=E,260nm,1.6s						
NJ2				LR	LR		
	comp=N,4μm,18.0s						
NJ2				LR	LR		
	comp=E,2μm,19.4s						
NJ2				LR	LR		
	comp=Z,670nm,14.9s						
JHJ	**Hachijo jima 2**	**11.25**	**60**	LR	LR	06 14 35.4	
	comp=Z,292nm,20.4s,baz=299,slow=36						
MAJO	**Matsushiro**	**12.03**	**42**	*e*P	**Pn**	**06 10 37.5**	**+3.5**
MAJO				pmax	pmax		
	comp=Z,34nm,1.4s						
MAJO	**Matsushiro**	**12.03**	**42**	*e*Pn	**Pn**	**06 10 37.5**	**+3.6**
	comp=Z,34nm,1.4s						
MJAR	**Matsushiro Arr**	**12.03**	**42**	Pn	**Pn**	**06 10 39.5**	**+5.5**
	comp=Z,0.2nm,0.3s,baz=240,slow=14,SNR=6.6						
MJAR				LR	LR	06 15 51.8	
	comp=Z,134nm,19.5s,baz=225,slow=40						
MJAR	**Matsushiro Arr**	**12.03**	**42**	Pn	**Pn**	**06 10 39.5**	**+5.5**
MJAR				LR	LR	06 15 51.8	
CBIJ	**Chichi jima**	**12.49**	**91**	LR	LR	06 15 26.2	
	comp=Z,160nm,20.2s,baz=227,slow=36						
CN2	**Changchun**	**15.91**	**353**	*e*P	**Pn**	**06 11 31.6**	**+5.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,800nm,13.0s						
CN2				LR	LR		
	comp=E,1μm,13.0s						
CN2				LR	LR		
	comp=Z,900nm,14.0s						
XAN	**Xi'an**	**17.53**	**295**	P	**Pn**	**06 11 48.0**	**+1.1**
XAN				AP	pP	06 11 55.4	+4.4
XAN				AMB	AMB		
	comp=Z,60nm,8.0s						
XAN				LR	LR		
	comp=N,1μm,15.4s						
XAN				LR	LR		
	comp=E,540nm,17.2s						
XAN				LR	LR		
	comp=Z,800nm,14.4s						
GUMO	**Guam**	**21.18**	**129**	LR	LR	06 19 17.7	
	comp=Z,306nm,18.7s,MS3.7,baz=295,slow=33						
LZH	**Lanzhou**	**22.08**	**298**	*e*P	**P**	**06 12 40.8**	**+3.3**
LZH				AP		06 12 46.1	
LZH				XP	sP	06 12 48.1	+6.1
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.6						
LZH				AMB	AMB		
	comp=Z,150nm,4.6s						
LZH				LR	LR		
	comp=N,2μm,14.0s						
LZH				LR	LR		
	comp=Z,4μm,15.8s,MS4.9						
SONM	**Songino Array**	**26.04**	**325**	P	**P**	**06 13 15.2**	**-0.6**
	comp=Z,7.1nm,1.2s,mb4.1,baz=136,slow=10,SNR=11						
SONM				LR	LR	06 24 24.0	
	comp=Z,225nm,19.4s,MS3.7,baz=154,slow=38						
GTA	**Gaotai**	**26.06**	**303**	*e*P	**P**	**06 13 18.8**	**+2.8**
GTA				AP	pP	06 13 22.5	+3.2
GTA				XP	sP	06 13 24.8	+4.2
GTA				PP		06 14 05.5	
GTA				S	**S**	**06 17 56.3**	**+9.3**
GTA				XS	sS	06 18 03.3	+11
GTA				AMB	AMB		
	comp=Z,50nm,2.7s,mb4.6						
GTA				LR	LR		
	comp=N,720nm,16.7s,MS4.4						
GTA				LR	LR		
	comp=E,400nm,12.9s,MS4.4						
GTA				LR	LR		
	comp=Z,490nm,13.3s,MS4.2						
CIT	**Chita**	**26.36**	**339**	*e*P	**P**	**06 13 18.7**	**0.0**
ZAK	**Zakamensk**	**29.25**	**327**	*e*P	**P**	**06 13 48.5**	**+3.9**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.1						
TLY	**Talaya**	**29.95**	**329**	*e*P	**P**	**06 13 50.1**	**-0.6**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
TLY	**Talaya**	**29.95**	**329**	*e*P	**P**	**06 13 50.1**	**-0.6**
	comp=Z,4.8nm,1.3s,mb4.1						
WMQ	**Urumqi**	**35.97**	**307**	*e*P	**P**	**06 14 48.8**	**+5.5**
WMQ				LR	LR		
	comp=N,490nm,12.0s,MS4.6						
WMQ				LR	LR		
	comp=E,430nm,14.0s,MS4.6						
WMQ				LR	LR		
	comp=N,380nm,23.0s						
WMQ				LR	LR		
	comp=Z,170nm,23.0s						
MKAR	**Makanchi Array**	**40.31**	**310**	P	**P**	**06 15 20.6**	**+0.7**
	comp=Z,1.9nm,0.7s,mb3.9,baz=97,slow=10,SNR=17						
KURK	**Kurchatov**	**43.49**	**315**	*e*P	**P**	**06 15 44.4**	**-1.5**
KURK				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.6						
KURK	**Kurchatov**	**43.49**	**315**	*e*P	**P**	**06 15 44.4**	**-1.5**
	comp=Z,16nm,1.4s,mb4.6						
WRA	**Warramunga Arr**	**48.04**	**172**	P	**P**	**06 16 21.8**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.5,baz=350,slow=8.3,SNR=5.2						
BVAR	**Borovoye Array**	**48.91**	**317**	P	**P**	**06 16 28.3**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.1,baz=101,slow=7.7,SNR=9.0						
BRVK	**Borovoye**	**48.98**	**317**	*e*P	**P**	**06 16 28.3**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
BRVK	**Borovoye**	**48.98**	**317**	*e*P	**P**	**06 16 28.3**	**-0.7**
	comp=Z,10nm,1.3s,mb4.7						
ZRNK	**Zerenda**	**49.73**	**317**	*e*P	**P**	**06 16 34.0**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
ZRNK	**Zerenda**	**49.73**	**317**	*e*P	**P**	**06 16 34.0**	**-0.8**
	comp=Z,12nm,1.3s,mb4.8						
ASAR	**Alice Springs**	**51.67**	**173**	P	**P**	**06 16 49.9**	**+0.4**
	comp=Z,1.2nm,0.9s,mb3.8,baz=354,slow=5.4,SNR=6.2						
ASAR				LR	LR	06 39 56.2	
	comp=Z,97nm,18.6s,MS3.9,baz=271,slow=38						
AKTK	**Aktyubinsk**	**56.54**	**314**	P	**P**	**06 17 25.3**	**+0.3**
AKTO	**Aktyubinsk**	**56.54**	**314**	P	**P**	**06 17 25.3**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=101,slow=5.2,SNR=3.2						
AKTO	**Aktyubinsk**	**56.54**	**314**	P	**P**	**06 17 25.3**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**60.91**	**167**	P	**P**	**06 17 54.0**	**-1.4**
	comp=Z,1.9nm,0.6s,mb4.4,baz=351,slow=6.9,SNR=5.1						
STKA				LR	LR	06 41 46.4	
	comp=Z,131nm,20.4s,MS4.1,baz=202,slow=34						
ARCES	**ARCESS Array B**	**68.33**	**338**	LR	LR	06 55 38.4	
	comp=Z,101nm,18.2s,MS4.1,baz=279,slow=42						
FINES	**FINESS Array B**	**71.29**	**330**	LR	LR	06 53 17.8	
	comp=Z,118nm,19.1s,MS4.2,baz=38,slow=38						
AKASG	**Malin Array Be**	**74.14**	**319**	LR	LR	06 54 15.9	
	comp=Z,174nm,19.3s,MS4.4,baz=50,slow=38						
BRTR	**Keskin Array B**	**75.89**	**308**	LR	LR	06 57 24.8	
	comp=Z,42nm,20.5s,MS3.7,baz=246,slow=39						
YKA	**Yellowknife Ar**	**76.95**	**25**	LR	LR	06 54 57.5	
	comp=Z,30nm,18.3s,MS3.6,baz=200,slow=37						
NOA	**NORSAR Array B**	**77.69**	**334**	LR	LR	06 58 45.7	
	comp=Z,99nm,18.2s,MS4.2,baz=40,slow=39						
GERES	**GERESS Array B**	**83.74**	**323**	LR	LR	07 00 10.9	
	comp=Z,110nm,18.1s,MS4.3,baz=225,slow=38						
PDAR	**Pinedale Array**	**91.83**	**39**	LR	LR	07 05 44.4	
	comp=Z,27nm,18.6s,MS3.7,baz=63,slow=38						

CSEM ***25*** *06:17:58.4±0.2, 3656N×460W, h78km±1km, mb3.1/10, Error ellipse: s-maj=4.9km s-min=1.5km az=169.0*
SFS ***25*** *06:17:59.0, 3640N×450W, h0km, ML2.8*
NEIC ***25*** *06:17:59.3, 3644N×458W, h79km, MG3.1(MDD), After MDD.*
MDD ***25*** *06:17:59.2±0.6, 3645N×459W, h79km±4km, mb3.2/10, Error ellipse: s-maj=5.8km s-min=3.2km az=176.0, PRXIMO*
ISCJB ***25*** *06:17:59.1±0.6, 3668N±004×464W±002, h87km±5km, Error ellipse: s-maj=6.2km s-min=3.0km az=170.5*
IGIL ***25*** *06:18:01.3, 3664N×467W, h31km, ML2.8*
INMG ***25*** *06:18:01.7±1.5, 3665N×467W, h54km±9km, ML2.0, Error ellipse: s-maj=5.2km s-min=3.5km az=169.0*

ISC 25 06:18:00.1±0.6, 3665N±004×463W±002, h78km±5km, n71, σ1§23/132, 6C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.14**	**233**	⇓P	**Pn**	**06 18 10.5**	**-0.9**
	SNR=18						
EMIJ				S	**Sn**	**06 18 19.1**	**-0.6**
	35nm,0.2s,SNR=18						
EMIJ	**Mijas**	**0.14**	**233**	⇓P	**Pn**	**06 18 10.6**	**-0.8**
EMIJ				S	**Sn**	**06 18 19.1**	**-0.7**
	35nm,0.2s,SNR=18						
MAL	**Malaga**	**0.19**	**66**	*i* P	**Pn**	**06 18 11.8**	**+0.2**
MAL				*i* S	**Sn**	**06 18 20.8**	**+0.7**
REAL	**Reales**	**0.49**	**251**	P	**Pn**	**06 18 10.9**	**-2.6**
REAL				S	**Sn**	**06 18 20.8**	**-2.7**
REAL	**Reales**	**0.49**	**251**	*e*P	**Pn**	**06 18 10.9**	**-2.7**
REAL				*e*S	**Sn**	**06 18 20.8**	**-2.8**
ELOJ	**Sierra Loja**	**0.63**	**37**	P	**Pn**	**06 18 16.8**	**+2.0**
	0.6nm,0.1s,SNR=8.8						
ELOJ				S	**Sn**	**06 18 28.5**	**+2.8**
	5.4nm,0.2s,SNR=6.4						
LIJA	**Lijar**	**0.67**	**293**	P	**Pn**	**06 18 17.1**	**+1.8**
LIJA				S	**Sn**	**06 18 26.7**	**+0.1**
LIJA	**Lijar**	**0.67**	**293**	*i* P	**Pn**	**06 18 17.1**	**+1.8**
LIJA				*e*S	**Sn**	**06 18 26.7**	**+0.2**
EJIF	**Jimena Fronter**	**0.70**	**254**	P	**Pn**	**06 18 16.0**	**+0.4**
	1.0nm,0.1s,SNR=9.1						
EJIF				S	**Sn**	**06 18 24.8**	**-2.4**
	11nm,0.3s,SNR=10						
ERON	**Agron**	**0.76**	**61**	P	**Pn**	**06 18 16.8**	**+0.7**
	2.6nm,0.2s,SNR=7.1						
ERON				S	**Sn**	**06 18 28.8**	**+0.7**
	2.8nm,0.1s,SNR=5.0						
EGUA	**Guajares**	**0.87**	**78**	P	**Pn**	**06 18 15.8**	**-1.7**
	0.5nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**06 18 29.1**	**-1.3**
	2.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.01**	**283**	P	**Pn**	**06 18 20.0**	**+0.9**
	3.2nm,0.1s,SNR=9.7						
ESPR				S	**Sn**	**06 18 34.3**	**+1.0**
	22nm,0.2s,SNR=9.1						
ESPR	**Espera**	**1.01**	**283**	P	**Pn**	**06 18 20.0**	**+0.9**
	3.2nm,0.1s,SNR=9.7						
ESPR				S	**Sn**	**06 18 34.3**	**+1.0**
	22nm,0.2s,SNR=9.1						
ECOG	**Cogollos-Vega**	**1.06**	**53**	P	**Pn**	**06 18 20.7**	**+1.0**
	0.9nm,0.1s,SNR=8.6						
ECOG				S	**Sn**	**06 18 35.4**	**+1.1**
	9.3nm,0.1s,SNR=7.1						
ECOG	**Cogollos-Vega**	**1.06**	**53**	P	**Pn**	**06 18 20.7**	**+1.0**
ECOG				S	**Sn**	**06 18 35.4**	**+1.1**
EQUE	**Quentar**	**1.10**	**60**	P	**Pn**	**06 18 20.0**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**06 18 36.5**	**+1.2**
	9.7nm,0.4s,SNR=11						
EBER	**Berja**	**1.42**	**79**	P	**Pn**	**06 18 22.8**	**-1.5**
	1.4nm,0.1s,SNR=5.5						
EBER				S	**Sn**	**06 18 42.1**	**-0.4**
	4.8nm,0.2s,SNR=5.4						
EBER	**Berja**	**1.42**	**79**	P	**Pn**	**06 18 22.8**	**-1.4**
	1.4nm,0.1s,SNR=5.5						
EBER				S	**Sn**	**06 18 42.1**	**-0.3**
	4.8nm,0.2s,SNR=5.4						
EALB	**Alboran**	**1.47**	**118**	S	**Sn**	**06 18 37.9**	**-5.8**
	9.7nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**1.52**	**2**	P	**Pn**	**06 18 26.8**	**+1.3**
	1.3nm,0.1s,SNR=24						
EADA				S	**Sn**	**06 18 46.2**	**+1.6**
	18nm,0.1s,SNR=14						
EADA	**Adamuz**	**1.52**	**2**	P	**Pn**	**06 18 26.8**	**+1.3**
	1.3nm,0.1s,SNR=24						
EADA				S	**Sn**	**06 18 46.2**	**+1.5**
	18nm,0.1s,SNR=14						
EBAN	**Banos Encina**	**1.65**	**24**	⇓P	**Pn**	**06 18 28.0**	**+0.7**
	3.7nm,0.1s,SNR=18						
EBAN				S	**Sn**	**06 18 48.4**	**+0.5**
	9.0nm,0.1s,SNR=11						
EQES	**Quesada**	**1.69**	**47**	P	**Pn**	**06 18 28.3**	**+0.5**
	1.1nm,0.1s,SNR=14						
EQES				S	**Sn**	**06 18 49.2**	**+0.3**
	14nm,0.2s,SNR=20						
EQES	**Quesada**	**1.69**	**47**	P	**Pn**	**06 18 28.3**	**+0.5**
	1.1nm,0.1s,SNR=14						
EQES				S	**Sn**	**06 18 49.2**	**+0.3**
	14nm,0.2s,SNR=20						
EMEL	**Melilla**	**1.91**	**134**	P	**Pn**	**06 18 26.7**	**-4.1**
	36nm,0.1s,SNR=7.9						
EMEL				S	**Sn**	**06 18 48.4**	**-5.6**
	24nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**1.97**	**80**	S	**Sn**	**06 18 52.5**	**-2.9**
	1.7nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.98**	**305**	⇑P	**Pn**	**06 18 31.9**	**+0.3**
	6.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**06 18 55.9**	**+0.4**
	2.8nm,0.1s,SNR=10						
EMIN	**Mina Concepcio**	**1.98**	**305**	P	**Pn**	**06 18 31.9**	**+0.3**
	6.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**06 18 56.0**	**+0.5**
EHUE	**Huescar**	**2.00**	**54**	P	**Pn**	**06 18 32.2**	**+0.3**
	2.2nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**06 18 56.4**	**+0.3**
	4.1nm,0.2s,SNR=7.9						
ERIP	**Rio Piedras**	**2.22**	**290**	⇑P	**Pn**	**06 18 34.9**	**0.0**
	19nm,0.1s,SNR=18						
ERIP				S	**Sn**	**06 19 00.5**	**-1.0**
	81nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.45**	**292**	⇑P	**Pn**	**06 18 37.9**	**0.0**
	1.1nm,0.0s,SNR=18						
EGRO				S	**Sn**	**06 19 06.0**	**-0.8**
	9.6nm,0.1s,SNR=6.0						
EGRO	**El Granado**	**2.45**	**292**	P	**Pn**	**06 18 37.9**	**0.0**
	1.1nm,0.0s,SNR=18						
EGRO				S	**Sn**	**06 19 06.0**	**-0.8**
	9.6nm,0.1s,SNR=6.0						
EVIA	**Vianos**	**2.60**	**40**	P	**Pn**	**06 18 40.5**	**+0.5**
	1.6nm,0.1s,SNR=4.0						
EVIA				S	**Sn**	**06 19 08.8**	**-1.9**
	4.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.83**	**319**	⇑P	**Pn**	**06 18 44.0**	**+1.0**
	6.5nm,0.1s,SNR=18						
EBAD				S	**Sn**	**06 19 16.8**	**+0.7**
	24nm,0.2s,SNR=16						
EBAD	**Badajoz**	**2.83**	**319**	⇑P	**Pn**	**06 18 44.0**	**+1.0**
EBAD				S	**Sn**	**06 19 16.8**	**+0.7**
EBAD	**Badajoz**	**2.83**	**319**	P	**Pn**	**06 18 44.0**	**+1.0**
	6.5nm,0.1s,SNR=18						
EBAD				S	**Sn**	**06 19 16.8**	**+0.8**
	24nm,0.2s,SNR=16						
PBEJ	**Beja**	**2.92**	**299**	*e*P	**Pn**	**06 18 44.6**	**+0.3**
PBEJ				*e*S	**Sn**	**06 19 17.4**	**-1.0**
PBEJ							
	2.9nm,0.1s						
PBEJ	**Beja**	**2.92**	**299**	*e*P	**Pn**	**06 18 44.6**	**+0.3**
PBEJ				*e*S	**Sn**	**06 19 17.4**	**-1.0**
	2.9nm,0.1s						
ESDC	**Sonseca Array**	**3.06**	**10**	⇑P	**Pn**	**06 18 47.1**	**+0.9**
	1.8nm,0.2s,baz=181,slow=13,SNR=18						
ESDC				S	**Sn**	**06 19 21.7**	**-0.1**
	2.6nm,0.1s,baz=188,slow=23,SNR=8.0						
ESDC	**Sonseca Array**	**3.06**	**10**	P	**Pn**	**06 18 47.1**	**+0.9**
	1.8nm,0.2s,SNR=18						
ESDC				S	**Sn**	**06 19 21.7**	**-0.1**
	2.6nm,0.1s,SNR=8.0						
ETOB	**Tobarra**	**3.15**	**50**	P	**Pn**	**06 18 47.1**	**

MTE	**Manteigas**	**4.39**	**329**	*e*P	**Pn**	**06 19 05.5**	**+1.3**
MTE				*e*S	**Sn**	**06 19 53.7**	**-0.3**
	comp=N,1.2nm,0.2s						
PVIS	**Viseu**	**4.80**	**329**	*e*P	**Pn**	**06 19 11.1**	**+1.3**
PVIS				*e*S	**Sn**	**06 20 03.4**	**-0.6**
PVIS							
	comp=N,1.8nm,0.1s						
PVIS	**Viseu**	**4.80**	**329**	*e*P	**Pn**	**06 19 11.1**	**+1.3**
PVIS				*e*S	**Sn**	**06 20 03.4**	**-0.6**
	comp=N,1.8nm,0.1s						
EMOS	**Mosqueruela**	**4.94**	**40**	P	**Pn**	**06 19 12.4**	**+0.7**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**06 20 04.2**	**-3.3**
	comp=N,1.4nm,0.3s,SNR=5.9						
EMOS	**Mosqueruela**	**4.94**	**40**	P	**Pn**	**06 19 12.4**	**+0.7**
	comp=N,0.3nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**5.21**	**333**	*e*P	**Pn**	**06 19 16.8**	**+1.4**
PVRL				*e*S	**Sn**	**06 20 13.4**	**-0.7**
PBRG	**Braganca**	**5.40**	**343**	*e*P	**Pn**	**06 19 19.6**	**+1.6**
PBRG				*e*S	**Sn**	**06 20 17.5**	**-1.3**
PBRG							
	comp=N,1.2nm,0.1s						
ECAL	**Calabor**	**5.53**	**343**	P	**Pn**	**06 19 21.8**	**+2.0**
	comp=N,0.2nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**06 20 21.6**	**-0.4**
	comp=N,1.6nm,0.3s,SNR=4.6						
ECAL	**Calabor**	**5.53**	**343**	P	**Pn**	**06 19 21.8**	**+2.0**
	comp=N,0.2nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.70**	**333**	*e*P	**Pn**	**06 19 23.8**	**+1.7**
PCAB				*e*S	**Sn**	**06 20 25.1**	**-1.0**
PCAB							
	comp=N,1.8nm,0.1s						
ELOB	**Lobios**	**5.85**	**334**	P	**Pn**	**06 19 25.7**	**+1.5**
	comp=N,0.2nm,0.0s,SNR=7.9						
ELOB				S	**Sn**	**06 20 30.1**	**+0.2**
	comp=N,1.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.85**	**334**	P	**Pn**	**06 19 25.7**	**+1.5**
	comp=N,0.2nm,0.0s,SNR=7.9						
EARI	**Arriondas**	**6.66**	**356**	S	**Sn**	**06 20 48.1**	**-1.4**
	comp=N,0.4nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**6.94**	**345**	S	**Sn**	**06 20 54.9**	**-1.7**
	comp=N,0.8nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**6.99**	**19**	P	**Pn**	**06 19 41.2**	**+1.6**
	comp=N,0.7nm,0.3s,SNR=7.9						
EALK				S	**Sn**	**06 20 55.5**	**-2.0**
	comp=N,3.5nm,0.3s,SNR=7.9						

PGC 25 06:19:47.6, 4866N×12843W, h10km, MLSn3.0/1, Mw3.7, 1D, 191km southwest of Tofino, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETB	**Estevan Point**	**1.43**	**59**	Pn	Pn	06 20 11.9	-1.8
BPBC	**Brooks Peninsu**	**1.56**	**16**	Pn	Pn	06 20 13.0	-2.3
BPBC				Sn	Sn	06 20 31.7	-3.9
	comp=Z,15nm,0.1s						
BPBC				Trac		06 20 33.0	
	comp=Z,15nm,0.1s						
MAYB	**Maynard**	**1.92**	**25**	⇓Pn	Pn	06 20 18.8	-1.6
MAYB				Sn	Sn	06 20 41.4	-3.2
	comp=Z,17nm,0.2s						
MAYB				Trac		06 20 42.6	
	comp=Z,17nm,0.2s						
GDR	**Gold River**	**1.93**	**54**	Pn	Pn	06 20 18.7	-1.7
GDR				Sn	Sn	06 20 39.7	-5.0
	comp=Z,8.0nm,0.3s						
GDR				Trac		06 20 42.2	
	comp=Z,8.0nm,0.3s						
WOSB	**Woss**	**1.93**	**38**	Pn	Pn	06 20 19.0	-1.4
WOSB				Sn	Sn	06 20 41.4	-3.4
	comp=Z,6.0nm,0.2s						
WOSB				Trac		06 20 43.3	
	comp=Z,6.0nm,0.2s						
OZB	**Mount Ozzard**	**1.96**	**80**	Pn	Pn	06 20 18.6	-2.4
OZB				Sn	Sn	06 20 41.8	-3.8
OZB				Trac		06 20 47.8	
	comp=Z,12nm,0.5s						
HOLB	**Holberg**	**1.99**	**5**	Pn	Pn	06 20 19.2	-2.1
HOLB				Sn	Sn	06 20 41.9	-4.3
	comp=Z,8.0nm,0.2s						
HOLB				Trac		06 20 48.6	
	comp=Z,8.0nm,0.2s						
BTB	**Buttle Lake**	**2.07**	**66**	Pn	Pn	06 20 20.7	-1.7
BTB				Sn	Sn	06 20 44.8	-3.6
	comp=Z,19nm,0.3s						
BTB				Trac		06 20 46.2	
	comp=Z,19nm,0.3s						
PHC	**Port Hardy**	**2.15**	**17**	Pn	Pn	06 20 22.5	-1.0
PHC				Sn	Sn	06 20 46.5	-3.6
PHC				Trac		06 20 47.2	
	comp=Z,10.0nm,0.3s						
NCRB	**Newcastle Ridg**	**2.33**	**41**	Pn	Pn	06 20 25.1	-0.8
NCRB				Sn	Sn	06 20 52.6	-2.0
	comp=Z,9.0nm,0.3s						
NCRB				Trac		06 20 54.4	
	comp=Z,9.0nm,0.3s						
CBB	**Campbell River**	**2.43**	**54**	Pn	Pn	06 20 26.3	-1.0
CBB				Sn	Sn	06 20 54.6	-2.4
CBB				Trac		06 20 57.7	
	comp=Z,10.0nm,0.4s						
ALB	**Alberni**	**2.45**	**74**	Pn	Pn	06 20 26.2	-1.3
ALB				Sn	Sn	06 20 53.6	-3.9
	comp=Z,4.0nm,0.4s						
ALB				Trac		06 21 14.8	
	comp=Z,4.0nm,0.4s						
MGB	**Mount Grey**	**2.49**	**81**	Pn	Pn	06 20 26.0	-2.2
MGB				Sn	Sn	06 20 55.6	-3.0
MGB				Trac		06 21 01.8	
	comp=Z,3.0nm,0.3s						
TXB	**Texada**	**2.81**	**67**	Pn	Pn	06 20 31.6	-1.0
TXB				Sn	Sn	06 21 00.6	-6.0
	comp=Z,4.0nm,0.2s						
TXB				Trac		06 21 06.3	
	comp=Z,4.0nm,0.2s						
NLLB	**Nanaimo Lost L**	**2.98**	**77**	Pn	Pn	06 20 33.9	-1.0
NLLB				Sn	Sn	06 21 06.9	-3.8
NLLB				Trac		06 21 23.2	
	comp=Z,5.0nm,0.5s						
LZB	**Mount Lazard**	**3.05**	**89**	Pn	Pn	06 20 34.5	-1.4
SHB	**Sechelt**	**3.13**	**71**	Pn	Pn	06 20 35.9	-1.1
SHB				Sn	Sn	06 21 11.3	-3.1
SHB				Trac		06 21 24.0	
	comp=Z,3.0nm,0.2s						
PGC	**Sidney**	**3.30**	**88**	Pn	Pn	06 20 37.8	-1.5
BIB	**Bowen Island**	**3.45**	**76**	Pn	Pn	06 20 40.2	-1.2
SNB	**Saturna Island**	**3.48**	**86**	Pn	Pn	06 20 40.1	-1.7
BBB	**Bella Bella**	**3.53**	**3**	Pn	Pn	06 20 41.9	-0.6
BBB				Sn	Sn	06 21 21.0	-3.3
BBB				Trac		06 21 22.6	
	comp=Z,15nm,0.5s						
WPB	**Watts Point**	**3.56**	**72**	Pn	Pn	06 20 42.4	-0.5
VDB	**Vedder Mountai**	**4.19**	**83**	Pn	Pn	06 20 50.6	-1.0
LLLB	**Lillooet**	**4.68**	**63**	Pn	Pn	06 20 58.1	-0.1

*IDC **25** 06:35:38.6±1.1, 1906N×12020E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/17, mbtmp3.6/6, Error ellipse: s-maj=155.3km s-min=17.8km az=66.0*
*ISCJB **25** 06:35:41.9±0.8, 189N±02×1198E±03, h33km, mb3.5/6, Error ellipse: s-maj=41.9km s-min=13.7km az=108.0*
ISC 25 06:35:44.1±0.8, 190N±02×1199E±03, h35km, n7, σ0.37/7, mb3.5/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.19**	**125**	*e*P	**Pn**	**06 36 18.0**	**+0.1**
SONM	**Songino Array**	**30.84**	**342**	P	**P**	**06 41 56.7**	**0.0**
	0.3nm,0.6s,mb3.3,baz=156,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**41.16**	**159**	P	**P**	**06 43 24.8**	**-0.1**
	0.7nm,0.8s,mb3.3,baz=341,slow=8.8,SNR=3.7						
MKAR	**Makanchi Array**	**41.45**	**321**	P	**P**	**06 43 27.7**	**+0.4**
	0.7nm,0.7s,mb3.4,baz=116,slow=9.6,SNR=8.0						
ASAR	**Alice Springs**	**44.51**	**162**	P	**P**	**06 43 52.6**	**+0.6**
	0.5nm,0.5s,mb3.6,baz=338,slow=6.9,SNR=12						
STKA	**Stephens Creek**	**54.65**	**157**	P	**P**	**06 45 08.8**	**-0.6**
	0.7nm,0.5s,mb4.0,baz=0.0,slow=3.0,SNR=2.8						
FINES	**FINESS Array B**	**75.37**	**330**	P	**P**	**06 47 23.5**	**-0.4**
	0.5nm,0.8s,mb3.5,baz=64,slow=9.4,SNR=4.3						

*IDC **25** 06:48:07.2±1.3, 1906N×120.14E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, MS2.9/2, Ms1 3.0/2, ms1mx2.3/29, Error ellipse: s-maj=145.6km s-min=20.0km az=65.0*
*ISCJB **25** 06:48:10.4±0.9, 190N±0.1×1198E±02, h33km, mb3.6/5, Error ellipse: s-maj=29.4km s-min=11.5km az=99.5*
ISC 25 06:48:12.5±0.9, 190N±01×1199E±02, h35km, n10, σ0.97/9, mb3.6/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.91**	**134**	*e*P	**Pn**	**06 48 26.8**	**-2.1**
PIP						06 48 39.6	
ABRA	**Dolores**	**1.50**	**150**	*e*P	**Pn**	**06 48 36.5**	**-0.4**
SGCP	**Mt. Cagua**	**2.13**	**109**	*e*P	**Pn**	**06 48 46.2**	**+0.5**
CAUP	**Cauayan**	**2.70**	**138**	*e*P	**Pn**	**06 48 54.7**	**+1.3**
JHJ	**Hachijo jima 2**	**22.68**	**48**	LR	LR	07 00 56.5	
	comp=Z,6.6nm,19.5s,baz=19,slow=34						
SONM	**Songino Array**	**30.84**	**342**	P	**P**	**06 54 24.7**	**-0.5**
	0.5nm,0.8s,mb3.4,baz=150,slow=8.8,SNR=4.5						
WRA	**Warramunga Arr**	**41.16**	**159**	P	**P**	**06 55 52.9**	**-0.6**
	1.0nm,0.8s,mb3.5,baz=341,slow=9.0,SNR=5.0						
MKAR	**Makanchi Array**	**41.44**	**321**	P	**P**	**06 55 56.0**	**+0.2**
	1.6nm,0.8s,mb3.7,baz=112,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**44.51**	**162**	P	**P**	**06 56 20.4**	**-0.1**
	0.5nm,0.5s,mb3.6,baz=340,slow=6.6,SNR=8.2						
STKA	**Stephens Creek**	**54.65**	**157**	P	**P**	**06 57 39.3**	**+1.4**
	0.8nm,0.6s,mb4.0,baz=320,slow=7.9,SNR=3.3						

*CSEM **25** 06:55:59.2±1.3, 3907N×2847W, h0km±8km, ML1.9, Error ellipse: s-maj=6.6km s-min=3.3km az=139.0, After PDA*
*PDA **25** 06:55:59.2±1.3, 3907N×2847W, h0km±8km, MD3.3, ML1.9, Error ellipse: s-maj=6.6km s-min=3.3km az=139.0*
SVSA 25 06:55:59.2±1.3, 3907N×2847W, h0km±8km, MD3.3, ML1.9, Error ellipse: s-maj=6.6km s-min=3.3km az=139.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIA	**Vitoria**	**0.33**	**90**	*e*S	Sg	06 56 10.2	+0.4
PVIA							
	20nm,0.1s						
SRBC	**Serra Branca**	**0.34**	**95**	*e*P	Pg	06 56 05.8	+0.1
SRBC				*e*S	Sg	06 56 10.3	+0.2
STGR	**Santa Cruz**	**0.37**	**88**	*e*S	Sg	06 56 11.5	+0.5
STGR							
	78nm,0.3s						
PGRA	**Graciosa**	**0.39**	**95**	*e*P	Pg	06 56 06.3	-0.3
PGRA				*e*S	Sg	06 56 11.3	-0.3
PGRA							
	147nm,0.3s						
PGRA	**Graciosa**	**0.39**	**95**	*e*P	Pg	06 56 06.3	-0.3
PGRA				*e*S	Sg	06 56 11.3	-0.3
ROSA	**Rosais**	**0.39**	**152**	*i* P	Pg	06 56 06.5	-0.2
ROSA				*e*S	Sg	06 56 11.9	+0.1
ROSA	**Rosais**	**0.39**	**152**	*e*S	Sg	06 56 11.9	+0.1
PLUZ	**Luz**	**0.40**	**263**	*e*S	Sg	06 56 12.1	+0.2
PLUZ							
	48nm,0.2s						
PAMA	**Santo Amaro**	**0.45**	**149**	*e*S	Sg	06 56 13.3	-0.3
PAMA							
	15nm,0.2s						
PCED	**Cedros**	**0.47**	**202**	*i* P	Pg	06 56 07.8	-0.5
PCED				*e*S	Sg	06 56 14.7	+0.3
PCED							
	65nm,0.2s						
PCED	**Cedros**	**0.47**	**202**	*e*S	Sg	06 56 14.7	+0.3
CALA	**Caldeira**	**0.52**	**200**	*e*P	Pg	06 56 08.7	-0.4
PMAN	**Manadas**	**0.53**	**145**	*e*P	Pg	06 56 08.2	-1.1
PMAN				*e*S	Sg	06 56 16.4	+0.3
PMAN							
	53nm,0.1s						
PMAN	**Manadas**	**0.53**	**145**	*e*P	Pg	06 56 08.2	-1.1
PMAN				*e*S	Sg	06 56 16.4	+0.3
PTCA	**Ponta do Capel**	**0.54**	**208**	*e*rx		06 56 15.3	
HOR	**Horta**	**0.55**	**193**	*e*P	Pg	06 56 08.9	-0.9
HOR				*e*S	Sg	06 56 16.9	-0.1
PICO	**Pico**	**0.57**	**176**	*e*P	Pg	06 56 09.4	-0.7
PICO				*e*S	Sg	06 56 16.9	-0.5
PTEI	**Pico do Teixo**	**0.58**	**171**	*e*S	Sg	06 56 17.2	-0.6
PTEI							
	8.3nm,0.1s						
PCND	**Candelaria**	**0.60**	**179**	*e*P	Pg	06 56 09.9	-0.7
PCND				*e*S	Sg	06 56 17.5	-0.9
PCND							
	24nm,0.2s						
PID	**Ribeirinha**	**0.68**	**156**	*e*P	Pg	06 56 11.1	-1.2
PID				*e*S	Sg	06 56 20.4	-0.7
PSBA	**Serra de Santa**	**0.94**	**108**	*e*P	Pg	06 56 14.5	-2.8
PSBA				*e*S	Sg	06 56 26.2	-3.4
PSBA							
	28nm,0.3s						

IDC 25 06:58:48.5±2.1, 012N×12428E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=288.1km s-min=26.9km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.24**	**154**	P	P	07 03 46.6	-0.2
	0.7nm,0.6s,baz=332,slow=10.0,SNR=7.0						
ASAR	**Alice Springs**	**25.42**	**159**	P	P	07 04 18.3	+0.5
	0.6nm,0.5s,baz=344,slow=14,SNR=14						
MKAR	**Makanchi Array**	**59.19**	**328**	P	P	07 08 51.6	+0.3
	0.3nm,0.6s,baz=117,slow=7.1,SNR=3.8						

*BNS **25** 07:41:04.1±3.1, 5011N×898E, h1km, ML1.8*
*ISCJB **25** 07:41:06.8±0.3, 4934N±002×680E±003, h0km, Error ellipse: s-maj=2.7km s-min=2.1km az=53.5*
*BGR **25** 07:41:09.4±0.6, 4937N×692E, h1km, ML1.9/2, Error ellipse: s-maj=6.7km s-min=6.7km az=81.0*
*CSEM **25** 07:41:09.1±0.0, 4937N×695E, h1km, ML2.7/23, Error ellipse: s-maj=0.9km s-min=0.7km az=127.0*
*LDG **25** 07:41:09.2±0.1, 4938N×692E, h1km, Md2.8/4, Ml2.7/25, Error ellipse: s-maj=1.4km s-min=1.2km az=94.0, Suspected Mining induced.*
*NEIC **25** 07:41:09.2, 4938N×692E, h1km, ML2.1(STR), ML2.7(LDG), After LDG.*
ISC 25 07:41:07.9±0.2, 4937N±001×684E±002, h0km, n69, σ0.98/141, 2C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.37**	**23**	Pg	**Pg**	**07 41 15.3**	**+0.4**
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	**Pg**	**07 41 19.9**	**+1.7**
ABH	**Alteburg**	**0.69**	**41**	Pg	**Pg**	**07 41 21.0**	**-0.2**
LANF	**Langenberg**	**0.74**	**121**	Pg	**Pg**	**07 41 22.4**	**+0.3**
KTD	**Kalmit**	**0.81**	**93**	Pg	**Pg**	**07 41 24.2**	**+0.7**
BGG	**Burgeitz**	**0.90**	**21**	*e*Pg	**Pg**	**07 41 25.3**	**+0.1**
HILG	**Hillesheim**	**0.93**	**354**	*e*Pg	**Pg**	**07 41 26.1**	**+0.3**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**07 41 28.5**	**-0.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**07 41 40.5**	**+0.6**
	15nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pg	**Pg**	**07 41 27.4**	**+0.4**
CDF				*e*Pn	**Pn**	**07 41 28.5**	**-0.6**
CDF				*e*Sg	**Sg**	**07 41 40.5**	**+0.6**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**07 41 28.5**	**-0.6**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**07 41 40.5**	**+0.6**
	7.3nm,0.2s,SNR=1.0						
RFYF	**Reffroy**	**1.16**	**231**	*e*Pg	**Pg**	**07 41 32.0**	**+1.8**
	baz=56						
RFYF				*e*Sg	**Sg**	**07 41 47.8**	**+2.5**
	35nm,0.3s						
RFYF	**Reffroy**	**1.16**	**231**	*e*Pg	**Pg**	**07 41 32.0**	**+1.8**
RFYF				*e*Sg	**Sg**	**07 41 47.8**	**+2.5**
	17nm,0.3s						
ECH	**Echery**	**1.17**	**170**	Pn	**Pn**	**07 41 30.9**	**-0.6**
ECH				Sg	**Sg**	**07 41 46.5**	**+1.0**
STB	**Steinbach**	**1.23**	**360**	*e*Pg	**Pg**	**07 41 31.9**	**+0.4**
STB				*e*Sg	**Sg**	**07 41 48.2**	**+0.7**
	14nm,0.6s						
THEF	**They Montfort**	**1.27**	**207**	Pn	**Pn**	**07 41 32.8**	**-0.1**
THEF				Sg	**Sg**	**07 41 50.0**	**+1.2**
TOD	**Tromm**	**1.30**	**79**	Pg	**Pg**	**07 41 32.5**	**-0.4**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**07 41 33.0**	**-0.4**
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**07 41 33.9**	**+0.1**
	SNR=4.9						
TNS				*e*Sg	**Sg**	**07 41 50.9**	**-0.4**
	SNR=4.4						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**07 41 36.2**	**+1.5**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**07 41 53.1**	**-0.7**
	13nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**07 41 36.2**	**+1.5**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**07 41 53.1**	**-0.7**
	6.7nm,0.2s,SNR=1.0						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**07 41 36.1**	**+0.8**
	SNR=12						
BFO				*e*Sg	**Sg**	**07 41 52.8**	**-1.0**
	SNR=5.5						
MEZF	**Maizieres J'vi**	**1.46**	**234**	*e*Pg	**Pg**	**07 41 37.2**	**+1.2**
	baz=54						
MEZF				*e*Sg	**Sg**	**07 41 57.6**	**+2.7**
	11nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.46**	**234**	*e*Pg	**Pg**	**07 41 37.2**	**+1.2**
MEZF				*e*Sg	**Sg**	**07 41 57.6**	**+2.7**
	5.4nm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.50**	**300**	*e*Pg	**Pg**	**07 41 38.1**	**+1.4**
GIVF				*e*Sn	**Sn**	**07 41 56.6**	**+0.2**
	23nm,0.4s,SNR=1.0						
GIVF	**Givet**	**1.50**	**300**	*e*Pn	**Pn**	**07 41 36.4**	**+0.3**
GIVF				*e*Pg	**Pg**	**07 41 38.1**	**+1.4**
GIVF				*e*Sn	**Sn**	**07 41 56.6**	**+0.2**
GIVF	**Givet**	**1.50**	**300**	*e*Pg	**Pg**	**07 41 38.1**	**+1.4**
GIVF				*e*Sn	**Sn**	**07 41 56.6**	**+0.2**
	11nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**07 41 37.9**	**+0.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**07 41 58.5**	**+0.8**
	46nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**07 41 37.9**	**+0.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**07 41 58.5**	**+0.8**
	23nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**1.66**	**226**	*e*Pn	**Pn**	**07 41 38.6**	**+0.3**
	baz=53						
SFTF				*e*Sg	**Sg**	**07 42 03.3**	**+1.9**
	18nm,0.4s						
SFTF	**Sexfontaines**	**1.66**	**226**	*e*Pn	**Pn**	**07 41 38.6**	**+0.3**
SFTF				*e*Sg	**Sg**	**07 42 03.3**	**+1.9**
	9.1nm,0.4s						
BAIF	**Baives**	**1.84**	**293**	*e*Pg	**Pg**	**07 41 44.5**	**+1.2**
BAIF				*e*Sn	**Sn**	**07 42 04.5**	**-0.4**
	7.5nm,0.3s,SNR=1.0						
BAIF	**Baives**	**1.84**	**293**	*e*Pn	**Pn**	**07 41 41.1**	**+0.3**
BAIF				*e*Pg	**Pg**	**07 41 44.5**	**+1.2**
BAIF				*e*Sn	**Sn**	**07 42 04.5**	**-0.4**
BAIF	**Baives**	**1.84**	**293**	*e*Pg	**Pg**	**07 41 44.5**	**+1.2**
BAIF				*e*Sn	**Sn**	**07 42 04.5**	**-0.4**
	3.8nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**2.80**	**191**	*e*Pg	**Pg**	**07 42 02.0**	**+0.4**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**07 42 38.3**	**+0.4**
	7.5nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn	**Pn**	**07 41 53.1**	**-0.9**
CABF				*e*Pg	**Pg**	**07 42 02.0**	**+0.4**
CABF				*e*Sg	**Sg**	**07 42 38.3**	**+0.4**
CABF	**La Chapelle**	**2.80**	**191**	*e*Pg	**Pg**	**07 42 02.0**	**+0.4**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**07 42 38.3**	**+0.4**
	3.8nm,0.6s,SNR=1.0						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**07 41 54.5**	**-0.7**
	baz=58,SNR=1.0						
LOR				*e*Sn	**Sn**	**07 42 29.5**	**-1.2**
	6.0nm,0.4s,SNR=1.0						
LOR				*e*Sg	**Sg**	**07 42 41.9**	**+1.1**
	7.2nm,0.4s						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**07 41 54.5**	**-0.7**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**07 42 29.5**	**-1.2**
	3.0nm,0.4s,SNR=1.0						
LOR				*e*Sg	**Sg**	**07 42 41.9**	**+1.1**
	3.6nm,0.4s						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pg	**Pg**	**07 42 09.6**	**+0.2**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**07 42 36.9**	**-1.6**
SSF				*e*Sg	**Sg**	**07 42 51.8**	**+0.8**
	5.2nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**07 41 58.7**	**-0.8**
SSF				*e*Pg	**Pg**	**07 42 09.6**	**+0.2**
SSF				*e*Sn	**Sn**	**07 42 36.9**	**-1.6**
SSF				*e*Sg	**Sg**	**07 42 51.8**	**+0.8**
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pg	**Pg**	**07 42 09.6**	**+0.2**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**07 42 36.9**	**-1.6**
SSF				*e*Sg	**Sg**	**07 42 51.8**	**+0.8**
	2.6nm,0.4s,SNR=1.0						
MOX	**Moxa**	**3.34**	**66**	*e*Sg	**Sg**	**07 42 53.4**	**-1.8**
	SNR=1.6						
SMF	**Signal de Mont**	**3.38**	**218**	*e*Pg	**Pg**	**07 42 12.7**	**-0.1**
SMF				*e*Sg	**Sg**	**07 42 57.0**	**+0.3**
	2.4nm,0.2s						
SMF	**Signal de Mont**	**3.38**	**218**	*e*Pn	**Pn**	**07 42 01.1**	**-0.9**
SMF				*e*Pg	**Pg**	**07 42 12.7**	**-0.1**
SMF				*e*Sg	**Sg**	**07 42 57.0**	**+0.3**
SMF	**Signal de Mont**	**3.38**	**218**	*e*Pg	**Pg**	**07 42 12.7**	**-0.1**
SMF				*e*Sg	**Sg**	**07 42 57.0**	**+0.3**
	1.2nm,0.2s						
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pg	**Pg**	**07 42 14.7**	**+0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**07 42 43.3**	**-1.9**
	1.7nm,0.3s,SNR=1.0						
AVF				*e*Sg	**Sg**	**07 43 00.0**	**+0.3**
	4.2nm,0.6s						
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	**Pn**	**07 42 02.2**	**-1.1**
AVF				*e*Pg	**Pg**	**07 42 14.7**	**+0.1**
AVF				*e*Sn	**Sn**	**07 42 43.3**	**-1.9**
AVF				*e*Sg	**Sg**	**07 43 00.0**	**+0.3**
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pg	**Pg**	**07 42 14.7**	**+0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**07 42 43.3**	**-1.9**
	0.9nm,0.3s,SNR=1.0						
AVF				*e*Sg	**Sg**	**07 43 00.0**	**+0.3**
	2.1nm,0.6s						

LFF	**La Frestale**	**6.07 226**	*e*Sg	**Sg**	**07 44 20.8**	**-2.2**
	1.7nm,0.2s					
ROSF	**Rostrenen**	**6.75 265**	*e*Pn	**Pn**	**07 42 47.4**	**-0.9**
ROSF			*e*Sn	**Sn**	**07 43 59.8**	**-6.1**
	1.4nm,0.5s					
ROSF	**Rostrenen**	**6.75 265**	*e*Pn	**Pn**	**07 42 47.4**	**-0.9**
ROSF			*e*Sn	**Sn**	**07 43 59.8**	**-6.1**
	0.7nm,0.5s					
QUIF	**Quistinic**	**6.79 261**	*e*Pn	**Pn**	**07 42 47.9**	**-0.9**
QUIF			*e*Sn	**Sn**	**07 44 01.5**	**-5.3**
	1.6nm,0.4s					
QUIF	**Quistinic**	**6.79 261**	*e*Pn	**Pn**	**07 42 47.9**	**-0.9**
QUIF			*e*Sn	**Sn**	**07 44 01.5**	**-5.3**
	0.8nm,0.4s					
MTLF	**Montolieu**	**6.82 210**	*e*Pg	**Pg**	**07 43 16.0**	**-2.6**

ISCJB ***25*** *08:15:48.8±0.9, 4026N±006×255E±0.1, h10km, Error ellipse: s-maj=14.2km s-min=9.0km az=174.1*
ATH ***25*** *08:15:48.8, 4027N×2559E, h3km, MD3.2/3*
CSEM ***25*** *08:15:49.3±0.1, 4028N×2555E, h5km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.1km az=86.0*
SOF ***25*** *08:15:51.8, 4055N×2570E, h10km, MD2.5*
ISC 25 08:15:48.9±1.0,**4025N**±006×**256E**±01,**h10**km,**n8**,σ1°**07**/8,
Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.47**	**222**	*e*PG	**Pg**	**08 15 58.1**	**0.0**
RDO	**Rodhopi**	**0.89**	**357**	*e*PG	**Pg**	**08 16 05.3**	**-0.8**
PRK	**Paraskevi**	**1.13**	**152**	*e*PB	**Pb**	**08 16 10.6**	**0.0**
KDZ	**Kurdzhali**	**1.40**	**355**	P	**Pn**	**08 16 13.5**	**-1.0**
RZN	**Rozhen**	**1.58**	**335**	*e*P	**Pn**	**08 16 17.9**	**+1.0**
PLG	**Polygyros**	**1.65**	**275**	*e*PG	**Pg**	**08 16 19.4**	**-1.1**
MMB	**Musomiste**	**1.94**	**314**	P	**Pn**	**08 16 24.2**	**+2.3**
JMB	**Yambol**	**2.33**	**18**	*e*P	**Pn**	**08 16 32.0**	**+4.7**

CSEM ***25*** *08:16:38.8±0.1, 3487N×2903E, h30km, Mw3.2, Error ellipse: s-maj=2.2km s-min=1.2km az=74.0*
ISCJB ***25*** *08:16:39.2±0.3, 3493N±003×2898E±003, h94km±14km, Error ellipse: s-maj=5.7km s-min=3.8km az=75.0*
HLW ***25*** *08:16:40.1, 3496N×2906E, h33km, Mb4.0*
ISK ***25*** *08:16:40.8, 3502N×2902E, h34km, MD3.5*
NEIC ***25*** *08:16:40.6±0.7, 3490N×2892E, h35km, MD3.4(ATH), MD3.5(ISK), ML3.4(NIC), Error ellipse: s-maj=11.8km s-min=5.8km az=179.0*
ATH ***25*** *08:16:41.5, 3513N×2881E, h92km±13km*
NIC ***25*** *08:16:42.7±0.2, 3506N×2910E, h25km, ML3.4, MW3.2*
ISC 25 08:16:40.7±0.3,**3493N**±003×**2897E**±003,**h62**km±31km,
n52,σ0°**89**/64,**19C-2D**,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.32**	**22**	*e*P	**Pn**	**08 17 04.5**	**+1.5**
ARG	**Arkhangelos**	**1.46**	**332**	*e*P	**Pn**	**08 17 04.6**	**-0.3**
ARG				*e*S	**Sn**	**08 17 22.0**	**-1.0**
KARP	**Karpathos**	**1.60**	**293**	*e*P	**Pn**	**08 17 07.1**	**+0.3**
FETY	**Fethiye**	**1.71**	**3**	PN	**Pn**	**08 17 07.9**	**-0.3**
FETY				SN	**Sn**	**08 17 26.3**	**-2.7**
DALT	**Dalyan (Mudla)**	**1.86**	**352**	*e*PN	**Pn**	**08 17 10.1**	**-0.2**
ELL	**Elmali**	**1.97**	**23**	*e*PN	**Pn**	**08 17 11.3**	**-0.5**
DAT	**Datca**	**2.12**	**328**	PN	**Pn**	**08 17 14.0**	**+0.1**
YER	**Yerkesik**	**2.27**	**346**	PN	**Pn**	**08 17 16.8**	**+0.9**
BDRM	**Kayabasi**	**2.47**	**330**	*i* P	**Pn**	**08 17 18.5**	**0.0**
BDRM				*i* S	**Sn**	**08 17 45.1**	**-2.4**
BODT	**Bodrum**	**2.52**	**328**	PN	**Pn**	**08 17 19.0**	**-0.3**
XRY	**Khrisi**	**2.69**	**270**	*e*P	**Pn**	**08 17 22.5**	**+0.9**
DNZL	**Cakiroluk**	**2.76**	**1**	*i* P	**Pn**	**08 17 23.2**	**+0.7**
DNZL				*i* S	**Sn**	**08 17 55.4**	**+0.8**
NPS	**Neapolis**	**2.77**	**278**	*e*P	**Pn**	**08 17 24.0**	**+1.3**
DENT	**Denizli**	**2.82**	**1**	PN	**Pn**	**08 17 24.1**	**+0.7**
BCK	**Bucak**	**2.85**	**27**	PN	**Pn**	**08 17 24.5**	**+0.7**
AYDN	**Tasoluk**	**2.87**	**342**	*i* P	**Pn**	**08 17 25.0**	**+1.0**
AYDN				*i* S	**Sn**	**08 17 58.0**	**+0.6**
ALFC	**Alevga**	**2.99**	**85⇑**	*i*P	**Pn**	**08 17 25.5**	**-0.2**
	7.6nm,0.2s						
ALFC				S	**Sn**	**08 17 59.1**	**-1.2**
SZAC	**Souni-Zanaja**	**3.23**	**92**	P	**Pn**	**08 17 29.2**	**+0.3**
SZAC				S	**Sn**	**08 18 05.6**	**-0.5**
MAMC	**Mammari**	**3.50**	**85**	P	**Pn**	**08 17 33.0**	**+0.4**
CSS	**Prodhromos**	**3.58**	**88**	P	**Pn**	**08 17 33.8**	**0.0**
	2.1nm,0.2s						
CSS				S	**Sn**	**08 18 14.4**	**-0.5**
VAM	**Vamos**	**3.94**	**278**	*e*P	**Pn**	**08 17 39.5**	**+0.9**
IKL	**Isikli**	**4.06**	**70**	PN	**Pn**	**08 17 40.6**	**+0.3**
HMAT	**Matruh**	**4.13**	**203**	⇑P	**Pn**	**08 17 42.3**	**+1.0**
HBRG	**Burj al 'Arab**	**4.40**	**170**	⇑P	**Pn**	**08 17 44.8**	**-0.2**
HBRG				S	**Sn**	**08 18 33.0**	**-2.0**
KIZT	**Kizilcal**	**4.58**	**30**	PN	**Pn**	**08 17 48.9**	**+1.4**
SLUM		**4.65**	**224**	⇑P	**Pn**	**08 17 49.4**	**+1.0**
KYTH	**Kithira**	**5.02**	**287**	*e*P	**Pn**	**08 17 53.9**	**+0.5**
SQR		**5.37**	**159**	⇓P	**Pn**	**08 17 58.0**	**-0.3**
FYM	**Al Fayyum**	**5.51**	**161**	⇑P	**Pn**	**08 18 00.4**	**+0.3**
AYT	**Al 'Ayyat**	**5.53**	**160**	⇑P	**Pn**	**08 18 00.6**	**+0.2**
KOT	**Kottamia**	**5.54**	**153**	P	**Pn**	**08 18 00.4**	**-0.2**
KOT				S	**Sn**	**08 18 58.9**	**-4.0**
AMAG	**Maghara**	**5.57**	**139**	⇑P	**Pn**	**08 18 00.3**	**-0.6**
HHAG	**Hagoal**	**5.62**	**151**	⇑P	**Pn**	**08 18 01.5**	**-0.2**
HSAF	**As Saff**	**5.73**	**157**	⇑P	**Pn**	**08 18 03.0**	**-0.2**
GLL	**Jalalah**	**5.82**	**156**	⇑P	**Pn**	**08 18 04.1**	**-0.3**
SUZ		**6.03**	**146**	⇑P	**Pn**	**08 18 07.6**	**+0.2**
SWA1		**6.29**	**207**	⇑P	**Pn**	**08 18 11.6**	**+0.8**
SWA1				S	**Sn**	**08 19 18.1**	**-3.1**
ZAF		**6.39**	**151**	⇑P	**Pn**	**08 18 12.6**	**+0.3**
SWA2		**6.40**	**209**	⇑P	**Pn**	**08 18 13.2**	**+0.9**
HNKL	**Nakhl**	**6.54**	**138**	⇓P	**Pn**	**08 18 13.9**	**-0.4**
HNKL				S	**Sn**	**08 19 22.4**	**-5.1**
AWBH		**6.59**	**180**	⇑P	**Pn**	**08 18 14.6**	**-0.3**
HBST	**Basata**	**7.50**	**138**	P	**Pn**	**08 18 27.9**	**+0.4**
TR2		**7.68**	**147**	⇑P	**Pn**	**08 18 30.0**	**+0.1**
HKAT	**Jabal Katrina**	**7.69**	**145**	⇑P	**Pn**	**08 18 30.1**	**+0.1**
HDHB	**Dhahab**	**7.83**	**141**	P	**Pn**	**08 18 31.9**	**0.0**
TR1		**8.11**	**147**	P	**Pn**	**08 18 36.0**	**+0.4**
HHRG	**Al Ghardaqah**	**8.63**	**152**	⇑P	**Pn**	**08 18 43.2**	**+0.3**
HDK1	**Dakhla**	**9.36**	**178**	⇑P	**Pn**	**08 18 53.7**	**+0.9**
TIP	**Timpagrande**	**10.64**	**297**	Pg	**Pn**	**08 19 08.3**	**-2.0**
	6.8nm,0.9s						
HAVL	**Avola**	**11.40**	**284**	Pg	**Pn**	**08 19 18.5**	**-2.2**
CUC	**Castrocucco**	**11.61**	**300**	Pg	**Pn**	**08 19 22.4**	**-1.1**
	12nm,0.6s						
SLCN	**Sala Consilina**	**11.89**	**301**	Pg	**Pn**	**08 19 25.8**	**-1.5**
	17nm,0.3s						

IDC ***25*** *08:19:50.6±0.9, 2698S×6549W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, ML4.4/2, MS2.8/3, Ms1 2.8/3, ms1mx2.5/24, Error ellipse: s-maj=31.7km s-min=24.2km az=118.0*
ISCJB ***25*** *08:19:54.0±1.2, 2706S±007×653W±0.1, h39km±14km, mb3.9/4, Error ellipse: s-maj=16.8km s-min=9.9km az=46.2*
NEIC ***25*** *08:19:56.1±1.0, 2708S×6531W, h41km±10km, Error ellipse: s-maj=14.4km s-min=12.4km az=90.0*
ISC 25 08:19:56.7±0.9,**2706S**±007×**652W**±01,**h49**km±12km,**n14**,
σ1°**12**/13,**mb3.9**/4,**Tucuman Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.22**	**209**	Pn	**Pn**	**08 21 10.8**	**-1.5**
	0.3nm,0.3s,baz=11,slow=13,SNR=5.8						
CFAA				Sn	**Sn**	**08 22 11.8**	**+0.7**
	0.8nm,0.3s,baz=356,slow=18,SNR=4.4						
CFAA				Lg		08 22 31.3	
	1.2nm,0.3s,baz=203,slow=24,SNR=3.5						
CFAA	**Coronel Fontan**	**5.22**	**209**	Pn	**Pn**	**08 21 10.8**	**-1.5**
CFAA				Sn	**Sn**	**08 22 11.8**	**+0.7**
CFAA				Lg		08 22 31.3	
LVC	**Limon Verde**	**5.54**	**322**	Pn	**Pn**	**08 21 17.6**	**+1.0**
	7.0nm,0.3s,baz=151,slow=7.7,SNR=67						
LVC				LR	LR	08 23 28.4	
	comp=Z,84nm,21.8s,baz=183,slow=41						
CPUP	**Villa Florida**	**7.12**	**86**	Pn	**Pn**	**08 21 38.5**	**+0.3**
	2.1nm,0.3s,baz=250,slow=12,SNR=30						
CPUP				Pg	Pn	08 22 14.5	+36
	20nm,0.3s,baz=243,slow=17,SNR=11						
CPUP				Lg		08 23 40.0	
	15nm,0.3s,baz=114,slow=19,SNR=3.1						
CPUP				LR	LR	08 24 06.6	
	comp=Z,47nm,19.3s,baz=258,slow=35						

LPAZ	**La Paz**	**11.05**	**345**	Pn	**Pn**	**08 22 32.5**	**+0.4**
	0.2nm,0.3s,baz=154,slow=12,SNR=26					
SIV	**San Ignacio**	**11.68**	**20**	Pn	**Pn**	**08 22 39.5**	**-1.1**
	0.9nm,0.3s,baz=222,slow=10,SNR=22					
BDFB	**Brasilia**	**19.64**	**58**	LR	LR	08 32 57.8	
	comp=Z,64nm,18.4s,baz=83,slow=40					
DBIC	**Dimbokro**	**67.33**	**69**	P	**P**	**08 30 49.5**	**+3.1**
	2.0nm,0.7s,mb4.3,baz=227,slow=9.4,SNR=2.8					
ANMO	**Albuquerque**	**72.97**	**326**	P	**P**	**08 31 21.7**	**+0.7**
	0.7nm,0.5s,mb3.8,baz=121,slow=7.4,SNR=4.8					
ECSD	**EROS,Sioux Fal**	**76.10**	**337**	*e*P	**P**	**08 31 37.7**	**-1.4**
PDAR	**Pinedale Array**	**80.58**	**329**	P	**P**	**08 32 04.3**	**+0.4**
	0.5nm,0.6s,mb3.7,baz=123,slow=6.5,SNR=7.2						
ULM	**Lac du Bonnet**	**81.63**	**341**	P	**P**	**08 32 08.4**	**-1.1**
	1.3nm,0.6s,mb4.0,baz=134,slow=3.8,SNR=3.0						
ASAR	**Alice Springs**	**126.28**	**202**	PKP	PKPdf	08 38 55.4	+1.6
	0.6nm,0.6s,baz=141,slow=1.6,SNR=13						
WRA	**Warramunga Arr**	**129.56**	**204**	PKP	PKPdf	08 39 01.5	+1.4
	0.6nm,0.7s,baz=161,slow=2.0,SNR=8.1						

IDC ***25*** *09:10:59.0±1.4, 1896N×120.10E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=146.2km s-min=22.0km az=66.0*
ISCJB ***25*** *09:11:03.7±1.9, 190N±03×1202E±06, h51km±21km, mb3.2/4, Error ellipse: s-maj=106.5km s-min=21.5km az=130.4*
ISC 25 09:11:02.8±3.5,**189N**±03×**1200E**±05,**h24**km±26km,**n7**,
σ1°**33**/7,**mb3.2**/4,**Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.82**	**137**	*e*P	**Pb**	**09 11 18.5**	**+0.1**
PIP						09 11 31.9	
APYP	**Conner**	**1.57**	**133**	*e*P	**Pn**	**09 11 30.3**	**+1.2**
CAUP	**Cauayan**	**2.61**	**139**	*e*P	**Pn**	**09 11 40.6**	**-2.8**
SONM	**Songino Array**	**30.89**	**342**	P	**P**	**09 17 17.0**	**-0.3**
	0.3nm,0.7s,mb3.2,baz=123,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**41.10**	**159**	P	**P**	**09 18 44.8**	**+0.2**
	0.3nm,0.7s,mb3.0,baz=339,slow=9.0,SNR=3.4						
MKAR	**Makanchi Array**	**41.53**	**321**	P	**P**	**09 18 48.3**	**+0.2**
	0.9nm,0.7s,mb3.5,baz=113,slow=9.6,SNR=8.5						
ASAR	**Alice Springs**	**44.45**	**162**	P	**P**	**09 19 11.8**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=336,slow=6.5,SNR=5.3						

CSEM ***25*** *09:23:24.5±0.1, 3653N×21.15E, h40km, MD3.6, Error ellipse: s-maj=4.2km s-min=1.9km az=50.0*
NEIC ***25*** *09:23:24.2, 3679N×2138E, h20km, MD3.6(ATH), After ATH.*
ATH ***25*** *09:23:24.2, 3679N×2138E, h20km±2km, MD3.6/5*
HLW ***25*** *09:23:27.3, 3666N×2160E, h33km, Mb3.3*
ISC 25 09:23:22.5±1.8,**3673N**±006×**2127E**±007,**h4**km±13km,**n14**,
σ0°**94**/18,**2C-2D**,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.69**	**49**	*e*PN	**Pg**	**09 23 36.0**	**+0.2**
ITM				*e*SN	**Sg**	**09 23 44.3**	**-0.5**
RLS	**Riolos of Patr**	**1.33**	**7**	*e*PN	**Pn**	**09 23 48.0**	**+0.2**
VLI	**Veliai**	**1.34**	**90**	*e*PN	**Pn**	**09 23 48.3**	**+0.4**
VLI				*e*SN	**Sn**	**09 24 05.6**	**-0.6**
KYTH	**Kithira**	**1.49**	**107**	*e*PN	**Pn**	**09 23 51.0**	**+1.0**
VLS	**Valsamata**	**1.54**	**340**	*e*PN	**Pn**	**09 23 52.8**	**+2.1**
VAM	**Vamos**	**2.72**	**118**	*e*PN	**Pn**	**09 24 08.5**	**+1.6**
PE1	**Pezze di Greco**	**5.06**	**325**	*e*Pn	**Pn**	**09 24 38.8**	**-0.2**
SG1	**Sgolgore (BA)**	**5.45**	**320**	*e*Pn	**Pn**	**09 24 44.6**	**+0.2**
BAI	**Bari**	**5.55**	**323**	*e*Pn	**Pn**	**09 24 45.7**	**-0.1**
SLUM		**6.17**	**147**	⇓P	**Pn**	**09 24 54.0**	**-0.3**
STON	**Ston**	**6.72**	**337**	*i* Pn	**Pn**	**09 24 59.4**	**-2.4**
STON				*i* Sn	**Sn**	**09 26 09.9**	**-8.9**
HMAT	**Matruh**	**7.42**	**138**	⇓P	**Pn**	**09 25 10.4**	**-1.1**
SWA2		**8.25**	**154**	⇑P	**Pn**	**09 25 22.7**	**-0.2**
SWA1		**8.33**	**152**	⇑P	**Pn**	**09 25 23.6**	**-0.3**
SWA1				S	**Sn**	**09 26 49.0**	**-9.4**

BJI ***25*** *09:30:03.1, 1900N×12020E, h35km, mB4.6, mb4.1*
ISCJB ***25*** *09:30:04.2±1.5, 1898N±006×11976E±006, h15km±12km, mb3.9/11, Error ellipse: s-maj=12.3km s-min=7.3km az=90.8*
NEIC ***25*** *09:30:08.2±0.5, 1901N×120.18E, h35km, mb4.1/2, Error ellipse: s-maj=24.5km s-min=9.8km az=67.0*
MAN ***25*** *09:30:10.3, 1870N×12003E, h15km, mb3.1, ML4.4, MS1.5*
IDC ***25*** *09:30:10.2±9.8, 1905N×12022E, h52km±94km, mb3.7/9, mb1 3.8/9, mb1mx3.7/18, mbtmp3.9/9, Error ellipse: s-maj=50.5km s-min=15.2km az=68.0*
ISC 25 09:30:04.8±1.5,**1899N**±006×**11986E**±007,**h8**km±10km,
n25,σ1°**11**/29,**mb3.9**/11,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.97**	**132**	*e*P	**Pg**	**09 30 23.3**	**-0.1**
PIP				*e*S	**Sg**	**09 30 36.3**	**+0.2**
ABRA	**Dolores**	**1.56**	**149**	*e*P	**Pn**	**09 30 31.6**	**-1.1**
ABRA				*e*S	**Sn**	**09 30 44.6**	**-8.5**
APYP	**Conner**	**1.72**	**130**	*e*P	**Pn**	**09 30 34.4**	**-0.6**
CVP	**Callao Caves**	**2.26**	**124**	*e*P	**Pn**	**09 30 43.0**	**+0.7**
BOLP	**Bolinao**	**2.59**	**179**	*e*P	**Pn**	**09 30 48.2**	**+1.3**
BCPH	**Baguio City Da**	**2.68**	**165**	*e*P	**Pg**	**09 31 01.8**	**+5.6**
	14μm,25.0s						
BCPH				*e*S	**Sn**	**09 31 21.2**	**+0.5**
CAUP	**Cauayan**	**2.76**	**137**	*e*P	**Pn**	**09 30 52.4**	**+3.2**
SCZP	**Santa Cruz**	**3.19**	**179**	*e*P	**Pn**	**09 31 00.3**	**+5.1**
GZH	**Guangzhou**	**7.33**	**305**	P	**Pn**	**09 31 50.5**	**-1.5**
QIZ	**Qiongzhong**	**9.48**	**272**	P	**Pn**	**09 32 20.8**	**-0.7**
QIZ				S	**Sn**	**09 34 08.0**	**-0.2**
LZH	**Lanzhou**	**22.13**	**324**	*e*P	**P**	**09 35 04.0**	**+3.3**
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,140nm,4.6s						
MJAR	**Matsushiro Arr**	**23.79**	**39**	P	**P**	**09 35 16.1**	**-1.8**
	comp=Z,1.0nm,0.8s,mb3.3,baz=237,slow=8.9,SNR=5.4						
GTA	**Gaotai**	**26.73**	**324**	P	**P**	**09 35 46.0**	**+1.4**
GTA				AP	pP	09 35 51.5	+4.4
GTA				XP	sP	09 35 54.3	+6.2
SONM	**Songino Array**	**30.80**	**342**	P	**P**	**09 36 21.2**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.8,baz=156,slow=11,SNR=9.4						
WRA	**Warramunga Arr**	**41.21**	**159**	P	**P**	**09 37 48.7**	**-1.2**
	comp=Z,0.7nm,0.7s,mb3.4,baz=340,slow=8.8,SNR=8.0						
WRA				PcP	PcP	09 39 49.0	+0.1
	comp=Z,0.5nm,0.9s,baz=337,slow=3.3,SNR=4.5						
MKAR	**Makanchi Array**	**41.39**	**321**	P	**P**	**09 37 53.0**	**+1.6**
	comp=Z,1.3nm,0.7s,mb3.7,baz=115,slow=9.6,SNR=6.6						
MKAR	**Makanchi Array**	**41.39**	**321**	P	**P**	**09 37 53.0**	**+1.6**
ZAL	**Zalesovo**	**44.05**	**331**	P	**P**	**09 38 14.1**	**+1.1**
	comp=Z,1.0nm,0.3s,mb4.0,baz=318,slow=4.6,SNR=4.1						
ASAR	**Alice Springs**	**44.55**	**162**	P	**P**	**09 38 17.1**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.8,baz=338,slow=6.6,SNR=13						
KURK	**Kurchatov**	**45.42**	**324**	*e*P	**P**	**09 38 24.9**	**+1.0**
	comp=Z,5.8nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**54.70**	**157**	P	**P**	**09 39 33.2**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.2,baz=338,slow=10,SNR=3.4						
FINES	**FINESS Array B**	**75.31**	**330**	P	**P**	**09 41 47.9**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=36,slow=10.0,SNR=5.0						
NB2	**NORSAR Subarra**	**82.23**	**332**	P	**P**	**09 42 25.5**	**-1.0**
	comp=Z,0.6nm,0.8s,mb3.6,baz=66,slow=5.3						
NOA	**NORSAR Array B**	**82.23**	**332**	P	**P**	**09 42 25.5**	**-1.0**
	comp=Z,1.2nm,0.9s,mb3.8,baz=65,slow=5.1,SNR=4.6						
NOA	**NORSAR Array B**	**82.23**	**332**	P	**P**	**09 42 25.5**	**-1.0**

NEIC ***25*** *09:51:42.7, 3814N×2648E, h26km, MD3.4(ISK), MD3.5(ATH), After ATH.*
ATH ***25*** *09:51:42.7, 3814N×2648E, h26km±5km, MD3.5/4*
ISK ***25*** *09:51:43.5, 3820N×2677E, h5km, MD3.4*
ISCJB ***25*** *09:51:44.0±0.5, 3820N±002×2667E±004, h10km, Error ellipse: s-maj=4.8km s-min=3.2km az=142.2*
CSEM ***25*** *09:51:44.3±0.1, 3819N×2685E, h2km, MD3.4, Error ellipse: s-maj=2.9km s-min=1.4km az=87.0*
ISC 25 09:51:44.3±0.5,**3820N**±002×**2665E**±004,**h10**km,**n26**,
σ1°**27**/36,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.17**	**346**	*i* P	**Pg**	**09 51 46.5**	**-1.5**
URLA				*i* S	**Sg**	**09 51 50.4**	**-0.1**
BLCB	**Balcova**	**0.36**	**59**	*i* PG	**Pg**	**09 51 50.1**	**-1.4**
BLCB				*i* SG	**Sg**	**09 51 55.3**	**-1.0**
SMG	**Samos**	**0.51**	**163**	*e*PN	**Pg**	**09 51 53.3**	**-1.0**
SMG				*e*SN	**Sg**	**09 52 01.5**	**+0.5**
IZM	**Izmir**	**0.52**	**67**	*i* PG	**Pg**	**09 51 53.1**	**-1.4**
IZM				*i* SG	**Sg**	**09 52 01.5**	**+0.1**
KDAG	**Bornova**	**0.53**	**67**	*i* P	**Pg**	**09 51 53.4**	**-1.2**
KDAG				*i* S	**Sg**	**09 52 01.0**	**-0.5**
PRK	**Paraskevi**	**1.09**	**344**	*e*PN	**Pn**	**09 52 03.5**	**-2.1**
PRK				*e*SN	**Sn**	**09 52 20.1**	**-0.6**
AYDN	**Tasoluk**	**1.11**	**119**	*i* P	**Pg**	**09 52 04.5**	**-1.2**
AYDN				*i* S	**Sg**	**09 52 20.0**	**-0.1**
AKS	**Akhisar**	**1.14**	**53**	PG	**Pg**	**09 52 04.5**	**-1.7**
BODT	**Bodrum**	**1.25**	**155**	PN	**Pn**	**09 52 08.3**	**+0.5**
MLSB	**Milas**	**1.27**	**135**	PN	**Pn**	**09 52 07.5**	**-0.6**
BDRM	**Kayabasi**	**1.30**	**151**	*i* P	**Pn**	**09 52 08.1**	**-0.4**
BDRM				*i* S	**Sb**	**09 52 26.0**	**+0.6**
APE	**Apeiranthos**	**1.44**	**219**	*e*PN	**Pn**	**09 52 07.7**	**-2.9**
MANT	**Manisa**	**1.53**	**78**	*i* P	**Pn**	**09 52 12.1**	**+0.4**
MANT				*i* S	**Sb**	**09 52 34.0**	**+1.8**
EZN	**Ezine**	**1.64**	**351**	*e*PN	**Pn**	**09 52 16.0**	**+2.7**
YER	**Yerkesik**	**1.68**	**129**	PN	**Pn**	**09 52 13.4**	**-0.3**
BALB	**Balikesir**	**1.73**	**33**	PN	**Pn**	**09 52 15.4**	**+1.0**
DENT	**Denizli**	**1.94**	**103**	*e*PN	**Pn**	**09 52 17.3**	**0.0**
DNZL	**Cakiroluk**	**1.96**	**104**	*i* P	**Pn**	**09 52 17.0**	**-0.7**
DNZL				*i* S	**Sb**	**09 52 47.8**	**+3.1**
DALT	**Dalyan (Mudla)**	**2.13**	**131**	*e*PN	**Pn**	**09 52 20.8**	**+0.8**
BNT	**Bandirma**	**2.37**	**24**	*e*PN	**Pn**	**09 52 24.7**	**+1.5**
KCT	**Karacabey**	**2.45**	**32**	*e*PN	**Pn**	**09 52 25.7**	**+1.3**
FETY	**Fethiye**	**2.49**	**128**	*e*PN	**Pn**	**09 52 26.1**	**+1.2**
MRMT	**Marmara Adasi**	**2.51**	**17**	*e*PN	**Pn**	**09 52 27.3**	**+2.1**
ENEZ	**Enez**	**2.56**	**352**	*e*PN	**Pn**	**09 52 28.8**	**+2.9**
RDO	**Rodhopi**	**3.07**	**344**	*e*PN	**Pn**	**09 52 32.1**	**-0.7**
EDRB	**Edirne**	**3.65**	**1**	*e*PN	**Pn**	**09 52 43.0**	**+2.2**

ISCJB ***25*** *09:52:10.6±0.6, 330N±0.1×1363E±0.1, h446km±6km, mb3.4/4, Error ellipse: s-maj=16.6km s-min=13.2km az=174.9*
JMA ***25*** *09:52:11.1±0.2, 3299N×13639E, h438km, M2.6*
IDC ***25*** *09:52:12.1±2.8, 3302N×13652E, h446km±48km, mb3.0/4, mb1 3.1/6, mb1mx2.8/22, mbtmp3.7/6, Error ellipse: s-maj=110.8km s-min=16.6km az=80.0*
ISC 25 09:52:11.7±0.6,**331N**±01×**13635E**±010,**h441**km±6km,**n18**,
σ0°**66**/22,**mb3.4**/4,**Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**1.31**	**331**	P	**P**	**09 53 08.3**	**+0.3**
JIE	**Ise**	**1.35**	**13**	P	**P**	**09 53 08.4**	**+0.3**
JAI	**Aioi**	**1.74**	**295**	P	**P**	**09 53 09.8**	**-0.1**
JMN	**Monobe**	**2.17**	**288**	P	**P**	**09 53 12.5**	**+0.3**
JWT	**Wachi**	**2.34**	**341**	P	**P**	**09 53 13.4**	**+0.1**
JWT				*e*S	**S**	**09 54 02.1**	**-1.3**
JGM	**Miyama**	**2.64**	**7**	P	**P**	**09 53 15.9**	**+0.6**
JHJ	**Hachijo jima 2**	**2.88**	**88**	P	**P**	**09 53 17.6**	**+0.5**
	2.8nm,0.3s,baz=45,slow=17,SNR=3.0						
JHJ				S	**S**	**09 54 10.2**	**0.0**
	2.6nm,0.3s,baz=201,slow=24,SNR=2.5						
JTO	**Tosashimizu**	**2.99**	**267**	P	**P**	**09 53 17.7**	**-0.1**
JOD2	**Odawara 2**	**3.15**	**45**	P	**P**	**09 53 19.9**	**+0.8**
JHS	**Saijyo**	**3.30**	**307**	P	**P**	**09 53 20.4**	**+0.1**
JRY	**Ryogami san**	**3.62**	**35**	P	**P**	**09 53 24.0**	**+1.1**
JRY				*e*S	**S**	**09 54 20.5**	**-0.3**
MAT	**Matsushiro**	**3.79**	**23**	P	**P**	**09 53 24.0**	**-0.3**
MJAR	**Matsushiro Arr**	**3.79**	**23**	P	**P**	**09 53 24.5**	**+0.2**
	0.5nm,0.3s,baz=198,slow=8.4,SNR=10						
BSO1	**Boso 1**	**4.17**	**66**	P	**P**	**09 53 25.3**	**-2.3**
BSO1				*e*S	**S**	**09 54 24.7**	**-4

3.6nm,0.9s,mb4.1,baz=99,slow=9.7,SNR=4.6
MATP Matopo 38.30 267 P **P 10 55 15.8 +1.0**
KMBO Kilima Mbogo 38.93 301 LR LR 11 07 43.8
comp=Z,75nm,18.8s,MS3.5,baz=92,slow=31
PSI Prapat 38.96 51 LR LR 11 07 48.8
comp=Z,249nm,18.6s,MS4.1,baz=214,slow=31
BOSA Boshof 39.99 254 P **P 10 55 28.9 0.0**
1.6nm,0.7s,mb3.9,baz=141,slow=22,SNR=2.3
BOSA LR LR 11 09 48.0
comp=Z,417nm,18.1s,MS4.3,baz=276,slow=33
LSZ Lusaka 40.03 275 P **P 10 55 29.7 +0.4**
1.0nm,0.5s,mb3.8,baz=130,slow=8.6,SNR=4.7
LSZ Lusaka 40.03 275 *eP* **P 10 55 30.0 +0.7**
3.4nm,0.9s,mb4.1
MAW Mawson 43.70 184 P **P 10 55 59.3 0.0**
8.8nm,0.9s,mb4.5,baz=5.1,slow=8.7,SNR=20
MAW LR LR 11 09 51.6
comp=Z,234nm,19.7s,MS4.1,baz=174,slow=30
CASY Casey 49.32 160 *eP* **P 10 56 43.2 -0.2**
11nm,1.1s,mb4.8
FITZ Fitzroy Crossi 52.15 95 *eP* **P 10 57 04.8 0.0**
12nm,1.2s,mb4.7
ASPA Alice Springs 58.12 104 *eP* **P 10 57 48.4 +0.6**
ASAR Alice Springs 58.12 104 P **P 10 57 48.1 +0.3**
2.6nm,0.7s,mb4.3,baz=252,slow=6.3,SNR=42
AS31 Alice Springs 58.12 104 *eP* **P 10 57 48.4 +0.6**
KMI Kunming 58.43 35 P **P 10 57 52.0 +2.0**
KMI AP pP 10 57 58.3 +5.1
KMI XP sP 10 58 00.8 +6.4
KMI PP PP 11 00 07.8 +8.5
KMI S **S 11 06 02.5 +9.4**
KMI AMB AMB
comp=Z,90nm,4.1s
KMI LR LR
comp=N,190nm,13.7s,MS4.6
KMI LR LR
comp=E,320nm,15.3s,MS4.6
KMI LR LR
comp=Z,320nm,21.1s
WRA Warramunga Arr 59.51 100 P **P 10 57 57.9 +0.4**
comp=Z,3.9nm,0.9s,mb4.4,baz=257,slow=6.9,SNR=16
WB2 Warramunga Arr 59.52 100 *eP* **P 10 57 58.1 +0.5**
WRAB Tennant Creek 59.52 100 *eP* **P 10 57 58.3 +0.7**
comp=Z,23nm,1.2s,mb5.1
STKA Stephens Creek 62.84 115 *eP* **P 10 58 17.8 -2.3**
comp=Z,2.6nm,0.8s,mb4.4
STKA Stephens Creek 62.84 115 P **P 10 58 18.4 -1.7**
comp=Z,3.4nm,0.9s,mb4.5,baz=257,slow=9.4,SNR=5.8
QSPA South Pole Qui 66.00 180 *eP* **P 10 58 40.3 -0.5**
comp=Z,28nm,1.2s,mb5.2
VNDA Vanda 67.07 166 P **P 10 58 47.0 -0.7**
comp=Z,7.2nm,0.9s,mb4.7,baz=269,slow=7.5,SNR=28
VNDA Vanda 67.07 166 P **P 10 58 47.0 -0.7**
LZH Lanzhou 67.98 29 *eP* **P 10 59 01.3 +7.9**
LZH AP pP 10 59 07.5 +11
LZH AMB AMB
comp=Z,20nm,1.4s,mb5.0
WHN Wuhan 69.13 40 ⇑P **P 10 59 07.8 +7.3**
GTA Gaotai 69.15 24 *eP* **P 10 59 02.0 +1.3**
GTA AP pP 10 59 08.8 +4.9
GTA XP sP 10 59 12.5 +7.4
GTA AMB AMB
comp=Z,130nm,3.4s
GTA LR LR
comp=N,220nm,16.4s,MS4.6
GTA LR LR
comp=E,120nm,14.9s,MS4.6
GTA LR LR
comp=Z,290nm,16.8s,MS4.6
CTA Charters Tower 70.12 104 LR LR 11 27 38.7
comp=Z,166nm,20.6s,MS4.3,baz=215,slow=34
MKAR Makanchi Array 71.48 9 P **P 10 59 14.6 -0.3**
comp=Z,1.4nm,0.6s,mb4.1,baz=199,slow=5.9,SNR=11
BRTR Keskin Array B 71.93 331 P **P 10 59 17.5 -0.1**
comp=Z,0.9nm,0.7s,mb3.8,baz=156,slow=6.4,SNR=6.4
BRTR LR LR 11 28 57.5
comp=Z,57nm,18.8s,MS3.9,baz=355,slow=34
NJ2 Nanjing 72.91 42 *eP* **P 10 59 22.0 -1.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
KURK Kurchatov 74.91 6 *eP* **P 10 59 34.8 -0.5**
comp=Z,7.0nm,1.2s,mb4.5
TORD Torodi Ar. Bea 76.12 291 P **P 10 59 42.5 +0.4**
comp=Z,2.1nm,1.0s,mb4.0,baz=107,slow=6.0,SNR=7.6
TORD LR LR 11 29 50.4
comp=Z,68nm,19.6s,MS4.0,baz=120,slow=33
ZRNK Zerenda 76.75 360 *eP* **P 10 59 45.1 -0.6**
comp=Z,4.2nm,1.1s,mb4.3
BVAR Borovoye Array 76.82 0 LR LR 11 28 34.3
comp=Z,79nm,19.9s,MS4.0,baz=320,slow=32
BRVK Borovoye 76.85 0 *eP* **P 10 59 45.4 -0.9**
comp=Z,2.5nm,0.9s,mb4.1
CHKZ Chkalovo 77.47 0 *eP* **P 10 59 49.4 -0.4**
comp=Z,5.7nm,1.4s,mb4.3
ZAL Zalesovo 78.81 9 P **P 10 59 57.2 0.0**
comp=Z,1.2nm,0.5s,mb4.0,baz=314,slow=1.1,SNR=6.1
ZAL Zalesovo 78.81 9 P **P 10 59 57.2 0.0**
SONM Songino Array 78.81 24 P **P 10 59 57.5 +0.2**
comp=Z,1.7nm,1.0s,mb3.9,baz=216,slow=4.2,SNR=12
SONM LR LR 11 33 33.6
comp=Z,175nm,20.6s,MS4.4,baz=183,slow=35
DBIC Dimbokro 78.86 282 LR LR 11 32 40.7
comp=Z,100nm,18.8s,MS4.2,baz=109,slow=34
ULN Ulaanbaatar 79.09 25 *eP* **P 10 59 58.5 -0.2**
comp=Z,6.4nm,1.2s,mb4.4
ARU Arti 80.80 354 *eP* **P 11 00 06.8 -1.1**
comp=Z,28nm,1.6s,mb4.9
AKASG Malin Array Be 82.67 335 P **P 11 00 17.3 -0.5**
comp=Z,1.5nm,0.6s,mb4.2,baz=144,slow=4.6,SNR=8.1
VYHS Vyhne 85.45 329 *i* P **P 11 00 32.3 +0.3**
comp=Z,15nm,2.2s,mb4.7
DZM Mont Dzumac 86.91 113 LR LR 11 38 47.2
comp=Z,145nm,18.2s,MS4.4,baz=197,slow=35
MORC Moravsky Berou 86.96 329 *eP* **P 11 00 39.4 -0.1**
comp=Z,3.7nm,1.0s,mb4.6
GRA1 Grafenberg Arr 89.99 326 *eP* **P 11 00 53.9 +0.1**
comp=Z,17nm,2.0s,mb5.0
GRF Grafenberg Arr 89.99 326 *eP* **P 11 00 53.9 +0.1**
comp=Z,17nm,2.0s,mb5.0
CLL Collm 90.14 328 *eP* **P 11 00 55.0 +0.5**
ARCES ARCESS Array B 98.65 346 LR LR 11 45 37.4
comp=Z,76nm,20.7s,MS4.2,baz=138,slow=35
INK Inuvik 133.57 12 *e*PKPdf PKPdf 11 07 10.6 -0.2
FFC Flin Flon 148.83 351 *e*PKPbc PKPbc 11 07 40.5 -1.4
EDM Edmonton 150.84 4 *e*PKPbc PKPbc 11 07 46.3 -0.6
ULM Lac du Bonnet 151.64 340 PKPbc PKPbc 11 07 47.5 -1.2
comp=Z,1.8nm,0.6s,baz=18,slow=4.6,SNR=6.8
ULM Lac du Bonnet 151.64 340 PKPbc PKPbc 11 07 47.5 -1.2
EYMN Ely 151.97 333 *e*PKPbc PKPbc 11 07 48.8 -0.7
PDAR Pinedale Array 161.40 359 PKP PKPdf 11 07 53.6 -1.5
comp=Z,0.8nm,0.9s,baz=214,slow=0.5,SNR=6.5
PDAR PKPab PKPab 11 08 39.8 +0.5
comp=Z,0.3nm,0.9s,baz=36,slow=3.4,SNR=3.7
NVAR Mina Array Bea 164.16 24 PKP PKPdf 11 07 58.9 +1.1
comp=Z,0.5nm,0.9s,baz=36,slow=1.0,SNR=4.8
NVAR PKPab PKPab 11 08 52.2 +0.9
comp=Z,0.8nm,0.8s,baz=339,slow=3.0,SNR=6.1
NVAR Mina Array Bea 164.16 24 PKP PKPdf 11 07 58.9 +1.1
NVAR PKPab PKPab 11 08 52.2 +0.9

MAN 25 10:48:43.2,1668N×11970E,h16km,mb2.3,ML3.9,MS2.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.36**	**145**	*eP*	Pg	10 48 52.2	+1.6
BOLP				*e*S	Sg	10 48 54.9	-0.6
BCPH	**Baguio City Da**	**0.89**	**109**	*eP*	Pb	10 48 59.2	-1.1
BCPH				*e*S	Sb	10 49 09.6	-2.3
SCZP	**Santa Cruz**	**0.92**	**167**	*eP*	Pb	10 48 59.7	-1.0
ABRA	**Dolores**	**1.37**	**45**	*eP*	Pn	10 49 07.2	-0.4
ABRA				*e*S	Sn	10 49 26.9	+1.5
APYP	**Conner**	**1.89**	**51**	*eP*	Pn	10 49 14.2	-0.5
APYP				*e*S	Sn	10 49 37.3	-0.9
BALP	**Baler**	**2.03**	**117**	*eP*	Pn	10 49 16.6	0.0
CAUP	**Cauayan**	**2.05**	**82**	*eP*	Pn	10 49 18.0	+1.0
LUBP	**Lubang**	**2.97**	**170**	*eP*	Pn	10 49 30.3	+0.7

BJI ***25*** *11:01:03.5,509N×12611E,h37km,mB4.9,mb4.9,Ms4.1, Msz4.0*
ISCJB ***25*** *11:01:04.4±0.3,550N±004×12622E±007,h25km, mb4.7/62,MS3.5/12,Error ellipse: s-maj=10.2km s-min=5.1km az=159.7*

MOS ***25*** *11:01:05.9±0.9,558N×12606E,h33km,mb5.0/24,Error ellipse: s-maj=21.0km s-min=7.0km az=109.3*
NEIC ***25*** *11:01:06.5±0.2,564N×126.16E,mb4.7/20,Error ellipse: s-maj=10.4km s-min=5.2km az=80.0*
IDC ***25*** *11:01:07.3±2.2,551N×126.18E,h33km±15km,mb4.2/16, mb1 4.3/16,mb1mx4.2/20,mbtmp4.4/16,MS3.6/10, Ms1 3.6/10,ms1mx3.3/33,Error ellipse: s-maj=33.6km s-min=11.3km az=76.0*
MAN ***25*** *11:01:11.5,564N×12621E,h24km,mb4.6,ML5.4,MS2.3*
ISC 25 11:01:05.5±0.3,541N±004×12656E±006,h26km, h26km±1.3km:pP-P,n137,σ1§40/133,mb4.7/62,MS3.5/12, 4C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.55**	**349**	*eP*	**Pn**	**11 01 33.5**	**+2.1**
MATI				*e*S	**Sn**	**11 01 51.2**	**+0.6**
DAV	**Davao City (W)**	**1.91**	**329**	P	**Pn**	**11 01 38.8**	**+2.4**
SNR=13							
DAV	**Davao City (W)**	**1.91**	**329**	Pn	**Pn**	**11 01 31.2**	**-5.1**
DAV				*e*pPn		11 01 37.6	
DMPH	**Davao City--Mi**	**1.96**	**328⇑**	*eP*	**Pn**	**11 01 38.5**	**+1.5**
DMPH				*i* S	**Sn**	**11 02 10.3**	**+10**
BUKP	**Musuan**	**2.86**	**329**	*eP*	**Pn**	**11 01 51.7**	**+2.2**
BUKP				*e*S	**Sn**	**11 02 13.6**	**-9.4**
CTBH	**Cotabato--PC H**	**2.92**	**308**	*eP*	**Pn**	**11 01 51.4**	**+1.3**
CTBH				*i* S	**Sn**	**11 02 27.4**	**+3.1**
CGP	**Cagayan de Oro**	**3.54**	**329⇓**	*eP*	**Pn**	**11 02 01.0**	**+2.3**
CGP				*i* S	**Sb**	**11 02 50.8**	**+0.8**
BUTP	**Butuan**	**3.65**	**345**	*eP*	**Pn**	**11 02 05.2**	**+4.9**
PAGZ	**Pagadian**	**3.97**	**308**	*eP*	**Pn**	**11 02 06.5**	**+1.8**
SCPH	**Surigao**	**4.47**	**346**	*eP*	**Pn**	**11 02 15.1**	**+3.7**
SCPH				*e*S	**Sb**	**11 03 13.8**	**-2.8**
DCPH	**Dipolog City**	**4.47**	**315**	*eP*	**Pn**	**11 02 16.0**	**+4.4**
IPIL	**Ipil**	**4.61**	**301**	*eP*	**Sn**	**11 03 09.2**	**+3.1**
MSLP	**Maasin**	**4.98**	**340**	*eP*	**Pn**	**11 02 19.7**	**+1.2**
TBP	**Tagbilaran**	**5.02**	**328**	*eP*	**Pn**	**11 02 29.4**	**+10**
SNPH	**Sibulan**	**5.11**	**320**	*eP*	**Pn**	**11 02 26.0**	**+5.7**
PLP	**Palo**	**5.92**	**345**	*eP*	**Pn**	**11 02 35.6**	**+4.1**
GUIM	**Jordan**	**6.50**	**323**	*eP*	**Pn**	**11 02 46.4**	**+7.0**
CUYO	**Cuyo Island**	**7.70**	**315**	*eP*	**Pn**	**11 02 58.5**	**+2.7**
APYP	**Conner**	**13.42**	**338**	*eP*	**Pn**	**11 04 25.0**	**+11**
KSM	**Kuching**	**16.68**	**257**	*eP*	**Pn**	**11 04 54.4**	**-2.9**
KAKA	**Kakadu**	**18.93**	**162**	*eP*	**Pn**	**11 05 31.1**	**+6.0**
13nm,0.6s							
QIZ	**Qiongzhong**	**21.18**	**311**	P	**P**	**11 05 43.8**	**-5.0**
QIZ				S	**S**	**11 09 31.3**	**-12**
QIZ				LR	LR		
comp=N,210nm,13.8s							
QIZ				LR	LR		
comp=Z,360nm,19.3s							
JOW	**Kunigami**	**21.36**	**4**	P	**P**	**11 05 51.7**	**+1.0**
comp=Z,12nm,0.9s,mb4.2,baz=329,slow=7.4,SNR=3.0							
JOW				LR	LR	11 14 29.0	
comp=Z,97nm,18.6s,MS3.2,baz=110,slow=38							
FITZ	**Fitzroy Crossi**	**23.38**	**182**	*eP*	**P**	**11 06 16.7**	**+4.5**
comp=Z,20nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**23.38**	**182**	P	**P**	**11 06 15.8**	**+3.5**
comp=Z,4.1nm,0.6s,mb4.1,baz=4.9,slow=15,SNR=23							
FITZ				LR	LR	11 14 45.8	
comp=Z,90nm,21.0s,MS3.2,baz=247,slow=35							
KULM	**Kulim**	**25.79**	**271**	*eP*	**P**	**11 06 32.9**	**-1.3**
KULM				*e*	pP	11 06 39.0	-3.0
SSE	**Sheshan**	**26.04**	**349**	P	**P**	**11 06 37.5**	**+1.0**
SSE				AMB	AMB		
comp=Z,20nm,0.8s,mb4.7							
SSE				AMB	AMB		
comp=Z,70nm,4.5s							
SSE				LR	LR		
comp=N,50nm,24.0s,MS3.0							
SSE				LR	LR		
comp=E,30nm,24.0s,MS3.0							
SSE				LR	LR		
comp=Z,70nm,23.2s,MS3.1							
CBIJ	**Chichi jima**	**26.21**	**33**	P	**P**	**11 06 36.4**	**-1.6**
comp=Z,31nm,0.4s,mb5.2,baz=210,slow=3.4,SNR=15							
CBIJ				LR	LR	11 16 03.4	
comp=Z,35nm,18.6s,MS2.9,baz=310,slow=34							
WRAB	**Tennant Creek**	**26.33**	**163**	*eP*	**P**	**11 06 44.2**	**+5.1**
WRAB				pmax	pmax		
comp=Z,54nm,1.3s,mb4.9							
WRAB	**Tennant Creek**	**26.33**	**163**	*eP*	**P**	**11 06 44.2**	**+5.1**
comp=Z,54nm,1.3s,mb4.9							
WRA	**Warramunga Arr**	**26.33**	**163**	P	**P**	**11 06 43.7**	**+4.5**
comp=Z,2.1nm,0.4s,mb4.0,baz=341,slow=10,SNR=28							
WRA				ScP	ScP	11 13 43.7	+1.0
comp=Z,1.3nm,0.8s,baz=339,slow=3.5,SNR=6.4							
WB2	**Warramunga Arr**	**26.34**	**163**	*eP*	**P**	**11 06 44.3**	**+5.1**
MBWA	**Marble Bar**	**27.24**	**194**	*eP*	**P**	**11 06 49.5**	**+2.1**
comp=Z,16nm,1.1s,mb4.5							
MBWA				*e*pP	pP	11 06 58.5	+3.3
NJ2	**Nanjing**	**27.46**	**346**	*eP*	**P**	**11 06 49.5**	**+0.2**
NJ2				PP		11 07 43.5	
NJ2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.0							
NJ2				AMB	AMB		
comp=Z,110nm,7.5s							
NJ2				LR	LR		
comp=N,440nm,9.4s							
NJ2				LR	LR		
comp=E,460nm,10.2s							
NJ2				LR	LR		
comp=Z,410nm,23.3s							
WHN	**Wuhan**	**27.51**	**337**	*eP*	**P**	**11 06 54.5**	**+4.7**
PSI	**Prapat**	**27.68**	**266**	LR	LR	11 20 21.0	
comp=Z,101nm,18.3s,MS3.4,baz=195,slow=42							
ASAR	**Alice Springs**	**29.78**	**166**	P	**P**	**11 07 12.4**	**+2.5**
comp=Z,0.9nm,0.5s,mb3.8,baz=348,slow=7.4,SNR=9.9							
ASAR				PcP	PcP	11 10 14.8	+1.7
comp=Z,1.5nm,0.5s,baz=342,slow=1.8,SNR=8.4							
ASAR				ScP	ScP	11 13 53.7	+0.4
comp=Z,1.1nm,0.7s,baz=344,slow=2.9,SNR=9.7							
JHJ	**Hachijo jima 2**	**30.19**	**22**	LR	LR	11 18 16.1	
comp=Z,106nm,19.2s,MS3.5,baz=282,slow=34							
MJAR	**Matsushiro Arr**	**32.77**	**17**	P	**P**	**11 07 36.0**	**-0.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=192,slow=9.5,SNR=5.9							
MJAR				PcP	PcP	11 10 22.2	+1.1
comp=Z,0.4nm,0.4s,baz=177,slow=3.6,SNR=4.1							
MJAR				LR	LR	11 19 59.1	
comp=Z,130nm,20.7s,MS3.6,baz=55,slow=34							
MJAR	**Matsushiro Arr**	**32.77**	**17**	P	**P**	**11 07 36.0**	**-0.3**
MJAR				PcP	PcP	11 10 22.2	+1.0
XAN	**Xi'an**	**32.85**	**332**	P	**P**	**11 07 35.0**	**-1.9**
CD2	**Chengdu**	**33.20**	**323**	*eP*	**P**	**11 07 38.5**	**-1.5**
CD2				AP	pP	11 07 45.8	-2.1
CD2				XP	sP	11 07 49.8	-1.3
CD2				PP	PP	11 08 48.5	-6.8
CD2				S	**S**	**11 12 53.5**	**-4.7**
CD2				SS	SS	11 14 52.5	-29
CD2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.8							
CD2				LR	LR		
comp=N,110nm,18.2s							
CD2				LR	LR		
comp=Z,90nm,14.4s,MS3.6							
DL2	**Dalian**	**33.64**	**353**	P	**P**	**11 07 45.5**	**+1.7**
DL2				AMB	AMB		
comp=Z,30nm,0.8s,mb5.3							
LZH	**Lanzhou**	**36.98**	**329**	*eP*	**P**	**11 08 13.5**	**+0.9**
LZH				AP	pP	11 08 19.5	-1.0
LZH				XP	sP	11 08 22.5	-1.2
LZH				AMB	AMB		
comp=Z,20nm,1.4s,mb4.8							
KLBR	**Kellerberrin**	**37.74**	**192**	*eP*	**P**	**11 08 21.1**	**+2.0**
comp=Z,11nm,0.9s,mb4.6							
CN2	**Changchun**	**38.24**	**359**	*eP*	**P**	**11 08 25.0**	**+1.7**
CN2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.8							
MUN	**Mundaring**	**38.47**	**194**	*eP*	**P**	**11 08 27.0**	**+1.8**
STKA	**Stephens Creek**	**39.76**	**160**	*eP*	**P**	**11 08 36.6**	**+0.7**
comp=Z,4.3nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**39.76**	**160**	P	**P**	**11 08 36.8**	**+0.8**
comp=Z,5.6nm,0.7s,mb4.4,baz=0.1,slow=8.0,SNR=12							
STKA				PcP	PcP	11 10 41.6	-0.3
comp=Z,2.7nm,0.6s,baz=316,slow=4.2,SNR=3.0							
STKA				LR	LR	11 23 59.7	
comp=Z,116nm,18.9s,MS3.7,baz=207,slow=34							
STKA	**Stephens Creek**	**39.76**	**160**	*eP*	**P**	**11 08 36.5**	**+0.6**
ASAJ	**Asahikawa**	**41.05**	**18**	P	**P**	**11 08 48.5**	**+1.9**
comp=Z,5.4nm,0.7s,mb4.3,baz=217,slow=23,SNR=7.6							
GTA	**Gaotai**	**41.58**	**328**	*eP*	**P**	**11 08 51.5**	**+0.5**
GTA				AP	pP	11 08 58.0	-0.9
GTA				XP	sP	11 09 01.8	-0.4
GTA				PP	PP	11 10 29.0	+1.8
GTA				PCP	PcP	11 10 49.8	+1.9
GTA				SCP	ScP	11 14 37.5	+1.3
GTA				S	**S**	**11 15 03.8**	**-1.6**
GTA				XS	sS	11 15 17.5	-1.0
GTA				SS	SS	11 18 04.0	-6.7
GTA				AMB	AMB		
comp=Z,90nm,5.3s							
GTA				LR	LR		
comp=N,220nm,16.0s							
GTA				LR	LR		
comp=E,110nm,21.3s							
GTA				LR	LR		
comp=Z,290nm,17.2s,MS4.2							
KLR	**Kul'dur**	**43.88**	**5**	*eP*	**P**	**11 09 07.7**	**-2.0**
JIRN	**Jiri**	**44.26**	**305**	*eP*	**P**	**11 09 13.0**	**+0.3**
comp=Z,35nm,0.7s,mb5.2							
GUN	**Gumba**	**44.61**	**305**	*eP*	**P**	**11 09 15.5**	**0.0**
comp=Z,44nm,0.7s,mb5.4							
PKI	**Pulchoki**	**44.87**	**304**	*eP*	**P**	**11 09 17.2**	**-0.4**
comp=Z,11nm,0.6s,mb4.9							
KKN	**Kakani**	**45.06**	**304**	*eP*	**P**	**11 09 18.6**	**-0.5**
comp=Z,17nm,0.7s,mb5.0							
DMN	**Daman**	**45.14**	**304**	*eP*	**P**	**11 09 19.5**	**-0.2**
comp=Z,21nm,0.7s,mb5.1							
ULN	**Ulaanbaatar**	**45.48**	**342**	P	**P**	**11 09 23.4**	**+1.0**
SNR=5.5							
ULN	**Ulaanbaatar**	**45.48**	**342**	*eP*	**P**	**11 09 22.0**	**-0.4**
ULN				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.5							
ULN	**Ulaanbaatar**	**45.48**	**342**	*eP*	**P**	**11 09 22.0**	**-0.3**
comp=Z,6.8nm,0.8s,mb4.5							
SONM	**Songino Array**	**45.66**	**341**	P	**P**	**11 09 24.2**	**+0.4**
comp=Z,2.5nm,0.6s,mb4.3,baz=154,slow=8.5,SNR=20							
SONM				PcP	PcP	11 11 02.6	+0.9
comp=Z,5.3nm,0.7s,baz=155,slow=3.6,SNR=19							
SONM				ScP	ScP	11 14 52.3	-0.5
comp=Z,0.3nm,0.6s,baz=134,slow=4.2,SNR=3.6							
SONM	**Songino Array**	**45.66**	**341**	P	**P**	**11 09 24.2**	**+0.4**
SONM						11 11 02.6	
GKN	**Gorkha**	**45.67**	**304**	*eP*	**P**	**11 09 23.2**	**-0.7**
comp=Z,13nm,0.6s,mb5.1							
KOLN	**Koldanda**	**46.44**	**304**	*eP*	**P**	**11 09 29.6**	**-0.4**
comp=Z,53nm,0.6s,mb5.6							
CIT	**Chita**	**47.69**	**349**	*eP*	**P**	**11 09 41.5**	**+1.8**
CIT				*e*		11 09 52.8	
ZAK	**Zakamensk**	**48.89**	**340**	*eP*	**P**	**11 09 49.1**	**+0.1**
ZAK				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9							
TLY	**Talaya**	**49.89**	**342**	*eP*	**P**	**11 09 56.4**	**-0.2**
TLY				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.7							
MOY	**Mondy**	**50.75**	**340**	*eP*	**P**	**11 10 05.2**	**+2.1**
BOD	**Bodaibo**	**53.18**	**352**	*eP*	**P**	**11 10 21.2**	**-0.1**
BOD				pmax	pmax		
comp=Z,23nm,0.9s,mb5.1							
MK31	**Makanchi Array**	**56.09**	**325**	P	**P**	**11 10 41.0**	**-1.3**
MK31				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.6							
MKAR	**Makanchi Array**	**56.09**	**325**	P	**P**	**11 10 42.0**	**-0.3**
comp=Z,5.9nm,0.5s,mb4.9,baz=121,slow=8.1,SNR=75							
MKAR				PcP	PcP	11 11 40.2	0.0
comp=Z,4.2nm,0.7s,baz=116,slow=3.8,SNR=7.6							
MKAR				ScP	ScP	11 15 36.8	-0.8
comp=Z,1.3nm,0.7s,baz=128,slow=4.2,SNR=7.2							
MKAR	**Makanchi Array**	**56.09**	**325**	P	**P**	**11 10 42.0**	**-0.3**
MKAR						11 11 40.2	
YAK	**Yakutsk**	**56.54**	**2**	*eP*	**P**	**11 10 46.4**	**+0.9**
YAK				pmax	pmax		
comp=Z,26nm,1.1s,mb5.2							
YAK				pmax	pmax		
comp=N,7.0nm,1.0s							
YAK				pmax	pmax		
comp=E,4.0nm,0.8s							
YAK	**Yakutsk**	**56.54**	**2**	*eP*	**P**	**11 10 45.6**	**+0.1**
comp=E,40nm,0.8s,mb5.5							
YAK				*e*pP	pP	11 10 52.9	-0.9
ZAL	**Zalesovo**	**59.02**	**333**	P	**P**	**11 11 01.9**	**-1.1**
comp=E,1.8nm,0.6s,mb4.3,baz=325,slow=5.9,SNR=7.3							
ZAL				PcP	PcP	11 11 50.1	-1.6
comp=E,1.2nm,0.3s,baz=309,slow=5.1,SNR=4.4							
ZAL	**Zalesovo**	**59.02**	**333**	P	**P**	**11 11 01.9**	**-1.1**
ZAL				PcP	PcP	11 11 50.1	-1.6
KURK	**Kurchatov**	**60.24**	**327**	P	**P**	**11 11 10.4**	**-1.0**
SNR=5.6							
KURK	**Kurchatov**	**60.24**	**327**	*eP*	**P**	**11 11 10.4**	**-1.0**
comp=E,11nm,0.6s,mb5.1							
KURK				*e*pP	pP	11 11 18.7	-0.9
NVS	**Novosibirsk**	**60.30**	**333**	*eP*	**P**	**11 11 09.7**	**-2.1**
NVS				*e*PP	PcP	11 11 54.6	-2.2
NVS				pmax	pmax		
comp=Z,18nm,2.0s,mb4.8							
NVS				pmax	pmax		
comp=N,8.0nm,1.7s							
NVS				pmax	pmax		
comp=E,12nm,1.7s							
KK31	**Karatay Array**	**61.89**	**316**	*i* P	**P**	**11 11 21.4**	**-1.2**
KK31				pmax	pmax		
comp=Z,10.0nm,0.3s,mb5.4							
KKAR	**Karatay Array**	**61.89**	**316**	*i* P	**P**	**11 11 21.4**	**-1.2**
KKAR				pmax	pmax		
comp=Z,10.0nm,0.3s,mb5.4							
VOSK	**Vostochnaya**	**65.37**	**326**	P	**P**	**11 11 43.2**	**-2.3**
VOSK				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.5							
BVA0	**Borovoye Array**	**65.83**	**327**	*i* P	**P**	**11 11 47.3**	**-1.2**
BVA0				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9							
BRVK	**Borovoye**	**65.90**	**327**	*eP*	**P**	**11 11 46.9**	**-2.0**
BRVK				*e*PP	pP	11 11 56.8	-0.5
BRVK				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
BRVK	**Borovoye**	**65.90**	**327**	*eP*	**P**	**11 11 46.9**	**-2.0**
comp=Z,4.8nm,0.8s,mb4.6							
BRVK				*e*pP	pP	11 11 56.8	-0.5
CHKZ	**Chkalovo**	**65.98**	**327**	*eP*	**P**	**11 11 48.0**	**-1.5**
CHKZ				*e*PP	pP	11 11 56.3	-1.5
CHKZ				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
CHKZ	**Chkalovo**	**65.98**	**327**	*eP*	**P**	**11 11 48.0**	**-1.4**
comp=Z,4.2nm,0.9s,mb4.5							
CHKZ				*e*pP	pP	11 11 56.3	-1.5
TIXI	**Tiksi**	**66.17**	**1⇑**	*eP*	**P**	**11 11 51.5**	**+0.8**
TIXI				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
ZRNK	**Zerenda**	**66.56**	**326**	*i* P	**P**	**11 11 51.8**	**-1.4**
ZRNK				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.8							
ZRNK	**Zerenda**	**66.56**	**326**	*eP*	**P**	**11 11 51.4**	**-1.8**
comp=Z,6.4nm,0.6s,mb4.8

VNDA Vanda 85.11 173 P **P** **11 13 40.2 +1.1**
comp=Z,1.7nm,0.5s,mb4.5,baz=310,slow=6.6,SNR=12
VNDA Vanda 85.11 173 *e*P **P** **11 13 40.2 +1.1**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 85.11 173 *e*P **P** **11 13 40.2 +1.1**
comp=Z,5.4nm,1.1s,mb4.6
OBN Obninsk 85.59 325⇓*e*P **P** **11 13 40.7 -0.8**
OBN *e* pP 11 13 49.6 -0.4
OBN pmax pmax
comp=Z,15nm,0.8s,mb5.3
ANN Anapa 85.60 314 *e*P **P** **11 13 39.9 -1.6**
ANN pmax pmax
comp=Z,12nm,0.7s,mb5.2
JOF Joensuu 87.61 333 *e*p **P** **11 13 50.5 -0.9**
comp=Z,9.2nm,0.5s,mb5.3
JOF Joensuu 87.61 333 *e*P **P** **11 13 50.5 -0.9**
JOF pmax pmax
comp=Z,9.0nm,0.5s,mb5.3
INK Inuvik 88.67 21 *e*P **P** **11 13 56.6 +0.2**
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 88.67 21 *e*P **P** **11 13 56.6 +0.2**
comp=Z,4.8nm,1.2s,mb4.7
ARCES ARCESS Array B 88.82 340 P **P** **11 13 56.5 -0.6**
comp=Z,8.7nm,0.7s,mb5.2,baz=87,slow=5.7,SNR=23
ARCES ARCESS Array B 88.82 340 P **P** **11 13 56.5 -0.6**
ARE0 ARCESS Array S 88.82 340 *e*P **P** **11 13 56.4 -0.7**
BRTR Keskin Array B 88.82 310 P **P** **11 13 55.4 -1.7**
comp=Z,1.2nm,0.9s,mb4.2,baz=128,slow=5.5,SNR=7.1
BRTR LR LR 12 00 16.8
comp=Z,34nm,18.6s,MS3.8,baz=279,slow=40
BRTR Keskin Array B 88.82 310⇑*e*P **P** **11 13 56.0 -1.1**
KAF Kangasniemi 90.03 332 *e*p **P** **11 14 01.2 -1.6**
comp=Z,5.3nm,0.5s,mb5.1,baz=77,slow=4.9
KAF Kangasniemi 90.03 332 *e*P **P** **11 14 01.2 -1.6**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb5.1
FINES FINESS Array B 90.28 332 P **P** **11 14 02.9 -1.0**
comp=Z,3.2nm,0.7s,mb4.8,baz=47,slow=5.6,SNR=23
FINES FINESS Array B 90.28 332 *i* P **P** **11 14 02.9 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 90.48 321 P **P** **11 14 03.1 -1.8**
comp=Z,0.4nm,0.4s,mb4.1,baz=68,slow=5.0,SNR=5.3
AKASG Malin Array Be 90.48 321 *i* P **P** **11 14 04.5 -0.4**
AKASG pmax pmax
comp=Z,10.0nm,0.4s
NB2 NORSAR Subarra 97.21 334 P **P** **11 14 33.9 -1.9**
comp=Z,1.5nm,0.6s,mb4.6,baz=65,slow=4.6
NB2 NORSAR Subarra 97.21 334 P **P** **11 14 33.9 -1.9**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
NOA NORSAR Array B 97.21 334 P **P** **11 14 34.2 -1.5**
comp=Z,1.8nm,0.6s,mb4.7,baz=66,slow=4.6,SNR=12
NOA LR LR 12 02 24.4
comp=Z,42nm,20.9s,MS3.9,baz=355,slow=38
BRG Berggiesshubel 99.79 324 *e*P Pdif 11 14 46.1 -1.2
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
BRG Berggiesshubel 99.79 324 *e*P Pdif 11 14 46.1 -1.2
comp=Z,2.0nm,0.9s
GERES GERESS Array B 100.67 322 P Pdif 11 14 51.1 -0.1
comp=Z,0.3nm,0.5s,baz=72,slow=4.3,SNR=4.8
ANMO Albuquerque 116.01 47 *e*PKIKP PKPdf 11 19 47.6 +1.6
TORD Torodi Ar. Bea 122.22 289 PKP PKPdf 11 19 58.9 +1.0
comp=Z,2.3nm,0.7s,baz=47,slow=1.9,SNR=6.9
JCT Junction City 123.08 48 *e*PKIKP PKPdf 11 20 01.4 +1.9
PLCA Paso Flores 141.63 159 PKP PKPdf 11 20 36.4 +2.1
comp=Z,1.5nm,0.6s,baz=205,slow=3,6,SNR=4.9
PLCA Paso Flores 141.63 159 *e*PKPdf PKPdf 11 20 36.1 +1.7
JTS JuntasAbangare 144.95 64 PKPbc PKPdf 11 20 42.8 +2.6
comp=Z,6.0nm,0.8s,baz=316,slow=5.6,SNR=6.7
CFAA Coronel Fontan 150.48 154 PKPbc PKPbc 11 20 57.0 +2.4
comp=Z,2.0nm,0.8s,baz=218,slow=2.8,SNR=31
SIV San Ignacio 167.10 145 PKP PKPdf 11 21 11.5 +2.7
comp=Z,1.3nm,0.8s,baz=246,slow=6.2,SNR=4.0

WEL 25 11:06:54.0±0.2,3815S×17665E,h95km±2km,ML3.6/5,1D, Error ellipse: s-maj=1.0km s-min=1.0km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAZ	**Tarawera**	**0.14**	**232**	P*	Pn	11 07 07.5	+0.1
UTU	**Utuhina**	**0.36**	**265**	P*	Pn	11 07 08.6	+0.2
URZ	**Urewera**	**0.38**	**108**	P*	Pn	11 07 08.1	-0.3
URZ				S*	Sn	11 07 19.1	0.0
PATZ	**Paeroa**	**0.39**	**233**	P*	Pn	11 07 08.4	0.0
TGRZ	**Tauranga**	**0.52**	**323**	P*	Pn	11 07 09.2	-0.2
TGRZ				S*	Sn	11 07 21.4	+0.5
MWZ	**Matawai**	**0.72**	**106**	P*	Pn	11 07 11.1	0.0
MWZ				S*	Sn	11 07 24.3	+0.4
TOZ	**Tahuroa Road**	**1.00**	**294**	P*	Pn	11 07 13.8	-0.2
BKZ	**Black Stump Fm**	**1.03**	**187**	⇓P*	Pn	11 07 14.3	-0.1
BKZ				S*	Sn	11 07 30.3	+0.7
KNZ	**Kokohu**	**1.19**	**138**	PN	Pn	11 07 16.2	+0.1
OTVZ	**Oturere**	**1.28**	**217**	P*	Pn	11 07 17.5	+0.3
WTVZ	**West Tongariro**	**1.28**	**220**	P*	Pn	11 07 17.2	-0.1
NGZ	**Ngauruhoe**	**1.32**	**218**	P*	Pn	11 07 18.0	+0.3
TWVZ	**Taurewa**	**1.33**	**225**	P*	Pn	11 07 17.8	0.0
TUVZ	**Tukino**	**1.37**	**215**	P*	Pn	11 07 18.5	+0.2
FWVZ	**Far West T-bar**	**1.40**	**217**	P*	Pn	11 07 19.2	+0.4
MXZ	**Matakaoa Point**	**1.43**	**67**	P*	Pn	11 07 20.1	+1.0
MOVZ	**Moawhango**	**1.44**	**209**	P*	Pn	11 07 19.1	-0.2
HIZ	**Hauiti**	**1.46**	**255**	PN	Pn	11 07 19.4	0.0
HIZ				SN	Sn	11 07 39.0	+0.3
PKVZ	**Pokaka**	**1.53**	**221**	P*	Pn	11 07 20.6	+0.2
VRZ	**Vera Road**	**1.78**	**236**	P*	Pn	11 07 23.7	+0.3
OTAZ	**Otara**	**1.82**	**110**	PN	Pn	11 07 24.2	+0.2
TSZ	**Takapari Road**	**1.99**	**195**	PN	Pn	11 07 24.6	-1.6
WAZ	**Wanganui**	**2.07**	**218**	PN	Pn	11 07 27.2	-0.1

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*ISCJB **25** 11:10:38.7±1.6,189N±0.1×1200E±02,h60km±19km, mb3.7/7,Error ellipse: s-maj=39.6km s-min=18.2km az=139.5*
*IDC **25** 11:10:43.1±9.7,1877N×11972E,h84km±94km,mb3.5/7, mb1 3.6/7,mb1mx3.5/18,mbtmp3.8/7,Error ellipse: s-maj=40.3km s-min=16.6km az=68.0*
*MAN **25** 11:10:55.7,1792N×12085E,h6km,mb3.5,ML4.7,MS2.1*
ISC 25 11:10:39.2±1.8,189N±01×1199E±02,h46km±21km,n14, σ1§17/14,mb3.7/7,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.43**	**147**	*e*P	**Pn**	**11 11 01.9**	**-0.8**
APYP	**Conner**	**1.62**	**127**	*e*P	**Pn**	**11 11 04.3**	**-1.0**
APYP				*e*S	**Sn**	**11 11 14.8**	**-10**
CVP	**Callao Caves**	**2.16**	**122**	*e*P	**Pn**	**11 11 11.5**	**-1.2**
BCPH	**Baguio City Da**	**2.55**	**165**⇓	*e*P	**Pn**	**11 11 18.2**	**+0.1**
CAUP	**Cauayan**	**2.64**	**136**	*e*P	**Pn**	**11 11 21.3**	**+2.0**
BALP	**Baler**	**3.49**	**152**	*e*P	**Pn**	**11 11 34.0**	**+3.0**
MJAR	**Matsushiro Arr**	**23.87**	**39**	P	**P**	**11 15 50.8**	**+2.4**
	1.2nm,0.9s,mb3.3,baz=219,slow=7.5,SNR=4.2						
SONM	**Songino Array**	**30.93**	**342**	P	**P**	**11 16 51.4**	**-0.2**
	0.8nm,0.6s,mb3.7,baz=160,slow=10.0,SNR=8.2						
WRA	**Warramunga Arr**	**41.08**	**159**	P	**P**	**11 18 18.0**	**-0.4**
	1.8nm,1.1s,mb3.6,baz=340,slow=9.1,SNR=4.8						
MKAR	**Makanchi Array**	**41.51**	**321**	P	**P**	**11 18 22.2**	**+0.4**
	1.9nm,0.7s,mb3.8,baz=112,slow=10,SNR=17						
ZAL	**Zalesovo**	**44.18**	**331**	P	**P**	**11 18 44.0**	**+0.4**
	0.9nm,0.5s,mb3.8,baz=360,slow=19,SNR=3.5						
ASAR	**Alice Springs**	**44.42**	**162**	P	**P**	**11 18 45.7**	**+0.3**
	1.0nm,0.7s,mb3.6,baz=339,slow=7.0,SNR=11						
FINES	**FINESS Array B**	**75.44**	**330**	P	**P**	**11 22 16.7**	**-1.6**
	1.0nm,0.9s,mb3.8,baz=81,slow=8.6,SNR=4.3						
SDV	**Santo Domingo**	**150.54**	**22**	PKPbc	PKPbc	11 30 27.0	+1.0
	1.1nm,0.4s,baz=334,slow=6.7,SNR=3.1						

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*ISCJB **25** 11:13:02.0±2.4,38N±0.1×767W±0.1,h99km±21km,mb3.4/7, Error ellipse: s-maj=23.1km s-min=17.1km az=162.2*
*NEIC **25** 11:13:05.7±2.3,399N×7649W,h112km±20km,mb3.5/1, Error ellipse: s-maj=28.4km s-min=13.4km az=68.0*
*IDC **25** 11:13:05.5±3.0,401N×7653W,h109km±25km,mb3.2/7, mb1 3.5/9,mb1mx3.4/21,mbtmp3.6/9,Error ellipse: s-maj=33.6km s-min=19.8km az=61.0*
ISC 25 11:13:02.8±2.4,38N±01×767W±02,h86km±22km,n12, σ1§20/13,mb3.4/7,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.60**	**65**	P	**Pn**	**11 13 43.3**	**+0.5**
	33nm,0.3s,baz=275,slow=2.8,SNR=54						
ROSC				S	**Sn**	**11 14 19.4**	**+5.8**
	15nm,0.3s,baz=84,slow=24,SNR=6.3						
SDV	**Santo Domingo**	**7.89**	**50**	P	**Pn**	**11 14 53.4**	**-1.3**
	2.9nm,0.3s,baz=236,slow=10,SNR=18						
SDV				S	**Sn**	**11 16 23.2**	**+0.8**
	0.3nm,0.3s,baz=292,slow=19,SNR=1.6						
SAML	**Samuel**	**18.47**	**133**	*e*P	**Pn**	**11 17 11.8**	**-1.0**
	1.4nm,0.6s						
LPAZ	**La Paz**	**21.65**	**157**	P	**P**	**11 17 51.0**	**+4.9**
	1.0nm,0.7s,mb3.2,baz=279,slow=3.7,SNR=3.8						
SIV	**San Ignacio**	**24.99**	**142**	P	**P**	**11 18 19.3**	**+1.0**
	0.4nm,0.6s,mb3.0,baz=203,slow=17,SNR=2.2						
PDAR	**Pinedale Array**	**48.59**	**328**	P	**P**	**11 21 38.4**	**+0.8**
	0.2nm,0.4s,mb3.4,baz=148,slow=14,SNR=2.2						
PDAR				pP	pP	11 22 02.4	+3.9
	0.4nm,0.7s,baz=165,slow=6.2,SNR=3.5						
PDAR	**Pinedale Array**	**48.59**	**328**	P	**P**	**11 21 38.4**	**+0.8**
PDAR				pP	pP	11 22 02.4	+3.9
NVAR	**Mina Array Bea**	**51.21**	**318**	P	**P**	**11 21 58.2**	**+0.9**
	0.2nm,0.7s,mb3.3,baz=112,slow=6.1,SNR=2.6						
YKA	**Yellowknife Ar**	**64.95**	**342**	P	**P**	**11 23 30.9**	**-2.4**
	0.7nm,0.5s,mb3.7,baz=135,slow=6.3,SNR=4.6						
ESDC	**Sonseca Array**	**74.34**	**50**	P	**P**	**11 24 31.1**	**+0.2**
	0.2nm,0.4s,mb3.2,baz=270,slow=5.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**77.86**	**77**	P	**P**	**11 24 50.4**	**-0.5**
	0.8nm,0.7s,mb3.5,baz=288,slow=5.7,SNR=6.6						
ASAR	**Alice Springs**	**144.44**	**233**	PKP	PKPdf	11 32 28.4	-0.6
	0.4nm,0.4s,baz=120,slow=3.7,SNR=6.6						

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*BJI **25** 11:27:58.8,102N×9670E,h23km,mB5.0,mb4.8,Ms4.5, Msz4.3*
*IDC **25** 11:28:05.0±0.8,196N×9655E,h0km,mb4.3/15, mb1 4.3/16,mb1mx4.2/24,mbtmp4.2/16,ML3.5/1,MS3.3/2, Ms1 3.3/2,ms1mx2.7/29,Error ellipse: s-maj=31.5km s-min=13.6km az=45.0*
*ISCJB **25** 11:28:08.5±1.3,202N±007×9662E±007,h36km±10km, mb4.5/38,MS3.9/3,Error ellipse: s-maj=14.6km s-min=8.3km az=87.5*
*MOS **25** 11:28:08.0±0.8,203N×9654E,h30km,mb4.9/8,Error ellipse: s-maj=16.7km s-min=10.1km az=107.9*
*NEIC **25** 11:28:08.5±0.3,195N×9655E,mb4.5/7,Error ellipse: s-maj=9.9km s-min=5.3km az=221.0*
ISC 25 11:28:10.8±1.3,204N±007×9666E±007,h35km±11km, h23km±3.0km:pP-P,n58,σ0§78/60,mb4.5/38,MS3.9/3,2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.39**	**72**	Pn	**Pn**	**11 28 48.0**	**+0.7**
	9.7nm,0.3s,baz=267,slow=11,SNR=26						
PSI				LR	LR	11 29 38.0	
	comp=Z,328nm,19.9s,baz=277,slow=38						
BSI	**Banda Aceh**	**3.69**	**338**	P	**Pn**	**11 29 02.9**	**-2.3**
	146nm,0.4s						
KULM	**Kulim**	**5.13**	**51**	*e*Pn	**Pn**	**11 29 25.4**	**+0.4**
KULM				*e*pPn		11 29 32.8	
KKM	**Kota Kinabalu**	**19.91**	**78**	P	**Pn**	**11 32 40.9**	**-0.2**
KKM				*e*pP	pP	11 32 45.2	-3.4
KMI	**Kunming**	**23.68**	**14**	P	**P**	**11 33 19.5**	**+0.3**
JIRN	**Jiri**	**27.37**	**339**	*e*P	**P**	**11 33 53.4**	**+0.8**
	33nm,0.7s,mb5.0						
PKI	**Pulchoki**	**27.57**	**338**	*e*P	**P**	**11 33 54.6**	**+0.2**
	9.1nm,0.5s,mb4.7						
GUN	**Gumba**	**27.71**	**339**	*e*P	**P**	**11 33 56.5**	**+0.9**
	36nm,0.6s,mb5.2						
KKN	**Kakani**	**27.82**	**338**	*e*P	**P**	**11 33 57.3**	**+0.7**
	14nm,0.6s,mb4.8						
GKN	**Gorkha**	**28.25**	**337**	*e*P	**P**	**11 34 01.3**	**+0.8**
	9.8nm,0.4s,mb4.8						
KOLN	**Koldanda**	**28.47**	**335**	*e*P	**P**	**11 34 03.0**	**+0.6**
	23nm,0.7s,mb4.9						
CD2	**Chengdu**	**29.49**	**12**	*e*P	**P**	**11 34 13.5**	**+2.1**
CD2				AP	pP	11 34 21.0	-0.6
CD2				XP	sP	11 34 24.5	-1.4
CD2				S	**S**	**11 39 07.5**	**+4.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
LZH	**Lanzhou**	**34.52**	**10**	*e*P	**P**	**11 34 55.0**	**-0.6**
LZH				AP	pP	11 35 02.0	-3.8
LZH				XP	sP	11 35 06.0	-4.1
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	**34.86**	**126**	P	**P**	**11 34 58.3**	**-0.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=317,slow=5.2,SNR=6.9						
NJ2	**Nanjing**	**36.44**	**33**	*e*P	**P**	**11 35 11.5**	**-0.6**
NJ2				AP	pP	11 35 21.3	-1.1
NJ2				XP	sP	11 35 27.0	+0.4
NJ2				PP	PP	11 36 35.8	+0.4
NJ2				S	**S**	**11 40 51.0**	**-0.4**
NJ2				XS	sS	11 41 08.0	-0.3
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,380nm,5.6s						
NJ2				LR	LR		
	comp=N,240nm,12.7s,MS4.3						
NJ2				LR	LR		
	comp=E,230nm,16.0s,MS4.3						
NJ2				LR	LR		
	comp=Z,410nm,19.7s,MS4.2						
SSE	**Sheshan**	**37.05**	**36**	P	**P**	**11 35 16.0**	**-1.3**
SSE				XP	sP	11 35 28.8	-3.0
SSE				S	**S**	**11 41 00.5**	**-0.2**
SSE				XS	sS	11 41 15.8	-1.8
SSE				SCS	ScS	11 45 28.5	-0.6
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,110nm,6.4s						
SSE				LR	LR		
	comp=N,190nm,18.0s,MS4.1						
SSE				LR	LR		
	comp=E,170nm,18.0s,MS4.1						
SSE				LR	LR		
	comp=Z,290nm,20.0s,MS4.1						
GTA	**Gaotai**	**37.30**	**4**	*e*P	**P**	**11 35 19.8**	**+0.4**
GTA				AP	pP	11 35 24.0	-5.7
GTA				XP	sP	11 35 26.8	-7.1
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
KAKA	**Kakadu**	**38.43**	**113**	*e*P	**P**	**11 35 28.4**	**-0.5**
	comp=Z,8.4nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**42.94**	**122**	P	**P**	**11 36 06.6**	**+0.4**
	comp=Z,5.6nm,0.6s,mb4.5,baz=300,slow=9.2,SNR=52						
WRAB	**Tennant Creek**	**42.95**	**122**	*e*P	**P**	**11 36 06.5**	**+0.3**
WRAB				*e*PP	pP	11 36 14.2	-2.4
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**42.95**	**122**	*e*P	**P**	**11 36 06.5**	**+0.3**
	comp=Z,6.9nm,0.6s,mb4.6						
WRAB				*e*pP	pP	11 36 14.2	-2.4
WB2	**Warramunga Arr**	**42.95**	**122**	*e*P	**P**	**11 36 06.6**	**+0.4**
ASAR	**Alice Springs**	**44.34**	**127**	P	**P**	**11 36 18.2**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.7,baz=300,slow=7.8,SNR=9.2						
MKAR	**Makanchi Array**	**46.30**	**346**	P	**P**	**11 36 33.1**	**+0.2**
	comp=Z,8.0nm,0.7s,mb4.8,baz=160,slow=7.8,SNR=69						
SONM	**Songino Array**	**46.38**	**9**	P	**P**	**11 36 33.9**	**+0.3**
	comp=Z,3.3nm,0.6s,mb4.5,baz=190,slow=9.4,SNR=36						
SONM				PcP	PcP	11 38 08.5	+0.4
	comp=Z,0.4nm,0.4s,baz=199,slow=2.8,SNR=3.4						
ULN	**Ulaanbaatar**	**46.52**	**10**⇑	*e*P	**P**	**11 36 35.4**	**+0.7**
ULN	**Ulaanbaatar**	**46.52**	**10**	*e*P	**P**	**11 36 35.1**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.1						
ULN				*e*pP	pP	11 36 43.0	-2.2
ZAK	**Zakamensk**	**48.49**	**6**	*e*P	**P**	**11 36 50.0**	**0.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.9s,mb4.2						
TLY	**Talaya**	**49.81**	**6**	*e*P	**P**	**11 37 00.8**	**+0.7**
TLY				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.9						
CBIJ	**Chichi jima**	**50.20**	**56**	P	**P**	**11 37 02.5**	**-0.5**
	comp=Z,22nm,0.7s,mb5.3,baz=291,slow=15,SNR=3.1						
KURK	**Kurchatov**	**50.84**	**345**	*e*P	**P**	**11 37 07.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KURK	**Kurchatov**	**50.84**	**345**	*e*P	**P**	**11 37 07.7**	**-0.2**
	comp=Z,4.7nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**52.64**	**351**	P	**P**	**11 37 21.7**	**+0.4**
	comp=Z,7.6nm,0.5s,mb4.9,baz=310,slow=5.8,SNR=31						

NVS	**Novosibirsk**	**53.76**	**350**	*e*P	**P**	**11 37 28.1**	**-1.4**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
STKA	**Stephens Creek**	**54.32**	**132**	P	**P**	**11 37 32.6**	**-1.1**
	comp=E,1.7nm,0.8s,mb4.0,baz=318,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**54.32**	**132**	*e*P	**P**	**11 37 32.5**	**-1.1**
BVAR	**Borovoye Array**	**55.28**	**341**	P	**P**	**11 37 40.1**	**-0.5**
	comp=E,3.1nm,0.6s,mb4.5,baz=134,slow=8.5,SNR=16						
BRVK	**Borovoye**	**55.34**	**341**	*e*P	**P**	**11 37 40.2**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**55.34**	**341**	*e*P	**P**	**11 37 40.2**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**55.68**	**340**	*e*P	**P**	**11 37 42.9**	**-0.5**
ZRNK				*e*PP	pP	11 37 50.5	-3.6
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**55.68**	**340**	*e*P	**P**	**11 37 42.9**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.4						
ZRNK				*e*pP	pP	11 37 50.5	-3.6
KLR	**Kul'dur**	**55.75**	**27**	*e*P	**P**	**11 37 49.2**	**+5.3**
CHKZ	**Chkalovo**	**55.76**	**342**	*e*P	**P**	**11 37 43.6**	**-0.4**
CHKZ				*e*PP	pP	11 37 51.1	-3.6
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**55.76**	**342**	*e*P	**P**	**11 37 43.6**	**-0.4**
	comp=Z,4.2nm,0.6s,mb4.7						
CHKZ				*e*pP	pP	11 37 51.0	-3.6
AKTK	**Aktyubinsk**	**58.23**	**332**	P	**P**	**11 38 00.9**	**-0.6**
AKTO	**Aktyubinsk**	**58.23**	**332**	P	**P**	**11 38 00.9**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.1,baz=103,slow=10,SNR=2.5						
KMBO	**Kilima Mbogo**	**59.48**	**268**	LR	LR	12 00 25.2	
	comp=Z,39nm,20.6s,MS3.5,baz=88,slow=33						
ARU	**Arti**	**62.20**	**337**	*i* P	**P**	**11 38 30.4**	**+1.8**
YAK	**Yakutsk**	**64.77**	**17**	*e*P	**P**	**11 38 45.1**	**-0.5**
YAK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3						
BRTR	**Keskin Array B**	**68.14**	**312**	P	**P**	**11 39 07.4**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=140,slow=6.0,SNR=3.6						
TIXI	**Tiksi**	**72.46**	**10**⇑	*e*P	**P**	**11 39 32.5**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**11 39 43.0**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=90,slow=5.1,SNR=4.3						
AKASG	**Malin Array Be**	**74.26**	**322**	*i* P	**P**	**11 39 43.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.3s						
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**11 39 43.0**	**-1.2**
FINES	**FINESS Array B**	**79.00**	**333**	P	**P**	**11 40 10.9**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=106,slow=6.2,SNR=12						
ARCES	**ARCESS Array B**	**81.56**	**340**	P	**P**	**11 40 25.0**	**+0.3**
	comp=Z,1.4nm,0.4s,mb4.2,baz=94,slow=4.8,SNR=17						
ARCES	**ARCESS Array B**	**81.56**	**340**	P	**P**	**11 40 25.0**	**+0.2**
GERES	**GERESS Array B**	**83.82**	**319**	P	**P**	**11 40 37.3**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.8,baz=89,slow=6.9,SNR=6.5						

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*IDC **25** 11:29:21.9±1.4,3100N×5000E,h0km,mb3.8/8, mb1 3.9/10,mb1mx3.7/24,mbtmp3.8/10,ML3.7/2,Error ellipse: s-maj=29.7km s-min=21.1km az=166.0*
*NEIC **25** 11:29:23.5,3081N×5011E,h14km,mb3.8/2,ML3.4(THR), After THR.*
*THR **25** 11:29:23.5±0.5,3081N×5010E,h15km,ML3.4*
*KISR **25** 11:29:26.4±0.5,3081N×5020E,h34km,ML3.5*
*ISCJB **25** 11:29:27.1±0.3,3103N±003×5010E±003,h33km,mb3.8/9, Error ellipse: s-maj=5.0km s-min=3.2km az=95.1*
*TEH **25** 11:29:27.9,3100N×5010E,h13km,Mn3.7*
*CSEM **25** 11:29:27.5±0.1,3095N×5015E,h70km,ML3.4,Error ellipse: s-maj=2.1km s-min=1.5km az=130.0*
ISC 25 11:29:28.8±0.3,3100N±003×5010E±003,h35km,n62, σ1§31/73,mb3.8/9,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.56**	**315**	*e*PG	**Pn**	**11 29 54.5**	**+0.5**
SHGR				*e*SG	**Sn**	**11 30 17.6**	**+4.6**
SHGR	**Shooshtar-Gavs**	**1.56**	**315**	Pg	**Pn**	**11 29 54.0**	**-0.1**
SHGR				Sg	**Sn**	**11 30 17.0**	**+3.9**
IPIR	**Pirpir**	**1.81**	**22**	*e*Pn	**Pn**	**11 29 58.8**	**+1.3**
IPIR				*e*Sn	**Sn**	**11 30 21.3**	**+2.1**
UMR	**Umm Al-Rimmam**	**2.51**	**236**	*e*P	**Pn**	**11 30 07.7**	**+0.6**
UMR				AML	AML	11 30 45.5	
	comp=Z,208nm,0.2s						
IKLH	**Kalahroud**	**2.63**	**28**	*e*Pn	**Pn**	**11 30 10.6**	**+1.8**
IZEF	**Zefreh**	**2.68**	**45**	*e*Pn	**Pn**	**11 30 10.4**	**+1.0**
IZEF				*e*Sn	**Sn**	**11 30 42.1**	**+1.5**
KBD	**Kabd**	**2.76**	**229**	*e*P	**Pn**	**11 30 10.8**	**+0.2**
KBD				*e*S	**Sn**	**11 30 43.8**	**+1.0**
KBD				AML	AML	11 30 47.6	
	comp=Z,639nm,0.2s						
KBD	**Kabd**	**2.76**	**229**	*e*P	**Pn**	**11 30 10.8**	**+0.2**
KBD				*e*S	**Sn**	**11 30 43.8**	**+1.1**
IPAR	**Pars**	**2.80**	**114**	*e*Pn	**Pn**	**11 30 10.9**	**-0.2**
NASN	**Na'in**	**2.92**	**51**	*e*PN	**Pn**	**11 30 13.5**	**+0.8**
NASN				AML	AML	11 30 59.6	
	comp=E,67nm,0.6s						
NASN				AML	AML	11 31 04.2	
	comp=N,71nm,0.5s						
NASN	**Na'in**	**2.92**	**51**	Pn	**Pn**	**11 30 13.0**	**+0.2**
QRN	**Al-Qurain**	**2.94**	**221**

comp=N,0.9nm,0.4s,mb3.7,baz=135,slow=9.4,SNR=8.6
ZRNK Zerenda 25.90 27 *e*P **P 11 34 55.3 -2.1**
comp=N,1.3nm,0.7s,mb3.6
ZRNK Zerenda 25.90 27 *e*P **P 11 34 55.3 -2.1**
comp=N,1.3nm,0.7s,mb3.6
BVAR Borovoye Array 26.50 28 P **P 11 35 01.8 -1.0**
comp=N,1.4nm,0.5s,mb3.8,baz=232,slow=7.2,SNR=11
KURK Kurchatov 28.93 39 *e*P **P 11 35 22.2 -2.3**
comp=N,1.8nm,0.8s,mb3.9
KURK Kurchatov 28.93 39 *e*P **P 11 35 22.2 -2.4**
comp=N,1.8nm,0.8s,mb3.9
MKAR Makanchi Array 29.35 48 P **P 11 35 27.6 -0.8**
comp=N,0.5nm,0.3s,mb3.8,baz=238,slow=11,SNR=8.1
MKAR Makanchi Array 29.35 48 P **P 11 35 27.5 -0.8**
ZAL Zalesovo 33.83 37 P **P 11 36 06.2 -1.4**
comp=N,1.1nm,0.5s,mb4.0,baz=234,slow=5.6,SNR=4.4
ZAL Zalesovo 33.83 37 P **P 11 36 06.2 -1.5**
JOF Joensuu 34.13 345 *e*p **P 11 36 07.2 -3.1**
FINES FINESS Array B 34.27 340 P **P 11 36 08.8 -2.7**
comp=N,0.7nm,0.5s,mb3.9,baz=142,slow=8.9,SNR=12
FINES FINESS Array B 34.27 340 P **P 11 36 08.8 -2.7**
NB2 NORSAR Subarra 39.37 331 P **P 11 36 51.9 -3.0**
comp=Z,0.4nm,0.6s,mb3.3,baz=124,slow=7.9
NOA NORSAR Array B 39.37 331 P **P 11 36 51.5 -3.3**
comp=Z,0.6nm,0.7s,mb3.5,baz=123,slow=8.2,SNR=4.1
NOA NORSAR Array B 39.37 331 P **P 11 36 51.5 -3.4**
TORD Torodi Ar. Bea 47.84 259 P **P 11 38 01.4 -1.6**
comp=Z,1.0nm,0.8s,mb3.9,baz=56,slow=8.1

*IDC **25** 11:29:45.5±9.5, 23.25S×179.91E, h375km±100km, mb3.3/5, mb1 3.5/6, mb1mx3.2/15, mbtmp4.1/6, Error ellipse: s-maj=58.7km s-min=41.5km az=18.0*

NEIC 25 11:29:44.6±7.6, 23.19S×179.94E, h366km±72km, mb3.6/3, Error ellipse: s-maj=57.1km s-min=25.0km az=222.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.22**	**188**	P	P	11 33 00.3	-0.5
	1.7nm,0.3s,baz=0.0,slow=3.8,SNR=11						
CTA	**Charters Tower**	**31.42**	**269**	P	P	11 35 35.4	+2.2
	2.8nm,0.3s,baz=92,slow=13,SNR=9.3						
CTAO	**Charters Tower**	**31.42**	**269**	*e*P	P	11 35 35.0	+1.9
	2.6nm,0.4s						
ASAR	**Alice Springs**	**42.10**	**260**	P	P	11 37 01.8	-0.3
	0.6nm,0.4s,baz=95,slow=8.4,SNR=7.6						
WRAB	**Tennant Creek**	**42.39**	**265**	*e*P	P	11 37 03.8	-0.7
	2.1nm,0.6s						
WRA	**Warramunga Arr**	**42.40**	**265**	P	P	11 37 04.3	-0.3
	0.7nm,0.3s,baz=102,slow=8.3,SNR=17						
FITZ	**Fitzroy Crossi**	**50.83**	**265**	P	P	11 38 08.2	-0.9
	1.3nm,0.8s,baz=80,slow=6.1,SNR=4.3						
VNDA	**Vanda**	**55.08**	**185**	*e*P	P	11 38 40.1	+0.3
	1.8nm,1.2s						
MJAR	**Matsushiro Arr**	**71.28**	**326**	P	P	11 40 24.6	-0.5
	0.2nm,0.3s,baz=146,slow=5.4,SNR=5.1						
BRTR	**Keskin Array B**	**147.10**	**308**	PKPbc	PKPbc	11 48 45.9	+1.0
	0.7nm,0.6s,baz=76,slow=4.7,SNR=4.1						

*NEIC **25** 11:37:11.6, 36.08S×71.75W, h97km, MG3.3(GUC), After GUC.*

GUC 25 11:37:11.6±0.9, 36.08S×71.75W, h97km±4km, MD3.5, ML3.3, 13C-6D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.26**	**27**	*e*P	Pn	11 37 26.0	+0.4
LNCH				*i* S	Sn	11 37 36.7	+0.6
LNCH				AML	AML	11 37 37.2	
	comp=E,2μm,0.3s						
LNCH	**Linares**	**0.26**	**27**	*e*P	Pn	11 37 26.0	+0.4
LNCH				*i* S	Sn	11 37 36.7	+0.6
CCHI	**Chillan**	**0.59**	**207**	↑*i*P	Pn	11 37 27.9	+0.2
CCHI				*i* S	Sn	11 37 39.6	-0.2
CCHI				AML	AML	11 37 40.5	
	comp=N,394nm,0.4s						
CCHI	**Chillan**	**0.59**	**207**	↑*i*P	Pn	11 37 27.9	+0.2
CCHI				*i* S	Sn	11 37 39.6	-0.2
TALC	**Talca**	**0.68**	**8**	↓*i*P	Pn	11 37 28.6	0.0
TALC				*i* S	Sn	11 37 41.2	-0.1
TALC				AML	AML	11 37 41.5	
	comp=E,12μm,0.1s						
CNCO	**Chanco**	**0.72**	**298**	↑*i*P	Pn	11 37 29.4	+0.5
CNCO				*i* S	Sn	11 37 42.3	+0.3
CNCO				AML	AML	11 37 43.8	
	comp=N,351nm,0.5s						
CNCO	**Chanco**	**0.72**	**298**	↑*i*P	Pn	11 37 29.4	+0.5
CNCO				*i* S	Sn	11 37 42.3	+0.3
SFDO	**San Fernando**	**1.58**	**23**	↑*i*P	Pn	11 37 39.2	+0.6
SFDO				*i* S	Sn	11 37 60.0	+0.8
CICH	**Cipreses**	**2.06**	**32**	↓*i*P	Pn	11 37 46.7	+1.8
CICH				*i* S	Sn	11 38 12.1	+1.8
LNV	**Longovilo**	**2.13**	**8**	↑*i*P	Pn	11 37 46.7	+0.9
LNV				*i* S	Sn	11 38 12.3	+0.4
CACH	**El Canelo**	**2.17**	**26**	↓*i*P	Pn	11 37 47.1	+0.9
CHCH	**Chadas Angostu**	**2.32**	**23**	↑*i*P	Pn	11 37 48.4	+0.2
CHCH				*i* S	Sn	11 38 16.8	+0.6
TACH	**Talagante**	**2.51**	**16**	↑*i*P	Pn	11 37 50.9	+0.2
LCCH	**Las Cruces**	**2.60**	**3**	*e*P	Pn	11 37 51.8	-0.1
PCH	**Pirque**	**2.65**	**23**	↓*i*P	Pn	11 37 53.2	+0.6
ANTU	**Antumapu**	**2.66**	**20**	↑*i*P	Pn	11 37 53.6	+0.8
ANTU				AML	AML	11 38 29.2	
	comp=N,100nm,0.3s						
RCDM	**Rinconada Maip**	**2.69**	**17**	↑*i*P	Pn	11 37 53.8	+0.6
RCDM				*i* S	Sn	11 38 25.0	-0.2
RCDM				AML	AML	11 38 27.3	
	comp=N,143nm,0.1s						
RCDM	**Rinconada Maip**	**2.69**	**17**	↑*i*P	Pn	11 37 53.8	+0.6
RCDM				*i* S	Sn	11 38 25.0	-0.2
CLCH	**Cerro Calan**	**2.85**	**21**	↓*i*P	Pn	11 37 55.9	+0.6
CLCH				*i* S	Sn	11 38 30.1	+1.1
CLCH				AML	AML	11 38 31.8	
	comp=E,65nm,0.3s						
FCH	**Farellones**	**2.99**	**24**	↓*i*P	Pn	11 37 58.2	+1.0
FCH				*i* S	Sn	11 38 33.8	+1.5
FCH				AML	AML	11 38 36.0	
	comp=N,81nm,0.3s						
PEL	**Peldehue**	**3.05**	**17**	↑*i*P	Pn	11 37 58.7	+0.7
PEL				*e*S	Sn	11 38 35.0	+1.3
PEL				AML	AML	11 38 37.5	
	comp=N,110nm,0.6s						
PEL	**Peldehue**	**3.05**	**17**	↑*i*P	Pn	11 37 58.7	+0.7
PEL				*e*S	Sn	11 38 35.0	+1.3
ROCH	**El Roble**	**3.16**	**11**	*e*P	Pn	11 37 59.9	+0.6
ROCH				*i* S	Sn	11 38 37.0	+0.9
JACH	**Jahuel**	**3.52**	**16**	*e*P	Pn	11 38 04.5	+0.3
JACH				*e*S	Sn	11 38 45.6	+0.7

*ISCJB **25** 11:51:51.0±0.2, 1907N±003×120.02E±005, h27km, mb4.5/38, MS3.9/15, Error ellipse: s-maj=7.4km s-min=3.1km az=144.2*

*MOS **25** 11:51:51.8±1.8, 19.13N×120.14E, h33km, mb5.0/15, Error ellipse: s-maj=19.0km s-min=8.2km az=99.2*

*HRVD **25** 11:51:52.2±0.4, 19.18N×119.96E, h14km±1km, MW4.8/60, Centroid moment Tensor Solution. LP body waves: s17,c18;Mantle waves: s60,c87; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.58±.13; $M_{\theta\theta}$0.54±.07; $M_{\phi\phi}$1.04±.10; $M_{r\theta}$0.73±.21; $M_{\theta\phi}$0.63±.05; $M_{\phi r}$0.28±.23; Best double couple: $M_0$1.70500×10^{16} NP1:ϕ_s23.00000°, δ35.00000°, λ-111.00000°. NP2: ϕ_s228.00000°, δ58.00000°, λ-76.00000°. Principal axes: T 1.5990, Plg12.0000°, Azm308.0000°; N 0.2150, Plg12.0000°, Azm40.0000°; P -1.8100, Plg73.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **25** 11:51:52.2±0.3, 1902N×120.22E, mb4.7/18 Error ellipse: s-maj=9.8km s-min=5.8km az=87.0*

*MAN **25** 11:51:55.9, 1861N×119.93E, h11km, mb3.9, ML5.0, MS1.6*

*IDC **25** 11:51:56.6±2.8, 19.13N×120.33E, h69km±27km, mb3.9/17, mb1 4.0/19, mb1mx4.0/25, mbtmp4.2/19, MS3.8/13, Ms1 3.8/13, ms1mx3.4/29, Error ellipse: s-maj=22.9km s-min=11.1km az=73.0*

*BJI **25** 11:51:59.3, 1968N×119.32E, h27km, mB4.6, mb4.2, ML3.6, Ms4.3, Msz4.2*

ISC 25 11:51:52.8±0.2, 1906N±003×120.10E±005, h28km, h28km±.9km: pP-P, n111, σ19/19/110, mb4.5/38, MS3.9/15, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.88**	**146**	*e*P	Pn	**11 52 09.5**	**+0.3**
PIP				*e*S	Sb	**11 52 21.1**	**+0.3**
ABRA	**Dolores**	**1.52**	**158**	*e*P	Pn	**11 52 17.1**	**-1.0**
ABRA				*e*S	Sn	**11 52 35.2**	**-1.6**
SGCP	**Mt. Cagua**	**2.01**	**114**	*e*P	Pn	**11 52 26.6**	**+1.8**
CVP	**Callao Caves**	**2.12**	**129**	*e*P	Pn	**11 52 19.0**	**-7.3**
CAUP	**Cauayan**	**2.67**	**142**	*e*P	Pn	**11 52 37.1**	**+3.3**
BOLP	**Bolinao**	**2.67**	**184**	*e*P	Pn	**11 52 33.1**	**-0.7**
BCPH	**Baguio City Da**	**2.71**	**170**	↓*e*P	Pn	**11 52 34.6**	**+0.2**
BCPH				*e*S	Sn	**11 53 06.6**	**+0.4**
PALP	**Palanan**	**2.97**	**132**	*e*P	Pn	**11 52 41.8**	**+3.8**
SCZP	**Santa Cruz**	**3.27**	**183**	*e*P	Pn	**11 52 41.9**	**-0.3**
BALP	**Baler**	**3.59**	**157**	*e*P	Pn	**11 52 48.4**	**+1.9**
BALP				*e*S		11 52 52.2	
PCPH	**Palayan**	**3.61**	**165**	↓*e*P	Pn	**11 52 47.5**	**+0.8**
POLP	**Polilio Island**	**4.65**	**158**	*e*P	Pn	**11 53 07.0**	**+5.9**
TGY	**Tagaytay City**	**5.00**	**171**	↓*e*P	Sn	**11 54 06.7**	**+4.1**
TGY	**Tagaytay City**	**5.00**	**171**	P	Pn	**11 53 10.6**	**+4.8**
	27nm,0.3s,baz=198,slow=9.5,SNR=3.1						
NACB	**Ninganchiao**	**5.27**	**15**	*e*Pn	Pn	**11 53 11.3**	**+1.7**
LUBP	**Lubang**	**5.30**	**179**	*e*P	Pn	**11 53 10.5**	**+0.5**
YHNB	**Yeheng**	**5.70**	**12**	*e*Pn	Pn	**11 53 16.8**	**+1.3**
QZH	**Quanzhou**	**6.02**	**347**	P	Pn	**11 53 17.5**	**-2.4**
QZH				S	Sn	**11 54 22.8**	**-5.0**
QZH				LR	LR		
	comp=N,3μm,13.5s						
QZH				LR	LR		
	comp=E,2μm,11.4s						
QZH				LR	LR		
	comp=Z,3μm,10.9s						
BUSP	**Coron**	**7.02**	**179**	*e*P	Pn	**11 53 34.6**	**+1.0**
GZH	**Guangzhou**	**7.47**	**304**	P	Pn	**11 53 34.8**	**-5.1**
GZH				LR	LR		
	comp=N,1μm,11.5s						
GZH				LR	LR		
	comp=E,2μm,11.8s						
GZH				LR	LR		
	comp=Z,3μm,12.7s						
ENPP	**El Nido**	**7.84**	**185**	*e*P	Pn	**11 53 45.3**	**+0.4**
QIZ	**Qiongzhong**	**9.71**	**271**	P	Pn	**11 54 05.3**	**-5.2**
QIZ				S	Sn	**11 55 50.8**	**-7.7**
QIZ				LR	LR		
	comp=N,1μm,13.4s						
QIZ				LR	LR		
	comp=E,330nm,15.9s						
QIZ				LR	LR		
	comp=Z,530nm,17.9s						
JOW	**Kunigami**	**10.79**	**43**	P	Pn	**11 54 24.6**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=236,slow=18,SNR=6.8						
JOW				LR	LR	11 58 47.6	
	comp=Z,533nm,19.4s,baz=205,slow=39						
KMI	**Kunming**	**17.18**	**294**	P	Pn	**11 55 49.3**	**-1.4**
KMI				AP	pP	11 55 53.8	-5.8
KMI				XP	sP	11 55 56.5	-6.8
KMI				PP		11 56 02.5	
KMI				AMB	AMB		
	comp=Z,150nm,5.3s						
KMI				LR	LR		
	comp=N,1μm,13.5s						
KMI				LR	LR		
	comp=E,740nm,17.3s						
KMI				LR	LR		
	comp=Z,800nm,14.9s						
XAN	**Xi'an**	**17.94**	**328**	P	Pn	**11 55 56.8**	**-3.3**
XAN				AP	pP	11 56 08.5	+0.5
XAN				AMB	AMB		
	comp=Z,160nm,11.7s						
XAN				LR	LR		
	comp=N,610nm,11.0s						
XAN				LR	LR		
	comp=E,250nm,13.0s						
XAN				LR	LR		
	comp=Z,810nm,10.0s						
CD2	**Chengdu**	**18.91**	**312**	*e*P	Pn	**11 56 12.5**	**+0.6**
CD2				AP	pP	11 56 18.5	-0.3
CD2				XP	sP	11 56 22.8	+0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=E,80nm,6.9s						
CD2				LR	LR		
	comp=Z,60nm,7.2s						
KSM	**Kuching**	**19.94**	**210**	*e*P	Pn	**11 56 23.9**	**-0.3**
CBIJ	**Chichi jima**	**21.81**	**64**	P	P	**11 56 40.4**	**-2.2**
	comp=Z,13nm,0.8s,mb4.5,baz=289,slow=16,SNR=1.9						
CBIJ				LR	LR	12 04 10.4	
	comp=Z,38nm,21.9s,MS2.8,baz=258,slow=34						
LZH	**Lanzhou**	**22.20**	**323**	*e*P	P	**11 56 47.5**	**+0.7**
LZH				AP		11 56 57.8	
LZH				XP	sP	11 57 03.0	+4.9
LZH				AMB	AMB		
	comp=Z,90nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,200nm,4.2s						
LZH				LR	LR		
	comp=N,2μm,16.0s						
LZH				LR	LR		
	comp=Z,3μm,17.0s,MS4.8						
JHJ	**Hachijo jima 2**	**22.49**	**48**	LR	LR	12 03 39.7	
	comp=Z,76nm,20.4s,MS3.1,baz=302,slow=32						
HHC	**Hu-ho-hao-te**	**22.92**	**343**	*e*P	P	**11 56 53.5**	**-0.8**
HHC				AP		11 57 01.5	
HHC				XP	sP	11 57 04.0	-1.7
HHC				S	**S**	**12 00 45.5**	**-17**
HHC				XS	sS	12 01 03.3	-13
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
HHC				AMB	AMB		
	comp=Z,140nm,4.8s						
HHC				LR	LR		
	comp=N,600nm,11.9s,MS4.3						
HHC				LR	LR		
	comp=E,240nm,13.1s,MS4.3						
HHC				LR	LR		
	comp=Z,470nm,10.7s,MS4.2						
KULM	**Kulim**	**23.39**	**237**	*e*P	P	**11 56 58.8**	**-0.6**
MAJO	**Matsushiro**	**23.59**	**39**	*e*P	P	**11 56 58.7**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.4						
MAJO	**Matsushiro**	**23.59**	**39**	*e*P	P	**11 56 58.7**	**-2.5**
	comp=Z,21nm,1.2s,mb4.4						
MAT	**Matsushiro**	**23.59**	**39**	P	P	**11 56 59.8**	**-1.4**
MAT				S	**S**	**12 01 26.0**	**+13**
MAT	**Matsushiro**	**23.59**	**39**	*e*P	P	**11 57 00.0**	**-1.2**
	comp=Z,46nm,1.8s,mb4.6						
MAT				*e*S	**S**	**12 01 27.0**	**+14**
MJAR	**Matsushiro Arr**	**23.59**	**39**	P	P	**11 57 00.3**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.4,baz=227,slow=8.1,SNR=6.0						
GUMO	**Guam**	**24.37**	**99**	LR	LR	12 06 45.5	
	comp=Z,129nm,18.3s,MS3.5,baz=277,slow=37						
CN2	**Changchun**	**25.07**	**9**	*e*P	P	**11 57 17.0**	**+2.3**
VLA	**Vladivostok**	**25.97**	**20**	*e*P	P	**11 57 25.9**	**+3.0**
VLA				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.0						
PSI	**Prapat**	**26.28**	**235**	LR	LR	12 08 42.0	
	comp=Z,105nm,18.8s,MS3.4,baz=270,slow=38						
ULN	**Ulaanbaatar**	**30.63**	**343**	*e*P	P	**11 58 04.5**	**0.0**
ULN				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.2						
ULN	**Ulaanbaatar**	**30.63**	**343**	*e*P	P	**11 58 04.5**	**0.0**
	comp=Z,4.4nm,1.1s,mb4.2						
SONM	**Songino Array**	**30.80**	**342**	P	P	**11 58 06.1**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.8,baz=160,slow=9.8,SNR=7.0						
SONM				LR	LR	12 10 30.8	
	comp=Z,291nm,20.7s,MS3.9,baz=156,slow=36						
ASAJ	**Asahikawa**	**31.28**	**32**	LR	LR	12 11 09.4	
	comp=Z,121nm,18.1s,MS3.6,baz=44,slow=37						
KLR	**Kul'dur**	**31.52**	**15**	*e*P	P	**11 58 09.6**	**-2.7**
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,800nm,13.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**33.44**	**29**	P	P	**11 58 32.2**	**+3.1**
YSS				*e*	pP	11 58 41.5	+4.0
KAKA	**Kakadu**	**33.83**	**158**	*e*P	P	**11 58 31.2**	**-1.3**
	comp=Z,19nm,0.6s,mb5.2						
ZAK	**Zakamensk**	**34.00**	**341**	*e*P	P	**11 58 34.0**	**0.0**
ZAK				pmax	pmax		
	comp=Z,50nm,2.2s,mb5.1						
FITZ	**Fitzroy Crossi**	**37.33**	**171**	*e*P	P	**11 59 01.8**	**-0.8**
	comp=Z,23nm,1.0s,mb5.0						
FITZ				*e*pP	pP	11 59 09.8	-1.2
FITZ	**Fitzroy Crossi**	**37.33**	**171**	P	P	**11 59 02.5**	**-0.1**
	comp=Z,14nm,1.0s,mb4.7,baz=5.5,slow=8.5,SNR=13						
MBWA	**Marble Bar**	**39.97**	**181**	*e*P	P	**11 59 24.5**	**-0.3**
	comp=Z,12nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**41.19**	**159**	*e*P	P	**11 59 33.6**	**-1.2**
WRAB				*e*PP	pP	11 59 42.2	-1.1
WRAB				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.2						
WRAB	**Tennant Creek**	**41.19**	**159**	*e*P	P	**11 59 33.6**	**-1.2**
	comp=Z,58nm,1.0s,mb5.2						
WRAB				*e*pP	pP	11 59 42.2	-1.1
WRA	**Warramunga Arr**	**41.20**	**159**	P	P	**11 59 34.2**	**-0.7**
	comp=Z,24nm,1.1s,mb4.8,baz=340,slow=9.2,SNR=49						
WRA				PcP	PcP	12 01 34.6	+1.0
	comp=Z,1.1nm,0.6s,baz=338,slow=3.3,SNR=4.8						
WB2	**Warramunga Arr**	**41.20**	**159**	*e*P	P	**11 59 34.2**	**-0.7**
WB2				*e*pP	pP	11 59 42.3	-1.1
MKAR	**Makanchi Array**	**41.47**	**321**	P	P	**11 59 37.7**	**+0.6**
	comp=Z,3.6nm,0.8s,mb4.0,baz=117,slow=9.6,SNR=24						
MKAR	**Makanchi Array**	**41.47**	**321**	P	P	**11 59 37.7**	**+0.6**
POO	**Poona**	**43.69**	**277**	*ex*	x	12 00 02.0	
ZAL	**Zalesovo**	**44.09**	**331**	P	P	**11 59 57.4**	**-1.0**
	comp=Z,1.2nm,0.8s,mb3.7,baz=335,slow=19,SNR=5.7						
AS31	**Alice Springs**	**44.55**	**162**	*e*P	P	**12 00 02.2**	**+0.2**
ASAR	**Alice Springs**	**44.55**	**162**	P	P	**12 00 02.0**	**0.0**
	comp=Z,10nm,0.6s,mb4.9,baz=339,slow=6.4,SNR=98						
ASPA	**Alice Springs**	**44.55**	**162**	*e*P	P	**12 00 02.2**	**+0.2**
KURK	**Kurchatov**	**45.49**	**324**	*e*P	P	**12 00 10.8**	**+1.3**
KURK				*e*PP	pP	12 00 19.3	+1.3
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**45.49**	**324**	*e*P	P	**12 00 10.8**	**+1.3**
	comp=Z,5.1nm,0.6s,mb4.5						
KURK				*e*pP	pP	12 00 19.3	+1.2
BVAR	**Borovoye Array**	**51.09**	**324**	P	P	**12 00 54.3**	**+1.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=112,slow=9.8,SNR=6.0						
BVAR				PcP	PcP	12 02 07.1	-1.1
	comp=Z,0.8nm,0.6s,baz=108,slow=4.7,SNR=2.8						
BRVK	**Borovoye**	**51.16**	**324**	*e*P	P	**12 00 54.0**	**+0.8**
BRVK				*e*PP	pP	12 01 02.7	+0.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**51.16**	**324**	*e*P	P	**12 00 54.0**	**+0.7**
	comp=Z,1.9nm,0.8s,mb4.1						
BRVK				*e*pP	pP	12 01 02.7	+0.8
CHKZ	**Chkalovo**	**51.21**	**325**	*e*P	P	**12 00 54.7**	**+1.1**
CHKZ				*e*PP	pP	12 01 02.2	0.0
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**51.21**	**325**	*e*P	P	**12 00 54.7**	**+1.1**
	comp=Z,2.5nm,0.8s,mb4.2						
CHKZ				*e*pP	pP	12 01 02.2	0.0
ZRNK	**Zerenda**	**51.84**	**323**	*e*P	P	**12 00 58.9**	**+0.6**
ZRNK				*e*PP	pP	12 01 07.0	0.0
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ZRNK	**Zerenda**	**51.84**	**323**	*e*P	P	**12 00 58.9**	**+0.6**
	comp=Z,3.5nm,1.0s,mb4.2						
ZRNK				*e*pP	pP	12 01 07.0	+0.1
TIXI	**Tiksi**	**52.84**	**3**	*e*P	P	**12 01 02.0**	**-3.7**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**54.68**	**158**	*e*P	P	**12 01 17.8**	**-1.4**
	comp=Z,17nm,0.8s,mb5.1						
STKA				*e*pP	pP	12 01 26.1	-1.8
STKA	**Stephens Creek**	**54.68**	**158**	P	P	**12 01 18.0**	**-1.2**
	comp=Z,29nm,1.0s,mb5.3,baz=337,slow=7.6,SNR=32						
STKA	**Stephens Creek**	**54.68**	**158**	*e*P	P	**12 01 17.8**	**-1.4**
STKA				*e*pP	pP	12 01 26.1	-1.8
BILL	**Bilibino**	**56.83**	**19**	*e*P	P	**12 01 35.9**	**+1.3**
BILL				*e*	pP	12 01 44.4	+1.1
BILL				*e*		12 01 50.4	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BILL	**Bilibino**	**56.83**	**19**	*e*P	P	**12 01 34.4**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.7						
BILL				*e*pP	pP	12 01 42.7	-0.6
AKTK	**Aktyubinsk**	**57.81**	**318**	P	P	**12 01 41.5**	**-0.1**
AKTO	**Aktyubinsk**	**57.81**	**318**	P	P	**12 01 41.5**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=89,slow=10,SNR=4.2						
JOF	**Joensuu**	**72.68**	**331**	*e*p	P	**12 03 17.2**	**-0.7**
	comp=Z,10nm,1.0s,mb4.7						
JOF	**Joensuu**	**72.68**	**331**	*e*P	P	**12 03 17.2**	**-0.7**
	comp=Z,10.0nm,1.0s,mb4.7						
ARCES	**ARCESS Array B**	**73.91**	**339**	LR	LR	12 39 05.7	
	comp=Z,81nm,19.3s,MS4.0,baz=90,slow=38						
KAF	**Kangasniemi**	**75.11**	**331**	*e*p	P	**12 03 31.8**	**-0.3**
	comp=Z,8.7nm,1.0s,mb4.6						
KAF	**Kangasniemi**	**75.11**	**331**	*e*P	P	**12 03 31.8**	**-0.3**
KAF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**75.36**	**330**	P	P	**12 03 32.9**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.0,baz=57,slow=7.0,SNR=8.1						
FINES				LR	LR	12 39 44.3	
	comp=Z,95nm,18.8s,MS4.1,baz=340,slow=38						
BRTR	**Keskin Array B**	**75.43**	**307**	LR	LR	12 41 54.8	
	comp=Z,49nm,19.5s,MS3.8,baz=257,slow=40						
AKASG	**Malin Array Be**	**76.04**	**319**	P	P	**12 03 35.9**	**-1.5**
	comp=Z,0.3nm,0.3s,mb3.6,baz=66,slow=5.9,SNR=5.9						
AKASG				LR	LR	12 42 56.4	
	comp=Z,63nm,18.5s,MS4.0,baz=65,slow=40						
DAWY	**Dawson**	**77.54**	**26**	*e*P	P	**12 03 46.1**	**+0.2**
DAWY				*e*pP	pP	12 03 54.8	-0.1
INK	**Inuvik**	**78.33**	**21**	P	P	**12 03 50.2**	**-0.2**
	comp=Z,1.5nm,0.9s,mb3.9,baz=310,slow=3.7,SNR=4.3						
INK	**Inuvik**	**78.33**	**21**	*e*P	P	**12 03 50.3**	**0.0**
INK				*e*PP	pP	12 03 58.4	-1.0
INK				pmax	pmax		
	comp=Z,20nm,0.6s						
INK	**Inuvik**	**78.33**	**21**	*e*P	P	**12 03 50.3**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.1						
INK				*e*pP	pP	12 03 58.4	-0.9
NB2	**NORSAR Subarra**	**82.27**	**332**	P	P	**12 04 10.7**	**-0.8**
	comp=Z,5.2nm,1.0s,mb4.4,ba

*MOS **25** 11:56:22.1±0.7, 1901N×12001E, h33km, mb5.1/18, Error ellipse: s-maj=15.9km s-min=7.7km az=105.6*
*NEIC **25** 11:56:23.4±0.2, 1897N×12009E, mb4.5/19, Error ellipse: s-maj=7.3km s-min=4.2km az=89.0*
*BJI **25** 11:56:26.0, 1929N×11968E, h31km, mB4.8, mb4.4, ML3.6, Ms4.3, Ms2.4.2*

ISC 25 11:56:23.7±0.2, 1898N±003×11998E±004, h32km, h32km±1.3km:pP-P, n117, σ1º01/123, mb4.5/45, MS4.1/5, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.89**	**137**	*eP*	**Pn**	**11 56 39.5**	**-0.5**
PIP				*eS*	**Sn**	**11 56 52.3**	**+0.5**
ABRA	**Dolores**	**1.50**	**152**	*eP*	**Pn**	**11 56 48.4**	**0.0**
ABRA				*eS*	**Sn**	**11 57 07.1**	**+0.3**
APYP	**Conner**	**1.64**	**133**	*eP*	**Pn**	**11 56 50.9**	**+0.6**
APYP				*eS*	**Sn**	**11 57 09.2**	**-1.0**
SGCP	**Mt. Cagua**	**2.09**	**110**	*eP*	**Pn**	**11 56 57.4**	**+0.8**
CVP	**Callao Caves**	**2.16**	**126**	*eP*	**Pn**	**11 56 58.0**	**+0.5**
BOLP	**Bolinao**	**2.58**	**181**	*eP*	**Pn**	**11 57 02.6**	**-0.8**
BCPH	**Baguio City Da**	**2.65**	**167**	*eP*	**Pn**	**11 57 03.9**	**-0.3**
BCPH				*eS*	**Sn**	**11 57 35.5**	**+0.3**
CAUP	**Cauayan**	**2.68**	**139**	*eP*	**Pn**	**11 57 08.0**	**+3.4**
PALP	**Palanan**	**3.01**	**129**	*eP*	**Pn**	**11 57 12.8**	**+3.6**
SCZP	**Santa Cruz**	**3.19**	**181**	*eP*	**Pn**	**11 57 15.4**	**+3.8**
PCPH	**Palayan**	**3.56**	**162⇓**	*eP*	**Pn**	**11 57 18.6**	**+1.8**
BALP	**Baler**	**3.56**	**154**	*eP*	**Pn**	**11 57 18.0**	**+1.2**
LUBP	**Lubang**	**5.22**	**177**	*eP*	**Pn**	**11 57 38.2**	**-1.4**
NACB	**Ninganchiao**	**5.38**	**16**	*ePn*	**Pn**	**11 57 43.6**	**+1.7**
YHNB	**Yeheng**	**5.81**	**13**	*ePn*	**Pn**	**11 57 47.0**	**-0.7**
QZH	**Quanzhou**	**6.07**	**348**	P	**Pn**	**11 57 47.8**	**-3.5**
QZH				S	**Sn**	**11 59 04.5**	**+4.8**
QZH				LR	LR		
	comp=N,1μm,11.2s						
QZH				LR	LR		
	comp=E,2μm,12.7s						
QZH				LR	LR		
	comp=Z,2μm,12.4s						
GZH	**Guangzhou**	**7.42**	**305**	P	**Pn**	**11 58 06.3**	**-3.5**
GZH				SG	Sn	12 00 02.5	+30
GZH				LR	LR		
	comp=N,820nm,10.6s						
GZH				LR	LR		
	comp=E,1μm,11.2s						
GZH				LR	LR		
	comp=Z,2μm,10.6s						
ENPP	**El Nido**	**7.75**	**184**	*eP*	**Pn**	**11 58 14.1**	**-0.1**
QIZ	**Qiongzhong**	**9.59**	**272**	P	**Pn**	**11 58 37.0**	**-2.5**
QIZ				S	**Sn**	**12 00 22.5**	**-3.6**
QIZ				LR	LR		
	comp=N,980nm,14.6s						
QIZ				LR	LR		
	comp=Z,820nm,12.3s						
JOW	**Kunigami**	**10.93**	**43**	Pn	**Pn**	**11 58 56.1**	**-1.8**
	comp=Z,1.3nm,0.3s,baz=148,slow=15,SNR=5.8						
NJ2	**Nanjing**	**13.06**	**356**	*eP*	**Pn**	**11 59 29.5**	**+2.5**
NJ2				AP		11 59 38.0	
NJ2				PP		11 59 41.5	
NJ2				S	**Sn**	**12 01 54.0**	**+2.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				LR	LR		
	comp=N,1μm,11.4s						
NJ2				LR	LR		
	comp=E,2μm,12.6s						
NJ2				LR	LR		
	comp=Z,520nm,12.5s						
KMI	**Kunming**	**17.10**	**294**	P	**Pn**	**12 00 20.5**	**+0.2**
KMI				AP	pP	12 00 28.5	-1.6
CD2	**Chengdu**	**18.88**	**312**	*eP*	**Pn**	**12 00 43.0**	**+0.9**
CD2				AP	pP	12 00 50.8	+1.1
CD2				XP	sP	12 00 55.5	+1.7
CD2				PP		12 00 59.5	
CD2				S	**Sn**	**12 04 09.8**	**-2.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=E,90nm,8.2s						
CD2				LR	LR		
	comp=Z,60nm,7.2s						
KSM	**Kuching**	**19.81**	**210**	*eP*	**Pn**	**12 00 52.7**	**-0.6**
LZH	**Lanzhou**	**22.20**	**323**	*eP*	**P**	**12 01 18.5**	**+1.2**
LZH				AP		12 01 23.5	
LZH				XP	sP	12 01 26.8	-3.0
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.3						
HHC	**Hu-ho-hao-te**	**22.96**	**343**	*eP*	**P**	**12 01 26.0**	**+0.6**
HHC				AP		12 01 31.3	
HHC				XP	sP	12 01 33.8	-4.1
HHC				S	**S**	**12 05 22.3**	**-11**
HHC				XS	sS	12 05 40.0	-8.4
HHC				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,200nm,5.7s						
HHC				LR	LR		
	comp=N,430nm,11.9s,MS4.2						
HHC				LR	LR		
	comp=E,350nm,13.1s,MS4.2						
HHC				LR	LR		
	comp=Z,520nm,11.9s,MS4.2						
SNY	**Shenyang**	**22.98**	**7**	⇑P	**P**	**12 01 29.3**	**+3.7**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
SNY				LR	LR		
	comp=E,500nm,11.6s						
SNY				LR	LR		
	comp=Z,440nm,12.7s,MS4.1						
KULM	**Kulim**	**23.24**	**237**	*eP*	**P**	**12 01 29.1**	**+0.8**
MAT	**Matsushiro**	**23.73**	**39**	P	**P**	**12 01 31.6**	**-1.4**
MAT	**Matsushiro**	**23.73**	**39**	*eP*	**P**	**12 01 32.0**	**-1.0**
MJAR	**Matsushiro Arr**	**23.73**	**39**	P	**P**	**12 01 31.4**	**-1.6**
	comp=Z,1.5nm,0.8s,mb3.5,baz=226,slow=7.9,SNR=7.3						
VLA	**Vladivostok**	**26.09**	**20**	*eP*	**P**	**12 01 57.6**	**+3.1**
VLA				*i*	pP	12 02 05.7	+2.1
VLA				*e*		12 02 10.7	
VLA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.6						
VLA				MLR	MLR		
	comp=Z,300nm,13.3s,MS4.0						
PSI	**Prapat**	**26.13**	**235**	P	**P**	**12 01 55.5**	**+0.7**
	comp=Z,10nm,0.9s,mb4.4,baz=17,slow=9.2,SNR=5.0						
SHL	**Shillong**	**26.78**	**289**	*eP*	**P**	**12 02 02.0**	**+1.3**
SHL				*eS*	S	12 07 16.0	+41
GTA	**Gaotai**	**26.80**	**324**	*eP*	**P**	**12 02 02.0**	**+1.1**
GTA				AP	pP	12 02 07.0	-3.0
GTA				XP	sP	12 02 10.8	-3.1
GTA				PP		12 02 48.8	
GTA				PCP	PcP	12 05 22.3	-0.9
GTA				S	**S**	**12 06 38.5**	**+3.5**
GTA				XS	sS	12 06 49.0	-1.0
GTA				SCP	ScP	12 08 59.0	-2.0
GTA				SCS	ScS	12 12 51.3	-0.4
GTA				AMB	AMB		
	comp=Z,130nm,4.9s						
GTA				LR	LR		
	comp=N,280nm,9.5s						
GTA				LR	LR		
	comp=E,310nm,10.3s						
GTA				LR	LR		
	comp=Z,450nm,9.9s						
ULN	**Ulaanbaatar**	**30.68**	**343**	*eP*	**P**	**12 02 35.9**	**+0.5**
ULN	**Ulaanbaatar**	**30.68**	**343**	*eP*	**P**	**12 02 35.7**	**+0.3**
	comp=Z,3.9nm,1.1s,mb4.2						
ULN				*ep*P	pP	12 02 50.1	+5.5
SONM	**Songino Array**	**30.84**	**342**	P	**P**	**12 02 37.0**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.0,baz=158,slow=9.8,SNR=13						
KLR	**Kul'dur**	**31.64**	**15**	*eP*	**P**	**12 02 43.6**	**-0.2**
YSS	**Yuzh-Sakhalins**	**33.57**	**29**	*eP*	pP	12 03 06.6	-3.4
KAKA	**Kakadu**	**33.80**	**158**	*eP*	**P**	**12 03 01.9**	**-0.9**
	comp=Z,13nm,0.7s,mb5.0						
ZAK	**Zakamensk**	**34.04**	**341**	*eP*	**P**	**12 03 02.8**	**-2.1**
MOY	**Mondy**	**35.88**	**340**	*eP*	sP	12 03 36.4	+2.6
FITZ	**Fitzroy Crossi**	**37.27**	**171**	*eP*	**P**	**12 03 32.5**	**0.0**
	comp=Z,14nm,0.9s,mb4.8						
FITZ				*ep*P	pP	12 03 40.4	-1.4
FITZ	**Fitzroy Crossi**	**37.27**	**171**	P	**P**	**12 03 32.6**	**0.0**
	comp=Z,8.4nm,0.9s,mb4.6,baz=104,slow=23,SNR=8.7						
MBWA	**Marble Bar**	**39.89**	**180**	*eP*	**P**	**12 03 54.2**	**-0.4**
	comp=Z,7.5nm,0.9s,mb4.4						
MBWA				*ep*P	pP	12 04 03.4	-0.5
WRAB	**Tennant Creek**	**41.16**	**159**	*eP*	**P**	**12 04 04.7**	**-0.4**
WRAB	**Tennant Creek**	**41.16**	**159**	*eP*	**P**	**12 04 03.6**	**-1.4**
	comp=Z,48nm,1.0s,mb5.1						
WRAB				*ep*P	pP	12 04 13.5	-0.9
WRAB				*es*P	sP	12 04 18.5	+0.3
WRA	**Warramunga Arr**	**41.16**	**159**	P	**P**	**12 04 05.1**	**0.0**
	comp=Z,11nm,0.9s,mb4.5,baz=340,slow=9.2,SNR=23						
WRA				PcP	PcP	12 06 04.9	+1.0
	comp=Z,2.7nm,0.7s,baz=343,slow=3.8,SNR=7.1						
WB2	**Warramunga Arr**	**41.17**	**159**	*eP*	**P**	**12 04 05.0**	**-0.1**
WB2				*ep*P	pP	12 04 13.4	-1.1
MKAR	**Makanchi Array**	**41.46**	**321**	P	**P**	**12 04 08.8**	**+1.2**
	comp=Z,7.7nm,0.9s,mb4.3,baz=116,slow=8.9,SNR=28						
ZAL	**Zalesovo**	**44.11**	**331**	P	**P**	**12 04 29.7**	**+0.7**
	comp=Z,1.7nm,0.7s,mb3.9,baz=1.1,slow=8.1,SNR=9.0						
AS31	**Alice Springs**	**44.51**	**162**	*eP*	**P**	**12 04 32.4**	**+0.2**
AS31				*ep*P	pP	12 04 42.0	+0.4
ASAR	**Alice Springs**	**44.51**	**162**	P	**P**	**12 04 32.5**	**+0.2**
	comp=Z,8.2nm,0.8s,mb4.6,baz=336,slow=6.7,SNR=25						
ASPA	**Alice Springs**	**44.51**	**162**	*eP*	**P**	**12 04 32.4**	**+0.2**
ASPA				*ep*P	pP	12 04 42.0	+0.4
NVS	**Novosibirsk**	**45.39**	**331**	*eP*	pP	12 04 46.8	-1.8
KURK	**Kurchatov**	**45.49**	**324**	*eP*	**P**	**12 04 40.4**	**+0.4**
KURK				*e**PP	pP	12 04 51.6	+2.2
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**45.49**	**324**	*eP*	**P**	**12 04 40.4**	**+0.5**
	comp=Z,8.5nm,0.8s,mb4.6						
KURK				*ep*P	pP	12 04 51.5	+2.1
KLBR	**Kellerberrin**	**50.32**	**182**	*eP*	**P**	**12 05 17.1**	**-0.3**
	comp=Z,32nm,1.2s,mb5.2						
BVAR	**Borovoye Array**	**51.08**	**324**	P	**P**	**12 05 24.3**	**+1.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=111,slow=11,SNR=3.7						
BVAR				PcP	PcP	12 06 38.8	+0.2
	comp=Z,1.8nm,0.8s,baz=108,slow=4.8,SNR=5.2						
BVAR	**Borovoye Array**	**51.08**	**324**	P	**P**	**12 05 24.3**	**+1.2**
BVAR				PcP	PcP	12 06 38.8	+0.2
BRVK	**Borovoye**	**51.16**	**324**	*eP*	**P**	**12 05 24.1**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
BRVK	**Borovoye**	**51.16**	**324**	*eP*	**P**	**12 05 24.1**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**51.21**	**325**	*eP*	**P**	**12 05 24.5**	**+0.4**
CHKZ				*e**PP	pP	12 05 35.8	+2.2
CHKZ				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**51.21**	**325**	*eP*	**P**	**12 05 24.5**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.1						
CHKZ				*ep*P	pP	12 05 35.8	+2.2
ZRNK	**Zerenda**	**51.84**	**323**	*eP*	**P**	**12 05 29.1**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
ZRNK	**Zerenda**	**51.84**	**323**	*eP*	**P**	**12 05 29.1**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.1						
TIXI	**Tiksi**	**52.93**	**4**	*eP*	**P**	**12 05 35.8**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**54.65**	**157**	*eP*	**P**	**12 05 48.5**	**-1.0**
	comp=Z,8.8nm,0.8s,mb4.8						
STKA				*ep*P	pP	12 05 57.2	-1.9
STKA	**Stephens Creek**	**54.65**	**157**	P	**P**	**12 05 48.4**	**-1.1**
	comp=Z,13nm,0.8s,mb5.0,baz=342,slow=7.5,SNR=16						
STKA	**Stephens Creek**	**54.65**	**157**	*eP*	**P**	**12 05 48.3**	**-1.1**
STKA				*ep*P	pP	12 05 57.3	-1.7
BILL	**Bilibino**	**56.94**	**19⇑**	*eP*	**P**	**12 06 06.0**	**+0.1**
BILL				*e*	pP	12 06 14.4	-1.2
BILL				*e*		12 06 21.5	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BILL				MLR	MLR		
	comp=Z,100nm,10.0s,MS4.2						
BILL	**Bilibino**	**56.94**	**19**	*eP*	**P**	**12 06 05.3**	**-0.6**
	comp=Z,5.6nm,0.8s,mb4.7						
BILL				*ep*P	pP	12 06 14.3	-1.2
AKTK	**Aktyubinsk**	**57.79**	**318**	P	**P**	**12 06 12.0**	**+0.1**
AKTO	**Aktyubinsk**	**57.79**	**318**	P	**P**	**12 06 12.0**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=81,slow=9.2,SNR=4.9						
ARU	**Arti**	**58.65**	**325**	*eP*	**P**	**12 06 17.9**	**0.0**
ARU				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.7						
TOO	**Toolangi**	**61.16**	**157**	*eP*	**P**	**12 06 37.3**	**+2.1**
	comp=Z,8.9nm,0.8s,mb5.0						
TOO				*ep*P	pP	12 06 46.0	+1.1
TOO	**Toolangi**	**61.16**	**157**	*eP*	**P**	**12 06 37.3**	**+2.1**
TOO				*e**PP	pP	12 06 46.0	+1.1
TOO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
GNI	**Garni**	**66.89**	**306**	*eP*	**P**	**12 07 14.0**	**+1.2**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KLMR	**Klimovskoe**	**68.98**	**329**	*eP*	**P**	**12 07 25.7**	**-0.2**
KLMR				*es*	S	12 16 25.7	-2.8
OBN	**Obninsk**	**70.92**	**323**	P	**P**	**12 07 37.0**	**-0.8**
OBN				*e*	pP	12 07 47.0	-0.7
OBN				*e*		12 08 05.5	
OBN				pmax	pmax		
	comp=Z,27nm,1.7s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
JOF	**Joensuu**	**72.69**	**331**	*ep*	**P**	**12 07 47.8**	**-0.7**
	comp=Z,15nm,0.9s,mb4.9						
JOF	**Joensuu**	**72.69**	**331**	*eP*	**P**	**12 07 47.8**	**-0.7**
JOF				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
MCK	**McKinley**	**73.65**	**28**	*eP*	**P**	**12 07 53.3**	**-0.8**
MCK				*e**PP	pP	12 08 03.0	-1.0
MCK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
MCK	**McKinley**	**73.65**	**28**	*eP*	**P**	**12 07 53.3**	**-0.8**
	comp=Z,3.2nm,0.9s,mb4.2						
MCK				*ep*P	pP	12 08 03.0	-1.0
COLA	**College**	**73.92**	**26**	*eP*	**P**	**12 07 55.1**	**-0.6**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
COLA	**College**	**73.92**	**26**	*eP*	**P**	**12 07 55.1**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.1						
ARCES	**ARCESS Array B**	**73.94**	**339**	P	**P**	**12 07 55.7**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=104,slow=5.1,SNR=4.1						
KAF	**Kangasniemi**	**75.12**	**331**	*ep*	**P**	**12 08 02.1**	**-0.6**
	comp=Z,7.0nm,1.0s,mb4.5						
KAF	**Kangasniemi**	**75.12**	**331**	*eP*	**P**	**12 08 02.1**	**-0.6**
KAF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
FINES	**FINESS Array B**	**75.37**	**330**	P	**P**	**12 08 04.0**	**-0.2**
	comp=Z,2.9nm,0.8s,mb4.2,baz=105,slow=4.3,SNR=10						
FINES	**FINESS Array B**	**75.37**	**330**	*i* P	**P**	**12 08 04.0**	**-0.1**
FINES				pmax	pmax		
	comp=Z,30nm,0.8s						
AKASG	**Malin Array Be**	**76.02**	**319**	P	**P**	**12 08 06.8**	**-1.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=64,slow=5.6,SNR=5.7						
AKASG	**Malin Array Be**	**76.02**	**319**	*i* P	**P**	**12 08 07.8**	**0.0**
AKASG				pmax	pmax		
	comp=Z,30nm,0.3s						
MENT	**Mentasta**	**76.12**	**28**	*eP*	**P**	**12 08 07.5**	**-0.9**
DAWY	**Dawson**	**77.67**	**26**	*eP*	**P**	**12 08 16.8**	**-0.4**
DAWY				*ep*P	pP	12 08 26.1	-1.0
INK	**Inuvik**	**78.45**	**21**	P	**P**	**12 08 20.9**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=266,slow=9.5,SNR=4.1						
INK	**Inuvik**	**78.45**	**21**	*eP*	**P**	**12 08 20.8**	**-0.7**
INK				*e**PP	pP	12 08 29.9	-1.5
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**78.45**	**21**	*eP*	**P**	**12 08 20.8**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.1						
INK				*ep*P	pP	12 08 29.9	-1.6
NB2	**NORSAR Subarra**	**82.29**	**332**	P	**P**	**12 08 41.3**	**-0.8**
	comp=Z,4.2nm,0.9s,mb4.4,baz=63,slow=5.3						
NB2	**NORSAR Subarra**	**82.29**	**332**	P	**P**	**12 08 41.3**	**-0.8**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**82.29**	**332**	P	**P**	**12 08 41.2**	**-0.9**
	comp=Z,2.6nm,0.8s,mb4.2,baz=64,slow=5.2,SNR=9.6						
NOA	**NORSAR Array B**	**82.29**	**332**	P	**P**	**12 08 41.2**	**-0.9**
RES	**Resolute Bay**	**83.95**	**9**	*eP*	**P**	**12 08 50.0**	**-0.7**
RES				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
RES	**Resolute Bay**	**83.95**	**9**	*eP*	**P**	**12 08 50.0**	**-0.7**
	comp=Z,4.3nm,1.1s,mb4.5						
BRG	**Berggiesshubel**	**85.16**	**322**	*eP*	**P**	**12 08 57.2**	**+0.4**
BRG				*e*	pP	12 09 06.6	-0.2
BRG				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
BRG	**Berggiesshubel**	**85.16**	**322**	P	**P**	**12 08 57.2**	**+0.5**
	comp=Z,2.3nm,1.0s,mb4.3						
BRG				*e*	pP	12 09 06.6	-0.2
CLL	**Collm**	**85.51**	**323**	*eP*	**P**	**12 08 59.0**	**+0.4**
CLL				*i* pP	pP	12 09 06.4	-2.2
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**85.51**	**323**	*i* P	pP	12 09 06.4	-2.2
GERES	**GERESS Array B**	**86.13**	**321**	P	**P**	**12 09 01.9**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.9,baz=79,slow=6.9,SNR=5.4						
YKA	**Yellowknife Ar**	**88.19**	**22**	P	**P**	**12 09 11.5**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.3,baz=320,slow=4.2,SNR=4.4						
YKA	**Yellowknife Ar**	**88.19**	**22**	*i* P	**P**	**12 09 11.0**	**-0.6**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPG	**La Plagne**	**91.87**	**320**	*eP*	**P**	**12 09 29.2**	**+0.4**
	comp=Z,11nm,0.9s,mb4.9						
LPL	**La Plagne**	**91.88**	**320**	*eP*	**P**	**12 09 29.1**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9						
LOR	**Lormes**	**92.69**	**322**	*eP*	**P**	**12 09 31.5**	**-1.1**
ORIF	**Oris-en-Rattie**	**92.70**	**320**	*eP*	**P**	**12 09 32.6**	**0.0**
	comp=Z,14nm,1.3s,mb4.9						
AVF	**Avril sur Loir**	**93.24**	**322**	*eP*	**P**	**12 09 34.4**	**-0.7**

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*NEIC **25** 12:17:12.4, 1673N×9958W, h10km, MD3.8(MEX), After MEX.*

MEX 25 12:17:11.5±1.0, 1674N×9955W, h6km±10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.38**	**290**	*i* P	Pg	12 17 18.5	-0.2
ACX				*i* S	Sg	12 17 23.5	-0.1
CAIG	**El Cayaco**	**0.75**	**294**	*i* P	Pg	12 17 25.0	-0.9
CAIG				*i* S	Sg	12 17 34.6	-1.1
CAIG	**El Cayaco**	**0.75**	**294**	*i* P	Pg	12 17 25.1	-0.8
CAIG				*i* S	Sg	12 17 35.8	0.0
MEIG	**Mezcala**	**1.18**	**357**	*i* P	Pg	12 17 31.0	-3.2
MEIG				*i* S	Sg	12 17 46.0	-3.6
PLIG	**Platanillo**	**1.65**	**2**	*i* P	Pn	12 17 38.7	-2.3
PLIG				*i* S	Sn	12 17 57.3	-5.2
UTMO	**Huajuapan**	**1.99**	**57**	*eP*	Pn	12 17 41.5	-4.2
UTMO				*i* S	Sn	12 18 04.9	-6.1
OXX	**Oaxaca**	**2.73**	**82**	*eP*	Pn	12 17 54.0	-1.9

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*NIED **25** 12:33:00, 4400N×14680E, h86km, Mw4.4 Best double couple: M0=4.05000×10^15 NP1:φs=343.00000°, δ=87.00000°, λ=-45.00000°. NP2:φs=77.00000°, δ=45.00000°, λ=-175.00000°.*
*SZGRF **25** 12:33:05.4, 4335N×14685E, h33km, mb4.3, Kuril Islands, Russia*
*BJI **25** 12:33:11.9, 4419N×14670E, h90km, mB5.0, mb4.8*
*MOS **25** 12:33:12.3±1.0, 4405N×14671E, h86km, mb4.3/21, Error ellipse: s-maj=9.1km s-min=6.3km az=81.5*
MOS Felt (II-III) at Yuzhno-Kuril'sk.
*NEIC **25** 12:33:13.8±0.2, 4411N×14658E, mb4.3/30, Error ellipse: s-maj=6.3km s-min=4.0km az=145.0*
NEIC Felt [III] at Yuzhno-Kuril'sk, Kunashir. Recorded [2 JMA] in eastern Hokkaido and [1 JMA] in the Ombetsu area.
*ISCJB **25** 12:33:13.8±0.3, 4413N±003×14664E±003, h93km±3km, mb4.3/61, Error ellipse: s-maj=6.0km s-min=3.6km az=133.2*
*JMA **25** 12:33:14.2±0.2, 4399N×14680E, h79km±3km, M4.8*
JMA Felt II J1.
*SKHL **25** 12:33:14.5±0.2, 4410N×14680E, h80km±13km, mb6.0/3, mbv5.4/1, msha6.7/2*
*IDC **25** 12:33:15.8±1.8, 4412N×14660E, h102km±16km, mb3.9/22, mb1 4.0/25, mb1mx4.0/27, mbtmp4.3/25, MS2.9/4, Ms1 2.9/4, ms1mx2.6/27, Error ellipse: s-maj=13.2km s-min=11.3km az=117.0*

ISC 25 12:33:15.0±0.3, 4414N±004×14659E±004, h91km±3km, h82km±1.8km:pP-P, n245, σ0º89/269, mb4.3/61, 51C-40D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.54**	**259**	*i* P	**Pn**	**12 33 29.0**	**-1.1**
YUK				*i* P		12 33 29.4	
YUK				AMB	AMB	12 33 29.9	
	2μm,0.2s						
YUK				AMB	AMB	12 33 29.9	
	5μm,0.2s						
YUK				AMB	AMB	12 33 29.9	
	29μm,0.2s						
YUK				*i* S	**Sn**	**12 33 40.0**	**-1.3**
YUK				A		12 33 41.4	
	113μm,0.4s						
YUK				A		12 33 41.4	
	55μm,1.0s						
YUK				A		12 33 43.0	
	33μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.54**	**259⇑**	*i* PN	**Pn**	**12 33 29.0**	**-1.1**
YUK				*i* S	**Sn**	**12 33 40.0**	**-1.3**
YUK				pmax	pmax		
	comp=N,2μm,0.3s						
YUK				pmax	pmax		
	comp=E,5μm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				smax			
	comp=N,55μm,0.8s						
YUK				smax			
	comp=E,113μm,0.4s						
YUK				smax			
	comp=E,33μm,0.5s						
NEM2	**Nemuro 2**	**0.99**	**219**	⇑P	**Pn**	**12 33 33.2**	**-1.4**
NEM2				*es*	**Sn**	**12 33 47.0**	**-2.3**
JRA	**Rausu**	**1.08**	**260**	⇑P	**Pn**	**12 33 36.1**	**+0.4**
JRA				*es*	**Sn**	**12 33 52.2**	**+1.0**
KUR	**Kuril'sk**	**1.42**	**39**	*i* P	**Pn**	**12 33 37.0**	**-2.8**
KUR				*i* P		12 33 37.0	
KUR				AMB	AMB	12 33 37.4	
	comp=E,2μm,1.4s						
KUR				AMB	AMB	12 33 38.0	
	comp=E,300nm,0.4s						
KUR				AMB	AMB	12 33 38.0	
	comp=E,520nm,0.4s						
KUR				AMB	AMB	12 33 38.0	
	comp=E,1μm,0.4s						
KUR				*i* S	**Sn**	**12 33 56.0**	**-2.5**
KUR		

ASAJ S **Sn** **12 34 34.5 +1.9**
comp=E,47nm,0.3s,baz=174,slow=18,SNR=4.7
ASAJ LR LR 12 35 26.0
comp=E,302nm,18.5s,baz=109,slow=45
ASAJ Asahikawa 2.88 271 ⇓P **Pn** **12 34 00.8 +1.9**
ASAJ Asahikawa 2.88 271 PN **Pn** **12 34 00.9 +2.0**
ASAJ S **Sn** **12 34 34.6 +1.9**
ASAJ pmax pmax
comp=Z,86nm,0.3s
ASAJ smax
comp=N,47nm,0.3s
ASAJ MLR MLR
comp=Z,3μm,18.5s
JSE Soyaes 2.98 287 ⇓P **Pn** **12 34 01.9 +1.6**
JFR Furan 3.06 253 ⇓P **Pn** **12 34 03.1 +1.7**
JFR *e*S **Sn** **12 34 40.9 +3.8**
YSS Yuzh-Sakhalins 3.90 318⇑*e*PN **Pn** **12 34 13.8 +1.1**
YSS *i* S **Sn** **12 34 57.8 +0.5**
YSS pmax pmax
comp=N,20nm,0.7s
YSS pmax pmax
comp=Z,50nm,0.7s
YSS pmax pmax
comp=E,30nm,0.6s
YSS smax
comp=E,110nm,0.8s
YSS Yuzh-Sakhalins 3.90 318 *e*P **Pn** **12 34 14.3 +1.7**
TEY Ternei 7.19 281 *e*P **Pn** **12 34 57.0 -0.4**
SKR Severo-Kuril's 9.19 41 *e*P **Pn** **12 35 21.0 -3.7**
SKR AMB AMB 12 35 25.0
comp=E,160nm,0.7s
SKR AMB AMB 12 35 25.0
comp=E,150nm,0.7s
SKR A 12 37 24.5
comp=E,60nm,0.5s
SKR A 12 37 24.5
comp=E,40nm,0.5s
MAJO Matsushiro 9.92 223 *e*PN **Pn** **12 35 32.6 -2.0**
MAJO pmax pmax
comp=Z,12nm,0.4s
MAJO Matsushiro 9.92 223 *e*P **Pn** **12 35 32.6 -2.0**
comp=Z,12nm,0.4s
MAT Matsushiro 9.92 223 P **Pn** **12 35 32.9 -1.7**
MAT S **Sn** **12 37 27.5 +3.4**
MAT Matsushiro 9.92 223 *e*PN **Pn** **12 35 33.0 -1.6**
MAT pmax pmax
comp=Z,10.0nm,1.1s
MAT Matsushiro 9.92 223 *e*P **Pn** **12 35 33.0 -1.6**
comp=Z,10nm,1.1s
MAT *e*S **Sn** **12 37 35.0 +11**
MJAR Matsushiro Arr 9.92 223 P **Pn** **12 35 33.3 -1.3**
comp=Z,1.8nm,0.3s,baz=26,slow=14,SNR=20
MJAR S **Sn** **12 37 19.2 -4.9**
comp=Z,0.5nm,0.3s,baz=59,slow=28,SNR=2.5
MJAR LR LR 12 39 45.0
comp=Z,69nm,19.8s,baz=45,slow=39
MJAR Matsushiro Arr 9.92 223 P **Pn** **12 35 33.3 -1.3**
MJAR S **Sn** **12 37 19.2 -4.9**
MJAR LR LR 12 39 45.0
VLA Vladivostok 10.71 270 *e*PN **Pn** **12 35 45.3 0.0**
VLA *e*S **Sn** **12 37 50.5 +7.2**
VLA pmax pmax
comp=Z,45nm,1.2s
KLR Kul'dur 11.39 302 *e*PN **Pn** **12 35 54.8 +0.2**
KLR pmax pmax
comp=E,43nm,1.2s
KLR pmax pmax
comp=Z,34nm,1.2s
PET Petropavlovsk 11.94 38 *e*PN **Pn** **12 35 59.9 -2.1**
PET pmax pmax
comp=Z,28nm,0.4s
PET MLR MLR
comp=Z,1μm,21.0s
PET Petropavlovsk 11.94 38 *e*P **Pn** **12 36 00.1 -2.0**
MDJ Mudanjiang 12.18 278 P **Pn** **12 36 03.5 -1.8**
MDJ S **Sn** **12 38 15.0 -4.0**
MDJ PCP PcP 12 41 43.8 +2.7
MDJ SCP ScP 12 45 09.3 +3.4
MDJ PCS PcS 12 45 15.8 +0.5
MDJ AMB AMB
comp=Z,20nm,0.7s
MDJ AMB AMB
comp=Z,100nm,5.1s
JHJ Hachijo jima 2 12.22 208 P **Pn** **12 36 01.4 -4.3**
comp=Z,6.9nm,0.3s,baz=90,slow=20,SNR=3.5
JHJ S **Sn** **12 38 09.8 -10**
comp=Z,24nm,0.3s,baz=52,slow=19,SNR=6.6
JHJ LR LR 12 40 54.6
comp=Z,33nm,21.9s,baz=346,slow=38
EKMR Ekimchan 12.68 320 *e*P **Pn** **12 36 10.1 -1.9**
EKMR AMB AMB 12 36 11.9
comp=Z,23nm,0.7s
CN2 Changchun 15.23 276 *e*P **Pn** **12 36 43.5 -1.5**
CN2 *e*XP sP 12 37 10.0 -6.6
CN2 *e*S **S** **12 39 28.0 -16**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
KS15 Wonju Array Si 15.65 251 P **Pn** **12 36 45.0 -5.4**
MA2 Magadan 15.67 8 *e*P **Pn** **12 36 50.8 +0.3**
MA2 pmax pmax
comp=Z,18nm,0.5s
MA2 Magadan 15.67 8 *e*P **Pn** **12 36 50.8 +0.2**
comp=Z,18nm,0.5s
ZEA Zeya 15.88 314 *e*P **Pn** **12 36 51.1 -2.1**
ZEA AMB AMB 12 36 52.2
comp=Z,21nm,1.2s
CBIJ Chichi jima 17.38 193 P **Pn** **12 37 11.6 -0.1**
comp=Z,2.1nm,0.3s,baz=90,slow=20,SNR=5.2
CBIJ S **S** **12 40 11.7 -14**
comp=Z,2.0nm,0.3s,baz=108,slow=19,SNR=3.9
DL2 Dalian 19.38 263 P **Pn** **12 37 35.3 -0.3**
DL2 AMB AMB
comp=Z,20nm,0.7s
SMY Shemya 20.07 55 *e*P **P** **12 37 41.5 +0.4**
JOW Kunigami 22.73 227 P **P** **12 38 09.3 -0.1**
comp=Z,5.8nm,0.5s,mb4.1,baz=19,slow=1.0,SNR=5.2
SSE Sheshan 23.86 246 P **P** **12 38 16.0 -3.9**
SSE AP 12 38 33.8
SSE S **S** **12 42 26.0 -3.3**
SSE XS sS 12 42 57.3 -7.0
SSE AMB AMB
comp=Z,30nm,0.7s,mb4.7
SSE AMB AMB
comp=Z,60nm,3.8s
SSE LR LR
comp=N,50nm,3.8s
SSE LR LR
comp=E,30nm,3.8s
SSE LR LR
comp=Z,80nm,7.1s
BILL Bilibino 26.10 17 P **P** **12 38 40.0 -0.3**
BILL 12 39 20.0
BILL MLR MLR
comp=Z,100nm,10.0s
ULN Ulaanbaatar 27.51 292 *e*P **P** **12 38 54.2 +1.3**
SONM Songino Array 27.95 292 P **P** **12 38 57.8 +1.0**
comp=Z,1.2nm,0.5s,mb3.7,baz=81,slow=8.6,SNR=9.1
SONM LR LR 12 50 49.6
comp=Z,34nm,19.0s,baz=297,slow=38
WHN Wuhan 28.80 253 *e*P **P** **12 39 04.5 +0.1**
ZAK Zakamensk 29.71 298 *e*P **P** **12 39 15.4 +2.9**
ZAK pmax pmax
comp=Z,4.0nm,1.9s,mb3.7
LZH Lanzhou 33.36 271 *e*P **P** **12 39 44.5 0.0**
LZH AP pP 12 40 02.5 -2.7
LZH XP sP 12 40 11.5 -4.2
LZH PP PP 12 40 58.0 -3.5
LZH AMB AMB
comp=Z,20nm,1.4s,mb4.8
GTA Gaotai 34.84 279 *e*P **P** **12 39 59.5 +2.3**
CD2 Chengdu 36.05 263 *e*P **P** **12 40 05.0 -2.6**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA Guiyang 36.63 255 *e*P **P** **12 40 12.3 -0.3**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
TTA Tatalina 37.38 39 *e*P **P** **12 40 18.4 -0.6**
TTA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TTA Tatalina 37.38 39 *e*P **P** **12 40 18.4 -0.6**
comp=Z,10.0nm,0.8s,mb4.8
SVW2 Sparrevohn 37.55 42 *e*P **P** **12 40 20.0 -0.3**
KDAK Kodiak Island 39.28 48 P **P** **12 40 33.8 -1.1**
comp=Z,9.1nm,0.4s,mb5.0,baz=297,slow=1.6,SNR=14
KMI Kunming 40.21 257 P **P** **12 40 43.3 +0.7**
KMI AP pP 12 41 03.0 -0.8
KMI XP sP 12 41 12.0 -2.2
KMI S **S** **12 46 41.0 -1.8**
KMI XS sS 12 47 18.5 -0.9
KMI SS SS 12 49 34.8 -9.4
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
KMI AMB AMB
comp=Z,120nm,5.1s
KMI LR LR
comp=Z,40nm,15.6s
MCK McKinley 40.58 38 *e*P **P** **12 40 44.6 -1.0**
MCK pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
MCK McKinley 40.58 38 *e*P **P** **12 40 44.6 -0.9**
comp=Z,6.6nm,1.2s,mb4.3
COLA College 41.00 36 *e*P **P** **12 40 48.2 -0.8**
COLA pmax pmax
comp=Z,16nm,0.8s,mb4.9
COLA College 41.00 36 *e*P **P** **12 40 48.1 -0.9**
comp=Z,16nm,0.8s,mb4.9
WMQ Urumqi 41.58 291 *e*P **P** **12 40 53.5 -0.3**
WMQ AMB AMB
comp=Z,120nm,5.0s
MKAR Makanchi Array 44.05 297 P **P** **12 41 12.9 -0.9**
comp=Z,1.2nm,0.6s,mb3.8,baz=80,slow=9.0,SNR=11
DAWY Dawson 44.73 37 *e*P **P** **12 41 18.6 -0.6**
KURK Kurchatov 44.98 304 *e*P **P** **12 41 22.2 +1.0**
INK Inuvik 46.27 30 P **P** **12 41 30.0 -1.3**
comp=Z,4.0nm,0.4s,mb4.5,baz=303,slow=7.1,SNR=41
INK Inuvik 46.27 30 P **P** **12 41 30.0 -1.3**
INK pmax pmax
comp=Z,4.0nm,0.4s
INK Inuvik 46.27 30 *e*P **P** **12 41 29.9 -1.5**
comp=Z,4.4nm,0.4s,mb4.5
CHKZ Chkalovo 48.58 310 *e*P **P** **12 41 48.0 -1.2**
BVAR Borovoye Array 48.95 309 P **P** **12 41 51.7 -0.4**
comp=Z,0.5nm,0.3s,mb3.9,baz=79,slow=9.1,SNR=4.9
BVAR PcP PcP 12 43 14.9 -0.1
comp=Z,0.6nm,0.4s,baz=51,slow=5.9,SNR=3.6
ZRNK Zerenda 49.75 309 *e*P **P** **12 41 56.1 -2.0**
ZRNK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ZRNK Zerenda 49.75 309 *e*P **P** **12 41 56.1 -2.0**
comp=Z,1.2nm,0.5s,mb4.1
JIRN Jiri 50.52 272 *e*P **P** **12 42 04.1 +0.2**
comp=Z,18nm,0.6s,mb5.3
GUN Gumba 50.59 273 *e*P **P** **12 42 05.0 +0.5**
comp=Z,19nm,0.4s,mb5.5
DLBC Dease Lake 50.66 42 P **P** **12 42 06.0 +1.0**
comp=Z,2.7nm,0.7s,mb4.4,baz=314,slow=4.7,SNR=7.2
KKN Kakani 51.09 273 *e*P **P** **12 42 08.2 -0.1**
comp=Z,21nm,0.7s,mb5.3
PKI Pulchoki 51.13 273 *e*P **P** **12 42 08.2 -0.3**
DMN Daman 51.33 273 *e*P **P** **12 42 10.0 0.0**
comp=Z,16nm,0.6s,mb5.2
GKN Gorkha 51.43 274 *e*P **P** **12 42 10.5 -0.3**
comp=Z,12nm,0.5s,mb5.2
KOLN Koldanda 52.31 274 *e*P **P** **12 42 17.4 +0.1**
comp=Z,31nm,0.8s,mb5.4
RES Resolute Bay 54.71 17 *e*P **P** **12 42 32.1 -2.8**
RES pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
RES Resolute Bay 54.71 17 *e*P **P** **12 42 32.1 -2.8**
comp=Z,3.2nm,0.7s,mb4.5
YKA Yellowknife Ar 55.70 34 P **P** **12 42 41.1 -0.9**
comp=Z,4.6nm,0.9s,mb4.5,baz=301,slow=7.8,SNR=9.7
NDI New Delhi 56.35 279 *ex* x 12 42 45.0
AKTK Aktyubinsk 56.98 310 P **P** **12 42 50.5 -0.6**
AKTO Aktyubinsk 56.98 310 P **P** **12 42 50.5 -0.6**
comp=Z,1.8nm,0.6s,mb4.3,baz=65,slow=6.4,SNR=10
AKTO Aktyubinsk 56.98 310 P **P** **12 42 50.5 -0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ARCES ARCESS Array B 58.74 339 P **P** **12 43 02.6 -0.8**
comp=Z,3.1nm,0.9s,mb4.3,baz=65,slow=6.4,SNR=4.4
EDM Edmonton 61.39 42 *e*P **P** **12 43 20.9 -0.6**
EDM *e*PP pP 12 43 42.5 -1.7
H04A Detroit Lake 61.62 54 ⇑P **P** **12 43 23.1 +0.1**
baz=61
YBH Yreka Blue Hor 63.02 57 ⇑P **P** **12 43 33.2 +0.8**
baz=63
M02C Callahan 63.14 58 ⇑P **P** **12 43 33.8 +0.7**
baz=63
I06A Prineville 63.20 54 ⇓P **P** **12 43 34.5 +1.0**
baz=63
M04C Macdoel 63.52 57 ⇑P **P** **12 43 36.2 +0.5**
baz=63
J06A Christmas Vall 63.65 54 ⇓P **P** **12 43 36.8 +0.3**
baz=63
M03C McCloud 63.65 57 ⇑P **P** **12 43 36.9 +0.3**
baz=64
K06A Valley Falls 63.86 55 ⇓P **P** **12 43 38.5 +0.6**
baz=64
O02C Red Bluff 63.89 59 ⇓P **P** **12 43 38.9 +0.8**
baz=64
L05A Lakeview 63.96 56 ⇓P **P** **12 43 39.0 +0.4**
baz=64
M05C Lookout 64.18 57 ⇓P **P** **12 43 40.6 +0.6**
baz=64
BMO Blue Mountains 64.32 52 *e*P **P** **12 43 41.1 +0.2**
comp=Z,6.2nm,1.4s,mb4.2
HATC Hat Creek Radi 64.32 57 ⇓P **P** **12 43 41.2 +0.3**
baz=64
FINES FINESS Array B 64.35 333 P **P** **12 43 39.7 -1.4**
comp=Z,1.2nm,0.5s,mb4.0,baz=47,slow=6.0,SNR=15
FINES FINESS Array B 64.35 333 *i* P **P** **12 43 39.7 -1.4**
FINES pmax pmax
comp=Z,1.0nm,0.5s
K07A Rock Creek Ran 64.51 55 ⇑P **P** **12 43 42.7 +0.6**
baz=64,SNR=5.2
M06C Likely Place G 64.68 56 ⇓P **P** **12 43 43.6 +0.3**
baz=64
WRAB Tennant Creek 64.73 193 *e*P **P** **12 43 39.1 -4.5**
WRAB pmax pmax
comp=Z,4.0nm,0.3s,mb4.7
WRAB Tennant Creek 64.73 193 *e*P **P** **12 43 39.0 -4.6**
comp=Z,4.1nm,0.3s,mb4.7
WRA Warramunga Arr 64.75 193 P **P** **12 43 42.8 -0.9**
comp=Z,2.8nm,0.7s,mb4.2,baz=11,slow=6.8,SNR=15
O04C Chester 64.85 58 ⇓P **P** **12 43 44.9 +0.5**
baz=65,SNR=5.0
L07A Adell 64.86 55 ⇑P **P** **12 43 45.2 +0.8**
baz=65
MSO Missoula 64.96 48 *e*P **P** **12 43 45.3 +0.2**
comp=Z,3.7nm,1.0s,mb4.2
WVOR Wild Horse Val 65.03 54 *e*P **P** **12 43 46.0 +0.5**
WVOR pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
WVOR Wild Horse Val 65.03 54 *e*P **P** **12 43 46.0 +0.5**
comp=Z,1.1nm,0.6s,mb3.9
ORV Oroville 65.06 58 ⇑P **P** **12 43 45.3 -0.4**
baz=65
O05C Quincy 65.17 58 ⇓P **P** **12 43 46.5 0.0**
baz=65
FARB Farallon Islan 65.26 61 ⇓P **P** **12 43 48.0 +0.9**
baz=65
Q03C Winters 65.31 60 ⇓P **P** **12 43 48.2 +0.8**
baz=65
L08A Fields 65.35 55 ⇑P **P** **12 43 47.8 +0.2**
baz=65
M07A Soldier Meadow 65.35 56 ⇓P **P** **12 43 48.1 +0.5**
baz=65,SNR=8.8
FFC Flin Flon 65.63 36 *e*P **P** **12 43 48.6 -0.8**
FFC pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
FFC Flin Flon 65.63 36 *e*P **P** **12 43 48.6 -0.8**
comp=Z,4.0nm,1.0s,mb4.2
O06A Flanigan 65.71 57 ⇑P **P** **12 43 49.9 0.0**
baz=66
P05C Yuba Gap, Truc 65.76 58 ⇑P **P** **12 43 50.3 +0.1**
baz=66
L09A Wilkinson Ranc 65.85 54 ⇑P **P** **12 43 51.3 +0.5**
baz=66
LAVA Lava Cap Winer 66.02 59 ⇓P **P** **12 43 52.0 +0.1**
baz=66
WENL Wente Brothers 66.08 60 ⇑P **P** **12 43 53.0 +0.6**
baz=66
HRY Holter Researc 66.16 47 *e*P **P** **12 43 52.9 +0.1**
O07A Toulon 66.28 57 ⇑P **P** **12 43 54.1 +0.5**
baz=66,SNR=7.8
WCN Washoe City 66.28 58 ⇑P **P** **12 43 53.9 +0.3**
baz=66,SNR=5.8
N08A GE Springer Mi 66.34 56 ⇓P **P** **12 43 54.4 +0.5**
baz=66
M09A Marrel Ranch, 66.35 55 ⇑P **P** **12 43 54.3 +0.3**
baz=66
R05C Kirkwood Meado 66.46 58 ⇑P **P** **12 43 54.8 +0.1**
baz=66
DLMT Dillon 66.61 49 *e*P **P** **12 43 56.1 +0.4**
comp=Z,6.0nm,1.2s,mb4.3
CMB Columbia Colle 66.68 59 *e*P **P** **12 43 56.1 0.0**
CMB pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
CMB Columbia Colle 66.68 59 *e*P **P** **12 43 56.1 0.0**
comp=Z,3.0nm,0.7s,mb4.2
CMB Columbia Colle 66.68 59 ⇑P **P** **12 43 56.1 0.0**
baz=66,SNR=6.1
HLID Hailey 66.75 51 *e*P **P** **12 43 56.9 +0.3**
comp=Z,1.4nm,0.9s,mb3.8
PACP Pacheco Peak 66.76 61 ⇓P **P** **12 43 56.7 +0.1**
baz=67
M10A I.L. Ranch, Tu 66.82 54 ⇑P **P** **12 43 57.2 +0.2**
baz=67
BOZ Bozeman (W) 66.95 48 *e*P **P** **12 43 58.2 +0.3**
BOZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
BOZ Bozeman (W) 66.95 48 *e*P **P** **12 43 58.2 +0.4**
comp=Z,3.1nm,0.6s,mb4.3
HAST Hastings Reser 66.98 61 ⇓P **P** **12 43 58.0 0.0**
baz=67
O09A Fish Creek Ran 67.28 56 ⇑P **P** **12 44 00.5 +0.5**
baz=67,SNR=5.8
M11A Holland Ranch, 67.31 54 ⇓P **P** **12 44 00.7 +0.6**
baz=67,SNR=6.5
N10A Dunphy 67.34 55 ⇓P **P** **12 44 00.9 +0.5**
baz=67
V03C Hunter Liggett 67.40 61 ⇓P **P** **12 44 01.1 +0.4**
baz=67
R07C Lee Vining 67.47 58 ⇓P **P** **12 44 01.6 +0.5**
baz=67,SNR=8.3
Q08A Gabbs 67.67 57 ⇓P **P** **12 44 02.7 +0.3**
baz=68
NVAR Mina Array Bea 67.71 58 P **P** **12 44 03.2 +0.6**
comp=Z,5.6nm,0.8s,mb4.4,baz=282,slow=8.6,SNR=34
M12A Wells 67.83 53 ⇑P **P** **12 44 03.8 +0.5**
baz=68
R08A Mina 67.88 58 ⇓P **P** **12 44 03.9 +0.2**
baz=68
PKD Parkfield 67.89 61 ⇓P **P** **12 44 03.2 -0.5**
baz=68
GCMT Greycliff 67.90 47 *e*P **P** **12 44 03.9 0.0**
P10A Eureka 68.07 56 ⇓P **P** **12 44 05.6 +0.7**
baz=68
N12A Wells--Clov Va 68.12 54 ⇓P **P** **12 44 06.0 +0.8**
baz=68
O11A Cowboy Ranch, 68.22 55 ⇑P **P** **12 44 06.0 +0.2**
baz=68
M13A Montello 68.30 53 ⇑P **P** **12 44 06.6 +0.3**
baz=68
IMW Indian Meadow 68.46 49 P **P** **12 44 08.6 +1.2**
comp=Z,2.9nm,0.9s,mb4.1
ASAR Alice Springs 68.47 193 P **P** **12 44 07.3 0.0**
comp=Z,1.0nm,0.7s,mb3.8,baz=7.8,slow=5.3,SNR=16
R09A Tonopah 68.58 57 ⇓P **P** **12 44 08.0 -0.1**
baz=68,SNR=6.5
N13A West Wendover 68.60 54 ⇑P **P** **12 44 08.6 +0.4**
baz=68
S09A Goldfield 68.82 58 ⇑P **P** **12 44 09.8 +0.2**
baz=69,SNR=6.3
R10A Warm Springs 69.01 57 ⇑P **P** **12 44 11.0 +0.3**
baz=69
LAO LASA Array 69.09 45 P **P** **12 44 11.2 0.0**
comp=Z,4.1nm,0.7s,mb4.4
NB2 NORSAR Subarra 69.10 339 P **P** **12 44 09.1 -2.2**
comp=Z,1.0nm,0.5s,mb3.9,baz=32,slow=6.5
NB2 NORSAR Subarra 69.10 339 P **P** **12 44 09.1 -2.2**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
NOA NORSAR Array B 69.10 339 P **P** **12 44 09.4 -1.9**
comp=Z,1.2nm,0.6s,mb3.9,baz=33,slow=6.3,SNR=9.7
SBC Santa Barbara 69.37 62 ⇑P **P** **12 44 13.1 +0.2**
baz=69
TPNV Topopah Spring 69.91 58 *e*P **P** **12 44 16.5 +0.2**
TPNV pmax pmax
comp=Z,22nm,1.5s,mb4.8
TPNV Topopah Spring 69.91 58 *e*P **P** **12 44 16.5 +0.2**
comp=Z,22nm,1.5s,mb4.8
BW06 Boulder Array 69.97 50 *e*P **P** **12 44 16.4 -0.2**
comp=Z,7.8nm,1.4s,mb4.3
PDAR Pinedale Array 69.97 50 P **P** **12 44 16.4 -0.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=226,slow=0.8,SNR=19
U10A Ash Meadows, A 70.20 58 ⇑P **P** **12 44 18.3 +0.2**
baz=70
GSC Goldstone 70.64 59 ⇑P **P** **12 44 20.8 0.0**
baz=70
U11A Corn Creek 70.78 58 ⇑P **P** **12 44 22.0 +0.3**
baz=71
AKASG Malin Array Be 71.03 323 P **P** **12 44 22.1 -1.0**
comp=Z,2.7nm,0.5s,mb4.3,baz=38,slow=6.0,SNR=11
AKASG Malin Array Be 71.03 323 *i* P **P** **12 44 22.7 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
TUQ Turquoise Mtn. 71.09 59 ⇑P **P** **12 44 23.6 +0.1**
baz=71
V11A Goodsprings 71.13 58 ⇓P **P** **12 44 23.9 +0.2**
baz=71
ULM Lac du Bonnet 71.43 37 P **P** **12 44 23.4 -2.2**
comp=Z,1.1nm,0.4s,mb4.1,baz=309,slow=7.1,SNR=4.7
V12A Nelson 71.56 58 ⇑P **P** **12 44 26.3 0.0**
baz=71
W12A Cal Nev Ari 71.83 58 ⇓P **P** **12 44 28.1 +0.1**
baz=72
SRU San Rafael 71.87 53 *e*P **P** **12 44 28.3 +0.1**
SRU *e*PP pP 12 44 49.5 -2.0
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
SRU San Rafael 71.87 53 *e*P **P** **12 44 28.3 +0.1**
comp=Z,7.0nm,0.9s,mb4.5
SRU *e*pP pP 12 44 49.5 -1.9
PFO Pinyon Flat Ob 71.96 61 ⇑P **P** **12 44 29.2 +0.5**
baz=72
X13A Yucca 72.94 58 ⇑P **P** **12 44 34.7 +0.1**
baz=73,SNR=6.4
W14A Seligman 72.98 57 ⇑P **P** **12 44 35.5 +0.7**
baz=73
Y12C Blythe 73.08 59 ⇓P **P** **12 44 35.3 0.0**
baz=73
PV10 Paradox Valley 73.22 53 *e*P **P** **12 44 37.1 +0.9**
GLA Glamis 73.35 60 ⇓P **P** **12 44 37.0 +0.1**
baz=73
Y13A Salome 73.46 59 ⇑P **P** **12 44 37.7 +0.1**
baz=73
W15A Williams 73.49 57 ⇓P **P** **12 44 38.8 +1.0**
baz=73
X14A Yava 73.60 58 ⇑P **P** **12 44 39.1 +0.7**
baz=73,SNR=5.7
PV01 Paradox Valley 73.66 53 P **P** **12 44 39.0 +0.2**
SMCO Snowmass 73.84 51 *e*P **P** **12 44 40.1 +0.3**
comp=Z,2.9nm,0.9s,mb4.0
Y14A Wickenburg 73.89 58 ⇓P **P** **12 44 40.2 +0.1**
baz=74,SNR=5.3
X15A Humboldt 73.98 57 ⇓P **P** **12 44 41.5 +0.9**
baz=74,SNR=6.7
ISCO Idaho Springs 74.16 50 *e*P **P** **12 44 42.6 +0.9**
ISCO pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
ISCO Idaho Springs 74.16 50 *e*P **P** **12 44 42.5 +0.9**
comp=Z,6.5nm,1.3s,mb4.2
115A Sonoran Desert 75.20 59 ⇑P **P** **12 44 48.0 +0.3**
baz=75
STKA Stephens Creek 75.79 184 P **P** **12 44 49.0 -2.0**
comp=Z,0.6nm,0.6s,mb3.5,baz=45,slow=11,SNR=3.1
CLL Collm 76.78 332 *e*P **P** **12 44 56.0 -0.7**
CLL *e*PcP PcP 12 45 06.0 -1.6
BRTR Keskin Array B 76.99 313 P **P** **12 44 58.0 +0.2**
comp=Z,0.9nm,0.7s,mb3.6,baz=76,slow=3.7,SNR=6.2
BRTR Keskin Array B 76.99 313⇑*e*P **P** **12 44 58.0 +0.2**
ANMO Albuquerque 77.09 54⇑*e*P **P** **12 44 56.9 -1.5**
SCHQ Schefferville 77.39 19 P **P** **12 44 59.2 -0.9**
comp=Z,1.7nm,0.7s,mb3.9,baz=243,slow=11,SNR=3.7
GERES GERESS Array B 78.62 330 P **P** **12 45 06.4 -0.5**
comp=Z,0.6nm,0.6s,mb3.6,baz=32,slow=5.2,SNR=6.1
GRA1 Grafenberg Arr 78.76 332 *e*P **P** **12 45 07.6 0.0**
comp=Z,2.0nm,0.8s,mb4.0
GRF Grafenberg Arr 78.76 332 *e*P **P** **12 45 07.6 0.0**
comp=Z,2.0nm,0.8s,mb4.0
GRF Grafenberg Arr 78.76 332 *e*P **P** **12 45 07.6 0.0**
GRF pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
PERS Pernice 79.96 328 *e*P **P** **12 45 14.2 +0.1**
GOLS Golise 80.29 328 *e*P **P** **12 45 15.5 -0.4**

CDF Champ du Feu 81.16 334 *eP* **P 12 45 19.8 -0.8**
comp=Z,3.4nm,0.7s,mb4.0
CDF Champ du Feu 81.16 334 *eP* **P 12 45 19.8 -0.8**
CDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
CDF Champ du Feu 81.16 334 *eP* **P 12 45 19.8 -0.8**
comp=Z,1.7nm,0.6s,mb4.0
HINF Hinteralfeld 81.82 334 *eP* **P 12 45 22.9 -1.1**
comp=Z,2.8nm,0.7s,mb3.9
HINF Hinteralfeld 81.82 334 *eP* **P 12 45 22.9 -1.1**
HINF pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
HINF Hinteralfeld 81.82 334 *eP* **P 12 45 22.9 -1.1**
comp=Z,1.4nm,0.6s,mb4.0
LDF La Druitiere 83.14 338 *eP* **P 12 45 29.7 -1.2**
SSF Saint Saulge 83.52 336 *eP* **P 12 45 32.3 -0.6**
SMF Signal de Mont 83.79 335 *eP* **P 12 45 33.6 -0.7**
AVF Avril sur Loir 83.81 336 *eP* **P 12 45 33.8 -0.5**
comp=Z,4.8nm,0.9s,mb4.0
AVF Avril sur Loir 83.81 336 *eP* **P 12 45 33.8 -0.5**
AVF pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
AVF Avril sur Loir 83.81 336 *eP* **P 12 45 33.8 -0.5**
comp=Z,2.4nm,0.9s,mb4.0
LPL La Plagne 83.89 333 *eP* **P 12 45 34.7 0.0**
LPG La Plagne 83.90 333 *eP* **P 12 45 34.8 0.0**
comp=Z,6.5nm,0.8s,mb4.2
LPG La Plagne 83.90 333 *eP* **P 12 45 34.8 0.0**
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
LPG La Plagne 83.90 333 *eP* **P 12 45 34.8 0.0**
comp=Z,3.3nm,0.8s,mb4.2
BGF Bois d'Agland 84.17 336 *eP* **P 12 45 35.7 -0.5**
ROSF Rostrenen 84.18 340 *eP* **P 12 45 36.3 +0.1**
MBDF Montbardon 84.57 332 *eP* **P 12 45 38.1 -0.1**
TCF Toulx Ste Croi 84.60 336 *eP* **P 12 45 38.5 +0.2**
ORIF Oris-en-Rattie 84.70 333 *eP* **P 12 45 38.6 -0.2**
SBF Sospel 85.11 332 *eP* **P 12 45 40.9 0.0**
comp=Z,48nm,1.0s,mb5.1
SBF Sospel 85.11 332 *eP* **P 12 45 40.9 0.0**
SBF pmax pmax
comp=Z,24nm,1.0s,mb5.1
SBF Sospel 85.11 332 *eP* **P 12 45 40.9 0.0**
comp=Z,24nm,1.0s,mb5.1
RJF Les Rejaudoux 85.70 336 *eP* **P 12 45 43.5 -0.3**
CAF Calviac 85.88 336 *eP* **P 12 45 45.0 +0.3**
BDFB Brasilia 149.00 28 PKPbc PKPbc 12 52 52.2 -0.3
comp=Z,2.0nm,0.6s,baz=44,slow=18,SNR=3.0
CFAA Coronel Fontan 150.02 77 PKPbc PKPbc 12 52 54.5 -0.4
comp=Z,0.2nm,0.5s,baz=286,slow=3.1,SNR=3.7

IDC 25 12:47:03.8±11.0, 2526S×17979E, h568km±146km, mb2.8/4, mb1 3.0/5, mb1mx2.8/13, mbtmp3.9/5, Error ellipse: s-maj=231.4km s-min=84.1km az=72.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.16**	**189**	P	P	12 49 54.3	+0.1
0.9nm,0.3s,baz=92,slow=19,SNR=6.8							
CTA	**Charters Tower**	**31.32**	**273**	P	P	12 52 38.9	+0.4
1.9nm,0.3s,baz=90,slow=11,SNR=7.2							
STKA	**Stephens Creek**	**34.06**	**250**	P	P	12 53 01.2	-0.4
0.6nm,0.5s,baz=85,slow=6.2,SNR=2.7							
ASAR	**Alice Springs**	**41.65**	**262**	P	P	12 54 03.6	+0.4
0.2nm,0.3s,baz=102,slow=7.7,SNR=12							
WRA	**Warramunga Arr**	**42.15**	**268**	P	P	12 54 07.3	+0.2
0.5nm,0.3s,baz=103,slow=8.1,SNR=39							

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*NEIC **25** 13:16:53.3, 1660N×9936W, h11km, MD3.6(MEX), After MEX.*

MEX 25 13:16:53.5±1.2, 1661N×9933W, h16km±20km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.62**	**294**	*i* P	Pg	13 17 03.0	-2.7
ACX				*i* S	Sg	13 17 10.5	-3.5
CAIG	**El Cayaco**	**1.00**	**296**	*i* P	Pb	13 17 09.9	-2.5
CAIG				*i* S	Sb	13 17 22.3	-3.1
MEIG	**Mezcala**	**1.34**	**348**	*i* P	Pn	13 17 14.0	-3.5
MEIG				*i* S	Sn	13 17 30.1	-4.8
PLIG	**Platanillo**	**1.78**	**355**	*i* P	Pn	13 17 20.2	-3.3
PLIG				*i* S	Sn	13 17 42.3	-3.5
PLIG	**Platanillo**	**1.78**	**355**	*i* P	Pn	13 17 20.2	-3.3
PLIG				*i* S	Sn	13 17 43.3	-2.5
UTMO	**Huajuapan**	**1.89**	**50**	*eP*	Pn	13 17 22.0	-3.0
UTMO				*i* S	Sn	13 17 43.2	-5.4
VHO	**Vista Hermosa**	**2.52**	**79**	*i* P	Pn	13 17 31.0	-2.7
VHO				*i* S	Sn	13 18 00.1	-4.0
VHO	**Vista Hermosa**	**2.52**	**79**	*i* P	Pn	13 17 31.0	-2.7
VHO				*i* S	Sn	13 18 03.1	-1.0
OXX	**Oaxaca**	**2.54**	**79**	*eP*	Pn	13 17 32.5	-1.4

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*ISCJB **25** 13:27:47.9±0.4, 3867S×0008×1619W±009, h10km, mb4.7/47, MS4.3/26, Error ellipse: s-maj=11.6km s-min=9.7km az=107.3*
*IDC **25** 13:27:47.7±0.7, 3854S×16.14W, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.3/19, mbtmp4.2/14, MS4.2/20, Ms1 4.2/20, ms1mx4.2/21, Error ellipse: s-maj=21.1km s-min=14.8km az=166.0*
*HRVD **25** 13:27:49.5±0.3, 3887S×15.94W, h12km, MW5.0/61, Centroid moment Tensor Solution. LP body waves: s31,c36;Mantle waves: s61,c92; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.48±.12; $M_{\theta\theta}$0.20±.14; $M_{\phi\phi}$2.27±.10; $M_{r\theta}$-1.10±.44; $M_{\theta\phi}$-2.22±.09; $M_{\phi r}$-0.06±.33; Best double couple: $M_0$3.38200×10^{16} NP1:ϕ_s353.00000°, δ47.00000°, λ-51.00000°. NP2: ϕ_s123.00000°, δ56.00000°, λ-124.00000°. Principal axes: T 3.7350, Plg5.0000°, Azm236.0000°; N -0.7120, Plg28.0000°, Azm144.0000°; P -3.0290, Plg62.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 13:27:49.5±0.3, 3863S×16.17W, h10km, mb4.9/32, MS4.4/3 Error ellipse: s-maj=10.3km s-min=7.6km az=151.0*
*SZGRF **25** 13:28:23.4, 3281S×1085W, h33km, mb4.7, Southern Mid-Atlantic Ridge*

ISC 25 13:27:49.2±0.4, 3865S±008×1613W±009, h10km, n103, σ0^{s}67/87, mb4.7/47, MS4.3/26, 1C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**3.41**	**64**	*eP*	**Pn**	**13 28 38.6**	**-3.8**
SUR	**Sutherland**	**30.57**	**90**	LR	LR	13 43 11.1	
comp=Z,705nm,20.0s,MS4.3,baz=110,slow=30							
TSUM	**Tsumeb**	**35.03**	**66**	P	**P**	**13 34 41.4**	**-0.6**
9.0nm,1.1s,mb4.6,baz=224,slow=10,SNR=11							
TSUM	**Tsumeb**	**35.03**	**66**	*eP*	**P**	**13 34 41.0**	**-0.9**
BOSA	**Boshof**	**35.63**	**86**	LR	LR	13 46 03.8	
comp=Z,618nm,20.6s,MS4.3,baz=234,slow=31							
BDFB	**Brasilia**	**36.17**	**300**	P	**P**	**13 34 51.8**	**0.0**
6.5nm,0.9s,mb4.5,baz=157,slow=11,SNR=5.4							
BDFB				LR	LR	13 47 07.8	
comp=Z,282nm,19.2s,MS4.0,baz=276,slow=32							
CPUP	**Villa Florida**	**36.57**	**277**	P	**P**	**13 34 55.4**	**+0.2**
4.0nm,0.8s,mb4.3,baz=102,slow=6.1,SNR=8.3							
CPUP				LR	LR	13 47 20.0	
comp=Z,377nm,21.3s,MS4.1,baz=114,slow=32							
PLCA	**Paso Flores**	**41.37**	**249**	P	**P**	**13 35 35.7**	**+0.4**
2.3nm,1.0s,mb3.8,baz=158,slow=5.2,SNR=4.3							
PLCA				LR	LR	13 49 39.5	
comp=Z,669nm,22.0s,MS4.5,baz=140,slow=32							
PLCA	**Paso Flores**	**41.37**	**249**	P	**P**	**13 35 35.7**	**+0.4**
PLCA				LR	LR	13 49 39.5	
SYO	**Syowa Base**	**42.35**	**154**	*eP*	**P**	**13 35 42.0**	**-1.4**
MATP	**Matopo**	**42.40**	**78**	P	**P**	**13 35 43.1**	**-0.7**
5.1nm,1.1s,mb4.1,baz=235,slow=11,SNR=3.7							
CFAA	**Coronel Fontan**	**42.72**	**263**	P	**P**	**13 35 45.9**	**-0.5**
0.5nm,0.8s,mb3.3,baz=85,slow=7.0,SNR=8.5							
LSZ	**Lusaka**	**45.29**	**72**	P	**P**	**13 36 07.6**	**+0.5**
3.5nm,0.8s,mb4.3,baz=225,slow=7.5,SNR=6.3							
LSZ	**Lusaka**	**45.29**	**72**	*eP*	**P**	**13 36 05.7**	**-1.4**
SIV	**San Ignacio**	**45.30**	**287**	P	**P**	**13 36 06.1**	**-1.0**
2.1nm,0.9s,mb3.9,baz=141,slow=9.9,SNR=6.6							
LIC	**Lamto**	**45.82**	**15**	*eP*	**P**	**13 36 10.5**	**-0.7**
52nm,1.4s,mb5.0							
LIC				*eR*			
137nm,22.2s							
LIC	**Lamto**	**45.82**	**15**	*eP*	**P**	**13 36 10.5**	**-0.7**
26nm,1.4s,mb5.0							
LIC				LR	LR		
comp=Z,70nm,22.3s,MS3.5							
DBIC	**Dimbokro**	**46.29**	**16**	P	**P**	**13 36 15.2**	**+0.3**
comp=Z,3.9nm,0.9s,mb4.3,baz=123,slow=8.4,SNR=3.6							
DBIC				LR	LR	13 51 27.6	
comp=Z,34nm,19.2s,MS3.3,baz=177,slow=31							
LPAZ	**La Paz**	**50.48**	**281**	LR	LR	13 58 11.0	
comp=Z,264nm,20.0s,MS4.2,baz=261,slow=36							
LPAZ	**La Paz**	**50.48**	**281**	*eP*	**P**	**13 36 46.0**	**-1.2**
comp=Z,8.1nm,1.3s,mb4.6							
MAW	**Mawson**	**50.82**	**151**	P	**P**	**13 36 50.0**	**+0.1**
comp=Z,3.0nm,0.9s,mb4.2,baz=278,slow=8.9,SNR=6.5							
SAML	**Samuel**	**51.45**	**292**	*eP*	**P**	**13 36 54.7**	**+0.1**
comp=Z,6.4nm,0.8s,mb4.6							
QSPA	**South Pole Qui**	**51.61**	**180**	*eP*	**P**	**13 36 56.8**	**+1.0**
TORD	**Torodi Ar. Bea**	**54.15**	**22**	P	**P**	**13 37 13.6**	**-0.9**
comp=Z,3.7nm,1.0s,mb4.3,baz=199,slow=6.5,SNR=3.1							
TORD				LR	LR	13 55 16.0	
comp=Z,368nm,21.4s,MS4.4,baz=260,slow=30							
KMBO	**Kilima Mbogo**	**61.37**	**66**	LR	LR	14 02 37.1	
comp=Z,560nm,18.6s,MS4.8,baz=274,slow=34							
VNDA	**Vanda**	**64.10**	**180**	P	**P**	**13 38 24.4**	**+0.9**
comp=Z,3.3nm,1.1s,mb4.3,baz=203,slow=5.2,SNR=7.7							
VNDA				LR	LR	14 01 14.9	
comp=Z,267nm,21.0s,MS4.4,baz=149,slow=31							
OTAV	**Otavalo**	**68.83**	**288**	*eP*	**P**	**13 38 50.8**	**-2.9**
comp=Z,13nm,1.5s,mb4.6							
ROSC	**El Rosal**	**68.97**	**295**	LR	LR	14 07 56.9	
comp=Z,331nm,19.5s,MS4.6,baz=24,slow=35							
SDV	**Santo Domingo**	**69.27**	**301**	LR	LR	14 07 34.1	
comp=Z,118nm,18.4s,MS4.2,baz=238,slow=34							
SDV	**Santo Domingo**	**69.27**	**301**	*eP*	**P**	**13 38 56.8**	**+0.3**
comp=Z,14nm,1.1s,mb4.8							
MDT	**Midelt**	**71.90**	**10**	LR	LR	14 07 03.2	
comp=Z,275nm,18.2s,MS4.6,baz=189,slow=33							
SJG	**San Juan**	**73.36**	**310**	LR	LR	14 09 50.5	
comp=Z,82nm,19.0s,MS4.0,baz=90,slow=34							
RPN	**Rapa Nui**	**75.93**	**247**	LR	LR	14 07 19.3	
comp=Z,191nm,21.4s,MS4.4,baz=103,slow=31							
ESDC	**Sonseca Array**	**78.74**	**10**	P	**P**	**13 39 51.6**	**-0.2**
comp=Z,5.3nm,0.9s,mb4.5,baz=183,slow=5.8,SNR=23							
ESDC				LR	LR	14 11 58.0	
comp=Z,83nm,18.9s,MS4.1,baz=160,slow=34							
ESLA	**Sonseca Array**	**78.74**	**10**	*eP*	**P**	**13 39 51.1**	**-0.8**
VAE	**Valguarnera**	**80.81**	**24**	LR	LR	14 12 09.5	
comp=Z,184nm,20.3s,MS4.4,baz=132,slow=33							
EPF	**Esparros**	**82.66**	**12**	*eP*	**P**	**13 40 13.3**	**+0.4**
comp=Z,16nm,1.0s,mb4.7							
EPF	**Esparros**	**82.66**	**12**	*eP*	**P**	**13 40 13.3**	**+0.4**
comp=Z,7.9nm,1.0s,mb4.7							
TIP	**Timpagrande**	**83.12**	**25**	*eP*	**P**	**13 40 14.9**	**-0.3**
MTLF	**Montolieu**	**83.29**	**13**	*eP*	**P**	**13 40 15.6**	**-0.5**
comp=Z,21nm,1.1s,mb4.8							
MTLF	**Montolieu**	**83.29**	**13**	*eP*	**P**	**13 40 15.6**	**-0.5**
comp=Z,10nm,1.1s,mb4.8							
PGF	**Pioggiola**	**83.98**	**18**	*eP*	**P**	**13 40 19.1**	**-0.6**
comp=Z,26nm,1.0s,mb5.0							
PGF	**Pioggiola**	**83.98**	**18**	*eP*	**P**	**13 40 19.1**	**-0.6**
comp=Z,13nm,1.0s,mb5.0							
LASF	**Ste Croix**	**84.30**	**14**	*eP*	**P**	**13 40 22.3**	**+1.0**
comp=Z,18nm,1.0s,mb4.8							
SMRF	**Simiane la Rot**	**84.55**	**16**	*eP*	**P**	**13 40 23.2**	**+0.6**
comp=Z,40nm,1.4s,mb5.1							
SMRF	**Simiane la Rot**	**84.55**	**16**	*eP*	**P**	**13 40 23.2**	**+0.6**
comp=Z,40nm,1.4s,mb5.4							
LFF	**La Frestale**	**84.58**	**12**	*eP*	**P**	**13 40 22.3**	**-0.4**
CAF	**Calviac**	**84.79**	**13**	*eP*	**P**	**13 40 24.1**	**+0.3**
comp=Z,30nm,1.5s,mb4.9							
CAF	**Calviac**	**84.79**	**13**	*eP*	**P**	**13 40 24.1**	**+0.3**
comp=Z,15nm,1.5s,mb4.9							
RJF	**Les Rejaudoux**	**85.07**	**12**	*eP*	**P**	**13 40 24.4**	**-0.8**
comp=Z,14nm,1.0s,mb4.7							
RJF				*eR*			
comp=Z,105nm,19.8s							
RJF	**Les Rejaudoux**	**85.07**	**12**	*eP*	**P**	**13 40 24.4**	**-0.8**
comp=Z,6.9nm,1.0s,mb4.7							
RJF				LR	LR		
comp=Z,110nm,19.8s,MS4.2							
VIVF	**Saint-Julien-l**	**85.21**	**15**	*eP*	**P**	**13 40 25.4**	**-0.5**
comp=Z,53nm,1.6s,mb5.1							
VIVF	**Saint-Julien-l**	**85.21**	**15**	*eP*	**P**	**13 40 25.4**	**-0.5**
comp=Z,26nm,1.6s,mb5.1							
ORIF	**Oris-en-Rattie**	**85.52**	**15**	*eP*	**P**	**13 40 28.0**	**+0.6**
comp=Z,16nm,1.1s,mb4.9							
ORIF				*eR*			
comp=Z,191nm,21.0s							
ORIF	**Oris-en-Rattie**	**85.52**	**15**	*eP*	**P**	**13 40 28.0**	**+0.6**
comp=Z,8.0nm,1.1s,mb4.9							
MBDF	**Montbardon**	**85.53**	**16**	*eP*	**P**	**13 40 28.2**	**+0.7**
comp=Z,12nm,0.9s,mb4.8							
MBDF	**Montbardon**	**85.53**	**16**	*eP*	**P**	**13 40 28.2**	**+0.7**
comp=Z,6.1nm,0.9s,mb4.8							
MFF	**Saint Martin d**	**86.07**	**11**	*eP*	**P**	**13 40 29.7**	**-0.4**
comp=Z,37nm,1.3s,mb5.1							
MFF	**Saint Martin d**	**86.07**	**11**	*eP*	**P**	**13 40 29.7**	**-0.4**
comp=Z,18nm,1.3s,mb5.2							
TCF	**Toulx Ste Croi**	**86.14**	**13**	*eP*	**P**	**13 40 31.1**	**+0.6**
comp=Z,48nm,1.6s,mb5.2							
TCF	**Toulx Ste Croi**	**86.14**	**13**	*eP*	**P**	**13 40 31.1**	**+0.6**
comp=Z,24nm,1.6s,mb5.2							
LPG	**La Plagne**	**86.26**	**16**	*eP*	**P**	**13 40 31.1**	**0.0**
comp=Z,13nm,1.0s,mb4.8							
LPG	**La Plagne**	**86.26**	**16**	*eP*	**P**	**13 40 31.1**	**0.0**
comp=Z,6.4nm,1.0s,mb4.8							
LPL	**La Plagne**	**86.27**	**16**	*eP*	**P**	**13 40 30.8**	**-0.3**
comp=Z,14nm,1.0s,mb4.8							
LPL	**La Plagne**	**86.27**	**16**	*eP*	**P**	**13 40 30.8**	**-0.3**
comp=Z,7.0nm,1.0s,mb4.8							
SMF	**Signal de Mont**	**86.78**	**14**	*eP*	**P**	**13 40 33.9**	**+0.3**
comp=Z,7.5nm,0.8s,mb4.7							
SMF	**Signal de Mont**	**86.78**	**14**	*eP*	**P**	**13 40 33.9**	**+0.3**
comp=Z,3.8nm,0.8s,mb4.7							
AVF	**Avril sur Loir**	**86.83**	**13**	*eP*	**P**	**13 40 34.3**	**+0.4**
comp=Z,15nm,0.9s,mb4.9							
AVF	**Avril sur Loir**	**86.83**	**13**	*eP*	**P**	**13 40 34.3**	**+0.4**
comp=Z,7.5nm,0.9s,mb4.9							
QUIF	**Quistinic**	**86.95**	**9**	*eP*	**P**	**13 40 34.9**	**+0.4**
comp=Z,21nm,1.0s,mb5.0							
QUIF	**Quistinic**	**86.95**	**9**	*eP*	**P**	**13 40 34.9**	**+0.4**
comp=Z,10nm,1.0s,mb5.0							
SSF	**Saint Saulge**	**87.11**	**13**	*eP*	**P**	**13 40 35.6**	**+0.3**
comp=Z,9.3nm,1.2s,mb4.6							
SSF	**Saint Saulge**	**87.11**	**13**	*eP*	**P**	**13 40 35.6**	**+0.3**
comp=Z,4.7nm,1.2s,mb4.6							
CABF	**La Chapelle**	**87.18**	**15**	*eP*	**P**	**13 40 36.1**	**+0.5**
comp=Z,15nm,1.1s,mb4.8							
CABF	**La Chapelle**	**87.18**	**15**	*eP*	**P**	**13 40 36.1**	**+0.5**
comp=Z,7.7nm,1.1s,mb4.8							
ROSF	**Rostrenen**	**87.36**	**9**	*eP*	**P**	**13 40 36.9**	**+0.5**
comp=Z,15nm,1.0s,mb4.9							
ROSF	**Rostrenen**	**87.36**	**9**	*eP*	**P**	**13 40 36.9**	**+0.5**
comp=Z,7.6nm,1.0s,mb4.9							
SGMF	**Saint Gilles**	**87.36**	**9**	*eP*	**P**	**13 40 36.6**	**+0.1**
comp=Z,24nm,0.9s,mb5.1							
SGMF	**Saint Gilles**	**87.36**	**9**	*eP*	**P**	**13 40 36.6**	**+0.1**
comp=Z,12nm,0.9s,mb5.1							
LOR	**Lormes**	**87.38**	**13**	*eP*	**P**	**13 40 36.8**	**+0.2**
comp=Z,10nm,1.0s,mb4.7							
LOR				*eR*			
comp=Z,154nm,20.2s							
LOR	**Lormes**	**87.38**	**13**	*eP*	**P**	**13 40 36.8**	**+0.2**
comp=Z,5.2nm,1.0s,mb4.7							
LOR				LR	LR		
comp=Z,150nm,20.3s,MS4.4							
GRR	**Gorron**	**87.71**	**10**	*eP*	**P**	**13 40 39.0**	**+0.8**
comp=Z,25nm,1.1s,mb5.0							
GRR	**Gorron**	**87.71**	**10**	*eP*	**P**	**13 40 39.0**	**+0.8**
comp=Z,12nm,1.1s,mb5.1							
LDF	**La Druitiere**	**88.02**	**11**	*eP*	**P**	**13 40 39.7**	**+0.1**
comp=Z,11nm,1.0s,mb4.7							
LDF	**La Druitiere**	**88.02**	**11**	*eP*	**P**	**13 40 39.7**	**+0.1**
comp=Z,5.6nm,1.0s,mb4.8							
FLN	**La Foliniere**	**88.13**	**10**	*eP*	**P**	**13 40 40.5**	**+0.3**
comp=Z,34nm,1.2s,mb5.2							
FLN				*eR*			
comp=Z,247nm,19.8s							
FLN	**La Foliniere**	**88.13**	**10**	*eP*	**P**	**13 40 40.5**	**+0.3**
comp=Z,17nm,1.2s,mb5.2							
FLN				LR	LR		
comp=Z,250nm,19.8s,MS4.6							
HINF	**Hinteralfeld**	**88.49**	**15**	*eP*	**P**	**13 40 42.2**	**+0.4**
MEZF	**Maizieres J'vi**	**88.79**	**14**	*eP*	**P**	**13 40 43.8**	**+0.6**
comp=Z,17nm,0.9s,mb5.1							
MEZF	**Maizieres J'vi**	**88.79**	**14**	*eP*	**P**	**13 40 43.8**	**+0.6**
comp=Z,17nm,0.9s,mb5.4							
CDF	**Champ du Feu**	**89.14**	**15**	*eP*	**P**	**13 40 45.3**	**+0.4**
BAIF	**Baives**	**90.13**	**13**	*eP*	**P**	**13 40 50.1**	**+0.6**
comp=Z,19nm,1.1s,mb5.0							
BAIF	**Baives**	**90.13**	**13**	*eP*	**P**	**13 40 50.1**	**+0.6**
comp=Z,9.5nm,1.1s,mb5.0							
BRTR	**Keskin Array B**	**90.34**	**36**	P	**P**	**13 40 50.7**	**+0.2**
comp=Z,1.9nm,0.9s,mb4.4,baz=181,slow=6.2,SNR=10							
BRTR				LR	LR	14 20 25.8	
comp=Z,58nm,19.9s,MS4.0,baz=46,slow=35							
BRTR	**Keskin Array B**	**90.34**	**36**	P	**P**	**13 40 50.7**	**+0.2**
BRTR				LR	LR	14 20 25.8	
GERES	**GERESS Array B**	**91.04**	**19**	LR	LR	14 18 19.8	
comp=Z,189nm,22.0s,MS4.5,baz=263,slow=33							
GRA1	**Grafenberg Arr**	**91.22**	**17**	*eP*	**P**	**13 40 54.9**	**+0.3**
comp=Z,5.0nm,1.1s,mb4.8							
GRF	**Grafenberg Arr**	**91.22**	**17**	*eP*	**P**	**13 40 54.9**	**+0.3**
comp=Z,5.0nm,1.1s,mb4.8							
AKASG	**Malin Array Be**	**97.47**	**27**	LR	LR	14 23 28.2	
comp=Z,52nm,21.1s,MS4.0,baz=235,slow=34							
RAO	**Raoul Island**	**110.34**	**197**	LR	LR	14 01 34.7	
comp=Z,450nm,21.1s,MS5.0,baz=163,slow=31							
ZAL	**Zalesovo**	**126.11**	**46**	LR	LR	14 47 33.6	
comp=Z,97nm,18.4s,MS4.5,baz=205,slow=37							
TTA	**Tatalina**	**145.79**	**328**	*e*PKP	PKPdf	13 47 27.4	-0.6
BILL	**Bilibino**	**150.52**	**358**	*e*PKPbc	PKPbc	13 47 39.4	-1.7

IDC 25 13:33:48.3±2.2, 584S×13015E, h0km, mb3.7/1, mb1 4.2/4, mb1mx3.8/13, mbtmp4.0/4, ML4.0/2, MS4.5/1, Ms1 4.5/1, ms1mx2.7/20, Error ellipse: s-maj=76.2km s-min=29.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.96**	**199**	Pn	Pn	13 36 53.4	-0.3
0.4nm,0.3s,baz=30,slow=16,SNR=37							
FITZ				Sn	Sn	13 39 03.4	-15
0.3nm,0.3s,baz=282,slow=17,SNR=3.6							
WRA	**Warramunga Arr**	**14.60**	**164**	Pn	Pn	13 37 16.5	+0.5
1.0nm,0.3s,baz=344,slow=12,SNR=22							
WRA				Sn	Sn	13 39 46.1	-13
1.1nm,0.3s,baz=338,slow=23,SNR=9.2							
ASAR	**Alice Springs**	**18.09**	**169**	P	Pn	13 38 01.2	+0.3
1.2nm,0.3s,baz=346,slow=11,SNR=94							
ASAR				S	Sn	13 41 11.0	-12
0.3nm,0.3s,baz=358,slow=24,SNR=6.2							
MKAR	**Makanchi Array**	**67.34**	**326**	P	P	13 44 45.3	+0.2
0.1nm,0.3s,baz=110,slow=6.6,SNR=4.3							

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*IDC **25** 13:46:55.5±3.4, 1684S×16741E, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.2/4, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/16, Error ellipse: s-maj=80.9km s-min=27.6km az=95.0*
*ISCJB **25** 13:46:57.6±1.1, 1688S±006×16748E±009, h33km, mb4.0/3, Error ellipse: s-maj=12.2km s-min=9.1km az=153.1*

ISC 25 13:46:59.4±1.1, 1687S±007×1676E±01, h35km, n7, σ0^{s}83/11, mb4.0/3, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.99**	**143**	*i* P	**Pn**	**13 47 15.2**	**-1.7**
BKM				S	**Sn**	**13 47 30.6**	**+0.9**
DZM	**Mont Dzumac**	**5.29**	**192**	*eP*	**Pn**	**13 48 15.8**	**-0.2**
DZM				*e*S	**Sn**	**13 49 15.5**	**-0.2**
DZM	**Mont Dzumac**	**5.29**	**192**	Pn	**Pn**	**13 48 16.8**	**+0.9**
4.9nm,0.3s,baz=76,slow=16,SNR=51							
DZM				Sn	**Sn**	**13 49 17.0**	**+1.3**
1.7nm,0.3s,baz=139,slow=19,SNR=3.1							
DZM				LR	LR	13 49 43.3	
comp=Z,72nm,18.5s,baz=18,slow=32							
NOUC	**Port Laguerre**	**5.35**	**193**	*eP*	**Pn**	**13 48 16.9**	**+0.2**
NOUC				*e*S	**Sn**	**13 49 16.4**	**-0.7**
STKA	**Stephens Creek**	**27.92**	**233**	P	**P**	**13 52 45.5**	**-0.7**
3.0nm,0.9s,mb3.9,baz=54,slow=9.6,SNR=5.4							
ASAR	**Alice Springs**	**32.28**	**252**	P	**P**	**13 53 25.2**	**+0.4**
5.5nm,0.8s,mb4.5,baz=78,slow=8.7,SNR=56							
MJAR	**Matsushiro Arr**	**59.95**	**333**	P	**P**	**13 57 02.5**	**+0.4**
0.2nm,0.3s,mb3.6,baz=166,slow=8.0,SNR=4.6							

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*ISCJB **25** 13:57:44.7±0.5, 472N×009×3288W±009, h10km, mb4.2/22, MS3.9/7, Error ellipse: s-maj=14.6km s-min=10.2km az=96.4*
*BJI **25** 13:57:45.5, 470N×3300W, h10km, mB5.1, Ms5.1, Msz4.9*
*IDC **25** 13:57:45.0±0.7, 482N×3294W, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/24, mbtmp4.1/14, MS3.6/5, Ms1 3.6/5, ms1mx3.3/26, Error ellipse: s-maj=26.6km s-min=14.0km az=148.0*
*NEIC **25** 13:57:46.6±0.4, 473N×3295W, h10km, mb4.6/11, Error ellipse: s-maj=11.3km s-min=7.9km az=132.0*

ISC 25 13:57:46.9±0.5, 474N±008×3290W±009, h10km, n34, σ0^{s}93/32, mb4.2/22, MS3.9/7, Central Mid-Atlantic Ridge

| Code | Station

MSU				*e*		14 09 57.1	
EDM	**Edmonton**	**80.50**	**323**	*e*P	**P**	**14 09 58.8**	**-0.3**
EDM				*e*		14 10 05.8	
WALA	**Waterton Lakes**	**80.55**	**319**	*e*P	**P**	**14 09 58.9**	**-0.4**
	comp=Z,9.0nm,1.2s,mb4.6						
WALA				*e*		14 10 05.9	
LZH	**Lanzhou**	**122.67**	**41**	*e*PKP	PKPdf	14 16 39.5	-3.3
LZH				LR	LR		
	comp=N,150nm,19.5s						
LZH				LR	LR		
	comp=Z,260nm,20.4s,MS4.9						
HHC	**Hu-ho-hao-te**	**124.18**	**32**	*e*PKP	PKPdf	14 16 41.0	-4.7
HHC				PP	PP	14 18 29.3	-1.0
HHC				PKS		14 20 16.3	
HHC				PP	PP		
	comp=Z,100nm,9.9s						
HHC				LR	LR		
	comp=N,120nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=E,120nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=Z,70nm,13.1s,MS4.5						

MAN 25 14:00:20.6, 1867N×12023E, h14^{km}, mb3.5, ML4.7, MS2.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.50**	**133**	*e*P	Pg	14 00 31.1	+0.5
PIP				*e*S	Sg	14 00 44.6	+7.4
ABRA	**Dolores**	**1.11**	**156**	*e*P	Pb	14 00 40.0	-1.6
ABRA				*e*S	Sb	14 00 59.7	+3.8
APYP	**Conner**	**1.25**	**130**	*e*P	Pn	14 00 42.2	-1.5
APYP				*e*S	Sb	14 00 54.7	-5.3
SGCP	**Mt. Cagua**	**1.77**	**104**	*e*P	Pn	14 00 50.5	-0.4
CVP	**Callao Caves**	**1.79**	**122**	*e*P	Pn	14 00 41.0	-10
CAUP	**Cauayan**	**2.29**	**138**	*e*P	Pn	14 00 59.9	+1.9
BCPH	**Baguio City Da**	**2.30**	**172**	*e*P	Pn	14 01 01.3	+3.2
PALP	**Palanan**	**2.63**	**127**	*e*P	Pn	14 01 04.2	+1.6
BALP	**Baler**	**3.18**	**156**	*e*P	Pn	14 01 10.8	+0.5

*ISCJB **25** 14:01:16.6±2.2, 1157S±007×1663E±0.1, h64^{km}±18^{km}, mb4.6/23, Error ellipse: s-maj=17.0km s-min=10.5km az=146.0*
*BJI **25** 14:01:16.0, 1140S×16630E, h70^{km}, mB4.8, mb4.5*
*IDC **25** 14:01:16.9±3.2, 1146S×16634E, h55^{km}±26^{km}, mb4.2/10, mb1 4.3/11, mb1mx4.2/15, mbtmp4.4/11, ML3.4/1, MS3.8/10, Ms1 3.8/10, ms1mx3.7/21, Error ellipse: s-maj=27.5km s-min=19.4km az=102.0*
*HRVD **25** 14:01:18.8±0.5, 1145S×166.14E, h53^{km}±1^{km}, MW4.9/35, Centroid moment Tensor Solution. LP body waves: s35,c42;Mantle waves: s35,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.87±.16; $M_{\theta\theta}$-0.20±.11; $M_{\phi\phi}$-2.67±.10; $M_{r\theta}$-0.47±.09; $M_{r\phi}$0.26±.08; $M_{\theta\phi}$0.44±.10; Best double couple: $M_0$2.85500×10^{16} NP1:ϕ_s181.00000°, δ41.00000°, λ102.00000°. NP2: ϕ_s346.00000°, δ50.00000°, λ80.00000°. Principal axes: T 2.9690, Plg81.0000°, Azm206.0000°; N -0.2290, Plg8.0000°, Azm352.0000°; P -2.7400, Plg5.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 14:01:18.8±1.2, 1143S×16630E, h70^{km}±10^{km}, mb4.5/12 Error ellipse: s-maj=9.7km s-min=8.5km az=87.0*

ISC 25 14:01:18.2±1.7, 1151S±007×16637E±010, h65^{km}±14^{km}, n48, σ0°91/40, mb4.5/23, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.64**	**287**	*e*P	**Pn**	**14 02 53.1**	**-0.1**
	549nm,0.9s						
DZM	**Mont Dzumac**	**10.51**	**180**	P	**Pn**	**14 03 47.4**	**+1.4**
	0.3nm,0.3s,baz=50,slow=19,SNR=11						
DZM				S	**Sn**	**14 05 40.7**	**-1.2**
	0.4nm,0.3s,baz=319,slow=20,SNR=3.1						
PMG	**Port Moresby**	**19.00**	**274**	LR	LR	14 10 38.9	
	comp=Z,63nm,21.0s,baz=152,slow=30						
CTA	**Charters Tower**	**21.13**	**244**	*e*P	**P**	**14 05 58.7**	**+1.0**
	9.1nm,0.8s,mb4.2						
CTA	**Charters Tower**	**21.13**	**244**	P	**P**	**14 05 58.1**	**+0.5**
	12nm,0.9s,mb4.2,baz=90,slow=8.1,SNR=3.0						
CTA				LR	LR	14 12 36.6	
	comp=Z,292nm,19.3s,baz=48,slow=32						
CTAO	**Charters Tower**	**21.13**	**244**	*e*P	**P**	**14 05 57.9**	**+0.2**
	11nm,0.8s,mb4.2						
AFI	**Afiamalu**	**21.45**	**99**	LR	LR	14 12 42.5	
	comp=Z,211nm,20.3s,baz=97,slow=32						
STKA	**Stephens Creek**	**30.54**	**225**	*e*P	**P**	**14 07 24.7**	**-0.7**
	6.6nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**30.54**	**225**	P	**P**	**14 07 24.9**	**-0.5**
	9.3nm,0.8s,mb4.6,baz=36,slow=8.3,SNR=21						
STKA				PcP	PcP	14 10 21.6	-1.3
	4.0nm,1.0s,baz=50,slow=3.1,SNR=4.2						
STKA				LR	LR	14 18 48.9	
	comp=Z,292nm,21.9s,baz=32,slow=34						
WRAB	**Tennant Creek**	**31.89**	**251**	*e*P	**P**	**14 07 37.3**	**0.0**
	14nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**31.89**	**251**	*e*P	**P**	**14 07 37.5**	**+0.2**
WRA	**Warramunga Arr**	**31.90**	**251**	P	**P**	**14 07 37.3**	**-0.1**
	8.3nm,0.8s,mb4.5,baz=82,slow=9.1,SNR=35						
WRA				PcP	PcP	14 10 27.1	+0.6
	1.8nm,0.8s,baz=82,slow=2.9,SNR=6.9						
WRA				LR	LR	14 18 42.3	
	comp=Z,142nm,19.9s,baz=25,slow=33						
AS31	**Alice Springs**	**33.13**	**244**	*e*P	**P**	**14 07 47.5**	**-0.7**
ASAR	**Alice Springs**	**33.14**	**244**	P	**P**	**14 07 47.9**	**-0.3**
	10nm,0.8s,mb4.7,baz=71,slow=9.6,SNR=113						
ASAR				PcP	PcP	14 10 31.0	+1.1
	2.0nm,0.8s,baz=75,slow=2.9,SNR=12						
ASAR				ScP	ScP	14 14 10.3	+1.8
	0.6nm,0.9s,baz=100,slow=2.8,SNR=4.4						
ASAR				LR	LR	14 19 04.5	
	comp=Z,304nm,20.3s,baz=83,slow=32						
ASPA	**Alice Springs**	**33.14**	**244**	*e*P	**P**	**14 07 47.5**	**-0.7**
KAKA	**Kakadu**	**33.18**	**264**	*e*P	**P**	**14 07 49.1**	**+0.5**
	12nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**39.85**	**256**	*e*P	**P**	**14 08 45.5**	**+0.1**
	12nm,0.8s,mb4.8						
PPT	**Papeete**	**42.99**	**103**	*e*S	sS	14 15 54.8	-4.6
	48nm,23.5s						
PPT				*e*LQ		14 19 37.7	
	459nm,25.2s						
PPT				*e*LR	LR	14 21 27.9	
	422nm,25.5s						
PPT	**Papeete**	**42.99**	**103**	LR	LR	14 21 52.3	
	comp=Z,206nm,20.6s,baz=347,slow=29						
TBI	**Tubuai**	**43.59**	**112**	*e*LR	LR	14 21 46.0	
	355nm,29.2s						
KLBR	**Kellerberrin**	**48.98**	**238**	*e*P	**P**	**14 09 58.2**	**+0.1**
	26nm,1.1s,mb5.1						
MUN	**Mundaring**	**50.35**	**238**	*e*P	**P**	**14 10 09.4**	**+0.8**
MJAR	**Matsushiro Arr**	**54.66**	**332**	P	**P**	**14 10 38.3**	**-2.1**
	1.9nm,0.8s,mb4.2,baz=165,slow=8.1,SNR=11						
MJAR				LR	LR	14 31 53.9	
	comp=Z,60nm,20.1s,baz=75,slow=34						
VNDA	**Vanda**	**66.05**	**181**	P	**P**	**14 11 56.7**	**-1.4**
	3.0nm,1.0s,mb4.1,baz=344,slow=5.9,SNR=10						
VNDA	**Vanda**	**66.05**	**181**	*e*P	**P**	**14 11 58.0**	**-0.1**
	3.8nm,1.0s,mb4.2						
SBA	**Scott Base**	**66.34**	**180**	*e*P	**P**	**14 12 00.9**	**+0.9**
	2.9nm,0.8s,mb4.2						
CN2	**Changchun**	**66.45**	**329**	*e*P	**P**	**14 11 59.3**	**-1.4**
CD2	**Chengdu**	**73.37**	**307**	*e*P	**P**	**14 12 42.5**	**-0.6**
LZH	**Lanzhou**	**75.52**	**312**	*e*P	**P**	**14 12 57.8**	**+2.2**
LZH				AP	pP	14 13 11.3	-1.9
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
QSPA	**South Pole Qui**	**78.50**	**180**	*e*P	**P**	**14 13 12.6**	**+0.3**
	comp=Z,9.8nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**79.03**	**324**	*e*P	**P**	**14 13 15.7**	**+0.4**
	comp=Z,3.8nm,0.9s,mb4.2						
SONM	**Songino Array**	**79.40**	**324**	P	**P**	**14 13 17.7**	**+0.4**
	comp=Z,1.7nm,0.8s,mb3.9,baz=135,slow=4.7,SNR=9.4						
TTA	**Tatalina**	**79.69**	**16**	*e*P	**P**	**14 13 18.5**	**-0.4**
	comp=Z,2.5nm,0.9s,mb4.0						
GTA	**Gaotai**	**79.82**	**314**	*e*P	**P**	**14 13 21.0**	**+1.5**
GTA				AP	pP	14 13 34.0	-3.3
COLA	**College**	**83.53**	**18**	*e*P	**P**	**14 13 37.9**	**-1.2**
	comp=Z,4.3nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**85.85**	**50**	P	**P**	**14 13 52.0**	**+1.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=236,slow=11,SNR=4.8						
JIRN	**Jiri**	**86.75**	**299**	*e*P	**P**	**14 13 56.2**	**+1.0**
PKI	**Pulchoki**	**87.39**	**299**	*e*P	**P**	**14 13 59.1**	**+0.8**
KKN	**Kakani**	**87.56**	**299**	*e*P	**P**	**14 13 59.7**	**+0.6**
DMN	**Daman**	**87.66**	**299**	*e*P	**P**	**14 13 59.7**	**+0.1**
	comp=Z,19nm,0.9s,mb5.1						
GKN	**Gorkha**	**88.16**	**299**	*e*P	**P**	**14 14 01.7**	**-0.3**
	comp=Z,18nm,0.9s,mb5.1						
KOLN	**Koldanda**	**89.00**	**298**	*e*P	**P**	**14 14 04.7**	**-1.2**
	comp=Z,9.5nm,0.9s,mb4.8						
PDAR	**Pinedale Array**	**93.42**	**47**	LR	LR	14 47 42.9	
	comp=Z,69nm,19.7s,baz=348,slow=30						
MKAR	**Makanchi Array**	**94.27**	**317**	P	**P**	**14 14 30.3**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.9,baz=101,slow=5.9,SNR=36						
ZAL	**Zalesovo**	**94.29**	**324**	P	**P**	**14 14 29.0**	**-1.4**
	comp=Z,1.1nm,0.5s,mb4.4,baz=10.0,slow=7.2,SNR=5.5						
YKA	**Yellowknife Ar**	**95.10**	**27**	LR	LR	14 51 52.2	
	comp=Z,32nm,19.8s,baz=205,slow=32						
ESDC	**Sonseca Array**	**150.66**	**345**	PKPbc	PKPbc	14 21 02.6	-0.3
	comp=Z,0.2nm,0.4s,baz=14,slow=2.0,SNR=6.7						
TORD	**Torodi Ar. Bea**	**164.94**	**278**	PKPab	PKPab	14 22 13.0	+1.5
	comp=Z,1.1nm,0.8s,baz=92,slow=3.9,SNR=5.7						

*LDG **25** 15:04:22.7±0.1, 4311N×066W, h2^{km}, Md2.0/2, Ml1.8/2, Error ellipse: s-maj=1.1km s-min=0.3km az=124.0*

MDD 25 15:04:22.1±0.4, 4311N×070W, h16^{km}±3^{km}, mbLg1.3/4, 1C, Error ellipse: s-maj=5.2km s-min=1.8km az=9.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.02**	**183**	Pg	Pg	15 04 25.0	+0.1
ATE				Lg		15 04 27.2	
LARF	**Larrau**	**0.22**	**252**	Pg	Pg	15 04 27.2	0.0
LARF				Lg		15 04 30.9	
REYF	**Montagne du Re**	**0.23**	**99**	Pg	Pg	15 04 26.8	-0.5
REYF				Lg		15 04 30.3	
ETSF	**Etsaut**	**0.23**	**154**	*e*Pg	Pg	15 04 27.3	0.0
ETSF				*e*Sg	Sg	15 04 30.3	-0.6
	5.8nm,0.2s						
ETSF	**Etsaut**	**0.23**	**154**	Pg	Pg	15 04 27.3	0.0
ETSF				Lg		15 04 30.3	
	2.9nm,0.2s						
VIEF	**Viey**	**0.57**	**112**	Pg	Pg	15 04 32.9	-0.6
VIEF				Lg		15 04 40.2	
EALK	**Alkurruntz**	**0.60**	**281**	Pg	Pg	15 04 32.6	-1.4
	0.1nm,0.0s,SNR=6.1						
EALK				Lg		15 04 40.6	
	3.2nm,0.2s,SNR=7.5						
ELIZ	**Elizondo**	**0.61**	**276**	Pg	Pg	15 04 33.6	-0.5
	0.4nm,0.2s,SNR=7.9						
ELIZ				Lg		15 04 41.3	
	0.5nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.64**	**256**	Lg		15 04 43.0	
	0.9nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.75**	**124**	⇑Pg	Pg	15 04 36.1	-0.7
	0.8nm,0.1s,SNR=18						
EBIE				Lg		15 04 45.4	
	1.3nm,0.1s,SNR=7.1						
EPF	**Esparros**	**0.77**	**95**	*e*Pg	Pg	15 04 36.7	-0.4
EPF				*e*Sg	Sg	15 04 46.3	-0.9
	0.7nm,0.2s						
EPF	**Esparros**	**0.77**	**95**	Pg	Pg	15 04 36.7	-0.4
EPF				Lg		15 04 46.3	
	0.3nm,0.2s						
ESAC	**San Caprasio**	**1.39**	**173**	Lg		15 05 07.1	
	6.6nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**2.15**	**83**	*e*Pg	Pg	15 05 02.0	-1.3
MTLF				*e*Sn	Sn	15 05 22.7	-0.8
	0.9nm,0.3s						
MTLF	**Montolieu**	**2.15**	**83**	Pg	Pg	15 05 02.0	-1.3
MTLF				Sn	Sn	15 05 22.7	-0.8
	0.4nm,0.3s						
LASF	**Ste Croix**	**3.45**	**72**	*e*Sg	Sg	15 06 10.0	-2.9
	0.5nm,0.2s						
LASF	**Ste Croix**	**3.45**	**72**	Lg	Sg	15 06 10.0	-2.9
	0.2nm,0.2s						

*BJI **25** 15:09:44.2, 553S×102.17E, h48^{km}, mB4.9, mb4.8, Ms4.5, Msz4.2*
*ISCJB **25** 15:09:50.6±0.2, 478S±004×10205E±004, h48^{km}, mb4.9/72, MS4.0/22, Error ellipse: s-maj=6.6km s-min=3.7km az=97.5*
*MOS **25** 15:09:51.4±1.3, 467S×10222E, h52^{km}, mb5.1/29, Error ellipse: s-maj=11.8km s-min=7.0km az=111.3*
*HRVD **25** 15:09:52.3±0.5, 469S×10197E, h59^{km}±4^{km}, MW4.8/54, Centroid moment Tensor Solution. LP body waves: s13,c15;Mantle waves: s54,c64; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.60±.18; $M_{\theta\theta}$-1.12±.13; $M_{\phi\phi}$0.52±.16; $M_{r\theta}$-0.28±.08; $M_{r\phi}$-0.96±.09; $M_{\theta\phi}$~1.38±.09; Best double couple: $M_0$1.95900×10^{16} NP1:ϕ_s103.00000°, δ42.00000°, λ162.00000°. NP2: ϕ_s206.00000°, δ78.00000°, λ49.00000°. Principal axes: T 2.0180, Plg42.0000°, Azm78.0000°; N -0.1130, Plg40.0000°, Azm217.0000°; P -1.9000, Plg22.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **25** 15:09:52.3±0.6, 477S×10206E, h46^{km}±5^{km}, mb4.4/22, mb1 4.5/23, mb1mx4.5/25, mbtmp4.7/23, MS4.0/13, Ms1 4.0/13, ms1mx3.7/27 Error ellipse: s-maj=16.6km s-min=9.4km az=50.0*
*NEIC **25** 15:09:52.3±0.2, 475S×102.15E, mb5.0/26, Error ellipse: s-maj=9.7km s-min=5.6km az=53.0*
NEIC Felt [III] at Manna and [II] at Bengkulu.
*SZGRF **25** 15:10:04.4, 497S×10206E, h33^{km}, mb4.8, Southern Sumatera, Indonesia*

ISC 25 15:09:52.8±0.2, 478S±004×10206E±004, h50^{km}, h50^{km}±1.1^{km}: pP-P, n222, σ1°07/177, mb4.9/72, MS4.0/22, 27C-18D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.24**	**26**	P	**Pn**	**15 10 13.0**	**-0.7**
	2μm,0.6s						
KLI	**Kotabumi**	**2.79**	**92**	P	**Pn**	**15 10 35.6**	**+0.7**
	525nm,0.8s						
SBJI	**Serang**	**4.27**	**108**	P	**Pn**	**15 10 56.1**	**+0.9**
	323nm,1.1s						
PPI	**Padang Panjang**	**4.60**	**339**	P	**Pn**	**15 10 58.5**	**-1.3**
	865nm,0.6s						
TNG	**Tangerang**	**4.77**	**107**	P	**Pn**	**15 11 03.3**	**+1.2**
	1μm,0.9s						
CBJI	**Citeko**	**5.04**	**109**	P	**Pn**	**15 11 08.6**	**+2.8**
	579nm,0.7s						
LEM	**Lembang**	**5.89**	**110**	P	**Pn**	**15 11 18.7**	**+1.2**
	362nm,1.0s						
KGM	**Kluang**	**6.86**	**11**	P	**Pn**	**15 11 35.4**	**+4.6**
BJII	**Banjamegara**	**8.02**	**109**	P	**Pn**	**15 11 46.7**	**0.0**
	117nm,1.6s						
PSI	**Prapat**	**8.15**	**337**	P	**Pn**	**15 11 45.6**	**-2.9**
	7.3nm,0.3s,baz=150,slow=9.9,SNR=34						
PSI				S	**Sn**	**15 13 21.0**	**+1.8**
	1.1nm,0.3s,baz=345,slow=20,SNR=2.3						
PSI				LR	LR	15 15 55.8	
	comp=Z,818nm,21.0s,baz=147,slow=45						
PSI	**Prapat**	**8.15**	**337**	P	**Pn**	**15 11 45.6**	**-2.8**
PSI				S	**Sn**	**15 13 21.0**	**+1.8**
TSI	**Tuntungan**	**8.93**	**337**	P	**Pn**	**15 11 58.7**	**-0.4**
	208nm,1.1s						
IPM	**Ipoh**	**9.25**	**354**	P	**Pn**	**15 12 05.6**	**+2.1**
KULM	**Kulim**	**10.10**	**352**	*e*Pn	**Pn**	**15 12 13.9**	**-1.1**
SNG	**Songkhla**	**11.96**	**353**	P	**Pn**	**15 12 39.0**	**-1.5**
KMMI	**Kalianget**	**12.06**	**101**	P	**Pn**	**15 12 42.4**	**+0.5**
	208nm,1.0s						
BSI	**Banda Aceh**	**12.23**	**326**	P	**Pn**	**15 12 40.9**	**-3.4**
	198nm,1.0s						
KKM	**Kota Kinabalu**	**17.76**	**53**	*e*P	**Pn**	**15 13 57.6**	**+1.4**
PCI	**Palu**	**18.16**	**78**	P	**Pn**	**15 14 02.3**	**+1.0**
	432nm,1.5s						
NST	**Nakhon Sawan**	**20.41**	**355**	P	**P**	**15 14 24.6**	**-0.9**
KKTK	**Khon Kaen**	**20.99**	**2**	P	**P**	**15 14 31.0**	**-0.8**
	370nm,0.7s						
MBWA	**Marble Bar**	**23.66**	**135**	*e*P	**P**	**15 14 59.0**	**-0.5**
	25nm,1.0s,mb4.6						
QIZ	**Qiongzhong**	**24.86**	**18**	P	**P**	**15 15 12.5**	**+1.9**
QIZ				XP	sP	15 15 26.8	-2.6
QIZ				S	**S**	**15 19 27.8**	**-2.3**
QIZ				SS		15 20 33.8	
QIZ				LR	LR		
	comp=N,200nm,20.0s						
QIZ				LR	LR		
	comp=Z,270nm,16.8s,MS3.8						
TGY	**Tagaytay City**	**26.50**	**45**	P	**P**	**15 15 25.9**	**+0.5**
	comp=Z,63nm,0.3s,baz=222,slow=5.7,SNR=3.2						
FITZ	**Fitzroy Crossi**	**26.59**	**122**	⇑*i*P	**P**	**15 15 25.8**	**-0.4**
	comp=Z,74nm,0.9s,mb5.2						
FITZ				*i* S	sS	15 20 24.9	+5.8
FITZ	**Fitzroy Crossi**	**26.59**	**122**	P	**P**	**15 15 25.9**	**-0.3**
	comp=Z,45nm,0.8s,mb5.0,baz=296,slow=6.3,SNR=58						
VIS	**Vishakhapatnam**	**29.01**	**321**	*e*P	**P**	**15 15 48.1**	**+0.3**
VIS				AMb	AMB	15 16 29.6	
	comp=Z,257nm,3.4s						
KMI	**Kunming**	**29.73**	**1**	P	**P**	**15 15 55.5**	**+1.3**
KMI				AP	pP	15 16 10.0	+2.9
KMI				XP	sP	15 16 15.3	+2.3
KMI				PP	PP	15 16 58.3	-3.6
KMI				S	**S**	**15 20 46.8**	**+0.1**
KMI				XS	sS	15 21 11.3	+2.8
KMI				AMB	AMB		
	comp=Z,40nm,4.7s						
KMI				LR	LR		
	comp=N,280nm,15.3s,MS4.1						
KMI				LR	LR		
	comp=E,230nm,19.1s,MS4.1						
KMI				LR	LR		
	comp=Z,270nm,15.3s,MS4.0						
MUN	**Mundaring**	**30.14**	**156**	*e*P	**P**	**15 15 57.8**	**0.0**
KAKA	**Kakadu**	**31.02**	**107**	*e*P	**P**	**15 16 03.5**	**-2.1**
	comp=Z,30nm,0.6s,mb5.3						
GYA	**Guiyang**	**31.37**	**8**	⇑*i*P	**P**	**15 16 08.8**	**+0.1**
GYA				AP	pP	15 16 20.3	-1.3
GYA				XP	sP	15 16 25.8	-1.8
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,3.6s						
GYA				LR	LR		
	comp=N,350nm,14.9s,MS4.3						
GYA				LR	LR		
	comp=E,290nm,13.5s,MS4.3						
GYA				LR	LR		
	comp=Z,420nm,14.1s,MS4.3						
NWAO	**Narrogin (SRO)**	**31.39**	**155**	P	**P**	**15 16 08.5**	**-0.4**
	comp=Z,26nm,0.9s,mb5.1,baz=340,slow=5.0,SNR=5.9						
NWAO				LR	LR	15 29 05.1	
	comp=Z,260nm,18.9s,MS3.9,baz=314,slow=37						
NWAO	**Narrogin (SRO)**	**31.39**	**155**	*e*P	**P**	**15 16 08.9**	**0.0**
NWAO				pmax	pmax		
	comp=Z,20nm,0.9s						
NWAO	**Narrogin (SRO)**	**31.39**	**155**	*e*P	**P**	**15 16 08.9**	**0.0**
	comp=Z,20nm,0.9s,mb5.0						
BOK	**Bokaro**	**32.48**	**332**	*e*P	**P**	**15 16 19.6**	**+1.1**
BOK				AMb	AMB	15 16 21.3	
	comp=Z,48nm,1.0s,mb5.3						
BLSP	**Bilaspur**	**33.10**	**325**	*e*P	**P**	**15 16 22.4**	**-1.4**
BLSP				AMb	AMB	15 16 25.8	
	comp=Z,41nm,1.3s,mb5.2						
WRA	**Warramunga Arr**	**34.85**	**118**	P	**P**	**15 16 38.1**	**-0.9**
	comp=Z,8.0nm,0.7s,mb4.7,baz=313,slow=9.3,SNR=42						
WRA				PcP	PcP	15 19 11.7	+0.5
	comp=Z,6.6nm,0.4s,baz=336,slow=10,SNR=14						
WRA	**Warramunga Arr**	**34.85**	**118**	*i* P	**P**	**15 16 38.9**	**-0.1**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WRAB	**Tennant Creek**	**34.85**	**118**	P	**P**	**15 16 39.0**	**-0.1**
	comp=Z,186nm,1.0s,mb6.0,SNR=18						
WRAB	**Tennant Creek**	**34.85**	**118**	*e*P	**P**	**15 16 38.8**	**-0.3**
WRAB	**Tennant Creek**	**34.85**	**118**	*e*P	**P**	**15 16 38.3**	**-0.8**
	comp=Z,28nm,0.9s,mb5.2						
WB2	**Warramunga Arr**	**34.86**	**118**	*e*P	**P**	**15 16 38.4**	**-0.7**
WB2				*e*PCP	PcP	15 19 11.6	+0.4
WB2				*e*PCS	PcS	15 22 56.4	-1.5
CD2	**Chengdu**	**35.52**	**3**	*e*P	**P**	**15 16 44.3**	**-0.5**
CD2				AP	pP	15 16 56.5	-1.4
CD2				XP	sP	15 17 01.8	-2.0
CD2				PP	PP	15 18 05.5	-0.6
CD2				PCP	PcP	15 19 12.5	-0.6
CD2				S	**S**	**15 22 16.5**	**-0.3**
CD2				SCP	ScP	15 22 53.5	-1.3
CD2				PCS	PcS	15 22 58.8	-1.5
CD2				SCS	ScS	15 26 57.0	-2.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.9s						
CD2				LR	LR		
	comp=E,250nm,24.0s						
CD2				LR	LR		
	comp=Z,130nm,14.4s						
JIRN	**Jiri**	**35.70**	**335**	*e*P	**P**	**15 16 46.0**	**-0.3**
	comp=Z,127nm,0.9s,mb5.8						
LSA	**Lhasa**	**35.84**	**344**	P	**P**	**15 16 48.3**	**+0.8**
PKI	**Pulchoki**	**35.95**	**334**	*e*P	**P**	**15 16 49.5**	**+1.0**
ASPA	**Alice Springs**	**35.98**	**125**	*e*P	**P**	**15 16 48.6**	**-0.1**
ASPA				*e*PCP	PcP	15 19 41.4	+27
ASPA				*e*S	**S**	**15 22 30.8**	**+7.0**
ASPA				*e*SCP		15 24 20.7	
AS31	**Alice Springs**	**35.98**	**125**	*e*P	**P**	**15 16 48.6**	**-0.1**
AS31				*e*PcP	PcP	15 19 41.4	+27
AS31				*e*S	**S**	**15 22 30.8**	**+7.0**
AS31				*e*ScP		15 24 20.7	
ASAR	**Alice Springs**	**35.98**	**125**	P	**P**	**15 16 48.7**	**0.0**
	comp=Z,20nm,0.9s,mb5.1,baz=296,slow=7.4,SNR=171						
ASAR				PP	PP	15 18 12.6	+1.4
	comp=Z,5.3nm,0.8s,baz=312,slow=14,SNR=4.5						
ASAR				PcP	PcP	15 19 15.5	+1.0
	comp=Z,3.6nm,0.8s,baz=307,slow=2.5,SNR=6.4						
ASAR				S	**S**	**15 22 29.5**	**+5.7**
	comp=Z,0.9nm,1.0s,baz=300,slow=13,SNR=4.4						
ASAR				LR	LR	15 30 08.2	
	comp=Z,294nm,19.3s,MS4.1,baz=303,slow=34						
ASAR	**Alice Springs**	**35.98**	**125**	P	**P**	**15 16 48.7**	**0.0**
ASAR						15 18 12.6	
ASAR						15 19 15.5	
ASAR			

NDI	**New Delhi**	**40.96**	**326**	*e*P	**P**	**15 17 29.5**	**-1.1**
GTA	**Gaotai**	**44.01**	**357**	*e*P	**P**	**15 17 56.0**	**+0.7**
GTA				AP	pP	15 18 10.3	+1.6
GTA				XP	sP	15 18 15.0	+0.5
GTA				PP	PP	15 19 39.5	+1.0
GTA				S	**S**	**15 24 25.0**	**+1.2**
GTA				XS	sS	15 24 46.8	+0.5
GTA				SS	SS	15 27 36.0	-6.1
GTA				AMB	AMB		
	comp=Z,50nm,5.0s						
GTA				LR	LR		
	comp=N,170nm,12.6s,MS4.3						
GTA				LR	LR		
	comp=E,180nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=Z,240nm,16.4s,MS4.2						
PMG	**Port Moresby**	**44.97**	**98**	P	**P**	**15 18 02.7**	**-0.2**
	comp=Z,39nm,0.7s,mb5.3,baz=253,slow=6.6,SNR=14						
PMG				LR	LR	15 39 06.3	
	comp=Z,234nm,19.5s,MS4.1,baz=103,slow=39						
PMG	**Port Moresby**	**44.97**	**98**	*e*P	**P**	**15 18 02.7**	**-0.2**
	comp=Z,29nm,0.7s,mb5.2						
CTA	**Charters Tower**	**45.59**	**113**	⇑*i*P	**P**	**15 18 07.8**	**-0.1**
	comp=Z,24nm,0.9s,mb5.1						
CTA	**Charters Tower**	**45.59**	**113**	P	**P**	**15 18 08.0**	**+0.1**
	comp=Z,33nm,0.9s,mb5.3,baz=287,slow=9.8,SNR=17						
CTA				LR	LR	15 38 33.2	
	comp=Z,192nm,20.5s,MS4.0,baz=270,slow=38						
CTA	**Charters Tower**	**45.59**	**113**	⇑*i*P	**P**	**15 18 07.8**	**-0.1**
CTA				pmax	pmax		
	comp=Z,24nm,0.9s						
CTAO	**Charters Tower**	**45.59**	**113**	*e*P	**P**	**15 18 07.7**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.4						
CTAO	**Charters Tower**	**45.59**	**113**	*e*P	**P**	**15 18 07.7**	**-0.1**
	comp=Z,50nm,1.1s,mb5.4						
STKA	**Stephens Creek**	**45.79**	**131**	*e*P	**P**	**15 18 07.3**	**-2.1**
	comp=Z,13nm,0.8s,mb4.9						
STKA				*e*pP	pP	15 18 19.7	-3.1
	comp=Z,13nm,0.8s						
STKA				*e*PCP	PcP	15 19 44.6	-1.7
STKA	**Stephens Creek**	**45.79**	**131**	P	**P**	**15 18 08.0**	**-1.5**
	comp=Z,16nm,0.7s,mb5.1,baz=303,slow=7.9,SNR=63						
STKA				PcP	PcP	15 19 44.6	-1.6
	comp=Z,5.4nm,0.6s,baz=281,slow=6.0,SNR=2.9						
STKA				LR	LR	15 38 35.6	
	comp=Z,219nm,20.3s,MS4.1,baz=121,slow=38						
HHC	**Hu-ho-hao-te**	**46.23**	**10**	*e*P	**P**	**15 18 13.5**	**+0.6**
HHC				AP	pP	15 18 26.3	-0.1
HHC				XP	sP	15 18 31.3	-0.9
HHC				PCP	PcP	15 19 47.3	-0.6
HHC				PP	PP	15 20 02.5	+0.5
HHC				PCS	PcS	15 23 41.5	-0.9
HHC				S	**S**	**15 24 56.5**	**+0.6**
HHC				XS	sS	15 25 17.8	-0.6
HHC				SCS	ScS	15 28 01.5	-2.3
HHC				SS	SS	15 28 16.0	-5.6
HHC				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,110nm,3.9s						
HHC				LR	LR		
	comp=N,200nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=E,190nm,14.3s,MS4.3						
HHC				LR	LR		
	comp=Z,150nm,14.3s,MS4.1						
WMQ	**Urumqi**	**50.08**	**346**	P	**P**	**15 18 43.5**	**+0.9**
SONM	**Songino Array**	**52.52**	**4**	P	**P**	**15 19 01.5**	**+0.6**
	comp=Z,7.9nm,0.9s,mb4.7,baz=185,slow=9.5,SNR=37						
ULN	**Ulaanbaatar**	**52.60**	**4**	*e*P	**P**	**15 19 02.2**	**+0.7**
ULN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**52.60**	**4**	*e*P	**P**	**15 19 02.2**	**+0.7**
	comp=Z,12nm,0.9s,mb4.8						
CN2	**Changchun**	**52.75**	**21**	*e*P	**P**	**15 19 01.8**	**-0.8**
CN2				*e*XP	sP	15 19 19.8	-2.2
CN2				*e*S	**S**	**15 26 31.5**	**+4.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS4.3						
TKM2	**Tokmak 2**	**53.18**	**336**	*i* P	**P**	**15 19 05.7**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**53.20**	**36**	*e*P	**P**	**15 19 03.7**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**53.20**	**36**	*e*P	**P**	**15 19 03.7**	**-2.2**
	comp=Z,6.5nm,0.8s,mb4.6						
MAT	**Matsushiro**	**53.20**	**36**	P	**P**	**15 19 03.9**	**-2.0**
MAT	**Matsushiro**	**53.20**	**36**	*e*P	**P**	**15 19 04.0**	**-1.9**
MAT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
MAT	**Matsushiro**	**53.20**	**36**	*e*P	**P**	**15 19 04.0**	**-1.9**
	comp=Z,10.0nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**53.20**	**36**	P	**P**	**15 19 04.6**	**-1.3**
	comp=Z,8.6nm,0.8s,mb4.7,baz=217,slow=7.4,SNR=47						
MK31	**Makanchi Array**	**54.25**	**343**	P	**P**	**15 19 12.5**	**-1.0**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
MKAR	**Makanchi Array**	**54.25**	**343**	P	**P**	**15 19 13.5**	**-0.1**
	comp=Z,8.6nm,0.5s,mb4.9,baz=151,slow=9.1,SNR=160						
ZAK	**Zakamensk**	**54.95**	**1**	*e*P	**P**	**15 19 18.8**	**+0.2**
ZAK				*e*	pP	15 19 33.9	+1.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
MDJ	**Mudanjiang**	**55.02**	**24**	P	**P**	**15 19 19.0**	**-0.2**
MDJ				AP	pP	15 19 30.3	-2.6
MDJ				XP	sP	15 19 36.5	-2.2
MDJ				PCP	PcP	15 20 20.3	0.0
MDJ				PP	PP	15 21 22.0	-0.6
MDJ				SCP	ScP	15 24 15.0	+0.3
MDJ				PCS	PcS	15 24 20.0	-0.2
MDJ				S	**S**	**15 26 58.8**	**+1.1**
MDJ				SS	SS	15 30 43.3	+1.4
MDJ				AMB	AMB		
	comp=Z,40nm,4.6s						
MDJ				LR	LR		
	comp=N,40nm,21.3s,MS3.8						
MDJ				LR	LR		
	comp=E,70nm,22.8s,MS3.8						
MDJ				LR	LR		
	comp=Z,60nm,22.8s,MS3.6						
KK31	**Karatay Array**	**55.55**	**332**	*i* P	**P**	**15 19 20.1**	**-2.8**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KKAR	**Karatay Array**	**55.55**	**332**	P	**P**	**15 19 20.1**	**-2.8**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
TLY	**Talaya**	**56.25**	**1**	*e*P	**P**	**15 19 30.3**	**+2.3**
TLY				*e*		15 29 03.6	
TLY				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
TLY				MLR	MLR		
	comp=Z,72nm,13.0s,MS4.0						
KURK	**Kurchatov**	**58.84**	**343**	P	**P**	**15 19 45.3**	**-0.9**
	comp=Z,77nm,0.7s,mb5.8,SNR=8.3						
KURK	**Kurchatov**	**58.84**	**343**	*e*P	**P**	**15 19 45.5**	**-0.7**
KURK				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
KURK	**Kurchatov**	**58.84**	**343**	*e*P	**P**	**15 19 45.5**	**-0.7**
	comp=Z,20nm,0.9s,mb5.2						
ABKT	**Ailbek**	**58.88**	**320**	P	**P**	**15 19 47.6**	**+1.1**
	comp=Z,125nm,0.6s,SNR=7.2						
KLR	**Kul'dur**	**59.66**	**22**	*e*P	**P**	**15 19 48.0**	**-3.9**
KLR				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.2						
ZAL	**Zalesovo**	**60.26**	**348**	P	**P**	**15 19 55.3**	**-0.6**
	comp=Z,4.4nm,0.6s,mb4.7,baz=295,slow=4.7,SNR=27						
ZAL				pP	pP	15 20 10.1	+0.2
	comp=Z,9.9nm,0.5s,baz=300,slow=3.7,SNR=10						
ZAL	**Zalesovo**	**60.26**	**348**	*i* P	**P**	**15 19 55.5**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NVS	**Novosibirsk**	**61.43**	**348**	*e*P	**P**	**15 20 02.4**	**-1.5**
NVS				*i* S	**S**	**15 28 17.7**	**-3.6**
NVS				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,23nm,1.7s						
NVS				pmax	pmax		
	comp=E,13nm,1.4s						
NVS				smax			
	comp=E,29nm,1.7s						
NVS				smax			
	comp=N,17nm,1.3s						
YSS	**Yuzh-Sakhalins**	**62.78**	**30**	⇑*e*P	**P**	**15 20 12.0**	**-1.0**
YSS				*e*	pP	15 20 27.3	+0.3
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.5						
YSS	**Yuzh-Sakhalins**	**62.78**	**30**	*e*P	**P**	**15 20 11.2**	**-1.7**
	comp=Z,49nm,1.0s,mb5.6						
BRVK	**Borovoye**	**63.55**	**339**	P	**P**	**15 20 17.0**	**-1.0**
	comp=Z,43nm,0.5s,mb5.7,SNR=5.1						
KMBO	**Kilima Mbogo**	**64.80**	**271**	P	**P**	**15 20 26.5**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=51,slow=10.0,SNR=4.2						
KMBO				LR	LR	15 43 37.6	
	comp=Z,85nm,19.8s,MS3.9,baz=92,slow=31						
KMBO	**Kilima Mbogo**	**64.80**	**271**	*i* P	**P**	**15 20 27.1**	**+0.8**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AB31	**Akbulak array**	**65.05**	**331**	P	**P**	**15 20 26.8**	**-1.0**
AB31				*i* S	pP	15 20 41.7	-0.2
AB31				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
AKTK	**Aktyubinsk**	**66.76**	**331**	P	**P**	**15 20 38.7**	**-0.2**
AKTO	**Aktyubinsk**	**66.76**	**331**	P	**P**	**15 20 38.7**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.2,baz=52,slow=3.7,SNR=7.0						
MAW	**Mawson**	**68.14**	**195**	P	**P**	**15 20 47.7**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.5,baz=32,slow=6.4,SNR=10						
MAW	**Mawson**	**68.14**	**195**	*e*P	**P**	**15 20 47.3**	**-0.3**
MAW				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MAW	**Mawson**	**68.14**	**195**	*e*P	**P**	**15 20 47.3**	**-0.3**
	comp=Z,6.4nm,1.1s,mb4.6						
GNI	**Garni**	**68.94**	**316**	*e*P	**P**	**15 20 52.5**	**-0.1**
GNI				pmax	pmax		
	comp=Z,11nm,1.3s						
YAK	**Yakutsk**	**69.92**	**13**	*d* iP	**P**	**15 20 56.9**	**-1.7**
YAK				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.1						
YAK	**Yakutsk**	**69.92**	**13**	*e*P	**P**	**15 20 56.1**	**-2.5**
	comp=Z,36nm,0.9s,mb5.3						
ARU	**Arti**	**70.56**	**336**	⇓*i*P	**P**	**15 21 01.4**	**-1.1**
ARU				*e*		15 21 21.4	
ARU				*e*		15 23 37.5	
ARU				*e*PPP		15 25 26.0	
ARU				*e*S	S	15 30 06.9	-5.4
ARU				*e*SS	SS	15 34 39.9	-4.4
ARU				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
ARU	**Arti**	**70.56**	**336**	*e*P	**P**	**15 21 01.9**	**-0.6**
	comp=Z,4.0nm,0.9s,mb4.3						
ARU				*e*pP	pP	15 21 16.2	-0.5
ASF	**Jabal al Asfar**	**71.87**	**306**	P	**P**	**15 21 12.8**	**+2.4**
	comp=Z,0.7nm,0.3s,mb4.1,baz=335,slow=3.5,SNR=7.0						
MALT	**Malatya**	**72.71**	**312**	*e*P	**P**	**15 21 15.7**	**+0.2**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
MALT	**Malatya**	**72.71**	**312**	*e*P	**P**	**15 21 15.7**	**+0.2**
	comp=Z,8.8nm,1.2s,mb4.6						
PET	**Petropavlovsk**	**74.60**	**32**	⇑*i*P	**P**	**15 21 25.0**	**-1.5**
PET				pmax	pmax		
	comp=Z,49nm,0.7s,mb5.5						
MA2	**Magadan**	**74.72**	**23**	*e*P	**P**	**15 21 26.6**	**-0.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SYO	**Syowa Base**	**75.93**	**199**	⇑*e*pP	pP	15 21 54.0	+5.5
BOSA	**Boshof**	**76.15**	**242**	LR	LR	15 48 42.0	
	comp=Z,200nm,21.3s,MS4.4,baz=177,slow=31						
BR131	**Keskin Array S**	**76.70**	**313**	*e*P	**P**	**15 21 37.9**	**-0.7**
	comp=Z,1.7nm,0.5s,mb4.2						
BRTR	**Keskin Array B**	**76.70**	**313**	P	**P**	**15 21 38.0**	**-0.5**
	comp=Z,5.9nm,0.8s,mb4.5,baz=131,slow=7.2,SNR=29						
BRTR				pP	pP	15 21 51.9	-1.1
	comp=Z,3.8nm,0.8s,baz=129,slow=7.4,SNR=10						
BRTR				LR	LR	15 57 55.0	
	comp=Z,76nm,19.2s,MS4.0,baz=300,slow=38						
BRTR	**Keskin Array B**	**76.70**	**313**	*i* P	**P**	**15 21 38.0**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BALT	**Daday**	**77.44**	**314**	*i* P	**P**	**15 21 43.4**	**+0.7**
BALT				*i* S	pP	15 21 56.0	-1.1
SIM	**Simferopol'**	**78.02**	**318**	*e*P	**P**	**15 21 47.8**	**+1.9**
SIM				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
TIXI	**Tiksi**	**78.27**	**8**	⇑*e*P	**P**	**15 21 45.0**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
VNDA	**Vanda**	**79.06**	**169**	P	**P**	**15 21 51.1**	**-0.5**
	comp=Z,5.5nm,1.0s,mb4.4,baz=298,slow=5.5,SNR=18						
VNDA	**Vanda**	**79.06**	**169**	*e*P	**P**	**15 21 50.6**	**-1.1**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**79.06**	**169**	*e*P	**P**	**15 21 50.6**	**-1.1**
	comp=Z,6.2nm,1.1s,mb4.5						
MOS	**Moscow**	**79.92**	**329**	*e*P	pP	15 22 10.3	-0.5
MOS				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.5						
SBA	**Scott Base**	**80.15**	**169**	*e*P	**P**	**15 21 57.7**	**+0.1**
SBA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
SBA	**Scott Base**	**80.15**	**169**	*e*P	**P**	**15 21 57.7**	**+0.1**
	comp=Z,5.6nm,0.9s,mb4.5						
OBN	**Obninsk**	**80.22**	**328**	*αe*P	**P**	**15 21 58.2**	**+0.3**
OBN				*e**PP	pP	15 22 11.7	-0.7
OBN				*e**SP	sP	15 22 18.2	+0.2
OBN				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,25.0s,MS4.1						
AKASG	**Malin Array Be**	**82.92**	**322**	P	**P**	**15 22 11.9**	**-0.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=98,slow=4.3,SNR=11						
AKASG				pP	pP	15 22 25.8	-0.9
	comp=Z,5.6nm,1.0s,baz=91,slow=4.7,SNR=5.7						
AKASG				PP	PP	15 25 21.1	-2.0
	comp=Z,0.2nm,0.3s,baz=86,slow=7.0,SNR=4.5						
AKASG				LR	LR	16 05 03.9	
	comp=Z,41nm,19.5s,MS3.8,baz=90,slow=40						
AKASG	**Malin Array Be**	**82.92**	**322**	P	**P**	**15 22 11.9**	**-0.3**
AKASG				*PP	pP	15 22 25.8	-0.9
AKASG						15 25 21.2	
AKASG	**Malin Array Be**	**82.92**	**322**	P	**P**	**15 22 11.9**	**-0.3**
AKASG				pP	pP	15 22 25.8	-0.9
AKASG				PP	PP	15 25 21.1	-2.0
AKASG				LR	LR	16 05 03.9	
VRI	**Vrincioaia**	**83.27**	**317**	⇓*i*P	**P**	**15 22 14.7**	**+0.7**
MLR	**Muntele Rosu**	**83.72**	**317**	⇑*i*P	**P**	**15 22 17.3**	**+1.0**
BILL	**Bilibino**	**85.04**	**20**	P	**P**	**15 22 22.0**	**-1.0**
LVV	**L'vov**	**85.93**	**321**	*e*P	pP	15 22 40.5	-1.5
VSU	**Vasula**	**86.42**	**329**	*e*P	**P**	**15 22 30.6**	**+0.7**
BZS	**Buzias**	**86.72**	**316**	⇓*i*P	**P**	**15 22 32.0**	**+0.7**
KOLS	**Kolonicke sedl**	**86.88**	**319**	*e*P	**P**	**15 22 34.0**	**+1.9**
KOLS				*e*	pP	15 22 47.6	+0.9
KOLS				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
KOLS	**Kolonicke sedl**	**86.88**	**319**	*e*P	**P**	**15 22 34.0**	**+1.9**
	comp=Z,10nm,1.1s,mb5.0						
KOLS				*e*	pP	15 22 47.6	+0.9
SUW	**Suwalki**	**87.32**	**325**	*e*P	**P**	**15 22 34.4**	**+0.2**
SUW				*e**PP	pP	15 22 49.2	+0.4
SUW				pmax	pmax		
	comp=Z,73nm,1.1s,mb5.8						
SUW	**Suwalki**	**87.32**	**325**	*e*P	**P**	**15 22 34.4**	**+0.2**
	comp=Z,74nm,1.1s,mb5.8						
SUW				*e*pP	pP	15 22 49.2	+0.3
FINES	**FINESS Array B**	**87.51**	**332**	P	**P**	**15 22 35.4**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.3,baz=130,slow=6.0,SNR=9.2						
FINES				pP	pP	15 22 49.2	-0.5
	comp=Z,4.0nm,0.8s,baz=104,slow=8.0,SNR=9.2						
FINES	**FINESS Array B**	**87.51**	**332**	*i* P	**P**	**15 22 35.4**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KECS	**Kecovo**	**87.97**	**319**	*e*P	**P**	**15 22 38.7**	**+1.4**
KECS				*e*	pP	15 22 52.1	+0.1
KECS				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.5						
KECS	**Kecovo**	**87.97**	**319**	*e*P	**P**	**15 22 38.7**	**+1.4**
	comp=Z,5.3nm,1.4s,mb4.6						
KECS				*e*	pP	15 22 52.1	+0.1
NIE	**Niedzica**	**88.23**	**320**	*e*P	pP	15 22 54.4	+1.2
PKSM	**Moragy**	**88.86**	**316**	⇑*i*P	**P**	**15 22 41.3**	**-0.2**
VYHS	**Vyhne**	**89.06**	**319**	*i* P	**P**	**15 22 43.2**	**+0.8**
VYHS				*e*	pP	15 22 57.4	+0.3
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.7						
VYHS	**Vyhne**	**89.06**	**319**	*i* P	**P**	**15 22 43.2**	**+0.8**
	comp=Z,5.4nm,1.3s,mb4.7						
VYHS				*e*	pP	15 22 57.4	+0.3
OKC	**Ostrava-Krasne**	**89.69**	**320**	*e*pP	pP	15 23 00.7	+0.6
ARCES	**ARCESS Array B**	**89.77**	**340**	P	**P**	**15 22 45.2**	**-0.5**
	comp=Z,2.8nm,0.9s,mb4.6,baz=33,slow=18,SNR=4.2						
ARCES				pP	pP	15 22 59.6	-0.8
	comp=Z,7.4nm,0.8s,baz=109,slow=5.6,SNR=6.1						
ARCES				LR	LR	16 09 13.2	
	comp=Z,92nm,21.5s,MS4.2,baz=106,slow=40						
ARCES	**ARCESS Array B**	**89.77**	**340**	P	**P**	**15 22 45.3**	**-0.5**
ARCES				*PP	pP	15 22 59.6	-0.8
MORC	**Moravsky Berou**	**90.07**	**320**	⇓*i*P	pP	15 23 02.3	+0.5
MORC	**Moravsky Berou**	**90.07**	**320**	P	**P**	**15 22 48.0**	**+0.8**
MORC				*e**PP	pP	15 23 01.5	-0.3
MORC				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.2						
MORC	**Moravsky Berou**	**90.07**	**320**	P	**P**	**15 22 48.0**	**+0.8**
	comp=Z,16nm,1.4s,mb5.2						
MORC				*e*pP	pP	15 23 01.5	-0.4
ZST	**Bratislava**	**90.16**	**318**	*e*	pP	15 23 00.0	-2.3
DPC	**Dobruska-Polom**	**90.92**	**320**	*e*pP	pP	15 23 06.5	+0.7
CONA	**Conrad Observa**	**90.96**	**318**		pP	15 23 06.5	+0.5
	comp=Z,5.6nm,1.2s						
ARSA	**Arzberg**	**91.12**	**317**	⇑*i*P	**P**	**15 22 53.2**	**+1.2**
	comp=Z,4.2nm,1.1s,mb4.7						
ARSA	**Arzberg**	**91.12**	**317**	⇑*e*	pP	15 23 07.8	+1.0
	comp=Z,8.8nm,1.1s						
ARSA	**Arzberg**	**91.12**	**317**	⇑*i*PcP	PcP	15 22 53.2	+0.2
	comp=Z,4.2nm,1.1s						
ARSA				⇑*e*pP	pP	15 23 07.8	+1.0
	comp=Z,8.8nm,1.1s						
BOJS	**Bojanci**	**91.13**	**315**	*e*P	pP	15 23 07.5	+0.8
UPC	**Upice**	**91.13**	**320**	*e*pP	pP	15 23 07.8	+1.0
PERS	**Pernice**	**91.33**	**317**	*e*P	pP	15 23 08.4	+0.7
TREC	**Trest**	**91.35**	**319**	*e*pP	pP	15 23 08.3	+0.5
OBKA	**Obir**	**91.71**	**316**	⇓*e*	pP	15 23 10.8	+1.3
	comp=Z,5.7nm,1.1s						
OBKA	**Obir**	**91.71**	**316**	⇓*e*pP	pP	15 23 10.8	+1.3
	comp=Z,5.7nm,1.1s						
MOA	**Molln**	**92.02**	**318**	⇑*i*	pP	15 23 07.7	-3.2
	comp=Z,4.1nm,1.5s						
MOA	**Molln**	**92.02**	**318**	⇑*i*pP	pP	15 23 07.7	-3.2
	comp=Z,4.1nm,1.5s						
PVCC	**Panska Ves**	**92.05**	**320**	*e*pP	pP	15 23 12.6	+1.5
GERES	**GERESS Array B**	**92.48**	**319**	P	**P**	**15 22 58.9**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=318,slow=1.8,SNR=4.1						
GERES				LR	LR	16 10 25.7	
	comp=Z,39nm,18.5s,MS3.9,baz=284,slow=39						
BRG	**Berggiesshubel**	**92.48**	**321**	*e*P	pP	15 23 12.9	-0.1
CLL	**Collm**	**93.10**	**321**	*e*pP	pP	15 23 16.0	+0.1
	comp=Z,9.0nm,1.5s						
MOTA	**Moosalm**	**94.12**	**317**	⇑*i*	pP	15 23 21.4	+0.8
	comp=Z,4.8nm,1.1s						
MOTA	**Moosalm**	**94.12**	**317**	⇓*i*P	**P**	**15 23 05.4**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.6						
MOTA				⇑*i*pP	pP	15 23 21.4	+0.8
	comp=Z,4.8nm,1.1s						
GRA1	**Grafenberg Arr**	**94.15**	**319**	*e*P	pP	15 23 20.9	+0.2
GRF	**Grafenberg Arr**	**94.15**	**319**	*e*P	pP	15 23 20.9	+0.2
	comp=Z,6.0nm,1.2s						
NOA	**NORSAR Array B**	**94.55**	**331**	LR	LR	16 10 39.3	
	comp=Z,56nm,21.7s,MS4.0,baz=80,slow=39						
J03A	**Ideyld Park**	**124.77**	**39**	⇑P	PKPdf	15 28 47.5	+0.6
	baz=125						
JCC	**Jacoby Creek**	**125.34**	**42**	⇓P	PKPdf	15 28 49.4	+1.4
	baz=125						
O01C	**Eel River Cons**	**125.80**	**43**	⇓P	PKPdf	15 28 51.6	+2.8
	baz=126						
O02C	**Red Bluff**	**126.47**	**42**	⇓P	PKPdf	15 28 51.4	+1.3
	baz=126						
K06A	**Valley Falls**	**126.76**	**38**	⇓P	PKPdf	15 28 51.3	+0.6
	baz=127						
M05C	**Lookout**	**126.96**	**40**	⇓P	PKPdf	15 28 51.8	+0.8
	baz=127						
K07A	**Rock Creek Ran**	**127.43**	**38**	⇓P	PKPdf	15 28 53.1	+1.1
	baz=127						
L07A	**Adell**	**127.75**	**39**	⇑P	PKPdf	15 28 54.2	+1.6
	baz=128						
M07A	**Soldier Meadow**	**128.20**	**39**	⇑P	PKPdf	15 28 55.0	+1.6
	baz=128						
L08A	**Fields**	**128.27**	**38**	⇑P	PKPdf	15 28 54.8	+1.2
	baz=128						
O06A	**Flanigan**	**128.44**	**41**	⇓P	PKPdf	15 28 55.0	+1.1
	baz=128						
LAVA	**Lava Cap Winer**	**128.55**	**43**	⇑P	PKPdf	15 28 55.4	+1.2
	baz=128						
PACP	**Pacheco Peak**	**129.03**	**45**	⇓P	PKPdf	15 28 56.9	+1.9
	baz=129						
HAST	**Hastings Reser**	**129.13**	**46**	⇑P	PKPdf	15 28 56.1	+0.9
	baz=129						
DLMT	**Dillon**	**129.54**	**31**	*e*P	PKPdf	15 28 57.6	+1.6
PKD	**Parkfield**	**130.06**	**46**	⇑P	PKPdf	15 28 59.5	+2.5
	baz=130						
NVAR	**Mina Array Bea**	**130.

KIV **Kislovodsk** **1.53 339** *e*PG **Pg** **15 25 49.4 -1.2**
KIV *e*S **Sn** **15 26 09.8 +0.5**
DGRG David-gareji **1.79 126** P **Pn** **15 25 54.3 +1.7**
DGRG S **Sn** **15 26 19.2 +3.6**

*ISCJB **25** 15:25:51.7±1.6, 4097N±009×7297E±007, h10km, Error ellipse: s-maj=13.1km s-min=6.9km az=22.2*
*KNET **25** 15:25:54.2±0.5, 4109N×7344E, h7km±3km, ml2.4, Error ellipse: s-maj=4.7km s-min=3.7km az=110.0*
ISC 25 15:25:52.2±1.6, 4090N±010×7303E±007, h10km, n11, σ1°28/19, 10C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.33**	**22**	⇑P	**Pn**	**15 26 15.1**	**-1.6**
	4.8nm,0.1s,SNR=9.0						
AML				⇓S	Sn	15 26 30.8	-3.6
	82nm,0.4s						
UCH	**Uchtor**	**1.73**	**40**	⇑P	**Pn**	**15 26 20.7**	**-1.6**
	19nm,0.2s,SNR=32						
UCH				⇑S	Sn	15 26 41.5	-2.9
	19nm,0.2s						
EKS2	**Erkin-Say**	**1.85**	**17**	P	**Pn**	**15 26 24.9**	**+1.0**
	6.8nm,0.3s,SNR=17						
EKS2				⇑S	Sn	15 26 46.8	-0.5
	16nm,0.2s						
KZA	**Kyzart**	**2.04**	**54**	⇓P	**Pn**	**15 26 25.8**	**-0.8**
	11nm,0.2s,SNR=16						
KZA				⇑S	Sn	15 26 50.4	-1.7
	9.4nm,0.2s						
KBK	**Karagaybulak**	**2.27**	**39**	⇓P	**Pn**	**15 26 30.4**	**+0.8**
	5.3nm,0.2s						
KBK				⇓S	Sn	15 26 58.5	+0.9
	37nm,0.3s						
CHMS	**Chumysh**	**2.46**	**31**	⇓P	**Pn**	**15 26 33.3**	**+1.0**
	3.6nm,0.2s,SNR=7.3						
CHMS				⇑S	Sn	15 27 03.5	+1.1
	32nm,0.4s						
USP	**Ospenovka**	**2.60**	**24**	⇓P	**Pn**	**15 26 35.1**	**+0.8**
	2.8nm,0.2s,SNR=5.0						
ULHL	**Ulahol**	**2.76**	**60**	⇓P	**Pn**	**15 26 37.4**	**+1.0**
	2.9nm,0.2s,SNR=13						
TKM2	**Tokmak 2**	**2.78**	**43**	⇓P	**Pn**	**15 26 37.6**	**+0.8**
	6.6nm,0.3s,SNR=13						
TKM2	**Tokmak 2**	**2.78**	**43**	⇑Pn	**Pn**	**15 26 38.1**	**+1.3**
	0.5nm,0.5s						
TKM2				⇑Sn	Sn	15 27 11.7	+1.3
	1.3nm,0.7s						
KK31	**Karatay Array**	**2.89**	**320**	⇑Pn	**Pg**	**15 26 45.9**	**-1.7**
	1.7nm,0.5s,baz=140,slow=16,SNR=27						
KK31				⇑Sn	Sg	15 27 25.7	+0.8
	4.5nm,0.5s,baz=132,slow=30						

IDC 25 15:32:04.9±1.3, 3155S×17955W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.9/12, mbtmp3.8/5, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/15, Error ellipse: s-maj=51.4km s-min=27.5km az=151.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.69**	**32**	LR	LR	15 33 29.3	
	comp=Z,349nm,21.5s,baz=204,slow=31						
URZ	**Urewera**	**7.23**	**201**	Pn	Pn	15 33 51.7	-0.2
	1.5nm,0.3s,baz=160,slow=21,SNR=18						
URZ				Sn	Sn	15 35 20.7	+6.0
	1.3nm,0.3s,baz=178,slow=24,SNR=7.8						
ASAR	**Alice Springs**	**41.74**	**269**	P	P	15 39 56.2	+0.5
	0.5nm,0.5s,baz=112,slow=8.4,SNR=17						
WRA	**Warramunga Arr**	**42.84**	**274**	P	P	15 40 05.0	+0.4
	0.6nm,0.5s,baz=117,slow=8.3,SNR=5.6						
NVAR	**Mina Array Bea**	**89.98**	**44**	P	P	15 45 07.2	+1.0
	0.5nm,0.8s,baz=196,slow=7.3,SNR=5.1						
PDAR	**Pinedale Array**	**97.88**	**44**	P	P	15 45 42.8	+0.3
	0.2nm,0.9s,baz=216,slow=4.5,SNR=2.3						
FINES	**FINESS Array B**	**145.75**	**338**	PKPbc	PKPbc	15 51 43.7	-2.1
	1.4nm,0.4s,baz=54,slow=4.1,SNR=24						
NOA	**NORSAR Array B**	**149.67**	**350**	PKPbc	PKPbc	15 51 54.4	-2.1
	1.1nm,0.9s,baz=15,slow=4.1,SNR=4.2						

IDC 25 15:47:02.4±26.0, 3097S×17968E, h290km±255km, mb2.8/2, mb1 3.3/3, mbtmx3.0/12, mbtmp3.8/3, ML4.6/1, Error ellipse: s-maj=323.3km s-min=51.6km az=13.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**7.18**	**189**	SN	S	15 49 56.2	-13
MWZ	**Matawai**	**7.56**	**193**	PN	Pn	15 48 49.2	-1.2
URZ	**Urewera**	**7.57**	**196**	P	Pn	15 48 50.5	-0.1
	8.3nm,0.3s,baz=41,slow=9.3,SNR=93						
URZ	**Urewera**	**7.57**	**196**	PN	Pn	15 48 48.3	-2.3
URZ				SN	S	15 50 04.9	-13
BKZ	**Black Stump Fm**	**8.59**	**197**	PN	Pn	15 49 01.5	-1.6
VRZ	**Vera Road**	**9.08**	**205**	SN	S	15 50 22.4	-30
PXZ	**Pawanui**	**9.33**	**193**	PN	Pn	15 49 09.0	-3.2
ASAR	**Alice Springs**	**41.09**	**269**	P	P	15 54 18.1	-0.2
	0.2nm,0.8s,baz=111,slow=8.4,SNR=7.1						
WRA	**Warramunga Arr**	**42.13**	**274**	P	P	15 54 27.3	+0.5
	0.2nm,0.3s,baz=113,slow=7.8,SNR=7.0						
FINES	**FINESS Array B**	**144.96**	**338**	PKP	PKPdf	16 06 03.6	-1.4
	1.0nm,0.9s,baz=46,slow=5.5,SNR=5.1						

*NEIC **25** 16:14:46.9, 1809N×9981W, h49km, MD3.9(MEX), After MEX.*
MEX 25 16:14:46.7±1.0, 1810N×9983W, h50km±8km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.26**	**130**	*i*P	Pn	16 14 53.9	-1.6
MEIG				*i*S	Sn	16 15 00.6	-1.2
PLIG	**Platanillo**	**0.43**	**46**	*i*P	Pn	16 14 55.6	-1.6
PLIG				*i*S	Sn	16 15 03.1	-1.5
YAIG	**Yautepec**	**1.05**	**43**	*i*P	Pn	16 15 03.4	-1.6
YAIG				*i*S	Sn	16 15 16.8	-1.8
CAIG	**El Cayaco**	**1.12**	**202**	*i*P	Pn	16 15 03.9	-2.2
CAIG				*i*S	Sn	16 15 18.9	-1.5
ACX	**Acapulco**	**1.23**	**184**	*e*P	Pn	16 15 05.0	-2.5
UTMO	**Huajuapan**	**1.95**	**98**	*i*P	Pn	16 15 16.8	-0.5
UTMO				*i*S	Sn	16 15 38.5	-2.1
MOIG	**Morelia**	**2.03**	**321**	*i*P	Pn	16 15 18.4	-0.1
MOIG				*i*S	Sn	16 15 39.1	-3.6
OXX	**Oaxaca**	**3.13**	**108**	*e*P	Pn	16 15 34.0	+0.5

*IDC **25** 16:17:30.3±1.4, 5181N×17395E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/22, mbtmp3.8/9, MS3.1/1, Ms1 3.1/1, ms1mx2.4/28, Error ellipse: s-maj=36.4km s-min=28.2km az=177.0*
*ISCJB **25** 16:17:31.4±0.9, 5174N±008×1738E±02, h19km, mb3.8/10, MS3.0/1, Error ellipse: s-maj=19.2km s-min=9.5km az=54.4*
*NEIC **25** 16:17:33.4±4.2, 5182N×17393E, h19km±23km, mb4.0/1, Error ellipse: s-maj=21.1km s-min=11.7km az=158.0*
ISC 25 16:17:33.9±3.4, 518N±02×1739E±02, h25km±20km, n16, σ0°58/16, mb3.8/10, MS3.0/1, 1C, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.92**	**7**	⇑*e*P	**Pb**	**16 17 50.7**	**-0.5**
SMY				*e*S	**Sb**	**16 18 03.4**	**+0.4**
PET	**Petropavlovsk**	**9.40**	**283**	*e*P	**Pn**	**16 19 47.7**	**-0.1**
INK	**Inuvik**	**29.76**	**36**	LR	LR	16 37 11.2	
	comp=Z,38nm,19.0s,MS3.0,baz=278,slow=40						
SONM	**Songino Array**	**42.33**	**292**	P	**P**	**16 25 27.0**	**+1.3**
	0.7nm,0.7s,mb3.4,baz=70,slow=7.4,SNR=5.6						
PDAR	**Pinedale Array**	**50.44**	**68**	P	**P**	**16 26 29.8**	**+0.4**
	0.2nm,0.5s,mb3.4,baz=25,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**56.11**	**304**	P	**P**	**16 27 10.8**	**-0.3**
	0.8nm,0.6s,mb4.0,baz=54,slow=6.5,SNR=14						
ARCES	**ARCESS Array B**	**56.77**	**347**	P	**P**	**16 27 15.0**	**-0.8**
	1.4nm,0.8s,mb4.0,baz=46,slow=8.7,SNR=5.8						
ARCES	**ARCESS Array B**	**56.77**	**347**	P	**P**	**16 27 15.0**	**-0.8**
CHKZ	**Chkalovo**	**56.96**	**316**	*e*P	**P**	**16 27 16.4**	**-0.7**
	1.3nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**57.51**	**316**	P	**P**	**16 27 20.9**	**-0.1**
	1.4nm,0.4s,mb4.3,baz=56,slow=6.7,SNR=6.9						
FINES	**FINESS Array B**	**64.21**	**343**	P	**P**	**16 28 06.4**	**-0.2**
	1.6nm,0.8s,mb4.1,baz=24,slow=7.8,SNR=9.3						
NB2	**NORSAR Subarra**	**66.64**	**351**	P	**P**	**16 28 21.6**	**-0.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=11,slow=6.5						
NOA	**NORSAR Array B**	**66.64**	**351**	P	**P**	**16 28 22.2**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=12,slow=6.4,SNR=7.8						
NOA	**NORSAR Array B**	**66.64**	**351**	P	**P**	**16 28 22.2**	**-0.1**
BRTR	**Keskin Array B**	**82.48**	**330**	P	**P**	**16 29 55.1**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=62,slow=4.8,SNR=3.7						
ASAR	**Alice Springs**	**82.94**	**216**	P	**P**	**16 29 56.5**	**-0.1**
	comp=Z,0.2nm,0.8s,mb3.2,baz=15,slow=5.5,SNR=4.1						

*IDC **25** 16:27:26.9±2.9, 4673S×7590W, h0km, mb4.2/4, mb1 4.2/6, mb1mx4.0/17, mbtmp4.0/6, ML3.5/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/24, Error ellipse: s-maj=79.4km s-min=47.3km az=105.0*
*ISCJB **25** 16:27:27.3±1.0, 468S±01×768W±03, h33km, mb4.2/5, MS3.6/5, Error ellipse: s-maj=27.9km s-min=10.8km az=49.0*
*NEIC **25** 16:27:28.8±1.1, 4669S×7586W, h10km, mb4.3/3, Error ellipse: s-maj=41.8km s-min=13.6km az=98.0*
ISC 25 16:27:31.4±1.5, 468S±01×759W±05, h35km, n17, σ0°89/12, mb4.2/5, MS3.6/5, 1C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**7.19**	**35**	Pn	**Pn**	**16 29 11.5**	**-2.5**
	0.4nm,0.3s,baz=216,slow=13,SNR=33						
PLCA	**Paso Flores**	**7.19**	**35**	⇑*e*Pn	**Pn**	**16 29 11.3**	**-2.7**
PLCA				*e*S	Sn	16 31 08.7	+34
CFAA	**Coronel Fontan**	**16.28**	**24**	Pn	**Pn**	**16 31 17.7**	**+0.5**
	0.0nm,0.3s,baz=193,slow=13,SNR=9.7						
CFAA				LR	LR	16 37 55.0	
	comp=Z,28nm,18.4s,baz=193,slow=39						
PMSA	**Palmer Station**	**19.16**	**164**	*e*P	**Pn**	**16 31 52.8**	**0.0**
LVC	**Limon Verde**	**24.78**	**16**	P	**P**	**16 32 49.4**	**-0.4**
	3.2nm,0.6s,mb4.0,baz=182,slow=8.7,SNR=5.3						
LVC				LR	LR	16 43 27.2	
	comp=Z,118nm,19.8s,MS3.4,baz=34,slow=39						
LVC	**Limon Verde**	**24.78**	**16**	*e*P	**P**	**16 32 50.0**	**+0.2**
	4.6nm,0.6s,mb4.2						
LVC				LR	LR	16 43 27.2	
CPUP	**Villa Florida**	**25.18**	**42**	P	**P**	**16 32 53.1**	**-0.3**
	4.1nm,0.7s,mb4.0,baz=198,slow=10,SNR=11						
LPAZ	**La Paz**	**31.09**	**15**	P	**P**	**16 33 47.5**	**+1.3**
	0.5nm,0.6s,mb3.5,baz=176,slow=9.5,SNR=4.7						
LPAZ				LR	LR	16 47 24.9	
	comp=Z,49nm,18.7s,MS3.2,baz=31,slow=39						
LPAZ	**La Paz**	**31.09**	**15**	*e*P	**P**	**16 33 47.9**	**+1.6**
	7.5nm,1.5s,mb4.3						
LPAZ				LR	LR	16 47 24.9	
BDFB	**Brasilia**	**38.77**	**46**	P	**P**	**16 34 53.2**	**+0.8**
	3.6nm,0.6s,mb4.3,baz=200,slow=8.8,SNR=5.6						
BDFB				LR	LR	16 53 08.6	
	comp=Z,91nm,19.9s,MS3.6,baz=35,slow=40						
SAML	**Samuel**	**39.24**	**20**	*e*P	**P**	**16 34 55.9**	**-0.5**
	12nm,1.4s,mb4.4						
SDV	**Santo Domingo**	**55.62**	**6**	*e*P	**P**	**16 37 02.7**	**-0.9**
MAW	**Mawson**	**61.77**	**163**	LR	LR	17 03 06.0	
	comp=Z,92nm,21.5s,MS3.9,baz=244,slow=35						
BOSA	**Boshof**	**76.76**	**110**	LR	LR	17 09 03.2	
	comp=Z,70nm,18.1s,MS4.0,baz=179,slow=32						
AKTK	**Aktyubinsk**	**149.71**	**66**	PKPbc	PKPbc	16 47 17.1	-0.3
AKTO	**Aktyubinsk**	**149.71**	**66**	PKPbc	PKPbc	16 47 17.1	-0.3
	0.9nm,0.6s,baz=216,slow=2.3,SNR=6.8						
ARU	**Arti**	**150.64**	**54**	*e*PKPbc	PKPbc	16 47 21.1	+1.5
ARU				*e*PKPab	PKPab	16 47 28.0	+1.5

*ISCJB **25** 16:28:13.8±0.5, 4534N±006×9754E±007, h10km, mb3.7/7, Error ellipse: s-maj=9.0km s-min=6.6km az=29.9*
*IDC **25** 16:28:13.9±1.3, 4530N×9753E, h0km, mb3.7/6, mb1 3.7/9, mb1mx3.6/24, mbtmp3.7/9, ML3.6/3, Error ellipse: s-maj=31.9km s-min=16.7km az=180.0*
*NEIC **25** 16:28:18.9±3.0, 4535N×9754E, h32km±22km, mb3.7/4, Error ellipse: s-maj=18.5km s-min=6.9km az=190.0*
*BJI **25** 16:28:21.3, 4521N×9698E, h18km, ML4.1, Ms3.6, Msz3.4*
ISC 25 16:28:15.9±0.5, 4536N±006×9749E±007, h10km, n17, σ0°81/22, mb3.7/7, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**6.19**	**163**	PG	**Pg**	**16 30 07.5**	**-6.9**
GTA				S	**Sn**	**16 30 58.5**	**+0.4**
GTA				SG	**Sg**	**16 31 27.0**	**-7.6**
GTA				Smax			
	comp=N,50nm,0.8s						
GTA				Smax			
	comp=E,100nm,0.8s						
GTA				LR	LR		
	comp=N,260nm,8.4s						
GTA				LR	LR		
	comp=E,390nm,8.4s						
GTA				LR	LR		
	comp=Z,240nm,8.4s						
SONM	**Songino Array**	**6.62**	**65**	Pn	**Pn**	**16 29 54.3**	**+1.1**
	comp=Z,3.4nm,0.3s,baz=249,slow=15,SNR=76						
SONM				Pg	**Pg**	**16 30 15.4**	**-7.3**
	comp=Z,3.2nm,0.3s,baz=247,slow=20,SNR=10						
SONM				Sn	**Sn**	**16 31 08.9**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=240,slow=29,SNR=3.6						
SONM				Lg		16 31 42.4	
	comp=Z,12nm,0.3s,baz=246,slow=32,SNR=8.8						
ULN	**Ulaanbaatar**	**7.05**	**66**	*e*Pn	**Pn**	**16 29 58.9**	**-0.3**
	comp=Z,14nm,0.8s						
ULN				*e*Sg	**Sg**	**16 31 55.9**	**-6.2**
MKAR	**Makanchi Array**	**10.66**	**283**	Pn	**Pn**	**16 30 49.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=101,slow=15,SNR=4.2						
MKAR				Lg		16 33 49.1	
	comp=Z,0.3nm,0.3s,baz=82,slow=31,SNR=4.1						
KURK	**Kurchatov**	**13.70**	**300**	*e*Pn	**Pn**	**16 31 31.9**	**+1.7**
	comp=Z,5.3nm,0.6s						
BVAR	**Borovoye Array**	**19.22**	**303**	P	**Pn**	**16 32 40.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=93,slow=12,SNR=16						
CHKZ	**Chkalovo**	**19.24**	**305**	*e*P	**Pn**	**16 32 40.1**	**-1.2**
	comp=Z,1.9nm,0.8s						
ZRNK	**Zerenda**	**20.02**	**303**	*e*P	**P**	**16 32 49.5**	**+0.6**
	comp=Z,3.3nm,0.9s						
AKTK	**Aktyubinsk**	**26.72**	**295**	P	**P**	**16 33 55.8**	**+0.4**
AKTO	**Aktyubinsk**	**26.72**	**295**	P	**P**	**16 33 55.8**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.5,baz=100,slow=9.4,SNR=4.4						
ARCES	**ARCESS Array B**	**42.22**	**330**	P	**P**	**16 36 08.7**	**-0.4**
	comp=Z,2.9nm,0.8s,mb4.0,baz=79,slow=9.5,SNR=3.6						
FINES	**FINESS Array B**	**43.12**	**318**	P	**P**	**16 36 16.1**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.4,baz=73,slow=9.5,SNR=3.0						
BR131	**Keskin Array S**	**46.29**	**287**	*e*P	**P**	**16 36 42.7**	**+1.0**
	comp=Z,0.7nm,0.7s,mb3.7						
BRTR	**Keskin Array B**	**46.29**	**287**	P	**P**	**16 36 41.9**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=70,slow=6.8,SNR=8.3						
NOA	**NORSAR Array B**	**50.08**	**321**	P	**P**	**16 37 09.3**	**-1.6**
	comp=Z,0.3nm,0.5s,mb3.6,baz=69,slow=7.2,SNR=2.9						
WRAB	**Tennant Creek**	**73.12**	**144**	*e*P	**P**	**16 39 46.0**	**-0.5**
	comp=Z,2.9nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**76.28**	**146**	P	**P**	**16 40 03.8**	**-1.0**
	comp=Z,0.3nm,0.7s,mb3.3,baz=342,slow=6.1,SNR=4.2						

WEL 25 16:33:50.7±0.3, 3738S×17655E, h281km±4km, ML3.5/10, Error ellipse: s-maj=12.4km s-min=7.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.99**	**153**	PN	Pn	16 34 29.0	0.0
URZ				SN	S	16 34 58.5	-0.8
MWZ	**Matawai**	**1.23**	**141**	PN	Pn	16 34 30.5	+0.2
MWZ				SN	S	16 35 01.1	-0.6
BKZ	**Black Stump Fm**	**1.79**	**181**	PN	Pn	16 34 34.3	+0.3
BKZ				SN	S	16 35 08.3	-0.2
WAZ	**Wanganui**	**2.67**	**207**	PN	Pn	16 34 42.1	+0.2
TSZ	**Takapari Road**	**2.72**	**190**	PN	Pn	16 34 41.9	-0.4
MRZ	**Mangatainoka R**	**3.37**	**193**	PN	Pn	16 34 48.7	-0.2
MRZ				SN	S	16 35 34.6	-0.8
KIW	**Kapiti Island**	**3.71**	**200**	PN	Pn	16 34 51.6	-1.1
SNZO	**South Karori**	**4.18**	**199**	PN	Pn	16 34 56.6	-1.3
TCW	**Tory Channel**	**4.22**	**204**	PN	Pn	16 34 57.4	-0.9
TUWZ	**Tuamarina**	**4.52**	**206**	PN	Pn	16 35 00.7	-1.2
NNZ	**Nelson**	**4.56**	**212**	PN	Pn	16 35 00.6	-1.7
QRZ	**Quartz Range**	**4.65**	**221**	PN	Pn	16 35 01.0	-2.4
THZ	**Tophouse**	**5.21**	**212**	PN	Pn	16 35 08.5	-1.4
KHZ	**Kahutara**	**5.54**	**204**	PN	Pn	16 35 12.7	-1.2
DSZ	**Denniston Nort**	**5.70**	**219**	PN	Pn	16 35 13.7	-2.1
LTZ	**Lake Taylor**	**6.32**	**210**	PN	Pn	16 35 21.0	-2.3

*IDC **25** 16:36:46.7±1.3, 959S×11476E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, ML4.3/1, Error ellipse: s-maj=82.7km s-min=12.7km az=48.0*
*ISCJB **25** 16:36:50.9±0.5, 92S±01×115.1E±0.1, h33km, mb4.0/10, Error ellipse: s-maj=25.6km s-min=6.5km az=93.8*
*NEIC **25** 16:36:52.4±0.7, 964S×11475E, h40km, mb4.0/1, Error ellipse: s-maj=31.1km s-min=8.1km az=52.0*
NEIC Felt [III] at Denpasar.
ISC 25 16:36:52.6±0.4, 95S±01×1149E±01, h35km, n25, σ0°69/34, mb4.0/10, 1C, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**12.48**	**159**	*e*Pn	**Pn**	**16 39 46.5**	**-1.2**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.48**	**130**	⇑*i*P	**Pn**	**16 40 00.0**	**-1.4**
	9.8nm,0.4s						
FITZ				*e*S	**Sn**	**16 42 19.6**	**-10**
FITZ	**Fitzroy Crossi**	**13.48**	**130**	Pn	**Pn**	**16 40 00.7**	**-0.7**
	1.0nm,0.3s,baz=315,slow=7.8,SNR=63						
FITZ				Sn	**Sn**	**16 42 20.1**	**-10**
	0.8nm,0.3s,baz=181,slow=21,SNR=11						
WRA	**Warramunga Arr**	**21.46**	**121**	P	**P**	**16 41 37.7**	**-0.2**
	0.6nm,0.5s,mb3.2,baz=295,slow=12,SNR=5.5						
WRA				S	**S**	**16 45 29.5**	**-4.4**
	0.4nm,0.3s,baz=301,slow=26,SNR=10						
WRAB	**Tennant Creek**	**21.47**	**121**	*e*P	**P**	**16 41 39.3**	**+1.3**
WB2	**Warramunga Arr**	**21.47**	**121**	*e*P	**P**	**16 41 38.4**	**+0.4**
WB2				*e*S	**S**	**16 45 27.2**	**-7.0**
KLBR	**Kellerberrin**	**22.12**	**173**	*e*P	**P**	**16 41 57.8**	**+13**
	31nm,1.1s,mb4.7						
KLBR				*e*S	**S**	**16 45 42.5**	**-4.3**
MUN	**Mundaring**	**22.38**	**177**	*e*P	**P**	**16 42 03.4**	**+16**
MUN				*e*S	**S**	**16 45 53.0**	**+1.2**
ASPA	**Alice Springs**	**22.98**	**130**	*e*P	**P**	**16 41 54.5**	**+0.4**
ASPA				*e*S	**S**	**16 46 06.4**	**+4.3**
ASAR	**Alice Springs**	**22.99**	**130**	P	**P**	**16 41 54.5**	**+0.3**
	1.1nm,0.5s,mb3.6,baz=305,slow=9.3,SNR=46						
ASAR				PcP	PcP	16 45 44.0	+0.9
	0.3nm,0.6s,baz=312,slow=1.6,SNR=4.4						
ASAR				S	**S**	**16 46 06.4**	**+4.3**
	1.6nm,0.7s,baz=298,slow=22,SNR=8.6						
AS31	**Alice Springs**	**22.99**	**130**	*e*P	**P**	**16 41 54.5**	**+0.4**
AS31				*e*S	**S**	**16 46 06.4**	**+4.3**
STKA	**Stephens Creek**	**33.28**	**136**	*e*P	**P**	**16 43 26.6**	**-0.1**
	1.4nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**33.28**	**136**	P	**P**	**16 43 25.9**	**-0.8**
	2.7nm,0.9s,mb4.2,baz=321,slow=10,SNR=5.5						
JIRN	**Jiri**	**46.24**	**324**	*e*P	**P**	**16 45 15.3**	**+0.9**
	16nm,0.6s						
GUN	**Gumba**	**46.61**	**324**	*e*P	**P**	**16 45 18.1**	**+0.9**
	10.0nm,0.5s						
PKI	**Pulchoki**	**46.63**	**323**	*e*P	**P**	**16 45 17.8**	**+0.4**
DMN	**Daman**	**46.84**	**323**	*e*P	**P**	**16 45 19.2**	**+0.1**
	13nm,0.7s						
KKN	**Kakani**	**46.87**	**323**	*e*P	**P**	**16 45 19.3**	**0.0**
	7.5nm,0.7s,mb4.7						
GKN	**Gorkha**	**47.41**	**323**	*e*P	**P**	**16 45 23.7**	**+0.2**
	11nm,0.4s						
KOLN	**Koldanda**	**47.87**	**322**	*e*P	**P**	**16 45 26.6**	**-0.4**
	10nm,0.6s,mb5.0						
SONM	**Songino Array**	**57.60**	**353**	P	**P**	**16 46 38.4**	**-0.5**
	0.3nm,0.6s,mb3.5,baz=188,slow=7.0,SNR=3.3						
MKAR	**Makanchi Array**	**63.15**	**335**	P	**P**	**16 47 16.5**	**-0.4**
	0.7nm,0.5s,mb4.1,baz=148,slow=7.5,SNR=16						
BVAR	**Borovoye Array**	**72.90**	**334**	P	**P**	**16 48 18.0**	**-0.1**
	1.3nm,0.7s,mb4.0,baz=160,slow=9.7,SNR=6.3						
AKTK	**Aktyubinsk**	**77.38**	**327**	P	**P**	**16 48 43.2**	**-0.7**
AKTO	**Aktyubinsk**	**77.38**	**327**	P	**P**	**16 48 43.2**	**-0.7**
	0.4nm,0.4s,mb3.7,baz=90,slow=2.0,SNR=2.7						

IDC 25 17:02:27.5±3.7, 2927S×17749W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/11, mbtmp3.7/3, Error ellipse: s-maj=181.0km s-min=46.9km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.17**	**255**	P	P	17 09 21.6	-1.5
	2.1nm,1.1s,baz=81,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**43.62**	**266**	P	P	17 10 34.2	+0.6
	0.4nm,0.4s,baz=103,slow=6.8,SNR=24						
WRA	**Warramunga Arr**	**44.51**	**271**	P	P	17 10 41.6	+0.9
	0.3nm,0.3s,baz=110,slow=7.8,SNR=13						
FINES	**FINESS Array B**	**144.23**	**341**	PKP	PKPdf	17 22 03.8	-1.6
	1.1nm,0.9s,baz=48,slow=2.8,SNR=5.3						
AKASG	**Malin Array Be**	**150.66**	**324**	PKPbc	PKPbc	17 22 21.0	-0.5
	0.2nm,0.3s,baz=42,slow=3.4,SNR=6.2						

*CSEM **25** 17:36:36.4±1.0, 3860N×2856W, h8km±7km, ML0.7, Error ellipse: s-maj=7.2km s-min=3.0km az=40.0, After PDA*
*PDA **25** 17:36:36.4±1.0, 3860N×2856W, h8km±7km, MD2.9, ML0.7, Error ellipse: s-maj=7.2km s-min=3.0km az=40.0*
SVSA 25 17:36:36.4±1.0, 3860N×2856W, h8km±7km, MD2.9, ML0.7, Error ellipse: s-maj=7.2km s-min=3.0km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0

TOZ			S	Sn	17 47 56.0	+0.3
HATZ	**Hinemaiaia**	**1.24 214**	PN	Pn	17 47 37.8	+0.1
HATZ	**Hinemaiaia**	**1.24 214**	P	Pn	17 47 37.8	+0.1
KNZ	**Kokohu**	**1.28 155**	PN	Pn	17 47 38.3	+0.2
KNZ	**Kokohu**	**1.28 155**	P	Pn	17 47 38.3	+0.2
WATZ	**Wairara**	**1.30 229**	PN	Pn	17 47 38.6	+0.3
BKZ	**Black Stump Fm**	**1.36 196**	PN	Pn	17 47 38.7	-0.3
BKZ			SN	Sn	17 47 59.1	0.0
BKZ	**Black Stump Fm**	**1.36 196**	P	Pn	17 47 38.7	-0.3
RATZ	**Rangitukua**	**1.38 223**	PN	Pn	17 47 39.5	+0.2
RATZ	**Rangitukua**	**1.38 223**	P	Pn	17 47 39.5	+0.2
RITZ	**Rihia Road**	**1.42 218**	PN	Pn	17 47 40.1	+0.4
RITZ	**Rihia Road**	**1.42 218**	P	Pn	17 47 40.1	+0.4
KATZ	**Kakaramea**	**1.50 222**	PN	Pn	17 47 40.7	+0.1
KATZ	**Kakaramea**	**1.50 222**	P	Pn	17 47 40.7	+0.1
KRVZ	**Karewarewa**	**1.62 220**	PN	Pn	17 47 42.0	+0.1
OTVZ	**Oturere**	**1.66 218**	PN	Pn	17 47 42.6	+0.2
WTVZ	**West Tongariro**	**1.66 221**	PN	Pn	17 47 42.4	0.0
WTVZ	**West Tongariro**	**1.66 221**	P	Pn	17 47 42.4	0.0
NGZ	**Ngauruhoe**	**1.70 219**	PN	Pn	17 47 42.9	0.0
NGZ	**Ngauruhoe**	**1.70 219**	P	Pn	17 47 42.9	0.0
TWVZ	**Taurewa**	**1.71 225**	PN	Pn	17 47 43.0	0.0
TWVZ	**Taurewa**	**1.71 225**	P	Pn	17 47 43.0	0.0
TUVZ	**Tukino**	**1.75 216**	PN	Pn	17 47 43.3	-0.1
TUVZ	**Tukino**	**1.75 216**	P	Pn	17 47 43.3	-0.1
WPVZ	**Whakapapa**	**1.75 220**	PN	Pn	17 47 43.6	+0.1
WPVZ	**Whakapapa**	**1.75 220**	P	Pn	17 47 43.6	+0.1
FWVZ	**Far West T-bar**	**1.79 218**	PN	Pn	17 47 43.7	-0.2
DRZ	**Dome Shelter**	**1.80 218**	PN	Pn	17 47 44.2	+0.2
DRZ	**Dome Shelter**	**1.80 218**	P	Pn	17 47 44.2	+0.2
HIZ	**Hauiti**	**1.80 248**	PN	Pn	17 47 44.4	+0.4
HIZ	**Hauiti**	**1.80 248**	P	Pn	17 47 44.4	+0.4
MOVZ	**Moawhango**	**1.82 212**	PN	Pn	17 47 43.5	-0.8
MOVZ			eSN	Sn	17 48 08.0	-0.5
MOVZ	**Moawhango**	**1.82 212**	P	Pn	17 47 43.5	-0.8
TRVZ	**Turoa**	**1.82 218**	PN	Pn	17 47 44.2	-0.1
OTAZ	**Otara**	**1.88 298**	PN	Pn	17 47 45.1	+0.2
OTAZ	**Otara**	**1.88 298**	P	Pn	17 47 45.1	+0.1
MTVZ	**Mangateitei**	**1.93 217**	PN	Pn	17 47 45.3	-0.3
MTAZ	**Motutapu**	**1.97 302**	⇑PN	Pn	17 47 46.1	-0.1
MTAZ	**Motutapu**	**1.97 302**	P	Pn	17 47 46.1	0.0
KAAZ	**Kauri Point**	**2.09 299**	PN	Pn	17 47 47.6	0.0
KAAZ	**Kauri Point**	**2.09 299**	P	Pn	17 47 47.6	0.0
WTAZ	**Waiatarua**	**2.13 295**	PN	Pn	17 47 48.0	-0.1
WTAZ	**Waiatarua**	**2.13 295**	P	Pn	17 47 48.0	-0.1
VRZ	**Vera Road**	**2.15 234**	PN	Pn	17 47 48.3	-0.1
VRZ	**Vera Road**	**2.15 234**	P	Pn	17 47 48.3	-0.1
PXZ	**Pawanui**	**2.17 182**	PN	Pn	17 47 47.6	-0.9
PXZ			SN	Sn	17 48 15.0	-1.0
TSZ	**Takapari Road**	**2.33 200**	PN	Pn	17 47 49.0	-1.6
TSZ	**Takapari Road**	**2.33 200**	P	Pn	17 47 49.0	-1.6
WAZ	**Wanganui**	**2.45 219**	PN	Pn	17 47 51.4	-0.7
WAZ	**Wanganui**	**2.45 219**	P	Pn	17 47 51.4	-0.7
RAEZ	**Rainy Point**	**2.48 234**	P	Pn	17 47 52.7	+0.3
PKE	**Pukeiti**	**2.70 240**	PN	Pn	17 47 55.3	0.0
PKE	**Pukeiti**	**2.70 240**	P	Pn	17 47 55.3	0.0
BFZ	**Birch Farm**	**2.87 191**	PN	Pn	17 47 55.5	-2.0
BFZ	**Birch Farm**	**2.87 191**	P	Pn	17 47 55.5	-2.0
MRZ	**Mangatainoka R**	**3.00 201**	PN	Pn	17 47 56.6	-2.6
MRZ			SN	Sn	17 48 32.2	-2.8
MRZ	**Mangatainoka R**	**3.00 201**	P	Pn	17 47 56.6	-2.5
TIWZ	**Tintock**	**3.03 196**	PN	Pn	17 47 57.3	-2.2
KIW	**Kapiti Island**	**3.40 208**	PN	Pn	17 48 01.5	-2.9
KIW	**Kapiti Island**	**3.40 208**	P	Pn	17 48 01.5	-2.9
MTW	**Mount Morrison**	**3.48 199**	PN	Pn	17 48 02.4	-3.1
MTW	**Mount Morrison**	**3.48 199**	P	Pn	17 48 02.4	-3.1
CAW	**Cannon Point**	**3.56 204**	PN	Pn	17 48 03.3	-3.2
CAW	**Cannon Point**	**3.56 204**	P	Pn	17 48 03.3	-3.2
TRWZ	**Traveller**	**3.67 195**	PN	Pn	17 48 05.0	-3.0
PAWZ	**Paruwai Farm**	**3.71 198**	PN	Pn	17 48 05.2	-3.3
PAWZ	**Paruwai Farm**	**3.71 198**	P	Pn	17 48 05.2	-3.3
DUWZ	**D'Urville Isla**	**3.77 218**	PN	Pn	17 48 06.1	-3.2
MSWZ	**Moikau Station**	**3.79 200**	PN	Pn	17 48 06.0	-3.5
MSWZ	**Moikau Station**	**3.79 200**	P	Pn	17 48 06.0	-3.5
MRW	**Makara Radio**	**3.80 207**	PN	Pn	17 48 06.3	-3.3
MRW	**Makara Radio**	**3.80 207**	P	Pn	17 48 06.3	-3.3
WEL	**Wellington**	**3.82 206**	PN	Pn	17 48 06.6	-3.4
WEL	**Wellington**	**3.82 206**	P	Pn	17 48 06.6	-3.4
SNZO	**South Karori**	**3.87 206**	PN	Pn	17 48 07.0	-3.6
SNZO	**South Karori**	**3.87 206**	P	Pn	17 48 07.0	-3.5
BHW	**Baring Head**	**3.90 204**	PN	Pn	17 48 07.3	-3.7
TCW	**Tory Channel**	**3.94 211**	PN	Pn	17 48 08.0	-3.6
TUWZ	**Tuamarina**	**4.26 212**	PN	Pn	17 48 11.9	-3.9
NNZ	**Nelson**	**4.36 219**	PN	Pn	17 48 13.4	-3.7
NNZ	**Nelson**	**4.36 219**	eP	Pn	17 48 13.4	-3.7
QRZ	**Quartz Range**	**4.55 228**	PN	Pn	17 48 15.9	-3.7
QRZ	**Quartz Range**	**4.55 228**	P	Pn	17 48 15.9	-3.7
THZ	**Tophouse**	**5.00 218**	PN	Pn	17 48 21.6	-4.1
THZ	**Tophouse**	**5.00 218**	eP	Pn	17 48 21.6	-4.1
KHZ	**Kahutara**	**5.26 209**	eP	Pn	17 48 24.8	-4.3
DSZ	**Denniston Nort**	**5.56 224**	PN	Pn	17 48 28.5	-4.7
LTZ	**Lake Taylor**	**6.09 215**	eP	Pn	17 48 35.4	-4.9
CRLZ	**Canterbury Las**	**6.60 209**	eP	Pn	17 48 41.4	-5.8
MQZ	**McQueen's Vall**	**6.70 208**	PN	Pn	17 48 42.2	-6.3
WVZ	**Waitaha Valley**	**7.05 220**	eP	Pn	17 48 48.2	-5.1
FOZ	**Fox Glacier**	**7.94 222**	eP	Pn	17 48 58.4	-6.9
LBZ	**Lake Benmore**	**8.29 216**	eP	Pn	17 49 04.6	-5.4
ODZ	**Otahua Downs**	**8.61 212**	eP	Pn	17 49 08.2	-6.1
JCZ	**Jackson Bay**	**8.78 222**	eP	Pn	17 49 10.3	-6.3
EAZ	**Earnscleugh**	**9.34 216**	eP	Pn	17 49 17.9	-6.2

IDC 25 17:59:32.2±3.3, 2794N×13992E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=349.3km s-min=31.5km az=106.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.90**	**187**	P	P	18 08 11.7	-0.5
	0.5nm,0.5s,baz=8.3,slow=8.0,SNR=6.4						
ASAR	**Alice Springs**	**51.63**	**187**	P	P	18 08 41.1	+0.6
	0.2nm,0.7s,baz=18,slow=9.3,SNR=3.8						
YKA	**Yellowknife Ar**	**72.35**	**28**	P	P	18 10 59.7	-0.2
	0.8nm,0.7s,baz=310,slow=7.1,SNR=3.7						

*CSEM **25** 18:05:02.1±0.5, 3880N×2864W, h12km±3km, ML1.4, Error ellipse: s-maj=3.3km s-min=2.5km az=124.0, After PDA*
*PDA **25** 18:05:02.1±0.5, 3880N×2864W, h12km±3km, MD2.9, ML1.4, Error ellipse: s-maj=3.3km s-min=2.5km az=124.0*
SVSA 25 18:05:02.1±0.5, 3880N×2864W, h12km±3km, MD2.9, ML1.4, Error ellipse: s-maj=3.3km s-min=2.5km az=124.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.17**	**196**	eP	Pg	18 05 05.8	-0.3
PCED				eS	Sg	18 05 08.4	-0.4
PCED							
	22nm,0.2s						
PCED	**Cedros**	**0.17**	**196**	eP	Pg	18 05 05.8	-0.3
PCED				eS	Sg	18 05 08.4	-0.4
CALA	**Caldeira**	**0.22**	**192**	eP	Pg	18 05 06.4	-0.4
CALA				eS	Sg	18 05 09.6	-0.4
HOR	**Horta**	**0.27**	**178**	erx		18 05 11.0	
ROSA	**Rosais**	**0.32**	**104**	eP	Pg	18 05 07.6	-1.0
ROSA				eS	Sg	18 05 12.2	-0.8
PICO	**Pico**	**0.34**	**150**	eP	Pg	18 05 08.2	-0.8
PICO				eS	Sg	18 05 12.7	-0.9
PID	**Ribeirinha**	**0.54**	**131**	eS	Sg	18 05 17.7	-2.2

*IDC **25** 18:18:43.5±7.2, 3406N×13744E, h120km±114km, mb3.2/2, mb1 3.4/3, mb1mx2.9/21, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=95.8km s-min=46.8km az=14.0*
*ISCJB **25** 18:18:44.4±0.8, 3614N±0.1×13714E±0.1, h287km±6km, mb3.2/2, Error ellipse: s-maj=20.7km s-min=10.4km az=100.5*
*JMA **25** 18:18:44.9±0.2, 3614N×13707E, h282km±2km, M2.6*
ISC 25 18:18:45.4±0.8, 3614N±01×13714E±01, h280km±5km, n15, σ0°58/20, mb3.2/2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGM	**Miyama**	**0.52**	**215**	P	**Pn**	**18 19 21.8**	**0.0**
JGM				S	**S**	**18 19 49.9**	**-0.6**
JKG	**Kaga**	**0.63**	**284**	P	**Pn**	**18 19 22.0**	**-0.1**
MAT	**Matsushiro**	**1.00**	**65**	P	**Pn**	**18 19 23.6**	**0.0**
MAT				S	**S**	**18 19 54.2**	**+0.3**
MJAR	**Matsushiro Arr**	**1.00**	**65**	P	**Pn**	**18 19 24.0**	**+0.4**
	2.4nm,0.3s,baz=213,slow=23,SNR=35						
MJAR				S	**S**	**18 19 55.6**	**+1.8**
	0.1nm,0.3s,baz=180,slow=32,SNR=7.9						
JRY	**Ryogami san**	**1.48**	**94**	eS	**S**	**18 19 59.0**	**0.0**
JWT	**Wachi**	**1.60**	**239**	P	**Pn**	**18 19 27.1**	**-0.2**
JIE	**Ise**	**1.75**	**190**	P	**Pn**	**18 19 28.9**	**+0.5**
JIE				eS	**S**	**18 20 02.7**	**+0.1**
JAG	**Ashikaga**	**1.94**	**80**	P	**Pn**	**18 19 29.6**	**-0.3**
JAG				S	**S**	**18 20 03.6**	**-1.6**
JSD	**Sado**	**2.13**	**26**	P	**Pn**	**18 19 31.4**	**-0.1**
JWY	**Kouya**	**2.26**	**213**	P	**Pn**	**18 19 32.9**	**+0.3**
JNS	**Sasagawa**	**2.46**	**46**	P	**Pn**	**18 19 34.5**	**0.0**
JWZ	**Kozaga**	**2.82**	**204**	P	**Pn**	**18 19 37.8**	**-0.2**
JHS	**Saijyo**	**3.42**	**252**	P	**Pn**	**18 19 43.7**	**-0.5**
WRA	**Warramunga Arr**	**55.82**	**183**	P	**P**	**18 27 53.8**	**-0.1**
	0.7nm,0.3s,mb3.5,baz=359,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**59.54**	**183**	P	**P**	**18 28 20.1**	**+0.4**
	0.3nm,0.8s,mb2.9,baz=360,slow=6.0,SNR=11						

JMA 25 18:19:36.2, 3598N×13754E, h10km, M0.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.30**	**323**	P	Pg	18 19 42.5	+0.2
JGN				eS	Sg	18 19 46.6	+0.2

*ISCJB **25** 18:55:13.7±1.1, 226N±02×1423E±08, h274km±31km, mb3.0/5, Error ellipse: s-maj=116.1km s-min=14.3km az=159.1*
*IDC **25** 18:55:14.2±1.4, 2259N×14226E, h264km±26km, mb3.0/5, mb1 3.2/7, mb1mx3.0/21, mbtmp3.8/7, Error ellipse: s-maj=81.2km s-min=13.6km az=81.0*
ISC 25 18:55:14.6±1.0, 226N±02×1425E±08, h274km±27km, n7, σ1°11/8, mb3.0/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.45**	**357**	P	**Pn**	**18 56 26.2**	**+1.6**
	16nm,0.3s,baz=268,slow=21,SNR=28						
CBIJ				S	**S**	**18 57 19.6**	**-1.1**
	7.2nm,0.3s,baz=291,slow=23,SNR=7.4						
GUMO	**Guam**	**9.28**	**165**	P	**Pn**	**18 57 23.6**	**-0.2**
	4.3nm,0.3s,baz=61,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**43.06**	**191**	P	**P**	**19 02 47.8**	**+0.1**
	0.6nm,0.5s,mb3.0,baz=7.8,slow=9.1,SNR=4.5						
FITZ	**Fitzroy Crossi**	**43.71**	**204**	P	**P**	**19 02 52.1**	**-0.8**
	2.4nm,0.9s,mb3.4,baz=360,slow=19,SNR=5.6						
ASAR	**Alice Springs**	**46.77**	**191**	P	**P**	**19 03 17.4**	**+0.5**
	0.4nm,1.0s,mb2.7,baz=19,slow=8.8,SNR=3.2						
MKAR	**Makanchi Array**	**53.59**	**312**	P	**P**	**19 04 08.2**	**+0.4**
	0.2nm,0.5s,mb2.7,baz=105,slow=7.2,SNR=2.8						
FINES	**FINESS Array B**	**82.06**	**334**	P	**P**	**19 07 04.0**	**-0.4**
	0.3nm,0.4s,mb3.3,baz=52,slow=3.1,SNR=6.7						

*ISCJB **25** 18:57:44.6±0.7, 3699N±004×2683E±004, h5km, Error ellipse: s-maj=5.9km s-min=5.0km az=179.7*
*ATH **25** 18:57:44.6, 3695N×2690E, h4km, MD3.0/4*
*NEIC **25** 18:57:44.6, 3695N×2690E, h4km, MD3.0(ATH), MD3.1(ISK), After ATH.*
*CSEM **25** 18:57:45.4±0.1, 3703N×2689E, h5km, MD3.1, Error ellipse: s-maj=3.3km s-min=1.9km az=15.0*
*ISK **25** 18:57:45.8, 3704N×2690E, h11km, MD3.1*
ISC 25 18:57:44.6±1.0, 3696N±004×2680E±006, h5km±8km, n16, σ0°65/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.42**	**76**	i PG	**Pg**	**18 57 52.9**	**+0.2**
BODT				i SG	**Sg**	**18 57 58.2**	**0.0**
NISR	**Nisiros**	**0.44**	**143**	ePG	**Pg**	**18 57 52.0**	**-1.0**
BDRM	**Kayabasi**	**0.53**	**78**	i P	**Pg**	**18 57 54.9**	**+0.1**
BDRM				i S	**Sg**	**18 58 01.6**	**0.0**
DAT	**Datca**	**0.67**	**110**	i PG	**Pg**	**18 57 58.4**	**+1.0**
DAT				i SG	**Sg**	**18 58 07.3**	**+1.3**
SMG	**Samos**	**0.75**	**2**	ePG	**Pg**	**18 57 58.9**	**0.0**
MLSB	**Milas**	**0.85**	**67**	PG	**Pg**	**18 57 59.9**	**-1.0**
MLSB				SG	**Sg**	**18 58 11.6**	**-0.3**
APE	**Apeiranthos**	**1.02**	**276**	ePB	**Pb**	**18 58 05.5**	**+0.8**
AYDN	**Tasoluk**	**1.11**	**51**	i P	**Pg**	**18 58 05.0**	**-0.9**
AYDN				i S	**Sg**	**18 58 20.7**	**+0.5**
YER	**Yerkesik**	**1.20**	**81**	PN	**Pn**	**18 58 07.3**	**-0.7**
ARG	**Arkhangelos**	**1.30**	**124**	ePB	**Pn**	**18 58 08.2**	**-1.2**
BLCB	**Balcova**	**1.44**	**8**	PN	**Pn**	**18 58 11.4**	**+0.2**
IZM	**Izmir**	**1.48**	**14**	PN	**Pn**	**18 58 11.8**	**0.0**
DALT	**Dalyan (Mudla)**	**1.49**	**97**	ePN	**Pn**	**18 58 12.4**	**+0.5**
FETY	**Fethiye**	**1.86**	**99**	ePN	**Pn**	**18 58 17.8**	**+0.7**
DNZL	**Cakiroluk**	**1.93**	**67**	i P	**Pg**	**18 58 21.2**	**-0.5**
DNZL				i S	**Sg**	**18 58 46.4**	**-0.3**
MANT	**Manisa**	**2.07**	**42**	i P	**Pg**	**18 58 24.0**	**-0.2**
MANT				i S	**Sg**	**18 58 51.7**	**+0.7**

*ISCJB **25** 19:14:27.0±0.7, 4378N±004×10528W±007, h0km, Error ellipse: s-maj=7.2km s-min=6.2km az=139.3*
*IDC **25** 19:14:27.3±1.8, 4386N×10549W, h0km, mb1 3.5/3, mb1mx3.2/23, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=55.7km s-min=8.6km az=149.0*
*NEIC **25** 19:14:27.2±0.9, 4385N×10530W, h0km, ML3.4, Error ellipse: s-maj=14.5km s-min=10.3km az=130.0, Suspected Mining explosion.*
NEIC 50 km [30 miles] SSE of Gillette.
ISC 25 19:14:28.1±0.6, 4376N±004×10514W±006, h0km, n19, σ1°16/28, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.87**	**65**	ePg	**Pg**	**19 14 46.3**	**+1.6**
RSSD				eS	**Sg**	**19 15 06.2**	**+10**
PHWY	**Pilot Hill**	**2.47**	**186**	ePn	**Pn**	**19 15 09.1**	**-0.5**
PHWY				eS	**Sn**	**19 15 40.9**	**+0.5**
RWWY	**Rawlins**	**2.57**	**217**	ePn	**Pn**	**19 15 10.2**	**-0.8**
RWWY				eS	**Sn**	**19 15 44.5**	**+1.5**
LAO	**LASA Array**	**3.03**	**346**	ePn	**Pn**	**19 15 13.6**	**-3.6**
LAO				eS	**Sn**	**19 15 59.6**	**+5.4**
PDAR	**Pinedale Array**	**3.38**	**254**	Pn	**Pn**	**19 15 21.6**	**-0.5**
	1.3nm,0.3s,baz=69,slow=16,SNR=26						
PDAR				Pg	**Pg**	**19 15 27.0**	**-5.9**
	3.4nm,0.3s,baz=66,slow=20,SNR=51						
PDAR				Lg		19 16 06.1	
	2.1nm,0.3s,baz=74,slow=32,SNR=13						
ISCO	**Idaho Springs**	**3.97**	**185**	ePn	**Pn**	**19 15 30.1**	**-0.1**
ISCO				eSg	**Sb**	**19 16 26.6**	**-1.0**
REDW	**Red Top Meadow**	**4.17**	**266**	ePn	**Pn**	**19 15 27.4**	**-5.6**
REDW				eSg	**Sg**	**19 16 40.4**	**-1.8**
IMW	**Indian Meadow**	**4.20**	**274**	eP	**Pn**	**19 15 34.4**	**+1.0**
SMCO	**Snowmass**	**4.78**	**197**	ePg	**Pn**	**19 15 52.0**	**+11**
BOZ	**Bozeman (W)**	**5.00**	**294**	Pn	**Pn**	**19 15 38.2**	**-6.2**
BOZ				eS	**Sb**	**19 16 57.3**	**+0.2**
HWUT	**Hardware Ranch**	**5.21**	**248**	ePn	**Pn**	**19 15 47.1**	**-0.1**
	11nm,0.8s						
HWUT				eSg	**Sb**	**19 17 05.3**	**+2.2**
TCUT	**Toone Canyon**	**5.34**	**243**	P	**Pn**	**19 15 45.6**	**-3.4**
EGMT	**Eagleton**	**5.34**	**325**	eP	**Pn**	**19 15 48.9**	**-0.2**
	8.9nm,0.6s						
MPU	**Maple Canyon**	**6.12**	**235**	ePg	**Pg**	**19 16 20.6**	**-4.8**
TMUT	**Trail Mountain**	**6.38**	**228**	eP	**Pn**	**19 16 03.5**	**+0.3**
HLID	**Hailey**	**6.73**	**272**	eP	**Pn**	**19 16 09.8**	**+1.6**
	1.5nm,0.8s						
DUG	**Dugway**	**6.74**	**241**	ePn	**Pn**	**19 16 07.2**	**-1.1**
	4.1nm,0.8s						
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**19 16 38.2**	**-1.9**
	0.4nm,0.3s,baz=241,slow=13,SNR=4.4						
ULM				Lg		19 19 10.8	
	0.2nm,0.3s,baz=330,slow=20,SNR=2.7						
NVAR	**Mina Array Bea**	**11.27**	**246**	Pn	**Pn**	**19 17 11.0**	**+0.6**
	0.1nm,0.3s,baz=51,slow=13,SNR=2.7						

*CSEM **25** 19:14:39.7±1.5, 3858N×2859W, h10km, ML1.1, Error ellipse: s-maj=6.3km s-min=4.3km az=171.0, After PDA*
*PDA **25** 19:14:39.7±1.5, 3858N×2859W, h10km, MD2.8, ML1.1, Error ellipse: s-maj=6.3km s-min=4.3km az=171.0*
SVSA 25 19:14:39.7±1.5, 3858N×2859W, h10km, MD2.8, ML1.1, Error ellipse: s-maj=6.3km s-min=4.3km az=171.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.06**	**207**	eP	Pg	19 14 41.3	-0.5
HOR				eS	Sg	19 14 43.3	0.0
CALA	**Caldeira**	**0.09**	**269**	eP	Pg	19 14 41.7	-0.4
CALA				eS	Sg	19 14 44.1	+0.3
PCND	**Candelaria**	**0.15**	**138**	eS	Sg	19 14 46.1	+0.7
PCND							
	26nm,0.1s						
PICO	**Pico**	**0.15**	**122**	eP	Pg	19 14 42.9	-0.2
PICO				eS	Sg	19 14 45.7	+0.2
PTCA	**Ponta do Capel**	**0.16**	**271**	eS	Sg	19 14 45.5	-0.1
PTCA							
	13nm,0.1s						
PTEI	**Pico do Teixo**	**0.21**	**115**	eS	Sg	19 14 47.9	+1.0
PTEI							
	8.3nm,0.1s						
PBOI	**Pico dos Bois**	**0.23**	**130**	eS	Sg	19 14 48.3	+0.8
PBOI							
	9.7nm,0.2s						
ROSA	**Rosais**	**0.31**	**64**	i P	Pg	19 14 44.8	-1.0
ROSA				eS	Sg	19 14 49.6	-0.4
ROSA	**Rosais**	**0.31**	**64**	eS	Sg	19 14 49.6	-0.4
PAMA	**Santo Amaro**	**0.34**	**73**	eS	Sg	19 14 50.9	0.0
PAMA							
	18nm,0.1s						
PID	**Ribeirinha**	**0.40**	**111**	eS	Sg	19 14 51.5	-1.3
PMAN	**Manadas**	**0.40**	**83**	erx		19 14 50.5	

*BJI **25** 20:07:51.5, 4283N×14987E, h13km, mB4.4, mb4.2*
*IDC **25** 20:07:51.4±4.5, 4330N×15050E, h0km, mb4.1/5, mb1 4.0/7, mb1mx3.7/21, mbtmp4.0/7, ML3.8/2, Error ellipse: s-maj=96.0km s-min=34.7km az=144.0*
*MOS **25** 20:07:53.8±3.4, 4322N×15038E, h65km, mb4.2/6, Error ellipse: s-maj=21.8km s-min=11.4km az=124.7*
*JMA **25** 20:07:55.8±0.6, 4388N×15009E, h30km, M4.2*
*ISCJB **25** 20:07:56.8±0.7, 4320N±007×14983E±006, h33km, mb4.1/10, Error ellipse: s-maj=10.2km s-min=5.4km az=137.5*
*NEIC **25** 20:07:56.7±0.8, 4329N×15034E, h35km, mb4.0/6, Error ellipse: s-maj=17.0km s-min=10.4km az=105.0*
ISC 25 20:07:59.1±0.7, 4331N±007×14984E±006, h35km, n51, σ1°09/64, mb4.1/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.38**	**324**	ePN	**Pn**	**20 08 29.0**	**-6.6**
KUR				pmax	pmax		
	comp=N,60nm,0.6s						
KUR				pmax	pmax		
	comp=Z,110nm,0.6s						
NEM2	**Nemuro 2**	**2.99**	**272**	P	**Pn**	**20 08 43.3**	**-0.6**
NEM2				eS	**Sn**	**20 09 18.2**	**-0.3**
JRA	**Rausu**	**3.48**	**282**	P	**Pn**	**20 08 50.4**	**-0.3**
JNK	**Nakash**	**3.74**	**276**	P	**Pn**	**20 08 53.7**	**-0.5**
JNK				eS	**Sn**	**20 09 36.1**	**-0.9**
JAK	**Akkeshi**	**3.77**	**267**	P	**Pn**	**20 08 55.0**	**+0.3**
JAK				eS	**Sn**	**20 09 37.8**	**-0.1**
JTKR	**Abashiri--Toko**	**4.35**	**281**	P	**Pn**	**20 09 03.2**	**+0.5**
JOB	**Onbets**	**4.41**	**267**	P	**Pn**	**20 09 03.8**	**+0.3**
JOB				eS	**Sn**	**20 09 53.5**	**-0.2**
JAR	**Ashorobuto**	**4.43**	**272**	P	**Pn**	**20 09 03.9**	**+0.2**
JAR				eS	**Sn**	**20 09 54.3**	**+0.3**
JCH	**Churui**	**4.80**	**264**	P	**Pn**	**20 09 09.2**	**+0.3**
JCH				eS	**Sn**	**20 10 02.7**	**-0.6**
JEM	**Erimo**	**5.09**	**258**	P	**Pn**	**20 09 15.0**	**+2.1**
JKK2	**Kamakawa 2**	**5.18**	**279**	P	**Pn**	**20 09 15.5**	**+1.5**
JFR	**Furan**	**5.29**	**271**	P	**Pn**	**20 09 16.9**	**+1.3**
ASAJ	**Asahikawa**	**5.31**	**281**	Pn	**Pn**	**20 09 18.9**	**+3.0**
	comp=Z,3.5nm,0.3s,baz=112,slow=6.8,SNR=30						
ASAJ	**Asahikawa**	**5.31**	**281**	P	**Pn**	**20 09 17.5**	**+1.7**
ASAJ	**Asahikawa**	**5.31**	**281**	PN	**Pn**	**20 09 18.9**	**+3.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JNBK	**Urakawa-nobuka**	**5.31**	**261**	P	**Pn**	**20 09 16.4**	**+0.5**
JNBK				eS	**Sn**	**20 10 15.3**	**-0.6**
JBT2	**Biratori 2**	**5.50**	**267**	P	**Pn**	**20 09 18.9**	**+0.4**
JAB	**Ashibetsu**	**5.55**	**275**	P	**Pn**	**20 09 21.7**	**+2.6**
JEW	**Eniwo**	**6.16**	**268**	P	**Pn**	**20 09 28.8**	**+1.3**
JNB	**Noboribetsu**	**6.52**	**266**	P	**Pn**	**20 09 33.6**	**+1.2**
JNB				eS	**Sn**	**20 10 45.5**	**0.0**
JKB	**Kayabe**	**6.65**	**261**	P	**Pn**	**20 09 35.5**	**+1.2**
JKB				eS	**Sn**	**20 10 47.2**	**-1.6**
JTH	**Tanohata**	**6.86**	**243**	P	**Pn**	**20 09 36.5**	**-0.6**
JANG	**Nango**	**6.87**	**248**	P	**Pn**	**20 09 36.4**	**-0.9**
JANG				eS	**Sn**	**20 10 52.1**	**-2.2**
JTM	**Tenmabayashi**	**7.00**	**252**	P	**Pn**	**20 09 40.1**

NEO	**Neokhori**	**0.30**	**343**	*e*PB	**Pg**	**20 31 09.5**	**+0.2**
NEO				*e*SB	**Sg**	**20 31 14.1**	**+0.5**
LKR	**Lokris**	**0.45**	**216**	*e*PB	**Pg**	**20 31 11.2**	**-0.7**
PAIG	**Paliouri**	**0.95**	**16**	*e*Pg	**Pg**	**20 31 21.3**	**+0.1**
PAIG				*e*Sg	**Sg**	**20 31 34.0**	**+0.2**
MGER	**Gerania Oros**	**1.03**	**183**	*e*PN	**Pn**	**20 31 22.5**	**-0.3**
MGER				*e*SN	**Sn**	**20 31 37.0**	**+0.1**
PTL	**Penteli**	**1.05**	**157**	*e*PN	**Pn**	**20 31 22.5**	**-0.5**
PTL				*e*SN	**Sn**	**20 31 37.5**	**+0.1**
ATH	**Athens Observa**	**1.08**	**164**	*e*PN	**Pn**	**20 31 23.3**	**-0.2**
EVR	**Evrytania**	**1.19**	**266**	*e*PN	**Pn**	**20 31 24.2**	**-0.8**
KVR	**Kavouri**	**1.23**	**164**	*e*PN	**Pn**	**20 31 25.9**	**+0.3**
NAIG	**Nisos Aigina**	**1.26**	**174**	*e*PN	**Pn**	**20 31 26.6**	**+0.7**
LIT	**Litokhoron**	**1.27**	**329**	*e*Pg	**Pg**	**20 31 25.9**	**-1.4**
LIT				*e*Sg	**Sg**	**20 31 44.4**	**+0.6**
PLG	**Polygyros**	**1.36**	**4**	*e*PN	**Pn**	**20 31 27.2**	**-0.1**
THE	**Thessaloniki**	**1.64**	**350**	*e*Pb	**Pn**	**20 31 31.0**	**-0.1**
SOH	**Sokhos**	**1.80**	**0**	*e*Pb	**Pn**	**20 31 33.9**	**+0.5**
SOH				*e*Sb	**Sb**	**20 31 57.4**	**-0.5**
GRG	**Griva**	**2.07**	**340**	*e*PN	**Pn**	**20 31 37.3**	**+0.3**
SRS	**Serrai**	**2.11**	**5**	*e*PN	**Pn**	**20 31 37.8**	**+0.2**
ITM	**Ithomi**	**2.14**	**212**	*e*PB	**Pn**	**20 31 39.4**	**+1.3**
VLI	**Veliai**	**2.31**	**188**	*e*PN	**Pn**	**20 31 40.5**	**+0.1**
MMB	**Musomiste**	**2.59**	**7**	P	**Pn**	**20 31 44.4**	**+0.2**
KKB	**Krupnik**	**2.85**	**356**	*e*P	**Pn**	**20 31 47.8**	**0.0**
RZN	**Rozhen**	**2.87**	**21**	*e*P	**Pn**	**20 31 48.8**	**+0.7**
KDZ	**Kurdzhali**	**3.08**	**31**	*e*P	**Pn**	**20 31 49.0**	**-1.9**

IDC 25 21:24:49.6±7.8, 731S×12688E, h449km±104km, mb2.8/2, mb1 2.8/4, mb1mx2.7/13, mbtmp3.6/4, Error ellipse: s-maj=274.5km s-min=41.3km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.49**	**151**	P	P	21 27 53.8	-1.4
	0.1nm,0.3s,baz=326,slow=12,SNR=8.6						
ASAR	**Alice Springs**	**17.60**	**158**	P	P	21 28 28.6	+0.5
	0.5nm,0.3s,baz=333,slow=8.3,SNR=20						
STKA	**Stephens Creek**	**28.03**	**153**	P	P	21 30 02.8	+0.1
	1.8nm,1.0s,baz=327,slow=8.4,SNR=4.7						
MKAR	**Makanchi Array**	**66.83**	**328**	P	P	21 34 55.5	0.0
	0.2nm,0.5s,baz=113,slow=7.4,SNR=6.0						

*CSEM **25** 21:33:49.0±0.4, 3866N×2906W, h9km±8km, ML1.6, Error ellipse: s-maj=8.2km s-min=4.5km az=16.0, After PDA*
*PDA **25** 21:33:49.0±0.4, 3866N×2906W, h9km±8km, MD3.3, ML1.6, Error ellipse: s-maj=8.2km s-min=4.5km az=16.0*
SVSA 25 21:33:49.0±0.4, 3866N×2906W, h9km±8km, MD3.3, ML1.6, Error ellipse: s-maj=8.2km s-min=4.5km az=16.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.22**	**110**	*e*P	Pg	21 33 57.9	+4.4
PTCA				*e*S	Sg	21 34 01.0	+4.5
PTCA	28nm,0.2s						
PTCA	**Ponta do Capel**	**0.22**	**110**	*e*P	Pg	21 33 57.9	+4.4
PTCA				*e*S	Sg	21 34 01.0	+4.5
PCED	**Cedros**	**0.28**	**96**	*e*P	Pg	21 33 54.1	-0.6
PCED				*e*S	Sg	21 33 57.9	-0.6
PCED	109nm,0.4s						
PCED	**Cedros**	**0.28**	**96**	*e*P	Pg	21 33 54.1	-0.6
PCED				*e*S	Sg	21 33 57.9	-0.6
CALA	**Caldeira**	**0.29**	**105**	*e*rx		21 34 01.3	
PCND	**Candelaria**	**0.51**	**112**	*e*S	Sg	21 34 08.1	+2.6
PCND	18nm,0.2s						
PICO	**Pico**	**0.52**	**107**	*e*P	Pg	21 33 57.9	-1.3
PICO				*e*S	Sg	21 34 04.5	-1.5
PTEI	**Pico do Teixo**	**0.58**	**106**	*e*S	Sg	21 34 10.5	+2.8
PTEI	19nm,0.2s						
PBOI	**Pico dos Bois**	**0.58**	**112**	*e*S	Sg	21 34 10.0	+2.1
PBOI	18nm,0.2s						
ROSA	**Rosais**	**0.65**	**84**	*e*P	Pg	21 33 59.5	-2.0
PAMA	**Santo Amaro**	**0.69**	**88**	*e*S	Sg	21 34 13.6	+2.2
PAMA	21nm,0.1s						
PMAN	**Manadas**	**0.76**	**92**	*e*rx		21 34 06.2	
PID	**Ribeirinha**	**0.77**	**106**	*e*rx		21 34 00.7	
SRBC	**Serra Branca**	**0.88**	**64**	*e*rx		21 34 11.3	

*NEIC **25** 21:35:13.4, 1602N×6120W, h70km, MD2.5(FDF), After FDF.*
TRN 25 21:35:11.9, 1603N×6122W, h72km, MD3.0, M2.5(FDF), M2.7(FDF), 2C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.14**	**221⇑**	*e*P	Pn	21 35 23.8	+1.3
SFG	**Saint Francois**	**0.23**	**6⇓**	*e*P	Pn	21 35 24.3	+1.4
DEG	**La Desirade**	**0.33**	**28⇑**	*e*P	Pn	21 35 24.1	+0.7
DEG				*e*S	Sn	21 35 33.9	+2.1
PHG	**Guadaloupe-2**	**0.41**	**268**	*e*P	Pn	21 35 25.4	+1.4
TBG	**Guadaloupe-3**	**0.44**	**247⇓**	*e*P	Pn	21 35 25.6	+1.2
SEG	**Port Louis**	**0.46**	**324**	*e*P	Pn	21 35 26.0	+1.5
LZG	**Guadaloupe-1**	**0.55**	**282**	*e*P	Pn	21 35 26.6	+1.3
BBL	**Barber's Block**	**0.55**	**206**	*e*P	Pn	21 35 26.5	+1.1
BBL				*e*S	Sn	21 35 37.2	+2.0
BPA	**Boggy Peak**	**1.18**	**329**	*e*P	Pn	21 35 34.4	+1.6
BPA				*e*S	Sn	21 35 50.3	+1.9

*BJI **25** 21:37:50.9, 58.10N×14800W, h8km, mB4.8, mb4.6, Ms4.4, Msz4.1*
*ISCJB **25** 21:37:52.1±1.4, 5822N±004×14798W±007, h7km±10km, mb4.0/15, MS3.2/3, Error ellipse: s-maj=6.3km s-min=6.0km az=169.4*
*IDC **25** 21:37:53.4±1.0, 5826N×14804W, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.9/25, mbtmp3.9/14, ML3.8/4, MS3.1/8, Ms1 3.1/8, ms1mx2.8/32, Error ellipse: s-maj=25.6km s-min=14.5km az=19.0*
*NEIC **25** 21:37:57.9, 58.15N×14799W, h9km, mb4.3/4, ML3.8(AEIC), ML4.1(PMR), After AEIC.*
ISC 25 21:37:54.8±1.7, 5826N±004×14798W±007, h13km±12km, n57, σ1§11/63, mb4.0/15, MS3.2/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**1.45**	**35**	P	**Pn**	**21 38 19.8**	**-1.0**
SEW	**Seward**	**2.00**	**338**	P	**Pn**	**21 38 27.9**	**-0.5**
SEW				S	**Sn**	**21 38 51.6**	**-1.6**
KDAK	**Kodiak Island**	**2.50**	**261**	Pn	**Pn**	**21 38 32.0**	**-3.1**
	18nm,0.3s,baz=82,slow=6.7,SNR=110						
KDAK				Sn	**Sn**	**21 38 58.8**	**-6.7**
	30nm,0.3s,baz=326,slow=22,SNR=22						
KDAK				LR	LR	21 39 04.5	
	comp=Z,560nm,18.9s,baz=357,slow=29						
SLKM	**Skilak Lake**	**2.53**	**334**	P	**Pn**	**21 38 35.5**	**-0.2**
EYAK	**Cordova Ski Ar**	**2.57**	**25**	P	**Pn**	**21 38 36.0**	**-0.1**
EYAK				S	**Sn**	**21 39 06.5**	**-0.7**
RC01	**Rabbit Creek A**	**2.98**	**343**	P	**Pn**	**21 38 42.0**	**+0.2**
DIV	**Divide**	**3.09**	**20**	P	**Pn**	**21 38 43.6**	**+0.3**
DIV				S	**Sn**	**21 39 19.7**	**-0.5**
BMRM	**Bremner River**	**3.22**	**31**	P	**Pn**	**21 38 45.2**	**+0.2**
BMRM				S	**Sn**	**21 39 22.5**	**-0.7**
PMR	**Palmer**	**3.40**	**351**	P	**Pn**	**21 38 47.8**	**+0.2**
GHO	**Glory Hole Cre**	**3.56**	**353**	P	**Pn**	**21 38 50.9**	**+1.1**
SML	**Sawmill**	**3.57**	**357**	P	**Pn**	**21 38 50.4**	**+0.5**
PNL	**Peninsula**	**4.66**	**69**	P	**Pn**	**21 39 03.3**	**-1.6**
SVW2	**Sparrevohn**	**4.79**	**310**	*e*P	**Pn**	**21 39 05.0**	**-1.7**
MENT	**Mentasta**	**5.14**	**22**	*e*P	**Pn**	**21 39 13.1**	**+1.5**
TRF	**Thorofare Moun**	**5.33**	**349**	P	**Pn**	**21 39 15.2**	**+1.0**
KTH	**Kantishna Hill**	**5.50**	**346**	P	**Pn**	**21 39 17.4**	**+0.9**
MCK	**McKinley**	**5.51**	**356**	*e*Pn	**Pn**	**21 39 18.0**	**+1.3**
	18nm,0.6s						
MCK				*e*Sn	**Sn**	**21 40 22.9**	**+3.0**
CHGN	**Chignik**	**5.99**	**255**	*e*P	**Pn**	**21 39 22.1**	**-1.1**
TTA	**Tatalina**	**6.13**	**323**	*e*P	**Pn**	**21 39 25.1**	**0.0**
COLA	**College**	**6.64**	**0**	P	**Pn**	**21 39 32.5**	**+0.4**
SKAG	**Skagway**	**6.67**	**74**	*e*P	**Pn**	**21 39 31.8**	**-0.8**
SIT	**Sitka**	**6.90**	**95**	*e*P	**Pn**	**21 39 31.4**	**-4.2**
WHY	**Whitehorse**	**7.10**	**65**	P	**Pn**	**21 39 37.4**	**-1.0**
DAWY	**Dawson**	**7.15**	**32**	*e*Pn	**Pn**	**21 39 39.9**	**+0.7**
DAWY				*e*Sn	**Sn**	**21 40 57.2**	**-3.1**
SDPT	**Sand Point**	**7.45**	**252**	P	**Pn**	**21 39 41.9**	**-1.4**
DLBC	**Dease Lake**	**9.44**	**81**	Pn	**Pn**	**21 40 09.6**	**-1.0**
	1.8nm,0.3s,baz=269,slow=12,SNR=23						
DLBC				LR	LR	21 43 52.1	
	comp=Z,60nm,18.9s,baz=248,slow=38						
DLBC	**Dease Lake**	**9.44**	**81**	P	**Pn**	**21 40 09.6**	**-1.0**
INK	**Inuvik**	**11.96**	**27**	Pn	**Pn**	**21 40 45.5**	**+0.5**
	0.2nm,0.3s,baz=210,slow=14,SNR=10.0						
INK				Sn	**Sn**	**21 42 50.5**	**-7.8**
	0.1nm,0.3s,baz=220,slow=13,SNR=2.4						
INK				LR	LR	21 46 09.8	
	comp=Z,86nm,18.4s,baz=81,slow=42						
INK	**Inuvik**	**11.96**	**27**	Pn	**Pn**	**21 40 45.5**	**+0.5**
INK				Sn	**Sn**	**21 42 50.5**	**-7.8**
INK				LR	LR	21 46 09.8	
BBB	**Bella Bella**	**12.84**	**110**	LR	LR	21 44 53.1	
	comp=Z,68nm,21.6s,baz=140,slow=33						
YKA	**Yellowknife Ar**	**16.91**	**61**	Pn	**Pn**	**21 41 50.4**	**-0.7**
	baz=271,slow=11,SNR=9.0						
YKA				LR	LR	21 48 38.0	
	comp=Z,28nm,20.0s,baz=180,slow=38						
YKA	**Yellowknife Ar**	**16.91**	**61**	Pn	**Pn**	**21 41 50.4**	**-0.7**
YKA				LR	LR	21 48 38.0	
EDM	**Edmonton**	**19.98**	**90**	*e*P	**Pn**	**21 42 27.7**	**-0.9**
NEW	**Newport**	**20.81**	**105**	P	**P**	**21 42 37.6**	**+1.7**
	6.4nm,0.8s,baz=290,slow=12,SNR=8.9						
NEW				LR	LR	21 49 52.6	
	comp=Z,56nm,21.0s,MS2.9,baz=66,slow=34						
WALA	**Waterton Lakes**	**21.97**	**100**	*e*P	**P**	**21 42 48.6**	**+0.3**
	5.7nm,0.9s,mb4.0						
YBH	**Yreka Blue Hor**	**22.97**	**125**	P	**P**	**21 43 00.9**	**+1.9**
	2.7nm,1.0s,mb3.6,baz=247,slow=1.5,SNR=3.4						
RES	**Resolute Bay**	**25.49**	**30**	*e*P	**P**	**21 43 26.6**	**+3.8**
PDAR	**Pinedale Array**	**28.45**	**106**	P	**P**	**21 43 49.5**	**+0.1**
	0.9nm,0.7s,mb3.5,baz=327,slow=5.6,SNR=8.5						
ULM	**Lac du Bonnet**	**30.77**	**82**	P	**P**	**21 44 09.8**	**-0.1**
	1.4nm,0.6s,mb4.0,baz=303,slow=10,SNR=3.2						
ULM	**Lac du Bonnet**	**30.77**	**82**	P	**P**	**21 44 09.8**	**-0.1**
PV01	**Paradox Valley**	**32.43**	**111**	*e*P	**P**	**21 44 24.8**	**+0.3**
ASAJ	**Asahikawa**	**43.73**	**283**	LR	LR	22 05 34.8	
	comp=Z,43nm,19.2s,MS3.4,baz=79,slow=38						
MDJ	**Mudanjiang**	**49.92**	**292**	P	**P**	**21 46 46.5**	**-1.7**
MDJ				AMB	AMB		
	comp=Z,40nm,7.5s						
ULN	**Ulaanbaatar**	**57.62**	**310**	*e*P	**P**	**21 47 48.9**	**+4.4**
	comp=Z,3.7nm,0.8s,mb4.5						
SONM	**Songino Array**	**57.91**	**310**	P	**P**	**21 47 47.7**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=55,slow=6.7,SNR=5.2						
ZAL	**Zalesovo**	**60.30**	**327**	P	**P**	**21 48 02.1**	**-1.0**
	comp=Z,0.7nm,0.5s,mb4.0,baz=93,slow=6.2,SNR=2.4						
FINES	**FINESS Array B**	**60.55**	**3**	P	**P**	**21 48 05.7**	**+0.9**
	comp=Z,1.1nm,0.9s,mb4.0,baz=7,0,slow=17,SNR=2.5						
FINES	**FINESS Array B**	**60.55**	**3**	P	**P**	**21 48 05.7**	**+0.9**
HFS	**Hagfors**	**61.08**	**10**	LR	LR	22 13 52.6	
	comp=Z,30nm,19.7s,MS3.5,baz=183,slow=35						
CHKZ	**Chkalovo**	**64.12**	**336**	*e*P	**P**	**21 48 32.1**	**+3.3**
	comp=Z,1.3nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**64.78**	**336**	P	**P**	**21 48 33.1**	**0.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=262,slow=37,SNR=2.6						
NJ2	**Nanjing**	**64.94**	**291**	*e*P	**P**	**21 48 37.0**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
ZRNK	**Zerenda**	**65.15**	**336**	*e*P	**P**	**21 48 35.8**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.4						
WMQ	**Urumqi**	**68.29**	**320**	*e*P	**P**	**21 48 56.8**	**+1.2**
LZH	**Lanzhou**	**68.64**	**304**	*e*P	**P**	**21 48 57.5**	**-0.3**
LZH				AP	pP	21 49 02.3	+0.4
LZH				XP	sP	21 49 04.5	+1.1
LZH				PP	PP	21 51 31.3	+2.1
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
AKASG	**Malin Array Be**	**71.38**	**2**	P	**P**	**21 49 13.9**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.4,baz=357,slow=6.8,SNR=3.9						
ESDC	**Sonseca Array**	**77.90**	**28**	P	**P**	**21 49 53.4**	**+1.0**
	comp=Z,0.2nm,0.3s,mb3.5,baz=338,slow=39,SNR=5.4						

*IDC **25** 21:41:35.5±1.0, 3665S×14010E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/13, mbtmp4.1/8, ML3.5/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/15, Error ellipse: s-maj=37.6km s-min=20.8km az=71.0*
*ISCJB **25** 21:41:39.1±0.6, 3845S±005×13996E±0.1, h33km, mb4.2/6, Error ellipse: s-maj=15.8km s-min=7.5km az=178.4*
*NEIC **25** 21:41:40.5±0.4, 3725S×14009E, h35km, mb4.5/6, Error ellipse: s-maj=11.4km s-min=7.0km az=71.0*
ISC 25 21:41:40.8±0.5, 3825S±005×13995E±008, h35km, n33, σ1§21/33, mb4.2/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.05**	**128**	Pn	**Pn**	**21 43 47.4**	**-1.6**
	1.0nm,0.3s,baz=234,slow=21,SNR=4.7						
KAKA	**Kakadu**	**11.54**	**220**	*e*P	**Pn**	**21 44 23.3**	**+0.3**
	48nm,0.3s						
KAKA				*e*S	**Sn**	**21 46 27.9**	**-2.7**
WRAB	**Tennant Creek**	**16.92**	**198**	*e*Pn	**Pn**	**21 45 35.1**	**+0.3**
	35nm,0.6s						
WRAB				*e*Sn	**Sn**	**21 48 37.7**	**-4.0**
WB2	**Warramunga Arr**	**16.93**	**198**	*e*P	**Pn**	**21 45 33.1**	**-1.8**
WB2				*e*S	**S**	**21 48 34.8**	**-16**
WRA	**Warramunga Arr**	**16.93**	**198**	P	**Pn**	**21 45 33.3**	**-1.6**
	0.5nm,0.3s,baz=14,slow=13,SNR=42						
CTA	**Charters Tower**	**17.29**	**160**	P	**Pn**	**21 45 39.8**	**+0.3**
	0.2nm,0.3s,baz=333,slow=11,SNR=2.1						
CTA				LR	LR	21 52 29.2	
	comp=Z,117nm,18.8s,baz=343,slow=38						
CTAO	**Charters Tower**	**17.29**	**160**	*e*Pn	**Pn**	**21 45 39.4**	**-0.1**
GUMO	**Guam**	**17.98**	**16**	LR	LR	21 52 41.0	
	comp=Z,80nm,18.2s,baz=194,slow=37						
FITZ	**Fitzroy Crossi**	**19.94**	**224**	*e*P	**Pn**	**21 46 11.9**	**+0.3**
	10nm,0.5s						
FITZ				*e*S	**S**	**21 49 44.0**	**-8.1**
FITZ	**Fitzroy Crossi**	**19.94**	**224**	P	**Pn**	**21 46 12.1**	**+0.5**
	7.9nm,0.8s,baz=56,slow=15,SNR=15						
AS31	**Alice Springs**	**20.57**	**196**	*e*P	**P**	**21 46 18.4**	**+1.9**
ASAR	**Alice Springs**	**20.57**	**196**	P	**P**	**21 46 19.7**	**+3.1**
	28nm,0.7s,baz=29,slow=9.7,SNR=69						
ASPA	**Alice Springs**	**20.57**	**196**	*e*P	**P**	**21 46 18.4**	**+1.8**
KKM	**Kota Kinabalu**	**25.65**	**292**	P	**P**	**21 47 07.8**	**+0.6**
MBWA	**Marble Bar**	**26.14**	**227**	*e*P	**P**	**21 47 14.7**	**+3.1**
STKA	**Stephens Creek**	**27.95**	**177**	P	**P**	**21 47 27.7**	**-0.2**
	1.5nm,0.8s,mb3.7,baz=352,slow=13,SNR=3.5						
YHNB	**Yeheng**	**33.59**	**328**	*e*P	**P**	**21 48 16.2**	**-1.4**
NWAO	**Narrogin (SRO)**	**35.91**	**214**	P	**P**	**21 48 38.0**	**+0.3**
TAU	**Tasmania Unive**	**39.47**	**171**	P	**P**	**21 49 08.0**	**+0.3**
COCO	**West Island**	**43.44**	**256**	*e*P	**P**	**21 49 42.2**	**+1.9**
	30nm,0.5s,mb5.3						
CASY	**Casey**	**65.66**	**193**	*e*P	**P**	**21 52 22.6**	**+1.1**
MKAR	**Makanchi Array**	**71.42**	**322**	P	**P**	**21 52 57.5**	**0.0**
	0.6nm,0.5s,mb3.8,baz=102,slow=4.2,SNR=7.0						
MKAR	**Makanchi Array**	**71.42**	**322**	P	**P**	**21 52 57.5**	**0.0**
VNDA	**Vanda**	**74.57**	**175**	P	**P**	**21 53 16.5**	**+0.4**
	0.5nm,0.7s,baz=280,slow=6.1,SNR=2.8						
KURK	**Kurchatov**	**75.33**	**325**	*e*P	**P**	**21 53 19.7**	**-0.8**
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**80.93**	**325**	P	**P**	**21 53 51.2**	**-0.4**
	0.5nm,0.4s,mb3.8,baz=126,slow=11,SNR=4.4						
BRVK	**Borovoye**	**81.00**	**325**	P	**P**	**21 53 51.7**	**-0.2**
CHKZ	**Chkalovo**	**81.01**	**326**	*e*P	**P**	**21 53 51.4**	**-0.6**
	0.4nm,0.4s,mb3.7						
ZRNK	**Zerenda**	**81.70**	**325**	*e*P	**P**	**21 53 54.9**	**-0.7**
QSPA	**South Pole Qui**	**86.13**	**180**	*e*P	**P**	**21 54 19.0**	**+0.8**
	7.7nm,1.0s,mb4.9						
DBIC	**Dimbokro**	**144.85**	**276**	PKP	PKPdf	22 01 15.5	+1.5
	4.5nm,0.5s,baz=72,slow=4.9,SNR=16						
CPUP	**Villa Florida**	**145.67**	**152**	PKPbc	PKPbc	22 01 16.4	+0.6
	2.3nm,0.7s,baz=170,slow=3.8,SNR=5.4						
LPAZ	**La Paz**	**145.79**	**126**	PKPbc	PKPbc	22 01 18.8	+2.6
	1.8nm,0.8s,baz=283,slow=1.3,SNR=12						

IDC 25 22:18:12.7±10.0, 367N×6407E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/20, mbtmp3.7/3, MS3.5/6, Ms1 3.5/6, ms1mx3.0/31, Error ellipse: s-maj=805.2km s-min=32.4km az=43.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**27.23**	**260**	LR	LR	22 33 10.1	
	comp=Z,58nm,18.7s,baz=97,slow=33						
LSZ	**Lusaka**	**40.21**	**241**	LR	LR	22 38 52.9	
	comp=Z,80nm,19.7s,baz=209,slow=31						
MATP	**Matopo**	**42.34**	**234**	LR	LR	22 40 18.7	
	comp=Z,78nm,19.5s,baz=101,slow=31						
BRTR	**Keskin Array B**	**45.24**	**327**	P	P	22 26 31.9	+0.3
	0.3nm,0.8s,baz=150,slow=10.0,SNR=3.9						
BOSA	**Boshof**	**49.21**	**227**	LR	LR	22 43 50.4	
	comp=Z,39nm,22.0s,baz=6.7,slow=31						
ZAL	**Zalesovo**	**52.90**	**15**	LR	LR	22 50 39.5	
	comp=Z,49nm,20.6s,baz=56,slow=37						
SUR	**Sutherland**	**54.48**	**225**	LR	LR	22 47 31.5	
	comp=Z,72nm,19.6s,baz=93,slow=32						
WRA	**Warramunga Arr**	**72.82**	**112**	P	P	22 29 43.9	+0.9
	1.4nm,0.7s,baz=290,slow=5.2,SNR=12						
ASAR	**Alice Springs**	**73.14**	**116**	P	P	22 29 45.6	+0.7
	0.7nm,0.7s,baz=291,slow=5.9,SNR=7.0						

*NEIC **25** 22:22:32.9, 3292S×7166W, h36km, ML2.8(GUC), After GUC.*
GUC 25 22:22:32.9±0.8, 3292S×7166W, h36km±2km, MD3.8, ML2.8, 13C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.11**	**173⇑**	*i*P	Pn	22 22 39.3	+0.2
IHA				*i*S	Sn	22 22 43.7	+0.4
ROCH	**El Roble**	**0.55**	**96⇓**	*i*P	Pn	22 22 44.2	0.0
LCCH	**Las Cruces**	**0.56**	**173⇓**	*i*P	Pn	22 22 44.3	-0.1
LCCH				*e*S	Sn	22 22 52.3	-0.2
PEL	**Peldehue**	**0.85**	**106⇑**	*i*P	Pn	22 22 49.0	+0.7
PEL				*i*S	Sn	22 23 01.7	+2.2
PEL				AML	AML	22 23 02.9	
	comp=E,925nm,0.2s						
PEL	**Peldehue**	**0.85**	**106⇑**	*i*P	Pn	22 22 49.0	+0.7
PEL				S	Sn	22 23 01.7	+2.2
RCDM	**Rinconada Maip**	**0.91**	**129⇑**	*i*P	Pn	22 22 49.7	+0.5
RCDM				*i*S	Sn	22 23 01.9	+0.8
RCDM				AML	AML	22 23 02.8	
	comp=N,634nm,0.1s						
RCDM	**Rinconada Maip**	**0.91**	**129⇑**	*i*P	Pn	22 22 49.7	+0.5
RCDM				*i*S	Sn	22 23 01.9	+0.8
JACH	**Jahuel**	**0.93**	**76⇑**	*i*P	Pn	22 22 49.9	+0.5
JACH				*i*S	Sn	22 23 02.7	+1.3
TACH	**Talagante**	**0.95**	**141**	*e*P	Pn	22 22 50.0	+0.2
TACH				*i*S	Sn	22 23 02.6	+0.5
SAN	**Santiago**	**0.99**	**123**	*i*S	Sn	22 23 04.8	+1.7
SAN				AML	AML	22 23 06.0	
	comp=E,354nm,0.2s						
STL	**Santa Lucia**	**1.00**	**122**	*e*P	Pn	22 22 50.6	+0.2
STL				*i*S	Sn	22 23 04.7	+1.5
STL				AML	AML	22 23 07.1	
	comp=N,165nm,0.3s						
DSCH	**Colegio Aleman**	**1.03**	**118⇑**	*i*P	Pn	22 22 51.3	+0.4
DSCH				*i*S	Sn	22 23 05.8	+1.8
CLCH	**Cerro Calan**	**1.05**	**117⇓**	*i*P	Pn	22 22 52.3	+1.1
CLCH				*i*S	Sn	22 23 06.4	+1.8
CLCH				AML	AML	22 23 10.6	
	comp=N,410nm,0.4s						
CLCH				AML	AML	22 23 11.0	
	comp=N,532nm,0.4s						
LNV	**Longovilo**	**1.06**	**169⇓**	*i*P	Pn	22 22 51.4	+0.2
LNV				*i*S	Sn	22 23 04.9	+0.2
ANTU	**Antumapu**	**1.08**	**128⇑**	*i*P	Pn	22 22 52.6	+1.2
ANTU				*i*S	Sn	22 23 06.9	+1.7
ANTU				AML	AML	22 23 09.0	
	comp=E,371nm,0.3s						
ANTU	**Antumapu**	**1.08**	**128⇑**	*i*P	Pn	22 22 52.6	+1.2
ANTU				*i*S	Sn	22 23 06.9	+1.7
PCH	**Pirque**	**1.19**	**127⇓**	*i*P	Pn	22 22 54.3	+1.3
PCH				*i*S	Sn	22 23 10.6	+2.7
FCH	**Farellones**	**1.22**	**110⇓**	*i*P	Pn	22 22 54.7	+1.3
FCH				*e*S	Sn	22 23 11.6	+3.0
FCH				AML	AML	22 23 12.5	
	comp=N,454nm,0.1s						
CHCH	**Chadas Angostu**	**1.32**	**141⇑**	*i*P	Pn	22 22 56.1	+1.3
CHCH				*i*S	Sn	22 23 13.7	+2.6
CACH	**El Canelo**	**1.49**	**144⇑**	*i*P	Pn	22 22 59.5	+2.3
CACH				*i*S	Sn	22 23 19.4	+4.1
LMEL	**Las Melosas**	**1.53**	**128⇑**	*i*P	Pn	22 22 59.7	+2.0
LMEL				*i*S	Sn	22 23 20.1	+3.8
LMEL				AML	AML	22 23 20.8	
	comp=N,336nm,0.2s						
CICH	**Cipreses**	**1.74**	**144⇑**	*i*P	Pn	22 23 02.7	+2.1
CICH				*i*

comp=N,130nm,16.9s
QIZ LR LR
comp=Z,210nm,35.7s
SNG Songkhla 23.89 289 P **P** **22 44 24.0 +3.2**
UBT Ubonrachathani 23.90 312 ⇓P **P** **22 44 22.0 +1.1**
NACB Ninganchiao 24.56 356 *e*P **P** **22 44 27.3 +0.4**
PSI Prapat 24.61 278 P **P** **22 44 23.7 -3.7**
comp=Z,13nm,0.8s,mb4.5,baz=80,slow=7.3,SNR=7.8
PSI LR LR 22 54 33.3
comp=Z,291nm,21.8s,MS3.7,baz=210,slow=38
PSI Prapat 24.61 278 P **P** **22 44 23.7 -3.7**
PSI LR LR 22 54 33.3
YHNB Yeheng 25.07 356 *e*P **P** **22 44 32.5 +1.0**
AS31 Alice Springs 25.24 157 *e*P **P** **22 44 33.7 +0.7**
ASPA Alice Springs 25.24 157 *e*P **P** **22 44 33.7 +0.7**
ASAR Alice Springs 25.24 157 P **P** **22 44 33.0 -0.1**
comp=Z,9.5nm,0.7s,mb4.5,baz=330,slow=7.6,SNR=55
ASAR PcP PcP 22 48 05.2 -0.8
comp=Z,2.6nm,0.8s,baz=347,slow=1.9,SNR=4.8
KKTK Khon Kaen 26.23 310 P **P** **22 44 42.0 -0.1**
comp=Z,525nm,0.5s
JOW Kunigami 27.56 10 LR LR 22 55 35.6
comp=Z,120nm,19.7s,MS3.5,baz=224,slow=36
NST Nakhon Sawan 27.97 306 P **P** **22 44 59.3 +1.6**
CTAO Charters Tower 29.73 132 P **P** **22 45 14.1 +0.8**
GYA Guiyang 31.22 330⇑ *i*P **P** **22 45 27.3 +0.8**
GYA AMB AMB
comp=Z,30nm,0.6s,mb5.3
WHN Wuhan 32.01 345 ⇓P **P** **22 45 35.0 +1.6**
KMI Kunming 32.32 323 P **P** **22 45 38.0 +1.9**
KMI S **S** **22 50 48.8 +1.0**
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
KMI AMB AMB
comp=Z,120nm,4.8s
KMI LR LR
comp=N,140nm,15.7s,MS3.9
KMI LR LR
comp=E,100nm,14.4s,MS3.9
KMI LR LR
comp=Z,190nm,20.6s
NJ2 Nanjing 32.62 353 *e*P **P** **22 45 38.3 -0.5**
NJ2 PP PP 22 46 50.5 -2.3
NJ2 S **S** **22 50 46.0 -6.6**
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,170nm,4.4s
NJ2 LR LR
comp=N,400nm,19.4s
NJ2 LR LR
comp=E,370nm,28.4s
NJ2 LR LR
comp=Z,260nm,19.4s,MS3.9
CBIJ Chichi jima 32.88 32 P **P** **22 45 40.4 -0.6**
comp=Z,196nm,0.8s,baz=152,slow=7.2,SNR=13
STKA Stephens Creek 35.69 153 *e*P **P** **22 46 02.6 -2.8**
comp=Z,7.8nm,0.8s,mb4.7
STKA Stephens Creek 35.69 153 P **P** **22 46 04.7 -0.7**
comp=Z,3.9nm,0.7s,mb4.4,baz=321,slow=7.7,SNR=7.6
CD2 Chengdu 36.33 331 *e*P **P** **22 46 11.3 +0.4**
CD2 PP PP 22 47 37.3 +3.5
CD2 S **S** **22 51 47.3 -2.4**
CD2 SS SS 22 54 17.3 -12
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CD2 AMB AMB
comp=Z,80nm,5.6s
CD2 LR LR
comp=E,100nm,21.6s
CD2 LR LR
comp=Z,100nm,16.8s,MS3.7
JHJ Hachijo jima 2 36.84 23 LR LR 23 00 04.8
comp=Z,73nm,18.3s,MS3.5,baz=48,slow=34
XAN Xi'an 36.90 340 P **P** **22 46 16.8 +1.1**
XAN AP pP 22 46 24.5 -0.6
MAT Matsushiro 39.34 19 P **P** **22 46 34.8 -1.5**
MAT S 22 52 46.0
MAT Matsushiro 39.34 19 *e*P **P** **22 46 35.0 -1.3**
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
MAT Matsushiro 39.34 19 *e*P **P** **22 46 35.0 -1.3**
comp=Z,9.7nm,0.8s,mb4.6
MAT *e*S 22 52 47.0
MJAR Matsushiro Arr 39.34 19 P **P** **22 46 35.0 -1.3**
comp=Z,10.0nm,0.7s,mb4.6,baz=191,slow=9.0,SNR=44
MAJO Matsushiro 39.34 19 *e*P **P** **22 46 35.0 -1.3**
MAJO pmax pmax
comp=Z,11nm,0.8s,mb4.6
MAJO Matsushiro 39.34 19 *e*P **P** **22 46 35.0 -1.2**
comp=Z,11nm,0.8s,mb4.6
ARMA Armidale 40.12 141 *e*P **P** **22 46 44.4 +1.6**
LZH Lanzhou 40.64 335 *e*P **P** **22 46 48.5 +1.4**
LZH PP PP 22 48 27.0 +6.0
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,140nm,4.6s
HHC Hu-ho-hao-te 42.50 347 *e*P **P** **22 47 06.8 +4.5**
HHC PP PP 22 48 48.0 +6.9
HHC PCS PcS 22 52 49.0 +2.4
HHC S **S** **22 53 22.8 +0.5**
HHC SS SS 22 56 29.3 -3.1
HHC SCS ScS 22 56 57.8 -3.6
HHC AMB AMB
comp=Z,20nm,0.7s,mb4.9
HHC AMB AMB
comp=Z,100nm,4.9s
HHC LR LR
comp=N,110nm,14.3s,MS4.0
HHC LR LR
comp=E,70nm,13.1s,MS4.0
HHC LR LR
comp=Z,150nm,16.6s,MS4.0
LSA Lhasa 42.91 317 P **P** **22 47 08.0 +2.3**
GTA Gaotai 45.16 334 *e*P **P** **22 47 24.3 +0.7**
GTA AP pP 22 47 30.0 -3.1
GTA XP sP 22 47 33.0 -4.0
GTA AMB AMB
comp=Z,80nm,4.2s
GTA LR LR
comp=N,90nm,14.1s,MS3.9
GTA LR LR
comp=E,70nm,15.2s,MS3.9
GTA LR LR
comp=Z,140nm,20.2s,MS3.9
MDJ Mudanjiang 45.24 6 P **P** **22 47 25.3 +1.0**
MDJ PP PP 22 49 08.0 -2.4
MDJ SCP ScP 22 52 49.0 -5.2
MDJ PCS PcS 22 52 57.5 -0.3
MDJ S **S** **22 54 04.0 +1.7**
MDJ AMB AMB
comp=Z,40nm,6.1s
MDJ LR LR
comp=E,30nm,36.3s,MS3.4
MDJ LR LR
comp=N,80nm,33.5s,MS3.4
MDJ LR LR
comp=Z,110nm,35.5s,MS3.5
JIRN Jiri 45.31 311 *e*P **P** **22 47 24.6 -0.2**
comp=Z,61nm,0.7s,mb5.6
GUN Gumba 45.67 311 *e*P **P** **22 47 27.5 -0.2**
comp=Z,91nm,0.7s,mb5.8
PKI Pulchoki 45.85 311 *e*P **P** **22 47 28.8 -0.3**
comp=Z,23nm,0.7s,mb5.2
KKN Kakani 46.06 311 *e*P **P** **22 47 30.4 -0.4**
comp=Z,24nm,0.7s,mb5.2
DMN Daman 46.10 310 *e*P **P** **22 47 31.0 -0.1**
comp=Z,53nm,0.9s,mb5.5
GKN Gorkha 46.66 311 *e*P **P** **22 47 35.2 -0.3**
comp=Z,38nm,0.7s,mb5.4
KOLN Koldanda 47.34 310 *e*P **P** **22 47 40.6 -0.2**
comp=Z,54nm,0.7s,mb5.6
KLR Kul'dur 50.04 7 *e*P **P** **22 47 57.4 -4.2**
ULN Ulaanbaatar 50.19 346 P **P** **22 48 03.2 +0.5**
SNR=7.4
ULN Ulaanbaatar 50.19 346⇑ *e*P **P** **22 48 02.4 -0.3**
ULN Ulaanbaatar 50.19 346 *e*P **P** **22 48 00.9 -1.8**
comp=Z,4.8nm,0.8s,mb4.6
ULN *e*pP pP 22 48 10.8 -1.5
YSS Yuzh-Sakhalins 50.21 17 *e*P **P** **22 48 01.2 -1.6**
YSS pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
SONM Songino Array 50.32 345 P **P** **22 48 03.0 -0.7**
comp=Z,4.1nm,0.7s,mb4.6,baz=162,slow=8.5,SNR=23
SONM LR LR 23 09 42.8
comp=Z,85nm,18.2s,MS3.8,baz=341,slow=37
ZAK Zakamensk 53.48 344 *e*P **P** **22 48 26.4 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
WMQ Urumqi 54.36 329 P **P** **22 48 35.5 +1.8**
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,160nm,4.5s
WMQ LR LR
comp=N,110nm,24.0s,MS3.8
WMQ LR LR
comp=E,50nm,29.0s,MS3.8
WMQ LR LR
comp=Z,70nm,35.0s
MOY Mondy 55.27 343 *e*P **P** **22 48 42.2 +1.9**
MKAR Makanchi Array 59.18 328 P **P** **22 49 05.8 -2.1**
comp=Z,4.1nm,0.8s,mb4.5,baz=124,slow=7.9,SNR=27
MKAR Makanchi Array 59.18 328 *i* P **P** **22 49 07.8 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
PET Petropavlovsk 60.91 24⇑ *e*P **P** **22 49 17.4 -2.3**
PET pmax pmax
comp=Z,35nm,1.6s,mb5.2
YAK Yakutsk 62.53 3 *e*P **P** **22 49 30.2 -0.4**
YAK *e**PP pP 22 49 39.5 -0.9
YAK pmax pmax
comp=Z,42nm,0.9s,mb5.6
YAK Yakutsk 62.53 3 *e*P **P** **22 49 30.2 -0.5**
comp=Z,42nm,0.9s,mb5.6
YAK *e*pP pP 22 49 39.5 -1.0
ZAL Zalesovo 62.88 336 P **P** **22 49 31.6 -1.4**
comp=Z,2.4nm,0.8s,mb4.4,baz=347,slow=6.4,SNR=16
ZAL LR LR 23 18 11.6
comp=Z,77nm,18.4s,MS3.9,baz=131,slow=37
ZAL Zalesovo 62.88 336 *i* P **P** **22 49 33.4 +0.5**
ZAL pmax pmax
comp=Z,20nm,0.8s
KURK Kurchatov 63.55 330 P **P** **22 49 37.3 -0.1**
SNR=6.6
KURK Kurchatov 63.55 330⇑ *e*P **P** **22 49 36.8 -0.6**
KURK Kurchatov 63.55 330 *e*P **P** **22 49 34.6 -2.8**
comp=Z,10nm,0.8s,mb4.9
KURK *e*pP pP 22 49 45.6 -1.6
MA2 Magadan 63.60 15⇑ *e*P **P** **22 49 37.7 -0.1**
MA2 pmax pmax
comp=Z,25nm,0.8s,mb5.3
MA2 Magadan 63.60 15 *e*P **P** **22 49 36.9 -0.8**
comp=Z,29nm,0.8s,mb5.3
NVS Novosibirsk 64.16 336 *e*P **P** **22 49 39.5 -1.9**
NVS *e* pP 22 49 49.8 -1.5
NVS *e* 22 51 56.9
NVS pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
NVS pmax pmax
comp=N,17nm,1.8s
CASY Casey 66.29 186 *e*P **P** **22 49 54.0 -1.2**
CASY *e*pP pP 22 50 02.6 -2.6
BRVK Borovoye 69.12 329 *e*P **P** **22 50 11.1 -2.0**
BRVK *e**PP pP 22 50 19.8 -3.2
CHKZ Chkalovo 69.28 330 *e*P **P** **22 50 13.0 -1.0**
CHKZ *e**PP pP 22 50 23.3 -0.7
CHKZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CHKZ Chkalovo 69.28 330 *e*P **P** **22 50 13.0 -1.0**
comp=Z,3.9nm,0.9s,mb4.3
CHKZ *e*pP pP 22 50 23.3 -0.6
ZRNK Zerenda 69.73 328 *e*P **P** **22 50 15.8 -1.1**
ZRNK *e**PP pP 22 50 25.9 -0.9
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZRNK Zerenda 69.73 328 *e*P **P** **22 50 15.8 -1.1**
comp=Z,4.3nm,0.8s,mb4.4
ZRNK *e*pP pP 22 50 25.9 -0.9
TIXI Tiksi 72.09 2⇑ *e*P **P** **22 50 27.6 -3.6**
TIXI pmax pmax
comp=Z,13nm,1.1s,mb4.8
BILL Bilibino 74.47 15 P **P** **22 50 46.0 +0.8**
BILL *e* 22 50 53.1
BILL *e* 22 50 59.4
AKTO Aktyubinsk 74.88 323 LR LR 23 27 43.5
comp=Z,59nm,21.1s,MS3.9,baz=299,slow=39
ARU Arti 76.70 329⇑ *i*P **P** **22 50 56.1 -1.9**
ARU *e* pP 22 51 06.9 -1.1
ARU *e* 22 53 49.5
ARU *e*PPP 22 55 35.6
ARU *e*S S 23 00 36.5 -6.1
ARU *e*SS SS 23 05 34.3 -4.3
ARU pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
ARU Arti 76.70 329 *e*P **P** **22 50 56.0 -1.9**
comp=Z,4.9nm,0.8s,mb4.5
ARU *e*pP pP 22 51 06.0 -2.0
MAW Mawson 78.66 200 P **P** **22 51 09.1 +0.2**
comp=Z,3.3nm,1.0s,mb4.2,baz=77,slow=5.4,SNR=7.0
VNDA Vanda 79.73 172 P **P** **22 51 14.8 +0.1**
comp=Z,0.6nm,0.6s,baz=328,slow=7.3,SNR=2.4
VNDA LR LR 23 24 07.5
comp=Z,115nm,22.0s,baz=312,slow=34
VNDA Vanda 79.73 172 *e*P **P** **22 51 13.8 -1.0**
VNDA *e* 22 51 20.8
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 79.73 172 *e*P **P** **22 51 13.8 -1.0**
comp=Z,4.5nm,0.8s,mb4.5
VNDA *e*PcP PcP 22 51 20.8 -1.7
VNDA LR LR 23 24 07.5
KMBO Kilima Mbogo 86.06 269 LR LR 23 28 39.8
comp=Z,74nm,20.9s,MS4.1,baz=92,slow=35
MALT Malatya 86.28 308 *e*P **P** **22 51 46.6 -2.0**
MALT pmax pmax
comp=Z,10.0nm,0.4s,mb5.4
MALT Malatya 86.28 308 *e*P **P** **22 51 46.6 -2.1**
comp=Z,0.8nm,0.4s,mb4.3
SYO Syowa Base 87.31 201⇑ *e*P **P** **22 51 52.5 -1.1**
SYO Syowa Base 87.31 201⇑ *e*PcP PcP 22 51 55.8 +0.1
OBN Obninsk 88.52 325 P **P** **22 51 58.9 -0.5**
OBN *e* pP 22 52 10.2 +0.6
OBN pmax pmax
comp=Z,11nm,1.2s,mb5.1
PMR Palmer 89.24 29 *e*P **P** **22 52 01.4 -1.4**
MCK McKinley 89.42 26 *e*P **P** **22 52 02.5 -1.1**
MCK *e**PP pP 22 52 11.7 -2.1
MCK pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
MCK McKinley 89.42 26 *e*P **P** **22 52 02.5 -1.2**
comp=Z,1.6nm,0.6s,mb4.5
MCK *e*pP pP 22 52 11.7 -2.1
QSPA South Pole Qui 89.46 180 *e*P **P** **22 52 03.4 -0.4**
comp=Z,8.6nm,1.1s,mb5.0
QSPA *e*pP pP 22 52 11.4 -2.7
BRTR Keskin Array B 90.06 310 P **P** **22 52 03.3 -3.3**
comp=Z,0.9nm,0.8s,mb4.2,baz=97,slow=5.0,SNR=4.5
BRTR LR LR 23 34 44.1
comp=Z,25nm,19.4s,MS3.6,baz=94,slow=37
BRTR Keskin Array B 90.06 310 *i* P **P** **22 52 03.9 -2.7**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 92.97 321 P **P** **22 52 16.6 -3.5**
comp=Z,1.1nm,0.6s,mb4.4,baz=76,slow=4.4,SNR=6.2
AKASG Malin Array Be 92.97 321 *i* P **P** **22 52 17.3 -2.8**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 93.18 340 P **P** **22 52 17.3 -3.8**
comp=Z,3.5nm,0.9s,mb4.8,baz=30,slow=12,SNR=3.8
ARCES ARCESS Array B 93.18 340 P **P** **22 52 17.3 -3.8**
FINES FINESS Array B 93.89 331 P **P** **22 52 21.8 -2.6**
comp=Z,0.4nm,0.7s,mb4.0,baz=32,slow=4.7,SNR=4.4
FINES FINESS Array B 93.89 331 *i* P **P** **22 52 25.1 +0.7**
FINES pmax pmax
comp=Z,20nm,0.7s
FINES FINESS Array B 93.89 331 P **P** **22 52 21.8 -2.6**
MATP Matopo 94.36 250 LR LR 23 30 10.0
comp=Z,94nm,18.8s,MS4.3,baz=121,slow=33
LSZ Lusaka 94.83 255 LR LR 23 29 46.6
comp=Z,114nm,18.6s,MS4.4,baz=138,slow=32
PDAR Pinedale Array 116.74 41 PKP PKPdf 22 57 49.4 -1.7
comp=Z,0.4nm,0.6s,baz=2.9,slow=3.0,SNR=3.8
SRU San Rafael 117.65 45 *e*PKIKP PKPdf 22 57 52.5 -0.3
SRU *e* 22 58 02.3
ESLA Sonseca Array 118.22 316 *e*PKPdf PKPdf 22 57 53.0 -0.9
RSSD Black Hills 119.58 38 *e*PKIKP PKPdf 22 57 55.3 -1.2
TORD Torodi Ar. Bea 120.84 285 PKP PKPdf 22 57 57.5 -1.5
comp=Z,1.2nm,0.6s,baz=53,slow=1.8,SNR=11
ANMO Albuquerque 122.35 48 *e*PKIKP PKPdf 22 58 01.6 -0.3
SCHQ Schefferville 125.18 7 PKP PKPdf 22 58 06.1 -1.2
comp=Z,1.1nm,0.7s,baz=34,slow=3.6,SNR=2.4
JCT Junction City 129.36 50 *e*PKIKP PKPdf 22 58 15.6 +0.3
MIAR Mount Ida 131.66 42 *e*PKIKP PKPdf 22 58 20.5 +0.9
WVT Waverly 134.24 36 *e*PKIKP PKPdf 22 58 23.9 -0.6
MGV Manicaragua 148.73 45 *e*P PKPdf 22 58 50.5 +0.2
JTS JuntasAbangare 150.24 70 *e*PKIKP PKPbc 22 59 00.6 +2.8
CPUP Villa Florida 153.34 179 PKPbc PKPbc 22 59 07.0 +2.2
comp=Z,1.3nm,0.6s,baz=55,slow=5.7,SNR=4.1
LPAZ La Paz 159.87 146 PKP PKPdf 22 59 07.8 +2.1
comp=Z,1.2nm,0.8s,baz=91,slow=1.4,SNR=5.8
LPAZ La Paz 159.87 146 PKP PKPdf 22 59 07.8 +2.1
SIV San Ignacio 163.07 165 PKP PKPdf 22 59 09.4 +0.3
comp=Z,2.8nm,1.1s,baz=272,slow=5.9,SNR=5.3

ISCJB ***25*** *22:48:22.7±2.1, 784S±004×13006E±007, h13km±13km, mb4.8/39, MS3.9/7, Error ellipse: s-maj=12.5km s-min=5.2km az=140.7*
IDC ***25*** *22:48:24.3±0.5, 757S×12999E, h0km, mb4.6/11, mb1 4.6/12, mb1mx4.5/16, mbtmp4.6/12, ML4.1/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/26, Error ellipse: s-maj=26.2km s-min=14.4km az=76.0*
MOS ***25*** *22:48:27.6±1.3, 751S×13007E, h33km, mb5.1/20, Error ellipse: s-maj=15.6km s-min=9.2km az=114.5*
BJI ***25*** *22:48:27.8, 770S×13000E, h35km, mB4.9, mb4.7, Ms4.4, Msz3.8*
NEIC ***25*** *22:48:28.8±0.3, 769S×12998E, h35km, mb4.6/20, Error ellipse: s-maj=11.2km s-min=7.7km az=74.0*
ISC 25 22:48:23.5±2.5, 781S±004×13008E±006, h4km±15km, n100, σ1§42/99, mb4.8/39, MS3.9/7, 9C, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.40**	**155**	*e*P	**Pn**	**22 49 46.7**	**+1.9**
KAKA	267nm,0.8s			*e*S	**Sn**	**22 50 47.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.11**	**202**	*e*P	**Pn**	**22 51 03.7**	**+0.6**
FITZ	71nm,0.7s			*e*S	**Sn**	**22 53 00.8**	**-6.9**
FITZ	**Fitzroy Crossi**	**11.11**	**202**	Pn	**Pn**	**22 51 03.7**	**+0.6**
FITZ	8.4nm,0.3s,baz=30,slow=11,SNR=139			Sn	**Sn**	**22 53 01.6**	**-6.1**
FITZ	7.0nm,0.3s,baz=136,slow=21,SNR=10.0			LR	LR	22 54 48.2	
WRAB	**Tennant Creek**	**12.75**	**161**	*e*Pn	**Pn**	**22 51 23.9**	**-1.5**
WRAB	110nm,1.0s			*e*Sn	**Sn**	**22 53 39.4**	**-8.5**
WRA	**Warramunga Arr**	**12.75**	**162**	Pn	**Pn**	**22 51 23.8**	**-1.8**
WRA	10nm,0.3s,baz=340,slow=13,SNR=144			Sn	**Sn**	**22 53 40.0**	**-8.0**
WB2	**Warramunga Arr**	**12.76**	**161**	*e*P	**Pn**	**22 51 23.8**	**-1.8**
WB2	6.5nm,0.3s,baz=343,slow=22,SNR=8.9			*e*S	**Sn**	**22 53 35.6**	**-12**
AS31	**Alice Springs**	**16.19**	**167**	*e*P	**Pn**	**22 52 10.0**	**-1.8**
AS31				*e*S	**Sn**	**22 55 02.4**	**-9.4**
ASAR	**Alice Springs**	**16.19**	**167**	Pn	**Pn**	**22 52 10.4**	**-1.4**
ASAR	9.8nm,0.3s,baz=346,slow=14,SNR=127			Sn	**Sn**	**22 55 08.8**	**-3.0**
ASAR	2.5nm,0.3s,baz=331,slow=13,SNR=9.8			LR	LR	22 58 37.8	
ASPA	**Alice Springs**	**16.19**	**167**	*e*P	**Pn**	**22 52 10.0**	**-1.8**
ASPA				*e*S	**Sn**	**22 55 02.4**	**-9.4**
MBWA	**Marble Bar**	**16.61**	**216**	*e*P	**Pn**	**22 52 17.4**	**+0.2**
MBWA	11nm,0.4s						
PMG	**Port Moresby**	**16.97**	**97**	P	**Pn**	**22 52 24.4**	**+2.7**
PMG	2.5nm,0.3s,baz=298,slow=11,SNR=5.9			LR	LR	22 59 17.0	
KKM	**Kota Kinabalu**	**19.50**	**314**	P	**Pn**	**22 52 50.5**	**-2.3**
CTA	**Charters Tower**	**19.86**	**130**	*e*P	**Pn**	**22 52 59.7**	**+2.6**
CTA	15nm,0.9s			*e*S	**Sn**	**22 56 41.9**	**+1.2**
CTA	**Charters Tower**	**19.86**	**130**	P	**Pn**	**22 52 59.7**	**+2.6**
CTA	12nm,0.9s,baz=325,slow=15,SNR=5.5			*e*S	**Sn**	**22 56 41.9**	**+1.2**
CTA	**Charters Tower**	**19.86**	**130**	*e*P	**Pn**	**22 52 59.7**	**+2.6**
CTA				pmax	pmax		
CTA	comp=Z,15nm,0.9s						
CTAO	**Charters Tower**	**19.86**	**130**	*e*P	**Pn**	**22 52 59.8**	**+2.7**
CTAO	comp=Z,13nm,0.6s			pmax	pmax		
CTAO	**Charters Tower**	**19.86**	**130**	*e*P	**Pn**	**22 52 59.8**	**+2.7**
	comp=Z,12nm,0.6s						
KSM	**Kuching**	**21.76**	**294**	*e*P	**P**	**22 53 16.9**	**+0.8**
STKA	**Stephens Creek**	**26.24**	**157**	*e*P	**P**	**22 54 00.2**	**+0.6**
STKA	comp=Z,12nm,0.8s,mb4.5			*e*S	S	22 58 52.6	+20
STKA	**Stephens Creek**	**26.24**	**157**	P	**P**	**22 54 00.2**	**+0.6**
STKA	comp=Z,9.0nm,0.6s,mb4.5,baz=326,slow=9.7,SNR=15			LR	LR	23 05 58.0	
KLBR	**Kellerberrin**	**26.31**	**204**⇑ *i*P		**P**	**22 54 02.6**	**+2.4**
	comp=Z,61nm,1.4s,mb4.9						
NWAO	**Narrogin (SRO)**	**27.69**	**204**	P	**P**	**22 54 15.2**	**+2.6**
NWAO	comp=Z,4.1nm,0.4s,mb4.4,baz=111,slow=22,SNR=9.0			LR	LR	23 05 00.1	
NWAO	**Narrogin (SRO)**	**27.69**	**204**	*e*P	**P**	**22 54 15.0**	**+2.4**
NWAO	comp=Z,33nm,19.4s,MS2.9,baz=332,slow=36			pmax	pmax		
NWAO	**Narrogin (SRO)**	**27.69**	**204**	*e*P	**P**	**22 54 15.0**	**+2.4**
	comp=Z,40nm,0.5s						
NWAO	**Narrogin (SRO)**	**27.69**	**204**	*e*P	**P**	**22 54 15.0**	**+2.4**
	comp=Z,3.6nm,0.5s,mb4.3						
PSI	**Prapat**	**32.81**	**288**	P	**P**	**22 54 58.5**	**+0.5**
	comp=Z,13nm,0.9s,mb4.8,baz=155,slow=7.1,SNR=5.4						
COCO	**West Island**	**33.01**	**260**	*e*P	**P**	**22 55 00.5**	**+0.8**
JOW	**Kunigami**	**34.48**	**357**	P	**P**	**22 55 12.7**	**+0.3**
	comp=Z,8.0nm,0.7s,mb4.8,baz=160,slow=16,SNR=2.9						
JOW				LR	LR	23 07 42.5	
	comp=Z,232nm,20.4s,MS3.9,baz=104,slow=34						
NJ2	**Nanjing**	**41.06**	**345**	*e*P	**P**	**22 56 10.5**	**+2.5**
NJ2				PP	PP	22 57 50.0	+7.4
NJ2				S	**S**	**23 02 18.0**	**-3.2**
NJ2	comp=Z,10.0nm,0.6s,mb4.6			AMB	AMB		
NJ2	comp=Z,100nm,6.3s			AMB	AMB		
NJ2	comp=N,390nm,24.0s,MS4.3			LR	LR		
NJ2	comp=E,310nm,21.6s,MS4.3			LR	LR		
NJ2	comp=Z,130nm,18.0s,MS3.8			LR	LR		
MJAR	**Matsushiro Arr**	**44.77**	**9**	P	**P**	**22 56 37.1**	**-1.0**
	comp=Z,3.3nm,0.7s,mb4.3,baz=189,slow=9.2,SNR=17						
MAJO	**Matsushiro**	**44.77**	**9**	*e*P	**P**	**22 56 35.5**	**-2.6**
MAJO	comp=Z,7.0nm,0.7s,mb4.6			pmax	pmax		
MAJO	**Matsushiro**	**44.77**	**9**	*e*P	**P**	**22 56 35.5**	**-2.7**
	comp=Z,7.4nm,0.7s,mb4.6						
MAT	**Matsushiro**	**44.77**	**9**	P	**P**	**22 56 37.0**	**-1.1**
MAT	**Matsushiro**	**44.77**	**9**	*e*P	**P**	**22 56 37.0**	**-1.1**
MAT	comp=Z,13nm,1.2s,mb4.6			pmax	pmax		
MAT	**Matsushiro**	**44.77**	**9**	*e*P	**P**	**22 56 37.0**	**-1.1**
	comp=Z,12nm,1.2s,mb4.6						
LZH	**Lanzhou**	**50.15**	**332**	*e*P	**P**	**22 57 22.5**	**+2.5**
LZH				AP	pP	22 57 30.3	+9.1
LZH				XP	sP	22 57 33.5	+12
LZH	comp=Z,20nm,1.4s,mb5.0			AMB	AMB		
GTA	**Gaotai**	**54.71**	**331**	*e*P	**P**	**22 57 54.3**	**+0.5**
GTA				AP	pP	22 58 02.0	+6.9
GTA				XP	sP	22 58 05.5	+10
JIRN	**Jiri**	**55.17**	**311**	*e*P	**P**	**22 57 57.1**	**-0.1**
	comp=Z,33nm,1.0s,mb5.3						
GUN	**Gumba**	**55.54**	**312**	*e*P	**P**	**22 58 00.1**	**+0.3**
	comp=Z,37nm,0.8s,mb5.5						
PKI	**Pulchoki**	**55.70**	**311**	*e*P	**P**	**22 58 00.7**	**-0.3**
	comp=Z,28nm,1.2s,mb5.2						
KKN	**Kakani**	**55.92**	**311**	*e*P	**P**	**22 58 02.3**	**-0.3**
	comp=Z,14nm,0.6s,mb5.2						
DMN	**Daman**	**55.95**	**311**	*e*P	**P**	**22 58 01.0**	**-1.8**
	comp=Z,23nm,0.9s,mb5.2						
GKN	**Gorkha**	**56.51**	**311**	*e*P	**P**	**22 58 06.2**	**-0.6**
	comp=Z,8.1nm,0.3s,mb5.3						
KLR	**Kul'dur**	**56.81**	**1**	*e*P	**P**	**22 58 05.8**	**-3.1**
KOLN	**Koldanda**	**57.17**	**310**	*e*P	**P**	**22 58 11.6**	**+0.1**
	comp=Z,27nm,0.9s,mb5.3						
ULN	**Ulaanbaatar**	**59.05**	**342**	*e*P	**P**	**22 58 25.1**	**+0.5**
ULN				pmax	pmax		

comp=Z,6.0nm,0.6s,mb4.8
ULN Ulaanbaatar 59.05 342 *e*P **P 22 58 25.1 +0.4**
comp=Z,5.9nm,0.6s,mb4.8
SONM Songino Array 59.22 342 P **P 22 58 26.1 +0.2**
comp=Z,3.1nm,0.8s,mb4.4,baz=157,slow=6.0,SNR=19
CASY Casey 59.92 189 *e*P **P 22 58 32.9 +2.3**
comp=Z,1.6nm,0.5s,mb4.3
ZAK Zakamensk 62.45 341 *e*P **P 22 58 48.3 +0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.4
TLY Talaya 63.46 342 *e*P **P 22 58 55.7 +1.2**
TLY pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
MOY Mondy 64.29 340 *e*P **P 22 59 01.0 +1.0**
MKAR Makanchi Array 68.94 327 P **P 22 59 29.7 0.0**
comp=Z,11nm,0.5s,mb5.0,baz=111,slow=8.1,SNR=128
MKAR Makanchi Array 68.94 327⇑*e*P **P 22 59 30.1 +0.4**
MA2 Magadan 69.17 11⇑*e*P **P 22 59 31.3 +0.2**
MA2 pmax pmax
comp=Z,17nm,1.1s,mb4.9
YAK Yakutsk 69.63 360 *e*P **P 22 59 34.5 +0.6**
YAK pmax pmax
comp=Z,15nm,0.8s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK Yakutsk 69.63 360 *e*P **P 22 59 34.3 +0.3**
comp=N,18nm,0.4s,mb5.3
VNDA Vanda 71.64 173 P **P 22 59 48.0 +1.8**
comp=N,1.2nm,0.6s,mb4.0,baz=324,slow=8.7,SNR=4.7
VNDA Vanda 71.64 173 *e*P **P 22 59 44.9 -1.3**
VNDA pmax pmax
comp=Z,10.0nm,0.7s
VNDA Vanda 71.64 173 *e*P **P 22 59 44.9 -1.4**
comp=Z,1.3nm,0.7s,mb4.0
ZAL Zalesovo 72.33 334 P **P 22 59 50.0 -0.4**
comp=Z,3.8nm,0.7s,mb4.5,baz=349,slow=4.2,SNR=20
ZAL Zalesovo 72.33 334 *i* P **P 22 59 50.0 -0.4**
ZAL pmax pmax
comp=Z,4.0nm,0.7s
SBA Scott Base 72.53 172 P **P 22 59 54.4 +2.8**
KURK Kurchatov 73.24 329⇑*e*P **P 22 59 55.6 -0.2**
KURK Kurchatov 73.24 329 *e*P **P 22 59 55.1 -0.7**
comp=Z,9.3nm,0.9s,mb4.7
NVS Novosibirsk 73.62 334⇑*i*P **P 22 59 56.2 -1.8**
NVS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,0.8s
MAW Mawson 74.23 202 P **P 23 00 04.2 +2.6**
comp=E,2.3nm,0.6s,mb4.3,baz=84,slow=6.7,SNR=18
MAW LR LR 23 27 15.1
comp=E,80nm,21.4s,MS4.0,baz=252,slow=31
MAW Mawson 74.23 202 *e*P **P 23 00 04.4 +2.8**
MAW pmax pmax
comp=Z,2.0nm,0.4s
MAW Mawson 74.23 202 *e*P **P 23 00 04.4 +2.8**
comp=Z,2.5nm,0.4s,mb4.5
PPT Papeete 78.53 106 LR LR 23 32 52.4
comp=Z,160nm,18.9s,MS4.4,baz=178,slow=34
BVAR Borovoye Array 78.78 328 P **P 23 00 26.9 -0.4**
comp=Z,8.7nm,0.9s,mb4.7,baz=123,slow=5.5,SNR=37
BRVK Borovoye 78.85 328 *e*P **P 23 00 27.7 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRVK Borovoye 78.85 328 *e*P **P 23 00 27.7 -0.1**
comp=Z,6.0nm,0.8s,mb4.6
CHKZ Chkalovo 78.98 329 *e*P **P 23 00 27.7 -0.8**
CHKZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CHKZ Chkalovo 78.98 329 *e*P **P 23 00 27.7 -0.8**
comp=Z,7.2nm,0.8s,mb4.7
TIXI Tiksi 79.29 360⇑*e*P **P 23 00 29.0 -1.2**
TIXI pmax pmax
comp=Z,12nm,0.9s,mb4.8
ZRNK Zerenda 79.48 327 *e*P **P 23 00 30.7 -0.5**
ZRNK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZRNK Zerenda 79.48 327 *e*P **P 23 00 30.7 -0.5**
comp=Z,9.3nm,0.8s,mb4.8
QSPA South Pole Qui 82.17 180 *e*P **P 23 00 46.9 +1.3**
comp=Z,1.8nm,0.5s,mb4.3
QSPA *e*PcP PcP 23 00 52.2 +1.2
ARU Arti 86.42 328⇑*i*P **P 23 01 05.7 -1.5**
ARU *e* 23 04 30.3
ARU *e*PPP 23 06 24.4
ARU *e*S 23 11 21.8
ARU *e*SS SS 23 17 24.6 +1.0
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ARU Arti 86.42 328 *e*P **P 23 01 05.9 -1.3**
comp=Z,4.4nm,0.7s,mb4.8
ORR Orenburg 87.07 323 *e*P **P 23 01 11.3 +0.9**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
COLA College 93.65 25 *e*P **P 23 01 41.0 -0.1**
COLA pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
COLA College 93.65 25 *e*P **P 23 01 41.0 -0.1**
comp=Z,1.7nm,0.5s,mb4.7
MALT Malatya 96.07 308 *e*P **P 23 01 50.9 -1.3**
DAWY Dawson 97.19 26 *e*P **P 23 01 55.4 -1.9**
OBN Obninsk 98.35 325 P **P 23 02 05.0 +2.5**
OBN *e* 23 02 18.7
BOSA Boshof 99.12 239⇑*e*P **P 23 02 08.3 +2.3**
BOSA Boshof 99.12 239 *e*PcP **P 23 02 08.3 +2.3**
LBTB Lobatse 99.67 243 LR LR 23 45 25.5
comp=Z,72nm,18.5s,MS4.2,baz=274,slow=34
KONO Kongsberg 111.81 332⇑*i*PKIKP PKiKP 23 06 54.9 -4.7
PDAR Pinedale Array 117.40 46 PKP PKPdf 23 07 11.9 +1.6
comp=Z,0.4nm,0.7s,baz=333,slow=2.3,SNR=4.1
ESDC Sonseca Array 128.13 315 PKP PKPdf 23 07 33.3 +2.4
comp=Z,0.5nm,0.5s,baz=41,slow=13,SNR=4.9
TORD Torodi Ar. Bea 129.03 281 PKP PKPdf 23 07 35.2 +2.5
comp=Z,1.3nm,0.7s,baz=35,slow=2.3,SNR=13
TORD Torodi Ar. Bea 129.03 281 PKP PKPdf 23 07 35.2 +2.5
DBIC Dimbokro 135.29 272 PKP PKPdf 23 07 48.1 +3.6
comp=Z,2.0nm,0.9s,baz=94,slow=8.6,SNR=3.5
CPUP Villa Florida 145.31 168 PKPbc PKPbc 23 08 05.0 +2.7
comp=Z,12nm,0.9s,baz=179,slow=2.2,SNR=20
JTS JuntasAbangare 145.33 83 *e*PKIKP PKPdf 23 08 05.5 +2.9
LPAZ La Paz 150.04 143 PKP PKPdf 23 08 14.4 +4.1
comp=Z,5.9nm,0.7s,baz=234,slow=2.2,SNR=3.9
LPAZ PKPbc PKPbc 23 08 19.8 +4.5
comp=Z,4.6nm,0.5s,baz=56,slow=2.6,SNR=36
LPAZ La Paz 150.04 143 PKP PKPdf 23 08 14.4 +4.1
LPAZ PKPbc PKPbc 23 08 19.8 +4.5
SIV San Ignacio 153.91 155 PKP PKPdf 23 08 18.5 +2.3
comp=Z,0.2nm,0.4s,baz=270,slow=9.2,SNR=3.7
SIV PKPbc PKPbc 23 08 26.4 +2.3
comp=Z,0.4nm,0.5s,baz=106,slow=1.9,SNR=5.1
SIV PKPab PKPab 23 08 40.4 +3.2
comp=Z,1.3nm,0.6s,baz=214,slow=5.2,SNR=7.4

*IDC **25** 23:07:41.2±26.0, 2463S×1795E, h570km±247km, mb3.3/4, mb1 3.5/4, mb1mx3.2/12, mbtmp4.4/4, Error ellipse: s-maj=193.8km s-min=48.2km az=69.0*
*ISCJB **25** 23:07:43.2±3.3, 248S±04×1793E±04, h600km, mb3.9/10, Error ellipse: s-maj=72.9km s-min=18.3km az=82.2*
*NEIC **25** 23:07:45.2±7.3, 2466S×1793 4E, h616km±71km, mb4.0/9, Error ellipse: s-maj=67.0km s-min=15.5km az=56.0*
ISC 25 23:07:44.9±3.3, 248S±04×1793E±04, h600km, n19, σ0§40/16, mb3.9/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.88**	**272**	*e*P	**P**	**23 13 14.2**	**+0.2**
	4.6nm,0.4s,mb4.5						
CTA	**Charters Tower**	**30.88**	**272**	P	**P**	**23 13 14.2**	**+0.2**
	6.0nm,0.3s,mb4.6,baz=95,slow=10,SNR=13						
CTAO	**Charters Tower**	**30.88**	**272**	*e*P	**P**	**23 13 14.3**	**+0.3**
	6.7nm,0.5s,mb4.5						
TAU	**Tasmania Unive**	**31.85**	**228**	P	**P**	**23 13 22.5**	**+0.3**
STKA	**Stephens Creek**	**33.81**	**249**	*e*P	**P**	**23 13 38.0**	**-0.7**
	1.6nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**33.81**	**249**	P	**P**	**23 13 38.6**	**-0.1**
	1.5nm,0.5s,mb3.9,baz=102,slow=9.4,SNR=6.4						
ASAR	**Alice Springs**	**41.29**	**262**	P	**P**	**23 14 39.7**	**+0.3**
	1.1nm,0.5s,mb3.6,baz=95,slow=7.1,SNR=17						
WB2	**Warramunga Arr**	**41.73**	**267**	*e*P	**P**	**23 14 42.4**	**-0.5**
WRAB	**Tennant Creek**	**41.73**	**267**	*e*P	**P**	**23 14 42.5**	**-0.3**
	5.1nm,0.3s,mb4.5						
WRA	**Warramunga Arr**	**41.74**	**267**	P	**P**	**23 14 42.4**	**-0.5**
	3.3nm,0.5s,mb4.2,baz=103,slow=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**50.15**	**267**	*e*P	**P**	**23 15 47.4**	**+0.9**
	6.2nm,0.8s,mb4.1						
VNDA	**Vanda**	**53.40**	**185**	*e*P	**P**	**23 16 09.8**	**0.0**
	0.3nm,0.5s,mb2.9						
MBWA	**Marble Bar**	**54.61**	**261**	*e*P	**P**	**23 16 18.4**	**+0.2**
	1.8nm,0.4s,mb3.8						
CASY	**Casey**	**59.00**	**206**	*e*P	**P**	**23 16 48.2**	**0.0**
	1.6nm,0.6s,mb3.3						
QSPA	**South Pole Qui**	**65.25**	**180**	*e*P	**P**	**23 17 28.6**	**+0.1**
	3.2nm,0.8s,mb3.8						
MAW	**Mawson**	**76.66**	**201**	P	**P**	**23 18 34.8**	**-0.4**
MMAI	**Mount Meron Ar**	**147.51**	**293**	PKPbc	PKPbc	23 26 22.6	+0.1
	1.4nm,0.6s,baz=68,slow=9.1,SNR=6.1						
BRTR	**Keskin Array B**	**147.64**	**306**	PKPbc	PKPbc	23 26 21.2	-1.5
	0.4nm,0.7s,baz=145,slow=4.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**168.16**	**191**	PKPab	PKPab	23 27 56.2	+0.2
	0.6nm,0.9s,baz=172,slow=5.3,SNR=5.3						

*CSEM **25** 23:13:24.3±0.1, 3685N×2751E, h2km, MD3.2, Error ellipse: s-maj=3.3km s-min=1.6km az=63.0*
*ISK **25** 23:13:24.2, 3686N×2750E, h5km, MD3.2*
*ISCJB **25** 23:13:25.1±0.5, 3685N±003×2750E±004, h6km±4km, Error ellipse: s-maj=6.3km s-min=3.9km az=135.4*
*ATH **25** 23:13:25.1, 3683N×2749E, h22km±6km, MD3.2/4*
*NEIC **25** 23:13:25.1, 3683N×2749E, h22km, MD3.2(ISK), MD3.2(ATH), After ATH.*
ISC 25 23:13:25.4±0.5, 3685N±003×2749E±005, h7km±4km, n20, σ0§80/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.14**	**151**	*i* PG	**Pg**	**23 13 27.7**	**-0.6**
DAT				*i* SG	**Sg**	**23 13 30.4**	**+0.2**
BDRM	**Kayabasi**	**0.22**	**350**	*i* P	**Pg**	**23 13 29.4**	**-0.4**
BDRM				*i* S	**Sg**	**23 13 33.5**	**+0.8**
BODT	**Bodrum**	**0.26**	**325**	*i* PG	**Pg**	**23 13 30.3**	**-0.2**
BODT				*i* SG	**Sg**	**23 13 34.9**	**+1.0**
NISR	**Nisiros**	**0.38**	**231**	*e*PB	**Pg**	**23 13 33.0**	**+0.3**
MLSB	**Milas**	**0.50**	**27**	PG	**Pg**	**23 13 35.1**	**+0.1**
YER	**Yerkesik**	**0.69**	**66**	PG	**Pg**	**23 13 37.8**	**-0.9**
ARG	**Arkhangelos**	**0.81**	**141**	*e*PB	**Pg**	**23 13 40.0**	**-1.0**
ARG				*e*SN	**Sg**	**23 13 52.8**	**+1.2**
AYDN	**Tasoluk**	**0.87**	**21**	*i* P	**Pg**	**23 13 40.9**	**-1.1**
AYDN				*i* S	**Sg**	**23 13 53.2**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.92**	**95**	PG	**Pg**	**23 13 42.2**	**-0.9**
SMG	**Samos**	**1.00**	**329**	*e*PN	**Pn**	**23 13 44.3**	**-1.7**
SMG				*e*SN	**Sn**	**23 13 59.2**	**-1.2**
FETY	**Fethiye**	**1.29**	**99**	PN	**Pn**	**23 13 50.7**	**+0.8**
KARP	**Karpathos**	**1.33**	**192**	*e*PN	**Pn**	**23 13 50.1**	**-0.3**
DNZL	**Cakiroluk**	**1.50**	**55**	*i* P	**Pn**	**23 13 52.6**	**-0.1**
DNZL				*i* S	**Sn**	**23 14 12.2**	**-0.3**
DNZL	**Cakiroluk**	**1.50**	**55**	*i* P	**Pn**	**23 13 52.6**	**-0.1**
DNZL				*i* S	**Sn**	**23 14 12.2**	**-0.3**
DENT	**Denizli**	**1.52**	**53**	PN	**Pn**	**23 13 53.6**	**+0.5**
IZM	**Izmir**	**1.56**	**353**	PN	**Pn**	**23 13 53.6**	**+0.1**
KDAG	**Bornova**	**1.56**	**353**	*i* P	**Pn**	**23 13 55.3**	**+1.7**
KDAG				*i* S	**Sn**	**23 14 19.2**	**+5.0**
BLCB	**Balcova**	**1.57**	**347**	PN	**Pn**	**23 13 54.4**	**+0.6**
MANT	**Manisa**	**1.84**	**27**	*i* P	**Pb**	**23 13 59.4**	**-0.1**
MANT				*i* S	**Sg**	**23 14 25.2**	**+0.6**
ELL	**Elmali**	**1.94**	**92**	PN	**Pn**	**23 14 00.0**	**+1.2**

MAN 25 23:51:10.9, 1691N×12012E, h13km, mb2.8, ML4.2, MS1.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.56**	**201**	*e*P	Pg	23 51 22.6	+0.7
BCPH	**Baguio City Da**	**0.69**	**140**	*e*P	Pg	23 51 24.0	-0.3
BCPH				*e*S	Sg	23 51 33.4	+0.1
ABRA	**Dolores**	**0.93**	**38**	*e*P	Pg	23 51 28.1	-0.7
SCZP	**Santa Cruz**	**1.15**	**190**	*e*P	Pb	23 51 30.9	-1.6
APYP	**Conner**	**1.43**	**48**	*e*P	Pn	23 51 35.9	-0.6
APYP				*e*S	Sn	23 51 52.6	-2.6
BALP	**Baler**	**1.82**	**130**	*e*P	Pn	23 51 42.0	+0.2

*ISCJB **26** 00:43:34.4±2.5, 129N±0.1×1424E±02, h110km±25km, mb4.0/11, Error ellipse: s-maj=30.6km s-min=18.9km az=171.4*
*NEIC **26** 00:43:34.6±2.0, 1247N×1428 1E, h130km±21km, mb3.9/3, Error ellipse: s-maj=32.2km s-min=15.6km az=74.0*
*IDC **26** 00:43:35.8±3.4, 1297N×1425 9E, h108km±34km, mb3.8/8, mb1 3.9/9, mb1mx3.7/22, mbtmp4.1/9, Error ellipse: s-maj=41.1km s-min=24.9km az=69.0*
ISC 26 00:43:35.3±2.7, 125N±02×1429E±03, h137km±28km, n21, σ0§58/22, mb3.9/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.21**	**60**	P	**Pn**	**00 44 12.2**	**0.0**
	19nm,0.3s,baz=58,slow=14,SNR=6.5						
GUMO				S	**Sn**	**00 44 47.2**	**+6.6**
	16nm,0.3s,baz=350,slow=21,SNR=3.6						
CTAO	**Charters Tower**	**32.55**	**174**	*e*P	**P**	**00 49 53.3**	**0.0**
WRAB	**Tennant Creek**	**33.30**	**195**	P	**P**	**00 50 06.5**	**+6.6**
STKA	**Stephens Creek**	**44.14**	**182**	P	**P**	**00 51 37.5**	**+7.4**
	1.7nm,0.5s,mb3.9,baz=333,slow=9.0,SNR=5.0						
STKA	**Stephens Creek**	**44.14**	**182**	P	**P**	**00 51 37.5**	**+7.4**
ULN	**Ulaanbaatar**	**46.20**	**327**	P	**P**	**00 51 45.2**	**-1.2**
SONM	**Songino Array**	**46.54**	**326**	P	**P**	**00 51 50.2**	**+1.2**
	0.4nm,0.5s,mb3.4,baz=137,slow=8.3,SNR=3.4						
MKAR	**Makanchi Array**	**60.94**	**317**	P	**P**	**00 53 34.2**	**+0.4**
	1.2nm,0.5s,mb4.0,baz=88,slow=8.3,SNR=14						
MKAR	**Makanchi Array**	**60.94**	**317**	P	**P**	**00 53 34.2**	**+0.4**
KURK	**Kurchatov**	**64.18**	**320**	*e*P	**P**	**00 53 54.6**	**-0.6**
	3.7nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**69.53**	**323**	*e*P	**P**	**00 54 28.9**	**-0.2**
	0.7nm,0.5s,mb3.6						
BVAR	**Borovoye Array**	**69.59**	**322**	P	**P**	**00 54 29.9**	**+0.4**
	2.5nm,0.5s,mb4.2,baz=104,slow=8.5,SNR=13						
ZRNK	**Zerenda**	**70.41**	**322**	*e*P	**P**	**00 54 34.6**	**+0.1**
	1.1nm,0.6s,mb3.8						
INK	**Inuvik**	**76.11**	**22**	P	**P**	**00 55 08.0**	**+0.1**
AKTK	**Aktyubinsk**	**77.22**	**319**	P	**P**	**00 55 14.2**	**0.0**
AKTO	**Aktyubinsk**	**77.22**	**319**	P	**P**	**00 55 14.2**	**0.0**
	0.6nm,0.4s,mb3.5,baz=94,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**87.52**	**342**	P	**P**	**00 56 08.0**	**+0.5**
	3.8nm,1.1s,mb4.1,baz=70,slow=7.8,SNR=6.0						
ARCES	**ARCESS Array B**	**87.52**	**342**	P	**P**	**00 56 08.0**	**+0.4**
NVAR	**Mina Array Bea**	**89.10**	**51**	P	**P**	**00 56 20.5**	**+5.5**
	0.5nm,0.6s,mb3.7,baz=270,slow=5.2,SNR=6.1						
NVAR	**Mina Array Bea**	**89.10**	**51**	P	**P**	**00 56 20.5**	**+5.5**
FINES	**FINESS Array B**	**91.32**	**335**	P	**P**	**00 56 24.6**	**-0.8**
	1.8nm,1.0s,mb4.1,baz=86,slow=4.3,SNR=10						

*IDC **26** 00:45:05.6±4.7, 4155×1430 3E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=137.4km s-min=32.1km az=99.0*
*ISCJB **26** 00:45:09.4±1.3, 408S±010×1429E±03, h33km, mb3.6/4, Error ellipse: s-maj=36.7km s-min=14.0km az=2.5*
*NEIC **26** 00:45:11.3±1.2, 409S×1429 3E, h35km, mb3.7/2, Error ellipse: s-maj=33.0km s-min=12.8km az=91.0*
ISC 26 00:45:11.4±1.3, 408S±010×1429E±02, h35km, n9, σ0§88/9, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**16.23**	**169**	Pn	**Pn**	**00 48 56.7**	**-0.1**
	3.1nm,0.6s						
WRAB	**Tennant Creek**	**17.84**	**207**	*e*P	**Pn**	**00 49 17.7**	**+0.9**
WB2	**Warramunga Arr**	**17.85**	**207**	*e*P	**Pn**	**00 49 18.4**	**+1.5**
WRA	**Warramunga Arr**	**17.86**	**207**	P	**Pn**	**00 49 16.9**	**-0.1**
	0.4nm,0.3s,baz=29,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**21.34**	**203**	P	**P**	**00 49 53.7**	**-1.7**
	1.6nm,0.7s,mb3.5,baz=37,slow=9.3,SNR=11						
FITZ	**Fitzroy Crossi**	**21.93**	**229**	P	**P**	**00 50 00.8**	**-0.9**
	3.7nm,1.0s,mb3.8,baz=53,slow=10,SNR=6.1						
MKAR	**Makanchi Array**	**73.47**	**321**	P	**P**	**00 56 40.9**	**+0.6**
	0.2nm,0.2s,mb3.6,baz=106,slow=5.1,SNR=3.7						
KURK	**Kurchatov**	**77.28**	**324**	P	**P**	**00 57 02.5**	**+0.3**
CHKZ	**Chkalovo**	**82.92**	**325**	*e*P	**P**	**00 57 32.0**	**-0.6**
	0.5nm,0.6s,mb3.7						

*CSEM **26** 00:51:38.1±0.1, 3462N×2631E, h25km, mb4.4/22, Ms3.0, Error ellipse: s-maj=4.6km s-min=1.7km az=172.0*

*MOS **26** 00:51:40.5±1.2, 3488N×2630E, h25km, mb4.5/28, Error ellipse: s-maj=5.6km s-min=3.1km az=111.6*
*ISK **26** 00:51:40.5, 3476N×2621E, h51km, MD4.1, ML4.3*
*ISCJB **26** 00:51:41.5±0.2, 3484N±002×2636E±002, h33km, mb4.3/65, MS3.3/10, Error ellipse: s-maj=2.6km s-min=2.0km az=51.0*
*SZGRF **26** 00:51:44.9, 35.12N×2623E, h33km, mb3.8, Crete, Greece*
*NEIC **26** 00:51:44.0, 35.15N×2642E, h22km, mb4.3/70, ML4.2(ISK), ML4.3(ATH), After ATH.*
*IDC **26** 00:51:44.5±2.1, 3515N×2639E, h35km±16km, mb3.9/18, mb1 4.0/23, mb1mx3.9/30, mbtmp4.1/23, ML3.8/5, MS3.4/8, Ms1 3.4/8, ms1mx3.0/35, Error ellipse: s-maj=18.8km s-min=11.5km az=164.0*
*HLW **26** 00:51:44.6, 3492N×2668E, h33km, Mb4.0*
*ATH **26** 00:51:44.0, 35.15N×2642E, h21km±1km, MD4.2/19, ML4.3*
*THE **26** 00:51:47.7, 35.10N×2638E, h27km, ML3.9*
ISC 26 00:51:43.9±0.2, 3488N±002×2635E±002, h35km, n374, σ1§30/389, mb4.3/64, MS3.3/10, 10C-31D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.71**	**303**	*e*PB	**Pn**	**00 51 56.5**	**-0.9**
NPS				*e*SN	**Sn**	**00 52 06.4**	**-0.7**
KARP	**Karpathos**	**0.94**	**45**	*e*PN	**Pn**	**00 51 58.2**	**-2.4**
IDI	**Anoyia**	**1.26**	**289**	Pn	**Pn**	**00 52 06.3**	**+1.4**
	210nm,0.3s,baz=110,slow=16,SNR=345						
IDI				Lg		00 52 25.8	
	291nm,0.3s,baz=348,slow=15,SNR=7.0						
SANT	**Santorini**	**1.65**	**334**	*e*Pn	**Pn**	**00 52 10.3**	**-0.1**
SANT				*e*Sn	**Sn**	**00 52 26.3**	**-4.0**
SANT	**Santorini**	**1.65**	**334**	*e*Pn	**Pn**	**00 52 10.3**	**-0.1**
SANT				*e*Sn	**Sn**	**00 52 26.3**	**-4.0**
VAM	**Vamos**	**1.83**	**287**	*e*PN	**Pn**	**00 52 16.9**	**+4.0**
VAM				*e*SN	**Sn**	**00 52 41.2**	**+6.4**
NISR	**Nisiros**	**1.84**	**20**	*e*PN	**Pn**	**00 52 12.0**	**-0.9**
GVD	**Gavdhos**	**1.86**	**269**	*e*PB	**Pn**	**00 52 17.5**	**+4.3**
GVD	**Gavdhos**	**1.86**	**269**	*e*PB	**Pn**	**00 52 17.1**	**+3.9**
GVD	**Gavdhos**	**1.86**	**269**	*e*Pb	**Pn**	**00 52 17.1**	**+3.9**
GVD				*e*Pb	**Pn**	**00 52 17.5**	**+4.3**
ARG	**Arkhangelos**	**1.97**	**47**	*e*PN	**Pn**	**00 52 15.8**	**+1.1**
DAT	**Datca**	**2.10**	**28**	PN	**Pn**	**00 52 16.7**	**+0.2**
DAT				SN	**Sn**	**00 52 42.7**	**+1.4**
APE	**Apeiranthos**	**2.28**	**343**	*e*PN	**Pn**	**00 52 19.4**	**+0.4**
APE				*e*SN	**Sn**	**00 52 45.4**	**-0.4**
APE	**Apeiranthos**	**2.28**	**343**	σ*i*P	**Pn**	**00 52 18.9**	**-0.1**
BODT	**Bodrum**	**2.31**	**20**	PN	**Pn**	**00 52 19.4**	**0.0**
BDRM	**Kayabasi**	**2.35**	**22**	*i* P	**Pn**	**00 52 20.4**	**+0.4**
BDRM				*i* S	**Sn**	**00 52 49.5**	**+1.9**
DALT	**Dalyan (Mudla)**	**2.65**	**44**	PN	**Pn**	**00 52 24.9**	**+0.8**
MLSB	**Milas**	**2.67**	**25**	PN	**Pn**	**00 52 25.5**	**+1.1**
YER	**Yerkesik**	**2.74**	**34**	PN	**Pn**	**00 52 26.0**	**+0.7**
FETY	**Fethiye**	**2.83**	**51**	PN	**Pn**	**00 52 26.9**	**+0.3**
SMG	**Samos**	**2.85**	**8**	*e*PN	**Pn**	**00 52 26.8**	**0.0**
KYTH	**Kithira**	**3.04**	**298**	*e*PN	**Pn**	**00 52 32.0**	**+2.6**
AYDN	**Tasoluk**	**3.04**	**24**	*i* P	**Pn**	**00 52 30.2**	**+0.8**
VLI	**Veliai**	**3.32**	**304**	*e*PN	**Pn**	**00 52 35.8**	**+2.5**
ELL	**Elmali**	**3.44**	**56**	PN	**Pn**	**00 52 35.8**	**+0.8**
CHOS	**Chios island**	**3.51**	**356**	*e*Pn	**Pn**	**00 52 35.9**	**+0.1**
CHOS				*e*Sn	**Sn**	**00 53 14.4**	**-1.6**
SLUM		**3.51**	**196**	⇓P	**Pn**	**00 52 38.5**	**+2.6**
SLUM				S	**Sn**	**00 53 17.7**	**+1.5**
BLCB	**Balcova**	**3.54**	**9**	PN	**Pn**	**00 52 37.0**	**+0.7**
IZM	**Izmir**	**3.59**	**12**	*e*PN	**Pn**	**00 52 37.0**	**+0.1**
DENT	**Denizli**	**3.59**	**36**	*e*PN	**Pn**	**00 52 37.6**	**+0.5**
NAIG	**Nisos Aigina**	**3.68**	**322**	*e*PN	**Pn**	**00 52 39.5**	**+1.2**
PTL	**Penteli**	**3.74**	**328**	*e*PN	**Pn**	**00 52 40.5**	**+1.4**
ATH	**Athens Observa**	**3.74**	**326**	*e*PN	**Pn**	**00 52 41.1**	**+2.0**
HMAT	**Matruh**	**3.83**	**170**	P	**Pn**	**00 52 41.5**	**+1.2**
HMAT				S	**Sn**	**00 53 22.6**	**-1.5**
MGER	**Gerania Oros**	**3.97**	**322**	*e*PN	**Pn**	**00 52 44.3**	**+2.0**
ITM	**Ithomi**	**4.25**	**304**	*e*PN	**Pn**	**00 52 49.6**	**+3.5**
KHL	**Karahalli**	**4.28**	**36**	*e*PN	**Pn**	**00 52 47.9**	**+1.4**
BCK	**Bucak**	**4.29**	**52**	*e*PN	**Pn**	**00 52 48.3**	**+1.7**
PRK	**Paraskevi**	**4.36**	**359**	*e*PN	**Pn**	**00 52 48.3**	**+0.8**
LKR	**Lokris**	**4.62**	**325**	*e*PN	**Pn**	**00 52 52.8**	**+1.6**
BALB	**Balikesir**	**4.91**	**14**	*e*PN	**Pn**	**00 52 56.1**	**+1.0**
EZN	**Ezine**	**4.94**	**360**	*e*PN	**Pn**	**00 52 55.6**	**+0.1**
RLS	**Riolos of Patr**	**5.05**	**310**	*e*PN	**Pn**	**00 53 00.6**	**+3.5**
XOR	**Xorichti**	**5.14**	**332**	*e*Pn	**Pn**	**00 53 00.0**	**+1.8**
HBRG	**Burj al 'Arab**	**5.21**	**145**	P	**Pn**	**00 52 58.9**	**-0.4**
AGG	**Agios Georgios**	**5.24**	**323**	*e*Pn	**Pn**	**00 53 02.1**	**+2.4**
EVR	**Evrytania**	**5.42**	**319**	*e*PN	**Pn**	**00 53 05.2**	**+3.0**
PAIG	**Paliouri**	**5.46**	**338**	*e*PN	**Pn**	**00 53 04.3**	**+1.6**
ERMK	**Ermenek**	**5.62**	**70**	*i* P	**Pn**	**00 53 06.0**	**+1.1**
ERMK				*i* S	**Sn**	**00 54 05.2**	**-3.0**
SWA1		**5.63**	**186**	P	**Pn**	**00 53 07.0**	**+2.0**
SWA1				S	**Sn**	**00 54 07.7**	**-0.7**
SWA2		**5.67**	**188**	P	**Pn**	**00 53 07.3**	**+1.7**
VLS	**Valsamata**	**5.68**	**307**	*e*PN	**Pn**	**00 53 09.6**	**+3.9**
KONT	**Konya--Tatoy**	**5.73**	**56**	*e*PN	**Pn**	**00 53 07.7**	**+1.2**
CSS	**Prodhromos**	**5.74**	**87**	*e*PN	**Pn**	**00 53 06.8**	**+0.3**
KDHN	**Kadinhani**	**5.89**	**50**	*i* P	**Pn**	**00 53 09.2**	**+0.6**
KDHN				*i* S	**Sn**	**00 54 30.6**	**+16**
LKD	**Levkas**	**5.95**	**312**	*e*Pn	**Pn**	**00 53 11.1**	**+1.6**
KIZT	**Kizilcal**	**5.97**	**46**	*e*PN	**Pn**	**00 53 11.4**	**+1.7**
ALN	**Alexandroupoli**	**6.01**	**358**	*e*Pn	**Pn**	**00 53 10.9**	**+0.6**

HAVL Avola 9.33 286 Pn Pn 00 53 56.0 +0.1
comp=Z,89nm,0.5s
SSY Sortino 9.41 287 Pn Pn 00 53 56.5 -0.4
comp=Z,70nm,0.9s
TR1 9.44 134 P Pn 00 53 58.6 +1.2
HMDC Modica 9.61 286 Pn Pn 00 53 59.9 +0.3
comp=Z,53nm,0.9s
HDK1 Dakhla 9.68 163 P Pn 00 54 02.4 +1.9
HVZN Vizzini 9.70 287 Pn Pn 00 54 00.5 -0.3
comp=Z,80nm,0.5s
TIRR Tirgusor 9.70 9⇓iP Pn 00 54 10.5 +10
TIRR Tirgusor 9.70 9 ⇓P Pn 00 54 10.5 +10
CUC Castrocucco 9.80 304 Pn Pn 00 54 01.3 -1.0
comp=Z,33nm,0.6s
RAFF Raffo Rosso 9.98 287 Pn Pn 00 54 05.4 +0.7
comp=Z,40nm,0.8s
VAE Valguarnera 9.99 288 Pn Pn 00 54 06.4 +1.6
comp=Z,1.2nm,0.3s,baz=347,slow=2.3,SNR=8.9
MGR Morigerati 10.05 305 Pn Pn 00 54 04.0 -1.6
comp=Z,15nm,0.8s
SLCN Sala Consilina 10.12 306 Pn Pn 00 54 05.9 -0.7
comp=Z,38nm,0.5s
MALT Malatya 10.30 67⇓iP Pn 00 54 10.0 +0.9
MALT Malatya 10.30 67 ⇓P Pn 00 54 10.0 +0.9
CFR Carcaliu 10.38 7⇓iP Pn 00 54 14.5 +4.4
SGO Sicignano 10.41 306 P Pn 00 54 10.2 -0.5
SGO pmax pmax
comp=Z,2.0nm,0.6s
SGO Sicignano 10.41 306 Pn Pn 00 54 10.2 -0.5
comp=Z,2.3nm,0.6s
VOIR 10.59 355⇑iP Pn 00 54 17.0 +3.9
VOIR 10.59 355 ⇑P Pn 00 54 17.0 +4.0
MLR Muntele Rosu 10.60 358 Pn Pn 00 54 14.2 +1.0
comp=Z,0.2nm,0.3s,baz=229,slow=3.1,SNR=7.3
MLR LR LR 00 58 47.5
comp=Z,308nm,20.2s,baz=5.8,slow=41
MLR Muntele Rosu 10.60 358⇓iP Pn 00 54 16.3 +3.1
FGMS Monte Sant'Ang 10.63 313 Pn Pn 00 54 14.6 +1.0
comp=Z,2.0nm,0.4s
RGNG Rignano Grg 10.83 312 Pn Pn 00 54 14.1 -2.3
PLOR Plostina 10.96 1⇓iP Pn 00 54 23.9 +5.8
VRI Vrincioaia 10.98 1⇑iP Pn 00 54 23.3 +4.9
VRI Vrincioaia 10.98 1 ⇑P Pn 00 54 23.3 +5.0
BZS Buzias 11.31 343⇑iP Pn 00 54 23.0 +0.1
BZS Buzias 11.31 343 ⇑P Pn 00 54 23.0 +0.1
DRGR 12.21 348⇓iP 00 54 45.9
DRGR 12.21 348 ⇓P 00 54 45.9
PKSM Moragy 12.73 335⇓iP Pn 00 54 44.3 +1.9
PKSM Moragy 12.73 335 ⇓P Pn 00 54 44.3 +1.9
BURAR Bucovina Array 12.75 357⇑iP 00 55 00.1
BURAR Bucovina Array 12.75 357 ⇑P 00 55 00.1
SOC Sochi 13.51 46 eP Pn 00 54 52.1 -0.9
SOC e 00 57 25.6
SOC pmax pmax
comp=Z,6.0nm,1.3s
SOC MLR MLR
comp=Z,51nm,8.0s
BOJS Bojanci 13.57 325 ePn Pn 00 54 57.9 +4.1
BOJS eSn Sn 00 57 15.5 -7.7
VISS Visnje 13.98 325 ePn Pn 00 55 01.1 +1.6
KOLS Kolonicke sedl 14.36 349 e sP 00 55 17.3 -7.4
CRVS Cervenica-Dubn 14.47 347 eSP sP 00 55 20.1 -5.8
PERS Pernice 14.48 328 ePn Pn 00 55 11.7 +5.5
VOY Vojsko 14.60 323 ePn Pn 00 55 12.7 +4.8
OBKA Obir 14.64 326⇓iP Pn 00 55 15.0 +6.6
comp=Z,7.8nm,1.5s
VYHS Vyhne 14.70 340 ePN Pn 00 55 09.1 -0.1
ARSA Arzberg 14.79 330⇓eP Pn 00 55 09.9 -0.5
comp=Z,4.6nm,1.0s
KOLL Kolacno 14.90 339 ePN Pn 00 55 10.8 -1.1
KWP Kalwaria 14.98 351 eP Pn 00 55 09.5 -3.4
KWP pmax pmax
comp=Z,12nm,1.2s
KWP Kalwaria 14.98 351 ePn Pn 00 55 09.5 -3.5
comp=Z,12nm,1.2s
STHS Stebnicka Huta 15.00 347 eP Pn 00 55 17.7 +4.5
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 15.00 347 eP Pn 00 55 17.7 +4.5
comp=Z,7.3nm,1.0s
STHS e 00 55 30.1
CONA Conrad Observa 15.20 332⇓iPn Pn 00 55 13.1 -2.8
comp=Z,3.3nm,1.8s
KIV Kislovodsk 15.52 49 eP Pn 00 55 26.5 +6.5
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,33nm,12.0s
PGF Pioggiola 15.54 305 eP Pn 00 55 23.8 +3.6
comp=Z,79nm,1.4s
PGF Pioggiola 15.54 305 eP Pn 00 55 23.8 +3.6
PGF pmax pmax
comp=Z,39nm,1.4s
PGF Pioggiola 15.54 305 eP Pn 00 55 23.8 +3.6
comp=Z,39nm,1.4s
KBA Koelnbreinsper 15.62 325⇓iP Pn 00 55 25.1 +3.8
comp=Z,5.1nm,1.0s
KBA Koelnbreinsper 15.62 325⇓iP Pn 00 55 25.1 +3.8
KBA pmax pmax
comp=Z,5.0nm,1.0s
ZEI Tsey 15.77 55 eP Pn 00 55 25.8 +2.6
MOA Molln 15.79 329⇓eP Pn 00 55 20.8 -2.7
comp=Z,2.9nm,1.0s
AKASG Malin Array Be 15.95 7 Pn Pn 00 55 26.5 +0.9
comp=Z,1.0nm,0.3s,baz=195,slow=11,SNR=8.8
VRAC Vranov 16.11 336 Pn Pn 00 55 25.9 -1.6
comp=Z,0.5nm,0.3s,baz=139,slow=12,SNR=5.2
OKC Ostrava-Krasne 16.11 341 AMS AMS 01 02 50.0
comp=Z,200nm,11.2s
MORC Moravsky Berou 16.23 339 eP Pn 00 55 28.3 -0.8
MORC pmax pmax
comp=Z,3.0nm,1.0s
MORC Moravsky Berou 16.23 339 ePn Pn 00 55 28.3 -0.8
comp=Z,3.5nm,1.0s
GOF Gofitskoye 16.31 46 eP Pn 00 55 36.6 +6.5
TREC Trest 16.48 334 eP Pn 00 55 31.7 -0.6
WTTA Wattenberg 16.58 323⇓iP Pn 00 55 36.0 +2.5
comp=Z,15nm,1.4s
WTTA Wattenberg 16.58 323⇓iP Pn 00 55 36.0 +2.5
WTTA pmax pmax
comp=Z,15nm,1.4s
WATA Walderalm 16.66 323⇓iP Pn 00 55 35.6 +1.1
comp=Z,5.1nm,0.7s
WATA Walderalm 16.66 323⇓iP Pn 00 55 35.6 +1.1
WATA pmax pmax
comp=Z,5.0nm,0.7s
SQTA Sankt Quirin 16.76 322⇓iP Pn 00 55 38.7 +2.8
comp=Z,4.2nm,0.7s
SQTA Sankt Quirin 16.76 322⇓iP Pn 00 55 38.7 +2.8
SQTA pmax pmax
comp=Z,4.0nm,0.7s
SQTA Sankt Quirin 16.76 322⇓iP Pn 00 55 38.6 +2.8
comp=Z,4.2nm,0.7s
GEC2 GERESS Array S 16.80 330 eP Pn 00 55 36.6 +0.3
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 16.80 330 eP Pn 00 55 36.6 +0.3
GEC2 pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 16.80 330 Pn Pn 00 55 35.0 -1.3
comp=Z,0.1nm,0.3s,baz=142,slow=13,SNR=29
MOTA Moosalm 16.90 322⇓eP Pn 00 55 39.7 +2.1
comp=Z,3.7nm,0.8s
MOTA Moosalm 16.90 322⇓eP Pn 00 55 39.7 +2.1
MOTA pmax pmax
comp=Z,4.0nm,0.8s
KHC Kasperske Hory 17.07 330 eP Pn 00 55 38.5 -1.2
DPC Dobruska-Polom 17.10 338 eP Pn 00 55 39.0 -1.1
SBF Sospel 17.12 307 eP Pn 00 55 39.9 -0.5
comp=Z,40nm,0.9s
SBF Sospel 17.12 307 eP Pn 00 55 39.9 -0.5
SBF pmax pmax
comp=Z,20nm,0.9s
SBF Sospel 17.12 307 eP Pn 00 55 39.9 -0.5
comp=Z,20nm,0.9s
DAVOX Davos 17.18 319 Pn Pn 00 55 43.3 +2.2
comp=Z,0.2nm,0.3s,baz=158,slow=14,SNR=5.9
DAVOX LR LR 01 03 40.6
comp=Z,152nm,18.1s,baz=95,slow=42
UPC Upice 17.34 337 eP Pn 00 55 41.6 -1.4
WET Wettzell 17.37 329 eP Pn 00 55 43.2 -0.3
comp=Z,8.0nm,1.3s
WET Wettzell 17.37 329 eP Pn 00 55 43.2 -0.3
WET pmax pmax
comp=Z,8.0nm,1.3s
FUR Furstenfeldbru 17.38 324 eP Pn 00 55 43.0 -0.5
comp=Z,14nm,0.8s
FUR Furstenfeldbru 17.38 324 eP Pn 00 55 43.0 -0.5
FUR pmax pmax
comp=Z,14nm,0.8s
PRU Pruhonice 17.39 334 eP Pn 00 55 44.0 +0.3
DAVA Damuels 17.49 320⇓iP Pn 00 55 44.8 -0.2
comp=Z,5.7nm,0.9s
PVCC Panska Ves 17.84 335 eP Pn 00 55 47.7 -1.5
PVCC AMS AMS 01 03 30.0
comp=Z,300nm,14.1s
MBDF Montbardon 17.93 309 eP Pn 00 55 49.9 -0.4
comp=Z,12nm,0.8s
MBDF Montbardon 17.93 309 eP Pn 00 55 49.9 -0.4
MBDF pmax pmax
comp=Z,6.0nm,0.8s
MBDF Montbardon 17.93 309 eP Pn 00 55 49.9 -0.4
comp=Z,6.2nm,0.8s
MANZ Manzenberg 18.34 330 eP Pn 00 55 53.8 -1.6
comp=Z,5.0nm,1.2s
BRG Berggiesshubel 18.34 334 eP Pn 00 55 54.5 -0.9
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 18.34 334 eP Pn 00 55 53.8 -1.6
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 18.34 334 eP Pn 00 55 53.8 -1.6
comp=Z,6.0nm,1.2s
NKC Novy Kostel 18.39 331 eP Pn 00 55 55.7 -0.3
SMRF Simiane la Rot 18.40 306 eP Pn 00 55 55.2 -0.9
comp=Z,32nm,1.3s
SMRF Simiane la Rot 18.40 306 eP Pn 00 55 55.2 -0.9
comp=Z,16nm,1.3s
GRA1 Grafenberg Arr 18.50 328 eP Pn 00 55 55.9 -1.4
comp=Z,12nm,1.0s
GRF Grafenberg Arr 18.50 328 eP Pn 00 55 55.9 -1.4
comp=Z,12nm,1.0s
GRF Grafenberg Arr 18.50 328 eP Pn 00 55 55.9 -1.4
GRF pmax pmax
comp=Z,12nm,1.0s
TANN Tannenbergstha 18.53 331 eP Pn 00 55 56.2 -1.5
comp=Z,6.0nm,0.9s
ORIF Oris-en-Rattie 18.58 309 eP Pn 00 55 57.4 -0.9
comp=Z,38nm,1.5s
ORIF eR
comp=Z,84nm,21.0s
ORIF Oris-en-Rattie 18.58 309 eP Pn 00 55 57.4 -0.9
ORIF pmax pmax
comp=Z,19nm,1.5s
ORIF Oris-en-Rattie 18.58 309 eP Pn 00 55 57.4 -0.9
comp=Z,19nm,1.5s
FBE Freiberg 18.60 334 eP Pn 00 55 56.7 -1.8
comp=Z,16nm,0.9s
WERD Werda 18.62 331 eP Pn 00 55 56.8 -1.9
comp=Z,6.0nm,1.0s
BFO Black Forest 18.96 321 eP Pn 00 56 00.7 -2.2
BFO pmax pmax
comp=Z,2.0nm,0.7s
BFO Black Forest 18.96 321 eP Pn 00 56 00.7 -2.2
comp=Z,2.0nm,0.7s
BFO ePn Pn 00 56 01.0 -1.9
CLL Collm 19.04 334 i P Pn 00 56 01.3 -2.5
comp=Z,15nm,1.7s
CLL i (sP) sP 00 56 12.3 -4.2
CLL i x x 00 56 31.1
CLL Collm 19.04 334 i P Pn 00 56 01.3 -2.5
CLL pmax pmax
comp=Z,15nm,1.7s
CLL Collm 19.04 334 i P Pn 00 56 01.3 -2.5
comp=Z,15nm,1.7s
CLL i 00 56 12.3
CLL Collm 19.04 334 eP Pn 00 56 01.1 -2.7
comp=Z,4.0nm,0.8s
MOX Moxa 19.05 330 eP Pn 00 56 01.9 -2.0
comp=Z,4.0nm,1.1s
MOX Moxa 19.05 330 eP Pn 00 56 02.3 -1.6
MOX
comp=Z,100nm,19.0s
CABF La Chapelle 19.25 314 eP Pn 00 56 03.7 -2.6
comp=Z,34nm,0.9s
CABF La Chapelle 19.25 314 eP Pn 00 56 03.7 -2.6
CABF pmax pmax
comp=Z,17nm,0.9s
CABF La Chapelle 19.25 314 eP Pn 00 56 03.7 -2.6
comp=Z,17nm,0.9s
SUW Suwalki 19.26 354 eP Pn 00 56 04.3 -2.1
SUW pmax pmax
comp=Z,20nm,0.8s
SUW Suwalki 19.26 354 eP Pn 00 56 04.3 -2.1
comp=Z,20nm,0.8s
VIVF Saint-Julien-l 19.34 308 eP Pn 00 56 06.1 -1.3
HINF Hinteralfeld 19.45 318 eP Pn 00 56 07.4 -1.4
comp=Z,5.6nm,0.7s
HINF Hinteralfeld 19.45 318 eP Pn 00 56 07.4 -1.4
HINF pmax pmax
comp=Z,3.0nm,0.7s
HINF Hinteralfeld 19.45 318 eP Pn 00 56 07.4 -1.4
comp=Z,2.8nm,0.7s
CDF Champ du Feu 19.57 319 eP Pn 00 56 08.3 -1.9
comp=Z,33nm,1.1s
CDF Champ du Feu 19.57 319 eP Pn 00 56 08.3 -1.9
CDF pmax pmax
comp=Z,17nm,1.1s
CDF Champ du Feu 19.57 319 eP Pn 00 56 08.3 -1.9
comp=Z,17nm,1.1s
LASF Ste Croix 19.59 305 eP Pn 00 56 08.5 -1.9
HAU Haudompre 19.84 317 eP Pn 00 56 13.3 -0.1
comp=Z,17nm,0.8s
HAU eR
comp=Z,110nm,17.2s
HAU Haudompre 19.84 317 eP Pn 00 56 13.3 -0.1
HAU pmax pmax
comp=Z,8.0nm,0.8s
HAU Haudompre 19.84 317 eP Pn 00 56 13.3 -0.1
comp=Z,8.4nm,0.8s
UBBA Unterbreizbach 19.86 328 eP Pn 00 56 12.2 -1.4
comp=Z,13nm,1.8s
GTTG Gvttingen 20.41 330 eP P 00 56 16.6 -1.2
comp=Z,15nm,1.0s
MTLF Montolieu 20.49 302 eP P 00 56 17.8 -0.8
comp=Z,24nm,1.2s
MTLF Montolieu 20.49 302 eP P 00 56 17.8 -0.8
MTLF pmax pmax
comp=Z,12nm,1.3s
MTLF Montolieu 20.49 302 eP P 00 56 17.8 -0.8
comp=Z,12nm,1.2s
SMF Signal de Mont 20.62 312 eP P 00 56 18.8 -1.3
comp=Z,25nm,0.7s
SMF Signal de Mont 20.62 312 eP P 00 56 18.8 -1.3
SMF pmax pmax
comp=Z,12nm,0.7s
SMF Signal de Mont 20.62 312 eP P 00 56 18.8 -1.3
comp=Z,12nm,0.7s
MEZF Maizieres J'vi 20.84 317 eP P 00 56 21.5 -0.9
comp=Z,28nm,0.8s
MEZF Maizieres J'vi 20.84 317 eP P 00 56 21.5 -0.9
comp=Z,14nm,0.8s
LOR Lormes 20.90 313 eP P 00 56 21.9 -1.2
comp=Z,35nm,0.8s
LOR eR
comp=Z,151nm,19.8s
LOR Lormes 20.90 313 eP P 00 56 21.9 -1.2
LOR pmax pmax
comp=Z,18nm,0.8s
LOR MLR MLR
comp=Z,150nm,19.8s,MS3.4
LOR Lormes 20.90 313 eP P 00 56 21.9 -1.2
comp=Z,18nm,0.8s
LOR LR LR
comp=Z,150nm,19.8s,MS3.4
WLF Walferdange 20.91 321 eP P 00 56 22.0 -1.3
comp=Z,6.0nm,0.9s
AVF Avril sur Loir 20.99 311 eP P 00 56 23.1 -1.0
comp=Z,36nm,0.9s
AVF Avril sur Loir 20.99 311 eP P 00 56 23.1 -1.0
AVF pmax pmax
comp=Z,18nm,0.9s
AVF Avril sur Loir 20.99 311 eP P 00 56 23.1 -1.0
comp=Z,18nm,0.9s
SSF Saint Saulge 21.02 312 eP P 00 56 23.4 -1.0
comp=Z,114nm,1.0s,mb4.8
SSF Saint Saulge 21.02 312 eP P 00 56 23.4 -1.0
SSF pmax pmax
comp=Z,57nm,1.0s,mb4.9
SSF Saint Saulge 21.02 312 eP P 00 56 23.4 -1.0
comp=Z,57nm,1.0s,mb4.8
CAF Calviac 21.09 306 eP P 00 56 24.9 -0.2
comp=Z,5.8nm,0.9s,mb3.6
CAF Calviac 21.09 306 eP P 00 56 24.9 -0.2
CAF pmax pmax
comp=Z,3.0nm,0.9s,mb3.6
CAF Calviac 21.09 306 eP P 00 56 24.9 -0.2
comp=Z,2.9nm,0.9s,mb3.6
BGF Bois d'Agland 21.20 310 eP P 00 56 25.4 -1.0
comp=Z,18nm,0.9s,mb4.1
BGF Bois d'Agland 21.20 310 eP P 00 56 25.4 -1.0
BGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
BGF Bois d'Agland 21.20 310 eP P 00 56 25.4 -1.0
comp=Z,9.2nm,0.9s,mb4.1
EBR Ebro Roquetas 21.22 294 eP P 00 56 28.0 +1.5
ERTA Horta de San J 21.36 294 P P 00 56 28.2 +0.1
comp=Z,48nm,2.6s,mb4.4
OBN Obninsk 21.44 16 eP P 00 56 30.3 +1.4
OBN i 00 56 50.2
OBN eS S **01 00 38.5 +14**
OBN pmax pmax
comp=Z,24nm,2.8s,mb4.0
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.3
TCF Toulx Ste Croi 21.49 309 eP P 00 56 28.7 -0.8
comp=Z,3.8nm,0.7s,mb3.5
TCF Toulx Ste Croi 21.49 309 eP P 00 56 28.7 -0.8
TCF pmax pmax
comp=Z,2.0nm,0.7s,mb3.6
TCF Toulx Ste Croi 21.49 309 eP P 00 56 28.7 -0.8
comp=Z,1.9nm,0.7s,mb3.5
BUG Bochum-Univer 21.52 326 eP P 00 56 27.9 -1.9
comp=Z,5.0nm,0.9s,mb3.9
EGRA Graus 21.58 298 P P 00 56 30.2 -0.2
comp=Z,5.6nm,0.7s,mb4.1
RJF Les Rejaudoux 21.58 306 eP P 00 56 29.6 -0.8
comp=Z,22nm,0.9s,mb4.3
RJF eR
comp=Z,116nm,20.8s
RJF Les Rejaudoux 21.58 306 eP P 00 56 29.6 -0.8
RJF pmax pmax
comp=Z,11nm,0.9s,mb4.3
RJF MLR MLR
comp=Z,120nm,20.8s,MS3.3
RJF Les Rejaudoux 21.58 306 eP P 00 56 29.6 -0.8
comp=Z,11nm,0.9s,mb4.3
RJF LR LR
comp=Z,120nm,20.8s,MS3.3
EBEN Beniarda 21.59 288 P P 00 56 29.9 -0.7
comp=Z,30nm,0.9s,mb4.7
HYF Humbligny 21.64 312 eP P 00 56 31.5 +0.4
EPF Esparros 21.74 300 eP P 00 56 32.4 +0.3
GIVF Givet 21.87 321 eP P 00 56 31.7 -1.8
EMOS Mosqueruela 21.89 292 P P 00 56 35.4 +1.6
comp=Z,28nm,1.2s,mb4.6
LFF La Frestale 21.98 305 eP P 00 56 33.1 -1.6
comp=Z,11nm,0.8s,mb4.0
LFF La Frestale 21.98 305 eP P 00 56 33.1 -1.6
LFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
LFF La Frestale 21.98 305 eP P 00 56 33.1 -1.6
comp=Z,5.6nm,0.8s,mb4.0
ESAC San Caprasio 22.07 296 P P 00 56 35.7 0.0
comp=Z,69nm,1.8s,mb4.8
BAIF Baives 22.16 320 eP P 00 56 35.2 -1.5
comp=Z,65nm,1.0s,mb4.7
BAIF Baives 22.16 320 eP P 00 56 35.2 -1.5
BAIF pmax pmax
comp=Z,33nm,1.0s,mb4.7
BAIF Baives 22.16 320 eP P 00 56 35.2 -1.5
comp=Z,33nm,1.0s,mb4.7
ECHE Chera 22.21 290 P P 00 56 37.5 +0.4
ECHE pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
ECHE Chera 22.21 290 P P 00 56 37.5 +0.4
comp=Z,7.6nm,1.0s,mb4.1
ETSF Etsaut 22.35 299 eP P 00 56 38.8 +0.1
EALK Alkurruntz 23.10 299 P P 00 56 46.1 -0.4
comp=Z,115nm,3.2s
ELIZ Elizondo 23.10 299 P P 00 56 47.5 +0.9
ELIZ pmax pmax
comp=Z,22nm,1.0s,mb4.5
ELIZ Elizondo 23.10 299 P P 00 56 47.5 +0.9
comp=Z,22nm,1.0s,mb4.5
MFF Saint Martin d 23.12 308 eP P 00 56 46.3 -0.5
comp=Z,52nm,1.2s,mb4.5
MFF Saint Martin d 23.12 308 eP P 00 56 46.3 -0.5
MFF pmax pmax
comp=Z,26nm,1.2s,mb4.5
MFF Saint Martin d 23.12 308 eP P 00 56 46.3 -0.5
comp=Z,26nm,1.2s,mb4.5
EVIA Vianos 23.37 288 P P 00 56 50.2 +0.8
EVIA pmax pmax
comp=Z,29nm,1.0s,mb4.7
EVIA Vianos 23.37 288 P P 00 56 50.2 +0.8
comp=Z,28nm,1.0s,mb4.7
EQES Quesada 23.83 286 P P 00 56 54.5 +0.9
comp=Z,25nm,1.5s,mb4.4
LDF La Druitiere 23.89 313 eP P 00 56 52.5 -1.7
comp=Z,12nm,0.6s,mb4.2
LDF La Druitiere 23.89 313 eP P 00 56 52.5 -1.7
LDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
LDF La Druitiere 23.89 313 eP P 00 56 52.5 -1.7
comp=Z,5.9nm,0.6s,mb4.2
FLN La Foliniere 24.18 313 eP P 00 56 55.2 -1.6
comp=Z,54nm,1.0s,mb4.6
FLN eR
comp=Z,126nm,19.2s
FLN La Foliniere 24.18 313 eP P 00 56 55.2 -1.6
FLN pmax pmax
comp=Z,27nm,1.0s,mb4.6
FLN MLR MLR
comp=Z,130nm,19.3s,MS3.4
FLN La Foliniere 24.18 313 eP P 00 56 55.2 -1.6
comp=Z,27nm,1.0s,mb4.6
FLN LR LR
comp=Z,130nm,19.3s,MS3.4
GRR Gorron 24.25 312 eP P 00 56 55.9 -1.6
comp=Z,32nm,1.0s,mb4.4
GRR Gorron 24.25 312 eP P 00 56 55.9 -1.6
GRR pmax pmax
comp=Z,16nm,1.0s,mb4.4
GRR Gorron 24.25 312 eP P 00 56 55.9 -1.6
comp=Z,16nm,1.0s,mb4.4
EBAN Banos Encina 24.38 287 P P 00 56 59.3 +0.6
EBAN pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
EBAN Banos Encina 24.38 287 P P 00 56 59.3 +0.6
comp=Z,9.6nm,0.9s,mb4.2
ERON Agron 24.46 284 P P 00 56 59.5 +0.2
comp=Z,14nm,1.2s,mb4.3
ESDC Sonseca Array 24.52 290 P P 00 57 00.5 +0.5
comp=Z,5.5nm,0.7s,mb4.2,baz=82,slow=9.6,SNR=54
ESDC Sonseca Array 24.52 290 P P 00 57 00.3 +0.3
comp=Z,4.9nm,0.6s,mb4.2
ESLA Sonseca Array 24.52 290 eP P 00 57 00.8 +0.8
comp=Z,1.2nm,0.8s,mb3.5
GUD Guadarrama 24.71 293 P P 00 57 02.0 +0.3
GUD pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
GUD Guadarrama 24.71 293 P P 00 57 02.0 +0.3
comp=Z,6.7nm,0.7s,mb4.3
EADA Adamuz 25.01 287 P P 00 57 05.3 +1.0
comp=Z,51nm,2.3s,mb4.7
SGMF Saint Gilles 25.24 311 eP P 00 57 06.1 -0.4
comp=Z,23nm,1.0s,mb4.4
SGMF Saint Gilles 25.24 311 eP P 00 57 06.1 -0.4
SGMF pmax pmax
comp=Z,11nm,1.0s,mb4.3
SGMF Saint Gilles 25.24 311 eP P 00 57 06.1 -0.4
comp=Z,11nm,1.0s,mb4.4
EMIJ Mijas 25.27 283 P P 00 57 06.5 -0.2
comp=Z,21nm,0.7s,mb4.8
QUIF Quistinic 25.51 310 eP P 00 57 07.8 -1.1
comp=Z,40nm,1.1s,mb4.5
QUIF Quistinic 25.51 310 eP P 00 57 07.8 -1.1
QUIF pmax pmax
comp=Z,20nm,1.1s,mb4.6
QUIF Quistinic 25.51 310 eP P 00 57 07.8 -1.1
comp=Z,20nm,1.1s,mb4.5
ROSF Rostrenen 25.72 311 eP P 00 57 09.4 -1.5
comp=Z,13nm,0.8s,mb4.2
ROSF Rostrenen 25.72 311 eP P 00 57 09.4 -1.5
ROSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
ROSF Rostrenen 25.72 311 eP P 00 57 09.4 -1.5
comp=Z,6.4nm,0.8s,mb4.2
MDT Midelt 25.75 274 P P 00 57 12.4 +1.3
comp=Z,5.8nm,0.8s,mb4.1,baz=64,slow=10,SNR=12

MDT LR LR 01 09 27.9
comp=Z,107nm,19.0s,MS3.4,baz=265,slow=41
EARI Arriondas 25.77 299 P **P 00 57 11.4 0.0**
comp=Z,141nm,2.4s,mb5.1
EJIF Jimena Fronter 25.84 283 P **P 00 57 12.4 +0.5**
EJIF pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
EJIF Jimena Fronter 25.84 283 P **P 00 57 12.4 +0.5**
comp=Z,2.2nm,0.4s,mb4.0
ESPR Espera 26.11 284 P **P 00 57 14.4 0.0**
comp=Z,68nm,1.9s,mb4.8
ORR Orenburg 26.37 42 *e*P **P 00 57 20.7 +4.0**
ORR pmax pmax
comp=Z,10.0nm,1.5s,mb4.1
HFS Hagfors 26.57 346 P **P 00 57 16.2 -2.4**
comp=Z,0.9nm,0.6s,mb3.5,baz=120,slow=8.5,SNR=5.8
HFS LR LR 01 09 22.5
comp=Z,134nm,18.8s,MS3.5,baz=279,slow=40
FINES FINESS Array B 26.58 360 P **P 00 57 16.4 -2.2**
comp=Z,1.0nm,0.7s,mb3.5,baz=179,slow=9.5,SNR=4.5
FINES PcP PcP 01 00 42.9 +0.6
comp=Z,1.3nm,0.9s,baz=114,slow=4.6,SNR=3.5
FINES LR LR 01 07 37.7
comp=Z,66nm,20.0s,MS3.2,baz=175,slow=36
FINES FINESS Array B 26.58 360 P **P 00 57 16.4 -2.2**
FINES 01 00 42.9
FINES FINESS Array B 26.58 360 P **P 00 57 16.4 -2.2**
FINES PcP PcP 01 00 42.9 +0.6
FINES LR LR 01 07 37.7
EMIN Mina Concepcio 26.68 286 P **P 00 57 18.9 -0.6**
comp=Z,21nm,1.3s,mb4.5
PBRG Braganca 26.74 295 *e*P **P 00 57 18.3 -1.8**
comp=Z,11nm,0.8s,mb4.4
ECAL Calabor 26.75 295 P **P 00 57 20.5 +0.4**
comp=Z,58nm,1.6s,mb4.9
EBAD Badajoz 26.90 288 P **P 00 57 21.7 +0.2**
comp=Z,17nm,0.8s,mb4.6
PCBR Castelo Branco 27.23 291 *e*P **P 00 57 26.9 +2.4**
comp=Z,12nm,1.0s,mb4.4
PVRL Vila Real 27.44 294 *e*P **P 00 57 23.6 -2.8**
PVIS Viseu 27.56 292 *e*P **P 00 57 24.6 -2.8**
comp=Z,12nm,0.9s,mb4.5
PBEJ Beja 27.61 287 *e*P **P 00 57 24.1 -3.7**
comp=Z,14nm,1.5s,mb4.4
AKTK Aktyubinsk 27.73 46 P **P 00 57 27.1 -1.9**
AKTO Aktyubinsk 27.73 46 P **P 00 57 27.1 -1.9**
comp=Z,0.9nm,0.4s,mb3.8,baz=225,slow=6.6,SNR=5.3
AKTO Aktyubinsk 27.73 46 P **P 00 57 27.1 -1.9**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
NB2 NORSAR Subarra 27.92 344 P **P 00 57 27.9 -2.8**
comp=Z,0.8nm,0.7s,mb3.5,baz=156,slow=10
NB2 NORSAR Subarra 27.92 344 P **P 00 57 27.9 -2.8**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
NOA NORSAR Array B 27.92 344 P **P 00 57 28.7 -2.0**
comp=Z,0.7nm,0.8s,mb3.4,baz=164,slow=6.3,SNR=4.3
EKA Eskdalemuir Ar 28.83 324 P **P 00 57 37.1 -1.6**
comp=Z,3.4nm,0.9s,mb4.1,baz=114,slow=10,SNR=7.2
WSAR Wadi Sarin 30.38 104 LR LR 01 13 18.8
comp=Z,89nm,19.5s,MS3.4,baz=49,slow=43
ARU Arti 30.71 35 *e*P **P 00 57 55.0 -0.4**
ARU *e* 00 58 55.2
ARU *e*PPP 00 59 07.2
ARU *e* 01 00 55.1
ARU *e*S **S 01 02 57.0 +1.2**
ARU *e*SS PcS 01 04 34.5 -2.0
ARU *e*SSS 01 04 53.2
ARU MLR MLR
comp=Z,40nm,16.0s,MS3.2
TORD Torodi Ar. Bea 31.07 232 P **P 00 58 00.9 +2.4**
comp=Z,3.5nm,0.7s,mb4.3,baz=36,slow=8.5,SNR=50
ARCES ARCESS Array B 34.7 359 P **P 00 58 27.5 -2.9**
comp=Z,2.4nm,0.7s,mb4.2,baz=182,slow=9.8,SNR=9.3
ZRNK Zerenda 35.01 46 *e*P **P 00 58 32.5 -0.4**
ZRNK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ZRNK Zerenda 35.01 46 *e*P **P 00 58 32.5 -0.4**
comp=Z,3.8nm,0.7s,mb4.4
BVAR Borovoye Array 35.84 46 P **P 00 58 39.5 -0.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=222,slow=6.0,SNR=4.2
CHKZ Chkalovo 36.12 45 *e*P **P 00 58 42.5 +0.1**
CHKZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
CHKZ Chkalovo 36.12 45 *e*P **P 00 58 42.5 +0.1**
comp=Z,2.3nm,0.6s,mb4.3
KMBO Kilima Mbogo 37.25 162 LR LR 01 16 37.8
comp=Z,43nm,19.1s,MS3.3,baz=180,slow=40
DBIC Dimbokro 40.16 233 P **P 00 59 17.9 +1.4**
comp=Z,2.5nm,0.7s,mb4.0,baz=26,slow=10,SNR=5.2
DBIC Dimbokro 40.16 233 P **P 00 59 17.9 +1.4**
KURK Kurchatov 40.60 51 *e*P **P 00 59 20.4 +0.2**
KURK Kurchatov 40.60 51 *e*P **P 00 59 20.1 0.0**
comp=Z,5.8nm,0.9s,mb4.2
MKAR Makanchi Array 43.12 56 P **P 00 59 40.9 +0.2**
comp=Z,2.1nm,0.7s,mb4.0,baz=287,slow=6.2,SNR=14
NVS Novosibirsk 43.60 45 *e*P **P 00 59 44.3 -0.3**
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS pmax pmax
comp=Z,11nm,1.3s,mb4.4
ZAL Zalesovo 44.48 46 P **P 00 59 50.5 -1.2**
comp=Z,2.0nm,0.6s,mb4.0,baz=195,slow=9.5,SNR=8.3
SONM Songino Array 58.91 51 P **P 01 01 39.7 +0.4**
comp=Z,1.4nm,0.7s,mb4.1,baz=287,slow=8.0,SNR=9.8
ULN Ulaanbaatar 59.32 51 *e*P **P 01 01 42.3 +0.1**
SCHQ Schefferville 64.03 320 P **P 01 02 13.2 -0.7**
comp=Z,4.1nm,0.7s,mb4.6,baz=44,slow=7.8,SNR=11
INK Inuvik 76.03 352 *e*P **P 01 03 27.6 +0.1**
YKA Yellowknife Ar 78.01 343 P **P 01 03 37.7 -1.0**
comp=Z,1.1nm,0.7s,mb3.9,baz=29,slow=5.8,SNR=4.5
YKA Yellowknife Ar 78.01 343⇑ *e*P **P 01 03 37.7 -1.0**
YKA Yellowknife Ar 78.01 343 P **P 01 03 37.7 -1.0**
ULM Lac du Bonnet 81.08 327 P **P 01 03 53.6 -1.7**
comp=Z,1.4nm,0.7s,mb4.0,baz=47,slow=7.7,SNR=5.2
PDAR Pinedale Array 92.85 329 P **P 01 04 52.2 -0.7**
comp=Z,0.4nm,0.6s,mb4.0,baz=67,slow=5.0,SNR=4.3

NEIC ***26*** *01:37:16.2±0.7,2021S×6898W,h100km±7km,mb3.8/5, Error ellipse: s-maj=10.9km s-min=7.4km az=86.0*
IDC ***26*** *01:37:17.7±0.9,2030S×6886W,h107km±7km,mb3.9/5, mb1 3.9/8,mb1mx3.7/18,mbtmp4.3/8,MS3.0/1,Ms1 2.9/1, ms1mx2.1/21,Error ellipse: s-maj=25.5km s-min=9.7km az=100.0*
ISCJB ***26*** *01:37:18.1±0.7,2038S±005×6872W±009,h127km±9km, mb4.3/6,Error ellipse: s-maj=14.8km s-min=7.9km az=157.6*
ISC 26 01:37:18.7±0.8,2033S±006×688W±01,h116km±9km,n21, σ1§13/22,mb4.3/6,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.27**	**183**	P	**Pn**	**01 37 54.9**	**-0.5**
	47nm,0.3s,baz=356,slow=9.6,SNR=249						
LVC				S	**Sn**	**01 38 23.4**	**0.0**
	93nm,0.3s,baz=160,slow=21,SNR=24						
LPAZ	**La Paz**	**4.07**	**9**	P	**Pn**	**01 38 20.8**	**+1.7**
	11nm,0.3s,baz=197,slow=8.4,SNR=372						
ARE	**Arequipa**	**4.62**	**326**	*e*P	**Pn**	**01 38 21.0**	**-5.4**
ARE				*e*		01 38 26.0	
ARE				*e*S	**Sn**	**01 39 23.0**	**+4.0**
SIV	**San Ignacio**	**8.52**	**61**	P	**Pn**	**01 39 18.5**	**-0.8**
	2.6nm,0.3s,baz=253,slow=13,SNR=79						
CFAA	**Coronel Fontan**	**11.24**	**178**	P	**Pn**	**01 39 51.1**	**-4.6**
	0.1nm,0.3s,baz=352,slow=9.6,SNR=6.4						
CFAA				S	**Sn**	**01 41 49.3**	**-10**
	0.0nm,0.3s,baz=246,slow=19,SNR=3.6						
CPUP	**Villa Florida**	**12.11**	**122**	P	**Pn**	**01 40 07.9**	**+0.6**
	0.4nm,0.3s,baz=285,slow=10,SNR=8.6						
SAML	**Samuel**	**12.55**	**26**	*e*Pn	**Pn**	**01 40 11.2**	**-1.9**
	4.1nm,1.0s						
TRQA	**Tornquist**	**18.63**	**163**	*e*P	**P**	**01 41 26.4**	**-0.8**
	0.7nm,0.6s						
BDFB	**Brasilia**	**20.31**	**80**	P	**P**	**01 41 45.9**	**+0.4**
	8.1nm,0.7s,baz=266,slow=13,SNR=16						
BDFB				LR	LR	01 51 29.0	
	comp=Z,39nm,18.5s,baz=287,slow=42						
PLCA	**Paso Flores**	**20.39**	**184**	P	**P**	**01 41 46.5**	**+0.3**
	5.2nm,0.9s,baz=351,slow=11,SNR=8.8						
PLCA	**Paso Flores**	**20.39**	**184**	*e*P	**P**	**01 41 46.7**	**+0.5**
	4.0nm,0.7s						
OTAV	**Otavalo**	**22.52**	**334**	*e*P	**P**	**01 42 10.3**	**+1.4**
	1.0nm,0.3s,mb3.6						
RCBR	**Riachuelo**	**35.04**	**70**	*e*P	**P**	**01 44 01.0**	**+0.8**
	29nm,1.1s,mb5.0						
SJG	**San Juan**	**38.29**	**4**	*e*P	**P**	**01 44 25.3**	**-2.5**
	7.6nm,0.4s,mb4.9						
DBIC	**Dimbokro**	**68.31**	**74**	P	**P**	**01 48 08.2**	**+1.0**
	6.7nm,0.7s,mb4.6,baz=220,slow=9.1,SNR=22						
SCHQ	**Schefferville**	**74.88**	**1**	P	**P**	**01 48 45.4**	**-1.2**
	0.9nm,0.5s,mb3.8,baz=233,slow=10,SNR=3.9						
SCHQ	**Schefferville**	**74.88**	**1**	P	**P**	**01 48 45.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**76.87**	**71**	P	**P**	**01 48 58.5**	**+0.6**
	3.4nm,0.8s,mb4.2,baz=252,slow=5.3,SNR=62						
TORD				pP	pP	01 49 27.3	+0.1
	0.6nm,0.5s,baz=257,slow=5.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**76.87**	**71**	P	**P**	**01 48 58.5**	**+0.6**
TORD				pP	pP	01 49 27.3	+0.1
MKAR	**Makanchi Array**	**144.63**	**35**	PKP	PKPdf	01 56 41.1	-0.5
	0.8nm,0.4s,baz=347,slow=5.0,SNR=9.6						
MKAR				pPKP	pPKPdf	01 57 09.7	-3.3
	0.4nm,0.4s,baz=113,slow=41,SNR=1.7						
SONM	**Songino Array**	**152.29**	**7**	PKPbc	PKPbc	01 57 01.5	+0.7
	0.6nm,0.4s,baz=326,slow=1.5,SNR=6.6						
SONM				PKPab	PKPab	01 57 11.7	+0.6
	0.2nm,0.4s,baz=320,slow=4.6,SNR=4.5						
SONM				pPKPbc	pPKPbc	01 57 29.6	-2.4
	0.4nm,0.6s,baz=288,slow=0.7,SNR=2.9						

BJI ***26*** *01:59:14.6,5068N×17637W,h17km,mB5.3,mb5.1,Ms4.8, Msz4.5*
MOS ***26*** *01:59:15.9±1.0,5042N×176.13W,h33km,mb5.6/141, MS4.6/39,Error ellipse: s-maj=7.2km s-min=6.5km az=66.5*
IDC ***26*** *01:59:15.9±4.2,5024N×17622W,h25km±26km,mb5.0/24, mb1 5.1/24,mb1mx5.1/26,mbtmp5.1/24,MS4.5/19, Ms1 4.5/19,ms1mx4.3/23,Error ellipse: s-maj=17.0km s-min=10.9km az=164.0*
ISCJB ***26*** *01:59:15.8±0.1,5019N±003×176.12W±002,h32km, mb5.3/312,MS4.5/70,Error ellipse: s-maj=4.5km s-min=1.8km az=20.1*
BGS ***26*** *01:59:16.4,4999N×177.18W,h33km,mb5.2*
HRVD ***26*** *01:59:17.6±0.1,5024N×17620W,h12km,MW5.3/105, Centroid moment Tensor Solution. LP body waves: s76,c130;Mantle waves: s105,c217; Half duration: 1§1 Moment tensor: Scale 10^17^Nm; Mrr-1.14±.01; Mθθ1.19±.01; Mφφ-0.05±.01; Mrθ-0.21±.04; Mφθ0.08±.01; Mφr0.26±.04; Best double couple: M0 1.21400×10^17^ NP1:φs254.00000°,δ42.00000°,λ-110.00000°. NP2: φs99.00000°,δ51.00000°,λ-73.00000°. Principal axes: T 1.2100, Plg5.0000°, Azm178.0000°; N 0.0020, Plg13.0000°, Azm269.0000°; P -1.2170, Plg76.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *01:59:17.6±0.1,5024N×176.11W,mb5.3/192,MS4.5/11, ML4.9(AEIC) Error ellipse: s-maj=4.5km s-min=2.3km az=188.0*
SZGRF ***26*** *01:59:23.7,5087N×17767W,h38km,mb5.2,MS4.4, Andreanof Islands, Aleutian Islands, United States*
ISC 26 01:59:17.7±0.1,5029N±003×17615W±002,h34km, h34km±6km:pP-P,n1072,σ0§82/1082,mb5.3/311,MS4.5/70, 125C-115D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.27**	**32**	P	**Pn**	**01 59 49.5**	**-3.2**
ATKA				S	**Sn**	**02 00 15.9**	**-3.7**
AMKA	**Amchitka**	**3.08**	**292**	P	**Pn**	**02 00 01.2**	**-2.7**
AMKA				S	**Sn**	**02 00 37.4**	**-2.1**
OKCD	**Okmok Cone D**	**5.89**	**55**	P	**Pn**	**02 00 40.0**	**-2.4**
OKCD				S	**Sn**	**02 01 45.0**	**-3.7**
SMY	**Shemya**	**6.56**	**296**	*e*P	**Pn**	**02 00 52.4**	**+0.7**
SMY				*e*		02 02 05.6	
SMY	**Shemya**	**6.56**	**296**	*e*P	**Pn**	**02 00 51.1**	**-0.6**
UNV	**Unalaska Valle**	**6.93**	**55**	*e*Pn	**Pn**	**02 00 55.5**	**-1.2**
UNV				*e*Sn	**Sn**	**02 02 11.5**	**-2.9**
AKUT	**Akutan**	**7.44**	**55**	*e*P	**Pn**	**02 01 03.5**	**-0.3**
FALS	**False Pass**	**9.00**	**55**	*e*Pn	**Pn**	**02 01 24.8**	**-0.3**
FALS				*e*Sn	**Sn**	**02 02 56.2**	**-9.0**
SDPT	**Sand Point**	**10.74**	**56**	*e*P	**Pn**	**02 01 46.0**	**-3.0**
	109nm,0.3s						
CHGN	**Chignik**	**12.18**	**54**	*e*P	**Pn**	**02 02 05.2**	**-3.5**
GAMB	**Gambell**	**13.73**	**8**	*e*Pn	**Pn**	**02 02 31.2**	**+1.4**
KDAK	**Kodiak Island**	**15.68**	**52**	Pn	**Pn**	**02 02 49.7**	**-6.3**
	1μm,0.5s,SNR=26						
KDAK	**Kodiak Island**	**15.68**	**52**	Pn	**Pn**	**02 02 49.4**	**-6.5**
	4.8nm,0.3s,baz=267,slow=5.4,SNR=27						
KDAK				Sn	**Sn**	**02 05 50.0**	**+1.4**
	2.7nm,0.3s,baz=313,slow=14,SNR=3.4						
KDAK	**Kodiak Island**	**15.68**	**52**	Pn	**Pn**	**02 02 49.4**	**-6.6**
KDAK				Sn	**Sn**	**02 05 50.0**	**+1.4**
SVW2	**Sparrevohn**	**15.78**	**39**	*e*P	**Pn**	**02 02 55.5**	**-1.7**
PET	**Petropavlovsk**	**15.85**	**290**	*α i*P	**Pn**	**02 02 59.1**	**+1.0**
PET				*e*S	**Sn**	**02 05 56.3**	**+3.6**
PET				pmax	pmax		
	comp=Z,17nm,0.5s						
PET				smax			
	comp=N,600nm,8.3s						
PET				smax			
	comp=N,900nm,16.6s						
PET				MLR	MLR		
	comp=Z,600nm,12.0s						
PET				MLR	MLR		
	comp=Z,600nm,13.0s						
PET	**Petropavlovsk**	**15.85**	**290**	*e*Pn	**Pn**	**02 02 59.1**	**+1.0**
	comp=Z,142nm,1.1s						
TTA	**Tatalina**	**16.72**	**33**	*e*P	**Pn**	**02 03 09.3**	**+0.1**
SKR	**Severo-Kuril's**	**17.62**	**282**	*e*P	**Pn**	**02 03 14.0**	**-6.4**
SKR				*e*S	**Sn**	**02 06 34.0**	**-1.6**
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				pmax	pmax		
	comp=N,1μm,8.0s						
SKR				pmax	pmax		
	comp=E,2μm,8.0s						
SKR				pmax	pmax		
	comp=Z,2μm,8.0s						
SKR				smax			
	comp=N,2μm,10.0s						
SKR				smax			
	comp=E,2μm,10.0s						
SKR				MLR	MLR		
	comp=N,2μm,12.0s						
SKR				MLR	MLR		
	comp=E,1μm,12.0s						
SKR				MLR	MLR		
	comp=Z,1μm,12.0s						
SLKM	**Skilak Lake**	**17.80**	**45**	*e*Pn	**Pn**	**02 03 19.3**	**-3.4**
SLKM				*e*Sn	**Sn**	**02 06 29.6**	**-10**
PMR	**Palmer**	**18.73**	**43**	*e*P	**Pn**	**02 03 31.9**	**-2.1**
PMR				*e*P		02 03 32.4	
SML	**Sawmill**	**19.16**	**42**	*e*P	**Pn**	**02 03 36.5**	**-2.7**
MCK	**McKinley**	**19.80**	**37**	*e*P	**Pn**	**02 03 44.0**	**-2.8**
BILL	**Bilibino**	**19.80**	**340**	*e*P	**Pn**	**02 03 44.7**	**-2.2**
BILL				pmax	pmax		
	comp=Z,101nm,0.8s						
BILL				MLR	MLR		
	comp=Z,1μm,22.0s						
EYAK	**Cordova Ski Ar**	**19.89**	**47**	*e*P	**Pn**	**02 03 44.2**	**-3.6**
EYAK				*e*S	**Sn**	**02 07 18.5**	**-12**
DIV	**Divide**	**20.06**	**46**	*e*P	**P**	**02 03 47.3**	**-0.6**
COLA	**College**	**20.79**	**35**	*e*P	**P**	**02 03 55.8**	**0.0**
MA2	**Magadan**	**20.95**	**309**⇑	*e*P	**P**	**02 03 57.1**	**-0.4**
MA2				pmax	pmax		
	comp=Z,68nm,1.2s						
MA2				MLR	MLR		
	comp=Z,700nm,15.0s,MS4.2						
MA2	**Magadan**	**20.95**	**309**	*e*P	**P**	**02 03 56.8**	**-0.7**
MENT	**Mentasta**	**21.59**	**42**	*e*P	**P**	**02 04 05.4**	**+1.0**
SIT	**Sitka**	**24.80**	**58**	*e*P	**P**	**02 04 37.9**	**+1.5**
SIT				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.2						
SIT	**Sitka**	**24.80**	**58**	*e*P	**P**	**02 04 37.9**	**+1.5**
	comp=Z,80nm,1.1s,mb5.2						
SKAG	**Skagway**	**24.84**	**53**	*e*P	**P**	**02 04 37.9**	**+1.1**
	comp=Z,264nm,1.0s,mb5.7						
SKAG				LR	LR		
	comp=Z,1μm,17.0s,MS4.4						
CRAG	**Craig**	**26.15**	**62**	*e*P	**P**	**02 04 49.9**	**+1.3**
	comp=Z,346nm,1.5s,mb5.7						
YSS	**Yuzh-Sakhalins**	**27.12**	**279**	*e*P	**P**	**02 04 57.2**	**-0.2**
YSS				*e**PP	pP	02 05 06.9	-0.3
YSS				*e*PPP		02 06 03.0	
YSS				*e*S	**S**	**02 09 32.0**	**-1.4**
YSS				*e*SSS		02 11 08.0	
YSS				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.1						
YSS				pmax	pmax		
	comp=E,70nm,1.0s						
YSS				MLR	MLR		
	comp=N,400nm,16.0s,MS4.3						
YSS				MLR	MLR		
	comp=E,500nm,16.0s,MS4.3						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.0						
YSS	**Yuzh-Sakhalins**	**27.12**	**279**	*e*P	**P**	**02 04 57.6**	**+0.2**
	comp=Z,106nm,1.1s,mb5.3						
INK	**Inuvik**	**27.42**	**33**	P	**P**	**02 04 58.5**	**-1.6**
	comp=Z,16nm,0.5s,mb4.8,baz=258,slow=8.2,SNR=59						
INK				PcP	PcP	02 08 16.8	-1.5
	comp=Z,5.6nm,0.8s,baz=271,slow=1.8,SNR=3.5						
INK				S	**S**	**02 09 37.0**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=130,slow=27,SNR=4.9						
INK				LR	LR	02 17 52.9	
	comp=Z,1μm,18.8s,MS4.5,baz=142,slow=41						
INK	**Inuvik**	**27.42**	**33**	P	**P**	**02 04 58.5**	**-1.6**
INK						02 08 16.8	
INK				S	**S**	**02 09 37.0**	**-1.1**
INK				pmax	pmax		
	comp=Z,16nm,0.5s						
INK				smax			
	comp=N,2.0nm,1.0s						
INK				MLR	MLR		
	comp=Z,1μm,18.8s						
DLBC	**Dease Lake**	**27.58**	**55**	P	**P**	**02 05 02.9**	**+1.3**
	comp=Z,94nm,0.8s,mb5.5,baz=259,slow=8.0,SNR=56						
DLBC				S	**S**	**02 09 46.8**	**+6.0**
	comp=Z,1.2nm,0.8s,baz=60,slow=25,SNR=1.5						
DLBC				ScP	ScP	02 11 56.9	+0.3
	comp=Z,2.4nm,0.7s,baz=259,slow=5.2,SNR=5.1						
DLBC				LR	LR	02 16 16.4	
	comp=Z,840nm,19.0s,MS4.3,baz=285,slow=37						
DLBC	**Dease Lake**	**27.58**	**55**	*e*P	**P**	**02 05 03.0**	**+1.4**
ASAJ	**Asahikawa**	**28.42**	**274**	P	**P**	**02 05 09.6**	**+0.6**
	comp=Z,25nm,0.9s,mb4.8,baz=56,slow=7.4,SNR=10						
ASAJ	**Asahikawa**	**28.42**	**274**	P	**P**	**02 05 09.6**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,25nm,0.9s						
BBB	**Bella Bella**	**29.70**	**68**	P	**P**	**02 05 20.4**	**0.0**
	comp=Z,17nm,0.9s,mb4.8,baz=286,slow=6.9,SNR=4.2						
BBB				S	**S**	**02 10 14.2**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=142,slow=9.9,SNR=2.4						
BBB				LR	LR	02 17 02.1	
	comp=Z,356nm,18.3s,MS4.0,baz=337,slow=36						
YAK	**Yakutsk**	**31.39**	**313**	*e*P	**P**	**02 05 36.3**	**+1.0**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
YAK				pmax	pmax		
	comp=E,13nm,1.3s						
YAK				MLR	MLR		
	comp=Z,446nm,21.0s,MS4.1						
YAK				MLR	MLR		
	comp=N,310nm,14.0s						
YAK				MLR	MLR		
	comp=E,376nm,18.0s						
YAK	**Yakutsk**	**31.39**	**313**⇑	*e*P	**P**	**02 05 33.6**	**-1.7**
TIXI	**Tiksi**	**32.41**	**331**	*e*P	**P**	**02 05 44.9**	**+0.7**
KLR	**Kul'dur**	**33.11**	**289**	*e*P	**P**	**02 05 46.8**	**-3.6**
KLR				*e*		02 07 13.5	
KLR				*e*S	**S**	**02 11 06.5**	**-0.8**
KLR				*e*		02 16 08.0	
KLR				pmax	pmax		
	comp=E,74nm,1.6s						
KLR				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.5						
B04A	**Port Angeles**	**33.90**	**73**	⇓P	**P**	**02 05 57.2**	**-0.1**
	baz=34						
A04A	**Legoe Bay, Lum**	**34.12**	**72**	⇑P	**P**	**02 05 58.9**	**-0.3**
	baz=34						
C04A	**Brinnon**	**34.37**	**73**	⇑P	**P**	**02 06 01.2**	**-0.1**
	baz=34						
A05A	**Maple Falls**	**34.38**	**71**	⇑P	**P**	**02 06 01.1**	**-0.4**
	baz=34						
E03A	**Lebam**	**34.50**	**75**	⇑P	**P**	**02 06 02.4**	**0.0**
	baz=34						
GNW	**Green Mountain**	**34.52**	**73**	*e*P	**P**	**02 06 04.5**	**+1.9**
CLNS	**Chul'man**	**34.64**	**304**	*e*P	**P**	**02 06 00.1**	**-3.6**
CLNS				*e**PP	pP	02 06 06.8	-6.8
CLNS				*e*		02 08 36.4	
CLNS				*e*S	**S**	**02 11 19.3**	**-12**
CLNS				*e*SS	SS	02 13 36.0	-26
CLNS				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
CLNS				pmax	pmax		
	comp=E,26nm,1.3s						
CLNS				smax			
	comp=N,179nm,12.1s						
CLNS				smax			
	comp=Z,74nm,13.7s						
CLNS				smax			
	comp=E,133nm,12.4s						
B05A	**Bryant**	**34.67**	**72**	⇑P	**P**	**02 06 03.6**	**-0.3**
	baz=34,SNR=10						
D04A	**Dobbs Creek Ra**	**34.73**	**74**	⇑P	**P**	**02 06 04.1**	**-0.3**
	baz=35						
YKW3	**Yellowknife Ar**	**34.76**	**46**	*e*P	**P**	**02 06 05.0**	**+0.3**
YKA	**Yellowknife Ar**	**34.77**	**46**	P	**P**	**02 06 05.1**	**+0.3**
	comp=E,36nm,0.8s,mb5.4,baz=272,slow=9.3,SNR=112						
YKA				PcP	PcP	02 08 37.7	-0.1
	comp=E,1.7nm,0.7s,baz=281,slow=3.4,SNR=4.1						
YKA				S	**S**	**02 11 34.2**	**+1.2**
	comp=E,0.3nm,0.5s,baz=174,slow=12,SNR=2.8						
YKA				LR	LR	02 21 08.5	
	comp=E,530nm,18.2s,MS4.3,baz=275,slow=38						
YKA	**Yellowknife Ar**	**34.77**	**46**	P	**P**	**02 06 05.1**	**+0.3**
YKA						02 08 37.7	
YKA				S	**S**	**02 11 34.2**	**+1.2**
YKA				pmax	pmax		
	comp=Z,37nm,0.8s						
YKA				MLR	MLR		
	comp=Z,530nm,18.3s						
NRGR	**Nerungri**	**34.78**	**304**	*e*P	**P**	**02 06 04.0**	**-0.9**
NRGR				S	**S**	**02 11 33.7**	**+0.6**
NRGR				smax			
	comp=E,9.0nm,0.2s						
C05A	**Tolt Reservoir**	**35.16**	**73**	⇓P	**P**	**02 06 08.2**	**0.0**
	baz=35						
D05A	**Enumclaw**	**35.19**	**74**	⇓P	**P**	**02 06 08.7**	**+0.3**
	baz=35,SNR=8.1						
MJAR	**Matsushiro Arr**	**35.32**	**265**	P	**P**	**02 06 09.1**	**-0.4**
	comp=E,5.2nm,0.7s,mb4.6,baz=47,slow=8.2,SNR=27						
MJAR				PcP	PcP	02 08 38.4	-1.0
	comp=E,8.2nm,0.8s,baz=85,slow=2.2,SNR=16						
MJAR				S	**S**	**02 11 44.0**	**+2.6**
	comp=E,0.7nm,0.4s,baz=344,slow=11,SNR=3.0						
MAJO	**Matsushiro**	**35.32**	**265**	P	**P**	**02 06 09.8**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,55nm,1.3s,mb5.3						
MAJO	**Matsushiro**	**35.32**	**265**	*e*P	**P**	**02 06 09.5**	**0.0**
	comp=Z,55nm,1.3s,mb5.3						
MAT	**Matsushiro**	**35.32**	**265**	P	**P**	**02 06 08.9**	**-0.6**
MAT				S	**S**	**02 11 38.5**	**-2.9**
MAT	**Matsushiro**	**35.32**	**265**	*e*P	**P**	**02 06 09.0**	**-0.5**
MAT				*e*S	**S**	**02 11 39.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
MAT	**Matsushiro**	**35.32**	**265**	*e*P	**P**	**02 06 09.0**	**-0.5**
	comp=Z,23nm,1.2s,mb5.0						

baz=36
SSOR **Sweet Springs** 35.96 77 P P 02 06 16.7 +1.7
J02A **Umpqua** 35.98 80 ⇓P P 02 06 16.2 +0.9
baz=36,SNR=8.2
TBM **Table Mountain** 36.06 73 P P 02 06 16.4 +0.6
F05A **White Salmon** 36.10 75 ⇑P P 02 06 16.3 +0.1
baz=36
H04A **Detroit Lake** 36.21 78 ⇑P P 02 06 17.2 0.0
baz=36,SNR=13
K02A **Glendale** 36.34 81 ⇓P P 02 06 16.4 -1.8
baz=36,SNR=6.7
J03A **Ideyld Park** 36.37 80 ⇓P P 02 06 16.7 -1.8
baz=36,SNR=11
M01C **Crescent City** 36.41 83 ⇑P P 02 06 19.2 +0.3
baz=36
MDJ **Mudanjiang** 36.43 283 P P 02 06 18.3 -0.8
MDJ AP pP 02 06 26.3 -2.7
MDJ XP sP 02 06 29.0 -4.1
MDJ PP PP 02 07 42.5 +0.2
MDJ PCP PcP 02 08 43.8 +1.1
MDJ S S 02 11 59.5 +1.1
MDJ XS sS 02 12 09.8 -4.9
MDJ PCS PcS 02 12 31.5 +1.0
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,160nm,8.3s
MDJ LR LR
comp=N,280nm,21.1s,MS4.1
MDJ LR LR
comp=E,200nm,22.9s,MS4.1
MDJ LR LR
comp=Z,220nm,20.5s,MS3.9
G05A **Wamic** 36.49 76 ⇓P P 02 06 19.6 0.0
baz=36
IRO **Indian Ridge** 36.50 79 P P 02 06 20.5 +0.8
HBO **Huckleberry Mo** 36.54 79 P P 02 06 21.0 +1.0
L02A **Cave Junction** 36.58 82 ⇓P P 02 06 20.9 +0.6
baz=36,SNR=9.4
HUMO **Hull Mountain** 36.76 81 *e*P P 02 06 23.0 +1.2
comp=Z,51nm,1.3s,mb5.2
HUMO **Hull Mountain** 36.76 81 ⇑P P 02 06 22.7 +0.8
baz=37,SNR=10
KTRM **Thompson Ridge** 36.85 82 P P 02 06 23.7 +1.0
JCC **Jacoby Creek** 37.02 84 ⇑P P 02 06 24.8 +0.8
baz=37
I05A **Bend** 37.04 78 ⇑P P 02 06 25.0 +0.8
baz=37
HAWA **Hanford** 37.06 74 *e*P P 02 06 24.0 -0.4
KHMM **Horse Mountain** 37.18 84 *e*P P 02 06 27.1 +1.7
YBH **Yreka Blue Hor** 37.37 82 *e*P P 02 06 28.3 +1.3
YBH pmax pmax
comp=Z,33nm,1.1s
YBH **Yreka Blue Hor** 37.37 82 *e*P P 02 06 28.3 +1.3
comp=Z,33nm,1.1s,mb5.1
YBH **Yreka Blue Hor** 37.37 82 ⇑P P 02 06 28.2 +1.2
baz=37,SNR=16
M02C **Callahan** 37.46 83 ⇓P P 02 06 29.0 +1.2
baz=37,SNR=14
N02C **Big Bar** 37.48 84 ⇑P P 02 06 28.8 +0.8
baz=37,SNR=14
O01C **Eel River Cons** 37.52 85 ⇑P P 02 06 29.5 +1.2
baz=37,SNR=5.7
K04A **Chilquin** 37.53 80 ⇓P P 02 06 29.0 +0.6
baz=37
L04A **Klamath Falls** 37.66 81 ⇑P P 02 06 30.4 +0.9
baz=38,SNR=12
NEW **Newport** 37.69 70 P P 02 06 29.2 -0.5
comp=Z,15nm,0.7s,mb4.8,baz=292,slow=6.7,SNR=32
NEW S S 02 12 19.9 +2.3
comp=Z,0.6nm,0.6s,baz=113,slow=24,SNR=1.6
NEW **Newport** 37.69 70 *e*P P 02 06 29.3 -0.4
NEW pmax pmax
comp=Z,16nm,0.8s
NEW **Newport** 37.69 70 *e*P P 02 06 29.3 -0.4
comp=Z,16nm,0.8s,mb4.8
I06A **Prineville** 37.81 77 P P 02 06 31.4 +0.6
baz=38,SNR=8.5
EDM **Edmonton** 37.88 61 P P 02 06 31.1 -0.2
EDM **Edmonton** 37.88 61 *e*P P 02 06 31.0 -0.3
M04C **Macdoel** 37.90 81 ⇓P P 02 06 32.2 +0.8
baz=38,SNR=25
M03C **McCloud** 37.99 82 ⇓P P 02 06 32.8 +0.5
baz=38,SNR=8.7
WDC **Whiskeytown Da** 38.10 84 *e*P P 02 06 34.0 +0.8
WDC pmax pmax
comp=Z,39nm,1.1s,mb5.0
WDC **Whiskeytown Da** 38.10 84 ⇓P P 02 06 33.7 +0.5
baz=38,SNR=14
O02C **Red Bluff** 38.16 84 ⇑P P 02 06 34.6 +0.9
baz=38,SNR=23
J06A **Christmas Vall** 38.20 78 P P 02 06 34.8 +0.8
baz=38,SNR=39
P01C **Double 8 Ranch** 38.20 86 P P 02 06 34.7 +0.6
baz=38,SNR=10.0
K06A **Valley Falls** 38.37 79 ⇓P P 02 06 36.2 +0.7
baz=38,SNR=37
L05A **Lakeview** 38.39 80 ⇑P P 02 06 36.7 +1.1
baz=38,SNR=24
LTIM **Timbered Crate** 38.44 82 P P 02 06 36.9 +0.8
GASB **Alder Springs** 38.50 85 ⇑P P 02 06 37.6 +1.1
baz=38,SNR=7.9
M05C **Lookout** 38.56 82 ⇓P P 02 06 37.9 +0.9
baz=38,SNR=45
HOPS **Hopland** 38.64 86 *e*P P 02 06 38.1 +0.3
comp=Z,31nm,1.2s,mb4.9
HOPS **Hopland** 38.64 86 ⇓P P 02 06 38.7 +0.9
baz=38
HATC **Hat Creek Radi** 38.65 83 ⇑P P 02 06 38.5 +0.6
baz=38,SNR=20
J07A **Hines** 38.66 78 ⇓P P 02 06 38.6 +0.6
baz=38
LBCM **Butte Creek Ri** 38.71 82 P P 02 06 39.0 +0.6
K07A **Rock Creek Ran** 39.05 79 ⇑P P 02 06 41.6 +0.4
baz=39,SNR=48
M06C **Likely Place G** 39.07 81 ⇓P P 02 06 42.0 +0.7
baz=39,SNR=19
MNRC **McLaughlin Nat** 39.11 86 ⇑P P 02 06 42.0 +0.4
baz=39,SNR=12
O04C **Chester** 39.16 83 ⇑P P 02 06 42.6 +0.5
baz=39,SNR=11
BMO **Blue Mountains** 39.17 75 *e*P P 02 06 42.3 +0.1
comp=Z,59nm,1.8s,mb5.0
WALA **Waterton Lakes** 39.25 67 *e*P P 02 06 42.6 -0.3
MCCM **Marconi Confer** 39.25 87 *e*P P 02 06 43.4 +0.5
MCCM *e*pP pP 02 06 52.0 -0.9
BSMT **Bassoo Peak** 39.27 69 P P 02 06 42.7 -0.4
ORV **Oroville** 39.33 84 ⇑P P 02 06 43.1 -0.4
baz=39,SNR=13
L07A **Adell** 39.35 80 ⇓P P 02 06 44.3 +0.6
baz=39,SNR=34
CVS **Carmenet Viney** 39.41 86 ⇓P P 02 06 43.9 -0.3
baz=39,SNR=6.8
CN2 **Changchun** 39.42 284 *e*P P 02 06 44.0 -0.3
CN2 *e*XP sP 02 06 56.0 -2.3
CN2 *e*S S 02 12 43.3 -0.4
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,14.0s,MS4.7
CN2 LR LR
comp=E,500nm,14.0s,MS4.7
CN2 LR LR
comp=Z,500nm,16.0s,MS4.4
FARB **Farallon Islan** 39.44 88 ⇑P P 02 06 43.9 -0.5
baz=39
OHCM **Honcut** 39.46 85 *e*P P 02 06 44.8 +0.2
O05C **Quincy** 39.47 83 ⇓P P 02 06 45.2 +0.5
baz=39,SNR=29
Q03C **Winters** 39.53 86 ⇓P P 02 06 46.2 +1.0
baz=39,SNR=7.3
WVOR **Wild Horse Val** 39.57 79 P P 02 06 45.9 +0.3
M07A **Soldier Meadow** 39.80 80 P P 02 06 48.0 +0.6
baz=40,SNR=154
Q04C **Lincoln** 39.81 85 ⇑P P 02 06 47.4 -0.1
baz=40
L08A **Fields** 39.89 79 P P 02 06 48.3 +0.1
baz=40,SNR=65
BOD **Bodaibo** 39.97 309 *e*P P 02 06 47.2 -1.7
BOD pmax pmax
comp=Z,31nm,0.9s,mb5.0
BDM **Black Diamond** 40.02 87 ⇑P P 02 06 49.2 0.0
baz=40
P05C **Yuba Gap, Truc** 40.04 84 ⇑P P 02 06 49.5 +0.1
baz=40,SNR=20
RES **Resolute Bay** 40.04 24 *e*P P 02 06 48.2 -1.3
RES *e* 02 08 52.6
O06A **Flanigan** 40.05 82 ⇓P P 02 06 49.9 +0.3
baz=40,SNR=37
JRSC **Jasper Ridge** 40.10 88 ⇓P P 02 06 49.5 -0.4
baz=40
MSO **Missoula** 40.26 70 *e*P P 02 06 50.1 -1.2
M08A **Happy Creek Ra** 40.26 80 ⇑P P 02 06 51.6 +0.3
baz=40,SNR=42
LAVA **Lava Cap Winer** 40.27 85 ⇓P P 02 06 51.2 -0.1
baz=40,SNR=19
P06A **Stead Airport,** 40.28 83 ⇓P P 02 06 51.7 +0.3
baz=40
WENL **Wente Brothers** 40.28 87 ⇑P P 02 06 51.4 0.0
baz=40
BNLO **Ben Lomond** 40.31 88 ⇑P P 02 06 50.9 -0.8
baz=40
L09A **Wilkinson Ranc** 40.40 79 ⇑P P 02 06 52.5 +0.1
baz=40,SNR=33
R04C **Big Horse Ranc** 40.43 85 ⇓P P 02 06 51.9 -0.8
baz=40
WCN **Washoe City** 40.59 83 ⇑P P 02 06 54.1 +0.2
baz=40,SNR=24
PAHR **Pah Rah Range** 40.59 83 *e*P P 02 06 54.4 +0.4
comp=Z,80nm,1.0s,mb5.3
S04C **Ingram Canyon,** 40.63 87 ⇑P P 02 06 53.9 -0.4
baz=40,SNR=8.0
CHMT **Chamberlain Mo** 40.63 70 *e*P P 02 06 53.6 -0.8
O07A **Toulon** 40.66 82 ⇓P P 02 06 55.1 +0.6
baz=40,SNR=41
R05C **Kirkwood Meado** 40.72 84 P P 02 06 55.8 +0.7
baz=41,SNR=24
N08A **GE Springer Mi** 40.79 80 P P 02 06 56.0 +0.4
baz=41,SNR=62
M09A **Marrel Ranch,** 40.87 79 ⇓P P 02 06 56.5 +0.3
baz=41,SNR=8.3
CMB **Columbia Colle** 40.91 85 *e*P P 02 06 57.0 +0.3
CMB pmax pmax
comp=Z,35nm,1.2s,mb4.9
CMB **Columbia Colle** 40.91 85 *e*P P 02 06 57.0 +0.3
comp=Z,35nm,1.2s,mb4.9
CMB **Columbia Colle** 40.91 85 ⇑P P 02 06 56.8 +0.2
baz=41,SNR=30
PACP **Pacheco Peak** 40.95 87 ⇑P P 02 06 56.9 0.0
baz=41,SNR=8.3
SAO **San Andreas Ge** 40.99 88 P P 02 06 58.4 +1.1
SAO pmax pmax
comp=Z,19nm,0.9s,mb4.7
SAO **San Andreas Ge** 40.99 88 *e*P P 02 06 57.2 -0.1
P07A **Fallon** 41.00 82 ⇓P P 02 06 57.4 0.0
baz=41
O08A **Rochester Mine** 41.04 81 ⇓P P 02 06 57.6 -0.1
baz=41
HAST **Hastings Reser** 41.15 88 ⇓P P 02 06 58.5 -0.1
baz=41,SNR=18
WAKR **Walker** 41.25 84 *e*P P 02 07 00.1 +0.7
S06C **San Francisco** 41.35 85 ⇑P P 02 07 00.5 +0.2
baz=41,SNR=16
S05C **Merced** 41.35 86 ⇑P P 02 06 59.9 -0.4
baz=41,SNR=13
M10A **I.L. Ranch, Tu** 41.38 78 ⇑P P 02 07 00.6 +0.1
baz=41,SNR=7.6
KS15 **Wonju Array Si** 41.40 274 *e*P P 02 07 01.2 +0.6
Q07A **Schurz** 41.40 83 ⇑P P 02 07 00.8 +0.2
baz=41
T05C **Eagle Field, D** 41.41 87 ⇓P P 02 07 01.1 +0.4
baz=41
P08A **Dixie Valley** 41.43 82 ⇓P P 02 07 00.9 0.0
baz=41
V03C **Hunter Liggett** 41.57 88 ⇑P P 02 07 02.0 -0.1
baz=41,SNR=15
HRY **Holter Researc** 41.59 69 *e*P P 02 07 01.8 -0.4
HLID **Hailey** 41.61 75 *e*P P 02 07 02.3 -0.1
SNY **Shenyang** 41.63 282 ⇑P P 02 07 02.5 0.0
SNY S S 02 13 16.5 -0.2
SNY AMB AMB
comp=Z,40nm,1.3s,mb4.9
SNY AMB AMB
comp=Z,180nm,8.1s
SNY LR LR
comp=N,230nm,10.5s,MS4.5
SNY LR LR
comp=E,290nm,13.8s,MS4.5
SNY LR LR
comp=Z,270nm,16.2s,MS4.2
LRM **Limekiln Ridge** 41.66 71 *e*P P 02 07 02.4 -0.3
U04C **Hernandez Rese** 41.66 88 ⇑P P 02 07 02.9 +0.1
baz=42,SNR=17
O09A **Fish Creek Ran** 41.72 81 ⇑P P 02 07 03.7 +0.4
baz=42,SNR=26
R07C **Lee Vining** 41.74 84 ⇓P P 02 07 03.8 +0.4
baz=42
DLMT **Dillon** 41.80 71 *e*P P 02 07 02.5 -1.4
N10A **Dunphy** 41.84 79 ⇓P P 02 07 04.4 +0.1
baz=42
MCMT **McKenzie Canyo** 41.92 72 P P 02 07 04.4 -0.5
T06C **Millerton Lake** 41.95 86 ⇑P P 02 07 04.7 -0.4
baz=42
Q08A **Gabbs** 42.00 83 ⇑P P 02 07 05.7 +0.2
baz=42,SNR=35
NVAR **Mina Array Bea** 42.01 83 P P 02 07 06.2 +0.5
comp=Z,18nm,0.9s,mb4.7,baz=294,slow=7.2,SNR=36
NVAR PcP PcP 02 09 00.6 +0.3
comp=Z,7.5nm,0.8s,baz=281,slow=1.8,SNR=7.8
KCC **Kaiser Creek** 42.02 85 ⇑P P 02 07 05.9 +0.2
baz=42
V04C **Ramage Ranch,** 42.04 89 ⇑P P 02 07 06.2 +0.3
baz=42
PKD **Parkfield** 42.07 88 ⇑P P 02 07 05.8 -0.3
baz=42,SNR=14
U05C **Westside ANR,** 42.10 87 ⇑P P 02 07 06.9 +0.6
baz=42,SNR=6.7
MNV **Mina** 42.11 83 *e*P P 02 07 06.8 +0.4
MLAC **Mammoth Lakes** 42.14 85 ⇓P P 02 07 07.6 +0.9
baz=42
EGMT **Eagleton** 42.18 66 *e*P P 02 07 06.2 -0.9
comp=Z,42nm,1.0s,mb5.0
R08A **Mina** 42.18 83 ⇓P P 02 07 07.1 +0.1
baz=42
BOZ **Bozeman (W)** 42.24 70 *e*P P 02 07 06.6 -0.9
N11A **Elko Archery C** 42.27 79 ⇑P P 02 07 07.7 -0.1
baz=42,SNR=11
M12A **Wells** 42.46 78 ⇑P P 02 07 09.3 0.0
baz=42,SNR=38
MTUM **Tungsten Hills** 42.48 85 *e*P P 02 07 09.8 +0.3
Q09A **Carvers** 42.49 82 ⇑P P 02 07 10.1 +0.5
baz=42,SNR=6.4
P10A **Eureka** 42.50 81 ⇓P P 02 07 09.8 +0.2
baz=42,SNR=9.4
V05C **Boulder Hill,** 42.52 88 ⇓P P 02 07 10.1 +0.3
baz=42
CIT **Chita** 42.54 301 *e*P P 02 07 10.1 +0.1
CIT *e* pP 02 07 21.1 +1.1
CIT *e* 02 08 49.5
CIT *e* 02 13 32.4
CIT pmax pmax
comp=Z,210nm,1.5s,mb5.7
ELK **Elko** 42.63 79 *e*P P 02 07 10.8 +0.1
ELK pmax pmax
comp=Z,30nm,0.8s
ELK **Elko** 42.63 79 *e*P P 02 07 10.8 +0.1
comp=Z,30nm,0.8s,mb5.1
N12A **Wells--Clov Va** 42.70 78 P P 02 07 11.3 +0.1
baz=42,SNR=43
O11A **Cowboy Ranch,** 42.71 80 ⇑P P 02 07 11.7 +0.4
baz=43
QLMT **Earthquake Lak** 42.78 71 *e*P P 02 07 12.1 +0.1
QLMT *e*pP pP 02 07 22.3 +0.4
TIN **Tinemaha** 42.88 85 ⇓P P 02 07 13.1 +0.4
baz=43
R09A **Tonopah** 42.91 83 P P 02 07 12.8 -0.2
baz=43,SNR=53
M13A **Montello** 42.96 77 ⇑P P 02 07 13.1 -0.3
baz=43,SNR=10
P11A **Circle Ranch,** 42.99 80 ⇓P P 02 07 13.3 -0.2
baz=43
S09A **Goldfield** 43.12 84 P P 02 07 14.8 +0.2
baz=43,SNR=23
YMR **Madison River** 43.15 71 P P 02 07 15.7 +0.8
comp=Z,30nm,0.4s,mb5.4
N13A **West Wendover** 43.22 78 ⇓P P 02 07 15.3 -0.2
baz=43,SNR=7.7
YFT **Old Faithful** 43.34 71 *e*P P 02 07 17.0 +0.6
CWC **Cottonwood Cre** 43.34 86 ⇓P P 02 07 16.1 -0.3
baz=43,SNR=11
GCMT **Greycliff** 43.35 69 *e*P P 02 07 15.9 -0.6
R10A **Warm Springs** 43.37 82 ⇓P P 02 07 16.7 0.0
baz=43,SNR=15
ALE **Alert** 43.40 10 P P 02 07 17.0 +0.1
comp=Z,104nm,0.7s,mb5.7,SNR=7.9
FFC **Flin Flon** 43.41 54 P P 02 07 16.5 -0.5
comp=Z,359nm,0.7s,mb6.2,SNR=16
FFC **Flin Flon** 43.41 54 *e*P P 02 07 16.4 -0.6
FFC pmax pmax
comp=Z,44nm,0.8s,mb5.2
FFC **Flin Flon** 43.41 54 *e*P P 02 07 16.4 -0.6
comp=Z,44nm,0.8s,mb5.2
Q11A **Duckwater** 43.45 81 ⇑P P 02 07 17.2 -0.1
baz=43,SNR=36
LKWY **Lake** 43.55 71 *e*P P 02 07 19.4 +1.3
LKWY pmax pmax
comp=Z,19nm,0.7s,mb4.9
LKWY **Lake** 43.55 71 *e*P P 02 07 19.4 +1.3
comp=Z,19nm,0.7s,mb4.9
ISA **Isabella** 43.56 87 *e*P P 02 07 17.8 -0.4
ISA pmax pmax
comp=Z,31nm,0.9s,mb5.0
ISA **Isabella** 43.56 87 *e*P P 02 07 17.8 -0.4
comp=Z,31nm,0.9s,mb5.0
ISA **Isabella** 43.56 87 ⇓P P 02 07 17.7 -0.6
baz=43,SNR=14
HVU **Hansel Valley** 43.59 76 P P 02 07 18.9 +0.4
HVU pmax pmax
comp=Z,17nm,0.7s,mb4.9
HVU **Hansel Valley** 43.59 76 *e*P P 02 07 18.4 -0.1
RRI2 **Red Ridge** 43.63 73 *e*pP pP 02 07 32.5 +3.6
TPAW **Teton Pass** 43.78 73 *e*P P 02 07 20.2 +0.2
REDW **Red Top Meadow** 43.91 73 *e*P P 02 07 21.0 0.0
REDW *e*pP pP 02 07 27.5 -3.6
LOHW **Long Hollow** 43.93 72 *e*P P 02 07 21.9 +0.7
OSI **Osito Adit** 44.06 88 ⇓P P 02 07 22.0 -0.2
baz=44
SPUT **South Promonto** 44.06 76 *e*P P 02 07 22.4 +0.2
TPNV **Topopah Spring** 44.20 84 P P 02 07 23.4 0.0
TPNV pmax pmax
comp=Z,46nm,1.0s,mb5.2
TPNV **Topopah Spring** 44.20 84 *e*P P 02 07 23.3 0.0
comp=Z,46nm,1.0s,mb5.2
HWUT **Hardware Ranch** 44.44 75 *e*P P 02 07 25.1 -0.2
comp=Z,9.2nm,0.8s,mb4.6
HWUT *e*pP pP 02 07 35.4 0.0
DUG **Dugway** 44.47 78 *e*P P 02 07 25.5 0.0
DUG pmax pmax
comp=Z,56nm,1.1s,mb5.2
DUG **Dugway** 44.47 78 *e*P P 02 07 25.5 0.0
comp=Z,56nm,1.1s,mb5.2
U10A **Ash Meadows, A** 44.47 84 ⇑P P 02 07 25.4 -0.1
baz=44,SNR=16
DL2 **Dalian** 44.51 280 P P 02 07 25.0 -0.8
DL2 AP pP 02 07 35.3 -0.6
DL2 S S 02 14 01.0 +2.1
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,140nm,3.3s
DL2 LR LR
comp=N,140nm,13.1s,MS4.2
DL2 LR LR
comp=E,130nm,13.3s,MS4.2
DL2 LR LR
comp=Z,190nm,15.9s,MS4.1
MWC **Mount Wilson** 44.73 88 *e*P P 02 07 27.8 +0.2
TCUT **Toone Canyon** 44.81 76 *e*P P 02 07 28.8 +0.5
GSC **Goldstone** 44.86 86 *e*P P 02 07 28.7 +0.1
GSC **Goldstone** 44.86 86 ⇑P P 02 07 28.4 -0.2
baz=45,SNR=34
LAO **LASA Array** 44.93 66 *e*P P 02 07 28.8 -0.4
comp=Z,17nm,0.6s,mb5.1
BW06 **Boulder Array** 45.03 73 *e*P P 02 07 29.3 -0.7
comp=Z,18nm,0.7s,mb5.0
PDAR **Pinedale Array** 45.03 73 P P 02 07 29.6 -0.4
comp=Z,17nm,0.7s,mb5.0,baz=304,slow=3.9,SNR=122
PDAR S S 02 14 08.6 +2.2
comp=Z,0.2nm,0.6s,baz=72,slow=38,SNR=2.6
PDAR LR LR 02 25 39.2
comp=Z,299nm,18.2s,MS4.3,baz=95,slow=35
NLU **North Lily Min** 45.07 78 *e*P P 02 07 30.6 +0.3
U11A **Corn Creek** 45.08 84 ⇑P P 02 07 29.5 -0.8
baz=45
SHPR **Sheep Range** 45.17 84 *e*P P 02 07 30.8 -0.2
MPU **Maple Canyon** 45.31 77 *e*P P 02 07 32.5 +0.3
DAU **Daniels Canyon** 45.31 77 P P 02 07 32.9 +0.7
DAU **Daniels Canyon** 45.31 77 *e*P P 02 07 32.7 +0.5
TUQ **Turquoise Mtn.** 45.34 85 ⇑P P 02 07 32.1 -0.3
baz=45,SNR=11
V11A **Goodsprings** 45.40 84 ⇑P P 02 07 32.8 -0.1
baz=45
ARUT **Antelope Range** 45.48 81 P P 02 07 33.9 +0.3
ARUT **Antelope Range** 45.48 81 *e*P P 02 07 33.7 +0.1
U12A **Valley of Fire** 45.61 83 ⇑P P 02 07 34.5 -0.1
baz=46,SNR=20
CCUT **Cedar City** 45.67 81 *e*P P 02 07 34.0 -1.1
CCUT *e*pP pP 02 07 45.4 +0.2
V12A **Nelson** 45.84 84 ⇓P P 02 07 36.3 -0.1
baz=46,SNR=13
MSU **Marysvale** 45.85 79 P P 02 07 36.9 +0.5
MSU **Marysvale** 45.85 79 *e*P P 02 07 36.5 +0.1
TMUT **Trail Mountain** 45.99 78 *e*P P 02 07 38.2 +0.7
W12A **Cal Nev Ari** 46.09 85 ⇓P P 02 07 37.9 -0.5
baz=46
PFO **Pinyon Flat Ob** 46.15 88 *e*P P 02 07 38.8 0.0
PFO pmax pmax
comp=Z,18nm,0.9s,mb5.0
PFO **Pinyon Flat Ob** 46.15 88 *e*P P 02 07 38.8 0.0
comp=Z,18nm,0.9s,mb5.0
PFO **Pinyon Flat Ob** 46.15 88 ⇓P P 02 07 38.4 -0.4
baz=46,SNR=7.8
109C **Camp Elliot, M** 46.19 89 ⇑P P 02 07 38.6 -0.5
baz=46
SRU **San Rafael** 46.53 78 P P 02 07 41.7 -0.1
SRU pmax pmax
comp=Z,29nm,0.7s,mb5.3
SRU **San Rafael** 46.53 78 *e*P P 02 07 41.3 -0.5
BAR **Barrett** 46.61 89 *e*P P 02 07 42.8 +0.4
BAR *e*pP pP 02 07 48.9 -3.6
RWWY **Rawlins** 47.08 73 *e*P P 02 07 45.5 -0.6
comp=Z,12nm,0.8s,mb4.9
X13A **Yucca** 47.20 85 ⇓P P 02 07 46.2 -0.9
baz=47,SNR=13
W14A **Seligman** 47.29 83 ⇓P P 02 07 47.5 -0.2
baz=47,SNR=14
Y12C **Blythe** 47.30 86 ⇑P P 02 07 46.8 -1.0
baz=47,SNR=9.0
IRK **Irkutsk** 47.44 305 *e*P P 02 07 48.5 -0.4
IRK *e* 02 10 26.9
IRK pmax pmax
comp=Z,130nm,1.3s,mb5.7
GLA **Glamis** 47.55 87 *e*P P 02 07 49.7 -0.1
GLA **Glamis** 47.55 87 ⇑P P 02 07 49.2 -0.5
baz=47,SNR=9.1
RSSD **Black Hills** 47.61 68 *e*P P 02 07 49.5 -0.8
Y13A **Salome** 47.70 85 ⇑P P 02 07 50.2 -0.8
baz=48,SNR=6.1
W15A **Williams** 47.83 83 ⇓P P 02 07 51.9 0.0
baz=48,SNR=8.2
X14A **Yava** 47.88 84 ⇓P P 02 07 52.1 -0.2
baz=48,SNR=28
PV10 **Paradox Valley** 47.90 77 *e*P P 02 07 52.5 0.0
PV10 *e*pP pP 02 08 03.2 +0.5
TLY **Talaya** 48.07 304 P P 02 07 54.5 +0.7
comp=Z,271nm,1.6s,mb6.0,SNR=14
TLY **Talaya** 48.07 304 ⇑P P 02 07 54.4 +0.7
SNR=45
TLY **Talaya** 48.07 304 *e*P P 02 07 52.9 -0.9
TLY *e* 02 09 42.4
TLY *e*S S 02 14 44.9 -4.9
TLY *e*SS SS 02 17 44.8 -34
TLY pmax pmax
comp=Z,95nm,1.6s,mb5.6
TLY MLR MLR
comp=Z,302nm,16.0s,MS4.4
TLY **Talaya** 48.07 304 *e*P P 02 07 54.4 +0.7
Y14A **Wickenburg** 48.15 85 ⇑P P 02 07 53.5 -0.9
baz=48,SNR=19
ULN **Ulaanbaatar** 48.25 299 ⇓P P 02 07 54.9 -0.3
SNR=19
ULN **Ulaanbaatar** 48.25 299 ⇑*e*P P 02 07 55.1 -0.1
ULN **Ulaanbaatar** 48.25 299 *e*P P 02 07 54.5 -0.7
comp=Z,18nm,0.7s,mb5.2
X15A **Humboldt** 48.28 84 ⇑P P 02 07 55.3 -0.1
baz=48,SNR=22
PV01 **Paradox Valley** 48.34 77 *e*P P 02 07 55.0 -0.8
PV01 *e*pP pP 02 08 06.0 -0.1

PHWY	**Pilot Hill**	**48.38**	**72**	*e*P	**P**	**02 07 55.4**	**-0.7**
Z14A	**Wintersburg**	**48.55**	**85**	⇑P	**P**	**02 07 56.8**	**-0.7**
	baz=48						
SONM	**Songino Array**	**48.64**	**299**	P	**P**	**02 07 58.3**	**+0.1**
	comp=Z,26nm,0.9s,mb5.3,baz=49,slow=8.2,SNR=124						
SONM				PcP	PcP	02 09 22.9	-0.3
	comp=Z,8.9nm,0.7s,baz=72,slow=2.3,SNR=6.7						
SONM				S	**S**	**02 15 01.6**	**+3.6**
	comp=Z,0.1nm,0.4s,baz=320,slow=6.9,SNR=2.3						
SONM				LR	LR	02 29 54.8	
	comp=Z,646nm,18.5s,MS4.6,baz=57,slow=38						
SONM	**Songino Array**	**48.64**	**299**	P	**P**	**02 07 58.3**	**+0.1**
SONM						02 09 22.9	
SONM				S	**S**	**02 15 01.6**	**+3.6**
SMCO	**Snowmass**	**48.70**	**75**	*e*P	**P**	**02 07 58.2**	**-0.5**
	comp=Z,12nm,0.7s,mb5.0						
ULM	**Lac du Bonnet**	**48.87**	**57**	P	**P**	**02 07 58.8**	**-1.2**
	comp=Z,26nm,0.9s,mb5.3,baz=306,slow=7.7,SNR=55						
ULM				S	**S**	**02 15 02.7**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=216,slow=22,SNR=1.5						
ULM				LR	LR	02 29 13.3	
	comp=Z,507nm,20.8s,MS4.5,baz=135,slow=37						
ULM	**Lac du Bonnet**	**48.87**	**57**	P	**P**	**02 07 58.8**	**-1.2**
ULM				S	**S**	**02 15 02.7**	**+1.5**
ULM				LR	LR	02 29 13.3	
MVCO	**Mesa Verde**	**48.95**	**78**	*e*P	**P**	**02 08 00.0**	**-0.6**
MVCO				*e*pP	pP	02 08 07.7	-3.0
ZAK	**Zakamensk**	**48.96**	**303**	*e*P	**P**	**02 08 00.6**	**0.0**
ZAK				pmax	pmax		
	comp=Z,166nm,1.5s,mb5.8						
TIA	**Tai'an**	**48.99**	**280**	*e*P	**P**	**02 08 00.0**	**-0.9**
ISCO	**Idaho Springs**	**49.17**	**74**	*e*P	**P**	**02 08 02.0**	**-0.3**
ISCO				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
ISCO	**Idaho Springs**	**49.17**	**74**	*e*P	**P**	**02 08 02.0**	**-0.3**
	comp=Z,20nm,1.4s,mb4.9						
115A	**Sonoran Desert**	**49.44**	**85**	⇓P	**P**	**02 08 04.0**	**-0.3**
	baz=49,SNR=9.9						
MOY	**Mondy**	**49.47**	**306**	*e*P	**P**	**02 08 05.0**	**+0.5**
MOY				pmax	pmax		
	comp=Z,105nm,1.6s,mb5.6						
HHC	**Hu-ho-hao-te**	**49.62**	**288**	*e*P	**P**	**02 08 05.0**	**-0.7**
HHC				AP	pP	02 08 12.5	-3.3
HHC				XP	sP	02 08 15.5	-4.4
HHC				PCP	PcP	02 09 27.3	+0.5
HHC				PP	PP	02 09 59.0	-1.2
HHC				SCP	ScP	02 13 19.0	-0.7
HHC				PCS	PcS	02 13 22.0	-1.5
HHC				S	**S**	**02 15 09.5**	**-2.2**
HHC				XS	sS	02 15 21.3	-7.1
HHC				SCS	ScS	02 17 52.3	-2.4
HHC				SS	SS	02 18 37.0	-7.0
HHC				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,240nm,7.4s						
HHC				LR	LR		
	comp=N,530nm,19.0s,MS4.7						
HHC				LR	LR		
	comp=E,270nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=Z,250nm,17.8s,MS4.3						
SSE	**Sheshan**	**49.69**	**272**	P	**P**	**02 08 06.5**	**+0.3**
SSE				AP	pP	02 08 15.5	-0.9
SSE				S	**S**	**02 15 12.8**	**+0.1**
SSE				XS	sS	02 15 28.5	-0.9
SSE				SCS	ScS	02 17 56.0	+0.9
SSE				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.2						
SSE				AMB	AMB		
	comp=Z,170nm,5.4s						
SSE				LR	LR		
	comp=N,80nm,20.7s,MS3.8						
SSE				LR	LR		
	comp=E,70nm,20.7s,MS3.8						
SSE				LR	LR		
	comp=Z,120nm,19.4s,MS3.9						
116A	**Eloy**	**49.87**	**85**	⇓P	**P**	**02 08 06.9**	**-0.7**
	baz=50						
NJ2	**Nanjing**	**50.55**	**275**	*e*P	**P**	**02 08 16.0**	**+3.3**
NJ2				AP	pP	02 08 22.5	-0.5
NJ2				XP	sP	02 08 25.8	-1.2
NJ2				PCP	PcP	02 09 31.5	+1.3
NJ2				S	**S**	**02 15 28.0**	**+3.3**
NJ2				XS	sS	02 15 39.0	-2.5
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,200nm,4.8s						
NJ2				LR	LR		
	comp=N,4μm,20.0s,MS5.5						
NJ2				LR	LR		
	comp=E,770nm,17.9s,MS5.5						
NJ2				LR	LR		
	comp=Z,460nm,17.0s,MS4.6						
TUC	**Tucson**	**50.62**	**85**	*e*P	**P**	**02 08 12.8**	**-0.4**
TUC				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.2						
TUC	**Tucson**	**50.62**	**85**	*e*P	**P**	**02 08 12.8**	**-0.4**
	comp=Z,39nm,1.3s,mb5.2						
BTO	**Baotou**	**50.70**	**289**	*e*P	**P**	**02 08 13.8**	**-0.1**
KBS	**Kingsbay**	**50.95**	**358**	*e*P	**P**	**02 08 16.4**	**+0.6**
KBS				*e*S	**S**	**02 15 31.3**	**+1.0**
KBS				AMS	AMS	02 28 44.6	
	comp=Z,480nm,22.6s,MS4.5						
KBS	**Kingsbay**	**50.95**	**358**	*e*P	**P**	**02 08 16.4**	**+0.6**
	comp=Z,29nm,0.8s,mb5.3						
KRAR	**Krasnoyarsk**	**51.05**	**314**	*e*P	**P**	**02 08 14.8**	**-1.7**
KRAR				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.5						
KRAR				MLR	MLR		
	comp=Z,600nm,24.0s,MS4.5						
ANMO	**Albuquerque**	**51.65**	**79**	*e*P	**P**	**02 08 21.1**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,26nm,1.3s						
ANMO	**Albuquerque**	**51.65**	**79**	*e*P	**P**	**02 08 21.1**	**0.0**
	comp=Z,26nm,1.3s,mb5.0						
Y22C	**IRIS PASSCAL I**	**51.93**	**80**	⇓P	**P**	**02 08 23.2**	**+0.1**
	baz=52						
DAG	**Danmarks Havn**	**52.40**	**6**	⇓*i*P	**P**	**02 08 25.8**	**-0.8**
	comp=Z,4.2nm,0.5s,mb4.6						
DAG	**Danmarks Havn**	**52.40**	**6**	⇓*e*P	**P**	**02 08 25.8**	**-0.8**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
DAG	**Danmarks Havn**	**52.40**	**6**	⇓*e*P	**P**	**02 08 25.8**	**-0.8**
	comp=Z,4.2nm,0.5s,mb4.6						
SUMG	**Summit**	**53.94**	**15**	*e*P	**P**	**02 08 37.7**	**-0.2**
WHN	**Wuhan**	**54.43**	**277**	⇓P	**P**	**02 08 41.5**	**0.0**
AMTX	**Amarillo**	**54.69**	**76**	*e*P	**P**	**02 08 42.9**	**-0.5**
SCIA	**State Center**	**55.29**	**64**	*e*P	**P**	**02 08 46.9**	**-0.8**
XAN	**Xi'an**	**55.53**	**283**	P	**P**	**02 08 48.5**	**-0.9**
XAN				AP	pP	02 08 56.8	-2.9
XAN				PP	PP	02 10 53.8	+0.2
XAN				S	**S**	**02 16 28.8**	**-3.7**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
XAN				AMB	AMB		
	comp=Z,160nm,8.2s						
XAN				LR	LR		
	comp=N,250nm,15.8s,MS4.5						
XAN				LR	LR		
	comp=E,150nm,13.7s,MS4.5						
XAN				LR	LR		
	comp=Z,240nm,14.4s,MS4.4						
ZAL	**Zalesovo**	**56.01**	**315**	P	**P**	**02 08 51.4**	**-1.5**
	comp=Z,2.6nm,0.8s,mb4.3						
ZAL				LR	LR	02 35 07.8	
	comp=Z,499nm,20.4s,MS4.6,baz=63,slow=38						
NVS	**Novosibirsk**	**56.12**	**317**	*e*P	**P**	**02 08 51.6**	**-2.0**
NVS				pmax	pmax		
	comp=Z,78nm,2.0s,mb5.4						
NVS				pmax	pmax		
	comp=E,35nm,1.5s						
LTX	**Lajitas**	**57.15**	**82**	*e*P	**P**	**02 09 00.3**	**-0.6**
LTX				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.4						
LTX	**Lajitas**	**57.15**	**82**	*e*P	**P**	**02 09 00.2**	**-0.7**
	comp=Z,44nm,1.2s,mb5.4						
LZH	**Lanzhou**	**57.31**	**289**	⇑P	**P**	**02 09 03.5**	**+1.4**
LZH				AP	pP	02 09 12.0	-0.5
LZH				XP	sP	02 09 15.3	-1.2
LZH				PP	PP	02 11 12.3	+2.8
LZH				S	**S**	**02 16 55.5**	**-0.6**
LZH				XS	sS	02 17 09.3	-3.8
LZH				SS	SS	02 20 45.5	-0.1
LZH				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,170nm,6.9s						
LZH				LR	LR		
	comp=E,870nm,15.3s						
LZH				LR	LR		
	comp=Z,980nm,18.2s,MS5.0						
GTA	**Gaotai**	**57.54**	**294**	*e*P	**P**	**02 09 03.0**	**-0.7**
GTA				AP	pP	02 09 13.3	-0.7
GTA				XP	sP	02 09 17.3	-0.7
GTA				PCP	PcP	02 09 56.8	-0.1
GTA				PP	PP	02 11 12.0	+0.5
GTA				SCP	ScP	02 13 52.5	-1.7
GTA				PCS	PcS	02 13 56.8	-1.3
GTA				S	**S**	**02 16 58.0**	**-1.0**
GTA				XS	sS	02 17 12.0	-4.1
GTA				SCS	ScS	02 18 47.0	-3.5
GTA				SS	SS	02 20 47.5	-1.7
GTA				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.3						
GTA				AMB	AMB		
	comp=Z,310nm,7.6s						
GTA				LR	LR		
	comp=N,420nm,22.9s,MS4.6						
GTA				LR	LR		
	comp=E,390nm,21.7s,MS4.6						
GTA				LR	LR		
	comp=Z,600nm,15.2s						
SCO	**Scoresbysund**	**58.10**	**10**	*i*P	**P**	**02 09 06.9**	**-0.7**
	comp=Z,11nm,0.6s,mb5.1						
SCO	**Scoresbysund**	**58.10**	**10**	*e*P	**P**	**02 09 06.9**	**-0.7**
SCO				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
SCO	**Scoresbysund**	**58.10**	**10**	*e*P	**P**	**02 09 06.9**	**-0.7**
	comp=Z,11nm,0.6s,mb5.1						
JMIC	**Jan Mayen**	**58.70**	**5**	*e*P	**P**	**02 09 14.4**	**+2.6**
JMIC				*e*		02 12 56.1	
JMIC				AMS	AMS	02 32 11.9	
	comp=Z,391nm,21.8s,MS4.5						
JCT	**Junction City**	**58.81**	**79**	P	**P**	**02 09 11.1**	**-1.5**
JCT				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
CCM	**Cathedral Cave**	**58.94**	**67**	P	**P**	**02 09 11.8**	**-1.7**
CCM				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
CCM	**Cathedral Cave**	**58.94**	**67**	*e*P	**P**	**02 09 11.2**	**-2.4**
KEV	**Kevo**	**59.07**	**351**	*e*p	**P**	**02 09 09.1**	**-5.3**
ARCES	**ARCESS Array B**	**59.44**	**351**	P	**P**	**02 09 15.5**	**-1.4**
	comp=Z,17nm,0.7s,mb5.2,baz=27,slow=6.7,SNR=68						
ARCES				PcP	PcP	02 10 03.6	-0.8
	comp=Z,10nm,0.8s,baz=18,slow=5.1,SNR=6.2						
ARCES				S	**S**	**02 17 25.9**	**+2.1**
	comp=Z,2.5nm,1.1s,baz=315,slow=27,SNR=2.5						
ARCES				LR	LR	02 35 21.8	
	comp=Z,592nm,21.6s,MS4.7,baz=19,slow=36						
ARCES	**ARCESS Array B**	**59.44**	**351**	P	**P**	**02 09 15.5**	**-1.4**
ARCES						02 10 03.6	
ARCES				S	**S**	**02 17 25.9**	**+2.2**
ARCES	**ARCESS Array B**	**59.44**	**351**	P	**P**	**02 09 15.5**	**-1.4**
ARCES				PcP	PcP	02 10 03.6	-0.8
ARCES				S	**S**	**02 17 25.9**	**+2.2**
ARCES				LR	LR	02 35 21.8	
ARE0	**ARCESS Array S**	**59.44**	**351**	*e*P	**P**	**02 09 17.0**	**+0.1**
FVM	**French Village**	**59.47**	**66**	P	**P**	**02 09 15.1**	**-2.1**
FVM				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
FVM	**French Village**	**59.47**	**66**	*e*P	**P**	**02 09 14.9**	**-2.3**
	comp=Z,12nm,0.8s,mb5.0						
SCHQ	**Schefferville**	**59.80**	**39**	P	**P**	**02 09 19.2**	**-0.3**
	comp=Z,17nm,0.9s,mb5.1,baz=321,slow=7.3,SNR=26						
SCHQ				S	**S**	**02 17 32.6**	**+4.2**
	comp=Z,2.2nm,0.9s,baz=225,slow=12,SNR=2.6						
SCHQ				LR	LR	02 34 53.2	
	comp=Z,379nm,20.9s,MS4.5,baz=124,slow=36						
SCHQ	**Schefferville**	**59.80**	**39**	P	**P**	**02 09 19.2**	**-0.3**
SCHQ				S	**S**	**02 17 32.6**	**+4.2**
SCHQ				LR	LR	02 34 53.2	
TRO	**Tromso**	**59.88**	**354**	*e*P	**P**	**02 09 17.9**	**-2.1**
TRO				*e*S	**S**	**02 17 29.8**	**+0.4**
TRO				AMS	AMS	02 34 54.0	
	comp=Z,164nm,21.0s,MS4.1						
LVZ	**Lovozero**	**59.89**	**347**	P	**P**	**02 09 19.3**	**-0.8**
	comp=Z,573nm,0.6s,SNR=7.2						
LVZ	**Lovozero**	**59.89**	**347**	*c i*P	**P**	**02 09 19.8**	**-0.3**
LVZ				*e**PP	pP	02 09 30.5	0.0
LVZ				*e*		02 11 33.9	
LVZ				*e*PPP		02 12 55.2	
LVZ				*e*S	**S**	**02 17 20.7**	**-8.9**
LVZ				pmax	pmax		
	comp=N,24nm,0.8s						
LVZ				pmax	pmax		
	comp=E,8.0nm,0.8s						
LVZ				pmax	pmax		
	comp=Z,66nm,0.8s,mb5.7						
LVZ				smax			
	comp=N,119nm,11.2s						
LVZ				smax			
	comp=Z,49nm,9.7s						
LVZ				smax			
	comp=E,67nm,9.4s						
LVZ				MLR	MLR		
	comp=Z,566nm,23.0s,MS4.6						
LVZ				MLR	MLR		
	comp=N,419nm,24.0s,MS4.5						
LVZ				MLR	MLR		
	comp=E,138nm,21.0s,MS4.5						
MIAR	**Mount Ida**	**59.90**	**71**	*e*P	**P**	**02 09 19.1**	**-1.0**
MIAR				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
MIAR	**Mount Ida**	**59.90**	**71**	*e*P	**P**	**02 09 19.1**	**-1.0**
	comp=Z,32nm,1.0s,mb5.3						
KTK1	**Kautokeino**	**60.15**	**352**	*e*P	**P**	**02 09 23.0**	**+1.2**
KTK1				AMb	AMB	02 09 27.3	
	comp=Z,42nm,1.9s,mb5.2						
KTK1	**Kautokeino**	**60.15**	**352**	*e*P	**P**	**02 09 23.0**	**+1.2**
	comp=Z,42nm,1.9s,mb5.2						
SIUC	**Southern Illin**	**60.36**	**66**	*e*P	**P**	**02 09 22.5**	**-0.7**
	comp=Z,17nm,0.8s,mb5.1						
APA	**Apatity**	**60.38**	**347**	⇑*e*P	**P**	**02 09 24.5**	**+1.1**
APA				*i*		02 10 06.0	
APA				*i* S	**S**	**02 17 36.0**	**+0.2**
APA				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.2						
CD2	**Chengdu**	**60.86**	**284**	P	**P**	**02 09 26.0**	**-0.7**
CD2				AP	pP	02 09 33.0	-4.1
CD2				XP	sP	02 09 37.0	-4.1
CD2				PCP	PcP	02 10 10.0	-0.1
CD2				PP	PP	02 11 41.8	+0.9
CD2				SCP	ScP	02 14 08.3	-0.6
CD2				PCS	PcS	02 14 12.5	-0.3
CD2				S	**S**	**02 17 39.0**	**-3.0**
CD2				XS	sS	02 17 51.8	-7.3
CD2				SCS	ScS	02 19 11.5	-3.6
CD2				SS	SS	02 21 38.5	-2.8
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
CD2				AMB	AMB		
	comp=Z,40nm,8.2s						
CD2				LR	LR		
	comp=E,160nm,14.4s						
CD2				LR	LR		
	comp=Z,120nm,14.4s,MS4.2						
BLO	**Bloomington**	**60.93**	**63**	*e*P	**P**	**02 09 25.6**	**-1.6**
BLO				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.4						
BLO	**Bloomington**	**60.93**	**63**	*e*P	**P**	**02 09 25.6**	**-1.5**
	comp=Z,27nm,0.8s,mb5.4						
KURK	**Kurchatov**	**60.98**	**315**	P	**P**	**02 09 26.5**	**-1.0**
	comp=Z,517nm,0.7s,SNR=76						
KURK	**Kurchatov**	**60.98**	**315**	⇓P	**P**	**02 09 26.6**	**-0.9**
	SNR=56						
KURK	**Kurchatov**	**60.98**	**315**	⇑*e*P	**P**	**02 09 26.7**	**-0.8**
KURK	**Kurchatov**	**60.98**	**315**	*e*P	**P**	**02 09 26.6**	**-0.9**
NATX	**Nacogdoches**	**61.14**	**74**	*e*P	**P**	**02 09 28.1**	**-0.4**
WMQ	**Urumqi**	**61.34**	**305**	P	**P**	**02 09 31.0**	**+1.0**
WMQ				XP	sP	02 09 44.3	-0.1
WMQ				PCP	PcP	02 10 13.5	+1.4
WMQ				PP	PP	02 11 47.8	+2.6
WMQ				S	**S**	**02 17 48.3**	**+0.1**
WMQ				XS	sS	02 18 01.5	-3.8
WMQ				SS	SS	02 21 48.5	-0.4
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,390nm,5.0s						
WMQ				LR	LR		
	comp=N,940nm,21.0s,MS4.9						
WMQ				LR	LR		
	comp=E,490nm,24.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,390nm,23.0s,MS4.5						
HALT	**Halls**	**61.51**	**67**	*e*P	**P**	**02 09 30.4**	**-0.7**
HKT	**Hockley**	**61.66**	**76**	*e*P	**P**	**02 09 31.3**	**-0.8**
HKT				pmax	pmax		
	comp=Z,51nm,1.5s,mb5.4						
HKT	**Hockley**	**61.66**	**76**	*e*P	**P**	**02 09 31.3**	**-0.8**
	comp=Z,51nm,1.5s,mb5.4						
LOF	**Lofoten**	**61.68**	**356**	⇑*i*P	**P**	**02 09 32.9**	**+0.7**
LOF				*e*pP	pP	02 09 43.7	+1.0
WCI	**Wyandotte Cave**	**61.70**	**63**	*e*P	**P**	**02 09 31.1**	**-1.3**
WCI				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
WCI	**Wyandotte Cave**	**61.70**	**63**	*e*P	**P**	**02 09 31.1**	**-1.3**
	comp=Z,12nm,0.8s,mb5.1						
MKAR	**Makanchi Array**	**62.02**	**310**	P	**P**	**02 09 33.3**	**-1.3**
	comp=Z,16nm,0.8s,mb5.2,baz=46,slow=7.0,SNR=78						
GYA	**Guiyang**	**62.13**	**279**	⇑*i*P	**P**	**02 09 34.8**	**-0.4**
GYA				AP	pP	02 09 45.0	-0.7
GYA				XP	sP	02 09 46.0	-3.7
GYA				PP	PP	02 11 54.0	+1.9
GYA				S	**S**	**02 17 59.5**	**+1.4**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.2						
GYA				AMB	AMB		
	comp=Z,300nm,6.6s						
GYA				LR	LR		
	comp=N,180nm,16.2s,MS4.5						
GYA				LR	LR		
	comp=E,190nm,17.2s,MS4.5						
GYA				LR	LR		
	comp=Z,270nm,17.5s,MS4.5						
ACSO	**Alum Creek Sta**	**62.20**	**60**	*e*P	**P**	**02 09 34.9**	**-0.8**
	comp=Z,14nm,0.8s,mb5.2						
CHKZ	**Chkalovo**	**62.22**	**322**	*e*P	**P**	**02 09 35.1**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,63nm,1.2s,mb5.6						
CHKZ	**Chkalovo**	**62.22**	**322**	*e*P	**P**	**02 09 35.1**	**-0.8**
	comp=Z,63nm,1.2s,mb5.6						
WVT	**Waverly**	**62.25**	**66**	*e*P	**P**	**02 09 35.4**	**-0.7**
WVT				*e**PP	pP	02 09 45.6	-0.9
WVT				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1						
WVT	**Waverly**	**62.25**	**66**	*e*P	**P**	**02 09 35.4**	**-0.7**
	comp=Z,14nm,0.9s,mb5.1						
WVT				*e*pP	pP	02 09 45.6	-0.9
SOKR	**Solikamsk**	**62.38**	**333**	*i*P	**P**	**02 09 37.6**	**+0.7**
SOKR				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.8						
SOKR				MLR	MLR		
	comp=Z,360nm,15.0s,MS4.7						
OXF	**Oxford**	**62.43**	**68**	*e*P	**P**	**02 09 36.7**	**-0.6**
ERPA	**Erie**	**62.52**	**56**	*e*P	**P**	**02 09 37.6**	**-0.3**
ALLY	**Alegheny Colle**	**62.76**	**57**	*e*P	**P**	**02 09 39.3**	**-0.2**
BRVK	**Borovoye**	**62.81**	**322**	P	**P**	**02 09 39.1**	**-0.7**
	comp=Z,652nm,0.6s,SNR=42						
BRVK	**Borovoye**	**62.81**	**322**	⇓P	**P**	**02 09 39.4**	**-0.4**
	SNR=44						
BRVK	**Borovoye**	**62.81**	**322**	*e*P	**P**	**02 09 39.6**	**-0.3**
PLAL	**Pickwick Lake**	**62.90**	**67**	*e*P	**P**	**02 09 38.1**	**-2.3**
	comp=Z,16nm,0.8s,mb5.2						
MSNY	**Massena**	**63.16**	**51**	*e*P	**P**	**02 09 41.5**	**-0.6**
MSNY				*e*pP	pP	02 09 51.8	-0.7
ZRNK	**Zerenda**	**63.40**	**322**	*e*P	**P**	**02 09 43.5**	**-0.2**
ZRNK				*e**PP	pP	02 09 54.5	+0.3
ZRNK				pmax	pmax		
	comp=Z,86nm,0.6s,mb6.1						
ZRNK	**Zerenda**	**63.40**	**322**	*e*P	**P**	**02 09 43.5**	**-0.3**
	comp=Z,86nm,0.6s,mb6.1						
ZRNK				*e*pP	pP	02 09 54.5	+0.3
STOK	**Stokkvaagen**	**63.49**	**356**	*e*P	**P**	**02 09 43.8**	**-0.6**
STOK				AMb	AMB	02 09 46.0	
	comp=Z,136nm,0.9s,mb6.1						
STOK				*e*pP	pP	02 09 55.1	+0.3
STOK	**Stokkvaagen**	**63.49**	**356**	*e*P	**P**	**02 09 43.8**	**-0.6**
	comp=Z,136nm,0.9s,mb6.1						
LONY	**Lake Ozonia**	**63.56**	**51**	*e*P	**P**	**02 09 43.6**	**-1.2**
MOR8	**Moi Rana**	**63.59**	**355**	*e*P	**P**	**02 09 42.9**	**-2.0**
MOR8				AMb	AMB	02 09 45.2	
	comp=Z,49nm,0.9s,mb5.5						
MOR8	**Moi Rana**	**63.59**	**355**	*e*P	**P**	**02 09 42.9**	**-2.0**
	comp=Z,49nm,0.9s,mb5.5						
BORG	**Borgarnes**	**63.64**	**12**	*e*P	**P**	**02 09 44.5**	**-0.7**
FRNY	**Flat Rock**	**63.91**	**51**	*e*P	**P**	**02 09 45.5**	**-1.5**
SWET	**Sewanee**	**64.00**	**66**	*e*P	**P**	**02 09 47.0**	**-0.7**
NCB	**Newcomb**	**64.21**	**52**	*e*P	**P**	**02 09 48.6**	**-0.5**
MCWV	**Mont Chateau**	**64.32**	**58**	*e*P	**P**	**02 09 49.5**	**-0.3**
	comp=Z,27nm,0.8s,mb5.3						
ARU	**Arti**	**64.40**	**330**	P	**P**	**02 09 50.2**	**-0.1**
	comp=Z,823nm,0.6s,SNR=27						
ARU	**Arti**	**64.40**	**330**	*d i*P	**P**	**02 09 49.9**	**-0.4**
ARU				pmax	pmax		
	comp=Z,143nm,1.3s,mb5.8						
ARU				MLR	MLR		
	comp=Z,700nm,24.0s,MS4.8						
ARU	**Arti**	**64.40**	**330**	*e*P	**P**	**02 09 49.7**	**-0.6**
TZTN	**Tazewell**	**64.44**	**63**	*e*P	**P**	**02 09 50.9**	**+0.3**
MIV	**Mineville/With**	**64.48**	**51**	*e*P	**P**	**02 09 50.3**	**-0.5**
BINY	**Binghamton**	**64.58**	**54**	*e*P	**P**	**02 09 50.7**	**-0.8**
SSPA	**Standing Stone**	**64.69**	**56**	*e*P	**P**	**02 09 51.5**	**-0.7**
ACCN	**Adirondack Com**	**64.91**	**52**	*e*P	**P**	**02 09 52.6**	**-1.1**
JOF	**Joensuu**	**65.06**	**347**	*e*p	**P**	**02 09 52.1**	**-2.5**
LBNH	**Lisbon**	**65.16**	**50**	P	**P**	**02 09 54.4**	**-0.8**
LBNH				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.4						
LBNH	**Lisbon**	**65.16**	**50**	*e*P	**P**	**02 09 53.8**	**-1.4**
FWV	**Forest Hill**	**65.26**	**61**	*e*P	**P**	**02 09 54.8**	**-1.1**
HNH	**Hanover**	**65.37**	**51**	*e*P	**P**	**02 09 56.5**	**-0.1**
QIZ	**Qiongzhong**	**65.43**	**270**	P	**P**	**02 09 58.0**	**+1.0**
QIZ				S	S	02 18 41.0	+1.9
QIZ				XS	sS	02 18 54.0	-2.4
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,160nm,7.8s						
ELN	**Prospectdale**	**65.54**	**61**	*e*P	**P**	**02 09 57.1**	**-0.6**
KLMR	**Klimovskoe**	**65.55**	**342**	⇓*i*P	**P**	**02 09 56.9**	**-0.9**
KLMR				*e*		02 12 19.1	
KLMR				*e*S	S	02 18 39.2	-1.4
KLMR				pmax	pmax		
	comp=Z,100nm,1.4s

CPNY	**Central Park**	**66.64**	**54**	*e*P	**P**	**02 10 04.2**	**-0.6**
CBN	**Corbin**	**66.71**	**58**	*e*P	**P**	**02 10 05.0**	**-0.2**
GOGA	**Godfrey**	**66.71**	**65**	*e*P	**P**	**02 10 03.5**	**-1.7**
WES	**Weston**	**66.82**	**51**	*e*P	**P**	**02 10 05.5**	**-0.4**
EMMW	**East Machias**	**66.96**	**47**	*e*P	**P**	**02 10 06.2**	**-0.7**
FINES	**FINESS Array B**	**67.20**	**349**	P	**P**	**02 10 07.2**	**-1.1**
	comp=Z,36nm,0.8s,mb5.5,baz=21,slow=6.5,SNR=121						
FINES				LR	LR	02 39 31.1	
	comp=Z,351nm,21.6s,MS4.5,baz=181,slow=36						
FINES	**FINESS Array B**	**67.20**	**349**	*i* P	**P**	**02 10 07.3**	**-1.0**
FINES				pmax	pmax		
	comp=Z,37nm,0.8s						
JSC	**Jenkinsville**	**67.36**	**63**	P	**P**	**02 10 08.8**	**-0.6**
JSC	**Jenkinsville**	**67.36**	**63**	*e*P	**P**	**02 10 08.1**	**-1.3**
PPM	**Popocatepetl**	**67.66**	**87**	*i* P	**P**	**02 10 12.6**	**+1.4**
DOMB	**Dombas**	**67.94**	**357**	*e*P	**P**	**02 10 12.6**	**-0.4**
DOMB				AMb	AMB	02 10 18.1	
	comp=Z,67nm,1.7s,mb5.4						
DOMB				*e*pP	pP	02 10 23.6	+0.1
DOMB	**Dombas**	**67.94**	**357**	*e*P	**P**	**02 10 12.6**	**-0.4**
	comp=Z,67nm,1.7s,mb5.4						
TKM2	**Tokmak 2**	**68.10**	**311**	P	**P**	**02 10 14.4**	**+0.4**
	SNR=26						
PUL	**Pulkovo**	**68.21**	**346**	*e*P	pP	02 10 24.9	-0.3
PUL				pmax	pmax		
	comp=Z,112nm,0.6s,mb6.1						
PUL				pmax	pmax		
	comp=N,452nm,0.9s						
PUL				pmax	pmax		
	comp=E,547nm,1.0s						
ULHL	**Ulahol**	**68.30**	**310**	P	**P**	**02 10 16.0**	**+0.8**
	SNR=31						
USP	**Ospenovka**	**68.36**	**312**	P	**P**	**02 10 16.0**	**+0.3**
	SNR=58						
CHMS	**Chumysh**	**68.45**	**312**	P	**P**	**02 10 16.2**	**0.0**
	SNR=10.0						
KBK	**Karagaybulak**	**68.61**	**311**	P	**P**	**02 10 17.4**	**+0.1**
	SNR=20						
FRU	**Bishkek**	**68.64**	**312**	*e*P	**P**	**02 10 17.2**	**-0.2**
FRU				pmax	pmax		
	comp=Z,105nm,1.6s,mb5.5						
AAK	**Ala-Archa**	**68.85**	**312**	P	**P**	**02 10 18.9**	**+0.2**
	SNR=27						
AAK	**Ala-Archa**	**68.85**	**312**	P	**P**	**02 10 17.9**	**-0.8**
	comp=Z,305nm,0.7s,mb6.3,SNR=18						
NB2	**NORSAR Subarra**	**68.86**	**356**	P	**P**	**02 10 18.2**	**-0.6**
	comp=Z,71nm,0.8s,mb5.7,baz=7.3,slow=6.5						
NB2	**NORSAR Subarra**	**68.86**	**356**	P	**P**	**02 10 18.2**	**-0.6**
NB2				pmax	pmax		
	comp=Z,71nm,0.8s,mb5.7						
NOA	**NORSAR Array B**	**68.86**	**356**	P	**P**	**02 10 18.2**	**-0.6**
	comp=Z,65nm,0.8s,mb5.6,baz=5.3,slow=6.4,SNR=206						
NOA				S	S	02 19 21.0	+0.6
	comp=Z,0.6nm,0.8s,baz=21,slow=19,SNR=2.4						
NOA				LR	LR	02 38 00.6	
	comp=Z,295nm,21.7s,MS4.5,baz=355,slow=34						
NOA	**NORSAR Array B**	**68.86**	**356**	P	**P**	**02 10 18.2**	**-0.6**
NOA				S	S	02 19 21.0	+0.6
HYA	**Hoyanger**	**68.88**	**359**	*e*P	**P**	**02 10 20.2**	**+1.3**
HYA				AMb	AMB	02 10 24.8	
	comp=Z,91nm,1.2s,mb5.6						
HYA				*e*pP	pP	02 10 30.1	+0.7
HYA	**Hoyanger**	**68.88**	**359**	*e*P	**P**	**02 10 20.2**	**+1.3**
	comp=Z,91nm,1.2s,mb5.6						
KZA	**Kyzart**	**68.91**	**311**	P	**P**	**02 10 20.3**	**+1.2**
	SNR=24						
SUE	**Sulen**	**69.00**	**360**	*e*P	**P**	**02 10 19.5**	**-0.1**
NAO01	**NORSAR Array S**	**69.07**	**356**	*e*P	**P**	**02 10 20.5**	**+0.4**
	comp=Z,24nm,0.8s,mb5.2						
UCH	**Uchtor**	**69.15**	**311**	P	**P**	**02 10 22.0**	**+1.5**
	SNR=17						
EKS2	**Erkin-Say**	**69.17**	**312**	P	**P**	**02 10 21.1**	**+0.4**
	SNR=35						
LSA	**Lhasa**	**69.40**	**292**	P	**P**	**02 10 25.0**	**+2.9**
ASK	**Askoy**	**69.57**	**359**	*e*P	**P**	**02 10 23.4**	**+0.2**
ASK				*e*pP	pP	02 10 34.5	+0.8
AML	**Almayashu**	**69.61**	**312**	P	**P**	**02 10 25.1**	**+1.7**
	SNR=8.1						
ORR	**Orenburg**	**69.66**	**329⇑**	*i* P	**P**	**02 10 24.9**	**+1.2**
ORR				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.5						
ORR				MLR	MLR		
	comp=Z,450nm,19.0s,MS4.7						
BER	**Bergen**	**69.67**	**359**	*e*P	**P**	**02 10 24.7**	**+0.9**
BER				*e*P		02 10 25.1	
BER				AMb	AMB	02 10 29.9	
	comp=Z,77nm,1.3s,mb5.5						
BER				*e*pP	pP	02 10 34.9	+0.5
BER				*e*		02 12 59.2	
BER				*e*S	S	02 19 28.9	-1.1
BER				*e*SS	SS	02 24 05.8	+7.4
BER				AMS	AMS	02 36 56.9	
	comp=Z,194nm,25.7s,MS4.2						
BER	**Bergen**	**69.67**	**359**	*e*P	**P**	**02 10 25.1**	**+1.3**
BER				*e*		02 12 59.2	
BER				pmax	pmax		
	comp=Z,77nm,1.3s,mb5.5						
BER				MLR	MLR		
	comp=Z,190nm,25.7s,MS4.2						
BER	**Bergen**	**69.67**	**359**	*e*P	**P**	**02 10 25.1**	**+1.3**
	comp=Z,77nm,1.3s,mb5.5						
BER				*e*		02 12 59.2	
BER				LR	LR		
	comp=Z,190nm,25.7s,MS4.2						
EGD	**Espegrend**	**69.79**	**359**	*e*P	**P**	**02 10 24.8**	**+0.3**
EGD				*e*pP	pP	02 10 36.0	+0.9
LRW	**Lerwick**	**69.85**	**3⇑**	*e*P	**P**	**02 10 24.7**	**-0.2**
VSU	**Vasula**	**70.00**	**347**	*i* P	**P**	**02 10 24.9**	**-0.9**
VSU	**Vasula**	**70.00**	**347**	*i* Pr		02 10 24.9	
ODD1	**Odda**	**70.13**	**359**	*e*P	**P**	**02 10 26.1**	**-0.5**
ODD1				AMb	AMB	02 10 27.9	
	comp=Z,70nm,0.8s,mb5.6						
ODD1				*e*pP	pP	02 10 36.6	-0.5
ODD1	**Odda**	**70.13**	**359**	*e*P	**P**	**02 10 26.1**	**-0.5**
	comp=Z,70nm,0.8s,mb5.6						
KONO	**Kongsberg**	**70.32**	**357**	*e*P	**P**	**02 10 28.9**	**+1.2**
KONO				*e*S	S	02 19 40.6	+3.0
KONO				*e*SS	SS	02 24 08.2	-0.1
KONO	**Kongsberg**	**70.32**	**357⇑**	*e*P	**P**	**02 10 28.3**	**+0.6**
KONO	**Kongsberg**	**70.32**	**357**	*e*P	**P**	**02 10 27.9**	**+0.2**
KSH	**Kashi**	**70.50**	**309**	*e*P	**P**	**02 10 25.5**	**-3.3**
KSH				*e*AP	pP	02 10 35.8	-3.6
KSH				*e*XP	sP	02 10 39.8	-3.5
KSH				*e*PCP	PcP	02 10 48.8	-1.2
KSH				*e*PP	PP	02 13 01.5	-3.6
KSH				*e*S	S	02 19 30.5	-9.1
KSH				*e*XS	sS	02 19 47.0	-10
KSH				AMB	AMB		
	comp=Z,750nm,6.6s						
KSH				LR	LR		
	comp=N,660nm,5.4s						
KSH				LR	LR		
	comp=E,470nm,6.8s						
KSH				LR	LR		
	comp=Z,590nm,18.6s,MS4.9						
BLS5	**Blasjo**	**70.62**	**359**	*e*P	**P**	**02 10 31.9**	**+2.3**
BLS5				AMb	AMB	02 10 33.1	
	comp=Z,30nm,0.8s,mb5.3						
BLS5				*e*pP	pP	02 10 41.6	+1.4
BLS5	**Blasjo**	**70.62**	**359**	*e*P	**P**	**02 10 31.9**	**+2.3**
	comp=Z,30nm,0.8s,mb5.3						
MOS	**Moscow**	**70.66**	**341**	*e*P	**P**	**02 10 29.6**	**-0.2**
MOS				*e*	pP	02 10 40.6	+0.2
MOS				*e*S	S	02 19 43.1	+1.5
MOS				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.0						
MOS				pmax	pmax		
	comp=Z,158nm,0.9s,mb5.9						
MOS				smax			
	comp=N,600nm,4.8s						
MOS				MLR	MLR		
	comp=Z,800nm,18.0s,MS5.0						
KMY	**Karmoy**	**70.85**	**359**	*e*P	**P**	**02 10 31.3**	**+0.3**
KMY				*e*pP	pP	02 10 42.2	+0.7
OBR	**Brabster**	**71.30**	**4⇑**	*e*P	**P**	**02 10 34.0**	**+0.3**
ORE	**Reay**	**71.34**	**4⇑**	*e*P	**P**	**02 10 34.1**	**+0.2**
OTO	**Tongue**	**71.36**	**5⇑**	*e*P	**P**	**02 10 34.8**	**+0.7**
OBN	**Obninsk**	**71.47**	**341**	P	**P**	**02 10 35.7**	**+1.0**
	comp=Z,654nm,0.8s,SNR=7.8						
OBN	**Obninsk**	**71.47**	**341**	*d i* P	**P**	**02 10 34.3**	**-0.4**
OBN				*i*	pP	02 10 44.7	-0.6
OBN				*e*		02 10 51.6	
OBN				*i* S	S	02 19 55.8	+4.9
OBN				pmax	pmax		
	comp=Z,197nm,1.6s,mb5.8						
OBN				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.9						
OBN	**Obninsk**	**71.47**	**341**	*e*P	**P**	**02 10 34.9**	**+0.2**
PPT	**Papeete**	**71.51**	**153**	*e*S	S	02 19 26.7	-25
	comp=Z,1μm,26.5s						
PPT				*e*SS	SS	02 23 50.8	-36
	comp=Z,130nm,25.8s						
PPT				*e*LQ		02 28 27.9	
	comp=Z,384nm,25.5s						
PPT				*e*LR	LR	02 31 24.9	
	comp=Z,1μm,31.8s,baz=347						
PPT	**Papeete**	**71.51**	**153**	LR	LR	02 34 24.9	
	comp=Z,358nm,20.6s,MS4.6,baz=317,slow=30						
SNART	**Snartemo**	**71.70**	**358**	*e*P	**P**	**02 10 36.7**	**+0.6**
SNART				*e*pP	pP	02 10 47.1	+0.4
MVH1	**Achvaich**	**71.94**	**4**	*e*P	**P**	**02 10 38.0**	**+0.4**
SHL	**Shillong**	**71.98**	**288**	*e*x	x	02 10 07.0	
MCD	**Coleburn Disti**	**72.33**	**4**	*e*P	**P**	**02 10 39.6**	**-0.3**
KPL	**Plockton**	**72.45**	**5**	*e*P	**P**	**02 10 40.9**	**+0.3**
MME1	**Meikle Cairn**	**72.61**	**4**	*e*P	**P**	**02 10 40.8**	**-0.8**
KAR1	**Arisaig**	**72.86**	**6⇑**	*e*P	**P**	**02 10 44.5**	**+1.5**
TEIG	**Tepich**	**73.38**	**78**	*e*P	**P**	**02 10 45.0**	**-1.1**
MUD	**Monsted U'grnd**	**73.53**	**357**	*i* P	**P**	**02 10 48.2**	**+1.2**
	comp=Z,15nm,0.6s,mb5.1						
MUD				*i*	pP	02 10 57.8	+0.2
MUD				*i* S	S	02 20 20.5	+6.0
MUD							
	comp=Z,310nm,22.0s						
MUD	**Monsted U'grnd**	**73.53**	**357**	*i* P	**P**	**02 10 48.2**	**+1.2**
MUD				*i*	pP	02 10 57.8	+0.2
MUD				*i* S	S	02 20 20.5	+6.0
MUD				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
MUD				MLR	MLR		
	comp=Z,310nm,22.0s,MS4.5						
MUD	**Monsted U'grnd**	**73.53**	**357**	*i* P	**P**	**02 10 48.2**	**+1.2**
	comp=Z,15nm,0.6s,mb5.1						
MUD				*i*	pP	02 10 57.8	+0.2
MUD				*i* S	S	02 20 20.5	+6.0
EAB	**Aberfoyle**	**73.67**	**5⇑**	*e*P	**P**	**02 10 48.0**	**+0.2**
EAB				AMb	AMB	02 10 52.8	
	comp=Z,78nm,1.3s,mb5.5						
GUN	**Gumba**	**73.83**	**294**	*e*P	**P**	**02 10 49.2**	**+0.4**
	comp=Z,196nm,0.5s,mb6.3						
JIRN	**Jiri**	**73.83**	**294**	*e*P	**P**	**02 10 49.0**	**+0.2**
	comp=Z,143nm,0.6s,mb6.0						
VRHR	**Novokhopersk**	**73.99**	**336**	*e*P	**P**	**02 10 50.0**	**+0.3**
VRHR				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.4						
VRHR				pmax	pmax		
	comp=N,7.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,7.0nm,0.5s						
VOR	**Voronezh**	**74.01**	**338**	*e*P	**P**	**02 10 48.5**	**-1.3**
VOR				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.4						
ESY	**Stoneypath**	**74.02**	**4⇑**	*e*P	**P**	**02 10 49.8**	**-0.1**
ESY				AMb	AMB	02 10 54.7	
	comp=Z,66nm,1.6s,mb5.3						
PGBU	**Glenifferbraes**	**74.04**	**5**	*e*P	**P**	**02 10 50.1**	**+0.1**
EAU	**Auchinoon**	**74.06**	**4⇑**	*e*P	**P**	**02 10 49.9**	**-0.2**
EAU				AMb	AMB	02 10 55.2	
	comp=Z,72nm,1.6s,mb5.3						
COP	**Copenhagen**	**74.15**	**355**	*i* P	**P**	**02 10 52.4**	**+1.8**
	comp=Z,14nm,0.6s,mb5.1						
COP				*e*	pP	02 11 01.4	+0.1
COP				*i* S	S	02 20 26.7	+5.2
COP							
	comp=Z,110nm,25.0s						
COP	**Copenhagen**	**74.15**	**355**	*i* P	**P**	**02 10 52.4**	**+1.8**
COP				*e*	pP	02 11 01.4	+0.1
COP				*i* S	S	02 20 26.7	+5.2
COP				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
COP				MLR	MLR		
	comp=Z,120nm,25.0s,MS4.1						
KKN	**Kakani**	**74.27**	**294**	*e*P	**P**	**02 10 51.5**	**+0.2**
	comp=Z,99nm,0.6s,mb5.9						
PKI	**Pulchoki**	**74.36**	**294**	*e*P	**P**	**02 10 51.9**	**+0.1**
	comp=Z,55nm,0.6s,mb5.7						
GMK	**Mull of Kintyr**	**74.44**	**6**	*e*P	**P**	**02 10 52.3**	**0.0**
GKN	**Gorkha**	**74.48**	**295**	*e*P	**P**	**02 10 52.5**	**-0.1**
	comp=Z,104nm,0.6s,mb6.0						
DMN	**Daman**	**74.51**	**294**	*e*P	**P**	**02 10 52.9**	**+0.2**
	comp=Z,76nm,0.8s,mb5.7						
BSD	**Bornholm Skovb**	**74.56**	**353**	*i* P	**P**	**02 10 52.4**	**-0.6**
BSD	**Bornholm Skovb**	**74.56**	**353⇓**	*i* P	**P**	**02 10 52.5**	**-0.5**
	comp=Z,27nm,0.5s,mb5.4						
BSD				*i*	pP	02 11 03.9	+0.3
BSD				*e*		02 13 38.9	
BSD				*i*		02 20 31.0	
BSD							
	comp=Z,420nm,23.0s						
BSD	**Bornholm Skovb**	**74.56**	**353⇓**	*i* P	**P**	**02 10 52.5**	**-0.5**
BSD				*i*	pP	02 11 03.9	+0.3
BSD				*e*		02 13 38.9	
BSD				*i*		02 20 31.0	
BSD				pmax	pmax		
	comp=Z,27nm,0.5s,mb5.4						
BSD				MLR	MLR		
	comp=Z,430nm,23.0s,MS4.7						
BSD	**Bornholm Skovb**	**74.56**	**353**	*e*P	**P**	**02 10 52.4**	**-0.6**
BSD				*i*	pP	02 11 03.9	+0.3
BSD				*e*		02 13 38.9	
BSD				*i*		02 20 31.0	
ESK	**Eskdalemuir**	**74.60**	**4**	P	**P**	**02 10 54.9**	**+1.7**
	comp=Z,268nm,0.9s,mb6.2,SNR=6.3						
ESK	**Eskdalemuir**	**74.60**	**4⇑**	*e*P	**P**	**02 10 53.6**	**+0.3**
ESK				*e*P		02 10 53.6	
ESK				*e*P		02 10 53.7	
ESK				AMb	AMB	02 10 56.3	
	comp=Z,34nm,2.3s,mb4.9						
ESK	**Eskdalemuir**	**74.60**	**4**	P	**P**	**02 10 53.7**	**+0.4**
ESK				AMb	AMB	02 10 56.3	
	comp=Z,34nm,2.3s,mb4.9						
ESK	**Eskdalemuir**	**74.60**	**4**	P	**P**	**02 10 53.9**	**+0.7**
ESK				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
ESK	**Eskdalemuir**	**74.60**	**4**	*e*P	**P**	**02 10 53.1**	**-0.1**
	comp=Z,44nm,0.9s,mb5.4						
BWH	**Wardlaw**	**74.72**	**4**	*e*P	**P**	**02 10 54.3**	**+0.4**
ECK	**Cauldkaine Hil**	**74.73**	**4**	*e*P	**P**	**02 10 53.4**	**-0.6**
ECK				AMb	AMB	02 10 58.0	
	comp=Z,39nm,1.6s,mb5.1						
SUW	**Suwalki**	**74.81**	**348**	*e*P	**P**	**02 10 54.4**	**0.0**
SUW				*e*pP	pP	02 11 03.0	-2.1
SUW				*e*PcP	PcP	02 11 04.6	-3.8
SUW				L		02 43 40.9	
	comp=Z,0.4nm,22.0s						
SUW	**Suwalki**	**74.81**	**348**	*e*P	**P**	**02 10 54.4**	**0.0**
SUW				*e*pP	pP	02 11 03.0	-2.1
SUW				*e*PcP	PcP	02 11 04.6	-3.8
BHH	**Howats Hill**	**74.82**	**4**	*e*P	**P**	**02 10 55.4**	**+0.8**
GAL1	**Galloway**	**74.97**	**5**	*e*P	**P**	**02 10 56.0**	**+0.6**
KOLN	**Koldanda**	**75.26**	**296**	*e*P	**P**	**02 10 56.7**	**-0.4**
	comp=Z,72nm,0.7s,mb5.7						
CKE	**Keswick**	**75.33**	**4**	*e*P	**P**	**02 10 57.9**	**+0.5**
GMM	**Mts of Mourne**	**75.52**	**6**	*e*P	**P**	**02 10 58.4**	**-0.2**
DMUB	**Kingscourt**	**75.79**	**7**	*e*P	**P**	**02 10 59.1**	**-1.0**
BSEG	**Bad Segeberg**	**76.00**	**356**	*e*P	**P**	**02 11 01.9**	**+0.6**
	comp=Z,36nm,0.7s,mb5.4						
BSEG				*e*pP	pP	02 11 12.5	+0.5
BSEG	**Bad Segeberg**	**76.00**	**356**	*e*P	**P**	**02 11 01.9**	**+0.6**
BSEG				*e*PP	pP	02 11 12.5	+0.5
BSEG				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.4						
GKP	**Gorka Klasztor**	**76.20**	**352**	*e*P	**P**	**02 11 02.3**	**-0.1**
GKP				*e*pP	pP	02 11 07.7	-5.4
GKP				*e*PcP	PcP	02 11 13.4	-1.0
GKP				L		02 42 20.2	
	comp=Z,0.7nm,23.1s						
SMLA	**Simla**	**76.31**	**302**	*e*x	x	02 12 55.0	
SMLA				AMb	AMB	02 13 00.5	
	comp=Z,124nm,0.2s						
DCN	**Croghan**	**76.31**	**7**	*e*P	**P**	**02 11 01.9**	**-1.2**
DLF	**Lyons Farm**	**76.42**	**6**	*e*P	**P**	**02 11 03.1**	**-0.6**
KBI1	**Birley Grange**	**76.73**	**3**	*e*P	**P**	**02 11 05.8**	**+0.4**
WAR	**Warsaw**	**76.81**	**349**	*e*P	**P**	**02 11 07.3**	**+1.4**
WAR				*e*pP	pP	02 11 11.6	-4.9
WAR				*e*S	S	02 20 50.0	-0.9
BOK	**Bokaro**	**76.92**	**291**	*e*P	**P**	**02 11 07.2**	**+0.7**
BOK				AMb	AMB	02 11 11.2	
	comp=Z,59nm,1.5s,mb5.3						
SBD1	**Bryn Du**	**77.00**	**4⇑**	*e*P	**P**	**02 11 07.0**	**+0.1**
SBD1				AMb	AMB	02 11 12.1	
	comp=Z,80nm,1.3s,mb5.5						
TBI	**Tubuai**	**77.03**	**155**	*e*S	S	02 20 30.0	-23
	comp=Z,771nm,32.5s						
TBI				*e*SS	SS	02 25 15.0	-36
	comp=Z,156nm,24.8s						
TBI				*e*LQ		02 30 42.3	
	comp=Z,298nm,29.8s						
TBI				*e*LR	LR	02 33 57.8	
	comp=Z,1μm,32.0s,baz=336						
AKASG	**Malin Array Be**	**77.08**	**344**	P	**P**	**02 11 06.7**	**-0.7**
	comp=Z,20nm,0.5s,mb5.3,baz=18,slow=5.9,SNR=59						
AKASG				S	S	02 20 53.4	-0.4
	comp=Z,0.1nm,0.3s,baz=120,slow=22,SNR=3.4						
AKASG				LR	LR	02 51 02.8	
	comp=Z,296nm,18.1s,MS4.7,baz=10.0,slow=40						
AKASG	**Malin Array Be**	**77.08**	**344**	P	**P**	**02 11 06.7**	**-0.7**
AKASG				S	S	02 20 53.4	-0.5
AKASG	**Malin Array Be**	**77.08**	**344**	P	**P**	**02 11 06.7**	**-0.7**
AKASG				S	S	02 20 53.4	-0.4
AKASG				LR	LR	02 51 02.8	
KAKA	**Kakadu**	**77.14**	**231**	*e*P	**P**	**02 11 06.9**	**-0.8**
	comp=Z,26nm,0.7s,mb5.3						
RUE	**Ruedersdorf**	**77.26**	**354**	*e*pP	pP	02 11 19.6	+0.5
RUE	**Ruedersdorf**	**77.26**	**354**	*e*P	**P**	**02 11 08.4**	**0.0**
	comp=Z,29nm,0.6s,mb5.4						
HLM1	**Long Mynd**	**77.41**	**4⇑**	*e*P	**P**	**02 11 09.6**	**+0.4**
HLM1				AMb	AMB	02 11 14.2	
	comp=Z,50nm,2.3s,mb5.0						
NRDL	**Niedersach Rie**	**77.45**	**356**	*e*P	**P**	**02 11 09.8**	**+0.3**
	comp=Z,25nm,0.8s,mb5.2						
CTA	**Charters Tower**	**77.54**	**216**	*e*P	**P**	**02 11 09.3**	**-0.7**
	comp=Z,8.5nm,0.9s,mb4.7						
CTA	**Charters Tower**	**77.54**	**216**	*e*P	**P**	**02 11 09.3**	**-0.7**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
IBBN	**Ibbenburen**	**77.72**	**358**	*e*P	**P**	**02 11 11.8**	**+0.8**
	comp=Z,52nm,0.9s,mb5.5						
HTR	**Trewern Hill**	**77.83**	**4⇑**	*e*P	**P**	**02 11 12.2**	**+0.6**
HTR				AMb	AMB	02 11 17.4	
	comp=Z,76nm,2.0s,mb5.3						
MCH1	**Michaelchurch**	**77.92**	**4⇑**	*e*P	**P**	**02 11 12.6**	**+0.5**
WTSB	**Winterswijk**	**78.09**	**358**	*e*P	**P**	**02 11 13.5**	**+0.4**
	comp=Z,39nm,0.7s,mb5.5						
CLZ	**Clausthal**	**78.09**	**356**	*e*P	**P**	**02 11 13.4**	**+0.3**
	comp=Z,55nm,0.8s,mb5.5						
CLZ				*e*pP	pP	02 11 24.7	+1.0
CLZ	**Clausthal**	**78.09**	**356**	*e*P	**P**	**02 11 13.4**	**+0.3**
CLZ				*e*PP	pP	02 11 24.7	+1.0
CLZ				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.5						
HSA	**Swansea**	**78.11**	**5⇑**	*e*P	**P**	**02 11 13.6**	**+0.4**
HGH	**Gray Hill**	**78.29**	**4⇑**	*e*P	**P**	**02 11 14.1**	**-0.1**
HGH				AMb	AMB	02 11 18.8	
	comp=Z,74nm,2.2s,mb5.2						
KSM	**Kuching**	**78.39**	**258**	*e*P	**P**	**02 11 15.4**	**+0.7**
GTTG	**Gvttingen**	**78.41**	**356**	*e*P	**P**	**02 11 15.5**	**+0.7**
	comp=Z,33nm,0.8s,mb5.3						
CLL	**Collm**	**78.48**	**354**	*e*P	**P**	**02 11 14.9**	**-0.3**
	comp=Z,122nm,1.9s,mb5.5						
CLL				*e*sP	sP	02 11 27.1	-2.7
CLL				*e*S	S	02 21 11.6	+2.7
CLL				*e*SKSac	SKSac	02 21 26.7	-0.8
CLL				*e*PS		02 21 58.3	
CLL				*e*SS	SS	02 26 34.5	+22
CLL				*e*LR	LR	02 37 08.5	
CLL				*e*L		02 47 36.5	
	comp=Z,348nm,22.0s						
CLL	**Collm**	**78.48**	**354⇓**	*i* P	**P**	**02 11 14.9**	**-0.3**
	comp=Z,18nm,0.7s,mb5.1						
CLL				*e*Plp		02 11 18.0	
CLL				*i* sP	sP	02 11 27.1	-2.7
CLL				*e*x	x	02 11 41.0	
CLL				*e*S	S	02 21 11.0	+2.1
CLL				*e*SKSac	SKSac	02 21 27.0	-0.5
CLL				*e*PS		02 21 59.0	
CLL				*e*SS	SS	02 26 30.0	+18
CLL				*e*x	x	02 28 42.0	
CLL				L		02 47 00.0	
	comp=Z,400nm,20.8s						
CLL	**Collm**	**78.48**	**354⇓**	*i* P	**P**	**02 11 14.9**	**-0.3**
CLL				*i* *SP	sP	02 11 27.1	-2.7
CLL				*e*S	S	02 21 11.0	+2.1
CLL				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
CLL				MLR	MLR		
	comp=Z,400nm,20.8s,MS4.7						
CLL	**Collm**	**78.48**	**354⇓**	*i* P	**P**	**02 11 14.9**	**-0.3**
	comp=Z,18nm,0.7s,mb5.1						
CLL				*i* sP	sP	02 11 27.1	-2.7
CLL				*e*S	S	02 21 11.0	+2.1
CLL				LR	LR		
	comp=Z,400nm,20.8s,MS4.7						
BUG	**Bochum--Univer**	**78.60**	**358**	*e*P	**P**	**02 11 16.2**	**+0.3**
	comp=Z,24nm,0.8s,mb5.2						
KSP	**Ksiaz**	**78.69**	**352**	*e*P	**P**	**02 11 16.3**	**0.0**
KSP				*e*S	S	02 21 15.4	+4.2
KSP				*e*SKS		02 21 27.6	
KSP				L		02 42 05.6	
	comp=Z,1.1nm,25.7s						
KSP	**Ksiaz**	**78.69**	**352**	*e*P	**P**	**02 11 15.2**	**-1.1**
KSP				*e*S	S	02 21 05.0	-6.2
KSP				LR	LR		
	comp=Z,1μm,25.7s,MS5.2						
LVV	**L'vov**	**78.78**	**347**	*e*P	**P**	**02 11 16.6**	**-0.3**
LVV				*e*	pP	02 11 27.4	-0.2
HEX	**Exmoor**	**78.81**	**5⇑**	*e*P	**P**	**02 11 17.2**	**+0.2**
FBE	**Freiberg**	**78.84

comp=Z,100nm,18.0s
MOX Moxa 79.22 355 *e*P **P 02 11 19.4 +0.1**
MOX pmax pmax
comp=Z,64nm,2.0s,mb5.2
MOX MLR MLR
comp=Z,100nm,18.0s,MS4.2
BEBN Eben Emael 79.28 359 P **P 02 11 18.8 -0.8**
BEBN E 02 11 20.9
BEBN AP pP 02 11 27.4 -2.9
BEBN XP sP 02 11 30.6 -3.6
UCC Uccle 79.29 360 P **P 02 11 19.3 -0.3**
UCC E pP 02 11 29.9 -0.5
HGN Heimansgroeve 79.31 359⇓*e*P **P 02 11 20.1 +0.3**
comp=Z,51nm,0.8s,mb5.5
WERD Werda 79.38 355 *e*P **P 02 11 20.8 +0.7**
comp=Z,25nm,1.3s,mb5.0
TANN Tannenbergstha 79.40 354 *e*P **P 02 11 20.8 +0.5**
comp=Z,26nm,1.5s,mb4.9
DYA Yadsworthy 79.43 5⇑*e*P **P 02 11 20.6 +0.2**
MEM Membach 79.46 359 P **P 02 11 20.2 -0.4**
OKC Ostrava-Krasne 79.50 351 *e*P **P 02 11 20.7 -0.1**
OKC AMS AMS 02 45 20.0
comp=Z,400nm,20.5s
MENF Mencas 79.52 1 *e*P **P 02 11 21.6 +0.7**
STHS Stebnicka Huta 79.56 349 *e*P **P 02 11 22.1 +1.0**
STHS *e* pP 02 11 32.4 +0.6
STHS pmax pmax
comp=Z,18nm,0.7s,mb5.1
STHS Stebnicka Huta 79.56 349 *e*P **P 02 11 22.1 +1.0**
comp=Z,18nm,0.7s,mb5.1
STHS *e* pP 02 11 32.4 +0.6
SNF Seneffe 79.58 360 P **P 02 11 21.2 0.0**
SNF E 02 11 23.7
SNF XP sP 02 11 32.2 -3.6
NKC Novy Kostel 79.58 354 *e*P **P 02 11 21.5 +0.3**
NKC AMS AMS 02 40 50.0
comp=Z,700nm,31.4s
CCA1 Carnmenellis 79.60 6 *e*P **P 02 11 20.5 -0.8**
MAK Makhachkala 79.61 329 *i* P **P 02 11 13.1 -8.3**
MAK *e* pP 02 11 22.7 -9.4
MAK *i* S S 02 21 12.0 -9.0
MAK pmax pmax
comp=Z,93nm,1.2s,mb5.6
MORC Moravsky Berou 79.62 351⇓*i*P **P 02 11 21.5 0.0**
MORC Moravsky Berou 79.62 351 P **P 02 11 22.2 +0.7**
MORC Moravsky Berou 79.62 351 *e*P **P 02 11 21.8 +0.3**
NIE Niedzica 79.67 349 *e*P **P 02 11 22.9 +1.2**
PRU Pruhonice 79.68 353 *e*P **P 02 11 22.0 +0.2**
MANZ Manzenberg 79.85 355 *e*P **P 02 11 23.0 +0.3**
comp=Z,10.0nm,1.0s,mb4.7
KOLS Kolonicke sedl 79.90 348 *e*P **P 02 11 24.2 +1.3**
KOLS *e* 02 11 29.2
KOLS Kolonicke sedl 79.90 348 *e*P **P 02 11 24.2 +1.3**
comp=Z,18nm,0.8s,mb5.0
KOLS *e* 02 11 29.3
KOLS LR LR
comp=Z,200nm,33.7s,MS4.2
GIVF Givet 79.98 359 *e*P **P 02 11 23.0 -0.4**
comp=Z,98nm,1.3s,mb5.3
GIVF Givet 79.98 359 *e*P **P 02 11 23.0 -0.4**
GIVF pmax pmax
comp=Z,49nm,1.3s,mb5.3
GIVF Givet 79.98 359 *e*P **P 02 11 23.0 -0.4**
comp=Z,49nm,1.3s,mb5.3
DOU Dourbes 79.99 360 P **P 02 11 23.5 +0.1**
DOU PCP PcP 02 11 30.6 -0.2
DOU E pP 02 11 33.8 -0.4
BAIF Baives 80.03 360 *e*P **P 02 11 22.8 -0.8**
comp=Z,93nm,0.8s,mb5.5
BAIF Baives 80.03 360 *e*P **P 02 11 22.8 -0.8**
BAIF pmax pmax
comp=Z,46nm,0.8s,mb5.5
BAIF Baives 80.03 360 *e*P **P 02 11 22.8 -0.8**
comp=Z,46nm,0.8s,mb5.5
CRVS Cervenica-Dubn 80.03 348 *e*P **P 02 11 24.9 +1.2**
CRVS *e* 02 11 27.4
CRVS Cervenica-Dubn 80.03 348 *e*P **P 02 11 24.9 +1.2**
CRVS *e* 02 11 27.4
CRVS pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
CRVS MLR MLR
comp=Z,200nm,31.6s,MS4.3
CRVS Cervenica-Dubn 80.03 348 *e*P **P 02 11 24.9 +1.2**
comp=Z,6.7nm,0.6s,mb4.8
CRVS *e* 02 11 27.4
CRVS LR LR
comp=Z,200nm,31.6s,MS4.3
ROTZ Rotzenmuhle 80.06 355 *e*P **P 02 11 24.2 +0.4**
comp=Z,14nm,1.0s,mb4.8
ABH Alteburg 80.16 358 *e*P **P 02 11 25.0 +0.7**
LIKS Likavka 80.17 350 *e*P **P 02 11 25.7 +1.3**
VRAC Vranov 80.18 352⇓*i*P **P 02 11 24.9 +0.4**
VRAC Vranov 80.18 352 P **P 02 11 25.0 +0.5**
GRA1 Grafenberg Arr 80.19 355 *e*P **P 02 11 24.9 +0.3**
comp=Z,35nm,1.0s,mb5.2
GRA1 *e*S S 02 21 30.5 +3.3
GRA1 LR LR
comp=Z,200nm,20.9s,MS4.4
GRF Grafenberg Arr 80.19 355 *e*P **P 02 11 24.9 +0.3**
comp=Z,35nm,1.0s,mb5.2
GRF *e*S S 02 21 30.5 +3.3
GRF *e*L 02 46 22.8
comp=Z,166nm,20.9s
GRF Grafenberg Arr 80.19 355 *e*P **P 02 11 24.9 +0.3**
GRF *e*S S 02 21 30.5 +3.3
GRF pmax pmax
comp=Z,35nm,1.0s,mb5.2
GRF MLR MLR
comp=Z,200nm,20.9s,MS4.4
KIV Kislovodsk 80.22 333 P **P 02 11 25.5 +0.8**
comp=Z,245nm,0.8s,mb6.2,SNR=9.2
KIV Kislovodsk 80.22 333 *e*P **P 02 11 24.9 +0.2**
KIV *e* 02 14 26.9
KIV *e*PPP 02 16 16.8
KIV *e*S S 02 21 25.2 -2.2
KIV *e*SS SS 02 26 40.4 +1.8
KIV pmax pmax
comp=Z,43nm,1.0s,mb5.3
KIV pmax pmax
comp=Z,267nm,3.9s
KIV MLR MLR
comp=Z,422nm,18.0s,MS4.8
TREC Trest 80.29 352 *e*P **P 02 11 25.0 -0.1**
TREC AMS AMS 02 42 20.0
comp=Z,700nm,27.4s
RUP Ruppelstein 80.35 358 *e*P **P 02 11 26.0 +0.6**
TOD Tromm 80.39 357 *e*P **P 02 11 26.0 +0.4**
WLF Walferdange 80.40 358 *e*P **P 02 11 26.3 +0.6**
comp=Z,29nm,0.9s,mb5.2
WLF Walferdange 80.40 358 P **P 02 11 25.2 -0.5**
WLF E 02 11 29.6
WLF PCP PcP 02 11 32.0 -0.7
WLF E pP 02 11 36.0 -0.4
WLF Walferdange 80.40 358 P **P 02 11 26.7 +1.0**
WLF pmax pmax
comp=Z,21nm,0.8s,mb5.1
WLF Walferdange 80.40 358 *e*P **P 02 11 26.6 +1.0**
comp=Z,21nm,0.8s,mb5.1
BLSP Bilaspur 80.41 293 *e*P **P 02 11 25.9 +0.2**
BLSP AMb AMB 02 11 29.4
comp=Z,34nm,1.3s,mb5.1
KECS Kecovo 80.57 349 *e*P **P 02 11 26.6 0.0**
KECS pmax pmax
comp=Z,17nm,0.7s,mb5.1
KECS Kecovo 80.57 349 *e*P **P 02 11 26.6 0.0**
comp=Z,17nm,0.7s,mb5.1
KHC Kasperske Hory 80.61 354 *e*P **P 02 11 28.5 +1.7**
WET Wettzell 80.64 354 *e*P **P 02 11 27.3 +0.3**
comp=Z,13nm,1.4s,mb4.7
WET Wettzell 80.64 354 *e*P **P 02 11 27.3 +0.3**
WET pmax pmax
comp=Z,13nm,1.4s,mb4.7
KOLL Kolacno 80.72 350 *e*P **P 02 11 27.8 +0.4**
JVM Valle D.L. Mar 80.73 4⇑*e*P **P 02 11 27.7 +0.3**
BURAR Bucovina Array 80.75 346⇓*i*P **P 02 11 27.5 0.0**
BURAR Bucovina Array 80.75 346⇓P **P 02 11 27.5 0.0**
VYHS Vyhne 80.75 350 *e*P **P 02 11 27.8 +0.2**
comp=Z,10nm,0.9s,mb4.8
VYHS LR LR
comp=Z,300nm,24.5s,MS4.5
IAS Iasi 80.76 344⇓*i*P **P 02 11 28.0 +0.4**
IAS Iasi 80.76 344 P **P 02 11 28.3 +0.8**
JRS Jersey 80.76 4 *e*P **P 02 11 27.3 -0.3**
GEC2 GERESS Array S 80.88 353 *e*P **P 02 11 28.5 +0.3**
comp=Z,15nm,0.9s,mb4.9
GEC2 GERESS Array S 80.88 353 *e*P **P 02 11 28.5 +0.3**
GEC2 pmax pmax
comp=Z,15nm,0.9s,mb4.9
GERES GERESS Array B 80.88 353 P **P 02 11 28.3 +0.1**
comp=Z,12nm,0.8s,mb4.9,baz=20,slow=4.3,SNR=81
GERES S S 02 21 37.9 +3.6
comp=Z,0.1nm,0.3s,baz=111,slow=26,SNR=2.3
GERES LR LR 02 52 15.8
comp=Z,229nm,19.0s,MS4.5,baz=3.1,slow=39
GERES GERESS Array B 80.88 353 P **P 02 11 28.3 +0.1**
GERES S S 02 21 37.9 +3.6
SMOL Smolenice 80.88 351 *e*P **P 02 11 28.8 +0.6**
ANN Anapa 80.89 336 *e*P **P 02 11 26.7 -1.6**
ANN *e*S S 02 21 33.8 -0.6
ANN pmax pmax
comp=Z,13nm,0.8s,mb4.9
ANN MLR MLR
comp=N,871nm,23.0s,MS5.1
ANN MLR MLR
comp=E,335nm,23.0s,MS5.1
ANN MLR MLR
comp=Z,244nm,23.0s,MS4.5
ZEI Tsey 80.94 331 *e*P **P 02 11 29.0 +0.5**
ZEI pmax pmax
comp=Z,31nm,0.6s,mb5.4
PSZ Piszkesteto 81.20 349 *e*P **P 02 11 31.6 +1.7**
PSZ Piszkesteto 81.20 349⇓*i*P **P 02 11 31.1 +1.2**
PSZ Piszkesteto 81.20 349 *e*P **P 02 11 31.5 +1.6**
ZST Bratislava 81.23 351 *e*P **P 02 11 31.6 +1.5**
comp=Z,22nm,0.9s,mb5.1
ZST LR LR
comp=Z,100nm,21.6s,MS4.1
ONI Oni 81.25 332 P **P 02 11 29.8 -0.4**
FLN La Foliniere 81.26 3 *e*P **P 02 11 29.5 -0.7**
comp=Z,61nm,0.8s,mb5.3
FLN La Foliniere 81.26 3 *e*P **P 02 11 29.5 -0.7**
FLN pmax pmax
comp=Z,31nm,0.8s,mb5.3
FLN La Foliniere 81.26 3 *e*P **P 02 11 29.5 -0.7**
comp=Z,31nm,0.8s,mb5.3
AJM Ajmer 81.31 301 *e*P **P 02 11 30.2 -0.3**
SOC Sochi 81.41 334 *d i*P **P 02 11 30.3 -0.8**
SOC *e* 02 11 37.1
SOC *e* 02 14 30.9
SOC *e*PPP 02 16 24.7
SOC *e*S S 02 21 36.6 -3.3
SOC *e*SS SS 02 26 54.0 -2.4
SOC pmax pmax
comp=Z,19nm,1.0s,mb5.0
SOC MLR MLR
comp=Z,324nm,18.0s,MS4.7
SOC Sochi 81.41 334 *i* P **P 02 11 32.4 +1.3**
LDF La Druitiere 81.44 3 *e*P **P 02 11 30.4 -0.8**
comp=Z,71nm,0.8s,mb5.4
LDF La Druitiere 81.44 3 *e*P **P 02 11 30.4 -0.8**
LDF pmax pmax
comp=Z,36nm,0.8s,mb5.3
LDF La Druitiere 81.44 3 *e*P **P 02 11 30.4 -0.8**
comp=Z,36nm,0.8s,mb5.3
SIM Simferopol' 81.56 339 *de*P **P 02 11 32.6 +0.8**
SIM *e* pP 02 11 43.0 +0.4
SIM *i* S S 02 21 50.4 +9.0
SIM pmax pmax
comp=Z,22nm,0.9s,mb5.1
SIM Simferopol' 81.56 339 *e*P **P 02 11 31.8 0.0**
ROSF Rostrenen 81.56 5 *e*P **P 02 11 31.3 -0.5**
comp=Z,50nm,1.0s,mb5.1
ROSF Rostrenen 81.56 5 *e*P **P 02 11 31.3 -0.5**
ROSF pmax pmax
comp=Z,25nm,1.0s,mb5.1
ROSF Rostrenen 81.56 5 *e*P **P 02 11 31.3 -0.5**
comp=Z,25nm,1.0s,mb5.1
MEZF Maizieres J'vi 81.58 359 *e*P **P 02 11 31.1 -0.8**
comp=Z,67nm,1.1s,mb5.2
MEZF Maizieres J'vi 81.58 359 *e*P **P 02 11 31.1 -0.8**
comp=Z,67nm,1.1s,mb5.5
GOR Gori 81.58 331 P **P 02 11 32.9 +0.9**
CONA Conrad Observa 81.61 352⇓*i*P **P 02 11 33.0 +0.9**
comp=Z,21nm,0.8s,mb5.1
TBLG Delisi 81.62 330 P **P 02 11 32.4 +0.3**
GRR Gorron 81.62 3 *e*P **P 02 11 31.6 -0.5**
comp=Z,72nm,0.7s,mb5.4
GRR Gorron 81.62 3 *e*P **P 02 11 31.6 -0.5**
GRR pmax pmax
comp=Z,36nm,0.7s,mb5.4
GRR Gorron 81.62 3 *e*P **P 02 11 31.6 -0.5**
comp=Z,36nm,0.7s,mb5.4
WLS Welschbruch 81.63 358 *e*P **P 02 11 32.3 +0.1**
CDF Champ du Feu 81.63 358 *e*P **P 02 11 31.6 -0.6**
comp=Z,22nm,0.7s,mb4.9
CDF Champ du Feu 81.63 358 *e*P **P 02 11 31.6 -0.6**
CDF pmax pmax
comp=Z,11nm,0.7s,mb4.9
CDF Champ du Feu 81.63 358 *e*P **P 02 11 31.6 -0.6**
comp=Z,11nm,0.7s,mb4.9
MTA Mtatsminda 81.63 330 P **P 02 11 32.6 +0.4**
DGRG David-gareji 81.67 330 P **P 02 11 32.9 +0.5**
SGMF Saint Gilles 81.68 4 *e*P **P 02 11 32.1 -0.4**
comp=Z,85nm,0.9s,mb5.4
SGMF Saint Gilles 81.68 4 *e*P **P 02 11 32.1 -0.4**
SGMF pmax pmax
comp=Z,43nm,0.9s,mb5.4
SGMF Saint Gilles 81.68 4 *e*P **P 02 11 32.1 -0.4**
comp=Z,42nm,0.9s,mb5.4
BFO Black Forest 81.68 357 *e*P **P 02 11 32.5 0.0**
comp=Z,10.0nm,0.8s,mb4.8
BFO Black Forest 81.68 357 P **P 02 11 32.9 +0.4**
BFO Black Forest 81.68 357 *e*P **P 02 11 32.7 +0.2**
BUD Budapest 81.73 350 *e*P **P 02 11 34.4 +1.7**
SOP Sopron 81.79 351 *e*P **P 02 11 33.6 +0.5**
MOA Molln 81.83 353⇓*i*P **P 02 11 33.5 +0.2**
comp=Z,8.9nm,0.9s,mb4.7
ECH Echery 81.83 358 *e*P **P 02 11 33.6 +0.3**
THEF They Montfort 81.84 359 *e*P **P 02 11 33.6 +0.3**
SPAK Spaichingen-Ko 81.89 357 *e*P **P 02 11 34.0 +0.4**
DRGR 81.93 347⇓*i*P **P 02 11 34.1 +0.3**
DRGR 81.93 347 P **P 02 11 34.6 +0.8**
QUIF Quistinic 81.98 5 *e*P **P 02 11 33.5 -0.6**
comp=Z,12nm,0.7s,mb4.7
QUIF Quistinic 81.98 5 *e*P **P 02 11 33.5 -0.6**
QUIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
QUIF Quistinic 81.98 5 *e*P **P 02 11 33.5 -0.6**
comp=Z,6.0nm,0.7s,mb4.6
HAU Haudompre 82.06 358 *e*P **P 02 11 34.4 -0.1**
comp=Z,32nm,0.8s,mb5.0
HAU *e*R
comp=Z,276nm,20.8s
HAU Haudompre 82.06 358 *e*P **P 02 11 34.4 -0.1**
HAU pmax pmax
comp=Z,16nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,280nm,20.8s,MS4.6
HAU Haudompre 82.06 358 *e*P **P 02 11 34.4 -0.1**
comp=Z,16nm,0.8s,mb5.0
HAU LR LR
comp=Z,280nm,20.8s,MS4.6
FELD Feldberg im Sc 82.15 357 *e*P **P 02 11 35.1 +0.2**
VRI Vrincioaia 82.19 344⇓*i*P **P 02 11 36.3 +1.2**
VRI Vrincioaia 82.19 344 P **P 02 11 36.3 +1.2**
PLOR Plostina 82.22 344⇑*i*P **P 02 11 36.6 +1.3**
HINF Hinteralfeld 82.24 358 *e*P **P 02 11 34.6 -0.8**
comp=Z,16nm,0.7s,mb4.8
HINF Hinteralfeld 82.24 358 *e*P **P 02 11 34.6 -0.8**
HINF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
HINF Hinteralfeld 82.24 358 *e*P **P 02 11 34.6 -0.8**
comp=Z,8.1nm,0.7s,mb4.8
BHPL Bhopal 82.29 297 *e*P **P 02 11 34.8 -0.9**
BHPL AMb AMB 02 11 36.1
comp=Z,39nm,1.1s,mb5.2
AKH Akhalkalaki 82.30 331 P **P 02 11 35.6 -0.1**
ARSA Arzberg 82.32 352⇓*i*P **P 02 11 36.7 +0.8**
comp=Z,16nm,0.9s,mb5.0
WRAB Tennant Creek 82.42 226 P **P 02 11 35.0 -1.4**
comp=Z,84nm,0.6s,mb5.8,SNR=5.1
WRAB Tennant Creek 82.42 226 *e*P **P 02 11 35.0 -1.4**
WRAB pmax pmax
comp=Z,14nm,0.7s,mb5.0
WRAB Tennant Creek 82.42 226 *e*P **P 02 11 35.0 -1.4**
comp=Z,14nm,0.7s,mb5.0
WB2 Warramunga Arr 82.43 226 *e*P **P 02 11 34.6 -1.8**
WRA Warramunga Arr 82.43 226 P **P 02 11 34.7 -1.8**
comp=Z,11nm,0.6s,mb5.0,baz=35,slow=6.3,SNR=51
WRA LR LR 02 44 20.3
comp=Z,210nm,21.1s,MS4.5,baz=60,slow=33
WATA Walderalm 82.53 355⇑*i* pP 02 11 48.0 +0.4
comp=Z,7.2nm,0.5s
WATA Walderalm 82.53 355⇓*i*PcP PcP 02 11 38.1 -3.8
comp=Z,7.0nm,0.5s
WATA ⇑*i*pP pP 02 11 48.0 +0.4
comp=Z,7.2nm,0.5s
WATA Walderalm 82.53 355⇓*i*P **P 02 11 38.1 +1.2**
WATA *i* pP 02 11 48.0 +0.4
WATA pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
MOTA Moosalm 82.54 355⇓*i*P **P 02 11 36.6 -0.4**
comp=Z,15nm,0.7s,mb5.1
MOTA Moosalm 82.54 355⇓*i*P **P 02 11 36.6 -0.4**
MOTA pmax pmax
comp=Z,15nm,0.7s,mb5.1
WTTA Wattenberg 82.59 355⇓*i* pP 02 11 48.3 +0.3
comp=Z,15nm,0.8s
WTTA Wattenberg 82.59 355⇑*i*PcP PcP 02 11 38.2 -4.0
comp=Z,23nm,1.0s
WTTA ⇓*i*pP pP 02 11 48.3 +0.3
comp=Z,15nm,0.8s
WTTA Wattenberg 82.59 355⇑*i*P **P 02 11 38.2 +0.9**
WTTA *i* pP 02 11 48.3 +0.3
WTTA pmax pmax
comp=Z,23nm,1.0s,mb5.2
CFR Carcaliu 82.60 343⇓*i*P **P 02 11 37.4 +0.1**
SQTA Sankt Quirin 82.66 355⇑*i* pP 02 11 49.0 +0.6
comp=Z,11nm,0.7s
SQTA Sankt Quirin 82.66 355⇓*i*P **P 02 11 38.2 +0.6**
comp=Z,12nm,0.6s,mb5.1
SQTA ⇑*i*pP pP 02 11 49.0 +0.6
comp=Z,11nm,0.7s
SQTA Sankt Quirin 82.66 355⇓*i*P **P 02 11 38.2 +0.6**
SQTA *i* pP 02 11 49.0 +0.6
SQTA pmax pmax
comp=Z,12nm,0.6s,mb5.1
DAVA Damuels 82.66 356⇓*i*P **P 02 11 39.3 +1.6**
comp=Z,11nm,0.9s,mb4.9
DAVA Damuels 82.66 356⇓*i*PcP PcP 02 11 39.3 -3.3
comp=Z,11nm,0.9s
KBA Koelnbreinsper 82.66 353⇓*i* **P 02 11 39.6 +2.0**
comp=Z,66nm,0.7s,mb5.8
KBA Koelnbreinsper 82.66 353⇓*e*P **P 02 11 38.2 +0.6**
comp=Z,11nm,0.5s,mb5.1
KBA ⇓*i*PcP PcP 02 11 39.6 -2.9
comp=Z,66nm,0.7s
MLR Muntele Rosu 82.69 345⇓*i*P **P 02 11 39.0 +1.2**
MLR Muntele Rosu 82.69 345 P **P 02 11 39.0 +1.3**
HYF Humbligny 82.81 1 *e*P **P 02 11 38.2 -0.2**
LOR Lormes 82.82 360 *e*P **P 02 11 38.0 -0.4**
comp=Z,64nm,0.9s,mb5.3
LOR *e*R
comp=Z,231nm,20.2s
LOR Lormes 82.82 360 *e*P **P 02 11 38.0 -0.4**
LOR pmax pmax
comp=Z,32nm,0.9s,mb5.3
LOR MLR MLR
comp=Z,230nm,20.3s,MS4.5
LOR Lormes 82.82 360 *e*P **P 02 11 38.0 -0.4**
comp=Z,32nm,0.9s,mb5.3
LOR LR LR
comp=Z,230nm,20.3s,MS4.5
PERS Pernice 82.96 352 *e*P **P 02 11 39.6 +0.4**
PERS *e* pP 02 11 50.4 +0.5
ARTV Artvin 82.98 332 *i* P **P 02 11 39.6 +0.4**
PKSM Moragy 83.03 350⇓*i*P **P 02 11 39.5 0.0**
PKSM Moragy 83.03 350 P **P 02 11 39.9 +0.4**
PKSM Moragy 83.03 350 *e*P **P 02 11 39.2 -0.3**
SSF Saint Saulge 83.03 0 *e*P **P 02 11 39.1 -0.4**
comp=Z,52nm,0.7s,mb5.4
SSF Saint Saulge 83.03 0 *e*P **P 02 11 39.1 -0.4**
SSF pmax pmax
comp=Z,26nm,0.7s,mb5.4
SSF Saint Saulge 83.03 0 *e*P **P 02 11 39.1 -0.4**
comp=Z,26nm,0.7s,mb5.4
GNI Garni 83.05 330 P **P 02 11 42.6 +3.0**
SNR=6.8
GNI Garni 83.05 330 *e*P **P 02 11 41.5 +1.9**
GNI pmax pmax
comp=Z,26nm,0.9s
GNI Garni 83.05 330 *e*P **P 02 11 41.5 +1.9**
comp=Z,26nm,0.9s,mb5.3
VIS Vishakhapatnam 83.08 289 *e*P **P 02 11 39.6 -0.2**
VIS AMb AMB 02 11 43.8
comp=Z,40nm,1.0s,mb5.4
MTUR Matau 83.09 345⇓*i*P **P 02 11 41.8 +1.9**
MTUR Matau 83.09 345 P **P 02 11 41.5 +1.6**
GROS Grobnik 83.10 352 *e*P **P 02 11 40.0 +0.1**
OBKA Obir 83.14 353⇓*i* pP 02 11 51.7 +0.9
OBKA Obir 83.14 353⇑*i*PcP PcP 02 11 41.0 -3.6
comp=Z,32nm,0.7s
OBKA ⇓*i*pP pP 02 11 51.7 +0.9
FVI Forni Avoltri 83.18 354 P **P 02 11 39.9 -0.4**
FVI pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
FVI Forni Avoltri 83.18 354 P **P 02 11 39.9 -0.4**
comp=Z,6.2nm,0.5s,mb4.9
BZS Buzias 83.24 348⇓*i*P **P 02 11 40.8 +0.2**
BZS Buzias 83.24 348 P **P 02 11 41.4 +0.8**
TIRR Tirgusor 83.24 343 *e*P **P 02 11 40.9 +0.3**
DIGO Kars 83.24 331 *i* P **P 02 11 43.7 +3.1**
GZR Gura Zlata 83.29 347⇑*i*P **P 02 11 41.3 +0.4**
GZR Gura Zlata 83.29 347⇑P **P 02 11 41.3 +0.5**
AVF Avril sur Loir 83.30 0 *e*P **P 02 11 40.4 -0.5**
comp=Z,53nm,0.8s,mb5.3
AVF Avril sur Loir 83.30 0 *e*P **P 02 11 40.4 -0.5**
AVF pmax pmax
comp=Z,26nm,0.8s,mb5.3
AVF Avril sur Loir 83.30 0 *e*P **P 02 11 40.4 -0.5**
comp=Z,26nm,0.8s,mb5.3
PTCC Patocco-Chiusa 83.33 353 P **P 02 11 40.6 -0.5**
comp=Z,14nm,0.6s,mb5.2
APPI Appiano 83.40 355 P **P 02 11 41.8 +0.4**
MFF Saint Martin d 83.42 3 *e*P **P 02 11 41.2 -0.4**
comp=Z,121nm,1.1s,mb5.5
MFF Saint Martin d 83.42 3 *e*P **P 02 11 41.2 -0.4**
MFF pmax pmax
comp=Z,61nm,1.1s,mb5.5
MFF Saint Martin d 83.42 3 *e*P **P 02 11 41.2 -0.4**
comp=Z,61nm,1.1s,mb5.5
SMF Signal de Mont 83.44 0 *e*P **P 02 11 41.2 -0.5**
comp=Z,91nm,0.8s,mb5.5
SMF Signal de Mont 83.44 0 *e*P **P 02 11 41.2 -0.5**
SMF pmax pmax
comp=Z,45nm,0.8s,mb5.5
SMF Signal de Mont 83.44 0 *e*P **P 02 11 41.2 -0.5**
comp=Z,45nm,0.8s,mb5.5
BRMO Bormio 83.45 355 P **P 02 11 42.7 +1.0**
comp=Z,7.8nm,0.7s,mb4.8
CABF La Chapelle 83.46 358 *e*P **P 02 11 42.3 +0.6**
comp=Z,49nm,0.9s,mb5.2
CABF La Chapelle 83.46 358 *e*P **P 02 11 42.3 +0.6**
CABF pmax pmax
comp=Z,25nm,0.9s,mb5.2
CABF La Chapelle 83.46 358 *e*P **P 02 11 42.3 +0.6**
comp=Z,25nm,0.9s,mb5.2
GMNA Gemona 83.47 353 P **P 02 11 41.2 -0.6**
comp=Z,160nm,0.8s,mb6.1
ROBS Robic 83.48 353 *e*P **P 02 11 41.0 -0.8**
ROBS *e* pP 02 11 52.0 -0.6
TUE Stuetta 83.50 356 P **P 02 11 41.7 -0.2**
comp=Z,31nm,1.4s,mb5.2
BGF Bois d'Agland 83.53 1 *e*P **P 02 11 42.0 -0.1**
comp=Z,86nm,0.9s,mb5.5
BGF Bois d'Agland 83.53 1 *e*P **P 02 11 42.0 -0.1**
BGF pmax pmax
comp=Z,43nm,0.9s,mb5.6
BGF Bois d'Agland 83.53 1 *e*P **P 02 11 42.0 -0.1**
comp=Z,43nm,0.9s,mb5.6
TCF Toulx Ste Croi 83.79 1 *e*P **P 02 11 43.0 -0.4**
comp=Z,62nm,1.0s,mb5.4
TCF Toulx Ste Croi 83.79 1 *e*P **P 02 11 43.0 -0.4**
TCF pmax pmax
comp=Z,31nm,1.0s,mb5.4
TCF Toulx Ste Croi 83.79 1 *e*P **P 02 11 43.0 -0.4**
comp=Z,31nm,1.0s,mb5.4
CTI Castel Tesino 83.80 355 P **P 02 11 43.5 0.0**
CTI pmax pmax
comp=Z,11nm,0.5s,mb5.2
CTI Castel Tesino 83.80 355 P **P 02 11 43.5 0.0**
comp=Z,11nm,0.5s,mb5.2
AGO Saint Agoulin 84.03 1 *e*P **P 02 11 45.7 +1.0**
MCGN Macugnaga 84.06 357 P **P 02 11 46.0 +1.2**
comp=Z,62nm,1.4s,mb5.5

BOJS	Bojanci	84.07	352	eP	P	02 11 44.6	-0.3
BOJS				eS		02 22 09.3	
PLDF	La Plantade	84.12	0	eP	P	02 11 45.7	+0.6
GRSN	GIRESUNGRSN	84.28	335	i P	P	02 11 45.9	0.0
ERZM	Erzurum	84.33	332	i P	P	02 11 47.7	+1.5
PYM	Petit Puy Mans	84.34	1	eP	P	02 11 47.1	+0.9
ORO	Oropa	84.39	357	P	P	02 11 47.6	+1.1
ORO				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2						
ORO	Oropa	84.39	357	P	P	02 11 47.6	+1.1
	comp=Z,17nm,0.8s,mb5.2						
AKL	Akola	84.51	296	ex	x	02 11 31.9	
AKL				AMb	AMB	02 11 37.6	
	comp=Z,52nm,1.1s,mb5.6						
LPL	La Plagne	84.54	358	eP	P	02 11 47.8	+0.6
	comp=Z,56nm,1.2s,mb5.3						
LPL	La Plagne	84.54	358	eP	P	02 11 47.8	+0.6
LPL				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.3						
LPL	La Plagne	84.54	358	eP	P	02 11 47.8	+0.6
	comp=Z,28nm,1.2s,mb5.3						
LPG	La Plagne	84.56	358	eP	P	02 11 48.1	+0.8
	comp=Z,47nm,1.0s,mb5.3						
LPG	La Plagne	84.56	358	eP	P	02 11 48.1	+0.8
LPG				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.3						
LPG	La Plagne	84.56	358	eP	P	02 11 48.1	+0.8
	comp=Z,23nm,1.0s,mb5.3						
COLF	Collangettes	84.57	0	eP	P	02 11 47.7	+0.3
BOYT	Boyabat	84.70	337	i P	P	02 11 48.6	+0.6
RJF	Les Rejaudoux	84.76	2	eP	P	02 11 47.6	-0.8
	comp=Z,38nm,0.8s,mb5.3						
RJF				eR			
	comp=Z,264nm,19.8s						
RJF	Les Rejaudoux	84.76	2	eP	P	02 11 47.6	-0.8
RJF				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.3						
RJF				MLR	MLR		
	comp=Z,260nm,19.8s,MS4.6						
RJF	Les Rejaudoux	84.76	2	eP	P	02 11 47.6	-0.8
	comp=Z,19nm,0.8s,mb5.3						
RJF				LR	LR		
	comp=Z,260nm,19.8s,MS4.6						
LBL	Lubilhac	84.86	0	eP	P	02 11 49.6	+0.8
BALT	Daday	84.96	338	i P	P	02 11 50.4	+1.1
BNI	Bardonecchia	85.01	358	eP	P	02 11 50.7	+1.1
LFF	La Frestale	85.11	2	eP	P	02 11 49.5	-0.6
	comp=Z,85nm,1.1s,mb5.5						
LFF	La Frestale	85.11	2	eP	P	02 11 49.5	-0.6
LFF				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.5						
LFF	La Frestale	85.11	2	eP	P	02 11 49.5	-0.6
	comp=Z,42nm,1.1s,mb5.5						
CAF	Calviac	85.15	1	eP	P	02 11 50.0	-0.3
	comp=Z,50nm,1.1s,mb5.3						
CAF	Calviac	85.15	1	eP	P	02 11 50.0	-0.3
CAF				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.3						
CAF	Calviac	85.15	1	eP	P	02 11 50.0	-0.3
	comp=Z,25nm,1.1s,mb5.3						
ORIF	Oris-en-Rattie	85.16	359	eP	P	02 11 50.5	+0.2
	comp=Z,54nm,0.9s,mb5.4						
ORIF				eR			
	comp=Z,235nm,20.5s						
ORIF	Oris-en-Rattie	85.16	359	eP	P	02 11 50.5	+0.2
ORIF				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.4						
ORIF	Oris-en-Rattie	85.16	359	eP	P	02 11 50.5	+0.2
	comp=Z,27nm,0.9s,mb5.4						
FITZ	Fitzroy Crossi	85.16	234	eP	P	02 11 49.6	-0.7
	comp=Z,42nm,0.6s,mb5.7						
BOB	Bobbio (Coli)	85.20	356	P	P	02 11 50.0	-0.6
BOB				pmax	pmax		
	comp=Z,104nm,0.7s,mb6.1						
BOB	Bobbio (Coli)	85.20	356	P	P	02 11 50.0	-0.6
	comp=Z,104nm,0.7s,mb6.1						
VIVF	Saint-Julien-I	85.23	359	eP	P	02 11 50.6	-0.1
	comp=Z,57nm,0.9s,mb5.4						
VIVF	Saint-Julien-I	85.23	359	eP	P	02 11 50.6	-0.1
VIVF				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.4						
VIVF	Saint-Julien-I	85.23	359	eP	P	02 11 50.6	-0.1
	comp=Z,29nm,0.9s,mb5.4						
BNGL	BINGOL	85.27	332	i P	P	02 11 53.0	+2.1
ARMA	Armidale	85.28	208	eP	P	02 11 50.6	-0.4
MBDF	Montbardon	85.33	358	eP	P	02 11 51.5	+0.3
	comp=Z,37nm,0.7s,mb5.3						
MBDF	Montbardon	85.33	358	eP	P	02 11 51.5	+0.3
MBDF				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.3						
MBDF	Montbardon	85.33	358	eP	P	02 11 51.5	+0.3
	comp=Z,19nm,0.7s,mb5.3						
CTKT	Corum	85.48	337	i P	P	02 11 52.8	+0.8
ERBM	Eremo	85.50	355	P	P	02 11 51.5	-0.5
	comp=Z,51nm,1.1s,mb5.6						
ZCCA	Zocca	85.53	355	P	P	02 11 53.9	+1.7
	comp=Z,2.9nm,0.8s,mb4.6						
DOI	San Damiano	85.54	358	P	P	02 11 51.4	-0.9
GSCL	Gusciola	85.56	355	P	P	02 11 53.1	+0.8
	comp=Z,20nm,0.6s,mb5.5						
FNVD	Fontana Vidola	85.71	355	P	P	02 11 54.1	+1.0
	comp=Z,180nm,1.4s,mb6.1						
VLC	Villacollemand	85.76	355	eP	P	02 11 53.3	0.0
PLE	Pijevlja	85.78	349	i P	P	02 11 54.5	+1.1
SEI	Scarperia	85.81	355	P	P	02 11 54.5	+0.9
	comp=Z,251nm,0.6s						
BDI	Bagni Di Lucca	85.84	355	P	P	02 11 52.9	-0.9
BDI				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.7						
BDI	Bagni Di Lucca	85.84	355	P	P	02 11 52.9	-0.9
	comp=Z,30nm,0.6s,mb5.7						
AS31	Alice Springs	85.86	225	eP	P	02 11 52.9	-0.9
ASAR	Alice Springs	85.86	225	P	P	02 11 52.6	-1.3
	comp=Z,7.1nm,0.7s,mb5.0,baz=31,slow=5.3,SNR=58						
RSM	Repubblica di	85.86	354	P	P	02 11 54.8	+1.0
RSM				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.7						
RSM	Repubblica di	85.86	354	P	P	02 11 54.8	+1.0
	comp=Z,30nm,0.6s,mb5.7						
ASPA	Alice Springs	85.86	225	eP	P	02 11 52.9	-0.9
VMG	Vicchio	85.89	354	P	P	02 11 55.0	+1.0
	comp=Z,194nm,0.8s						
SFI	Santa Sofia	85.93	354	P	P	02 11 54.7	+0.5
ELDT	Eldivan	85.94	338	i P	P	02 11 54.9	+0.6
UPM	Unac-Piva	85.96	349	i P	P	02 11 54.8	+0.4
LASF	Ste Croix	86.01	360	eP	P	02 11 54.6	0.0
TOUF	Mont Tournerai	86.03	358	eP	P	02 11 56.3	+1.6
AUTN	L'Aution	86.04	357	eP	P	02 11 56.3	+1.6
DIM	Dimitrovgrad	86.10	344	P	P	02 11 58.6	+3.6
SMRF	Simiane la Rot	86.10	359	eP	P	02 11 55.1	+0.1
IMI	Imperia	86.11	357	P	P	02 11 55.4	+0.3
	comp=Z,26nm,0.7s,mb5.6						
LUCF	Luceram	86.15	357	eP	P	02 11 56.1	+0.8
MVIF	Mont Vial	86.15	358	eP	P	02 11 56.6	+1.3
AOI	Ancona	86.15	353	P	P	02 11 55.6	+0.3
	comp=Z,42nm,0.9s,mb5.7						
IVA	Berane	86.16	348	i P	P	02 11 55.4	+0.1
SBF	Sospel	86.17	357	eP	P	02 11 55.4	0.0
	comp=Z,74nm,1.0s,mb5.6						
SBF	Sospel	86.17	357	eP	P	02 11 55.4	0.0
SBF				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.6						
SBF	Sospel	86.17	357	eP	P	02 11 55.4	0.0
	comp=Z,37nm,1.0s,mb5.6						
PII	Pisa	86.19	355	P	P	02 11 54.7	-0.8
PII				pmax	pmax		
	comp=Z,59nm,1.1s,mb5.7						
PII	Pisa	86.19	355	P	P	02 11 54.7	-0.8
	comp=Z,59nm,1.1s,mb5.7						
SGKT	Sivrigoynuk	86.19	339	i P	P	02 11 55.5	+0.1
CRE	Caprese Michel	86.20	354	P	P	02 11 56.8	+1.3
CRE				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.3						
CRE	Caprese Michel	86.20	354	P	P	02 11 56.8	+1.3
	comp=Z,12nm,0.6s,mb5.3						
HENT	Hendek	86.21	340	i P	P	02 11 55.0	-0.6
ARV	Arcevia	86.25	353	P	P	02 11 56.3	+0.5
	comp=Z,24nm,0.8s,mb5.5						
EPON	Pontenova	86.27	8	P	P	02 11 55.0	-0.9
	comp=Z,103nm,2.3s,mb5.7						
BADI	Badiali	86.29	354	P	P	02 11 56.7	+0.7
REVF	Revere	86.30	357	eP	P	02 11 57.2	+1.2
BRY	Bratogost	86.30	349	i P	P	02 11 55.9	-0.1
ELZG	Elazig	86.33	333	i P	P	02 11 58.2	+2.1
NKY	Niksic	86.33	349	i P	P	02 11 56.4	+0.2
CING	Cingoli	86.36	353	P	P	02 11 56.4	+0.1
	comp=Z,29nm,1.2s,mb5.4						
PVY	Plav	86.42	348	i P	P	02 11 56.0	-0.6
STON	Ston	86.43	350	i P	P	02 11 54.6	-2.0
EMAZ	Mazaricos	86.47	9	P	P	02 11 56.5	-0.4
	comp=Z,88nm,1.4s,mb5.8						
FRF	La Foret Royal	86.50	358	eP	P	02 11 56.9	-0.1
SNTG	Esanatoglia	86.50	353	P	P	02 11 57.0	0.0
	comp=Z,18nm,0.5s,mb5.6						
KDZ	Kurdzhali	86.51	344	eP	P	02 11 57.0	0.0
MURB	Monte Urbino	86.52	354	P	P	02 11 58.3	+1.2
	comp=Z,41nm,0.7s,mb5.8						
CDAG	Cicekdag	86.53	337	i P	P	02 11 56.2	-1.0
STS	Santiago	86.57	9	P	P	02 11 57.7	+0.3
STS				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.4						
STS	Santiago	86.57	9	P	P	02 11 57.7	+0.4
	comp=Z,18nm,0.7s,mb5.4						
BR131	Keskin Array S	86.61	337	eP	P	02 11 57.2	-0.3
	comp=Z,8.8nm,0.6s,mb5.2						
BRTR	Keskin Array B	86.61	337	P	P	02 11 57.1	-0.4
	comp=Z,11nm,0.6s,mb5.3,baz=36,slow=2.4,SNR=94						
BRTR				PKKPbc	PKKPbc	02 29 50.5	-2.1
	comp=Z,0.5nm,0.8s,baz=187,slow=4.2,SNR=3.7						
BRTR				LR	LR	02 57 36.4	
	comp=Z,135nm,20.4s,MS4.3,baz=17,slow=40						
MALT	Malatya	86.66	333	i P	P	02 11 58.7	+0.9
MALT	Malatya	86.66	333	P	P	02 11 59.1	+1.3
MALT	Malatya	86.66	333	eP	P	02 11 58.7	+0.9
TTG	Podgorica	86.68	349	i P	P	02 11 57.3	-0.5
LMR	La Mourre	86.73	358	eP	P	02 11 57.3	-0.8
GRFL	Gerfalco	86.73	355	P	P	02 11 57.5	-0.6
	comp=Z,15nm,0.8s,mb5.3						
MTLF	Montolieu	86.74	1	eP	P	02 11 58.1	-0.1
	comp=Z,33nm,0.9s,mb5.3						
MTLF	Montolieu	86.74	1	eP	P	02 11 58.1	-0.1
MTLF				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.3						
MTLF	Montolieu	86.74	1	eP	P	02 11 58.1	-0.1
	comp=Z,17nm,0.9s,mb5.3						
EALK	Alkurruntz	86.75	4	P	P	02 11 57.5	-0.7
	comp=Z,140nm,2.1s,mb5.8						
HCY	Hercegnovi	86.76	349	i P	P	02 11 58.1	-0.2
BUM	Brajici-Budva	86.85	349	i P	P	02 11 57.9	-0.8
MMB	Musomiste	86.86	345	P	P	02 11 58.7	0.0
MARD	Mardin	86.89	331	i P	P	02 11 59.4	+0.4
NRCA	Norcia	86.90	353	P	P	02 11 59.1	+0.1
	comp=Z,25nm,1.1s,mb5.4						
LARF	Larrau	86.95	4	eP	P	02 11 59.7	+0.5
STIP	Stip	87.00	346	i P	P	02 11 58.7	-0.7
EPF	Esparros	87.01	3	eP	P	02 11 58.6	-0.9
	comp=Z,18nm,0.8s,mb5.1						
EPF	Esparros	87.01	3	eP	P	02 11 58.6	-0.9
EPF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
EPF	Esparros	87.01	3	eP	P	02 11 58.6	-0.9
	comp=Z,8.9nm,0.8s,mb5.0						
TERO	Teramo	87.07	353	P	P	02 12 00.5	+0.7
MLS	Moulis	87.10	2	eP	P	02 11 59.9	0.0
ETSF	Etsaut	87.11	3	eP	P	02 12 00.0	0.0
	comp=Z,34nm,1.0s,mb5.2						
ETSF	Etsaut	87.11	3	eP	P	02 12 00.0	0.0
ETSF				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.2						
ETSF	Etsaut	87.11	3	eP	P	02 12 00.0	0.0
	comp=Z,17nm,1.0s,mb5.2						
ULC	Ulcinj	87.14	349	i P	P	02 12 00.4	+0.3
RESF	Ens	87.23	3	eP	P	02 12 01.2	+0.6
VAY	Valandovo	87.30	346	i P	P	02 12 00.6	-0.3
EBIE	Bielsa	87.35	3	P	P	02 12 02.1	+1.0
	comp=Z,18nm,0.8s,mb5.4						
AQU	L'Aquila	87.36	353	i P	P	02 12 01.9	+0.7
AQU	L'Aquila	87.36	353	eP	P	02 12 03.3	+2.2
AQU				epP	pP	02 12 13.3	+1.3
MNS	Montasola	87.38	353	P	P	02 11 59.8	-1.5
MNS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
MNS	Montasola	87.38	353	P	P	02 11 59.8	-1.5
	comp=Z,8.4nm,0.8s,mb5.0						
KNT	Kendrikon	87.41	346	eP	P	02 12 01.2	-0.2
PGF	Pioggiola	87.43	356	eP	P	02 12 01.3	-0.2
	comp=Z,35nm,1.0s,mb5.2						
PGF	Pioggiola	87.43	356	eP	P	02 12 01.3	-0.2
PGF				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.3						
PGF	Pioggiola	87.43	356	eP	P	02 12 01.3	-0.2
	comp=Z,18nm,1.0s,mb5.2						
FIAM	Fiamignano	87.47	353	P	P	02 12 01.4	-0.3
	comp=Z,23nm,0.8s,mb5.5						
ELOB	Lobios	87.63	9	P	P	02 12 02.3	-0.2
	comp=Z,15nm,0.8s,mb5.3						
CORF	Corte	87.67	356	eP	P	02 12 03.5	+0.8
ECAL	Calabor	87.68	8	P	P	02 12 03.0	+0.3
	comp=Z,54nm,1.6s,mb5.5						
FGMS	Monte Sant'Ang	87.77	351	P	P	02 12 02.8	-0.3
	comp=Z,35nm,0.7s,mb5.7						
OHR	Ohrid	87.77	347	i P	P	02 12 02.6	-0.5
BIA	Bitola	87.78	347	i P	P	02 12 02.0	-1.2
PCAB	Cabril	87.79	9	eP	P	02 12 03.0	-0.2
	comp=Z,33nm,1.3s,mb5.4						
GZT	Gaziantep	87.80	334	i P	P	02 12 04.0	+0.7
PBRG	Braganca	87.81	8	eP	P	02 12 03.2	-0.2
	comp=Z,16nm,0.7s,mb5.4						
VVLD	Villa Vallelon	87.82	353	P	P	02 12 03.5	+0.1
RGNG	Rignano Grg	87.84	351	P	P	02 12 02.7	-0.8
EGRA	Graus	87.84	3	P	P	02 12 04.1	+0.6
	comp=Z,15nm,1.0s,mb5.2						
RNI2	Rionero Sannit	87.94	352	P	P	02 12 03.7	-0.3
SDI	San Donato	87.97	353	P	P	02 12 03.4	-0.7
SDI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.1						
SDI	San Donato	87.97	353	P	P	02 12 03.4	-0.7
	comp=Z,6.8nm,0.6s,mb5.0						
MIDA	Miranda	87.99	352	P	P	02 12 04.3	+0.1
	comp=Z,18nm,0.8s,mb5.3						
FNA	Florina	88.01	347	eP	P	02 12 03.7	-0.6
POO	Poona	88.04	297	eP	P	02 12 03.0	-1.4
POO				ex	x	02 12 44.5	
POO				AMb	AMB	02 12 45.6	
	comp=Z,48nm,1.0s,mb5.7						
PVRL	Vila Real	88.25	9	eP	P	02 12 05.3	-0.1
	comp=Z,30nm,1.2s,mb5.4						
FG5	Orsara di Pugl	88.26	351	P	P	02 12 06.3	+0.8
FG5				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.1						
FG5	Orsara di Pugl	88.26	351	P	P	02 12 06.3	+0.8
	comp=Z,6.4nm,0.5s,mb5.1						
ESAC	San Caprasio	88.29	3	P	P	02 12 05.4	-0.2
	comp=Z,35nm,0.8s,mb5.6						
PTO	Porto	88.30	9	eP	P	02 12 06.0	+0.3
	comp=Z,20nm,1.2s,mb5.2						
FG4	Candela	88.38	351	P	P	02 12 06.2	+0.1
FG4				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.8						
FG4	Candela	88.38	351	P	P	02 12 06.2	+0.1
	comp=Z,45nm,0.8s,mb5.8						
LIT	Litokhoron	88.51	346	eP	P	02 12 05.7	-0.9
CPD	Cerro la Pandu	88.56	63	eP	P	02 12 06.9	0.0
MRLC	Muro Lucano	88.76	351	P	P	02 12 06.8	-1.0
PVIS	Viseu	88.79	9	eP	P	02 12 07.9	-0.1
	comp=Z,25nm,1.5s,mb5.3						
KAD	Karad	88.82	296	eP	P	02 12 08.1	0.0
KAD				AMb	AMB	02 12 10.0	
	comp=Z,63nm,1.5s,mb5.7						
LCI	Lecce	88.89	349	P	P	02 12 08.4	0.0
LCI				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.7						
LCI	Lecce	88.89	349	P	P	02 12 08.4	0.0
	comp=Z,33nm,0.8s,mb5.7						
COBT	Iskenderun	88.95	334	i P	P	02 12 09.8	+1.1
SGO	Sicignano	88.97	351	P	P	02 12 07.8	-1.0
SGO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
SGO	Sicignano	88.97	351	P	P	02 12 07.8	-1.0
	comp=Z,2.3nm,0.6s,mb4.7						
MEV	Metsovon	89.01	347	eP	P	02 12 10.3	+1.3
ERTA	Horta de San J	89.08	3	P	P	02 12 08.6	-0.7
	comp=Z,50nm,2.1s,mb5.5						
MTE	Manteigas	89.13	9	eP	P	02 12 09.8	+0.2
	comp=Z,24nm,1.1s,mb5.4						
MTE	Manteigas	89.13	9	i -		02 22 48.9	
MTE	Manteigas	89.13	9	eLQ		02 36 00.6	
MTE				eLR	LR	02 42 12.5	
	comp=Z,159nm,22.0s						
MTE	Manteigas	89.13	9	eP	P	02 12 09.8	+0.2
MTE				epP	pP	02 12 19.0	-1.5
GUD	Guadarrama	89.17	6	P	P	02 12 09.2	-0.6
GUD				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.4						
GUD	Guadarrama	89.17	6	P	P	02 12 09.2	-0.6
	comp=Z,14nm,0.7s,mb5.4						
EBR	Ebro Roquetas	89.22	3	ePCP	PcP	02 12 10.5	-0.9
ORI	Oriolo Calabro	89.34	350	P	P	02 12 08.7	-1.9
MGR	Morigerati	89.36	351	P	P	02 12 08.8	-1.9
	comp=Z,29nm,0.8s,mb5.7						
IGT	Igoumenitsa	89.39	347	eP	P	02 12 09.7	-1.1
AGG	Ágios Georgios	89.59	346	eP	P	02 12 10.8	-0.9
EMOS	Mosqueruela	89.64	3	P	P	02 12 11.0	-1.0
	comp=Z,45nm,1.1s,mb5.7						
PCBR	Castelo Branco	89.69	9	eP	P	02 12 11.7	-0.5
	comp=Z,18nm,0.8s,mb5.5						
ERMK	Ermenek	89.72	337	i P	P	02 12 11.6	-0.8
PTOM	Tomar	89.82	9	eP	P	02 12 12.7	-0.1
	comp=Z,20nm,1.5s,mb5.2						
STKA	Stephens Creek	89.96	215	eP	P	02 12 09.1	-4.4
	comp=Z,11nm,0.7s,mb5.3						
STKA	Stephens Creek	89.96	215	P	P	02 12 10.7	-2.7
	comp=Z,14nm,0.7s,mb5.4,baz=349,slow=5.7,SNR=24						
STKA				LR	LR	02 46 17.4	
	comp=Z,448nm,21.9s,MS4.9,baz=22,slow=31						
ESDC	Sonseca Array	90.15	6	P	P	02 12 13.1	-1.3
	comp=Z,12nm,0.8s,mb5.3,baz=350,slow=4.4,SNR=74						
ESDC				LR	LR	02 57 43.5	
	comp=Z,128nm,18.2s,MS4.4,baz=10.0,slow=39						
ESDC	Sonseca Array	90.15	6	P	P	02 12 13.6	-0.8
	comp=Z,18nm,0.8s,mb5.4						
ESLA	Sonseca Array	90.15	6	eP	P	02 12 14.2	-0.2
LKD	Levkas	90.15	347	eP	P	02 12 13.7	-0.7
TIP	Timpagrande	90.19	350	eP	P	02 12 13.9	-0.6
TIP				epP	pP	02 12 25.4	+0.1
ETOS	Mallorca	90.31	1	P	P	02 12 15.0	-0.1
	comp=Z,33nm,0.9s,mb5.7						
ECHE	Chera	90.39	4	P	P	02 12 16.0	+0.5
ECHE				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.2						
ECHE	Chera	90.39	4	P	P	02 12 16.0	+0.5
	comp=Z,10nm,0.8s,mb5.2						
PLOU	Loures	90.47	10	eP	P	02 12 16.0	+0.2
	comp=Z,104nm,1.9s,mb5.8						
SLNA	Salina	90.99	351	P	P	02 12 17.3	-1.0
	comp=Z,18nm,0.6s,mb5.6						
CSS	Prodhromos	91.20	336	eP	P	02 12 18.2	-1.0
	comp=Z,18nm,0.8s,mb5.5						
CSS				epP	pP	02 12 30.6	+0.5
EVIA	Vianos	91.27	5	P	P	02 12 20.5	+0.9
EVIA				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.6						
EVIA	Vianos	91.27	5	P	P	02 12 20.5	+0.9
	comp=Z,20nm,0.7s,mb5.5						
EBEN	Beniarda	91.31	3	P	P	02 12 19.3	-0.4
	comp=Z,186nm,2.2s,mb6.0						
ETOB	Tobarra	91.31	4	P	P	02 12 20.5	+0.7
	comp=Z,27nm,1.2s,mb5.5						
SOI	Samo	91.36	350	P	P	02 12 18.1	-1.9
MTTG	Motta San Giov	91.46	351	P	P	02 12 20.2	-0.3
	comp=Z,12nm,0.7s,mb5.3						
EADA	Adamuz	91.60	7	P	P	02 12 20.4	-0.7
	comp=Z,58nm,2.2s,mb5.5						
EBAN	Banos Encina	91.66	6	P	P	02 12 21.8	+0.4
EBAN				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.1						
EBAN	Banos Encina	91.66	6	P	P	02 12 21.8	+0.5
	comp=Z,11nm,1.0s,mb5.2						
EMIN	Mina Concepcio	91.83	8	P	P	02 12 21.9	-0.2
	comp=Z,59nm,1.5s,mb5.7						
PTEO	Sao Teotonio	91.84	10	eP	P	02 12 22.1	-0.1
	comp=Z,23nm,0.9s,mb5.5						
EQES	Quesada	92.07	5	P	P	02 12 23.1	-0.2
	comp=Z,241nm,3.2s						
EMUR	La Murta	92.13	4	P	P	02 12 23.9	+0.3
	comp=Z,84nm,2.2s,mb5.7						
ELOJ	Sierra Loja	92.65	6	P	P	02 12 26.3	+0.4
ELOJ				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.7						
ELOJ	Sierra Loja	92.65	6	P	P	02 12 26.3	+0.4
	comp=Z,31nm,1.0s,mb5.7						
ERON	Agron	92.80	6	P	P	02 12 26.3	-0.3
	comp=Z,5.8nm,0.8s,mb5.1						
EGUA	Guajares	93.00	6	P	P	02 12 27.1	-0.5
EGUA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
EGUA	Guajares	93.00	6	P	P	02 12 27.1	-0.4
	comp=Z,1.7nm,0.8s,mb4.5						
EMIJ	Mijas	93.18	7	P	P	02 12 28.4	0.0
	comp=Z,24nm,0.8s,mb5.7						
EJIF	Jimena Fronter	93.24	8	P	P	02 12 29.4	+0.8
EJIF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.2						
EJIF	Jimena Fronter	93.24	8	P	P	02 12 29.4	+0.8
	comp=Z,9.1nm,1.0s,mb5.2						
OTAV	Otavalo	94.75	84	eP	P	02 12 36.3	+0.7
OTAV				epP	pP	02 12 46.8	+0.4
PMPS	Porto Santo	95.11	17	i -		02 13 05.9	
TORD	Torodi Ar. Bea	116.81	2	PKP	PKPdf	02 17 56.8	-1.7
	comp=Z,2.1nm,0.8s,baz=345,slow=2.3,SNR=20						
TORD				PP	PP	02 19 01.1	-5.9
	comp=Z,2.9nm,0.9s,baz=3.5,slow=7.0,SNR=8.2						

BSO3	Boso 3	10.58	356	P	Pn	02 18 37.7	-1.3
YHNB	Yeheng	18.17	276	*e*P	P	02 20 10.5	-0.9
WRAB	Tennant Creek	44.40	189	P	P	02 24 05.6	+0.2
	6.0nm,0.7s,mb4.3						
WRA	Warramunga Arr	44.41	189	P	P	02 24 04.5	-0.9
	0.4nm,0.3s,mb3.5,baz=10.0,slow=8.5,SNR=3.4						
ASAR	Alice Springs	48.13	189	LR	LR	02 42 08.0	
	comp=Z,272nm,21.1s,baz=17,slow=32						
MKAR	Makanchi Array	51.75	311	P	P	02 25 03.5	+1.8
	0.6nm,0.4s,mb3.6,baz=89,slow=8.8,SNR=7.1						
KURK	Kurchatov	54.48	316	*e*P	P	02 25 22.2	+0.5
	1.2nm,0.5s,mb3.9						
CHKZ	Chkalovo	59.52	319	P	P	02 25 57.2	+0.1
	0.8nm,0.4s,mb3.9						
ZRNK	Zerenda	60.50	319	*e*P	P	02 26 03.6	-0.2
	1.3nm,0.8s,mb3.8						
INK	Inuvik	65.97	24	P	P	02 26 39.2	-0.5
	1.0nm,0.7s,mb3.8,baz=257,slow=6.2,SNR=3.1						
ARCES	ARCESS Array B	76.00	341	P	P	02 27 40.6	+0.5
	1.5nm,0.9s,mb3.6,baz=77,slow=7.6,SNR=6.3						
FINES	FINESS Array B	80.19	334	P	P	02 28 02.4	-0.8
	0.6nm,0.7s,mb3.4,baz=66,slow=7.8,SNR=7.4						
BRTR	Keskin Array B	87.38	313	P	P	02 28 40.0	+0.4
	0.3nm,0.7s,mb3.2,baz=75,slow=4.5,SNR=3.9						
TORD	Torodi Ar. Bea	125.84	309	PKP	PKPdf	02 34 54.3	+1.0
	0.2nm,0.4s,baz=42,slow=1.2,SNR=12						

MAN 26 02:18:48.9, 1863N×12090E, h33km, mb2.5, ML4.1, MS6.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.41	221	⇓*e*P	Pb	02 18 58.5	+0.4
PIP				*e*S	Sb	02 19 06.8	+2.5
APYP	Conner	0.83	157	*e*P	Pn	02 19 04.7	+0.5
APYP				*e*S	Sn	02 19 17.4	+2.1
ABRA	Dolores	0.99	191	*e*P	Pn	02 19 07.6	+1.1
ABRA				*e*S	Sn	02 19 24.8	+5.5
SGCP	Mt. Cagua	1.15	109	*e*P	Pn	02 19 08.7	0.0
SGCP				*e*S	Sn	02 19 23.6	+0.3
CVP	Callao Caves	1.27	136	*e*P	Pn	02 19 11.0	+0.7
CVP				*e*S	Sn	02 19 26.0	-0.2
CAUP	Cauayan	1.89	152	*e*P	Pn	02 19 23.7	+4.9

CASC 26 02:30:54.5±2.8, 1370N×9080W, h60km±37km, MD3.8, ML3.5, 6C-8D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.58	35	⇑*e*P	Pn	02 31 07.7	+0.4
IXG				*e*S	Sn	02 31 18.1	+1.5
TP2	Tecpan 2	1.10	349	⇑*e*P	Pn	02 31 14.4	+0.6
TP2				*e*S	Sn	02 31 30.2	+2.0
RTR	El Retiro	1.14	80	⇑*e*P	x	02 31 30.8	
RTR				*e*S	x	02 31 48.4	
SBLS	San Blas	1.15	83	⇓*e*P	x	02 31 30.8	
SBLS				*e*S	x	02 31 47.3	
RBDL	Robledal	1.16	69	⇓*e*P	x	02 31 30.4	
RBDL				*e*S	x	02 31 47.0	
SNJE	San Jose	1.17	82	⇓*e*P	x	02 31 31.0	
SNJE				*e*S	x	02 31 47.2	
BOQS	Boqueron	1.48	89	⇑*e*P	x	02 31 35.1	
BOQS				*e*S	x	02 31 53.9	
SNET	Serv Nac Est T	1.52	90	*e*P	x	02 31 18.9	
SNET				*e*S	x	02 31 37.9	
MTO2	Montecristo 2	1.56	63	⇓*i*P	x	02 31 35.1	
MTO2				*e*S	x	02 31 54.2	
LFRS	El Faro	1.69	92	⇓*e*P	x	02 31 37.6	
LFRS				*e*S	x	02 31 58.9	
LCBS	La Ceiba	1.77	91	⇓*e*P	x	02 31 38.5	
LCBS				*e*S	x	02 31 60.0	
VSM	San Miguel	2.47	96	*e*P	x	02 31 48.8	
VSM				*e*S	x	02 32 21.4	
CNCH	Conchagua	2.92	98	⇓*e*P	x	02 31 54.4	
CNCH				*e*S	x	02 32 30.7	
CRIN	San Cristobal	3.79	105	⇑*e*P	Pn	02 31 52.0	+1.7
LEON	Leon	4.02	108	⇓*e*P	Pn	02 31 54.5	+1.0
CNGN	Cerro Negro	4.17	106	*e*P	Pn	02 31 56.5	+0.9
MIRN	Miramar	4.18	107	⇑*e*P	Pn	02 31 56.6	+1.0
MIRN				*i*		02 32 50.5	
	comp=Z,148nm,0.5s						
COPN	Copaltepe	4.37	110	*e*P	Pn	02 31 58.9	+0.6
TICN	Ticuantepe	4.75	110	*e*P	Pn	02 32 05.0	+1.4
APON	Apoyo	4.95	110	*e*P	Pn	02 32 07.2	+1.0

NNC 26 02:44:08.2±14.0, 3894N×6976E, h33km±70km, mb3.2, mpv2.7, 5C-1D, Error ellipse: s-maj=105.6km s-min=44.7km az=16.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.20	8	⇑Pn	Pn	02 45 12.9	+3.0
	0.3nm,0.2s,baz=166,slow=10,SNR=4.9						
KK31				⇑Pg	Pn	02 45 24.4	+14
	3.2nm,0.7s,baz=181,slow=18,SNR=11						
KK31				⇑Lg		02 46 23.6	
	6.9nm,0.7s,baz=189,slow=28,SNR=6.4						
TKM2	Tokmak 2	5.95	46	⇑Pn	Pn	02 45 34.6	+0.6
	0.2nm,0.6s						
AB31	Akbulak array	12.48	329	⇑Pn	Pn	02 47 02.4	-1.1
	0.3nm,0.5s,baz=220,slow=8.6,SNR=10						
AB31				⇓Sn	Sn	02 49 19.6	-1.8
	0.4nm,0.6s						

MAN 26 02:58:01.3, 1151N×12530E, h28km, mb2.0, ML3.7, MS2.6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.17	57	*e*P	Pb	02 58 08.3	+1.4
BESP				*e*S	Sb	02 58 14.3	+3.6
PLP	Palo	0.46	222	*i* P	Pb	02 58 12.2	+1.1
PLP				*i* S	Sb	02 58 20.8	+3.2
MSLP	Maasin	1.43	197	*e*P	Pn	02 58 26.4	+1.0
MSLP				*e*S	Sn	02 58 45.5	+2.1

NNC 26 02:58:28.8±7.3, 3690N×7064E, h203km±109km, mb2.2, mpv3.1, 2C-3D, Error ellipse: s-maj=70.6km s-min=41.9km az=26.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.20	359	⇓P	Pn	02 59 57.8	-0.8
	1.1nm,0.3s,baz=181,slow=13,SNR=40						
KK31				S	Sn	03 01 10.9	+1.2
	1.4nm,0.4s,baz=191,slow=25,SNR=8.2						
TKM2	Tokmak 2	7.12	31	⇓P	Pn	03 00 10.8	+0.3
	0.4nm,0.6s						
TKM2				⇑S	Sn	03 01 31.9	+0.5
	0.2nm,0.8s						
AB31	Akbulak array	14.60	331	⇓P	Pn	03 01 47.9	+2.1
	0.5nm,0.4s,baz=154,slow=12,SNR=21						
AB31				⇑S	S	03 04 26.0	-2.0
	0.3nm,0.6s						

*STR **26** 03:00:22.7±1.1, 4268N×0.12E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **26** 03:00:23.7±0.1, 4297N×022E, h10km, Md1.9/3, Ml1.6/3, Error ellipse: s-maj=1.7km s-min=1.3km az=152.0*

MDD 26 03:00:24.5±0.3, 4298N×022E, h0km, mbLg1.1/4, Error ellipse: s-maj=2.0km s-min=1.9km az=166.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	Esparros	0.10	61	*e*Pg	Pg	03 00 26.4	-0.1
EPF				*e*Sg	Sg	03 00 28.3	+0.4
	21nm,0.3s						
EPF	Esparros	0.10	61	Pg	Pg	03 00 26.4	-0.1
EPF				Lg		03 00 28.3	
	11nm,0.3s						
LABF	Labassere	0.12	303	Pg	Pg	03 00 26.8	-0.2
LABF				Lg		03 00 28.9	
VIEF	Viey	0.17	236	Pg	Pg	03 00 27.6	-0.2
VIEF				Sg	Sg	03 00 30.2	+0.2
VIEF	Viey	0.17	236	Pg	Pg	03 00 27.6	-0.2
VIEF				Lg		03 00 30.2	
RESF	Ens	0.19	152	Pg	Pg	03 00 28.0	-0.3
RESF				Sg	Sg	03 00 31.1	+0.3
RESF	Ens	0.19	152	Pg	Pg	03 00 28.2	-0.1
RESF				Lg		03 00 31.3	
EBIE	Bielsa	0.30	190	Pg	Pg	03 00 30.0	-0.2
	SNR=7.9						
EBIE				Lg		03 00 34.2	
	4.5nm,0.1s,SNR=12						
ETSF	Etsaut	0.57	262	*e*Pg	Pg	03 00 34.5	-1.0
ETSF				*e*Sg	Sg	03 00 42.2	-0.8
	3.1nm,0.3s						
ETSF	Etsaut	0.57	262	Pg	Pg	03 00 34.5	-1.0
ETSF				Lg		03 00 42.2	
	1.6nm,0.3s						
SALF	Salau	0.75	107	Pg	Pg	03 00 37.8	-1.1
SALF				Sg	Sg	03 00 47.9	-0.7
SALF	Salau	0.75	107	Pg	Pg	03 00 37.8	-1.1
SALF				Lg		03 00 47.5	
EALK	Alkurruntz	1.28	281	Pg	Pg	03 00 48.4	-0.8
	0.0nm,0.1s,SNR=7.9						
EALK				Lg		03 01 05.3	
	1.1nm,0.3s,SNR=7.9						
ELIZ	Elizondo	1.29	279	Pg	Pg	03 00 48.3	-1.0
	0.0nm,0.1s,SNR=7.9						
ELIZ				Lg		03 01 06.5	
	0.6nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.36	202	Lg		03 01 09.4	
	4.3nm,0.2s,SNR=7.9						
MTLF	Montolieu	1.51	75	*e*Pg	Pg	03 00 51.6	-1.9
MTLF				*e*Sg	Sg	03 01 11.1	-1.9
	0.7nm,0.2s						
MTLF	Montolieu	1.51	75	Pg	Pg	03 00 51.6	-1.9
MTLF				Lg		03 01 11.1	
	0.3nm,0.2s						
LFF	La Frestale	2.00	11	*e*Pg	Pg	03 01 01.2	-1.6
LFF				*e*Sg	Sg	03 01 27.5	-1.2
	1.2nm,0.3s						
LFF	La Frestale	2.00	11	Pg	Pg	03 01 01.2	-1.6
LFF				Lg		03 01 27.5	
	0.6nm,0.3s						
CAF	Calviac	2.36	34	*e*Pg	Pg	03 01 07.9	-1.9
CAF				*e*Sg	Sg	03 01 38.3	-2.1
	0.8nm,0.4s						
CAF	Calviac	2.36	34	Pg	Pg	03 01 07.9	-1.9
CAF				Lg		03 01 38.3	
	0.4nm,0.4s						

OTT 26 03:13:30.6±1.0, 5727N×5746W, h18km, ML3.0/4, LAlbertaRADOR Sea Seismic Zone. 250km northeast from Aillik, NI, Labrador Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	5.79	249	PN	Pn	03 14 55.6	0.0
SCHQ				SN	Sn	03 15 57.7	-3.9
SCHQ				Trac		03 16 01.8	
	comp=Z,1.5nm,0.2s						
KUQ	Kuujjuuaa	5.94	283	SN	Sn	03 15 59.4	-5.7
NATG	Natashquan Que	7.68	207	PN	Pn	03 15 20.5	-1.0
NATG				SN	Sn	03 16 42.3	-5.8
DRLN	Deer Lake	8.03	180	PN	Pn	03 15 25.4	-0.9
DRLN				SN	Sn	03 16 49.0	-7.7
DRLN				Trac		03 16 54.5	
	comp=Z,5.5nm,1.2s						
SMQ	Clarke City	8.93	222	PN	Pn	03 15 36.4	-2.3
MNQ	Manicouagan	9.49	229	PN	Pn	03 15 43.8	-2.5
MNQ				SN	Sn	03 17 27.3	-5.1
YOSQ	Ashton Mining	9.53	249	PN	Pn	03 15 44.6	-2.3
YOSQ				SN	Sn	03 17 24.4	-9.2
YOSQ				Trac		03 17 26.7	
	comp=Z,0.3nm,0.1s						
LG4Q	La Grande 4	10.13	256	PN	Pn	03 15 53.2	-1.9
LG4Q				SN	Sn	03 17 36.7	-12
LG4Q				Trac		03 17 42.3	
	comp=Z,0.7nm,0.1s						
CHEG	Cheticamp, Nov	10.66	192	PN	Pn	03 16 01.4	-1.0
CHEG				SN	Sn	03 17 50.5	-11
BATG	Bathurst New B	11.30	211	PN	Pn	03 16 08.9	-2.2
GBN	Guysborough	12.14	194	PN	Pn	03 16 20.4	-2.3

MAN 26 03:26:07.4, 1805N×12027E, h13km, mb2.1, ML3.8, MS0.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.58	133	*e*P	Pg	03 26 19.0	+0.3
APYP	Conner	0.94	101	*e*P	Pb	03 26 24.7	-0.9
APYP				*e*S	Sg	03 26 36.3	-1.7
BOLP	Bolinao	1.69	192	*e*P	Pn	03 26 36.3	-0.3
CAUP	Cauayan	1.84	126	*e*P	Pn	03 26 39.3	+0.6

*ISCJB **26** 03:40:30.9±2.3, 205S×02×1782W×01, h507km±29km, mb3.9/8, Error ellipse: s-maj=28.4km s-min=18.3km az=156.5*
*NEIC **26** 03:40:30.3±2.5, 2042S×17820W, h486km±29km, mb4.2/3, Error ellipse: s-maj=28.2km s-min=18.4km az=182.0*
*IDC **26** 03:40:33.3±2.5, 2060S×178.19W, h530km±32km, mb3.3/5, mb1 3.6/6, mb1mx3.4/13, mbtmp4.2/6, Error ellipse: s-maj=34.3km s-min=15.6km az=154.0*

ISC 26 03:40:32.3±2.0, 206S±02×1782W±01, h512km±25km, n21, σ0°60/14, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	8.65	179	P	P	03 42 35.0	-0.7
	67nm,0.3s,baz=265,slow=20,SNR=4.4						
URZ	Urewera	18.10	192	P	P	03 44 13.1	+0.2
	1.6nm,0.3s,baz=184,slow=20,SNR=8.3						
CTAO	Charters Tower	33.33	264	*e*P	P	03 46 28.1	+0.7
	9.7nm,0.8s,mb4.4						
AS31	Alice Springs	44.35	257	*e*P	P	03 47 57.2	+0.6
ASAR	Alice Springs	44.35	257	P	P	03 47 57.2	+0.6
	8.7nm,0.8s,mb4.3,baz=98,slow=7.7,SNR=65						
ASAR				PcP	PcP	03 49 28.9	-0.6
	0.5nm,0.6s,baz=102,slow=3.6,SNR=4.8						
ASAR				S	S	03 53 51.6	-1.6
	0.9nm,0.8s,baz=95,slow=15,SNR=6.2						
ASPA	Alice Springs	44.36	257	*e*P	P	03 47 57.2	+0.6
WB2	Warramunga Arr	44.43	262	*e*P	P	03 47 56.8	-0.3
WRAB	Tennant Creek	44.43	262	*e*P	P	03 47 57.1	-0.1
	4.2nm,0.6s,mb4.2						
WRA	Warramunga Arr	44.44	262	P	P	03 47 56.9	-0.3
	4.0nm,0.7s,mb4.1,baz=96,slow=7.3,SNR=44						
QSPA	South Pole Qui	69.50	180	*e*P	P	03 50 49.3	+0.1
	8.1nm,1.2s,mb4.1						
MJAR	Matsushiro Art	70.17	324	P	P	03 50 52.0	-1.1
	2.1nm,0.9s,mb3.7,baz=164,slow=5.7,SNR=4.5						
NVAR	Mina Array Bea	81.18	43	P	P	03 51 54.3	+0.1
	0.5nm,0.5s,mb3.2,baz=210,slow=6.8,SNR=5.2						
PDAR	Pinedale Array	89.11	43	P	P	03 52 33.0	+0.2
	0.9nm,0.6s,mb3.8,baz=207,slow=3.3,SNR=8.8						
AKASG	Malin Array Be	143.00	331	PKhKP		03 59 02.8	
	3.3nm,0.5s,baz=44,slow=4.3,SNR=13						
BR131	Keskin Array S	146.77	312	*e*P	PKPdf	03 59 16.0	+2.1
BRTR	Keskin Array B	146.77	312	PKPbc	PKPbc	03 59 16.1	-0.5
	1.3nm,0.7s,baz=137,slow=3.9,SNR=9.9						
CLL	Collm	148.09	347	*i* PKPbc	PKPbc	03 59 18.3	-1.7
	comp=Z,5.0nm,1.0s						
BRG	Berggiesshubel	148.28	345	*e*P	PKPdf	03 59 19.1	+2.7
	comp=Z,1.3nm,0.9s						
BRG	Berggiesshubel	148.28	345	*e*P	PKPdf	03 59 19.1	+2.7
	comp=Z,1.3nm,0.9s						
KHC	Kasperske Hory	149.99	344	*e*PKPab	PKPab	03 59 32.0	-0.6
GERES	GERESS Array B	150.22	344	PKPbc	PKPbc	03 59 23.3	-1.9
	comp=Z,0.4nm,0.7s,baz=15,slow=6.9,SNR=4.4						

*ISCJB **26** 03:56:47.6±0.6, 3155N±004×5038E±005, h10km, Error ellipse: s-maj=6.3km s-min=4.6km az=70.6*
*KISR **26** 03:56:48.3±0.7, 3157N×5030E, h34km, ML3.1*
*CSEM **26** 03:56:49.7±0.1, 3144N×5035E, h16km, ML3.1, Error ellipse: s-maj=2.4km s-min=1.7km az=126.0*
*THR **26** 03:56:49.6±0.5, 3143N×5037E, h14km±5km, ML3.1*

ISC 26 03:56:49.9±0.6, 3150N±004×5035E±005, h10km, n14, σ0°92/25, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.45	295	*e*PG	Pg	03 57 17.1	-0.7
SHGR				*e*SG	Sg	03 57 37.1	+0.6
SHGR				AML	AML	03 57 40.6	
	comp=E,400nm,0.4s						
SHGR				AML	AML	03 57 43.7	
	comp=N,377nm,0.5s						
SHGR	Shooshtar-Gavs	1.45	295	*e*Pg	Pg	03 57 17.1	-0.6
	SNR=90						
SHGR				*e*Sg	Sg	03 57 37.1	+0.6
	SNR=90						
NASN	Na'in	2.46	58	*e*PN	Pn	03 57 32.2	+2.1
NASN				*e*SG	Sg	03 58 07.5	-1.3
NASN				AML	AML	03 58 22.5	
	comp=N,39nm,0.6s						
NASN	Na'in	2.46	58	*e*Pn	Pn	03 57 32.2	+2.2
	SNR=52						
NASN				*e*Sg	Sg	03 58 07.5	-1.3
	SNR=90						
ASAO	Ashtian	3.05	355	*e*PN	Pn	03 57 40.5	+2.4
ASAO				*e*SG	Sg	03 58 27.0	-0.9
ASAO	Ashtian	3.05	355	*e*Pn	Pn	03 57 40.5	+2.3
	SNR=52						
ASAO				*e*Sg	Sg	03 58 27.0	-0.9
	SNR=90						
KBD	Kabd	3.26	225	*e*P	Pn	03 57 41.0	-0.1
KBD				AML	AML	03 58 23.2	
	comp=Z,116nm,0.3s						
QRN	Al-Qurain	3.46	218	*e*P	Pn	03 57 43.3	-0.6
QRN				*e*S	Sn	03 58 25.1	+0.2
QRN				AML	AML	03 58 28.1	
	comp=Z,32nm,0.3s						
NAY	Al-Naaiem	3.50	231	*e*P	Pn	03 57 44.1	-0.3
NAY				*e*S	Sn	03 58 25.7	-0.1
NAY				AML	AML	03 58 30.8	
	comp=Z,18nm,0.6s						
NAY	Al-Naaiem	3.50	231	*e*P	Pn	03 57 44.1	-0.3
NAY				*e*S	Sn	03 58 25.7	-0.1
RST	Umm Al-Ruwaisa	3.51	236	*e*P	Pn	03 57 43.7	-0.8
RST				AML	AML	03 58 36.9	
	comp=Z,25nm,0.5s						
RDF	Al-Radifah	3.53	224	*e*P	Pn	03 57 44.8	0.0
RDF				*e*S	Sn	03 58 26.8	+0.2
RDF				AML	AML	03 58 30.2	
	comp=Z,41nm,0.4s						
RDF	Al-Radifah	3.53	224	*e*P	Pn	03 57 44.8	0.0
RDF				*e*S	Sn	03 58 26.8	+0.2
GHIR	Ghir-Karzin	3.94	144	*e*PN	Pn	03 57 50.7	+0.2

*IDC **26** 04:18:41.3±1.0, 3459N×74.17E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.7/21, mbtmp3.8/10, ML4.0/3, MS2.3/1, Ms1 2.3/1, ms1mx2.2/30, Error ellipse: s-maj=25.8km s-min=22.8km az=56.0*
*NEIC **26** 04:18:45.4±2.1, 3489N×7445E, h10km, mb3.8/3, Error ellipse: s-maj=33.2km s-min=20.4km az=177.0*
*NDI **26** 04:18:45.1±6.8, 3490N×74.15E, h10km, ML4.0, mb3.8(NEIC)*
*ISCJB **26** 04:18:47.1±0.7, 3474N±004×7443E±006, h61km±10km, mb3.6/8, Error ellipse: s-maj=8.9km s-min=5.2km az=112.7*
*NNC **26** 04:18:54.8±3.8, 3565N×7326E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=40.6km s-min=29.0km az=78.0*

ISC 26 04:18:47.6±0.5, 3486N±003×7439E±006, h35km±9km, n46, σ1°50/63, mb3.6/8, 4C-3D, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	1.52	218	P	Pn	04 19 11.7	-0.5
DLH	Dalhousie	2.66	150	*e*P	Pn	04 19 30.0	+2.2
DLH				*ex*	x	04 20 10.0	
THW	Thamme Wali	3.02	228	⇓P	Pn	04 19 32.9	+0.1
BHK	Bhakra	3.83	153	*e*P	Pn	04 19 57.4	+13
BHK				*e*S	Sn	04 20 35.6	+7.9
SBDP	Sheikh Budin	3.93	231	P	Pn	04 19 46.3	+0.9
SDNR	Sundarnagar	3.98	146	*e*P	Pn	04 19 48.5	+2.4
SDNR				*ex*	x	04 20 55.0	
SMLA	Simla	4.39	147	*e*P	Pn	04 19 53.2	+1.5
SMLA				*e*P		04 19 53.9	
SMLA				*e*S	Sn	04 20 44.3	+2.8
SMLA				*e*S	Sn	04 20 44.5	+3.0
SMLA				AML	AML	04 21 05.0	
	comp=N,382nm,0.6s						
SMLA				AML	AML	04 21 05.0	
	comp=E,523nm,0.5s						
KLP	Kalpa	4.63	135	*e*P	Pn	04 19 56.9	+1.9
KLP				*e*S	Sn	04 20 49.6	+2.1
KLP				AML	AML	04 21 17.9	
	comp=E,2μm,1.1s						
KLP				AML	AML	04 21 19.4	
	comp=N,3μm,0.8s						
DRP	Derazinda	4.68	230	P	Pn	04 19 54.4	-1.3
NDI	New Delhi	6.61	158	*e*P	Pn	04 20 22.5	+0.4
NDI				*e*S	Sn	04 21 34.5	-1.7
AYAN	Aya Nagar	6.77	159	*e*P	Pn	04 20 25.6	+1.2
AYAN				*e*S	Sn	04 21 38.0	-2.2
AYAN				AML	AML	04 21 42.3	
	comp=Z,79nm,0.3s						
KHET	Khetri	6.87	169	*e*P	Pn	04 20 27.5	+1.8
KHET				*e*S	Sn	04 21 40.1	-2.6
KHET				*e*S	Sn	04 21 43.5	+0.9
KHET				AML	AML	04 22 26.4	
	comp=E,32nm,0.5s						
KHET				AML	AML	04 22 26.6	
	comp=N,39nm,0.3s						
SONA	Sohna	6.97	160	*e*P	Pn	04 20 28.1	+1.0
SONA				*e*S	Sn	04 21 43.1	-2.1
SONA				AML	AML	04 21 48.6	
	comp=N,286nm,0.5s						
SONA				AML	AML	04 21 48.9	
	comp=E,130nm,0.5s						
LGTI	Lohaghat	7.33	136	*e*P	Pn	04 20 33.5	+1.5
LGTI				*e*S	Sn	04 21 53.3	-0.6
TKM2	Tokmak 2	8.11	6	⇓Pn	Pn	04 20 46.1	+3.3
	comp=E,0.2nm,0.5s						
TKM2				⇑Sn	Sn	04 22 12.5	-0.6
	comp=E,2.6nm,1.0s						
AGRA	Agra	8.19	157	*e*P	Pn	04 20 45.6	+1.7
AGRA				*e*S	Sn	04 22 11.6	-3.5
AGRA				AML	AML	04 22 27.0	
	comp=E,107nm,0.3s						
AGRA				AML	AML	04 22 28.2	
	comp=N,93nm,0.4s						
AJM	Ajmer	8.35	178	*i* S	Sn	04 22 14.0	-5.2
KK31	Karatay Array	8.77	341	Pn	Pn	04 20 50.5	-1.3
	comp=N,9.4nm,0.8s,baz=166,slow=12,SNR=50						
KK31				⇑Sn	Sn	04 22 24.0	-5.5
	comp=N,2.6nm,0.5s,baz=172,slow=22,SNR=5.3						
KOLN	Koldanda	10.57	129	*e*P	Pn	04 21 15.5	-1.0
	comp=N,22nm,0.4s						
GKN	Gorkha	11.10	125	*e*P	Pn	04 21 22.6	-1.1
	comp=N,21nm,0.3s						
GKN				*e*S	Sn	04 23 21.9	-4.6
DMN	Daman	11.67	125	*e*P	Pn	04 21 30.2	-1.3
	comp=N,40nm,0.5s						
KKN	Kakani	11.67	124	*e*P	Pn	04 21 29.3	-2.2
	comp=N,38nm,0.6s						
KKN				*e*Sn	Sn	04 23 35.8	-4.7
BHPL	Bhopal	11.87	166	*e*P	Pn	04 21 35.1	+0.8
BHPL				*e*S	Sn	04 23 39.9	-5.5
BHPL				AML	AML	04 23 42.2	
	comp=N,11nm,0.3s						
BHPL				AML	AML	04 23 42.6	
	comp=E,13nm,0.5s						
PKI	Pulchoki	11.89	125	*e*P	Pn	04 21 33.3	-1.3
GUN	Gumba	12.01	122	*e*P	Pn	04 21 34.2	-1.9
	comp=E,19nm,0.3s						
JIRN	Jiri	12.38	122	*e*P	Pn	04 21 39.3	-1.9
	comp=E,60nm,0.4s						
JIRN				*e*Sn	Sn

SONM	Songino Array	27.09	52	P	P	04 24 27.4	+0.6
	comp=E,0.5nm,0.8s,mb3.1,baz=252,slow=11,SNR=3.7						
FINES	FINESS Array B	40.38	326	pP	P	04 26 24.8	+2.8
	comp=E,0.9nm,0.8s,mb3.6,baz=126,slow=7.1,SNR=2.5						
ARCES	ARCESS Array B	43.72	337	pP	P	04 26 52.0	+2.7
	comp=E,2.1nm,0.8s,mb3.9,baz=111,slow=6.6,SNR=2.8						
TGY	Tagaytay City	46.64	104	LR	LR	04 48 26.6	
	comp=E,3.5nm,22.0s,baz=223,slow=38						
NB2	NORSAR Subarra	47.34	324	P	P	04 27 20.2	+2.3
	comp=Z,1.9nm,1.1s,mb3.9,baz=94,slow=7.9						
NOA	NORSAR Array B	47.34	324	P	P	04 27 18.9	+1.0
	comp=Z,0.6nm,0.7s,mb3.6,baz=94,slow=7.6,SNR=3.5						
TORD	Torodi Ar. Bea	68.48	271	P	P	04 29 43.9	-2.2
	comp=Z,1.2nm,0.6s,mb4.1,baz=46,slow=5.6,SNR=27						
WRA	Warramunga Arr	78.78	124	P	P	04 30 46.7	+0.1
	comp=Z,0.5nm,1.0s,mb3.4,baz=298,slow=7.6,SNR=3.3						
ASAR	Alice Springs	81.05	127	P	P	04 30 59.1	+0.2
	comp=Z,0.5nm,0.8s,mb3.5,baz=301,slow=5.9,SNR=3.2						
YKA	Yellowknife Ar	82.72	4	P	P	04 31 06.4	-1.2
	comp=Z,0.2nm,0.4s,mb3.5,baz=345,slow=5.5,SNR=4.1						

*ISCJB **26** 04:23:54.5±0.6, 1736N×007×9498W±003, h140km±7km, Error ellipse: s-maj=11.2km s-min=5.2km az=7.2*
*NEIC **26** 04:23:56.7, 1733N×9499W, h140km, mb4.4/3, MD4.2(MEX), After MEX.*
*MEX **26** 04:23:56.5±0.9, 1734N×9498W, h142km±13km, MD4.2*

ISC 26 04:23:55.8±0.6, 1736N±006×9498W±003, h134km±7km, n12, σ0°94/21, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	0.85	38	*i* P	Pn	04 24 17.7	0.0
TUIG				*i* S	Sn	04 24 34.9	+0.5
OXX	Oaxaca	1.69	261	*i* P	Pn	04 24 26.5	+0.2
OXX				*i* S	Sn	04 24 50.0	+0.4
VHO	Vista Hermosa	1.70	261	*i* P	Pn	04 24 26.7	+0.3
VHO				*i* S	Sn	04 24 50.4	+0.6
HUIG	Huatulco	1.92	215	*i* P	Pn	04 24 27.3	-1.6
HUIG				*i* S	Sn	04 24 53.6	-0.8
SCX	San Cristobal	2.33	105	*i* P	Pn	04 24 34.5	+0.6
SCX				*i* S	Sn	04 25 03.5	+0.3
UTMO	Huajuapan	2.73	280	*i* P	Pn	04 24 39.2	+0.1
UTMO				*i* S	Sn	04 25 10.6	-1.8
CCIG	Comitan	2.92	111	*i* P	Pn	04 24 42.4	+0.9
CCIG				*i* S	Sn	04 25 17.3	+0.5
MEIG	Mezcala	4.46	278	*i* P	Pn	04 25 01.6	-0.1
MEIG				*i* S	Sn	04 25 54.1	+1.1
TEIG	Tepich	6.96	65	*e*Pn	Pn	04 25 33.4	-1.8
	7.8nm,0.4s						
TEIG				*e*Sn	Sn	04 26 49.9	-3.0
JTS	JuntasAbangare	12.00	125	*e*Pn	Pn	04 26 43.3	+0.8
	2.7nm,0.3s						
PAYG	Puerto Ayora	18.51	165	*e*P	P	04 28 01.1	-0.5
	29nm,1.1s						
HOPS	Hopland	32.61	317	*e*P	P	04 30 15.6	+1.1

*IDC **26** 04:32:43.7±1.4, 120N×12682E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, Error ellipse: s-maj=137.5km s-min=20.5km az=69.0*
*ISCJB **26** 04:32:46.5±0.7, 1.1N±0.1×1266E±0.2, h33km, mb4.2/9, Error ellipse: s-maj=34.2km s-min=12.6km az=116.6*
*NEIC **26** 04:32:48.5±0.5, 109N×12662E, h35km, mb4.7/5, Error ellipse: s-maj=25.1km s-min=9.4km az=58.0*

ISC 26 04:32:48.7±0.7, 11N±01×1266E±0.2, h35km, n9, σ0°51/9, mb4.2/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	22.24	161	*e*P	P	04 37 42.0	-0.3
	1.7nm,0.4s,mb3.8						
WRA	Warramunga Arr	22.24	161	P	P	04 37 41.8	-0.6
	1.7nm,0.6s,mb3.6,baz=340,slow=11,SNR=14						
PMG	Port Moresby	22.95	118	*e*P	P	04 37 49.8	-0.1
	75nm,1.4s,mb4.9						
ASAR	Alice Springs	25.62	164	P	P	04 38 16.0	+1.2
	1.4nm,0.6s,mb3.7,baz=341,slow=11,SNR=15						
PALK	Pallekele	46.19	279	P	P	04 41 09.9	-0.2
	31nm,1.6s,mb5.0						
SONM	Songino Array	49.74	342	P	P	04 41 37.7	+0.1
	0.3nm,0.6s,mb3.5,baz=165,slow=6.9,SNR=2.2						
MKAR	Makanchi Array	59.65	326	P	P	04 42 49.8	+0.4
	0.6nm,0.4s,mb3.9,baz=124,slow=8.1,SNR=7.8						
KURK	Kurchatov	63.90	328	*e*P	P	04 43 17.7	-0.2
	6.0nm,0.8s,mb4.7						
ZRNK	Zerenda	70.17	327	*e*P	P	04 43 57.4	-0.4
	1.0nm,0.3s,mb4.2						

*ISCJB **26** 04:43:06.2±1.5, 243S±02×1798E±0.1, h553km±21km, mb4.0/11, Error ellipse: s-maj=30.3km s-min=19.4km az=163.5*
*IDC **26** 04:43:06.2±24.0, 2458S×17978E, h520km±237km, mb3.3/6, mb1 3.4/6, mb1mx3.2/13, mbtmp4.3/6, Error ellipse: s-maj=156.0km s-min=47.7km az=70.0*
*NEIC **26** 04:43:07.1±1.1, 2424S×17988E, h552km±14km, mb4.3/7, Error ellipse: s-maj=21.5km s-min=13.3km az=174.0*

ISC 26 04:43:07.2±1.5, 243S±02×1799E±01, h555km±19km, n15, σ0°75/14, mb4.0/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.34	159	*e*P	P	04 44 40.1	0.0
	1um,1.6s						
CTA	Charters Tower	31.42	271	P	P	04 48 44.0	+0.7
	4.8nm,0.3s,mb4.4,baz=91,slow=11,SNR=12						
CTAO	Charters Tower	31.42	271	*e*P	P	04 48 43.9	+0.6
	5.3nm,0.3s,mb4.5						
STKA	Stephens Creek	34.54	249	P	P	04 49 07.8	-1.8
	1.0nm,0.3s,mb3.8,baz=105,slow=13,SNR=6.0						
ASAR	Alice Springs	41.92	261	P	P	04 50 09.8	+0.4
	0.8nm,0.3s,mb3.7,baz=93,slow=6.8,SNR=9.5						
WRAB	Tennant Creek	42.32	267	*e*P	P	04 50 12.4	-0.2
	5.0nm,0.3s,mb4.5						
WRA	Warramunga Arr	42.32	267	P	P	04 50 12.6	-0.1
	2.2nm,0.3s,mb4.1,baz=106,slow=8.2,SNR=18						
FITZ	Fitzroy Crossi	50.74	266	P	P	04 51 17.2	+1.0
	1.5nm,0.6s,mb3.5,baz=101,slow=10,SNR=6.7						
QSPA	South Pole Qui	65.83	180	*e*P	P	04 52 58.0	0.0
	2.1nm,0.7s,mb3.8						
MAW	Mawson	77.40	200	P	P	04 54 05.4	+0.1
	1.0nm,0.5s,mb3.5,baz=124,slow=11,SNR=9.2						
MAW	Mawson	77.40	200	*e*P	P	04 54 05.8	+0.5
	1.4nm,0.5s,mb3.6						
ISA	Isabella	83.31	46	*e*P	P	04 54 36.5	+0.5
	4.3nm,0.5s,mb4.2						
MCK	McKinley	91.04	13	*e*P	P	04 55 12.8	+0.3
	0.9nm,0.4s,mb4.0						
COLA	College	92.27	13	P	P	04 55 16.9	-1.3
	9.0nm,2.0s,mb4.5						
ARCES	ARCESS Array B	132.22	348	PKP	PKPdf	05 01 18.1	-0.1
	0.9nm,0.8s,baz=21,slow=3.3,SNR=4.0						

IDC 26 05:01:03.1±65.0, 1886S×17695E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/12, mbtmp4.2/3, Error ellipse: s-maj=1150.0km s-min=143.2km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.32	241	P	P	05 07 51.9	+0.7
	2.2nm,0.8s,baz=69,slow=8.6,SNR=4.9						
WRA	Warramunga Arr	40.13	261	P	P	05 08 40.7	+0.1
	1.0nm,0.4s,baz=97,slow=7.8,SNR=15						
ASAR	Alice Springs	40.29	255	P	P	05 08 42.1	+0.2
	2.1nm,0.4s,baz=89,slow=7.8,SNR=27						

*ISCJB **26** 05:14:58.4±0.6, 176S±0.1×4176E±008, h10km, mb4.0/16, MS3.5/3, Error ellipse: s-maj=15.9km s-min=10.3km az=154.7*
*IDC **26** 05:14:58.9±0.8, 1763S×4180E, h0km, mb4.0/12, mb1 4.1/16, mb1mx4.0/26, mbtmp4.0/16, ML3.7/4, MS3.4/6, Ms1 3.4/6, ms1mx3.0/29, Error ellipse: s-maj=24.2km s-min=17.3km az=155.0*
*NEIC **26** 05:15:00.1±0.4, 1761S×4178E, h10km, mb4.2/6, Error ellipse: s-maj=12.8km s-min=8.4km az=158.0*

ISC 26 05:15:00.3±0.5, 176S±01×4178E±008, h10km, n42, σ0°92/32, mb4.0/16, MS3.5/3, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	5.23	101	Pn	Pn	05 16 17.9	-0.6
	16nm,0.3s,baz=272,slow=14,SNR=135						
OPO				Sn	Sn	05 17 13.1	-5.9
	31nm,0.3s,baz=248,slow=9.9,SNR=3.8						
MATP	Matopo	12.86	255	Pn	Pn	05 17 58.4	-4.7
	0.2nm,0.3s,baz=217,slow=21,SNR=4.5						
MATP				Sn	Sn	05 20 11.4	-15
	0.5nm,0.3s,baz=343,slow=19,SNR=4.0						
MATP				LR	LR	05 23 05.6	
	comp=Z,168nm,18.5s,baz=96,slow=38						
MATP	Matopo	12.86	255	Pn	Pn	05 17 58.4	-4.7
MATP				Sn	Sn	05 20 11.4	-15
MATP				LR	LR	05 23 05.6	
LSZ	Lusaka	13.24	278	Pn	Pn	05 18 06.8	-1.5
	0.5nm,0.3s,baz=106,slow=13,SNR=7.1						
LSZ				Sn	Sn	05 20 27.5	-8.1
	0.1nm,0.3s,baz=174,slow=10,SNR=3.6						
LSZ	Lusaka	13.24	278	Pn	Pn	05 18 06.8	-1.5
LSZ				Sn	Sn	05 20 27.5	-8.1
LBTB	Lobatse	16.76	241	Pn	Pn	05 18 57.5	+2.4
	0.2nm,0.3s,baz=66,slow=14,SNR=3.0						
LBTB				Sn	Sn	05 21 46.6	-15
	0.2nm,0.3s,baz=323,slow=20,SNR=3.4						
LBTB				LR	LR	05 25 49.9	
	comp=Z,62nm,19.3s,baz=205,slow=39						
BOSA	Boshof	18.70	231	P	Pn	05 19 18.1	-0.9
	0.1nm,0.3s,baz=63,slow=9.0,SNR=2.2						
BOSA				LR	LR	05 25 54.2	
	comp=Z,94nm,19.3s,baz=275,slow=35						
TSUM	Tsumeb	23.00	262	P	P	05 20 04.8	-0.4
	2.3nm,0.8s,mb3.6,baz=77,slow=8.5,SNR=9.4						
TSUM				LR	LR	05 28 36.4	
	comp=Z,81nm,18.6s,MS3.2,baz=195,slow=36						
TSUM	Tsumeb	23.00	262	P	P	05 20 04.8	-0.4
TSUM				LR	LR	05 28 36.4	
SUR	Sutherland	23.95	228	P	P	05 20 15.8	+1.2
	21nm,0.8s,mb4.6,baz=223,slow=1.4,SNR=13						
TORD	Torodi Ar. Bea	50.00	305	P	P	05 23 55.8	+1.1
	0.7nm,0.8s,mb3.7,baz=124,slow=7.5,SNR=6.8						
TORD				LR	LR	05 45 35.2	
	comp=Z,85nm,18.8s,MS3.8,baz=105,slow=37						
DBIC	Dimbokro	51.99	294	P	P	05 24 10.6	+0.9
	2.7nm,0.5s,mb4.4,baz=122,slow=10.0,SNR=11						
DBIC				LR	LR	05 45 41.4	
	comp=Z,54nm,18.2s,MS3.6,baz=121,slow=35						
DBIC	Dimbokro	51.99	294	*e*P	P	05 24 10.1	+0.4
	2.7nm,0.5s,mb4.4						
DBIC				LR	LR	05 45 41.4	
BR131	Keskin Array S	57.55	353	P	P	05 24 50.8	+0.8
	0.7nm,0.5s,mb4.0						
BRTR	Keskin Array B	57.55	353	P	P	05 24 51.0	+1.1
	1.0nm,0.6s,mb4.0,baz=169,slow=8.8,SNR=6.4						
AKASG	Malin Array Be	68.92	351	P	P	05 26 04.7	-0.6
	0.6nm,0.6s,mb3.7,baz=177,slow=6.0,SNR=3.9						
MORC	Moravsky Berou	70.45	344	*e*P	P	05 26 14.5	-0.3
	1.9nm,0.5s,mb4.3						
GERES	GERESS Array B	70.73	341	P	P	05 26 16.7	+0.1
	1.0nm,0.6s,mb3.9,baz=134,slow=5.8,SNR=7.1						
ESDC	Sonseca Array	71.19	324	P	P	05 26 20.4	+1.1
	0.8nm,0.6s,mb3.9,baz=132,slow=5.8,SNR=4.4						
MKAR	Makanchi Array	73.77	28	P	P	05 26 34.8	+0.1
	1.4nm,0.6s,mb4.1,baz=212,slow=6.5,SNR=16						
BRVK	Borovoye	74.58	17	P	P	05 26 38.7	-0.8
	1.1nm,0.6s,mb4.0						
CHKZ	Chkalovo	75.22	17	*e*P	P	05 26 42.7	-0.4
	1.1nm,0.8s,mb3.8						
KURK	Kurchatov	75.35	23	*e*P	P	05 26 43.3	-0.6
	5.0nm,0.9s,mb4.4						
ZAL	Zalesovo	80.24	24	P	P	05 27 11.2	+0.1
	0.9nm,0.3s,mb4.1,baz=235,slow=3.9,SNR=5.5						
NOA	NORSAR Array B	82.14	346	P	P	05 27 21.1	-0.1
	1.0nm,0.9s,mb3.8,baz=143,slow=5.1,SNR=2.6						
ASAR	Alice Springs	84.97	113	P	P	05 27 36.5	+0.8
	0.8nm,0.8s,mb3.9,baz=253,slow=2.4,SNR=6.5						
BOZ	Bozeman (W)	144.35	327	*e*PKPdf	PKPdf	05 34 35.8	-0.8
DLMT	Dillon	145.04	328	*e*PKPbc	PKPbc	05 34 38.4	+1.2
PDAR	Pinedale Array	145.06	322	PKPbc	PKPbc	05 34 37.4	+0.1
	1.3nm,0.8s,baz=73,slow=4.7,SNR=13						
IMW	Indian Meadow	145.15	325	*e*PKPbc	PKPbc	05 34 38.9	+1.4
SMCO	Snowmass	145.39	315	*e*PKPbc	PKPbc	05 34 39.7	+1.4
MCMT	McKenzie Canyo	145.54	327	*e*PKPbc	PKPbc	05 34 40.6	+1.8
LTX	Lajitas	146.35	297	*e*PKPab	PKPab	05 34 42.8	+0.7
ANMO	Albuquerque	146.89	308	*e*PKPab	PKPab	05 34 44.0	-0.2
HWUT	Hardware Ranch	146.95	322	*e*PKPab	PKPab	05 34 43.7	-0.8
PV01	Paradox Valley	146.99	314	*e*PKPab	PKPab	05 34 44.4	-0.2
BNM	Barren Site	147.33	306	*e*PKPab	PKPab	05 34 45.9	0.0
BMO	Blue Mountains	147.69	332	*e*PKPab	PKPab	05 34 45.5	-1.8
SRU	San Rafael	147.78	317	*e*PKPab	PKPab	05 34 46.1	-1.6
ARUT	Antelope Range	150.41	318	*e*PKPbc	PKPbc	05 34 54.2	+2.3
TUC	Tucson	151.25	306	*e*PKPab	PKPbc	05 34 55.9	+1.9
NVAR	Mina Array Bea	152.93	324	PKPbc	PKPbc	05 34 59.3	+1.6
	0.8nm,0.8s,baz=83,slow=3.2,SNR=6.7						

NEIC 26 05:24:46.9, 5396N×16433W, h60km, ML3.5(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	Akutan	0.87	282	P	Pn	05 25 02.3	-0.9
AKA				S	Sn	05 25 16.4	+1.2
AKUT	Akutan	0.87	282	P	Pn	05 25 02.4	-0.8
AKUT				S	Sn	05 25 15.1	-0.2
AKLV	Akutan Long Va	0.98	283	P	Pn	05 25 04.1	-0.6
AKLV				S	Sn	05 25 19.0	+1.2
AKGG	Akutan Green G	1.01	284	P	Pn	05 25 04.5	-0.5
AKGG				S	Sn	05 25 19.9	+1.5
FALS	False Pass	1.05	30	P	Pn	05 25 04.7	-0.8
FALS				S	Sn	05 25 20.1	+0.8
UNV	Unalaska Valle	1.29	266	P	Pn	05 25 07.0	-1.7
SDPT	Sand Point	2.64	57	P	Pn	05 25 26.4	-0.6
CHGN	Chignik	4.13	53	*e*P	Pn	05 25 47.7	+0.3

IDC 26 05:33:52.8±4.3, 1831S×17726W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.9/13, mbtmp4.0/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/23, Error ellipse: s-maj=312.4km s-min=30.9km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.74	254	LR	LR	05 41 11.1	
	comp=Z,13nm,19.2s,baz=215,slow=28						
WRA	Warramunga Arr	45.63	260	P	P	05 42 15.0	+0.1
	1.0nm,0.6s,baz=96,slow=6.9,SNR=23						
ASAR	Alice Springs	45.73	255	P	P	05 42 16.3	+0.6
	1.6nm,0.4s,baz=91,slow=7.9,SNR=22						
ASAR				LR	LR	05 57 59.4	
	comp=Z,223nm,19.1s,baz=170,slow=32						
NVAR	Mina Array Bea	78.97	43	P	P	05 45 58.9	+0.6
	0.4nm,0.5s,baz=213,slow=7.8,SNR=4.6						

MAN 26 05:53:49.7, 1031N×12501E, h47km, mb1.8, ML3.6, MS1.6, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.70	138	*e*P	Pn	05 54 04.6	+1.3
PLP	Palo	0.85	358	*e*P	Pn	05 54 06.4	+1.1
PLP				*i* S	Sn	05 54 18.6	+1.8

*NIED **26** 06:01:00, 4130N×142.10E, h41km, Mw3.7 Best double couple: M0:3.45000×10^14 NP1:φs34.00000°, δ58.00000°, λ92.00000°. NP2:φs211.00000°, δ32.00000°, λ88.00000°.*
*MOS **26** 06:01:35.1±1.7, 4131N×142.05E, h40km, mb4.5/3, Error ellipse: s-maj=20.8km s-min=12.6km az=88.7*
*ISCJB **26** 06:01:37.6±0.5, 4133N±003×142.12E±006, h67km±4km, mb3.8/11, Error ellipse: s-maj=7.5km s-min=4.9km az=36.4*
*NEIC **26** 06:01:38.2, 4135N×142.13E, h56km, mb4.1/3, After JMA.*
*JMA **26** 06:01:38.2, 4135N×142.13E, h56km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φs221.00000°, δ10.00000°, λ103.00000°. NP2: φs28.00000°, δ80.00000°, λ88.00000°. Principal axes: T Plg55.0000°, Azm295.0000°; N Plg2.0000°, Azm28.0000°; P Plg35.0000°, Azm120.0000°;*
JMA Felt I J1.
*IDC **26** 06:01:39.4±2.1, 4128N×142.17E, h68km±18km, mb3.6/9, mb1 3.7/11, mb1mx3.5/23, mbtmp3.8/11 Error ellipse: s-maj=27.1km s-min=14.7km az=103.0*

ISC 26 06:01:38.3±0.5, 4134N±003×14214E±005, h60km±5km, n33, σ0°85/44, mb3.9/11, 5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.83	274	⇓P	Pn	06 01 53.8	-0.3
JOT				*e*S	Sn	06 02 05.7	0.0
JTM	Tenmabayashi	0.98	236	⇓P	Pn	06 01 56.1	0.0
JTM				S	Sn	06 02 09.3	+0.1
JKB	Kayabe	1.00	304	⇓P	Pn	06 01 55.9	-0.4
JKB				S	Sn	06 02 09.6	0.0
JEM	Erimo	1.02	48	P	Pn	06 01 56.3	-0.3
JNBK	Urakawa-nobuka	1.05	26	P	Pn	06 01 56.6	-0.3
JANG	Nango	1.07	207	P	Pn	06 01 57.0	-0.3
JANG				S	Sn	06 02 10.3	-1.0
JSR	Shiriuchi	1.31	279	⇓P	Pn	06 02 00.6	+0.2
JNB	Noboribetsu	1.40	324	P	Pn	06 02 01.0	-0.6
JNB				*e*S	Sn	06 02 18.6	-0.5
JCH	Churui	1.57	35	P	Pn	06 02 04.4	+0.5
JEW	Eniwo	1.59	341	⇓P	Pn	06 02 04.3	+0.1
JEW				*e*S	Sn	06 02 24.1	+0.4
JFR	Furan	1.86	10	P	Pn	06 02 08.6	+0.8
JOM	Ohasama	1.97	200	P	Pn	06 02 09.7	+0.4
JOM				*e*S	Sn	06 02 33.9	+0.9
JOSM	Okushiri--Mats	2.13	291	P	Pn	06 02 11.1	-0.4
JOSM				*e*S	Sn	06 02 36.3	-0.6
ASAJ	Asahikawa	2.80	7	P	Pn	06 02 22.1	+1.5
	5.8nm,0.3s,baz=226,slow=15,SNR=12						
ASAJ				S	Sn	06 02 56.1	+2.9
	6.0nm,0.3s,baz=322,slow=31,SNR=9.2						
ASAJ	Asahikawa	2.80	7	P	Pn	06 02 22.2	+1.6
ASAJ				S	Sn	06 02 56.1	+2.9
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,6.0nm,0.3s						
YUK	Yuzh-Kuril'sk	3.84	44	P	Pn	06 02 34.5	-0.4
YUK				*e*S	Sn	06 03 16.5	-2.4
YUK				smax			
	comp=N,490nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
MJAR	Matsushiro Arr	5.69	214	P	Pn	06 03 01.3	+1.2
	comp=E,0.3nm,0.3s,baz=21,slow=14,SNR=4.0						
SONM	Songino Array	26.11	297	P	P	06 07 06.7	+0.2
	comp=E,0.5nm,0.5s,mb3.3,baz=96,slow=10,SNR=2.2						
ZAL	Zalesovo	39.57	309	P	P	06 09 04.1	+0.5
	comp=E,1.0nm,0.4s,mb3.9,baz=14,slow=12,SNR=4.3						
MKAR	Makanchi Array	42.45	298	P	P	06 09 29.4	+2.1
	comp=E,0.5nm,0.5s,mb3.4,baz=76,slow=10,SNR=5.6						
KURK	Kurchatov	43.84	305	*e*P	P	06 09 38.0	-0.5
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
KURK	Kurchatov	43.84	305	*e*P	P	06 09 38.0	-0.5
	comp=Z,1.1nm,0.3s,mb4.1						
CHKZ	Chkalovo	47.87	310	*e*P	P	06 10 08.4	-1.8
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	Chkalovo	47.87	310	*e*P	P	06 10 08.4	-1.8
	comp=Z,0.8nm,0.5s,mb4.0						
BVAR	Borovoye Array	48.18	310	P	P	06 10 13.0	+0.3
	comp=Z,0.7nm,0.3s,mb4.1,baz=82,slow=9.5,SNR=4.0						
INK	Inuvik	50.33	29	P	P	06 10 29.8	+0.8
	comp=Z,0.7nm,0.3s,mb4.1,baz=287,slow=5.8,SNR=15						
INK	Inuvik	50.33	29	P	P	06 10 29.8	+0.8
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	Inuvik	50.33	29	*e*P	P	06 10 29.6	+0.6
	comp=Z,1.1nm,0.4s,mb4.2						
WRA	Warramunga Arr	61.39	188	P	P	06 11 47.6	-0.6
	comp=Z,0.3nm,0.4s,mb3.8,baz=5.8,slow=6.9,SNR=9.4						
FINES	FINESS Array B	65.29	332	P	P	06 12 13.4	-0.5
	comp=Z,1.0nm,0.6s,mb4.0,baz=44,slow=8.5,SNR=6.0						
NB2	NORSAR Subarra	70.45	337	P	P	06 12 45.9	-0.4
	comp=Z,0.5nm,0.5s,mb3.7,baz=36,slow=6.5						
NOA	NORSAR Array B	70.45	337	P	P	06 12 45.8	-0.6
	comp=Z,0.9nm,0.8s,mb3.8,baz=37,slow=6.1,SNR=4.4						
AKASG	Malin Array Be	71.26	322	P	P	06 12 50.8	-0.4
	comp=Z,1.2nm,0.6s,mb4.0,baz=44,slow=6.7,SNR=5.6						

*ISCJB **26** 06:14:08.1±1.1, 2411S±0.10×669W±0.1, h190km±15km, mb3.7/2, Error ellipse: s-maj=21.6km s-min=14.8km az=137.2*
*IDC **26** 06:14:08.3±5.8, 2411S×6696W, h188km±32km, mb3.3/1, mb1 3.3/4, mb1mx3.1/16, mbtmp3.7/4, Error ellipse: s-maj=81.3km s-min=25.1km az=50.0*
*NEIC **26** 06:14:09.1±1.0, 2410S×6685W, h186km±13km, mb3.6/2, Error ellipse: s-maj=17.8km s-min=13.8km az=46.0*

ISC 26 06:14:09.2±1.1, 2409S±010×669W±01, h184km±15km, n7, σ0°51/9, mb3.7/2, 1C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.39	308⇑	*e*Pn	Pn	06 14 51.2	+0.4
LVC				*e*Sn	Sn	06 15 22.9	-0.2
LPAZ	La Paz	7.85	351	P	Pn	06 16 01.4	+0.9
	0.4nm,0.3s,baz=157,slow=9.0,SNR=16						
LPAZ				S	Sn	06 17 28.1	-0.6
	baz=252,slow=20,SNR=2.3						
CPUP	Villa Florida	8.92	106	P	Pn	06 16 13.9	-0.5
	0.2nm,0.3s,baz=235,slow=16,SNR=2.8						
SAML	Samuel	15.46	14	*e*P	Pn	06 17 37.5	-0.2
	1.0nm,0.8s						
BDFB	Brasilia	19.60	68	P	P	06 18 24.1	+0.8
	0.9nm,0.3s,baz=242,slow=11,SNR=20						
QSPA	South Pole Qui	66.11	180	*e*P	P	06 24 36.4	-0.2
	1.1nm,0.4s,mb4.0						
TORD	Torodi Ar. Bea	76.48	69	P	P	06 25 38.3	-0.4
	0.4nm,0.5s,mb3.3,baz=251,slow=5.2,SNR=9.8						

*NDI **26** 06:52:41.8±1.9, 3498N×7307E, h10km, ML3.4*
*IDC **26** 06:52:41.4±1.0, 3463N×7324E, h0km, mb3.7/6, mb

comp=N,3.8nm,0.3s
GKN Gorkha 11.82 122 *e*P **Pn 06 55 30.8 -1.9**
comp=N,9.7nm,0.4s
GKN *e*S **Sn 06 57 36.1 -8.6**
DMN Daman 12.39 122 *e*P **Pn 06 55 38.3 -2.2**
comp=N,6.5nm,0.4s
PKI Pulchoki 12.62 122 *e*P **Pn 06 55 40.0 -3.7**
JIRN Jiri 13.12 119 *e*P **Pn 06 55 48.5 -2.1**
comp=N,8.8nm,0.3s
MKAR Makanchi Array 13.76 27 Pn **Pn 06 56 01.4 +2.2**
comp=N,0.0nm,0.3s,baz=207,slow=9.3,SNR=2.7
AB31 Akbulak array 17.47 330 ⇓Pn **Pn 06 56 46.6 -1.3**
comp=N,0.2nm,0.4s,baz=145,slow=13,SNR=8.0
AB31 ⇑Sn **Sn 06 59 52.1 -10**
comp=N,1.4nm,1.0s,baz=0.0,slow=0.1,SNR=35
BVAR Borovoye Array 18.33 354 P **Pn 06 56 57.8 -0.6**
comp=N,0.3nm,0.3s,baz=160,slow=11,SNR=4.5
AKTO Aktyubinsk 19.18 329 P **Pn 06 57 08.3 -0.4**
comp=N,0.2nm,0.3s,baz=130,slow=9.8,SNR=5.9
ZAL Zalesovo 20.76 19 P **P 06 57 25.1 0.0**
comp=N,3.4nm,0.4s,baz=296,slow=8.0,SNR=5.4
ARCES ARCESS Array B 43.42 338 P **P 07 00 46.3 -0.6**
comp=N,0.8nm,0.5s,mb3.7,baz=113,slow=8.7,SNR=10.0
NOA NORSAR Array B 46.85 324 P **P 07 01 14.9 +0.6**
comp=N,0.2nm,0.4s,mb4.4,baz=96,slow=7.8,SNR=2.4
TORD Torodi Ar. Bea 67.58 271 P **P 07 03 39.3 -1.6**
comp=N,0.3nm,0.4s,mb3.6,baz=46,slow=5.6,SNR=10
WRA Warramunga Arr 79.50 123 P **P 07 04 49.9 -1.0**
comp=N,0.9nm,1.0s,mb3.7,baz=321,slow=5.0,SNR=8.0
ASAR Alice Springs 81.75 126 P **P 07 05 02.2 -0.8**
comp=N,0.2nm,0.3s,mb3.5,baz=309,slow=5.4,SNR=4.4

IDC 26 06:55:31.7±3.0, 595S×14708E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.5/14, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=61.6km s-min=33.2km az=85.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.43 179**		Pn	Pn	06 56 27.6	+1.2
	12nm,0.3s,baz=318,slow=3.9,SNR=24						
PMG				Sn	Sn	06 57 08.7	+0.9
	11nm,0.3s,baz=18,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**18.62 221**		P	Pn	06 59 50.4	-0.5
	0.3nm,0.3s,baz=46,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.70 214**		P	P	07 00 23.9	-0.4
	0.4nm,0.4s,baz=42,slow=8.4,SNR=9.8						
FITZ	**Fitzroy Crossi**	**24.16 238**		P	P	07 00 50.1	+0.6
	2.3nm,0.6s,baz=55,slow=12,SNR=13						
TORD	**Torodi Ar. Bea**	**145.16 284**		PKPbc	PKPbc	07 15 11.1	+0.4
	0.4nm,0.9s,baz=71,slow=3.6,SNR=2.8						

IDC 26 07:02:09.2±1.2, 003S×12407E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=168.1km s-min=20.4km az=66.0, Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.20 154**		P	P	07 07 06.8	-0.2
	2.5nm,0.6s,baz=332,slow=9.9,SNR=19						
ASAR	**Alice Springs**	**25.36 159**		P	P	07 07 38.5	+0.6
	1.4nm,0.6s,baz=348,slow=16,SNR=17						
SONM	**Songino Array**	**50.09 345**		P	P	07 11 06.5	+0.6
	0.5nm,0.7s,baz=150,slow=6.1,SNR=2.9						
MKAR	**Makanchi Array**	**59.20 328**		P	P	07 12 11.8	-0.2
	0.2nm,0.3s,baz=121,slow=8.3,SNR=3.6						

*NEIC **26** 07:09:59.6, 3730S×17775E, h29km, ML3.9(WEL), After WEL.*
WEL 26 07:09:59.6±0.2, 3733S×17775E, h38km±2km, ML3.8/5, 3C-3D, Error ellipse: s-maj=1.4km s-min=1.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.48 246**		P*	Pn	07 10 10.6	+0.6
WIZ				S*	Sn	07 10 16.4	-0.9
WIZ	**White Island**	**0.48 246**		P	Pn	07 10 10.9	+0.9
MXZ	**Matakaoa Point**	**0.50 117**		⇑P*	Pn	07 10 09.6	-0.7
MXZ				S*	Sn	07 10 18.3	+0.5
MXZ	**Matakaoa Point**	**0.50 117**		P	Pn	07 10 09.6	-0.7
MXZ				S	Sn	07 10 19.2	+1.4
PUZ	**Puketiti**	**0.84 151**		⇓PN	Pn	07 10 15.2	+0.3
PUZ				*e*SN	Sn	07 10 26.6	+0.5
PUZ	**Puketiti**	**0.84 151**		P	Pn	07 10 15.2	+0.3
PUZ				S	Sn	07 10 29.3	+3.2
MWZ	**Matawai**	**1.01 190**		⇑P*	Pn	07 10 16.9	-0.4
MWZ				S*	Sn	07 10 29.4	-0.9
MWZ				S*	Sn	07 10 29.9	-0.4
MWZ	**Matawai**	**1.01 190**		P	Pn	07 10 16.9	-0.4
MWZ				S	Sn	07 10 29.9	-0.4
URZ	**Urewera**	**1.05 208**		P*	Pn	07 10 17.5	-0.3
URZ				S*	Sn	07 10 31.3	0.0
URZ	**Urewera**	**1.05 208**		P	Pn	07 10 17.6	-0.2
MARZ	**Manawahe**	**1.07 232**		P*	Pn	07 10 17.7	-0.4
MARZ	**Manawahe**	**1.07 232**		P	Pn	07 10 17.9	-0.2
MARZ				S	Sn	07 10 32.6	+0.9
MYRZ	**Mayor Island**	**1.20 272**		P*	Pn	07 10 19.7	-0.1
TGRZ	**Tauranga**	**1.25 251**		P*	Pn	07 10 20.5	0.0
TGRZ	**Tauranga**	**1.25 251**		P	Pn	07 10 20.5	0.0
TGRZ				S	Sn	07 10 37.6	+1.6
PATZ	**Paeroa**	**1.57 228**		P*	Pn	07 10 26.4	+1.4
KNZ	**Kokohu**	**1.69 182**		PN	Pn	07 10 25.8	-0.7
KUZ	**Kuaotunu**	**1.72 289**		⇓PN	Pn	07 10 26.6	-0.4
KUZ				SN	Sn	07 10 47.3	-0.5
KUZ	**Kuaotunu**	**1.72 289**		P	Pn	07 10 26.6	-0.4
KUZ				S	Sn	07 10 47.3	-0.5
TOZ	**Tahuroa Road**	**1.83 257**		P*	Pn	07 10 28.4	0.0
TOZ				S*	Sn	07 10 50.1	-0.3
TOZ	**Tahuroa Road**	**1.83 257**		P	Pn	07 10 28.4	-0.1
TOZ				S	Sn	07 10 50.1	-0.3
BKZ	**Black Stump Fm**	**2.08 208**		P*	Pn	07 10 32.3	+0.3
BKZ				S*	Sn	07 11 01.9	+5.3
BKZ	**Black Stump Fm**	**2.08 208**		*e*P	Pn	07 10 32.3	+0.4
BKZ				S	Sn	07 11 01.9	+5.3
OTAZ	**Otara**	**2.29 279**		⇓PN	Pn	07 10 35.4	+0.6
OTAZ	**Otara**	**2.29 279**		P	Pn	07 10 35.4	+0.6
MTAZ	**Motutapu**	**2.33 283**		⇑PN	Pn	07 10 35.9	+0.5
MTAZ	**Motutapu**	**2.33 283**		P	Pn	07 10 35.9	+0.5
KRVZ	**Karewarewa**	**2.42 223**		P*	Pn	07 10 38.1	+1.5
WTVZ	**West Tongariro**	**2.46 223**		P*	Pn	07 10 38.6	+1.5
WTVZ	**West Tongariro**	**2.46 223**		P	Pn	07 10 38.6	+1.4
KAAZ	**Kauri Point**	**2.48 281**		PN	Pn	07 10 38.4	+0.9
KAAZ	**Kauri Point**	**2.48 281**		P	Pn	07 10 38.5	+1.0
NGZ	**Ngauruhoe**	**2.50 222**		P*	Pn	07 10 38.9	+1.2
NGZ	**Ngauruhoe**	**2.50 222**		P	Pn	07 10 39.0	+1.3
TWVZ	**Taurewa**	**2.51 226**		P*	Pn	07 10 38.9	+1.0
TWVZ	**Taurewa**	**2.51 226**		P	Pn	07 10 38.9	+1.0
TUVZ	**Tukino**	**2.54 220**		P*	Pn	07 10 39.1	+0.9
TUVZ	**Tukino**	**2.54 220**		P	Pn	07 10 39.2	+1.0
WPVZ	**Whakapapa**	**2.55 222**		P*	Pn	07 10 39.8	+1.4
WPVZ	**Whakapapa**	**2.55 222**		P	Pn	07 10 39.8	+1.4
WTAZ	**Waiatarua**	**2.56 278**		PN	Pn	07 10 39.4	+0.8
WTAZ	**Waiatarua**	**2.56 278**		P	Pn	07 10 39.4	+0.8
HIZ	**Hauiti**	**2.57 242**		PN	Pn	07 10 39.4	+0.7
HIZ	**Hauiti**	**2.57 242**		*e*P	Pn	07 10 39.4	+0.7
FWVZ	**Far West T-bar**	**2.58 221**		P*	Pn	07 10 39.9	+1.1
FWVZ	**Far West T-bar**	**2.58 221**		P	Pn	07 10 39.9	+1.1
MOVZ	**Moawhango**	**2.60 216**		P*	Pn	07 10 39.1	+0.1
MOVZ				S*	Sn	07 11 10.1	+0.7
MOVZ	**Moawhango**	**2.60 216**		P	Pn	07 10 39.1	+0.1
MOVZ				S	Sn	07 11 10.1	+0.8
WNVZ	**Wahianoa**	**2.61 220**		P*	Pn	07 10 40.0	+0.8
WNVZ	**Wahianoa**	**2.61 220**		P	Pn	07 10 40.0	+0.8
TRVZ	**Turoa**	**2.62 221**		P*	Pn	07 10 40.2	+0.9
PKVZ	**Pokaka**	**2.72 223**		P*	Pn	07 10 42.0	+1.3
MTVZ	**Mangateitei**	**2.72 220**		P*	Pn	07 10 41.4	+0.7
PXZ	**Pawanui**	**2.78 194**		PN	Pn	07 10 39.3	-2.3
PXZ				SN	Sn	07 11 12.4	-1.5
VRZ	**Vera Road**	**2.96 232**		P*	Pn	07 10 45.4	+1.4
VRZ	**Vera Road**	**2.96 232**		*e*P	Pn	07 10 41.6	-2.4
TSZ	**Takapari Road**	**3.06 207**		PN	Pn	07 10 43.6	-1.8
TSZ	**Takapari Road**	**3.06 207**		*e*P	Pn	07 10 43.7	-1.7
TSZ				S	Sn	07 11 21.0	+0.2
WCZ	**Waipu Caves**	**3.07 296**		PN	Pn	07 10 45.6	0.0
WCZ	**Waipu Caves**	**3.07 296**		*e*P	Pn	07 10 45.6	+0.1
WCZ				S	Sn	07 11 23.1	+2.1
WAZ	**Wanganui**	**3.25 221**		P	Pn	07 10 48.5	+0.5
PKE	**Puketi**	**3.49 237**		P	Pn	07 10 54.4	+3.0
BFZ	**Birch Farm**	**3.54 199**		*e*P	Pn	07 10 49.0	-3.0
MRZ	**Mangatainoka R**	**3.73 206**		SN	Sn	07 11 34.7	-2.6
MRZ	**Mangatainoka R**	**3.73 206**		*e*P	Pn	07 10 51.6	-3.0
MRZ				S	Sn	07 11 34.7	-2.5
OUZ	**Omahuta**	**3.96 301**		*e*P	Pn	07 10 58.2	+0.4
KIW	**Kapiti Island**	**4.16 211**		SN	Sn	07 11 45.5	-2.4
KIW	**Kapiti Island**	**4.16 211**		P	Pn	07 10 57.7	-2.8
KIW				S	Sn	07 11 45.5	-2.3
CAW	**Cannon Point**	**4.30 208**		SN	Sn	07 11 48.5	-3.0
CAW	**Cannon Point**	**4.30 208**		P	Pn	07 10 59.5	-3.0
CAW				S	Sn	07 11 48.5	-3.0
PAWZ	**Paruwai Farm**	**4.42 203**		P	Pn	07 11 00.5	-3.7
MRW	**Makara Radio**	**4.55 210**		P	Pn	07 11 02.4	-3.5
SNZO	**South Karori**	**4.62 210**		P	Pn	07 11 03.0	-3.8
TCW	**Tory Channel**	**4.72 214**		P	Pn	07 11 04.6	-3.6
NNZ	**Nelson**	**5.15 220**		SN	Sn	07 12 10.5	-1.8
NNZ	**Nelson**	**5.15 220**		*e*P	Pn	07 11 10.8	-3.3
NNZ				S	Sn	07 12 10.5	-1.8
QRZ	**Quartz Range**	**5.35 228**		*e*P	Pn	07 11 14.3	-2.6
THZ	**Tophouse**	**5.79 219**		P	Pn	07 11 19.3	-3.7
KHZ	**Kahutara**	**6.02 211**		*e*P	Pn	07 11 21.6	-4.5
DSZ	**Denniston Nort**	**6.36 224**		SN	Sn	07 12 37.4	-4.8
DSZ	**Denniston Nort**	**6.36 224**		*e*P	Pn	07 11 26.3	-4.5
DSZ				S	Sn	07 12 37.4	-4.8
LTZ	**Lake Taylor**	**6.87 216**		*e*P	Pn	07 11 32.3	-5.5
MQZ	**McQueen's Vall**	**7.45 210**		*e*P	Pn	07 11 39.4	-6.4
FOZ	**Fox Glacier**	**8.74 222**		*e*P	Pn	07 11 56.1	-7.3
ODZ	**Otahua Downs**	**9.38 213**		*e*P	Pn	07 12 05.9	-6.2
JCZ	**Jackson Bay**	**9.58 223**		*e*P	Pn	07 12 08.6	-6.3

IGQ 26 07:21:14.4, 052S×8015W, h12km±5km, Mb4.0, Ms3.8, 3C-5D, Error ellipse: s-maj=5.6km s-min=3.4km az=54.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERV	**Terraza Guagua**	**1.58**	**77**	⇑P	Pn	07 21 43.8	+1.6
TERV				S	Sn	07 22 06.1	+3.5
PINO	**Pino**	**1.58**	**77**	⇓P	Pn	07 21 43.9	+1.7
PINO				S	Sn	07 22 06.4	+3.8
GGP	**Refugio Guagua**	**1.59**	**78**	⇓P	Pn	07 21 44.1	+1.7
YANA	**Yana**	**1.63**	**76**	⇑P	Pn	07 21 44.5	+1.7
CAMI	**Rancho Maria**	**1.65**	**95**	⇓P	Pn	07 21 45.6	+2.3
NAS1	**Nasa**	**1.68**	**94**	⇑P	Pn	07 21 46.4	+2.9
VC1	**Cotopaxi 1**	**1.75**	**94**	P	Pn	07 21 47.7	+3.1
TAMB	**Tambo**	**1.79**	**96**	P	Pn	07 21 48.7	+3.6
RUN5	**Runtun**	**1.94**	**117**	P	Pn	07 21 48.8	+1.6
ANTI	**Antisana**	**1.99**	**88**	P	Pn	07 21 51.5	+3.7
ANTI				S	Sn	07 22 22.6	+10
COTA	**Cotacachi**	**2.00**	**65**	P	Pn	07 21 51.5	+3.5
CAYR	**Refugio Cayamb**	**2.21**	**76**	⇓P	Pn	07 21 55.8	+4.9
ANGU	**Angureal**	**2.21**	**75**	P	Pn	07 21 55.4	+4.4
ANGU				S	Sn	07 22 30.1	+12
CAYA	**Cayambe**	**2.24**	**75**	⇓P	Pn	07 21 56.1	+4.8
CAYA				S	Sn	07 22 31.6	+13

*CSEM **26** 07:44:52.3±0.1, 3654N×3669E, h20km, Mc2.3, Error ellipse: s-maj=2.1km s-min=1.8km az=90.0*
*ISCJB **26** 07:44:53.5±0.4, 3654N±003×3667E±003, h21km±5km, Error ellipse: s-maj=4.8km s-min=3.7km az=97.2*
*ISK **26** 07:44:53.9, 3657N×3668E, h32km, MD3.3*
*NSSC **26** 07:44:53.4, 3647N×3676E, h8km±4km*
*NEIC **26** 07:44:53.9, 3657N×3668E, h32km, MD3.3(ISK), After ISK.*
ISC 26 07:44:53.1±0.4, 3654N±003×3668E±003, h18km±4km, n32, σ0°74/45, 13D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRWC	**Darouich**	**0.09 352**		⇓P	**Pg**	**07 44 56.9**	**+0.3**
DRWC	**Darouich**	**0.09 352**		⇓*i*P	**Pg**	**07 44 56.9**	**+0.3**
COBT	**Iskenderun**	**0.34 267**		*i* P	**Pg**	**07 45 00.7**	**+0.4**
COBT				*i* S	**Sg**	**07 45 05.0**	**-0.2**
BTCH	**Batrach**	**0.53 200**		⇓P	**Pg**	**07 45 03.8**	**+0.1**
BTCH	**Batrach**	**0.53 200**		⇓*i*P	**Pg**	**07 45 03.8**	**+0.1**
HTY	**Hatay**	**0.60 227**		*e*PG	**Pg**	**07 45 06.0**	**+0.9**
GAZ	**Gaziantep**	**0.76 34**		*i* PG	**Pg**	**07 45 08.8**	**+0.8**
GAZ				*i* SG	**Sg**	**07 45 18.5**	**+0.3**
ARNB	**Al Arnab**	**0.89 221**		⇓P	**Pb**	**07 45 10.3**	**+0.3**
ARNB	**Al Arnab**	**0.89 221**		⇓*i*P	**Pb**	**07 45 10.3**	**+0.3**
CEYT	**Ceyhan**	**0.89 303**		PG	**Pg**	**07 45 10.2**	**-0.2**
SLNF	**Slenfeh**	**1.01 202**		⇑P	**Pb**	**07 45 12.0**	**-0.1**
SLNF				⇓S	**Sb**	**07 45 25.7**	**+0.7**
SLNF	**Slenfeh**	**1.01 202**		⇑*i*P	**Pb**	**07 45 12.0**	**-0.1**
SLNF				⇓*i*S	**Sb**	**07 45 25.7**	**+0.7**
WRDH	**Warideh**	**1.05 192**		⇑P	**Pb**	**07 45 12.4**	**-0.3**
WRDH	**Warideh**	**1.05 192**		⇑*i*P	**Pb**	**07 45 12.4**	**-0.4**
KRTS	**Karatas**	**1.05 272**		PG	**Pg**	**07 45 13.1**	**-0.4**
KRTS				SG	**Sg**	**07 45 26.1**	**-1.2**
SLMH	**Al Salmeh**	**1.06 107**		⇑*i*P	**Pb**	**07 45 12.2**	**-0.7**
SLMH				⇓*i*S	**Sb**	**07 45 25.6**	**-0.8**
GZT	**Gaziantep**	**1.08 41**		*i* P	**Pb**	**07 45 14.0**	**+0.7**
GZT				*i* S	**Sb**	**07 45 27.0**	**-0.1**
KOZT	**Kozan**	**1.16 324**		PN	**Pn**	**07 45 13.8**	**-0.7**
KARA	**Karaisali**	**1.49 299**		PN	**Pn**	**07 45 19.1**	**+0.1**
BIDA	**Albida**	**1.55 191**		⇑P	**Pn**	**07 45 18.9**	**-0.9**
BIDA				⇓S	**Sn**	**07 45 39.8**	**+0.4**
BIDA	**Albida**	**1.55 191**		⇑*i*P	**Pn**	**07 45 18.9**	**-0.9**
BIDA				⇓*i*S	**Sn**	**07 45 39.8**	**+0.4**
ATAB	**Bozova**	**1.59 54**		*i* P	**Pg**	**07 45 22.8**	**-0.9**
ATAB				*i* S	**Sg**	**07 45 44.8**	**+0.3**
JHLN	**Al Jahlan**	**1.67 121**		⇓P	**Pn**	**07 45 22.6**	**+1.2**
JHLN	**Al Jahlan**	**1.67 121**		⇓*i*P	**Pn**	**07 45 22.6**	**+1.2**
MERS	**Mersin**	**1.77 281**		PN	**Pn**	**07 45 23.6**	**+0.8**
URFA	**Urfa**	**1.94 62**		*e*PN	**Pn**	**07 45 25.4**	**+0.3**
MEST	**Erdemli**	**2.04 272**		*i* P	**Pn**	**07 45 26.6**	**0.0**
MEST				*i* S	**Sb**	**07 45 55.3**	**+0.5**
MYA	**Malataya**	**2.26 37**		*e*PN	**Pn**	**07 45 29.1**	**-0.5**
FKH	**Fakeheh**	**2.31 186**		*e*P	**Sn**	**07 45 55.0**	**-3.2**
FKH				*e*S	**Sg**	**07 46 02.4**	**-4.9**
FKH	**Fakeheh**	**2.31 186**		*e*S	**Sb**	**07 46 02.4**	**0.0**
BNN	**Bunyan**	**2.41 344**		*e*PN	**Pn**	**07 45 30.8**	**-0.8**
ELZG	**Elazig**	**2.68 42**		*i* P	**Pn**	**07 45 37.3**	**+1.9**
ELZG				*i* S	**Sg**	**07 46 18.3**	**-1.0**

IDC 26 08:00:02.2±4.7, 3021S×13870E, h0km, mb1 3.0/3, mb1mx2.9/12, mbtmp2.7/3, ML2.3/2, Error ellipse: s-maj=154.6km s-min=18.0km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.99 124**		Pn	Pn	08 00 49.7	-1.1
	0.2nm,0.3s,baz=315,slow=13,SNR=3.0						
STKA				Sn	Sn	08 01 27.4	+0.1
	0.6nm,0.3s,baz=232,slow=7.6,SNR=4.9						
STKA				Lg		08 01 38.4	
	0.7nm,0.3s,baz=5.9,slow=23,SNR=7.1						
ASAR	**Alice Springs**	**7.80 326**		Pn	Pn	08 01 57.5	+0.6
	0.1nm,0.3s,baz=152,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**10.96 338**		Pn	Pn	08 02 40.5	+0.2
	0.0nm,0.3s,baz=155,slow=14,SNR=2.6						

*IDC **26** 08:10:07.3±1.2, 1067S×16428E, h0km, mb3.9/8, mb1 4.1/9, mb1mx4.0/15, mbtmp3.9/9, ML4.3/2, MS3.7/8, Ms1 3.7/8, ms1mx3.4/19, Error ellipse: s-maj=32.2km s-min=24.4km az=119.0*
*ISCJB **26** 08:10:14.6±2.1, 11.12S±009×1643E±0.1, h65km±17km, mb3.8/9, Error ellipse: s-maj=24.2km s-min=10.0km az=120.0*
*NEIC **26** 08:10:15.7±2.1, 1096S×16438E, h65km±17km, mb4.4/3, Error ellipse: s-maj=22.8km s-min=16.0km az=52.0*
ISC 26 08:10:15.9±1.8, 1104S±009×1644E±.01, h63km±14km, n28, σ1°26/24, mb3.9/9, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.66 290**		*e*Pn	**Pn**	**08 11 24.2**	**+0.5**
DZM	**Mont Dzumac**	**11.14 170**		*e*P	**Pn**	**08 12 52.2**	**-0.2**
DZM				*e*S	**Sn**	**08 14 51.7**	**-3.5**
DZM	**Mont Dzumac**	**11.14 170**		Pn	**Pn**	**08 12 52.2**	**-0.2**
	12nm,0.3s,baz=296,slow=21,SNR=206						
DZM				Sn	**Sn**	**08 14 56.1**	**+0.9**
	1.1nm,0.3s,baz=163,slow=19,SNR=4.9						
DZM				LR	LR	08 16 33.0	
	comp=Z,503nm,21.0s,baz=30,slow=34						
DZM	**Mont Dzumac**	**11.14 170**		Pn	**Pn**	**08 12 52.2**	**-0.2**
DZM				Sn	**Sn**	**08 14 56.1**	**+0.9**
NOUC	**Port Laguerre**	**11.15 171**		*e*P	**Pn**	**08 12 52.8**	**+0.4**
NOUC				*e*S	**Sn**	**08 14 53.6**	**-1.8**
PMG	**Port Moresby**	**17.04 274**		*e*P	**Pn**	**08 14 04.3**	**-5.7**
	52nm,1.2s						
CTA	**Charters Tower**	**19.64 241**		P	**Pn**	**08 14 39.2**	**-2.1**
	0.2nm,0.3s,baz=75,slow=13,SNR=2.1						
CTAO	**Charters Tower**	**19.64 241**		*e*P	**Pn**	**08 14 43.0**	**+1.7**
	20nm,1.0s						
AFI	**Afiamalu**	**23.43 99**		LR	LR	08 22 53.0	
	comp=Z,169nm,20.6s,baz=278,slow=32						
URZ	**Urewera**	**29.40 159**		LR	LR	08 25 10.1	
	comp=Z,84nm,18.8s,baz=246,slow=30						
STKA	**Stephens Creek**	**29.55 222**		P	**P**	**08 16 15.6**	**+1.1**
	3.1nm,0.6s,mb4.2,baz=49,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**29.55 222**		P	**P**	**08 16 15.6**	**+1.1**
WRA	**Warramunga Arr**	**30.25 249**		P	**P**	**08 16 20.7**	**+0.1**
	0.6nm,0.5s,mb3.6,baz=70,slow=9.0,SNR=15						
GUMO	**Guam**	**31.21 321**		LR	LR	08 27 37.5	
	comp=Z,100nm,21.4s,baz=119,slow=34						
ASAR	**Alice Springs**	**31.62 243**		P	**P**	**08 16 32.5**	**-0.3**
	0.5nm,0.5s,mb3.6,baz=63,slow=10,SNR=14						
RAR	**Rarotonga**	**35.80 111**		LR	LR	08 28 37.6	
	comp=Z,130nm,19.5s,baz=299,slow=31						
FITZ	**Fitzroy Crossi**	**38.11 255**		P	**P**	**08 17 29.1**	**+0.5**
	1.0nm,0.5s,mb3.8,baz=77,slow=12,SNR=5.7						
PPT	**Papeete**	**44.98 104**		*e*LR	LR	08 31 18.9	
	88nm,21.8s,baz=271						
TBI	**Tubuai**	**45.56 112**		*e*LQ		08 29 35.2	
	256nm,31.5s						
TBI				*e*LR	LR	08 31 41.7	
	182nm,28.5s,baz=285						
MJAR	**Matsushiro Arr**	**53.37 334**		LR	LR	08 41 05.0	
	comp=Z,67nm,18.2s,baz=165,slow=35						
VNDA	**Vanda**	**66.48 181**		P	**P**	**08 21 00.5**	**+1.7**
	1.0nm,0.9s,mb3.8,baz=353,slow=3.2,SNR=3.3						
VNDA	**Vanda**	**66.48 181**		P	**P**	**08 21 00.5**	**+1.7**
SONM	**Songino Array**	**77.88 324**		P	**P**	**08 22 04.6**	**-2.2**
	1.1nm,1.0s,mb3.7,baz=151,slow=3.4,SNR=5.5						
SONM				LR	LR	08 54 58.7	
	comp=Z,46nm,18.7s,baz=110,slow=35						
QSPA	**South Pole Qui**	**78.97 180**		*e*P	**P**	**08 22 12.7**	**-0.1**
	3.6nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**87.03 50**		P	**P**	**08 22 56.0**	**+1.5**
	0.4nm,0.8s,mb3.7,baz=199,slow=1.9,SNR=2.8						
NVAR	**Mina Array Bea**	**87.03 50**		P	**P**	**08 22 56.0**	**+1.5**
MKAR	**Makanchi Array**	**92.61 317**		P	**P**	**08 23 18.3**	**-2.3**
	0.6nm,0.7s,mb4.2,baz=93,slow=5.3,SNR=6.2						
YKA	**Yellowknife Ar**	**95.58 27**		LR	LR	08 59 24.3	
	comp=Z,42nm,20.5s,baz=240,slow=31						

IDC 26 08:13:39.9±1.8, 1139N×9325E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/22, mbtmp4.0/8, Error ellipse: s-maj=86.9km s-min=16.5km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.49 347**		P	P	08 20 47.4	+0.7
	0.4nm,0.3s,baz=163,slow=8.9,SNR=6.7						
SONM	**Songino Array**	**37.97 14**		P	P	08 20 59.3	0.0
	0.2nm,0.3s,baz=190,slow=7.3,SNR=3.3						
ZAL	**Zalesovo**	**42.97 353**		P	P	08 21 40.5	-0.2
	2.6nm,0.3s,baz=319,slow=5.5,SNR=4.9						
FITZ	**Fitzroy Crossi**	**43.36 132**		P	P	08 21 44.6	+0.7
	1.0nm,0.4s,baz=316,slow=8.1,SNR=13						
BVAR	**Borovoye Array**	**45.40 341**		P	P	08 21 59.7	-0.5
	0.7nm,0.4s,baz=142,slow=8.3,SNR=4.5						
WRA	**Warramunga Arr**	**51.04 127**		P	P	08 22 43.9	+0.2
	1.7nm,0.5s,baz=301,slow=10,SNR=31						
ASAR	**Alice Springs**	**52.85 131**		P	P	08 22 57.5	+0.3
	1.0nm,0.4s,baz=307,slow=6.4,SNR=23						
ARCES	**ARCESS Array B**	**71.69 340**		P	P	08 25 03.2	-0.3
	3.5nm,1.1s,baz=103,slow=7.3,SNR=5.6						

IDC 26 08:24:34.1±3.3, 1136S×16569E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=67.3km s-min=43.4km az=81.0, Santa Cruz Islands

| Code | Station

SONM pP pP 09 00 44.7 -1.0
comp=Z,5.0nm,1.1s,baz=185,slow=8.2,SNR=12
ULN Ulaanbaatar 54.27 4 *e*P **P** 09 00 40.2 -0.4
comp=Z,5.0nm,1.1s,mb4.4
ULN *e*pP pP 09 00 45.1 -1.2
MKAR Makanchi Array 55.97 343 P **P** 09 00 52.3 -0.5
comp=Z,1.6nm,0.7s,mb4.2,baz=143,slow=8.4,SNR=17
MKAR pP pP 09 00 57.7 -0.8
comp=Z,2.9nm,0.7s,baz=149,slow=7.3,SNR=18
MKAR Makanchi Array 55.97 343 P **P** 09 00 52.3 -0.5
MKAR pP pP 09 00 57.7 -0.8
ATD Arta Tunnel 61.87 287 LR LR 09 23 50.8
comp=Z,50nm,18.6s,MS3.7,baz=207,slow=32
ZAL Zalesovo 61.99 348 P **P** 09 01 34.0 -0.6
comp=Z,2.1nm,0.4s,mb4.6,baz=90,slow=4.1,SNR=7.8
ZAL LR LR 09 32 26.8
comp=Z,100nm,18.7s,MS4.0,baz=130,slow=40
BVAR Borovoye Array 65.19 339 P **P** 09 01 54.7 -1.1
comp=Z,0.8nm,0.4s,mb4.1,baz=141,slow=9.3,SNR=6.7
BVAR pP pP 09 02 00.3 -1.2
comp=Z,2.2nm,0.6s,baz=141,slow=9.6,SNR=6.4
MAW Mawson 66.58 195 LR LR 09 24 57.2
comp=Z,148nm,18.8s,MS4.2,baz=248,slow=30
URZ Urewera 74.02 128 LR LR 09 31 46.2
comp=Z,128nm,19.9s,MS4.2,baz=210,slow=33
BRTR Keskin Array B 78.09 313 P **P** 09 03 14.4 +1.0
comp=Z,1.3nm,0.8s,mb3.9,baz=133,slow=7.1,SNR=8.0
BRTR pP pP 09 03 20.1 +0.9
comp=Z,1.3nm,0.8s,baz=116,slow=5.6,SNR=5.9
AKASG Malin Array Be 84.47 322 P **P** 09 03 47.6 +0.3
comp=Z,0.2nm,0.3s,mb3.7,baz=94,slow=5.1,SNR=5.5
AKASG pP pP 09 03 52.7 -0.5
comp=Z,0.5nm,0.5s,baz=94,slow=4.7,SNR=2.2
AKASG Malin Array Be 84.47 322 P **P** 09 03 47.6 +0.3
AKASG pP pP 09 03 52.7 -0.5
FINES FINESS Array B 89.16 332 P **P** 09 04 10.9 +0.7
comp=Z,1.7nm,0.9s,mb4.4,baz=156,slow=8.3,SNR=3.7
FINES pP pP 09 04 16.5 +0.5
comp=Z,0.7nm,0.5s,baz=90,slow=5.9,SNR=2.8
FINES FINESS Array B 89.16 332 P **P** 09 04 10.9 +0.7
FINES pP pP 09 04 16.5 +0.4
LTX Lajitas 146.53 44 *e*PKPab PKPab 09 10 57.6 +0.8
LTX *e*pPKPdf pPKPdf 09 11 03.0 +2.6

IDC 26 09:10:48.8±1.7,2036S×17379W,h0km,mb3.6/2, mb1 4.1/4,mb1mx3.8/16,mbtmp4.1/4,ML4.1/1,Error ellipse: s-maj=57.0km s-min=30.0km az=153.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.69**	**17**	Pn	Pn	09 12 28.7	+0.3
	2.2nm,0.3s,baz=2.1,slow=18,SNR=7.5						
AFI				Sn	Sn	09 13 35.3	-10
	8.2nm,0.3s,baz=174,slow=20,SNR=7.9						
RAR	**Rarotonga**	**13.14**	**96**	Pn	Pn	09 13 56.7	+0.1
	1.0nm,0.3s,baz=76,slow=20,SNR=8.8						
ASAR	**Alice Springs**	**48.39**	**256**	P	P	09 19 32.9	+0.4
	0.5nm,0.6s,baz=93,slow=7.9,SNR=8.0						
WRA	**Warramunga Arr**	**48.53**	**261**	P	P	09 19 34.0	+0.4
	0.4nm,0.6s,baz=98,slow=8.6,SNR=9.7						
AKASG	**Malin Array Be**	**144.69**	**335**	PKP	PKPdf	09 30 26.5	-1.0
	0.5nm,0.4s,baz=33,slow=4.1,SNR=5.2						

*ISCJB **26** 09:12:38.1±0.3,3481N±002×7400E±005,h10km, mb3.9/10,Error ellipse: s-maj=5.8km s-min=3.2km az=146.8*
*IDC **26** 09:12:38.0±0.8,3476N×7375E,h0km,mb4.1/10, mb1 4.3/12,mb1mx4.1/23,mbtmp4.1/12,ML4.1/3,Error ellipse: s-maj=22.2km s-min=18.5km az=39.0*
*NEIC **26** 09:12:39.5±0.7,3475N×7371E,h10km,mb4.1/4,Error ellipse: s-maj=12.5km s-min=12.3km az=111.0*
*NDI **26** 09:12:40.1±2.3,3490N×7353E,h10km,ML4.1, mb4.1(NEIC)*
*NNC **26** 09:12:47.0±3.2,3503N×7282E,h33km±67km,mb3.5, mpv3.5,Error ellipse: s-maj=56.5km s-min=31.4km az=142.0*

ISC 26 09:12:39.9±0.3,3484N±003×7387E±005,h10km,n54, σ1§29/71,mb3.9/10,7C-5D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.28**	**203**	P	**Pn**	09 13 02.2	-1.7
THW	**Thamme Wali**	**2.70**	**221**	P	**Pn**	09 13 24.0	+0.6
DLH	**Dalhousie**	**2.89**	**142**	*e*P	**Pn**	09 13 31.0	+5.0
DLH				*e*x	x	09 14 16.0	
SARP	**Sargodha**	**3.08**	**199**	P	**Pn**	09 13 29.4	+0.8
SARP				S	**Sn**	09 14 06.0	+0.5
PONG	**Pong**	**3.37**	**148**	*e*x	x	09 13 42.0	
PONG				*e*x	x	09 14 29.0	
SBDP	**Sheikh Budin**	**3.60**	**226**	P	**Pn**	09 13 36.5	+0.8
BHK	**Bhakra**	**4.03**	**147**	*e*P	**Pn**	09 13 45.8	+4.1
SDNR	**Sundarnagar**	**4.23**	**141**	*e*P	**Pn**	09 13 47.0	+2.6
SDNR				*e*S	**Sn**	09 14 36.0	+2.1
DRP	**Derazinda**	**4.35**	**226**	⇑P	**Pn**	09 13 47.0	+0.9
SMLA	**Simla**	**4.63**	**142**	*e*P	**Pn**	09 13 53.0	+3.1
SMLA				*e*S	**Sn**	09 14 45.8	+2.1
	1μm,0.3s						
KLP	**Kalpa**	**4.94**	**131**	*e*P	**Pn**	09 13 57.5	+3.3
KLP				*e*S	**Sn**	09 14 55.7	+4.3
KLP				AML	AML	09 15 25.6	
	comp=E,749nm,0.7s						
KLP				AML	AML	09 15 26.2	
	comp=N,390nm,0.7s						
NDI	**New Delhi**	**6.77**	**154**	*e*x	x	09 14 12.0	
NDI				*e*S	**Sn**	09 15 36.0	-0.5
AYAN	**Aya Nagar**	**6.92**	**155**	*e*P	**Pn**	09 14 22.7	+1.3
AYAN				*e*S	**Sn**	09 15 39.2	-1.1
KHET	**Khetri**	**6.95**	**166**	*e*P	**Pn**	09 14 23.7	+1.9
KHET				*e*S	**Sn**	09 15 39.1	-1.8
SONA	**Sohna**	**7.12**	**156**	*e*P	**Pn**	09 14 24.5	+0.3
SONA				*e*S	**Sn**	09 15 42.8	-2.3
SONA				AML	AML	09 16 36.9	
	comp=N,76nm,0.5s						
SONA				AML	AML	09 16 36.9	
	comp=E,60nm,0.9s						
LGTI	**Lohaghat**	**7.63**	**133**	*e*P	**Pn**	09 14 33.0	+1.9
LGTI				*e*S	**Sn**	09 15 52.5	-5.1
TKM2	**Tokmak 2**	**8.18**	**9**	⇓Pn	**Pn**	09 14 42.9	+4.2
	comp=E,0.2nm,0.5s						
TKM2				⇓Sn	**Sn**	09 16 16.0	+4.9
	comp=E,0.7nm,0.7s						
AJM	**Ajmer**	**8.36**	**175**	*i* S	**Sn**	09 16 11.0	-4.7
KK31	**Karatay Array**	**8.65**	**343**	Pn	**Pn**	09 14 47.2	+2.1
	comp=E,5.0nm,0.3s,baz=168,slow=13,SNR=153						
KK31				⇓Sn	**Sn**	09 16 22.2	-0.5
	comp=E,4.6nm,0.3s,baz=186,slow=25,SNR=4.3						
KOLN	**Koldanda**	**10.90**	**128**	*e*Pn	**Pn**	09 15 15.8	-0.2
KOLN				*e*Sn	**Sn**	09 17 15.7	-2.4
	comp=E,36nm,0.5s						
GKN	**Gorkha**	**11.45**	**124**	*e*Pn	**Pn**	09 15 23.5	+0.1
GKN				*e*Sn	**Sn**	09 17 26.2	-5.2
	comp=E,96nm,0.6s						
DMN	**Daman**	**12.02**	**124**	*e*Pn	**Pn**	09 15 30.9	-0.3
DMN				*e*Sn	**Sn**	09 17 41.7	-3.6
	comp=E,47nm,0.6s						
KKN	**Kakani**	**12.02**	**123**	*e*Pn	**Pn**	09 15 30.2	-1.1
KKN				*e*Sn	**Sn**	09 17 40.9	-4.6
	comp=E,33nm,0.5s						
PKI	**Pulchoki**	**12.25**	**123**	*e*Pn	**Pn**	09 15 33.9	-0.5
PKI				*e*Sn	**Sn**	09 17 45.7	-5.3
	comp=E,56nm,0.8s						
GUN	**Gumba**	**12.37**	**121**	*e*Pn	**Pn**	09 15 35.1	-0.9
GUN				*e*Sn	**Sn**	09 17 49.0	-4.9
	comp=E,18nm,0.4s						
JIRN	**Jiri**	**12.74**	**121**	*e*Pn	**Pn**	09 15 40.4	-0.7
JIRN				*e*Sn	**Sn**	09 17 58.3	-4.7
	comp=E,35nm,0.5s						
MK06	**Makanchi Array**	**13.52**	**26**	⇑P	**Pn**	09 16 00.4	+8.7
	comp=E,2.8nm,0.9s						
MKAR	**Makanchi Array**	**13.53**	**25**	Pn	**Pn**	09 15 53.8	+2.0
	comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**13.53**	**25**	Pn	**Pn**	09 15 53.8	+2.0
KURK	**Kurchatov**	**16.24**	**11**	⇓P	**Pn**	09 16 29.5	+1.4
	comp=E,3.0nm,0.9s						
KURK	**Kurchatov**	**16.24**	**11**	*e*P	**Pn**	09 16 30.0	+1.9
	comp=E,6.4nm,0.8s						
AB31	**Akbulak array**	**17.68**	**329**	P	**Pn**	09 16 45.3	-1.0
	comp=E,2.0nm,0.7s,baz=136,slow=15,SNR=31						
AB31				⇓S	**Sn**	09 19 50.9	-12
	comp=E,0.6nm,0.4s,baz=147,slow=20,SNR=6.4						
VOSK	**Vostochnaya**	**17.99**	**354**	⇑P	**Pn**	09 16 51.0	+0.9
	comp=E,2.7nm,0.8s						
BVA0	**Borovoye Array**	**18.34**	**353**	⇑P	**Pn**	09 16 54.8	+0.4
	comp=E,0.9nm,0.8s,baz=227,slow=41,SNR=25						
BVAR	**Borovoye Array**	**18.34**	**353**	P	**Pn**	09 16 53.4	-1.1
	comp=E,2.1nm,0.3s,baz=156,slow=8.8,SNR=19						
ZRNK	**Zerenda**	**18.43**	**351**	⇑P	**Pn**	09 16 52.9	-2.5
	comp=E,2.6nm,0.6s						
CHKZ	**Chkalovo**	**18.97**	**354**	⇑P	**Pn**	09 17 01.2	-0.8
	comp=E,1.0nm,0.5s						
AKTK	**Aktyubinsk**	**19.40**	**328**	P	**Pn**	09 17 06.1	-1.0
AKTO	**Aktyubinsk**	**19.40**	**328**	⇑P	**Pn**	09 17 05.4	-1.7
	comp=E,0.1nm,0.6s						
AKTO	**Aktyubinsk**	**19.40**	**328**	P	**Pn**	09 17 06.1	-1.0
	comp=E,0.9nm,0.3s,baz=128,slow=11,SNR=24						
ZAL	**Zalesovo**	**20.58**	**19**	P	**P**	09 17 19.6	+0.7
	comp=E,8.6nm,0.3s,baz=246,slow=6.3,SNR=13						
ARU	**Arti**	**23.99**	**339**	*e*P	**P**	09 17 54.3	-0.3
	comp=E,5.8nm,0.7s,mb4.1						
SONM	**Songino Array**	**27.44**	**52**	P	**P**	09 18 26.4	+0.5
	comp=E,0.9nm,0.4s,mb3.7,baz=254,slow=9.6,SNR=9.7						
BRTR	**Keskin Array B**	**32.18**	**291**	P	**P**	09 19 08.8	+0.8
	comp=E,0.6nm,0.7s,mb3.5,baz=87,slow=11,SNR=2.5						
ARCES	**ARCESS Array B**	**43.56**	**338**	P	**P**	09 20 44.1	+0.1
	comp=E,0.4nm,0.4s,mb3.5,baz=116,slow=8.3,SNR=10						
NB2	**NORSAR Subarra**	**47.10**	**324**	P	**P**	09 21 10.6	-1.4
	comp=Z,0.6nm,0.6s,mb3.7,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**47.10**	**324**	P	**P**	09 21 10.7	-1.3
	comp=Z,1.0nm,0.7s,mb3.8,baz=95,slow=7.6,SNR=9.2						
TORD	**Torodi Ar. Bea**	**68.05**	**271**	P	**P**	09 23 38.1	-1.5
	comp=Z,2.5nm,0.7s,mb4.3,baz=46,slow=5.9,SNR=22						
INK	**Inuvik**	**75.14**	**10**	P	**P**	09 24 22.4	0.0
	comp=Z,1.3nm,0.4s,mb4.2,baz=353,slow=3.8,SNR=16						
INK	**Inuvik**	**75.14**	**10**	*e*P	**P**	09 24 22.1	-0.3
	comp=Z,1.5nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**79.13**	**124**	P	**P**	09 24 45.2	+0.5
	comp=Z,1.4nm,0.5s,mb4.2,baz=321,slow=4.9,SNR=33						
ASAR	**Alice Springs**	**81.39**	**127**	P	**P**	09 24 57.2	+0.3
	comp=Z,1.2nm,0.6s,mb4.0,baz=316,slow=5.9,SNR=11						
YKA	**Yellowknife Ar**	**82.76**	**4**	P	**P**	09 25 03.6	-0.5
	comp=Z,0.4nm,0.4s,mb3.8,baz=348,slow=5.5,SNR=5.8						
YKA	**Yellowknife Ar**	**82.76**	**4**	P	**P**	09 25 03.6	-0.5

*TIF **26** 09:15:57.7,4253N×4353E,h20km±3km*
*ISCJB **26** 09:15:58.1±0.4,4253N±002×4351E±003,h10km,Error ellipse: s-maj=3.6km s-min=2.9km az=160.7*
*MOS **26** 09:16:00.2±1.1,4266N×4367E,h19km,mb4.0/1,Error ellipse: s-maj=15.5km s-min=8.6km az=72.8*

ISC 26 09:15:58.2±0.4,4253N±002×4351E±003,h3km±6km,n17, σ0§91/34,6C-4D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMRG		**0.28**	**267**	P	**Pg**	09 16 03.9	+0.3
AMRG				S	**Sg**	09 16 08.5	+1.3
DIGR	**Digorskoe uzhe**	**0.37**	**8**	⇓*i*PG	**Pg**	09 16 05.2	-0.2
DIGR				*i* S	**Sg**	09 16 11.1	+0.8
LACR	**Lac**	**0.65**	**63**	⇑*i*PG	**Pg**	09 16 10.2	-0.5
LACR				*i* S	**Sg**	09 16 19.7	+0.6
KORR	**Kora**	**0.69**	**36**	⇑*i*PG	**Pg**	09 16 11.0	-0.5
KORR				*i* S	**Sg**	09 16 21.2	+0.8
GOR	**Gori**	**0.70**	**141**	P	**Pg**	09 16 12.9	+1.3
GOR				S	**Sg**	09 16 21.8	+1.0
ARNR	**Ardon**	**0.87**	**40**	⇑*e*PG	**Pg**	09 16 14.3	-0.6
ARNR				*e*S	**Sg**	09 16 26.9	+0.8
VLKR	**Vladikavkaz**	**1.00**	**58**	⇓*e*PG	**Pg**	09 16 16.6	-0.8
VLKR				*e*S	**Sg**	09 16 31.0	+0.6
KMSR	**Komsomolskaya**	**1.02**	**34**	⇓*e*PG	**Pg**	09 16 17.1	-0.6
KMSR				*e*S	**Sg**	09 16 31.7	+0.8
SNJR	**Sundja**	**1.10**	**60**	⇓*e*PG	**Pg**	09 16 18.5	-0.8
SNJR				*e*S	**Sg**	09 16 34.1	+0.6
AKH	**Akhalkalaki**	**1.12**	**181**	P	**Pg**	09 16 18.6	-1.0
AKH				S	**Sg**	09 16 34.0	-0.2
BTKR	**Batakoyurt**	**1.13**	**42**	⇑*e*PG	**Pg**	09 16 19.1	-0.8
BTKR				*e*S	**Sg**	09 16 35.2	+0.6
TBLG	**Delisi**	**1.21**	**131**	P	**Pg**	09 16 23.1	+1.6
TBLG				S	**Sg**	09 16 35.8	-1.3
MTA	**Mtatsminda**	**1.27**	**131**	P	**Pg**	09 16 24.3	+1.8
MTA				S	**Sg**	09 16 37.6	-1.3
SHAR	**Shatzhatmas**	**1.36**	**333**	⇑*e*PG	**Pg**	09 16 23.9	-0.4
SHAR				*e*S	**Sg**	09 16 41.8	-0.2
TRKR	**Terskaya**	**1.49**	**36**	⇑*e*PG	**Pg**	09 16 24.9	-1.9
TRKR				*e*S	**Sn**	09 16 45.2	-0.6
KIV	**Kislovodsk**	**1.55**	**337**	*e*PG	**Pg**	09 16 26.9	-1.0
KIV				*e*S	**Sn**	09 16 47.9	+0.7
BEYR	**Belyy Ugol+**	**1.57**	**341**	*e*PG	**Pg**	09 16 27.1	-1.2
BEYR				*e*S	**Sn**	09 16 48.2	+0.5

*BJI **26** 09:39:10.0,336S×12809E,h1km,mB5.2,mb5.1,Ms4.8, Msz4.5*
*CSEM **26** 09:39:18.2,287S×12743E,h5km,mb5.5*
*IDC **26** 09:39:19.4±2.6,273S×12739E,h9km±15km,mb5.1/24, mb1 5.1/26,mb1mx5.1/27,mbtmp5.1/26,ML5.6/1,MS4.7/7, Ms1 4.7/7,ms1mx4.2/22,Error ellipse: s-maj=16.6km s-min=10.9km az=64.0*
*ISCJB **26** 09:39:20.5±0.1,277S±002×12743E±003,h27km, mb5.4/105,MS4.8/132,Error ellipse: s-maj=5.0km s-min=2.7km az=126.5*
*NEIC **26** 09:39:22.1±0.1,278S×12738E,mb5.4/40,MS4.9/113, Error ellipse: s-maj=6.6km s-min=4.3km az=71.0*
NEIC Felt [III] at Namlea, Buru.
*MOS **26** 09:39:22.7±1.5,271S×12739E,h41km,mb5.7/35, MS4.6/21,Error ellipse: s-maj=10.5km s-min=5.9km az=109.8*
*HRVD **26** 09:39:22.1±0.1,267S×12730E,h13km,MW5.4/91, Centroid moment Tensor Solution. LP body waves: s71,c113;Mantle waves: s91,c162; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.89±.03; $M_{\theta\theta}$-0.20±.02; $M_{\phi\phi}$1.09±.02; $M_{r\theta}$-0.45±.05; $M_{\theta\phi}$0.58±.02; $M_{r\phi}$1.04±.08; Best double couple: $M_0$1.62300×10^{17} NP1:ϕ_s51.00000°,δ35.00000°,λ-36.00000°. NP2: ϕ_s171.00000°,δ70.00000°,λ-120.00000°. Principal axes: T 1.6130, Plg20.0000°, Azm283.0000°; N 0.0170, Plg28.0000°, Azm182.0000°; P -1.6320, Plg55.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 09:39:22.5±0.1,279S±002×12750E±003,h29km, h29km±1.3km:pP-P,n429,σ1§21/296,mb5.4/105,MS4.8/132, 24C-24D,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.13**	**142**	P	**Pn**	09 39 45.1	+2.7
	28μm,1.0s						
TLE	**Tual**	**5.94**	**119**	P	**Pn**	09 40 51.5	+3.0
	2μm,0.9s						
PCI	**Palu**	**7.88**	**284**	P	**Pn**	09 41 14.0	-1.1
	4μm,1.2s						
KAPI	**Kappang**	**8.04**	**254**	Pn	**Pn**	09 41 18.3	+1.0
	4μm,0.9s,SNR=60						
KAKA	**Kakadu**	**11.01**	**154**	*e*P	**Pn**	09 42 00.6	+2.6
	508nm,1.0s						
KAKA				*e*S	**Sn**	09 44 04.3	+4.2
TSM	**Tawau**	**11.91**	**306**	P	**Pn**	09 42 07.5	-2.8
KKM	**Kota Kinabalu**	**14.28**	**308**	P	**Pn**	09 42 41.4	-1.2
KKM	**Kota Kinabalu**	**14.28**	**308**	*e*Pn	**Pn**	09 42 42.9	+0.3
FITZ	**Fitzroy Crossi**	**15.33**	**187**	*e*P	**Pn**	09 43 02.1	+5.4
	124nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.33**	**187**	Pn	**Pn**	09 42 56.5	-0.2
	0.2nm,0.3s,baz=28,slow=14,SNR=34						
KSM	**Kuching**	**17.70**	**284**	*e*P	**Pn**	09 43 27.3	+0.6
BJII	**Banjamegara**	**18.28**	**255**	P	**Pn**	09 43 34.7	+0.8
	498nm,1.2s						
WRAB	**Tennant Creek**	**18.31**	**159**	P	**Pn**	09 43 34.0	-0.3
	1μm,0.6s,SNR=92						
WRAB	**Tennant Creek**	**18.31**	**159**	⇓*e*P	**Pn**	09 43 34.2	-0.1
WRAB				*e*		09 46 55.0	
WRAB				pmax	pmax		
	comp=Z,500nm,1.0s						
WRAB	**Tennant Creek**	**18.31**	**159**	⇓*e*Pn	**Pn**	09 43 34.2	0.0
	comp=Z,500nm,1.0s						
WRAB				*e*Sn	**Sn**	09 46 55.0	-2.9
WRA	**Warramunga Arr**	**18.31**	**159**	P	**Pn**	09 43 34.2	-0.2
	comp=Z,22nm,0.3s,baz=341,slow=12,SNR=358						
WRA				S	**Sn**	09 46 58.9	+1.0
	comp=Z,6.9nm,0.3s,baz=345,slow=22,SNR=8.7						
WRA				ScP	ScP	09 51 41.7	+3.2
	baz=338,slow=2.9,SNR=12						
WRA	**Warramunga Arr**	**18.31**	**159**	P	**Pn**	09 43 34.2	-0.1
WRA				S	**Sn**	09 46 58.9	+0.9
WB2	**Warramunga Arr**	**18.32**	**159**	*e*P	**Pn**	09 43 34.1	-0.3
WB2				*e*S	**Sn**	09 46 56.7	-1.4
WB2				*e*SCS	ScS	09 55 18.2	-1.1
MBWA	**Marble Bar**	**19.77**	**202**	P	sP	09 44 01.0	-0.6
	SNR=5.4						
MBWA	**Marble Bar**	**19.77**	**202**	P	sP	09 44 01.0	-0.6
	SNR=5.4						
MBWA	**Marble Bar**	**19.77**	**202**	*e*P	**Pn**	09 43 50.1	-1.6
	comp=Z,202nm,1.4s						
LEM	**Lembang**	**20.21**	**258**	P	**P**	09 43 55.7	+0.7
	comp=Z,405nm,1.0s						
BOLP	**Bolinao**	**20.47**	**339**	*e*P	**P**	09 43 58.5	+0.8
PMG	**Port Moresby**	**20.62**	**109**	P	**P**	09 43 59.7	+0.3
	comp=Z,113nm,0.9s,baz=303,slow=7.2,SNR=15						
PMG	**Port Moresby**	**20.62**	**109**	*c i*P	**P**	09 44 01.9	+2.5
PMG	**Port Moresby**	**20.62**	**109**	*e*P	**P**	09 44 00.4	+1.0
	comp=Z,119nm,0.8s						
PMG				LR	LR		
	comp=Z,5μm,19.0s,MS4.9						
AS31	**Alice Springs**	**21.66**	**164**	*e*P	**P**	09 44 10.9	+0.2
AS31				*e*S	**S**	09 48 06.6	-2.3
ASPA	**Alice Springs**	**21.66**	**164**	*e*P	**P**	09 44 10.9	+0.2
ASPA				*e*S	**S**	09 48 06.6	-2.3
ASAR	**Alice Springs**	**21.66**	**164**	P	**P**	09 44 10.2	-0.4
	comp=Z,32nm,0.4s,mb5.1,baz=346,slow=12,SNR=482						
ASAR				S	**S**	09 48 06.0	-2.9
	comp=Z,91nm,0.8s,baz=345,slow=22,SNR=26						
ASAR				ScP	ScP	09 51 47.7	+1.4
	comp=Z,9.0nm,0.8s,baz=348,slow=2.5,SNR=9.9						
ASAR	**Alice Springs**	**21.66**	**164**	P	**P**	09 44 10.3	-0.4
ASAR				S	**S**	09 48 06.0	-2.9
GUMO	**Guam**	**23.70**	**46**	P	**P**	09 44 32.0	+0.1
	comp=Z,174nm,1.2s,mb5.4,baz=214,slow=8.5,SNR=4.3						
GUMO				LR	LR	09 52 00.7	
	comp=Z,891nm,19.2s,MS4.2,baz=216,slow=32						
KGM	**Kluang**	**24.64**	**281**	P	**P**	09 44 42.3	+1.9
KSI	**Kapahiang**	**24.88**	**267**	P	**P**	09 44 43.2	+0.6
	comp=Z,355nm,1.1s,mb5.8						
CTA	**Charters Tower**	**25.12**	**135**	*e*P	**P**	09 44 46.2	+1.4
	comp=Z,55nm,0.9s,mb5.1						
CTA				*e*SCP	ScP	09 51 58.7	+3.2
CTA	**Charters Tower**	**25.12**	**135**	P	**P**	09 44 46.4	+1.6
	comp=Z,74nm,0.9s,mb5.2,baz=322,slow=12,SNR=45						
CTA	**Charters Tower**	**25.12**	**135**	P	**P**	09 44 46.4	+1.6
CTA				pmax	pmax		
	comp=Z,74nm,0.9s						
CTAO	**Charters Tower**	**25.12**	**135**	PFAKE		09 45 00.0	+15
CTAO				LR	LR		
	comp=Z,4μm,21.0s,MS4.9						
IPM	**Ipoh**	**27.42**	**285**	P	**P**	09 45 07.1	+1.5
QIZ	**Qiongzhong**	**27.78**	**322**	P	**P**	09 45 09.5	+0.7
QIZ				S	**S**	09 49 48.0	-1.7
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.5s						
QIZ				AMB	AMB		
	comp=Z,230nm,14.5s						
QIZ				LR	LR		
	comp=N,2μm,16.9s,MS4.7						
QIZ				LR	LR		
	comp=E,800nm,15.5s,MS4.7						
QIZ				LR	LR		
	comp=Z,870nm,24.6s						
FORT	**Forrest**	**27.85**	**179**	*e*P	**P**	09 45 08.6	-0.8
	comp=Z,66nm,0.5s,mb5.5						
FORT				*e*SCP	ScP	09 52 05.6	+2.0
YHNB	**Yeheng**	**27.93**	**348**	*e*P	**P**	09 45 09.1	-1.0
KULM	**Kulim**	**27.99**	**287**	*e*P	**P**	09 45 11.9	+1.1
KULM				*e*pP	pP	09 45 19.1	-0.1
TATO	**Taipei**	**28.20**	**348**	PFAKE		09 45 20.0	+7.4
TATO				LR	LR		
	comp=Z,853nm,19.0s,MS4.4						
QZH	**Quanzhou**	**28.89**	**343**	*i* PR		09 45 18.3	
QZH				S	**S**	09 50 05.8	-1.4
QZH				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.4						
QZH				AMB	AMB		
	comp=Z,540nm,10.5s						
QZH				LR	LR		
	comp=N,1μm,12.6s,MS4.7						
QZH				LR	LR		
	comp=E,590nm,12.0s,MS4.7						
QZH				LR	LR		
	comp=Z,1μm,19.4s						
PSI	**Prapat**	**29.10**	**281**	P	**P**	09 45 20.8	+0.2
	comp=Z,32nm,0.9s,mb5.0,baz=128,slow=3.3,SNR=9.1						
PSI	**Prapat**	**29.10**	**281**	P	**P**	09 45 20.8	+0.2
GZH	**Guangzhou**	**29.19**	**333**	P	**P**	09 45 23.8	+2.5
GZH				S	**S**	09 50 12.0	+0.1
GZH				LR	LR		
	comp=N,380nm,12.7s,MS4.4						
GZH				LR	LR		
	comp=E,440nm,13.1s,MS4.4						
GZH				LR	LR		
	comp=Z,870nm,15.9s,MS4.5						
KLBR	**Kellerberrin**	**30.09**	**197**	*e*P	**P**	09 45 28.3	-1.0
	comp=Z,14nm,0.5s,mb5.0						
KLBR				*e*PCP	PcP	09 48 31.5	+1.0
KLBR				*e*SCP	ScP	09 52 12.3	+1.6
KKTK	**Khon Kaen**	**30.91**	**309**	P	**P**	09 45 37.5	+0.9
MUN	**Mundaring**	**30.92**	**199**	*e*P	**P**	09 45 34.8	-1.9
NWAO	**Narrogin (SRO)**	**31.49**	**197**	P	**P**	09 45 40.6	-1.0
	comp=Z,16nm,0.7s,mb5.0,baz=10,slow=9.0,SNR=9.8			

comp=Z,910nm,15.2s,MS4.7
WHN Wuhan 35.44 340 ⇓P **P 09 46 16.8 +0.7**
NJ2 Nanjing 35.60 347 *e*P **P 09 46 19.3 +1.8**
NJ2 AP pP 09 46 27.0 +1.0
NJ2 XP sP 09 46 29.5 -0.1
NJ2 PP PP 09 47 39.5 +0.9
NJ2 S **S 09 51 52.0 +0.3**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
NJ2 AMB AMB
comp=Z,130nm,12.0s
NJ2 LR LR
comp=N,2μm,26.2s,MS4.9
NJ2 LR LR
comp=E,2μm,22.8s,MS4.9
NJ2 LR LR
comp=Z,970nm,24.5s,MS4.5
ARMA Armidale 35.73 143 *e*P **P 09 46 19.4 +0.8**
KMI Kunming 36.70 321 P **P 09 46 29.0 +2.2**
KMI AP pP 09 46 40.5 +5.1
KMI XP sP 09 46 45.8 +6.9
KMI PP PP 09 47 50.3 -0.3
KMI S **S 09 52 08.5 +0.1**
KMI AMB AMB
comp=Z,150nm,4.6s
KMI LR LR
comp=N,730nm,17.6s,MS4.7
KMI LR LR
comp=E,710nm,14.9s,MS4.7
KMI LR LR
comp=Z,860nm,28.5s
CNB Canberra Magne 38.20 150⇑ *i*P **P 09 46 40.9 +1.4**
comp=Z,28nm,1.0s,mb5.0
TOO Toolangi 38.36 157⇑ *i*P **P 09 46 42.5 +1.6**
comp=Z,21nm,1.3s,mb4.7
TOO Toolangi 38.36 157⇑ *i*P **P 09 46 42.5 +1.6**
TOO pmax pmax
comp=Z,21nm,1.3s,mb4.7
KS15 Wonju Array Si 40.02 0 *e*P **P 09 46 54.2 -0.6**
KS15 *e*pP pP 09 47 02.0 -1.4
KS15 *e*PcP PcP 09 49 01.4 +1.9
INCN Inchon 40.07 359 PFAKE 09 47 10.0 +15
INCN LR LR
comp=Z,735nm,19.0s,MS4.5
MAJO Matsushiro 40.38 13 *e*P **P 09 46 56.1 -1.7**
MAJO *e* 09 49 01.8
MAJO pmax pmax
comp=Z,60nm,1.0s,mb5.3
MAJO MLR MLR
comp=Z,619nm,19.0s,MS4.5
MAJO Matsushiro 40.38 13 *e*P **P 09 46 56.1 -1.7**
comp=Z,60nm,1.0s,mb5.3
MAJO *e*PcP PcP 09 49 01.8 +1.2
MAJO LR LR
comp=Z,619nm,19.0s,MS4.5
MAT Matsushiro 40.38 13 P **P 09 46 55.8 -2.0**
MAT S **S 09 52 58.0 -6.0**
MAT Matsushiro 40.38 13 *e*P **P 09 46 56.0 -1.8**
MAT *e*S **S 09 52 59.0 -5.0**
MAT pmax pmax
comp=Z,72nm,1.2s,mb5.3
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.5
MAT Matsushiro 40.38 13 *e*P **P 09 46 56.0 -1.8**
comp=Z,72nm,1.2s,mb5.3
MAT *e*S **S 09 52 59.0 -5.0**
MAT LR LR
comp=Z,710nm,20.0s,MS4.5
MJAR Matsushiro Arr 40.38 13 P **P 09 46 55.8 -1.9**
comp=Z,33nm,1.0s,mb5.0,baz=182,slow=10.0,SNR=46
MJAR PcP PcP 09 49 01.5 +0.9
comp=Z,11nm,1.0s,baz=215,slow=4.2,SNR=7.5
MJAR ScP ScP 09 52 50.0 +2.2
comp=Z,3.6nm,1.2s,baz=189,slow=3.6,SNR=5.9
MJAR Matsushiro Arr 40.38 13 P **P 09 46 55.8 -2.0**
MJAR 09 49 01.5
CD2 Chengdu 40.43 328⇓ *i*P **P 09 46 58.0 -0.2**
CD2 AP pP 09 47 07.8 +1.0
CD2 XP sP 09 47 11.8 +1.5
CD2 PP PP 09 48 35.3 +3.8
CD2 PCP PcP 09 49 01.3 +0.5
CD2 S **S 09 53 03.8 -1.0**
CD2 SCS ScS 09 56 59.3 -2.8
CD2 AMB AMB
comp=Z,40nm,1.0s,mb5.1
CD2 AMB AMB
comp=Z,140nm,5.9s
CD2 LR LR
comp=E,380nm,18.0s
CD2 LR LR
comp=Z,390nm,25.2s
XAN Xi'an 40.60 336 P **P 09 46 58.8 -0.8**
XAN PP PP 09 48 35.3 +2.0
XAN S **S 09 53 03.5 -3.7**
XAN AMB AMB
comp=Z,50nm,1.1s,mb5.1
XAN AMB AMB
comp=Z,240nm,12.9s
XAN LR LR
comp=N,270nm,24.7s,MS4.4
XAN LR LR
comp=E,580nm,25.7s,MS4.4
XAN LR LR
comp=Z,790nm,20.3s
DL2 Dalian 41.84 353 P **P 09 47 04.8 -5.0**
DL2 S **S 09 53 21.3 -4.4**
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
DL2 AMB AMB
comp=Z,120nm,5.7s
DL2 LR LR
comp=N,230nm,14.8s,MS4.2
DL2 LR LR
comp=E,180nm,18.0s,MS4.2
DL2 LR LR
comp=Z,380nm,15.0s,MS4.4
NOUC Port Laguerre 42.28 120 *e*P **P 09 47 14.8 +1.5**
DZM Mont Dzumac 42.39 120 *e*P **P 09 47 14.1 -0.1**
DZM Mont Dzumac 42.39 120 P **P 09 47 16.3 +2.1**
comp=Z,54nm,0.9s,mb5.2,baz=283,slow=5.5,SNR=29
TAU Tasmania Unive 43.69 159 PFAKE 09 47 40.0 +15
TAU LR LR
comp=Z,3μm,20.0s,MS5.1
BJT Baijiatuau 43.85 347 *e*P **P 09 47 25.2 -0.8**
BJT pmax pmax
comp=Z,17nm,0.8s
BJT MLR MLR
comp=Z,430nm,20.0s
BJT Baijiatuau 43.85 347 *e*P **P 09 47 25.2 -0.8**
comp=Z,17nm,0.8s,mb4.8
BJT LR LR
comp=Z,430nm,20.0s,MS4.4
WAKE Wake Island 44.30 59 PFAKE 09 47 40.0 +10
WAKE LR LR
comp=Z,943nm,20.0s,MS4.7
LZH Lanzhou 44.54 332 ⇓P **P 09 47 32.5 +0.9**
LZH AP pP 09 47 40.0 -0.3
LZH XP sP 09 47 43.5 -0.3
LZH S **S 09 54 05.5 +0.3**
LZH SS SS 09 57 19.0 -6.3
LZH AMB AMB
comp=Z,100nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,530nm,7.3s
LZH LR LR
comp=E,1μm,14.8s
LZH LR LR
comp=Z,2μm,18.3s,MS5.0
SHL Shillong 44.55 311 *i* P **P 09 47 32.0 +0.4**
SHL *e*S **S 09 54 05.5 +0.1**
SNY Shenyang 44.55 356 ⇑P **P 09 47 30.5 -1.1**
SNY AMB AMB
comp=Z,10.0nm,1.6s,mb4.4
HHC Hu-ho-hao-te 45.80 343 *e*P **P 09 47 41.3 -0.3**
HHC AP pP 09 47 51.0 +0.7
HHC XP sP 09 47 55.0 +1.2
HHC PCP PcP 09 49 18.3 -0.5
HHC PP PP 09 49 28.8 -0.3
HHC PCS PcS 09 53 11.5 -1.5
HHC S **S 09 54 20.8 -2.7**
HHC XS sS 09 54 39.0 +1.1
HHC AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,280nm,5.9s
HHC LR LR
comp=N,350nm,13.1s,MS4.5
HHC LR LR
comp=E,190nm,16.6s,MS4.5
HHC LR LR
comp=Z,590nm,20.2s,MS4.5
VLA Vladivostok 45.87 4 *e*P **P 09 47 41.2 -0.9**
VLA *e* 09 47 57.8
VLA S **S 09 54 23.0 -1.4**
VLA pmax pmax
comp=Z,94nm,1.5s,mb5.5
VLA Vladivostok 45.87 4 *i* Pr 09 47 41.8
CN2 Changchun 46.41 358 *e*P **P 09 47 50.0 +3.6**
CN2 *e*XP sP 09 48 03.0 +4.4
CN2 PCP PcP 09 49 21.5 +0.6
CN2 *e*S **S 09 54 36.0 +3.7**
CN2 SCS ScS 09 57 34.8 -4.7
CN2 SS SS 09 57 51.0 -7.1
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.6
CN2 LR LR
comp=E,300nm,16.0s,MS4.6
CN2 LR LR
comp=Z,500nm,19.0s,MS4.5
ERM Erimo 46.80 16 P **P 09 47 50.2 +0.7**
comp=Z,368nm,0.9s,mb6.3,SNR=6.1
MDJ Mudanjiang 47.23 2 P **P 09 47 52.3 -0.5**
MDJ AP pP 09 47 58.0 -3.5
MDJ PCP PcP 09 49 24.0 +0.2
MDJ PCS PcS 09 53 19.8 +0.8
MDJ S **S 09 54 41.8 -2.1**
MDJ AMB AMB
comp=Z,30nm,1.8s,mb4.9
MDJ AMB AMB
comp=Z,210nm,8.6s
MDJ LR LR
comp=N,340nm,17.8s,MS4.5
MDJ LR LR
comp=E,230nm,15.6s,MS4.5
MDJ LR LR
comp=Z,350nm,18.5s,MS4.4
MDJ Mudanjiang 47.23 2 *e*P **P 09 47 53.1 +0.3**
comp=Z,67nm,1.4s,mb5.4
MDJ LR LR
comp=Z,403nm,19.0s,MS4.4
LSA Lhasa 47.45 316 P **P 09 47 57.0 +2.4**
LSA XP sP 09 48 09.3 +2.5
LSA S **S 09 54 48.8 +1.6**
LSA AMB AMB
comp=Z,80nm,0.8s,mb5.7
LSA AMB AMB
comp=Z,190nm,3.0s
LSA LR LR
comp=N,350nm,28.0s
LSA LR LR
comp=E,400nm,36.0s
LSA LR LR
comp=Z,730nm,30.0s,MS4.5
LSA Lhasa 47.45 316 *e*P **P 09 47 56.6 +2.0**
LSA pmax pmax
comp=Z,88nm,0.8s,mb5.7
LSA MLR MLR
comp=Z,436nm,20.0s,MS4.4
LSA Lhasa 47.45 316 *e*P **P 09 47 56.6 +2.0**
comp=Z,88nm,0.8s,mb5.7
LSA LR LR
comp=Z,436nm,20.0s,MS4.4
PALK Pallekele 47.75 282 *e*P **P 09 47 57.0 +0.1**
comp=Z,175nm,1.8s,mb5.8
PALK *e*pP pP 09 48 05.4 -0.2
PALK LR LR
comp=Z,808nm,21.0s,MS4.7
VIS Vishakhapatnam 48.07 297 *e*P **P 09 47 58.2 -1.1**
VIS AMb AMB 09 48 12.8
comp=Z,142nm,1.3s,mb5.8
BOK Bokaro 48.34 305 *e*P **P 09 48 01.4 0.0**
BOK AMb AMB 09 48 06.9
comp=Z,61nm,1.2s,mb5.5
GTA Gaotai 49.10 332 P **P 09 48 07.3 0.0**
GTA AP pP 09 48 17.0 +0.9
GTA XP sP 09 48 20.5 +1.0
GTA PCP PcP 09 49 32.5 +2.0
GTA PP PP 09 50 02.0 +1.0
GTA SCP ScP 09 53 22.3 -1.3
GTA PCS PcS 09 53 25.0 -1.9
GTA S **S 09 55 11.0 +0.6**
GTA XS sS 09 55 27.5 +2.6
GTA SCS ScS 09 57 57.8 +0.5
GTA SS SS 09 58 38.5 -3.2
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GTA AMB AMB
comp=Z,260nm,7.6s
GTA LR LR
comp=N,240nm,18.3s,MS4.5
GTA LR LR
comp=E,370nm,20.6s,MS4.5
GTA LR LR
comp=Z,350nm,20.6s,MS4.3
JIRN Jiri 49.97 310 *e*P **P 09 48 15.0 +1.1**
GUN Gumba 50.33 310 *e*P **P 09 48 17.7 +1.1**
PKI Pulchoki 50.52 310 *e*P **P 09 48 18.8 +0.7**
KKN Kakani 50.73 310 *e*P **P 09 48 20.4 +0.8**
BLSP Bilaspur 50.76 302 *e*P **P 09 48 18.8 -1.0**
BLSP AMb AMB 09 48 22.7
comp=Z,130nm,0.8s,mb5.9
DMN Daman 50.77 309 *e*P **P 09 48 21.0 +1.0**
YSS Yuzh-Sakhalins 51.32 13 *e*P **P 09 48 24.1 0.0**
YSS *e* 09 49 40.0
YSS pmax pmax
comp=Z,93nm,1.4s,mb5.5
YSS MLR MLR
comp=Z,362nm,20.0s,MS4.4
YSS Yuzh-Sakhalins 51.32 13 *e*P **P 09 48 24.1 0.0**
comp=Z,93nm,1.4s,mb5.5
YSS *e*PcP PcP 09 49 40.0 +1.3
YSS LR LR
comp=Z,362nm,20.0s,MS4.4
GKN Gorkha 51.33 310 *e*P **P 09 48 24.8 +0.7**
FUNA Funafuti 51.73 99 PFAKE 09 48 40.0 +13
FUNA LR LR
comp=Z,6μm,19.0s,MS5.7
KOLN Koldanda 52.02 309 *e*P **P 09 48 30.3 +1.0**
HYB Hyderabad 52.27 294⇑ *i*P **P 09 48 31.5 +0.4**
comp=Z,100nm,1.0s,mb5.7
HYB Hyderabad 52.27 294⇑ *e*P **P 09 48 31.5 +0.4**
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.7
HYB Hyderabad 52.27 294⇑ *e*P **P 09 48 31.5 +0.4**
comp=Z,100nm,1.0s,mb5.7
HIA Hailar 52.28 354 PFAKE 09 48 40.0 +8.8
HIA LR LR
comp=Z,486nm,20.0s,MS4.5
ULN Ulaanbaatar 53.52 343 P **P 09 48 40.0 -0.4**
SNR=27
ULN Ulaanbaatar 53.52 343 P **P 09 48 40.0 -0.4**
SNR=27
ULN Ulaanbaatar 53.52 343 P **P 09 48 40.0 -0.4**
SNR=27
ULN Ulaanbaatar 53.52 343⇑ *i*P **P 09 48 38.2 -2.2**
ULN Ulaanbaatar 53.52 343 *e*P **P 09 48 30.4 -10**
ULN LR LR
comp=Z,276nm,20.0s,MS4.3
SONM Songino Array 53.69 342 P **P 09 48 40.8 -0.8**
comp=Z,17nm,0.9s,mb5.0,baz=153,slow=7.1,SNR=89
SONM PcP PcP 09 49 48.3 +0.7
comp=Z,8.3nm,0.7s,baz=158,slow=3.1,SNR=9.6
SONM PKPPKP 10 19 01.9
comp=Z,0.3nm,0.7s,baz=216,slow=0.4,SNR=4.0
SONM Songino Array 53.69 342 P **P 09 48 40.8 -0.8**
SONM 09 49 48.3
AKL Akola 54.69 298 *ex* **P 09 48 56.7 +7.9**
AKL AMb AMB 09 48 59.2
comp=Z,96nm,1.2s,mb5.7
BHPL Bhopal 55.20 301 *e*P **P 09 48 51.1 -1.5**
BHPL AMb AMB 09 48 55.0
comp=Z,80nm,0.9s,mb5.7
LGTI Lohaghat 55.41 309 *e*P **P 09 48 55.0 +0.9**
CIT Chita 55.87 350 *e*P **P 09 48 57.2 -0.2**
CIT *e* 09 49 56.5
CIT *e* 09 58 46.5
AGRA Agra 56.29 305 *e*P **P 09 48 59.3 -1.1**
AGRA AMb AMB 09 49 01.6
comp=Z,61nm,0.2s,mb6.3
SNZO South Karori 57.12 139 PFAKE 09 49 20.0 +14
SNZO LR LR
comp=Z,2μm,21.0s,MS5.2
SONA Sohna 57.40 306 *e*P **P 09 49 07.9 -0.4**
SONA AMb AMB 09 49 09.7
comp=Z,85nm,0.8s,mb5.9
AYAN Aya Nagar 57.46 306 *e*P **P 09 49 07.7 -1.0**
AYAN AMb AMB 09 49 09.6
comp=Z,78nm,1.1s,mb5.7
NDI New Delhi 57.47 307 *e*P **P 09 49 06.5 -2.3**
KLP Kalpa 57.88 310 *e*P **P 09 49 12.8 +1.1**
KLP AMb AMB 09 49 20.0
comp=Z,86nm,1.2s,mb5.6
TLY Talaya 57.93 343 P **P 09 49 12.5 +0.5**
SNR=6.1
TLY Talaya 57.93 343 P **P 09 49 12.5 +0.5**
SNR=6.1
TLY Talaya 57.93 343 P **P 09 49 12.5 +0.5**
SNR=6.1
TLY Talaya 57.93 343 *e*P **P 09 49 12.0 0.0**
TLY *e*S **S 09 57 07.8 -2.4**
TLY pmax pmax
comp=Z,23nm,1.5s,mb5.0
TLY Talaya 57.93 343 *i* Pr **P 09 49 11.3 -0.7**
TLY LR LR
comp=Z,206nm,20.0s,MS4.2
RAO Raoul Island 58.04 123 PFAKE 09 49 30.0 +17
RAO LR LR
comp=Z,2μm,20.0s,MS5.2
KHET Khetri 58.36 305 *e*P **P 09 49 14.4 -0.6**
WMQ Urumqi 58.52 327 P **P 09 49 15.5 -0.7**
WMQ XP sP 09 49 27.5 -1.0
WMQ PCP PcP 09 50 01.5 -4.9
WMQ PP PP 09 51 26.0 +0.2
WMQ S **S 09 57 16.5 -1.4**
WMQ AMB AMB
comp=Z,70nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,420nm,3.7s
WMQ LR LR
comp=N,460nm,14.0s,MS4.8
WMQ LR LR
comp=E,240nm,17.5s,MS4.8
WMQ LR LR
comp=Z,390nm,24.0s
SMLA Simla 58.54 309 *e*P **P 09 49 17.4 +1.2**
AJM Ajmer 58.72 303 *i* P **P 09 49 17.0 -0.5**
CLNS Chul'man 59.47 358 *e*P **P 09 49 20.6 -2.1**
CLNS *e* 09 50 09.2
CLNS *e*S **S 09 57 25.2 -4.9**
CLNS *e* 09 59 05.4
CLNS *e*SS SS 10 01 20.5 -4.9
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS pmax pmax
comp=Z,63nm,0.8s,mb5.7
CLNS pmax pmax
comp=N,39nm,0.9s
CLNS smax
comp=N,114nm,13.5s
CLNS smax
comp=Z,86nm,12.1s
CLNS smax
comp=E,205nm,12.0s
CLNS MLR MLR
comp=N,100nm,13.0s,MS4.2
CLNS MLR MLR
comp=Z,200nm,13.0s,MS4.4
CLNS MLR MLR
comp=E,100nm,15.0s,MS4.2
DLH Dalhousie 60.07 310 *e*P **P 09 49 28.0 +1.2**
PET Petropavlovsk 61.45 21*c i*P **P 09 49 37.2 +0.9**
PET pmax pmax
comp=Z,146nm,1.2s,mb6.0
PET Petropavlovsk 61.45 21 *e*P **P 09 49 37.2 +0.9**
comp=Z,120nm,1.1s,mb5.9
PET LR LR
comp=Z,242nm,20.0s,MS4.3
JASL Jaisalmer 62.02 302 *e*P **P 09 49 39.7 -0.3**
JASL AMb AMB 09 49 42.6
comp=Z,80nm,0.6s,mb6.0
KSH Kashi 63.25 317 *e*P **P 09 49 49.8 +1.5**
KSH *e*AP pP 09 49 59.8 +2.5
KSH *e*XP sP 09 50 03.8 +3.1
KSH *e*PCP PcP 09 50 27.5 +2.1
KSH *e*PP PP 09 52 09.5 +2.0
KSH *e*SCP ScP 09 54 25.8 +0.2
KSH *e*PCS PcS 09 54 29.8 +0.8
KSH *e*S **S 09 58 15.0 -3.2**
KSH *e*SCS ScS 09 59 35.8 -3.5
KSH AMB AMB
comp=Z,560nm,2.7s,mb6.2
KSH LR LR
comp=N,440nm,6.1s
KSH LR LR
comp=E,730nm,6.8s
KSH LR LR
comp=Z,460nm,5.6s
MKAR Makanchi Array 63.36 327 P **P 09 49 48.3 -0.7**
comp=Z,29nm,0.8s,mb5.5,baz=127,slow=7.8,SNR=152
MKAR PKPPKP 10 18 45.7
comp=Z,0.8nm,0.7s,baz=288,slow=4.0,SNR=4.7
MKAR Makanchi Array 63.36 327⇑ *e*P **P 09 49 48.7 -0.3**
MKAR Makanchi Array 63.36 327 P **P 09 49 48.3 -0.7**
MKAR P'P' 10 18 45.7
CASY Casey 64.49 188 *e*P **P 09 49 55.0 -1.4**
YAK Yakutsk 64.66 1*d i*P **P 09 49 57.5 -0.1**
YAK *e* 09 50 27.2
YAK *e*S **S 09 58 33.3 -2.4**
YAK *e**SS sS 09 59 12.1 +22
YAK *e* 09 59 48.4
YAK pmax pmax
comp=Z,115nm,0.9s,mb5.9
YAK pmax pmax
comp=N,27nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK smax
comp=N,4.0nm,1.4s
YAK smax
comp=E,6.0nm,1.4s
YAK Yakutsk 64.66 1 *e*P **P 09 49 56.7 -0.8**
comp=E,188nm,0.7s,mb6.2
YAK LR LR
comp=Z,342nm,19.0s,MS4.6
MA2 Magadan 64.82 13*de*P **P 09 49 58.6 0.0**
MA2 *e*S **S 09 58 35.1 -2.6**
MA2 *e* 09 59 49.1
MA2 SSS 10 05 43.6
MA2 pmax pmax
comp=N,50nm,1.9s
MA2 pmax pmax
comp=Z,100nm,1.9s,mb5.5
MA2 Magadan 64.82 13 *e*P **P 09 49 59.2 +0.6**
comp=Z,132nm,1.5s,mb5.8
MA2 *e*PcP PcP 09 50 32.1 +0.2
MA2 LR LR
comp=Z,212nm,19.0s,MS4.4
KZA Kyzart 64.97 319 P **P 09 50 00.8 +1.2**
SNR=18
TKM2 Tokmak 2 65.17 320 P **P 09 50 01.6 +0.7**
SNR=20
KBK Karagaybulak 65.45 320 P **P 09 50 03.3 +0.6**
SNR=12
UCH Uchtor 65.53 319 P **P 09 50 04.2 +1.0**
SNR=42
AAK Ala-Archa 65.73 320 P **P 09 50 06.2 +1.7**
SNR=10.0
AAK Ala-Archa 65.73 320 P **P 09 50 04.9 +0.4**
comp=Z,120nm,1.0s,mb5.9,SNR=5.7
CHMS Chumysh 65.75 320 P **P 09 50 04.4 -0.1**
SNR=5.2
FRU Bishkek 65.75 320 *e*P **P 09 50 05.0 +0.4**
FRU pmax pmax
comp=Z,134nm,2.5s,mb5.5
AML Almayashu 66.01 319 P **P 09 50 07.4 +1.0**
SNR=8.1
USP Ospenovka 66.04 320 P **P 09 50 06.6 +0.2**
SNR=26
EKS2 Erkin-Say 66.21 319 P **P 09 50 08.2 +0.6**
SNR=31
ZAL Zalesovo 66.73 334 P **P 09 50 10.5 -0.4**
comp=Z,6.5nm,0.9s,mb4.7,baz=1.0,slow=6.9,SNR=7.5

ZAL LR LR 10 18 54.4
comp=Z,200nm,21.9s,MS4.3,baz=76,slow=36
KURK Kurchatov 67.64 329 P **P** **09 50 15.4 -1.3**
comp=Z,488nm,0.9s,SNR=52
KURK Kurchatov 67.64 329 *e*P **P** **09 50 15.7 -1.0**
KURK pmax pmax
comp=Z,74nm,0.9s,mb5.7
KURK MLR MLR
comp=Z,323nm,20.0s,MS4.5
KURK Kurchatov 67.64 329 *e*P **P** **09 50 15.7 -1.0**
comp=Z,74nm,0.9s,mb5.7
KURK LR LR
comp=Z,323nm,20.0s,MS4.5
NVS Novosibirsk 68.01 334 *e*P **P** **09 50 17.0 -2.0**
NVS *e*S S 09 59 11.7 -4.7
NVS pmax pmax
comp=Z,94nm,2.1s,mb5.5
NVS pmax pmax
comp=N,30nm,1.4s
NVS pmax pmax
comp=E,29nm,1.4s
NVS smax
comp=E,66nm,2.4s
NVS smax
comp=N,53nm,2.3s
MIR Mirnyy 68.05 194 *d i*P **P** **09 50 24.0 +4.7**
MIR pmax pmax
comp=Z,190nm,1.5s,mb5.9
WSAR Wadi Sarin 71.80 295 P **P** **09 50 42.8 +0.4**
comp=Z,26nm,1.0s,mb5.1,baz=89,slow=7.6,SNR=9.7
JMDO Jabal Madar 72.11 294 P **P** **09 50 45.2 +1.1**
SNR=10.0
JMDO Jabal Madar 72.11 294 P **P** **09 50 45.2 +1.1**
SNR=10.0
SMDO Samad 72.29 295 P **P** **09 50 45.8 +0.5**
SNR=9.0
SMDO Samad 72.29 295 P **P** **09 50 45.8 +0.5**
SNR=9.0
BIDO Bidbid 72.31 296 P **P** **09 50 46.3 +0.9**
SNR=10
BIDO Bidbid 72.31 296 P **P** **09 50 46.3 +0.9**
SNR=10
HOQ Hoqain 73.06 296 P **P** **09 50 50.6 +0.9**
SNR=8.1
HOQ Hoqain 73.06 296 P **P** **09 50 50.6 +0.9**
SNR=8.1
BVAR Borovoye Array 73.19 328 P **P** **09 50 49.6 -1.0**
comp=Z,22nm,0.9s,mb5.1,baz=120,slow=8.8,SNR=94
BRVK Borovoye 73.26 328 P **P** **09 50 50.5 -0.5**
comp=Z,296nm,1.0s,mb6.2,SNR=20
BRVK Borovoye 73.26 328 P **P** **09 50 50.2 -0.8**
SNR=27
BRVK Borovoye 73.26 328 *e*P **P** **09 50 49.9 -1.1**
BRVK pmax pmax
comp=Z,31nm,0.9s,mb5.2
BRVK MLR MLR
comp=Z,134nm,20.0s,MS4.2
BRVK Borovoye 73.26 328 *e*P **P** **09 50 49.9 -1.2**
comp=Z,31nm,0.9s,mb5.2
BRVK LR LR
comp=Z,134nm,20.0s,MS4.2
CHKZ Chkalovo 73.39 329 *e*P **P** **09 50 53.0 +1.3**
ZRNK Zerenda 73.89 328 *e*P **P** **09 50 53.6 -1.1**
ZRNK pmax pmax
comp=Z,58nm,1.0s,mb5.5
ZRNK Zerenda 73.89 328 *e*P **P** **09 50 53.6 -1.1**
comp=Z,58nm,1.0s,mb5.5
TIXI Tiksi 74.31 0 *d i*P **P** **09 50 55.8 -1.3**
TIXI pmax pmax
comp=Z,88nm,2.0s,mb5.3
TIXI Tiksi 74.31 0 *i* Pr **P** **09 50 55.8 -1.3**
ASHO Ashiyiah 74.39 296 P **P** **09 50 58.2 +0.6**
SNR=9.9
ASHO Ashiyiah 74.39 296 P **P** **09 50 58.2 +0.6**
SNR=9.9
BILL Bilibino 75.63 14 *e*P **P** **09 51 04.7 -0.1**
BILL pmax pmax
comp=Z,26nm,1.6s,mb4.9
BILL MLR MLR
comp=Z,274nm,19.0s,MS4.6
BILL Bilibino 75.63 14 *e*P **P** **09 51 04.7 -0.1**
comp=Z,26nm,1.6s,mb4.9
BILL LR LR
comp=Z,274nm,19.0s,MS4.6
HON Honolulu 76.62 67 *e*P **P** **09 51 13.2 +2.8**
KIP Kipapa 76.62 67 *e*P **P** **09 51 13.0 +2.6**
KIP *e**PP pP 09 51 19.8 +0.2
KIP pmax pmax
comp=Z,58nm,1.1s,mb5.4
KIP Kipapa 76.62 67 *e*P **P** **09 51 13.0 +2.6**
comp=Z,58nm,1.1s,mb5.4
KIP *e*pP pP 09 51 19.8 +0.2
VNDA Vanda 76.91 173 P **P** **09 51 10.5 -1.5**
comp=Z,2.9nm,0.5s,mb4.4,baz=310,slow=5.8,SNR=16
VNDA LR LR 10 23 21.6
comp=Z,855nm,20.1s,MS5.1,baz=330,slow=34
VNDA Vanda 76.91 173 *e*P **P** **09 51 10.5 -1.5**
VNDA LR LR
comp=Z,922nm,20.0s,MS5.1
SBA Scott Base 77.82 172 *e*P **P** **09 51 16.9 -0.2**
SBA *e**PP pP 09 51 26.2 -0.1
SBA MLR MLR
comp=Z,827nm,19.0s,MS5.1
MAW Mawson 77.96 201 *e*P **P** **09 51 16.2 -1.7**
comp=Z,7.8nm,1.4s,mb4.5
MAW Mawson 77.96 201 P **P** **09 51 16.3 -1.6**
comp=Z,2.0nm,0.7s,baz=61,slow=6.8,SNR=6.8
MAW LR LR 10 25 13.7
comp=Z,676nm,18.3s,baz=60,slow=35
MAW Mawson 77.96 201 P **P** **09 51 16.3 -1.6**
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW MLR MLR
comp=Z,677nm,18.3s
UNV Unalaska Valle 78.36 34 *e*P **P** **09 51 21.2 +1.1**
comp=Z,87nm,0.6s,mb5.9
AKTK Aktyubinsk 79.23 322 P **P** **09 51 23.9 -1.0**
AKTO Aktyubinsk 79.23 322 P **P** **09 51 23.9 -1.0**
comp=Z,19nm,0.8s,mb5.0,baz=107,slow=7.6,SNR=52
AKTO Aktyubinsk 79.23 322 P **P** **09 51 23.9 -1.0**
AKTO pmax pmax
comp=Z,19nm,0.8s,mb5.1
GAMB Gambell 80.03 23 *e*P **P** **09 51 30.9 +1.7**
ARU Arti 80.83 328 ⇓ *i*P **P** **09 51 31.8 -1.8**
ARU *e* 09 51 53.2
ARU *e* 09 54 37.6
ARU *e*PPP 09 56 28.1
ARU *e*S S 10 01 32.7 -7.2
ARU *e*SS SS 10 06 47.8 -5.9
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.0
ARU Arti 80.83 328 *e*P **P** **09 51 32.4 -1.2**
ARU LR LR
comp=Z,276nm,20.0s,MS4.6
ORR Orenburg 81.55 323 *e*P **P** **09 51 36.9 -0.5**
ORR pmax pmax
comp=Z,60nm,1.3s,mb5.4
SDPT Sand Point 82.16 33 *e*P **P** **09 51 40.8 +0.2**
comp=Z,346nm,0.8s,mb6.3
TNA Tin City 82.27 22 PFAKE 09 51 50.0 +8.8
TNA LR LR
comp=Z,150nm,19.0s,MS4.4
PAE Paea 82.42 107 *e*P **P** **09 51 45.6 +3.7**
comp=Z,70nm,1.1s,mb5.5
PPT Papeete 82.43 107 *e*P **P** **09 51 45.7 +3.7**
comp=Z,77nm,1.4s,mb5.4
PPT Papeete 82.43 107 *e*S S 10 01 55.8 -0.6
comp=Z,293nm,23.2s
PPT *e*SS SS 10 07 22.8 +5.4
comp=Z,366nm,28.5s
PPT *e*LR LR 10 17 28.0
comp=Z,2μm,37.5s
TBI Tubuai 82.52 113 *e*S S 10 01 56.1 -1.2
comp=Z,348nm,38.5s
TBI *e*LR LR 10 17 30.2
comp=Z,514nm,24.2s
SOKR Solikamsk 82.74 331 *i* P **P** **09 51 44.0 +0.4**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,350nm,20.0s,MS4.7
CHGN Chignik 83.54 33 *e*P **P** **09 51 47.9 +0.2**
PMOR Pomariorio Ree 84.08 105 *e*P **P** **09 51 54.2 +3.7**
comp=Z,130nm,1.2s,mb5.9
MAK Makhachkala 84.57 313 *e*P **P** **09 51 54.2 +1.2**
MAK *e*S 10 02 14.9
MAK pmax pmax
comp=Z,70nm,1.2s,mb5.7
BHD Baghdad 85.76 303 *ex* x 09 51 58.0
BHD Baghdad 85.76 303 *ex* x 10 02 24.0
SVW2 Sparrevohn 86.12 28 *e*P **P** **09 52 01.0 +0.3**
GNI Garni 86.24 310 *e*P **P** **09 52 00.5 -0.8**
GNI pmax pmax
comp=Z,17nm,1.7s
TTA Tatalina 86.34 26 *e*P **P** **09 52 01.7 -0.1**
MTA Mtatsminda 86.39 312 P **P** **09 52 02.6 +0.5**
SYO Syowa Base 86.66 201 ⇑ *e*P **P** **09 52 01.2 -2.2**
SYO Syowa Base 86.66 201 ⇑ *e*pP pP 09 52 14.0 +1.3
GOR Gori 86.93 312 P **P** **09 52 09.4 +4.7**
KDAK Kodiak Island 86.97 32 P **P** **09 52 06.5 +1.6**
comp=Z,513nm,1.4s,mb6.6,SNR=8.1
KDAK Kodiak Island 86.97 32 *e*P **P** **09 52 05.8 +0.9**
KDAK LR LR
comp=Z,105nm,22.0s,MS4.2
MSL Mosul 87.12 306 *ex* x 09 51 58.5
QSPA South Pole Qui 87.16 180 *e*P **P** **09 52 03.2 -2.6**
comp=Z,29nm,1.1s,mb5.4
AKH Akhalkalaki 87.33 312 P **P** **09 52 08.1 +1.5**
ONI Oni 87.48 313 P **P** **09 52 06.4 -1.0**
GOF Gofitskoye 88.04 315 *e*P **P** **09 52 09.5 -0.5**
GOF *e*S 10 02 34.7
GOF pmax pmax
comp=Z,50nm,0.6s,mb5.9
KIV Kislovodsk 88.17 314 *e*P **P** **09 52 09.1 -1.6**
KIV *e* 10 02 31.4
KIV *e*SS SS 10 08 41.5 -0.5
KIV *e*SSS 10 12 12.5
KIV pmax pmax
comp=Z,4.0nm,0.5s,mb4.9
KIV MLR MLR
comp=Z,93nm,20.0s,MS4.2
PMR Palmer 89.27 28 *e*P **P** **09 52 15.4 -0.4**
PMR pmax pmax
comp=Z,42nm,1.2s,mb5.6
PMR Palmer 89.27 28 *e*P **P** **09 52 15.4 -0.4**
comp=Z,42nm,1.2s,mb5.6
VRHR Novokhopersk 89.55 321 *e*P **P** **09 52 16.9 -0.2**
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.8
VRHR pmax pmax
comp=N,6.0nm,0.3s
VRHR pmax pmax
comp=E,20nm,0.7s
MCK McKinley 89.62 26 *e*P **P** **09 52 17.3 -0.2**
MCK pmax pmax
comp=Z,36nm,1.3s,mb5.5
MCK MLR MLR
comp=Z,140nm,22.0s,MS4.3
MCK McKinley 89.62 26 *e*P **P** **09 52 17.3 -0.2**
comp=Z,36nm,1.3s,mb5.5
MCK LR LR
comp=Z,140nm,22.0s,MS4.3
SML Sawmill 89.67 28 *e*P **P** **09 52 18.3 +0.6**
KMBO Kilima Mbogo 90.19 269 P **P** **09 52 21.6 +1.4**
comp=Z,3.4nm,0.8s,mb4.7,baz=57,slow=10,SNR=6.8
KMBO LR LR 10 28 37.2
comp=Z,320nm,20.2s,MS4.8,baz=95,slow=33
KMBO Kilima Mbogo 90.19 269 *e*P **P** **09 52 22.6 +2.5**
KMBO *e**PP pP 09 52 30.7 +1.2
KMBO pmax pmax
comp=Z,14nm,1.3s
KMBO MLR MLR
comp=Z,277nm,20.0s
KMBO Kilima Mbogo 90.19 269 *e*P **P** **09 52 22.6 +2.5**
comp=Z,14nm,1.3s,mb5.1
KMBO *e*pP pP 09 52 30.7 +1.2
KMBO LR LR
comp=Z,277nm,20.0s,MS4.7
COLA College 90.22 25 *e*P **P** **09 52 19.3 -1.0**
COLA *e**SP sP 09 52 31.5 -1.5
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
COLA MLR MLR
comp=Z,193nm,20.0s,MS4.5
COLA College 90.22 25 *e*P **P** **09 52 19.3 -1.0**
comp=Z,7.8nm,0.8s,mb5.1
COLA *e*pP pP 09 52 27.9 -1.7
COLA *e*sP sP 09 52 31.5 -1.4
COLA LR LR
comp=Z,193nm,20.0s,MS4.5
SOC Sochi 90.29 313 *e*P **P** **09 52 17.2 -3.4**
SOC *e*S 10 02 38.8
SOC pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
DIV Divide 90.83 29 *e*P **P** **09 52 24.5 +1.4**
DIV LR LR
comp=Z,870nm,21.0s,MS5.2
MALT Malatya 90.98 308 *e*P **P** **09 52 24.3 +0.5**
MALT pmax pmax
comp=Z,13nm,1.2s,mb5.1
MALT Malatya 90.98 308 *e*P **P** **09 52 24.3 +0.5**
comp=Z,13nm,1.2s,mb5.1
VRSR Storozhevoye 91.09 321 *e*P **P** **09 52 23.8 -0.5**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
VRSR pmax pmax
comp=N,4.0nm,0.4s
VRSR pmax pmax
comp=E,20nm,1.2s
TAOE Nuku Hiva Isla 91.90 99 *e*LR LR 10 21 51.8
comp=E,2μm,38.3s
MENT Mentasta 91.91 27 *e*P **P** **09 52 28.5 +0.4**
ASF Jabal al Asfar 91.97 302 P **P** **09 52 29.8 +1.4**
comp=E,6.5nm,0.8s,mb5.0,baz=353,slow=1.5,SNR=10
ANN Anapa 91.99 315 *e*P **P** **09 52 27.3 -1.2**
ANN pmax pmax
comp=Z,44nm,0.9s,mb5.8
OBN Obninsk 92.80 325 *e*P **P** **09 52 31.3 -0.9**
OBN *e* 09 56 13.1
OBN *e*SS SS 10 09 46.9 -2.0
OBN pmax pmax
comp=Z,29nm,0.7s,mb5.8
LVZ Lovozero 93.64 338 PFAKE 09 52 50.0 +14
LVZ LR LR
comp=Z,180nm,20.0s,MS4.5
DAWY Dawson 93.85 26 *e*P **P** **09 52 37.8 +0.7**
SIM Simferopol' 94.35 315 *e*P **P** **09 52 38.8 -0.5**
SIM pmax pmax
comp=Z,16nm,0.9s,mb5.5
BR131 Keskin Array S 94.74 309 *e*P **P** **09 52 41.6 +0.4**
comp=Z,2.7nm,0.6s,mb4.8
BR131 LR LR
comp=Z,190nm,21.0s,MS4.5
BRTR Keskin Array B 94.74 309 P **P** **09 52 40.1 -1.0**
comp=Z,3.2nm,0.9s,mb4.7,baz=111,slow=5.4,SNR=15
BRTR PKKPbc PKKPbc 10 09 38.4 +0.5
comp=Z,0.9nm,0.8s,baz=270,slow=1.2,SNR=4.9
JOF Joensuu 95.29 333 *ep* **P** **09 52 41.6 -2.1**
ANTO Ankara 95.39 310 PFAKE 09 53 00.0 +16
ANTO LR LR
comp=Z,184nm,22.0s,MS4.5
INK Inuvik 95.90 22 *e*P **P** **09 52 45.8 -0.6**
INK pmax pmax
comp=Z,20nm,0.9s
INK Inuvik 95.90 22 *e*P **P** **09 52 45.8 -0.6**
comp=Z,20nm,0.9s,mb5.5
SKAG Skagway 96.04 31 *e*P **P** **09 52 46.7 -0.4**
comp=Z,35nm,1.1s,mb5.7
KEV Kevo 96.23 340 PFAKE 09 53 00.0 +12
KEV LR LR
comp=Z,258nm,21.0s,MS4.7
SIT Sitka 96.24 33 PFAKE 09 53 00.0 +12
SIT LR LR
comp=Z,398nm,22.0s,MS4.8
ARCES ARCESS Array B 96.79 340 P **P** **09 52 48.8 -1.7**
comp=Z,15nm,0.8s,mb5.5,baz=78,slow=6.3,SNR=29
ARCES PKKPbc PKKPbc 10 09 31.5 -0.9
comp=Z,1.5nm,0.8s,baz=270,slow=2.4,SNR=8.4
ARCES ARCESS Array B 96.79 340 P **P** **09 52 48.8 -1.7**
ARCES PKKPbc PKKPbc 10 09 31.5 -0.9
AKASG Malin Array Be 97.39 321 P **P** **09 52 51.7 -1.5**
comp=Z,1.3nm,0.7s,mb4.5,baz=74,slow=4.1,SNR=12
AKASG PP PP 09 56 52.5 +2.3
comp=Z,0.2nm,0.2s,baz=75,slow=6.5,SNR=5.2
KBS Kingsbay 97.51 350 PFAKE 09 53 00.0 +6.3
KBS LR LR
comp=Z,223nm,21.0s,MS4.6
KAF Kangasniemi 97.69 332 *ep* **P** **09 52 51.9 -2.6**
FINES FINESS Array B 97.90 332 P **P** **09 52 53.8 -1.6**
comp=Z,3.4nm,0.8s,mb4.9,baz=110,slow=10,SNR=11
LSZ Lusaka 98.24 254 PFAKE 09 53 10.0 +13
LSZ LR LR
comp=Z,663nm,22.0s,MS5.1
DLBC Dease Lake 98.89 31 *e*P **P** **09 52 59.7 -0.2**
BOSA Boshof 99.39 241 P **P** **09 53 03.1 +1.0**
comp=Z,5.7nm,0.9s,mb5.1,baz=92,slow=11,SNR=4.3
BOSA LR LR 10 35 07.7
comp=Z,372nm,18.5s,MS4.9,baz=102,slow=34
DAG Danmarks Havn 103.77 352 ⇓ *i*P Pdif 09 53 15.9 -5.7
comp=Z,2.2nm,0.8s
DAG Danmarks Havn 103.77 352 ⇓ *e*P Pdif 09 53 15.9 -5.7
DAG pmax pmax
comp=Z,2.0nm,0.8s
RES Resolute Bay 104.04 11 *e*P Pdif 09 53 23.0 +0.2
RES pmax pmax
comp=Z,18nm,1.3s
RES Resolute Bay 104.04 11 *e*Pdif Pdif 09 53 23.0 +0.2
comp=Z,18nm,1.3s
NB2 NORSAR Subarra104.92 333 P Pdif 09 53 25.1 -1.6
comp=Z,7.7nm,1.0s,baz=70,slow=4.4
NB2 NORSAR Subarra104.92 333 P Pdif 09 53 25.1 -1.6
NB2 pmax pmax
comp=Z,8.0nm,1.0s
NOA NORSAR Array B 104.92 333 Pdiff Pdif 09 53 24.8 -1.9
comp=Z,3.9nm,0.8s,baz=68,slow=4.6,SNR=12
YKA Yellowknife Ar 105.06 25 Pdiff Pdif 09 53 27.1 -0.2
comp=Z,1.2nm,0.6s,baz=296,slow=4.7,SNR=9.6
YKA PKiKP PKiKP 09 57 42.0 +0.1
comp=Z,0.7nm,0.8s,baz=316,slow=2.1,SNR=4.0
YKA PKKPbc PKKPbc 10 09 08.5 -0.1
comp=Z,0.6nm,0.5s,baz=116,slow=3.5,SNR=6.5
YKA Yellowknife Ar 105.06 25 Pdif Pdif 09 53 27.1 -0.3
YKA PKPdf PKiKP 09 57 42.0 +0.1
YKA PKKPbc PKKPbc 10 09 08.5 -0.1
KONO Kongsberg 106.20 332 PFAKE 09 58 00.0 +16
KONO LR LR
comp=Z,208nm,20.0s,MS4.7
HUMO Hull Mountain 106.22 46 PFAKE 09 58 00.0 +16
HUMO LR LR
comp=Z,401nm,22.0s,MS4.9
YBH Yreka Blue Hor 106.57 47 PFAKE 09 58 00.0 +15
YBH LR LR
comp=Z,456nm,22.0s,MS5.0
HOPS Hopland 106.81 50 PFAKE 09 58 00.0 +15
HOPS LR LR
comp=Z,343nm,19.0s,MS4.9
WDC Whiskeytown Da 106.92 48 PFAKE 09 58 00.0 +15
WDC LR LR
comp=Z,358nm,19.0s,MS4.9
GERES GERESS Array B 107.61 321 PKiKP PKiKP 09 57 47.0 +0.4
comp=Z,0.9nm,0.4s,baz=60,slow=2.4,SNR=6.1
GERES PKKPbc PKKPbc 10 09 01.1 +0.4
comp=Z,0.2nm,0.3s,baz=297,slow=5.8,SNR=3.5
HAWA Hanford 107.74 42 PFAKE 09 58 00.0 +13
HAWA LR LR
comp=Z,15nm,20.0s
TSUM Tsumeb 107.80 249 PFAKE 09 58 00.0 +13
TSUM LR LR
comp=Z,520nm,20.0s,MS5.1
J06A Christmas Vall 108.09 45 ⇓ P PKiKP 09 57 48.7 +1.2
baz=108
O05C Quincy 108.26 49 ⇑ P PKiKP 09 57 49.2 +1.4
baz=108
M06C Likely Place G 108.32 47 ⇓ P PKiKP 09 57 51.2 +3.3
baz=108
SAO San Andreas Ge 108.48 52 PFAKE 09 58 00.0 +12
SAO LR LR
comp=Z,356nm,20.0s,MS4.9
NEW Newport 108.78 40 PFAKE 09 58 00.0 +11
NEW LR LR
comp=Z,321nm,20.0s,MS4.9
CMB Columbia Colle 109.06 51 PFAKE 09 58 00.0 +11
CMB LR LR
comp=Z,361nm,20.0s,MS4.9
M07A Soldier Meadow 109.24 47 ⇑ P PKiKP 09 57 50.6 +0.9
baz=109
WVOR Wild Horse Val 109.37 46 PFAKE 09 58 00.0 +10
WVOR LR LR
comp=Z,574nm,21.0s,MS5.1
WTTA Wattenberg 109.40 319 ⇑ *i*P PKiKP 09 57 50.0 0.0
comp=Z,7.1nm,0.5s
BMO Blue Mountains 109.66 43 PFAKE 09 58 00.0 +10
BMO LR LR
comp=Z,205nm,20.0s,MS4.7
M08A Happy Creek Ra 109.80 47 ⇓ P PKiKP 09 57 52.7 +2.0
baz=110
L09A Wilkinson Ranc 110.17 46 ⇓ P PKiKP 09 57 55.5 +4.1
baz=110
DAVA Damuels 110.52 320 ⇑ *i*P PKiKP 09 57 52.6 +0.5
comp=Z,2.6nm,0.5s
NVAR Mina Array Bea 110.58 50 PP PP 09 58 22.4 -6.0
comp=Z,0.7nm,0.8s,baz=250,slow=2.1,SNR=4.7
SNCC San Nicolas Is 110.68 56 PFAKE 09 58 10.0 +18
SNCC LR LR
comp=Z,369nm,19.0s,MS5.0
MNV Mina 110.69 50 PFAKE 09 58 10.0 +18
MNV LR LR
comp=Z,332nm,20.0s,MS4.9
ISA Isabella 111.05 53 PFAKE 09 58 10.0 +17
ISA LR LR
comp=Z,116nm,19.0s,MS4.5
MSO Missoula 111.28 40 PFAKE 09 58 10.0 +16
MSO LR LR
comp=Z,162nm,20.0s,MS4.6
R09A Tonopah 111.56 50 ⇓ P PKiKP 09 57 55.9 +1.9
baz=112
S09A Goldfield 111.57 50 ⇓ P PKiKP 09 57 56.9 +2.8
baz=112
CDF Champ du Feu 111.78 322 *e*PKIKP PKiKP 09 57 53.0 -1.5
HLID Hailey 112.03 44 *e*PKPdf PKiKP 09 57 57.1 +2.2
HLID LR LR
comp=Z,255nm,20.0s,MS4.8
PMSA Palmer Station 112.07 175 PFAKE 09 58 10.0 +15
PMSA LR LR
comp=Z,496nm,19.0s,MS5.1
HINF Hinteralfeld 112.26 321 *e*PKIKP PKiKP 09 57 55.5 +0.1
ELK Elko 112.27 47 PFAKE 09 58 10.0 +15
ELK LR LR
comp=Z,346nm,19.0s,MS5.0
M12A Wells 112.32 46 ⇓ P PKiKP 09 57 57.7 +2.2
baz=112
N12A Wells--Clov Va 112.39 47 ⇓ P PKiKP 09 57 58.1 +2.5
baz=112
Q11A Duckwater 112.49 49 ⇑ P PKiKP 09 57 58.2 +2.3
baz=112
TPNV Topopah Spring 112.51 51 PFAKE 09 58 10.0 +14
TPNV LR LR
comp=Z,379nm,19.0s,MS5.0
U10A Ash Meadows, A 112.58 52 ⇑ P PKiKP 09 57 59.8 +3.8
baz=113
PFO Pinyon Flat Ob 113.12 55 PFAKE 09 58 10.0 +13
PFO LR LR
comp=Z,519nm,19.0s,MS5.2
LPG La Plagne 113.17 319 *e*PKIKP PKiKP 09 57 58.2 +1.1
LPL La Plagne 113.18 319 *e*PKIKP PKiKP 09 57 58.1 +1.0
comp=Z,5.7nm,0.5s
BOZ Bozeman (W) 113.20 41 PFAKE 09 58 10.0 +13
BOZ LR LR
comp=Z,247nm,20.0s,MS4.8
MBDF Montbardon 113.43 318 *e*PKIKP PKiKP 09 57 58.2 +0.6
comp=Z,5.3nm,0.7s
EGMT Eagleton 113.48 38 *e*PKPdf PKiKP 09 57 59.2 +1.5
EGMT LR LR
comp=Z,208nm,19.0s,MS4.8
V12A Nelson 113.91 52 ⇑ P PKiKP 09 58 01.5 +3.0
baz=114
FRF La Foret Royal 113.92 317 *e*PKIKP PKiKP 09 57 59.3 +0.7
YMR Madison River 113.99 42 PFAKE 09 58 10.0 +11
YMR LR LR
comp=Z,441nm,22.0s,MS5.0
DUG Dugway 114.20 47 *e*PKIKP PKiKP 09 58 01.0 +1.9
DUG MLR MLR
comp=Z,223nm,21.0s,MS4.7
ESK Eskdalemuir 114.33 332 PFAKE 09 58 10.0 +11
ESK LR LR
comp=Z,153nm,20.0s,MS4.6
LKWY Lake 114.41 42 PFAKE 09 58 10.0 +11
LKWY LR LR
comp=Z,289nm,20.0s,MS4.9
REDW Red Top Meadow 114.54 43 *e*PKPdf PKiKP 09 58 02.4 +2.6
FFC Flin Flon 114.57 29 PFAKE 09 58 10.0 +10
FFC LR LR
comp=Z,214nm,22.0s,MS4.7
AHID Auburn Hatcher 114.58 44 PFAKE 09 58 10.0 +10
AHID LR LR
comp=Z,232nm,20.0s,MS4.8
SMF Signal de Mont 114.61 321 *e*PKIKP PKiKP 09 57 59.2 -0.7

SSF Saint Saulge 114.65 321 *e*PKIKP PKiKP 09 58 00.6 +0.7
comp=Z,7.0nm,0.6s
HWUT Hardware Ranch 114.65 45 PFAKE 09 58 10.0 +10
HWUT LR LR
comp=Z,479nm,22.0s,MS5.1
VIVF Saint-Julien-l 114.77 319 *e*PKIKP PKiKP 09 58 00.1 -0.1
comp=Z,4.6nm,0.7s
AVF Avril sur Loir 114.85 321 *e*PKIKP PKiKP 09 57 59.8 -0.5
comp=Z,4.2nm,0.6s
X13A Yucca 115.00 53 ⇑P PKiKP 09 58 03.3 +2.7
baz=115
MPU Maple Canyon 115.12 47 PFAKE 09 58 10.0 +9.1
MPU LR LR
comp=Z,982nm,22.0s,MS5.4
Y13A Salome 115.20 54 ⇓P PKiKP 09 58 03.7 +2.7
baz=115
BGF Bois d'Agland 115.27 321 *e*PKIKP PKiKP 09 58 02.0 +0.9
comp=Z,16nm,0.7s
W14A Seligman 115.44 52 ⇓P PKPdf 09 58 04.1 +2.7
baz=116
BW06 Boulder Array 115.64 43 PFAKE 09 58 10.0 +8.2
BW06 LR LR
comp=Z,229nm,21.0s,MS4.8
PDAR Pinedale Array 115.64 43 PKP PKPdf 09 58 02.0 +0.2
comp=Z,0.7nm,0.6s,baz=161,slow=0.7,SNR=8.0
PDAR PKKPbc PKKPbc 10 08 35.8 +1.5
comp=Z,0.4nm,0.5s,baz=126,slow=5.1,SNR=5.3
TCF Toulx Ste Croi 115.78 321 *e*PKIKP PKPdf 09 58 02.9 +0.8
comp=Z,5.0nm,0.6s
X14A Yava 115.78 53 ⇑P PKPdf 09 58 04.8 +2.7
baz=116
LAO LASA Array 116.22 38 *e*PKPdf PKPdf 09 58 05.3 +2.4
X15A Humboldt 116.30 53 ⇑P PKPdf 09 58 06.1 +3.0
baz=116
WUAZ Wupatki 116.69 51 PFAKE 09 58 20.0 +16
WUAZ LR LR
comp=Z,515nm,19.0s,MS5.2
MFF Saint Martin d 117.10 322 *e*PKIKP PKPdf 09 58 05.2 +0.5
comp=Z,16nm,0.7s
116A Eloy 117.25 55 ⇑P PKPdf 09 58 07.0 +2.0
baz=117
PV10 Paradox Valley 117.56 48 *e*PKPdf PKPdf 09 58 07.4 +1.9
RWWY Rawlins 117.66 44 *e*PKPdf PKPdf 09 58 07.3 +1.6
PV01 Paradox Valley 117.99 48 *e*PKPdf PKPdf 09 58 08.6 +2.2
TUC Tucson 118.06 55 PFAKE 09 58 20.0 +13
TUC LR LR
comp=Z,344nm,20.0s,MS5.0
RSSD Black Hills 118.75 40 *e*PKIKP PKPdf 09 58 08.9 +1.1
ISCO Idaho Springs 119.52 45 *e*PKIKP PKPdf 09 58 11.1 +1.8
ISCO MLR MLR
comp=Z,491nm,20.0s,MS5.1
ULM Lac du Bonnet 120.21 31 PKP PKPdf 09 58 10.8 +0.2
comp=Z,5.1nm,0.9s,baz=318,slow=2.6,SNR=9.1
ULM Lac du Bonnet 120.21 31 PKP PKPdf 09 58 10.8 +0.2
LAZ Ladron 120.34 51 *e*PKPdf PKPdf 09 58 13.0 +2.1
ANMO Albuquerque 120.69 51 *i* PKIKP PKPdf 09 58 13.4 +1.8
ANMO Albuquerque 120.69 51 *e*PKPdf PKPdf 09 58 14.1 +2.5
ANMO LR LR
comp=Z,325nm,19.0s,MS5.0
LPM Los Pinos Moun 120.77 51 *e*PKPdf PKPdf 09 58 14.3 +2.6
BNM Barren Site 120.83 51 *e*PKPdf PKPdf 09 58 12.9 +1.1
ESLA Sonseca Array 122.76 317 PFAKE 09 58 30.0 +14
ESLA LR LR
comp=Z,938nm,20.0s,MS5.4
EYMN Ely 123.90 31 *e*PKPdf PKPdf 09 58 18.1 +0.3
EYMN LR LR
comp=Z,239nm,19.0s,MS4.9
AMTX Amarillo 124.35 49 PFAKE 09 58 30.0 +11
AMTX LR LR
comp=Z,281nm,19.0s,MS5.0
LTX Lajitas 124.78 56 PFAKE 09 58 30.0 +11
LTX LR LR
comp=Z,450nm,21.0s,MS5.1
TORD Torodi Ar. Bea 125.46 284 PKP PKPdf 09 58 22.0 +1.3
comp=Z,4.6nm,0.8s,baz=63,slow=2.0,SNR=24
TORD PKKPbc 10 08 00.7
comp=Z,3.8nm,1.0s,baz=261,slow=3.6,SNR=11
EFI East Falkland 125.54 176 PFAKE 09 58 30.0 +9.1
EFI LR LR
comp=Z,471nm,19.0s,MS5.2
SCHQ Schefferville 126.82 10 PKP PKPdf 09 58 24.1 +0.8
comp=Z,5.1nm,0.7s,baz=360,slow=4.2,SNR=8.6
JCT Junction City 127.53 53 *e*PKIKP PKPdf 09 58 26.4 +1.7
JCT MLR MLR
comp=Z,319nm,20.0s,MS5.0
CCM Cathedral Cave 130.14 40 *e*PKIKP PKPdf 09 58 31.4 +1.8
CCM MLR MLR
comp=Z,263nm,20.0s,MS4.9
FVM French Village 130.71 40 *e*PKIKP PKPdf 09 58 32.2 +1.5
HKT Hockley 130.89 52 PFAKE 09 58 40.0 +8.9
HKT LR LR
comp=Z,278nm,21.0s,MS4.9
NATX Nacogdoches 131.00 49 PFAKE 09 58 40.0 +8.7
NATX LR LR
comp=Z,292nm,19.0s,MS5.0
DBIC Dimbokro 132.38 276 PFAKE 09 58 50.0 +16
DBIC LR LR
comp=Z,234nm,20.0s,MS4.9
WCI Wyandotte Cave 133.12 37 *e*PKIKP PKPdf 09 58 37.7 +2.4
WCI MLR MLR
comp=Z,262nm,19.0s,MS5.0
OXF Oxford 133.38 43 PFAKE 09 58 50.0 +14
OXF LR LR
comp=Z,318nm,21.0s,MS5.0
WVT Waverly 133.48 40 PFAKE 09 58 50.0 +14
WVT LR LR
comp=Z,256nm,21.0s,MS4.9
ACSO Alum Creek Sta 133.64 32 *e*PKPdf PKPdf 09 58 38.7 +2.5
PLCA Paso Flores 133.66 161 PKP PKPdf 09 58 38.3 +2.0
comp=Z,6.8nm,0.8s,baz=206,slow=0.7,SNR=4.9
PLCA Paso Flores 133.66 161 PKIKP PKPdf 09 58 38.3 +2.0
PLCA pmax pmax
comp=Z,7.0nm,0.8s
PLCA Paso Flores 133.66 161 *e*PKPdf PKPdf 09 58 38.8 +2.5
PLCA LR LR
comp=Z,335nm,20.0s,MS5.0
ERPA Erie 133.75 28 PFAKE 09 58 50.0 +14
ERPA LR LR
comp=Z,326nm,21.0s,MS5.0
PLAL Pickwick Lake 134.00 42 *e*PKPdf PKPdf 09 58 38.4 +1.4
PLAL LR LR
comp=Z,248nm,21.0s,MS4.9
NCB Newcomb 134.70 22 *e*PKPdf PKPdf 09 58 40.5 +2.3
NCB LR LR
comp=Z,184nm,21.0s,MS4.8
LBNH Lisbon 135.29 20 PFAKE 09 58 50.0 +11
LBNH LR LR
comp=Z,264nm,22.0s,MS4.9
BINY Binghamton 135.48 25 *e*PKPdf PKPdf 09 58 40.7 +1.0
BINY LR LR
comp=Z,277nm,22.0s,MS4.9
MCWV Mont Chateau 135.69 31 PFAKE 09 58 50.0 +10
MCWV LR LR
comp=Z,345nm,21.0s,MS5.1
LRAL Lakeview Retre 135.87 43 *e*PKPdf PKPdf 09 58 41.6 +1.2
LRAL LR LR
comp=Z,304nm,20.0s,MS5.0
SSPA Standing Stone 135.90 28 PFAKE 09 58 50.0 +10
SSPA LR LR
comp=Z,246nm,19.0s,MS5.0
HRV Harvard--Oak R 136.94 21 PFAKE 09 58 50.0 +7.6
HRV LR LR
comp=Z,213nm,19.0s,MS4.9
WES Weston 137.13 21 PFAKE 09 59 00.0 +17
WES LR LR
comp=Z,495nm,21.0s,MS5.2
BLA Blacksburg 137.20 33 PFAKE 09 59 00.0 +17
BLA LR LR
comp=Z,19nm,22.0s,MS3.8
CBN Corbin 138.04 30 PFAKE 09 59 00.0 +16
CBN LR LR
comp=Z,624nm,21.0s,MS5.3
TEIG Tepich 141.04 61 PFAKE 09 59 00.0 +10
TEIG LR LR
comp=Z,90nm,20.0s,MS4.5
DWPF Disney 142.64 45 PFAKE 09 59 10.0 +17
DWPF LR LR
comp=Z,214nm,19.0s,MS4.9
SOR Soroa 144.37 54 *e*P PKPdf 09 58 55.8 0.0
JTS JuntasAbangare 146.94 75 *e*PKIKP PKPdf 09 59 01.7 +1.5
JTS *e* 09 59 04.6
JTS MLR MLR
comp=Z,276nm,20.0s
BBSR BB Station 148.42 20 PFAKE 09 59 10.0 +7.4
BBSR LR LR
comp=Z,184nm,20.0s,MS4.9
LVC Limon Verde 150.10 148 *e*PKPdf PKPdf 09 59 09.5 +4.2
LVC *e*PKPbc PKPbc 09 59 13.8 +3.5
CPUP Villa Florida 150.68 171 PKP PKPdf 09 59 08.3 +2.1
comp=Z,43nm,1.0s,baz=91,slow=3.6,SNR=5.1
CPUP PKPbc PKPbc 09 59 13.3 +1.6
comp=Z,59nm,0.8s,baz=179,slow=1.7,SNR=87
CPUP Villa Florida 150.68 171 PKP PKPdf 09 59 08.3 +2.1
CPUP PKPbc PKPbc 09 59 13.3 +1.6
NNA Nana 151.70 122 *e*PKPdf PKPdf 09 59 10.2 +2.4
NNA *e*PKPbc PKPbc 09 59 15.8 +1.7
NNA LR LR
comp=Z,493nm,21.0s,MS5.3
OTAV Otavalo 153.94 95 *e*PKPdf PKPdf 09 59 14.0 +2.9
OTAV LR LR
comp=Z,220nm,21.0s,MS5.0
LPAZ La Paz 155.55 141 PKP PKPdf 09 59 15.9 +2.6
comp=Z,8.5nm,1.2s,baz=18,slow=1.8,SNR=19
LPAZ PKPbc PKPdf 09 59 25.8 +12
comp=Z,5.4nm,0.4s,baz=45,slow=4.1,SNR=58
LPAZ PKPab PKPab 09 59 42.0 +2.8
comp=Z,17nm,0.9s,baz=261,slow=1.5,SNR=13
LPAZ La Paz 155.55 141 PKIKP PKPdf 09 59 15.9 +2.6
LPAZ 09 59 25.8
LPAZ 09 59 42.0
LPAZ pmax pmax
comp=Z,9.0nm,1.2s
LPAZ pmax pmax
comp=Z,5.0nm,0.4s
LPAZ pmax pmax
comp=Z,17nm,0.9s
LPAZ La Paz 155.55 141 *e*PKPdf PKPdf 09 59 16.0 +2.7
LPAZ LR LR
comp=Z,242nm,21.0s,MS5.0
ROSC El Rosal 158.13 84 PKP PKPdf 09 59 19.8 +3.2
comp=Z,2.2nm,0.5s,baz=101,slow=22,SNR=5.4
ROSC PKPab PKPab 09 59 53.7 +3.4
comp=Z,14nm,0.8s,baz=96,slow=5.4,SNR=8.6
SJG San Juan 159.73 40 PFAKE 09 59 30.0 +12
SJG LR LR
comp=Z,270nm,21.0s,MS5.1
SDV Santo Domingo 160.98 71 *e*PKPdf PKPdf 09 59 21.7 +1.8
SDV LR LR
comp=Z,204nm,20.0s
RCBR Riachuelo 161.34 243 PFAKE 09 59 30.0 +10
RCBR LR LR
comp=Z,339nm,20.0s

MAN 26 09:48:45.5, 1800N×12061E, h7km, mb2.3, ML3.9, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.33**	**1**	*e*P	Pg	09 48 52.5	+0.7
ABRA	**Dolores**	**0.36**	**165**	*e*P	Pg	09 48 52.7	+0.3
ABRA				*e*S	Sg	09 49 01.2	+4.1
APYP	**Conner**	**0.61**	**103**	*e*P	Pg	09 48 58.2	+0.9
APYP				*e*S	Sg	09 49 10.3	+5.0
CVP	**Callao Caves**	**1.19**	**104**	*e*P	Pg	09 49 07.0	-1.3
CAUP	**Cauayan**	**1.56**	**132**	*e*P	Pn	09 49 13.7	+0.1
BOLP	**Bolinao**	**1.74**	**203**	*e*P	Sn	09 49 35.6	-2.9

CRAAG ***26*** *10:26:30.6, 3576N×538E, Ml3.7*
CSEM ***26*** *10:26:32.7±0.1, 3591N×570E, h3km±1km, ML3.7, Error ellipse: s-maj=4.9km s-min=3.4km az=24.0*
ISCJB ***26*** *10:26:33.1±0.6, 3593N±005×563E±004, h0km, Error ellipse: s-maj=7.9km s-min=5.2km az=7.3*
MDD ***26*** *10:26:34.5±0.4, 3589N×567E, h0km, mb4.3/9, Error ellipse: s-maj=5.9km s-min=3.8km az=21.0, PRXIMO*
NEIC ***26*** *10:26:36.3, 3592N×558E, h0km, MG4.3(MDD), After MDD.*

ISC 26 10:26:34.2±0.7, 3591N±005×566E±005, h2km±7km, n37, σ0°93/42, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**0.16**	**310**	P	**Pg**	**10 26 37.2**	**-0.1**
CMER	**Merouana**	**0.35**	**147**	P	**Pg**	**10 26 40.0**	**-0.9**
SET	**Setif**	**0.36**	**323**	P	**Pg**	**10 26 40.0**	**-1.0**
CTEI	**Djebel Teioual**	**0.62**	**76**	P	**Pg**	**10 26 45.5**	**-0.6**
DFRA	**Djebel Bou Aff**	**0.65**	**15**	P	**Pg**	**10 26 47.7**	**+1.0**
CASM	**Ain Smara**	**0.75**	**62**	P	**Pg**	**10 26 50.0**	**+1.3**
CKFL	**Kef-Lekhel**	**0.98**	**60**	P	**Pg**	**10 26 52.0**	**-1.1**
ATAF	**Djebel Tarf**	**1.12**	**268**	P	**Pg**	**10 26 55.8**	**0.0**
AKF	**Akfadou**	**1.14**	**309**	P	**Pg**	**10 26 56.2**	**+0.2**
CAEH	**'Ain El Ouahch**	**1.29**	**48**	P	**Pn**	**10 26 54.0**	**-5.2**
AKET	**Djebel Ketaf**	**1.45**	**276**	P	**Pn**	**10 27 02.1**	**+0.7**
ADJB	**Djebel Djouab**	**1.82**	**278**	P	**Pn**	**10 27 06.5**	**+0.1**
EMHD	**Djebel Mahouad**	**2.21**	**278**	P	**Pn**	**10 27 11.7**	**-0.2**
ABA	**Alger-Bouzarea**	**2.30**	**293**	P	**Pn**	**10 27 11.0**	**-2.0**
EBNR	**Beni Rached**	**3.37**	**278**	P	**Pg**	**10 27 47.1**	**+8.4**
ECHA	**Ech Chlef**	**3.49**	**275**	P	**Pg**	**10 27 50.5**	**+9.4**
ECHF	**Ech Chlef**	**3.51**	**275**	P	**Pg**	**10 27 50.5**	**+9.0**
ETRT	**Tiaret**	**3.59**	**263**	P	**Pn**	**10 27 31.6**	**+0.8**
EANR	**'Ain N'Sour**	**3.70**	**272**	P	**Pn**	**10 27 31.9**	**-0.4**
ETOS	**Mallorca**	**4.46**	**330**	P	**Pn**	**10 27 42.8**	**0.0**
	6.6nm,0.5s,SNR=8.4						
ETOS				S	**Sn**	**10 28 34.4**	**-0.8**
	2.5nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**4.46**	**330**	P	**Pn**	**10 27 42.8**	**+0.1**
	6.6nm,0.5s,SNR=8.4						
ETOS				S	**Sn**	**10 28 34.4**	**-0.8**
	2.5nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.63**	**313**	P	**Pn**	**10 27 45.9**	**+0.8**
	4.0nm,0.2s,SNR=60						
EIBI				S	**Sn**	**10 28 35.8**	**-3.6**
	5.2nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.63**	**313**	P	**Pn**	**10 27 45.9**	**+0.8**
	4.0nm,0.2s,SNR=60						
EBEN	**Beniarda**	**5.46**	**302**	P	**Pn**	**10 27 57.6**	**+1.1**
	5.0nm,0.4s,SNR=7.9						
EBEN				S	**Sn**	**10 28 56.4**	**-3.3**
	1.8nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**5.46**	**302**	P	**Pn**	**10 27 57.6**	**+1.2**
	5.0nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**5.86**	**291**	P	**Pn**	**10 28 01.4**	**-0.5**
	SNR=7.9						
ETOB	**Tobarra**	**6.36**	**298**	P	**Pn**	**10 28 08.9**	**+0.1**
	3.9nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**6.36**	**298**	P	**Pn**	**10 28 08.9**	**0.0**
	3.9nm,0.4s,SNR=7.9						
ECHE	**Chera**	**6.41**	**307**	P	**Pn**	**10 28 10.0**	**+0.5**
	2.8nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**6.56**	**314**	P	**Pn**	**10 28 12.7**	**+1.0**
	1.9nm,0.5s,SNR=7.9						
EMOS				S	**Sn**	**10 29 21.7**	**-5.4**
	1.8nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**6.56**	**314**	P	**Pn**	**10 28 12.7**	**+1.0**
	1.9nm,0.5s,SNR=7.9						
EBER	**Berja**	**6.97**	**281**	P	**Pn**	**10 28 16.7**	**-0.5**
	6.2nm,0.3s,SNR=6.1						
EBER	**Berja**	**6.97**	**281**	P	**Pn**	**10 28 16.7**	**-0.5**
	6.2nm,0.3s,SNR=6.1						
EQES	**Quesada**	**7.25**	**288**	P	**Pn**	**10 28 21.4**	**+0.3**
	4.2nm,0.4s,SNR=4.7						
EQES	**Quesada**	**7.25**	**288**	P	**Pn**	**10 28 22.4**	**+1.3**
EQES	**Quesada**	**7.25**	**288**	P	**Pn**	**10 28 22.4**	**+1.3**
	4.2nm,0.4s,SNR=4.7						
EQUE	**Quentar**	**7.44**	**283**	P	**Pn**	**10 28 24.5**	**+0.9**
	6.0nm,0.4s,SNR=6.4						

ISCJB ***26*** *10:48:41.8±0.9, 1508N±004×6088W±007, h122km±5km, Error ellipse: s-maj=12.5km s-min=6.3km az=142.5*
TRN ***26*** *10:48:41.2, 1509N×6076W, h113km, MD3.4, M3.5(FDF)*
TRN Felt (II) Martinique.
NEIC ***26*** *10:48:43.0, 1520N×6059W, h97km, MD3.5(FDF), After FDF.*
NEIC Felt [II] on Martinique.
RSPR ***26*** *10:48:42.1, 2144N×6066W, h25km±48km*

ISC 26 10:48:42.2±0.9, 1508N±005×6083W±008, h119km±5km, n40, σ0°66/61, 4C-16D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRM	**Caravelle**	**0.34**	**195**	⇓*i*P	**Pn**	**10 48 58.9**	**-0.2**
CRM				*e*S	**Sn**	**10 49 11.2**	**-0.7**
SVN	**Savane Anatole**	**0.41**	**234**	⇓*e*P	**Pn**	**10 48 59.4**	**-0.1**
SVN				*e*S	**Sn**	**10 49 12.3**	**-0.2**
BAMF	**Morne Balai**	**0.41**	**230**	⇓*i*P	**Pn**	**10 48 59.4**	**0.0**
BVM	**Bellevue**	**0.41**	**214**	*e*P	**Pn**	**10 48 59.1**	**-0.4**
BVM				*e*S	**Sn**	**10 49 11.8**	**-0.8**
GBMF	**Grand Be**	**0.43**	**229**	P	**Pn**	**10 48 59.6**	**0.0**
GBMF				*e*S	**Sn**	**10 49 12.6**	**-0.1**
PCM	**Pelee Case Pet**	**0.46**	**235**	⇓*e*P	**Pn**	**10 48 59.6**	**-0.1**
PML	**Morne Lenard**	**0.46**	**229**	*e*P	**Pn**	**10 48 59.7**	**-0.1**
FDF	**Fort de France**	**0.47**	**222**	⇓*i*P	**Pn**	**10 48 58.8**	**-1.0**
FDF	**Fort de France**	**0.47**	**222**	⇓*i*P	**Pn**	**10 48 59.8**	**0.0**
FDF				*e*S	**Sn**	**10 49 12.9**	**-0.2**
FDF	**Fort de France**	**0.47**	**222**	⇓*i*P	**Pn**	**10 48 59.8**	**0.0**
FDF				S	**Sn**	**10 49 12.9**	**-0.2**
MVM	**Montagne Vaucl**	**0.53**	**187**	*e*P	**Pn**	**10 48 60.0**	**-0.2**
DBCT	**Belle View Cho**	**0.54**	**291**	*e*P	**Pn**	**10 49 00.9**	**+0.7**
DBCT				*e*S	**Sn**	**10 49 14.1**	**+0.3**
DSHT	**Scott's Head**	**0.54**	**284**	*e*P	**Pn**	**10 49 00.4**	**+0.2**
DSHT				*e*S	**Sn**	**10 49 13.7**	**-0.3**
MDN	**Morne-Daniel**	**0.59**	**293**	⇓*i*P	**Pn**	**10 49 00.8**	**+0.2**
MDN				*e*S	**Sn**	**10 49 15.5**	**+1.0**
BIM	**Bigot**	**0.61**	**203**	P	**Pn**	**10 49 00.8**	**0.0**
BIM				*e*S	**Sn**	**10 49 14.9**	**+0.2**
BIM	**Bigot**	**0.61**	**203**	*e*P	**Pn**	**10 49 00.8**	**0.0**
BIM				S	**Sn**	**10 49 14.9**	**+0.2**
DWS	**Wesley**	**0.67**	**316**	*e*P	**Pn**	**10 49 01.2**	**-0.1**
DWS				*e*S	**Sn**	**10 49 16.6**	**+1.0**
BBL	**Barber's Block**	**0.76**	**306**	⇓*e*P	**Pn**	**10 49 02.1**	**+0.2**
BBL				*e*S	**Sn**	**10 49 17.4**	**+0.5**
MGG	**Marie-Galante**	**0.96**	**330**	⇓*e*P	**Pn**	**10 49 03.6**	**-0.1**
TBG	**Guadaloupe-3**	**1.10**	**314**	⇓*e*P	**Pn**	**10 49 05.1**	**0.0**
DOG	**Dongo Capester**	**1.21**	**321**	*e*P	**Pn**	**10 49 06.5**	**+0.1**
PHG	**Guadaloupe-2**	**1.22**	**320**	*e*P	**Pn**	**10 49 06.6**	**+0.3**
SFG	**Saint Francois**	**1.22**	**343**	⇓*e*P	**Pn**	**10 49 06.4**	**0.0**
DEG	**La Desirade**	**1.25**	**350**	⇓*e*P	**Pn**	**10 49 06.6**	**-0.1**
DEG				*e*S	**Sn**	**10 49 25.1**	**-0.2**
SCG	**Saint Claude**	**1.25**	**319**	⇓*e*P	**Pn**	**10 49 07.0**	**+0.3**
SCG				*e*S	**Sn**	**10 49 25.6**	**+0.2**
LZG	**Guadaloupe-1**	**1.40**	**319**	*e*P	**Pn**	**10 49 08.5**	**+0.2**
SEG	**Port Louis**	**1.47**	**334**	⇓*e*P	**Pn**	**10 49 09.4**	**+0.3**
BPA	**Boggy Peak**	**2.19**	**333**	*e*P	**Pn**	**10 49 18.7**	**+0.8**
BPA				*e*S	**Sn**	**10 49 44.7**	**-0.7**
CPB	**Codrington**	**2.72**	**339**	*e*P	**Pn**	**10 49 25.1**	**+0.3**
CPB				*e*S	**Sn**	**10 49 56.4**	**-1.1**
TBVI	**Tortola**	**4.91**	**313**	*e*S	**Sn**	**10 50 46.4**	**-3.2**
TBVI	**Tortola**	**4.91**	**313**	⇑*e*P	**Pn**	**10 49 50.9**	**-2.9**
TBVI				*e*S	**Sn**	**10 50 46.4**	**-3.2**
STVI	**Saint Thomas**	**5.13**	**310**	*e*S	**Sn**	**10 50 53.7**	**-1.2**
STVI	**Saint Thomas**	**5.13**	**310**	⇑*e*P	**Pn**	**10 49 56.5**	**-0.2**
STVI				*e*S	**Sn**	**10 50 53.7**	**-1.2**
CULB	**Culebra**	**5.38**	**307**	⇑*e*P	**Pn**	**10 50 00.2**	**0.0**
CULB	**Culebra**	**5.38**	**307**	*e*S	**Sn**	**10 51 00.7**	**-0.2**
MTP	**Monte Pirata**	**5.43**	**304**	*e*S	**Sn**	**10 51 08.0**	**+5.7**
MTP	**Monte Pirata**	**5.43**	**304**	⇓*e*P	**Pn**	**10 50 03.3**	**+2.3**
MTP				*e*S	**Sn**	**10 51 08.0**	**+5.7**
AOPR	**Arecibo Observ**	**6.54**	**301**	*e*S	**Sn**	**10 51 28.9**	**0.0**
AOPR	**Arecibo Observ**	**6.54**	**301**	⇑*e*P	**Pn**	**10 50 16.8**	**+1.0**
AOPR				*e*S	**Sn**	**10 51 28.9**	**0.0**
LSP	**Las Mesas**	**6.74**	**298**	*e*S	**Sn**	**10 51 38.3**	**+4.3**

MAN 26 11:07:01.0, 1359N×12069E, h115km, mb3.1, ML4.4, MS5.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.45**	**288**	*e*P	Pn	11 07 19.4	+1.3
LUBP				*e*S	Sn	11 07 34.7	+3.7
TGY	**Tagaytay City**	**0.56**	**25**	⇓*e*P	Pn	11 07 23.7	+4.9
BOAC	**Boac**	**1.13**	**97**	*e*P	Pn	11 07 24.1	+0.1
BOAC				*e*S	Sn	11 07 43.8	+2.5
BUSP	**Coron**	**1.65**	**197**	*e*P	Pn	11 07 31.1	+1.2
BUSP				*e*S	Sn	11 07 53.6	+1.7
POLP	**Polillo Island**	**1.66**	**47**	*e*P	Pn	11 07 31.8	+1.8
OTRP	**Odiongan**	**1.78**	**133**	*e*P	Pn	11 07 31.9	+0.4
OTRP				*e*S	Sn	11 07 56.5	+1.8
SCZP	**Santa Cruz**	**2.30**	**341**	*e*P	Pn	11 07 38.6	+0.6
SCZP				*e*S	Sn	11 08 06.8	+0.5
BALP	**Baler**	**2.30**	**22**	*e*P	Pn	11 07 37.4	-0.7
BALP				*e*S	Sn	11 08 08.5	+2.0
ENPP	**El Nido**	**2.67**	**208**	*e*P	Pn	11 07 44.4	+1.5
CUYO	**Cuyo Island**	**2.74**	**173**	*e*P	Pn	11 07 44.5	+0.7
BOLP	**Bolinao**	**2.87**	**345**	*e*P	Pn	11 07 46.0	+0.5

ISCJB ***26*** *11:18:22.5±0.3, 4311N±002×0.14E±002, h9km, Error ellipse: s-maj=2.9km s-min=2.3km az=138.8*
STR ***26*** *11:18:24.4±0.7, 4275N×000E, h2km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***26*** *11:18:24.5±0.4, 4302N×0.10E, h9km±3km, mbLg1.4/14, Error ellipse: s-maj=2.3km s-min=1.5km az=21.0, PRXIMO*
LDG ***26*** *11:18:24.4±0.1, 4304N×0.11E, h2km, Md2.0/3, Ml2.1/7, Error ellipse: s-maj=1.2km s-min=1.0km az=165.0*

ISC 26 11:18:23.4±0.4, 4306N±002×013E±002, h16km±5km, n41, σ0°56/55, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.04**	**251**	Pg	**Pg**	**11 18 26.2**	**-0.1**
LABF				Lg		11 18 27.7	
EPF	**Esparros**	**0.16**	**101**	*e*Pg	**Pg**	**11 18 28.0**	**+0.5**
EPF				*e*Sg	**Sg**	**11 18 30.3**	**0.0**
	30nm,0.2s						
EPF	**Esparros**	**0.16**	**101**	Pg	**Pg**	**11 18 28.0**	**+0.5**
EPF				Lg		11 18 30.3	
	15nm,0.2s						
VIEF	**Viey**	**0.19**	**203**	Pg	**Pg**	**11 18 27.6**	**-0.4**
VIEF				Sg	**Sg**	**11 18 30.3**	**-0.9**
VIEF	**Viey**	**0.19**	**203**	Pg	**Pg**	**11 18 27.6**	**-0.4**
VIEF				Lg		11 18 30.3	
RESF	**Ens**	**0.30**	**148**	Pg	**Pg**	**11 18 29.9**	**+0.2**
RESF				Sg	**Sg**	**11 18 34.1**	**+0.1**
RESF	**Ens**	**0.30**	**148**	Pg	**Pg**	**11 18 29.9**	**+0.1**
RESF				Lg		11 18 34.2	
EBIE	**Bielsa**	**0.38**	**178**	⇑Pg	**Pg**	**11 18 30.9**	**-0.2**
	2.9nm,0.1s,SNR=18						
EBIE				Lg		11 18 35.5	
	8.1nm,0.1s,SNR=7.9						
REYF	**Montagne du Re**	**0.38**	**272**	Pg	**Pg**	**11 18 30.8**	**-0.4**
REYF				Sg	**Sg**	**11 18 36.3**	**-0.1**
REYF	**Montagne du Re**	**0.38**	**272**	Pg	**Pg**	**11 18 30.9**	**-0.3**
REYF				Lg		11 18 36.4	
ETSF	**Etsaut**	**0.53**	**252**	*e*Pg	**Pg**	**11 18 33.6**	**-0.3**
ETSF				*e*Sg	**Sg**	**11 18 40.3**	**-0.7**
	20nm,0.2s						
ETSF	**Etsaut**	**0.53**	**252**	Pg	**Pg**	**11 18 33.6**	**-0.3**
ETSF				Lg		11 18 40.3	
	10nm,0.2s						
FDAF	**Les Forges d'A**	**0.56**	**245**	Pg	**Pg**	**11 18 34.2**	**-0.3**
FDAF				Lg		11 18 41.5	
ATE	**Arette**	**0.61**	**273**	Pg	**Pg**	**11 18 36.7**	**+1.3**
ATE				Sg	**Sg**	**11 18 44.2**	**+0.8**
ATE	**Arette**	**0.61**	**273**	Pg	**Pg**	**11 18 36.0**	**+0.6**
ATE				Lg		11 18 44.2	
LARF	**Larrau**	**0.82**	**269**	Pg	**Pg**	**11 18 40.4**	**+1.1**
LARF				Sg	**Sg**	**11 18 50.8**	**+0.7**
LARF	**Larrau**	**0.82**	**269**	Lg		11 18 50.7	
SALF	**Salau**	**0.84**	**111**	Pg	**Pg**	**11 18 40.4**	**+0.7**
SALF				Sg	**Sg**	**11 18 51.7**	**+1.0**
SALF	**Salau**	**0.84**	**111**	Pg	**Pg**	**11 18 40.6**	**+0.9**
SALF				Lg		11 18 51.8	
EGRA	**Graus**	**0.88**	**171**	Pg	**Pg**	**11 18 40.2**	**-0.2**
	1.0nm,0.3s,SNR=4.0						
EGRA				Lg		11 18 50.8	
	1.5nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.99**	**273**	*e*Pg	**Pg**	**11 18 43.2**	**+0.6**
SJPF				*e*Sg	**Sg**	**11 18 55.5**	**-0.1**
	1.7nm,0.2s						
SJPF	**Ste Jean**	**0.99**	**273**	Pg	**Pg**	**11 18 43.2**	**+0.6**

ESAC Lg 11 19 08.7
18nm,0.2s,SNR=5.0
EMIR Miracle 1.54 137 Lg 11 19 12.7
4.5nm,0.2s,SNR=7.9
MTLF Montolieu 1.56 79 *e*Pg **Pg 11 18 53.6 +0.3**
MTLF *e*Sg **Sg 11 19 13.7 +0.2**
5.7nm,0.3s
MTLF Montolieu 1.56 79 Pg **Pg 11 18 53.6 +0.3**
MTLF Lg 11 19 13.7
2.8nm,0.3s
LFF La Frestale 1.93 13 *e*Pg **Pg 11 19 00.6 +0.1**
LFF *e*Sg **Sg 11 19 26.1 +0.6**
4.5nm,0.3s
LFF La Frestale 1.93 13 Pg **Pg 11 19 00.6 +0.1**
LFF Lg 11 19 26.1
2.2nm,0.3s
ERTA Horta de San J 2.11 176 Pg **Pg 11 19 03.3 -0.6**
0.8nm,0.2s,SNR=7.9
ERTA Sn **Sn 11 19 23.6 -0.2**
SNR=7.9
ERTA Lg 11 19 30.0
1.4nm,0.2s,SNR=7.9
CAF Calviac 2.33 36 *e*Pg **Pg 11 19 08.2 +0.1**
CAF *e*Sg **Sg 11 19 37.8 -0.6**
1.7nm,0.2s
CAF Calviac 2.33 36 Pg **Pg 11 19 08.2 +0.1**
CAF Lg 11 19 37.8
0.9nm,0.2s
RJF Les Rejaudoux 2.46 24 *e*Pg **Pg 11 19 10.4 -0.1**
RJF *e*Sg **Sg 11 19 42.7 +0.3**
3.2nm,0.2s
RJF Les Rejaudoux 2.46 24 Pg **Pg 11 19 10.4 -0.1**
RJF Lg 11 19 42.7
1.6nm,0.2s
LASF Ste Croix 2.90 68 *e*Pg **Pg 11 19 18.8 -0.1**
LASF *e*Sg **Sg 11 19 55.9 -0.5**
1.0nm,0.3s
LASF Ste Croix 2.90 68 Pg **Pg 11 19 18.8 -0.1**
LASF Lg 11 19 55.9
0.0nm,0.3s
MFF Saint Martin d 3.55 357 *e*Pg **Pg 11 19 30.2 -1.2**
MFF *e*Sg **Sg 11 20 16.3 -1.0**
2.1nm,0.4s
MFF Saint Martin d 3.55 357 Pg **Pg 11 19 30.2 -1.2**
MFF Lg 11 20 16.3
1.1nm,0.4s
KOLL Kolacno 13.88 60 *e*SG **Sn 11 24 20.4 +7.3**

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*ISCJB **26** 11:53:20.7±4.4, 185S±0.1×1714E±03, h209km±21km, mb3.9/5, Error ellipse: s-maj=52.3km s-min=21.3km az=168.6*
*IDC **26** 11:53:22.1±8.8, 1853S×17128E, h199km±50km, mb3.7/5, mb1 3.8/6, mb1mx3.5/15, mbtmp4.2/6, Error ellipse: s-maj=87.6km s-min=70.0km az=103.0*
ISC 26 11:53:22.2±4.6, 186S±01×1713E±04, h201km±21km, n9, σ0°50/11, mb3.9/5, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.07**	**287**	*i* P	**Pn**	**11 54 21.8**	**+9.1**
BKM				S	**Sn**	**11 54 52.1**	**-0.1**
DZM	**Mont Dzumac**	**5.75**	**232**	*e*P	**Pn**	**11 54 46.3**	**0.0**
DZM	**Mont Dzumac**	**5.75**	**232**	P	**Pn**	**11 54 46.6**	**+0.4**
DZM	1.6nm,0.3s,baz=64,slow=18,SNR=33			S	**Sn**	**11 55 52.8**	**+0.1**
NOUC	1.7nm,0.3s,baz=280,slow=22,SNR=2.4 **Port Laguerre**	**5.88**	**233**	*e*P	**Pn**	**11 54 47.7**	**-0.2**
CTA	**Charters Tower**	**23.70**	**262**	P	**P**	**11 58 15.4**	**-0.3**
STKA	1.3nm,0.4s,mb3.9,baz=89,slow=11,SNR=3.9 **Stephens Creek**	**29.87**	**238**	P	**P**	**11 59 10.4**	**-0.5**
WRA	2.7nm,0.7s,mb4.0,baz=71,slow=9.1,SNR=9.0 **Warramunga Arr**	**34.90**	**262**	P	**P**	**11 59 54.0**	**-0.6**
ASAR	0.8nm,0.4s,mb3.6,baz=90,slow=8.2,SNR=32 **Alice Springs**	**35.21**	**255**	P	**P**	**11 59 57.4**	**+0.1**
FITZ	8.0nm,0.4s,mb4.6,baz=82,slow=8.9,SNR=234 **Fitzroy Crossi**	**43.28**	**263**	P	**P**	**12 01 05.2**	**+1.2**
	1.9nm,0.6s,mb3.7,baz=78,slow=9.3,SNR=10						

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*IDC **26** 12:00:59.2±1.2, 403N×12773E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, Error ellipse: s-maj=84.3km s-min=16.9km az=71.0*
*ISCJB **26** 12:01:02.2±0.9, 41N±02×1278E±05, h33km, mb3.9/9, Error ellipse: s-maj=75.5km s-min=11.1km az=143.5*
*NEIC **26** 12:01:04.2±0.7, 407N×12792E, h35km, mb4.3/2, Error ellipse: s-maj=59.0km s-min=9.4km az=73.0*
ISC 26 12:01:04.5±0.9, 41N±02×1278E±05, h35km, n11, σ0°75/11, mb3.9/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.13**	**186**	P	**P**	**12 05 57.4**	**+0.5**
	2.3nm,1.0s,mb3.6,baz=8.1,slow=14,SNR=4.4						
WRAB	**Tennant Creek**	**24.69**	**165**	*e*P	**P**	**12 06 22.3**	**+0.2**
WRA	**Warramunga Arr**	**24.70**	**165**	P	**P**	**12 06 22.7**	**+0.5**
	3.2nm,0.8s,mb3.9,baz=344,slow=10,SNR=20						
ASAR	**Alice Springs**	**28.19**	**168**	P	**P**	**12 06 54.1**	**+0.5**
	0.9nm,0.8s,mb3.5,baz=5.1,slow=7.5,SNR=8.1						
STKA	**Stephens Creek**	**38.06**	**161**	P	**P**	**12 08 18.0**	**-1.6**
	1.2nm,0.4s,mb4.0,baz=359,slow=8.5,SNR=6.2						
ULN	**Ulaanbaatar**	**47.16**	**341**	*e*P	**P**	**12 09 34.0**	**+0.7**
	1.2nm,0.4s,mb4.2						
SONM	**Songino Array**	**47.35**	**340**	P	**P**	**12 09 35.6**	**+0.8**
	0.3nm,0.4s,mb3.6,baz=169,slow=7.4,SNR=3.9						
MKAR	**Makanchi Array**	**57.92**	**325**	P	**P**	**12 10 53.5**	**+0.5**
	1.1nm,0.6s,mb4.1,baz=120,slow=7.8,SNR=12						
KURK	**Kurchatov**	**62.06**	**327**	*e*P	**P**	**12 11 21.3**	**-0.2**
	1.6nm,0.6s,mb4.3						
AKTK	**Aktyubinsk**	**74.09**	**321**	P	**P**	**12 12 36.0**	**-1.0**
AKTO	**Aktyubinsk**	**74.09**	**321**	P	**P**	**12 12 36.0**	**-1.0**
	0.9nm,0.6s,mb3.9,baz=78,slow=5.7,SNR=5.1						

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*ISCJB **26** 12:08:15.2±4.7, 1043S±0.10×15285E±007, h2km±32km, mb4.1/8, MS3.5/5, Error ellipse: s-maj=16.9km s-min=11.5km az=149.4*
*IDC **26** 12:08:16.4±1.2, 1044S×15294E, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.2/15, mbtmp4.1/11, ML3.2/3, MS3.6/6, Ms1 3.6/6, ms1mx3.3/16, Error ellipse: s-maj=29.9km s-min=21.7km az=96.0*
*NEIC **26** 12:08:21.7±0.5, 1049S×15290E, h35km, mb4.5/5, Error ellipse: s-maj=12.7km s-min=8.9km az=150.0*
ISC 26 12:08:20.9±3.7, 104S±01×15289E±007, h29km±28km, n28, σ1°09/23, mb4.1/8, MS3.5/5, 1C, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.74**	**280**	Pn	**Pn**	**12 09 44.1**	**0.0**
	0.9nm,0.3s,baz=108,slow=20,SNR=3.4						
PMG	**Port Moresby**	**5.74**	**280**	*e*Pn	**Pn**	**12 09 41.5**	**-2.5**
HNR	**Honiara**	**7.03**	**82**	*e*Pn	**Pn**	**12 10 01.9**	**0.0**
	123nm,0.7s						
CTA	**Charters Tower**	**11.53**	**213**	Pn	**Pn**	**12 11 03.1**	**-0.3**
	0.4nm,0.3s,baz=28,slow=15,SNR=3.2						
CTA				LR	LR	12 14 45.1	
	comp=Z,551nm,21.6s,baz=19,slow=34						
CTAO	**Charters Tower**	**11.53**	**213**	P	**Pn**	**12 11 02.0**	**-1.5**
DZM	**Mont Dzumac**	**17.39**	**133**	P	**Pn**	**12 12 22.4**	**+1.0**
	0.1nm,0.3s,baz=9.9,slow=13,SNR=3.7						
KAKA	**Kakadu**	**20.16**	**262**	⇑*i*P	**P**	**12 12 53.6**	**+0.8**
	40nm,1.1s						
WRAB	**Tennant Creek**	**20.21**	**240**	*e*P	**P**	**12 12 54.5**	**+1.1**
	21nm,0.8s						
WB2	**Warramunga Arr**	**20.21**	**240**	*e*P	**P**	**12 12 54.5**	**+1.1**
WRA	**Warramunga Arr**	**20.22**	**240**	P	**P**	**12 12 54.6**	**+1.1**
	15nm,0.8s,baz=63,slow=10,SNR=27						
WRA				LR	LR	12 20 24.9	
	comp=Z,318nm,18.9s,MS3.7,baz=85,slow=36						
AS31	**Alice Springs**	**22.37**	**232**	*e*P	**P**	**12 13 15.3**	**-1.3**
ASAR	**Alice Springs**	**22.37**	**232**	P	**P**	**12 13 16.9**	**+0.2**
	6.4nm,1.1s,mb4.0,baz=64,slow=10.0,SNR=19						
ASPA	**Alice Springs**	**22.38**	**232**	*e*P	**P**	**12 13 15.3**	**-1.4**
STKA	**Stephens Creek**	**23.75**	**204**	*e*P	**P**	**12 13 28.9**	**-1.9**
	9.6nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**23.75**	**204**	P	**P**	**12 13 28.9**	**-1.9**
	16nm,0.9s,mb4.4,baz=39,slow=13,SNR=15						
GUMO	**Guam**	**25.16**	**341**	LR	LR	12 21 34.6	
	comp=Z,51nm,19.4s,MS3.0,baz=119,slow=32						
FITZ	**Fitzroy Crossi**	**27.46**	**251**	*e*P	**P**	**12 14 06.3**	**+2.0**
	9.8nm,1.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**27.46**	**251**	P	**P**	**12 14 05.9**	**+1.6**
	1.9nm,0.8s,mb3.7,baz=90,slow=11,SNR=5.1						
CBIJ	**Chichi jima**	**38.73**	**345**	LR	LR	12 27 26.2	
	comp=Z,27nm,21.0s,MS3.0,baz=346,slow=30						
MJAR	**Matsushiro Arr**	**48.73**	**344**	LR	LR	12 33 27.9	
	comp=Z,99nm,22.0s,MS3.8,baz=200,slow=31						
VNDA	**Vanda**	**67.23**	**178**	P	**P**	**12 19 12.6**	**+0.2**
	0.9nm,0.9s,mb3.8,baz=342,slow=5.3,SNR=2.9						
SONM	**Songino Array**	**71.14**	**329**	P	**P**	**12 19 37.7**	**+1.0**
	2.1nm,1.0s,mb4.0,baz=144,slow=5.8,SNR=7.1						
BILL	**Bilibino**	**78.86**	**5**	*e*P	**P**	**12 20 20.4**	**-0.9**
	5.8nm,1.0s,mb4.5						
MAW	**Mawson**	**80.43**	**203**	LR	LR	12 52 18.9	
	comp=Z,82nm,20.3s,MS4.1,baz=235,slow=33						
MKAR	**Makanchi Array**	**84.62**	**319**	P	**P**	**12 20 51.2**	**-0.4**
	0.4nm,0.6s,mb3.7,baz=104,slow=5.1,SNR=4.6						
MKAR	**Makanchi Array**	**84.62**	**319**	P	**P**	**12 20 51.2**	**-0.4**
ZAL	**Zalesovo**	**85.88**	**327**	P	**P**	**12 20 57.1**	**-0.8**
	0.8nm,0.4s,mb4.3,baz=203,slow=13,SNR=3.0						
TORD	**Torodi Ar. Bea**	**151.68**	**278**	PKPbc	PKPbc	12 28 14.2	+1.8
	1.4nm,0.7s,baz=100,slow=2.0,SNR=5.2						

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*IDC **26** 12:34:45.7±1.1, 058S×12306E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=171.0km s-min=20.6km az=65.0*
*ISCJB **26** 12:34:49.0±0.9, 03S±01×1236E±05, h33km, mb3.7/4, Error ellipse: s-maj=68.4km s-min=10.1km az=148.3*
ISC 26 12:34:51.4±0.9, 03S±01×1236E±05, h35km, n10, σ0°86/10, mb3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**8.12**	**353**	*e*P	**Pn**	**12 36 47.3**	**+0.7**
IPIL	**Ipil**	**8.12**	**353**	*e*P	**Pn**	**12 36 47.4**	**+0.7**
PAGZ	**Pagadian**	**8.12**	**359**	*e*P	**Pn**	**12 36 45.5**	**-1.1**
BUTP	**Butuan**	**9.45**	**12**	*e*P	**Pn**	**12 36 53.5**	**-11**
WRA	**Warramunga Arr**	**22.17**	**152**	P	**P**	**12 39 44.7**	**+0.4**
	2.3nm,0.7s,mb3.7,baz=335,slow=9.8,SNR=21						
WB2	**Warramunga Arr**	**22.18**	**152**	*e*P	**P**	**12 39 44.4**	**+0.1**
ASPA	**Alice Springs**	**25.28**	**157**	*e*P	**P**	**12 40 14.6**	**+0.2**
ASAR	**Alice Springs**	**25.28**	**157**	P	**P**	**12 40 13.6**	**-0.9**
	0.7nm,0.4s,mb3.5,baz=336,slow=8.6,SNR=30						
ASAR				PcP	PcP	12 43 45.8	-1.1
	0.1nm,0.4s,baz=350,slow=2.2,SNR=4.3						
SONM	**Songino Array**	**50.24**	**345**	P	**P**	**12 43 45.5**	**+1.6**
	0.7nm,0.6s,mb3.9,baz=157,slow=8.0,SNR=5.3						
MKAR	**Makanchi Array**	**59.18**	**328**	P	**P**	**12 44 47.9**	**-0.9**
	0.3nm,0.4s,mb3.7,baz=120,slow=8.9,SNR=5.1						

IDC 26 12:45:25.1±7.6, 2996S×17677W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/12, mbtmp3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/11, Error ellipse: s-maj=321.5km s-min=55.5km az=154.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.20**	**266**	P	P	12 53 35.3	-0.5
	0.3nm,0.7s,baz=100,slow=6.4,SNR=4.1						
WRA	**Warramunga Arr**	**45.15**	**271**	P	P	12 53 44.2	+0.8
	0.4nm,0.3s,baz=110,slow=8.1,SNR=17						
GUMO	**Guam**	**56.93**	**314**	LR	LR	13 16 11.1	
	comp=Z,27nm,18.0s,baz=144,slow=32						
FINES	**FINESS Array B**	**145.09**	**341**	PKPbc	PKPbc	13 05 02.3	-1.5
	1.0nm,0.6s,baz=38,slow=3.6,SNR=7.7						

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*THR **26** 12:51:57.0±0.9, 3675N×4989E, h14km±8km, ML3.2*
*ISCJB **26** 12:52:00.6±1.0, 3662N±005×5013E±004, h2km±6km, Error ellipse: s-maj=8.1km s-min=4.9km az=43.2*
*CSEM **26** 12:52:01.7±0.1, 3661N×5020E, h16km, ML3.2, Error ellipse: s-maj=2.4km s-min=1.2km az=28.0*
*TEH **26** 12:52:02.2, 3665N×5023E, h3km, Mn3.6*
ISC 26 12:52:01.6±1.1, 3661N±004×5015E±004, h1km±6km, n17, σ0°96/28, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGZV	**Gazvin**	**0.23**	**165**	*e*Pg	**Pg**	**12 52 05.8**	**-0.1**
IGZV				*e*Sg	**Sg**	**12 52 10.7**	**+1.9**
IMHD	**Mahdasht**	**1.01**	**155**	*e*Pg	**Pg**	**12 52 20.2**	**-0.7**
IMHD				*e*Sg	**Sg**	**12 52 34.2**	**+0.2**
CHTH	**Charan**	**1.05**	**131**	*e*PG	**Pg**	**12 52 21.3**	**-0.5**
CHTH				AML	AML	12 52 39.9	
	comp=E,457nm,0.2s						
IAFJ	**Afjeh**	**1.47**	**120**	*e*Pn	**Pn**	**12 52 29.3**	**+0.1**
IAFJ				*e*Sn	**Sn**	**12 52 48.7**	**-0.4**
DAMV	**Damavand**	**1.77**	**123**	*e*PG	**Pg**	**12 52 34.2**	**-1.3**
DAMV				*e*SG	**Sg**	**12 53 01.1**	**+2.7**
IDMV	**Damavand**	**1.84**	**123**	*e*Pn	**Pn**	**12 52 35.2**	**+0.9**
ASAO	**Ashtian**	**2.05**	**183**	*e*Pn	**Pn**	**12 52 35.4**	**-1.8**
ASAO				*e*SG	**Sg**	**12 53 05.9**	**-1.7**
IVRN	**Varamin**	**2.06**	**141**	*e*Pn	**Pn**	**12 52 38.1**	**+0.8**
IVRN				*e*Sn	**Sn**	**12 53 04.3**	**+0.7**
SNGE	**Sanandaj**	**2.73**	**237**	*e*Pn	**Pn**	**12 52 41.8**	**-4.7**
SNGE				*e*SG	**Sn**	**12 53 19.9**	**-0.2**
SNGE				AML	AML	12 53 23.7	
	comp=E,60nm,0.6s						
SNGE				AML	AML	12 53 24.4	
	comp=N,97nm,0.5s						
ISFB	**Sefidab**	**2.82**	**142**	*e*Pn	**Pn**	**12 52 47.8**	**0.0**
ISFB				*e*Sn	**Sn**	**12 53 21.4**	**-1.0**
GRMI	**Germi**	**2.83**	**322**	*e*Pn	**Pn**	**12 52 40.2**	**-7.8**
GRMI				AML	AML	12 53 22.1	
	comp=N,112nm,0.4s						
GRMI				AML	AML	12 53 22.2	
	comp=E,118nm,0.3s						
IKIA	**Kiasar**	**2.88**	**97**	*e*Pn	**Pn**	**12 52 48.7**	**+0.1**
IKIA				*e*Sn	**Sn**	**12 53 19.8**	**-4.2**
ILIN	**Laeen**	**3.09**	**238**	*e*Pn	**Pn**	**12 52 52.8**	**+1.3**
ILIN				*e*Sn	**Sn**	**12 53 29.4**	**+0.4**
IKOM	**Komasi**	**3.24**	**222**	*e*Sn	**Sn**	**12 53 33.3**	**+0.6**
IAZR	**Azarshahr**	**3.50**	**289**	*e*Sn	**Sn**	**12 53 38.8**	**-0.3**
ITBZ	**Tabriz**	**3.57**	**298**	*e*Pn	**Pn**	**12 52 58.8**	**+0.6**
ITBZ				*e*Sn	**Sn**	**12 53 40.7**	**-0.3**
NASN	**Na'in**	**4.38**	**149**	*e*PN	**Pn**	**12 53 08.8**	**-0.5**

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*IGIL **26** 13:12:26.4, 3660N×7394W, h25km, ML2.5*
*ISCJB **26** 13:12:26.4±0.7, 3680N±004×7.19W±003, h74km±7km, Error ellipse: s-maj=7.3km s-min=3.6km az=51.9*
*SFS **26** 13:12:27.0, 3671N×723W, h24km, ML2.7*
*INMG **26** 13:12:27.6±1.0, 3667N×727W, h25km±5km, MD2.5, ML2.2, Error ellipse: s-maj=3.6km s-min=3.5km az=44.0*
*MDD **26** 13:12:27.1±0.8, 3664N×730W, h41km±19km, mb4.0/15, Error ellipse: s-maj=8.8km s-min=4.4km az=26.0, PRXIMO*
*NEIC **26** 13:12:27.6, 3668N×725W, h28km, MN2.7(MDD), After MDD.*
*CSEM **26** 13:12:29.0±0.2, 3684N×704W, h35km, ML2.2, Error ellipse: s-maj=6.2km s-min=2.6km az=28.0*
ISC 26 13:12:27.2±0.7, 3675N±004×722W±003, h57km±11km, n48, σ0°90/92, 6D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.62**	**357**	⇓P	**Pn**	**13 12 40.5**	**+0.2**
	39nm,0.1s,SNR=18						
ERIP				S	**Sn**	**13 12 50.3**	**+0.5**
	414nm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**0.62**	**357**	⇓P	**Pn**	**13 12 40.6**	**+0.3**
ERIP				S	**Sn**	**13 12 50.3**	**+0.5**
ERIP	**Rio Piedras**	**0.62**	**357**	P	**Pn**	**13 12 40.6**	**+0.3**
	39nm,0.1s,SNR=18						
ERIP				S	**Sn**	**13 12 50.3**	**+0.4**
	414nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.81**	**345**	⇓P	**Pn**	**13 12 42.9**	**+0.3**
	22nm,0.1s,SNR=18						
EGRO				S	**Sn**	**13 12 54.5**	**+0.5**
	60nm,0.1s,SNR=12						
EGRO	**El Granado**	**0.81**	**345**	P	**Pn**	**13 12 42.9**	**+0.3**
	22nm,0.1s,SNR=18						
EGRO				S	**Sn**	**13 12 54.5**	**+0.5**
	60nm,0.1s,SNR=12						
ESPR	**Espera**	**1.10**	**84**	⇓P	**Pn**	**13 12 46.5**	**+0.1**
	16nm,0.1s,SNR=18						
ESPR				S	**Sn**	**13 13 01.1**	**+0.3**
	166nm,0.3s,SNR=14						
ESPR	**Espera**	**1.10**	**84**	P	**Pn**	**13 12 46.5**	**+0.1**
	16nm,0.1s,SNR=18						
ESPR				S	**Sn**	**13 13 01.1**	**+0.4**
	166nm,0.3s,SNR=14						
EMIN	**Mina Concepcio**	**1.10**	**23**	⇓P	**Pn**	**13 12 47.0**	**+0.5**
	1.4nm,0.1s,SNR=18						
EMIN				S	**Sn**	**13 13 01.4**	**+0.6**
	28nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**1.10**	**23**	P	**Pn**	**13 12 47.0**	**+0.5**
	1.4nm,0.1s,SNR=18						
EMIN				S	**Sn**	**13 13 01.4**	**+0.6**
	28nm,0.1s,SNR=18						
MORF	**Marmelete**	**1.27**	**296**	*e*P	**Pn**	**13 12 47.4**	**-1.4**
MORF				*e*S	**Sn**	**13 13 02.8**	**-2.0**
MORF				*e*S	**Sn**	**13 13 02.8**	**-2.0**
MORF				AML	AML	13 13 03.8	
	comp=E,62nm,0.1s						
MORF	**Marmelete**	**1.27**	**296**	*e*P	**Pn**	**13 12 47.4**	**-1.3**
MORF				*e*S	**Sn**	**13 13 02.8**	**-2.0**
PBEJ	**Beja**	**1.37**	**338**	*i* P	**Pn**	**13 12 50.4**	**+0.3**
PBEJ				*e*S	**Sn**	**13 13 07.8**	**+0.6**
EJIF	**Jimena Fronter**	**1.44**	**102**	P	**Pn**	**13 12 51.2**	**+0.2**
	comp=E,1.5nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**13 13 07.4**	**-1.5**
	comp=E,3.3nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.44**	**102**	P	**Pn**	**13 12 51.2**	**+0.2**
EJIF				S	**Sn**	**13 13 05.5**	**-3.4**
EJIF	**Jimena Fronter**	**1.44**	**102**	P	**Pn**	**13 12 51.2**	**+0.2**
	comp=E,1.5nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**13 13 05.5**	**-3.4**
	comp=E,3.3nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.44**	**304**	*i* P	**Pn**	**13 12 50.3**	**-0.7**
PTEO				*e*S	**Sn**	**13 13 06.7**	**-2.2**
PTEO							
	comp=E,15nm,0.1s						
LIJA	**Lijar**	**1.47**	**83**	*e*S	**Sn**	**13 13 07.0**	**-2.5**
EMIJ	**Mijas**	**1.98**	**95**	P	**Pn**	**13 12 58.5**	**+0.3**
	comp=E,0.6nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	**13 13 22.1**	**+0.2**
	comp=E,3.8nm,0.2s,SNR=7.9						
MOE	**Montemor**	**1.98**	**333**	*e*Pn	**Pn**	**13 12 58.9**	**+0.5**
MOE				*e*Sn	**Sn**	**13 13 23.1**	**+1.0**
EBAD	**Badajoz**	**2.01**	**5**	⇓P	**Pn**	**13 12 59.4**	**+0.7**
	comp=E,1.9nm,0.0s,SNR=18						
EBAD				S	**Sn**	**13 13 23.3**	**+0.6**
	comp=E,3.9nm,0.0s,SNR=5.5						
EBAD	**Badajoz**	**2.01**	**5**	P	**Pn**	**13 12 59.4**	**+0.7**
	comp=E,1.9nm,0.0s,SNR=18						
EBAD				S	**Sn**	**13 13 23.2**	**+0.6**
EADA	**Adamuz**	**2.53**	**55**	P	**Pn**	**13 13 07.0**	**+1.1**
	comp=E,0.4nm,0.1s,SNR=5.0						
EADA				S	**Sn**	**13 13 34.9**	**-0.6**
	comp=E,5.8nm,0.1s,SNR=5.8						
EADA	**Adamuz**	**2.53**	**55**	P	**Pn**	**13 13 07.0**	**+1.1**
	comp=E,0.4nm,0.1s,SNR=5.0						
EADA				S	**Sn**	**13 13 34.9**	**-0.6**
	comp=E,5.8nm,0.1s,SNR=5.8						
PLOU	**Loures**	**2.62**	**325**	*e*Pn	**Pn**	**13 13 07.7**	**+0.6**
PLOU				*e*Sn	**Sn**	**13 13 37.1**	**-0.6**
PLOU							
	comp=E,11nm,0.2s						
PLOU	**Loures**	**2.62**	**325**	*e*Pn	**Pn**	**13 13 07.7**	**+0.6**
PLOU				*e*Sn	**Sn**	**13 13 37.1**	**-0.6**
PTOM	**Tomar**	**3.01**	**342**	*e*Pn	**Pn**	**13 13 12.9**	**+0.5**
PTOM				*e*Sn	**Sn**	**13 13 46.7**	**-0.6**
PTOM							
	comp=E,14nm,0.5s						
PTOM	**Tomar**	**3.01**	**342**	*e*Pn	**Pn**	**13 13 12.9**	**+0.5**
PTOM				*e*Sn	**Sn**	**13 13 46.7**	**-0.6**
EQUE	**Quentar**	**3.06**	**80**	S	**Sn**	**13 13 47.7**	**-0.7**
	comp=E,0.7nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.07**	**62**	P	**Pn**	**13 13 13.8**	**+0.5**
	comp=E,1.8nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**13 13 48.0**	**-0.8**
	comp=E,3.2nm,0.1s,SNR=6.3						
EBAN	**Banos Encina**	**3.07**	**62**	P	**Pn**	**13 13 13.8**	**+0.5**
EBAN				S	**Sn**	**13 13 48.0**	**-0.8**
PCBR	**Castelo Branco**	**3.09**	**356**	*e*Pn	**Pn**	**13 13 14.3**	**+0.8**
PCBR				*e*Sn	**Sn**	**13 13 48.8**	**-0.4**
PCBR							
	comp=E,8.2nm,0.1s						
PCBR	**Castelo Branco**	**3.09**	**356**	*e*Pn	**Pn**	**13 13 14.3**	**+0.8**
PCBR				*e*Sn	**Sn**	**13 13 48.8**	**-0.4**
	comp=E,8.2nm,0.1s						
EQES	**Quesada**	**3.47**	**71**	P	**Pn**	**13 13 19.5**	**+0.8**
	comp=E,0.3nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**13 13 59.6**	**+1.1**
	comp=E,0.7nm,0.0s,SNR=4.0						
EQES	**Quesada**	**3.47**	**71**	P	**Pn**	**13 13 19.5**	**+0.8**
	comp=E,0.3nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**13 13 59.6**	**+1.1**
	comp=E,0.7nm,0.0s,SNR=4.0						
MTE	**Manteigas**	**3.65**	**356**	*e*Pn	**Pn**	**13 13 21.4**	**+0.2**
MTE				*e*Sn	**Sn**	**13 14 02.2**	**-0.8**
MTE							
	comp=E,5.3nm,0.3s						
MTE	**Manteigas**	**3.65**	**356**	*e*Pn	**Pn**	**13 13 21.4**	**+0.2**
MTE				*e*Sn	**Sn**	**13 14 02.2**	**-0.8**
	comp=E,5.3nm,0.3s						
ESDC	**Sonseca Array**	**3.88**	**40**	P	**Pn**	**13 13 24.8**	**+0.4**
	comp=E,0.5nm,0.1s,baz=249,slow=14,SNR=7.9						
ESDC				S	**Sn**	**13 14 06.3**	**-2.4**
	comp=E,1.8nm,0.1s,baz=225,slow=23,SNR=5.5						
ESDC	**Sonseca Array**	**3.88**	**40**	P	**Pn**	**13 13 24.8**	**+0.4**
ESDC				S	**Sn**	**13 14 06.3**	**-2.4**
ESDC	**Sonseca Array**	**3.88**	**40**	P	**Pn**	**13 13 24.8**	**+0.4**
	comp=E,0.5nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**3.99**	**353**	*e*Pn	**Pn**	**13 13 26.6**	**+0.8**
PVIS				*e*Sn	**Sn**	**13 14 11.7**	**+0.3**
PVIS							
	comp=E,3.6nm,0.1s						
GUD	**Guadarrama**	**4.56**	**31**	P	**Pn**	**13 13 35.5**	**+1.8**
	comp=E,0.6nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**13 14 25.6**	**+0.2**
	comp=E,0.9nm,0.1s,SNR=4.0	

ellipse: s-maj=5.6km s-min=2.7km az=110.2
*CSEM **26** 13:14:23.4±0.2, 36.33N×8.58W, h2km, ML3.9/5, Error ellipse: s-maj=5.0km s-min=2.4km az=49.0*

ISC 26 13:14:22.8±0.7, 3639N±003×886W±004, h10km, n78, σ1§04/156, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.93**	**10**	*e*P	**Pg**	**13 14 41.6**	**+0.9**
MORF				*e*S	**Sg**	**13 14 55.5**	**+2.6**
MORF				*e*S	**Sg**	**13 14 55.6**	**+2.7**
MORF				AML	AML	13 14 59.3	
	comp=N,958nm,0.1s						
MORF	**Marmelete**	**0.93**	**10**	*e*P	**Pg**	**13 14 41.6**	**+0.9**
MORF				*e*S	**Sg**	**13 14 55.5**	**+2.6**
PTEO	**Sao Teotonio**	**1.16**	**5**	*i* P	**Pb**	**13 14 44.9**	**0.0**
PTEO				*e*S	**Sb**	**13 15 01.6**	**+1.5**
PTEO							
	comp=N,365nm,0.3s						
EGRO	**El Granado**	**1.59**	**44**	Pn	**Pn**	**13 14 50.9**	**0.0**
	comp=N,1.3nm,0.1s,SNR=16						
EGRO				Pg	**Pg**	**13 14 54.4**	**+1.1**
	comp=N,31nm,0.3s,SNR=7.9						
EGRO				Lg		13 15 14.9	
	comp=N,28nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**1.59**	**44**	P	**Pn**	**13 14 50.9**	**0.0**
EGRO				S	**Sn**	**13 15 15.0**	**+3.5**
EGRO	**El Granado**	**1.59**	**44**	P	**Pn**	**13 14 50.9**	**-0.1**
	comp=N,1.3nm,0.1s,SNR=16						
EGRO				S	**Sn**	**13 15 15.0**	**+3.4**
	comp=N,28nm,0.1s,SNR=5.0						
ERIP	**Rio Piedras**	**1.62**	**52**	Pn	**Pn**	**13 14 51.0**	**-0.4**
	comp=N,19nm,0.1s,SNR=7.9						
ERIP				Pg	**Pg**	**13 14 54.4**	**+0.6**
	comp=N,4.8nm,0.4s,SNR=7.9						
ERIP				Sn	**Sn**	**13 15 10.9**	**-1.5**
	comp=N,0.9nm,0.6s,SNR=7.9						
ERIP				Lg		13 15 17.3	
	comp=N,62nm,0.1s,SNR=7.9						
ERIP	**Rio Piedras**	**1.62**	**52**	P	**Pn**	**13 14 51.0**	**-0.4**
ERIP				S	**Sn**	**13 15 15.6**	**+3.3**
ERIP	**Rio Piedras**	**1.62**	**52**	P	**Pn**	**13 14 51.0**	**-0.4**
	comp=N,19nm,0.1s,SNR=7.9						
ERIP				S	**Sn**	**13 15 15.6**	**+3.3**
	comp=N,62nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.82**	**26**	*e*Pn	**Pn**	**13 14 54.4**	**+0.3**
PBEJ				*e*Sn	**Sn**	**13 15 18.2**	**+1.0**
PBEJ							
	comp=N,99nm,0.3s						
PBEJ	**Beja**	**1.82**	**26**	*e*Pn	**Pn**	**13 14 54.4**	**+0.3**
PBEJ				*e*Sn	**Sn**	**13 15 18.2**	**+1.0**
	comp=N,99nm,0.3s						
PLML	**Palmela**	**2.17**	**359**	*e*Pn	**Pn**	**13 14 59.0**	**+0.1**
PLML				*e*Sg	**Sg**	**13 15 34.5**	**+2.1**
MOE	**Montemor**	**2.17**	**11**	*e*Pn	**Pn**	**13 14 59.1**	**+0.2**
MOE				*e*Sg	**Sg**	**13 15 34.3**	**+1.8**
EMIN	**Mina Concepcio**	**2.23**	**51**	Pn	**Pn**	**13 15 00.1**	**+0.3**
	comp=N,0.9nm,0.1s,SNR=6.3						
EMIN				Sn	**Sn**	**13 15 29.2**	**+1.9**
	comp=N,6.8nm,0.1s,SNR=8.2						
EMIN				Lg		13 15 35.7	
	comp=N,24nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.23**	**51**	P	**Pn**	**13 15 00.1**	**+0.3**
EMIN				S	**Sn**	**13 15 29.2**	**+1.9**
EMIN	**Mina Concepcio**	**2.23**	**51**	P	**Pn**	**13 15 00.1**	**+0.4**
	comp=N,0.9nm,0.1s,SNR=6.3						
EMIN				S	**Sn**	**13 15 29.2**	**+1.9**
	comp=N,6.8nm,0.1s,SNR=8.2						
EVO	**Evora**	**2.25**	**17**	*e*Pn	**Pn**	**13 14 59.0**	**-1.0**
EVO	**Evora**	**2.25**	**17**	*e*Pg	**Pg**	**13 15 05.8**	**0.0**
EVO				*e*Sn	**Sn**	**13 15 26.5**	**-1.2**
EVO				*e*Sg	**Sg**	**13 15 35.0**	**+0.1**
	comp=N,102nm,0.2s						
ESPR	**Espera**	**2.46**	**78**	Pn	**Pn**	**13 15 02.4**	**-0.5**
	comp=N,2.8nm,0.1s,SNR=12						
ESPR				Sn	**Sn**	**13 15 33.5**	**+0.4**
	comp=N,54nm,0.3s,SNR=4.6						
ESPR	**Espera**	**2.46**	**78**	P	**Pn**	**13 15 02.4**	**-0.5**
ESPR				S	**Sn**	**13 15 33.5**	**+0.4**
ESPR	**Espera**	**2.46**	**78**	P	**Pn**	**13 15 02.4**	**-0.6**
	comp=N,2.8nm,0.1s,SNR=12						
ESPR				S	**Sn**	**13 15 33.5**	**+0.4**
	comp=N,54nm,0.3s,SNR=4.6						
PLOU	**Loures**	**2.50**	**355**	*e*Pn	**Pn**	**13 15 03.3**	**-0.2**
PLOU				*e*Sn	**Sn**	**13 15 33.6**	**-0.5**
PLOU				*e*Sg	**Sg**	**13 15 43.5**	**+0.2**
PLOU							
	comp=N,100nm,0.6s						
PLOU	**Loures**	**2.50**	**355**	Pn	**Pn**	**13 15 03.3**	**-0.2**
PLOU				Sn	**Sn**	**13 15 33.6**	**-0.5**
PLOU				Lg		13 15 43.5	
	comp=N,50nm,0.6s						
PLOU	**Loures**	**2.50**	**355**	*e*Pn	**Pn**	**13 15 03.3**	**-0.2**
PLOU				*e*Sn	**Sn**	**13 15 33.6**	**-0.5**
EJIF	**Jimena Fronter**	**2.74**	**88**	Pn	**Pn**	**13 15 07.0**	**+0.3**
	comp=N,2.1nm,0.1s,SNR=6.8						
EJIF				Sn	**Sn**	**13 15 40.8**	**+1.0**
	comp=N,5.4nm,0.3s,SNR=5.0						
EJIF	**Jimena Fronter**	**2.74**	**88**	P	**Pn**	**13 15 07.0**	**+0.3**
	comp=N,2.1nm,0.1s,SNR=6.8						
EJIF				S	**Sn**	**13 15 40.8**	**+0.9**
	comp=N,5.4nm,0.3s,SNR=5.0						
EBAD	**Badajoz**	**2.78**	**31**	Pn	**Pn**	**13 15 07.0**	**-0.4**
	comp=N,2.4nm,0.1s,SNR=5.0						
EBAD				Sn	**Sn**	**13 15 42.1**	**+1.1**
	comp=N,7.3nm,0.1s,SNR=5.0						
EBAD				Lg		13 15 52.3	
	comp=N,46nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.78**	**31**	P	**Pn**	**13 15 07.0**	**-0.4**
EBAD				S	**Sn**	**13 15 42.1**	**+1.1**
EBAD	**Badajoz**	**2.78**	**31**	P	**Pn**	**13 15 07.0**	**-0.4**
	comp=N,2.4nm,0.1s,SNR=5.0						
EBAD				S	**Sn**	**13 15 42.1**	**+1.1**
	comp=N,7.3nm,0.1s,SNR=5.0						
LIJA	**Lijar**	**2.83**	**78**	*i* P	**Pn**	**13 15 09.0**	**+1.0**
LIJA				*i* S	**Sn**	**13 15 42.0**	**-0.1**
PTOM	**Tomar**	**3.25**	**6**	*e*Pn	**Pn**	**13 15 13.8**	**+0.1**
PTOM				*e*Sn	**Sn**	**13 15 52.1**	**-0.3**
PTOM				*e*Sg	**Sg**	**13 16 08.3**	**+1.3**
PTOM							
	comp=N,58nm,0.3s						
PTOM	**Tomar**	**3.25**	**6**	*e*Pn	**Pn**	**13 15 13.8**	**+0.1**
PTOM				*e*Sn	**Sn**	**13 15 52.1**	**-0.3**
PTOM				*e*Sg	**Sg**	**13 16 08.3**	**+1.3**
	comp=N,58nm,0.3s						
EMIJ	**Mijas**	**3.30**	**86**	Pn	**Pn**	**13 15 13.9**	**-0.6**
	comp=N,2.1nm,0.2s,SNR=7.9						
EMIJ				Sn	**Sn**	**13 15 53.3**	**-0.5**
	comp=N,14nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**3.62**	**17**	*e*Pn	**Pn**	**13 15 19.0**	**+0.2**
PCBR				*e*Sn	**Sn**	**13 16 00.7**	**-0.9**
PCBR				*e*Sg	**Sg**	**13 16 17.9**	**-1.0**
PCBR							
	comp=N,45nm,0.4s						
PCBR	**Castelo Branco**	**3.62**	**17**	*e*Pn	**Pn**	**13 15 19.0**	**+0.2**
PCBR				*e*Sn	**Sn**	**13 16 00.7**	**-0.9**
PCBR				*e*Sg	**Sg**	**13 16 17.9**	**-1.0**
	comp=N,45nm,0.4s						
EADA	**Adamuz**	**3.85**	**61**	Pn	**Pn**	**13 15 21.7**	**-0.3**
	comp=N,7.5nm,0.1s,SNR=10						
EADA				Sn	**Sn**	**13 16 06.5**	**-0.8**
	comp=N,11nm,0.1s,SNR=6.6						
EADA	**Adamuz**	**3.85**	**61**	P	**Pn**	**13 15 21.7**	**-0.4**
	comp=N,7.5nm,0.1s,SNR=10						
EADA				S	**Sn**	**13 16 06.5**	**-0.9**
	comp=N,11nm,0.1s,SNR=6.6						
ERON	**Agron**	**4.11**	**80**	Pn	**Pn**	**13 15 26.5**	**+0.9**
	comp=N,4.8nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**4.14**	**14**	*e*Pn	**Pn**	**13 15 25.9**	**-0.1**
MTE				*e*Sn	**Sn**	**13 16 13.2**	**-1.2**
MTE				*e*Sg	**Sg**	**13 16 34.5**	**-1.2**
MTE							
	comp=N,46nm,0.6s						
MTE	**Manteigas**	**4.14**	**14**	*e*Pn	**Pn**	**13 15 25.9**	**-0.1**
MTE				*e*Sn	**Sn**	**13 16 13.2**	**-1.2**
MTE				*e*Sg	**Sg**	**13 16 34.5**	**-1.2**
	comp=N,46nm,0.6s						
EGUA	**Guajares**	**4.28**	**82**	Pn	**Pn**	**13 15 28.4**	**+0.4**
	comp=N,0.5nm,0.1s,SNR=7.9						
EGUA				Sn	**Sn**	**13 16 17.8**	**-0.2**
	comp=N,0.3nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**4.34**	**77**	Pn	**Pn**	**13 15 29.1**	**+0.3**
	comp=N,1.2nm,0.1s,SNR=4.0						
ECOG				Sn	**Sn**	**13 16 18.8**	**-0.6**
	comp=N,1.7nm,0.1s,SNR=4.0						
PVIS	**Viseu**	**4.39**	**10**	*e*Pn	**Pn**	**13 15 29.3**	**-0.1**
PVIS				*e*Sn	**Sn**	**13 16 19.4**	**-1.2**
PVIS				*e*Sg	**Sg**	**13 16 45.0**	**+1.3**
PVIS							
	comp=N,18nm,0.4s						
PVIS	**Viseu**	**4.39**	**10**	*e*Pn	**Pn**	**13 15 29.3**	**-0.1**
PVIS				*e*Sn	**Sn**	**13 16 19.4**	**-1.2**
PVIS				*e*Sg	**Sg**	**13 16 45.0**	**+1.3**
	comp=N,18nm,0.4s						
EBAN	**Banos Encina**	**4.42**	**65**	Pn	**Pn**	**13 15 29.6**	**-0.2**
	comp=N,2.8nm,0.1s,SNR=9.6						
EBAN				Sn	**Sn**	**13 16 20.2**	**-1.1**
	comp=N,2.9nm,0.1s,SNR=5.0						
EQUE	**Quentar**	**4.43**	**78**	Pn	**Pn**	**13 15 30.4**	**+0.4**
	comp=N,0.6nm,0.1s,SNR=10						
EQUE				Sn	**Sn**	**13 16 21.0**	**-0.5**
	comp=N,0.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.83**	**82**	Pn	**Pn**	**13 15 36.1**	**+0.6**
	comp=N,1.6nm,0.4s,SNR=7.9						
EBER				Sn	**Sn**	**13 16 31.1**	**-0.3**
	comp=N,4.7nm,0.5s,SNR=4.0						
EBER	**Berja**	**4.83**	**82**	P	**Pn**	**13 15 36.1**	**+0.6**
	comp=N,1.6nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**13 16 31.1**	**-0.4**
	comp=N,4.7nm,0.5s,SNR=4.0						
EQES	**Quesada**	**4.84**	**71**	Pn	**Pn**	**13 15 36.7**	**+1.0**
	comp=N,2.2nm,0.1s,SNR=8.1						
EQES				Sn	**Sn**	**13 16 32.2**	**+0.5**
	comp=N,2.8nm,0.2s,SNR=5.0						
EQES	**Quesada**	**4.84**	**71**	P	**Pn**	**13 15 36.7**	**+1.1**
	comp=N,2.2nm,0.1s,SNR=8.1						
EQES				S	**Sn**	**13 16 32.2**	**+0.5**
	comp=N,2.8nm,0.2s,SNR=5.0						
PVRL	**Vila Real**	**4.96**	**10**	*e*Pn	**Pn**	**13 15 37.3**	**0.0**
PVRL				*e*Sn	**Sn**	**13 16 32.5**	**-2.3**
PVRL				*e*Sg	**Sg**	**13 17 03.0**	**+0.9**
PVRL							
	comp=N,18nm,0.3s						
PVRL	**Vila Real**	**4.96**	**10**	Pn	**Pn**	**13 15 37.3**	**0.0**
PVRL				Sn	**Sn**	**13 16 32.5**	**-2.3**
PVRL				Lg		13 17 03.0	
	comp=N,8.8nm,0.3s						
PVRL	**Vila Real**	**4.96**	**10**	*e*Pn	**Pn**	**13 15 37.3**	**0.0**
PVRL				*e*Sn	**Sn**	**13 16 32.5**	**-2.3**
ESDC	**Sonseca Array**	**5.07**	**48**	Pn	**Pn**	**13 15 38.5**	**-0.3**
	comp=N,1.4nm,0.1s,baz=232,slow=13,SNR=3.9						
ESDC				Sn	**Sn**	**13 16 34.8**	**-2.7**
	comp=N,4.1nm,0.4s,baz=233,slow=24,SNR=6.9						
ESDC	**Sonseca Array**	**5.07**	**48**	P	**Pn**	**13 15 38.5**	**-0.3**
	comp=N,1.4nm,0.1s,SNR=3.9						
EHUE	**Huescar**	**5.21**	**72**	Pn	**Pn**	**13 15 41.5**	**+0.7**
	comp=N,2.2nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.36**	**7**	*e*Pn	**Pn**	**13 15 42.7**	**0.0**
PCAB				*e*Sn	**Sn**	**13 16 41.9**	**-2.6**
PCAB				*e*Sg	**Sg**	**13 17 14.4**	**-0.3**
PCAB							
	comp=N,13nm,0.4s						
PCAB	**Cabril**	**5.36**	**7**	Pn	**Pn**	**13 15 42.7**	**0.0**
PCAB				Sn	**Sn**	**13 16 41.9**	**-2.6**
PCAB				Lg		13 17 14.4	
	comp=N,6.7nm,0.4s						
ELOB	**Lobios**	**5.51**	**6**	Pn	**Pn**	**13 15 44.5**	**-0.4**
	comp=N,1.0nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**13 16 45.5**	**-2.7**
	comp=N,3.2nm,0.2s,SNR=5.0						
EVIA	**Vianos**	**5.53**	**64**	Pn	**Pn**	**13 15 46.2**	**+1.1**
	comp=N,2.1nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**5.63**	**40**	Pn	**Pn**	**13 15 47.6**	**+1.1**
	comp=N,1.9nm,0.4s,SNR=7.9						
GUD				Sn	**Sn**	**13 16 51.0**	**-0.2**
	comp=N,2.4nm,0.3s,SNR=4.5						
PBRG	**Braganca**	**5.66**	**16**	*e*Pn	**Pn**	**13 15 46.6**	**-0.3**
PBRG				*e*Sn	**Sn**	**13 16 48.1**	**-3.8**
PBRG				*e*Sg	**Sg**	**13 17 25.9**	**+1.6**
PBRG							
	comp=N,11nm,0.7s						
PBRG	**Braganca**	**5.66**	**16**	Pn	**Pn**	**13 15 46.6**	**-0.3**
PBRG				Sn	**Sn**	**13 16 48.1**	**-3.8**
PBRG				Lg		13 17 25.9	
	comp=N,5.7nm,0.7s						
ECAL	**Calabor**	**5.79**	**16**	Pn	**Pn**	**13 15 48.6**	**0.0**
	comp=N,3.0nm,0.3s,SNR=4.6						
ECAL				Sn	**Sn**	**13 16 52.8**	**-2.3**
	comp=N,5.2nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**6.24**	**67**	Pn	**Pn**	**13 15 54.0**	**-0.8**
	comp=N,0.2nm,0.1s,SNR=7.6						
ETOB				Sn	**Sn**	**13 17 03.1**	**-3.0**
	comp=N,1.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.24**	**67**	P	**Pn**	**13 15 54.0**	**-0.8**
	comp=N,0.2nm,0.1s,SNR=7.6						
EMAZ	**Mazaricos**	**6.55**	**359**	Pn	**Pn**	**13 15 58.5**	**-0.7**
	comp=N,2.4nm,0.2s,SNR=5.0						
EMAZ				Sn	**Sn**	**13 17 10.3**	**-3.7**
	comp=N,4.0nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**7.24**	**69**	Pn	**Pn**	**13 16 08.9**	**+0.3**
	comp=N,2.0nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**7.24**	**69**	P	**Pn**	**13 16 08.9**	**+0.3**
	comp=N,2.0nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**7.69**	**56**	Pn	**Pn**	**13 16 17.3**	**+2.5**
	comp=N,0.4nm,0.2s,SNR=4.0						
EMOS				Sn	**Sn**	**13 17 38.9**	**-3.1**
	comp=N,1.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**7.69**	**56**	P	**Pn**	**13 16 17.3**	**+2.5**
EMOS				S	**Sn**	**13 17 38.9**	**-3.1**
EMOS	**Mosqueruela**	**7.69**	**56**	P	**Pn**	**13 16 17.3**	**+2.5**
	comp=N,0.4nm,0.2s,SNR=4.0						
SJPF	**Ste Jean**	**8.93**	**39**	*e*P	**Pn**	**13 16 37.7**	**+6.0**
SJPF	**Ste Jean**	**8.93**	**39**	*e*Pn	**Pn**	**13 16 31.7**	**0.0**
SJPF				*e*P		13 16 37.7	
SJPF	**Ste Jean**	**8.93**	**39**	*e*P	**Pn**	**13 16 37.7**	**+6.0**
ETSF	**Etsaut**	**9.12**	**42**	*e*Pn	**Pn**	**13 16 34.6**	**+0.2**
EPF	**Esparros**	**9.71**	**44**	*e*Pn	**Pn**	**13 16 42.2**	**-0.2**
MTLF	**Montolieu**	**10.98**	**47**	*e*Pn	**Pn**	**13 16 59.3**	**-0.6**

*NEIC **26** 13:14:41.6, 3985N×21.12E, h42km, MD3.4(ATH), After ATH.*
*ATH **26** 13:14:41.5, 3986N×21.13E, h42km±3km, MD3.4/4*
*CSEM **26** 13:14:41.6, 3985N×21.12E, h42km, MD3.4/4, After ATH*
*THE **26** 13:14:45.9, 3940N×2064E, h0km, ML2.9*
*ISCJB **26** 13:14:46.3±0.7, 3943N±004×2066E±004, h10km, Error ellipse: s-maj=6.5km s-min=4.4km az=179.3*

ISC 26 13:14:46.4±0.8, 3941N±005×2064E±004, h6km±8km, n12, σ0§75/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**297**	*e*Pg	**Pg**	**13 14 51.0**	**-0.6**
IGT				*e*Sg	**Sg**	**13 14 55.4**	**+0.3**
JAN	**Janina**	**0.29**	**34**	*e*P	**Pg**	**13 14 50.8**	**-1.3**
JAN				*e*S	**Sg**	**13 14 56.0**	**0.0**
MEV	**Metsovon**	**0.59**	**51**	*e*Pg	**Pg**	**13 14 56.7**	**-1.1**
MEV				*e*Sg	**Sg**	**13 15 06.0**	**+0.6**
KEK	**Kerkira**	**0.72**	**295**	*e*P	**Pg**	**13 14 59.9**	**-0.3**
KEK				*e*S	**Sg**	**13 15 15.2**	**+5.7**
EVR	**Evrytania**	**1.03**	**118**	*e*P	**Pg**	**13 15 01.3**	**-5.0**
VLS	**Valsamata**	**1.23**	**182**	*e*P	**Pb**	**13 15 11.0**	**+0.8**
AGG	**Agios Georgios**	**1.37**	**106**	*e*Pg	**Pn**	**13 15 11.2**	**-0.9**
AGG				*e*Sg	**Sg**	**13 15 30.9**	**+0.4**
FNA	**Florina**	**1.48**	**22**	*e*Pg	**Pn**	**13 15 13.4**	**-0.3**
LIT	**Litokhoron**	**1.58**	**64**	*e*Pg	**Pn**	**13 15 15.2**	**+0.2**
LIT				*e*Sg	**Sg**	**13 15 37.4**	**0.0**
BIA	**Bitola**	**1.69**	**18**	*i* Pn	**Pb**	**13 15 18.7**	**+0.8**
OHR	**Ohrid**	**1.70**	**4**	*e*Pb	**Pn**	**13 15 16.4**	**-0.3**
OHR	**Ohrid**	**1.70**	**4**	*i* Pn	**Pg**	**13 15 20.8**	**+1.7**

ISC 26 14:20:29.7±1.9, 374N±01×4250E±007, h0km±13km, n5, σ1§49/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.90**	**101**	PN	**Pn**	**14 20 49.0**	**-0.5**
CUKT				SN	**Sn**	**14 21 05.3**	**+2.1**
BEST	**Besiri**	**1.09**	**296**	*i* P	**Pg**	**14 20 49.2**	**-1.3**
BEST				*i* S	**Sg**	**14 21 07.2**	**+2.6**
BTMT	**Batman**	**1.11**	**314**	PN	**Pn**	**14 20 49.1**	**-3.5**
MARD	**Mardin**	**1.38**	**266**	*i* P	**Pn**	**14 20 54.7**	**-1.4**
MARD				*i* S	**Sb**	**14 21 15.3**	**+0.8**
BNGL	**BINGOL**	**1.87**	**326**	*i* P	**Pn**	**14 21 02.1**	**-0.8**
BNGL				*i* S	**Sn**	**14 21 27.2**	**+0.1**

*IDC **26** 14:43:09.4±3.3, 1035N×12350E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/14, Error ellipse: s-maj=329.0km s-min=28.3km az=64.0*
*MAN **26** 14:43:15.9, 994N×12229E, h24km, mb3.3, ML4.6, MS2.0*
*ISCJB **26** 14:43:16.1±0.4, 993N±004×12228E±004, h61km±10km, mb3.4/3, Error ellipse: s-maj=7.8km s-min=4.5km az=103.2*

ISC 26 14:43:17.2±0.4, 992N±004×12229E±004, h49km±11km, n22, σ1§22/32, mb3.4/3, MS2.9/1, 3C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.76**	**23**	*e*P	**Pn**	**14 43 30.3**	**-1.4**
SNPH	**Sibulan**	**1.09**	**122**	⇑*i*P	**Pn**	**14 43 35.3**	**-0.9**
SNPH				*e*S	**Sn**	**14 43 51.0**	**+0.8**
TBP	**Tagbilaran**	**1.56**	**98**	*e*P	**Pn**	**14 43 50.8**	**+8.2**
TBP				*e*S	**Sn**	**14 44 08.8**	**+7.1**
DCPH	**Dipolog City**	**1.69**	**142**	⇑*e*P	**Pn**	**14 43 43.2**	**-1.1**
DCPH				*i* S	**Sn**	**14 44 05.8**	**+0.9**
LLP	**Lapu-Lapu**	**1.69**	**76**	*e*P	**Pn**	**14 43 43.6**	**-0.8**
LLP				*e*S	**Sn**	**14 44 02.9**	**-2.0**
KALP	**Kalibo**	**1.75**	**1**	*e*P	**Pn**	**14 43 48.3**	**+3.2**
IPIL	**Ipil**	**2.14**	**173**	*e*P	**Pn**	**14 43 51.3**	**+0.9**
IPIL				*e*S	**Sn**	**14 44 15.8**	**0.0**
IPIL	**Ipil**	**2.14**	**173**	*e*P	**Pn**	**14 43 50.9**	**+0.4**
PAGZ	**Pagadian**	**2.33**	**152**	*e*P	**Pn**	**14 43 54.3**	**+1.3**
OTRP	**Odiongan**	**2.44**	**354**	*e*P	**Pn**	**14 43 54.8**	**+0.2**
OTRP				*e*S	**Sn**	**14 44 23.6**	**+0.4**
MSLP	**Maasin**	**2.54**	**85**	*e*P	**Pn**	**14 43 56.3**	**+0.4**
MSLP				*e*S	**Sn**	**14 44 25.6**	**0.0**
MMPH	**Masbate**	**2.75**	**28**	*e*P	**Pn**	**14 44 01.2**	**+2.4**
MMPH				*i* S	**Sn**	**14 44 35.0**	**+4.2**
CGP	**Cagayan de Oro**	**2.78**	**121**	⇑*e*P	**Pn**	**14 43 56.9**	**-2.4**
CGP				*i* S	**Sn**	**14 44 28.0**	**-3.6**
BUSP	**Coron**	**2.92**	**315**	*e*P	**Pn**	**14 44 01.1**	**0.0**
BUSP				*e*S	**Sn**	**14 44 33.7**	**-1.2**
ENPP	**El Nido**	**3.09**	**295**	*e*P	**Pn**	**14 44 04.2**	**+0.6**
ENPP				*e*S	**Sn**	**14 44 38.0**	**-1.2**
BUKP	**Musuan**	**3.41**	**126**	*e*P	**Pn**	**14 44 09.8**	**+1.9**
BOAC	**Boac**	**3.54**	**353**	*e*P	**Pn**	**14 44 09.8**	**+0.1**
LUBP	**Lubang**	**4.29**	**332**	*e*P	**Pn**	**14 44 20.2**	**+0.3**
JHJ	**Hachijo jima 2**	**28.15**	**32**	LR	LR	14 59 25.3	
	comp=Z,36nm,20.8s,MS2.9,baz=74,slow=36						
WRA	**Warramunga Arr**	**31.96**	**158**	P	**P**	**14 49 36.8**	**-1.6**
	0.3nm,0.7s,mb3.2,baz=340,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**35.26**	**161**	P	**P**	**14 50 06.5**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=344,slow=7.1,SNR=11						
MKAR	**Makanchi Array**	**49.99**	**325**	P	**P**	**14 52 08.0**	**+1.5**
	0.2nm,0.4s,mb3.5,baz=136,slow=9.3,SNR=3.6						

MAN 26 14:48:48.1, 1254N×12571E, h1km, mb3.0, ML4.4, MS2.5, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.97**	**196**	*e*P	Pg	14 49 06.9	+0.2
BESP				*e*S	Sg	14 49 35.4	+16
OCLP	**Ormoc**	**1.83**	**216**	*e*P	Pn	14 49 22.1	+1.5
PVCP	**Virac**	**1.84**	**305**	⇑*e*P	Pn	14 49 21.1	+0.2
PVCP	**Virac**	**1.84**	**305**	*e*P	Pn	14 49 21.1	+0.3
PVCP				*e*S	Sn	14 49 48.4	+3.6

IDC 26 14:51:38.7±4.9, 618S×10216E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=200.1km s-min=22.7km az=53.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**25.79**	**119**	P	P	14 57 11.7	+0.4
	4.1nm,1.0s,baz=305,slow=15,SNR=4.3						
WRA	**Warramunga Arr**	**34.11**	**117**	P	P	14 58 25.8	+0.7
	0.4nm,0.5s,baz=286,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**35.12**	**123**	P	P	14 58 33.9	0.0
	0.4nm,0.7s,baz=301,slow=7.2,SNR=7.0						
SONM	**Songino Array**	**53.91**	**4**	P	P	15 01 04.0	+0.1
	0.4nm,0.7s,baz=183,slow=9.7,SNR=2.5						
SONM				pP		15 01 09.1	
	1.8nm,1.0s,baz=186,slow=8.1,SNR=9.3						
MKAR	**Makanchi Array**	**55.62**	**344**	P	P	15 01 16.3	0.0
	0.5nm,0.6s,baz=140,slow=9.1,SNR=7.6						
MKAR				pP		15 01 21.8	
	0.9nm,0.6s,baz=144,slow=7.0,SNR=9.1						

*ISCJB **26** 14:55:38.3±0.3, 2694S±003×2671E±003, h2km, mb4.0/8, Error ellipse: s-maj=4.7km s-min=3.6km az=97.9*
*PR

comp=Z,8.6nm,0.3s,baz=219,slow=12,SNR=6.0
MATP Lg 14 59 06.2
comp=Z,42nm,0.3s,baz=98,slow=15,SNR=9.3
SUR Sutherland 7.47 222 *e*P **Pn 14 57 29.5 -0.2**
SUR *e*S **Sn 14 58 51.2 -3.8**
SUR Sutherland 7.47 222 Pn **Pn 14 57 30.8 +1.1**
comp=Z,3.2nm,0.3s,baz=66,slow=17,SNR=19
SUR Sn **Sn 14 58 53.0 -2.0**
comp=Z,6.4nm,0.3s,baz=29,slow=21,SNR=6.0
SUR Lg 14 59 29.2
comp=Z,8.7nm,0.3s,baz=325,slow=23,SNR=12
SUR Sutherland 7.47 222 *e*Pn **Pn 14 57 30.8 +1.2**
CVNA Calvinia 7.58 232 *e*P **Pn 14 57 30.8 -0.3**
CVNA *e*S **Sn 14 58 52.7 -4.9**
CVNA AML AML 14 59 37.7
comp=Z,203nm,0.5s
TSUM Tsumeb 11.38 311 Pn **Pn 14 58 24.4 +1.2**
comp=Z,1.0nm,0.3s,baz=144,slow=11,SNR=13
TSUM Sn **Sn 15 00 24.0 -6.9**
comp=Z,1.6nm,0.3s,baz=212,slow=19,SNR=4.4
TSUM Lg 15 01 33.0
comp=Z,1.5nm,0.3s,baz=265,slow=17,SNR=5.5
TSUM Tsumeb 11.38 311 *e*Pn **Pn 14 58 23.4 +0.2**
comp=Z,3.6nm,0.5s
TSUM Sn **Sn 15 00 23.2 -7.7**
LSZ Lusaka 11.67 7 Pn **Pn 14 58 27.2 0.0**
comp=Z,2.0nm,0.3s,baz=181,slow=13,SNR=3.7
LSZ Sn **Sn 15 00 32.9 -5.2**
comp=Z,2.4nm,0.3s,baz=44,slow=7.8,SNR=6.4
LSZ Lg 15 01 41.9
comp=Z,1.2nm,0.3s,baz=118,slow=23,SNR=6.0
LSZ Lusaka 11.67 7 *e*Pn **Pn 14 58 27.3 +0.1**
DBIC Dimbokro 45.27 313 P **P 15 04 00.4 +1.7**
comp=Z,2.6nm,0.8s,mb4.1,baz=108,slow=7.7,SNR=3.2
MAW Mawson 46.19 162 P **P 15 04 07.3 +1.4**
comp=Z,0.7nm,0.6s,mb3.8,baz=316,slow=11,SNR=3.8
MAW Mawson 46.19 162 *e*P **P 15 04 07.3 +1.4**
comp=Z,0.3nm,0.4s,mb3.6
TORD Torodi Ar. Bea 46.66 326 P **P 15 04 10.4 +0.8**
comp=Z,2.8nm,0.8s,mb4.2,baz=138,slow=6.4,SNR=24
MMAI Mount Meron Ar 60.18 8 P **P 15 05 51.9 +3.0**
comp=Z,0.5nm,0.4s,mb3.9,baz=185,slow=8.4,SNR=3.5
LPAZ La Paz 86.95 253 P **P 15 08 27.9 +1.6**
comp=Z,1.1nm,0.8s,mb4.1,baz=90,slow=7.4,SNR=4.0
LPAZ La Paz 86.95 253 *e*P **P 15 08 27.8 +1.5**
comp=Z,3.8nm,1.3s,mb4.5
FINES FINESS Array B 88.05 360 P **P 15 08 32.8 +1.2**
comp=Z,1.5nm,0.8s,mb4.3,baz=48,slow=2.8,SNR=4.2
MKAR Makanchi Array 88.88 35 P **P 15 08 35.5 0.0**
comp=Z,0.2nm,0.8s,mb3.6,baz=251,slow=4.4,SNR=3.1
ASAR Alice Springs 93.57 119 P **P 15 08 59.5 +2.2**
comp=Z,0.2nm,0.5s,mb3.8,baz=230,slow=4.9,SNR=7.9
PDAR Pinedale Array 141.24 306 PKhKP 15 15 08.8
comp=Z,0.2nm,0.5s,baz=90,slow=2.7,SNR=3.0
PDAR PKP PKPdf 15 15 12.8 +1.0
comp=Z,0.2nm,0.3s,baz=66,slow=3.1,SNR=3.5

ISCJB ***26*** *14:56:01.6±0.7, 2000S±008×1734W±0.1, h33km, mb4.1/5, Error ellipse: s-maj=16.2km s-min=10.1km az=62.9*
IDC ***26*** *14:56:04.1±2.0, 1998S×17427W, h0km, mb4.0/4, mb1 4.3/5, mb1mx4.0/15, mbtmp4.0/5, ML4.1/1, Error ellipse: s-maj=52.8km s-min=31.3km az=85.0*
NEIC ***26*** *14:56:09.4±3.5, 1999S×17424W, h36km±26km, mb4.2/1, Error ellipse: s-maj=31.9km s-min=17.5km az=55.0*
ISC 26 14:56:04.1±0.7, 1983S±007×1734W±01, h35km, n14, σ1§46/15, mb4.1/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.09**	**15**	Pn	**Pn**	**14 57 34.1**	**+2.4**
	4.1nm,0.3s,baz=48,slow=18,SNR=14						
AFI				Sn	**Sn**	**14 58 38.9**	**-1.2**
	3.1nm,0.3s,baz=152,slow=19,SNR=2.5						
AFI	**Afiamalu**	**6.09**	**15**	*e*P	**Pn**	**14 57 34.2**	**+2.5**
AFI				Sn	**Sn**	**14 58 38.9**	**-1.2**
RAO	**Raoul Island**	**10.23**	**203**	Pn	**Pn**	**14 58 28.0**	**-0.5**
RAR	**Rarotonga**	**12.86**	**99**	Pn	**Pn**	**14 59 03.2**	**-1.2**
	2.3nm,0.3s,baz=280,slow=3.7,SNR=8.6						
URZ	**Urewera**	**20.12**	**202**	P	**P**	**15 00 34.9**	**-0.1**
	0.5nm,0.3s,baz=29,slow=19,SNR=3.9						
CTAO	**Charters Tower**	**37.84**	**263**	*e*P	**P**	**15 03 16.6**	**-0.8**
ASAR	**Alice Springs**	**48.86**	**256**	P	**P**	**15 04 45.4**	**-0.8**
	1.4nm,0.8s,mb4.0,baz=96,slow=7.9,SNR=23						
WRAB	**Tennant Creek**	**48.95**	**260**	*e*P	**P**	**15 04 47.0**	**+0.1**
WRA	**Warramunga Arr**	**48.96**	**260**	P	**P**	**15 04 46.3**	**-0.6**
	1.4nm,0.6s,mb4.2,baz=96,slow=7.6,SNR=22						
SBA	**Scott Base**	**58.86**	**185**	P	**P**	**15 06 03.1**	**+3.8**
	2.2nm,1.0s,mb4.1						
VNDA	**Vanda**	**58.99**	**186**	P	**P**	**15 06 03.4**	**+3.2**
	1.1nm,1.0s,mb3.8,baz=11,slow=4.9,SNR=3.7						
VNDA	**Vanda**	**58.99**	**186**	P	**P**	**15 06 03.4**	**+3.2**
MJAR	**Matsushiro Arr**	**72.32**	**321**	P	**P**	**15 07 29.5**	**+3.4**
	2.6nm,0.8s,mb4.2,baz=152,slow=6.6,SNR=7.7						
BRTR	**Keskin Array B**	**149.46**	**316**	PKPbc	PKPbc	15 15 53.5	+4.0
	0.6nm,0.8s,baz=48,slow=1.8,SNR=4.5						

IDC 26 15:13:02.0±31.0, 1075N×12330E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=542.3km s-min=147.2km az=156.0, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**28.76**	**175**	P	P	15 19 01.0	-0.3
	0.5nm,0.4s,baz=14,slow=12,SNR=8.5						
WRA	**Warramunga Arr**	**32.38**	**160**	P	P	15 19 33.1	0.0
	0.6nm,0.5s,baz=341,slow=9.1,SNR=19						
ASAR	**Alice Springs**	**35.74**	**163**	P	P	15 20 03.0	+0.6
	1.4nm,0.3s,baz=339,slow=7.5,SNR=81						
STKA	**Stephens Creek**	**45.86**	**158**	P	P	15 21 26.6	+0.7
	1.2nm,0.5s,baz=349,slow=10,SNR=3.6						

BJI ***26*** *15:28:02.1, 128S×12353E, h48km, mB4.9, mb4.8, Ms4.1, Msz3.9*
MOS ***26*** *15:28:06.3±1.0, 045S×12329E, h33km, mb5.1/12, Error ellipse: s-maj=20.1km s-min=9.0km az=113.3*
ISCJB ***26*** *15:28:07.3±0.3, 052S±003×12338E±005, h43km, mb4.8/48, MS3.7/16, Error ellipse: s-maj=7.1km s-min=4.2km az=133.7*
IDC ***26*** *15:28:07.7±2.5, 047S×12335E, h37km±20km, mb4.3/13, mb1 4.3/14, mb1mx4.2/20, mbtmp4.4/14, ML3.8/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/24, Error ellipse: s-maj=22.5km s-min=12.2km az=71.0*
NEIC ***26*** *15:28:08.9±1.1, 050S×12330E, h48km±11km, mb4.5/16, Error ellipse: s-maj=12.7km s-min=6.6km az=64.0*
NEIC Felt [III] at Luwuk.
ISC 26 15:28:09.5±0.3, 055S±003×12337E±005, h45km, h45km±1.1km: pP-P, n112, σ1§30/118, mb4.8/48, MS3.7/16, 5C-5D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**3.55**	**264**	P	**Pn**	**15 29 02.0**	**0.0**
	1μm,0.8s						
AAI	**Ambon**	**5.74**	**123**	P	**Pn**	**15 29 34.3**	**+2.2**
	468nm,1.0s						
TSM	**Tawau**	**7.30**	**311**	P	**Pn**	**15 29 53.1**	**-0.4**
CTBH	**Cotabato--PC H**	**7.77**	**6**	*e*P	**Pn**	**15 29 58.7**	**-1.3**
CTBH				*i* S	**Sn**	**15 31 21.6**	**-5.1**
DAV	**Davao City (W)**	**7.89**	**16**	P	**Pn**	**15 30 00.5**	**-1.1**
	151nm,0.4s						
SWI	**Sorong**	**7.90**	**92**	P	**Pn**	**15 30 02.5**	**+0.8**
	77nm,0.9s						
IPIL	**Ipil**	**8.32**	**355**	*e*P	**Pn**	**15 30 06.6**	**-1.0**
PAGZ	**Pagadian**	**8.35**	**0**	*e*P	**Pn**	**15 30 06.6**	**-1.3**
BUKP	**Musuan**	**8.55**	**11**	*e*P	**Pn**	**15 30 11.2**	**+0.6**
CGP	**Cagayan de Oro**	**9.05**	**8**	‖*e*P	**Pn**	**15 30 23.0**	**+5.5**
KKM	**Kota Kinabalu**	**9.69**	**313**	P	**Pn**	**15 30 25.9**	**-0.4**
KKM	**Kota Kinabalu**	**9.69**	**313**	*e*P	**Pn**	**15 30 27.0**	**+0.7**
GUIM	**Jordan**	**11.13**	**356**	*e*P	**Pn**	**15 30 48.6**	**+2.6**
CUYO	**Cuyo Island**	**11.57**	**348**	*e*P	**Pn**	**15 30 54.0**	**+2.1**
ENPP	**El Nido**	**12.32**	**342**	*e*P	**Pn**	**15 31 01.9**	**-0.3**
BUSP	**Coron**	**12.87**	**346**	*e*P	**Pn**	**15 31 14.0**	**+4.3**
OTRP	**Odiongan**	**12.90**	**354**	*e*P	**Pn**	**15 31 13.0**	**+2.8**
KSM	**Kuching**	**13.21**	**279**	*e*P	**Pn**	**15 31 11.1**	**-3.3**
PVCP	**Virac**	**14.08**	**3**	*e*P	**Pn**	**15 31 32.0**	**+5.8**
LUBP	**Lubang**	**14.53**	**348**	*e*P	**Pn**	**15 31 38.9**	**+6.6**
KAKA	**Kakadu**	**15.06**	**144**	*e*P	**Pn**	**15 31 41.5**	**+2.3**
	13nm,0.6s						
BJII	**Banjamegara**	**15.19**	**243**	P	**Pn**	**15 31 47.7**	**+6.8**
	47nm,1.4s						
BALP	**Baler**	**16.29**	**354**	*e*P	**Pn**	**15 31 59.9**	**+4.9**
CAUP	**Cauayan**	**17.45**	**355**	*e*P	**Pn**	**15 32 12.1**	**+2.6**
FITZ	**Fitzroy Crossi**	**17.58**	**173**	*e*P	**Pn**	**15 32 11.9**	**+0.8**
	7.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**17.58**	**173**	P	**Pn**	**15 32 11.6**	**+0.5**
	0.2nm,0.3s,baz=48,slow=11,SNR=7.7						
FITZ				LR	LR	15 40 06.7	
	comp=Z,55nm,18.8s,baz=228,slow=41						
ABRA	**Dolores**	**18.28**	**352**	*e*P	**Pn**	**15 32 20.6**	**+1.0**
APYP	**Conner**	**18.42**	**354**	*e*P	**Pn**	**15 32 21.9**	**+0.5**
KGM	**Kluang**	**20.21**	**277**	P	**P**	**15 32 50.0**	**+10**
MBWA	**Marble Bar**	**20.78**	**190**	P	**P**	**15 32 46.4**	**-0.3**
	8.8nm,0.8s						
WRAB	**Tennant Creek**	**22.06**	**151**	*d*P	**P**	**15 33 01.9**	**+1.5**
WRAB	**Tennant Creek**	**22.06**	**151**	*e*P	**P**	**15 32 59.9**	**-0.5**
	62nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**22.06**	**152**	P	**P**	**15 32 59.8**	**-0.6**
	31nm,0.9s,mb4.8,baz=332,slow=10.0,SNR=86						
WRA				ScP	ScP	15 40 30.2	-0.4
	1.9nm,1.0s,baz=323,slow=2.6,SNR=7.6						
WRA	**Warramunga Arr**	**22.06**	**152**	*i* P	**P**	**15 33 00.3**	**-0.1**
WRA				pmax	pmax		
	comp=Z,31nm,0.9s						
WB2	**Warramunga Arr**	**22.07**	**152**	*e*P	**P**	**15 32 59.8**	**-0.7**
IPM	**Ipoh**	**22.88**	**283**	P	**P**	**15 33 11.6**	**+2.6**
PPI	**Padang Panjang**	**22.97**	**270**	P	**P**	**15 33 13.8**	**+3.8**
	comp=Z,44nm,0.9s,mb4.9						
KULM	**Kulim**	**23.42**	**285**	*e*P	**P**	**15 33 12.6**	**-2.0**
QIZ	**Qiongzhong**	**23.56**	**326**	P	**P**	**15 33 15.0**	**-0.9**
QIZ				S	**S**	**15 37 20.5**	**-6.2**
QIZ				AMB	AMB		
	comp=Z,20nm,2.0s,mb4.2						
QIZ				AMB	AMB		
	comp=Z,220nm,3.0s						
PSI	**Prapat**	**24.66**	**278**	P	**P**	**15 33 24.9**	**-1.1**
	comp=Z,12nm,0.9s,mb4.4,baz=45,slow=1.7,SNR=7.8						
PSI				LR	LR	15 42 46.4	
	comp=Z,258nm,21.7s,MS3.7,baz=260,slow=36						
AS31	**Alice Springs**	**25.15**	**157**	‖*i*P	**P**	**15 33 30.6**	**+0.3**
ASAR	**Alice Springs**	**25.15**	**157**	P	**P**	**15 33 30.8**	**+0.5**
	comp=Z,5.7nm,0.4s,mb4.4,baz=337,slow=8.8,SNR=166						
ASAR				PcP	PcP	15 37 03.2	-0.2
	comp=Z,1.4nm,0.7s,baz=341,slow=2.0,SNR=4.5						
ASAR				ScP	ScP	15 40 39.3	+0.5
	comp=Z,1.0nm,0.9s,baz=334,slow=3.0,SNR=4.6						
ASAR				LR	LR	15 43 25.7	
	comp=Z,198nm,21.5s,MS3.6,baz=347,slow=36						
ASAR	**Alice Springs**	**25.15**	**157**	P	**P**	**15 33 30.8**	**+0.5**
ASAR						15 37 03.2	
ASPA	**Alice Springs**	**25.15**	**157**	‖*i*P	**P**	**15 33 30.6**	**+0.3**
YHNB	**Yeheng**	**25.15**	**356**	P	**P**	**15 33 27.0**	**-3.3**
PMG	**Port Moresby**	**25.26**	**111**	P	**P**	**15 33 31.4**	**0.0**
	comp=Z,29nm,1.0s,mb4.8,baz=248,slow=11,SNR=3.8						
PMG	**Port Moresby**	**25.26**	**111**	*c i*P	**P**	**15 33 32.2**	**+0.8**
PMG	**Port Moresby**	**25.26**	**111**	*e*P	**P**	**15 33 31.5**	**+0.2**
	comp=Z,20nm,0.7s,mb4.8						
GYA	**Guiyang**	**31.32**	**330**	⇑*i*P	**P**	**15 34 26.8**	**+1.4**
GYA				AP	pP	15 34 39.0	+1.6
GYA				XP	sP	15 34 44.0	+1.3
GYA				PP	PP	15 35 29.3	-7.3
GYA				S	**S**	**15 39 30.0**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,140nm,17.1s,MS4.0						
GYA				LR	LR		
	comp=E,210nm,16.9s,MS4.0						
GYA				LR	LR		
	comp=Z,220nm,17.2s,MS3.9						
SSE	**Sheshan**	**31.54**	**356**	P	**P**	**15 34 28.0**	**+0.6**
SSE				AP	pP	15 34 38.3	-1.1
SSE				S	**S**	**15 39 34.5**	**+1.7**
SSE				XS	sS	15 39 54.0	+1.2
SSE				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,50nm,5.8s						
SSE				LR	LR		
	comp=N,50nm,19.0s,MS3.2						
SSE				LR	LR		
	comp=E,10.0nm,19.0s,MS3.2						
SSE				LR	LR		
	comp=Z,60nm,26.0s						
KMI	**Kunming**	**32.41**	**323**	P	**P**	**15 34 37.0**	**+2.0**
KMI				AP	pP	15 34 48.3	+1.4
KMI				XP	sP	15 34 54.3	+2.0
KMI				PP	PP	15 35 44.5	-4.2
KMI				S	**S**	**15 39 47.0**	**+0.8**
KMI				XS	sS	15 40 08.0	+1.7
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,20nm,3.1s						
KMI				LR	LR		
	comp=N,80nm,15.8s,MS3.7						
KMI				LR	LR		
	comp=E,80nm,14.9s,MS3.7						
KMI				LR	LR		
	comp=Z,110nm,24.6s						
NJ2	**Nanjing**	**32.71**	**353**	*e*P	**P**	**15 34 38.3**	**+0.7**
NJ2				AP	pP	15 34 49.5	-0.1
NJ2				XP	sP	15 34 56.0	+1.0
NJ2				PP	PP	15 35 48.3	-3.8
NJ2				S	**S**	**15 39 52.0**	**+1.0**
NJ2				XS	sS	15 40 12.0	+1.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,90nm,6.8s						
NJ2				LR	LR		
	comp=N,240nm,19.5s,MS4.0						
NJ2				LR	LR		
	comp=E,270nm,23.5s,MS4.0						
NJ2				LR	LR		
	comp=Z,250nm,26.7s,MS3.8						
CBIJ	**Chichi jima**	**32.92**	**32**	P	**P**	**15 34 37.1**	**-2.4**
	comp=Z,45nm,0.4s,mb5.7,baz=269,slow=8.4,SNR=15						
CBIJ				LR	LR	15 45 43.7	
	comp=Z,30nm,20.2s,MS3.0,baz=175,slow=32						
STKA	**Stephens Creek**	**35.60**	**153**	*e*P	**P**	**15 35 01.0**	**-1.7**
	comp=Z,3.7nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**35.60**	**153**	P	**P**	**15 35 01.0**	**-1.7**
	comp=Z,3.5nm,0.8s,mb4.4,baz=273,slow=7.0,SNR=6.1						
CD2	**Chengdu**	**36.42**	**331**	*e*P	**P**	**15 35 09.5**	**-0.2**
CD2				AP	pP	15 35 21.5	-0.3
CD2				XP	sP	15 35 27.0	-0.1
CD2				PP	PP	15 36 34.0	+0.9
CD2				S	**S**	**15 40 47.5**	**-0.6**
CD2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=N,80nm,12.0s						
CD2				LR	LR		
	comp=Z,80nm,14.0s,MS3.6						
MJAR	**Matsushiro Arr**	**39.40**	**19**	P	**P**	**15 35 33.2**	**-1.7**
	comp=Z,4.6nm,0.8s,mb4.3,baz=195,slow=8.5,SNR=13						
MJAR				LR	LR	15 50 15.3	
	comp=Z,67nm,18.9s,MS3.5,baz=210,slow=34						
MAT	**Matsushiro**	**39.40**	**19**	P	**P**	**15 35 33.1**	**-1.7**
MAT	**Matsushiro**	**39.40**	**19**	*e*P	**P**	**15 35 33.0**	**-1.8**
LZH	**Lanzhou**	**40.73**	**335**	*e*P	**P**	**15 35 47.3**	**+1.4**
LZH				AP	pP	15 35 59.5	+1.4
LZH				XP	sP	15 36 05.3	+1.9
LZH				PP	PP	15 37 25.5	+5.2
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.5						
LZH				AMB	AMB		
	comp=Z,80nm,5.7s						
LZH				LR	LR		
	comp=N,590nm,14.2s						
LZH				LR	LR		
	comp=Z,730nm,17.8s,MS4.6						
HHC	**Hu-ho-hao-te**	**42.59**	**347**	*e*P	**P**	**15 36 03.0**	**+2.0**
HHC				AP	pP	15 36 15.3	+2.0
HHC				XP	sP	15 36 20.8	+2.2
HHC				PCP	PcP	15 37 54.0	+1.3
HHC				S	**S**	**15 42 23.5**	**+2.9**
HHC				XS	sS	15 42 44.3	+3.2
HHC				SS	SS	15 45 29.0	-2.6
HHC				AMB	AMB		
	comp=Z,80nm,4.6s						
HHC				LR	LR		
	comp=N,100nm,15.5s,MS4.0						
HHC				LR	LR		
	comp=E,80nm,13.1s,MS4.0						
HHC				LR	LR		
	comp=Z,120nm,14.3s,MS3.9						
LSA	**Lhasa**	**43.00**	**317**	*e*P	**P**	**15 36 06.0**	**+1.6**
LSA				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
LSA	**Lhasa**	**43.00**	**317**	*e*P	**P**	**15 36 06.0**	**+1.6**
	comp=Z,17nm,0.6s,mb5.0						
CN2	**Changchun**	**44.20**	**2**	*e*P	**P**	**15 36 17.5**	**+3.5**
GTA	**Gaotai**	**45.25**	**334**	P	**P**	**15 36 23.5**	**+1.1**
GTA				AP	pP	15 36 35.8	+1.1
GTA				XP	sP	15 36 41.0	+1.0
GTA				PCP	PcP	15 38 03.5	+1.8
GTA				PP	PP	15 38 11.3	+2.6
GTA				SCP	ScP	15 41 49.5	-1.2
GTA				PCS	PcS	15 41 54.8	-0.9
GTA				S	**S**	**15 43 03.0**	**+3.6**
GTA				SCS	ScS	15 46 14.0	-1.3
GTA				AMB	AMB		
	comp=Z,70nm,5.7s						
GTA				LR	LR		
	comp=N,50nm,18.0s,MS3.8						
GTA				LR	LR		
	comp=E,90nm,18.7s,MS3.8						
GTA				LR	LR		
	comp=Z,110nm,14.1s,MS3.9						
MDJ	**Mudanjiang**	**45.31**	**6**	P	**P**	**15 36 23.3**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,30nm,5.8s						
JIRN	**Jiri**	**45.39**	**311**	*e*P	**P**	**15 36 24.4**	**+0.9**
	comp=Z,59nm,0.8s,mb5.5						
GUN	**Gumba**	**45.76**	**311**	*e*P	**P**	**15 36 27.2**	**+0.8**
	comp=Z,79nm,0.7s,mb5.7						
PKI	**Pulchoki**	**45.94**	**311**	*e*P	**P**	**15 36 28.1**	**+0.3**
	comp=Z,20nm,0.6s,mb5.2						
KKN	**Kakani**	**46.15**	**311**	*e*P	**P**	**15 36 30.4**	**+0.9**
	comp=Z,31nm,0.8s,mb5.3						
DMN	**Daman**	**46.19**	**310**	*e*P	**P**	**15 36 30.4**	**+0.6**
	comp=Z,36nm,0.9s,mb5.3						
GKN	**Gorkha**	**46.74**	**311**	*e*P	**P**	**15 36 34.6**	**+0.4**
	comp=Z,44nm,0.7s,mb5.5						
KOLN	**Koldanda**	**47.42**	**310**	*e*P	**P**	**15 36 38.9**	**-0.5**
	comp=Z,60nm,0.7s,mb5.6						
ASAJ	**Asahikawa**	**47.67**	**19**	P	**P**	**15 36 40.2**	**-1.2**
	comp=Z,7.8nm,0.8s,mb4.8,baz=230,slow=11,SNR=9.9						
HABR	**Khabarovsk**	**49.87**	**10**	*e*P	**P**	**15 36 58.7**	**+0.4**
HABR				*e*S	**S**	**15 44 02.3**	**-2.7**
HABR				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
ULN	**Ulaanbaatar**	**50.27**	**346**	*e*P	**P**	**15 37 00.5**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**50.27**	**346**	*e*P	**P**	**15 37 00.5**	**-0.9**
	comp=Z,3.5nm,0.8s,mb4.4						
SONM	**Songino Array**	**50.41**	**345**	P	**P**	**15 37 01.6**	**-0.7**
	comp=Z,2.1nm,0.5s,mb4.5,baz=163,slow=8.4,SNR=18						
SONM				LR	LR	15 59 11.6	
	comp=Z,36nm,19.0s,MS3.4,baz=75,slow=37						
ZAK	**Zakamensk**	**53.57**	**344**	*e*P	**P**	**15 37 24.1**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
WMQ	**Urumqi**	**54.45**	**329**	P	**P**	**15 37 33.5**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,80nm,5.0s						
WMQ				LR	LR		
	comp=N,50nm,28.0s,MS3.5						
WMQ				LR	LR		
	comp=E,30nm,27.0s,MS3.5						
WMQ				LR	LR		
	comp=Z,40nm,22.0s,MS3.4						
TLY	**Talaya**	**54.65**	**345**	*c i*P	**P**	**15 37 33.2**	**-0.5**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**59.27**	**328**	P	**P**	**15 38 03.7**	**-2.7**
	comp=Z,2.6nm,0.5s,mb4.5,baz=118,slow=8.7,SNR=32						
MKAR				PcP	PcP	15 38 52.6	-1.6
	comp=Z,3.3nm,0.8s,baz=123,slow=4.5,SNR=5.4						
YAK	**Yakutsk**	**62.61**	**3**	*e*P	**P**	**15 38 29.2**	**+0.1**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
YAK	**Yakutsk**	**62.61**	**3**	*e*P	**P**	**15 38 27.3**	**-1.7**
	comp=Z,14nm,0.8s,mb5.1						
ZAL	**Zalesovo**	**62.97**	**336**	P	**P**	**15 38 30.0**	**-1.5**
	comp=Z,1.8nm,0.8s,mb4.3,baz=351,slow=5.4,SNR=17						
KURK	**Kurchatov**	**63.64**	**330**	*d i*P	**P**	**15 38 34.7**	**-1.2**
KURK	**Kurchatov**	**63.64**	**330**	*e*P	**P**	**15 38 34.7**	**-1.2**
	comp=Z,13nm,0.8s,mb5.0						
MA2	**Magadan**	**63.67**	**15**	*e*P	**P**	**15 38 36.7**	**+0.6**
MA2				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.6						
NVS	**Novosibirsk**	**64.25**	**336**	*e*P	**P**	**15 38 36.2**	**-3.7**
BRVK	**Borovoye**	**69.22**	**329**	*e*P	**P**	**15 39 11.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BRVK	**Borovoye**	**69.22**	**329**	*e*P	**P**	**15 39 11.8**	**+0.2**
	comp=Z,4.0nm,1.0s,mb4.3						
CHKZ	**Chkalovo**	**69.37**	**330**	*e*P	**P**	**15 39 10.6**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
CHKZ	**Chkalovo**	**69.37**	**330**	*e*P	**P**	**15 39 10.6**	**-1.9**
	comp=Z,7.6nm,1.3s,mb4.5						
ZRNK	**Zerenda**	**69.83**	**328**	*e*P	**P**	**15 39 13.4**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**69.83**	**328**	*e*P	**P**	**15 39 13.4**	**-1.9**
	comp=Z,5.3nm,0.8s,mb4.5						
TIXI	**Tiksi**	**72.17**	**2**	*e*P	**P**	**15 39 28.6**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
ARU	**Arti**	**76.79**	**329**	⇑*i*P	**P**	**15 39 54.6**	**-1.8**
ARU				*e*		15 42 47.0	
ARU				*e*PPP		15 44 35.1	
ARU				*e*S	S	15 49 34.8	-5.5
ARU				*e*SS	SS	15 54 37.4	+0.5
ARU		

*NEIC **26** 15:35:41.1±1.7,3329N×14002E,h111km±15km,mb4.0/1, Error ellipse: s-maj=77.3km s-min=16.2km az=71.0*

ISC 26 15:35:39.4±0.5,3328N±003×14022E±005,h98km±4km, n29,σ0993/48,mb3.7/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.38**	**243**	P	**Pn**	**15 35 54.6**	**+0.5**
JHJ2				S	**Sn**	**15 36 05.5**	**+0.5**
JHJ	**Hachijo jima 2**	**0.40**	**246**	P	**Pn**	**15 35 54.6**	**+0.4**
295nm,0.3s,baz=74,slow=23,SNR=415							
JHJ				S	**Sn**	**15 36 05.2**	**-0.1**
849nm,0.3s,baz=114,slow=20,SNR=45							
JMY	**Miyakejima3**	**0.98**	**323**	P	**Pn**	**15 35 58.9**	**-0.5**
JMY				S	**Sn**	**15 36 12.7**	**-1.8**
JKO	**Kozu shima**	**1.27**	**315**	P	**Pn**	**15 36 02.6**	**-0.1**
JKO				S	**Sn**	**15 36 19.3**	**-1.1**
NJJJ	**Nii jima 2**	**1.36**	**325**	P	**Pn**	**15 36 03.9**	**+0.1**
NJJJ				S	**Sn**	**15 36 21.1**	**-1.1**
BSO1	**Boso 1**	**1.51**	**25**	P	**Pn**	**15 36 05.7**	**+0.1**
BSO1				S	**Sn**	**15 36 25.2**	**-0.2**
BSO2	**Boso 2**	**1.53**	**17**	*e*S	**Sn**	**15 36 27.6**	**+1.6**
BSO3	**Boso 3**	**1.54**	**9**	P	**Pn**	**15 36 06.1**	**+0.2**
BSO3				S	**Sn**	**15 36 26.2**	**+0.2**
JIM2	**Oshima 3**	**1.57**	**336**	P	**Pn**	**15 36 06.1**	**-0.3**
JIM2				S	**Sn**	**15 36 25.2**	**-1.7**
BSO4	**Boso 4**	**1.71**	**3**	P	**Pn**	**15 36 09.2**	**+1.1**
BSO4				S	**Sn**	**15 36 30.7**	**+0.8**
JIZS	**Izushimoda**	**1.81**	**323**	P	**Pn**	**15 36 09.5**	**+0.1**
JIZS				S	**Sn**	**15 36 31.0**	**-1.3**
KTJJ	**Kamata 2**	**1.90**	**330**	P	**Pn**	**15 36 10.2**	**-0.3**
KTJJ				S	**Sn**	**15 36 33.1**	**-1.1**
TK03	**Tokai 3**	**2.07**	**296**	S	**Sn**	**15 36 38.7**	**+0.4**
JOD2	**Odawara 2**	**2.19**	**335**	P	**Pn**	**15 36 14.4**	**+0.2**
JOD2				S	**Sn**	**15 36 39.3**	**-1.6**
TK04	**Tokai 4**	**2.24**	**300**	P	**Pn**	**15 36 15.8**	**+0.9**
TK04				S	**Sn**	**15 36 43.4**	**+1.3**
TK01	**Tokai 1**	**2.25**	**283**	P	**Pn**	**15 36 16.4**	**+1.4**
TK01				S	**Sn**	**15 36 42.6**	**+0.3**
SHZ3	**Shizuoka 3**	**2.44**	**317**	P	**Pn**	**15 36 18.8**	**+1.3**
SHZ3				S	**Sn**	**15 36 48.0**	**+1.2**
JYN	**Shimob**	**2.61**	**328**	P	**Pn**	**15 36 20.6**	**+0.8**
MJAR	**Matsushiro Arr**	**3.65**	**334**	P	**Pn**	**15 36 34.0**	**+0.3**
2.8nm,0.3s,baz=155,slow=10,SNR=19							
MJAR				S	**Sn**	**15 37 14.9**	**-0.9**
1.3nm,0.3s,baz=159,slow=21,SNR=8.0							
MAJO	**Matsushiro**	**3.65**	**334**	*e*P	**Pn**	**15 36 35.1**	**+1.4**
MAT	**Matsushiro**	**3.65**	**334**	P	**Pn**	**15 36 34.6**	**+0.9**
MAT				S	**Sn**	**15 37 15.8**	**0.0**
MAT	**Matsushiro**	**3.65**	**334**	*e*P	**Pn**	**15 36 35.0**	**+1.3**
MAT				*e*S	**Sn**	**15 37 16.0**	**+0.2**
CBIJ	**Chichi jima**	**6.40**	**164**	P	**Pn**	**15 37 10.2**	**-0.8**
2.3nm,0.3s,baz=280,slow=19,SNR=3.5							
CBIJ				S	**Sn**	**15 38 20.8**	**-1.7**
2.4nm,0.3s,baz=287,slow=19,SNR=2.3							
ASAJ	**Asahikawa**	**10.98**	**9**	P	**Pn**	**15 38 09.8**	**-3.4**
0.5nm,0.3s,baz=194,slow=10,SNR=5.4							
MKAR	**Makanchi Array**	**45.38**	**305**	P	**P**	**15 43 47.3**	**-0.6**
0.3nm,0.4s,mb3.4,baz=83,slow=9.6,SNR=8.8							
KURK	**Kurchatov**	**47.55**	**311**	*e*P	**P**	**15 44 04.1**	**-0.9**
1.5nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**53.22**	**187**	P	**P**	**15 44 47.8**	**+0.2**
0.3nm,0.4s,mb3.7,baz=2.0,slow=7.7,SNR=18							
ASAR	**Alice Springs**	**56.95**	**187**	P	**P**	**15 45 14.9**	**+0.5**
0.2nm,0.3s,mb3.6,baz=22,slow=10,SNR=11							
FINES	**FINESS Array B**	**71.68**	**332**	P	**P**	**15 46 50.0**	**-0.5**
1.3nm,0.9s,mb3.8,baz=66,slow=6.5,SNR=4.3							

*ISCJB **26** 15:49:18.1±0.3,1800N±003×9995W±003,h66km±3km, mb4.3/21,Error ellipse: s-maj=4.9km s-min=4.3km az=37.6*

*NEIC **26** 15:49:20.1,1803N×10002W,h54km,mb4.3/17, MD4.5(MEX),After MEX.*

*MEX **26** 15:49:20.2±0.9,1803N×10002W,h54km±9km,MD4.5*

*IDC **26** 15:49:22.4±1.1,1819N×9968W,h87km±7km,mb4.2/8, mb1 4.3/10,mb1mx4.0/21,mbtmp4.4/10,MS3.4/10, Ms1 3.4/10,ms1mx3.2/25,Error ellipse: s-maj=23.1km s-min=12.7km az=30.0*

ISC 26 15:49:19.1±0.3,1799N±003×9995W±003,h58km±3km, h86km±3.3km:pP-P,n141,σ1907/150,mb4.4/21,MS3.5/7, 28C-26D,Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.32**	**101**	*i*P	**Pn**	**15 49 29.1**	**-0.1**
MEIG				*i*S	**Sn**	**15 49 36.6**	**+0.1**
PLIG	**Platanillo**	**0.58**	**46**	⇑*i*P	**Pn**	**15 49 31.5**	**-0.4**
PLIG				*i*S	**Sn**	**15 49 40.7**	**-0.5**
CAIG	**El Cayaco**	**0.98**	**198**	*i*P	**Pn**	**15 49 36.1**	**-0.7**
CAIG				*i*S	**Sn**	**15 49 49.9**	**0.0**
ACX	**Acapulco**	**1.11**	**178**	*i*P	**Pn**	**15 49 39.3**	**+0.7**
ACX				*i*S	**Sn**	**15 49 52.3**	**-0.8**
YAIG	**Yautepec**	**1.21**	**44**	⇑*i*P	**Pn**	**15 49 39.4**	**-0.5**
YAIG				*i*S	**Sn**	**15 49 55.0**	**-0.2**
CHVM	**Chichinautzin**	**1.33**	**35**	*i*P	**Pn**	**15 49 41.8**	**+0.3**
CHVM				*i*S	**Sn**	**15 49 57.6**	**-0.7**
CIVM	**Cilcuayo**	**1.44**	**39**	*i*P	**Pn**	**15 49 43.8**	**+0.8**
CIVM				*i*S	**Sn**	**15 50 02.1**	**+1.4**
ZIIG	**Zihuatanejo**	**1.49**	**256**	*i*P	**Pn**	**15 49 41.8**	**-1.9**
ZIIG				*i*S	**Sn**	**15 49 59.6**	**-2.5**
UNM	**Universidad Na**	**1.52**	**29**	*i*P	**Pn**	**15 49 44.0**	**-0.1**
UNM				⇑*i*P		15 49 44.0	
UNM				*i*S	**Sn**	**15 49 58.0**	**-4.8**
UNM				*i*S	**Sn**	**15 50 01.3**	**-1.5**
PPM	**Popocatepetl**	**1.65**	**49**	*i*P	**Pn**	**15 49 39.1**	**-6.7**
PPM				*i*P		15 49 46.4	
PPM				*i*S	**Sn**	**15 50 07.3**	**+1.3**
PPM	**Popocatepetl**	**1.65**	**49**	*i*P	**Pn**	**15 49 46.4**	**+0.6**
PPM				*i*S	**Sn**	**15 50 07.3**	**+1.3**
PBVM	**Pinon**	**1.66**	**29**	*e*P	**Pn**	**15 49 45.5**	**-0.4**
PBVM				*i*S	**Sn**	**15 50 02.8**	**-3.5**
PBVM	**Pinon**	**1.66**	**29**	*e*P	**Pn**	**15 49 45.5**	**-0.4**
PBVM				*i*S	**Sn**	**15 49 59.9**	**-6.3**
MDVM	**Presa Madin**	**1.68**	**23**	*i*P	**Pn**	**15 49 49.0**	**+2.8**
RFVM	**Rio Frio**	**1.75**	**40**	*i*P	**Pn**	**15 49 46.9**	**-0.3**
PTVM	**Pico Tres Padr**	**1.78**	**26**	*i*P	**Pn**	**15 49 46.2**	**-1.3**
MOIG	**Morelia**	**2.05**	**325**	*i*P	**Pn**	**15 49 51.1**	**-0.2**
MOIG				*i*S	**Sn**	**15 50 13.2**	**-2.6**
PNIG	**Pinotepa**	**2.35**	**132**	*e*P	**Pn**	**15 49 56.0**	**+0.6**
PNIG				*i*S	**Sn**	**15 50 23.3**	**+0.2**
VHO	**Vista Hermosa**	**3.20**	**106**	*i*P	**Pn**	**15 50 09.5**	**+2.5**
VHO				*i*S	**Sn**	**15 50 44.8**	**+0.9**
OXX	**Oaxaca**	**3.21**	**106**	*i*P	**Pn**	**15 50 10.0**	**+3.0**
LVIG	**Laguna Verde**	**3.76**	**62**	*e*P	**Pn**	**15 50 13.7**	**-0.9**
SFJM	**Santa Fe**	**3.84**	**311**	*i*P	**Pn**	**15 50 12.0**	**-3.6**
HUIG	**Huatulco**	**4.29**	**120**	*i*P	**Pn**	**15 50 25.9**	**+4.0**
CMIG	**Matias Romero**	**4.91**	**100**	P	**Pn**	**15 50 32.2**	**+1.8**
4.6nm,0.3s,baz=277,slow=10,SNR=65							
CMIG				S	**Sn**	**15 51 23.8**	**-2.1**
32nm,0.3s,baz=106,slow=20,SNR=12							
CMIG				LR	LR	15 52 40.8	
comp=Z,278nm,20.1s,baz=272,slow=42							
CMIG	**Matias Romero**	**4.91**	**100**	*i*P	**Pn**	**15 50 33.0**	**+2.6**
CMIG				*i*S	**Sn**	**15 51 27.0**	**+1.1**
CMIG	**Matias Romero**	**4.91**	**100**	*i*P	**Pn**	**15 50 33.0**	**+2.6**
CMIG				*i*S	**Sn**	**15 51 21.4**	**-4.5**
CMIG				LR	LR	15 52 40.8	
LNIG	**Linares**	**6.89**	**4**	*e*P	**Pn**	**15 50 57.5**	**0.0**
TEIG	**Tepich**	**11.26**	**77**	*e*Pn	**Pn**	**15 51 56.6**	**-0.6**
6.4nm,0.5s							
TEIG				*e*Sn	**Sn**	**15 53 55.6**	**-5.8**
LPIG	**La Paz**	**11.42**	**304**	LR	LR	15 56 27.7	
comp=Z,75nm,18.9s,baz=334,slow=37							
JCT	**Junction City**	**12.44**	**1**	*e*Pn	**Pn**	**15 52 14.1**	**+0.8**
14nm,0.6s							
HKT	**Hockley**	**12.49**	**17**	*e*Pn	**Pn**	**15 52 13.8**	**-0.2**
27nm,1.3s							
NATX	**Nacogdoches**	**14.52**	**18**	*e*Pn	**Pn**	**15 52 40.3**	**-1.0**
66nm,0.7s							
AMTX	**Amarillo**	**16.90**	**355**	*e*P	**Pn**	**15 53 10.8**	**-0.9**
13nm,0.6s							
BNM	**Barren Site**	**17.17**	**341**	*e*P	**Pn**	**15 53 16.7**	**+1.7**
TUC	**Tucson**	**17.29**	**328**	*e*P	**Pn**	**15 53 19.1**	**+2.6**
3.2nm,0.8s							
LPM	**Los Pinos Moun**	**17.32**	**341**	*e*P	**Pn**	**15 53 18.8**	**+2.0**
LAZ	**Ladron**	**17.57**	**340**	*e*P	**Pn**	**15 53 22.8**	**+2.9**
ANMO	**Albuquerque**	**17.86**	**342**	P	**Pn**	**15 53 24.4**	**+0.9**
0.5nm,0.3s,baz=151,slow=12,SNR=11							
ANMO				LR	LR	16 00 35.2	
comp=Z,87nm,19.1s,baz=108,slow=38							
ANMO	**Albuquerque**	**17.86**	**342**	*e*P	**Pn**	**15 53 24.2**	**+0.7**
3.9nm,0.8s							
116A	**Eloy**	**17.96**	**326**	⇓P	**Pn**	**15 53 25.5**	**+0.8**
baz=18,SNR=5.7							
Z14A	**Wintersburg**	**19.25**	**325**	⇑P	**Pn**	**15 53 39.6**	**-0.6**
baz=19							
Y14A	**Wickenburg**	**19.72**	**326**	⇓P	**Pn**	**15 53 44.7**	**-1.0**
baz=20							
X15A	**Humboldt**	**19.76**	**329**	⇓P	**Pn**	**15 53 45.5**	**-0.8**
baz=20,SNR=6.2							
PLAL	**Pickwick Lake**	**19.96**	**30**	*e*P	**Pn**	**15 53 44.1**	**-4.4**
35nm,1.0s							
Y13A	**Salome**	**20.07**	**324**	⇓P	**P**	**15 53 48.6**	**+1.0**
baz=20							
X14A	**Yava**	**20.07**	**327**	P	**P**	**15 53 48.9**	**+1.2**
baz=20,SNR=8.1							
GLA	**Glamis**	**20.10**	**321**	⇑P	**P**	**15 53 49.0**	**+1.0**
baz=20,SNR=9.1							
W15A	**Williams**	**20.33**	**330**	⇑P	**P**	**15 53 52.0**	**+1.6**
baz=20,SNR=9.9							
Y12C	**Blythe**	**20.41**	**323**	⇓P	**P**	**15 53 52.3**	**+0.9**
baz=20							
MVCO	**Mesa Verde**	**20.57**	**340**	P	**P**	**15 53 52.3**	**-0.8**
X13A	**Yucca**	**20.66**	**326**	⇓P	**P**	**15 53 54.9**	**+0.8**
baz=21,SNR=11							
W14A	**Seligman**	**20.75**	**328**	⇓P	**P**	**15 53 56.4**	**+1.3**
baz=21,SNR=9.5							
WVT	**Waverly**	**21.01**	**28**	*e*P	**P**	**15 53 55.7**	**-2.1**
7.1nm,0.6s,mb4.2							
CCM	**Cathedral Cave**	**21.40**	**19**	P	**P**	**15 53 59.4**	**-2.6**
23nm,0.9s,mb4.5							
PV01	**Paradox Valley**	**21.44**	**341**	*e*P	**P**	**15 54 03.0**	**+0.5**
PFO	**Pinyon Flat Ob**	**21.47**	**320**	⇓P	**P**	**15 54 03.5**	**+0.8**
baz=21							
SMCO	**Snowmass**	**21.98**	**345**	*e*P	**P**	**15 54 09.1**	**+0.9**
11nm,1.0s,mb4.2							
V12A	**Nelson**	**22.07**	**326**	⇑P	**P**	**15 54 09.4**	**+0.3**
baz=22							
ISCO	**Idaho Springs**	**22.28**	**348**	*e*P	**P**	**15 54 10.9**	**-0.5**
7.1nm,0.6s,mb4.3							
TUQ	**Turquoise Mtn.**	**22.43**	**324**	⇓P	**P**	**15 54 13.4**	**+0.4**
baz=22,SNR=6.0							
U12A	**Valley of Fire**	**22.44**	**328**	⇓P	**P**	**15 54 13.1**	**0.0**
baz=22							
V11A	**Goodsprings**	**22.46**	**325**	⇓P	**P**	**15 54 13.4**	**+0.2**
baz=22							
CCUT	**Cedar City**	**22.77**	**332**	*e*P	**P**	**15 54 16.0**	**-0.5**
GSC	**Goldstone**	**22.84**	**322**	⇑P	**P**	**15 54 17.9**	**+0.6**
baz=23							
SRU	**San Rafael**	**22.97**	**339**	*e*P	**P**	**15 54 17.8**	**-0.8**
6.8nm,0.6s,mb4.2							
ARUT	**Antelope Range**	**23.00**	**332**	*e*P	**P**	**15 54 19.4**	**+0.4**
MSU	**Marysvale**	**23.07**	**335**	*e*P	**P**	**15 54 19.9**	**+0.2**
TMUT	**Trail Mountain**	**23.38**	**338**	*e*P	**P**	**15 54 22.3**	**-0.4**
CWC	**Cottonwood Cre**	**24.38**	**323**	⇓P	**P**	**15 54 32.0**	**+0.3**
baz=24							
DAU	**Daniels Canyon**	**24.39**	**339**	*e*P	**P**	**15 54 32.4**	**+0.5**
DAU				*e*pP		15 54 52.2	
RWWY	**Rawlins**	**24.43**	**347**	*e*P	**P**	**15 54 32.8**	**+0.5**
20nm,0.8s,mb4.6							
RWWY				*e*pP		15 54 53.1	
DUG	**Dugway**	**24.77**	**336**	*e*P	**P**	**15 54 36.6**	**+1.3**
6.4nm,0.7s,mb4.3							
DUG				*e*pP		15 54 56.4	
R10A	**Warm Springs**	**24.77**	**328**	⇑P	**P**	**15 54 36.4**	**+1.1**
baz=25							
S09A	**Goldfield**	**24.81**	**326**	⇓P	**P**	**15 54 35.9**	**+0.1**
baz=25							
Q11A	**Duckwater**	**24.88**	**330**	⇑P	**P**	**15 54 36.7**	**+0.3**
baz=25,SNR=6.7							
TCUT	**Toone Canyon**	**25.07**	**339**	*e*P	**P**	**15 54 38.0**	**-0.1**
R09A	**Tonopah**	**25.12**	**327**	⇑P	**P**	**15 54 38.5**	**0.0**
baz=25,SNR=6.0							
P11A	**Circle Ranch,**	**25.49**	**331**	⇑P	**P**	**15 54 42.1**	**+0.2**
baz=26							
PKD	**Parkfield**	**25.54**	**319**	⇑P	**P**	**15 54 43.4**	**+1.1**
baz=26							
HWUT	**Hardware Ranch**	**25.56**	**340**	*e*P	**P**	**15 54 42.0**	**-0.5**
9.3nm,0.7s,mb4.4							
FWV	**Forest Hill**	**25.75**	**37**	*e*P	**P**	**15 54 42.4**	**-1.8**
R08A	**Mina**	**25.75**	**326**	⇓P	**P**	**15 54 44.9**	**+0.6**
baz=26							
MNV	**Mina**	**25.84**	**326**	P	**P**	**15 54 45.1**	**+0.1**
9.2nm,1.1s,mb4.2							
P10A	**Eureka**	**25.88**	**330**	⇓P	**P**	**15 54 45.9**	**+0.6**
baz=26							
O11A	**Cowboy Ranch,**	**25.91**	**332**	⇓P	**P**	**15 54 45.9**	**+0.2**
baz=26							
NVAR	**Mina Array Bea**	**25.91**	**326**	P	**P**	**15 54 46.8**	**+1.1**
8.2nm,0.6s,mb4.4,baz=137,slow=10,SNR=35							
NVAR				pP	pP	15 55 05.8	+5.8
6.6nm,0.7s,baz=142,slow=11,SNR=7.6							
U04C	**Hernandez Rese**	**25.95**	**319**	⇓P	**P**	**15 54 46.6**	**+0.5**
baz=26							
PDAR	**Pinedale Array**	**26.02**	**344**	P	**P**	**15 54 46.0**	**-0.7**
3.1nm,0.6s,mb4.0,baz=136,slow=9.4,SNR=20							
PDAR				pP	pP	15 55 06.6	+5.7
5.4nm,0.9s,baz=150,slow=9.6,SNR=8.2							
PDAR				PcP	PcP	15 58 12.2	-1.2
0.6nm,0.7s,baz=147,slow=4.1,SNR=4.0							
PDAR				LR	LR	16 06 16.8	
comp=Z,176nm,18.4s,MS3.6,baz=167,slow=39							
V03C	**Hunter Liggett**	**26.03**	**318**	⇓P	**P**	**15 54 47.5**	**+0.8**
baz=26							
N12A	**Wells--Clov Va**	**26.23**	**333**	⇑P	**P**	**15 54 48.6**	**+0.1**
baz=26							
HAST	**Hastings Reser**	**26.45**	**318**	⇑P	**P**	**15 54 51.0**	**+0.4**
baz=26							
M12A	**Wells**	**26.64**	**334**	⇓P	**P**	**15 54 52.1**	**-0.2**
baz=27							
O09A	**Fish Creek Ran**	**26.66**	**330**	⇑P	**P**	**15 54 52.7**	**+0.3**
baz=27							
M10A	**I.L. Ranch, Tu**	**27.43**	**332**	⇓P	**P**	**15 54 59.5**	**+0.2**
baz=27							
IMW	**Indian Meadow**	**27.44**	**343**	*e*P	**P**	**15 54 59.5**	**0.0**
4.0nm,0.5s,mb4.2							
O07A	**Toulon**	**27.49**	**327**	⇑P	**P**	**15 54 60.0**	**+0.1**
baz=28							
LAVA	**Lava Cap Winer**	**27.50**	**323**	⇑P	**P**	**15 55 00.3**	**+0.3**
baz=28							
M09A	**Marrel Ranch,**	**27.76**	**331**	⇑P	**P**	**15 55 02.5**	**+0.2**
baz=28							
P05C	**Yuba Gap, Truc**	**27.80**	**324**	⇑P	**P**	**15 55 02.9**	**+0.2**
baz=28							
O06A	**Flanigan**	**27.98**	**326**	⇑P	**P**	**15 55 04.5**	**+0.2**
baz=28							
L09A	**Wilkinson Ranc**	**28.33**	**331**	⇓P	**P**	**15 55 06.6**	**-0.8**
baz=28							
L08A	**Fields**	**28.77**	**331**	⇓P	**P**	**15 55 11.4**	**0.0**
baz=29							
O04C	**Chester**	**28.77**	**325**	⇓P	**P**	**15 55 11.7**	**+0.4**
baz=29							
MCMT	**McKenzie Canyo**	**28.86**	**341**	*e*P	**P**	**15 55 12.9**	**+0.8**
GCMT	**Greycliff**	**28.88**	**346**	P	**P**	**15 55 10.0**	**-2.3**
M06C	**Likely Place G**	**29.08**	**327**	⇓P	**P**	**15 55 14.3**	**+0.2**
baz=29							
L07A	**Adell**	**29.12**	**329**	⇑P	**P**	**15 55 13.9**	**-0.4**
baz=29							
GASB	**Alder Springs**	**29.24**	**322**	⇑P	**P**	**15 55 17.0**	**+1.5**
baz=29							
DLMT	**Dillon**	**29.27**	**342**	*e*P	**P**	**15 55 15.6**	**-0.1**
3.4nm,0.6s,mb4.2							
M05C	**Lookout**	**29.54**	**326**	⇓P	**P**	**15 55 17.9**	**-0.3**
baz=30							
K07A	**Rock Creek Ran**	**29.59**	**330**	⇑P	**P**	**15 55 18.4**	**-0.1**
baz=30							
SDV	**Santo Domingo**	**29.87**	**104**	LR	LR	16 08 25.9	
comp=Z,58nm,19.2s,MS3.2,baz=208,slow=38							
L05A	**Lakeview**	**29.88**	**328**	⇑P	**P**	**15 55 21.2**	**+0.1**
baz=30							
I06A	**Prineville**	**31.00**	**331**	⇑P	**P**	**15 55 30.7**	**-0.3**
baz=31							
BRNJ	**Basking Ridge**	**31.44**	**39**	*e*P	**P**	**15 55 33.4**	**-1.5**
CPNY	**Central Park**	**31.86**	**39**	*e*P	**P**	**15 55 33.8**	**-4.9**
SADO	**Sadowa**	**31.88**	**29**	P	**P**	**15 55 35.6**	**-3.2**
7.5nm,0.4s,mb4.9,baz=241,slow=9.8,SNR=10							
ULM	**Lac du Bonnet**	**32.35**	**5**	P	**P**	**15 55 40.6**	**-2.3**
3.1nm,0.6s,mb4.3,baz=194,slow=11,SNR=6.9							
ULM				LR	LR	16 09 41.9	
comp=Z,34nm,19.2s,MS3.1,baz=164,slow=38							
H04A	**Detroit Lake**	**32.48**	**330**	⇑P	**P**	**15 55 43.4**	**-0.7**
baz=32							
H03A	**Soap Creek Ran**	**33.02**	**329**	⇑P	**P**	**15 55 48.5**	**-0.2**
baz=33							
F05A	**White Salmon**	**33.05**	**332**	⇓P	**P**	**15 55 48.8**	**-0.3**
baz=33							
EDM	**Edmonton**	**36.69**	**347**	*e*P	**P**	**15 56 17.7**	**-2.6**
FFC	**Flin Flon**	**36.70**	**358**	*e*P	**P**	**15 56 17.9**	**-2.5**
5.1nm,0.6s,mb4.5							
SCHQ	**Schefferville**	**44.64**	**27**	P	**P**	**15 57 23.8**	**-2.1**
4.2nm,0.5s,mb4.5,baz=235,slow=8.7,SNR=12							
YKA	**Yellowknife Ar**	**45.62**	**351**	P	**P**	**15 57 31.1**	**-2.6**
2.6nm,0.6s,mb4.4,baz=158,slow=7.7,SNR=5.5							
LPAZ	**La Paz**	**46.28**	**136**	LR	LR	16 14 60.0	
comp=Z,51nm,19.4s,MS3.5,baz=89,slow=33							
INK	**Inuvik**	**54.57**	**345**	*e*P	**P**	**15 58 39.4**	**-2.0**
5.3nm,0.8s,mb4.6							
MDZ	**Mendoza**	**58.67**	**149**	*e*P	**P**	**15 59 08.0**	**-2.5**
CPUP	**Villa Florida**	**60.45**	**136**	LR	LR	16 22 10.1	
comp=Z,31nm,20.0s,MS3.5,baz=8.9,slow=33							
PLCA	**Paso Flores**	**64.49**	**156**	LR	LR	16 24 07.1	
comp=Z,30nm,19.0s,MS3.5,baz=65,slow=32							
ESDC	**Sonseca Array**	**83.19**	**51**	pP	pP	16 02 01.5	+6.2
0.2nm,0.3s,baz=310,slow=6.1,SNR=1.7							
NB2	**NORSAR Subarra**	**84.21**	**27**	P	**P**	**16 01 44.8**	**+0.5**
comp=Z,4.7nm,0.9s,mb4.6,baz=298,slow=4.8							
NOA	**NORSAR Array B**	**84.21**	**27**	P	**P**	**16 01 44.6**	**+0.4**
comp=Z,2.4nm,0.8s,mb4.4,baz=302,slow=5.0,SNR=8.2							
NOA				pP	pP	16 02 06.2	+5.6
comp=Z,3.2nm,0.8s,baz=301,slow=5.1,SNR=5.7							
ARCES	**ARCESS Array B**	**84.66**	**17**	P	**P**	**16 01 46.7**	**+0.2**
comp=Z,2.8nm,0.6s,mb4.6,baz=353,slow=3.8,SNR=9.7							
ARCES	**ARCESS Array B**	**84.66**	**17**	P	**P**	**16 01 46.7**	**+0.2**
DBIC	**Dimbokro**	**92.78**	**82**	LR	LR	16 38 36.4	
comp=Z,43nm,18.9s,MS3.9,baz=138,slow=32							
STKA	**Stephens Creek**	**123.17**	**243**	PKP	PKPdf	16 08 07.8	-1.4
comp=Z,2.5nm,0.9s,baz=0.0,slow=5.1,SNR=3.2							
STKA	**Stephens Creek**	**123.17**	**243**	PKP	PKPdf	16 08 07.8	-1.4
WRA	**Warramunga Arr**	**128.81**	**259**	PKP	PKPdf	16 08 20.9	+0.9
comp=Z,1.8nm,0.8s,baz=84,slow=2.5,SNR=17							
MAW	**Mawson**	**129.19**	**172**	PKP	PKPdf	16 08 20.7	0.0
comp=Z,1.9nm,0.7s,baz=247,slow=6.1,SNR=7.5							
ASAR	**Alice Springs**	**129.59**	**254**	PKP	PKPdf	16 08 21.6	+0.2
comp=Z,1.1nm,0.7s,baz=83,slow=2.3,SNR=16							

*CSEM **26** 15:52:34.5±0.5,3430N×4723E,h16km,ML3.7/3,Error ellipse: s-maj=13.2km s-min=10.8km az=84.0*

THR 26 15:52:33.1±0.9,3427N×4712E,h14km±9km,ML3.1, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGE	**Sanandaj**	**0.84**	**13**	*e*PG	Pg	15 52 48.8	-0.5
SNGE				*e*SG	Sg	15 53 00.9	+0.5
SNGE				AML	AML	15 53 11.1	
comp=E,298nm,0.5s							
SNGE	**Sanandaj**	**0.84**	**13**	*e*Pg	Pg	15 52 48.8	-0.6
SNR=90							
SNGE				*e*Sg	Sg	15 53 00.9	+0.5
comp=E,298nm,0.5s,SNR=90							
ASAO	**Ashtian**	**2.42**	**83**	*e*Pn	Pn	15 53 14.9	+2.7
ASAO				*e*SG	Sg	15 53 49.0	-1.8
ASAO				AML	AML	15 53 59.0	
comp=N,78nm,0.5s							
ASAO				AML	AML	15 54 03.4	
comp=E,92nm,0.6s							
ASAO	**Ashtian**	**2.42**	**83**	*e*Pn	Pn	15 53 14.9	+2.7
SNR=52							
ASAO				*e*Sg	Sg	15 53 49.0	-1.8
comp=E,92nm,0.6s,SNR=90							
BHD	**Baghdad**	**2.49**	**247**	*ex*	x	15 53 14.5	
BHD				*ex*	x	15 53 51.0	
SHGR	**Shooshtar-Gavs**	**2.58**	**146**	*e*PN	Pn	15 53 16.5	+2.1
SHGR				*e*SG	Sg	15 53 53.4	-2.5
SHGR				AML	AML	15 53 59.8	
comp=N,95nm,0.9s							
SHGR				AML	AML	15 54 07.5	
comp=E,128nm,0.8s							
SHGR	**Shooshtar-Gavs**	**2.58**	**146**	*e*Pn	Pn	15

TICN	Ticuantepe	0.65	32⇓	eP	Pb	16 21 21.6	+0.5
TICN				eS	Sb	16 21 30.1	+0.4
APON	Apoyo	0.67	49⇓	iP	Pb	16 21 21.7	+0.3
COPN	Copaltepe	0.69	359⇑	iP	Pb	16 21 22.2	+0.4
COPN				eS	Sb	16 21 31.8	+0.8
XAVN	Gruta Xavier	0.71	21⇓	eP	Pb	16 21 22.3	+0.2
XAVN				eS	Sb	16 21 33.1	+1.7
TISN	Laguna Tiscapa	0.73	25⇑	iP	Pb	16 21 22.6	+0.2
TISN				eS	Sb	16 21 33.5	+1.6
MGAN	Managua	0.74	27⇓	iP	Pb	16 21 22.7	+0.1
MGAN				eS	Sb	16 21 33.0	+0.7
MGAN				i		16 21 35.2	
	comp=N,3μm,0.2s						
SSNN	San Juan del S	0.75	105⇓	eP	Pb	16 21 22.7	0.0
SSNN				eS	Sb	16 21 33.6	+1.2
APYN	Apoyeque	0.78	17⇑	iP	Pb	16 21 23.3	0.0
MOMJ	Momotombo	0.92	3	eP	Pb	16 21 25.1	-0.6
MOMJ				eS	Sb	16 21 36.5	-1.0
CONN	Concepcion	0.94	85⇓	eP	Pb	16 21 25.0	-1.0
MIRN	Miramar	0.96	353⇑	eP	Pb	16 21 25.8	-0.6
MIRN				eS	Sb	16 21 39.3	+0.7
LEON	Leon	0.98	342	eP	Pb	16 21 26.1	-0.5
LEON				eS	Sb	16 21 39.4	+0.3
CNGN	Cerro Negro	1.02	354⇓	eP	Pn	16 21 26.5	-0.9
CNGN				eS	Sb	16 21 39.6	-0.7
MADN	Villa Maderas	1.03	94⇓	eP	Pn	16 21 26.4	-1.1
MADN				eS	Sb	16 21 40.0	-0.7
TELN	Telica	1.14	348	eP	Pn	16 21 28.4	-0.6
CRIN	San Cristobal	1.29	339	eP	Pn	16 21 30.6	-0.5
LIM1	Limonal	1.52	121⇓	eP	Pn	16 21 34.1	-0.1
LIM1				eS	Sn	16 21 54.3	+1.0
VCR	Vista de Mar	1.64	145	eP	Pn	16 21 35.5	-0.4
CGA2	Cerro Gallo 2	2.54	125	eP	Pn	16 21 49.9	+1.7
PRS1	Puriscal	2.68	123	eP	Pn	16 21 51.7	+1.5
LCR2	La Lucha 2	3.07	124	eP	Pn	16 21 56.2	+0.7
BUS	Buena Vista	3.38	124⇑	eP	Pn	16 22 01.0	+1.3

IDC 26 16:31:16.3±19.0, 986S×15419E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/11, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/16, Error ellipse: s-maj=307.6km s-min=91.2km az=26.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.94	273	LR	LR	16 35 29.7	
	comp=Z,182nm,21.2s,baz=338,slow=36						
WRA	Warramunga Arr	21.62	240	P	P	16 36 08.3	+0.3
	2.6nm,0.9s,baz=64,slow=10,SNR=11						
ASAR	Alice Springs	23.74	232	P	P	16 36 30.4	+0.2
	1.1nm,0.9s,baz=66,slow=9.9,SNR=6.3						
STKA	Stephens Creek	24.82	206	P	P	16 36 40.4	+0.2
	2.5nm,0.7s,baz=39,slow=13,SNR=4.9						

*NEIC **26** 16:45:51.7±1.0, 2391S×17982E, h466km±13km, mb4.2/10, Error ellipse: s-maj=10.9km s-min=9.4km az=97.0*
*ISCJB **26** 16:45:53.2±1.0, 2394S×007×17968E±009, h491km±12km, mb3.9/15, Error ellipse: s-maj=13.0km s-min=11.3km az=163.1*
*IDC **26** 16:45:55.7±1.5, 2394S×17972E, h508km±14km, mb3.4/10, mb1 3.7/11, mb1mx3.7/13, mbtmp4.4/11, Error ellipse: s-maj=18.3km s-min=14.2km az=24.0*

ISC 26 16:45:53.2±1.0, 2395S±007×17977E±009, h480km±12km, n59, σ0:94/66, mb3.9/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.67	159	P	P	16 47 30.7	+5.4
	131nm,0.3s,baz=204,slow=18,SNR=4.8						
RAO				S	S	16 48 41.3	+0.7
	46nm,0.3s,baz=270,slow=20,SNR=2.2						
RAO	Raoul Island	5.67	159	P	P	16 47 30.7	+5.4
RAO				S	S	16 48 41.3	+0.7
DZM	Mont Dzumac	12.42	276	P	P	16 48 41.6	+5.4
	0.2nm,0.3s,baz=172,slow=14,SNR=3.1						
AFI	Afiamalu	12.79	40	P	P	16 48 39.0	-1.2
	3.6nm,0.3s,baz=53,slow=13,SNR=10						
AFI				S	S	16 50 52.9	-5.0
	2.6nm,0.3s,baz=47,slow=23,SNR=3.3						
AFI	Afiamalu	12.79	40	eS	P	16 48 38.7	-1.5
URZ	Urewera	14.44	188	P	P	16 48 58.4	+0.7
	20nm,0.3s,baz=15,slow=2.5,SNR=78						
URZ				S	S	16 51 26.3	-3.8
	1.2nm,0.3s,baz=228,slow=22,SNR=11						
URZ	Urewera	14.44	188	ePN	P	16 48 57.0	-0.7
URZ	Urewera	14.44	188	P	P	16 48 56.8	-0.9
MWZ	Matawai	14.46	187	ePN	P	16 48 57.9	0.0
MWZ	Matawai	14.46	187	P	P	16 48 56.7	-1.3
BKZ	Black Stump Fm	15.42	190	ePN	P	16 49 07.7	-0.3
BKZ	Black Stump Fm	15.42	190	P	P	16 49 07.7	-0.4
FWVZ	Far West T-bar	15.67	192	ePN	P	16 49 11.7	+1.0
FWVZ	Far West T-bar	15.67	192	P	P	16 49 10.9	+0.2
PKVZ	Pokaka	15.74	193	PN	P	16 49 13.7	+2.2
MRZ	Mangatainoka R	17.03	191	PN	P	16 49 21.9	-2.9
MRZ	Mangatainoka R	17.03	191	P	P	16 49 22.2	-2.7
SNZO	South Karori	17.82	193	eP	P	16 49 32.4	-0.4
QRZ	Quartz Range	17.89	198	ePN	P	16 49 33.8	+0.3
QRZ	Quartz Range	17.89	198	P	P	16 49 33.8	+0.3
NNZ	Nelson	18.03	196	ePN	P	16 49 33.5	-1.3
NNZ	Nelson	18.03	196	P	P	16 49 33.5	-1.3
THZ	Tophouse	18.66	196	ePN	P	16 49 40.1	-0.5
THZ	Tophouse	18.66	196	P	P	16 49 40.1	-0.5
DSZ	Denniston Nort	18.95	199	ePN	P	16 49 43.7	+0.5
DSZ	Denniston Nort	18.95	199	P	P	16 49 43.6	+0.4
LTZ	Lake Taylor	19.78	197	PN	P	16 49 49.7	-1.0
LTZ	Lake Taylor	19.78	197	P	P	16 49 49.4	-1.4
WVZ	Waitaha Valley	20.48	199	ePN	P	16 49 57.3	+0.1
WVZ	Waitaha Valley	20.48	199	P	P	16 49 57.8	+0.6
CTA	Charters Tower	31.27	270	eP	P	16 51 34.1	+1.5
	6.8nm,0.4s,mb4.4						
CTA	Charters Tower	31.27	270	P	P	16 51 34.4	+1.8
	8.1nm,0.4s,mb4.5,baz=95,slow=11,SNR=28						
CTAO	Charters Tower	31.27	270	eP	P	16 51 34.4	+1.8
	7.7nm,0.5s,mb4.4						
STKA	Stephens Creek	34.51	248	eP	P	16 51 59.3	-0.8
	4.3nm,1.7s,mb3.6						
STKA	Stephens Creek	34.51	248	P	P	16 51 59.1	-1.0
	2.0nm,0.7s,mb3.7,baz=149,slow=24,SNR=3.8						
AS31	Alice Springs	41.82	261	eP	P	16 53 00.3	+0.5
AS31				eS	S	16 58 35.9	-6.1
ASAR	Alice Springs	41.82	261	P	P	16 53 00.5	+0.6
	1.9nm,0.6s,mb3.7,baz=95,slow=7.2,SNR=81						
ASAR				ScP	ScP	16 57 48.0	-1.1
	1.1nm,1.0s,baz=109,slow=4.6,SNR=5.1						
ASAR				S	S	16 58 40.5	-1.5
	0.4nm,0.8s,baz=99,slow=17,SNR=3.3						
ASAR	Alice Springs	41.82	261	P	P	16 53 00.5	+0.6
ASAR				ScP	ScP	16 57 48.0	-1.1
ASAR				S	S	16 58 40.5	-1.5
ASPA	Alice Springs	41.82	261	eP	P	16 53 00.3	+0.4
ASPA				eS	S	16 58 35.9	-6.1
WB2	Warramunga Arr	42.18	266	eP	P	16 53 02.7	0.0
WB2				eS	S	16 58 42.9	-4.3
WRAB	Tennant Creek	42.19	266	eP	P	16 53 02.6	-0.1
	4.7nm,0.5s,mb4.2						
WRA	Warramunga Arr	42.19	266	P	P	16 53 03.0	+0.2
	2.6nm,0.4s,mb4.0,baz=96,slow=8.3,SNR=117						
WRA				ScP	ScP	16 57 50.0	-0.6
	1.1nm,0.8s,baz=103,slow=3.8,SNR=5.5						
WRA				S	S	16 58 43.5	-3.9
	0.8nm,0.9s,baz=98,slow=13,SNR=3.0						
KAKA	Kakadu	46.10	275	eP	P	16 53 32.8	-0.4
	11nm,1.0s,mb4.2						
FITZ	Fitzroy Crossi	50.62	266	eP	P	16 54 07.4	+0.5
	6.1nm,0.8s,mb4.0						
VNDA	Vanda	54.31	185	P	P	16 54 33.9	+0.5
	1.2nm,0.5s,mb3.5,baz=355,slow=7.6,SNR=14						
VNDA				ScP	ScP	16 58 38.0	-4.0
	0.4nm,0.6s,baz=35,slow=2.4,SNR=3.7						
VNDA	Vanda	54.31	185	eP	P	16 54 34.0	+0.5
	1.1nm,0.5s,mb3.4						
SBA	Scott Base	54.31	183	eP	P	16 54 35.0	+1.5
	14nm,1.1s,mb4.2						
QSPA	South Pole Qui	66.13	180	eP	P	16 55 52.3	+0.2
	15nm,0.8s,mb4.7						
MJAR	Matsushiro Arr	71.82	326	P	P	16 56 26.3	-0.2
	3.2nm,0.8s,mb3.9,baz=159,slow=5.8,SNR=8.2						
MAW	Mawson	77.63	200	P	P	16 56 58.2	-1.0
	5.3nm,0.7s,mb4.1,baz=127,slow=6.5,SNR=18						
MAW	Mawson	77.63	200	eP	P	16 56 58.4	-0.8
	3.0nm,0.5s,mb4.0						
NVAR	Mina Array Bea	84.94	44	P	P	16 57 36.7	-0.2
	0.5nm,0.7s,mb3.2,baz=231,slow=9.8,SNR=3.6						
VNA1	Neumayer--Stat	85.49	177	e	P	16 57 40.6	+1.0
VNA1				e		16 57 42.0	
VNA1				e		16 57 44.4	
PLCA	Paso Flores	88.38	134	P	P	16 57 53.2	0.0
	2.0nm,1.0s,mb3.8,baz=237,slow=2.9,SNR=3.8						
PLCA	Paso Flores	88.38	134	P	P	16 57 53.2	0.0
PDAR	Pinedale Array	92.87	44	P	P	16 58 14.5	+0.5
	0.4nm,0.6s,mb3.6,baz=217,slow=5.7,SNR=3.5						
MKAR	Makanchi Array	112.03	313	PKiKP	PKiKP	17 03 31.1	-2.2
	0.2nm,0.5s,baz=29,slow=3.3,SNR=6.2						
CLL	Collm	150.84	343	ePKPbc	PKPbc	17 04 50.0	-0.8
CLL				ePKPab	PKPab	17 04 59.0	-1.1
	comp=Z,6.0nm,1.0s						
TORD	Torodi Ar. Bea	169.10	190	PKPab	PKPab	17 06 19.4	-0.3
	comp=Z,3.2nm,0.8s,baz=167,slow=3.5,SNR=13						

*CSEM **26** 16:59:26.9, 3494N×2432E, h8km, MD3.5/7, After ATH*
*NEIC **26** 16:59:26.9, 3494N×2432E, h8km, MD3.5(ATH), After ATH.*

ATH 26 16:59:27.0, 3493N×2432E, h10km±3km, MD3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.21	245	ePG	Pg	16 59 31.5	+0.1
VAM	Vamos	0.49	348	ePB	Pg	16 59 36.5	0.0
NPS	Neapolis	1.11	72	ePN	Pn	16 59 48.0	-0.6
XRY	Khrisi	1.13	92	ePG	Pg	16 59 48.0	-0.7
KYTH	Kithira	1.71	323	ePN	Pn	16 59 59.0	+2.2
SANT	Santorini	1.71	32	ePn	Pn	16 59 58.2	+1.4
VLI	Veliai	2.11	328	ePN	Pn	17 00 04.0	+1.7
KARP	Karpathos	2.41	74	ePN	Pn	17 00 09.0	+2.6
KARP	Karpathos	2.41	74	ePg	Pg	17 00 11.0	-2.1

*NEIC **26** 17:18:54.0, 3896S×175.11E, h200km, MG3.8(WEL), After WEL.*

WEL 26 17:18:54.7±0.6, 3894S×17522E, h195km±4km, ML3.7/19, 1D, Error ellipse: s-maj=5.5km s-min=3.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	Pokaka	0.36	165	⇓PN	Pn	17 19 20.9	+0.3
VRZ	Vera Road	0.41	243	PN	Pn	17 19 20.0	-0.8
VRZ				SN	Sn	17 19 40.8	-0.2
VRZ	Vera Road	0.41	243	P	Pn	17 19 20.0	-0.8
VRZ				S	Sn	17 19 40.8	-0.2
HIZ	Hauiti	0.51	326	PN	Pn	17 19 20.7	-0.5
HIZ				SN	Sn	17 19 41.3	-0.4
HIZ	Hauiti	0.51	326	P	Pn	17 19 20.7	-0.5
HIZ				S	Sn	17 19 41.3	-0.4
WAZ	Wanganui	0.84	193	PN	Pn	17 19 22.8	+0.1
WAZ				eSN	Sn	17 19 44.3	-0.2
WAZ	Wanganui	0.84	193	P	Pn	17 19 22.8	0.0
BKZ	Black Stump Fm	1.01	103	PN	Pn	17 19 24.6	+0.6
BKZ	Black Stump Fm	1.01	103	eP	Pn	17 19 24.6	+0.7
TSZ	Takapari Road	1.26	153	PN	Pn	17 19 26.2	+0.4
TSZ				SN	Sn	17 19 48.9	-1.0
TSZ	Takapari Road	1.26	153	P	Pn	17 19 26.2	+0.4
TSZ				S	Sn	17 19 48.9	-1.0
URZ	Urewera	1.63	66	PN	Pn	17 19 29.1	+0.1
URZ				SN	Sn	17 19 54.4	-1.3
URZ	Urewera	1.63	66	eP	Pn	17 19 29.0	0.0
PXZ	Pawanui	1.67	131	PN	Pn	17 19 30.3	+0.8
MRZ	Mangatainoka R	1.74	171	PN	Pn	17 19 29.5	-0.7
MRZ				SN	Sn	17 19 55.7	-2.0
MRZ	Mangatainoka R	1.74	171	P	Pn	17 19 29.5	-0.6
MWZ	Matawai	1.90	72	PN	Pn	17 19 32.1	+0.3
MWZ	Matawai	1.90	72	eP	Pn	17 19 32.0	+0.2
TIWZ	Tintock	1.91	165	PN	Pn	17 19 31.3	-0.5
TIWZ				SN	Sn	17 19 59.1	-1.5
BFZ	Birch Farm	1.91	156	PN	Pn	17 19 31.5	-0.3
BFZ	Birch Farm	1.91	156	eP	Pn	17 19 31.5	-0.3
KIW	Kapiti Island	1.94	187	PN	Pn	17 19 30.7	-1.3
KIW	Kapiti Island	1.94	187	P	Pn	17 19 30.7	-1.4
DUWZ	D'Urville Isla	2.11	208	PN	Pn	17 19 32.1	-1.8
CAW	Cannon Point	2.17	183	PN	Pn	17 19 33.3	-1.3
CAW	Cannon Point	2.17	183	P	Pn	17 19 33.3	-1.2
MTW	Mount Morrison	2.23	175	PN	Pn	17 19 33.7	-1.5
MTW	Mount Morrison	2.23	175	P	Pn	17 19 33.7	-1.5
MRW	Makara Radio	2.32	190	PN	Pn	17 19 34.5	-1.7
MRW	Makara Radio	2.32	190	P	Pn	17 19 34.5	-1.7
WEL	Wellington	2.37	188	PN	Pn	17 19 34.9	-1.8
WEL	Wellington	2.37	188	P	Pn	17 19 34.9	-1.8
TCW	Tory Channel	2.38	197	PN	Pn	17 19 35.0	-1.8
SNZO	South Karori	2.40	189	PN	Pn	17 19 35.0	-2.1
SNZO	South Karori	2.40	189	P	Pn	17 19 35.0	-2.1
PAWZ	Paruwai Farm	2.44	176	PN	Pn	17 19 35.9	-1.6
PAWZ	Paruwai Farm	2.44	176	P	Pn	17 19 35.9	-1.7
MSWZ	Moikau Station	2.47	180	PN	Pn	17 19 36.1	-1.8
MSWZ				SN	Sn	17 20 07.8	-3.8
MSWZ	Moikau Station	2.47	180	P	Pn	17 19 36.2	-1.7
MSWZ				S	Sn	17 20 08.4	-3.2
BHW	Baring Head	2.48	186	PN	Pn	17 19 36.2	-1.8
BHW	Baring Head	2.48	186	P	Pn	17 19 36.2	-1.8
TRWZ	Traveller	2.48	172	PN	Pn	17 19 36.6	-1.4
PUZ	Puketiti	2.53	71	PN	Pn	17 19 39.1	+0.5
TUWZ	Tuamarina	2.67	201	PN	Pn	17 19 37.8	-2.4
NNZ	Nelson	2.68	211	PN	Pn	17 19 37.4	-2.9
NNZ	Nelson	2.68	211	P	Pn	17 19 37.4	-2.8
QRZ	Quartz Range	2.80	227	PN	Pn	17 19 37.7	-3.9
QRZ	Quartz Range	2.80	227	P	Pn	17 19 37.7	-3.9
THZ	Tophouse	3.33	211	PN	Pn	17 19 44.3	-3.7
THZ	Tophouse	3.33	211	P	Pn	17 19 44.3	-3.7
KHZ	Kahutara	3.70	200	PN	Pn	17 19 49.6	-2.9
KHZ	Kahutara	3.70	200	P	Pn	17 19 49.6	-2.9
DSZ	Denniston Nort	3.83	222	PN	Pn	17 19 49.5	-4.6
DSZ	Denniston Nort	3.83	222	eP	Pn	17 19 49.5	-4.6
LTZ	Lake Taylor	4.44	209	ePN	Pn	17 19 57.3	-4.5
LTZ	Lake Taylor	4.44	209	eP	Pn	17 19 57.3	-4.5
CRLZ	Canterbury Las	5.03	202	PN	Pn	17 20 04.5	-4.8
CRLZ	Canterbury Las	5.03	202	eP	Pn	17 20 04.5	-4.8
MQZ	McQueen's Vall	5.14	201	PN	Pn	17 20 05.7	-5.0
MQZ	McQueen's Vall	5.14	201	eP	Pn	17 20 05.7	-5.0
WVZ	Waitaha Valley	5.35	218	ePN	Pn	17 20 08.0	-5.4
WVZ	Waitaha Valley	5.35	218	eP	Pn	17 20 08.0	-5.3
FOZ	Fox Glacier	6.22	220	ePN	Pn	17 20 18.2	-6.5
ODZ	Otahuna Downs	6.99	208	ePN	Pn	17 20 29.7	-4.9
TUZ	Tuapeka	8.14	209	ePN	Pn	17 20 44.8	-4.8

*NNC **26** 17:41:07.0±8.2, 3863N×7098E, h254km±75km, mb2.0, mpv2.8, Error ellipse: s-maj=86.0km s-min=42.7km az=17.0*
*ISCJB **26** 17:41:09.1±2.4, 391N±02×7028E±008, h33km, Error ellipse: s-maj=25.1km s-min=8.0km az=23.9*

ISC 26 17:41:09.9±2.4, 389N±02×7028E±009, h35km, n10, σ0:91/14, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.17	2	⇓P	Pn	17 42 14.1	+3.1
	4.5nm,0.5s,baz=178,slow=13,SNR=134						
KK31				⇑S	Sn	17 43 13.9	+15
	5.6nm,0.4s,baz=178,slow=30,SNR=5.9						
EKS2	Erkin-Say	4.57	34	P	Pn	17 42 15.3	-1.3
	SNR=6.8						
UCH	Uchtor	4.61	43	P	Pn	17 42 17.1	0.0
	SNR=42						
KZA	Kyzart	4.92	49	P	Pn	17 42 23.2	+1.8
	SNR=12						
KBK	Karagaybulak	5.14	42	P	Pn	17 42 24.9	+0.6
	SNR=12						
CHMS	Chumysh	5.29	38	P	Pn	17 42 25.9	-0.5
	SNR=6.5						
USP	Ospenovka	5.38	35	P	Pn	17 42 27.0	-0.6
	SNR=12						
TKM2	Tokmak 2	5.66	44	⇑P	Pn	17 42 30.7	-0.9
	0.1nm,0.3s						
TKM2				⇓S	Sn	17 43 35.4	+0.1
	1.0nm,0.7s						
AB31	Akbulak array	12.70	328	P	Pn	17 44 08.3	+0.3
	1.9nm,0.5s,baz=140,slow=12,SNR=46						
AB31				⇑S	Sn	17 46 28.3	+0.2
	1.3nm,0.6s,baz=148,slow=25,SNR=4.5						
AKTO	Aktyubinsk	14.41	327	⇑P	Pn	17 44 30.8	-0.5
AKTO				⇓S	Sn	17 47 09.6	-0.2
	0.2nm,1.4s						

*NEIC **26** 17:45:02.9, 36.16N×1033W, h0km, MN2.7(MDD), After MDD.*
*ISCJB **26** 17:45:03.3±1.6, 36.17N±007×102W±0.1, h10km, Error ellipse: s-maj=12.3km s-min=10.2km az=152.5*
*CSEM **26** 17:45:03.9±0.3, 3604N×1021W, h5km, ML3.4/6, Error ellipse: s-maj=6.3km s-min=4.9km az=174.0*
*INMG **26** 17:45:03.8±0.8, 3606N×1045W, h16km±34km, ML2.0, Error ellipse: s-maj=32.7km s-min=4.8km az=53.0*
*MDD **26** 17:45:03.0±2.4, 36.15N×1032W, h0km, mb3.8/7, Error ellipse: s-maj=21.8km s-min=17.5km az=81.0, PRXIMO*

ISC 26 17:45:04.4±1.6, 3620N±007×102W±01, h10km, n22, σ0:83/38, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.79	41	ePn	Pn	17 45 35.6	+0.3
PTEO				eSn	Sn	17 45 59.3	+1.3
PTEO							
	6.2nm,0.1s						
PTEO	Sao Teotonio	1.79	41	ePn	Pn	17 45 35.6	+0.3
PTEO				eSn	Sn	17 45 59.3	+1.3
EGRO	El Granado	2.55	58	Pn	Pn	17 45 46.0	+0.2
	1.6nm,0.1s,SNR=8.9						
EGRO				Sn	Sn	17 46 17.5	+0.6
	2.7nm,0.1s,SNR=5.8						
EGRO	El Granado	2.55	58	Pn	Pn	17 45 46.0	+0.2
	1.6nm,0.1s,SNR=8.9						
EGRO				Sn	Sn	17 46 17.5	+0.6
	2.7nm,0.1s,SNR=5.8						
PBEJ	Beja	2.60	45	ePn	Pn	17 45 46.7	+0.2
PBEJ				eSn	Sn	17 46 19.3	+1.1
PBEJ							
	2.1nm,0.1s						
MOE	Montemor	2.75	32	ePn	Pn	17 45 48.3	-0.2
MOE				eSn	Sn	17 46 22.7	+1.0
PLOU	Loures	2.81	17	eSn	Sn	17 46 22.6	-0.6
EMIN	Mina Concepcio	3.23	60	Pn	Pn	17 45 55.2	+0.1
	0.4nm,0.1s,SNR=7.8						
EMIN				Sn	Sn	17 46 34.0	+0.4
	1.7nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.23	60	Pn	Pn	17 45 55.2	+0.1
	0.4nm,0.1s,SNR=7.8						
EMIN				Sn	Sn	17 46 34.0	+0.5
	1.7nm,0.1s,SNR=7.9						
ESPR	Espera	3.56	78	Pn	Pn	17 45 60.0	+0.3
	1.4nm,0.2s,SNR=7.9						
ESPR				Sn	Sn	17 46 41.1	-0.7
	24nm,0.3s,SNR=7.9						
ESPR	Espera	3.56	78	P	Pn	17 45 60.0	+0.3
ESPR				S	Sn	17 46 41.1	-0.7
ESPR	Espera	3.56	78	Pn	Pn	17 46 00.0	+0.4
	1.4nm,0.2s,SNR=7.9						
ESPR				Sn	Sn	17 46 41.1	-0.6
	24nm,0.3s,SNR=7.9						
EBAD	Badajoz	3.59	44	Pn	Pn	17 45 59.9	-0.2
	0.6nm,0.0s,SNR=8.9						
EBAD				Sn	Sn	17 46 43.0	+0.4
	3.2nm,0.1s,SNR=5.2						
EBAD	Badajoz	3.59	44	Pn	Pn	17 45 59.9	-0.2
	0.6nm,0.0s,SNR=8.9						
EBAD				Sn	Sn	17 46 43.0	+0.4
	3.2nm,0.1s,SNR=5.2						
PCBR	Castelo Branco	4.22	30	eSn	Sn	17 46 56.8	-1.3
EADA	Adamuz	4.90	65	Pn	Pn	17 46 18.4	+0.3
	1.1nm,0.2s,SNR=6.8						
EADA				Sn	Sn	17 47 14.2	-0.6
	2.0nm,0.1s						
EADA	Adamuz	4.90	65	Pn	Pn	17 46 18.4	+0.4
	1.1nm,0.2s,SNR=6.8						
EADA				Sn	Sn	17 47 14.2	-0.6
	2.0nm,0.1s						
EBAN	Banos Encina	5.48	67	Pn	Pn	17 46 26.2	+0.2
	1.0nm,0.1s,SNR=7.9						
EBAN				Sn	Sn	17 47 27.0	-2.2
	1.2nm,0.1s,SNR=7.9						
ELOB	Lobios	5.90	16	Sn	Sn	17 47 36.1	-3.3
	0.9nm,0.1s,SNR=7.9						
ELOB	Lobios	5.90	16	Sn	Sn	17 47 36.1	-3.3
	0.9nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	6.02	53	Pn	Pn	17 46 33.1	-0.4
	1.6nm,0.1s,baz=237,slow=13,SNR=7.9						
ESDC	Sonseca Array	6.02	53	Pn	Pn	17 46 33.1	-0.4
	1.6nm,0.1s,SNR=7.9						

*ISCJB **26** 17:47:59.8±0.8, 215S±01×678W±02, h122km±14km, mb3.7/1, Error ellipse: s-maj=28.5km s-min=10.0km az=61.9*
*NEIC **26** 17:48:00.8±0.8, 2148S×6803W, h126km±12km, mb3.6/1, Error ellipse: s-maj=27.8km s-min=10.6km az=108.0*
*IDC **26** 17:48:00.7±0.9, 2153S×6787W, h118km±13km, mb3.6/1, mb1 3.4/4, mb1mx3.2/16, mbtmp3.7/4, Error ellipse: s-maj=40.3km s-min=13.8km az=124.0*

ISC 26 17:48:01.1±0.8, 215S±01×678W±02, h115km±13km, n9, σ0:85/11, mb3.7/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.48	224	P	Pn	17 48 28.0	0.0
	15nm,0.3s,baz=26,slow=10,SNR=96						
LVC				S	Sn	17 48 48.1	-0.2
	62nm,0.3s,baz=232,slow=20,SNR=110						
LVC	Limon Verde	1.48	224	ePn	Pn	17 48 27.5	-0.4
LVC				eSn	Sn	17 48 48.4	+0.1
LPAZ	La Paz	5.24	357	P

11nm,0.3s,baz=191,slow=19,SNR=158
DZM Sn **Sn** **18 03 17.0 -4.8**
14nm,0.3s,baz=162,slow=22,SNR=8.4
DZM LR LR 18 04 30.2
comp=Z,4μm,20.1s,baz=355,slow=36
HNR Honiara 8.74 309 *e*P **Pn** **18 02 26.6 -0.9**
HNR *e* 18 03 59.6
HNR pmax pmax
comp=Z,230nm,0.8s
HNR Honiara 8.74 309 *e*P **Pn** **18 02 26.6 -0.9**
comp=Z,230nm,0.8s
HNR *e*Sn **Sn** **18 03 59.6 -4.9**
RAO Raoul Island 19.95 138 LR LR 18 10 54.4
comp=Z,768nm,20.0s,baz=322,slow=32
PMG Port Moresby 20.02 284 P **P** **18 04 49.8 -2.0**
PMG pmax pmax
comp=Z,34nm,0.9s
PMG Port Moresby 20.02 284 P **P** **18 04 49.8 -2.0**
comp=Z,34nm,0.9s
CTA Charters Tower 20.24 253 *e*P **P** **18 04 55.2 +1.0**
comp=Z,18nm,0.8s
CTA Charters Tower 20.24 253 P **P** **18 04 54.9 +0.7**
comp=Z,27nm,1.0s,baz=74,slow=12,SNR=9.7
CTA LR LR 18 11 42.2
comp=Z,1μm,19.7s,MS4.3,baz=1.4,slow=34
CTA Charters Tower 20.24 253 *e*P **P** **18 04 55.2 +1.0**
CTA pmax pmax
comp=Z,18nm,0.8s
CTAO Charters Tower 20.24 253 *e*P **P** **18 04 55.2 +1.0**
CTAO pmax pmax
comp=Z,33nm,0.9s
CTAO Charters Tower 20.24 253 *e*P **P** **18 04 55.1 +1.0**
comp=Z,33nm,0.9s
ARMA Armidale 20.72 220 *e*P **P** **18 05 04.1 +4.8**
AFI Afiamalu 20.75 90 LR LR 18 11 06.8
comp=Z,575nm,19.3s,MS4.0,baz=263,slow=31
URZ Urewera 24.84 160 P **P** **18 05 42.3 +1.6**
comp=Z,17nm,1.0s,mb4.5,baz=353,slow=12,SNR=4.5
STKA Stephens Creek 28.47 230 *e*P **P** **18 06 12.2 -1.1**
comp=Z,4.5nm,0.9s,mb4.1
STKA Stephens Creek 28.47 230 P **P** **18 06 12.0 -1.3**
comp=Z,2.3nm,0.4s,mb4.1,baz=48,slow=9.2,SNR=17
WB2 Warramunga Arr 31.33 256 *e*P **P** **18 06 38.2 -0.4**
WRAB Tennant Creek 31.33 256 *e*P **P** **18 06 38.1 -0.5**
WRA Warramunga Arr 31.34 256 P **P** **18 06 37.9 -0.7**
comp=Z,1.9nm,0.7s,mb4.1,baz=81,slow=7.1,SNR=45
WRA PcP PcP 18 09 30.8 -0.6
comp=Z,2.2nm,1.0s,baz=88,slow=3.6,SNR=5.2
AS31 Alice Springs 32.16 249 *e*P **P** **18 06 45.6 -0.3**
ASAR Alice Springs 32.16 249 P **P** **18 06 45.8 -0.2**
comp=Z,11nm,1.1s,mb4.6,baz=76,slow=8.7,SNR=49
ASAR ScP ScP 18 13 17.8 +5.5
comp=Z,0.6nm,1.0s,baz=116,slow=4.3,SNR=2.8
ASAR LR LR 18 19 07.6
comp=Z,1μm,19.3s,MS4.6,baz=168,slow=35
ASPA Alice Springs 32.17 249 *e*P **P** **18 06 45.6 -0.4**
RAR Rarotonga 32.28 106 LR LR 18 16 44.3
comp=Z,381nm,18.7s,MS4.1,baz=109,slow=31
FORT Forrest 38.77 239 *e*P **P** **18 07 42.3 -0.3**
comp=Z,35nm,1.2s,mb5.0
FITZ Fitzroy Crossi 39.54 260 *e*P **P** **18 07 48.5 -0.5**
comp=Z,24nm,0.9s,mb4.9
PAE Paea 41.84 100 *e*P **P** **18 08 08.5 +0.5**
comp=Z,81nm,1.2s,mb5.2
PPT Papeete 41.85 100 *e*P **P** **18 08 07.8 -0.2**
comp=Z,53nm,1.2s,mb5.0
PPT Papeete 41.85 100 *e*S **S** **18 14 24.2 +2.5**
comp=Z,130nm,28.2s
PPT *e*LQ 18 18 01.1
comp=Z,579nm,27.2s
PPT *e*LR LR 18 19 44.6
comp=Z,532nm,25.2s,baz=254
PPT Papeete 41.85 100 LR LR 18 21 21.6
comp=Z,336nm,20.0s,MS4.2,baz=343,slow=30
TBI Tubuai 41.97 108 *e*S **S** **18 14 27.0 +3.6**
comp=Z,126nm,30.5s
TBI *e*LQ 18 18 02.5
comp=Z,474nm,31.2s
TBI *e*LR LR 18 19 48.3
comp=Z,308nm,27.0s
TVO Taravao 42.15 100 *e*P **P** **18 08 10.8 +0.3**
comp=Z,203nm,1.4s,mb5.6
PMOR Pomariorio Ree 43.67 96 *e*P **P** **18 08 23.0 +0.2**
comp=Z,158nm,1.3s,mb5.6
KLBR Kellerberrin 47.58 241 *e*P **P** **18 08 54.3 +0.7**
comp=Z,57nm,1.4s,mb5.4
MUN Mundaring 48.94 241 *e*P **P** **18 09 04.1 0.0**
MJAR Matsushiro Arr 57.99 333 P **P** **18 10 08.9 -1.5**
comp=Z,6.6nm,0.9s,mb4.7,baz=167,slow=7.4,SNR=12
MJAR LR LR 18 31 27.5
comp=Z,103nm,21.6s,MS3.9,baz=165,slow=32
MAJO Matsushiro 57.99 333 *e*P **P** **18 10 09.4 -1.0**
MAJO pmax pmax
comp=Z,13nm,1.0s,mb4.9
MAJO Matsushiro 57.99 333 *e*P **P** **18 10 09.4 -1.1**
comp=Z,13nm,1.0s,mb4.9
MAT Matsushiro 57.99 333 P **P** **18 10 09.4 -1.0**
MAT Matsushiro 57.99 333 *e*P **P** **18 10 09.0 -1.4**
MAT pmax pmax
comp=Z,15nm,1.1s,mb4.9
MAT Matsushiro 57.99 333 *e*P **P** **18 10 09.0 -1.4**
comp=Z,15nm,1.1s,mb4.9
YHNB Yeheng 59.37 311 *e*P **P** **18 10 20.2 +0.2**
VNDA Vanda 62.54 181 P **P** **18 10 41.4 -0.1**
comp=Z,4.8nm,0.8s,mb4.7,baz=357,slow=7.5,SNR=15
VNDA LR LR 18 36 01.3
comp=Z,105nm,19.9s,MS4.0,baz=354,slow=34
VNDA Vanda 62.54 181 P **P** **18 10 41.4 -0.1**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA MLR MLR
comp=Z,105nm,19.9s
VNDA Vanda 62.54 181 *e*P **P** **18 10 41.3 -0.2**
comp=Z,21nm,1.4s,mb5.1
SBA Scott Base 62.82 180 *e*P **P** **18 10 44.0 +0.6**
SBA pmax pmax
comp=Z,21nm,0.9s,mb5.3
SBA Scott Base 62.82 180 *e*P **P** **18 10 44.0 +0.6**
comp=Z,21nm,0.9s,mb5.3
SSE Sheshan 63.46 317 P **P** **18 10 48.0 +0.4**
SSE AP pP 18 11 03.5 +0.1
SSE XP sP 18 11 10.8 +0.8
SSE S **S** **18 19 16.0 -0.2**
SSE SCS ScS 18 20 35.0 -0.7
SSE SS SS 18 23 24.0 +0.1
SSE AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,50nm,5.1s
SSE LR LR
comp=N,40nm,24.5s,MS3.7
SSE LR LR
comp=E,50nm,24.5s,MS3.7
SSE LR LR
comp=Z,70nm,22.7s,MS3.8
YSS Yuzh-Sakhalins 65.39 342*c i*P **P** **18 11 00.8 +0.6**
YSS pmax pmax
comp=Z,33nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 65.39 342 *e*P **P** **18 11 00.6 +0.3**
comp=Z,66nm,1.2s,mb5.5
QIZ Qiongzhong 65.52 299 P **P** **18 11 02.3 +1.2**
QIZ S S 18 19 40.0 -1.6
QIZ XS sS 18 20 08.5 +0.1
QIZ LR LR
comp=Z,160nm,19.8s,MS4.2
NJ2 Nanjing 65.61 316 *e*P **P** **18 11 03.0 +1.4**
NJ2 AP pP 18 11 17.8 +0.3
NJ2 XP sP 18 11 24.8 +0.8
NJ2 PCP PcP 18 11 33.0 +0.2
NJ2 S S 18 19 39.0 -3.7
NJ2 XS sS 18 20 07.0 -2.5
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,110nm,5.6s
NJ2 LR LR
comp=N,390nm,28.5s
NJ2 LR LR
comp=E,350nm,19.6s
NJ2 LR LR
comp=Z,280nm,21.6s
VLA Vladivostok 66.16 333 *e*P **P** **18 11 05.2 +0.1**
VLA pmax pmax
comp=Z,20nm,1.3s,mb5.0
WHN Wuhan 67.84 312 *e*P **P** **18 11 16.8 +1.0**
PET Petropavlovsk 68.15 355 *e*P **P** **18 11 17.4 -0.4**
PET *e*S S 18 20 14.0 +0.6
PET *e*PS 18 20 39.3
PET *e*SS SS 18 24 37.0 +0.1
PET *e*SSS 18 27 37.7
PET pmax pmax
comp=Z,100nm,13.0s
MDJ Mudanjiang 68.36 332 P **P** **18 11 19.5 +0.4**
MDJ AP pP 18 11 34.8 -0.3
MDJ XP sP 18 11 42.3 +0.7
MDJ S S 18 20 22.0 +6.2
MDJ SCS ScS 18 21 13.0 -0.6
MDJ SS SS 18 24 41.5 +1.4
MDJ AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
MDJ AMB AMB
comp=Z,90nm,6.9s
MDJ LR LR
comp=N,60nm,24.3s,MS3.8
MDJ LR LR
comp=E,30nm,21.4s,MS3.8
MDJ LR LR
comp=Z,70nm,29.4s
MDJ Mudanjiang 68.36 332 *e*P **P** **18 11 19.2 +0.1**
comp=Z,29nm,1.3s,mb5.2
CN2 Changchun 69.70 329 *e*P **P** **18 11 28.0 +0.6**
CN2 *e*XP sP 18 11 51.0 +1.1
CN2 *e*S S 18 20 31.0 -0.7
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.6
CN2 LR LR
comp=E,200nm,15.0s,MS4.6
CN2 LR LR
comp=Z,200nm,17.0s,MS4.4
MIR Mirnyy 69.87 204*c i*P **P** **18 11 30.0 +1.6**
MIR pmax pmax
comp=Z,210nm,1.5s,mb5.8
KLR Kul'dur 71.12 337 *e*P **P** **18 11 33.3 -2.8**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,50nm,1.8s,mb5.1
GYA Guiyang 71.55 305⇑*i*P **P** **18 11 40.0 +1.4**
GYA XP sP 18 12 03.3 +2.1
GYA PP PP 18 14 21.0 +3.1
GYA S S 18 20 55.3 +2.2
GYA SKS 18 21 32.5
GYA AMB AMB
comp=Z,20nm,1.3s,mb4.9
GYA AMB AMB
comp=Z,180nm,5.9s
GYA LR LR
comp=N,100nm,18.4s,MS4.4
GYA LR LR
comp=E,150nm,17.9s,MS4.4
GYA LR LR
comp=Z,270nm,18.8s,MS4.5
XAN Xi'an 73.59 313 P **P** **18 11 51.3 +0.5**
XAN AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
KMI Kunming 74.11 302 P **P** **18 11 56.0 +2.2**
KMI AP pP 18 12 11.5 +1.5
KMI XP sP 18 12 18.8 +2.3
KMI PP PP 18 14 43.3 +3.5
KMI S S 18 21 22.3 0.0
KMI XS sS 18 21 50.8 +1.2
KMI SS SS 18 26 11.3 +3.0
KMI AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
KMI AMB AMB
comp=Z,70nm,4.5s
KMI LR LR
comp=N,120nm,15.2s
KMI LR LR
comp=E,70nm,20.7s
KMI LR LR
comp=Z,150nm,21.3s
QSPA South Pole Qui 74.98 180 *e*P **P** **18 11 59.0 +0.1**
comp=Z,29nm,1.0s,mb5.2
MA2 Magadan 75.49 352*c i*P **P** **18 12 00.4 -1.4**
MA2 pmax pmax
comp=Z,17nm,1.7s,mb4.7
HHC Hu-ho-hao-te 75.55 320 *e*P **P** **18 12 03.0 +0.9**
HHC AP pP 18 12 19.8 +1.5
HHC XP sP 18 12 26.5 +1.7
HHC PP PP 18 14 55.5 +3.5
HHC S S 18 21 37.5 -0.8
HHC SKS 18 22 02.5
HHC XS sS 18 22 07.0 +1.3
HHC SS SS 18 26 32.3 +2.2
HHC AMB AMB
comp=Z,20nm,0.7s,mb5.2
HHC AMB AMB
comp=Z,60nm,4.2s
HHC LR LR
comp=N,130nm,16.6s,MS4.4
HHC LR LR
comp=E,90nm,15.5s,MS4.4
HHC LR LR
comp=Z,80nm,14.3s,MS4.2
CD2 Chengdu 75.86 308 *e*P **P** **18 12 04.5 +0.6**
CD2 AP pP 18 12 16.8 -3.3
CD2 XP sP 18 12 23.0 -3.6
CD2 PP PP 18 14 57.3 +2.7
CD2 S S 18 21 43.0 +1.2
CD2 XS sS 18 22 05.3 -3.9
CD2 SS SS 18 26 39.3 +4.4
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
CD2 AMB AMB
comp=Z,40nm,8.2s
CD2 LR LR
comp=E,70nm,19.2s
CD2 LR LR
comp=Z,150nm,18.0s,MS4.3
LZH Lanzhou 78.22 313⇑P **P** **18 12 19.5 +2.4**
LZH AP pP 18 12 36.3 +2.9
LZH XP sP 18 12 43.0 +3.1
LZH PP PP 18 15 19.3 +4.9
LZH *e*S S 18 22 08.5 +1.1
LZH SS SS 18 27 14.5 +4.1
LZH AMB AMB
comp=Z,30nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,150nm,8.2s
LZH LR LR
comp=E,590nm,15.7s
LZH LR LR
comp=Z,830nm,18.5s,MS5.1
KDAK Kodiak Island 79.91 21 P **P** **18 12 25.9 -0.4**
comp=Z,4.7nm,0.9s,mb4.4,baz=284,slow=14,SNR=4.1
KDAK Kodiak Island 79.91 21 P **P** **18 12 25.9 -0.4**
CIT Chita 81.13 330 *e*P **P** **18 12 32.3 -0.6**
MAW Mawson 81.44 202 *e*P **P** **18 12 34.7 +0.2**
comp=Z,8.2nm,1.1s,mb4.6
MAW Mawson 81.44 202 P **P** **18 12 35.3 +0.8**
comp=Z,7.9nm,1.0s,mb4.6,baz=97,slow=6.4,SNR=14
MAW LR LR 18 43 24.1
comp=Z,326nm,18.5s,MS4.7,baz=306,slow=32
MAW Mawson 81.44 202 P **P** **18 12 35.3 +0.8**
MAW pmax pmax
comp=Z,8.0nm,1.0s
MAW MLR MLR
comp=Z,326nm,18.5s
ULN Ulaanbaatar 82.14 324*c i*P **P** **18 12 38.4 +0.2**
ULN *i* *PP pP 18 13 15.1 +20
ULN Ulaanbaatar 82.14 324 *e*P **P** **18 12 38.1 -0.1**
comp=Z,13nm,1.4s,mb4.7
YAK Yakutsk 82.21 343 *e*P **P** **18 12 38.3 -0.3**
YAK pmax pmax
comp=Z,27nm,1.3s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 82.21 343 *e*P **P** **18 12 38.0 -0.6**
comp=E,15nm,0.6s,mb5.1
SONM Songino Array 82.50 324 P **P** **18 12 40.4 +0.3**
comp=E,2.7nm,1.0s,mb4.1,baz=130,slow=5.0,SNR=16
GTA Gaotai 82.58 314 P **P** **18 12 42.0 +1.5**
GTA AP pP 18 12 58.8 +1.9
GTA XP sP 18 13 05.5 +2.1
GTA PP PP 18 15 55.0 +4.5
GTA SKS 18 22 54.5
GTA S S 18 22 55.5 +2.5
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
GTA AMB AMB
comp=Z,120nm,4.6s
GTA LR LR
comp=N,100nm,18.0s,MS4.4
GTA LR LR
comp=E,130nm,19.9s,MS4.4
GTA LR LR
comp=Z,180nm,21.4s,MS4.4
BILL Bilibino 82.85 360*c i*P **P** **18 12 40.9 -1.1**
BILL pmax pmax
comp=Z,36nm,1.2s,mb5.3
BILL Bilibino 82.85 360 *e*P **P** **18 12 40.9 -1.1**
comp=Z,63nm,1.3s,mb5.5
LSA Lhasa 85.37 302 *e*P **P** **18 12 56.5 +1.8**
LSA pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
LSA Lhasa 85.37 302 *e*P **P** **18 12 56.5 +1.8**
comp=Z,6.5nm,1.1s,mb4.7
ZAK Zakamensk 85.56 325 *e*P **P** **18 12 54.4 -1.3**
ZAK pmax pmax
comp=Z,18nm,1.6s,mb5.0
MCK McKinley 85.58 18 *e*P **P** **18 12 54.7 -1.1**
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
MCK McKinley 85.58 18 *e*P **P** **18 12 54.6 -1.1**
comp=Z,6.4nm,1.0s,mb4.8
TLY Talaya 86.02 326*c i*P **P** **18 12 57.4 -0.5**
TLY pmax pmax
comp=Z,6.0nm,2.1s,mb4.5
COLA College 86.74 18 P **P** **18 13 00.7 -0.8**
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
COLA College 86.74 18 P **P** **18 13 00.7 -0.8**
comp=Z,7.9nm,0.9s,mb4.9
SYO Syowa Base 88.28 197⇓*e*P **P** **18 13 08.0 -0.9**
SYO Syowa Base 88.28 197⇑*e*PcP PcP 18 13 10.5 -0.1
JIRN Jiri 88.84 299 *e*P **P** **18 13 12.7 +1.2**
PKI Pulchoki 89.47 299 *e*P **P** **18 13 15.5 +1.0**
KKN Kakani 89.65 299 *e*P **P** **18 13 16.1 +0.8**
comp=Z,25nm,1.0s,mb5.5
DMN Daman 89.74 299 *e*P **P** **18 13 16.6 +0.9**
comp=Z,60nm,1.2s,mb5.8
TIXI Tiksi 90.19 349⇑*e*P **P** **18 13 16.9 -1.0**
TIXI pmax pmax
comp=Z,16nm,1.3s,mb5.2
GKN Gorkha 90.25 299 *e*P **P** **18 13 18.6 +0.5**
KOLN Koldanda 91.07 298 *e*P **P** **18 13 21.9 0.0**
comp=Z,44nm,1.7s,mb5.5
WMQ Urumqi 92.65 315 P **P** **18 13 29.5 +0.3**
WMQ AP pP 18 13 46.8 +1.0
WMQ S 18 24 25.3
WMQ XS sS 18 24 55.0 -2.5
WMQ SS SS 18 30 42.5 +0.1
WMQ AMB AMB
comp=Z,190nm,5.0s
WMQ LR LR
comp=N,60nm,22.0s,MS4.2
WMQ LR LR
comp=E,90nm,25.0s,MS4.2
WMQ LR LR
comp=Z,80nm,24.0s,MS4.1
VNA1 Neumayer--Stat 94.45 182 *e*P **P** **18 13 37.4 -0.1**
VNA1 *e* 18 13 42.3
VNA1 *e* 18 13 45.7
VNA1 *e* pP 18 13 54.3 +0.1
VNA1 *e* 18 14 00.3
VNA1 *e* 18 14 11.1
PDAR Pinedale Array 95.47 47 LR LR 18 48 10.0
comp=Z,104nm,21.1s,MS4.3,baz=254,slow=30
ANMO Albuquerque 95.83 56⇑*i*P **P** **18 13 42.8 -1.0**
MKAR Makanchi Array 97.14 316 P **P** **18 13 49.4 -0.4**
comp=Z,1.8nm,0.8s,mb4.6,baz=90,slow=6.1,SNR=15
ZAL Zalesovo 97.40 324 P **P** **18 13 49.6 -1.3**
comp=Z,1.0nm,0.4s,mb4.6,baz=344,slow=3.5,SNR=6.2
ZAL LR LR 18 57 46.8
comp=Z,107nm,21.2s,MS4.3,baz=4.6,slow=36
YKA Yellowknife Ar 98.02 27 LR LR 18 55 02.1
comp=Z,58nm,18.2s,MS4.1,baz=270,slow=34
KURK Kurchatov 100.37 320 *e*P Pdif 18 14 03.0 -1.2
LPAZ La Paz 117.44 118 PKP PKPdf 18 19 03.9 +1.0
comp=Z,2.1nm,1.2s,baz=252,slow=3.2,SNR=3.6
ARCES ARCESS Array B 120.45 345 PKP PKPdf 18 19 06.8 -1.9
comp=Z,3.1nm,0.6s,baz=48,slow=1.8,SNR=12
OBN Obninsk 124.74 328 *i* PKIKP PKPdf 18 19 17.4 +0.5
OBN *e* 18 21 03.5
OBN *e* 18 26 12.0
OBN *e*SS SS 18 38 10.7 +16
OBN pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 124.75 313 *i* PKIKP PKPdf 18 19 16.8 -0.1
KIV pmax pmax
comp=Z,70nm,1.1s
KIV MLR MLR
comp=Z,38nm,18.0s,MS4.1
KMBO Kilima Mbogo 127.62 257 PKP PKPdf 18 19 22.7 +0.3
comp=Z,2.0nm,0.7s,baz=180,slow=5.1,SNR=3.1
AKASG Malin Array Be 130.75 326 PKP PKPdf 18 19 26.3 -2.0
comp=Z,0.4nm,0.3s,baz=38,slow=0.8,SNR=5.8
AKASG SKPbc SKPbc 18 22 53.4 +6.1
comp=Z,1.0nm,0.7s,baz=46,slow=3.9,SNR=3.2
NOA NORSAR Array B 130.81 345 PKP PKPdf 18 19 28.6 +0.1
comp=Z,1.3nm,0.9s,baz=38,slow=2.1,SNR=3.0
NOA SKPbc SKPbc 18 22 54.0 +6.5
comp=Z,0.8nm,0.8s,baz=33,slow=2.9,SNR=2.8
NOA NORSAR Array B 130.81 345 PKP PKPdf 18 19 28.6 +0.1
NOA SKPbc SKPbc 18 22 54.0 +6.5
BRTR Keskin Array B 132.39 310 PKP PKPdf 18 19 30.7 -0.7
comp=Z,0.6nm,0.8s,baz=100,slow=3.2,SNR=3.4
KONO Kongsberg 132.43 345 *i* PKIKP PKPdf 18 19 32.7 +1.2
BRG Berggiesshubel 138.11 334 *e*PKIKP PKPdf 18 19 43.1 +1.0
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 138.11 334 *e*P PKPdf 18 19 43.1 +1.0
CONA Conrad Observa 139.38 330⇓*i*PKiKP PKiKP 18 19 47.8 +1.1
comp=Z,6.1nm,1.2s
GERES GERESS Array B 139.73 332 PKP PKPdf 18 19 44.6 -0.5
comp=Z,0.6nm,0.6s,baz=48,slow=2.0,SNR=6.0
GRA1 Grafenberg Arr 140.14 335 *e*PKP PKPdf 18 19 48.5 +2.7
GRF Grafenberg Arr 140.14 335 *e*PKP PKPdf 18 19 48.5 +2.7
MOA Molln 140.20 331⇓*i*P PKPdf 18 19 47.3 +1.4
comp=Z,4.7nm,1.2s
WTTA Wattenberg 141.83 332⇓*i*P PKPdf 18 19 49.3 +0.5
comp=Z,7.9nm,1.0s
DAVA Damuels 142.58 334⇓*e*P PKPdf 18 19 47.4 -2.8
comp=Z,11nm,1.4s
CDF Champ du Feu 142.71 337 *e*PKP1 PKPdf 18 19 49.1 -1.3
BRMO Bormio 142.99 333 PKP PKPdf 18 19 48.6 -2.3
HINF Hinteralfeld 143.36 337 *e*PKP1 PKPdf 18 19 51.0 -0.6
HAU Haudompre 143.39 338⇑*i*PKP1 PKPdf 18 19 51.2 -0.4
HAU *e*R
comp=Z,90nm,22.2s
HAU Haudompre 143.39 338⇑*i*PKP PKPdf 18 19 51.2 -0.4
HAU LR LR
comp=Z,90nm,22.3s,MS4.5
FSSB Fossombrone 143.88 327 PKP PKPdf 18 19 51.1 -1.4
ARV Arcevia 143.93 327 PKIKP PKPdf 18 19 51.4 -1.2
ORI Oriolo Calabro 144.09 320 PKIKP PKPdf 18 19 52.2 -0.6
SNTG Esanatoglia 144.09 327 PKP PKPdf 18 19 51.6 -1.2
VAI Varese 144.17 334 PKIKP PKPdf 18 19 51.1 -1.9
SFI Santa Sofia 144.20 328 PKIKP PKPdf 18 19 52.6 -0.4
BADI Badiali 144.28 328 PKP PKPdf 18 19 52.3 -0.9
NRCA Norcia 144.29 326 PKP PKPdf 18 19 52.2 -1.0
MURB Monte Urbino 144.31 327 PKP PKPdf 18 19 52.4 -0.8
ZCCA Zocca 144.31 330 PKP PKPdf 18 19 53.7 +0.5
VMG Vicchio 144.31 329 PKP PKPdf 18 19 53.9 +0.7
CRE Caprese Michel 144.35 328 PKIKP PKPdf 18 19 52.0 -1.3
FNVD Fontana Vidola 144.37 329 PKP PKPdf 18 19 52.9 -0.4
TIP Timpagrande 144.40 318 *e*PKP PKPdf 18 19 52.8 -0.6
INTR Introdacqua 144.40 324 PKP PKPdf 18 19 51.9 -1.5
MCGN Macugnaga 144.43 334 PKP PKPdf 18 19 53.1 -0.3
AQU L'Aquila 144.46 325 *e*PKIKP PKPdf 18 19 52.3 -1.2
RNI2 Rionero Sannit 144.46 324 PKP PKPdf 18 19 52.9 -0.6
CSSN Cassano Irpino 144.49 322 PKP PKPdf 18 19 52.2 -1.3
GSCL Gusciola 144.50 330 PKP PKPdf 18 19 53.4 -0.2
SGO Sicignano 144.50 321 PKIKP PKPdf 18 19 52.2 -1.4
CUC Castrocucco 144.53 320 PKP PKPdf 18 19 51.3 -2.3
ERBM Eremo 144.53 330 PKP PKPdf 18 19 53.7 +0.1
CABF La Chapelle 144.65 337 *e*PKP1 PKPdf 18 19 53.4 -0.4
comp=Z,138nm,1.5s

SDI	San Donato	144.65	324	PKIKP	PKPdf	18 19 52.9	-0.9
VVLD	Villa Vallelon	144.65	324	PKP	PKPdf	18 19 52.6	-1.2
OG01	Vacheresse	144.66	336	PKP	PKPdf	18 19 53.5	-0.3
FIAM	Fiamignano	144.67	325	PKP	PKPdf	18 19 53.1	-0.8
BDI	Bagni Di Lucca	144.71	330	PKIKP	PKPdf	18 19 52.9	-1.0
BOB	Bobbio (Coli)	144.72	332	PKIKP	PKPdf	18 19 52.3	-1.6
VLC	Villacollemand	144.74	330	PKP	PKPdf	18 19 52.6	-1.4
FLN	La Foliniere	144.79	345 ⇑	*i*PKP1	PKPdf	18 19 52.7	-1.4
	comp=Z,31nm,0.9s						
RFI	Roccamonfina	144.82	323	PKP	PKPdf	18 19 54.1	0.0
MNS	Montasola	144.83	326	PKIKP	PKPdf	18 19 52.7	-1.4
LDF	La Druitiere	144.86	345	*e*PKP1	PKPdf	18 19 53.1	-1.1
	comp=Z,36nm,1.1s						
LOR	Lormes	144.89	340 ⇑	*i*PKP1	PKPdf	18 19 53.8	-0.4
	comp=Z,82nm,1.3s						
LOR				*e*R			
	comp=Z,117nm,22.5s						
LOR	Lormes	144.89	340 ⇑	*i*PKP	PKPdf	18 19 53.8	-0.4
LOR				LR	LR		
	comp=Z,120nm,22.5s,MS4.6						
PII	Pisa	144.99	329	PKIKP	PKPdf	18 19 53.1	-1.3
MTCE	Montecelio	145.04	325	PKP	PKPdf	18 19 53.7	-0.8
SSF	Saint Saulge	145.19	340 ⇑	*i*PKP1	PKPbc	18 19 54.8	+0.3
	comp=Z,125nm,1.0s						
GRFL	Gerfalco	145.19	328	PKP	PKPdf	18 19 54.5	-0.2
RSL	Roselend	145.21	335	PKP	PKPdf	18 19 54.8	0.0
GRR	Gorron	145.24	346	*e*PKP1	PKPbc	18 19 54.5	-0.1
	comp=Z,57nm,0.8s						
HYF	Humbligny	145.28	341	*e*PKP1	PKPbc	18 19 55.3	+0.5
LPL	La Plagne	145.30	335 ⇑	*i*PKP1	PKPbc	18 19 55.7	+0.9
LPG	La Plagne	145.31	335 ⇑	*i*PKP1	PKPbc	18 19 55.8	+0.9
	comp=Z,115nm,1.1s						
OG05	Jujurieux	145.37	337	PKP	PKPdf	18 19 55.8	+0.7
RSP	Reno Superiore	145.38	334	PKIKP	PKPdf	18 19 54.4	-0.7
TOLF	Tolfa	145.42	326	PKP	PKPdf	18 19 54.3	-0.8
SMF	Signal de Mont	145.44	339 ⇑	*i*PKP1	PKPbc	18 19 55.4	+0.2
	comp=Z,126nm,1.1s						
AVF	Avril sur Loir	145.47	340 ⇑	*i*PKP1	PKPbc	18 19 55.5	+0.1
	comp=Z,74nm,1.1s						
SOI	Samo	145.47	317	PKIKP	PKPdf	18 19 56.1	+0.9
BNI	Bardonecchia	145.70	335	*e*PKIKP	PKPdf	18 19 56.1	+0.5
FIN	Finale Ligure	145.71	332	PKIKP	PKPdf	18 19 55.6	0.0
SGMF	Saint Gilles	145.75	347 ⇑	*i*PKP1	PKPbc	18 19 56.0	-0.2
	comp=Z,143nm,1.1s						
MTTG	Motta San Giov	145.75	317	PKP	PKPdf	18 19 56.4	+0.7
ROSF	Rostrenen	145.81	348	*e*PKP1	PKPbc	18 19 56.3	-0.1
	comp=Z,128nm,1.2s						
BGF	Bois d'Agland	145.84	340 ⇑	*i*PKP1	PKPbc	18 19 56.7	+0.2
	comp=Z,117nm,1.2s						
GRN	Grenoble	145.92	336	PKP	PKPdf	18 19 57.7	+1.7
MBDF	Montbardon	145.93	334 ⇑	*i*PKP1	PKPbc	18 19 57.0	+0.2
	comp=Z,70nm,1.2s						
PLDF	La Plantade	146.10	339	PKP	PKPdf	18 19 57.9	+1.6
SURF	Saint Ours	146.11	334	PKP	PKPdf	18 19 58.3	+2.0
ORIF	Oris-en-Rattie	146.14	335 ⇑	*i*PKP1	PKPbc	18 19 58.0	+0.6
	comp=Z,47nm,0.8s						
ORIF				*e*R			
	comp=Z,68nm,20.8s						
SAOF	Saorge	146.18	333	PKP	PKPdf	18 19 57.5	+1.1
QUIF	Quistinic	146.19	348	*e*PKP1	PKPbc	18 19 57.2	-0.4
	comp=Z,50nm,1.3s						
AUTN	L'Aution	146.23	333	PKP	PKPdf	18 19 57.9	+1.4
TCF	Toulx Ste Croi	146.29	341 ⇑	*i*PKP1	PKPbc	18 19 58.1	+0.2
	comp=Z,77nm,1.2s						
TOUF	Mont Tournerai	146.29	333	PKP	PKPdf	18 19 58.2	+1.6
SBF	Sospel	146.33	333 ⇑	*i*PKP1	PKPbc	18 19 57.8	-0.2
	comp=Z,122nm,1.0s						
LUCF	Luceram	146.35	333	PKP	PKPdf	18 19 58.0	+1.3
MVIF	Mont Vial	146.43	333	PKP	PKPdf	18 19 58.4	+1.5
REVF	Revere	146.46	333	PKP	PKPdf	18 19 58.2	+1.3
COLF	Collangettes	146.46	338	PKP	PKPdf	18 19 58.9	+2.0
PYM	Petit Puy Mans	146.50	339	PKP	PKPbc	18 20 02.1	+3.6
OG25	Le Caire	146.51	335	PKP	PKPdf	18 19 56.5	-0.5
PGF	Pioggiola	146.61	330 ⇑	*i*PKP1	PKPbc	18 19 59.0	+0.2
	comp=Z,175nm,1.3s						
VIVF	Saint-Julien-l	146.66	337 ⇑	*i*PKP1	PKPbc	18 19 59.5	+0.6
	comp=Z,60nm,1.2s						
MFF	Saint Martin d	146.71	344 ⇑	*i*PKP1	PKPbc	18 19 59.2	+0.1
	comp=Z,113nm,1.0s						
LCHF	La Chataignera	146.80	344	PKP	PKPdf	18 19 59.7	+2.2
LBL	Lubilhac	146.87	339	PKP	PKPdf	18 20 00.6	+3.0
STOF	St-Etienne Org	146.88	334	PKP	PKPdf	18 20 00.5	+2.9
FRF	La Foret Royal	146.92	333 ⇑	*i*PKP1	PKPbc	18 19 59.7	0.0
	comp=Z,94nm,1.1s						
SMRF	Simiane la Rot	147.04	335 ⇑	*i*PKP1	PKPbc	18 20 00.7	+0.7
	comp=Z,66nm,1.2s						
RAFF	Raffo Rosso	147.06	317	PKP	PKPdf	18 20 01.2	+3.3
VILF	Villemus	147.08	334	PKP	PKPdf	18 20 00.9	+2.9
TAVF	Tavernes	147.13	334	PKP	PKPdf	18 20 00.7	+2.7
LMR	La Mourre	147.16	333 ⇑	*i*PKP1	PKPbc	18 20 00.5	+0.1
	comp=Z,110nm,1.2s						
PRAF	Pradon	147.34	335	PKP	PKPdf	18 20 01.6	+3.2
RJF	Les Rejaudoux	147.39	341 ⇑	*i*PKP1	PKPbc	18 20 01.4	+0.4
RJF				*e*R			
	comp=Z,83nm,22.0s						
RJF	Les Rejaudoux	147.39	341 ⇑	*i*PKP	PKPdf	18 20 01.4	+2.9
RJF				LR	LR		
	comp=Z,80nm,22.0s,MS4.5						
BERF	Bertagne	147.53	334	PKP	PKPdf	18 20 02.0	+3.3
CAF	Calviac	147.54	340 ⇑	*i*PKP1	PKPbc	18 20 02.0	+0.6
	comp=Z,46nm,1.1s						
LASF	Ste Croix	147.63	337 ⇑	*i*PKP1	PKPbc	18 20 02.2	+0.5
	comp=Z,56nm,1.1s						
LFF	La Frestale	147.96	341 ⇑	*i*PKP1	PKPbc	18 20 02.9	+0.4
	comp=Z,78nm,1.0s						
VSL	Villasalto	148.63	325	*e*PKPbc	PKPbc	18 20 04.5	+0.2
MTLF	Montolieu	148.88	338 ⇑	*i*PKP1	PKPbc	18 20 05.4	+0.5
	comp=Z,73nm,1.2s						
LRDF	Laroque-de-Fa	149.10	337	PKP	PKPbc	18 20 07.1	+1.6
MLS	Moulis	149.61	339	PKP	PKPbc	18 20 06.9	+0.2
EPF	Esparros	149.80	340	*e*PKP1	PKPbc	18 20 07.7	+0.5
	comp=Z,30nm,1.1s						
VIEF	Viey	150.03	340	PKP	PKPbc	18 20 08.7	+0.9
ETSF	Etsaut	150.20	341 ⇑	*i*PKP1	PKPbc	18 20 09.0	+0.8
	comp=Z,51nm,1.0s						
LARF	Larrau	150.21	342	PKP	PKPbc	18 20 09.2	+1.0
SJPF	Ste Jean	150.21	342 ⇑	*i*PKP1	PKPbc	18 20 08.7	+0.5
	comp=Z,37nm,1.1s						
CMAH	Djebel Manchou	151.74	323	P	PKPbc	18 20 12.0	+0.2
CAEH	'Ain El Ouahch	151.96	324	P	PKPbc	18 20 13.0	+0.7
CKFL	Kef-Lekhel	152.30	324	P	PKPbc	18 20 14.0	+1.0
DFRA	Djebel Bou Aff	152.67	325	P	PKPbc	18 20 16.0	+2.1
SET	Setif	153.19	325	P	PKPab	18 20 25.0	-1.9
GUD	Guadarrama	153.31	345	PKIKP	PKPbc	18 20 12.1	-3.2
TORD	Torodi Ar. Bea	165.46	264	PKP	PKPdf	18 20 22.1	+0.5
	comp=Z,2.5nm,1.2s,baz=69,slow=1.2,SNR=5.2						
TORD				PKPab	PKPab	18 21 21.2	+1.1
	comp=Z,1.8nm,0.9s,baz=96,slow=3.7,SNR=5.0						

NEIC ***26*** *18:07:10.0, 2790S×7139W, h15km, ML3.8(GUC), After GUC.*

GUC 26 18:07:10.0±0.8, 2790S×7139W, h15km±12km, ML3.8, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.87**	**140**	⇓*i*P	Pb	18 07 24.6	-2.2
VACH				*i* S	Sb	18 07 34.7	-3.6
VACH				AML	AML	18 07 35.3	
	comp=E,4μm,0.1s						
VACH	**Vallenar**	**0.87**	**140**	⇓*i*P	Pb	18 07 24.6	-2.2
VACH				*i* S	Sb	18 07 34.7	-3.6
CDCH	**Caldera**	**0.97**	**31**	⇓*i*P	Pb	18 07 25.8	-2.6
CDCH				*i* S	Sb	18 07 37.7	-3.4
CPCH	**Copiapo**	**1.07**	**60**	*i* P	Pb	18 07 27.3	-2.9
CPCH				*i* S	Sb	18 07 40.8	-3.2
CPCH				AML	AML	18 07 42.5	
	comp=E,6μm,0.1s						
CPCH	**Copiapo**	**1.07**	**60**	*i* P	Pb	18 07 27.3	-2.9
CPCH				*i* S	Sb	18 07 40.8	-3.2
CRCH	**Chaqaral**	**1.70**	**24**	*i* P	Pn	18 07 36.8	-2.3
CRCH				*i* S	Sn	18 07 56.1	-4.4

MOS 26 18:20:29.5±0.7, 4264N×4351E, h11km, mb3.5/1, Error ellipse: s-maj=41.2km s-min=14.9km az=49.8, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.07**	**216**	P	Pg	18 20 29.7	-2.2
ONI				S	Sg	18 20 31.5	-2.1
DIGR	**Digorskoe uzhe**	**0.26**	**11**	*e*Pg	Pg	18 20 35.3	+0.4
DIGR				*e*Sg	Sg	18 20 39.4	+0.9
KORR	**Kora**	**0.61**	**42**	*i* Pg	Pg	18 20 41.4	+0.1
KORR				*i* Sg	Sg	18 20 50.2	+1.0
LACR	**Lac**	**0.61**	**72**	*e*Pg	Pg	18 20 41.4	+0.1
LACR				*e*Sg	Sg	18 20 50.1	+0.8
ARNR	**Ardon**	**0.79**	**46**	*e*Pg	Pg	18 20 44.8	+0.1
ARNR				*i* Sg	Sg	18 20 56.0	+1.0
VLKR	**Vladikavkaz**	**0.95**	**64**	*e*Pg	Pg	18 20 47.8	0.0
VLKR				*e*Sg	Sg	18 21 01.2	+1.0
SNJR	**Sundja**	**1.05**	**65**	*i* Pg	Pg	18 20 49.6	-0.1
SNJR				*i* Sg	Sg	18 21 04.4	+1.1

IDC ***26*** *18:25:10.6±1.9, 1483S×16742E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/12, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/17, Error ellipse: s-maj=46.3km s-min=34.9km az=97.0*

LDG ***26*** *18:25:13.2±0.3, 1411S×16763E, h10km, Mb4.2/1, Error ellipse: s-maj=65.5km s-min=10.4km az=91.0*

ISCJB ***26*** *18:25:27.7±2.2, 152S±01×1670E±02, h144km±24km, mb3.6/6, Error ellipse: s-maj=34.3km s-min=21.0km az=38.7*

ISC 26 18:25:26.3±2.6, 150S±02×1672E±02, h121km±26km, n35, σ0970/10, mb3.7/6, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.88**	**159**	⇑*i*P	**Pn**	**18 26 10.1**	**-0.9**
BKM				S	**Sn**	**18 26 46.5**	**+1.0**
DZM	**Mont Dzumac**	**7.10**	**185**	*e*P	**Pn**	**18 27 07.4**	**-0.2**
DZM				*e*S	**Sn**	**18 28 22.0**	**-4.8**
STKA	**Stephens Creek**	**28.77**	**230**	P	**P**	**18 31 12.3**	**-0.2**
	2.2nm,0.5s,mb4.1,baz=73,slow=8.9,SNR=12						
WRA	**Warramunga Arr**	**31.68**	**256**	P	**P**	**18 31 38.1**	**0.0**
	0.4nm,0.9s,mb3.2,baz=84,slow=8.3,SNR=5.6						
ASAR	**Alice Springs**	**32.50**	**249**	P	**P**	**18 31 46.0**	**+0.7**
	0.7nm,0.6s,mb3.7,baz=79,slow=9.0,SNR=14						
GUMO	**Guam**	**35.94**	**321**	LR	LR	18 45 47.6	
	comp=Z,38nm,19.5s,baz=84,slow=34						
VNDA	**Vanda**	**62.63**	**181**	P	**P**	**18 35 37.2**	**-0.5**
	0.9nm,0.8s,mb3.8,baz=8.3,slow=6.3,SNR=5.0						
SONM	**Songino Array**	**82.63**	**324**	P	**P**	**18 37 35.8**	**-0.2**
	0.1nm,0.3s,mb3.2,baz=134,slow=6.2,SNR=3.9						
MKAR	**Makanchi Array**	**97.31**	**316**	P	**P**	**18 38 46.2**	**+0.6**
	0.5nm,0.7s,mb4.1,baz=96,slow=6.3,SNR=7.0						
CABF	**La Chapelle**	**144.71**	**337**	*e*PKP1	PKPdf	18 44 48.0	-0.6
	19nm,1.1s						
FLN	**La Foliniere**	**144.80**	**346**	*e*PKP1	PKPdf	18 44 47.3	-1.5
LDF	**La Druitiere**	**144.87**	**345**	*e*PKP1	PKPdf	18 44 47.4	-1.5
LOR	**Lormes**	**144.93**	**340**	*e*PKP1	PKPdf	18 44 48.2	-0.8
	21nm,1.3s						
SSF	**Saint Saulge**	**145.22**	**340**	*e*PKP1	PKPbc	18 44 49.3	-0.1
GRR	**Gorron**	**145.24**	**346**	*e*PKP1	PKPbc	18 44 48.8	-0.7
	29nm,1.1s						
LPL	**La Plagne**	**145.37**	**336**	*e*PKP1	PKPbc	18 44 50.0	+0.1
LPG	**La Plagne**	**145.38**	**335**	*e*PKP1	PKPbc	18 44 50.4	+0.5
SMF	**Signal de Mont**	**145.48**	**340**	*e*PKP1	PKPbc	18 44 49.8	-0.4
AVF	**Avril sur Loir**	**145.51**	**340**	*e*PKP1	PKPbc	18 44 50.0	-0.3
SGMF	**Saint Gilles**	**145.74**	**348**	*e*PKP1	PKPbc	18 44 50.4	-0.6
	162nm,1.9s						
ROSF	**Rostrenen**	**145.80**	**349**	*e*PKP1	PKPbc	18 44 50.6	-0.6
MBDF	**Montbardon**	**146.00**	**335**	*e*PKP1	PKPbc	18 44 51.3	-0.5
ORIF	**Oris-en-Rattie**	**146.20**	**336**	*e*PKP1	PKPbc	18 44 53.0	+0.6
	9.0nm,0.7s						
TCF	**Toulx Ste Croi**	**146.32**	**341**	*e*PKP1	PKPbc	18 44 52.5	-0.3
SBF	**Sospel**	**146.41**	**333**	*e*PKP1	PKPbc	18 44 52.3	-0.7
	18nm,0.9s						
PGF	**Pioggiola**	**146.71**	**330**	*e*PKP1	PKPbc	18 44 53.5	-0.4
VIVF	**Saint-Julien-l**	**146.72**	**337**	*e*PKP1	PKPbc	18 44 54.3	+0.4
MFF	**Saint Martin d**	**146.72**	**344**	*e*PKP1	PKPbc	18 44 53.3	-0.6
	9.7nm,0.9s						
FRF	**La Foret Royal**	**147.00**	**334**	*e*PKP1	PKPbc	18 44 54.1	-0.6
SMRF	**Simiane la Rot**	**147.10**	**335**	*e*PKP1	PKPbc	18 44 55.3	+0.3
CAF	**Calviac**	**147.58**	**340**	*e*PKP1	PKPbc	18 44 56.1	-0.2
	8.2nm,1.1s						
LASF	**Ste Croix**	**147.69**	**337**	*e*PKP1	PKPbc	18 44 56.8	+0.2
MTLF	**Montolieu**	**148.92**	**338**	*e*PKP1	PKPbc	18 44 59.5	-0.3
	7.3nm,1.0s						
EPF	**Esparros**	**149.83**	**341**	*e*PKP1	PKPbc	18 45 02.1	+0.1
SJPF	**Ste Jean**	**150.23**	**343**	*e*PKP1	PKPbc	18 45 02.7	-0.3

MAN 26 18:55:04.1, 1863N×12036E, h8km, mb3.4, ML4.6, MS7.6, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**1.03**	**161**	*e*P	Pg	18 55 23.9	-0.1
APYP	**Conner**	**1.14**	**132**	*e*P	Pg	18 55 25.9	-0.1
SGCP	**Mt. Cagua**	**1.65**	**103**	*e*P	Pn	18 55 33.1	-0.2
CAUP	**Cauayan**	**2.18**	**140**	*e*P	Pn	18 55 43.4	+2.7
PALP	**Palanan**	**2.51**	**128**	*e*P	Pn	18 55 48.1	+2.9
BALP	**Baler**	**3.10**	**158**	*e*P	Pn	18 55 54.9	+1.5

NEIC ***26*** *19:01:16.4, 2837S×7040W, h53km, MG3.8(GUC), After GUC.*

GUC 26 19:01:16.4±0.5, 2837S×7040W, h53km±13km, ML3.8, 4C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.37**	**237**	⇑*i*P	Pn	19 01 26.8	+0.3
VACH				*i* S	Sn	19 01 34.4	+0.7
VACH				AML	AML	19 01 35.5	
	comp=E,16μm,0.1s						
VACH	**Vallenar**	**0.37**	**237**	⇑*i*P	Pn	19 01 26.8	+0.3
VACH				*i* S	Sn	19 01 34.4	+0.7
CPCH	**Copiapo**	**1.01**	**3**	⇑*i*P	Pn	19 01 36.7	+2.4
CPCH				*i* S	Sn	19 01 50.5	+3.0
CPCH				AML	AML	19 01 53.5	
	comp=E,25μm,0.1s						
CPCH	**Copiapo**	**1.01**	**3**	⇑*i*P	Pn	19 01 36.7	+2.4
CPCH				*i* S	Sn	19 01 50.5	+3.0
CDCH	**Caldera**	**1.35**	**344**	*e*P	Pn	19 01 39.2	+0.4
CDCH				*i* S	Sn	19 01 56.6	+0.9
CDCH				AML	AML	19 02 00.2	
	comp=N,1μm,0.3s						
CDCH	**Caldera**	**1.35**	**344**	*e*P	Pn	19 01 39.2	+0.4
CDCH				*i* S	Sn	19 01 56.6	+0.9
TLL	**Tololo Astrono**	**1.82**	**191**	*e*P	Pn	19 01 46.3	+1.0
TLL				*i* S	Sn	19 02 09.6	+2.3
TLL				AML	AML	19 02 14.7	
	comp=E,533nm,0.4s						
TLL	**Tololo Astrono**	**1.82**	**191**	*e*P	Pn	19 01 46.3	+1.0
TLL				*i* S	Sn	19 02 09.6	+2.3
CRCH	**Chaqaral**	**2.03**	**354**	*e*P	Pn	19 01 48.8	+0.7
CRCH				*i* S	Sn	19 02 13.0	+0.7
CRCH				AML	AML	19 02 21.5	
	comp=N,449nm,0.2s						
CRCH	**Chaqaral**	**2.03**	**354**	*e*P	Pn	19 01 48.8	+0.7
CRCH				*i* S	Sn	19 02 13.0	+0.7
CMCH	**Combarbala**	**2.84**	**190**	⇓*i*P	Pn	19 01 59.8	+0.5
CMCH				*i* S	Sn	19 02 33.0	+0.8
CMCH				AML	AML	19 02 47.4	
	comp=E,859nm,0.8s						
CMCH	**Combarbala**	**2.84**	**190**	⇓*i*P	Pn	19 01 59.8	+0.5
CMCH				*i* S	Sn	19 02 33.0	+0.8

NIED ***26*** *19:05:00, 2440N×12350E, h32km, Mw4.2 Best double couple: M0:60000×1015 NP1:φs:340.00000°, δ:58.00000°, λ:102.00000°. NP2:φs:138.00000°, δ:34.00000°, λ:71.00000°.*

BJI ***26*** *19:05:24.5, 2413N×12395E, h38km, mB4.4, mb4.3, ML4.2, Ms3.9, Msz3.7*

MOS ***26*** *19:05:27.5±1.0, 2440N×12344E, h42km, mb4.7/25, Error ellipse: s-maj=12.3km s-min=7.0km az=105.2*

ISCJB ***26*** *19:05:29.9±0.2, 2433N±002×12349E±003, h66km±2km, mb4.5/58, Error ellipse: s-maj=4.3km s-min=3.6km az=111.6*

IDC ***26*** *19:05:29.9±3.3, 2433N×12344E, h51km±30km, mb4.2/15, mb1 4.3/17, mb1mx4.2/24, mbtmp4.4/17, ML4.4/2, MS3.3/6, Ms1 3.3/6, ms1mx3.1/31, Error ellipse: s-maj=18.5km s-min=11.4km az=78.0*

JMA ***26*** *19:05:31.5±0.1, 2434N×12347E, h53km±1km, M4.6*

JMA Felt III J1.

NEIC ***26*** *19:05:31.2±0.6, 2434N×12346E, h62km±5km, mb4.6/26, MW4.2(NIED), Error ellipse: s-maj=6.3km s-min=5.2km az=74.0*

NEIC Recorded [3 JMA] on Iriomote-jima and [2 JMA] on Ishigaki-jima and Yonaguni-jima.

MAN ***26*** *19:06:29.7, 2004N×12223E, h55km, mb2.7, ML4.1, MS4.6*

ISC 26 19:05:31.3±0.2, 2436N±002×12348E±003, h60km±2km, n155, σ0997/167, mb4.6/58, MS3.1/3, 6C-7D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.23**	**96**	P	**Pn**	**19 05 40.3**	**-0.5**
IRIF				*e*S	**Sn**	**19 05 46.8**	**-0.9**
HATJ	**Hateruma jima**	**0.42**	**136**	P	**Pn**	**19 05 41.9**	**-0.5**
HATJ				*e*S	**Sn**	**19 05 49.9**	**-0.6**
YOJ	**Yonaguni jima**	**0.44**	**283**	P	**Pn**	**19 05 42.2**	**-0.4**
YOJ				*e*S	**Sn**	**19 05 49.7**	**-1.1**
JKRS	**Kuro-shima**	**0.49**	**104**	P	**Pn**	**19 05 43.1**	**-0.1**
JKRS				S	**Sn**	**19 05 51.9**	**+0.1**
JIJ	**Ishigaki jima**	**0.60**	**89**	P	**Pn**	**19 05 44.1**	**-0.2**
JIJ				S	**Sn**	**19 05 53.4**	**-0.4**
JTJ	**Tarama**	**1.15**	**76**	P	**Pn**	**19 05 51.7**	**+0.5**
JTJ				S	**Sn**	**19 06 07.0**	**+1.0**
JMJ	**Miyako jima 2**	**1.71**	**74**	P	**Pn**	**19 05 59.4**	**+0.6**
JMJ				*e*S	**Sn**	**19 06 20.5**	**+0.9**
NACB	**Ninganchiao**	**1.73**	**264**	*e*P	**Pn**	**19 05 58.1**	**-0.9**
JOGS	**Gusukube**	**1.80**	**77**	P	**Pn**	**19 06 00.8**	**+0.9**
JOGS				*e*S	**Sn**	**19 06 23.8**	**+2.1**
TATO	**Taipei**	**1.92**	**289**	*e*P	**Pn**	**19 06 01.9**	**+0.3**
YHNB	**Yeheng**	**1.94**	**280**	*e*P	**Pn**	**19 06 02.4**	**+0.4**
JKE	**Kume jima 2**	**3.57**	**56**	P	**Pn**	**19 06 24.4**	**+0.2**
JAGN	**Aguni-jima**	**4.06**	**56**	P	**Pn**	**19 06 31.1**	**+0.3**
NAH1	**Naha**	**4.23**	**63**	P	**Pn**	**19 06 33.7**	**+0.5**
JJT2	**Tamagusuku 2**	**4.25**	**64**	P	**Pn**	**19 06 33.6**	**+0.2**
QZH	**Quanzhou**	**4.49**	**278**	⇓*i*P	**Pn**	**19 06 36.0**	**-0.7**
QZH				Smax			
	comp=N,300nm,0.4s						
QZH				Smax			
	comp=E,260nm,0.6s						
JIH	**Iheya**	**4.84**	**56**	P	**Pn**	**19 06 41.1**	**-0.5**
JIH				*e*S	**Sn**	**19 07 37.3**	**+1.0**
JOW	**Kunigami**	**4.98**	**59**	P	**Pn**	**19 06 42.9**	**-0.6**
	comp=E,36nm,0.3s,baz=231,slow=9.3,SNR=100						
JOW				S	**Sn**	**19 07 41.5**	**+1.9**
	comp=E,6.1nm,0.3s,baz=109,slow=26,SNR=2.0						
JOW	**Kunigami**	**4.98**	**59**	P	**Pn**	**19 06 42.9**	**-0.5**
JOW				*e*S	**Sn**	**19 07 41.5**	**+1.9**
JTK	**Tokunoshima**	**5.98**	**54**	P	**Pn**	**19 06 56.0**	**-1.2**
SGCP	**Mt. Cagua**	**6.23**	**193**	*e*P	**Pn**	**19 06 59.5**	**-1.1**
SGCP	**Mt. Cagua**	**6.23**	**193**	*e*P	**Pn**	**19 07 04.7**	**+4.1**
SGCP				*e*S	**Sn**	**19 08 10.1**	**-0.3**
APYP	**Conner**	**6.79**	**198**	*e*P	**Pn**	**19 07 06.5**	**-1.8**
JAM	**Amami Oshima**	**6.81**	**52**	P	**Pn**	**19 07 07.5**	**-1.1**
SSE	**Sheshan**	**7.01**	**344**	P	**Pn**	**19 07 12.0**	**+0.7**
SSE				S	**Sn**	**19 08 29.0**	**-0.6**
SSE				LR	LR		
	comp=N,110nm,24.5s						
SSE				LR	LR		
	comp=E,140nm,24.5s						
SSE				LR	LR		
	comp=Z,140nm,25.3s						
JZK	**Kikaishima**	**7.03**	**55**	P	**Pn**	**19 07 10.3**	**-1.2**
ABRA	**Dolores**	**7.16**	**202**	*e*P	**Pn**	**19 07 12.8**	**-0.5**
JMZ	**Minamidaito 2**	**7.16**	**77**	P	**Pn**	**19 07 09.9**	**-3.5**
CAUP	**Cauayan**	**7.54**	**192**	*e*P	**Pn**	**19 07 19.1**	**+0.6**
BOLP	**Bolinao**	**8.61**	**204**	*e*P	**Pn**	**19 07 34.0**	**+0.8**
NJ2	**Nanjing**	**8.68**	**333**	*e*P	**Pn**	**19 07 36.3**	**+2.2**
NJ2				SCP	ScP	19 17 21.0	-3.5
NJ2				PCS	PcS	19 17 31.0	+0.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,130nm,5.0s						
NJ2				Smax			
	comp=N,110nm,0.9s						
NJ2				Smax			
	comp=E,70nm,0.8s						
NJ2				LR	LR		
	comp=N,280nm,22.2s						
NJ2				LR	LR		
	comp=E,320nm,28.7s						
NJ2				LR	LR		
	comp=Z,170nm,24.7s						
BALP	**Baler**	**8.76**	**192**	*e*P	**Pn**	**19 07 34.6**

PSI Prapat 31.96 232 P **P** **19 11 52.2 +0.8**
comp=Z,6.0nm,0.8s,mb4.5,baz=24,slow=11,SNR=3.9
PSI Prapat 31.96 232 P **P** **19 11 52.2 +0.8**
JIRN Jiri 33.60 284 *e*P **P** **19 12 07.2 +1.5**
comp=Z,14nm,0.5s,mb5.2
GUN Gumba 33.86 284 *e*P **P** **19 12 09.5 +1.5**
comp=Z,28nm,0.6s,mb5.3
PKI Pulchoki 34.29 284 *e*P **P** **19 12 12.7 +0.9**
KKN Kakani 34.39 284 *e*P **P** **19 12 13.5 +0.8**
comp=Z,20nm,0.8s,mb5.1
DMN Daman 34.56 284 *e*P **P** **19 12 15.1 +1.0**
comp=Z,16nm,0.8s,mb5.0
GKN Gorkha 34.95 285 *e*P **P** **19 12 18.1 +0.6**
comp=Z,24nm,0.9s,mb5.1
KOLN Koldanda 35.88 284 *e*P **P** **19 12 26.4 +1.0**
comp=Z,19nm,0.9s,mb5.0
YAK Yakutsk 37.89 5 *e*P **P** **19 12 41.4 -1.1**
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
MKAR Makanchi Array 39.69 315 P **P** **19 12 57.3 -0.2**
comp=Z,1.8nm,0.5s,mb4.1,baz=95,slow=9.2,SNR=17
MKAR PcP PcP 19 15 03.1 -0.1
comp=Z,1.3nm,0.6s,baz=87,slow=5.0,SNR=5.9
MA2 Magadan 40.04 21*c i*P **P** **19 12 59.1 -1.4**
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
ZAL Zalesovo 41.26 326 P **P** **19 13 09.5 -1.0**
comp=Z,2.6nm,0.4s,mb4.2,baz=359,slow=5.7,SNR=12
ZAL Zalesovo 41.26 326 P **P** **19 13 09.5 -1.0**
FITZ Fitzroy Crossi 42.26 177 *e*P **P** **19 13 17.1 -1.5**
comp=Z,8.3nm,0.8s,mb4.4
FITZ *e*PCP PcP 19 15 11.7 +0.1
FITZ Fitzroy Crossi 42.26 177 P **P** **19 13 17.2 -1.4**
comp=Z,4.8nm,0.8s,mb4.2,baz=358,slow=6.9,SNR=12
FITZ PcP PcP 19 15 11.7 +0.1
comp=Z,2.5nm,0.5s,baz=162,slow=3.2,SNR=5.0
KURK Kurchatov 43.32 319*d i*P **P** **19 13 26.5 -0.7**
KURK Kurchatov 43.32 319 *e*P **P** **19 13 25.7 -1.5**
comp=Z,5.5nm,0.8s,mb4.3
WRAB Tennant Creek 45.28 166*c i*P **P** **19 13 43.1 +0.2**
WRAB Tennant Creek 45.28 166 *e*P **P** **19 13 43.0 +0.1**
comp=Z,47nm,0.8s,mb5.4
WRA Warramunga Arr 45.28 166 P **P** **19 13 42.8 -0.2**
comp=Z,34nm,0.7s,mb5.3,baz=347,slow=8.8,SNR=218
WB2 Warramunga Arr 45.29 166 *e*P **P** **19 13 42.9 -0.1**
WB2 *e*S **S** **19 20 32.1 +13**
MBWA Marble Bar 45.39 185 *e*P **P** **19 13 42.7 -1.1**
comp=Z,17nm,0.8s,mb4.9
TIXI Tiksi 47.42 2 *e*P **P** **19 13 59.3 -0.4**
TIXI pmax pmax
comp=Z,7.0nm,2.0s,mb4.2
AS31 Alice Springs 48.80 167 *e*P **P** **19 14 10.9 +0.6**
ASAR Alice Springs 48.80 167 P **P** **19 14 10.9 +0.6**
comp=Z,8.5nm,0.6s,mb5.0,baz=352,slow=7.3,SNR=258
ASAR PcP PcP 19 15 34.5 +0.2
comp=Z,1.6nm,0.5s,baz=345,slow=3.5,SNR=5.3
ASPA Alice Springs 48.80 167 *e*P **P** **19 14 10.9 +0.6**
CHKZ Chkalovo 48.91 321 *e*P **P** **19 14 09.9 -1.3**
CHKZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
CHKZ Chkalovo 48.91 321 *e*P **P** **19 14 09.9 -1.3**
comp=Z,6.3nm,0.6s,mb4.8
BRVK Borovoye 48.95 320 *e*P **P** **19 14 10.3 -1.2**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BRVK Borovoye 48.95 320 *e*P **P** **19 14 10.3 -1.1**
comp=Z,2.5nm,0.6s,mb4.4
ZRNK Zerenda 49.67 320 *e*P **P** **19 14 16.2 -0.8**
ZRNK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ZRNK Zerenda 49.67 320 *e*P **P** **19 14 16.2 -0.8**
comp=Z,7.7nm,0.8s,mb4.8
BILL Bilibino 50.82 19 *e*P **P** **19 14 25.0 -0.7**
BILL pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
FORT Forrest 55.00 175 *e*P **P** **19 14 56.8 +0.3**
comp=Z,23nm,1.0s,mb5.2
KLBR Kellerberrin 55.90 186 *e*P **P** **19 15 02.7 -0.3**
comp=Z,16nm,1.0s,mb5.0
ARU Arti 56.23 323⇑ *i*P **P** **19 15 04.0 -1.3**
ARU *e* 19 17 11.7
ARU *e*PPP 19 18 27.6
ARU *e*S **S** **19 22 46.9 -3.7**
ARU *e*SS SS 19 26 33.2 -4.6
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ARU Arti 56.23 323 *e*P **P** **19 15 04.1 -1.2**
comp=Z,8.6nm,1.1s,mb4.7
STKA Stephens Creek 58.54 162 *e*P **P** **19 15 18.5 -3.0**
comp=Z,9.1nm,0.8s,mb4.9
STKA Stephens Creek 58.54 162 P **P** **19 15 19.7 -1.9**
comp=Z,11nm,0.7s,mb5.0,baz=342,slow=6.8,SNR=27
CNB Canberra Magne 64.21 157 *e*P **P** **19 16 00.8 +1.0**
comp=Z,8.7nm,0.8s,mb4.8
TTA Tatalina 64.31 30 P **P** **19 16 01.1 +0.6**
TOO Toolangi 64.99 161 *e*P **P** **19 16 05.6 +0.7**
comp=Z,6.4nm,0.7s,mb4.8
TOO Toolangi 64.99 161 *e*P **P** **19 16 05.6 +0.7**
TOO pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KDAK Kodiak Island 66.55 35 P **P** **19 16 15.2 +0.3**
comp=Z,11nm,0.7s,mb5.0,baz=298,slow=1.9,SNR=15
MIB Mutribah 66.88 293 *e*P **P** **19 16 17.5 +0.5**
MIB AMb AMB 19 16 18.1
comp=Z,24nm,0.6s,mb5.4
RDF Al-Radifah 66.94 292 *e*P **P** **19 16 17.8 +0.4**
RDF AMb AMB 19 16 18.6
comp=Z,52nm,0.6s,mb5.7
KIV Kislovodsk 67.11 309 *e*P **P** **19 16 17.6 -0.9**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
NAY Al-Naaiem 67.11 293 *e*P **P** **19 16 18.8 +0.2**
NAY AMb AMB 19 16 19.6
comp=Z,18nm,0.6s,mb5.3
RST Umm Al-Ruwaisa 67.25 293 *e*P **P** **19 16 18.6 -0.8**
RST AMb AMB 19 16 20.1
comp=Z,12nm,0.7s,mb5.0
OBN Obninsk 68.66 322 *e*P **P** **19 16 26.6 -1.6**
OBN pmax pmax
comp=Z,11nm,1.5s,mb4.6
JOF Joensuu 69.58 331 *e*p **P** **19 16 31.4 -2.6**
MALT Malatya 71.64 304 *e*P **P** **19 16 47.9 +1.5**
MALT pmax pmax
comp=Z,13nm,1.0s,mb4.8
MALT Malatya 71.64 304 *e*P **P** **19 16 47.9 +1.4**
comp=Z,13nm,1.0s,mb4.8
FINES FINESS Array B 72.35 330 P **P** **19 16 50.5 -0.2**
comp=Z,0.4nm,0.3s,mb3.8,baz=71,slow=5.1,SNR=8.6
FINES FINESS Array B 72.35 330⇑ *e*P **P** **19 16 50.5 -0.2**
AKASG Malin Array Be 74.13 319 *i*P **P** **19 16 59.9 -1.3**
comp=Z,1.1nm,0.4s,mb4.1,baz=61,slow=5.6,SNR=9.9
AKASG Malin Array Be 74.13 319 *i*P **P** **19 16 59.9 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
BR131 Keskin Array S 74.75 307 *e*P **P** **19 17 05.5 +0.7**
comp=Z,3.6nm,0.9s,mb4.3
BRTR Keskin Array B 74.75 307 P **P** **19 17 05.5 +0.6**
comp=Z,3.0nm,0.9s,mb4.2,baz=87,slow=5.1,SNR=19
BRTR Keskin Array B 74.75 307 *i*P **P** **19 17 05.5 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 78.97 319 *e* pP 19 17 39.7 -5.4
NB2 NORSAR Subarra 79.04 333 P **P** **19 17 28.0 -0.9**
comp=Z,1.8nm,0.5s,mb4.3,baz=54,slow=5.9
NB2 NORSAR Subarra 79.04 333 P **P** **19 17 28.0 -0.9**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
NOA NORSAR Array B 79.04 333 P **P** **19 17 27.8 -1.2**
comp=Z,1.5nm,0.5s,mb4.2,baz=58,slow=5.3,SNR=10
NOA NORSAR Array B 79.04 333 P **P** **19 17 27.8 -1.2**
OJC Ojcow 79.88 321 *e*P **P** **19 17 33.6 +0.1**
KECS Kecovo 80.23 319 *e*P **P** **19 17 35.1 -0.3**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
KECS Kecovo 80.23 319 *e*P **P** **19 17 35.1 -0.3**
comp=Z,1.6nm,1.0s,mb3.9
VYHS Vyhne 81.21 319 *e*P **P** **19 17 41.2 +0.6**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
VYHS Vyhne 81.21 319 *e*P **P** **19 17 41.2 +0.6**
comp=Z,2.5nm,1.1s,mb4.1
YKA Yellowknife Ar 81.99 23 P **P** **19 17 44.7 0.0**
comp=Z,3.0nm,0.6s,mb4.4,baz=306,slow=5.4,SNR=12
YKA Yellowknife Ar 81.99 23 *i*P **P** **19 17 44.7 0.0**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 81.99 23 P **P** **19 17 44.7 0.0**
CLL Collm 83.17 324 *i*P **P** **19 17 50.4 -0.5**
comp=Z,5.0nm,0.9s,mb4.5
CONA Conrad Observa 83.23 320⇓ *i*P **P** **19 17 52.0 +0.8**
comp=Z,5.3nm,1.3s,mb4.4
GERES GERESS Array B 84.03 321 P **P** **19 17 55.4 +0.1**
comp=Z,3.9nm,0.8s,mb4.6,baz=57,slow=4.9,SNR=26
MOA Molln 84.21 320⇓ *i*P **P** **19 17 56.5 +0.3**
comp=Z,3.7nm,0.8s,mb4.6
OBKA Obir 84.71 319⇓ *i*P **P** **19 17 59.0 +0.2**
comp=Z,2.5nm,0.6s,mb4.5
BOJS Bojanci 84.78 318 *i*P **P** **19 17 59.3 +0.2**
VISS Visnje 84.89 318 *e*P **P** **19 17 59.6 0.0**
KBA Koelnbreinsper 85.14 320⇓ *i*P **P** **19 17 56.5 -4.3**
comp=Z,0.8nm,0.4s,mb4.2
KBA Koelnbreinsper 85.14 320⇓ *i*P **P** **19 17 56.5 -4.3**
KBA pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
CDF Champ du Feu 87.85 323 *e*P **P** **19 18 13.9 -0.2**
CABF La Chapelle 89.55 322 *e*P **P** **19 18 22.4 +0.3**
LPG La Plagne 89.83 321 *e*P **P** **19 18 23.9 +0.5**
comp=Z,11nm,0.9s,mb4.9
LPG La Plagne 89.83 321 *e*P **P** **19 18 23.9 +0.5**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
LPG La Plagne 89.83 321 *e*P **P** **19 18 23.9 +0.5**
comp=Z,5.3nm,0.9s,mb4.9
LPL La Plagne 89.83 321 *e*P **P** **19 18 23.7 +0.3**
comp=Z,8.6nm,0.8s,mb4.8
LPL La Plagne 89.83 321 *e*P **P** **19 18 23.7 +0.3**
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
LPL La Plagne 89.83 321 *e*P **P** **19 18 23.7 +0.3**
comp=Z,4.3nm,0.8s,mb4.8
ORIF Oris-en-Rattie 90.67 321 *e*P **P** **19 18 27.3 0.0**
comp=Z,3.1nm,0.6s,mb4.5
ORIF Oris-en-Rattie 90.67 321 *e*P **P** **19 18 27.3 0.0**
ORIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 90.67 321 *e*P **P** **19 18 27.3 0.0**
comp=Z,1.5nm,0.6s,mb4.5
CAF Calviac 92.81 323 *e*P **P** **19 18 37.5 +0.2**
RJF Les Rejaudoux 92.88 323 *e*P **P** **19 18 38.1 +0.5**
SDV Santo Domingo 144.20 24 *e*PKPdf PKPdf 19 24 59.7 -0.6

IDC 26 19:15:55.9±5.3, 547S×15119E, h164km±41km, mb3.3/3, mb1 3.5/4, mb1mx3.2/13, mbtmp3.8/4, Error ellipse: s-maj=92.0km s-min=39.6km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.60**	**225**	P	Pn	19 17 17.2	-0.1
	0.8nm,0.3s,baz=30,slow=14,SNR=3.0						
PMG				S	Sn	19 18 29.5	+8.4
	1.4nm,0.3s,baz=66,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**21.81**	**227**	P	P	19 20 35.5	+0.5
	1.8nm,0.7s,baz=54,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**24.59**	**221**	P	P	19 21 01.1	+0.4
	0.9nm,0.5s,baz=59,slow=8.8,SNR=17						
FITZ	**Fitzroy Crossi**	**27.94**	**241**	P	P	19 21 31.0	+0.3
	1.7nm,0.9s,baz=45,slow=11,SNR=6.1						
TORD	**Torodi Ar. Bea**	**148.97**	**286**	PKPbc	PKPbc	19 35 24.7	+0.4
	0.6nm,0.9s,baz=59,slow=1.9,SNR=4.1						

IDC 26 19:17:11.2±17.0, 1954S×17413W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.0/15, mbtmp4.3/5, Error ellipse: s-maj=328.3km s-min=152.8km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.22**	**262**	P	P	19 24 25.6	+1.3
	5.1nm,0.8s,baz=96,slow=9.2,SNR=5.7						
STKA	**Stephens Creek**	**41.48**	**244**	P	P	19 24 59.5	-0.3
	3.8nm,1.1s,baz=85,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**48.28**	**255**	P	P	19 25 54.2	+0.2
	3.1nm,0.5s,baz=88,slow=8.0,SNR=89						
WRA	**Warramunga Arr**	**48.34**	**260**	P	P	19 25 54.6	+0.1
	1.7nm,0.5s,baz=97,slow=7.7,SNR=55						
FITZ	**Fitzroy Crossi**	**56.77**	**261**	P	P	19 26 57.3	+0.4
	2.8nm,1.0s,baz=101,slow=5.2,SNR=7.6						

IDC ***26*** *19:37:45.0±0.7, 271S×7961W, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.4/21, mbtmp4.4/13, ML4.3/2, MS4.2/20, Ms1 4.2/20, ms1mx4.1/29, Error ellipse: s-maj=32.4km s-min=14.4km az=60.0*

ISCJB ***26*** *19:37:47.4±1.1, 289S±003×79.76W±0.04, h22km±8km, mb4.7/53, MS4.2/23, Error ellipse: s-maj=7.2km s-min=4.4km az=16.1*

IGQ ***26*** *19:37:47.2, 293S×7939W, h21km±9km, Mb5.0, Ms4.9, Error ellipse: s-maj=10.1km s-min=1.7km az=14.1*

HRVD ***26*** *19:37:49.8±0.3, 294S×7961W, h22km±1km, MW4.9/71, Centroid moment Tensor Solution. LP body waves: s24,c31;Mantle waves: s71,c103; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.55±.13; $M_{\theta\theta}$2.87±.11; $M_{\phi\phi}$-2.32±.12; $M_{r\theta}$-0.10±.14; $M_{\theta\phi}$-0.57±.08; $M_{\phi r}$-0.52±.19; Best double couple: $M_0$2.72700×10^{16} NP1:ϕ_s320.00000°,δ79.00000°,λ-10.00000°. NP2: ϕ_s52.00000°,δ80.00000°,λ-169.00000°. Principal axes: T 2.9330, Plg1.0000°, Azm186.0000°; N -0.4130, Plg75.0000°, Azm94.0000°; P -2.5210, Plg15.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *19:37:49.8±1.9, 284S×7963W, h27km±13km, mb4.8/38, MD4.9(IGQ) Error ellipse: s-maj=9.3km s-min=5.7km az=52.0*

NEIC Felt at Zaruma and by people in upper floors of buildings at Guayaquil.

MOS ***26*** *19:37:49.6±0.8, 284S×7971W, h33km, mb5.0/24, Error ellipse: s-maj=12.6km s-min=8.5km az=105.4*

BJI ***26*** *19:37:49.8, 280S×7960W, h29km, mB5.3, Ms4.9, Msz4.6*

ISC 26 19:37:48.7±1.5, 288S±003×7967W±004, h18km±9km, n196, σ1°07/163, mb4.7/53, MS4.2/23, 8C-1D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.73**	**37**	⇑P	**Pn**	**19 38 15.8**	**-2.0**
IGUA				S	**Sn**	**19 38 40.0**	**+0.6**
ARRY	**Arrayan**	**1.83**	**42**	P	**Pn**	**19 38 16.6**	**-2.7**
PATA	**Patacocha**	**1.85**	**42**	P	**Pn**	**19 38 18.8**	**-0.7**
CUSU	**Cusua**	**1.86**	**40**	P	**Pn**	**19 38 19.5**	**-0.2**
RETU	**Refugio**	**1.88**	**41**	P	**Pn**	**19 38 20.4**	**+0.5**
JUIV	**Juive**	**1.89**	**40**	P	**Pn**	**19 38 18.9**	**-1.1**
ULBA	**Ulba**	**1.90**	**42**	P	**Pn**	**19 38 19.1**	**-1.2**
RUN5	**Runtun**	**1.92**	**41**	P	**Pn**	**19 38 19.7**	**-0.8**
QIL1	**Quilotoa**	**2.15**	**20**	P	**Pn**	**19 38 20.9**	**-2.9**
QIL1				S	**Sn**	**19 38 50.2**	**+0.2**
PISA	**Pisayambo**	**2.22**	**35**	P	**Pn**	**19 38 24.1**	**-0.6**
CAMI	**Rancho Maria**	**2.48**	**28**	P	**Pn**	**19 38 29.2**	**+0.9**
NAS1	**Nasa**	**2.53**	**28**	P	**Pn**	**19 38 29.9**	**+1.0**
TAMB	**Tambo**	**2.54**	**31**	P	**Pn**	**19 38 29.7**	**+0.7**
VC1	**Cotopaxi 1**	**2.56**	**30**	P	**Pn**	**19 38 29.7**	**+0.4**
HCA		**2.69**	**175**	P	**Pn**	**19 38 30.3**	**-0.8**
MAG1	**Magdalena**	**2.79**	**358**	P	**Pn**	**19 38 29.1**	**-3.4**
ANTI	**Antisana**	**2.85**	**32**	P	**Pn**	**19 38 33.9**	**+0.6**
TERV	**Terraza Guagua**	**2.90**	**22**	⇓P	**Pn**	**19 38 35.0**	**+1.1**
GGP	**Refugio Guagua**	**2.90**	**22**	P	**Pn**	**19 38 34.1**	**+0.1**
PINO	**Pino**	**2.91**	**21**	P	**Pn**	**19 38 34.5**	**+0.4**
YANA	**Yana**	**2.96**	**22**	⇑P	**Pn**	**19 38 35.6**	**+0.8**
PT18	**Porculla**	**2.96**	**176**	P	**Pn**	**19 38 33.7**	**-1.1**
PT18				S	**Sn**	**19 39 11.2**	**+1.2**
CAYR	**Refugio Cayamb**	**3.33**	**30**	P	**Pn**	**19 38 41.2**	**+1.3**
OTAV	**Otavalo**	**3.33**	**22**	⇑*e*Pn	**Pn**	**19 38 39.3**	**-0.6**
OTAV				*e*Sn	**Sn**	**19 39 18.3**	**-0.7**
ANGU	**Angureal**	**3.35**	**30**	P	**Pn**	**19 38 41.2**	**+1.0**
CAYA	**Cayambe**	**3.38**	**30**	P	**Pn**	**19 38 41.8**	**+1.2**
CHAR	**Charly**	**3.42**	**36**	P	**Pn**	**19 38 46.5**	**+5.3**
CHAR				S	**Sn**	**19 39 34.6**	**+13**
LAV3	**Lava3-Reventad**	**3.44**	**36**	P	**Pn**	**19 38 44.2**	**+2.9**
CONE	**Cono NE Rev Vo**	**3.45**	**36**	P	**Pn**	**19 38 45.9**	**+4.3**
COTA	**Cotacachi**	**3.46**	**23**	P	**Pn**	**19 38 42.9**	**+1.2**
CHP8	**Chiclayo**	**3.86**	**183**	P	**Pn**	**19 38 45.0**	**-2.2**
ATAH	**Atahualpa**	**4.28**	**163**	Pn	**Pn**	**19 38 57.2**	**+4.3**
	10nm,0.3s,baz=5.0,slow=7.6,SNR=26						
ATAH				Pg	**Pg**	**19 39 04.9**	**-5.9**
	41nm,0.3s,baz=7.0,slow=8.1,SNR=44						
ATAH				Lg		19 40 03.1	
	39nm,0.3s,baz=85,slow=19,SNR=7.7						
ATAH				LR	LR	19 40 52.8	
	comp=Z,8μm,21.3s,baz=350,slow=41						
HLS		**6.18**	**163**	P	**Pn**	**19 39 15.5**	**-3.6**
ROSC	**El Rosal**	**9.36**	**35**	Pn	**Pn**	**19 40 07.3**	**+4.7**
	0.6nm,0.3s,baz=96,slow=20,SNR=4.6						
ROSC				Lg		19 42 37.2	
	0.6nm,0.3s,baz=250,slow=24,SNR=2.2						
ROSC				LR	LR	19 43 51.0	
	comp=Z,3μm,21.9s,baz=197,slow=40						
NNA	**Nana**	**9.47**	**163**	*e*Pn	**Pn**	**19 40 04.6**	**+0.4**
	64nm,0.9s						
NNA				*e*Sn	**Sn**	**19 41 40.4**	**-10**
PAYG	**Puerto Ayora**	**10.83**	**281**	P	**Pn**	**19 40 24.2**	**+1.3**
JTS	**JuntasAbangare**	**14.10**	**338**	Pn	**Pn**	**19 41 08.4**	**+0.9**
	0.3nm,0.3s,baz=344,slow=21,SNR=3.4						
SDV	**Santo Domingo**	**14.76**	**38**	Pn	**Pn**	**19 41 16.5**	**-0.1**
	1.0nm,0.3s,baz=243,slow=10,SNR=4.7						
SDV				Lg		19 45 44.9	
	0.3nm,0.3s,baz=150,slow=18,SNR=3.0						
SDV	**Santo Domingo**	**14.76**	**38**	*e*P	**Pn**	**19 41 15.0**	**-1.6**
	44nm,1.2s						
ARE	**Arequipa**	**15.71**	**150**	*e*P	**Pn**	**19 41 36.0**	**+6.9**
SAML	**Samuel**	**17.47**	**111**	*e*P	**Pn**	**19 41 45.3**	**-6.0**
	87nm,1.1s						
LPAZ	**La Paz**	**17.50**	**140**	P	**Pn**	**19 41 52.4**	**+0.6**
	0.6nm,0.3s,baz=327,slow=12,SNR=20						
LPAZ	**La Paz**	**17.50**	**140**	*e*P	**Pn**	**19 41 53.3**	**+1.5**
LPAZ				pmax	pmax		
	comp=Z,113nm,0.3s						
LPAZ	**La Paz**	**17.50**	**140**	*e*P	**Pn**	**19 41 53.3**	**+1.5**
	comp=Z,113nm,0.3s						
LVC	**Limon Verde**	**22.22**	**153**	P	**P**	**19 42 45.5**	**+1.3**
	comp=Z,8.5nm,0.9s,mb4.2,baz=302,slow=5.0,SNR=7.0						
LVC				LR	LR	19 52 15.4	
	comp=Z,785nm,18.1s,MS4.2,baz=327,slow=39						
LVC	**Limon Verde**	**22.22**	**153**	*e*P	**P**	**19 42 45.2**	**+1.0**
	comp=Z,33nm,1.3s,mb4.6						
SIV	**San Ignacio**	**22.47**	**127**	P	**P**	**19 42 45.9**	**-0.9**
	comp=Z,16nm,1.2s,mb4.3,baz=303,slow=12,SNR=12						
SJG	**San Juan**	**24.75**	**32**	LR	LR	19 53 54.2	
	comp=Z,855nm,19.8s,MS4.2,baz=91,slow=39						
SJG	**San Juan**	**24.75**	**32**	P	**P**	**19 43 08.4**	**-0.8**
SJG				pmax	pmax		
	comp=Z,35nm,1.1s						
SJG	**San Juan**	**24.75**	**32**	P	**P**	**19 43 08.4**	**-0.8**
	comp=Z,35nm,1.1s,mb4.8						
CMIG	**Matias Romero**	**24.89**	**323**	P	**P**	**19 43 11.7**	**+1.2**
	comp=Z,5.6nm,0.9s,mb4.1,baz=116,slow=4.9,SNR=5.7						
CMIG				LR	LR	19 51 27.2	
	comp=Z,376nm,19.9s,MS3.9,baz=338,slow=33						
BDFB	**Brasilia**	**33.65**	**114**	P	**P**	**19 44 28.5**	**+0.2**
	comp=Z,5.0nm,0.6s,mb4.6,baz=297,slow=8.0,SNR=7.4						
BDFB				LR	LR	19 59 39.3	
	comp=Z,859nm,19.9s,MS4.5,baz=146,slow=39						
JCT	**Junction City**	**38.34**	**331**	*e*P	**P**	**19 45 09.9**	**+1.4**
JCT				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
JCT	**Junction City**	**38.34**	**331**	*e*P	**P**	**19 45 09.9**	**+1.4**
	comp=Z,11nm,0.6s,mb4.8						
PLCA	**Paso Flores**	**38.57**	**169**	P	**P**	**19 45 11.6**	**+1.2**
	comp=Z,3.1nm,1.0s,mb4.0,baz=6.6,slow=9.8,SNR=4.8						
PLCA				LR	LR	19 59 56.8	
	comp=Z,159nm,18.1s,MS3.9,baz=13,slow=34						
BNM	**Barren Site**	**44.73**	**328**	*e*P	**P**	**19 46 02.7**	**+1.8**
LPM	**Los Pinos Moun**	**44.86**	**328**	*e*P	**P**	**19 46 01.7**	**-0.2**
ANMO	**Albuquerque**	**45.26**	**329***c*	*i*P	**P**	**19 46 05.0**	**-0.1**
ANMO	**Albuquerque**	**45.26**	**329**	*e*P	**P**	**19 46 04.9**	**-0.2**
	comp=Z,21nm,1.1s,mb4.9						
TUC	**Tucson**	**45.77**	**322**	*e*P	**P**	**19 46 10.5**	**+1.4**
WUAZ	**Wupatki**	**48.37**	**325**	*e*P	**P**	**19 46 28.2**	**-1.2**
	comp=Z,27nm,1.1s,mb5.2						
MSU	**Marysvale**	**50.97**	**327**	*e*P	**P**	**19 46 49.0**	**-0.2**
RSSD	**Black Hills**	**51.64**	**338**	*e*P	**P**	**19 46 54.8**	**+0.5**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
RSSD	**Black Hills**	**51.64**	**338**	*e*P	**P**	**19 46 54.8**	**+0.5**
	comp=Z,3.1nm,0.6s,mb4.4						
EYMN	**Ely**	**51.67**	**350**	*e*P	**P**	**19 46 51.5**	**-2.9**
	comp=Z,14nm,1.2s,mb4.8						
DAU	**Daniels Canyon**	**51.88**	**329**	*e*P	**P**	**19 46 58.1**	**+2.1**
TPNV	**Topopah Spring**	**52.22**	**323**	*e*P	**P**	**19 46 59.4**	**+0.8**
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
TPNV	**Topopah Spring**	**52.22**	**323**	*e*P	**P**	**19 46 59.4**	**+0.9**
	comp=Z,5.0nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**52.85**	**333**	P	**P**	**19 47 02.0**	**-1.3**
	comp=Z,6.0nm,0.9s,mb4.2,baz=134,slow=8.4,SNR=17						
PDAR				LR	LR	20 10 50.9	
	comp=Z,267nm,18.4s,MS4.3,baz=148,slow=38						
HWUT	**Hardware Ranch**	**52.92**	**330**	P	**P**	**19 47 03.3**	**-0.5**
	comp=Z,11nm,0.9s,mb4.8						
HVU	**Hansel Valley**	**53.66**	**330**	P	**P**	**19 47 08.5**	**-0.7**
HVU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
HVU	**Hansel Valley**	**53.66**	**330**	P	**P**	**19 47 08.5**	**-0.7**
	comp=Z,2.6nm,0.8s,mb4.2						
MNV	**Mina**	**54.33**	**323**	*e*P	**P**	**19 47 14.6**	**+0.5**
MNV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MNV	**Mina**	**54.33**	**323**	*e*P	**P**	**19 47 14.6**	**+0.5**
	comp=Z,5.9nm,0.9s,mb4.5						
IMW	**Indian Meadow**	**54.37**	**333**	*e*P	**P**	**19 47 15.2**	**+0.8**
	comp=Z,4.1nm,0.8s,mb4.4						
ULM	**Lac du Bonnet**	**54.73**	**347**	P	**P**	**19 47 15.2**	**-1.9**
	comp=Z,7.8nm,0.8s,mb4.8,baz=190,slow=5.2,SNR=6.6						
GCMT	**Greycliff**	**55.28**	**335**	*e*P	**P**	**19 47 20.3**	**-0.7**
HLID	**Hailey**	**55.79**	**330**	*e*P	**P**	**19 47 23.3**	**-1.3**
	comp=Z,4.4nm,1.0s,mb4.4						
BOZ	**Bozeman (W)**	**56.03**	**333**	*e*P	**P**	**19 47 24.2**	**-2.1**
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
BOZ	**Bozeman (W)**	**56.03**	**333**	*e*P	**P**	**19 47 24.2**	**-2.1**
	comp=Z,10nm,1.1s,mb4.8						
EGMT	**Eagleton**	**57.10**	**336**	*e*P	**P**	**19 47 33.7**	**-0.3**
	comp=Z,6.2nm,1.0s,mb4.6						
WVOR	**Wild Horse Val**	**57.23**	**326**	*e*P	**P**	**19 47 34.6**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
WVOR	**Wild Horse Val**	**57.23**	**326**	*e*P	**P**	**19 47 34.6**	**-0.3**
	comp=Z,16nm,1.0s,mb5.0						
HOPS	**Hopland**	**57.71**	**321**	*e*P	**P**	**19 47 39.6**	**+1.3**
	comp=Z,282nm,0.9s						
MSO	**Missoula**	**57.97**	**333**	*e*P	**P**	**19 47 40.9**	**+0.8**
	comp=Z,7.4nm,1.1s,mb4.

ESDC					LR	LR	20 22 09.0	
	comp=Z,92nm,20.3s,MS4.1,baz=235,slow=33							
VNA1	**Neumayer--Stat**	**81.19**	**161**	*e*P		**P**	**19 50 04.4**	**+1.1**
VNA1				*e*			19 50 06.6	
VNA1				*e*		pP	19 50 10.4	+1.2
VNA1				*e*			19 50 15.8	
VNA1				*e*			19 50 20.2	
TORD	**Torodi Ar. Bea**	**82.25**	**76**	P		**P**	**19 50 07.3**	**-1.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=276,slow=4.4,SNR=10							
TORD					LR	LR	20 28 59.8	
	comp=Z,122nm,18.1s,MS4.3,baz=275,slow=37							
COLA	**College**	**83.49**	**336**	⇑*i*P		**P**	**19 50 14.5**	**-0.9**
SJPF	**Ste Jean**	**83.54**	**46**	*e*P		**P**	**19 50 16.1**	**+0.5**
	comp=Z,27nm,1.1s,mb5.0							
SJPF	**Ste Jean**	**83.54**	**46**	*e*P		**P**	**19 50 16.1**	**+0.5**
SJPF					pmax	pmax		
	comp=Z,14nm,1.1s,mb5.0							
SJPF	**Ste Jean**	**83.54**	**46**	*e*P		**P**	**19 50 16.1**	**+0.5**
	comp=Z,14nm,1.1s,mb5.0							
ETSF	**Etsaut**	**83.99**	**47**	*e*P		**P**	**19 50 18.5**	**+0.6**
	comp=Z,10nm,1.1s,mb4.6							
ETSF	**Etsaut**	**83.99**	**47**	*e*P		**P**	**19 50 18.5**	**+0.6**
ETSF					pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6							
ETSF	**Etsaut**	**83.99**	**47**	*e*P		**P**	**19 50 18.5**	**+0.6**
	comp=Z,5.1nm,1.1s,mb4.6							
EPF	**Esparros**	**84.66**	**46**	*e*P		**P**	**19 50 21.7**	**+0.4**
	comp=Z,17nm,1.2s,mb4.8							
EPF	**Esparros**	**84.66**	**46**	*e*P		**P**	**19 50 21.7**	**+0.4**
EPF					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.8							
EPF	**Esparros**	**84.66**	**46**	*e*P		**P**	**19 50 21.7**	**+0.4**
	comp=Z,8.6nm,1.2s,mb4.8							
GRR	**Gorron**	**84.73**	**41**	*e*P		**P**	**19 50 21.2**	**-0.5**
MFF	**Saint Martin d**	**84.89**	**43**	*e*P		**P**	**19 50 22.4**	**-0.1**
	comp=Z,24nm,1.0s,mb5.0							
MFF	**Saint Martin d**	**84.89**	**43**	*e*P		**P**	**19 50 22.4**	**-0.1**
MFF					pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0							
MFF	**Saint Martin d**	**84.89**	**43**	*e*P		**P**	**19 50 22.4**	**-0.1**
	comp=Z,12nm,1.0s,mb5.0							
FLN	**La Foliniere**	**85.04**	**41**	*e*P		**P**	**19 50 23.9**	**+0.7**
	comp=Z,34nm,1.3s,mb5.0							
FLN	**La Foliniere**	**85.04**	**41**	*e*P		**P**	**19 50 23.9**	**+0.7**
FLN					pmax	pmax		
	comp=Z,17nm,1.3s,mb5.0							
FLN	**La Foliniere**	**85.04**	**41**	*e*P		**P**	**19 50 23.9**	**+0.7**
	comp=Z,17nm,1.3s,mb5.0							
LFF	**La Frestale**	**85.24**	**45**	*e*P		**P**	**19 50 24.1**	**-0.1**
LDF	**La Druitiere**	**85.24**	**41**	*e*P		**P**	**19 50 23.8**	**-0.5**
	comp=Z,26nm,1.2s,mb4.9							
LDF	**La Druitiere**	**85.24**	**41**	*e*P		**P**	**19 50 23.8**	**-0.5**
LDF					pmax	pmax		
	comp=Z,13nm,1.2s,mb4.9							
LDF	**La Druitiere**	**85.24**	**41**	*e*P		**P**	**19 50 23.8**	**-0.5**
	comp=Z,13nm,1.2s,mb4.9							
RJF	**Les Rejaudoux**	**85.84**	**44**	*e*P		**P**	**19 50 26.9**	**-0.3**
	comp=Z,27nm,1.5s,mb5.0							
RJF				*e*R				
	comp=Z,115nm,22.8s							
RJF	**Les Rejaudoux**	**85.84**	**44**	*e*P		**P**	**19 50 26.9**	**-0.3**
RJF					pmax	pmax		
	comp=Z,14nm,1.5s,mb5.0							
RJF					MLR	MLR		
	comp=Z,110nm,22.8s,MS4.2							
RJF	**Les Rejaudoux**	**85.84**	**44**	*e*P		**P**	**19 50 26.9**	**-0.3**
	comp=Z,14nm,1.5s,mb5.0							
RJF					LR	LR		
	comp=Z,110nm,22.8s,MS4.2							
MTLF	**Montolieu**	**86.06**	**46**	*e*P		**P**	**19 50 28.3**	**0.0**
DAG	**Danmarks Havn**	**86.40**	**12**⇑	*i*P		**P**	**19 50 29.2**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.6							
DAG	**Danmarks Havn**	**86.40**	**12**⇑	*e*P		**P**	**19 50 29.2**	**-0.8**
DAG					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6							
DAG	**Danmarks Havn**	**86.40**	**12**⇑	*e*P		**P**	**19 50 29.2**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.6							
QSPA	**South Pole Qui**	**87.19**	**180**	*e*P		**P**	**19 50 33.8**	**0.0**
	comp=Z,9.6nm,1.1s,mb4.9							
ORIF	**Oris-en-Rattie**	**88.86**	**45**	*e*P		**P**	**19 50 43.0**	**+1.2**
	comp=Z,5.5nm,0.8s,mb4.7							
ORIF				*e*R				
	comp=Z,174nm,21.5s							
ORIF	**Oris-en-Rattie**	**88.86**	**45**	*e*P		**P**	**19 50 43.0**	**+1.2**
ORIF					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7							
ORIF	**Oris-en-Rattie**	**88.86**	**45**	*e*P		**P**	**19 50 43.0**	**+1.2**
	comp=Z,2.8nm,0.8s,mb4.6							
FRF	**La Foret Royal**	**89.30**	**47**	*e*P		**P**	**19 50 43.4**	**-0.4**
	comp=Z,7.8nm,0.9s,mb4.7							
FRF	**La Foret Royal**	**89.30**	**47**	*e*P		**P**	**19 50 43.4**	**-0.4**
FRF					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8							
FRF	**La Foret Royal**	**89.30**	**47**	*e*P		**P**	**19 50 43.4**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.7							
MBDF	**Montbardon**	**89.48**	**45**	*e*P		**P**	**19 50 45.8**	**+1.1**
	comp=Z,9.9nm,1.0s,mb4.8							
MBDF	**Montbardon**	**89.48**	**45**	*e*P		**P**	**19 50 45.8**	**+1.1**
MBDF					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.8							
MBDF	**Montbardon**	**89.48**	**45**	*e*P		**P**	**19 50 45.8**	**+1.1**
	comp=Z,4.9nm,1.0s,mb4.8							
LPL	**La Plagne**	**89.51**	**45**	*e*P		**P**	**19 50 45.5**	**+0.6**
LPG	**La Plagne**	**89.52**	**45**	*e*P		**P**	**19 50 45.8**	**+0.9**
CDF	**Champ du Feu**	**90.11**	**42**	*e*P		**P**	**19 50 47.4**	**-0.2**
	comp=Z,7.3nm,0.9s,mb4.7							
CDF	**Champ du Feu**	**90.11**	**42**	*e*P		**P**	**19 50 47.4**	**-0.2**
CDF					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8							
CDF	**Champ du Feu**	**90.11**	**42**	*e*P		**P**	**19 50 47.4**	**-0.2**
	comp=Z,3.7nm,0.9s,mb4.7							
GRA1	**Grafenberg Arr**	**92.76**	**41**	*e*P		**P**	**19 51 01.1**	**+1.2**
	comp=Z,4.0nm,1.1s,mb4.8							
GRF	**Grafenberg Arr**	**92.76**	**41**	*e*P		**P**	**19 51 01.1**	**+1.2**
	comp=Z,4.0nm,1.1s,mb4.8							
GRF	**Grafenberg Arr**	**92.76**	**41**	*e*P		**P**	**19 51 01.1**	**+1.2**
GRF					pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.8							
NOA	**NORSAR Array B**	**92.93**	**29**	LR		LR	20 29 11.7	
	comp=Z,54nm,19.6s,MS4.0,baz=265,slow=33							
MOX	**Moxa**	**93.03**	**40**	*e*P		**P**	**19 51 00.3**	**-0.9**
	comp=Z,3.0nm,1.0s,mb4.7							
VNDA	**Vanda**	**93.14**	**191**	LR		LR	20 26 04.4	
	comp=Z,89nm,21.2s,MS4.2,baz=4.7,slow=31							
ROTZ	**Rotzenmuhle**	**93.40**	**40**	*e*P		**P**	**19 51 02.9**	**0.0**
	comp=Z,7.0nm,1.3s,mb4.9							
WERD	**Werda**	**93.47**	**40**	*e*P		**P**	**19 51 03.7**	**+0.5**
	comp=Z,3.0nm,1.1s,mb4.6							
TANN	**Tannenbergstha**	**93.57**	**40**	*e*P		**P**	**19 51 03.8**	**+0.2**
	comp=Z,15nm,1.8s,mb5.1							
WET	**Wettzell**	**93.83**	**41**	*e*P		**P**	**19 51 05.8**	**+0.9**
	comp=Z,2.0nm,0.5s,mb4.8							
WET	**Wettzell**	**93.83**	**41**	*e*P		**P**	**19 51 05.8**	**+0.9**
WET					pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.8							
CLL	**Collm**	**93.91**	**39**	*e*P		**P**	**19 51 05.3**	**+0.1**
	comp=Z,2.0nm,0.8s,mb4.6							
CLL	**Collm**	**93.91**	**39**	*i* P		**P**	**19 51 05.4**	**+0.2**
	comp=Z,9.0nm,1.3s,mb5.0							
FBE	**Freiberg**	**94.13**	**39**	*e*P		**P**	**19 51 07.2**	**+1.0**
	comp=Z,4.0nm,0.5s,mb5.1							
GERES	**GERESS Array B**	**94.38**	**41**	LR		LR	20 29 12.6	
	comp=Z,120nm,19.8s,MS4.4,baz=33,slow=33							
BRG	**Berggiesshubel**	**94.50**	**39**	*e*P		**P**	**19 51 08.4**	**+0.4**
	comp=Z,4.0nm,1.0s,mb4.8							
BRG	**Berggiesshubel**	**94.50**	**39**	*e*P		**P**	**19 51 08.9**	**+0.9**
BRG					pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.6							
BRG	**Berggiesshubel**	**94.50**	**39**	*e*P		**P**	**19 51 08.8**	**+0.9**
	comp=Z,3.3nm,1.3s,mb4.6							
ARCES	**ARCESS Array B**	**97.97**	**20**	LR		LR	20 35 24.7	
	comp=Z,66nm,19.5s,MS4.1,baz=172,slow=35							
FINES	**FINESS Array B**	**100.03**	**28**	LR		LR	20 33 15.2	
	comp=Z,49nm,21.4s,MS4.0,baz=61,slow=33							
MA2	**Magadan**	**111.52**	**335**	*i* PKIKP		PKiKP	19 56 21.1	-0.8
YAK	**Yakutsk**	**117.03**	**345**	*i* PKIKP		PKPdf	19 56 31.7	-0.8
ARU	**Arti**	**117.09**	**25**	*i* PKIKP		PKPdf	19 56 32.3	-0.3
ZRNK	**Zerenda**	**123.78**	**22**	*e*PKIKP		PKPdf	19 56 44.2	-1.2
CHKZ	**Chkalovo**	**123.80**	**21**	*i* PKIKP		PKPdf	19 56 45.4	-0.1
CHKZ	**Chkalovo**	**123.80**	**21**	*e*PKPdf		PKPdf	19 56 45.4	-0.1
ZAL	**Zalesovo**	**127.54**	**12**	PKP		PKPdf	19 56 51.2	-1.4
	comp=Z,3.3nm,0.8s,baz=193,slow=2.9,SNR=18							
KURK	**Kurchatov**	**128.94**	**18**	*e*PKIKP		PKPdf	19 56 54.5	-0.8
MKAR	**Makanchi Array**	**133.53**	**17**	PKP		PKPdf	19 57 01.8	-2.2
	comp=Z,0.5nm,0.7s,baz=341,slow=1.8,SNR=4.1							
CN2	**Changchun**	**133.57**	**335**	*e*PKP		PKPdf	19 57 03.0	-1.1
ULN	**Ulaanbaatar**	**134.82**	**354**	*i* PKIKP		PKPdf	19 57 06.4	0.0
SONM	**Songino Array**	**134.92**	**354**	PKP		PKPdf	19 57 06.0	-0.6
	comp=Z,1.3nm,0.9s,baz=18,slow=2.1,SNR=6.6							
WMQ	**Urumqi**	**137.72**	**14**	*e*PKP		PKPdf	19 57 11.3	-0.5
ASAR	**Alice Springs**	**137.99**	**229**	PKP		PKPdf	19 57 11.1	-1.2
	comp=Z,0.8nm,1.0s,baz=135,slow=2.1,SNR=5.1							
WRA	**Warramunga Arr**	**139.63**	**234**	PKP		PKPdf	19 57 15.5	+0.2
	comp=Z,0.9nm,0.8s,baz=119,slow=1.5,SNR=7.5							
HHC	**Hu-ho-hao-te**	**140.87**	**346**	*e*PKP		PKPdf	19 57 16.3	-1.2
HHC					XPKP		19 57 30.8	
HHC					PP	PP	20 00 19.0	+1.1
HHC					PKS		20 00 51.0	
HHC					SKS	SKSdf	20 04 20.8	-6.0
HHC					SKKS	SKKSac	20 07 05.5	-5.3
HHC					SS	SS	20 18 39.5	-4.3
HHC					PP	PP		
	comp=Z,80nm,5.2s							
HHC					LR	LR		
	comp=N,130nm,16.7s,MS4.8							
HHC					LR	LR		
	comp=E,70nm,17.8s,MS4.8							
HHC					LR	LR		
	comp=Z,100nm,17.8s,MS4.6							
NJ2	**Nanjing**	**146.16**	**331**	*e*PKP		PKPdf	19 57 26.5	-0.3
LZH	**Lanzhou**	**146.80**	**355**	*e*PKP		PKPdf	19 57 30.0	+2.1
LZH					PKP2	PKPab	19 57 35.0	+4.0
LZH					APKP		19 57 41.5	
LZH					XPKP		19 57 45.3	
LZH				*e*PP		PP	20 00 59.0	+5.4
LZH				*e*SKS		SKSdf	20 04 33.5	-2.3
LZH					SKKS	SKKSac	20 07 44.3	-0.5
LZH					PP	PP		
	comp=Z,70nm,9.8s							
LZH					LR	LR		
	comp=E,150nm,18.5s							
LZH					LR	LR		
	comp=Z,240nm,20.3s,MS5.0							
FITZ	**Fitzroy Crossi**	**147.49**	**229**	PKPbc		PKPbc	19 57 30.4	-1.3
	comp=Z,3.8nm,0.7s,baz=165,slow=8.6,SNR=5.1							
XAN	**Xi'an**	**147.98**	**346**	PKP		PKPdf	19 57 33.0	+3.1
KOLN	**Koldanda**	**150.54**	**31**	*e*P		PKPdf	19 57 35.2	+1.2
	comp=Z,41nm,1.2s							
GKN	**Gorkha**	**150.87**	**29**	*e*P		PKPdf	19 57 36.3	+1.8
	comp=Z,82nm,1.0s							
KKN	**Kakani**	**151.36**	**29**	*e*P		PKPdf	19 57 37.0	+1.8
	comp=Z,34nm,0.8s							
DMN	**Daman**	**151.43**	**29**	*e*P		PKPdf	19 57 36.8	+1.5
	comp=Z,21nm,0.9s							
GUN	**Gumba**	**151.54**	**28**	*e*P		PKPdf	19 57 37.4	+1.9
PKI	**Pulchoki**	**151.61**	**29**	*e*P		PKPdf	19 57 36.8	+1.2
	comp=Z,21nm,0.9s							
JIRN	**Jiri**	**151.90**	**27**	*e*P		PKPdf	19 57 38.8	+2.7
CD2	**Chengdu**	**151.94**	**354**	*e*PKP		PKPdf	19 57 33.3	-2.8
CD2					PKP2	PKPab	19 57 51.0	-0.8
CD2					PP	PP	20 01 23.5	+0.2
CD2					SKS	SKSdf	20 04 35.5	-7.1
CD2					SKKS	SKKSac	20 08 07.5	-5.7
CD2					SS	SS	20 20 44.5	-5.0
CD2					PP	PP		
	comp=Z,120nm,10.5s							
CD2					LR	LR		
	comp=E,50nm,18.0s							
CD2					LR	LR		
	comp=Z,70nm,16.8s,MS4.5							
KMI	**Kunming**	**157.77**	**354**	PKP		PKPdf	19 57 42.8	-1.3
KMI					LR	LR		
	comp=Z,70nm,24.1s,MS4.4							

CSEM ***26*** *19:38:19.3±1.0, 3873N×2897W, h3km±7km, ML1.7, Error ellipse: s-maj=9.9km s-min=5.6km az=54.0, After PDA*
PDA ***26*** *19:38:19.3±1.0, 3873N×2897W, h3km±7km, MD3.0, ML1.7, Error ellipse: s-maj=9.9km s-min=5.6km az=54.0*

SVSA 26 19:38:19.3±1.0, 3873N×2897W, h3km±7km, MD3.0, ML1.7, Error ellipse: s-maj=9.9km s-min=5.6km az=54.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.20**	**136**	*e*S	Sg	19 38 26.1	+0.3
PTCA							
	25nm,0.1s						
PCED	**Cedros**	**0.24**	**115**	*e*P	Pg	19 38 23.6	-0.3
PCED				*i* S	Sg	19 38 27.2	+0.3
PCED							
	39nm,0.2s						
PCED	**Cedros**	**0.24**	**115**	*e*P	Pg	19 38 23.6	-0.3
PCED				*i* S	Sg	19 38 27.2	+0.3
CALA	**Caldeira**	**0.26**	**125**	*e*P	Pg	19 38 24.0	-0.3
CALA				*e*S	Sg	19 38 27.8	+0.1
HOR	**Horta**	**0.34**	**127**	*e*S	Sg	19 38 29.6	-0.6
PCND	**Candelaria**	**0.48**	**123**	*e*rx		19 38 29.6	
PICO	**Pico**	**0.49**	**118**	*e*P	Pg	19 38 27.8	-0.8
PICO				*e*S	Sg	19 38 34.5	-0.5
PTEI	**Pico do Teixo**	**0.54**	**116**	*e*rx		19 38 27.4	
ROSA	**Rosais**	**0.57**	**91**	*e*P	Pg	19 38 29.5	-0.8
ROSA				*e*S	Sg	19 38 36.4	-1.3
PID	**Ribeirinha**	**0.73**	**113**	*e*rx		19 38 31.0	
SRBC	**Serra Branca**	**0.79**	**67**	*e*rx		19 38 32.9	

SKHL ***26*** *19:44:52.4±2.7, 4630N×15350E, h45km±14km, mb4.6/3*
MOS ***26*** *19:44:53.3±2.5, 4689N×15309E, h33km, mb4.5/1, Error ellipse: s-maj=18.9km s-min=12.2km az=45.9*
NEIC ***26*** *19:44:54.4±5.8, 4692N×15351E, h41km±42km, mb4.0/2, Error ellipse: s-maj=53.5km s-min=18.9km az=85.0*
ISCJB ***26*** *19:44:55.6±1.8, 463N±0.1×153.1E±02, h83km±16km, mb3.8/10, Error ellipse: s-maj=21.5km s-min=15.0km az=90.4*
IDC ***26*** *19:44:57.8±9.0, 4680N×15280E, h59km±68km, mb3.6/8, mb1 3.7/9, mb1mx3.6/20, mbtmp3.9/9, ML3.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=78.9km s-min=20.3km az=83.0*

ISC 26 19:44:56.1±1.4, 465N±01×1532E±01, h65km±12km, n48, σ1§43/59, mb3.8/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.91**	**253**	*e*P	**Pn**	**19 45 51.0**	**-2.6**
KUR				AMB	AMB	19 45 56.7	
	70nm,0.5s						
KUR				AMB	AMB	19 45 56.7	
	50nm,0.5s						
KUR				AMB	AMB	19 45 56.7	
	80nm,0.5s						
KUR				*e*S	**Sn**	**19 46 37.0**	**-1.3**
KUR				A		19 46 55.0	
	380nm,0.5s						
KUR				A		19 46 55.0	
	150nm,0.5s						
KUR	**Kuril'sk**	**3.91**	**253**	*e*PN	**Pn**	**19 45 51.0**	**-2.6**
KUR				pmax	pmax		
	comp=N,70nm,0.5s						
KUR				pmax	pmax		
	comp=E,50nm,0.5s						
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.64**	**24**	*e*P	**Pn**	**19 46 01.5**	**-2.1**
SKR				AMB	AMB	19 46 04.9	
	comp=Z,80nm,0.5s						
SKR				A		19 46 46.9	
	comp=Z,210nm,0.2s						
SKR				A		19 46 46.9	
	comp=Z,120nm,0.2s						
SKR				A		19 46 46.9	
	comp=Z,90nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.71**	**247**	*e*P	**Pn**	**19 46 20.5**	**+2.2**
YUK				*e*S	**Sn**	**19 47 24.5**	**+2.1**
YUK				A		19 47 36.5	
	comp=Z,250nm,0.5s						
NEM2	**Nemuro 2**	**6.12**	**242**	P	**Pn**	**19 46 23.1**	**-0.8**
NEM2				*e*S	**Sn**	**19 47 28.1**	**-4.5**
JRA	**Rausu**	**6.23**	**249**	P	**Pn**	**19 46 26.7**	**+1.4**
JNK	**Nakash**	**6.65**	**247**	P	**Pn**	**19 46 31.8**	**+0.7**
JNK				*e*S	**Sn**	**19 47 44.7**	**-0.8**
JAK	**Akkeshi**	**6.97**	**243**	P	**Pn**	**19 46 34.7**	**-0.8**
JAK				*e*S	**Sn**	**19 47 48.4**	**-4.8**
JTKR	**Abashiri--Toko**	**7.00**	**252**	P	**Pn**	**19 46 37.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.17**	**278**	*e*PN	**Pn**	**19 46 38.5**	**+0.2**
JMP	**Maruseppu**	**7.35**	**254**	P	**Pn**	**19 46 42.6**	**+1.9**
JAR	**Ashorobuto**	**7.39**	**248**	P	**Pn**	**19 46 42.1**	**+0.8**
JAR				*e*S	**Sn**	**19 48 03.7**	**0.0**
JOB	**Onbets**	**7.55**	**245**	P	**Pn**	**19 46 43.7**	**+0.2**
JOB				*e*S	**Sn**	**19 48 03.1**	**-4.5**
JKK2	**Kamakawa 2**	**7.81**	**254**	P	**Pn**	**19 46 48.8**	**+1.8**
ASAJ	**Asahikawa**	**7.82**	**256**	P	**Pn**	**19 46 47.2**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=77,slow=20,SNR=13						
ASAJ				LR	LR	19 49 33.3	
	comp=Z,73nm,18.9s,baz=352,slow=36						
ASAJ	**Asahikawa**	**7.82**	**256**	P	**Pn**	**19 46 49.4**	**+2.3**
JCH	**Churui**	**8.00**	**245**	P	**Pn**	**19 46 48.9**	**-0.7**
JCH				*e*S	**Sn**	**19 48 13.7**	**-4.8**
JEM	**Erimo**	**8.46**	**242**	P	**Pn**	**19 46 56.5**	**+0.6**
JBT2	**Biratori 2**	**8.55**	**248**	P	**Pn**	**19 46 57.4**	**+0.3**
JNBK	**Urakawa-nobuka**	**8.56**	**244**	P	**Pn**	**19 46 56.5**	**-0.7**
JNB	**Noboribetsu**	**9.55**	**250**	P	**Pn**	**19 47 10.6**	**-0.2**
JKB	**Kayabe**	**9.85**	**247**	P	**Pn**	**19 47 13.2**	**-1.7**
JKB				*e*S	**Sn**	**19 48 55.5**	**-8.3**
JSH	**Shimam**	**10.12**	**252**	P	**Pn**	**19 47 19.4**	**+0.8**
JYM2	**Yakumo 2**	**10.16**	**249**	P	**Pn**	**19 47 18.3**	**-0.8**
JANG	**Nango**	**10.44**	**238**	P	**Pn**	**19 47 19.9**	**-3.0**
JANG				*e*S	**Sn**	**19 49 07.9**	**-10**
JTM	**Tenmabayashi**	**10.45**	**241**	P	**Pn**	**19 47 20.9**	**-2.2**
JTM				*e*S	**Sn**	**19 49 08.8**	**-10**
JOSM	**Okushiri--Mats**	**10.76**	**251**	P	**Pn**	**19 47 26.4**	**-0.8**
EKMR	**Ekimchan**	**14.60**	**304**	*e*P	**Pn**	**19 48 20.2**	**+1.1**
EKMR				AMB	AMB	19 48 25.3	
	comp=Z,3.0nm,0.5s						
MJAR	**Matsushiro Arr**	**14.95**	**234**	P	**Pn**	**19 48 30.6**	**+7.0**
	comp=Z,0.3nm,0.3s,baz=30,slow=9.6,SNR=6.5						
MAJO	**Matsushiro**	**14.95**	**234**	P	**Pn**	**19 48 27.7**	**+4.1**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MAJO	**Matsushiro**	**14.95**	**234**	P	**Pn**	**19 48 27.7**	**+4.1**
	comp=Z,2.7nm,0.5s						
KROS	**Kirovskiy**	**18.40**	**305**	*e*P	**Pn**	**19 49 08.0**	**+1.5**
KROS				AMB	AMB	19 49 08.8	
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**31.46**	**290**	P	**P**	**19 51 14.7**	**+3.4**
	comp=Z,0.7nm,0.8s,mb3.5,baz=93,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**47.10**	**298**	P	**P**	**19 53 20.2**	**-1.3**
	comp=Z,0.5nm,0.6s,mb3.4,baz=67,slow=6.7,SNR=6.5						
MKAR				PcP	PcP	19 54 53.8	+1.4
	comp=Z,0.3nm,0.6s,baz=3.6,slow=1.4,SNR=5.5						
MKAR	**Makanchi Array**	**47.10**	**298**	P	**P**	**19 53 20.2**	**-1.3**
MKAR				PcP	PcP	19 54 53.8	+1.4
LSA	**Lhasa**	**50.33**	**273**	*e*P	**P**	**19 53 49.0**	**+2.8**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**50.33**	**273**	*e*P	**P**	**19 53 49.0**	**+2.8**
	comp=Z,2.2nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**51.06**	**310**	P	**P**	**19 53 50.3**	**-1.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=60,slow=9.2,SNR=5.3						
BVAR				PcP	PcP	19 55 07.8	+1.1
	comp=Z,0.5nm,0.5s,baz=46,slow=6.4,SNR=3.7						
KAF	**Kangasniemi**	**63.70**	**335**	*e*p	**P**	**19 55 18.3**	**-2.4**
FINES	**FINESS Array B**	**64.30**	**335**	P	**P**	**19 55 23.9**	**-0.7**
	comp=Z,1.6nm,0.4s,mb4.2,baz=38,slow=7.4,SNR=30						
WRA	**Warramunga Arr**	**68.27**	**199**	P	**P**	**19 55 52.6**	**+2.6**
	comp=Z,0.3nm,0.6s,mb3.3,baz=20,slow=6.7,SNR=5.3						
NB2	**NORSAR Subarra**	**68.49**	**341**	P	**P**	**19 55 50.9**	**-0.5**
	comp=Z,1.3nm,0.6s,mb3.9,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**19 55 51.0**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.0,baz=28,slow=6.4,SNR=8.0						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**19 55 51.0**	**-0.4**
AKASG	**Malin Array Be**	**71.79**	**326**	P	**P**	**19 56 10.6**	**-1.0**
	comp=Z,1.2nm,0.4s,mb4.1,baz=32,slow=5.4,SNR=6.1						
AKASG	**Malin Array Be**	**71.79**	**326**	P	**P**	**19 56 10.6**	**-1.0**
ASAR	**Alice Springs**	**71.97**	**199**	P	**P**	**19 56 16.8**	**+4.2**
	comp=Z,0.6nm,0.6s,mb3.6,baz=12,slow=5.3,SNR=11						
BRTR	**Keskin Array B**	**78.61**	**317**	P	**P**	**19 56 51.9**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.5,baz=64,slow=3.4,SNR=3.9						

MAN 26 19:45:40.2, 1713N×11944E, h3km, mb2.4, ML4.0, MS1.6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.87**	**148**	*e*P	Pg	19 45 57.2	+0.3
BOLP				*

LPAZ La Paz 146.11 94 PKPbc PKPbc 20 13 26.9 +1.9
0.7nm,0.5s,baz=53,slow=4.6,SNR=4.9

WEL 26 20:03:11.5±0.3,3672S×17762E,h208km±2km,ML3.5/6, Error ellipse: s-maj=8.5km s-min=4.6km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ				SN	Sn	20 04 14.4	+0.3
MWZ	**Matawai**	**1.62**	**183**	PN	Pn	20 03 47.1	+0.3
MWZ				SN	Sn	20 04 14.3	-0.2
BFZ	**Birch Farm**	**4.10**	**195**	*e*PN	Pn	20 04 15.5	+0.7
MRZ	**Mangatainoka R**	**4.25**	**201**	PN	Pn	20 04 16.7	+0.1
TIWZ	**Tintock**	**4.27**	**198**	PN	Pn	20 04 17.3	+0.4
KIW	**Kapiti Island**	**4.65**	**206**	PN	Pn	20 04 21.9	+0.3
TCW	**Tory Channel**	**5.19**	**209**	*e*PN	Pn	20 04 28.1	-0.3
NNZ	**Nelson**	**5.58**	**215**	SN	Sn	20 05 40.9	+2.7
QRZ	**Quartz Range**	**5.71**	**223**	*e*PN	Pn	20 04 34.8	-0.3
THZ	**Tophouse**	**6.23**	**215**	PN	Pn	20 04 42.9	+1.2
KHZ	**Kahutara**	**6.50**	**208**	*e*PN	Pn	20 04 45.4	0.0
MQZ	**McQueen's Vall**	**7.95**	**207**	*e*SN	Sn	20 06 31.2	-2.5

CASC 26 20:11:59.8±3.1,1446N×8920W,h65km±140km,MD3.5, ML3.5,4C-6D,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.71**	**218**	*e*P	x	20 12 38.1	
RTR				*e*S	x	20 12 49.9	
SNJE	**San Jose**	**0.71**	**214**	*e*P	x	20 12 37.7	
SNJE				*e*S	x	20 12 49.1	
LFU	**La Fuente**	**0.71**	**173↑**	*e*P	x	20 12 38.8	
LFU				*e*S	x	20 12 50.3	
BOQS	**Boqueron**	**0.73**	**186↑**	*e*P	x	20 12 37.2	
BOQS				*e*S	x	20 12 48.1	
LBRS	**Las Brisas**	**0.73**	**168↑**	*e*P	x	20 12 39.4	
LBRS				*e*S	x	20 12 52.6	
SBLS	**San Blas**	**0.74**	**214↓**	*e*P	x	20 12 37.2	
SBLS				*e*S	x	20 12 48.9	
LCBS	**La Ceiba**	**0.83**	**165↓**	*e*P	x	20 12 38.8	
LCBS				*e*S	x	20 12 50.9	
LFRS	**El Faro**	**0.84**	**171↓**	*e*P	x	20 12 37.6	
LFRS				*e*S	x	20 12 48.9	
SNVI	**San Vicente**	**0.91**	**157↓**	*e*P	x	20 12 39.9	
SNVI				*e*S	x	20 12 52.1	
IXG	**Ixpaco**	**1.25**	**257↓**	*e*P	Pn	20 12 21.4	+0.1
IXG				*e*S	Sn	20 12 39.1	+1.8
VSM	**San Miguel**	**1.36**	**139↓**	*e*P	x	20 12 46.9	
VSM				*e*S	x	20 13 04.7	
BLLM	**Bellamira**	**1.38**	**137↑**	*e*P	x	20 12 46.9	
BLLM				*e*S	x	20 13 05.5	
CNCH	**Conchagua**	**1.77**	**131**	*e*P	x	20 12 51.4	
CNCH				*e*S	x	20 13 14.1	

IDC 26 20:23:27.8±12.0,714S×11046E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.4/18,mbtmp3.5/4,ML3.3/1,Error ellipse: s-maj=205.1km s-min=170.5km az=140.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.37**	**128**	P	Pn	20 27 43.2	-0.7
0.1nm,0.3s,baz=317,slow=19,SNR=4.9							
WRA	**Warramunga Arr**	**26.42**	**121**	P	P	20 29 07.3	+1.2
0.3nm,0.6s,baz=297,slow=11,SNR=3.6							
ASAR	**Alice Springs**	**27.86**	**129**	P	P	20 29 20.7	+1.6
0.2nm,0.4s,baz=306,slow=8.8,SNR=4.2							
STKA	**Stephens Creek**	**38.04**	**134**	P	P	20 30 46.5	-1.4
1.5nm,0.8s,baz=309,slow=12,SNR=4.2							

IDC 26 20:56:53.1±8.2,286S×1189W,h0km,mb3.6/4,mb1 3.8/4, mb1mx3.5/23,mbtmp3.7/4,Error ellipse: s-maj=230.3km s-min=109.1km az=155.0,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**20.85**	**40**	P	P	21 01 37.1	+0.6
3.1nm,0.7s,baz=227,slow=9.8,SNR=17							
GERES	**GERESS Array B**	**56.09**	**20**	P	P	21 06 33.1	-1.0
0.5nm,0.8s,baz=180,slow=6.9,SNR=5.4							
BRTR	**Keskin Array B**	**59.47**	**40**	P	P	21 06 56.9	-1.0
0.2nm,0.3s,baz=289,slow=4.4,SNR=3.1							
AKASG	**Malin Array Be**	**63.88**	**28**	P	P	21 07 29.5	+1.9
0.1nm,0.3s,baz=230,slow=6.8,SNR=4.7							

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*ISCJB **26** 20:57:22.2±0.6,32S±0.1×122W±0.1,h10km,mb4.1/12, MS3.6/1,Error ellipse: s-maj=18.6km s-min=14.8km az=41.0*
*IDC **26** 20:57:22.6±1.1,327S×12.18W,h0km,mb4.1/10, mb1 4.2/10,mb1mx3.9/25,mbtmp4.1/10,MS3.7/2, Ms1 3.7/2,ms1mx3.3/14,Error ellipse: s-maj=32.2km s-min=20.1km az=92.0*
*HRVD **26** 20:57:24.0±0.5,3.10S×123W,h13km±2km,MW4.7/46, Centroid moment Tensor Solution. LP body waves: s12,c12;Mantle waves: s46,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.50±.19; $M_{\theta\theta}$0.25±.10; $M_{\phi\phi}$ 1.25±.13; $M_{r\theta}$-0.30±.34; $M_{\theta\phi}$-0.40±.08; $M_{\phi r}$0.45±.31; Best double couple: $M_0$1.54400×10^{16} NP1:ϕ_s345.00000°,δ35.00000°,λ-83.00000°. NP2: ϕ_s156.00000°,δ55.00000°,λ-95.00000°. Principal axes: T 1.4860, Plg10.0000°, Azm250.0000°; N 0.1190, Plg4.0000°, Azm159.0000°; P -1.6030, Plg79.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 20:57:24.0±0.5,325S×12.15W,h10km,mb4.3/3 Error ellipse: s-maj=15.3km s-min=11.7km az=112.0*
*SZGRF **26** 20:57:28.9,200S×14.10W,h24km,North of Ascension Island*

ISC 26 20:57:24.4±0.6,32S±01×121W±01,h10km,n18,σ0§80/17, mb4.1/12,MS3.6/1,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.21**	**36**	LR	LR	21 04 11.7	
comp=Z,612nm,20.5s,baz=176,slow=33							
TORD	**Torodi Ar. Bea**	**21.28**	**40**	P	**P**	**21 02 10.7**	**-0.2**
11nm,0.9s,mb4.2,baz=222,slow=9.1,SNR=12							
LBTB	**Lobatse**	**42.27**	**124**	P	**P**	**21 05 18.8**	**+0.9**
1.7nm,0.7s,mb3.8,baz=293,slow=13,SNR=3.8							
MATP	**Matopo**	**43.11**	**117**	P	**P**	**21 05 25.0**	**+0.2**
2.7nm,0.9s,mb4.0,baz=264,slow=10,SNR=4.1							
BOSA	**Boshof**	**43.61**	**129**	P	**P**	**21 05 28.2**	**-0.6**
5.5nm,1.1s,mb4.2,baz=325,slow=7.1,SNR=4.2							
CPUP	**Villa Florida**	**49.01**	**238**	P	**P**	**21 06 10.5**	**-0.8**
0.2nm,0.3s,mb3.6,baz=143,slow=5.1,SNR=3.0							
GRA1	**Grafenberg Arr**	**56.43**	**18**	*e*P	**P**	**21 07 06.5**	**+0.3**
GRA1				*ep*P	pP	21 07 13.1	+3.7
GRF	**Grafenberg Arr**	**56.43**	**18**	*e*P	**P**	**21 07 06.5**	**+0.3**
GRF				*ep*P	pP	21 07 13.1	+3.7
GERES	**GERESS Array B**	**56.51**	**20**	P	**P**	**21 07 07.5**	**+0.8**
2.0nm,0.8s,mb4.2,baz=199,slow=6.5,SNR=12							
LPAZ	**La Paz**	**56.52**	**253**	P	**P**	**21 07 07.8**	**+1.0**
4.9nm,1.6s,mb4.3							
BRTR	**Keskin Array B**	**59.89**	**40**	P	**P**	**21 07 31.9**	**+1.5**
1.3nm,0.9s,mb4.0,baz=202,slow=6.4,SNR=8.2							
BR131	**Keskin Array S**	**59.89**	**40**	P	**P**	**21 07 30.5**	**+0.1**
0.6nm,0.5s,mb3.9							
AKASG	**Malin Array Be**	**64.31**	**28**	P	**P**	**21 07 59.9**	**-0.1**
1.7nm,0.8s,mb4.1,baz=229,slow=7.7,SNR=10							
AKASG	**Malin Array Be**	**64.31**	**28**	P	**P**	**21 07 59.9**	**-0.1**
FINES	**FINESS Array B**	**70.85**	**18**	P	**P**	**21 08 41.0**	**-0.4**
1.7nm,0.8s,mb4.0,baz=250,slow=3.9,SNR=5.2							
FINES				LR	LR	21 40 49.3	
comp=Z,33nm,19.0s,MS3.6,baz=11,slow=37							
FINES	**FINESS Array B**	**70.85**	**18**	P	**P**	**21 08 41.0**	**-0.4**
FINES				LR	LR	21 40 49.4	
MAW	**Mawson**	**81.34**	**158**	P	**P**	**21 09 40.9**	**-0.2**
1.2nm,0.6s,mb4.0,baz=267,slow=9.7,SNR=7.7							
CHKZ	**Chkalovo**	**88.27**	**36**	*e*P	**P**	**21 10 14.0**	**-2.0**
3.1nm,1.4s,mb4.3							

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*ISCJB **26** 21:19:59.2±0.6,564S±0.1×272W±02,h100km,mb4.3/13, Error ellipse: s-maj=18.6km s-min=12.9km az=96.6*
*IDC **26** 21:20:02.4±7.6,5638S×27.16W,h114km±71km,mb3.9/9, mb1 4.0/9,mb1mx3.9/15,mbtmp4.2/9,Error ellipse: s-maj=22.7km s-min=14.7km az=49.0*
*NEIC **26** 21:20:03.9±5.2,5640S×27.16W,h131km±49km,mb4.5/3, Error ellipse: s-maj=16.7km s-min=10.4km az=50.0*

ISC 26 21:19:59.6±9.7,564S±01×271W±02,h90km±93km,n18, σ0§79/15,mb4.3/13,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**32.11**	**281**	P	**P**	**21 26 17.4**	**-0.8**
1.3nm,0.6s,mb3.8,baz=134,slow=9.2,SNR=5.6							
QSPA	**South Pole Qui**	**33.83**	**180**	*e*P	**P**	**21 26 33.7**	**+0.5**
4.3nm,0.4s,mb4.6							
CPUP	**Villa Florida**	**37.09**	**312**	P	**P**	**21 27 01.4**	**+0.3**
2.6nm,0.5s,mb4.4,baz=120,slow=6.2,SNR=10							
CFAA	**Coronel Fontan**	**37.74**	**294**	P	**P**	**21 27 05.3**	**-1.4**
0.5nm,0.3s,mb3.8,baz=134,slow=6.7,SNR=11							
CFAA	**Coronel Fontan**	**37.74**	**294**	P	**P**	**21 27 05.3**	**-1.4**
MAW	**Mawson**	**39.83**	**143**	P	**P**	**21 27 24.1**	**0.0**
2.3nm,0.3s,mb4.5,baz=222,slow=6.6,SNR=26							
BOSA	**Boshof**	**46.02**	**75**	P	**P**	**21 28 13.9**	**-0.2**
3.0nm,0.9s,mb4.0,baz=216,slow=8.0,SNR=3.6							
VNDA	**Vanda**	**46.21**	**183**	P	**P**	**21 28 16.1**	**+0.6**
1.2nm,0.6s,mb3.8,baz=193,slow=5.7,SNR=16							
LPAZ	**La Paz**	**50.62**	**305**	P	**P**	**21 28 51.1**	**+1.7**
22nm,0.6s,mb5.4,baz=131,slow=5.3,SNR=122							
SAML	**Samuel**	**55.09**	**315**	*e*P	**P**	**21 29 21.8**	**-0.5**
5.3nm,1.0s,mb4.5							
DBIC	**Dimbokro**	**65.49**	**24**	P	**P**	**21 30 33.2**	**0.0**
3.5nm,0.8s,mb4.3,baz=205,slow=15,SNR=5.9							
DBIC	**Dimbokro**	**65.49**	**24**	P	**P**	**21 30 33.2**	**0.0**
OTAV	**Otavalo**	**69.89**	**304**	*e*P	**P**	**21 31 01.9**	**+1.0**
6.6nm,0.9s,mb4.5							
TORD	**Torodi Ar. Bea**	**73.36**	**29**	P	**P**	**21 31 21.7**	**+0.1**
6.3nm,0.5s,mb4.7,baz=200,slow=6.5,SNR=142							
TORD				pP	pP	21 31 54.0	+9.1
2.1nm,0.5s,baz=198,slow=6.6,SNR=4.8							
ASAR	**Alice Springs**	**98.62**	**162**	P	**P**	**21 33 27.4**	**-1.1**
0.3nm,0.7s,mb3.9,baz=175,slow=4.6,SNR=5.3							
FINES	**FINESS Array B**	**124.69**	**28**	PKP	PKPdf	21 38 46.0	-2.7
0.7nm,0.6s,baz=189,slow=3.7,SNR=6.9							
FINES	**FINESS Array B**	**124.69**	**28**	PKP	PKPdf	21 38 46.0	-2.7
SONM	**Songino Array**	**150.71**	**87**	PKPbc	PKPbc	21 39 39.6	-1.7
2.4nm,0.5s,baz=222,slow=3.7,SNR=21							

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*ISCJB **26** 21:24:39.1±0.8,4796N±003×723E±006,h10km,Error ellipse: s-maj=6.4km s-min=3.4km az=64.5*
*LDG **26** 21:24:39.8±0.2,4799N×732E,h12km,Md1.9/3,Ml1.9/7, Error ellipse: s-maj=3.1km s-min=2.0km az=106.0*
*STR **26** 21:24:40.0±0.3,4802N×734E,h10km±1km,Ml1.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 26 21:24:39.7±0.9,4797N±003×729E±007,h10km,n12, σ0§68/24,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.26**	**341**	Pg	**Pg**	**21 24 45.3**	**+0.4**
ECH				Sg	**Sg**	**21 24 48.8**	**+0.3**
HINF	**Hinteralfeld**	**0.33**	**242**	*e*Pg	**Pg**	**21 24 47.2**	**+1.0**
HINF				*e*Sg	**Sg**	**21 24 51.8**	**+1.1**
4.0nm,0.2s							
CDF	**Champ du Feu**	**0.44**	**359**	*e*Pg	**Pg**	**21 24 48.4**	**+0.1**
CDF				*e*Sg	**Sg**	**21 24 53.8**	**-0.3**
4.1nm,0.2s							
WLS	**Welschbruch**	**0.44**	**6**	Pg	**Pg**	**21 24 48.5**	**+0.1**
WLS				Sg	**Sg**	**21 24 54.2**	**0.0**
HAU	**Haudompre**	**0.63**	**273**	*e*Pg	**Pg**	**21 24 52.8**	**+0.9**
HAU				*e*Sg	**Sg**	**21 25 01.5**	**+1.3**
HAU				*e*Sn	**Sg**	**21 25 03.4**	**+3.2**
5.1nm,0.4s							
THEF	**They Montfort**	**0.91**	**287**	Pg	**Pg**	**21 24 57.8**	**+0.6**
RFYF	**Reffroy**	**1.38**	**299**	*e*Pg	**Pg**	**21 25 05.5**	**-0.6**
baz=114							
RFYF				*e*Sg	**Sg**	**21 25 24.0**	**0.0**
3.4nm,0.2s,baz=112							
SFTF	**Sexfontaines**	**1.52**	**280**	*e*Pg	**Pg**	**21 25 08.2**	**-0.7**
SFTF				*e*Sg	**Sg**	**21 25 28.8**	**+0.1**
2.0nm,0.3s							
MEZF	**Maizieres J'vi**	**1.58**	**290**	*e*Pg	**Pg**	**21 25 09.5**	**-0.6**
baz=115							
MEZF				*e*Sg	**Sg**	**21 25 30.5**	**-0.1**
2.1nm,0.3s							
CABF	**La Chapelle**	**1.59**	**211**	*e*Pg	**Pg**	**21 25 10.2**	**+0.1**
CABF				*e*Sg	**Sg**	**21 25 30.8**	**+0.1**
0.7nm,0.2s							
LOR	**Lormes**	**2.42**	**254**	*e*Pg	**Pg**	**21 25 25.3**	**-0.8**
baz=74							
LOR				*e*Sg	**Sg**	**21 25 56.6**	**-0.9**
1.0nm,0.3s,baz=74							
SSF	**Saint Saulge**	**2.72**	**252**	*e*Pg	**Pg**	**21 25 30.7**	**-1.1**
SSF				*e*Sg	**Sg**	**21 26 06.4**	**-0.6**
0.8nm,0.3s							

CASC 26 21:31:36.3±2.9,1350N×9045W,h29km±7km,MD3.9, 2C-7D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.67**	**360↓**	*e*P	Pb	21 31 49.4	-0.1
IXG				*e*S	Sb	21 31 59.6	+1.1
TER	**Terranova**	**0.83**	**344**	*e*P	Pn	21 31 52.0	-0.1
SBLS	**San Blas**	**0.87**	**67↓**	*e*P	x	21 32 16.5	
SBLS				*e*S	x	21 32 28.7	
RTR	**El Retiro**	**0.88**	**63↓**	*i*P	x	21 32 16.8	
RTR				*e*S	x	21 32 29.3	
SNJE	**San Jose**	**0.90**	**66↓**	*e*P	x	21 32 16.9	
PCG	**Pacaya**	**0.90**	**350↑**	*e*P	Pn	21 31 54.0	+1.0
PCG				*e*S	Sb	21 32 06.4	+1.4
RBDL	**Robledal**	**0.96**	**50↓**	*i*P	x	21 32 17.9	
RBDL				*e*S	x	21 32 32.2	
BOQS	**Boqueron**	**1.16**	**78**	*e*P	x	21 32 20.7	
BOQS				*e*S	x	21 32 37.1	
SNET	**Serv Nac Est T**	**1.20**	**81**	*e*P	x	21 31 57.0	
SNET				*e*S	x	21 32 13.0	
LFRS	**El Faro**	**1.36**	**85**	*e*P	x	21 32 23.2	
LFRS				*e*S	x	21 32 41.1	
MTO2	**Montecristo 2**	**1.39**	**50**	*e*P	x	21 32 23.3	
MTO2				*e*S	x	21 32 41.5	
LBRS	**Las Brisas**	**1.39**	**80**	*e*P	x	21 32 23.7	
LBRS				*e*S	x	21 32 40.8	
TP2	**Tecpan 2**	**1.39**	**337↓**	*e*P	Pn	21 32 00.2	+0.5
TP2				*e*S	Sn	21 32 18.1	+0.9
JAT	**Jato**	**1.41**	**305**	*e*P	Pn	21 32 00.8	+0.8
LCBS	**La Ceiba**	**1.44**	**84↑**	*e*P	x	21 32 24.3	
LCBS				*e*S	x	21 32 43.4	
SNVI	**San Vicente**	**1.57**	**86**	*e*P	x	21 32 27.1	
SNVI				*e*S	x	21 32 47.3	
VSM	**San Miguel**	**2.12**	**92**	*e*P	x	21 32 34.5	
VSM				*e*S	x	21 33 01.4	
BLLM	**Bellamira**	**2.15**	**91↓**	*e*P	x	21 32 35.1	
BLLM				*e*S	x	21 33 03.1	
CNCH	**Conchagua**	**2.56**	**95**	*e*P	x	21 32 40.3	
CNCH				*e*S	x	21 33 11.9	

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*LDG **26** 21:37:37.0±0.1,4311N×071W,h18km±1km,Md1.6/3, Ml1.5/3,Error ellipse: s-maj=1.9km s-min=1.2km az=12.0*
*STR **26** 21:37:37.6±0.3,4317N×070W,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 26 21:37:37.0±0.5,4312N×071W,h13km±3km,mbLg1.3/7, Error ellipse: s-maj=4.4km s-min=2.2km az=22.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.03**	**165**	Pg	Pg	21 37 40.2	+0.8
ATE				Sg	Sg	21 37 42.5	+1.4
ATE	**Arette**	**0.03**	**165**	Pg	Pg	21 37 40.3	+0.9
ATE				Lg		21 37 42.5	
ORDF	**Ordiarp**	**0.19**	**300**	Pg	Pg	21 37 41.8	+0.5
ORDF				Sg	Sg	21 37 45.1	+0.8
ORDF	**Ordiarp**	**0.19**	**300**	Pg	Pg	21 37 42.0	+0.6
ORDF				Lg		21 37 45.1	
LARF	**Larrau**	**0.22**	**248**	Pg	Pg	21 37 42.3	+0.5
LARF				Sg	Sg	21 37 46.2	+1.2
LARF	**Larrau**	**0.22**	**248**	Pg	Pg	21 37 42.3	+0.6
LARF				Lg		21 37 46.1	
REYF	**Montagne du Re**	**0.24**	**102**	Pg	Pg	21 37 42.6	+0.5
REYF				Sg	Sg	21 37 46.4	+0.8
REYF	**Montagne du Re**	**0.24**	**102**	Pg	Pg	21 37 42.7	+0.6
REYF				Lg		21 37 46.4	
ETSF	**Etsaut**	**0.25**	**153**	*e*Pg	Pg	21 37 42.6	+0.3
ETSF				*e*Sg	Sg	21 37 46.0	+0.2
26nm,0.2s							
ETSF	**Etsaut**	**0.25**	**153**	Pg	Pg	21 37 42.6	+0.3
ETSF				Lg		21 37 46.0	
13nm,0.2s							
FDAF	**Les Forges d'A**	**0.32**	**160**	Pg	Pg	21 37 43.6	0.0
FDAF				Lg		21 37 47.8	
SJPF	**Ste Jean**	**0.38**	**269**	*e*Pg	Pg	21 37 44.8	+0.2
SJPF				*e*Sg	Sg	21 37 50.1	+0.4
3.7nm,0.2s							
SJPF	**Ste Jean**	**0.38**	**269**	Pg	Pg	21 37 44.8	+0.2
SJPF				Lg		21 37 50.1	
1.9nm,0.2s							
OSSF	**Osses**	**0.42**	**289**	Pg	Pg	21 37 45.2	-0.2
OSSF				Lg		21 37 52.2	
VIEF	**Viey**	**0.59**	**113**	Pg	Pg	21 37 48.5	-0.1
VIEF				Lg		21 37 56.7	
EALK	**Alkurruntz**	**0.59**	**280**	Pg	Pg	21 37 48.2	-0.4
0.2nm,0.1s,SNR=6.0							
EALK				Lg		21 37 55.8	
1.4nm,0.1s,SNR=11							
ELIZ	**Elizondo**	**0.60**	**275**	Pg	Pg	21 37 48.6	-0.1
0.3nm,0.1s,SNR=15							
ELIZ				Lg		21 37 56.7	
1.1nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.64**	**255**	Pg	Pg	21 37 50.3	+0.9
0.2nm,0.1s,SNR=4.0							
IUSE				Lg		21 37 57.9	
2.8nm,0.1s,SNR=7.9							
IUNC	**Unciti**	**0.68**	**238**	Pg	Pg	21 37 51.1	+0.9
0.5nm,0.1s,SNR=4.0							
IUNC				Lg		21 38 00.3	
0.8nm,0.1s,SNR=4.0							
EBIE	**Bielsa**	**0.76**	**124**	Pg	Pg	21 37 51.6	-0.2
0.5nm,0.1s,SNR=12							
EBIE				Lg		21 38 01.5	
2.6nm,0.1s							
EPF	**Esparros**	**0.78**	**96**	*e*Pg	Pg	21 37 52.1	0.0
EPF				*e*Sg	Sg	21 38 02.6	+0.4
3.5nm,0.2s							
EPF	**Esparros**	**0.78**	**96**	Pg	Pg	21 37 52.1	0.0
EPF				Lg		21 38 02.6	
1.8nm,0.2s							
EGRA	**Graus**	**1.19**	**140**	Pg	Pg	21 38 01.8	+1.8
0.2nm,0.1s,SNR=7.9							
EGRA				Lg		21 38 16.4	
0.4nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**1.41**	**173**	Pg	Pg	21 38 02.1	-1.9
5.0nm,0.1s,SNR=8.0							
ESAC				Lg		21 38 22.4	
1.0nm,0.1s,SNR=13							
EMIR	**Miracle**	**2.04**	**125**	Lg		21 38 42.9	
0.3nm,0.1s,SNR=4.0							
LFF	**La Frestale**	**2.10**	**29**	*e*Pg	Pg	21 38 16.6	-0.7
LFF				*e*Sg	Sg	21 38 43.7	-0.9
0.7nm,0.2s							
LFF	**La Frestale**	**2.10**	**29**	Pg	Pg	21 38 16.6	-0.7
LFF				Lg		21 38 43.7	
0.3nm,0.2s							
MTLF	**Montolieu**	**2.15**	**83**	*e*Pg	Pg	21 38 17.0	-1.3
MTLF				*e*Sg	Sg	21 38 44.5	-1.7
0.4nm,0.3s							
MTLF	**Montolieu**	**2.15**	**83**	Pg	Pg	21 38 17.0	-1.3
MTLF				Lg		21 38 44.5	
0.2nm,0.3s							
ERTA	**Horta de San J**	**2.30**	**160**	Lg		21 38 49.2	
0.3nm,0.1s,SNR=4.0							
RJF	**Les Rejaudoux**	**2.71**	**35**	*e*Pg	Pg	21 38 27.0	-2.0
RJF				*e*Sg	Sg	21 39 02.4	-1.7
0.7nm,0.3s							
RJF	**Les Rejaudoux**	**2.71**	**35**	Pg	Pg	21 38 27.0	-2.0
RJF				Lg		21 39 02.4	
0.3nm,0.3s							

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*LDG **26** 21:47:25.8±0.1,4311N×071W,h17km±1km,Md1.5/3, Ml1.1/1,Error ellipse: s-maj=2.6km s-min=1.1km az=9.0*
*STR **26** 21:47:26.4±0.3,4317N×070W,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 26 21:47:25.5±0.6,4312N×072W,h14km±3km,mbLg1.1/6, Error ellipse: s-maj=5.8km s-min=2.6km az=21.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.04**	**162**	Pg	Pg	21 47 28.9	+0.8
ATE				Sg	Sg	21 47 31.0	+1.0
ATE	**Arette**	**0.04**	**162**	Pg	Pg	21 47 29.0	+0.9
ATE				Lg		21 47 31.1	
ORDF	**Ordiarp**	**0.18**	**300**	Pg	Pg	21 47 30.6	+0.7
ORDF				Sg	Sg	21 47 33.8	+0.9
ORDF	**Ordiarp**	**0.18**	**300**	Pg	Pg	21 47 30.6	+0.8
ORDF				Lg		21 47 33.8	
LARF	**Larrau**	**0.22**	**247**	Pg	Pg	21 47 31.1	+0.8
LARF				Sg	Sg	21 47 34.9	+1.2
LARF	**Larrau**	**0.22**	**247**	Pg	Pg	21 47 31.1	+0.7
LARF				Lg		21 47 34.8	
REYF	**Montagne du Re**	**0.24**	**102**	Pg	Pg	21 47 31.4	+0.6
REYF				Sg	Sg	21 47 35.0	+0.6
REYF	**Montagne du Re**	**0.24**	**102**	Pg	Pg	21 47 31.4	+0.6
REYF				Lg		21 47 35.2	
ETSF	**Etsaut**	**0.25**	**153**	*e*Pg	Pg	21 47 31.3	+0.4
ETSF				*e*Sg	Sg	21 47 34.7	+0.1
11nm,0.2s							
ETSF	**Etsaut**	**0.25**	**153**	Pg	Pg	21 47 31.3	+0.4
ETSF				Lg		21 47 34.7	
5.3nm,0.2s							
SJPF	**Ste Jean**	**0.37**	**269**	*e*Pg	Pg	21 47 33.5	+0.4
SJPF				*e*Sg	Sg	21 47 38.5	+0.3
2.4nm,0.2s							
SJPF	**Ste Jean**	**0.37**	**269**	Pg	Pg	21 47 33.5	+0.4
SJPF				Lg		21 47 38.5	
1.2nm,0.2s							
EALK	**Alkurruntz**	**0.59**	**280**	Pg	Pg	21 47 37.0	0.0
0.1nm,0.1s,SNR=7.9							
EALK				Lg		21 47 44.4	
1.0nm,0.1s,SNR=6.9							
ELIZ	**Elizondo**	**0.60**	**274**	Pg	Pg	21 47 36.3	-0.9
0.3nm,0.2s,SNR=4.0							
ELIZ				Lg

SURF	**Saint Ours**	**0.25**	**30**	Pg	**Pg**	**21 50 59.2**	**-0.3**
OG25	**Le Caire**	**0.42**	**285**	Pg	**Pg**	**21 50 59.6**	**-2.8**
MBDF	**Montbardon**	**0.47**	**12**	*e*Sg	**Pg**	**21 51 03.6**	**+0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**21 51 10.0**	**+0.2**
	24nm,0.2s						
STV	**Sta Anna Valdi**	**0.50**	**92**⇑	*i*Pg	**Pg**	**21 51 03.7**	**-0.1**
STV				Sg	**Sg**	**21 51 10.9**	**+0.4**
	31nm,0.3s						
DOI	**San Damiano**	**0.50**	**61**	Pg	**Pg**	**21 51 03.8**	**-0.1**
DOI				Sg	**Sg**	**21 51 11.5**	**+0.9**
	71nm,0.3s						
TOUF	**Mont Tournerai**	**0.51**	**119**	Pg	**Pg**	**21 51 03.7**	**-0.3**
MVIF	**Mont Vial**	**0.52**	**134**	Pg	**Pg**	**21 51 04.1**	**-0.2**
MVIF				Sg	**Sg**	**21 51 11.9**	**+0.6**
STOF	**St-Etienne Org**	**0.59**	**243**	Pg	**Pg**	**21 51 06.3**	**+0.8**
OG22	**Abries**	**0.60**	**22**	Pg	**Pg**	**21 51 05.9**	**+0.2**
OG22				Sg	**Sg**	**21 51 14.1**	**+0.3**
AUTN	**L'Aution**	**0.63**	**115**	Pg	**Pg**	**21 51 06.0**	**-0.3**
AUTN				Sg	**Sg**	**21 51 15.0**	**+0.3**
LUCF	**Luceram**	**0.63**	**126**	Pg	**Pg**	**21 51 06.2**	**-0.1**
LUCF				Sg	**Sg**	**21 51 15.1**	**+0.3**
SBF	**Sospel**	**0.70**	**125**	*e*Pg	**Pg**	**21 51 07.3**	**-0.3**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**21 51 17.1**	**+0.1**
	35nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**0.70**	**179**	*e*Pg	**Pg**	**21 51 06.8**	**-0.9**
	SNR=1.0						
FRF	**La Foret Royal**	**0.70**	**179**	*e*Pn	**Pn**	**21 51 09.0**	**-0.1**
FRF				*e*Sg	**Sg**	**21 51 16.5**	**-0.5**
	17nm,0.2s						
REVF	**Revere**	**0.74**	**134**	Pg	**Pg**	**21 51 09.5**	**+1.1**
TAVF	**Tavernes**	**0.77**	**213**	Pg	**Pg**	**21 51 09.1**	**+0.2**
TAVF				Sg	**Sg**	**21 51 21.4**	**+2.3**
VILF	**Villemus**	**0.78**	**239**	Pg	**Pg**	**21 51 10.2**	**+1.1**
SMRF	**Simiane la Rot**	**0.82**	**250**	*e*Pg	**Pg**	**21 51 09.4**	**-0.4**
	SNR=1.0						
SMRF	**Simiane la Rot**	**0.82**	**250**	*e*Pn	**Pn**	**21 51 11.4**	**+0.7**
SMRF				*e*Sg	**Sg**	**21 51 20.7**	**+0.1**
	31nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.85**	**321**	*e*Pg	**Pg**	**21 51 09.4**	**-1.0**
ORIF	**Oris-en-Rattie**	**0.85**	**321**	*e*Pn	**Pn**	**21 51 11.1**	**0.0**
ORIF				*e*Sg	**Sg**	**21 51 21.9**	**+0.3**
	11nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**0.93**	**186**	*e*Pg	**Pg**	**21 51 10.8**	**-1.2**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**21 51 23.3**	**-1.0**
	24nm,0.2s,SNR=1.0						
IMI	**Imperia**	**0.97**	**111**	Pg	**Pg**	**21 51 12.5**	**-0.2**
	27nm,0.3s						
RSP	**Reno Superiore**	**0.99**	**26**	Pg	**Pg**	**21 51 12.7**	**-0.4**
	15nm,0.4s						
PUYF	**Puyloubier**	**1.00**	**223**	Pg	**Pg**	**21 51 13.1**	**-0.1**
PUYF				Sg	**Sg**	**21 51 27.4**	**+1.1**
TREF	**Trevaresse**	**1.11**	**235**	Pg	**Pg**	**21 51 16.1**	**+0.8**
TREF				Sg	**Sg**	**21 51 31.2**	**+1.4**
FIN	**Finale Ligure**	**1.13**	**92**	Pg	**Pg**	**21 51 15.3**	**-0.5**
	16nm,0.2s						
PRAF	**Pradon**	**1.15**	**247**	Pg	**Pg**	**21 51 16.2**	**0.0**
BERF	**Bertagne**	**1.17**	**216**	Pg	**Pg**	**21 51 16.4**	**-0.1**
QLNO	**Quiliano**	**1.23**	**87**	Pg	**Pg**	**21 51 16.9**	**-0.7**
	16nm,0.3s						
LPG	**La Plagne**	**1.24**	**4**	*e*Pn	**Pn**	**21 51 17.3**	**+0.9**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**21 51 34.0**	**+1.2**
	6.3nm,0.3s,SNR=1.0						
GELF	**Grande-Etoile**	**1.24**	**225**	Pg	**Pg**	**21 51 17.9**	**+0.1**
GELF				Sg	**Sg**	**21 51 35.2**	**+1.2**
LPL	**La Plagne**	**1.25**	**3**	*e*Pg	**Pg**	**21 51 17.7**	**-0.4**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**21 51 34.5**	**+1.3**
	6.4nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-I**	**1.52**	**294**	*e*Pn	**Pn**	**21 51 21.1**	**+0.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**21 51 40.3**	**+0.5**
	5.5nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.01**	**266**	*e*Pn	**Pn**	**21 51 27.1**	**0.0**
	SNR=1.0						
LASF	**Ste Croix**	**2.01**	**266**	*e*Pg	**Pg**	**21 51 30.8**	**-1.6**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**21 51 51.5**	**-0.3**
	1.5nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**2.38**	**351**	*e*Pg	**Pg**	**21 51 37.9**	**-1.6**
	SNR=1.0						
PGF	**Pioggiola**	**2.43**	**134**	*e*Pn	**Pn**	**21 51 32.5**	**-0.4**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**21 52 01.3**	**-0.9**
	3.2nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.33**	**255**	*e*Pn	**Pn**	**21 51 45.6**	**+0.4**
	SNR=1.0						
MTLF	**Montolieu**	**3.33**	**255**	*e*Pg	**Pg**	**21 51 55.4**	**-2.3**
MTLF				*e*Sn	**Sn**	**21 52 23.4**	**-1.0**
	1.0nm,0.4s						
CAF	**Calviac**	**3.33**	**283**	*e*Pn	**Pn**	**21 51 45.6**	**+0.3**
	SNR=1.0						
CAF	**Calviac**	**3.33**	**283**	*e*Sn	**Sn**	**21 52 24.0**	**-0.5**
	2.3nm,0.4s						
SSF	**Saint Saulge**	**3.56**	**323**	*e*Pn	**Pn**	**21 51 48.6**	**+0.3**
LOR	**Lormes**	**3.58**	**328**	*e*Pn	**Pn**	**21 51 48.8**	**+0.2**
CDF	**Champ du Feu**	**4.17**	**6**	*e*Pn	**Pn**	**21 51 57.0**	**+0.2**
	SNR=1.0						
LFF	**La Frestale**	**4.26**	**281**	*e*Pn	**Pn**	**21 51 58.2**	**+0.1**
LFF				*e*Sn	**Sn**	**21 52 44.8**	**-2.7**
	4.1nm,0.4s						

IDC 26 22:01:39.6±3.1, 396S×15206E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/13, mbtmp3.5/2, MS4.2/1, Ms1 4.2/1, ms1mx3.3/7, Error ellipse: s-maj=141.5km s-min=41.8km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.46**	**226**	P	P	22 06 52.1	+1.2
	0.8nm,0.4s,baz=54,slow=10,SNR=17						
ASAR	**Alice Springs**	**26.29**	**220**	P	P	22 07 17.3	+0.6
	0.2nm,0.4s,baz=54,slow=8.6,SNR=4.8						
RAO	**Raoul Island**	**37.98**	**135**	LR	LR	22 20 12.9	
	comp=Z,386nm,21.6s,baz=143,slow=29						
TORD	**Torodi Ar. Bea**	**149.34**	**289**	PKPbc	PKPbc	22 21 30.1	-0.2
	0.2nm,0.3s,baz=75,slow=2.4,SNR=9.1						

NEIC ***26*** *22:06:48.1, 2796S×7140W, h15km, ML3.7(GUC), After GUC.*

GUC 26 22:06:48.1±0.9, 2796S×7140W, h15km±10km, ML3.7, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.83**	**138**	*e*P	Pb	22 07 03.5	-0.7
VACH				*i* S	Sg	22 07 13.8	-1.4
VACH				AML	AML	22 07 17.8	
	comp=E,3μm,0.1s						
VACH	**Vallenar**	**0.83**	**138**	*e*P	Pb	22 07 03.5	-0.7
VACH				*i* S	Sg	22 07 13.8	-1.4
CDCH	**Caldera**	**1.02**	**30**	*e*P	Pb	22 07 06.0	-1.5
CDCH				*i* S	Sb	22 07 19.4	-1.2
CPCH	**Copiapo**	**1.10**	**57**	*e*P	Pb	22 07 07.5	-1.4
CPCH				*i* S	Sb	22 07 22.4	-0.7
CPCH				AML	AML	22 07 24.7	
	comp=N,6μm,0.1s						
CPCH	**Copiapo**	**1.10**	**57**	*e*P	Pb	22 07 07.5	-1.4
CPCH				*i* S	Sb	22 07 22.4	-0.7
CRCH	**Chaqaral**	**1.75**	**23**⇓	*i*P	Pn	22 07 17.4	-0.5
TLL	**Tololo Astrono**	**2.26**	**167**	*e*P	Pn	22 07 26.9	+2.0
TLL				*i* S	Sn	22 07 56.2	+3.8
TLL				AML	AML	22 08 06.1	
	comp=E,488nm,0.5s						
TLL	**Tololo Astrono**	**2.26**	**167**	*e*P	Pn	22 07 26.9	+2.0
TLL				*i* S	Sn	22 07 56.2	+3.8

NEIC ***26*** *22:11:54.4, 1595N×9750W, h23km, MD3.9(MEX), After MEX.*

MEX 26 22:11:55.0±1.0, 1600N×9751W, h17km±12km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.71**	**304**	*i* P	Pb	22 12 06.7	-2.2
PNIG				*i* S	Sb	22 12 15.1	-3.3
VHO	**Vista Hermosa**	**1.30**	**35**	*i* P	Pn	22 12 15.3	-3.1
VHO				*i* S	Sn	22 12 30.5	-4.9
OXX	**Oaxaca**	**1.32**	**35**	*i* P	Pn	22 12 16.0	-2.6
OXX				*i* S	Sn	22 12 31.0	-4.7
HUIG	**Huatulco**	**1.37**	**99**	*i* P	Pn	22 12 14.9	-4.4
HUIG				*i* S	Sn	22 12 31.4	-5.5
HUIG	**Huatulco**	**1.37**	**99**	*i* P	Pn	22 12 12.8	-6.5
HUIG				*i* S	Sn	22 12 32.4	-4.6
TPIG	**Tehuac#an**	**2.42**	**3**	*e*P	Pn	22 12 33.5	-0.2
TPIG				*i* S	Sn	22 12 57.9	-4.9
ACX	**Acapulco**	**2.47**	**291**	*e*P	Pn	22 12 38.0	+3.6
CMIG	**Matias Romero**	**2.74**	**66**	*e*P	Pn	22 12 35.8	-2.4
CMIG				*i* S	Sn	22 13 05.5	-5.5
CMIG	**Matias Romero**	**2.74**	**66**	*e*P	Pn	22 12 33.8	-4.4
CMIG				*i* S	Sn	22 13 09.4	-1.5
MEIG	**Mezcala**	**2.79**	**314**	*i* P	Pn	22 12 37.0	-1.8
MEIG				*i* S	Sn	22 13 08.2	-3.8
CAIG	**El Cayaco**	**2.84**	**292**	*e*P	Pn	22 12 38.5	-1.1
CAIG				*i* S	Sn	22 13 12.0	-1.5
CAIG	**El Cayaco**	**2.84**	**292**	*i* P	Pn	22 12 50.1	+10
CAIG				*i* S	Sn	22 13 21.0	+7.5

ISCJB ***26*** *22:14:51.0±3.2, 58S±01×1458E±01, h78km±33km, mb3.6/3, Error ellipse: s-maj=27.1km s-min=16.0km az=107.7*

IDC ***26*** *22:14:51.6±3.8, 583S×14575E, h69km±51km, mb3.5/3, mb1 3.8/5, mb1mx3.5/14, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=58.1km s-min=27.5km az=75.0*

NEIC ***26*** *22:14:52.5±2.8, 578S×14581E, h81km±30km, mb4.4/1, Error ellipse: s-maj=26.6km s-min=11.8km az=138.0*

ISC 26 22:14:52.7±2.3, 58S±01×1459E±01, h80km±25km, n15, σ1$02/17, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.82**	**160**	P	**Pn**	**22 15 48.9**	**-0.2**
	6.8nm,0.3s,baz=23,slow=5.8,SNR=18						
PMG				S	**Sn**	**22 16 32.1**	**-0.7**
	3.6nm,0.3s,baz=213,slow=22,SNR=6.5						
HNR	**Honiara**	**14.43**	**105**	P	**Pn**	**22 18 13.7**	**+0.8**
KAKA	**Kakadu**	**14.91**	**242**	*e*P	**Pn**	**22 18 25.6**	**+6.5**
	6.1nm,0.4s						
WRAB	**Tennant Creek**	**17.97**	**217**	*e*P	**Pn**	**22 18 57.3**	**+0.2**
	6.0nm,0.3s						
WB2	**Warramunga Arr**	**17.97**	**217**	*e*P	**Pn**	**22 18 57.1**	**0.0**
WRA	**Warramunga Arr**	**17.98**	**217**	P	**Pn**	**22 18 57.3**	**+0.1**
	1.1nm,0.3s,baz=38,slow=12,SNR=61						
AS31	**Alice Springs**	**21.17**	**212**	*e*P	**P**	**22 19 34.1**	**+2.7**
ASAR	**Alice Springs**	**21.17**	**212**	P	**P**	**22 19 30.1**	**-1.3**
	1.5nm,0.4s,mb3.7,baz=46,slow=9.2,SNR=17						
ASAR				S	**S**	**22 23 22.4**	**+0.1**
	0.2nm,0.2s,baz=34,slow=24,SNR=4.1						
ASPA	**Alice Springs**	**21.18**	**212**	*e*P	**P**	**22 19 34.1**	**+2.7**
FITZ	**Fitzroy Crossi**	**23.22**	**236**	P	**P**	**22 19 51.3**	**-1.5**
	1.3nm,0.5s,mb3.5,baz=46,slow=14,SNR=5.9						
STKA	**Stephens Creek**	**26.26**	**188**	P	**P**	**22 20 20.3**	**0.0**
	1.6nm,0.6s,mb3.6,baz=9.2,slow=9.2,SNR=3.8						
LSA	**Lhasa**	**63.20**	**307**	P	**P**	**22 25 13.3**	**+0.9**
KURK	**Kurchatov**	**80.36**	**324**	P	**P**	**22 26 54.7**	**-0.4**
BRVK	**Borovoye**	**86.00**	**324**	P	**P**	**22 27 23.6**	**-0.6**
ZRNK	**Zerenda**	**86.72**	**324**	P	**P**	**22 27 27.1**	**-0.6**

CSEM ***26*** *22:34:12.6±0.3, 3646N×372E, h19km±3km, ML3.1, Error ellipse: s-maj=11.2km s-min=6.5km az=42.0*

CRAAG ***26*** *22:34:12.6, 3642N×373E, Ml3.1*

ISCJB ***26*** *22:34:13.8±0.8, 3653N±006×377E±007, h28km±8km, Error ellipse: s-maj=11.7km s-min=8.2km az=72.1*

MDD ***26*** *22:34:13.8±0.8, 3642N×378E, h23km±12km, mb3.6/5, Error ellipse: s-maj=12.0km s-min=8.8km az=53.0, PRXIMO*

NEIC ***26*** *22:34:14.6, 3670N×395E, h0km, MG3.5(MDD), After MDD.*

ISC 26 22:34:13.9±0.9, 3652N±006×382E±007, h17km±7km, n21, σ1$21/34, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.35**	**310**	P	**Pg**	**22 34 21.8**	**+0.5**
ADJB	**Djebel Djouab**	**0.48**	**220**	P	**Pg**	**22 34 22.0**	**-1.6**
AKET	**Djebel Ketaf**	**0.48**	**174**	P	**Pg**	**22 34 22.1**	**-1.5**
ABA	**Alger-Bouzarea**	**0.69**	**294**	P	**Pg**	**22 34 28.7**	**+1.2**
SET	**Setif**	**1.31**	**104**	P	**Pn**	**22 34 38.0**	**+0.5**
DFRA	**Djebel Bou Aff**	**1.66**	**89**	P	**Pn**	**22 34 45.8**	**+3.6**
EIBI	**Ibiza**	**3.18**	**323**	Pn	**Pn**	**22 35 03.2**	**+0.1**
	1.8nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**22 35 39.7**	**-0.8**
	4.0nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.18**	**323**	P	**Pn**	**22 35 03.2**	**+0.1**
	1.8nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**22 35 39.7**	**-0.9**
	4.0nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.33**	**347**	Pn	**Pn**	**22 35 05.2**	**-0.1**
	1.1nm,0.2s,SNR=5.0						
ETOS				Sn	**Sn**	**22 35 42.5**	**-1.9**
	1.4nm,0.2s,SNR=4.7						
ETOS	**Mallorca**	**3.33**	**347**	P	**Pn**	**22 35 05.2**	**0.0**
	1.1nm,0.2s,SNR=5.0						
ETOS				S	**Sn**	**22 35 42.5**	**-1.9**
	1.4nm,0.2s,SNR=4.7						
EBEN	**Beniarda**	**3.88**	**305**	Pn	**Pn**	**22 35 13.1**	**+0.3**
	SNR=7.9						
EBEN				Sn	**Sn**	**22 35 56.0**	**-1.9**
	SNR=7.9						
ETOB	**Tobarra**	**4.76**	**298**	Pn	**Pn**	**22 35 25.1**	**+0.2**
	1.1nm,0.3s,SNR=7.9						
ETOB				Sn	**Sn**	**22 36 20.3**	**+0.7**
	0.3nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.76**	**298**	P	**Pn**	**22 35 26.9**	**+2.1**
ETOB				S	**Sn**	**22 36 20.3**	**+0.7**
ETOB	**Tobarra**	**4.76**	**298**	P	**Pn**	**22 35 26.9**	**+2.1**
	1.1nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**22 36 20.3**	**+0.7**
	0.3nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**5.10**	**320**	Pn	**Pn**	**22 35 30.5**	**+1.0**
	0.9nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**22 36 28.2**	**+0.1**
	0.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.10**	**320**	P	**Pn**	**22 35 30.5**	**+1.0**
EMOS				S	**Sn**	**22 36 24.8**	**-3.3**
EMOS	**Mosqueruela**	**5.10**	**320**	P	**Pn**	**22 35 30.5**	**+0.9**
	0.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.20**	**329**	Sn	**Sn**	**22 36 29.9**	**-0.4**
	0.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.65**	**285**	Pn	**Pn**	**22 35 36.9**	**-0.2**
	1.1nm,0.3s,SNR=7.9						
EQES				Sn	**Sn**	**22 36 40.6**	**-0.9**
	2.3nm,0.6s,SNR=6.4						
EQES	**Quesada**	**5.65**	**285**	P	**Pn**	**22 35 38.8**	**+1.8**
EQES				S	**Sn**	**22 36 43.1**	**+1.5**
EQES	**Quesada**	**5.65**	**285**	P	**Pn**	**22 35 38.8**	**+1.7**
	1.1nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**22 36 43.1**	**+1.6**
	2.3nm,0.6s,SNR=6.4						

LDG ***26*** *23:02:40.0±0.0, 4300N×025W, h3km, Md1.6/3, Ml1.5/2, Error ellipse: s-maj=0.9km s-min=0.5km az=179.0*

STR ***26*** *23:02:40.2±0.0, 4301N×024W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 26 23:02:40.2±0.4, 4299N×025W, h0km, mbLg0.9/1, Error ellipse: s-maj=5.4km s-min=2.3km az=19.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.13**	**308**	Pg	Pg	23 02 42.8	+0.1
REYF				Sg	Sg	23 02 44.6	+0.2
REYF	**Montagne du Re**	**0.13**	**308**	Pg	Pg	23 02 42.8	+0.1
REYF				Lg		23 02 44.7	
VIEF	**Viey**	**0.23**	**117**	Pg	Pg	23 02 44.7	+0.1
VIEF				Sg	Sg	23 02 48.0	+0.4
VIEF	**Viey**	**0.23**	**117**	Pg	Pg	23 02 44.8	+0.2
VIEF				Lg		23 02 47.8	
ETSF	**Etsaut**	**0.24**	**248**	*e*Pg	Pg	23 02 45.0	+0.1
ETSF				*e*Sg	Sg	23 02 48.2	+0.2
	13nm,0.3s						
ETSF	**Etsaut**	**0.24**	**248**	Pg	Pg	23 02 45.0	+0.1
ETSF				Lg		23 02 48.2	
	6.6nm,0.3s						
ATE	**Arette**	**0.34**	**286**	Pg	Pg	23 02 46.5	-0.3
ATE				Lg		23 02 51.1	
EBIE	**Bielsa**	**0.42**	**136**	Pg	Pg	23 02 48.4	+0.1
	SNR=7.9						
EBIE				Lg		23 02 53.9	
	1.6nm,0.1s,SNR=8.7						
EPF	**Esparros**	**0.44**	**84**	*e*Pg	Pg	23 02 48.5	-0.1
EPF				*e*Sg	Sg	23 02 54.5	+0.2
	1.9nm,0.2s						
EPF	**Esparros**	**0.44**	**84**	Pg	Pg	23 02 48.5	-0.1
EPF				Lg		23 02 54.5	
	0.9nm,0.2s						
SJPF	**Ste Jean**	**0.72**	**280**	*e*Pg	Pg	23 03 53.8	-0.3
SJPF				*e*Sg	Sg	23 03 03.0	-0.4
	1.3nm,0.3s						
SJPF	**Ste Jean**	**0.72**	**280**	Pg	Pg	23 02 53.8	-0.3
SJPF				Lg		23 03 03.0	
	0.6nm,0.3s						
EALK	**Alkurruntz**	**0.95**	**284**	Pg	Pg	23 02 59.0	+0.6
	SNR=7.9						
EALK				Lg		23 03 12.2	
	0.5nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.84**	**78**	*e*Pg	Pg	23 03 14.1	-1.4
MTLF				*e*Sg	Sg	23 03 37.9	-1.5
	0.4nm,0.3s						
MTLF	**Montolieu**	**1.84**	**78**	Pg	Pg	23 03 14.1	-1.4
MTLF				Lg		23 03 37.9	
	0.2nm,0.3s						
CAF	**Calviac**	**2.56**	**40**	*e*Pg	Pg	23 03 27.4	-1.9
CAF				*e*Sg	Sg	23 04 00.5	-1.9
	0.4nm,0.2s						
CAF	**Calviac**	**2.56**	**40**	Pg	Pg	23 03 27.4	-1.9
CAF				Lg		23 04 00.5	
	0.2nm,0.2s						

MAN ***26*** *23:11:27.7, 1772N×11991E, h71km, mb4.0, ML5.0, MS3.5*

MOS ***26*** *23:11:27.1±0.8, 1747N×12029E, h37km, mb5.2/51, Error ellipse: s-maj=12.9km s-min=5.0km az=118.0*

IDC ***26*** *23:11:28.4±0.5, 1741N×12023E, h34km±2km, mb4.4/18, mb1 4.4/19, mb1mx4.4/21, mbtmp4.5/19, ML3.8/1, MS4.0/17, Ms1 4.0/17, ms1mx3.9/24, Error ellipse: s-maj=17.9km s-min=12.0km az=73.0*

ISCJB ***26*** *23:11:30.0±0.1, 1759N±002×12008E±003, h51km, mb4.9/94, MS4.0/26, Error ellipse: s-maj=3.5km s-min=2.6km az=160.3*

NEIC ***26*** *23:11:30.2±0.2, 1744N×12031E, mb5.0/55, Error ellipse: s-maj=7.0km s-min=3.8km az=83.0*

NEIC Felt [III PIVS] at Santa and Vigan; [II PIVS] at Dagupan and Pasuquin.

HRVD ***26*** *23:11:30.2±0.4, 1773N×12013E, h49km±1km, MW4.9/57, Centroid moment Tensor Solution. LP body waves: s22,c25;Mantle waves: s57,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.16±.19; $M_{\theta\theta}$0.57±.13; $M_{\phi\phi}$-2.74±.12; $M_{r\theta}$-0.89±.08; $M_{r\phi}$-1.08±.10; $M_{\theta\phi}$0.41±.12: Best double couple: $M_0$2.87800×10^{16} NP1:ϕ_s222.00000°, δ50.00000°, λ128.00000°. NP2:ϕ_s351.00000°, δ53.00000°, λ53.00000°. Principal axes: T 2.6900, Plg62.0000°, Azm199.0000°; N 0.3690, Plg28.0000°, Azm15.0000°; P -3.0650, Plg2.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***26*** *23:11:33.0, 1865N×12031E, h46km, mb4.8, Luzon, Philippine Islands*

BJI ***26*** *23:11:35.5, 1815N×12008E, h42km, mB4.7, mb4.5, ML4.6, Ms4.1, Msz3.9*

ISC 26 23:11:31.5±0.1, 1756N±002×12014E±003, h53km, h53km±.8km: pP-P, n301, σ1$03/291, mb4.9/94, MS4.0/26, 45C-21D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.56**	**81**	*e*P	**Pn**	**23 11 42.9**	**-0.7**
ABRA				*e*S	**Sn**	**23 11 53.1**	**+0.8**
PIP	**Pasuquin**	**0.89**	**31**	*e*P	**Pn**	**23 11 46.7**	**-1.1**
PIP				*e*S	**Sn**	**23 11 59.7**	**-0.1**
APYP	**Conner**	**1.10**	**74**	*e*P	**Pn**	**23 11 50.3**	**-0.3**
APYP				*e*S	**Sn**	**23 12 05.6**	**+0.9**
BOLP	**Bolinao**	**1.19**	**190**	*e*P	**Pn**	**23 11 51.6**	**-0.2**
BOLP				*e*S	**Sn**	**23 12 07.9**	**+1.0**
BCPH	**Baguio City Da**	**1.25**	**160**⇑	*i*P	**Pn**	**23 11 54.3**	**+1.7**
BCPH				*i* S	**Sn**	**23 12 11.1**	**+2.8**
CAUP	**Cauayan**	**1.72**	**111**	*e*P	**Pn**	**23 12 01.1**	**+2.1**
SCZP	**Santa Cruz**	**1.79**	**187**	*e*P	**Pn**	**23 11 59.7**	**-0.2**
SGCP	**Mt. Cagua**	**1.94**	**69**	*e*P	**Pn**	**23 12 02.3**	**+0.3**
SGCP				*e*S	**Sn**	**23 12 26.1**	**+0.8**
PCPH	**Palayan**	**2.19**	**155**	*e*P	**Pn**	**23 12 06.2**	**+0.8**
PCPH				*e*S	**Sn**	**23 12 32.4**	**+1.1**
PALP	**Palanan**	**2.24**	**102**	*e*P	**Pn**	**23 12 07.1**	**+1.0**
BALP	**Baler**	**2.27**	**142**	*e*P	**Pn**	**23 12 08.1**	**+1.5**
BALP				*e*S	**Sn**	**23 12 38.8**	**+5.4**
POLP	**Polilio Island**	**3.31**	**148**	*e*P	**Pn**	**23 12 22.3**	**+1.6**
TGY	**Tagaytay City**	**3.52**	**167**⇓	*e*P	**Pn**	**23 12 29.2**	**+5.6**
TGY	**Tagaytay City**	**3.52**	**167**	Pn	**Pn**	**23 12 25.4**	**+1.7**
	104nm,0.3s,baz=207,slow=2.7,SNR=27						
LQP	**Lukban**	**3.68**	**158**	*e*P	**Pn**	**23 12 32.7**	**+6.8**
LUBP	**Lubang**	**3.80**	**178**	*e*P	**Pn**	**23 12 28.6**	**+1.0**
GQP	**Guinayangan**	**4.26**	**148**	*e*P	**Pn**	**23 12 35.1**	**+1.3**
GQP				*e*S	**Sn**	**23 13 28.6**	**+6.4**
BUSP	**Coron**	**5.52**	**179**	*e*P	**Pn**	**23 12 51.0**	**0.0**
PVCP	**Virac**	**5.52**	**135**⇓	*e*P	**Pn**	**23 12 51.1**	**0.0**
PVCP	**Virac**	**5.52**	**135**	*e*P	**Pn**	**23 12 51.8**	**+0.7**
PVCP				*e*S	**Sn**	**23 13 53.8**	**+0.6**
ENPP	**El Nido**	**6.35**	**186**	*e*P	**Pn**	**23 13 01.8**	**-0.7

GYA LR LR
comp=N,320nm,13.8s
GYA LR LR
comp=E,580nm,15.0s
GYA LR LR
comp=Z,570nm,14.4s
KMI Kunming 17.86 298 P **Pn** **23 15 39.8 +3.8**
KMI AP pP 23 15 48.3 +0.3
KMI XP sP 23 15 53.0 -1.7
KMI PP 23 15 58.3
KMI AMB AMB
comp=Z,10.0nm,1.5s
KMI AMB AMB
comp=Z,300nm,5.7s
KMI LR LR
comp=N,630nm,14.6s
KMI LR LR
comp=E,490nm,18.0s
KMI LR LR
comp=Z,550nm,16.0s
KSM Kuching 18.68 212 *e*Pn **Pn** **23 15 46.6 +0.7**
XAN Xi'an 19.24 331 P **Pn** **23 15 52.8 +0.1**
XAN AMB AMB
comp=Z,10.0nm,1.7s
DL2 Dalian 21.31 3 *e*P **P** **23 16 12.8 -0.9**
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
DL2 AMB AMB
comp=Z,100nm,3.7s
DL2 LR LR
comp=N,120nm,15.3s,MS3.5
DL2 LR LR
comp=E,110nm,15.6s,MS3.5
DL2 LR LR
comp=Z,230nm,19.9s,MS3.6
KAPI Kappang 22.43 181 P **P** **23 16 24.4 -1.3**
comp=Z,330nm,0.8s,mb5.8,SNR=8.1
CBIJ Chichi jima 22.46 61 P **P** **23 16 24.7 -1.3**
comp=Z,89nm,0.6s,mb5.3,baz=247,slow=16,SNR=7.8
CBIJ LR LR 23 23 28.6
comp=Z,178nm,20.3s,MS3.5,baz=223,slow=32
BJT Baijiatuau 22.64 352 *e*P **P** **23 16 28.9 +1.0**
BJT *e* 23 16 40.5
BJT pmax pmax
comp=Z,32nm,0.9s
BJT Baijiatuau 22.64 352 *e*P **P** **23 16 28.9 +1.0**
comp=Z,32nm,0.9s,mb4.8
BJT *e* 23 16 40.5
LZH Lanzhou 23.43 325 *e*P **P** **23 16 37.5 +1.6**
LZH AP 23 16 46.8
LZH XP sP 23 16 50.3 -4.9
LZH AMB AMB
comp=Z,30nm,1.3s,mb4.6
LZH AMB AMB
comp=Z,120nm,5.6s
LZH LR LR
comp=E,490nm,10.7s
LZH LR LR
comp=Z,770nm,13.8s,MS4.3
JHJ Hachijo jima 2 23.50 45 LR LR 23 24 10.9
comp=Z,299nm,22.0s,MS3.7,baz=291,slow=32
GUMO Guam 24.14 96 LR LR 23 25 21.6
comp=Z,348nm,18.6s,MS3.9,baz=275,slow=35
HHC Hu-ho-hao-te 24.36 344 *e*P **P** **23 16 48.5 +4.1**
HHC XP sP 23 16 57.8 -6.3
HHC S **S** **23 20 53.0 -7.1**
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.2
HHC AMB AMB
comp=Z,120nm,3.9s
HHC LR LR
comp=N,240nm,16.6s,MS3.9
HHC LR LR
comp=E,170nm,13.1s,MS3.9
HHC LR LR
comp=Z,270nm,19.6s
BTO Baotou 24.57 341 *e*P **P** **23 16 48.0 +1.7**
MJAR Matsushiro Arr 24.75 37 P **P** **23 16 47.3 -0.6**
comp=Z,2.1nm,0.8s,baz=216,slow=8.6,SNR=9.1
MJAR PcP PcP 23 20 23.5 0.0
comp=Z,0.5nm,0.3s,baz=185,slow=1.0,SNR=5.0
PSI Prapat 25.46 237 P **P** **23 16 55.1 +0.7**
comp=Z,14nm,0.9s,mb4.5,baz=13,slow=8.0,SNR=8.2
PSI LR LR 23 25 24.6
comp=Z,393nm,19.1s,MS4.0,baz=218,slow=33
GTA Gaotai 28.04 325 *e*P **P** **23 17 23.8 +6.3**
GTA AP pP 23 17 31.0 0.0
GTA XP sP 23 17 34.0 -3.4
GTA AMB AMB
comp=Z,40nm,5.0s
GTA LR LR
comp=N,240nm,19.9s,MS3.9
GTA LR LR
comp=E,170nm,19.9s,MS3.9
GTA LR LR
comp=Z,260nm,18.7s,MS3.9
LSA Lhasa 29.09 300 *e*P **P** **23 17 32.0 +5.1**
LSA Lhasa 29.09 300 *e*P **P** **23 17 30.9 +4.0**
LSA *e* pP 23 17 44.6 +4.2
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
LSA Lhasa 29.09 300 *e*P **P** **23 17 30.9 +4.0**
comp=Z,6.1nm,0.8s,mb4.4
LSA *e* pP 23 17 44.6 +4.2
ULN Ulaanbaatar 32.07 343 *c i*P **P** **23 17 54.8 +1.6**
ULN *i* *PP pP 23 18 08.0 +1.2
ULN Ulaanbaatar 32.07 343 *e*P **P** **23 17 54.0 +0.7**
comp=Z,6.5nm,0.9s,mb4.5
ULN *e* pP 23 18 07.7 +0.9
SONM Songino Array 32.23 343 P **P** **23 17 56.1 +1.5**
comp=Z,3.9nm,0.7s,mb4.3,baz=161,slow=9.8,SNR=32
SONM sP sP 23 18 08.8 -5.7
comp=Z,4.5nm,0.8s,baz=168,slow=11,SNR=13
SONM LR LR 23 31 27.1
comp=Z,200nm,21.9s,MS3.8,baz=155,slow=37
SONM Songino Array 32.23 343 P **P** **23 17 56.1 +1.5**
SONM *SP sP 23 18 08.8 -5.7
KAKA Kakadu 32.44 157 *e*P **P** **23 17 54.3 -2.1**
comp=Z,8.7nm,0.6s,mb4.8
JIRN Jiri 32.81 294 *e*P **P** **23 18 01.5 +1.8**
comp=Z,95nm,1.1s,mb5.6
KLR Kul'dur 32.97 14 *e*P **P** **23 17 58.8 -2.2**
GUN Gumba 33.13 294 *e*P **P** **23 18 04.4 +1.9**
comp=Z,62nm,0.9s,mb5.5
PKI Pulchoki 33.48 294 *e*P **P** **23 18 06.5 +1.0**
KKN Kakani 33.63 294 *e*P **P** **23 18 07.6 +0.8**
DMN Daman 33.75 294 *e*P **P** **23 18 09.2 +1.3**
GKN Gorkha 34.23 294 *e*P **P** **23 18 12.8 +0.8**
comp=Z,59nm,1.1s,mb5.4
KOLN Koldanda 35.10 293 *e*P **P** **23 18 20.6 +1.1**
comp=Z,116nm,1.6s,mb5.6
ZAK Zakamensk 35.43 341 *e*P **P** **23 18 23.6 +1.2**
ZAK pmax pmax
comp=Z,10.0nm,1.9s,mb4.4
FITZ Fitzroy Crossi 35.85 171 *e*P **P** **23 18 22.2 -3.7**
comp=Z,9.6nm,0.9s,mb4.7
FITZ Fitzroy Crossi 35.85 171 LR LR 23 33 14.5
comp=Z,104nm,20.9s,MS3.6,baz=209,slow=37
TLY Talaya 36.47 343 *e*P **P** **23 18 29.8 -1.5**
WRAB Tennant Creek 39.78 159 P **P** **23 18 56.9 -2.3**
WRAB pmax pmax
comp=Z,13nm,0.8s,mb4.7
WRAB Tennant Creek 39.78 159 P **P** **23 18 56.9 -2.3**
comp=Z,13nm,0.8s,mb4.7
WRA Warramunga Arr 39.79 159 P **P** **23 18 56.2 -3.0**
comp=Z,8.0nm,0.8s,mb4.5,baz=338,slow=9.3,SNR=28
WRA PcP PcP 23 21 04.9 +0.4
comp=Z,3.3nm,0.8s,baz=337,slow=3.3,SNR=7.7
WB2 Warramunga Arr 39.79 159 *e*P **P** **23 18 55.8 -3.4**
WB2 *e*S **S** **23 24 51.0 -8.6**
MK31 Makanchi Array 42.66 322 P **P** **23 19 23.9 +1.2**
MK31 pmax pmax
comp=Z,53nm,1.0s,mb5.2
MKAR Makanchi Array 42.66 322 P **P** **23 19 24.1 +1.4**
comp=Z,4.6nm,0.8s,mb4.2,baz=116,slow=8.2,SNR=37
MKAR sP sP 23 19 38.7 -4.2
comp=Z,28nm,0.9s,baz=103,slow=11,SNR=39
MKAR PcP PcP 23 21 13.8 -0.1
comp=Z,7.6nm,0.7s,baz=145,slow=2.1,SNR=9.5
MKAR Makanchi Array 42.66 322 ⇑*e*P **P** **23 19 24.2 +1.5**
MKAR Makanchi Array 42.66 322 P **P** **23 19 24.1 +1.4**
MKAR sP sP 23 19 38.7 -4.2
MKAR PcP PcP 23 21 13.8 -0.1
AS31 Alice Springs 43.12 161 *e*P **P** **23 19 24.6 -1.9**
ASAR Alice Springs 43.12 161 P **P** **23 19 24.2 -2.2**
comp=Z,7.9nm,0.6s,mb4.6,baz=339,slow=6.7,SNR=74
ASAR LR LR 23 37 04.2
comp=Z,176nm,18.7s,MS4.0,baz=85,slow=36
ASPA Alice Springs 43.12 161 *e*P **P** **23 19 24.6 -1.9**
YAK Yakutsk 44.93 6 ⇑*e*P **P** **23 19 41.6 +0.6**
YAK pmax pmax
comp=Z,26nm,0.9s,mb5.1
ZAL Zalesovo 45.42 331 P **P** **23 19 45.5 +0.6**
comp=Z,1.5nm,0.7s,mb3.9,baz=345,slow=7.1,SNR=9.3
ZAL sP sP 23 19 59.5 -5.6
comp=Z,3.0nm,1.0s,baz=348,slow=6.3,SNR=5.1
ZAL LR LR 23 40 20.9
comp=Z,160nm,18.6s,MS4.0,baz=335,slow=38
ZAL Zalesovo 45.42 331 P **P** **23 19 45.5 +0.7**
ZAL *SP sP 23 19 59.5 -5.6
NVS Novosibirsk 46.70 331 *e*P **P** **23 19 54.5 -0.4**
NVS pmax pmax
comp=E,25nm,1.7s
NVS pmax pmax
comp=Z,37nm,1.7s,mb5.0
NVS pmax pmax
comp=N,31nm,1.8s
KURK Kurchatov 46.72 325 P **P** **23 19 56.1 +1.0**
comp=N,99nm,0.9s,mb5.7,SNR=10.0
KURK Kurchatov 46.72 325 ⇑*e*P **P** **23 19 56.3 +1.2**
KURK Kurchatov 46.72 325 *e*P **P** **23 19 56.2 +1.1**
comp=N,79nm,1.1s,mb5.6
KURK *e* pP 23 20 10.6 +1.4
HNR Honiara 47.60 121 LR LR 23 37 15.1
comp=N,206nm,18.3s,MS4.1,baz=359,slow=33
FORT Forrest 48.66 171 *e*P **P** **23 20 04.4 -5.7**
comp=N,22nm,0.8s,mb5.2
KLBR Kellerberrin 48.92 183 *e*P **P** **23 20 10.4 -1.7**
comp=N,17nm,0.5s,mb5.3
KK31 Karatay Array 48.95 312 *i* P **P** **23 20 13.0 +0.7**
KK31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KKAR Karatay Array 48.95 312 *i* P **P** **23 20 13.0 +0.7**
KKAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MUN Mundaring 49.40 184 *e*P **P** **23 20 14.3 -1.4**
BVA0 Borovoye Array 52.32 324 *i* P **P** **23 20 38.0 +0.3**
BVA0 pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
BRVK Borovoye 52.39 324 P **P** **23 20 39.9 +1.7**
comp=Z,54nm,0.7s,mb5.6,SNR=6.8
BRVK Borovoye 52.39 324 *e*P **P** **23 20 39.2 +1.0**
BRVK *e* pP 23 20 53.7 +1.1
BRVK pmax pmax
comp=Z,18nm,1.2s,mb4.9
BRVK Borovoye 52.39 324 *e*P **P** **23 20 39.2 +0.9**
comp=Z,18nm,1.2s,mb4.9
BRVK *e* pP 23 20 53.7 +1.1
CHKZ Chkalovo 52.45 325 *e*P **P** **23 20 39.1 +0.4**
CHKZ *e* pP 23 20 53.7 +0.6
CHKZ pmax pmax
comp=Z,34nm,1.5s,mb5.1
CHKZ Chkalovo 52.45 325 *e*P **P** **23 20 39.1 +0.4**
comp=Z,34nm,1.5s,mb5.1
CHKZ *e* pP 23 20 53.7 +0.6
ZRNK Zerenda 53.06 324 *i* P **P** **23 20 43.5 +0.3**
ZRNK pmax pmax
comp=Z,24nm,1.5s,mb4.9
ZRNK Zerenda 53.06 324 *e*P **P** **23 20 43.4 +0.2**
comp=Z,19nm,1.1s,mb5.0
ZRNK *e* pP 23 20 57.2 -0.3
STKA Stephens Creek 53.29 157 *e*P **P** **23 20 40.7 -4.2**
comp=Z,7.2nm,0.6s,mb4.8
STKA Stephens Creek 53.29 157 P **P** **23 20 41.0 -3.9**
comp=Z,11nm,0.6s,mb5.0,baz=330,slow=7.1,SNR=31
STKA LR LR 23 41 25.0
comp=Z,265nm,21.6s,MS4.2,baz=111,slow=34
TIXI Tiksi 54.33 3 *c i*P **P** **23 20 51.0 -1.5**
TIXI *i* *PP pP 23 21 04.0 -2.9
TIXI pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ABKT Ailbek 57.49 304 P **P** **23 21 16.3 +1.3**
comp=Z,79nm,0.8s,mb5.8,SNR=6.4
AB31 Akbulak array 57.51 318 *e*P **P** **23 21 15.5 +0.3**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BILL Bilibino 58.23 19 *c i*P **P** **23 21 19.6 -0.7**
BILL pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
TOO Toolangi 59.80 157 *e*P **P** **23 21 30.6 -0.6**
comp=Z,7.3nm,0.6s,mb4.9
TOO Toolangi 59.80 157 *e*P **P** **23 21 30.6 -0.6**
TOO pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
ARU Arti 59.90 326 P **P** **23 21 31.3 -0.5**
comp=Z,81nm,0.7s,mb5.9,SNR=6.4
ARU Arti 59.90 326 ⇑*i*P **P** **23 21 31.2 -0.6**
ARU *e* pP 23 21 44.9 -1.5
ARU *e* 23 22 15.8
ARU *e* 23 23 45.9
ARU *e*PPP 23 25 08.7
ARU *e*S **S** **23 29 42.6 +2.9**
ARU *e*SS SS 23 33 41.1 +4.5
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ARU Arti 59.90 326 *e*P **P** **23 21 31.5 -0.2**
comp=Z,12nm,0.8s,mb5.0
ARU *e* pP 23 21 46.3 -0.1
ORR Orenburg 61.17 320 *e*P **P** **23 21 41.1 +0.6**
ORR pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
ORR MLR MLR
comp=Z,170nm,25.0s,MS4.1
KIV Kislovodsk 69.08 311 P **P** **23 22 32.8 +1.1**
comp=Z,128nm,0.7s,mb6.0,SNR=7.0
KIV Kislovodsk 69.08 311 *e*PN **P** **23 22 32.4 +0.7**
KIV pmax pmax
comp=Z,19nm,0.8s,mb5.1
KLMR Klimovskoe 70.27 329 *e*P **P** **23 22 36.6 -2.5**
KLMR pmax pmax
comp=Z,30nm,1.4s,mb5.0
VOR Voronezh 70.84 319 *e*P **P** **23 22 41.0 -1.5**
VOR *e* pP 23 22 55.0 -2.5
VOR pmax pmax
comp=Z,40nm,1.4s,mb5.2
SOC Sochi 71.25 311 *e*P **P** **23 22 44.5 -0.6**
SOC *e* *PP pP 23 22 57.8 -2.2
SOC *e* pP 23 23 02.3 +2.3
SOC *e* 23 32 26.8
SOC pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SOC MLR MLR
comp=Z,215nm,20.0s,MS4.4
SOC Sochi 71.25 311 *e*PN pP 23 22 57.8 -2.2
OBN Obninsk 72.13 323 *c i*P **P** **23 22 49.5 -0.8**
OBN *e* pP 23 23 04.3 -1.0
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ANN Anapa 72.73 312 *e*P sP 23 23 20.8 +5.9
MALT Malatya 72.94 305 *e*P **P** **23 22 56.2 +1.1**
MALT *e* pP 23 23 10.9 +0.8
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MALT Malatya 72.94 305 *e*P **P** **23 22 56.2 +1.1**
comp=Z,7.3nm,1.1s,mb4.5
MALT *e* pP 23 23 10.9 +0.7
JOF Joensuu 74.01 332 *e*p **P** **23 22 59.9 -1.5**
comp=Z,9.5nm,0.6s,mb4.9
JOF Joensuu 74.01 332 *e*P **P** **23 22 59.9 -1.5**
JOF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MCK McKinley 74.83 27 *e*P **P** **23 23 05.6 -0.6**
MCK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MCK McKinley 74.83 27 *e*P **P** **23 23 05.6 -0.6**
comp=Z,8.1nm,1.1s,mb4.6
SIM Simferopol' 75.04 313 *c e*P **P** **23 23 07.2 -0.2**
SIM *e* pP 23 23 22.0 -0.5
SIM pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SIM MLR MLR
comp=Z,50nm,19.4s,MS3.8
COLA College 75.12 26 *i* P **P** **23 23 07.3 -0.5**
ARCES ARCESS Array B 75.31 339 P **P** **23 23 08.6 -0.3**
comp=Z,7.5nm,0.9s,mb4.6,baz=68,slow=6.8,SNR=11
ARCES LR LR 23 59 17.0
comp=Z,94nm,18.9s,MS4.1,baz=177,slow=38
SML Sawmill 75.42 29 P **P** **23 23 08.0 -1.6**
SML *e* *PP pP 23 23 20.8 -3.8
BR131 Keskin Array S 76.36 308 *e*P **P** **23 23 15.9 +1.0**
comp=Z,1.5nm,0.8s,mb4.0
BRTR Keskin Array B 76.36 308 P **P** **23 23 14.8 -0.1**
comp=Z,1.6nm,0.9s,mb4.0,baz=100,slow=5.1,SNR=6.9
BRTR sP sP 23 23 30.2 -5.8
comp=Z,2.7nm,1.0s,baz=120,slow=4.4,SNR=6.5
BRTR LR LR 00 02 21.9
comp=Z,64nm,18.7s,MS4.0,baz=199,slow=40
BRTR Keskin Array B 76.36 308 P **P** **23 23 14.8 -0.1**
BRTR sP sP 23 23 30.2 -5.8
KAF Kangasniemi 76.43 331 *ep* **P** **23 23 13.7 -1.6**
comp=Z,10nm,0.8s,mb4.8,baz=75,slow=5.2
KAF Kangasniemi 76.43 331 *e*P **P** **23 23 13.7 -1.6**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
FINES FINESS Array B 76.67 330 P **P** **23 23 15.8 -0.9**
comp=Z,8.5nm,1.0s,mb4.6,baz=51,slow=6.2,SNR=22
FINES sP sP 23 23 30.9 -6.9
comp=Z,4.8nm,0.8s,baz=94,slow=6.1,SNR=6.1
FINES FINESS Array B 76.67 330 P **P** **23 23 15.8 -0.9**
FINES sP sP 23 23 30.9 -6.9
AKASG Malin Array Be 77.19 319 P **P** **23 23 18.2 -1.4**
comp=Z,1.4nm,0.5s,mb4.2,baz=66,slow=5.7,SNR=20
AKASG sP sP 23 23 33.6 -7.0
comp=Z,3.4nm,0.5s,baz=64,slow=5.3,SNR=6.8
EIL Elat 77.45 297 *e*P **P** **23 23 21.9 +0.9**
comp=Z,371nm,1.2s
EIL *e* pP 23 23 36.0 -0.2
CFR Carcaliu 79.14 314 ⇓*i*P **P** **23 23 30.8 +0.4**
VRI Vrincioaia 79.93 315 ⇑*i*P **P** **23 23 36.0 +1.3**
VRI Vrincioaia 79.93 315 ⇑P **P** **23 23 36.0 +1.3**
PLOR Plostina 79.99 315 ⇑*i*P **P** **23 23 35.7 +0.7**
SUW Suwalki 79.99 323 *e*P **P** **23 23 34.3 -0.7**
SUW *e* pP 23 23 49.0 -1.2
SUW Suwalki 79.99 323 *e*P **P** **23 23 34.4 -0.6**
SUW *e* pP 23 23 49.0 -1.2
SUW pmax pmax
comp=Z,29nm,0.8s,mb5.3
SUW Suwalki 79.99 323 *e*P **P** **23 23 34.4 -0.6**
comp=Z,29nm,0.8s,mb5.3
SUW *e* pP 23 23 49.0 -1.2
BURAR Bucovina Array 80.48 317 ⇓*i*P **P** **23 23 38.3 +0.7**
BURAR Bucovina Array 80.48 317 ⇓P **P** **23 23 38.3 +0.7**
MLR Muntele Rosu 80.56 315 ⇑*i*P **P** **23 23 39.0 +0.9**
MLR Muntele Rosu 80.56 315 ⇑P **P** **23 23 39.0 +0.9**
KWP Kalwaria 81.51 319 *e*P **P** **23 23 43.4 +0.3**
KWP *e* pP 23 23 58.1 -0.3
DRGR 82.35 317 ⇑*i*P **P** **23 23 47.9 +0.4**
DRGR 82.35 317 ⇑P **P** **23 23 47.9 +0.4**
DAG Danmarks Havn 82.73 351 ⇓*i*P **P** **23 23 48.0 -1.5**
comp=Z,9.6nm,0.7s,mb4.9
DAG Danmarks Havn 82.73 351 ⇓*i*P **P** **23 23 48.0 -1.5**
DAG pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
NIE Niedzica 83.06 320 *e*P **P** **23 23 51.9 +0.7**
OJC Ojcow 83.12 320 *e*P **P** **23 23 51.7 +0.2**
BZS Buzias 83.43 316 ⇓*i*P **P** **23 23 53.5 +0.4**
BZS Buzias 83.43 316 ⇓P **P** **23 23 53.5 +0.3**
KMBO Kilima Mbogo 83.55 267 P **P** **23 23 54.9 +1.1**
comp=Z,4.7nm,0.8s,mb4.7,baz=48,slow=9.6,SNR=9.7
KMBO LR LR 23 57 44.1
comp=Z,80nm,19.9s,MS4.1,baz=180,slow=33
GKP Gorka Klasztor 83.58 324 *e*P **P** **23 23 54.0 +0.1**
GKP *e* pP 23 24 09.1 -0.1
NB2 NORSAR Subarra 83.61 332 P **P** **23 23 52.8 -1.2**
comp=Z,6.7nm,0.7s,mb4.9,baz=64,slow=4.8
NB2 NORSAR Subarra 83.61 332 P **P** **23 23 52.8 -1.2**
NB2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
NOA NORSAR Array B 83.61 332 P **P** **23 23 53.1 -0.9**
comp=Z,5.5nm,0.7s,mb4.8,baz=64,slow=4.9,SNR=35
NOA pP pP 23 24 05.5 -3.9
comp=Z,3.8nm,0.8s,baz=65,slow=4.9,SNR=5.3
NOA LR LR 00 04 09.9
comp=Z,96nm,19.4s,MS4.2,baz=50,slow=38
NOA NORSAR Array B 83.61 332 P **P** **23 23 53.1 -0.9**
NOA pP pP 23 24 05.5 -3.9
VAY Valandovo 84.11 311 *i* P **P** **23 23 55.4 -1.2**
VAY *i* X pP 23 24 10.1 -1.8
OKC Ostrava-Krasne 84.25 320 *e*P **P** **23 23 57.5 +0.2**
OKC *ep*P pP 23 24 12.7 +0.1
STIP Stip 84.27 312 *i* P **P** **23 23 56.8 -0.6**
STIP *i* X pP 23 24 10.7 -2.0
MORC Moravsky Berou 84.64 321 ⇑*i*P **P** **23 23 59.6 +0.3**
MORC Moravsky Berou 84.64 321 *e*P **P** **23 23 58.9 -0.4**
comp=Z,4.8nm,0.8s,mb4.7
GVD Gavdhos 84.96 305 P **P** **23 24 00.1 -0.8**
GVD *e*PcP PcP 23 24 04.7 +0.6
KSP Ksiaz 85.00 322 *e*P **P** **23 24 01.7 +0.6**
KSP *e* pP 23 24 16.8 +0.4
KSP Ksiaz 85.00 322 ⇑*e*P **P** **23 24 01.5 +0.4**
KSP *ep*P pP 23 24 16.4 0.0
BIA Bitola 85.10 311 *i* P **P** **23 23 59.9 -1.7**
BIA *i* X pP 23 24 15.2 -1.8
DPC Dobruska-Polom 85.17 321 *e*P **P** **23 24 02.2 +0.3**
DPC *ep*P pP 23 24 17.5 +0.3
PKSM Moragy 85.20 317 ⇓*i*P **P** **23 24 02.4 +0.3**
PKSM Moragy 85.20 317 ⇓*e*P **P** **23 24 02.5 +0.4**
UPC Upice 85.29 322 *e*P **P** **23 24 02.9 +0.4**
UPC *ep*P pP 23 24 18.0 +0.1
RES Resolute Bay 85.33 9 *e*P **P** **23 24 02.0 -0.7**
RES *e* pP 23 24 16.4 -1.7
RES pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
RES Resolute Bay 85.33 9 *e*P **P** **23 24 02.0 -0.8**
comp=Z,5.4nm,0.9s,mb4.7
RES *e* pP 23 24 16.4 -1.7
VRAC Vranov 85.38 320 ⇑*i*P **P** **23 24 04.0 +1.0**
VRAC Vranov 85.38 320 ⇑P **P** **23 24 04.0 +1.0**
OHR Ohrid 85.44 312 *i* P **P** **23 24 01.1 -2.2**
SOP Sopron 86.00 319 ⇓*e*P **P** **23 24 06.7 +0.6**
TREC Trest 86.06 321 *e*P **P** **23 24 07.0 +0.6**
TREC *ep*P pP 23 24 21.9 +0.2
PVCC Panska Ves 86.14 322 *e*P **P** **23 24 07.1 +0.4**
PVCC *ep*P pP 23 24 22.3 +0.2
CONA Conrad Observa 86.35 319 ⇑*i*PcP PcP 23 24 08.4 -1.8
comp=Z,6.0nm,1.0s
CONA ⇓*i*pP pP 23 24 24.1 +1.0
comp=Z,19nm,1.6s
CONA Conrad Observa 86.35 319 sP 23 24 42.3 +13
comp=Z,5.3nm,1.0s
PRU Pruhonice 86.36 321 *e*P **P** **23 24 08.4 +0.6**
PRU *ep*P pP 23 24 23.3 +0.1
BRG Berggiesshubel 86.36 322 *e*P **P** **23 24 07.0 -0.9**
BRG *i* pP 23 24 23.2 0.0
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
BRG pmax pmax
comp=Z,13nm,1.2s,mb5.0
BRG Berggiesshubel 86.36 322 *e*P **P** **23 24 07.0 -0.8**
comp=Z,7.3nm,1.2s,mb4.8
BRG *i* pP 23 24 23.2 0.0
CLL Collm 86.73 323 *e*P **P** **23 24 09.0 -0.7**
comp=Z,14nm,1.6s,mb4.9
CLL *ep*P pP 23 24 25.0 0.0
comp=Z,24nm,1.4s
CLL Collm 86.73 323 *e*P **P** **23 24 09.0 -0.7**
CLL *e* pP 23 24 25.0 0.0
CLL pmax pmax
comp=Z,14nm,1.6s,mb4.9
ARSA Arzberg 86.82 319 ⇑*i* pP 23 24 25.5 0.0
comp=Z,14nm,1.6s
ARSA Arzberg 86.82 319 ⇑*e*P **P** **23 24 10.0 -0.1**
comp=Z,5.0nm,1.0s,mb4.7
ARSA ⇑*i*pP pP 23 24 25.5 0.0
comp=Z,14nm,1.6s
KHC Kasperske Hory 87.28 321 *e*P **P** **23 24 12.0 -0.3**
KHC pP pP 23 24 28.0 +0.3
KHC Kasperske Hory 87.28 321 *e*P **P** **23 24 12.0 -0.3**
KHC *e* pP 23 24 28.0 +0.3
GERES GERESS Array B 87.32 321 P **P** **23 24 12.3 -0.2**
comp=Z,1.9nm,0.8s,mb4.4,baz=72,slow=4.3,SNR=18
GERES sP sP 23 24 27.8 -6.0
comp=Z,3.3nm,1.0s,baz=64,slow=6.2,SNR=7.1
GERES LR LR 00 09 31.2
comp=Z,60nm,19.1s,MS4.0,baz=306,slow=40
GERES GERESS Array B 87.32 321 P **P** **23 24 12.3 -0.2**
GERES sP sP 23 24 27.8 -6.0
MOA Molln 87.37 320 ⇓*i* pP 23 24 28.9 +0.8
comp=Z,30nm,1.4s
MOA Molln 87.37 320 ⇓*i*PcP PcP 23 24 13.4 -1.3
comp=Z,15nm,1.4s
MOA ⇓*i*pP pP 23 24 28.9 +0.8
comp=Z,30nm,1.4s
NKC Novy Kostel 87.50 322 *e*P **P** **23 24 06.9 -6.5**
OBKA Obir 87.72 318 ⇑*i* pP 23 24 30.8 +0.9

comp=Z,9.1nm,1.6s
OBKA Obir 87.72 318⇑*i* sP 23 24 44.2 +8.5
comp=Z,8.6nm,1.4s
OBKA Obir 87.72 318⇑*i*PcP PcP 23 24 14.3 -2.0
OBKA ⇑*i*pP pP 23 24 30.8 +0.9
comp=Z,9.1nm,1.6s
OBKA Obir 87.72 318 sP 23 24 44.2 +8.5
comp=Z,8.6nm,1.4s
OBKA Obir 87.72 318⇑*i*P P 23 24 14.3 -0.2
comp=Z,6.1nm,1.0s,mb4.8
OBKA *i* pP 23 24 30.8 +0.9
OBKA *i* 23 24 44.2
KBA Koelnbreinsper 88.25 319⇑*e*P P 23 24 15.1 -1.8
comp=Z,3.3nm,0.6s,mb4.8
KBA Koelnbreinsper 88.25 319⇑*e*P P 23 24 15.1 -1.9
KBA pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
GRA1 Grafenberg Arr 88.44 322 *e*P P 23 24 17.8 -0.1
comp=Z,4.0nm,0.9s,mb4.7
GRA1 *e*pP pP 23 24 31.3 -2.0
GRF Grafenberg Arr 88.44 322 *e*P P 23 24 17.8 -0.1
comp=Z,4.0nm,0.9s,mb4.7
GRF *e*pP pP 23 24 31.3 -2.0
GRF Grafenberg Arr 88.44 322 *e*P P 23 24 17.8 -0.1
GRF *e**PP pP 23 24 31.3 -2.0
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
TIP Timpagrande 89.02 311 *e*P P 23 24 20.5 -0.1
TIP *e* pP 23 24 35.7 -0.3
WTTA Wattenberg 89.23 320⇑*i* pP 23 24 36.7 -0.3
comp=Z,16nm,1.3s
WTTA Wattenberg 89.23 320⇑*i*PcP PcP 23 24 21.7 -1.3
WTTA ⇑*i*pP pP 23 24 36.7 -0.3
comp=Z,16nm,1.3s
WTTA Wattenberg 89.23 320⇑*i*P P 23 24 21.7 +0.1
WTTA *i* pP 23 24 36.7 -0.3
WTTA pmax pmax
comp=Z,13nm,0.7s,mb5.4
WATA Walderalm 89.24 320⇑*e*P P 23 24 21.4 -0.2
comp=Z,6.8nm,1.0s,mb5.0
WATA Walderalm 89.24 320⇑*e*PcP PcP 23 24 21.4 -1.6
comp=Z,6.8nm,1.0s
WATA Walderalm 89.24 320⇑*e*P P 23 24 21.4 -0.2
WATA pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
YKA Yellowknife Ar 89.44 22 P P 23 24 21.8 -0.7
comp=Z,1.4nm,0.8s,mb4.3,baz=311,slow=4.7,SNR=5.7
YKA LR LR 00 10 18.2
comp=Z,35nm,20.4s,MS3.8,baz=270,slow=39
SQTA Sankt Quirin 89.52 320⇑*i*P P 23 24 22.8 -0.1
comp=Z,7.5nm,0.7s,mb5.1
SQTA Sankt Quirin 89.52 320⇑*i*PcP PcP 23 24 22.8 -1.4
comp=Z,7.5nm,0.7s
SQTA Sankt Quirin 89.52 320⇑*i*P P 23 24 22.8 -0.1
SQTA pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
MOTA Moosalm 89.53 320⇓*i* pP 23 24 38.3 0.0
comp=Z,8.6nm,0.9s
MOTA Moosalm 89.53 320⇑*i*PcP PcP 23 24 22.7 -1.5
MOTA ⇓*i*pP pP 23 24 38.3 0.0
comp=Z,8.6nm,0.9s
MOTA Moosalm 89.53 320⇑*i*P P 23 24 22.8 -0.1
MOTA *i* pP 23 24 38.3 -0.1
MOTA pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
DAVA Damuels 90.30 320⇓*i* pP 23 24 42.5 +0.5
comp=Z,12nm,1.1s
DAVA Damuels 90.30 320⇑*i*P P 23 24 25.8 -0.8
comp=Z,5.5nm,0.9s,mb4.9
DAVA ⇓*i*pP pP 23 24 42.5 +0.5
comp=Z,12nm,1.1s
CDF Champ du Feu 91.34 322 *e*P P 23 24 31.1 -0.3
comp=Z,38nm,1.4s,mb5.2
CDF Champ du Feu 91.34 322 *e*P P 23 24 31.1 -0.3
CDF pmax pmax
comp=Z,19nm,1.4s,mb5.2
CDF Champ du Feu 91.34 322 *e*P P 23 24 31.1 -0.3
comp=Z,19nm,1.4s,mb5.2
HINF Hinteralfeld 91.87 322 *e*P P 23 24 33.2 -0.6
comp=Z,33nm,1.4s,mb5.2
HINF Hinteralfeld 91.87 322 *e*P P 23 24 33.2 -0.6
HINF pmax pmax
comp=Z,16nm,1.4s,mb5.2
HINF Hinteralfeld 91.87 322 *e*P P 23 24 33.2 -0.6
comp=Z,16nm,1.4s,mb5.2
GIVF Givet 91.91 324 *e*P P 23 24 33.8 -0.2
BAIF Baives 92.27 325 *e*P P 23 24 34.1 -1.6
MEZF Maizieres J'vi 92.58 323 *e*P P 23 24 37.0 -0.1
PGF Pioggiola 92.99 316 *e*P P 23 24 38.9 -0.1
comp=Z,19nm,1.1s,mb5.2
PGF Pioggiola 92.99 316 *e*P P 23 24 38.9 -0.1
PGF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
PGF Pioggiola 92.99 316 *e*P P 23 24 38.9 -0.1
comp=Z,9.4nm,1.1s,mb5.1
LPG La Plagne 93.05 320 *e*P P 23 24 39.7 +0.4
comp=Z,35nm,1.1s,mb5.4
LPG La Plagne 93.05 320 *e*P P 23 24 39.7 +0.4
LPG pmax pmax
comp=Z,18nm,1.1s,mb5.4
LPG La Plagne 93.05 320 *e*P P 23 24 39.7 +0.4
comp=Z,18nm,1.1s,mb5.4
LPL La Plagne 93.05 320 *e*P P 23 24 39.5 +0.2
comp=Z,39nm,1.1s,mb5.5
LPL La Plagne 93.05 320 *e*P P 23 24 39.5 +0.2
LPL pmax pmax
comp=Z,20nm,1.1s,mb5.5
LPL La Plagne 93.05 320 *e*P P 23 24 39.5 +0.2
comp=Z,20nm,1.1s,mb5.5
BNI Bardonecchia 93.31 319 *e*P P 23 24 40.7 +0.2
BNI *e* pP 23 24 56.2 +0.3
BNI pmax pmax
comp=Z,15nm,1.3s,mb5.3
BNI Bardonecchia 93.31 319 *e*P P 23 24 40.7 +0.2
comp=Z,15nm,1.3s,mb5.2
BNI *e* pP 23 24 56.1 +0.2
SBF Sospel 93.40 318 *e*P P 23 24 40.3 -0.6
comp=Z,11nm,0.7s,mb5.1
SBF Sospel 93.40 318 *e*P P 23 24 40.3 -0.6
SBF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
SBF Sospel 93.40 318 *e*P P 23 24 40.3 -0.6
comp=Z,5.4nm,0.7s,mb5.1
MBDF Montbardon 93.41 319 *e*P P 23 24 40.5 -0.4
ORIF Oris-en-Rattie 93.87 320 *e*P P 23 24 42.9 -0.2
comp=Z,13nm,0.9s,mb5.0
ORIF *e*R
comp=Z,73nm,22.0s
ORIF Oris-en-Rattie 93.87 320 *e*P P 23 24 42.9 -0.2
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
ORIF Oris-en-Rattie 93.87 320 *e*P P 23 24 42.9 -0.2
comp=Z,6.6nm,0.9s,mb5.1
LOR Lormes 93.90 322 *e*P P 23 24 42.3 -0.9
LOR *e*R
comp=Z,79nm,20.8s
LOR Lormes 93.90 322 *e*P P 23 24 42.3 -0.9
LOR LR LR
comp=Z,80nm,20.8s,MS4.2
FRF La Foret Royal 94.05 318 *e*P P 23 24 43.3 -0.6
comp=Z,35nm,1.5s,mb5.3
FRF La Foret Royal 94.05 318 *e*P P 23 24 43.3 -0.6
FRF pmax pmax
comp=Z,18nm,1.5s,mb5.3
FRF La Foret Royal 94.05 318 *e*P P 23 24 43.3 -0.6
comp=Z,18nm,1.5s,mb5.3
SSF Saint Saulge 94.22 322 *e*P P 23 24 44.1 -0.6
SMF Signal de Mont 94.23 322 *e*P P 23 24 44.1 -0.6
comp=Z,12nm,1.0s,mb5.0
SMF Signal de Mont 94.23 322 *e*P P 23 24 44.1 -0.6
SMF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
SMF Signal de Mont 94.23 322 *e*P P 23 24 44.1 -0.6
comp=Z,5.8nm,1.0s,mb5.0
LMR La Mourre 94.24 318 *e*P P 23 24 44.7 -0.1
comp=Z,28nm,1.5s,mb5.2
LMR La Mourre 94.24 318 *e*P P 23 24 44.7 -0.1
LMR pmax pmax
comp=Z,14nm,1.5s,mb5.2
LMR La Mourre 94.24 318 *e*P P 23 24 44.7 -0.1
comp=Z,14nm,1.5s,mb5.2
AVF Avril sur Loir 94.45 322 *e*P P 23 24 45.0 -0.7
comp=Z,52nm,1.7s,mb5.4
AVF Avril sur Loir 94.45 322 *e*P P 23 24 45.0 -0.7
AVF pmax pmax
comp=Z,26nm,1.7s,mb5.4
AVF Avril sur Loir 94.45 322 *e*P P 23 24 45.0 -0.7
comp=Z,26nm,1.7s,mb5.4
SMRF Simiane la Rot 94.52 319 *e*P P 23 24 45.8 -0.2
comp=Z,8.8nm,1.1s,mb4.8
SMRF Simiane la Rot 94.52 319 *e*P P 23 24 45.8 -0.2
comp=Z,8.8nm,1.1s,mb5.1
MAW Mawson 94.55 199 *e*P P 23 24 45.2 -1.0
comp=Z,2.8nm,1.1s,mb4.6
MAW Mawson 94.55 199 P P 23 24 45.4 -0.8
comp=Z,4.1nm,1.0s,mb4.8,baz=42,slow=3.8,SNR=6.1
MAW Mawson 94.55 199 *e*P P 23 24 45.2 -1.0
MAW pmax pmax
comp=Z,3.0nm,1.1s
VIVF Saint-Julien-l 94.64 320 *e*P P 23 24 46.2 -0.4
comp=Z,12nm,0.9s,mb5.0
VIVF Saint-Julien-l 94.64 320 *e*P P 23 24 46.2 -0.4
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
VIVF Saint-Julien-l 94.64 320 *e*P P 23 24 46.2 -0.4
comp=Z,6.3nm,0.9s,mb5.0
TCF Toulx Ste Croi 95.38 322 *e*P P 23 24 49.6 -0.4
comp=Z,18nm,1.4s,mb5.0
TCF Toulx Ste Croi 95.38 322 *e*P P 23 24 49.6 -0.4
TCF pmax pmax
comp=Z,9.0nm,1.4s,mb5.0
TCF Toulx Ste Croi 95.38 322 *e*P P 23 24 49.6 -0.4
comp=Z,9.1nm,1.4s,mb5.0
PPT Papeete 95.42 107 LR LR 00 05 40.4
comp=Z,177nm,19.2s,MS4.5,baz=263,slow=34
LASF Ste Croix 95.54 320 *e*P P 23 24 50.5 -0.2
CAF Calviac 96.19 321 *e*P P 23 24 53.7 0.0
RJF Les Rejaudoux 96.32 321 *e*P P 23 24 54.3 0.0
comp=Z,17nm,1.2s,mb5.1
RJF *e*R
comp=Z,62nm,19.0s
RJF Les Rejaudoux 96.32 321 *e*P P 23 24 54.3 0.0
RJF pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
RJF MLR MLR
comp=Z,60nm,19.0s,MS4.1
RJF Les Rejaudoux 96.32 321 *e*P P 23 24 54.3 0.0
comp=Z,8.7nm,1.2s,mb5.1
RJF LR LR
comp=Z,60nm,19.0s,MS4.1
MFF Saint Martin d 96.58 323 *e*P P 23 24 55.0 -0.4
comp=Z,27nm,1.3s,mb5.2
MFF Saint Martin d 96.58 323 *e*P P 23 24 55.0 -0.4
MFF pmax pmax
comp=Z,14nm,1.3s,mb5.2
MFF Saint Martin d 96.58 323 *e*P P 23 24 55.0 -0.4
comp=Z,14nm,1.3s,mb5.2
MTLF Montolieu 96.94 320 *e*P P 23 24 56.1 -1.0
comp=Z,4.1nm,0.9s,mb4.6
MTLF Montolieu 96.94 320 *e*P P 23 24 56.1 -1.0
MTLF pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
MTLF Montolieu 96.94 320 *e*P P 23 24 56.1 -1.0
comp=Z,2.0nm,0.9s,mb4.5
SJPF Ste Jean 99.17 321 *e*P P 23 25 06.7 -0.4
TORD Torodi Ar. Bea 112.01 292 PP PP 23 30 40.6 -4.2
comp=Z,0.6nm,0.7s,baz=76,slow=6.2,SNR=4.3
JCT Junction City 118.69 39 *e*PKIKP PKPdf 23 30 14.2 +0.7
WVT Waverly 120.41 26 *e*PKIKP PKPdf 23 30 16.5 -0.3
SDV Santo Domingo 151.65 23 PKP PKPdf 23 31 15.1 +1.6
comp=Z,27nm,0.9s,baz=307,slow=4.3,SNR=6.9
SDV PKPbc PKPbc 23 31 20.6 +0.8
comp=Z,38nm,0.8s,baz=344,slow=2.1,SNR=35
PLCA Paso Flores 155.13 160 PKPbc PKPdf 23 31 27.9 +9.4
comp=Z,2.2nm,0.7s,baz=162,slow=3.2,SNR=6.7
CPUP Villa Florida 170.96 195 PKPab PKPab 23 32 52.1 -0.6
comp=Z,2.3nm,0.7s,baz=104,slow=3.1,SNR=5.0
LPAZ La Paz 171.99 82 PKP PKPdf 23 31 36.1 +2.0
comp=Z,1.9nm,0.9s,baz=36,slow=4.1,SNR=9.8
LPAZ PKPab PKPab 23 32 59.1 +1.9
comp=Z,1.0nm,0.8s,baz=0.0,slow=6.1,SNR=3.8

MOS 26 23:22:02.1±1.5, 4354N×4572E, h16km, mb3.6/1, 5C-3D, Error ellipse: s-maj=30.4km s-min=11.3km az=157.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.81**	**235⇑**	*e*PG	Pg	23 22 19.1	+1.2
SNJR				*e*S	Sb	23 22 31.6	+3.0
BTKR	**Batakoyurt**	**0.87**	**259⇑**	*e*PG	Pg	23 22 20.3	+1.2
BTKR				*e*S	Sb	23 22 33.5	+3.2
VLKR	**Vladikavkaz**	**0.91**	**237⇓**	*e*PG	Pg	23 22 20.8	+1.1
VLKR				*e*S	Sb	23 22 34.4	+3.1
KMSR	**Komsomolskaya**	**1.05**	**261⇑**	*e*PG	Pg	23 22 23.3	+0.8
KMSR				*e*S	Sb	23 22 39.0	+3.5
ARNR	**Ardon**	**1.11**	**252⇑**	*e*PG	Pg	23 22 24.2	+0.7
ARNR				*e*S	Sb	23 22 40.5	+3.4
LACR	**Lac**	**1.26**	**236⇑**	*e*PG	Pg	23 22 26.9	+0.4
LACR				*e*S	Sb	23 22 44.9	+3.4
KORR	**Kora**	**1.29**	**250⇓**	*e*PG	Pg	23 22 27.4	+0.5
KORR				*e*S	Sb	23 22 45.8	+3.5
DIGR	**Digorskoe uzhe**	**1.69**	**248⇓**	*e*PN	Pn	23 22 33.0	+2.1
DIGR				*e*S	Sn	23 22 55.5	+3.3

*ISCJB **26** 23:25:56.9±2.1, 218S±01×178.1W±0.1, h415km±22km, mb3.8/11, Error ellipse: s-maj=23.9km s-min=18.5km az=47.8*
*NEIC **26** 23:25:57.7±1.7, 2170S×17803W, h416km±18km, mb4.0/5, Error ellipse: s-maj=16.1km s-min=12.0km az=205.0*
*IDC **26** 23:25:58.3±7.2, 2177S×17805W, h421km±70km, mb3.3/8, mb1 3.6/8, mb1mx3.5/12, mbtmp4.1/8, Error ellipse: s-maj=37.6km s-min=26.3km az=120.0*
ISC 26 23:25:58.1±2.3, 218S±01×1781W±01, h415km±25km, n27, σ0$64/17, mb3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.44**	**179**	Pn	**P**	**23 27 47.0**	**+0.1**
CTA	**Charters Tower**	**33.34**	**266**	P	**P**	**23 32 00.3**	**+0.8**
6.7nm,0.6s,mb4.1,baz=100,slow=8.9,SNR=7.7							
CTAO	**Charters Tower**	**33.34**	**266**	*e*P	**P**	**23 32 00.1**	**+0.6**
4.2nm,0.4s,mb4.1							
PMG	**Port Moresby**	**35.61**	**285**	P	**P**	**23 32 19.3**	**+0.7**
STKA	**Stephens Creek**	**37.21**	**246**	P	**P**	**23 32 30.6**	**-1.4**
3.3nm,0.9s,mb3.6,baz=108,slow=13,SNR=4.5							
ASAR	**Alice Springs**	**44.20**	**258**	P	**P**	**23 33 27.9**	**-0.3**
3.8nm,0.8s,mb3.8,baz=88,slow=8.2,SNR=30							
ASAR				PcP	PcP	23 35 04.5	+0.1
0.6nm,0.6s,baz=107,slow=3.6,SNR=4.8							
WRAB	**Tennant Creek**	**44.39**	**263**	*e*P	**P**	**23 33 29.9**	**+0.2**
3.6nm,0.3s,mb4.2							
WRA	**Warramunga Arr**	**44.40**	**263**	P	**P**	**23 33 29.6**	**-0.2**
3.1nm,0.8s,mb3.7,baz=98,slow=8.4,SNR=11							
SBA	**Scott Base**	**56.59**	**184**	P	**P**	**23 35 00.3**	**+0.7**
VNDA	**Vanda**	**56.63**	**185**	P	**P**	**23 34 58.9**	**-1.0**
MBWA	**Marble Bar**	**57.54**	**258**	*e*P	**P**	**23 35 06.2**	**0.0**
3.9nm,0.4s,mb4.1							
MJAR	**Matsushiro Arr**	**71.22**	**324**	P	**P**	**23 36 33.5**	**-0.1**
1.4nm,0.5s,mb3.8,baz=161,slow=5.6,SNR=5.7							
MAW	**Mawson**	**80.35**	**200**	P	**P**	**23 37 24.6**	**+0.1**
0.9nm,0.6s,mb3.6,baz=144,slow=8.7,SNR=5.6							
MAW	**Mawson**	**80.35**	**200**	*e*P	**P**	**23 37 24.8**	**+0.2**
0.9nm,0.5s,mb3.7							
NVAR	**Mina Array Bea**	**81.98**	**43**	P	**P**	**23 37 33.3**	**+0.2**
0.6nm,0.8s,mb3.4,baz=212,slow=10,SNR=4.0							
SNAA	**Sanae**	**86.73**	**178**	*e*P	**P**	**23 37 57.6**	**+1.0**
0.4nm,0.4s,mb3.5							
PDAR	**Pinedale Array**	**89.92**	**43**	P	**P**	**23 38 10.8**	**-0.7**
0.6nm,0.7s,mb3.5,baz=187,slow=2.5,SNR=4.8							
ARCES	**ARCESS Array B**	**130.17**	**349**	PKP	PKPdf	23 44 18.0	-1.7
4.1nm,1.0s,baz=42,slow=2.0,SNR=9.3							
FINES	**FINESS Array B**	**136.99**	**343**	PKP	PKPdf	23 44 30.9	-1.5
0.9nm,0.8s,baz=108,slow=6.2,SNR=4.3							
AKASG	**Malin Array Be**	**144.11**	**330**	PKP	PKPdf	23 44 42.7	-2.5
3.2nm,0.5s,baz=43,slow=4.1,SNR=28							
AKASG	**Malin Array Be**	**144.11**	**330**	PKP	PKPdf	23 44 42.7	-2.5
BRTR	**Keskin Array B**	**147.66**	**311**	PKPbc	PKPbc	23 44 54.2	-0.4
1.2nm,0.7s,baz=137,slow=5.1,SNR=7.8							
CLL	**Collm**	**149.30**	**346**	*i* PKPbc	PKPbc	23 44 58.2	-0.5
comp=Z,7.0nm,0.4s							
BRG	**Berggiesshubel**	**149.49**	**345**	P	PKPbc	23 44 58.6	-0.5
KHC	**Kasperske Hory**	**151.19**	**344**	*e*PKPbc	PKPbc	23 45 03.0	-0.1
GERES	**GERESS Array B**	**151.42**	**344**	PKPbc	PKPbc	23 45 03.0	-0.7
comp=Z,2.2nm,0.8s,baz=48,slow=2.0,SNR=12							
TORD	**Torodi Ar. Bea**	**171.41**	**178**	PKP	PKPdf	23 45 17.1	-0.4
comp=Z,0.6nm,0.9s,baz=318,slow=2.0,SNR=4.4							

*MDD **26** 23:38:40.2±1.9, 3747N×866W, h0km, mbLg1.1/3, Error ellipse: s-maj=16.0km s-min=4.7km az=21.0, PRXIMO*
INMG 26 23:38:41.1±1.2, 3750N×869W, h3km±18km, ML0.5, Error ellipse: s-maj=8.9km s-min=6.8km az=26.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.06**	**330**	*e*Pg	Pg	23 38 41.7	-0.6
PTEO				*e*Sg	Sg	23 38 43.5	+0.3
PTEO							
9.9nm,0.1s							
PBEJ	**Beja**	**0.84**	**51**	*e*P	Pg	23 38 56.4	-0.8
PBEJ				*e*S	Sg	23 39 07.7	-0.4
PBEJ							
1.3nm,0.1s							
EGRO	**El Granado**	**0.96**	**87**	Pg	Pg	23 38 58.9	-0.6
0.3nm,0.1s,SNR=7.9							
EGRO				Lg		23 39 11.6	
1.8nm,0.1s,SNR=8.1							
MOE	**Montemor**	**1.06**	**14**	*e*P	Pg	23 39 00.7	-0.7
EMIN	**Mina Concepcio**	**1.62**	**80**	Pg	Pg	23 39 09.5	-2.7
0.1nm,0.1s,SNR=7.9							
EMIN				Lg		23 39 30.4	
0.2nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**1.82**	**46**	Pg	Pg	23 39 14.8	-1.3
0.2nm,0.1s,SNR=7.9							
EBAD				Lg		23 39 38.3	
0.3nm,0.1s,SNR=7.9							

MEX 26 23:51:54.8±0.6, 1594N×9752W, h18km±483km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.74**	**307**	*i* P	Pb	23 52 06.5	-2.5
PNIG				*i* S	Sb	23 52 15.9	-2.9
VHO	**Vista Hermosa**	**1.35**	**34**	*i* P	Pn	23 52 15.6	-3.1
VHO				*i* S	Sn	23 52 30.9	-5.3
OXX	**Oaxaca**	**1.36**	**34**	*i* P	Pn	23 52 16.0	-2.9
OXX				*i* S	Sn	23 52 32.5	-4.1
UTMO	**Huajuapan**	**1.90**	**352**	*e*P	Pn	23 52 24.1	-2.2
UTMO				*i* S	Sn	23 52 46.6	-3.1

*ISCJB **26** 23:58:48.0±2.4, 70S±0.1×1272E±02, h433km±34km, mb3.3/7, Error ellipse: s-maj=28.1km s-min=10.5km az=122.6*
*IDC **26** 23:58:48.2±3.1, 686S×12737E, h412km±41km, mb2.9/4, mb1 3.0/7, mb1mx2.9/14, mbtmp3.7/7, Error ellipse: s-maj=53.2km s-min=13.6km az=72.0*
*NEIC **26** 23:58:49.1±1.4, 697S×12719E, h429km±21km, mb3.6/4, Error ellipse: s-maj=21.9km s-min=9.1km az=58.0*
ISC 26 23:58:49.6±1.6, 70S±01×1272E±02, h435km±25km, n17, σ0$98/19, mb3.3/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Cressi**	**11.11**	**188**	P	**P**	**00 01 19.0**	**+0.1**
0.1nm,0.3s,baz=349,slow=16,SNR=3.9							
WRAB	**Tennant Creek**	**14.61**	**152**	P	**P**	**00 01 56.5**	**-0.3**
WRA	**Warramunga Arr**	**14.61**	**152**	P	**P**	**00 01 57.1**	**+0.3**
0.3nm,0.3s,baz=328,slow=11,SNR=8.7							
WRA				S	**S**	**00 04 29.9**	**-1.8**
0.1nm,0.3s,baz=328,slow=20,SNR=3.2							
MBWA	**Marble Bar**	**15.78**	**206**	*e*P	**P**	**00 02 08.6**	**-0.8**
3.2nm,0.3s							
KKM	**Kota Kinabalu**	**16.96**	**320**	P	**P**	**00 02 22.1**	**+0.2**
ASAR	**Alice Springs**	**17.77**	**159**	P	**P**	**00 02 32.0**	**+1.6**
0.7nm,0.3s,baz=350,slow=13,SNR=22							
ASAR				S	**S**	**00 05 36.0**	**+3.2**
0.1nm,0.3s,baz=344,slow=23,SNR=5.7							
CTAO	**Charters Tower**	**22.62**	**127**	*e*P	**P**	**00 03 15.2**	**-0.4**
0.5nm,0.3s,mb3.4							
STKA	**Stephens Creek**	**28.16**	**153**	P	**P**	**00 04 04.3**	**-0.5**
1.2nm,0.5s,mb3.5,baz=341,slow=9.3,SNR=3.9							
TAU	**Tasmania Unive**	**39.92**	**157**	P	**P**	**00 05 45.2**	**+0.9**
ENH	**Enshi**	**40.78**	**336**	P	**P**	**00 05 51.0**	**-0.2**
MAT	**Matsushiro**	**44.56**	**13**	P	**P**	**00 06 22.7**	**+1.6**
MJAR	**Matsushiro Arr**	**44.56**	**13**	P	**P**	**00 06 19.5**	**-1.6**
0.9nm,0.3s,mb3.6,baz=185,slow=8.1,SNR=5.2							
SONM	**Songino Array**	**57.62**	**344**	P	**P**	**00 07 57.0**	**+0.5**
0.2nm,0.6s,mb2.6,baz=155,slow=4.8,SNR=2.9							
SONM	**Songino Array**	**57.62**	**344**	P	**P**	**00 07 57.0**	**+0.5**
MKAR	**Makanchi Array**	**66.73**	**328**	P	**P**	**00 08 56.2**	**+0.1**
0.3nm,0.6s,mb3.1,baz=133,slow=10.0,SNR=3.8							
KURK	**Kurchatov**	**71.09**	**330**	*e*P	**P**	**00 09 22.5**	**-0.1**
0.6nm,0.4s,mb3.5							
BRVK	**Borovoye**	**76.67**	**329**	*e*P	**P**	**00 09 53.8**	**-0.7**
0.4nm,0.4s,mb3.4							

WEL 27 00:03:13.6±0.3, 3842S×17595E, h171km±2km, ML3.6/13, 7C, Error ellipse: s-maj=1.8km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.59**	**200**	PN	Pn	00 03 38.0	+0.3
KRVZ	**Karewarewa**	**0.72**	**200**	PN	Pn	00 03 38.8	+0.3
WTVZ	**West Tongariro**	**0.75**	**202**	⇑PN	Pn	00 03 39.0	+0.3
TWVZ	**Taurewa**	**0.77**	**211**	⇑PN	Pn	00 03 38.9	+0.2
NGZ	**Ngauruhoe**	**0.81**	**200**	PN	Pn	00 03 39.3	+0.3
WPVZ	**Whakapapa**	**0.85**	**202**	PN	Pn	00 03 39.6	+0.3
BKZ	**Black Stump Fm**	**0.86**	**151**	PN	Pn	00 03 39.7	+0.3
BKZ				SN	Sn	00 03 58.9	-0.2
HIZ	**Hauiti**	**0.87**	**263**	⇑PN	Pn	00 03 39.3	-0.1
TUVZ	**Tukino**	**0.88**	**195**	⇑PN	Pn	00 03 39.9	+0.4
FWVZ	**Far West T-bar**	**0.89**	**200**	PN	Pn	00 03 39.8	+0.2
URZ	**Urewera**	**0.92**	**81**	PN	Pn	00 03 39.6	-0.2
URZ				SN	Sn	00 03 59.5	-0.4
PKVZ	**Pokaka**	**0.99**	**208**	⇑PN	Pn	00 03 40.3	0.0
MOVZ	**Moawhango**	**1.00**	**189**	⇑PN	Pn	00 03 40.3	-0.1
VRZ	**Vera Road**	**1.17**	**232**	PN	Pn	00 03 41.4	-0.3
MWZ	**Matawai**	**1.24**	**87**	*e*PN	Pn	00 03 42.4	0.0
MWZ				SN	Sn	00 04 04.6	+0.1
KNZ	**Kokohu**	**1.48**	**115**	SN	Sn	00 04 08.6	+0.2
TSZ	**Takapari Road**	**1.64**	**180**	⇑PN	Pn	00 03 45.8	-0.4
TSZ				SN	Sn	00 04 09.9	-1.4
PXZ	**Pawanui**	**1.76**	**157**	PN	Pn	00 03 47.3	-0.1
PXZ				SN	Sn	00 04 13.3	-0.3
PUZ	**Puketiti**	**1.85**	**80**	PN	Pn	00 03 49.1	+0.7
PUZ				SN	Sn	00 04 13.7	-1.5
MXZ	**Matakaoa Point**	**2.05**	**66**	*e*PN	Pn	00 03 51.3	+0.7
MRZ	**Mangatainoka R**	**2.26**	**187**	PN	Pn	00 03 51.3	-1.6
MRZ				SN	Sn	00 04 20.7	-2.8
BFZ	**Birch Farm**	**2.27**	**174**	PN	Pn	00 03 51.9	-1.3
TIWZ	**Tintock**	**2.36**	**181**	SN	Sn	00 04 22.9	-2.6
KIW	**Kapiti Island**	**2.57**	**198**	PN	Pn	00 03 54.2	-2.4
KIW				SN	Sn	00 04 26.5	-3.5

*ISCJB **27** 00:23:32.9±0.5, 4080N±003×2773E±003, h8km±4km, Error ellipse: s-maj=5.1km s-min=3.6km az=155.3*
*CSEM **27** 00:23:32.6±0.1, 4082N×2770E, h12km, MD2.9, Error ellipse: s-maj=1.8km s-min=1.2km az=170.0*
*ISK **27** 00:23:32.9, 4080N×2770E, h15km, MD2.9*
*NEIC **27** 00:23:32.9, 4080N×2770E, h15km, MD2.9(ISK), MD3.3(ATH), After ISK.*
*ATH **27** 00:23:43.9, 4059N×2661E, h10km, MD3.3/3*
ISC 27 00:23:33.4±0.5, 4080N±003×2773E±003, h10km±4km, n26, σ0$75/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFT	**Murefte**	**0.34**	**268**	*i* PG	**Pg**	**00 23 39.5**	**-0.6**
MFT				*i* SG	**Sg**	**00 23 45.0**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.43**	**255**	*i* PG	**Pg**	**00 23 41.3**	**-0.5**
RKY				*i* SG	**Sg**	**00 23 47.7**	**+0.2**
EDC	**Edincik**	**0.47**	**167**	*i* PG	**Pg**	**00 23 42.9**	**+0.4**
EDC				*i* SG	**Sg**	**00 23 49.4**	**+0.8**
BNT	**Bandirma**	**0.47**	**161**	*i* PG	**Pg**	**00 23 42.9**	**+0.4**
CTT	**Catalca**	**0.64**	**57**	*i* PG	**Pg**	**00 23 46.1**	**+0.4**
ELBA	**Catalca**	**0.64**	**57**	*i* P

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
KLYT	Kilyos	1.09	65	*i* PN	Pn	00 23 54.3	-0.4
BALB	Balikesir	1.17	174	PN	Pn	00 23 55.3	-0.4
ENEZ	Enez	1.20	267	PN	Pn	00 23 55.4	-0.7
YLV	Yalova	1.27	100	PN	Pn	00 23 56.9	-0.3
EDRB	Edirne	1.28	325	PN	Pn	00 23 56.8	-0.5
EZN	Ezine	1.45	228	*e*PN	Pn	00 23 59.2	-0.4
HRT	Hereke	1.48	89	*e*PN	Pn	00 24 00.2	+0.2
ADVT	Abdulvahap	1.58	103	*e*PN	Pn	00 24 02.1	+0.8
BOZC	Bozcaada	1.60	234	*i* P	Pn	00 24 01.0	-0.6
BOZC				*i* S	Sn	00 24 22.6	+0.3
AYVA	Ayvalik	1.69	208	*i* P	Pn	00 24 05.1	+2.2
AYVA				*i* S	Sn	00 24 26.0	+1.4
RDO	Rodhopi	1.69	282	*e*PB	Pn	00 24 02.6	-0.4
PRK	Paraskevi	1.91	216	*e*PB	Pb	00 24 09.6	+1.3
LIA	Limnos Island	2.14	246	*e*PB	Pn	00 24 08.3	-0.8
GDZ	Gediz	2.18	141	*i* P	Pb	00 24 12.4	-0.4
GDZ				*i* S	Sg	00 24 43.4	0.0
MANT	Manisa	2.39	164	*i* P	Pn	00 24 12.0	-0.6
MANT				*i* S	Sg	00 24 48.8	-1.6
HENT	Hendek	2.41	88	*i* P	Pb	00 24 16.4	-0.4
HENT				*i* S	Sg	00 24 50.3	-0.5
BLCB	Balcova	2.47	193	*e*PN	Pn	00 24 14.0	+0.4

*IDC **27** 00:32:39.5±26.0, 4489N×14804E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.8/5, MS3.5/1, Ms1 3.5/1, ms1mx2.1/27, Error ellipse: s-maj=588.3km s-min=51.9km az=153.0*
*MOS **27** 00:32:45.4±0.7, 4536N×14768E, h33km, mb4.3/2, Error ellipse: s-maj=43.9km s-min=31.5km az=88.3*
*ISCJB **27** 00:32:46.5±1.1, 4427N±009×1480E±01, h97km±7km, mb3.7/5, Error ellipse: s-maj=19.5km s-min=7.2km az=84.3*
*SKHL **27** 00:32:49.3±2.9, 4420N×14804E, h45km±14km, mb5.1/1*
*JMA **27** 00:32:50.5±0.3, 4397N×14787E, h91km, M4.0*
ISC 27 00:32:47.8±1.1, 4428N±009×1480E±01, h92km±7km, n23, σ1°09/34, mb3.7/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	0.95	355	*e*P	Pn	00 33 06.0	-1.0
KUR				*i* S	Sn	00 33 21.0	-0.5
YUK	Yuzh-Kuril'sk	1.55	262	*i* P	Pn	00 33 15.3	+1.1
YUK				AMB	AMB	00 33 16.0	
	130nm,0.3s						
YUK				AMB	AMB	00 33 16.0	
	120nm,0.3s						
YUK				AMB	AMB	00 33 16.0	
	620nm,0.3s						
YUK				*e*S	Sn	00 33 33.0	-1.3
YUK				A		00 33 35.0	
	1μm,0.1s						
YUK				A		00 33 35.0	
	770nm,0.1s						
YUK				A		00 33 35.0	
	2μm,0.6s						
NEM2	Nemuro 2	1.87	241	P	Pn	00 33 18.5	+0.2
NEM2				*e*S	Sn	00 33 40.0	-1.5
JRA	Rausu	2.10	262	P	Pn	00 33 22.7	+1.5
JRA				*e*S	Sn	00 33 47.6	+0.8
JNK	Nakash	2.47	255	P	Pn	00 33 27.4	+1.3
JNK				*e*S	Sn	00 33 54.9	-0.7
JAK	Akkeshi	2.72	243	P	Pn	00 33 29.8	+0.3
JAK				*e*S	Sn	00 33 59.6	-1.9
JTKR	Abashiri--Toko	2.96	265	P	Pn	00 33 34.3	+1.6
JTKR				*e*S	Sn	00 34 07.4	+0.1
JAR	Ashorobuto	3.21	254	P	Pn	00 33 37.8	+1.7
JAR				*e*S	Sn	00 34 14.1	+0.6
JCH	Churui	3.76	245	P	Pn	00 33 43.9	+0.4
JCH				*e*S	Sn	00 34 23.7	-3.0
JFR	Furan	4.07	256	P	Pn	00 33 49.7	+2.0
JNBK	Urakawa-nobuka	4.32	244	P	Pn	00 33 51.2	+0.1
JKB	Kayabe	5.63	247	P	Pn	00 34 09.2	+0.3
JKB				*e*S	Sn	00 35 07.5	-4.7
JOT	Ohata	5.87	243	P	Pn	00 34 11.6	-0.6
JOT				*e*S	Sn	00 35 11.3	-6.8
JANG	Nango	6.19	233	P	Pn	00 34 15.3	-1.2
JANG				*e*S	Sn	00 35 19.1	-6.7
SONM	Songino Array	28.83	292	P	P	00 38 37.5	+0.2
	0.3nm,0.5s,mb3.2,baz=87,slow=7.5,SNR=2.5						
MKAR	Makanchi Array	44.88	297	P	P	00 40 53.5	+0.6
	0.8nm,0.5s,mb3.7,baz=78,slow=9.1,SNR=10.0						
MKAR	Makanchi Array	44.88	297	P	P	00 40 53.6	+0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	Aktyubinsk	57.65	311	LR	LR	01 06 13.1	
	comp=Z,48nm,20.5s,baz=307,slow=35						
ARCES	ARCESS Array B	58.96	340	P	P	00 42 36.2	-1.3
	comp=Z,1.7nm,0.8s,mb4.1,baz=46,slow=6.9,SNR=3.6						
ARCES	ARCESS Array B	58.96	340	P	P	00 42 36.3	-1.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	64.68	333	P	P	00 43 14.8	-1.0
	comp=Z,1.4nm,0.7s,mb3.9,baz=46,slow=5.5,SNR=7.5						
FINES	FINESS Array B	64.68	333	P	P	00 43 14.9	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	69.33	339	P	P	00 43 45.0	-0.3
	comp=Z,0.3nm,0.5s,mb3.4,baz=28,slow=6.6,SNR=2.7						

*ISCJB **27** 00:36:00.6±0.4, 3195S±007×11154W±0.10, h10km, mb4.4/25, MS4.2/14, Error ellipse: s-maj=12.0km s-min=9.8km az=150.8*
*IDC **27** 00:36:00.4±0.7, 3180S×11164W, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.2/19, mbtmp4.2/13, ML4.4/1, MS4.2/15, Ms1 4.2/15, ms1mx4.1/21, Error ellipse: s-maj=21.6km s-min=17.8km az=14.0*
*NEIC **27** 00:36:02.0±0.4, 3195S×11157W, h10km, mb4.7/16, Error ellipse: s-maj=11.9km s-min=10.2km az=79.0*
*HRVD **27** 00:36:02.0±0.4, 3204S×11151W, h12km±2km, MW4.9/65, Centroid moment Tensor Solution. LP body waves: s26,c31;Mantle waves: s65,c97; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.16±.11; Mθθ~2.43±.11; Mφφ.2.60±.11; Mrθ~1.09±.34; Mθφ0.95±.10; Mφr0.64±.32; Best double couple: M0.2.96700×10^16 NP1:φs147.00000°,δ81.00000°,λ-157.00000°. Principal axes: T 2.8430, Plg9.0000°, Azm278.0000°; N 0.2540, Plg66.0000°, Azm168.0000°; P -3.0910, Plg22.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 00:36:02.4±0.4, 3195S±007×11158W±010, h10km, n64, σ1°21/47, mb4.4/25, MS4.2/14, 2C-3D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	Rapa Nui	5.19	23	Pn	Pn	00 37 18.5	-1.6
	15nm,0.3s,baz=194,slow=8.7,SNR=4.3						
RPN				Sn	Sn	00 38 15.4	-4.6
	5.2nm,0.3s,baz=22,slow=8.2,SNR=2.1						
RPN				LR	LR	00 38 49.7	
	comp=Z,2μm,18.2s,baz=22,slow=33						
PLCA	Paso Flores	33.94	117	P	P	00 42 46.5	+0.8
	3.1nm,0.8s,mb4.3,baz=261,slow=11,SNR=8.8						
PLCA				LR	LR	00 52 59.0	
	comp=Z,674nm,19.9s,MS4.4,baz=284,slow=30						
PLCA	Paso Flores	33.94	117	*e*P	P	00 42 46.6	+0.8
	3.1nm,0.7s,mb4.3						
TBI	Tubuai	34.49	275	*e*LR	LR	00 51 55.0	
	710nm,27.2s,baz=112						
CFAA	Coronel Fontan	36.66	101	P	P	00 43 09.0	-0.2
	0.2nm,0.3s,mb3.4,baz=248,slow=6.9,SNR=4.5						
CFAA				LR	LR	00 54 12.9	
	comp=Z,96nm,21.4s,MS3.5,baz=316,slow=30						
PPT	Papeete	37.15	283	*e*S	S	00 48 53.3	-6.5
	79nm,24.0s						
PPT				*e*LR	LR	00 53 03.7	
	1μm,25.2s,baz=122						
PPT	Papeete	37.15	283	LR	LR	00 53 55.1	
	comp=Z,766nm,19.9s,MS4.5,baz=120,slow=29						
LVC	Limon Verde	38.84	87	P	P	00 43 29.0	+1.3
	3.8nm,0.8s,mb4.2,baz=278,slow=4.3,SNR=3.6						
LVC	Limon Verde	38.84	87	*e*P	P	00 43 29.0	+1.4
	3.7nm,0.7s,mb4.2						
ARE	Arequipa	39.43	77	*e*P	P	00 43 33.0	+0.4
TRQA	Tornquist	40.69	113	*e*P	P	00 43 43.3	+0.2
	9.0nm,0.9s,mb4.4						
LPAZ	La Paz	42.31	79	P	P	00 43 57.8	+1.5
	3.8nm,0.9s,mb4.0,baz=242,slow=5.0,SNR=16						
LPAZ				LR	LR	00 57 25.2	
	comp=Z,227nm,19.2s,MS4.1,baz=121,slow=30						
LPAZ	La Paz	42.31	79	*e*P	P	00 43 57.7	+1.4
	4.5nm,0.8s,mb4.2						
LPAZ				LR	LR	00 57 25.2	
RAR	Rarotonga	44.09	272	P	P	00 44 09.0	-1.7
	25nm,1.0s,mb4.9,baz=251,slow=13,SNR=2.5						
OTAV	Otavalo	44.79	51	*e*P	P	00 44 16.4	+0.1
CPUP	Villa Florida	47.31	98	P	P	00 44 34.5	-1.7
	0.2nm,0.3s,mb3.5,baz=226,slow=13,SNR=4.0						
CPUP				LR	LR	01 00 57.0	
	comp=Z,396nm,18.4s,MS4.4,baz=238,slow=32						
CPUP	Villa Florida	47.31	98	P	P	00 44 34.5	-1.7
CPUP				LR	LR	01 00 57.0	
JTS	JuntasAbangare	49.12	36	P	P	00 44 48.2	-1.9
SAML	Samuel	50.28	74	*e*P	P	00 44 58.2	-0.8
	24nm,1.8s,mb4.9						
ROSC	El Rosal	50.95	51	P	P	00 45 04.2	+0.1
	3.3nm,0.7s,mb4.4,baz=100,slow=21,SNR=3.8						
ROSC				LR	LR	01 03 16.8	
	comp=Z,136nm,18.3s,MS4.0,baz=52,slow=32						
SDV	Santo Domingo	56.38	51	P	P	00 45 43.5	-0.3
SBA	Scott Base	57.27	194	*e*P	P	00 45 50.9	+0.8
	18nm,1.6s,mb4.8						
QSPA	South Pole Qui	58.24	180	*e*P	P	00 45 57.1	+0.1
	23nm,1.6s,mb5.0						
VNDA	Vanda	58.33	195	P	P	00 45 58.8	+1.2
	1.4nm,1.0s,mb4.0,baz=106,slow=3.0,SNR=5.0						
VNDA				LR	LR	01 06 30.3	
	comp=Z,272nm,21.5s,MS4.3,baz=70,slow=31						
VNDA	Vanda	58.33	195	P	P	00 45 56.8	-0.8
	3.8nm,1.1s,mb4.3						
VNDA				LR	LR	01 06 30.3	
BDFB	Brasilia	59.62	90	P	P	00 46 06.8	+0.2
	2.0nm,0.8s,mb4.2,baz=273,slow=13,SNR=2.9						
BDFB				LR	LR	01 09 19.7	
	comp=Z,253nm,18.3s,MS4.4,baz=115,slow=34						
JCT	Junction City	63.08	11	*e*P	P	00 46 31.9	+1.9
	10nm,0.9s,mb5.0						
MIAR	Mount Ida	68.28	16	*e*P	P	00 47 07.1	+3.6
	6.4nm,1.0s,mb4.6						
MVCO	Mesa Verde	68.86	3	*e*P	P	00 47 10.1	+2.9
CCUT	Cedar City	69.16	358	*e*P	P	00 47 09.9	+0.8
MSU	Marysvale	70.10	360	P	P	00 47 15.6	+0.7
MNV	Mina	70.29	355	P	P	00 47 15.7	-0.3
	9.4nm,1.0s,mb4.7						
NVAR	Mina Array Bea	70.30	354	P	P	00 47 18.5	+2.5
	0.4nm,0.6s,mb3.5,baz=35,slow=41,SNR=2.1						
SRU	San Rafael	70.70	1	*e*P	P	00 47 18.4	-0.1
	18nm,1.5s,mb4.8						
SMCO	Snowmass	70.89	4	P	P	00 47 20.2	+0.6
	5.2nm,1.1s,mb4.4						
ISCO	Idaho Springs	71.60	5	P	P	00 47 22.5	-1.4
	5.3nm,1.3s,mb4.3						
DAU	Daniels Canyon	72.00	0	*e*P	P	00 47 28.3	+1.9
PDAR	Pinedale Array	74.37	2	P	P	00 47 39.6	-0.8
	1.9nm,0.9s,mb4.0,baz=188,slow=4.5,SNR=9.6						
PDAR				LR	LR	01 15 02.9	
	comp=Z,101nm,18.7s,MS4.1,baz=347,slow=32						
RCBR	Riachuelo	74.79	87	P	P	00 47 40.9	-1.9
HLID	Hailey	75.19	358	*e*P	P	00 47 45.3	+0.2
	8.4nm,1.2s,mb4.5						
MCMT	McKenzie Canyo	76.42	359	P	P	00 47 50.5	-1.6
NEW	Newport	80.00	356	P	P	00 48 12.1	+0.1
	2.1nm,0.7s,mb4.2,baz=188,slow=7.3,SNR=3.2						
NEW	Newport	80.00	356	*e*P	P	00 48 12.3	+0.4
	12nm,1.3s,mb4.7						
MAW	Mawson	80.67	178	LR	LR	01 21 56.9	
	comp=Z,213nm,18.6s,MS4.5,baz=326,slow=34						
MAW	Mawson	80.67	178	*e*P	P	00 48 13.1	-2.5
ULM	Lac du Bonnet	83.01	10	P	P	00 48 27.4	-0.5
	4.1nm,0.8s,mb4.5,baz=186,slow=5.5,SNR=3.2						
ULM				LR	LR	01 21 49.7	
	comp=Z,85nm,19.6s,MS4.1,baz=249,slow=33						
LONY	Lake Ozonia	83.32	26	*e*P	P	00 48 29.4	-0.1
FRNY	Flat Rock	83.88	26	*e*P	P	00 48 31.5	-0.9
FRNY				*e*PcP	PcP	00 48 36.8	+0.4
YKA	Yellowknife Ar	94.14	359	LR	LR	01 27 31.2	
	comp=Z,131nm,18.4s,MS4.4,baz=180,slow=33						
PMG	Port Moresby	94.49	256	LR	LR	01 25 10.7	
	comp=Z,90nm,21.4s,MS4.2,baz=223,slow=31						
SCHQ	Schefferville	94.60	24	P	P	00 49 25.4	+1.9
	2.0nm,0.9s,mb4.6,baz=244,slow=2.4,SNR=6.4						
SCHQ				LR	LR	01 27 08.7	
	comp=Z,66nm,20.3s,MS4.1,baz=78,slow=32						
BURAR	Bucovina Array	143.81	52	⇓*i*P	PKPdf	00 55 35.5	-2.3
MLR	Muntele Rosu	144.62	55	PKP	PKPdf	00 55 37.1	-2.2
	10nm,0.9s						
MLR	Muntele Rosu	144.62	55	⇓*i*P	PKPdf	00 55 37.1	-2.2
VRI	Vrincioaia	145.11	54	⇑*i*P	PKPbc	00 55 44.9	+5.3
AKASG	Malin Array Be	145.63	45	PKPbc	PKPbc	00 55 38.9	-2.3
	1.4nm,0.6s,baz=285,slow=3.7,SNR=5.6						
CFR	Carcaliu	146.20	55	⇑*i*P	PKPdf	00 55 41.9	-0.1
TIRR	Tirgusor	146.50	57	⇓*i*P	PKPdf	00 55 40.6	-1.9
SONM	Songino Array	147.21	310	PKPbc	PKPbc	00 55 44.4	-1.5
	2.2nm,0.9s,baz=88,slow=1.0,SNR=11						
ANTO	Ankara	150.23	65	*e*PKPbc	PKPbc	00 55 52.9	-0.8
BRTR	Keskin Array B	150.89	65	PKPbc	PKPbc	00 55 53.3	-2.0
	1.0nm,0.9s,baz=117,slow=0.6,SNR=7.0						
EIL	Elat	151.23	86	*e*PKP	PKPab	00 55 59.9	-4.0
ASF	Jabal al Asfar	153.33	81	PKP	PKPdf	00 55 54.4	+1.2
	0.4nm,0.3s,baz=293,slow=4.1,SNR=2.4						
BVAR	Borovoye Array	158.89	357	PKPab	PKPab	00 56 33.1	-3.5
	0.7nm,0.6s,baz=227,slow=39,SNR=1.9						

*BJI **27** 00:47:59.4, 3586N×9254E, h39km, mB4.3, mb3.9, ML3.7, Ms3.7, Msz3.8*
*ISCJB **27** 00:48:00.0±2.1, 3586N±009×9240E±008, h52km±21km, mb3.6/7, MS2.8/1, Error ellipse: s-maj=17.3km s-min=7.9km az=64.0*
*NEIC **27** 00:48:01.0±2.5, 3588N×9233E, h43km±23km, mb3.5/4, Error ellipse: s-maj=20.1km s-min=9.9km az=196.0*
*IDC **27** 00:48:01.6±7.9, 3594N×9237E, h50km±82km, mb3.5/5, mb1 3.7/7, mb1mx3.4/23, mbtmp3.8/7, ML3.6/2, MS2.9/2, Ms1 2.9/2, ms1mx2.3/23, Error ellipse: s-maj=85.8km s-min=24.1km az=34.0*
ISC 27 00:48:02.4±1.5, 3591N±008×9233E±008, h56km±15km, n19, σ0°87/21, mb3.6/7, MS2.8/1, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	Gaotai	6.89	57	*e*P	Pn	00 49 41.5	+0.8
GTA				AP		00 49 46.0	
GTA				XP		00 49 49.0	
GTA				S	Sn	00 50 57.8	+0.2
GTA				AMB	AMB		
	comp=Z,30nm,5.7s						
GTA				LR	LR		
	comp=N,360nm,15.2s						
GTA				LR	LR		
	comp=E,630nm,13.3s						
GTA				LR	LR		
	comp=Z,740nm,13.3s						
WMQ	Urumqi	8.67	337	*e*P	Pn	00 50 07.5	+2.4
CD2	Chengdu	10.77	114	*e*P	Pn	00 50 32.5	-1.3
CD2				AP		00 50 39.5	
CD2				PP		00 50 41.3	
CD2				XP		00 50 44.5	
CD2				S	Sn	00 52 33.3	+0.5
CD2				XS		00 52 44.5	
CD2				SS		00 52 47.0	
CD2				LR	LR		
	comp=N,280nm,8.4s						
CD2				LR	LR		
	comp=Z,310nm,7.2s						
MKAR	Makanchi Array	13.22	328	P	Pn	00 51 06.3	-0.9
	comp=Z,0.7nm,0.3s,baz=125,slow=14,SNR=16						
SONM	Songino Array	15.83	37	P	Pn	00 51 41.8	+0.2
	comp=Z,0.1nm,0.3s,baz=223,slow=14,SNR=7.1						
SONM				Lg		00 56 22.2	
	comp=Z,0.1nm,0.3s,baz=235,slow=18,SNR=4.0						
SONM				LR	LR	00 58 44.8	
	comp=Z,47nm,20.6s,baz=179,slow=41						
ULN	Ulaanbaatar	16.18	38	Pn	Pn	00 51 45.4	-0.6
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	17.80	330	Pn	Pn	00 52 05.2	-0.9
	comp=Z,1.4nm,0.3s						
NJ2	Nanjing	22.30	92	*e*P	P	00 52 50.8	-4.2
BVAR	Borovoye Array	23.05	325	P	P	00 53 01.5	-1.3
	comp=Z,0.4nm,0.6s,mb3.0,baz=133,slow=12,SNR=3.6						
BVAR				LR	LR	01 03 10.0	
	comp=Z,33nm,18.5s,MS2.8,baz=326,slow=39						
BRVK	Borovoye	23.11	325	P	P	00 53 03.2	-0.3
CHKZ	Chkalovo	23.36	326	*e*P	P	00 53 07.5	+1.6
	comp=Z,1.9nm,0.7s,mb3.6						
ZRNK	Zerenda	23.66	323	P	P	00 53 08.6	0.0
	comp=Z,1.2nm,0.8s,mb3.4						
AKTK	Aktyubinsk	28.63	311	P	P	00 53 53.6	+0.1
AKTO	Aktyubinsk	28.63	311	P	P	00 53 53.6	+0.1
	comp=Z,1.1nm,0.6s,mb3.8,baz=101,slow=10,SNR=4.3						
YAK	Yakutsk	34.99	30	P	P	00 54 48.4	-0.9
MALT	Malatya	42.55	290	P	P	00 55 52.6	+0.1
WRA	Warramunga Arr	68.31	137	P	P	00 58 57.7	+0.1
	comp=Z,1.5nm,1.0s,mb4.0,baz=332,slow=6.6,SNR=5.1						
ASAR	Alice Springs	71.11	140	P	P	00 59 14.8	+0.1
	comp=Z,0.6nm,0.5s,mb3.8,baz=327,slow=6.6,SNR=8.6						
TORD	Torodi Ar. Bea	82.92	281	P	P	01 00 22.0	+0.9
	comp=Z,1.0nm,0.9s,mb3.8,baz=51,slow=5.1,SNR=4.3						

*ISCJB **27** 01:13:23.1±0.6, 1506S±004×7169W±006, h123km±6km, mb4.0/13, Error ellipse: s-maj=9.7km s-min=6.9km az=134.1*
*IDC **27** 01:13:23.9±2.0, 1513S×7160W, h115km±19km, mb3.9/10, mb1 4.0/14, mb1mx3.9/21, mbtmp4.3/14, Error ellipse: s-maj=20.5km s-min=12.5km az=66.0*
*NEIC **27** 01:13:24.4±0.8, 1511S×7175W, h121km±8km, mb4.2/8, Error ellipse: s-maj=12.2km s-min=8.4km az=71.0*
ISC 27 01:13:24.2±0.6, 1507S±004×7168W±006, h117km±6km, n38, σ1°05/41, mb4.0/13, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	Arequipa	1.39	172	⇓*i*P	Pn	01 13 51.0	+0.8
ARE				*i* S	Sn	01 14 11.0	+1.0
LPAZ	La Paz	3.63	110	P	Pn	01 14 23.6	+4.8
	20nm,0.3s,baz=290,slow=9.4,SNR=289						
NNA	Nana	5.88	301	*e*Pn	Pn	01 14 48.0	-1.0
	196nm,0.4s						
NNA				*e*Sn	Sn	01 15 50.5	-4.5
LVC	Limon Verde	7.95	161	P	Pn	01 15 14.8	-2.1
	12nm,0.3s,baz=331,slow=9.3,SNR=212						
LVC				S	Sn	01 16 36.5	-8.6
	17nm,0.3s,baz=228,slow=19,SNR=18						
SIV	San Ignacio	10.27	97	P	Pn	01 15 48.5	+0.2
	2.4nm,0.3s,baz=282,slow=11,SNR=78						
SAML	Samuel	10.30	55	*e*Pn	Pn	01 15 49.5	+0.7
	11nm,0.8s						
SAML				*e*Sn	Sn	01 17 40.8	-1.4
ATAH	Atahualpa	10.38	320	P	Pn	01 15 51.0	+1.2
	0.6nm,0.3s,baz=71,slow=3.6,SNR=5.0						
ATAH				S	Sn	01 17 42.4	-1.7
	0.8nm,0.3s,baz=32,slow=10,SNR=3.4						
OTAV	Otavalo	16.62	336	*e*Pn	Pn	01 17 14.6	+4.5
	12nm,1.0s						
CFAA	Coronel Fontan	16.76	170	P	Pn	01 17 11.1	-0.7
	0.2nm,0.3s,baz=351,slow=10,SNR=42						
MDZ	Mendoza	17.92	172	*e*P	Pn	01 17 26.9	+1.1
ROSC	El Rosal	19.97	352	P	P	01 17 48.9	+1.7
	1.2nm,0.4s,baz=97,slow=22,SNR=2.0						
BDFB	Brasilia	22.83	95	P	P	01 18 17.3	+0.1
	3.9nm,0.7s,mb3.9,baz=269,slow=15,SNR=5.8						
SDV	Santo Domingo	23.82	3	P	P	01 18 27.3	+1.0
	5.7nm,0.5s,mb4.2,baz=217,slow=6.1,SNR=8.4						
PLCA	Paso Flores	25.59	178	P	P	01 18 41.6	-0.7
	10nm,0.9s,mb4.3,baz=348,slow=9.7,SNR=21						
PLCA	Paso Flores	25.59	178	*e*P	P	01 18 41.4	-1.0
	10nm,0.8s,mb4.3						
TEIG	Tepich	38.68	335	*e*P	P	01 20 35.8	-0.7
BBSR	BB Station	47.64	8	P	P	01 21 48.4	-0.1
PMSA	Palmer Station	49.92	176	P	P	01 22 04.7	-1.3
MIAR	Mount Ida	53.55	338	*e*P	P	01 22 34.1	+1.2
	3.1nm,0.5s,mb4.1						
PV01	Paradox Valley	63.23	328	P	P	01 23 40.5	+0.4
VNA1	Neumayer--Stat	67.19	161	*e*	P	01 24 06.2	+0.6
VNA1				*e*		01 24 07.3	
PDAR	Pinedale Array	67.25	331	P	P	01 24 07.2	+1.1
	0.3nm,0.5s,mb3.4,baz=116,slow=9.0,SNR=3.7						
ULM	Lac du Bonnet	68.43	344	P	P	01 24 13.0	-0.4
	1.8nm,0.7s,mb4.0,baz=144,slow=5.1,SNR=3.1						
DBIC	Dimbokro	69.65	77	P	P	01 24 20.1	-0.8
	3.4nm,0.7s,mb4.3,baz=270,slow=9.1,SNR=4.7						
CMB	Columbia Colle	69.83	321	P	P	01 24 23.3	+1.3
HLID	Hailey	70.22	328	P	P	01 24 22.2	-2.2
QSPA	South Pole Qui	75.08	180	*e*P	P	01 24 53.4	+0.2
	3.6nm,0.5s,mb4.4						
TORD	Torodi Ar. Bea	77.83	73	P	P	01 25 08.6	-0.1
	3.7nm,0.6s,mb4.3,baz=255,slow=4.7,SNR=45						
TORD	Torodi Ar. Bea	77.83	73	P	P	01 25 08.6	-0.1
VNDA	Vanda	82.69	190	P	P	01 25 34.4	-0.3
	0.7nm,0.7s,mb3.6,baz=124,slow=2.9,SNR=5.9						
VNDA	Vanda	82.69	190	*e*P	P	01 25 34.3	-0.4
	1.1nm,0.7s,mb3.8						
YKA	Yellowknife Ar	84.28	341	P	P	01 25 42.1	-0.7
	0.8nm,0.5s,mb3.8,baz=131,slow=5.4,SNR=4.5						
SUMG	Summit	90.17	10	P	P	01 26 13.2	+1.9
RES	Resolute Bay	90.75	354	*e*P	P	01 26 13.9	-0.1
	1.7nm,0.9s,mb4.2						
MAW	Mawson	91.21	164	P	P	01 26 16.0	-0.1
	0.7nm,0.6s,mb4.0,baz=236,slow=7.3,SNR=4.0						
MAW	Mawson	91.21	164	*e*P	P	01 26 15.5	-0.5
	1.4nm,0.7s,mb4.2						
MJAR	Matsushiro Arr	145.86	314	PKPbc	PKPbc	01 32 50.1	+0.3
	0.8nm,0.4s,baz=65,slow=1.7,SNR=6.3						
SONM	Songino Array	147.29	2	PKPbc	PKPbc	01 32 55.0	+1.1
	0.7nm,0.5s,baz=326,slow=4.1,SN

Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.48**	**258**	P	**Pn**	**02 07 50.0**	**+1.4**
	7μm,0.3s,baz=64,slow=3.4						
LVC				S	**Sn**	**02 08 01.3**	**+0.9**
	16μm,0.3s,baz=210,slow=12,SNR=97						
CEN1	**Los Morros**	**1.88**	**242**	⇓*i*P	**Pn**	**02 08 04.2**	**+0.5**
CEN1				*i* S	**Sn**	**02 08 27.1**	**-0.3**
CEN1				AML	AML	02 08 29.2	
	comp=E,62μm,0.5s						
CPN1	**Cerro Paranal**	**2.80**	**221**	*e*P	**Pn**	**02 08 12.8**	**-2.9**
CPN1				*i* S	**Sn**	**02 08 43.3**	**-5.5**
CPN1				AML	AML	02 08 47.0	
	comp=E,45μm,0.3s						
CRCH	**Chaqaral**	**4.32**	**207**	*e*P	**Pn**	**02 08 33.1**	**-3.1**
CRCH				*i* S	**Sn**	**02 09 19.1**	**-6.4**
CPCH	**Copiapo**	**5.14**	**200**	⇓*e*P	**Pn**	**02 08 44.6**	**-2.7**
CPCH				*i* S	**Sn**	**02 09 39.9**	**-5.5**
LPAZ	**La Paz**	**6.19**	**2**	P	**Pn**	**02 09 04.7**	**+3.2**
	comp=E,7.9nm,0.3s,baz=184,slow=6.4,SNR=181						
LPAZ				S	**Sn**	**02 09 55.9**	**-15**
	comp=E,26nm,0.3s,baz=170,slow=5.6,SNR=7.2						
LPAZ				LR	LR	02 11 14.2	
	comp=E,938nm,19.0s,baz=352,slow=36						
LPAZ	**La Paz**	**6.19**	**2**	P	**Pn**	**02 09 04.7**	**+3.2**
LPAZ				S	**Sn**	**02 09 55.9**	**-15**
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
LPAZ				smax			
	comp=N,26nm,0.3s						
LPAZ	**La Paz**	**6.19**	**2**	*e*Pn	**Pn**	**02 09 04.4**	**+2.9**
LPAZ				*e*Sn		02 09 38.9	
ARE	**Arequipa**	**6.68**	**334**	*e*P	**Pn**	**02 09 04.0**	**-4.2**
ARE				*e*		02 09 37.0	
ARE				*e*S	**Sn**	**02 10 14.0**	**-8.8**
LCO	**Las Campanas**	**6.80**	**197**	*e*P	**Pn**	**02 09 05.7**	**-4.0**
TLL	**Tololo Astrono**	**7.93**	**195**	*e*P	**Pn**	**02 09 21.3**	**-3.7**
CFAA	**Coronel Fontan**	**9.06**	**179**	P	**Pn**	**02 09 39.0**	**-1.5**
	comp=N,0.7nm,0.3s,baz=353,slow=12,SNR=30						
CFAA				S	**Sn**	**02 11 12.9**	**-7.8**
	baz=301,slow=18,SNR=2.6						
SIV	**San Ignacio**	**9.48**	**48**	P	**Pn**	**02 09 47.0**	**+0.8**
	comp=N,15nm,0.3s,baz=254,slow=12,SNR=328						
SIV				S	**Sn**	**02 11 25.2**	**-5.7**
	comp=N,3.6nm,0.3s,baz=283,slow=14,SNR=4.4						
MDZ	**Mendoza**	**10.34**	**182**	*e*P	**Pn**	**02 10 00.3**	**+2.4**
MDZ				*e*		02 12 06.9	
MDZ	**Mendoza**	**10.34**	**182**	*e*P	**Pn**	**02 10 00.3**	**+2.4**
MDZ				*e*	**Sn**	**02 12 06.9**	**+15**
NNA	**Nana**	**13.20**	**321**	Pn	**Pn**	**02 10 39.1**	**+3.1**
	comp=N,844nm,1.0s,SNR=8.6						
NNA	**Nana**	**13.20**	**321**	*e*Pn	**Pn**	**02 10 39.0**	**+3.0**
SAML	**Samuel**	**14.38**	**21**	*e*Pn	**Pn**	**02 10 49.7**	**-1.6**
TRQA	**Tornquist**	**16.45**	**162**	*e*Pn	**Pn**	**02 11 17.4**	**+0.2**
	comp=N,209nm,0.8s						
ATAH	**Atahualpa**	**18.18**	**326**	P	**P**	**02 11 37.1**	**0.0**
	comp=N,1.4nm,0.3s,baz=159,slow=7.8,SNR=29						
ATAH				S	**S**	**02 14 55.1**	**-4.8**
	comp=N,0.4nm,0.3s,baz=281,slow=23,SNR=1.5						
PLCA	**Paso Flores**	**18.26**	**185**	P	**P**	**02 11 38.4**	**+0.3**
	comp=N,1.4nm,0.3s,baz=8.8,slow=13,SNR=61						
PLCA				S	**S**	**02 15 00.7**	**-0.8**
	comp=N,0.1nm,0.3s,baz=334,slow=15,SNR=1.6						
PLCA				PcP	PcP	02 16 05.3	-0.6
	comp=N,0.3nm,0.3s,baz=269,slow=2.0,SNR=2.8						
PLCA				P3KP		02 47 05.0	
	comp=N,0.1nm,0.3s,baz=156,slow=4.6,SNR=3.0						
PLCA	**Paso Flores**	**18.26**	**185**	*e*P	**P**	**02 11 38.2**	**+0.2**
BDFB	**Brasilia**	**20.43**	**74**	P	**P**	**02 12 03.2**	**+1.6**
	comp=N,412nm,0.9s,baz=264,slow=11,SNR=152						
BDFB				S	**S**	**02 15 47.5**	**+2.8**
	comp=N,39nm,0.9s,baz=79,slow=22,SNR=2.2						
BAO	**Brasilia Array**	**20.45**	**74**	P	**P**	**02 12 03.5**	**+1.6**
CAM4	**Nova Friburgo**	**23.87**	**95**	*e*P	**P**	**02 12 37.1**	**+0.5**
CAM4				*i*		02 12 37.9	
CAM4				*i*		02 12 40.3	
CAM4				*i*		02 12 52.3	
OTAV	**Otavalo**	**24.64**	**335**	*e*P	**P**	**02 12 44.3**	**+0.8**
	comp=N,110nm,1.2s,mb5.2						
CAM3	**Guarapari**	**25.96**	**91**	*e*P	**P**	**02 12 57.1**	**+1.6**
CAM3				*i*		02 12 58.5	
CAM3				*i*		02 13 00.8	
CAM3				*i*		02 13 06.4	
CAM3				*i*	pP	02 13 21.8	+3.7
ROSC	**El Rosal**	**27.81**	**347**	P	**P**	**02 13 13.5**	**+1.4**
	comp=N,8.5nm,0.7s,mb4.4,baz=68,slow=24,SNR=5.6						
PAYG	**Puerto Ayora**	**30.40**	**313**	*e*P	**P**	**02 13 35.8**	**+0.8**
	comp=N,92nm,1.1s,mb5.3						
PAYG				*e*pP	pP	02 14 00.1	+2.2
SDV	**Santo Domingo**	**31.28**	**356**	*e*P	**P**	**02 13 41.0**	**-1.7**
	comp=N,51nm,1.1s,mb5.2						
RCBR	**Riachuelo**	**35.48**	**67**	*e*P	**P**	**02 14 21.6**	**+2.5**
JTS	**JuntasAbangare**	**36.41**	**332**	P	**P**	**02 14 28.4**	**+1.3**
	comp=N,550nm,1.2s,mb6.4,SNR=15						
JTS	**JuntasAbangare**	**36.41**	**332**	*e*P	**P**	**02 14 28.5**	**+1.4**
FDF	**Fort de France**	**37.69**	**12**	*e*P	**P**	**02 14 40.9**	**+3.0**
HOPE	**Hope Point**	**39.77**	**151**	P	**P**	**02 14 57.2**	**+1.9**
	comp=N,728nm,0.9s,mb6.5,SNR=9.1						
HOPE	**Hope Point**	**39.77**	**151**	*e*P	**P**	**02 14 56.8**	**+1.5**
HOPE				*e*pP	pP	02 15 24.8	+5.9
SJG	**San Juan**	**40.43**	**3**	*e*P	**P**	**02 15 00.6**	**-0.2**
SJG				*e**PP	pP	02 15 26.3	+1.9
SJG				pmax	pmax		
	comp=Z,38nm,0.7s						
SJG	**San Juan**	**40.43**	**3**	*e*P	**P**	**02 15 00.6**	**-0.2**
	comp=Z,38nm,0.7s,mb5.3						
SJG				*e*pP	pP	02 15 26.3	+1.9
CBYP	**Canovanas**	**40.60**	**4**	*e*P	**P**	**02 15 02.4**	**+0.2**
CBYP				*e*pP	pP	02 15 27.6	+1.7
CCCC	**Cccc**	**44.39**	**347**	*e*P	**P**	**02 15 32.2**	**-0.6**
CCIG	**Comitan**	**45.01**	**327**	*i* P	**P**	**02 15 37.3**	**-0.5**
MGV	**Manicaragua**	**45.76**	**345**	*e*P	**P**	**02 15 43.8**	**+0.1**
TEIG	**Tepich**	**46.70**	**334**	*e*P	**P**	**02 15 50.1**	**-0.9**
	comp=Z,50nm,0.8s,mb5.3						
TEIG				*e*pP	pP	02 16 17.2	+2.0
CMIG	**Matias Romero**	**47.12**	**324**	P	**P**	**02 15 54.1**	**-0.3**
	comp=Z,42nm,0.9s,mb5.1,baz=130,slow=5.5,SNR=34						
CMIG				S	**S**	**02 22 37.8**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=106,slow=17,SNR=1.9						
SOR	**Soroa**	**47.22**	**342**	*e*P	**P**	**02 15 54.6**	**-0.5**
VHO	**Vista Hermosa**	**48.13**	**322**	*i* P	**P**	**02 16 02.4**	**+0.3**
OXX	**Oaxaca**	**48.13**	**322**	*i* P	**P**	**02 16 03.5**	**+1.4**
ACX	**Acapulco**	**49.83**	**319**	*i* P	**P**	**02 16 15.5**	**+0.4**
CAIG	**El Cayaco**	**50.18**	**319**	*i* P	**P**	**02 16 17.4**	**-0.4**
PLIG	**Platanillo**	**50.77**	**321**	*i* P	**P**	**02 16 22.7**	**+0.5**
PPM	**Popocatepetl**	**50.79**	**322**	*i* P	**P**	**02 16 23.7**	**+1.3**
UNM	**Universidad Na**	**51.31**	**322**	*i* P	**P**	**02 16 28.0**	**+1.7**
DWPF	**Disney**	**51.87**	**345**	*e*P	**P**	**02 16 30.4**	**0.0**
	comp=Z,90nm,1.3s,mb5.6						
MOIG	**Morelia**	**52.76**	**320**	*i* P	**P**	**02 16 37.7**	**+0.7**
SFJM	**Santa Fe**	**54.49**	**319**	*i* P	**P**	**02 16 50.0**	**+0.4**
KVTX	**Kingsville**	**57.34**	**329**	*e*P	**P**	**02 17 10.4**	**+0.5**
LRAL	**Lakeview Retre**	**58.01**	**342**	*e*P	**P**	**02 17 13.0**	**-1.6**
	comp=Z,64nm,1.0s,mb5.6						
LRAL				*e*pP	pP	02 17 41.9	+2.2
HKT	**Hockley**	**58.45**	**332**	P	**P**	**02 17 16.7**	**-1.0**
HKT				pP	pP	02 17 44.9	+2.1
HKT	**Hockley**	**58.45**	**332**	*e*P	**P**	**02 17 17.0**	**-0.7**
HKT				*e**PP	pP	02 17 44.6	+1.8
HKT				pmax	pmax		
	comp=Z,71nm,1.2s,mb5.6						
HKT	**Hockley**	**58.45**	**332**	*e*P	**P**	**02 17 17.0**	**-0.7**
	comp=Z,71nm,1.3s,mb5.5						
HKT				*e*pP	pP	02 17 44.6	+1.8
SHEL	**Horse Pasture**	**59.16**	**96**	P	**P**	**02 17 26.8**	**+4.2**
	comp=Z,3μm,0.8s,SNR=6.3						
VNA1	**Neumayer--Stat**	**59.18**	**160**	⇑*i*P	**P**	**02 17 24.3**	**+1.6**
VNA1				*e*		02 17 30.0	
VNA1				*e*		02 17 33.0	
VNA1				*e*		02 17 37.3	
VNA1				*e*	pP	02 17 53.3	+5.4
VNA1				*e*		02 18 02.6	
VNA1				*e*		02 18 05.1	
VNA1				*e*		02 18 08.2	
VNA1				*e*		02 18 14.6	
VNA1				*e*		02 18 28.4	
VNA1				*e*		02 18 42.3	
NATX	**Nacogdoches**	**59.53**	**334**	*e*P	**P**	**02 17 25.1**	**0.0**
NATX				*e*pP	pP	02 17 52.5	+2.1
CPCT	**Cooper Cave**	**59.63**	**345**	*e*P	**P**	**02 17 25.5**	**-0.4**
SWET	**Sewanee**	**59.77**	**343**	*e*P	**P**	**02 17 25.6**	**-1.1**
PLAL	**Pickwick Lake**	**60.15**	**341**	*e*P	**P**	**02 17 27.4**	**-2.0**
BLA	**Blacksburg**	**60.47**	**349**	P	**P**	**02 17 32.0**	**+0.4**
BLA				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.6						
BLA	**Blacksburg**	**60.47**	**349**	*e*P	**P**	**02 17 31.5**	**0.0**
	comp=Z,6.6nm,1.2s,mb4.5						
BLA				*e*pP	pP	02 18 00.2	+3.4
BLA				*e*sP	sP	02 18 12.3	+4.2
ELN	**Prospectdale**	**60.55**	**349**	*e*P	**P**	**02 17 32.0**	**0.0**
JCT	**Junction City**	**60.71**	**329**	*e*P	**P**	**02 17 32.3**	**-0.8**
JCT				*e*pP	pP	02 18 00.3	+1.9
RKT	**Rikitea**	**60.85**	**255**	*e*P	**P**	**02 17 34.3**	**+0.2**
	comp=Z,150nm,1.0s,mb6.0						
FWV	**Forest Hill**	**60.90**	**349**	*e*P	**P**	**02 17 34.2**	**-0.3**
FWV				*e*pP	pP	02 18 02.2	+2.5
WVT	**Waverly**	**61.15**	**342**	P	**P**	**02 17 34.2**	**-1.9**
WVT				pmax	pmax		
	comp=Z,120nm,0.9s,mb5.9						
WVT	**Waverly**	**61.15**	**342**	⇓*i*P	**P**	**02 17 34.1**	**-2.0**
	comp=Z,120nm,0.9s,mb5.9						
WVT				*e*pP	pP	02 18 02.9	+1.4
WVT				*e*sP	sP	02 18 15.3	+2.5
UALR	**University of**	**61.34**	**338**	*e*P	**P**	**02 17 36.2**	**-1.2**
UALR				*e*pP	pP	02 18 04.8	+2.0
UALR				*e*pP	pP	02 18 05.2	+2.4
HBAR	**Harrisburg**	**61.48**	**339**	*e*P	**P**	**02 17 37.3**	**-1.1**
MIAR	**Mount Ida**	**61.58**	**336**	*e*P	**P**	**02 17 38.0**	**-1.0**
UTMT	**University of**	**61.65**	**341**	*e*P	**P**	**02 17 38.6**	**-0.9**
UTMT				*e*pP	pP	02 18 07.8	+3.0
GNAR	**Gosnell**	**61.65**	**340**	*e*P	**P**	**02 17 38.7**	**-0.8**
GNAR				*e*pP	pP	02 18 07.6	+2.8
LPIG	**La Paz**	**61.68**	**316**	P	**P**	**02 17 39.7**	**0.0**
	comp=Z,34nm,0.4s,mb5.7,baz=252,slow=1.1,SNR=7.5						
GLAT	**Glass**	**61.70**	**341**	*e*P	**P**	**02 17 39.6**	**-0.3**
PARMO	**Parma**	**62.21**	**341**	*e*P	**P**	**02 17 42.5**	**-0.8**
PARMO				*e*pP	pP	02 18 11.8	+3.1
MVL	**Millersville**	**62.62**	**353**	*e*P	**P**	**02 17 45.6**	**-0.4**
WCI	**Wyandotte Cave**	**62.71**	**344**	P	**P**	**02 17 44.7**	**-1.9**
WCI				pP	pP	02 18 14.1	+2.1
WCI				S	**S**	**02 26 01.8**	**-5.4**
WCI				PnS		02 26 50.2	
WCI	**Wyandotte Cave**	**62.71**	**344**	*e*P	**P**	**02 17 44.9**	**-1.7**
WCI				*e**PP	pP	02 18 14.3	+2.3
WCI				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.5						
WCI	**Wyandotte Cave**	**62.71**	**344**	*e*P	**P**	**02 17 44.9**	**-1.7**
	comp=Z,57nm,0.8s,mb5.5						
WCI				*e*pP	pP	02 18 14.3	+2.3
MCWV	**Mont Chateau**	**62.76**	**350**	*e*P	**P**	**02 17 46.8**	**-0.1**
	comp=Z,138nm,1.6s,mb5.6						
MCWV				*e*pP	pP	02 18 15.3	+3.0
USIN	**University of**	**62.82**	**343**	*e*P	**P**	**02 17 45.8**	**-1.5**
USIN				*e*pP	pP	02 18 15.0	+2.3
SIUC	**Southern Illin**	**63.02**	**342**	*e*P	**P**	**02 17 47.1**	**-1.6**
SSPA	**Standing Stone**	**63.44**	**352**	*e*P	**P**	**02 17 51.3**	**-0.1**
FVM	**French Village**	**63.63**	**341**	*e*P	**P**	**02 17 51.4**	**-1.3**
FVM				*e**PP	pP	02 18 20.8	+2.6
BLO	**Bloomington**	**63.66**	**344**	*e*P	**P**	**02 17 50.9**	**-2.0**
BLO				*e**PP	pP	02 18 20.8	+2.5
BLO				pmax	pmax		
	comp=Z,66nm,1.0s,mb5.4						
BLO	**Bloomington**	**63.66**	**344**	*e*P	**P**	**02 17 50.9**	**-1.9**
	comp=Z,66nm,0.9s,mb5.5						
BLO				*e*pP	pP	02 18 20.8	+2.5
ACSO	**Alum Creek Sta**	**63.88**	**348**	*e*P	**P**	**02 17 53.5**	**-0.8**
	comp=Z,51nm,0.9s,mb5.3						
ACSO				*e*pP	pP	02 18 22.4	+2.6
CCM	**Cathedral Cave**	**63.95**	**340**	*e*P	**P**	**02 17 53.5**	**-1.3**
ALLY	**Alegheny Colle**	**64.75**	**350**	*e*P	**P**	**02 17 59.9**	**-0.2**
ALLY				*e*pP	pP	02 18 28.8	+3.3
HRV	**Harvard--Oak R**	**64.75**	**357**	*e*P	**P**	**02 17 59.8**	**-0.2**
HRV				pmax	pmax		
	comp=Z,74nm,1.3s,mb5.4						
HRV	**Harvard--Oak R**	**64.75**	**357**	*e*P	**P**	**02 17 59.8**	**-0.2**
	comp=Z,74nm,1.4s,mb5.3						
ERPA	**Erie**	**65.19**	**351**	*e*P	**P**	**02 18 02.8**	**-0.1**
ERPA				*e*pP	pP	02 18 32.3	+3.9
AMTX	**Amarillo**	**65.24**	**330**	*e*P	**P**	**02 18 02.0**	**-1.2**
ACCN	**Adirondack Com**	**65.74**	**356**	*e*P	**P**	**02 18 07.1**	**+0.7**
HNH	**Hanover**	**65.98**	**357**	*e*P	**P**	**02 18 09.0**	**+1.0**
NCB	**Newcomb**	**66.37**	**355**	*e*P	**P**	**02 18 10.5**	**+0.1**
	comp=Z,36nm,1.2s,mb5.1						
WVL	**Waterville**	**66.75**	**359**	*e*P	**P**	**02 18 13.8**	**+0.9**
EMMW	**East Machias**	**66.89**	**1**	*e*P	**P**	**02 18 14.4**	**+0.7**
LONY	**Lake Ozonia**	**67.04**	**355**	*e*P	**P**	**02 18 14.8**	**+0.1**
BNM	**Barren Site**	**67.06**	**326**	*e*P	**P**	**02 18 15.1**	**+0.3**
Y22C	**IRIS PASSCAL I**	**67.15**	**326**	⇑P	**P**	**02 18 16.0**	**+0.6**
	baz=68						
Y22C				⇓S	S	02 27 01.4	-0.2
	baz=68						
FRNY	**Flat Rock**	**67.18**	**356**	*e*P	**P**	**02 18 15.7**	**+0.2**
LPM	**Los Pinos Moun**	**67.19**	**326**	*e*P	**P**	**02 18 15.9**	**+0.2**
LPM				*e*pP	pP	02 18 44.6	+3.3
LENM	**Lemitar**	**67.25**	**326**	*e*P	**P**	**02 18 15.6**	**-0.4**
LENM				*e*pP	pP	02 18 44.2	+2.5
LAZ	**Ladron**	**67.52**	**326**	*e*P	**P**	**02 18 18.3**	**+0.6**
LAZ				*e*pP	pP	02 18 46.7	+3.3
LAZ				*e*sP	sP	02 18 59.3	+4.7
ANMO	**Albuquerque**	**67.60**	**327**	*e*P	**P**	**02 18 18.5**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,63nm,0.9s						
ANMO	**Albuquerque**	**67.60**	**327**	*e*P	**P**	**02 18 18.5**	**+0.3**
	comp=Z,63nm,0.9s,mb5.4						
QSPA	**South Pole Qui**	**67.69**	**180**	⇓*i*P	**P**	**02 18 19.7**	**+0.9**
	comp=Z,52nm,0.7s,mb5.5						
TUC	**Tucson**	**67.92**	**322**	*e*P	**P**	**02 18 20.0**	**-0.2**
TUC				pmax	pmax		
	comp=Z,90nm,1.3s,mb5.4						
TUC	**Tucson**	**67.92**	**322**	*e*P	**P**	**02 18 20.0**	**-0.2**
	comp=Z,90nm,1.4s,mb5.4						
LIC	**Lamto**	**68.22**	**73**	⇑*i*P	**P**	**02 18 23.4**	**+1.3**
	comp=Z,160nm,1.3s,mb5.4						
LIC				*e*R			
	comp=Z,326nm,21.8s						
LIC	**Lamto**	**68.22**	**73**	⇑*i*P	**P**	**02 18 23.4**	**+1.3**
	comp=Z,80nm,1.3s,mb5.4						
LIC				LR	LR		
	comp=Z,160nm,21.8s						
DBIC	**Dimbokro**	**68.57**	**73**	P	**P**	**02 18 26.0**	**+1.7**
	comp=Z,76nm,1.1s,mb5.5,baz=220,slow=6.0,SNR=38						
DBIC				pP	pP	02 18 55.2	+5.2
	comp=Z,100nm,1.0s,baz=219,slow=5.1,SNR=8.5						
DBIC				S	S	02 27 21.1	+2.5
	comp=Z,8.4nm,1.1s,baz=291,slow=19,SNR=2.0						
DBIC				LR	LR	02 46 05.3	
	comp=Z,190nm,21.3s,baz=238,slow=34						
DBIC	**Dimbokro**	**68.57**	**73**	*e*P	**P**	**02 18 26.1**	**+1.8**
116A	**Eloy**	**68.62**	**322**	⇓P	**P**	**02 18 25.0**	**+0.4**
	baz=69,SNR=6.2						
116A				⇑S	S	02 27 20.9	+1.7
	baz=69						
TAOE	**Nuku Hiva Isla**	**69.85**	**269**	*e*SS	SS	02 31 45.4	-19
	comp=Z,1μm,31.1s						
TAOE				*e*LR	LR	02 39 30.6	
	comp=Z,1μm,31.4s						
Z14A	**Wintersburg**	**69.93**	**321**	⇑P	**P**	**02 18 32.8**	**+0.1**
	baz=70,SNR=5.8						
Z14A				⇑S	S	02 27 35.4	+1.0
	baz=70						
X15A	**Humboldt**	**70.34**	**323**	P	**P**	**02 18 35.9**	**+0.7**
	baz=71,SNR=59						
X15A				⇑S	S	02 27 40.8	+1.5
	baz=71						
Y14A	**Wickenburg**	**70.37**	**322**	P	**P**	**02 18 35.6**	**+0.3**
	baz=71,SNR=19						
Y14A				⇓S	S	02 27 41.3	+1.7
	baz=71						
MVCO	**Mesa Verde**	**70.39**	**327**	⇓*i*P	**P**	**02 18 35.7**	**+0.2**
MVCO				*e*pP	pP	02 19 03.0	+1.6
WUAZ	**Wupatki**	**70.62**	**324**	*e*P	**P**	**02 18 37.6**	**+0.7**
	comp=Z,102nm,1.0s,mb5.6						
X14A	**Yava**	**70.69**	**322**	P	**P**	**02 18 37.9**	**+0.6**
	baz=71,SNR=33						
X14A				⇑S	S	02 27 43.9	+0.5
	baz=71						
Y13A	**Salome**	**70.76**	**321**	⇑P	**P**	**02 18 38.2**	**+0.5**
	baz=71,SNR=19						
Y13A				⇓S	S	02 27 45.2	+1.1
	baz=71						
GLA	**Glamis**	**70.81**	**320**	*e*P	**P**	**02 18 38.4**	**+0.4**
GLA	**Glamis**	**70.81**	**320**	P	**P**	**02 18 38.4**	**+0.4**
	baz=71,SNR=15						
GLA				⇓S	S	02 27 44.9	+0.1
	baz=71						
W15A	**Williams**	**70.86**	**323**	⇑P	**P**	**02 18 39.3**	**+1.0**
	baz=71,SNR=19						
W15A				⇑S	S	02 27 47.8	+2.4
	baz=71						
ISCO	**Idaho Springs**	**71.05**	**330**	*e*P	**P**	**02 18 39.8**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.4						
ISCO	**Idaho Springs**	**71.05**	**330**	*e*P	**P**	**02 18 39.8**	**+0.3**
	comp=Z,64nm,1.1s,mb5.4						
Y12C	**Blythe**	**71.12**	**321**	⇓P	**P**	**02 18 40.4**	**+0.5**
	baz=71,SNR=28						
Y12C				⇓S	S	02 27 50.5	+2.2
	baz=71						
PV01	**Paradox Valley**	**71.14**	**327**	*e*P	**P**	**02 18 40.5**	**+0.5**
SMCO	**Snowmass**	**71.19**	**329**	*e*P	**P**	**02 18 41.1**	**+0.8**
	comp=Z,76nm,0.9s,mb5.5						
X13A	**Yucca**	**71.32**	**322**	⇓P	**P**	**02 18 41.5**	**+0.4**
	baz=72,SNR=45						
X13A				⇑S	S	02 27 52.4	+1.8
	baz=72						
W14A	**Seligman**	**71.34**	**323**	⇓P	**P**	**02 18 42.0**	**+0.8**
	baz=72,SNR=26						
W14A				⇑S	S	02 27 54.1	+3.2
	baz=72						
PV10	**Paradox Valley**	**71.57**	**327**	*e*P	**P**	**02 18 42.3**	**-0.2**
BAR	**Barrett**	**71.67**	**318**	*e*P	**P**	**02 18 43.9**	**+0.7**
BAR				*e*pP	pP	02 19 12.6	+3.4
W13A	**Hualapai Mount**	**71.72**	**322**	⇑P	**P**	**02 18 44.3**	**+0.8**
	baz=72						
109C	**Camp Elliot, M**	**72.08**	**318**	⇓P	**P**	**02 18 45.6**	**-0.1**
	baz=72						
PFO	**Pinyon Flat Ob**	**72.17**	**319**	P	**P**	**02 18 46.6**	**+0.4**
	comp=Z,180nm,1.1s,mb5.8,SNR=9.6						
PFO	**Pinyon Flat Ob**	**72.17**	**319**	*e*P	**P**	**02 18 46.8**	**+0.6**
PFO				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.2						
PFO	**Pinyon Flat Ob**	**72.17**	**319**	*e*P	**P**	**02 18 46.8**	**+0.6**
	comp=Z,47nm,1.2s,mb5.2						
PFO	**Pinyon Flat Ob**	**72.17**	**319**	⇑P	**P**	**02 18 46.7**	**+0.5**
	baz=72,SNR=18						
PFO				⇑S	S	02 28 02.8	+2.4
	baz=72						
PHWY	**Pilot Hill**	**72.20**	**332**	*e*P	**P**	**02 18 46.6**	**+0.3**
PHWY				*e*pP	pP	02 19 16.2	+3.9
W12A	**Cal Nev Ari**	**72.42**	**322**	⇓P	**P**	**02 18 48.1**	**+0.4**
	baz=73						
W12A				⇓S	S	02 28 03.6	+0.4
	baz=73						
V12A	**Nelson**	**72.72**	**322**	P	**P**	**02 18 49.7**	**+0.3**
	baz=73,SNR=25						
V12A				⇓S	S	02 28 08.8	+2.2
	baz=73						
CFTV	**Fuerteventura**	**72.84**	**48**	P	**P**	**02 18 46.7**	**-3.5**
	comp=Z,39nm,1.2s,mb5.1						
SRU	**San Rafael**	**72.87**	**327**	*e*P	**P**	**02 18 50.7**	**+0.3**
U12A	**Valley of Fire**	**73.04**	**323**	⇑P	**P**	**02 18 51.9**	**+0.6**
	baz=73,SNR=19						
U12A				⇑S	S	02 28 10.5	+0.2
	baz=73						
V11A	**Goodsprings**	**73.13**	**322**	P	**P**	**02 18 52.2**	**+0.4**
	baz=73,SNR=14						
TUQ	**Turquoise Mtn.**	**73.13**	**321**	⇑P	**P**	**02 18 52.4**	**+0.6**
	baz=73,SNR=7.1						
EYMN	**Ely**	**73.14**	**344**	*e*P	**P**	**02 18 50.3**	**-1.6**
	comp=Z,44nm,0.9s,mb5.3						
CCUT	**Cedar City**	**73.20**	**324**	*e*P	**P**	**02 18 53.7**	**+1.4**
CCUT				*e*pP	pP	02 19 22.6	+4.3
CCUT				*e*sP	sP	02 19 34.2	+4.7
MSU	**Marysvale**	**73.27**	**325**	*e*P	**P**	**02 18 53.5**	**+0.8**
RWWY	**Rawlins**	**73.29**	**331**	*e*P	**P**	**02 18 52.5**	**-0.3**
	comp=Z,93nm,1.0s,mb5.6						
FMP	**Fort Macarthur**	**73.36**	**318**	⇑P	**P**	**02 18 53.4**	**+0.2**
	baz=74						
TMUT	**Trail Mountain**	**73.36**	**327**	*e*P	**P**	**02 18 53.4**	**+0.1**
TMUT				*e*pP	pP	02 19 23.7	+4.4
ARUT	**Antelope Range**	**73.41**	**324**	*e*P	**P**	**02 18 54.5**	**+1.0**
SHPR	**Sheep Range**	**73.44**	**322**	*e*P	**P**	**02 18 54.3**	**+0.6**
U11A	**Corn Creek**	**73.51**	**322**	⇓P	**P**	**02 18 54.8**	**+0.7**
	baz=74						
GSC	**Goldstone**	**73.55**	**320**	*e*P

TIN Tinemaha 75.59 321 ⇑P P 02 19 06.7 +0.6
baz=76
R09A Tonopah 75.74 322 ⇑P P 02 19 07.2 +0.2
baz=76,SNR=30
R09A ⇑S S 02 28 42.7 +2.3
baz=76
V05C Boulder Hill, 75.79 319 ⇓P P 02 19 07.7 +0.4
baz=76
P11A Circle Ranch, 75.94 324 ⇑P P 02 19 08.6 +0.5
baz=76
AHID Auburn Hatcher 75.94 329 eP P 02 19 08.2 +0.1
comp=Z,104nm,0.9s,mb5.6
VNDA Vanda 75.94 190 P P 02 19 08.4 +0.3
comp=Z,12nm,1.0s,mb4.6,baz=138,slow=4.8,SNR=43
VNDA Vanda 75.94 190 P P 02 19 08.4 +0.3
VNDA pmax pmax
comp=Z,130nm,1.0s
VNDA Vanda 75.94 190 eP P 02 19 09.2 +1.0
MTUM Tungsten Hills 75.99 321 eP P 02 19 08.8 +0.4
MTUM epP pP 02 19 38.4 +3.7
HVU Hansel Valley 76.01 327 eP P 02 19 08.5 0.0
N13A West Wendover 76.06 326 ⇑P P 02 19 08.6 -0.2
baz=76
N13A ⇑S S 02 28 45.5 +1.6
baz=76
Q09A Carvers 76.22 323 ⇓P P 02 19 10.2 +0.5
baz=76,SNR=6.2
PKD Parkfield 76.23 319 ⇓P P 02 19 09.7 -0.1
baz=76,SNR=18
V04C Ramage Ranch, 76.23 318 ⇓P P 02 19 10.1 +0.4
baz=76,SNR=9.5
U05C Westside ANR, 76.23 319 ⇑P P 02 19 09.0 -0.8
baz=76
REDW Red Top Meadow 76.28 330 eP P 02 19 10.2 +0.2
comp=Z,73nm,0.9s,mb5.4
O11A Cowboy Ranch, 76.30 325 P P 02 19 10.7 +0.5
baz=77,SNR=19
SNOW Snow King Moun 76.31 330 eP P 02 19 10.7 +0.5
comp=Z,66nm,0.8s,mb5.4
MLAC Mammoth Lakes 76.34 321 ⇓P P 02 19 10.9 +0.5
baz=77
LOHW Long Hollow 76.35 330 eP P 02 19 10.7 +0.2
comp=Z,67nm,0.9s,mb5.4
P10A Eureka 76.37 324 ⇑P P 02 19 11.5 +1.0
baz=77,SNR=11
M13A Montello 76.41 326 ⇓P P 02 19 10.5 -0.3
baz=77,SNR=28
R08A Mina 76.41 322 ⇑P P 02 19 10.8 0.0
baz=77
KCC Kaiser Creek 76.41 320 ⇑P P 02 19 10.2 -0.6
baz=77
ULM Lac du Bonnet 76.42 342 P P 02 19 09.4 -1.4
comp=Z,24nm,0.8s,mb5.0,baz=151,slow=5.3,SNR=31
ULM S S 02 28 41.6 -6.2
comp=Z,1.0nm,0.7s,baz=165,slow=23,SNR=2.4
TPAW Teton Pass 76.42 330 eP P 02 19 11.1 +0.2
T06C Millerton Lake 76.43 320 ⇑P P 02 19 09.8 -1.1
baz=77
N12A Wells--Clov Va 76.49 325 ⇑P P 02 19 11.1 -0.1
baz=77,SNR=6.2
N12A ⇑S S 02 28 50.0 +1.3
baz=77
MNV Mina 76.49 322 eP P 02 19 11.3 +0.1
MOOW Moose Ponds 76.52 330 eP P 02 19 11.6 +0.2
NVAR Mina Array Bea 76.57 322 P P 02 19 12.1 +0.3
comp=Z,10.0nm,0.9s,mb4.6,baz=141,slow=7.4,SNR=54
DCID1 Drake Creek 76.61 330 eP P 02 19 12.9 +0.9
U04C Hernandez Rese 76.64 319 ⇓P P 02 19 12.4 +0.3
baz=77,SNR=33
Q08A Gabbs 76.66 322 P P 02 19 12.2 0.0
baz=77,SNR=26
V03C Hunter Liggett 76.70 318 ⇓P P 02 19 12.9 +0.5
baz=77,SNR=13
IMW Indian Meadow 76.73 330 eP P 02 19 13.0 +0.5
comp=Z,83nm,1.0s,mb5.4
R07C Lee Vining 76.77 321 ⇓P P 02 19 13.4 +0.6
baz=77
M12A Wells 76.83 326 P P 02 19 13.2 0.0
baz=77,SNR=31
M12A ⇑S S 02 28 53.9 +1.6
baz=77
N11A Elko Archery C 76.84 325 ⇓P P 02 19 13.2 0.0
baz=77
LAO LASA Array 76.89 334 eP P 02 19 13.3 -0.2
comp=Z,100nm,1.1s,mb5.5
T05C Eagle Field, D 76.93 319 ⇓P P 02 19 14.3 +0.5
baz=77
T05C ⇑S S 02 28 55.0 +1.5
baz=77
LKWY Lake 76.99 331 eP P 02 19 16.2 +2.1
LKWY pmax pmax
comp=Z,110nm,1.2s,mb5.5
LKWY Lake 76.99 331 eP P 02 19 16.2 +2.1
comp=Z,107nm,1.3s,mb5.4
S05C Merced 77.03 320 P P 02 19 14.6 +0.4
baz=77,SNR=35
S05C ⇑S S 02 28 55.2 +0.7
baz=77
SCHQ Schefferville 77.03 1 P P 02 19 13.8 -0.5
comp=Z,14nm,0.8s,mb4.7,baz=161,slow=4.4,SNR=27
SCHQ S S 02 28 52.4 -2.1
comp=Z,1.2nm,0.8s,baz=254,slow=18,SNR=1.9
SCHQ Schefferville 77.03 1 P P 02 19 13.8 -0.5
SCHQ S S 02 28 52.4 -2.1
S06C San Francisco 77.10 321 ⇓P P 02 19 14.8 +0.2
baz=77,SNR=14
YFT Old Faithful 77.11 330 eP P 02 19 15.6 +0.9
HAST Hastings Reser 77.14 319 ⇓P P 02 19 15.0 +0.2
baz=77,SNR=22
O09A Fish Creek Ran 77.16 324 ⇓P P 02 19 14.7 -0.2
baz=77,SNR=15
N10A Dunphy 77.17 325 ⇓P P 02 19 15.0 -0.1
baz=78,SNR=8.1
Q07A Schurz 77.21 322 ⇓P P 02 19 15.7 +0.4
baz=78
TORD Torodi Ar. Bea 77.25 70 P P 02 19 16.8 +1.3
comp=Z,69nm,0.8s,mb5.4,baz=256,slow=5.4,SNR=672
TORD pP pP 02 19 45.8 +3.9
comp=Z,58nm,0.9s,baz=251,slow=5.5,SNR=4.8
TORD PP PP 02 22 09.2 -1.6
comp=Z,5.5nm,1.0s,baz=248,slow=7.6,SNR=2.3
TORD S S 02 28 57.0 +0.1
comp=Z,7.4nm,1.1s,baz=249,slow=12,SNR=11
TORD Torodi Ar. Bea 77.25 70 P P 02 19 16.8 +1.3
TORD pP pP 02 19 45.8 +3.9
TORD PP PP 02 22 09.2 -1.6
TORD S S 02 28 57.0 +0.1
WAKR Walker 77.28 321 eP P 02 19 16.5 +0.9
M11A Holland Ranch, 77.30 325 P P 02 19 16.3 +0.5
baz=78,SNR=68
P08A Dixie Valley 77.31 323 ⇓P P 02 19 16.2 +0.3
baz=78,SNR=7.0
SAO San Andreas Ge 77.31 319 eP P 02 19 15.9 0.0
YMR Madison River 77.33 330 eP P 02 19 16.9 +0.9
comp=Z,225nm,1.3s,mb5.7
YMR ePcP PcP 02 19 23.6 -2.5
PACP Pacheco Peak 77.38 319 ⇓P P 02 19 16.5 +0.3
baz=78,SNR=12
CMB Columbia Colle 77.52 320 eP P 02 19 16.6 -0.4
CMB Columbia Colle 77.52 320 P P 02 19 16.7 -0.3
baz=78,SNR=9.4
GCMT Greycliff 77.62 332 eP P 02 19 17.4 -0.1
P07A Fallon 77.67 322 ⇑P P 02 19 18.2 +0.4
baz=78
SUR Sutherland 77.67 120 P P 02 19 21.3 +3.5
comp=Z,383nm,1.0s,mb6.1,SNR=8.7
SUR Sutherland 77.67 120 eP P 02 19 21.1 +3.3
comp=Z,65nm,0.9s,mb5.4
QLMT Earthquake Lak 77.67 330 eP P 02 19 18.8 +1.0
S04C Ingram Canyon, 77.72 320 ⇓P P 02 19 18.1 0.0
baz=78,SNR=12
M10A I.L. Ranch, Tu 77.76 325 ⇓P P 02 19 18.6 +0.3
baz=78,SNR=5.5
O08A Rochester Mine 77.77 323 ⇑P P 02 19 18.0 -0.4
baz=78
R05C Kirkwood Meado 77.78 321 ⇑P P 02 19 19.0 +0.5
baz=78,SNR=14
BNLO Ben Lomond 77.99 319 ⇑P P 02 19 19.8 +0.2
baz=78,SNR=8.8
R04C Big Horse Ranc 77.99 320 ⇓P P 02 19 19.7 +0.1
baz=78
WCN Washoe City 78.00 322 ⇓P P 02 19 20.1 +0.5
baz=78,SNR=11
PAHR Pah Rah Range 78.06 322 eP P 02 19 20.7 +0.7
WENL Wente Brothers 78.06 319 ⇓P P 02 19 20.2 +0.2
baz=78
O07A Toulon 78.08 323 P P 02 19 20.2 0.0
baz=78,SNR=32
N08A GE Springer Mi 78.10 324 ⇑P P 02 19 19.6 -0.6
baz=78,SNR=10
HLID Hailey 78.14 328 eP P 02 19 21.1 +0.7
comp=Z,116nm,1.1s,mb5.5
M09A Marrel Ranch, 78.17 325 ⇑P P 02 19 20.6 0.0
baz=78,SNR=41
LAVA Lava Cap Winer 78.20 321 P P 02 19 20.6 -0.2
baz=78,SNR=14
JRSC Jasper Ridge 78.21 319 ⇑P P 02 19 20.7 -0.1
baz=78,SNR=5.4
MCMT McKenzie Canyo 78.33 329 eP P 02 19 22.2 +0.7
MCMT epP pP 02 19 51.7 +3.9
MCMT esP sP 02 20 04.6 +5.7
P06A Stead Airport, 78.33 322 ⇑P P 02 19 22.1 +0.6
baz=79
BDM Black Diamond 78.34 320 ⇓P P 02 19 22.0 +0.4
baz=79,SNR=6.8
BOZ Bozeman (W) 78.38 331 eP P 02 19 21.5 -0.3
SAC San Andreas 78.43 319 eP P 02 19 22.6 +0.5
P05C Yuba Gap, Truc 78.49 321 P P 02 19 22.9 +0.5
baz=79,SNR=20
DLMT Dillon 78.61 330 eP P 02 19 23.4 +0.3
comp=Z,83nm,1.1s,mb5.5
Q04C Lincoln 78.63 321 ⇓P P 02 19 23.6 +0.5
baz=79,SNR=8.7
M08A Happy Creek Ra 78.69 324 ⇑P P 02 19 23.1 -0.4
baz=79,SNR=17
L09A Wilkinson Ranc 78.71 325 P P 02 19 23.6 +0.1
baz=79,SNR=25
FARB Farallon Islan 78.86 319 ⇓P P 02 19 24.4 -0.1
baz=79
Q03C Winters 78.87 320 ⇑P P 02 19 25.2 +0.8
baz=79,SNR=7.7
LRM Limekiln Ridge 78.89 330 eP P 02 19 24.9 +0.3
CVS Carmenet Viney 78.95 320 P P 02 19 24.9 0.0
baz=79,SNR=14
MCCM Marconi Confer 79.08 319 ⇓P P 02 19 25.4 -0.2
baz=79
M07A Soldier Meadow 79.08 324 P P 02 19 25.8 +0.1
baz=79,SNR=39
O05C Quincy 79.11 322 ⇑P P 02 19 25.9 +0.2
baz=79,SNR=15
SUTB Sutter Buttes 79.13 321 ⇓P P 02 19 25.2 -0.7
baz=79,SNR=8.8
ORV Oroville 79.17 321 P P 02 19 26.3 +0.2
baz=79,SNR=60
L08A Fields 79.19 325 P P 02 19 26.1 -0.1
baz=80,SNR=45
HRY Holter Researc 79.28 331 eP P 02 19 27.0 +0.3
HRY epP pP 02 19 57.8 +4.7
MNRC McLaughlin Nat 79.29 320 ⇓P P 02 19 26.9 +0.2
baz=80,SNR=6.9
EGMT Eagleton 79.41 333 eP P 02 19 28.9 +1.5
comp=Z,50nm,1.2s,mb5.2
O04C Chester 79.44 322 ⇓P P 02 19 27.4 -0.2
baz=80,SNR=18
WVOR Wild Horse Val 79.51 325 P P 02 19 27.7 -0.3
WVOR pmax pmax
comp=Z,17nm,1.0s,mb4.8
WVOR Wild Horse Val 79.51 325 eP P 02 19 27.4 -0.5
comp=Z,17nm,1.0s,mb4.8
L07A Adell 79.61 324 ⇓P P 02 19 28.8 +0.3
baz=80,SNR=11
M06C Likely Place G 79.68 323 ⇑P P 02 19 29.1 +0.2
baz=80,SNR=15
HOPS Hopland 79.74 320 eP P 02 19 28.1 -1.0
comp=Z,70nm,1.5s,mb5.3
HOPS Hopland 79.74 320 ⇓P P 02 19 29.3 +0.2
baz=80
O03C Acorn Hollow, 79.77 321 ⇓P P 02 19 28.3 -1.0
baz=80
LBCM Butte Creek Ri 79.93 322 P P 02 19 29.8 -0.4
GASB Alder Springs 79.95 320 ⇑P P 02 19 30.6 +0.3
baz=80,SNR=21
HATC Hat Creek Radi 79.98 322 ⇓P P 02 19 30.3 -0.2
baz=80,SNR=14
K07A Rock Creek Ran 80.02 325 P P 02 19 31.1 +0.4
baz=80,SNR=37
CHMT Chamberlain Mo 80.08 331 eP P 02 19 31.0 0.0
M05C Lookout 80.17 323 ⇑P P 02 19 31.1 -0.4
baz=80,SNR=15
P01C Double 8 Ranch 80.20 320 P P 02 19 32.1 +0.5
baz=80,SNR=11
MSO Missoula 80.33 330 eP P 02 19 32.5 +0.2
O02C Red Bluff 80.33 321 P P 02 19 31.7 -0.6
baz=81,SNR=13
L05A Lakeview 80.45 323 P P 02 19 33.5 +0.6
baz=81,SNR=34
WDC Whiskeytown Da 80.45 321 eP P 02 19 31.2 -1.8
WDC Whiskeytown Da 80.45 321 ⇑P P 02 19 31.2 -1.8
baz=81,SNR=22
BMO Blue Mountains 80.51 327 eP P 02 19 33.2 -0.1
comp=Z,103nm,1.3s,mb5.5
J07A Hines 80.52 325 P P 02 19 33.9 +0.5
baz=81,SNR=26
LASM Arnica Sink 80.56 323 P P 02 19 33.4 -0.2
K06A Valley Falls 80.63 324 P P 02 19 34.3 +0.4
baz=81,SNR=49
M03C McCloud 80.66 322 ⇑P P 02 19 33.3 -0.8
baz=81,SNR=13
M04C Macdoel 80.83 323 P P 02 19 34.9 -0.2
baz=81,SNR=24
J06A Christmas Vall 80.88 324 P P 02 19 35.4 +0.1
baz=81,SNR=49
O01C Eel River Cons 80.91 320 ⇓P P 02 19 35.8 +0.4
baz=81,SNR=6.8
N02C Big Bar 81.05 321 P P 02 19 36.1 -0.1
baz=81,SNR=23
HOG Hogback Mounta 81.06 323 P P 02 19 36.7 +0.5
L04A Klamath Falls 81.12 323 ⇓P P 02 19 36.3 -0.2
baz=81
M02C Callahan 81.15 322 ⇓P P 02 19 36.1 -0.7
baz=81,SNR=5.9
YBH Yreka Blue Hor 81.29 322 P P 02 19 36.5 -0.9
comp=Z,14nm,0.8s,mb4.8,baz=91,slow=4.2,SNR=26
YBH Yreka Blue Hor 81.29 322 eP P 02 19 36.5 -1.0
YBH Yreka Blue Hor 81.29 322 ⇑P P 02 19 35.9 -1.5
baz=82,SNR=11
K04A Chilquin 81.32 323 ⇓P P 02 19 37.2 -0.4
baz=82
I06A Prineville 81.38 325 ⇑P P 02 19 38.3 +0.3
baz=82,SNR=30
JCC Jacoby Creek 81.47 321 ⇓P P 02 19 38.2 -0.2
baz=82
BSMT Bassoo Peak 81.47 330 eP P 02 19 38.5 +0.1
KTRM Thompson Ridge 81.79 322 P P 02 19 40.2 +0.1
PTEO Sao Teotonio 81.94 44 eP P 02 19 41.4 +0.5
comp=Z,102nm,1.4s,mb5.5
WALA Waterton Lakes 81.98 332 eP P 02 19 40.8 -0.3
comp=Z,60nm,0.9s,mb5.4
HUMO Hull Mountain 82.00 323 eP P 02 19 40.5 -0.7
HUMO Hull Mountain 82.00 323 ⇓P P 02 19 39.6 -1.6
baz=82
L02A Cave Junction 82.08 322 ⇓P P 02 19 41.5 -0.1
baz=82,SNR=5.8
I05A Bend 82.10 325 ⇑P P 02 19 42.2 +0.5
baz=82,SNR=22
FFC Flin Flon 82.13 341 P P 02 19 40.5 -1.4
comp=Z,136nm,1.1s,mb5.7,SNR=10
FFC Flin Flon 82.13 341 eP P 02 19 40.6 -1.3
FFC epP pP 02 20 12.6 +4.1
M01C Crescent City 82.17 321 ⇑P P 02 19 42.1 0.0
baz=82
K02A Glendale 82.41 322 ⇑P P 02 19 43.3 0.0
baz=83,SNR=8.3
HBO Huckleberry Mo 82.45 324 P P 02 19 43.5 -0.1
J03A Ideyld Park 82.50 323 ⇑P P 02 19 45.2 +1.4
baz=83
BOSA Boshof 82.56 118 P P 02 19 45.9 +1.8
comp=Z,56nm,0.9s,mb5.4,baz=255,slow=4.7,SNR=44
BOSA Boshof 82.56 118 P P 02 19 45.9 +1.8
BOSA pmax pmax
comp=Z,56nm,0.9s,mb5.4
BOSA Boshof 82.56 118 eP P 02 19 46.0 +1.9
comp=Z,72nm,1.0s,mb5.5
HAWA Hanford 82.71 327 eP P 02 19 44.8 -0.1
RSW Rattlesnake Hi 82.74 327 P P 02 19 45.5 +0.4
PBEJ Beja 82.78 44 eP P 02 19 47.8 +2.6
comp=Z,20nm,1.4s,mb4.7
J02A Umpqua 82.84 323 ⇑P P 02 19 45.4 -0.1
baz=83,SNR=5.1
G05A Wamic 82.84 325 ⇓P P 02 19 45.3 -0.3
baz=83,SNR=8.9
NEW Newport 82.85 330 eP P 02 19 44.6 -1.0
H04A Detroit Lake 82.93 325 P P 02 19 45.3 -0.8
baz=83,SNR=10
EVO Evora 82.98 43 eP P 02 19 45.4 -0.9
comp=Z,30nm,1.1s,mb4.7
EVO eR
comp=Z,566nm,18.0s
OD2 Odessa Site #2 82.99 328 P P 02 19 46.1 -0.3
I03A Eugene 83.06 323 P P 02 19 46.5 -0.2
baz=83,SNR=8.2
HOOD Mount Hood Mea 83.07 325 eP P 02 19 46.3 -0.5
MAW Mawson 83.23 163 P P 02 19 48.4 +0.8
comp=Z,6.3nm,0.6s,mb4.6,baz=225,slow=7.2,SNR=30
MAW pP pP 02 20 17.5 +3.2
comp=Z,29nm,0.9s,baz=211,slow=6.5,SNR=8.6
MAW Mawson 83.23 163 P P 02 19 48.5 +0.9
MAW pmax pmax
comp=Z,39nm,0.9s
F05A White Salmon 83.34 326 ⇓P P 02 19 48.0 -0.2
baz=84
PTOM Tomar 83.37 42 eP P 02 19 50.3 +2.0
comp=Z,52nm,1.4s,mb5.2
I02A Mapleton 83.39 323 ⇓P P 02 19 48.3 0.0
baz=84
EMIN Mina Concepcio 83.40 45 P P 02 19 43.8 -4.7
ESPR Espera 83.42 46 ⇑P P 02 19 46.0 -2.6
comp=Z,103nm,2.3s,mb5.2
G04A Mulino 83.44 325 ⇑P P 02 19 48.2 -0.5
baz=84
EJIF Jimena Fronter 83.45 46 P P 02 19 46.1 -2.6
EJIF pmax pmax
comp=Z,19nm,1.3s,mb4.8
EJIF Jimena Fronter 83.45 46 P P 02 19 46.1 -2.5
comp=Z,19nm,1.3s,mb4.8
COR Corvallis 83.47 324 eP P 02 19 48.5 -0.3
H03A Soap Creek Ran 83.53 324 ⇑P P 02 19 49.1 0.0
baz=84,SNR=6.7
EBG Ellensburg 83.58 327 P P 02 19 49.8 +0.4
FCC Fort Churchill 83.72 347 eP P 02 19 49.3 -0.8
FCC e pP 02 20 13.3 -3.4
FCC e*PP pP 02 20 20.8 +4.1
FCC pmax pmax
comp=Z,39nm,1.0s,mb5.2
FCC Fort Churchill 83.72 347 eP P 02 19 49.3 -0.8
comp=Z,39nm,0.9s,mb5.2
FCC epP pP 02 20 20.8 +4.0
TBM Table Mountain 83.77 327 P P 02 19 50.5 +0.2
F04A Amboy 83.88 325 ⇓P P 02 19 50.2 -0.7
baz=84,SNR=6.2
TWW Teanaway 83.89 327 P P 02 19 51.2 +0.3
H02A Toledo 83.92 324 ⇓P P 02 19 50.7 -0.3
baz=84
E05A Randle 83.95 326 P P 02 19 50.5 -0.7
baz=84,SNR=6.0
PCBR Castelo Branco 84.08 43 eP P 02 19 52.8 +0.9
comp=Z,29nm,1.3s,mb5.0
PVIS Viseu 84.33 42 eP P 02 19 54.9 +1.7
comp=Z,46nm,1.4s,mb5.1
MTE Manteigas 84.36 42 eP P 02 19 54.5 +1.1
E04A Onalaska 84.47 326 ⇑P P 02 19 53.3 -0.6
baz=85
F03A Seaside 84.48 325 ⇓P P 02 19 53.1 -0.9
baz=85
D05A Enumclaw 84.49 327 ⇓P P 02 19 52.9 -1.1
baz=85,SNR=9.1
C05A Tolt Reservoir 84.67 327 ⇓P P 02 19 53.1 -1.8
baz=85,SNR=6.3
ELOJ Sierra Loja 84.71 46 ⇑P P 02 19 56.4 +1.3
ELOJ pmax pmax
comp=Z,64nm,1.3s,mb5.4
ELOJ Sierra Loja 84.71 46 ⇑P P 02 19 56.4 +1.3
comp=Z,64nm,1.3s,mb5.4
PVRL Vila Real 84.77 41 eP P 02 19 58.5 +3.1
comp=Z,50nm,1.5s,mb5.2
PCAB Cabril 84.84 41 eP P 02 19 58.1 +2.4
comp=Z,50nm,1.5s,mb5.2
D04A Dobbs Creek Ra 84.85 326 ⇓P P 02 19 55.5 -0.3
baz=85
EDM Edmonton 84.87 335 eP P 02 19 54.2 -1.7
EDM e*PP pP 02 20 24.2 +1.6
ERON Agron 84.87 47 P P 02 19 53.5 -2.4
comp=Z,5.4nm,0.7s,mb4.6
E03A Lebam 84.88 325 ⇑P P 02 19 55.3 -0.7
baz=85
EADA Adamuz 84.99 45 ⇑P P 02 19 52.7 -3.8
comp=Z,67nm,2.0s,mb5.2
B05A Bryant 85.26 327 P P 02 19 56.6 -1.3
baz=86,SNR=11
C04A Brinnon 85.34 326 ⇓P P 02 19 57.4 -0.9
baz=86
D03A Wishkah Elem. 85.36 326 ⇓P P 02 19 58.0 -0.3
baz=86
EBAN Banos Encina 85.51 46 ⇑P P 02 19 59.5 +0.4
EBAN pmax pmax
comp=Z,83nm,1.1s,mb5.6
EBAN Banos Encina 85.51 46 ⇑P P 02 19 59.5 +0.4
comp=Z,83nm,1.1s,mb5.6
PBRG Braganca 85.67 41 eP P 02 19 59.8 -0.1
comp=Z,19nm,1.6s,mb4.8
A05A Maple Falls 85.74 328 ⇑P P 02 19 59.0 -1.3
baz=86,SNR=6.3
ECAL Calabor 85.75 41 P P 02 19 57.8 -2.5
comp=Z,130nm,3.3s
EQES Quesada 85.79 46 P P 02 19 55.8 -4.6
B04A Port Angeles 85.83 327 ⇓P P 02 20 00.1 -0.6
baz=86
A04A Legoe Bay, Lum 85.87 327 ⇓P P 02 19 60.0 -0.9
baz=86
PAB San Pablo 85.90 44 P P 02 20 02.3 +1.3
EHUE Huescar 86.11 46 ⇑P P 02 20 01.3 -0.8
EHUE pmax pmax
comp=Z,27nm,1.6s,mb4.9
EHUE Huescar 86.11 46 ⇑P P 02 20 01.3 -0.8
comp=Z,26nm,1.6s,mb4.9
PGC Sidney 86.19 327 eP P 02 20 02.3 -0.2
ESDC Sonseca Array 86.22 44 P P 02 20 04.4 +1.8
comp=Z,6.5nm,1.0s,mb4.5,baz=241,slow=4.8,SNR=21
ESDC S 02 30 20.3
comp=Z,0.1nm,0.3s,baz=353,slow=10,SNR=2.6
ESDC Sonseca Array 86.22 44 ⇑P P 02 20 00.1 -2.5
comp=Z,43nm,2.3s,mb5.0
ESLA Sonseca Array 86.22 44 eP P 02 20 04.3 +1.8
ETOB Tobarra 87.25 46 P P 02 20 05.5 -2.1
comp=Z,146nm,2.8s,mb5.4
ECHE Chera 88.13 46 P P 02 20 07.2 -4.6
ESAC San Caprasio 89.56 44 P P 02 20 15.6 -2.9
comp=Z,81nm,2.2s,mb5.5
ERTA Horta de San J 89.69 45 P P 02 20 18.8 -0.3
comp=Z,80nm,2.3s,mb5.4
SJPF Ste Jean 89.80 42 eP P 02 20 19.3 -0.3
comp=Z,24nm,1.2s,mb4.9
SJPF Ste Jean 89.80 42 eP P 02 20 19.3 -0.3
SJPF pmax pmax
comp=Z,12nm,1.2s,mb4.9
SJPF Ste Jean 89.80 42 eP P 02 20 19.3 -0.3
comp=Z,12nm,1.2s,mb4.9
ETSF Etsaut 90.11 43 eP P 02 20 20.6 -0.4
comp=Z,34nm,1.4s,mb5.0
ETSF Etsaut 90.11 43 eP P 02 20 20.6 -0.4
ETSF pmax pmax
comp=Z,17nm,1.4s,mb5.0
ETSF Etsaut 90.11 43 eP P 02 20 20.6 -0.4
comp=Z,17nm,1.4s,mb5.0
MIR Mirnyy 90.11 173 eP P 02 20 21.5 +0.4
MIR pmax pmax
comp=Z,110nm,1.0s,mb5.9
EGRA Graus 90.30 44 P P 02 20 22.3 +0.3
comp=Z,11nm,0.7s,mb5.1
EBIE Bielsa 90.44 43 P P 02 20 18.3 -4.3
comp=Z,56nm,2.6s,mb5.2
EPF Esparros 90.74 43 eP P 02 20 24.1 +0.1
comp=Z,32nm,1.4s,mb5.0
EPF Esparros 90.74 43 eP P 02 20 24.1 +0.1
EPF pmax pmax
comp=Z,16nm,1.4s,mb5.0
EPF Esparros 90.74 43 eP P 02 20 24.1 +0.1
comp=Z,16nm,1.4s,mb5.0
ROSF Rostrenen 91.37 37 eP P 02 20 26.6 -0.3
comp=Z,53nm,1.4s,mb5.2
ROSF Rostrenen 91.37 37 eP P 02 20 26.6 -0.3
ROSF pmax pmax
comp=Z,27nm,1.4s,mb5.2
ROSF Rostrenen 91.37 37 eP P 02 20 26.6 -0.3
comp=Z,26nm,1.4s,mb5.2
CASY Casey 91.49 180 eP P 02 20 28.7 +1.3
comp=Z,68nm,1.1s,mb5.7
SGMF Saint Gilles 91.73 38 eP P 02 20 27.5 -1.1
LFF La Frestale 91.95 42 eP P 02 20 29.0 -0.6
comp=Z,15nm,0.7s,mb5.0
LFF La Frestale 91.95 42 eP P 02 20 29.0 -0.6

LFF pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
LFF La Frestale 91.95 42 *e*P **P 02 20 29.0 -0.6**
comp=Z,7.3nm,0.7s,mb5.0
MTLF Montolieu 92.09 44 *e*P **P 02 20 29.9 -0.3**
comp=Z,9.8nm,0.9s,mb4.7
MTLF Montolieu 92.09 44 *e*P **P 02 20 29.9 -0.3**
MTLF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
MTLF Montolieu 92.09 44 *e*P **P 02 20 29.9 -0.3**
comp=Z,4.9nm,0.9s,mb4.7
MFF Saint Martin d 92.26 40 *e*P **P 02 20 30.6 -0.4**
comp=Z,21nm,1.1s,mb5.0
MFF Saint Martin d 92.26 40 *e*P **P 02 20 30.6 -0.4**
MFF pmax pmax
comp=Z,11nm,1.1s,mb5.0
MFF Saint Martin d 92.26 40 *e*P **P 02 20 30.6 -0.4**
comp=Z,11nm,1.1s,mb5.0
YKA Yellowknife Ar 92.29 340 P **P 02 20 30.0 -1.2**
comp=Z,31nm,0.8s,mb5.6,baz=135,slow=4.6,SNR=108
YKA pP pP 02 20 59.0 +0.9
comp=Z,5.2nm,0.6s,baz=125,slow=4.7,SNR=4.5
YKA sP sP 02 21 12.5 +3.5
comp=Z,9.9nm,0.7s,baz=137,slow=4.4,SNR=5.8
YKA Yellowknife Ar 92.29 340 P **P 02 20 30.0 -1.2**
YKA *PP pP 02 20 59.0 +0.9
YKA Yellowknife Ar 92.29 340 P **P 02 20 30.0 -1.2**
YKA pP pP 02 20 59.0 +0.9
YKA sP sP 02 21 12.5 +3.4
YKW3 Yellowknife Ar 92.34 340 *e*P **P 02 20 29.9 -1.5**
YKW3 *e*pP pP 02 21 00.7 +2.3
RJF Les Rejaudoux 92.61 42 *e*P **P 02 20 32.0 -0.7**
CAF Calviac 92.76 42 *e*P **P 02 20 32.6 -0.8**
GRR Gorron 92.77 38 *e*P **P 02 20 32.6 -0.8**
comp=Z,60nm,1.3s,mb5.5
GRR Gorron 92.77 38 *e*P **P 02 20 32.6 -0.8**
GRR pmax pmax
comp=Z,30nm,1.3s,mb5.5
GRR Gorron 92.77 38 *e*P **P 02 20 32.6 -0.8**
comp=Z,30nm,1.3s,mb5.5
FLN La Foliniere 93.17 38 *e*P **P 02 20 34.0 -1.2**
LDF La Druitiere 93.29 38 *e*P **P 02 20 34.8 -1.0**
comp=Z,28nm,1.2s,mb5.2
LDF La Druitiere 93.29 38 *e*P **P 02 20 34.8 -1.0**
LDF pmax pmax
comp=Z,14nm,1.2s,mb5.2
LDF La Druitiere 93.29 38 *e*P **P 02 20 34.8 -1.0**
comp=Z,14nm,1.2s,mb5.2
LASF Ste Croix 93.48 43 *e*P **P 02 20 36.2 -0.5**
comp=Z,15nm,1.2s,mb4.9
TCF Toulx Ste Croi 93.52 41 *e*P **P 02 20 36.0 -0.8**
comp=Z,6.4nm,1.0s,mb4.6
TCF Toulx Ste Croi 93.52 41 *e*P **P 02 20 36.0 -0.8**
TCF pmax pmax
comp=Z,3.0nm,1.0s,mb4.6
TCF Toulx Ste Croi 93.52 41 *e*P **P 02 20 36.0 -0.8**
comp=Z,3.2nm,1.0s,mb4.6
URZ Urewera 93.84 226 pP pP 02 21 08.9 +3.6
comp=Z,15nm,0.9s,baz=90,slow=9.1,SNR=4.1
BGF Bois d'Agland 94.03 41 *e*P **P 02 20 38.1 -1.1**
comp=Z,13nm,0.9s,mb5.0
BGF Bois d'Agland 94.03 41 *e*P **P 02 20 38.1 -1.1**
BGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
BGF Bois d'Agland 94.03 41 *e*P **P 02 20 38.1 -1.1**
comp=Z,6.3nm,0.9s,mb5.0
AVF Avril sur Loir 94.45 41 *e*P **P 02 20 39.9 -1.2**
comp=Z,8.4nm,1.0s,mb4.7
AVF Avril sur Loir 94.45 41 *e*P **P 02 20 39.9 -1.2**
AVF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
AVF Avril sur Loir 94.45 41 *e*P **P 02 20 39.9 -1.2**
comp=Z,4.2nm,1.0s,mb4.7
SMRF Simiane la Rot 94.53 44 *e*P **P 02 20 40.2 -1.3**
comp=Z,21nm,1.3s,mb5.1
SMRF Simiane la Rot 94.53 44 *e*P **P 02 20 40.2 -1.3**
comp=Z,21nm,1.3s,mb5.4
SSF Saint Saulge 94.67 41 *e*P **P 02 20 41.0 -1.1**
SMF Signal de Mont 94.68 41 *e*P **P 02 20 40.7 -1.4**
comp=Z,17nm,1.1s,mb5.1
SMF Signal de Mont 94.68 41 *e*P **P 02 20 40.7 -1.4**
SMF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
SMF Signal de Mont 94.68 41 *e*P **P 02 20 40.7 -1.4**
comp=Z,8.6nm,1.0s,mb5.1
LMR La Mourre 94.85 45 *e*P **P 02 20 41.8 -1.2**
comp=Z,22nm,1.1s,mb5.2
LMR La Mourre 94.85 45 *e*P **P 02 20 41.8 -1.2**
LMR pmax pmax
comp=Z,11nm,1.1s,mb5.2
LMR La Mourre 94.85 45 *e*P **P 02 20 41.8 -1.2**
comp=Z,11nm,1.1s,mb5.2
LOR Lormes 94.98 41 *e*P **P 02 20 42.7 -0.8**
FRF La Foret Royal 95.04 45 *e*P **P 02 20 42.5 -1.3**
comp=Z,12nm,1.0s,mb5.0
FRF La Foret Royal 95.04 45 *e*P **P 02 20 42.5 -1.3**
FRF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
FRF La Foret Royal 95.04 45 *e*P **P 02 20 42.5 -1.3**
comp=Z,6.1nm,1.0s,mb5.0
ORIF Oris-en-Rattie 95.16 43 *e*P **P 02 20 43.4 -0.9**
comp=Z,6.7nm,0.8s,mb4.8
ORIF Oris-en-Rattie 95.16 43 *e*P **P 02 20 43.4 -0.9**
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 95.16 43 *e*P **P 02 20 43.4 -0.9**
comp=Z,3.3nm,0.8s,mb4.8
DLBC Dease Lake 95.31 332 *e*P **P 02 20 44.5 -0.5**
DLBC *e*pP pP 02 21 15.7 +3.7
MBDF Montbardon 95.64 44 *e*P **P 02 20 46.3 -0.2**
SBF Sospel 95.69 45 *e*P **P 02 20 45.5 -1.3**
LPG La Plagne 95.96 43 *e*P **P 02 20 47.2 -0.8**
CABF La Chapelle 96.04 42 *e*P **P 02 20 47.4 -1.0**
PGF Pioggiola 96.16 46 *e*P **P 02 20 47.5 -1.4**
BAIF Baives 96.48 38 *e*P **P 02 20 48.7 -1.7**
DAVA Damuels 98.68 42⇑*e* PP 02 24 59.1 -3.3
DAVA Damuels 98.68 42 ⇓Pdiff **P 02 21 00.4 +0.2**
comp=Z,3.2nm,0.7s,mb5.0
DAVA ⇑*e*PP PP 02 24 59.1 -3.3
comp=Z,13nm,1.3s
MOTA Moosalm 99.47 43⇑*i*Pdiff Pdif 02 21 03.7 -0.1
comp=Z,4.5nm,1.0s
MOTA ⇑*e*PP PP 02 25 06.8 -1.6
comp=Z,12nm,1.5s
MOTA Moosalm 99.47 43⇑*i*P Pdif 02 21 03.7 -0.1
MOTA *e* 02 25 06.8
MOTA pmax pmax
comp=Z,5.0nm,1.0s,mb5.0
MOTA Moosalm 99.47 43⇑*i*P Pdif 02 21 03.6 -0.1
comp=Z,4.5nm,1.0s
MOTA *i* 02 21 15.4
MOTA *e* 02 25 06.8
SQTA Sankt Quirin 99.49 43⇓*e*P Pdif 02 21 04.9 +1.1
SQTA pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
SQTA Sankt Quirin 99.49 43⇓*e*P Pdif 02 21 04.9 +1.1
comp=Z,5.0nm,0.8s
SQTA *i* 02 21 15.5
WTTA Wattenberg 99.77 43⇓*e*P Pdif 02 21 05.7 +0.6
comp=Z,8.9nm,1.1s
WTTA Wattenberg 99.77 43⇓*e*P Pdif 02 21 05.7 +0.6
WTTA pmax pmax
comp=Z,9.0nm,1.1s,mb5.3
ROBS Robic 100.59 44 *e*PP PP 02 25 14.6 -2.2
KBA Koelnbreinsper 100.78 44⇑*i*PP PP 02 25 17.1 -1.2
comp=Z,8.3nm,0.9s
GORS Gorjuse 100.93 44 *e*PP PP 02 25 17.8 -1.6
CEY Cerknica 101.00 45 *e*PP PP 02 25 17.9 -2.0
LJU Ljubljana 101.17 45 *e*PP PP 02 25 20.0 -1.3
OBKA Obir 101.35 44⇓*e*PP PP 02 25 21.9 -0.7
comp=Z,14nm,1.6s
MOA Molln 101.64 43⇑*e*PP PP 02 25 22.9 -1.9
comp=Z,8.9nm,1.3s
INK Inuvik 102.05 340 *e*P Pdif 02 21 14.9 -0.3
DAWY Dawson 102.09 335 *e*Pdif Pdif 02 21 13.6 -1.9
CLL Collm 102.09 39 *e*(Pdif) 02 21 19.0
comp=Z,11nm,1.7s
CLL *i* x x 02 21 27.3
CLL *e*PP PP 02 25 26.0 -2.2
CLL *e*SKSac SKSac 02 31 48.0 +2.6
CLL *e*Sdif Sdif 02 32 47.0 -2.5
CLL *e*PS PS 02 34 36.0 +0.3
CLL *e*PPS 02 35 30.0
CLL *e*SS SS 02 39 54.0 -2.1

CLL Collm 102.09 39 *e*P Pdif 02 21 19.0 +3.6
CLL *e* 02 25 26.0
CLL *e* 02 31 48.0
CLL *e*S Sdif 02 32 47.0 -2.5
CLL pmax pmax
comp=Z,11nm,1.7s
CLL Collm 102.09 39 *e*Pdif Pdif 02 21 19.0 +3.6
comp=Z,11nm,1.7s
CLL *i* 02 21 27.3
CLL *e*PP PP 02 25 26.0 -2.2
CLL *e*SKS 02 31 48.0
CLL *e*Sdif Sdif 02 32 47.0 -2.5
NOA NORSAR Array B 104.56 30 PP PP 02 25 44.3 -2.2
comp=Z,1.1nm,0.9s,baz=247,slow=7.1,SNR=2.7
PSZ Piszkesteto 105.26 44 *e*PKPdf PKiKP 02 25 37.6 -5.5
PSZ *e*PP PP 02 25 51.0 -0.8
FINES FINESS Array B 111.62 31 PKKPbc PKKPbc 02 36 48.2 -0.7
comp=Z,0.8nm,0.7s,baz=90,slow=3.3,SNR=4.4
AKASG Malin Array Be 111.83 43 PP PP 02 26 37.9 -1.6
comp=Z,0.2nm,0.2s,baz=259,slow=7.3,SNR=9.6
AKASG PKKPbc PKKPbc 02 36 47.5 -0.8
comp=Z,0.6nm,0.6s,baz=79,slow=3.4,SNR=7.3
AKASG PKKPab PKKPab 02 36 56.2 -1.5
comp=Z,0.1nm,0.3s,baz=61,slow=3.6,SNR=5.3
AKASG tx tx 02 37 18.9
comp=Z,0.2nm,0.4s,baz=68,slow=3.3,SNR=4.1
ARCES ARCESS Array B 112.24 22 PKKPbc PKKPbc 02 36 46.6 -0.3
comp=Z,1.4nm,0.7s,baz=100,slow=5.0,SNR=3.4
BRTR Keskin Array B 113.02 55 PKiKP PKiKP 02 25 59.0 +1.3
comp=Z,0.6nm,0.8s,baz=243,slow=1.4,SNR=4.3
BRTR PP PP 02 26 48.1 +0.1
comp=Z,2.3nm,0.9s,baz=243,slow=5.4,SNR=5.5
BRTR PKKPab PKKPab 02 36 52.4 0.0
comp=Z,0.7nm,0.8s,baz=98,slow=7.6,SNR=5.6
BRTR tx tx 02 37 22.2
comp=Z,0.8nm,0.8s,baz=138,slow=3.0,SNR=4.9
BRTR Keskin Array B 113.02 55⇑*i*PKiKP PKiKP 02 25 59.0 +1.3
BRTR Keskin Array B 113.02 55 PKPdf PKiKP 02 25 59.0 +1.3
BRTR PP PP 02 26 48.1 +0.1
BRTR PKKPab PKKPab 02 36 52.4 0.0
ANN Anapa 116.55 50 *i*PKIKP PKPdf 02 26 09.8 +5.3
ANN pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 116.66 38⇑*i*PKIKP PKPdf 02 26 04.8 +0.1
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN Obninsk 116.66 38⇑*e*PKP PKPdf 02 26 04.9 +0.2
STKA Stephens Creek 118.77 209 PKP PKPdf 02 26 06.8 -2.0
comp=Z,1.5nm,0.5s,baz=279,slow=22,SNR=4.2
BILL Bilibino 123.63 338 *i*PKIKP PKPdf 02 26 15.5 -2.6
BILL pmax pmax
comp=Z,7.0nm,1.1s
CTA Charters Tower 125.80 221 PKP PKPdf 02 26 22.4 +0.1
comp=Z,8.3nm,0.8s,baz=270,slow=5.3,SNR=5.0
ARU Arti 128.71 35 *i*PKIKP PKPdf 02 26 26.3 -1.5
ARU *e* 02 33 20.8
ARU Arti 128.71 35⇑*e*PKP PKPdf 02 26 28.8 +1.0
ASAR Alice Springs 129.24 207 PKP PKPdf 02 26 29.1 +0.3
comp=Z,13nm,0.8s,baz=145,slow=2.2,SNR=77
ASAR pPKP pPKPdf 02 27 00.6 +3.7
comp=Z,6.0nm,0.8s,baz=155,slow=2.3,SNR=5.8
TIXI Tiksi 129.85 353⇑*i*PKIKP PKPdf 02 26 28.9 -1.0
TIXI Tiksi 129.85 353⇑*e*PKP PKPdf 02 26 28.9 -1.0
AKTK Aktyubinsk 130.07 42 PKP PKPdf 02 26 31.3 +0.9
AKTK pPKP pPKPdf 02 27 01.4 +3.0
AKTK SKPbc 02 29 44.8
AKTO Aktyubinsk 130.07 42 PKP PKPdf 02 26 31.3 +0.9
comp=Z,2.9nm,0.9s,baz=309,slow=4.6,SNR=8.1
AKTO pPKP pPKPdf 02 27 01.4 +3.0
comp=Z,6.4nm,1.1s,baz=251,slow=3.1,SNR=5.4
AKTO SKPbc 02 29 44.8
comp=Z,7.3nm,1.0s,baz=281,slow=4.5,SNR=11
WRA Warramunga Arr 132.32 209 PKP PKPdf 02 26 35.3 +0.7
comp=Z,14nm,0.8s,baz=158,slow=1.8,SNR=56
WRA pPKP pPKPdf 02 27 06.5 +3.8
comp=Z,3.3nm,0.6s,baz=155,slow=1.7,SNR=3.7
WRA SKPbc SKPbc 02 29 51.2 -0.7
comp=Z,15nm,1.1s,baz=148,slow=3.8,SNR=15
WRA Warramunga Arr 132.32 209 PKIKP PKPdf 02 26 35.3 +0.7
WRA 02 27 06.5
WRAB Tennant Creek 132.32 209*d i*PKIKP PKPdf 02 26 35.3 +0.7
MA2 Magadan 133.83 334 PKHKP 02 26 13.6
ZRNK Zerenda 135.64 36 *e*PKIKP PKPdf 02 26 40.9 +0.1
ZRNK *e* 02 27 12.3
CHKZ Chkalovo 136.16 34 *e*PKIKP PKPdf 02 26 42.5 +0.7
BRVK Borovoye 136.28 35⇑*e*PKIKP PKPdf 02 26 43.4 +1.4
FITZ Fitzroy Crossi 137.37 200 PKP PKPdf 02 26 45.3 +1.2
comp=Z,8.0nm,1.0s,baz=202,slow=4.6,SNR=6.6
YAK Yakutsk 138.60 347 PKIKP 02 26 23.6
NVS Novosibirsk 141.37 26 *e*PKIKP PKPdf 02 26 50.9 -0.4
NVS *i* 02 27 22.9
NVS pmax pmax
comp=Z,29nm,1.5s
KURK Kurchatov 141.90 34⇑*e*PKIKP PKPdf 02 26 53.0 +0.7
ZAL Zalesovo 142.66 26 PKP PKPdf 02 26 52.2 -1.4
comp=Z,5.3nm,0.8s,baz=180,slow=5.8,SNR=10
ZAL SKPbc SKPbc 02 30 23.4 +1.2
comp=Z,3.8nm,0.8s,baz=240,slow=3.5,SNR=4.3
UCH Uchtor 143.40 49 P PKPdf 02 26 54.5 -0.5
SNR=7.5
KBK Karagaybulak 143.54 48 P PKPdf 02 26 54.5 -0.7
SNR=7.1
TKM2 Tokmak 2 143.88 47 P PKPdf 02 26 55.8 0.0
SNR=8.2
KZA Kyzart 143.96 49 P PKPdf 02 26 57.0 +1.1
SNR=12
CLNS Chul'man 144.35 347 *e*PKHKP 02 26 48.6
CLNS pmax pmax
comp=Z,41nm,0.6s
CLNS pmax pmax
comp=N,21nm,1.2s
CLNS pmax pmax
comp=E,15nm,0.7s
ULHL Ulahol 144.58 48 P PKPdf 02 26 58.7 +1.7
SNR=21
BOD Bodaibo 144.69 358 *e*PKIKP PKPdf 02 26 54.7 -2.5
BOD pmax pmax
comp=Z,79nm,1.3s
YSS Yuzh-Sakhalins 145.02 322⇓*e*PKIKP PKPdf 02 26 57.0 -0.8
YSS *e* 02 27 27.7
YSS pmax pmax
comp=Z,120nm,1.0s
YSS Yuzh-Sakhalins 145.02 322 *e*PKPdf PKPdf 02 26 56.8 -1.0
KSH Kashi 145.35 52 PKP PKPdf 02 26 59.5 +1.2
KSH *e*PKS 02 30 34.8
KSH *e*SKS SKSdf 02 33 58.5 +0.4
KSH PP PP
comp=Z,250nm,4.3s
KSH LR LR
comp=N,780nm,5.2s
KSH LR LR
comp=E,2μm,7.2s
KSH LR LR
comp=Z,1μm,20.6s
MKAR Makanchi Array 146.16 37 PKPbc PKPbc 02 27 00.9 0.0
comp=Z,9.4nm,0.8s,baz=298,slow=2.6,SNR=17
MKAR pPKPbc pPKPbc 02 27 31.2 +2.5
comp=Z,18nm,0.8s,baz=308,slow=2.9,SNR=6.1
MKAR Makanchi Array 146.16 37 PKP2 PKPab 02 27 00.9 -0.8
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR pmax pmax
comp=Z,18nm,0.8s
GUMO Guam 147.21 260 PKPbc PKPbc 02 27 03.4 -0.5
comp=Z,320nm,1.0s,baz=206,slow=6.5,SNR=11
GUMO pPKPbc pPKPbc 02 27 34.7 +3.0
comp=Z,177nm,1.0s,baz=162,slow=4.7,SNR=3.7
GUMO Guam 147.21 260 PKIKP PKPdf 02 27 03.4 +1.9
GUMO 02 27 34.7
GUMO pmax pmax
comp=Z,320nm,1.0s
GUMO pmax pmax
comp=Z,177nm,1.0s
NDI New Delhi 148.46 72 *e*P PKPdf 02 27 07.2 +3.7
NDI *ex* x 02 27 33.5
HYB Hyderabad 148.57 93 *i*PKP PKPdf 02 27 12.5 +8.8
comp=Z,120nm,1.0s
HYB *e* 02 27 25.0
HYB *e*PP PP 02 30 40.5 +2.8
KLR Kul'dur 148.93 334 *e*PKHKP PKPdf 02 27 02.0 -2.3
MOY Mondy 149.75 13 *e*PKHKP PKPdf 02 27 07.5 +1.9
MOY pmax pmax
comp=Z,78nm,1.2s
IRK Irkutsk 149.78 9 *e*PKHKP PKPdf 02 27 05.8 +0.1
IRK pmax pmax

comp=Z,923nm,1.7s
TLY Talaya 150.23 10 P PKPdf 02 27 08.0 +1.6
SNR=12
TLY Talaya 150.23 10 *e*PKHKP PKPdf 02 27 07.1 +0.7
TLY pmax pmax
comp=Z,39nm,1.8s
TLY Talaya 150.23 10 *e*PKPdf PKPdf 02 27 06.5 +0.1
CIT Chita 150.50 358 *e*PKIKP PKPdf 02 27 03.8 -3.0
CIT *e* 02 27 38.6
CIT *e* 02 30 47.6
CIT pmax pmax
comp=Z,137nm,1.4s
WMQ Urumqi 150.99 37 *e*PKP PKPdf 02 27 08.3 +0.7
WMQ APKP 02 27 39.0
WMQ PKS 02 30 41.5
WMQ PP PP 02 30 55.8 +4.1
WMQ SKKS SKKSac 02 37 37.5 +4.7
WMQ PP PP
comp=Z,20nm,14.0s
ZAK Zakamensk 151.43 11 *e*PKIKP PKPdf 02 27 09.1 +0.9
ZAK *e* 02 27 46.5
ZAK pmax pmax
comp=Z,25nm,1.7s
ZAK pmax pmax
comp=Z,27nm,1.4s
MJAR Matsushiro Arr 153.06 307 PKP PKPdf 02 27 10.7 0.0
comp=Z,2.1nm,0.9s,baz=323,slow=1.8,SNR=7.3
MJAR PKPbc PKPbc 02 27 17.7 -0.4
comp=Z,22nm,0.9s,baz=100,slow=1.0,SNR=42
MJAR PKPab PKPab 02 27 29.1 -0.8
comp=Z,15nm,0.9s,baz=58,slow=1.2,SNR=12
MJAR PP PP 02 31 01.7 -1.7
comp=Z,0.4nm,0.2s,baz=82,slow=4.4,SNR=4.6
MAJO Matsushiro 153.06 307 *e*PKPbc PKPbc 02 27 17.6 -0.5
MAJO *e*PKPab PKPab 02 27 29.8 -0.1
MAT Matsushiro 153.06 307 PKP PKPdf 02 27 17.2 +6.6
MDJ Mudanjiang 153.45 330 PKP PKPdf 02 27 11.5 +0.3
KOLN Koldanda 154.15 73 *e*P PKPab 02 27 35.4 +0.9
comp=Z,25nm,0.9s
SONM Songino Array 154.39 8 PKP PKPdf 02 27 13.1 +0.6
comp=Z,5.4nm,0.8s,baz=318,slow=0.6,SNR=24
SONM PKPbc PKPbc 02 27 20.1 -0.8
comp=Z,6.2nm,0.9s,baz=250,slow=0.5,SNR=12
SONM PKPab PKPab 02 27 36.5 +1.0
comp=Z,4.1nm,0.8s,baz=323,slow=2.8,SNR=7.0
ULN Ulaanbaatar 154.44 7 P PKPdf 02 27 13.8 +1.2
SNR=6.3
ULN Ulaanbaatar 154.44 7 *e*PKPdf PKPdf 02 27 13.3 +0.7
GKN Gorkha 155.03 72 *e*P PKPab 02 27 39.5 +1.2
comp=Z,61nm,0.9s
DMN Daman 155.49 73 *e*P PKPab 02 27 41.6 +1.4
comp=Z,57nm,1.1s
KKN Kakani 155.62 72 *e*P PKPab 02 27 42.1 +1.3
comp=Z,29nm,0.7s
PKI Pulchoki 155.76 73 *e*P PKPab 02 27 42.1 +0.7
CN2 Changchun 155.87 335 *e*PKP PKPdf 02 27 15.5 +1.0
CN2 APKP 02 27 41.3
CN2 PP PP
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,18.0s
CN2 LR LR
comp=E,2μm,18.0s
CN2 LR LR
comp=Z,3μm,16.0s
GUN Gumba 156.14 72 *e*P PKPab 02 27 44.4 +1.4
JIRN Jiri 156.44 72 *e*P PKPab 02 27 45.2 +0.9
comp=Z,20nm,0.7s
PSI Prapat 156.87 146 PKPab PKPab 02 27 48.2 +2.1
comp=Z,8.7nm,1.0s,baz=30,slow=4.4,SNR=3.8
PSI Prapat 156.87 146 PKP2 PKPab 02 27 48.2 +2.1
PSI pmax pmax
comp=Z,9.0nm,1.0s
SNY Shenyang 158.27 335⇓PKP PKPdf 02 27 17.5 -0.1
GTA Gaotai 160.38 28 *e*PKP PKPdf 02 27 21.3 +1.3
GTA APKP 02 27 48.0
GTA XPKP 02 27 58.5
GTA PKS 02 30 54.0
GTA PP PP 02 31 47.5 +3.7
GTA SKS SKSdf 02 34 15.0 -0.8
GTA SKKS SKKSac 02 38 24.8 +1.9
GTA PP PP
comp=Z,100nm,5.4s
GTA LR LR
comp=N,3μm,17.6s
GTA LR LR
comp=E,4μm,18.0s
GTA LR LR
comp=Z,4μm,15.3s
HHC Hu-ho-hao-te 161.71 0⇓PKP PKPdf 02 27 23.0 +1.6
HHC APKP 02 27 49.5
HHC XPKP 02 28 00.3
HHC PKP2 PKPab 02 28 10.0 +2.8
HHC PKS 02 30 55.5
HHC PP PP 02 31 55.0 +4.0
HHC SKS SKSdf 02 34 16.3 -0.7
HHC SKKS SKKSac 02 38 32.3 +2.6
HHC PP PP
comp=Z,90nm,11.9s
HHC LR LR
comp=N,2μm,16.9s
HHC LR LR
comp=E,2μm,14.8s
HHC LR LR
comp=Z,2μm,16.7s
SHL Shillong 161.74 76 *i*P PKPdf 02 27 23.0 +1.5
SHL *e*S 02 31 54.0
JOW Kunigami 164.25 289 PKPab PKPab 02 28 19.1 +0.8
comp=Z,17nm,0.8s,baz=139,slow=6.9,SNR=3.3
LZH Lanzhou 164.88 25 *e*PKP PKPdf 02 27 26.3 +1.9
LZH APKP 02 27 58.5
LZH XPKP 02 28 11.5
LZH PKP2 PKPab 02 28 24.8 +3.7
LZH PKS 02 30 57.8
LZH *e*PP PP 02 32 12.5 +4.8
LZH SKS SKSdf 02 34 17.0 -2.3
LZH SKKS SKKSac 02 38 46.0 +0.2
LZH PP PP
comp=Z,270nm,9.7s
LZH LR LR
comp=N,320nm,18.5s
LZH LR LR
comp=Z,400nm,20.4s
SSE Sheshan 167.91 317 PKP PKPdf 02 27 24.8 -2.0
XAN Xi'an 168.27 11 PKP PKPdf 02 27 28.0 +1.0
NJ2 Nanjing 168.52 327 *e*PKP PKPdf 02 27 29.5 +2.3
NJ2 APKP 02 27 56.8
NJ2 XPKP 02 28 06.8
NJ2 PKP2 PKPab 02 28 40.0 +2.8
NJ2 PKS 02 31 01.0
NJ2 PP PP 02 32 31.0 +4.6
NJ2 PP PP
comp=Z,200nm,14.7s
NJ2 LR LR
comp=N,300nm,20.6s
NJ2 LR LR
comp=E,220nm,27.6s
NJ2 LR LR
comp=Z,160nm,21.3s
CD2 Chengdu 169.09 38 *e*PKP PKPdf 02 27 29.0 +1.4
CD2 APKP 02 27 56.0
CD2 XPKP 02 28 06.5
CD2 PKP2 PKPab 02 28 43.0 +3.3
CD2 PP PP 02 32 33.0 +3.8
CD2 SKS SKSdf 02 34 21.5 -0.3
CD2 SKKS SKKSac 02 39 09.0 +2.3
CD2 PP PP
comp=Z,100nm,10.5s
KMI Kunming 171.48 70 PKP PKPdf 02 27 30.8 +1.9
KMI APKP 02 28 03.8
KMI PP PP 02 32 44.8 +3.6
KMI SKKS SKKSac 02 39 18.3 -0.1
KMI PP PP
comp=Z,150nm,12.1s
KMI LR LR
comp=N,1μm,16.7s
KMI LR LR
comp=E,1μm,16.2s
KMI LR LR
comp=Z,1μm,19.1s
WHN Wuhan 171.63 343 *e*PKP PKPdf 02 27 30.0 +1.0
GYA Guiyang 174.03 48 *i*PKP PKPdf 02 27 31.0 +1.0
GYA APKP 02 27 58.8
GYA PKS 02 31 02.5

GYA PP PP
comp=Z,240nm,6.0s
GYA LR LR
comp=N,290nm,21.8s
GYA LR LR
comp=E,260nm,22.4s
GYA LR LR
comp=Z,240nm,21.0s

BJI ***27*** *02:39:31.3,5274N×17598E,h19km,mB6.0,mb5.6,Ms6.0, Msz5.7*

NEIC ***27*** *02:39:32.9±0.1,5223N×176.16E,h17km,mb5.7/240, ME6.2,MS6.0/143,MW6.2,ML6.0(AEIC),Error ellipse: s-maj=4.0km s-min=2.2km az=184.0,Moment Tensor Solution. s63 Moment tensor: Scale 10¹⁸Nm; Mrr0.08; Mθθ-1.77; Mφφ 1.69; Mrθ-0.02; Mθφ-1.43; Mφr-0.49; Best double couple: M₀2.30000×10¹⁸ NP1:φs206.00000°, δ85.00000°,λ12.00000°. NP2:φs115.00000°,δ78.00000°, λ175.00000°. Principal axes: T 2.3000, Plg12.0000°, Azm71.0000°; N 0.0000, Plg77.0000°, Azm229.0000°; P -2.3000, Plg5.0000°, Azm340.0000°; Broadband fault plane solution: P waves. NP1:φs112.00000°,δ60.00000°, λ174.00000°. NP2:φs205.00000°,δ85.00000°,λ30.00000°. Principal axes: T Plg24.0000°, Azm73.0000°; N Plg0.0000°, Azm0.0000°; P Plg17.0000°, Azm335.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt strongly on Shemya.

ISCJB ***27*** *02:39:32.6±0.1,5216N±003×176.16E±002,h28km, mb5.5/319,MS5.9/201 Error ellipse: s-maj=3.6km s-min=1.4km az=9.5*

MOS ***27*** *02:39:33.4±1.1,5227N×17608E,h33km,mb5.8/147, MS5.7/53,Error ellipse: s-maj=8.1km s-min=7.3km az=136.4*

HRVD ***27*** *02:39:35.3±0.1,5219N×176.18E,h18km,MW6.2/116, Centroid moment Tensor Solution. LP body waves: s112,c276;Mantle waves: s116,c481; Half duration: 3s2 Moment tensor: Scale 10¹⁸Nm; Mrr-0.10±.01; Mθθ-2.28±.01; Mφφ2.38±.01; Mrθ0.04±.04; Mθφ-1.36±.01; Mφr-0.72±.04; Best double couple: M₀2.78500×10¹⁸ NP1:φs119.00000°,δ78.00000°,λ173.00000°. NP2: φs211.00000°,δ83.00000°,λ12.00000°. Principal axes: T 2.9140, Plg13.0000°, Azm75.0000°; N -0.2560, Plg76.0000°, Azm240.0000°; P -2.6570, Plg3.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***27*** *02:39:35.5±0.9,5235N×176.13E,h35km±5km,mb4.9/31, mb1 5.0/32,mb1mx5.0/32,mbtmp5.1/32,ML5.1/1,MS5.8/32, Ms1 5.8/32,ms1mx5.6/45 Error ellipse: s-maj=8.2km s-min=5.0km az=154.0*

SZGRF ***27*** *02:39:36.2,5266N×17464E,h30km,mb5.6,MS5.8,Near Islands, Aleutian Islands, United States*

ISC 27 02:39:34.5±0.1,5224N±002×17615E±002,h30km, h30km±.8km:pP-P,n1296,σ1°02/1375,mb5.5/319, MS5.9/201,183C-223D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.35**	**292**	P	**Pn**	**02 39 55.4**	**-1.9**
SMY				S	**Sn**	**02 40 13.8**	**-0.3**
AMKA	**Amchitka**	**2.14**	**112**	P	**Pn**	**02 40 07.2**	**-0.9**
AMKA				S	**Sn**	**02 40 34.4**	**+0.8**
ATKA	**Atka Island**	**5.94**	**87**	P	**Pn**	**02 41 00.4**	**0.0**
ATKA				S	**Sn**	**02 42 11.6**	**+4.3**
NIKO	**Nikolski**	**9.16**	**79**	*e*Pn	**Pn**	**02 41 47.4**	**+2.8**
SPIA	**Saint Paul Isl**	**9.29**	**52**	*e*Pn	**Pn**	**02 41 47.6**	**+1.2**
UNV	**Unalaska Valle**	**10.57**	**74**	*e*Pn	**Pn**	**02 42 04.9**	**+1.0**
PET	**Petropavlovsk**	**10.67**	**281**	*e*P	**Pn**	**02 42 06.1**	**+0.9**
PET				*e*S	**Sn**	**02 43 58.9**	**-4.7**
PET				pmax	pmax		
	comp=Z,2μm,4.6s						
PET				pmax	pmax		
	comp=Z,4μm,12.6s						
PET				pmax	pmax		
	comp=Z,155nm,0.7s						
PET				smax			
	comp=N,300nm,0.6s						
PET				smax			
	comp=N,605nm,0.6s						
PET				smax			
	comp=E,651nm,0.8s						
PET				MLR	MLR		
	comp=Z,58μm,22.0s						
PET				MLR	MLR		
	comp=Z,41μm,19.0s						
PET	**Petropavlovsk**	**10.67**	**281**	*e*P	**Pn**	**02 42 06.1**	**+0.9**
	comp=Z,155nm,0.7s						
PET				*e*S	**Sn**	**02 43 58.9**	**-4.7**
AKUT	**Akutan**	**11.01**	**73**	*e*P	**Pn**	**02 42 10.8**	**+0.8**
	comp=Z,14μm,1.8s						
FALS	**False Pass**	**12.43**	**70**	*e*Pn	**Pn**	**02 42 31.9**	**+2.6**
SKR	**Severo-Kuril's**	**12.59**	**271**	*e*P	**Pn**	**02 42 28.0**	**-3.5**
SKR				pmax	pmax		
	comp=N,110nm,0.7s						
SKR				pmax	pmax		
	comp=E,110nm,0.7s						
SKR				pmax	pmax		
	comp=Z,370nm,0.7s						
SKR				pmax	pmax		
	comp=N,2μm,4.0s						
SKR				pmax	pmax		
	comp=E,10μm,4.0s						
SKR				pmax	pmax		
	comp=Z,8μm,4.0s						
SKR				MLR	MLR		
	comp=N,21μm,18.0s						
SKR				MLR	MLR		
	comp=Z,22μm,18.0s						
SKR				MLR	MLR		
	comp=E,23μm,20.0s						
SKR	**Severo-Kuril's**	**12.59**	**271**	*e*P	**Pn**	**02 42 28.0**	**-3.5**
	comp=E,370nm,0.7s						
GAMB	**Gambell**	**13.21**	**24**	*e*Pn	**Pn**	**02 42 42.9**	**+2.9**
SDPT	**Sand Point**	**14.14**	**68**	*e*P	**Pn**	**02 42 54.6**	**+1.9**
	comp=E,3μm,1.4s						
CHGN	**Chignik**	**15.37**	**65**	*e*P	**Pn**	**02 43 10.0**	**+0.8**
TNA	**Tin City**	**15.61**	**25**	*e*P	**Pn**	**02 43 16.7**	**+4.4**
MA2	**Magadan**	**15.94**	**307**	*e*P	**Pn**	**02 43 17.4**	**+0.8**
BILL	**Biiibino**	**16.56**	**347**	*d i*P	**Pn**	**02 43 25.6**	**+1.1**
BILL				pmax	pmax		
	comp=Z,611nm,1.6s						
BILL				MLR	MLR		
	comp=Z,36μm,22.0s						
BILL	**Biiibino**	**16.56**	**347**	*i* Pr	**Pn**	**02 43 25.6**	**+1.1**
	comp=Z,611nm,1.6s						
SVW2	**Sparrevohn**	**17.75**	**49**	*e*P	**Pn**	**02 43 41.3**	**+1.9**
TTA	**Tatalina**	**18.20**	**43**	*e*P	**Pn**	**02 43 46.8**	**+2.0**
KDAK	**Kodiak Island**	**18.66**	**60**	Pn	**Pn**	**02 43 49.0**	**-1.4**
	comp=Z,5μm,1.1s						
KDAK	**Kodiak Island**	**18.66**	**60**	P	**Pn**	**02 43 49.8**	**-0.6**
	comp=Z,5.9nm,0.3s,baz=253,slow=5.4,SNR=198						
KDAK				S	**Sn**	**02 47 17.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=286,slow=21,SNR=2.2						
KDAK				ScP	ScP	02 51 50.2	-0.8
	comp=Z,0.2nm,0.3s,baz=109,slow=8.2,SNR=3.8						
KDAK	**Kodiak Island**	**18.66**	**60**	*e*P	**Pn**	**02 43 49.1**	**-1.3**
SLKM	**Skilak Lake**	**20.18**	**53**	*e*P	**P**	**02 44 07.1**	**+0.5**
PMR	**Palmer**	**20.89**	**50**	*e*P	**P**	**02 44 14.3**	**0.0**
PMR				pmax	pmax		
	comp=Z,179nm,1.1s						
PMR				MLR	MLR		
	comp=Z,82μm,20.0s,MS6.1						
PMR	**Palmer**	**20.89**	**50**	*e*P	**P**	**02 44 14.3**	**0.0**
	comp=Z,178nm,1.1s						
PMR				LR	LR		
	comp=Z,82μm,20.0s,MS6.1						
SML	**Sawmill**	**21.30**	**49**	*e*P	**P**	**02 44 18.5**	**-0.2**
MCK	**McKinley**	**21.48**	**44**	*e*P	**P**	**02 44 21.4**	**+0.8**
	comp=Z,474nm,1.2s,mb5.7						
MCK				LR	LR		
	comp=Z,16μm,19.0s,MS5.4						
YUK	**Yuzh-Kuril'sk**	**21.69**	**260**	*e*P	**P**	**02 44 22.0**	**-0.8**
YUK				*i* S	**S**	**02 48 20.0**	**-1.2**
YUK				pmax	pmax		
	comp=Z,2μm,1.0s,mb6.4						
YUK				pmax	pmax		
	comp=N,230nm,0.5s						
YUK				pmax	pmax		
	comp=E,430nm,0.6s						
YUK				smax			
	comp=N,14μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**21.69**	**260**	*e*P	**P**	**02 44 22.0**	**-0.8**
	comp=N,2μm,1.0s,mb6.4						
YUK				*i* S	**S**	**02 48 20.0**	**-1.2**
MID	**Middleton Isla**	**22.01**	**56**	*e*P	**P**	**02 44 27.8**	**+1.5**
YSS	**Yuzh-Sakhalins**	**22.15**	**270**	*e*P	**P**	**02 44 28.0**	**+0.2**
YSS				*i* *PP		02 44 38.6	
YSS				*i* *SP	sP	02 44 44.0	+4.3
YSS				*e*		02 45 03.0	
YSS				*i* S	**S**	**02 48 32.0**	**+1.7**
YSS				*i* *SS	sS	02 48 48.0	+4.7
YSS				*i* SS		02 49 12.0	
YSS				pmax	pmax		
	comp=Z,170nm,0.8s,mb5.5						
YSS				pmax	pmax		
	comp=Z,1μm,3.0s						
YSS				pmax	pmax		
	comp=Z,660nm,1.0s,mb6.0						
YSS				smax			
	comp=N,6μm,10.0s						
YSS				MLR	MLR		
	comp=Z,13μm,17.0s,MS5.4						
YSS	**Yuzh-Sakhalins**	**22.15**	**270**	*e*Pdr	**P**	**02 44 28.0**	**+0.2**
	comp=Z,170nm,0.8s,mb5.5						
YSS				*i* pP		02 44 38.6	
YSS				*i* sP	sP	02 44 44.0	+4.3
YSS				*e*		02 45 03.0	
YSS				*i* S	**S**	**02 48 32.0**	**+1.7**
YSS				*i* sS	sS	02 48 48.0	+4.7
YSS				*i* SS		02 49 12.0	
YSS				LR	LR		
	comp=Z,13μm,17.0s,MS5.4						
COLA	**College**	**22.26**	**41**	P	**P**	**02 44 30.6**	**+1.7**
COLA				pmax	pmax		
	comp=Z,350nm,0.9s,mb5.8						
COLA	**College**	**22.26**	**41**	*i*P	**P**	**02 44 29.7**	**+0.8**
COLA				LR	LR		
	comp=Z,25μm,20.0s,MS5.6						
EYAK	**Cordova Ski Ar**	**22.38**	**53**	*e*P	**P**	**02 44 29.8**	**-0.4**
DIV	**Divide**	**22.42**	**52**	*e*P	**P**	**02 44 31.3**	**+0.6**
DIV				LR	LR		
	comp=Z,263μm,19.0s,MS6.7						
MENT	**Mentasta**	**23.61**	**47**	*e*P	**P**	**02 44 44.0**	**+1.0**
ASAJ	**Asahikawa**	**23.63**	**263**	P	**P**	**02 44 43.4**	**+0.2**
	comp=Z,83nm,0.8s,mb5.2,baz=36,slow=4.9,SNR=34						
ASAJ				S	**S**	**02 48 56.5**	**+1.0**
	comp=Z,11nm,0.8s,baz=235,slow=4.5,SNR=2.3						
ASAJ				ScP	ScP	02 52 03.4	+0.2
	comp=Z,8.9nm,0.8s,baz=191,slow=8.7,SNR=4.6						
ASAJ				LR	LR	02 53 32.3	
	comp=Z,12μm,18.3s,MS5.4,baz=65,slow=35						
ASAJ	**Asahikawa**	**23.63**	**263**	P	**P**	**02 44 43.4**	**+0.3**
ASAJ				S	**S**	**02 48 56.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,83nm,0.8s						
ASAJ				smax			
	comp=N,11nm,0.8s						
ASAJ				pmax	pmax		
	comp=N,9.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,12μm,18.3s						
ERM	**Erimo**	**24.46**	**258**	P	**P**	**02 44 53.0**	**+2.2**
	comp=Z,1μm,1.1s,mb6.3,SNR=7.3						
ERM	**Erimo**	**24.46**	**258**	P	**P**	**02 44 53.2**	**+2.4**
DAWY	**Dawson**	**25.68**	**45**	*e*P	**P**	**02 45 02.8**	**+0.9**
YAK	**Yakutsk**	**26.48**	**310**	*e*P	**P**	**02 45 07.7**	**-1.3**
YAK				*e*PPP		02 45 54.5	
YAK				*e*		02 48 35.3	
YAK				*e*S	**S**	**02 49 36.3**	**-4.7**
YAK				*e*SSS		02 50 51.5	
YAK				*e*		02 56 02.2	
YAK				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,16nm,0.9s						
YAK				pmax	pmax		
	comp=E,91nm,1.4s						
YAK				smax			
	comp=N,41nm,1.2s						
YAK				smax			
	comp=E,36nm,1.3s						
YAK				MLR	MLR		
	comp=E,5μm,15.0s,MS5.4						
YAK				MLR	MLR		
	comp=Z,6μm,15.0s,MS5.3						
YAK				MLR	MLR		
	comp=N,6μm,16.0s,MS5.4						
YAK	**Yakutsk**	**26.48**	**310**	*e*P	**P**	**02 45 07.7**	**-1.3**
	comp=N,80nm,1.0s,mb5.2						
YAK				*e*PPP		02 45 54.5	
YAK				*e*		02 48 35.3	
YAK				*e*S	**S**	**02 49 36.3**	**-4.7**
YAK				*e*SSS		02 50 51.5	
YAK				*e*		02 56 02.2	
YAK				LR	LR		
	comp=Z,6μm,15.0s,MS5.3						
SKAG	**Skagway**	**27.63**	**56**	*e*P	**P**	**02 45 20.3**	**+0.9**
	comp=Z,139nm,1.4s,mb5.4						
KLR	**Kul'dur**	**27.93**	**282**	*c i*P	**P**	**02 45 18.8**	**-3.3**
KLR				*e*	pP	02 45 26.0	-4.8
KLR				*e*S	**S**	**02 49 55.5**	**-8.4**
KLR				*e*SSS		02 51 48.0	
KLR				pmax	pmax		
	comp=E,140nm,1.8s						
KLR				pmax	pmax		
	comp=Z,250nm,1.8s,mb5.5						
KLR				MLR	MLR		
	comp=N,17μm,14.0s						
KLR	**Kul'dur**	**27.93**	**282**	⇑*i*P	**P**	**02 45 18.8**	**-3.3**
KLR				*e*	pP	02 45 26.0	-4.8
KLR				*e*S	**S**	**02 49 55.5**	**-8.4**
KLR				*e*SSS		02 51 48.0	
SIT	**Sitka**	**28.00**	**61**	P	**P**	**02 45 24.2**	**+1.5**
SIT				pmax	pmax		
	comp=Z,400nm,1.2s,mb5.9						
SIT	**Sitka**	**28.00**	**61**	*e*P	**P**	**02 45 23.9**	**+1.2**
	comp=Z,336nm,1.4s,mb5.8						
SIT				LR	LR		
	comp=Z,76μm,21.0s,MS6.3						
TIXI	**Tiksi**	**28.35**	**331**	*d i*P	**P**	**02 45 24.4**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,46nm,2.5s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,14μm,20.0s,MS5.6						
TIXI	**Tiksi**	**28.35**	**331**	*i* Pr	**P**	**02 45 24.4**	**-1.4**
INK	**Inuvik**	**28.60**	**37**	P	**P**	**02 45 28.2**	**+0.2**
	comp=Z,30nm,1.1s,mb4.9,baz=187,slow=7.6,SNR=16						
INK				S	**S**	**02 50 13.2**	**-1.2**
	comp=Z,9.1nm,1.0s,baz=218,slow=18,SNR=1.6						
INK				ScP	ScP	02 52 16.9	-0.8
	comp=Z,14nm,1.1s,baz=154,slow=2.6,SNR=3.5						
INK				ScS	ScS	02 56 07.0	-4.0
	comp=Z,2.3nm,0.9s,baz=6.5,slow=29,SNR=4.4						
INK	**Inuvik**	**28.60**	**37**	P	**P**	**02 45 28.3**	**+0.3**
INK				S	**S**	**02 50 13.2**	**-1.3**
INK						02 56 07.0	
INK				pmax	pmax		
	comp=Z,31nm,1.1s						
INK				smax			
	comp=N,9.0nm,1.0s						
INK				pmax	pmax		
	comp=N,14nm,1.1s						
INK				pmax	pmax		
	comp=N,2.0nm,0.9s						
INK	**Inuvik**	**28.60**	**37**	*e*P	**P**	**02 45 29.3**	**+1.3**
	comp=N,6μm,1.1s						
CLNS	**Chul'man**	**29.51**	**299**	*e*P	**P**	**02 45 33.9**	**-2.2**
CLNS				*e**PP	pP	02 45 40.8	-4.0
CLNS				*e*PPP		02 46 26.6	
CLNS				*e*		02 48 39.0	
CLNS				*e*S	**S**	**02 50 23.8**	**-4.9**
CLNS				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,16nm,0.9s						
CLNS				smax			
	comp=E,3μm,14.3s						
CLNS				smax			
	comp=Z,2μm,13.2s						
CLNS				smax			
	comp=N,1μm,12.8s						
CLNS				MLR	MLR		
	comp=E,8μm,15.0s,MS5.8						
CLNS				MLR	MLR		
	comp=Z,8μm,15.0s,MS5.5						
CLNS				MLR	MLR		
	comp=N,18μm,17.0s,MS5.8						
CLNS	**Chul'man**	**29.51**	**299**	*e*P	**P**	**02 45 33.9**	**-2.2**
CLNS				*e*pP	pP	02 45 40.8	-4.0
CLNS				*e*PPP		02 46 26.6	
CLNS				*e*		02 48 39.0	
CLNS				*e*S	**S**	**02 50 23.8**	**-4.9**
CRAG	**Craig**	**29.55**	**63**	*e*P	**P**	**02 45 37.5**	**+1.0**
	comp=N,124nm,1.3s,mb5.5						
CRAG				*e*pP	pP	02 45 44.7	-0.5
CRAG				*e*sP	sP	02 45 49.8	+0.8
NRGR	**Nerungri**	**29.64**	**299**	*e*P	**P**	**02 45 36.1**	**-1.1**
NRGR				S	**S**	**02 50 21.8**	**-9.0**
NRGR				smax			
	comp=E,7.0nm,0.2s						
DLBC	**Dease Lake**	**30.50**	**57**	*e*P	**P**	**02 45 47.0**	**+2.0**
DLBC				*e*		02 45 57.7	
VLA	**Vladivostok**	**30.73**	**271**	*c i*P	**P**	**02 45 47.1**	**+0.2**
VLA				*i* PPP		02 46 55.7	
VLA				*e*S	**S**	**02 50 49.7**	**+1.8**
VLA				*e*		02 56 23.3	
VLA				pmax	pmax		
	comp=Z,424nm,1.4s,mb6.1						
VLA				MLR	MLR		
	comp=Z,6μm,14.6s,MS5.3						
VLA	**Vladivostok**	**30.73**	**271**	⇑*i*P	**P**	**02 45 47.1**	**+0.2**
	comp=Z,424nm,1.4s,mb6.1						
VLA				*i* PPP		02 46 55.7	
VLA				*e*S	**S**	**02 50 49.7**	**+1.8**
VLA				*e*		02 56 23.3	
VLA				LR	LR		
	comp=Z,6μm,14.6s,MS5.3						
MJAR	**Matsushiro Arr**	**30.90**	**255**	P	**P**	**02 45 49.1**	**+0.7**
	comp=Z,15nm,0.9s,mb4.8,baz=51,slow=7.8,SNR=30						
MJAR				S	**S**	**02 50 51.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=20,slow=4.0,SNR=2.1						
MJAR				ScP	ScP	02 52 25.2	+0.1
	comp=Z,4.8nm,1.0s,baz=58,slow=1.3,SNR=5.5						
MJAR				LR	LR	02 56 03.4	
	comp=Z,11μm,20.6s,MS5.5,baz=65,slow=32						
MJAR	**Matsushiro Arr**	**30.90**	**255**	P	**P**	**02 45 49.1**	**+0.7**
MJAR				S	**S**	**02 50 51.1**	**+0.5**
MJAR	**Matsushiro Arr**	**30.90**	**255**	P	**P**	**02 45 49.1**	**+0.7**
MJAR				S	**S**	**02 50 51.1**	**+0.6**
MJAR				ScP	ScP	02 52 25.2	+0.1
MJAR				LR	LR	02 56 03.4	
MAJO	**Matsushiro**	**30.90**	**255**	*e*P	**P**	**02 45 49.3**	**+0.9**
	comp=Z,170nm,1.0s,mb5.8						
MAJO				LR	LR		
	comp=Z,12μm,20.0s,MS5.6						
MAT	**Matsushiro**	**30.90**	**255**	P	**P**	**02 45 48.7**	**+0.3**
MAT				S	**S**	**02 50 50.0**	**-0.6**
MAT	**Matsushiro**	**30.90**	**255**	*e*P	**P**	**02 45 49.0**	**+0.6**
MAT				*e*S	**S**	**02 50 51.0**	**+0.4**
MAT				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.4						
MAT				MLR	MLR		
	comp=Z,12μm,20.0s,MS5.5						
MAT	**Matsushiro**	**30.90**	**255**	*e*P	**P**	**02 45 49.0**	**+0.6**
	comp=Z,60nm,1.0s,mb5.4						
MAT				*e*S	**S**	**02 50 51.0**	**+0.4**
MAT				LR	LR		
	comp=Z,12μm,20.0s,MS5.5						
MDJ	**Mudanjiang**	**31.36**	**275**	P	**P**	**02 45 51.3**	**-1.1**
MDJ				AP	pP	02 45 58.3	-2.9
MDJ				XP	sP	02 46 02.0	-2.8
MDJ				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,760nm,9.8s						
MDJ				LR	LR		
	comp=N,10μm,15.0s,MS5.6						
MDJ				LR	LR		
	comp=E,5μm,16.2s,MS5.6						
MDJ				LR	LR		
	comp=Z,12μm,20.8s,MS5.5						
WAKE	**Wake Island**	**33.72**	**196**	PFAKE		02 46 20.0	+6.9
WAKE				LR	LR		
	comp=Z,9μm,19.0s,MS5.5						
CN2	**Changchun**	**34.32**	**276**	*e*P	**P**	**02 46 17.0**	**-1.3**
CN2				*e*AP	pP	02 46 27.5	+0.4
CN2				*e*PP	PP	02 47 32.3	-4.0
CN2				*e*S	**S**	**02 51 40.0**	**-3.7**
CN2				*e*SS	SS	02 53 50.8	-22
CN2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,9μm,20.0s,MS5.7						
CN2				LR	LR		
	comp=E,8μm,20.0s,MS5.7						
CN2				LR	LR		
	comp=Z,13μm,21.0s,MS5.6						
BOD	**Bodaibo**	**34.92**	**304**	*e*P	**P**	**02 46 21.7**	**-1.8**
BOD				pmax	pmax		
	comp=Z,212nm,1.5s,mb5.8						
BOD	**Bodaibo**	**34.92**	**304**	*e*P	**P**	**02 46 21.7**	**-1.8**
	comp=Z,212nm,1.5s,mb5.8						
HIA	**Hailar**	**35.05**	**288**	*i* P	**P**	**02 46 23.1**	**-1.5**
HIA	**Hailar**	**35.05**	**288**	*i* Pr	**P**	**02 46 23.1**	**-1.5**
HIA				LR	LR		
	comp=Z,17μm,20.0s,MS5.8						
SNY	**Shenyang**	**36.56**	**275**	⇓P	**P**	**02 46 37.0**	**-0.5**
SNY				AP	pP	02 46 48.3	+1.9
SNY				XP	sP	02 46 51.8	+1.8
SNY				PP	PP	02 48 04.5	+3.5
SNY				S	**S**	**02 52 18.5**	**+0.4**
SNY				XS	sS	02 52 32.5	-0.2
SNY				SS	SS	02 54 40.5	-18
SNY				AMB	AMB		
	comp=Z,30nm,1.8s,mb4.8						
SNY				AMB	AMB		
	comp=Z,2μm,6.3s						
SNY				LR	LR		
	comp=N,8μm,21.2s						
SNY				LR	LR		
	comp=Z,11μm,24.0s,MS5.5						
KS15	**Wonju Array Si**	**36.56**	**266**	*e*P	**P**	**02 46 38.8**	**+1.3**
KIP	**Kipapa**	**36.67**	**137**	P	**P**	**02 46 40.6**	**+2.1**
KIP				pmax	pmax		
	comp=Z,340nm,1.0s,mb6.1						
KIP	**Kipapa**	**36.67**	**137**	*e*P	**P**	**02 46 40.5**	**+2.0**
KIP				*e*	pP	02 46 47.8	+0.4
KIP				LR	LR		
	comp=Z,13μm,19.0s,MS5.7						
HON	**Honolulu**	**36.77**	**137**	*e*P	**P**	**02 46 41.4**	**+2.1**
YKW3	**Yellowknife Ar**	**36.89**	**46**	*e*P	**P**	**02 46 41.5**	**+1.2**
YKA	**Yellowknife Ar**	**36.91**	**46**	P	**P**	**02 46 41.2**	**+0.7**
	comp=Z,31nm,1.1s,mb5.1,baz=289,slow=8.5,SNR=46						
YKA				S	**S**	**02 52 22.6**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=131,slow=30,SNR=2.0						
YKA	**Yellowknife Ar**	**36.91**	**46**	P	**P**	**02 46 41.2**	**+0.6**
YKA				S	**S**	**02 52 22.6**	**-0.9**
INCN	**Inchon**	**37.30**	**267**	⇓P	**P**	**02 46 45.7**	**+1.8**
SNR=31							
INCN	**Inchon**	**37.30**	**267**	*e*P	**P**	**02 46 45.1**	**+1.2**
INCN				LR	LR		
	comp=Z,6μm,19.0s,MS5.4						
C03A	**Quillayute Air**	**37.35**	**72**	⇓S	**S**	**02 52 32.7**	**+2.5**
baz=37							
CIT	**Chita**	**37.36**	**295**	*e*P	**P**	**02 46 43.8**	**-0.5**
CIT				*e*S	**S**	**02 52 24.5**	**-5.8**
CIT				pmax	pmax		
	comp=Z,758nm,2.3s,mb6.1						
CIT	**Chita**	**37.36**	**295**	*e*P	**P**	**02 46 43.8**	**-0.5**
	comp=Z,758nm,2.3s,mb6.1						
CIT				*e*S	**S**	**02 52 24.5**	**-5.8**
PGC	**Sidney**	**37.66**	**71**	*e*P	**P**	**02 46 46.9**	**0.0**
	comp=Z,47nm,0.8s,mb5.3						
B04A	**Port Angeles**	**37.92**	**72**	⇓P	**P**	**02 46 48.5**	**-0.6**
baz=38							
B04A				⇓S	**S**	**02 52 40.7**	**+1.9**
baz=38							
HKL	**Haleakala**	**38.05**	**135**	*e*P	**P**	**02 46 52.4**	**+2.2**
A04A	**Legoe Bay, Lum**	**38.06**	**70**	⇑P	**P**	**02 46 49.9**	**-0.3**
baz=38							
A04A				⇓S	**S**	**02 52 41.6**	**+0.7**
baz=38							
D03A	**Wishkah Elem.**	**38.23**	**73**	⇑P	**P**	**02 46 51.4**	**-0.4**
baz=38							

D03A ⇑S **S** **02 52 45.5 +1.9**
baz=38
VDB Vedder Mountai 38.26 69 P **P** **02 46 51.8 -0.1**
A05A Maple Falls 38.28 69 ⇓P **P** **02 46 51.2 -0.9**
baz=38
A05A ⇑S **S** **02 52 44.7 +0.5**
baz=38
C04A Brinnon 38.40 72 ⇑P **P** **02 46 52.5 -0.6**
baz=38
C04A ⇑S **S** **02 52 48.5 +2.5**
baz=38
MBW Mount Baker 38.49 70 P **P** **02 46 54.0 +0.1**
GNW Green Mountain 38.56 72 *e*P **P** **02 46 55.0 +0.5**
B05A Bryant 38.63 71 ⇓P **P** **02 46 54.3 -0.8**
baz=38,SNR=14
B05A ⇑S **S** **02 52 49.9 +0.3**
baz=38
E03A Lebam 38.65 74 ⇓P **P** **02 46 55.0 -0.3**
baz=38,SNR=7.4
E03A ⇑S **S** **02 52 53.1 +3.3**
baz=38
F03A Seaside 38.97 75 ⇑P **P** **02 46 57.2 -0.8**
baz=39
E04A Onalaska 39.12 73 ⇓P **P** **02 46 58.2 -1.0**
baz=39
E04A ⇓S **S** **02 53 01.5 +4.5**
baz=39
C05A Tolt Reservoir 39.16 71 ⇓P **P** **02 46 58.6 -0.9**
baz=39,SNR=11
C05A ⇓S **S** **02 52 58.4 +0.9**
baz=39
POHA Pohakuloa 39.21 135 PFAKE 02 47 10.0 +10
POHA LR LR
comp=Z,9μm,20.0s,MS5.6
D05A Enumclaw 39.24 72 ⇑P **P** **02 46 60.0 -0.2**
baz=39,SNR=8.8
D05A ⇑S **S** **02 53 02.6 +3.8**
baz=39
DL2 Dalian 39.49 272 *i* PR **P** **02 47 02.0 -0.3**
DL2 S **S** **02 53 01.3 -1.2**
DL2 AMB AMB
comp=Z,160nm,0.9s,mb5.8
DL2 AMB AMB
comp=Z,720nm,3.8s
DL2 LR LR
comp=N,3μm,22.9s,MS5.2
DL2 LR LR
comp=E,3μm,21.3s,MS5.2
DL2 LR LR
comp=Z,7μm,28.9s
PNT Penticton 39.54 68 P **P** **02 47 02.2 -0.5**
F04A Amboy 39.65 74 ⇑P **P** **02 47 03.0 -0.6**
baz=40
F04A ⇑S **S** **02 53 05.2 +0.4**
baz=40
E05A Randle 39.70 73 ⇑P **P** **02 47 03.4 -0.7**
baz=40
E05A ⇓S **S** **02 53 05.7 0.0**
baz=40
H03A Soap Creek Ran 39.81 76 ⇑P **P** **02 47 03.9 -1.0**
baz=40
H03A ⇑S **S** **02 53 09.0 +1.8**
baz=40
COR Corvallis 39.85 76 *e*P **P** **02 47 06.4 +1.1**
COR LR LR
comp=Z,18μm,20.0s,MS5.9
I02A Mapleton 39.86 77 ⇑S **S** **02 53 09.4 +1.4**
baz=40
G04A Mulino 40.00 75 ⇓P **P** **02 47 05.0 -1.5**
baz=40
G04A ⇓S **S** **02 53 12.0 +1.8**
baz=40
K01A Sixes 40.15 79 ⇓P **P** **02 47 07.5 -0.3**
baz=40
K01A ⇑S **S** **02 53 17.1 +4.8**
baz=40
I03A Eugene 40.21 77 ⇑P **P** **02 47 07.8 -0.4**
baz=40
I03A ⇓S **S** **02 53 16.4 +3.2**
baz=40
EBG Ellensburg 40.22 72 P **P** **02 47 08.1 -0.3**
F05A White Salmon 40.24 73 ⇑P **P** **02 47 07.9 -0.7**
baz=40
F05A ⇑S **S** **02 53 15.3 +1.5**
baz=40
RES Resolute Bay 40.25 24 *e*P **P** **02 47 10.2 +1.6**
RES pmax pmax
comp=Z,160nm,1.3s,mb5.6
RES Resolute Bay 40.25 24 *e*P **P** **02 47 10.2 +1.6**
comp=Z,5μm,1.3s
J02A Umpqua 40.37 78 ⇑P **P** **02 47 09.4 -0.1**
baz=40,SNR=5.6
J02A ⇑S **S** **02 53 17.1 +1.5**
baz=40
HOOD Mount Hood Mea 40.43 74 *e*P **P** **02 47 10.4 +0.3**
H04A Detroit Lake 40.46 75 P **P** **02 47 09.9 -0.4**
baz=40,SNR=24
H04A ⇑S **S** **02 53 18.6 +1.6**
baz=40
BROR Big Rock Looko 40.53 76 P **P** **02 47 11.3 +0.4**
VFP Flag Point 40.54 74 P **P** **02 47 11.2 +0.2**
G05A Wamic 40.67 74 ⇓P **P** **02 47 12.1 0.0**
baz=40
G05A ⇑S **S** **02 53 23.9 +3.8**
baz=40
J03A Ideyld Park 40.73 78 ⇓P **P** **02 47 10.7 -1.9**
baz=41,SNR=10
J03A ⇓S **S** **02 53 19.5 -1.6**
baz=41
K02A Glendale 40.76 79 ⇓P **P** **02 47 11.0 -1.8**
baz=41
K02A ⇓S **S** **02 53 22.0 +0.5**
baz=41
M01C Crescent City 40.91 80 ⇓P **P** **02 47 14.1 +0.1**
baz=41
M01C ⇑S **S** **02 53 26.3 +2.6**
baz=41
OD2 Odessa Site #2 41.04 70 P **P** **02 47 14.4 -0.7**
L02A Cave Junction 41.05 79 ⇑P **P** **02 47 14.9 -0.2**
baz=41,SNR=5.6
L02A ⇑S **S** **02 53 28.4 +2.6**
baz=41
HAWA Hanford 41.10 72 *e*P **P** **02 47 15.0 -0.5**
HAWA LR LR
comp=Z,16μm,20.0s,MS5.9
EDM Edmonton 41.11 60 *e*P **P** **02 47 15.8 +0.2**
HUMO Hull Mountain 41.17 78 *e*P **P** **02 47 16.9 +0.6**
comp=Z,57nm,1.3s,mb5.0
HUMO LR LR
comp=Z,24μm,21.0s,MS6.0
HUMO Hull Mountain 41.17 78 ⇓P **P** **02 47 15.9 -0.4**
baz=41,SNR=9.0
HUMO ⇓S **S** **02 53 30.4 +2.8**
baz=41
I05A Bend 41.30 75 ⇓P **P** **02 47 16.5 -0.8**
baz=41
I05A ⇑S **S** **02 53 32.5 +3.0**
baz=41
NEW Newport 41.49 68 P **P** **02 47 18.1 -0.7**
comp=Z,22nm,0.8s,mb4.8,baz=304,slow=7.0,SNR=35
NEW ScP ScP 02 53 04.0 +0.1
comp=Z,6.5nm,1.1s,baz=289,slow=4.3,SNR=2.8
NEW S **S** **02 53 30.3 -2.1**
comp=Z,4.5nm,0.9s,baz=360,slow=11,SNR=2.1
NEW ScS ScS 02 57 20.0 -0.3
comp=Z,1.5nm,0.9s,baz=128,slow=22,SNR=3.8
NEW Newport 41.49 68 P **P** **02 47 18.2 -0.6**
NEW S **S** **02 53 30.3 -2.1**
NEW 02 57 20.0
NEW pmax pmax
comp=Z,22nm,0.8s
NEW pmax pmax
comp=N,7.0nm,1.1s
NEW smax
comp=N,5.0nm,0.9s
NEW Newport 41.49 68 *e*P **P** **02 47 18.0 -0.8**
comp=N,59nm,0.9s,mb5.2
NEW *e* 02 47 29.9
NEW LR LR
comp=Z,23μm,20.0s,MS6.0
JCC Jacoby Creek 41.58 81 ⇑S **S** **02 53 36.8 +3.2**
baz=41
KHMM Horse Mountain 41.72 81 *e*P **P** **02 47 21.9 +1.2**
YBH Yreka Blue Hor 41.83 79 P **P** **02 47 21.8 +0.2**
comp=Z,45nm,0.9s,mb5.1,baz=284,slow=2.4,SNR=18
YBH S **S** **02 53 39.4 +2.0**
comp=Z,2.7nm,0.9s,baz=99,slow=9.0,SNR=2.3

YBH Yreka Blue Hor 41.83 79 P **P** **02 47 21.8 +0.2**
YBH S **S** **02 53 39.4 +2.0**
YBH pmax pmax
comp=Z,45nm,0.9s
YBH smax
comp=N,3.0nm,1.0s
YBH Yreka Blue Hor 41.83 79 *e*P **P** **02 47 22.5 +0.9**
comp=N,45nm,0.9s,mb5.1
YBH *e* 02 47 26.2
YBH LR LR
comp=Z,16μm,20.0s,MS5.9
YBH Yreka Blue Hor 41.83 79 ⇓P **P** **02 47 21.0 -0.6**
baz=42,SNR=30
YBH ⇓S **S** **02 53 38.3 +0.9**
baz=42
K04A Chilquin 41.91 78 ⇑P **P** **02 47 22.2 0.0**
baz=42,SNR=6.5
K04A ⇓S **S** **02 53 40.9 +2.4**
baz=42
M02C Callahan 41.95 80 ⇑P **P** **02 47 22.7 +0.1**
baz=42,SNR=10.0
M02C ⇑S **S** **02 53 40.2 +1.0**
baz=42
N02C Big Bar 42.01 81 ⇑P **P** **02 47 22.9 -0.1**
baz=42,SNR=16
N02C ⇓S **S** **02 53 41.0 +1.0**
baz=42
I06A Prineville 42.05 75 ⇓P **P** **02 47 23.0 -0.4**
baz=42
I06A ⇑S **S** **02 53 41.8 +1.2**
baz=42
L04A Klamath Falls 42.07 78 ⇑P **P** **02 47 22.9 -0.7**
baz=42,SNR=26
L04A ⇓S **S** **02 53 41.5 +0.6**
baz=42
O01C Eel River Cons 42.11 82 ⇓P **P** **02 47 23.1 -0.8**
baz=42,SNR=9.6
O01C ⇑S **S** **02 53 41.4 -0.1**
baz=42
BJI Beijing 42.14 278 P **P** **02 47 24.3 +0.2**
comp=Z,87nm,1.8s,mb5.1
BJI sP sP 02 47 39.8 +3.2
BJI PP PP 02 49 08.1 +6.2
BJI S **S** **02 53 56.0 +14**
BJI sS sS 02 54 18.6 +22
BJI SS SS 02 57 23.7 +34
BJI LR LR
comp=Z,11μm,29.6s,MS5.6
BJT Baijiatuau 42.16 278 *e*P **P** **02 47 24.4 +0.2**
BJT *e**PP pP 02 47 32.8 -0.4
BJT pmax pmax
comp=Z,524nm,1.5s
BJT MLR MLR
comp=Z,12μm,19.0s
BJT Baijiatuau 42.16 278 ⇓*e*P **P** **02 47 24.0 -0.2**
comp=Z,524nm,1.5s,mb5.9
BJT *e*pP pP 02 47 31.0 -2.2
BJT LR LR
comp=Z,12μm,19.0s,MS5.8
ALE Alert 42.31 10 P **P** **02 47 26.9 +1.4**
comp=Z,548nm,0.8s,mb6.2,SNR=16
ALE Alert 42.31 10 P **P** **02 47 26.3 +0.8**
IRK Irkutsk 42.31 300 *e*P **P** **02 47 24.0 -1.5**
IRK *e* pP 02 47 31.5 -3.0
IRK *e* 02 47 39.4
IRK *e* 02 49 05.2
IRK pmax pmax
comp=Z,370nm,1.9s,mb5.7
IRK Irkutsk 42.31 300 *e*P **P** **02 47 24.0 -1.5**
comp=Z,370nm,1.9s,mb5.7
IRK *e* pP 02 47 31.5 -3.0
IRK *e* 02 47 39.4
IRK *e* 02 49 05.2
M04C Macdoel 42.33 79 ⇑P **P** **02 47 25.3 -0.3**
baz=42,SNR=32
M04C ⇑S **S** **02 53 46.8 +2.1**
baz=42
M03C McCloud 42.46 80 ⇓P **P** **02 47 26.4 -0.4**
baz=42,SNR=8.7
M03C ⇑S **S** **02 53 48.5 +1.8**
baz=42
J06A Christmas Vall 42.49 76 ⇑P **P** **02 47 26.4 -0.5**
baz=42,SNR=43
J06A ⇑S **S** **02 53 49.8 +2.7**
baz=42
WDC Whiskeytown Da 42.62 81 *e*P **P** **02 47 28.4 +0.4**
comp=Z,55nm,1.1s,mb5.2
WDC LR LR
comp=Z,18μm,20.0s,MS6.0
WDC Whiskeytown Da 42.62 81 ⇓P **P** **02 47 27.5 -0.6**
baz=42,SNR=29
WDC ⇑S **S** **02 53 50.4 +1.4**
baz=42
K06A Valley Falls 42.69 76 ⇓P **P** **02 47 28.3 -0.3**
baz=42,SNR=34
K06A ⇓S **S** **02 53 50.1 +0.1**
baz=42
O02C Red Bluff 42.71 81 ⇑P **P** **02 47 28.6 -0.2**
baz=43,SNR=27
O02C ⇑S **S** **02 53 52.8 +2.4**
baz=43
L05A Lakeview 42.78 78 ⇓P **P** **02 47 29.1 -0.2**
baz=43,SNR=14
L05A ⇓S **S** **02 53 54.3 +3.0**
baz=43
P01C Double 8 Ranch 42.81 82 ⇓P **P** **02 47 28.9 -0.7**
baz=43,SNR=11
P01C ⇓S **S** **02 53 51.0 -0.9**
baz=43
WALA Waterton Lakes 42.89 65 *e*P **P** **02 47 29.8 -0.4**
comp=Z,153nm,1.0s,mb5.7
J07A Hines 42.92 75 ⇓P **P** **02 47 29.9 -0.6**
baz=43,SNR=22
J07A ⇑S **S** **02 53 57.4 +4.1**
baz=43
TLY Talaya 42.93 299 P **P** **02 47 30.1 -0.4**
comp=Z,294nm,1.0s,mb6.0,SNR=36
TLY Talaya 42.93 299 P **P** **02 47 30.0 -0.5**
SNR=110
TLY Talaya 42.93 299 *d* *i*P **P** **02 47 29.5 -1.0**
TLY *e*S **S** **02 53 51.1 -2.5**
TLY *e*SS SS 02 56 52.1 -14
TLY *e*SSS 02 57 48.0
TLY pmax pmax
comp=Z,163nm,1.3s,mb5.6
TLY MLR MLR
comp=Z,18μm,22.0s,MS5.9
TLY Talaya 42.93 299 *i* Pr **P** **02 47 29.5 -1.0**
TLY *e*S **S** **02 53 51.1 -2.5**
TLY *e*SS SS 02 56 52.1 -14
TLY *e*SSS 02 57 48.0
M05C Lookout 43.00 79 ⇓P **P** **02 47 30.5 -0.6**
baz=43,SNR=22
M05C ⇑S **S** **02 53 54.5 -0.1**
baz=43
BSMT Bassoo Peak 43.04 67 *e*P **P** **02 47 31.0 -0.5**
ULN Ulaanbaatar 43.05 293 P **P** **02 47 31.6 +0.1**
SNR=88
ULN Ulaanbaatar 43.05 293 *e*P **P** **02 47 31.3 -0.2**
ULN pmax pmax
comp=Z,110nm,0.9s,mb5.6
ULN Ulaanbaatar 43.05 293 ⇓*i*P **P** **02 47 31.2 -0.3**
comp=Z,112nm,0.9s,mb5.6
ULN *e*pP pP 02 47 38.0 -2.5
ULN LR LR
comp=Z,14μm,20.0s,MS5.9
GASB Alder Springs 43.08 82 ⇑P **P** **02 47 32.1 +0.3**
baz=43,SNR=32
GASB ⇓S **S** **02 53 56.9 +1.2**
baz=43
HATC Hat Creek Radi 43.13 80 ⇓P **P** **02 47 32.0 -0.2**
baz=43,SNR=18
HATC ⇑S **S** **02 53 58.4 +1.9**
baz=43
LBCM Butte Creek Ri 43.19 80 P **P** **02 47 32.8 +0.2**
BMO Blue Mountains 43.25 72 *e*P **P** **02 47 32.4 -0.7**
BMO LR LR
comp=Z,19μm,20.0s,MS6.0
HOPS Hopland 43.27 83 *e*P **P** **02 47 33.8 +0.5**
comp=Z,134nm,1.3s,mb5.5
HOPS LR LR
comp=Z,28μm,21.0s,MS6.1
HOPS Hopland 43.27 83 ⇓P **P** **02 47 33.0 -0.3**
baz=43,SNR=11
HOPS ⇑S **S** **02 54 00.4 +1.8**
baz=43
O03C Acorn Hollow, 43.29 81 ⇓P **P** **02 47 31.9 -1.5**
baz=43
O03C ⇑S **S** **02 54 03.1 +4.3**
baz=43
K07A Rock Creek Ran 43.35 76 ⇑P **P** **02 47 33.4 -0.5**
baz=43,SNR=80
K07A ⇑S **S** **02 54 00.6 +0.9**
baz=43
SONM Songino Array 43.44 293 P **P** **02 47 34.7 0.0**
comp=Z,45nm,0.8s,mb5.3,baz=59,slow=7.9,SNR=106
SONM ScP ScP 02 53 11.8 +0.1
comp=Z,4.1nm,1.1s,baz=358,slow=4.3,SNR=3.5
SONM S **S** **02 54 00.8 -0.3**
comp=Z,1.6nm,1.0s,baz=175,slow=20,SNR=2.3
SONM LR LR 03 06 43.0
comp=Z,12μm,20.0s,MS5.8,baz=61,slow=38
SONM Songino Array 43.44 293 P **P** **02 47 34.7 0.0**
SONM S **S** **02 54 00.8 -0.2**
M06C Likely Place G 43.50 79 ⇓P **P** **02 47 34.5 -0.6**
baz=43,SNR=5.9
M06C ⇓S **S** **02 54 03.3 +1.4**
baz=43
O04C Chester 43.66 80 ⇑P **P** **02 47 35.9 -0.5**
baz=44,SNR=31
O04C ⇑S **S** **02 54 03.0 -1.3**
baz=44
L07A Adell 43.69 77 P **P** **02 47 36.6 -0.1**
baz=44,SNR=40
L07A ⇓S **S** **02 54 04.6 -0.1**
baz=44
MNRC McLaughlin Nat 43.73 83 ⇓P **P** **02 47 36.7 -0.2**
baz=44,SNR=16
MNRC ⇓S **S** **02 54 07.9 +2.6**
baz=44
JOW Kunigami 43.73 253 P **P** **02 47 37.1 +0.1**
comp=Z,40nm,1.0s,mb5.1,baz=22,slow=12,SNR=5.3
JOW S **S** **02 54 05.9 +0.6**
comp=Z,7.4nm,0.7s,baz=110,slow=29,SNR=2.0
ZAK Zakamensk 43.80 298 *e*P **P** **02 47 37.0 -0.6**
ZAK pmax pmax
comp=Z,383nm,1.8s,mb5.8
ZAK Zakamensk 43.80 298 *e*P **P** **02 47 37.0 -0.6**
comp=Z,383nm,1.8s,mb5.8
WVOR Wild Horse Val 43.87 76 P **P** **02 47 38.1 0.0**
WVOR pmax pmax
comp=Z,140nm,1.3s,mb5.5
WVOR Wild Horse Val 43.87 76 *e*P **P** **02 47 37.8 -0.2**
comp=Z,130nm,1.4s,mb5.5
WVOR *e* 02 47 40.9
WVOR LR LR
comp=Z,16μm,20.0s,MS5.9
ORV Oroville 43.88 81 ⇑P **P** **02 47 37.2 -1.0**
baz=44,SNR=24
ORV ⇑S **S** **02 54 07.6 +0.1**
baz=44
SUTB Sutter Buttes 43.91 82 ⇓P **P** **02 47 37.3 -1.1**
baz=44
SUTB ⇑S **S** **02 54 09.0 +1.2**
baz=44
MCCM Marconi Confer 43.92 84 ⇑P **P** **02 47 37.6 -0.9**
baz=44
MCCM ⇓S **S** **02 54 06.8 -1.2**
baz=44
TIA Tai'an 43.96 273 P **P** **02 47 38.8 -0.1**
TIA S **S** **02 54 06.8 -1.9**
TIA AMB AMB
comp=Z,80nm,1.1s,mb5.4
TIA AMB AMB
comp=Z,1μm,6.0s
TIA LR LR
comp=N,8μm,15.0s,MS5.8
TIA LR LR
comp=E,4μm,15.0s,MS5.8
O05C Quincy 43.98 80 ⇑P **P** **02 47 38.9 -0.2**
baz=44,SNR=6.3
O05C ⇑S **S** **02 54 10.6 +1.7**
baz=44
OHCM Honcut 44.03 81 *e*P **P** **02 47 39.3 -0.1**
CVS Carmenet Viney 44.05 83 ⇓P **P** **02 47 38.8 -0.8**
baz=44,SNR=14
CVS ⇑S **S** **02 54 07.3 -2.7**
baz=44
MSO Missoula 44.08 68 *e*P **P** **02 47 43.4 +3.5**
MSO LR LR
comp=Z,12μm,19.0s,MS5.8
FARB Farallon Islan 44.13 84 ⇓P **P** **02 47 38.7 -1.5**
baz=44
FARB ⇑S **S** **02 54 09.4 -1.7**
baz=44
Q03C Winters 44.15 83 ⇓P **P** **02 47 39.5 -0.8**
baz=44,SNR=7.2
M07A Soldier Meadow 44.17 77 ⇑P **P** **02 47 40.1 -0.4**
baz=44,SNR=117
M07A ⇓S **S** **02 54 13.8 +2.1**
baz=44
L08A Fields 44.19 76 ⇓P **P** **02 47 40.2 -0.5**
baz=44,SNR=41
L08A ⇓S **S** **02 54 11.7 -0.2**
baz=44
Q04C Lincoln 44.40 82 ⇑P **P** **02 47 41.4 -1.0**
baz=44
Q04C ⇑S **S** **02 54 15.5 +0.5**
baz=44
CHMT Chamberlain Mo 44.43 67 *e*P **P** **02 47 41.4 -1.2**
HHC Hu-ho-hao-te 44.44 282 *e*P **P** **02 47 43.0 +0.3**
HHC AP pP 02 47 53.0 +1.3
HHC XP sP 02 47 56.8 +1.5
HHC PP PP 02 49 27.5 +0.9
HHC PCP PcP 02 49 29.8 +3.8
HHC SCP ScP 02 53 15.0 -0.8
HHC PCS PcS 02 53 19.8 +0.5
HHC S **S** **02 54 17.0 +1.4**
HHC XS sS 02 54 28.5 -1.9
HHC SS SS 02 57 25.8 -9.4
HHC SCS ScS 02 57 34.3 -4.2
HHC AMB AMB
comp=Z,2μm,4.1s
HHC LR LR
comp=N,11μm,15.9s,MS6.0
HHC LR LR
comp=E,10μm,17.1s,MS6.0
HHC LR LR
comp=Z,10μm,21.4s,MS5.7
O06A Flanigan 44.52 79 ⇓P **P** **02 47 42.8 -0.5**
baz=44,SNR=30
O06A ⇑S **S** **02 54 16.2 -0.6**
baz=44
SAC San Andreas 44.56 84 *e*P **P** **02 47 46.0 +2.4**
P05C Yuba Gap, Truc 44.58 81 ⇓P **P** **02 47 43.1 -0.7**
baz=44,SNR=15
P05C ⇓S **S** **02 54 18.2 +0.6**
baz=44
M08A Happy Creek Ra 44.61 77 ⇑P **P** **02 47 43.6 -0.4**
baz=44,SNR=29
M08A ⇑S **S** **02 54 19.9 +1.8**
baz=44
BDM Black Diamond 44.66 83 ⇓P **P** **02 47 43.7 -0.8**
baz=44
BDM ⇑S **S** **02 54 20.4 +1.6**
baz=44
L09A Wilkinson Ranc 44.69 76 ⇑P **P** **02 47 43.9 -0.8**
baz=44,SNR=42
L09A ⇓S **S** **02 54 19.3 +0.1**
baz=44
P06A Stead Airport, 44.77 80 ⇓P **P** **02 47 44.5 -0.8**
baz=45
P06A ⇑S **S** **02 54 21.4 +1.0**
baz=45
JRSC Jasper Ridge 44.78 84 ⇑P **P** **02 47 44.6 -0.8**
baz=45
JRSC ⇑S **S** **02 54 21.4 +0.8**
baz=45
LAVA Lava Cap Winer 44.84 81 ⇑P **P** **02 47 45.1 -0.8**
baz=45,SNR=18
LAVA ⇑S **S** **02 54 21.3 -0.1**
baz=45
SSE Sheshan 44.92 264 P **P** **02 47 47.0 +0.5**
SSE AP pP 02 47 58.3 +2.8
SSE PP PP 02 49 32.8 +1.1
SSE S **S** **02 54 24.8 +2.3**
SSE XS sS 02 54 40.5 +3.2
SSE AMB AMB
comp=Z,40nm,1.1s,mb5.2
SSE AMB AMB
comp=Z,980nm,4.0s
SSE LR LR
comp=N,11μm,22.5s,MS5.8
SSE LR LR

comp=E,4µm,22.6s,MS5.8
SSE LR LR
comp=Z,8µm,28.5s
SSE Sheshan 44.92 264 P P 02 47 47.0 +0.5
comp=Z,47nm,1.1s,mb5.2
SSE pP pP 02 47 58.3 +2.8
SSE sP sP 02 48 03.4 +4.3
SSE PP PP 02 49 32.8 +1.1
SSE S **S 02 54 24.8 +2.3**
SSE sS sS 02 54 40.5 +3.2
SSE SS SS 02 57 47.0 +2.6
SSE LR LR
comp=Z,8µm,28.5s,MS5.5
WENL Wente Brothers 44.94 83 ⇓P P 02 47 46.0 -0.6
baz=45
WENL ⇓S **S 02 54 24.2 +1.4**
baz=45
BNLO Ben Lomond 45.00 84 ⇓P P 02 47 46.3 -0.8
baz=45,SNR=5.8
BNLO ⇑S **S 02 54 25.9 +2.2**
baz=45
R04C Big Horse Ranc 45.03 82 ⇑P P 02 47 46.6 -0.8
baz=45
R04C ⇓S **S 02 54 24.4 +0.2**
baz=45
PAHR Pah Rah Range 45.07 79⇑*e*P P 02 47 47.2 -0.5
comp=Z,154nm,1.3s,mb5.7
PAHR *e*pP pP 02 47 50.8 -5.9
O07A Toulon 45.09 79 ⇓P P 02 47 47.6 -0.3
baz=45,SNR=30
O07A ⇓S **S 02 54 25.0 -0.1**
baz=45
WCN Washoe City 45.10 80 ⇓P P 02 47 47.6 -0.3
baz=45,SNR=30
WCN ⇑S **S 02 54 25.2 +0.1**
baz=45
N08A GE Springer Mi 45.16 77 P P 02 47 48.1 -0.3
baz=45,SNR=16
N08A ⇓S **S 02 54 24.6 -1.5**
baz=45
M09A Marrel Ranch, 45.18 76 ⇓P P 02 47 48.0 -0.6
baz=45,SNR=15
M09A ⇓S **S 02 54 26.7 +0.3**
baz=45
R05C Kirkwood Meado 45.28 81 ⇓P P 02 47 48.5 -0.9
baz=45,SNR=7.0
R05C ⇑S **S 02 54 26.0 -1.7**
baz=45
S04C Ingram Canyon, 45.28 83 ⇑P P 02 47 48.7 -0.6
baz=45,SNR=6.5
S04C ⇑S **S 02 54 29.1 +1.4**
baz=45
HRY Holter Researc 45.35 67 *e*P P 02 47 48.8 -1.1
O08A Rochester Mine 45.45 78 ⇓P P 02 47 50.1 -0.6
baz=45
O08A ⇑S **S 02 54 29.7 -0.5**
baz=45
P07A Fallon 45.47 79 ⇓P P 02 47 50.5 -0.4
baz=45
P07A ⇓S **S 02 54 30.2 -0.4**
baz=45
LRM Limekiln Ridge 45.51 68 *e*P P 02 47 50.1 -1.0
CMB Columbia Colle 45.51 82 *e*P P 02 47 50.9 -0.3
comp=Z,182nm,1.5s,mb5.8
CMB LR LR
comp=Z,27µm,22.0s,MS6.1
CMB Columbia Colle 45.51 82 P P 02 47 51.0 -0.2
baz=45,SNR=28
CMB ⇑S **S 02 54 32.0 +0.9**
baz=45
BTO Baotou 45.52 283 *e*P P 02 47 51.5 +0.3
BTO S **S 02 54 31.0 -0.2**
PACP Pacheco Peak 45.62 84 ⇑P P 02 47 51.4 -0.6
baz=46,SNR=13
PACP ⇓S **S 02 54 33.4 +0.7**
baz=46
M10A I.L. Ranch, Tu 45.66 76 ⇓P P 02 47 51.7 -0.7
baz=46,SNR=13
M10A ⇑S **S 02 54 32.7 -0.6**
baz=46
SAO San Andreas Ge 45.68 84 *e*P P 02 47 52.6 0.0
comp=Z,119nm,1.2s,mb5.7
SAO LR LR
comp=Z,16µm,20.0s,MS6.0
NJ2 Nanjing 45.68 267 *e*P P 02 47 53.0 +0.4
NJ2 AP pP 02 48 03.0 +1.4
NJ2 XP sP 02 48 07.0 +1.8
NJ2 PCP PcP 02 49 31.3 +1.0
NJ2 S **S 02 54 37.0 +3.4**
NJ2 AMB AMB
comp=Z,100nm,1.2s,mb5.6
NJ2 AMB AMB
comp=Z,1µm,5.2s
NJ2 LR LR
comp=N,17µm,24.3s,MS6.2
NJ2 LR LR
comp=E,30µm,20.6s,MS6.2
NJ2 LR LR
comp=Z,14µm,17.0s,MS6.0
DLMT Dillon 45.69 69⇑*e*P P 02 47 51.2 -1.4
HLID Hailey 45.69 72 *e*P P 02 47 51.9 -0.8
comp=Z,82nm,1.2s,mb5.5
HLID LR LR
comp=Z,21µm,20.0s,MS6.1
EGMT Eagleton 45.77 64 *e*P P 02 47 52.3 -0.9
EGMT LR LR
comp=Z,18µm,19.0s,MS6.0
WAKR Walker 45.79 81 *e*P P 02 47 53.5 +0.1
MCMT McKenzie Canyo 45.85 70 *e*P P 02 47 52.8 -1.1
MCMT *e*pP pP 02 48 04.7 +1.8
HAST Hastings Reser 45.86 85 ⇓P P 02 47 53.3 -0.6
baz=46,SNR=21
HAST ⇓S **S 02 54 35.3 -0.8**
baz=46
P08A Dixie Valley 45.87 79 ⇑P P 02 47 53.5 -0.5
baz=46
P08A ⇑S **S 02 54 37.4 +1.2**
baz=46
Q07A Schurz 45.90 80 ⇑P P 02 47 53.6 -0.7
baz=46
Q07A ⇓S **S 02 54 37.0 +0.3**
baz=46
S06C San Francisco 45.94 82 ⇓P P 02 47 53.9 -0.7
baz=46,SNR=18
S06C ⇑S **S 02 54 38.2 +1.0**
baz=46
GUMO Guam 45.96 225 P P 02 47 56.1 +1.4
comp=Z,44nm,0.7s,mb5.5,baz=206,slow=22,SNR=2.3
GUMO S **S 02 54 37.5 -0.1**
comp=Z,53nm,1.0s,baz=194,slow=23,SNR=2.1
GUMO Guam 45.96 225 P P 02 47 56.1 +1.4
GUMO S **S 02 54 37.5 -0.1**
GUMO LR LR
comp=Z,1.0nm,21.0s
S05C Merced 45.98 83 ⇑P P 02 47 53.9 -1.0
baz=46,SNR=12
S05C ⇓S **S 02 54 38.6 +0.6**
baz=46
T05C Eagle Field, D 46.07 83 ⇓P P 02 47 55.4 -0.1
baz=46
T05C ⇓S **S 02 54 43.3 +4.2**
baz=46
BOZ Bozeman (W) 46.08 68 *e*P P 02 47 54.8 -0.9
comp=Z,55nm,1.0s,mb5.4
BOZ LR LR
comp=Z,18µm,20.0s,MS6.0
O09A Fish Creek Ran 46.10 78 ⇑P P 02 47 55.4 -0.5
baz=46,SNR=30
O09A ⇓S **S 02 54 38.7 -1.0**
baz=46
KRAR Krasnoyarsk 46.14 309⇑*i*P P 02 47 54.9 -1.3
KRAR pmax pmax
comp=Z,161nm,1.0s,mb5.9
KRAR MLR MLR
comp=Z,5µm,18.0s,MS5.5
KRAR Krasnoyarsk 46.14 309⇑*i*P P 02 47 54.9 -1.3
comp=Z,161nm,1.0s,mb5.9
KRAR LR LR
comp=Z,5µm,18.0s,MS5.5
FFC Flin Flon 46.15 53 P P 02 47 56.9 +0.6
comp=Z,160nm,1.8s,mb5.7,SNR=14
FFC Flin Flon 46.15 53 *e*P P 02 47 56.1 -0.2
comp=Z,60nm,1.1s,mb5.4
FFC LR LR
comp=Z,3µm,19.0s,MS5.2
M11A Holland Ranch, 46.16 75 ⇑P P 02 47 55.9 -0.5
baz=46,SNR=24
M11A ⇓S **S 02 54 40.5 0.0**
baz=46
N10A Dunphy 46.17 76 ⇓P P 02 47 56.0 -0.4
baz=46
N10A ⇓S **S 02 54 39.9 -0.7**
baz=46
R07C Lee Vining 46.29 81 ⇑P P 02 47 57.1 -0.2
baz=46
R07C ⇑S **S 02 54 44.9 +2.5**
baz=46
V03C Hunter Liggett 46.29 85 ⇓P P 02 47 56.3 -1.0
baz=46,SNR=18
V03C ⇑S **S 02 54 43.8 +1.5**
baz=46
U04C Hernandez Rese 46.35 84 ⇑P P 02 47 57.9 +0.1
baz=46,SNR=14
U04C ⇑S **S 02 54 46.5 +3.3**
baz=46
Q08A Gabbs 46.48 79 ⇓P P 02 47 58.0 -0.8
baz=46,SNR=34
Q08A ⇑S **S 02 54 47.3 +2.3**
baz=46
NVAR Mina Array Bea 46.53 80 S S 02 54 47.7 +2.0
comp=Z,0.5nm,0.6s,baz=123,slow=41,SNR=2.1
N11A Elko Archery C 46.57 76 ⇓P P 02 47 59.1 -0.5
baz=46
N11A ⇓S **S 02 54 47.2 +0.9**
baz=46
T06C Millerton Lake 46.58 83 ⇑P P 02 47 59.0 -0.6
baz=46
T06C ⇓S **S 02 54 48.7 +2.2**
baz=46
MNV Mina 46.62 80 *e*P P 02 47 59.6 -0.3
comp=Z,57nm,1.0s,mb5.5
MNV LR LR
comp=Z,14µm,22.0s,MS5.9
KCC Kaiser Creek 46.62 82 ⇓P P 02 47 59.0 -0.9
baz=46
KCC ⇓S **S 02 54 48.6 +1.6**
baz=46
QLMT Earthquake Lak 46.67 69 *e*P P 02 47 59.5 -0.8
M12A Wells 46.69 75 ⇑P P 02 47 59.9 -0.6
baz=46,SNR=20
M12A ⇑S **S 02 54 49.8 +1.7**
baz=46
R08A Mina 46.69 80 ⇓P P 02 47 59.8 -0.7
baz=46
R08A ⇓S **S 02 54 50.9 +2.8**
baz=46
MLAC Mammoth Lakes 46.71 81 ⇓P P 02 48 00.2 -0.4
baz=46
U05C Westside ANR, 46.77 84 ⇓P P 02 47 59.2 -1.9
baz=47
U05C ⇑S **S 02 54 52.3 +3.2**
baz=47
V04C Ramage Ranch, 46.77 85 ⇓P P 02 48 01.0 -0.1
baz=47,SNR=12
V04C ⇓S **S 02 54 51.6 +2.5**
baz=47
PKD Parkfield 46.77 84 ⇑P P 02 48 00.5 -0.6
baz=47,SNR=21
PKD ⇓S **S 02 54 51.6 +2.5**
baz=47
P10A Eureka 46.89 78 ⇑P P 02 48 01.3 -0.8
baz=47,SNR=12
P10A ⇓S **S 02 54 51.8 +1.0**
baz=47
Q09A Carvers 46.95 79 ⇓P P 02 48 01.8 -0.7
baz=47
Q09A ⇓S **S 02 54 50.4 -1.4**
baz=47
N12A Wells--Clov Va 46.97 75 ⇑P P 02 48 02.2 -0.5
baz=47,SNR=21
N12A ⇑S **S 02 54 52.2 +0.2**
baz=47
YMR Madison River 47.03 69 *e*P P 02 48 02.5 -0.7
comp=Z,70nm,1.0s,mb5.5
YMR LR LR
comp=Z,5µm,22.0s,MS5.5
O11A Cowboy Ranch, 47.05 77 ⇑P P 02 48 02.6 -0.7
baz=47,SNR=16
O11A ⇓S **S 02 54 52.8 -0.3**
baz=47
MTUM Tungsten Hills 47.06 81 *e*P P 02 48 03.6 +0.2
GCMT Greycliff 47.10 67 *e*P P 02 48 02.9 -0.8
M13A Montello 47.17 74 ⇑P P 02 48 03.2 -1.1
baz=47,SNR=41
M13A ⇓S **S 02 54 55.1 +0.2**
baz=47
V05C Boulder Hill, 47.21 84 ⇑P P 02 48 03.9 -0.6
baz=47
YFT Old Faithful 47.24 69 *e*P P 02 48 05.9 +1.1
P11A Circle Ranch, 47.36 77 ⇑P P 02 48 05.0 -0.7
baz=47
P11A ⇓S **S 02 54 57.1 -0.5**
baz=47
R09A Tonopah 47.39 79 ⇑P P 02 48 05.2 -0.7
baz=47,SNR=35
R09A ⇓S **S 02 54 58.3 +0.2**
baz=47
LKWY Lake 47.42 69 PFAKE 02 48 20.0 +14
LKWY LR LR
comp=Z,15µm,20.0s,MS6.0
TIN Tinemaha 47.45 82 ⇑P P 02 48 05.8 -0.7
baz=47
TIN ⇓S **S 02 54 59.3 +0.4**
baz=47
N13A West Wendover 47.46 75 ⇑P P 02 48 05.9 -0.6
baz=47,SNR=10
N13A ⇓S **S 02 54 59.9 +0.8**
baz=47
IMW Indian Meadow 47.51 70 *e*P P 02 48 07.0 +0.1
FCC Fort Churchill 47.60 45 P P 02 48 08.2 +0.6
FCC pmax pmax
comp=Z,100nm,1.0s,mb5.8
FCC Fort Churchill 47.60 45 *e*P P 02 48 06.2 -1.3
comp=Z,103nm,1.0s,mb5.8
RRI2 Red Ridge 47.62 70 *e*pP pP 02 48 16.9 +0.1
S09A Goldfield 47.64 80 ⇑P P 02 48 07.2 -0.7
baz=48,SNR=27
S09A ⇓S **S 02 55 03.9 +2.4**
baz=48
MOOW Moose Ponds 47.71 70 *e*P P 02 48 08.4 0.0
HVU Hansel Valley 47.73 73 *e*P P 02 48 08.7 +0.1
HVU *e**PP pP 02 48 20.3 +2.6
HVU Hansel Valley 47.73 73 *e*P P 02 48 08.4 -0.2
HVU *e* 02 48 20.6
TPAW Teton Pass 47.75 70 *e*P P 02 48 08.8 +0.1
TPAW *e*pP pP 02 48 18.6 +0.9
R10A Warm Springs 47.83 79 ⇑P P 02 48 08.5 -0.9
baz=48,SNR=12
R10A ⇓S **S 02 55 07.1 +2.8**
baz=48
Q11A Duckwater 47.86 78 ⇑P P 02 48 08.7 -0.9
baz=48,SNR=34
Q11A ⇑S **S 02 55 06.7 +2.0**
baz=48
LOHW Long Hollow 47.88 70 *e*P P 02 48 09.2 -0.5
LOHW *e*pP pP 02 48 20.6 +1.9
SNOW Snow King Moun 47.88 70 *e*P P 02 48 09.5 -0.2
SNOW *e*pP pP 02 48 19.7 +0.9
REDW Red Top Meadow 47.88 70 *e*P P 02 48 10.1 +0.4
comp=Z,88nm,1.5s,mb5.6
CWC Cottonwood Cre 47.95 82 ⇓P P 02 48 09.6 -0.7
baz=48
AHID Auburn Hatcher 48.10 71 PFAKE 02 48 20.0 +8.5
AHID LR LR
comp=Z,14µm,19.0s,MS6.0
BGU Big Grassy Mou 48.11 74⇑*e*P P 02 48 11.0 -0.5
ISA Isabella 48.22 83 *e*P P 02 48 11.2 -1.1
comp=Z,0.1nm,1.1s
ISA LR LR
comp=Z,5µm,20.0s
ISA Isabella 48.22 83 ⇑P P 02 48 11.1 -1.3
baz=48,SNR=5.7
ISA ⇑S **S 02 55 09.0 -0.7**
baz=48
SPUT South Promonto 48.22 73 *e*P P 02 48 12.2 -0.2
SPUT *e* 02 48 23.8
SBC Santa Barbara 48.27 85 ⇓P P 02 48 11.5 -1.3
baz=48
SBC ⇓S **S 02 55 14.8 +4.3**
baz=48
LAO LASA Array 48.50 64 *e*P P 02 48 14.4 -0.1
comp=Z,88nm,1.2s,mb5.7
LAO *e*pP pP 02 48 17.6 -6.0
LAO *e* 02 48 26.4
LAO LR LR
comp=Z,28µm,19.0s,MS6.3
HWUT Hardware Ranch 48.55 72 *e*P P 02 48 14.9 0.0
HWUT LR LR
comp=Z,13µm,19.0s,MS5.9
DUG Dugway 48.70 75 *e*P P 02 48 15.7 -0.4
comp=Z,70nm,1.0s,mb5.6
DUG LR LR
comp=Z,16µm,20.0s,MS6.0
TPNV Topopah Spring 48.73 80 *e*P P 02 48 15.7 -0.5
TPNV LR LR
comp=Z,24µm,21.0s,MS6.2
KBS Kingsbay 48.76 356 *e*P P 02 48 17.5 +1.0
KBS *e*S **S 02 55 15.7 -1.6**
KBS Kingsbay 48.76 356 *e*P P 02 48 18.0 +1.5
comp=Z,104nm,1.3s,mb5.7
KBS LR LR
comp=Z,7µm,22.0s,MS5.6
OSI Osito Adit 48.76 84 ⇓P P 02 48 15.6 -1.0
baz=49
OSI ⇑S **S 02 55 19.5 +2.1**
baz=49
TCUT Toone Canyon 48.95 73 *e*P P 02 48 18.2 +0.2
BW06 Boulder Array 49.00 70 *e*P P 02 48 17.5 -0.9
comp=Z,43nm,0.9s,mb5.5
BW06 LR LR
comp=Z,16µm,20.0s,MS6.0
PDAR Pinedale Array 49.00 70 P P 02 48 17.4 -0.9
comp=Z,16nm,1.0s,mb5.0,baz=306,slow=3.5,SNR=80
PDAR S **S 02 55 20.6 -0.2**
comp=Z,0.8nm,0.9s,baz=332,slow=5.0,SNR=2.3
PDAR LR LR 03 09 02.2
comp=Z,14µm,19.6s,MS6.0,baz=91,slow=36
CTU Camp Tracy 49.02 73 *e*P P 02 48 18.4 0.0
U10A Ash Meadows, A 49.02 81 ⇑P P 02 48 18.0 -0.5
baz=49,SNR=26
U10A ⇓S **S 02 55 25.8 +4.7**
baz=49
TATO Taipei 49.16 258 PFAKE 02 48 30.0 +10
TATO LR LR
comp=Z,7µm,22.0s,MS5.6
SNCC San Nicolas Is 49.19 86 PFAKE 02 48 30.0 +10
SNCC LR LR
comp=Z,14µm,22.0s,MS5.9
SNCC San Nicolas Is 49.19 86 ⇓P P 02 48 18.6 -1.2
baz=49
SNCC ⇓S **S 02 55 26.0 +2.5**
baz=49
NLU North Lily Min 49.29 74 *e*P P 02 48 20.8 +0.2
MWC Mount Wilson 49.43 84 *e*P P 02 48 21.3 -0.3
YHNB Yeheng 49.46 258 *e*P P 02 48 22.4 +0.5
GSC Goldstone 49.47 82 *e*P P 02 48 20.7 -1.3
GSC Goldstone 49.47 82 ⇑P P 02 48 21.1 -0.8
baz=49,SNR=39
GSC ⇑S **S 02 55 27.6 +0.2**
baz=49
DAU Daniels Canyon 49.48 73 *e*P P 02 48 21.9 -0.2
WHN Wuhan 49.50 269 ⇓P P 02 48 21.3 -0.9
WHN S **S 02 55 24.0 -3.8**
WHN LR LR
comp=Z,12µm,21.4s,MS5.9
MPU Maple Canyon 49.51 74 *e*P P 02 48 22.0 -0.3
comp=Z,30nm,1.0s,mb5.3
MPU LR LR
comp=Z,18µm,21.0s,MS6.1
U11A Corn Creek 49.60 80 ⇓P P 02 48 22.1 -0.9
baz=49
U11A ⇓S **S 02 55 31.1 +1.9**
baz=49
FMP Fort Macarthur 49.63 85 ⇓P P 02 48 21.2 -2.0
baz=50
FMP ⇑S **S 02 55 30.9 +1.3**
baz=50
SHPR Sheep Range 49.67 80 *e*P P 02 48 23.0 -0.5
NACB Ninganchiao 49.70 257 *e*P P 02 48 24.2 +0.6
ARUT Antelope Range 49.87 77 *e*P P 02 48 23.9 -1.1
TUQ Turquoise Mtn. 49.92 82 ⇑P P 02 48 24.6 -0.8
baz=50,SNR=6.3
TUQ ⇓S **S 02 55 34.2 +0.5**
baz=50
V11A Goodsprings 49.95 81 ⇑P P 02 48 25.0 -0.7
baz=50,SNR=24
V11A ⇓S **S 02 55 33.8 -0.3**
baz=50
CCUT Cedar City 50.07 78 *e*P P 02 48 25.9 -0.6
U12A Valley of Fire 50.10 80 ⇓P P 02 48 26.2 -0.6
baz=50,SNR=15
U12A ⇓S **S 02 55 38.2 +2.0**
baz=50
MSU Marysvale 50.16 76 *e*P P 02 48 27.1 -0.1
TMUT Trail Mountain 50.23 75 *e*P P 02 48 28.1 +0.4
V12A Nelson 50.38 80 ⇑P P 02 48 28.3 -0.6
baz=50,SNR=11
V12A ⇓S **S 02 55 39.6 -0.4**
baz=50
XAN Xi'an 50.43 277 P P 02 48 29.0 -0.2
XAN PP PP 02 50 25.3 +0.3
XAN S **S 02 55 39.3 -1.5**
XAN AMB AMB
comp=Z,60nm,1.3s,mb5.5
XAN LR LR
comp=N,2µm,18.7s,MS5.8
XAN LR LR
comp=E,8µm,18.2s,MS5.8
XAN LR LR
comp=Z,10µm,19.0s,MS5.8
XAN Xi'an 50.43 277 P P 02 48 28.9 -0.3
W12A Cal Nev Ari 50.65 81 ⇑P P 02 48 28.8 -2.1
baz=50
W12A ⇑S **S 02 55 43.9 0.0**
baz=50
PFO Pinyon Flat Ob 50.82 84 P P 02 48 31.0 -1.2
comp=Z,77nm,1.3s,mb5.5,SNR=5.1
PFO Pinyon Flat Ob 50.82 84 P P 02 48 31.8 -0.4
PFO pmax pmax
comp=Z,41nm,1.0s,mb5.3
PFO Pinyon Flat Ob 50.82 84 *e*P P 02 48 31.7 -0.5
PFO LR LR
comp=Z,13µm,22.0s,MS5.9
PFO Pinyon Flat Ob 50.82 84 ⇑P P 02 48 31.5 -0.7
baz=51
PFO ⇓S **S 02 55 46.7 +0.4**
baz=51
109C Camp Elliot, M 50.91 85 ⇑P P 02 48 31.9 -1.0
baz=51
109C ⇑S **S 02 55 50.3 +2.8**
baz=51
DAG Danmarks Havn 50.92 4*b i*P P 02 48 32.2 -0.7
comp=Z,51nm,1.4s,mb5.3
DAG
comp=Z,11µm,19.0s
DAG Danmarks Havn 50.92 4*b i*P P 02 48 32.2 -0.7
DAG pmax pmax
comp=Z,51nm,1.4s,mb5.3
DAG MLR MLR
comp=N,14µm,19.0s,MS6.1
DAG MLR MLR
comp=Z,11µm,19.0s,MS5.9
DAG MLR MLR
comp=E,10µm,18.0s,MS6.1
DAG Danmarks Havn 50.92 4 *i* Pcr P 02 48 32.2 -0.7
comp=E,51nm,1.4s,mb5.3
DAG LR LR
comp=Z,11µm,19.0s,MS5.9
QZH Quanzhou 50.94 261 *i* PR P 02 48 33.5 +0.4
QZH S **S 02 55 51.0 +3.2**
QZH AMB AMB
comp=Z,170nm,1.1s,mb5.9
QZH AMB AMB
comp=Z,2µm,5.2s
QZH LR LR
comp=N,6µm,18.3s,MS5.9
QZH LR LR
comp=E,7µm,15.8s,MS5.9
QZH LR LR
comp=Z,21µm,34.0s
RWWY Rawlins 51.03 70 *e*P P 02 48 33.1 -0.7
comp=Z,64nm,1.3s,mb5.4
ZAL Zalesovo 51.14 311 P P 02 48 32.5 -2.1
comp=Z,5.3nm,0.8s,mb4.5,baz=49,slow=6.3,SNR=20
ZAL LR LR 03 12 12.6
comp=Z,7µm,19.4s,MS5.7,baz=58,slow=38
ZAL Zalesovo 51.14 311 P P 02 48 32.6 -2.0
RSSD Black Hills 51.29 65 *e*P P 02 48 39.1 +3.4
RSSD Black Hills 51.29 65 *e*P P 02 48 34.6 -1.1
comp=Z,33nm,1.4s,mb5.1
RSSD LR LR

comp=Z,17μm,20.0s,MS6.1
NVS Novosibirsk 51.31 312 ⇓*i*P **P 02 48 33.5 -2.3**
NVS *e*S **S 02 55 48.9 -4.0**
NVS *e* 02 58 13.4
NVS pmax pmax
comp=Z,327nm,1.9s,mb5.9
NVS pmax pmax
comp=N,172nm,1.8s
NVS pmax pmax
comp=E,216nm,2.1s
NVS smax
comp=N,155nm,2.6s
NVS smax
comp=E,254nm,2.3s
NVS Novosibirsk 51.31 312 *i*P **P 02 48 33.5 -2.3**
comp=E,327nm,1.9s,mb5.9
NVS *e*S **S 02 55 48.9 -4.0**
NVS *e* 02 58 13.4
BAR Barrett 51.33 85 *e*P **P 02 48 36.4 +0.4**
W13A Hualapai Mount 51.38 80 ⇓S **S 02 55 54.5 +0.6**
baz=51
X13A Yucca 51.76 81 ⇓P **P 02 48 37.8 -1.4**
baz=52,SNR=19
X13A ⇓S **S 02 56 00.5 +1.3**
baz=52
ULM Lac du Bonnet 51.79 55 P **P 02 48 39.0 -0.4**
comp=E,36nm,1.1s,mb5.2,baz=310,slow=8.7,SNR=34
ULM S **S 02 55 53.7 -5.9**
comp=E,0.8nm,0.5s,baz=158,slow=19,SNR=1.5
ULM LR LR 03 11 06.5
comp=E,34μm,20.1s,MS6.4,baz=314,slow=37
ULM Lac du Bonnet 51.79 55 P **P 02 48 39.0 -0.4**
ULM S **S 02 55 53.7 -5.9**
ULM LR LR 03 11 06.5
W14A Seligman 51.80 80 ⇓P **P 02 48 39.0 -0.6**
baz=52,SNR=25
W14A ⇑S **S 02 56 01.7 +2.1**
baz=52
Y12C Blythe 51.91 82 ⇑P **P 02 48 39.5 -0.8**
baz=52,SNR=11
Y12C ⇑S **S 02 56 02.5 +1.3**
baz=52
PV10 Paradox Valley 52.11 74 *e*P **P 02 48 41.4 -0.5**
LZH Lanzhou 52.13 282 ⇓*i*P **P 02 48 42.5 +0.5**
LZH AP pP 02 48 53.5 +2.4
LZH XP sP 02 48 57.8 +3.1
LZH PCP PcP 02 49 54.5 +0.9
LZH PP PP 02 50 41.5 +1.1
LZH SCP ScP 02 53 46.5 -1.9
LZH S **S 02 56 01.5 -2.8**
LZH XS sS 02 56 20.3 +1.0
LZH SCS ScS 02 58 26.0 -3.8
LZH SS SS 02 59 36.8 -4.9
LZH AMB AMB
comp=Z,180nm,1.2s,mb5.9
LZH AMB AMB
comp=Z,1μm,6.3s
LZH LR LR
comp=E,15μm,16.2s
LZH LR LR
comp=Z,19μm,19.5s,MS6.1
LZH Lanzhou 52.13 282 ⇓*i*P **P 02 48 42.5 +0.5**
comp=Z,183nm,1.2s,mb5.9
LZH pP pP 02 48 53.4 +2.3
LZH sP sP 02 48 57.7 +3.0
LZH PcP PcP 02 49 54.5 +0.9
LZH PP PP 02 50 41.6 +1.2
LZH ScP ScP 02 53 46.4 -2.0
LZH S **S 02 56 01.5 -2.8**
LZH PS 02 56 18.5
LZH sS sS 02 56 20.3 +1.0
LZH ScS ScS 02 58 26.1 -3.7
LZH SS SS 02 59 36.7 -5.0
LZH LR LR
comp=Z,19μm,19.5s,MS6.1
GLA Glamis 52.20 83 *e*P **P 02 48 42.0 -0.5**
GLA Glamis 52.20 83 ⇑P **P 02 48 41.6 -0.9**
baz=52,SNR=12
GLA ⇓S **S 02 56 05.9 +0.8**
baz=52
PHWY Pilot Hill 52.29 69 *e*P **P 02 48 42.0 -1.1**
Y13A Salome 52.29 82 ⇓P **P 02 48 42.2 -0.9**
baz=52
Y13A ⇓S **S 02 56 05.4 -1.1**
baz=52
W15A Williams 52.31 79 ⇓P **P 02 48 43.0 -0.3**
baz=52,SNR=6.3
W15A ⇑S **S 02 56 07.2 +0.5**
baz=52
GTA Gaotai 52.33 288 P **P 02 48 44.0 +0.6**
GTA AP pP 02 48 51.8 -0.8
GTA XP sP 02 48 55.8 -0.3
GTA PCP PcP 02 49 54.3 0.0
GTA SCP ScP 02 53 47.3 -1.9
GTA PCS PcS 02 53 50.0 -2.7
GTA S **S 02 56 08.0 +1.1**
GTA XS sS 02 56 20.0 -2.0
GTA AMB AMB
comp=Z,650nm,5.4s
GTA LR LR
comp=N,11μm,27.4s
GTA LR LR
comp=E,9μm,22.1s
GTA LR LR
comp=Z,8μm,22.9s,MS5.7
X14A Yava 52.41 80 ⇑P **P 02 48 43.6 -0.5**
baz=52,SNR=24
X14A ⇓S **S 02 56 08.5 +0.4**
baz=52
PV01 Paradox Valley 52.55 74 *e*P **P 02 48 44.8 -0.3**
PV01 *ep*P pP 02 48 56.8 +2.5
BJO Bjornoya 52.60 352 *e*P **P 02 48 45.7 +0.2**
BJO *e*S **S 02 56 11.9 +1.2**
BJO1 Bjornoya 52.62 352 *e*P **P 02 48 45.7 +0.1**
BJO1 *e*S **S 02 56 11.9 +0.9**
WUAZ Wupatki 52.62 78 *e*P **P 02 48 45.5 -0.1**
comp=Z,94nm,1.2s,mb5.6
WUAZ LR LR
comp=Z,26μm,22.0s,MS6.2
Y14A Wickenburg 52.70 81 ⇑P **P 02 48 45.5 -0.8**
baz=52,SNR=12
Y14A ⇓S **S 02 56 12.6 +0.5**
baz=52
X15A Humboldt 52.79 80 P **P 02 48 46.8 -0.1**
baz=53,SNR=24
X15A ⇓S **S 02 56 14.9 +1.6**
baz=53
SMCO Snowmass 52.80 72 *e*P **P 02 48 46.7 -0.2**
Z14A Wintersburg 53.13 81 ⇓P **P 02 48 48.3 -1.1**
baz=53
Z14A ⇑S **S 02 56 18.3 +0.3**
baz=53
SUMG Summit 53.17 12 *e*P **P 02 48 50.3 +0.6**
ISCO Idaho Springs 53.18 70 *e*P **P 02 48 49.8 0.0**
ISCO LR LR
comp=Z,21μm,19.0s,MS6.2
MVCO Mesa Verde 53.20 75 *e*P **P 02 48 49.7 -0.2**
comp=Z,28nm,0.7s,mb5.3
116A Eloy 54.44 81 ⇑P **P 02 48 58.3 -0.7**
baz=54
116A ⇑S **S 02 56 33.9 -1.7**
baz=54
CVP Callao Caves 54.54 252 *e*P **P 02 49 01.0 +1.3**
TUC Tucson 55.17 81 *e*P **P 02 49 03.9 -0.4**
comp=Z,87nm,1.4s,mb5.6
TUC LR LR
comp=Z,8μm,19.0s,MS5.8
EYMN Ely 55.48 55 *e*P **P 02 49 06.2 -0.2**
comp=Z,77nm,0.8s,mb5.8
EYMN LR LR
comp=Z,464μm,20.0s
CD2 Chengdu 55.74 278 ⇓*i*P **P 02 49 08.5 +0.1**
CD2 AP pP 02 49 18.0 +0.5
CD2 XP sP 02 49 22.5 +1.4
CD2 PCP PcP 02 50 07.3 0.0
CD2 PP PP 02 51 14.5 +1.6
CD2 SCP ScP 02 54 02.0 -2.1
CD2 PCS PcS 02 54 07.0 -0.6
CD2 S **S 02 56 51.5 -1.5**
CD2 XS sS 02 57 08.3 +0.1
CD2 SCS ScS 02 58 51.5 -3.9
CD2 SS SS 03 00 37.0 -1.6
CD2 AMB AMB
comp=Z,50nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,730nm,8.4s
CD2 LR LR
comp=N,4μm,21.6s
CD2 LR LR
comp=Z,3μm,28.8s
LAZ Ladron 55.92 76 *e*P **P 02 49 09.3 -0.3**
LAZ *ep*P pP 02 49 20.5 +1.6
ANMO Albuquerque 55.95 75 *e*P **P 02 49 10.0 +0.2**
ANMO LR LR
comp=Z,11μm,21.0s,MS5.9
SFJD Kangerlussuaq 55.98 20 *e*P **P 02 49 11.5 +1.5**
comp=Z,183nm,1.5s,mb5.9
KURK Kurchatov 56.12 311 P **P 02 49 10.8 -0.3**
comp=Z,1μm,1.0s,SNR=48
KURK Kurchatov 56.12 311 ⇑P **P 02 49 10.6 -0.5**
SNR=152
KURK Kurchatov 56.12 311 *e*P **P 02 49 10.4 -0.7**
LENM Lemitar 56.18 76 *e*P **P 02 49 12.4 +0.9**
WMQ Urumqi 56.21 299 P **P 02 49 11.5 -0.3**
WMQ XP sP 02 49 26.5 +2.0
WMQ PP PP 02 51 18.0 +0.9
WMQ S **S 02 56 57.5 -1.9**
WMQ SCS ScS 02 58 53.3 -5.5
WMQ SS SS 03 00 43.5 -2.6
WMQ AMB AMB
comp=Z,100nm,1.0s,mb5.8
WMQ AMB AMB
comp=Z,100nm,3.2s
WMQ LR LR
comp=N,37μm,25.0s,MS6.5
WMQ LR LR
comp=E,30μm,25.0s,MS6.5
WMQ LR LR
comp=Z,14μm,23.0s,MS6.0
KEV Kevo 56.26 348 *ep* **P 02 49 13.1 +1.0**
KEV Kevo 56.26 348 *e*P **P 02 49 14.6 +2.5**
KEV pmax pmax
comp=Z,228nm,1.6s,mb6.0
KEV MLR MLR
comp=Z,7μm,21.0s,MS5.8
KEV Kevo 56.26 348 *e*P **P 02 49 14.6 +2.6**
comp=Z,228nm,1.6s,mb6.0
KEV LR LR
comp=Z,7μm,21.0s,MS5.8
LPM Los Pinos Moun 56.28 76 *e*P **P 02 49 12.9 +0.6**
BNM Barren Site 56.40 76 *e*P **P 02 49 13.2 +0.2**
ARCES ARCESS Array B 56.66 348 P **P 02 49 14.1 -0.8**
comp=Z,14nm,0.8s,mb5.0,baz=12,slow=6.2,SNR=14
ARCES LR LR 03 18 13.2
comp=Z,7μm,18.9s,MS5.8,baz=4.4,slow=41
ARE0 ARCESS Array S 56.66 348 *e*P **P 02 49 11.7 -3.3**
LVZ Lovozero 56.78 344 P **P 02 49 16.2 +0.4**
LVZ *e*S **S 02 57 03.1 -3.8**
LVZ pmax pmax
comp=E,20nm,1.0s
LVZ pmax pmax
comp=Z,122nm,1.0s,mb5.9
LVZ pmax pmax
comp=N,40nm,0.9s
LVZ smax
comp=N,5μm,30.0s
LVZ smax
comp=Z,2μm,27.0s
LVZ smax
comp=E,832nm,16.0s
LVZ Lovozero 56.78 344 P **P 02 49 16.2 +0.4**
LVZ *e*S **S 02 57 03.1 -3.8**
LVZ LR LR
comp=Z,6μm,20.0s,MS5.7
MK31 Makanchi Array 57.01 305 P **P 02 49 15.9 -1.5**
MK31 pmax pmax
comp=Z,30nm,0.7s,mb5.4
MK31 Makanchi Array 57.01 305 P **P 02 49 15.9 -1.5**
comp=Z,30nm,0.7s,mb5.4
MKAR Makanchi Array 57.01 305 P **P 02 49 16.0 -1.4**
comp=Z,46nm,0.8s,mb5.5,baz=51,slow=6.9,SNR=63
MKAR S **S 02 57 08.0 -1.9**
comp=Z,0.6nm,0.5s,baz=110,slow=42,SNR=2.5
MKAR PKP2bc 03 19 25.2
comp=Z,7.9nm,0.8s,baz=90,slow=3.6,SNR=4.8
MKAR Makanchi Array 57.01 305 *i*P **P 02 49 16.0 -1.4**
MKAR pmax pmax
comp=Z,47nm,0.8s
JMIC Jan Mayen 57.03 2 *e*P **P 02 49 18.5 +1.0**
JMIC *e*S **S 02 57 14.6 +4.3**
GYA Guiyang 57.14 272 ⇓*i*P **P 02 49 18.0 -0.3**
GYA AP pP 02 49 28.3 +0.8
GYA XP sP 02 49 32.3 +1.2
GYA PP PP 02 51 27.3 +2.0
GYA S **S 02 57 10.8 -0.7**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,450nm,4.8s
GYA LR LR
comp=N,6μm,19.7s,MS5.8
GYA LR LR
comp=E,2μm,17.3s,MS5.8
GYA LR LR
comp=Z,4μm,18.3s,MS5.6
TRO Tromso 57.31 351 *e*P **P 02 49 18.9 -0.6**
TRO *e*S **S 02 57 13.9 +0.1**
TRO Tromso 57.31 351 *e*P **P 02 49 18.9 -0.6**
TRO *e* 02 57 14.7
KTK1 Kautokeino 57.43 349 *e*P **P 02 49 19.8 -0.6**
KTK1 *ep*P pP 02 49 28.8 -0.8
KTK1 AMb AMB 02 49 33.0
comp=Z,294nm,1.4s,mb6.1
KTK1 Kautokeino 57.43 349 *e*P **P 02 49 19.8 -0.6**
comp=Z,294nm,1.4s,mb6.1
CHKZ Chkalovo 57.60 317 P **P 02 49 20.5 -1.1**
CHKZ pmax pmax
comp=Z,150nm,1.3s,mb5.9
TGY Tagaytay City 57.90 250 P **P 02 49 23.9 +0.2**
comp=Z,86nm,0.3s,baz=121,slow=5.9,SNR=3.3
TGY S **S 02 57 24.2 +2.5**
comp=Z,106nm,0.3s,baz=299,slow=16,SNR=2.2
VOSK Vostochnaya 58.13 316 P **P 02 49 24.1 -1.2**
VOSK pmax pmax
comp=Z,198nm,1.7s,mb5.9
VOSK Vostochnaya 58.13 316 P **P 02 49 24.1 -1.2**
comp=Z,198nm,1.7s,mb5.9
BVA0 Borovoye Array 58.16 317 *i*P **P 02 49 24.9 -0.6**
BVA0 pmax pmax
comp=Z,49nm,1.8s,mb5.2
BVA0 Borovoye Array 58.16 317 *i*P **P 02 49 24.9 -0.6**
comp=Z,49nm,1.8s,mb5.2
BVAR Borovoye Array 58.16 317 P **P 02 49 24.8 -0.7**
comp=Z,33nm,0.8s,mb5.4,baz=53,slow=7.6,SNR=84
BVAR S **S 02 57 24.3 -0.6**
comp=Z,0.7nm,0.6s,baz=55,slow=13,SNR=2.1
BVAR Borovoye Array 58.16 317 P **P 02 49 24.8 -0.7**
BVAR S **S 02 57 24.3 -0.7**
BRVK Borovoye 58.18 317 P **P 02 49 25.0 -0.7**
comp=Z,381nm,0.9s,mb6.4,SNR=25
BRVK Borovoye 58.18 317 ⇓P **P 02 49 25.1 -0.6**
SNR=71
BRVK Borovoye 58.18 317 P **P 02 49 25.0 -0.7**
BRVK pmax pmax
comp=Z,31nm,0.6s,mb5.5
SOKR Solikamsk 58.31 329 *d*iP **P 02 49 24.8 -1.8**
SOKR *i*S **S 02 57 23.9 -3.1**
SOKR *i*SS SS 03 01 20.0 +0.9
SOKR pmax pmax
comp=Z,130nm,1.2s,mb5.8
SOKR Solikamsk 58.31 329 *i*Pr **P 02 49 24.8 -1.8**
comp=Z,130nm,1.2s,mb5.8
SOKR *i*S **S 02 57 23.9 -3.1**
SOKR *i*SS SS 03 01 20.0 +0.9
SCIA State Center 58.69 61 *e*P **P 02 49 28.8 -0.5**
comp=Z,111nm,0.8s,mb5.9
ZRNK Zerenda 58.79 317 *e*P **P 02 49 31.2 +1.3**
AMTX Amarillo 58.81 72 *e*P **P 02 49 29.7 -0.3**
AMTX LR LR
comp=Z,8μm,20.0s,MS5.8
RCP Roxas 58.92 247 *e*P **P 02 49 35.8 +5.0**
LOF Lofoten 59.25 353 *e*P **P 02 49 36.5 +3.4**
LOF AMb AMB 02 49 46.6
comp=Z,178nm,1.2s,mb6.0
LOF Lofoten 59.25 353 *e*P **P 02 49 40.1 +7.0**
comp=Z,178nm,1.2s,mb6.0
ARU Arti 60.17 325 P **P 02 49 39.1 -0.3**
comp=Z,468nm,0.8s,mb6.6,SNR=23
ARU Arti 60.17 325 ⇓*i*P **P 02 49 39.3 -0.1**
ARU *e* 02 50 25.8
ARU *e*PPP 02 53 15.9
ARU *e*S **S 02 57 51.4 +0.4**
ARU *e* 02 59 20.1
ARU *e*SS SS 03 01 49.5 +1.3
ARU pmax pmax
comp=Z,270nm,1.6s,mb6.0
ARU MLR MLR
comp=Z,8μm,20.0s,MS5.8
ARU MLR MLR
comp=N,4μm,18.0s,MS5.7
ARU MLR MLR
comp=E,4μm,18.0s,MS5.7
ARU Arti 60.17 325 ⇓*i*P **P 02 49 39.3 -0.1**
comp=E,270nm,1.6s,mb6.0
ARU *e* 02 50 25.8
ARU *e*PPP 02 53 15.9
ARU *e*S **S 02 57 51.4 +0.4**
ARU *e* 02 59 20.1
ARU *e*SS SS 03 01 49.5 +1.3
ARU LR LR
comp=Z,8μm,20.0s,MS5.8
KMI Kunming 60.52 274 P **P 02 49 42.5 +0.7**
KMI AP pP 02 49 54.0 +2.9
KMI PCP PcP 02 50 28.5 +2.3
KMI PP PP 02 51 59.8 +4.5
KMI SCP ScP 02 54 25.3 0.0
KMI PCS PcS 02 54 28.5 -0.2
KMI S **S 02 57 54.8 -0.7**
KMI SCS ScS 02 59 28.0 -2.4
KMI SS SS 03 01 54.5 +0.8
KMI AMB AMB
comp=Z,30nm,1.5s,mb5.2
KMI AMB AMB
comp=Z,1μm,6.2s
KMI LR LR
comp=N,6μm,20.5s
KMI LR LR
comp=E,4μm,25.6s
KMI LR LR
comp=Z,6μm,34.9s
KMI Kunming 60.52 274 P **P 02 49 42.4 +0.6**
comp=Z,36nm,1.5s,mb5.3
KMI pP pP 02 49 54.1 +3.0
KMI sP sP 02 49 59.6 +5.0
KMI PcP PcP 02 50 28.6 +2.4
KMI PP PP 02 51 59.7 +4.4
KMI PPP 02 53 26.4
KMI ScP ScP 02 54 25.2 -0.1
KMI PcS PcS 02 54 28.6 -0.1
KMI S **S 02 57 54.8 -0.7**
KMI sS sS 02 58 13.4 +2.7
KMI PS 02 58 14.8
KMI ScS ScS 02 59 27.9 -2.5
KMI SS SS 03 01 54.5 +0.8
KMI SSS 03 04 27.7
KMI LR LR
comp=Z,6μm,34.9s,MS5.5
FUNA Funafuti 60.58 177 PFAKE 02 49 50.0 +7.8
FUNA LR LR
comp=Z,9μm,19.0s,MS6.0
QIZ Qiongzhong 60.70 263 P **P 02 49 44.5 +1.5**
QIZ S **S 02 58 00.8 +3.0**
QIZ SS SS 03 02 00.0 +3.4
QIZ AMB AMB
comp=Z,20nm,1.2s,mb5.1
QIZ AMB AMB
comp=Z,1μm,9.9s
QIZ LR LR
comp=N,3μm,18.9s,MS5.6
QIZ LR LR
comp=E,4μm,21.8s,MS5.6
QIZ LR LR
comp=Z,5μm,23.7s,MS5.5
QIZ Qiongzhong 60.70 263 PFAKE 02 49 50.0 +7.0
QIZ LR LR
comp=Z,3μm,20.0s,MS5.5
MOR8 Moi Rana 61.10 352 *e*P **P 02 49 43.4 -2.4**
MOR8 *ep*P pP 02 49 52.5 -2.5
MOR8 AMb AMB 02 49 56.4
comp=Z,116nm,1.6s,mb5.8
MOR8 Moi Rana 61.10 352 *e*P **P 02 49 43.4 -2.4**
comp=Z,116nm,1.6s,mb5.8
SCHQ Schefferville 61.21 36 P **P 02 49 45.4 -1.2**
comp=Z,44nm,1.0s,mb5.5,baz=339,slow=6.8,SNR=35
SCHQ S **S 02 58 03.3 -1.1**
comp=Z,1.3nm,0.8s,baz=114,slow=18,SNR=2.1
SCHQ Schefferville 61.21 36 P **P 02 49 45.4 -1.2**
SCHQ S **S 02 58 03.3 -1.0**
SCHQ LR LR
comp=Z,15μm,19.0s,MS6.2
LPIG La Paz 61.35 87 LR LR 03 10 59.1
comp=Z,7μm,20.8s,MS5.8,baz=325,slow=31
LTX Lajitas 61.58 78 *e*P **P 02 49 48.5 -0.5**
LTX pmax pmax
comp=Z,71nm,1.1s,mb5.7
LTX MLR MLR
comp=Z,12μm,19.0s,MS6.1
LTX Lajitas 61.58 78 *e*P **P 02 49 48.5 -0.5**
comp=Z,71nm,1.1s,mb5.7
LTX LR LR
comp=Z,14μm,19.0s,MS6.1
JOF Joensuu 61.90 343 *ep* **P 02 49 50.4 -0.8**
comp=Z,1.8nm,0.4s,mb4.5
JOF Joensuu 61.90 343 *e*P **P 02 49 50.4 -0.8**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
KLMR Klimovskoe 62.05 338 *d*iP **P 02 49 51.6 -0.5**
KLMR *e* 02 52 07.8
KLMR *e*S **S 02 58 16.0 +1.1**
KLMR *e*SS SS 03 02 20.8 +3.1
KLMR pmax pmax
comp=Z,200nm,1.5s,mb6.0
KLMR pmax pmax
comp=Z,330nm,9.9s
KLMR MLR MLR
comp=Z,9μm,25.0s,MS5.8
AAA Alma-Ata 62.18 305 *e*P **P 02 49 53.0 0.0**
AAA *e*S **S 02 58 17.5 +1.0**
AAA pmax pmax
comp=Z,12μm,4.5s
AAA smax
comp=N,14μm,11.0s
AAA MLR MLR
comp=Z,74μm,18.0s,MS6.9
AAA Alma-Ata 62.18 305 *e*P **P 02 49 53.0 0.0**
AAA *e*S **S 02 58 17.5 +1.0**
AAA LR LR
comp=Z,74μm,18.0s,MS6.9
CCM Cathedral Cave 62.49 63 P **P 02 49 53.1 -2.0**
CCM pmax pmax
comp=Z,45nm,1.2s,mb5.5
CCM Cathedral Cave 62.49 63 *e*P **P 02 49 52.5 -2.6**
comp=Z,45nm,1.2s,mb5.5
CCM LR LR
comp=Z,10μm,20.0s,MS6.0
BORG Borgarnes 62.57 8 PFAKE 02 50 10.0 +14
BORG LR LR
comp=Z,8μm,19.0s,MS5.9
NSS Namsos 62.92 352 *e*P **P 02 49 57.7 -0.3**
NSS *e*S **S 02 58 26.5 +0.6**
FVM French Village 62.98 62 *e*P **P 02 49 57.5 -0.9**
FVM pmax pmax
comp=Z,110nm,1.4s,mb5.8
FVM French Village 62.98 62 *e*P **P 02 49 57.5 -0.9**
comp=Z,120nm,1.4s,mb5.8
JCT Junction City 63.06 74 *e*P **P 02 49 58.5 -0.4**
JCT LR LR
comp=Z,16μm,21.0s,MS6.2
TKM2 Tokmak 2 63.11 306 P **P 02 49 59.2 0.0**
SNR=40
ULHL Ulahol 63.28 305 P **P 02 50 00.4 0.0**
SNR=30
USP Ospenovka 63.40 307 P **P 02 50 01.2 0.0**
SNR=49
CHMS Chumysh 63.47 307 P **P 02 50 01.5 -0.1**
SNR=17
KAF Kangasniemi 63.52 345 *ep* **P 02 50 00.3 -1.6**
comp=Z,67nm,0.8s,mb5.7,baz=25,slow=6.4
KAF Kangasniemi 63.52 345 *e*P **P 02 50 00.3 -1.6**
KAF pmax pmax
comp=Z,67nm,0.8s,mb5.7
KBK Karagaybulak 63.62 306 P **P 02 50 02.7 +0.1**
SNR=30
FRU Bishkek 63.66 306 *i*P **P 02 50 02.0 -0.9**
FRU *i* pP 02 50 10.0 -2.2

FRU pmax pmax
comp=Z,160nm,1.6s,mb5.8
FRU Bishkek 63.66 306 *i* P **P 02 50 02.0 -0.9**
comp=Z,160nm,1.6s,mb5.8
FRU *i* pP 02 50 10.0 -2.2
MIAR Mount Ida 63.73 67 *e*P **P 02 50 02.5 -0.8**
comp=Z,82nm,1.1s,mb5.7
MIAR LR LR
comp=Z,16μm,19.0s,MS6.2
SIUC Southern Illin 63.84 62 *e*P **P 02 50 03.2 -0.9**
comp=Z,53nm,0.9s,mb5.6
AAK Ala-Archa 63.87 306 P **P 02 50 04.3 +0.1**
SNR=22
AAK Ala-Archa 63.87 306 P **P 02 50 03.8 -0.4**
comp=Z,250nm,0.8s,mb6.3,SNR=16
AAK Ala-Archa 63.87 306 P **P 02 50 03.3 -0.9**
KZA Kyzart 63.90 306 P **P 02 50 04.5 0.0**
SNR=20
UCH Uchtor 64.16 306 P **P 02 50 06.7 +0.5**
SNR=21
FINES FINESS Array B 64.19 345 P **P 02 50 05.1 -1.2**
comp=Z,4.0nm,0.7s,mb4.6,baz=19,slow=6.9,SNR=18
FINES LR LR 03 20 15.2
comp=Z,6μm,21.5s,MS5.7,baz=199,slow=38
LSA Lhasa 64.19 286 P **P 02 50 07.8 +1.4**
LSA S **S 02 58 32.5 -9.2**
LSA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
LSA LR LR
comp=N,4μm,17.0s
LSA LR LR
comp=E,5μm,23.0s
LSA LR LR
comp=Z,6μm,23.0s
LSA Lhasa 64.19 286 PFAKE 02 50 20.0 +14
LSA LR LR
comp=Z,6μm,19.0s,MS5.8
EKS2 Erkin-Say 64.20 307 P **P 02 50 06.7 +0.3**
SNR=39
BLO Bloomington 64.21 59 *e*P **P 02 50 05.3 -1.2**
BLO pmax pmax
comp=Z,68nm,0.9s,mb5.7
BLO Bloomington 64.21 59 *e*P **P 02 50 05.3 -1.2**
comp=Z,68nm,0.9s,mb5.7
UALR University of 64.25 66 *e*P **P 02 50 06.0 -0.8**
comp=Z,64nm,1.3s,mb5.5
PARMO Parma 64.31 63 *e*P **P 02 50 06.6 -0.6**
MAIG Mazatlaan 64.41 85 *i* P **P 02 50 08.5 +0.7**
USIN University of 64.49 61 *e*P **P 02 50 08.0 -0.3**
AML Almayashu 64.64 307 P **P 02 50 10.1 +0.8**
SNR=9.9
GNAR Gosnell 64.68 64 *e*P **P 02 50 06.9 -2.6**
comp=Z,2μm,1.5s
PECR Pechory 64.83 333⇑ *i*P **P 02 50 10.4 -0.2**
PECR pmax pmax
comp=Z,2μm,1.2s
PECR pmax pmax
comp=Z,800nm,5.0s
PECR MLR MLR
comp=Z,8μm,20.0s,MS5.9
PECR MLR MLR
comp=E,2μm,18.0s
WCI Wyandotte Cave 65.03 59 *e*P **P 02 50 11.2 -0.6**
comp=E,47nm,0.8s,mb5.6
WCI LR LR
comp=Z,34μm,19.0s,MS6.6
UTMT University of 65.03 63 *e*P **P 02 50 11.8 -0.1**
AKTK Aktyubinsk 65.11 322 P **P 02 50 12.3 0.0**
AKTO Aktyubinsk 65.11 322 P **P 02 50 12.3 0.0**
comp=Z,71nm,0.8s,mb5.7,baz=48,slow=6.5,SNR=145
AKTO Aktyubinsk 65.11 322 P **P 02 50 12.4 0.0**
AKTO pmax pmax
comp=Z,71nm,0.8s,mb5.8
NATX Nacogdoches 65.14 70 *e*P **P 02 50 13.4 +0.8**
comp=Z,64nm,0.9s,mb5.7
NATX LR LR
comp=Z,14μm,21.0s,MS6.1
MOL Molde 65.18 354 *e*S S 02 58 48.2 -5.7
ACSO Alum Creek Sta 65.26 56 *e*P **P 02 50 13.1 -0.2**
ACSO LR LR
comp=Z,21μm,20.0s,MS6.3
AB31 Abkulak array 65.31 320 *i* P **P 02 50 13.4 -0.2**
AB31 pmax pmax
comp=Z,66nm,0.9s,mb5.7
AB31 Abkulak array 65.31 320 *i* P **P 02 50 13.4 -0.2**
comp=Z,66nm,0.9s,mb5.7
ERPA Erie 65.34 53 *e*P **P 02 50 13.8 0.0**
ERPA LR LR
comp=Z,23μm,20.0s,MS6.4
ORR Orenburg 65.37 324⇓ *i*P **P 02 50 13.6 -0.4**
ORR S S 02 58 46.4 -10
ORR pmax pmax
comp=Z,140nm,1.2s,mb5.9
ORR MLR MLR
comp=Z,10μm,18.0s,MS6.1
KSH Kashi 65.44 303 P **P 02 50 10.8 -3.7**
KSH *e*AP pP 02 50 21.3 -2.5
KSH *e*XP sP 02 50 25.0 -2.3
KSH *e*PCP PcP 02 50 45.0 -1.3
KSH *e*PP PP 02 52 34.0 -4.6
KSH *e*SCP 02 54 44.0
KSH *e*PCS 02 54 48.0
KSH *e*S S 02 58 44.0 -13
KSH *e*SCS ScS 02 59 58.5 -9.3
KSH AMB AMB
comp=Z,40nm,0.2s,mb6.1
KSH AMB AMB
comp=Z,830nm,5.1s
KSH LR LR
comp=N,22μm,16.8s,MS6.6
KSH LR LR
comp=E,23μm,16.3s,MS6.6
KSH LR LR
comp=Z,8μm,19.6s,MS5.9
KK31 Karatay Array 65.45 309 *i* P **P 02 50 13.9 -0.7**
KKAR Karatay Array 65.45 309 *i* P **P 02 50 13.8 -0.8**
KKAR pmax pmax
comp=Z,25nm,0.7s,mb5.3
KKAR Karatay Array 65.45 309 *i* P **P 02 50 13.8 -0.8**
comp=Z,25nm,0.7s,mb5.3
MSNY Massena 65.56 47 *e*P **P 02 50 13.6 -1.7**
DOMB Dombas 65.61 353 *e*P **P 02 50 14.8 -0.8**
DOMB *e*pP pP 02 50 23.4 -1.5
DOMB AMb AMB 02 50 27.7
comp=Z,162nm,1.3s,mb5.9
DOMB Dombas 65.61 353 *e*P **P 02 50 14.8 -0.8**
comp=Z,162nm,1.3s,mb5.9
ALLY Alegheny Colle 65.61 53 *e*P **P 02 50 15.9 +0.3**
WVT Waverly 65.75 62 *e*P **P 02 50 15.7 -0.8**
WVT pmax pmax
comp=Z,29nm,0.8s,mb5.4
WVT MLR MLR
comp=Z,13μm,20.0s,MS6.1
WVT Waverly 65.75 62 *e*P **P 02 50 15.7 -0.8**
comp=Z,29nm,0.8s,mb5.4
WVT LR LR
comp=Z,13μm,20.0s,MS6.1
HKT Hockley 65.79 72 P **P 02 50 17.0 +0.3**
HKT pmax pmax
comp=Z,120nm,1.7s,mb5.7
HKT Hockley 65.79 72 *e*P **P 02 50 16.6 -0.1**
comp=Z,122nm,1.7s,mb5.7
HKT LR LR
comp=Z,10μm,20.0s,MS6.0
LONY Lake Ozonia 65.98 48 *e*P **P 02 50 15.8 -2.2**
OXF Oxford 66.08 64 *e*P **P 02 50 17.7 -1.0**
OXF pmax pmax
comp=Z,270nm,1.1s,mb6.2
OXF MLR MLR
comp=Z,11μm,19.0s,MS6.1
OXF Oxford 66.08 64 *e*P **P 02 50 17.7 -1.0**
comp=Z,270nm,1.1s,mb6.2
OXF LR LR
comp=Z,11μm,19.0s,MS6.1
PMG Port Moresby 66.25 211⇑ *i*P **P 02 50 21.8 +2.1**
PMG Port Moresby 66.25 211 *e*P **P 02 50 24.9 +5.2**
FRNY Flat Rock 66.26 47 *e*P **P 02 50 18.3 -1.5**
NB2 NORSAR Subarra 66.43 352 P **P 02 50 20.2 -0.7**
comp=Z,79nm,0.9s,mb5.7,baz=11,slow=6.5
NB2 NORSAR Subarra 66.43 352 P **P 02 50 20.2 -0.7**
NB2 pmax pmax
comp=Z,79nm,0.9s,mb5.7
NB2 NORSAR Subarra 66.43 352 P **P 02 50 20.2 -0.7**
comp=Z,79nm,0.9s,mb5.7
NOA NORSAR Array B 66.43 352 P **P 02 50 19.7 -1.2**
comp=Z,8.3nm,0.7s,mb4.9,baz=11,slow=6.5,SNR=23
NOA S S 02 59 08.6 -0.6
comp=Z,0.8nm,0.8s,baz=257,slow=19,SNR=2.5
NOA LR LR 03 22 54.2
comp=Z,3μm,19.3s,MS5.6,baz=5.0,slow=39
NOA NORSAR Array B 66.43 352 P **P 02 50 19.7 -1.2**
NOA S S 02 59 08.6 -0.5
PLAL Pickwick Lake 66.47 63 *e*P **P 02 50 20.0 -1.1**
comp=Z,36nm,0.8s,mb5.5
PLAL LR LR
comp=Z,10μm,20.0s,MS6.0
NCB Newcomb 66.65 48 *e*P **P 02 50 21.4 -0.9**
comp=Z,67nm,1.1s,mb5.6
NCB LR LR
comp=Z,26μm,21.0s,MS6.4
NAO01 NORSAR Array S 66.65 352 *e*P **P 02 50 23.8 +1.5**
NAO01 LR LR
comp=Z,4μm,19.0s,MS5.7
HYA Hoyanger 66.66 355 *e*P **P 02 50 25.2 +2.9**
HYA *e*pP pP 02 50 31.4 -0.3
HYA AMb AMB 02 50 35.7
comp=Z,161nm,1.5s,mb5.8
HYA Hoyanger 66.66 355 *e*P **P 02 50 25.2 +2.9**
comp=Z,161nm,1.5s,mb5.8
AFI Afiamalu 66.70 167 S S 02 59 13.5 +1.2
comp=Z,11nm,0.2s,baz=195,slow=18,SNR=1.6
AFI LR LR 03 18 11.3
comp=Z,4μm,18.4s,MS5.6,baz=360,slow=35
AFI Afiamalu 66.70 167 PFAKE 02 50 30.0 +7.4
AFI LR LR
comp=Z,4μm,20.0s,MS5.6
SHL Shillong 66.80 282 *i* P **P 02 50 23.0 -0.2**
SHL *e*S S 02 59 16.7 +3.1
MIV Mineville/With 66.88 47 *e*P **P 02 50 23.2 -0.6**
VSU Vasula 66.89 343 *c i*P **P 02 50 23.5 -0.3**
MOS Moscow 67.06 336 *e*P **P 02 50 24.8 -0.1**
MOS *e* 02 50 51.3
MOS *e* 02 52 53.6
MOS *e*PPP 02 54 27.0
MOS *e*S S 02 59 16.7 0.0
MOS *e* 03 00 16.7
MOS *e*SS SS 03 03 39.4 +3.6
MOS pmax pmax
comp=Z,500nm,2.2s,mb6.2
MOS pmax pmax
comp=Z,168nm,0.9s,mb6.1
MOS MLR MLR
comp=N,7μm,19.1s
MOS MLR MLR
comp=Z,9μm,19.1s,MS6.0
MOS Moscow 67.06 336 *e*P **P 02 50 24.8 -0.1**
comp=Z,168nm,0.9s,mb6.1
MOS *e* 02 50 51.3
MOS *e* 02 52 53.6
MOS *e*PPP 02 54 27.0
MOS *e*S S 02 59 16.7 0.0
MOS *e* 03 00 16.7
MOS *e*SS SS 03 03 39.4 +3.6
MOS LR LR
comp=Z,9μm,19.1s,MS6.0
ZAIG Zacatecas 67.08 82 *i* P **P 02 50 25.7 +0.7**
KKM Kota Kinabalu 67.11 249 *e*P **P 02 50 29.1 +3.8**
MCWV Mont Chateau 67.27 54 PFAKE 02 50 40.0 +14
MCWV LR LR
comp=Z,27μm,20.0s,MS6.5
ACCN Adirondack Com 67.36 48 *e*P **P 02 50 26.0 -0.7**
SWET Sewanee 67.46 61 *e*P **P 02 50 26.7 -0.7**
LBNH Lisbon 67.47 46 PFAKE 02 50 40.0 +13
LBNH LR LR
comp=Z,25μm,20.0s,MS6.4
BER Bergen 67.49 355 *e*P **P 02 50 28.9 +1.3**
BER *e*S S 02 59 22.9 +1.0
SSPA Standing Stone 67.49 52 *e*P **P 02 50 27.4 -0.3**
SSPA LR LR
comp=Z,23μm,19.0s,MS6.4
OSL Oslo 67.56 352 *e*P **P 02 50 31.9 +3.8**
HNH Hanover 67.73 47 *e*P **P 02 50 28.6 -0.5**
ODD1 Odda 67.89 354 *e*P **P 02 50 30.9 +0.8**
ODD1 AMb AMB 02 50 41.7
comp=Z,156nm,1.8s,mb5.7
ODD1 Odda 67.89 354 *e*P **P 02 50 30.9 +0.8**
comp=Z,156nm,1.8s,mb5.7
OBN Obninsk 67.89 336 P **P 02 50 29.4 -0.7**
comp=Z,551nm,1.3s,mb6.4,SNR=5.4
OBN Obninsk 67.89 336 *d i*P **P 02 50 29.3 -0.8**
OBN *i* pP 02 50 37.5 -2.0
OBN *i* S S 02 59 23.6 -3.1
OBN pmax pmax
comp=Z,76nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,8μm,21.0s,MS5.9
OBN Obninsk 67.89 336 *i* Pr **P 02 50 29.3 -0.8**
comp=Z,76nm,1.6s,mb5.5
OBN *i* pP 02 50 37.5 -2.0
OBN *i* S S 02 59 23.6 -3.1
OBN LR LR
comp=Z,8μm,21.0s,MS5.9
KONO Kongsberg 67.94 353 *e*P **P 02 50 31.1 +0.7**
KONO *e*S S 02 59 26.1 -1.2
KONO Kongsberg 67.94 353 *e*P **P 02 50 33.1 +2.7**
comp=Z,61nm,0.9s,mb5.6
KONO LR LR
comp=Z,5μm,19.0s,MS5.7
CPCT Cooper Cave 68.04 60 *e*P **P 02 50 30.6 -0.5**
WVL Waterville 68.20 45 *e*P **P 02 50 31.5 -0.6**
comp=Z,79nm,1.4s,mb5.5
FWV Forest Hill 68.37 56 *e*P **P 02 50 33.1 0.0**
BLS5 Blasjo 68.38 354 *e* pP 02 50 40.7 -1.9
BLS5 AMb AMB 02 50 46.6
comp=Z,40nm,1.3s,mb5.3
BLS5 Blasjo 68.38 354 *e*P pP 02 50 40.7 -1.9
comp=Z,40nm,1.3s
SFJM Santa Fe 68.50 84 *e*P **P 02 50 33.0 -1.0**
LRAL Lakeview Retre 68.52 64 *e*P **P 02 50 32.8 -1.2**
LRAL LR LR
comp=Z,10μm,20.0s,MS6.0
GUN Gumba 68.62 288 *e*P **P 02 50 35.3 +0.6**
comp=Z,978nm,0.9s
JIRN Jiri 68.62 288 *e*P **P 02 50 35.5 +0.8**
comp=Z,478nm,0.7s,mb6.5
ELN Prospectdale 68.67 57 *e*P **P 02 50 34.5 -0.5**
MVL Millersville 68.73 52 *e*P **P 02 50 35.3 -0.1**
QUA2 Belchertown 68.82 48 *e*P **P 02 50 35.7 -0.2**
comp=Z,65nm,1.1s,mb5.5
BLA Blacksburg 68.85 56 P **P 02 50 36.0 -0.1**
BLA pmax pmax
comp=Z,2.0nm,0.6s
BLA Blacksburg 68.85 56 *e*P **P 02 50 35.6 -0.6**
comp=Z,26nm,0.6s,mb5.3
BLA LR LR
comp=Z,31μm,19.0s,MS6.6
SDMD Soldier's Deli 68.95 53 *e*P pP 02 50 46.1 -0.1
HRV Harvard--Oak R 69.00 47 *e*P **P 02 50 35.8 -1.3**
comp=Z,49nm,1.1s,mb5.3
HRV LR LR
comp=Z,26μm,20.0s,MS6.5
EMMW East Machias 69.03 43 *e*P **P 02 50 36.1 -1.1**
KKN Kakani 69.06 288 *e*P **P 02 50 37.9 +0.5**
comp=Z,296nm,0.9s,mb6.2
PAL Palisades 69.11 50 P **P 02 50 37.9 +0.2**
PAL pmax pmax
comp=Z,83nm,1.1s,mb5.6
PAL Palisades 69.11 50 *e*P **P 02 50 34.4 -3.3**
comp=Z,83nm,1.1s,mb5.6
PKI Pulchoki 69.14 288 *e*P **P 02 50 38.4 +0.4**
comp=Z,270nm,0.8s,mb6.2
WES Weston 69.20 47 *e*P **P 02 50 38.4 0.0**
comp=Z,66nm,1.0s,mb5.5
WES LR LR
comp=Z,3μm,19.0s,MS5.6
CPNY Central Park 69.25 50 *e*P **P 02 50 39.0 +0.3**
GKN Gorkha 69.27 289 *e*P **P 02 50 38.7 0.0**
comp=Z,274nm,0.8s,mb6.2
DMN Daman 69.29 288 *e*P **P 02 50 39.4 +0.5**
comp=Z,279nm,0.8s,mb6.2
SNART Snartemo 69.42 354 *e*P **P 02 50 40.2 +0.6**
SNART AMb AMB 02 50 52.4
comp=Z,78nm,1.7s,mb5.4
CBN Corbin 69.62 54 *e*P **P 02 50 41.0 +0.1**
CBN LR LR
comp=Z,31μm,20.0s,MS6.5
KOLN Koldanda 70.05 290 *e*P **P 02 50 43.6 +0.1**
comp=Z,254nm,1.0s,mb6.1
VRHR Novokhopersk 70.12 331 *e*P **P 02 50 41.0 -3.0**
VRHR *e**SP sP 02 50 52.5 -4.4
VRHR *e*S S 02 59 53.2 +0.2
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR pmax pmax
comp=Z,40nm,0.4s,mb5.7
VRHR pmax pmax
comp=N,10.0nm,0.3s
VRHR smax
comp=N,10.0nm,0.5s
VRHR smax
comp=Z,50nm,1.6s
VRHR smax
comp=E,100nm,2.0s
VRHR MLR MLR
comp=N,4μm,15.0s
VRHR MLR MLR
comp=Z,3μm,15.0s,MS5.7
VRHR MLR MLR
comp=E,3μm,22.0s
VOR Voronezh 70.24 333 *e*P **P 02 50 42.5 -2.2**
VOR *e**PP pP 02 50 49.0 -5.1
VOR pmax pmax
comp=Z,90nm,1.9s,mb5.4
VOR Voronezh 70.24 333 *e*P **P 02 50 42.5 -2.2**
VOR *e*pP pP 02 50 49.0 -5.1
MOIG Morelia 70.25 83 *i* P **P 02 50 45.3 +0.5**
MNK Minsk 70.41 341⇑ *e*P **P 02 50 43.0 -2.8**
MNK MLR MLR
comp=Z,11μm,22.0s,MS6.1
MNK MLR MLR
comp=N,8μm,22.0s
VRSR Storozhevoye 70.71 333 *e*P **P 02 50 47.7 +0.1**
VRSR *e*S S 02 59 53.1 -6.9
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.2
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.4s
VRSR smax
comp=N,40nm,3.9s
VRSR smax
comp=Z,160nm,7.0s
VRSR smax
comp=E,170nm,8.6s
VRSR Storozhevoye 70.71 333 *e*P **P 02 50 47.7 +0.1**
comp=E,30nm,1.0s,mb5.2
VRSR *e*S S 02 59 53.1 -6.9
SMLA Simla 71.14 296 *e*P **P 02 50 50.3 +0.1**
SMLA AMb AMB 02 51 01.8
comp=Z,202nm,1.3s,mb5.9
MUD Monsted U'grnd 71.14 352 *i* P **P 02 50 55.4 +5.2**
comp=Z,57nm,1.0s,mb5.5
MUD *e* 02 52 38.1
MUD *i* S S 03 00 09.3 +4.3
MUD Monsted U'grnd 71.14 352 *i* P **P 02 50 55.4 +5.2**
MUD *i* S S 03 00 09.3 +4.3
MUD pmax pmax
comp=Z,57nm,1.0s,mb5.5
CAL Calcutta 71.20 283 *e*x pP 02 50 57.7 -2.3
CAL *e*x x 02 50 57.7
CAL *e*x x 02 59 50.7
TAOE Nuku Hiva Isla 71.41 134 *e*S S 03 00 09.1 +1.0
comp=Z,33μm,26.4s
TAOE *e*SS SS 03 04 33.7 -9.2
comp=Z,5μm,27.5s
TAOE *e*LQ 03 08 49.6
comp=Z,60μm,33.2s
TAOE *e*LR LR 03 12 32.5
comp=Z,29μm,24.6s,baz=342
COP Copenhagen 71.60 350 *i* P **P 02 50 53.8 +0.8**
comp=Z,24nm,0.7s,mb5.2
COP *i* 02 52 40.2
comp=Z,2μm,23.0s
COP Copenhagen 71.60 350 *i* P **P 02 50 53.8 +0.8**
COP pmax pmax
comp=Z,24nm,0.7s,mb5.2
COP MLR MLR
comp=Z,2μm,23.0s,MS5.3
CNNC Cliffs of the 71.67 56 *e*P **P 02 50 53.8 +0.4**
comp=Z,27nm,0.3s,mb5.7
BOK Bokaro 71.71 285 *e*P **P 02 50 54.2 +0.5**
BOK AMb AMB 02 50 58.1
comp=Z,139nm,1.7s,mb5.6
SUW Suwalki 71.74 344 *e*P **P 02 50 52.6 -1.2**
SUW *e*pP pP 02 51 00.3 -3.0
SUW *e*PcP PcP 02 51 09.0 -3.7
SUW *e*S S 03 00 11.2 -0.7
SUW *e*SS SS 03 05 12.2 +24
SUW Suwalki 71.74 344 *e*P **P 02 50 52.6 -1.2**
SUW *e**PP pP 02 51 00.3 -3.0
SUW *e* 02 51 09.0
SUW *e*S S 03 00 11.2 -0.7
PPM Popocatepetl 72.27 82 *i* P **P 02 50 59.2 +2.2**
ESK Eskdalemuir 72.81 360 *e*P **P 02 51 02.0 +1.8**
ESK pmax pmax
comp=Z,68nm,1.1s,mb5.5
ESK MLR MLR
comp=Z,6μm,19.0s,MS5.9
ESK Eskdalemuir 72.81 360 *e*P **P 02 51 02.0 +1.8**
comp=Z,68nm,1.1s,mb5.5
ESK LR LR
comp=Z,6μm,19.0s,MS5.9
NDI New Delhi 72.98 295 *e*P **P 02 50 59.0 -2.2**
NDI *e*x x 03 00 22.5
GKP Gorka Klasztor 73.39 347 *e*P **P 02 51 03.3 -0.3**
GKP *e*pP pP 02 51 12.1 -1.0
GKP *e*PcP PcP 02 51 15.8 -4.0
GKP *e*S S 03 00 28.7 -2.0
GKP *e*sS sS 03 00 46.4 +0.1
GKP *e*SKS 03 01 09.8
GKP *e*SS SS 03 05 40.8 +28
GKP Gorka Klasztor 73.39 347 *e*P **P 02 51 03.3 -0.3**
GKP *e**PP pP 02 51 12.1 -1.0
GKP *e* 02 51 15.8
GKP *e*S S 03 00 28.7 -2.0
GKP *e* 03 01 09.8
HLG Helgoland 73.50 353 *e*P **P 02 51 04.4 +0.1**
comp=Z,575nm,1.6s,mb6.3
BSEG Bad Segeberg 73.54 351 *e*P **P 02 51 04.4 -0.1**
comp=Z,85nm,0.9s,mb5.7
BSEG *e*S S 03 00 32.4 0.0
BSEG Bad Segeberg 73.54 351 *e*P **P 02 51 04.4 -0.1**
BSEG *e*SS S 03 00 32.4 0.0
BSEG pmax pmax
comp=Z,85nm,0.9s,mb5.7
AKASG Malin Array Be 73.69 339 P **P 02 51 04.3 -1.0**
comp=Z,16nm,0.7s,mb5.1,baz=24,slow=6.1,SNR=26
AKASG S S 03 00 31.9 -2.2
comp=Z,1.3nm,0.6s,baz=273,slow=16,SNR=5.1
AKASG LR LR 03 24 53.5
comp=Z,5μm,21.9s,MS5.7,baz=5.0,slow=37
AKASG Malin Array Be 73.69 339 *i* P **P 02 51 04.6 -0.8**
AKASG pmax pmax
comp=Z,16nm,0.7s
AKASG Malin Array Be 73.69 339 *i* P **P 02 51 04.6 -0.8**
comp=Z,16nm,0.7s,mb5.1
WAR Warsaw 73.81 344 *e*P **P 02 51 06.5 +0.4**
WAR *e*pP pP 02 51 14.7 -0.9
WAR *e*PcP PcP 02 51 19.9 -1.7
WAR *e*S S 03 00 35.5 0.0
WAR *e*SKS 03 01 14.2
PMOR Pomariorio Ree 73.85 144 *e*P **P 02 51 07.8 +1.5**
comp=Z,168nm,1.2s,mb5.8
DMUB Kingscourt 74.20 2⇑ *i*P **P 02 51 08.7 +0.3**
KSM Kuching 74.23 251 *e*P **P 02 51 09.7 +1.1**
DZM Mont Dzumac 74.47 189 *e*P **P 02 51 12.0 +2.1**
DZM Mont Dzumac 74.47 189 S S 03 00 43.2 +0.2
comp=Z,3.7nm,0.9s,baz=297,slow=22,SNR=2.2
DZM LR LR 03 16 25.1
comp=Z,5μm,21.7s,MS5.8,baz=21,slow=30
NOUC Port Laguerre 74.52 189 *e*P **P 02 51 11.7 +1.5**
NOUC Port Laguerre 74.52 189 *e*P **P 02 51 11.7 +1.5**
RUE Ruedersdorf 74.61 349 *e*P **P 02 51 10.2 -0.6**
comp=Z,43nm,1.0s,mb5.3
RUE *e*S S 03 00 41.8 -2.6
DCN Croghan 74.75 2 *e*P **P 02 51 11.8 +0.2**
DLF Lyons Farm 74.81 2⇑ *i*P **P 02 51 12.1 +0.1**
KAKA Kakadu 74.85 224 *e*P **P 02 51 11.9 -0.2**
comp=Z,208nm,1.1s,mb6.0
DSB Dublin 74.87 2 *e*P **P 02 51 12.6 +0.4**
comp=Z,34nm,0.9s,mb5.3
OXX Oaxaca 74.95 82 *e*P **P 02 51 15.0 +2.3**
WIT Witteveen 74.95 353 *e*P **P 02 51 15.8 +3.1**
comp=Z,157nm,1.8s,mb5.6

WIT				*i* x	x	02 51 22.1	
	comp=Z,374nm,2.2s						
VHO	**Vista Hermosa**	**74.95**	**82**	*i* P	**P**	**02 51 15.6**	**+2.9**
NRDL	**Niedersach Rie**	**74.98**	**351**	*e*P	**P**	**02 51 12.3**	**-0.6**
	comp=Z,124nm,1.8s,mb5.5						
NRDL				*e*S	S	03 00 47.9	-0.7
GOF	**Gofitskoye**	**75.03**	**328**	⇑*i*P	**P**	**02 51 12.6**	**-0.6**
GOF				*i* S	S	03 00 50.8	+1.7
GOF				pmax	pmax		
	comp=Z,190nm,0.8s,mb6.1						
GOF				smax			
	comp=N,40nm,1.2s						
GOF				smax			
	comp=E,60nm,1.2s						
GOF	**Gofitskoye**	**75.03**	**328**	⇑*i*P	**P**	**02 51 12.6**	**-0.6**
	comp=E,190nm,0.8s,mb6.1						
GOF				*i* S	S	03 00 50.8	+1.7
BLSP	**Bilaspur**	**75.20**	**287**	*e*P	**P**	**02 51 13.0**	**-1.2**
ABKT	**Ailbek**	**75.28**	**314**	P	**P**	**02 51 15.5**	**+0.9**
	comp=E,281nm,0.9s,mb6.2,SNR=16						
ABKT	**Ailbek**	**75.28**	**314**	P	**P**	**02 51 15.2**	**+0.6**
MAK	**Makhachkala**	**75.31**	**324**	*e*P	**P**	**02 51 14.8**	**0.0**
MAK				*e*PPP		02 55 54.5	
MAK				*e*S	S	03 00 55.1	+2.8
MAK				pmax	pmax		
	comp=Z,255nm,1.6s,mb5.9						
MAK				MLR	MLR		
	comp=Z,13μm,24.0s,MS6.2						
MAK				MLR	MLR		
	comp=N,18μm,22.0s,MS6.5						
MAK				MLR	MLR		
	comp=E,21μm,19.0s,MS6.5						
MAK	**Makhachkala**	**75.31**	**324**	*e*P	**P**	**02 51 14.8**	**0.0**
	comp=E,255nm,1.6s,mb5.9						
MAK				*e*PPP		02 55 54.5	
MAK				*e*S	S	03 00 55.1	+2.8
MAK				LR	LR		
	comp=Z,13μm,24.0s,MS6.2						
DWPF	**Disney**	**75.36**	**63**	PFAKE		02 51 30.0	+15
DWPF				LR	LR		
	comp=Z,17μm,19.0s,MS6.4						
IBBN	**Ibbenburen**	**75.37**	**353**	*e*P	**P**	**02 51 15.0**	**-0.2**
	comp=Z,131nm,0.9s,mb5.9						
LVV	**L'vov**	**75.60**	**342**	*e*P	**P**	**02 51 10.2**	**-6.3**
LVV				*i* S	S	03 00 50.4	-5.1
LVV				*i* PS		03 01 52.4	
CLZ	**Clausthal**	**75.61**	**351**	*e*P	**P**	**02 51 16.4**	**-0.1**
	comp=Z,66nm,0.9s,mb5.6						
CLZ				*e*S	S	03 00 55.5	0.0
CLZ	**Clausthal**	**75.61**	**351**	*e*P	**P**	**02 51 16.4**	**-0.1**
CLZ				*e*SS	S	03 00 55.5	0.0
CLZ				pmax	pmax		
	comp=Z,66nm,0.9s,mb5.6						
PPT	**Papeete**	**75.63**	**146**	*e*P	**P**	**02 51 18.1**	**+1.5**
	comp=Z,57nm,1.2s,mb5.4						
PPT	**Papeete**	**75.63**	**146**	*e*S	S	03 00 55.3	-0.5
	comp=Z,26μm,29.0s						
PPT				*e*SS	SS	03 05 47.8	+0.6
	comp=Z,5μm,25.5s						
PPT				*e*LQ		03 10 44.5	
	comp=Z,27μm,29.8s						
PPT				*e*LR	LR	03 14 20.0	
	comp=Z,19μm,28.2s,baz=344						
PPT	**Papeete**	**75.63**	**146**	P	**P**	**02 51 17.8**	**+1.1**
	comp=Z,20nm,0.5s,mb5.3,baz=350,slow=2.7,SNR=3.3						
PPT				S	S	03 00 59.8	+4.0
	comp=Z,6.0nm,0.3s,baz=183,slow=18,SNR=1.7						
PPT				LR	LR	03 21 16.5	
	comp=Z,7μm,18.7s,MS6.0,baz=17,slow=33						
PPT	**Papeete**	**75.63**	**146**	P	**P**	**02 51 17.8**	**+1.2**
PPT				S	S	03 00 59.8	+4.0
JBP	**Jabalpur**	**75.66**	**289**	⇓*i*P	**P**	**02 51 16.8**	**0.0**
JBP				*e*x	x	02 51 28.3	
	comp=Z,135nm,1.6s						
JBP				*e*x	x	03 00 54.7	
PAE	**Paea**	**75.72**	**146**	*e*P	**P**	**02 51 18.4**	**+1.3**
	comp=Z,144nm,1.2s,mb5.8						
WTSB	**Winterswijk**	**75.78**	**353**	*e*P	**P**	**02 51 19.1**	**+1.6**
	comp=Z,18nm,1.0s,mb5.0						
WTSB				*i* x	x	02 51 27.0	
	comp=Z,74nm,0.8s						
CLL	**Collm**	**75.85**	**349**	*e*P	**P**	**02 51 16.0**	**-1.9**
	comp=Z,46nm,2.3s,mb5.0						
CLL				*e*pP	pP	02 51 26.0	-1.4
CLL				*e*		02 53 03.5	
CLL				*e*PPP		02 55 54.5	
CLL				*e*S	S	03 00 56.3	-1.9
CLL				*e*PPS		03 01 55.4	
CLL				*e*SS	SS	03 05 53.1	+2.5
CLL				*e*SSS		03 09 30.0	
CLL				*e*LR	LR	03 15 58.7	
CLL				*e*L		03 21 25.3	
	comp=Z,6μm,22.0s						
CLL	**Collm**	**75.85**	**349**	⇓*i*P	**P**	**02 51 16.8**	**-1.1**
	comp=Z,44nm,2.3s,mb5.0						
CLL				*i* sP	sP	02 51 26.6	-4.3
	comp=Z,74nm,1.9s						
CLL				*e*x	x	02 51 38.0	
	comp=Z,147nm,2.0s						
CLL				*e*PPP		02 55 54.0	
CLL				*e*S	S	03 00 53.0	-5.2
CLL				*e*PPS		03 01 57.0	
CLL				*e*x	x	03 02 42.0	
CLL				*e*SS	SS	03 05 52.0	+1.4
CLL				*e*SSSS		03 11 36.0	
CLL				LmV		03 21 00.0	
	comp=Z,6μm,21.5s						
CLL				LmH		03 25 00.0	
	comp=N,4μm,19.1s						
CLL				LmH		03 25 00.0	
	comp=E,5μm,19.8s						
CLL	**Collm**	**75.85**	**349**	⇓*i*P	**P**	**02 51 16.8**	**-1.1**
CLL				*i*	pP	02 51 26.6	-0.8
CLL				*e*S	S	03 00 53.0	-5.2
CLL				pmax	pmax		
	comp=Z,44nm,2.3s,mb5.0						
CLL				MLR	MLR		
	comp=Z,6μm,21.5s,MS5.9						
CLL	**Collm**	**75.85**	**349**	⇓*i*P	**P**	**02 51 16.8**	**-1.1**
	comp=Z,44nm,2.3s,mb5.0						
CLL				*i*	pP	02 51 26.6	-0.8
CLL				*e*		02 51 38.0	
CLL				*e*S	S	03 00 53.0	-5.2
CLL				LR	LR		
	comp=Z,6μm,21.5s,MS5.9						
KSP	**Ksiaz**	**75.89**	**347**	*e*P	**P**	**02 51 17.6**	**-0.5**
KSP				*e*pP	pP	02 51 27.1	-0.5
KSP				*e*PcP	PcP	02 51 38.5	+8.0
KSP				*e*S	S	03 00 54.8	-3.9
KSP				*e*SS	SS	03 06 03.0	+12
KSP	**Ksiaz**	**75.89**	**347**	*e*P	**P**	**02 51 17.9**	**-0.2**
KSP				*e**PP	pP	02 51 26.0	-1.6
KSP				*e*S	S	03 00 51.0	-7.7
KSP				MLR	MLR		
	comp=Z,9μm,21.3s,MS6.0						
KSP	**Ksiaz**	**75.89**	**347**	*e*P	**P**	**02 51 17.9**	**-0.2**
KSP				*e*pP	pP	02 51 26.0	-1.6
KSP				*e*		02 51 37.4	
KSP				*e*S	S	03 00 51.0	-7.7
KSP				LR	LR		
	comp=Z,9μm,21.3s,MS6.0						
GTTG	**Gvttingen**	**75.94**	**351**	*e*P	**P**	**02 51 18.0**	**-0.4**
	comp=Z,93nm,1.7s,mb5.4						
TVO	**Taravao**	**75.94**	**146**	*e*P	**P**	**02 51 20.0**	**+1.6**
	comp=Z,86nm,0.9s,mb5.7						
OJC	**Ojcow**	**75.97**	**345**	*e*P	**P**	**02 51 18.4**	**-0.2**
OJC				*e*pP	pP	02 51 27.9	-0.2
OJC				*e*sP	sP	02 51 32.2	+0.6
OJC				*e*S	S	03 00 58.7	-0.8
OJC				*e*SKSac	SKSac	03 01 24.0	-3.1
OJC				L		03 25 57.8	
	comp=Z,28nm,22.0s						
KWP	**Kalwaria**	**76.03**	**343**	*e*P	**P**	**02 51 19.3**	**+0.4**
KWP				*e*pP	pP	02 51 27.3	-1.1
KWP				*e*PcP	PcP	02 51 32.1	+1.0
KWP				*e*S	S	03 01 02.9	+2.7
VAL	**Valentia**	**76.06**	**4**	*e*P	**P**	**02 51 19.5**	**+0.4**
CMIG	**Matias Romero**	**76.06**	**80**	*i* P	**P**	**02 51 19.0**	**-0.1**
RAR	**Rarotonga**	**76.10**	**157**	LR	LR	03 22 46.1	
	comp=Z,7μm,18.1s,MS6.0,baz=357,slow=34						
KIV	**Kislovodsk**	**76.12**	**327**	P	**P**	**02 51 20.9**	**+1.5**
	comp=Z,176nm,1.0s,mb6.0,SNR=8.7						
KIV	**Kislovodsk**	**76.12**	**327**	*d*i P	**P**	**02 51 19.9**	**+0.5**
KIV				*e*		02 51 32.6	
KIV				*e*		02 54 10.5	
KIV				*e*PPP		02 55 57.7	
KIV				*e*S	S	03 01 01.5	+0.3
KIV				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.3						
KIV	**Kislovodsk**	**76.12**	**327**	*i* Pr	**P**	**02 51 19.9**	**+0.5**
	comp=Z,52nm,1.2s,mb5.3						
KIV				*e*		02 51 32.6	
KIV				*e*		02 54 10.5	
KIV				*e*PPP		02 55 57.7	
KIV				*e*S	S	03 01 01.5	+0.3
AJM	**Ajmer**	**76.13**	**295**	*e*P	**P**	**02 51 21.1**	**+1.7**
AJM				AMb	AMB	02 51 27.6	
	comp=Z,130nm,1.3s,mb5.7						
AJM				AMS	AMS	03 29 06.1	
	comp=Z,3μm,22.1s,MS5.6						
BRG	**Berggiesshubel**	**76.17**	**348**	*e*P	**P**	**02 51 18.9**	**-0.8**
	comp=Z,84nm,1.8s,mb5.4						
BRG				*e*S	S	03 01 00.6	-1.1
BRG	**Berggiesshubel**	**76.17**	**348**	*e*P	**P**	**02 51 19.1**	**-0.6**
	comp=Z,4.7nm,1.1s						
BRG				*i*		02 51 46.4	
	comp=Z,46nm,1.7s						
BRG				S	S	03 01 03.0	+1.3
BRG				SS	SS	03 06 00.0	+4.6
BRG							
	comp=N,3μm,23.0s						
BRG							
	comp=E,2μm,21.4s						
BRG							
	comp=Z,3μm,21.5s						
BRG	**Berggiesshubel**	**76.17**	**348**	*e*P	**P**	**02 51 19.1**	**-0.6**
	comp=Z,4.7nm,1.1s						
BRG				*i*		02 51 46.4	
	comp=Z,46nm,1.7s						
BRG				S	S	03 01 03.0	+1.3
BRG				SS	SS	03 06 00.0	+4.6
BRG							
	comp=N,3μm,23.0s						
BRG							
	comp=E,2μm,21.4s						
BRG							
	comp=Z,3μm,21.5s						
BRG	**Berggiesshubel**	**76.17**	**348**	*e*P	**P**	**02 51 19.1**	**-0.6**
BRG				S	S	03 01 03.0	+1.3
BRG				SS	SS	03 06 00.0	+4.6
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BRG				pmax	pmax		
	comp=Z,46nm,1.7s,mb5.1						
BRG				MLR	MLR		
	comp=N,3μm,23.0s,MS5.6						
BRG				MLR	MLR		
	comp=E,2μm,21.4s,MS5.6						
BRG				MLR	MLR		
	comp=Z,3μm,21.5s,MS5.6						
BRG	**Berggiesshubel**	**76.17**	**348**	*e*P	**P**	**02 51 19.1**	**-0.6**
	comp=Z,4.7nm,1.1s						
BRG				*i*		02 51 46.4	
BRG				S	S	03 01 03.0	+1.3
BRG				SS	SS	03 06 00.0	+4.6
BRG				LR	LR		
	comp=Z,3μm,21.5s,MS5.6						
FBE	**Freiberg**	**76.19**	**349**	*e*P	**P**	**02 51 19.3**	**-0.5**
	comp=Z,64nm,1.3s,mb5.4						
UPC	**Upice**	**76.26**	**347**	*e*P	**P**	**02 51 22.2**	**+2.0**
UPC				*e*pP	pP	02 51 27.9	-1.8
BUG	**Bochum--Univer**	**76.27**	**353**	*e*P	**P**	**02 51 19.8**	**-0.5**
	comp=Z,62nm,1.1s,mb5.5						
BUG				*e*S	S	03 01 02.7	-0.1
RAC	**Raciborz**	**76.36**	**346**	*e*P	**P**	**02 51 21.4**	**+0.6**
RAC				*e*pP	pP	02 51 30.6	+0.3
RAC				L		03 27 25.4	
	comp=Z,6.3nm,22.0s						
DPC	**Dobruska-Polom**	**76.37**	**347**	*e*P	**P**	**02 51 21.1**	**+0.3**
DPC				*e*pP	pP	02 51 28.2	-2.1
DPC				*e*S	S	03 01 02.0	-1.9
DPC				AMS	AMS	03 36 40.0	
	comp=Z,5μm,17.1s						
PVCC	**Panska Ves**	**76.43**	**348**	*e*P	**P**	**02 51 21.0**	**-0.2**
PVCC				*e*pP	pP	02 51 29.2	-1.5
PVCC				*e*S	S	03 01 01.7	-2.9
PVCC				AMS	AMS	03 30 00.0	
	comp=Z,6μm,20.2s						
CTA	**Charters Tower**	**76.59**	**209**	*e*P	**P**	**02 51 21.3**	**-0.8**
	comp=Z,53nm,0.9s,mb5.5						
CTA	**Charters Tower**	**76.59**	**209**	P	**P**	**02 51 22.7**	**+0.6**
	comp=Z,26nm,1.0s,mb5.1,baz=5.2,slow=7.5,SNR=5.6						
CTA	**Charters Tower**	**76.59**	**209**	P	**P**	**02 51 22.7**	**+0.6**
CTA				pmax	pmax		
	comp=Z,26nm,1.0s						
CTAO	**Charters Tower**	**76.59**	**209**	*e*P	**P**	**02 51 22.9**	**+0.8**
	comp=Z,75nm,0.9s,mb5.6						
CTAO				LR	LR		
	comp=Z,5μm,20.0s,MS5.8						
OKC	**Ostrava-Krasne**	**76.60**	**346**	*e*P	**P**	**02 51 22.6**	**+0.4**
OKC				*e*pP	pP	02 51 30.7	-1.0
OKC				AMS	AMS	03 36 50.0	
	comp=Z,4μm,16.6s						
OKC	**Ostrava-Krasne**	**76.60**	**346**	*e*P	**P**	**02 51 22.6**	**+0.4**
OKC				*e*	pP	02 51 30.7	-1.0
NIE	**Niedzica**	**76.66**	**344**	*e*P	**P**	**02 51 23.4**	**+0.9**
MOX	**Moxa**	**76.66**	**350**	*e*P	**P**	**02 51 22.0**	**-0.5**
	comp=Z,26nm,1.0s,mb5.1						
MOX	**Moxa**	**76.66**	**350**	*e*P	**P**	**02 51 22.6**	**+0.1**
MOX				*e*	pP	02 51 30.9	-1.1
MOX							
	comp=Z,2μm,21.0s						
MORC	**Moravsky Berou**	**76.75**	**346**	*e*P	**P**	**02 51 25.2**	**+2.2**
MORC				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.5						
MORC	**Moravsky Berou**	**76.75**	**346**	*e*P	**P**	**02 51 25.1**	**+2.1**
	comp=Z,102nm,1.5s,mb5.5						
ZEI	**Tsey**	**76.76**	**326**	*e*P	**P**	**02 51 23.8**	**+0.7**
ZEI				*e**PP	pP	02 51 31.4	-1.1
ZEI				*e*		02 54 13.6	
ZEI				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.3						
ZEI	**Tsey**	**76.76**	**326**	*e*P	**P**	**02 51 23.8**	**+0.7**
ZEI				*e*pP	pP	02 51 31.4	-1.1
ZEI				*e*		02 54 13.6	
WERD	**Werda**	**76.78**	**349**	*e*P	**P**	**02 51 22.8**	**-0.4**
	comp=Z,74nm,1.8s,mb5.3						
TANN	**Tannenbergstha**	**76.79**	**349**	*e*P	**P**	**02 51 23.0**	**-0.3**
	comp=Z,73nm,1.9s,mb5.3						
TANN				*e*S	S	03 01 05.6	-3.0
PRU	**Pruhonice**	**76.96**	**348**	*e*P	**P**	**02 51 24.1**	**-0.1**
PRU				*e*pP	pP	02 51 31.7	-2.0
PRU				*e*S	S	03 01 09.2	-1.2
PRU				AMS	AMS	03 30 30.0	
	comp=Z,5μm,19.2s						
KULM	**Kulim**	**76.96**	**262**	*e*P	**P**	**02 51 25.8**	**+1.6**
NKC	**Novy Kostel**	**76.97**	**349**	*e*P	**P**	**02 51 23.9**	**-0.4**
NKC				*e*pP	pP	02 51 31.5	-2.3
NKC				*e*S	S	03 01 07.7	-2.8
NKC				AMS	AMS	03 33 30.0	
	comp=Z,4μm,16.2s						
NKC	**Novy Kostel**	**76.97**	**349**	*e*P	**P**	**02 51 23.9**	**-0.4**
NKC				*e*	pP	02 51 31.5	-2.3
NKC				*e*S	S	03 01 07.7	-2.8
ANN	**Anapa**	**77.01**	**331**	*e*P	**P**	**02 51 22.7**	**-1.8**
ANN				*i **PP	pP	02 51 33.6	-0.4
ANN				*e*		02 54 16.2	
ANN				*e*S	S	03 01 09.2	-1.7
ANN				*e*SS	SS	03 06 10.2	+2.1
ANN				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.0						
ANN	**Anapa**	**77.01**	**331**	*e*P	**P**	**02 51 22.7**	**-1.8**
	comp=Z,29nm,1.5s,mb5.0						
ANN				*i* pP	pP	02 51 33.6	-0.4
ANN				*e*		02 54 16.2	
ANN				*e*S	S	03 01 09.2	-1.7
ANN				*e*SS	SS	03 06 10.2	+2.1
BEBN	**Eben Emael**	**77.03**	**354**	E	pP	02 51 33.2	-0.9
BEBN				XP	sP	02 51 39.0	+1.5
BEBN				PKP		03 17 54.3	
BEBN				PKPbc		03 17 59.5	
BEBN				PKPab		03 18 05.4	
HGN	**Heimansgroeve**	**77.04**	**354**	*e*P	**P**	**02 51 24.5**	**-0.2**
	comp=Z,19nm,2.2s,mb4.6						
HGN				*i* x	pP	02 51 33.5	-0.7
	comp=Z,95nm,2.2s						
HGN				*e*S	S	03 00 52.3	-19
HGN				ScSP	ScS	03 01 42.0	+2.4
HGN				*e*x	x	03 02 28.9	
HGN				*e*SS	SS	03 06 34.7	+26
BHPL	**Bhopal**	**77.08**	**291**	*e*P	**P**	**02 51 25.2**	**+0.4**
BHPL				AMb	AMB	02 51 41.6	
	comp=Z,200nm,1.3s,mb5.9						
BHPL				AMS	AMS	03 29 05.5	
	comp=Z,5μm,20.5s,MS5.8						
BHPL				AMS	AMS	03 29 19.7	
	comp=E,4μm,20.4s						
UCC	**Uccle**	**77.11**	**355**	P	**P**	**02 51 26.1**	**+1.1**
UCC				PCP	PcP	02 51 32.8	-3.0
MEM	**Membach**	**77.19**	**354**	P	**P**	**02 51 21.4**	**-4.1**
MEM				PCP	PcP	02 51 34.4	-1.7
MEM				AP	pP	02 51 35.6	+0.7
MEM				XP	sP	02 51 39.7	+1.2
MANZ	**Manzenberg**	**77.26**	**350**	*e*P	**P**	**02 51 25.5**	**-0.4**
	comp=Z,15nm,1.1s,mb4.8						
MANZ				*e*S	S	03 01 12.6	-1.0
KIS	**Kishinev**	**77.26**	**338**	*e*P	**P**	**02 51 24.0**	**-1.9**
KIS				*e*	pP	02 51 32.0	-3.4
KIS				*e*		02 54 26.0	
KIS				*e*S	S	03 01 14.0	+0.4
KIS				*e*PS		03 01 33.0	
KIS				*e*SS	SS	03 06 17.0	+5.1
KIS				MLR	MLR		
	comp=N,7μm,20.0s,MS6.1						
KIS				MLR	MLR		
	comp=E,7μm,20.0s,MS6.1						
KIS				MLR	MLR		
	comp=Z,8μm,20.0s,MS6.0						
KIS				MLR	MLR		
	comp=Z,10μm,20.0s						
KIS	**Kishinev**	**77.26**	**338**	*e*P	**P**	**02 51 24.0**	**-1.9**
KIS				*e*	pP	02 51 32.0	-3.4
KIS				*e*		02 54 26.0	
KIS				*e*S	S	03 01 14.0	+0.4
KIS				*e*PS		03 01 33.0	
KIS				*e*SS	SS	03 06 17.0	+5.1
KIS				LR	LR		
	comp=Z,8μm,20.0s,MS6.0						
VRAC	**Vranov**	**77.35**	**346**	⇓P	**P**	**02 51 27.5**	**+1.1**
VRAC	**Vranov**	**77.35**	**346**	P	**P**	**02 51 26.9**	**+0.6**
IAS	**Iasi**	**77.36**	**339**	P	**P**	**02 51 27.0**	**+0.6**
TBLG	**Delisi**	**77.38**	**325**	P	**P**	**02 51 27.7**	**+1.1**
TNS	**Taunus Mts**	**77.39**	**352**	*e*P	**P**	**02 51 26.2**	**-0.4**
	comp=Z,38nm,0.8s,mb5.4						
TNS	**Taunus Mts**	**77.39**	**352**	*e*P	**P**	**02 51 26.2**	**-0.4**
TNS				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.4						
SNF	**Seneffe**	**77.40**	**355**	P	**P**	**02 51 25.2**	**-1.5**
SNF				PCP	PcP	02 51 34.6	-2.4
SNF				AP	pP	02 51 37.1	+0.9
SNF				XP	sP	02 51 40.9	+1.2
SOC	**Sochi**	**77.41**	**329**	*i* P	**P**	**02 51 26.7**	**0.0**
SOC				*e**PP	pP	02 51 33.7	-2.5
SOC				*e*		02 54 23.5	
SOC				*e*PPP		02 56 10.0	
SOC				*i* S	S	03 01 14.7	-0.6
SOC				*e*		03 01 42.2	
SOC				*e*SS	SS	03 06 21.8	+7.6
ROTZ	**Rotzenmuhle**	**77.46**	**349**	*e*P	**P**	**02 51 26.9**	**-0.1**
	comp=Z,78nm,1.9s,mb5.3						
ROTZ				*e*S	S	03 01 15.3	-0.5
BURAR	**Bucovina Array**	**77.47**	**340**	⇓P	**P**	**02 51 27.6**	**+0.6**
TREC	**Trest**	**77.52**	**347**	*e*P	**P**	**02 51 27.3**	**0.0**
TREC				*e*pP	pP	02 51 35.2	-1.6
TREC				AMS	AMS	03 36 30.0	
	comp=Z,4μm,16.8s						
TEIG	**Tepich**	**77.59**	**73**	*e*P	**P**	**02 51 28.5**	**+0.8**
GRA1	**Grafenberg Arr**	**77.64**	**350**	*e*P	**P**	**02 51 28.0**	**0.0**
	comp=Z,51nm,1.1s,mb5.4						
GRA1				*e*pP	pP	02 51 36.5	-1.0
GRA1				*e*SS	S	03 01 18.6	+0.8
GRA1				*e*SSS		03 06 38.0	
GRA1				LR	LR		
	comp=Z,4μm,19.5s,MS5.8						
GRF	**Grafenberg Arr**	**77.64**	**350**	*e*P	**P**	**02 51 28.0**	**0.0**
	comp=Z,51nm,1.1s,mb5.4						
GRF				*e*pP	pP	02 51 36.5	-1.0
GRF				*e*S	S	03 01 18.6	+0.8
GRF				*e*SS	SS	03 06 38.0	+20
GRF				*e*L		03 32 47.8	
	comp=Z,4μm,19.5s						
GRF	**Grafenberg Arr**	**77.64**	**350**	*e*P	**P**	**02 51 28.0**	**0.0**
GRF				*e**PP	pP	02 51 36.5	-1.0
GRF				*e*S	S	03 01 18.6	+0.8
GRF				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.4						
GRF	**Grafenberg Arr**	**77.64**	**350**	*e*P	**P**	**02 51 28.0**	**0.0**
GRF				*e**PP	pP	02 51 36.5	-1.0
GRF				*e*SS	S	03 01 18.6	+0.8
GRF				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.4						
GRF				MLR	MLR		
	comp=Z,4μm,19.5s,MS5.8						
GIVF	**Givet**	**77.77**	**354**	*e*P	**P**	**02 51 28.1**	**-0.6**
	comp=Z,124nm,1.2s,mb5.4						
GIVF	**Givet**	**77.77**	**354**	*e*P	**P**	**02 51 28.1**	**-0.6**
GIVF				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.4						
GIVF	**Givet**	**77.77**	**354**	*e*P	**P**	**02 51 28.1**	**-0.6**
	comp=Z,62nm,1.2s,mb5.4						
DOU	**Dourbes**	**77.79**	**354**	P	**P**	**02 51 29.1**	**+0.3**
DOU				PCP	PcP	02 51 36.7	-2.0
DOU				AP	pP	02 51 39.1	+0.7
SIM	**Simferopol'**	**77.82**	**333**	P	**P**	**02 51 29.0**	**0.0**
SIM				*e*S	S	03 01 22.0	+2.3
SIM				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
SIM				pmax	pmax		
	comp=Z,150nm,10.0s						
SIM				MLR	MLR		
	comp=Z,6μm,18.0s,MS6.0						
SIM	**Simferopol'**	**77.82**	**333**	P	**P**	**02 51 29.0**	**0.0**
	comp=Z,21nm,0.8s,mb5.1						
SIM				*e*S	S	03 01 22.0	+2.3
SIM				LR	LR		
	comp=Z,6μm,18.0s,MS6.0						
BAIF	**Baives**	**77.85**	**355**	*e*P	**P**	**02 51 28.9**	**-0.3**
	comp=Z,233nm,1.5s,mb5.6						
BAIF	**Baives**	**77.85**	**355**	*e*P	**P**	**02 51 28.9**	**-0.3**
BAIF				pmax	pmax		
	comp=Z,117nm,1.5s,mb5.6						
BAIF	**Baives**	**77.85**	**355**	*e*P	**P**	**02 51 28.9**	**-0.3**
	comp=Z,116nm,1.5s,mb5.6						
VIS	**Vishakhapatnam**	**77.89**	**283**	*e*P	**P**	**02 51 29.9**	**+0.5**
VIS				AMb	AMB	02 51 33.7	
	comp=Z,71nm,2.2s,mb5.2						
VIS				*e*S	S	03 01 21.1	+0.6
TOD	**Tromm**	**77.97**	**352**	*e*P	**P**	**02 51 30.0**	**+0.2**
WET	**Wettzell**	**78.00**	**349**	*e*P	**P**	**02 51 29.9**	**-0.1**
	comp=Z,90nm,2.0s,mb5.3						
WET	**Wettzell**	**78.00**	**349**	*e*P	**P**	**02 51 29.9**	**-0.1**
WET				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.3						
RUP	**Ruppelstein**	**78.02**	**353**	*e*P	**P**	**02 51 31.7**	**+1.6**
WLF	**Walferdange**	**78.12**	**353**	*e*P	**P**	**02 51 30.8**	**+0.1**
	comp=Z,33nm,0.9s,mb5.3						
WLF	**Walferdange**	**78.12**	**353**	P	**P**	**02 51 31.4**	**+0.7**
WLF				PCP	PcP	02 51 39.4	-0.8
WLF

CCIG	Comitan	78.34	79	*i* P	P	02 51 29.3 +2.6
ZST	Bratislava	78.36	346	*e*P	P	02 51 33.5 +1.5
SOR	Soroa	78.64	68	*e*P	P	02 51 33.2 -0.3
BCA	Borcka	78.71	327	*e*P	P	02 51 30.9 -3.0
BUD	Budapest	78.75	344⇓	*e*P	P	02 51 35.2 +1.1
DRGR		78.76	342	⇓P	P	02 51 34.8 +0.6
DRGR		78.76	342	P	P	02 51 34.7 +0.5
STU	Stuttgart	78.76	351	*e*P	P	02 51 33.6 -0.6
	comp=Z,29nm,0.9s,mb5.2					
STU				*e*S	S	03 01 29.7 -0.1
STU	Stuttgart	78.76	351	P	P	02 51 35.1 +0.9
STU				*e*	pP	02 51 42.6 -1.1
STU				pmax	pmax	
	comp=Z,34nm,1.0s,mb5.2					
STU	Stuttgart	78.76	351	P	P	02 51 35.1 +0.9
	comp=Z,34nm,1.0s,mb5.2					
STU				*e*	pP	02 51 42.6 -1.1
GNI	Garni	78.77	324	*e*P	P	02 51 33.0 -1.3
GNI	Garni	78.77	324	P	P	02 51 36.8 +2.6
	SNR=23					
GNI	Garni	78.77	324	*e*P	P	02 51 36.5 +2.2
CONA	Conrad Observa	78.80	347⇓	*i*P	P	02 51 35.0 +0.6
	comp=Z,17nm,1.0s,mb4.9,SNR=15					
CONA				⇓*i*pP	pP	02 51 44.5 +0.6
	comp=Z,40nm,1.1s					
VRI	Vrincioaia	78.80	339	⇓P	P	02 51 37.1 +2.7
PLOR	Plostina	78.84	339	⇓P	P	02 51 39.7 +5.1
ARTV	Artvin	78.84	327	*i* P	P	02 51 35.1 +0.5
SOP	Sopron	78.94	346⇓	*e*P	P	02 51 35.9 +0.7
DIGO	Kars	79.03	325	*i* P	P	02 51 36.5 +0.9
MOA	Molln	79.10	348⇓	*i*	pP	02 51 46.9 +1.4
	comp=Z,14nm,0.8s					
MOA	Molln	79.10	348⇑	*e*P	P	02 51 36.6 +0.6
	comp=Z,8.5nm,1.3s,mb4.5					
MOA				⇓*i*pP	pP	02 51 46.9 +1.4
	comp=Z,14nm,0.8s					
CFR	Carcaliu	79.13	338	⇑P	P	02 51 38.3 +2.1
FUR	Furstenfeldbru	79.14	350	*e*P	P	02 51 36.1 -0.2
	comp=Z,124nm,1.8s,mb5.5					
FUR	Furstenfeldbru	79.14	350	*e*P	P	02 51 36.1 -0.2
FUR				pmax	pmax	
	comp=Z,124nm,1.8s,mb5.5					
BFO	Black Forest	79.27	352	*e*P	P	02 51 36.6 -0.4
	comp=Z,121nm,1.8s,mb5.5					
BFO				*e*S	S	03 01 35.0 -0.3
BFO	Black Forest	79.27	352	P	P	02 51 36.7 -0.3
WLS	Welschbruch	79.27	352	*e*P	P	02 51 36.7 -0.3
CDF	Champ du Feu	79.28	352	*e*P	P	02 51 36.5 -0.5
	comp=Z,45nm,0.9s,mb5.1					
CDF	Champ du Feu	79.28	352	*e*P	P	02 51 36.5 -0.5
CDF				pmax	pmax	
	comp=Z,22nm,0.9s,mb5.1					
CDF	Champ du Feu	79.28	352	*e*P	P	02 51 36.5 -0.5
	comp=Z,22nm,0.9s,mb5.1					
AKL	Akola	79.30	290	*e*x	pP	02 51 44.7 -2.0
AKL				AMb	AMB	02 51 49.0
	comp=Z,94nm,1.2s,mb5.6					
MLR	Muntele Rosu	79.33	339	P	P	02 51 37.8 +0.4
	comp=Z,10nm,0.8s,mb4.8,baz=94,slow=4.3,SNR=14					
MLR				S	S	03 01 35.1 -0.8
	comp=Z,1.2nm,0.6s,baz=217,slow=13,SNR=1.8					
MLR				LR	LR	03 30 01.3
	comp=Z,6μm,20.2s,MS5.9,baz=23,slow=38					
MLR	Muntele Rosu	79.33	339	⇓P	P	02 51 39.2 +1.9
MLR	Muntele Rosu	79.33	339	P	P	02 51 38.7 +1.4
FLN	La Foliniere	79.34	358	*e*P	P	02 51 36.6 -0.8
	comp=Z,103nm,0.9s,mb5.5					
FLN				*e*R		
	comp=Z,7μm,19.8s					
FLN	La Foliniere	79.34	358	*e*P	P	02 51 36.6 -0.8
FLN				pmax	pmax	
	comp=Z,52nm,0.9s,mb5.5					
FLN				MLR	MLR	
	comp=Z,7μm,19.8s,MS6.0					
FLN	La Foliniere	79.34	358	*e*P	P	02 51 36.6 -0.8
	comp=Z,52nm,0.9s,mb5.5					
FLN				LR	LR	
	comp=Z,7μm,19.8s,MS6.0					
MEZF	Maizieres J'vi	79.35	354	*e*P	P	02 51 37.4 0.0
	comp=Z,88nm,1.0s,mb5.3					
MEZF	Maizieres J'vi	79.35	354	*e*P	P	02 51 37.4 0.0
	comp=Z,88nm,1.0s,mb5.6					
ECH	Echery	79.48	353	*e*P	P	02 51 37.1 -1.1
LDF	La Druitiere	79.50	357	*e*P	P	02 51 37.4 -0.8
	comp=Z,89nm,0.8s,mb5.4					
LDF	La Druitiere	79.50	357	*e*P	P	02 51 37.4 -0.8
LDF				pmax	pmax	
	comp=Z,45nm,0.8s,mb5.5					
LDF	La Druitiere	79.50	357	*e*P	P	02 51 37.4 -0.8
	comp=Z,45nm,0.8s,mb5.5					
ARSA	Arzberg	79.51	347⇑	*i*	pP	02 51 47.9 +0.1
	comp=Z,36nm,1.0s					
ARSA	Arzberg	79.51	347⇓	*i*P	P	02 51 39.0 +0.7
	comp=Z,13nm,1.0s,mb4.8,SNR=9.9					
ARSA				⇑*i*pP	pP	02 51 47.9 +0.1
	comp=Z,36nm,1.0s					
ISR	Istrita	79.56	339	⇓P	sP	02 51 51.5 -0.1
THEF	They Montfort	79.56	353	*e*P	P	02 51 38.2 -0.4
VOIR		79.58	340	⇑P	P	02 51 40.0 +1.3
GRR	Gorron	79.72	358	*e*P	P	02 51 38.9 -0.5
	comp=Z,116nm,0.8s,mb5.5					
GRR	Gorron	79.72	358	*e*P	P	02 51 38.9 -0.5
GRR				pmax	pmax	
	comp=Z,58nm,0.8s,mb5.6					
GRR	Gorron	79.72	358	*e*P	P	02 51 38.9 -0.5
	comp=Z,58nm,0.8s,mb5.6					
TIRR	Tirgusor	79.75	337	P	P	02 51 39.7 +0.1
TIRR	Tirgusor	79.75	337	*e*P	P	02 51 38.0 -1.5
	comp=Z,26nm,0.6s,mb5.3					
TIRR				⇑P	pP	02 51 47.6 -1.5
FELD	Feldberg im Sc	79.75	352	*e*P	P	02 51 39.3 -0.3
HAU	Haudompre	79.76	353	*e*P	P	02 51 40.1 +0.5
	comp=Z,58nm,0.9s,mb5.2					
HAU				*e*R		
	comp=Z,8μm,22.0s					
HAU	Haudompre	79.76	353	*e*P	P	02 51 40.1 +0.5
HAU				pmax	pmax	
	comp=Z,29nm,0.9s,mb5.2					
HAU				MLR	MLR	
	comp=Z,8μm,22.0s,MS6.0					
HAU	Haudompre	79.76	353	*e*P	P	02 51 40.1 +0.5
	comp=Z,29nm,0.9s,mb5.2					
HAU				LR	LR	
	comp=Z,8μm,22.0s,MS6.0					
ROSF	Rostrenen	79.80	360	*e*P	P	02 51 39.5 -0.4
SGMF	Saint Gilles	79.88	359	*e*P	P	02 51 39.9 -0.4
	comp=Z,102nm,0.9s,mb5.5					
SGMF	Saint Gilles	79.88	359	*e*P	P	02 51 39.9 -0.4
SGMF				pmax	pmax	
	comp=Z,51nm,0.9s,mb5.5					
SGMF	Saint Gilles	79.88	359	*e*P	P	02 51 39.9 -0.4
	comp=Z,51nm,0.9s,mb5.5					
HINF	Hinteralfeld	79.91	353	*e*P	P	02 51 39.7 -0.7
	comp=Z,37nm,0.9s,mb5.0					
HINF	Hinteralfeld	79.91	353	*e*P	P	02 51 39.7 -0.7
HINF				pmax	pmax	
	comp=Z,18nm,0.9s,mb5.0					
HINF	Hinteralfeld	79.91	353	*e*P	P	02 51 39.7 -0.7
	comp=Z,18nm,0.9s,mb5.0					
WATA	Walderalm	79.93	349⇓	*i*	P	02 51 45.0 +4.4
WATA	Walderalm	79.93	349⇑	*i*	pP	02 51 49.6 -0.5
	comp=Z,28nm,0.9s					
WATA	Walderalm	79.93	349⇓	*e*P	P	02 51 40.7 +0.1
	comp=Z,7.9nm,0.7s,mb4.8					
WATA				⇓*i*PcP	PcP	02 51 45.0 -3.1
WATA				⇑*i*pP	pP	02 51 49.6 -0.5
	comp=Z,28nm,0.9s					
WATA	Walderalm	79.93	349⇓	*e*P	P	02 51 40.7 +0.1
WATA				*i*	pP	02 51 49.6 -0.5
WATA				pmax	pmax	
	comp=Z,8.0nm,0.7s,mb4.8					
KBA	Koelnbreinsper	79.97	348⇓	*i*	pP	02 51 51.3 +0.9
	comp=Z,116nm,0.8s					
KBA	Koelnbreinsper	79.97	348⇓	*i*P	P	02 51 41.9 +1.1
	comp=Z,62nm,0.9s,mb5.5,SNR=9.3					
KBA				⇓*i*pP	pP	02 51 51.3 +0.9
	comp=Z,116nm,0.8s					
PSI	Prapat	79.97	262	P	P	02 51 40.9 0.0
	comp=Z,9.2nm,0.6s,mb4.9,baz=40,slow=7.9,SNR=7.8					
PSI				S	S	03 01 42.4 -0.3
	comp=Z,1.6nm,0.3s,baz=138,slow=16,SNR=3.2					
MOTA	Moosalm	79.97	350⇓	*i*	pP	02 51 50.2 -0.2
	comp=Z,32nm,0.8s					
MOTA	Moosalm	79.97	350⇓	*i*P	P	02 51 41.7 +0.9
	comp=Z,7.1nm,1.0s,mb4.6					
MOTA				⇓*i*pP	pP	02 51 50.2 -0.2
	comp=Z,32nm,0.8s					
MOTA	Moosalm	79.97	350⇓	*i*P	P	02 51 41.7 +0.9
MOTA				*i*	pP	02 51 50.2 -0.2
MOTA				pmax	pmax	
	comp=Z,7.0nm,1.0s,mb4.5					
WTTA	Wattenberg	80.00	349⇑	*i*	pP	02 51 50.4 -0.1
	comp=Z,53nm,1.0s					
WTTA	Wattenberg	80.00	349⇓	*i*P	P	02 51 41.6 +0.7
	comp=Z,8.8nm,1.0s,mb4.6,SNR=13					
WTTA				⇑*i*pP	pP	02 51 50.4 -0.1
	comp=Z,53nm,1.0s					
WTTA	Wattenberg	80.00	349⇓	*i*P	P	02 51 41.6 +0.7
WTTA				*i*	pP	02 51 50.4 -0.1
WTTA				pmax	pmax	
	comp=Z,9.0nm,1.0s,mb4.7					
PKSM	Moragy	80.05	344	P	P	02 51 41.4 +0.2
PKSM	Moragy	80.05	344⇓	*e*P	P	02 51 40.7 -0.5
PKSM				⇑P	pP	02 51 49.5 -1.3
SQTA	Sankt Quirin	80.08	350⇓	*e*	pP	02 51 51.0 +0.1
	comp=Z,34nm,0.9s					
SQTA	Sankt Quirin	80.08	350		pP	02 51 51.0 +0.1
	comp=Z,34nm,0.9s					
SQTA	Sankt Quirin	80.08	350⇓	*i*P	P	02 51 42.6 +1.2
SQTA				*e*	pP	02 51 51.0 0.0
SQTA				pmax	pmax	
	comp=Z,12nm,1.2s,mb4.7					
SQTA	Sankt Quirin	80.08	350⇓	*i*P	P	02 51 42.6 +1.2
	comp=Z,12nm,1.2s,mb4.7					
SQTA				*e*	pP	02 51 51.0 +0.1
GZR	Gura Zlata	80.09	341	⇓P	P	02 51 41.9 +0.5
BZS	Buzias	80.09	342	⇑P	P	02 51 42.0 +0.5
BZS	Buzias	80.09	342	P	P	02 51 41.7 +0.2
DAVA	Damuels	80.16	351⇓	*e*P	P	02 51 39.5 -2.4
	comp=Z,7.4nm,1.1s,mb4.5					
PERS	Pernice	80.17	347	*e*P	P	02 51 42.3 +0.4
ERZM	Erzurum	80.17	326	*i* P	P	02 51 43.1 +1.2
EZM	Erzurum	80.18	326	*e*P	P	02 51 42.8 +0.9
QUIF	Quistinic	80.22	360	*e*P	P	02 51 41.5 -0.7
GRSN	GIRESUNGRSN	80.28	329	*i* P	P	02 51 42.4 0.0
OBKA	Obir	80.37	347⇑	*i*	pP	02 51 52.6 0.0
	comp=Z,65nm,0.8s					
OBKA	Obir	80.37	347	*i* P	P	02 51 43.5 +0.6
	comp=Z,15nm,1.1s,mb4.8,SNR=18					
OBKA				⇑*i*pP	pP	02 51 52.6 0.0
	comp=Z,65nm,0.8s					
BBSR	BB Station	80.41	49	PFAKE		02 51 50.0 +6.8
BBSR				LR	LR	
	comp=Z,11μm,20.0s,MS6.2					
SEST	Monte Rota	80.44	349	P	P	02 51 44.1 +0.8
FVI	Forni Avoltri	80.52	348	P	P	02 51 41.7 -2.0
BRES	Bressanone	80.54	349	P	P	02 51 44.5 +0.6
WRAB	Tennant Creek	80.56	219	P	P	02 51 44.2 +0.2
	comp=Z,719nm,1.1s,mb6.5,SNR=7.3					
WRAB	Tennant Creek	80.56	219	*d*P	P	02 51 43.7 -0.2
WRAB	Tennant Creek	80.56	219	*e*P	P	02 51 43.3 -0.6
WRAB				LR	LR	
	comp=Z,5μm,20.0s,MS5.8					
WB2	Warramunga Arr	80.56	219	*e*P	P	02 51 43.9 -0.1
WRA	Warramunga Arr	80.57	219	P	P	02 51 43.7 -0.4
	comp=Z,17nm,0.8s,mb5.0,baz=32,slow=5.8,SNR=48					
WRA				S	S	03 01 48.0 -0.9
	comp=Z,0.8nm,1.1s,baz=347,slow=8.3,SNR=2.3					
WRA				LR	LR	03 27 01.2
	comp=Z,3μm,18.7s,MS5.6,baz=25,slow=35					
WRA	Warramunga Arr	80.57	219	*i* P	P	02 51 43.9 -0.1
WRA				pmax	pmax	
	comp=Z,17nm,0.8s					
PTCC	Patocco-Chiusa	80.63	348	P	P	02 51 47.5 +3.1
LOR	Lormes	80.65	355	*e*P	P	02 51 43.9 -0.6
	comp=Z,52nm,0.9s,mb5.2					
LOR				*e*R		
	comp=Z,5μm,17.5s					
LOR	Lormes	80.65	355	*e*P	P	02 51 43.9 -0.6
LOR				pmax	pmax	
	comp=Z,26nm,0.9s,mb5.2					
LOR				MLR	MLR	
	comp=Z,5μm,17.5s,MS6.0					
LOR	Lormes	80.65	355	*e*P	P	02 51 43.9 -0.6
	comp=Z,26nm,0.9s,mb5.2					
LOR				LR	LR	
	comp=Z,5μm,17.5s,MS6.0					
HYF	Humbligny	80.72	356	*e*P	P	02 51 44.9 +0.1
CADS	Cadrg	80.76	348	*e*P	P	02 51 44.4 -0.7
GMNA	Gemona	80.78	348	P	P	02 51 44.5 -0.6
	comp=Z,310nm,0.9s,mb6.2					
APPI	Appiano	80.81	350	P	P	02 51 48.9 +3.6
KVT	Kavak	80.82	331	*e*P	P	02 51 47.3 +1.9
EZC	Erzincan	80.84	327	*e*P	P	02 51 46.8 +1.3
BOYT	Boyabat	80.85	332	*i* P	P	02 51 46.1 +0.6
SSF	Saint Saulge	80.88	355	*e*P	P	02 51 45.2 -0.5
	comp=Z,48nm,0.8s,mb5.2					
SSF	Saint Saulge	80.88	355	*e*P	P	02 51 45.2 -0.5
SSF				pmax	pmax	
	comp=Z,24nm,0.8s,mb5.2					
SSF	Saint Saulge	80.88	355	*e*P	P	02 51 45.2 -0.5
	comp=Z,24nm,0.8s,mb5.2					
MGV	Manicaragua	80.89	66	*e*P	P	02 51 46.2 +0.5
BRMO	Bormio	80.91	350	P	P	02 51 46.4 +0.6
	comp=Z,87nm,1.8s,mb5.4					
CRES	Cresnjev	80.92	346	*e*P	P	02 51 46.0 +0.1
CRES				*e*		02 53 32.6
CRES				*e*		02 55 13.1
CRES				*e*S	S	03 01 53.7 +1.2
CRES				*e*		03 02 13.7
VOY	Vojsko	80.93	348	*e*P	P	02 51 52.8 +6.8
VOY				*e*		02 52 24.8
HYB	Hyderabad	80.97	287	*i* P	P	02 51 46.0 -0.2
	comp=Z,100nm,1.0s,mb5.7					
HYB				*e*S	S	03 01 52.0 -1.1
HYB	Hyderabad	80.97	287	*e*P	P	02 51 46.0 -0.2
HYB				*e*S	S	03 01 52.0 -1.1
HYB				pmax	pmax	
	comp=Z,100nm,1.0s,mb5.7					
HYB	Hyderabad	80.97	287	*e*P	P	02 51 46.0 -0.2
	comp=Z,100nm,1.0s,mb5.7					
HYB				*e*S	S	03 01 52.0 -1.1
TUE	Stuetta	81.02	351	P	P	02 51 46.5 +0.1
VISS	Visnje	81.03	347	*e*P	P	02 51 43.7 -2.8
VISS				*e*		03 02 14.5
VISS				*e*		03 03 03.0
VISS				*e*		03 04 54.1
VISS				*e*SS	SS	03 07 15.4 +7.0
JAVS	Javornik	81.04	347	*e*P	P	02 51 46.9 +0.3
JAVS				*e*		02 53 33.8
TBI	Tubuai	81.05	148	*e*S	S	03 01 51.6 -2.3
	comp=Z,4μm,31.0s					
TBI				*e*SS	SS	03 07 08.5 -0.2
	comp=Z,4μm,29.5s					
TBI				*e*LQ		03 12 46.4
	comp=Z,14μm,31.8s					
TBI				*e*LR	LR	03 16 18.8
	comp=Z,17μm,31.8s,baz=340					
BNGL	BINGOL	81.10	326	*i* P	P	02 51 48.2 +1.4
SISC	Sisak	81.13	346	iP	P	02 51 47.4 +0.4
AVF	Avril sur Loir	81.16	355	*e*P	P	02 51 46.6 -0.6
	comp=Z,31nm,0.7s,mb5.0					
AVF	Avril sur Loir	81.16	355	*e*P	P	02 51 46.6 -0.6
AVF				pmax	pmax	
	comp=Z,15nm,0.7s,mb5.0					
AVF	Avril sur Loir	81.16	355	*e*P	P	02 51 46.6 -0.6
	comp=Z,15nm,0.7s,mb5.0					
CABF	La Chapelle	81.16	353	*e*P	P	02 51 47.0 -0.2
	comp=Z,65nm,1.1s,mb5.2					
CABF	La Chapelle	81.16	353	*e*P	P	02 51 47.0 -0.2
CABF				pmax	pmax	
	comp=Z,33nm,1.1s,mb5.2					
CABF	La Chapelle	81.16	353	*e*P	P	02 51 47.0 -0.2
	comp=Z,33nm,1.1s,mb5.2					
BALT	Daday	81.18	333	*i* P	P	02 51 46.9 -0.4
CTI	Castel Tesino	81.19	349	P	P	02 51 52.0 +4.7
BOJS	Bojanci	81.26	347	*e*P	P	02 51 47.9 +0.2
BOJS				*e*	pP	02 51 56.0 -1.2
BOJS				*e*		02 53 35.7
BOJS				*e*		02 55 12.6
BOJS				*e*		02 59 08.2
BOJS				*e*S	S	03 01 57.2 +1.1
BOJS				*e*SS	SS	03 07 17.4 +5.5
SMF	Signal de Mont	81.28	355	*e*P	P	02 51 47.3 -0.5
	comp=Z,80nm,0.9s,mb5.3					
SMF	Signal de Mont	81.28	355	*e*P	P	02 51 47.3 -0.5
SMF				pmax	pmax	
	comp=Z,40nm,0.9s,mb5.3					
SMF	Signal de Mont	81.28	355	*e*P	P	02 51 47.3 -0.5
	comp=Z,40nm,0.9s,mb5.3					
RAO	Raoul Island	81.31	175	LR	LR	03 25 52.9
	comp=Z,5μm,18.6s,MS5.9,baz=204,slow=34					
LATR	Latur	81.35	289	*e*P	P	02 51 47.5 -0.7
TOKT	Tokat	81.36	330	*e*P	P	02 51 54.4 +6.1
BGF	Bois d'Agland	81.42	355	*e*P	P	02 51 49.0 +0.5
	comp=Z,83nm,1.1s,mb5.3					
BGF	Bois d'Agland	81.42	355	*e*P	P	02 51 49.0 +0.5
BGF				pmax	pmax	
	comp=Z,42nm,1.1s,mb5.3					
BGF	Bois d'Agland	81.42	355	*e*P	P	02 51 49.0 +0.5
	comp=Z,42nm,1.1s,mb5.3					
BHJ	Bhuj	81.43	297	*e*P	P	02 51 49.1 +0.4
BHJ				AMb	AMB	02 51 57.5
	comp=Z,103nm,1.3s,mb5.6					
BHJ				*e*S	S	03 01 59.2 +1.3
TOS	Tosya	81.46	332	*e*P	P	02 51 50.3 +1.5
MFF	Saint Martin d	81.49	357	*e*P	P	02 51 48.6 -0.3
	comp=Z,44nm,1.0s,mb5.0					
MFF	Saint Martin d	81.49	357	*e*P	P	02 51 48.6 -0.3
MFF				pmax	pmax	
	comp=Z,22nm,1.0s,mb5.0					
MFF	Saint Martin d	81.49	357	*e*P	P	02 51 48.6 -0.3
	comp=Z,22nm,1.0s,mb5.0					
SVSK	Karacayir	81.59	329	*e*P	P	02 51 49.7 +0.2
CTKT	Corum	81.62	331	*i* P	P	02 51 47.3 -2.3
SAFT	Safranbolu	81.65	333	*e*P	P	02 51 47.8 -2.0
MCGN	Macugnaga	81.66	352	P	P	02 51 50.6 +0.8
	comp=Z,200nm,2.0s,mb5.7					
BTMT	Batman	81.67	325	*e*P	P	02 51 51.5 +1.7
VAI	Varese	81.67	351	P	P	02 51 50.0 +0.1
VAI				pmax	pmax	
	comp=Z,51nm,0.8s,mb5.5					
VAI	Varese	81.67	351	P	P	02 51 50.0 +0.1
	comp=Z,51nm,0.8s,mb5.5					
TCF	Toulx Ste Croi	81.72	356	*e*P	P	02 51 49.7 -0.4
	comp=Z,42nm,0.9s,mb5.1					
TCF	Toulx Ste Croi	81.72	356	*e*P	P	02 51 49.7 -0.4
TCF				pmax	pmax	
	comp=Z,21nm,0.9s,mb5.1					
TCF	Toulx Ste Croi	81.72	356	*e*P	P	02 51 49.7 -0.4
	comp=Z,21nm,0.9s,mb5.1					
CUKT	Cukurca	81.75	324	*e*P	P	02 51 49.8 -0.5
SAL	Salo	81.75	350	P	P	02 51 50.5 +0.2
DIVS	Divcibare	81.86	343⇑	*i*P	P	02 51 51.5 +0.7
AGO	Saint Agoulin	81.91	355	*e*P	P	02 51 52.1 +1.0
PLDF	La Plantade	81.96	355	*e*P	P	02 51 52.3 +0.9
CANT	Cankiri	81.97	332	*e*P	P	02 51 51.8 +0.4
ORO	Oropa	81.98	352	P	P	02 51 54.9 +3.4
BEST	Besiri	82.01	326	*i* P	P	02 51 53.0 +1.3
CORM	Corum	82.07	331	*e*P	P	02 51 51.9 -0.1
ELDT	Eldivan	82.14	332	*i* P	P	02 51 53.5 +1.2
LPL	La Plagne	82.20	353	*e*P	P	02 51 53.4 +0.7
	comp=Z,101nm,1.2s,mb5.3					
LPL	La Plagne	82.20	353	*e*P	P	02 51 53.4 +0.7
LPL				pmax	pmax	
	comp=Z,50nm,1.2s,mb5.3					
LPL	La Plagne	82.20	353	*e*P	P	02 51 53.4 +0.7
	comp=Z,50nm,1.2s,mb5.3					
PYM	Petit Puy Mans	82.21	355	*e*P	P	02 51 53.5 +0.8
LPG	La Plagne	82.22	352	*e*P	P	02 51 53.6 +0.8
	comp=Z,80nm,0.9s,mb5.3					
LPG	La Plagne	82.22	352	*e*P	P	02 51 53.6 +0.8
LPG				pmax	pmax	
	comp=Z,40nm,0.9s,mb5.3					
LPG	La Plagne	82.22	352	*e*P	P	02 51 53.6 +0.8
	comp=Z,40nm,0.9s,mb5.3					
NVLJ	Novalja	82.24	347	*i* P	P	02 51 54.2 +1.3
ELZG	Elazig	82.24	327	*i* P	P	02 51 54.5 +1.6
YOZ	Yozgat	82.36	331	*e*P	P	02 52 00.3 +6.8
SGKT	Sivrigoynuk	82.44	333	*i* P	P	02 51 54.5 +0.6
RSP	Reno Superiore	82.52	352	P	P	02 51 52.8 -1.5
HENT	Hendek	82.53	334	*i* P	P	02 51 53.8 -0.6
RAVA	Ravarino	82.53	349	P	pP	02 52 03.5 -0.4
MYA	Malataya	82.58	328	*e*P	P	02 51 56.8 +2.2
MALT	Malatya	82.59	328	⇑P	P	02 51 56.3 +1.6
MALT	Malatya	82.59	328	*e*P	P	02 51 55.0 +0.2
	comp=Z,51nm,1.1s,mb5.5					
EDRB	Edirne	82.61	337	*e*P	P	02 51 52.9 -1.9
FITZ	Fitzroy Crossi	82.62	228	*e*P	P	02 51 55.1 +0.2
	comp=Z,88nm,0.8s,mb5.8					
CDAG	Cicekdag	82.66	331	*i* P	P	02 51 55.0 0.0
BNI	Bardonecchia	82.67	352	P	P	02 51 56.8 +1.7
BNI				pmax	pmax	
	comp=Z,92nm,1.1s,mb5.7					
BNI	Bardonecchia	82.67	352	*e*P	P	02 51 58.2 +3.1
	comp=Z,92nm,1.1s,mb5.7					
BOB	Bobbio (Coli)	82.70	350	P	P	02 51 54.9 -0.4
BOB				pmax	pmax	
	comp=Z,122nm,0.7s,mb6.0					
BOB	Bobbio (Coli)	82.70	350	P	P	02 51 54.9 -0.4
	comp=Z,122nm,0.7s,mb6.0					
MARD	Mardin	82.70	326	*i* P	P	02 51 56.1 +0.9
PLE	Pljevlja	82.71	343	*e*P	P	02 51 56.0 +0.7
LBL	Lubilhac	82.72	355	*e*P	P	02 51 56.2 +0.8
RJF	Les Rejaudoux	82.73	356	*e*P	P	02 51 55.8 +0.4
RJF				*e*R		
	comp=Z,9μm,17.8s					
RJF	Les Rejaudoux	82.73	356	*e*P	P	02 51 55.8 +0.4
RJF				LR	LR	
	comp=Z,9μm,17.8s,MS6.2					
MDU	Mudurnu	82.78	334	*e*P	P	02 51 51.4 -4.3
BR131	Keskin Array S	82.78	332	*e*P	P	02 51 56.2 +0.6
ISK	Istanbul-Kandi	82.78	336	*e*P	sP	02 52 10.2 +1.4
BRTR	Keskin Array B	82.78	332	P	P	02 51 55.9 +0.2
	comp=Z,6.2nm,0.7s,mb4.7,baz=59,slow=3.1,SNR=21					
BRTR				PKKPbc	PKKPbc	03 10 18.6 -0.5
	comp=Z,1.0nm,0.8s,baz=190,slow=4.4,SNR=5.0					
BRTR				LR	LR	03 35 34.5
	comp=Z,3μm,21.3s,MS5.6,baz=156,slow=41					
BRTR	Keskin Array B	82.78	332	*i* P	P	02 51 55.9 +0.2
BRTR				pmax	pmax	
	comp=Z,6.0nm,0.7s					
MSL	Mosul	82.79	323

CAF pmax pmax
comp=Z,33nm,1.0s,mb5.3
CAF Calviac 83.08 356 *e*P **P 02 51 57.3 0.0**
comp=Z,33nm,1.0s,mb5.3
KAMT Kaman 83.09 332 *e*P **P 02 51 56.9 -0.4**
FNVD Fontana Vidola 83.11 349 P **P 02 51 58.4 +1.0**
comp=Z,376nm,1.6s,mb6.2
LFF La Frestale 83.12 357 *e*P **P 02 51 57.1 -0.4**
comp=Z,77nm,1.0s,mb5.4
LFF La Frestale 83.12 357 *e*P **P 02 51 57.1 -0.4**
LFF pmax pmax
comp=Z,39nm,1.0s,mb5.4
LFF La Frestale 83.12 357 *e*P **P 02 51 57.1 -0.4**
comp=Z,38nm,1.0s,mb5.4
PESA Pesaro 83.12 348 P **P 02 52 02.3 +4.8**
BOM Bombay 83.14 292 *e*P **P 02 51 57.2 -0.3**
BOM AMb AMB 02 52 00.8
comp=Z,188nm,0.7s,mb6.3
DOI San Damiano 83.16 352 P **P 02 51 57.3 -0.4**
YLV Yalova 83.17 335 *e*P **P 02 51 56.9 -0.8**
RSM Repubblica di 83.18 348 P **P 02 52 00.6 +2.8**
SEI Scarperia 83.19 349 P **P 02 52 01.6 +3.8**
VLC Villacollemand 83.20 350 *e*P **P 02 52 01.4 +3.6**
comp=Z,51nm,0.8s,mb5.6
ADVT Abdulvahap 83.20 335 *e*P **P 02 51 53.7 -4.2**
SURF Saint Ours 83.22 352 *e*P **P 02 51 59.1 +1.1**
QLNO Quiliano 83.24 351 P **P 02 52 04.5 +6.4**
URFA Urfa 83.25 327 *e*P **P 02 51 58.5 +0.3**
VMG Vicchio 83.26 349 P **P 02 52 00.1 +1.9**
comp=Z,168nm,0.7s,mb6.2
BDI Bagni Di Lucca 83.27 350 P **P 02 51 57.9 -0.3**
BDI pmax pmax
comp=Z,67nm,0.9s,mb5.7
BDI Bagni Di Lucca 83.27 350 P **P 02 51 57.9 -0.3**
comp=Z,66nm,0.9s,mb5.7
BRY Bratogost 83.28 344 ⇓*i*P **P 02 51 57.2 -1.1**
SFI Santa Sofia 83.28 349 P **P 02 51 59.4 +1.1**
SFI pmax pmax
comp=Z,36nm,0.7s,mb5.5
SFI Santa Sofia 83.28 349 P **P 02 51 59.4 +1.1**
comp=Z,36nm,0.7s,mb5.5
NKY Niksic 83.28 343 *e*P **P 02 51 57.1 -1.2**
AVNT Avonos 83.29 331 *i*P **P 02 51 57.9 -0.4**
PVY Plav 83.32 343 ⇓*i*P **P 02 51 58.4 -0.1**
FIN Finale Ligure 83.37 351 P **P 02 52 00.4 +1.7**
FIN pmax pmax
comp=Z,48nm,1.0s,mb5.5
FIN Finale Ligure 83.37 351 P **P 02 52 00.4 +1.7**
comp=Z,48nm,1.0s,mb5.5
FSSB Fossombrone 83.38 348 P **P 02 51 58.0 -0.8**
ATAB Bozova 83.40 327 *i*P pP 02 52 09.0 +0.5
AOI Ancona 83.41 347 P **P 02 51 59.8 +0.9**
STV Sta Anna Valdi 83.42 352 P **P 02 52 05.0 +6.0**
STON Ston 83.45 344 ⇓*i*P **P 02 51 57.7 -1.4**
BORA Eskisehir 83.53 334 *i*P **P 02 51 58.5 -1.1**
ARV Arcevia 83.55 348 P **P 02 52 00.1 +0.5**
comp=Z,87nm,1.2s,mb5.8
CRE Caprese Michel 83.55 349 P **P 02 51 59.5 -0.2**
CRE pmax pmax
comp=Z,212nm,2.2s,mb5.9
CRE Caprese Michel 83.55 349 P **P 02 51 59.5 -0.2**
comp=Z,212nm,2.2s,mb5.9
KAD Karad 83.61 290 *e*P **P 02 52 00.5 +0.5**
KAD AMb AMB 02 52 02.3
comp=Z,132nm,1.0s,mb6.0
KAD AMS AMS 03 32 01.6
comp=Z,6µm,19.9s,MS6.0
TTG Podgorica 83.61 343 ⇓*i*P **P 02 51 58.6 -1.4**
PII Pisa 83.62 350 P **P 02 51 59.8 -0.2**
PII pmax pmax
comp=Z,283nm,2.0s,mb6.0
PII Pisa 83.62 350 P **P 02 51 59.8 -0.2**
comp=Z,283nm,2.0s,mb6.0
BADI Badiali 83.62 348 P **P 02 52 01.1 +1.1**
CING Cingoli 83.63 348 P **P 02 51 59.7 -0.4**
TOUF Mont Tournerai 83.65 352 *e*P **P 02 52 00.6 +0.4**
ALN Alexandroupoli 83.68 338 *e*P **P 02 52 01.0 +0.7**
IMI Imperia 83.70 351 P **P 02 52 00.6 +0.2**
comp=Z,40nm,0.7s,mb5.7
HCY Hercog Novi 83.73 344 *e*P **P 02 51 60.0 -0.6**
BNT Bandirma 83.74 336 *e*P **P 02 52 04.1 +3.4**
GZT Gaziantep 83.75 328 *i*P **P 02 52 00.4 -0.3**
STIP Stip 83.76 341 *e*P **P 02 52 00.6 -0.2**
LUCF Luceram 83.76 352 *e*P **P 02 52 02.6 +1.9**
MVIF Mont Vial 83.78 352 *e*P **P 02 52 01.1 +0.3**
SBF Sospel 83.78 352 *e*P **P 02 52 00.4 -0.5**
comp=Z,168nm,1.0s,mb5.8
SBF Sospel 83.78 352 *e*P **P 02 52 00.4 -0.5**
SBF pmax pmax
comp=Z,84nm,1.0s,mb5.8
SBF Sospel 83.78 352 *e*P **P 02 52 00.4 -0.5**
comp=Z,84nm,1.0s,mb5.8
SNTG Esanatoglia 83.78 348 P **P 02 52 01.5 +0.6**
comp=Z,134nm,1.0s,mb6.0
BUM Brajici-Budva 83.80 343 ⇓*i*P **P 02 52 00.8 -0.1**
ENEZ Enez 83.81 338 *e*P **P 02 51 55.7 -5.3**
SMRF Simiane la Rot 83.82 353 *e*P **P 02 52 01.9 +0.8**
comp=Z,113nm,0.9s,mb5.7
SMRF Simiane la Rot 83.82 353 *e*P **P 02 52 01.9 +0.8**
comp=Z,113nm,0.9s,mb6.0
MURB Monte Urbino 83.83 348 P **P 02 52 02.2 +1.1**
comp=Z,101nm,0.8s,mb6.0
LASF Ste Croix 83.84 354 *e*P **P 02 52 01.3 +0.2**
comp=Z,36nm,1.1s,mb5.1
REVF Revere 83.91 352 *e*P **P 02 52 04.7 +3.2**
SRS Serrai 84.02 340 *e*P **P 02 51 59.6 -2.5**
PRAF Pradon 84.02 353 *e*P **P 02 52 03.3 +1.2**
GAZ Gaziantep 84.03 328 *e*P **P 02 52 02.6 +0.5**
VAY Valandovo 84.04 340 *e*P **P 02 52 01.6 -0.6**
VAY Valandovo 84.04 340 *i*P **P 02 52 01.6 -0.6**
ULC Ulcinj 84.06 343 ⇓*i*P **P 02 52 01.5 -0.8**
KIZT Kizilcal 84.07 333 *e*P **P 02 51 59.7 -2.6**
AS31 Alice Springs 84.11 218 *e*P **P 02 52 02.9 +0.4**
ASAR Alice Springs 84.11 218 P **P 02 52 03.0 +0.4**
comp=Z,4.5nm,0.5s,mb4.8,baz=22,slow=5.0,SNR=36
ASAR S 03 02 22.0
comp=Z,0.4nm,0.9s,baz=2.6,slow=30,SNR=3.1
ASAR LR LR 03 26 25.1
comp=Z,5µm,19.7s,MS5.9,baz=273,slow=33
ASAR Alice Springs 84.11 218 P **P 02 52 03.0 +0.5**
ASAR S 03 02 22.0
ASPA Alice Springs 84.11 218 *e*P **P 02 52 02.9 +0.4**
KNT Kendrikon 84.12 340 *e*P **P 02 52 01.2 -1.3**
TAVF Tavernes 84.14 353 *e*P **P 02 52 02.5 -0.2**
FRF La Foret Royal 84.15 352 *e*P **P 02 52 02.4 -0.3**
comp=Z,62nm,1.0s,mb5.4
FRF La Foret Royal 84.15 352 *e*P **P 02 52 02.4 -0.3**
FRF pmax pmax
comp=Z,31nm,1.0s,mb5.4
FRF La Foret Royal 84.15 352 *e*P **P 02 52 02.4 -0.3**
comp=Z,31nm,1.0s,mb5.4
NRCA Norcia 84.18 348 P **P 02 52 03.5 +0.6**
comp=Z,90nm,0.8s,mb6.0
KOZT Kozan 84.19 329 *e*P **P 02 52 02.0 -0.9**
PUYF Puyloubier 84.25 353 *e*P **P 02 52 04.0 +0.7**
TERO Teramo 84.32 347 P **P 02 52 04.1 +0.5**
comp=Z,100nm,1.0s,mb5.9
KDHN Kadinhani 84.34 332 *i*P **P 02 52 01.5 -2.1**
LMR La Mourre 84.39 352 *e*P **P 02 52 03.8 -0.1**
comp=Z,69nm,1.0s,mb5.5
LMR La Mourre 84.39 352 *e*P **P 02 52 03.8 -0.1**
LMR pmax pmax
comp=Z,35nm,1.0s,mb5.4
LMR La Mourre 84.39 352 *e*P **P 02 52 03.8 -0.1**
comp=Z,35nm,1.0s,mb5.4
BERF Bertagne 84.47 353 *e*P **P 02 52 05.3 +0.9**
GDZ Gediz 84.53 335 *i*P **P 02 52 04.6 -0.1**
BIA Bitola 84.58 341 *e*P pP 02 52 11.6 -2.9
OHR Ohrid 84.60 342 *i*P **P 02 52 04.7 -0.3**
AQU L'Aquila 84.61 347 P **P 02 52 08.2 +3.1**
AQU pmax pmax
comp=Z,86nm,1.0s,mb5.8
AQU L'Aquila 84.61 347 *e*P **P 02 52 09.5 +4.5**
KARA Karaisali 84.63 330 *e*P **P 02 52 05.9 +0.7**
CEYT Ceyhan 84.64 329 *e*P **P 02 52 07.1 +1.9**
MTLF Montolieu 84.66 356 *e*P **P 02 52 04.7 -0.6**
comp=Z,63nm,0.8s,mb5.5
MTLF Montolieu 84.66 356 *e*P **P 02 52 04.7 -0.6**
MTLF pmax pmax
comp=Z,32nm,0.8s,mb5.5
MTLF Montolieu 84.66 356 *e*P **P 02 52 04.7 -0.6**
comp=Z,32nm,0.8s,mb5.5
MNS Montasola 84.67 348 P **P 02 52 05.0 -0.4**
FIAM Fiamignano 84.73 347 P **P 02 52 05.6 -0.1**
comp=Z,107nm,0.9s,mb6.0
EPON Pontenova 84.77 2 P pP 02 52 11.8 -3.7
comp=Z,302nm,1.9s
KONT Konya--Tatoy 84.80 332 *e*P **P 02 52 05.7 -0.3**
EARI Arriondas 84.83 1 P pP 02 52 13.7 -2.0
comp=Z,196nm,1.8s
OSSF Osses 84.86 358 *e*P **P 02 52 08.7 +2.4**
INTR Introdacqua 84.88 347 P **P 02 52 05.2 -1.2**
comp=Z,126nm,1.2s,mb5.9
EALK Alkurruntz 84.90 358 P pP 02 52 12.6 -3.5
comp=Z,179nm,1.6s
COBT Iskenderun 84.93 329 *i*P **P 02 52 06.1 -0.6**
PGF Pioggiola 84.94 351 *e*P **P 02 52 05.9 -0.8**
comp=Z,134nm,0.9s,mb5.8
PGF Pioggiola 84.94 351 *e*P **P 02 52 05.9 -0.8**
PGF pmax pmax
comp=Z,67nm,0.9s,mb5.8
PGF Pioggiola 84.94 351 *e*P **P 02 52 05.9 -0.8**
comp=Z,67nm,0.9s,mb5.8
ELIZ Elizondo 84.96 358 P pP 02 52 12.6 -3.8
ELIZ pmax pmax
comp=Z,38nm,1.1s,mb5.4
ELIZ Elizondo 84.96 358 P pP 02 52 12.6 -3.8
comp=Z,38nm,1.1s
BHD Baghdad 84.99 321 *i*x x 02 52 06.0
BHD *i*x x 02 52 14.0
SJPF Ste Jean 85.00 358 *e*P **P 02 52 06.6 -0.4**
comp=Z,42nm,0.8s,mb5.3
SJPF Ste Jean 85.00 358 *e*P **P 02 52 06.6 -0.4**
SJPF pmax pmax
comp=Z,21nm,0.8s,mb5.3
SJPF Ste Jean 85.00 358 *e*P **P 02 52 06.6 -0.4**
comp=Z,21nm,0.8s,mb5.3
MTCE Montecelio 85.02 348 P **P 02 52 06.6 -0.5**
comp=Z,68nm,1.4s,mb5.6
LABF Labassere 85.03 357 *e*P pP 02 52 13.0 -3.8
EPF Esparros 85.04 357 *e*P **P 02 52 06.5 -0.7**
comp=Z,125nm,1.3s,mb5.6
EPF Esparros 85.04 357 *e*P **P 02 52 06.5 -0.7**
EPF pmax pmax
comp=Z,63nm,1.3s,mb5.6
EPF Esparros 85.04 357 *e*P **P 02 52 06.5 -0.7**
comp=Z,63nm,1.3s,mb5.6
LRDF Laroque-de-Fa 85.04 355 *e*P **P 02 52 08.2 +1.0**
VVLD Villa Vallelon 85.05 347 P **P 02 52 07.2 -0.1**
CERT Cerreto 85.06 347 P **P 02 52 06.9 -0.4**
comp=Z,58nm,1.0s,mb5.7
LARF Larrau 85.07 358 *e*P **P 02 52 09.0 +1.6**
TOLF Tolfa 85.08 348 P **P 02 52 06.7 -0.7**
comp=Z,59nm,1.1s,mb5.6
CIGN Sant'Elia a Pi 85.08 346 P **P 02 52 06.8 -0.6**
MLS Moulis 85.09 356 *e*P **P 02 52 08.2 +0.7**
EMAZ Mazaricos 85.09 4 P pP 02 52 15.3 -1.8
comp=Z,312nm,2.8s
RNI2 Rionero Sannit 85.14 347 P pP 02 52 13.3 -4.0
comp=Z,211nm,1.4s
MERS Mersin 85.16 330 *e*P **P 02 52 06.6 -1.2**
STS Santiago 85.17 3 P pP 02 52 15.6 -1.9
STS pmax pmax
comp=Z,43nm,1.0s,mb5.5
STS Santiago 85.17 3 P pP 02 52 15.6 -1.8
comp=Z,43nm,1.0s
SDI San Donato 85.19 347 P **P 02 52 07.9 0.0**
SDI pmax pmax
comp=Z,38nm,1.1s,mb5.4
SDI San Donato 85.19 347 P **P 02 52 07.9 0.0**
comp=Z,38nm,1.1s,mb5.4
MIDA Miranda 85.19 346 P **P 02 52 06.6 -1.4**
comp=Z,82nm,1.2s,mb5.7
VIEF Viey 85.20 357 *e*P **P 02 52 09.0 +1.0**
ETSF Etsaut 85.20 358 *e*P **P 02 52 08.2 +0.2**
comp=Z,63nm,0.8s,mb5.5
ETSF Etsaut 85.20 358 *e*P **P 02 52 08.2 +0.2**
ETSF pmax pmax
comp=Z,32nm,0.8s,mb5.5
ETSF Etsaut 85.20 358 *e*P **P 02 52 08.2 +0.2**
comp=Z,32nm,0.8s,mb5.5
RESF Ens 85.27 357 *e*P **P 02 52 10.9 +2.6**
CARF Carcanieres 85.28 356 *e*P **P 02 52 11.6 +3.2**
RDP Rocca di Papa 85.29 348 P **P 02 52 09.4 +0.9**
RDP pmax pmax
comp=Z,162nm,1.4s,mb6.0
RDP Rocca di Papa 85.29 348 P **P 02 52 09.4 +0.9**
comp=Z,162nm,1.4s,mb6.0
TKTP Tekketepe 85.29 334 *i*P **P 02 52 08.3 -0.2**
MANT Manisa 85.33 335 *i*P **P 02 52 08.2 -0.5**
HTY Hatay 85.34 329 *e*P **P 02 52 07.1 -1.6**
FG5 Orsara di Pugl 85.39 346 P pP 02 52 15.9 -2.7
FG5 pmax pmax
comp=Z,225nm,1.9s,mb6.0
FG5 Orsara di Pugl 85.39 346 P pP 02 52 15.9 -2.7
comp=Z,225nm,1.9s
EBIE Bielsa 85.39 357 P pP 02 52 16.0 -2.6
comp=Z,195nm,2.3s
FILF Fillols 85.42 355 *e*P **P 02 52 14.1 +5.0**
SJAF Saint Jean de 85.48 355 *e*P **P 02 52 09.9 +0.5**
FG4 Candela 85.50 345 P **P 02 52 14.4 +4.9**
FG4 pmax pmax
comp=Z,92nm,0.9s,mb5.9
FG4 Candela 85.50 345 P **P 02 52 14.4 +4.9**
comp=Z,92nm,0.9s,mb5.9
EJON La Jonquera 85.51 355 P pP 02 52 15.6 -3.6
comp=Z,129nm,1.9s
MEST Erdemli 85.53 330 *i*P **P 02 52 08.7 -1.0**
RFI Roccamonfina 85.56 347 P **P 02 52 10.5 +0.7**
comp=Z,21nm,1.5s,mb5.2
VALF Valcebollere 85.60 356 *e*P **P 02 52 10.4 +0.4**
IZM Izmir 85.75 336 *e*P **P 02 52 07.6 -3.2**
BLCB Balcova 85.82 336 *e*P **P 02 52 04.1 -7.0**
LCI Lecce 85.85 343 P pP 02 52 17.9 -3.0
ERMK Ermenek 85.85 331 *i*P **P 02 52 10.8 -0.5**
ERMK Ermenek 85.85 331 *i*P pP 02 52 21.2 +0.3
MRLC Muro Lucano 85.87 345 P **P 02 52 10.2 -1.2**
EGRA Graus 85.88 357 P **P 02 52 14.6 +3.2**
comp=Z,158nm,1.7s,mb6.0
DNZL Cakiroluk 85.96 334 *i*P pP 02 52 19.3 -2.1
IKL Isikli 85.99 330 *e*P **P 02 52 09.1 -2.8**
PTRP Pietrapertosa 86.01 345 P **P 02 52 14.7 +2.7**
SGO Sicignano 86.09 345 P **P 02 52 12.1 -0.3**
SGO pmax pmax
comp=Z,248nm,3.3s
SGO Sicignano 86.09 345 P **P 02 52 12.1 -0.3**
comp=Z,248nm,3.3s
EMIR Miracle 86.11 356 P pP 02 52 19.1 -3.1
comp=Z,99nm,1.2s
BANOM Banah 86.15 308 ⇓P **P 02 52 14.4 +1.6**
SNR=5.4
ECAL Calabor 86.17 2 P pP 02 52 19.8 -2.7
comp=Z,258nm,2.8s
ELOB Lobios 86.20 3 P pP 02 52 19.4 -3.2
comp=Z,204nm,2.9s
AYDN Tasoluk 86.29 335 *i*P pP 02 52 21.5 -1.6
PBRG Braganca 86.30 2 *e*P **P 02 52 11.8 -1.7**
PBRG
comp=Z,47nm,1.9s
RKT Rikitea 86.30 136 *e*LQ 03 15 32.7
comp=Z,11µm,33.0s
ESAC San Caprasio 86.37 357 P pP 02 52 20.3 -3.1
comp=Z,218nm,2.0s
ORI Oriolo Calabro 86.39 345 P **P 02 52 14.8 +0.9**
MGR Morigerati 86.47 345 P **P 02 52 17.1 +2.8**
CUC Castrocucco 86.57 345 P **P 02 52 10.7 -4.1**
YER Yerkesik 86.69 335 *e*P **P 02 52 14.2 -1.1**
PVRL Vila Real 86.81 3 *e*P **P 02 52 17.0 +1.0**
DGI Dorgali Grotta 87.08 350 P **P 02 52 23.0 +5.7**
ERTA Horta de San J 87.11 357 P pP 02 52 23.7 -3.3
comp=Z,152nm,2.3s
TIP Timpagrande 87.21 344 *e*P **P 02 52 19.9 +2.0**
EBR Ebro Roquetas 87.24 357 *e*PCP pP 02 52 26.0 -1.7
WSAR Wadi Sarin 87.25 305 LR LR 03 34 59.1
comp=Z,5µm,20.9s,MS5.9,baz=173,slow=38
DAT Datca 87.25 335 *e*P **P 02 52 10.4 -7.7**
CSS Prodhromos 87.28 330 *e*P **P 02 52 17.3 -1.0**
ASHO Ashiyiah 87.31 308 ⇓P **P 02 52 18.6 +0.2**
PVIS Viseu 87.36 3 *e*P **P 02 52 19.3 +0.7**
comp=Z,17nm,1.0s,mb5.2
GUD Guadarrama 87.50 0 P pP 02 52 25.4 -3.5
GUD pmax pmax
comp=Z,12nm,0.8s,mb5.2
GUD Guadarrama 87.50 0 P pP 02 52 25.4 -3.6
comp=Z,12nm,0.8s
WBK Wadi Bani Khal 87.60 305 ⇓P **P 02 52 20.8 +1.0**
SNR=6.2
GRI Girifalco 87.61 344 P **P 02 52 24.8 +4.9**
HOQ Hoqain 87.62 306 ⇓P **P 02 52 20.8 +0.9**
SNR=5.6
PALK Pallekele 87.64 279 *e*P **P 02 52 22.5 +2.6**
comp=Z,54nm,1.0s,mb5.7
PALK LR LR
comp=Z,3µm,21.0s,MS5.7
MTE Manteigas 87.69 3 *e*P **P 02 52 22.3 +2.1**
comp=Z,41nm,1.4s,mb5.5
MTE Manteigas 87.69 3 *e*SKS 03 02 41.7
MTE Manteigas 87.69 3 *e*LQ 03 15 48.0
MTE *e*LR LR 03 21 45.6
comp=Z,3µm,20.0s
SMDO Samad 87.69 306 ⇑P **P 02 52 21.8 +1.6**
SNR=6.7
EMOS Mosqueruela 87.73 357 P pP 02 52 28.3 -1.8
comp=Z,107nm,2.3s
VSL Villasalto 87.92 350 P **P 02 52 22.2 +0.9**
VSL *e*pP pP 02 52 28.0 -3.0
MBWA Marble Bar 88.02 231 *e*pP pP 02 52 27.8 -3.7
MBWA LR LR
comp=Z,3µm,19.0s,MS5.7
ETOS Mallorca 88.19 355 P pP 02 52 30.3 -1.9
comp=Z,129nm,2.0s
ARQ Araqi 88.21 307 ⇑P **P 02 52 24.3 +1.5**
SNR=7.4
PCBR Castelo Branco 88.25 3 *e*P **P 02 52 24.0 +1.1**
comp=Z,20nm,1.2s,mb5.2
BSY Bisya 88.38 306 ⇓P **P 02 52 25.4 +1.9**
SNR=7.3
SOI Samo 88.40 344 P **P 02 52 23.3 -0.3**
MMAI Mount Meron Ar 88.42 328 LR LR 03 35 30.8
comp=Z,4µm,21.8s,MS5.8,baz=20,slow=38
ESDC Sonseca Array 88.47 0 P **P 02 52 23.7 -0.2**
comp=Z,1.0nm,0.7s,baz=359,slow=4.2,SNR=5.3
ESDC S 03 02 47.7
comp=Z,0.5nm,0.6s,baz=50,slow=9.9,SNR=2.8
ESDC Sonseca Array 88.47 0 P **P 02 52 23.7 -0.2**
ESDC P 02 52 29.6
ESDC S 03 02 47.7
ESLA Sonseca Array 88.47 0 *e*pP pP 02 52 31.4 -2.1
ESLA LR LR
comp=Z,22µm,22.0s,MS6.5
ECHE Chera 88.51 358 P pP 02 52 30.9 -2.9
ECHE pmax pmax
comp=Z,12nm,1.1s,mb5.1
ECHE Chera 88.51 358 P pP 02 52 30.9 -2.9
comp=Z,12nm,1.1s
ASF Jabal al Asfar 88.70 326 P **P 02 52 24.6 -0.4**
comp=Z,2.6nm,0.6s,mb4.7,baz=252,slow=1.9,SNR=7.0
ASF S 03 02 51.4
comp=Z,0.8nm,0.6s,baz=269,slow=18,SNR=3.5
ASF LR LR 03 38 01.3
comp=Z,2µm,20.8s,MS5.6,baz=63,slow=40
ASF Jabal al Asfar 88.70 326 P **P 02 52 24.6 -0.4**
ASF S 03 02 51.4
TRD Trivandrum 88.93 282 *e*P **P 02 52 25.9 -0.2**
TRD AMb AMB 02 52 36.7
comp=Z,73nm,1.2s,mb5.9
TRD AMS AMS 03 36 20.6
comp=Z,3µm,10.2s,MS6.0
STKA Stephens Creek 89.06 209 *e*P **P 02 52 25.2 -1.5**
comp=Z,42nm,1.1s,mb5.7
STKA Stephens Creek 89.06 209 P **P 02 52 25.4 -1.3**
comp=Z,23nm,1.1s,mb5.4,baz=25,slow=7.6,SNR=11
STKA LR LR 03 31 51.0
comp=Z,5µm,18.4s,MS6.0,baz=24,slow=35
IDI Anoyia 89.29 337 LR LR 03 36 35.8
comp=Z,3µm,21.4s,MS5.7,baz=37,slow=38
EBAD Badajoz 89.34 2 P pP 02 52 34.1 -3.6
comp=Z,159nm,3.3s
ETOB Tobarra 89.47 358 P pP 02 52 34.8 -3.5
comp=Z,118nm,2.3s
EVO Evora 89.53 3 *e*P **P 02 52 28.7 -0.2**
comp=Z,36nm,1.3s,mb5.2
EVO *e*R
comp=Z,7µm,18.0s
HAVL Avola 89.64 345 P **P 02 52 32.9 +3.5**
EADA Adamuz 89.97 1 P **P 02 52 36.8 +5.8**
comp=Z,79nm,1.8s,mb5.7
EBAN Banos Encina 89.97 360 P pP 02 52 37.3 -3.3
EBAN pmax pmax
comp=Z,13nm,1.3s,mb5.1
EBAN Banos Encina 89.97 360 P pP 02 52 37.3 -3.4
comp=Z,13nm,1.3s
PBEJ Beja 90.04 3 *e*P **P 02 52 33.7 +2.4**
PTCN Pitcairn Islan 90.15 133 PFAKE 02 52 40.0 +8.2
PTCN LR LR
comp=Z,10µm,19.0s,MS6.3
EMUR La Murta 90.27 358 P pP 02 52 39.5 -2.5
comp=Z,99nm,2.4s
CNB Canberra Magne 90.28 202 *e*P **P 02 52 32.1 -0.3**
comp=Z,43nm,1.4s,mb5.6
EHUE Huescar 90.31 359 P pP 02 52 39.8 -2.4
EHUE pmax pmax
comp=Z,23nm,1.3s,mb5.3
EHUE Huescar 90.31 359 P pP 02 52 39.8 -2.4
comp=Z,22nm,1.3s
EQES Quesada 90.33 359 P pP 02 52 38.7 -3.6
comp=Z,156nm,3.3s
EMIN Mina Concepcio 90.33 2 P pP 02 52 39.6 -2.7
comp=Z,98nm,2.7s
EGRO El Granado 90.55 3 P pP 02 52 38.8 -4.5
comp=Z,57nm,1.7s
ELOJ Sierra Loja 90.99 0 P pP 02 52 42.7 -2.7
ELOJ pmax pmax
comp=Z,20nm,1.2s,mb5.3
ELOJ Sierra Loja 90.99 0 P pP 02 52 42.7 -2.7
comp=Z,20nm,1.2s
ESPR Espera 91.25 2 P pP 02 52 43.8 -2.8
comp=Z,197nm,2.3s
EMIJ Mijas 91.57 1 P sP 02 52 50.4 -1.1
SJG San Juan 91.62 57 LR LR 03 35 49.6
comp=Z,17µm,19.0s,MS6.5,baz=359,slow=37
SJG San Juan 91.62 57 *e*P **P 02 52 40.6 +1.9**
comp=Z,22nm,0.8s,mb5.5
SJG LR LR
comp=Z,15µm,19.0s,MS6.5
EIL Elat 91.65 327 *e*pP pP 02 52 49.6 +1.2
EJIF Jimena Fronter 91.67 1 P pP 02 52 45.6 -2.9
CPD Cerro la Pandu 91.80 57 *e*P **P 02 52 38.9 -0.6**
PAYG Puerto Ayora 92.72 88 PFAKE 02 52 50.0 +6.3
PAYG LR LR
comp=Z,5µm,21.0s,MS5.9
FORT Forrest 92.75 220 *e*P **P 02 52 45.8 +1.9**
comp=Z,34nm,0.8s,mb5.8
COCO West Island 93.09 254 PFAKE 02 53 00.0 +15
COCO LR LR
comp=Z,2µm,19.0s,MS5.6
SNZO South Karori 93.18 181 PFAKE 02 53 00.0 +14
SNZO LR LR
comp=Z,3µm,19.0s,MS5.8
TOO Toolangi 93.35 204 *e*P **P 02 52 50.4 +3.8**
comp=Z,7.8nm,1.0s,mb5.1
TOO Toolangi 93.35 204 *e*P **P 02 52 50.4 +3.8**
TOO pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
MDT Midelt 95.31 1 LR LR 03 37 04.6
comp=Z,2µm,20.8s,MS5.6,baz=4.3,slow=36
SDV Santo Domingo 96.81 66 LR LR 03 37 01.5
comp=Z,8µm,19.6s,MS6.2,baz=168,slow=36
ROSC El Rosal 97.96 71 S 03 03 45.9
comp=Z,2.2nm,0.7s,baz=94,slow=23,SNR=2.4
ROSC LR LR 03 44 22.2
comp=Z,4µm,18.3s,MS5.9,baz=356,slow=40
TAU Tasmania Unive 98.00 201 PFAKE 02 53 20.0 +12
TAU LR LR
comp=Z,4µm,19.0s,MS5.9
PCRV Puerto La Cruz 99.04 60 LR LR 03 39 39.7
comp=Z,10µm,20.4s,MS6.3,baz=105,slow=36
NWAO Narrogin (SRO) 99.18 227 LR LR 03 39 15.5
comp=Z,4µm,18.4s,MS5.9,baz=209,slow=36
NWAO Narrogin (SRO) 99.18 227 PFAKE 02 53 20.0 +6.9
NWAO LR LR
comp=Z,3µm,20.0s,MS5.8
OTAV Otavalo 99.21 78 PFAKE 02 53 20.0 +6.8
OTAV LR LR
comp=Z,3µm,19.0s,MS5.8
RPN Rapa Nui 102.20 119 PFAKE 02 53 40.0 +13
RPN LR LR
comp=Z,5µm,19.0s,MS6.0
DGAR Diego Garcia 104.21 276 PFAKE 02 53 50.0 +15
DGAR LR LR
comp=Z,4µm,21.0s,MS5.9
NNA Nana 109.80 84 PFAKE 02 58 10.0 +7.4
NNA LR LR
comp=Z,4µm,20.0s,MS6.0
TORD Torodi Ar. Bea 114.71 354 PKP PKiKP 02 58 11.6 -0.3
comp=Z,1.3nm,0.5s,baz=352,slow=2.0,SNR=18

TORD PP PP 02 59 07.1 -2.6
comp=Z,2.2nm,0.9s,baz=6.0,slow=5.2,SNR=3.7
TORD PKKPbc PKKPbc 03 08 47.0 -2.3
comp=Z,1.1nm,1.0s,baz=179,slow=2.7,SNR=4.6
TORD PKKPab PKKPab 03 08 56.2 +0.7
comp=Z,5.5nm,1.1s,baz=175,slow=2.6,SNR=10
TORD Torodi Ar. Bea 114.71 354 PKP PKiKP 02 58 11.6 -0.3
TORD PP PP 02 59 07.1 -2.6
TORD PKKPbc PKKPbc 03 08 47.0 -2.3
TORD PKKPab PKKPab 03 08 56.2 +0.7
SAML Samuel 115.58 70 PFAKE 02 58 20.0 +6.4
SAML LR LR
comp=Z,7μm,19.0s,MS6.3
LPAZ La Paz 118.43 80 PKP PKPdf 02 58 19.2 +0.1
comp=Z,0.7nm,1.0s,baz=330,slow=2.5,SNR=2.3
LPAZ PKKPab PKKPab 03 08 42.8 +3.6
comp=Z,0.8nm,0.7s,baz=206,slow=8.7,SNR=5.0
LPAZ La Paz 118.43 80 PKP PKPdf 02 58 19.2 +0.1
LPAZ PKKPab PKKPab 03 08 42.8 +3.6
LPAZ LR LR
comp=Z,4μm,22.0s,MS6.0
KMBO Kilima Mbogo 118.60 312 PKP PKPdf 02 58 21.2 +1.8
comp=Z,1.5nm,0.9s,baz=239,slow=22,SNR=2.1
KMBO Kilima Mbogo 118.60 312 PKP PKPdf 02 58 21.2 +1.8
KMBO LR LR
comp=Z,963nm,20.0s,MS5.4
DBIC Dimbokro 121.32 1 PKP PKPdf 02 58 25.1 +0.4
comp=Z,5.4nm,0.5s,baz=306,slow=4.9,SNR=11
DRV Dumont d'Urvil 121.70 196 PP PP 03 00 03.0 +4.8
DRV SP SP 03 09 42.0 -5.9
DRV SS SS 03 16 31.0 -1.4
LIC Lamto 121.76 1 *e*PKIKP PKPdf 02 58 24.3 -1.2
comp=Z,45nm,1.0s
LIC *e*R
comp=Z,8μm,20.5s
LIC Lamto 121.76 1 *e*PKPdf PKPdf 02 58 24.3 -1.2
LIC LR LR
comp=Z,4μm,20.5s,MS6.1
RCBR Riachuelo 126.73 41 PFAKE 02 58 50.0 +15
RCBR LR LR
comp=Z,7μm,19.0s,MS6.4
CASY Casey 128.20 208 PFAKE 02 58 50.0 +12
CASY LR LR
comp=Z,3μm,21.0s,MS5.9
BDFB Brasilia 129.52 60 PKP PKPdf 02 58 40.3 -0.1
comp=Z,1.3nm,0.4s,baz=77,slow=11,SNR=3.3
VNDA Vanda 129.79 184 PKP PKPdf 02 58 38.7 -2.1
comp=Z,0.8nm,0.8s,baz=340,slow=1.4,SNR=3.3
VNDA SKPbc 03 02 00.7
comp=Z,10nm,1.1s,baz=334,slow=4.5,SNR=7.9
VNDA Vanda 129.79 184 PKP PKPdf 02 58 38.7 -2.1
VNDA SKPbc 03 02 00.7
VNDA LR LR
comp=Z,2μm,20.0s,MS5.8
SBA Scott Base 129.95 183 *e*PKIKP PKPdf 02 58 40.8 -0.4
SBA MLR MLR
comp=Z,2μm,20.0s,MS5.8
PLCA Paso Flores 134.22 103 PKP PKPdf 02 58 48.2 -1.0
comp=Z,18nm,1.2s,baz=312,slow=2.6,SNR=9.1
PLCA SKPbc SKPbc 03 02 15.2 -1.4
comp=Z,18nm,1.1s,baz=308,slow=4.1,SNR=5.6
PLCA Paso Flores 134.22 103 PKP PKPdf 02 58 48.2 -1.0
PLCA SKPbc SKPbc 03 02 15.2 -1.4
PLCA LR LR
comp=Z,4μm,21.0s,MS6.2
ASCN Ascension 135.00 15 PFAKE 02 59 00.0 +9.3
ASCN LR LR
comp=Z,6μm,19.0s,MS6.3
LSZ Lusaka 135.20 313 PFAKE 02 59 00.0 +9.0
LSZ LR LR
comp=Z,3μm,21.0s,MS6.0
TRQA Tornquist 137.76 94 *e*PKPdf PKPdf 02 58 53.7 -2.1
TRQA *e*SKPdf SKPdf 03 02 26.0 -2.5
TRQA LR LR
comp=Z,4μm,20.0s,MS6.2
QSPA South Pole Qui 141.99 180 *e*PKPdf PKPdf 02 59 01.5 -2.0
QSPA LR LR
comp=Z,3μm,19.0s,MS6.1
TSUM Tsumeb 143.01 325 PKP PKPdf 02 59 07.2 +1.9
comp=Z,17nm,1.0s,baz=24,slow=1.3,SNR=14
LBTB Lobatse 144.83 309 PFAKE 02 59 20.0 +12
LBTB LR LR
comp=Z,3μm,22.0s,MS6.1
MAW Mawson 145.23 218 *e*P PKPbc 02 59 06.8 -2.1
comp=Z,57nm,0.9s
MAW Mawson 145.23 218 PKPbc PKPbc 02 59 07.6 -1.3
comp=Z,15nm,0.4s,baz=77,slow=4.1,SNR=85
MAW Mawson 145.23 218 PKIKP PKPdf 02 59 07.6 -1.6
MAW pmax pmax
comp=Z,15nm,0.4s
MAW Mawson 145.23 218 *e*P PKPbc 02 59 06.8 -2.1
MAW LR LR
comp=Z,3μm,20.0s,MS6.0
EFI East Falkland 147.24 111 *e*PKP2 PKPab 02 59 14.0 -2.6
EFI MLR MLR
comp=Z,5μm,19.0s,MS6.3
PMSA Palmer Station 147.51 136 *e*PKPdf PKPdf 02 59 13.3 +0.3
PMSA LR LR
comp=Z,6μm,19.0s,MS6.4
BOSA Boshof 148.00 306 PKPbc PKPbc 02 59 17.2 +0.2
comp=Z,25nm,0.8s,baz=46,slow=2.7,SNR=44
BOSA Boshof 148.00 306 PKPbc PKPbc 02 59 17.2 +0.2
BOSA LR LR
comp=Z,5μm,22.0s,MS6.3
SUR Sutherland 153.27 308 PFAKE 02 59 30.0 +8.0
SUR LR LR
comp=Z,7μm,20.0s,MS6.5
HOPE Hope Point 160.46 109 PFAKE 02 59 40.0 +8.8
HOPE LR LR
comp=Z,7μm,21.0s
VNA1 Neumayer--Stat 161.41 175⇓ *i*PKPdf PKPdf 02 59 30.0 -2.2
VNA1 *e* 02 59 44.4
VNA1 *e* 02 59 48.7
VNA1 *e* 03 00 06.9
VNA1 *e* 03 00 15.0
VNA1 *e* 03 00 17.4
VNA1 *e* 03 00 21.1
VNA1 *e* 03 00 27.3
VNA1 *e* 03 00 29.7
VNA1 *e* 03 00 34.6
VNA1 *e* 03 00 37.1

ORF ***27*** *02:58:15.5, 1927S×17831W, h30km, mb7.0*
SZGRF ***27*** *02:59:09.3, 2046S×17683W, h593km, Fiji Islands region*
MOS ***27*** *02:59:13.9±0.8, 1968S×17828W, h554km, mb6.1/38, Error ellipse: s-maj=9.7km s-min=6.6km az=52.9*
CRAAG ***27*** *02:59:13.9, 1979S×17825W, Mb6.0*
BJI ***27*** *02:59:14.7, 1947S×17761W, h578km, mB6.1, mb5.8*
IDC ***27*** *02:59:16.0±0.5, 1981S×17824W, h573km±4km, mb5.2/17, mb1 5.3/20, mb1mx5.3/20, mbtmp6.0/20, Error ellipse: s-maj=8.4km s-min=6.5km az=157.0*
HRVD ***27*** *02:59:15.3±0.1, 1977S×17804W, h597km, MW6.3/102, Centroid moment Tensor Solution. LP body waves: s102,c243;Mantle waves: s88,c128; Half duration: 3s3 Moment tensor: Scale 10^18Nm; Mrr~1.40±.02; Mθθ 1.63±.03; Mφφ-0.23±.04; Mrθ-2.24±.03; Mφθ-0.20±.03; Mφr~1.37±.03; Best double couple: M=3.03500×10^18 NP1:φ=299.00000°, δ21.00000°, λ-39.00000°. NP2: φ=65.00000°, δ77.00000°, λ-107.00000°. Principal axes: T 2.8960, Plg30.0000°, Azm169.0000°; N 0.2770, Plg16.0000°, Azm69.0000°; P -3.1740, Plg55.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
ISCJB ***27*** *02:59:15.1±0.1, 1995S±002×17829W±002, h573km, mb5.9/120 Error ellipse: s-maj=3.5km s-min=2.1km az=74.2*
NEIC ***27*** *02:59:15.3±0.1, 1987S×17829W, mb6.0/74, Error ellipse: s-maj=4.4km s-min=2.4km az=118.0*
ISC 27 02:59:16.5±0.1, 1996S±002×17823W±002, h575km, h575km±3.3km:pP-P, n1571, σ0=90/687, mb5.9/120, 190C-335D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.62**	**47**	P	**P**	**P**	**03 01 16.9**	**-4.0**
	403nm,0.3s,baz=28,slow=1.7,SNR=170							
AFI				S		**S**	**03 02 52.1**	**-11**
	196nm,0.3s,baz=34,slow=23,SNR=15							
AFI				ScP		ScP	03 09 23.6	+1.2
	baz=258,slow=22,SNR=3.4							
AFI	**Afiamalu**	**8.62**	**47**	P		**P**	**03 01 16.9**	**-4.0**
AFI				S		**S**	**03 02 52.1**	**-11**
AFI				pmax		pmax		
	comp=Z,403nm,0.3s							
AFI				smax				
	comp=N,196nm,0.3s							
AFI	**Afiamalu**	**8.62**	**47**⇑	*i*P		**P**	**03 01 17.6**	**-3.3**
	comp=N,1μm,0.5s							
RAO	**Raoul Island**	**9.26**	**178**	P		**P**	**03 01 26.9**	**-0.4**
	comp=N,410nm,0.3s,baz=122,slow=6.9,SNR=14							
RAO				S		**S**	**03 03 06.2**	**-8.4**
	comp=N,223nm,0.3s,baz=83,slow=23,SNR=3.6							
RAO				ScP		ScP	03 09 22.4	-0.7
	comp=N,48nm,0.3s,baz=78,slow=22,SNR=3.7							
RAO	**Raoul Island**	**9.26**	**178**	P		**P**	**03 01 26.9**	**-0.4**
RAO				S		**S**	**03 03 06.2**	**-8.5**
FUNA	**Funafuti**	**11.63**	**347**⇑	*e*P		**P**	**03 01 49.1**	**-2.2**
BKM	**Butte a Klehm**	**13.01**	**278**⇑	*i*P		**P**	**03 02 07.0**	**+1.7**
BKM				S		**S**	**03 04 31.3**	**+7.1**
DZM	**Mont Dzumac**	**14.47**	**259**	*e*P		**P**	**03 02 20.5**	**+0.4**
DZM				*e*S		**S**	**03 04 53.2**	**+2.0**
DZM	**Mont Dzumac**	**14.47**	**259**	P		**P**	**03 02 19.6**	**-0.5**
	comp=N,45nm,0.3s,baz=74,slow=14,SNR=149							
DZM				S		**S**	**03 04 50.3**	**-0.9**
	comp=N,0.9nm,0.3s,baz=74,slow=19,SNR=1.2							
DZM				ScP		ScP	03 09 33.2	+2.3
	comp=N,0.6nm,0.3s,baz=73,slow=12,SNR=10							
DZM				ScS		ScS	03 13 13.9	+5.1
	comp=N,0.2nm,0.3s,baz=338,slow=22,SNR=22							
OUZ	**Omahuta**	**16.83**	**204**	⇑PN		**P**	**03 02 45.6**	**+3.2**
OUZ				*e*SN		**S**	**03 05 37.7**	**+7.5**
OUZ				ScP		ScP	03 09 36.9	+1.5
OUZ	**Omahuta**	**16.83**	**204**	*e*P		**P**	**03 02 45.6**	**+3.2**
WCZ	**Waipu Caves**	**17.21**	**201**	PN		**P**	**03 02 48.8**	**+2.9**
WCZ	**Waipu Caves**	**17.21**	**201**	*e*P		**P**	**03 02 48.8**	**+2.9**
RAR	**Rarotonga**	**17.33**	**97**	P		**P**	**03 02 46.2**	**-0.8**
	comp=N,17nm,0.3s,baz=249,slow=7.7,SNR=66							
RAR				S		**S**	**03 05 37.9**	**-0.4**
	baz=239,slow=18,SNR=1.5							
KUZ	**Kuaotunu**	**17.55**	**196**	PN		**P**	**03 02 51.1**	**+2.1**
KUZ	**Kuaotunu**	**17.55**	**196**	*e*P		**P**	**03 02 51.1**	**+2.1**
MXZ	**Matakaoa Point**	**17.80**	**189**	PN		**P**	**03 02 50.4**	**-0.9**
MXZ	**Matakaoa Point**	**17.80**	**189**	*e*P		**P**	**03 02 50.4**	**-0.9**
MTAZ	**Motutapu**	**17.81**	**198**	PN		**P**	**03 02 54.2**	**+2.8**
MTAZ	**Motutapu**	**17.81**	**198**	P		**P**	**03 02 54.2**	**+2.8**
KAAZ	**Kauri Point**	**17.91**	**199**	PN		**P**	**03 02 54.6**	**+2.4**
KAAZ	**Kauri Point**	**17.91**	**199**	P		**P**	**03 02 54.6**	**+2.3**
WIZ	**White Island**	**17.96**	**192**	*e*PN		**P**	**03 02 53.3**	**+0.6**
WIZ	**White Island**	**17.96**	**192**	*e*P		**P**	**03 02 53.3**	**+0.6**
OTAZ	**Otara**	**17.96**	**198**	PN		**P**	**03 02 55.3**	**+2.5**
OTAZ	**Otara**	**17.96**	**198**	P		**P**	**03 02 55.3**	**+2.6**
WTAZ	**Waiatarua**	**18.05**	**199**	*e*P		**P**	**03 02 54.7**	**+1.2**
PUZ	**Puketiti**	**18.31**	**189**	PN		**P**	**03 02 55.7**	**-0.2**
PUZ				SN		**S**	**03 05 51.1**	**-3.1**
PUZ				ScP		ScP	03 09 40.0	+1.4
PUZ	**Puketiti**	**18.31**	**189**	*e*P		**P**	**03 02 55.7**	**-0.2**
TOZ	**Tahuroa Road**	**18.53**	**196**	PN		**P**	**03 03 00.3**	**+2.4**
TOZ	**Tahuroa Road**	**18.53**	**196**	*e*P		**P**	**03 03 00.3**	**+2.3**
MWZ	**Matawai**	**18.68**	**190**	PN		**P**	**03 02 57.7**	**-1.6**
MWZ				ScP		ScP	03 09 39.8	+0.4
MWZ	**Matawai**	**18.68**	**190**	P		**P**	**03 02 57.7**	**-1.6**
URZ	**Urewera**	**18.68**	**192**	P		**P**	**03 02 57.5**	**-1.8**
	comp=N,292nm,0.3s,baz=311,slow=3.1,SNR=366							
URZ				S		**S**	**03 05 54.9**	**-5.4**
	comp=N,8.9nm,0.3s,baz=201,slow=21,SNR=9.7							
URZ				ScP		ScP	03 09 38.3	-1.1
	comp=N,8.4nm,0.3s,baz=327,slow=4.2,SNR=13							
URZ				ScS		ScS	03 13 15.9	-5.3
	comp=N,1.7nm,0.3s,baz=330,slow=23,SNR=29							
URZ	**Urewera**	**18.68**	**192**	PN		**P**	**03 02 57.1**	**-2.3**
URZ				*e*SN		**S**	**03 05 54.6**	**-5.7**
URZ	**Urewera**	**18.68**	**192**	*e*P		**P**	**03 02 57.1**	**-2.2**
TAZ	**Tarawera**	**18.77**	**193**	PN		**P**	**03 02 59.8**	**-0.4**
TAZ				ScP		ScP	03 09 38.9	-0.7
TAZ	**Tarawera**	**18.77**	**193**	P		**P**	**03 02 59.8**	**-0.4**
PATZ	**Paeroa**	**18.97**	**193**	PN		**P**	**03 03 01.4**	**-0.6**
PATZ				ScP		ScP	03 09 39.2	-0.8
PATZ	**Paeroa**	**18.97**	**193**	P		**P**	**03 03 01.4**	**-0.6**
KNZ	**Kokohu**	**19.32**	**190**	*e*PN		**P**	**03 03 04.3**	**-0.9**
KNZ	**Kokohu**	**19.32**	**190**	*e*P		**P**	**03 03 04.3**	**-0.9**
WATZ	**Wairara**	**19.40**	**194**	*e*PN		**P**	**03 03 06.4**	**+0.6**
WATZ	**Wairara**	**19.40**	**194**	*e*P		**P**	**03 03 06.4**	**+0.5**
HIZ	**Hauiti**	**19.44**	**196**	*e*PN		**P**	**03 03 08.2**	**+2.0**
HIZ				ScP		ScP	03 09 40.5	-0.7
HIZ	**Hauiti**	**19.44**	**196**	*e*P		**P**	**03 03 08.2**	**+2.0**
RATZ	**Rangitukua**	**19.55**	**194**	*e*PN		**P**	**03 03 07.0**	**-0.1**
RATZ	**Rangitukua**	**19.55**	**194**	*e*P		**P**	**03 03 07.0**	**-0.2**
BKZ	**Black Stump Fm**	**19.68**	**192**	*e*PN		**P**	**03 03 06.6**	**-1.8**
BKZ				SN		**S**	**03 06 09.6**	**-6.6**
BKZ				ScP		ScP	03 09 41.4	-0.3
BKZ	**Black Stump Fm**	**19.68**	**192**	*e*P		**P**	**03 03 06.6**	**-1.8**
BKZ				S		**S**	**03 06 09.6**	**-6.6**
KRVZ	**Karewarewa**	**19.79**	**194**	*e*PN		**P**	**03 03 08.6**	**-0.8**
KRVZ				ScP		ScP	03 09 40.9	-1.1
NGZ	**Ngauruhoe**	**19.88**	**194**	*e*PN		**P**	**03 03 09.5**	**-0.6**
NGZ	**Ngauruhoe**	**19.88**	**194**	*e*P		**P**	**03 03 09.5**	**-0.7**
TUVZ	**Tukino**	**19.96**	**194**	PN		**P**	**03 03 09.6**	**-1.3**
TUVZ	**Tukino**	**19.96**	**194**	P		**P**	**03 03 09.6**	**-1.3**
FWVZ	**Far West T-bar**	**19.97**	**194**	*e*PN		**P**	**03 03 10.1**	**-0.8**
FWVZ				ScP		ScP	03 09 42.0	-0.4
FWVZ	**Far West T-bar**	**19.97**	**194**	*e*P		**P**	**03 03 10.1**	**-0.9**
PKVZ	**Pokaka**	**20.05**	**195**	PN		**P**	**03 03 10.5**	**-1.2**
MOVZ	**Moawhango**	**20.07**	**194**	ScP		ScP	03 09 41.4	-1.2
RAEZ	**Rainy Point**	**20.29**	**197**	PN		**P**	**03 03 15.6**	**+1.8**
RAEZ	**Rainy Point**	**20.29**	**197**	P		**P**	**03 03 17.7**	**+3.8**
NWEZ	**Newall Road**	**20.42**	**198**	PN		**P**	**03 03 18.8**	**+3.7**
NWEZ	**Newall Road**	**20.42**	**198**	*e*P		**P**	**03 03 18.8**	**+3.7**
PXZ	**Pawanui**	**20.45**	**191**	PN		**P**	**03 03 14.3**	**-1.0**
PXZ				ScP		ScP	03 09 45.0	+1.4
NRZ	**Ngariki Road**	**20.46**	**198**	*e*PN		**P**	**03 03 15.8**	**+0.4**
WAZ	**Wanganui**	**20.58**	**195**	PN		**P**	**03 03 16.1**	**-0.4**
WAZ	**Wanganui**	**20.58**	**195**	P		**P**	**03 03 16.1**	**-0.4**
BFZ	**Birch Farm**	**21.19**	**192**	PN		**P**	**03 03 20.8**	**-1.2**
BFZ				*e*SN		**S**	**03 06 36.7**	**-3.4**
BFZ				ScP		ScP	03 09 46.7	+1.3
BFZ	**Birch Farm**	**21.19**	**192**	*e*P		**P**	**03 03 20.8**	**-1.2**
MRZ	**Mangatainoka R**	**21.31**	**193**	*e*PN		**P**	**03 03 21.0**	**-2.0**
MRZ				*e*SN		**S**	**03 06 38.5**	**-3.4**
MRZ				ScP		ScP	03 09 46.0	+0.4
MRZ	**Mangatainoka R**	**21.31**	**193**	*e*P		**P**	**03 03 21.0**	**-2.0**
MRZ				*e*S		**S**	**03 06 38.5**	**-3.4**
KIW	**Kapiti Island**	**21.64**	**194**	*e*PN		**P**	**03 03 24.4**	**-1.7**
KIW	**Kapiti Island**	**21.64**	**194**	*e*P		**P**	**03 03 24.4**	**-1.7**
DUWZ	**D'Urville Isla**	**21.83**	**196**	PN		**P**	**03 03 26.6**	**-1.2**
CAW	**Cannon Point**	**21.84**	**194**	PN		**P**	**03 03 26.7**	**-1.1**
CAW	**Cannon Point**	**21.84**	**194**	P		**P**	**03 03 26.7**	**-1.2**
TRWZ	**Traveller**	**21.99**	**192**	PN		**P**	**03 03 28.4**	**-0.7**
PAWZ	**Paruwai Farm**	**22.03**	**193**	PN		**P**	**03 03 28.7**	**-0.8**
PAWZ	**Paruwai Farm**	**22.03**	**193**	P		**P**	**03 03 28.7**	**-0.8**
MRW	**Makara Radio**	**22.04**	**194**	PN		**P**	**03 03 28.3**	**-1.3**
MRW	**Makara Radio**	**22.04**	**194**	P		**P**	**03 03 28.3**	**-1.3**
MSWZ	**Moikau Station**	**22.10**	**193**	PN		**P**	**03 03 29.1**	**-1.0**
MSWZ	**Moikau Station**	**22.10**	**193**	P		**P**	**03 03 29.1**	**-1.0**
SNZO	**South Karori**	**22.12**	**194**	*e*PN		**P**	**03 03 29.7**	**-0.6**
SNZO	**South Karori**	**22.12**	**194**	*e*P		**P**	**03 03 29.8**	**-0.5**
	comp=N,578nm,0.7s,mb6.3							
SNZO				*e*S		**S**	**03 06 52.1**	**-2.6**
SNZO				*e*ScP		ScP	03 09 47.9	+0.1
TCW	**Tory Channel**	**22.13**	**195**	PN		**P**	**03 03 29.4**	**-1.0**
TCW				ScP		ScP	03 09 47.3	-0.5
TCW	**Tory Channel**	**22.13**	**195**	P		**P**	**03 03 29.4**	**-1.0**
BHW	**Baring Head**	**22.18**	**194**	PN		**P**	**03 03 29.6**	**-1.2**
BHW	**Baring Head**	**22.18**	**194**	P		**P**	**03 03 29.6**	**-1.2**
QRZ	**Quartz Range**	**22.25**	**199**	*e*PN		**P**	**03 03 31.7**	**+0.2**
QRZ				ScP		**S**	**03 06 54.4**	**-2.4**
QRZ				ScP		ScP	03 09 46.5	-1.6
QRZ	**Quartz Range**	**22.25**	**199**	*e*P		**P**	**03 03 31.7**	**+0.2**
QRZ				ScP		ScP	03 09 46.5	-1.6
NNZ	**Nelson**	**22.37**	**197**	*e*PN		**P**	**03 03 31.2**	**-1.3**
NNZ	**Nelson**	**22.37**	**197**	*e*P		**P**	**03 03 31.2**	**-1.3**
TUWZ	**Tuamarina**	**22.42**	**196**	PN		**P**	**03 03 31.6**	**-1.3**
BSWZ	**Blackbirch Sta**	**22.70**	**195**	P		**P**	**03 03 37.5**	**+2.0**
THZ	**Tophouse**	**23.00**	**197**	*e*PN		**P**	**03 03 37.3**	**-0.9**
THZ				SN		**S**	**03 07 05.7**	**-3.0**
THZ				ScP		ScP	03 09 48.4	-1.7
THZ	**Tophouse**	**23.00**	**197**	*e*P		**P**	**03 03 37.3**	**-0.9**
KHZ	**Kahutara**	**23.45**	**195**	*e*PN		**P**	**03 03 40.9**	**-1.2**
KHZ				SN		**S**	**03 07 12.1**	**-3.5**
KHZ	**Kahutara**	**23.45**	**195**	*e*P		**P**	**03 03 40.9**	**-1.2**
HNR	**Honiara**	**23.53**	**293**	P		**P**	**03 03 42.2**	**-0.6**
	comp=N,245nm,0.7s,mb6.0,baz=256,slow=2.2,SNR=4.1							
LTZ	**Lake Taylor**	**24.12**	**197**	PN		**P**	**03 03 46.6**	**-1.5**
LTZ				*e*SN		**S**	**03 07 22.7**	**-3.6**
LTZ	**Lake Taylor**	**24.12**	**197**	*e*P		**P**	**03 03 46.6**	**-1.5**
WVZ	**Waitaha Valley**	**24.85**	**199**	PN		**P**	**03 03 53.7**	**-0.8**
WVZ	**Waitaha Valley**	**24.85**	**199**	*e*P		**P**	**03 03 53.7**	**-0.8**
MQZ	**McQueen's Vall**	**24.88**	**196**	PN		**P**	**03 03 53.8**	**-1.0**
MQZ	**McQueen's Vall**	**24.88**	**196**	*e*P		**P**	**03 03 53.8**	**-1.0**
FOZ	**Fox Glacier**	**25.62**	**201**	PN		**P**	**03 04 00.1**	**-1.2**
FOZ				SN		**S**	**03 07 43.0**	**-6.8**
FOZ	**Fox Glacier**	**25.62**	**201**	*e*P		**P**	**03 04 00.1**	**-1.2**
FOZ				S		**S**	**03 07 43.0**	**-6.8**
LBZ	**Lake Benmore**	**26.20**	**199**	PN		**P**	**03 04 05.2**	**-1.2**
LBZ	**Lake Benmore**	**26.20**	**199**	*e*P		**P**	**03 04 05.2**	**-1.2**
JCZ	**Jackson Bay**	**26.39**	**201**	PN		**P**	**03 04 07.4**	**-0.6**
JCZ				*e*SN		**S**	**03 07 59.1**	**-2.6**
JCZ				ScP		ScP	03 10 00.9	+1.1
JCZ	**Jackson Bay**	**26.39**	**201**	*e*P		**P**	**03 04 07.4**	**-0.7**
ODZ	**Otahua Downs**	**26.67**	**198**	PN		**P**	**03 04 10.0**	**-0.5**
ODZ	**Otahua Downs**	**26.67**	**198**	*e*P		**P**	**03 04 10.0**	**-0.5**
TBI	**Tubuai**	**26.93**	**102**⇑	*i*P		**P**	**03 04 12.7**	**-0.1**
	comp=N,687nm,1.0s,mb6.2							
TBI				*e*pP			03 05 41.5	
	comp=N,1μm,1.5s							
WKZ	**Wanaka**	**26.97**	**200**	PN		**P**	**03 04 12.3**	**-0.8**
WKZ				*e*SN		**S**	**03 08 08.2**	**-2.5**
WKZ	**Wanaka**	**26.97**	**200**	*e*P		**P**	**03 04 12.3**	**-0.8**
PAE	**Paea**	**27.20**	**90**⇑	*i*P		**P**	**03 04 14.2**	**-1.0**
	comp=N,535nm,1.1s,mb6.1							
PAE				*e*pP			03 05 43.2	
	comp=N,3μm,1.8s							
PAE				*e*ScP		ScP	03 10 03.1	+0.9
	comp=N,96nm,0.9s							
PPT	**Papeete**	**27.22**	**90**⇑	*i*P		**P**	**03 04 14.6**	**-0.8**
	comp=N,413nm,1.2s,mb5.9							
PPT				*e*pP			03 05 43.8	
	comp=N,466nm,1.6s							
PPT				*e*ScP		ScP	03 10 03.5	+1.2
	comp=N,94nm,1.1s							
PPT	**Papeete**	**27.22**	**90**	P		**P**	**03 04 14.9**	**-0.5**
	comp=N,229nm,0.8s,mb5.8,baz=232,slow=2.8,SNR=32							
PPT				S		**S**	**03 08 13.2**	**-1.5**
	comp=N,6.2nm,0.3s,baz=25,slow=22,SNR=2.0							
PPT				ScP		ScP	03 10 02.9	+0.6
	comp=N,75nm,0.9s,baz=194,slow=3.8,SNR=7.8							
PPT				SS			03 10 55.8	
	comp=N,7.9nm,0.4s,baz=183,slow=14,SNR=1.5							
PPT	**Papeete**	**27.22**	**90**	P		**P**	**03 04 14.9**	**-0.5**
PPT				S		**S**	**03 08 13.2**	**-1.5**
EAZ	**Earnscleugh**	**27.24**	**199**	*e*PN		**P**	**03 04 14.8**	**-0.7**
TVO	**Taravao**	**27.49**	**90**⇑	*i*P		**P**	**03 04 16.9**	**-0.8**
	comp=N,277nm,0.9s,mb5.9							
TVO				*e*pP			03 05 46.4	
	comp=N,1μm,1.4s							
TVO				*e*ScP		ScP	03 10 04.4	+1.3
	comp=N,79nm,0.7s							
MLZ	**Mavora Lakes**	**27.71**	**201**	PN		**P**	**03 04 20.5**	**+0.9**
MLZ				*e*SN		**S**	**03 08 23.1**	**+0.8**
MLZ	**Mavora Lakes**	**27.71**	**201**	*e*P		**P**	**03 04 20.5**	**+0.9**
TUZ	**Tuapeka**	**27.79**	**198**	PN		**P**	**03 04 20.9**	**+0.5**
TUZ	**Tuapeka**	**27.79**	**198**	*e*P		**P**	**03 04 20.9**	**+0.6**
DCZ	**Deep Cove**	**28.17**	**202**	PN		**P**	**03 04 24.1**	**+0.4**
DCZ	**Deep Cove**	**28.17**	**202**	*e*P		**P**	**03 04 24.1**	**+0.5**
WHZ	**Wether Hill Ro**	**28.26**	**201**	PN		**P**	**03 04 24.8**	**+0.4**
WHZ	**Wether Hill Ro**	**28.26**	**201**	*e*P		**P**	**03 04 24.8**	**+0.4**
WHZ				S		**S**	**03 08 32.6**	**+1.7**
SYZ	**Scrubby Hill**	**28.46**	**198**	PN		**P**	**03 04 26.6**	**+0.4**
APZ	**The Paps**	**29.08**	**200**	PN		**P**	**03 04 32.3**	**+0.8**
APZ				SN		**S**	**03 08 44.5**	**+1.0**
APZ				ScP		ScP	03 10 09.0	+0.9
ARMA	**Armidale**	**29.11**	**243**⇓	*i*P		**P**	**03 04 33.9**	**+2.1**
ARMA				*e*S		**S**	**03 08 48.3**	**+4.2**
ARMA				*e*SCP		ScP	03 10 11.7	+3.4
ARMA				*e*SCS		ScS	03 14 09.6	+5.8
PMOR	**Pomariorio Ree**	**29.33**	**85**⇑	*i*P		**P**	**03 04 32.7**	**-0.9**
	comp=N,367nm,0.8s,mb6.0							
PMOR				*e*pP			03 06 02.6	
	comp=N,335nm,1.5s							
PMOR				*e*ScP		ScP	03 10 10.7	+1.7
	comp=N,49nm,0.7s							
RIV	**Riverview**	**30.47**	**237**	*e*P		**P**	**03 04 46.2**	**+2.8**
RIV				*e*PCP		PcP	03 07 26.4	+2.1
RIV				*e*SCP		ScP	03 10 15.8	+3.1
RIV				*e*SCS		ScS	03 14 15.3	+4.9
RIV	**Riverview**	**30.47**	**237**	*e*P		**P**	**03 04 46.2**	**+2.8**
RIV				*e*			03 07 26.4	
RIV				*e*			03 14 15.3	
CNB	**Canberra Magne**	**32.35**	**235**⇓	*i*P		**P**	**03 05 01.3**	**+1.8**
	comp=N,416nm,1.1s,mb6.0							
CNB				*i* PCP		PcP	03 07 31.6	+2.1
CNB				*e*S		**S**	**03 09 35.3**	**+1.6**
CNB				*e*SCP		ScP	03 10 22.0	+2.8
CNB				*e*SCS		ScS	03 14 23.5	+3.4
CTA	**Charters Tower**	**33.33**	**264**	*e*P		**P**	**03 05 08.7**	**+0.9**
	comp=N,551nm,0.3s,mb6.7							
CTA				*e*PCP		PcP	03 07 33.5	+1.2
CTA				*e*S		**S**

ASAR PKP2bc 03 38 28.8
comp=Z,2.6nm,1.0s,baz=272,slow=4.5,SNR=6.7
ASAR P4KPbc 03 44 23.1
comp=Z,1.0nm,0.6s,baz=96,slow=4.6,SNR=17
ASAR Alice Springs 44.44 256 P **P 03 06 38.0 +0.9**
ASAR 03 08 08.2
ASAR S **S 03 12 29.9 -0.8**
ASAR 03 15 32.5
ASAR Alice Springs 44.44 256 P **P 03 06 38.0 +0.9**
ASAR PcP PcP 03 08 08.2 +0.2
ASAR ScP ScP 03 11 07.8 +2.2
ASAR S **S 03 12 29.9 -0.9**
ASAR ScS ScS 03 15 32.5 +1.3
ASAR *e* 03 35 19.9
ASAR ⇑*e* 03 38 28.8
ASPA Alice Springs 44.44 256 *e*P **P 03 06 37.5 +0.4**
ASPA *e*PCP PcP 03 08 09.0 +1.0
ASPA *e*PCS PcS 03 12 01.6 -0.9
ASPA *e*S **S 03 12 30.6 -0.1**
ASPA *e*SCS ScS 03 15 32.9 +1.7
WB2 Warramunga Arr 44.45 262 ⇓*i*P **P 03 06 37.5 +0.3**
WB2 *e*PCP PcP 03 08 09.2 +1.2
WB2 *e*S **S 03 12 27.9 -3.1**
WB2 *e*SCS ScS 03 15 33.0 +1.7
WRAB Tennant Creek 44.45 262 P **P 03 06 37.0 -0.2**
comp=Z,4μm,1.1s,mb6.8
WRAB Tennant Creek 44.45 262 ⇓*i*P **P 03 06 37.5 +0.3**
WRAB *e* 03 08 08.7
WRAB *e*S **S 03 12 29.1 -1.9**
WRAB pmax pmax
comp=Z,2μm,1.2s,mb6.4
WRAB Tennant Creek 44.45 262 ⇓*i*P **P 03 06 37.5 +0.3**
comp=Z,2μm,1.2s,mb6.4
WRAB *e*PcP PcP 03 08 08.7 +0.7
WRAB *e*ScP ScP 03 11 06.2 +0.5
WRAB *e*S **S 03 12 29.1 -1.8**
WRA Warramunga Arr 44.46 262 P **P 03 06 37.3 0.0**
comp=Z,141nm,0.3s,mb6.0,baz=97,slow=7.6,SNR=1044
WRA PcP PcP 03 08 08.7 +0.6
comp=Z,120nm,0.9s,baz=95,slow=3.8,SNR=11
WRA ScP ScP 03 11 08.1 +2.4
comp=Z,27nm,1.0s,baz=95,slow=4.2,SNR=5.9
WRA S **S 03 12 28.0 -3.1**
comp=Z,31nm,1.0s,baz=96,slow=14,SNR=7.5
WRA PKiKP PKiKP 03 15 04.7 -0.9
comp=Z,6.8nm,0.8s,baz=76,slow=0.8,SNR=5.6
WRA ScS ScS 03 15 32.2 +0.8
comp=Z,30nm,1.3s,baz=91,slow=9.5,SNR=8.4
WRA P3KPbc 03 35 18.7
comp=Z,0.4nm,0.5s,baz=292,slow=2.8,SNR=6.2
WRA PKP2bc 03 38 27.8
comp=Z,4.2nm,1.0s,baz=299,slow=3.8,SNR=7.6
WRA P4KPbc 03 44 22.4
comp=Z,2.3nm,1.0s,baz=98,slow=4.1,SNR=7.3
WRA Warramunga Arr 44.46 262 P **P 03 06 37.3 0.0**
WRA 03 08 08.7
WRA S **S 03 12 28.0 -3.1**
WRA Warramunga Arr 44.46 262 P **P 03 06 37.3 0.0**
WRA PcP PcP 03 08 08.7 +0.6
WRA ScP ScP 03 11 08.1 +2.4
WRA S **S 03 12 28.0 -3.1**
POHA Pohakuloa 45.30 31 ⇓*e*P **P 03 06 42.6 -1.1**
comp=Z,2μm,1.0s,mb6.5
KIP Kipapa 45.63 27 *e*P **P 03 06 44.8 -1.4**
KIP *e* 03 08 12.0
KIP pmax pmax
comp=Z,1μm,1.3s,mb6.3
KIP Kipapa 45.63 27 ⇓*e*P **P 03 06 44.2 -2.1**
comp=Z,1μm,1.4s,mb6.2
KIP *e*PcP PcP 03 08 12.0 -0.2
HKL Haleakala 45.78 29 *e*P **P 03 06 46.8 -0.6**
HKL *PP pP 03 08 18.5 -12
HKL Haleakala 45.78 29 *e*P **P 03 06 46.8 -0.6**
KAKA Kakadu 47.75 271 *e*P **P 03 07 02.1 0.0**
comp=Z,471nm,0.7s,mb6.1
KAKA *e*SCP ScP 03 11 20.7 +1.2
KAKA *e*S **S 03 13 17.5 +0.7**
GUMO Guam 49.29 310 ScP ScP 03 11 26.3 +0.2
comp=Z,261nm,1.0s,baz=157,slow=5.7,SNR=8.0
FORT Forrest 49.31 246 *e*P **P 03 07 13.9 +0.2**
comp=Z,661nm,0.8s,mb6.1
FORT *e*SCP ScP 03 11 28.9 +2.7
FORT *e*S **S 03 13 36.7 -1.4**
FORT *e*SCS ScS 03 16 05.0 +1.2
FITZ Fitzroy Crossi 52.89 262 ⇓*i*P **P 03 07 40.3 +0.8**
comp=Z,454nm,1.1s,mb5.7
FITZ *e*S **S 03 14 27.0 +1.0**
MBWA Marble Bar 57.76 257 ⇓P **P 03 08 13.8 +0.4**
SNR=14
MBWA Marble Bar 57.76 257 *e*P **P 03 08 13.4 0.0**
comp=Z,413nm,0.7s,mb5.7
MBWA *e*PcP PcP 03 08 58.6 +0.5
KLBR Kellerberrin 58.09 245 *e*P **P 03 08 15.5 -0.1**
comp=Z,500nm,0.8s,mb5.7
SBA Scott Base 58.40 184 *e*P **P 03 08 19.7 +2.1**
SBA Scott Base 58.40 184 ⇑*i*P **P 03 08 19.7 +2.1**
comp=Z,506nm,1.1s,mb5.6
SBA *e*pP pP 03 10 10.5 +1.8
SBA *e*PP PP 03 10 37.3 +1.2
SBA *e*ScP ScP 03 12 06.9 +0.9
SBA *e*S **S 03 15 37.8 +0.7**
NWAO Narrogin (SRO) 58.42 243 *e*P **P 03 08 19.6 +1.8**
VNDA Vanda 58.43 185 P **P 03 08 19.1 +1.2**
comp=Z,87nm,0.6s,mb5.1,baz=0.8,slow=7.3,SNR=448
VNDA pP pP 03 10 09.2 +0.2
comp=Z,6.7nm,0.7s,baz=260,slow=14,SNR=0.8
VNDA ScP ScP 03 12 07.1 +1.0
comp=Z,65nm,0.9s,baz=346,slow=4.3,SNR=11
VNDA S **S 03 15 39.9 +2.4**
comp=Z,1.9nm,1.0s,baz=237,slow=21,SNR=6.9
VNDA ScS ScS 03 17 08.7 -0.7
comp=Z,1.4nm,0.8s,baz=165,slow=22,SNR=5.8
VNDA PKP2bc 03 37 55.8
comp=Z,10.0nm,1.0s,baz=203,slow=5.4,SNR=6.2
VNDA Vanda 58.43 185 P **P 03 08 19.1 +1.3**
VNDA *PP pP 03 10 09.2 +0.2
VNDA S **S 03 15 39.9 +2.3**
VNDA 03 17 08.7
VNDA pmax pmax
comp=Z,870nm,0.6s
VNDA smax
comp=N,2.0nm,1.0s
VNDA Vanda 58.43 185 ⇑*i*P **P 03 08 18.9 +1.1**
comp=N,83nm,0.6s,mb5.0
VNDA *e*pP pP 03 10 08.9 -0.1
VNDA *e*PP PP 03 10 36.7 +0.4
VNDA *e*sP sP 03 11 03.8 -6.5
VNDA *e*ScP ScP 03 12 06.5 +0.4
MUN Mundaring 59.37 244 *e*P **P 03 08 40.5 +0.4**
KAPI Kappang 62.02 275 P **P 03 08 40.5 -1.0**
comp=N,772nm,0.8s,mb6.0,SNR=27
BUKP Musuan 62.27 291 *e*P **P 03 08 43.8 +0.7**
BUTP Butuan 62.28 292 *e*P **P 03 08 43.7 +0.5**
SCPH Surigao 62.78 293 *e*P **P 03 08 46.5 +0.1**
CGP Cagayan de Oro 62.85 291 ⇓*i*P **P 03 08 44.6 -2.3**
RPN Rapa Nui 62.89 111 ⇑*e*P **P 03 08 48.2 +1.1**
comp=N,463nm,1.0s,mb5.8
MSLP Maasin 63.49 293 *e*P **P 03 08 51.0 0.0**
PAGZ Pagadian 63.74 290 *e*P **P 03 08 53.2 +0.6**
PLP Palo 63.88 294 *e*P **P 03 08 52.6 -0.8**
TBP Tagbilaran 64.15 292 *e*P **P 03 09 04.0 +8.8**
CASY Casey 64.36 205 ⇑*i*P **P 03 08 56.9 +0.4**
CASY *i* S **S 03 16 49.7 -0.8**
PVCP Virac 65.76 296 *e*P **P 03 09 05.6 +0.4**
AUQP San Andres 66.88 295 *e*P **P 03 09 14.0 +1.8**
OTRP Odiongan 66.99 294 *e*P **P 03 09 12.5 -0.4**
CUYO Cuyo Island 67.17 292 *e*P **P 03 09 14.2 +0.2**
TSM Tawau 67.20 284 P **P 03 09 15.7 +1.5**
BOAC Boac 67.66 294 *e*P **P 03 09 16.6 -0.3**
POLP Polilio Island 68.18 296 *e*P **P 03 09 20.4 +0.3**
BUSP Coron 68.40 292 *e*P **P 03 09 21.4 -0.1**
BALP Baler 68.97 296 *e*P **P 03 09 24.8 -0.1**
BATP Bataraza 69.12 288 *e*P **P 03 09 26.5 +0.8**
LUBP Lubang 69.16 294 *e*P **P 03 09 24.0 -2.0**
CAUP Cauayan 69.35 298 *e*P **P 03 09 27.6 +0.5**
KKM Kota Kinabalu 69.41 285 P **P 03 09 28.8 +1.2**
KKM Kota Kinabalu 69.41 285 ⇓*i*P **P 03 09 28.4 +0.8**
MJAR Matsushiro Arr 69.65 324 P **P 03 09 28.1 -0.8**
comp=N,92nm,0.6s,mb5.4,baz=157,slow=6.0,SNR=285
MJAR pP pP 03 11 25.0 -0.8
comp=N,8.6nm,1.0s,baz=150,slow=6.7,SNR=1.9
MJAR S S 03 17 51.9 -0.4
comp=N,0.5nm,0.5s,baz=138,slow=7.6,SNR=3.8
MJAR PKPPKP 03 37 26.0
comp=N,7.6nm,1.2s,baz=316,slow=3.8,SNR=9.1
MJAR Matsushiro Arr 69.65 324 P **P 03 09 28.1 -0.8**
MJAR *PP pP 03 11 25.0 -0.8
MJAR S S 03 17 51.9 -0.4
MAJO Matsushiro 69.65 324 ⇓*i*P **P 03 09 28.1 -0.8**
MAJO *e*PP pP 03 11 27.2 +1.4
MAJO pmax pmax
comp=Z,101nm,0.5s,mb5.5
MAJO Matsushiro 69.65 324 ⇓*i*P **P 03 09 28.1 -0.9**
comp=Z,101nm,0.5s,mb5.5
MAJO *e*pP pP 03 11 27.2 +1.4
MAT Matsushiro 69.65 324 P **P 03 09 27.9 -1.0**
MAT S S 03 17 51.2 -1.1
MAT Matsushiro 69.65 324 *e*P **P 03 09 28.0 -0.9**
MAT *e*S S 03 17 51.0 -1.3
MAT pmax pmax
comp=Z,212nm,1.0s,mb5.5
MAT Matsushiro 69.65 324 *e*P **P 03 09 28.0 -0.9**
comp=Z,212nm,1.0s,mb5.5
MAT *e*S S 03 17 51.0 -1.3
QSPA South Pole Qui 70.11 180 ⇑*i*P **P 03 09 32.6 +0.9**
comp=Z,411nm,0.8s,mb5.9
APYP Conner 70.28 298 *e*P **P 03 09 32.5 -0.2**
ERM Erimo 71.25 331 P **P 03 09 39.8 +1.5**
comp=Z,1μm,0.9s,mb6.5,SNR=7.3
MIR Mirnyy 71.39 205 *c i*P **P 03 09 40.5 +1.3**
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.1
YUK Yuzh-Kuril'sk 71.67 334 ⇓*i*P **P 03 09 40.0 -0.8**
YUK pmax pmax
comp=N,8μm,2.5s
YUK pmax pmax
comp=E,6μm,2.5s
YUK pmax pmax
comp=Z,10μm,2.5s,mb6.9
YUK pmax pmax
comp=Z,150nm,0.5s,mb5.8
SMY Shemya 72.68 355 *e*P **P 03 09 44.9 -1.8**
SMY Shemya 72.68 355 *e*P **P 03 09 44.7 -2.0**
comp=Z,1μm,1.1s,mb6.4
NIKO Nikolski 73.08 6 *e*P **P 03 09 46.6 -2.3**
KSM Kuching 73.12 278 ⇓*i*P **P 03 09 50.3 +1.2**
ASAJ Asahikawa 73.15 332 S S 03 18 27.7 -3.8
comp=Z,1.3nm,0.3s,baz=283,slow=34,SNR=1.9
NACB Ninganchiao 73.19 304 ⇓*i*P **P 03 09 48.8 -0.8**
YHNB Yeheng 73.62 304 ⇓*i*P **P 03 09 51.6 -0.4**
TATO Taipei 73.69 305 ⇓P **P 03 09 51.9 -0.5**
SNR=22
TATO Taipei 73.69 305 *e*pP **P 03 09 52.1 -0.3**
SKR Severo-Kuril's 73.88 343 *e*P **P 03 09 49.0 -4.5**
SKR pmax pmax
comp=N,400nm,1.2s
SKR pmax pmax
comp=Z,790nm,1.2s,mb6.1
UNV Unalaska Valle 74.19 7 *e*P **P 03 09 52.8 -2.4**
AKUT Akutan 74.56 8 *e*P **P 03 09 55.1 -2.2**
comp=Z,748nm,1.0s,mb6.2
YSS Yuzh-Sakhalins 75.31 334 *κ i*P **P 03 10 01.2 -0.3**
YSS *e* 03 10 13.8
YSS S S 03 18 52.0 -3.0
YSS 03 19 18.0
YSS pmax pmax
comp=Z,840nm,1.0s,mb6.2
YSS Yuzh-Sakhalins 75.31 334 *e*P **P 03 10 01.6 +0.1**
comp=Z,879nm,1.1s,mb6.2
PET Petropavlovsk 75.39 346 *e*P **P 03 10 00.4 -1.5**
PET pmax pmax
comp=Z,2μm,1.8s,mb6.2
PET Petropavlovsk 75.39 346 *e*P **P 03 10 00.4 -1.6**
comp=Z,1μm,1.8s,mb6.2
FALS False Pass 75.58 9 *e*P **P 03 10 00.5 -2.5**
QZH Quanzhou 75.94 303 *i* PR **P 03 10 05.5 +0.6**
QZH AMB AMB
comp=Z,2μm,1.4s,mb6.3
QZH AMB AMB
comp=Z,8μm,3.6s
KS15 Wonju Array Si 76.36 319 *e*pP **P 03 10 07.6 +0.4**
SDPT Sand Point 76.52 10 *e*P **P 03 10 05.8 -2.3**
comp=Z,935nm,1.0s,mb6.2
SNCC San Nicolas Is 77.04 47 ⇑P **P 03 10 11.4 +0.4**
baz=77,SNR=8.2
SNCC ⇓S S 03 19 18.7 +5.3
baz=77
SPIA Saint Paul Isl 77.13 4 *e*P **P 03 10 10.3 -1.1**
INCN Inchon 77.16 318 ⇓P **P 03 10 12.2 +0.5**
SNR=33
INCN Inchon 77.16 318 *e*P **P 03 10 11.6 0.0**
FARB Farallon Islan 77.35 42 P **P 03 10 12.8 +0.1**
baz=78,SNR=35
FARB ⇓S S 03 19 19.3 +2.6
baz=78
V03C Hunter Liggett 77.48 44 P **P 03 10 14.0 +0.6**
baz=78,SNR=54
V03C ⇓S S 03 19 22.0 +3.9
baz=78
HAST Hastings Reser 77.49 44 P **P 03 10 13.8 +0.4**
baz=78,SNR=242
HAST ⇓S S 03 19 22.3 +4.1
baz=78
V04C Ramage Ranch, 77.50 45 ⇓P **P 03 10 14.0 +0.5**
baz=78,SNR=74
V04C ⇓S S 03 19 22.0 +3.8
baz=78
BNLO Ben Lomond 77.54 43 P **P 03 10 13.8 +0.1**
baz=78,SNR=55
BNLO ⇓S S 03 19 21.4 +2.8
baz=78
SBC Santa Barbara 77.58 46 ⇓P **P 03 10 14.4 +0.5**
baz=78,SNR=10
SBC ⇓S S 03 19 23.0 +3.9
baz=78
SAC San Andreas 77.65 42 *e*P **P 03 10 14.3 0.0**
JRSC Jasper Ridge 77.66 43 P **P 03 10 14.5 +0.2**
baz=78,SNR=64
JRSC ⇑S S 03 19 23.2 +3.3
baz=78
MCCM Marconi Confer 77.70 42 ⇓*i*P **P 03 10 14.1 -0.5**
MCCM Marconi Confer 77.70 42 P **P 03 10 14.5 -0.1**
baz=78,SNR=22
MCCM ⇓S S 03 19 23.7 +3.4
baz=78
VLA Vladivostok 77.71 325 *c i*P **P 03 10 14.8 +0.2**
VLA *e*PPP 03 15 21.0
VLA *e*S S 03 19 17.2 -3.3
VLA pmax pmax
comp=Z,377nm,1.1s,mb5.7
VLA Vladivostok 77.71 325 ⇑*i*P **P 03 10 14.9 +0.3**
SAO San Andreas Ge 77.78 43 *e*P **P 03 10 15.0 0.0**
SAO pmax pmax
comp=Z,550nm,1.1s,mb5.9
SAO San Andreas Ge 77.78 43 *e*P **P 03 10 15.0 0.0**
comp=Z,551nm,1.1s,mb5.9
CHGN Chignik 77.78 11 *e*P **P 03 10 12.6 -2.4**
PKD Parkfield 77.89 45 P **P 03 10 15.8 +0.2**
baz=78,SNR=140
PKD ⇑S S 03 19 25.6 +3.2
baz=78
U04C Hernandez Rese 77.98 44 P **P 03 10 16.8 +0.7**
baz=78,SNR=218
U04C ⇑S S 03 19 28.0 +4.7
baz=78
PACP Pacheco Peak 78.03 43 P **P 03 10 17.0 +0.7**
baz=78,SNR=131
PACP ⇓S S 03 19 28.3 +4.5
baz=78
CVS Carmenet Viney 78.09 42 P **P 03 10 16.5 -0.1**
baz=78,SNR=98
CVS ⇑S S 03 19 26.9 +2.5
baz=78
WENL Wente Brothers 78.09 43 P **P 03 10 17.2 +0.5**
baz=78,SNR=24
WENL ⇓S S 03 19 27.8 +3.3
baz=78
HOPS Hopland 78.10 41 *e*P **P 03 10 16.8 +0.1**
comp=Z,631nm,1.2s,mb5.9
HOPS Hopland 78.10 41 P **P 03 10 17.0 +0.3**
baz=78,SNR=63
HOPS ⇓S S 03 19 26.1 +1.6
baz=78
FMP Fort Macarthur 78.15 47 ⇑P **P 03 10 17.1 +0.2**
baz=78,SNR=7.6
FMP ⇓S S 03 19 28.9 +3.8
baz=78
BDM Black Diamond 78.22 42 ⇑P **P 03 10 17.7 +0.3**
baz=78,SNR=19
BDM ⇓S S 03 19 28.7 +2.9
baz=78
P01C Double 8 Ranch 78.23 40 P **P 03 10 17.6 +0.2**
baz=78,SNR=53
P01C ⇑S S 03 19 27.1 +1.2
baz=78
V05C Boulder Hill, 78.28 45 P **P 03 10 18.5 +0.9**
baz=78,SNR=14
V05C ⇑S S 03 19 30.4 +4.1
baz=78
S04C Ingram Canyon, 78.29 43 P **P 03 10 18.1 +0.3**
baz=78,SNR=173
S04C ⇑S S 03 19 30.0 +3.5
baz=78
OSI Osito Adit 78.36 47 ⇑P **P 03 10 18.3 +0.2**
baz=78
OSI ⇓S S 03 19 30.6 +3.4
baz=78
O01C Eel River Cons 78.36 40 P **P 03 10 18.8 +0.7**
baz=78,SNR=57
O01C ⇓S S 03 19 31.1 +4.0
baz=78
T05C Eagle Field, D 78.37 44 P **P 03 10 18.9 +0.8**
baz=78,SNR=30
T05C ⇑S S 03 19 32.3 +5.0
baz=78
U05C Westside ANR, 78.40 44 P **P 03 10 18.8 +0.5**
baz=79,SNR=14
U05C ⇓S S 03 19 33.3 +5.7
baz=79
MNRC McLaughlin Nat 78.42 41 ⇑P **P 03 10 19.1 +0.7**
baz=79,SNR=269
MNRC ⇑S S 03 19 32.6 +4.8
baz=79
109C Camp Elliot, M 78.53 49 ⇓P **P 03 10 19.0 0.0**
baz=79,SNR=28
109C ⇓S S 03 19 32.6 +3.6
baz=79
Q03C Winters 78.54 42 P **P 03 10 19.9 +0.9**
baz=79,SNR=47
Q03C ⇓S S 03 19 32.7 +3.6
baz=79
MWC Mount Wilson 78.59 47 *e*P **P 03 10 19.2 -0.1**
JCC Jacoby Creek 78.66 39 P **P 03 10 20.0 +0.3**
baz=79,SNR=15
JCC ⇓S S 03 19 33.6 +3.3
baz=79
GASB Alder Springs 78.72 40 P **P 03 10 21.0 +1.0**
baz=79,SNR=151
GASB ⇑S S 03 19 34.8 +3.8
baz=79
BAR Barrett 78.73 49 *e*P **P 03 10 20.0 0.0**
S05C Merced 78.85 43 ⇑P **P 03 10 20.5 -0.1**
baz=79,SNR=18
S05C ⇓S S 03 19 34.6 +2.3
baz=79
KHMM Horse Mountain 78.87 39 *e*P **P 03 10 21.4 +0.7**
R04C Big Horse Ranc 78.99 42 P **P 03 10 21.0 -0.4**
baz=79,SNR=15
R04C ⇓S S 03 19 35.4 +1.6
baz=79
O02C Red Bluff 79.00 40 ⇑P **P 03 10 22.3 +0.8**
baz=79,SNR=254
O02C ⇑S S 03 19 37.1 +3.2
baz=79
SUTB Sutter Buttes 79.04 41 ⇑P **P 03 10 21.2 -0.5**
baz=79,SNR=76
SUTB ⇑S S 03 19 36.2 +1.9
baz=79
T06C Millerton Lake 79.06 44 P **P 03 10 21.8 0.0**
baz=79,SNR=20
T06C ⇑S S 03 19 36.0 +1.5
baz=79
Q04C Lincoln 79.06 42 ⇓P **P 03 10 21.6 -0.1**
baz=79,SNR=38
Q04C ⇑S S 03 19 37.1 +2.7
baz=79
N02C Big Bar 79.08 39 ⇓P **P 03 10 22.2 +0.3**
baz=79,SNR=69
N02C ⇓S S 03 19 37.3 +2.6
baz=79
ISA Isabella 79.11 46 *e*P **P 03 10 21.9 -0.2**
ISA pmax pmax
comp=Z,720nm,1.5s,mb5.8
ISA Isabella 79.11 46 *e*P **P 03 10 21.9 -0.1**
comp=Z,725nm,1.5s,mb5.8
ISA Isabella 79.11 46 ⇑P **P 03 10 22.4 +0.3**
baz=79,SNR=118
ISA ⇓S S 03 19 38.8 +3.8
baz=79
CMB Columbia Colle 79.21 43 *e*P **P 03 10 22.3 -0.3**
CMB Columbia Colle 79.21 43 ⇓P **P 03 10 22.5 -0.1**
baz=79,SNR=289
CMB ⇑S S 03 19 38.8 +2.7
baz=79
M01C Crescent City 79.25 38 P **P 03 10 23.3 +0.5**
baz=79,SNR=16
M01C ⇓S S 03 19 38.4 +2.0
baz=79
GZH Guangzhou 79.27 299 P **P 03 10 22.8 -0.1**
GZH S S 03 19 30.0 -6.6
GZH AMB AMB
comp=Z,410nm,1.2s,mb5.6
LPIG La Paz 79.32 60 P **P 03 10 23.8 +0.6**
comp=Z,51nm,0.5s,mb5.1,baz=55,slow=0.8,SNR=14
O03C Acorn Hollow, 79.35 41 P **P 03 10 23.4 0.0**
baz=80,SNR=52
O03C ⇓S S 03 19 39.5 +2.0
baz=80
PFO Pinyon Flat Ob 79.38 48 P **P 03 10 23.0 -0.5**
comp=Z,1μm,1.4s,mb6.0,SNR=43
PFO Pinyon Flat Ob 79.38 48 ⇓*i*P **P 03 10 23.6 +0.1**
PFO pmax pmax
comp=Z,353nm,1.4s,mb5.5
PFO Pinyon Flat Ob 79.38 48 ⇓*i*P **P 03 10 23.6 +0.1**
comp=Z,353nm,1.4s,mb5.5
PFO Pinyon Flat Ob 79.38 48 ⇓P **P 03 10 23.8 +0.3**
baz=80,SNR=90
PFO ⇑S S 03 19 42.4 +4.7
baz=80
WDC Whiskeytown Da 79.40 40 *e*P **P 03 10 23.5 -0.1**
WDC pmax pmax
comp=Z,660nm,1.3s,mb5.8
WDC Whiskeytown Da 79.40 40 *e*P **P 03 10 23.5 -0.1**
comp=Z,658nm,1.4s,mb5.8
WDC Whiskeytown Da 79.40 40 P **P 03 10 23.6 +0.1**
baz=80,SNR=178
WDC ⇑S S 03 19 39.5 +1.5
baz=80
ORV Oroville 79.41 41 P **P 03 10 23.4 -0.2**
baz=80,SNR=267
ORV ⇓S S 03 19 39.8 +1.7
baz=80
LAVA Lava Cap Winer 79.41 42 P **P 03 10 23.4 -0.3**
baz=80,SNR=114
LAVA ⇑S S 03 19 40.4 +2.3
baz=80
KBO Bosley Butte 79.42 38 *e*P **P 03 10 24.7 +1.0**
S06C San Francisco 79.47 43 P **P 03 10 23.8 -0.1**
baz=80,SNR=71
S06C ⇑S S 03 19 41.5 +2.9
baz=80
KCC Kaiser Creek 79.49 44 ⇓P **P 03 10 24.2 +0.1**
baz=80,SNR=14
KCC ⇓S S 03 19 41.9 +3.0
baz=80
K01A Sixes 79.66 37 P **P 03 10 25.3 +0.4**
baz=80,SNR=7.4
M02C Callahan 79.71 39 P **P 03 10 25.9 +0.7**
baz=80,SNR=169
M02C ⇓S S 03 19 44.2 +3.0
baz=80
L02A Cave Junction 79.75 38 ⇓P **P 03 10 25.8 +0.3**
baz=80,SNR=33
L02A ⇓S S 03 19 44.1 +2.6
baz=80
KEBM Edson Butte 79.78 37 *e*P **P 03 10 25.9 +0.3**
R05C Kirkwood Meado 79.80 42 P **P 03 10 25.9 +0.2**
baz=80,SNR=188
R05C ⇓S S 03 19 44.9 +2.9
baz=80
CWC Cottonwood Cre 79.81 45 ⇑P **P 03 10 25.8 +0.1**
baz=80,SNR=19
CWC ⇓S S 03 19 45.2 +3.1
baz=80
P05C Yuba Gap, Truc 79.81 42 P **P 03 10 26.0 +0.3**
baz=80,SNR=236
P05C ⇑S S 03 19 44.7 +2.5

baz=80
KGM Kluang 79.84 276 P P 03 10 27.3 +1.4
MDJ Mudanjiang 79.95 325 P P 03 10 26.8 +0.3
MDJ AP pP 03 12 33.5 +5.7
MDJ XP sP 03 13 30.0 +3.7
MDJ S S 03 19 48.5 +4.9
MDJ AMB AMB
comp=Z,440nm,1.0s,mb5.7
MDJ AMB AMB
comp=Z,3µm,6.7s
MDJ Mudanjiang 79.95 325 P P 03 10 26.9 +0.4
MLAC Mammoth Lakes 79.98 44 ⇑P P 03 10 27.2 +0.6
baz=80,SNR=22
MLAC ⇓S S 03 19 49.2 +5.3
baz=80
MTUM Tungsten Hills 80.00 44 eP P 03 10 27.1 +0.3
YBH Yreka Blue Hor 80.00 39 eP P 03 10 26.9 +0.2
YBH pmax pmax
comp=Z,720nm,1.2s
YBH Yreka Blue Hor 80.00 39 eP P 03 10 26.9 +0.2
comp=Z,725nm,1.3s,mb5.8
YBH Yreka Blue Hor 80.00 39 ⇓P P 03 10 27.3 +0.5
baz=80,SNR=212
YBH ⇓S S 03 19 46.3 +2.1
baz=80
O05C Quincy 80.01 41 P P 03 10 27.0 +0.2
baz=80,SNR=84
O05C ⇑S S 03 19 45.8 +1.5
baz=80
GSC Goldstone 80.05 47 eP P 03 10 26.8 -0.2
GSC Goldstone 80.05 47 ⇓P P 03 10 27.1 +0.1
baz=80,SNR=133
GSC ⇓S S 03 19 48.2 +3.6
baz=80
TIN Tinemaha 80.06 45 ⇓P P 03 10 27.4 +0.4
baz=80,SNR=17
TIN ⇑S S 03 19 48.8 +4.1
baz=80
M03C McCloud 80.07 39 P P 03 10 27.3 +0.2
baz=80,SNR=178
M03C ⇓S S 03 19 47.2 +2.4
baz=80
WAKR Walker 80.09 43 eP P 03 10 27.5 +0.3
R07C Lee Vining 80.11 43 P P 03 10 27.8 +0.5
baz=80,SNR=39
R07C ⇓S S 03 19 48.5 +3.3
baz=80
O04C Chester 80.12 41 P P 03 10 27.6 +0.2
baz=80,SNR=274
O04C ⇑S S 03 19 46.9 +1.6
baz=80
K02A Glendale 80.19 38 P P 03 10 27.9 +0.2
baz=80,SNR=49
K02A ⇑S S 03 19 48.6 +2.5
baz=80
HATC Hat Creek Radi 80.19 40 P P 03 10 28.1 +0.4
baz=80,SNR=166
HATC ⇓S S 03 19 48.1 +2.0
baz=80
GLA Glamis 80.24 50 eP P 03 10 28.6 +0.6
GLA Glamis 80.24 50 ⇓iP P 03 10 28.6 +0.6
GLA Glamis 80.24 50 P P 03 10 28.7 +0.8
baz=80,SNR=157
GLA ⇑S S 03 19 50.8 +4.3
baz=80
KDAK Kodiak Island 80.34 14 P P 03 10 27.0 -1.5
comp=Z,3µm,0.9s,mb6.6,SNR=86
KDAK Kodiak Island 80.34 14 P P 03 10 27.1 -1.4
comp=Z,245nm,0.8s,mb5.6,baz=193,slow=3.4,SNR=94
KDAK PKiKP PKiKP 03 15 50.7 -0.8
comp=Z,6.3nm,0.9s,baz=202,slow=4.0,SNR=3.5
KDAK S S 03 19 45.0 -2.6
comp=Z,7.1nm,0.9s,baz=330,slow=20,SNR=11
KDAK Kodiak Island 80.34 14⇓eP P 03 10 25.9 -2.6
comp=Z,2µm,1.6s,mb6.3
KDAK ePcP PcP 03 10 34.2 +0.8
WCN Washoe City 80.35 42 P P 03 10 28.9 +0.4
baz=80,SNR=279
WCN ⇓S S 03 19 50.6 +2.9
baz=80
HUMO Hull Mountain 80.40 38⇓iP P 03 10 29.1 +0.3
comp=Z,625nm,1.3s,mb5.8
HUMO Hull Mountain 80.40 38 ⇑P P 03 10 29.2 +0.4
baz=81,SNR=177
HUMO ⇓S S 03 19 51.1 +3.0
baz=81
QIZ Qiongzhong 80.44 294 P P 03 10 30.0 +1.0
QIZ PP PP 03 13 40.8 -2.0
QIZ S S 03 19 54.0 +5.4
QIZ AMB AMB
comp=Z,120nm,1.6s,mb5.0
QIZ Qiongzhong 80.44 294⇓iP P 03 10 29.7 +0.7
comp=Z,203nm,1.4s,mb5.3
P06A Stead Airport, 80.48 42 ⇑P P 03 10 29.7 +0.5
baz=81,SNR=57
P06A ⇓S S 03 19 51.6 +2.6
baz=81
J02A Umpqua 80.52 37 P P 03 10 29.6 +0.1
baz=81,SNR=32
J02A ⇑S S 03 19 52.0 +2.6
baz=81
M04C Macdoel 80.55 39 P P 03 10 29.9 +0.4
baz=81,SNR=138
M04C ⇑S S 03 19 52.5 +2.8
baz=81
BUOR Burton Butte 80.61 39 P P 03 10 30.2 +0.3
M05C Lookout 80.71 40 P P 03 10 30.7 +0.3
baz=81,SNR=59
M05C ⇓S S 03 19 53.0 +1.7
baz=81
TUQ Turquoise Mtn. 80.73 47 P P 03 10 30.7 +0.3
baz=81,SNR=90
TUQ ⇓S S 03 19 55.6 +4.1
baz=81
BBOR Butler Butte 80.73 38 P P 03 10 30.5 0.0
Q07A Schurz 80.74 43 ⇓P P 03 10 31.0 +0.4
baz=81,SNR=9.8
Q07A ⇑S S 03 19 54.3 +2.6
baz=81
L04A Klamath Falls 80.75 39 P P 03 10 30.9 +0.3
baz=81,SNR=144
L04A ⇑S S 03 19 53.8 +2.1
baz=81
I02A Mapleton 80.78 36 ⇑P P 03 10 30.9 +0.1
baz=81,SNR=24
I02A ⇓S S 03 19 53.9 +2.0
baz=81
NVAR Mina Array Bea 80.78 44 P P 03 10 30.9 +0.1
comp=Z,167nm,0.8s,mb5.5,baz=232,slow=12,SNR=23
NVAR PKiKP PKiKP 03 15 52.2 0.0
comp=Z,1.7nm,0.7s,baz=227,slow=4.8,SNR=3.9
NVAR S S 03 19 52.3 +0.2
comp=Z,0.4nm,0.5s,baz=70,slow=43,SNR=2.4
NVAR PKPPKP 03 37 09.2
comp=Z,1.8nm,0.9s,baz=72,slow=5.1,SNR=4.4
NVAR tx tx 03 39 31.6
comp=Z,1.9nm,0.9s,baz=98,slow=4.6,SNR=4.9
O06A Flanigan 80.81 41 ⇑P P 03 10 31.2 +0.3
baz=81,SNR=436
O06A ⇑S S 03 19 54.6 +2.4
baz=81
PAHR Pah Rah Range 80.82 42 eP P 03 10 31.4 +0.4
comp=Z,784nm,1.3s,mb6.0
Y12C Blythe 80.82 49 P P 03 10 31.4 +0.5
baz=81,SNR=100
Y12C ⇓S S 03 19 56.3 +3.9
baz=81
VSP Spence Mountai 80.82 39 P P 03 10 31.2 +0.2
R08A Mina 80.86 44 ⇑P P 03 10 31.4 +0.2
baz=81,SNR=37
R08A ⇓S S 03 19 56.6 +3.8
baz=81
J03A Ideyld Park 80.87 37 P P 03 10 31.5 +0.3
baz=81,SNR=38
J03A ⇑S S 03 19 55.5 +2.6
baz=81
MNV Mina 80.88 44 P P 03 10 31.3 0.0
MNV pmax pmax
comp=Z,780nm,1.3s,mb6.0
MNV Mina 80.88 44⇓iP P 03 10 31.3 0.0
comp=Z,780nm,1.3s,mb6.0
HOG Hogback Mounta 80.91 39 P P 03 10 31.7 +0.3
U10A Ash Meadows, A 80.98 46 P P 03 10 32.2 +0.4
baz=81,SNR=88
U10A ⇓S S 03 19 57.5 +3.4
baz=81
M06C Likely Place G 81.02 40 P P 03 10 32.4 +0.4
baz=81,SNR=70
M06C ⇑S S 03 19 56.9 +2.5
baz=81
P07A Fallon 81.04 42 ⇓P P 03 10 32.4 +0.3
baz=81,SNR=14
P07A ⇑S S 03 19 57.5 +2.9
baz=81
I03A Eugene 81.06 37 P P 03 10 32.3 +0.1
baz=81,SNR=19
I03A ⇓S S 03 19 56.0 +1.1
baz=81
S09A Goldfield 81.09 45 ⇓P P 03 10 32.3 -0.1
baz=81,SNR=158
S09A ⇓S S 03 19 57.8 +2.6
baz=81
H02A Toledo 81.11 36 ⇑P P 03 10 32.8 +0.4
baz=81
H02A ⇑S S 03 19 56.5 +1.1
baz=81
K04A Chilquin 81.12 39 P P 03 10 32.8 +0.3
baz=81,SNR=26
K04A ⇑S S 03 19 57.6 +2.2
baz=81
DL2 Dalian 81.19 317 *i* PR **P 03 10 32.8 -0.1**
DL2 AP pP 03 12 40.0 +5.3
DL2 S S 03 19 55.5 -0.6
DL2 AMB AMB
comp=Z,200nm,1.1s,mb5.5
DL2 AMB AMB
comp=Z,1µm,5.1s
COCO West Island 81.23 260 *e*P **P 03 10 32.8 -0.3**
comp=Z,723nm,1.3s,mb5.9
MPOR Mary's Peak 81.25 36 P P 03 10 33.5 +0.3
Q08A Gabbs 81.27 43 ⇓P P 03 10 33.2 0.0
baz=81,SNR=328
Q08A ⇑S S 03 20 00.1 +3.2
baz=81
V11A Goodsprings 81.28 47 P P 03 10 33.6 +0.2
baz=81,SNR=113
V11A ⇑S S 03 20 00.7 +3.6
baz=81
L05A Lakeview 81.31 39 ⇑P P 03 10 34.1 +0.6
baz=82,SNR=212
L05A ⇑S S 03 20 00.8 +3.5
baz=82
TPNV Topopah Spring 81.32 46 *e*P **P 03 10 33.6 +0.1**
NEE Needles 81.32 48 ⇑P P 03 10 34.0 +0.5
baz=82
Y13A Salome 81.34 49 P P 03 10 34.4 +0.7
baz=82,SNR=181
Y13A ⇓S S 03 20 02.4 +4.7
baz=82
W12A Cal Nev Ari 81.38 48 P P 03 10 34.5 +0.6
baz=82,SNR=17
W12A ⇑S S 03 20 02.6 +4.5
baz=82
O07A Toulon 81.40 42 ⇓P P 03 10 34.2 +0.2
baz=82,SNR=484
O07A ⇓S S 03 20 00.8 +2.5
baz=82
COR Corvallis 81.44 36 *e*P **P 03 10 34.4 +0.2**
COR pmax pmax
comp=Z,820nm,1.4s,mb6.0
COR Corvallis 81.44 36 *e*P **P 03 10 34.4 +0.2**
comp=Z,815nm,1.4s,mb6.0
R09A Tonopah 81.48 44 ⇓P P 03 10 34.5 +0.1
baz=82,SNR=32
R09A ⇑S S 03 20 01.7 +2.7
baz=82
H03A Soap Creek Ran 81.50 36 P P 03 10 34.7 +0.2
baz=82,SNR=49
H03A ⇓S S 03 20 00.4 +1.1
baz=82
HBO Huckleberry Mo 81.53 37 P P 03 10 34.5 -0.1
V12A Nelson 81.62 47 P P 03 10 35.4 +0.3
baz=82,SNR=133
V12A ⇓S S 03 20 04.7 +4.2
baz=82
U11A Corn Creek 81.62 47 ⇑P P 03 10 35.5 +0.4
baz=82,SNR=14
U11A ⇑S S 03 20 04.7 +4.2
baz=82
P08A Dixie Valley 81.64 43 P P 03 10 35.7 +0.5
baz=82,SNR=35
P08A ⇓S S 03 20 04.5 +3.9
baz=82
SNY Shenyang 81.66 320 ⇓P P 03 10 35.0 -0.3
SNY AP pP 03 12 40.0 +2.7
SNY XP sP 03 13 37.3 +1.7
SNY AMB AMB
comp=Z,7µm,2.5s,mb6.7
BROR Big Rock Looko 81.72 37 P P 03 10 35.2 -0.4
Q09A Carvers 81.73 44 P P 03 10 36.0 +0.3
baz=82,SNR=67
Q09A ⇓S S 03 20 04.7 +3.1
baz=82
CN2 Changchun 81.74 322 *e*P **P 03 10 35.5 -0.2**
CN2 *e*S S 03 20 07.8 +6.1
CN2 AMB AMB
comp=Z,50nm,1.4s
CN2 AMB AMB
comp=Z,200nm,3.0s
X13A Yucca 81.74 49 ⇓P P 03 10 36.1 +0.4
baz=82,SNR=276
X13A ⇓S S 03 20 05.6 +3.9
baz=82
Z14A Wintersburg 81.75 50 P P 03 10 36.6 +0.9
baz=82,SNR=169
Z14A ⇓S S 03 20 06.2 +4.4
baz=82
SHPR Sheep Range 81.82 47 *e*P **P 03 10 36.3 +0.2**
PMSA Palmer Station 81.87 157⇑iP P 03 10 36.4 0.0
comp=Z,381nm,1.1s,mb5.8
O08A Rochester Mine 81.92 42 ⇑P P 03 10 37.0 +0.3
baz=82,SNR=12
O08A ⇑S S 03 20 06.0 +2.5
baz=82
M07A Soldier Meadow 81.93 41 P P 03 10 36.9 +0.3
baz=82,SNR=332
M07A ⇓S S 03 20 05.7 +2.1
baz=82
WHN Wuhan 81.95 306⇓iP P 03 10 37.5 +0.7
WHN AMB AMB
comp=Z,290nm,1.1s,mb5.7
KLR Kul'dur 81.95 330⇑iP P 03 10 33.3 -3.5
KLR pmax pmax
comp=E,400nm,2.2s
KLR pmax pmax
comp=Z,1µm,2.2s,mb6.1
W13A Hualapai Mount 81.96 48 ⇑P P 03 10 37.4 +0.6
baz=82
W13A ⇓S S 03 20 08.4 +4.5
baz=82
MAW Mawson 82.00 200⇑iP P 03 10 36.8 -0.2
comp=Z,28nm,0.6s,mb5.0
MAW *i* S S 03 19 58.4 -5.9
MAW Mawson 82.00 200 P P 03 10 36.9 -0.1
comp=Z,30nm,0.6s,mb5.0,baz=125,slow=5.9,SNR=148
MAW pP pP 03 12 39.0 -0.2
comp=Z,5.1nm,0.8s,baz=79,slow=17,SNR=1.4
MAW S S 03 20 01.2 -3.0
comp=Z,10nm,1.1s,baz=313,slow=21,SNR=16
MAW PKKPbc PKKPbc 03 28 59.3 -2.1
comp=Z,3.7nm,0.6s,baz=317,slow=4.0,SNR=13
MAW PKPPKP 03 37 02.7
comp=Z,7.1nm,1.1s,baz=302,slow=4.4,SNR=6.0
MAW Mawson 82.00 200 P P 03 10 36.9 -0.1
MAW *PP pP 03 12 39.0 -0.2
MAW S S 03 20 01.2 -3.1
MAW pmax pmax
comp=Z,30nm,0.6s
Y14A Wickenburg 82.00 50 P P 03 10 37.4 +0.3
baz=82,SNR=191
Y14A ⇓S S 03 20 09.1 +4.8
baz=82
R10A Warm Springs 82.01 45 P P 03 10 37.5 +0.4
baz=82,SNR=301
R10A ⇓S S 03 20 07.5 +3.1
baz=82
SSOR Sweet Springs 82.08 36 P P 03 10 37.0 -0.4
MAIG Mazatlaan 82.10 62 *i* P **P 03 10 37.5 0.0**
K06A Valley Falls 82.10 39 P P 03 10 37.7 +0.2
baz=82,SNR=371
K06A ⇑S S 03 20 08.2 +3.0
baz=82
H04A Detroit Lake 82.12 37 P P 03 10 37.2 -0.4
baz=82,SNR=111
H04A ⇑S S 03 20 06.1 +0.7
baz=82
F03A Seaside 82.14 35 P P 03 10 37.8 +0.1
baz=82,SNR=21
F03A ⇓S S 03 20 07.1 +1.4
baz=82
BKCOR Black Crater 82.17 37 P P 03 10 37.9 0.0
L07A Adell 82.19 40 P P 03 10 38.5 +0.5
baz=82,SNR=270
L07A ⇓S S 03 20 09.5 +3.4
baz=82
U12A Valley of Fire 82.20 47 P P 03 10 38.5 +0.5
baz=82,SNR=181
U12A ⇓S S 03 20 09.6 +3.3
baz=82
N08A GE Springer Mi 82.22 42 P P 03 10 38.2 +0.1
baz=82,SNR=178
N08A ⇓S S 03 20 08.0 +1.5
baz=82
116A Eloy 82.26 51 P P 03 10 39.2 +0.8
baz=82,SNR=118
116A ⇓S S 03 20 11.5 +4.7
baz=82
G04A Mulino 82.28 36 P P 03 10 38.2 -0.2
baz=82,SNR=37
G04A ⇓S S 03 20 08.6 +1.5
baz=82
I05A Bend 82.32 38 P P 03 10 38.8 +0.1
baz=82,SNR=77
X14A Yava 82.35 49 P P 03 10 39.5 +0.8
baz=82,SNR=293
X14A ⇓S S 03 20 12.8 +5.1
baz=82
J06A Christmas Vall 82.43 39 P P 03 10 38.9 -0.2
baz=83,SNR=363
J06A ⇑S S 03 20 10.4 +1.9
baz=83
M08A Happy Creek Ra 82.45 41 P P 03 10 39.6 +0.4
baz=83,SNR=217
M08A ⇑S S 03 20 11.4 +2.7
baz=83
O09A Fish Creek Ran 82.47 43 ⇑P P 03 10 39.5 +0.1
baz=83,SNR=364
O09A ⇓S S 03 20 10.4 +1.4
baz=83
E03A Lebam 82.54 35 ⇑P P 03 10 39.7 -0.1
baz=83,SNR=76
E03A ⇑S S 03 20 10.7 +1.1
baz=83
W14A Seligman 82.59 49 P P 03 10 40.8 +0.8
baz=83,SNR=304
W14A ⇓S S 03 20 15.7 +5.6
baz=83
ON2 Olympics--Nort 82.63 34 P P 03 10 40.4 +0.2
K07A Rock Creek Ran 82.63 40 ⇓P P 03 10 40.5 +0.3
baz=83,SNR=551
K07A ⇓S S 03 20 12.9 +2.3
baz=83
P10A Eureka 82.64 43 P P 03 10 40.3 +0.1
baz=83,SNR=122
P10A ⇑S S 03 20 12.3 +1.8
baz=83
Q11A Duckwater 82.74 44 ⇑P P 03 10 40.8 0.0
baz=83,SNR=482
Q11A ⇑S S 03 20 13.4 +1.8
baz=83
F04A Amboy 82.76 36 P P 03 10 40.5 -0.4
baz=83,SNR=67
F04A ⇑S S 03 20 12.2 +0.3
baz=83
D03A Wishkah Elem. 82.79 34 ⇑P P 03 10 41.2 +0.2
baz=83,SNR=36
D03A ⇑S S 03 20 13.6 +1.6
baz=83
I06A Prineville 82.80 38 ⇓P P 03 10 41.6 +0.5
baz=83,SNR=460
I06A ⇓S S 03 20 14.3 +2.1
baz=83
SVW2 Sparrevohn 82.81 11 *e*P **P 03 10 39.0 -2.1**
HOOD Mount Hood Mea 82.81 36 *e*P **P 03 10 40.8 -0.3**
TUC Tucson 82.82 52 *e*P **P 03 10 41.9 +0.8**
TUC pmax pmax
comp=Z,550nm,1.3s,mb5.9
TUC Tucson 82.82 52 *e*P **P 03 10 41.9 +0.8**
comp=Z,546nm,1.3s,mb5.9
X15A Humboldt 82.82 50 P P 03 10 41.9 +0.8
baz=83,SNR=338
X15A ⇓S S 03 20 17.5 +5.0
baz=83
IPM Ipoh 82.85 277 P P 03 10 42.7 +1.4
WVOR Wild Horse Val 82.86 40 P P 03 10 41.4 +0.1
LVP Lakeview Peak 82.86 35 P P 03 10 41.2 -0.1
L08A Fields 82.89 40 P P 03 10 41.7 +0.2
baz=83,SNR=509
L08A ⇑S S 03 20 16.4 +3.3
baz=83
C03A Quillayute Air 82.90 33 ⇑P P 03 10 42.0 +0.5
baz=83,SNR=22
C03A ⇑S S 03 20 13.7 +0.5
baz=83
G05A Wamic 82.95 37 P P 03 10 41.6 -0.2
baz=83,SNR=33
G05A ⇓S S 03 20 14.8 +1.1
baz=83
OOW Octopus West 82.96 33 P P 03 10 42.3 +0.4
J07A Hines 83.00 39 P P 03 10 42.1 +0.1
baz=83,SNR=156
J07A ⇑S S 03 20 16.4 +2.3
baz=83
M09A Marrel Ranch, 83.01 41 P P 03 10 42.5 +0.4
baz=83,SNR=175
M09A ⇑S S 03 20 16.7 +2.5
baz=83
E04A Onalaska 83.01 35 ⇑P P 03 10 42.5 +0.4
baz=83,SNR=12
E04A ⇓S S 03 20 16.2 +1.9
baz=83
P11A Circle Ranch, 83.06 44 P P 03 10 42.5 +0.2
baz=83,SNR=61
P11A ⇑S S 03 20 16.4 +1.7
baz=83
OTR Olympics--Tyee 83.11 33 P P 03 10 42.8 +0.3
W15A Williams 83.15 49 P P 03 10 43.7 +0.9
baz=83,SNR=107
W15A ⇑S S 03 20 21.9 +6.3
baz=83
MA2 Magadan 83.21 345 *d* iP **P 03 10 40.0 -3.1**
MA2 *e**PP pP 03 12 41.2 -4.5
MA2 *i* S S 03 20 09.1 -7.1
MA2 pmax pmax
comp=Z,400nm,1.1s,mb5.9
MA2 pmax pmax
comp=N,100nm,1.0s
MA2 Magadan 83.21 345 *e*P **P 03 10 41.2 -1.8**
comp=N,491nm,1.1s,mb6.0
N10A Dunphy 83.21 42 P P 03 10 43.4 +0.3
baz=83,SNR=50
N10A ⇑S S 03 20 18.3 +2.1
baz=83
L09A Wilkinson Ranc 83.21 41 P P 03 10 43.2 +0.1
baz=83,SNR=216
L09A ⇓S S 03 20 18.8 +2.6
baz=83
F05A White Salmon 83.26 36 P P 03 10 43.1 -0.3
baz=83,SNR=50
F05A ⇓S S 03 20 17.4 +0.7
baz=83
D04A Dobbs Creek Ra 83.29 34 ⇑P P 03 10 43.9 +0.4
baz=84,SNR=15
D04A ⇓S S 03 20 19.2 +2.2
baz=84
MID Middleton Isla 83.30 16 *e*P **P 03 10 42.0 -1.5**
SLKM Skilak Lake 83.33 14 *e*P **P 03 10 42.1 -1.6**
O11A Cowboy Ranch, 83.43 43 P P 03 10 44.3 +0.1
baz=84,SNR=281
O11A ⇑S S 03 20 19.9 +1.6
baz=84
KULM Kulim 83.48 278⇓iP P 03 10 45.9 +1.4
STW Striped Peak 83.50 33 P P 03 10 44.5 0.0
E05A Randle 83.51 35 P P 03 10 44.0 -0.6
baz=84,SNR=116
E05A ⇓S S 03 20 19.0 -0.2
baz=84
B04A Port Angeles 83.53 33 P P 03 10 44.7 +0.1
baz=84,SNR=38
B04A ⇓S S 03 20 20.4 +1.1
baz=84

GNW	Green Mountain	83.56	34	eP	P	03 10 44.6	-0.2
C04A	Brinnon	83.59	34	⇓P	P	03 10 44.9	-0.1
	baz=84						
C04A				⇓S	S	03 20 21.8	+1.9
	baz=84						
CCUT	Cedar City	83.59	46	⇓iP	P	03 10 45.6	+0.6
GAMB	Gambell	83.61	3	eP	P	03 10 44.2	-0.9
M10A	I.L. Ranch, Tu	83.63	42	P	P	03 10 45.6	+0.5
	baz=84,SNR=88						
M10A				⇑S	S	03 20 22.6	+2.3
	baz=84						
ARUT	Antelope Range	83.66	46	⇓iP	P	03 10 45.5	+0.2
N11A	Elko Archery C	83.75	43	P	P	03 10 45.9	+0.1
	baz=84,SNR=54						
N11A				⇓S	S	03 20 24.0	+2.5
	baz=84						
D05A	Enumclaw	83.78	35	P	P	03 10 46.0	+0.2
	baz=84,SNR=105						
D05A				⇑S	S	03 20 22.5	+0.7
	baz=84						
SFJM	Santa Fe	83.84	66	iP	P	03 10 47.0	+0.8
PGC	Sidney	83.92	33	eP	P	03 10 46.1	-0.5
WUAZ	Wupatki	83.95	49	eP	P	03 10 47.2	+0.4
	comp=N,437nm,1.2s,mb5.9						
M11A	Holland Ranch,	84.05	42	P	P	03 10 47.6	+0.4
	baz=84,SNR=202						
M11A				⇑S		03 20 26.9	
	baz=84						
SNG	Songkhla	84.18	280	P	P	03 10 48.0	+0.1
	comp=N,396nm,1.0s,mb5.9						
N12A	Wells--Clov Va	84.22	43	⇑P	P	03 10 48.2	+0.1
	baz=84,SNR=126						
N12A				⇓S		03 20 27.4	
	baz=84						
PSI	Prapat	84.23	275	PKKPbc	PKKPbc	03 28 56.9	+0.5
	comp=N,4.7nm,0.6s,baz=333,slow=5.2,SNR=3.3						
C05A	Tolt Reservoir	84.25	35	P	P	03 10 47.7	-0.5
	baz=84,SNR=104						
C05A				⇓S		03 20 25.9	
	baz=84						
CRAG	Craig	84.31	24	eP	P	03 10 48.0	-0.5
	comp=N,842nm,1.8s,mb6.0						
A04A	Legoe Bay, Lum	84.35	33	P	P	03 10 48.6	-0.1
	baz=84,SNR=72						
A04A				⇓S		03 20 27.0	
	baz=84						
B05A	Bryant	84.38	34	P	P	03 10 48.5	-0.3
	baz=85,SNR=119						
B05A				⇑S		03 20 27.7	
	baz=85						
EYAK	Cordova Ski Ar	84.42	15	eP	P	03 10 47.1	-1.9
TTA	Tatalina	84.45	10	eP	P	03 10 48.0	-1.2
TTA	Tatalina	84.45	10	eP	P	03 10 47.8	-1.4
PMR	Palmer	84.54	14	eP	P	03 10 47.7	-2.0
	comp=N,1µm,1.6s,mb6.4						
M12A	Wells	84.60	42	P	P	03 10 50.0	+0.1
	baz=85,SNR=167						
M12A				⇑S		03 20 31.8	
	baz=85						
HAWA	Hanford	84.64	36	eP	P	03 10 50.3	+0.2
SIT	Sitka	84.70	22	eP	P	03 10 50.1	-0.3
SIT				pmax	pmax		
	comp=Z,747nm,1.9s,mb6.0						
SIT	Sitka	84.70	22	eP	P	03 10 50.1	-0.3
	comp=Z,747nm,1.9s,mb6.0						
N13A	West Wendover	84.75	43	P	P	03 10 50.8	+0.1
	baz=85,SNR=42						
N13A				⇑S		03 20 32.3	
	baz=85						
MBW	Mount Baker	84.81	34	P	P	03 10 50.4	-0.6
A05A	Maple Falls	84.84	33	P	P	03 10 50.2	-0.9
	baz=85,SNR=11						
A05A				⇑S		03 20 31.1	
	baz=85						
MSU	Marysvale	84.89	46	eP	P	03 10 51.9	+0.6
CAIG	El Cayaco	84.91	70	iP	P	03 10 51.5	+0.1
SML	Sawmill	84.91	14	eP	P	03 10 49.2	-2.2
DIV	Divide	84.92	15	eP	P	03 10 49.9	-1.6
BMO	Blue Mountains	85.03	39	eP	P	03 10 51.4	-0.6
	comp=Z,657nm,1.5s,mb6.0						
M13A	Montello	85.05	43	⇓P	P	03 10 52.1	0.0
	baz=85,SNR=266						
M13A				⇑S		03 20 36.0	
	baz=85						
MOIG	Morelia	85.11	67	iP	P	03 10 52.7	+0.3
ACX	Acapulco	85.15	70	eP	P	03 10 53.5	+0.9
DUG	Dugway	85.32	44	eP	P	03 10 52.9	-0.5
DUG				pmax	pmax		
	comp=Z,540nm,2.2s,mb5.8						
DUG	Dugway	85.32	44	eP	P	03 10 52.9	-0.5
	comp=Z,544nm,2.2s,mb5.8						
BJT	Baijiatuau	85.35	315	⇓iP	P	03 10 53.5	-0.1
BJT				pmax	pmax		
	comp=Z,1µm,1.8s						
BJT	Baijiatuau	85.35	315	⇓iP	P	03 10 53.5	-0.1
	comp=Z,1µm,1.8s,mb6.3						
BGU	Big Grassy Mou	85.55	44	eP	P	03 10 53.8	-0.7
ENH	Enshi	85.56	304	P	P	03 10 55.2	+0.7
TNA	Tin City	85.61	4	eP	P	03 10 53.2	-1.6
	comp=Z,73nm,0.8s,mb5.4						
NLU	North Lily Min	85.68	45	⇓eP	P	03 10 55.0	-0.2
OD2	Odessa Site #2	85.68	36	P	P	03 10 54.7	-0.5
TMUT	Trail Mountain	85.93	46	eP	P	03 10 56.9	+0.5
MPU	Maple Canyon	86.01	45	eP	P	03 10 56.7	+0.1
HLID	Hailey	86.06	41	⇓iP	P	03 10 57.2	+0.2
	comp=Z,354nm,1.1s,mb5.9						
HLID				ePP	pP	03 13 01.3	+0.6
HLID				ePP	PP	03 14 24.1	-3.8
PLIG	Platanillo	86.09	69	iP	P	03 10 57.6	+0.5
SPUT	South Promonto	86.12	44	eP	P	03 10 56.6	-0.6
HVU	Hansel Valley	86.16	43	⇓iP	P	03 10 57.2	-0.2
GYA	Guiyang	86.19	300	⇓iP	P	03 10 58.5	+0.9
GYA				PP	PP	03 14 28.8	-0.2
GYA				AMB	AMB		
	comp=Z,220nm,1.5s,mb5.6						
GYA				AMB	AMB		
	comp=Z,3µm,7.5s						
CTU	Camp Tracy	86.27	44	⇓iP	P	03 10 57.6	-0.3
SRU	San Rafael	86.30	46	⇓iP	P	03 10 58.0	-0.1
DAU	Daniels Canyon	86.45	45	⇓eP	P	03 10 58.7	-0.1
LAZ	Ladron	86.49	52	eP	P	03 10 59.4	+0.5
MCK	McKinley	86.49	13	eP	P	03 10 57.0	-2.0
MCK				pmax	pmax		
	comp=Z,350nm,1.0s,mb5.9						
MCK	McKinley	86.49	13	eP	P	03 10 57.0	-2.0
	comp=Z,351nm,1.0s,mb6.0						
Y22C	IRIS PASSCAL I	86.50	52	⇑P	P	03 10 59.7	+0.7
	baz=87						
Y22C				⇓S		03 20 56.0	
	baz=87						
LENM	Lemitar	86.50	52	eP	P	03 10 59.3	+0.3
SKAG	Skagway	86.55	20	eP	P	03 10 58.7	-0.5
	comp=Z,2µm,1.8s,mb6.5						
PNIG	Pinotepa	86.56	71	iP	P	03 10 59.5	+0.2
TCUT	Toone Canyon	86.70	44	eP	P	03 11 00.1	+0.1
UNM	Universidad Na	86.73	68	iP	P	03 11 01.5	+1.4
BNM	Barren Site	86.75	52	eP	P	03 11 00.8	+0.5
LPM	Los Pinos Moun	86.82	52	eP	P	03 11 00.7	+0.1
HWUT	Hardware Ranch	86.85	44	eP	P	03 10 60.0	-0.7
	comp=Z,449nm,1.8s,mb5.9						
LTX	Lajitas	86.95	57	eP	P	03 11 02.1	+1.0
LTX				pmax	pmax		
	comp=Z,470nm,1.2s,mb6.1						
LTX	Lajitas	86.95	57	eP	P	03 11 02.1	+0.9
	comp=Z,468nm,1.2s,mb6.1						
PV10	Paradox Valley	86.97	47	eP	P	03 11 00.9	-0.3
MENT	Mentasta	86.97	15	eP	P	03 11 00.0	-1.2
NEW	Newport	87.06	36	P	P	03 11 00.7	-1.0
	comp=Z,56nm,0.8s,mb5.4,baz=233,slow=3.9,SNR=104						
NEW				PP	PP	03 14 33.1	-2.7
	comp=Z,13nm,1.1s,baz=233,slow=11,SNR=4.0						
NEW	Newport	87.06	36	eP	P	03 11 00.7	-0.9
NEW				pmax	pmax		
	comp=Z,350nm,1.4s						
NEW	Newport	87.06	36	eP	P	03 11 00.7	-0.9
	comp=Z,348nm,1.4s,mb5.9						
PPM	Popocatepetl	87.11	69	iP	P	03 11 03.5	+1.6
PV01	Paradox Valley	87.18	48	⇓eP	P	03 11 01.9	-0.3
ANMO	Albuquerque	87.23	51	PKPPKP		03 36 57.2	
	comp=Z,0.4nm,0.4s,baz=117,slow=6.4,SNR=1.9						
ANMO	Albuquerque	87.23	51	eP	P	03 11 02.6	+0.1
XAN	Xi'an	87.63	307	P	P	03 11 05.0	+0.7
XAN				AMB	AMB		
	comp=Z,550nm,1.1s,mb6.2						
XAN	Xi'an	87.63	307	P	P	03 11 05.1	+0.8
DLBC	Dease Lake	87.64	23	eP	P	03 11 04.0	-0.3
NST	Nakhon Sawan	87.67	287	⇑P	P	03 11 06.5	+2.0
	comp=Z,249nm,1.5s,mb5.7						
MCMT	McKenzie Canyo	87.68	40	P	P	03 11 04.8	+0.3
AHID	Auburn Hatcher	87.72	43	eP	P	03 11 04.7	-0.1
	comp=Z,606nm,1.4s,mb6.1						
COLA	College	87.73	12	iP	P	03 11 02.6	-2.2
PAYG	Puerto Ayora	87.84	90	eP	P	03 11 07.2	+1.9
RRI2	Red Ridge	87.88	42	epP	P	03 11 15.6	+10
VHO	Vista Hermosa	88.05	71	iP	P	03 11 07.3	+1.0
MSO	Missoula	88.08	38	eP	P	03 11 05.2	-1.2
DCID1	Drake Creek	88.08	42	eP	P	03 11 07.0	+0.5
DLMT	Dillon	88.11	40	eP	P	03 11 06.4	-0.1
HIA	Hailar	88.13	325	eP	P	03 11 05.5	-1.1
HIA				pmax	pmax		
	comp=Z,191nm,1.1s						
HIA	Hailar	88.13	325	eP	P	03 11 05.5	-1.1
	comp=Z,191nm,1.1s,mb5.7						
HUIG	Huatulco	88.14	73	iP	P	03 11 07.4	+0.7
BSMT	Bassoo Peak	88.14	37	eP	P	03 11 05.8	-0.8
REDW	Red Top Meadow	88.18	42	eP	P	03 11 07.3	+0.5
TPAW	Teton Pass	88.18	42	eP	P	03 11 07.2	+0.3
SNOW	Snow King Moun	88.29	42	eP	P	03 11 07.7	+0.3
IMW	Indian Meadow	88.39	42	eP	P	03 11 08.3	+0.5
LRM	Limekiln Ridge	88.43	40	eP	P	03 11 07.6	-0.5
LOHW	Long Hollow	88.46	42	eP	P	03 11 08.2	0.0
BILL	Bilibino	88.48	354	⇓iP	P	03 11 06.4	-1.9
BILL				e		03 14 44.5	
BILL				i		03 20 40.2	
BILL				iS		03 21 03.3	
BILL				pmax	pmax		
	comp=Z,282nm,1.0s,mb6.0						
BILL				MLR	MLR		
	comp=Z,400nm,20.0s						
BILL	Bilibino	88.48	354	iPr	P	03 11 06.5	-1.8
CHMT	Chamberlain Mo	88.53	38	eP	P	03 11 07.5	-1.0
QLMT	Earthquake Lak	88.55	41	eP	P	03 11 09.2	+0.6
QLMT				ePP	PP	03 14 45.5	-2.0
BW06	Boulder Array	88.72	43	eP	P	03 11 08.3	-1.1
	comp=Z,439nm,1.3s,mb6.1						
PDAR	Pinedale Array	88.72	43	P	P	03 11 08.7	-0.7
	comp=Z,137nm,0.8s,mb5.8,baz=211,slow=3.2,SNR=902						
PDAR				PP	PP	03 14 45.5	-3.3
	comp=Z,16nm,1.2s,baz=239,slow=5.1,SNR=5.2						
PDAR				PKKP	PKKPbc	03 28 42.2	-3.5
	comp=Z,7.9nm,0.8s,baz=76,slow=6.3,SNR=5.0						
PDAR				PKKPbc	PKKPbc	03 28 47.1	+1.3
	comp=Z,7.4nm,0.8s,baz=88,slow=2.8,SNR=26						
PDAR				SKKPbc		03 31 28.9	
	comp=Z,2.1nm,1.0s,baz=70,slow=1.7,SNR=5.0						
PDAR				PKPPKP		03 36 53.4	
	comp=Z,2.2nm,0.9s,baz=89,slow=4.6,SNR=7.4						
PDAR				tx	tx	03 39 14.2	
	comp=Z,0.3nm,0.8s,baz=184,slow=2.7,SNR=3.0						
PDAR	Pinedale Array	88.72	43	P	P	03 11 08.7	-0.7
PDAR				PP	PP	03 14 45.5	-3.3
PDAR				PKKP	PKKPbc	03 28 42.2	-3.5
PDAR				PKKPbc	PKKPbc	03 28 47.1	+1.3
PDAR				SKKPbc		03 31 28.9	
PDAR				PP'		03 36 53.4	
YFT	Old Faithful	88.73	41	eP	P	03 11 10.8	+1.4
YMR	Madison River	88.76	41	⇓iP	P	03 11 10.2	+0.7
	comp=Z,1µm,1.5s,mb6.6						
SMCO	Snowmass	88.77	47	eP	P	03 11 10.1	+0.5
	comp=Z,353nm,1.3s,mb6.0						
BOZ	Bozeman (W)	88.84	40	eP	P	03 11 09.8	-0.1
KMI	Kunming	88.91	297	⇓P	P	03 11 12.3	+2.0
KMI				S		03 21 15.5	
KMI				AMB	AMB		
	comp=Z,330nm,1.1s,mb6.1						
KMI				AMB	AMB		
	comp=Z,2µm,3.3s						
DAWY	Dawson	89.00	16	eP	P	03 11 09.5	-1.2
LKWY	Lake	89.06	41	eP	P	03 11 12.6	+1.6
LKWY				pmax	pmax		
	comp=Z,430nm,1.1s,mb6.2						
LKWY	Lake	89.06	41	eP	P	03 11 12.6	+1.6
	comp=Z,434nm,1.1s,mb6.2						
NVL	N'lazarevskaya	89.25	183	cP	P	03 11 13.4	+1.6
NVL				i	pP	03 13 19.7	+3.0
NVL				iS		03 20 46.1	
NVL				i		03 21 09.5	
NVL				pmax	pmax		
	comp=Z,193nm,0.9s,mb5.9						
NVL				pmax	pmax		
	comp=E,1µm,17.6s						
HRY	Holter Researc	89.26	39	eP	P	03 11 11.6	-0.3
WALA	Waterton Lakes	89.28	36	eP	P	03 11 11.4	-0.6
	comp=E,491nm,1.4s,mb6.2						
LVIG	Laguna Verde	89.29	69	iP	P	03 11 11.7	-0.3
VNA1	Neumayer--Stat	89.36	177	⇑i	PKKPdf	03 28 43.0	+4.3
VNA1				e	PKKPbc	03 28 45.0	+0.8
VNA1				e		03 28 51.5	
CMIG	Matias Romero	89.70	72	PKKP	PKKPbc	03 28 38.8	-4.6
	comp=E,4.1nm,1.0s,baz=210,slow=1.1,SNR=2.4						
CMIG				PKKPbc	PKKPbc	03 28 43.0	-0.3
	comp=E,2.8nm,0.8s,baz=120,slow=4.0,SNR=4.6						
CMIG	Matias Romero	89.70	72	iP	P	03 11 13.7	-0.2
RWWY	Rawlins	89.75	45	eP	P	03 11 13.9	-0.3
	comp=E,464nm,1.2s,mb6.2						
BTO	Baotou	89.75	314	eP	P	03 11 13.5	-0.7
PLCA	Paso Flores	89.80	134	P	P	03 11 15.1	+0.7
PLCA	Paso Flores	89.80	134	P	P	03 11 15.2	+0.7
	comp=E,69nm,1.1s,mb5.4,baz=240,slow=5.0,SNR=70						
PLCA				pP	pP	03 13 20.2	+0.9
	comp=E,4.8nm,1.0s,baz=237,slow=9.3,SNR=2.5						
PLCA				PP	PP	03 14 55.4	-1.9
	comp=E,8.0nm,1.0s,baz=246,slow=9.2,SNR=5.1						
PLCA				S		03 20 49.0	
	comp=E,1.9nm,1.0s,baz=111,slow=23,SNR=3.6						
PLCA				PKKPbc	PKKPbc	03 28 43.3	+0.2
	comp=E,12nm,0.9s,baz=67,slow=1.5,SNR=25						
PLCA				SKKPbc		03 31 27.2	
	comp=E,1.2nm,0.8s,baz=21,slow=8.1,SNR=3.0						
PLCA				PKPPKP		03 36 42.0	
	comp=E,2.3nm,0.8s,baz=319,slow=3.9,SNR=3.8						
PLCA	Paso Flores	89.80	134	P	P	03 11 15.2	+0.8
PLCA				*PP	pP	03 13 20.2	+0.8
PLCA						03 14 55.4	
PLCA				S		03 20 49.0	
PLCA						03 31 27.2	
PLCA				pmax	pmax		
	comp=Z,69nm,1.1s						
PLCA				smax			
	comp=N,2.0nm,1.0s						
PLCA	Paso Flores	89.80	134	eP	P	03 11 15.1	+0.7
PLCA				ePP	PP	03 14 56.1	-1.3
ISCO	Idaho Springs	89.99	47	eP	P	03 11 15.2	-0.1
ISCO				pmax	pmax		
	comp=Z,380nm,1.8s,mb5.9						
ISCO	Idaho Springs	89.99	47	eP	P	03 11 15.2	-0.1
	comp=Z,382nm,1.9s,mb5.9						
CLNS	Chul'man	90.05	333	eP	P	03 11 12.5	-3.1
CLNS				pmax	pmax		
	comp=E,19nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.4						
CLNS				pmax	pmax		
	comp=N,27nm,1.0s						
GCMT	Greycliff	90.11	41	⇓eP	P	03 11 16.0	+0.1
CD2	Chengdu	90.31	303	⇓iP	P	03 11 17.5	+0.7
CD2				AP	pP	03 13 22.0	+0.2
CD2				XP	sP	03 14 16.0	-3.2
CD2				PP	PP	03 15 04.0	+2.7
CD2				SKS		03 20 54.0	
CD2				S		03 21 21.3	
CD2				XS	sS	03 25 03.0	-3.1
CD2				SS	SS	03 27 46.5	+6.2
CD2				AMB	AMB		
	comp=Z,70nm,1.3s,mb5.3						
TUIG	Tuzandepetl	90.45	71	iP	P	03 11 18.3	+0.9
JCT	Junction City	90.48	58	eP	P	03 11 16.8	-0.7
PHWY	Pilot Hill	90.75	46	eP	P	03 11 18.4	-0.4
PHWY				ePP	PP	03 15 02.9	-1.8
AMTX	Amarillo	90.76	53	eP	P	03 11 18.6	-0.2
KVTX	Kingsville	90.91	61	⇓iP	P	03 11 20.9	+1.3
EGMT	Eagleton	91.13	39	eP	P	03 11 19.9	-0.7
	comp=Z,224nm,1.3s,mb5.9						
YAK	Yakutsk	91.53	338	eP	P	03 11 20.2	-2.2
YAK				e		03 15 05.5	
YAK				ePPP		03 17 10.1	
YAK				eS		03 20 54.5	
YAK				e		03 21 27.2	
YAK				pmax	pmax		
	comp=Z,196nm,0.9s,mb6.1						
YAK				pmax	pmax		
	comp=N,36nm,1.0s						
YAK				pmax	pmax		
	comp=E,67nm,1.3s						
YAK				smax			
	comp=N,52nm,1.4s						
YAK				smax			
	comp=E,39nm,1.4s						
YAK	Yakutsk	91.53	338	eP	P	03 11 20.3	-2.1
EFI	East Falkland	91.65	147	P	P	03 11 23.9	+1.0
	comp=E,709nm,1.3s,mb6.5,SNR=8.3						
EFI	East Falkland	91.65	147	eP	P	03 11 23.4	+0.4
EDM	Edmonton	91.78	33	eP	P	03 11 22.0	-1.5
CCIG	Comitan	91.89	73	iP	P	03 11 24.7	+0.7
LZH	Lanzhou	92.27	308	⇓iP	P	03 11 26.5	+0.7
LZH				PP	PP	03 15 15.8	-0.7
LZH				S		03 21 45.3	
LZH				SS	SS	03 28 12.8	+4.8
LZH				AMB	AMB		
	comp=Z,400nm,1.3s,mb6.3						
LZH				AMB	AMB		
	comp=Z,2µm,9.7s						
LAO	LASA Array	92.64	41	eP	P	03 11 27.6	+0.1
RSSD	Black Hills	92.92	44	eP	P	03 11 28.0	-0.7
RSSD				pmax	pmax		
	comp=Z,350nm,1.4s,mb6.2						
RSSD	Black Hills	92.92	44	eP	P	03 11 28.0	-0.7
	comp=Z,346nm,1.4s,mb6.2						
CIT	Chita	92.93	325	eP	P	03 11 28.4	-0.4
CIT				e		03 15 18.6	
CIT				e		03 21 05.5	
CIT				pmax	pmax		
	comp=Z,502nm,2.1s,mb6.2						
HKT	Hockley	93.47	60	eP	P	03 11 31.0	-0.3
INK	Inuvik	93.81	15	P	P	03 11 30.5	-2.3
	comp=Z,148nm,1.0s,mb6.1,baz=221,slow=5.6,SNR=149						
INK				PP	PP	03 15 19.8	-8.5
	comp=Z,31nm,1.2s,baz=242,slow=8.0,SNR=3.6						
INK				PKiKP	PKiKP	03 16 10.8	-3.0
	comp=Z,8.1nm,1.0s,baz=206,slow=2.4,SNR=3.4						
INK				S		03 21 08.0	
	comp=Z,1.7nm,0.7s,baz=336,slow=24,SNR=6.7						
INK				PKKP	PKKPbc	03 28 32.8	-0.2
	comp=Z,2.6nm,0.7s,baz=41,slow=10.0,SNR=3.1						
INK	Inuvik	93.81	15	P	P	03 11 30.5	-2.3
INK				S		03 21 08.0	
INK						03 28 32.8	
INK				pmax	pmax		
	comp=Z,148nm,1.0s						
INK				smax			
	comp=N,2.0nm,0.7s						
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	93.81	15	eP	P	03 11 30.7	-2.1
	comp=Z,300nm,1.2s,mb6.3						
ULN	Ulaanbaatar	94.81	319	⇓P	P	03 11 36.7	-0.7
SNR=62							
ULN	Ulaanbaatar	94.81	319	iPr	P	03 11 36.5	-0.9
NATX	Nacogdoches	95.05	58	eP	P	03 11 38.5	+0.1
	comp=Z,30nm,0.9s,mb5.4						
SONM	Songino Array	95.20	319	P	P	03 11 38.0	-1.1
	comp=Z,14nm,1.0s,mb5.0,baz=116,slow=3.6,SNR=76						
SONM				pP	pP	03 13 44.3	-0.3
	comp=Z,1.3nm,0.7s,baz=144,slow=33,SNR=1.8						
SONM				PP	PP	03 15 33.7	-5.3
	comp=Z,16nm,1.2s,baz=136,slow=7.9,SNR=5.9						
SONM				PKiKP	PKiKP	03 16 14.8	-1.4
	comp=Z,3.5nm,0.7s,baz=115,slow=0.8,SNR=5.7						
SONM				S		03 21 17.7	
	comp=Z,3.1nm,1.1s,baz=63,slow=4.0,SNR=3.6						
SONM				PKKPbc	PKKPbc	03 28 29.6	+0.2
	comp=Z,3.4nm,0.7s,baz=265,slow=3.6,SNR=11						
SONM				PKPPKP		03 36 31.9	
	comp=Z,0.2nm,0.3s,baz=221,slow=31,SNR=2.5						
SONM	Songino Array	95.20	319	P	P	03 11 38.0	-1.1
SONM				pP	pP	03 13 44.3	-0.3
SONM				PP	PP	03 15 33.7	-5.3
BOD	Bodaibo	95.52	330	eP	P	03 11 31.6	-8.9
BOD				e		03 21 15.6	
BOD				pmax	pmax		
	comp=Z,510nm,1.5s,mb6.5						
CFAA	Coronel Fontan	95.59	126	S		03 21 19.9	
	comp=Z,0.1nm,0.5s,baz=42,slow=20,SNR=8.1						
CFAA				PKKPbc	PKKPbc	03 28 28.6	+0.2
	comp=Z,0.5nm,0.6s,baz=44,slow=3.7,SNR=10						
CFAA				PKPPKP		03 36 37.6	
	comp=Z,0.3nm,0.7s,baz=132,slow=5.7,SNR=4.5						
YKA	Yellowknife Ar	96.11	25	P	P	03 11 41.2	-2.0
	comp=Z,24nm,0.7s,mb5.5,baz=244,slow=4.4,SNR=97						
YKA				pP	pP	03 13 46.5	-2.3
	comp=Z,0.5nm,0.6s,baz=70,slow=12,SNR=1.6						
YKA				PP	PP	03 15 34.7	-11
	comp=Z,3.5nm,1.0s,baz=246,slow=7.2,SNR=3.1						
YKA				PKiKP	PKiKP	03 16 14.8	-3.0
	comp=Z,3.1nm,0.8s,baz=265,slow=2.0,SNR=7.4						
YKA				S		03 21 23.1	
	comp=Z,0.5nm,0.7s,baz=194,slow=19,SNR=2.4						
YKA				PKKPbc	PKKPbc	03 28 25.5	-1.6
	comp=Z,1.3nm,0.5s,baz=48,slow=2.2,SNR=10						
YKA				PKPPKP		03 36 34.3	
	comp=Z,1.1nm,0.8s,baz=31,slow=4.5,SNR=3.3						
YKA	Yellowknife Ar	96.11	25	P	P	03 11 41.2	-2.0
YKA				*PP	pP	03 13 46.5	-2.3
YKA	Yellowknife Ar	96.11	25	P	P	03 11 41.2	-2.0
YKA				pP	pP	03 13 46.5	-2.3
YKA				PP	PP	03 15 34.7	-11
YKW3	Yellowknife Ar	96.14	25	eP	P	03 11 41.6	-1.8
GTA	Gaotai	96.46	309	⇓P	P	03 11 44.8	0.0
GTA				PP	PP	03 15 52.5	+4.0
GTA				S		03 22 20.3	
GTA				AMB	AMB		
	comp=Z,70nm,1.6s,mb5.6						
GTA				AMB	AMB		
	comp=Z,4µm,7.3s						
JTS	JuntasAbangare	96.50	81	eP	P	03 11 45.8	+0.9
MIAR	Mount Ida	96.85	56	eP	P	03 11 45.6	-0.9
TRQA	Tornquist	96.90	135	eP	P	03 11 49.0	+2.2
TRQA				ePP	PP	03 15 49.9	-1.9
ZAK	Zakamensk	98.08	321	eP	Pdif	03 11 50.2	-1.8
ZAK				e		03 21 32.0	
ZAK				pmax	pmax		
	comp=Z,72nm,1.9s,mb5.7						
TIXI	Tiksi	98.17	345	diP	Pdif	03 11 50.0	-2.4
TIXI				pmax

comp=Z,24nm,1.3s
LPAZ La Paz 102.47 113 P Pdif 03 12 14.3 +2.8
comp=Z,7.0nm,0.9s,baz=249,slow=3.1,SNR=21
LPAZ PKiKP PKiKP 03 16 29.4 +0.2
comp=Z,9.5nm,1.1s,baz=238,slow=6.4,SNR=4.4
LPAZ SKKPbc 03 30 57.1
comp=Z,1.6nm,0.9s,baz=34,slow=3.1,SNR=3.5
LPAZ La Paz 102.47 113 P Pdif 03 12 14.3 +2.8
BOK Bokaro 102.97 291 *ex* PP 03 16 30.1 -6.9
BOK AMb AMB 03 16 31.4
comp=Z,36nm,1.1s
SWET Sewanee 103.04 57 *e*PP PP 03 16 40.7 +3.2
VIS Vishakhapatnam 103.55 284 *ex* PKiKP 03 16 32.2 +1.0
VIS AMb AMB 03 16 36.4
comp=Z,26nm,1.1s
JIRN Jiri 103.76 295 *e*P PKiKP 03 16 31.5 0.0
comp=Z,72nm,0.7s
JIRN Jiri 103.76 295 *e*P Pdif 03 12 17.7 +0.5
comp=Z,12nm,0.5s
GUN Gumba 104.09 295 *e*P PKiKP 03 16 31.9 -0.2
GUN Gumba 104.09 295 *e*P Pdif 03 12 18.8 +0.1
comp=Z,20nm,0.4s
PKI Pulchoki 104.40 294 *e*P PKiKP 03 16 32.1 -0.6
comp=Z,100nm,0.8s
PKI Pulchoki 104.40 294 *e*P Pdif 03 12 19.7 -0.4
comp=Z,20nm,0.5s
KKN Kakani 104.57 295 *e*P PKiKP 03 16 32.7 -0.3
comp=Z,55nm,0.6s
KKN Kakani 104.57 295 *e*P Pdif 03 12 20.6 -0.2
DMN Daman 104.67 294 *e*P PKiKP 03 16 32.9 -0.3
comp=Z,48nm,0.7s
DMN Daman 104.67 294 *e*P Pdif 03 12 21.6 +0.3
comp=Z,58nm,1.0s
ROSC El Rosal 104.70 90 PP PP 03 16 50.5 +0.8
comp=Z,2.6nm,0.6s,baz=99,slow=22,SNR=4.5
ROSC PKKPbc PKKPbc 03 28 02.9 0.0
comp=Z,5.4nm,0.5s,baz=275,slow=22,SNR=7.1
GKN Gorkha 105.17 295 *e*P PKiKP 03 16 33.1 -1.0
comp=Z,29nm,0.4s
GKN Gorkha 105.17 295 *e*P Pdif 03 12 23.3 -0.2
KOLN Koldanda 106.00 294 *e*P PKiKP 03 16 34.9 -0.8
KOLN Koldanda 106.00 294 *e*P Pdif 03 12 26.4 -0.8
WMQ Urumqi 106.41 311 PDIF Pdif 03 12 29.3 +0.3
WMQ PP PP 03 17 00.5 -1.6
WMQ S Sdif 03 23 43.5 +4.5
WMQ PP PP
comp=Z,3μm,8.0s
ACSO Alum Creek Sta 106.51 53 *e*PP PP 03 17 01.1 -1.7
RES Resolute Bay 107.34 16 *e*PKiKP PKiKP 03 16 38.1 0.0
HYB Hyderabad 107.83 282 *i* PKP PKiKP 03 16 38.0 -1.1
HYB Hyderabad 107.83 282 *e*P PKiKP 03 16 38.0 -1.1
SIV San Ignacio 108.67 115 PKiKP PKiKP 03 16 40.0 -0.7
baz=260,slow=4.2
SIV PP PP 03 17 18.1 -0.1
comp=Z,14nm,1.0s,baz=244,slow=11,SNR=7.6
SIV PKKPbc PKKPbc 03 27 50.8 0.0
comp=Z,14nm,0.8s,baz=86,slow=4.8,SNR=34
SIV PKKP PKKPbc 03 28 04.7 +14
comp=Z,11nm,1.0s,baz=88,slow=6.6,SNR=11
SIV SKKPbc 03 30 39.9
comp=Z,3.0nm,1.0s,baz=110,slow=5.4,SNR=5.0
SDV Santo Domingo 109.46 87 PKKP PKKPbc 03 28 03.4 +15
comp=Z,5.2nm,0.9s,baz=109,slow=6.6,SNR=4.6
ZAL Zalesovo 109.95 321 Pdiff Pdif 03 12 42.5 -2.2
comp=Z,1.9nm,0.3s,baz=342,slow=10,SNR=7.4
ZAL PKiKP PKiKP 03 16 41.9 -1.2
comp=Z,17nm,0.7s,baz=329,slow=2.8,SNR=43
ZAL PP PP 03 17 21.2 -6.1
comp=Z,3.1nm,0.8s,baz=93,slow=6.3,SNR=1.8
ZAL PKKPbc PKKPbc 03 27 45.7 -1.1
comp=Z,1.3nm,0.5s,baz=146,slow=1.1,SNR=5.3
ZAL PKKPab PKKPab 03 27 56.9 -3.5
comp=Z,2.8nm,0.3s,baz=210,slow=3.5,SNR=5.0
ZAL Zalesovo 109.95 321 Pdif Pdif 03 12 42.5 -2.2
ZAL PKPdf PKiKP 03 16 41.9 -1.2
ZAL PP PP 03 17 21.2 -6.1
ZAL PKKPbc PKKPbc 03 27 45.7 -1.1
ZAL PKKPab PKKPab 03 27 56.9 -3.5
BHPL Bhopal 110.33 288 *e*P PKiKP 03 16 43.2 -0.6
BHPL AMb AMB 03 16 44.9
comp=Z,57nm,1.6s
MK31 Makanchi Array 110.67 314 PKIKP PKiKP 03 16 42.8 -1.6
MK31 pmax pmax
comp=Z,20nm,0.6s
MKAR Makanchi Array 110.67 314 Pdiff Pdif 03 12 46.1 -1.9
comp=Z,1.6nm,0.9s,baz=117,slow=4.3,SNR=4.5
MKAR PKiKP PKiKP 03 16 42.7 -1.7
comp=Z,34nm,0.7s,baz=88,slow=0.4,SNR=74
MKAR PKKPbc PKKPbc 03 27 44.6 +0.1
comp=Z,5.2nm,0.7s,baz=268,slow=3.3,SNR=12
MKAR PKKPab PKKPab 03 27 56.5 -0.8
comp=Z,6.0nm,0.9s,baz=305,slow=4.3,SNR=7.0
MKAR SKKPbc 03 30 32.5
comp=Z,1.8nm,0.8s,baz=279,slow=3.1,SNR=2.9
MKAR Makanchi Array 110.67 314⇑*i*PKIKP PKiKP 03 16 42.7 -1.7
NVS Novosibirsk 110.95 322 *e*P Pdif 03 12 45.4 -3.8
NVS *i* 03 16 41.3
NVS *i* *PP 03 17 28.9
NVS *e* 03 22 29.1
NVS pmax pmax
comp=E,25nm,1.9s
NVS pmax pmax
comp=Z,350nm,1.9s
NVS smax
comp=E,130nm,2.3s
SDMD Soldier's Deli 111.00 54 *e*PKPdf PKiKP 03 16 50.8 +5.8
NDI New Delhi 111.70 294 *e*P PKiKP 03 16 44.0 -2.4
NDI *ex* x 03 19 26.0
KAD Karad 111.83 281 *e*P PKiKP 03 16 45.7 -0.9
SMLA Simla 112.20 296 *e*P PKiKP 03 16 46.6 -0.7
LONY Lake Ozonia 113.33 49 *e*PKiKP PKiKP 03 16 47.5 -2.0
KURK Kurchatov 113.45 318 ⇑P PKiKP 03 16 48.1 -1.7
SNR=57
KURK Kurchatov 113.45 318*d* *i*PKIKP PKiKP 03 16 47.8 -1.9
AJM Ajmer 113.50 291 *i* P PKiKP 03 16 48.0 -1.8
NCB Newcomb 113.52 50 *e*PKiKP PKiKP 03 16 56.0 +6.1
ULHL Ulahol 114.47 308 P PKPdf 03 16 51.5 -0.2
SNR=11
TKM2 Tokmak 2 115.00 309 P PKPdf 03 16 51.6 -1.1
SNR=46
KZA Kyzart 115.19 308 P PKPdf 03 16 53.1 0.0
SNR=19
KBK Karagaybulak 115.46 309 P PKPdf 03 16 52.8 -0.8
SNR=21
CHMS Chumysh 115.63 309 P PKPdf 03 16 52.8 -1.1
SNR=25
FRU Bishkek 115.72 309 *i* PKIKP PKPdf 03 16 52.0 -2.1
FRU *i* 03 18 06.0
FRU pmax pmax
comp=Z,200nm,1.6s
UCH Uchtor 115.75 308 P PKPdf 03 16 53.9 -0.2
SNR=34
AAK Ala-Archa 115.79 308 P PKPdf 03 16 53.5 -0.8
SNR=17
USP Ospenovka 115.83 309 P PKPdf 03 16 53.2 -1.1
SNR=31
SJG San Juan 116.18 79 *e*PKIKP PKPdf 03 16 53.7 -1.3
EKS2 Erkin-Say 116.32 308 P PKPdf 03 16 54.5 -0.7
SNR=34
AML Almayashu 116.35 308 P PKPdf 03 16 55.2 -0.1
SNR=11
CPD Cerro la Pandu 116.38 79 *e*PKIKP PKPdf 03 16 54.6 -0.7
HUMP Col San Antoni 116.46 79 *e*PKPdf PKPdf 03 16 54.5 -1.0
MTP Monte Pirata 116.72 79 *e*PKPdf PKPdf 03 16 55.0 -1.0
BHJ Bhuj 117.32 286 *e*P PKPdf 03 16 56.8 -0.4
BHJ AMb AMB 03 16 58.3
comp=Z,115nm,1.0s
VOSK Vostochnaya 118.19 320 PKIKP PKPdf 03 16 56.5 -2.3
VOSK pmax pmax
comp=Z,130nm,0.9s
SCHQ Schefferville 118.38 38 PKP PKPdf 03 16 57.0 -2.2
comp=Z,19nm,0.9s,baz=291,slow=1.7,SNR=28
SCHQ PP PP 03 18 14.5 -11
comp=Z,9.6nm,1.1s,baz=258,slow=8.3,SNR=2.5
SCHQ PKKPbc PKKPbc 03 27 18.7 +0.1
comp=Z,2.6nm,0.8s,baz=146,slow=3.6,SNR=5.1
SCHQ Schefferville 118.38 38 PKP PKPdf 03 16 57.0 -2.2
SCHQ PP PP 03 18 14.5 -11
SCHQ PKKPbc PKKPbc 03 27 18.7 +0.1
BVA0 Borovoye Array 118.53 320 *i* PKIKP PKPdf 03 16 57.0 -2.5
BVA0 pmax pmax
comp=Z,38nm,1.0s
BRVK Borovoye 118.59 320 ⇑P PKPdf 03 16 58.2 -1.4
SNR=45
BRVK Borovoye 118.59 320 *e*PKPdf PKPdf 03 16 58.0 -1.6
KKAR Karatay Array 118.74 309 *i* PKIKP PKPdf 03 16 57.4 -2.5
KKAR pmax pmax
comp=Z,57nm,0.8s
ZRNK Zerenda 119.37 320 *e*PKIKP PKPdf 03 16 59.3 -1.8
BDFB Brasilia 119.62 122 PKP PKPdf 03 17 01.3 -0.3
comp=Z,24nm,0.7s,baz=276,slow=1.8,SNR=37
BDFB SKP 03 19 42.5
comp=Z,13nm,0.8s,baz=353,slow=1.6,SNR=4.8
BDFB PKKPbc PKKPbc 03 27 14.7 +0.5
comp=Z,18nm,0.7s,baz=68,slow=2.3,SNR=20
CAM4 Nova Friburgo 119.64 132⇓*i*P PKPdf 03 17 01.9 +0.3
CAM4 *i* 03 17 03.4
CAM4 *i* 03 17 12.7
CAM4 *i* 03 17 27.4
BAO Brasilia Array 119.64 122 PKPdf PKPdf 03 17 02.0 +0.4
FDF Fort de France 120.00 84 *e*P PKPdf 03 17 02.0 -0.3
KBS Kingsbay 120.79 358 *e*P PKPdf 03 17 01.9 -1.9
KBS Kingsbay 120.79 358 *e*PKPdf PKPdf 03 17 02.1 -1.7
KBS *e*PP PP 03 18 39.0 -3.2
CAM3 Guarapari 122.14 132⇓*i*P PKPdf 03 17 04.9 -1.5
CAM3 *i* 03 17 08.2
CAM3 *i* 03 17 16.3
CAM3 *i* 03 17 21.8
CAM3 *i* 03 19 47.0
DAG Danmarks Havn 122.22 5⇑*i*P PKPdf 03 17 03.5 -3.1
comp=Z,51nm,0.7s
DAG Danmarks Havn 122.22 5⇑*i*PKIKP PKPdf 03 17 03.5 -3.1
DAG pmax pmax
comp=Z,51nm,0.7s
SUMG Summit 122.68 13 *e*PKPdf PKPdf 03 17 06.9 -0.5
SOKR Solikamsk 124.51 330⇓*i*PKIKP PKPdf 03 17 08.8 -2.2
SOKR pmax pmax
comp=Z,340nm,0.9s
BJO Bjornoya 124.62 354 *e*P PKPdf 03 17 08.9 -2.3
ARU Arti 124.63 326 *i* PKIKP PKPdf 03 17 09.5 -1.7
ARU *e* 03 23 19.0
ARU Arti 124.63 326 *i* PKPr PKPdf 03 17 09.4 -1.8
SUR Sutherland 124.86 200 SKP 03 19 54.5
SUR PKKPbc PKKPbc 03 26 54.6 0.0
comp=Z,19nm,0.7s,baz=0.6,slow=4.1,SNR=13
SUR Sutherland 124.86 200 P PKPdf 03 17 12.4 +0.8
SNR=22
SUR Sutherland 124.86 200 *e*PKPdf PKPdf 03 17 12.0 +0.4
AB31 Akbulak array 125.55 317⇑*e*PKIKP PKPdf 03 17 10.8 -2.1
AKTO Aktyubinsk 126.52 319 PKIKP PKPdf 03 17 12.6 -2.2
AKTO pmax pmax
comp=Z,75nm,1.4s
BOSA Boshof 126.65 206 PKP PKPdf 03 17 16.3 +1.3
comp=Z,38nm,0.8s,baz=147,slow=2.4,SNR=49
BOSA SKPbc 03 19 40.1
comp=Z,17nm,0.9s,baz=156,slow=5.3,SNR=6.2
BOSA SKP 03 19 57.0
comp=Z,17nm,0.9s,baz=290,slow=1.3,SNR=4.5
BOSA PKKPbc 03 26 47.0
comp=Z,11nm,1.0s,baz=333,slow=1.2,SNR=9.3
BOSA Boshof 126.65 206 *e*PKPdf PKPdf 03 17 16.5 +1.5
JMDO Jabal Madar 127.67 283 ⇑P PKPdf 03 17 17.1 +0.1
SNR=20
BIDO Bidbid 127.81 285 ⇓P PKPdf 03 17 17.5 +0.3
SNR=13
SMDO Samad 127.82 284 P PKPdf 03 17 17.2 0.0
SNR=15
KEV Kevo 127.90 349 PKIKP PKPdf 03 17 15.3 -2.1
KEV Kevo 127.90 349 *e*PKPdf PKPdf 03 17 15.1 -2.3
ARCES ARCESS Array B 128.35 350 PKP PKPdf 03 17 16.6 -1.7
comp=Z,107nm,0.7s,baz=11,slow=1.2,SNR=81
ARCES SKPbc 03 19 44.0
comp=Z,134nm,0.9s,baz=34,slow=4.5,SNR=28
ARCES SKP 03 19 59.0
comp=Z,41nm,0.9s,baz=18,slow=0.4,SNR=4.8
ARCES PKKPbc 03 26 39.4
comp=Z,3.4nm,0.9s,baz=72,slow=5.9,SNR=6.9
ARCES PKKP 03 27 24.1
comp=Z,2.2nm,0.6s,baz=238,slow=1.7,SNR=5.8
ARE0 ARCESS Array S 128.35 350 *e*PKPdf PKPdf 03 17 16.5 -1.8
APA Apatity 128.37 345⇑*i*PKIKP PKPdf 03 17 16.0 -2.3
APA *i* 03 19 27.5
APA pmax pmax
comp=Z,72nm,0.8s
BSY Bisya 128.55 284 P PKPdf 03 17 18.7 +0.1
SNR=6.4
HOQ Hoqain 128.56 285 ⇑P PKPdf 03 17 18.6 -0.1
SNR=10.0
JMIC Jan Mayen 128.60 4 *e*P PKPdf 03 17 17.0 -1.8
KTK1 Kautokeino 129.19 350 *e*P PKPdf 03 17 18.3 -1.6
KTK1 AMb AMB 03 17 21.5
comp=Z,146nm,1.4s
KTK1 Kautokeino 129.19 350 *e*P PKPdf 03 17 19.5 -0.4
TRO Tromso 129.24 352 *e*P PKPdf 03 17 16.6 -3.4
ARQ Araqi 129.25 284 ⇓P PKPdf 03 17 20.0 0.0
SNR=9.6
ASHO Ashiyiah 129.82 286 ⇓P PKPdf 03 17 20.2 -0.9
SNR=17
ASHO ⇓P 03 19 50.4
SNR=18
RBK Rabkut 130.44 276 ⇑P PKPdf 03 17 22.6 +0.3
SNR=12
RBK ⇑P 03 19 53.8
SNR=15
WHFO Wadi Hawf 130.93 277 P PKPdf 03 17 23.2 0.0
SNR=11
WHFO ⇑P 03 19 55.4
SNR=18
ABTO Aybut 131.26 276 ⇑P PKPdf 03 17 24.2 +0.4
SNR=12
ABTO ⇑P 03 19 57.0
SNR=11
PECR Pechory 132.02 330 *i* PKIKP PKPdf 03 17 23.5 -1.7
PECR *e* 03 19 52.0
PECR *i* 03 20 25.6
PECR pmax pmax
comp=Z,520nm,2.0s
BORG Borgarnes 132.66 13 *e*PKPdf PKPdf 03 17 25.0 -1.5
RCBR Riachuelo 134.96 121 *e*PKPdf PKPdf 03 17 31.5 +0.7
FINES FINESS Array B 135.19 344 PKhKP 03 17 14.4
comp=Z,2.7nm,0.4s,baz=58,slow=3.4,SNR=29
FINES PKP PKPdf 03 17 29.4 -1.8
comp=Z,54nm,0.7s,baz=98,slow=3.9,SNR=33
FINES SKPbc SKPbc 03 20 07.8 -0.8
comp=Z,72nm,1.0s,baz=61,slow=4.8,SNR=18
FINES SKPab 03 20 12.2
comp=Z,50nm,0.8s,baz=48,slow=6.2,SNR=9.7
FINES SKKPbc 03 29 10.3
comp=Z,6.6nm,0.7s,baz=129,slow=2.7,SNR=14
FINES tx tx 03 53 26.5
comp=Z,3.8nm,0.9s,baz=47,slow=8.4,SNR=12
FINES FINESS Array B 135.19 344 PKIKP PKPdf 03 17 29.4 -1.8
FINES 03 20 12.2
FINES FINESS Array B 135.19 344 PKP PKPdf 03 17 29.4 -1.8
FINES SKPbc SKPbc 03 20 07.8 -0.8
FINES SKPab 03 20 12.2
FINES SKKPbc 03 29 10.3
MOS Moscow 135.32 332 *e*PKIKP PKPdf 03 17 27.0 -4.4
MOS pmax pmax
comp=Z,1μm,3.0s
MOS pmax pmax
comp=Z,201nm,1.0s
VRHR Novokhopersk 135.95 324 *e*PKIKP PKPdf 03 17 31.4 -1.2
VRHR pmax pmax
comp=Z,60nm,0.6s
OBN Obninsk 136.18 332⇓*i*PKHKP 03 17 23.3
OBN *i* 03 17 31.6
OBN *i* 03 23 52.2
OBN pmax pmax
comp=Z,27nm,1.0s
OBN Obninsk 136.18 332 *i* PKPr PKPdf 03 17 31.6 -1.4
LSZ Lusaka 136.40 219 SKPbc SKPbc 03 20 13.6 +1.4
LSZ SKPab 03 20 21.1
VOR Voronezh 136.91 326 *e*PKIKP PKPdf 03 17 31.0 -3.4
VOR pmax pmax
comp=Z,370nm,1.4s
VRSR Storozhevoye 137.19 326 *e*PKHKP 03 17 22.7
VRSR pmax pmax
comp=Z,30nm,0.7s
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,0.6s
MOL Molde 137.24 356 *e* 03 17 22.7
MOL *i* 03 20 13.3
VSU Vasula 137.47 341⇑*i*PKIKP PKPdf 03 17 35.8 +0.4
VSU Vasula 137.47 341⇑*i*PKP PKPdf 03 17 35.9 +0.5
DOMB Dombas 137.65 355 *e*P 03 17 22.9
TBLG Delisi 137.75 311 PKHKP 03 17 26.2
GOF Gofitskoye 137.78 316 *e*PKHKP 03 17 24.3
GOF pmax pmax
comp=Z,150nm,0.9s
ZEI Tsey 138.01 312 *e*PKIKP PKPdf 03 17 37.0 +0.6
TSUM Tsumeb 138.11 203 SKPbc SKPbc 03 20 18.8 +1.7
comp=Z,40nm,0.9s,baz=144,slow=3.3,SNR=16
TSUM PKKP 03 27 07.7
comp=Z,2.8nm,0.8s,baz=260,slow=3.0,SNR=4.5
NB2 NORSAR Subarra138.42 353 PKPa 03 17 25.1
comp=Z,46nm,0.8s,baz=17,slow=2.6
NB2 NORSAR Subarra138.42 353 PKPa 03 17 25.1
baz=17,slow=2.6
NOA NORSAR Array B 138.42 353 PKhKP 03 17 25.5
comp=Z,58nm,0.9s,baz=15,slow=4.8,SNR=74
NOA PKP PKPdf 03 17 35.4 -1.7
comp=Z,35nm,0.7s,baz=14,slow=4.0,SNR=23
NOA SKPbc SKPbc 03 20 17.0 -0.9
comp=Z,71nm,1.1s,baz=14,slow=4.5,SNR=10
NOA SKPab 03 20 27.2
comp=Z,9.6nm,0.8s,baz=52,slow=5.6,SNR=5.6
NOA SKKPbc 03 28 59.1
comp=Z,18nm,1.0s,baz=190,slow=4.4,SNR=12
NOA tx tx 03 53 40.0
comp=Z,3.9nm,0.9s,baz=10,slow=3.0,SNR=8.6
NOA NORSAR Array B 138.42 353 PKP PKPdf 03 17 35.4 -1.7
NOA SKPbc SKPbc 03 20 17.0 -0.9
NOA SKPab 03 20 27.2
NOA SKKPbc 03 28 59.1
KIV Kislovodsk 138.42 315 *e*PKHKP 03 17 27.6
KIV *e* 03 23 59.3
KIV pmax pmax
comp=Z,125nm,1.0s
NAO01 NORSAR Array S 138.65 353 *e*PKPdf 03 17 26.4
NAO01 *e*SKPdf SKPdf 03 20 17.6 -0.7
HYA Hoyanger 138.71 357 *e*P 03 17 27.9
HYA AMb AMB 03 17 39.6
comp=Z,132nm,1.6s
KMBO Kilima Mbogo 139.40 243 PKhKP 03 17 32.5
comp=Z,13nm,0.9s,baz=74,slow=4.5,SNR=13
KMBO SKPbc SKPbc 03 20 22.6 +2.0
comp=Z,76nm,1.1s,baz=91,slow=2.2,SNR=19
ASK Askoy 139.44 357 *e*P 03 17 30.5
ASK AMb AMB 03 17 35.1
comp=Z,130nm,1.4s
RUND Rundenannen 139.50 357 *e*P 03 17 30.9
RUND AMb AMB 03 17 41.3
comp=Z,249nm,1.0s
BER Bergen 139.54 357 *e*P 03 17 31.1
BER *e*P 03 17 31.2
EGD Espegrend 139.65 357 *e*P 03 17 31.4
EGD AMb AMB 03 17 41.5
comp=Z,190nm,1.6s
ATD Arta Tunnel 139.67 264 SKPbc SKPbc 03 20 25.2 +3.8
comp=Z,89nm,1.0s,baz=98,slow=0.5,SNR=8.9
CUKT Cukurca 139.80 304 *e*P 03 17 32.5
KONO Kongsberg 139.96 354 *e*P 03 17 30.7
KONO Kongsberg 139.96 354 *e*PKPdf 03 17 30.7
BCA Borcka 140.05 311 *e*P 03 17 33.9
MNK Minsk 140.22 336 *i* PKHKP 03 17 31.0
MNK *e* 03 17 38.0
MNK pmax pmax
comp=Z,800nm,1.0s
MSL Mosul 140.42 303 *i* x x 03 17 38.0
MSL *ex* x 03 20 21.0
MSL *ex* x 03 24 07.0
MSL *ex* x 03 26 36.5
BLS5 Blasjo 140.44 356 *e*P 03 17 33.6
BLS5 AMb AMB 03 17 36.3
comp=Z,58nm,1.2s
SOC Sochi 140.55 315*c* *i*PKHKP 03 17 33.9
SOC *i* 03 17 42.8
SOC *e* 03 20 43.8
SOC *e*PPP 03 23 57.6
SOC pmax pmax
comp=Z,73nm,1.0s
EZM Erzurum 140.75 309 *e*P 03 17 36.4
BTMT Batman 141.17 307 *e*P 03 17 37.4
SNART Snartemo 141.46 355 *e*P 03 17 35.8
SNART AMb AMB 03 17 39.7
comp=Z,175nm,1.5s
ANN Anapa 141.48 318*d* *i*PKHKP 03 17 33.2
ANN pmax pmax
comp=Z,254nm,1.6s
BINT Bingol 141.72 308 *e*P 03 17 39.0
EZC Erzincan 141.93 310 *e*P 03 17 41.4
DIY Diyarbakir 142.21 307 *e*P 03 17 40.3
SUW Suwalki 142.26 339 *e*PKP 03 17 39.1
SUW L 03 18 31.9
comp=Z,10nm,29.3s
AKASG Malin Array Be 142.44 331 PKhKP 03 17 39.4
comp=Z,81nm,0.3s,baz=41,slow=4.3,SNR=942
AKASG SKP 03 20 18.2
comp=Z,8.6nm,0.7s,baz=33,slow=5.0,SNR=4.0
AKASG SKPbc SKPbc 03 20 28.0 -0.3
comp=Z,95nm,0.8s,baz=39,slow=2.7,SNR=22
AKASG SKKPbc 03 28 42.6
comp=Z,7.8nm,0.9s,baz=234,slow=4.4,SNR=14
AKASG tx tx 03 53 58.8
comp=Z,0.1nm,0.3s,baz=49,slow=2.8,SNR=5.2
AKASG Malin Array Be 142.44 331 PKP 03 17 39.4
AKASG SKP 03 20 18.2
AKASG SKPbc SKPbc 03 20 28.0 -0.3
AKASG SKKPbc 03 28 42.6
MZRK Al-Mazaregh 142.45 303 ⇓P PKPdf 03 17 41.2 -3.1
SFNV Sufian 142.72 304 ⇓P PKPdf 03 17 42.2 -2.6
ELZG Elazig 142.96 308 *i* P PKPdf 03 17 43.9 -1.4
MUD Monsted U'grnd 143.14 353⇓*i*P PKPdf 03 17 42.0 -3.6
comp=Z,755nm,0.9s
MUD *i* 03 20 29.9
MUD Monsted U'grnd 143.14 353⇓*i*PKHKP PKPdf 03 17 42.0 -3.6
MUD pmax pmax
comp=Z,760nm,0.9s
URFA Urfa 143.41 306 *e*P PKPdf 03 17 41.8 -4.2
MYA Malataya 143.43 308 *e*P PKPdf 03 17 45.6 -0.5
MALT Malatya 143.43 308⇑*i*P PKPdf 03 17 45.1 -1.0
MALT Malatya 143.43 308 P PKPdf 03 17 46.4 +0.3
COP Copenhagen 143.44 350⇓*i*P PKPdf 03 17 43.2 -2.9
comp=Z,510nm,0.8s
COP *i* 03 20 30.7
COP Copenhagen 143.44 350⇓*i*PKIKP PKPdf 03 17 43.2 -2.9
COP pmax pmax
comp=Z,510nm,0.8s
SIM Simferopol' 143.44 320 *i* PKIKP PKPdf 03 17 44.4 -1.7
SIM pmax pmax
comp=Z,100nm,1.0s
EAB Aberfoyle 143.54 6 *e*P PKPdf 03 17 41.7 -4.6
EAB AMb AMB 03 17 44.9
comp=Z,2μm,1.5s
ATAB Bozova 143.80 307 *i* P PKPdf 03 17 45.3 -1.5
SVSK Karacayir 143.88 311 *e*P PKPdf 03 17 45.5 -1.4
PGBU Glenifferbraes 143.89 6 *e*P PKPdf 03 17 44.0 -2.9
EDI Edinburgh 143.90 5 *e*P PKPdf 03 17 43.4 -3.5
EDI *e*P 03 17 43.4
ESY Stoneypath 143.94 4 *e*P PKPdf 03 17 42.7 -4.3
ESY AMb AMB 03 17 47.0
comp=Z,2μm,1.4s
EAU Auchinoon 143.95 5 *e*P PKPdf 03 17 43.1 -3.9
EAU AMb AMB 03 17 47.4
comp=Z,3μm,1.5s
SVST Sivas 143.97 311 *i* P PKPdf 03 17 47.2 +0.2
TOKT Tokat 144.04 312 *e*P PKPdf 03 17 46.5 -0.7
KVT Kavak 144.07 313 *e*P PKPdf 03 17 46.9 -0.3
JHLN Al Jahlan 144.22 304 ⇓P PKPdf 03 17 47.7 +0.2
GMK Mull of Kintyr 144.23 7 *e*P PKPdf 03 17 44.8 -2.7
RGN Rugen 144.36 348 *e*PKPdf PKPdf 03 17 46.3 -1.4
RGN Rugen 144.36 348 *e*PKPdf PKPdf 03 17 46.5 -1.2
GZT Gaziantep 144.39 307 *i* P PKPdf 03 17 47.4 -0.3
GCL Cushendall 144.43 8 *e*P PKPdf 03 17 43.9 -3.9
WAR Warsaw 144.45 340 *e*PKP PKPdf 03 17 47.4 -0.5
WAR L 03 24 58.4
comp=Z,7.9nm,22.5s
ESK Eskdalemuir 144.50 5 *e*P PKPdf 03 17 44.8 -3.1
ESK AMb AMB 03 17 48.7
comp=Z,784nm,1.9s
ESK Eskdalemuir 144.50 5 *e*PKPdf PKPdf 03 17 46.1 -1.8
ECK Cauldkaine Hil 144.64 5 *e*P PKPdf 03 17 44.5 -3.6
ECK AMb AMB 03 17 50.2
comp=Z,933nm,1.8s
GKP Gorka Klasztor 144.67 344 *i* PKPd PKPdf 03 17 47.8 -0.4
GKP L 03 24 44.5
comp=Z,8.3nm,21.4s
BOYT Boyabat 144.69 315 *i* P PKPdf 03 17 48.1 -0.2
GAZ Gaziantep 144.72 307 *e*P PKPdf 03 17 48.5 +0.2
BYBT Boyabat 144.76 315 *e*P PKPdf 03 17 48.5 +0.1
GAL1 Galloway 144.80 6 *e*P PKPdf 03 17 44.9 -3.6
BNN Bunyan 145.12 310 *e*P PKPdf 03 17 48.4 -0.6

CTKT Corum 145.13 313 *i* P PKPdf 03 17 48.1 -0.9
KIS Kishinev 145.17 327 *d* iPKHKP 03 17 46.0
KIS pmax pmax
comp=Z,7μm,2.0s
YOZ Yozgat 145.18 312 *e*P PKPdf 03 17 49.5 +0.4
CKE Keswick 145.23 5 *e*P PKPdf 03 17 47.3 -1.9
GMM Mts of Mourne 145.27 8 *e*P PKPdf 03 17 46.6 -2.6
XDE Dent Fell 145.28 5 *e*P PKPdf 03 17 46.7 -2.6
XDE AMb AMB 03 17 50.4
comp=Z,1μm,1.1s
DRWC Darouich 145.31 306 ⇓P PKPdf 03 17 49.0 -0.3
LVV L'vov 145.33 334 *i* PKIKP PKPdf 03 17 49.6 +0.2
LVV *i* 03 17 52.6
GIM North Isle of 145.39 6 *e*P PKPdf 03 17 47.2 -2.3
CORM Corum 145.43 313 *e*P PKPdf 03 17 49.5 -0.1
BSEG Bad Segeberg 145.45 351 *e*PKPdf PKPdf 03 17 48.4 -1.2
BSEG *e*PKPbc PKPbc 03 17 49.9 -1.1
BSEG *e* 03 20 36.1
BSEG *e*PP PP 03 21 12.0 -5.0
TOS Tosya 145.46 315 *e*P PKPdf 03 17 49.3 -0.3
DMUB Kingscourt 145.47 9 *e*P PKPdf 03 17 47.3 -2.3
DMUB Kingscourt 145.47 9 ⇓*i*P PKPdf 03 17 49.6 0.0
DMUB Kingscourt 145.47 9 ⇓*i*P PKPdf 03 17 49.6 0.0
CDU1 Dunnerdale 145.47 5 *e*P PKPdf 03 17 47.6 -2.0
HLG Helgoland 145.51 354 *e*PKPbc PKPbc 03 17 50.4 -0.7
WIM Isle of Man 145.51 7 *e*P PKPdf 03 17 47.5 -2.1
WIM AMb AMB 03 17 51.2
comp=Z,1μm,1.5s
RABH Abou Rabah 145.53 302 ⇓P PKPdf 03 17 52.0 +2.2
ROOS tl_alroos 145.54 302 ⇓P PKPdf 03 17 50.6 +0.9
KFRA Kufra 145.64 304 ⇓P PKPdf 03 17 51.8 +1.9
BALT Daday 145.64 316 *i* P PKPdf 03 17 49.8 -0.1
KOZT Kozan 145.65 308 *e*P PKPdf 03 17 49.4 -0.5
BTCH Batrach 145.65 305 ⇓P PKPdf 03 17 49.4 -0.5
COBT Iskenderun 145.65 306 *i* P PKPdf 03 17 49.7 -0.2
IAS Iasi 145.67 328 PKP2 PKPab 03 17 51.0 -2.3
ZALF Zalf 145.81 299 ⇓P PKPdf 03 17 50.3 +0.1
CDAG Cicekdag 145.85 312 *i* P PKPdf 03 17 48.6 -1.6
WRDH Warideh 145.85 304 ⇓P PKPdf 03 17 49.5 -0.7
AVNT Avonos 145.86 311 *i* P PKPdf 03 17 48.8 -1.4
CEYT Ceyhan 145.87 307 *e*P PKPdf 03 17 50.2 -0.1
HTY Hatay 145.87 305 *e*P PKPdf 03 17 52.0 +1.8
CANT Cankiri 145.93 314 *e*P PKPdf 03 17 50.6 +0.2
DCN Croghan 145.95 10 *e*P PKPdf 03 17 48.5 -1.9
DCN Croghan 145.95 10 ⇓*i*P PKPdf 03 17 51.1 +0.7
DCN Croghan 145.95 10 ⇓*i*P PKPdf 03 17 51.1 +0.7
SLNF Slenfeh 145.97 305 ⇓P PKPdf 03 17 50.0 -0.5
KWP Kalwaria 146.00 335 *e*PKP PKPdf 03 17 49.5 -1.0
KWP *e* 03 17 52.0
KWP L 03 22 06.4
comp=Z,12nm,29.0s
KWP Kalwaria 146.00 335 *e*PKP PKPdf 03 17 49.5 -1.0
KWP *e* 03 17 52.0
BIDA Albida 146.07 303 ⇓P PKPdf 03 17 50.0 -0.6
ARNB Al Arnab 146.09 305 ⇓P PKPdf 03 17 51.0 +0.3
DLF Lyons Farm 146.11 9 *e*P PKPdf 03 17 49.0 -1.7
DLF Lyons Farm 146.11 9 ⇓*i*P PKPdf 03 17 51.5 +0.8
DLF Lyons Farm 146.11 9 ⇓*i*P PKPdf 03 17 51.5 +0.8
ELDT Eldivan 146.11 314 *i* P PKPdf 03 17 50.0 -0.7
RUE Ruedersdorf 146.22 347 *e*PKPdf PKPdf 03 17 50.1 -0.8
RUE *e*PKPbc PKPbc 03 17 52.3 -0.8
RUE *e*PKPab PKPab 03 17 54.6 -0.9
RUE *ep*PKPbc 03 20 08.0
RUE *e*PP PP 03 21 16.8 -4.6
RUE Ruedersdorf 146.22 347 *e*PKPdf PKPdf 03 17 50.2 -0.6
MARH Ras Al Marh 146.22 302 ⇓P PKPdf 03 17 54.2 +3.4
FKH Fakeheh 146.23 302 *e*P PKPdf 03 17 51.7 +0.8
SAFT Safranbolu 146.25 316 *e*P PKPdf 03 17 50.2 -0.7
WCB1 Church Bay 146.29 7 *e*P PKPdf 03 17 48.1 -2.9
WME Myndd Eilian 146.29 7 *e*P PKPdf 03 17 50.1 -0.8
WME AMb AMB 03 17 55.9
comp=Z,1μm,1.9s
KARA Karaisali 146.30 308 *e*P PKPdf 03 17 50.5 -0.5
KRTS Karatas 146.30 307 *e*P PKPdf 03 17 51.2 +0.2
BR131 Keskin Array S 146.31 313 *e*PKPdf PKPdf 03 17 49.9 -1.2
BRTR Keskin Array B 146.31 313 PKP PKPdf 03 17 49.8 -1.3
comp=Z,215nm,0.8s,baz=144,slow=2.7,SNR=195
BRTR PKPbc PKPbc 03 17 52.9 -0.5
comp=Z,211nm,0.8s,baz=138,slow=4.5,SNR=280
BRTR *p*PKPbc 03 20 03.1
comp=Z,3.5nm,0.9s,baz=143,slow=3.1,SNR=0.7
BRTR SKPbc SKPbc 03 20 37.5 +0.2
comp=Z,32nm,1.0s,baz=134,slow=3.6,SNR=5.6
BRTR SKPab 03 21 02.8
comp=Z,33nm,0.9s,baz=92,slow=3.3,SNR=5.9
BRTR SKKPbc 03 28 28.8
comp=Z,14nm,0.9s,baz=220,slow=4.6,SNR=23
BRTR tx tx 03 54 17.9
comp=Z,0.5nm,0.7s,baz=72,slow=5.2,SNR=5.8
BRTR Keskin Array B 146.31 313 PKIKP PKPdf 03 17 49.8 -1.2
BRTR 03 17 52.9
BRTR Keskin Array B 146.31 313 PKP PKPdf 03 17 49.8 -1.3
BRTR PKPbc PKPbc 03 17 52.9 -0.5
BRTR *p*PKPbc 03 20 03.1
BRTR SKPbc SKPbc 03 20 37.5 +0.2
BRTR SKPab 03 21 02.8
BRTR SKKPbc 03 28 28.8
ASF Jabal al Asfar 146.33 298 PKP PKPdf 03 17 50.4 -0.6
comp=Z,235nm,0.9s,baz=315,slow=1.1,SNR=38
ASF PKPbc PKPbc 03 17 53.4 0.0
comp=Z,235nm,0.9s,baz=320,slow=0.8,SNR=159
ASF SKPbc SKPbc 03 20 38.4 +1.0
comp=Z,31nm,0.9s,baz=199,slow=1.9,SNR=4.5
ASF SKKPbc 03 28 29.1
comp=Z,14nm,1.1s,baz=102,slow=1.3,SNR=9.2
ASF Jabal al Asfar 146.33 298 PKIKP PKPdf 03 17 50.4 -0.6
ASF 03 17 53.4
SALA Sala 146.35 299 ⇓P PKPdf 03 17 51.5 +0.4
LHO Holmfirth 146.36 4 *e*P PKPdf 03 17 48.4 -2.7
WLF1 Llynfaes 146.39 7 *e*P PKPdf 03 17 47.3 -3.8
WLF1 AMb AMB 03 17 56.2
comp=Z,1μm,1.7s
YRC Rhoscolyn 146.41 7 *e*P PKPdf 03 17 48.4 -2.7
YRC AMb AMB 03 17 56.1
comp=Z,936nm,2.0s
KAMT Kaman 146.42 312 *e*P PKPdf 03 17 50.5 -0.7
TOTH TOTAH 146.44 301 ⇓P PKPdf 03 17 51.4 +0.2
WPM1 Penmaenmawr 146.47 6 *e*P PKPdf 03 17 49.8 -1.5
WPM1 AMb AMB 03 17 54.7
comp=Z,287nm,1.2s
BURAR Bucovina Array 146.49 331 ⇓*i*P PKPdf 03 17 52.3 +1.0
BURAR Bucovina Array 146.49 331 ⇓P PKPdf 03 17 52.3 +1.0
QASN Qassioun 146.52 301 ⇓P PKPdf 03 17 54.5 +3.2
YLL Llanberis 146.56 6 *e*P PKPdf 03 17 49.6 -1.8
OJC Ojcow 146.58 339 *e*PKPdf PKPdf 03 17 50.4 -1.1
OJC *e*PP SKPdf 03 20 38.3 +6.9
KBI1 Birley Grange 146.67 4 *e*P PKPdf 03 17 49.5 -2.1
YRE Yr Eifl 146.69 7 *e*P PKPdf 03 17 49.1 -2.6
YRE AMb AMB 03 17 58.4
comp=Z,1μm,1.7s
CFR Carcaliu 146.72 325 ⇓*i*P PKPdf 03 17 50.9 -0.8
CFR Carcaliu 146.72 325 ⇓P PKPdf 03 17 50.9 -0.8
VAL Valentia 146.73 14 *e*P PKPdf 03 17 50.0 -1.7
BRBR Barbar 146.81 301 ⇓P PKPdf 03 17 52.4 +0.5
ANTO Ankara 146.83 314 *e*P PKPdf 03 17 51.2 -0.6
ANTO Ankara 146.83 314 P PKPdf 03 17 51.4 -0.5
SNR=201
ANTO P 03 17 51.5
SNR=195
MERS Mersin 146.84 308 *e*P PKPdf 03 17 51.3 -0.6
LOD Lodumlu 146.84 314 *e*P PKPdf 03 17 51.9 0.0
NRDL Niedersach Rie 146.88 351 *e*PKPdf PKPdf 03 17 50.9 -1.1
NRDL *e*PKPbc PKPbc 03 17 54.1 -0.8
NRDL *e*PKPab PKPab 03 17 56.8 -1.3
NRDL *ep*PKPbc pPKPbc 03 20 09.9 +3.6
NRDL *e* 03 20 39.1
NRDL *e*PP PP 03 21 21.4 -3.9
SBD1 Bryn Du 146.88 6 *e*P PKPdf 03 17 49.6 -2.4
SBD1 AMb AMB 03 17 59.5
comp=Z,1μm,1.6s
KWE Weaver Farm 146.88 4 *e*P PKPdf 03 17 49.9 -2.1
RCY Rachaya 146.90 301 *e*P PKPdf 03 17 52.7 +0.7
BHL Bhannes 146.92 302 *e*P PKPdf 03 17 51.7 -0.3
TCHB Talchebab 146.98 300 ⇓P PKPdf 03 17 52.7 +0.6
WIT Witteveen 146.99 355 *e*PKiKP PKiKP 03 17 52.1 -4.9
comp=Z,618nm,1.6s
WIT ⇓*i*PKPpre 03 17 55.1
comp=Z,6μm,1.1s
WIT *e*PKPab PKPab 03 17 58.0 -0.6
SGKT Sivrigoynuk 146.99 315 *i* P PKPdf 03 17 51.2 -0.9
VRI Vrincioaia 147.00 327 PKIKP PKPdf 03 17 51.2 -1.0
VRI Vrincioaia 147.00 327 ⇑P PKPdf 03 17 54.7 +2.6

TIRR Tirgusor 147.03 324 ⇓*i*P PKPdf 03 17 51.2 -1.0
TIRR Tirgusor 147.03 324 P PKPdf 03 17 51.5 -0.7
PLOR Plostina 147.05 327 ⇑*i*P PKPdf 03 17 54.7 +2.5
NIE Niedzica 147.07 338 *e*PKP PKPdf 03 17 51.7 -0.6
KSP Ksiaz 147.11 343 *e*PKP PKPdf 03 17 51.6 -0.7
KSP *e* 03 17 55.3
KSP L 03 20 55.8
comp=Z,7.6nm,27.0s
KSP Ksiaz 147.11 343 *e*PKIKP PKPdf 03 17 51.3 -1.0
KSP *i* 03 17 55.0
KSP Ksiaz 147.11 343 *e*PKPdf PKPdf 03 17 51.3 -1.0
KSP *i* PKPdf PKPdf 03 17 55.0 +2.7
KSP *ep*PKP pPKPdf 03 20 05.0 -1.2
KSP *e* 03 20 39.7
RAC Raciborz 147.22 340 *e*PKPdf PKPdf 03 17 52.1 -0.4
RAC *e*PKPbc PKPbc 03 17 55.7 -0.1
RAC *e*PKPab PKPab 03 17 59.9 +0.4
RAC *e*PP PP 03 21 25.9 -1.3
RAC Raciborz 147.22 340 *e*PKPdf PKPdf 03 17 52.1 -0.4
RAC *e*PKPbc PKPbc 03 17 55.7 -0.1
RAC *e*PKPab PKPab 03 17 59.9 +0.4
MEST Erdemli 147.22 307 *i* P PKPdf 03 17 51.7 -0.9
HLM1 Long Mynd 147.30 5 *e*P PKPdf 03 17 50.8 -1.9
HLM1 AMb AMB 03 17 55.7
comp=Z,1μm,1.0s
MMAI Mount Meron Ar 147.36 300 SKKPbc 03 28 25.1
comp=Z,9.4nm,1.0s,baz=222,slow=9.6,SNR=11
IBBN Ibbenburen 147.38 353 *e*PKPdf PKPdf 03 17 51.7 -1.1
IBBN *e*PKPbc PKPbc 03 17 55.4 -0.8
IBBN *e*PKPab PKPab 03 17 59.2 -0.9
IBBN *ep*PKPbc pPKPbc 03 20 12.2 +4.4
IBBN *e* 03 20 39.9
IBBN *e*PP PP 03 21 23.9 -4.2
PLUZ Luz 147.41 48 *e*PKP PKPdf 03 17 55.2 +2.4
OKC Ostrava-Krasne 147.45 340 *e*PKPDF PKPdf 03 17 52.0 -0.9
OKC ⇑*e*PKPB 03 17 55.7
OKC *e*PKPAB PKPab 03 18 00.0 -0.4
CLZ Clausthal 147.47 350 *e*PKPdf PKPdf 03 17 52.1 -0.8
CLZ *e*PKPbc PKPbc 03 17 56.0 -0.4
CLZ *e*PKPab PKPab 03 17 59.7 -0.8
CLZ *ep*PKPbc pPKPbc 03 20 11.2 +3.1
CLZ *e*PP PP 03 21 24.7 -4.0
CLZ Clausthal 147.47 350 *e*PKP2 PKPab 03 17 59.7 -0.8
CLZ *e* 03 21 24.7
CLL Collm 147.49 347 *i* PKPdf PKPdf 03 17 51.7 -1.3
comp=Z,258nm,1.5s
CLL ⇓*i*PKPbc PKPbc 03 17 55.8 -0.7
comp=Z,1μm,0.9s
CLL *e*PKPab PKPab 03 17 59.6 -1.0
CLL *ep*PKPbc pPKPbc 03 20 10.6 +2.5
CLL *e*SKPbc SKPbc 03 20 40.3 +0.4
CLL Collm 147.49 347 ⇓*i*PKPdf PKPdf 03 17 51.8 -1.2
comp=Z,252nm,1.5s
CLL ⇓*i*PKPbc PKPbc 03 17 55.8 -0.7
comp=Z,1μm,0.9s
CLL ⇑*i*PKPab PKPab 03 17 59.6 -1.0
comp=Z,673nm,1.0s
CLL *i* x x 03 19 45.8
CLL *i* pPKiKP 03 20 10.5
comp=Z,145nm,1.3s
CLL *i* SKPdf SKPdf 03 20 40.6 +7.8
CLL *i* PP PP 03 21 20.5 -8.3
comp=Z,112nm,1.7s
CLL *i* SKKSac SKKSac 03 27 21.4 -1.4
CLL Collm 147.49 347 ⇓*i*PKIKP PKPdf 03 17 51.8 -1.2
CLL *i* 03 17 55.8
CLL pmax pmax
comp=Z,252nm,1.5s
CLL Collm 147.49 347 ⇓*i*PKP PKPdf 03 17 51.8 -1.2
CLL ⇓*i*PKP PKPdf 03 17 55.8 +2.8
CLL *i* 03 20 10.5
CLL *i* 03 20 40.6
UPC Upice 147.49 343 *e*PKPDF PKPdf 03 17 52.0 -1.0
UPC ⇑*e*PKPB 03 17 56.2
DPC Dobruska-Polom 147.55 343 *e*PKPDF PKPdf 03 17 52.4 -0.7
DPC ⇑*e*PKPB 03 17 56.4
DPC *e*PKPAB PKPab 03 18 00.5 -0.3
DPC *ep*PKP pPKPdf 03 20 12.9 +6.0
DPC Dobruska-Polom 147.55 343 *e*PKIKP PKPdf 03 17 52.4 -0.7
DPC *e* 03 18 00.5
MDU Mudurnu 147.60 316 *e*P PKPdf 03 17 52.6 -0.5
ISR Istrita 147.60 326 ⇓*i*P PKPbc 03 17 56.7 -0.1
ISR Istrita 147.60 326 ⇓P PKPbc 03 17 56.7 -0.1
HENT Hendek 147.62 316 *i* P PKPdf 03 17 51.8 -1.4
PSN Preselentsi 147.64 323 *e*P PKPdf 03 17 52.8 -0.4
MLR Muntele Rosu 147.65 327 PKP PKPdf 03 17 51.0 -2.3
comp=Z,259nm,1.0s,baz=15,slow=2.6,SNR=52
MLR PKPbc PKPbc 03 17 56.1 -0.8
comp=Z,323nm,0.9s,baz=355,slow=4.1,SNR=115
MLR SKKPbc 03 28 22.0
comp=Z,16nm,0.9s,baz=192,slow=5.6,SNR=12
MLR Muntele Rosu 147.65 327 ⇑*i*P PKPdf 03 17 52.5 -0.7
MLR Muntele Rosu 147.65 327 ⇑PKIKP PKPdf 03 17 52.6 -0.6
MLR Muntele Rosu 147.65 327 P PKPdf 03 17 52.5 -0.8
BRG Berggiesshubel 147.68 346 *e*PKPdf PKPdf 03 17 52.3 -1.0
BRG *e*PKPbc PKPbc 03 17 56.4 -0.6
BRG *e*PKPab PKPab 03 18 00.6 -0.8
BRG *ep*PKPbc pPKPbc 03 20 12.2 +3.5
BRG *e* 03 20 41.0
BRG Berggiesshubel 147.68 346 *i* PKP PKPdf 03 17 52.4 -0.9
comp=Z,73nm,0.9s
BRG Berggiesshubel 147.68 346 *i* PKP PKPdf 03 17 52.4 -0.9
comp=Z,73nm,0.9s
BRG Berggiesshubel 147.68 346 *i* PKIKP PKPdf 03 17 52.4 -0.9
BRG *i* 03 18 00.8
BRG pmax pmax
comp=Z,73nm,0.9s
BRG Berggiesshubel 147.68 346 *i* PKP PKPdf 03 17 52.4 -0.9
BRG *i* PKP PKPdf 03 17 56.5 +3.3
MORC Moravsky Berou 147.69 341 ⇑*i*P PKPdf 03 17 52.9 -0.4
MORC Moravsky Berou 147.69 341 P PKPdf 03 17 52.4 -0.9
IKL Isikli 147.70 307 *e*P PKPdf 03 17 52.8 -0.5
HTR Trewern Hill 147.70 6 *e*P PKPdf 03 17 50.7 -2.6
HTR AMb AMB 03 18 02.8
comp=Z,1μm,1.7s
PTCA Ponta do Capel 147.73 48 *e*PKP PKPbc 03 17 57.4 +0.3
FBE Freiberg 147.77 346 *e*PKPdf PKPdf 03 17 52.4 -1.0
FBE *e*PKPbc PKPbc 03 17 56.9 -0.3
FBE *e*PKPab PKPab 03 18 01.2 -0.6
FBE *ep*PKPbc pPKPbc 03 20 12.5 +3.5
PCED Cedros 147.78 48 *e*PKP PKPbc 03 17 57.0 -0.2
CALA Caldeira 147.80 48 *e*PKP PKPbc 03 17 57.4 +0.1
MCH1 Michaelchurch 147.81 6 *e*P PKPdf 03 17 51.8 -1.8
MCH1 *e*P 03 17 51.7
WTSB Winterswijk 147.81 354 ⇓*e*PKiKP PKiKP 03 17 52.5 -6.2
comp=Z,266nm,1.7s
WTSB ⇓*i*PKPpre 03 17 56.5
comp=Z,2μm,1.1s
WTSB *e*PKPab PKPab 03 18 00.8 -1.2
GTTG Gvttingen 147.83 350 *e*PKPdf PKPdf 03 17 52.3 -1.2
GTTG *e*PKPbc PKPbc 03 17 56.7 -0.6
GTTG *e*PKPab PKPab 03 18 01.0 -1.0
GTTG *e*PP PP 03 21 26.5 -4.2
PVCC Panska Ves 147.85 345 *e*PKPDF PKPdf 03 17 52.7 -0.9
PVCC ⇑*e*PKPB 03 17 56.9
HOR Horta 147.87 48 *e*PKP PKPbc 03 17 57.4 -0.1
KSHN Kadinhani 147.91 312 *i* P PKPdf 03 17 52.4 -1.2
KIZT Kizilcal 147.91 313 *e*P PKPdf 03 17 52.8 -0.9
SSW Stow on the Wo 147.93 4 *e*P PKPdf 03 17 51.9 -1.8
HSA Swansea 147.94 7 *e*P PKPdf 03 17 52.1 -1.6
SNX Sinaia 147.97 328 ⇑*i*P PKPdf 03 17 53.9 +0.2
SNX Sinaia 147.97 328 ⇑P PKPdf 03 17 53.9 +0.1
KONT Konya--Tatoy 147.99 311 *e*P PKPbc 03 17 56.6 -1.2
PCND Candelaria 148.01 48 *e*PKP PKPbc 03 17 58.0 +0.2
PICO Pico 148.03 48 *e*PKP PKPdf 03 17 55.0 +1.2
PVIA Vitoria 148.03 47 *e*PKP PKPdf 03 17 55.0 +1.2
SRBC Serra Branca 148.05 47 *e*PKP PKPdf 03 17 55.0 +1.1
STGR Santa Cruz 148.05 47 *e*PKP PKPbc 03 17 58.4 +0.5
ROSA Rosais 148.06 48 *e*PKP PKPdf 03 17 55.0 +1.1
PTEI Pico do Teixo 148.08 48 *e*PKP PKPbc 03 17 58.0 0.0
PBOI Pico dos Bois 148.09 48 *e*PKP PKPbc 03 17 58.0 0.0
PGRA Graciosa 148.09 47 *e*PKP PKPdf 03 17 55.0 +1.1
PAMA Santo Amaro 148.12 48 *e*PKP PKPbc 03 17 58.2 +0.1
ERMK Ermenek 148.12 308 *i* P PKPdf 03 17 51.8 -2.2
VOIR 148.14 328 ⇓PKHKP PKPdf 03 17 54.1 +0.1
HGH Gray Hill 148.18 5 *e*P PKPdf 03 17 52.0 -2.0
HGH AMb AMB 03 17 58.2
comp=Z,1μm,1.8s
PMAN Manadas 148.20 48 *e*PKP PKPdf 03 17 55.1 +1.0
DRGR 148.23 332 ⇓*i*P PKPdf 03 17 53.2 -1.0
DRGR 148.23 332 P PKPdf 03 17 52.9 -1.3

SKP1 Kophill 148.24 3 *e*P PKPdf 03 17 51.4 -2.8
EYL Eskiyayla 148.24 317 *e*P PKPdf 03 17 52.7 -1.5
PID Ribeirinha 148.27 48 *e*PKP PKPdf 03 17 55.6 +1.4
BUG Bochum--Univer 148.28 353 *e*PKPdf PKPdf 03 17 53.2 -1.1
BUG *e*PKPbc PKPbc 03 17 57.5 -1.0
BUG *e*PKPab PKPab 03 18 02.6 -1.3
PRA Prague 148.31 344 PKPDF PKPdf 03 17 54.0 -0.3
PRA ⇑PKPB 03 17 59.0
PRA PKPAB PKPab 03 18 04.0 +0.1
PRA *ex* x 03 18 24.0
PRU Pruhonice 148.35 344 *e*PKPDF PKPdf 03 17 53.2 -1.2
PRU ⇑*e*PKPB 03 17 58.1
PRU *e*PKPAB PKPab 03 18 03.4 -0.7
SWN1 Swindon 148.38 4 *e*P PKPdf 03 17 52.6 -1.8
SWN1 *e*P 03 17 52.6
PRD Provadia 148.39 323 *i* P PKPdf 03 17 54.0 -0.4
BORA Eskisehir 148.40 315 *i* P PKPdf 03 17 51.3 -3.1
VRAC Vranov 148.40 341 ⇑PKHKP PKPdf 03 17 53.7 -0.7
VRAC Vranov 148.40 341 P PKPdf 03 17 53.6 -0.9
MOX Moxa 148.40 348 *e*PKPdf PKPdf 03 17 53.3 -1.1
MOX *e*PKPbc PKPbc 03 17 58.2 -0.6
MOX *e*PKPab PKPab 03 18 03.4 -0.9
MOX *e* 03 20 42.1
MOX Moxa 148.40 348 *e*PKP PKPdf 03 17 53.3 -1.1
MOX *e* 03 17 58.0
comp=Z,1μm,1.6s
CSS Prodhromos 148.42 305 ⇓P PKPdf 03 17 53.6 -0.9
comp=Z,6.0nm,0.9s
CSS Prodhromos 148.42 305 *e*P PKPdf 03 17 53.0 -1.4
HRT Hereke 148.42 317 *e*P PKPbc 03 17 57.2 -1.6
MAMC Mammari 148.43 305 P PKPdf 03 17 54.2 -0.3
TANN Tannenbergstha 148.45 347 *e*PKPdf PKPdf 03 17 53.5 -1.0
TANN *e*PKPbc PKPbc 03 17 58.5 -0.4
TANN *e*PKPab PKPab 03 18 03.9 -0.6
TANN *ep*PKPbc pPKPbc 03 20 13.6 +2.7
TANN *e*PP PP 03 21 30.0 -4.3
WERD Werda 148.45 347 *e*PKPdf PKPdf 03 17 53.5 -1.0
WERD *e*PKPbc PKPbc 03 17 58.4 -0.5
WERD *e*PKPab PKPab 03 18 03.8 -0.7
WERD *e*PP PP 03 21 29.3 -5.0
EIL Elat 148.46 294 *e*PKPdf PKPdf 03 17 53.3 -1.3
PSZ Piszkesteto 148.48 336 ⇓*e*PKP/F PKPdf 03 17 53.6 -1.0
KLYT Kilyos 148.57 318 *e*P PKPdf 03 17 53.2 -1.5
ADVT Abdulvahap 148.58 317 *e*P PKPdf 03 17 53.7 -1.0
NKC Novy Kostel 148.62 347 *e*PKPDF PKPdf 03 17 53.9 -0.9
NKC ⇑*e*PKPB 03 17 58.9
HTL Hartland 148.64 8 *e*P PKPdf 03 17 53.8 -1.1
HEX Exmoor 148.65 7 *e*P PKPdf 03 17 53.2 -1.6
ISK Istanbul-Kandi 148.67 318 *e*P PKPdf 03 17 52.7 -2.2
PSBA Serra de Santa 148.67 47 *e*PKP PKPdf 03 17 56.0 +1.1
ASBA Santa Barbara 148.69 47 *e*PKP PKPdf 03 17 56.5 +1.6
SWK Warminster 148.71 5 *e*P PKPdf 03 17 52.9 -2.0
PBIS Biscoitos 148.72 47 *e*PKP PKPdf 03 17 56.6 +1.6
PPAD Pico dos Padre 148.72 47 *e*PKP PKPbc 03 18 00.1 +0.5
TREC Trest 148.73 343 *e*PKPDF PKPdf 03 17 53.7 -1.3
TREC ⇑*e*PKPB 03 17 59.0
TREC *e*PKPAB PKPab 03 18 04.8 -0.9
YLV Yalova 148.74 317 *e*P PKPdf 03 17 53.3 -1.7
ADH Angra Heroismo 148.78 47 *e*PKP PKPdf 03 17 56.3 +1.2
PVNV Vila Nova 148.79 47 *e*PKP PKPdf 03 17 57.0 +1.9
PENC Penc 148.81 337 ⇓*e*P PKPbc 03 17 59.2 -0.6
RIB2 Ribeirinha 148.82 47 *e*PKP PKPdf 03 17 56.5 +1.4
PFAV Pico das Favas 148.86 47 *e*PKP PKPdf 03 17 56.6 +1.4
ALFC Alevga 148.91 306 ⇓P PKPdf 03 17 53.8 -1.5
comp=Z,14nm,0.8s
ALFC Alevga 148.91 306 ⇓*e*P PKPdf 03 17 53.8 -1.5
MANZ Manzenberg 148.93 347 *e*PKPdf PKPdf 03 17 54.5 -0.8
MANZ *e*PKPbc PKPbc 03 17 59.9 -0.2
MANZ *e*PKPab PKPab 03 18 05.8 -0.7
CTT Catalca 149.01 319 *e*P PKPbc 03 17 59.6 -0.7
ALT Altintas 149.04 314 *e*P PKPdf 03 17 55.1 -0.3
HGN Heimansgroeve 149.08 355 ⇓*e*PKiKP 03 17 54.4
comp=Z,122nm,1.5s
HGN ⇓*i*PKPpre 03 17 59.7
comp=Z,730nm,1.1s
HGN *e*PKPab PKPab 03 18 06.0 -1.1
ROTZ Rotzenmuhle 149.11 347 *e*PKPdf PKPdf 03 17 54.5 -1.1
ROTZ *e*PKPbc PKPbc 03 18 00.2 -0.3
ROTZ *e*PKPab PKPab 03 18 06.6 -0.7
ROTZ *e*PP PP 03 21 33.3 -4.8
UCC Uccle 149.16 357 PKP PKPdf 03 17 54.2 -1.5
UCC PKPbc PKPbc 03 17 59.7 -0.9
UCC PKPab PKPab 03 18 05.1 -2.4
UCC E 03 20 19.8
UCC SKPbc SKPbc 03 20 43.3 -0.2
BUD Budapest 149.16 337 *e*PKP/Fd PKPdf 03 17 54.4 -1.3
PPCY Paphos 149.20 305 P PKPdf 03 17 54.4 -1.3
CSA1 St Austell 149.21 8 *e*P PKPdf 03 17 53.6 -2.2
ZST Bratislava 149.22 340 *e*PKP PKPdf 03 17 55.2 -0.6
ZST *e* 03 18 00.8
ZST Bratislava 149.22 340 *e*PKP PKPdf 03 17 55.2 -0.6
ZST *e* 03 18 00.9
MEM Membach 149.23 355 PKP PKPdf 03 17 53.6 -2.2
MEM PKPbc PKPbc 03 17 60.0 -0.8
MEM SKPbc SKPbc 03 20 44.0 +0.4
GZR Gura Zlata 149.26 330 ⇑*i*P PKPbc 03 18 00.3 -0.6
GZR Gura Zlata 149.26 330 ⇑P PKPbc 03 18 00.3 -0.6
CPZ Penzance 149.31 9 *e*P PKPdf 03 17 53.6 -2.3
CPZ AMb AMB 03 18 01.9
comp=Z,811nm,1.6s
JMB Yambol 149.32 323 *i* P PKPdf 03 17 54.9 -1.0
JMB Yambol 149.32 323 *e*P PKPdf 03 17 53.9 -2.0
CCA1 Carnmenellis 149.33 9 *e*P PKPdf 03 17 54.1 -1.9
TNS Taunus Mts 149.34 352 *e*PKPdf PKPdf 03 17 55.0 -0.9
TNS *e*PKPbc PKPbc 03 18 00.6 -0.5
TNS *e*PKPab PKPab 03 18 07.4 -0.8
TNS Taunus Mts 149.34 352 *e*PKP2 PKPab 03 18 07.4 -0.8
CRQ2 Rosemanowes 2 149.35 9 *e*P PKPdf 03 17 54.7 -1.2
GRA1 Grafenberg Arr 149.39 348 *e*PKPdf PKPdf 03 17 54.9 -1.1
GRA1 *e*PKPbc PKPbc 03 18 00.8 -0.4
GRA1 *e*PKPab PKPab 03 18 07.9 -0.5
GRA1 *e*PP PP 03 21 35.5 -4.1
GRF Grafenberg Arr 149.39 348 *e*PKPdf PKPdf 03 17 54.9 -1.1
GRF *e*PKPbc PKPbc 03 18 00.8 -0.4
GRF *e*PKPab PKPab 03 18 07.9 -0.5
GRF *e*PP PP 03 21 35.5 -4.1
GRF Grafenberg Arr 149.39 348 *e*PKP2 PKPab 03 18 07.9 -0.5
GRF *e* 03 21 35.5
TKTP Tekketepe 149.39 312 *i* P PKPdf 03 17 53.6 -2.4
KHC Kasperske Hory 149.39 345 *e*PKPDF PKPdf 03 17 55.0 -1.0
KHC ⇑*e*PKPB 03 18 00.5
KHC x x 03 28 14.0
KHC Kasperske Hory 149.39 345 *e*PKP PKPdf 03 17 55.0 -1.0
KHC *e* 03 18 00.5
KHC *e* 03 28 14.0
VKA Vienna 149.41 341 *i* PKPdf PKPdf 03 17 55.7 -0.4
CMA1 Manaccan 149.44 9 *e*P PKPdf 03 17 53.8 -2.3
GDZ Gediz 149.45 315 *i* P PKPdf 03 17 53.9 -2.3
SNF Seneffe 149.45 357 PKP PKPdf 03 17 54.9 -1.2
SNF PKPbc PKPbc 03 18 00.5 -0.8
SNF PKPab PKPab 03 18 07.2 -1.4
SNF E 03 20 17.1
SNF SKPbc SKPbc 03 20 44.4 +0.3
BCK Bucak 149.47 311 *e*P PKPbc 03 17 59.2 -2.2
CGH1 Goonhilly 149.47 9 *e*P PKPdf 03 17 54.7 -1.5
PKSG 149.47 338 ⇓*e*P PKPbc 03 18 00.6 -0.8
PVL Pavlikeni 149.53 325 *i* P PKPdf 03 17 55.2 -1.0
WET Wettzell 149.55 346 *e*PKPdf PKPdf 03 17 55.1 -1.2
WET *e*PKPbc PKPbc 03 18 01.0 -0.5
WET *e*PKPab PKPab 03 18 08.7 -0.4
CRAR CRAIOVA 149.56 328 PKHKP PKPdf 03 17 56.5 +0.2
EDRB Edirne 149.61 321 *e*P PKPdf 03 17 57.7 +1.4
BZS Buzias 149.62 332 ⇑*i*P PKPdf 03 17 55.7 -0.7
BZS Buzias 149.62 332 P PKPdf 03 17 55.3 -1.1
GEC2 GERESS Array S 149.62 344 *e*PKPdf PKPdf 03 17 55.3 -1.1
GEC2 *e*PKPbc PKPbc 03 18 01.2 -0.5
GEC2 *e*PKPab PKPab 03 18 08.9 -0.5
GEC2 *e*PP PP 03 21 36.5 -4.5
GERES GERESS Array B 149.62 344 PKP PKPdf 03 17 54.9 -1.4
comp=Z,25nm,0.9s,baz=70,slow=1.6,SNR=131
GERES PKPbc PKPbc 03 18 00.9 -0.8
comp=Z,383nm,0.8s,baz=40,slow=2.3,SNR=293
GERES PKPab PKPab 03 18 08.5 -0.9
comp=Z,59nm,0.8s,baz=60,slow=3.2,SNR=9.5
GERES SKKPbc 03 28 12.6
comp=Z,2.0nm,0.8s,baz=174,slow=2.7,SNR=5.5
GERES GERESS Array B 149.62 344 PKIKP PKPdf 03 17 54.9 -1.5
GERES 03 18 08.5
ANTB Antalya 149.67 310 *e*P PKPdf 03 17 55.6 -0.9
BNT Bandirma 149.78 318 *e*P PKPbc 03 18 01.7 -0.4

PKS8	Sarbogard	149.80	337	⇓	eP	PKPbc	03 18 01.0 -1.2
EDC	Edincik	149.82	318		eP	PKPdf	03 17 59.2 +2.5
GIVF	Givet	149.82	356		ePKIKP	PKPdf	03 17 55.7 -1.0
DOU	Dourbes	149.84	356		PKP	PKPdf	03 17 55.6 -1.2
DOU					PKPbc	PKPbc	03 18 01.5 -0.8
DOU					SKPdf	SKPdf	03 20 38.2 +2.0
DOU					SKPbc		03 20 45.3
MRMT	Marmara Adasi	149.84	319		eP	PKPdf	03 17 57.0 +0.3
SOP	Sopron	149.85	340	⇓	ePKP/F	PKPdf	03 17 55.6 -1.1
CONA	Conrad Observa	149.85	341	⇑	ePKPdf	PKPdf	03 17 55.0 -1.8
	comp=Z,62nm,1.2s,SNR=40						
CONA				⇓	iPKiKP	PKiKP	03 18 02.2 -0.7
	comp=Z,602nm,0.8s						
CONA				⇑	iPKPab	PKPab	03 18 11.0 +0.6
	comp=Z,2µm,2.8s						
TOD	Tromm	149.89	351		PKIKP	PKPdf	03 17 55.5 -1.3
BAIF	Baives	149.90	357		ePKIKP	PKPdf	03 17 55.8 -1.0
	comp=Z,279nm,1.6s						
MFT	Murefte	149.93	319		eP	PKPdf	03 17 57.0 +0.1
DJES	Djerdap	149.95	330		i PKP	PKPbc	03 18 00.8 -1.7
RUP	Ruppelstein	150.02	353		PKIKP	PKPdf	03 17 56.4 -0.6
BTOK	Tokmak	150.04	317		i P	PKPdf	03 17 56.2 -0.9
RKY	Sarkoy-Tekirda	150.05	319		eP	PKPbc	03 18 00.6 -2.1
SET4	Mosteiros	150.15	47		ePKP	PKPbc	03 18 00.5 -2.5
WLF	Walferdange	150.15	354		ePKPdf	PKPdf	03 17 56.4 -0.8
WLF					ePKPbc	PKPbc	03 18 02.9 -0.1
WLF					ePKPab	PKPab	03 18 11.1 -0.5
WLF					ePP	PP	03 21 38.8 -5.2
WLF	Walferdange	150.15	354		PKP	PKPdf	03 17 56.4 -0.8
WLF					PKPbc	PKPbc	03 18 02.8 -0.2
WLF					PKPab	PKPab	03 18 10.7 -1.0
WLF					E		03 20 19.9
WLF	Walferdange	150.15	354		ePKPdf	PKPdf	03 17 56.5 -0.7
BALB	Balikesir	150.21	317		eP	PKPdf	03 17 56.2 -1.1
ELL	Elmali	150.27	310		eP	PKPbc	03 18 02.2 -1.0
KTD	Kalmit	150.27	352		PKIKP	PKPdf	03 17 56.8 -0.6
PKSM	Moragy	150.37	336	⇓	iP	PKPdf	03 17 56.4 -1.1
PKSM	Moragy	150.37	336	⇓	eP	PKPdf	03 17 56.1 -1.4
CML	Cha da Macela	150.37	47		ePKP	PKPdf	03 18 00.0 +2.4
MANT	Manisa	150.38	314		i P	PKPdf	03 17 56.4 -1.2
PVER	Pico Vermelho	150.38	47		ePKP	PKPdf	03 17 53.0 -4.6
MOA	Molln	150.39	343	⇓	i	PKPbc	03 18 02.9 -0.6
	comp=Z,164nm,0.7s						
MOA	Molln	150.39	343	⇓	i	PKPab	03 18 11.9 -0.7
	comp=Z,2µm,1.9s						
MOA	Molln	150.39	343	⇓	iPKPdf	PKPdf	03 17 56.2 -1.3
	comp=Z,42nm,1.1s,SNR=19						
MOA				⇓	iPKiKP	PKiKP	03 18 02.9 -1.1
	comp=Z,164nm,0.7s						
MOA				⇓	iPKPab	PKPab	03 18 11.9 -0.7
	comp=Z,2µm,1.9s						
MOA	Molln	150.39	343	⇓	iP	PKPdf	03 17 56.2 -1.3
MOA					i		03 18 02.9
MOA					i		03 18 11.9
PMAT	Coroa da Mata	150.40	47		ePKP	PKPdf	03 18 00.0 +2.4
LFA	Lagoa do Fogo	150.42	47		ePKP	PKPdf	03 17 53.7 -3.9
DENT	Denizli	150.42	313		eP	PKPbc	03 18 03.4 -0.2
MESC	Monte Escuro	150.43	47		ePKP	PKPbc	03 18 01.2 -2.4
PRCH	Ribeira Ch	150.44	47		ePKP	PKPdf	03 17 58.5 +0.8
DNZL	Cakiroluk	150.44	313		i P	PKPbc	03 18 03.3 -0.3
VIF	Vila Franca	150.46	47		ePKP	PKPdf	03 18 00.0 +2.3
PCNG	Congro	150.48	47		ePKP	PKPdf	03 17 59.4 +1.7
PFAD	Fenais da Ajud	150.50	47		ePKP	PKPdf	03 17 58.0 +0.3
KDZ	Kurdzhali	150.51	322		i P	PKPdf	03 17 56.0 -1.8
FRA1	Furnas	150.52	47		ePKP	PKPbc	03 18 05.5 +1.7
MIRA	Miradouro	150.55	47		ePKP	PKPbc	03 18 04.5 +0.6
ARSA	Arzberg	150.56	341	⇑	i	PKPbc	03 18 03.4 -0.5
	comp=Z,164nm,1.2s						
ARSA	Arzberg	150.56	341	⇓	i	PKPab	03 18 12.3 -1.1
	comp=Z,2µm,3.2s						
ARSA	Arzberg	150.56	341		i PKPdf	PKPdf	03 17 56.2 -1.6
	comp=Z,38nm,1.2s,SNR=32						
ARSA				⇑	iPKiKP	PKiKP	03 18 03.4 -1.0
	comp=Z,164nm,1.2s						
ARSA				⇓	iPKPab	PKPab	03 18 12.3 -1.1
	comp=Z,2µm,3.2s						
ARSA	Arzberg	150.56	341		i P	PKPdf	03 17 56.2 -1.6
ARSA					i		03 18 03.4
ARSA					i		03 18 12.3
PGB	Panagyurishte	150.61	325		i P	PKPdf	03 17 56.8 -1.1
ALN	Alexandroupoli	150.61	321		eP	PKPdf	03 17 54.2 -3.7
JVM	Valle D.L. Mar	150.63	5		eP	PKPdf	03 17 56.3 -1.7
STU	Stuttgart	150.64	350		ePKPdf	PKPdf	03 17 57.1 -0.9
STU					ePKPbc	PKPbc	03 18 03.6 -0.5
STU					ePKPab	PKPab	03 18 12.9 -0.8
STU	Stuttgart	150.64	350		ePKPdf	PKPdf	03 17 59.4 +1.5
ENEZ	Enez	150.65	320		eP	PKPdf	03 17 58.8 +0.8
AKS	Akhisar	150.67	316		eP	PKPdf	03 17 55.6 -2.4
JSA	Saint Aubin	150.67	5		eP	PKPdf	03 17 56.7 -1.3
JRS	Jersey	150.67	5		eP	PKPdf	03 17 56.2 -1.8
RDO	Rodhopi	150.76	321		eP	PKPdf	03 17 56.0 -2.1
KSL	Kastellorizon	150.77	309		eP	PKPbc	03 18 03.5 -0.9
SVIS	Svilajnac	150.82	331	⇓	iPKP	PKPdf	03 17 56.8 -1.4
FUR	Furstenfeldbru	150.83	347		ePKPdf	PKPdf	03 17 56.8 -1.4
FUR					ePKPbc	PKPbc	03 18 03.9 -0.6
FUR					ePKPab	PKPab	03 18 13.9 -0.6
RZN	Rozhen	150.88	323		i P	PKPdf	03 17 56.8 -1.5
FETY	Fethiye	150.91	311		eP	PKPdf	03 17 57.8 -0.6
STR	Strasbourg	151.03	352		PKP	PKPdf	03 17 57.9 -0.7
PSMN	Pico do Norte,	151.08	48		ePKP	PKPdf	03 17 56.6 -2.0
EZN	Ezine	151.09	319		eP	PKPbc	03 18 04.0 -1.1
AYVA	Ayvalik	151.16	317		i P	PKPbc	03 18 03.4 -1.9
DALT	Dalyan (Mudla)	151.17	311		eP	PKPdf	03 17 58.3 -0.5
BFO	Black Forest	151.20	351		ePKPdf	PKPdf	03 17 57.2 -1.6
BFO					ePKPbc	PKPbc	03 18 04.6 -0.8
BFO					ePKPab	PKPab	03 18 14.7 -1.3
BFO	Black Forest	151.20	351		PKIKP	PKPdf	03 17 57.6 -1.2
FLN	La Foliniere	151.21	3		ePKIKP	PKPdf	03 17 57.6 -1.2
	comp=Z,381nm,1.0s						
PERS	Pernice	151.23	341		ePKPdf	PKPdf	03 17 57.2 -1.7
PERS					ePKPbc	PKPbc	03 18 04.2 -1.3
PERS					ePKPab	PKPab	03 18 15.1 -1.1
PERS					e		03 21 42.1
PERS					e		03 25 16.1
YER	Yerkesik	151.24	312		eP	PKPbc	03 18 04.3 -1.2
BOZC	Bozcaada	151.25	319		i P	PKPbc	03 18 03.3 -2.2
WLS	Welschbruch	151.26	352		PKP	PKPdf	03 17 57.7 -1.2
AYDN	Tasoluk	151.26	313		i P	PKPbc	03 18 03.0 -2.5
CDF	Champ du Feu	151.27	352		ePKIKP	PKPdf	03 17 57.6 -1.3
	comp=Z,206nm,1.5s						
KDAG	Bornova	151.28	315		i P	PKPbc	03 18 04.4 -1.1
IZM	Izmir	151.29	315		eP	PKPbc	03 18 04.5 -1.1
KBA	Koelnbreinsper	151.34	343	⇑	i	PKPbc	03 18 05.0 -0.7
	comp=Z,206nm,0.6s						
KBA	Koelnbreinsper	151.34	343	⇓	i	PKPab	03 18 15.9 -0.7
	comp=Z,1µm,1.7s						
KBA	Koelnbreinsper	151.34	343		i PKPdf	PKPdf	03 17 57.4 -1.7
	comp=Z,92nm,1.6s,SNR=24						
KBA				⇑	iPKiKP	PKiKP	03 18 05.0 -1.0
	comp=Z,206nm,0.6s						
KBA				⇓	iPKPab	PKPab	03 18 15.9 -0.7
	comp=Z,1µm,1.7s						
SPAK	Spaichingen-Ko	151.35	350		PKP	PKPdf	03 17 57.9 -1.1
GRUS	Gruza	151.36	331		i PKP	PKPdf	03 17 58.4 -0.7
LDF	La Druitiere	151.39	3		ePKIKP	PKPdf	03 17 57.7 -1.4
	comp=Z,207nm,0.9s						
ROSF	Rostrenen	151.40	7		ePKIKP	PKPdf	03 17 57.5 -1.6
	comp=Z,118nm,1.1s						
MEZF	Maizieres J'vi	151.40	355		ePKIKP	PKPdf	03 17 58.3 -0.8
BLCB	Balcova	151.44	315		eP	PKPdf	03 17 52.0 -7.2
PRK	Paraskevi	151.46	318		eP	PKPbc	03 18 05.0 -0.9
ECH	Echery	151.47	352		PKP	PKPdf	03 17 57.5 -1.7
LIBD	Limburg	151.48	352		PKIKP	PKPdf	03 17 58.3 -0.9
MMB	Musomiste	151.50	324		i P	PKPdf	03 17 57.0 -2.3
MLSB	Milas	151.51	313		eP	PKPdf	03 17 58.5 -0.8
OBKA	Obir	151.52	341	⇑	i	PKPbc	03 18 05.2 -0.9
	comp=Z,201nm,1.1s						
OBKA	Obir	151.52	341	⇑	i	PKPab	03 18 16.7 -0.6
	comp=Z,501nm,1.7s						
OBKA	Obir	151.52	341	⇓	iPKPdf	PKPdf	03 17 56.9 -2.3
	comp=Z,29nm,1.2s,SNR=17						
OBKA				⇑	iPKiKP	PKiKP	03 18 05.2 -1.2
	comp=Z,201nm,1.1s						
OBKA				⇑	iPKPab	PKPab	03 18 16.7 -0.6
	comp=Z,501nm,1.7s						
OBKA	Obir	151.52	341	⇓	iP	PKPdf	03 17 56.9 -2.3
OBKA					i		03 18 05.2
OBKA					i		03 18 16.7
OBKA					i		03 27 29.4
DIVS	Divcibare	151.53	332		i PKP	PKPdf	03 17 58.2 -1.1
WATA	Walderalm	151.55	346	⇓	i	PKPbc	03 18 06.1 0.0
	comp=Z,137nm,0.5s						
WATA	Walderalm	151.55	346	⇑	i	PKPab	03 18 17.9 +0.4
	comp=Z,440nm,1.5s						
WATA	Walderalm	151.55	346	⇑	iPKPdf	PKPdf	03 17 58.4 -0.9
	comp=Z,44nm,0.9s,SNR=8.0						
WATA				⇓	iPKiKP	PKiKP	03 18 06.1 -0.3
	comp=Z,137nm,0.5s						
WATA				⇑	iPKPab	PKPab	03 18 17.9 +0.4
	comp=Z,440nm,1.5s						
SGMF	Saint Gilles	151.56	6		ePKIKP	PKPdf	03 17 57.7 -1.6
	comp=Z,386nm,1.5s						
GRR	Gorron	151.56	4		ePKIKP	PKPdf	03 17 58.1 -1.2
	comp=Z,177nm,1.0s						
THEF	They Montfort	151.59	354		PKP	PKPdf	03 17 58.6 -0.8
WTTA	Wattenberg	151.60	346	⇑	i	PKPbc	03 18 06.1 -0.2
	comp=Z,470nm,0.8s						
WTTA	Wattenberg	151.60	346	⇓	i	PKPab	03 18 17.1 -0.6
	comp=Z,1µm,1.4s						
WTTA	Wattenberg	151.60	346		i PKPdf	PKPdf	03 17 58.3 -1.1
	comp=Z,109nm,1.0s,SNR=26						
WTTA				⇑	iPKiKP	PKiKP	03 18 06.1 -0.4
	comp=Z,470nm,0.8s						
WTTA				⇓	iPKPab	PKPab	03 18 17.1 -0.6
	comp=Z,1µm,1.4s						
WTTA	Wattenberg	151.60	346		i P	PKPdf	03 17 58.3 -1.1
WTTA					i		03 18 06.1
WTTA					i		03 18 17.1
GOLS	Golise	151.62	339		ePKPdf	PKPdf	03 17 58.2 -1.2
MOTA	Moosalm	151.64	347	⇑	i	PKPbc	03 18 05.8 -0.6
	comp=Z,354nm,1.0s						
MOTA	Moosalm	151.64	347	⇑	i	PKPab	03 18 17.6 -0.3
	comp=Z,234nm,0.9s						
MOTA	Moosalm	151.64	347	⇑	iPKPdf	PKPdf	03 17 58.0 -1.4
	comp=Z,92nm,0.9s,SNR=38						
MOTA				⇑	iPKiKP	PKiKP	03 18 05.8 -0.8
	comp=Z,354nm,1.0s						
MOTA				⇑	iPKPab	PKPab	03 18 17.6 -0.3
	comp=Z,234nm,0.9s						
MOTA	Moosalm	151.64	347	⇑	iP	PKPdf	03 17 58.0 -1.4
MOTA					i		03 18 05.8
MOTA					i		03 18 17.6
KKB	Krupnik	151.66	325		i P	PKPdf	03 17 58.2 -1.3
FELD	Feldberg im Sc	151.69	351	⇓	eP	PKPdf	03 17 58.4 -1.1
SLE	Schleitheim	151.73	350	⇓	iPKPdf	PKPdf	03 17 58.0 -1.6
	comp=Z,620nm,2.5s						
SQTA	Sankt Quirin	151.74	346	⇓	i	PKPbc	03 18 05.8 -0.7
	comp=Z,271nm,0.8s						
SQTA	Sankt Quirin	151.74	346	⇑	i	PKPab	03 18 17.9 -0.4
	comp=Z,326nm,1.2s						
SQTA	Sankt Quirin	151.74	346	⇓	iPKPdf	PKPdf	03 17 58.4 -1.2
	comp=Z,82nm,0.9s,SNR=15						
SQTA				⇓	iPKiKP	PKiKP	03 18 05.8 -1.0
	comp=Z,271nm,0.8s						
SQTA				⇑	iPKPab	PKPab	03 18 17.9 -0.4
	comp=Z,326nm,1.2s						
SQTA	Sankt Quirin	151.74	346	⇓	iP	PKPdf	03 17 58.4 -1.2
SQTA					i		03 18 05.8
SQTA					i		03 18 17.9
SQTA					i		03 28 01.4
URLA	Izmir	151.75	316		i P	PKPdf	03 17 57.8 -1.8
STEIN	Stein am Rhein	151.76	350	⇓	iPKPdf	PKPdf	03 17 58.0 -1.6
	comp=Z,701nm,2.6s						
HAU	Haudompre	151.78	353		ePKIKP	PKPdf	03 17 59.3 -0.4
	comp=Z,433nm,1.8s						
PDKS	Podkum	151.78	340		ePKPdf	PKPdf	03 17 58.0 -1.7
ARG	Arkhangelos	151.79	311		eP	PKPdf	03 18 00.0 +0.3
TRULL	Truellikon	151.81	350	⇓	iPKPdf	PKPdf	03 17 58.2 -1.5
	comp=Z,556nm,2.5s						
TRULL	Truellikon	151.81	350	⇓	iP	PKPdf	03 17 58.0 -1.7
QUIF	Quistinic	151.82	7		ePKIKP	PKPdf	03 17 58.3 -1.4
	comp=Z,198nm,1.4s						
SISC	Sisak	151.84	338		iP	PKPdf	03 17 58.4 -1.3
BDRM	Kayabasi	151.86	313		i P	PKPdf	03 17 59.3 -0.4
WEIN	Weingarten	151.88	350	⇓	iPKPdf	PKPdf	03 17 58.7 -1.1
	comp=Z,450nm,1.8s						
WEIN	Weingarten	151.88	350	⇓	iP	PKPdf	03 17 58.2 -1.6
SRS	Serrai	151.89	323		eP	PKPdf	03 17 56.6 -3.2
FLACH	Flaach	151.91	350	⇓	iP	PKPdf	03 17 58.2 -1.7
HINF	Hinteralfeld	151.91	353		ePKIKP	PKPdf	03 17 58.6 -1.3
	comp=Z,135nm,1.1s						
DAT	Datca	151.93	312		eP	PKPbc	03 18 05.1 -1.9
SMG	Samos	151.94	314		eP	PKPdf	03 18 00.0 +0.1
LJU	Ljubljana	151.94	341		ePKPdf	PKPdf	03 17 58.7 -1.2
LJU					i PKPbc	PKPbc	03 18 06.0 -1.0
LJU					ePKPab	PKPab	03 18 17.7 -1.5
LJU					e		03 20 22.4
LJU					e		03 25 20.7
LJU					e		03 34 07.5
LJU	Ljubljana	151.94	341		ePKIKP	PKPdf	03 17 58.7 -1.2
LJU					i		03 18 06.1
LJU					e		03 18 17.7
DAVA	Damuels	151.95	348	⇑	i	PKPbc	03 18 06.8 -0.2
	comp=Z,556nm,1.2s						
DAVA	Damuels	151.95	348	⇓	i	PKPab	03 18 18.2 -1.0
	comp=Z,1µm,2.2s						
DAVA	Damuels	151.95	348	⇓	iPKPdf	PKPdf	03 17 59.0 -1.0
	comp=Z,151nm,2.1s,SNR=17						
DAVA				⇑	iPKiKP	PKiKP	03 18 06.8 -0.4
	comp=Z,556nm,1.2s						
DAVA				⇓	iPKPab	PKPab	03 18 18.2 -1.0
	comp=Z,1µm,2.2s						
DAVA	Damuels	151.95	348	⇓	iP	PKPdf	03 17 59.0 -0.9
DAVA					i		03 18 06.8
DAVA					i		03 18 18.2
BODT	Bodrum	151.95	313		eP	PKPdf	03 18 00.5 +0.6
PTCC	Patocco-Chiusa	151.96	343		PKP	PKPdf	03 17 58.0 -1.9
BBLS	Bajina Basta -	151.97	332		i PKP	PKPdf	03 17 59.6 -0.4
WILA	Wila	152.00	350	⇓	iPKPdf	PKPdf	03 17 58.3 -1.7
	comp=Z,1µm,3.5s						
WILA	Wila	152.00	350	⇓	iP	PKPdf	03 17 58.6 -1.4
LIENZ	Alp Oberkamor	152.01	349	⇓	iPKPdf	PKPdf	03 17 58.2 -1.8
	comp=Z,740nm,2.2s						
LIENZ	Alp Oberkamor	152.01	349	⇓	iP	PKPdf	03 17 58.8 -1.2
SULZ	Sulz-Cheisache	152.02	351	⇓	iPKPdf	PKPdf	03 17 58.8 -1.2
	comp=Z,877nm,3.0s						
SULZ	Sulz-Cheisache	152.02	351	⇓	iP	PKPdf	03 17 58.6 -1.4
CHOS	Chios island	152.09	316		eP	PKPdf	03 17 59.7 -0.4
ZUR	Zurich	152.10	350	⇓	iPKPdf	PKPdf	03 17 58.7 -1.4
	comp=Z,660nm,2.1s						
BRES	Bressanone	152.11	345		PKP	PKPdf	03 17 58.5 -1.7
GMNA	Gemona	152.11	343		PKP	PKPdf	03 17 58.6 -1.6
VOY	Vojsko	152.15	342		ePKPdf	PKPdf	03 17 58.7 -1.5
VOY					ePKPbc	PKPbc	03 18 05.2 -2.3
VOY					ePKPab	PKPab	03 18 18.2 -1.8
BBS	Basel-Blauen	152.17	352		PKIKP	PKPdf	03 17 59.2 -1.0
BOJS	Bojanci	152.19	339		ePKPdf	PKPdf	03 17 59.4 -0.9
BOJS					i PKPbc	PKPbc	03 18 07.0 -0.6
BOJS					ePKPab	PKPab	03 18 18.9 -1.4
BOJS					e		03 20 23.0
BOJS					e		03 25 22.6
BOJS					e		03 27 45.7
BOJS					e		03 34 05.9
JAVS	Javornik	152.22	341		ePKPdf	PKPdf	03 17 58.9 -1.4
SOH	Sokhos	152.22	323		eP	PKPdf	03 17 58.9 -1.4
CEY	Cerknica	152.25	341		ePKPdf	PKPdf	03 17 59.0 -1.4
CEY					ePKPbc	PKPbc	03 18 06.8 -0.9
CEY					ePKPab	PKPab	03 18 19.1 -1.3
CEY					e		03 21 50.6
CEY					e		03 27 46.1
CEY					e		03 28 03.0
CEY					e		03 28 54.6
CEY					e		03 34 06.0
KNT	Kendrikon	152.25	324		eP	PKPdf	03 17 57.7 -2.7
STIP	Stip	152.26	326		i PKP	PKPdf	03 17 58.7 -1.7
STIP					i PKPbc	PKPbc	03 18 05.8 -1.9
STIP					i PKPab	PKPab	03 18 19.7 -0.8
BALST	Balsthal	152.27	351	⇓	iPKPdf	PKPdf	03 17 59.6 -0.8
	comp=Z,750nm,2.0s						
BALST	Balsthal	152.27	351	⇓	iP	PKPdf	03 17 59.2 -1.2
PLONS	Plons	152.27	349	⇓	iPKPdf	PKPdf	03 17 58.6 -1.8
	comp=Z,676nm,2.3s						
PLONS	Plons	152.27	349	⇓	iP	PKPdf	03 17 59.0 -1.4
BOURR	Bourrignon	152.27	352	⇓	iPKPdf	PKPdf	03 17 59.7 -0.7
	comp=Z,865nm,2.0s						
BOURR	Bourrignon	152.27	352	⇓	iP	PKPdf	03 17 59.4 -1.0
VAY	Valandovo	152.32	325		eP	PKPdf	03 17 57.9 -2.6
VAY	Valandovo	152.32	325	⇓	iPKP	PKPdf	03 17 57.8 -2.7
VAY					i PKP	PKPbc	03 18 05.8 -2.1
VAY					i PKP	PKPab	03 18 20.2 -0.5
APPI	Appiano	152.43	346		PKP	PKPdf	03 17 58.2 -2.4
DAVOX	Davos	152.44	348	⇓	iPKPdf	PKPdf	03 17 59.5 -1.1
	comp=Z,839nm,2.8s						
DAVOX	Davos	152.44	348	⇓	iP	PKPdf	03 17 59.7 -0.9
SKO	Skopje	152.45	327		i PKP	PKPdf	03 17 60.0 -0.7
SKO				⇓	iPKP	PKPbc	03 18 08.1 0.0
SKO					i PKP	PKPab	03 18 21.9 +0.6
PLG	Polygyros	152.47	322		eP	PKPdf	03 18 06.5 +5.8
MUO	Muotathal	152.48	350	⇓	iPKPdf	PKPdf	03 17 59.6 -1.1
	comp=Z,756nm,2.2s						
FUORN	Ofenpass	152.51	347	⇓	iPKPdf	PKPdf	03 17 58.8 -1.9
	comp=Z,876nm,2.2s						
FUORN	Ofenpass	152.51	347	⇓	iP	PKPdf	03 17 59.9 -0.8
LLS	Linth-Limmern	152.53	349	⇓	iPKPdf	PKPdf	03 17 59.4 -1.4
	comp=Z,454nm,2.7s						
LLS	Linth-Limmern	152.53	349	⇓	iP	PKPdf	03 17 59.6 -1.2
THE	Thessaloniki	152.57	323		eP	PKPdf	03 17 57.1 -3.8
BNALP	Bannalp	152.61	350	⇓	iPKPdf	PKPdf	03 17 59.7 -1.2
	comp=Z,686nm,3.3s						
LOR	Lormes	152.71	357		ePKIKP	PKPdf	03 18 00.1 -0.9
	comp=Z,406nm,1.6s						
CTI	Castel Tesino	152.74	345		PKIKP	PKPdf	03 17 57.9 -3.2
HYF	Humbligny	152.75	359		ePKIKP	PKPdf	03 18 00.4 -0.7
BERNI	Berninapass	152.76	347	⇓	iPKPdf	PKPdf	03 17 59.2 -1.9
	comp=Z,538nm,2.3s						
BERNI	Berninapass	152.76	347	⇓	iP	PKPdf	03 18 00.0 -1.1
HASLI	Hasliberg	152.76	350	⇓	iPKPdf	PKPdf	03 17 59.9 -1.2
	comp=Z,496nm,2.1s						
KARP	Karpathos	152.80	310		eP	PKPdf	03 18 00.5 -0.7
VDL	Val di Lei	152.80	348	⇓	iPKPdf	PKPdf	03 17 59.7 -1.5
	comp=Z,708nm,2.5s						
VDL	Val di Lei	152.80	348	⇓	iP	PKPdf	03 18 00.1 -1.1
BRANT	Les Verrieres	152.81	353	⇓	iPKPdf	PKPdf	03 18 00.1 -1.1
	comp=Z,792nm,2.9s						
BRANT	Les Verrieres	152.81	353	⇓	iP	PKPdf	03 18 00.5 -0.7
TORNY	Torny	152.92	352	⇓	iPKPdf	PKPdf	03 18 00.1 -1.2
	comp=Z,917nm,2.3s						
TORNY	Torny	152.92	352	⇓	iP	PKPdf	03 18 00.6 -0.7
SSF	Saint Saulge	152.93	357		ePKIKP	PKPdf	03 18 00.4 -0.9
	comp=Z,374nm,1.5s						
WIMIS	Wimmis	152.93	351	⇓	iPKPdf	PKPdf	03 18 00.5 -0.8
	comp=Z,393nm,2.1s						
WIMIS	Wimmis	152.93	351	⇓	iP	PKPdf	03 18 00.3 -1.1
FUSIO	Fusio	152.97	349	⇓	iPKPdf	PKPdf	03 17 59.9 -1.5
	comp=Z,592nm,2.1s						
FUSIO	Fusio	152.97	349	⇓	iP	PKPdf	03 18 00.4 -1.0
NVLJ	Novalja	153.15	339		i P	PKPdf	03 17 57.5 -4.2
APE	Apeiranthos	153.16	314	⇑	iP	PKPdf	03 17 59.2 -2.5
APE	Apeiranthos	153.16	314	⇑	P	PKPdf	03 17 59.1 -2.5
CABF	La Chapelle	153.18	353		ePKIKP	PKPdf	03 18 01.2 -0.5
	comp=Z,780nm,1.7s						
LIT	Litokhoron	153.20	323		eP	PKPdf	03 17 58.3 -3.5
BIA	Bitola	153.20	326		eP	PKPdf	03 17 59.4 -2.4
BIA	Bitola	153.20	326		i PKP	PKPdf	03 17 59.8 -1.9
BIA					i PKP	PKPbc	03 18 08.2 -1.6
BIA					i PKP	PKPab	03 18 21.5 -3.0
AVF	Avril sur Loir	153.21	358		ePKIKP	PKPdf	03 18 00.3 -1.4
	comp=Z,256nm,1.6s						
LKBD	Leukerbad	153.21	351	⇓	iPKPdf	PKPdf	03 18 00.4 -1.3
	comp=Z,394nm,2.1s						
LKBD	Leukerbad	153.21	351	⇓	iP	PKPdf	03 18 00.8 -0.9
GIMEL	Gimel	153.24	353	⇓	iPKPdf	PKPdf	03 18 01.9 +0.1
	comp=Z,955nm,3.0s						
GIMEL	Gimel	153.24	353	⇓	iP	PKPdf	03 18 01.4 -0.4
SENIN	Lac Senin	153.28	351	⇓	iPKPdf	PKPdf	03 18 00.

TERO	Teramo	155.30	339	PKP	PKPdf	03 18 02.6	-2.0
GVD	Gavdhos	155.33	312	ePKPdf	PKPdf	03 18 05.0	+0.4
LCI	Lecce	155.34	329	PKIKP	PKPdf	03 18 03.5	-1.2
STV	Sta Anna Valdi	155.34	350	PKIKP	PKPdf	03 18 02.5	-2.2
EMAZ	Mazaricos	155.36	19	PKP	PKPdf	03 18 02.7	-2.0
EMAZ				PKPab	PKPab	03 18 29.8	-4.0
RGNG	Rignano Grg	155.38	335	PKP	PKPdf	03 18 02.8	-1.9
ITM	Ithomi	155.43	319	eP	PKPdf	03 18 04.0	-0.8
EPON	Pontenova	155.53	16	PKP	PKPdf	03 18 03.4	-1.6
EPON				PKPab	PKPab	03 18 32.6	-1.9
STS	Santiago	155.54	19	PKIKP	PKPdf	03 18 04.0	-0.9
STS						03 18 33.0	
AUTN	L'Aution	155.57	350	PKP	PKPdf	03 18 04.4	-0.6
IMI	Imperia	155.57	349	PKP	PKPdf	03 18 03.6	-1.4
TOUF	Mont Tournerai	155.58	350	PKP	PKPdf	03 18 04.0	-1.0
AQU	L'Aquila	155.60	339	‖ iP	PKPdf	03 18 04.4	-0.6
AQU	L'Aquila	155.60	339	ePKPdf	PKPdf	03 18 04.2	-0.8
CIGN	Sant'Elia a Pi	155.66	336	PKP	PKPdf	03 18 03.6	-1.5
LUCF	Luceram	155.68	350	PKP	PKPdf	03 18 04.2	-0.9
SBF	Sospel	155.70	350	ePKIKP	PKPdf	03 18 03.9	-1.2
	comp=Z,419nm,1.4s						
MVIF	Mont Vial	155.71	351	PKP	PKPdf	03 18 04.5	-0.7
INTR	Introdacqua	155.73	338	PKP	PKPdf	03 18 02.0	-3.2
FIAM	Fiamignano	155.78	339	PKP	PKPdf	03 18 03.3	-1.9
STOF	St-Etienne Org	155.78	353	PKP	PKPdf	03 18 05.1	-0.2
REVF	Revere	155.83	350	PKP	PKPdf	03 18 03.9	-1.4
FG5	Orsara di Pugl	155.84	335	PKIKP	PKPdf	03 18 03.3	-2.0
SMRF	Simiane la Rot	155.84	353	ePKIKP	PKPdf	03 18 04.9	-0.4
	comp=Z,406nm,1.5s						
FG4	Candela	155.86	334	PKIKP	PKPdf	03 18 03.2	-2.2
LASF	Ste Croix	155.89	356	ePKIKP	PKPdf	03 18 04.9	-0.5
	comp=Z,376nm,1.4s						
MIDA	Miranda	155.92	337	PKP	PKPdf	03 18 03.6	-1.8
VILF	Villemus	155.95	353	PKP	PKPdf	03 18 05.5	0.0
VVLD	Villa Vallelon	155.95	338	PKP	PKPdf	03 18 03.2	-2.3
EARI	Arriondas	156.00	13	PKP	PKPdf	03 18 03.9	-1.6
EARI				PKPab	PKPab	03 18 33.6	-2.9
SDI	San Donato	156.03	337	PKIKP	PKPdf	03 18 03.6	-2.0
PRAF	Pradon	156.05	354	PKP	PKPdf	03 18 05.3	-0.3
CERT	Cerreto	156.11	339	PKP	PKPdf	03 18 03.3	-2.4
FRF	La Foret Royal	156.11	351	ePKIKP	PKPdf	03 18 04.4	-1.3
	comp=Z,154nm,1.1s						
PTRP	Pietrapertosa	156.13	332	PKP	PKPdf	03 18 03.3	-2.4
TAVF	Tavernes	156.14	352	PKP	PKPdf	03 18 05.1	-0.6
MRLC	Muro Lucano	156.19	334	PKP	PKPdf	03 18 02.9	-2.9
TREF	Trevaresse	156.21	353	PKP	PKPdf	03 18 05.5	-0.3
PUYF	Puyloubier	156.26	353	PKP	PKPdf	03 18 05.5	-0.4
RFI	Roccamonfina	156.32	337	PKP	PKPdf	03 18 04.5	-1.4
TOLF	Tolfa	156.32	341	PKP	PKPdf	03 18 04.0	-1.9
ORI	Oriolo Calabro	156.33	331	PKIKP	PKPdf	03 18 04.6	-1.4
LMR	La Mourre	156.35	351	ePKIKP	PKPdf	03 18 04.8	-1.2
	comp=Z,312nm,1.5s						
SGO	Sicignano	156.43	334	PKIKP	PKPdf	03 18 04.0	-2.1
GELF	Grande-Etoile	156.44	353	PKP	PKPdf	03 18 05.7	-0.4
BERF	Bertagne	156.48	353	PKP	PKPdf	03 18 05.7	-0.5
ELOB	Lobios	156.62	19	PKP	PKPdf	03 18 04.3	-2.1
ELOB				PKPab	PKPab	03 18 37.0	-2.3
OSSF	Osses	156.63	6	PKP	PKPdf	03 18 05.2	-1.1
EALK	Alkurruntz	156.64	6	PKP	PKPdf	03 18 03.8	-2.6
EALK				PKPab	PKPab	03 18 37.3	-2.0
PGF	Pioggiola	156.66	346	ePKIKP	PKPdf	03 18 05.0	-1.4
	comp=Z,388nm,1.3s						
MGR	Morigerati	156.67	333	PKP	PKPdf	03 18 01.7	-4.7
CUC	Castrocucco	156.68	332	PKP	PKPdf	03 18 02.9	-3.5
MTLF	Montolieu	156.68	359	ePKIKP	PKPdf	03 18 05.6	-0.8
	comp=Z,301nm,1.5s						
ELIZ	Elizondo	156.70	6	PKIKP	PKPdf	03 18 05.4	-1.0
ELIZ						03 18 37.3	
ORDF	Ordiarp	156.70	5	PKP	PKPdf	03 18 05.2	-1.2
PCAB	Cabril	156.78	19	ePKPbc	PKPdf	03 18 06.2	-0.3
PCAB	Cabril	156.78	19	ePKPab	PKPab	03 18 38.3	-1.6
SJPF	Ste Jean	156.78	6	ePKIKP	PKPdf	03 18 05.9	-0.6
	comp=Z,402nm,1.9s						
ATE	Arette	156.85	5	PKP	PKPdf	03 18 05.5	-1.1
CORF	Corte	156.87	346	PKP	PKPdf	03 18 04.9	-1.7
LARF	Larrau	156.87	5	PKP	PKPdf	03 18 06.6	0.0
TIP	Timpagrande	156.89	329	ePKPdf	PKPdf	03 18 05.3	-1.4
ECAL	Calabor	156.93	16	PKP	PKPdf	03 18 05.1	-1.6
ECAL				PKPab	PKPab	03 18 38.7	-1.9
LABF	Labassere	156.94	3	PKP	PKPdf	03 18 05.9	-0.8
EPF	Esparros	156.96	3	ePKIKP	PKPdf	03 18 06.0	-0.8
	comp=Z,156nm,1.1s						
ETSF	Etsaut	157.04	4	ePKIKP	PKPdf	03 18 06.5	-0.4
	comp=Z,110nm,0.9s						
PBRG	Braganca	157.06	16	ePKPbc	PKPdf	03 18 06.3	-0.6
PBRG	Braganca	157.06	16	ePKPab	PKPab	03 18 40.2	-0.9
MLS	Moulis	157.06	1	PKP	PKPdf	03 18 06.1	-0.8
LRDF	Laroque-de-Fa	157.08	359	PKP	PKPdf	03 18 06.1	-0.8
VIEF	Viey	157.10	3	PKP	PKPdf	03 18 06.8	-0.1
PTO	Porto	157.11	20	ePKPbc	PKPdf	03 18 06.4	-0.5
PTO	Porto	157.11	20	ePKPab	PKPab	03 18 40.1	-1.3
RESF	Ens	157.19	3	PKP	PKPdf	03 18 07.1	+0.1
PVRL	Vila Real	157.27	19	ePKPbc	PKPdf	03 18 07.0	-0.1
PVRL	Vila Real	157.27	19	ePKPab	PKPab	03 18 40.9	-1.2
EBIE	Bielsa	157.30	3	PKP	PKPdf	03 18 04.8	-2.4
EBIE				PKPab	PKPab	03 18 39.7	-2.5
CARF	Carcanieres	157.31	359	PKP	PKPdf	03 18 06.2	-1.0
GRI	Girifalco	157.33	329	PKIKP	PKPdf	03 18 06.2	-1.0
FILF	Fillols	157.46	358	PKP	PKPdf	03 18 06.2	-1.2
SJAF	Saint Jean de	157.52	358	PKP	PKPdf	03 18 06.2	-1.3
EJON	La Jonquera	157.56	358	PKP	PKPdf	03 18 04.2	-3.3
EJON				PKPab	PKPab	03 18 40.7	-2.6
VALF	Valcebollere	157.62	360	PKP	PKPdf	03 18 07.1	-0.5
PVIS	Viseu	157.72	20	ePKPbc	PKPdf	03 18 07.5	-0.2
PVIS	Viseu	157.72	20	ePKPab	PKPab	03 18 42.5	-1.5
EGRA	Graus	157.80	3	PKP	PKPdf	03 18 07.0	-0.7
EGRA				PKPab	PKPab	03 18 42.3	-2.0
SOI	Samo	158.10	329	PKIKP	PKPdf	03 18 06.8	-1.4
EMIR	Miracle	158.11	0	PKP	PKPdf	03 18 06.3	-1.9
EMIR				PKPab	PKPab	03 18 43.5	-2.2
MTE	Manteigas	158.12	19	ePKPbc	PKPdf	03 18 08.1	-0.1
MTE	Manteigas	158.12	19	ePKPab	PKPab	03 18 44.0	-1.8
ESAC	San Caprasio	158.22	5	PKP	PKPdf	03 18 06.3	-2.0
ESAC				PKPab	PKPab	03 18 43.6	-2.6
SLNA	Salina	158.28	331	PKP	PKPdf	03 18 05.7	-2.7
MTTG	Motta San Giov	158.33	329	PKP	PKPdf	03 18 06.9	-1.5
PTOM	Tomar	158.54	22	ePKPbc	PKPdf	03 18 08.8	+0.1
PTOM	Tomar	158.54	22	ePKPab	PKPab	03 18 46.3	-1.3
PCBR	Castelo Branco	158.65	20	ePKPbc	PKPdf	03 18 08.5	-0.3
PCBR	Castelo Branco	158.65	20	ePKPab	PKPab	03 18 46.4	-1.7
GUD	Guadarrama	158.77	13	PKIKP	PKPdf	03 18 06.8	-0.3
GUD						03 18 46.3	
PLOU	Loures	158.91	24	ePKPbc	PKPdf	03 18 09.1	0.0
PLOU	Loures	158.91	24	ePKPab	PKPab	03 18 47.9	-1.3
ERTA	Horta de San J	159.03	3	PKP	PKPdf	03 18 08.0	-1.2
ERTA				PKPab	PKPab	03 18 46.3	-3.4
EBR				i PKPpB	PKPab	03 18 49.0	-1.4
EBR	Ebro Roquetas	159.18	3	ePKPDF	PKPdf	03 18 07.5	-1.9
PMPS	Porto Santo	159.24	47	ePKPbc	PKPdf	03 18 10.1	+0.6
PMPS	Porto Santo	159.24	47	ePKPab	PKPab	03 18 49.9	-0.8
SSY	Sortino	159.30	329	PKP	PKPdf	03 18 08.4	-1.2
HVZN	Vizzini	159.46	329	PKP	PKPdf	03 18 08.6	-1.1
VSL	Villasalto	159.46	343	ePKPdf	PKPdf	03 18 08.6	-1.1
MOE	Montemor	159.53	23	ePKPbc	PKPdf	03 18 10.4	+0.6
MOE	Montemor	159.53	23	ePKPab	PKPab	03 18 50.9	-1.0
EMOS	Mosqueruela	159.57	5	PKP	PKPdf	03 18 07.5	-2.3
EMOS				PKPab	PKPab	03 18 50.5	-1.6
RAFF	Raffo Rosso	159.59	330	PKP	PKPdf	03 18 07.4	-2.5
HMDC	Modica	159.60	329	PKP	PKPdf	03 18 08.2	-1.7
EVO	Evora	159.64	23	‖ iPKIKP	PKPdf	03 18 09.4	-0.5
	comp=Z,813nm,1.8s						
ERC	Erice	159.68	335	PKP	PKPdf	03 18 08.6	-1.4
ESDC	Sonseca Array	159.74	13	PKP	PKPdf	03 18 09.5	-0.5
	comp=Z,9.7nm,0.8s,baz=351,slow=2.3,SNR=48						
ESDC				PKPab	PKPab	03 18 51.4	-1.4
	comp=Z,76nm,0.9s,baz=345,slow=4.0,SNR=48						
ESDC				PP	PP	03 22 32.9	-3.8
	comp=Z,5.8nm,0.9s,baz=338,slow=4.4,SNR=4.2						
ESDC	Sonseca Array	159.74	13	PKP	PKPdf	03 18 08.5	-1.6
ESDC				PKPab	PKPab	03 18 51.3	-1.6
ESLA	Sonseca Array	159.74	13	ePKPdf	PKPdf	03 18 09.6	-0.4
PAB	San Pablo	159.78	14	PKPdf	PKPdf	03 18 09.9	-0.1
EBAD	Badajoz	159.78	20	PKP	PKPdf	03 18 08.0	-2.1
EBAD				PKPab	PKPab	03 18 50.0	-3.0
CLTB	Caltabellotta	159.81	333	PKP	PKPdf	03 18 08.9	-1.2
PBEJ	Beja	160.14	23	ePKPbc	PKPdf	03 18 11.1	+0.6
PBEJ	Beja	160.14	23	ePKPab	PKPab	03 18 53.4	-1.2
EHIG	Higuera	160.22	61	PKP	PKPdf	03 18 11.4	+0.9
PTEO	Sao Teotonio	160.23	25	ePKPbc	PKPdf	03 18 11.1	+0.5
PTEO	Sao Teotonio	160.23	25	ePKPab	PKPab	03 18 54.2	-0.8
ETOS	Mallorca	160.24	358	PKP	PKPdf	03 18 08.7	-1.9
ETOS				PKPab	PKPab	03 18 53.1	-1.9
ECHE	Chera	160.29	6	PKIKP	PKPdf	03 18 09.4	-1.3
ECHE						03 18 54.2	
CHIE	El Hierro	160.38	63	PKP	PKPdf	03 18 11.6	+0.8
EGRO	El Granado	160.72	23	PKP	PKPdf	03 18 09.3	-1.8
EGRO				PKPab	PKPab	03 18 54.4	-2.7
EMIN	Mina Concepcio	160.79	21	PKP	PKPdf	03 18 09.8	-1.4
EMIN				PKPab	PKPab	03 18 54.6	-2.9
EGOM	La Gomera	160.86	61	PKP	PKPdf	03 18 10.9	-0.3
EIBI	Ibiza	160.99	1	PKP	PKPdf	03 18 10.4	-1.0
EIBI				PKPab	PKPab	03 18 55.9	-2.4
EADA	Adamuz	161.04	16	PKP	PKPdf	03 18 09.4	-2.0
EADA				PKPab	PKPab	03 18 56.0	-2.5
ETOB	Tobarra	161.16	8	PKP	PKPdf	03 18 09.7	-1.9
ETOB				PKPab	PKPab	03 18 57.0	-2.1
EBAN	Banos Encina	161.23	14	PKIKP	PKPdf	03 18 11.0	-0.6
EBAN						03 18 58.0	
EBEN	Beniarda	161.24	5	PKP	PKPdf	03 18 09.7	-2.0
EBEN				PKPab	PKPab	03 18 58.3	-1.2
CCAN	Las Canadas	161.33	60	PKP	PKPdf	03 18 12.8	+1.1
EQES	Quesada	161.73	12	PKP	PKPdf	03 18 10.8	-1.3
EQES				PKPab	PKPab	03 18 59.5	-2.1
EHUE	Huescar	161.81	11	PKIKP	PKPdf	03 18 11.3	-0.9
EHUE						03 19 00.1	
ESPR	Espera	161.88	20	PKP	PKPdf	03 18 11.1	-1.3
ESPR				PKPab	PKPab	03 18 59.8	-2.4
EMUR	La Murta	161.99	8	PKP	PKPdf	03 18 10.3	-2.1
EMUR				PKPab	PKPab	03 18 59.6	-3.1
ELOJ	Sierra Loja	162.11	16	PKIKP	PKPdf	03 18 10.3	-2.2
ELOJ						03 19 01.4	
EOSO	Osorio	162.25	60	PKP	PKPdf	03 18 12.1	-0.6
ERON	Agron	162.32	15	PKP	PKPdf	03 18 11.5	-1.3
ERON				PKPab	PKPab	03 19 02.3	-1.8
EJIF	Jimena Fronter	162.38	20	PKIKP	PKPdf	03 18 11.9	-0.9
EJIF						03 19 03.7	
EMIJ	Mijas	162.49	18	PKP	PKPdf	03 18 10.8	-2.1
EMIJ				PKPab	PKPab	03 19 01.9	-3.0
EGUA	Guajares	162.55	14	PKIKP	PKPdf	03 18 11.2	-1.8
EGUA						03 19 03.4	
EBER	Berja	162.64	13	PKP	PKPdf	03 18 11.5	-1.5
EBER				PKPab	PKPab	03 19 02.0	-3.5
CAEH	'Ain El Ouahch	162.66	346	P	PKPdf	03 18 12.0	-1.1
ENIJ	Nijar	162.69	11	PKIKP	PKPdf	03 18 11.3	-1.8
ENIJ						03 19 03.3	
CKFL	Kef-Lekhel	163.05	346	P	PKPdf	03 18 12.0	-1.4
DFRA	Djebel Bou Aff	163.09	349	P	PKPdf	03 18 13.2	-0.3
CASM	Ain Smara	163.24	347	P	PKPdf	03 18 13.0	-0.6
CFTV	Fuerteventura	163.28	57	PKP	PKPdf	03 18 13.4	-0.2
EFAM	Famara	163.37	54	PKP	PKPdf	03 18 11.4	-2.3
CTEI	Djebel Teioual	163.45	347	P	PKPdf	03 18 14.0	+0.2
SET	Setif	163.51	350	P	PKPdf	03 18 15.0	+1.1
EALB	Alboran	163.53	14	PKP	PKPdf	03 18 12.6	-1.3
CKHR	Kef el Ahmar	163.67	349	P	PKPdf	03 18 14.2	+0.2
EBNR	Beni Rached	163.73	1	P	PKPdf	03 18 14.0	-0.1
EMHD	Djebel Mahouad	163.78	357	P	PKPdf	03 18 13.0	-1.1
CMER	Merouana	163.98	348	P	PKPdf	03 18 14.0	-0.3
EANR	'Ain N'Sour	164.06	2	P	PKPdf	03 18 15.0	+0.6
ETRT	Tiaret	164.62	1	P	PKPdf	03 18 16.0	+1.1
LIC	Lamto	164.84	153	‖ iPKIKP	PKPdf	03 18 14.6	-0.4
	comp=Z,375nm,1.1s						
DBIC	Dimbokro	165.31	153	PKP	PKPdf	03 18 15.2	-0.2
	comp=Z,58nm,0.8s,baz=147,slow=1.5,SNR=44						
DBIC				PKPab	PKPab	03 19 18.3	+0.9
	comp=Z,45nm,0.7s,baz=174,slow=4.7,SNR=17						
DBIC	Dimbokro	165.31	153	PKP	PKPdf	03 18 15.2	-0.2
DBIC				PKPab	PKPab	03 19 18.3	+0.9
MDT	Midelt	165.98	23	PP	PP	03 23 06.3	-2.8
	comp=Z,29nm,1.2s,baz=336,slow=5.3,SNR=7.3						
TORD	Torodi Ar. Bea	173.23	179	PKP	PKPdf	03 18 19.4	-0.8
	comp=Z,57nm,1.0s,baz=327,slow=0.9,SNR=198						
TORD				PKPab	PKPab	03 19 52.9	+0.4
	comp=Z,13nm,0.8s,baz=193,slow=3.8,SNR=12						
TORD				pPKP	pPKPdf	03 20 36.1	+0.9
	comp=Z,2.1nm,0.7s,baz=163,slow=4.2,SNR=1.0						
TORD				pPKPab	pPKPab	03 21 58.4	-0.1
	comp=Z,2.5nm,1.1s,baz=8.2,slow=0.6,SNR=1.2						
TORD				PP	PP	03 23 42.5	-2.5
	comp=Z,18nm,1.1s,baz=181,slow=4.2,SNR=9.4						

NEIC ***27*** *03:14:14.3±1.3, 14.18N×146.50E, h35km, mb3.8/1, Error ellipse: s-maj=33.2km s-min=16.2km az=92.0*
ISCJB ***27*** *03:14:22.0±2.5, 14.1N±0.1×145.6E±0.4, h102km±17km, mb3.8/8, Error ellipse: s-maj=57.0km s-min=18.0km az=0.7*
IDC ***27*** *03:14:21.9±2.6, 14.14N×145.70E, h88km±18km, mb3.6/7, mb1 3.8/7, mb1mx3.7/17, mbtmp3.9/7, Error ellipse: s-maj=46.4km s-min=18.6km az=89.0*
ISC 27 03:14:21.8±3.0,**142N**±01×**145.8E**±0.3,**h87**km±22km,**n11,**
σ0:**83**/12,**mb3.8/8,1D,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.02**	**237**	P		**Pn**	**03 14 41.7**	**+0.2**
	2μm,0.3s,baz=92,slow=2.3,SNR=718						
GUMO				S		**Sn**	**03 14 56.0**	**-0.3**
	2μm,0.3s,baz=329,slow=22,SNR=25						
CVP	**Callao Caves**	**23.27**	**282**	‖ eP		**P**	**03 19 30.0**	**+8.3**
MJAR	**Matsushiro Arr**	**23.30**	**344**	P		**P**	**03 19 22.1**	**+0.2**
	1.0nm,0.6s,mb3.3,baz=168,slow=8.7,SNR=3.0						
WRAB	**Tennant Creek**	**35.68**	**199**	P		**P**	**03 21 11.5**	**-0.1**
	0.8nm,0.7s,mb3.8						
WRA	**Warramunga Arr**	**35.69**	**199**	P		**P**	**03 21 11.3**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=20,slow=9.8,SNR=6.1						
ASAR	**Alice Springs**	**39.33**	**197**	P		**P**	**03 21 43.3**	**+0.9**
	0.6nm,0.8s,mb3.5,baz=25,slow=9.7,SNR=3.0						
SONM	**Songino Array**	**46.77**	**324**	P		**P**	**03 22 44.0**	**+1.7**
	1.4nm,0.7s,mb3.8,baz=131,slow=8.1,SNR=3.0						
MKAR	**Makanchi Array**	**61.69**	**316**	P		**P**	**03 24 30.0**	**-0.6**
	1.2nm,0.7s,mb4.0,baz=99,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**61.69**	**316**	P		**P**	**03 24 30.0**	**-0.6**
YKA	**Yellowknife Ar**	**81.97**	**28**	P		**P**	**03 26 31.9**	**0.0**
	1.5nm,0.7s,mb3.9,baz=286,slow=5.3,SNR=5.7						
FINES	**FINESS Array B**	**91.02**	**335**	P		**P**	**03 27 14.5**	**-1.7**
	1.4nm,0.5s,mb4.4,baz=73,slow=6.3,SNR=11						

ISCJB ***27*** *03:56:08.8±0.3, 44.26N±002×662E±003, h13km±4km, Error ellipse: s-maj=4.2km s-min=2.9km az=130.7*
LDG ***27*** *03:56:09.9±0.0, 44.26N×663E, h2km, Md1.9/3, Ml1.9/6, Error ellipse: s-maj=0.9km s-min=0.7km az=65.0*
STR ***27*** *03:56:10.7±0.5, 44.27N×670E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 27 03:56:09.5±0.3,**4426N**±002×**662E**±003,**h15**km±4km,**n21,**
σ0:**44**/36,**France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.27**	**32**	Pg	**Pg**	**03 56 15.2**	**+0.1**
SURF				Sg	**Sg**	**03 56 19.2**	**+0.2**
MBDF	**Montbardon**	**0.48**	**13**	ePg	**Pg**	**03 56 19.2**	**+0.1**
MBDF	**Montbardon**	**0.48**	**13**	ePn	**Pg**	**03 56 20.4**	**+1.3**
MBDF				eSg	**Sg**	**03 56 25.4**	**-0.2**
	6.7nm,0.2s						
TOUF	**Mont Tournerai**	**0.51**	**118**	Pg	**Pg**	**03 56 19.6**	**0.0**
MVIF	**Mont Vial**	**0.53**	**133**	Pg	**Pg**	**03 56 20.3**	**+0.4**
MVIF				Sg	**Sg**	**03 56 28.0**	**+1.1**
LUCF	**Luceram**	**0.64**	**124**	Pg	**Pg**	**03 56 22.0**	**+0.1**
LUCF				Sg	**Sg**	**03 56 29.6**	**-0.8**
AUTN	**L'Aution**	**0.64**	**114**	Pg	**Pg**	**03 56 22.1**	**+0.2**
AUTN				Sg	**Sg**	**03 56 30.6**	**+0.2**
FRF	**La Foret Royal**	**0.69**	**178**	ePg	**Pg**	**03 56 22.7**	**-0.3**
FRF	**La Foret Royal**	**0.69**	**178**	ePn	**Pn**	**03 56 24.9**	**+0.1**
FRF				eSg	**Sg**	**03 56 32.0**	**-0.2**
	5.8nm,0.2s						
SBF	**Sospel**	**0.71**	**123**	ePg	**Pg**	**03 56 22.9**	**-0.4**
SBF				eSg	**Sg**	**03 56 32.4**	**-0.2**
	7.7nm,0.2s						
SMRF	**Simiane la Rot**	**0.80**	**250**	ePg	**Pg**	**03 56 25.2**	**+0.1**
SMRF	**Simiane la Rot**	**0.80**	**250**	ePn	**Pn**	**03 56 27.1**	**+0.9**
SMRF				eSg	**Sg**	**03 56 35.6**	**0.0**
	3.0nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.85**	**322**	ePg	**Pg**	**03 56 26.1**	**+0.2**
ORIF				eSg	**Sg**	**03 56 36.8**	**-0.2**
	2.1nm,0.2s						
LMR	**La Mourre**	**0.92**	**185**	ePg	**Pg**	**03 56 27.4**	**0.0**
LMR	**La Mourre**	**0.92**	**185**	ePn	**Pn**	**03 56 28.0**	**+0.1**
LMR				eSg	**Sg**	**03 56 39.1**	**-0.4**
	7.3nm,0.2s						
LPG	**La Plagne**	**1.25**	**4**	ePg	**Pg**	**03 56 33.4**	**-0.1**
LPG				eSg	**Sg**	**03 56 49.2**	**-0.5**
	1.5nm,0.2s						
LPL	**La Plagne**	**1.26**	**4**	ePg	**Pg**	**03 56 33.8**	**0.0**
LPL				eSg	**Sg**	**03 56 50.0**	**-0.3**
	1.6nm,0.3s						
VIVF	**Saint-Julien-l**	**1.52**	**294**	ePn	**Pn**	**03 56 36.8**	**+0.7**
VIVF				eSn	**Sn**	**03 56 55.1**	**-0.4**
	1.6nm,0.3s						
LASF	**Ste Croix**	**2.00**	**266**	ePn	**Pn**	**03 56 43.0**	**+0.3**
LASF	**Ste Croix**	**2.00**	**266**	ePg	**Pg**	**03 56 47.2**	**-0.6**
LASF				eSn	**Sn**	**03 57 07.2**	**-0.2**
	0.6nm,0.2s						
PGF	**Pioggiola**	**2.43**	**134**	ePn	**Pn**	**03 56 49.0**	**+0.3**
PGF				eSn	**Sn**	**03 57 17.3**	**-0.9**
	0.7nm,0.2s						

ISCJB ***27*** *04:26:52.6±1.2, 25.74N±009×141.1E±0.2, h170km±10km, mb3.8/6, Error ellipse: s-maj=28.3km s-min=11.3km az=140.2*
IDC ***27*** *04:26:52.8±1.6, 25.70N×140.95E, h158km±13km, mb3.6/6, mb1 3.8/7, mb1mx3.4/20, mbtmp4.2/7, Error ellipse: s-maj=25.8km s-min=16.7km az=79.0*
JMA ***27*** *04:26:55.2±0.1, 25.78N×140.65E, h99km, M4.7*
ISC 27 04:26:53.7±1.3,**2576N**±009×**141E**±02,**h166**km±11km,
n21,σ1:**10**/25,**mb3.8/6,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.31**	**48**	P		**Pn**	**04 27 23.1**	**+0.4**
JHHJ				S		**Sn**	**04 27 43.9**	**-1.1**
CBIJ	**Chichi jima**	**1.66**	**36**	P		**Pn**	**04 27 27.4**	**+1.3**
	214nm,0.3s,baz=187,slow=2.0,SNR=176						
CBIJ				S		**Sn**	**04 27 51.0**	**-0.1**
	baz=287,slow=19						
CBIJ	**Chichi jima**	**1.66**	**36**	P		**Pn**	**04 27 26.9**	**+0.8**
CBIJ				eS		**Sn**	**04 27 50.8**	**-0.3**
JHJ2	**Mitsune**	**7.41**	**352**	P		**Pn**	**04 28 40.8**	**+1.6**
JHJ	**Hachijo jima 2**	**7.42**	**352**	P		**Pn**	**04 28 40.9**	**+1.5**
	15nm,0.3s,baz=49,slow=22,SNR=14						
JHJ				S		**Sn**	**04 30 04.0**	**+1.5**
	4.3nm,0.3s,baz=107,slow=19,SNR=2.4						
BSO1	**Boso 1**	**8.87**	**359**	P		**Pn**	**04 28 57.9**	**-0.5**
BSO1				eS		**Sn**	**04 30 35.2**	**-2.0**
BSO3	**Boso 3**	**9.03**	**357**	P		**Pn**	**04 29 00.1**	**-0.5**
BSO4	**Boso 4**	**9.23**	**356**	P		**Pn**	**04 29 04.1**	**+0.9**
JOD2	**Odawara 2**	**9.63**	**350**	P		**Pn**	**04 29 09.3**	**+0.8**
JHU	**Hanno**	**10.18**	**352**	P		**Pn**	**04 29 15.8**	**+0.1**
JRY	**Ryogami san**	**10.40**	**350**	P		**Pn**	**04 29 18.6**	**0.0**
JAG	**Ashikaga**	**10.73**	**353**	P		**Pn**	**04 29 20.9**	**-2.0**
JHO	**Hitachi**	**10.83**	**358**	P		**Pn**

VRI	Vrincioaia	3.96	46	⇑P	Pn	04 41 12.2	+0.4
PKSM	Moragy	4.17	318	S	Pn	04 41 14.1	-0.6
CFR	Carcaliu	4.42	61	⇑iP	Pn	04 41 26.7	+8.6
BURAR	Bucovina Array	4.79	21	⇑iP	Pn	04 41 24.1	+0.9

*IDC **27** 05:08:51.5±1.1, 588S×15133E, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.1/14, mbtmp4.3/6, ML3.4/1, Error ellipse: s-maj=37.7km s-min=23.5km az=129.0*
*ISCJB **27** 05:08:56.3±4.4, 60S±02×1514E±03, h51km±35km, mb4.3/7, Error ellipse: s-maj=49.4km s-min=22.0km az=49.3*
*NEIC **27** 05:08:56.2±0.8, 604S×15152E, h35km, mb4.7/3, Error ellipse: s-maj=29.5km s-min=12.1km az=122.0*

ISC 27 05:08:58.0±4.2, 61S±02×1515E±03, h49km±33km, n14, σ0§55/14, mb4.3/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.41	232	Pn	Pn	05 10 16.0	-0.2
	7.7nm,0.3s,baz=48,slow=10.0,SNR=13						
PMG				Sn	Sn	05 11 17.5	+0.4
	12nm,0.3s,baz=338,slow=23,SNR=9.8						
PMG	Port Moresby	5.41	232	ePn	Pn	05 10 16.2	+0.1
	29nm,0.5s						
PMG				eSn	Sn	05 11 17.1	-0.1
WRAB	Tennant Creek	21.61	229	eP	P	05 13 43.9	0.0
	13nm,0.8s,mb4.4						
WB2	Warramunga Arr	21.61	229	eP	P	05 13 43.6	-0.3
WRA	Warramunga Arr	21.62	229	P	P	05 13 43.6	-0.3
	9.3nm,0.8s,mb4.2,baz=54,slow=11,SNR=20						
WRA				ScP	ScP	05 21 24.4	+7.3
	1.3nm,1.0s,baz=52,slow=2.4,SNR=4.5						
ASAR	Alice Springs	24.33	222	P	P	05 14 12.5	+1.4
	7.6nm,0.8s,mb4.2,baz=55,slow=9.4,SNR=25						
ASAR	Alice Springs	24.33	222	P	P	05 14 12.5	+1.4
STKA	Stephens Creek	27.30	199	P	P	05 14 37.4	-0.5
	5.1nm,1.0s,mb4.0,baz=6.5,slow=10,SNR=4.4						
FITZ	Fitzroy Crossi	27.90	242	eP	P	05 14 43.1	-0.2
	9.8nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	27.90	242	P	P	05 14 42.9	-0.5
	2.4nm,0.5s,mb4.1,baz=68,slow=6.8,SNR=15						
MA2	Magadan	65.43	360	P	P	05 19 36.2	+0.5
	5.9nm,0.5s,mb4.9						
SONM	Songino Array	66.69	329	P	P	05 19 43.4	-0.4
	0.7nm,0.5s,mb4.0,baz=122,slow=5.4,SNR=3.7						
TORD	Torodi Ar. Bea	149.41	286	PKPbc	PKPbc	05 28 42.1	+0.6
	4.4nm,0.7s,baz=65,slow=3.0,SNR=44						
BDFB	Brasilia	151.06	138	PKPbc	PKPbc	05 28 47.1	+1.6
	2.9nm,0.6s,baz=260,slow=4.8,SNR=6.7						
BDFB				PKPab	PKPab	05 28 57.9	+4.6
	3.2nm,0.7s,baz=206,slow=7.8,SNR=5.2						

*ISCJB **27** 05:33:29.0±0.4, 4252N±002×237E±002, h0km, Error ellipse: s-maj=3.3km s-min=2.4km az=130.4*
*STR **27** 05:33:29.9±0.1, 4241N×239E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **27** 05:33:29.8±0.2, 4239N×246E, h7km, Md2.3/3, Ml2.2/9, Error ellipse: s-maj=2.8km s-min=1.4km az=159.0*
*MDD **27** 05:33:30.6±0.4, 4241N×240E, h0km, mbLg1.9/11, Error ellipse: s-maj=3.3km s-min=2.2km az=152.0, PRXIMO*

ISC 27 05:33:29.5±0.4, 4243N±002×243E±003, h17km±3km, n49, σ0§66/71, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FILF	Fillols	0.16	38	Pg	Pg	05 33 33.4	-0.4
FILF				Sg	Sg	05 33 35.7	-0.9
FILF	Fillols	0.16	38	Pg	Pg	05 33 33.5	-0.3
FILF				Lg		05 33 35.8	
CBRU	Bruguera	0.23	231	Pg	Pg	05 33 34.4	-0.5
CBRU				Lg		05 33 37.5	
	107nm,0.2s						
VALF	Valcebollere	0.30	264	Pg	Pg	05 33 35.5	-0.5
VALF				Sg	Sg	05 33 39.6	-0.8
VALF	Valcebollere	0.30	264	Pg	Pg	05 33 35.6	-0.4
VALF				Lg		05 33 39.3	
CLLI	Llivia	0.34	278	Pg	Pg	05 33 36.5	-0.1
CLLI				Lg		05 33 40.9	
SJAF	Saint Jean de	0.34	81	Pg	Pg	05 33 37.2	+0.5
SJAF				Sg	Sg	05 33 42.5	+1.0
SJAF	Saint Jean de	0.34	81	Pg	Pg	05 33 37.4	+0.7
SJAF				Lg		05 33 42.6	
EJON	La Jonquera	0.34	87	⇑Pg	Pg	05 33 37.5	+0.8
	SNR=18						
EJON				Lg		05 33 42.7	
	22nm,0.3s,SNR=13						
CARF	Carcanieres	0.37	320	Pg	Pg	05 33 37.5	+0.4
CARF				Sg	Sg	05 33 42.7	+0.4
CARF	Carcanieres	0.37	320	Pg	Pg	05 33 37.6	+0.5
CARF				Lg		05 33 42.8	
LRDF	Laroque-de-Fa	0.51	9	Pg	Pg	05 33 40.8	+1.1
LRDF				Sg	Sg	05 33 47.6	+1.0
LRDF	Laroque-de-Fa	0.51	9	Pg	Pg	05 33 41.0	+1.2
LRDF				Lg		05 33 48.9	
CFON	Fontmartina	0.67	179	Pg	Pg	05 33 42.9	+0.2
CFON				Lg		05 33 57.1	
	13nm,0.2s						
EMIR	Miracle	0.85	233	Pg	Pg	05 33 45.8	-0.2
	0.3nm,0.1s,SNR=9.5						
EMIR				Lg		05 33 57.7	
	26nm,0.2s,SNR=11						
MTLF	Montolieu	0.92	350	ePg	Pg	05 33 48.1	+0.7
MTLF				eSg	Sg	05 34 00.4	+0.9
MTLF				eSn	Sn	05 34 01.3	+0.9
	4.5nm,0.2s						
MTLF	Montolieu	0.92	350	Pg	Pg	05 33 48.1	+0.7
MTLF				Lg		05 34 00.4	
MTLF				Sn	Sn	05 34 01.3	+0.9
	2.2nm,0.2s						
CSOR	Sort	0.96	267	Pg	Pg	05 33 47.8	-0.3
CSOR				Lg		05 34 02.5	
SALF	Salau	0.97	290	Pg	Pg	05 33 48.0	-0.3
SALF				Lg		05 34 00.5	
MLS	Moulis	1.11	299	Lg		05 34 05.8	
CAVN	Les Avellanes	1.36	247	Pg	Pg	05 33 55.5	-0.2
CAVN				Lg		05 34 13.8	
	26nm,0.4s						
EGRA	Graus	1.58	262	Pg	Pg	05 34 00.7	+0.7
	1.1nm,0.1s,SNR=7.9						
EGRA				Lg		05 34 20.8	
	4.0nm,0.2s,SNR=7.1						
RESF	Ens	1.59	284	Pg	Pg	05 33 59.2	-0.8
RESF				Lg		05 34 22.2	
EPF	Esparros	1.65	292	ePg	Pg	05 34 01.5	+0.3
EPF				eSn	Sn	05 34 18.4	0.0
EPF				eSg	Sg	05 34 23.1	+0.4
	4.7nm,0.3s						
EPF	Esparros	1.65	292	Pg	Pg	05 34 01.5	+0.3
EPF				Lg		05 34 23.1	
	2.3nm,0.3s						
EBIE	Bielsa	1.71	279	Pg	Pg	05 34 03.2	+0.9
	1.4nm,0.2s,SNR=16						
EBIE				Lg		05 34 25.7	
	4.4nm,0.3s,SNR=9.5						
VIEF	Viey	1.83	285	Lg		05 34 30.0	
LASF	Ste Croix	1.95	32	ePn	Pn	05 34 01.7	0.0
LASF	Ste Croix	1.95	32	eP	Pn	05 34 04.2	+2.5
LASF	Ste Croix	1.95	32	ePg	Pg	05 34 06.4	-0.5
LASF				eSn	Sn	05 34 24.6	-1.2
LASF				eSg	Sg	05 34 31.7	-0.5
	1.5nm,0.2s						
LASF	Ste Croix	1.95	32	Pg	Pg	05 34 06.4	-0.5
LASF				Lg		05 34 31.7	
	0.8nm,0.2s						
ERTA	Horta de San J	2.15	227	Pg	Pg	05 34 11.0	+0.2
	1.3nm,0.3s,SNR=7.9						
ERTA				Lg		05 34 38.0	
	3.5nm,0.2s,SNR=6.5						
ETSF	Etsaut	2.25	283	ePg	Pg	05 34 12.7	0.0
ETSF				eSg	Sg	05 34 42.4	+0.5
	5.5nm,0.3s						
ETSF	Etsaut	2.25	283	Pg	Pg	05 34 12.7	0.0
ETSF				Lg		05 34 42.4	
	2.8nm,0.3s						
ESAC	San Caprasio	2.27	253	Pg	Pg	05 34 13.3	+0.3
	2.7nm,0.2s,SNR=7.9						
ESAC				Lg		05 34 43.4	
	30nm,0.3s,SNR=8.3						
CAF	Calviac	2.51	354	ePn	Pn	05 34 09.5	+0.1
CAF	Calviac	2.51	354	ePg	Pg	05 34 17.1	-0.4
CAF				eSg	Sg	05 34 49.9	-0.2
	4.8nm,0.4s						
CAF	Calviac	2.51	354	Pn	Pn	05 34 09.5	+0.1
CAF				Pg	Pg	05 34 17.1	-0.4
CAF				Lg		05 34 49.9	
	2.4nm,0.4s						
SJPF	Ste Jean	2.77	285	ePg	Pg	05 34 21.9	-0.7
SJPF				eSg	Sg	05 34 57.9	-0.7
	2.2nm,0.3s						
SJPF	Ste Jean	2.77	285	Pg	Pg	05 34 21.9	-0.7
SJPF				Lg		05 34 57.9	
	1.1nm,0.3s						
LFF	La Frestale	2.79	335	ePn	Pn	05 34 13.8	+0.5
LFF	La Frestale	2.79	335	ePg	Pg	05 34 22.1	-0.8
LFF				eSg	Sg	05 34 59.6	+0.5
	7.9nm,0.5s						
LFF	La Frestale	2.79	335	Pn	Pn	05 34 13.8	+0.5
LFF				Pg	Pg	05 34 22.1	-0.8
LFF				Lg		05 34 59.6	
	4.0nm,0.5s						
VIVF	Saint-Julien-l	2.92	33	ePn	Pn	05 34 14.7	-0.4
VIVF	Saint-Julien-l	2.92	33	ePg	Pg	05 34 24.2	-1.3
VIVF				eSg	Sg	05 35 02.2	-1.1
	2.8nm,0.3s						
VIVF	Saint-Julien-l	2.92	33	Pn	Pn	05 34 14.7	-0.4
VIVF				Pg	Pg	05 34 24.2	-1.3
VIVF				Lg		05 35 02.2	
	1.4nm,0.3s						
RJF	Les Rejaudoux	2.94	347	ePn	Pn	05 34 15.7	+0.2
RJF	Les Rejaudoux	2.94	347	ePg	Pg	05 34 25.2	-0.7
RJF				eSn	Sn	05 34 50.1	-0.3
RJF				eSg	Sg	05 35 04.1	0.0
	1.3nm,0.2s						
RJF	Les Rejaudoux	2.94	347	Pn	Pn	05 34 15.7	+0.2
RJF				Pg	Pg	05 34 25.2	-0.7
RJF				Sn	Sn	05 34 50.1	-0.3
RJF				Lg		05 35 04.1	
	0.6nm,0.2s						

*NEIC **27** 05:37:37.0, 1606N×9719W, h11km, mb4.0/2, MD4.1(MEX), After MEX.*

MEX 27 05:37:36.8±0.6, 1606N×9719W, h8km±7km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.95	290	iP	Pg	05 37 52.8	-2.3
PNIG				iS	Sg	05 38 04.8	-2.8
PNIG	Pinotepa	0.95	290	iP	Pg	05 37 52.7	-2.5
PNIG				iS	Sg	05 38 04.8	-2.8
HUIG	Huatulco	1.08	106	eP	Pg	05 37 54.2	-3.4
HUIG				iS	Sg	05 38 08.3	-3.4
HUIG	Huatulco	1.08	106	eP	Pg	05 37 54.2	-3.4
HUIG				iS	Sg	05 38 07.5	-4.2
VHO	Vista Hermosa	1.10	24	iP	Pg	05 37 54.6	-3.3
VHO				iS	Sg	05 38 08.2	-3.9
OXX	Oaxaca	1.11	24	iP	Pg	05 37 55.5	-2.6
OXX				iS	Sg	05 38 09.5	-3.0
UTMO	Huajuapan	1.85	342	eP	Pn	05 38 05.5	-3.3
UTMO				iS	Sn	05 38 27.0	-5.4
CMIG	Matias Romero	2.44	65	eP	Pn	05 38 12.6	-4.3
CMIG				iS	Sn	05 38 42.1	-4.8
CMIG	Matias Romero	2.44	65	eP	Pn	05 38 12.6	-4.3
CMIG				iS	Sn	05 38 44.5	-2.4
ACX	Acapulco	2.73	287	eP	Pn	05 38 22.5	+1.6
MEIG	Mezcala	2.97	309	eP	Pn	05 38 19.8	-4.4
MEIG				iS	Sn	05 38 57.7	-2.3
CAIG	El Cayaco	3.11	289	iP	Pn	05 38 23.1	-3.0
CAIG				iS	Sn	05 39 00.5	-2.8
CAIG	El Cayaco	3.11	289	iP	Pn	05 38 33.5	+7.4
CAIG				iS	Sn	05 38 54.4	-9.0
PLIG	Platanillo	3.20	317	eP	Pn	05 38 24.0	-3.4
PLIG				iS	Sn	05 39 01.7	-3.9
PLIG	Platanillo	3.20	317	iP	Pn	05 38 32.6	+5.3
PLIG				iS	Sn	05 39 07.8	+2.1
PPM	Popocatepetl	3.29	336	eP	Pn	05 38 24.7	-3.8
PPM				iS	Sn	05 39 05.3	-2.4
PPM	Popocatepetl	3.29	336	eP	Pn	05 38 31.1	+2.6
PPM				iS	Sn	05 39 10.4	+2.6
LVIG	Laguna Verde	3.71	11	eP	Pn	05 38 32.4	-2.0
LVIG				iS	Sn	05 39 12.5	-5.9
LVIG	Laguna Verde	3.71	11	iP	Pn	05 38 38.1	+3.6
LVIG				iS	Sn	05 39 07.6	-11
TEIG	Tepich	9.43	63	ePn	Pn	05 39 49.5	-3.4
	9.1nm,1.6s						
TEIG				eSn	Sn	05 41 31.5	-7.7
PAYG	Puerto Ayora	17.98	157	ePn	Pn	05 41 47.2	+0.2
	41nm,1.2s						
LPAZ	La Paz	43.08	137	eP	P	05 45 42.8	+5.6
	0.6nm,0.6s						

*ISCJB **27** 05:44:32.9±0.9, 3870N±003×926W±007, h28km±3km, Error ellipse: s-maj=9.8km s-min=4.7km az=151.1*
*MDD **27** 05:44:33.5±0.9, 3867N×920W, h13km±3km, mbLg2.0/13, Error ellipse: s-maj=8.3km s-min=5.2km az=74.0, PRXIMO*
*IGIL **27** 05:44:34.4, 3865N×929W, h2km, ML2.1*
*INMG **27** 05:44:34.2±1.4, 3866N×928W, h14km±2km, MD2.0, ML1.8, Error ellipse: s-maj=5.9km s-min=1.9km az=83.0*

ISC 27 05:44:33.2±0.8, 3869N±002×923W±006, h19km±2km, n24, σ0§91/47, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIS	Lisbon	0.07	68	eP	Pg	05 44 36.8	0.0
LIS				eS	Sg	05 44 38.5	-0.7
LIS				eS	Sg	05 44 38.5	-0.6
LIS				AML	AML	05 44 40.7	
	comp=E,730nm,0.2s						
LIS	Lisbon	0.07	68	eP	Pg	05 44 36.8	0.0
LIS				eS	Sg	05 44 38.5	-0.6
PLOU	Loures	0.20	18	ePg	Pg	05 44 39.0	+0.7
PLOU				eSg	Sg	05 44 42.9	+1.1
PLOU							
	comp=E,92nm,0.2s						
ALMR	Almeirim	0.69	48	eP	Pb	05 44 47.8	+1.2
ALMR				eS	Sb	05 44 57.7	+1.9
ALMR				eS	Sb	05 44 57.7	+1.9
ALMR				AML	AML	05 44 59.8	
	comp=E,58nm,0.2s						
ALMR	Almeirim	0.69	48	eP	Pb	05 44 47.8	+1.2
ALMR				eS	Sb	05 44 57.7	+1.9
MOE	Montemor	0.71	103	eP	Pb	05 44 47.6	+0.6
MOE				eS	Sb	05 44 57.0	+0.6
PTOM	Tomar	1.12	34	eP	Pn	05 44 54.5	+0.6
PTOM				eS	Sb	05 45 10.1	+1.8
PTOM							
	comp=E,17nm,0.2s						
PTEO	Sao Teotonio	1.21	161	eP	Pn	05 44 54.9	-0.2
PTEO				eS	Sb	05 45 10.3	-0.5
PTEO							
	comp=E,15nm,0.3s						
PBEJ	Beja	1.26	121	eP	Pn	05 44 56.2	+0.4
PBEJ				eS	Sb	05 45 12.3	+0.1
PBEJ							
	comp=E,12nm,0.1s						
EBAD	Badajoz	1.74	87	Pn	Pn	05 45 02.3	0.0
	comp=E,1.2nm,0.1s,SNR=8.7						
EBAD				Sn	Sn	05 45 24.0	+0.1
	comp=E,7.1nm,0.2s,SNR=13						
EBAD				Lg		05 45 28.1	
	comp=E,13nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	1.78	49	ePn	Pn	05 45 04.0	+1.0
PCBR	Castelo Branco	1.78	49	ePg	Pg	05 45 07.4	-0.1
PCBR				eSg	Sg	05 45 29.9	-0.8
PCBR							
	comp=E,2.4nm,0.1s						
PCBR	Castelo Branco	1.78	49	Pn	Pn	05 45 04.0	+1.0
PCBR				Pg	Pg	05 45 07.4	-0.1
PCBR				Lg		05 45 29.9	
	comp=E,1.2nm,0.1s						
EGRO	El Granado	1.80	129	Pn	Pn	05 45 04.0	+0.8
	comp=E,0.3nm,0.1s,SNR=6.6						
EGRO				Pg	Pg	05 45 06.3	-1.6
	comp=E,2.4nm,0.2s,SNR=7.9						
EGRO				Lg		05 45 29.9	
	comp=E,12nm,0.2s,SNR=7.9						
MTE	Manteigas	2.15	37	eSg	Sg	05 45 42.1	-0.3
MTE							
	comp=E,3.6nm,0.4s						
MTE	Manteigas	2.15	37	Lg		05 45 42.1	
	comp=E,1.8nm,0.4s						
EMIN	Mina Concepcio	2.22	114	Pn	Pn	05 45 08.9	-0.1
	comp=E,0.1nm,0.1s,SNR=7.1						
EMIN				Pg	Pg	05 45 14.5	-1.3
	comp=E,0.8nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	05 45 35.8	0.0
	comp=E,0.8nm,0.2s,SNR=8.3						
EMIN				Lg		05 45 42.2	
	comp=E,2.4nm,0.1s,SNR=6.9						
PCAB	Cabril	3.15	17	ePn	Pn	05 45 22.4	+0.6
PCAB				eSn	Sn	05 45 57.0	-1.9
PCAB				eSg	Sg	05 46 13.1	-1.5
PCAB							
	comp=E,1.5nm,0.1s						
PCAB	Cabril	3.15	17	Pn	Pn	05 45 22.4	+0.6
PCAB				Sn	Sn	05 45 57.0	-1.9
PCAB				Lg		05 46 13.1	
	comp=E,0.8nm,0.1s						
ESPR	Espera	3.23	123	Sn	Sn	05 46 00.6	-0.4
	comp=E,21nm,2.1s,SNR=7.9						
ELOB	Lobios	3.30	15	Pn	Pn	05 45 24.6	+0.7
	comp=E,0.5nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	05 46 01.3	-1.1
	comp=E,0.5nm,0.1s,SNR=7.9						
ELOB				Lg		05 46 17.3	
	comp=E,1.5nm,0.2s,SNR=7.9						
PBRG	Braganca	3.65	31	ePn	Pn	05 45 29.1	+0.5
PBRG				eSn	Sn	05 46 09.1	-2.0
EADA	Adamuz	3.69	97	Pn	Pn	05 45 29.8	+0.5
	comp=E,2.9nm,3.7s,SNR=7.9						
EADA				Sn	Sn	05 46 12.0	-0.3
	comp=E,0.6nm,0.1s,SNR=7.9						
EADA				Lg		05 46 31.1	
	comp=E,1.3nm,0.3s,SNR=7.9						
ECAL	Calabor	3.77	30	Pn	Pn	05 45 30.5	+0.2
	comp=E,1.7nm,0.3s,SNR=12						
ECAL				Sn	Sn	05 46 13.0	-1.1
	comp=E,0.7nm,0.2s,SNR=7.9						
ECAL				Lg		05 46 34.4	
	comp=E,2.0nm,0.3s,SNR=7.9						

*NIED **27** 05:49:00, 2400N×12240E, h35km, Mw4.2 Best double couple: M0 2.26000×10^15 NP1:φs55.00000°, δ87.00000°, λ38.00000°. NP2:φs323.00000°, δ52.00000°, λ177.00000°.*
*IDC **27** 05:49:37.4±0.9, 2424N×12255E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, ML4.2/1, Error ellipse: s-maj=42.7km s-min=17.6km az=65.0*
*MOS **27** 05:49:40.8±0.7, 2413N×12224E, h33km, mb4.7/5, Error ellipse: s-maj=61.0km s-min=10.2km az=118.6*
*ISCJB **27** 05:49:42.6±0.6, 2409N±007×12226E±003, h48km±5km, mb4.3/19, Error ellipse: s-maj=11.6km s-min=4.0km az=12.3*
*JMA **27** 05:49:42.9±0.1, 2402N×12236E, h23km±4km, M4.4*
*NEIC **27** 05:49:43.3±0.6, 2421N×12250E, h35km, mb4.5/6, Error ellipse: s-maj=13.8km s-min=11.4km az=199.0*
*BJI **27** 05:49:46.4, 2427N×12183E, h35km, mB4.5, mb4.4, ML4.1, Ms4.0, Msz3.9*

ISC 27 05:49:43.6±0.6, 2409N±006×12226E±003, h40km±5km, n53, σ1§08/62, mb4.3/19, 5C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.61	278	⇑iPn	Pn	05 49 54.4	-1.4
YOJ	Yonaguni jima	0.78	61	P	Pn	05 49 56.9	-1.3
YOJ				S	Sn	05 50 06.8	-1.9
YHNB	Yeheng	0.99	306	⇑iPn	Pn	05 50 00.9	-0.1
YHNB				eSg	Sn	05 50 15.7	+1.8
TATO	Taipei	1.13	322	eP	Pn	05 50 03.4	+0.5
IRIF	Iriomote-Funau	1.37	79	P	Pn	05 50 05.8	-0.4
IRIF				S	Sn	05 50 22.1	-0.9
HATJ	Hateruma jima	1.41	91	P	Pn	05 50 06.2	-0.6
HATJ				eS	Sn	05 50 23.4	-0.8
JKRS	Kuro-shima	1.61	84	P	Pn	05 50 09.1	-0.4
JKRS				eS	Sn	05 50 28.2	-0.8
JIJ	Ishigaki jima	1.74	81	P	Pn	05 50 11.8	+0.5
JIJ				S	Sn	05 50 32.4	+0.1
JTJ	Tarama	2.30	76	P	Pn	05 50 19.2	+0.3
JTJ				S	Sn	05 50 47.8	+1.8
JMJ	Miyako jima 2	2.86	75	eS	Sn	05 51 00.9	+1.0
JOGS	Gusukube	2.95	76	eS	Sn	05 51 04.2	+2.2
QZH	Quanzhou	3.45	285	⇑iP	Pn	05 50 34.5	-0.3
QZH				S	Sn	05 51 13.5	-0.8
QZH				Smax			
	comp=N,550nm,0.5s						
QZH				Smax			
	comp=E,390nm,0.4s						
JKE	Kume jima 2	4.67	61	P	Pn	05 50 53.0	+1.5
JAGN	Aguni-jima	5.15	60	eS	Sn	05 51 57.3	+0.9
JOW	Kunigami	6.09	62	P	Pn	05 51 09.7	-1.3
SSE	Sheshan	7.05	352	P	Pn	05 51 24.8	+0.6
SSE				AMB	AMB		
	comp=Z,10.0nm,0.7s						
SSE				AMB	AMB		
	comp=Z,40nm,3.8s						
GZH	Guangzhou	8.24	265	P	Pn	05 51 36.8	-3.7
GZH				Smax			
	comp=N,70nm,1.0s						
GZH				Smax			
	comp=E,40nm,1.2s						
NJ2	Nanjing	8.48	340	eP	Pn	05 51 46.0	+2.1
NJ2				S	Sn	05 53 16.0	-2.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,40nm,11.8s						
NJ2				Smax			
	comp=N,150nm,1.0s						
NJ2				Smax			
	comp=E,130nm,1.1s						
NJ2				LR	LR		
	comp=N,940nm,12.5s						
NJ2				LR	LR		
	comp=E,520nm,10.7s						
NJ2				LR	LR		
	comp=Z,540nm,15.0s						
GYA	Guiyang	14.30	283	P	Pn	05 53 04.8	+1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MAJO	Matsushiro	18.51	44	P	Pn	05 53 50.8	-6.0
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAJO	Matsushiro	18.51	44	P	Pn	05 53 50.8	-6.1
	comp=Z,5.2nm,0.6s						
MJAR	Matsushiro Arr	18.51	44	P	Pn	05 53 52.1	-4.7
	comp=Z,0.7nm,0.3s,baz=206,slow=10.0,SNR=4.9						
LZH	Lanzhou	19.88	311	eP	Pn	05 54 13.8	+0.5
LZH				AP	pP	05 54 23.0	+1.6
LZH				XP	sP	05 54 26.5	0.0
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GTA	Gaotai	24.35	314	eP	P	05 55 00.0	+2.3
GTA				AP		05 55 04.3	
GTA				XP	sP	05 55 07.5	-5.9
ULN	Ulaanbaatar	26.63	337	c iP	P	05 55 18.3	-0.1
ULN	Ulaanbaatar	26.63	337	eP	P	05 55 18.0	-0.4
	comp=Z,7.1nm,0.6s,mb4.4						
SONM	Songino Array	26.85	336	P	P	05 55 20.4	+0.1
	comp=Z,14nm,0.7s,mb4.6,baz=150,slow=9.8,SNR=59						
ZAK	Zakamensk	30.11	335	eP	P	05 55 48.5	-0.8
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.1s,mb5.1						
TLY	Talaya	31.04	337	eP	P	05 55 57.7	+0.2
TLY				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
TLY	Talaya	31.04	337	eP	P	05 55 57.0	-0.5
	comp=Z,8.3nm,0.6s,mb4.7						
MKAR	Makanchi Array	39.09	316	P	P	05 57 07.2	+0.4

ASAR	Alice Springs	48.80	166	P	P	05 58 25.8	+1.1
	comp=Z,1.0nm,1.0s,mb3.8,baz=19,slow=30,SNR=4.1						
ZRNK	Zerenda	49.16	320	eP	P	05 58 27.0	-0.5
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ZRNK	Zerenda	49.16	320	eP	P	05 58 27.0	-0.4
	comp=Z,4.8nm,0.8s,mb4.6						
AKTK	Aktyubinsk	55.53	316	P	P	05 59 16.5	+1.8
AKTO	Aktyubinsk	55.53	316	P	P	05 59 16.5	+1.8
	comp=Z,1.0nm,0.4s,mb4.2,baz=105,slow=6.2,SNR=3.9						
ARU	Arti	55.77	323	i P	P	05 59 15.9	-0.6
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ARCES	ARCESS Array B	70.00	338	P	P	06 00 50.3	-0.7
	comp=Z,2.4nm,0.8s,mb4.2,baz=75,slow=5.5,SNR=4.4						
FINES	FINESS Array B	72.02	330	P	P	06 01 03.0	-0.4
	comp=Z,0.7nm,0.4s,mb4.0,baz=54,slow=7.5,SNR=11						
FINES	FINESS Array B	72.02	330	i P	P	06 01 03.5	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	73.59	319	P	P	06 01 11.8	-0.8
	comp=Z,2.2nm,0.6s,mb4.3,baz=60,slow=6.2,SNR=6.0						
BR131	Keskin Array S	74.02	307	eP	P	06 01 16.2	+1.1
	comp=Z,3.7nm,0.9s,mb4.3						
BRTR	Keskin Array B	74.02	307	P	P	06 01 16.1	+1.0
	comp=Z,3.8nm,0.8s,mb4.4,baz=101,slow=6.4,SNR=18						
BRTR	Keskin Array B	74.02	307	i P	P	06 01 16.1	+1.0
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA	NORSAR Array B	78.77	332	P	P	06 01 41.0	-1.0
	comp=Z,1.0nm,0.7s,mb3.9,baz=58,slow=5.6,SNR=3.7						
GERES	GERESS Array B	83.54	321	P	P	06 02 06.6	-0.8
	comp=Z,1.5nm,0.8s,mb4.2,baz=32,slow=7.8,SNR=6.5						

*ISCJB **27** 06:16:38.2±0.8, 4309N±003×45.17E±005, h10km, Error ellipse: s-maj=5.7km s-min=3.4km az=113.3*
*MOS **27** 06:16:38.6±1.9, 4315N×4506E, h17km, mb4.0/1, Error ellipse: s-maj=14.7km s-min=11.0km az=160.7*
*CSEM **27** 06:16:38.6, 4315N×4506E, h17km, mb4.0, After OBN TIF **27** 06:16:42.2, 4292N×4498E, h17km±3km*

ISC 27 06:16:39.0±0.8, 4311N±003×4518E±005, h10km, n18, σ0 89/36, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	Sundja	0.27	262	i Pg	Pg	06 16 44.6	+0.1
SNJR				i Sg	Sg	06 16 48.9	+0.7
VLKR	Vladikavkaz	0.37	261	i Pg	Pg	06 16 46.3	0.0
VLKR				i Sg	Sg	06 16 51.9	+0.6
ARNR	Ardon	0.66	277	ePg	Pg	06 16 51.5	-0.3
ARNR				eSg	Sg	06 17 00.8	+0.3
TRKR	Terskaya	0.70	332	ePg	Pg	06 16 52.4	-0.1
TRKR				eSg	Sg	06 17 02.5	+0.9
KMSR	Komsomolskaya	0.70	292	i Pg	Pg	06 16 52.2	-0.3
KMSR				i Sg	Sg	06 17 01.9	+0.2
LACR	Lac	0.71	247	i Pg	Pg	06 16 52.6	-0.1
LACR				i Sg	Sg	06 17 02.8	+0.9
KORR	Kora	0.81	269	ePg	Pg	06 16 54.3	-0.4
KORR				eSg	Sg	06 17 05.6	+0.3
ZEI	Tsey	1.00	251	ePg	Pg	06 16 56.6	-1.6
ZEI				i Sg	Sg	06 17 08.0	-3.2
DIGR	Digorskoe uzhe	1.19	260	ePg	Pg	06 17 00.8	-1.1
DIGR				eSg	Sg	06 17 17.0	-0.3
ONI	Oni	1.38	248	P	Pn	06 17 03.0	-1.2
ONI				S	Sb	06 17 18.4	-4.1
TBLG	Delisi	1.41	194	P	Pn	06 17 05.9	+1.1
TBLG				S	Sn	06 17 15.8	-7.6
TBLG	Delisi	1.41	194	Pg	Pg	06 17 04.6	-1.5
TBLG				Sg	Sg	06 17 24.2	-0.3
MTA	Mtatsminda	1.44	192	P	Pn	06 17 05.2	+0.1
MTA				S	Sn	06 17 19.2	-4.9
AMRG		1.61	249	P	Pg	06 17 10.2	+0.2
AMRG				S	Sg	06 17 33.8	+2.8
DGRG	David-gareji	1.66	175	P	Pg	06 17 11.6	+0.7
DGRG				S	Sg	06 17 33.1	+0.7
KZR	Kazreti	1.82	198	P	Pn	06 17 05.9	-4.4
KZR				S	Pb	06 17 13.2	+0.9
SHAR	Shatzhatmas	1.94	290⇑	ePN	Pg	06 17 16.0	-0.1
SHAR				eS	Sg	06 17 41.0	-0.2
AKH	Akhalkalaki	2.11	217	P	Pn	06 17 03.7	-11
AKH				S	Pb	06 17 09.8	-7.5

*CSEM **27** 07:39:02.5, 3707N×2101E, h6km, MD3.7/9, After ATH*
*ATH **27** 07:39:04.4, 3721N×21.17E, h7km±2km, MD3.8/8*

NEIC 27 07:39:02.5, 3707N×2101E, h6km, MD3.8(ATH), After ATH., Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.74	81	ePb	Pb	07 39 16.0	-1.8
ITM				eSb	Sb	07 39 27.7	-0.5
RLS	Riolos of Patr	1.05	20	ePb	Pb	07 39 21.4	-1.7
RLS				eSb	Sb	07 39 38.0	+0.9
VLS	Valsamata	1.16	343	ePb	Pb	07 39 24.9	+0.1
VLS				eSb	Sb	07 39 41.5	+1.4
VLI	Veliai	1.58	102	ePG	Pg	07 39 32.5	-0.4
VLI	Veliai	1.58	102	ePg	Pg	07 39 31.5	-1.4
KYTH	Kithira	1.81	115	ePN	Pn	07 39 37.5	+3.3
EVR	Evrytania	1.95	19	ePN	Pn	07 39 38.0	+1.9
EVR	Evrytania	1.95	19	ePg	Pg	07 39 38.7	-1.2
LKR	Lokris	2.23	44	ePN	Pn	07 39 40.4	+0.4
JAN	Janina	2.59	357	ePN	Pn	07 39 47.0	+2.1
JAN	Janina	2.59	357	ePg	Pg	07 39 50.0	-2.1
KEK	Kerkira	2.81	341	ePB	Pb	07 39 50.5	-2.5
KEK	Kerkira	2.81	341	ePb	Pb	07 39 48.7	-4.3
NEO	Neokhori	2.83	37	ePB	Pb	07 39 49.4	-4.1

ATH 27 07:49:50.9, 3687N×2111E, h42km±1km, MD3.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.72	64	eP	Pn	07 50 05.7	+1.0
RLS	Riolos of Patr	1.22	13	eP	Pn	07 50 12.4	+0.9
RLS				eS	Sn	07 50 28.8	+2.1
VLS	Valsamata	1.37	343	eP	Pn	07 50 15.0	+1.5
VLI	Veliai	1.47	95	eP	Pn	07 50 16.5	+1.5
EVR	Evrytania	2.12	15	eP	Pn	07 50 25.5	+1.7

*ISCJB **27** 08:00:07.4±2.6, 520N±0.1×17629E±006, h9km±15km, mb3.8/8, MS3.7/3, Error ellipse: s-maj=17.1km s-min=5.7km az=18.2*
*NEIC **27** 08:00:07.4, 5158N×17595E, h16km, mb4.1/2, ML4.2(AEIC), After AEIC.*
*IDC **27** 08:00:08.1±1.0, 5209N×17644E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/22, mbtmp3.7/6, ML4.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/37, Error ellipse: s-maj=37.2km s-min=24.5km az=166.0*
*BJI **27** 08:00:09.2, 5241N×17544E, h8km, mB4.8, mb4.6, Ms4.1, Msz3.9*

ISC 27 08:00:08.1±2.9, 5201N±010×17624E±006, h5km±17km, h32km±2.3km: pP-P, n23, σ1 06/25, mb3.8/8, MS3.7/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	1.50	300	P	Pn	08 00 35.9	+0.3
SMY				S	Sn	08 00 55.5	+0.1
AMKA	Amchitka	2.01	107	P	Pn	08 00 42.8	+0.2
AMKA				S	Sn	08 01 07.1	-1.1
ATKA	Atka Island	5.90	84	P	Pn	08 01 36.5	+0.3
ATKA				S	Sn	08 02 45.2	+1.0
UNV	Unalaska Valle	10.58	73	ePn	Pn	08 02 41.7	+1.3
KDAK	Kodiak Island	18.73	60	P	Pn	08 04 27.5	-0.4
	1.1nm,0.3s,baz=306,slow=4.2,SNR=7.6						
SML	Sawmill	21.41	49	eP	P	08 04 54.5	-2.3
SML				epP		08 05 04.4	
MCK	McKinley	21.60	44	eP	P	08 04 59.2	+0.4
	13nm,1.7s,mb4.1						
COLA	College	22.39	41	eP	P	08 05 08.7	+1.4
	5.6nm,0.8s,mb4.0						
DAWY	Dawson	25.80	45	eP	P	08 05 40.4	+0.3
EDM	Edmonton	41.18	59	eP	P	08 07 52.2	-1.3
EDM				epP	pP	08 07 59.8	+4.8
YBH	Yreka Blue Hor	41.82	79	LR	LR	08 21 33.0	
	comp=Z,25nm,21.7s,MS3.0,baz=304,slow=31						
SONM	Songino Array	43.58	293	P	P	08 08 14.3	+1.3
	0.4nm,0.6s,mb3.4,baz=64,slow=8.1,SNR=2.9						
HHC	Hu-ho-hao-te	44.54	282	eP	P	08 08 19.3	-1.4
HHC				AP	pP	08 08 29.0	+6.7
HHC				XP	sP	08 08 33.0	+10
HHC				PCP	PcP	08 10 03.5	-0.4
HHC				SCP	ScP	08 13 52.0	-4.7
HHC				PCS	PcS	08 13 54.3	-3.0
HHC				S	S	08 14 51.0	-5.7
HHC				SS	SS	08 18 02.0	-14
HHC				SCS	ScS	08 18 13.8	-5.7
HHC				AMB	AMB		
	comp=Z,140nm,4.8s						
HHC				LR	LR		
	comp=N,70nm,17.2s,MS4.0						
HHC				LR	LR		
	comp=E,160nm,22.0s,MS4.0						
HHC				LR	LR		
	comp=Z,40nm,20.2s,MS3.3						
NJ2	Nanjing	45.73	267	eP	P	08 08 29.5	-0.7
NJ2				AP	pP	08 08 39.5	+7.7
NJ2				PCP	PcP	08 10 07.5	-0.5
NJ2				S	S	08 15 15.0	+1.1
NJ2				AMB	AMB		
	comp=Z,150nm,11.5s						
NJ2				LR	LR		
	comp=N,560nm,22.0s,MS4.5						
NJ2				LR	LR		
	comp=E,440nm,24.8s,MS4.5						
NJ2				LR	LR		
	comp=Z,330nm,23.2s,MS4.2						
PDAR	Pinedale Array	49.03	70	P	P	08 08 54.6	-1.2
	comp=Z,0.4nm,0.5s,mb3.7,baz=324,slow=4.2,SNR=7.2						
WMQ	Urumqi	56.37	300	eP	P	08 09 49.5	-0.7
MKAR	Makanchi Array	57.18	305	P	P	08 09 56.2	+0.2
	comp=Z,0.3nm,0.3s,mb3.8,baz=39,slow=7.4,SNR=3.2						
KMI	Kunming	60.59	274	P	P	08 10 18.3	-1.4
AKTO	Aktyubinsk	65.33	322	P	P	08 10 57.1	+5.9
	comp=Z,2.2nm,0.5s,mb4.4,baz=63,slow=7.7,SNR=11						
WRA	Warramunga Arr	80.43	220	P	P	08 12 21.7	+1.0
	comp=Z,0.4nm,0.7s,mb3.5,baz=29,slow=5.8,SNR=3.3						
ASAR	Alice Springs	83.96	218	P	P	08 12 41.1	+1.8
	comp=Z,0.4nm,0.8s,mb3.6,baz=10,slow=3.9,SNR=3.4						
LBTB	Lobatse	145.02	309	PKPbc	PKPbc	08 19 46.6	+0.9
	comp=Z,3.2nm,0.8s,baz=333,slow=2.3,SNR=2.4						
BOSA	Boshof	148.18	306	PKPbc	PKPbc	08 19 55.2	+0.2
	comp=Z,1.4nm,0.5s,baz=34,slow=3.6,SNR=4.0						

IDC 27 08:08:46.3±12.0, 2080S×17869W, h531km±81km, mb3.0/4, mb1 3.2/6, mb1mx3.1/14, mbtmp4.1/6, Error ellipse: s-maj=165.2km s-min=24.5km az=42.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.90	262	P	P	08 11 46.3	+1.8
	0.1nm,0.3s,baz=113,slow=15,SNR=2.5						
URZ	Urewera	17.78	191	P	P	08 12 21.9	-1.0
	1.2nm,0.3s,baz=42,slow=16,SNR=9.6						
STKA	Stephens Creek	37.08	244	P	P	08 15 11.1	-0.2
	1.9nm,0.7s,baz=72,slow=11,SNR=4.3						
ASAR	Alice Springs	43.82	257	P	P	08 16 05.9	+0.8
	3.9nm,0.8s,baz=96,slow=7.6,SNR=53						
WRA	Warramunga Arr	43.92	262	P	P	08 16 05.5	-0.3
	1.6nm,0.5s,baz=97,slow=7.6,SNR=64						
VNDA	Vanda	57.56	185	P	P	08 17 44.9	-0.2
	0.3nm,0.6s,baz=358,slow=6.3,SNR=3.3						

IGQ 27 08:13:53.8, 285S×7942W, h21km±8km, Mb4.5, Ms4.3, 2C-1D, Error ellipse: s-maj=7.5km s-min=2.0km az=11.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	1.56	30	P	Pn	08 14 21.3	+1.0
IGUA				S	Sn	08 14 44.2	+4.3
ARRY	Arrayan	1.65	36	⇓P	Pn	08 14 22.6	+1.1
ARRY				S	Sn	08 14 46.9	+4.9
PATA	Patacocha	1.66	36	P	Pn	08 14 23.9	+2.2
CUSU	Cusua	1.68	34	P	Pn	08 14 26.0	+4.0
RETU	Refugio	1.70	35	P	Pn	08 14 26.6	+4.5
JUIV	Juive	1.71	34	P	Pn	08 14 25.4	+3.1
ULBA	Ulba	1.72	36	P	Pn	08 14 24.6	+2.1
RUN5	Runtun	1.74	35	P	Pn	08 14 25.6	+2.8
CAMI	Rancho Maria	2.34	23	P	Pn	08 14 35.1	+4.0
CAMI				S	Sn	08 15 10.6	+11
TAMB	Tambo	2.39	26	P	Pn	08 14 35.3	+3.7
NAS1	Nasa	2.40	23	P	Pn	08 14 35.1	+3.3
VC1	Cotopaxi 1	2.42	25	P	Pn	08 14 36.4	+4.3
ANTI	Antisana	2.70	28	P	Pn	08 14 40.3	+4.4
HCA		2.71	180	P	Pn	08 14 36.4	+0.2
HCA				S	Sn	08 15 11.0	+2.6
TERV	Terraza Guagua	2.78	17	P	Pn	08 14 40.9	+3.8
GGP	Refugio Guagua	2.78	17	⇑P	Pn	08 14 39.7	+2.6
PINO	Pino	2.79	17	⇑P	Pn	08 14 41.0	+3.7
YANA	Yana	2.84	17	P	Pn	08 14 41.1	+3.2
PT18	Porculla	2.99	181	P	Pn	08 14 39.2	-0.8
PT18				S	Sn	08 15 16.7	+1.5
CAYR	Refugio Cayamb	3.18	26	P	Pn	08 14 48.8	+6.2
ANGU	Angureal	3.21	26	P	Pn	08 14 47.4	+4.5
CAYA	Cayambe	3.23	26	P	Pn	08 14 48.0	+4.6
CHAR	Charly	3.25	33	P	Pn	08 14 52.4	+8.8
CHAR				S	Sn	08 15 39.4	+18
LAV3	Lava3-Reventad	3.27	33	P	Pn	08 14 52.8	+9.0
CONE	Cono NE Rev Vo	3.28	33	P	Pn	08 14 53.1	+9.1
COTA	Cotacachi	3.34	19	P	Pn	08 14 50.4	+5.6
CHP8	Chiclayo	3.91	186	P	Pn	08 14 49.5	-3.1

*NEIC **27** 08:15:06.1, 3174S×7147W, h22km, ML3.8(GUC), After GUC.*

GUC 27 08:15:06.1±0.8, 3174S×7147W, h22km±2km, MD4.1, ML3.8, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.14	190	⇑iP	Pb	08 15 11.1	+0.4
CHNG				i S	Sb	08 15 14.4	+0.6
CHNG				AML	AML	08 15 15.1	
	comp=E,20μm,0.3s						
CMCH	Combarbala	0.70	35	⇓iP	Pb	08 15 19.1	-0.4
CMCH				i S	Sb	08 15 28.7	0.0
CMCH				AML	AML	08 15 29.4	
	comp=E,19μm,0.2s						
CMCH	Combarbala	0.70	35	⇓iP	Pb	08 15 19.1	-0.4
CMCH				i S	Sb	08 15 28.7	0.0
OVCH	Ovalle	1.16	12	⇑iP	Pn	08 15 26.6	-0.4
OVCH				i S	Sb	08 15 41.4	-0.6
OVCH				AML	AML	08 15 46.5	
	comp=N,5μm,0.5s						
OVCH	Ovalle	1.16	12	⇑iP	Pn	08 15 26.6	-0.4
OVCH				i S	Sb	08 15 41.4	-0.6
JACH	Jahuel	1.20	142	eP	Pn	08 15 27.4	-0.1
JACH				i S	Sn	08 15 43.5	+0.5
ROCH	El Roble	1.28	162	eP	Pn	08 15 28.9	+0.2
ROCH				i S	Sn	08 15 45.9	+0.6
IHA	Instituto Hidr	1.29	186	eP	Pn	08 15 27.8	-0.9
IHA				i S	Sn	08 15 44.7	-0.6
PEL	Peldehue	1.55	155	eP	Pn	08 15 32.5	+0.2
PEL				i S	Sn	08 15 52.9	+1.2
PEL				AML	AML	08 15 58.5	
	comp=E,2μm,0.4s						
PEL	Peldehue	1.55	155	eP	Pn	08 15 32.5	+0.2
PEL				i S	Sn	08 15 52.9	+1.2
TLL	Tololo Astrono	1.67	20	⇑iP	Pn	08 15 35.3	+1.2
TLL				eS	Sn	08 15 57.1	+2.3
TLL				AML	AML	08 16 02.3	
	comp=N,3μm,0.6s						
TLL	Tololo Astrono	1.67	20	⇑iP	Pn	08 15 35.3	+1.2
TLL				eS	Sn	08 15 57.1	+2.3
LCCH	Las Cruces	1.73	183	⇓iP	Pn	08 15 35.0	+0.1
LCCH				i S	Sn	08 15 57.6	+1.4
DSCH	Colegio Aleman	1.82	155	eP	Pn	08 15 36.1	0.0
CLCH	Cerro Calan	1.83	155	⇓iP	Pn	08 15 37.0	+0.8
CLCH				i S	Sn	08 16 00.6	+1.9
CLCH				AML	AML	08 16 10.9	
	comp=E,1μm,0.4s						
CLCH				AML	AML	08 16 11.5	
	comp=E,2μm,0.8s						
STL	Santa Lucia	1.83	158	eP	Pn	08 15 36.7	+0.5
STL				i S	Sn	08 16 00.3	+1.6
RCDM	Rinconada Maip	1.83	162	eP	Pn	08 15 36.9	+0.7
RCDM				i S	Sn	08 16 00.7	+2.0
RCDM				AML	AML	08 16 04.5	
	comp=N,794nm,0.4s						
RCDM	Rinconada Maip	1.83	162	eP	Pn	08 15 36.9	+0.7
RCDM				i S	Sn	08 16 00.7	+2.0
SAN	Santiago	1.84	158	eS	Sn	08 16 00.4	+1.6
SAN				AML	AML	08 16 12.3	
	comp=E,825nm,0.5s						
FCH	Farellones	1.87	148	⇓iP	Pn	08 15 37.8	+1.1
FCH				i S	Sn	08 16 02.8	+3.2
FCH				AML	AML	08 16 04.2	
	comp=E,618nm,0.4s						
ANTU	Antumapu	1.95	159	eP	Pn	08 15 39.4	+1.5
ANTU				eS	Sn	08 16 03.9	+2.2
ANTU				AML	AML	08 16 18.2	
	comp=E,626nm,0.4s						
ANTU	Antumapu	1.95	159	eP	Pn	08 15 39.4	+1.5
ANTU				eS	Sn	08 16 03.9	+2.2
TACH	Talagante	1.96	167	eP	Pn	08 15 38.9	+1.0
TACH				i S	Sn	08 16 03.7	+1.9
PCH	Pirque	2.04	157	eP	Pn	08 15 40.8	+1.7
SJCH	San Jose de Ma	2.11	154	eP	Pn	08 15 41.0	+0.9
SJCH				i S	Sn	08 16 07.8	+2.1
SJCH				AML	AML	08 16 17.9	
	comp=N,322nm,0.3s						
SJCH	San Jose de Ma	2.11	154	eP	Pn	08 15 41.0	+0.9
SJCH				i S	Sn	08 16 07.8	+2.1
CHCH	Chadas Angostu	2.29	163	eP	Pn	08 15 44.1	+1.5
CHCH				i S	Sn	08 16 12.2	+2.1
LMEL	Las Melosas	2.35	153	⇑iP	Pn	08 15 45.5	+2.0
LMEL				i S	Sn	08 16 14.9	+3.2
LMEL				AML	AML	08 16 20.7	
	comp=N,671nm,0.6s						
LMEL	Las Melosas	2.35	153	⇑iP	Pn	08 15 45.5	+2.0
LMEL				i S	Sn	08 16 14.9	+3.2
CACH	El Canelo	2.48	163	eP	Pn	08 15 47.0	+1.9
MDZ	Mendoza	2.49	118	eP	Pn	08 15 50.2	+4.9
MDZ				e		08 15 55.1	
MDZ				S	Sn	08 16 33.3	+18
CICH	Cipreses	2.72	161	⇑iP	Pn	08 15 50.3	+1.9
CICH				i S	Sn	08 16 23.5	+2.9
LCO	Las Campanas	2.80	14	eP	Pn	08 15 51.2	+1.6
LCO				eS	Sn	08 16 25.8	+3.1
SFDO	San Fernando	2.89	172	eP	Pn	08 15 51.9	+1.2
VACH	Vallenar	3.22	11	eP	Pn	08 15 56.6	+1.3
VACH				i S	Sn	08 16 35.0	+2.1
VACH				AML	AML	08 16 47.2	
	comp=N,1μm,0.3s						
VACH	Vallenar	3.22	11	eP	Pn	08 15 56.6	+1.3
VACH				i S	Sn	08 16 35.0	+2.1

*MOS **27** 08:16:21.8±1.2, 5475N×111.13E, h25km, mb4.4/1, Error ellipse: s-maj=18.2km s-min=9.2km az=75.2*

BYKL 27 08:16:21.8±0.2, 5475N×11114E, h17km±3km, 3C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.13	6	⇓iPg	Pg	08 16 25.5	-0.1
YLYR				eSg	Sg	08 16 28.2	0.0
YLYR	Ulyunkhan	0.13	6	⇓iPG	Pg	08 16 25.5	-0.1
YLYR				pmax	pmax		
	comp=Z,4μm,0.2s						
KMO	Kumora	1.14	2	⇑iPg	Pg	08 16 42.1	-1.7
KMO				eSg	Sg	08 16 57.3	-1.5
KMO				eSb	Sb	08 17 00.7	+3.1
KMO				Pmax			
	comp=Z,248nm,0.3s						
KMO				max			
	comp=Z,770nm,0.3s						
KMO	Kumora	1.14	2	ePG	Pg	08 16 42.0	-1.8
KMO				e		08 16 57.0	
KMO				pmax	pmax		
	comp=Z,250nm,0.3s						
KMO				smax			
	comp=E,750nm,0.4s						
SYVR	Suvo	1.28	212	ePg	Pg	08 16 45.7	-0.9
SYVR				eSg	Sg	08 17 03.6	+0.3
SYVR				Pmax			
	comp=E,120nm,0.9s						
SYVR				Smax			
	comp=E,691nm,0.4s						
SYVR	Suvo	1.28	212	ePN	Pn	08 16 45.8	+0.9
SYVR				e		08 17 03.8	
SYVR				pmax	pmax		
	comp=Z,99nm,0.3s						
SYVR				smax			
	comp=N,528nm,0.5s						
NIZ	Nizh Angarsk	1.38	319	⇑iPg	Pg	08 16 46.4	-1.9
NIZ				eSg	Sg	08 17 04.6	-1.7
NIZ				Pmax			
	comp=N,148nm,0.4s						
NIZ				Smax			
	comp=N,477nm,0.3s						
NIZ	Nizh Angarsk	1.38	319	ePN	Pn	08 16 46.4	+0.2
NIZ				e		08 17 04.2	
NIZ				pmax	pmax		
	comp=Z,136nm,0.4s						
NIZ				smax			
	comp=N,421nm,0.4s						
YOA	Uoyan	1.43	13	ePg	Pg	08 16 47.9	-1.4
YOA				eSg	Sg	08 17 07.2	-0.6
YOA				Pmax			
	comp=N,246nm,0.2s						
YOA				Smax			
	comp=N,2μm,0.4s						
YOA	Uoyan	1.43	13	⇓iPN	Pn	08 16 47.8	+0.9
YOA				i		08 17 07.2	
YOA				pmax	pmax		
	comp=Z,220nm,0.2s						
YOA				smax			
	comp=N,2μm,0.4s						
UKT	Uakit	1.61	62	⇑iPg	Pg	08 16 50.3	-2.5
UKT				eSg	Sg	08 17 11.8	-1.9
UKT				eSb	Sb	08 17 13.2	+2.1
UKT				Pmax			
	comp=N,36nm,0.1s						
UKT				max			
	comp=N,752nm,0.4s						
UKT	Uakit	1.61	62	⇓iPN	Pn	08 16 50.2	+0.8
UKT				i		08 17 13.0	
UKT				pmax	pmax		
	comp=Z,36nm,0.1s						
UKT				smax			
	comp=N,750nm,0.4s						
SVKR	Severomuysk	1.94	44	ePn	Pn	08 16 55.9	+1.9
SVKR				ePg	Pg	08 16 57.0	-2.1
SVKR				e		08 17 00.4	
SVKR				eSg	Sg	08 17 23.8	-0.6
SVKR				max			
	comp=N,163nm,0.3s						
SVKR				Smax			
	comp=N,1μm,0.5s						
SVKR	Severomuysk	1.94	44	ePN	Pn	08 16 55.7	+1.7
SVKR				e		08 17 22.4	
SVKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SVKR				smax			
	comp=E,1μm,0.6s						
OGRR	Ongureny	2.36	243	⇓iPn	Pn	08 17 00.8	+1.1
OGRR				ePg	Pg	08 17 03.8	-3.3
OGRR				eSn	Sn	08 17 30.3	+2.0
OGRR				eSg	Sg	08 17 34.6	-3.1
OGRR				Pmax			
	comp=E,41nm,0.4s						
OGRR				Smax			
	comp=E,271nm,0.3s						
OGRR	Ongureny	2.36	243	ePN	Pn	08 17 00.8	+1.1
OGRR		

CIT				max			
	comp=E,176nm,1.1s						
CIT	**Chita**	**3.09**	**151**	*e*PN	Pn	08 17 09.2	-0.6
CIT				*e*		08 17 16.0	
CIT				*e*S	Sn	08 17 46.9	+0.5
CIT				*e*		08 17 56.0	
CIT				pmax	pmax		
	comp=Z,42nm,0.4s						
CIT				smax			
	comp=E,194nm,0.8s						
NLYR	**Nelyaty**	**3.12**	**54**	*e*Pn	Pn	08 17 10.9	+0.7
NLYR				*e*		08 17 15.2	
NLYR				*e*Pg	Pg	08 17 17.6	-4.0
NLYR				*e*Sg	Sg	08 17 58.9	-3.2
NLYR				Pmax			
	comp=E,12nm,0.3s						
NLYR				Smax			
	comp=E,224nm,1.1s						
NLYR	**Nelyaty**	**3.12**	**54**	*e*PN	Pn	08 17 10.7	+0.5
NLYR				*e*		08 17 17.2	
NLYR				*e*		08 17 58.4	
NLYR				pmax	pmax		
	comp=Z,32nm,0.6s						
NLYR				smax			
	comp=N,221nm,1.0s						
TRTB	**Turuntaevo**	**3.28**	**221**	*e*Pn	Pn	08 17 13.3	+0.9
TRTB				*e*Pg	Pg	08 17 20.2	-4.5
TRTB				*e*Sg	Sg	08 18 04.1	-3.1
TRTB				Pmax			
	comp=N,14nm,0.8s						
TRTB				Smax			
	comp=N,98nm,1.5s						
BOD	**Bodaibo**	**3.47**	**26**	*e*	Pn	08 17 28.2	+13
BOD				*e*Sg	Sg	08 18 07.8	-5.3
BOD				Smax			
	comp=N,65nm,0.3s						
TRG	**Tyrgan**	**3.47**	**237**	*e*Pn	Pn	08 17 15.9	+0.8
TRG				*e*Pg	Pg	08 17 23.6	-4.8
TRG				*e*Sg	Sg	08 18 08.4	-5.0
TRG				Pmax			
	comp=N,8.0nm,0.2s						
TRG				Smax			
	comp=N,73nm,0.5s						
FFNB	**Fofonovo**	**3.77**	**226**	*e*Sg	Sg	08 18 19.0	-3.8
FFNB				Smax			
	comp=N,203nm,0.7s						
HRMR	**Khuramsha**	**4.01**	**221**	*e*Pn	Pn	08 17 22.9	+0.4
HRMR				*e*		08 17 33.4	
HRMR				*e*Sg	Sg	08 18 27.6	-3.1
HRMR				Smax			
	comp=N,315nm,1.0s						
CRS	**Chara**	**4.56**	**59**	*e*Pn	Pn	08 17 30.7	+0.7
CRS				*e*		08 17 41.6	
CRS				*e*		08 18 24.9	
CRS				*e*Sg	Sg	08 18 43.2	-5.0
CRS				Smax			
	comp=N,153nm,1.7s						
CRS	**Chara**	**4.56**	**59**	*e*PN	Pn	08 17 31.2	+1.2
CRS				*e*		08 17 41.4	
CRS				*e*		08 18 43.7	
CRS				pmax	pmax		
	comp=Z,21nm,0.8s						
CRS				smax			
	comp=E,132nm,1.1s						
TUP	**Tupik**	**5.14**	**90**	*e*Pn	Pn	08 17 38.2	+0.3
TUP				*e*Pg	Pg	08 17 53.9	-6.3
TUP				*e*Sn	Sn	08 18 34.2	-2.6
TUP				*e*Sg	Sg	08 19 00.7	-6.0
TUP				*e*		08 19 08.3	
TUP				Pmax			
	comp=E,12nm,0.6s						
TUP				max			
	comp=E,102nm,1.0s						
TUP	**Tupik**	**5.14**	**90**	*e*PN	Pn	08 17 38.4	+0.5
TUP				*e*		08 17 53.8	
TUP				*e*		08 19 00.8	
TUP				pmax	pmax		
	comp=Z,13nm,0.5s						
TUP				smax			
	comp=N,103nm,1.0s						
TLY	**Talaya**	**5.45**	**239**	*e*PN	Pn	08 17 57.9	+16
TLY				*e*		08 19 08.5	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.2s						
TLY				smax			
	comp=E,36nm,0.7s						
ARS	**Arshan**	**5.94**	**245**	*e*Sg	Sg	08 19 23.7	-8.8
ARS				Smax			
	comp=E,171nm,0.9s						
ZAK	**Zakamensk**	**6.49**	**231**	*e*Sg	Sn	08 19 42.7	+33
ZAK				Smax			
	comp=E,22nm,1.2s						
ARDR	**Aradan**	**10.73**	**266**	*e*Sg	Sn	08 21 53.0	+59

*IDC **27** 08:36:10.7±1.1, 15.15S×177.06W, h0km, mb4.2/7, mb1 4.5/8, mb1mx4.3/14, mbtmp4.2/8, ML2.1/1, MS4.3/18, Ms1 4.3/18, ms1mx4.1/24, Error ellipse: s-maj=52.2km s-min=19.2km az=152.0*

*ISCJB **27** 08:36:16.7±0.4, 149S±0.1×177.30W±0.08, h33km, mb4.6/28, MS4.4/21, Error ellipse: s-maj=18.8km s-min=9.1km az=135.1*

*BJI **27** 08:36:21.9, 147.0S×177.30W, h48km, mB5.1, mb4.7, Ms4.7, Msz4.5*

*NEIC **27** 08:36:22.0±4.3, 146.7S×177.29W, h59km±38km, mb4.6/20, Error ellipse: s-maj=28.0km s-min=13.6km az=152.0*

*HRVD **27** 08:36:22.0±0.2, 145.5S×177.00W, h12km, MW5.1/86, Centroid moment Tensor Solution. LP body waves: s40,c51;Mantle waves: s86,c144; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.08±.12; $M_{\theta\theta}$4.46±.12; $M_{\phi\phi}$-3.38±.10; $M_{r\theta}$0.30±.34; $M_{\theta\phi}$3.34±.10; $M_{\phi r}$-2.10±.31; Best double couple: $M_0$5.64600×10^{16} NP1:ϕ_s292.00000°, δ70.00000°, λ-15.00000°. NP2: ϕ_s28.00000°, δ76.00000°, λ-159.00000°. Principal axes: T 5.7210, Plg4.0000°, Azm159.0000°; N -0.1490, Plg65.0000°, Azm61.0000°; P -5.5720, Plg25.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 08:36:19.4±0.4, 148S±01×17719W±008, h35km, n80, σ1§25/56, mb4.6/28, MS4.4/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.32**	**82**	Pn	**Pn**	**08 37 29.4**	**-6.9**
	3.7nm,0.3s,baz=151,slow=19,SNR=5.7						
AFI				LR	LR	08 39 05.2	
	comp=Z,5μm,21.2s,baz=239,slow=33						
AFI	**Afiamalu**	**5.32**	**82**	*e*Pn	**Pn**	**08 37 29.4**	**-6.9**
DZM	**Mont Dzumac**	**17.14**	**242**	*e*P	**Pn**	**08 40 19.5**	**+3.3**
DZM	**Mont Dzumac**	**17.14**	**242**	P	**Pn**	**08 40 19.3**	**+3.1**
	0.1nm,0.3s,baz=98,slow=17,SNR=11						
NOUC	**Port Laguerre**	**17.27**	**243**	*e*P	**Pn**	**08 40 19.3**	**+1.5**
RAR	**Rarotonga**	**17.77**	**114**	LR	LR	08 44 36.0	
	comp=Z,334nm,18.6s,baz=53,slow=29						
HNR	**Honiara**	**22.96**	**281**	LR	LR	08 48 52.1	
	comp=Z,943nm,18.8s,MS4.3,baz=173,slow=33						
URZ	**Urewera**	**23.96**	**191**	LR	LR	08 49 50.3	
	comp=Z,1μm,20.0s,MS4.4,baz=328,slow=35						
PPT	**Papeete**	**26.66**	**100**	*e*S	**S**	**08 46 26.9**	**-0.9**
	158nm,25.2s						
PPT				*e*LQ		08 47 15.0	
	2μm,27.5s						
PPT				*e*LR	LR	08 48 25.8	
	2μm,26.2s,baz=264						
PPT	**Papeete**	**26.66**	**100**	LR	LR	08 49 40.3	
	comp=Z,547nm,18.6s,MS4.1,baz=270,slow=31						
TBI	**Tubuai**	**27.54**	**112**	*e*LQ		08 47 40.7	
	2μm,30.2s						
TBI				*e*LR	LR	08 48 58.7	
	1μm,29.2s,baz=293						
CTA	**Charters Tower**	**35.23**	**256**	LR	LR	08 52 52.3	
	comp=Z,147nm,21.7s,MS3.7,baz=81,slow=28						
PMG	**Port Moresby**	**35.23**	**275**	LR	LR	08 53 35.5	
	comp=Z,345nm,20.9s,MS4.1,baz=248,slow=30						
TAOE	**Nuku Hiva Isla**	**36.70**	**85**	*e*LR	LR	08 53 01.0	
	4μm,27.0s						
STKA	**Stephens Creek**	**41.22**	**238**	*e*P	**P**	**08 43 57.0**	**-3.8**
	5.2nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**41.22**	**238**	P	**P**	**08 43 56.9**	**-3.9**
	3.9nm,1.1s,mb3.9,baz=62,slow=11,SNR=3.4						
STKA				LR	LR	08 59 15.2	
	comp=Z,707nm,20.3s,MS4.5,baz=69,slow=34						
WB2	**Warramunga Arr**	**46.42**	**256**	*e*P	**P**	**08 44 41.7**	**-0.8**
WRA	**Warramunga Arr**	**46.43**	**256**	P	**P**	**08 44 38.5**	**-4.1**
	5.1nm,1.1s,mb4.4,baz=89,slow=8.4,SNR=12						
WRA				LR	LR	09 01 41.3	
	comp=Z,507nm,21.2s,MS4.4,baz=80,slow=33						
AS31	**Alice Springs**	**46.84**	**251**	*e*P	**P**	**08 44 43.3**	**-2.5**
ASAR	**Alice Springs**	**46.84**	**251**	P	**P**	**08 44 43.4**	**-2.4**
	12nm,0.9s,mb4.8,baz=84,slow=8.1,SNR=43						
ASAR				LR	LR	09 02 16.5	
	comp=Z,884nm,18.4s,MS4.8,baz=101,slow=33						
ASPA	**Alice Springs**	**46.84**	**251**	*e*P	**P**	**08 44 43.3**	**-2.5**
GUMO	**Guam**	**46.93**	**305**	LR	LR	09 01 33.5	
	comp=Z,186nm,18.3s,MS4.1,baz=123,slow=32						
FITZ	**Fitzroy Crossi**	**54.76**	**258**	LR	LR	09 06 15.3	
	comp=Z,422nm,20.8s,MS4.5,baz=76,slow=33						
VNDA	**Vanda**	**63.68**	**185**	*e*P	**P**	**08 46 48.2**	**+1.1**
	2.9nm,1.1s,mb4.2						
MJAR	**Matsushiro Arr**	**66.12**	**322**	P	**P**	**08 47 02.5**	**-0.6**
	1.9nm,0.9s,mb4.1,baz=155,slow=7.0,SNR=5.1						
MJAR				LR	LR	09 09 54.0	
	comp=Z,191nm,21.9s,MS4.3,baz=170,slow=30						
MJAR	**Matsushiro Arr**	**66.12**	**322**	P	**P**	**08 47 02.5**	**-0.6**
JOW	**Kunigami**	**67.17**	**308**	LR	LR	09 13 04.9	
	comp=Z,184nm,19.2s,MS4.3,baz=110,slow=33						
MDJ	**Mudanjiang**	**76.31**	**324**	P	**P**	**08 48 07.0**	**+2.3**
MDJ				S	S	08 57 50.3	+3.4
MDJ				SS	SS	09 02 46.5	+5.2
MDJ				AMB	AMB		
	comp=Z,30nm,3.4s						
MDJ				LR	LR		
	comp=N,150nm,24.6s,MS4.4						
MDJ				LR	LR		
	comp=E,180nm,25.2s,MS4.4						
MDJ				LR	LR		
	comp=Z,310nm,24.0s,MS4.5						
NVAR	**Mina Array Bea**	**76.35**	**44**	P	**P**	**08 48 03.6**	**-1.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=226,slow=8.7,SNR=9.3						
MNV	**Mina**	**76.45**	**44**	*e*P	**P**	**08 48 05.3**	**-0.1**
TPNV	**Topopah Spring**	**77.00**	**46**	*e*P	**P**	**08 48 07.2**	**-1.3**
	comp=Z,21nm,1.8s,mb4.8						
WVOR	**Wild Horse Val**	**78.25**	**40**	*e*P	**P**	**08 48 15.3**	**-0.3**
	comp=Z,8.4nm,1.3s,mb4.5						
TUC	**Tucson**	**78.85**	**52**	*e*P	**P**	**08 48 18.3**	**-0.6**
TTA	**Tatalina**	**79.17**	**10**	*e*P	**P**	**08 48 22.3**	**+1.6**
PMR	**Palmer**	**79.27**	**13**	*e*P	**P**	**08 48 18.7**	**-2.5**
	comp=Z,10nm,1.2s,mb4.6						
DIV	**Divide**	**79.66**	**15**	*e*P	**P**	**08 48 24.2**	**+0.9**
	comp=Z,38nm,1.1s,mb5.2						
BMO	**Blue Mountains**	**80.36**	**39**	*e*P	**P**	**08 48 27.4**	**+0.4**
	comp=Z,4.3nm,1.3s,mb4.2						
MSU	**Marysvale**	**80.58**	**46**	*e*P	**P**	**08 48 28.2**	**0.0**
MCK	**McKinley**	**81.22**	**12**	*e*P	**P**	**08 48 32.2**	**+0.5**
	comp=Z,6.5nm,1.2s,mb4.4						
HLID	**Hailey**	**81.49**	**41**	*e*P	**P**	**08 48 34.5**	**+1.5**
HWUT	**Hardware Ranch**	**82.41**	**44**	*e*P	**P**	**08 48 39.0**	**+1.1**
	comp=Z,2.5nm,1.0s,mb4.1						
COLA	**College**	**82.45**	**12**	*e*P	**P**	**08 48 38.1**	**-0.1**
	comp=Z,5.2nm,1.1s,mb4.4						
LPM	**Los Pinos Moun**	**82.84**	**52**	*e*P	**P**	**08 48 40.8**	**+0.7**
PV01	**Paradox Valley**	**82.96**	**48**	*e*P	**P**	**08 48 39.2**	**-1.5**
MCMT	**McKenzie Canyo**	**83.09**	**40**	*e*P	**P**	**08 48 40.8**	**-0.6**
LTX	**Lajitas**	**83.32**	**57**	*e*P	**P**	**08 48 42.9**	**+0.2**
DLMT	**Dillon**	**83.50**	**40**	*e*P	**P**	**08 48 43.8**	**+0.3**
	comp=Z,17nm,1.9s,mb4.8						
TPAW	**Teton Pass**	**83.67**	**42**	*e*P	**P**	**08 48 44.5**	**+0.1**
	comp=Z,14nm,1.5s,mb4.9						
DAWY	**Dawson**	**83.75**	**16**	*e*P	**P**	**08 48 42.4**	**-2.4**
SNOW	**Snow King Moun**	**83.79**	**42**	*e*P	**P**	**08 48 45.0**	**-0.1**
	comp=Z,12nm,1.3s,mb4.8						
IMW	**Indian Meadow**	**83.87**	**42**	*e*P	**P**	**08 48 46.6**	**+1.1**
	comp=Z,9.3nm,1.2s,mb4.8						
LOHW	**Long Hollow**	**83.95**	**42**	*e*P	**P**	**08 48 46.7**	**+0.8**
	comp=Z,21nm,1.8s,mb5.0						
QLMT	**Earthquake Lak**	**83.98**	**41**	*e*P	**P**	**08 48 47.3**	**+1.3**
BOZ	**Bozeman (W)**	**84.23**	**40**	*e*P	**P**	**08 48 47.7**	**+0.4**
	comp=Z,22nm,2.0s,mb4.9						
PDAR	**Pinedale Array**	**84.26**	**43**	P	**P**	**08 48 46.0**	**-1.5**
	comp=Z,1.2nm,0.8s,mb4.1,baz=207,slow=1.7,SNR=10.0						
PDAR				LR	LR	09 25 07.9	
	comp=Z,132nm,18.2s,MS4.4,baz=252,slow=35						
SMCO	**Snowmass**	**84.53**	**47**	*e*P	**P**	**08 48 48.2**	**-0.6**
	comp=Z,5.0nm,0.9s,mb4.6						
GCMT	**Greycliff**	**85.52**	**40**	*e*P	**P**	**08 48 54.6**	**+0.8**
HHC	**Hu-ho-hao-te**	**85.92**	**314**	*e*P	**P**	**08 48 56.3**	**+0.6**
HHC				PP	PP	08 52 17.3	+1.6
HHC				SKS		08 59 17.3	
HHC				S		08 59 28.3	
HHC				SS	SS	09 05 10.0	+5.4
HHC				AMB	AMB		
	comp=Z,100nm,7.1s						
HHC				LR	LR		
	comp=N,130nm,20.2s,MS4.5						
HHC				LR	LR		
	comp=E,180nm,23.8s,MS4.5						
HHC				LR	LR		
	comp=Z,140nm,22.6s,MS4.3						
EDM	**Edmonton**	**86.89**	**33**	*e*P	**P**	**08 49 00.7**	**+0.2**
KMI	**Kunming**	**87.45**	**297**	P	**P**	**08 49 05.0**	**+1.8**
KMI				S		08 59 40.5	
KMI				LR	LR		
	comp=N,140nm,22.8s,MS4.5						
KMI				LR	LR		
	comp=E,130nm,19.0s,MS4.5						
KMI				LR	LR		
	comp=Z,190nm,20.8s,MS4.5						
LAO	**LASA Array**	**88.07**	**41**	*e*P	**P**	**08 49 06.2**	**0.0**
	comp=Z,20nm,1.4s,mb5.2						
CD2	**Chengdu**	**88.36**	**302**	*e*P	**P**	**08 49 06.5**	**-1.0**
CD2				AP	pP	08 49 23.5	+4.8
CD2				XP	sP	08 49 30.3	+7.6
CD2				PP	PP	08 52 37.0	+1.7
CD2				SKS		08 59 27.8	
CD2				S		08 59 45.0	
CD2				XS	sS	09 00 14.3	+5.7
CD2				SS	SS	09 05 39.3	-0.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,40nm,8.2s						
CD2				LR	LR		
	comp=E,100nm,20.4s						
CD2				LR	LR		
	comp=Z,100nm,21.6s,MS4.2						
RSSD	**Black Hills**	**88.49**	**44**	*e*P	**P**	**08 49 08.6**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.4						
LZH	**Lanzhou**	**89.90**	**307**	*e*P	**P**	**08 49 19.0**	**+4.2**
LZH				AP	pP	08 49 27.5	+1.6
LZH				XP	sP	08 49 31.5	+1.6
LZH				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.4						
LZH				AMB	AMB		
	comp=Z,230nm,5.1s						
LZH				LR	LR		
	comp=E,470nm,16.7s						
LZH				LR	LR		
	comp=Z,510nm,18.9s,MS5.0						
YKA	**Yellowknife Ar**	**90.99**	**24**	LR	LR	09 22 50.8	
	comp=Z,239nm,20.6s,MS4.6,baz=240,slow=31						
ULN	**Ulaanbaatar**	**91.53**	**319**	*e*P	**P**	**08 49 21.4**	**-0.9**
	comp=Z,13nm,1.3s,mb5.1						
SONM	**Songino Array**	**91.94**	**319**	P	**P**	**08 49 22.0**	**-2.2**
	comp=Z,0.9nm,0.8s,mb4.1,baz=116,slow=3.4,SNR=3.9						
SONM				LR	LR	09 26 47.9	
	comp=Z,106nm,18.8s,MS4.3,baz=252,slow=33						
GTA	**Gaotai**	**93.93**	**310**	*e*P	**P**	**08 49 36.3**	**+2.9**
ULM	**Lac du Bonnet**	**95.75**	**40**	LR	LR	09 28 37.8	
	comp=Z,80nm,18.4s,MS4.2,baz=295,slow=33						
BRTR	**Keskin Array B**	**143.29**	**319**	PKP	PKPdf	08 55 46.1	-3.7
	comp=Z,1.7nm,1.0s,baz=108,slow=4.0,SNR=4.3						
TNS	**Taunus Mts**	**144.32**	**354**	*e*PKPbc	PKPdf	08 55 52.6	+0.9
GRA1	**Grafenberg Arr**	**144.48**	**351**	*e*PKPbc	PKPdf	08 55 53.0	+1.0
GRF	**Grafenberg Arr**	**144.48**	**351**	*e*PKPbc	PKPdf	08 55 53.0	+1.0
GEC2	**GERESS Array S**	**144.84**	**347**	*e*PKPbc	PKPdf	08 55 53.5	+0.9
GERES	**GERESS Array B**	**144.84**	**347**	PKPbc	PKPdf	08 55 50.2	-2.4
	comp=Z,0.5nm,0.4s,baz=333,slow=1.5,SNR=7.9						
CSS	**Prodhromos**	**145.98**	**312**	*e*PKPab	PKPab	08 55 56.9	+1.1
BFO	**Black Forest**	**146.20**	**353**	*e*PKPbc	PKPbc	08 55 57.7	+1.7
EIL	**Elat**	**146.88**	**302**	*e*PKPbc	PKPbc	08 55 58.8	+0.9
BNI	**Bardonecchia**	**149.62**	**355**	*e*PKPab	PKPab	08 56 09.3	-1.1
TIP	**Timpagrande**	**152.74**	**336**	*e*PKPdf	PKPdf	08 56 06.2	+0.9
TIP				*e*PKPbc	PKPbc	08 56 13.8	+1.4

MEX 27 08:43:41.9±0.8, 1782N×9598W, h60km±45km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**1.02**	**224**	*i* P	Pn	08 43 59.5	-0.7
OXX				*i* S	Sn	08 44 12.5	-1.2
VHO	**Vista Hermosa**	**1.03**	**224**	*i* P	Pn	08 43 58.9	-1.4
VHO				*i* S	Sn	08 44 12.1	-2.0
CMIG	**Matias Romero**	**1.28**	**125**	*i* P	Pn	08 44 02.0	-1.6
CMIG				*i* S	Sn	08 44 18.2	-1.6
UTMO	**Huajuapan**	**1.73**	**271**	*e*P	Pn	08 44 07.8	-1.9
UTMO				*i* S	Sn	08 44 29.5	-1.3

*CSEM **27** 08:48:28.7±0.1, 34.17N×26.37E, h2km, MD3.3, Error ellipse: s-maj=4.0km s-min=1.7km az=77.0*

*ATH **27** 08:48:28.8, 34.21N×26.35E, h25km, MD3.3/3*

*ISCJB **27** 08:48:30.5±2.1, 34.19N±007×263E±02, h25km±25km, Error ellipse: s-maj=25.1km s-min=11.1km az=15.2*

*HLW **27** 08:48:41.3, 33.61N×26.64E, h33km, Mb2.6*

ISC 27 08:48:31.2±2.3, 3424N±007×263E±02, h22km±26km, n9, σ1§33/12, 3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.81**	**322**	*e*PN	**Pb**	**08 48 45.2**	**-1.4**
XRY				*e*SN	**Sb**	**08 48 57.5**	**+0.4**
NPS	**Neapolis**	**1.17**	**331**	*e*PN	**Pn**	**08 48 52.0**	**-0.3**
NPS	**Neapolis**	**1.17**	**331**	*e*Pn	**Pn**	**08 48 53.5**	**+1.2**
KARP	**Karpathos**	**1.48**	**28**	*e*PN	**Pn**	**08 48 56.0**	**-0.6**
SLUM		**2.89**	**199**	P	**Pn**	**08 49 17.8**	**+1.9**
SLUM				S	**Sn**	**08 49 46.4**	**-3.6**
HMAT	**Matruh**	**3.21**	**168**	⇓P	**Pn**	**08 49 19.8**	**-0.5**
SWA1		**4.99**	**186**	⇓P	**Pn**	**08 49 45.6**	**+0.9**
SWA1				S	**Sn**	**08 50 32.6**	**-9.1**
SWA2		**5.03**	**188**	⇓P	**Pn**	**08 49 46.2**	**+0.8**
SWA2		**5.03**	**188**	P	**Pn**	**08 49 46.2**	**+0.8**
	183nm,0.2s						

NEIC 27 09:11:25.6±1.1, 5571N×15778W, h38km±21km, mb4.0/2, ML3.6(AEIC), Error ellipse: s-maj=21.1km s-min=6.1km az=142.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.69**	**329**	P	Pn	09 11 38.2	-0.7
CHGN				S	Sn	09 11 48.3	-0.2
SDPT	**Sand Point**	**1.57**	**258**	P	Pn	09 11 51.5	+0.5
FALS	**False Pass**	**3.33**	**258**	P	Pn	09 12 15.7	+0.5
FALS				S	Sn	09 12 55.4	+1.8
KDAK	**Kodiak Island**	**3.54**	**52**	P	Pn	09 12 16.2	-1.9
AKUT	**Akutan**	**4.87**	**254**	*e*Pn	Pn	09 12 36.0	-0.4
AKUT				*e*Sn	Sn	09 13 28.9	-2.6
UNV	**Unalaska Valle**	**5.38**	**253**	P	Pn	09 12 42.8	-0.5
SVW2	**Sparrevohn**	**5.53**	**11**	P	Pn	09 12 45.4	-0.1
SLKM	**Skilak Lake**	**6.26**	**37**	*e*Pn	Pn	09 12 55.9	+0.5
SLKM				*e*Sn	Sn	09 14 03.2	-2.5
TTA	**Tatalina**	**7.30**	**6**	*e*P	Pn	09 13 09.8	0.0
PMR	**Palmer**	**7.42**	**34**	*e*P	Pn	09 13 11.5	+0.1
COLA	**College**	**10.42**	**24**	*e*Pn	Pn	09 13 51.7	-0.7
	4.6nm,0.6s						
DAWY	**Dawson**	**12.42**	**40**	*e*Pn	Pn	09 14 21.9	+2.0
INK	**Inuvik**	**16.83**	**32**	*e*P	Pn	09 15 17.9	-0.5
	3.1nm,0.5s						
HRY	**Holter Researc**	**29.66**	**88**	*e*P	P	09 17 27.0	-0.6
SRU	**San Rafael**	**35.23**	**98**	*e*P	P	09 18 16.9	+0.5
	3.4nm,0.8s						
PV01	**Paradox Valley**	**37.01**	**97**	*e*P	P	09 18 31.5	0.0

*IDC **27** 09:15:15.1±1.5, 60.95S×153.60E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.2/10, mbtmp4.2/5, ML4.2/1, MS5.0/18, Ms1 5.0/18, ms1mx4.9/21, Error ellipse: s-maj=40.2km s-min=27.9km az=77.0*

*BJI **27** 09:15:18.6, 60.40S×153.80E, h10km, mB5.5, mb5.3, Ms5.2, Msz4.9*

*ISCJB **27** 09:15:19.8±0.5, 60.61S±007×153.7E±02, h10km, mb4.4/11, MS5.1/151, Error ellipse: s-maj=12.1km s-min=10.1km az=53.4*

*HRVD **27** 09:15:20.6±0.1, 60.95S×153.68E, h15km, MW5.8/99, Centroid moment Tensor Solution. LP body waves: s99,c201;Mantle waves: s99,c280; Half duration: 1§8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.65±.05; $M_{\theta\theta}$4.02±.05; $M_{\phi\phi}$-3.37±.05; $M_{r\theta}$1.06±.15; $M_{\theta\phi}$-3.15±.04; $M_{\phi r}$1.11±.16; Best double couple: $M_0$5.11800×10^{17} NP1:ϕ_s154.00000°, δ73.00000°, λ-9.00000°. NP2: ϕ_s247.00000°, δ82.00000°, λ-163.00000°. Principal axes: T 5.2460, Plg6.0000°, Azm19.0000°; N -0.2540, Plg71.0000°, Azm271.0000°; P -4.9910, Plg18.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **27** 09:15:20.6±0.6, 60.43S×153.71E, h10km, mb4.8/7, MS5.2/131 Error ellipse: s-maj=19.4km s-min=12.3km az=89.0*

ISC 27 09:15:21.2±0.5, 6061S±007×1539E±02, h10km, n193, σ1§52/40, mb4.4/11, MS5.1/151, 4D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**8.64**	**219**	P	**Pn**	**09 17 25.0**	**-1.3**
DRV				R		09 19 00.0	
VNDA	**Vanda**	**17.20**	**174**	Pn	**Pn**	**09 19 12.3**	**-9.1**
	0.9nm,0.3s,baz=343,slow=13,SNR=28						
VNDA				Sn	**Sn**	**09 22 19.4**	**-13**
	0.4nm,0.3s,baz=102,slow=14,SNR=3.3						
VNDA				LR	LR	09 24 55.9	
	comp=Z,15μm,20.0s,baz=351,slow=34						
VNDA	**Vanda**	**17.20**	**174**	*e*P	**Pn**	**09 19 11.9**	**-10**
VNDA				*e*S	Sn	09 22 09.1	-24
SBA	**Scott Base**	**17.83**	**171**	*e*P	**Pn**	**09 19 21.5**	**-7.8**
	57nm,1.0s						
RPZ	**Rata Peaks**	**19.82**	**39**	LR	LR	09 25 57.2	
	comp=Z,8μm,21.9s,baz=185,slow=32						
CASY	**Casey**	**19.84**	**235**	*e*P	**Pn**	**09 19 53.7**	**0.0**
CASY	**Casey**	**19.84**	**235**	*e*P	**Pn**	**09 19 50.3**	**-3.4**
	140nm,1.6s						
SNZO	**South Karori**	**23.16**	**43**	PFAKE		09 20 40.0	+12
SNZO				LR	LR		
	comp=Z,6μm,19.0s,MS5.0						
TOO	**Toolangi**	**23.66**	**343**	⇓*i*P	**P**	**09 20 38.9**	**+6.0**
	comp=Z,8.0nm,0.9s,mb4.2						
TOO				*e*		09 20 45.6	
TOO				*e*		09 21 06.2	
TOO				*e

ASAR	**Alice Springs**	**39.44**	**330**	P	**P**	**09 22 48.9**	**-2.4**
	comp=Z,1.2nm,0.9s,baz=169,slow=8.6,SNR=8.1						
DZM	**Mont Dzumac**	**39.50**	**19**	LR	LR	09 35 51.1	
	comp=Z,3μm,19.9s,MS5.1,baz=20,slow=31						
CTA	**Charters Tower**	**40.84**	**349**	*e*P	**P**	**09 23 08.6**	**+5.7**
	comp=Z,8.7nm,1.2s,mb4.3						
CTA				*e*S	**S**	**09 29 25.9**	**+12**
CTA	**Charters Tower**	**40.84**	**349**	LR	LR	09 37 53.5	
	comp=Z,2μm,18.2s,MS5.1,baz=178,slow=33						
CTAO	**Charters Tower**	**40.84**	**349**	PFAKE		09 23 10.0	+7.0
CTAO				LR	LR		
	comp=Z,3μm,21.0s,MS5.1						
WB2	**Warramunga Arr**	**42.92**	**333**	*e*P	**P**	**09 23 22.6**	**+2.6**
WRA	**Warramunga Arr**	**42.92**	**332**	P	**P**	**09 23 18.0**	**-2.0**
	comp=Z,2.1nm,0.9s,mb3.9,baz=165,slow=7.2,SNR=12						
WRA				LR	LR	09 38 44.4	
	comp=Z,1μm,20.3s,MS4.8,baz=160,slow=33						
WRAB	**Tennant Creek**	**42.93**	**333**	*e*P	**P**	**09 23 17.6**	**-2.4**
WRAB				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
MBWA	**Marble Bar**	**46.11**	**313**	PFAKE		09 24 00.0	+14
MBWA				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
FITZ	**Fitzroy Crossi**	**47.00**	**322**	*e*P	**P**	**09 23 55.9**	**+3.4**
	comp=Z,12nm,1.5s,mb4.6						
FITZ				*e*S	**S**	**09 30 56.9**	**+13**
FITZ	**Fitzroy Crossi**	**47.00**	**322**	P	**P**	**09 23 55.9**	**+3.5**
	comp=Z,2.2nm,0.8s,mb4.1,baz=164,slow=15,SNR=3.2						
KAKA	**Kakadu**	**50.34**	**332**	*e*P	**P**	**09 24 18.1**	**0.0**
	comp=Z,8.8nm,0.8s,mb4.8						
HNR	**Honiara**	**51.27**	**8**	LR	LR	09 41 17.2	
	comp=Z,3μm,21.8s,MS5.2,baz=176,slow=30						
HNR	**Honiara**	**51.27**	**8**	PFAKE		09 24 40.0	+15
HNR				LR	LR		
	comp=Z,3μm,21.0s,MS5.3						
PMG	**Port Moresby**	**51.34**	**352**	LR	LR	09 43 10.4	
	comp=Z,2μm,19.4s,MS5.2,baz=326,slow=32						
PMG	**Port Moresby**	**51.34**	**352**	PFAKE		09 24 40.0	+14
PMG				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
PMSA	**Palmer Station**	**51.75**	**160**	PFAKE		09 24 40.0	+11
PMSA				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
AFI	**Afiamalu**	**52.90**	**43**	LR	LR	09 44 52.0	
	comp=Z,793nm,20.0s,MS4.8,baz=196,slow=33						
TBI	**Tubuai**	**53.70**	**72**	*e*S	**S**	**09 32 16.8**	**-0.4**
	comp=Z,1μm,28.2s						
TBI				*e*LQ		09 37 16.9	
	comp=Z,4μm,29.0s						
TBI				*e*LR	LR	09 40 01.8	
	comp=Z,3μm,28.2s,baz=206						
FUNA	**Funafuti**	**55.31**	**31**	PFAKE		09 25 10.0	+15
FUNA				LR	LR		
	comp=Z,7μm,19.0s,MS5.7						
PPT	**Papeete**	**58.64**	**69**	*e*S	**S**	**09 33 22.1**	**-0.8**
	comp=Z,2μm,27.2s						
PPT				*e*SS	SS	09 37 12.8	-2.8
	comp=Z,1μm,26.0s						
PPT				*e*LQ		09 39 59.3	
	comp=Z,5μm,25.0s						
PPT				*e*LR	LR	09 42 29.5	
	comp=Z,3μm,27.2s,baz=209						
PPT	**Papeete**	**58.64**	**69**	LR	LR	09 43 58.1	
	comp=Z,1μm,19.6s,MS4.9,baz=216,slow=29						
RKT	**Rikitea**	**60.90**	**86**	*e*S	**S**	**09 33 53.1**	**+1.2**
	comp=Z,2μm,30.0s						
RKT				*e*LR	LR	09 43 31.4	
	comp=Z,4μm,27.5s						
COCO	**West Island**	**63.58**	**294**	PFAKE		09 26 00.0	+8.0
COCO				LR	LR		
	comp=Z,962nm,19.0s,MS5.0						
HOPE	**Hope Point**	**65.16**	**173**	PFAKE		09 26 10.0	+7.6
HOPE				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
EFI	**East Falkland**	**65.17**	**159**	PFAKE		09 26 10.0	+7.6
EFI				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
TAOE	**Nuku Hiva Isla**	**70.64**	**73**	*e*LQ		09 44 31.2	
	comp=Z,12μm,28.5s						
TAOE				*e*LR	LR	09 48 01.6	
	comp=Z,3μm,25.4s,baz=216						
DAV	**Davao City (W)**	**71.05**	**330**	PFAKE		09 26 50.0	+11
DAV				LR	LR		
	comp=Z,564nm,20.0s,MS4.8						
PLCA	**Paso Flores**	**72.68**	**146**	*e*P	**P**	**09 26 49.2**	**+0.1**
PLCA				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
GUMO	**Guam**	**74.29**	**351**	LR	LR	09 58 58.7	
	comp=Z,256nm,20.2s,MS4.5,baz=181,slow=35						
PSI	**Prapat**	**76.07**	**303**	LR	LR	09 56 15.8	
	comp=Z,622nm,19.1s,MS4.9,baz=151,slow=32						
TRQA	**Tornquist**	**77.39**	**152**	PFAKE		09 27 30.0	+14
TRQA				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
SUR	**Sutherland**	**79.71**	**219**	PFAKE		09 27 40.0	+11
SUR				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
WAKE	**Wake Island**	**80.28**	**12**	PFAKE		09 27 40.0	+7.8
WAKE				LR	LR		
	comp=Z,800nm,20.0s,MS5.1						
BOSA	**Boshof**	**81.74**	**224**	LR	LR	10 01 55.5	
	comp=Z,810nm,20.0s,MS5.1,baz=159,slow=34						
BOSA	**Boshof**	**81.74**	**224**	PFAKE		09 27 50.0	+10
BOSA				LR	LR		
	comp=Z,2μm,22.0s,MS5.4						
TRIS	**Tristan da Cun**	**82.02**	**191**	PFAKE		09 27 50.0	+8.6
TRIS				LR	LR		
	comp=Z,3μm,22.0s,MS5.6						
LBTB	**Lobatse**	**84.92**	**226**	PFAKE		09 28 10.0	+14
LBTB				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
QIZ	**Qiongzhong**	**86.92**	**319**	P	**P**	**09 28 05.8**	**-0.5**
QIZ				S		09 38 43.8	
QIZ				XS	sS	09 38 50.3	+0.1
QIZ				SS	SS	09 44 24.5	-2.5
QIZ				AMB	AMB		
	comp=Z,140nm,10.2s						
QIZ				LR	LR		
	comp=N,330nm,22.2s,MS5.0						
QIZ				LR	LR		
	comp=E,640nm,21.6s,MS5.0						
QIZ				LR	LR		
	comp=Z,270nm,20.5s,MS4.6						
QIZ	**Qiongzhong**	**86.92**	**319**	PFAKE		09 28 20.0	+14
QIZ				LR	LR		
	comp=Z,300nm,21.0s,MS4.7						
PALK	**Pallekele**	**88.15**	**288**	PFAKE		09 28 20.0	+7.8
PALK				LR	LR		
	comp=Z,534nm,20.0s,MS5.0						
TATO	**Taipei**	**89.26**	**331**	PFAKE		09 28 30.0	+13
TATO				LR	LR		
	comp=Z,371nm,20.0s,MS4.8						
POHA	**Pohakuloa**	**89.85**	**47**	PFAKE		09 28 30.0	+10
POHA				LR	LR		
	comp=Z,791nm,19.0s,MS5.2						
QZH	**Quanzhou**	**89.95**	**328**	P	**P**	**09 28 20.8**	**+0.1**
QZH				*e*S		09 39 13.3	
QZH				LR	LR		
	comp=Z,680nm,25.8s,MS5.0						
LVC	**Limon Verde**	**90.12**	**141**	PFAKE		09 28 30.0	+8.6
LVC				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
CM31	**Chiang Mai Arr**	**90.27**	**309**	PFAKE		09 28 30.0	+7.9
CM31				LR	LR		
	comp=Z,752nm,21.0s,MS5.1						
LSZ	**Lusaka**	**92.86**	**232**	PFAKE		09 28 50.0	+16
LSZ				LR	LR		
	comp=Z,952nm,20.0s,MS5.2						
TSUM	**Tsumeb**	**93.02**	**221**	PFAKE		09 28 50.0	+15
TSUM				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
KMI	**Kunming**	**94.97**	**315**	P	**P**	**09 28 43.5**	**-0.3**
KMI				AP	pP	09 28 46.8	-0.4
KMI				XP	sP	09 28 48.0	-0.4
KMI				PP	PP	09 32 34.5	+1.6
KMI				SKS		09 39 17.5	
KMI				S		09 39 54.5	
KMI				SS	SS	09 46 23.0	-0.2
KMI				LR	LR		
	comp=N,360nm,24.6s,MS5.0						
KMI				LR	LR		
	comp=E,440nm,22.9s,MS5.0						
KMI				LR	LR		
	comp=Z,620nm,24.6s,MS5.0						
SSE	**Sheshan**	**95.21**	**332**	P	**P**	**09 28 43.0**	**-2.0**
SSE				S		09 39 58.8	
SSE				AMB	AMB		
	comp=Z,50nm,5.0s						
SSE				LR	LR		
	comp=N,100nm,36.5s,MS4.5						
SSE				LR	LR		
	comp=E,300nm,37.1s,MS4.5						
SSE				LR	LR		
	comp=Z,210nm,21.8s						
LPAZ	**La Paz**	**96.29**	**140**	LR	LR	10 05 20.4	
	comp=Z,607nm,21.0s,MS5.0,baz=272,slow=31						
LPAZ	**La Paz**	**96.29**	**140**	*e*P	**P**	**09 28 50.7**	**+0.8**
	comp=Z,6.2nm,1.6s,mb4.8						
LPAZ				LR	LR		
	comp=Z,717nm,20.0s,MS5.2						
NJ2	**Nanjing**	**96.68**	**331**	*e*P	**P**	**09 28 48.5**	**-3.1**
NJ2				AP	pP	09 28 52.5	-2.5
NJ2				XP	sP	09 28 55.5	-0.7
NJ2				S		09 40 08.0	
NJ2				LR	LR		
	comp=N,1μm,27.8s,MS5.6						
NJ2				LR	LR		
	comp=E,2μm,29.1s,MS5.6						
NJ2				LR	LR		
	comp=Z,1μm,32.0s,MS5.2						
NNA	**Nana**	**97.25**	**130**	PFAKE		09 29 10.0	+16
NNA				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
MJAR	**Matsushiro Arr**	**97.65**	**347**	LR	LR	10 10 15.9	
	comp=Z,182nm,21.1s,MS4.5,baz=175,slow=34						
MAJO	**Matsushiro**	**97.65**	**347**	PFAKE		09 29 00.0	+4.0
MAJO				LR	LR		
	comp=Z,232nm,20.0s,MS4.7						
MAT	**Matsushiro**	**97.65**	**347**	S		09 40 32.0	
CD2	**Chengdu**	**99.95**	**318**	P	Pdif	09 29 01.5	-4.8
CD2				AP		09 29 06.5	
CD2				PP	PP	09 33 08.5	-2.7
CD2				SKS		09 39 38.5	
CD2				S		09 40 31.0	
CD2				SS	SS	09 47 27.0	-6.3
CD2				AMB	AMB		
	comp=Z,100nm,9.6s						
CD2				LR	LR		
	comp=E,190nm,22.8s						
CD2				LR	LR		
	comp=Z,230nm,24.0s,MS4.6						
INCN	**Inchon**	**100.26**	**338**	PFAKE		09 29 20.0	+12
INCN				LR	LR		
	comp=Z,259nm,20.0s,MS4.7						
KMBO	**Kilima Mbogo**	**101.77**	**246**	PFAKE		09 29 30.0	+16
KMBO				LR	LR		
	comp=Z,359nm,20.0s,MS4.9						
PAYG	**Puerto Ayora**	**101.82**	**113**	PFAKE		09 29 30.0	+15
PAYG				LR	LR		
	comp=Z,913nm,22.0s,MS5.2						
LSA	**Lhasa**	**103.42**	**307**	PFAKE		09 29 30.0	+8.3
LSA				LR	LR		
	comp=Z,233nm,22.0s,MS4.7						
SAML	**Samuel**	**104.75**	**142**	PFAKE		09 29 40.0	+12
SAML				LR	LR		
	comp=Z,749nm,19.0s,MS5.2						
BJT	**Baijiatuau**	**104.92**	**331**	PFAKE		09 29 40.0	+12
BJT				LR	LR		
	comp=Z,380nm,21.0s,MS4.9						
CN2	**Changchun**	**106.61**	**339**	PDIF	Pdif	09 29 29.8	-6.1
CN2				*e*PP	PP	09 33 58.5	-2.5
CN2				SS	SS	09 49 01.8	-3.2
CN2				PP	PP		
	comp=Z,200nm,13.0s						
CN2				LR	LR		
	comp=Z,400nm,25.0s,MS4.9						
MDJ	**Mudanjiang**	**106.72**	**342**	PDIF	Pdif	09 29 35.8	-0.6
MDJ				S	Sdif	09 41 37.0	-0.3
MDJ				LR	LR		
	comp=E,730nm,37.5s						
MDJ				LR	LR		
	comp=Z,420nm,28.1s						
HHC	**Hu-ho-hao-te**	**106.86**	**328**	*e*PDIF	Pdif	09 29 32.3	-4.7
HHC				PP	PP	09 34 01.8	-1.0
HHC				S	Sdif	09 41 27.0	-11
HHC				SS	SS	09 49 03.0	-5.4
HHC				LR	LR		
	comp=N,250nm,20.2s,MS4.9						
HHC				LR	LR		
	comp=E,180nm,19.0s,MS4.9						
HHC				LR	LR		
	comp=Z,280nm,23.8s,MS4.7						
YSS	**Yuzh-Sakhalins**	**107.58**	**352**	PFAKE		09 34 00.0	+12
YSS				LR	LR		
	comp=Z,428nm,22.0s,MS5.0						
OTAV	**Otavalo**	**107.76**	**124**	PFAKE		09 34 00.0	+11
OTAV				LR	LR		
	comp=Z,532nm,21.0s,MS5.1						
GTA	**Gaotai**	**109.01**	**318**	*e*PKP	PKiKP	09 33 53.8	+2.8
GTA				PP	PP		
	comp=Z,50nm,5.7s						
GTA				LR	LR		
	comp=N,200nm,22.6s,MS4.7						
GTA				LR	LR		
	comp=E,130nm,24.5s,MS4.7						
GTA				LR	LR		
	comp=Z,260nm,28.3s,MS4.7						
ASCN	**Ascension**	**111.05**	**192**	PFAKE		09 34 10.0	+15
ASCN				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
HIA	**Hailar**	**112.94**	**336**	PFAKE		09 34 10.0	+12
HIA				LR	LR		
	comp=Z,326nm,19.0s,MS4.9						
RCBR	**Riachuelo**	**113.33**	**169**	PFAKE		09 34 10.0	+11
RCBR				LR	LR		
	comp=Z,733nm,19.0s,MS5.3						
PET	**Petropavlovsk**	**113.34**	**3**	PFAKE		09 34 10.0	+11
PET				LR	LR		
	comp=Z,423nm,20.0s,MS5.0						
JTS	**JuntasAbangare**	**113.94**	**113**	PFAKE		09 34 10.0	+10
JTS				LR	LR		
	comp=Z,720nm,19.0s,MS5.3						
SMY	**Shemya**	**114.14**	**13**	PFAKE		09 34 10.0	+9.3
SMY				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
ULN	**Ulaanbaatar**	**114.57**	**327**	PFAKE		09 34 10.0	+8.5
ULN				LR	LR		
	comp=Z,238nm,19.0s,MS4.8						
SNCC	**San Nicolas Is**	**116.75**	**70**	PFAKE		09 34 20.0	+14
SNCC				LR	LR		
	comp=Z,821nm,20.0s,MS5.3						
WMQ	**Urumqi**	**117.13**	**312**	*e*PDIF	Pdif	09 30 21.0	-1.7
WMQ				*e*PKP	PKPdf	09 34 05.5	-0.9
WMQ				*e*PP	PP	09 35 18.0	+1.7
WMQ				PKS		09 37 40.3	
WMQ				SKS	SKSdf	09 41 16.8	-1.8
WMQ				SKKS	SKKSac	09 42 11.8	-5.6
WMQ				S	Sdif	09 42 58.8	-5.3
WMQ				SS	SS	09 51 24.5	-0.6
WMQ				LR	LR		
	comp=N,410nm,36.0s,MS5.0						
WMQ				LR	LR		
	comp=E,400nm,34.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,400nm,30.0s,MS4.9						
UNV	**Unalaska Valle**	**118.39**	**25**	PFAKE		09 34 20.0	+11
UNV				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
PFO	**Pinyon Flat Ob**	**118.48**	**72**	PFAKE		09 34 20.0	+11
PFO				LR	LR		
	comp=Z,900nm,20.0s,MS5.4						
SDV	**Santo Domingo**	**118.76**	**128**	PFAKE		09 34 20.0	+10
SDV				LR	LR		
	comp=Z,883nm,20.0s,MS5.4						
SAO	**San Andreas Ge**	**118.79**	**66**	PFAKE		09 34 20.0	+10
SAO				LR	LR		
	comp=Z,344nm,19.0s,MS5.0						
TLY	**Talaya**	**118.96**	**327**	PFAKE		09 34 20.0	+10
TLY				LR	LR		
	comp=Z,439nm,22.0s,MS5.0						
ISA	**Isabella**	**119.24**	**69**	PFAKE		09 34 20.0	+9.5
ISA				LR	LR		
	comp=Z,218nm,20.0s,MS4.8						
MA2	**Magadan**	**119.87**	**358**	PFAKE		09 34 20.0	+8.3
MA2				LR	LR		
	comp=Z,243nm,20.0s,MS4.8						
HOPS	**Hopland**	**119.91**	**63**	PFAKE		09 34 20.0	+8.2
HOPS				LR	LR		
	comp=Z,584nm,20.0s,MS5.2						
TUC	**Tucson**	**120.11**	**77**	PFAKE		09 34 20.0	+7.8
TUC				LR	LR		
	comp=Z,352nm,20.0s,MS5.0						
CMB	**Columbia Colle**	**120.31**	**66**	PFAKE		09 34 20.0	+7.4
CMB				LR	LR		
	comp=Z,338nm,21.0s,MS5.0						
TEIG	**Tepich**	**121.02**	**104**	PFAKE		09 34 20.0	+6.1
TEIG				LR	LR		
	comp=Z,142nm,20.0s,MS4.6						
LTX	**Lajitas**	**121.12**	**85**	PFAKE		09 34 20.0	+5.9
LTX				LR	LR		
	comp=Z,752nm,20.0s,MS5.3						
TPNV	**Topopah Spring**	**121.32**	**70**	PFAKE		09 34 20.0	+5.5
TPNV				LR	LR		
	comp=Z,837nm,19.0s,MS5.4						
WDC	**Whiskeytown Da**	**121.44**	**63**	PFAKE		09 34 20.0	+5.3
WDC				LR	LR		
	comp=Z,529nm,20.0s,MS5.2						
NVAR	**Mina Array Bea**	**121.58**	**67**	PKP	PKPdf	09 34 17.4	+2.4
	comp=Z,0.2nm,0.4s,baz=204,slow=6.5,SNR=2.3						
MNV	**Mina**	**121.65**	**67**	PFAKE		09 34 30.0	+15
MNV				LR	LR		
	comp=Z,605nm,19.0s,MS5.3						
YBH	**Yreka Blue Hor**	**122.31**	**62**	PFAKE		09 34 30.0	+14
YBH				LR	LR		
	comp=Z,359nm,20.0s,MS5.0						
WUAZ	**Wupatki**	**122.44**	**74**	PFAKE		09 34 30.0	+13
WUAZ				LR	LR		
	comp=Z,652nm,20.0s,MS5.3						
HUMO	**Hull Mountain**	**122.91**	**61**	PFAKE		09 34 30.0	+12
HUMO				LR	LR		
	comp=Z,317nm,19.0s,MS5.0						
YAK	**Yakutsk**	**123.71**	**347**	PFAKE		09 34 30.0	+11
YAK				LR	LR		
	comp=Z,382nm,22.0s,MS5.0						
DBIC	**Dimbokro**	**123.85**	**206**	PFAKE		09 34 30.0	+11
DBIC				LR	LR		
	comp=Z,991nm,22.0s,MS5.4						
JCT	**Junction City**	**123.97**	**87**	PFAKE		09 34 30.0	+10
JCT				LR	LR		
	comp=Z,312nm,19.0s,MS5.0						
ANMO	**Albuquerque**	**124.34**	**79**	PFAKE		09 34 30.0	+10
ANMO				LR	LR		
	comp=Z,554nm,19.0s,MS5.2						
COR	**Corvallis**	**124.37**	**59**	PFAKE		09 34 30.0	+10
COR				LR	LR		
	comp=Z,727nm,20.0s,MS5.3						
WVOR	**Wild Horse Val**	**124.66**	**64**	PFAKE		09 34 30.0	+9.1
WVOR				LR	LR		
	comp=Z,607nm,19.0s,MS5.3						
KDAK	**Kodiak Island**	**125.27**	**32**	PFAKE		09 34 30.0	+7.9
KDAK				LR	LR		
	comp=Z,156nm,21.0s,MS4.7						
HKT	**Hockley**	**125.49**	**91**	PFAKE		09 34 30.0	+7.5
HKT				LR	LR		
	comp=Z,431nm,20.0s,MS5.1						
DUG	**Dugway**	**125.52**	**70**	PFAKE		09 34 30.0	+7.4
DUG				LR	LR		
	comp=Z,597nm,20.0s,MS5.3						
KURK	**Kurchatov**	**126.27**	**310**	PFAKE		09 34 30.0	+6.0
KURK				LR	LR		
	comp=Z,218nm,20.0s,MS4.8						
AMTX	**Amarillo**	**126.61**	**83**	PFAKE		09 34 40.0	+15
AMTX				LR	LR		
	comp=Z,549nm,20.0s,MS5.2						
BMO	**Blue Mountains**	**127.17**	**63**	PFAKE		09 34 40.0	+14
BMO				LR	LR		
	comp=Z,577nm,19.0s,MS5.3						
HWUT	**Hardware Ranch**	**127.22**	**70**	PFAKE		09 34 40.0	+14
HWUT				LR	LR		
	comp=Z,832nm,20.0s,MS5.4						
HAWA	**Hanford**	**127.41**	**60**	PFAKE		09 34 40.0	+14
HAWA				LR	LR		
	comp=Z,37nm,21.0s,MS4.0						
HLID	**Hailey**	**127.45**	**66**	PFAKE		09 34 40.0	+14
HLID				LR	LR		
	comp=Z,411nm,21.0s,MS5.1						
NATX	**Nacogdoches**	**127.55**	**91**	PFAKE		09 34 40.0	+14
NATX				LR	LR		
	comp=Z,521nm,22.0s,MS5.2						
AHID	**Auburn Hatcher**	**128.34**	**69**	PFAKE		09 34 40.0	+12
AHID				LR	LR		
	comp=Z,731nm,20.0s,MS5.4						
TORD	**Torodi Ar. Bea**	**128.43**	**215**	PKP	PKPdf	09 34 35.1	+6.9
	comp=Z,0.7nm,0.8s,baz=175,slow=2.0,SNR=3.5						
ISCO	**Idaho Springs**	**128.60**	**76**	PFAKE		09 34 40.0	+12
ISCO				LR	LR		
	comp=Z,524nm,20.0s,MS5.2						
BILL	**Bilibino**	**128.66**	**6**	PFAKE		09 34 40.0	+11
BILL				LR	LR		
	comp=Z,447nm,22.0s,MS5.1						
SJG	**San Juan**	**128.91**	**128**	PFAKE		09 34 40.0	+11
SJG				LR	LR		
	comp=Z,362nm,20.0s,MS5.1						
TNA	**Tin City**	**129.03**	**19**	PFAKE		09 34 40.0	+11
TNA				LR	LR		
	comp=Z,438nm,22.0s,MS5.1						
BW06	**Boulder Array**	**129.05**	**70**	PFAKE		09 34 40.0	+11
BW06				LR	LR		
	comp=Z,497nm,20.0s,MS5.2						
PDAR	**Pinedale Array**	**129.05**	**70**	PKP	PKPdf	09 34 31.2	+1.9
	comp=Z,0.2nm,0.8s,baz=141,slow=4.4,SNR=2.5						
PMR	**Palmer**	**129.45**	**31**	PFAKE		09 34 40.0	+10
PMR				LR	LR		
	comp=Z,480nm,22.0s,MS5.1						
SIT	**Sitka**	**129.78**	**42**	PFAKE		09 34 40.0	+9.3
SIT				LR	LR		
	comp=Z,655nm,20.0s,MS5.3						
NEW	**Newport**	**129.90**	**61**	PFAKE		09 34 40.0	+9.1
NEW				LR	LR		
	comp=Z,677nm,21.0s,MS5.3						
DIV	**Divide**	**129.95**	**33**	PFAKE		09 34 40.0	+9.0
DIV				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
LKWY	**Lake**	**130.05**	**68**	PFAKE		09 34 40.0	+8.8
LKWY				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
MSO	**Missoula**	**130.19**	**64**	PFAKE		09 34 40.0	+8.5
MSO				LR	LR		
	comp=Z,293nm,21.0s,MS5.0						
BOZ	**Bozeman (W)**	**130.32**	**67**	PFAKE		09 34 40.0	+8.3
BOZ				LR	LR		
	comp=Z,536nm,20.0s,MS5.2						
MIAR	**Mount Ida**	**130.33**	**90**	PFAKE		09 34 40.0	+8.3
MIAR				LR	LR		
	comp=Z,409nm,21.0s,MS5.1						
MCK	**McKinley**	**131.30**	**30**	PFAKE		09 34 40.0	+6.4
MCK				LR	LR		
	comp=Z,180nm,22.0s,MS4.7						
LRAL	**Lakeview Retre**	**132.35**	**97**	PFAKE		09 34 50.0	+14
LRAL				LR	LR		
	comp=Z,269nm,20.0s,MS5.0						
OXF	**Oxford**	**132.36**	**93**	PFAKE		09 34 50.0	+14
OXF				LR	LR		
	comp=Z,353nm,20.0s,MS5.1						
COLA	**College**	**132.52**	**30**	PFAKE		09 34 40.0	+4.1
COLA				LR	LR		
	comp=Z,493nm,21.0s,MS5.2						
RSSD	**Black Hills**	**132.68**	**73**	PFAKE		09 34 50.0	+14
RSSD				LR	LR		
	comp=Z,561nm,20.0s,MS5.3						
EGMT	**Eagleton**	**132.96**	**66**	PFAKE		09 34 50.0	+13
EGMT				LR	LR		
	comp=Z,438nm,20.0s,MS5.2						
GNI	**Garni**	**133.05**	**278**	PFAKE		09 34 50.0	+13
GNI				LR	LR		
	comp=Z,300nm,20.0s,MS5.0						
TIXI	**Tiksi**	**133.11**	**349**	PFAKE		09 34 50.0	+13
TIXI				LR	LR		
	comp=Z,484nm,22.0s,MS5.2						
PLAL	**Pickwick Lake**	**133.39**	**94**	PFAKE		09 34 50.0	+12
PLAL				LR	LR		
	comp=Z,314nm,20.0s,MS5.0						
LAO	**LASA Array**	**133.58**	**69**	PFAKE		09 34 50.0	+12
LAO				LR	LR		
	comp=Z,573nm,21.0s,MS5.3						
CCM	**Cathedral Cave**	**134.25**	**89**	PFAKE		09 34 50.0	+11
CCM				LR	LR		
	comp=Z,342nm,19.0s,MS5.1

comp=Z,315nm,21.0s,MS5.0
ANTO Ankara 138.71 267 PFAKE 09 35 00.0 +13
ANTO LR LR
comp=Z,249nm,22.0s,MS4.9
BLA Blacksburg 138.91 99 PFAKE 09 35 00.0 +12
BLA LR LR
comp=Z,20nm,20.0s
ACSO Alum Creek Sta 140.00 94 PFAKE 09 35 00.0 +10
ACSO LR LR
comp=Z,210nm,20.0s,MS4.9
ULM Lac du Bonnet 140.94 73 PFAKE 09 35 00.0 +8.5
ULM LR LR
comp=Z,656nm,21.0s,MS5.4
MCWV Mont Chateau 141.10 98 PFAKE 09 35 00.0 +8.2
MCWV LR LR
comp=Z,450nm,20.0s,MS5.2
FFC Flin Flon 141.12 64 PFAKE 09 35 00.0 +8.2
FFC LR LR
comp=Z,358nm,20.0s,MS5.1
CBN Corbin 141.17 102 PFAKE 09 35 00.0 +8.1
CBN LR LR
comp=Z,532nm,21.0s,MS5.3
AAM Ann Arbor 141.24 91 PFAKE 09 35 00.0 +8.0
AAM LR LR
comp=Z,428nm,19.0s,MS5.2
EYMN Ely 141.46 79 PFAKE 09 35 00.0 +7.6
EYMN LR LR
comp=Z,494nm,20.0s,MS5.3
BBSR BB Station 142.17 121 PFAKE 09 35 00.0 +6.3
BBSR LR LR
comp=Z,274nm,20.0s,MS5.0
SSPA Standing Stone 142.81 99 PFAKE 09 35 10.0 +15
SSPA LR LR
comp=Z,332nm,21.0s,MS5.1
ERPA Erie 142.91 95 PFAKE 09 35 10.0 +15
ERPA LR LR
comp=Z,443nm,22.0s,MS5.2
TIP Timpagrande 145.92 251 *e*PKPdf PKPdf 09 35 00.9 +0.7
NCB Newcomb 147.11 98 *e*PKPab PKPab 09 35 09.9 +4.0
NCB LR LR
comp=Z,453nm,20.0s,MS5.2
HRV Harvard--Oak R 147.31 103 PFAKE 09 35 10.0 +7.5
HRV LR LR
comp=Z,386nm,19.0s,MS5.2
WES Weston 147.33 103 PFAKE 09 35 10.0 +7.4
WES LR LR
comp=Z,280nm,22.0s,MS5.0
OBN Obninsk 147.35 289 PFAKE 09 35 10.0 +7.4
OBN LR LR
comp=Z,325nm,22.0s,MS5.1
AKASG Malin Array Be 148.18 277 PKPbc PKPbc 09 35 10.7 +3.5
comp=Z,2.9nm,0.8s,baz=106,slow=1.8,SNR=3.7
LBNH Lisbon 148.43 100 PFAKE 09 35 10.0 +5.6
LBNH LR LR
comp=Z,657nm,20.0s,MS5.4
LVZ Lovozero 153.68 312 PFAKE 09 35 20.0 +7.6
LVZ LR LR
comp=Z,511nm,20.0s,MS5.3
ESLA Sonseca Array 154.92 223 PFAKE 09 35 20.0 +5.8
ESLA LR LR
comp=Z,3μm,19.0s,MS6.2
FINES FINESS Array B 155.25 295 PKPab PKPab 09 35 33.6 -6.0
comp=Z,3.4nm,0.9s,baz=72,slow=6.0,SNR=4.9
KEV Kevo 156.70 315 PFAKE 09 35 20.0 +3.4
KEV LR LR
comp=Z,745nm,20.0s,MS5.5
SCHQ Schefferville 157.79 87 PFAKE 09 35 30.0 +12
SCHQ LR LR
comp=Z,1μm,20.0s,MS5.7
KBS Kingsbay 158.21 341 PFAKE 09 35 30.0 +12
KBS LR LR
comp=Z,570nm,20.0s,MS5.4
KONO Kongsberg 162.31 283 PFAKE 09 35 30.0 +7.0
KONO LR LR
comp=Z,340nm,20.0s
ESK Eskdalemuir 166.77 257 PFAKE 09 35 40.0 +13
ESK LR LR
comp=Z,620nm,20.0s
BORG Borgarnes 175.29 334 PFAKE 09 35 40.0 +8.7
BORG LR LR
comp=Z,864nm,19.0s

IDC 27 09:24:55.2±4.1,1275N×14532E,h73km±54km,mb3.5/3, mb1 3.7/3,mb1mx3.3/19,mbtmp3.8/3,Error ellipse: s-maj=97.9km s-min=36.8km az=110.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.94**	**332**	P	Pn	09 25 14.2	+1.1
GUMO	702nm,0.3s,baz=95,slow=1.9,SNR=1015			S	Sn	09 25 26.9	+0.6
	718nm,0.3s,baz=342,slow=23,SNR=77						
WRA	**Warramunga Arr**	**34.24**	**199**	P	P	09 31 34.2	+0.3
	1.3nm,0.8s,baz=24,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**37.88**	**197**	P	P	09 32 05.8	+0.9
	0.4nm,0.4s,baz=20,slow=13,SNR=14						
STKA	**Stephens Creek**	**44.52**	**185**	P	P	09 32 58.3	-1.1
	1.6nm,0.4s,baz=355,slow=8.3,SNR=10						
LPAZ	**La Paz**	**147.45**	**100**	PKPbc	PKPbc	09 44 32.1	+1.4
	0.9nm,1.1s,baz=256,slow=4.2,SNR=3.6						

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*HLW **27** 09:38:45.7,3466N×2432E,h33km,Mb2.9*
*ATH **27** 09:38:48.6,3591N×2408E,h3km,MD3.3/4*
CSEM 27 09:38:38.4±0.2,3473N×2310E,h30km,MD3.3,1C-3D, Error ellipse: s-maj=9.0km s-min=4.1km az=83.0,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**1.13**	**53**	*e*PG	Pn	09 38 58.7	+0.6
KYTH	**Kithira**	**1.55**	**358**	*e*PG	Pn	09 39 05.5	+1.5
VLI	**Veliai**	**1.99**	**356**	*e*PN	Pn	09 39 12.2	+2.2
NPS	**Neapolis**	**2.13**	**75**	*e*PG	Pn	09 39 14.5	+2.6
SLUM		**3.68**	**151**	⇓P	Pn	09 39 34.3	+1.1
HMAT	**Matruh**	**4.94**	**136**	⇓P	Pn	09 39 48.2	-2.3
HMAT	**Matruh**	**4.94**	**136**	P	Pn	09 39 48.2	-2.3
SWA2		**5.82**	**159**	⇑P	Pn	09 40 05.3	+2.7
SWA1		**5.88**	**157**	⇓P	Pn	09 40 05.7	+2.3
SWA1				S	Sn	09 41 04.2	-5.6

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*NEIC **27** 10:08:25.2±1.8,1662S×17435W,h10km,mb4.9/1,Error ellipse: s-maj=86.3km s-min=22.0km az=185.0*
*ISCJB **27** 10:08:27.3±2.3,166S±07×1744W±02,h33km,mb4.2/5, MS4.2/2,Error ellipse: s-maj=106.8km s-min=27.7km az=7.7*
*IDC **27** 10:08:38.7±4.7,1669S×17645W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.8/14,mbtmp4.0/4,MS4.1/2,Ms1 4.1/2, ms1mx3.1/23,Error ellipse: s-maj=153.0km s-min=93.4km az=158.0*
ISC 27 10:08:30.0±2.3,168S±07×1744W±02,h35km,n10,σ0°49/9, mb4.2/5,MS4.2/2,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.53**	**241**	P	**P**	**10 16 22.4**	**+0.3**
	1.4nm,0.4s,mb4.0,baz=81,slow=12,SNR=4.2						
WB2	**Warramunga Arr**	**48.60**	**258**	*e*P	**P**	**10 17 09.4**	**-0.7**
WRA	**Warramunga Arr**	**48.62**	**258**	P	**P**	**10 17 09.4**	**-0.9**
	0.2nm,0.3s,mb3.6,baz=94,slow=7.8,SNR=15						
WRA				LR	LR	10 34 12.0	
	comp=Z,99nm,18.7s,MS3.8,baz=180,slow=33						
AS31	**Alice Springs**	**48.79**	**253**	*e*P	**P**	**10 17 11.6**	**0.0**
ASAR	**Alice Springs**	**48.79**	**253**	P	**P**	**10 17 11.7**	**+0.1**
	4.0nm,0.6s,mb4.6,baz=88,slow=8.2,SNR=84						
ASAR				PcP	PcP	10 18 43.9	+7.9
	0.4nm,0.4s,baz=104,slow=4.0,SNR=7.4						
ASPA	**Alice Springs**	**48.79**	**253**	*e*P	**P**	**10 17 11.6**	**0.0**
KAKA	**Kakadu**	**51.46**	**267**	*e*P	**P**	**10 17 32.2**	**+0.4**
	18nm,1.1s,mb4.9						
FITZ	**Fitzroy Crossi**	**57.01**	**259**	P	**P**	**10 18 13.0**	**+0.8**
	1.7nm,0.8s,mb4.2,baz=93,slow=19,SNR=4.8						
MDZ	**Mendoza**	**93.50**	**126**	*e*P	**P**	**10 21 42.0**	**-0.1**
ULM	**Lac du Bonnet**	**95.59**	**39**	LR	LR	10 57 06.2	
	comp=Z,212nm,21.6s,MS4.6,baz=33,slow=30						

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*ISCJB **27** 10:17:16.9±0.8,27N±0.1×9907E±0.10,h169km±5km, mb3.8/8,Error ellipse: s-maj=21.0km s-min=14.1km az=64.1*
*IDC **27** 10:17:17.9±0.6,269N×9907E,h161km±12km,mb3.6/7, mb1 3.7/7,mb1mx3.4/22,mbtmp4.1/7,Error ellipse: s-maj=104.9km s-min=14.2km az=45.0*
*NEIC **27** 10:17:18.3±0.7,270N×99.10E,h165km±5km,mb4.3/1, Error ellipse: s-maj=15.4km s-min=9.4km az=225.0*
ISC 27 10:17:18.3±0.7,27N±01×9909E±010,h164km±5km,n15, σ0°47/17,mb3.8/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.19**	**300**	P	**Pn**	**10 17 40.5**	**+0.3**
	58nm,0.3s,baz=25,slow=11,SNR=130						
PSI				S	**Sn**	**10 17 56.5**	**-0.4**
	60nm,0.3s,baz=311,slow=20,SNR=74						
PSI	**Prapat**	**0.19**	**300**	P	**Pn**	**10 17 40.5**	**+0.2**
PSI				S	**Sn**	**10 17 56.5**	**-0.4**
IPM	**Ipoh**	**2.62**	**48**	P	**Pn**	**10 18 02.6**	**+1.1**
IPM	**Ipoh**	**2.62**	**48**	P	**Pn**	**10 18 02.2**	**+0.7**
KULM	**Kulim**	**3.00**	**31**	*e*Pn	**Pn**	**10 18 06.4**	**+0.2**
KGM	**Kluang**	**4.28**	**99**	P	**Pn**	**10 18 22.3**	**-0.2**
KKM	**Kota Kinabalu**	**17.39**	**78**	*e*P	**Pn**	**10 21 09.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**33.34**	**129**	P	**P**	**10 23 40.6**	**0.0**
	2.8nm,0.9s,mb4.0,baz=301,slow=5.9,SNR=3.4						
WRA	**Warramunga Arr**	**41.28**	**125**	P	**P**	**10 24 47.8**	**+0.4**
	1.4nm,0.4s,mb3.9,baz=305,slow=9.1,SNR=30						
WRAB	**Tennant Creek**	**41.28**	**125**	*e*P	**P**	**10 24 47.7**	**+0.3**
	2.2nm,0.3s,mb4.3						
ASAR	**Alice Springs**	**42.84**	**130**	P	**P**	**10 25 00.3**	**+0.2**
	0.7nm,0.4s,mb3.7,baz=299,slow=7.6,SNR=21						
BVAR	**Borovoye Array**	**55.49**	**339**	P	**P**	**10 26 35.7**	**-0.3**
	0.3nm,0.4s,mb3.4,baz=155,slow=9.3,SNR=4.1						
BRTR	**Keskin Array B**	**69.52**	**312**	P	**P**	**10 28 09.3**	**+0.2**
	1.0nm,0.6s,mb3.7,baz=133,slow=6.4,SNR=5.6						
FINES	**FINESS Array B**	**79.55**	**332**	P	**P**	**10 29 07.0**	**+0.1**
	1.1nm,0.6s,mb3.7,baz=112,slow=5.1,SNR=7.1						
HFS	**Hagfors**	**85.37**	**330**	P	**P**	**10 29 36.6**	**-0.4**
	1.4nm,0.5s,mb3.9,baz=103,slow=4.7,SNR=7.1						

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*CSEM **27** 10:22:20.1±0.1,3366N×3681E,h8km,Mc2.1,Error ellipse: s-maj=2.3km s-min=1.8km az=82.0*
*GRAL **27** 10:22:20.1±0.8,3365N×3692E,h30km±73km,MD3.2*
*ISCJB **27** 10:22:21.3±0.7,3370N±003×3676E±004,h7km±6km, Error ellipse: s-maj=5.5km s-min=4.4km az=7.8*
*NSSC **27** 10:22:21.4,3369N×3676E,h15km±1km*
ISC 27 10:22:21.7±0.5,3369N±003×3676E±004,h13km±5km,n18, σ0°72/32,5D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTH	**TOTAH**	**0.43**	**221**	⇑P	**Pg**	**10 22 30.0**	**-0.2**
TOTH	**TOTAH**	**0.43**	**221**	⇑*i*P	**Pg**	**10 22 30.0**	**-0.2**
QASN	**Qassioun**	**0.43**	**249**	⇑P	**Pg**	**10 22 30.1**	**-0.3**
QASN				⇓S	**Sg**	**10 22 37.0**	**+0.9**
QASN	**Qassioun**	**0.43**	**249**	⇑*i*P	**Pg**	**10 22 30.1**	**-0.2**
ROOS	**tl_alroos**	**0.65**	**42**	⇑P	**Pg**	**10 22 33.8**	**-0.6**
ROOS				⇑S	**Sg**	**10 22 43.6**	**+0.7**
ROOS	**tl_alroos**	**0.65**	**42**	⇑*i*P	**Pg**	**10 22 33.8**	**-0.6**
RCY	**Rachaya**	**0.81**	**256**	*e*Pg	**Pg**	**10 22 36.2**	**-1.2**
RCY				*e*Sg	**Sg**	**10 22 49.2**	**+1.1**
RCY	**Rachaya**	**0.81**	**256**	*e*Pg	**Pg**	**10 22 36.2**	**-1.3**
RCY				*e*Sg	**Sg**	**10 22 49.2**	**+1.1**
HWQ	**Hawqa**	**0.90**	**311**	*e*Pg	**Pg**	**10 22 38.4**	**-0.7**
HWQ				*e*Sg	**Sg**	**10 22 51.2**	**+0.4**
ZALF	**Zalf**	**0.90**	**148**	⇑P	**Pg**	**10 22 38.6**	**-0.6**
ZALF				⇓S	**Sg**	**10 22 52.3**	**+1.4**
ZALF	**Zalf**	**0.90**	**148**	⇑*i*P	**Pg**	**10 22 38.6**	**-0.6**
ZALF				⇓*i*S	**Sg**	**10 22 52.3**	**+1.3**
BHL	**Bhannes**	**0.95**	**283**	*e*Pg	**Pg**	**10 22 39.0**	**-1.1**
BHL				*e*Sg	**Sg**	**10 22 52.8**	**+0.3**
SALA	**Sala**	**0.97**	**181**	⇑P	**Pb**	**10 22 39.7**	**-0.7**
SALA				⇑S	**Sb**	**10 22 53.4**	**+0.1**
SALA	**Sala**	**0.97**	**181**	⇑*i*P	**Pb**	**10 22 39.7**	**-0.8**
SALA				⇑*i*S	**Sb**	**10 22 53.4**	**+0.1**
BIDA	**Albida**	**1.37**	**345**	⇑P	**Pn**	**10 22 46.2**	**-0.3**
BIDA				⇓S	**Sn**	**10 23 05.5**	**+0.9**
BIDA	**Albida**	**1.37**	**345**	⇑*i*P	**Pn**	**10 22 46.2**	**-0.4**
BIDA				⇓*i*S	**Sn**	**10 23 05.5**	**+0.9**
WRDH	**Warideh**	**1.84**	**351**	⇑P	**Pn**	**10 22 53.0**	**0.0**
WRDH				⇑S	**Sn**	**10 23 16.1**	**0.0**
WRDH	**Warideh**	**1.84**	**351**	⇑*i*P	**Pn**	**10 22 53.0**	**0.0**
WRDH				⇑*i*S	**Sn**	**10 23 16.1**	**0.0**

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*CSEM **27** 10:48:31.7±0.1,5904N×1825E,h2km,ML2.9,Error ellipse: s-maj=2.8km s-min=1.8km az=135.0,Mining explosion.*
*UPP **27** 10:48:31.8,5900N×1819E,h0km,ML2.9,Mining explosion.*
*ISCJB **27** 10:48:31.1±0.4,5904N±003×1829E±006,h0km,Error ellipse: s-maj=5.6km s-min=3.2km az=109.9*
*HEL **27** 10:48:32.7±0.1,5900N×1818E,h0km,ML1.9,ML2.9(UPP), ML2.0(NAO),Explosion*
*NAO **27** 10:48:34.0±1.8,5916N×1809E,ML2.0*
*BER **27** 10:48:35.5±3.9,5920N×1813E,h0km,ML2.0(NAO), Suspected explosion*
ISC 27 10:48:31.7±0.4,5905N±003×1823E±005,h0km,n39, σ1°20/63,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.12**	**250**	*i* P	**Pg**	**10 48 33.9**	**-0.2**
NRTU	**Norrtaelje**	**0.67**	**18**	*i* P	**Pg**	**10 48 45.3**	**+0.9**
ESKU	**Eskilstuna**	**0.96**	**282**	*e*P	**Pg**	**10 48 49.7**	**-0.5**
FLYU	**Flymyra**	**1.10**	**351**	*e*P	**Pg**	**10 48 53.2**	**+0.4**
GRAU	**Graesoe**	**1.30**	**7**	*e*P	**Pg**	**10 48 57.0**	**+0.3**
OSTU	**Oestervaala**	**1.31**	**335**	*e*P	**Pg**	**10 48 56.9**	**0.0**
OSTU	**Oestervaala**	**1.31**	**335**	P	**Pg**	**10 48 56.8**	**0.0**
FORU	**Forsmark**	**1.34**	**359**	*e*P	**Pg**	**10 48 57.7**	**+0.2**
GOTU	**Gotland**	**1.38**	**172**	*e*P	**Pg**	**10 48 56.0**	**-2.1**
AAL	**Aland**	**1.45**	**38**	*e*P	**Pn**	**10 48 59.4**	**+0.2**
LNKU	**Linkoeping**	**1.65**	**241**	*e*P	**Pn**	**10 49 01.2**	**-0.7**
VSTU	**Vaestervik**	**1.65**	**213**	*e*P	**Pn**	**10 49 01.2**	**-0.8**
NRAU	**Nora**	**1.72**	**289**	*e*P	**Pn**	**10 49 03.4**	**+0.5**
ASKU	**Askersund**	**1.77**	**267**	*e*P	**Pn**	**10 49 03.6**	**+0.1**
ASPU	**Aespoe**	**1.85**	**209**	*e*P	**Pn**	**10 49 04.5**	**-0.1**
BYXU	**Byxelkrok**	**1.88**	**201**	*e*P	**Pn**	**10 49 05.0**	**0.0**
FALU	**Falun**	**1.89**	**321**	*e*P	**Pn**	**10 49 06.8**	**+1.6**
EKSU	**Eksjoe**	**2.14**	**228**	*e*P	**Pn**	**10 49 09.2**	**+0.6**
OSKU	**Oskarshamn**	**2.17**	**212**	*e*P	**Pn**	**10 49 10.0**	**+0.9**
HFS	**Hagfors**	**2.55**	**297**	*e*P	**Pn**	**10 49 15.3**	**+1.0**
HFS				*e*SB	**Sb**	**10 49 49.2**	**-1.0**
HFS	**Hagfors**	**2.55**	**297**	Pn	**Pn**	**10 49 15.3**	**+1.0**
	baz=120,slow=18						
HFS				Lg		10 49 49.2	
	baz=115,slow=37						
RAF	**Rauma**	**2.66**	**40**	*e*P	**Pn**	**10 49 16.7**	**+0.8**
RAF				*e*S	**Sn**	**10 49 50.7**	**+1.9**
RAF				*e*SG	**Sg**	**10 49 55.7**	**-1.6**
RAF	**Rauma**	**2.66**	**40**	P	**Pn**	**10 49 16.6**	**+0.8**
RAF				S	**Sn**	**10 49 50.6**	**+1.8**
RAF				Sg	**Sg**	**10 49 55.6**	**-1.6**
MEF	**Metsahovi**	**3.34**	**67**	*e*PB	**Pb**	**10 49 31.0**	**-0.9**
MEF				*e*S	**Sn**	**10 50 07.1**	**+1.5**
MEF				*e*SG	**Sg**	**10 50 16.7**	**-2.5**
NB2	**NORSAR Subarra**	**4.04**	**303**	*e*P	**Pn**	**10 49 35.4**	**+0.5**
NB2				*e*PG	**Pg**	**10 49 44.7**	**-4.5**
NB2				*e*SG	**Sg**	**10 50 39.2**	**-2.5**
NB2	**NORSAR Subarra**	**4.04**	**303**	Pn	**Pn**	**10 49 35.4**	**+0.5**
	baz=126,slow=14						
NB2				Pg	**Pg**	**10 49 44.7**	**-4.5**
	baz=116,slow=16						
NB2				Lg		10 50 39.2	
	baz=120,slow=37						
PVF	**Pernaja**	**4.14**	**65**	*e*SG	**Sg**	**10 50 41.8**	**-3.0**
KEF	**Keuruu**	**4.53**	**43**	*e*P	**Pn**	**10 49 42.7**	**+1.2**
KEF				*e*S	**Sn**	**10 50 35.9**	**+1.1**
KEF				*e*SG	**Sg**	**10 50 52.8**	**-4.5**
KEF				MSG		10 50 57.9	
	comp=Z,1.5nm,0.2s						
KEF	**Keuruu**	**4.53**	**43**	P	**Pn**	**10 49 42.7**	**+1.2**
KEF				S	**Sn**	**10 50 35.9**	**+1.0**
KEF				Sg	**Sg**	**10 50 52.7**	**-4.5**
	comp=Z,1.5nm,0.2s						
VAF	**Ylistaro**	**4.55**	**26**	*e*SG	**Sg**	**10 50 54.7**	**-3.3**
FIA0	**FINESS Array S**	**4.59**	**55**	*e*P	**Pn**	**10 49 43.9**	**+1.5**
FIA0				*e*S	**Sn**	**10 50 36.8**	**+0.4**
FIA0				*e*SG	**Sg**	**10 50 55.5**	**-3.7**
FIA0				MSG		10 50 59.8	
	comp=Z,1.5nm,0.2s						
FIA0	**FINESS Array S**	**4.59**	**55**	Pn	**Pn**	**10 49 44.2**	**+1.8**
	baz=241,slow=12						
FIA0				Sn	**Sn**	**10 50 37.7**	**+1.3**
	baz=256,slow=28						
FIA0				Lg		10 50 54.1	
	baz=246,slow=28						
FIA0	**FINESS Array S**	**4.59**	**55**	P	**Pn**	**10 49 43.8**	**+1.4**
FIA0	**FINESS Array S**	**4.59**	**55**	Pn	**Pn**	**10 49 44.2**	**+1.8**
SNR=50							
FIA0				S	**Sn**	**10 50 36.7**	**+0.3**
FIA0				Sg	**Sg**	**10 50 55.5**	**-3.7**
	comp=Z,1.5nm,0.2s						
KAF	**Kangasniemi**	**5.03**	**49**	*e*P	**Pn**	**10 49 49.0**	**+0.6**
KAF				*e*S	**Sn**	**10 50 47.3**	**+0.1**
KAF				MSG		10 51 12.3	
	comp=Z,1.5nm,0.2s						
KAF	**Kangasniemi**	**5.03**	**49**	P	**Pn**	**10 49 49.0**	**+0.6**
KAF				S	**Sn**	**10 50 47.3**	**0.0**
	comp=Z,1.5nm,0.2s						
SUF	**Sumiainen**	**5.34**	**43**	*e*P	**Pn**	**10 49 53.7**	**+1.1**
SUF				*e*S	**Sn**	**10 50 53.8**	**-1.1**
ARA0	**ARCESS Array S**	**10.98**	**14**	Pn	**Pn**	**10 51 07.5**	**-2.6**
	baz=193,slow=14						
ARA0				Sn	**Sn**	**10 53 04.2**	**-9.4**
	baz=199,slow=22						
ARA0	**ARCESS Array S**	**10.98**	**14**	*e*P	**Pn**	**10 51 07.5**	**-2.6**
ARA0				*e*S	**Sn**	**10 53 04.2**	**-9.4**

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*IDC **27** 10:49:00.8±4.2,2429S×17991E,h548km±54km,mb3.1/5, mb1 3.4/7,mb1mx3.2/13,mbtmp4.0/7,Error ellipse: s-maj=53.4km s-min=26.9km az=168.0*
*NEIC **27** 10:49:01.5±2.2,2432S×17988E,h555km±25km,mb4.2/3, Error ellipse: s-maj=30.5km s-min=20.9km az=204.0*
*ISCJB **27** 10:49:02.1±2.6,2435S±02×1798E±02,h575km±35km, mb3.9/8,Error ellipse: s-maj=34.9km s-min=22.6km az=15.9*
ISC 27 10:49:01.2±2.4,2435S±02×1799E±02,h549km±29km,n13, σ0°69/13,mb3.8/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.61**	**277**	P	**P**	**10 51 45.8**	**-0.2**
	0.6nm,0.3s,baz=92,slow=18,SNR=9.7						
URZ	**Urewera**	**14.12**	**189**	P	**P**	**10 52 01.8**	**+0.2**
	0.9nm,0.3s,baz=305,slow=16,SNR=6.7						
CTA	**Charters Tower**	**31.43**	**271**	*e*P	**P**	**10 54 38.5**	**+0.7**
	7.1nm,0.3s,mb4.7						
STKA	**Stephens Creek**	**34.52**	**249**	P	**P**	**10 55 01.6**	**-2.3**
	1.3nm,0.5s,mb3.7,baz=79,slow=7.8,SNR=6.7						
AS31	**Alice Springs**	**41.92**	**261**	*e*P	**P**	**10 56 04.3**	**+0.4**
ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	**10 56 04.5**	**+0.5**
	1.2nm,0.4s,mb3.8,baz=93,slow=7.6,SNR=44						
ASPA	**Alice Springs**	**41.92**	**261**	*e*P	**P**	**10 56 04.3**	**+0.3**
WB2	**Warramunga Arr**	**42.32**	**267**	*e*P	**P**	**10 56 06.8**	**-0.3**
WRA	**Warramunga Arr**	**42.33**	**267**	P	**P**	**10 56 07.1**	**-0.1**
	2.9nm,0.3s,mb4.2,baz=97,slow=8.4,SNR=145						
KAKA	**Kakadu**	**46.29**	**276**	*e*P	**P**	**10 56 37.2**	**-0.5**
	5.3nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**50.75**	**266**	*e*P	**P**	**10 57 11.5**	**+0.8**
	4.6nm,1.0s,mb3.8						
NVAR	**Mina Array Bea**	**85.08**	**44**	P	**P**	**11 00 39.0**	**-0.2**
	0.2nm,0.5s,mb2.9,baz=232,slow=5.5,SNR=3.5						
PDAR	**Pinedale Array**	**93.02**	**44**	P	**P**	**11 01 16.3**	**+0.1**
	0.3nm,0.7s,mb3.5,baz=282,slow=4.2,SNR=2.7						

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*MOS **27** 11:24:33.8±1.0,2104S×6853W,h103km,mb5.5/54,Error ellipse: s-maj=10.2km s-min=6.7km az=100.3*
*BJI **27** 11:24:34.5,2069S×6876W,h107km,mB5.3*
*CSEM **27** 11:24:34.5,2114S×6833W,h120km,mb5.5*
*ISCJB **27** 11:24:35.2±0.1,2125S±003×6849W±003,h122km, mb5.2/154,Error ellipse: s-maj=4.5km s-min=3.7km az=106.0*
*IDC **27** 11:24:35.8±0.3,2135S×6862W,h119km±2km,mb4.9/15, mb1 5.0/18,mb1mx5.0/18,mbtmp5.3/18,MS4.3/9, Ms1 4.3/9,ms1mx4.0/16,Error ellipse: s-maj=13.9km s-min=7.0km az=95.0*
*GUC **27** 11:24:36.4±0.8,2153S×6930W,h120km,ML5.4*
*LDG **27** 11:24:36.5±0.3,2067S×6861W,h118km,Mb5.1/24, Ms4.1/8,Error ellipse: s-maj=31.8km s-min=12.9km az=160.0*
*NEIC **27** 11:24:36.5±0.1,2129S×6852W,mb5.2/133,MW5.5,Error ellipse: s-maj=5.0km s-min=3.8km az=52.0,Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.79; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$0.83; $M_{r\theta}$0.83; $M_{\theta\phi}$-0.27; $M_{\phi r}$-1.95; Best double couple: $M_0$2.30000×10^{17} NP1:ϕ_s337.00000°, δ79.00000°,λ-93.00000°. NP2:ϕ_s173.00000°,δ11.00000°, λ-74.00000°. Principal axes: T 2.3400, Plg34.0000°, Azm70.0000°; N -0.1000, Plg3.0000°, Azm338.0000°; P -2.2300, Plg56.0000°, Azm244.0000°;*
NEIC Felt [IV] at La Tirana, Pica and Pozo Almonte; [III] at Huara and Iquique; [II] at Camina, Pisagua, Rio Loa and Tocopilla.
*HRVD **27** 11:24:36.5±0.1,2142S×6889W,h134km,MW5.5/94, Centroid moment Tensor Solution. LP body waves: s81,c129;Mantle waves: s94,c178; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.02±.03; $M_{\theta\theta}$-0.00±.03; $M_{\phi\phi}$1.03±.04; $M_{r\theta}$0.82±.02; $M_{\theta\phi}$-0.13±.03; $M_{\phi r}$-1.35±.03; Best double couple: $M_0$1.88700×10^{17} NP1:ϕ_s189.00000°,δ19.00000°,λ-56.00000°. NP2: ϕ_s333.00000°,δ74.00000°,λ-101.00000°. Principal axes: T 1.8350, Plg28.0000°, Azm72.0000°; N 0.1120, Plg11.0000°, Azm336.0000°; P -1.9380, Plg59.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 11:24:37.0±0.2,2126S±003×6845W±003,h124km, h124km±5.5km:pP-P,n646,σ0°81/530,mb5.2/154, 106C-106D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.41**	**198**	P	**Pn**	**11 25 00.4**	**-3.2**
	baz=144,slow=0.0						
LVC				S	**Sn**	**11 25 19.2**	**-4.8**
	3μm,0.3s,baz=136,slow=0.0,SNR=33						
LVC	**Limon Verde**	**1.41**	**198**	*e*Pn	**Pn**	**11 24 59.8**	**-3.9**
LVC				*e*Sn	**Sn**	**11 25 19.3**	**-4.7**
CEN1	**Los Morros**	**2.67**	**217**	⇓*i*P	**Pn**	**11 25 15.9**	**-3.1**
CEN1				*i* S	**Sn**	**11 25 44.9**	**-6.5**
CEN1				AML	AML	11 25 52.4	
	comp=N,14μm,0.6s						
CPN1	**Cerro Paranal**	**3.80**	**208**	*e*P	**Pn**	**11 25 27.9**	**-6.1**
CPN1				*i* S	**Sn**	**11 26 07.3**	**-11**
CPN1				AML	AML	11 26 34.8	
	comp=E,8μm,0.6s						
LPAZ	**La Paz**	**4.96**	**4**	P	**Pn**	**11 25 51.0**	**+1.6**
	comp=E,44nm,0.3s,baz=180,slow=8.1,SNR=700						
LPAZ	**La Paz**	**4.96**	**4**	P	**Pn**	**11 25 51.0**	**+1.6**
LPAZ				pmax	pmax		
	comp=Z,44nm,0.3s						
LPAZ	**La Paz**	**4.96**	**4**	*e*Pn	**Pn**	**11 25 50.5**	**+1.1**
LPAZ				*e*Sn	**Sn**	**11

PLCA Paso Flores 19.49 185 P **P 11 28 52.3 -2.0**
PLCA pmax pmax
comp=Z,4.0nm,0.3s
PLCA Paso Flores 19.49 185 *e*P **P 11 28 52.2 -2.1**
comp=Z,178nm,0.8s
VAO Valinhos 19.98 99 *e*P **P 11 28 58.8 -0.7**
VAO *i* 11 29 01.0
VAO *i* 11 29 03.9
VAO *i* 11 29 28.0
BDFB Brasilia 20.17 77 P **P 11 29 01.9 +0.3**
comp=Z,295nm,0.6s,baz=269,slow=11,SNR=196
BDFB LR LR 11 37 23.7
comp=Z,1µm,19.8s,baz=254,slow=38
BAO Brasilia Array 20.19 77 P **P 11 29 02.5 +0.7**
OTAV Otavalo 23.49 334 *e*P **P 11 29 38.2 +2.7**
comp=Z,156nm,1.3s,mb5.2
CAM4 Nova Friburgo 24.05 97 ⇓*i*P **P 11 29 40.9 +0.4**
CAM4 *i* 11 29 42.6
CAM4 *i* 11 29 46.5
CAM4 *i* 11 30 09.0
CAM3 Guarapari 26.07 94 ⇓*i*P **P 11 29 58.4 -0.4**
CAM3 *i* 11 29 59.9
CAM3 *i* 11 30 02.4
CAM3 *i* 11 30 18.3
CAM3 *i* 11 30 30.6
CAM3 *i* 11 30 40.2
ROSC El Rosal 26.59 347 P **P 11 30 02.0 -1.5**
comp=Z,6.4nm,0.4s,mb4.5,baz=105,slow=20,SNR=2.4
ROSC LR LR 11 42 01.4
comp=Z,564nm,18.8s,baz=11,slow=39
SDV Santo Domingo 30.03 356 P **P 11 30 32.9 -1.2**
comp=Z,11nm,0.4s,mb4.9,baz=163,slow=13,SNR=12
SDV LR LR 11 44 42.7
comp=Z,706nm,18.1s,baz=36,slow=40
SDV Santo Domingo 30.03 356 *e*P **P 11 30 32.9 -1.2**
comp=Z,44nm,0.9s,mb5.1
EFI East Falkland 31.42 168 *e*P **P 11 30 45.2 -1.1**
EFI *e**PP pP 11 31 11.8 -1.5
EFI *e* 11 31 57.7
EFI *e* 11 33 36.0
EFI pmax pmax
comp=Z,102nm,1.2s,mb5.4
EFI East Falkland 31.42 168 *e*P **P 11 30 45.1 -1.1**
comp=Z,102nm,1.2s,mb5.4
EFI *e*pP pP 11 31 11.8 -1.5
EFI *e*sP sP 11 31 26.1 -1.4
EFI *e*PP PP 11 31 57.7 -1.9
EFI *e*PcP PcP 11 33 36.0 -0.8
RCBR Riachuelo 35.05 69 *e*P **P 11 31 19.0 +1.1**
comp=Z,376nm,0.9s,mb6.2
RCBR *e*pP pP 11 31 48.3 +3.1
FDF Fort de France 36.48 12 *e*P **P 11 31 34.5 +4.5**
CRM Caravelle 36.55 12 *e*P **P 11 31 35.6 +5.0**
CPD Cerro la Pandu 39.13 4 *e*P **P 11 31 49.5 -2.8**
SJG San Juan 39.19 3 *e*P **P 11 31 50.6 -2.2**
SJG pmax pmax
comp=Z,52nm,0.6s
SJG San Juan 39.19 3 *e*P **P 11 31 50.6 -2.2**
comp=Z,52nm,0.6s,mb5.5
SJG *e*pP pP 11 32 20.1 -0.4
SJG *e*sP sP 11 32 31.6 -3.1
MTP Monte Pirata 39.21 4 *e*P **P 11 31 50.0 -2.9**
HUMP Col San Antoni 39.24 4 *e*P **P 11 31 51.7 -1.5**
MPR Mayaguez 39.25 2 *e*P **P 11 31 51.4 -1.9**
CBYP Canovanas 39.37 4 *e*P **P 11 31 51.7 -2.6**
HOPE Hope Point 40.88 152 P **P 11 32 07.7 +0.9**
comp=Z,494nm,0.8s,mb6.4,SNR=8.6
HOPE Hope Point 40.88 152 *e*P **P 11 32 07.4 +0.6**
comp=Z,77nm,0.9s,mb5.5
HOPE *e*PcP PcP 11 34 05.0 0.0
HLGC Holguin 42.55 349 *e*P **P 11 32 28.9 +8.6**
PMSA Palmer Station 43.59 177 *e*P **P 11 32 28.8 +0.1**
comp=Z,359nm,1.6s,mb5.8
DWPF Disney 50.66 345 *e*P **P 11 33 22.7 -0.8**
DWPF *e*pP pP 11 33 51.8 -0.6
BBSR BB Station 53.45 4 *e*P **P 11 33 43.5 -0.6**
comp=Z,31nm,0.6s,mb5.5
GOGA Godfrey 56.22 345 *e*P **P 11 34 02.0 -2.1**
GOGA *e**PP pP 11 34 31.8 -1.8
GOGA pmax pmax
comp=Z,640nm,1.2s,mb6.5
GOGA Godfrey 56.22 345 *e*P **P 11 34 02.0 -2.1**
comp=Z,640nm,1.2s,mb6.5
GOGA *e*pP pP 11 34 31.8 -1.8
LRAL Lakeview Retre 56.82 341 *e*P **P 11 34 06.2 -2.2**
comp=Z,39nm,1.1s,mb5.3
LRAL *e*pP pP 11 34 36.1 -1.7
HKT Hockley 57.33 332 *e*P **P 11 34 11.5 -0.4**
HKT *e**SP sP 11 34 53.0 -2.2
HKT pmax pmax
comp=Z,64nm,1.5s,mb5.4
HKT Hockley 57.33 332 *e*P **P 11 34 11.5 -0.5**
comp=Z,64nm,1.5s,mb5.4
HKT *e*pP pP 11 34 42.1 +0.6
HKT *e*sP sP 11 34 53.0 -2.2
NATX Nacogdoches 58.40 334 *e*P **P 11 34 19.8 +0.4**
comp=Z,98nm,1.2s,mb5.7
NATX *e*pP pP 11 34 49.4 +0.3
CPCT Cooper Cave 58.42 345 *e*P **P 11 34 18.6 -1.0**
CPCT *e*pP pP 11 34 47.9 -1.4
CPCT *e*sP sP 11 35 01.3 -1.5
SWET Sewanee 58.56 343 *e*P **P 11 34 19.0 -1.5**
SWET *e*pP pP 11 34 48.4 -1.8
PLAL Pickwick Lake 58.96 341 *e*P **P 11 34 21.1 -2.1**
comp=Z,38nm,1.0s,mb5.4
PLAL *e*pP pP 11 34 51.3 -1.6
TZTN Tazewell 59.23 346 *e*P **P 11 34 53.7 -1.2**
BLA Blacksburg 59.24 349 *e*P **P 11 34 25.0 -0.2**
BLA *e**PP pP 11 34 54.5 -0.5
BLA *e* 11 35 12.6
BLA pmax pmax
comp=Z,14nm,1.5s,mb4.8
BLA Blacksburg 59.24 349 *e*P **P 11 34 25.0 -0.2**
comp=Z,14nm,1.5s,mb4.8
BLA *e*pP pP 11 34 54.5 -0.5
BLA *e*PcP PcP 11 35 12.6 +0.4
ELN Prospectdale 59.32 349 *e*P **P 11 34 25.8 +0.1**
ELN *e*pP pP 11 34 55.1 -0.4
JCT Junction City 59.62 329 *e*P **P 11 34 26.8 -1.0**
JCT pmax pmax
comp=Z,33nm,1.0s,mb5.3
JCT Junction City 59.62 329 *e*P **P 11 34 26.8 -1.0**
comp=Z,33nm,1.0s,mb5.3
FWV Forest Hill 59.67 349 *e*P **P 11 34 27.6 -0.6**
FWV *e*pP pP 11 34 57.2 -0.7
VNA1 Neumayer--Stat 60.37 161 ⇓*i*P **P 11 34 33.3 +0.4**
VNA1 *e* 11 34 34.9
VNA1 *e* 11 34 40.1
VNA1 *e* 11 34 45.2
VNA1 *e* pP 11 35 07.8 +5.0
VNA1 *e* 11 35 15.6
VNA1 *e* 11 35 18.1
MIAR Mount Ida 60.42 336 *e*P **P 11 34 32.2 -1.1**
MIAR *e**PP pP 11 35 02.4 -0.7
MIAR pmax pmax
comp=Z,87nm,1.4s,mb5.6
MIAR Mount Ida 60.42 336 *e*P **P 11 34 32.2 -1.0**
comp=Z,87nm,1.4s,mb5.6
MIAR *e*pP pP 11 35 02.4 -0.7
UTMT University of 60.45 341 *e*P **P 11 34 32.6 -0.9**
GNAR Gosnell 60.47 340 *e*P **P 11 34 32.5 -1.1**
comp=Z,972nm,1.1s
GNAR *e*pP pP 11 35 02.6 -0.8
GLAT Glass 60.52 341 *e*P **P 11 34 32.3 -1.7**
RKT Rikitea 61.13 255 *e*P **P 11 34 38.3 +0.2**
comp=Z,154nm,1.3s,mb5.9
MVL Millersville 61.38 353 *e*P **P 11 34 40.1 +0.3**
WCI Wyandotte Cave 61.50 344 *e*P **P 11 34 39.1 -1.5**
WCI *e**PP pP 11 35 08.8 -1.7
WCI pmax pmax
comp=Z,46nm,0.9s,mb5.5
WCI Wyandotte Cave 61.50 344 *e*P **P 11 34 39.1 -1.5**
comp=Z,46nm,0.9s,mb5.5
WCI *e*pP pP 11 35 08.8 -1.8
MCWV Mont Chateau 61.53 350 *e*P **P 11 34 40.9 +0.1**
comp=Z,47nm,0.8s,mb5.6
MCWV *e*pP pP 11 35 10.4 -0.2
USIN University of 61.62 343 *e*P **P 11 34 39.7 -1.6**
comp=Z,56nm,0.9s,mb5.6
USIN *e*pP pP 11 35 09.5 -1.8
SIUC Southern Illin 61.83 341 *e*P **P 11 34 41.7 -1.1**
SSPA Standing Stone 62.20 352 *e*P **P 11 34 45.2 -0.1**
SSPA *e*pP pP 11 35 14.8 -0.4

FVM French Village 62.45 341 *e*P **P 11 34 45.5 -1.4**
FVM *e**PP pP 11 35 15.8 -1.1
FVM pmax pmax
comp=Z,98nm,0.9s,mb5.8
FVM French Village 62.45 341 *e*P **P 11 34 45.5 -1.4**
comp=Z,98nm,0.9s,mb5.8
FVM *e*pP pP 11 35 15.8 -1.2
BLO Bloomington 62.45 344 *e*P **P 11 34 45.7 -1.2**
BLO pmax pmax
comp=Z,74nm,1.0s,mb5.7
BLO Bloomington 62.45 344 *e*P **P 11 34 45.7 -1.2**
comp=Z,74nm,1.0s,mb5.7
ACSO Alum Creek Sta 62.66 348 *e*P **P 11 34 47.1 -1.2**
comp=Z,33nm,1.0s,mb5.2
ACSO *e*pP pP 11 35 16.8 -1.6
CCM Cathedral Cave 62.77 340 *e*P **P 11 34 47.5 -1.6**
CCM pmax pmax
comp=Z,65nm,0.9s,mb5.6
CCM Cathedral Cave 62.77 340 *e*P **P 11 34 47.5 -1.5**
comp=Z,65nm,0.9s,mb5.6
CCM *e*pP pP 11 35 18.2 -0.9
HRV Harvard--Oak R 63.51 357 *e*P **P 11 34 53.8 -0.1**
HRV *e**PP pP 11 35 23.5 -0.5
HRV pmax pmax
comp=Z,35nm,0.8s,mb5.2
HRV Harvard--Oak R 63.51 357 *e*P **P 11 34 53.8 -0.1**
comp=Z,35nm,0.8s,mb5.2
HRV *e*pP pP 11 35 23.5 -0.5
HRV *e*sP sP 11 35 36.9 -0.7
ALLY Alegheny Colle 63.52 350 *e*P **P 11 34 53.4 -0.6**
ALLY *e*pP pP 11 35 23.5 -0.6
ERPA Erie 63.95 350 *e*P **P 11 34 56.4 -0.4**
comp=Z,38nm,0.7s,mb5.3
ERPA *e*pP pP 11 35 26.3 -0.7
AMTX Amarillo 64.14 330 *e*P **P 11 34 56.6 -1.4**
comp=Z,35nm,1.3s,mb5.0
ACCN Adirondack Com 64.50 356 *e*P **P 11 35 00.4 0.0**
ACCN *e* pP 11 35 30.2 -0.4
HNH Hanover 64.74 357 *e*P **P 11 35 01.9 -0.1**
HNH *e* 11 35 14.9
HNH *e*pP pP 11 35 32.2 +0.1
NCB Newcomb 65.12 355 *e*P **P 11 35 04.3 -0.2**
comp=Z,41nm,1.0s,mb5.2
MIV Mineville/With 65.18 356 *e*pP pP 11 35 34.5 -0.5
MIV *e*sP sP 11 35 47.4 -1.2
LBNH Lisbon 65.25 357 *e*P **P 11 35 05.5 +0.2**
LBNH pmax pmax
comp=Z,46nm,0.8s,mb5.4
LBNH Lisbon 65.25 357 *e*P **P 11 35 05.5 +0.2**
comp=Z,46nm,0.8s,mb5.4
WVL Waterville 65.51 359 *e*P **P 11 35 06.9 0.0**
LONY Lake Ozonia 65.80 355 *e*P **P 11 35 08.7 -0.1**
FRNY Flat Rock 65.94 356 *e*P **P 11 35 09.6 -0.1**
FRNY *e*pP pP 11 35 38.5 -1.5
FRNY *e*sP sP 11 35 52.1 -1.3
BNM Barren Site 66.00 326 *e*P **P 11 35 10.2 +0.1**
Y22C IRIS PASSCAL I 66.10 326 ⇓P **P 11 35 10.9 +0.2**
baz=66
LPM Los Pinos Moun 66.13 326 *e*P **P 11 35 10.9 0.0**
LENM Lemitar 66.20 326 *e*P **P 11 35 11.6 +0.2**
MAIT Maitri 66.87 159 ⇑*i*P **P 11 35 15.9 +0.3**
MAIT *e*PcP PcP 11 35 47.6 +4.2
MAIT *e*PP PP 11 37 55.8 +11
MAIT *e*S S 11 44 12.5 +14
SCIA State Center 66.90 340 *e*P **P 11 35 14.3 -1.5**
SCIA *e*pP pP 11 35 44.4 -1.8
NVL N'lazarevskaya 66.90 159 *d i*P **P 11 35 18.2 +2.4**
NVL pmax pmax
comp=Z,186nm,1.3s,mb5.8
NVL pmax pmax
comp=N,17nm,0.8s
NVL pmax pmax
comp=E,83nm,1.3s
TUC Tucson 66.91 322 *e*P **P 11 35 16.0 +0.1**
TUC pmax pmax
comp=Z,46nm,1.3s,mb5.2
TUC Tucson 66.91 322 *e*P **P 11 35 16.0 +0.1**
comp=Z,46nm,1.3s,mb5.2
116A Eloy 67.63 321 ⇓P **P 11 35 20.6 +0.2**
baz=68,SNR=24
116A ⇓S S 11 44 08.7 +1.2
baz=68
LIC Lamto 67.91 74 ⇑*i*P **P 11 35 22.6 +0.4**
comp=Z,261nm,1.3s,mb5.6
LIC *e*R
comp=Z,338nm,20.8s
LIC Lamto 67.91 74 ⇑*i*P **P 11 35 22.6 +0.4**
comp=Z,130nm,1.3s,mb5.6
LIC LR LR
comp=Z,170nm,20.8s
DBIC Dimbokro 68.26 73 P **P 11 35 24.4 +0.1**
comp=Z,79nm,0.7s,mb5.6,baz=226,slow=6.1,SNR=35
DBIC LR LR 12 04 20.4
comp=Z,204nm,19.5s,baz=208,slow=35
DBIC Dimbokro 68.26 73 *e*P **P 11 35 23.6 -0.8**
QSPA South Pole Qui 68.93 180 *e*P **P 11 35 28.2 -0.3**
comp=Z,160nm,1.0s,mb5.8
Z14A Wintersburg 68.93 321 ⇑P **P 11 35 28.5 0.0**
baz=69
Z14A ⇓S S 11 44 25.2 +2.3
baz=69
X15A Humboldt 69.33 322 P **P 11 35 31.6 +0.6**
baz=70,SNR=48
X15A ⇑S S 11 44 31.2 +3.5
baz=70
Y14A Wickenburg 69.37 321 ⇓P **P 11 35 31.5 +0.3**
baz=70,SNR=29
Y14A ⇓S S 11 44 31.0 +2.8
baz=70
WUAZ Wupatki 69.59 324 *e*P **P 11 35 33.4 +0.8**
X14A Yava 69.69 322 ⇓P **P 11 35 33.9 +0.7**
baz=70,SNR=41
X14A ⇓S S 11 44 33.9 +2.1
baz=70
EGOM La Gomera 69.73 47 P **P 11 35 36.0 +2.6**
comp=Z,85nm,0.7s,mb5.7
Y13A Salome 69.77 321 ⇑P **P 11 35 34.1 +0.4**
baz=70,SNR=16
Y13A ⇑S S 11 44 36.4 +3.6
baz=70
GLA Glamis 69.83 320 *e*P **P 11 35 34.5 +0.5**
GLA Glamis 69.83 320 ⇑P **P 11 35 34.4 +0.3**
baz=70,SNR=16
GLA ⇑S S 11 44 37.2 +3.7
baz=70
W15A Williams 69.84 323 ⇓P **P 11 35 35.0 +0.9**
baz=70,SNR=39
W15A ⇓S S 11 44 36.9 +3.2
baz=70
ISCO Idaho Springs 69.95 330 *e*P **P 11 35 34.9 +0.1**
SMCO Snowmass 70.10 329 *e*P **P 11 35 36.3 +0.6**
comp=Z,54nm,1.0s,mb5.3
Y12C Blythe 70.13 320 ⇓P **P 11 35 36.3 +0.4**
baz=70,SNR=24
Y12C ⇓S S 11 44 39.1 +2.1
baz=70
CCAN Las Canadas 70.19 48 P **P 11 35 39.7 +3.5**
comp=Z,23nm,0.8s,mb5.1
X13A Yucca 70.32 321 P **P 11 35 37.3 +0.3**
baz=70,SNR=53
X13A ⇑S S 11 44 42.9 +3.7
baz=70
W14A Seligman 70.33 322 ⇑P **P 11 35 38.0 +0.9**
baz=70,SNR=39
W14A ⇓S S 11 44 43.9 +4.6
baz=70
BAR Barrett 70.71 318 *e*P **P 11 35 39.7 +0.3**
PHWY Pilot Hill 71.08 331 *e*P **P 11 35 41.6 0.0**
PHWY *e*pP pP 11 36 11.1 -1.3
PHWY *e*sP sP 11 36 24.4 -1.3
109C Camp Elliot, M 71.12 318 ⇓P **P 11 35 41.9 0.0**
baz=71
109C ⇑S S 11 44 52.3 +3.8
baz=71
PFO Pinyon Flat Ob 71.20 319 P **P 11 35 43.0 +0.6**
comp=Z,232nm,0.9s,mb6.0,SNR=12
PFO Pinyon Flat Ob 71.20 319 *e*P **P 11 35 43.0 +0.6**
PFO *e* 11 36 02.4
PFO pmax pmax
comp=Z,51nm,1.0s,mb5.3
PFO Pinyon Flat Ob 71.20 319 *e*P **P 11 35 43.0 +0.6**
comp=Z,51nm,1.0s,mb5.3
PFO *e*PcP PcP 11 36 02.4 +0.8
PFO *e*pP pP 11 36 15.0 +1.9
PFO *e*sP sP 11 36 25.8 -0.6

PFO Pinyon Flat Ob 71.20 319 ⇑P **P 11 35 43.0 +0.7**
baz=71,SNR=18
PFO ⇓S S 11 44 55.3 +5.9
baz=71
W12A Cal Nev Ari 71.42 321 ⇑P **P 11 35 44.1 +0.4**
baz=72,SNR=5.2
V12A Nelson 71.71 322 P **P 11 35 45.7 +0.3**
baz=72,SNR=38
V12A ⇓S S 11 44 57.7 +2.4
baz=72
SRU San Rafael 71.81 327 *e*P **P 11 35 45.9 -0.1**
SRU *e**PP pP 11 36 15.8 -1.0
SRU pmax pmax
comp=Z,83nm,0.8s,mb5.6
SRU San Rafael 71.81 327 *e*P **P 11 35 45.9 -0.1**
comp=Z,83nm,0.8s,mb5.6
SRU *e*pP pP 11 36 15.8 -0.9
SRU *e*sP sP 11 36 28.8 -1.3
EYMN Ely 71.93 344 *e*P **P 11 35 45.2 -1.6**
comp=Z,28nm,0.9s,mb5.1
EYMN *e*PcP PcP 11 36 02.7 -2.1
EYMN *e*pP pP 11 36 15.4 -2.0
EYMN *e*sP sP 11 36 28.3 -2.6
U12A Valley of Fire 72.03 322 ⇑P **P 11 35 47.8 +0.5**
baz=72,SNR=45
U12A ⇓S S 11 45 03.1 +4.2
baz=72
CFTV Fuerteventura 72.06 49 P **P 11 35 50.4 +2.9**
comp=Z,37nm,0.8s,mb5.3
V11A Goodsprings 72.12 321 ⇑P **P 11 35 48.4 +0.5**
baz=72,SNR=20
V11A ⇑S S 11 45 03.9 +3.9
baz=72
TUQ Turquoise Mtn. 72.13 321 ⇓P **P 11 35 48.5 +0.6**
baz=72,SNR=15
CCUT Cedar City 72.17 324 *e*pP pP 11 36 19.0 0.0
CCUT *e*sP sP 11 36 32.2 0.0
RWWY Rawlins 72.19 330 *e*P **P 11 35 48.6 +0.4**
comp=Z,48nm,0.9s,mb5.3
RWWY *e*PcP PcP 11 36 06.2 +0.4
RWWY *e*pP pP 11 36 17.9 -1.2
RWWY *e*sP sP 11 36 31.7 -0.7
MSU Marysvale 72.23 325 *e*P **P 11 35 49.2 +0.7**
MSU *e**PP pP 11 36 18.8 -0.5
MSU Marysvale 72.23 325 *e*P **P 11 35 49.2 +0.7**
MSU *e*pP pP 11 36 18.8 -0.4
MSU *e*sP sP 11 36 31.7 -0.9
TMUT Trail Mountain 72.30 326 *e*P **P 11 35 49.3 +0.4**
ARUT Antelope Range 72.38 324 *e*P **P 11 35 50.4 +1.0**
ARUT *e**PP pP 11 36 19.3 -0.9
FMP Fort Macarthur 72.40 318 ⇑P **P 11 35 49.9 +0.3**
baz=73
SHPR Sheep Range 72.43 322 *e*P **P 11 35 50.4 +0.6**
U11A Corn Creek 72.50 322 ⇓P **P 11 35 51.1 +0.9**
baz=73,SNR=6.6
GSC Goldstone 72.57 320 *e*P **P 11 35 51.3 +0.8**
GSC *e**PP pP 11 36 20.3 -1.0
GSC *e**SP sP 11 36 32.7 -2.0
GSC Goldstone 72.57 320 P **P 11 35 51.0 +0.5**
baz=73,SNR=30
GSC ⇑S S 11 45 09.0 +4.0
baz=73
MWC Mount Wilson 72.60 319 *e*P **P 11 35 51.3 +0.6**
RSSD Black Hills 72.77 334 *e*P **P 11 35 51.7 0.0**
RSSD pmax pmax
comp=Z,59nm,1.1s,mb5.3
RSSD Black Hills 72.77 334 *e*P **P 11 35 51.6 -0.1**
comp=Z,59nm,1.1s,mb5.3
RSSD *e*pP pP 11 36 23.1 +0.6
SNCC San Nicolas Is 72.88 317 ⇑P **P 11 35 52.4 +0.1**
baz=73
U10A Ash Meadows, A 73.05 321 ⇓P **P 11 35 54.2 +0.9**
baz=73,SNR=28
U10A ⇓S S 11 45 15.6 +5.0
baz=73
MPU Maple Canyon 73.05 327 *e*P **P 11 35 53.8 +0.4**
comp=Z,60nm,0.9s,mb5.4
MPU *e*pP pP 11 36 23.6 -0.6
MPU *e*sP sP 11 36 36.0 -1.5
DAU Daniels Canyon 73.16 327 *e*P **P 11 35 54.2 +0.2**
DAU *e*pP pP 11 36 26.5 +1.7
DAU *e*sP sP 11 36 37.5 -0.7
NLU North Lily Min 73.24 326 *e*P **P 11 35 54.9 +0.5**
NLU *e*pP pP 11 36 24.4 -0.9
NLU *e*sP sP 11 36 37.8 -0.9
OSI Osito Adit 73.27 319 ⇓P **P 11 35 54.8 +0.1**
baz=74
OSI ⇓S S 11 45 16.2 +3.2
baz=74
CTU Camp Tracy 73.62 327 *e*P **P 11 35 56.7 0.0**
comp=Z,17nm,0.8s,mb4.8
CTU *e*PcP PcP 11 36 12.9 +0.9
CTU *e*pP pP 11 36 27.6 0.0
TCUT Toone Canyon 73.76 328 *e*P **P 11 35 57.9 +0.3**
SBC Santa Barbara 73.77 318 ⇑P **P 11 35 57.8 +0.2**
baz=74
DUG Dugway 73.80 326 *e*P **P 11 35 58.2 +0.5**
DUG *e**PP pP 11 36 28.2 -0.4
DUG pmax pmax
comp=Z,58nm,1.1s,mb5.2
DUG Dugway 73.80 326 *e*P **P 11 35 58.2 +0.5**
comp=Z,58nm,1.1s,mb5.2
DUG *e*pP pP 11 36 28.2 -0.5
DUG *e*sP sP 11 36 41.4 -0.5
ISA Isabella 73.81 319 *e*P **P 11 35 58.5 +0.7**
ISA *e**PP pP 11 36 27.0 -1.7
ISA pmax pmax
comp=Z,63nm,0.9s,mb5.3
ISA Isabella 73.81 319 *e*P **P 11 35 58.5 +0.7**
comp=Z,63nm,0.9s,mb5.3
ISA *e*pP pP 11 36 27.0 -1.7
ISA *e*sP sP 11 36 41.2 -0.8
ISA Isabella 73.81 319 P **P 11 35 58.6 +0.7**
baz=74,SNR=25
ISA ⇑S S 11 45 23.7 +4.6
baz=74
TBI Tubuai 73.98 251 *e*P **P 11 35 59.3 +0.5**
comp=Z,275nm,1.4s,mb5.8
CWC Cottonwood Cre 74.10 320 P **P 11 36 00.1 +0.6**
baz=74,SNR=23
PDAR Pinedale Array 74.12 330 P **P 11 35 59.1 -0.5**
comp=Z,8.8nm,0.8s,mb4.5,baz=141,slow=7.3,SNR=60
PDAR pP pP 11 36 28.4 -2.1
comp=Z,11nm,0.9s,baz=126,slow=7.5,SNR=5.4
PDAR sP sP 11 36 41.6 -2.2
comp=Z,6.7nm,1.0s,baz=78,slow=8.2,SNR=2.6
HWUT Hardware Ranch 74.21 328 *e*P **P 11 35 60.0 -0.1**
comp=Z,78nm,1.0s,mb5.4
HWUT *e*pP pP 11 36 30.9 -0.2
R10A Warm Springs 74.33 323 P **P 11 36 02.0 +1.2**
baz=74,SNR=38
R10A ⇓S S 11 45 29.6 +4.7
baz=74
Q11A Duckwater 74.36 323 P **P 11 36 01.6 +0.6**
baz=75,SNR=82
Q11A ⇑S S 11 45 29.4 +4.2
baz=75
SPUT South Promonto 74.43 327 *e*P **P 11 36 01.2 -0.2**
SPUT *e*pP pP 11 36 31.3 -1.1
SPUT *e*sP sP 11 36 43.5 -2.2
BGU Big Grassy Mou 74.44 326 *e*P **P 11 36 01.5 0.0**
S09A Goldfield 74.46 322 P **P 11 36 01.9 +0.3**
baz=75,SNR=39
S09A ⇓S S 11 45 30.4 +4.0
baz=75
TIN Tinemaha 74.60 321 ⇑P **P 11 36 02.9 +0.5**
baz=75
R09A Tonopah 74.73 322 P **P 11 36 03.5 +0.3**
baz=75,SNR=47
R09A ⇓S S 11 45 34.4 +5.0
baz=75
V05C Boulder Hill, 74.82 319 ⇑P **P 11 36 04.2 +0.5**
baz=75
AHID Auburn Hatcher 74.85 329 *e*P **P 11 36 03.9 +0.1**
comp=Z,107nm,0.9s,mb5.6
AHID *e*pP pP 11 36 35.0 +0.1
P11A Circle Ranch, 74.90 324 ⇓P **P 11 36 04.5 +0.4**
baz=75,SNR=8.4
HVU Hansel Valley 74.94 327 *e*P **P 11 36 04.2 -0.2**
HVU pmax pmax
comp=Z,45nm,1.0s,mb5.2
HVU Hansel Valley 74.94 327 *e*P **P 11 36 04.2 -0.2**
comp=Z,45nm,1.0s,mb5.2
HVU *e*pP pP 11 36 35.9 +0.5
MTUM Tungsten Hills 75.00 321 *e*P **P 11 36 05.2 +0.5**

N13A West Wendover 75.00 326 ⇑P P 11 36 04.7 0.0
baz=75,SNR=11
PMOR Pomariorio Ree 75.06 259 *eP* **P 11 36 05.5 +0.5**
comp=Z,75nm,1.1s,mb5.3
REDW Red Top Meadow 75.18 329 *eP* **P 11 36 05.3 -0.4**
comp=Z,108nm,1.1s,mb5.5
REDW *epP* pP 11 36 35.4 -1.4
Q09A Carvers 75.20 323 ⇑P **P 11 36 06.5 +0.7**
baz=75,SNR=7.8
SNOW Snow King Moun 75.21 330 *eP* **P 11 36 06.3 +0.3**
comp=Z,57nm,0.8s,mb5.3
ULM Lac du Bonnet 75.22 342 P **P 11 36 04.4 -1.5**
comp=Z,13nm,0.7s,mb4.8,baz=155,slow=6.6,SNR=29
ULM pP pP 11 36 34.2 -2.7
comp=Z,31nm,0.9s,baz=152,slow=5.4,SNR=10
ULM sP sP 11 36 47.8 -2.5
comp=Z,14nm,0.9s,baz=157,slow=8.1,SNR=2.5
ULM Lac du Bonnet 75.22 342 *eP* **P 11 36 04.4 -1.5**
comp=Z,165nm,1.4s,mb5.6
ULM *epP* pP 11 36 35.4 -1.6
LOHW Long Hollow 75.26 330 *eP* **P 11 36 06.4 +0.3**
comp=Z,90nm,1.1s,mb5.4
O11A Cowboy Ranch, 75.26 324 P **P 11 36 06.6 +0.4**
baz=76,SNR=28
O11A ⇓S S 11 45 39.0 +3.7
baz=76
U05C Westside ANR, 75.26 319 ⇓P **P 11 36 06.0 -0.3**
baz=76
PKD Parkfield 75.26 319 ⇑P **P 11 36 06.2 0.0**
baz=76,SNR=20
V04C Ramage Ranch, 75.27 318 ⇑P **P 11 36 06.7 +0.5**
baz=76,SNR=12
TPAW Teton Pass 75.33 329 *eP* **P 11 36 06.9 +0.3**
comp=Z,64nm,0.9s,mb5.3
MLAC Mammoth Lakes 75.34 321 ⇓P **P 11 36 07.4 +0.8**
baz=76,SNR=8.1
P10A Eureka 75.34 324 P **P 11 36 07.6 +1.0**
baz=76,SNR=29
P10A ⇑S S 11 45 40.4 +4.2
baz=76
M13A Montello 75.35 326 ⇑P **P 11 36 06.4 -0.3**
baz=76,SNR=13
M13A ⇑S S 11 45 39.2 +3.0
baz=76
R08A Mina 75.40 322 ⇑P **P 11 36 07.4 +0.3**
baz=76
KCC Kaiser Creek 75.42 320 ⇓P **P 11 36 06.8 -0.4**
baz=76
MOOW Moose Ponds 75.43 330 *eP* **P 11 36 06.0 -1.1**
TVO Taravao 75.43 256 *eP* **P 11 36 07.9 +0.7**
comp=Z,171nm,1.3s,mb5.6
N12A Wells--Clov Va 75.44 325 ⇑P **P 11 36 07.3 +0.1**
baz=76,SNR=13
N12A ⇓S S 11 45 40.6 +3.4
baz=76
T06C Millerton Lake 75.45 320 ⇓P **P 11 36 06.1 -1.2**
baz=76
MNV Mina 75.48 322 *eP* **P 11 36 07.6 +0.1**
MNV pmax pmax
comp=Z,29nm,1.0s,mb5.0
MNV Mina 75.48 322 *eP* **P 11 36 07.6 +0.1**
comp=Z,29nm,1.0s,mb5.0
DCID1 Drake Creek 75.52 329 *eP* **P 11 36 08.3 +0.6**
NVAR Mina Array Bea 75.57 322 P **P 11 36 08.4 +0.5**
comp=Z,17nm,0.9s,mb4.8,baz=137,slow=7.6,SNR=87
NVAR pP pP 11 36 36.8 -2.2
comp=Z,9.6nm,0.9s,baz=128,slow=6.4,SNR=4.6
IMW Indian Meadow 75.63 330 *eP* **P 11 36 08.8 +0.5**
comp=Z,96nm,1.0s,mb5.5
IMW *epP* pP 11 36 39.0 -0.4
IMW *esP* sP 11 36 52.2 -0.4
Q08A Gabbs 75.65 322 ⇑P **P 11 36 08.5 +0.1**
baz=76,SNR=65
Q08A ⇑S S 11 45 42.1 +2.6
baz=76
U04C Hernandez Rese 75.68 319 P **P 11 36 09.2 +0.6**
baz=76,SNR=49
U04C ⇓S S 11 45 44.7 +4.8
baz=76
V03C Hunter Liggett 75.75 318 ⇓P **P 11 36 09.7 +0.7**
baz=76,SNR=14
V03C ⇓S S 11 45 43.2 +2.6
baz=76
LAO LASA Array 75.75 334 *eP* **P 11 36 08.7 -0.3**
comp=Z,75nm,1.1s,mb5.3
LAO *epP* pP 11 36 39.8 -0.2
LAO *esP* sP 11 36 52.1 -1.3
PAE Paea 75.77 256 *eP* **P 11 36 09.6 +0.5**
comp=Z,186nm,1.2s,mb5.7
PAE *epP* pP 11 36 39.4 -0.7
comp=Z,116nm,1.4s
R07C Lee Vining 75.78 321 ⇓P **P 11 36 09.9 +0.8**
baz=76,SNR=29
R07C ⇑S S 11 45 46.2 +5.2
baz=76
M12A Wells 75.78 326 P **P 11 36 09.3 +0.2**
baz=76,SNR=41
M12A ⇑S S 11 45 44.4 +3.5
baz=76
N11A Elko Archery C 75.79 325 ⇓P **P 11 36 09.3 0.0**
baz=76,SNR=6.5
N11A ⇓S S 11 45 43.8 +2.7
baz=76
SCHQ Schefferville 75.79 1 P **P 11 36 08.6 -0.6**
comp=Z,12nm,0.8s,mb4.7,baz=172,slow=4.3,SNR=20
SCHQ pP pP 11 36 39.4 -0.9
comp=Z,30nm,0.8s,baz=151,slow=2.3,SNR=6.0
SCHQ sP sP 11 36 52.3 -1.3
comp=Z,26nm,0.9s,baz=137,slow=5.5,SNR=3.5
SCHQ Schefferville 75.79 1 *eP* **P 11 36 08.6 -0.7**
comp=Z,42nm,0.7s,mb5.3
SCHQ *ePcP* PcP 11 36 23.3 +2.0
SCHQ *epP* pP 11 36 39.3 -1.0
SCHQ *esP* sP 11 36 52.6 -1.0
PPT Papeete 75.79 256 *eP* **P 11 36 10.0 +0.8**
comp=Z,74nm,1.4s,mb5.2
PPT Papeete 75.79 256 P **P 11 36 09.9 +0.6**
comp=Z,26nm,0.9s,mb5.0,baz=89,slow=7.0,SNR=3.5
PPT LR LR 12 01 53.5
comp=Z,137nm,22.0s,baz=284,slow=30
LKWY Lake 75.89 330 *eP* **P 11 36 11.3 +1.5**
LKWY pmax pmax
comp=Z,79nm,1.0s,mb5.4
LKWY Lake 75.89 330 *eP* **P 11 36 11.3 +1.5**
comp=Z,79nm,1.0s,mb5.4
LKWY *epP* pP 11 36 43.1 +2.2
T05C Eagle Field, D 75.96 319 ⇓P **P 11 36 10.8 +0.6**
baz=76,SNR=8.1
YFT Old Faithful 76.00 330 *eP* **P 11 36 12.1 +1.7**
YFT *epP* pP 11 36 43.8 +2.3
S05C Merced 76.05 320 ⇓P **P 11 36 11.0 +0.3**
baz=76,SNR=54
S05C ⇓S S 11 45 47.4 +3.5
baz=76
S06C San Francisco 76.11 320 ⇓P **P 11 36 11.4 +0.4**
baz=76,SNR=20
S06C ⇓S S 11 45 46.8 +2.2
baz=76
O09A Fish Creek Ran 76.13 324 ⇓P **P 11 36 11.1 -0.1**
baz=76,SNR=20
O09A ⇓S S 11 45 47.6 +2.8
baz=76
N10A Dunphy 76.14 324 ⇓P **P 11 36 11.3 +0.1**
baz=76,SNR=7.4
SBA Scott Base 76.14 190 *eP* **P 11 36 11.3 +0.1**
SBA pmax pmax
comp=Z,80nm,1.2s,mb5.3
SBA Scott Base 76.14 190 *eP* **P 11 36 11.3 +0.1**
comp=Z,80nm,1.2s,mb5.3
HAST Hastings Reser 76.17 318 ⇓P **P 11 36 11.5 +0.1**
baz=76,SNR=23
Q07A Schurz 76.21 322 ⇑P **P 11 36 12.1 +0.5**
baz=76
YMR Madison River 76.23 330 *eP* **P 11 36 12.8 +1.1**
comp=Z,186nm,1.3s,mb5.7
YMR *epP* pP 11 36 44.5 +1.7
YMR *esP* sP 11 36 56.0 -0.1
M11A Holland Ranch, 76.25 325 ⇑P **P 11 36 12.3 +0.4**
baz=76,SNR=33
WAKR Walker 76.28 321 *eP* **P 11 36 13.2 +1.2**
P08A Dixie Valley 76.30 323 ⇓P **P 11 36 12.6 +0.5**
baz=76,SNR=28
SAO San Andreas Ge 76.35 319 *eP* **P 11 36 11.9 -0.5**
SAO pmax pmax
comp=Z,100nm,0.8s,mb5.6
SAO San Andreas Ge 76.35 319 *eP* **P 11 36 11.9 -0.5**
comp=Z,10nm,0.8s,mb4.6
SAO *epP* pP 11 36 44.1 +0.7
PACP Pacheco Peak 76.41 319 ⇑P **P 11 36 13.2 +0.4**
baz=77,SNR=10
PACP ⇓S S 11 45 50.3 +2.5
baz=77
GCMT Greycliff 76.50 332 *eP* **P 11 36 13.4 +0.1**
GCMT *epP* pP 11 36 44.6 +0.2
CMB Columbia Colle 76.53 320 *eP* **P 11 36 13.2 -0.2**
CMB pmax pmax
comp=Z,110nm,1.0s,mb5.5
CMB Columbia Colle 76.53 320 *eP* **P 11 36 13.2 -0.2**
comp=Z,11nm,1.0s,mb4.5
CMB Columbia Colle 76.53 320 ⇑P **P 11 36 13.2 -0.2**
baz=77,SNR=12
CMB ⇓S S 11 45 50.7 +1.6
baz=77
QLMT Earthquake Lak 76.57 330 *eP* **P 11 36 14.7 +1.1**
QLMT *epP* pP 11 36 46.4 +1.7
SYO Syowa Base 76.58 159 ⇑/P **P 11 36 13.1 -0.6**
SYO Syowa Base 76.58 159 ⇓/*sP* sP 11 36 57.0 -1.0
P07A Fallon 76.66 322 ⇓P **P 11 36 14.6 +0.5**
baz=77
M10A I.L. Ranch, Tu 76.71 325 ⇑P **P 11 36 14.8 +0.4**
baz=77,SNR=12
O08A Rochester Mine 76.75 323 ⇓P **P 11 36 14.7 0.0**
baz=77
S04C Ingram Canyon, 76.75 319 ⇑P **P 11 36 14.7 +0.1**
baz=77,SNR=12
R05C Kirkwood Meado 76.78 321 P **P 11 36 15.6 +0.7**
baz=77,SNR=30
R05C ⇓S S 11 45 55.0 +3.0
baz=77
TORD Torodi Ar. Bea 76.87 70 P **P 11 36 15.4 +0.1**
comp=Z,42nm,0.6s,mb5.3,baz=255,slow=5.5,SNR=111
TORD pP pP 11 36 47.5 +1.0
comp=Z,26nm,0.7s,baz=253,slow=5.5,SNR=1.7
TORD sP sP 11 37 00.1 +0.4
comp=Z,72nm,0.8s,baz=253,slow=5.2,SNR=4.7
TORD S S 11 45 52.4 -0.5
comp=Z,2.6nm,1.0s,baz=236,slow=7.7,SNR=7.9
TORD LR LR 12 10 16.7
comp=Z,312nm,18.5s,baz=255,slow=36
TORD Torodi Ar. Bea 76.87 70 P **P 11 36 15.4 +0.1**
TORD pP pP 11 36 47.5 +1.0
TORD sP sP 11 37 00.1 +0.4
TORD S S 11 45 52.4 -0.5
TORD LR LR 12 10 16.8
WCN Washoe City 76.99 322 P **P 11 36 16.8 +0.7**
baz=77,SNR=20
WCN ⇑S S 11 45 57.7 +3.5
baz=77
R04C Big Horse Ranc 77.01 320 ⇑P **P 11 36 16.4 +0.4**
baz=77,SNR=12
R04C ⇓S S 11 45 57.4 +3.0
baz=77
BNLO Ben Lomond 77.03 319 ⇓P **P 11 36 16.4 +0.2**
baz=77,SNR=7.2
PAHR Pah Rah Range 77.05 322 *eP* **P 11 36 16.9 +0.5**
comp=Z,133nm,0.9s,mb5.7
PAHR *epP* pP 11 36 49.2 +1.8
O07A Toulon 77.07 323 ⇓P **P 11 36 16.4 0.0**
baz=77,SNR=47
HLID Hailey 77.07 328 *eP* **P 11 36 17.0 +0.5**
comp=Z,90nm,1.0s,mb5.5
HLID *epP* pP 11 36 49.0 +1.5
HLID *esP* sP 11 37 00.3 -0.6
N08A GE Springer Mi 77.07 324 ⇓P **P 11 36 15.9 -0.6**
baz=77,SNR=32
N08A ⇓S S 11 45 56.0 +1.0
baz=77
WENL Wente Brothers 77.09 319 ⇓P **P 11 36 17.2 +0.6**
baz=77
M09A Marrel Ranch, 77.14 324 ⇓P **P 11 36 17.1 +0.3**
baz=77,SNR=14
VNDA Vanda 77.16 190 P **P 11 36 16.9 0.0**
comp=Z,21nm,1.0s,mb4.8,baz=135,slow=4.8,SNR=88
VNDA PKKP PKKPbc 11 55 13.2 -9.2
comp=Z,0.8nm,0.9s,baz=227,slow=1.4,SNR=4.1
VNDA Vanda 77.16 190 *eP* **P 11 36 16.9 0.0**
VNDA *e*SP sP 11 36 58.5 -2.8
VNDA pmax pmax
comp=Z,15nm,0.9s
VNDA Vanda 77.16 190 *eP* **P 11 36 16.9 0.0**
comp=Z,15nm,0.9s,mb4.7
VNDA *epP* pP 11 36 49.1 +1.0
VNDA *esP* sP 11 36 58.5 -2.8
LAVA Lava Cap Winer 77.21 321 ⇑P **P 11 36 17.1 -0.2**
baz=77,SNR=20
MCMT McKenzie Canyo 77.23 329 *eP* **P 11 36 18.0 +0.7**
MCMT *epP* pP 11 36 48.3 -0.2
MCMT *esP* sP 11 37 01.8 0.0
JRSC Jasper Ridge 77.25 319 ⇑P **P 11 36 17.5 +0.1**
baz=77
JRSC ⇓S S 11 46 00.9 +4.0
baz=77
BOZ Bozeman (W) 77.28 331 *eP* **P 11 36 17.3 -0.3**
BOZ pmax pmax
comp=Z,62nm,1.3s,mb5.2
BOZ Bozeman (W) 77.28 331 *eP* **P 11 36 17.3 -0.3**
comp=Z,62nm,1.3s,mb5.2
BOZ *epP* pP 11 36 49.3 +0.5
P06A Stead Airport, 77.33 322 ⇑P **P 11 36 18.4 +0.5**
baz=78,SNR=9.7
BDM Black Diamond 77.37 319 ⇓P **P 11 36 18.8 +0.7**
baz=78,SNR=8.0
BDM ⇓S S 11 46 01.0 +2.7
baz=78
SAC San Andreas 77.47 319 *eP* **P 11 36 19.2 +0.5**
P05C Yuba Gap, Truc 77.49 321 ⇑P **P 11 36 19.3 +0.5**
baz=78,SNR=24
DLMT Dillon 77.51 330 *eP* **P 11 36 19.4 +0.5**
comp=Z,128nm,1.2s,mb5.5
DLMT *epP* pP 11 36 50.5 +0.5
DLMT *esP* sP 11 37 02.5 -0.9
O06A Flanigan 77.61 322 P **P 11 36 19.6 +0.2**
baz=78,SNR=15
Q04C Lincoln 77.65 320 ⇑P **P 11 36 20.1 +0.5**
baz=78,SNR=20
M08A Happy Creek Ra 77.66 324 P **P 11 36 19.9 +0.2**
baz=78,SNR=18
L09A Wilkinson Ranc 77.67 325 ⇓P **P 11 36 19.9 +0.1**
baz=78,SNR=36
L09A ⇓S S 11 46 03.3 +1.8
baz=78
LRM Limekiln Ridge 77.79 330 *eP* **P 11 36 20.7 +0.3**
Q03C Winters 77.89 320 ⇓P **P 11 36 21.8 +0.8**
baz=78,SNR=10
FARB Farallon Islan 77.90 319 ⇑P **P 11 36 21.0 -0.1**
baz=78
CVS Carmenet Viney 77.98 319 ⇑P **P 11 36 21.4 -0.1**
baz=78,SNR=15
M07A Soldier Meadow 78.06 323 ⇑P **P 11 36 22.0 +0.1**
baz=78,SNR=29
M07A ⇓S S 11 46 07.6 +1.9
baz=78
O05C Quincy 78.10 321 P **P 11 36 22.6 +0.4**
baz=78,SNR=24
MCCM Marconi Confer 78.11 319 *eP* **P 11 36 22.2 0.0**
MCCM *epP* pP 11 36 51.9 -1.5
MCCM Marconi Confer 78.11 319 ⇓P **P 11 36 22.0 -0.1**
baz=78,SNR=5.2
SUTB Sutter Buttes 78.14 320 ⇓P **P 11 36 22.0 -0.4**
baz=78
L08A Fields 78.15 324 ⇑P **P 11 36 22.5 +0.1**
baz=78,SNR=47
HRY Holter Researc 78.17 331 *eP* **P 11 36 22.9 +0.3**
HRY *epP* pP 11 36 54.6 +0.9
HRY *esP* sP 11 37 05.5 -1.5
ORV Oroville 78.18 321 ⇑P **P 11 36 22.8 +0.2**
baz=78,SNR=67
ORV ⇑S S 11 46 10.1 +3.1
baz=78
EGMT Eagleton 78.28 333 *eP* **P 11 36 22.6 -0.5**
comp=Z,100nm,1.1s,mb5.5
EGMT *epP* pP 11 36 53.4 -0.9
MNRC McLaughlin Nat 78.31 320 ⇓P **P 11 36 23.4 +0.1**
baz=78,SNR=8.5
O04C Chester 78.44 322 ⇑P **P 11 36 24.0 0.0**
baz=79,SNR=34
O04C ⇑S S 11 46 11.8 +2.1
baz=79
WVOR Wild Horse Val 78.47 325 *eP* **P 11 36 24.1 -0.1**
WVOR pmax pmax
comp=Z,110nm,0.8s,mb5.6
WVOR Wild Horse Val 78.47 325 *eP* **P 11 36 24.1 -0.1**
comp=Z,11nm,0.8s,mb4.7
L07A Adell 78.58 324 ⇑P **P 11 36 25.3 +0.5**
baz=79,SNR=36
M06C Likely Place G 78.67 323 ⇑P **P 11 36 25.6 +0.3**
baz=79,SNR=54
HOPS Hopland 78.76 320 *eP* **P 11 36 26.4 +0.6**
HOPS Hopland 78.76 320 ⇑P **P 11 36 26.0 +0.2**
baz=79
HOPS ⇑S S 11 46 16.1 +2.9
baz=79
O03C Acorn Hollow, 78.78 321 ⇓P **P 11 36 24.9 -1.0**
baz=79,SNR=5.5
O03C ⇓S S 11 46 16.8 +3.4
baz=79
GASB Alder Springs 78.96 320 ⇓P **P 11 36 27.3 +0.4**
baz=79,SNR=19
CHMT Chamberlain Mo 78.97 331 *eP* **P 11 36 27.1 +0.2**
CHMT *epP* pP 11 36 59.2 +1.0
CHMT *esP* sP 11 37 10.4 -1.0
HATC Hat Creek Radi 78.98 322 ⇓P **P 11 36 26.8 -0.1**
baz=79,SNR=24
K07A Rock Creek Ran 78.98 324 P **P 11 36 27.4 +0.5**
baz=79,SNR=34
K07A ⇑S S 11 46 17.3 +1.8
baz=79
M05C Lookout 79.15 322 P **P 11 36 28.1 +0.2**
baz=79,SNR=43
M05C ⇓S S 11 46 20.7 +3.4
baz=79
P01C Double 8 Ranch 79.22 320 ⇑P **P 11 36 28.8 +0.5**
baz=79,SNR=11
MSO Missoula 79.23 330 *eP* **P 11 36 28.5 +0.2**
comp=Z,36nm,1.2s,mb5.1
MSO *epP* pP 11 37 00.1 +0.5
O02C Red Bluff 79.34 321 ⇑P **P 11 36 28.4 -0.5**
baz=80,SNR=12
L05A Lakeview 79.42 323 ⇓P **P 11 36 30.1 +0.7**
baz=80,SNR=47
WDC Whiskeytown Da 79.45 321 *eP* **P 11 36 28.1 -1.4**
WDC pmax pmax
comp=Z,40nm,0.8s,mb5.3
WDC Whiskeytown Da 79.45 321 *eP* **P 11 36 28.1 -1.4**
comp=Z,40nm,0.8s,mb5.3
WDC *epP* pP 11 37 00.2 -0.7
WDC Whiskeytown Da 79.45 321 ⇓P **P 11 36 27.8 -1.7**
baz=80,SNR=26
WDC ⇓S S 11 46 20.8 +0.3
baz=80
J07A Hines 79.47 325 ⇓P **P 11 36 30.2 +0.5**
baz=80,SNR=32
K06A Valley Falls 79.60 324 ⇓P **P 11 36 31.0 +0.6**
baz=80,SNR=48
M03C McCloud 79.65 322 ⇓P **P 11 36 30.1 -0.5**
baz=80,SNR=20
TSUM Tsumeb 79.70 107 *eP* **P 11 36 32.3 +1.4**
comp=Z,53nm,0.8s,mb5.4
TSUM *ePcP* PcP 11 36 38.8 +0.5
TSUM *epP* pP 11 37 03.6 +1.4
M04C Macdoel 79.82 322 ⇑P **P 11 36 31.4 -0.1**
baz=80,SNR=40
J06A Christmas Vall 79.85 324 ⇓P **P 11 36 31.8 +0.2**
baz=80,SNR=78
O01C Eel River Cons 79.93 320 ⇑P **P 11 36 32.8 +0.7**
baz=80,SNR=5.7
HOG Hogback Mounta 80.04 323 P **P 11 36 33.0 +0.3**
N02C Big Bar 80.05 321 P **P 11 36 33.0 +0.2**
baz=80,SNR=29
L04A Klamath Falls 80.10 323 ⇓P **P 11 36 33.0 -0.1**
baz=80,SNR=18
M02C Callahan 80.15 322 ⇓P **P 11 36 32.7 -0.6**
baz=80,SNR=10
YBH Yreka Blue Hor 80.28 322 *eP* **P 11 36 32.0 -2.0**
YBH pmax pmax
comp=Z,24nm,0.9s
YBH Yreka Blue Hor 80.28 322 *eP* **P 11 36 32.0 -2.0**
comp=Z,24nm,0.9s,mb5.0
YBH Yreka Blue Hor 80.28 322 ⇓P **P 11 36 32.8 -1.2**
baz=80,SNR=16
K04A Chilquin 80.30 323 ⇑P **P 11 36 34.2 +0.1**
baz=80,SNR=13
KHMM Horse Mountain 80.34 321 *eP* **P 11 36 35.2 +0.9**
I06A Prineville 80.34 325 ⇓P **P 11 36 34.9 +0.6**
baz=81,SNR=64
BSMT Bassoo Peak 80.37 330 *eP* **P 11 36 34.8 +0.3**
BSMT *epP* pP 11 37 05.6 -0.3
JCC Jacoby Creek 80.48 321 ⇑P **P 11 36 35.2 +0.2**
baz=81
WALA Waterton Lakes 80.86 332 *eP* **P 11 36 36.5 -0.6**
comp=Z,58nm,0.9s,mb5.4
WALA *epP* pP 11 37 07.3 -1.1
WALA *esP* sP 11 37 17.5 -4.2
FFC Flin Flon 80.94 341 P **P 11 36 36.6 -0.9**
comp=Z,112nm,1.2s,mb5.6,SNR=9.1
FFC Flin Flon 80.94 341 *eP* **P 11 36 36.0 -1.5**
FFC *e*PP pP 11 37 07.6 -1.3
FFC pmax pmax
comp=Z,69nm,1.2s,mb5.4
FFC Flin Flon 80.94 341 *eP* **P 11 36 36.0 -1.5**
comp=Z,69nm,1.2s,mb5.4
FFC *epP* pP 11 37 07.6 -1.3
FFC *esP* sP 11 37 19.3 -2.9
HUMO Hull Mountain 80.98 323 *eP* **P 11 36 36.4 -1.4**
comp=Z,26nm,1.1s,mb5.0
HUMO *ePcP* PcP 11 36 43.4 -0.5
HUMO Hull Mountain 80.98 323 ⇓P **P 11 36 36.8 -1.0**
baz=81
I05A Bend 81.06 325 ⇑P **P 11 36 38.8 +0.7**
baz=81,SNR=27
L02A Cave Junction 81.07 322 ⇓P **P 11 36 38.3 +0.1**
baz=81,SNR=7.8
PTEO Sao Teotonio 81.08 44 *eP* **P 11 36 37.8 -0.5**
comp=Z,62nm,1.4s,mb5.2
M01C Crescent City 81.17 321 ⇑P **P 11 36 38.9 +0.2**
baz=81
WIFE Three Sisters- 81.29 324 P **P 11 36 39.8 +0.4**
K02A Glendale 81.39 322 ⇑P **P 11 36 39.8 -0.1**
baz=82,SNR=8.6
J03A Ideyld Park 81.47 323 ⇓P **P 11 36 39.8 -0.6**
baz=82
HAWA Hanford 81.64 327 *eP* **P 11 36 41.5 +0.2**
comp=Z,4.6nm,0.8s,mb4.4
HAWA *epP* pP 11 37 12.1 -0.6
HAWA *esP* sP 11 37 24.8 -1.0
NEW Newport 81.76 330 *eP* **P 11 36 40.9 -0.9**
NEW *e*PP pP 11 37 12.4 -0.9
NEW pmax pmax
comp=Z,10.0nm,0.8s
NEW Newport 81.76 330 *eP* **P 11 36 40.9 -1.0**
comp=Z,10nm,0.8s,mb4.7
NEW *ePcP* PcP 11 36 45.2 -2.0
NEW *epP* pP 11 37 12.4 -0.9
BROR Big Rock Looko 81.77 324 P **P 11 36 41.4 -0.5**
G05A Wamic 81.80 325 ⇑P **P 11 36 42.5 +0.5**
baz=82,SNR=12
J02A Umpqua 81.82 323 ⇑P **P 11 36 42.2 +0.1**
baz=82,SNR=5.4
EGRO El Granado 81.88 45 P **P 11 36 43.7 +1.2**
comp=Z,18nm,1.0s,mb4.9
MOE Montemor 81.89 43 *eP* **P 11 36 41.3 -1.2**
H04A Detroit Lake 81.90 324 ⇑P **P 11 36 41.8 -0.8**
baz=82,SNR=11
OD2 Odessa Site #2 81.91 328 P **P 11 36 42.7 0.0**
PBEJ Beja 81.91 44 *eP* **P 11 36 44.1 +1.4**
comp=Z,14nm,1.0s,mb4.8
KEBM Edson Butte 81.94 322 *eP* **P 11 36 43.4 +0.6**
KEBM *epP* pP 11 37 16.0 +1.8
K01A Sixes 81.98 322 ⇑P **P 11 36 43.0 0.0**
baz=82
HOOD Mount Hood Mea 82.03 325 *eP* **P 11 36 43.9 +0.7**
HOOD *epP* pP 11 37 14.7 0.0
I03A Eugene 82.04 323 ⇑P **P 11 36 43.2 -0.1**
baz=82,SNR=8.1
EVO Evora 82.11 44 *eP* **P 11 36 42.6 -1.1**
comp=Z,17nm,0.7s,mb4.7
EVO *eR*
comp=Z,126nm,21.8s
F05A White Salmon 82.29 326 ⇓P **P 11 36 44.8 +0.1**
baz=82,SNR=8.8
I02A Mapleton 82.36 323 ⇓P **P 11 36 45.0 0.0**
baz=83
G04A Mulino 82.40 325 ⇑P **P 11 36 44.9 -0.3**
baz=83,SNR=7.0
COR Corvallis 82.44 324 *eP* **P 11 36 45.8 +0.4**
COR pmax pmax
comp=Z,134nm,1.1s,mb5.7
COR Corvallis 82.44 324 *eP* **P 11 36 45.8 +0.3**
comp=Z,134nm,1.1s,mb5.7

COR *e*pP pP 11 37 18.2 +1.3
PTOM Tomar 82.48 42 *e*P **P 11 36 45.9 +0.3**
comp=Z,43nm,1.7s,mb5.0
PTOM *i* - 11 36 51.8
FCC Fort Churchill 82.50 347 *e*P **P 11 36 44.4 -1.3**
FCC *e**PP pP 11 37 16.2 -1.0
FCC pmax pmax
comp=Z,19nm,0.7s,mb5.0
FCC Fort Churchill 82.50 347 *e*P **P 11 36 44.4 -1.3**
comp=Z,18nm,0.7s,mb5.0
FCC *e*pP pP 11 37 16.2 -1.0
H03A Soap Creek Ran 82.50 324 ⇑P **P 11 36 45.9 +0.2**
baz=83,SNR=5.9
EBG Ellensburg 82.52 327 P **P 11 36 46.1 +0.3**
EMIN Mina Concepcio 82.55 45 P **P 11 36 46.6 +0.7**
comp=Z,21nm,0.8s,mb5.0
ESPR Espera 82.59 46 P **P 11 36 47.6 +1.4**
comp=Z,10.0nm,0.7s,mb4.8
EJIF Jimena Fronter 82.62 46 P **P 11 36 48.2 +1.8**
EJIF pmax pmax
comp=Z,50nm,0.5s,mb5.6
EJIF Jimena Fronter 82.62 46 P **P 11 36 48.2 +1.9**
comp=Z,5.0nm,0.5s,mb4.6
TBM Table Mountain 82.70 327 P **P 11 36 47.0 +0.2**
F04A Amboy 82.83 325 ⇑P **P 11 36 46.7 -0.7**
baz=83,SNR=9.4
F04A ⇓S S 11 46 56.3 +0.8
baz=83
EBAD Badajoz 82.88 44 P **P 11 36 48.8 +1.1**
comp=Z,9.4nm,1.0s,mb4.6
H02A Toledo 82.89 324 ⇑P **P 11 36 47.0 -0.8**
baz=83
E05A Randle 82.90 326 ⇑P **P 11 36 46.9 -0.8**
baz=83,SNR=7.7
EMIJ Mijas 83.16 47 P **P 11 36 50.2 +1.1**
comp=Z,13nm,0.8s,mb4.8
BOSA Boshof 83.18 118 P **P 11 36 49.8 +0.5**
comp=Z,15nm,0.8s,mb4.9,baz=273,slow=5.0,SNR=19
BOSA pP pP 11 37 21.7 +0.9
comp=Z,32nm,1.1s,baz=267,slow=5.5,SNR=5.9
BOSA LR LR 12 10 32.8
comp=Z,175nm,21.5s,baz=75,slow=33
BOSA Boshof 83.18 118 P **P 11 36 49.8 +0.6**
BOSA *PP pP 11 37 21.7 +0.9
BOSA Boshof 83.18 118 P **P 11 36 49.8 +0.6**
BOSA pP pP 11 37 21.7 +0.9
BOSA LR LR 12 10 32.8
PCBR Castelo Branco 83.20 43 *e*P **P 11 36 49.0 -0.3**
comp=Z,8.3nm,1.0s,mb4.5
PCBR *i* - 11 36 55.2
E04A Onalaska 83.42 326 ⇓P **P 11 36 50.2 -0.3**
baz=84
D05A Enumclaw 83.43 326 ⇑P **P 11 36 49.8 -0.7**
baz=84,SNR=8.8
MTE Manteigas 83.47 42 *e*P **P 11 36 47.6 -3.1**
MTE *i* - 11 36 57.0
MTE Manteigas 83.47 42 *e*S S 11 47 10.7 +8.7
C05A Tolt Reservoir 83.61 327 ⇓P **P 11 36 49.8 -1.6**
baz=84,SNR=9.3
PNT Penticton 83.67 329 P **P 11 36 51.2 -0.6**
EDM Edmonton 83.73 335 *e*P **P 11 36 50.3 -1.7**
EDM *e**PP pP 11 37 20.7 -2.9
D04A Dobbs Creek Ra 83.80 326 ⇑P **P 11 36 52.1 -0.3**
baz=84
E03A Lebam 83.84 325 ⇑P **P 11 36 52.2 -0.3**
baz=84
PVRL Vila Real 83.87 41 *e*P **P 11 36 52.9 +0.2**
comp=Z,35nm,1.4s,mb5.0
ELOJ Sierra Loja 83.89 46 P **P 11 36 54.0 +1.2**
ELOJ pmax pmax
comp=Z,60nm,0.5s,mb5.7
ELOJ Sierra Loja 83.89 46 P **P 11 36 54.0 +1.1**
comp=Z,5.5nm,0.5s,mb4.6
PCAB Cabril 83.93 41 *e*P **P 11 36 52.8 -0.2**
comp=Z,33nm,1.0s,mb5.1
ELOB Lobios 84.00 41 P **P 11 36 54.4 +0.9**
comp=Z,18nm,1.1s,mb4.8
JCW Jim Creek 84.06 327 P **P 11 36 52.6 -1.1**
GNW Green Mountain 84.10 326 *e*P **P 11 36 53.4 -0.5**
GNW *e*pP pP 11 37 24.2 -1.4
EADA Adamuz 84.15 45 P **P 11 36 54.6 +0.5**
comp=Z,12nm,0.8s,mb4.8
B05A Bryant 84.19 327 P **P 11 36 53.4 -1.0**
baz=84,SNR=18
C04A Brinnon 84.28 326 ⇑P **P 11 36 54.1 -0.7**
baz=84
D03A Wishkah Elem. 84.31 326 ⇓P **P 11 36 54.9 -0.1**
baz=84
MAW Mawson 84.44 163 P **P 11 36 55.5 -0.1**
comp=Z,71nm,0.9s,mb5.5,baz=215,slow=5.9,SNR=129
MAW Mawson 84.44 163 P **P 11 36 55.5 -0.1**
MAW pmax pmax
comp=Z,71nm,0.9s
MAW Mawson 84.44 163 *e*P **P 11 36 55.1 -0.5**
comp=Z,95nm,0.9s,mb5.6
EBER Berja 84.61 47 P **P 11 36 56.7 +0.2**
comp=Z,11nm,0.7s,mb4.9
A05A Maple Falls 84.67 328 ⇓P **P 11 36 55.7 -1.1**
baz=85,SNR=12
EBAN Banos Encina 84.67 46 P **P 11 36 58.1 +1.3**
EBAN pmax pmax
comp=Z,40nm,0.8s,mb5.4
EBAN Banos Encina 84.67 46 P **P 11 36 58.1 +1.2**
comp=Z,40nm,0.8s,mb5.4
LBTB Lobatse 84.73 115 *e*P **P 11 36 57.3 +0.2**
LBTB *e**PP pP 11 37 29.1 +0.4
LBTB pmax pmax
comp=Z,27nm,0.8s,mb5.2
LBTB Lobatse 84.73 115 *e*P **P 11 36 57.3 +0.2**
comp=Z,27nm,0.8s,mb5.2
LBTB *e*pP pP 11 37 29.1 +0.4
B04A Port Angeles 84.77 326 ⇑P **P 11 36 56.9 -0.4**
baz=85
PBRG Braganca 84.77 41 *e*P **P 11 36 56.9 -0.4**
comp=Z,25nm,1.3s,mb5.0
A04A Legoe Bay, Lum 84.80 327 ⇓P **P 11 36 56.8 -0.6**
baz=85
ECAL Calabor 84.85 41 P **P 11 36 58.3 +0.6**
comp=Z,19nm,0.9s,mb5.0
EQES Quesada 84.96 46 P **P 11 36 58.3 +0.1**
comp=Z,24nm,0.8s,mb5.2
ENIJ Nijar 85.12 47 P **P 11 36 59.2 +0.2**
ENIJ pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ENIJ Nijar 85.12 47 P **P 11 36 59.2 +0.2**
comp=Z,6.4nm,0.5s,mb4.8
PGC Sidney 85.12 327 *e*P **P 11 36 59.0 -0.1**
PGC *e*pP pP 11 37 29.0 -1.7
C03A Quillayute Air 85.26 326 ⇑P **P 11 36 58.9 -0.8**
baz=86
EHUE Huescar 85.29 46 P **P 11 37 00.2 +0.3**
EHUE pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
EHUE Huescar 85.29 46 P **P 11 37 00.2 +0.3**
comp=Z,10nm,0.8s,mb4.8
ESDC Sonseca Array 85.36 44 P **P 11 37 00.8 +0.5**
comp=Z,6.7nm,0.8s,mb4.6,baz=237,slow=5.0,SNR=26
ESDC pP pP 11 37 32.5 +0.5
comp=Z,3.4nm,0.7s,baz=248,slow=5.0,SNR=2.3
ESDC LR LR 12 13 28.3
comp=Z,88nm,18.3s,baz=165,slow=34
ESDC Sonseca Array 85.36 44 P **P 11 37 01.1 +0.8**
comp=Z,15nm,1.6s,mb4.7
ESLA Sonseca Array 85.36 44 *e*P **P 11 37 01.4 +1.1**
comp=Z,12nm,1.3s,mb4.7
EPON Pontenova 85.39 40 P **P 11 37 00.4 +0.1**
comp=Z,16nm,1.0s,mb4.9
EVIA Vianos 85.78 46 P **P 11 37 03.7 +1.4**
EVIA pmax pmax
comp=Z,22nm,1.0s,mb5.0
EVIA Vianos 85.78 46 P **P 11 37 03.7 +1.4**
comp=Z,22nm,1.0s,mb5.0
ETOB Tobarra 86.43 46 P **P 11 37 06.4 +0.9**
comp=Z,16nm,0.8s,mb5.0
EARI Arriondas 86.55 41 P **P 11 37 05.7 -0.4**
comp=Z,13nm,0.9s,mb4.9
ECHE Chera 87.29 46 P **P 11 37 10.5 +0.8**
ECHE pmax pmax
comp=Z,33nm,0.8s,mb5.3
ECHE Chera 87.29 46 P **P 11 37 10.5 +0.8**
comp=Z,33nm,0.8s,mb5.3
EBEN Beniarda 87.35 47 P **P 11 37 14.5 +4.5**
comp=Z,23nm,0.9s,mb5.1
EMOS Mosqueruela 88.01 45 P **P 11 37 12.3 -0.7**
comp=Z,5.4nm,0.7s,mb4.7
ERTA Horta de San J 88.84 45 P **P 11 37 17.5 +0.5**
comp=Z,15nm,1.7s,mb4.7
EBR Ebro Roquetas 88.88 45 *e*Ts 11 37 27.5
SJPF Ste Jean 88.92 42 *e*P **P 11 37 17.8 +0.5**
comp=Z,25nm,1.3s,mb4.8
SJPF Ste Jean 88.92 42 *e*P **P 11 37 17.8 +0.5**
SJPF pmax pmax
comp=Z,12nm,1.3s,mb4.8
SJPF Ste Jean 88.92 42 *e*P **P 11 37 17.8 +0.5**
comp=Z,12nm,1.3s,mb4.8
ETSF Etsaut 89.23 43 *e*P **P 11 37 19.3 +0.5**
comp=Z,9.8nm,0.7s,mb4.6
ETSF Etsaut 89.23 43 *e*P **P 11 37 19.3 +0.5**
ETSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ETSF Etsaut 89.23 43 *e*P **P 11 37 19.3 +0.5**
comp=Z,4.9nm,0.7s,mb4.7
EGRA Graus 89.44 44 P **P 11 37 20.0 +0.2**
comp=Z,15nm,1.2s,mb4.9
EBIE Bielsa 89.57 43 P **P 11 37 20.7 +0.3**
comp=Z,4.4nm,0.9s,mb4.6
EPF Esparros 89.87 43 *e*P **P 11 37 22.0 +0.2**
EMIR Miracle 90.09 45 P **P 11 37 23.3 +0.5**
comp=Z,15nm,1.1s,mb5.0
ROSF Rostrenen 90.41 37 *e*P **P 11 37 24.7 +0.4**
comp=Z,37nm,1.1s,mb5.1
ROSF Rostrenen 90.41 37 *e*P **P 11 37 24.7 +0.4**
ROSF pmax pmax
comp=Z,19nm,1.1s,mb5.1
ROSF Rostrenen 90.41 37 *e*P **P 11 37 24.7 +0.4**
comp=Z,19nm,1.1s,mb5.1
LFF La Frestale 91.06 42⇑*i*P **P 11 37 27.1 -0.2**
comp=Z,41nm,0.8s,mb5.3
LFF *e*pP pP 11 37 58.2 -1.1
LFF La Frestale 91.06 42⇑*i*P **P 11 37 27.1 -0.2**
LFF *e**PP pP 11 37 58.2 -1.1
LFF pmax pmax
comp=Z,21nm,0.8s,mb5.3
LFF La Frestale 91.06 42⇑*i*P **P 11 37 27.1 -0.2**
comp=Z,21nm,0.8s,mb5.3
LFF *e*pP pP 11 37 58.2 -1.1
YKA Yellowknife Ar 91.10 340 P **P 11 37 26.5 -1.1**
comp=Z,30nm,0.8s,mb5.5,baz=133,slow=4.5,SNR=77
YKA pP pP 11 37 58.3 -1.2
comp=Z,34nm,0.9s,baz=134,slow=4.6,SNR=9.3
YKA LR LR 12 24 57.8
comp=Z,82nm,18.3s,baz=110,slow=40
YKA Yellowknife Ar 91.10 340 P **P 11 37 26.5 -1.1**
YKA *PP pP 11 37 58.3 -1.2
YKA Yellowknife Ar 91.10 340 P **P 11 37 26.5 -1.1**
YKA pP pP 11 37 58.3 -1.2
YKA LR LR 12 24 57.8
YKW3 Yellowknife Ar 91.16 340 *e*P **P 11 37 26.8 -1.0**
YKW3 *e*pP pP 11 37 57.5 -2.2
MTLF Montolieu 91.22 44 *e*P **P 11 37 27.8 -0.3**
comp=Z,14nm,1.0s,mb4.7
MTLF Montolieu 91.22 44 *e*P **P 11 37 27.8 -0.3**
MTLF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
MTLF Montolieu 91.22 44 *e*P **P 11 37 27.8 -0.3**
comp=Z,6.8nm,1.0s,mb4.7
MFF Saint Martin d 91.34 40 *e*P **P 11 37 28.2 -0.4**
comp=Z,38nm,1.1s,mb5.2
MFF *e*pP pP 11 37 59.3 -1.3
MFF Saint Martin d 91.34 40 *e*P **P 11 37 28.2 -0.4**
MFF *e**PP pP 11 37 59.3 -1.3
MFF pmax pmax
comp=Z,19nm,1.1s,mb5.1
MFF Saint Martin d 91.34 40 *e*P **P 11 37 28.2 -0.4**
comp=Z,19nm,1.1s,mb5.1
MFF *e*pP pP 11 37 59.3 -1.3
MIR Mirnyy 91.35 173*d*/*i*P **P 11 37 28.5 -0.2**
MIR pmax pmax
comp=Z,250nm,1.5s,mb6.1
RJF Les Rejaudoux 91.71 42⇑*i*P **P 11 37 29.9 -0.5**
comp=Z,12nm,0.8s,mb4.9
RJF *e*R
comp=Z,125nm,20.5s
RJF Les Rejaudoux 91.71 42⇑*i*P **P 11 37 29.9 -0.5**
RJF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
RJF MLR MLR
comp=Z,130nm,20.5s
RJF Les Rejaudoux 91.71 42⇑*i*P **P 11 37 29.9 -0.5**
comp=Z,6.2nm,0.8s,mb4.9
RJF LR LR
comp=Z,130nm,20.5s
GRR Gorron 91.82 38 *e*P **P 11 37 31.0 +0.1**
comp=Z,23nm,0.8s,mb5.2
GRR Gorron 91.82 38 *e*P **P 11 37 31.0 +0.1**
GRR pmax pmax
comp=Z,11nm,0.8s,mb5.1
GRR Gorron 91.82 38 *e*P **P 11 37 31.0 +0.1**
comp=Z,11nm,0.8s,mb5.2
CAF Calviac 91.87 42⇑*i*P **P 11 37 30.8 -0.3**
comp=Z,9.4nm,0.8s,mb4.8
CAF Calviac 91.87 42⇑*i*P **P 11 37 30.8 -0.3**
CAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
CAF Calviac 91.87 42⇑*i*P **P 11 37 30.8 -0.3**
comp=Z,4.7nm,0.8s,mb4.8
FLN La Foliniere 92.22 38 *e*P **P 11 37 32.1 -0.6**
LDF La Druitiere 92.34 38 *e*P **P 11 37 33.5 +0.2**
comp=Z,40nm,1.0s,mb5.3
LDF La Druitiere 92.34 38 *e*P **P 11 37 33.5 +0.2**
LDF pmax pmax
comp=Z,20nm,1.0s,mb5.3
LDF La Druitiere 92.34 38 *e*P **P 11 37 33.5 +0.2**
comp=Z,20nm,1.0s,mb5.3
TCF Toulx Ste Croi 92.61 41 *e*P **P 11 37 33.8 -0.7**
comp=Z,20nm,1.2s,mb5.0
TCF Toulx Ste Croi 92.61 41 *e*P **P 11 37 33.8 -0.7**
TCF pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
TCF Toulx Ste Croi 92.61 41 *e*P **P 11 37 33.8 -0.7**
comp=Z,10nm,1.2s,mb5.0
CASY Casey 92.73 180 *e*P **P 11 37 35.0 0.0**
comp=Z,77nm,1.0s,mb6.0
CASY *e*sP sP 11 38 20.1 0.0
BGF Bois d'Agland 93.12 41 *e*P **P 11 37 36.2 -0.7**
comp=Z,24nm,1.0s,mb5.2
BGF Bois d'Agland 93.12 41 *e*P **P 11 37 36.2 -0.7**
BGF pmax pmax
comp=Z,12nm,1.0s,mb5.2
BGF Bois d'Agland 93.12 41 *e*P **P 11 37 36.2 -0.7**
comp=Z,12nm,1.0s,mb5.2
AVF Avril sur Loir 93.54 41 *e*P **P 11 37 38.0 -0.8**
comp=Z,26nm,1.3s,mb5.1
AVF *e*pP pP 11 38 09.2 -1.6
AVF Avril sur Loir 93.54 41 *e*P **P 11 37 38.0 -0.8**
AVF *e**PP pP 11 38 09.2 -1.6
AVF pmax pmax
comp=Z,13nm,1.3s,mb5.1
AVF Avril sur Loir 93.54 41 *e*P **P 11 37 38.0 -0.8**
comp=Z,13nm,1.3s,mb5.1
AVF *e*pP pP 11 38 09.2 -1.6
SMRF Simiane la Rot 93.67 44 *e*P **P 11 37 38.8 -0.6**
comp=Z,30nm,1.4s,mb5.1
SMRF Simiane la Rot 93.67 44 *e*P **P 11 37 38.8 -0.6**
comp=Z,30nm,1.4s,mb5.4
SSF Saint Saulge 93.76 41⇑*i*P **P 11 37 38.8 -1.0**
comp=Z,14nm,1.0s,mb5.0
SSF Saint Saulge 93.76 41⇑*i*P **P 11 37 38.8 -1.0**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SSF Saint Saulge 93.76 41⇑*i*P **P 11 37 38.8 -1.0**
comp=Z,6.9nm,1.0s,mb4.9
SMF Signal de Mont 93.77 41 *e*P **P 11 37 39.4 -0.5**
comp=Z,26nm,1.0s,mb5.2
SMF *e*pP pP 11 38 10.6 -1.3
SMF Signal de Mont 93.77 41 *e*P **P 11 37 39.4 -0.5**
SMF *e**PP pP 11 38 10.6 -1.3
SMF pmax pmax
comp=Z,13nm,1.0s,mb5.2
SMF Signal de Mont 93.77 41 *e*P **P 11 37 39.4 -0.5**
comp=Z,13nm,1.0s,mb5.2
SMF *e*pP pP 11 38 10.6 -1.3
LMR La Mourre 94.01 45 *e*P **P 11 37 40.9 0.0**
comp=Z,32nm,1.0s,mb5.3
LMR La Mourre 94.01 45 *e*P **P 11 37 40.9 0.0**
LMR pmax pmax
comp=Z,16nm,1.0s,mb5.3
LMR La Mourre 94.01 45 *e*P **P 11 37 40.9 0.0**
comp=Z,16nm,1.0s,mb5.3
LOR Lormes 94.07 41 *e*P **P 11 37 40.2 -1.0**
comp=Z,16nm,0.9s,mb5.0
LOR *e*R
comp=Z,132nm,22.0s
LOR Lormes 94.07 41 *e*P **P 11 37 40.2 -1.0**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,130nm,22.0s
LOR Lormes 94.07 41 *e*P **P 11 37 40.2 -1.0**
comp=Z,7.8nm,0.9s,mb5.0
LOR LR LR
comp=Z,130nm,22.0s
DLBC Dease Lake 94.19 332 *e*P **P 11 37 41.1 -0.7**
FRF La Foret Royal 94.19 45 *e*P **P 11 37 40.6 -1.2**
ORIF Oris-en-Rattie 94.28 43 *e*P **P 11 37 42.7 +0.5**
ORIF *e*R
comp=Z,159nm,21.8s
MBDF Montbardon 94.77 44 *e*P **P 11 37 44.7 +0.2**
SBF Sospel 94.84 45 *e*P **P 11 37 44.8 0.0**
comp=Z,61nm,1.2s,mb5.6
SBF Sospel 94.84 45 *e*P **P 11 37 44.8 0.0**
SBF pmax pmax
comp=Z,31nm,1.2s,mb5.6
SBF Sospel 94.84 45 *e*P **P 11 37 44.8 0.0**
comp=Z,31nm,1.2s,mb5.6
LPG La Plagne 95.09 43 *e*P **P 11 37 46.6 +0.7**
PGF Pioggiola 95.34 46 *e*P **P 11 37 47.1 +0.1**
comp=Z,29nm,1.2s,mb5.3
PGF Pioggiola 95.34 46 *e*P **P 11 37 47.1 +0.1**
PGF pmax pmax
comp=Z,15nm,1.2s,mb5.3
PGF Pioggiola 95.34 46 *e*P **P 11 37 47.1 +0.1**
comp=Z,15nm,1.2s,mb5.3
WLF Walferdange 96.49 39 *e*SP SP 11 50 27.1 +4.2
BFO Black Forest 97.25 41 *e*SKSac SKSac 11 48 26.2 +4.9
BFO *e*SP SP 11 50 35.9 +4.8
BUG Bochum--Univer 97.88 38 *e*SP SP 11 50 42.0 +4.0
STU Stuttgart 97.95 41 *e*SP SP 11 50 42.0 +3.3
TNS Taunus Mts 98.07 39 *e*SKSac SKSac 11 48 32.1 +6.6
TNS *e*SP SP 11 50 44.6 +4.6
IBBN Ibbenburen 98.51 37 *e*SP SP 11 50 49.0 +4.2
FUR Furstenfeldbru 99.00 42 *e*SP SP 11 50 49.9 -0.1
HLG Helgoland 99.33 35 *e*SP SP 11 50 55.1 +1.5
GRFO Grafenberg 99.53 40 *e*SP SP 11 51 02.1 +6.4
GRF Grafenberg Arr 99.53 40 *e*SKSac SKSac 11 48 40.8 +8.1
GRF *e*SP SP 11 51 00.4 +4.7
CLZ Clausthal 99.82 38 *e*SP SP 11 51 00.4 +1.6
CADS Cadrg 99.87 44 *e*PP PP 11 42 11.3 -2.3
VOJS Vojsko 99.90 44 *e*PP PP 11 42 11.7 -2.1
NRDL Niedersach Rie 99.91 37 *e*SKSac SKSac 11 48 42.8 +8.2
NRDL *e*SP SP 11 51 00.4 +0.6
MOX Moxa 100.11 40 *e*SKSac SKSac 11 48 43.9 +8.3
MOX *e*SP SP 11 51 05.6 +3.7
ROTZ Rotzenmuhle 100.15 41 *e*SKSac SKSac 11 48 41.6 +5.8
ROTZ *e*SP SP 11 51 05.6 +3.2
MANZ Manzenberg 100.17 40 *e*SKSac SKSac 11 48 44.1 +8.2
MANZ *e*SP SP 11 51 09.1 +6.5
WET Wettzell 100.34 41 *e*SKSac SKSac 11 48 42.8 +6.1
WET *e*SP SP 11 51 08.3 +3.9
TANN Tannenbergstha 100.53 40 *e*SP SP 11 51 12.6 +6.1
BSEG Bad Segeberg 100.56 36 *e*SKSac SKSac 11 48 44.5 +6.7
BSEG *e*SP SP 11 51 10.9 +4.1
GEC2 GERESS Array S 100.75 42 *e*SKSac SKSac 11 48 41.2 +2.5
GEC2 *e*SP SP 11 51 10.0 +1.2
GERES GERESS Array B 100.75 42 P Pdif 11 38 11.3 0.0
comp=Z,0.3nm,0.2s,baz=270,slow=2.5,SNR=3.6
CRES Cresnjev 100.86 45 *e*Pdiff Pdif 11 38 11.3 -0.5
CLL Collm 101.16 39 *e*SKSac SKSac 11 48 42.4 +1.7
CLL *e*SP SP 11 51 17.0 +3.8
CLL Collm 101.16 39 *i* PP PP 11 42 19.9 -3.4
comp=Z,34nm,1.8s
CLL *i* x x 11 42 34.0
BRG Berggiesshubel 101.58 40 *e*SKSac SKSac 11 48 48.3 +5.6
BRG *e*SP SP 11 51 22.3 +4.7
BRG Berggiesshubel 101.58 40 *e*P PKiKP 11 42 23.6 -15
comp=Z,12nm,1.7s
BRG Berggiesshubel 101.58 40 *e*P PKiKP 11 42 23.6 -15
comp=Z,12nm,1.7s
RUE Ruedersdorf 102.01 38 *e*SP SP 11 51 24.9 +2.7
RGN Rugen 102.43 36 *e*SP SP 11 51 26.7 +0.1
AKASG Malin Array Be 110.94 42 Pdiff Pdif 11 38 52.4 -4.2
comp=Z,0.3nm,0.3s,baz=225,slow=5.4,SNR=4.0
AKASG PP PP 11 43 25.6 -10
comp=Z,0.2nm,0.3s,baz=258,slow=9.3,SNR=3.5
AKASG PKKPbc PKKPbc 11 53 52.3 -0.6
comp=Z,0.2nm,0.3s,baz=86,slow=2.5,SNR=4.6
AKASG Malin Array Be 110.94 42 *i* PKIKP PKiKP 11 42 55.0 -0.5
BRTR Keskin Array B 112.34 55 PKiKP PKiKP 11 42 57.4 -0.8
comp=Z,1.9nm,0.8s,baz=194,slow=2.5,SNR=9.1
BRTR PP PP 11 43 40.5 -4.8
comp=Z,1.8nm,0.8s,baz=246,slow=4.5,SNR=5.2
BRTR Keskin Array B 112.34 55 *i* PKIKP PKiKP 11 42 58.5 +0.4
BRTR pmax pmax
comp=Z,2.0nm,0.8s
APA Apatity 113.98 24⇓*i*P Pdif 11 39 21.0 +11
APA pmax pmax
comp=Z,28nm,0.5s
OBN Obninsk 115.72 38⇑*i*PKIKP PKPdf 11 43 04.1 -0.5
OBN pmax pmax
comp=Z,9.0nm,0.7s
ANN Anapa 115.78 50 *i* PKIKP PKPdf 11 43 11.9 +7.2
ANN pmax pmax
comp=Z,35nm,1.3s
MALT Malatya 115.82 57 *e*PKPdf PKPdf 11 43 05.6 +0.8
MALT *e*pPKPdf pPKPdf 11 43 38.6 +0.4
KIV Kislovodsk 119.49 51 *e*PKIKP PKPdf 11 43 08.9 -3.0
KIV pmax pmax
comp=Z,10.0nm,0.9s
STKA Stephens Creek 119.83 209 *e*PKP PKPdf 11 43 10.3 -2.2
comp=Z,3.6nm,0.9s
STKA Stephens Creek 119.83 209 PKP PKPdf 11 43 10.2 -2.4
comp=Z,4.1nm,0.9s,baz=191,slow=1.1,SNR=6.4
BILL Bilibino 122.46 339 *i* PKIKP PKPdf 11 43 16.5 -1.1
BILL pmax pmax
comp=Z,4.0nm,0.8s
FORT Forrest 125.88 198 *e*PKP PKPdf 11 43 22.6 -1.5
comp=Z,17nm,0.7s
CTA Charters Tower 126.70 222 *e*PKP PKPdf 11 43 26.2 +0.5
comp=Z,5.8nm,0.9s
ARU Arti 127.71 34 *i* PKIKP PKPdf 11 43 27.4 -0.2
ARU *e* 11 45 27.9
ARU *e* 11 50 21.4
ARU *e*SS SS 12 02 27.5 -4.9
ARU Arti 127.71 34 *e*PKPdf PKPdf 11 43 28.1 +0.5
ARU *e*pPKPdf pPKPdf 11 44 01.5 +0.5
TIXI Tiksi 128.61 353 *e*PKIKP PKPdf 11 43 27.8 -1.5
AS31 Alice Springs 130.32 207 *e*PKP PKPdf 11 43 32.3 -0.3
AS31 *e*pPKP pPKPdf 11 44 05.8 -0.2
AS31 *e* 11 45 50.3
AS31 *e*PKS 11 46 54.5
ASAR Alice Springs 130.32 207 PKhKP 11 43 14.5
comp=Z,0.7nm,0.9s,baz=142,slow=2.4,SNR=5.4
ASAR PKP PKPdf 11 43 32.3 -0.3
comp=Z,18nm,0.9s,baz=148,slow=2.3,SNR=61
ASAR pPKP pPKPdf 11 44 04.9 -1.1
comp=Z,8.9nm,1.0s,baz=149,slow=1.8,SNR=5.1
ASAR PKKP 11 53 31.9
comp=Z,0.2nm,0.5s,baz=0.0,slow=1.4,SNR=4.5
ASAR Alice Springs 130.32 207 PKIKP PKPdf 11 43 32.3 -0.3
ASAR 11 44 04.9
ASAR Alice Springs 130.32 207 PKP PKPdf 11 43 32.3 -0.3
ASAR pPKP pPKPdf 11 44 04.9 -1.1
ASAR PKKP 11 53 31.9
ASPA Alice Springs 130.32 207 *e*PKP PKPdf 11 43 32.3 -0.3
ASPA *e*pPKP pPKPdf 11 44 05.8 -0.2
ASPA *e* 11 45 50.3
ASPA *e*PKS 11 46 54.5
WB2 Warramunga Arr 133.37 210 *e*PKP PKPdf 11 43 38.0 -0.3
WB2 *e*pPKP pPKPdf 11 44 12.0 +0.3
WB2 *e*PKS 11 47 06.5
WRA Warramunga Arr 133.38 210 PKhKP 11 43 23.9
comp=Z,1.0nm,0.8s,baz=200,slow=1.1,SNR=9.6
WRA PKP PKPdf 11 43 38.5 +0.2
comp=Z,10nm,0.7s,baz=161,slow=1.7,SNR=37
WRA pPKP pPKPdf 11 44 11.1 -0.7
comp=Z,3.7nm,0.7s,baz=159,slow=1.9,SNR=3.5
WRA Warramunga Arr 133.38 210 PKIKP PKPdf 11 43 38.5 +0.2
WRA 11 44 11.1
WRAB Tennant Creek 133.38 210 *e*PKIKP PKPdf 11 43 38.5 +0.1
ZRNK Zerenda 134.65 35 *e*PKPdf PKPdf 11 43 41.5 +0.8
ZRNK *e*pPKPdf pPKPdf 11 44 14.9 +0.7
MBWA Marble Bar 137.09 191 *e*PKPdf PKPdf 11 43 45.6 +0.4
YAK Yakutsk 137.38 347⇑*i*PKIKP PKPdf 11 43 45.1 -0.7
FITZ Fitzroy Crossi 138.52 200 *e*PKP PKPdf 11 43 48.3 +0.4

comp=Z,20nm,0.8s
NVS Novosibirsk 140.27 25 *e*PKIKP PKPdf 11 43 51.5 +0.4
KURK Kurchatov 140.89 33 *i* PKIKP PKIKP 11 43 52.4 +0.2
KURK Kurchatov 140.89 33 *e*PKPdf PKPdf 11 43 53.0 +0.8
KURK *ep*PKPdf pPKPdf 11 44 24.6 -1.0
FRU Bishkek 142.44 46 *e*PKIKP PKPdf 11 43 53.0 -2.0
FRU *e* 11 44 28.0
BOD Bodaibo 143.44 358 *e*PKHKP 11 43 51.8
BOD pmax pmax
comp=Z,17nm,1.2s
YSS Yuzh-Sakhalins 144.01 323 *e*PKHKP 11 43 54.0
YSS Yuzh-Sakhalins 144.01 323 *e*PKPdf PKPdf 11 43 55.6 -2.2
POO Poona 144.50 88 *ex* x 11 44 30.0
KSH Kashi 144.62 51 PKP PKPdf 11 43 58.5 -0.3
KSH *e*XPKP 11 44 36.0
KSH *e*PKS 11 47 33.5
KSH *e*SKS SKSdf 11 50 57.8 +1.2
KSH PP PP
comp=Z,160nm,4.0s
KSH LR LR
comp=N,490nm,5.6s
KSH LR LR
comp=E,350nm,3.8s
KSH LR LR
comp=Z,450nm,6.4s
MKAR Makanchi Array 145.19 36 PKPbc PKPbc 11 44 00.3 +0.7
comp=Z,37nm,0.8s,baz=318,slow=3.4,SNR=185
MKAR pPKPbc 11 44 32.2
comp=Z,22nm,0.8s,baz=336,slow=2.7,SNR=4.1
MKAR sPKP 11 44 45.6
comp=Z,69nm,0.9s,baz=316,slow=3.3,SNR=12
MKAR Makanchi Array 145.19 36 *i* PKIKP PKPdf 11 44 00.4 +0.6
MKAR pmax pmax
comp=Z,37nm,0.8s
KHET Khetri 146.90 71 *e*P PKPdf 11 44 01.6 -1.1
KHET *i* pP 11 44 37.0
KHET *i* pP 11 44 37.0
HABR Khabarovsk 146.96 331 *i* PKP2 PKPab 11 44 05.8 -0.9
KUDL Kundal 147.50 71 *e*P PKPdf 11 44 03.3 -0.4
KUDL *i* x x 11 44 38.3
SMLA Simla 147.73 65 *e*P PKPdf 11 44 05.1 +1.1
AKL Akola 147.79 85 *ex* PKPbc 11 44 13.6 +6.4
KLR Kul'dur 147.79 335 *e*PKHKP 11 44 00.0
SONA Sohna 148.01 70 *e*P PKPdf 11 44 05.8 +1.3
AYAN Aya Nagar 148.03 70 *e*P PKPdf 11 44 03.6 -1.0
AYAN *i* pP 11 44 39.5
AYAN *ex* x 11 44 42.7
comp=Z,13nm,0.7s
NDI New Delhi 148.09 70 *e*P PKPdf 11 44 05.0 +0.3
NDI *ex* x 11 44 38.5
NDI *ep*P 11 44 38.5
BHPL Bhopal 148.40 80 *e*P PKPdf 11 44 05.0 -0.2
MOY Mondy 148.56 13 *e*PKHKP 11 43 51.1
MOY pmax pmax
comp=Z,90nm,2.4s
IRK Irkutsk 148.56 9 *e*PKIKP PKPdf 11 44 05.9 +0.5
IRK *e* 11 44 41.3
IRK pmax pmax
comp=Z,98nm,1.9s
KLP Kalpa 148.57 64 *e*P PKPdf 11 44 05.2 -0.3
HYB Hyderabad 148.66 91 *i* PKP PKPdf 11 44 07.0 +1.4
HYB Hyderabad 148.66 91 *e*P PKPdf 11 44 07.0 +1.4
AGRA Agra 148.85 72 *e*P PKPdf 11 44 06.9 +1.0
TLY Talaya 149.02 10 *e*PKIKP PKPdf 11 44 06.9 +0.7
TLY *e* 11 44 39.7
TLY pmax pmax
comp=Z,44nm,1.9s
TLY Talaya 149.02 10 *e*PKPdf PKPdf 11 44 06.7 +0.5
TLY *e*PKPbc PKPbc 11 44 10.8 +0.4
CIT Chita 149.26 358 *e*PKIKP PKPdf 11 44 06.4 -0.2
CIT *e* 11 44 43.8
CIT pmax pmax
comp=Z,194nm,1.4s
NGP Nagpur 149.73 84 *e*P PKPdf 11 44 07.7 +0.3
WMQ Urumqi 150.02 36 *e*PKP PKPdf 11 44 08.8 +1.0
WMQ PKP2 PKPab 11 44 21.3 +2.3
WMQ XPKP 11 44 47.3
WMQ PKS 11 47 41.8
WMQ PP PP 11 47 51.8 +3.7
WMQ SKS SKSdf 11 51 05.0 +0.8
WMQ SKKS SKKSac 11 54 29.8 +2.6
WMQ PP PP
comp=Z,50nm,12.0s
WMQ LR LR
comp=N,120nm,35.0s
WMQ LR LR
comp=E,140nm,46.0s
WMQ LR LR
comp=Z,100nm,38.0s
ZAK Zakamensk 150.21 11 *e*PKIKP PKPdf 11 44 08.7 +0.6
ZAK *e* 11 44 46.5
ZAK pmax pmax
comp=Z,43nm,1.8s
ZAK pmax pmax
comp=Z,82nm,1.5s
LGTI Lohaghat 150.63 68 *i* x PKPbc 11 44 15.5 +1.2
MJAR Matsushiro Arr 152.26 309 PKPbc PKPbc 11 44 17.5 -0.5
comp=Z,23nm,0.9s,baz=79,slow=1.7,SNR=52
MJAR Matsushiro Arr 152.26 309 PKIKP PKPbc 11 44 17.5 -0.5
MJAR pmax pmax
comp=Z,23nm,0.9s
MAJO Matsushiro 152.26 309 *e*PKPdf PKPdf 11 44 11.0 -0.1
MAJO *e*PKPbc PKPbc 11 44 17.6 -0.4
MAJO *e*PKPab PKPab 11 44 27.6 -0.8
MAT Matsushiro 152.26 309 PKP PKPbc 11 44 16.9 -1.1
MAT Matsushiro 152.26 309 *e*PKP PKPbc 11 44 17.0 -1.0
MDJ Mudanjiang 152.34 332 PKP PKPdf 11 44 10.0 -1.3
MDJ PKP2 PKPab 11 44 27.3 -1.4
MDJ APKP 11 44 42.5
MDJ XPKP 11 44 49.8
MDJ PP PP 11 48 00.8 -0.5
MDJ SKKS SKKSac 11 54 38.0 -1.9
MDJ PP PP
comp=Z,40nm,4.8s
MDJ LR LR
comp=N,100nm,35.7s
MDJ LR LR
comp=Z,80nm,39.6s
VLA Vladivostok 152.36 327 *e*PKIKP PKPdf 11 44 08.7 -2.6
VLA *i* 11 44 28.2
VLA pmax pmax
comp=Z,41nm,1.9s
SONM Songino Array 153.16 8 PKP PKPdf 11 44 13.2 +0.7
comp=Z,8.4nm,0.9s,baz=308,slow=0.9,SNR=48
SONM PKPbc PKPbc 11 44 20.5 +0.5
comp=Z,5.6nm,0.6s,baz=329,slow=1.7,SNR=15
SONM pPKP pPKPdf 11 44 40.9 -5.1
comp=Z,17nm,0.8s,baz=313,slow=1.5,SNR=11
SONM pPKPbc pPKPbc 11 44 52.6 -0.7
comp=Z,17nm,1.0s,baz=306,slow=2.1,SNR=4.5
ULN Ulaanbaatar 153.21 7 *e*PKPdf PKPdf 11 44 13.2 +0.7
ULN *e*PKPbc PKPbc 11 44 19.0 -1.1
KOLN Koldanda 153.79 70 *e*P PKPdf 11 44 13.3 -0.1
comp=Z,14nm,0.8s
GKN Gorkha 154.66 69 *e*P PKPdf 11 44 15.0 +0.4
comp=Z,17nm,0.7s
CN2 Changchun 154.72 336 *e*PKP PKPdf 11 44 13.8 -0.9
CN2 PKP2 PKPab 11 44 38.5 -0.3
CN2 PP PP 11 48 17.5 +2.8
CN2 PP PP
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,22.0s
CN2 LR LR
comp=E,200nm,22.0s
CN2 LR LR
comp=Z,500nm,25.0s
DMN Daman 155.14 70 *e*P PKPdf 11 44 15.8 +0.5
KKN Kakani 155.26 70 *e*P PKPdf 11 44 15.9 +0.5
comp=Z,13nm,0.8s
PKI Pulchoki 155.41 70 *e*P PKPdf 11 44 16.5 +0.9
GUN Gumba 155.76 69 *e*P PKPdf 11 44 17.2 +1.1
JIRN Jiri 156.08 70 *e*P PKPdf 11 44 16.7 +0.2
SNY Shenyang 157.12 336 *e*PKP PKPdf 11 44 17.0 -0.9
GTA Gaotai 159.30 26 PKP PKPdf 11 44 21.0 +0.5
GTA PKP2 PKPab 11 44 54.8 -3.7
GTA PKS 11 47 53.3
GTA PP PP 11 48 45.0 +5.1
GTA SKKS SKKSac 11 55 16.5 -0.5
GTA SS SS 12 08 29.0 -6.2
GTA PP PP
comp=Z,120nm,5.7s
GTA LR LR
comp=N,70nm,14.9s
GTA LR LR
comp=E,80nm,15.3s
GTA LR LR
comp=Z,100nm,19.5s
LSA Lhasa 159.78 61 *e*PKIKP PKPdf 11 44 23.1 +2.0
LSA *e* 11 44 56.5
HHC Hu-ho-hao-te 160.47 360 *e*PKP PKPdf 11 44 23.3 +1.5
HHC APKP 11 44 50.0
HHC XPKP 11 45 01.0
HHC PKS 11 47 56.0
HHC SS SS 12 08 42.5 -5.0
HHC PP PP
comp=Z,90nm,10.2s
HHC LR LR
comp=N,140nm,27.4s
HHC LR LR
comp=E,80nm,28.5s
HHC LR LR
comp=Z,100nm,26.2s
SHL Shillong 161.45 73 *e*P PKPdf 11 44 24.0 +1.1
LZH Lanzhou 163.76 23 *e*PKP PKPdf 11 44 25.0 -0.2
LZH APKP 11 44 55.8
LZH XPKP 11 45 08.3
LZH PKP2 PKPab 11 45 19.5 +1.4
LZH PKS 11 47 58.3
LZH PP PP 11 49 06.8 +3.1
LZH SKS SKSdf 11 51 16.5 -1.7
LZH SKKS SKKSac 11 55 40.5 +0.6
LZH PP PP
comp=Z,270nm,9.2s
LZH LR LR
comp=E,370nm,18.7s
LZH LR LR
comp=Z,440nm,20.4s
SSE Sheshan 166.94 321 PKP PKPdf 11 44 28.3 +0.5
NJ2 Nanjing 167.43 330 *e*PKP PKPdf 11 44 29.3 +1.1
NJ2 APKP 11 44 54.5
NJ2 XPKP 11 45 06.5
NJ2 PKP2 PKPab 11 45 37.0 +2.8
NJ2 SKS SKSdf 11 51 20.0 -0.5
NJ2 PP PP
comp=Z,140nm,18.1s
NJ2 LR LR
comp=N,270nm,25.0s
NJ2 LR LR
comp=E,350nm,25.3s
NJ2 LR LR
comp=Z,330nm,30.1s
CD2 Chengdu 168.12 34 PKP PKPdf 11 44 30.0 +1.4
CD2 APKP 11 44 57.0
CD2 XPKP 11 45 07.5
CD2 PKP2 PKPab 11 45 40.3 +3.0
CD2 PP PP 11 49 29.5 +3.3
CD2 SKS SKSdf 11 51 22.5 +1.6
CD2 SKKS SKKSac 11 56 05.5 +3.8
CD2 SS SS 12 10 08.5 +2.6
CD2 PP PP
comp=Z,80nm,11.0s
CD2 LR LR
comp=E,90nm,18.0s
CD2 LR LR
comp=Z,90nm,18.0s
KMI Kunming 171.03 63 PKP PKPdf 11 44 29.3 -1.1
KMI XPKP 11 45 15.0
KMI PKP2 PKPab 11 45 50.8 +0.6
KMI PKS 11 48 00.3
KMI PP PP 11 49 42.5 +1.6
KMI SKKS SKKSac 11 56 15.3 -0.6
KMI SS SS 12 10 32.8 -2.0
KMI LR LR
comp=N,130nm,19.2s
KMI LR LR
comp=E,140nm,16.6s
KMI LR LR
comp=Z,120nm,16.1s
GYA Guiyang 173.16 40 *i* PKP PKPdf 11 44 31.8 +0.5
GYA APKP 11 45 04.8
GYA XPKP 11 45 09.3
GYA PKP2 PKPab 11 46 00.0 +0.4
GYA PKS 11 48 02.8
GYA PP PP 11 49 48.5 -2.9
GYA SKKS SKKSac 11 56 28.0 +1.8
GYA SS SS 12 10 51.3 -4.3
GYA PP PP
comp=Z,200nm,5.4s
GYA LR LR
comp=N,180nm,21.4s
GYA LR LR
comp=E,160nm,20.8s
GYA LR LR
comp=Z,130nm,21.9s

CASC 27 11:46:11.8±1.3, 1123N×8555W, h190km±4km, MD3.7, ML3.0, 7C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.30**	**281⇑**	*e*P	Pn	11 46 37.3	+0.3
SSNN				*e*S	Sn	11 46 57.3	+0.8
CONN	**Concepcion**	**0.34**	**348⇑**	*e*P	Pn	11 46 37.7	+0.6
CONN				*e*S	Sn	11 46 58.1	+1.5
LIM1	**Limonal**	**0.61**	**151⇑**	*e*P	Pn	11 46 38.7	+0.6
LIM1				*e*S	Sn	11 46 59.2	+0.8
VCR	**Vista de Mar**	**1.10**	**184⇑**	*e*P	Pn	11 46 41.7	+0.5
FORC	**Fortuna**	**1.15**	**131⇑**	*e*P	Pn	11 46 42.6	+1.0
FORC				*e*S	Sn	11 47 05.5	+0.9
COPN	**Copaltepe**	**1.39**	**313⇓**	*e*P	Pn	11 46 43.9	+0.4
COPN				*e*S	Sn	11 47 09.2	+1.2
CGA2	**Cerro Gallo 2**	**1.61**	**138⇓**	*i*P	Pn	11 46 46.8	+1.1
CGA2				*e*S	Sn	11 47 12.1	+0.3
MIRN	**Miramar**	**1.65**	**317⇑**	*e*P	Pn	11 46 46.3	+0.3
CNGN	**Cerro Negro**	**1.69**	**318⇓**	*e*P	Pn	11 46 46.7	+0.3
CNGN				*e*S	Sn	11 47 13.3	+0.2
PRS1	**Puriscal**	**1.74**	**135**	*e*P	Pn	11 46 48.4	+1.5
LEON	**Leon**	**1.76**	**312⇑**	*e*P	Pn	11 46 47.3	+0.2
LEON				*i*		11 47 16.9	
comp=Z,106nm,0.3s							
TELN	**Telica**	**1.85**	**318**	*e*S	Sn	11 47 18.0	+2.0
LCR2	**La Lucha 2**	**2.12**	**134⇓**	*e*P	Pn	11 46 51.6	+0.8
LCR2				*e*S	Sn	11 47 22.6	+1.5
URSC	**Urasca**	**2.23**	**128⇓**	*e*P	Pn	11 46 54.3	+2.3
URSC				*e*S	Sn	11 47 24.7	+1.5
BUS	**Buena Vista**	**2.43**	**133⇓**	*e*P	Pn	11 46 55.7	+1.5
BUS				*e*S	Sn	11 47 29.3	+2.2

NEIC ***27*** *12:57:06.8±1.2, 44.30S×167.94E, h12km±6km, ML4.0(WEL), Error ellipse: s-maj=12.0km s-min=4.4km az=120.0*

WEL 27 12:57:07.4±0.2, 4434S×16803E, h5km, ML4.0/13, 4C-6D, Error ellipse: s-maj=2.3km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.34**	**192**	⇑PG	Pg	12 57 14.8	+0.9
MSZ				SG	Sg	12 57 19.2	+0.8
MSZ	**Milford Sound**	**0.34**	**192**	⇑P	Pg	12 57 14.8	+0.9
MSZ				S	Sg	12 57 19.2	+0.9
JCZ	**Jackson Bay**	**0.59**	**63**	⇓P*	Pg	12 57 19.5	+0.7
JCZ				SG	Sg	12 57 27.8	+1.3
JCZ	**Jackson Bay**	**0.59**	**63**	⇓P	Pg	12 57 19.5	+0.7
JCZ				S	Sg	12 57 27.8	+1.3
WKZ	**Wanaka**	**0.86**	**125**	⇓P*	Pb	12 57 24.1	-0.7
WKZ				S*	Sb	12 57 35.1	-1.5
WKZ	**Wanaka**	**0.86**	**125**	⇓P	Pg	12 57 24.1	+0.2
WKZ				S	Sg	12 57 34.5	-0.5
MLZ	**Mavora Lakes**	**1.01**	**174**	P*	Pb	12 57 26.7	-0.6
MLZ				S*	Sb	12 57 40.4	-0.5
MLZ	**Mavora Lakes**	**1.01**	**174**	P	Pg	12 57 26.7	-0.1
EAZ	**Earnscleugh**	**1.27**	**135**	⇓P*	Pb	12 57 31.2	-0.7
EAZ				S*	Sb	12 57 46.7	-1.9
EAZ	**Earnscleugh**	**1.27**	**135**	⇓P	Pg	12 57 31.2	-0.7
DCZ	**Deep Cove**	**1.29**	**208**	P*	Pb	12 57 30.7	-1.5
DCZ				S*	Sb	12 57 48.2	-0.9
DCZ	**Deep Cove**	**1.29**	**208**	P	Pn	12 57 30.7	-1.4
FOZ	**Fox Glacier**	**1.43**	**58**	⇑PN	Pn	12 57 34.2	+0.1
FOZ				*e*SN	Sn	12 57 55.7	+2.4
FOZ	**Fox Glacier**	**1.43**	**58⇑**	*e*P	Pn	12 57 34.2	+0.2
LBZ	**Lake Benmore**	**1.55**	**92**	PN	Pn	12 57 35.6	0.0
LBZ				SN	Sn	12 57 56.5	+0.4
LBZ	**Lake Benmore**	**1.55**	**92**	*e*P	Pn	12 57 35.6	-0.1
WHZ	**Wether Hill Ro**	**1.55**	**182**	PN	Pn	12 57 35.5	-0.2
WHZ	**Wether Hill Ro**	**1.55**	**182**	*e*P	Pn	12 57 35.3	-0.4
TUZ	**Tuapeka**	**1.97**	**145**	PN	Pn	12 57 41.7	+0.2
TUZ				SN	Sn	12 58 06.5	-0.1
TUZ	**Tuapeka**	**1.97**	**145**	*e*P	Pn	12 57 41.7	+0.2
ODZ	**Otahua Downs**	**1.99**	**111**	PN	Pn	12 57 42.0	+0.2
ODZ	**Otahua Downs**	**1.99**	**111**	P	Pn	12 57 42.0	+0.2
RPZ	**Rata Peaks**	**2.27**	**75**	*e*PN	Pn	12 57 45.4	-0.2
RPZ				*e*SN	Sn	12 58 13.4	-0.6
RPZ	**Rata Peaks**	**2.27**	**75**	P	Pn	12 57 45.9	+0.3
SYZ	**Scrubby Hill**	**2.33**	**161**	PN	Pn	12 57 46.6	+0.2
WVZ	**Waitaha Valley**	**2.34**	**58**	PN	Pn	12 57 44.8	-1.7
WVZ	**Waitaha Valley**	**2.34**	**58**	P	Pn	12 57 44.8	-1.7
HHSZ	**Highcliff Hill**	**2.39**	**131**	PN	Pn	12 57 47.4	+0.2
APZ	**The Paps**	**2.49**	**181**	*e*PN	Pn	12 57 49.0	+0.4
MQZ	**McQueen's Vall**	**3.40**	**81**	*e*PN	Pn	12 58 00.0	-1.1
MQZ	**McQueen's Vall**	**3.40**	**81**	*e*P	Pn	12 58 00.0	-1.1
CRLZ	**Canterbury Las**	**3.41**	**79**	*e*PN	Pn	12 57 60.0	-1.2
CRLZ	**Canterbury Las**	**3.41**	**79**	*e*P	Pn	12 58 00.0	-1.2
LTZ	**Lake Taylor**	**3.46**	**65**	*e*PN	Pn	12 58 00.5	-1.3
LTZ	**Lake Taylor**	**3.46**	**65**	*e*P	Pn	12 58 00.5	-1.4
DSZ	**Denniston Nort**	**3.79**	**48**	*e*PN	Pn	12 58 04.8	-1.8
DSZ	**Denniston Nort**	**3.79**	**48**	*e*P	Pn	12 58 04.8	-1.8
THZ	**Tophouse**	**4.41**	**56**	*e*PN	Pn	12 58 14.0	-1.0
QRZ	**Quartz Range**	**4.84**	**45**	*e*PN	Pn	12 58 19.3	-1.6
QRZ	**Quartz Range**	**4.84**	**45**	*e*P	Pn	12 58 19.3	-1.6
NNZ	**Nelson**	**5.03**	**53**	*e*PN	Pn	12 58 22.8	-0.7
DUWZ	**D'Urville Isla**	**5.61**	**53**	*e*PN	Pn	12 58 31.3	-0.2
CAW	**Cannon Point**	**6.11**	**60**	*e*PN	Pn	12 58 36.2	-2.1
PKE	**Pukeiti**	**6.80**	**43**	*e*PN	Pn	12 58 46.6	-1.3
HIZ	**Hauiti**	**7.76**	**44**	*e*PN	Pn	12 58 59.4	-1.6

CASC ***27*** *13:02:53.3±2.6, 1539N×9567W, h20km±999km, MD5.1, ML4.6, mb5.4(NEIC)*

BGS ***27*** *13:03:04.9, 1431N×9574W, h33km, mb5.4*

IDC ***27*** *13:03:07.4±0.6, 1499N×9424W, h0km, mb4.7/22, mb1 4.8/24, mb1mx4.8/25, mbtmp4.7/24, ML4.8/2, MS5.4/19, Ms1 5.4/19, ms1mx5.3/29, Error ellipse: s-maj=23.7km s-min=8.9km az=59.0*

NEIC ***27*** *13:03:09.2±0.2, 1499N×94.14W, h9km, mb5.4/149, ME5.3, MS5.5/125, MW5.8, MD5.5(MEX), Error ellipse: s-maj=5.3km s-min=2.6km az=214.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; M_{rr}2.53; $M_{\theta\theta}$-3.12; $M_{\phi\phi}$0.58; $M_{r\theta}$4.72; $M_{\theta\phi}$-0.56; $M_{\phi r}$-1.74; Best double couple: $M_0$5.80000×10^{17} NP1:ϕ_s106.00000°, δ77.00000°, λ105.00000°. NP2:ϕ_s237.00000°, δ20.00000°, λ43.00000°. Principal axes: T 5.8100, Plg56.0000°, Azm35.0000°; N 0.0000, Plg15.0000°, Azm283.0000°; P -5.8100, Plg30.0000°, Azm184.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s305.00000°, δ20.00000°, λ90.00000°. NP2:ϕ_s125.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm35.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm215.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

ISCJB ***27*** *13:03:11.6±0.2, 1506N±003×9421W±002, h31km, mb5.3/205, MS5.5/169 Error ellipse: s-maj=4.6km s-min=1.9km az=56.7*

MOS ***27*** *13:03:11.8±0.9, 1506N×9422W, h33km, mb5.6/82, MS5.7/37, Error ellipse: s-maj=6.1km s-min=4.0km az=83.2*

HRVD ***27*** *13:03:12.1±0.1, 1495N×9453W, h12km, MW5.8/108, Centroid moment Tensor Solution. LP body waves: s106,c229;Mantle waves: s108,c337; Half duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}4.21±.04; $M_{\theta\theta}$-2.75±.03; $M_{\phi\phi}$-1.46±.05; $M_{r\theta}$3.92±.10; $M_{\theta\phi}$2.10±.03; $M_{\phi r}$-3.15±.11; Best double couple: $M_0$6.58800×10^{17} NP1:ϕ_s305.00000°, δ20.00000°, λ87.00000°. NP2: ϕ_s128.00000°, δ70.00000°, λ91.00000°. Principal axes: T 6.5440, Plg65.0000°, Azm40.0000°; N 0.0880, Plg1.0000°, Azm308.0000°; P -6.6320, Plg25.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***27*** *13:03:12.1, 1500N×9420W, h25km, mB5.9, Ms5.9, Msz5.5*

MEX ***27*** *13:03:12.6±2.7, 1494N×9457W, h32km±76km, MD5.6*

SZGRF ***27*** *13:03:21.0, 1579N×92.14W, h30km, mb5.7, MS5.8, Mexico-Guatemala border region*

ISC 27 13:03:14.0±0.2, 1510N±003×9412W±002, h34km, h34km±1.3km: pP-P, n1017, σ^{s}92/1038, mb5.3/205, MS5.5/169, 246C-131D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**2.03**	**289**	*i* P	**Pn**	**13 03 37.6**	**-8.2**
HUIG				*i* S	**Sn**	**13 03 57.5**	**-12**
CMIG	**Matias Romero**	**2.11**	**340**	Pn	**Pn**	**13 03 45.2**	**-1.7**
265nm,0.3s,baz=158,slow=1.7,SNR=573							
CMIG				Sn	**Sn**	**13 04 12.2**	**+0.4**
500nm,0.3s,baz=113,slow=7.3,SNR=13							
CMIG	**Matias Romero**	**2.11**	**340**	*i* P	**Pn**	**13 03 45.2**	**-1.6**
CMIG				*i* S	**Sn**	**13 04 10.5**	**-1.4**
CMIG	**Matias Romero**	**2.11**	**340**	Pn	**Pn**	**13 03 45.2**	**-1.7**
CMIG				*i* S	**Sn**	**13 04 10.5**	**-1.4**
CMIG				Sn	**Sn**	**13 04 12.2**	**+0.4**
SCX	**San Cristobal**	**2.16**	**41**	*i* P	**Pn**	**13 03 51.3**	**+3.8**
SCX				*i* S	**Sn**	**13 04 19.8**	**+6.6**
SCX	**San Cristobal**	**2.16**	**41**	*i* P	**Pn**	**13 03 52.0**	**+4.4**
CCIG	**Comitan**	**2.24**	**58**	*i* P	**Pn**	**13 03 51.5**	**+2.9**
CCIG				*i* S	**Sn**	**13 04 22.9**	**+7.7**
CCIG	**Comitan**	**2.24**	**58**	*i* P	**Pn**	**13 03 51.5**	**+2.9**
CCIG				*i* S	**Sn**	**13 04 29.9**	**+15**
JAT	**Jato**	**2.53**	**108**	*e*P	**Pn**	**13 03 54.5**	**+1.9**
TUIG	**Tuzandepetl**	**2.93**	**354**	*i* P	**Pn**	**13 03 58.7**	**+0.6**
TUIG				*i* S	**Sn**	**13 04 33.5**	**+1.4**
TUIG	**Tuzandepetl**	**2.93**	**354**	*i* P	**Pn**	**13 03 58.7**	**+0.6**
TUIG				*i* S	**Sn**	**13 04 46.5**	**+14**
TP2	**Tecpan 2**	**3.01**	**96⇓**	*e*P	**Pn**	**13 04 02.2**	**+2.9**
OXX	**Oaxaca**	**3.18**	**309**	*e*P	**Pn**	**13 03 57.4**	**-4.2**
OXX				*i* S	**Sn**	**13 04 30.5**	**-7.9**
OXX	**Oaxaca**	**3.18**	**309**	*i* P	**Pn**	**13 03 59.5**	**-2.1**
VHO	**Vista Hermosa**	**3.19**	**308**	*i* P	**Pn**	**13 03 57.0**	**-4.6**
VHO				*i* S	**Sn**	**13 04 30.1**	**-8.3**
VHO	**Vista Hermosa**	**3.19**	**308**	*i* P	**Pn**	**13 03 57.7**	**-3.9**
VHO				*i* S	**Sn**	**13 04 33.0**	**-5.5**
TER	**Terranova**	**3.42**	**103**	*e*P	**Pn**	**13 04 07.5**	**+2.6**
PCG	**Pacaya**	**3.47**	**101⇑**	*e*P	**Pn**	**13 04 07.3**	**+1.7**
IXG	**Ixpaco**	**3.67**	**104**	*e*P	**Pn**	**13 04 09.8**	**+1.5**
UTMO	**Huajuapan**	**4.45**	**308**	*e*P	**Pn**	**13 04 15.8**	**-3.3**
UTMO				*i* S	**Sn**	**13 05 01.3**	**-8.4**
SBLS	**San Blas**	**4.53**	**106**	*e*P	x	13 04 52.7	
SBLS				*e*S	x	13 06 02.3	
SCIG		**4.76**	**36**	*i* P	**Pn**	**13 04 25.4**	**+2.1**
SCIG				*i* S	**Sn**	**13 05 23.4**	**+6.1**
BOQS	**Boqueron**	**4.88**	**106**	*e*P	x	13 04 59.3	
BOQS				*e*S	x	13 06 15.1	
LVIG	**Laguna Verde**	**5.09**	**335**	*i* P	**Pn**	**13 04 28.7**	**+0.9**
PPM	**Popocatepetl**	**5.84**	**313**	*e*P	**Pn**	**13 04 33.5**	**-4.6**
PPM				*i* S	**Sn**	**13 05 38.2**	**-5.7**
PPM	**Popocatepetl**	**5.84**	**313**	*i* P	**Pn**	**13 04 37.4**	**-0.7**
PPM				*i* S	**Sn**	**13 05 48.2**	**+4.3**
PPM	**Popocatepetl**	**5.84**	**313**	*i* P	**Pn**	**13 04 37.4**	**-0.7**
PPM				*i* S	**Sn**	**13 05 48.2**	**+4.3**
PPM				*i* S	**Sn**	**13 05 59.0**	**+15**
MEIG	**Mezcala**	**5.97**	**299**	*i* P	**Pn**	**13 04 35.2**	**-4.8**
MEIG				*i* S	**Sn**	**13 05 37.5**	**-10**
YAIG	**Yautepec**	**6.03**	**309**	*i* P	**Pn**	**13 04 35.9**	**-4.8**
YAIG				*i* S	**Sn**	**13 05 41.0**	**-7.6**
YAIG	**Yautepec**	**6.03**	**309**	*i* P	**Pn**	**13 04 38.9**	**-1.8**
YAIG				*i* S	**Sn**	**13 05 33.0**	**-16**
PLIG	**Platanillo**	**6.11**	**303**	*e*P	**Pn**	**13 04 36.2**	**-5.5**
PLIG				*i* S	**Sn**	**13 05 39.9**	**-11**
PLIG	**Platanillo**	**6.11**	**303**	*i* P	**Pn**	**13 04 38.4**	**-3.3**
PLIG				*i* S	**Sn**	**13 05 39.9**	**-11**
CAIG	**El Cayaco**	**6.22**	**289**	*i* P	**Pn**	**13 04 35.9**	**-7.4**
CAIG				*i* S	**Sn**	**13 05 38.1**	**-15**
CAIG	**El Cayaco**	**6.22**	**289**	*i* P	**Pn**	**13 04 35.9**	**-7.4**
CAIG				*i* S	**Sn**	**13 05 36.9**	**-16**
CHVM	**Chichinautzin**	**6.23**	**310**	*e*P	**Pn**	**13 04 40.4**	**-3.0**
CHVM				*i* S	**Sn**	**13 05 46.6**	**-6.8**
UNM	**Universidad Na**	**6.41**	**312**	*i* P	**Pn**	**13 04 42.0**	**-3.9**
UNM				*i* S	**Sn**	**13 05 50.2**	**-7.5**
UNM	**Universidad Na**	**6.41**	**312**	*i* P	**Pn**	**13 04 42.0**	**-3.9**
UNM				*i* S	**Sn**	**13 06 07.9**	**+10**
CRIN	**San Cristobal**	**7.27**	**108**	*e*P	**Pn**	**13 05 01.8**	**+4.0**
TELN	**Telica**	**7.50**	**108⇓**	*e*P	**Pn**	**13 05 03.1**	**+2.2**

LEON Leon 7.51 110⇓eP Pn 13 05 04.9 +3.9
TEIG Tepich 7.55 47 ePn Pn 13 05 02.2 +0.7
CNGN Cerro Negro 7.66 109 eP Pn 13 05 06.2 +3.1
MIRN Miramar 7.67 109⇓eP Pn 13 05 04.1 +0.8
APYN Apoyeque 8.07 110 eP Pn 13 05 10.6 +1.8
MOIG Morelia 8.14 305 eP Pn 13 05 05.4 -4.2
MOIG i S Sn 13 06 31.8 -8.6
MOIG Morelia 8.14 305 i P Pn 13 05 08.7 -0.9
MOIG i S Sn 13 06 27.8 -13
MOIG i S Sn 13 06 48.4 +8.0
TISN Laguna Tiscapa 8.18 110 eP Pn 13 05 12.1 +1.8
MGAN Managua 8.20 110 eP Pn 13 05 15.1 +4.6
MGAN eS Sn 13 07 03.5 +22
MGAN i 13 07 18.5
comp=N,226nm,0.1s
CONN Concepcion 8.98 112 eP Pn 13 05 25.9 +4.6
SFJM Santa Fe 10.04 304 i P Pn 13 05 31.4 -4.4
SFJM Santa Fe 10.04 304 i P Pn 13 05 35.5 -0.2
JTS JuntasAbangare 10.14 117 Pn Pn 13 05 38.2 +1.1
comp=N,1.5nm,0.3s,baz=287,slow=15,SNR=7.8
JTS Sn **Sn 13 07 46.7 +17**
comp=N,0.3nm,0.3s,baz=208,slow=19,SNR=1.6
JTS JuntasAbangare 10.14 117c i P Pn 13 05 39.3 +2.2
JTS JuntasAbangare 10.14 117 ePn Pn 13 05 34.5 -2.6
JTS Sn **Sn 13 07 46.7 +17**
LNIG Linares 10.96 334 i P Pn 13 05 48.0 -0.4
LNIG i S **Sn 13 07 47.1 -2.7**
LCR2 La Lucha 2 11.22 117 eP Pn 13 05 54.9 +3.0
URSC Urasca 11.37 116 eP Pn 13 05 56.4 +2.4
BUS Buena Vista 11.53 117 eP Pn 13 05 57.9 +1.8
SOR Soroa 12.99 52 ePN Pn 13 06 15.0 -1.1
baz=239
SOR eSN Sn 13 09 05.4 +26
comp=N,80nm,10.9s
SOR e
comp=E,77nm,10.9s
MAIG Mazatlaan 14.13 307 i P Pn 13 06 30.2 -1.4
HKT Hockley 14.86 354 eP Pn 13 06 41.4 -0.2
MGV Manicaragua 15.10 60 i PN Pn 13 06 44.9 +0.2
baz=242
MGV i SN **Sn 13 09 41.7 +11**
comp=N,22nm,9.5s
MGV e
comp=E,23nm,14.3s
JCT Junction City 16.17 342 eP Pn 13 06 58.1 -0.5
JCT pmax pmax
comp=Z,180nm,1.0s
JCT Junction City 16.17 342 ePn Pn 13 06 58.1 -0.4
comp=Z,180nm,0.9s
NATX Nacogdoches 16.59 358 ePn Pn 13 07 04.5 +0.6
CCCC Cccc 16.68 66 ePN Pn 13 07 08.4 +3.4
CCCC eS Sn 13 10 38.9 +30
comp=N,14nm,10.9s
CCCC e
comp=E,14nm,10.9s
LMGC Las Mercedes 17.04 71 ePN Pn 13 07 09.9 +0.3
LMGC eSN Sn 13 09 54.7 -23
comp=N,21µm,13.2s
LMGC e
comp=E,11µm,19.7s
DWPF Disney 17.49 40 ePn Pn 13 07 15.3 +0.1
LPIG La Paz 17.67 303 P Pn 13 07 16.0 -1.4
comp=E,3.3nm,0.3s,baz=183,slow=12,SNR=8.4
LPIG LR LR 13 14 16.7
comp=E,15µm,19.1s,baz=122,slow=38
LPIG La Paz 17.67 303 i P Pn 13 07 16.6 -0.8
HLGC Holguin 18.11 69 eP Pn 13 07 22.6 -0.2
RCC Rio Carpintero 18.23 72 i PN Pn 13 07 23.3 -0.9
RCC i SN **Sn 13 10 54.2 +7.6**
comp=N,6µm,18.7s
RCC e
LRAL Lakeview Retre 18.99 19 ePn Pn 13 07 32.4 -1.1
comp=N,76nm,1.1s
MOAC Moa 19.05 70 ePN Pn 13 07 24.7 -9.4
MOAC eSN **Sn 13 11 03.3 -3.2**
comp=N,10.0nm,10.9s
MOAC e
comp=E,4.3nm,8.2s
MIAR Mount Ida 19.37 1 P Pn 13 07 36.0 -2.0
MIAR pmax pmax
comp=Z,300nm,1.3s
GDL2 Guadalupe Moun 19.41 333 ePn Pn 13 07 38.5 -0.1
MASC Masc 19.61 72 ePN Pn 13 07 37.6 -3.3
UALR University of 19.65 4 ePn Pn 13 07 40.6 -0.8
comp=Z,130nm,1.0s
PLAL Pickwick Lake 20.53 14 eP P 13 07 47.5 -1.8
comp=Z,171nm,1.6s
PLAL LR LR
comp=Z,5µm,20.0s,MS4.9
GOGA Godfrey 20.63 26 eP P 13 07 50.6 +0.3
comp=Z,232nm,1.5s
GOGA LR LR
comp=Z,19µm,19.0s,MS5.5
AMTX Amarillo 20.84 342 eP P 13 07 52.6 -0.1
AMTX LR LR
comp=Z,6µm,22.0s,MS5.0
GNAR Gosnell 21.10 9 eP P 13 07 56.7 +1.3
comp=Z,3µm,1.2s,mb6.5
OTAV Otavalo 21.40 132 eP P 13 07 58.5 -0.2
OTAV LR LR
comp=Z,8µm,19.0s,MS5.1
GLAT Glass 21.52 11 eP P 13 08 00.2 +0.2
WVT Waverly 21.68 14 eP P 13 08 02.0 +0.2
WVT pmax pmax
comp=Z,220nm,0.7s,mb5.7
WVT MLR MLR
comp=Z,6µm,19.0s,MS5.0
WVT Waverly 21.68 14 eP P 13 08 02.0 +0.2
comp=Z,22nm,0.7s,mb4.7
WVT LR LR
comp=Z,6µm,19.0s,MS5.0
ROSC El Rosal 21.97 116 P P 13 08 06.1 +1.3
comp=Z,23nm,0.7s,mb4.7,baz=92,slow=13,SNR=17
ROSC S **S 13 12 20.7 +15**
comp=Z,5.8nm,0.4s,baz=277,slow=24,SNR=1.7
CPCT Cooper Cave 22.02 21 eP P 13 08 04.5 -0.8
BNM Barren Site 22.07 331 eP P 13 08 05.5 -0.4
Y22C IRIS PASSCAL I 22.14 331 ⇓P P 13 08 07.2 +0.5
baz=22
Y22C ⇓S **S 13 12 17.5 +8.7**
baz=22
LPM Los Pinos Moun 22.21 332 eP P 13 08 07.9 +0.5
LENM Lemitar 22.25 331 eP P 13 08 08.6 +0.8
LAZ Ladron 22.52 331 eP P 13 08 11.4 +0.8
LAZ e 13 08 22.1
ANMO Albuquerque 22.67 333 P P 13 08 11.1 -1.2
comp=Z,7.5nm,0.8s,mb4.2,baz=153,slow=11,SNR=33
ANMO S **S 13 12 22.9 +4.5**
comp=Z,2.2nm,0.8s,baz=112,slow=15,SNR=2.4
ANMO Albuquerque 22.67 333c i P P 13 08 12.3 +0.1
ANMO Albuquerque 22.67 333⇑i P P 13 08 12.2 0.0
comp=Z,42nm,1.0s,mb4.8
TUC Tucson 22.88 321 eP P 13 08 14.2 -0.3
comp=Z,602nm,2.3s,mb5.6
TUC LR LR
comp=Z,2µm,19.0s,MS4.6
SIUC Southern Illin 22.94 10 eP P 13 08 13.6 -1.5
CCM Cathedral Cave 23.00 6 P P 13 08 12.6 -3.2
CCM pmax pmax
comp=Z,65nm,1.0s,mb5.0
CCM Cathedral Cave 23.00 6 eP P 13 08 12.5 -3.3
CCM e 13 08 23.2
CCM LR LR
comp=Z,5µm,19.0s,MS5.0
FVM French Village 23.02 7 eP P 13 08 15.4 -0.6
FVM pmax pmax
comp=Z,120nm,1.6s,mb5.1
FVM French Village 23.02 7⇑eP P 13 08 12.7 -3.3
comp=Z,130nm,1.6s,mb5.1
TZTN Tazewell 23.34 22 eP P 13 08 16.7 -2.6
USIN University of 23.48 13 eP P 13 08 18.0 -2.7
comp=Z,54nm,0.8s,mb5.0
116A Eloy 23.62 320 ⇑P P 13 08 21.4 -0.5
baz=24,SNR=12
116A ⇑S **S 13 12 38.8 +4.9**
baz=24
SLM Saint Louis 23.69 8 eP P 13 08 22.5 -0.1
SLM pmax pmax
comp=Z,77nm,0.9s,mb5.1
SLM Saint Louis 23.69 8 eP P 13 08 22.5 -0.1
comp=Z,76nm,0.8s,mb5.2
SDV Santo Domingo 23.78 102 P P 13 08 22.3 -1.1
comp=Z,28nm,0.8s,mb4.8,baz=310,slow=4.3,SNR=16
SDV S **S 13 12 35.5 -1.1**
comp=Z,2.2nm,0.3s,baz=267,slow=22,SNR=8.3

WCI Wyandotte Cave 24.05 15 eP P 13 08 24.5 -1.4
WCI pmax pmax
comp=Z,120nm,1.2s,mb5.2
WCI Wyandotte Cave 24.05 15⇑eP P 13 08 23.6 -2.4
comp=Z,124nm,1.2s,mb5.2
WCI LR LR
comp=Z,5µm,20.0s,MS5.0
BLO Bloomington 24.89 14 eP P 13 08 32.9 -0.7
BLO pmax pmax
comp=Z,47nm,0.7s,mb5.1
BLO Bloomington 24.89 14 eP P 13 08 32.9 -0.7
comp=Z,47nm,0.7s,mb5.1
Z14A Wintersburg 24.93 320 ⇑P P 13 08 33.7 -0.2
baz=25
Z14A ⇑S **S 13 12 58.5 +3.4**
baz=25
ELN Prospectdale 25.04 26 eP P 13 08 35.3 +0.4
BLA Blacksburg 25.16 26 eP P 13 08 36.9 +0.9
BLA pmax pmax
comp=Z,40nm,1.0s,mb4.9
BLA MLR MLR
comp=Z,1µm,19.0s
BLA Blacksburg 25.16 26 eP P 13 08 35.8 -0.2
comp=Z,59nm,1.0s,mb5.1
BLA LR LR
comp=Z,16µm,19.0s,MS5.5
X15A Humboldt 25.28 323 ⇑P P 13 08 37.3 +0.2
baz=25,SNR=21
X15A ⇑S **S 13 13 06.2 +5.5**
baz=25
FWV Forest Hill 25.31 25 eP P 13 08 37.8 +0.4
Y14A Wickenburg 25.35 321 ⇑P P 13 08 37.5 -0.2
baz=26,SNR=9.2
Y14A ⇓S **S 13 13 07.5 +5.7**
baz=26
MVCO Mesa Verde 25.46 333 eP P 13 08 39.0 +0.3
comp=Z,139nm,1.3s,mb5.3
WUAZ Wupatki 25.54 326⇑eP P 13 08 39.7 +0.2
comp=Z,283nm,1.3s,mb5.6
X14A Yava 25.65 322 ⇓P P 13 08 40.7 +0.3
baz=26,SNR=7.1
X14A ⇓S **S 13 13 11.5 +5.0**
baz=26
Y13A Salome 25.77 320 ⇑P P 13 08 41.3 -0.3
baz=26
Y13A ⇑S **S 13 13 13.9 +5.4**
baz=26
W15A Williams 25.79 324 ⇓P P 13 08 42.5 +0.8
baz=26,SNR=10
W15A ⇑S **S 13 13 13.4 +4.6**
baz=26
GLA Glamis 25.93 317 eP P 13 08 42.7 -0.3
GLA Glamis 25.93 317 ⇓P P 13 08 42.7 -0.3
baz=26
GLA ⇑S **S 13 13 15.9 +4.9**
baz=26
Y12C Blythe 26.17 319 ⇑P P 13 08 45.0 -0.2
baz=26
Y12C ⇓S **S 13 13 19.4 +4.6**
baz=26
PV01 Paradox Valley 26.26 334 eP P 13 08 46.8 +0.8
W14A Seligman 26.28 323 ⇓P P 13 08 46.5 +0.3
baz=26,SNR=16
W14A ⇑S **S 13 13 21.7 +5.3**
baz=26
X13A Yucca 26.30 321 ⇓P P 13 08 46.4 +0.1
baz=26,SNR=17
X13A ⇑S **S 13 13 22.5 +5.7**
baz=26
SMCO Snowmass 26.51 337 eP P 13 08 48.4 +0.1
comp=Z,113nm,1.1s,mb5.3
ISCO Idaho Springs 26.58 340 eP P 13 08 49.6 +0.7
comp=Z,67nm,1.1s,mb5.1
ISCO LR LR
comp=Z,5µm,21.0s,MS5.0
PV10 Paradox Valley 26.66 333 eP P 13 08 49.8 +0.2
ACSO Alum Creek Sta 26.86 19 eP P 13 08 51.0 -0.4
comp=Z,165nm,1.4s,mb5.4
ACSO LR LR
comp=Z,8µm,20.0s,MS5.3
ATAH Atahualpa 26.93 144 P P 13 08 52.8 +0.8
comp=Z,26nm,0.9s,mb4.8,baz=322,slow=5.9,SNR=9.5
ATAH S **S 13 13 32.5 +5.7**
comp=Z,1.4nm,0.4s,baz=5.1,slow=21,SNR=1.9
ATAH LR LR 13 16 32.6
comp=Z,4µm,18.9s,MS5.0,baz=150,slow=30
SJG San Juan 26.96 80 PFAKE 13 09 00.0 +7.7
SJG LR LR
comp=Z,9µm,20.0s,MS5.3
HUMP Col San Antoni 27.25 80 eP P 13 08 53.4 -1.5
PFO Pinyon Flat Ob 27.34 316 P P 13 08 55.7 0.0
comp=Z,81nm,2.9s,mb4.8,SNR=8.9
PFO Pinyon Flat Ob 27.34 316 eP P 13 08 55.7 -0.1
comp=Z,170nm,2.1s,mb5.2
PFO LR LR
comp=Z,16µm,19.0s,MS5.6
PFO Pinyon Flat Ob 27.34 316 ⇓P P 13 08 55.6 -0.2
baz=27
PFO ⇓S **S 13 13 40.2 +6.9**
baz=27
CBN Corbin 27.36 30 PFAKE 13 09 10.0 +14
CBN LR LR
comp=Z,10µm,21.0s,MS5.4
109C Camp Elliot, M 27.37 314 ⇑P P 13 08 55.2 -0.8
baz=28
109C ⇓S **S 13 13 37.8 +4.1**
baz=28
W12A Cal Nev Ari 27.41 321 ⇑P P 13 08 56.2 -0.1
baz=28
W12A ⇑S **S 13 13 37.6 +3.4**
baz=28
MCWV Mont Chateau 27.48 24 PFAKE 13 09 10.0 +13
MCWV LR LR
comp=Z,21µm,19.0s,MS5.7
MTP Monte Pirata 27.52 80 eP P 13 08 55.1 -2.2
V12A Nelson 27.68 322 ⇑P P 13 08 58.8 0.0
baz=28,SNR=11
V12A ⇓S **S 13 13 45.2 +6.6**
baz=28
PHWY Pilot Hill 27.90 342 eP P 13 09 01.6 +0.9
SRU San Rafael 27.93 332 eP P 13 09 00.9 0.0
U12A Valley of Fire 27.98 323 ⇓P P 13 09 01.5 +0.1
baz=28
U12A ⇑S **S 13 13 49.2 +5.9**
baz=28
V11A Goodsprings 28.11 321 ⇑P P 13 09 02.5 0.0
baz=28
V11A ⇓S **S 13 13 50.3 +5.0**
baz=28
CCUT Cedar City 28.12 326 eP P 13 09 03.4 +0.7
TUQ Turquoise Mtn. 28.14 320 ⇓P P 13 09 02.7 -0.2
baz=28
TUQ ⇑S **S 13 13 51.9 +6.0**
baz=28
MSU Marysvale 28.24 329 P P 13 09 04.0 +0.3
ARUT Antelope Range 28.34 326 eP P 13 09 03.7 -0.9
TMUT Trail Mountain 28.39 331 eP P 13 09 05.6 +0.6
SHPR Sheep Range 28.39 323 eP P 13 09 05.5 +0.4
U11A Corn Creek 28.46 322 ⇑P P 13 09 05.7 0.0
baz=29
U11A ⇑S **S 13 13 51.0 0.0**
baz=29
AAM Ann Arbor 28.57 16 PFAKE 13 09 20.0 +13
AAM LR LR
comp=Z,7µm,19.0s,MS5.3
GSC Goldstone 28.61 319 eP P 13 09 07.9 +0.9
GSC Goldstone 28.61 319 ⇓P P 13 09 06.7 -0.3
baz=29
GSC ⇑S **S 13 13 54.1 +0.9**
baz=29
FMP Fort Macarthur 28.65 315 ⇓P P 13 09 06.5 -0.9
baz=29
FMP ⇓S **S 13 13 59.5 +5.7**
baz=29
MWC Mount Wilson 28.78 316 eP P 13 09 09.2 +0.6
RWWY Rawlins 28.81 339 eP P 13 09 09.1 +0.2
U10A Ash Meadows, A 29.03 321 ⇑P P 13 09 11.2 +0.4
baz=29,SNR=10
U10A ⇑S **S 13 14 05.0 +5.1**
baz=29
SSPA Standing Stone 29.10 26 PFAKE 13 09 20.0 +8.6
SSPA LR LR
comp=Z,13µm,19.0s,MS5.6
MPU Maple Canyon 29.16 332 eP P 13 09 13.4 +1.5
MPU LR LR
comp=Z,10µm,22.0s,MS5.4
SNCC San Nicolas Is 29.26 313 PFAKE 13 09 20.0 +7.2

SNCC LR LR
comp=Z,12µm,19.0s,MS5.5
SNCC San Nicolas Is 29.26 313 ⇑P P 13 09 12.5 -0.3
baz=29
SNCC ⇑S **S 13 14 07.4 +4.1**
baz=29
MVL Millersville 29.27 29 eP P 13 09 13.7 +0.9
DAU Daniels Canyon 29.31 333 eP P 13 09 12.9 -0.4
NLU North Lily Min 29.32 331 eP P 13 09 14.3 +1.0
TPNV Topopah Spring 29.34 322 PFAKE 13 09 20.0 +6.5
TPNV LR LR
comp=Z,20µm,20.0s,MS5.7
OSI Osito Adit 29.46 316 ⇑P P 13 09 14.2 -0.4
baz=30
OSI ⇑S **S 13 14 08.6 +2.1**
baz=30
ERPA Erie 29.55 22 PFAKE 13 09 30.0 +15
ERPA LR LR
comp=Z,8µm,19.0s,MS5.4
CTU Camp Tracy 29.76 332 eP P 13 09 17.9 +0.7
DUG Dugway 29.86 330 eP P 13 09 18.3 +0.2
comp=Z,164nm,2.1s,mb5.4
DUG LR LR
comp=Z,6µm,21.0s,MS5.2
ISA Isabella 29.91 318 eP P 13 09 19.0 +0.4
ISA LR LR
comp=Z,3µm,19.0s,MS5.0
ISA Isabella 29.91 318 ⇓P P 13 09 18.7 +0.1
baz=30
ISA ⇑S **S 13 14 17.8 +4.2**
baz=30
TCUT Toone Canyon 29.95 333 eP P 13 09 19.9 +1.0
SBC Santa Barbara 30.03 314 ⇑P P 13 09 19.0 -0.6
baz=30
SBC ⇑S **S 13 14 16.9 +1.3**
baz=30
CWC Cottonwood Cre 30.13 319 ⇓P P 13 09 20.8 +0.3
baz=30
RSSD Black Hills 30.13 346 eP P 13 09 20.6 +0.1
RSSD LR LR
comp=Z,2µm,19.0s,MS4.8
R10A Warm Springs 30.28 324 ⇓P P 13 09 22.8 +1.0
baz=30,SNR=12
Q11A Duckwater 30.30 325 P P 13 09 22.8 +0.7
baz=30,SNR=22
Q11A ⇑S **S 13 14 26.6 +6.7**
baz=30
HWUT Hardware Ranch 30.42 334 eP P 13 09 23.6 +0.5
comp=Z,60nm,1.3s,mb5.2
HWUT LR LR
comp=Z,3µm,21.0s,MS4.9
S09A Goldfield 30.43 322 ⇓P P 13 09 23.3 +0.1
baz=31,SNR=19
S09A ⇑S **S 13 14 25.7 +4.0**
baz=31
BGU Big Grassy Mou 30.53 331 eP P 13 09 24.4 +0.4
SPUT South Promonto 30.57 332 eP P 13 09 24.5 +0.1
BW06 Boulder Array 30.59 337 PFAKE 13 09 30.0 +5.4
BW06 LR LR
comp=Z,3µm,21.0s,MS4.9
PDAR Pinedale Array 30.59 337 P P 13 09 24.0 -0.6
comp=Z,7.7nm,0.8s,mb4.6,baz=142,slow=8.2,SNR=44
PDAR LR LR 13 23 17.5
comp=Z,7µm,18.5s,MS5.3,baz=153,slow=40
TIN Tinemaha 30.61 320 ⇓P P 13 09 25.0 +0.3
baz=31
TIN ⇓S **S 13 14 28.5 +4.0**
baz=31
R09A Tonopah 30.68 323 ⇓P P 13 09 25.9 +0.5
baz=31,SNR=15
R09A ⇓S **S 13 14 29.9 +4.1**
baz=31
P11A Circle Ranch, 30.86 326 ⇑P P 13 09 27.4 +0.5
baz=31
P11A ⇑S **S 13 14 34.7 +6.2**
baz=31
V05C Boulder Hill, 30.96 317 ⇓P P 13 09 28.3 +0.4
baz=31
V05C ⇑S **S 13 14 34.8 +4.7**
baz=31
MTUM Tungsten Hills 31.00 320 eP P 13 09 28.8 +0.6
N13A West Wendover 31.04 330 ⇑P P 13 09 29.2 +0.7
baz=31,SNR=7.3
N13A ⇓S **S 13 14 37.0 +5.7**
baz=31
HVU Hansel Valley 31.09 332 eP P 13 09 29.5 +0.5
Q09A Carvers 31.15 324 ⇑P P 13 09 30.3 +0.8
baz=31
Q09A ⇑S **S 13 14 37.9 +4.8**
baz=31
AHID Auburn Hatcher 31.19 335 eP P 13 09 30.1 +0.2
comp=Z,80nm,1.4s,mb5.3
AHID LR LR
comp=Z,5µm,20.0s,MS5.2
O11A Cowboy Ranch, 31.23 327 ⇑P P 13 09 30.9 +0.7
baz=31
O11A ⇑S **S 13 14 41.2 +6.9**
baz=31
P10A Eureka 31.29 326 ⇑P P 13 09 31.3 +0.6
baz=31
P10A ⇑S **S 13 14 43.0 +7.7**
baz=31
MLAC Mammoth Lakes 31.35 320 ⇑P P 13 09 32.0 +0.7
baz=32
MLAC ⇑S **S 13 14 41.5 +5.3**
baz=32
R08A Mina 31.37 322 ⇓P P 13 09 32.0 +0.5
baz=32
R08A ⇑S **S 13 14 42.3 +5.8**
baz=32
U05C Westside ANR, 31.38 317 ⇓P P 13 09 31.4 -0.2
baz=32
M13A Montello 31.41 330 ⇑P P 13 09 32.5 +0.8
baz=32,SNR=38
M13A ⇓S **S 13 14 43.4 +6.4**
baz=32
PKD Parkfield 31.43 316 ⇓P P 13 09 31.9 -0.1
baz=32,SNR=8.8
PKD ⇑S **S 13 14 42.8 +5.3**
baz=32
N12A Wells--Clov Va 31.45 329 ⇓P P 13 09 32.9 +0.8
baz=32,SNR=9.5
N12A ⇑S **S 13 14 43.8 +6.1**
baz=32
MNV Mina 31.45 322 P P 13 09 32.8 +0.7
MNV pmax pmax
comp=Z,42nm,1.2s,mb5.1
MNV Mina 31.45 322 PFAKE 13 09 40.0 +7.9
MNV LR LR
comp=Z,11µm,20.0s,MS5.5
KCC Kaiser Creek 31.46 319 ⇑P P 13 09 31.8 -0.4
baz=32
KCC ⇑S **S 13 14 42.4 +4.6**
baz=32
V04C Ramage Ranch, 31.49 315 ⇓P P 13 09 32.3 -0.2
baz=32
V04C ⇑S **S 13 14 43.2 +4.9**
baz=32
T06C Milleton Lake 31.51 319 ⇓P P 13 09 31.5 -1.2
baz=32
T06C ⇓S **S 13 14 40.9 +2.2**
baz=32
REDW Red Top Meadow 31.59 336 eP P 13 09 33.8 +0.3
Q08A Gabbs 31.60 323 ⇑P P 13 09 34.2 +0.7
baz=32,SNR=11
Q08A ⇑S **S 13 14 45.7 +5.6**
baz=32
SNOW Snow King Moun 31.64 337 eP P 13 09 34.6 +0.8
LOHW Long Hollow 31.71 337 eP P 13 09 34.7 +0.3
TPAW Teton Pass 31.74 336 eP P 13 09 35.5 +0.7
R07C Lee Vining 31.77 321 ⇓P P 13 09 35.8 +0.9
baz=32
R07C ⇑S **S 13 14 48.4 +5.6**
baz=32
N11A Elko Archery C 31.78 328 ⇓P P 13 09 35.8 +0.7
baz=32
N11A ⇓S **S 13 14 48.6 +5.7**
baz=32
M12A Wells 31.81 330 P P 13 09 35.9 +0.5
baz=32,SNR=32
M12A ⇑S **S 13 14 51.5 +8.1**
baz=32
U04C Hernandez Rese 31.83 317 ⇑P P 13 09 35.1 -0.4
baz=32,SNR=7.0
U04C ⇑S **S 13 14 50.2 +6.5**
baz=32
MOOW Moose Ponds 31.88 337 eP P 13 09 36.1 +0.2

NNA Nana 31.89 147 *e*P **P 13 09 37.6 +1.5**
NNA LR LR
comp=Z,3µm,22.0s,MS5.0
DCID1 Drake Creek 31.92 336 *e*P **P 13 09 36.5 +0.2**
V03C Hunter Liggett 31.95 316 ⇓P **P 13 09 36.6 +0.1**
baz=32
V03C ⇑S **S 13 14 51.8 +6.3**
baz=32
T05C Eagle Field, D 32.07 318 ⇓P **P 13 09 37.0 -0.6**
baz=32
O09A Fish Creek Ran 32.08 326 ⇑P **P 13 09 38.2 +0.5**
baz=32,SNR=18
O09A ⇓S **S 13 14 53.8 +6.2**
baz=32
IMW Indian Meadow 32.08 337 *e*P **P 13 09 38.1 +0.4**
N10A Dunphy 32.11 327 ⇓P **P 13 09 38.6 +0.7**
baz=32
N10A ⇓S **S 13 14 51.4 +3.4**
baz=32
S05C Merced 32.11 319 ⇓P **P 13 09 37.1 -0.8**
baz=32
S05C ⇑S **S 13 14 50.7 +2.6**
baz=32
S06C San Francisco 32.13 320 ⇓P **P 13 09 38.1 0.0**
baz=32
S06C ⇑S **S 13 14 51.5 +3.2**
baz=32
Q07A Schurz 32.17 322 ⇓P **P 13 09 39.1 +0.6**
baz=32
Q07A ⇑S **S 13 14 54.5 +5.5**
baz=32
SADO Sadowa 32.18 20 P **P 13 09 37.5 -1.1**
comp=Z,16nm,1.0s,mb4.8,baz=231,slow=7.2,SNR=10
P08A Dixie Valley 32.24 324 ⇑P **P 13 09 39.7 +0.6**
baz=32
M11A Holland Ranch, 32.26 329 ⇑P **P 13 09 39.9 +0.6**
baz=32,SNR=7.8
M11A ⇓S **S 13 14 56.0 +5.7**
baz=32
WAKR Walker 32.27 321 *e*P **P 13 09 39.5 +0.2**
HAST Hastings Reser 32.36 316 ⇑P **P 13 09 39.9 -0.3**
baz=32
HAST ⇓S **S 13 14 56.1 +4.1**
baz=32
LKWY Lake 32.45 338 *e*P **P 13 09 42.6 +1.6**
comp=Z,40nm,1.2s,mb5.1
LKWY LR LR
comp=Z,10µm,19.0s,MS5.5
SAO San Andreas Ge 32.50 317 *e*P **P 13 09 41.6 +0.2**
SAO San Andreas Ge 32.50 317⇑ *e*P **P 13 09 39.9 -1.4**
comp=Z,16nm,1.2s,mb4.8
SAO LR LR
comp=Z,4µm,22.0s,MS5.0
YFT Old Faithful 32.52 337 *e*P **P 13 09 42.1 +0.6**
PACP Pacheco Peak 32.53 317 ⇑P **P 13 09 41.0 -0.7**
baz=33
PACP ⇓S **S 13 14 58.2 +3.6**
baz=33
CMB Columbia Colle 32.56 320 *e*P **P 13 09 42.1 +0.2**
CMB Columbia Colle 32.56 320⇑ *e*P **P 13 09 41.0 -0.9**
comp=Z,13nm,1.2s,mb4.7
CMB LR LR
comp=Z,8µm,20.0s,MS5.4
CMB Columbia Colle 32.56 320 ⇑P **P 13 09 41.5 -0.4**
baz=33
CMB ⇓S **S 13 14 57.2 +2.2**
baz=33
P07A Fallon 32.61 323 ⇓P **P 13 09 43.0 +0.7**
baz=33
O08A Rochester Mine 32.70 325 ⇑P **P 13 09 43.2 +0.1**
baz=33
M10A I.L. Ranch, Tu 32.70 328 ⇓P **P 13 09 44.0 +0.8**
baz=33
M10A ⇑S **S 13 15 03.8 +6.5**
baz=33
YMR Madison River 32.75 338 *e*P **P 13 09 44.3 +0.7**
comp=Z,105nm,1.5s,mb5.5
R05C Kirkwood Meado 32.78 321 ⇑P **P 13 09 44.7 +0.9**
baz=33,SNR=13
R05C ⇑S **S 13 15 05.6 +7.1**
baz=33
EYMN Ely 32.82 3⇑ *e*P **P 13 09 41.9 -2.3**
comp=Z,306nm,0.7s,mb6.3
EYMN LR LR
comp=Z,64µm,21.0s,MS6.3
S04C Ingram Canyon, 32.84 318 ⇑P **P 13 09 43.5 -0.8**
baz=33
S04C ⇓S **S 13 15 04.2 +4.7**
baz=33
WCN Washoe City 32.96 322 ⇑P **P 13 09 45.9 +0.5**
baz=33,SNR=12
WCN ⇓S **S 13 15 06.6 +5.2**
baz=33
PAHR Pah Rah Range 33.01 323 *e*PP PP 13 10 57.8 -2.9
O07A Toulon 33.02 324 ⇑P **P 13 09 46.0 +0.1**
baz=33,SNR=9.9
O07A ⇓S **S 13 15 08.3 +6.2**
baz=33
N08A GE Springer Mi 33.02 325 P **P 13 09 46.0 +0.1**
baz=33,SNR=12
N08A ⇓S **S 13 15 07.8 +5.6**
baz=33
R04C Big Horse Ranc 33.04 319 ⇑P **P 13 09 46.3 +0.2**
baz=33
R04C ⇑S **S 13 15 09.1 +6.5**
baz=33
QLMT Earthquake Lak 33.06 337 *e*P **P 13 09 47.4 +1.1**
LAO LASA Array 33.08 345 *e*P **P 13 09 46.8 +0.4**
comp=Z,90nm,1.5s,mb5.5
LAO LR LR
comp=Z,2µm,19.0s,MS4.9
M09A Marrel Ranch, 33.10 327 ⇓P **P 13 09 47.3 +0.7**
baz=33,SNR=15
M09A ⇑S **S 13 15 08.5 +5.0**
baz=33
BNLO Ben Lomond 33.19 317 ⇑P **P 13 09 46.8 -0.6**
baz=33
BNLO ⇓S **S 13 15 11.6 +6.9**
baz=33
WENL Wente Brothers 33.19 318 ⇑P **P 13 09 47.9 +0.5**
baz=33
WENL ⇑S **S 13 15 11.7 +6.8**
baz=33
LAVA Lava Cap Winer 33.22 320 ⇑P **P 13 09 47.6 -0.1**
baz=33
LAVA ⇓S **S 13 15 10.7 +5.3**
baz=33
HLID Hailey 33.24 333 *e*P **P 13 09 47.7 -0.2**
HLID LR LR
comp=Z,9µm,19.0s,MS5.5
GCMT Greycliff 33.27 340 *e*P **P 13 09 48.4 +0.3**
P06A Stead Airport, 33.29 322 ⇓P **P 13 09 48.9 +0.6**
baz=33
P06A ⇓S **S 13 15 12.0 +5.6**
baz=33
JRSC Jasper Ridge 33.38 317 ⇑P **P 13 09 48.8 -0.3**
baz=34
JRSC ⇓S **S 13 15 12.7 +4.9**
baz=34
NCB Newcomb 33.39 27 *e*P **P 13 09 47.3 -1.9**
comp=Z,15nm,1.0s,mb4.9
NCB *e* pP 13 09 56.4 -2.6
NCB LR LR
comp=Z,12µm,19.0s,MS5.6
BDM Black Diamond 33.45 318 ⇑P **P 13 09 50.0 +0.3**
baz=34
BDM ⇑S **S 13 15 14.6 +5.7**
baz=34
P05C Yuba Gap, Truc 33.48 321 ⇑P **P 13 09 50.6 +0.7**
baz=34
P05C ⇑S **S 13 15 12.9 +3.7**
baz=34
HRV Harvard--Oak R 33.50 31 PFAKE 13 10 00.0 +10
HRV LR LR
comp=Z,8µm,19.0s,MS5.5
WES Weston 33.53 31 PFAKE 13 10 00.0 +10
WES LR LR
comp=Z,5µm,21.0s,MS5.2
O06A Flanigan 33.56 323 P **P 13 09 51.1 +0.5**
baz=34,SNR=24
O06A ⇑S **S 13 15 15.7 +5.0**
baz=34
MCMT McKenzie Canyo 33.61 336 *e*P **P 13 09 52.0 +1.0**
M08A Happy Creek Ra 33.62 326 ⇑P **P 13 09 51.1 0.0**
baz=34,SNR=8.1
M08A ⇓S **S 13 15 16.8 +5.3**
baz=34
L09A Wilkinson Ranc 33.65 327 ⇓P **P 13 09 51.6 +0.2**
baz=34,SNR=8.3
L09A ⇑S **S 13 15 15.8 +3.9**
baz=34
Q04C Lincoln 33.67 320 ⇑P **P 13 09 52.1 +0.6**
baz=34
Q04C ⇑S **S 13 15 16.5 +4.2**
baz=34
LONY Lake Ozonia 33.77 25⇑ *e*P **P 13 09 50.2 -2.2**
comp=Z,23nm,0.9s,mb5.1
LONY *e* pP 13 10 00.3 -1.9
BOZ Bozeman (W) 33.83 338 PFAKE 13 10 00.0 +7.0
BOZ LR LR
comp=Z,4µm,19.0s,MS5.2
DLMT Dillon 33.95 336 *e*P **P 13 09 54.8 +0.7**
M07A Soldier Meadow 34.01 325 ⇓P **P 13 09 54.4 -0.1**
baz=34
M07A ⇓S **S 13 15 20.2 +2.7**
baz=34
FARB Farallon Islan 34.05 317 ⇑P **P 13 09 54.4 -0.5**
baz=34
FARB ⇓S **S 13 15 21.7 +3.5**
baz=34
CVS Carmenet Viney 34.06 318 ⇑P **P 13 09 54.6 -0.4**
baz=34
CVS ⇓S **S 13 15 22.5 +4.1**
baz=34
O05C Quincy 34.08 322 ⇓P **P 13 09 55.8 +0.7**
baz=34
O05C ⇑S **S 13 15 23.3 +4.7**
baz=34
L08A Fields 34.12 327 ⇓P **P 13 09 55.7 +0.2**
baz=34,SNR=27
L08A ⇓S **S 13 15 24.4 +5.2**
baz=34
SUTB Sutter Buttes 34.16 320 ⇓P **P 13 09 55.8 0.0**
baz=34
SUTB ⇑S **S 13 15 26.5 +6.7**
baz=34
ORV Oroville 34.17 321 ⇓P **P 13 09 56.3 +0.4**
baz=34
ORV ⇓S **S 13 15 24.8 +4.7**
baz=34
MCCM Marconi Confer 34.22 318 ⇑P **P 13 09 55.9 -0.5**
baz=34
MCCM ⇓S **S 13 15 24.5 +3.7**
baz=34
LRM Limekiln Ridge 34.28 337 *e*P **P 13 09 57.4 +0.5**
FRNY Flat Rock 34.36 26 *e*P **P 13 09 55.1 -2.4**
MNRC McLaughlin Nat 34.36 319 ⇓P **P 13 09 58.0 +0.4**
baz=34,SNR=7.1
MNRC ⇑S **S 13 15 25.7 +2.7**
baz=34
O04C Chester 34.40 322 ⇑P **P 13 09 58.3 +0.4**
baz=34
O04C ⇑S **S 13 15 28.7 +5.0**
baz=34
WVOR Wild Horse Val 34.45 327 P **P 13 09 58.4 +0.1**
WVOR pmax pmax
comp=Z,110nm,1.3s,mb5.6
WVOR Wild Horse Val 34.45 327 *e*P **P 13 09 58.0 -0.3**
comp=Z,106nm,1.4s,mb5.6
WVOR *e*PP PP 13 11 17.8 +1.1
WVOR LR LR
comp=Z,7µm,20.0s,MS5.4
L07A Adell 34.53 326 ⇓P **P 13 09 59.3 +0.2**
baz=35,SNR=14
L07A ⇑S **S 13 15 30.5 +4.9**
baz=35
M06C Likely Place G 34.62 324 ⇓P **P 13 10 00.1 +0.3**
baz=35,SNR=15
M06C ⇓S **S 13 15 32.5 +5.6**
baz=35
LBNH Lisbon 34.63 29 PFAKE 13 10 10.0 +10
LBNH LR LR
comp=Z,8µm,19.0s,MS5.5
O03C Acorn Hollow, 34.77 321 ⇑P **P 13 10 00.9 -0.2**
baz=35
HRY Holter Researc 34.81 338 *e*P **P 13 10 00.9 -0.5**
HOPS Hopland 34.83 319 PFAKE 13 10 10.0 +8.4
HOPS LR LR
comp=Z,12µm,19.0s,MS5.7
HOPS Hopland 34.83 319 ⇑P **P 13 10 02.0 +0.4**
baz=35
HATC Hat Creek Radi 34.94 323 ⇓P **P 13 10 02.6 +0.1**
baz=35
K07A Rock Creek Ran 34.95 327 P **P 13 10 02.8 +0.1**
baz=35,SNR=32
K07A ⇑S **S 13 15 32.8 +0.8**
baz=35
GASB Alder Springs 34.98 320 ⇓P **P 13 10 03.5 +0.5**
baz=35
GASB ⇓S **S 13 15 35.6 +3.0**
baz=35
ULM Lac du Bonnet 35.08 358 P **P 13 10 02.1 -1.7**
comp=Z,15nm,0.9s,mb4.9,baz=175,slow=9.2,SNR=25
ULM LR LR 13 28 32.3
comp=Z,3µm,19.2s,MS5.1,baz=170,slow=43
ULM Lac du Bonnet 35.08 358 P **P 13 10 02.1 -1.7**
ULM LR LR 13 28 32.3
M05C Lookout 35.10 323 ⇓P **P 13 10 04.1 +0.1**
baz=35,SNR=7.3
M05C ⇓S **S 13 15 36.6 +2.2**
baz=35
P01C Double 8 Ranch 35.27 319 ⇑P **P 13 10 05.6 +0.1**
baz=35
P01C ⇓S **S 13 15 41.2 +4.3**
baz=35
EGMT Eagleton 35.28 342 *e*P **P 13 10 05.4 -0.1**
comp=Z,125nm,1.4s,mb5.7
EGMT LR LR
comp=Z,3µm,20.0s,MS5.1
O02C Red Bluff 35.34 321 ⇑P **P 13 10 05.9 -0.1**
baz=36
O02C ⇓S **S 13 15 40.6 +2.5**
baz=36
L05A Lakeview 35.37 325 ⇓P **P 13 10 06.4 +0.1**
baz=36,SNR=10
WDC Whiskeytown Da 35.43 321 *e*P **P 13 10 06.4 -0.4**
WDC Whiskeytown Da 35.43 321 *e*P **P 13 10 05.7 -1.1**
WDC LR LR
comp=Z,8µm,19.0s,MS5.5
WDC Whiskeytown Da 35.43 321 ⇓P **P 13 10 06.9 +0.1**
baz=36
WDC ⇑S **S 13 15 43.3 +3.9**
baz=36
J07A Hines 35.46 328 ⇓P **P 13 10 06.6 -0.4**
baz=36,SNR=10
J07A ⇑S **S 13 15 40.4 +0.6**
baz=36
CHMT Chamberlain Mo 35.50 337 *e*P **P 13 10 07.4 0.0**
BMO Blue Mountains 35.56 331 PFAKE 13 10 20.0 +12
BMO LR LR
comp=Z,10µm,19.0s,MS5.6
K06A Valley Falls 35.56 326 ⇑P **P 13 10 07.7 -0.2**
baz=36
M03C McCloud 35.61 323 ⇓P **P 13 10 07.3 -1.0**
baz=36
M03C ⇑S **S 13 15 46.8 +4.6**
baz=36
MSO Missoula 35.69 336 PFAKE 13 10 20.0 +11
MSO LR LR
comp=Z,3µm,20.0s,MS5.0
M04C Macdoel 35.77 323 ⇑P **P 13 10 09.4 -0.3**
baz=36
J06A Christmas Vall 35.81 327 ⇑P **P 13 10 09.0 -1.1**
baz=36
J06A ⇓S **S 13 15 50.0 +4.7**
baz=36
O01C Eel River Cons 35.96 320 ⇑P **P 13 10 11.5 +0.1**
baz=36
N02C Big Bar 36.04 321 ⇓P **P 13 10 10.9 -1.1**
baz=36
L04A Klamath Falls 36.05 324 ⇓P **P 13 10 11.4 -0.7**
baz=36
L04A ⇓S **S 13 15 53.0 +4.1**
baz=36
M02C Callahan 36.11 322 ⇑P **P 13 10 11.2 -1.5**
baz=36
K04A Chilquin 36.24 325 ⇓P **P 13 10 13.4 -0.4**
baz=36
YBH Yreka Blue Hor 36.24 323 P **P 13 10 12.3 -1.5**
comp=Z,3.0nm,0.7s,mb4.3,baz=148,slow=4.4,SNR=5.9
YBH Yreka Blue Hor 36.24 323 *e*P **P 13 10 13.8 0.0**
comp=Z,6.2nm,0.8s,mb4.6
YBH LR LR
comp=Z,11µm,19.0s,MS5.6
YBH Yreka Blue Hor 36.24 323 ⇑P **P 13 10 12.1 -1.7**
baz=36
YBH ⇓S **S 13 15 51.9 +0.1**
baz=36
I06A Prineville 36.32 328 ⇓P **P 13 10 14.0 -0.5**
baz=36,SNR=6.5
I06A ⇓S **S 13 15 54.3 +1.2**
baz=36
KHMM Horse Mountain 36.33 321 *e*P **P 13 10 14.5 0.0**
JCC Jacoby Creek 36.48 320 ⇓P **P 13 10 15.8 0.0**
baz=37
JCC ⇓S **S 13 15 58.3 +2.7**
baz=37
BSMT Bassoo Peak 36.86 337 *e*P **P 13 10 19.2 +0.2**
HUMO Hull Mountain 36.94 324 PFAKE 13 10 30.0 +10
HUMO LR LR
comp=Z,17µm,19.0s,MS5.9
I05A Bend 37.03 327 ⇑P **P 13 10 19.8 -0.6**
baz=37
I05A ⇓S **S 13 16 06.2 +2.4**
baz=37
L02A Cave Junction 37.03 323 ⇓P **P 13 10 19.6 -0.8**
baz=37
L02A ⇑S **S 13 16 05.1 +1.2**
baz=37
M01C Crescent City 37.15 322 ⇓P **P 13 10 21.1 -0.4**
baz=37
M01C ⇓S **S 13 16 06.6 +0.9**
baz=37
K02A Glendale 37.34 323 ⇓S **S 13 16 11.9 +3.3**
baz=38
KBO Bosley Butte 37.43 322 *e*P **P 13 10 23.6 -0.2**
WALA Waterton Lakes 37.55 339 *e*P **P 13 10 25.5 +0.7**
comp=Z,137nm,1.9s,mb5.4
HAWA Hanford 37.75 331 *e*P **P 13 10 26.5 0.0**
HAWA *e*pP pP 13 10 33.8 -2.6
HAWA LR LR
comp=Z,9µm,19.0s,MS5.6
J02A Umpqua 37.77 324 ⇓P **P 13 10 26.3 -0.4**
baz=38
G05A Wamic 37.80 328 ⇓P **P 13 10 27.3 +0.4**
baz=38
G05A ⇑S **S 13 16 19.8 +4.2**
baz=38
H04A Detroit Lake 37.87 327 ⇓P **P 13 10 27.2 -0.4**
baz=38,SNR=8.4
H04A ⇓S **S 13 16 19.8 +3.2**
baz=38
KEBM Edson Butte 37.90 323 *e*P **P 13 10 28.2 +0.4**
I03A Eugene 37.99 325 ⇓P **P 13 10 28.1 -0.5**
baz=38
HOOD Mount Hood Mea 38.02 328 *e*P **P 13 10 29.5 +0.7**
NEW Newport 38.12 335 P **P 13 10 28.6 -1.0**
comp=Z,8.7nm,0.6s,mb4.6,baz=144,slow=7.8,SNR=11
NEW Newport 38.12 335 *e*P **P 13 10 29.5 -0.2**
NEW LR LR
comp=Z,9µm,22.0s,MS5.5
I02A Mapleton 38.31 325 ⇑P **P 13 10 31.1 -0.2**
baz=38
F05A White Salmon 38.31 329 ⇓P **P 13 10 31.6 +0.3**
baz=38,SNR=7.7
F05A ⇓S **S 13 16 26.3 +3.0**
baz=38
G04A Mulino 38.37 327 ⇓P **P 13 10 31.2 -0.6**
baz=38
COR Corvallis 38.40 326 PFAKE 13 10 40.0 +8.0
COR LR LR
comp=Z,8µm,19.0s,MS5.6
H03A Soap Creek Ran 38.45 326 ⇑P **P 13 10 32.1 -0.4**
baz=39
H03A ⇑S **S 13 16 28.5 +3.0**
baz=39
F04A Amboy 38.83 328 ⇓P **P 13 10 35.0 -0.6**
baz=39
F04A ⇑S **S 13 16 33.3 +2.2**
baz=39
SAML Samuel 38.88 126 *e*P **P 13 10 33.9 -2.1**
comp=Z,22nm,0.9s,mb4.9
SAML LR LR
comp=Z,3µm,19.0s,MS5.1
E05A Randle 38.94 329 ⇓P **P 13 10 36.3 -0.3**
baz=39
E05A ⇑S **S 13 16 36.9 +4.2**
baz=39
F03A Seaside 39.42 327 ⇓P **P 13 10 40.8 +0.2**
baz=40
E04A Onalaska 39.44 329 ⇓P **P 13 10 40.5 -0.2**
baz=40
D05A Emumclaw 39.49 330 ⇑P **P 13 10 41.0 -0.2**
baz=40
C05A Tolt Reservoir 39.70 331 ⇓P **P 13 10 42.3 -0.7**
baz=40
C05A ⇑S **S 13 16 45.0 +0.7**
baz=40
E03A Lebam 39.83 328 ⇑P **P 13 10 43.8 -0.3**
baz=40
FFC Flin Flon 40.01 353 P **P 13 10 45.3 -0.2**
comp=Z,245nm,0.7s,mb6.0,SNR=9.8
FFC Flin Flon 40.01 353 *e*P **P 13 10 44.5 -0.9**
comp=Z,112nm,1.4s,mb5.4
FFC LR LR
comp=Z,5µm,22.0s,MS5.3
GNW Green Mountain 40.16 330 *e*P **P 13 10 46.1 -0.7**
B05A Bryant 40.30 331 ⇑P **P 13 10 46.8 -1.1**
baz=40
B05A ⇓S **S 13 16 51.0 -2.3**
baz=40
C04A Brinnon 40.34 330 ⇑S **S 13 16 50.0 -3.8**
baz=40
LPAZ La Paz 40.39 139 P **P 13 10 48.4 -0.3**
comp=Z,3.8nm,0.7s,baz=330,slow=8.3,SNR=18
LPAZ La Paz 40.39 139 P **P 13 10 48.4 -0.3**
LPAZ pmax pmax
comp=Z,40nm,0.7s
LPAZ La Paz 40.39 139 *e*P **P 13 10 48.0 -0.6**
comp=Z,9.0nm,0.8s,mb4.5
LPAZ *e* pP 13 10 57.3 -1.3
LPAZ LR LR
comp=Z,3µm,20.0s,MS5.1
A05A Maple Falls 40.83 332 ⇑P **P 13 10 51.4 -0.9**
baz=41
A05A ⇓S **S 13 16 57.9 -3.2**
baz=41
B04A Port Angeles 40.83 330 ⇓P **P 13 10 52.1 -0.2**
baz=41
A04A Legoe Bay, Lum 40.92 331 ⇑P **P 13 10 52.5 -0.5**
baz=41
EDM Edmonton 40.95 342 *e*P **P 13 10 53.5 +0.2**
PGC Sidney 41.22 330 *e*P **P 13 10 57.2 +1.7**
comp=Z,59nm,0.9s,mb5.2
FCC Fort Churchill 43.58 0 *e*P **P 13 11 17.0 +2.3**
FCC pmax pmax
comp=Z,58nm,1.3s,mb5.2
FCC Fort Churchill 43.58 0 *e*P **P 13 11 14.6 -0.1**
comp=Z,58nm,1.3s,mb5.2
RPN Rapa Nui 44.50 199 LR LR 13 24 23.7
comp=Z,14µm,21.8s,MS5.8,baz=316,slow=29
LVC Limon Verde 44.88 146 *e*P **P 13 11 23.4 -1.8**
comp=Z,31nm,1.4s,mb4.9
LVC LR LR
comp=Z,2µm,22.0s,MS5.1
SCHQ Schefferville 44.94 22 P **P 13 11 23.4 -2.1**
comp=Z,6.9nm,0.9s,mb4.5,baz=209,slow=5.5,SNR=8.7
SCHQ LR LR 13 32 17.4
comp=Z,11µm,19.3s,MS5.8,baz=218,slow=39
YKA Yellowknife Ar 49.50 348 P **P 13 12 00.6 -0.5**
comp=Z,10nm,0.7s,mb5.0,baz=152,slow=7.5,SNR=18
YKA Yellowknife Ar 49.50 348 P **P 13 12 00.6 -0.5**
YKW3 Yellowknife Ar 49.56 348 *e*P **P 13 12 01.6 0.0**
DLBC Dease Lake 50.82 337 *e*P **P 13 12 12.7 +1.6**
TAOE Nuku Hiva Isla 51.45 245 *e*S **S 13 19 33.2 -0.3**
comp=Z,7µm,24.2s
TAOE *e*LR LR 13 26 44.2
comp=Z,13µm,25.8s
SIT Sitka 52.13 333 PFAKE 13 12 30.0 +9.1
SIT LR LR
comp=Z,9µm,19.0s,MS5.8
SKAG Skagway 53.58 335 *e*P **P 13 12 33.1 +1.5**
comp=Z,21nm,1.2s,mb4.9
BDFB Brasilia 54.84 122 P **P 13 12 39.9 -0.8**
comp=Z,35nm,0.8s,mb5.4,baz=296,slow=7.9,SNR=13
RKT Rikitea 55.14 227 *e*S **S 13 20 22.7 -0.9**
comp=Z,3µm,27.0s
RKT *e*LR LR 13 28 49.3
comp=Z,5µm,27.2s
DAWY Dawson 57.90 338 *e*P **P 13 13 00.7 -1.8**
DAWY *e*PP PP 13 15 11.5 +0.5
EYAK Cordova Ski Ar 58.57 333 *e*P **P 13 13 06.1 -1.2**
EYAK *e*PP PP 13 15 13.7 -3.3

INK Inuvik 58.81 344 *e*P **P 13 13 08.2 -0.7**
INK pmax pmax
comp=Z,26nm,1.0s
INK Inuvik 58.81 344 *e*P **P 13 13 08.2 -0.7**
comp=Z,836nm,1.0s
DIV Divide 58.85 334 *e*P **P 13 13 09.9 +0.7**
DIV LR LR
comp=Z,8µm,20.0s,MS5.8
SFJD Kangerlussuaq 59.11 18 LR LR 13 42 47.5
comp=Z,4µm,19.9s,MS5.6,baz=204,slow=40
RES Resolute Bay 59.58 360 *e*P **P 13 13 13.4 -0.9**
PLCA Paso Flores 59.70 159 P **P 13 13 12.7 -2.4**
comp=Z,10nm,1.0s,mb4.8,baz=330,slow=8.1,SNR=14
PLCA LR LR 13 32 45.3
comp=Z,2µm,21.3s,MS5.1,baz=353,slow=30
PLCA Paso Flores 59.70 159 *e*P **P 13 13 13.2 -1.8**
comp=Z,35nm,1.2s,mb5.3
PLCA LR LR
comp=Z,2µm,21.0s,MS5.2
SML Sawmill 60.26 334 *e*P **P 13 13 18.8 -0.1**
PMR Palmer 60.51 333 *e*P **P 13 13 20.0 -0.6**
PMR pmax pmax
comp=Z,107nm,2.2s,mb5.6
PMR MLR MLR
comp=Z,4µm,19.0s,MS5.5
PMR Palmer 60.51 333 *e*P **P 13 13 20.0 -0.6**
comp=Z,107nm,2.2s,mb5.6
PMR LR LR
comp=Z,4µm,19.0s,MS5.5
KIP Kipapa 60.66 286 PFAKE 13 13 30.0 +8.4
KIP LR LR
comp=Z,1µm,22.0s,MS4.9
KDAK Kodiak Island 60.71 328 LR LR 13 38 51.3
comp=Z,4µm,18.5s,MS5.6,baz=129,slow=35
KDAK Kodiak Island 60.71 328 PFAKE 13 13 30.0 +8.0
KDAK LR LR
comp=Z,1µm,21.0s,MS5.0
TRQA Tornquist 60.88 151 *e*P **P 13 13 21.4 -1.7**
comp=Z,38nm,1.2s,mb5.4
TRQA LR LR
comp=Z,2µm,20.0s,MS5.3
MCK McKinley 61.34 336 *e*P **P 13 13 25.9 -0.4**
comp=Z,26nm,1.4s,mb5.2
MCK LR LR
comp=Z,2µm,19.0s,MS5.3
COLA College 61.44 337 P **P 13 13 25.7 -1.2**
COLA pmax pmax
comp=Z,15nm,1.0s,mb5.1
COLA College 61.44 337⇑ *i*P **P 13 13 25.5 -1.4**
ADH Angra Heroismo 62.74 54 *i* LR LR 13 32 27.5
SVW2 Sparrevohn 63.22 331 *e*P **P 13 13 37.0 -1.9**
PPT Papeete 63.59 241 *e*S **S 13 22 12.4 -0.3**
comp=Z,2µm,24.8s
PPT *e*SS SS 13 26 23.5 +3.1
comp=Z,843nm,24.8s
PPT *e*LQ 13 29 59.9
comp=Z,3µm,33.0s
PPT *e*LR LR 13 32 07.7
comp=Z,5µm,28.5s,baz=60
PPT Papeete 63.59 241 LR LR 13 33 46.2
comp=Z,898nm,21.1s,MS4.9,baz=61,slow=29
TTA Tatalina 64.00 333 *e*P **P 13 13 42.1 -1.9**
TTA 13 13 56.3
TTA Tatalina 64.00 333 *e*P **P 13 13 42.5 -1.5**
comp=Z,22nm,1.3s,mb5.0
SUMG Summit 65.73 16 *e*P **P 13 13 54.7 -0.6**
TBI Tubuai 66.25 236 *e*S S 13 22 45.0 -0.4
comp=Z,2µm,31.5s
TBI *e*SS SS 13 26 30.8 -31
comp=Z,690nm,31.2s
TBI *e*LQ 13 30 49.7
comp=Z,757nm,24.8s
TBI *e*LR LR 13 33 33.2
comp=Z,4µm,29.8s,baz=58
UNV Unalaska Valle 67.56 322 PFAKE 13 14 20.0 +13
UNV LR LR
comp=Z,5µm,20.0s,MS5.8
ALE Alert 68.62 4 P **P 13 14 11.3 -2.3**
comp=Z,144nm,1.0s,mb5.9,SNR=9.5
ALE Alert 68.62 4 P **P 13 14 11.9 -1.7**
BORG Borgarnes 69.12 26 PFAKE 13 14 30.0 +13
BORG LR LR
comp=Z,2µm,21.0s,MS5.4
TNA Tin City 69.66 335 PFAKE 13 14 30.0 +10
TNA LR LR
comp=Z,2µm,19.0s,MS5.3
DAG Danmarks Havn 72.07 14*j* *i*P **P 13 14 33.7 -1.0**
comp=Z,13nm,0.8s,mb4.9
DAG
comp=Z,5µm,18.0s
DAG Danmarks Havn 72.07 14*j* *i*P **P 13 14 33.7 -1.0**
DAG pmax pmax
comp=Z,13nm,0.8s,mb4.9
DAG MLR MLR
comp=Z,5µm,18.0s,MS5.8
DAG MLR MLR
comp=N,6µm,19.0s,MS6.0
DAG MLR MLR
comp=E,4µm,17.0s,MS6.0
DAG Danmarks Havn 72.07 14 *i* Pdu **P 13 14 33.7 -1.0**
comp=E,13nm,0.8s,mb4.9
DAG LR LR
comp=Z,5µm,18.0s,MS5.8
EFI East Falkland 73.52 158 PFAKE 13 14 50.0 +6.7
EFI LR LR
comp=Z,1µm,20.0s,MS5.2
JMIC Jan Mayen 74.40 20 *e*P **P 13 14 48.5 +0.1**
JMIC *e*S S 13 24 28.7 +8.1
JMIC AMS AMS 13 49 02.8
comp=Z,5µm,22.8s,MS5.8
DCN Croghan 76.17 38⇑ *i*P **P 13 14 56.7 -1.9**
DMUB Kingscourt 76.32 37⇑ *i*P **P 13 14 58.1 -1.3**
EMAZ Mazaricos 76.36 49 P **P 13 14 56.7 -3.0**
comp=Z,796nm,4.1s
DLF Lyons Farm 76.62 38⇑ *i*P **P 13 15 00.2 -0.9**
GCL Cushendall 76.63 36 *e*P **P 13 15 01.7 +0.5**
DSB Dublin 76.72 38 *e*P **P 13 15 01.7 +0.1**
comp=Z,32nm,1.2s,mb5.1
PLOU Loures 76.82 53 *e*P **P 13 15 03.3 +1.0**
GMM Mts of Mourne 76.84 37 *e*P **P 13 15 02.3 0.0**
GMK Mull of Kintyr 76.90 36 *e*P **P 13 15 02.6 -0.1**
ELOB Lobios 77.19 50 P **P 13 15 02.1 -2.2**
comp=Z,327nm,2.5s,mb5.8
PCAB Cabril 77.24 50 *e*P **P 13 15 05.3 +0.7**
PTOM Tomar 77.28 52 *e*P **P 13 15 06.0 +1.2**
MVH1 Achvaich 77.32 33 *e*P **P 13 15 04.0 -1.0**
PTEO Sao Teotonio 77.36 54 *e*P **P 13 15 04.8 -0.5**
comp=Z,33nm,1.3s,mb5.1
GAL1 Galloway 77.47 36 *e*P **P 13 15 05.7 -0.2**
EAB Aberfoyle 77.48 35⇑ *e*P **P 13 15 05.5 -0.5**
EAB AMb AMB 13 15 15.9
comp=Z,95nm,1.7s,mb5.5
PVIS Viseu 77.49 51 *e*P **P 13 15 05.7 -0.3**
comp=Z,13nm,1.0s,mb4.8
PVRL Vila Real 77.54 50 *e*P **P 13 15 07.0 +0.7**
comp=Z,26nm,2.0s,mb4.8
WIM Isle of Man 77.59 37 *e*P **P 13 15 06.9 +0.3**
WIM AMb AMB 13 15 17.0
comp=Z,112nm,1.5s,mb5.6
EPON Pontenova 77.63 48 P **P 13 15 05.8 -1.0**
comp=Z,631nm,4.0s
GIM North Isle of 77.69 37⇑ *e*P **P 13 15 08.0 +0.8**
MLA1 Latheron 77.69 33⇑ *e*P **P 13 15 06.3 -0.8**
EVO Evora 77.76 53 *e*P **P 13 15 06.5 -1.0**
comp=Z,18nm,0.8s,mb4.8
EVO *e*R
comp=Z,5µm,20.5s
YRC Rhoscolyn 77.79 38 *e*P **P 13 15 07.0 -0.7**
YRC AMb AMB 13 15 17.7
comp=Z,47nm,1.6s,mb5.2
MTE Manteigas 77.81 51 *e*P **P 13 15 06.0 -1.8**
comp=Z,37nm,1.3s,mb5.2
MTE *e*SKS 13 25 04.6
MTE Manteigas 77.81 51 *e*LQ 13 36 47.5
MTE *e*LR LR 13 39 44.6
comp=Z,4µm,16.9s
MCD Coleburn Disti 77.86 33 *e*P **P 13 15 08.0 -0.1**
YRE Yr Eifl 77.92 38 *e*P **P 13 15 08.3 -0.1**
YRE AMb AMB 13 15 18.7
comp=Z,119nm,1.6s,mb5.6
PCBR Castelo Branco 77.95 52 *e*P **P 13 15 08.4 -0.2**
comp=Z,22nm,1.2s,mb5.0
PBEJ Beja 77.96 54 *e*P **P 13 15 08.8 +0.2**
comp=Z,23nm,1.5s,mb4.9
BWH Wardlaw 78.02 36 *e*P **P 13 15 08.7 -0.3**
EAU Auchinoon 78.03 35⇑ *e*P **P 13 15 08.6 -0.5**
EAU AMb AMB 13 15 19.1
comp=Z,140nm,1.7s,mb5.6
ECAL Calabor 78.15 50 P **P 13 15 09.7 0.0**
comp=Z,527nm,3.3s
EDI Edinburgh 78.16 35⇑ *e*P **P 13 15 10.1 +0.3**
EDI AMb AMB 13 15 19.8
comp=Z,120nm,1.7s,mb5.5
PBRG Braganca 78.17 50 *e*P **P 13 15 10.9 +1.1**
comp=Z,20nm,1.3s,mb4.9
XDE Dent Fell 78.22 37 *e*P **P 13 15 09.3 -0.7**
XDE AMb AMB 13 15 20.3
comp=Z,127nm,1.7s,mb5.6
ESK Eskdalemuir 78.25 36 P **P 13 15 11.9 +1.6**
comp=Z,318nm,0.8s,mb6.3,SNR=12
ESK Eskdalemuir 78.25 36⇑ *e*P **P 13 15 09.7 -0.5**
ESK AMb AMB 13 15 19.4
comp=Z,96nm,1.7s,mb5.5
ESK Eskdalemuir 78.25 36 *e*P **P 13 15 09.1 -1.1**
ESK LR LR
comp=Z,3µm,20.0s,MS5.7
BHH Howats Hill 78.28 36⇑ *e*P **P 13 15 09.9 -0.5**
ECK Cauldkaine Hil 78.32 36⇑ *e*P **P 13 15 11.0 +0.4**
ECK AMb AMB 13 15 20.6
comp=Z,132nm,1.6s,mb5.6
KBS Kingsbay 78.33 11 *e*P **P 13 15 11.5 +0.8**
KBS *e*SKSa 13 25 21.9
KBS AMS AMS 13 55 07.6
comp=Z,3µm,16.4s,MS5.7
KBS Kingsbay 78.33 11 *i* P **P 13 15 11.1 +0.4**
KBS Kingsbay 78.33 11 *e*P **P 13 15 09.9 -0.8**
comp=Z,23nm,1.0s,mb5.1
EGRO El Granado 78.34 54 P **P 13 15 12.2 +1.4**
comp=Z,4.6nm,0.3s,mb4.9
CDU1 Dunnerdale 78.42 37 *e*P **P 13 15 11.8 +0.6**
BBH Bruntsheil 78.44 36 *e*P **P 13 15 11.9 +0.6**
ESY Stoneypath 78.48 35⇑ *e*P **P 13 15 10.9 -0.7**
ESY AMb AMB 13 15 14.1
comp=Z,102nm,1.4s,mb5.6
EBAD Badajoz 78.49 53 P **P 13 15 09.8 -1.8**
comp=Z,623nm,4.0s
HEX Exmoor 78.61 40 *e*P **P 13 15 12.1 -0.1**
SBD1 Bryn Du 78.63 38 *e*P **P 13 15 12.5 +0.2**
HTR Trewern Hill 78.76 39⇑ *e*P **P 13 15 13.5 +0.4**
HTR AMb AMB 13 15 14.8
comp=Z,38nm,1.6s,mb5.1
HLM1 Long Mynd 78.92 39 *e*P **P 13 15 13.1 -0.8**
HLM1 AMb AMB 13 15 23.1
comp=Z,62nm,1.8s,mb5.2
EMIN Mina Concepcio 78.93 54 P **P 13 15 13.8 -0.2**
comp=Z,455nm,3.5s
MCH1 Michaelchurch 78.94 39 *e*P **P 13 15 14.4 +0.3**
EARI Arriondas 79.03 48 P **P 13 15 14.0 -0.6**
comp=Z,679nm,3.9s
HGH Gray Hill 79.12 39⇑ *e*P **P 13 15 14.6 -0.5**
HGH AMb AMB 13 15 24.4
comp=Z,68nm,1.9s,mb5.3
SMY Shemya 79.21 322 PFAKE 13 15 30.0 +14
SMY LR LR
comp=Z,1µm,20.0s,MS5.2
HAE Alders End 79.21 39⇑ *e*P **P 13 15 15.3 -0.2**
HAE AMb AMB 13 15 17.3
comp=Z,68nm,1.1s,mb5.5
LHO Holmfirth 79.34 37⇑ *e*P **P 13 15 15.9 -0.4**
ROSF Rostrenen 79.44 43 *e*P **P 13 15 15.7 -1.1**
comp=Z,37nm,0.9s,mb5.0
ROSF Rostrenen 79.44 43 *e*P **P 13 15 15.7 -1.1**
ROSF pmax pmax
comp=Z,18nm,0.9s,mb5.0
ROSF Rostrenen 79.44 43 *e*P **P 13 15 15.7 -1.1**
comp=Z,18nm,0.9s,mb5.0
KWE Weaver Farm 79.45 38⇑ *e*P **P 13 15 15.8 -1.0**
QUIF Quistinic 79.59 43 *e*P **P 13 15 16.6 -1.0**
comp=Z,72nm,1.1s,mb5.2
QUIF Quistinic 79.59 43 *e*P **P 13 15 16.6 -1.0**
QUIF pmax pmax
comp=Z,36nm,1.1s,mb5.2
QUIF Quistinic 79.59 43 *e*P **P 13 15 16.6 -1.0**
comp=Z,36nm,1.1s,mb5.2
KBI1 Birley Grange 79.59 38 *e*P **P 13 15 17.4 -0.2**
BILL Bilibino 79.67 338⇑ *i*P **P 13 15 17.0 -1.1**
BILL *i* 13 15 23.3
BILL *i* 13 15 31.1
BILL *e* 13 18 13.0
BILL *i* S S 13 25 26.9 +8.9
BILL pmax pmax
comp=Z,45nm,1.3s,mb5.2
BILL MLR MLR
comp=Z,4µm,23.0s,MS5.7
ESPR Espera 79.74 55 P **P 13 15 17.6 -0.8**
comp=Z,1µm,4.8s
SGMF Saint Gilles 79.92 43 *e*P **P 13 15 18.1 -1.3**
comp=Z,39nm,1.0s,mb5.0
SGMF Saint Gilles 79.92 43 *e*P **P 13 15 18.1 -1.3**
SGMF pmax pmax
comp=Z,20nm,1.0s,mb5.0
SGMF Saint Gilles 79.92 43 *e*P **P 13 15 18.1 -1.3**
JVM Valle D.L. Mar 79.96 42 *e*P **P 13 15 19.5 -0.1**
JRS Jersey 80.04 42 *e*P **P 13 15 20.0 -0.1**
EJIF Jimena Fronter 80.13 55 P **P 13 15 20.3 -0.2**
EJIF pmax pmax
comp=Z,37nm,1.3s,mb5.2
EJIF Jimena Fronter 80.13 55 P **P 13 15 20.3 -0.2**
comp=Z,37nm,1.3s,mb5.2
GUD Guadarrama 80.30 51 P **P 13 15 22.0 +0.5**
GUD pmax pmax
comp=Z,24nm,0.8s,mb5.2
GUD Guadarrama 80.30 51 P **P 13 15 22.0 +0.6**
comp=Z,24nm,0.8s,mb5.2
ELAN Lanestosa 80.31 48 P **P 13 15 22.8 +1.3**
comp=Z,217nm,3.4s
EADA Adamuz 80.48 53 P **P 13 15 23.8 +1.4**
comp=Z,607nm,3.1s
ESDC Sonseca Array 80.64 51 P **P 13 15 23.0 -0.3**
comp=Z,9.2nm,0.8s,mb4.8,baz=291,slow=5.2,SNR=26
ESDC LR LR 13 45 30.9
comp=Z,2µm,20.6s,MS5.4,baz=265,slow=32
ESDC Sonseca Array 80.64 51 P **P 13 15 23.3 0.0**
comp=Z,7.6nm,0.8s,mb4.7
ESLA Sonseca Array 80.64 51 *e*P **P 13 15 23.2 -0.1**
comp=Z,50nm,1.6s,mb5.2
ESLA LR LR
comp=Z,13µm,20.0s,MS6.3
EMIJ Mijas 80.65 55 P **P 13 15 24.0 +0.6**
comp=Z,683nm,5.2s
GRR Gorron 81.00 42 *e*P **P 13 15 24.4 -0.8**
comp=Z,115nm,1.0s,mb5.5
GRR Gorron 81.00 42 *e*P **P 13 15 24.4 -0.8**
GRR pmax pmax
comp=Z,58nm,1.0s,mb5.5
GRR Gorron 81.00 42 *e*P **P 13 15 24.4 -0.8**
comp=Z,58nm,1.0s,mb5.5
ELOJ Sierra Loja 81.02 54 P **P 13 15 27.6 +2.3**
ELOJ pmax pmax
comp=Z,56nm,1.7s,mb5.2
ELOJ Sierra Loja 81.02 54 P **P 13 15 27.6 +2.4**
comp=Z,56nm,1.7s,mb5.2
FLN La Foliniere 81.17 42 *e*P **P 13 15 25.3 -0.8**
comp=Z,68nm,0.8s,mb5.3
FLN *e*R
comp=Z,7µm,21.8s
FLN La Foliniere 81.17 42 *e*P **P 13 15 25.3 -0.8**
FLN pmax pmax
comp=Z,34nm,0.8s,mb5.3
FLN MLR MLR
comp=Z,7µm,21.8s,MS6.0
FLN La Foliniere 81.17 42 *e*P **P 13 15 25.3 -0.8**
comp=Z,34nm,0.8s,mb5.3
FLN LR LR
comp=Z,7µm,21.8s,MS6.0
ABA1 Baconsthorpe 81.24 38 *e*P **P 13 15 26.6 +0.2**
ERON Agron 81.32 54 P **P 13 15 26.7 -0.2**
comp=Z,3.4nm,0.4s,mb4.6
LDF La Druitiere 81.44 42 *e*P **P 13 15 26.6 -0.9**
comp=Z,72nm,1.0s,mb5.3
LDF La Druitiere 81.44 42 *e*P **P 13 15 26.6 -0.9**
LDF pmax pmax
comp=Z,36nm,1.0s,mb5.3
LDF La Druitiere 81.44 42 *e*P **P 13 15 26.6 -0.9**
comp=Z,36nm,1.0s,mb5.3
ECOG Cogollos-Vega 81.45 54 P **P 13 15 28.6 +1.0**
ECOG pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
ECOG Cogollos-Vega 81.45 54 P **P 13 15 28.6 +1.1**
comp=Z,4.8nm,0.3s,mb4.9
LCHF La Chataignera 81.46 44 *e*P **P 13 15 28.3 +0.7**
BJO1 Bjornoya 81.52 14 *e*P **P 13 15 27.6 -0.3**
BJO1 LR LR
comp=Z,4µm,18.0s,MS5.8
MDT Midelt 81.57 58 P **P 13 15 28.3 +0.1**
baz=309,slow=7.7
MDT LR LR 13 45 06.4
comp=Z,1µm,21.7s,MS5.2,baz=295,slow=31
BJO Bjornoya 81.57 14 *e*P **P 13 15 27.6 -0.6**
BJO AMS AMS 13 54 43.6
comp=Z,4µm,18.0s,MS5.8
BER Bergen 81.61 30⇑ *i*P **P 13 15 27.9 -0.5**
BER AMS AMS 13 51 40.1
comp=Z,3µm,21.5s,MS5.7
ELIZ Elizondo 81.69 48 P **P 13 15 28.0 -0.8**
ELIZ pmax pmax
comp=Z,16nm,1.1s,mb4.9
ELIZ Elizondo 81.69 48 P **P 13 15 28.0 -0.8**
comp=Z,16nm,1.1s,mb4.9
EALK Alkurruntz 81.69 48 P **P 13 15 27.7 -1.2**
comp=Z,830nm,3.6s
EQES Quesada 81.72 53 P **P 13 15 30.9 +1.9**
comp=Z,707nm,2.9s,mb6.1
MFF Saint Martin d 81.87 44 *e*P **P 13 15 28.7 -1.1**
comp=Z,62nm,1.1s,mb5.1
MFF Saint Martin d 81.87 44 *e*P **P 13 15 28.7 -1.1**
MFF pmax pmax
comp=Z,31nm,1.1s,mb5.2
MFF Saint Martin d 81.87 44 *e*P **P 13 15 28.7 -1.1**
comp=Z,31nm,1.1s,mb5.2
SJPF Ste Jean 81.92 48 *e*P **P 13 15 29.5 -0.5**
comp=Z,66nm,1.1s,mb5.2
SJPF Ste Jean 81.92 48 *e*P **P 13 15 29.5 -0.5**
SJPF pmax pmax
comp=Z,33nm,1.1s,mb5.2
SJPF Ste Jean 81.92 48 *e*P **P 13 15 29.5 -0.5**
comp=Z,33nm,1.1s,mb5.2
EVIA Vianos 81.97 52 P **P 13 15 30.9 +0.6**
EVIA pmax pmax
comp=Z,29nm,0.9s,mb5.2
EVIA Vianos 81.97 52 P **P 13 15 30.9 +0.6**
comp=Z,29nm,0.9s,mb5.2
MOL Molde 82.01 27 *e*P **P 13 15 31.8 +1.2**
AFI Afiamalu 82.03 253 PFAKE 13 15 40.0 +9.4
AFI LR LR
comp=Z,2µm,22.0s,MS5.5
EBER Berja 82.06 54 P **P 13 15 31.9 +1.2**
comp=Z,523nm,3.6s
EHUE Huescar 82.09 53 P **P 13 15 31.0 +0.1**
EHUE pmax pmax
comp=Z,33nm,1.0s,mb5.2
EHUE Huescar 82.09 53 P **P 13 15 31.0 +0.1**
comp=Z,33nm,1.0s,mb5.2
LARF Larrau 82.11 48 *e*P **P 13 15 31.5 +0.5**
ASCN Ascension 82.27 100 PFAKE 13 15 40.0 +8.1
ASCN LR LR
comp=Z,1µm,20.0s,MS5.3
ATE Arette 82.30 48 *e*P **P 13 15 31.5 -0.5**
MENF Mencas 82.41 40 *e*P **P 13 15 33.3 +0.7**
ETSF Etsaut 82.44 48 *e*P **P 13 15 32.4 -0.4**
comp=Z,49nm,1.0s,mb5.1
ETSF Etsaut 82.44 48 *e*P **P 13 15 32.4 -0.4**
ETSF pmax pmax
comp=Z,24nm,1.0s,mb5.1
ETSF Etsaut 82.44 48 *e*P **P 13 15 32.4 -0.4**
comp=Z,24nm,1.0s,mb5.1
ETOB Tobarra 82.70 52 P **P 13 15 33.4 -0.7**
comp=Z,1µm,3.7s
ESAC San Caprasio 82.78 49 P **P 13 15 34.1 -0.5**
comp=Z,1µm,4.0s
VIEF Viey 82.86 48 *e*P **P 13 15 36.7 +1.7**
LFF La Frestale 82.87 45 *e*P **P 13 15 34.2 -0.8**
comp=Z,72nm,1.0s,mb5.3
LFF La Frestale 82.87 45 *e*P **P 13 15 34.2 -0.8**
LFF pmax pmax
comp=Z,36nm,1.0s,mb5.4
LFF La Frestale 82.87 45 *e*P **P 13 15 34.2 -0.8**
comp=Z,36nm,1.0s,mb5.3
ECHE Chera 82.92 51 P **P 13 15 36.4 +1.1**
ECHE pmax pmax
comp=Z,12nm,0.9s,mb4.9
ECHE Chera 82.92 51 P **P 13 15 36.4 +1.2**
comp=Z,12nm,0.9s,mb4.9
EBIE Bielsa 83.00 48 P **P 13 15 37.4 +1.7**
comp=Z,755nm,3.6s
EPF Esparros 83.05 47 *e*P **P 13 15 35.2 -0.8**
comp=Z,57nm,1.0s,mb5.2
EPF Esparros 83.05 47 *e*P **P 13 15 35.2 -0.8**
EPF pmax pmax
comp=Z,28nm,1.0s,mb5.2
EPF Esparros 83.05 47 *e*P **P 13 15 35.2 -0.8**
comp=Z,28nm,1.0s,mb5.2
EMOS Mosqueruela 83.10 50 P **P 13 15 35.9 -0.3**
comp=Z,914nm,3.1s
EMUR La Murta 83.12 53 P **P 13 15 33.9 -2.4**
comp=Z,543nm,3.7s
EGRA Graus 83.24 48 P **P 13 15 38.0 +1.1**
comp=Z,26nm,0.9s,mb5.3
NSS Namsos 83.24 25⇑ *i*P **P 13 15 37.1 +0.2**
NSS AMS AMS 13 53 29.1
comp=Z,2µm,20.8s,MS5.5
RJF Les Rejaudoux 83.31 45 *e*P **P 13 15 36.3 -1.0**
comp=Z,48nm,0.9s,mb5.2
RJF *e*R
comp=Z,6µm,22.0s
RJF Les Rejaudoux 83.31 45 *e*P **P 13 15 36.3 -1.0**
RJF pmax pmax
comp=Z,24nm,0.9s,mb5.2
RJF MLR MLR
comp=Z,6µm,22.0s,MS5.9
RJF Les Rejaudoux 83.31 45 *e*P **P 13 15 36.3 -1.0**
comp=Z,24nm,0.9s,mb5.2
RJF LR LR
comp=Z,6µm,22.0s,MS5.9
TCF Toulx Ste Croi 83.53 44 *e*P **P 13 15 37.2 -1.2**
comp=Z,46nm,1.1s,mb5.2
TCF Toulx Ste Croi 83.53 44 *e*P **P 13 15 37.2 -1.2**
TCF pmax pmax
comp=Z,23nm,1.1s,mb5.2
TCF Toulx Ste Croi 83.53 44 *e*P **P 13 15 37.2 -1.2**
comp=Z,23nm,1.1s,mb5.2
ERTA Horta de San J 83.56 49 P **P 13 15 40.0 +1.4**
comp=Z,605nm,3.0s
MLS Moulis 83.61 47 *e*P **P 13 15 38.4 -0.4**
TRO Tromso 83.68 19 *e*P **P 13 15 37.3 -1.9**
TRO AMb AMB 13 15 52.5
comp=Z,107nm,1.6s,mb5.7
TRO *e*S S 13 26 03.5 +4.2
TRO AMS AMS 13 54 04.7
comp=Z,3µm,20.4s,MS5.7
TRO Tromso 83.68 19 *e*P **P 13 15 37.3 -1.9**
TRO pmax pmax
comp=Z,107nm,1.6s,mb5.7
TRO MLR MLR
comp=Z,3µm,20.4s,MS5.7
TRO Tromso 83.68 19 *e*P **P 13 15 37.3 -1.9**
comp=Z,107nm,1.6s,mb5.7
TRO LR LR
comp=Z,3µm,20.4s,MS5.7
EBEN Beniarda 83.69 52 P **P 13 15 41.4 +2.2**
comp=Z,1µm,3.6s
UCC Uccle 83.70 39 P **P 13 15 39.1 -0.2**
EBR Ebro Roquetas 83.71 50 *e*P **P 13 15 35.5 -3.8**
SNF Seneffe 83.73 39 P **P 13 15 39.8 +0.4**
CAF Calviac 83.78 45 *e*P **P 13 15 38.7 -1.0**
comp=Z,38nm,1.1s,mb5.1
CAF Calviac 83.78 45 *e*P **P 13 15 38.7 -1.0**
CAF pmax pmax
comp=Z,19nm,1.1s,mb5.1
CAF Calviac 83.78 45 *e*P **P 13 15 38.7 -1.0**
comp=Z,19nm,1.1s,mb5.1
BAIF Baives 83.81 40 *e*P **P 13 15 39.1 -0.8**
comp=Z,98nm,1.2s,mb5.5
BAIF Baives 83.81 40 *e*P **P 13 15 39.1 -0.8**
BAIF pmax pmax
comp=Z,49nm,1.2s,mb5.5
BAIF Baives 83.81 40 *e*P **P 13 15 39.1 -0.8**
comp=Z,49nm,1.2s,mb5.5
KONO Kongsberg 83.87 30 *e*P **P 13 15 40.2 0.0**
KONO Kongsberg 83.87 30⇑ *e*P **P 13 15 41.4 +1.2**
KONO Kongsberg 83.87 30 *e*P **P 13 15 39.5 -0.7**
BGF Bois d'Agland 83.88 44 *e*P **P 13 15 39.1 -1.1**
comp=Z,68nm,0.9s,mb5.5
BGF Bois d'Agland 83.88 44 *e*P **P 13 15 39.1 -1.1**
BGF pmax pmax
comp=Z,34nm,0.9s,mb5.5
BGF Bois d'Agland 83.88 44 *e*P **P 13 15 39.1 -1.1**

comp=Z,34nm,0.9s,mb5.5
DOU Dourbes 84.04 40 P **P 13 15 41.0 -0.1**
NAO01 NORSAR Array S 84.07 28 *e*P **P 13 15 40.7 -0.5**
comp=Z,24nm,1.0s,mb5.3
NAO01 LR LR
comp=Z,3µm,21.0s,MS5.7
NB2 NORSAR Subarra 84.15 28 P **P 13 15 42.5 +0.9**
comp=Z,25nm,0.8s,mb5.4,baz=290,slow=5.3
NB2 NORSAR Subarra 84.15 28 P **P 13 15 42.5 +0.9**
NB2 pmax pmax
comp=Z,25nm,0.8s,mb5.4
NOA NORSAR Array B 84.15 28 P **P 13 15 42.6 +1.0**
comp=Z,13nm,0.7s,mb5.2,baz=291,slow=5.1,SNR=49
NOA LR LR 13 50 43.0
comp=Z,3µm,21.9s,MS5.6,baz=280,slow=34
AVF Avril sur Loir 84.16 43 *e*P **P 13 15 40.1 -1.5**
comp=Z,22nm,0.8s,mb5.0
AVF Avril sur Loir 84.16 43 *e*P **P 13 15 40.1 -1.5**
AVF pmax pmax
comp=Z,11nm,0.8s,mb5.0
AVF Avril sur Loir 84.16 43 *e*P **P 13 15 40.1 -1.5**
comp=Z,11nm,0.8s,mb5.0
EMIR Miracle 84.18 48 P **P 13 15 40.4 -1.4**
comp=Z,1µm,3.5s
GIVF Givet 84.18 40 *e*P **P 13 15 40.0 -1.7**
comp=Z,264nm,1.8s,mb5.8
GIVF Givet 84.18 40 *e*P **P 13 15 40.0 -1.7**
GIVF pmax pmax
comp=Z,132nm,1.8s,mb5.8
GIVF Givet 84.18 40 *e*P **P 13 15 40.0 -1.7**
comp=Z,132nm,1.8s,mb5.8
SSF Saint Saulge 84.19 43 *e*P **P 13 15 40.4 -1.4**
comp=Z,51nm,1.1s,mb5.3
SSF Saint Saulge 84.19 43 *e*P **P 13 15 40.4 -1.4**
SSF pmax pmax
comp=Z,26nm,1.1s,mb5.3
SSF Saint Saulge 84.19 43 *e*P **P 13 15 40.4 -1.4**
comp=Z,26nm,1.1s,mb5.3
PYM Petit Puy Mans 84.21 44 *e*P **P 13 15 41.8 -0.1**
MTLF Montolieu 84.30 47 *e*P **P 13 15 41.5 -0.9**
comp=Z,64nm,1.1s,mb5.4
MTLF Montolieu 84.30 47 *e*P **P 13 15 41.5 -0.9**
MTLF pmax pmax
comp=Z,32nm,1.0s,mb5.4
MTLF Montolieu 84.30 47 *e*P **P 13 15 41.5 -0.9**
comp=Z,32nm,1.0s,mb5.4
LOR Lormes 84.36 43 *e*P **P 13 15 41.6 -1.1**
comp=Z,140nm,1.4s,mb5.6
LOR *e*R
comp=Z,4µm,22.5s
LOR Lormes 84.36 43 *e*P **P 13 15 41.6 -1.1**
LOR pmax pmax
comp=Z,70nm,1.4s,mb5.6
LOR MLR MLR
comp=Z,4µm,22.5s,MS5.8
LOR Lormes 84.36 43 *e*P **P 13 15 41.6 -1.1**
comp=Z,70nm,1.4s,mb5.6
LOR LR LR
comp=Z,4µm,22.5s,MS5.8
CARF Carcanieres 84.39 47 *e*P **P 13 15 35.3 -7.5**
VALF Valcebollere 84.41 48 *e*P **P 13 15 43.1 +0.2**
WIT Witteveen 84.49 37 *e*P **P 13 15 45.4 +2.1**
BEBN Eben Emael 84.50 39 P **P 13 15 43.5 +0.1**
LBL Lubilhac 84.51 45 *e*P **P 13 15 43.5 +0.1**
SMF Signal de Mont 84.52 43 *e*P **P 13 15 42.0 -1.5**
comp=Z,61nm,1.3s,mb5.3
SMF Signal de Mont 84.52 43 *e*P **P 13 15 42.0 -1.5**
SMF pmax pmax
comp=Z,31nm,1.3s,mb5.3
SMF Signal de Mont 84.52 43 *e*P **P 13 15 42.0 -1.5**
comp=Z,30nm,1.3s,mb5.3
PLDF La Plantade 84.56 44 *e*P **P 13 15 44.0 +0.3**
HOPE Hope Point 84.64 150 PFAKE 13 15 50.0 +5.9
HOPE LR LR
comp=Z,2µm,22.0s,MS5.4
HGN Heimansgroeve 84.67 39⇑ *e*P **P 13 15 44.3 +0.1**
comp=Z,87nm,1.9s,mb5.6
HGN *e*x x 13 15 57.2
HGN *i* S 13 26 21.8
MUD Monsted U'grnd 84.72 33 *i* S 13 26 16.6
MUD
comp=Z,6µm,20.0s
MUD Monsted U'grnd 84.72 33 *i* P **P 13 15 46.5 +2.0**
MUD MLR MLR
comp=Z,6µm,20.0s,MS6.0
MUD Monsted U'grnd 84.72 33 *i* P **P 13 15 46.5 +2.0**
MUD *i* S 13 26 16.6
COLF Collangettes 84.73 44 *e*P **P 13 15 44.6 +0.1**
HLG Helgoland 84.76 35 *e*P **P 13 15 44.6 -0.1**
comp=Z,476nm,1.3s,mb6.5
HLG *e*S 13 26 01.9
MEM Membach 84.76 39 P **P 13 15 44.6 -0.1**
MEZF Maizieres J'vi 84.78 41 *e*P **P 13 15 44.0 -0.8**
EIBI Ibiza 84.79 51 P **P 13 15 45.3 +0.5**
comp=Z,769nm,3.3s
WTSB Winterswijk 84.82 38⇑ *e*P **P 13 15 45.0 0.0**
comp=Z,122nm,2.2s,mb5.7
SJAF Saint Jean de 85.00 47 *e*P **P 13 15 45.7 -0.2**
EJON La Jonquera 85.02 48 P **P 13 15 47.1 +1.1**
comp=Z,615nm,2.8s,mb6.2
WLF Walferdange 85.13 40 *e*P **P 13 15 46.2 -0.3**
comp=Z,206nm,1.9s,mb5.9
WLF *e*S 13 26 04.8
WLF Walferdange 85.13 40 P **P 13 15 47.0 +0.5**
WLF Walferdange 85.13 40 *e*P **P 13 15 46.1 -0.4**
WLF Walferdange 85.13 40⇑ *e*P **P 13 15 46.4 -0.1**
comp=Z,28nm,0.8s,mb5.4
LASF Ste Croix 85.25 46 *e*P **P 13 15 46.8 -0.3**
comp=Z,85nm,1.2s,mb5.5
BUG Bochum--Univer 85.27 38 *e*P **P 13 15 46.7 -0.5**
comp=Z,272nm,2.1s,mb6.0
BUG *e*S 13 26 06.5
IBBN Ibbenburen 85.28 37 *e*P **P 13 15 46.8 -0.5**
comp=Z,295nm,2.1s,mb6.0
IBBN *e*S 13 26 12.4
THEF They Montfort 85.46 41 *e*P **P 13 15 48.0 -0.2**
VIVF Saint-Julien-l 85.58 45 *e*P **P 13 15 48.4 -0.4**
comp=Z,321nm,1.7s,mb6.0
VIVF Saint-Julien-l 85.58 45 *e*P **P 13 15 48.4 -0.4**
VIVF pmax pmax
comp=Z,161nm,1.7s,mb6.0
VIVF Saint-Julien-l 85.58 45 *e*P **P 13 15 48.4 -0.4**
comp=Z,161nm,1.7s,mb6.0
RUP Ruppelstein 85.68 40 *e*P **P 13 15 49.9 +0.6**
ETOS Mallorca 85.69 50 P **P 13 15 50.7 +1.4**
comp=Z,526nm,2.9s,mb6.3
ARCES ARCESS Array B 85.73 18 P **P 13 15 48.4 -1.1**
comp=Z,2.6nm,0.4s,mb4.8,baz=291,slow=4.4,SNR=13
ARCES LR LR 13 55 17.6
comp=Z,3µm,19.6s,MS5.8,baz=114,slow=36
HAU Haudompre 85.76 41 *e*P **P 13 15 49.8 +0.1**
comp=Z,64nm,0.9s,mb5.6
HAU *e*R
comp=Z,4µm,23.0s
HAU Haudompre 85.76 41 *e*P **P 13 15 49.8 +0.1**
HAU pmax pmax
comp=Z,32nm,0.9s,mb5.5
HAU MLR MLR
comp=Z,4µm,23.0s,MS5.8
HAU Haudompre 85.76 41 *e*P **P 13 15 49.8 +0.1**
comp=Z,32nm,0.9s,mb5.5
HAU LR LR
comp=Z,4µm,23.0s,MS5.8
ABH Alteburg 85.92 39 *e*P **P 13 15 50.8 +0.3**
CABF La Chapelle 86.01 43 *e*P **P 13 15 50.2 -0.7**
comp=Z,159nm,1.6s,mb5.7
CABF La Chapelle 86.01 43 *e*P **P 13 15 50.2 -0.7**
CABF pmax pmax
comp=Z,80nm,1.6s,mb5.7
CABF La Chapelle 86.01 43 *e*P **P 13 15 50.2 -0.7**
comp=Z,80nm,1.6s,mb5.7
KEV Kevo 86.05 17 *e*p **P 13 15 50.2 -0.9**
HINF Hinterlafeld 86.14 42 *e*P **P 13 15 50.4 -1.1**
comp=Z,79nm,1.2s,mb5.5
HINF Hinterlafeld 86.14 42 *e*P **P 13 15 50.4 -1.1**
HINF pmax pmax
comp=Z,40nm,1.2s,mb5.5
HINF Hinterlafeld 86.14 42 *e*P **P 13 15 50.4 -1.1**
comp=Z,40nm,1.2s,mb5.5
GIMEL Gimel 86.15 43⇑ *i*P **P 13 15 51.8 +0.2**
comp=Z,662nm,3.3s
BRANT Les Verrieres 86.16 42⇑ *i*P **P 13 15 52.7 +1.0**
comp=Z,1µm,3.9s
BRANT Les Verrieres 86.16 42⇑ *i*P **P 13 15 52.0 +0.3**
BSEG Bad Segeberg 86.19 35 *e*P **P 13 15 51.5 -0.3**
comp=Z,69nm,1.2s,mb5.8
BSEG *e*S 13 26 16.3
BSEG Bad Segeberg 86.19 35 *e*P **P 13 15 51.5 -0.3**
BSEG *e*S 13 26 16.3
BSEG pmax pmax
comp=Z,69nm,1.2s,mb5.8
GRN Grenoble 86.20 44 *e*P **P 13 15 52.4 +0.6**
ECH Echery 86.21 41 *e*P **P 13 15 51.4 -0.5**
PRAF Pradon 86.23 46 *e*P **P 13 15 52.3 +0.3**
WLS Welschbruch 86.27 41 *e*P **P 13 15 51.9 -0.3**
TNS Taunus Mts 86.36 39 *e*P **P 13 15 52.2 -0.5**
comp=Z,67nm,0.9s,mb5.9
TNS *e*S 13 26 17.3
TNS Taunus Mts 86.36 39 *e*P **P 13 15 52.2 -0.5**
TNS *e*S 13 26 17.3
TNS pmax pmax
comp=Z,67nm,0.9s,mb5.9
ORIF Oris-en-Rattie 86.39 45 *e*P **P 13 15 52.4 -0.4**
comp=Z,138nm,1.5s,mb5.7
ORIF *e*R
comp=Z,5µm,22.0s
ORIF Oris-en-Rattie 86.39 45 *e*P **P 13 15 52.4 -0.4**
ORIF pmax pmax
comp=Z,69nm,1.5s,mb5.7
ORIF Oris-en-Rattie 86.39 45 *e*P **P 13 15 52.4 -0.4**
comp=Z,69nm,1.5s,mb5.7
TREF Trevaresse 86.44 46 *e*P **P 13 15 53.6 +0.6**
SMRF Simiane la Rot 86.46 45 *e*P **P 13 15 53.1 0.0**
comp=Z,59nm,1.0s,mb5.5
SMRF Simiane la Rot 86.46 45 *e*P **P 13 15 53.1 0.0**
comp=Z,59nm,1.0s,mb5.8
LIBD Limburg 86.51 41 *e*P **P 13 15 53.6 +0.2**
BOURR Bourrignon 86.51 42⇑ *i*P **P 13 15 53.2 -0.2**
comp=Z,573nm,3.3s
TORNY Torny 86.53 43⇑ *i*P **P 13 15 53.7 +0.2**
comp=Z,634nm,3.5s
GELF Grande-Etoile 86.54 46 *e*P **P 13 15 53.6 +0.1**
NRDL Niedersach Rie 86.58 36 *e*P **P 13 15 53.5 -0.2**
comp=Z,109nm,2.0s,mb5.7
NRDL *e*S 13 26 19.8
VILF Villemus 86.60 46 *e*P **P 13 15 54.2 +0.4**
AIGLE Aigle 86.67 43⇑ *i*P **P 13 15 54.3 +0.2**
comp=Z,877nm,4.1s
BBS Basel-Blauen 86.67 42 *e*P **P 13 15 53.6 -0.6**
PUYF Puyloubier 86.68 46 *e*P **P 13 15 54.5 +0.3**
OG25 Le Caire 86.69 45 *e*P **P 13 15 52.4 -1.8**
STOF St-Etienne Org 86.69 45 *e*P **P 13 15 54.2 0.0**
COP Copenhagen 86.70 33 *i* S 13 26 26.5
COP *i* 13 26 49.4
COP
comp=Z,2µm,20.0s
COP Copenhagen 86.70 33 *i* P **P 13 15 55.0 +0.7**
COP *i* S 13 26 26.5
COP MLR MLR
comp=Z,2µm,20.0s,MS5.5
COP Copenhagen 86.70 33 *i* P **P 13 15 55.0 +0.7**
COP *i* S 13 26 26.5
COP *i* 13 26 49.4
COP LR LR
comp=Z,2µm,20.0s,MS5.5
EMV Vieux Emosson 86.72 43⇑ *i*P **P 13 15 54.7 +0.3**
comp=Z,613nm,2.9s,mb6.3
EMV Vieux Emosson 86.72 43⇑ *i*P **P 13 15 54.9 +0.5**
SALAN Lac Salanfe 86.74 43⇑ *i*P **P 13 15 54.9 +0.4**
comp=Z,504nm,3.2s
SALAN Lac Salanfe 86.74 43⇑ *i*P **P 13 15 55.0 +0.5**
BERF Bertagne 86.74 46 *e*P **P 13 15 54.5 0.0**
LPL La Plagne 86.78 44 *e*P **P 13 15 54.6 -0.1**
comp=Z,330nm,1.8s,mb6.0
LPL La Plagne 86.78 44 *e*P **P 13 15 54.6 -0.1**
LPL pmax pmax
comp=Z,165nm,1.8s,mb6.0
LPL La Plagne 86.78 44 *e*P **P 13 15 54.6 -0.1**
comp=Z,165nm,1.8s,mb6.0
TOD Tromm 86.78 39 *e*P **P 13 15 54.2 -0.5**
LPG La Plagne 86.80 44 *e*P **P 13 15 54.9 +0.1**
comp=Z,288nm,1.7s,mb5.9
LPG La Plagne 86.80 44 *e*P **P 13 15 54.9 +0.1**
LPG pmax pmax
comp=Z,144nm,1.7s,mb5.9
LPG La Plagne 86.80 44 *e*P **P 13 15 54.9 +0.1**
comp=Z,144nm,1.7s,mb5.9
GRYON Gryon 86.80 43⇑ *i*P **P 13 15 55.0 +0.2**
comp=Z,560nm,3.5s
GRYON Gryon 86.80 43⇑ *i*P **P 13 15 55.1 +0.3**
GTTG Gvttingen 86.82 37 *e*P **P 13 15 54.6 -0.3**
comp=Z,42nm,1.0s,mb5.6
BALST Balsthal 86.83 42⇑ *i*P **P 13 15 55.1 +0.2**
comp=Z,480nm,3.2s
BALST Balsthal 86.83 42⇑ *i*P **P 13 15 54.7 -0.2**
FELD Feldberg im Sc 86.85 41 *e*P **P 13 15 55.0 -0.1**
BNI Bardonecchia 86.89 44 *e*P **P 13 15 54.5 -0.7**
BNI *e**PP pP 13 16 04.9 -1.1
BNI Bardonecchia 86.89 44⇑ *e*P **P 13 15 54.4 +0.2**
SENIN Lac Senin 86.89 43⇑ *i*P **P 13 15 55.7 +0.5**
comp=Z,731nm,3.9s
SENIN Lac Senin 86.89 43⇑ *i*P **P 13 15 56.0 +0.8**
TAVF Tavernes 86.90 46 *e*P **P 13 15 55.3 0.0**
BFO Black Forest 86.91 41 P **P 13 15 55.6 +0.3**
comp=Z,89nm,1.0s,mb6.0,SNR=7.4
BFO Black Forest 86.91 41 *e*P **P 13 15 54.3 -1.0**
comp=Z,178nm,2.7s,mb5.8
BFO *e*S 13 26 22.4
BFO Black Forest 86.91 41 P **P 13 15 56.4 +1.1**
CLZ Clausthal 86.96 37 *e*P **P 13 15 55.5 -0.1**
comp=Z,75nm,1.5s,mb5.7
CLZ *e*S 13 26 23.4
CLZ Clausthal 86.96 37 *e*P **P 13 15 55.5 -0.1**
CLZ *e*S 13 26 23.4
CLZ pmax pmax
comp=Z,75nm,1.5s,mb5.7
WIMIS Wimmis 87.00 42⇑ *i*P **P 13 15 56.0 +0.2**
comp=Z,451nm,3.5s
SULZ Sulz-Cheisache 87.04 42⇑ *i*P **P 13 15 56.6 +0.6**
comp=Z,601nm,3.5s
SULZ Sulz-Cheisache 87.04 42⇑ *i*P **P 13 15 55.7 -0.3**
DIX Grande Dixence 87.05 43⇑ *i*P **P 13 15 56.2 +0.2**
comp=Z,636nm,4.4s
DIX Grande Dixence 87.05 43⇑ *i*P **P 13 15 57.0 +1.0**
MBDF Montbardon 87.05 45 *e*P **P 13 15 55.7 -0.3**
comp=Z,59nm,0.9s,mb5.5
MBDF Montbardon 87.05 45 *e*P **P 13 15 55.7 -0.3**
MBDF pmax pmax
comp=Z,29nm,0.9s,mb5.5
MBDF Montbardon 87.05 45 *e*P **P 13 15 55.7 -0.3**
comp=Z,29nm,0.9s,mb5.5
LKBD Leukerbad 87.09 43⇑ *i*P **P 13 15 56.6 +0.4**
comp=Z,435nm,3.9s
SURF Saint Ours 87.15 45 *e*P **P 13 15 57.1 +0.6**
SLE Schleitheim 87.20 41⇑ *i*P **P 13 15 57.4 +0.7**
comp=Z,510nm,3.2s
SLE Schleitheim 87.20 41⇑ *i*P **P 13 15 56.6 -0.1**
RSP Reno Superiore 87.24 44 P **P 13 15 57.3 +0.4**
RSP pmax pmax
comp=Z,246nm,2.3s,mb6.0
RSP Reno Superiore 87.24 44 P **P 13 15 57.3 +0.4**
comp=Z,246nm,2.3s,mb6.0
LMR La Mourre 87.30 46 *e*P **P 13 15 56.4 -0.8**
comp=Z,138nm,1.2s,mb5.8
LMR La Mourre 87.30 46 *e*P **P 13 15 56.4 -0.8**
LMR pmax pmax
comp=Z,69nm,1.2s,mb5.8
LMR La Mourre 87.30 46 *e*P **P 13 15 56.4 -0.8**
comp=Z,69nm,1.2s,mb5.8
STU Stuttgart 87.31 40 *e*P **P 13 15 56.6 -0.7**
comp=Z,49nm,1.0s,mb5.7
STU *e*S 13 26 26.3
HASLI Hasliberg 87.31 42⇑ *i*P **P 13 15 57.7 +0.4**
comp=Z,552nm,3.0s
FRF La Foret Royal 87.33 46 *e*P **P 13 15 56.6 -0.8**
comp=Z,211nm,1.5s,mb5.8
FRF La Foret Royal 87.33 46 *e*P **P 13 15 56.6 -0.8**
FRF pmax pmax
comp=Z,106nm,1.5s,mb5.8
FRF La Foret Royal 87.33 46 *e*P **P 13 15 56.6 -0.8**
comp=Z,106nm,1.5s,mb5.8
ZUR Zurich 87.39 42⇑ *i*P **P 13 15 57.7 0.0**
comp=Z,556nm,3.4s
MMK Mattmark 87.42 43⇑ *i*P **P 13 15 57.9 +0.1**
comp=Z,758nm,4.4s
MMK Mattmark 87.42 43⇑ *i*P **P 13 15 58.9 +1.1**
DOI San Damiano 87.44 45 P **P 13 15 57.3 -0.6**
DOI pmax pmax
comp=Z,204nm,1.8s,mb6.0
DOI San Damiano 87.44 45 P **P 13 15 57.3 -0.6**
comp=Z,204nm,1.8s,mb6.0
BNALP Bannalp 87.45 42⇑ *i*P **P 13 15 58.6 +0.6**
comp=Z,708nm,5.0s
MCGN Macugnaga 87.47 43 P **P 13 15 58.7 +0.7**
comp=Z,53nm,1.2s,mb5.7
LIC Lamto 87.53 84 *e*P **P 13 15 58.3 0.0**
comp=Z,96nm,1.2s,mb5.6
LIC *e*R
comp=Z,3µm,21.2s
LIC Lamto 87.53 84 *e*P **P 13 15 58.3 0.0**
comp=Z,48nm,1.2s,mb5.6
LIC LR LR
comp=Z,1µm,21.3s,MS5.3
MUO Muotathal 87.56 42⇑ *i*P **P 13 15 58.7 +0.2**
comp=Z,548nm,3.2s
MUO Muotathal 87.56 42⇑ *i*P **P 13 15 59.0 +0.5**
MVIF Mont Vial 87.57 45 *e*P **P 13 15 58.4 -0.1**
ORO Oropa 87.57 43 P **P 13 15 58.0 -0.5**
ORO pmax pmax
comp=Z,18nm,0.2s,mb6.0
ORO Oropa 87.57 43 P **P 13 15 58.0 -0.5**
comp=Z,18nm,0.2s,mb6.0
STV Sta Anna Valdi 87.58 45 P **P 13 15 58.3 -0.3**
STV pmax pmax
comp=Z,175nm,3.2s
STV Sta Anna Valdi 87.58 45 P **P 13 15 58.3 -0.3**
comp=Z,175nm,3.2s
DBIC Dimbokro 87.58 84 P **P 13 15 59.4 +0.8**
comp=Z,6.1nm,0.7s,mb4.9,baz=274,slow=7.0,SNR=9.6
DBIC LR LR 13 53 21.5
comp=Z,2µm,19.1s,MS5.5,baz=276,slow=34
WILA Wila 87.58 41⇑ *i*P **P 13 15 58.9 +0.3**
comp=Z,525nm,3.6s
WILA Wila 87.58 41⇑ *i*P **P 13 15 58.7 +0.1**
TOUF Mont Tournerai 87.60 45 *e*P **P 13 15 58.8 +0.1**
LUCF Luceram 87.70 45 *e*P **P 13 15 58.8 -0.4**
AUTN L'Aution 87.73 45 *e*P **P 13 15 59.3 0.0**
FUSIO Fusio 87.75 42⇑ *i*P **P 13 15 59.0 -0.4**
comp=Z,807nm,5.1s
FUSIO Fusio 87.75 42⇑ *i*P **P 13 16 00.2 +0.8**
REVF Revere 87.77 45 *e*P **P 13 15 59.3 -0.2**
SBF Sospel 87.78 45 *e*P **P 13 15 58.7 -0.8**
comp=Z,91nm,1.3s,mb5.5
SBF Sospel 87.78 45 *e*P **P 13 15 58.7 -0.8**
SBF pmax pmax
comp=Z,45nm,1.3s,mb5.5
SBF Sospel 87.78 45 *e*P **P 13 15 58.7 -0.8**
comp=Z,45nm,1.3s,mb5.5
SAOF Saorge 87.82 45 *e*P **P 13 15 59.3 -0.4**
LLS Linth-Limmern 87.84 42⇑ *i*P **P 13 16 00.2 +0.4**
comp=Z,407nm,3.4s
LLS Linth-Limmern 87.84 42⇑ *i*P **P 13 16 00.4 +0.6**
LIENZ Alp Oberkamor 88.00 41⇑ *i*P **P 13 16 00.4 -0.2**
comp=Z,516nm,3.5s
LIENZ Alp Oberkamor 88.00 41⇑ *i*P **P 13 16 00.9 +0.3**
PLONS Plons 88.01 42⇑ *i*P **P 13 16 00.9 +0.3**
comp=Z,507nm,3.3s
VAI Varese 88.01 43 P **P 13 16 00.3 -0.3**
VAI pmax pmax
comp=Z,116nm,1.8s,mb5.8
VAI Varese 88.01 43 P **P 13 16 00.3 -0.3**
comp=Z,116nm,1.8s,mb5.8
IMI Imperia 88.07 45 P **P 13 16 01.1 +0.2**
comp=Z,7.8nm,0.7s,mb5.0
PET Petropavlovsk 88.08 325*c* *i*P **P 13 15 59.7 -1.2**
PET *e* pP 13 16 12.2 +0.5
PET *e*S 13 26 28.2
PET *e*PPS 13 27 52.8
PET *e*SS SS 13 32 38.8 +7.8
PET pmax pmax
comp=Z,600nm,4.8s
PET pmax pmax
comp=Z,500nm,11.4s
PET smax
comp=E,600nm,19.5s
PET smax
comp=N,2µm,18.2s
PET smax
comp=N,2µm,18.2s
PET MLR MLR
comp=Z,1µm,18.0s,MS5.3
PET MLR MLR
comp=N,2µm,17.0s,MS5.5
PET MLR MLR
comp=E,800nm,20.0s,MS5.5
PET Petropavlovsk 88.08 325⇑ *i*P **P 13 15 59.7 -1.2**
PET *e* pP 13 16 12.2 +0.5
PET *e*S 13 26 28.2
PET *e*PPS 13 27 52.8
PET *e*SS SS 13 32 38.8 +7.8
MOX Moxa 88.12 38 *e*P **P 13 16 00.8 -0.3**
comp=Z,231nm,2.8s,mb5.9
MOX *e*S 13 26 34.6
MOX Moxa 88.12 38 *e*P **P 13 16 02.0 +0.9**
comp=Z,102nm,2.3s,mb5.7
MOX
comp=Z,3µm,21.0s
MOX Moxa 88.12 38 *e*P **P 13 16 02.0 +0.9**
MOX pmax pmax
comp=Z,102nm,2.3s,mb5.7
MOX MLR MLR
comp=Z,3µm,21.0s,MS5.6
MUGIO Muggio 88.17 43⇑ *i*P **P 13 16 00.9 -0.5**
comp=Z,456nm,3.4s
MUGIO Muggio 88.17 43⇑ *i*P **P 13 16 01.1 -0.3**
TUE Stuetta 88.19 42 P **P 13 16 01.5 0.0**
comp=Z,37nm,1.4s,mb5.4
FIN Finale Ligure 88.19 45 P **P 13 16 01.9 +0.4**
FIN pmax pmax
comp=Z,378nm,2.5s,mb6.2
FIN Finale Ligure 88.19 45 P **P 13 16 01.9 +0.4**
comp=Z,378nm,2.5s,mb6.2
BSD Bornholm Skovb 88.23 33⇑ *i*P **P 13 16 00.3 -1.4**
BSD *i* 13 19 29.3
BSD *e*S 13 26 46.1
BSD
comp=Z,4µm,20.0s
BSD Bornholm Skovb 88.23 33⇑ *i*P **P 13 16 00.3 -1.4**
BSD *i* 13 19 29.3
BSD *e*S 13 26 46.1
GRA1 Grafenberg Arr 88.23 39 *e*P **P 13 16 01.7 0.0**
comp=Z,194nm,2.4s,mb5.9
GRA1 *e*pP pP 13 16 10.3 -2.1
GRA1 *e*PP PP 13 19 28.6 -0.4
GRA1 *e*S 13 26 37.2
GRA1 LR LR
comp=Z,4µm,21.0s,MS5.8
GRF Grafenberg Arr 88.23 39 *e*P **P 13 16 01.7 0.0**
comp=Z,194nm,2.4s,mb5.9
GRF *e*pP pP 13 16 10.3 -2.1
GRF *e*PP PP 13 19 28.6 -0.4
GRF *e*S 13 26 37.2
GRF *e*L 13 54 57.3
comp=Z,4µm,21.0s
GRF Grafenberg Arr 88.23 39 *e*P **P 13 16 01.7 0.0**
GRF *e**PP pP 13 16 10.3 -2.1
GRF *e* 13 19 28.6
GRF *e*S 13 26 37.2
GRF pmax pmax
comp=Z,194nm,2.4s,mb5.9
GRF MLR MLR
comp=Z,4µm,21.0s,MS5.8
GRF Grafenberg Arr 88.23 39 *e*P **P 13 16 01.7 0.0**
GRF *e**PP pP 13 16 10.3 -2.1
GRF *e* 13 19 28.6
GRF *e*S 13 26 37.2
GRF pmax pmax
comp=Z,194nm,2.4s,mb5.9
GRF MLR MLR
comp=Z,4µm,21.0s,MS5.8
GRFO Grafenberg 88.23 39 *e*S 13 26 35.5
VDL Val di Lei 88.26 42⇑ *i*P **P 13 16 01.1 -0.7**
comp=Z,407nm,3.2s
VDL Val di Lei 88.26 42⇑ *i*P **P 13 16 02.6 +0.8**
DAVOX Davos 88.42 42⇑ *i*P **P 13 16 02.6 0.0**
comp=Z,520nm,3.9s
DAVOX Davos 88.42 42⇑ *i*P **P 13 16 03.4 +0.8**
WERD Werda 88.60 38 *e*P **P 13 16 03.1 -0.3**
comp=Z,95nm,2.5s,mb5.7
BERNI Berninapass 88.64 42⇑ *i*P **P 13 16 02.9 -0.7**
comp=Z,324nm,2.6s,mb6.2
BERNI Berninapass 88.64 42⇑ *i*P **P 13 16 04.4 +0.8**
MANZ Manzenberg 88.65 38 *e*P **P 13 16 03.7 0.0**
comp=Z,132nm,2.6s,mb5.8
MANZ *e*S 13 26 39.7
RUE Ruedersdorf 88.67 36 *e*S 13 26 40.3

CLL	**Collm**	**88.68**	**37**	*e*P	**P**	**13 16 03.9**	**+0.1**
	comp=Z,22nm,1.2s,mb5.4						
CLL				*e*sP	sP	13 16 13.8	-4.6
CLL				*e*PP	PP	13 19 30.7	-1.9
CLL				*e*SKSac	SKSac	13 26 22.6	-7.9
CLL				*e*SKKSac	SKKSac	13 26 38.2	-3.5
CLL				*e*S		13 26 46.2	
CLL				*e*sS	sS	13 27 01.5	-4.5
CLL				*e*PPS		13 28 21.0	
CLL				*e*SS	SS	13 33 00.0	+20
CLL				*e*SSS		13 36 37.1	
CLL				*e*LR	LR	13 45 15.7	
CLL				*e*L		13 55 45.0	
	comp=Z,4μm,20.0s						
CLL	**Collm**	**88.68**	**37**	*i* P	**P**	**13 16 03.7**	**-0.1**
	comp=Z,307nm,3.4s						
CLL				*i* pP	pP	13 16 13.7	-0.9
CLL				*e*x	x	13 17 26.0	
CLL				*e*PP	PP	13 19 26.0	-6.6
CLL				*e*SKKSac	SKKSac	13 26 42.0	+0.3
CLL				*e*S		13 26 59.0	
	comp=N,1μm,11.6s						
CLL				*e*S		13 26 59.0	
	comp=E,2μm,10.7s						
CLL				*e*x	x	13 27 32.0	
CLL				*e*PS		13 28 02.0	
CLL				*e*PPS		13 28 20.0	
CLL				*e*SS	SS	13 33 00.0	+20
CLL				*e*SSS		13 36 36.0	
CLL				Lm		13 55 00.0	
	comp=N,2μm,19.8s						
CLL				Lm		13 55 00.0	
	comp=E,2μm,19.1s						
CLL				Lm		13 55 00.0	
	comp=Z,4μm,19.0s						
CLL	**Collm**	**88.68**	**37**	*i* P	**P**	**13 16 03.7**	**-0.1**
CLL				*i* *PP	pP	13 16 13.7	-0.9
CLL				pmax	pmax		
	comp=Z,307nm,3.4s						
CLL				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.9						
CLL	**Collm**	**88.68**	**37**	*i* P	**P**	**13 16 03.7**	**-0.1**
	comp=Z,307nm,3.4s						
CLL				*i* pP	pP	13 16 13.7	-0.9
CLL				*e*SKS		13 26 17.0	
CLL				*e*S		13 26 59.0	
CLL				LR	LR		
	comp=Z,4μm,19.0s,MS5.9						
TANN	**Tannenbergstha**	**88.70**	**38**	*e*P	**P**	**13 16 03.8**	**-0.1**
	comp=Z,34nm,1.5s,mb5.5						
TANN				*e*S		13 26 40.2	
FUORN	**Ofenpass**	**88.73**	**42**⇑	*i*P	**P**	**13 16 03.4**	**-0.6**
	comp=Z,394nm,3.6s						
FUORN	**Ofenpass**	**88.73**	**42**⇑	*i*P	**P**	**13 16 04.8**	**+0.8**
TIXI	**Tiksi**	**88.75**	**348**	*e*P	**P**	**13 16 02.6**	**-1.5**
NKC	**Novy Kostel**	**88.76**	**38**	*e*P	**P**	**13 16 05.3**	**+1.1**
NKC				*e*pP	pP	13 16 14.5	-0.5
NKC				*e*PP	PP	13 19 32.5	-0.8
NKC				*e*S		13 26 41.8	
NKC				AMS	AMS	13 59 30.0	
	comp=Z,4μm,17.6s						
NKC	**Novy Kostel**	**88.76**	**38**	*e*P	**P**	**13 16 05.3**	**+1.1**
NKC				*e*pP	pP	13 16 14.5	-0.5
NKC				*e*PP	PP	13 19 32.5	-0.8
NKC				*e*S		13 26 41.8	
ROTZ	**Rotzenmuhle**	**88.80**	**38**	*e*P	**P**	**13 16 04.6**	**+0.3**
	comp=Z,48nm,1.6s,mb5.6						
ROTZ				*e*S		13 26 41.0	
FUR	**Furstenfeldbru**	**88.82**	**40**	*e*S		13 26 46.3	
BRMO	**Bormio**	**88.85**	**42**	P	**P**	**13 16 05.9**	**+1.3**
	comp=Z,78nm,2.1s,mb5.7						
MOTA	**Moosalm**	**89.01**	**41**⇑	*e*P	**P**	**13 16 06.9**	**+1.6**
	comp=Z,3.9nm,0.7s,mb4.9						
MOTA	**Moosalm**	**89.01**	**41**⇑	*e*P	**P**	**13 16 06.9**	**+1.6**
MOTA				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.9						
FBE	**Freiberg**	**89.03**	**37**	*e*P	**P**	**13 16 05.3**	**-0.1**
	comp=Z,115nm,2.2s,mb5.8						
MA2	**Magadan**	**89.18**	**333**	*ce*P	**P**	**13 16 04.9**	**-1.3**
MA2				*e*	pP	13 16 15.9	-1.0
MA2				*e*S		13 26 46.9	
MA2				*e*PS	PS	13 27 56.9	-4.5
MA2				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.5						
MA2				MLR	MLR		
	comp=Z,4μm,17.1s,MS5.9						
MA2	**Magadan**	**89.18**	**333**⇑	*e*P	**P**	**13 16 04.9**	**-1.3**
MA2				*e*	pP	13 16 15.9	-1.0
MA2				*e*S		13 26 46.9	
MA2				*e*PS	PS	13 27 56.9	-4.5
MA2				LR	LR		
	comp=Z,4μm,17.1s,MS5.9						
APA	**Apatity**	**89.24**	**18**	*i* P	**P**	**13 16 12.0**	**+5.6**
APA				*i*		13 19 34.0	
APA				*i* S		13 27 00.0	
APA				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.8						
PGF	**Pioggiola**	**89.29**	**46**	*e*P	**P**	**13 16 05.5**	**-1.1**
	comp=Z,34nm,1.0s,mb5.3						
PGF	**Pioggiola**	**89.29**	**46**	*e*P	**P**	**13 16 05.5**	**-1.1**
PGF				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.3						
PGF	**Pioggiola**	**89.29**	**46**	*e*P	**P**	**13 16 05.5**	**-1.1**
	comp=Z,17nm,1.0s,mb5.3						
WTTA	**Wattenberg**	**89.37**	**41**⇑	*e*P	**P**	**13 16 09.3**	**+2.3**
	comp=Z,3.6nm,0.6s,mb4.9						
WTTA	**Wattenberg**	**89.37**	**41**⇑	*e*P	**P**	**13 16 09.3**	**+2.3**
WTTA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.9						
LVZ	**Lovozero**	**89.38**	**17**	PFAKE		13 16 20.0	+13
LVZ				LR	LR		
	comp=Z,4μm,20.0s,MS5.8						
BRG	**Berggiesshubel**	**89.39**	**37**	*e*P	**P**	**13 16 06.7**	**-0.4**
	comp=Z,13nm,1.0s,mb5.2						
BRG				*e*S		13 26 48.7	
BRG	**Berggiesshubel**	**89.39**	**37**	*e*P	**P**	**13 16 08.8**	**+1.6**
	comp=Z,4.4nm,0.8s,mb4.8						
BRG				*e*		13 16 14.4	
	comp=Z,7.9nm,1.0s						
BRG				PP	PP	13 19 34.0	-4.3
BRG				S		13 26 40.0	
BRG							
	comp=N,2μm,18.8s						
BRG							
	comp=E,2μm,19.3s						
BRG							
	comp=Z,2μm,19.0s						
BRG	**Berggiesshubel**	**89.39**	**37**	*e*P	**P**	**13 16 08.8**	**+1.6**
	comp=Z,4.4nm,0.8s,mb4.8						
BRG				*e*		13 16 14.4	
	comp=Z,7.9nm,1.0s						
BRG				PP	PP	13 19 34.0	-4.3
BRG				S		13 26 40.0	
BRG							
	comp=N,2μm,18.8s						
BRG							
	comp=E,2μm,19.3s						
BRG							
	comp=Z,2μm,19.0s						
BRG	**Berggiesshubel**	**89.39**	**37**	*e*P	**P**	**13 16 08.8**	**+1.7**
BRG				*e*		13 16 14.4	
BRG						13 19 34.0	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
BRG				MLR	MLR		
	comp=N,2μm,18.8s,MS5.6						
BRG				MLR	MLR		
	comp=E,2μm,19.3s,MS5.6						
BRG	**Berggiesshubel**	**89.39**	**37**	*e*P	**P**	**13 16 08.8**	**+1.6**
	comp=E,4.4nm,0.8s,mb4.8						
BRG				*e*		13 16 14.4	
BRG				PP	PP	13 19 34.0	-4.3
BRG				S		13 26 40.0	
BRG				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
WET	**Wettzell**	**89.44**	**39**	*e*P	**P**	**13 16 07.3**	**0.0**
	comp=Z,51nm,1.8s,mb5.5						
WET				*e*S		13 26 51.1	
WET	**Wettzell**	**89.44**	**39**	*e*P	**P**	**13 16 07.3**	**0.0**
WET				*e*S		13 26 51.1	
WET				pmax	pmax		
	comp=Z,51nm,1.8s,mb5.5						
CTI	**Castel Tesino**	**89.83**	**42**	P	**P**	**13 16 10.1**	**+0.9**
CTI				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb5.1						
CTI	**Castel Tesino**	**89.83**	**42**	P	**P**	**13 16 10.1**	**+0.9**
	comp=Z,3.8nm,0.4s,mb5.1						
KHC	**Kasperske Hory**	**89.87**	**39**	*e*P	**P**	**13 16 10.3**	**+1.0**
KHC				*e*pP	pP	13 16 20.2	+0.1
KHC				*e*PP	PP	13 19 42.3	+0.2
KHC				*e*x	x	13 26 44.6	
KHC				AMS	AMS	13 53 10.0	
	comp=Z,5μm,20.8s						
KHC	**Kasperske Hory**	**89.87**	**39**	*e*P	**P**	**13 16 10.3**	**+1.0**
KHC				*e**PP	pP	13 16 20.2	+0.1
KHC				*e*		13 19 42.3	
KHC				MLR	MLR		
	comp=Z,5μm,20.8s,MS5.9						
PVCC	**Panska Ves**	**89.90**	**37**	*e*P	**P**	**13 16 10.2**	**+0.7**
PVCC				*e*pP	pP	13 16 20.4	+0.1
PVCC				*e*PP	PP	13 19 41.2	-1.1
PVCC				AMS	AMS	13 56 30.0	
	comp=Z,4μm,19.5s						
ZCCA	**Zocca**	**90.01**	**44**	P	**P**	**13 16 11.5**	**+1.5**
	comp=Z,30nm,0.9s,mb5.6						
GEC2	**GERESS Array S**	**90.05**	**39**	*e*P	**P**	**13 16 09.7**	**-0.5**
	comp=Z,10.0nm,1.0s,mb5.1						
GEC2				*e*S		13 26 53.8	
GEC2	**GERESS Array S**	**90.05**	**39**	*e*P	**P**	**13 16 09.7**	**-0.5**
GEC2				*e*S		13 26 53.8	
GEC2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
GERES	**GERESS Array B**	**90.05**	**39**	P	**P**	**13 16 11.3**	**+1.1**
	comp=Z,3.1nm,0.8s,mb4.7,baz=318,slow=3.8,SNR=18						
GERES				LR	LR	13 53 43.3	
	comp=Z,5μm,21.3s,MS6.0,baz=297,slow=34						
KAF	**Kangasniemi**	**90.09**	**24**	*e*p	**P**	**13 16 09.9**	**-0.5**
	comp=Z,12nm,1.2s,mb5.1						
KAF	**Kangasniemi**	**90.09**	**24**	*e*P	**P**	**13 16 09.9**	**-0.5**
KAF				pmax	pmax		
	comp=Z,12nm,1.2s,mb5.1						
FNVD	**Fontana Vidola**	**90.17**	**44**	P	**P**	**13 16 10.1**	**-0.7**
	comp=Z,86nm,1.6s,mb5.8						
GKP	**Gorka Klasztor**	**90.25**	**34**	*e*P	**P**	**13 16 11.8**	**+0.7**
GKP				*e*SKS		13 26 44.5	
GKP				L		13 55 54.3	
	comp=Z,5.3nm,21.3s						
FVI	**Forni Avoltri**	**90.35**	**41**	P	**P**	**13 16 12.3**	**+0.7**
FVI				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.3						
FVI	**Forni Avoltri**	**90.35**	**41**	P	**P**	**13 16 12.3**	**+0.7**
	comp=Z,17nm,1.1s,mb5.3						
FINES	**FINESS Array B**	**90.37**	**25**	P	**P**	**13 16 12.7**	**+1.0**
	comp=Z,1.0nm,0.5s,mb4.4,baz=300,slow=2.9,SNR=15						
FINES				LR	LR	14 01 18.8	
	comp=Z,2μm,19.2s,MS5.6,baz=293,slow=39						
GRFL	**Gerfalco**	**90.44**	**45**	P	**P**	**13 16 12.9**	**+0.9**
	comp=Z,90nm,2.1s,mb5.7						
SKR	**Severo-Kuril's**	**90.46**	**323**	*e*P	**P**	**13 16 08.0**	**-4.1**
SKR				*e*		13 26 44.0	
SKR				MLR	MLR		
	comp=N,1μm,20.0s,MS5.6						
SKR				MLR	MLR		
	comp=E,2μm,20.0s,MS5.6						
SKR				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.3						
SKR	**Severo-Kuril's**	**90.46**	**323**	*e*P	**P**	**13 16 08.0**	**-4.1**
SKR				*e*		13 26 44.0	
SKR				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
KBA	**Koelnbreinsper**	**90.52**	**41**⇑	*e*P	**P**	**13 16 12.0**	**-0.4**
	comp=Z,7.9nm,1.1s,mb5.0						
KBA	**Koelnbreinsper**	**90.52**	**41**⇑	*e*P	**P**	**13 16 12.0**	**-0.4**
KBA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
VSL	**Villasalto**	**90.60**	**49**	*e*P	**P**	**13 16 12.3**	**-0.5**
	comp=Z,20nm,0.9s,mb5.5						
UPC	**Upice**	**90.75**	**37**	*e*P	**P**	**13 16 15.1**	**+1.7**
UPC				*e*pP	pP	13 16 24.8	+0.6
SFI	**Santa Sofia**	**90.75**	**44**	P	**P**	**13 16 13.1**	**-0.4**
SFI				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.6						
SFI	**Santa Sofia**	**90.75**	**44**	P	**P**	**13 16 13.1**	**-0.4**
	comp=Z,27nm,0.9s,mb5.6						
KSP	**Ksiaz**	**90.77**	**36**	*e*P	**P**	**13 16 13.9**	**+0.4**
KSP				*e*pP	pP	13 16 26.2	+1.9
KSP				*e*SKS		13 26 49.3	
KSP				*e*S		13 27 23.4	
KSP				L		13 53 33.5	
	comp=Z,6.4nm,23.0s						
KSP	**Ksiaz**	**90.77**	**36**	*e*P	**P**	**13 16 13.1**	**-0.4**
KSP				*e*		13 19 47.5	
KSP				*e*		13 26 42.0	
KSP				*e*SP	SP	13 28 17.0	+2.3
KSP	**Ksiaz**	**90.77**	**36**	*e*P	**P**	**13 16 13.1**	**-0.4**
KSP				*e*PP	PP	13 19 47.5	-1.7
KSP				*e*SKS		13 26 42.0	
KSP				*e*SP	SP	13 28 17.0	+2.3
KSP				LR	LR		
	comp=Z,10μm,17.2s,MS6.3						
PTCC	**Patocco-Chiusa**	**90.79**	**41**	P	**P**	**13 16 14.4**	**+0.8**
	comp=Z,7.8nm,0.7s,mb5.2						
MOA	**Molln**	**90.79**	**40**⇑	*i*P	**P**	**13 16 15.2**	**+1.5**
	comp=Z,2.8nm,0.6s,mb4.8						
TREC	**Trest**	**90.94**	**38**	*e*P	**P**	**13 16 14.8**	**+0.4**
TREC				*e*pP	pP	13 16 28.4	+3.2
TREC				*e*PP	PP	13 19 47.2	-3.5
TREC				*e*SKS		13 26 53.8	
TREC				AMS	AMS	13 55 20.0	
	comp=Z,4μm,19.9s						
TREC	**Trest**	**90.94**	**38**	*e*P	**P**	**13 16 14.8**	**+0.4**
TREC				*e**PP	pP	13 16 28.4	+3.2
TREC				*e*		13 19 47.2	
TREC				MLR	MLR		
	comp=Z,4μm,19.9s,MS5.9						
DPC	**Dobruska-Polom**	**90.99**	**37**	*e*P	**P**	**13 16 15.8**	**+1.2**
DPC				*e*pP	pP	13 16 25.7	+0.3
DPC				*e*PP	PP	13 19 51.1	+0.1
DPC				*e*SKS		13 26 50.5	
DPC				AMS	AMS	13 57 10.0	
	comp=Z,4μm,20.0s						
DPC	**Dobruska-Polom**	**90.99**	**37**	*e*P	**P**	**13 16 15.8**	**+1.2**
DPC				*e**PP	pP	13 16 25.7	+0.3
DPC				*e*		13 19 51.1	
DPC				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.9						
CADS	**Cadrg**	**91.10**	**41**⇑	*e*P	**P**	**13 16 14.8**	**-0.3**
CADS				*e*SKSac	SKSac	13 26 49.0	+4.3
CADS				*e*S		13 27 27.3	
CADS				*e*		13 28 40.3	
JAVS	**Javornik**	**91.44**	**42**⇑	*e*P	**P**	**13 16 16.9**	**+0.2**
	comp=Z,709nm,4.5s						
MURB	**Monte Urbino**	**91.45**	**44**	P	**P**	**13 16 15.7**	**-1.0**
	comp=Z,19nm,0.6s,mb5.6						
JOF	**Joensuu**	**91.50**	**22**	*e*p	**P**	**13 16 15.5**	**-1.4**
OBKA	**Obir**	**91.51**	**41**⇓	*e*P	**P**	**13 16 17.5**	**+0.6**
	comp=Z,5.4nm,1.0s,mb4.8						
TOLF	**Tolfa**	**91.54**	**46**	P	**P**	**13 16 16.8**	**-0.3**
	comp=Z,16nm,0.6s,mb5.5						
ARV	**Arcevia**	**91.64**	**44**	P	**P**	**13 16 18.0**	**+0.4**
ARV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
ARV	**Arcevia**	**91.64**	**44**	P	**P**	**13 16 18.0**	**+0.4**
	comp=Z,5.7nm,0.8s,mb5.0						
LJU	**Ljubljana**	**91.68**	**41**⇑	*i*P	**P**	**13 16 17.9**	**+0.1**
LJU				*e*SKSac	SKSac	13 26 51.8	+3.9
LJU				*e*S		13 27 27.2	
SNTG	**Esanatoglia**	**91.73**	**44**	P	**P**	**13 16 18.3**	**+0.3**
	comp=Z,11nm,1.0s,mb5.1						
PERS	**Pernice**	**91.81**	**41**⇑	*e*P	**P**	**13 16 18.0**	**-0.4**
ARSA	**Arzberg**	**91.81**	**40** ⇑	P	**P**	**13 16 19.6**	**+1.2**
	comp=Z,1.8nm,0.4s,mb4.7						
MORC	**Moravsky Berou**	**91.95**	**37**	*e*P	**P**	**13 16 18.3**	**-0.7**
MORC					pP	13 16 30.0	+0.2
MORC				pmax	pmax		
	comp=Z,21nm,1.4s,mb5.3						
MORC	**Moravsky Berou**	**91.95**	**37**	*e*P	**P**	**13 16 18.3**	**-0.7**
	comp=Z,21nm,1.4s,mb5.3						
TORD	**Torodi Ar. Bea**	**92.11**	**76**	P	**P**	**13 16 19.8**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.6,baz=288,slow=5.2,SNR=10						
TORD				LR	LR	13 58 38.3	
	comp=Z,2μm,18.4s,MS5.6,baz=270,slow=36						
SOP	**Sopron**	**92.27**	**39**⇑	*e*PcP	PcP	13 16 20.8	-0.5
OKC	**Ostrava-Krasne**	**92.27**	**37**	*e*P	**P**	**13 16 21.6**	**+1.1**
OKC				*e*pP	pP	13 16 31.7	+0.4
OKC				*e*PP	PP	13 20 04.8	+3.7
OKC				*e*x	x	13 26 59.4	
OKC				AMS	AMS	14 02 40.0	
	comp=Z,2μm,16.4s						
OKC	**Ostrava-Krasne**	**92.27**	**37**	*e*P	**P**	**13 16 21.6**	**+1.1**
OKC				*e**PP	pP	13 16 31.7	+0.4
OKC				*e*		13 20 04.8	
OKC				MLR	MLR		
	comp=Z,2μm,16.4s,MS5.8						
OKC	**Ostrava-Krasne**	**92.27**	**37**	*e*P	**P**	**13 16 21.6**	**+1.1**
OKC				*e*pP	pP	13 16 31.7	+0.4
OKC				*e*S		13 26 59.4	
CRES	**Cresnjev**	**92.36**	**41**⇑	*e*P	**P**	**13 16 21.2**	**+0.3**
CRES				*e*SKSac	SKSac	13 26 56.1	+4.3
CRES				*e*S		13 27 34.1	
BOJS	**Bojanci**	**92.36**	**42**⇑	*e*P	**P**	**13 16 21.0**	**0.0**
	comp=Z,535nm,5.0s						
BOJS				*e*PP	PP	13 19 50.6	-11
BOJS				*e*S		13 27 33.4	
ZST	**Bratislava**	**92.38**	**39**	*e*P	**P**	**13 16 22.4**	**+1.4**
ZST				*e*	pP	13 16 31.8	0.0
ZST				pmax	pmax		
	comp=Z,58nm,2.0s,mb5.6						
ZST	**Bratislava**	**92.38**	**39**	*e*P	**P**	**13 16 22.4**	**+1.4**
	comp=Z,58nm,2.0s,mb5.6						
ZST				*e*	pP	13 16 31.8	0.0
WAR	**Warsaw**	**92.76**	**34**	*e*P	**P**	**13 16 23.7**	**+0.9**
WAR				*e*SKS		13 26 56.5	
WAR				*e*S		13 27 41.1	
WAR				L		13 57 37.6	
	comp=Z,4.7nm,22.4s						
WAR	**Warsaw**	**92.76**	**34**	*e*P	**P**	**13 16 23.7**	**+0.9**
WAR				*e*		13 26 56.5	
WAR				MLR	MLR		
	comp=Z,5μm,22.4s,MS5.9						
SUW	**Suwalki**	**93.01**	**32**	*e*P	**P**	**13 16 22.7**	**-1.2**
SUW				*e*SKS		13 26 58.5	
SUW				*e*PS	PS	13 28 38.9	-5.0
SUW				*e*SP	SP	13 28 41.1	+1.5
SUW				L		13 56 14.8	
	comp=Z,3.7nm,21.7s						
SUW	**Suwalki**	**93.01**	**32**	*e*P	**P**	**13 16 22.7**	**-1.2**
SUW				*e*		13 26 58.5	
SUW				*e*SP	SP	13 28 41.1	+1.5
SUW				MLR	MLR		
	comp=Z,4μm,21.7s,MS5.8						
SUW	**Suwalki**	**93.01**	**32**	*e*P	**P**	**13 16 22.7**	**-1.2**
SUW				*e*SKS		13 26 58.5	
SUW				*e*PS	PS	13 28 38.9	-5.0
SUW				*e*SP	SP	13 28 41.1	+1.5
OJC	**Ojcow**	**93.05**	**36**	*e*P	**P**	**13 16 23.9**	**-0.2**
OJC				*e*SKSac	SKSac	13 26 58.5	+3.0
OJC				L		13 54 56.8	
	comp=Z,16nm,22.6s						
OJC	**Ojcow**	**93.05**	**36**	*e*P	**P**	**13 16 23.9**	**-0.2**
OJC				*e*		13 26 58.5	
SISC	**Sisak**	**93.09**	**41**	iP	**P**	**13 16 24.5**	**+0.2**
RNI2	**Rionero Sannit**	**93.16**	**45**	P	**P**	**13 16 24.1**	**-0.5**
	comp=Z,231nm,3.0s						
MIDA	**Miranda**	**93.26**	**45**	P	**P**	**13 16 24.5**	**-0.6**
	comp=Z,192nm,3.1s						
VYHS	**Vyhne**	**93.28**	**38**	*e*P	**P**	**13 16 25.5**	**+0.3**
VYHS				*e*	pP	13 16 36.8	+0.8
VYHS				pmax	pmax		
	comp=Z,41nm,2.7s,mb5.4						
VYHS	**Vyhne**	**93.28**	**38**	*e*P	**P**	**13 16 25.5**	**+0.3**
	comp=Z,41nm,2.7s,mb5.4						
VYHS				*e*	pP	13 16 36.8	+0.8
WAKE	**Wake Island**	**93.51**	**291**	PFAKE		13 16 40.0	+14
WAKE				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
BUD	**Budapest**	**93.86**	**39**⇑	*e*PcP	PcP	13 16 28.0	-0.3
PSZ	**Piszkesteto**	**94.18**	**38**⇑	*e*PcP	PcP	13 16 30.4	+0.7
PSZ	**Piszkesteto**	**94.18**	**38**	*e*P	**P**	**13 16 28.6**	**-0.7**
PSZ					pP	13 16 40.7	+0.6
PKSM	**Moragy**	**94.20**	**40**⇑	*e*P	**P**	**13 16 28.9**	**-0.5**
KECS	**Kecovo**	**94.26**	**37**	*e*P	**P**	**13 16 31.5**	**+1.8**
KECS				*e*	pP	13 16 41.2	+0.7
KWP	**Kalwaria**	**94.98**	**36**	*e*P	**P**	**13 16 33.6**	**+0.6**
KWP				*e*pP	pP	13 16 41.1	-2.7
KWP				L		13 55 42.6	
	comp=Z,1.9nm,24.3s						
KWP	**Kalwaria**	**94.98**	**36**	*e*P	**P**	**13 16 33.6**	**+0.6**
KWP				*e*pP	pP	13 16 41.1	-2.7
LVV	**L'vov**	**95.62**	**35**	*e*P	**P**	**13 16 35.2**	**-0.7**
YAK	**Yakutsk**	**95.76**	**341**	*e*P	**P**	**13 16 35.3**	**-1.2**
YAK				*e*		13 27 11.1	
YAK				pmax	pmax		
	comp=E,8.0nm,7.6s						
YAK				pmax	pmax		
	comp=Z,59nm,7.6s						
YAK				pmax	pmax		
	comp=N,6.0nm,6.7s						
YAK				MLR	MLR		
	comp=Z,818nm,16.0s,MS5.3						
YAK				MLR	MLR		
	comp=N,777nm,19.0s,MS5.3						
YAK				MLR	MLR		
	comp=E,540nm,18.0s,MS5.3						
YAK	**Yakutsk**	**95.76**	**341**	*e*P	**P**	**13 16 35.3**	**-1.2**
YAK				*e*		13 27 11.1	
YAK				LR	LR		
	comp=Z,820nm,16.0s,MS5.3						
KLMR	**Klimovskoe**	**95.77**	**21**	*e*P	**P**	**13 16 43.8**	**+7.2**
KLMR				*e*		13 20 29.4	
KLMR				*e*SS	SS	13 34 28.3	+6.7
KLMR				pmax	pmax		
	comp=Z,30nm,2.1s,mb5.3						
KLMR				pmax	pmax		
	comp=Z,100nm,6.9s						
BOLS	**Boljevac**	**97.39**	**41**⇑	*i*P	**P**	**13 16 45.3**	**+1.4**
AKASG	**Malin Array Be**	**97.92**	**32**	P	**P**	**13 16 46.0**	**-0.3**
	comp=Z,0.7nm,0.5s,mb4.5,baz=288,slow=4.3,SNR=4.2						
AKASG				LR	LR	13 59 54.4	
	comp=Z,2μm,21.5s,MS5.5,baz=300,slow=35						
OBN	**Obninsk**	**98.62**	**26**	*e*P	**P**	**13 16 47.5**	**-2.0**
OBN				*e*		13 20 49.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.4						
OBN				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.8						
OBN	**Obninsk**	**98.62**	**26**	*e*P	**P**	**13 16 47.5**	**-2.0**
	comp=Z,6.0nm,0.5s,mb5.4						
OBN				*e*		13 20 49.6	
MOS	**Moscow**	**98.64**	**25**	*e*P	**P**	**13 16 48.0**	**-1.5**
KIS	**Kishinev**	**99.83**	**36**	*e*P	Pdif	13 16 54.0	-0.8
KIS				*e*		13 21 04.0	
KIS				*e*		13 27 32.0	
YSS	**Yuzh-Sakhalins**	**99.96**	**324**	P	Pdif	13 16 52.0	-3.4
YSS				*e*		13 20 55.0	
YSS				*e*		13 27 36.0	
YSS				*e*PS	PS	13 29 53.0	-6.7
YSS				*e*SS	SS	13 35 23.0	+2.5
YSS				MLR	MLR		
	comp=N,1μm,17.0s,MS5.5						
YSS				MLR	MLR		
	comp=E,500nm,17.0s,MS5.5						
YSS			

VNDA	**Vanda**	**107.68**	**193**	PFAKE		13 21 50.0	+13
VNDA				LR	LR		
comp=Z,834nm,22.0s,MS5.2							
HNR	**Honiara**	**107.68**	**265**	PFAKE		13 21 50.0	+13
HNR				LR	LR		
comp=Z,730nm,20.0s,MS5.2							
MDJ	**Mudanjiang**	**108.51**	**329**	PDIF	Pdif	13 17 32.0	-1.4
MDJ				PP	PP	13 22 03.5	-0.7
MDJ				S	Sdif	13 29 35.5	-3.2
MDJ				PP	PP		
comp=Z,200nm,6.3s							
MDJ				LR	LR		
comp=N,470nm,19.6s,MS5.4							
MDJ				LR	LR		
comp=E,990nm,21.1s,MS5.4							
MDJ				LR	LR		
comp=Z,1μm,21.9s,MS5.4							
MAT	**Matsushiro**	**108.78**	**318**	PP	PP	13 21 51.0	-15
MAT	**Matsushiro**	**108.78**	**318**	*e*P	PP	13 21 51.0	-15
MAT				LR	LR		
comp=Z,1μm,20.0s,MS5.4							
HIA	**Hailar**	**109.25**	**337**	PFAKE		13 21 50.0	+10
HIA				LR	LR		
comp=Z,3μm,19.0s,MS5.9							
BRVK	**Borovoye**	**110.80**	**10**	PFAKE		13 21 50.0	+6.7
BRVK				LR	LR		
comp=Z,3μm,20.0s,MS5.8							
CN2	**Changchun**	**111.13**	**330**	PDIF	Pdif	13 17 43.3	-1.8
CN2				SKS	SKSdf	13 28 46.5	-7.0
CN2				*e*SS	SS	13 37 54.0	+0.9
CN2				PP	PP		
comp=Z,300nm,6.0s							
CN2				LR	LR		
comp=N,700nm,18.0s,MS5.6							
CN2				LR	LR		
comp=E,1μm,18.0s,MS5.6							
CN2				LR	LR		
comp=Z,1μm,22.0s,MS5.4							
TLY	**Talaya**	**111.72**	**348**	PFAKE		13 21 50.0	+4.9
TLY				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
MAK	**Makhachkala**	**112.34**	**30**	*e*P	Pdif	13 17 50.1	-0.4
MAK				*i* SP	SP	13 32 04.5	+2.9
MAK				*e*		13 33 05.9	
MAK				MLR	MLR		
comp=Z,3μm,21.0s,MS5.9							
GNI	**Garni**	**113.04**	**33**	PFAKE		13 22 00.0	+12
GNI				LR	LR		
comp=Z,2μm,20.0s,MS5.7							
SNY	**Shenyang**	**113.53**	**330**	*e*PKP	PKiKP	13 21 46.8	-1.7
KURK	**Kurchatov**	**114.16**	**5**	*i* PKIKP	PKiKP	13 21 49.4	-0.3
ULN	**Ulaanbaatar**	**114.52**	**344**	PFAKE		13 22 00.0	+10
ULN				LR	LR		
comp=Z,1μm,19.0s,MS5.6							
SONM	**Songino Array**	**114.72**	**345**	PKP	PKiKP	13 21 49.9	-0.9
comp=Z,0.2nm,0.4s,baz=22,slow=1.6,SNR=3.0							
SONM				PKKPbc	PKKPbc	13 32 26.2	-2.0
comp=Z,0.2nm,0.3s,baz=190,slow=2.6,SNR=3.6							
TSUM	**Tsumeb**	**114.97**	**104**	PFAKE		13 22 00.0	+8.7
TSUM				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
DRV	**Dumont d'Urvil**	**117.58**	**201**	PP	PP	13 23 08.0	-0.7
DRV				SP	SP	13 32 50.0	+0.6
DRV				SS	SS	13 39 24.0	+6.1
MKAR	**Makanchi Array**	**118.31**	**3**	PKP	PKPdf	13 21 56.4	-1.3
comp=Z,0.6nm,0.6s,baz=357,slow=1.3,SNR=6.2							
MKAR				PKKPbc	PKKPbc	13 32 12.9	-2.6
comp=Z,0.3nm,0.6s,baz=132,slow=5.1,SNR=3.8							
BJI	**Beijing**	**118.32**	**334**	*e*Pdif	Pdif	13 18 18.4	+1.4
BJT	**Baijiatuau**	**118.34**	**334**	PFAKE		13 22 10.0	+12
BJT				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
SUR	**Sutherland**	**118.85**	**119**	PFAKE		13 22 10.0	+11
SUR				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
HHC	**Hu-ho-hao-te**	**119.45**	**338**	*e*PKP	PKPdf	13 21 58.3	-1.6
HHC				XPKP		13 22 12.8	
HHC				PKS		13 25 36.8	
HHC				SKKS	SKKSac	13 30 12.8	-6.5
HHC				PP	PP		
comp=Z,490nm,14.6s							
HHC				LR	LR		
comp=N,1μm,19.0s,MS5.6							
HHC				LR	LR		
comp=E,370nm,15.5s,MS5.6							
HHC				LR	LR		
comp=Z,2μm,20.2s,MS5.6							
PMG	**Port Moresby**	**120.00**	**268**	PFAKE		13 22 10.0	+9.0
PMG				LR	LR		
comp=Z,1μm,20.0s,MS5.5							
BOSA	**Boshof**	**122.68**	**114**	PKP	PKPdf	13 22 05.5	-0.6
comp=Z,4.4nm,0.7s,baz=237,slow=1.1,SNR=8.7							
BOSA	**Boshof**	**122.68**	**114**	PKP	PKPdf	13 22 05.5	-0.6
BOSA				LR	LR		
comp=Z,2μm,19.0s,MS5.8							
SSE	**Sheshan**	**122.90**	**324**	PKP	PKPdf	13 22 04.8	-1.7
SSE				SS	SS	13 40 24.8	-1.4
SSE				PP	PP		
comp=Z,250nm,7.1s							
SSE				LR	LR		
comp=N,450nm,17.3s,MS5.4							
SSE				LR	LR		
comp=E,540nm,17.6s,MS5.4							
SSE				LR	LR		
comp=Z,680nm,16.7s,MS5.4							
LBTB	**Lobatse**	**122.91**	**110**	PFAKE		13 22 20.0	+13
LBTB				LR	LR		
comp=Z,2μm,21.0s,MS5.8							
NJ2	**Nanjing**	**123.46**	**326**	*e*PKP	PKPdf	13 22 07.5	-0.1
NJ2				XPKP		13 22 21.8	
NJ2				PP	PP	13 23 54.0	+5.0
NJ2				PKS		13 25 43.0	
NJ2				SKS	SKSdf	13 29 14.0	-2.9
NJ2				PP	PP		
comp=Z,210nm,8.0s							
NJ2				LR	LR		
comp=N,820nm,15.4s,MS5.6							
NJ2				LR	LR		
comp=E,760nm,16.5s,MS5.6							
NJ2				LR	LR		
comp=Z,470nm,18.7s,MS5.2							
GTA	**Gaotai**	**124.23**	**347**	*e*PKP	PKPdf	13 22 08.0	-1.1
GTA				XPKP		13 22 22.8	
GTA				PP	PP	13 23 57.0	+2.8
GTA				PKS		13 25 43.0	
GTA				SKS	SKSdf	13 29 14.5	-3.9
GTA				SKKS	SKKSac	13 30 45.5	-4.8
GTA				SS	SS	13 40 40.5	-2.6
GTA				PP	PP		
comp=Z,580nm,9.2s							
GTA				LR	LR		
comp=N,860nm,20.3s,MS5.6							
GTA				LR	LR		
comp=E,910nm,18.7s,MS5.6							
GTA				LR	LR		
comp=Z,960nm,23.3s,MS5.4							
LSZ	**Lusaka**	**124.47**	**98**	PKP	PKPdf	13 22 08.7	-0.9
comp=Z,2.8nm,0.7s,baz=134,slow=5.8,SNR=4.5							
LSZ	**Lusaka**	**124.47**	**98**	PKP	PKPdf	13 22 08.7	-0.8
LSZ				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
KSH	**Kashi**	**124.89**	**9**	PKP	PKPdf	13 22 11.5	+1.2
KSH				*e*XPKP		13 22 26.0	
KSH				*e*PKS		13 25 47.0	
KSH				*e*SKS	SKSdf	13 29 18.5	-1.1
KSH				LR	LR		
comp=N,350nm,8.9s							
KSH				LR	LR		
comp=E,460nm,5.6s							
KSH				LR	LR		
comp=Z,3μm,24.9s,MS5.9							
MATP	**Matopo**	**125.32**	**104**	PKhKP	PKPdf	13 22 07.8	-3.4
comp=Z,2.9nm,0.6s,baz=215,slow=7.0,SNR=6.9							
MAW	**Mawson**	**125.44**	**169**	*e*PKP	PKPdf	13 22 08.9	-2.5
comp=Z,5.3nm,1.2s							
MAW	**Mawson**	**125.44**	**169**	PKP	PKPdf	13 22 09.1	-2.3
comp=Z,1.7nm,0.6s,baz=206,slow=4.4,SNR=11							
MAW	**Mawson**	**125.44**	**169**	PKIKP	PKPdf	13 22 09.1	-2.3
MAW				pmax	pmax		
comp=Z,2.0nm,0.6s							
CASY	**Casey**	**126.29**	**192**	*e*PKP	PKPdf	13 22 10.6	-2.4
LZH	**Lanzhou**	**126.33**	**342**	*e*PKP	PKPdf	13 22 19.5	+6.4
LZH				pPKP	pPKPdf	13 22 29.1	+4.9
LZH				sPKP		13 22 33.4	
LZH				PP	PP	13 24 17.5	+9.3
LZH				PKS		13 25 53.2	
LZH				SKS	SKSdf	13 29 26.5	+4.2
LZH				SKKS	SKKSac	13 31 03.6	0.0
LZH				SS	SS	13 41 14.7	+5.2
LZH				LR	LR		
comp=Z,2μm,20.1s,MS5.7							
STKA	**Stephens Creek**	**126.80**	**241**	*e*PKP	PKPdf	13 22 10.6	-3.4
comp=Z,3.3nm,0.7s							
STKA	**Stephens Creek**	**126.80**	**241**	PKhKP	PKPdf	13 22 10.2	-3.7
comp=Z,4.2nm,0.8s,baz=74,slow=3.4,SNR=9.0							
QZH	**Quanzhou**	**128.99**	**321**	*i* PKP	PKPdf	13 22 23.5	+5.3
QZH				PP	PP	13 24 34.0	+8.3
QZH				PKS		13 25 58.5	
QZH				LR	LR		
comp=N,1μm,16.0s,MS5.8							
QZH				LR	LR		
comp=E,2μm,17.8s,MS5.8							
QZH				LR	LR		
comp=Z,410nm,16.6s,MS5.2							
KMBO	**Kilima Mbogo**	**130.04**	**79**	PFAKE		13 22 30.0	+10
KMBO				LR	LR		
comp=Z,2μm,20.0s,MS5.8							
CD2	**Chengdu**	**131.13**	**339**	*e*PKP	PKPdf	13 22 18.5	-3.7
CD2				XPKP		13 22 33.0	
CD2				PP	PP	13 24 40.5	+0.9
CD2				SKS	SKSdf	13 29 24.8	-6.3
CD2				SKKS	SKKSac	13 31 26.8	-6.8
CD2				PP	PP		
comp=Z,400nm,10.5s							
CD2				LR	LR		
comp=E,610nm,22.8s							
CD2				LR	LR		
comp=Z,620nm,26.4s,MS5.2							
KLP	**Kalpa**	**133.06**	**9**	*e*P	PKPdf	13 22 25.2	-0.6
WB2	**Warramunga Arr**	**133.65**	**257**	*e*PKP	PKPdf	13 22 25.9	-1.1
WRAB	**Tennant Creek**	**133.65**	**257**	*i* PKIKP	PKPdf	13 22 30.9	+3.9
WRAB	**Tennant Creek**	**133.65**	**257**	PFAKE		13 22 40.0	+13
WRAB				LR	LR		
comp=Z,1μm,21.0s,MS5.5							
WRA	**Warramunga Arr**	**133.66**	**257**	PKhKP		13 22 18.9	
comp=Z,0.4nm,0.7s,baz=102,slow=2.0,SNR=4.7							
WRA				PKP	PKPdf	13 22 25.9	-1.1
comp=Z,1.9nm,0.6s,baz=88,slow=2.4,SNR=30							
GYA	**Guiyang**	**134.01**	**334**	PKP	PKPdf	13 22 27.5	-0.2
GYA				XPKP		13 22 41.8	
GYA				PP	PP	13 24 59.3	+1.2
GYA				PKS		13 26 00.5	
GYA				SKKS	SKKSac	13 31 46.0	-5.2
GYA				PP	PP		
comp=Z,480nm,8.4s							
GYA				LR	LR		
comp=N,240nm,19.4s,MS5.0							
GYA				LR	LR		
comp=E,210nm,20.2s,MS5.0							
GYA				LR	LR		
comp=Z,290nm,20.4s,MS5.0							
AS31	**Alice Springs**	**134.08**	**252**	*e*PKP	PKPdf	13 22 26.9	-0.9
ASAR	**Alice Springs**	**134.08**	**252**	PKhKP		13 22 19.4	
comp=Z,0.4nm,0.7s,baz=104,slow=3.3,SNR=5.0							
ASAR				PKP	PKPdf	13 22 26.8	-1.0
comp=Z,2.1nm,0.9s,baz=81,slow=1.7,SNR=18							
ASPA	**Alice Springs**	**134.08**	**252**	*e*PKP	PKPdf	13 22 26.9	-0.9
KKR	**Kurukshetra**	**134.36**	**11**	AMS	AMS	13 30 55.8	
comp=Z,543nm,19.7s,MS5.3							
DAV	**Davao City (W)**	**134.91**	**296**	PFAKE		13 22 40.0	+11
DAV				LR	LR		
comp=Z,626nm,20.0s,MS5.3							
LSA	**Lhasa**	**135.17**	**353**	PFAKE		13 22 40.0	+10
LSA				LR	LR		
comp=Z,2μm,21.0s,MS5.8							
ASOR	**Ausora**	**135.70**	**10**	AMS	AMS	13 31 15.0	
comp=Z,470nm,17.1s,MS5.3							
AYAN	**Aya Nagar**	**135.85**	**11**	*e*P	PKPdf	13 22 30.4	-0.7
KHET	**Khetri**	**135.99**	**13**	*e*P	PKPdf	13 22 30.8	-0.5
KUDL	**Kundal**	**136.06**	**12**	*e*P	PKPdf	13 22 30.0	-1.5
SONA	**Sohna**	**136.07**	**11**	*e*P	PKPdf	13 22 30.0	-1.5
SONA				AMS	AMS	13 30 56.6	
comp=Z,1μm,23.7s,MS5.6							
KMI	**Kunming**	**136.77**	**337**	PKP	PKPdf	13 22 32.5	-0.3
KMI				XPKP		13 22 46.0	
KMI				PP	PP	13 25 16.0	+0.5
KMI				PKS		13 26 05.3	
KMI				SKKS	SKKSac	13 32 05.5	-2.3
KMI				SS	SS	13 43 16.3	-0.6
KMI				PP	PP		
comp=Z,570nm,13.4s							
KMI				LR	LR		
comp=N,1μm,20.9s,MS5.7							
KMI				LR	LR		
comp=E,920nm,20.9s,MS5.7							
KMI				LR	LR		
comp=Z,1μm,18.4s,MS5.7							
KMI	**Kunming**	**136.77**	**337**	PKP	PKPdf	13 22 32.5	-0.3
KMI				sPKP		13 22 46.1	
KMI				PP	PP	13 25 15.9	+0.4
KMI				PKS		13 26 05.3	
KMI				PPP		13 28 16.8	
KMI				SKKS	SKKSac	13 32 05.5	-2.3
KMI				SS	SS	13 43 16.3	-0.6
KMI				SSS		13 48 21.3	
KMI				LR	LR		
comp=Z,1μm,18.4s,MS5.7							
AGRA	**Agra**	**137.22**	**10**	*e*P	PKPdf	13 22 32.3	-1.4
QIZ	**Qiongzhong**	**138.69**	**324**	PKP	PKPdf	13 22 36.0	-0.3
QIZ				PP	PP	13 25 31.0	+3.6
QIZ				SS	SS	13 43 41.3	+1.7
QIZ				LR	LR		
comp=E,720nm,17.6s							
QIZ				LR	LR		
comp=Z,860nm,19.1s,MS5.5							
BHPL	**Bhopal**	**141.00**	**12**	*e*P	PKPdf	13 22 40.0	-0.6
FITZ	**Fitzroy Crossi**	**141.83**	**260**	*e*PKP	PKPdf	13 22 34.1	-7.9
comp=Z,13nm,1.2s							
CM31	**Chiang Mai Arr**	**144.25**	**338**	PFAKE		13 23 00.0	+14
CM31				LR	LR		
comp=Z,973nm,21.0s,MS5.5							
KAD	**Karad**	**145.79**	**20**	*e*P	PKPdf	13 22 46.5	-2.5
KAD				*e*P		13 22 47.6	
KLBR	**Kellerberrin**	**146.61**	**235**	*e*PKP	PKPdf	13 22 49.6	-0.7
comp=Z,74nm,1.6s							
HYB	**Hyderabad**	**146.89**	**13**	*i* PKP	PKPdf	13 22 52.0	+1.2
HYB				*e*		13 22 54.0	
HYB	**Hyderabad**	**146.89**	**13**	*e*P	PKPdf	13 22 52.0	+1.2
VIS	**Vishakhapatnam**	**147.29**	**5**	*e*P	PKPdf	13 22 50.2	-1.3
MBWA	**Marble Bar**	**147.31**	**254**	*e*PKPbc	PKPbc	13 22 52.6	-1.3
MUN	**Mundaring**	**147.67**	**233**	*e*PKP	PKPdf	13 22 50.3	-1.8
KSM	**Kuching**	**150.75**	**302**	*e*PKPbc	PKPbc	13 23 02.7	0.0
TRD	**Trivandrum**	**154.93**	**21**	*e*P	PKPdf	13 23 02.2	-1.0
PALK	**Pallekele**	**157.19**	**13**	PFAKE		13 23 20.0	+14
PALK				LR	LR		
comp=Z,1μm,21.0s,MS5.7							
COCO	**West Island**	**168.97**	**284**	PFAKE		13 23 30.0	+13
COCO				LR	LR		
comp=Z,920nm,19.0s							

IDC 27 13:14:50.5±8.8, 145S×1224W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, MS3.7/2, Ms1 3.6/2, ms1mx3.4/27, Error ellipse: s-maj=218.1km s-min=96.8km az=168.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**10.92**	**42**	LR	LR	13 20 52.6	
comp=Z,161nm,21.5s,baz=70,slow=33							
TORD	**Torodi Ar. Bea**	**20.03**	**43**	P	P	13 19 24.4	-0.6
1.6nm,0.7s,baz=226,slow=10,SNR=6.5							
TSUM	**Tsumeb**	**34.12**	**123**	LR	LR	13 33 19.3	
comp=Z,294nm,19.1s,baz=113,slow=32							
GERES	**GERESS Array B**	**54.90**	**21**	P	P	13 24 24.0	+1.2
0.7nm,0.5s,baz=204,slow=6.5,SNR=7.1							
BRTR	**Keskin Array B**	**58.61**	**40**	P	P	13 24 50.1	+0.9
0.7nm,0.9s,baz=217,slow=6.9,SNR=3.2							
FINES	**FINESS Array B**	**69.21**	**19**	P	P	13 25 57.5	-1.5
1.8nm,0.9s,baz=215,slow=6.3,SNR=4.8							

*NEIC **27** 13:16:48.7, 1471N×9461W, h20km, MD4.2(MEX), After MEX.*

MEX 27 13:16:48.7±0.5, 1472N×9458W, h16km±27km, MD4.2, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**2.38**	**353**	*i* P	Pn	13 17 24.0	-3.1
CMIG				*i* S	Sn	13 17 51.8	-4.2
SCX	**San Cristobal**	**2.75**	**43**	*e*P	Pn	13 17 31.0	-1.2
SCX				*i* S	Sn	13 18 02.0	-3.1
SCX	**San Cristobal**	**2.75**	**43**	*e*P	Pn	13 17 32.0	-0.2
CCIG	**Comitan**	**2.83**	**56**	*e*P	Pn	13 17 30.4	-2.8
CCIG				*i* S	Sn	13 18 03.1	-3.9
OXX	**Oaxaca**	**3.13**	**319**	*e*P	Pn	13 17 36.5	-0.9
OXX				*i* S	Sn	13 18 10.0	-4.4
OXX	**Oaxaca**	**3.13**	**319**	*e*P	Pn	13 17 41.5	+4.1
TEIG	**Tepich**	**8.14**	**47**	*e*Pn	Pn	13 18 43.1	-3.1

*IDC **27** 13:22:04.5±1.4, 1489N×94.14W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/21, mbtmp3.9/8, ML4.2/1, Error ellipse: s-maj=54.9km s-min=17.8km az=48.0*

*NEIC **27** 13:22:05.2±0.7, 1473N×9453W, h10km, mb4.2/5, MD4.4(MEX), Error ellipse: s-maj=14.3km s-min=8.8km az=212.0*

*ISCJB **27** 13:22:07.2±1.8, 1483N±005×9459W±003, h32km±14km, mb4.0/9, Error ellipse: s-maj=9.2km s-min=4.5km az=48.0*

*CASC **27** 13:22:07.9±0.9, 1600N×9313W, h307km±87km, MD4.5, mb4.2(NEIC)*

*MEX **27** 13:22:09.2±0.8, 1483N×9464W, h17km±25km, MD4.4*

ISC 27 13:22:08.3±2.0, 1485N±005×9457W±004, h24km±16km, n40, σ1°22/53, mb4.0/9, 1C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.75**	**302**	*i* P	Pn	13 22 34.9	-2.2
HUIG				*i* S	Sn	13 22 54.1	-4.4
CMIG	**Matias Romero**	**2.25**	**352**	Pn	Pn	13 22 42.3	-1.6
61nm,0.3s,baz=160,slow=11,SNR=38							
CMIG	**Matias Romero**	**2.25**	**352**	*i* P	Pn	13 22 42.5	-1.4
CMIG				*i* S	Sn	13 23 09.3	-1.6
CMIG	**Matias Romero**	**2.25**	**352**	Pn	Pn	13 22 42.3	-1.6
CMIG				*i* P		13 22 42.5	
CMIG				*i* S	Sn	13 23 09.3	-1.6
SCX	**San Cristobal**	**2.64**	**44**	*e*P	Pn	13 22 50.0	+0.7
SCX				*i* S	Sn	13 23 22.5	+1.9
CCIG	**Comitan**	**2.74**	**58**	*i* P	Pn	13 22 51.3	+0.6
CCIG				*i* S	Sn	13 23 22.1	-0.9
CCIG	**Comitan**	**2.74**	**58**	*i* P	Pn	13 22 51.3	+0.6
CCIG				*i* S	Sn	13 23 21.0	-2.0
OXX	**Oaxaca**	**3.04**	**317**	*e*P	Pn	13 22 54.0	-0.8
OXX	**Oaxaca**	**3.04**	**317**	*e*P	Pn	13 22 55.5	+0.7
VHO	**Vista Hermosa**	**3.04**	**317**	*i* P	Pn	13 22 54.1	-0.6
VHO				*i* S	Sn	13 23 28.7	-1.7
VHO	**Vista Hermosa**	**3.04**	**317**	*i* P	Pn	13 22 55.4	+0.6
VHO				*i* S	Sn	13 23 29.9	-0.4
TUIG	**Tuzandepetl**	**3.17**	**2**	*i* P	Pn	13 22 55.5	-1.1
TUIG				*i* S	Sn	13 23 33.3	-0.3
TUIG	**Tuzandepetl**	**3.17**	**2**	*i* P	Pn	13 22 55.4	-1.2
TUIG				*i* S	Sn	13 23 33.4	-0.2
TP2	**Tecpan 2**	**3.43**	**91**	*e*P	Pn	13 22 60.0	-0.2
TP2				*e*S	Sn	13 23 41.0	+1.0
IXG	**Ixpaco**	**4.04**	**99**	*e*P	Pn	13 23 08.1	-0.4
IXG				*e*S	Sn	13 23 53.6	-1.4
UTMO	**Huajuapan**	**4.29**	**314**	*e*P	Pn	13 23 11.0	-1.0
UTMO				*i* S	Sn	13 23 59.9	-1.4
PPM	**Popocatepetl**	**5.72**	**318**	*e*P	Pn	13 23 32.6	+1.0
PPM				*i* S	Sn	13 24 37.4	+0.9
JTS	**JuntasAbangare**	**10.42**	**115**	Pn	Pn	13 24 38.8	+2.7
0.6nm,0.3s,baz=293,slow=19,SNR=2.6							
JCT	**Junction City**	**16.28**	**344**	*e*P	Pn	13 25 55.7	+0.4
9.3nm,0.8s							
MIAR	**Mount Ida**	**19.63**	**2**	*e*P	Pn	13 26 33.0	-3.5
10nm,0.9s							
MIAR				*e*S		13 26 40.0	
AMTX	**Amarillo**	**20.95**	**343**	*e*P	P	13 26 49.4	0.0
12nm,0.7s							
BNM	**Barren Site**	**22.09**	**333**	*e*P	P	13 27 02.8	+1.2
LPM	**Los Pinos Moun**	**22.23**	**333**	*e*P	P	13 27 04.0	+1.0
LENM	**Lemitar**	**22.26**	**332**	*e*P	P	13 27 04.6	+1.2
LAZ	**Ladron**	**22.53**	**332**	*e*P	P	13 27 07.4	+1.1
SDV	**Santo Domingo**	**24.15**	**102**	P	P	13 27 18.9	-3.4
2.7nm,0.8s,mb3.8,baz=346,slow=8.3,SNR=3.3							
MVCO	**Mesa Verde**	**25.49**	**333**	*e*P	P	13 27 35.1	+0.6
PV01	**Paradox Valley**	**26.30**	**334**	*e*P	P	13 27 42.1	+0.3
PDAR	**Pinedale Array**	**30.66**	**338**	P	P	13 28 21.8	+1.0
0.9nm,0.8s,mb3.6,baz=141,slow=9.6,SNR=5.7							
NVAR	**Mina Array Bea**	**31.47**	**323**	P	P	13 28 31.1	+3.1
1.0nm,0.8s,mb3.7,baz=126,slow=9.2,SNR=9.6							
HLID	**Hailey**	**33.27**	**333**	*e*P	P	13 28 44.0	+0.4
1.9nm,0.7s,mb4.1							
GCMT	**Greycliff**	**33.36**	**341**	*e*P	P	13 28 44.7	+0.2
MCMT	**McKenzie Canyo**	**33.66**	**336**	*e*P	P	13 28 48.0	+1.0
DLMT	**Dillon**	**34.01**	**337**	*e*P	P	13 28 51.7	+1.6
12nm,1.2s,mb4.7							
SIV	**San Ignacio**	**45.10**	**131**	P	P	13 30 19.6	-2.9
0.6nm,0.6s,mb3.6,baz=278,slow=14,SNR=2.8							
BDFB	**Brasilia**	**55.08**	**121**	P	P	13 31 37.1	-1.0
3.4nm,0.6s,mb4.5,baz=227,slow=13,SNR=2.7							
ESDC	**Sonseca Array**	**81.14**	**51**	P	P	13 34 20.7	-0.9
0.2nm,0.3s,mb3.5,baz=283,slow=5.6,SNR=4.4							
NOA	**NORSAR Array B**	**84.58**	**28**	P	P	13 34 39.0	-0.5
0.7nm,0.6s,mb4.0,baz=293,slow=5.1,SNR=4.1							
NOA	**NORSAR Array B**	**84.58**	**28**	P	P	13 34 39.0	-0.5
WRA	**Warramunga Arr**	**133.18**	**256**	PKP	PKPdf	13 41 23.1	+1.2
0.7nm,1.1s,baz=91,slow=2.1,SNR=5.8							

NEIC 27 13:27:57.1, 5991N×15214W, h75km, MG3.1(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.13**	**57**	*e*Pn	Pn	13 28 16.6	-0.9
SLKM				*e*Sn	Sn	13 28 31.8	-0.9
SEW	**Seward**	**1.36**	**81**	P	Pn	13 28 19.6	-0.9
SEW				S	Sn	13 28 37.3	-0.7
FIB	**Fire Island**	**1.59**	**37**	P	Pn	13 28 23.9	+0.4
RC01	**Rabbit Creek A**	**1.68**	**44**	P	Pn	13 28 23.7	-0.9
RC01				S	Sn	13 28 45.0	-0.4
SVW2	**Sparrevohn**	**2.08**	**306**	*e*Pn	Pn	13 28 27.9	-2.0
SVW2				*e*Sn	Sn	13 28 49.1	-5.8
KDAK	**Kodiak Island**	**2.15**	**186**	P	Pn	13 28 29.4	-1.4
KDAK				S	Sn	13 28 55.3	-1.2
PMR	**Palmer**	**2.24**	**40**	*e*Pn	Pn	13 28 30.6	-1.6
GHO	**Glory Hole Cre**	**2.44**	**39**	P	Pn	13 28 34.1	-0.7
SML	**Sawmill**	**2.66**	**43**	*e*Pn	Pn	13 28 36.2	-1.6
MID	**Middleton Isla**	**2.98**	**97**	P	Pn	13 28 41.2	-0.9
EYAK	**

CMIG				*i* S		**Sn**	**13 31 09.7**	**-0.2**
SCX	**San Cristobal**	**2.51**	**46**	*i* P		**Pn**	**13 30 48.5**	**+0.4**
SCX				*i* S		**Sn**	**13 31 20.0**	**+0.7**
CCIG	**Comitan**	**2.63**	**60**	*i* P		**Pn**	**13 30 49.6**	**0.0**
CCIG				*i* S		**Sn**	**13 31 23.0**	**+0.8**
OXX	**Oaxaca**	**2.99**	**315**	*i* P		**Pn**	**13 30 56.0**	**+1.4**
VHO	**Vista Hermosa**	**2.99**	**315**	*i* P		**Pn**	**13 30 53.6**	**-1.0**
VHO				*i* S		**Sn**	**13 31 26.7**	**-4.3**
VHO	**Vista Hermosa**	**2.99**	**315**	*i* P		**Pn**	**13 30 55.3**	**+0.7**
VHO				*i* S		**Sn**	**13 31 26.7**	**-4.3**
TUIG	**Tuzandepetl**	**3.04**	**2**	*i* P		**Pn**	**13 30 55.3**	**0.0**
TUIG				*i* S		**Sn**	**13 31 33.7**	**+1.3**
TUIG	**Tuzandepetl**	**3.04**	**2**	*i* P		**Pn**	**13 30 54.3**	**-1.0**
TUIG				*i* S		**Sn**	**13 31 39.0**	**+6.7**
UTMO	**Huajuapan**	**4.25**	**312**	*eP*		**Pn**	**13 31 11.0**	**-1.0**
UTMO				*i* S		**Sn**	**13 31 58.3**	**-3.8**
SCIG		**5.09**	**38**	*i* P		**Pn**	**13 31 23.1**	**-0.4**
SCIG				*i* S		**Sn**	**13 32 22.7**	**0.0**
LFRS	**El Faro**	**5.45**	**104**	*eP*		x	13 31 59.8	
LFRS				*e*S		x	13 33 07.7	
LCBS	**La Ceiba**	**5.52**	**103**	*eP*		x	13 31 57.2	
PPM	**Popocatepetl**	**5.66**	**317**	*i* P		**Pn**	**13 31 34.9**	**+3.5**
PPM				*i* S		**Sn**	**13 32 36.2**	**-0.7**
PPM	**Popocatepetl**	**5.66**	**317**	*i* P		**Pn**	**13 31 36.7**	**+5.3**
PPM				*i* S		**Sn**	**13 32 36.2**	**-0.7**
TEIG	**Tepich**	**7.91**	**48**	*e*Pn		**Pn**	**13 31 59.9**	**-2.4**
	34nm,0.5s							
JCT	**Junction City**	**16.18**	**343**	*eP*		**Pn**	**13 33 56.7**	**+2.0**
	9.3nm,0.7s							
AMTX	**Amarillo**	**20.85**	**343**	*eP*		**P**	**13 34 49.4**	**+0.2**
	18nm,0.6s							
BNM	**Barren Site**	**22.01**	**332**	*eP*		**P**	**13 35 01.0**	**-0.8**
LPM	**Los Pinos Moun**	**22.14**	**333**	*eP*		**P**	**13 35 05.2**	**+2.0**
LAZ	**Ladron**	**22.45**	**332**	*eP*		**P**	**13 35 08.1**	**+1.7**
ANMO	**Albuquerque**	**22.61**	**334**	P		**P**	**13 35 08.8**	**+0.6**
	1.6nm,0.6s,mb3.6,baz=148,slow=12,SNR=5.1							
CCM	**Cathedral Cave**	**23.17**	**7**	*eP*		**P**	**13 35 11.2**	**-2.9**
	3.2nm,0.6s,mb3.9							
SDV	**Santo Domingo**	**24.12**	**102**	P		**P**	**13 35 21.6**	**-1.7**
	1.6nm,0.3s,mb3.9,baz=319,slow=11,SNR=3.3							
WUAZ	**Wupatki**	**25.44**	**327**	*eP*		**P**	**13 35 36.6**	**+1.3**
	18nm,1.1s,mb4.5							
FWV	**Forest Hill**	**25.59**	**26**	*eP*		**P**	**13 35 38.0**	**+1.3**
PV01	**Paradox Valley**	**26.21**	**334**	*eP*		**P**	**13 35 43.3**	**+1.0**
SCIA	**State Center**	**26.86**	**2**	*eP*		**P**	**13 35 46.6**	**-1.6**
PDAR	**Pinedale Array**	**30.57**	**338**	P		**P**	**13 36 21.8**	**+0.5**
	0.8nm,0.6s,mb3.7,baz=138,slow=9.1,SNR=6.5							
MNV	**Mina**	**31.32**	**323**	*eP*		**P**	**13 36 28.7**	**+0.8**
	8.0nm,1.4s,mb4.4							
NVAR	**Mina Array Bea**	**31.41**	**323**	P		**P**	**13 36 31.1**	**+2.4**
	1.2nm,0.7s,mb3.8,baz=127,slow=9.4,SNR=12							
IMW	**Indian Meadow**	**32.05**	**337**	*eP*		**P**	**13 36 35.0**	**+0.7**
	2.6nm,0.7s,mb4.2							
HLID	**Hailey**	**33.18**	**333**	*eP*		**P**	**13 36 44.2**	**0.0**
	2.0nm,0.8s,mb4.1							
GCMT	**Greycliff**	**33.26**	**341**	*eP*		**P**	**13 36 45.1**	**+0.2**
MCMT	**McKenzie Canyo**	**33.57**	**336**	*eP*		**P**	**13 36 49.1**	**+1.5**
ULM	**Lac du Bonnet**	**35.20**	**358**	P		**P**	**13 36 58.6**	**-3.0**
	1.1nm,0.4s,mb4.1,baz=159,slow=9.9,SNR=5.1							
LPAZ	**La Paz**	**40.54**	**139**	P		**P**	**13 37 48.9**	**+2.1**
	0.7nm,0.8s,mb3.3,baz=323,slow=11,SNR=3.0							
SIV	**San Ignacio**	**45.14**	**132**	P		**P**	**13 38 25.5**	**+1.4**
	3.4nm,1.0s,mb4.1,baz=326,slow=7.7,SNR=6.6							
YKA	**Yellowknife Ar**	**49.55**	**348**	P		**P**	**13 38 57.0**	**-1.4**
	2.0nm,0.6s,mb4.3,baz=152,slow=7.8,SNR=4.5							
YKA	**Yellowknife Ar**	**49.55**	**348**	P		**P**	**13 38 57.0**	**-1.4**
ESDC	**Sonseca Array**	**81.02**	**51**	P		**P**	**13 42 20.7**	**-1.9**
	0.6nm,0.5s,mb3.8,baz=293,slow=5.2,SNR=4.7							
MDT	**Midelt**	**81.95**	**58**	P		**P**	**13 42 26.0**	**-1.5**
	2.1nm,0.3s,mb4.6,baz=246,slow=6.8,SNR=13							
NB2	**NORSAR Subarra**	**84.44**	**28**	P		**P**	**13 42 39.3**	**-1.1**
	comp=Z,2.3nm,0.7s,mb4.4,baz=292,slow=5.1							
NOA	**NORSAR Array B**	**84.44**	**28**	P		**P**	**13 42 39.6**	**-0.8**
	comp=Z,1.8nm,0.7s,mb4.3,baz=291,slow=5.2,SNR=9.2							
ARCES	**ARCESS Array B**	**85.97**	**18**	P		**P**	**13 42 46.2**	**-1.8**
	comp=Z,1.5nm,0.7s,mb4.4,baz=310,slow=4.6,SNR=3.8							
WRA	**Warramunga Arr**	**133.27**	**257**	PKhKP			13 49 23.5	
	comp=Z,0.3nm,0.6s,baz=76,slow=1.7,SNR=6.2							

*IDC **27** 13:41:11.5±0.6, 281S×7966W, h0km, mb4.7/14, mb1 4.8/17, mb1mx4.6/24, mbtmp4.7/17, ML4.0/3, MS4.4/5, Ms1 4.5/5, ms1mx4.0/25, Error ellipse: s-maj=25.0km s-min=11.8km az=61.0*

*BJI **27** 13:41:14.2, 290S×7980W, h25km, mB5.2, Ms5.4, Msz5.1*

*ISCJB **27** 13:41:15.3±0.3, 284S±005×79.77W±005, h33km, mb4.8/49, MS5.0/8, Error ellipse: s-maj=9.1km s-min=5.1km az=94.5*

*MOS **27** 13:41:15.5±1.1, 284S×8002W, h33km, mb5.1/18, Error ellipse: s-maj=14.3km s-min=8.3km az=104.2*

*NEIC **27** 13:41:15.3±0.3, 291S×7981W, h25km, mb4.9/38, MD4.8(IGQ), Error ellipse: s-maj=11.3km s-min=5.7km az=56.0*

NEIC Felt strongly at Guayaquil.

ISC 27 13:41:17.6±0.3, 283S±005×7965W±005, h35km, n290, ₙ0990/253, mb4.8/49, MS5.0/8, 57C-58D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**3.27**	**22**	*eP*	**Pn**	**13 42 07.1**	**+0.8**
ATAH	**Atahualpa**	**4.33**	**163**	Pn	**Pn**	**13 42 22.1**	**+1.1**
	7.0nm,0.3s,baz=349,slow=6.0,SNR=28						
ATAH				Pg	**Pn**	**13 42 32.1**	**+11**
	61nm,0.3s,baz=11,slow=13,SNR=70						
ATAH				Lg		13 43 28.4	
	50nm,0.3s,baz=158,slow=18,SNR=3.7						
ROSC	**El Rosal**	**9.30**	**35**	Pn	**Pn**	**13 43 38.1**	**+9.0**
	1.3nm,0.3s,baz=80,slow=21,SNR=4.6						
ROSC				LR	LR	13 47 28.6	
	comp=Z,6μm,20.0s,baz=199,slow=41						
NNA	**Nana**	**9.52**	**163**	*e*Pn	**Pn**	**13 43 30.9**	**-1.2**
	78nm,0.8s						
JTS	**JuntasAbangare**	**14.06**	**338**	Pn	**Pn**	**13 44 37.3**	**+3.1**
	3.9nm,0.3s,baz=266,slow=12,SNR=7.2						
JTS				LR	LR	13 49 03.5	
	comp=Z,1μm,18.6s,baz=352,slow=34						
SDV	**Santo Domingo**	**14.70**	**38**	Pn	**Pn**	**13 44 41.1**	**-1.8**
	0.5nm,0.3s,baz=269,slow=12,SNR=5.8						
SDV	**Santo Domingo**	**14.70**	**38**	*e*Pn	**Pn**	**13 44 40.4**	**-2.6**
	33nm,1.0s						
ARE	**Arequipa**	**15.75**	**150**	*eP*	**Pn**	**13 45 02.0**	**+5.3**
SAML	**Samuel**	**17.47**	**111**	*e*Pn	**Pn**	**13 45 12.7**	**-5.7**
	11nm,0.6s						
LPAZ	**La Paz**	**17.54**	**140**	P	**Pn**	**13 45 17.8**	**-1.4**
	0.3nm,0.3s,baz=334,slow=15,SNR=16						
LPAZ				LR	LR	13 52 10.2	
	comp=Z,758nm,20.2s,baz=152,slow=38						
LPAZ	**La Paz**	**17.54**	**140**	*eP*	**Pn**	**13 45 17.2**	**-2.0**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.2s						
LPAZ	**La Paz**	**17.54**	**140**	*e*Pn	**Pn**	**13 45 17.2**	**-1.9**
	comp=Z,3.2nm,1.2s						
PCRV	**Puerto La Cruz**	**19.76**	**49**	LR	LR	13 53 37.3	
	comp=Z,2μm,20.1s,baz=113,slow=38						
LVC	**Limon Verde**	**22.26**	**153**	P	**P**	**13 46 10.9**	**-0.5**
	comp=Z,15nm,0.9s,mb4.4,baz=37,slow=0.0,SNR=11						
LVC	**Limon Verde**	**22.26**	**153**	*eP*	**P**	**13 46 09.6**	**-1.8**
	comp=Z,32nm,1.1s,mb4.7						
SIV	**San Ignacio**	**22.49**	**127**	P	**P**	**13 46 11.6**	**-2.2**
	comp=Z,14nm,1.0s,mb4.3,baz=307,slow=11,SNR=21						
TEIG	**Tepich**	**24.42**	**340**	*eP*	**P**	**13 46 32.5**	**-0.3**
	comp=Z,13nm,0.6s,mb4.5						
SJG	**San Juan**	**24.70**	**32**	P	**P**	**13 46 34.4**	**-0.9**
	comp=Z,23nm,0.6s,mb4.8,baz=347,slow=17,SNR=6.6						
CMIG	**Matias Romero**	**24.85**	**323**	P	**P**	**13 46 36.3**	**-0.3**
	comp=Z,24nm,1.2s,mb4.6,baz=134,slow=8.9,SNR=5.9						
BDFB	**Brasilia**	**33.66**	**114**	P	**P**	**13 47 56.4**	**+1.5**
	comp=Z,5.7nm,0.6s,mb4.7,baz=301,slow=13,SNR=8.8						
GOGA	**Godfrey**	**36.22**	**355**	*eP*	**P**	**13 48 15.9**	**-1.1**
GOGA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
GOGA	**Godfrey**	**36.22**	**355**	*eP*	**P**	**13 48 15.9**	**-1.2**
	comp=Z,128nm,0.8s,mb5.9						
LRAL	**Lakeview Retre**	**36.34**	**350**	*eP*	**P**	**13 48 16.8**	**-1.2**
	comp=Z,28nm,0.8s,mb5.2						
SWET	**Sewanee**	**38.30**	**352**	*eP*	**P**	**13 48 33.1**	**-1.6**
JCT	**Junction City**	**38.30**	**331**	*eP*	**P**	**13 48 35.1**	**+0.4**
JCT				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
JCT	**Junction City**	**38.30**	**331**	*eP*	**P**	**13 48 35.1**	**+0.4**
	comp=Z,9.7nm,0.6s,mb4.7						
CPCT	**Cooper Cave**	**38.35**	**354**	*eP*	**P**	**13 48 33.9**	**-1.1**
PLCA	**Paso Flores**	**38.62**	**169**	P	**P**	**13 48 36.3**	**-1.0**
	comp=Z,7.9nm,1.2s,mb4.3,baz=355,slow=9.2,SNR=6.1						
WVT	**Waverly**	**39.50**	**350**	*eP*	**P**	**13 48 41.0**	**-3.7**
WVT				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
WVT	**Waverly**	**39.50**	**350**	*eP*	**P**	**13 48 41.0**	**-3.7**
	comp=Z,11nm,0.6s,mb4.8						
ELN	**Prospectdale**	**39.86**	**359**	*eP*	**P**	**13 48 46.3**	**-1.4**
USIN	**University of**	**41.26**	**350**	*eP*	**P**	**13 48 57.2**	**-2.0**
	comp=Z,26nm,0.8s,mb4.9						
WCI	**Wyandotte Cave**	**41.31**	**352**	*eP*	**P**	**13 48 57.5**	**-2.2**
WCI				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.0						
WCI	**Wyandotte Cave**	**41.31**	**352**	*eP*	**P**	**13 48 57.5**	**-2.1**
	comp=Z,32nm,0.9s,mb4.9						
FVM	**French Village**	**41.81**	**347**	*eP*	**P**	**13 49 01.6**	**-2.2**
FVM				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.8						
FVM	**French Village**	**41.81**	**347**	*eP*	**P**	**13 49 01.6**	**-2.2**
	comp=Z,21nm,0.8s,mb4.8						
CCM	**Cathedral Cave**	**42.07**	**346**	*eP*	**P**	**13 49 02.8**	**-3.1**
CCM				*e*		13 50 38.9	
CCM				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
CCM	**Cathedral Cave**	**42.07**	**346**	*eP*	**P**	**13 49 02.8**	**-3.1**
	comp=Z,6.6nm,0.6s,mb4.4						
CCM				*e*		13 50 38.9	
AMTX	**Amarillo**	**42.83**	**333**	*eP*	**P**	**13 49 11.9**	**-0.2**
	comp=Z,13nm,0.7s,mb4.8						
AMTX				*e*		13 51 01.8	
ACSO	**Alum Creek Sta**	**42.96**	**356**	*eP*	**P**	**13 49 11.3**	**-1.8**
	comp=Z,15nm,0.8s,mb4.8						
SSPA	**Standing Stone**	**43.28**	**2**	*eP*	**P**	**13 49 14.4**	**-1.3**
	comp=Z,11nm,0.9s,mb4.6						
BNM	**Barren Site**	**44.70**	**328**	*eP*	**P**	**13 49 27.7**	**+0.7**
BNM				*e*		13 51 09.3	
LPM	**Los Pinos Moun**	**44.82**	**328**	*eP*	**P**	**13 49 28.0**	**-0.1**
LPM				*e*		13 51 11.6	
LENM	**Lemitar**	**44.89**	**327**	*eP*	**P**	**13 49 29.3**	**+0.6**
LAZ	**Ladron**	**45.16**	**327**	*eP*	**P**	**13 49 31.4**	**+0.6**
ANMO	**Albuquerque**	**45.22**	**329**	P	**P**	**13 49 32.0**	**+0.8**
	comp=Z,36nm,0.8s,mb5.3,baz=147,slow=9.7,SNR=70						
ANMO	**Albuquerque**	**45.22**	**329**	*eP*	**P**	**13 49 31.4**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,34nm,0.8s						
ANMO	**Albuquerque**	**45.22**	**329**	*eP*	**P**	**13 49 31.4**	**+0.2**
	comp=Z,34nm,0.8s,mb5.2						
SCIA	**State Center**	**46.20**	**346**	*eP*	**P**	**13 49 37.2**	**-1.8**
116A	**Eloy**	**46.47**	**322**	⇓P	**P**	**13 49 41.8**	**+0.7**
	baz=47,SNR=11						
Z14A	**Wintersburg**	**47.79**	**322**	⇓P	**P**	**13 49 51.9**	**+0.6**
	baz=48						
MVCO	**Mesa Verde**	**48.01**	**329**	*eP*	**P**	**13 49 53.5**	**+0.4**
X15A	**Humboldt**	**48.12**	**323**	P	**P**	**13 49 54.8**	**+0.9**
	baz=48,SNR=7.7						
Y14A	**Wickenburg**	**48.21**	**322**	⇓P	**P**	**13 49 55.2**	**+0.5**
	baz=48,SNR=5.1						
WUAZ	**Wupatki**	**48.33**	**325**	*eP*	**P**	**13 49 56.6**	**+1.0**
	comp=Z,64nm,1.0s,mb5.6						
X14A	**Yava**	**48.50**	**323**	P	**P**	**13 49 57.8**	**+0.9**
	baz=49,SNR=16						
W15A	**Williams**	**48.62**	**324**	⇓P	**P**	**13 49 59.2**	**+1.4**
	baz=49,SNR=11						
Y13A	**Salome**	**48.63**	**321**	⇑P	**P**	**13 49 58.6**	**+0.7**
	baz=49						
PV01	**Paradox Valley**	**48.75**	**330**	*eP*	**P**	**13 49 59.2**	**+0.4**
GLA	**Glamis**	**48.77**	**320**	P	**P**	**13 49 59.5**	**+0.6**
	baz=49,SNR=9.8						
SMCO	**Snowmass**	**48.78**	**332**	*eP*	**P**	**13 49 59.4**	**+0.4**
	comp=Z,16nm,1.0s,mb5.0						
Y12C	**Blythe**	**49.02**	**321**	⇑P	**P**	**13 50 01.6**	**+0.7**
	baz=49						
W14A	**Seligman**	**49.12**	**323**	⇑P	**P**	**13 50 02.4**	**+0.8**
	baz=49,SNR=5.9						
X13A	**Yucca**	**49.15**	**322**	⇓P	**P**	**13 50 02.4**	**+0.5**
	baz=49						
PV10	**Paradox Valley**	**49.17**	**329**	*eP*	**P**	**13 50 02.0**	**0.0**
109C	**Camp Elliot, M**	**50.16**	**318**	⇑P	**P**	**13 50 09.8**	**+0.3**
	baz=50						
PFO	**Pinyon Flat Ob**	**50.17**	**319**	⇓P	**P**	**13 50 10.3**	**+0.6**
	baz=50						
W12A	**Cal Nev Ari**	**50.26**	**322**	⇑P	**P**	**13 50 10.8**	**+0.5**
	baz=50						
V12A	**Nelson**	**50.53**	**323**	⇓P	**P**	**13 50 12.9**	**+0.5**
	baz=51,SNR=7.6						
U12A	**Valley of Fire**	**50.82**	**323**	⇑P	**P**	**13 50 15.0**	**+0.5**
	baz=51						
RWWY	**Rawlins**	**50.89**	**333**	*eP*	**P**	**13 50 15.3**	**+0.2**
	comp=Z,8.5nm,0.9s,mb4.7						
MSU	**Marysvale**	**50.93**	**327**	*eP*	**P**	**13 50 15.5**	**+0.2**
MSU				*e*		13 51 31.6	
V11A	**Goodsprings**	**50.96**	**322**	⇓P	**P**	**13 50 15.8**	**+0.2**
	baz=51						
TUQ	**Turquoise Mtn.**	**51.00**	**322**	⇓P	**P**	**13 50 16.3**	**+0.4**
	baz=51,SNR=6.8						
GSC	**Goldstone**	**51.47**	**321**	P	**P**	**13 50 20.2**	**+0.8**
	baz=52,SNR=16						
RSSD	**Black Hills**	**51.59**	**338**	*eP*	**P**	**13 50 20.4**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
RSSD	**Black Hills**	**51.59**	**338**	*eP*	**P**	**13 50 20.4**	**+0.1**
	comp=Z,11nm,0.8s,mb4.8						
EYMN	**Ely**	**51.61**	**350**	*eP*	**P**	**13 50 18.0**	**-2.5**
	comp=Z,15nm,0.8s,mb5.0						
DAU	**Daniels Canyon**	**51.84**	**329**	*eP*	**P**	**13 50 22.3**	**+0.2**
DAU				*e*		13 51 34.8	
U10A	**Ash Meadows, A**	**51.89**	**322**	⇓P	**P**	**13 50 23.4**	**+0.8**
	baz=52,SNR=7.4						
TCUT	**Toone Canyon**	**52.44**	**330**	*eP*	**P**	**13 50 26.5**	**-0.1**
DUG	**Dugway**	**52.48**	**328**	*eP*	**P**	**13 50 27.1**	**+0.2**
DUG				*e*		13 51 33.1	
DUG				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.0						
DUG	**Dugway**	**52.48**	**328**	*eP*	**P**	**13 50 27.1**	**+0.1**
	comp=Z,28nm,1.3s,mb5.0						
DUG				*e*		13 51 33.1	
ISA	**Isabella**	**52.75**	**320**	⇓P	**P**	**13 50 29.4**	**+0.5**
	baz=53,SNR=6.0						
PDAR	**Pinedale Array**	**52.81**	**333**	P	**P**	**13 50 28.8**	**-0.6**
	comp=Z,6.7nm,0.7s,mb4.7,baz=126,slow=8.4,SNR=40						
HWUT	**Hardware Ranch**	**52.88**	**330**	*eP*	**P**	**13 50 29.4**	**-0.6**
	comp=Z,20nm,0.8s,mb5.1						
CWC	**Cottonwood Cre**	**52.98**	**321**	⇓P	**P**	**13 50 31.3**	**+0.6**
	baz=53,SNR=9.1						
Q11A	**Duckwater**	**53.10**	**325**	P	**P**	**13 50 32.3**	**+0.8**
	baz=53,SNR=48						
R10A	**Warm Springs**	**53.10**	**324**	⇑P	**P**	**13 50 32.6**	**+1.1**
	baz=53,SNR=7.8						
SPUT	**South Promonto**	**53.11**	**329**	*eP*	**P**	**13 50 31.3**	**-0.3**
S09A	**Goldfield**	**53.27**	**323**	P	**P**	**13 50 33.2**	**+0.4**
	baz=53,SNR=12						
TIN	**Tinemaha**	**53.47**	**322**	⇓P	**P**	**13 50 35.0**	**+0.8**
	baz=54						
R09A	**Tonopah**	**53.52**	**323**	⇑P	**P**	**13 50 35.1**	**+0.5**
	baz=54,SNR=13						
HVU	**Hansel Valley**	**53.62**	**329**	*eP*	**P**	**13 50 33.4**	**-1.9**
HVU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
HVU	**Hansel Valley**	**53.62**	**329**	*eP*	**P**	**13 50 33.4**	**-1.9**
	comp=Z,7.0nm,0.8s,mb4.6						
P11A	**Circle Ranch,**	**53.63**	**326**	⇓P	**P**	**13 50 35.9**	**+0.5**
	baz=54						
N13A	**West Wendover**	**53.69**	**328**	⇑P	**P**	**13 50 35.9**	**+0.1**
	baz=54						
Q09A	**Carvers**	**53.98**	**324**	⇓P	**P**	**13 50 38.6**	**+0.7**
	baz=54						
O11A	**Cowboy Ranch,**	**53.98**	**326**	P	**P**	**13 50 38.5**	**+0.5**
	baz=54,SNR=7.8						
M13A	**Montello**	**54.03**	**328**	⇓P	**P**	**13 50 38.0**	**-0.4**
	baz=54,SNR=7.8						
P10A	**Eureka**	**54.08**	**325**	⇓P	**P**	**13 50 39.4**	**+0.7**
	baz=54,SNR=9.3						
N12A	**Wells--Clov Va**	**54.14**	**327**	⇓P	**P**	**13 50 39.0**	**-0.1**
	baz=54						
MLAC	**Mammoth Lakes**	**54.20**	**322**	⇓P	**P**	**13 50 40.1**	**+0.5**
R08A	**Mina**	**54.22**	**323**	⇑P	**P**	**13 50 40.5**	**+0.8**
	baz=54,SNR=9.7						
PKD	**Parkfield**	**54.26**	**319**	⇑P	**P**	**13 50 39.9**	**-0.1**
	baz=54						
MNV	**Mina**	**54.30**	**323**	*eP*	**P**	**13 50 40.5**	**+0.2**
MNV				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
MNV	**Mina**	**54.30**	**323**	*eP*	**P**	**13 50 40.5**	**+0.2**
	comp=Z,12nm,0.8s,mb4.9						
V04C	**Ramage Ranch,**	**54.30**	**319**	⇑P	**P**	**13 50 40.6**	**+0.3**
	baz=54						
IMW	**Indian Meadow**	**54.32**	**332**	*eP*	**P**	**13 50 39.9**	**-0.6**
	comp=Z,9.5nm,0.9s,mb4.7						
IMW				*e*		13 51 44.0	
NVAR	**Mina Array Bea**	**54.38**	**323**	P	**P**	**13 50 41.4**	**+0.5**
	comp=Z,12nm,0.7s,mb4.9,baz=140,slow=7.1						
Q08A	**Gabbs**	**54.44**	**324**	⇓P	**P**	**13 50 41.5**	**+0.2**
	baz=55,SNR=12						
M12A	**Wells**	**54.47**	**328**	⇑P	**P**	**13 50 41.0**	**-0.5**
	baz=55,SNR=7.9						
N11A	**Elko Archery C**	**54.50**	**327**	⇓P	**P**	**13 50 41.8**	**+0.1**
	baz=55						
R07C	**Lee Vining**	**54.62**	**322**	⇑P	**P**	**13 50 43.3**	**+0.7**
	baz=55,SNR=9.2						
U04C	**Hernandez Rese**	**54.66**	**319**	⇓P	**P**	**13 50 43.1**	**+0.1**
	baz=55,SNR=14						
ULM	**Lac du Bonnet**	**54.68**	**347**	P	**P**	**13 50 41.1**	**-2.0**
	comp=Z,19nm,0.7s,mb5.3,baz=158,slow=7.4,SNR=52						
V03C	**Hunter Liggett**	**54.76**	**319**	⇑P	**P**	**13 50 44.1**	**+0.4**
	baz=55,SNR=11						
O09A	**Fish Creek Ran**	**54.87**	**325**	P	**P**	**13 50 44.8**	**+0.4**
	baz=55,SNR=19						
M11A	**Holland Ranch,**	**54.95**	**327**	⇑P	**P**	**13 50 44.9**	**-0.1**
	baz=55						
S05C	**Merced**	**54.97**	**321**	⇑P	**P**	**13 50 45.2**	**+0.1**
	baz=55,SNR=6.0						
S06C	**San Francisco**	**54.99**	**321**	⇓P	**P**	**13 50 45.6**	**+0.3**
	baz=55,SNR=6.2						
P08A	**Dixie Valley**	**55.07**	**324**	⇓P	**P**	**13 50 46.3**	**+0.5**
	baz=55						
HAST	**Hastings Reser**	**55.18**	**319**	⇑P	**P**	**13 50 46.8**	**+0.1**
	baz=55,SNR=7.9						
GCMT	**Greycliff**	**55.24**	**335**	*eP*	**P**	**13 50 46.5**	**-0.6**
GCMT				*e*		13 51 47.1	
QLMT	**Earthquake Lak**	**55.27**	**333**	*eP*	**P**	**13 50 47.4**	**+0.1**
PACP	**Pacheco Peak**	**55.37**	**320**	⇓P	**P**	**13 50 48.4**	**+0.3**
	baz=56						
CMB	**Columbia Colle**	**55.42**	**321**	⇑P	**P**	**13 50 48.2**	**-0.2**
	baz=56						
M10A	**I.L. Ranch, Tu**	**55.42**	**327**	⇓P	**P**	**13 50 48.2**	**-0.2**
	baz=56						
P07A	**Fallon**	**55.45**	**324**	⇓P	**P**	**13 50 48.9**	**+0.3**
	baz=56						
R05C	**Kirkwood Meado**	**55.63**	**322**	⇑P	**P**	**13 50 50.7**	**+0.8**
	baz=56,SNR=14						
S04C	**Ingram Canyon,**	**55.69**	**320**	⇓P	**P**	**13 50 50.4**	**0.0**
	baz=56						
HLID	**Hailey**	**55.74**	**330**	*eP*	**P**	**13 50 50.4**	**-0.3**
	comp=Z,7.1nm,0.7s,mb4.8						
HLID				*e*		13 51 49.9	
N08A	**GE Springer Mi**	**55.81**	**325**	⇑P	**P**	**13 50 50.9**	**-0.3**
	baz=56						
WCN	**Washoe City**	**55.81**	**323**	⇑P	**P**	**13 50 51.7**	**+0.5**
	baz=56,SNR=6.6						
O07A	**Toulon**	**55.84**	**324**	⇓P	**P**	**13 50 51.2**	**-0.2**
	baz=56,SNR=13						
M09A	**Marrel Ranch,**	**55.85**	**326**	⇓P	**P**	**13 50 51.6**	**+0.1**
	baz=56						
R04C	**Big Horse Ranc**	**55.90**	**321**	⇑P	**P**	**13 50 52.6**	**+0.7**
	baz=56						
MCMT	**McKenzie Canyo**	**55.92**	**332**	*eP*	**P**	**13 50 51.9**	**-0.1**
MCMT				*e*		13 51 50.4	
BOZ	**Bozeman (W)**	**55.98**	**333**	*eP*	**P**	**13 50 51.7**	**-0.7**
BOZ				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
BOZ	**Bozeman (W)**	**55.98**	**333**	*eP*	**P**	**13 50 51.7**	**-0.7**
	comp=Z,16nm,0.9s,mb5.1						
BNLO	**Ben Lomond**	**56.02**	**319**	⇑P	**P**	**13 50 52.8**	**+0.1**
	baz=56						

baz=60
GBL Gable Mountain 60.42 329 P **P 13 51 23.3 -0.2**
G05A Wamic 60.49 327 ⇓P **P 13 51 24.3 +0.4**
baz=61
BROR Big Rock Looko 60.50 326 P **P 13 51 23.3 -0.7**
J02A Umpqua 60.58 325 ⇑P **P 13 51 24.5 -0.1**
baz=61
OD2 Odessa Site #2 60.59 331 P **P 13 51 24.4 -0.2**
H04A Detroit Lake 60.61 326 ⇓P **P 13 51 24.8 +0.1**
baz=61
K01A Sixes 60.77 324 ⇑P **P 13 51 26.0 +0.1**
baz=61
I03A Eugene 60.78 325 ⇓P **P 13 51 25.6 -0.3**
baz=61
F05A White Salmon 60.98 328 ⇑P **P 13 51 27.4 +0.1**
baz=61
G04A Mulino 61.10 327 ⇓P **P 13 51 28.0 -0.1**
baz=61
I02A Mapleton 61.11 325 ⇑P **P 13 51 28.1 -0.1**
baz=61
H03A Soap Creek Ran 61.22 326 ⇑P **P 13 51 28.9 0.0**
baz=61
F04A Amboy 61.53 327 ⇓P **P 13 51 30.5 -0.5**
baz=62
E05A Randle 61.58 328 ⇑P **P 13 51 30.7 -0.7**
baz=62
H02A Toledo 61.62 325 ⇑P **P 13 51 31.7 +0.1**
baz=62
NLW Nelson Butte 61.86 330 P **P 13 51 33.2 0.0**
D05A Enumclaw 62.11 329 ⇓P **P 13 51 34.4 -0.5**
baz=62
C05A Tolt Reservoir 62.28 329 ⇑P **P 13 51 35.5 -0.6**
baz=62
EDM Edmonton 62.58 338 *e*P **P 13 51 36.6 -1.4**
B05A Bryant 62.87 330 ⇓P **P 13 51 39.5 -0.4**
baz=63
A05A Maple Falls 63.34 330 P **P 13 51 42.6 -0.5**
baz=64,SNR=5.7
YKA Yellowknife Ar 70.32 344 P **P 13 52 25.7 -1.8**
comp=Z,6.8nm,0.7s,mb4.7,baz=140,slow=5.5,SNR=16
YKA Yellowknife Ar 70.32 344 P **P 13 52 25.7 -1.8**
DLBC Dease Lake 72.94 335 *e*P **P 13 52 42.9 -0.3**
DBIC Dimbokro 75.25 82 P **P 13 52 59.0 +2.2**
comp=Z,10nm,1.0s,mb4.7,baz=274,slow=6.9,SNR=4.6
EVO Evora 77.50 50 *e*P **P 13 53 10.1 +0.6**
SUMG Summit 79.65 12 *e*P **P 13 53 20.8 -0.5**
comp=Z,14nm,0.9s,mb4.9
DAWY Dawson 79.78 337 *e*P **P 13 53 20.7 -1.4**
INK Inuvik 80.01 342 *e*P **P 13 53 21.0 -2.3**
INK pmax pmax
comp=Z,26nm,1.1s
INK Inuvik 80.01 342 *e*P **P 13 53 21.0 -2.3**
comp=Z,26nm,1.1s,mb5.1
VNA1 Neumayer--Stat 81.23 161 *e*P **P 13 53 29.4 -0.5**
VNA1 *e* 13 53 32.9
VNA1 *e* 13 53 35.3
VNA1 *e* 13 53 43.6
TORD Torodi Ar. Bea 82.22 76 P **P 13 53 34.1 -0.9**
comp=Z,4.1nm,1.0s,mb4.3,baz=272,slow=6.1,SNR=20
SML Sawmill 82.57 334 *e*P **P 13 53 35.5 -1.4**
SLKM Skilak Lake 83.00 332 *e*P **P 13 53 38.0 -1.1**
KDAK Kodiak Island 83.36 329 LR LR 14 28 32.2
comp=Z,193nm,19.1s,MS4.5,baz=16,slow=34
COLA College 83.45 336⇓*e*P **P 13 53 40.4 -1.0**
MCK McKinley 83.49 335 *e*P **P 13 53 40.1 -1.6**
MCK *e**SP sP 13 53 51.3 -5.4
MCK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MCK McKinley 83.49 335 *e*P **P 13 53 40.1 -1.5**
comp=Z,3.4nm,0.8s,mb4.4
MCK *e*sP sP 13 53 51.3 -5.4
SJPF Ste Jean 83.49 46 *e*P **P 13 53 43.9 +2.2**
comp=Z,16nm,0.9s,mb4.8
SJPF Ste Jean 83.49 46 *e*P **P 13 53 43.9 +2.2**
SJPF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SJPF Ste Jean 83.49 46 *e*P **P 13 53 43.9 +2.2**
comp=Z,8.2nm,0.9s,mb4.8
ETSF Etsaut 83.94 47 *e*P **P 13 53 46.2 +2.3**
comp=Z,9.1nm,0.9s,mb4.6
ETSF Etsaut 83.94 47 *e*P **P 13 53 46.2 +2.3**
ETSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
ETSF Etsaut 83.94 47 *e*P **P 13 53 46.2 +2.3**
comp=Z,4.6nm,0.9s,mb4.6
EPF Esparros 84.61 46 *e*P **P 13 53 49.5 +2.2**
GRR Gorron 84.67 41 *e*P **P 13 53 49.1 +1.4**
MFF Saint Martin d 84.84 43 *e*P **P 13 53 50.2 +1.7**
comp=Z,10nm,0.7s,mb4.8
MFF Saint Martin d 84.84 43 *e*P **P 13 53 50.2 +1.7**
MFF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MFF Saint Martin d 84.84 43 *e*P **P 13 53 50.2 +1.7**
comp=Z,5.2nm,0.7s,mb4.8
LFF La Frestale 85.19 45 *e*P **P 13 53 51.8 +1.5**
comp=Z,8.1nm,0.5s,mb4.8
LFF La Frestale 85.19 45 *e*P **P 13 53 51.8 +1.5**
LFF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
LFF La Frestale 85.19 45 *e*P **P 13 53 51.8 +1.5**
comp=Z,4.1nm,0.5s,mb4.8
LDF La Druitiere 85.19 41 *e*P **P 13 53 51.7 +1.4**
RJF Les Rejaudoux 85.78 44 *e*P **P 13 53 54.7 +1.5**
MTLF Montolieu 86.01 46 *e*P **P 13 53 55.9 +1.5**
TCF Toulx Ste Croi 86.40 43 *e*P **P 13 53 58.3 +2.0**
QSPA South Pole Qui 87.25 180 *e*P **P 13 53 58.9 -1.5**
comp=Z,11nm,1.2s,mb5.0
LOR Lormes 87.65 43 *e*P **P 13 54 04.6 +2.3**
SMRF Simiane la Rot 88.50 46 *e*P **P 13 54 08.3 +1.9**
GIVF Givet 88.60 40 *e*P **P 13 54 08.7 +1.9**
ORIF Oris-en-Rattie 88.81 45 *e*P **P 13 54 09.9 +2.1**
FRF La Foret Royal 89.24 47 *e*P **P 13 54 11.1 +1.2**
CLL Collm 93.85 39 *e*PP PP 13 58 16.0 -1.0
BZS Buzias 99.90 44⇑*i*P PKiKP 13 59 28.4 +1.7
GZR Gura Zlata 100.73 44⇑*i*P PKiKP 13 59 29.9 +1.7
DRV Dumont d'Urvil 105.15 195 R 14 00 00.0
ZRNK Zerenda 123.72 22 *e*PKIKP PKPdf 14 00 10.6 -0.9
KURK Kurchatov 128.88 18 *e*PKIKP PKPdf 14 00 20.9 -0.5
MJAR Matsushiro Arr 131.61 319 PKhKP 14 00 23.2
comp=Z,2.3nm,0.9s,baz=51,slow=1.5,SNR=6.2
MKAR Makanchi Array 133.47 17 PKP PKPdf 14 00 29.1 -1.0
comp=Z,2.1nm,0.6s,baz=3.4,slow=2.2,SNR=25
CN2 Changchun 133.53 335 *e*PKP PKPdf 14 00 26.8 -3.4
CN2 PP PP 14 02 59.0 +0.6
CN2 PP PP
comp=Z,400nm,15.0s
CN2 LR LR
comp=N,300nm,18.0s,MS5.2
CN2 LR LR
comp=E,300nm,18.0s,MS5.2
CN2 LR LR
comp=Z,400nm,21.0s,MS5.1
ULN Ulaanbaatar 134.76 354 *e*PKIKP PKPdf 14 00 31.6 -0.9
SONM Songino Array 134.86 354 PKP PKPdf 14 00 32.0 -0.7
comp=Z,2.4nm,0.8s,baz=342,slow=0.8,SNR=13
WMQ Urumqi 137.66 14 *e*PKP PKPdf 14 00 35.5 -2.4
ASAR Alice Springs 138.04 229 PKhKP 14 00 37.3
comp=Z,1.2nm,0.8s,baz=119,slow=1.6,SNR=4.2
WB2 Warramunga Arr 139.67 234 *e*P PKPdf 14 00 37.2 -4.4
WRA Warramunga Arr 139.68 234 PKhKP 14 00 33.8
comp=Z,0.7nm,0.8s,baz=122,slow=2.8,SNR=7.0
WRA PKP PKPdf 14 00 40.7 -0.8
comp=Z,2.0nm,1.0s,baz=112,slow=2.1,SNR=19
WRA Warramunga Arr 139.68 234 PKP PKPdf 14 00 40.7 -0.8
HHC Hu-ho-hao-te 140.82 346 *e*PKP PKPdf 14 00 44.3 +0.7
HHC PP PP 14 03 47.5 +3.5
HHC PKS 14 04 18.8
HHC SKS SKSdf 14 07 49.5 -1.6
HHC SKKS SKKSac 14 10 33.3 -1.6
HHC PP PP
comp=Z,360nm,14.2s
HHC LR LR
comp=N,180nm,16.7s,MS5.0
HHC LR LR
comp=E,190nm,18.7s,MS5.0
HHC LR LR
comp=Z,120nm,18.2s,MS4.7
GTA Gaotai 143.58 1 *e*PKP PKPdf 14 00 44.5 -4.1
GTA PP PP 14 04 03.3 +2.6
GTA PKS 14 04 18.8
GTA SKKS SKKSac 14 10 44.8 -6.1
GTA SS SS 14 22 39.5 -0.5
GTA PP PP
comp=Z,190nm,7.6s
GTA LR LR
comp=N,260nm,17.2s,MS5.1
GTA LR LR
comp=E,180nm,19.5s,MS5.1
GTA LR LR
comp=Z,200nm,17.6s,MS4.9
KAKA Kakadu 144.59 243 *e*P PKPdf 14 00 48.5 -1.8
comp=Z,20nm,0.8s
SSE Sheshan 145.68 327 PKP PKPdf 14 00 45.8 -6.4
NJ2 Nanjing 146.11 331 *e*PKP PKPdf 14 00 54.0 +1.1
NJ2 PKP2 PKPab 14 00 58.8 +4.3
NJ2 APKP 14 01 04.0
NJ2 PP PP 14 04 22.0 +6.2
NJ2 PKS 14 04 28.0
NJ2 SKS SKSdf 14 07 58.0 -1.2
NJ2 PP PP
comp=Z,70nm,11.0s
NJ2 LR LR
comp=Z,710nm,18.4s,MS5.5
NDI New Delhi 146.14 38 *e*P PKPdf 14 00 52.5 -0.5
LZH Lanzhou 146.75 355 *e*PKP PKPdf 14 00 54.5 +0.5
LZH *e*PP PP 14 04 23.8 +4.2
LZH *e*SKS SKSdf 14 07 55.5 -4.6
LZH SKKS SKKSac 14 11 06.3 -2.6
LZH PP PP
comp=Z,80nm,8.9s
LZH LR LR
comp=N,170nm,18.4s
LZH LR LR
comp=Z,270nm,20.3s,MS5.0
FITZ Fitzroy Crossi 147.54 229 *e*P PKPdf 14 00 57.5 +2.2
comp=Z,11nm,0.8s
FITZ Fitzroy Crossi 147.54 229 PKPbc PKPbc 14 00 57.7 -0.3
comp=Z,9.2nm,1.0s,baz=168,slow=4.8,SNR=9.6
XAN Xi'an 147.93 347 PKP PKPdf 14 00 58.0 +2.0
KOLN Koldanda 150.48 31 *e*P PKPdf 14 01 00.0 -0.1
comp=Z,27nm,0.9s
GKN Gorkha 150.81 29 *e*P PKPdf 14 01 00.9 +0.3
comp=Z,108nm,0.8s
KKN Kakani 151.30 29 *e*P PKPdf 14 01 01.7 +0.4
comp=Z,62nm,0.8s
DMN Daman 151.37 29 *e*P PKPdf 14 01 02.0 +0.6
comp=Z,34nm,0.7s
GUN Gumba 151.49 28 *e*P PKPdf 14 01 02.3 +0.7
comp=Z,34nm,0.7s
PKI Pulchoki 151.55 29 *e*P PKPdf 14 01 01.7 0.0
comp=Z,33nm,0.8s
JIRN Jiri 151.84 27 *e*P PKPdf 14 01 02.7 +0.6
comp=Z,24nm,0.6s
CD2 Chengdu 151.88 354 *e*PKP PKPdf 14 00 57.3 -4.9
CD2 PKP2 PKPab 14 01 15.0 -2.9
CD2 PP PP
comp=Z,60nm,9.0s
CD2 LR LR
comp=E,110nm,18.0s
CD2 LR LR
comp=Z,170nm,16.8s,MS4.9
LSA Lhasa 151.88 17 *e*PKIKP PKPdf 14 01 02.6 +0.4
LSA *e* 14 01 09.4
KMI Kunming 157.71 354 PKP PKPdf 14 01 07.0 -3.2
KMI PKP2 PKPab 14 01 41.8 -0.9
KMI PKS 14 04 39.5
KMI PP PP 14 05 22.0 0.0
KMI SKKS SKKSac 14 12 02.8 -5.8
KMI PP PP
comp=Z,140nm,7.0s
KMI LR LR
comp=N,290nm,16.5s,MS5.4
KMI LR LR
comp=E,360nm,15.6s,MS5.4
KMI LR LR
comp=Z,260nm,25.8s

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*CSEM **27** 13:50:04.6, 3720N×2057E, h5km, MD3.6/6, After ATH*
*NEIC **27** 13:50:04.6, 3720N×2057E, h5km, MD3.6(ATH), After ATH.*

ATH 27 13:50:04.4, 3720N×2055E, h5km±2km, MD3.6/6, 2C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamala**	**0.98**	**2**	⇑*i*PG	Pg	13 50 23.0	-0.1
VLS				*e*SB	Sb	13 50 37.5	+0.5
VLS	**Valsamala**	**0.98**	**2**	⇑*i*Pg	Pg	13 50 23.0	-0.1
VLS				*e*Sb	Sb	13 50 37.9	+0.9
ITM	**Ithomi**	**1.10**	**91**	*e*PB	Pb	13 50 25.4	-0.5
RLS	**Riolos of Patr**	**1.12**	**40**	*e*Pb	Pb	13 50 25.9	-0.4
RLS				*e*Sb	Sb	13 50 41.6	+0.4
VLI	**Veliai**	**1.97**	**103**	*e*PN	Pn	13 50 41.5	+3.1
VLI				*e*SN	Sn	13 51 08.0	+4.5
EVR	**Evrytania**	**1.98**	**30**	*e*PN	Pn	13 50 41.8	+3.2
KEK	**Kerkira**	**2.58**	**347**	*e*PN	Pn	13 50 50.0	+3.2
KEK	**Kerkira**	**2.58**	**347**	*e*Pg	Pg	13 50 52.9	-0.9

IDC 27 13:59:08.7±3.4, 1725S×17543W, h0km, mb4.2/3, mb1 4.4/4, mb1mx4.0/13, mbtmp4.2/4, ML2.1/1, Error ellipse: s-maj=190.1km s-min=31.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.84**	**47**	Pn	Pn	14 00 22.8	+0.1
4.6nm,0.3s,baz=3.7,slow=23,SNR=13							
AFI				Sn	Sn	14 01 03.7	-16
11nm,0.3s,baz=48,slow=21,SNR=11							
STKA	**Stephens Creek**	**41.44**	**241**	P	P	14 06 57.4	+0.5
0.8nm,0.4s,baz=78,slow=11,SNR=3.6							
WRA	**Warramunga Arr**	**47.55**	**259**	P	P	14 07 45.6	-0.2
0.9nm,0.5s,baz=96,slow=7.5,SNR=35							
ASAR	**Alice Springs**	**47.70**	**253**	P	P	14 07 47.9	+0.8
8.1nm,0.5s,baz=89,slow=8.1,SNR=94							

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*SZGRF **27** 14:03:49.1, 1839S×17686W, h33km, Fiji Islands region*
*ISCJB **27** 14:04:47.1±0.8, 1810S±006×178.16W±006, h543km±9km, mb4.4/49, Error ellipse: s-maj=10.0km s-min=7.0km az=100.9*
*MOS **27** 14:04:48.5±1.3, 1797S×178.18W, h549km, mb4.6/14, Error ellipse: s-maj=12.6km s-min=11.0km az=5.4*
*BJI **27** 14:04:48.3, 1753S×17809W, h540km, mB4.8, mb4.6*
*NEIC **27** 14:04:48.5±0.7, 1808S×178.10W, h548km±8km, mb4.4/26, Error ellipse: s-maj=8.8km s-min=6.1km az=146.0*
*IDC **27** 14:04:48.9±1.3, 1818S×178.15W, h554km±14km, mb4.0/18, mb1 3.9/20, mb1mx3.9/22, mbtmp4.8/20, Error ellipse: s-maj=10.6km s-min=9.1km az=111.0*

ISC 27 14:04:48.5±0.7, 1810S±006×17805W±006, h549km±9km, n182, σ0§99/94, mb4.4/49, 11C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.33**	**56**	P	**P**	**14 06 39.9**	**+0.3**
3.5nm,0.3s,baz=292,slow=23,SNR=6.8							
AFI				S	**S**	**14 08 08.3**	**-2.3**
13nm,0.3s,baz=199,slow=17,SNR=8.5							
DZM	**Mont Dzumac**	**15.09**	**252**	P	**P**	**14 08 01.0**	**+2.2**
0.8nm,0.3s,baz=278,slow=22,SNR=11							
RAR	**Rarotonga**	**17.49**	**103**	P	**P**	**14 08 22.0**	**+0.3**
1.4nm,0.3s,baz=286,slow=6.2,SNR=4.7							
URZ	**Urewera**	**20.53**	**191**	P	**P**	**14 08 46.8**	**-2.5**
24nm,0.4s,baz=3.8,slow=2.3,SNR=34							
HNR	**Honiara**	**23.02**	**289**	P	**P**	**14 09 11.3**	**-0.4**
32nm,0.4s,mb5.3,baz=277,slow=22,SNR=7.6							
RPZ	**Rata Peaks**	**27.14**	**197**	P	**P**	**14 09 47.5**	**-0.6**
6.7nm,0.6s,mb4.5,baz=316,slow=2.9,SNR=7.2							
CNB	**Canberra Magne**	**33.58**	**233**	*e*P	**P**	**14 10 44.0**	**+0.6**
8.6nm,0.8s,mb4.3							
CTA	**Charters Tower**	**33.75**	**261**	*e*P	**P**	**14 10 44.9**	**+0.1**
10nm,0.6s,mb4.5							
CTA	**Charters Tower**	**33.75**	**261**	*e*P	**P**	**14 10 44.9**	**+0.1**
CTA				pmax	pmax		
comp=Z,10.0nm,0.6s							
CTAO	**Charters Tower**	**33.75**	**261**	*e*P	**P**	**14 10 45.1**	**+0.3**
CTAO				pmax	pmax		
comp=Z,9.0nm,0.5s,mb4.6							
CTAO	**Charters Tower**	**33.75**	**261**	*e*P	**P**	**14 10 45.1**	**+0.3**
comp=Z,9.2nm,0.5s,mb4.6							
PMG	**Port Moresby**	**34.83**	**280**	*e*P	**P**	**14 10 55.5**	**+1.7**
PMG				pmax	pmax		
comp=Z,38nm,0.8s							
PMG	**Port Moresby**	**34.83**	**280**	*e*P	**P**	**14 10 55.5**	**+1.7**
comp=Z,38nm,0.8s,mb5.0							
TOO	**Toolangi**	**37.31**	**231**	*e*P	**P**	**14 11 15.2**	**+0.9**
comp=Z,6.4nm,0.9s,mb4.2							
TOO	**Toolangi**	**37.31**	**231**	*e*P	**P**	**14 11 15.2**	**+0.9**
TOO				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.1							
STKA	**Stephens Creek**	**38.84**	**241**	*e*P	**P**	**14 11 25.9**	**-0.8**
comp=Z,1.8nm,0.6s,mb3.8							
STKA	**Stephens Creek**	**38.84**	**241**	P	**P**	**14 11 26.1**	**-0.7**
comp=Z,2.5nm,0.6s,mb4.0,baz=308,slow=18,SNR=8.4							
WB2	**Warramunga Arr**	**44.92**	**260**	*e*P	**P**	**14 12 14.0**	**-0.6**
WRAB	**Tennant Creek**	**44.92**	**260**	*e*P	**P**	**14 12 14.1**	**-0.5**
WRAB				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.5							
WRAB	**Tennant Creek**	**44.92**	**260**	*e*P	**P**	**14 12 14.1**	**-0.5**
comp=Z,9.6nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**44.93**	**260**	P	**P**	**14 12 14.2**	**-0.5**
comp=Z,6.1nm,0.5s,mb4.4,baz=96,slow=7.2,SNR=179							
WRA				PcP	PcP	14 13 44.4	+0.2
comp=Z,1.2nm,0.3s,baz=89,slow=3.8,SNR=6.4							
WRA				S	**S**	**14 18 09.7**	**-3.2**
comp=Z,0.6nm,0.9s,baz=98,slow=14,SNR=2.9							
AS31	**Alice Springs**	**45.07**	**254**	*e*P	**P**	**14 12 15.7**	**0.0**
ASAR	**Alice Springs**	**45.07**	**254**	P	**P**	**14 12 16.1**	**+0.3**
comp=Z,32nm,0.6s,mb5.0,baz=87,slow=8.7,SNR=326							
ASAR				PcP	PcP	14 13 44.8	+0.1
comp=Z,2.2nm,0.4s,baz=102,slow=4.2,SNR=8.5							
ASAR				S	**S**	**14 18 13.2**	**-1.6**
comp=Z,2.2nm,0.7s,baz=90,slow=15,SNR=14							
ASPA	**Alice Springs**	**45.07**	**254**	*e*P	**P**	**14 12 15.7**	**0.0**
KAKA	**Kakadu**	**47.92**	**269**	*e*P	**P**	**14 12 37.0**	**-0.3**
comp=Z,17nm,0.5s,mb4.8							
GUMO	**Guam**	**48.26**	**308**	P	**P**	**14 12 40.9**	**+1.1**
comp=Z,78nm,0.7s,mb5.3,baz=146,slow=9.7,SNR=5.5							
FORT	**Forrest**	**50.23**	**245**	*e*P	**P**	**14 12 54.0**	**-0.3**
comp=Z,10nm,0.5s,mb4.5							
FITZ	**Fitzroy Crossi**	**53.33**	**261**	*e*P	**P**	**14 13 16.8**	**+0.2**
comp=Z,3.4nm,0.4s,mb4.0							
KLBR	**Kellerberrin**	**59.05**	**244**	*e*P	**P**	**14 13 55.6**	**-0.4**
CBIJ	**Chichi jima**	**59.21**	**318**	P	**P**	**14 13 56.7**	**-0.4**
comp=Z,32nm,0.6s,mb4.7,baz=287,slow=20,SNR=4.5							
SBA	**Scott Base**	**60.25**	**184**	*e*P	**P**	**14 14 05.4**	**+1.4**
SBA				pmax	pmax		
comp=Z,16nm,1.3s,mb4.2							
SBA	**Scott Base**	**60.25**	**184**	*e*P	**P**	**14 14 05.3**	**+1.4**
comp=Z,16nm,1.3s,mb4.2							
VNDA	**Vanda**	**60.28**	**185**	P	**P**	**14 14 04.7**	**+0.5**
comp=Z,2.2nm,0.6s,mb3.7							
VNDA				S	**S**	**14 21 34.9**	**-1.5**
comp=Z,0.5nm,0.5s,baz=291,slow=20,SNR=8.6							
VNDA	**Vanda**	**60.28**	**185**	*e*P	**P**	**14 14 04.4**	**+0.2**
VNDA				pmax	pmax		
comp=Z,20nm,0.6s							
VNDA	**Vanda**	**60.28**	**185**	*e*P	**P**	**14 14 04.4**	**+0.2**
comp=Z,2.1nm,0.6s,mb3.6							
JHJ	**Hachijo jima 2**	**64.93**	**322**	P	**P**	**14 14 34.4**	**+0.1**
comp=Z,92nm,0.4s,mb5.5,baz=75,slow=22,SNR=7.6							
CASY	**Casey**	**66.11**	**205**	*e*P	**P**	**14 14 40.9**	**-0.6**
MJAR	**Matsushiro Arr**	**68.26**	**323**	P	**P**	**14 14 54.3**	**-0.5**
comp=Z,14nm,0.5s,mb4.7,baz=154,slow=5.8,SNR=50							
MAJO	**Matsushiro**	**68.27**	**323**	*e*P	**P**	**14 14 54.2**	**-0.6**
MAJO				pmax	pmax		
comp=Z,10.0nm,0.4s,mb4.7							
MAJO	**Matsushiro**	**68.27**	**323**	*e*P	**P**	**14 14 54.2**	**-0.6**
comp=Z,9.7nm,0.4s,mb4.7							
MAT	**Matsushiro**	**68.27**	**323**	P	**P**	**14 14 53.8**	**-1.0**
MAT	**Matsushiro**	**68.27**	**323**	*e*P	**P**	**14 14 54.0**	**-0.8**
MAT				pmax	pmax		
comp=Z,11nm,0.5s,mb4.6							
MAT	**Matsushiro**	**68.27**	**323**	*e*P	**P**	**14 14 54.0**	**-0.8**
comp=Z,11nm,0.5s,mb4.6							
JOW	**Kunigami**	**68.61**	**309**	P	**P**	**14 14 57.9**	**+1.0**
comp=Z,11nm,0.7s,mb4.5,baz=108,slow=14,SNR=7.6							
ASAJ	**Asahikawa**	**71.61**	**331**	P	**P**	**14 15 15.8**	**+1.1**
comp=Z,14nm,0.7s,mb4.5,baz=203,slow=7.9,SNR=14							
QSPA	**South Pole Qui**	**71.95**	**180**	*e*P	**P**	**14 15 17.0**	**+0.3**
comp=Z,17nm,0.8s,mb4.5							
YSS	**Yuzh-Sakhalins**	**73.74**	**333**⇓	*e*P	**P**	**14 15 27.3**	**+0.4**
YSS				pmax	pmax		
comp=Z,14nm,1.1s,mb4.3							
YSS	**Yuzh-Sakhalins**	**73.74**	**333**	*e*P	**P**	**14 15 27.2**	**+0.3**
comp=Z,10.0nm,0.7s,mb4.3							
SSE	**Sheshan**	**76.12**	**310**	P	**P**	**14 15 40.0**	**-0.2**
SSE				AMB	AMB		
comp=Z,20nm,0.7s,mb4.7							
SSE				AMB	AMB		
comp=Z,130nm,6.0s							
NJ2	**Nanjing**	**78.32**	**309**	*e*P	**P**	**14 15 51.5**	**-0.7**
NJ2				PCP	PcP	14 15 59.0	-0.1
NJ2				PP	PP	14 19 03.0	+3.9
NJ2				S	S	14 24 56.0	-6.9
NJ2				SKS		14 25 05.0	
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.3							
NJ2				AMB	AMB		
comp=Z,150nm,8.2s							
HABR	**Khabarovsk**	**78.35**	**330**	*e*P	**P**	**14 15 53.1**	**+0.8**
HABR				*e*S	S	14 25 01.3	-1.8
YBH	**Yreka Blue Hor**	**78.46**	**39**	P	**P**	**14 15 53.9**	**+1.0**
comp=Z,3.9nm,0.6s,mb3.9,baz=349,slow=1.5,SNR=8.3							
MDJ	**Mudanjiang**	**78.54**	**325**	P	**P**	**14 15 53.3**	**0.0**
MDJ				AMB	AMB		
comp=Z,20nm,0.8s,mb4.5							
MDJ				AMB	AMB		
comp=Z,320nm,5.8s							
CN2	**Changchun**	**80.38**	**322**	*e*P	**P**	**14 16 03.5**	**+0.5**
CN2				*e*S	S	14 25 21.0	-3.0
CN2				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.1							
CN2				AMB	AMB		
comp=Z,200nm,6.0s							
WVOR	**Wild Horse Val**	**81.33**	**40**	*e*P	**P**	**14 16 08.6**	**+0.7**
WVOR				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.1							
WVOR	**Wild Horse Val**	**81.33**	**40**	*e*P	**P**	**14 16 08.6**	**+0.7**
comp=Z,8.2nm,1.0s,mb4.1							
SLKM	**Skilak Lake**	**81.50**	**14**	*e*P	**P**	**14 16 07.5**	**-1.3**
MSU	**Marysvale**	**83.48**	**46**	*e*P	**P**	**14 16 20.3**	**+1.5**
MAW	**Mawson**	**83.79**	**200**	*e*P	**P**	**14 16 19.6**	**-0.7**
comp=Z,2.3nm,1.0s,mb3.7							
MAW	**Mawson**	**83.79**	**200**	P	**P**	**14 16 19.9**	**-0.4**
comp=Z,2.1nm,0.5s,mb3.9,baz=142,slow=3.2,SNR=20							
HLID	**Hailey**	**84.55**	**41**	*e*P	**P**	**14 16 25.0**	**+1.0**
comp=Z,2.1nm,0.7s,mb3.8							
MCK	**McKinley**	**84.65**	**13**	*e*P	**P**	**14 16 23.1**	**-1.4**
comp=Z,3.3nm,0.5s,mb4.1							
GYA	**Guiyang**	**85.43**	**300**⇑	*i*P	**P**	**14 16 29.5**	**+1.2**
GYA				SKS		14 25 58.5	
GYA				S		14 26 13.3	
GYA				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.3							
COLA	**College**	**85.89**	**12**	*d i*P	**P**	**14 16 28.6**	**-1.9**
COLA	**College**	**85.89**	**12**	*e*P	**P**	**14 16 28.4**	**-2.1**
comp=Z,11nm,0.9s,mb4.5							
ANMO	**Albuquerque**	**85.95**	**51**	*i*P	**P**	**14 16 32.0**	**+1.2**
MCMT	**McKenzie Canyo**	**86.16**	**40**	*e*P	**P**	**14 16 32.8**	**+1.0**
XAN	**Xi'an**	**86.65**	**307**	P	**P**	**14 16 35.0**	**+0.9**
XAN				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.4							
BILL	**Bilibino**	**86.66**	**354**	*e*P	**P**	**14 16 33.9**	**-0.2**
BILL				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.3							
IMW	**Indian Meadow**	**86.90**	**42**	*e*P	**P**	**14 16 36.2**	**+0.9**
comp=Z,8.6nm,1.0s,mb4.3							
QLMT	**Earthquake Lak**	**87.04**	**41**	*e*P	**P**	**14 16 37.3**	**+1.4**
DAWY	**Dawson**	**87.18**	**16**	*e*P	**P**	**14 16 35.9**	**-0.7**
BW06	**Boulder Array**	**87.26**	**43**	*e*P	**P**	**14 16 36.9**	**0.0**
comp=Z,3.1nm,0.8s,mb4.0							
PDAR	**Pinedale Array**	**87.26**	**43**	P	**P**	**14 16 37.4**	**+0.5**
comp=Z,2.4nm,0.7s,mb4.0,baz=217,slow=2.2,SNR=20							
HHC	**Hu-ho-hao-te**	**87.65**	**314**	*e*P	**P**	**14 16 37.3**	**-1.5**
HHC				PP	PP	14 20 16.0	+1.8
HHC				S		14 26 27.8	
HHC				SS	SS	14 32 37.5	+0.2
HHC				AMB	AMB		
comp=Z,760nm,10.6s							
KMI	**Kunming**	**88.22**	**297**	P	**P**	**14 16 43.0**	**+1.6**
SYO	**Syowa Base**	**89.04**	**193**⇑	*e*X	**P**	**14 16 40.6**	**-4.7**
YAK	**Yakutsk**	**89.88**	**338**	*d i*P	**P**	**14 16 47.3**	**-1.8**
YAK				pmax	pmax		
comp=Z,8.0nm,0.5s,mb4.8							
PLCA	**Paso Flores**	**90.95**	**134**	P	**P**	**14 16 54.0**	**-0.1**
comp=Z,1.8nm,0.8s,mb4.0,baz=272,slow=4.3,SNR=4.2							
PLCA	**Paso Flores**	**90.95**	**134**	*e*P	**P**	**14 16 55.3**	**

VNA1				*e*			14 16 55.4	
VNA1				*e*			14 17 12.3	
LZH	**Lanzhou**	**91.28**	**308**	⇊P		**P**	**14 16 56.0**	**+0.4**
LZH				PP		PP	14 20 45.3	+2.7
LZH				AMB		AMB		
	comp=Z,20nm,1.3s,mb4.9							
LZH				AMB		AMB		
	comp=Z,60nm,8.7s							
INK	**Inuvik**	**91.98**	**15**	*eP*		**P**	**14 16 57.2**	**-1.6**
INK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
INK	**Inuvik**	**91.98**	**15**	*eP*		**P**	**14 16 57.2**	**-1.6**
	comp=Z,4.5nm,0.6s,mb4.7							
ULN	**Ulaanbaatar**	**93.52**	**319**	⇑*eP*		**P**	**14 17 05.8**	**-0.1**
ULN	**Ulaanbaatar**	**93.52**	**319**	*eP*		**P**	**14 17 05.7**	**-0.2**
	comp=Z,1.7nm,0.9s,mb4.2							
SONM	**Songino Array**	**93.92**	**319**	P		**P**	**14 17 07.7**	**0.0**
	comp=Z,0.6nm,0.5s,mb4.0,baz=137,slow=3.9,SNR=5.5							
SONM				PP		PP	14 21 07.6	+4.7
	comp=Z,0.5nm,0.8s,baz=122,slow=5.4,SNR=3.5							
YKA	**Yellowknife Ar**	**94.36**	**25**	P		**P**	**14 17 08.5**	**-1.2**
	comp=Z,1.1nm,0.5s,mb4.2,baz=237,slow=4.6,SNR=6.2							
TIXI	**Tiksi**	**96.43**	**345**	*i* P		**P**	**14 17 17.1**	**-1.9**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.6							
MKAR	**Makanchi Array**	**109.51**	**314**	PKiKP		PKiKP	14 22 15.4	-1.5
	comp=Z,0.9nm,0.6s,baz=191,slow=0.4,SNR=9.9							
ARCES	**ARCESS Array B**	**126.56**	**350**	PKP		PKPdf	14 22 47.9	-1.6
	comp=Z,2.9nm,0.7s,baz=42,slow=1.1,SNR=8.9							
FINES	**FINESS Array B**	**133.47**	**344**	PKhKP			14 22 54.9	
	comp=Z,0.9nm,0.8s,baz=22,slow=1.5,SNR=3.4							
FINES				PKP		PKPdf	14 23 00.3	-2.2
	comp=Z,1.0nm,0.6s,baz=54,slow=3.3,SNR=4.9							
FINES				PP		PP	14 25 39.6	+1.1
	comp=Z,2.0nm,0.9s,baz=113,slow=2.5,SNR=3.3							
FINES	**FINESS Array B**	**133.47**	**344**	PKP			14 22 54.9	
FINES				PKP		PKPdf	14 23 00.3	-2.2
FINES				PP		PP	14 25 39.6	+1.1
AKASG	**Malin Array Be**	**140.89**	**332**	PKhKP			14 23 09.5	
	comp=Z,0.5nm,0.3s,baz=41,slow=4.2,SNR=5.7							
AKASG				PKP		PKPdf	14 23 17.1	+0.8
	comp=Z,1.4nm,0.4s,baz=45,slow=3.0,SNR=6.2							
BSEG	**Bad Segeberg**	**143.65**	**352**	*e*PKPbc		PKPdf	14 23 19.3	-1.8
KWP	**Kalwaria**	**144.38**	**337**	*e*PKP		PKPdf	14 23 22.1	-0.3
OJC	**Ojcow**	**144.91**	**340**	*e*PKP		PKPdf	14 23 23.4	+0.1
BURAR	**Bucovina Array**	**144.94**	**332**	⇊*i*P		PKPdf	14 23 24.3	+1.0
NRDL	**Niedersach Rie**	**145.09**	**351**	*e*PKPbc		PKPbc	14 23 23.5	-0.9
KOLS	**Kolonicke sedl**	**145.12**	**336**	*e*PKP		PKPdf	14 23 24.8	+1.2
BR131	**Keskin Array S**	**145.16**	**315**	*e*PKPbc		PKPbc	14 23 24.4	-0.3
BRTR	**Keskin Array B**	**145.16**	**315**	PKPbc		PKPbc	14 23 24.4	-0.2
	comp=Z,6.3nm,0.7s,baz=133,slow=4.1,SNR=30							
KSP	**Ksiaz**	**145.39**	**344**	*e*PKP		PKPdf	14 23 25.0	+0.9
KSP	**Ksiaz**	**145.39**	**344**	*e*PKP		PKPdf	14 23 25.3	+1.2
NIE	**Niedzica**	**145.42**	**339**	*e*PKP		PKPdf	14 23 25.6	+1.5
CRVS	**Cervenica-Dubn**	**145.45**	**337**	*e*PKP		PKPdf	14 23 26.0	+1.8
VRI	**Vrincioaia**	**145.52**	**329**	⇑*i*P		PKPdf	14 23 25.5	+1.2
CLZ	**Clausthal**	**145.68**	**351**	*e*PKPbc		PKPbc	14 23 25.8	-0.4
CLZ				*e*PKPab		PKPab	14 23 27.2	-0.6
CLL	**Collm**	**145.72**	**348**	*e*PKPbc		PKPbc	14 23 25.6	-0.7
CLL	**Collm**	**145.72**	**348**	⇊*i*PKPbc		PKPbc	14 23 25.7	-0.6
	comp=Z,34nm,0.8s							
OKC	**Ostrava-Krasne**	**145.76**	**341**	⇑*e*PKPB		PKPbc	14 23 26.1	-0.3
OKC				*e*PKPAB		PKPab	14 23 28.1	0.0
UPC	**Upice**	**145.77**	**344**	⇑*e*PKPB		PKPbc	14 23 26.4	0.0
UPC				*e*PKPAB		PKPab	14 23 28.6	+0.5
DPC	**Dobruska-Polom**	**145.83**	**344**	⇑*e*PKPB		PKPbc	14 23 26.8	+0.2
DPC				*e*PKPAB		PKPab	14 23 28.8	+0.4
BRG	**Berggiesshubel**	**145.93**	**346**	*e*PKPbc		PKPbc	14 23 26.3	-0.6
BRG				*e*PKPab		PKPab	14 23 28.3	-0.5
BRG	**Berggiesshubel**	**145.93**	**346**	*i* PKP		PKPdf	14 23 26.4	+1.4
	comp=Z,7.6nm,0.7s							
BRG				*i*			14 23 28.1	
	comp=Z,6.9nm,0.8s							
BRG	**Berggiesshubel**	**145.93**	**346**	*i* PKP		PKPdf	14 23 26.4	+1.4
	comp=Z,7.6nm,0.7s							
BRG				*i*			14 23 28.1	
	comp=Z,6.9nm,0.8s							
MORC	**Moravsky Berou**	**146.00**	**342**	*e*PKIKP		PKPdf	14 23 26.8	+1.7
FBE	**Freiberg**	**146.02**	**347**	*e*PKPbc		PKPbc	14 23 26.9	-0.2
FBE				*e*PKPab		PKPab	14 23 28.8	-0.3
GTTG	**Gvttingen**	**146.03**	**351**	*e*PKPbc		PKPbc	14 23 26.7	-0.4
PVCC	**Panska Ves**	**146.11**	**346**	⇑*e*PKPB		PKPbc	14 23 27.3	-0.1
PVCC				*e*PKPAB		PKPab	14 23 29.6	+0.1
KECS	**Kecovo**	**146.15**	**338**	*e*PKP		PKPdf	14 23 27.3	+1.9
MLR	**Muntele Rosu**	**146.17**	**329**	⇑*i*P		PKPbc	14 23 27.5	0.0
MOX	**Moxa**	**146.63**	**349**	*e*PKPbc		PKPbc	14 23 28.3	-0.5
MOX				*e*PKPab		PKPab	14 23 30.6	-0.9
MOX	**Moxa**	**146.63**	**349**	*e*PKP		PKPbc	14 23 28.4	-0.4
TANN	**Tannenbergstha**	**146.68**	**348**	*e*PKPbc		PKPbc	14 23 28.5	-0.4
TANN				*e*PKPab		PKPab	14 23 31.2	-0.6
VYHS	**Vyhne**	**146.72**	**339**	*i* PKP		PKPbc	14 23 29.1	+0.1
VYHS				*e*			14 23 32.2	
TREC	**Trest**	**147.02**	**344**	⇑*e*PKPB		PKPbc	14 23 29.5	-0.3
TREC				*e*PKPAB		PKPab	14 23 32.8	-0.3
MANZ	**Manzenberg**	**147.16**	**348**	*e*PKPbc		PKPbc	14 23 30.1	-0.1
ROTZ	**Rotzenmuhle**	**147.35**	**348**	*e*PKPbc		PKPbc	14 23 30.5	-0.2
MEM	**Membach**	**147.41**	**355**	PKPbc		PKPbc	14 23 30.5	-0.3
TNS	**Taunus Mts**	**147.53**	**352**	*e*PKPbc		PKPbc	14 23 30.9	-0.3
TNS				*e*PKPab		PKPab	14 23 34.5	-0.7
TNS	**Taunus Mts**	**147.53**	**352**	*e*PKP2		PKPab	14 23 34.5	-0.7
GRA1	**Grafenberg Arr**	**147.61**	**349**	*e*PKPbc		PKPbc	14 23 30.8	-0.6
GRA1				*e*PKPab		PKPab	14 23 35.3	-0.2
GRF	**Grafenberg Arr**	**147.61**	**349**	*e*PKPbc		PKPbc	14 23 30.8	-0.6
GRF				*e*PKPab		PKPab	14 23 35.3	-0.2
GRF	**Grafenberg Arr**	**147.61**	**349**	*e*PKP2		PKPab	14 23 35.3	-0.2
GRF	**Grafenberg Arr**	**147.61**	**349**	*e*PKIKP		PKPbc	14 23 30.8	-0.6
GRF				*e*			14 23 35.3	
KHC	**Kasperske Hory**	**147.65**	**346**	⇑*e*PKPB		PKPbc	14 23 31.4	-0.1
KHC				*e*PKPAB		PKPab	14 23 36.1	+0.4
WET	**Wettzell**	**147.80**	**346**	*e*PKPab		PKPab	14 23 36.0	-0.3
GEC2	**GERESS Array S**	**147.88**	**345**	*e*PKPbc		PKPbc	14 23 31.7	-0.4
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc		PKPbc	14 23 31.8	-0.3
	comp=Z,7.8nm,0.6s,baz=29,slow=3.0,SNR=50							
GIVF	**Givet**	**147.99**	**357**	*e*PKP1		PKPbc	14 23 31.6	-0.7
	comp=Z,22nm,0.6s							
DOU	**Dourbes**	**148.01**	**357**	PKPbc		PKPbc	14 23 32.0	-0.4
DOU				PKPab		PKPab	14 23 36.2	-1.0
BAIF	**Baives**	**148.07**	**357**	*e*PKP1		PKPbc	14 23 32.0	-0.5
	comp=Z,15nm,0.6s							
WLF	**Walferdange**	**148.33**	**355**	*e*PKPbc		PKPbc	14 23 33.3	+0.1
WLF	**Walferdange**	**148.33**	**355**	PKPbc		PKPbc	14 23 33.3	+0.1
STU	**Stuttgart**	**148.85**	**351**	*e*PKPbc		PKPbc	14 23 34.5	+0.1
FUR	**Furstenfeldbru**	**149.06**	**348**	*e*PKPbc		PKPbc	14 23 34.7	-0.3
FLN	**La Foliniere**	**149.35**	**3**	*e*PKP1		PKPbc	14 23 34.7	-1.0
	comp=Z,20nm,0.6s							
BFO	**Black Forest**	**149.40**	**352**	*e*PKPbc		PKPbc	14 23 35.1	-0.7
BFO				*e*PKPab		PKPab	14 23 42.1	-0.8
BFO	**Black Forest**	**149.40**	**352**	*e*PKP2		PKPab	14 23 42.1	-0.8
LDF	**La Druitiere**	**149.54**	**3**	*e*PKP1		PKPbc	14 23 35.0	-1.1
	comp=Z,9.1nm,0.5s							
ROSF	**Rostrenen**	**149.54**	**7**	*e*PKP1		PKPbc	14 23 35.5	-0.6
MEZF	**Maizieres J'vi**	**149.57**	**356**	*e*PKP1		PKPbc	14 23 35.8	-0.4
	comp=Z,13nm,0.3s							
SGMF	**Saint Gilles**	**149.70**	**6**	*e*PKP1		PKPbc	14 23 35.3	-1.2
	comp=Z,20nm,0.7s							
GRR	**Gorron**	**149.71**	**4**	*e*PKP1		PKPbc	14 23 35.6	-0.9
	comp=Z,25nm,0.7s							
HAU	**Haudompre**	**149.96**	**354**	*e*PKP1		PKPbc	14 23 37.4	+0.3
	comp=Z,14nm,0.6s							
HINF	**Hinteralfeld**	**150.09**	**353**	*e*PKP1		PKPbc	14 23 36.6	-0.8
	comp=Z,12nm,0.7s							
CRES	**Cresnjev**	**150.16**	**341**	*i* PKPbc		PKPbc	14 23 37.0	-0.6
LJU	**Ljubljana**	**150.25**	**342**	*i* PKPbc		PKPbc	14 23 37.3	-0.5
VISS	**Visnje**	**150.37**	**342**	*i* PKPbc		PKPbc	14 23 37.5	-0.6
VISS				*i* PKPab		PKPab	14 23 45.9	-1.1
BOJS	**Bojanci**	**150.51**	**341**	*i* PKPbc		PKPbc	14 23 38.2	-0.2
BOJS				*i* PKPab		PKPab	14 23 47.0	-0.5
LOR	**Lormes**	**150.87**	**357**	*e*PKP1		PKPbc	14 23 38.6	-0.6
	comp=Z,14nm,0.6s							
SSF	**Saint Saulge**	**151.09**	**358**	*e*PKP1		PKPbc	14 23 39.1	-0.6
	comp=Z,14nm,0.7s							
CABF	**La Chapelle**	**151.36**	**354**	*e*PKP1		PKPbc	14 23 40.3	0.0
	comp=Z,28nm,1.0s							
AVF	**Avril sur Loir**	**151.37**	**358**	*e*PKP1		PKPbc	14 23 39.8	-0.5
	comp=Z,9.4nm,0.9s							
MFF	**Saint Martin d**	**151.53**	**3**	*e*PKP1		PKPbc	14 23 39.8	-0.9
	comp=Z,12nm,0.7s							
BGF	**Bois d'Agland**	**151.61**	**359**	*e*PKP1		PKPbc	14 23 40.9	0.0
TCF	**Toulx Ste Croi**	**151.89**	**360**	*e*PKP1		PKPbc	14 23 40.7	-0.8
	comp=Z,7.9nm,0.6s							
LPL	**La Plagne**	**152.38**	**353**	*e*PKP1		PKPbc	14 23 42.8	+0.2
LPG	**La Plagne**	**152.39**	**353**	*e*PKP1		PKPbc	14 23 42.8	+0.2
BNI	**Bardonecchia**	**152.84**	**353**	*e*PKPbc		PKPbc	14 23 43.9	+0.3
BNI				*e*PKPab		PKPab	14 23 57.2	-0.2
RJF	**Les Rejaudoux**	**152.87**	**1**	*e*PKP1		PKPbc	14 23 43.5	-0.2
ORIF	**Oris-en-Rattie**	**153.06**	**354**	*e*PKP1		PKPbc	14 23 43.6	-0.5
MBDF	**Montbardon**	**153.15**	**352**	*e*PKP1		PKPbc	14 23 44.4	+0.2
	comp=Z,7.6nm,0.7s							
VIVF	**Saint-Julien-l**	**153.23**	**356**	*e*PKP1		PKPbc	14 23 44.1	-0.3
CAF	**Calviac**	**153.25**	**360**	*e*PKP1		PKPbc	14 23 44.0	-0.5
SBF	**Sospel**	**153.90**	**351**	*e*PKP1		PKPbc	14 23 45.3	-0.6
SMRF	**Simiane la Rot**	**154.02**	**354**	*e*PKP1		PKPbc	14 23 46.0	-0.1
LASF	**Ste Croix**	**154.06**	**357**	*e*PKP1		PKPbc	14 23 45.9	-0.3
	comp=Z,7.5nm,0.8s							
ESDC	**Sonseca Array**	**157.90**	**12**	PKPab		PKPab	14 24 18.9	-0.3
	comp=Z,0.2nm,0.3s,baz=28,slow=2.1,SNR=5.5							
TORD	**Torodi Ar. Bea**	**175.07**	**177**	PKPab		PKPab	14 25 34.9	-0.2
	comp=Z,0.7nm,0.7s,baz=168,slow=3.8,SNR=4.0							

ISCJB ***27*** *14:10:25.7±0.9, 362N±0.1×1373E±0.2, h262km±6km, mb3.2/2, Error ellipse: s-maj=27.7km s-min=11.6km az=100.5*

JMA ***27*** *14:10:26.3±0.2, 3620N×13725E, h259km±2km, M2.6*

IDC ***27*** *14:10:26.2±3.2, 3578N×13673E, h222km±61km, mb3.0/2, mb1 3.3/2, mb1mx2.8/18, mbtmp3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/9, Error ellipse: s-maj=122.8km s-min=98.6km az=28.0*

ISC 27 14:10:26.7±0.9, 362N±01×1373E±01, h256km±5km, n14, σ0:33/16, mb3.2/2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.05**	**81**	*e*S	**S**	**14 11 25.3**	**0.0**
JGM	**Miyama**	**0.67**	**220**	P	**Pn**	**14 11 00.8**	**0.0**
JGM				*e*S	**S**	**14 11 27.2**	**-0.4**
JNG	**Nsakai**	**0.71**	**74**	P	**Pn**	**14 11 01.4**	**+0.5**
MJAR	**Matsushiro Arr**	**0.84**	**67**	P	**Pn**	**14 11 02.1**	**+0.7**
	0.9nm,0.3s,baz=247,slow=7.4,SNR=10						
MJAR				S	**S**	**14 11 28.8**	**-0.1**
	0.0nm,0.3s,baz=252,slow=10,SNR=3.6						
JWT	**Wachi**	**1.77**	**239**	P	**Pn**	**14 11 07.6**	**0.0**
JKY	**Yasaka**	**1.84**	**252**	P	**Pn**	**14 11 08.0**	**-0.2**
JIE	**Ise**	**1.87**	**194**	P	**Pn**	**14 11 08.8**	**+0.3**
JIE				*e*S	**S**	**14 11 41.3**	**-0.2**
JKSM	**Kasumi**	**2.19**	**254**	P	**Pn**	**14 11 11.2**	**-0.1**
JWY	**Kouya**	**2.41**	**215**	P	**Pn**	**14 11 13.9**	**+0.5**
JFK	**Kawauchi**	**3.13**	**67**	P	**Pn**	**14 11 20.3**	**-0.5**
JMM	**Marumori**	**3.28**	**59**	P	**Pn**	**14 11 22.4**	**-0.1**
JHJ	**Hachijo jima 2**	**3.73**	**145**	LR	LR	14 12 03.0	
	comp=Z,436nm,21.0s,baz=53,slow=26						
WRA	**Warramunga Arr**	**55.92**	**183**	P	**P**	**14 19 37.9**	**-0.4**
	0.6nm,0.3s,mb3.5,baz=0.2,slow=7.6,SNR=21						
ASAR	**Alice Springs**	**59.64**	**184**	P	**P**	**14 20 04.2**	**+0.1**
	0.3nm,0.8s,mb2.9,baz=359,slow=4.5,SNR=4.1						

CSEM ***27*** *14:18:06.6±0.1, 3620N×2936E, h15km, MD3.1, Error ellipse: s-maj=2.9km s-min=1.1km az=64.0*

ISCJB ***27*** *14:18:07.6±0.5, 3621N±003×2937E±005, h22km±5km, Error ellipse: s-maj=6.7km s-min=3.8km az=124.2*

ISK ***27*** *14:18:08.2, 3628N×2927E, h14km, MD3.1*

NEIC ***27*** *14:18:08.2, 3628N×2927E, h14km, MD3.1(ISK), MD3.4(ATH), After ISK.*

ATH ***27*** *14:18:08.4, 3635N×2936E, h38km±21km, MD3.4/4*

HLW ***27*** *14:18:11.2, 3615N×2935E, h33km, Mb3.7*

ISC 27 14:18:08.4±0.5, 3626N±003×2934E±004, h14km±4km, n34, σ0:55/43, 1C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.23**	**120**	*e*PB	**Sg**	**14 18 16.5**	**-0.3**
FETY	**Fethiye**	**0.42**	**331**	*i* PG	**Pg**	**14 18 16.6**	**-0.3**
FETY				*i* SG	**Sg**	**14 18 22.4**	**-0.2**
ELL	**Elmali**	**0.67**	**43**	PG	**Pg**	**14 18 21.7**	**+0.3**
DALT	**Dalyan (Mudla)**	**0.76**	**312**	PG	**Pg**	**14 18 22.0**	**-1.2**
DALT				SG	**Sg**	**14 18 33.7**	**+0.5**
ARG	**Arkhangelos**	**0.98**	**268**	*e*PB	**Pg**	**14 18 27.0**	**-0.4**
ARG				*e*SN	**Sg**	**14 18 42.0**	**+1.7**
YER	**Yerkesik**	**1.22**	**316**	PN	**Pn**	**14 18 30.5**	**-0.5**
DNZL	**Cakiroluk**	**1.44**	**351**	*i* P	**Pn**	**14 18 34.3**	**+0.2**
DNZL				*i* S	**Sn**	**14 18 52.4**	**-0.4**
DAT	**Datca**	**1.50**	**289**	PN	**Pn**	**14 18 34.5**	**-0.3**
DENT	**Denizli**	**1.51**	**351**	PN	**Pn**	**14 18 35.0**	**0.0**
BCK	**Bucak**	**1.56**	**40**	PN	**Pn**	**14 18 37.4**	**+1.7**
MLSB	**Milas**	**1.62**	**310**	*e*PN	**Pn**	**14 18 37.3**	**+0.7**
BDRM	**Kayabasi**	**1.72**	**298**	*i* P	**Pn**	**14 18 37.7**	**-0.2**
BDRM				*i* S	**Sn**	**14 18 59.1**	**-0.6**
BODT	**Bodrum**	**1.82**	**297**	*e*PN	**Pn**	**14 18 38.8**	**-0.5**
KARP	**Karpathos**	**1.91**	**249**	*e*PN	**Pn**	**14 18 41.0**	**+0.5**
MANT	**Manisa**	**2.31**	**345**	*i* P	**Pn**	**14 18 45.2**	**-0.8**
MANT				*i* S	**Sn**	**14 19 14.9**	**+0.7**
SMG	**Samos**	**2.47**	**306**	*e*PN	**Pn**	**14 18 47.8**	**-0.4**
IZM	**Izmir**	**2.70**	**323**	*e*PN	**Pn**	**14 18 51.1**	**-0.3**
BLCB	**Balcova**	**2.80**	**320**	*e*PN	**Pn**	**14 18 53.4**	**+0.6**
BR131	**Keskin Array S**	**4.84**	**43**	*e*Pn	**Pn**	**14 19 21.2**	**+0.3**
BR131	**Keskin Array S**	**4.84**	**43**	*e*Pn	**Pn**	**14 19 21.2**	**+0.3**
HMAT	**Matruh**	**5.49**	**201**	⇊P	**Pn**	**14 19 29.5**	**-0.1**
HMAT				S	**Sn**	**14 20 26.4**	**-6.1**
HBRG	**Burj al 'Arab**	**5.69**	**176**	P	**Pn**	**14 19 32.1**	**-0.4**
SLUM		**5.87**	**217**	⇊P	**Pn**	**14 19 35.1**	**+0.2**
SLUM				S	**Sn**	**14 20 36.1**	**-5.9**
HHAG	**Hagoal**	**6.70**	**159**	⇑P	**Pn**	**14 19 46.5**	**+0.1**
FYM	**Al Fayyum**	**6.71**	**167**	⇊P	**Pn**	**14 19 46.4**	**-0.1**
AYT	**Al 'Ayyat**	**6.71**	**166**	P	**Pn**	**14 19 46.5**	**0.0**
AYT	**Al 'Ayyat**	**6.71**	**166**	P	**Pn**	**14 19 46.5**	**-0.1**
HSAF	**As Saff**	**6.88**	**164**	⇊P	**Pn**	**14 19 48.7**	**-0.2**
GLL	**Jalalah**	**6.96**	**163**	⇊P	**Pn**	**14 19 50.0**	**0.0**
SUZ		**7.04**	**154**	⇊P	**Pn**	**14 19 51.1**	**0.0**
HNKL	**Nakhl**	**7.42**	**147**	P	**Pn**	**14 19 56.4**	**+0.2**
ZAF		**7.47**	**158**	⇊P	**Pn**	**14 19 56.7**	**-0.2**
SWA1		**7.62**	**205**	⇊P	**Pn**	**14 19 59.1**	**+0.1**
SWA1				S	**Sn**	**14 21 18.4**	**-6.8**
SWA2		**7.73**	**206**	⇊P	**Pn**	**14 20 00.4**	**-0.1**

IDC ***27*** *14:21:49.5±1.7, 3564N×14040E, h54km±15km, mb3.7/7, mb1 3.8/10, mb1mx3.7/20, mbtmp4.0/10, ML3.8/3, Error ellipse: s-maj=19.4km s-min=6.9km az=68.0*

BJI ***27*** *14:21:51.4, 3550N×13990E, h78km, mb4.2*

ISCJB ***27*** *14:21:51.1±0.5, 3555N±004×14006E±006, h81km±3km, mb4.0/9, Error ellipse: s-maj=8.7km s-min=5.2km az=109.3*

JMA ***27*** *14:21:51.7±0.2, 3564N×14006E, h69km±2km, M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s=119.00000°, δ=11.00000°, λ=33.00000°. NP2: ϕ_s=357.00000°, δ=84.00000°, λ=100.00000°. Principal axes: T Plg50.0000°, Azm277.0000°; N Plg9.0000°, Azm176.0000°; P Plg38.0000°, Azm78.0000°;*

JMA Felt II J1.

NEIC ***27*** *14:21:53.4±2.6, 3555N×13988E, h79km±15km, mb4.5/1, MW4.1(NIED) Error ellipse: s-maj=53.4km s-min=12.2km az=72.0*

NIED ***27*** *14:22:00, 3560N×140.10E, h59km, Mw4.1 Best double couple: M_0=1.83000×10^{15} NP1:ϕ_s=334.00000°, δ=71.00000°, λ=97.00000°. NP2:ϕ_s=134.00000°, δ=20.00000°, λ=71.00000°.*

ISC 27 14:21:51.9±0.4, 3557N±004×14008E±006, h73km±3km, n28, σ0:80/42, mb4.0/9, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.18**	**147**	⇑P	**Pn**	**14 22 03.2**	**+0.4**
JCN				S	**Sn**	**14 22 11.8**	**+1.0**
TOK	**Tokyo**	**0.28**	**294**	P	**Pn**	**14 22 02.4**	**-0.9**
TOK				S	**Sn**	**14 22 12.0**	**+0.3**
BSO3	**Boso 3**	**0.84**	**155**	⇑P	**Pn**	**14 22 08.6**	**-0.1**
BSO3				S	**Sn**	**14 22 22.3**	**+1.2**
JOD2	**Odawara 2**	**0.86**	**249**	⇊P	**Pn**	**14 22 08.6**	**-0.3**
JOD2				*e*S	**Sn**	**14 22 20.5**	**-1.0**
JAG	**Ashikaga**	**0.99**	**329**	⇊P	**Pn**	**14 22 09.7**	**-0.7**
JIM2	**Oshima 3**	**1.00**	**212**	P	**Pn**	**14 22 10.1**	**-0.5**
JIM2				*e*S	**Sn**	**14 22 24.2**	**-0.3**
JRY	**Ryogami san**	**1.05**	**295**	⇊P	**Pn**	**14 22 11.3**	**+0.1**
BSO1	**Boso 1**	**1.18**	**141**	P	**Pn**	**14 22 12.3**	**-0.4**
BSO1				S	**Sn**	**14 22 28.2**	**-0.1**
JYN	**Shimob**	**1.25**	**267**	⇊P	**Pn**	**14 22 13.7**	**0.0**
JIZS	**Izushimoda**	**1.30**	**229**	⇊P	**Pn**	**14 22 14.3**	**0.0**
JIZS				S	**Sn**	**14 22 30.8**	**-0.4**
MJAR	**Matsushiro Arr**	**1.80**	**303**	P	**Pn**	**14 22 20.9**	**0.0**
	20nm,0.3s,baz=136,slow=15,SNR=127						
MJAR				S	**Sn**	**14 22 44.1**	**+1.2**
	30nm,0.3s,baz=41,slow=27,SNR=14						
MAJO	**Matsushiro**	**1.80**	**303**	*e*P	**Pn**	**14 22 21.1**	**+0.2**
MAT	**Matsushiro**	**1.80**	**303**	P	**Pn**	**14 22 21.1**	**+0.2**
MAT				S	**Sn**	**14 22 43.8**	**+0.9**
MAT	**Matsushiro**	**1.80**	**303**	*e*P	**Pn**	**14 22 21.0**	**+0.1**
MAT				*e*S	**Sn**	**14 22 44.0**	**+1.1**
JHJ	**Hachijo jima 2**	**2.46**	**186**	P	**Pn**	**14 22 30.4**	**+0.6**
	41nm,0.3s,baz=119,slow=3.0,SNR=20						
JHJ				S	**Sn**	**14 22 59.1**	**+0.3**
	52nm,0.3s,baz=72,slow=23,SNR=10						
CBIJ	**Chichi jima**	**8.64**	**167**	P	**Pn**	**14 23 52.0**	**-2.1**
	4.2nm,0.3s,baz=296,slow=23,SNR=9.9						
CBIJ				S	**Sn**	**14 25 23.9**	**-6.0**
	6.3nm,0.3s,baz=311,slow=22,SNR=3.9						
ASAJ	**Asahikawa**	**8.75**	**12**	P	**Pn**	**14 23 53.5**	**-2.1**
	1.2nm,0.3s,baz=210,slow=12,SNR=14						
ASAJ				S	**Sn**	**14 25 25.9**	**-6.8**
	0.5nm,0.3s,baz=18,slow=32,SNR=3.0						
SONM	**Songino Array**	**27.75**	**307**	P	**P**	**14 27 32.9**	**-0.6**
	0.6nm,0.7s,mb3.2,baz=104,slow=8.7,SNR=4.4						
CD2	**Chengdu**	**30.62**	**272**	*e*P	**P**	**14 27 58.5**	**-0.5**
CD2				AP	pP	14 28 16.3	0.0
CD2				XP	sP	14 28 25.5	+0.6
CD2				PP	PP	14 29 00.5	-8.7
CD2				S	**S**	**14 32 52.5**	**-3.3**
CD2				XS	sS	14 33 23.3	-2.3
CD2				SS	SS	14 34 37.3	-32
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
MKAR	**Makanchi Array**	**44.00**	**303**	P	**P**	**14 29 52.7**	**+0.7**
	comp=Z,2.0nm,0.6s,mb4.0,baz=88,slow=9.7,SNR=18						
MKAR	**Makanchi Array**	**44.00**	**303**	P	**P**	**14 29 52.7**	**+0.7**
KURK	**Kurchatov**	**46.00**	**309**	*e*P	**P**	**14 30 07.6**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**55.47**	**187**	*e*P	**P**	**14 31 19.3**	**+0.3**
WRA	**Warramunga Arr**	**55.48**	**187**	P	**P**	**14 31 19.1**	**+0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=0.8,slow=7.6,SNR=30						
ASAR	**Alice Springs**	**59.20**	**187**

Ms1 4.3/12,ms1mx4.0/32,Error ellipse: s-maj=17.7km s-min=11.5km az=59.0

ISC 27 15:02:16.7±0.2,874N±003×9363E±003,h19km, h19km±1.1km:pP-P,n405,σ1♀04/404,mb4.9/136,MS4.4/32, 24C-20D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.02**	**343**	*e*P	x	15 02 38.3	
PBA				*e*P	x	15 02 38.5	
PBA				*e*S	x	15 02 45.3	
PBA				*e*S	x	15 02 45.3	
PKT	**Phuket**	**4.56**	**98**	P	**Pn**	**15 03 20.5**	**-4.2**
SNG	**Songkhla**	**7.10**	**102**	P	**Pn**	**15 04 02.0**	**+2.5**
	352nm,1.0s						
NNT	**Nongplab**	**7.12**	**57**	P	**Pn**	**15 04 01.8**	**+2.0**
KULM	**Kulim**	**7.77**	**116**	*e*Pn	**Pn**	**15 04 09.0**	**+0.3**
KULM				*e*Sn	**Sn**	**15 05 33.5**	**-2.7**
PSI	**Prapat**	**7.91**	**138**	Pn	**Pn**	**15 04 14.8**	**+4.1**
	6.6nm,0.3s,baz=312,slow=12,SNR=64						
PSI				LR	LR	15 07 44.7	
	comp=Z,2μm,19.2s,baz=317,slow=41						
IPM	**Ipoh**	**8.48**	**119**	P	**Pn**	**15 04 24.9**	**+6.4**
NST	**Nakhon Sawan**	**9.37**	**42**	P	**Pn**	**15 04 32.0**	**+1.3**
	81nm,0.5s						
KGM	**Kluang**	**11.73**	**124**	P	**Pn**	**15 05 09.8**	**+6.7**
PALK	**Pallekele**	**12.88**	**264**	*e*Pn	**Pn**	**15 05 20.4**	**+1.6**
	51nm,1.1s						
PALK				*e*Sn	**Sn**	**15 07 33.7**	**-7.9**
VIS	**Vishakhapatnam**	**13.41**	**313**	*e*P	**Pn**	**15 05 25.4**	**-0.7**
VIS				*e*S	**Sn**	**15 07 40.9**	**-14**
MDRS	**Chennai**	**13.82**	**289**	*e*P	**Pn**	**15 05 37.0**	**+5.5**
MDRS				AMb	AMB	15 05 48.7	
	comp=Z,278nm,0.2s						
MDRS				*e*S	**Sn**	**15 08 11.2**	**+6.7**
SALM	**Salem**	**15.46**	**282**	*ex*	**Pn**	**15 05 57.0**	**+3.4**
SALM				*ex*	**Sn**	**15 08 33.0**	**-11**
BOK	**Bokaro**	**16.70**	**335**	*e*P	**Pn**	**15 06 08.6**	**-0.9**
BOK				*e*S	**Sn**	**15 09 07.8**	**-6.7**
SHL	**Shillong**	**16.81**	**355**	*i* P	**Pn**	**15 06 09.2**	**-1.8**
SHL				*ex*	**Sn**	**15 09 24.0**	**+6.7**
HYB	**Hyderabad**	**17.02**	**302**	*i* P	**Pn**	**15 06 18.0**	**+4.5**
HYB				*e*S	**Sn**	**15 09 20.0**	**-2.2**
HYB	**Hyderabad**	**17.02**	**302**	*e*P	**Pn**	**15 06 18.0**	**+4.5**
HYB				*e*S	**Sn**	**15 09 16.0**	**-6.2**
KSM	**Kuching**	**18.11**	**113**	*e*Pn	**Pn**	**15 06 28.9**	**+1.8**
KMI	**Kunming**	**18.46**	**27**	P	**Pn**	**15 06 34.8**	**+3.4**
KMI				AP	pP	15 06 39.5	+3.0
KMI				XP	sP	15 06 42.5	+3.5
KMI				PP		15 06 50.5	
KMI				S	**Sn**	**15 09 55.8**	**-1.4**
KMI				XS	sS	15 10 04.8	-4.8
KMI				SS		15 10 21.3	
KMI				AMB	AMB		
	comp=Z,40nm,1.3s						
KMI				AMB	AMB		
	comp=Z,430nm,3.7s						
KMI				LR	LR		
	comp=N,1μm,13.8s						
KMI				LR	LR		
	comp=E,990nm,15.3s						
KMI				LR	LR		
	comp=Z,1μm,19.7s						
NGP	**Nagpur**	**18.70**	**313**	*e*P	**Pn**	**15 06 33.8**	**-0.5**
NGP				*ex*	x	15 06 38.2	
	comp=Z,85nm,1.2s						
NGP				*ex*	**Sn**	**15 09 51.1**	**-12**
QIZ	**Qiongzhong**	**18.75**	**55**	P	**Pn**	**15 06 38.0**	**+3.0**
QIZ				S	**Sn**	**15 10 00.0**	**-4.3**
QIZ				AMB	AMB		
	comp=Z,60nm,1.2s						
QIZ				AMB	AMB		
	comp=Z,570nm,10.2s						
QIZ				LR	LR		
	comp=N,3μm,11.9s						
QIZ				LR	LR		
	comp=Z,2μm,13.2s						
QIZ	**Qiongzhong**	**18.75**	**55**	*e*P	**Pn**	**15 06 38.1**	**+3.2**
	comp=Z,98nm,1.2s						
LATR	**Latur**	**19.16**	**302**	*ex*	**Pn**	**15 06 39.5**	**-0.3**
LATR				*ex*	x	15 09 58.5	
AKL	**Akola**	**19.96**	**308**	*ex*	**Pn**	**15 06 57.9**	**+8.4**
AKL				AMb	AMB	15 07 04.4	
	comp=Z,118nm,1.4s						
JIRN	**Jiri**	**20.09**	**340**	*e*P	**P**	**15 06 50.9**	**+1.9**
	comp=Z,513nm,1.0s						
PKI	**Pulchoki**	**20.27**	**339**	*e*P	**P**	**15 06 52.9**	**+1.8**
	comp=Z,943nm,1.4s						
DMN	**Daman**	**20.42**	**338**	*e*P	**P**	**15 06 54.4**	**+1.7**
	comp=Z,486nm,1.1s						
GUN	**Gumba**	**20.42**	**340**	*e*P	**P**	**15 06 54.3**	**+1.6**
KKN	**Kakani**	**20.52**	**338**	*e*P	**P**	**15 06 55.1**	**+1.3**
	comp=Z,587nm,1.2s						
KAD	**Karad**	**20.75**	**296**	*ex*	**P**	**15 06 55.8**	**-0.4**
KAD				AMb	AMB	15 07 06.5	
	comp=Z,81nm,1.3s						
GKN	**Gorkha**	**20.95**	**337**	*e*P	**P**	**15 06 59.9**	**+1.5**
LSA	**Lhasa**	**20.98**	**354**	P	**P**	**15 06 58.5**	**-0.2**
LSA				AMB	AMB		
	comp=Z,160nm,1.0s						
LSA				LR	LR		
	comp=N,300nm,24.0s,MS3.9						
LSA				LR	LR		
	comp=E,520nm,25.0s,MS3.9						
LSA				LR	LR		
	comp=Z,600nm,19.0s						
LSA	**Lhasa**	**20.98**	**354**	*e*P	**P**	**15 06 59.4**	**+0.7**
LSA				pmax	pmax		
	comp=Z,55nm,0.4s						
LSA	**Lhasa**	**20.98**	**354**	*e*P	**P**	**15 06 59.4**	**+0.6**
	comp=Z,55nm,0.4s						
KOLN	**Koldanda**	**21.16**	**335**	*e*P	**P**	**15 07 02.3**	**+1.6**
	comp=Z,806nm,1.1s,mb6.0						
BHPL	**Bhopal**	**21.19**	**315**	*e*P	**P**	**15 07 04.2**	**+3.2**
BHPL				AMb	AMB	15 07 08.9	
	comp=Z,144nm,1.0s,mb5.3						
POO	**Poona**	**21.52**	**299**	⇓*i*P	**P**	**15 07 07.0**	**+2.5**
	comp=Z,222nm,1.8s,mb5.3						
POO				*i* PP		15 07 30.0	
POO				*e*PPP		15 07 40.0	
POO				*i* x	x	15 10 55.0	
POO				*i* x	x	15 11 05.5	
POO				*i* x	x	15 11 39.5	
GYA	**Guiyang**	**21.53**	**33**	⇓*i*P	**P**	**15 07 06.5**	**+1.9**
GYA				AP		15 07 15.8	
GYA				XP	sP	15 07 19.5	+7.1
GYA				PP		15 07 29.8	
GYA				S	**S**	**15 11 04.3**	**+1.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,250nm,11.2s						
GYA				LR	LR		
	comp=N,780nm,10.1s,MS4.5						
GYA				LR	LR		
	comp=E,810nm,12.9s,MS4.5						
GYA				LR	LR		
	comp=Z,1μm,11.2s,MS4.5						
KKM	**Kota Kinabalu**	**22.56**	**95**	P	**P**	**15 07 20.0**	**+4.4**
KKM	**Kota Kinabalu**	**22.56**	**95**	*e*P	**P**	**15 07 19.2**	**+3.6**
BOM	**Bombay**	**22.56**	**299**	*ex*	**P**	**15 07 30.6**	**+15**
BOM				AMb	AMB	15 07 38.7	
	comp=Z,200nm,1.2s,mb5.4						
CD2	**Chengdu**	**24.00**	**22**	⇓*i*P	**P**	**15 07 29.8**	**-0.3**
CD2				AP		15 07 35.5	
CD2				XP	sP	15 07 38.5	+0.4
CD2				PP		15 08 04.0	
CD2				PCP	PcP	15 11 13.0	+1.2
CD2				S	**S**	**15 11 42.8**	**-3.3**
CD2				SS		15 12 34.0	
CD2				AMB	AMB		
	comp=Z,40nm,1.3s,mb4.7						
CD2				AMB	AMB		
	comp=Z,150nm,5.2s						
CD2				LR	LR		
	comp=E,650nm,14.4s						
CD2				LR	LR		
	comp=Z,690nm,14.4s,MS4.3						
LGTI	**Lohaghat**	**24.12**	**330**	*i* P	**P**	**15 07 33.0**	**+1.7**
PTH	**Pithoragarh**	**24.22**	**330**	*e*P	**P**	**15 07 34.8**	**+2.6**
TSM	**Tawau**	**24.48**	**99**	P	**P**	**15 07 39.2**	**+4.7**
NDI	**New Delhi**	**25.14**	**324**	*e*P	**P**	**15 07 40.0**	**-0.5**
NDI				*ex*	x	15 12 16.0	
AJM	**Ajmer**	**25.20**	**317**	*i* P	**P**	**15 07 43.0**	**+1.9**
ENH	**Enshi**	**26.05**	**33**	P	**P**	**15 07 48.7**	**-0.1**
	comp=Z,0.3nm,0.5s						
SMLA	**Simla**	**27.04**	**328**	*e*P	**P**	**15 07 59.2**	**+1.5**
SMLA				AMb	AMB	15 08 01.4	
	comp=Z,130nm,1.3s,mb5.3						
QZH	**Quanzhou**	**28.73**	**53**	*e*P	**P**	**15 08 15.5**	**+2.7**
QZH				S	**S**	**15 13 05.5**	**+4.3**
QZH				LR	LR		
	comp=N,2μm,14.5s,MS5.0						
QZH				LR	LR		
	comp=E,2μm,16.4s,MS5.0						
QZH				LR	LR		
	comp=Z,3μm,16.2s,MS5.0						
LZH	**Lanzhou**	**28.77**	**17**	*e*P	**P**	**15 08 13.8**	**+0.6**
LZH				AP	pP	15 08 20.0	+1.1
LZH				XP	sP	15 08 23.3	+2.1
LZH				PP	PP	15 09 06.8	-11
LZH				*e*S	**S**	**15 13 01.5**	**-0.2**
LZH				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,150nm,5.4s						
LZH				LR	LR		
	comp=N,910nm,12.5s						
LZH				LR	LR		
	comp=Z,1μm,15.7s,MS4.7						
DLH	**Dalhousie**	**28.78**	**328**	*ex*	x	15 07 55.0	
XAN	**Xi'an**	**28.84**	**27**	P	**P**	**15 08 13.0**	**-0.8**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
XAN				LR	LR		
	comp=N,670nm,17.5s,MS4.5						
XAN				LR	LR		
	comp=E,730nm,15.7s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,19.6s,MS4.5						
GTA	**Gaotai**	**31.04**	**9**	P	**P**	**15 08 34.0**	**+0.8**
GTA				AP	pP	15 08 40.5	+1.5
GTA				XP	sP	15 08 44.0	+2.7
GTA				PP	PP	15 09 32.0	-11
GTA				PCP	PcP	15 11 30.0	+1.2
GTA				S	**S**	**15 13 40.0**	**+2.7**
GTA				XS	sS	15 13 49.5	+2.7
GTA				SCP	ScP	15 15 09.5	-1.1
GTA				PCS	PcS	15 15 13.3	+0.5
GTA				SCS	ScS	15 19 06.3	-1.3
GTA				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.2						
GTA				AMB	AMB		
	comp=Z,140nm,5.4s						
GTA				LR	LR		
	comp=N,550nm,19.1s,MS4.3						
GTA				LR	LR		
	comp=E,320nm,15.3s,MS4.3						
GTA				LR	LR		
	comp=Z,630nm,20.3s,MS4.3						
NJ2	**Nanjing**	**32.95**	**42**	*e*P	**P**	**15 08 51.0**	**+0.9**
NJ2				AP	pP	15 08 58.5	+2.7
NJ2				XP	sP	15 09 02.0	+3.9
NJ2				PP	PP	15 10 00.5	-4.1
NJ2				S	**S**	**15 14 06.0**	**-1.2**
NJ2				XS	sS	15 14 19.0	+2.3
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,120nm,6.1s						
NJ2				LR	LR		
	comp=N,1μm,14.5s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,12.8s,MS4.9						
NJ2				LR	LR		
	comp=Z,440nm,18.2s						
SSE	**Sheshan**	**33.97**	**45**	P	**P**	**15 08 58.8**	**-0.1**
SSE				XP	sP	15 09 07.5	+0.5
SSE				PP	PP	15 10 15.3	-0.5
SSE				PCP	PcP	15 11 36.5	-0.3
SSE				S	**S**	**15 14 23.0**	**+0.1**
SSE				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,80nm,4.5s						
SSE				LR	LR		
	comp=N,350nm,20.5s,MS4.1						
SSE				LR	LR		
	comp=E,120nm,21.0s,MS4.1						
SSE				LR	LR		
	comp=Z,350nm,17.7s,MS4.1						
BTO	**Baotou**	**34.92**	**22**	*e*P	**P**	**15 09 04.5**	**-2.7**
WMQ	**Urumqi**	**35.32**	**353**	P	**P**	**15 09 11.8**	**+1.2**
WMQ				XP	sP	15 09 21.5	+2.8
WMQ				PP	PP	15 10 30.5	-0.4
WMQ				PCP	PcP	15 11 42.8	+2.0
WMQ				S	**S**	**15 14 43.3**	**-0.6**
WMQ				SS	SS	15 17 01.0	-17
WMQ				SCS	ScS	15 19 28.8	-1.0
WMQ				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,10.0nm,3.4s						
WMQ				LR	LR		
	comp=N,190nm,16.0s,MS4.3						
WMQ				LR	LR		
	comp=E,480nm,19.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,300nm,27.0s						
HHC	**Hu-ho-hao-te**	**35.72**	**24**	*e*P	**P**	**15 09 14.0**	**-0.1**
HHC				AP	pP	15 09 20.0	+0.2
HHC				XP	sP	15 09 22.8	+0.6
HHC				PP	PP	15 10 35.0	-0.3
HHC				PCP	PcP	15 11 41.0	-0.9
HHC				S	**S**	**15 14 49.0**	**-1.0**
HHC				PCS	PcS	15 15 28.0	-1.2
HHC				SS	SS	15 17 10.3	-15
HHC				SCS	ScS	15 19 29.0	-3.0
HHC				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
HHC				AMB	AMB		
	comp=Z,160nm,4.4s						
HHC				LR	LR		
	comp=N,520nm,19.0s,MS4.5						
HHC				LR	LR		
	comp=E,450nm,16.7s,MS4.5						
HHC				LR	LR		
	comp=Z,480nm,19.0s,MS4.3						
KZA	**Kyzart**	**36.94**	**337**	P	**P**	**15 09 26.1**	**+1.6**
	SNR=9.2						
BJT	**Baijiatuau**	**37.07**	**29**	*e*P	**P**	**15 09 26.8**	**+1.2**
BJT				*e*	pP	15 09 33.1	+1.7
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuau**	**37.07**	**29**	*e*P	**P**	**15 09 26.8**	**+1.3**
	comp=Z,8.6nm,0.6s,mb4.8						
BJT				*e*	pP	15 09 33.1	+1.8
UCH	**Uchtor**	**37.36**	**336**	P	**P**	**15 09 29.3**	**+1.3**
	SNR=10						
TKM2	**Tokmak 2**	**37.54**	**338**	P	**P**	**15 09 30.2**	**+0.6**
	SNR=8.8						
KBK	**Karagaybulak**	**37.55**	**337**	P	**P**	**15 09 31.1**	**+1.5**
	SNR=15						
AML	**Almayashu**	**37.61**	**335**	P	**P**	**15 09 31.8**	**+1.7**
	SNR=10						
AAK	**Ala-Archa**	**37.71**	**337**	P	**P**	**15 09 32.4**	**+1.4**
	SNR=10						
AAK	**Ala-Archa**	**37.71**	**337**	*e*P	**P**	**15 09 31.6**	**+0.6**
	comp=Z,168nm,1.0s,mb5.7,SNR=6.6						
FRU	**Bishkek**	**37.83**	**337**	*e*P	**P**	**15 09 33.0**	**+1.0**
FRU				*e*		15 09 47.0	
FRU				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.0						
CHMS	**Chumysh**	**37.92**	**337**	P	**P**	**15 09 33.4**	**+0.6**
	SNR=10.0						
EKS2	**Erkin-Say**	**38.02**	**336**	P	**P**	**15 09 35.3**	**+1.7**
	SNR=8.8						
USP	**Ospenovka**	**38.25**	**337**	P	**P**	**15 09 35.5**	**0.0**
	SNR=15						
MK31	**Makanchi Array**	**39.13**	**348**	P	**P**	**15 09 41.6**	**-1.4**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**39.13**	**348**	P	**P**	**15 09 42.4**	**-0.5**
	comp=Z,4.1nm,0.4s,mb4.5,baz=159,slow=7.1,SNR=64						
MKAR				ScP	ScP	15 15 36.6	-3.2
	comp=Z,1.5nm,0.9s,baz=134,slow=5.2,SNR=4.8						
MKAR	**Makanchi Array**	**39.13**	**348**	*i* P	**P**	**15 09 42.4**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**39.13**	**348**	P	**P**	**15 09 42.4**	**-0.6**
MKAR				ScP	ScP	15 15 36.6	-3.2
DL2	**Dalian**	**39.15**	**35**	P	**P**	**15 09 44.0**	**+0.9**
DL2				S	**S**	**15 15 44.5**	**+2.4**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
DL2				LR	LR		
	comp=N,350nm,15.6s,MS4.4						
DL2				LR	LR		
	comp=E,170nm,13.3s,MS4.4						
DL2				LR	LR		
	comp=Z,430nm,15.3s,MS4.4						
MBWA	**Marble Bar**	**39.25**	**140**	P	**P**	**15 09 44.4**	**+0.5**
KK31	**Karatay Array**	**39.76**	**333**	*i* P	**P**	**15 09 48.1**	**-0.1**
KK31				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
KKAR	**Karatay Array**	**39.76**	**333**	*i* P	**P**	**15 09 48.1**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.0						
SONM	**Songino Array**	**40.43**	**13**	P	**P**	**15 09 53.7**	**-0.1**
	comp=Z,16nm,1.1s,mb4.7,baz=196,slow=8.5,SNR=68						
SONM				PcP	PcP	15 11 56.5	0.0
	comp=Z,5.7nm,0.6s,baz=196,slow=3.9,SNR=9.1						
SONM				ScP	ScP	15 15 42.8	-2.1
	comp=Z,4.9nm,0.8s,baz=195,slow=3.8,SNR=19						
SONM				LR	LR	15 28 13.1	
	comp=Z,935nm,19.1s,MS4.7,baz=192,slow=39						
SONM	**Songino Array**	**40.43**	**13**	P	**P**	**15 09 53.7**	**-0.1**
SONM						15 11 56.5	
ULN	**Ulaanbaatar**	**40.62**	**14**	P	**P**	**15 09 55.0**	**-0.3**
	SNR=7.3						
ULN	**Ulaanbaatar**	**40.62**	**14**	*i* P	**P**	**15 09 54.7**	**-0.6**
ULN	**Ulaanbaatar**	**40.62**	**14**	*e*P	**P**	**15 09 54.6**	**-0.6**
	comp=Z,14nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**41.36**	**130**	*e*P	**P**	**15 10 00.5**	**-0.9**
	comp=Z,8.3nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**41.36**	**130**	P	**P**	**15 10 00.7**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=290,slow=4.0,SNR=5.7						
SNY	**Shenyang**	**42.23**	**34**	⇑P	**P**	**15 10 08.0**	**-0.5**
SNY				AP	pP	15 10 20.3	+5.9
SNY				XP	sP	15 10 24.0	+7.3
SNY				S	**S**	**15 16 21.3**	**-6.6**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
SNY				AMB	AMB		
	comp=Z,200nm,12.0s						
SNY				LR	LR		
	comp=N,230nm,18.3s,MS4.6						
SNY				LR	LR		
	comp=E,630nm,15.1s,MS4.6						
SNY				LR	LR		
	comp=Z,620nm,15.7s,MS4.6						
ZAK	**Zakamensk**	**42.28**	**9**	*e*P	**P**	**15 10 08.6**	**-0.3**
ZAK				*e*		15 12 01.2	
ZAK				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.5						
ABKT	**Ailbek**	**43.22**	**318**	P	**P**	**15 10 18.0**	**+1.5**
	comp=Z,470nm,0.9s,SNR=18						
MOY	**Mondy**	**43.22**	**7**	*e*P	**P**	**15 10 16.9**	**+0.3**
TLY	**Talaya**	**43.59**	**9**	*e*P	**P**	**15 10 20.5**	**+0.9**
TLY				*e*S	**S**	**15 16 40.9**	**-7.1**
TLY				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
TLY				MLR	MLR		
	comp=Z,367nm,19.0s,MS4.3						
TLY	**Talaya**	**43.59**	**9**	*i* Pr		15 10 20.6	
KURK	**Kurchatov**	**43.65**	**346**	P	**P**	**15 10 19.6**	**-0.4**
	comp=Z,72nm,1.0s,mb5.4,SNR=9.9						
KURK	**Kurchatov**	**43.65**	**346**	⇓P	**P**	**15 10 19.7**	**-0.3**
	SNR=15						
KURK	**Kurchatov**	**43.65**	**346**	*d i* P	**P**	**15 10 19.7**	**-0.3**
KURK	**Kurchatov**	**43.65**	**346**	*e*P	**P**	**15 10 19.7**	**-0.4**
	comp=Z,40nm,1.4s,mb5.0						
IRK	**Irkutsk**	**44.24**	**9**	*e*P	**P**	**15 10 25.0**	**+0.3**
IRK				*e*		15 12 10.0	
IRK				pmax	pmax		
	comp=Z,28nm,2.0s,mb4.7						
CN2	**Changchun**	**44.58**	**33**	*e*P	**P**	**15 10 27.5**	**+0.1**
CN2				*e*AP	pP	15 10 35.0	+1.7
CN2				PP	PP	15 12 13.0	+1.5
CN2				SCP	ScP	15 16 00.0	-1.5
CN2				*e*S	**S**	**15 17 01.5**	**-0.8**
CN2				*e*SS	SS	15 20 12.8	-9.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=E,400nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=Z,400nm,14.0s,MS4.5						
MUN	**Mundaring**	**45.88**	**153**	*e*P	**P**	**15 10 38.7**	**+0.9**
HIA	**Hailar**	**45.93**	**24**	*e*P	**P**	**15 10 38.5**	**+0.3**
HIA				pmax	pmax		
	comp=Z,41nm,1.1s						
HIA	**Hailar**	**45.93**	**24**	*e*P	**P**	**15 10 38.5**	**+0.3**
	comp=Z,41nm,1.1s,mb5.3						
CIT	**Chita**	**46.13**	**17**	*e*P	**P**	**15 10 39.5**	**-0.3**
CIT				*e*		15 12 16.6	
CIT				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.3						
KLBR	**Kellerberrin**	**46.28**	**151**	⇑*i*P	**P**	**15 10 41.0**	**+0.1**
	comp=Z,44nm,0.9s,mb5.4						
NVS	**Novosibirsk**	**46.72**	**352**	*i* P	**P**	**15 10 44.0**	**-0.4**
NVS				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
NVS				pmax	pmax		
	comp=N,59nm,1.5s						
NVS				pmax	pmax		
	comp=E,11nm,0.7s						
NWAO	**Narrogin (SRO)**	**47.15**	**153**	P	**P**	**15 10 48.3**	**+0.5**
	comp=E,60nm,1.0s,mb5.5,baz=318,slow=5.8,SNR=19						
NWAO				LR	LR	15 28 44.3	
	comp=E,379nm,21.5s,MS4.3,baz=217,slow=34						
NWAO	**Narrogin (SRO)**	**47.15**	**153**	*e*P	**P**	**15 10 48.1**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,40nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.15**	**153**	*e*P	**P**	**15 10 48.1**	**+0.4**
	comp=Z,40nm,0.9s,mb5.3						
KRAR	**Krasnoyarsk**	**47.15**	**359**	⇑*e*P	**P**	**15 10 48.4**	**+0.6**
KRAR				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.5						
MDJ	**Mudanjiang**	**47.38**	**35**	P	**P**	**15 10 50.8**	**+1.2**
MDJ				PP	PP	15 12 40.8	0.0
MDJ				S	**S**	**15 17 40.5**	**-2.1**
MDJ				AMB	AMB		
	comp=Z,30nm,4.5s						
MDJ				LR	LR		
	comp=N,260nm,20.4s,MS4.5						
MDJ				LR	LR		
	comp=E,410nm,17.0s,MS4.5						
MDJ				LR	LR		
	comp=Z,450nm,18.7s,MS4.5						
VOSK	**Vostochnaya**	**47.56**	**341**	P	**P**	**15 10 49.8**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BVA0	**Borovoye Array**	**48.01**	**341**	*i* P	**P**	**15 10 53.4**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BRVK	**Borovoye**	**48.07**	**341**	⇓P	**P**	**15 10 54.1**	**-0.8**
	SNR=5.8						
BRVK	**Borovoye**	**48.07**	**341**	*e*P	**P**	**15 10 53.3**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**48.07**	**341**	*e*P	**P**	**15 10 53.3**	**-1.6**
	comp=Z,5.5nm,0.8s,mb4.6						
ZRNK	**Zerenda**	**48.40**	**340**	P	**P**	**15 10 56.3**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**48.40**	**340**	*e*P	**P**	**15 10 55.6**	**-1.8**
	comp=Z,9.1nm,0.8s,mb4.9						
MAT	**Matsushiro**	**48.96**	**49**	P	**P**	**15 11 02.9**	**+1.1**
MAT	**Matsushiro**	**48.96**	**49**	P	**P**	**15 11 03.0**	**+1.2**
MJAR	**Matsushiro Arr**	**48.96**	**49**	P	**P**	**15 11 02.2**	**+0.4**
	comp=Z,2.2nm

MJAR LR LR 15 32 09.5
WRA Warramunga Arr 49.18 126 P **P** **15 11 02.8 -0.6**
comp=Z,8.3nm,1.0s,mb4.7,baz=301,slow=9.7,SNR=55
WRAB Tennant Creek 49.18 126 P **P** **15 11 03.0 -0.5**
comp=Z,75nm,0.6s,mb5.9,SNR=12
WRAB Tennant Creek 49.18 126 *e*P **P** **15 11 02.7 -0.8**
WRAB pmax pmax
comp=Z,12nm,0.6s,mb5.1
WRAB Tennant Creek 49.18 126 *e*P **P** **15 11 02.7 -0.7**
comp=Z,12nm,0.6s,mb5.1
WB2 Warramunga Arr 49.19 126 *e*P **P** **15 11 02.6 -0.9**
AB31 Abkulak array 49.23 331 *i* P **P** **15 11 03.8 0.0**
ASPA Alice Springs 50.86 130 *e*P **P** **15 11 15.5 -0.7**
AS31 Alice Springs 50.86 130 *e*P **P** **15 11 15.5 -0.7**
ASAR Alice Springs 50.86 130 P **P** **15 11 15.2 -1.0**
comp=Z,5.1nm,0.7s,mb4.6,baz=303,slow=6.7,SNR=50
ASAR PcP PcP 15 12 33.8 +1.0
comp=Z,1.7nm,0.7s,baz=309,slow=3.4,SNR=4.3
ASAR ScP ScP 15 16 26.9 -1.1
comp=Z,1.3nm,0.6s,baz=310,slow=4.3,SNR=7.6
ASAR LR LR 15 33 38.8
comp=Z,110nm,19.4s,MS3.9,baz=308,slow=37
ASAR Alice Springs 50.86 130 P **P** **15 11 15.2 -1.0**
ASAR 15 12 33.8
AKTO Aktyubinsk 50.95 331 P **P** **15 11 16.3 -0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
FORT Forrest 51.33 141 *e*P **P** **15 11 20.3 +0.6**
comp=Z,20nm,0.8s,mb5.1
KLR Kul'dur 51.40 31 *e*P **P** **15 11 17.8 -2.5**
BOD Bodaibo 51.43 14 *e*P **P** **15 11 19.4 -1.1**
BOD pmax pmax
comp=Z,26nm,1.2s,mb5.0
HABR Khabarovsk 52.70 34 *e*P **P** **15 11 27.8 -2.1**
HABR *e*S **S** **15 18 54.4 -2.4**
ORR Orenburg 53.28 331 *e*P **P** **15 11 34.6 +0.4**
ORR pmax pmax
comp=Z,30nm,1.0s,mb5.2
CLNS Chul'man 53.80 21 *e*P **P** **15 11 37.7 -0.4**
CLNS pmax pmax
comp=Z,27nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.9s
ARU Arti 54.90 337⇓ *i*P **P** **15 11 45.4 -0.6**
ARU *e* 15 13 47.4
ARU *e*S **S** **15 19 26.7 +0.2**
ARU *e*SS SS 15 23 13.3 +3.3
ARU pmax pmax
comp=Z,18nm,1.1s,mb5.0
ARU MLR MLR
comp=N,200nm,20.0s,MS4.3
ARU MLR MLR
comp=Z,300nm,20.0s,MS4.4
ARU MLR MLR
comp=E,200nm,19.0s,MS4.3
ARU Arti 54.90 337 *e*P **P** **15 11 45.4 -0.7**
comp=E,16nm,0.9s,mb5.0
ZEI Tsey 55.06 317 *e*P **P** **15 11 48.6 +1.4**
ZEI *e**PP pP 15 11 57.4 +4.2
ZEI *e* 15 12 53.3
ZEI pmax pmax
comp=Z,12nm,0.6s,mb5.1
KIV Kislovodsk 56.34 318 *e*P **P** **15 11 56.6 +0.2**
KIV *e*S **S** **15 19 44.5 -1.3**
KIV pmax pmax
comp=Z,27nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 56.42 38 *e*P **P** **15 11 57.0 +0.1**
YSS *e* 15 12 05.4
YSS Yuzh-Sakhalins 56.42 38 *e*P **P** **15 11 57.7 +0.7**
comp=Z,22nm,1.0s,mb5.1
GOF Gofitskoye 56.54 319 *e*P **P** **15 11 57.4 -0.4**
KMBO Kilima Mbogo 57.02 263 P **P** **15 12 03.3 +2.1**
comp=Z,4.5nm,0.9s,mb4.5,baz=51,slow=7.8,SNR=7.2
KMBO LR LR 15 33 07.4
comp=Z,352nm,20.7s,MS4.4,baz=276,slow=32
MALT Malatya 57.52 310 *e*P **P** **15 12 05.2 +0.5**
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.9
MALT Malatya 57.52 310 *e*P **P** **15 12 05.2 +0.5**
comp=Z,13nm,1.1s,mb4.9
SOKR Solikamsk 57.81 339 *e*P **P** **15 12 06.0 -0.8**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
SOKR MLR MLR
comp=Z,490nm,23.0s,MS4.5
SOC Sochi 58.20 316 *e*P **P** **15 12 08.5 -1.1**
SOC *e* 15 13 02.8
SOC *e*S **S** **15 20 05.7 -4.6**
SOC *e*SS SS 15 24 03.1 +1.1
SOC pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
GRSN GIRESUNGRSN 58.38 313 *i* P **P** **15 12 10.1 -0.6**
EIL Elat 58.56 299 *e*P **P** **15 12 12.8 +0.8**
comp=Z,162nm,1.0s,mb6.0
CTA Charters Tower 59.17 120 *e*P **P** **15 12 22.4 +6.1**
comp=Z,7.4nm,1.0s,mb4.7
CTA Charters Tower 59.17 120 *e*P **P** **15 12 22.4 +6.1**
CTA pmax pmax
comp=Z,7.0nm,1.0s
YAK Yakutsk 59.34 19*d* *i*P **P** **15 12 16.3 -1.1**
YAK pmax pmax
comp=Z,104nm,1.3s,mb5.7
YAK Yakutsk 59.34 19 *e*P **P** **15 12 15.3 -2.1**
comp=Z,67nm,0.9s,mb5.7
STKA Stephens Creek 61.07 134 *e*P **P** **15 12 26.9 -2.4**
comp=Z,4.0nm,1.0s,mb4.5
STKA Stephens Creek 61.07 134 P **P** **15 12 26.6 -2.7**
comp=Z,4.2nm,0.8s,mb4.6,baz=299,slow=7.7,SNR=9.3
BR131 Keskin Array S 61.48 311 *e*P **P** **15 12 31.3 -0.8**
comp=Z,5.6nm,0.7s,mb4.8
BRTR Keskin Array B 61.48 311 P **P** **15 12 30.8 -1.3**
comp=Z,5.7nm,0.7s,mb4.8,baz=120,slow=7.2,SNR=36
VOR Voronezh 61.58 325 *e*P **P** **15 12 31.0 -1.8**
VOR pmax pmax
comp=Z,80nm,1.0s,mb5.8
ELDT Eldivan 61.81 311 *i* P **P** **15 12 34.2 -0.1**
MOS Moscow 64.08 329 *e*P **P** **15 12 46.9 -2.5**
MOS *e* 15 15 06.4
OBN Obninsk 64.38 328*c* *i*P **P** **15 12 50.9 -0.4**
OBN pmax pmax
comp=Z,42nm,1.3s,mb5.3
KLMR Klimovskoe 65.46 334 *e*P **P** **15 12 56.8 -1.6**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb5.2
MA2 Magadan 66.24 28*d* *i*P **P** **15 13 03.1 -0.3**
MA2 pmax pmax
comp=Z,44nm,1.0s,mb5.4
MA2 Magadan 66.24 28 *e*P **P** **15 13 03.5 +0.1**
comp=Z,88nm,1.4s,mb5.6
TIXI Tiksi 66.49 11*d* *i*P **P** **15 13 03.7 -1.3**
TIXI pmax pmax
comp=Z,46nm,0.5s,mb5.8
TIXI Tiksi 66.49 11 *i* Pr **P** **15 13 03.7 -1.3**
AKASG Malin Array Be 67.16 322 P **P** **15 13 08.1 -1.2**
comp=Z,3.8nm,0.6s,mb4.6,baz=91,slow=5.2,SNR=16
VRI Vrincioaia 67.73 316⇑ *i*P **P** **15 13 13.7 +0.8**
ARMA Armidale 67.89 128 *e*P **P** **15 13 17.5 +3.6**
MLR Muntele Rosu 68.20 316⇑ *i*P **P** **15 13 16.4 +0.6**
VOIR 68.81 315⇑ *i*P **P** **15 13 19.5 -0.2**
BURAR Bucovina Array 69.06 318⇑ *i*P **P** **15 13 21.4 +0.1**
JOF Joensuu 69.85 334 *ep* **P** **15 13 24.7 -1.4**
comp=Z,6.6nm,0.4s,mb4.9
JOF Joensuu 69.85 334 *e*P **P** **15 13 24.7 -1.4**
JOF pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
DRGR 70.62 317⇑ *i*P **P** **15 13 33.9 +3.1**
APA Apatity 70.86 339⇑ *i*P **P** **15 13 30.5 -1.8**
APA pmax pmax
comp=Z,96nm,1.5s,mb5.5
KWP Kalwaria 71.04 319 *e*P **P** **15 13 33.3 -0.1**
KOLS Kolonicke sedl 71.22 319 *e* sP 15 13 43.5 +0.7
BZS Buzias 71.22 315⇓ *i*P **P** **15 13 31.2 -3.3**
SUW Suwalki 71.51 324 *e*P **P** **15 13 35.7 -0.5**
FINES FINESS Array B 71.71 332 P **P** **15 13 36.9 -0.6**
comp=Z,4.8nm,0.6s,mb4.6,baz=106,slow=5.6,SNR=24
FINES LR LR 15 50 52.1
comp=Z,125nm,18.9s,MS4.2,baz=295,slow=41
FINES FINESS Array B 71.71 332 P **P** **15 13 36.9 -0.6**
FINES LR LR 15 50 52.1
CRVS Cervenica-Dubn 71.75 319 *e* **P** **15 13 40.4 +2.8**
CRVS *es*P sP 15 13 44.4 -1.6
CRVS *e* 15 13 49.1
KAF Kangasniemi 71.79 333 *ep* **P** **15 13 35.2 -2.7**
comp=Z,3.1nm,0.3s,mb4.7,baz=117,slow=9.0
KAF Kangasniemi 71.79 333 *e*P **P** **15 13 35.2 -2.7**
KAF pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
KECS Kecovo 72.33 318 *e*P **P** **15 13 41.2 0.0**
KECS *ep*P pP 15 13 45.8 -1.5
KECS Kecovo 72.33 318 *e*P **P** **15 13 41.2 0.0**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KECS Kecovo 72.33 318 *e*P **P** **15 13 41.2 0.0**
comp=Z,2.6nm,0.7s,mb4.3
KECS *e* pP 15 13 45.8 -1.5
PSZ Piszkesteto 72.66 317⇑ *e*PcP **P** **15 13 43.3 +0.2**
OJC Ojcow 72.99 320 *e*P **P** **15 13 45.1 +0.1**
PKSM Moragy 73.35 316⇑ *i*P **P** **15 13 46.1 -1.1**
PKSM Moragy 73.35 316⇑ *e*P **P** **15 13 46.8 -0.4**
VYHS Vyhne 73.42 318 *e*P **P** **15 13 47.6 0.0**
VYHS pmax pmax
comp=Z,15nm,2.1s,mb4.5
VYHS Vyhne 73.42 318 *e*P **P** **15 13 47.6 0.0**
comp=Z,15nm,2.1s,mb4.6
VYHS *e* pP 15 13 52.4 -1.4
KEV Kevo 73.85 341 *ep* **P** **15 13 42.4 -7.7**
OKC Ostrava-Krasne 74.00 319 *e*P **P** **15 13 51.2 +0.2**
OKC *ep*P pP 15 13 56.3 -0.9
LBTB Lobatse 74.21 241 *e*P **P** **15 13 54.9 +2.6**
LBTB *e* 15 14 08.9
LBTB pmax pmax
comp=Z,17nm,0.8s,mb5.0
LBTB Lobatse 74.21 241 *e*P **P** **15 13 54.9 +2.7**
comp=Z,17nm,0.8s,mb5.0
LBTB *e*PcP PcP 15 14 08.9 +1.7
ARCES ARCESS Array B 74.28 340 P **P** **15 13 52.5 -0.1**
comp=Z,7.2nm,0.9s,mb4.6,baz=97,slow=6.6,SNR=16
ARCES LR LR 15 48 28.6
comp=Z,324nm,21.8s,MS4.6,baz=99,slow=37
TIP Timpagrande 74.36 308 *e*P **P** **15 13 52.9 -0.2**
MORC Moravsky Berou 74.39 319 *e*P **P** **15 13 53.5 +0.2**
MORC pmax pmax
comp=Z,17nm,1.0s,mb4.9
MORC Moravsky Berou 74.39 319 *e*P **P** **15 13 53.5 +0.2**
comp=Z,17nm,1.0s,mb4.9
ZST Bratislava 74.55 318 *e*P **P** **15 13 54.8 +0.6**
ZST *ep*P pP 15 13 59.7 -0.7
ZST Bratislava 74.55 318 *e*P **P** **15 13 48.3 -5.9**
ZST *e* pP 15 13 54.8 -5.6
ZST *e* 15 13 59.7
SOP Sopron 74.88 317⇑ *e*PcP **P** **15 13 56.3 +0.2**
DPC Dobruska-Polom 75.22 320 *e*P **P** **15 13 58.9 +0.8**
DPC *ep*P pP 15 14 03.5 -0.7
KSP Ksiaz 75.27 320 *e*P **P** **15 13 59.5 +1.1**
KSP Ksiaz 75.27 320 *e*P **P** **15 13 58.7 +0.3**
UPC Upice 75.43 320 *e*P **P** **15 14 00.0 +0.7**
UPC *ep*P pP 15 14 04.5 -0.9
BILL Bilibino 75.47 22 *e*P **P** **15 13 58.8 -0.7**
BILL pmax pmax
comp=Z,42nm,1.4s,mb5.2
BILL Bilibino 75.47 22 *e*P **P** **15 13 58.8 -0.8**
comp=Z,42nm,1.4s,mb5.2
CRES Cresnjev 75.54 315 *e*P **P** **15 13 59.8 -0.2**
BOSA Boshof 75.62 238 P **P** **15 14 02.4 +2.0**
comp=Z,17nm,0.6s,mb5.1,baz=84,slow=5.7,SNR=49
BOSA LR LR 15 41 04.4
comp=Z,296nm,20.8s,MS4.6,baz=67,slow=31
BOSA Boshof 75.62 238 *e*P **P** **15 14 02.2 +1.8**
BOSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BOSA Boshof 75.62 238 *e*P **P** **15 14 02.2 +1.9**
comp=Z,9.9nm,0.6s,mb4.9
BOJS Bojanci 75.67 315 *e*P **P** **15 14 00.2 -0.5**
BOJS *i* pP 15 14 05.0 -1.9
TREC Trest 75.69 319 *e*P **P** **15 14 01.0 +0.2**
PERS Pernice 75.81 316 *e*P **P** **15 14 01.4 -0.1**
CASY Casey 75.85 173⇑ *i*P **P** **15 14 01.4 -0.3**
PDKS Podkum 75.87 315 *e*P **P** **15 14 01.5 -0.3**
PDKS *e* pP 15 14 06.5 -1.4
LJU Ljubljana 76.20 315 *e*P **P** **15 14 03.9 +0.2**
PVCC Panska Ves 76.35 320 *e*P **P** **15 14 05.1 +0.6**
PVCC *ep*P pP 15 14 10.3 -0.4
VOY Vojsko 76.64 315 *e*P **P** **15 14 05.9 -0.3**
VOY *e* pP 15 14 10.2 -2.1
BRG Berggiesshubel 76.76 320 *e*P **P** **15 14 06.8 -0.1**
comp=Z,15nm,1.1s,mb4.8
BRG Berggiesshubel 76.76 320 *e*P **P** **15 14 07.3 +0.4**
comp=Z,10nm,1.6s,mb4.5
BRG *e* pP 15 14 11.5 -1.6
comp=Z,8.8nm,1.1s
BRG Berggiesshubel 76.76 320 *e*P **P** **15 14 07.3 +0.4**
comp=Z,10nm,1.6s,mb4.5
BRG *e* pP 15 14 11.5 -1.6
comp=Z,8.8nm,1.1s
BRG Berggiesshubel 76.76 320 *e*P **P** **15 14 07.3 +0.4**
BRG *e* pP 15 14 11.5 -1.5
BRG pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
GEC2 GERESS Array S 76.84 318 *e*P **P** **15 14 07.2 -0.1**
comp=Z,16nm,0.9s,mb5.0
GEC2 GERESS Array S 76.84 318 *e*P **P** **15 14 07.2 -0.1**
GEC2 pmax pmax
comp=Z,16nm,0.9s,mb5.0
GERES GERESS Array B 76.84 318 P **P** **15 14 07.8 +0.5**
comp=Z,4.1nm,0.7s,mb4.5,baz=93,slow=5.3,SNR=35
KHC Kasperske Hory 76.93 318 *e*P **P** **15 14 08.0 +0.2**
KHC *ep*P pP 15 14 12.8 -1.2
KHC Kasperske Hory 76.93 318*d* *i*P **P** **15 14 07.7 -0.1**
RUE Ruedersdorf 76.94 322 *e*P **P** **15 14 07.5 -0.3**
comp=Z,61nm,1.2s,mb5.4
PTCC Patocco-Chiusa 77.02 316 P **P** **15 14 07.8 -0.5**
comp=Z,9.0nm,0.8s,mb4.8
FBE Freiberg 77.14 320 *e*P **P** **15 14 09.2 +0.2**
comp=Z,23nm,1.0s,mb5.1
ARV Arcevia 77.29 313 P **P** **15 14 10.0 +0.2**
ARV pmax pmax
comp=Z,39nm,1.6s,mb5.1
ARV Arcevia 77.29 313 P **P** **15 14 10.0 +0.2**
comp=Z,39nm,1.6s,mb5.1
CLL Collm 77.37 321 *e*P **P** **15 14 09.7 -0.6**
comp=Z,16nm,1.4s,mb4.8
CLL Collm 77.37 321 *i* P **P** **15 14 09.6 -0.7**
comp=Z,7.0nm,0.5s,mb4.8
CLL *i* pP pP 15 14 15.3 -1.2
CLL *e*PP PP 15 17 07.0 +2.4
CLL Collm 77.37 321 *i* P **P** **15 14 09.6 -0.7**
CLL *i* pP 15 14 15.3 -1.2
CLL pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
CLL Collm 77.37 321 *i* P **P** **15 14 09.6 -0.7**
comp=Z,7.0nm,0.5s,mb4.8
CLL *i* pP 15 14 15.3 -1.2
WET Wettzell 77.39 318 *e*P **P** **15 14 10.3 -0.1**
comp=Z,11nm,1.0s,mb4.7
WET Wettzell 77.39 318 *e*P **P** **15 14 10.3 -0.1**
WET pmax pmax
comp=Z,11nm,1.0s,mb4.7
TANN Tannenbergstha 77.69 320 *e*P **P** **15 14 11.9 -0.2**
comp=Z,12nm,1.5s,mb4.6
ROTZ Rotzenmuhle 77.84 319 *e*P **P** **15 14 13.4 +0.5**
comp=Z,16nm,1.1s,mb4.9
MANZ Manzenberg 77.91 319 *e*P **P** **15 14 13.7 +0.4**
comp=Z,15nm,1.0s,mb4.9
SFI Santa Sofia 78.08 313 P **P** **15 14 14.9 +0.6**
MOX Moxa 78.23 320 *e*P **P** **15 14 14.9 -0.2**
comp=Z,23nm,1.8s,mb4.8
MOX Moxa 78.23 320 *e*P **P** **15 14 14.9 -0.2**
MOX pmax pmax
comp=Z,20nm,1.5s,mb4.8
VMG Vicchio 78.30 313 P **P** **15 14 16.8 +1.3**
GRA1 Grafenberg Arr 78.48 319 *e*P **P** **15 14 16.6 +0.1**
comp=Z,21nm,1.2s,mb4.9
GRA1 *ep*P pP 15 14 21.4 -1.2
GRF Grafenberg Arr 78.48 319 *e*P **P** **15 14 16.6 +0.1**
comp=Z,21nm,1.2s,mb4.9
GRF *ep*P pP 15 14 21.4 -1.2
GRF Grafenberg Arr 78.48 319 *e*P **P** **15 14 16.6 +0.1**
GRF *e**PP pP 15 14 21.4 -1.2
GRF pmax pmax
comp=Z,21nm,1.2s,mb4.9
GRF Grafenberg Arr 78.48 319 *e*P **P** **15 14 16.6 +0.1**
GRF *e**PP pP 15 14 21.4 -1.2
GRF pmax pmax
comp=Z,21nm,1.2s,mb4.9
NB2 NORSAR Subarra 78.73 331 P **P** **15 14 16.8 -1.0**
comp=Z,8.9nm,0.7s,mb4.8,baz=95,slow=5.3
NB2 NORSAR Subarra 78.73 331 P **P** **15 14 16.6 -1.2**
comp=Z,18nm,0.8s,mb5.0,baz=91,slow=5.3
NB2 NORSAR Subarra 78.73 331 P **P** **15 14 16.6 -1.2**
baz=91,slow=5.3
NB2 NORSAR Subarra 78.73 331 P **P** **15 14 16.6 -1.2**
NB2 pmax pmax
comp=Z,18nm,0.8s,mb5.0
NB2 NORSAR Subarra 78.73 331 P **P** **15 14 16.6 -1.2**
comp=Z,18nm,0.8s,mb5.0
NOA NORSAR Array B 78.73 331 P **P** **15 14 16.9 -1.0**
comp=Z,6.6nm,0.7s,mb4.7,baz=92,slow=5.7,SNR=26
NOA LR LR 15 56 21.7
comp=Z,88nm,19.9s,MS4.1,baz=100,slow=41
NAO01 NORSAR Array S 78.88 330 *e*P **P** **15 14 17.8 -0.9**
comp=Z,13nm,0.8s,mb4.9
CLZ Clausthal 79.02 321 *e*P **P** **15 14 19.1 -0.3**
comp=Z,19nm,1.0s,mb5.0
CLZ Clausthal 79.02 321 *e*P **P** **15 14 19.1 -0.3**
CLZ pmax pmax
comp=Z,19nm,1.0s,mb5.0
BSEG Bad Segeberg 79.05 323 *e*P **P** **15 14 19.7 +0.1**
comp=Z,28nm,1.0s,mb5.2
BSEG Bad Segeberg 79.05 323 *e*P **P** **15 14 19.7 +0.1**
BSEG pmax pmax
comp=Z,28nm,1.0s,mb5.2
NRDL Niedersach Rie 79.18 322 *e*P **P** **15 14 20.5 +0.2**
comp=Z,37nm,1.6s,mb5.1
GTTG Gvttingen 79.28 321 *e*P **P** **15 14 20.6 -0.2**
comp=Z,14nm,1.1s,mb4.8
MAW Mawson 79.28 192 *e*P **P** **15 14 21.6 +0.8**
comp=Z,2.5nm,0.6s,mb4.3
MAW Mawson 79.28 192 P **P** **15 14 21.8 +0.9**
comp=Z,2.4nm,0.6s,mb4.3,baz=40,slow=6.8,SNR=14
MAW LR LR 15 42 38.8
comp=Z,298nm,19.6s,MS4.6,baz=66,slow=30
MAW Mawson 79.28 192 *e*P **P** **15 14 21.6 +0.8**
MAW pmax pmax
comp=Z,3.0nm,0.6s
KONO Kongsberg 79.50 329⇑ *e*P **P** **15 14 21.4 -0.6**
KBS Kingsbay 79.88 349 *i* P **P** **15 14 23.8 -0.3**
PGF Pioggiola 80.20 312 *e*P **P** **15 14 25.5 -0.4**
comp=Z,36nm,1.4s,mb4.8
PGF Pioggiola 80.20 312 *e*P **P** **15 14 25.5 -0.4**
PGF pmax pmax
comp=Z,18nm,1.4s,mb4.8
PGF Pioggiola 80.20 312 *e*P **P** **15 14 25.5 -0.4**
comp=Z,18nm,1.4s,mb4.8
TNS Taunus Mts 80.26 320 *e*P **P** **15 14 26.0 -0.2**
comp=Z,8.0nm,1.0s,mb4.6
TNS Taunus Mts 80.26 320 *e*P **P** **15 14 26.0 -0.2**
TNS pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BFO Black Forest 80.41 318 *e*P **P** **15 14 26.1 -0.9**
comp=Z,11nm,1.2s,mb4.7
BFO Black Forest 80.41 318 *e*P **P** **15 14 26.1 -0.9**
BFO pmax pmax
comp=Z,11nm,1.2s,mb4.7
IBBN Ibbenburen 80.62 322 *e*P **P** **15 14 28.1 0.0**
comp=Z,27nm,0.6s,mb5.3
FIN Finale Ligure 80.69 313 P **P** **15 14 28.4 -0.1**
BUG Bochum-Univer 80.96 321 *e*P **P** **15 14 29.7 -0.2**
comp=Z,38nm,1.4s,mb5.1
SBF Sospel 81.27 313 *e*P **P** **15 14 30.9 -0.7**
comp=Z,35nm,0.8s,mb5.0
SBF Sospel 81.27 313 *e*P **P** **15 14 30.9 -0.7**
SBF pmax pmax
comp=Z,18nm,0.8s,mb5.0
SBF Sospel 81.27 313 *e*P **P** **15 14 30.9 -0.7**
comp=Z,18nm,0.8s,mb5.0
HINF Hinteralfeld 81.43 317 *e*P **P** **15 14 31.5 -0.9**
LPG La Plagne 81.65 315 *e*P **P** **15 14 33.3 -0.3**
comp=Z,39nm,0.8s,mb5.1
LPG La Plagne 81.65 315 *e*P **P** **15 14 33.3 -0.3**
LPG pmax pmax
comp=Z,20nm,0.8s,mb5.1
LPG La Plagne 81.65 315 *e*P **P** **15 14 33.3 -0.3**
comp=Z,20nm,0.8s,mb5.1
LPL La Plagne 81.66 315 *e*P **P** **15 14 33.3 -0.3**
comp=Z,58nm,0.8s,mb5.2
LPL La Plagne 81.66 315 *e*P **P** **15 14 33.3 -0.3**
LPL pmax pmax
comp=Z,29nm,0.8s,mb5.3
LPL La Plagne 81.66 315 *e*P **P** **15 14 33.3 -0.3**
comp=Z,29nm,0.8s,mb5.3
MBDF Montbardon 81.69 314 *e*P **P** **15 14 32.5 -1.3**
comp=Z,14nm,0.7s,mb4.7
MBDF Montbardon 81.69 314 *e*P **P** **15 14 32.5 -1.3**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MBDF Montbardon 81.69 314 *e*P **P** **15 14 32.5 -1.3**
comp=Z,6.9nm,0.7s,mb4.7
BNI Bardonecchia 81.73 314 *e*P **P** **15 14 33.0 -1.0**
BNI pmax pmax
comp=Z,19nm,0.9s,mb5.0
BNI Bardonecchia 81.73 314 *e*P **P** **15 14 33.0 -1.0**
comp=Z,19nm,0.9s,mb5.0
HAU Haudompre 81.75 317 *e*P **P** **15 14 34.0 -0.1**
comp=Z,36nm,1.1s,mb4.9
HAU *e*R
comp=Z,109nm,19.8s
HAU Haudompre 81.75 317 *e*P **P** **15 14 34.0 -0.1**
HAU pmax pmax
comp=Z,18nm,1.1s,mb4.9
HAU MLR MLR
comp=Z,110nm,19.8s,MS4.2
HAU Haudompre 81.75 317 *e*P **P** **15 14 34.0 -0.1**
comp=Z,18nm,1.1s,mb4.9
HAU LR LR
comp=Z,110nm,19.8s,MS4.2
WLF Walferdange 81.77 319 *e*P **P** **15 14 34.6 +0.4**
comp=Z,20nm,1.4s,mb4.8
FRF La Foret Royal 81.86 313 *e*P **P** **15 14 34.1 -0.6**
comp=Z,22nm,0.9s,mb4.8
FRF La Foret Royal 81.86 313 *e*P **P** **15 14 34.1 -0.6**
FRF pmax pmax
comp=Z,11nm,0.9s,mb4.8
FRF La Foret Royal 81.86 313 *e*P **P** **15 14 34.1 -0.6**
comp=Z,11nm,0.9s,mb4.8
LMR La Mourre 81.98 313 *e*P **P** **15 14 34.6 -0.7**
comp=Z,25nm,1.1s,mb4.8
LMR La Mourre 81.98 313 *e*P **P** **15 14 34.6 -0.7**
LMR pmax pmax
comp=Z,12nm,1.1s,mb4.7
LMR La Mourre 81.98 313 *e*P **P** **15 14 34.6 -0.7**
comp=Z,12nm,1.1s,mb4.8
CABF La Chapelle 82.03 316 *e*P **P** **15 14 35.1 -0.5**
comp=Z,21nm,1.0s,mb4.7
CABF La Chapelle 82.03 316 *e*P **P** **15 14 35.1 -0.5**
CABF pmax pmax
comp=Z,11nm,1.0s,mb4.7
CABF La Chapelle 82.03 316 *e*P **P** **15 14 35.1 -0.5**
comp=Z,11nm,1.0s,mb4.7
SMRF Simiane la Rot 82.60 313 *e*P **P** **15 14 38.4 -0.2**
comp=Z,18nm,1.0s,mb4.7
SMRF Simiane la Rot 82.60 313 *e*P **P** **15 14 38.4 -0.2**
comp=Z,18nm,1.0s,mb5.1
DOU Dourbes 82.75 320 P **P** **15 14 39.1 -0.2**
SNF Seneffe 82.91 320 AP **P** **15 14 44.1 +4.0**
BAIF Baives 83.00 320 *e*P **P** **15 14 40.0 -0.6**
comp=Z,31nm,1.1s,mb4.9
BAIF Baives 83.00 320 *e*P **P** **15 14 40.0 -0.6**
BAIF pmax pmax
comp=Z,15nm,1.1s,mb4.9
BAIF Baives 83.00 320 *e*P **P** **15 14 40.0 -0.6**
comp=Z,15nm,1.1s,mb5.0
VIVF Saint-Julien-l 83.17 314 *e*P **P** **15 14 40.8 -0.7**
comp=Z,24nm,1.1s,mb4.8
VIVF Saint-Julien-l 83.17 314 *e*P **P** **15 14 40.8 -0.7**
VIVF pmax pmax
comp=Z,12nm,1.1s,mb4.8
VIVF Saint-Julien-l 83.17 314 *e*P **P** **15 14 40.8 -0.7**
comp=Z,12nm,1.1s,mb4.8
LOR Lormes 83.49 317 *e*P **P** **15 14 42.2 -1.0**
comp=Z,48nm,1.2s,mb5.1
LOR *e*R
comp=Z,115nm,20.8s
LOR Lormes 83.49 317 *e*P **P** **15 14 42.2 -1.0**
LOR pmax pmax
comp=Z,24nm,1.2s,mb5.1
LOR MLR MLR
comp=Z,120nm,20.8s,MS4.2
LOR Lormes 83.49 317 *e*P **P** **15 14 42.2 -1.0**
comp=Z,24nm,1.2s,mb5.1
LOR LR LR
comp=Z,120nm,20.8s,MS4.2
SMF Signal de Mont 83.57 316 *e*P **P** **15 14 42.6 -1.0**
comp=Z,36nm,1.1s,mb5.1
SMF Signal de Mont 83.57 316 *e*P **P** **15 14 42.6 -1.0**
SMF pmax pmax

comp=Z,18nm,1.1s,mb5.1
SMF Signal de Mont 83.57 316 *e*P **P 15 14 42.6 -1.0**
comp=Z,18nm,1.1s,mb5.1
SSF Saint Saulge 83.75 317 *e*P **P 15 14 43.7 -0.8**
comp=Z,11nm,0.9s,mb4.7
SSF Saint Saulge 83.75 317 *e*P **P 15 14 43.7 -0.8**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
SSF Saint Saulge 83.75 317 *e*P **P 15 14 43.7 -0.8**
comp=Z,5.4nm,0.9s,mb4.7
LASF Ste Croix 83.83 314 *e*P **P 15 14 44.5 -0.4**
comp=Z,24nm,1.1s,mb5.0
AVF Avril sur Loir 83.89 316 *e*P **P 15 14 44.2 -1.0**
comp=Z,12nm,0.9s,mb4.7
AVF Avril sur Loir 83.89 316 *e*P **P 15 14 44.2 -1.0**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
AVF Avril sur Loir 83.89 316 *e*P **P 15 14 44.2 -1.0**
comp=Z,6.1nm,0.9s,mb4.7
BGF Bois d'Agland 84.26 316 *e*P **P 15 14 46.5 -0.6**
TCF Toulx Ste Croi 84.73 316 *e*P **P 15 14 48.9 -0.6**
CAF Calviac 85.00 315 *e*P **P 15 14 50.4 -0.4**
comp=Z,21nm,1.1s,mb4.9
CAF Calviac 85.00 315 *e*P **P 15 14 50.4 -0.4**
CAF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
CAF Calviac 85.00 315 *e*P **P 15 14 50.4 -0.4**
comp=Z,10nm,1.1s,mb4.9
MTLF Montolieu 85.09 313 *e*P **P 15 14 50.8 -0.5**
comp=Z,19nm,1.0s,mb4.9
MTLF Montolieu 85.09 313 *e*P **P 15 14 50.8 -0.5**
MTLF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
MTLF Montolieu 85.09 313 *e*P **P 15 14 50.8 -0.5**
comp=Z,9.5nm,1.0s,mb4.9
RJF Les Rejaudoux 85.34 315 *e*P **P 15 14 52.3 -0.2**
comp=Z,22nm,1.0s,mb4.9
RJF *e*R
comp=Z,87nm,20.5s
RJF Les Rejaudoux 85.34 315 *e*P **P 15 14 52.3 -0.2**
RJF pmax pmax
comp=Z,11nm,1.0s,mb4.9
RJF MLR MLR
comp=Z,90nm,20.5s,MS4.2
RJF Les Rejaudoux 85.34 315 *e*P **P 15 14 52.3 -0.2**
comp=Z,11nm,1.0s,mb4.9
RJF LR LR
comp=Z,90nm,20.5s,MS4.2
LFF La Frestale 85.93 315 *e*P **P 15 14 55.3 -0.2**
LDF La Druitiere 85.98 318 *e*P **P 15 14 54.9 -0.8**
comp=Z,30nm,1.1s,mb5.2
LDF La Druitiere 85.98 318 *e*P **P 15 14 54.9 -0.8**
LDF pmax pmax
comp=Z,15nm,1.1s,mb5.1
LDF La Druitiere 85.98 318 *e*P **P 15 14 54.9 -0.8**
comp=Z,15nm,1.1s,mb5.1
SYO Syowa Base 86.08 197⇑*e*P **P 15 14 57.0 +0.8**
SYO Syowa Base 86.08 197⇓*e*PcP PcP 15 15 01.6 +2.7
FLN La Foiniere 86.19 319 *e*P **P 15 14 55.9 -0.9**
MFF Saint Martin d 86.30 316 *e*P **P 15 14 56.5 -0.8**
comp=Z,33nm,1.2s,mb5.2
MFF Saint Martin d 86.30 316 *e*P **P 15 14 56.5 -0.8**
MFF pmax pmax
comp=Z,17nm,1.2s,mb5.2
MFF Saint Martin d 86.30 316 *e*P **P 15 14 56.5 -0.8**
comp=Z,17nm,1.2s,mb5.1
GRR Gorron 86.50 318 *e*P **P 15 14 57.7 -0.6**
ETSF Etsaut 87.17 313 *e*P **P 15 15 01.5 0.0**
comp=Z,15nm,1.0s,mb4.9
ETSF Etsaut 87.17 313 *e*P **P 15 15 01.5 0.0**
ETSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
ETSF Etsaut 87.17 313 *e*P **P 15 15 01.5 0.0**
comp=Z,7.7nm,1.0s,mb4.9
SJPF Ste Jean 87.61 313 *e*P **P 15 15 03.6 -0.1**
comp=Z,22nm,1.1s,mb5.0
SJPF Ste Jean 87.61 313 *e*P **P 15 15 03.6 -0.1**
SJPF pmax pmax
comp=Z,11nm,1.1s,mb5.0
SJPF Ste Jean 87.61 313 *e*P **P 15 15 03.6 -0.1**
comp=Z,11nm,1.1s,mb5.0
ALE Alert 88.22 357 P **P 15 15 06.0 -0.6**
comp=Z,94nm,0.7s,SNR=6.7
TORD Torodi Ar. Bea 89.90 283 P **P 15 15 16.3 +1.8**
comp=Z,3.5nm,0.9s,mb4.7,baz=79,slow=4.3,SNR=14
TORD Torodi Ar. Bea 89.90 283 P **P 15 15 16.3 +1.8**
ESDC Sonseca Array 90.27 310 P **P 15 15 16.6 +0.4**
comp=Z,0.5nm,0.3s,mb4.3,baz=51,slow=4.5,SNR=6.2
SUMG Summit 93.19 347 *e*P **P 15 15 29.9 +0.2**
comp=Z,6.6nm,0.6s,mb5.2
COLA College 93.73 22⇑*e*P **P 15 15 32.1 -0.1**
VNDA Vanda 93.88 168 P **P 15 15 32.9 0.0**
comp=Z,0.7nm,0.7s,mb4.2,baz=310,slow=6.8,SNR=3.6
VNDA LR LR 15 55 13.0
comp=Z,111nm,19.4s,MS4.3,baz=296,slow=34
VNDA Vanda 93.88 168 *e*P **P 15 15 32.7 -0.2**
SBA Scott Base 94.98 168 *e*P **P 15 15 38.2 +0.3**
INK Inuvik 96.30 16 P **P 15 15 43.9 -0.1**
comp=Z,12nm,1.1s,mb5.3,baz=320,slow=7.5,SNR=8.3
INK Inuvik 96.30 16 *e*P **P 15 15 43.3 -0.7**
INK pmax pmax
comp=Z,19nm,1.2s
INK Inuvik 96.30 16 *e*P **P 15 15 43.3 -0.7**
comp=Z,19nm,1.2s,mb5.4
RES Resolute Bay 96.56 2 *e*P **P 15 15 45.2 +0.1**
RES pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
RES Resolute Bay 96.56 2 *e*P **P 15 15 45.1 0.0**
comp=Z,7.8nm,0.8s,mb5.2
J06A Christmas Vall 119.82 28⇑P PKPdf 15 21 06.4 +0.8
baz=120
K07A Rock Creek Ran 120.67 28⇑P PKPdf 15 21 08.2 +0.9
baz=120
ULM Lac du Bonnet 120.67 7 PKP PKPdf 15 21 07.2 -0.1
comp=Z,2.1nm,0.6s,baz=304,slow=3.7,SNR=3.5
ULM Lac du Bonnet 120.67 7 PKP PKPdf 15 21 07.2 -0.1
L07A Adell 121.15 28⇑P PKPdf 15 21 09.8 +1.6
baz=121
L08A Fields 121.48 27⇑P PKPdf 15 21 09.2 +0.3
baz=121
M08A Happy Creek Ra 122.04 28⇓P PKPdf 15 21 11.3 +1.4
baz=122
N08A GE Springer Mi 122.69 28⇓P PKPdf 15 21 12.7 +1.5
baz=122
O07A Toulon 122.81 29⇓P PKPdf 15 21 11.9 +0.6
baz=123
N09A Rock Creek Ran 122.92 28⇓P PKPdf 15 21 12.9 +1.3
baz=123
M11A Holland Ranch, 123.23 26⇓P PKPdf 15 21 13.7 +1.5
baz=123
M12A Wells 123.62 26⇑P PKPdf 15 21 14.7 +1.7
baz=123
O11A Cowboy Ranch, 124.34 27⇓P PKPdf 15 21 15.6 +1.3
baz=124
MNV Mina 124.51 30 PKIKP PKPdf 15 21 15.6 +1.0
PDAR Pinedale Array 124.54 21 PKP PKPdf 15 21 15.1 +0.4
comp=Z,2.5nm,0.8s,baz=357,slow=2.0,SNR=13
S09A Goldfield 125.52 30⇓P PKPdf 15 21 17.5 +0.9
baz=125
MSU Marysvale 127.20 25 *e*PKIKP PKPdf 15 21 21.7 +1.9
W14A Seligman 129.53 28⇑P PKPdf 15 21 26.3 +2.1
baz=129
ANMO Albuquerque 132.57 23 PKP PKPdf 15 21 31.9 +2.0
comp=Z,1.2nm,0.4s,baz=277,slow=3.9,SNR=3.7
BDFB Brasilia 141.93 256 PKP PKPdf 15 21 49.4 +2.2
comp=Z,2.5nm,0.4s,baz=147,slow=6.0,SNR=3.3
PLCA Paso Flores 145.18 201 PKPbc PKPbc 15 21 53.9 +1.3
comp=Z,6.6nm,0.7s,baz=146,slow=2.2,SNR=19
PLCA Paso Flores 145.18 201 *e*PKPdf PKPdf 15 21 53.4 +0.5
TEIG Tepich 151.15 4 *e*PKPbc PKPbc 15 22 09.7 +1.1
TEIG *e*PKPab PKPab 15 22 17.6 +1.2
CMIG Matias Romero 152.99 18 PKPbc PKPbc 15 22 13.0 +0.2
comp=Z,6.8nm,0.8s,baz=337,slow=2.3,SNR=7.3
LPAZ La Paz 160.69 245 PKP PKPdf 15 22 18.1 +2.8
comp=Z,3.1nm,1.0s,baz=171,slow=3.5,SNR=6.6
LPAZ PKPab PKPab 15 22 59.6 +2.4
comp=Z,2.2nm,0.8s,baz=103,slow=2.4,SNR=4.6
LPAZ La Paz 160.69 245 *e*PKPdf PKPdf 15 22 18.2 +2.9

*ISCJB **27** 15:05:25.4±2.4, 382N×02×722E±02, h151km±51km, Error ellipse: s-maj=31.2km s-min=19.2km az=55.7*
*NNC **27** 15:05:27.2±6.0, 3820N×7195E, h111km±74km, mb2.7, mpv3.1, Error ellipse: s-maj=67.6km s-min=58.6km az=68.0*

ISC 27 15:05:26.2±2.5, **381N**±02×**721E**±02, **h72**km±47km, **n13**, σ0**56**/15, **6C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.17**	**16**	P	**Pn**	**15 06 27.9**	**+0.6**
	SNR=7.6						
UCH	**Uchtor**	**4.48**	**23**	P	**Pn**	**15 06 31.9**	**+0.3**
	SNR=19						
KZA	**Kyzart**	**4.61**	**30**	P	**Pn**	**15 06 32.8**	**-0.6**
	SNR=12						
EKS2	**Erkin-Say**	**4.70**	**15**	P	**Pn**	**15 06 35.2**	**+0.7**
	SNR=49						
AAK	**Ala-Archa**	**4.84**	**21**	P	**Pn**	**15 06 37.1**	**+0.6**
	SNR=11						
KBK	**Karagaybulak**	**5.00**	**25**	P	**Pn**	**15 06 38.8**	**0.0**
	SNR=6.5						
KK31	**Karatay Array**	**5.12**	**347**	⇑P	**Pn**	**15 06 40.5**	**+0.2**
	13nm,0.4s,baz=158,slow=11,SNR=170						
KK31				⇑S	**Sn**	**15 07 37.6**	**-0.4**
	3.6nm,0.3s,baz=173,slow=24,SNR=8.0						
ULHL	**Ulahol**	**5.17**	**36**	P	**Pn**	**15 06 40.5**	**-0.6**
	SNR=9.8						
CHMS	**Chumysh**	**5.25**	**21**	P	**Pn**	**15 06 42.2**	**+0.1**
	SNR=12						
USP	**Ospenovka**	**5.43**	**19**	P	**Pn**	**15 06 44.2**	**-0.4**
	SNR=12						
TKM2	**Tokmak 2**	**5.46**	**28**	⇑P	**Pn**	**15 06 44.5**	**-0.6**
	0.1nm,0.5s						
TKM2				⇑S	**Sn**	**15 07 46.6**	**+0.1**
	0.2nm,0.6s						
AB31	**Akbulak array**	**14.17**	**326**	⇑P	**Pn**	**15 08 39.3**	**-4.0**
	1.4nm,0.8s,baz=161,slow=9.4,SNR=15						
BVA0	**Borovoye Array**	**14.94**	**356**	⇑P	**Pn**	**15 08 53.8**	**+0.4**
	0.3nm,0.7s,baz=163,slow=11,SNR=7.3						

*MOS **27** 15:12:33.0±1.0, 5449N×161.12W, h10km, mb5.1/29, Error ellipse: s-maj=14.8km s-min=6.0km az=92.6*
*NEIC **27** 15:12:35.8, 5441N×16077W, h4km, mb4.7/26, ML4.3(AEIC), After AEIC.*
NEIC Felt at King Cove.
*ISCJB **27** 15:12:36.7±0.3, 5457N±005×16091W±005, h31km, mb4.7/72, MS4.3/11, Error ellipse: s-maj=7.0km s-min=3.5km az=138.2*
*BJI **27** 15:12:37.9, 5509N×16160W, h24km, mB5.0, mb4.8, Ms4.7, Msz4.4*
*SZGRF **27** 15:12:39.5, 5430N×15960W, h33km, mb4.7, South of Alaska*
*IDC **27** 15:12:39.0±0.9, 5475N×16088W, h30km±4km, mb4.1/18, mb1 4.2/21, mb1mx4.2/25, mbtmp4.2/21, ML4.2/3, MS3.9/6, Ms1 3.9/6, ms1mx3.4/36, Error ellipse: s-maj=21.8km s-min=14.0km az=2.0*

ISC 27 15:12:38.7±0.3, **5461N**±005×**16090W**±005, **h33**km, **h33**km±1.4km:**pP-P, n168**, σ1º**01**/172, **mb4.7**/72, **MS4.3**/11, **15C-10D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.79**	**18**	P	**Pn**	**15 12 54.1**	**+0.6**
SDPT				S	**Sn**	**15 13 05.3**	**+1.3**
FALS	**False Pass**	**1.48**	**281**	P	**Pn**	**15 13 04.2**	**+1.2**
FALS				S	**Sn**	**15 13 26.0**	**+4.9**
CHGN	**Chignik**	**2.21**	**39**	P	**Pn**	**15 13 14.7**	**+1.6**
CHGN				S	**Sn**	**15 13 43.5**	**+4.3**
AKUT	**Akutan**	**2.89**	**263**	P	**Pn**	**15 13 23.1**	**+0.8**
AKUT				S	**Sn**	**15 13 57.6**	**+1.8**
AKLV	**Akutan Long Va**	**2.99**	**264**	P	**Pn**	**15 13 24.4**	**+0.7**
UNV	**Unalaska Valle**	**3.37**	**259**	P	**Pn**	**15 13 29.2**	**+0.2**
OKCD	**Okmok Cone D**	**4.41**	**257**	P	**Pn**	**15 13 44.7**	**+1.4**
NIKO	**Nikolski**	**4.99**	**254**	P	**Pn**	**15 13 51.5**	**+0.3**
KDAK	**Kodiak Island**	**5.63**	**52**	Pn	**Pn**	**15 13 59.6**	**-0.4**
	4.7nm,0.3s,baz=233,slow=6.8,SNR=29						
KDAK				Sn	**Sn**	**15 15 02.9**	**-0.7**
	6.4nm,0.3s,baz=70,slow=21,SNR=12						
KDAK				Lg		15 15 26.4	
	8.1nm,0.3s,baz=167,slow=21,SNR=6.3						
KDAK				LR	LR	15 16 30.5	
	comp=Z,814nm,19.7s,baz=227,slow=42						
KDAK	**Kodiak Island**	**5.63**	**52**	P	**Pn**	**15 13 59.5**	**-0.5**
SPIA	**Saint Paul Isl**	**5.85**	**300**	P	**Pn**	**15 14 05.8**	**+2.7**
SVW2	**Sparrevohn**	**7.10**	**21**	P	**Pn**	**15 14 22.9**	**+2.7**
SLKM	**Skilak Lake**	**8.24**	**40**	*e*Pn	**Pn**	**15 14 36.6**	**+0.7**
ATKA	**Atka Island**	**8.30**	**259**	P	**Pn**	**15 14 37.1**	**+0.5**
TTA	**Tatalina**	**8.72**	**15**	*e*P	**Pn**	**15 14 44.8**	**+2.3**
TTA				pmax	pmax		
	comp=Z,44nm,1.1s						
TTA	**Tatalina**	**8.72**	**15**	*e*P	**Pn**	**15 14 44.8**	**+2.3**
	comp=Z,44nm,1.1s						
PMR	**Palmer**	**9.36**	**37**	P	**Pn**	**15 14 54.4**	**+3.2**
PMR				pmax	pmax		
	comp=Z,16nm,0.8s						
PMR	**Palmer**	**9.36**	**37**	P	**Pn**	**15 14 54.4**	**+3.1**
	comp=Z,16nm,0.8s						
EYAK	**Cordova Ski Ar**	**10.07**	**48**	*e*P	**Pn**	**15 14 59.6**	**-1.3**
DIV	**Divide**	**10.36**	**45**	*e*P	**Pn**	**15 15 04.2**	**-0.8**
	comp=Z,24nm,0.4s						
MCK	**McKinley**	**11.00**	**29**	*e*P	**Pn**	**15 15 17.2**	**+3.6**
MCK				pmax	pmax		
	comp=Z,23nm,1.2s						
MCK	**McKinley**	**11.00**	**29**	*e*P	**Pn**	**15 15 17.2**	**+3.6**
	comp=Z,23nm,1.2s						
COLA	**College**	**12.19**	**27**	P	**Pn**	**15 15 31.5**	**+1.6**
	comp=Z,22nm,0.9s						
AMKA	**Amchitka**	**12.35**	**263**	*e*P	**Pn**	**15 15 31.2**	**-0.9**
DAWY	**Dawson**	**14.42**	**40**	P	**Pn**	**15 16 01.1**	**+0.7**
DLBC	**Dease Lake**	**17.37**	**65**	Pn	**Pn**	**15 16 39.8**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=250,slow=11,SNR=5.0						
INK	**Inuvik**	**18.72**	**32**	P	**Pn**	**15 16 53.9**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=253,slow=14,SNR=9.9						
INK				LR	LR	15 25 12.7	
	comp=Z,488nm,19.0s,baz=53,slow=40						
INK	**Inuvik**	**18.72**	**32**	*e*P	**Pn**	**15 16 53.7**	**-1.3**
INK				pmax	pmax		
	comp=Z,15nm,0.9s						
INK	**Inuvik**	**18.72**	**32**	*e*P	**Pn**	**15 16 53.7**	**-1.3**
	comp=Z,15nm,0.9s						
BBB	**Bella Bella**	**19.61**	**84**	LR	LR	15 22 59.1	
	comp=Z,190nm,19.1s,baz=24,slow=32						
BILL	**Bilibino**	**20.36**	**324**⇓	*e*P	**P**	**15 17 12.8**	**+0.5**
BILL				pmax	pmax		
	comp=Z,70nm,1.0s						
BILL				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.0						
BILL	**Bilibino**	**20.36**	**324**	*e*P	**P**	**15 17 12.5**	**+0.2**
	comp=Z,9.4nm,0.9s						
YKA	**Yellowknife Ar**	**24.91**	**53**	P	**P**	**15 17 57.1**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=359,slow=2.5,SNR=3.7						
MA2	**Magadan**	**26.24**	**301**	*e*P	**P**	**15 18 00.7**	**-10**
NEW	**Newport**	**27.65**	**85**	LR	LR	15 27 14.8	
	comp=Z,217nm,19.5s,MS3.7,baz=304,slow=32						
YBH	**Yreka Blue Hor**	**28.16**	**101**	LR	LR	15 27 03.5	
	comp=Z,251nm,20.4s,MS3.8,baz=252,slow=31						
NVAR	**Mina Array Bea**	**32.88**	**102**	P	**P**	**15 19 10.2**	**+0.7**
	comp=Z,1.8nm,0.7s,mb4.1,baz=308,slow=7.5,SNR=18						
TIXI	**Tiksi**	**33.51**	**327**	*e*P	**P**	**15 19 14.6**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
TPNV	**Topopah Spring**	**35.08**	**102**	*e*P	**P**	**15 19 28.2**	**-0.4**
TPNV				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
TPNV	**Topopah Spring**	**35.08**	**102**	*e*P	**P**	**15 19 28.2**	**-0.4**
	comp=Z,6.4nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**35.13**	**88**	P	**P**	**15 19 29.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=297,slow=6.0,SNR=3.0						
YAK	**Yakutsk**	**35.54**	**311**⇑	*e*P	**P**	**15 19 31.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
YSS	**Yuzh-Sakhalins**	**35.57**	**281**⇓	*e*P	**P**	**15 19 26.8**	**-6.0**
MSU	**Marysvale**	**36.35**	**96**	*e*P	**P**	**15 19 40.5**	**+1.0**
SRU	**San Rafael**	**36.91**	**94**	*e*P	**P**	**15 19 45.0**	**+0.8**
SRU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
SRU	**San Rafael**	**36.91**	**94**	*e*P	**P**	**15 19 45.0**	**+0.8**
	comp=Z,9.4nm,0.8s,mb4.7						
ULM	**Lac du Bonnet**	**38.62**	**69**	P	**P**	**15 19 59.2**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.8,baz=304,slow=12,SNR=2.5						
ULM	**Lac du Bonnet**	**38.62**	**69**	P	**P**	**15 19 59.2**	**+0.4**
WUAZ	**Wupatki**	**38.88**	**99**	*e*P	**P**	**15 20 00.5**	**-0.4**
	comp=Z,3.2nm,0.6s,mb4.2						
HABR	**Khabarovsk**	**39.06**	**288**	*e*P	**P**	**15 20 01.4**	**-1.0**
HABR				*e*S	**S**	**15 25 59.8**	**+0.4**
HABR				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.1						
KLR	**Kul'dur**	**40.44**	**291**	*e*P	**P**	**15 20 10.0**	**-3.9**
LAZ	**Ladron**	**42.12**	**96**	*e*P	**P**	**15 20 28.5**	**+0.8**
ANMO	**Albuquerque**	**42.12**	**95**	P	**P**	**15 20 27.1**	**-0.6**
	comp=Z,1.2nm,0.5s,mb3.8,baz=349,slow=7.5,SNR=3.0						
EYMN	**Ely**	**42.30**	**69**	P	**P**	**15 20 27.2**	**-2.0**
	comp=Z,10nm,1.0s,mb4.4						
BNM	**Barren Site**	**42.59**	**96**	*e*P	**P**	**15 20 32.1**	**+0.6**
BNM				*e*	pP	15 20 43.1	+1.9
MDJ	**Mudanjiang**	**44.38**	**287**	P	**P**	**15 20 44.0**	**-1.9**
MDJ				AMB	AMB		
	comp=Z,40nm,5.1s						
MJAR	**Matsushiro Arr**	**44.76**	**272**	P	**P**	**15 20 48.6**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.1,baz=38,slow=6.5,SNR=6.4						
KBS	**Kingsbay**	**46.66**	**2**⇑	*e*P	**P**	**15 21 05.1**	**+1.2**
DAG	**Danmarks Havn**	**46.72**	**11**⇑	*i*P	**P**	**15 21 04.1**	**-0.4**
	comp=Z,4.2nm,0.5s,mb4.6						
DAG	**Danmarks Havn**	**46.72**	**11**⇑	*e*P	**P**	**15 21 04.1**	**-0.4**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
DAG	**Danmarks Havn**	**46.72**	**11**⇑	*e*P	**P**	**15 21 04.1**	**-0.4**
	comp=Z,4.2nm,0.5s,mb4.6						
SUMG	**Summit**	**47.04**	**20**	*e*P	**P**	**15 21 06.9**	**0.0**
	comp=Z,15nm,0.1s						
CN2	**Changchun**	**47.19**	**289**	*e*P	**P**	**15 21 07.0**	**-1.1**
CN2				*e*S	**S**	**15 27 54.5**	**-4.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				LR	LR		
	comp=N,300nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=E,400nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=Z,400nm,15.0s,MS4.5						
SFJD	**Kangerlussuaq**	**48.04**	**30**	P	**P**	**15 21 14.6**	**-0.1**
	comp=Z,7.7nm,0.6s,mb4.9,baz=312,slow=8.2,SNR=4.6						
SNY	**Shenyang**	**49.53**	**288**⇑	P	**P**	**15 21 26.0**	**-0.1**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
TLY	**Talaya**	**52.98**	**309**	*e*P	**P**	**15 21 51.9**	**-0.1**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**54.03**	**304**	*d i*P	**P**	**15 21 59.7**	**0.0**
ULN	**Ulaanbaatar**	**54.03**	**304**	*e*P	**P**	**15 21 59.6**	**-0.2**
	comp=Z,28nm,0.6s,mb5.4						
ZAK	**Zakamensk**	**54.05**	**308**	*e*P	**P**	**15 21 59.1**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
SONM	**Songino Array**	**54.37**	**304**	P	**P**	**15 22 02.4**	**+0.3**
	comp=Z,5.7nm,0.9s,mb4.5,baz=44,slow=7.5,SNR=33						
SONM				LR	LR	15 47 00.6	
	comp=Z,152nm,19.4s,MS4.1,baz=135,slow=38						
KRAR	**Krasnoyarsk**	**54.43**	**318**⇓	*e*P	**P**	**15 22 01.9**	**-0.7**
KEV	**Kevo**	**55.81**	**357**	*e*p	**P**	**15 22 10.5**	**-2.1**
	comp=Z,1.4nm,0.3s,mb4.5						
ARCES	**ARCESS Array B**	**56.08**	**357**	P	**P**	**15 22 13.2**	**-1.3**
	comp=Z,1.7nm,0.4s,mb4.4,baz=26,slow=7.2,SNR=15						
HHC	**Hu-ho-hao-te**	**56.71**	**295**	*e*P	**P**	**15 22 18.5**	**-0.5**
HHC				AP	pP	15 22 31.3	+2.3
HHC				PCP	PcP	15 23 14.3	-0.5
HHC				PP	PP	15 24 26.5	+1.3
HHC				S	**S**	**15 30 04.5**	**-4.8**
HHC				SCS	ScS	15 32 00.0	-5.7
HHC				SS	SS	15 33 54.3	-3.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HHC				AMB	AMB		
	comp=Z,220nm,4.8s						
HHC				LR	LR		
	comp=N,180nm,15.5s,MS4.4						
HHC				LR	LR		
	comp=E,140nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=Z,200nm,15.5s,MS4.3						
APA	**Apatity**	**57.68**	**354**⇓	*i*P	pP	15 22 37.6	+1.7
APA				*i*		15 22 42.0	
APA				*i* S	**S**	**15 30 30.0**	**+7.9**
APA				*e*SSS		15 36 30.0	
APA				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.6						
SSE	**Sheshan**	**58.50**	**280**	P	**P**	**15 22 30.3**	**-1.3**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,310nm,6.4s						
NVS	**Novosibirsk**	**58.89**	**323**	*i* P	**P**	**15 22 33.0**	**-1.3**
NJ2	**Nanjing**	**59.12**	**283**	*e*P	**P**	**15 22 39.5**	**+3.6**
NJ2				PCP	PcP	15 23 22.0	-2.3
NJ2				S	**S**	**15 30 42.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,240nm,12.0s						
NJ2				LR	LR		
	comp=N,320nm,16.1s,MS4.6						
NJ2				LR	LR		
	comp=E,220nm,16.8s,MS4.6						
NJ2				LR	LR		
	comp=Z,320nm,10.7s						
SOKR	**Solikamsk**	**62.24**	**339**⇑	*i*P	**P**	**15 22 55.6**	**-1.6**
SOKR				*i*	pP	15 23 03.4	-3.9
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
JOF	**Joensuu**	**62.43**	**354**	*e*p	**P**	**15 22 56.5**	**-1.9**
	comp=Z,1.9nm,0.4s,mb4.6						
JOF	**Joensuu**	**62.43**	**354**	*e*P	**P**	**15 22 56.5**	**-1.9**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
KAF	**Kangasniemi**	**63.49**	**356**	*e*p	**P**	**15 23 03.7**	**-1.7**
	comp=Z,4.9nm,0.3s,mb5.1,baz=1.5,slow=6.5						
KAF	**Kangasniemi**	**63.49**	**356**	*e*P	**P**	**15 23 03.7**	**-1.7**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb5.1						
KLMR	**Klimovskoe**	**63.75**	**349**	*e*P	**P**	**15 23 05.7**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
GTA	**Gaotai**	**63.80**	**302**	*e*P	**P**	**15 23 07.3**	**-0.2**
GTA				AP	pP	15 23 11.3	-6.3
GTA				XP	sP	15 23 14.5	-7.0
KURK	**Kurchatov**	**63.88**	**322**	*c i*P	**P**	**15 23 07.3**	**-0.7**
KURK				*i* *PP	pP	15 23 13.7	-4.5
KURK				*i*		15 23 42.2	
KURK				*i*		15 25 28.3	
KURK	**Kurchatov**	**63.88**	**322**	*e*P	**P**	**15 23 07.0**	**-1.0**
	comp=Z,10.0nm,1.1s,mb4.8						
FINES	**FINESS Array B**	**64.17**	**356**	P	**P**	**15 23 08.9**	**-1.0**
	comp=Z,8.4nm,0.8s,mb4.8,baz=16,slow=8.9,SNR=24						
LZH	**Lanzhou**	**64.29**	**296**	*e*P	**P**	**15 23 10.3**	**-0.4**
LZH				AP	pP	15 23 22.5	+1.6
LZH				XP	sP	15 23 27.8	+3.0
LZH				PP	PP	15 25 33.5	+1.2
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,60nm,6.7s						
LZH				LR	LR		
	comp=N,690nm,15.7s						
LZH				LR	LR		
	comp=Z,830nm,18.2s,MS5.0						
NB2	**NORSAR Subarra**	**64.53**	**4**	P	**P**	**15 23 11.5**	**-0.8**
	comp=Z,14nm,0.9s,mb5.0,baz=355,slow=6.5						
NB2	**NORSAR

ZRNK pmax pmax
comp=Z,14nm,1.1s,mb4.9
ZRNK Zerenda 65.11 329 *e*P **P 15 23 15.4 -0.7**
comp=Z,17nm,1.0s,mb5.0
MK31 Makanchi Array 65.75 318 P **P 15 23 19.1 -1.1**
MK31 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MKAR Makanchi Array 65.75 318 P **P 15 23 19.6 -0.7**
comp=Z,4.1nm,0.8s,mb4.5,baz=44,slow=7.2,SNR=26
MKAR Makanchi Array 65.75 318⇑ *e*P **P 15 23 19.6 -0.6**
KONO Kongsberg 65.84 5 *i* P **P 15 23 21.4 +0.6**
WMQ Urumqi 65.95 312 P **P 15 23 21.5 0.0**
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,260nm,4.0s
WMQ LR LR
comp=N,60nm,20.0s,MS3.9
WMQ LR LR
comp=E,60nm,21.0s,MS3.9
WMQ LR LR
comp=Z,110nm,27.0s
CD2 Chengdu 68.33 293 *e*P **P 15 23 34.8 -1.8**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
OBN Obninsk 69.71 349⇓ *e*P **P 15 23 44.5 -0.6**
OBN pmax pmax
comp=Z,19nm,1.0s,mb5.0
GYA Guiyang 70.23 288⇑ *i*P **P 15 23 48.3 0.0**
GYA AP pP 15 24 02.3 +3.7
GYA PP PP 15 26 27.0 +3.1
GYA S S 15 32 56.3 -1.4
GYA SKS 15 33 42.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,90nm,4.8s
GYA LR LR
comp=N,140nm,18.9s,MS4.4
GYA LR LR
comp=E,160nm,19.0s,MS4.4
GYA LR LR
comp=Z,130nm,18.0s,MS4.2
AB31 Akbulak array 70.97 333 *i* P **P 15 23 52.4 -0.5**
AB31 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TKM2 Tokmak 2 71.58 320 P **P 15 23 57.2 +0.6**
SNR=9.4
USP Ospenovka 71.69 321 P **P 15 23 57.7 +0.4**
SNR=5.5
CHMS Chumysh 71.83 320 P **P 15 23 58.6 +0.5**
SNR=8.6
KBK Karagaybulak 72.05 320 P **P 15 24 00.2 +0.8**
SNR=11
AAK Ala-Archa 72.24 320 P **P 15 23 58.3 -2.2**
SNR=5.8
KZA Kyzart 72.44 320 P **P 15 24 03.0 +1.4**
SNR=5.4
EKS2 Erkin-Say 72.48 321 P **P 15 24 02.4 +0.4**
SNR=7.6
KK31 Karatay Array 73.26 323 *i* P **P 15 24 05.9 -0.7**
KK31 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KKAR Karatay Array 73.26 323 *i* P **P 15 24 05.9 -0.7**
KKAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KMI Kunming 73.44 290 P **P 15 24 08.0 +0.4**
KMI S S 15 33 33.0 -1.7
KMI LR LR
comp=N,110nm,14.6s,MS4.5
KMI LR LR
comp=E,100nm,11.9s,MS4.5
KMI LR LR
comp=Z,70nm,17.4s
CLL Collm 74.34 4 *e*P **P 15 24 13.0 +0.1**
comp=Z,6.0nm,1.1s,mb4.4
CLL Collm 74.34 4 *e*P **P 15 24 13.0 +0.1**
CLL pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
AKASG Malin Array Be 74.72 353 P **P 15 24 14.2 -0.9**
comp=Z,3.3nm,0.3s,mb4.7,baz=6.8,slow=5.6,SNR=33
AKASG pP pP 15 24 23.2 -2.3
comp=Z,6.5nm,0.5s,baz=6.4,slow=5.4,SNR=11
AKASG Malin Array Be 74.72 353 P **P 15 24 14.2 -0.9**
AKASG pP pP 15 24 23.2 -2.3
BRG Berggiesshubel 74.81 3 *e*P **P 15 24 15.4 -0.2**
comp=Z,2.4nm,0.8s,mb4.2
BRG *e* pP 15 24 25.0 -0.9
comp=Z,2.8nm,0.9s
BRG Berggiesshubel 74.81 3 *e*P **P 15 24 15.4 -0.2**
comp=Z,2.4nm,0.8s,mb4.2
BRG *e* pP 15 24 25.0 -0.9
comp=Z,2.8nm,0.9s
BRG Berggiesshubel 74.81 3 *e*P **P 15 24 15.4 -0.2**
BRG *e* pP 15 24 25.0 -0.9
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
PVCC Panska Ves 75.17 3 *e*P **P 15 24 17.5 -0.2**
UPC Upice 75.23 2 *e*P **P 15 24 18.8 +0.8**
DPC Dobruska-Polom 75.39 2 *e*P **P 15 24 19.2 +0.2**
DPC *e*pP pP 15 24 27.9 -1.4
LSA Lhasa 75.82 301 *e*P **P 15 24 22.3 +0.9**
LSA pmax pmax
comp=Z,13nm,0.8s,mb4.9
LSA Lhasa 75.82 301 *e*P **P 15 24 22.3 +0.9**
comp=Z,13nm,0.8s,mb4.9
GRA1 Grafenberg Arr 75.87 5 *e*P **P 15 24 22.2 +0.5**
comp=Z,5.0nm,0.9s,mb4.4
GRA1 *e*pP pP 15 24 31.6 -0.4
GRF Grafenberg Arr 75.87 5 *e*P **P 15 24 22.2 +0.5**
comp=Z,5.0nm,0.9s,mb4.4
GRF *e*pP pP 15 24 31.6 -0.4
KHC Kasperske Hory 76.53 4 *e*P **P 15 24 26.3 +0.8**
KHC *e*pP pP 15 24 35.6 -0.2
KOLS Kolonicke sedl 76.80 358 *e*P **P 15 24 31.1 +4.1**
KOLS Kolonicke sedl 76.80 358 *e* **P 15 24 31.1 +4.1**
GERES GERESS Array B 76.82 4 P **P 15 24 27.3 +0.2**
comp=Z,0.9nm,0.6s,mb3.9,baz=17,slow=4.9,SNR=9.4
GERES pP pP 15 24 37.2 -0.3
comp=Z,1.8nm,0.7s,baz=355,slow=4.4,SNR=7.2
VYHS Vyhne 77.28 0 *e*P **P 15 24 29.6 -0.1**
VYHS *e* pP 15 24 39.7 -0.3
VYHS pmax pmax
comp=Z,24nm,2.5s,mb4.7
VYHS Vyhne 77.28 0 *e*P **P 15 24 29.6 -0.1**
comp=Z,24nm,2.5s,mb4.7
VYHS *e* pP 15 24 39.7 -0.3
KECS Kecovo 77.28 359 *e*P **P 15 24 30.1 +0.4**
comp=Z,3.2nm,0.9s,mb4.2
KECS *e* pP 15 24 39.7 -0.3
CONA Conrad Observa 77.81 2⇑ *e*P **P 15 24 33.1 +0.5**
comp=Z,4.8nm,0.9s,mb4.4
MOA Molln 77.84 3⇓ *e*P **P 15 24 35.7 +2.9**
comp=Z,2.9nm,0.8s,mb4.3
ARSA Arzberg 78.47 2 ⇓P **P 15 24 36.1 -0.2**
comp=Z,4.5nm,0.9s,mb4.4
KBA Koelnbreinsper 78.58 4⇑ *i*P **P 15 24 37.8 +1.0**
comp=Z,7.8nm,1.1s,mb4.5
KBA Koelnbreinsper 78.58 4⇑ *i*P **P 15 24 37.8 +0.9**
KBA pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GOF Gofitskoye 78.65 343 *e*P **P 15 24 36.7 -0.6**
GOF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
PERS Pernice 79.08 3 *e*P **P 15 24 40.0 +0.3**
PERS *e* pP 15 24 50.2 +0.2
OBKA Obir 79.19 3⇓ *i*P **P 15 24 40.6 +0.4**
comp=Z,10nm,0.8s,mb4.8
OBKA ⇑*i* pP 15 24 50.8 +0.2
comp=Z,14nm,0.6s
OBKA Obir 79.19 3⇓ *i*P **P 15 24 40.6 +0.4**
comp=Z,10nm,0.8s,mb4.8
OBKA *i* pP 15 24 50.8 +0.2
GROS Grobnik 79.26 3 *e*P **P 15 24 40.8 +0.1**
GROS *e* pP 15 24 50.8 -0.2
CADS Cadrg 79.44 4 *e*P **P 15 24 41.1 -0.5**
KIV Kislovodsk 79.78 343 *e*P **P 15 24 43.9 +0.5**
KIV pmax pmax
comp=Z,28nm,1.1s,mb5.1
JAVS Javornik 79.79 4 *e*P **P 15 24 42.7 -0.8**
GUN Gumba 79.88 304 *e*P **P 15 24 44.4 +0.4**
comp=Z,55nm,0.9s,mb5.5
JIRN Jiri 79.94 304 *e*P **P 15 24 44.9 +0.6**
comp=Z,27nm,0.5s,mb5.4
KKN Kakani 80.27 305 *e*P **P 15 24 46.2 +0.1**
comp=Z,15nm,0.7s,mb5.1
PKI Pulchoki 80.39 304 *e*P **P 15 24 46.8 +0.1**
GKN Gorkha 80.39 305 *e*P **P 15 24 46.7 -0.1**
comp=Z,30nm,1.0s,mb5.2
DMN Daman 80.50 305 *e*P **P 15 24 47.6 +0.2**
comp=Z,30nm,0.8s,mb5.3
KOLN Koldanda 81.08 306 *e*P **P 15 24 50.5 +0.1**
comp=Z,21nm,0.9s,mb5.0
ESDC Sonseca Array 84.03 18 P **P 15 25 06.3 +0.5**
comp=Z,0.7nm,0.5s,mb4.1,baz=344,slow=4.5,SNR=8.1
BR131 Keskin Array S 85.22 349 *e*P **P 15 25 12.0 +0.2**
BRTR Keskin Array B 85.22 349 P **P 15 25 12.4 +0.6**
comp=Z,2.7nm,0.9s,mb4.4,baz=58,slow=3.1,SNR=11
BRTR pP pP 15 25 21.6 -0.7
comp=Z,5.4nm,0.8s,baz=38,slow=3.2,SNR=16
WRA Warramunga Arr 92.43 238 P **P 15 25 48.0 +2.0**
comp=Z,0.6nm,1.0s,mb3.9,baz=37,slow=5.2,SNR=3.0
ASAR Alice Springs 95.79 237 P **P 15 26 04.0 +2.5**
comp=Z,0.2nm,0.7s,mb3.7,baz=33,slow=3.8,SNR=2.8
QSPA South Pole Qui 144.38 180 *e*P PKPdf 15 32 06.6 -4.8
LBTB Lobatse 150.05 348 PKPbc PKPbc 15 32 24.5 -1.3
comp=Z,2.1nm,0.5s,baz=72,slow=9.2,SNR=4.9
LBTB Lobatse 150.05 348 PKPbc PKPbc 15 32 24.5 -1.3

IDC 27 15:21:53.9±28.0, 2112S×17317W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=517.0km s-min=166.0km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.92**	**264**	P	P	15 29 13.9	+1.0
	5.4nm,0.8s,baz=90,slow=13,SNR=5.2						
STKA	**Stephens Creek**	**41.62**	**245**	P	P	15 29 41.9	-1.8
	0.4nm,0.4s,baz=94,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**48.77**	**257**	P	P	15 30 41.0	+0.4
	0.7nm,0.5s,baz=98,slow=6.5,SNR=10						
WRA	**Warramunga Arr**	**48.98**	**262**	P	P	15 30 43.1	+0.9
	0.5nm,0.3s,baz=93,slow=8.2,SNR=15						

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*NEIC **27** 15:40:11.1, 2065N×10164W, h67km, MD3.9(MEX), After MEX.*
MEX 27 15:40:10.9±0.4, 1926N×10232W, h16km±7km, MD4.0, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**1.15**	**68**	*i* P	Pn	15 40 28.7	-3.6
MOIG				*i* S	Sb	15 40 42.8	-4.2
SFJM	**Santa Fe**	**1.40**	**331**	*i* P	Pn	15 40 32.5	-3.3
SFJM				*i* S	Sn	15 40 49.0	-4.9
PLIG	**Platanillo**	**2.81**	**107**	*e*P	Pn	15 40 52.8	-2.3
PLIG				*i* S	Sn	15 41 25.5	-3.2
PLIG	**Platanillo**	**2.81**	**107**	*i* P	Pn	15 40 59.5	+4.3
PLIG				*i* S	Sn	15 41 33.1	+4.4
MEIG	**Mezcala**	**2.88**	**117**	*i* P	Pn	15 40 53.8	-2.4
MEIG				*i* S	Sn	15 41 26.9	-3.8
ZAIG	**Zacatecas**	**3.50**	**356**	*i* P	Pn	15 41 03.2	-1.5
ZAIG				*i* S	Sn	15 41 43.4	-2.4
ZAIG	**Zacatecas**	**3.50**	**356**	*i* P	Pn	15 41 01.0	-3.7
ZAIG				*i* S	Sn	15 41 28.1	-18
UTMO	**Huajuapan**	**4.51**	**108**	*e*P	Pn	15 41 24.8	+6.2
UTMO				*i* S	Sn	15 42 12.0	+1.2

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*SZGRF **27** 15:53:01.5, 1478S×6995W, h201km, mb5.1, Peru-Bolivia border region*
*IDC **27** 15:53:17.7±0.6, 1531S×7057W, h191km±4km, mb4.6/17, mb1 4.7/20, mb1mx4.6/24, mbtmp5.0/20, MS4.0/9, Ms1 4.0/9, ms1mx3.7/31, Error ellipse: s-maj=12.7km s-min=8.3km az=41.0*
*ISCJB **27** 15:53:17.5±0.2, 1529S±004×7052W±003, h201km, mb4.9/115, Error ellipse: s-maj=5.9km s-min=3.5km az=65.8*
*NEIC **27** 15:53:18.6±0.2, 1532S×7048W, mb5.0/104, Error ellipse: s-maj=6.1km s-min=4.0km az=49.0*
NEIC Felt [II] at Arica, Chile.
*MOS **27** 15:53:18.1±1.1, 1500S×7046W, h195km, mb5.3/46, Error ellipse: s-maj=9.6km s-min=6.9km az=100.8*
*HRVD **27** 15:53:18.6±0.2, 1541S×7088W, h195km±1km, MW5.3/91, Centroid moment Tensor Solution. LP body waves: s54,c79;Mantle waves: s91,c137; Half duration: 1ŝ1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20±.02; $M_{\theta\theta}$0.37±.02; $M_{\phi\phi}$-0.17±.03; $M_{r\theta}$0.70±.02; $M_{\theta\phi}$-0.10±.02; $M_{\phi r}$-0.73±.02; Best double couple: $M_0$1.06300×10^{17} NP1:ϕ_s65.00000°,δ16.00000°,λ-159.00000°. NP2: ϕ_s315.00000°,δ84.00000°,λ-75.00000°. Principal axes: T 1.0670, Plg38.0000°, Azm32.0000°; N -0.0080, Plg15.0000°, Azm133.0000°; P -1.0580, Plg49.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **27** 15:53:19.6, 1530S×7050W, h201km, mB5.1*
*LDG **27** 15:53:21.5±0.6, 1482S×6988W, h205km, Mb4.7/15, Ms3.9/2, Error ellipse: s-maj=32.2km s-min=18.0km az=33.0*
ISC 27 15:53:19.3±0.2, 1529S±004×7043W±003, h203km, h203km±2.0km: pP-P, n504, σ0=86/393, mb4.9/115, 59C-71D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.55**	**221⇑**	*i*P	**Pn**	**15 53 45.5**	**-8.2**
ARE				*e*S	**Sn**	**15 54 07.0**	**-13**
LPAZ	**La Paz**	**2.42**	**114**	P	**Pn**	**15 54 02.9**	**+0.4**
	324nm,0.3s,baz=300,slow=11,SNR=6113						
LPAZ				S	**Sn**	**15 54 37.9**	**+1.6**
	105nm,0.3s,baz=191,slow=24,SNR=13						
LPAZ				LR	LR	15 54 55.1	
	comp=Z,2μm,19.7s,baz=262,slow=38						
LPAZ	**La Paz**	**2.42**	**114**	⇓*i*Pn	**Pn**	**15 54 02.9**	**+0.3**
LPAZ				*e*Sn	**Sn**	**15 54 36.5**	**+0.3**
NNA	**Nana**	**7.05**	**297**	Pn	**Pn**	**15 54 52.0**	**-8.1**
	2μm,0.5s,SNR=31						
NNA	**Nana**	**7.05**	**297**	⇓*i*Pn	**Pn**	**15 54 52.6**	**-7.5**
	504nm,0.6s						
NNA				*e*Sn	Sn	15 55 58.4	-22
LVC	**Limon Verde**	**7.42**	**169**	P	**Pn**	**15 55 00.2**	**-4.8**
	195nm,0.3s,SNR=1495						
LVC				S	**Sn**	**15 56 21.4**	**-7.7**
	520nm,0.3s,SNR=16						
LVC	**Limon Verde**	**7.42**	**169**	*e*Pn	**Pn**	**15 54 58.8**	**-6.2**
	477nm,0.3s						
LVC				*e*Sn	Sn	15 55 56.6	-32
SIV	**San Ignacio**	**9.04**	**96**	P	**Pn**	**15 55 25.7**	**-0.3**
	12nm,0.3s,baz=272,slow=13,SNR=193						
SIV				S	**Sn**	**15 57 08.7**	**+1.3**
	1.8nm,0.3s,baz=40,slow=20,SNR=4.3						
SAML	**Samuel**	**9.48**	**49⇑**	*i*Pn	**Pn**	**15 55 31.8**	**0.0**
	247nm,0.9s						
CRCH	**Chaqaral**	**11.00**	**181**	*e*P	**Pn**	**15 55 44.8**	**-6.5**
ATAH	**Atahualpa**	**11.36**	**316**	P	**Pn**	**15 55 52.9**	**-2.9**
	0.8nm,0.3s,baz=156,slow=3.2,SNR=8.9						
ATAH				LR	LR	16 00 34.9	
	comp=Z,285nm,20.8s,baz=133,slow=39						
CDCH	**Caldera**	**11.73**	**182**	*i* P	**Pn**	**15 55 53.2**	**-7.3**
TLL	**Tololo Astrono**	**14.81**	**181**	⇓*i*P	**Pn**	**15 56 35.5**	**-3.5**
CFAA	**Coronel Fontan**	**16.36**	**173**	P	**P**	**15 56 55.1**	**-1.8**
	1.1nm,0.3s,baz=357,slow=13,SNR=43						
CPUP	**Villa Florida**	**16.43**	**134**	*e*P	**P**	**15 56 55.6**	**-2.1**
CPUP				pmax	pmax		
	comp=Z,71nm,0.6s						
CPUP	**Villa Florida**	**16.43**	**134**	*e*P	**P**	**15 56 55.6**	**-2.1**
	comp=Z,71nm,0.6s						
OTAV	**Otavalo**	**17.35**	**332**	*e*P	**P**	**15 57 08.5**	**+0.8**
	comp=Z,301nm,0.8s						
MDZ	**Mendoza**	**17.57**	**176**	*e*P	**P**	**15 57 10.0**	**-0.2**
ROSC	**El Rosal**	**20.39**	**349**	LR	LR	16 05 44.5	
	comp=Z,317nm,21.0s,baz=169,slow=37						
BDFB	**Brasilia**	**21.60**	**94**	P	**P**	**15 57 53.6**	**+0.3**
	comp=Z,35nm,0.8s,mb4.9,baz=267,slow=12,SNR=36						
BAO	**Brasilia Array**	**21.63**	**94**	P	**P**	**15 57 54.0**	**+0.4**
TRQA	**Tornquist**	**23.87**	**163**	*e*P	**P**	**15 58 12.0**	**-2.2**
	comp=Z,73nm,1.4s,mb5.1						
SDV	**Santo Domingo**	**24.02**	**359**	P	**P**	**15 58 14.2**	**-1.4**
	comp=Z,82nm,0.6s,mb5.5						
PAYG	**Puerto Ayora**	**24.41**	**305**	*e*P	**P**	**15 58 18.8**	**-0.2**
	comp=Z,40nm,0.7s,mb5.2						
PLCA	**Paso Flores**	**25.35**	**180**	P	**P**	**15 58 25.4**	**-2.1**
	comp=Z,28nm,0.8s,mb5.0,baz=355,slow=10,SNR=67						
PLCA				PcP	PcP	16 01 54.8	+0.3
	comp=Z,7.3nm,0.8s,baz=349,slow=4.3,SNR=5.0						
PLCA				ScP	ScP	16 05 17.2	+2.9
	comp=Z,1.6nm,0.8s,baz=155,slow=5.1,SNR=3.3						
PLCA	**Paso Flores**	**25.35**	**180⇓**	*e*P	**P**	**15 58 25.3**	**-2.3**
	comp=Z,63nm,1.0s,mb5.2						
PLCA				*e*pP	pP	15 59 01.9	-6.1
PCRV	**Puerto La Cruz**	**25.95**	**13**	P	**P**	**15 58 32.3**	**-0.6**
	comp=Z,12nm,0.4s,mb4.9,baz=196,slow=1.9,SNR=6.8						
JTS	**JuntasAbangare**	**29.21**	**330⇓**	*e*P	**P**	**15 59 03.9**	**+2.0**
JTS	**JuntasAbangare**	**29.21**	**330**	*e*P	**P**	**15 59 01.5**	**-0.4**
	comp=Z,59nm,1.4s,mb5.0						
SJG	**San Juan**	**33.46**	**7**	P	**P**	**15 59 37.0**	**-2.0**
	comp=Z,66nm,0.8s,mb5.2						
SJG	**San Juan**	**33.46**	**7**	P	**P**	**15 59 37.0**	**-2.1**
SJG				pmax	pmax		
	comp=Z,66nm,0.8s						
SJG	**San Juan**	**33.46**	**7**	*e*P	**P**	**15 59 36.7**	**-2.4**
	comp=Z,96nm,0.9s,mb5.3						
RPN	**Rapa Nui**	**37.99**	**245**	P	**P**	**16 00 13.0**	**-4.6**
	comp=Z,175nm,0.9s,mb5.6,baz=124,slow=7.3						
RPN				LR	LR	16 11 54.6	
	comp=Z,264nm,19.8s,baz=319,slow=30						
TEIG	**Tepich**	**39.42**	**333**	*e*P	**P**	**16 00 29.4**	**0.0**
	comp=Z,60nm,1.3s,mb5.0						
TEIG				*e*PcP	PcP	16 02 33.6	+0.4
CMIG	**Matias Romero**	**40.22**	**322**	P	**P**	**16 00 35.2**	**-0.8**
	comp=Z,17nm,0.8s,mb4.5,baz=121,slow=8.5,SNR=18						
DWPF	**Disney**	**44.44**	**346**	*e*P	**P**	**16 01 09.2**	**-0.8**
	comp=Z,173nm,0.8s,mb5.4						
PMSA	**Palmer Station**	**49.62**	**176**	*e*P	**P**	**16 01 48.6**	**-1.5**
	comp=Z,113nm,1.4s,mb5.0						
KVTX	**Kingsville**	**50.23**	**328**	*e*P	**P**	**16 01 55.1**	**+0.4**
HKT	**Hockley**	**51.22**	**331**	*e*P	**P**	**16 02 02.1**	**+0.1**
HKT				pmax	pmax		
	comp=Z,40nm,1.4s,mb4.7						
HKT	**Hockley**	**51.22**	**331**	*e*P	**P**	**16 02 02.1**	**+0.1**
	comp=Z,40nm,1.4s,mb4.7						
CPCT	**Cooper Cave**	**52.20**	**345**	*e*P	**P**	**16 02 08.2**	**-1.1**
NATX	**Nacogdoches**	**52.24**	**334**	*e*P	**P**	**16 02 10.0**	**+0.5**
	comp=Z,59nm,0.7s,mb5.1						
SWET	**Sewanee**	**52.34**	**344**	*e*P	**P**	**16 02 08.4**	**-1.8**
PLAL	**Pickwick Lake**	**52.73**	**342**	*e*P	**P**	**16 02 11.0**	**-2.2**
	comp=Z,57nm,0.9s,mb5.0						
ELN	**Prospectdale**	**53.14**	**350**	*e*P	**P**	**16 02 15.5**	**-0.6**
FWV	**Forest Hill**	**53.49**	**350**	*e*P	**P**	**16 02 17.6**	**-1.1**
JCT	**Junction City**	**53.58**	**328**	*e*P	**P**	**16 02 18.3**	**-1.0**
JCT				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.8						
JCT	**Junction City**	**53.58**	**328**	*e*P	**P**	**16 02 18.3**	**-1.0**
	comp=Z,33nm,1.0s,mb4.8						
WVT	**Waverly**	**53.73**	**343**	*e*P	**P**	**16 02 18.0**	**-2.4**
WVT				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.2						
WVT	**Waverly**	**53.73**	**343**	*e*P	**P**	**16 02 18.0**	**-2.4**
	comp=Z,57nm,0.8s,mb5.2						
HBAR	**Harrisburg**	**54.08**	**340**	*e*P	**P**	**16 02 21.1**	**-1.9**
MIAR	**Mount Ida**	**54.23**	**336**	*e*P	**P**	**16 02 23.0**	**-1.1**
MIAR				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.3						
MIAR	**Mount Ida**	**54.23**	**336**	*e*P	**P**	**16 02 23.0**	**-1.1**
	comp=Z,120nm,1.3s,mb5.3						
GNAR	**Gosnell**	**54.24**	**340**	P	**P**	**16 02 22.6**	**-1.6**
GLAT	**Glass**	**54.29**	**341**	*e*P	**P**	**16 02 23.0**	**-1.5**
LTX	**Lajitas**	**54.76**	**324**	*e*P	**P**	**16 02 27.2**	**-0.6**
	comp=Z,21nm,1.2s,mb4.5						
PARMO	**Parma**	**54.80**	**341**	*e*P	**P**	**16 02 27.1**	**-1.1**
MVL	**Millersville**	**55.28**	**354**	*e*P	**P**	**16 02 29.9**	**-1.7**
WCI	**Wyandotte Cave**	**55.28**	**345**	*e*P	**P**	**16 02 29.4**	**-2.2**
WCI				pmax	pmax		
	comp=Z,77nm,0.8s,mb5.3						
WCI	**Wyandotte Cave**	**55.28**	**345**	*e*P	**P**	**16 02 29.4**	**-2.2**
	comp=Z,77nm,0.8s,mb5.3						
USIN	**University of**	**55.39**	**343**	*e*P	**P**	**16 02 30.5**	**-1.9**
	comp=Z,62nm,0.6s,mb5.3						
SSPA	**Standing Stone**	**56.07**	**353**	*e*P	**P**	**16 02 34.7**	**-2.5**
	comp=Z,18nm,1.1s,mb4.5						
PAL	**Palisades**	**56.10**	**357**	*e*P	**P**	**16 02 34.4**	**-3.0**
PAL				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.2						
PAL	**Palisades**	**56.10**	**357**	*e*P	**P**	**16 02 34.4**	**-3.0**
	comp=Z,64nm,0.9s,mb5.2						
ACSO	**Alum Creek Sta**	**56.46**	**348**	*e*P	**P**	**16 02 37.7**	**-2.3**
	comp=Z,64nm,1.1s,mb5.1						
CCM	**Cathedral Cave**	**56.55**	**340**	*e*P	**P**	**16 02 38.0**	**-2.6**
CCM				pmax	pmax		
	comp=Z,184nm,1.1s,mb5.6						
CCM	**Cathedral Cave**	**56.55**	**340**	*e*P	**P**	**16 02 38.0**	**-2.6**
	comp=Z,184nm,1.1s,mb5.6						
HRV	**Harvard--Oak R**	**57.52**	**359**	*e*P	**P**	**16 02 45.9**	**-1.5**
HRV				pmax	pmax		
	comp=Z,42nm,1.2s,mb4.9						
HRV	**Harvard--Oak R**	**57.52**	**359**	*e*P	**P**	**16 02 45.9**	**-1.5**
	comp=Z,42nm,1.2s,mb4.9						
ERPA	**Erie**	**57.80**	**352**	*e*P	**P**	**16 02 47.6**	**-1.8**
	comp=Z,212nm,1.1s,mb5.7						
AMTX	**Amarillo**	**58.06**	**330**	*e*P	**P**	**16 02 50.3**	**-0.8**
	comp=Z,27nm,1.0s,mb4.8						
ACCN	**Adirondack Com**	**58.46**	**357**	*e*P	**P**	**16 02 52.4**	**-1.5**
NCB	**Newcomb**	**59.08**	**357**	*e*P	**P**	**16 02 56.6**	**-1.5**
	comp=Z,21nm,1.2s,mb4.6						
LBNH	**Lisbon**	**59.26**	**359**	*e*P	**P**	**16 02 58.0**	**-1.4**
LBNH				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.9						
LBNH	**Lisbon**	**59.26**	**359**	*e*P	**P**	**16 02 58.0**	**-1.4**
	comp=Z,33nm,1.1s,mb4.9						
FRNY	**Flat Rock**	**59.91**	**357**	*e*P	**P**	**16 03 02.3**	**-1.5**
BNM	**Barren Site**	**60.04**	**326**	*e*P	**P**	**16 03 04.7**	**0.0**
LPM	**Los Pinos Moun**	**60.16**	**326**	*e*P	**P**	**16 03 05.8**	**+0.2**
LENM	**Lemitar**	**60.24**	**325**	*e*P	**P**	**16 03 06.1**	**0.0**
LAZ	**Ladron**	**60.51**	**325**	*e*P	**P**	**16 03 07.5**	**-0.4**
ANMO	**Albuquerque**	**60.55**	**326**	*e*P	**P**	**16 03 07.8**	**-0.4**
	comp=Z,7.5nm,0.7s,mb4.4						
RKT	**Rikitea**	**61.04**	**252**	*e*P	**P**	**16 03 11.1**	**-0.4**
	comp=Z,255nm,1.5s,mb5.6						
116A	**Eloy**	**61.83**	**321**	⇑P	**P**	**16 03 16.8**	**0.0**
	baz=62						
Z14A	**Wintersburg**	**63.14**	**321**	⇓P	**P**	**16 03 25.5**	**+0.1**
	baz=63						
X15A	**Humboldt**	**63.49**	**322**	⇓P	**P**	**16 03 28.0**	**+0.3**
	baz=64,SNR=5.6						
Y14A	**Wickenburg**	**63.57**	**321**	⇓P	**P**	**16 03 28.1**	**-0.1**
	baz=64,SNR=8.3						
WUAZ	**Wupatki**	**63.70**	**323**	*e*P	**P**	**16 03 29.4**	**+0.3**
	comp=Z,52nm,1.3s,mb5.0						
ISCO	**Idaho Springs**	**63.86**	**330**	*e*P	**P**	**16 03 30.2**	**0.0**
ISCO				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
ISCO	**Idaho Springs**	**63.86**	**330**	*e*P	**P**	**16 03 30.2**	**0.0**
	comp=Z,28nm,1.0s,mb4.8						
X14A	**Yava**	**63.86**	**322**	⇓P	**P**	**16 03 30.5**	**+0.4**
	baz=64,SNR=7.0						
Y13A	**Salome**	**63.98**	**320**	⇑P	**P**	**16 03 31.1**	**+0.2**
	baz=64						
W15A	**Williams**	**63.99**	**323**	⇓P	**P**	**16 03 31.4**	**+0.4**
	baz=64						
SMCO	**Snowmass**	**64.04**	**329**	*e*P	**P**	**16 03 31.9**	**+0.5**
GLA	**Glamis**	**64.10**	**319**	⇓P	**P**	**16 03 31.8**	**+0.1**
	baz=64						
Y12C	**Blythe**	**64.37**	**320**	⇓P	**P**	**16 03 33.6**	**+0.1**
	baz=65						
W14A	**Seligman**	**64.48**	**322**	⇓P	**P**	**16 03 34.7**	**+0.5**
	baz=65,SNR=13						
PV10	**Paradox Valley**	**64.49**	**327**	*e*P	**P**	**16 03 33.2**	**-1.1**
X13A	**Yucca**	**64.51**	**321**	⇑P	**P**	**16 03 34.3**	**0.0**
	baz=65,SNR=7.2						
PHWY	**Pilot Hill**	**64.97**	**331**	*e*P	**P**	**16 03 37.2**	**-0.2**
109C	**Camp Elliot, M**	**65.46**	**318**	⇓P	**P**	**16 03 40.

baz=66,SNR=5.4
VNA1 Neumayer--Stat 66.59 161 *e*P **P 16 03 47.4 -0.3**
VNA1 *e* 16 03 49.0
VNA1 *e* 16 03 50.2
VNA1 *e* 16 03 56.4
VNA1 *e* 16 04 15.6
VNA1 *e* pP 16 04 35.0 0.0
VNA1 *e* pP 16 04 37.4 +2.4
VNA1 *e* 16 04 59.8
RSSD Black Hills 66.61 334 *e*P **P 16 03 47.9 +0.1**
RSSD pmax pmax
comp=Z,158nm,1.6s,mb5.4
RSSD Black Hills 66.61 334 *e*P **P 16 03 47.9 +0.1**
comp=Z,158nm,1.6s,mb5.4
U11A Corn Creek 66.68 322 ⇑P **P 16 03 48.6 +0.4**
baz=67
GSC Goldstone 66.81 320 ⇑P **P 16 03 49.4 +0.3**
baz=67,SNR=12
DAU Daniels Canyon 67.15 327 *e*P **P 16 03 51.8 +0.6**
U10A Ash Meadows, A 67.25 321 ⇑P **P 16 03 52.5 +0.7**
baz=67
TPNV Topopah Spring 67.55 322 *e*P **P 16 03 54.5 +0.8**
TPNV pmax pmax
comp=Z,32nm,1.0s,mb4.9
TPNV Topopah Spring 67.55 322 *e*P **P 16 03 54.5 +0.8**
comp=Z,32nm,1.0s,mb4.9
OSI Osito Adit 67.58 318 ⇓P **P 16 03 54.1 +0.2**
baz=68
DUG Dugway 67.82 326 *e*P **P 16 03 55.7 +0.3**
DUG pmax pmax
comp=Z,37nm,1.3s,mb4.8
DUG Dugway 67.82 326 *e*P **P 16 03 55.7 +0.3**
comp=Z,37nm,1.3s,mb4.9
PDAR Pinedale Array 68.04 330 P **P 16 03 56.5 -0.3**
comp=Z,8.1nm,0.8s,mb4.4,baz=132,slow=6.9,SNR=30
PDAR PKP2bc 16 32 14.1
comp=Z,0.7nm,1.0s,baz=338,slow=0.5,SNR=5.5
PDAR Pinedale Array 68.04 330 P **P 16 03 56.5 -0.3**
PDAR ⇑*e* 16 32 14.1
ISA Isabella 68.08 319 ⇓P **P 16 03 57.5 +0.4**
baz=68,SNR=11
HWUT Hardware Ranch 68.18 328 *e*P **P 16 03 57.4 -0.3**
comp=Z,31nm,1.1s,mb4.8
LIC Lamto 68.21 77 *e*P **P 16 03 58.0 +0.2**
comp=Z,155nm,1.1s,mb5.3
LIC *e*pP pP 16 04 45.6 +0.2
LIC *e*R
comp=Z,245nm,19.2s
LIC Lamto 68.21 77 *e*P **P 16 03 58.0 +0.2**
comp=Z,78nm,1.1s,mb5.2
LIC *e*pP pP 16 04 45.6 +0.2
LIC LR LR
comp=Z,120nm,19.3s
CWC Cottonwood Cre 68.33 320 ⇑P **P 16 03 58.9 +0.3**
baz=68,SNR=6.7
SPUT South Promonto 68.42 327 P **P 16 03 59.1 0.0**
Q11A Duckwater 68.47 323 ⇓P **P 16 03 60.0 +0.5**
baz=69,SNR=24
R10A Warm Springs 68.47 323 ⇓P **P 16 04 00.5 +1.1**
baz=69,SNR=9.3
DBIC Dimbokro 68.52 76 P **P 16 04 00.1 +0.3**
comp=Z,31nm,0.5s,mb5.2,baz=230,slow=5.5,SNR=84
DBIC LR LR 16 33 34.4
comp=Z,141nm,18.1s,baz=115,slow=35
DBIC Dimbokro 68.52 76 P **P 16 04 00.1 +0.4**
DBIC pmax pmax
comp=Z,31nm,0.5s
DBIC MLR MLR
comp=Z,141nm,18.1s
DBIC Dimbokro 68.52 76 *e*P **P 16 04 00.0 +0.3**
comp=Z,125nm,1.2s,mb5.4
DBIC *e*pP pP 16 04 46.9 -0.4
S09A Goldfield 68.64 322 ⇓P **P 16 04 00.9 +0.4**
baz=69,SNR=24
AHID Auburn Hatcher 68.80 329 P **P 16 04 01.3 -0.1**
comp=Z,19nm,0.8s,mb4.8
R09A Tonopah 68.89 322 ⇓P **P 16 04 02.5 +0.5**
baz=69,SNR=20
HVU Hansel Valley 68.93 327 *e*pP pP 16 04 47.7 -2.2
comp=Z,22nm,1.0s
ULM Lac du Bonnet 68.99 343 P **P 16 04 01.4 -1.3**
comp=Z,34nm,0.4s,mb5.3,baz=153,slow=6.0,SNR=102
ULM Lac du Bonnet 68.99 343 *e*P **P 16 04 01.3 -1.3**
comp=Z,45nm,0.4s,mb5.5
P11A Circle Ranch, 69.00 324 ⇑P **P 16 04 03.1 +0.4**
baz=69
N13A West Wendover 69.04 326 ⇑P **P 16 04 02.8 -0.1**
baz=69
REDW Red Top Meadow 69.12 330 *e*P **P 16 04 03.4 0.0**
V05C Boulder Hill, 69.12 319 ⇓P **P 16 04 03.9 +0.5**
baz=69
O11A Cowboy Ranch, 69.34 324 ⇓P **P 16 04 05.2 +0.4**
baz=70,SNR=19
M13A Montello 69.37 326 ⇓P **P 16 04 04.7 -0.2**
baz=70
P10A Eureka 69.45 324 ⇓P **P 16 04 06.1 +0.6**
baz=70,SNR=6.5
N12A Wells--Clov Va 69.49 325 ⇑P **P 16 04 05.7 0.0**
baz=70
IMW Indian Meadow 69.56 330 *e*P **P 16 04 06.4 +0.3**
comp=Z,8.8nm,2.0s,mb4.0
PKD Parkfield 69.58 318 ⇓P **P 16 04 06.1 -0.1**
baz=70,SNR=13
R08A Mina 69.58 322 ⇑P **P 16 04 06.7 +0.4**
baz=70
V04C Ramage Ranch, 69.60 318 ⇓P **P 16 04 06.8 +0.4**
baz=70
MNV Mina 69.66 322 *e*P **P 16 04 06.9 +0.2**
comp=Z,21nm,1.4s,mb4.6
LKWY Lake 69.80 331 *e*P **P 16 04 08.9 +1.3**
LKWY pmax pmax
comp=Z,41nm,1.0s,mb5.0
LKWY Lake 69.80 331 *e*P **P 16 04 08.9 +1.4**
comp=Z,41nm,1.0s,mb5.0
Q08A Gabbs 69.81 322 ⇓P **P 16 04 07.7 +0.1**
baz=70
M12A Wells 69.81 326 ⇓P **P 16 04 07.4 -0.3**
baz=70,SNR=12
SCHQ Schefferville 69.91 2 P **P 16 04 07.0 -1.3**
comp=Z,9.8nm,1.1s,mb4.3,baz=161,slow=6.4,SNR=7.3
SCHQ Schefferville 69.91 2 *e*P **P 16 04 06.3 -2.0**
comp=Z,16nm,1.1s,mb4.5
YFT Old Faithful 69.92 330 *e*P **P 16 04 09.3 +1.0**
R07C Lee Vining 69.98 321 ⇓P **P 16 04 09.5 +0.8**
baz=70,SNR=17
U04C Hernandez Rese 69.98 319 ⇑P **P 16 04 09.3 +0.6**
baz=70,SNR=23
V03C Hunter Liggett 70.07 318 ⇑P **P 16 04 10.0 +0.8**
baz=70,SNR=15
YMR Madison River 70.14 330 *e*P **P 16 04 11.4 +1.7**
comp=Z,25nm,0.5s,mb5.1
O09A Fish Creek Ran 70.24 324 ⇑P **P 16 04 10.6 +0.4**
baz=70,SNR=11
M11A Holland Ranch, 70.30 325 ⇓P **P 16 04 11.0 +0.4**
baz=70,SNR=18
S05C Merced 70.31 320 ⇓P **P 16 04 11.1 +0.4**
baz=70,SNR=12
S06C San Francisco 70.34 320 ⇓P **P 16 04 11.3 +0.4**
baz=70,SNR=9.6
GCMT Greycliff 70.39 332 *e*P **P 16 04 11.4 +0.2**
P08A Dixie Valley 70.43 323 ⇓P **P 16 04 12.1 +0.6**
baz=71,SNR=11
QLMT Earthquake Lak 70.48 330 *e*P **P 16 04 12.8 +1.0**
HAST Hastings Reser 70.49 318 ⇑P **P 16 04 12.1 +0.3**
baz=71,SNR=12
SAO San Andreas Ge 70.65 319 *e*P **P 16 04 13.1 +0.3**
comp=Z,13nm,1.1s,mb4.5
PACP Pacheco Peak 70.70 319 ⇑P **P 16 04 13.5 +0.5**
baz=71,SNR=9.6
CMB Columbia Colle 70.77 320 *e*P **P 16 04 13.6 +0.1**
comp=Z,6.8nm,0.9s,mb4.3
CMB Columbia Colle 70.77 320 ⇑P **P 16 04 13.4 0.0**
baz=71
M10A I.L. Ranch, Tu 70.77 325 ⇓P **P 16 04 13.7 +0.2**
baz=71
N09A Rock Creek Ran 70.88 324 ⇑P **P 16 04 14.9 +0.8**
baz=71
R05C Kirkwood Meado 70.99 321 ⇓P **P 16 04 15.8 +1.0**
baz=71,SNR=7.8
S04C Ingram Canyon, 71.03 319 P **P 16 04 15.4 +0.4**
baz=71,SNR=5.1
HLID Hailey 71.05 328 *e*P **P 16 04 15.6 +0.4**
comp=Z,16nm,1.0s,mb4.6
MCMT McKenzie Canyo 71.17 330 *e*P **P 16 04 16.6 +0.7**
N08A GE Springer Mi 71.18 324 ⇓P **P 16 04 15.2 -0.7**
baz=71,SNR=6.9
WCN Washoe City 71.18 322 ⇑P **P 16 04 16.6 +0.7**
baz=71
BOZ Bozeman (W) 71.18 331 *e*P **P 16 04 15.8 -0.2**
O07A Toulon 71.21 323 ⇑P **P 16 04 15.9 -0.2**
baz=71,SNR=13
PAHR Pah Rah Range 71.21 322 *e*P **P 16 04 17.0 +0.8**
comp=Z,47nm,1.0s,mb5.1
M09A Marrel Ranch, 71.21 324 ⇑P **P 16 04 16.4 +0.3**
baz=71,SNR=8.2
R04C Big Horse Ranc 71.25 320 ⇑P **P 16 04 16.9 +0.6**
baz=71
BNLO Ben Lomond 71.33 319 ⇑P **P 16 04 17.2 +0.3**
baz=72,SNR=6.6
LAVA Lava Cap Winer 71.43 321 ⇓P **P 16 04 17.4 0.0**
baz=72,SNR=5.4
DLMT Dillon 71.44 330 *e*P **P 16 04 17.8 +0.3**
comp=Z,22nm,1.1s,mb4.7
JRSC Jasper Ridge 71.54 319 ⇓P **P 16 04 18.3 +0.2**
baz=72
BDM Black Diamond 71.64 319 ⇓P **P 16 04 19.3 +0.6**
baz=72
P05C Yuba Gap, Truc 71.69 321 ⇓P **P 16 04 19.6 +0.6**
baz=72,SNR=7.5
L09A Wilkinson Ranc 71.74 325 ⇓P **P 16 04 19.5 +0.2**
baz=72,SNR=11
M08A Happy Creek Ra 71.76 324 ⇑P **P 16 04 19.4 0.0**
baz=72,SNR=6.6
O06A Flanigan 71.77 322 ⇓P **P 16 04 19.6 +0.2**
baz=72
HRY Holter Researc 72.07 331 *e*P **P 16 04 20.7 -0.5**
EGMT Eagleton 72.13 333 *e*P **P 16 04 21.4 -0.3**
comp=Z,39nm,1.1s,mb5.0
M07A Soldier Meadow 72.17 324 ⇑P **P 16 04 21.6 -0.2**
baz=72
FARB Farallon Islan 72.20 319 ⇓P **P 16 04 21.9 -0.1**
baz=72
L08A Fields 72.22 325 ⇓P **P 16 04 22.2 +0.1**
baz=72,SNR=20
CVS Carmenet Viney 72.25 319 ⇓P **P 16 04 22.5 +0.2**
baz=72,SNR=6.0
O05C Quincy 72.29 321 ⇓P **P 16 04 22.8 +0.3**
baz=72
SUTB Sutter Buttes 72.37 320 ⇓P **P 16 04 22.9 -0.1**
baz=72
ORV Oroville 72.39 321 ⇓P **P 16 04 23.6 +0.5**
baz=73,SNR=20
MCCM Marconi Confer 72.39 319 ⇑P **P 16 04 23.1 0.0**
baz=73
MNRC McLaughlin Nat 72.56 320 ⇑P **P 16 04 24.3 +0.2**
baz=73
O04C Chester 72.61 322 ⇓P **P 16 04 24.5 +0.1**
baz=73,SNR=6.9
L07A Adell 72.67 324 ⇑P **P 16 04 24.9 +0.1**
baz=73
M06C Likely Place G 72.81 323 ⇑P **P 16 04 25.9 +0.3**
baz=73,SNR=6.9
CHMT Chamberlain Mo 72.88 331 *e*P **P 16 04 26.5 +0.5**
HOPS Hopland 73.02 320 ⇑P **P 16 04 26.5 -0.4**
baz=73
K07A Rock Creek Ran 73.06 325 ⇓P **P 16 04 27.1 +0.1**
baz=73
MAIT Maitri 73.09 160 *e*P **P 16 04 27.0 -0.2**
MAIT *e*PP PP 16 07 22.5 +10
NVL N'lazarevskaya 73.12 160*d*/P **P 16 04 29.0 +1.6**
NVL pmax pmax
comp=Z,60nm,1.0s,mb5.2
NVL pmax pmax
comp=N,6.0nm,0.9s
NVL pmax pmax
comp=E,26nm,1.4s
MSO Missoula 73.14 330 *e*P **P 16 04 27.9 +0.3**
comp=E,18nm,1.4s,mb4.5
HATC Hat Creek Radi 73.15 322 ⇓P **P 16 04 27.8 +0.2**
baz=73
GASB Alder Springs 73.19 320 ⇑P **P 16 04 28.8 +0.9**
baz=73,SNR=8.1
M05C Lookout 73.30 323 P **P 16 04 28.9 +0.4**
baz=74,SNR=12
BMO Blue Mountains 73.44 327 *e*P **P 16 04 29.3 0.0**
comp=E,28nm,1.3s,mb4.7
P01C Double 8 Ranch 73.47 320 ⇑P **P 16 04 30.3 +0.8**
baz=74
J07A Hines 73.53 325 ⇑P **P 16 04 30.3 +0.5**
baz=74
L05A Lakeview 73.55 323 ⇑P **P 16 04 30.7 +0.8**
baz=74,SNR=9.1
O02C Red Bluff 73.56 321 ⇓P **P 16 04 29.4 -0.6**
baz=74
WDC Whiskeytown Da 73.65 321 ⇑P **P 16 04 28.9 -1.6**
baz=74
K06A Valley Falls 73.69 324 ⇓P **P 16 04 31.5 +0.7**
baz=74,SNR=19
M03C McCloud 73.82 322 ⇑P **P 16 04 31.2 -0.3**
baz=74
J06A Christmas Vall 73.92 325 P **P 16 04 32.7 +0.6**
baz=74,SNR=15
M04C Macdoel 73.97 323 ⇓P **P 16 04 32.5 +0.1**
baz=74,SNR=12
L04A Klamath Falls 74.24 323 ⇓P **P 16 04 34.2 +0.3**
baz=74,SNR=5.4
N02C Big Bar 74.26 321 ⇓P **P 16 04 34.4 +0.4**
baz=74,SNR=20
M02C Callahan 74.33 322 ⇑P **P 16 04 34.0 -0.4**
baz=74,SNR=5.1
PMOR Pomariorio Ree 74.35 258 *e*P **P 16 04 35.3 +0.7**
comp=E,60nm,1.0s,mb5.2
I06A Prineville 74.40 325 ⇑P **P 16 04 35.5 +0.6**
baz=75,SNR=13
K04A Chilquin 74.42 323 ⇓P **P 16 04 35.1 +0.1**
baz=75
YBH Yreka Blue Hor 74.45 322 *e*P **P 16 04 34.1 -1.0**
comp=E,14nm,1.1s,mb4.5
YBH Yreka Blue Hor 74.45 322 ⇑P **P 16 04 34.2 -0.9**
baz=75,SNR=5.3
JCC Jacoby Creek 74.69 321 ⇑P **P 16 04 36.6 +0.1**
baz=75
FFC Flin Flon 74.72 342 P **P 16 04 36.7 0.0**
comp=E,185nm,0.9s,mb5.7,SNR=11
FFC Flin Flon 74.72 342 *e*P **P 16 04 35.9 -0.8**
FFC pmax pmax
comp=Z,14nm,0.8s,mb4.6
FFC Flin Flon 74.72 342 *e*P **P 16 04 35.9 -0.8**
comp=Z,14nm,0.8s,mb4.7
QSPA South Pole Qui 74.86 180⇓*i*P **P 16 04 36.9 -0.6**
comp=Z,37nm,1.0s,mb5.0
KTRM Thompson Ridge 74.95 322 P **P 16 04 38.8 +0.8**
TVO Taravao 75.06 255 *e*P **P 16 04 39.7 +1.0**
comp=Z,77nm,1.1s,mb5.3
I05A Bend 75.13 325 ⇓P **P 16 04 39.4 +0.4**
baz=75
L02A Cave Junction 75.24 322 ⇑P **P 16 04 39.9 +0.2**
baz=75
PAE Paea 75.39 255 *e*P **P 16 04 40.9 +0.4**
comp=Z,128nm,1.3s,mb5.4
PPT Papeete 75.41 255 *e*P **P 16 04 41.3 +0.7**
comp=Z,45nm,1.3s,mb4.9
HBO Huckleberry Mo 75.52 324 P **P 16 04 41.6 +0.3**
K02A Glendale 75.54 323 ⇑P **P 16 04 41.7 +0.3**
baz=76,SNR=7.7
J03A Ideyld Park 75.60 323 ⇑P **P 16 04 43.9 +2.2**
baz=76
FRIS Frissel Point 75.63 324 P **P 16 04 42.5 +0.6**
HAWA Hanford 75.63 327 *e*P **P 16 04 42.5 +0.5**
comp=Z,2.0nm,1.1s
GBL Gable Mountain 75.73 328 P **P 16 04 43.1 +0.6**
G05A Wamic 75.84 326 ⇓P **P 16 04 43.7 +0.7**
baz=76
BROR Big Rock Looko 75.86 324 P **P 16 04 43.1 0.0**
OD2 Odessa Site #2 75.88 328 P **P 16 04 43.9 +0.6**
J02A Umpqua 75.95 323 ⇓P **P 16 04 44.0 +0.3**
baz=76,SNR=6.9
H04A Detroit Lake 75.97 325 ⇓P **P 16 04 43.7 -0.1**
baz=76,SNR=5.9
VFP Flag Point 75.97 326 P **P 16 04 44.9 +1.1**
K01A Sixes 76.14 322 ⇓P **P 16 04 45.3 +0.5**
baz=76
I03A Eugene 76.15 324 ⇑P **P 16 04 45.2 +0.4**
baz=76
FCC Fort Churchill 76.29 348 *e*P **P 16 04 44.8 -0.8**
FCC pmax pmax
comp=Z,9.0nm,0.4s,mb4.8
FCC Fort Churchill 76.29 348 *e*P **P 16 04 44.8 -0.9**
comp=Z,8.9nm,0.4s,mb4.8
F05A White Salmon 76.33 326 ⇑P **P 16 04 46.2 +0.4**
baz=76
G04A Mulino 76.46 325 ⇓P **P 16 04 46.7 +0.1**
baz=77
EBG Ellensburg 76.51 327 P **P 16 04 47.9 +1.1**
H03A Soap Creek Ran 76.59 324 ⇑P **P 16 04 47.7 +0.4**
baz=77
TORD Torodi Ar. Bea 76.74 72 P **P 16 04 48.3 +0.2**
comp=Z,45nm,0.4s,mb5.5,baz=263,slow=4.4,SNR=1288
TORD LR LR 16 38 44.1
comp=Z,206nm,18.4s,baz=250,slow=36
ETW Entiat 76.84 328 P **P 16 04 49.5 +0.8**
F04A Amboy 76.88 326 P **P 16 04 49.1 +0.2**
baz=77,SNR=7.2
RVC Mount Rainier- 77.27 327 P **P 16 04 52.1 +1.0**
D05A Enumclaw 77.44 327 ⇑P **P 16 04 52.0 0.0**
baz=78,SNR=7.2
EDM Edmonton 77.56 335 *e*P **P 16 04 51.2 -1.5**
C05A Tolt Reservoir 77.60 327 ⇓P **P 16 04 53.1 +0.2**
baz=78
E03A Lebam 77.88 326 ⇓P **P 16 04 54.9 +0.5**
baz=78
JCW Jim Creek 78.04 328 P **P 16 04 55.0 -0.3**
B05A Bryant 78.17 328 ⇓P **P 16 04 55.5 -0.6**
baz=78
A05A Maple Falls 78.64 328 ⇑P **P 16 04 58.4 -0.3**
baz=79,SNR=6.3
VDB Vedder Mountai 78.66 328 P **P 16 04 58.6 -0.2**
MCW Mount Constitu 78.82 328 P **P 16 05 00.3 +0.7**
EVO Evora 79.17 45 *e*P **P 16 05 02.2 +0.7**
comp=Z,76nm,1.3s,mb4.9
EVO *e*pP pP 16 05 51.9 +1.5
EMIN Mina Concepcio 79.73 46 P **P 16 05 05.5 +1.0**
comp=Z,42nm,1.2s,mb4.9
ESPR Espera 79.88 47 P **P 16 05 06.9 +1.5**
comp=Z,122nm,2.0s,mb5.2
EBAD Badajoz 79.96 45 P **P 16 05 06.8 +1.0**
comp=Z,136nm,3.0s
EJIF Jimena Fronter 79.96 48 P **P 16 05 08.0 +2.2**
comp=Z,7.4nm,0.9s,mb4.3
ELOJ Sierra Loja 81.22 48 P **P 16 05 14.3 +1.8**
ELOJ pmax pmax
comp=Z,23nm,1.0s,mb4.8
ELOJ Sierra Loja 81.22 48 P **P 16 05 14.3 +1.8**
comp=Z,23nm,1.0s,mb4.8
EADA Adamuz 81.38 47 P **P 16 05 14.1 +0.8**
comp=Z,29nm,1.3s,mb4.7
SBA Scott Base 81.64 190 *e*P **P 16 05 14.1 -0.6**
SBA pmax pmax
comp=Z,22nm,1.1s,mb4.7
SBA Scott Base 81.64 190 *e*P **P 16 05 14.1 -0.5**
comp=Z,22nm,1.1s,mb4.7
EBAN Banos Encina 81.93 47 P **P 16 05 17.5 +1.3**
EBAN pmax pmax
comp=Z,13nm,1.1s,mb4.5
EBAN Banos Encina 81.93 47 P **P 16 05 17.5 +1.3**
comp=Z,13nm,1.1s,mb4.5
EPON Pontenova 82.10 41 P **P 16 05 17.1 +0.1**
comp=Z,114nm,1.6s,mb5.2
EQES Quesada 82.28 48 P **P 16 05 18.6 +0.6**
comp=Z,75nm,1.7s,mb5.0
ESDC Sonseca Array 82.49 46 P **P 16 05 20.0 +0.9**
comp=Z,0.9nm,0.4s,mb3.8,baz=247,slow=5.9,SNR=24
ESDC Sonseca Array 82.49 46 P **P 16 05 20.0 +0.9**
comp=Z,14nm,1.2s,mb4.5
ESLA Sonseca Array 82.49 46 *e*P **P 16 05 19.9 +0.8**
comp=Z,28nm,1.6s,mb4.7
EHUE Huescar 82.63 48 P **P 16 05 20.4 +0.6**
EHUE pmax pmax
comp=Z,65nm,1.7s,mb5.1
EHUE Huescar 82.63 48 P **P 16 05 20.4 +0.6**
comp=Z,65nm,1.7s,mb5.1
VNDA Vanda 82.68 190 P **P 16 05 19.5 -0.6**
comp=Z,11nm,0.9s,mb4.5,baz=133,slow=4.3,SNR=48
VNDA Vanda 82.68 190 *e*P **P 16 05 19.3 -0.8**
comp=Z,15nm,1.0s,mb4.7
VNDA *e*pP pP 16 06 05.9 -3.5
SYO Syowa Base 82.79 160⇑*e*P **P 16 05 18.6 -2.0**
SYO Syowa Base 82.79 160⇑*i*/PcP PcP 16 05 20.5 -4.5
GUD Guadarrama 82.79 45 P **P 16 05 21.1 +0.5**
GUD pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
GUD Guadarrama 82.79 45 P **P 16 05 21.1 +0.4**
comp=Z,10.0nm,1.0s,mb4.5
EVIA Vianos 83.05 47 P **P 16 05 22.8 +0.9**
EVIA pmax pmax
comp=Z,63nm,1.5s,mb5.1
EVIA Vianos 83.05 47 P **P 16 05 22.8 +0.9**
comp=Z,63nm,1.5s,mb5.1
TSUM Tsumeb 83.26 108 P **P 16 05 25.3 +2.2**
comp=Z,17nm,0.9s,mb4.8,baz=242,slow=4.8,SNR=17
EARI Arriondas 83.33 42 P **P 16 05 24.0 +0.6**
comp=Z,94nm,1.6s,mb5.3
ETOB Tobarra 83.72 47 P **P 16 05 26.0 +0.6**
comp=Z,112nm,1.6s,mb5.3
ETOR Torete 84.30 45 P **P 16 05 29.6 +1.3**
ETOR pmax pmax
comp=Z,32nm,1.3s,mb4.9
ETOR Torete 84.30 45 P **P 16 05 29.6 +1.3**
comp=Z,32nm,1.3s,mb4.9
ECHE Chera 84.53 47 P **P 16 05 30.9 +1.4**
ECHE pmax pmax
comp=Z,11nm,1.1s,mb4.5
ECHE Chera 84.53 47 P **P 16 05 30.9 +1.4**
comp=Z,10nm,1.1s,mb4.5
YKA Yellowknife Ar 84.88 341 P **P 16 05 30.6 -0.6**
comp=Z,25nm,0.6s,mb5.1,baz=132,slow=5.0,SNR=102
YKA LR LR 16 46 38.2
comp=Z,43nm,20.7s,baz=135,slow=38
YKW3 Yellowknife Ar 84.94 341 *e*P **P 16 05 30.6 -0.8**
EMOS Mosqueruela 85.20 46 P **P 16 05 33.4 +0.6**
comp=Z,36nm,1.5s,mb4.9
SJPF Ste Jean 85.85 43 *e*P **P 16 05 36.1 +0.1**
comp=Z,18nm,1.2s,mb4.4
SJPF *e*pP pP 16 06 26.5 +0.9
SJPF Ste Jean 85.85 43 *e*P **P 16 05 36.1 +0.1**
comp=Z,9.1nm,1.2s,mb4.4
SJPF *e*pP pP 16 06 26.5 +0.9
ERTA Horta de San J 86.00 46 P **P 16 05 37.7 +1.0**
comp=Z,99nm,2.4s,mb5.1
ETSF Etsaut 86.20 44 *e*P **P 16 05 38.0 +0.3**
EBIE Bielsa 86.58 44 P **P 16 05 39.9 +0.4**
comp=Z,15nm,1.1s,mb4.6
EPF Esparros 86.85 44 *e*P **P 16 05 40.9 0.0**
comp=Z,36nm,1.5s,mb4.6
EPF Esparros 86.85 44 *e*P **P 16 05 40.9 0.0**
EPF pmax pmax
comp=Z,18nm,1.5s,mb4.6
EPF Esparros 86.85 44 *e*P **P 16 05 40.9 0.0**
comp=Z,18nm,1.5s,mb4.6
BOSA Boshof 87.66 119 P **P 16 05 46.0 +1.3**
comp=Z,5.9nm,0.9s,mb4.4,baz=236,slow=5.8,SNR=7.6
BOSA Boshof 87.66 119 P **P 16 05 46.0 +1.3**
MFF Saint Martin d 88.01 41 *e*P **P 16 05 45.5 -0.9**
DLBC Dease Lake 88.05 333 *e*P **P 16 05 46.0 -0.6**
MTLF Montolieu 88.24 44 *e*P **P 16 05 46.6 -0.8**
comp=Z,51nm,1.6s,mb4.8
MTLF *e*pP pP 16 06 37.1 -0.3
MTLF Montolieu 88.24 44 *e*P **P 16 05 46.6 -0.8**
MTLF *e**PP pP 16 06 37.1 -0.3
MTLF pmax pmax
comp=Z,25nm,1.6s,mb4.8
MTLF Montolieu 88.24 44 *e*P **P 16 05 46.6 -0.8**
comp=Z,25nm,1.6s,mb4.8
MTLF *e*pP pP 16 06 37.1 -0.3
GRR Gorron 88.33 39 *e*P **P 16 05 46.3 -1.6**
GRR *e*pP pP 16 06 36.7 -1.2
RJF Les Rejaudoux 88.54 42 *e*P **P 16 05 47.9 -1.0**
CAF Calviac 88.75 43 *e*P **P 16 05 49.1 -0.8**
comp=Z,19nm,1.3s,mb4.5
CAF *e*pP pP 16 06 39.6 -0.3
CAF Calviac 88.75 43 *e*P **P 16 05 49.1 -0.8**
comp=Z,9.3nm,1.3s,mb4.5
CAF *e*pP pP 16 06 39.6 -0.3
TCF Toulx Ste Croi 89.38 41 *e*P **P 16 05 52.8 0.0**
comp=Z,8.8nm,1.0s,mb4.2
TCF *e*pP pP 16 06 41.9 -0.9
TCF Toulx Ste Croi 89.38 41 *e*P **P 16 05 52.8 0.0**
comp=Z,4.4nm,1.0s,mb4.2
TCF *e*pP pP 16 06 41.9 -0.9
LASF Ste Croix 89.61 44 *e*P **P 16 05 53.6 -0.3**
BGF Bois d'Agland 89.89 41 *e*P **P 16 05 55.0 -0.2**
SUMG Summit 90.19 9 *e*P **P 16 05 56.9 +0.3**
comp=Z,16nm,0.8s,mb4.9
AVF Avril sur Loir 90.30 41 *e*P **P 16 05 55.6 -1.5**
VIVF Saint-Julien-l 90.44 43 *e*P **P 16 05 57.5 -0.2**
comp=Z,28nm,1.3s,mb4.6
VIVF Saint-Julien-l 90.44 43 *e*P **P 16 05 57.5 -0.2**
VIVF pmax pmax
comp=Z,14nm,1.3s,mb4.6
VIVF Saint-Julien-l 90.44 43 *e*P **P 16 05 57.5 -0.2**
comp=Z,14nm,1.3s,mb4.6

SSF	**Saint Saulge**	**90.50**	**41**	*e*P	**P**	**16 05 56.7**	**-1.3**
SMF	**Signal de Mont**	**90.56**	**42**	*e*P	**P**	**16 05 57.3**	**-1.0**
SMF				*e*pP	pP	16 06 47.6	-0.8
MAW	**Mawson**	**90.66**	**164**	P	**P**	**16 05 58.2**	**-0.5**
comp=Z,25nm,0.9s,mb5.1,baz=220,slow=6.2,SNR=36							
MAW	**Mawson**	**90.66**	**164**	*e*P	**P**	**16 05 58.2**	**-0.6**
MAW				*e**PP	pP	16 06 46.4	-2.4
MAW				*e**SP	sP	16 07 05.2	-4.9
MAW				pmax	pmax		
comp=Z,47nm,1.1s							
MAW	**Mawson**	**90.66**	**164**	*e*P	**P**	**16 05 58.2**	**-0.6**
comp=Z,47nm,1.1s,mb5.3							
MAW				*e*pP	pP	16 06 46.4	-2.4
MAW				*e*sP	sP	16 07 05.2	-4.9
SMRF	**Simiane la Rot**	**90.73**	**44**	*e*P	**P**	**16 05 59.1**	**0.0**
comp=Z,37nm,1.5s,mb4.8							
SMRF				*e*pP	pP	16 06 49.6	+0.4
SMRF	**Simiane la Rot**	**90.73**	**44**	*e*P	**P**	**16 05 59.1**	**0.0**
comp=Z,37nm,1.5s,mb5.1							
SMRF				*e*pP	pP	16 06 49.6	+0.4
LOR	**Lormes**	**90.80**	**41**	*e*P	**P**	**16 05 58.2**	**-1.2**
RES	**Resolute Bay**	**91.10**	**354**	*e*P	**P**	**16 06 00.4**	**-0.4**
RES				pmax	pmax		
comp=Z,32nm,1.3s,mb5.1							
RES	**Resolute Bay**	**91.10**	**354**	*e*P	**P**	**16 06 00.4**	**-0.4**
comp=Z,32nm,1.3s,mb5.1							
LMR	**La Mourre**	**91.15**	**45**	*e*P	**P**	**16 06 00.6**	**-0.4**
comp=Z,26nm,1.2s,mb4.8							
LMR	**La Mourre**	**91.15**	**45**	*e*P	**P**	**16 06 00.6**	**-0.4**
LMR				pmax	pmax		
comp=Z,13nm,1.2s,mb4.7							
LMR	**La Mourre**	**91.15**	**45**	*e*P	**P**	**16 06 00.6**	**-0.4**
comp=Z,13nm,1.2s,mb4.7							
ORIF	**Oris-en-Rattie**	**91.27**	**44**	*e*P	**P**	**16 06 01.7**	**+0.1**
comp=Z,27nm,1.2s,mb4.7							
ORIF				*e*pP	pP	16 06 52.2	+0.5
ORIF	**Oris-en-Rattie**	**91.27**	**44**	*e*P	**P**	**16 06 01.7**	**+0.1**
ORIF				*e**PP	pP	16 06 52.2	+0.5
ORIF				pmax	pmax		
comp=Z,13nm,1.2s,mb4.7							
ORIF	**Oris-en-Rattie**	**91.27**	**44**	*e*P	**P**	**16 06 01.7**	**+0.1**
comp=Z,13nm,1.2s,mb4.7							
ORIF				*e*pP	pP	16 06 52.2	+0.5
FRF	**La Foret Royal**	**91.32**	**45**	*e*P	**P**	**16 06 01.3**	**-0.5**
MBDF	**Montbardon**	**91.80**	**44**	*e*P	**P**	**16 06 03.9**	**-0.1**
comp=Z,15nm,1.2s,mb4.5							
MBDF	**Montbardon**	**91.80**	**44**	*e*P	**P**	**16 06 03.9**	**-0.1**
MBDF				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.5							
MBDF	**Montbardon**	**91.80**	**44**	*e*P	**P**	**16 06 03.9**	**-0.1**
comp=Z,7.5nm,1.2s,mb4.5							
SBF	**Sospel**	**91.96**	**45**	*e*P	**P**	**16 06 04.4**	**-0.4**
SBF				*e*pP	pP	16 06 55.0	+0.1
LPL	**La Plagne**	**92.04**	**43**	*e*P	**P**	**16 06 05.5**	**+0.4**
comp=Z,23nm,1.1s,mb4.7							
LPL	**La Plagne**	**92.04**	**43**	*e*P	**P**	**16 06 05.5**	**+0.4**
LPL				pmax	pmax		
comp=Z,11nm,1.1s,mb4.7							
LPL	**La Plagne**	**92.04**	**43**	*e*P	**P**	**16 06 05.5**	**+0.4**
comp=Z,11nm,1.1s,mb4.7							
LPG	**La Plagne**	**92.05**	**43**	*e*P	**P**	**16 06 05.6**	**+0.4**
comp=Z,28nm,1.3s,mb4.8							
LPG	**La Plagne**	**92.05**	**43**	*e*P	**P**	**16 06 05.6**	**+0.4**
LPG				pmax	pmax		
comp=Z,14nm,1.3s,mb4.7							
LPG	**La Plagne**	**92.05**	**43**	*e*P	**P**	**16 06 05.6**	**+0.4**
comp=Z,14nm,1.3s,mb4.7							
MATP	**Matopo**	**92.84**	**112**	P	**P**	**16 06 11.0**	**+2.2**
comp=Z,9.5nm,0.9s,mb4.8,baz=246,slow=4.4,SNR=7.5							
INK	**Inuvik**	**94.64**	**341**	*e*P	**P**	**16 06 16.2**	**-0.9**
INK				pmax	pmax		
comp=Z,30nm,1.3s							
INK	**Inuvik**	**94.64**	**341**	*e*P	**P**	**16 06 16.2**	**-0.9**
comp=Z,30nm,1.3s,mb5.3							
DAWY	**Dawson**	**94.77**	**336**	*e*P	**P**	**16 06 16.2**	**-1.4**
GRA1	**Grafenberg Arr**	**96.22**	**40**	*e*P	**P**	**16 06 24.0**	**-0.3**
comp=Z,11nm,1.6s,mb4.8							
GRA1				*e*pP	pP	16 07 13.7	-0.8
GRF	**Grafenberg Arr**	**96.22**	**40**	*e*P	**P**	**16 06 24.0**	**-0.3**
comp=Z,11nm,1.6s,mb4.8							
GRF				*e*pP	pP	16 07 13.7	-0.8
GRF	**Grafenberg Arr**	**96.22**	**40**	*e*P	**P**	**16 06 24.0**	**-0.3**
GRF				*e**PP	pP	16 07 13.7	-0.8
GRF				pmax	pmax		
comp=Z,11nm,1.6s,mb4.8							
GRF	**Grafenberg Arr**	**96.22**	**40**	*e*P	**P**	**16 06 24.0**	**-0.3**
GRF				*e**PP	pP	16 07 13.7	-0.8
GRF				pmax	pmax		
comp=Z,11nm,1.6s,mb4.8							
AFI	**Afiamalu**	**97.00**	**254**	LR	LR	16 40 49.6	
comp=Z,254nm,20.2s,baz=52,slow=29							
LJU	**Ljubljana**	**97.41**	**44**	*e*PP	PP	16 10 23.8	-5.4
GERES	**GERESS Array B**	**97.56**	**42**	P	**P**	**16 06 31.1**	**+0.8**
comp=Z,0.2nm,0.4s,mb3.8,baz=190,slow=6.8,SNR=4.1							
GERES				pP	pP	16 07 19.1	-1.5
comp=Z,0.7nm,0.8s,baz=289,slow=4.1,SNR=2.4							
GERES				PP	PP	16 10 29.7	-0.7
comp=Z,0.2nm,0.3s,baz=232,slow=6.6,SNR=4.3							
BOJS	**Bojanci**	**97.77**	**45**	*e*PP	PP	16 10 31.0	-1.0
GROS	**Grobnik**	**98.17**	**44**	*e*PP	PP	16 10 33.4	-1.6
BRG	**Berggiesshubel**	**98.21**	**40**	*e*P	**P**	**16 06 32.2**	**-1.0**
comp=Z,1.8nm,0.9s,mb4.4							
BRG				*e*	pP	16 07 25.5	+2.0
comp=Z,6.3nm,1.5s							
BRG	**Berggiesshubel**	**98.21**	**40**	*e*P	**P**	**16 06 32.2**	**-1.0**
comp=Z,1.8nm,0.9s,mb4.4							
BRG				*e*	pP	16 07 25.5	+2.0
comp=Z,6.3nm,1.5s							
BRG	**Berggiesshubel**	**98.21**	**40**	*e*P	**P**	**16 06 32.2**	**-1.0**
BRG				*e*	pP	16 07 25.5	+2.0
BRG				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.6							
SLKM	**Skilak Lake**	**98.23**	**331**	P	**P**	**16 06 31.9**	**-1.4**
ARSA	**Arzberg**	**98.36**	**43**	⇑*i*P	PP	16 10 33.2	-3.3
comp=Z,5.6nm,1.3s							
NOA	**NORSAR Array B**	**99.25**	**29**	LR	LR	16 48 54.5	
comp=Z,50nm,18.9s,baz=270,slow=34							
ARCES	**ARCESS Array B**	**106.29**	**21**	PKKPbc	PKKPbc	16 22 39.4	-1.1
comp=Z,2.6nm,0.7s,baz=85,slow=3.5,SNR=12							
AKASG	**Malin Array Be**	**107.77**	**41**	PP	PP	16 11 42.3	-4.2
comp=Z,0.9nm,0.6s,baz=269,slow=6.4,SNR=6.5							
BR131	**Keskin Array S**	**110.35**	**53**	*e*PKPdf	PKiKP	16 11 28.6	+1.5
BRTR	**Keskin Array B**	**110.35**	**53**	PKiKP	PKiKP	16 11 28.4	+1.2
comp=Z,2.5nm,1.0s,baz=180,slow=3.2,SNR=11							
BRTR				PP	PP	16 12 04.6	-0.6
comp=Z,1.9nm,1.0s,baz=263,slow=7.1,SNR=4.5							
BRTR				PKKPbc	PKKPbc	16 22 27.4	-0.4
comp=Z,0.5nm,0.8s,baz=54,slow=7.3,SNR=2.8							
BRTR				PKKPab	PKKPab	16 22 39.0	-0.3
comp=Z,0.5nm,0.7s,baz=90,slow=6.3,SNR=4.0							
OBN	**Obninsk**	**112.12**	**36**	*i* PKIKP	PKiKP	16 11 30.2	-0.3
OBN				*e*		16 12 16.6	
OBN				pmax	pmax		
comp=Z,7.0nm,0.8s							
ANN	**Anapa**	**113.25**	**48**	*i* PKIKP	PKiKP	16 11 31.7	-0.9
ANN				*i*		16 12 24.2	
ANN				pmax	pmax		
comp=Z,21nm,0.9s							
MALT	**Malatya**	**114.03**	**55**	*e*PKIKP	PKiKP	16 11 35.3	+1.2
BILL	**Bilibino**	**116.24**	**339**	*i* PKIKP	PKPdf	16 11 37.8	-0.6
BILL				*e*		16 12 44.7	
BILL				pmax	pmax		
comp=Z,7.0nm,2.0s							
KIV	**Kislovodsk**	**117.06**	**48**	*e*PKIKP	PKPdf	16 11 41.1	+1.2
KIV				pmax	pmax		
comp=Z,11nm,1.2s							
GNI	**Garni**	**118.88**	**52**	*i* PKIKP	PKPdf	16 11 46.1	+2.7
ORR	**Orenburg**	**123.47**	**38**	*e*PKIKP	PKPdf	16 11 52.8	+0.5
ORR				pmax	pmax		
comp=Z,40nm,1.0s							
ARU	**Arti**	**123.73**	**31**	*i* PKIKP	PKPdf	16 11 53.2	+0.5
ARU				*e*		16 13 38.6	
ARU	**Arti**	**123.73**	**31**	*e*PKPdf	PKPdf	16 11 53.1	+0.4
STKA	**Stephens Creek**	**123.94**	**213**	*e*PKP	PKPdf	16 11 50.5	-2.7
comp=Z,5.9nm,0.8s							
STKA	**Stephens Creek**	**123.94**	**213**	PKP	PKPdf	16 11 51.0	-2.2
comp=Z,5.4nm,0.7s,baz=112,slow=3.0,SNR=14							
STKA				pPKP	pPKPdf	16 12 42.6	-3.1
comp=Z,2.4nm,0.7s,baz=54,slow=3.6,SNR=2.9							
AKTO	**Aktyubinsk**	**125.82**	**38**	PKIKP	PKPdf	16 11 57.6	+0.9
AKTO				pmax	pmax		
comp=Z,4.0nm,0.9s							
AB31	**Akbulak array**	**127.41**	**39**	*i* PKIKP	PKPdf	16 12 00.5	+0.7
AB31				pmax	pmax		
comp=Z,40nm,0.9s							
CTA	**Charters Tower**	**129.64**	**227**	*e*PKP	PKPdf	16 12 09.6	+5.6
comp=Z,8.1nm,1.0s							
ZRNK	**Zerenda**	**130.71**	**31**	*e*PKIKP	PKPdf	16 12 06.9	+0.8
FORT	**Forrest**	**130.86**	**201**	*e*PKP	PKPdf	16 12 05.0	-1.4
comp=Z,20nm,0.8s							
YAK	**Yakutsk**	**131.18**	**348**	*e*PKIKP	PKPdf	16 12 06.0	-0.9
BRVK	**Borovoye**	**131.28**	**31**	P	PKPdf	16 12 08.8	+1.6
SNR=5.7							
BRVK	**Borovoye**	**131.28**	**31**	PKPdf	PKPdf	16 12 06.5	-0.7
BVA0	**Borovoye Array**	**131.35**	**31**	*i* PKIKP	PKPdf	16 12 08.4	+1.1
BVA0				pmax	pmax		
comp=Z,5.0nm,1.2s							
KLBR	**Kellerberrin**	**132.73**	**190**	*e*PKP	PKPdf	16 12 09.3	-0.6
comp=Z,169nm,1.8s							
AS31	**Alice Springs**	**134.56**	**212**	*e*PKP	PKPdf	16 12 13.0	-0.3
AS31				*e*PKS		16 15 43.6	
AS31				*e*SKP		16 15 52.2	
ASAR	**Alice Springs**	**134.56**	**212**	PKhKP		16 11 58.0	
comp=Z,0.7nm,0.7s,baz=132,slow=2.5,SNR=10							
ASAR				PKP	PKPdf	16 12 13.0	-0.3
comp=Z,4.7nm,0.7s,baz=133,slow=2.1,SNR=33							
ASAR				pPKP	pPKPdf	16 13 03.2	-2.7
comp=Z,1.8nm,0.7s,baz=156,slow=2.0,SNR=3.2							
ASAR				PP	PP	16 14 42.8	-5.7
comp=Z,1.5nm,1.0s,baz=145,slow=4.9,SNR=5.7							
ASAR				SKPbc	SKPbc	16 15 24.9	+0.9
comp=Z,3.2nm,1.0s,baz=138,slow=3.5,SNR=9.6							
ASAR				PKKP		16 21 58.6	
comp=Z,0.5nm,0.8s,baz=343,slow=1.0,SNR=4.3							
ASAR	**Alice Springs**	**134.56**	**212**	PKHKP		16 11 58.0	
ASAR						16 12 13.0	
ASAR						16 13 03.2	
ASPA	**Alice Springs**	**134.56**	**212**	*e*PKP	PKPdf	16 12 13.0	-0.3
ASPA				*e*PKS		16 15 43.6	
ASPA				*e*SKP		16 15 52.2	
NVS	**Novosibirsk**	**135.57**	**22**	*i* PKIKP	PKPdf	16 12 15.6	+0.4
KK31	**Karatay Array**	**136.66**	**42**	*i* PKIKP	PKPdf	16 12 18.7	+1.5
KKAR	**Karatay Array**	**136.66**	**42**	*i* PKIKP	PKPdf	16 12 18.7	+1.5
KURK	**Kurchatov**	**136.76**	**29**	⇓P	PKPdf	16 12 18.5	+1.1
SNR=6.4							
KURK	**Kurchatov**	**136.76**	**29**	*e*PKPdf	PKPdf	16 12 17.9	+0.5
WB2	**Warramunga Arr**	**137.34**	**216**	*e*PKP	PKPdf	16 12 18.6	+0.1
WB2				*e*		16 13 11.9	
WB2				*e*PKS		16 15 51.2	
WB2				*e*SKP		16 15 55.4	
WRA	**Warramunga Arr**	**137.35**	**216**	PKhKP		16 12 04.7	
comp=Z,1.7nm,0.6s,baz=139,slow=3.4,SNR=24							
WRA				PKP	PKPdf	16 12 18.7	+0.2
comp=Z,10nm,0.7s,baz=140,slow=1.7,SNR=33							
WRA				SKPbc	SKPbc	16 15 34.9	+2.3
comp=Z,2.6nm,0.8s,baz=139,slow=3.0,SNR=10							
WRA	**Warramunga Arr**	**137.35**	**216**	PKHKP		16 12 04.7	
WRA						16 12 18.7	
WRAB	**Tennant Creek**	**137.35**	**216**	*e*PKIKP	PKPdf	16 12 18.5	0.0
YSS	**Yuzh-Sakhalins**	**138.09**	**326**	*i* PKIKP	PKPdf	16 12 20.8	+0.9
EKS2	**Erkin-Say**	**138.97**	**41**	P	PKPdf	16 12 23.9	+2.4
SNR=23							
USP	**Ospenovka**	**139.11**	**40**	P	PKPdf	16 12 24.0	+2.3
SNR=7.1							
AAK	**Ala-Archa**	**139.44**	**41**	P	PKPdf	16 12 25.1	+2.8
SNR=11							
UCH	**Uchtor**	**139.66**	**41**	P	PKPdf	16 12 25.7	+2.9
SNR=22							
TKM2	**Tokmak 2**	**139.97**	**40**	P	PKPdf	16 12 25.4	+2.1
SNR=11							
MK31	**Makanchi Array**	**141.24**	**30**	PKIKP	PKPdf	16 12 21.3	-4.3
MK31				pmax	pmax		
comp=Z,8.0nm,0.8s							
MKAR	**Makanchi Array**	**141.24**	**30**	PKhKP		16 12 21.8	
comp=Z,6.7nm,0.8s,baz=352,slow=4.0,SNR=21							
MKAR				PKP	PKPdf	16 12 26.0	+0.5
comp=Z,6.2nm,0.8s,baz=324,slow=2.2,SNR=29							
MKAR				SKPbc	SKPbc	16 15 46.9	+3.7
comp=Z,9.3nm,0.8s,baz=321,slow=1.7,SNR=21							
MKAR	**Makanchi Array**	**141.24**	**30**	PKP	PKPdf	16 12 21.8	-3.8
MKAR				PKP	PKPdf	16 12 26.0	+0.4
MKAR				SKPbc	SKPbc	16 15 46.9	+3.7
KLR	**Kul'dur**	**141.61**	**337**	*e*PKHKP		16 12 18.7	
MOY	**Mondy**	**143.07**	**9**	*e*PKIKP	PKPdf	16 12 27.4	-1.4
CIT	**Chita**	**143.22**	**356**	*e*PKIKP	PKPdf	16 12 27.2	-1.9
CIT				*e*		16 18 52.6	
FITZ	**Fitzroy Crossi**	**143.23**	**206**	*e*PKP	PKPdf	16 12 25.8	-3.3
comp=Z,17nm,0.8s							
TLY	**Talaya**	**143.39**	**6**	P	PKPdf	16 12 28.5	-0.9
SNR=14							
TLY	**Talaya**	**143.39**	**6**	*d i* PKIKP	PKPdf	16 12 29.9	+0.5
TLY	**Talaya**	**143.39**	**6**	*e*PKPdf	PKPdf	16 12 28.9	-0.5
KAKA	**Kakadu**	**144.13**	**220**	*e*PKP	PKPdf	16 12 28.4	-2.3
comp=Z,58nm,1.4s							
ZAK	**Zakamensk**	**144.63**	**7**	*e*PKIKP	PKPdf	16 12 31.7	+0.1
ZAK				*e*		16 13 18.9	
ZAK				*e*		16 15 55.1	
ZAK				pmax	pmax		
comp=Z,91nm,1.2s							
POO	**Poona**	**145.70**	**79**	AMS	AMS	17 54 39.8	
comp=E,697nm,32.6s							
POO				AMS	AMS	17 54 58.5	
comp=N,999nm,32.6s							
KAD	**Karad**	**146.00**	**82**	*e*P	PKPdf	16 12 34.6	+0.7
WMQ	**Urumqi**	**146.00**	**29**	PKP	PKPdf	16 12 35.5	+1.6
WMQ				PP	PP	16 15 59.0	+0.7
WMQ				PKS		16 16 09.5	
WMQ				SKKS	SKKSac	16 22 35.0	+4.9
WMQ				SS	SS	16 34 42.3	+5.9
WMQ				PP	PP		
comp=Z,90nm,4.0s							
MDJ	**Mudanjiang**	**146.21**	**334**	PKP	PKPdf	16 12 34.5	+0.2
MDJ				SS	SS	16 34 38.0	-0.7
MDJ				PP	PP		
comp=Z,60nm,6.0s							
MDJ				LR	LR		
comp=E,40nm,22.9s							
MDJ				LR	LR		
comp=Z,30nm,18.9s							
KHET	**Khetri**	**146.26**	**62**	*e*P	PKPdf	16 12 34.4	0.0
VLA	**Vladivostok**	**146.32**	**330**	*e*PKIKP	PKPdf	16 12 34.6	+0.1
VLA				pmax	pmax		
comp=Z,32nm,1.1s							
SMLA	**Simla**	**146.46**	**56**	*e*P	PKPdf	16 12 35.5	+0.8
KKR	**Kurukshetra**	**146.57**	**58**	*e*P	PKPdf	16 12 36.0	+1.2
KUDL	**Kundal**	**146.83**	**62**	*e*P	PKPdf	16 12 35.4	+0.1
MJAR	**Matsushiro Arr**	**146.88**	**315**	PKP	PKPdf	16 12 35.9	+0.5
comp=Z,51nm,0.8s,baz=94,slow=1.8,SNR=135							
MJAR				PKPbc	PKPbc	16 12 37.4	-0.1
comp=Z,51nm,0.8s,baz=92,slow=2.0,SNR=137							
MJAR				pPKPbc	pPKPbc	16 13 26.9	-2.6
comp=Z,11nm,0.9s,baz=75,slow=1.4,SNR=3.2							
MJAR	**Matsushiro Arr**	**146.88**	**315**	PKP	PKPdf	16 12 35.9	+0.5
MJAR				PKPbc	PKPbc	16 12 37.4	-0.1
MJAR				pPKPbc	pPKPbc	16 13 26.9	-2.6
MAJO	**Matsushiro**	**146.88**	**315**	*e*PKIKP	PKPdf	16 12 36.1	+0.7
MAT	**Matsushiro**	**146.88**	**315**	PKP	PKPdf	16 12 36.1	+0.7
MAT	**Matsushiro**	**146.88**	**315**	*e*PKP	PKPdf	16 12 37.0	+1.6
KLP	**Kalpa**	**147.18**	**55**	*e*P	PKPdf	16 12 37.8	+1.9
AYAN	**Aya Nagar**	**147.27**	**61**	*e*P	PKPdf	16 12 35.2	-0.8
NDI	**New Delhi**	**147.29**	**60**	*e*P	PKPdf	16 12 36.5	+0.4
NDI				*ex*	x	16 13 33.0	
SONA	**Sohna**	**147.30**	**61**	*e*P	PKPdf	16 12 35.7	-0.4
TRD	**Trivandrum**	**147.41**	**98**	*e*P	PKPdf	16 12 37.1	+0.8
SONM	**Songino Array**	**147.45**	**4**	PKP	PKPdf	16 12 37.4	+1.1
comp=Z,38nm,0.8s,baz=289,slow=1.2,SNR=143							
SONM				PKPbc	PKPbc	16 12 40.4	+1.3
comp=Z,38nm,0.8s,baz=303,slow=1.4,SNR=97							
ULN	**Ulaanbaatar**	**147.46**	**3**	⇓P	PKPdf	16 12 37.8	+1.5
SNR=50							
ULN	**Ulaanbaatar**	**147.46**	**3**	*i* PKP2	PKPab	16 12 40.1	-1.6
ULN	**Ulaanbaatar**	**147.46**	**3**	*e*PKPdf	PKPdf	16 12 37.4	+1.0
ULN				*e*PKPbc	PKPbc	16 12 40.3	+1.2
ASOR	**Ausora**	**147.73**	**60**	*e*P	PKPdf	16 12 35.4	-1.4
AGRA	**Agra**	**148.31**	**63**	*e*P	PKPdf	16 12 36.6	-1.1
CN2	**Changchun**	**148.53**	**338**	*e*PKP	PKPdf	16 12 34.0	-4.1
CN2				APKP		16 13 28.0	
CN2				*e*PP	PP	16 16 12.3	-0.7
JOSI	**Joshimath**	**148.59**	**56**	*ex*	x	16 12 33.2	
BHPL	**Bhopal**	**148.69**	**70**	*ex*	PKPbc	16 12 42.0	-0.3
BHPL				AMS	AMS	17 37 57.9	
comp=N,50nm,14.0s							
SALM	**Salem**	**149.29**	**93**	*ex*	PKPbc	16 12 47.0	+3.1
HYB	**Hyderabad**	**150.18**	**82**	*i* PKP	PKPdf	16 12 41.0	+0.3
comp=N,140nm,1.0s							
HYB				*e*		16 22 48.0	
HYB	**Hyderabad**	**150.18**	**82**	*e*P	PKPdf	16 12 41.0	+0.3
NGP	**Nagpur**	**150.46**	**74**	*ex*	x	16 12 44.8	
KS15	**Wonju Array Si**	**152.61**	**327**	*e*PKPdf	PKPdf	16 12 45.1	+0.7
KS15				*e*PKPbc	PKPbc	16 12 52.2	+0.6
KOLN	**Koldanda**	**152.90**	**58**	*e*P	PKPbc	16 12 53.5	+1.3
comp=N,45nm,1.0s							
GKN	**Gorkha**	**153.66**	**57**	*e*P	PKPbc	16 12 55.3	+1.4
comp=N,61nm,0.7s							
DMN	**Daman**	**154.20**	**58**	*e*P	PKPbc	16 12 56.7	+1.7
comp=N,34nm,0.9s							
KKN	**Kakani**	**154.27**	**57**	*e*P	PKPbc	16 12 56.7	+1.5
comp=N,45nm,0.8s							
PKI	**Pulchoki**	**154.46**	**57**	*e*P	PKPbc	16 12 57.1	+1.5
comp=N,26nm,1.0s							
HHC	**Hu-ho-hao-te**	**154.48**	**356**	*e*PKP	PKPdf	16 12 49.0	+1.9
HHC				PKP2	PKPab	16 13 15.5	+4.6
HHC				PKS		16 16 22.0	
HHC				PP	PP	16 16 52.8	+5.9
HHC				SS	SS	16 36 12.8	+2.5
HHC				PP	PP		
comp=Z,80nm,8.8s							
HHC				LR	LR		
comp=N,110nm,16.6s							
HHC				LR	LR		
comp=E,110nm,14.3s							
HHC				LR	LR		
comp=Z,70nm,17.8s							
GTA	**Gaotai**	**154.49**	**18**	PKP	PKPdf	16 12 48.5	+1.4
GTA				PKS		16 16 21.3	
GTA				PP	PP	16 16 51.3	+4.3
GTA				SKS	SKSdf	16 19 36.8	+2.4
GTA				SKKS	SKKSac	16 23 21.5	+4.7
GTA				SS	SS	16 36 13.8	+3.4
GTA				PP	PP		
comp=Z,80nm,6.5s							
GTA				LR	LR		
comp=N,80nm,14.8s							
GTA				LR	LR		
comp=E,70nm,18.3s							
GTA				LR	LR		
comp=Z,80nm,12.9s							
GUN	**Gumba**	**154.70**	**56**	*e*P	PKPdf	16 12 58.2	+11
comp=Z,68nm,1.0s							
JIRN	**Jiri**	**155.06**	**57**	*e*P	PKPdf	16 12 58.6	+11
comp=Z,19nm,0.8s							
BOK	**Bokaro**	**156.16**	**66**	*ex*	PKPdf	16 12 57.5	+8.2
LSA	**Lhasa**	**157.79**	**47**	*e*PKIKP	PKPdf	16 12 53.7	+2.3
LZH	**Lanzhou**	**158.67**	**13**	*e*PKP	PKPdf	16 12 49.5	-3.0
SSE	**Sheshan**	**161.01**	**328**	PKP	PKPdf	16 12 58.3	+3.2
NJ2	**Nanjing**	**161.29**	**335**	*e*PKP	PKPdf	16 12 51.0	-4.4
NJ2				PKP2	PKPab	16 13 40.0	-0.4
NJ2				APKP		16 13 49.5	
NJ2				XPKP		16 14 12.5	
NJ2				PP	PP	16 17 23.0	-1.1
NJ2				PP	PP		
comp=Z,60nm,12.8s							
NJ2				LR	LR		
comp=N,770nm,37.8s							
NJ2				LR	LR		
comp=E,550nm,37.9s							
NJ2				LR	LR		
comp=Z,340nm,39.9s							
XAN	**Xi'an**	**161.32**	**2**	PKP	PKPdf	16 12 56.5	+1.1
CD2	**Chengdu**	**163.57**	**18**	*e*PKP	PKPdf	16 12 57.0	-0.7
CD2				APKP		16 13 47.0	
CD2				PKP2	PKPab	16 13 51.0	+0.6
CD2				XPKP		16 14 07.0	
CD2				PP	PP	16 17 38.0	+1.9
CD2				SKS	SKSdf	16 19 40.0	-2.8
CD2				PP	PP		
comp=Z,100nm,11.0s							
CD2				LR	LR		
comp=E,80nm,20.4s							
CD2				LR	LR		
comp=Z,80nm,19.2s							
KMI	**Kunming**	**168.31**	**32**	PKP	PKPdf	16 13 00.5	-0.9
KMI				SS	SS	16 38 40.0	+5.8
KMI				PP	PP		
comp=Z,100nm,5.8s							
KMI				LR	LR		
comp=Z,50nm,19.2s							
GYA	**Guiyang**	**168.56**	**13**	PKP	PKPdf	16 13 03.0	+1.4
GYA				PKS		16 16 34.5	
GYA				PP	PP		
comp=Z,220nm,8.8s							

ISCJB ***27*** *15:56:22.0±0.6, 676N±006×7302W±007, h161km±5km, mb4.0/2, Error ellipse: s-maj=12.5km s-min=6.7km az=72.4*

NEIC ***27*** *15:56:22.6±0.6, 681N×7305W, h163km±8km, MG4.3(RSNC), Error ellipse: s-maj=16.9km s-min=9

comp=N,608nm,0.3s
TLL Tololo Astrono 0.67 41⇑ *i* P Pn 16 40 29.8 +1.2
TLL *i* S Sn 16 40 40.2 +2.0
CHNG Los Chungos 1.22 187⇑ *i* P Pn 16 40 36.1 +0.1
CHNG *i* S Sn 16 40 52.5 +1.3
CHNG AML AML 16 40 55.6
comp=N,174nm,0.7s
LCO Las Campanas 1.74 18⇑ *i* P Pn 16 40 44.0 +0.9
LCO *i* S Sn 16 41 06.2 +2.2

ISCJB ***27*** *16:59:34.2±1.2, 1100S±007×7340W±006, h46km±18km, mb3.6/6, MS3.5/1, Error ellipse: s-maj=13.2km s-min=7.8km az=60.1*
NEIC ***27*** *16:59:35.5±1.4, 1102S×7351W, h41km±15km, Error ellipse: s-maj=19.1km s-min=13.5km az=189.0*
IDC ***27*** *16:59:36.9±2.3, 1063S×7297W, h54km±22km, mb3.5/4, mb1 3.9/7, mb1mx3.7/18, mbtmp3.9/7, ML4.2/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/17, Error ellipse: s-maj=45.4km s-min=15.8km az=36.0*

ISC 27 16:59:36.2±0.9, 1094S±007×7344W±006, h42km±15km, n18, σ1.23/17, mb3.6/6, MS3.5/1, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.49**	**252**	*e*Pn		**Pn**		**17 00 26.4**	**-1.6**
NNA				*e*Sn		**Sn**		**17 01 08.7**	**+0.7**
ARE	**Arequipa**	**5.80**	**161**	*e*P		**Pn**		**17 01 06.0**	**+6.3**
ARE				*e*S		**Sn**		**17 02 05.0**	**+0.1**
ATAH	**Atahualpa**	**6.27**	**308**	P		**Pn**		**17 01 06.8**	**+0.7**
	5.3nm,0.3s,baz=101,slow=3.9,SNR=24								
ATAH				S		**Sn**		**17 02 21.8**	**+5.4**
	7.4nm,0.3s,baz=138,slow=24,SNR=3.8								
LPAZ	**La Paz**	**7.41**	**136**	P		**Pn**		**17 01 22.4**	**+0.7**
	0.9nm,0.3s,baz=311,slow=11,SNR=34								
LPAZ				LR		LR		17 04 35.0	
	comp=Z,93nm,18.7s,baz=274,slow=41								
LPAZ	**La Paz**	**7.41**	**136**	*e*Pn		**Pn**		**17 01 22.4**	**+0.7**
LPAZ				LR		LR		17 04 35.0	
SAML	**Samuel**	**10.30**	**80**	*e*P		**Pn**		**17 02 01.4**	**+0.1**
	8.3nm,0.5s								
SIV	**San Ignacio**	**13.03**	**114**	P		**Pn**		**17 02 37.0**	**-1.7**
	1.3nm,0.3s,baz=294,slow=11,SNR=25								
SDV	**Santo Domingo**	**19.90**	**8**	P		**Pn**		**17 04 06.4**	**+0.5**
	0.6nm,0.3s,baz=226,slow=10.0,SNR=3.3								
CFAA	**Coronel Fontan**	**21.12**	**168**	P		**P**		**17 04 24.7**	**+7.5**
	0.2nm,0.4s,mb2.8,baz=333,slow=12,SNR=4.4								
BDFB	**Brasilia**	**25.17**	**103**	P		**P**		**17 04 59.8**	**+2.3**
	1.0nm,0.4s,mb3.7,baz=271,slow=11,SNR=3.1								
BDFB				LR		LR		17 15 25.9	
	comp=Z,140nm,18.1s,MS3.5,baz=330,slow=38								
PDAR	**Pinedale Array**	**62.83**	**331**	P		**P**		**17 09 55.8**	**-1.8**
	0.3nm,0.6s,mb3.6,baz=123,slow=11,SNR=3.6								
ULM	**Lac du Bonnet**	**64.02**	**344**	P		**P**		**17 10 04.5**	**-0.9**
	1.5nm,0.6s,mb4.2,baz=163,slow=7.6,SNR=3.1								
NVAR	**Mina Array Bea**	**64.53**	**322**	P		**P**		**17 10 10.1**	**+1.2**
	0.3nm,0.5s,mb3.6,baz=161,slow=5.7								
TORD	**Torodi Ar. Bea**	**78.30**	**74**	P		**P**		**17 11 28.1**	**-3.7**
	1.0nm,0.9s,mb3.8,baz=252,slow=4.3,SNR=3.7								
ASAR	**Alice Springs**	**136.43**	**218**	PKP		PKPdf		17 18 52.8	-0.6
	0.6nm,0.9s,baz=138,slow=1.7,SNR=4.5								
WRA	**Warramunga Arr**	**138.89**	**222**	PKP		PKPdf		17 18 58.9	+1.0
	0.5nm,0.5s,baz=122,slow=2.0,SNR=10								
SONM	**Songino Array**	**143.23**	**0**	PKP		PKPdf		17 19 03.9	-1.8
	0.4nm,0.6s,baz=7.4,slow=3.4,SNR=3.7								
FITZ	**Fitzroy Crossi**	**145.54**	**213**	PKPbc		PKPbc		17 19 10.9	+1.0
	2.9nm,0.7s,baz=157,slow=6.6,SNR=7.6								

IDC 27 17:10:06.5±5.8, 459N×9658E, h65km±41km, mb3.2/3, mb1 3.4/4, mb1mx3.2/18, mbtmp3.6/4, ML3.7/1, MS3.7/1, Ms1 3.7/1, ms1mx3.0/9, Error ellipse: s-maj=108.3km s-min=23.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.94**	**127**	P		P	Pn	17 10 53.1	+2.4
	11nm,0.3s,baz=310,slow=13,SNR=26								
PSI				S		P	Sn	17 11 26.9	+2.1
	8.7nm,0.3s,baz=226,slow=15,SNR=8.7								
MKAR	**Makanchi Array**	**43.83**	**346**	P		P	P	17 18 05.2	-0.8
	0.3nm,0.3s,baz=157,slow=8.9,SNR=10								
SONM	**Songino Array**	**43.90**	**10**	P		P	P	17 18 07.4	+0.8
	0.5nm,0.5s,baz=201,slow=7.9,SNR=5.8								
WRA	**Warramunga Arr**	**44.40**	**125**	P		P	P	17 18 11.1	+0.5
	0.3nm,0.3s,baz=304,slow=9.3,SNR=20								
MJAR	**Matsushiro Arr**	**49.67**	**45**	LR		LR	LR	17 40 03.4	
	comp=Z,88nm,20.0s,baz=55,slow=36								

MEX 27 17:13:24.2±0.4, 1683N×10020W, h38km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**344**	*i* P		Pn		17 13 30.1	-1.4
CAIG				*i* S		Sn		17 13 34.7	-1.8
ACX	**Acapulco**	**0.28**	**82**	*i* P		Pn		17 13 30.5	-1.5
ACX				*i* S		Sn		17 13 35.5	-1.9
MEIG	**Mezcala**	**1.22**	**27**	*e*P		Pn		17 13 43.3	-1.4
MEIG				*i* S		Sn		17 13 57.8	-2.3
PLIG	**Platanillo**	**1.69**	**23**	*i* P		Pn		17 13 48.8	-2.4
PLIG				*i* S		Sn		17 14 10.0	-1.6
UTMO	**Huajuapan**	**2.50**	**66**	*e*P		Pn		17 14 01.1	-1.2
UTMO				*i* S		Sn		17 14 30.4	-1.1

IDC ***27*** *17:16:51.1±0.8, 5237N×16929W, h0km, mb4.3/20, mb1 4.5/20, mb1mx4.4/24, mbtmp4.3/20, MS3.7/6, Ms1 3.7/6, ms1mx3.3/39, Error ellipse: s-maj=24.0km s-min=13.3km az=172.0*
HRVD ***27*** *17:16:52.4±0.7, 5222N×16900W, h32km±1km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s17,c20;Mantle waves: s37,c39; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.63±.16; $M_{\theta\theta}$-1.27±.12; $M_{\phi\phi}$-0.35±.12; $M_{r\theta}$0.82±.12; $M_{\theta\phi}$-0.50±.06; $M_{r\phi}$0.07±.12; Best double couple: $M_0$1.76400×10^{16} NP1:ϕ_s239.00000°, δ32.00000°, λ77.00000°. NP2: ϕ_s74.00000°, δ59.00000°, λ98.00000°. Principal axes: T 1.8490, Plg75.0000°, Azm6.0000°; N -0.1660, Plg7.0000°, Azm250.0000°; P -1.6790, Plg13.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *17:16:52.4±0.3, 5220N×169.13W, h10km, mb4.7/57, ML4.0(AEIC) Error ellipse: s-maj=7.8km s-min=4.6km az=158.0*
BJI ***27*** *17:16:53.9, 5306N×16928W, h16km, mB5.0, mb4.8, Ms4.5, Msz4.1*
ISCJB ***27*** *17:16:53.9±1.3, 5231N±007×16925W±006, h26km±7km, mb4.6/95, MS3.9/15, Error ellipse: s-maj=11.8km s-min=5.7km az=150.7*
SZGRF ***27*** *17:16:55.0, 5168N×16960W, h33km, mb4.7, Fox Islands, Aleutian Islands, United States*
MOS ***27*** *17:16:58.7±0.8, 5297N×16986W, h33km, mb5.2/54, Error ellipse: s-maj=19.9km s-min=6.1km az=94.3*

ISC 27 17:16:55.6±1.3, 5237N±007×16922W±006, h27km±7km, h36km±6.7km: pP-P, n238, σ0.94/245, mb4.6/95, MS3.9/15, 17C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.65**	**20**	P		**Pb**		**17 17 07.8**	**-0.5**
NIKO				S		**Sb**		**17 17 16.5**	**-0.4**
OKCE	**Okmok Cone E**	**1.24**	**31**	P		**Pn**		**17 17 16.7**	**-0.4**
OKCD	**Okmok Cone D**	**1.26**	**32**	P		**Pn**		**17 17 17.4**	**+0.1**
UNV	**Unalaska Valle**	**2.21**	**47**	P		**Pn**		**17 17 29.9**	**-0.5**
UNV				S		**Sn**		**17 17 56.6**	**-0.1**
AKLV	**Akutan Long Va**	**2.66**	**46**	P		**Pn**		**17 17 38.0**	**+1.4**
AKUT	**Akutan**	**2.72**	**48**	*e*Pn		**Pn**		**17 17 38.6**	**+1.1**
ATKA	**Atka Island**	**3.06**	**269**	P		**Pn**		**17 17 43.4**	**+1.2**
ATKA				S		**Sn**		**17 18 21.1**	**+3.2**
FALS	**False Pass**	**4.26**	**52**	P		**Pn**		**17 18 01.4**	**+2.7**
SPIA	**Saint Paul Isl**	**4.86**	**353**	P		**Pn**		**17 18 09.7**	**+2.8**
SDPT	**Sand Point**	**5.97**	**57**	*e*Pn		**Pn**		**17 18 24.1**	**+2.0**
KDAK	**Kodiak Island**	**10.96**	**54**	Pn		**Pn**		**17 19 29.4**	**-1.1**
	0.8nm,0.3s,baz=258,slow=12,SNR=5.3								
KDAK	**Kodiak Island**	**10.96**	**54**	*e*Pn		**Pn**		**17 19 29.3**	**-1.2**
SVW2	**Sparrevohn**	**11.49**	**35**	*e*P		**Pn**		**17 19 42.2**	**+4.4**
GAMB	**Gambell**	**11.52**	**354**	*e*Pn		**Pn**		**17 19 40.9**	**+2.7**
SLKM	**Skilak Lake**	**13.26**	**45**	*e*P		**Pn**		**17 20 01.2**	**-0.7**
SML	**Sawmill**	**14.70**	**42**	*e*P		**Pn**		**17 20 20.2**	**-1.5**
DAWY	**Dawson**	**19.37**	**41**	*e*P		**Pn**		**17 21 17.0**	**-3.4**
BILL	**Biiibino**	**19.64**	**332**	*e*P		**Pn**		**17 21 22.7**	**-0.9**
BILL				pmax		pmax			
	comp=Z,255nm,0.6s								
BILL	**Biiibino**	**19.64**	**332**	*e*P		**Pn**		**17 21 22.7**	**-0.9**
	comp=Z,255nm,0.6s								
DLBC	**Dease Lake**	**22.81**	**59**	P		**P**		**17 21 57.0**	**+0.9**
	comp=Z,5.1nm,0.9s,mb4.0,baz=259,slow=11,SNR=10								
DLBC				LR		LR		17 29 26.7	
	comp=Z,109nm,20.2s,MS3.3,baz=298,slow=33								
DLBC	**Dease Lake**	**22.81**	**59**	*e*P		**P**		**17 21 56.4**	**+0.3**
INK	**Inuvik**	**23.30**	**33**	P		**P**		**17 21 57.3**	**-4.0**
	comp=Z,5.6nm,0.8s,mb4.1,baz=218,slow=6.7,SNR=6.4								
INK	**Inuvik**	**23.30**	**33**	P		**P**		**17 22 00.1**	**-1.2**
INK				pmax		pmax			
	comp=Z,40nm,0.7s								
INK	**Inuvik**	**23.30**	**33**	P		**P**		**17 22 00.1**	**-1.2**
	comp=Z,4.4nm,0.7s,mb4.0								
BBB	**Bella Bella**	**24.91**	**74**	LR		LR		17 30 07.6	
	comp=Z,105nm,19.9s,MS3.3,baz=323,slow=32								
YKA	**Yellowknife Ar**	**30.17**	**49**	P		**P**		**17 23 02.9**	**-0.5**
	comp=Z,1.6nm,0.5s,mb4.0,baz=271,slow=7.8,SNR=5.8								
YKA	**Yellowknife Ar**	**30.17**	**49**	P		**P**		**17 23 02.9**	**-0.5**
ASAJ	**Asahikawa**	**32.60**	**275**	P		**P**		**17 23 23.1**	**-1.6**
	comp=Z,4.7nm,0.7s,mb4.5,baz=43,slow=7.7,SNR=5.0								
TIXI	**Tiksi**	**32.78**	**329**	*i* P		**P**		**17 23 24.9**	**-1.4**
TIXI				pmax		pmax			
	comp=Z,30nm,0.6s,mb5.4								
TIXI				MLR		MLR			
	comp=Z,200nm,22.0s,MS3.8								
NEW	**Newport**	**32.92**	**76**	P		**P**		**17 23 26.9**	**-0.6**
	comp=Z,4.2nm,0.7s,mb4.5,baz=0.0,slow=4.0,SNR=3.3								
YAK	**Yakutsk**	**33.24**	**311**	*i* P		**P**		**17 23 29.6**	**-0.8**
YAK				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.6								
YAK				MLR		MLR			
	comp=Z,300nm,25.0s,MS3.9								
HABR	**Khabarovsk**	**34.98**	**286**	*e*P		**P**		**17 23 43.2**	**-2.2**
HABR				*e*S		**S**		**17 29 13.3**	**-2.2**
KLR	**Kul'dur**	**36.55**	**289**	*e*P		**P**		**17 23 55.0**	**-3.9**
MCMT	**McKenzie Canyo**	**37.19**	**79**	*e*P		**P**		**17 24 05.0**	**+0.7**
EGMT	**Eagleton**	**37.38**	**72**	*e*P		**P**		**17 24 03.1**	**-2.8**
	comp=Z,8.5nm,0.9s,mb4.6								
NVAR	**Mina Array Bea**	**37.57**	**91**	P		**P**		**17 24 07.0**	**-0.6**
	baz=309,slow=8.0								
NVAR	**Mina Array Bea**	**37.57**	**91**	P		**P**		**17 24 07.0**	**-0.6**
MJAR	**Matsushiro Arr**	**39.79**	**268**	P		**P**		**17 24 25.8**	**-0.4**
	comp=Z,2.3nm,0.8s,mb4.0,baz=51,slow=7.4,SNR=6.9								
MJAR	**Matsushiro Arr**	**39.79**	**268**	P		**P**		**17 24 25.8**	**-0.4**
MAJO	**Matsushiro**	**39.79**	**268**	*e*P		**P**		**17 24 26.9**	**+0.7**
MAJO				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.3								
MAJO	**Matsushiro**	**39.79**	**268**	*e*P		**P**		**17 24 26.9**	**+0.7**
	comp=Z,3.9nm,0.6s,mb4.3								
MDJ	**Mudanjiang**	**40.19**	**284**	P		**P**		**17 24 30.3**	**+0.8**
MDJ				XP		sP		17 24 38.5	-2.5
MDJ				PP		PP		17 26 01.0	-1.1
MDJ				S		**S**		**17 30 34.8**	**+0.2**
MDJ				AMB		AMB			
	comp=Z,40nm,3.9s								
MDJ				LR		LR			
	comp=N,80nm,21.8s,MS3.5								
MDJ				LR		LR			
	comp=E,30nm,24.4s,MS3.5								
MDJ				LR		LR			
	comp=Z,90nm,18.5s								
PDAR	**Pinedale Array**	**40.31**	**79**	P		**P**		**17 24 30.8**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.1,baz=316,slow=4.8,SNR=26								
CN2	**Changchun**	**43.10**	**286**	*e*P		**P**		**17 24 52.3**	**-1.0**
CN2				*e*S		**S**		**17 31 14.5**	**-3.2**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb4.7								
CN2				AMB		AMB			
	comp=Z,200nm,5.0s								
CN2				LR		LR			
	comp=N,200nm,18.0s,MS4.2								
CN2				LR		LR			
	comp=E,200nm,18.0s,MS4.2								
CN2				LR		LR			
	comp=Z,200nm,17.0s,MS4.1								
PV01	**Paradox Valley**	**43.71**	**84**	P		**P**		**17 24 56.2**	**-2.0**
CIT	**Chita**	**45.19**	**302**	*e*P		**P**		**17 25 09.0**	**-1.0**
DAG	**Danmarks Havn**	**49.78**	**9⇓**	*i* P		**P**		**17 25 44.9**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.5								
DAG	**Danmarks Havn**	**49.78**	**9⇓**	*i* P		**P**		**17 25 44.9**	**-0.8**
DAG				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
ULN	**Ulaanbaatar**	**51.02**	**301**	*e*P		**P**		**17 25 54.5**	**-0.6**
ULN				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
ULN	**Ulaanbaatar**	**51.02**	**301**	*e*P		**P**		**17 25 54.5**	**-0.6**
	comp=Z,3.6nm,0.6s,mb4.5								
SONM	**Songino Array**	**51.38**	**301**	P		**P**		**17 25 58.2**	**+0.4**
	comp=Z,2.8nm,0.6s,mb4.4,baz=63,slow=5.6,SNR=25								
SONM				PcP		PcP		17 27 12.4	+0.1
	comp=Z,1.4nm,0.8s,baz=76,slow=2.1,SNR=5.8								
SONM				LR		LR		17 48 58.8	
	comp=Z,122nm,19.0s,MS4.0,baz=145,slow=38								
SONM	**Songino Array**	**51.38**	**301**	P		**P**		**17 25 58.2**	**+0.4**
SONM								17 27 12.4	
ZAK	**Zakamensk**	**51.40**	**305**	*e*P		**P**		**17 25 57.1**	**-0.8**
ZAK				pmax		pmax			
	comp=Z,50nm,2.0s,mb5.1								
ZAK				pmax		pmax			
	comp=Z,7.0nm,2.0s,mb4.2								
HHC	**Hu-ho-hao-te**	**53.01**	**291**	*e*P		**P**		**17 26 10.5**	**+0.6**
HHC				AP		pP		17 26 23.5	+5.2
HHC				PCP		PcP		17 27 20.3	+2.0
HHC				PP		PP		17 28 11.8	+2.1
HHC				S		**S**		**17 33 33.5**	**-4.4**
HHC				SCS		ScS		17 35 53.0	-4.7
HHC				SS		SS		17 37 12.0	-5.2
HHC				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
HHC				AMB		AMB			
	comp=Z,80nm,4.8s								
HHC				LR		LR			
	comp=N,170nm,14.3s,MS4.3								
HHC				LR		LR			
	comp=E,110nm,16.7s,MS4.3								
HHC				LR		LR			
	comp=Z,180nm,14.3s,MS4.3								
NJ2	**Nanjing**	**54.64**	**278**	*e*P		**P**		**17 26 25.8**	**+3.9**
NJ2				AP		pP		17 26 33.0	+2.7
NJ2				XP		sP		17 26 36.0	+2.5
NJ2				PCP		PcP		17 27 27.5	+2.9
NJ2				S		**S**		**17 34 00.0**	**0.0**
NJ2				XS		sS		17 34 13.0	-0.9
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
NJ2				AMB		AMB			
	comp=Z,110nm,5.7s								
NJ2				LR		LR			
	comp=N,240nm,16.0s,MS4.5								
NJ2				LR		LR			
	comp=E,200nm,18.0s,MS4.5								
NJ2				LR		LR			
	comp=Z,140nm,15.9s,MS4.1								
SCHQ	**Schefferville**	**55.37**	**43**	P		**P**		**17 26 26.5**	**-0.6**
	comp=Z,7.3nm,0.8s,mb4.7,baz=329,slow=7.6,SNR=12								
SCHQ	**Schefferville**	**55.37**	**43**	*e*P		**P**		**17 26 26.7**	**-0.4**
	comp=Z,8.8nm,0.8s,mb4.8								
ZAL	**Zalesovo**	**57.51**	**318**	P		**P**		**17 26 41.6**	**-0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=81,slow=7.0,SNR=4.9								
ZAL				LR		LR		17 53 43.7	
	comp=Z,96nm,18.2s,MS3.9,baz=62,slow=38								
ARCES	**ARCESS Array B**	**57.93**	**354**	P		**P**		**17 26 42.4**	**-2.9**
	comp=Z,3.9nm,0.9s,mb4.5,baz=25,slow=9.3,SNR=4.7								
ARCES				LR		LR		17 53 37.8	
	comp=Z,92nm,18.4s,MS3.9,baz=40,slow=38								
GTA	**Gaotai**	**60.56**	**297**	*e*P		**P**		**17 27 03.5**	**0.0**
GTA				AP		pP		17 27 08.0	-4.0
GTA				XP		sP		17 27 11.0	-4.3
KURK	**Kurchatov**	**62.44**	**318**	*c* *i* P		**P**		**17 27 15.1**	**-1.1**
KURK	**Kurchatov**	**62.44**	**318**	*e*P		**P**		**17 27 15.4**	**-0.8**
	comp=Z,5.8nm,0.6s,mb4.9								
WMQ	**Urumqi**	**63.61**	**308**	*e*P		**P**		**17 27 25.8**	**+1.9**
WMQ				LR		LR			
	comp=N,50nm,20.0s,MS3.8								
WMQ				LR		LR			
	comp=E,50nm,20.0s,MS3.8								
WMQ				LR		LR			
	comp=Z,60nm,22.0s,MS3.7								
MKAR	**Makanchi Array**	**63.88**	**313**	P		**P**		**17 27 24.4**	**-1.3**
	comp=Z,2.1nm,0.8s,mb4.2,baz=45,slow=6.6,SNR=26								
JOF	**Joensuu**	**63.93**	**350**	*e*p		**P**		**17 27 24.3**	**-1.7**
	comp=Z,4.4nm,0.6s,mb4.7								
JOF	**Joensuu**	**63.93**	**350**	*e*P		**P**		**17 27 24.3**	**-1.7**
JOF				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
ZRNK	**Zerenda**	**64.31**	**325**	*e*P		**P**		**17 27 27.6**	**-1.0**
ZRNK				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.9								
ZRNK	**Zerenda**	**64.31**	**325**	*e*P		**P**		**17 27 27.6**	**-1.0**
	comp=Z,7.1nm,0.6s,mb4.9								
CD2	**Chengdu**	**64.46**	**288**	*e*P		**P**		**17 27 28.5**	**-1.1**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
ARU	**Arti**	**64.66**	**333**	*c* *i* P		**P**		**17 27 29.9**	**-1.0**
ARU				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.8								
KAF	**Kangasniemi**	**65.20**	**352**	*e*p		**P**		**17 27 32.4**	**-2.0**
	comp=Z,5.0nm,0.6s,mb4.7,baz=7.1,slow=6.1								
KAF	**Kangasniemi**	**65.20**	**352**	*e*P		**P**		**17 27 32.4**	**-2.0**
KAF				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
FINES	**FINESS Array B**	**65.88**	**352**	P		**P**		**17 27 37.5**	**-1.2**
	comp=Z,4.5nm,0.8s,mb4.5,baz=7.3,slow=7.9,SNR=13								
FINES				LR		LR		17 57 17.0	
	comp=Z,52nm,18.2s,MS3.8,baz=0,0,slow=37								
GYA	**Guiyang**	**66.02**	**283⇑**	*i* P		**P**		**17 27 40.3**	**+0.6**
GYA				AP		pP		17 27 53.3	+5.0
GYA				PP		PP		17 30 07.8	+2.7
GYA				S		S		17 36 22.0	-3.8
GYA				XS		sS		17 36 43.8	+3.8
GYA				AMB		AMB			
	comp=Z,20nm,0.9s,mb5.2								
GYA				AMB		AMB			
	comp=Z,90nm,4.8s								
GYA				LR		LR			
	comp=N,240nm,18.4s,MS4.6								
GYA				LR		LR			
	comp=E,210nm,18.0s,MS4.6								
GYA				LR		LR			
	comp=Z,280nm,19.2s,MS4.5								
NB2	**NORSAR Subarra**	**66.94**	**360**	P		**P**		**17 27 44.4**	**-1.2**
	comp=Z,4.2nm,0.6s,mb4.7,baz=360,slow=6.5								
NB2	**NORSAR Subarra**	**66.94**	**360**	P		**P**		**17 27 44.4**	**-1.2**
NB2				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
NOA	**NORSAR Array B**	**66.94**	**360**	P		**P**		**17 27 44.7**	**-0.9**
	comp=Z,5.0nm,0.8s,mb4.6,baz=0.3,slow=6.3,SNR=15								
KMI	**Kunming**	**69.36**	**285**	P		**P**		**17 28 01.3**	**+0.6**
KMI				AMB		AMB			
	comp=Z,10.0nm,1.1s,mb4.7								
LSA	**Lhasa**	**72.54**	**296**	*e*P		**P**		**17 28 21.5**	**+1.5**
LSA				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb4.8								
LSA	**Lhasa**	**72.54**	**296**	*e*P		**P**		**17 28 21.5**	**+1.5**
	comp=Z,9.8nm,0.7s,mb4.8								
AKASG	**Malin Array Be**	**76.13**	**348**	P		**P**		**17 28 39.6**	**-1.3**
	comp=Z,8.1nm,0.7s,mb4.8,baz=13,slow=5.6,SNR=20								
CLZ	**Clausthal**	**76.16**	**0**	*e*P		**P**		**17 28 41.4**	**+0.3**
	comp=Z,9.0nm,0.9s,mb4.7								
CLZ	**Clausthal**	**76.16**	**0**	*e*P		**P**		**17 28 41.4**	**+0.3**
CLZ				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
GTTG	**Gvttingen**	**76.46**	**1**	*e*P		**P**		**17 28 43.5**	**+0.7**
	comp=Z,9.0nm,0.9s,mb4.7								
CLL	**Collm**	**76.68**	**359**	*e*P		**P**		**17 28 43.6**	**-0.5**
	comp=Z,6.0nm,1.1s,mb4.4								
CLL	**Collm**	**76.68**	**359⇑**	*i* P		**P**		**17 28 43.3**	**-0.8**
	comp=Z,6.0nm,1.1s,mb4.4								
CLL	**Collm**	**76.68**	**359⇑**	*i* P		**P**		**17 28 43.3**	**-0.8**
CLL				pmax		pmax			
	comp=Z,6.0nm,1.1s,mb4.4								
CLL	**Collm**	**76.68**	**359⇑**	*i* P		**P**		**17 28 43.3**	**-0.8**
	comp=Z,6.0nm,1.1s,mb4.4								
GUN	**Gumba**	**76.81**	**299**	*e*P		**P**		**17 28 45.3**	**+0.6**
	comp=Z,16nm,0.5s,mb5.2								
JIRN	**Jiri**	**76.84**	**298**	*e*P		**P**		**17 28 45.6**	**+0.7**
	comp=Z,33nm,0.7s,mb5.4								
BRG	**Berggiesshubel**	**77.10**	**358**	*e*P		**P**		**17 28 46.2**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.5								
BRG	**Berggiesshubel**	**77.10**	**358**	*e*P		**P**		**17 28 46.1**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.3								
BRG	**Berggiesshubel**	**77.10**	**358**	*e*P		**P**		**17 28 46.1**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.3								
BRG	**Berggiesshubel**	**77.10**	**358**	*e*P		**P**		**17 28 46.1**	**-0.3**
BRG				pmax		pmax			
	com

KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 79.19 353 *eP* **P 17 28 57.9 -0.1**
comp=Z,3.6nm,0.9s,mb4.3
VYHS Vyhne 79.28 355 *eP* **P 17 28 58.4 -0.1**
VYHS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
VYHS Vyhne 79.28 355 *eP* **P 17 28 58.4 -0.1**
comp=Z,3.7nm,1.0s,mb4.3
BFO Black Forest 79.66 2 *eP* **P 17 29 01.2 +0.7**
comp=Z,3.0nm,0.8s,mb4.3
BFO Black Forest 79.66 2 *eP* **P 17 29 01.2 +0.7**
BFO pmax pmax
comp=Z,30nm,0.8s,mb5.3
ZST Bratislava 79.67 356 *eP* **P 17 29 01.7 +1.1**
ZST pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ZST Bratislava 79.67 356 *eP* **P 17 29 01.7 +1.1**
comp=Z,9.6nm,0.7s,mb4.8
HAU Haudompre 79.93 3 *eP* **P 17 29 02.9 +0.9**
comp=Z,9.6nm,0.8s,mb4.5
HAU Haudompre 79.93 3 *eP* **P 17 29 02.9 +0.9**
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HAU Haudompre 79.93 3 *eP* **P 17 29 02.9 +0.9**
comp=Z,4.8nm,0.8s,mb4.5
CONA Conrad Observa 79.99 357⇑ *iP* **P 17 29 03.0 +0.6**
comp=Z,6.0nm,0.7s,mb4.7
HINF Hinteralfeld 80.14 3 *eP* **P 17 29 02.9 -0.2**
comp=Z,8.2nm,0.9s,mb4.4
HINF Hinteralfeld 80.14 3 *eP* **P 17 29 02.9 -0.2**
HINF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
HINF Hinteralfeld 80.14 3 *eP* **P 17 29 02.9 -0.2**
comp=Z,4.1nm,0.9s,mb4.4
KIV Kislovodsk 80.19 337 *eP* **P 17 29 03.8 +0.4**
KIV pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KIV MLR MLR
comp=Z,40nm,19.0s,MS3.8
LOR Lormes 80.57 5 *eP* **P 17 29 05.3 -0.1**
MOTA Moosalm 80.67 360⇑ *iP* **P 17 29 06.8 +0.8**
comp=Z,3.6nm,0.7s,mb4.4
MOTA Moosalm 80.67 360⇑ *iP* **P 17 29 06.8 +0.8**
MOTA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ARSA Arzberg 80.68 357⇑ *iP* **P 17 29 06.9 +0.8**
comp=Z,4.8nm,0.7s,mb4.5
WTTA Wattenberg 80.75 359⇑ *iP* **P 17 29 07.0 +0.6**
comp=Z,6.4nm,0.7s,mb4.7
WTTA Wattenberg 80.75 359⇑ *iP* **P 17 29 07.0 +0.6**
WTTA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SSF Saint Saulge 80.75 5 *eP* **P 17 29 06.4 0.0**
comp=Z,9.3nm,0.9s,mb4.4
SSF Saint Saulge 80.75 5 *eP* **P 17 29 06.4 0.0**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SSF Saint Saulge 80.75 5 *eP* **P 17 29 06.4 0.0**
comp=Z,4.7nm,0.9s,mb4.4
SQTA Sankt Quirin 80.79 360⇑ *iP* **P 17 29 07.8 +1.1**
comp=Z,8.2nm,0.7s,mb4.7
SQTA Sankt Quirin 80.79 360⇑ *iP* **P 17 29 07.8 +1.2**
SQTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KBA Koelnbreinsper 80.91 358⇑ *iP* **P 17 29 07.8 +0.5**
comp=Z,16nm,1.0s,mb4.9
KBA Koelnbreinsper 80.91 358⇑ *iP* **P 17 29 07.8 +0.5**
KBA pmax pmax
comp=Z,16nm,1.0s,mb4.9
MFF Saint Martin d 80.97 8 *eP* **P 17 29 07.4 -0.2**
comp=Z,14nm,0.9s,mb4.6
MFF Saint Martin d 80.97 8 *eP* **P 17 29 07.4 -0.2**
MFF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MFF Saint Martin d 80.97 8 *eP* **P 17 29 07.4 -0.2**
comp=Z,6.8nm,0.9s,mb4.6
AVF Avril sur Loir 81.02 5 *eP* **P 17 29 07.6 -0.2**
comp=Z,11nm,0.9s,mb4.5
AVF Avril sur Loir 81.02 5 *eP* **P 17 29 07.6 -0.2**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AVF Avril sur Loir 81.02 5 *eP* **P 17 29 07.6 -0.2**
comp=Z,5.7nm,0.9s,mb4.5
SMF Signal de Mont 81.19 5 *eP* **P 17 29 08.6 -0.1**
comp=Z,15nm,0.8s,mb4.7
SMF Signal de Mont 81.19 5 *eP* **P 17 29 08.6 -0.1**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SMF Signal de Mont 81.19 5 *eP* **P 17 29 08.6 -0.1**
comp=Z,7.4nm,0.8s,mb4.7
PERS Pernice 81.31 357 *i P* **P 17 29 09.7 +0.3**
CABF La Chapelle 81.32 3 *eP* **P 17 29 09.9 +0.5**
comp=Z,18nm,0.8s,mb4.7
CABF La Chapelle 81.32 3 *eP* **P 17 29 09.9 +0.5**
CABF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CABF La Chapelle 81.32 3 *eP* **P 17 29 09.9 +0.5**
comp=Z,9.1nm,0.8s,mb4.8
TCF Toulx Ste Croi 81.45 6 *eP* **P 17 29 09.8 -0.3**
comp=Z,9.2nm,0.9s,mb4.4
TCF Toulx Ste Croi 81.45 6 *eP* **P 17 29 09.8 -0.3**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
TCF Toulx Ste Croi 81.45 6 *eP* **P 17 29 09.8 -0.3**
comp=Z,4.6nm,0.9s,mb4.4
OBKA Obir 81.45 357⇑ *eP* **P 17 29 10.6 +0.5**
comp=Z,8.8nm,0.8s,mb4.7
GROS Grobnik 81.47 357 *i P* **P 17 29 10.3 +0.1**
CADS Cadrg 81.75 358 *i P* **P 17 29 11.0 -0.8**
RJF Les Rejaudoux 82.38 7 *eP* **P 17 29 14.9 -0.1**
BOJS Bojanci 82.43 357 *i P* **P 17 29 15.1 -0.2**
LPL La Plagne 82.43 3 *eP* **P 17 29 17.7 +2.4**
comp=Z,6.2nm,0.8s,mb4.3
LPL La Plagne 82.43 3 *eP* **P 17 29 17.7 +2.4**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LPL La Plagne 82.43 3 *eP* **P 17 29 17.7 +2.4**
comp=Z,3.1nm,0.8s,mb4.3
LPG La Plagne 82.45 3 *eP* **P 17 29 16.8 +1.4**
LFF La Frestale 82.69 7 *eP* **P 17 29 16.7 +0.1**
comp=Z,13nm,0.7s,mb4.8
LFF La Frestale 82.69 7 *eP* **P 17 29 16.7 +0.1**
LFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
LFF La Frestale 82.69 7 *eP* **P 17 29 16.7 +0.1**
comp=Z,6.6nm,0.7s,mb4.8
CAF Calviac 82.80 6 *eP* **P 17 29 17.3 +0.1**
comp=Z,15nm,1.0s,mb4.7
CAF Calviac 82.80 6 *eP* **P 17 29 17.3 +0.1**
CAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CAF Calviac 82.80 6 *eP* **P 17 29 17.3 +0.1**
comp=Z,7.4nm,1.0s,mb4.7
BNI Bardonecchia 82.89 3 *eP* **P 17 29 19.0 +1.3**
BNI pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BNI Bardonecchia 82.89 3 *eP* **P 17 29 19.0 +1.3**
comp=Z,9.5nm,0.8s,mb4.9
ORIF Oris-en-Rattie 83.00 4 *eP* **P 17 29 19.0 +0.7**
comp=Z,8.5nm,0.7s,mb4.6
ORIF Oris-en-Rattie 83.00 4 *eP* **P 17 29 19.0 +0.7**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ORIF Oris-en-Rattie 83.00 4 *eP* **P 17 29 19.0 +0.7**
comp=Z,4.3nm,0.7s,mb4.6
VIVF Saint-Julien-l 83.01 4 *eP* **P 17 29 18.5 +0.2**
comp=Z,9.8nm,0.8s,mb4.6
VIVF Saint-Julien-l 83.01 4 *eP* **P 17 29 18.5 +0.2**
VIVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
VIVF Saint-Julien-l 83.01 4 *eP* **P 17 29 18.5 +0.2**
comp=Z,4.9nm,0.8s,mb4.6
MBDF Montbardon 83.22 3 *eP* **P 17 29 20.8 +1.4**
comp=Z,15nm,0.7s,mb4.8
MBDF Montbardon 83.22 3 *eP* **P 17 29 20.8 +1.4**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
MBDF Montbardon 83.22 3 *eP* **P 17 29 20.8 +1.4**
comp=Z,7.3nm,0.7s,mb4.8
LASF Ste Croix 83.75 5 *eP* **P 17 29 22.8 +0.7**
comp=Z,7.1nm,0.9s,mb4.5
SMRF Simiane la Rot 83.93 4 *eP* **P 17 29 24.4 +1.4**
comp=Z,13nm,1.0s,mb4.7
SMRF Simiane la Rot 83.93 4 *eP* **P 17 29 24.4 +1.4**
comp=Z,13nm,1.0s,mb5.0
SBF Sospel 84.11 2 *eP* **P 17 29 24.2 +0.3**
comp=Z,21nm,0.8s,mb5.0
SBF Sospel 84.11 2 *eP* **P 17 29 24.2 +0.3**
SBF pmax pmax
comp=Z,11nm,0.8s,mb5.0
SBF Sospel 84.11 2 *eP* **P 17 29 24.2 +0.3**
comp=Z,11nm,0.8s,mb5.0
SJPF Ste Jean 84.33 9 *eP* **P 17 29 25.0 -0.1**
comp=Z,8.5nm,0.8s,mb4.7
SJPF Ste Jean 84.33 9 *eP* **P 17 29 25.0 -0.1**
SJPF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
SJPF Ste Jean 84.33 9 *eP* **P 17 29 25.0 -0.1**
comp=Z,4.3nm,0.8s,mb4.6
MTLF Montolieu 84.38 6 *eP* **P 17 29 25.9 +0.6**
comp=Z,16nm,0.9s,mb4.8
MTLF Montolieu 84.38 6 *eP* **P 17 29 25.9 +0.6**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MTLF Montolieu 84.38 6 *eP* **P 17 29 25.9 +0.6**
comp=Z,7.8nm,0.9s,mb4.8
FRF La Foret Royal 84.38 3 *eP* **P 17 29 25.7 +0.4**
comp=Z,17nm,1.0s,mb4.8
FRF La Foret Royal 84.38 3 *eP* **P 17 29 25.7 +0.4**
FRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
FRF La Foret Royal 84.38 3 *eP* **P 17 29 25.7 +0.4**
comp=Z,8.4nm,1.0s,mb4.8
EPF Esparros 84.55 8 *eP* **P 17 29 25.9 -0.3**
comp=Z,12nm,0.9s,mb4.7
EPF Esparros 84.55 8 *eP* **P 17 29 25.9 -0.3**
EPF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
EPF Esparros 84.55 8 *eP* **P 17 29 25.9 -0.3**
comp=Z,5.9nm,0.9s,mb4.7
ETSF Etsaut 84.61 8 *eP* **P 17 29 27.2 +0.7**
comp=Z,15nm,0.7s,mb4.9
ETSF Etsaut 84.61 8 *eP* **P 17 29 27.2 +0.7**
ETSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
ETSF Etsaut 84.61 8 *eP* **P 17 29 27.2 +0.7**
comp=Z,7.4nm,0.7s,mb4.9
LMR La Mourre 84.61 3 *eP* **P 17 29 27.0 +0.5**
comp=Z,15nm,1.1s,mb4.7
LMR La Mourre 84.61 3 *eP* **P 17 29 27.0 +0.5**
LMR pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
LMR La Mourre 84.61 3 *eP* **P 17 29 27.0 +0.5**
comp=Z,7.4nm,1.1s,mb4.7
PGF Pioggiola 85.45 1 *eP* **P 17 29 31.2 +0.5**
comp=Z,33nm,0.8s,mb5.2
PGF Pioggiola 85.45 1 *eP* **P 17 29 31.2 +0.5**
PGF pmax pmax
comp=Z,17nm,0.8s,mb5.2
PGF Pioggiola 85.45 1 *eP* **P 17 29 31.2 +0.5**
comp=Z,17nm,0.8s,mb5.2
BRTR Keskin Array B 86.15 343 P **P 17 29 34.8 +0.6**
comp=Z,1.1nm,0.7s,mb4.2,baz=58,slow=2.7,SNR=6.6
WRA Warramunga Arr 87.08 232 P **P 17 29 37.2 -1.5**
comp=Z,0.7nm,1.0s,mb3.8,baz=31,slow=6.0,SNR=4.5
ESDC Sonseca Array 87.44 11 P **P 17 29 39.9 -0.6**
comp=Z,3.8nm,0.8s,mb4.7,baz=348,slow=4.6,SNR=13
PSI Prapat 88.94 273 P **P 17 29 48.3 +0.7**
comp=Z,3.6nm,0.3s,mb5.2,baz=215,slow=4.3,SNR=4.7
ASAR Alice Springs 90.47 230 P **P 17 29 54.0 -0.8**
comp=Z,0.7nm,0.6s,mb4.2,baz=31,slow=4.2,SNR=13

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*SZGRF **27** 17:29:46.4, 2098S×17055E, h33km, Vanuatu Islands*
*ISCJB **27** 17:30:20.0±0.1, 1877S±004×16949E±004, h260km, mb4.7/61, Error ellipse: s-maj=5.7km s-min=4.1km az=110.4*
*BJI **27** 17:30:19.8, 1870S×16960E, h259km, mB4.8, mb4.8*
*NEIC **27** 17:30:20.9±0.2, 1873S×16958E, mb4.8/41, Error ellipse: s-maj=7.5km s-min=5.0km az=146.0*
*LDG **27** 17:30:22.0±0.2, 1861S×16937E, h270km, Mb4.6/2, Error ellipse: s-maj=17.4km s-min=3.9km az=118.0*
*IDC **27** 17:30:22.1±0.7, 1878S×16952E, h273km±5km, mb4.3/15, mb1 4.3/17, mb1mx4.3/19, mbtmp4.9/17, Error ellipse: s-maj=10.9km s-min=9.1km az=164.0*
*MOS **27** 17:30:23.6±2.9, 1869S×16952E, h277km, mb5.3/16, Error ellipse: s-maj=9.6km s-min=9.1km az=125.2*
ISC 27 17:30:21.5±0.1, 1879S±004×**16955E**±003, **h262**km, **h262**km±2.2km**:pP-P,n413,**c0±**69**/294**,mb4.7**/61**,120C-68D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.67**	**312**	⇓ *iP*	**Pn**	**17 31 05.1**	**+2.9**
BKM				S	**S**	**17 31 38.1**	**+3.6**
DZM	**Mont Dzumac**	**4.37**	**221**	⇑ *iP*	**Pn**	**17 31 33.1**	**+2.9**
DZM	**Mont Dzumac**	**4.37**	**221**	P	**Pn**	**17 31 32.9**	**+2.7**
44nm,0.3s,baz=57,slow=16,SNR=618							
HNR	**Honiara**	**13.16**	**314**	P	**Pn**	**17 33 21.6**	**+2.6**
54nm,0.3s,baz=173,slow=0.4,SNR=61							
HNR	**Honiara**	**13.16**	**314**	⇓ *eP*	**Pn**	**17 33 20.6**	**+1.6**
HNR				pmax	pmax		
comp=Z,2μm,0.9s							
HNR	**Honiara**	**13.16**	**314**	⇓ *eP*	**Pn**	**17 33 20.6**	**+1.6**
comp=Z,2μm,0.9s							
RAO	**Raoul Island**	**15.46**	**135**	*eP*	**Pn**	**17 33 46.4**	**-0.3**
RAO				pmax	pmax		
comp=Z,3μm,0.4s							
RAO	**Raoul Island**	**15.46**	**135**	*eP*	**Pn**	**17 33 46.4**	**-0.3**
comp=Z,3μm,0.4s							
OUZ	**Omahuta**	**16.75**	**168**	PN	**Pn**	**17 34 01.4**	**-0.5**
WCZ	**Waipu Caves**	**17.60**	**167**	PN	**P**	**17 34 11.3**	**+2.2**
AFI	**Afiamalu**	**18.56**	**78**	P	**P**	**17 34 20.7**	**+1.4**
comp=Z,4.0nm,0.3s,baz=123,slow=17,SNR=5.1							
ARMA	**Armidale**	**19.96**	**231**	*eP*	**P**	**17 34 34.7**	**+0.5**
ARMA				*epP*		17 35 20.1	
URZ	**Urewera**	**20.49**	**163**	P	**P**	**17 34 40.5**	**+0.6**
comp=Z,45nm,0.4s,baz=311,slow=3.3,SNR=42							
URZ	**Urewera**	**20.49**	**163**	PN	**P**	**17 34 40.1**	**+0.2**
PUZ	**Puketiti**	**20.66**	**160**	PN	**P**	**17 34 41.6**	**-0.1**
MWZ	**Matawai**	**20.68**	**162**	PN	**P**	**17 34 42.4**	**+0.6**
BKZ	**Black Stump Fm**	**21.18**	**165**	PN	**P**	**17 34 46.7**	**-0.3**
CTA	**Charters Tower**	**22.00**	**263**	*eP*	**P**	**17 34 56.2**	**+1.7**
comp=Z,12nm,0.8s,mb4.3							
CTA				*epP*		17 35 46.8	
CTA	**Charters Tower**	**22.00**	**263**	P	**P**	**17 34 55.7**	**+1.2**
comp=Z,13nm,0.7s,mb4.3,baz=93,slow=8.5,SNR=20							
CTA	**Charters Tower**	**22.00**	**263**	*eP*	**P**	**17 34 56.2**	**+1.7**
CTA				pmax	pmax		
comp=Z,12nm,0.8s							
CTAO	**Charters Tower**	**22.00**	**263**	*eP*	**P**	**17 34 55.8**	**+1.3**
CTAO				pmax	pmax		
comp=Z,14nm,0.7s,mb4.4							
CTAO	**Charters Tower**	**22.00**	**263**	*eP*	**P**	**17 34 55.8**	**+1.3**
comp=Z,14nm,0.7s,mb4.4							
MRZ	**Mangatainoka R**	**22.41**	**168**	PN	**P**	**17 34 57.3**	**-0.8**
BFZ	**Birch Farm**	**22.56**	**167**	PN	**P**	**17 34 58.9**	**-0.7**
PMG	**Port Moresby**	**23.61**	**290**	P	**P**	**17 35 10.2**	**+1.1**
comp=Z,80nm,0.8s,mb5.1,baz=104,slow=7.5,SNR=15							
PMG	**Port Moresby**	**23.61**	**290**	⇓ *eP*	**P**	**17 35 10.3**	**+1.2**
PMG				pmax	pmax		
comp=Z,91nm,0.8s							
PMG	**Port Moresby**	**23.61**	**290**	⇓ *eP*	**P**	**17 35 10.3**	**+1.2**
comp=Z,91nm,0.8s,mb5.2							
CNB	**Canberra Magne**	**24.30**	**223**	*eP*	**P**	**17 35 16.5**	**+1.2**
comp=Z,6.6nm,0.3s,mb4.0							
CNB				*epP*		17 36 06.8	
RPZ	**Rata Peaks**	**24.88**	**177**	P	**P**	**17 35 20.7**	**+0.1**
comp=Z,12nm,0.7s,mb4.4,baz=92,slow=3.3,SNR=9.5							
TOO	**Toolangi**	**28.14**	**223**	*eP*	**P**	**17 35 50.2**	**+0.5**
comp=Z,2.4nm,0.5s,mb3.9							
TOO				*epP*	pP	17 36 47.9	+7.1
TOO	**Toolangi**	**28.14**	**223**	*eP*	**P**	**17 35 50.2**	**+0.5**
TOO				*e*PP	pP	17 36 47.9	+7.1
TOO				pmax	pmax		
comp=Z,20nm,0.5s,mb4.8							
STKA	**Stephens Creek**	**28.33**	**237**	*eP*	**P**	**17 35 50.2**	**-1.1**
comp=Z,9.4nm,0.6s,mb4.4							
STKA				*epP*	pP	17 36 41.0	-1.5
STKA	**Stephens Creek**	**28.33**	**237**	P	**P**	**17 35 50.6**	**-0.7**
comp=Z,11nm,0.7s,mb4.4,baz=62,slow=7.9,SNR=26							
STKA				pP	pP	17 36 43.5	+1.0
comp=Z,16nm,0.7s,baz=66,slow=8.9,SNR=5.5							
STKA				ScP	ScP	17 42 10.8	-1.9
comp=Z,2.2nm,0.9s,baz=105,slow=4.5,SNR=4.3							
WB2	**Warramunga Arr**	**33.19**	**262**	*eP*	**P**	**17 36 33.3**	**-0.5**
WB2				*eS*	**S**	**17 41 29.3**	**-4.4**
WRAB	**Tennant Creek**	**33.19**	**262**	*eP*	**P**	**17 36 33.4**	**-0.4**
WRA	**Warramunga Arr**	**33.20**	**262**	P	**P**	**17 36 33.5**	**-0.4**
comp=Z,2.3nm,0.4s,mb4.1,baz=81,slow=6.0,SNR=96							
WRA				pP	pP	17 37 25.9	0.0
comp=Z,1.0nm,0.4s,baz=89,slow=8.4,SNR=2.5							
WRA				S	**S**	**17 41 31.7**	**-2.2**
comp=Z,3.0nm,0.9s,baz=89,slow=16,SNR=9.4							
WRA				ScP	ScP	17 42 28.4	-0.5
comp=Z,2.7nm,0.8s,baz=89,slow=3.8,SNR=7.7							
WRA	**Warramunga Arr**	**33.20**	**262**	*i P*	**P**	**17 36 33.5**	**-0.4**
WRA				pmax	pmax		
comp=Z,20nm,0.4s							
AS31	**Alice Springs**	**33.52**	**255**	*eP*	**P**	**17 36 36.9**	**+0.2**
AS31				*eS*	**S**	**17 41 36.4**	**-2.3**
ASAR	**Alice Springs**	**33.52**	**255**	P	**P**	**17 36 37.0**	**+0.3**
comp=Z,11nm,0.4s,mb4.7,baz=82,slow=8.9,SNR=403							
ASAR				pP	pP	17 37 28.9	+0.1
comp=Z,7.0nm,0.8s,baz=83,slow=9.0,SNR=2.3							
ASAR				S	**S**	**17 41 37.0**	**-1.8**
comp=Z,0.8nm,0.8s,baz=96,slow=16,SNR=4.2							
ASAR				ScP	ScP	17 42 29.4	-0.5
comp=Z,1.2nm,0.6s,baz=98,slow=3.6,SNR=9.1							
ASAR	**Alice Springs**	**33.52**	**255**	P	**P**	**17 36 37.0**	**+0.3**
ASAR				*PP	pP	17 37 28.9	+0.2
ASAR				S	**S**	**17 41 37.0**	**-1.8**
ASPA	**Alice Springs**	**33.53**	**255**	*eP*	**P**	**17 36 36.9**	**+0.2**
ASPA				*eS*	**S**	**17 41 36.4**	**-2.4**
KAKA	**Kakadu**	**36.17**	**274**	*eP*	**P**	**17 36 59.3**	**0.0**
comp=Z,11nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**41.58**	**264**	*eP*	**P**	**17 37 44.6**	**+0.7**
comp=Z,15nm,0.8s,mb4.3							
FITZ				*epP*	pP	17 38 38.0	+0.1
FITZ	**Fitzroy Crossi**	**41.58**	**264**	P	**P**	**17 37 44.8**	**+0.8**
comp=Z,8.5nm,0.6s,mb4.1,baz=110,slow=8.5,SNR=15							
FITZ				pP	pP	17 38 37.9	0.0
comp=Z,7.5nm,0.9s,baz=98,slow=8.4,SNR=3.9							
MBWA	**Marble Bar**	**46.73**	**258**	*eP*	**P**	**17 38 24.8**	**+0.2**
comp=Z,29nm,1.5s,mb4.4							
MBWA				*epP*	pP	17 39 26.6	+6.7
KLBR	**Kellerberrin**	**48.17**	**244**	*eP*	**P**	**17 38 35.1**	**-0.5**
comp=Z,58nm,1.5s,mb4.7							
KLBR				*epP*	pP	17 39 37.7	+6.5
VNDA	**Vanda**	**58.89**	**182**	P	**P**	**17 39 52.0**	**-1.1**
comp=Z,2.6nm,0.7s,mb3.8,baz=0.3,slow=7.8,SNR=20							
VNDA	**Vanda**	**58.89**	**182**	*eP*	**P**	**17 39 51.8**	**-1.3**
VNDA				pmax	pmax		
comp=Z,12nm,1.4s							
VNDA	**Vanda**	**58.89**	**182**	*eP*	**P**	**17 39 51.8**	**-1.4**
comp=Z,12nm,1.4s,mb4.1							
SBA	**Scott Base**	**59.11**	**181**	*eP*	**P**	**17 39 54.5**	**-0.2**
SBA				*e*PP	pP	17 40 53.7	+1.0
SBA				pmax	pmax		
comp=Z,36nm,1.1s,mb4.7							
SBA	**Scott Base**	**59.11**	**181**	*eP*	**P**	**17 39 54.5**	**-0.2**
comp=Z,36nm,1.1s,mb4.7							
SBA				*epP*	pP	17 40 53.7	+1.0
CASY	**Casey**	**60.65**	**203**	*eP*	**P**	**17 40 03.7**	**-1.4**
CASY				*epP*	pP	17 41 08.2	+4.8
MJAR	**Matsushiro Arr**	**62.50**	**332**	P	**P**	**17 40 17.1**	**-0.3**
comp=Z,8.2nm,0.6s,mb4.5,baz=168,slow=7.4,SNR=23							
MAJO	**Matsushiro**	**62.50**	**332**	*eP*	**P**	**17 40 16.9**	**-0.5**
MAJO				pmax	pmax		
comp=Z,9.0nm,0.6s,mb4.6							
MAJO	**Matsushiro**	**62.50**	**332**	*eP*	**P**	**17 40 16.9**	**-0.5**
comp=Z,8.9nm,0.6s,mb4.6							
MAT	**Matsushiro**	**62.50**	**332**	P	**P**	**17 40 16.7**	**-0.7**
MAT	**Matsushiro**	**62.50**	**332**	*eP*	**P**	**17 40 17.0**	**-0.4**
MAT				pmax	pmax		
comp=Z,70nm,1.0s,mb5.2							
MAT	**Matsushiro**	**62.50**	**332**	*eP*	**P**	**17 40 17.0**	**-0.4**
comp=Z,7.0nm,1.0s,mb4.2							
SSE	**Sheshan**	**67.95**	**316**	P	**P**	**17 40 52.8**	**+0.5**
SSE				AMB	AMB		
comp=Z,20nm,0.6s,mb5.0							
SSE				AMB	AMB		
comp=Z,70nm,3.9s							
YSS	**Yuzh-Sakhalins**	**69.75**	**341**	*i P*	**P**	**17 41 04.3**	**+0.9**
YSS				pmax	pmax		
comp=Z,22nm,1.0s,mb4.8							
NJ2	**Nanjing**	**70.09**	**316**	*eP*	**P**	**17 41 08.0**	**+2.6**
NJ2				PCP	PcP	17 41 28.8	+3.1
NJ2				AP	pP	17 42 08.0	+2.5
NJ2				XP	sP	17 42 33.5	-0.1
NJ2				S	S	17 49 58.0	+3.4
NJ2				SKS		17 50 42.0	
NJ2				AMB	AMB		
comp=Z,100nm,1.1s,mb5.5							
NJ2				AMB	AMB		
comp=Z,120nm,8.9s							
NJ2				LR	LR		
comp=N,560nm,28.0s							
NJ2				LR	LR		
comp=E,430nm,30.8s							
NJ2				LR	LR		
comp=Z,260nm,24.8s							
QSPA	**South Pole Qui**	**71.26**	**180**	*eP*	**P**	**17 41 11.4**	**-1.0**
comp=Z,24nm,0.9s,mb4.8							
PET	**Petropavlovsk**	**72.13**	**353**	*eP*	**P**	**17 41 17.3**	**-0.3**
PET				pmax	pmax		
comp=Z,30nm,1.4s,mb4.7							
DL2	**Dalian**	**72.84**	**323**	P	**P**	**17 41 22.3**	**+0.6**
DL2				AMB	AMB		
comp=Z,20nm,0.8s,mb4.8							
MDJ	**Mudanjiang**	**72.87**	**331**	P	**P**	**17 41 22.0**	**0.0**
MDJ				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.4							
MDJ				AMB	AMB		
comp=Z,80nm,4.7s							
HABR	**Khabarovsk**	**73.70**	**337**	*eP*	**P**	**17 41 27.2**	**+0.4**
HABR				*eS*	S	17 50 37.8	+2.2
NIKO	**Nikolski**	**73.88**	**13**⇑ *iP*		**P**	**17 41 26.0**	**-1.8**
CN2	**Changchun**	**74.23**	**328**	⇓ P	**P**	**17 41 30.0**	**+0.2**
CN2				*eAP*	pP	17 42 31.0	+0.3
CN2				*eS*	S	17 50 42.5	+1.1
CN2				AMB	AMB		
comp=Z,20nm,0.8s,mb4.8							
CN2				AMB	AMB		
comp=Z,200nm,5.0s							
KLR	**Kul'dur**	**75.59**	**335**	*eP*	**P**	**17 41 33.8**	**-3.8**
GYA	**Guiyang**	**75.81**	**305**	P	**P**	**17 41 43.5**	**+4.7**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.5							
XAN	**Xi'an**	**78.03**	**312**	P	**P**	**17 41 51.8**	**+0.6**
KMI	**Kunming**	**78.29**	**302**	P	**P**	**17 41 54.3**	**+1.7**
MAW	**Mawson**	**78.96**	**202**	*eP*	**P**	**17 41 56.0**	**-0.2**
comp=Z,2.7nm,0.8s,mb4.0							
MAW				*epP*	pP	17 42 57.4	-0.4
MAW	**Mawson**	**78.96**	**202**	P	**P**	**17 41 55.4**	**-0.8**
comp=Z,3.7nm,0.8s,mb4.2,baz=116,slow=6.7,SNR=6.4							
MAW				pP	pP	17 42 59.1	+1.3
comp=Z,2.8nm,0.8s,baz=93,slow=9.0,SNR=4.1							
MAW	**Mawson**	**78.96**	**202**	*eP*	**P**	**17 41 56.0**	**-0.2**
MAW				*e*PP	pP	17 42 57.4	-0.4
MAW				pmax	pmax		
comp=Z,30nm,0.8s							
HHC	**Hu-ho-hao-te**	**80.07**	**319**	*eP*	**P**	**17 42 00.0**	**-2.2**
HHC				AP	pP	17 43 00.5	-3.5
HHC				XP	sP	17 43 27.3	-4.4
HHC				PP	PP	17 45 08.5	+0.4
HHC				S	S	17 51 42.3	-1.9
HHC				SKS		17 51 48.0	
HHC				XS	sS	17 53 27.8	-5.0
HHC				SS	SS	17 57 03.0	+2.4
HHC				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.7							
HHC				AMB	AMB		
comp=Z,110nm,5.4s							
CD2	**Chengdu**	**80.20**	**307**	*eP*	**P**	**17 42 03.0**	**+0.1**
CD2				AP	pP	17 43 03.8	-0.9
CD2				XP	sP	17 43 30.3	-2.0
CD2				PP	PP	17 45 10.0	+0.8
CD2				S	S	17 51 45.0	-0.5
CD2				XS	sS	17 53 31.0	-3

SVW2 **Sparrevohn** 84.39 16 eP P 17 42 23.7 -0.8
FARB **Farallon Islan** 84.65 47 ⇑P P 17 42 25.5 -0.3
baz=85
MCCM **Marconi Confer** 84.95 47 eP P 17 42 27.0 -0.3
MCCM **Marconi Confer** 84.95 47 ⇑P P 17 42 27.1 -0.2
baz=85
BNLO **Ben Lomond** 84.97 48 ⇓P P 17 42 27.4 +0.1
baz=85,SNR=8.0
JRSC **Jasper Ridge** 85.05 48 ⇑P P 17 42 27.8 +0.1
baz=85
HAST **Hastings Reser** 85.06 49 ⇓P P 17 42 28.0 +0.2
baz=85,SNR=19
V03C **Hunter Liggett** 85.11 50 ⇓P P 17 42 28.6 +0.5
baz=85,SNR=7.1
SNCC **San Nicolas Is** 85.14 53 ⇓P P 17 42 28.6 +0.3
baz=85
V04C **Ramage Ranch,** 85.21 50 ⇓P P 17 42 28.8 +0.3
baz=85
HOPS **Hopland** 85.22 46 ⇓P P 17 42 28.7 +0.1
baz=85
P01C **Double 8 Ranch** 85.27 46 P P 17 42 29.5 +0.6
baz=85,SNR=5.1
O01C **Eel River Cons** 85.27 45 ⇑P P 17 42 29.5 +0.6
baz=85
SAO **San Andreas Ge** 85.31 49⇑eP P 17 42 28.8 -0.3
SAO pmax pmax
comp=Z,27nm,0.9s,mb5.1
SAO **San Andreas Ge** 85.31 49⇑eP P 17 42 28.8 -0.2
comp=Z,27nm,0.9s,mb5.1
CVS **Carmenet Viney** 85.33 47 ⇑P P 17 42 29.0 -0.2
baz=85
SLKM **Skilak Lake** 85.43 19 eP P 17 42 26.9 -2.8
JCC **Jacoby Creek** 85.46 44 ⇓P P 17 42 30.0 +0.2
baz=86
WENL **Wente Brothers** 85.48 48 ⇑P P 17 42 30.1 +0.2
baz=86
SBC **Santa Barbara** 85.52 51 ⇓P P 17 42 30.2 +0.1
baz=86
PACP **Pacheco Peak** 85.53 49 ⇓P P 17 42 30.7 +0.5
baz=86,SNR=12
BDM **Black Diamond** 85.56 48 ⇑P P 17 42 30.6 +0.3
baz=86
PKD **Parkfield** 85.59 50 ⇓P P 17 42 30.6 +0.2
baz=86,SNR=16
MNRC **McLaughlin Nat** 85.60 47 ⇓P P 17 42 30.9 +0.5
baz=86,SNR=9.0
U04C **Hernandez Rese** 85.60 49 ⇑P P 17 42 31.2 +0.7
baz=86,SNR=16
S04C **Ingram Canyon,** 85.73 48 ⇑P P 17 42 31.4 +0.3
baz=86,SNR=11
GASB **Alder Springs** 85.77 46 ⇑P P 17 42 32.2 +0.9
baz=86,SNR=16
Q03C **Winters** 85.78 47 ⇓P P 17 42 31.7 +0.3
baz=86
M01C **Crescent City** 85.91 43 ⇑P P 17 42 32.5 +0.5
baz=86
T05C **Eagle Field, D** 85.92 49 ⇑P P 17 42 32.2 +0.1
baz=86
N02C **Big Bar** 85.94 45 ⇑P P 17 42 32.4 +0.3
baz=86,SNR=8.3
O02C **Red Bluff** 85.98 45 ⇑P P 17 42 33.0 +0.7
baz=86,SNR=22
V05C **Boulder Hill,** 86.02 50 ⇓P P 17 42 33.1 +0.5
baz=86
SUTB **Sutter Buttes** 86.21 46 ⇑P P 17 42 32.9 -0.6
baz=86
Q04C **Lincoln** 86.31 47 ⇓P P 17 42 33.9 0.0
baz=86
OSI **Osito Adit** 86.33 52 ⇑P P 17 42 33.5 -0.6
baz=86
WDC **Whiskeytown Da** 86.34 45 eP P 17 42 34.4 +0.3
WDC pmax pmax
comp=Z,49nm,1.4s,mb5.1
WDC **Whiskeytown Da** 86.34 45 eP P 17 42 34.4 +0.3
comp=Z,49nm,1.4s,mb5.1
WDC **Whiskeytown Da** 86.34 45 ⇑P P 17 42 34.0 -0.1
baz=86,SNR=12
R04C **Big Horse Ranc** 86.35 48 ⇓P P 17 42 33.5 -0.6
baz=86
S05C **Merced** 86.37 49 ⇑P P 17 42 33.9 -0.4
baz=86,SNR=7.5
O03C **Acorn Hollow,** 86.41 46 ⇓P P 17 42 34.2 -0.2
baz=86
M02C **Callahan** 86.52 44 ⇓P P 17 42 35.4 +0.4
baz=87,SNR=19
YAK **Yakutsk** 86.53 342⇑eP P 17 42 33.7 -1.3
YAK pmax pmax
comp=Z,19nm,1.3s,mb4.8
ORV **Oroville** 86.56 46 ⇓P P 17 42 34.8 -0.4
baz=87,SNR=10
BILL **Bilibino** 86.61 359⇑iP P 17 42 34.1 -1.3
BILL pmax pmax
comp=Z,79nm,1.7s,mb5.3
BILL **Bilibino** 86.61 359 eP P 17 42 34.1 -1.3
comp=Z,62nm,1.2s,mb5.3
CMB **Columbia Colle** 86.64 48 eP P 17 42 35.0 -0.6
CMB pmax pmax
comp=Z,33nm,0.9s,mb5.2
CMB **Columbia Colle** 86.64 48 eP P 17 42 35.0 -0.6
comp=Z,33nm,0.9s,mb5.2
CMB **Columbia Colle** 86.64 48 ⇑P P 17 42 35.3 -0.2
baz=87,SNR=15
T06C **Millerton Lake** 86.66 49 ⇑P P 17 42 35.2 -0.5
baz=87
ULN **Ulaanbaatar** 86.68 323c iP P 17 42 35.7 -0.1
ULN **Ulaanbaatar** 86.68 323⇑eP P 17 42 35.2 -0.6
comp=Z,11nm,1.1s,mb4.6
LAVA **Lava Cap Winer** 86.72 47 ⇑P P 17 42 35.6 -0.3
baz=87,SNR=9.3
K02A **Glendale** 86.77 43 ⇓P P 17 42 35.8 -0.3
baz=87
YBH **Yreka Blue Hor** 86.77 44 eP P 17 42 36.4 +0.2
YBH pmax pmax
comp=Z,20nm,0.9s
YBH **Yreka Blue Hor** 86.77 44 eP P 17 42 36.4 +0.2
comp=Z,20nm,0.9s,mb4.9
YBH **Yreka Blue Hor** 86.77 44 ⇓P P 17 42 36.7 +0.5
baz=87,SNR=16
109C **Camp Elliot, M** 86.82 54 ⇑P P 17 42 35.9 -0.5
baz=87
M03C **McCloud** 86.94 45 ⇓P P 17 42 37.0 0.0
baz=87,SNR=12
S06C **San Francisco** 86.95 48 ⇑P P 17 42 36.9 -0.2
baz=87,SNR=9.7
ISA **Isabella** 86.97 51 ⇓P P 17 42 37.5 +0.3
baz=87,SNR=16
J02A **Umpqua** 87.01 42 ⇓P P 17 42 37.4 +0.1
baz=87
HUMO **Hull Mountain** 87.03 43 eP P 17 42 37.7 +0.2
comp=Z,32nm,0.9s,mb5.2
HUMO **Hull Mountain** 87.03 43 ⇑P P 17 42 37.8 +0.3
baz=87,SNR=15
GTA **Gaotai** 87.03 313 eP P 17 42 37.5 +0.1
GTA AP pP 17 43 38.8 -1.4
GTA XP sP 17 44 05.8 -1.9
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
SONM **Songino Array** 87.04 323 P P 17 42 36.8 -0.7
comp=Z,4.8nm,0.8s,mb4.3,baz=146,slow=6.3,SNR=27
SONM pP pP 17 43 42.3 +2.0
comp=Z,2.4nm,1.1s,baz=136,slow=4.7,SNR=3.4
P05C **Yuba Gap, Truc** 87.06 47 ⇑P P 17 42 37.7 +0.1
baz=87,SNR=17
KCC **Kaiser Creek** 87.08 49 ⇑P P 17 42 37.3 -0.4
baz=87
O05C **Quincy** 87.14 46 ⇑P P 17 42 38.0 0.0
baz=87,SNR=5.2
I02A **Mapleton** 87.15 42 ⇓P P 17 42 38.3 +0.3
baz=87
R05C **Kirkwood Meado** 87.15 48 ⇓P P 17 42 38.2 +0.2
baz=87,SNR=13
HATC **Hat Creek Radi** 87.17 45 ⇑P P 17 42 38.4 +0.3
baz=87,SNR=15
O04C **Chester** 87.19 46 ⇑P P 17 42 38.4 +0.2
baz=87,SNR=10
DIV **Divide** 87.31 20 eP P 17 42 36.1 -2.6
comp=Z,25nm,0.8s,mb5.1
BUOR **Burton Butte** 87.34 44 P P 17 42 39.3 +0.4
M04C **Macdoel** 87.37 44 ⇑P P 17 42 39.3 +0.3
baz=88
H02A **Toledo** 87.38 41 ⇑P P 17 42 39.1 +0.1
baz=88
J03A **Ideyld Park** 87.40 42 ⇑P P 17 42 39.6 +0.4
baz=88
I03A **Eugene** 87.48 42 ⇑P P 17 42 39.5 -0.1
baz=88
L04A **Klamath Falls** 87.52 44 ⇓P P 17 42 39.8 +0.1
baz=88,SNR=6.0

MLAC **Mammoth Lakes** 87.56 49 ⇑P P 17 42 39.8 -0.1
baz=88
R07C **Lee Vining** 87.61 48 ⇑P P 17 42 40.4 +0.3
baz=88
PFO **Pinyon Flat Ob** 87.62 53 ⇑P P 17 42 40.1 -0.1
baz=88,SNR=7.5
M05C **Lookout** 87.63 45 ⇓P P 17 42 40.3 0.0
baz=88,SNR=14
WCN **Washoe City** 87.65 47 ⇓P P 17 42 40.5 +0.1
baz=88
P06A **Stead Airport,** 87.72 47 ⇑P P 17 42 40.7 0.0
baz=88
H03A **Soap Creek Ran** 87.82 41 ⇓P P 17 42 41.2 0.0
baz=88
K04A **Chilquin** 87.83 44 ⇓P P 17 42 41.0 -0.2
baz=88
O06A **Flanigan** 87.98 46 ⇓P P 17 42 42.1 +0.1
baz=88,SNR=12
M06C **Likely Place G** 88.01 45 ⇑P P 17 42 42.3 +0.2
baz=88,SNR=11
HBO **Huckleberry Mo** 88.03 42 P P 17 42 42.1 0.0
GSC **Goldstone** 88.05 52 ⇓P P 17 42 41.8 -0.5
baz=88,SNR=6.2
PAHR **Pah Rah Range** 88.08 47 eP P 17 42 42.3 -0.1
comp=Z,50nm,1.4s,mb5.2
BROR **Big Rock Looko** 88.15 42 P P 17 42 42.7 0.0
L05A **Lakeview** 88.16 44 ⇓P P 17 42 42.9 +0.1
baz=88,SNR=11
NVAR **Mina Array Bea** 88.28 48 P P 17 42 43.8 +0.4
baz=229,slow=8.2
R08A **Mina** 88.39 49 ⇓P P 17 42 43.9 0.0
baz=88
MNV **Mina** 88.39 48 eP P 17 42 43.6 -0.2
MNV pmax pmax
comp=Z,15nm,1.0s,mb4.8
MNV **Mina** 88.39 48 eP P 17 42 43.6 -0.2
comp=Z,15nm,1.0s,mb4.8
H04A **Detroit Lake** 88.51 42 ⇓P P 17 42 44.1 -0.3
baz=89,SNR=6.5
E03A **Lebam** 88.57 39 ⇑P P 17 42 44.7 0.0
baz=89
G04A **Mulino** 88.58 41 ⇓P P 17 42 45.3 +0.5
baz=89
O07A **Toulon** 88.63 47 ⇑P P 17 42 44.8 -0.2
baz=89,SNR=28
GLA **Glamis** 88.64 54 ⇑P P 17 42 45.4 +0.4
baz=89,SNR=17
Q08A **Gabbs** 88.73 48 ⇑P P 17 42 45.5 0.0
baz=89,SNR=6.5
S09A **Goldfield** 88.76 49 ⇓P P 17 42 45.3 -0.2
baz=89,SNR=18
TUQ **Turquoise Mtn.** 88.76 52 ⇓P P 17 42 45.5 -0.1
baz=89
I05A **Bend** 88.85 42 ⇑P P 17 42 46.0 0.0
baz=89
U10A **Ash Meadows, A** 88.86 51 ⇓P P 17 42 46.1 +0.1
baz=89
K06A **Valley Falls** 88.89 44 ⇓P P 17 42 46.3 +0.1
baz=89,SNR=21
BBB **Bella Bella** 88.94 33 P P 17 42 45.8 -0.6
comp=Z,20nm,0.9s,mb5.0,baz=254,slow=5.2,SNR=3.9
F04A **Amboy** 88.96 40 ⇓P P 17 42 46.2 -0.3
baz=89,SNR=8.4
M07A **Soldier Meadow** 88.97 45 ⇑P P 17 42 47.0 +0.4
baz=89,SNR=26
P08A **Dixie Valley** 88.98 47 ⇓P P 17 42 47.0 +0.4
baz=89
R09A **Tonopah** 89.08 49 ⇑P P 17 42 47.1 0.0
baz=89
L07A **Adell** 89.14 45 ⇓P P 17 42 47.6 +0.3
baz=89,SNR=18
TPNV **Topopah Spring** 89.14 50 eP P 17 42 47.4 0.0
TPNV pmax pmax
comp=Z,30nm,0.8s,mb5.2
TPNV **Topopah Spring** 89.14 50 eP P 17 42 47.4 0.0
comp=Z,30nm,0.8s,mb5.2
Y12C **Blythe** 89.15 54 ⇑P P 17 42 47.6 +0.2
baz=89,SNR=5.2
J06A **Christmas Vall** 89.16 43 ⇑P P 17 42 47.1 -0.3
baz=89,SNR=19
Q09A **Carvers** 89.25 48 ⇓P P 17 42 47.9 0.0
baz=89
VFP **Flag Point** 89.27 41 P P 17 42 47.9 0.0
V11A **Goodsprings** 89.29 52 ⇑P P 17 42 48.1 0.0
baz=89,SNR=11
D04A **Dobbs Creek Ra** 89.30 39 ⇓P P 17 42 48.4 +0.3
baz=89
G05A **Wamic** 89.32 41 ⇓P P 17 42 48.0 -0.2
baz=89
B04A **Port Angeles** 89.35 38 ⇑P P 17 42 48.7 +0.4
baz=90
N08A **GE Springer Mi** 89.42 46 ⇓P P 17 42 49.0 +0.4
baz=90,SNR=15
I06A **Prineville** 89.43 43 P P 17 42 49.2 +0.5
baz=90,SNR=41
K07A **Rock Creek Ran** 89.50 44 P P 17 42 49.4 +0.4
baz=90,SNR=40
W12A **Cal Nev Ari** 89.50 52 ⇑P P 17 42 49.3 +0.2
baz=90
COLA **College** 89.53 17c iP P 17 42 46.2 -3.0
COLA **College** 89.53 17 eP P 17 42 46.1 -3.1
comp=Z,12nm,0.9s,mb4.7
F05A **White Salmon** 89.53 41 ⇑P P 17 42 49.2 0.0
baz=90,SNR=9.0
M08A **Happy Creek Ra** 89.54 46 ⇑P P 17 42 49.7 +0.5
baz=90,SNR=18
U11A **Corn Creek** 89.56 51 ⇓P P 17 42 49.7 +0.4
baz=90
R10A **Warm Springs** 89.65 49 ⇓P P 17 42 49.8 0.0
baz=90
PGC **Sidney** 89.67 38 eP P 17 42 49.2 -0.6
comp=Z,42nm,0.9s,mb5.3
E05A **Randle** 89.67 40 ⇑P P 17 42 49.4 -0.4
baz=90,SNR=14
V12A **Nelson** 89.68 52 ⇓P P 17 42 49.7 -0.1
baz=90,SNR=6.8
Y13A **Salome** 89.70 54 ⇓P P 17 42 50.5 +0.5
baz=90,SNR=19
J07A **Hines** 89.76 44 ⇓P P 17 42 50.0 -0.3
baz=90,SNR=5.3
WVOR **Wild Horse Val** 89.79 45 eP P 17 42 50.2 -0.2
WVOR pmax pmax
comp=Z,37nm,0.9s,mb5.2
WVOR **Wild Horse Val** 89.79 45 eP P 17 42 50.2 -0.2
comp=Z,37nm,0.9s,mb5.2
O09A **Fish Creek Ran** 89.81 47 ⇑P P 17 42 50.5 0.0
baz=90,SNR=16
D05A **Enumclaw** 89.82 39 ⇑P P 17 42 50.8 +0.3
baz=90,SNR=8.5
WPW **White Pass** 89.86 40 P P 17 42 50.7 0.0
N09A **Rock Creek Ran** 89.87 46 ⇑P P 17 42 50.6 -0.1
baz=90,SNR=9.3
L08A **Fields** 89.88 45 ⇑P P 17 42 51.0 +0.2
baz=90,SNR=57
FMW **Mount Fremont** 89.89 40 P P 17 42 51.0 +0.1
SKAG **Skagway** 89.92 25 eP P 17 42 50.8 -0.2
comp=Z,25nm,0.9s,mb5.0
X13A **Yucca** 90.00 53 ⇑P P 17 42 51.4 +0.1
baz=90,SNR=34
P10A **Eureka** 90.09 48 ⇑P P 17 42 51.9 +0.1
baz=90
ZAK **Zakamensk** 90.11 324 eP P 17 42 50.8 -1.1
A04A **Legoe Bay, Lum** 90.13 38 ⇓P P 17 42 51.7 -0.3
baz=90,SNR=5.3
M09A **Marrel Ranch,** 90.16 46 ⇓P P 17 42 52.4 +0.3
baz=90,SNR=9.6
U12A **Valley of Fire** 90.19 51 ⇑P P 17 42 52.6 +0.3
baz=90,SNR=7.9
Z14A **Wintersburg** 90.21 55 ⇓P P 17 42 52.4 +0.1
baz=90,SNR=7.8
C05A **Tolt Reservoir** 90.24 39 ⇑P P 17 42 51.9 -0.5
baz=90,SNR=10
L09A **Wilkinson Ranc** 90.26 45 ⇑P P 17 42 52.6 0.0
baz=90,SNR=22
B05A **Bryant** 90.27 38 ⇑P P 17 42 52.4 -0.2
baz=90,SNR=10
CMW **Cultus Mountai** 90.33 38 P P 17 42 53.1 +0.2
Q11A **Duckwater** 90.35 49 ⇓P P 17 42 52.6 -0.4
baz=90,SNR=31
Y14A **Wickenburg** 90.39 54 ⇓P P 17 42 53.1 0.0
baz=90,SNR=11
TLY **Talaya** 90.56 325 iP P 17 42 52.9 -1.1
P11A **Circle Ranch,** 90.56 48 ⇓P P 17 42 53.9 0.0
baz=91
A05A **Maple Falls** 90.62 38 ⇑P P 17 42 53.6 -0.7
baz=91
X14A **Yava** 90.67 54 ⇑P P 17 42 55.1 +0.6
baz=91,SNR=35

VNA1 **Neumayer--Stat** 90.78 181 eP P 17 42 56.6 +1.6
VNA1 e 17 42 57.4
VNA1 e 17 43 00.0
VNA1 e 17 43 03.1
VNA1 e pP 17 43 59.0 +0.8
VNA1 e 17 44 26.3
W14A **Seligman** 90.81 53 ⇑P P 17 42 55.7 +0.6
baz=91,SNR=26
M10A **I.L. Ranch, Tu** 90.82 46 ⇑P P 17 42 55.3 +0.1
baz=91,SNR=18
O11A **Cowboy Ranch,** 90.86 48 ⇓P P 17 42 55.5 +0.1
baz=91,SNR=16
116A **Eloy** 90.88 56 ⇓P P 17 42 55.8 +0.3
baz=91,SNR=16
HAWA **Hanford** 90.96 41 eP P 17 42 55.5 -0.3
comp=Z,3.0nm,0.9s,mb4.1
N11A **Elko Archery C** 91.08 47 ⇑P P 17 42 56.0 -0.3
baz=91
X15A **Humboldt** 91.18 54 ⇑P P 17 42 57.5 +0.7
baz=91,SNR=28
M11A **Holland Ranch,** 91.30 46 ⇓P P 17 42 57.6 +0.3
baz=91,SNR=11
W15A **Williams** 91.41 53 ⇑P P 17 42 58.6 +0.7
baz=92,SNR=6.3
CCUT **Cedar City** 91.49 51 eP P 17 42 58.8 +0.5
DLBC **Dease Lake** 91.51 27 P P 17 42 57.7 -0.6
baz=232,slow=8.4
DLBC **Dease Lake** 91.51 27 eP P 17 42 57.3 -1.0
TUC **Tucson** 91.51 56 eP P 17 42 58.7 +0.3
TUC pmax pmax
comp=Z,28nm,1.0s,mb5.2
TUC **Tucson** 91.51 56 eP P 17 42 58.7 +0.3
comp=Z,28nm,1.0s,mb5.2
N12A **Wells--Clov Va** 91.58 47 ⇑P P 17 42 58.7 0.0
baz=92,SNR=13
BMO **Blue Mountains** 91.70 43 eP P 17 42 57.7 -1.5
comp=Z,3.9nm,0.9s,mb4.3
M12A **Wells** 91.89 47 ⇑P P 17 42 59.9 -0.2
baz=92,SNR=5.0
N13A **West Wendover** 92.17 48 ⇑P P 17 43 01.1 -0.3
baz=92
WUAZ **Wupatki** 92.22 53 eP P 17 43 01.9 +0.2
comp=Z,36nm,1.1s,mb5.2
M13A **Montello** 92.39 47 ⇓P P 17 43 02.3 -0.1
baz=92,SNR=7.3
MSU **Marysvale** 92.72 50 eP P 17 43 04.3 +0.4
HLID **Hailey** 93.08 45 eP P 17 43 05.1 -0.5
comp=Z,9.3nm,0.8s,mb4.8
HVU **Hansel Valley** 93.51 47 eP P 17 43 07.3 -0.3
HVU pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
HVU **Hansel Valley** 93.51 47 eP P 17 43 07.2 -0.3
comp=Z,6.9nm,0.9s,mb4.7
TMUT **Trail Mountain** 93.71 50 eP P 17 43 09.3 +0.8
DAU **Daniels Canyon** 94.08 49 eP P 17 43 10.8 +0.6
SRU **San Rafael** 94.14 50 eP P 17 43 10.4 -0.1
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SRU **San Rafael** 94.14 50 eP P 17 43 10.4 -0.1
comp=Z,6.0nm,0.8s,mb4.7
TCUT **Toone Canyon** 94.22 48 eP P 17 43 11.1 +0.3
HWUT **Hardware Ranch** 94.29 48 eP P 17 43 10.0 -1.2
comp=Z,4.7nm,0.8s,mb4.6
MCMT **McKenzie Canyo** 94.60 44 eP P 17 43 11.9 -0.7
DLMT **Dillon** 94.96 44 eP P 17 43 13.5 -0.7
comp=Z,5.8nm,0.8s,mb4.8
CHMT **Chamberlain Mo** 95.12 42 eP P 17 43 13.9 -1.0
BNM **Barren Site** 95.41 56 eP P 17 43 15.4 -0.8
ANMO **Albuquerque** 95.80 55c iP P 17 43 17.2 -0.8
ANMO **Albuquerque** 95.80 55 eP P 17 43 17.0 -1.0
comp=Z,4.8nm,0.9s,mb4.6
INK **Inuvik** 96.03 18 P P 17 43 17.0 -2.0
comp=Z,8.5nm,1.0s,mb4.8,baz=262,slow=6.5,SNR=9.2
PDAR **Pinedale Array** 96.09 47 P P 17 43 18.4 -0.9
comp=Z,1.7nm,0.8s,mb4.2,baz=323,slow=2.2,SNR=11
SMCO **Snowmass** 96.76 51 P P 17 43 22.6 +0.2
WMQ **Urumqi** 97.11 314 eP P 17 43 24.5 +0.6
YKA **Yellowknife Ar** 100.14 27 P Pdif 17 43 36.7 -0.7
comp=Z,2.8nm,0.6s,baz=263,slow=4.6,SNR=5.7
YKA **Yellowknife Ar** 100.14 27 P Pdif 17 43 36.7 -0.7
MKAR **Makanchi Array** 101.63 316 P Pdif 17 43 44.9 +0.8
comp=Z,1.6nm,0.7s,baz=94,slow=6.5,SNR=20
MKAR PKKPbc PKKPbc 17 59 47.4 -2.4
comp=Z,0.2nm,0.5s,baz=284,slow=2.9,SNR=4.2
MKAR **Makanchi Array** 101.63 316 P Pdif 17 43 44.9 +0.8
MKAR PKKPbc PKKPbc 17 59 47.4 -2.4
ARU **Arti** 117.05 324 i PKIKP PKPdf 17 48 32.4 -2.8
ARU e 17 49 44.5
BOSA **Boshof** 121.59 217 PKP PKPdf 17 48 43.1 -0.8
comp=Z,3.6nm,0.9s,baz=108,slow=3.2,SNR=3.6
SCHQ **Schefferville** 124.37 36 PKP PKPdf 17 48 46.5 -2.7
comp=Z,2.4nm,0.7s,baz=282,slow=1.0,SNR=3.5
SCHQ **Schefferville** 124.37 36 ePKPdf PKPdf 17 48 46.7 -2.5
ARCES **ARCESS Array B** 124.71 345 PKP PKPdf 17 48 46.7 -3.2
comp=Z,4.3nm,0.6s,baz=71,slow=2.4,SNR=22
ARCES **ARCESS Array B** 124.71 345 PKP PKPdf 17 48 46.7 -3.2
BDFB **Brasilia** 129.62 130 PKP PKPdf 17 48 58.3 -0.9
comp=Z,1.2nm,0.5s,baz=318,slow=2.0,SNR=3.1
FINES **FINESS Array B** 130.28 338 PKhKP 17 48 52.0
comp=Z,1.9nm,0.9s,baz=130,slow=36,SNR=2.7
FINES PKP PKPdf 17 48 58.4 -2.1
comp=Z,1.4nm,0.8s,baz=22,slow=2.1,SNR=5.6
FINES SKPbc SKPbc 17 51 55.0 -3.7
comp=Z,2.9nm,0.9s,baz=83,slow=2.7,SNR=7.7
FINES **FINESS Array B** 130.28 338 PKP PKPdf 17 48 52.0 -8.5
FINES PKP PKPdf 17 48 58.4 -2.1
FINES SKPbc SKPbc 17 51 55.0 -3.7
NOA **NORSAR Array B** 135.09 345 PKP PKPdf 17 49 08.3 -1.3
comp=Z,0.3nm,0.5s,baz=61,slow=1.9,SNR=2.8
AKASG **Malin Array Be** 135.30 325 PKP PKPdf 17 49 07.5 -2.5
comp=Z,0.5nm,0.5s,baz=59,slow=1.9,SNR=5.2
BRTR **Keskin Array B** 136.77 308 PKP PKPdf 17 49 11.7 -1.0
comp=Z,0.8nm,0.9s,baz=120,slow=4.9,SNR=4.1
OKC **Ostrava-Krasne** 141.50 330 ePKP PKPdf 17 49 22.0 +0.7
DPC **Dobruska-Polom** 141.97 332 ePKP PKPdf 17 49 17.0 -5.1
CLL **Collm** 142.63 336 ePKPbc PKPdf 17 49 19.3 -4.0
FBE **Freiberg** 142.80 335 ePKPbc PKPdf 17 49 18.9 -4.7
CLZ **Clausthal** 143.18 338 ePKPbc PKPdf 17 49 20.6 -3.7
TANN **Tannenbergstha** 143.55 335 ePKPbc PKPdf 17 49 21.8 -3.1
GTTG **Gvttingen** 143.56 338 ePKPbc PKPdf 17 49 22.1 -2.9
WERD **Werda** 143.58 335 ePKPbc PKPdf 17 49 22.0 -3.0
IBBN **Ibbenburen** 143.64 341 ePKPbc PKPdf 17 49 22.0 -3.1
MOX **Moxa** 143.70 336 ePKPbc PKPdf 17 49 21.7 -3.5
MOX **Moxa** 143.70 336 ePKP PKPdf 17 49 22.3 -2.9
comp=Z,14nm,1.1s
MOX **Moxa** 143.70 336 ePKHKP PKPdf 17 49 22.3 -2.9
MOX pmax pmax
comp=Z,14nm,1.1s
CONA **Conrad Observa** 143.91 330⇑iPKPdf PKPdf 17 49 23.5 -2.0
comp=Z,6.1nm,0.7s
VAY **Valandovo** 143.99 316⇑iPKP PKPdf 17 49 22.4 -3.3
VAY **Valandovo** 143.99 316 i PKP PKPdf 17 49 22.5 -3.2
MANZ **Manzenberg** 144.03 335 ePKPbc PKPdf 17 49 23.5 -2.3
KHC **Kasperske Hory** 144.07 333 ePKP PKPdf 17 49 23.8 -2.0
KHC ex x 17 50 11.5
KHC **Kasperske Hory** 144.07 333c iPKHKP PKPdf 17 49 23.5 -2.3
KHC **Kasperske Hory** 144.07 333 ePKIKP PKPdf 17 49 23.8 -2.0
ROTZ **Rotzenmuhle** 144.16 335 ePKPbc PKPdf 17 49 24.1 -1.9
GEC2 **GERESS Array S** 144.24 332 ePKPbc PKPdf 17 49 24.0 -2.1
GERES **GERESS Array B** 144.24 332 PKP PKPdf 17 49 24.1 -2.1
comp=Z,2.6nm,0.6s,baz=34,slow=3.7,SNR=27
WET **Wettzell** 144.36 333 ePKPbc PKPdf 17 49 24.5 -1.8
BUG **Bochum--Univer** 144.54 341 ePKPbc PKPdf 17 49 24.4 -2.3
ARSA **Arzberg** 144.55 329⇑iP PKPdf 17 49 25.4 -1.3
comp=Z,10nm,1.0s
GRA1 **Grafenberg Arr** 144.61 336 ePKPbc PKPdf 17 49 25.9 -0.9
GRF **Grafenberg Arr** 144.61 336 ePKPbc PKPdf 17 49 25.9 -0.9
MOA **Molln** 144.72 331⇑iP PKPdf 17 49 26.0 -0.9
comp=Z,22nm,0.8s
DMUB **Kingscourt** 144.85 356 eP PKPdf 17 49 25.0 -2.2
PERS **Pernice** 145.18 329 ePKPbc PKPbc 17 49 26.6 -1.4
TNS **Taunus Mts** 145.20 339 ePKPbc PKPbc 17 49 27.2 -0.8
OHR **Ohrid** 145.26 317⇑iPKP PKPdf 17 49 26.6 -1.3
OHR **Ohrid** 145.26 317 i PKP PKPdf 17 49 26.5 -1.4
DCN **Croghan** 145.43 357 eP PKPdf 17 49 26.8 -1.4
DLF **Lyons Farm** 145.43 356 eP PKPdf 17 49 27.2 -1.0
DSB **Dublin** 145.47 356 ePKP PKPdf 17 49 27.5 -0.8
OBKA **Obir** 145.54 329⇑eP PKPdf 17 49 27.9 -0.5
comp=Z,3.1nm,0.6s
CRES **Cresnjev** 145.56 327 ePKPbc PKPbc 17 49 28.3 -0.9
MEM **Membach** 145.66 341 PKPbc PKPbc 17 49 28.2 -1.2
KBA **Koelnbreinsper** 145.71 331⇑iP PKPdf 17 49 28.2 -0.5
comp=Z,11nm,0.9s
FUR **Furstenfeldbru** 145.79 334 ePKPbc PKPbc 17 49 29.3 -0.5
LJU **Ljubljana** 145.88 328 ePKPbc PKPbc 17 49 29.1 -1.0

BOJS Bojanci 145.89 327 *i* PKPbc PKPbc 17 49 29.5 -0.6
UCC Uccle 145.96 343 PKPbc PKPbc 17 49 29.3 -1.0
CADS Cadrg 146.14 329 *i* PKPbc PKPbc 17 49 29.1 -1.8
VOJS Vojsko 146.21 329 *i* PKPbc PKPbc 17 49 29.5 -1.5
WATA Walderalm 146.31 333⇑*e*P PKPdf 17 49 30.2 +0.5
comp=Z,7.0nm,0.7s
FVI Forni Avoltri 146.32 331 PKIKP PKPdf 17 49 29.8 +0.1
WTTA Wattenberg 146.34 332⇑*i*P PKPdf 17 49 30.6 +0.9
comp=Z,16nm,1.1s
WLF Walferdange 146.44 340 *e*PKPbc PKPbc 17 49 31.2 -0.5
WLF Walferdange 146.44 340 PKPbc PKPbc 17 49 31.2 -0.5
WLF Walferdange 146.44 340 *e*PKPbc PKPbc 17 49 31.1 -0.6
GIVF Givet 146.46 342 *e*PKP1 PKPbc 17 49 30.9 -0.9
MOTA Moosalm 146.51 333⇑*i*P PKPdf 17 49 30.8 +0.8
comp=Z,14nm,0.8s
MOTA Moosalm 146.51 333⇑*i*P PKPdf 17 49 30.8 +0.8
DOU Dourbes 146.53 342 PKPbc PKPbc 17 49 30.9 -1.1
SQTA Sankt Quirin 146.56 333⇑*i*P PKPdf 17 49 31.2 +1.1
comp=Z,13nm,0.6s
BAIF Baives 146.67 343⇑*i*PKP1 PKPbc 17 49 31.4 -1.0
comp=Z,32nm,0.9s
BFO Black Forest 146.82 337 *e*PKPbc PKPbc 17 49 31.6 -1.2
BFO Black Forest 146.82 337 *e*PKP PKPdf 17 49 31.6 +1.0
BRMO Bormio 147.50 333 PKP PKPdf 17 49 34.0 -0.6
HINF Hinteralfeld 147.79 338 *e*PKP1 PKPbc 17 49 34.0 -1.4
HAU Haudompre 147.81 339⇑*i*PKP1 PKPbc 17 49 35.2 -0.2
comp=Z,28nm,0.8s
TUE Stuetta 147.94 334 PKP PKPbc 17 49 34.8 -1.0
ARV Arcevia 148.47 326 PKP PKPbc 17 49 36.2 -0.9
SNTG Esanatoglia 148.64 326 PKP PKPbc 17 49 36.9 -0.7
VAI Varese 148.66 334 PKHKP PKPdf 17 49 35.2 +1.6
SFI Santa Sofia 148.74 328 PKHKP PKPbc 17 49 37.6 -0.2
NRCA Norcia 148.83 325 PKP PKPbc 17 49 37.1 -1.0
ZCCA Zocca 148.84 330 PKP PKPbc 17 49 38.1 0.0
MURB Monte Urbino 148.85 327 PKP PKPbc 17 49 37.3 -0.8
TIP Timpagrande 148.91 317 *e*PKPbc PKPbc 17 49 37.5 -0.7
MCGN Macugnaga 148.91 335 PKP PKPbc 17 49 37.4 -0.9
CSSN Cassano Irpino 149.02 321 PKP PKPbc 17 49 36.8 -1.7
SGO Sicignano 149.03 320 PKHKP PKPdf 17 49 37.3 +3.1
FLN La Foiniere 149.03 347⇑*i*PKP1 PKPbc 17 49 37.1 -1.5
comp=Z,51nm,1.1s
CABF La Chapelle 149.09 338⇑*i*PKP1 PKPbc 17 49 37.9 -0.8
comp=Z,27nm,0.9s
LDF La Druitiere 149.12 347⇑*i*PKP1 PKPbc 17 49 37.1 -1.7
comp=Z,25nm,1.0s
LOR Lormes 149.27 341⇑*i*PKP1 PKPbc 17 49 38.0 -1.2
comp=Z,28nm,0.8s
GRI Girifalco 149.32 316 PKHKP PKPbc 17 49 38.9 -0.4
GRR Gorron 149.47 347⇑*i*PKP1 PKPbc 17 49 38.1 -1.5
comp=Z,56nm,1.2s
SSF Saint Saulge 149.57 341⇑*i*PKP1 PKPbc 17 49 38.8 -1.1
comp=Z,26nm,0.9s
LPL La Plagne 149.77 336⇑*i*PKP1 PKPbc 17 49 39.7 -0.7
comp=Z,16nm,0.8s
LPG La Plagne 149.78 336 *e*PKP1 PKPbc 17 49 40.0 -0.4
comp=Z,22nm,0.9s
SMF Signal de Mont 149.83 340⇑*i*PKP1 PKPbc 17 49 39.0 -1.5
comp=Z,13nm,1.1s
AVF Avril sur Loir 149.86 341 *e*PKP1 PKPbc 17 49 39.3 -1.3
comp=Z,13nm,1.0s
SGMF Saint Gilles 149.92 349⇑*i*PKP1 PKPbc 17 49 39.1 -1.6
comp=Z,36nm,1.1s
ROSF Rostrenen 149.96 350⇑*i*PKP1 PKPbc 17 49 39.2 -1.6
comp=Z,7.4nm,0.6s
SOI Samo 149.97 315 PKHKP PKPbc 17 49 40.1 -0.7
BNI Bardonecchia 150.18 335 *e*PKIKP PKPbc 17 49 40.4 -0.9
BGF Bois d'Agland 150.22 341 *e*PKP1 PKPbc 17 49 40.3 -1.1
QUIF Quistinic 150.35 350 *e*PKP1 PKPbc 17 49 39.9 -1.8
comp=Z,29nm,1.0s
MBDF Montbardon 150.41 335⇑*i*PKP1 PKPbc 17 49 40.7 -1.2
comp=Z,10nm,0.8s
ORIF Oris-en-Rattie 150.60 336⇑*i*PKP1 PKPbc 17 49 41.3 -1.0
comp=Z,17nm,0.7s
TCF Toulx Ste Croi 150.65 342⇑*i*PKP1 PKPbc 17 49 41.1 -1.4
comp=Z,22nm,1.0s
SBF Sospel 150.84 333⇑*i*PKP1 PKPbc 17 49 41.3 -1.6
comp=Z,23nm,0.9s
MFF Saint Martin d 150.99 345⇑*i*PKP1 PKPbc 17 49 41.8 -1.4
comp=Z,22nm,1.0s
VIVF Saint-Julien-l 151.11 337⇑*i*PKP1 PKPbc 17 49 42.5 -1.0
comp=Z,12nm,0.9s
PGF Pioggiola 151.14 329⇑*i*PKP1 PKPbc 17 49 42.3 -1.3
comp=Z,41nm,0.8s
FRF La Foret Royal 151.42 333⇑*i*PKP1 PKPbc 17 49 42.7 -1.5
comp=Z,18nm,1.1s
SMRF Simiane la Rot 151.51 335⇑*i*PKP1 PKPbc 17 49 43.6 -0.8
comp=Z,22nm,1.0s
LMR La Mourre 151.66 333⇑*i*PKP1 PKPbc 17 49 43.3 -1.5
comp=Z,15nm,0.9s
RJF Les Rejaudoux 151.75 342⇑*i*PKP1 PKPbc 17 49 43.7 -1.3
CAF Calviac 151.93 341 *e*PKP1 PKPbc 17 49 44.4 -1.0
LASF Ste Croix 152.08 338⇑*i*PKP1 PKPbc 17 49 44.7 -1.0
comp=Z,11nm,0.8s
LFF La Frestale 152.31 343 *e*PKP1 PKPbc 17 49 45.0 -1.2
MTLF Montolieu 153.29 339⇑*i*PKP1 PKPbc 17 49 47.0 -1.4
comp=Z,3.3nm,0.6s
ETSF Etsaut 154.55 343 *e*PKP1 PKPbc 17 49 50.3 -0.8
ESDC Sonseca Array 158.45 346 PKPab PKPab 17 50 22.6 -1.0
comp=Z,1.3nm,0.7s,baz=20,slow=4.7,SNR=4.4
TORD Torodi Ar. Bea 167.05 246 PKP PKPdf 17 49 54.8 -0.9
comp=Z,3.2nm,0.9s,baz=254,slow=0.5,SNR=12

*CSEM **27** 17:35:24.3±1.0,3804N×2637W,h6km±4km,ML2.2,Error ellipse: s-maj=6.7km s-min=1.1km az=37.0,After PDA*
*PDA **27** 17:35:24.3±1.0,3804N×2637W,h6km±4km,MD2.5,ML2.2, Error ellipse: s-maj=6.7km s-min=1.1km az=37.0*
SVSA 27 17:35:24.3±1.0,3804N×2637W,h6km±4km,MD2.5,ML2.2, Error ellipse: s-maj=6.7km s-min=1.1km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.48**	**110**	*e*P	Pg	17 35 32.7	-0.8
SET4				*e*S	Sg	17 35 39.2	-0.6
SET2	**Ginetes**	**0.48**	**114**	*e*P	Pg	17 35 32.9	-0.8
SET2				*e*S	Sg	17 35 39.2	-0.8
PFET	**Feteiras**	**0.51**	**116**	*e*P	Pg	17 35 33.1	-1.0
PSAN	**Santo Antonio**	**0.54**	**111**	*e*P	Pg	17 35 33.5	-1.2
PSET	**Sete Cidades**	**0.56**	**113**	*e*P	Pg	17 35 33.4	-1.6
PSET				*e*S	Sg	17 35 40.5	-1.7
PSET	181nm,0.2s						
PSET	**Sete Cidades**	**0.56**	**113**	*e*P	Pg	17 35 33.4	-1.6
PSET				*e*S	Sg	17 35 40.5	-1.7
FAC	**Faja de Cima**	**0.63**	**115**	*e*rx		17 35 41.8	
PDA	**Ponta Delgada**	**0.63**	**118**	*e*S	Sg	17 35 42.9	-1.7
CML	**Cha da Macela**	**0.70**	**112**	*e*P	Pg	17 35 35.7	-2.1
PVER	**Pico Vermelho**	**0.72**	**110**	*e*S	Sg	17 35 44.6	-2.8
PVER	59nm,0.3s						
PMAT	**Coroa da Mata**	**0.74**	**107**	*e*P	Pg	17 35 36.5	-2.1
PMAT				*e*S	Sg	17 35 45.4	-2.8
PMAT	132nm,0.2s						
PMAT	**Coroa da Mata**	**0.74**	**107**	*e*P	Pg	17 35 36.5	-2.1
PMAT				*e*S	Sg	17 35 45.4	-2.8
LFA	**Lagoa do Fogo**	**0.75**	**111**	*e*P	Pg	17 35 36.6	-2.1
LFA				*e*S	Sg	17 35 45.4	-3.0
PRCH	**Ribeira Ch**	**0.77**	**114**	*e*P	Pg	17 35 36.8	-2.3
PRCH				*e*S	Sg	17 35 45.9	-3.2
PRCH	57nm,0.2s						
PRCH	**Ribeira Ch**	**0.77**	**114**	*e*P	Pg	17 35 36.8	-2.3
PRCH				*e*S	Sg	17 35 45.9	-3.2
MESC	**Monte Escuro**	**0.77**	**109**	*e*P	Pg	17 35 36.7	-2.4
MESC				*e*S	Sg	17 35 46.2	-2.9
VIF	**Vila Franca**	**0.79**	**112**	*e*P	Pg	17 35 37.1	-2.4
VIF				*e*S	Sg	17 35 46.4	-3.4
VIF	36nm,0.2s						
VIF	**Vila Franca**	**0.79**	**112**	*e*P	Pg	17 35 37.1	-2.4
VIF				*e*S	Sg	17 35 46.4	-3.4
PCNG	**Congro**	**0.81**	**109**	*e*S	Sg	17 35 47.4	-3.2
PCNG	47nm,0.2s						
PFAD	**Fenais da Ajud**	**0.85**	**104**	*e*P	Pg	17 35 37.6	-3.0
FRA1	**Furnas**	**0.85**	**110**	*e*P	Pg	17 35 38.2	-2.5
PFAV	**Pico das Favas**	**0.87**	**320**	*e*S	Sg	17 35 48.7	-3.7
PFAV	12nm,0.2s						
RIB2	**Ribeirinha**	**0.89**	**315**	*e*S	Sg	17 35 49.3	-3.7
RIB2	21nm,0.1s						
PVNV	**Vila Nova**	**0.95**	**319**	*e*S	Sg	17 35 50.5	-4.3
PVNV	15nm,0.2s						
PPAD	**Pico dos Padre**	**0.98**	**312**	*e*S	Sg	17 35 51.1	-4.7
PPAD	11nm,0.1s						
ASBA	**Santa Barbara**	**1.01**	**312**	*e*S	Sg	17 35 52.1	-4.8
ASBA	18nm,0.1s						
PSBA	**Serra de Santa**	**1.04**	**314**	*e*rx		17 35 50.1	
PSMN	**Pico do Norte,**	**1.47**	**135**	*e*S	Sn	17 36 03.2	-7.4
PMAN	**Manadas**	**1.48**	**294**	*e*rx		17 35 57.4	
ROSA	**Rosais**	**1.62**	**295**	*e*rx		17 35 49.9	
SRBC	**Serra Branca**	**1.65**	**308**	*e*P	Pn	17 35 48.7	-5.0
PICO	**Pico**	**1.68**	**286**	*e*P	Pn	17 35 49.4	-4.8
PICO				*e*S	Sn	17 36 08.4	-7.7
CALA	**Caldeira**	**1.92**	**287**	*e*rx		17 35 54.5	

*ISCJB **27** 17:46:51.3±0.8,08N±02×280W±02,h10km,mb3.8/7, MS3.4/3,Error ellipse: s-maj=42.4km s-min=14.1km az=106.6*
*IDC **27** 17:46:53.0±1.5,094N×2785W,h0km,mb3.9/7,mb1 4.0/7, mb1mx3.8/20,mbtmp3.9/7,MS3.5/3,Ms1 3.5/3, ms1mx3.3/34,Error ellipse: s-maj=62.0km s-min=25.9km az=152.0*
*NEIC **27** 17:46:53.9±0.6,080N×2789W,h10km,mb4.2/1,Error ellipse: s-maj=37.3km s-min=10.8km az=145.0*
ISC 27 17:46:54.3±0.8,08N±02×279W±02,h10km,n11,σ0°91/10, mb3.8/7,MS3.4/3,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.36**	**230**	*e*Pn	**Pn**	**17 49 21.9**	**-1.1**
	12nm,0.5s						
DBIC	**Dimbokro**	**23.71**	**75**	P	**P**	**17 52 06.5**	**+0.1**
	4.3nm,0.8s,mb4.0,baz=235,slow=13,SNR=4.7						
DBIC				LR	LR	17 58 47.2	
	comp=Z,76nm,19.1s,MS3.2,baz=240,slow=30						
DBIC	**Dimbokro**	**23.71**	**75**	*e*P	**P**	**17 52 07.1**	**+0.6**
	5.1nm,0.7s,mb4.1						
DBIC				LR	LR	17 58 47.2	
BDFB	**Brasilia**	**25.74**	**230**	LR	LR	18 01 36.1	
	comp=Z,180nm,19.6s,MS3.6,baz=73,slow=34						
TOA0	**Torodi Ar. Sit**	**31.77**	**66**	*e*P	**P**	**17 53 18.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**31.77**	**66**	P	**P**	**17 53 18.8**	**+0.1**
	3.9nm,0.8s,mb4.3,baz=255,slow=10.0,SNR=22						
TORD				LR	LR	18 03 51.4	
	comp=Z,88nm,21.2s,MS3.4,baz=210,slow=32						
LPAZ	**La Paz**	**43.18**	**245**	P	**P**	**17 54 57.6**	**+2.4**
	1.0nm,0.8s,mb3.6,baz=55,slow=1.6,SNR=4.2						
ESDC	**Sonseca Array**	**44.41**	**27**	P	**P**	**17 55 05.2**	**+0.1**
	0.5nm,0.4s,mb3.6,baz=240,slow=10,SNR=5.5						
GERES	**GERESS Array B**	**59.70**	**31**	P	**P**	**17 56 59.2**	**+0.3**
	0.3nm,0.5s,mb3.6,baz=224,slow=2.7,SNR=4.1						
BRTR	**Keskin Array B**	**67.88**	**47**	P	**P**	**17 57 52.4**	**-0.5**
	1.1nm,0.7s,mb4.0,baz=235,slow=5.9,SNR=5.7						
AKASG	**Malin Array Be**	**69.14**	**35**	P	**P**	**17 57 59.5**	**-1.2**
	0.5nm,0.5s,mb3.7,baz=244,slow=6.8,SNR=6.0						

JMA 27 17:55:48.7±0.5,2133N×12172E,h39km,M4.5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.33**	**35**	P	Pn	17 56 39.8	+1.6
HATJ				S	Sn	17 57 18.9	+2.4
YOJ	**Yonaguni jima**	**3.34**	**21**	P	Pn	17 56 40.2	+1.9
YOJ				S	Sn	17 57 18.4	+1.7
IRIF	**Iriomote-Funau**	**3.52**	**31**	P	Pn	17 56 43.1	+2.3
IRIF				*e*S	Sn	17 57 23.9	+2.7
JKRS	**Kuro-shima**	**3.58**	**36**	P	Pn	17 56 44.2	+2.5
JKRS				S	Sn	17 57 25.4	+2.6
JIJ	**Ishigaki jima**	**3.76**	**36**	P	Pn	17 56 45.8	+1.7
JIJ				S	Sn	17 57 28.0	+0.9
JTJ	**Tarama**	**4.29**	**39**	P	Pn	17 56 53.4	+2.0
JTJ				S	Sn	17 57 42.2	+2.0

*NIED **27** 18:02:00,2850N×13960E,h380km,Mw4.6 Best double couple: M0 7.54000×10^15 NP1:φs=357.00000°,δ85.00000°, λ-121.00000°. NP2:φs=259.00000°,δ31.00000°, λ-10.00000°.*
*BJI **27** 18:02:19.2,2827N×13938E,h500km,mB4.7,mb4.7*
*ISCJB **27** 18:02:21.6±0.3,2841N±003×139.18E±004,h506km±3km, mb4.2/69,Error ellipse: s-maj=5.3km s-min=4.7km az=18.6*
*JMA **27** 18:02:21.9±0.2,2850N×13964E,h521km±4km,M5.0*
*NEIC **27** 18:02:22.1±0.2,2844N×139.10E,mb4.3/29,Error ellipse: s-maj=6.1km s-min=5.1km az=103.0*
*IDC **27** 18:02:22.9±0.6,2845N×13907E,h506km±7km,mb3.7/27, mb1 3.8/31,mb1mx3.7/36,mbtmp4.6/31,Error ellipse: s-maj=10.6km s-min=7.2km az=79.0*
ISC 27 18:02:22.5±0.3,2844N±003×13921E±004,h502km±3km, h503km±2.6km:pP-P,n137,σ1°12/151,mb4.2/69,3C-2D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.96**	**116**	P	**P**	**18 03 33.2**	**0.0**
	94nm,0.3s,baz=309,slow=2.8,SNR=89						
CBIJ				S	**S**	**18 04 28.3**	**-2.6**
	436nm,0.3s,baz=304,slow=23,SNR=19						
CBIJ	**Chichi jima**	**2.96**	**116**	P	**P**	**18 03 32.8**	**-0.5**
CBIJ				S	**S**	**18 04 27.9**	**-3.0**
JHHJ	**Haha-jima-NKT**	**3.19**	**124**	P	**P**	**18 03 34.7**	**-0.2**
JHHJ				S	**S**	**18 04 33.0**	**-0.8**
JHJ2	**Mitsune**	**4.69**	**6**	P	**P**	**18 03 47.7**	**+1.0**
JHJ2				*e*S	**S**	**18 04 53.3**	**-2.2**
JHJ	**Hachijo jima 2**	**4.69**	**6**	P	**P**	**18 03 47.7**	**+0.9**
	77nm,0.3s,baz=126,slow=7.6,SNR=41						
JHJ				S	**S**	**18 04 53.2**	**-2.4**
	154nm,0.3s,baz=242,slow=22,SNR=6.9						
TK01	**Tokai 1**	**5.49**	**346**	P	**P**	**18 03 56.9**	**+2.9**
JWZ	**Kozaga**	**5.90**	**330**	P	**P**	**18 03 59.9**	**+2.1**
JIM2	**Oshima 3**	**6.26**	**2**	P	**P**	**18 04 02.0**	**+0.6**
JIM2				*e*S	**S**	**18 05 22.9**	**+0.6**
JKN2	**Miekihoku**	**6.30**	**337**	P	**P**	**18 04 03.7**	**+2.0**
JIE	**Ise**	**6.31**	**341**	P	**P**	**18 04 04.0**	**+2.2**
JIE				*e*S	**S**	**18 05 25.2**	**+2.1**
BSO1	**Boso 1**	**6.38**	**13**	P	**P**	**18 04 02.8**	**+0.3**
BSO1				*e*S	**S**	**18 05 22.9**	**-1.5**
BSO3	**Boso 3**	**6.44**	**10**	P	**P**	**18 04 03.5**	**+0.4**
BSO3				*e*S	**S**	**18 05 24.6**	**-0.9**
JHMK	**Hamakita**	**6.48**	**349**	P	**P**	**18 04 04.7**	**+1.2**
HMMJ	**Hamamatsu 2**	**6.52**	**349**	P	**P**	**18 04 05.3**	**+1.4**
HMMJ				*e*S	**S**	**18 05 27.5**	**+0.5**
BSO4	**Boso 4**	**6.61**	**8**	P	**P**	**18 04 05.4**	**+0.7**
BSO4				*e*S	**S**	**18 05 27.2**	**-1.2**
MJAR	**Matsushiro Arr**	**8.13**	**354**	P	**P**	**18 04 19.9**	**-0.3**
	16nm,0.3s,baz=167,slow=12,SNR=105						
MJAR				S	**S**	**18 05 52.8**	**-3.9**
	4.2nm,0.3s,baz=155,slow=12,SNR=4.1						
MAJO	**Matsushiro**	**8.13**	**354**	⇑*i*P	**P**	**18 04 19.7**	**-0.5**
	235nm,0.7s						
MAJO				*e*S	**S**	**18 05 42.8**	**-14**
MAT	**Matsushiro**	**8.13**	**354**	P	**P**	**18 04 19.8**	**-0.3**
MAT				S	**S**	**18 05 52.9**	**-3.8**
MAT	**Matsushiro**	**8.13**	**354**	*e*P	**P**	**18 04 20.0**	**-0.1**
	240nm,1.0s						
MAT				*e*S	**S**	**18 05 53.0**	**-3.7**
JOW	**Kunigami**	**9.83**	**263**	P	**P**	**18 04 39.5**	**+1.6**
	12nm,0.3s,baz=96,slow=12,SNR=50						
JOW				S	**S**	**18 06 29.4**	**0.0**
	baz=66,slow=19,SNR=2.6						
INCN	**Inchon**	**13.87**	**314**	*e*P	**P**	**18 05 19.8**	**-0.9**
	17nm,0.6s						
GUMO	**Guam**	**15.69**	**159**	P	**P**	**18 05 40.8**	**+1.1**
	33nm,0.3s,baz=174,slow=3.5,SNR=26						
GUMO	**Guam**	**15.69**	**159**	P	**P**	**18 05 40.8**	**+1.1**
ASAJ	**Asahikawa**	**15.88**	**9**	P	**P**	**18 05 42.6**	**+0.9**
	1.4nm,0.3s,baz=224,slow=19,SNR=12						
TATO	**Taipei**	**16.20**	**262**	*e*P	**P**	**18 05 42.9**	**-2.2**
	44nm,0.6s						
NACB	**Ninganchiao**	**16.35**	**259**	*e*P	**P**	**18 05 43.6**	**-3.0**
YHNB	**Yeheng**	**16.39**	**261**	*e*P	**P**	**18 05 44.1**	**-2.9**
YHNB				*e*S	**S**	**18 08 30.9**	**-4.7**
MDJ	**Mudanjiang**	**17.88**	**337**	P	**P**	**18 06 02.0**	**+0.5**
MDJ				XP	sP	18 08 03.5	-5.3
MDJ				S	**S**	**18 09 02.0**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,50nm,3.7s						
MDJ	**Mudanjiang**	**17.88**	**337**	*e*P	**P**	**18 06 01.7**	**+0.2**
	comp=Z,12nm,0.6s						
YSS	**Yuzh-Sakhalins**	**18.69**	**8**	*e*P	**P**	**18 06 09.2**	**+0.2**
	comp=Z,26nm,0.4s						
CN2	**Changchun**	**18.90**	**328**	*e*P	**P**	**18 06 12.0**	**+1.2**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s						
TGY	**Tagaytay City**	**22.16**	**234**	P	**P**	**18 06 40.9**	**+0.5**
	comp=Z,225nm,0.6s,baz=45,slow=2.5,SNR=17						
HIA	**Hailar**	**25.60**	**330**	*e*P	**P**	**18 07 09.4**	**-1.6**
	comp=Z,13nm,0.6s,mb4.5						
HHC	**Hu-ho-hao-te**	**25.78**	**306**	*e*P	**P**	**18 07 13.3**	**+0.7**
HHC				S	**S**	**18 11 08.8**	**+2.9**
HHC				SCP	ScP	18 13 21.3	+3.9
HHC				PCS	PcS	18 14 07.3	+0.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
HHC				AMB	AMB		
	comp=Z,110nm,4.5s						
XAN	**Xi'an**	**26.43**	**290**	P	**P**	**18 07 18.0**	**-0.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
QIZ	**Qiongzhong**	**28.40**	**257**	P	**P**	**18 07 37.0**	**+1.3**
GYA	**Guiyang**	**28.90**	**274**	⇓*i*P	**P**	**18 07 40.3**	**+0.3**
GYA				XP	sP	18 10 08.3	+4.9
GYA				S	**S**	**18 11 55.8**	**+1.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
LZH	**Lanzhou**	**30.73**	**293**	⇑P	**P**	**18 07 55.5**	**-0.4**
LZH				AP		18 09 20.8	
LZH				PP	PP	18 09 23.5	+1.4
LZH				XP	sP	18 10 17.3	-2.5
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
LZH				AMB	AMB		
	comp=Z,60nm,4.9s						
CD2	**Chengdu**	**30.82**	**283**	P	**P**	**18 07 54.5**	**-2.2**
CD2				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.8						
CD2				AMB	AMB		
	comp=Z,150nm,5.8s						
KKM	**Kota Kinabalu**	**31.15**	**229**	P	**P**	**18 08 00.4**	**+0.9**
KKM	**Kota Kinabalu**	**31.15**	**229**	*e*P	**P**	**18 08 00.1**	**+0.7**
TSM	**Tawau**	**31.43**	**224**	P	**P**	**18 08 02.3**	**+0.5**
ULN	**Ulaanbaatar**	**31.54**	**317**	*e*P	**P**	**18 08 03.2**	**+0.3**
	comp=Z,6.5nm,0.9s,mb4.1						
ULN				*e*pP		18 09 26.7	
ULN				*e*PP	PP	18 09 37.1	+6.5
SONM	**Songino Array**	**31.92**	**316**	P	**P**	**18 08 06.4**	**+0.2**
	comp=Z,2.8nm,0.5s,mb4.0,baz=124,slow=8.4,SNR=30						
SONM				ScP	ScP	18 13 35.1	-1.9
	comp=Z,2.7nm,0.8s,baz=147,slow=4.4,SNR=11						
KMI	**Kunming**	**32.64**	**273**	P	**P**	**18 08 12.3**	**+0.1**
KMI				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.6						
YAK	**Yakutsk**	**34.18**	**352**	*e*P	**P**	**18 08 24.2**	**-1.1**
	comp=Z,26nm,0.9s,mb4.7						
YAK				*e*PP	PP	18 10 02.1	+3.4
GTA	**Gaotai**	**34.23**	**299**	*e*P	**P**	**18 08 25.8**	**+0.2**
CM31	**Chiang Mai Arr**	**38.10**	**264**	*e*P	**P**	**18 08 58.0**	**+0.3**
	comp=Z,6.9nm,0.7s,mb4.2						
PMG	**Port Moresby**	**38.40**	**167**	P	**P**	**18 09 00.4**	**+0.3**
	comp=Z,15nm,0.8s,mb4.5,baz=270,slow=19,SNR=3.5						
KSM	**Kuching**	**38.48**	**231**	*e*P	**P**	**18 09 01.0**	**+0.3**
LSA	**Lhasa**	**41.78**	**284**	*e*P	**P**	**18 09 28.8**	**+1.5**
	comp=Z,3.9nm,0.6s,mb4.0						
WMQ	**Urumqi**	**43.65**	**305**	*e*P	**P**	**18 09 41.5**	**-0.4**
JIRN	**Jiri**	**46.47**	**282**	*e*P	**P**	**18 10 04.9**	**+1.2**
	comp=Z,76nm,0.6s,mb5.3						
GUN	**Gumba**	**46.68**	**283**	*e*P	**P**	**18 10 06.4**	**+1.2**
	comp=Z,101nm,0.8s,mb5.3						
PKI	**Pulchoki**	**47.17**	**282**	*e*P	**P**	**18 10 09.3**	**+0.4**
	comp=Z,41nm,1.1s,mb4.8						
KKN	**Kakani**	**47.23**	**283**	*e*P	**P**	**18 10 09.9**	**+0.6**
	comp=Z,48nm,0.9s,mb4.9						
DMN	**Daman**	**47.42**	**283**	*e*P	**P**	**18 10 11.4**	**+0.6**
	comp=Z,22nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**47.59**	**309**	P	**P**	**18 10 11.8**	**-0.2**
	comp=Z,0.5nm,0.3s,mb3.3,baz=86,slow=11,SNR=24						
MKAR				PcP	PcP	18 11 31.8	-0.4
	comp=Z,0.9nm,0.6s,baz=90,slow=4.2,SNR=6.0						
MKAR				pP	pP	18 11 46.3	-0.4
	comp=Z,1.5nm,0.8s,baz=87,slow=8.6,SNR=4.5						
MKAR				ScP	ScP	18 14 36.1	-1.9
	comp=Z,1.7nm,0.7s,baz=87,slow=5.3,SNR=8.8						
MKAR	**Makanchi Array**	**47.59**	**309**	P	**P**	**18 10 11.8**	**-0.2**
MKAR				PcP	PcP	18 11 31.8	-0.4
MKAR				pP	pP	18 11 46.3	-0.4
MKAR				ScP	ScP	18 14 36.1	-1.9
GKN	**Gorkha**	**47.73**	**283**	*e*P	**P**	**18 10 13.5**	**+0.4**
	comp=Z,56nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**48.09**	**197**	*e*P	**P**	**18 10 15.3**	**-0.5**
	comp=Z,15nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**48.09**	**197**	P	**P**	**18 10 16.1**	**+0.3**
	comp=Z,8.5nm,0.5s,mb4.3,baz=21,slow=8.6,SNR=21						
WRAB	**Tennant Creek**	**48.31**	**186**	*e*P	**P**	**18 10 16.9**	**-0.6**
	comp=Z,9.2nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**48.32**	**186**	⇑*i*P	**P**	**18 10 16.9**	**-0.7**
WRA	**Warramunga Arr**	**48.32**	**186**	P	**P**	**18 10 17.1**	**-0.5**
	comp=Z,6.1nm,0.4s,mb4.3,baz=0.9,slow=7.7,SNR=214						
KOLN	**Koldanda**	**48.67**	**283**	*e*P	**P**	**18 10 20.8**	**+0.6**
	comp=Z,47nm,0.9s,mb4.8						
KURK	**Kurchatov**	**50.16**	**314**	*e*P	**P**	**18 10 30.0**	**-1.2**
	comp=Z,1.8nm,0.6s,mb3.6						
AS31	**Alice Springs**	**52.05**	**186**	*e*P	**P**	**18 10 44.4**	**-0.5**
ASAR	**Alice Springs**	**52.05**	**186**	P	**P**	**18 10 44.5**	**-0.4**
	comp=Z,1.0n

comp=Z,3.1nm,0.6s,mb4.0,baz=76,slow=5.9,SNR=37
RAR Rarotonga 76.84 123 P **P 18 13 24.4 +2.3**
comp=Z,16nm,0.4s,mb4.9,baz=268,slow=18,SNR=8.2
YBH Yreka Blue Hor 77.21 49 P **P 18 13 25.8 +1.6**
comp=Z,4.1nm,0.7s,mb4.1,baz=324,slow=4.4,SNR=6.6
RPZ Rata Peaks 77.51 157 P **P 18 13 27.2 +1.3**
comp=Z,5.6nm,0.6s,mb4.2,baz=26,slow=18,SNR=7.4
NEW Newport 77.68 42 P **P 18 13 27.3 +0.5**
comp=Z,2.7nm,0.5s,mb3.9,baz=287,slow=9.6,SNR=3.9
UMR Umm Al-Rimmam 77.73 297 *eP* **P 18 13 26.6 -0.4**
MIB Mutribah 77.92 297 *eP* **P 18 13 27.7 -0.4**
MIB AMb AMB 18 13 28.2
comp=Z,33nm,0.6s,mb5.0
RDF Al-Radifah 78.13 296 *eP* **P 18 13 28.8 -0.4**
RDF AMb AMB 18 13 29.5
comp=Z,26nm,0.7s,mb4.8
NAY Al-Naaiem 78.23 297 *eP* **P 18 13 29.3 -0.5**
NAY AMb AMB 18 13 30.7
comp=Z,14nm,0.6s,mb4.6
RST Umm Al-Ruwaisa 78.32 297 *eP* **P 18 13 29.5 -0.7**
RST AMb AMB 18 13 30.7
comp=Z,22nm,0.5s,mb4.8
AKASG Malin Array Be 79.97 323 P **P 18 13 37.9 -1.1**
comp=Z,0.8nm,0.4s,mb3.6,baz=50,slow=4.9,SNR=6.9
CMB Columbia Colle 80.50 52 *eP* **P 18 13 41.5 -0.2**
comp=Z,3.3nm,0.4s,mb4.2
HFS Hagfors 81.14 336 P **P 18 13 43.7 -1.4**
comp=Z,2.1nm,0.5s,mb3.9,baz=96,slow=4.5,SNR=8.2
NB2 NORSAR Subarra 81.38 337 P **P 18 13 44.7 -1.6**
comp=Z,2.0nm,0.6s,mb3.8,baz=47,slow=5.1
NOA NORSAR Array B 81.38 337 P **P 18 13 45.0 -1.3**
comp=Z,2.9nm,0.6s,mb4.0,baz=46,slow=5.0,SNR=9.4
NOA NORSAR Array B 81.38 337 P **P 18 13 45.0 -1.3**
HRY Holter Researc 81.56 41 *eP* **P 18 13 47.8 +0.5**
HLID Hailey 81.68 45 *eP* **P 18 13 48.5 +0.7**
comp=Z,1.7nm,0.7s,mb3.7
DLMT Dillon 81.83 43 *eP* **P 18 13 49.5 +0.9**
comp=Z,8.3nm,1.1s,mb4.2
BOZ Bozeman (W) 82.25 42 *eP* **P 18 13 51.2 +0.4**
comp=Z,4.5nm,1.0s,mb4.0
FCC Fort Churchill 82.53 25 P **P 18 13 50.1 -2.1**
BRTR Keskin Array B 83.15 312 P **P 18 13 54.9 -0.4**
comp=Z,0.9nm,0.5s,mb3.5,baz=86,slow=3.8,SNR=6.6
BRTR pP pP 18 15 44.8 -0.2
comp=Z,0.7nm,0.7s,baz=116,slow=2.9,SNR=3.5
GCMT Greycliff 83.32 41 *eP* **P 18 13 56.8 +0.7**
IMW Indian Meadow 83.62 43 *eP* **P 18 13 59.2 +1.6**
comp=Z,8.5nm,0.9s,mb4.3
HVU Hansel Valley 83.65 46 *eP* **P 18 13 59.1 +1.3**
comp=Z,8.0nm,0.8s,mb4.3
TPNV Topopah Spring 83.90 51 *eP* **P 18 13 59.0 0.0**
comp=Z,11nm,0.9s,mb4.4
HWUT Hardware Ranch 84.50 45 *eP* **P 18 14 02.7 +0.7**
comp=Z,5.0nm,0.9s,mb4.1
PDAR Pinedale Array 85.09 44 P **P 18 14 05.2 +0.4**
comp=Z,0.2nm,0.3s,mb3.2,baz=316,slow=1.8,SNR=16
PDAR Pinedale Array 85.09 44 P **P 18 14 05.2 +0.4**
PFO Pinyon Flat Ob 85.47 54 *eP* **P 18 14 06.7 0.0**
comp=Z,10nm,0.9s,mb4.5
FRB Frobisher Bay 85.55 12 P **P 18 14 05.7 -1.4**
comp=Z,12nm,0.9s,mb4.5,baz=351,slow=5.7,SNR=3.9
MSU Marysvale 85.80 48 *eP* **P 18 14 09.7 +1.4**
ANMO Albuquerque 91.60 48 P **P 18 14 35.8 +0.4**
comp=Z,3.2nm,0.8s,mb4.3,baz=266,slow=5.2,SNR=8.9
SYO Syowa Base 119.66 204⇓*ep*P 18 20 58.1
DBIC Dimbokro 130.82 310 SKPbc SKPbc 18 23 12.3 -1.0
comp=Z,8.8nm,0.9s,baz=71,slow=2.0,SNR=3.4
SDV Santo Domingo 133.01 42 SKPbc SKPbc 18 23 20.2 -0.8
comp=Z,2.4nm,0.5s,baz=165,slow=0.7,SNR=5.0
LPAZ La Paz 152.05 70 PKPbc PKPbc 18 21 22.1 +1.6
comp=Z,2.4nm,0.7s,baz=300,slow=4.9,SNR=14
LPAZ PKPab PKPab 18 21 32.5 +0.1
comp=Z,1.9nm,0.8s,baz=248,slow=9.7,SNR=5.3
LPAZ La Paz 152.05 70 *e*PKPbc PKPbc 18 21 22.1 +1.6
PLCA Paso Flores 152.74 125 PKPbc PKPbc 18 21 22.2 +0.2
comp=Z,2.4nm,0.6s,baz=222,slow=3.3,SNR=14
PLCA PKPab PKPab 18 21 37.0 +1.8
comp=Z,1.1nm,0.7s,baz=220,slow=7.4,SNR=4.9

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*IDC **27** 18:07:18.5±0.3, 645N×9278E, h0km, mb5.0/41, mb1 5.1/42, mb1mx5.1/43, mbtmp5.0/42, ML5.0/1, MS5.8/24, Ms1 5.8/24, ms1mx5.8/30, Error ellipse: s-maj=14.1km s-min=7.8km az=44.0*
*SZGRF **27** 18:07:20.6, 663N×9329E, h30km, mb5.8, MS5.9, Nicobar Islands, India, region*
*ISCJB **27** 18:07:21.1±0.1, 648N±003×9274E±002, h26km, mb5.6/260, MS6.1/201, Error ellipse: s-maj=4.0km s-min=2.4km az=37.3*
*BJI **27** 18:07:21.0, 639N×9250E, h38km, mB5.9, mb5.3, Ms6.4, Msz6.1*
*MOS **27** 18:07:21.6±1.2, 649N×9279E, h33km, mb6.3/110, MS6.0/72, Error ellipse: s-maj=9.7km s-min=5.4km az=113.3*
*HRVD **27** 18:07:22.7±0.1, 631N×9257E, h12km, MW6.3/113, Centroid moment Tensor Solution. LP body waves: s102, c215; Mantle waves: s113, c470; Half duration: 3s3 Moment tensor: Scale 1018Nm; Mrr2.42±.01; Mθθ0.04±.01; Mφφ-2.47±.01; Mrθ0.36±.03; Mrφ0.75±.01; Mθφ-1.78±.03; Best double couple: M0 3.13000×1018 NP1:φs342.00000°, δ27.00000°, λ85.00000°. NP2:φs167.00000°, δ63.00000°, λ92.00000°. Principal axes: T 3.0040, Plg72.0000°, Azm83.0000°; N 0.2460, Plg2.0000°, Azm346.0000°; P -3.2560, Plg18.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **27** 18:07:22.7±0.1, 650N×9279E, mb5.8/148, ME5.8, MS6.1/134, MW5.9 Error ellipse: s-maj=6.6km s-min=3.5km az=31.0, Moment Tensor Solution. s34 Moment tensor: Scale 1017Nm; Mrr7.27; Mθθ1.81; Mφφ-9.07; Mrθ1.44; Mθφ-2.13; Mφr-4.83; Best double couple: M0 9.90000×1017 NP1:φs174.00000°, δ61.00000°, λ71.00000°. NP2:φs30.00000°, δ34.00000°, λ121.00000°. Principal axes: T 9.1000, Plg68.0000°, Azm46.0000°; N 1.5000, Plg17.0000°, Azm184.0000°; P -10.6000, Plg14.0000°, Azm278.0000°; Energy computed from CMT mechanism.*

ISC 27 18:07:23.4±0.1, 648N±003×9271E±002, h27km, h27km±1.0km; pP-P, n1146, c1923/934, mb5.6/260, MS6.1/201, 96C-73D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PBA	**Port Blair**	**5.14**	**0**	*eP*		x	18 08 13.6	
PBA				*eS*		x	18 09 14.4	
PKT	**Phuket**	**5.66**	**73**	P		**Pn**	**18 08 48.5**	**+2.8**
PSI	**Prapat**	**7.19**	**120**	Pn		**Pn**	**18 09 05.7**	**-1.0**
	26nm,0.3s,baz=318,slow=15,SNR=52							
PSI				Sn		**Sn**	**18 10 29.4**	**+2.0**
	8.1nm,0.3s,baz=22,slow=18,SNR=1.9							
SNG	**Songkhla**	**7.88**	**84**	P		**Pn**	**18 09 19.0**	**+2.9**
	1μm,1.0s							
KULM	**Kulim**	**7.99**	**98**	*e*Pn		**Pn**	**18 09 14.9**	**-2.6**
IPM	**Ipoh**	**8.51**	**103**	P		**Pn**	**18 09 24.0**	**-0.7**
KGM	**Kluang**	**11.47**	**112**	P		**Pn**	**18 10 05.0**	**-0.3**
NST	**Nakhon Sawan**	**11.68**	**38**	P		**Pn**	**18 10 08.0**	**-0.2**
	117nm,0.6s							
PALK	**Pallekele**	**11.95**	**274**	Pn		**Pn**	**18 10 13.0**	**+1.1**
	571nm,0.7s,SNR=5.0							
PALK	**Pallekele**	**11.95**	**274**	⇓P		**Pn**	**18 10 12.4**	**+0.6**
	SNR=5.5							
PALK	**Pallekele**	**11.95**	**274**	*e*Pn		**Pn**	**18 10 10.9**	**-1.0**
PALK				*e*Sn		**Sn**	**18 12 14.4**	**-10**
MDRS	**Chennai**	**13.91**	**299**	*ex*		x	18 10 52.7	
MDRS				*ex*		x	18 10 58.7	
MDRS				*e*S		**Sn**	**18 13 14.3**	**+2.1**
VIS	**Vishakhapatnam**	**14.45**	**321**	*eP*		**Pn**	**18 10 46.2**	**+0.2**
VIS				*i* P			18 10 47.4	
VIS				*ex*		x	18 13 20.6	
UBT	**Ubonrachathani**	**14.89**	**53**	P		**Pn**	**18 10 56.0**	**+4.0**
SALM	**Salem**	**15.22**	**291**	*eP*		**Pn**	**18 10 58.0**	**+1.7**
SALM				*ex*		x	18 13 36.0	
VJD	**Vijayawada**	**15.46**	**311**	*eP*		**Pn**	**18 10 59.0**	**-0.4**
TRD	**Trivandrum**	**15.75**	**278**	*eP*		**Pn**	**18 11 04.9**	**+1.7**
TRD				AMb		AMB	18 11 23.7	
	comp=Z,739nm,1.9s							
TRD				*ex*		x	18 13 48.6	
TRD				*i* S		**Sn**	**18 14 01.0**	**+4.2**
CAL	**Calcutta**	**16.52**	**346**	*eP*		**Pn**	**18 11 16.5**	**+3.5**
CAL				*ex*		x	18 14 40.3	
HYB	**Hyderabad**	**17.59**	**309**	⇓*i*P		**Pn**	**18 11 26.0**	**-0.5**
	comp=Z,240nm,1.0s							
HYB				*e*			18 11 30.5	
HYB				*e*PP			18 11 36.5	
HYB				*e*S		**Sn**	**18 14 44.0**	**+2.4**
HYB				*e*ScS		ScS	18 23 16.0	-2.4
HYB				LR		LR	18 25 28.0	
	comp=Z,80nm,14.0s							
HYB	**Hyderabad**	**17.59**	**309**	⇓*eP*		**Pn**	**18 11 26.0**	**-0.5**
HYB				*e*S		**Sn**	**18 14 43.0**	**+1.4**
HYB				pmax		pmax		
	comp=Z,240nm,1.0s							
HYB	**Hyderabad**	**17.59**	**309**	⇓*eP*		**Pn**	**18 11 26.0**	**-0.5**
	comp=Z,240nm,1.0s							
HYB				*e*			18 11 30.5	
HYB				*e*			18 11 36.5	
HYB				*e*S		**Sn**	**18 14 43.0**	**+1.4**
KSM	**Kuching**	**18.24**	**105**	*e*Pn		**Pn**	**18 11 33.4**	**-1.0**
BOK	**Bokaro**	**18.42**	**340**	*eP*		**Pn**	**18 11 37.9**	**+1.2**
BOK				AMb		AMB	18 12 07.5	
	comp=Z,606nm,1.7s							
BOK				*ex*		x	18 14 49.7	
MNGI	**Mangalore**	**18.76**	**291**	*i* P		**Pn**	**18 11 43.2**	**+2.5**
MNGI				*ex*		x	18 11 58.2	
	comp=Z,363nm,1.2s							
MNGI				*i* x		x	18 15 06.4	
SHL	**Shillong**	**19.00**	**358**	*eP*		**Pn**	**18 11 45.8**	**+2.2**
SHL				*i* S		**Sn**	**18 15 19.0**	**+3.5**
NGP	**Nagpur**	**19.69**	**319**	*eP*		**Pn**	**18 11 52.6**	**+0.7**
NGP				*ex*		x	18 12 19.1	
	comp=Z,860nm,1.5s							
NGP				*e*S		**Sn**	**18 15 32.2**	**-0.1**
LATR	**Latur**	**19.71**	**308**	*ex*		**Pn**	**18 11 50.0**	**-2.2**
LATR				*ex*		x	18 15 08.0	
JBP	**Jabalpur**	**20.63**	**325**	*eP*		**P**	**18 12 03.6**	**+3.0**
JBP				*ex*		x	18 12 21.6	
	comp=Z,592nm,1.4s							
JBP				*e*S		**S**	**18 15 53.1**	**+3.5**
AKL	**Akola**	**20.77**	**314**	*eP*		**P**	**18 12 13.0**	**+11**
AKL				AMb		AMB	18 12 27.4	
	comp=Z,594nm,1.3s							
AKL				*e*S		**S**	**18 16 02.9**	**+10**
QIZ	**Qiongzhong**	**20.82**	**52**	P		**P**	**18 12 03.5**	**+0.8**
QIZ				S		**S**	**18 15 49.0**	**-4.6**
QIZ				SS			18 16 22.0	
QIZ				LR		LR		
	comp=N,105μm,15.6s							
QIZ				LR		LR		
	comp=Z,67μm,11.6s,MS6.2							
KMI	**Kunming**	**20.88**	**26**	P		**P**	**18 12 05.0**	**+1.7**
KMI				AP			18 12 12.0	
KMI				XP		sP	18 12 15.0	+0.8
KMI				PP			18 12 29.3	
KMI				S		**S**	**18 15 54.3**	**-0.4**
KMI				XS		sS	18 16 05.3	-1.2
KMI				PCP		PcP	18 16 14.5	+3.6
KMI				SS			18 16 26.8	
KMI				AMB		AMB		
	comp=Z,70nm,1.0s							
KMI				AMB		AMB		
	comp=Z,3μm,7.3s							
KMI				LR		LR		
	comp=N,69μm,14.1s,MS6.3							
KMI				LR		LR		
	comp=E,65μm,12.9s,MS6.3							
KMI				LR		LR		
	comp=Z,40μm,16.1s,MS5.9							
KAD	**Karad**	**21.06**	**302**	*eP*		**P**	**18 12 08.3**	**+3.1**
KAD				AMb		AMB	18 12 42.0	
	comp=Z,721nm,1.2s,mb5.9							
KAD				*e*S		**S**	**18 16 04.1**	**+5.9**
GTK	**Gangtok**	**21.10**	**350**	*ex*		**P**	**18 12 05.0**	**-0.7**
POO	**Poona**	**21.94**	**305**	⇓*i*P		**P**	**18 12 20.0**	**+5.4**
	comp=Z,500nm,1.8s,mb5.6							
POO				*i* x		x	18 12 47.0	
POO				*i* x		x	18 12 57.0	
POO				*eP*			18 12 57.2	
POO				AMb		AMB	18 13 54.9	
	comp=Z,632nm,1.3s,mb5.9							
POO				*i* S		**S**	**18 16 22.0**	**+6.6**
POO				*e*S		S	18 16 56.1	+41
POO				*i* x		x	18 17 02.0	
POO				*i* x		x	18 17 16.0	
POO				*e*PCS		PcS	18 19 54.0	+2.6
JIRN	**Jiri**	**21.96**	**344**	*eP*		**P**	**18 12 16.6**	**+1.7**
	comp=Z,1μm,1.0s,mb6.3							
PKI	**Pulchoki**	**22.09**	**343**	*eP*		**P**	**18 12 17.7**	**+1.4**
	comp=Z,1μm,1.1s,mb6.3							
DMN	**Daman**	**22.22**	**342**	*eP*		**P**	**18 12 19.3**	**+1.6**
	comp=Z,910nm,1.0s,mb6.2							
BHPL	**Bhopal**	**22.23**	**320**	*eP*		**P**	**18 12 21.0**	**+3.2**
BHPL				*i* P			18 12 21.9	
BHPL				AMb		AMB	18 12 34.5	
	comp=Z,523nm,1.6s,mb5.7							
BHPL				*e*S		**S**	**18 16 26.1**	**+4.9**
GUN	**Gumba**	**22.28**	**344**	*eP*		**P**	**18 12 19.0**	**+0.7**
	comp=Z,2μm,1.0s,mb6.5							
KKN	**Kakani**	**22.34**	**342**	*eP*		**P**	**18 12 20.1**	**+1.2**
	comp=Z,2μm,1.4s,mb6.4							
GKN	**Gorkha**	**22.73**	**341**	*eP*		**P**	**18 12 23.3**	**+0.2**
	comp=Z,3μm,1.4s,mb6.5							
KOLN	**Koldanda**	**22.87**	**339**	*eP*		**P**	**18 12 23.7**	**-0.9**
	comp=Z,2μm,1.4s,mb6.3							
KOLN				*e*S		**S**	**18 16 43.1**	**+10**
BOM	**Bombay**	**22.97**	**304**	*eP*		**P**	**18 12 29.2**	**+3.6**
BOM				*ex*		x	18 12 41.4	
	comp=Z,536nm,1.4s							
BOM				*ex*		x	18 16 13.0	
LSA	**Lhasa**	**23.14**	**357**	*eP*		**P**	**18 12 25.8**	**-1.7**
LSA				pmax		pmax		
	comp=Z,205nm,0.7s,mb5.7							
LSA				MLR		MLR		
	comp=Z,49μm,20.0s,MS6.0							
LSA	**Lhasa**	**23.14**	**357**	*eP*		**P**	**18 12 25.8**	**-1.7**
	comp=Z,205nm,0.7s,mb5.7							
LSA				LR		LR		
	comp=Z,49μm,20.0s,MS6.0							
KKM	**Kota Kinabalu**	**23.37**	**90**	*eP*		**P**	**18 12 29.4**	**-0.4**
GYA	**Guiyang**	**23.91**	**32**	⇑*i*P		**P**	**18 12 32.8**	**-2.1**
GYA				AP			18 12 41.8	
GYA				XP		sP	18 12 46.0	-0.2
GYA				PP			18 13 08.5	
GYA				XS		sS	18 17 02.8	+0.2
GYA				SS			18 17 41.5	
GYA				AMB		AMB		
	comp=Z,200nm,1.4s,mb5.3							
GYA				AMB		AMB		
	comp=Z,3μm,7.8s							
GYA				LR		LR		
	comp=N,52μm,17.6s,MS6.3							
GYA				LR		LR		
	comp=E,61μm,16.7s,MS6.3							
GYA				LR		LR		
	comp=Z,50μm,15.3s,MS6.1							
DGAR	**Diego Garcia**	**24.47**	**236**	PFAKE			18 12 50.0	+10
DGAR				LR		LR		
	comp=Z,39μm,22.0s,MS5.9							
BATP	**Bataraza**	**24.97**	**83**	*eP*		**P**	**18 12 45.5**	**+0.9**
BHV	**Bhavnagar**	**25.01**	**309**	*eP*		**P**	**18 12 50.0**	**+5.1**
LGTI	**Lohaghat**	**25.70**	**334**	*i* P		**P**	**18 12 52.3**	**+1.2**
PTH	**Pithoragarh**	**25.80**	**334**	*eP*		**P**	**18 12 55.9**	**+3.9**
PTH				*ex*		x	18 18 20.1	
GZH	**Guangzhou**	**25.83**	**48**	P		**P**	**18 12 56.8**	**+4.4**
GZH				PP			18 13 37.8	
GZH				LR		LR		
	comp=N,71μm,17.1s,MS6.3							
GZH				LR		LR		
	comp=E,24μm,17.1s,MS6.3							
GZH				LR		LR		
	comp=Z,52μm,19.3s,MS6.1							
PPR	**Puerto Princes**	**25.96**	**81**	⇓*i*P		**P**	**18 13 00.3**	**+6.8**
HKC	**Hong Kong**	**26.01**	**51**	*eP*		**P**	**18 12 56.0**	**+2.1**
AJM	**Ajmer**	**26.31**	**321**	*i* P		**P**	**18 12 59.0**	**+2.4**
CD2	**Chengdu**	**26.42**	**22**	⇓*i*P		**P**	**18 12 57.5**	**-0.2**
CD2				AP		pP	18 13 04.5	-1.2
CD2				XP		sP	18 13 08.0	-1.0
CD2				PP			18 13 40.5	
CD2				S		**S**	**18 17 27.3**	**-2.2**
CD2				SS			18 18 37.0	
CD2				AMB		AMB		
	comp=Z,300nm,1.4s,mb5.6							
CD2				AMB		AMB		
	comp=Z,2μm,10.2s							
CD2				LR		LR		
	comp=E,27μm,16.8s							
CD2				LR		LR		
	comp=Z,28μm,12.0s,MS6.0							
NDI	**New Delhi**	**26.50**	**328**	*ex*		**P**	**18 12 58.0**	**-0.4**
NDI				*e*S		**S**	**18 17 36.0**	**+5.2**
ENPP	**El Nido**	**26.80**	**78**	*eP*		**P**	**18 13 01.8**	**+0.7**
BUSP	**Coron**	**27.67**	**77**	*eP*		**P**	**18 13 09.1**	**+0.2**
BHJ	**Bhuj**	**27.76**	**309**	⇑*eP*		**P**	**18 13 12.4**	**+2.8**
BHJ				*e*S		**S**	**18 17 56.9**	**+6.3**
LUBP	**Lubang**	**28.03**	**73**	*eP*		**P**	**18 13 11.4**	**-0.7**
CUYO	**Cuyo Island**	**28.31**	**79**	*eP*		**P**	**18 13 16.1**	**+1.5**
SMLA	**Simla**	**28.52**	**331**	*eP*		**P**	**18 13 19.9**	**+3.4**
SMLA				AMb		AMB	18 13 32.6	
	comp=Z,338nm,1.3s,mb5.9							
TGY	**Tagaytay City**	**28.76**	**72**	P		**P**	**18 13 21.6**	**+3.0**
	comp=Z,112nm,0.5s,baz=252,slow=4.4,SNR=10							
TGY				LR		LR	18 24 46.1	
	comp=Z,154nm,18.4s,baz=85,slow=36							
BCPH	**Baguio City Da**	**29.00**	**68**	⇓*eP*		**P**	**18 13 21.9**	**+1.2**
BHK	**Bhakra**	**29.12**	**330**	*ex*		**P**	**18 13 30.2**	**+8.4**
KAPI	**Kappang**	**29.31**	**112**	P		**P**	**18 13 22.4**	**-1.1**
	comp=Z,894nm,1.5s,mb6.3,SNR=12							
BOAC	**Boac**	**29.50**	**74**	*eP*		**P**	**18 13 25.1**	**0.0**
ABRA	**Dolores**	**29.50**	**65**	*eP*		**P**	**18 13 26.4**	**+1.3**
KALP	**Kalibo**	**29.69**	**78**	⇑*i*P		**P**	**18 13 32.0**	**+5.1**
BALP	**Baler**	**29.75**	**70**	*eP*		**P**	**18 13 28.4**	**+1.0**
POLP	**Polilio Island**	**29.84**	**72**	*eP*		**P**	**18 13 28.1**	**-0.1**
APYP	**Conner**	**30.05**	**65**	*eP*		**P**	**18 13 30.5**	**+0.5**
RCP	**Roxas**	**30.07**	**78**	*eP*		**P**	**18 13 31.4**	**+1.1**
DLH	**Dalhousie**	**30.26**	**331**	*eP*		**P**	**18 13 37.0**	**+5.1**
AUQP	**San Andres**	**30.27**	**75**	*eP*		**P**	**18 13 35.0**	**+3.0**
CAUP	**Cauayan**	**30.30**	**67**	*eP*		**P**	**18 13 32.9**	**+0.6**
SNPH	**Sibulan**	**30.36**	**83**	*i* P		**P**	**18 13 31.5**	**-1.3**
PAGZ	**Pagadian**	**30.46**	**86**	*eP*		**P**	**18 13 35.8**	**+2.1**
CVP	**Callao Caves**	**30.52**	**66**	*eP*		pP	18 13 45.0	+2.7
QZH	**Quanzhou**	**30.84**	**51**	⇑*i*P		**P**	**18 13 38.5**	**+1.5**
QZH				S		**S**	**18 18 43.0**	**+4.0**
QZH				LR		LR		
	comp=N,45μm,13.8s,MS6.7							
QZH				LR		LR		
	comp=E,105μm,13.0s,MS6.7							
QZH				LR		LR		
	comp=Z,149μm,13.6s,MS6.8							
TBP	**Tagbilaran**	**31.00**	**82**	*eP*		pP	18 13 47.5	+1.0
LLP	**Lapu-Lapu**	**31.14**	**81**	*eP*		**P**	**18 13 38.4**	**-1.3**
LZH	**Lanzhou**	**31.18**	**18**	⇑P		**P**	**18 13 39.8**	**-0.3**
LZH				AP		pP	18 13 47.0	-1.1
LZH				XP		sP	18 13 50.5	-1.0
LZH				PP		PP	18 14 43.0	-7.7
LZH				PCP		PcP	18 16 34.3	-0.2
LZH				S		**S**	**18 18 43.5**	**-0.9**
LZH				SCP		ScP	18 20 14.5	-1.0
LZH				PCS		PcS	18 20 17.8	-0.9
LZH				SS		SS	18 20 29.5	-29
LZH				SCS		ScS	18 24 10.3	-2.5
LZH				AMB		AMB		
	comp=Z,120nm,1.2s,mb5.6							
LZH				AMB		AMB		
	comp=Z,1μm,7.3s							
LZH				LR		LR		
	comp=E,29μm,13.9s							
LZH				LR		LR		
	comp=Z,49μm,17.2s,MS6.2							
XAN	**Xi'an**	**31.26**	**27**	P		**P**	**18 13 37.0**	**-3.7**
XAN				S		**S**	**18 18 53.0**	**+7.4**
XAN				LR		LR		
	comp=N,26μm,19.3s,MS6.2							
XAN				LR		LR		
	comp=E,42μm,18.4s,MS6.2							
XAN				LR		LR		
	comp=Z,57μm,14.3s,MS6.4							
WHN	**Wuhan**	**31.40**	**38**	⇓P		**P**	**18 13 42.5**	**+0.5**
WHN				S		**S**	**18 18 55.5**	**+7.7**
WHN				LR		LR		
	comp=Z,91μm,13.5s,MS6.6							
PVCP	**Virac**	**31.73**	**75**	*eP*		**P**	**18 13 38.9**	**-6.0**
BUKP	**Musuan**	**32.12**	**86**	*eP*		**P**	**18 13 48.3**	**0.0**
PLP	**Palo**	**32.21**	**79**	*eP*		**P**	**18 13 50.1**	**+1.1**
DMPH	**Davao City--Mi**	**32.57**	**87**	⇓*i*P		**P**	**18 13 54.3**	**+2.1**
DAV	**Davao City (W)**	**32.64**	**87**	*eP*		**P**	**18 13 54.6**	**+1.8**
	comp=Z,418nm,0.8s,mb6.4							
DAV				LR		LR		
	comp=Z,26μm,19.0s,MS6.0							
NACB	**Ninganchiao**	**32.83**	**54**	*eP*		**P**	**18 13 54.3**	**-0.2**
YHNB	**Yeheng**	**32.88**	**53**	*eP*		**P**	**18 13 56.0**	**+1.1**
TATO	**Taipei**	**33.12**	**53**	⇑P		**P**	**18 13 59.3**	**+2.3**
	SNR=5.4							
TATO	**Taipei**	**33.12**	**53**	*eP*		**P**	**18 13 58.5**	**+1.5**
	comp=Z,416nm,1.3s,mb6.2							
MATI	**Matì**	**33.31**	**87**	*eP*		**P**	**18 13 59.3**	**+0.6**
GTA	**Gaotai**	**33.41**	**10**	*eP*		**P**	**18 13 58.0**	**-1.5**
GTA				AP		pP	18 14 05.3	-2.3
GTA				S		**S**	**18 19 25.8**	**+6.8**
GTA				XS		sS	18 19 35.3	+3.0
GTA				SCS		ScS	18 24 23.0	-1.0
GTA				AMB		AMB		
	comp=Z,1μm,8.4s							
GTA				LR		LR		
	comp=N,9μm,19.4s,MS5.7							
GTA				LR		LR		
	comp=E,14μm,22.4s,MS5.7							
GTA				LR		LR		
	comp=Z,14μm,16.0s							
BIPH	**Bislig**	**33.41**	**85**	⇑*i*P		**P**	**18 13 59.0**	**-0.6**
NJ2	**Nanjing**	**35.24**	**40**	*eP*		**P**	**18 14 16.5**	**+1.0**
NJ2				AP		pP	18 14 23.0	-0.6
NJ2				XP		sP	18 14 26.8	-0.1
NJ2				PP		PP	18 15 35.5	-0.1
NJ2				S		**S**	**18 19 46.0**	**-1.4**
NJ2				XS		sS	18 20 02.0	+1.2
NJ2				AMB		AMB		
	comp=Z,90nm,1.0s,mb5.7							
NJ2				AMB		AMB		
	comp=Z,1μm,11.8s							
NJ2				LR		LR		
	comp=N,56μm,14.0s,MS6.6							
NJ2				LR		LR		
	comp=E,59μm,16.1s,MS6.6							
NJ2				LR		LR		
	comp=Z,25μm,13.7s,MS6.1							
KSH	**Kashi**	**36.18**	**338**	*eP*		**P**	**18 14 17.8**	**-5.7**
KSH				*e*PCP		PcP	18 16 48.8	+0.1
KSH				*e*SCP		ScP	18 20 31.5	-1.6
KSH				*e*PCS		PcS	18 20 34.0	-2.3
KSH				*e*SCS		ScS	18 24 34.5	-4.4
KSH				AMB		AMB		
	comp=Z,20nm,0.3s,mb5.5							
KSH				AMB		AMB		
	comp=Z,740nm,3.6s							
KSH				LR		LR		
	comp=N,46μm,16.0s,MS6.5							
KSH				LR		LR		
	comp=E,30

SNR=5.4
BIDO Bidbid 37.31 301 ⇓P **P 18 14 34.6 +1.5**
SNR=7.1
BTO Baotou 37.35 22 *e*P **P 18 14 32.3 -1.1**
BTO LR LR
comp=N,36μm,14.2s,MS6.4
BTO LR LR
comp=E,35μm,15.2s,MS6.4
WMQ Urumqi 37.45 354 P **P 18 14 34.5 +0.2**
WMQ AP pP 18 14 45.0 +2.5
WMQ PP PP 18 16 02.8 +2.8
WMQ PCP PcP 18 16 53.0 +0.5
WMQ S **S 18 20 21.0 -0.1**
WMQ XS sS 18 20 37.8 +3.2
WMQ SS SS 18 22 54.3 -12
WMQ SCS ScS 18 24 43.3 -2.7
WMQ AMB AMB
comp=Z,80nm,2.3s,mb5.1
WMQ AMB AMB
comp=Z,1μm,5.2s
WMQ LR LR
comp=N,22μm,14.0s,MS6.2
WMQ LR LR
comp=E,22μm,15.5s,MS6.2
WMQ LR LR
comp=Z,14μm,19.0s,MS5.8
BSY Bisya 37.83 299 ⇓P **P 18 14 38.9 +1.4**
SNR=7.3
HOQ Hoqain 38.03 300 P **P 18 14 45.2 +6.0**
SNR=9.8
HHC Hu-ho-hao-te 38.15 23 *e*P **P 18 14 41.0 +0.8**
HHC AP pP 18 14 48.5 +0.1
HHC XP sP 18 14 51.8 +0.1
HHC PP PP 18 16 11.5 +3.9
HHC PCP PcP 18 16 56.0 +1.4
HHC S **S 18 20 30.8 -0.9**
HHC PCS PcS 18 20 44.5 +0.9
HHC SS SS 18 23 08.0 -11
HHC SCS ScS 18 24 49.5 -0.5
HHC AMB AMB
comp=Z,60nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,1μm,5.5s
HHC LR LR
comp=N,19μm,14.9s,MS6.4
HHC LR LR
comp=E,43μm,15.7s,MS6.4
HHC LR LR
comp=Z,21μm,16.5s,MS6.0
MBWA Marble Bar 38.18 137 *e*P **P 18 14 39.8 -0.7**
comp=Z,161nm,1.5s,mb5.5
ULHL Ulahol 38.50 340 P **P 18 14 48.1 +5.0**
SNR=7.8
ARQ Araqi 38.62 300 ⇑P **P 18 14 50.2 +6.1**
SNR=6.8
KZA Kyzart 38.69 339 P **P 18 14 42.5 -2.3**
SNR=22
UCH Uchtor 39.09 338 P **P 18 14 48.2 +0.2**
SNR=45
AAA Alma-Ata 39.19 342 *e*P **P 18 14 51.0 +2.1**
AAA *e*S **S 18 20 55.5 +8.1**
AAA pmax pmax
comp=Z,21μm,4.0s
AAA smax
comp=E,55μm,6.5s
AAA MLR MLR
comp=Z,259μm,18.0s,MS7.1
KBK Karagaybulak 39.30 339 P **P 18 14 49.9 0.0**
SNR=54
AML Almayashu 39.31 338 P **P 18 14 50.4 +0.4**
SNR=24
TKM2 Tokmak 2 39.31 340 P **P 18 14 51.1 +1.1**
SNR=26
JOW Kunigami 39.41 55 P **P 18 14 51.4 +0.6**
comp=Z,38nm,0.8s,mb5.1,baz=236,slow=5.6,SNR=6.4
AAK Ala-Archa 39.45 339 P **P 18 14 53.3 +2.2**
SNR=24
AAK Ala-Archa 39.45 339 P **P 18 14 51.2 +0.1**
comp=Z,653nm,1.2s,mb6.2,SNR=21
FRU Bishkek 39.58 339 *e*P **P 18 14 54.0 +1.8**
FRU *e* 18 21 00.0
FRU pmax pmax
comp=Z,840nm,2.0s,mb6.1
FRU MLR MLR
comp=Z,39μm,18.0s,MS6.3
CHMS Chumysh 39.67 339 P **P 18 14 53.9 +0.9**
SNR=19
EKS2 Erkin-Say 39.73 338 P **P 18 14 53.4 -0.1**
SNR=22
USP Ospenovka 40.00 339 P **P 18 14 54.7 -0.9**
SNR=27
FITZ Fitzroy Crossi 40.65 127 *e*P **P 18 14 59.4 -1.7**
comp=Z,121nm,0.8s,mb5.6
FITZ *e*S **S 18 21 14.7 +5.4**
FITZ Fitzroy Crossi 40.65 127 P **P 18 14 59.7 -1.4**
comp=Z,25nm,0.9s,mb4.8,baz=322,slow=8.0,SNR=14
MK31 Makanchi Array 41.16 349 P **P 18 15 04.3 -0.9**
MK31 pmax pmax
comp=Z,59nm,1.0s,mb5.2
MKAR Makanchi Array 41.16 349 P **P 18 15 03.6 -1.6**
comp=Z,15nm,0.9s,mb4.6,baz=167,slow=7.4,SNR=33
KK31 Karatay Array 41.40 335 *i* P **P 18 15 06.5 -0.7**
KKAR Karatay Array 41.40 335 *i* P **P 18 15 06.4 -0.8**
KKAR pmax pmax
comp=Z,109nm,0.9s,mb5.5
DL2 Dalian 41.52 35 ⇑*i*P **P 18 15 09.5 +1.3**
DL2 PCP PcP 18 17 07.3 +1.9
DL2 S **S 18 21 26.8 +4.7**
DL2 XS sS 18 21 41.0 +5.3
DL2 AMB AMB
comp=Z,70nm,1.1s,mb5.2
DL2 AMB AMB
comp=Z,500nm,5.2s
DL2 LR LR
comp=N,10μm,15.2s,MS5.9
DL2 LR LR
comp=E,10μm,15.3s,MS5.9
DL2 LR LR
comp=Z,12μm,16.6s,MS5.8
SONM Songino Array 42.83 14 P **P 18 15 17.6 -1.3**
comp=Z,45nm,0.9s,mb5.2,baz=194,slow=9.0,SNR=33
SONM LR LR 18 35 13.1
comp=Z,20μm,19.4s,MS6.0,baz=191,slow=39
ULN Ulaanbaatar 43.02 14 P **P 18 15 20.7 +0.2**
SNR=33
ULN Ulaanbaatar 43.02 14 *i* P **P 18 15 18.8 -1.6**
ULN Ulaanbaatar 43.02 14 *e*P **P 18 15 18.8 -1.7**
ULN LR LR
comp=Z,21μm,19.0s,MS6.0
INCN Inchon 43.62 40 P **P 18 15 25.7 +0.4**
SNR=18
INCN Inchon 43.62 40 *e*P **P 18 15 24.5 -0.8**
comp=Z,156nm,1.3s,mb5.6
KAKA Kakadu 43.84 116 *e*P **P 18 15 29.6 +2.5**
comp=Z,28nm,0.6s,mb5.2
ABKT Ailbek 44.32 320 P **P 18 15 31.0 +0.1**
comp=Z,940nm,0.7s,mb6.6,SNR=22
MUN Mundaring 44.33 151 *e*P **P 18 15 32.9 +2.0**
MUN *e*S **S 18 22 14.9 +12**
VAN Vannovskaya 44.34 320 *e*P **P 18 15 31.1 +0.1**
SNY Shenyang 44.60 33 ⇑P **P 18 15 32.0 -1.2**
SNY AP pP 18 15 40.5 -1.0
SNY XP sP 18 15 45.3 +0.5
SNY PP PP 18 17 22.5 +5.0
SNY S **S 18 22 06.5 -0.9**
SNY AMB AMB
comp=Z,30nm,1.4s,mb4.9
SNY AMB AMB
comp=Z,2μm,13.3s
SNY LR LR
comp=N,20μm,16.3s,MS6.3
SNY LR LR
comp=E,23μm,13.5s,MS6.3
SNY LR LR
comp=Z,18μm,14.4s,MS6.1
ZAK Zakamensk 44.64 10 *e*P **P 18 15 34.2 +0.7**
ZAK pmax pmax
comp=Z,123nm,1.4s,mb5.5
ZAK pmax pmax
comp=Z,88nm,1.6s,mb5.3
KLBR Kellerberrin 44.78 149 *e*P **P 18 15 38.4 +3.8**
comp=Z,30nm,0.8s,mb5.2
MOY Mondy 45.56 7 *e*P **P 18 15 41.2 +0.4**
MOY pmax pmax
comp=Z,138nm,2.1s,mb5.5
NWAO Narrogin (SRO) 45.60 151 P **P 18 15 44.3 +3.3**
comp=Z,28nm,1.0s,mb5.2,baz=308,slow=1.6,SNR=6.0
KURK Kurchatov 45.63 347 P **P 18 15 40.9 -0.5**
comp=Z,751nm,1.2s,mb6.5,SNR=18
KURK Kurchatov 45.63 347 P **P 18 15 40.5 -0.9**
SNR=110
KURK Kurchatov 45.63 347 P **P 18 15 41.2 -0.2**
KURK pmax pmax
comp=Z,195nm,1.4s,mb5.8
KURK Kurchatov 45.63 347 *e*P **P 18 15 39.3 -2.0**
comp=Z,540nm,1.6s,mb6.2
KURK LR LR
comp=Z,27μm,19.0s,MS6.2
TLY Talaya 45.96 9 P **P 18 15 44.0 +0.1**
comp=Z,502nm,0.9s,mb6.5,SNR=12
TLY Talaya 45.96 9 P **P 18 15 44.0 +0.1**
SNR=80
TLY Talaya 45.96 9 *e*P **P 18 15 44.7 +0.8**
TLY *e* 18 17 37.6
TLY *e*S **S 18 22 32.4 +5.4**
TLY pmax pmax
comp=Z,83nm,0.9s,mb5.7
TLY MLR MLR
comp=Z,12μm,18.0s,MS5.9
TLY Talaya 45.96 9 *e*P **P 18 15 44.5 +0.6**
comp=Z,101nm,1.0s,mb5.7
TLY LR LR
comp=Z,13μm,20.0s,MS5.9
IRK Irkutsk 46.60 10 *e*P **P 18 15 50.1 +1.1**
IRK *e* 18 25 55.8
IRK pmax pmax
comp=Z,301nm,2.1s,mb5.9
CN2 Changchun 46.96 32 *e*P **P 18 15 53.0 +1.2**
CN2 *e*AP pP 18 16 03.0 +2.9
CN2 *e*S **S 18 22 41.5 +0.2**
CN2 AMB AMB
comp=Z,30nm,1.4s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,16μm,16.0s,MS6.2
CN2 LR LR
comp=E,10μm,16.0s,MS6.2
CN2 LR LR
comp=Z,17μm,16.0s,MS6.1
ZAL Zalesovo 47.75 354 P **P 18 15 57.2 -0.7**
comp=Z,8.9nm,0.7s,mb4.9,baz=307,slow=7.4,SNR=32
ZAL S **S 18 22 57.1 +4.5**
comp=Z,1.0nm,0.8s,baz=270,slow=10,SNR=1.6
ZAL Zalesovo 47.75 354 P **P 18 15 57.2 -0.7**
ZAL S **S 18 22 57.0 +4.5**
RDF Al-Radifah 48.08 303 *e*P **P 18 16 00.4 0.0**
HIA Hailar 48.35 23 *e*P **P 18 16 00.7 -1.9**
HIA pmax pmax
comp=Z,147nm,1.0s
HIA MLR MLR
comp=Z,18μm,20.0s
HIA Hailar 48.35 23 *e*P **P 18 16 00.7 -1.9**
comp=Z,147nm,1.0s,mb6.0
HIA LR LR
comp=Z,18μm,20.0s,MS6.1
NAY Al-Naaiem 48.43 304 *e*P **P 18 16 03.6 +0.4**
MIB Mutribah 48.53 304 *e*P **P 18 16 03.9 -0.1**
MIB AMb AMB 18 16 14.1
comp=Z,103nm,1.1s,mb5.8
CIT Chita 48.55 17 *e*P **P 18 16 02.6 -1.5**
CIT pmax pmax
comp=Z,188nm,2.2s,mb5.7
WRA Warramunga Arr 48.64 124 P **P 18 16 03.1 -1.7**
comp=Z,26nm,1.0s,mb5.2,baz=325,slow=12,SNR=124
WRA S **S 18 23 05.4 +0.2**
comp=Z,5.3nm,1.1s,baz=298,slow=15,SNR=6.6
WRA LR LR 18 39 27.6
comp=Z,24μm,20.7s,MS6.2,baz=305,slow=40
WRA Warramunga Arr 48.64 124 P **P 18 16 03.1 -1.7**
WRA S **S 18 23 05.4 +0.2**
WRAB Tennant Creek 48.65 124 P **P 18 16 03.0 -1.8**
comp=Z,624nm,0.8s,mb6.7,SNR=26
WRAB Tennant Creek 48.65 124 *i* P **P 18 16 03.3 -1.5**
WRAB Tennant Creek 48.65 124 *e*P **P 18 16 02.5 -2.3**
comp=Z,226nm,0.9s,mb6.2
WRAB LR LR
comp=Z,32μm,20.0s,MS6.3
WB2 Warramunga Arr 48.65 124 ⇑*i*P **P 18 16 03.2 -1.7**
WB2 *e*S **S 18 23 06.7 +1.4**
RST Umm Al-Ruwaisa 48.72 304 *e*P **P 18 16 05.2 -0.2**
RST AMb AMB 18 16 21.8
comp=Z,150nm,1.6s,mb5.8
NVS Novosibirsk 48.82 353 *e*P **P 18 16 06.3 +0.1**
NVS *i* S **S 18 23 08.8 +1.1**
NVS pmax pmax
comp=N,332nm,2.0s
NVS pmax pmax
comp=E,102nm,2.0s
NVS pmax pmax
comp=Z,221nm,2.0s,mb5.8
NVS smax
comp=N,112nm,1.8s
NVS smax
comp=E,182nm,1.8s
KRAR Krasnoyarsk 49.40 0 *i* P **P 18 16 07.5 -3.1**
VOSK Vostochnaya 49.43 343 P **P 18 16 09.3 -1.5**
VOSK pmax pmax
comp=Z,107nm,1.1s,mb5.8
ATD Arta Tunnel 49.45 280 LR LR 18 33 16.1
comp=Z,6μm,21.7s,MS5.5,baz=92,slow=32
MDJ Mudanjiang 49.75 34 P **P 18 16 13.5 +0.2**
MDJ AP pP 18 16 21.8 +0.2
MDJ XP sP 18 16 26.5 +1.6
MDJ PCP PcP 18 17 32.5 -1.5
MDJ PP PP 18 18 09.0 +1.1
MDJ SCP ScP 18 21 26.5 -1.1
MDJ S **S 18 23 23.8 +3.1**
MDJ XS sS 18 23 40.8 +6.3
MDJ SCS ScS 18 26 02.0 -0.9
MDJ AMB AMB
comp=Z,30nm,1.2s,mb5.2
MDJ AMB AMB
comp=Z,1μm,5.4s
MDJ LR LR
comp=N,17μm,13.5s,MS6.4
MDJ LR LR
comp=E,22μm,13.5s,MS6.4
MDJ LR LR
comp=Z,16μm,13.5s,MS6.2
MDJ Mudanjiang 49.75 34 *e*P **P 18 16 13.4 +0.2**
comp=Z,221nm,1.4s,mb6.0
MDJ LR LR
comp=Z,11μm,19.0s,MS5.9
BVA0 Borovoye Array 49.86 343 *i* P **P 18 16 12.5 -1.7**
BVA0 pmax pmax
comp=Z,43nm,1.6s,mb5.2
BVAR Borovoye Array 49.86 343 P **P 18 16 13.6 -0.5**
comp=Z,21nm,0.9s,mb5.2,baz=148,slow=10,SNR=21
BRVK Borovoye 49.92 342 P **P 18 16 14.6 0.0**
comp=Z,358nm,0.8s,mb6.5,SNR=8.9
BRVK Borovoye 49.92 342 P **P 18 16 14.6 0.0**
SNR=32
BRVK Borovoye 49.92 342 *e*P **P 18 16 13.5 -1.1**
comp=Z,60nm,1.1s,mb5.5
BRVK LR LR
comp=Z,12μm,19.0s,MS5.9
ASPA Alice Springs 50.14 128 ⇑*i*P **P 18 16 14.2 -2.1**
ASPA *e*S **S 18 23 27.6 +1.4**
ASAR Alice Springs 50.14 128 P **P 18 16 14.3 -2.0**
comp=Z,28nm,0.8s,mb5.4,baz=300,slow=7.6,SNR=70
ASAR S **S 18 23 36.2 +10**
comp=Z,3.9nm,1.0s,baz=290,slow=14,SNR=4.9
AS31 Alice Springs 50.14 128 ⇑*i*P **P 18 16 14.2 -2.1**
AS31 *e*S **S 18 23 27.6 +1.4**
FORT Forrest 50.17 140 *e*P **P 18 16 17.2 +0.7**
comp=Z,334nm,1.1s,mb6.3
VLA Vladivostok 50.18 37 *d*i P **P 18 16 17.5 +0.9**
VLA *e**PP pP 18 16 23.7 -1.2
VLA *e*S **S 18 23 35.8 +9.0**
VLA pmax pmax
comp=Z,44nm,1.4s,mb5.3
VLA Vladivostok 50.18 37 *i* P **P 18 16 17.4 +0.8**
ZRNK Zerenda 50.23 342 P **P 18 16 14.8 -2.1**
ZRNK pmax pmax
comp=Z,258nm,2.1s,mb5.9
ZRNK Zerenda 50.23 342 *e*P **P 18 16 14.5 -2.4**
comp=Z,67nm,1.0s,mb5.6
AB31 Akbulak array 50.79 333 *i* P **P 18 16 19.6 -1.6**
AB31 pmax pmax
comp=Z,100nm,0.3s,mb6.2
MAJO Matsushiro 51.14 48 ⇑*e*P **P 18 16 22.8 -1.0**
MAJO pmax pmax
comp=Z,195nm,1.8s,mb5.7
MAJO Matsushiro 51.14 48 ⇑*e*P **P 18 16 22.8 -1.0**
comp=Z,195nm,1.8s,mb5.7
MAT Matsushiro 51.14 48 P **P 18 16 31.5 +7.7**
MAT S **S 18 23 44.0 +3.9**
MJAR Matsushiro Arr 51.14 48 P **P 18 16 25.1 +1.3**
comp=Z,3.8nm,0.7s,baz=227,slow=6.2
MJAR LR LR 18 41 20.6
comp=Z,11μm,18.9s,MS5.9,baz=235,slow=40
BHD Baghdad 52.07 307 *ex* x 18 16 30.0
BHD *ex* x 18 23 51.0
BHD *ex* x 18 24 08.0
AKTK Aktyubinsk 52.51 333 P **P 18 16 33.4 -0.6**
AKTO Aktyubinsk 52.51 333 P **P 18 16 33.4 -0.6**
comp=Z,14nm,0.8s,mb5.0,baz=130,slow=8.6,SNR=18
AKTO Aktyubinsk 52.51 333 P **P 18 16 33.6 -0.4**
AKTO pmax pmax
comp=Z,85nm,1.8s,mb5.4
KLR Kul'dur 53.80 31 *e*P **P 18 16 40.8 -2.7**
KLR *e*S **S 18 24 19.0 +2.6**
KLR *e*SS SS 18 27 57.5 +0.1
KLR pmax pmax
comp=N,600nm,11.0s
KLR pmax pmax
comp=Z,2μm,11.0s
KLR MLR MLR
comp=N,16μm,13.5s
KLR MLR MLR
comp=Z,32μm,13.5s,MS6.5
BOD Bodaibo 53.83 14 *e*P **P 18 16 39.8 -3.9**
BOD pmax pmax
comp=Z,159nm,0.9s,mb6.0
MAK Makhachkala 53.84 320 *e*P **P 18 16 37.0 -6.8**
MAK *e* 18 17 53.2
MAK *e*PPP 18 19 58.6
MAK *e*S **S 18 24 09.3 -7.6**
MAK *e* 18 26 24.6
MAK *e*SS SS 18 27 54.7 -3.3
MAK pmax pmax
comp=Z,47nm,0.5s,mb5.7
MAK smax
comp=N,48nm,0.5s
MAK smax
comp=E,28nm,0.4s
CUKT Cukurca 54.08 312 *e*P **P 18 16 47.3 +1.8**
MSL Mosul 54.12 311 *ex* x 18 16 44.0
MSL *ex* x 18 24 11.0
GNI Garni 54.41 316 P **P 18 16 48.9 +0.9**
comp=E,22nm,0.9s,mb5.1,baz=324,slow=13,SNR=7.7
GNI Garni 54.41 316 P **P 18 16 49.4 +1.4**
SNR=23
GNI Garni 54.41 316 *e*P **P 18 16 49.6 +1.6**
GNI LR LR
comp=Z,6μm,20.0s,MS5.7
DGRG David-gareji 54.54 317 P **P 18 16 50.7 +1.8**
CLDR Caldiran 54.58 314 *e*P **P 18 16 51.0 +1.8**
VANB Van 54.75 313 *e*P **P 18 17 00.3 +10**
ORR Orenburg 54.82 332 ⇓*i*P **P 18 16 49.9 -1.0**
ORR S **S 18 24 26.1 -4.1**
ORR pmax pmax
comp=Z,150nm,1.8s,mb5.7
MTA Mtatsminda 55.04 317 P **P 18 16 51.0 -1.5**
HABR Khabarovsk 55.08 33 *e*P **P 18 16 53.1 +0.3**
HABR *e*S **S 18 24 38.3 +4.7**
HABR pmax pmax
comp=Z,107nm,1.3s,mb5.7
HABR MLR MLR
comp=Z,10μm,17.0s,MS6.0
TBLG Delisi 55.09 317 P **P 18 16 52.6 -0.2**
TBLG Delisi 55.09 317 *e*P **P 18 16 53.2 +0.3**
AKH Akhalkalaki 55.80 316 P **P 18 16 51.0 -7.0**
KMBO Kilima Mbogo 55.87 264 P **P 18 16 59.4 +0.9**
comp=Z,4.8nm,0.8s,mb4.6,baz=55,slow=13,SNR=7.9
KMBO LR LR 18 36 46.1
comp=Z,16μm,21.6s,MS6.1,baz=81,slow=32
KMBO Kilima Mbogo 55.87 264 P pP 18 17 11.6 +4.7
SNR=13
KMBO Kilima Mbogo 55.87 264 *e*P **P 18 17 00.0 +1.5**
KMBO Kilima Mbogo 55.87 264 *e*P **P 18 16 58.9 +0.5**
comp=Z,27nm,1.0s,mb5.2
KMBO LR LR
comp=Z,12μm,22.0s,MS5.9
BTMT Batman 55.98 312 *e*P pP 18 17 06.8 -1.0
NRGR Nerungri 56.03 21 *e*P **P 18 17 01.3 +1.7**
NRGR S **S 18 24 43.2 -3.1**
NRGR pmax pmax
comp=Z,51nm,0.6s,mb5.7
NRGR smax
comp=E,7.0nm,0.3s
ZEI Tsey 56.10 318 *e*P **P 18 17 04.2 +4.0**
ZEI pmax pmax
comp=Z,39nm,1.1s,mb5.3
MARD Mardin 56.21 311 *i* P **P 18 17 00.3 -0.6**
CLNS Chul'man 56.23 21 *e*P **P 18 16 59.7 -1.4**
CLNS *e**PP pP 18 17 05.5 -4.0
CLNS *e*S **S 18 24 45.1 -3.9**
CLNS *e*SS SS 18 28 29.8 -5.9
CLNS pmax pmax
comp=N,41nm,1.1s
CLNS pmax pmax
comp=Z,70nm,1.1s,mb5.6
CLNS pmax pmax
comp=E,33nm,1.0s
CLNS smax
comp=N,978nm,12.1s
CLNS smax
comp=Z,902nm,12.2s
CLNS smax
comp=E,2μm,13.3s
CLNS MLR MLR
comp=Z,17μm,14.0s,MS6.3
CLNS MLR MLR
comp=N,29μm,16.0s,MS6.6
CLNS MLR MLR
comp=E,23μm,16.0s,MS6.6
PMG Port Moresby 56.50 106 P **P 18 17 02.4 -0.6**
comp=E,45nm,0.7s,mb5.6,baz=286,slow=7.4,SNR=5.6
PMG Port Moresby 56.50 106 *i* P **P 18 17 02.5 -0.5**
PMG Port Moresby 56.50 106 *e*P **P 18 17 01.1 -1.9**
comp=E,79nm,0.8s,mb5.8
PMG LR LR
comp=Z,17μm,21.0s,MS6.1
AMRG 56.50 318 P **P 18 17 08.3 +5.3**
ARU Arti 56.63 338 P **P 18 17 03.8 -0.1**
comp=Z,562nm,1.2s,mb6.5,SNR=8.6
ARU Arti 56.63 338 ⇓*i*P **P 18 17 02.5 -1.4**
ARU *e* 18 17 53.1
ARU *e* 18 19 06.2
ARU *e*PPP 18 20 26.3
ARU *e*S **S 18 24 55.4 +1.1**
ARU *e* 18 26 49.7
ARU *e*SS SS 18 28 37.3 -4.7
ARU *e*SSS 18 30 52.4
ARU pmax pmax
comp=Z,131nm,1.2s,mb5.8
ARU MLR MLR
comp=Z,19μm,19.0s,MS6.2
ARU MLR MLR
comp=N,9μm,18.0s,MS6.2
ARU MLR MLR
comp=E,17μm,18.0s,MS6.2
ARU Arti 56.63 338 *e*P **P 18 17 01.8 -2.1**
comp=E,130nm,1.1s,mb5.9
ARU LR LR
comp=Z,20μm,20.0s,MS6.2
EZM Erzurum 56.70 314 *e*P **P 18 17 09.1 +4.7**
ARTV Artvin 56.79 316 *i* P **P 18 17 09.5 +4.5**
BINT Bingol 56.96 313 *e*P pP 18 17 17.0 +2.3
BCA Borcka 57.10 316 *e*P **P 18 17 11.9 +4.6**
ASAJ Asahikawa 57.39 41 P **P 18 17 09.9 +0.6**
comp=Z,19nm,0.8s,mb5.2,baz=253,slow=8.5,SNR=12
ASAJ Asahikawa 57.39 41 P **P 18 17 09.9 +0.6**
ASAJ pmax pmax
comp=Z,190nm,0.8s
KIV Kislovodsk 57.41 319 P **P 18 17 09.0 -0.4**
comp=Z,332nm,0.9s,mb6.4,SNR=10
KIV Kislovodsk 57.41 319 *e*P **P 18 17 09.1 -0.3**
KIV *e* 18 18 01.1
KIV *e* 18 19 18.5
KIV *e*PPP 18 20 35.5
KIV *e*S **S 18 25 06.5 +1.9**
KIV pmax pmax
comp=Z,117nm,1.2s,mb5.8
KIV pmax pmax

comp=Z,477nm,4.3s
GOF Gofitskoye 57.67 320 *e*P **P 18 17 10.7 -0.5**
GOF *e*S **S 18 25 11.2 +3.2**
GOF pmax pmax
comp=Z,60nm,0.8s,mb5.7
URFA Urfa 57.73 310 *e*P **P 18 17 11.0 -0.7**
EZC Erzincan 57.75 313 *e*P **P 18 17 14.7 +2.8**
ASF Jabal al Asfar 57.80 304 P **P 18 17 13.3 +1.1**
comp=Z,10.0nm,1.0s,mb4.8,baz=328,slow=2.4,SNR=8.4
MALT Malatya 58.30 311 *e*P **P 18 17 16.5 +0.9**
MALT pmax pmax
comp=Z,170nm,1.8s,mb5.8
MALT Malatya 58.30 311 *e*P **P 18 17 15.8 +0.2**
comp=Z,170nm,1.8s,mb5.8
GZT Gaziantep 58.65 310 *i* P **P 18 17 18.6 +0.5**
YSS Yuzh-Sakhalins 58.75 38 *e*P **P 18 17 19.0 +0.2**
YSS *i* *SP sP 18 17 27.3 -3.2
YSS *e* 18 17 31.2
YSS *e*S **S 18 25 23.0 +1.0**
YSS *e*PS 18 25 34.0
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.7
YSS MLR MLR
comp=Z,13μm,15.0s,MS6.2
YSS MLR MLR
comp=N,18μm,17.0s,MS6.3
YSS MLR MLR
comp=E,10μm,14.0s,MS6.3
YSS Yuzh-Sakhalins 58.75 38 *e*P **P 18 17 18.6 -0.2**
comp=E,300nm,1.3s,mb6.2
GAZ Gaziantep 58.87 310 *e*P **P 18 17 23.5 +3.9**
CTA Charters Tower 58.89 118 *e*P **P 18 17 19.8 0.0**
comp=E,47nm,0.9s,mb5.5
CTA *e*S **S 18 25 28.1 +4.2**
CTA Charters Tower 58.89 118 P **P 18 17 19.6 -0.2**
comp=E,54nm,1.1s,mb5.5,baz=297,slow=11,SNR=5.8
CTA LR LR 18 43 48.7
comp=E,15μm,20.9s,MS6.1,baz=288,slow=37
CTA Charters Tower 58.89 118 *e*P **P 18 17 19.8 0.0**
CTA *e*S **S 18 25 28.1 +4.2**
CTA pmax pmax
comp=Z,47nm,0.9s
CTAO Charters Tower 58.89 118 *e*P **P 18 17 19.9 +0.1**
CTAO Charters Tower 58.89 118 *e*P **P 18 17 19.6 -0.2**
comp=Z,153nm,1.3s,mb5.9
EIL Elat 58.90 301 *e*P **P 18 17 20.8 +1.0**
comp=Z,2μm,1.3s
MMAI Mount Meron Ar 59.22 305 P **P 18 17 22.5 +0.4**
comp=Z,12nm,0.8s,mb5.0,baz=84,slow=8.5,SNR=13
BHL Bhannes 59.23 306 *e*P **P 18 17 24.7 +2.6**
SOC Sochi 59.23 318*c i*P **P 18 17 21.2 -0.9**
SOC *e* 18 18 04.7
SOC *e* 18 19 29.1
SOC *e*PPP 18 20 55.0
SOC *e*S **S 18 25 29.2 +0.9**
SOC pmax pmax
comp=Z,50nm,1.0s,mb5.5
YUK Yuzh-Kuril'sk 59.50 42 P **P 18 17 29.0 +5.0**
YUK S **S 18 25 28.1 -3.8**
YUK pmax pmax
comp=Z,30nm,3.0s
YUK pmax pmax
comp=N,2μm,2.0s
YUK pmax pmax
comp=E,2μm,2.0s
YUK smax
comp=N,2μm,3.0s
YUK smax
comp=E,2μm,5.0s
YUK MLR MLR
comp=N,11μm,15.0s,MS6.4
YUK MLR MLR
comp=E,19μm,15.0s,MS6.4
SOKR Solikamsk 59.59 340⇑*i*P **P 18 17 26.5 +1.8**
SOKR *i* S **S 18 25 22.8 -10**
SOKR pmax pmax
comp=Z,110nm,1.3s,mb5.7
SOKR MLR MLR
comp=Z,24μm,19.0s,MS6.3
ADE Adelaide 59.80 137 *e*P **P 18 17 26.7 +0.6**
SVSK Karacayir 59.86 313 *e*P **P 18 17 28.6 +2.1**
CEYT Ceyhan 59.95 309 *e*P **P 18 17 29.1 +2.0**
KOZT Kozan 60.01 310 *e*P **P 18 17 32.3 +4.8**
STKA Stephens Creek 60.20 132 *e*P **P 18 17 25.8 -3.0**
comp=Z,50nm,0.9s,mb5.5
STKA *e*S **S 18 25 47.7 +6.9**
STKA Stephens Creek 60.20 132 P **P 18 17 27.3 -1.5**
comp=Z,18nm,1.0s,mb5.0,baz=299,slow=6.4,SNR=13
STKA LR LR 18 46 16.8
comp=Z,17μm,19.2s,MS6.2,baz=302,slow=39
BNN Bunyan 60.39 311 *e*P **P 18 17 33.7 +3.6**
KARA Karaisali 60.55 309 *e*P **P 18 17 35.6 +4.4**
MERS Mersin 60.85 309 *e*P **P 18 17 30.0 -3.3**
MEST Erdemli 61.08 308 *i* P **P 18 17 34.3 -0.5**
ANN Anapa 61.20 318 *e*P **P 18 17 38.4 +2.7**
ANN *i* *PP pP 18 17 44.8 +0.6
ANN *e* 18 18 17.6
ANN *e* 18 19 55.4
ANN *e*S **S 18 26 02.6 +8.9**
ANN pmax pmax
comp=Z,32nm,1.3s,mb5.3
VRHR Novokhopersk 61.27 326 *e*P **P 18 17 34.7 -1.4**
VRHR pmax pmax
comp=Z,50nm,0.6s,mb5.8
VRHR MLR MLR
comp=E,6μm,23.0s
VRHR MLR MLR
comp=Z,6μm,23.0s,MS5.7
CSS Prodhromos 61.34 306 *e*P **P 18 17 42.0 +5.5**
CORM Corum 61.67 312 *e*P **P 18 17 43.5 +4.7**
CDAG Cicekdag 61.70 312 *i* P **P 18 17 38.6 -0.4**
YAK Yakutsk 61.76 19 *e*P **P 18 17 38.3 -1.1**
YAK *e* 18 18 16.1
YAK *e* 18 19 57.5
YAK *e*PPP 18 21 26.2
YAK *e*S **S 18 26 07.7 +7.0**
YAK *e* 18 27 28.2
YAK pmax pmax
comp=Z,58nm,1.5s,mb5.5
YAK pmax pmax
comp=N,25nm,1.3s
YAK pmax pmax
comp=E,51nm,1.3s
YAK smax
comp=N,16nm,1.2s
YAK smax
comp=E,19nm,1.2s
YAK MLR MLR
comp=N,12μm,18.0s,MS6.3
YAK MLR MLR
comp=E,15μm,18.0s,MS6.3
YAK MLR MLR
comp=Z,15μm,18.0s,MS6.2
YAK Yakutsk 61.76 19 *e*P **P 18 17 37.3 -2.2**
comp=Z,243nm,0.8s,mb6.4
BOYT Boyabat 61.83 314 *i* P **P 18 17 38.4 -1.5**
ERMK Ermenek 62.05 308 *i* P **P 18 17 42.4 +1.0**
KAMT Kaman 62.12 311 *e*P **P 18 17 41.6 -0.2**
BRTR Keskin Array B 62.27 312 P **P 18 17 42.5 -0.4**
comp=Z,5.9nm,0.8s,mb4.8,baz=121,slow=7.1,SNR=19
BRTR LR LR 18 49 31.8
comp=Z,4μm,18.1s,MS5.6,baz=7.8,slow=41
BR131 Keskin Array S 62.27 312 *e*P **P 18 17 41.1 -1.8**
comp=Z,28nm,0.8s,mb5.4
BR131 LR LR
comp=Z,4μm,21.0s,MS5.6
TOS Tosya 62.36 313 *e*P **P 18 17 44.4 +1.0**
CANT Cankiri 62.53 313 *e*P **P 18 17 43.5 -1.1**
ELDT Eldivan 62.64 312 *i* P **P 18 17 45.9 +0.6**
PECR Pechory 62.67 332 *e*P **P 18 17 44.8 -0.7**
PECR *e*S **S 18 26 12.0 -0.2**
PECR *e* 18 26 29.0
PECR *e* 18 33 07.0
PECR pmax pmax
comp=Z,200nm,1.8s,mb6.0
PECR pmax pmax
comp=Z,500nm,8.0s
PECR smax
comp=N,2μm,16.0s
PECR smax
comp=E,1μm,10.0s
PECR MLR MLR
comp=Z,7μm,17.0s,MS5.9
PECR MLR MLR
comp=N,4μm,18.0s,MS5.8
PECR MLR MLR
comp=E,4μm,16.0s,MS5.8
VRSR Storozhevoye 62.70 325 *e*P **P 18 17 42.7 -3.0**
VRSR pmax pmax
comp=Z,100nm,0.7s,mb6.0
VRSR pmax pmax
comp=N,80nm,0.5s
VRSR pmax pmax
comp=E,200nm,1.0s
VRSR MLR MLR
comp=Z,2μm,12.0s,MS5.5
VRSR MLR MLR
comp=N,1μm,13.0s,MS5.6
VRSR MLR MLR
comp=E,3μm,14.0s,MS5.6
KONT Konya--Tatoy 62.79 309 *e*P **P 18 17 48.6 +2.3**
VOR Voronezh 62.92 326 *e*P **P 18 17 46.0 -1.2**
VOR *e**SP sP 18 17 52.0 -6.9
VOR pmax pmax
comp=Z,170nm,1.4s,mb6.0
ANTO Ankara 62.94 312 P **P 18 17 48.1 +0.8**
SNR=23
ANTO Ankara 62.94 312 *e*P **P 18 17 49.5 +2.2**
ANTO MLR MLR
comp=Z,5μm,19.0s,MS5.7
BALT Daday 62.96 314 *i* P **P 18 17 47.1 -0.4**
KDHN Kadinhani 63.11 310 *i* P **P 18 17 48.0 -0.4**
KIZT Kizilcal 63.38 310 *e*P **P 18 17 46.7 -3.5**
SAFT Safranbolu 63.38 313 *e*P **P 18 17 50.9 +0.7**
SIM Simferopol' 63.47 317*de*P **P 18 17 51.4 +0.6**
SIM *e*S **S 18 26 26.0 +3.8**
SIM pmax pmax
comp=Z,65nm,1.3s,mb5.6
ANTB Antalya 63.88 308 *e*P **P 18 17 57.9 +4.4**
MDU Mudurnu 64.26 312 *e*P **P 18 17 50.4 -5.6**
ELL Elmali 64.43 308 *e*P **P 18 17 58.3 +1.2**
FETY Fethiye 65.06 307 *e*P **P 18 18 03.9 +2.7**
GDZ Gediz 65.25 310 *i* P **P 18 18 03.1 +0.7**
ADVT Abdulvahap 65.35 312 *e*P **P 18 18 04.8 +1.7**
DALT Dalyan (Mudla) 65.44 307 *e*P **P 18 17 59.7 -4.0**
MOS Moscow 65.54 329 *e*P **P 18 18 02.6 -1.7**
MOS *e* 18 18 33.4
MOS *e* 18 20 28.8
MOS *e*S S 18 26 46.8 -0.9
MOS pmax pmax
comp=Z,140nm,1.2s,mb5.9
MOS pmax pmax
comp=Z,700nm,2.5s,mb6.2
MOS MLR MLR
comp=Z,14μm,19.1s,MS6.2
MOS MLR MLR
comp=N,11μm,18.0s,MS6.2
MOS MLR MLR
comp=E,9μm,18.2s,MS6.2
YLV Yalova 65.65 312 *e*P **P 18 18 03.0 -2.1**
ARG Arkhangelos 65.74 307 *e*P **P 18 18 10.4 +4.7**
YER Yerkesik 65.78 308 *e*P **P 18 18 05.8 -0.2**
OBN Obninsk 65.81 328*d i*P **P 18 18 05.9 -0.2**
OBN *i* pP 18 18 12.9 -1.8
OBN *i* 18 18 36.2
OBN *i* S S 18 26 54.8 +3.8
OBN *i* SS SS 18 31 06.7 +1.0
OBN pmax pmax
comp=Z,48nm,1.3s,mb5.4
OBN MLR MLR
comp=Z,13μm,19.0s,MS6.2
OBN Obninsk 65.81 328 *e*P **P 18 18 05.4 -0.7**
comp=Z,187nm,1.4s,mb5.9
OBN LR LR
comp=Z,13μm,20.0s,MS6.1
TOO Toolangi 65.82 136 *e*P **P 18 18 07.1 +0.9**
comp=Z,37nm,1.1s,mb5.3
TOO *e*S sS 18 27 07.8 +2.4
TOO Toolangi 65.82 136 *e*P **P 18 18 07.1 +0.9**
TOO *e*S sS 18 27 07.8 +2.4
TOO pmax pmax
comp=Z,37nm,1.1s,mb5.3
ISK Istanbul-Kandi 65.99 312 *e*P **P 18 18 02.5 -4.8**
KLYT Kilyos 66.05 312 *e*P **P 18 18 01.6 -6.0**
AYDN Tasoluk 66.20 308 *i* P **P 18 18 09.6 +1.0**
DAT Datca 66.27 307 *e*P **P 18 18 03.4 -5.6**
KARP Karpathos 66.40 306 *e*P **P 18 18 11.3 +1.4**
AKS Akhisar 66.48 310 *e*P **P 18 18 13.7 +3.3**
BALB Balikesir 66.58 310 *e*P **P 18 18 02.5 -8.5**
KDAG Bornova 66.81 309 *i* P **P 18 18 11.9 -0.5**
IZM Izmir 66.81 309 *e*P **P 18 18 10.4 -2.1**
KLMR Klimovskoe 67.09 335 *e*P **P 18 18 12.0 -2.3**
KLMR *e* 18 20 46.4
KLMR *e*S S 18 27 07.9 +1.3
KLMR pmax pmax
comp=Z,90nm,1.3s,mb5.6
KLMR MLR MLR
comp=Z,8μm,18.0s,MS6.0
PSN Preselentsi 67.22 315 *e*P **P 18 18 14.0 -1.1**
ARMA Armidale 67.25 127 *e*P **P 18 17 17.4 +2.1**
LSZ Lusaka 67.47 251 *e*P **P 18 18 19.7 +3.0**
LSZ Lusaka 67.47 251 *e*P **P 18 18 16.1 -0.6**
comp=Z,39nm,1.1s,mb5.3
LSZ LR LR
comp=Z,22μm,19.0s,MS6.4
KIS Kishinev 67.60 318 *e*P **P 18 18 20.0 +2.5**
KIS *e* 18 22 20.0
KIS *e*S S 18 27 10.0 -2.7
KIS *e* 18 28 02.0
CFR Carcaliu 67.61 316⇓*i*P **P 18 18 19.7 +2.2**
NPS Neapolis 67.61 305 *e*P pP 18 18 26.9 +0.7
PRK Paraskevi 67.72 310 *e*P pP 18 18 26.4 -0.5
EDRB Edirne 67.86 313 *e*P **P 18 18 09.5 -10**
SANT Santorini 67.89 307 *e*P **P 18 18 14.2 -5.1**
comp=Z,268nm,1.2s,mb6.2
ENEZ Enez 68.08 311 *e*P **P 18 18 18.8 -1.8**
JMB Yambol 68.10 313 *e*P **P 18 18 22.0 +1.3**
JMB Yambol 68.10 313 *e*P **P 18 18 21.0 +0.4**
ALN Alexandroupoli 68.19 311 *e*P **P 18 18 20.5 -0.8**
IDI Anoyia 68.20 305 P **P 18 18 22.2 +0.9**
comp=Z,12nm,0.5s,mb5.2,baz=92,slow=8.3,SNR=12
RIV Riverview 68.24 130 *e*P pP 18 18 29.6 -0.6
SKR Severo-Kuril's 68.32 38 *e*P **P 18 18 16.7 -5.3**
SKR *e* 18 18 43.6
SKR *e*PPP 18 22 34.0
SKR *e*S S 18 27 20.0 -1.2
SKR *e*PS 18 27 50.0
SKR *e* 18 27 56.0
SKR pmax pmax
comp=E,130nm,0.9s
SKR pmax pmax
comp=Z,160nm,0.9s,mb6.0
SKR pmax pmax
comp=N,1μm,14.0s
SKR pmax pmax
comp=E,1μm,14.0s
SKR pmax pmax
comp=Z,2μm,14.0s
SKR smax
comp=N,2μm,16.0s
SKR smax
comp=E,3μm,14.0s
SKR MLR MLR
comp=Z,8μm,16.0s,MS6.0
SKR MLR MLR
comp=N,5μm,20.0s,MS5.8
SKR MLR MLR
comp=E,3μm,20.0s,MS5.8
AKASG Malin Array Be 68.37 322 P **P 18 18 20.9 -1.5**
comp=E,11nm,0.7s,mb5.0,baz=89,slow=4.9,SNR=25
AKASG LR LR 18 53 26.7
comp=E,6μm,19.6s,MS5.8,baz=110,slow=40
RDO Rodhopi 68.62 312 *e*P **P 18 18 23.6 -0.3**
MA2 Magadan 68.65 28*c i*P **P 18 18 24.5 +0.4**
MA2 *e*S S 18 27 23.9 -1.3
MA2 *e* 18 28 01.4
MA2 pmax pmax
comp=Z,200nm,0.9s,mb6.0
MA2 Magadan 68.65 28 *e*P **P 18 18 23.9 -0.2**
comp=Z,264nm,1.2s,mb6.0
LIA Limnos Island 68.67 310 *e*P **P 18 18 14.7 -9.5**
VRI Vrincioaia 68.73 317⇑*i*P **P 18 18 24.1 -0.5**
VRI Vrincioaia 68.73 317 P **P 18 18 25.6 +1.0**
VAM Vamos 68.78 305 *e*P **P 18 18 30.0 +5.1**
PLOR Plostina 68.78 317⇓*i*P **P 18 18 24.2 -0.7**
GVD Gavdhos 68.80 305 *e*P **P 18 18 30.0 +5.0**
comp=Z,136nm,1.0s,mb5.8
KDZ Kurdzhali 68.80 312 *i* P **P 18 18 25.5 +0.5**
HNR Honiara 68.83 103 P **P 18 18 24.6 -0.6**
comp=Z,236nm,0.9s,mb6.1,baz=128,slow=0.7,SNR=4.5
HNR Honiara 68.83 103 P **P 18 18 24.6 -0.6**
HNR LR LR
comp=Z,5μm,21.0s,MS5.7
TIXI Tiksi 68.87 12⇓*e*P **P 18 18 22.8 -2.7**
TIXI pmax pmax
comp=Z,100nm,0.8s,mb5.8
TIXI MLR MLR
comp=Z,15μm,18.0s,MS6.3
PVL Pavlikeni 69.15 314 *e*P **P 18 18 28.0 +0.8**
MLR Muntele Rosu 69.18 316 P **P 18 18 28.2 +0.8**
comp=Z,53nm,1.0s,mb5.4,baz=172,slow=4.9,SNR=27
MLR Muntele Rosu 69.18 316⇑*i*P **P 18 18 27.1 -0.3**
MLR Muntele Rosu 69.18 316 P **P 18 18 28.2 +0.9**
ATH Athens Observa 69.50 308 *e*P pP 18 18 36.5 -1.5
TAU Tasmania Unive 69.71 140 PFAKE 18 18 40.0 +9.3
TAU LR LR
comp=Z,12μm,21.0s,MS6.1
MTUR Matau 69.73 316⇑*i*P **P 18 18 30.8 0.0**
MTUR Matau 69.73 316 P **P 18 18 31.0 +0.1**
VOIR 69.79 316⇑*i*P **P 18 18 31.1 0.0**
VOIR 69.79 316⇑P **P 18 18 31.1 -0.1**
NVR Nevrokopi 69.90 312 *e*P **P 18 18 31.3 -0.5**
MMB Musomiste 70.03 312 *i* P **P 18 18 33.0 +0.3**
PLG Polygyros 70.06 311 *e*P **P 18 18 36.9 +4.1**
NEO Neokhori 70.07 309 *e*P **P 18 18 35.9 +3.0**
BURAR Bucovina Array 70.13 318⇓*i*P **P 18 18 32.4 -0.8**
BURAR Bucovina Array 70.13 318⇓P **P 18 18 32.4 -0.9**
LKR Lokris 70.15 309 *e*P **P 18 18 38.1 +4.7**
SOH Sokhos 70.19 311 *e*P **P 18 18 32.9 -0.7**
MNK Minsk 70.30 326 *e*P **P 18 18 30.0 -4.3**
MNK *e* 18 21 10.0
MNK *e*PPP 18 22 54.0
MNK *e*S S 18 27 40.0 -4.6
MNK *e*PS 18 28 16.0
MNK *e* 18 28 32.0
MNK *e*SSS 18 35 20.0
THE Thessaloniki 70.46 311 *e*P **P 18 18 33.4 -1.9**
PET Petropavlovsk 70.49 36*c i*P **P 18 18 34.5 -0.9**
PET *e* 18 21 09.4
PET *e*S S 18 27 49.2 +2.4
PET pmax pmax
comp=Z,1μm,24.2s
PET pmax pmax
comp=Z,1μm,27.5s
PET smax
comp=N,1μm,14.0s
PET smax
comp=N,1μm,10.5s
PET Petropavlovsk 70.49 36 *e*P **P 18 18 30.8 -4.6**
comp=N,141nm,1.5s,mb5.7
PET LR LR
comp=Z,7μm,19.0s,MS6.0
VTS Vitosha 70.58 313 *i* P **P 18 18 35.0 -1.0**
VTS Vitosha 70.58 313 *e*P **P 18 18 34.6 -1.4**
VTS Vitosha 70.58 313⇑*i*P **P 18 18 34.5 -1.5**
KNT Kendrikon 70.58 311 *e*P **P 18 18 34.1 -1.9**
LIT Litokhoron 70.74 310 *e*P **P 18 18 36.3 -0.7**
ITM Ithomi 70.81 307 *e*P **P 18 18 40.9 +3.5**
VAY Valandovo 70.85 311 *e*P **P 18 18 36.5 -1.1**
VAY Valandovo 70.85 311 *i* P **P 18 18 37.0 -0.7**
GRG Griva 70.93 311 *e*P **P 18 18 36.1 -2.0**
EVR Evrytania 71.11 309 *e*P **P 18 18 42.8 +3.6**
STIP Stip 71.19 312 *i* P **P 18 18 38.7 -1.1**
RLS Riolos of Patr 71.28 308 *e*P **P 18 18 44.6 +4.4**
KZN Kozani 71.31 310 *e*P **P 18 18 43.8 +3.3**
GZR Gura Zlata 71.35 316⇓*i*P **P 18 18 41.0 +0.3**
GZR Gura Zlata 71.35 316⇓P **P 18 18 41.0 +0.4**
LVV L'vov 71.37 320 *i* P **P 18 18 40.2 -0.6**
LVV *e* 18 18 56.6
LVV *e* 18 21 26.4
LVV *i* S S 18 27 57.0 -0.1
JOF Joensuu 71.50 335 *e*pkp **P 18 18 39.5 -2.0**
DRGR 71.64 317⇑*i*P **P 18 18 42.7 +0.3**
DRGR 71.64 317 P **P 18 18 43.1 +0.6**
BOLS Boljevac 71.67 314⇓*i*P **P 18 18 41.2 -1.4**
FNA Florina 71.67 311 *e*P **P 18 18 40.8 -1.9**
BIA Bitola 71.74 311 *i* P **P 18 18 43.3 +0.3**
JAN Janina 71.94 309 *e*P **P 18 18 48.2 +4.0**
VLS Valsamata 71.98 308 *e*P **P 18 18 48.4 +4.0**
LKD Levkas 71.98 308 *e*P **P 18 18 42.6 -1.8**
OHR Ohrid 72.15 311 *e*P **P 18 18 43.3 -2.2**
OHR Ohrid 72.15 311 *i* P **P 18 18 43.4 -2.1**
KWP Kalwaria 72.17 320 *e*P **P 18 18 46.2 +0.6**
KWP *e*pP pP 18 18 49.3 -5.0
KWP *e*PcP PcP 18 18 58.2 -5.6
KWP *e*S S 18 28 07.8 +1.5
KWP *e*sS sS 18 28 13.5 -7.1
KWP L 18 57 48.8
comp=Z,6.6nm,18.7s
KWP Kalwaria 72.17 320 *e*P **P 18 18 46.2 +0.6**
KWP *e* 18 18 58.2
KWP *e*S S 18 28 07.8 +1.5
KWP MLR MLR
comp=Z,7μm,18.7s,MS5.9
KWP Kalwaria 72.17 320 *e*P **P 18 18 46.2 +0.6**
KWP *e*pP pP 18 18 49.3 -5.0
KWP *e*PcP PcP 18 18 58.2 -5.6
KWP *e*S S 18 28 07.8 +1.5
KWP *e*SS S 18 28 13.5 +7.2
BZS Buzias 72.19 316⇑*i*P **P 18 18 47.5 +1.8**
BZS Buzias 72.19 316 P **P 18 18 46.1 +0.3**
UZH Uzhgorod 72.25 319 *e*P **P 18 18 48.0 +1.9**
UZH *e*S S 18 28 14.0 +6.8
UZH MLR MLR
comp=E,5μm,15.0s
IGT Igoumenitsa 72.32 309 *e*P **P 18 18 45.0 -1.5**
KOLS Kolonicke sedl 72.32 319 *e* **P 18 18 49.5 +3.0**
KOLS *e* 18 19 04.3
LBTB Lobatse 72.33 241 *e*P **P 18 18 47.9 +1.3**
LBTB LR LR
comp=Z,28μm,20.0s,MS6.5
LVZ Lovozero 72.38 340 *e*P pP 18 18 56.0 +0.5
LVZ pmax pmax
comp=Z,75nm,1.4s,mb5.4
LVZ pmax pmax
comp=N,26nm,1.3s
LVZ pmax pmax
comp=E,25nm,1.3s
LVZ MLR MLR
comp=Z,17μm,20.0s,MS6.3
LVZ Lovozero 72.38 340 PFAKE 18 19 00.0 +13
LVZ LR LR
comp=Z,18μm,19.0s,MS6.3
APA Apatity 72.65 340⇓*i*P **P 18 18 49.2 +0.7**
APA *i* S S 18 28 18.0 +6.2
APA *i* PS 18 29 06.0
APA pmax pmax
comp=Z,200nm,0.8s,mb6.1
APA MLR MLR
comp=Z,15μm,18.0s,MS6.3
KEK Kerkira 72.75 309 *e*P **P 18 18 48.7 -0.3**
WAKE Wake Island 72.76 72 PFAKE 18 19 00.0 +11
WAKE LR LR
comp=Z,4μm,21.0s,MS5.7
SUW Suwalki 72.81 325 *e*P **P 18 18 47.5 -1.9**
SUW *e*pP pP 18 18 52.3 -5.8
SUW *e*PcP PcP 18 19 03.1 -3.4
SUW *e*S S 18 28 13.0 -0.6
SUW *e*sS sS 18 28 19.0 -8.9
SUW *e*SKS 18 28 59.8
SUW L 18 53 58.8
comp=Z,5.9nm,22.0s
SUW Suwalki 72.81 325 *e*P **P 18 18 47.5 -1.9**
SUW *e* 18 19 03.1
SUW *e*S S 18 28 13.0 -0.6
SUW *e* 18 28 59.8
SUW MLR MLR
comp=Z,6μm,22.0s,MS5.8
SUW Suwalki 72.81 325 *e*P **P 18 18 47.5 -1.9**
SUW *e*pP pP 18 18 52.3 -5.8
SUW *e*PcP PcP 18 19 03.1 -3.4
SUW *e*S S 18 28 13.0 -0.6
SUW *e*SS S 18 28 19.0 +5.4
SUW *e*SKS 18 28 59.8
CRVS Cervenica-Dubn 72.84 319 *e* **P 18 18 55.1 +5.5**
CRVS *e*sP sP 18 19 01.2 -0.3
CRVS *e* 18 19 11.5
MIR Mirnyy 72.85 180*c i*P **P 18 18 52.0 +2.4**
MIR pmax pmax
comp=Z,380nm,1.8s,mb6.0
MIR pmax pmax

comp=Z,1μm,5.0s
MIR MLR MLR
comp=N,5μm,18.0s,MS5.8
MIR MLR MLR
comp=E,2μm,18.0s,MS5.8
MIR MLR MLR
comp=Z,10μm,18.0s,MS6.2
PVY Plav 72.94 312⇑ *i*P P 18 18 49.7 -0.5
IVA Berane 73.03 313⇑ *i*P P 18 18 49.8 -1.0
DIVS Divcibare 73.12 314 *e*P P 18 18 51.2 -0.1
FINES FINESS Array B 73.28 333 LR LR 18 58 01.7
comp=Z,9μm,19.0s,MS6.0,baz=111,slow=42
KAF Kangasniemi 73.38 333 *e*pkp **P 18 18 51.6 -1.2**
ULC Ulcinj 73.40 312⇑ *i*P P 18 18 51.8 -1.1
KECS Kecovo 73.41 319 *e*P **P 18 18 53.0 0.0**
KECS *e*pP pP 18 19 01.2 -0.5
KECS *e* 18 19 09.3
TTG Podgorica 73.45 312⇑ *i*P P 18 18 52.5 -0.7
PLE Pljevlja 73.45 313⇑ *i*P P 18 18 53.1 -0.1
BOSA Boshof 73.65 238 P **P 18 18 54.9 +0.6**
comp=Z,10nm,0.8s,mb4.8,baz=62,slow=2.9,SNR=10.0
BOSA LR LR 18 46 44.5
comp=Z,12μm,20.2s,MS6.2,baz=70,slow=32
BOSA Boshof 73.65 238 *e*P **P 18 18 55.2 +0.9**
BOSA pmax pmax
comp=Z,110nm,1.4s,mb5.6
BOSA Boshof 73.65 238 *e*P **P 18 18 54.8 +0.5**
comp=Z,108nm,1.4s,mb5.6
BOSA LR LR
comp=Z,12μm,20.0s,MS6.2
NIE Niedzica 73.67 320 *e*P **P 18 18 55.9 +1.4**
NKY Niksic 73.68 313⇑ *i*P P 18 18 53.2 -1.4
BUM Brajici-Budva 73.70 312⇑ *i*P P 18 18 53.6 -1.1
PSZ Piszkesteto 73.72 318 *e*P **P 18 18 55.2 +0.5**
WAR Warsaw 73.72 323 *e*P **P 18 18 57.4 +2.6**
WAR *e*S S 18 28 24.4 +0.5
WAR *e*sS sS 18 28 30.9 -7.3
WAR *e*SKS 18 29 00.7
WAR L 18 55 31.7
comp=Z,7.2nm,19.6s
WAR Warsaw 73.72 323 *e*P **P 18 18 57.4 +2.6**
WAR *e*S S 18 28 24.4 +0.5
WAR *e* 18 29 00.7
WAR MLR MLR
comp=Z,7μm,19.6s,MS6.0
CASY Casey 73.73 173 *e*P **P 18 18 54.6 -0.2**
CASY *e*S S 18 28 29.1 +5.1
UPM Unac-Piva 73.79 313⇑ *i*P P 18 18 53.7 -1.5
HCY Herceg Novi 74.01 312⇑ *i*P P 18 18 55.7 -0.7
BRY Bratogost 74.02 313⇑ *i*P P 18 18 54.9 -1.7
LCI Lecce 74.10 310 P **P 18 18 56.3 -0.7**
OJC Ojcow 74.13 320 *e*P **P 18 18 57.5 +0.3**
OJC *e*pP pP 18 19 04.8 -1.1
OJC *e*S S 18 28 30.2 +1.7
OJC L 18 59 06.3
comp=Z,24nm,18.6s
PKSM Moragy 74.33 316⇓ *i*P P 18 18 58.2 -0.2
PKSM Moragy 74.33 316 *e*P **P 18 18 57.8 -0.6**
VYHS Vyhne 74.50 318 *e*P **P 18 18 57.6 -1.7**
VYHS *e* 18 19 14.8
STON Ston 74.64 313 *i*P **P 18 18 58.7 -1.4**
TIP Timpagrande 75.05 309 *e*P **P 18 18 59.6 -2.9**
OKC Ostrava-Krasne 75.13 320 *e*P **P 18 19 03.3 +0.3**
OKC *e*pP pP 18 19 12.3 +0.6
OKC *e*S S 18 28 41.4 +1.7
OKC AMS AMS 18 59 00.0
comp=Z,3μm,16.0s
OKC Ostrava-Krasne 75.13 320 *e*P **P 18 19 03.3 +0.3**
OKC *e*pP pP 18 19 12.3 +0.6
OKC *e*S S 18 28 41.4 +1.7
RAC Raciborz 75.13 320 *e*P **P 18 19 04.0 +1.0**
RAC L 18 57 28.3
comp=Z,5.0nm,18.6s
GRI Girifalco 75.29 308 P **P 18 19 04.8 +0.9**
MORC Moravsky Berou 75.51 320⇑ *i*P P 18 19 05.9 +0.8
MORC Moravsky Berou 75.51 320 *e*P **P 18 19 05.5 +0.4**
MORC pmax pmax
comp=Z,120nm,1.3s,mb5.7
MORC Moravsky Berou 75.51 320 *e*P **P 18 19 04.0 -1.1**
comp=Z,116nm,1.3s,mb5.7
SOI Samo 75.53 308 P **P 18 19 06.1 +0.8**
ZST Bratislava 75.61 318 *e*P **P 18 19 05.4 -0.3**
ZST *e*pP pP 18 19 14.2 -0.2
ZST *e* 18 19 22.3
KEV Kevo 75.68 341 *e*pkp **P 18 19 08.6 +2.5**
SCLL Scilla 75.81 308 P **P 18 19 07.7 +0.8**
CUC Castrocucco 75.83 309 P **P 18 19 07.2 +0.2**
comp=Z,110nm,1.3s,mb5.6
SISC Sisak 75.83 315 *i*P **P 18 19 09.6 +2.6**
SOP Sopron 75.92 317 *e*P **P 18 19 08.3 +0.8**
VRAC Vranov 76.07 319 P **P 18 19 08.7 +0.4**
comp=Z,4.7nm,0.5s,mb4.6,baz=83,slow=5.8,SNR=5.2
ARCES ARCESS Array B 76.09 340 P **P 18 19 07.8 -0.6**
comp=Z,13nm,0.9s,mb4.8,baz=76,slow=5.1,SNR=9.9
ARCES LR LR 18 56 46.5
comp=Z,17μm,20.0s,MS6.3,baz=113,slow=39
ARE0 ARCESS Array S 76.09 340 *e*P **P 18 19 07.8 -0.7**
MRLC Muro Lucano 76.12 310 P **P 18 19 12.7 +4.0**
GKP Gorka Klasztor 76.15 323 *e*P **P 18 19 09.1 +0.3**
GKP *e*PcP PcP 18 19 15.7 -5.2
GKP *e*sS sS 18 28 58.1 -7.3
GKP L 18 56 17.3
comp=Z,6.3nm,22.0s
HAVL Avola 76.22 306 P **P 18 19 09.9 +0.7**
comp=Z,66nm,1.3s,mb5.4
SGO Sicignano 76.25 310 P **P 18 19 09.9 +0.5**
SSY Sortino 76.27 307 P **P 18 19 09.9 +0.4**
comp=Z,149nm,1.6s,mb5.7
FG5 Orsara di Pugl 76.32 311 P **P 18 19 13.9 +4.1**
DPC Dobruska-Polom 76.36 320 *e*P **P 18 19 08.6 -1.4**
DPC *e*pP pP 18 19 19.9 +1.2
DPC *e*S S 18 28 54.7 +1.5
DPC *e*x x 18 34 12.3
DPC AMS AMS 19 01 30.0
comp=Z,4μm,15.2s
DPC Dobruska-Polom 76.36 320 *e*P **P 18 19 08.6 -1.4**
DPC *e**PP pP 18 19 19.9 +1.2
DPC *e*S S 18 28 54.7 +1.5
DPC MLR MLR
comp=Z,4μm,15.2s,MS5.9
CONA Conrad Observa 76.41 318⇑ *i*P P 18 19 10.1 -0.2
comp=Z,38nm,1.3s,mb5.2
KSP Ksiaz 76.43 321 *e*P **P 18 19 10.4 0.0**
KSP *e*pP pP 18 19 14.8 -4.3
KSP *e*PcP PcP 18 19 18.7 -3.4
KSP *e*S S 18 28 56.6 +2.6
KSP *e*sS sS 18 29 01.1 -7.3
KSP L 19 00 41.8
comp=Z,11nm,18.3s
KSP Ksiaz 76.43 321 *e*P **P 18 19 10.5 +0.1**
KSP *e*pP pP 18 19 18.6 -0.5
KSP *e* 18 19 25.9
KSP *e*S S 18 28 54.0 0.0
KSP LR LR
comp=Z,13μm,18.3s,MS6.3
CSSN Cassano Irpino 76.48 310 P **P 18 19 10.5 -0.2**
CRES Cresnjev 76.50 315 *e*S S 18 28 56.4 +1.6
HVZN Vizzini 76.56 307 P **P 18 19 16.0 +4.9**
comp=Z,136nm,1.1s,mb5.8
UPC Upice 76.57 320 *e*P **P 18 19 10.4 -0.8**
UPC *e*pP pP 18 19 19.8 -0.1
ARSA Arzberg 76.58 317⇑ *i* P 18 19 20.5 +9.2
comp=Z,171nm,1.3s,mb5.8
ARSA Arzberg 76.58 317 *e*P **P 18 19 11.5 +0.3**
comp=Z,24nm,1.1s,mb5.0,SNR=9.7
ARSA ⇑*i*pP pP 18 19 20.5 +0.5
comp=Z,171nm,1.3s
MNO Monte Soro 76.60 307 P pP 18 19 21.5 +1.4
BOJS Bojanci 76.62 315 *e*P **P 18 19 11.0 -0.5**
BOJS *e*S S 18 28 56.5 +0.4
BOJS *e* 18 34 22.8
KTK1 Kautokeino 76.70 340 *e*P **P 18 19 11.2 -0.7**
KTK1 Kautokeino 76.70 340 *e*P **P 18 19 16.8 +4.9**
TREC Trest 76.79 319 *e*P **P 18 19 13.8 +1.4**
TREC *e*pP pP 18 19 20.7 -0.4
TREC *e*S S 18 29 00.0 +2.1
TREC *e*x x 18 34 14.5
TREC AMS AMS 19 02 30.0
comp=Z,4μm,17.2s
TREC Trest 76.79 319 *e*P **P 18 19 13.8 +1.4**
TREC *e**PP pP 18 19 20.7 -0.4
TREC *e*S S 18 29 00.0 +2.1
TREC MLR MLR
comp=Z,4μm,17.2s,MS5.8
PERS Pernice 76.80 316 *e*P **P 18 19 12.5 0.0**
NVLJ Novalja 76.82 314 *i*P **P 18 19 15.5 +2.9**
MAW Mawson 76.89 191 *e*P **P 18 19 14.0 +1.0**
comp=Z,25nm,0.9s,mb5.2
MAW *e*S S 18 29 04.8 +5.7
MAW Mawson 76.89 191 P **P 18 19 14.0 +1.0**
comp=Z,24nm,1.1s,mb5.1,baz=7.2,slow=6.8,SNR=15
MAW LR LR 18 49 49.8
comp=Z,8μm,18.4s,MS6.0,baz=24,slow=33
MAW Mawson 76.89 191 *e*P **P 18 19 14.0 +1.0**
MAW *e*S S 18 29 04.8 +5.7
MAW pmax pmax
comp=Z,250nm,0.9s
MAW MLR MLR
comp=Z,3μm,20.0s
MAW Mawson 76.89 191 *e*P **P 18 19 14.0 +1.0**
comp=Z,25nm,0.9s,mb5.2
MAW *e*S S 18 29 04.8 +5.7
MAW LR LR
comp=Z,341nm,20.0s
CSLB Castelbuono 77.10 307 P pP 18 19 22.3 -0.6
GIB Gibilmanna 77.13 307 P pP 18 19 21.4 -1.7
LJU Ljubljana 77.16 316 *e*P **P 18 19 14.6 0.0**
LJU *e*S S 18 29 02.8 +0.8
LJU *e* 18 34 21.4
LJU Ljubljana 77.16 316 *e*P **P 18 19 14.6 +0.1**
LJU *e*S S 18 29 02.8 +0.7
RNI2 Rionero Sannit 77.18 311 P **P 18 19 17.0 +2.4**
comp=Z,99nm,1.4s,mb5.5
OBKA Obir 77.18 316⇑ *i* pP 18 19 24.1 +0.7
comp=Z,137nm,1.6s
OBKA Obir 77.18 316 *i*P **P 18 19 15.2 +0.5**
comp=Z,28nm,1.4s,mb5.0,SNR=10
OBKA ⇑*i*PcP PcP 18 19 24.1 -1.2
comp=Z,137nm,1.6s
INTR Introdacqua 77.38 311 P **P 18 19 15.1 -0.6**
NOUC Port Laguerre 77.39 114 *e*P **P 18 19 17.4 +1.6**
SDI San Donato 77.44 311 P **P 18 19 18.9 +2.8**
SDI pmax pmax
comp=Z,560nm,1.4s,mb6.3
SDI San Donato 77.44 311 P **P 18 19 18.9 +2.8**
comp=Z,56nm,1.4s,mb5.3
MOA Molln 77.47 317⇑ *i* pP 18 19 24.9 -0.1
comp=Z,94nm,1.4s
MOA Molln 77.47 317⇑ *i*P P 18 19 16.1 -0.2
comp=Z,15nm,1.7s,mb4.6
MOA ⇑*i*pP pP 18 19 24.9 -0.1
comp=Z,94nm,1.4s
PVCC Panska Ves 77.49 320 *e*P **P 18 19 17.0 +0.6**
PVCC *e*pP pP 18 19 25.9 +0.8
PVCC *e*S S 18 29 09.8 +4.2
PVCC *e*x x 18 34 21.5
PVCC AMS AMS 19 01 00.0
comp=Z,6μm,16.4s
PVCC Panska Ves 77.49 320 *e*P **P 18 19 17.0 +0.6**
PVCC *e**PP pP 18 19 25.9 +0.8
PVCC *e*S S 18 29 09.8 +4.2
PVCC MLR MLR
comp=Z,2μm,16.4s,MS5.6
DZM Mont Dzumac 77.51 114 *e*P **P 18 19 18.4 +2.0**
DZM Mont Dzumac 77.51 114 P **P 18 19 17.8 +1.3**
comp=Z,18nm,0.9s,mb5.0,baz=264,slow=13,SNR=6.9
DZM LR LR 18 55 29.5
comp=Z,9μm,20.1s,MS6.1,baz=283,slow=37
PRA Prague 77.54 320 P **P 18 19 19.0 +2.4**
VOY Vojsko 77.60 316 *e*P **P 18 19 16.7 -0.3**
VOY *e* pP 18 19 24.5 -1.2
VOY *e* 18 19 31.5
VOY *e* 18 20 25.7
VOJS Vojsko 77.61 316 *e*P **P 18 19 16.5 -0.6**
TERO Teramo 77.63 312 P **P 18 19 16.5 -0.7**
CADS Cadrg 77.72 316 *e*P **P 18 19 17.2 -0.5**
BSD Bornholm Skovb 77.73 325 *i*P **P 18 19 20.4 +2.7**
comp=Z,52nm,0.8s,mb5.5
BSD *i*S S 18 29 07.8 -0.4
BSD
comp=Z,6μm,18.0s
BSD Bornholm Skovb 77.73 325 *e*P **P 18 19 20.4 +2.7**
BSD *i*S S 18 29 07.8 -0.4
BSD pmax pmax
comp=Z,52nm,0.8s,mb5.5
BSD MLR MLR
comp=Z,6μm,18.0s,MS6.0
BSD Bornholm Skovb 77.73 325 *e*P **P 18 19 20.4 +2.7**
comp=Z,52nm,0.8s,mb5.5
BSD *i*S S 18 29 07.8 -0.4
CLTB Caltabellotta 77.76 307 P pP 18 19 26.2 -0.4
AQU L'Aquila 77.77 312⇑ *i*P P 18 19 20.7 +2.8
AQU L'Aquila 77.77 312 *e*P **P 18 19 16.8 -1.1**
AQU pmax pmax
comp=Z,110nm,1.2s,mb5.7
AQU L'Aquila 77.77 312 *e*P **P 18 19 15.7 -2.3**
comp=Z,122nm,1.2s,mb5.7
AQU ⇑P 18 19 20.7
USI Ustica 77.81 308 P **P 18 19 19.8 +1.6**
BILL Bilibino 77.90 22⇓ *i*P P 18 19 18.3 -0.3
BILL *i* pP 18 19 26.9 -0.5
BILL *i*S S 18 29 15.4 +5.4
BILL *i*SS SS 18 34 09.6 -1.3
BILL Bilibino 77.90 22 *e*P **P 18 19 16.8 -1.8**
comp=Z,130nm,1.4s,mb5.7
BRG Berggiesshubel 77.92 321 *e*P **P 18 19 17.4 -1.3**
comp=Z,132nm,1.4s,mb5.7
BRG Berggiesshubel 77.92 321 *e*P **P 18 19 18.8 +0.1**
comp=Z,18nm,1.4s,mb4.8
BRG *i* pP 18 19 26.8 -0.7
BRG comp=Z,78nm,1.6s
BRG *i* 18 19 34.6
BRG comp=Z,79nm,1.4s
BRG PP PP 18 22 23.0 +8.3
BRG S S 18 29 09.0 -1.2
BRG PKPPKP 18 46 03.9
BRG comp=Z,3.9nm,1.5s
BRG comp=N,1μm,17.4s
BRG comp=E,3μm,16.0s
BRG comp=Z,4μm,15.9s
BRG Berggiesshubel 77.92 321 *e*P **P 18 19 18.8 +0.1**
comp=Z,18nm,1.4s,mb4.8
BRG *i* pP 18 19 26.8 -0.7
BRG comp=Z,78nm,1.6s
BRG *i* 18 19 34.6
BRG comp=Z,79nm,1.4s
BRG PP PP 18 22 23.0 +8.3
BRG S S 18 29 09.0 -1.2
BRG *e* 18 46 03.9
BRG comp=Z,3.9nm,1.5s
BRG comp=N,1μm,17.4s
BRG comp=E,3μm,16.0s
BRG comp=Z,4μm,15.9s
BRG Berggiesshubel 77.92 321 *e*P **P 18 19 18.8 +0.1**
BRG *i* pP 18 19 26.8 -0.7
BRG *i* 18 19 34.6
BRG 18 22 23.0
BRG S S 18 29 09.0 -1.2
BRG pmax pmax
BRG comp=Z,300nm,1.4s,mb6.0
BRG MLR MLR
comp=Z,3μm,16.0s,MS5.7
BRG Berggiesshubel 77.92 321 *e*P **P 18 19 18.8 +0.1**
comp=Z,18nm,1.4s,mb4.8
BRG *i* pP 18 19 26.8 -0.7
BRG *i* 18 19 34.6
BRG PP PP 18 22 23.0 +8.3
BRG S S 18 29 09.0 -1.2
BRG *e* 18 46 03.9
BRG LR LR
comp=Z,4μm,15.9s,MS5.9
GEC2 GERESS Array S 77.92 318 *e*P **P 18 19 17.5 -1.3**
comp=Z,196nm,1.3s,mb5.9
GEC2 GERESS Array S 77.92 318 *e*P **P 18 19 17.5 -1.3**
GEC2 pmax pmax
comp=Z,196nm,1.3s,mb5.9
GERES GERESS Array B 77.92 318 P **P 18 19 17.7 -1.1**
comp=Z,13nm,0.8s,mb4.9,baz=90,slow=5.3,SNR=50
GERES LR LR 18 59 26.3
comp=Z,3μm,21.4s,MS5.6,baz=259,slow=40
CING Cingoli 77.96 313 P **P 18 19 19.7 +0.7**
comp=Z,181nm,2.1s,mb5.6
FIAM Fiamignano 77.97 312 P **P 18 19 22.9 +3.8**
comp=Z,88nm,1.3s,mb5.5
NRCA Norcia 78.00 312 P **P 18 19 19.4 +0.2**
PTCC Patocco-Chiusa 78.00 316 P **P 18 19 17.7 -1.5**
comp=Z,225nm,1.3s,mb5.9
KHC Kasperske Hory 78.02 319 *e*P **P 18 19 18.3 -1.0**
KHC *e*pP pP 18 19 27.6 -0.5
KHC *e*S S 18 29 13.0 +1.7
KHC *e*x x 18 34 28.5
KHC AMS AMS 19 00 50.0
comp=Z,4μm,17.7s
KHC Kasperske Hory 78.02 319 *e*P **P 18 19 18.3 -1.0**
KHC *e**PP pP 18 19 27.6 -0.5
KHC *e*S S 18 29 13.0 +1.7
KHC MLR MLR
comp=Z,4μm,17.7s,MS5.8
KHC Kasperske Hory 78.02 319 *e*P **P 18 19 18.3 -1.0**
KHC *e*pP pP 18 19 27.6 -0.5
KHC *e*S S 18 29 13.0 +1.7
KHC *e*SS SS 18 34 28.5 +16
KHC LR LR
comp=Z,4μm,17.7s,MS5.8
KBA Koelnbreinsper 78.05 317⇑ *i* PcP 18 19 35.2 +6.1
KBA Koelnbreinsper 78.05 317⇓ *i*P P 18 19 18.8 -0.7
comp=Z,36nm,1.4s,mb5.1
KBA ⇑*i*PcP PcP 18 19 35.2 +6.1
KBA Koelnbreinsper 78.05 317⇓ *i*P P 18 19 18.8 -0.7
KBA *i* 18 19 35.2
KBA pmax pmax
comp=Z,360nm,1.4s,mb6.1
KBA Koelnbreinsper 78.05 317⇓ *i*P P 18 19 18.8 -0.7
comp=Z,36nm,1.4s,mb5.1
KBA *i* 18 19 35.2
CERT Cerreto 78.06 311 P **P 18 19 18.2 -1.4**
GMNA Gemona 78.07 316 P **P 18 19 18.0 -1.6**
comp=Z,556nm,1.0s,mb6.5
SNTG Esanatoglia 78.14 313 P **P 18 19 19.7 -0.3**
RUE Ruedersdorf 78.15 322 *e*P **P 18 19 18.3 -1.7**
comp=Z,237nm,1.3s,mb6.0
RUE Ruedersdorf 78.15 322 P **P 18 19 17.9 -2.1**
comp=Z,250nm,1.3s,mb6.0
ARV Arcevia 78.15 313 P **P 18 19 18.5 -1.6**
TSUM Tsumeb 78.21 249 *e*P **P 18 19 19.7 -0.7**
TSUM LR LR
comp=Z,13μm,21.0s,MS6.2
FSSB Fossombrone 78.28 313 P **P 18 19 20.5 -0.3**
comp=Z,140nm,1.2s,mb5.8
FBE Freiberg 78.29 321 *e*P **P 18 19 19.5 -1.3**
comp=Z,186nm,1.3s,mb5.9
TRO Tromso 78.34 340 *e*P **P 18 19 20.9 -0.1**
TRO *e*S S 18 29 16.1 +1.4
TRO AMS AMS 18 58 28.9
comp=Z,13μm,15.0s,MS6.4
SUR Sutherland 78.38 235 *e*P **P 18 19 23.1 +1.8**
comp=Z,86nm,1.2s,mb5.6
SUR LR LR
comp=Z,11μm,19.0s,MS6.2
FVI Forni Avoltri 78.41 316 P **P 18 19 21.4 -0.1**
FVI pmax pmax
comp=Z,313nm,1.6s,mb6.0
FVI Forni Avoltri 78.41 316 P **P 18 19 21.4 -0.1**
comp=Z,313nm,1.6s,mb6.0
MURB Monte Urbino 78.45 313 P **P 18 19 22.1 +0.4**
comp=Z,224nm,1.5s,mb5.9
WET Wettzell 78.48 319 *e*P **P 18 19 20.6 -1.3**
comp=Z,207nm,1.6s,mb5.8
WET Wettzell 78.48 319 *e*P **P 18 19 20.6 -1.3**
WET pmax pmax
comp=Z,207nm,1.6s,mb5.8
RSM Repubblica di 78.53 313 P **P 18 19 23.0 +0.9**
RSM pmax pmax
comp=Z,309nm,1.2s,mb6.1
RSM Repubblica di 78.53 313 P **P 18 19 23.0 +0.9**
comp=Z,309nm,1.2s,mb6.1
CLL Collm 78.54 321 *e*P **P 18 19 22.4 +0.2**
comp=Z,265nm,2.2s,mb5.8
CLL *e*S S 18 29 16.1 -0.8
CLL *e*ScS ScS 18 29 44.4 +3.1
CLL *e*PPS 18 30 18.2
CLL *e*SS SS 18 34 35.4 +15
CLL *e*SSS 18 37 55.2
CLL *e*L 19 01 49.5
comp=Z,7μm,18.0s
CLL Collm 78.54 321 *i*P **P 18 19 20.8 -1.4**
comp=Z,12nm,1.2s,mb4.7
CLL *i*pP pP 18 19 30.0 -0.9
comp=Z,59nm,1.4s
CLL *e*sP sP 18 19 34.0 -0.1
comp=Z,91nm,1.3s
CLL *i*x x 18 20 50.5
CLL *e*x x 18 23 12.0
CLL *e*S S 18 29 16.0 -0.9
CLL *e*ScS ScS 18 29 44.0 +2.7
CLL *e*PPS 18 30 17.0
CLL *e*SS SS 18 34 37.0 +16
CLL *e*SSS 18 37 52.0
CLL *e*(SSSS) 18 40 48.0
CLL Collm 78.54 321 *i*P **P 18 19 20.8 -1.4**
CLL *i* pP 18 19 30.0 -0.9
CLL *e* 18 19 34.0
CLL *e*S S 18 29 16.0 -0.9
CLL pmax pmax
comp=Z,12nm,1.2s,mb4.7
CLL MLR MLR
comp=Z,7μm,16.5s,MS6.1
CLL Collm 78.54 321 *i*P **P 18 19 20.8 -1.4**
comp=Z,12nm,1.2s,mb4.7
CLL *i* pP 18 19 30.0 -0.9
CLL *e* 18 19 34.0
CLL *e*S S 18 29 16.0 -0.9
CLL LR LR
comp=Z,7μm,16.5s,MS6.1
RGN Rugen 78.60 324 *e*P **P 18 19 20.8 -1.7**
comp=Z,141nm,1.3s,mb5.7
TOLF Tolfa 78.80 311 P **P 18 19 23.4 -0.2**
TANN Tannenbergstha 78.82 320 *e*P **P 18 19 22.3 -1.5**
comp=Z,80nm,1.4s,mb5.5
CRE Caprese Michel 78.88 313 P **P 18 19 24.1 +0.1**
CRE pmax pmax
comp=Z,132nm,1.3s,mb5.7
CRE Caprese Michel 78.88 313 P **P 18 19 24.1 +0.1**
comp=Z,132nm,1.3s,mb5.7
WERD Werda 78.92 320 *e*P **P 18 19 22.7 -1.6**
comp=Z,87nm,1.4s,mb5.5
HFS Hagfors 78.94 330 P **P 18 19 23.6 -0.8**
comp=Z,7.2nm,0.5s,mb4.8,baz=112,slow=6.6,SNR=14
ROTZ Rotzenmuhle 78.95 319 *e*P **P 18 19 23.5 -1.0**
comp=Z,141nm,1.3s,mb5.7
SFI Santa Sofia 78.96 313 P **P 18 19 24.6 +0.1**
SFI pmax pmax
comp=Z,745nm,1.4s,mb6.4
SFI Santa Sofia 78.96 313 P **P 18 19 24.6 +0.1**
comp=Z,745nm,1.4s,mb6.4
MANZ Manzenberg 79.03 320 *e*P **P 18 19 24.0 -0.9**
comp=Z,215nm,1.4s,mb5.9
CTI Castel Tesino 79.17 316 P **P 18 19 25.8 +0.2**
CTI pmax pmax
comp=Z,323nm,1.4s,mb6.1
CTI Castel Tesino 79.17 316 P **P 18 19 25.8 +0.2**
comp=Z,323nm,1.4s,mb6.1
VMG Vicchio 79.18 313 P **P 18 19 25.6 -0.1**
comp=Z,720nm,1.1s,mb6.5
COP Copenhagen 79.20 325 *i*P **P 18 19 28.7 +2.9**
comp=Z,76nm,1.2s,mb5.5
COP
comp=Z,3μm,21.0s
COP Copenhagen 79.20 325 *i*P **P 18 19 28.7 +2.9**
COP pmax pmax
comp=Z,76nm,1.2s,mb5.5
COP MLR MLR
comp=Z,3μm,21.0s,MS5.6
WTTA Wattenberg 79.22 317⇓ *i* pP 18 19 33.9 -0.8
comp=Z,263nm,1.6s
WTTA Wattenberg 79.22 317 *e*P **P 18 19 25.5 -0.4**
comp=Z,34nm,0.7s,mb5.4,SNR=12
WTTA ⇓*i*pP pP 18 19 33.9 -0.8
comp=Z,263nm,1.6s
WTTA Wattenberg 79.22 317 *e*P **P 18 19 25.5 -0.4**
WTTA *i* pP 18 19 33.9 -0.8
WTTA pmax pmax
comp=Z,34nm,0.7s,mb5.4
WATA Walderalm 79.26 317⇓ *e*P **P 18 19 25.8 -0.4**
comp=Z,14nm,0.6s,mb5.0,SNR=8.0
SEI Scarperia 79.32 313 P **P 18 19 27.7 +1.2**
comp=Z,322nm,0.7s,mb6.4

MOR8 Moi Rana 79.37 336 *e*P **P 18 19 25.5 -1.3**
MOR8 AMb AMB 18 19 42.2
comp=Z,96nm,1.7s,mb5.4
MOR8 Moi Rana 79.37 336 *e*P **P 18 19 29.3 +2.6**
comp=Z,96nm,1.7s,mb5.5
MOX Moxa 79.38 320 *e*P **P 18 19 25.3 -1.5**
comp=Z,143nm,1.5s,mb5.7
MOX Moxa 79.38 320 *e*P **P 18 19 26.5 -0.3**
comp=Z,120nm,1.4s,mb5.6
MOX
comp=Z,6µm,18.0s
MOX Moxa 79.38 320 *e*P **P 18 19 26.5 -0.3**
MOX pmax pmax
comp=Z,120nm,1.4s,mb5.6
MOX MLR MLR
comp=Z,6µm,18.0s,MS6.0
BJO Bjornoya 79.41 345 *e*P **P 18 19 25.9 -1.1**
BJO AMS AMS 18 59 30.0
comp=Z,9µm,14.8s,MS6.2
MAON Monte Argentar 79.45 312 P **P 18 19 26.1 -1.1**
FNVD Fontana Vidola 79.49 314 P **P 18 19 28.1 +0.7**
comp=Z,435nm,1.4s,mb6.2
FUR Furstenfeldbru 79.49 318 *e*P **P 18 19 25.6 -1.8**
comp=Z,289nm,1.5s,mb6.0
FUR Furstenfeldbru 79.49 318 *e*P **P 18 19 25.6 -1.8**
FUR pmax pmax
comp=Z,289nm,1.5s,mb6.0
SQTA Sankt Quirin 79.51 317⇑*i* **P 18 19 31.9 +4.4**
comp=Z,67nm,0.6s,mb5.7
SQTA Sankt Quirin 79.51 317⇓*i*P **P 18 19 25.9 -1.6**
comp=Z,12nm,0.6s,mb5.0,SNR=18
SQTA ⇑*i*PcP PcP 18 19 31.9 -3.5
comp=Z,67nm,0.6s
SQTA Sankt Quirin 79.51 317⇓*i*P **P 18 19 25.9 -1.6**
SQTA *i* 18 19 31.9
SQTA pmax pmax
comp=Z,12nm,0.6s,mb5.0
SQTA Sankt Quirin 79.51 317⇓*i*P **P 18 19 25.9 -1.6**
comp=Z,12nm,0.6s,mb5.0
SQTA *i* 18 19 31.9
GRFL Gerfalco 79.58 313 P **P 18 19 26.4 -1.5**
MOTA Moosalm 79.58 317⇓*i* pP 18 19 36.3 -0.3
comp=Z,48nm,0.7s
MOTA Moosalm 79.58 317 pP 18 19 36.3 -0.3
comp=Z,48nm,0.7s
MOTA Moosalm 79.58 317 *i* P **P 18 19 27.3 -0.6**
MOTA *i* pP 18 19 36.3 -0.4
MOTA pmax pmax
comp=Z,120nm,0.7s,mb5.9
MOTA Moosalm 79.58 317 *i* P **P 18 19 27.3 -0.6**
comp=Z,12nm,0.7s,mb4.9
MOTA *i* pP 18 19 36.3 -0.3
GRA1 Grafenberg Arr 79.59 319 *e*P **P 18 19 26.9 -1.0**
comp=Z,199nm,1.2s,mb5.9
GRA1 *e*pP pP 18 19 35.7 -1.0
GRA1 *e*S S 18 29 29.6 +1.6
GRA1 *e*SS SS 18 34 41.8 +5.5
GRA1 LR LR
comp=Z,5µm,18.7s,MS5.9
GRF Grafenberg Arr 79.59 319 *e*P **P 18 19 26.9 -1.0**
comp=Z,199nm,1.2s,mb5.9
GRF *e*pP pP 18 19 35.7 -1.0
GRF *e*S S 18 29 29.6 +1.6
GRF *e*SS SS 18 34 41.8 +5.5
GRF *e*L 19 01 08.7
comp=Z,5µm,18.7s
GRF Grafenberg Arr 79.59 319 *e*P **P 18 19 26.9 -1.0**
GRF *e**PP pP 18 19 35.7 -1.0
GRF *e*S S 18 29 29.6 +1.6
GRF *e*SS SS 18 34 41.8 +5.5
GRF pmax pmax
comp=Z,199nm,1.2s,mb5.9
GRF MLR MLR
comp=Z,5µm,18.7s,MS5.9
GRF Grafenberg Arr 79.59 319 *e*P **P 18 19 26.9 -1.0**
GRF *e**PP pP 18 19 35.7 -1.0
GRF *e*S S 18 29 29.6 +1.6
GRF *e*SS SS 18 34 41.8 +5.5
GRF pmax pmax
comp=Z,199nm,1.2s,mb5.9
GRF MLR MLR
comp=Z,5µm,18.7s,MS5.9
GRFO Grafenberg 79.59 319 *e*P **P 18 19 26.9 -1.0**
comp=Z,186nm,1.2s,mb5.9
GRFO Grafenberg 79.59 319 *e*P **P 18 19 26.9 -1.0**
GRFO pmax pmax
comp=Z,186nm,1.2s,mb5.9
ZCCA Zocca 79.60 314 P **P 18 19 28.3 +0.3**
comp=Z,339nm,1.1s,mb6.2
SMY Shemya 79.66 38 PFAKE 18 19 40.0 +12
SMY LR LR
comp=Z,7µm,20.0s,MS6.0
GSCL Gusciola 79.88 314 P **P 18 19 30.1 +0.6**
PII Pisa 79.91 313 P **P 18 19 29.4 -0.3**
PII pmax pmax
comp=Z,97nm,1.2s,mb5.6
PII Pisa 79.91 313 P **P 18 19 29.4 -0.3**
comp=Z,97nm,1.2s,mb5.6
SAL Salo 79.94 315 P **P 18 19 31.3 +1.5**
MABI Malga Bissina 79.96 316 P **P 18 19 30.7 +0.8**
LOF Lofoten 79.99 338 *e*P **P 18 19 33.3 +3.2**
LOF AMb AMB 18 19 45.1
comp=Z,101nm,1.7s,mb5.5
LOF Lofoten 79.99 338 *e*P **P 18 19 33.3 +3.2**
comp=Z,101nm,1.7s,mb5.5
ERBM Eremo 80.00 314 P **P 18 19 31.7 +1.5**
VLC Villacollemand 80.02 314 *e*P **P 18 19 30.5 +0.2**
comp=Z,113nm,1.2s,mb5.7
BRMO Bormio 80.06 316 P **P 18 19 30.8 +0.3**
comp=Z,26nm,0.6s,mb5.3
NSS Namsos 80.20 334 *e*P **P 18 19 29.4 -1.9**
NSS AMb AMB 18 19 45.9
comp=Z,149nm,2.1s,mb5.5
NSS *e*S S 18 29 33.3 -1.2
NSS AMS AMS 19 02 57.6
comp=Z,9µm,15.8s,MS6.2
NSS Namsos 80.20 334 *e*P **P 18 19 29.4 -1.9**
NSS comp=Z,149nm,2.1s,mb5.5 LR LR
comp=Z,9µm,15.8s,MS6.2
CLZ Clausthal 80.21 321 *e*P **P 18 19 29.6 -1.7**
comp=Z,100nm,1.3s,mb5.6
CLZ Clausthal 80.21 321 *e*P **P 18 19 29.6 -1.7**
CLZ pmax pmax
comp=Z,100nm,1.3s,mb5.6
NB2 NORSAR Subarra 80.25 331 P **P 18 19 28.5 -3.0**
comp=Z,223nm,2.5s,mb5.7,baz=94,slow=5.9
NB2 NORSAR Subarra 80.25 331 P **P 18 19 28.5 -3.0**
NB2 pmax pmax
comp=Z,223nm,2.5s,mb5.7
NOA NORSAR Array B 80.25 331 P **P 18 19 30.0 -1.5**
comp=Z,5.3nm,0.8s,baz=94,slow=5.5,SNR=12
NOA LR LR 18 58 57.3
comp=Z,12µm,19.8s,MS6.2,baz=105,slow=39
BSEG Bad Segeberg 80.32 324 *e*P **P 18 19 30.2 -1.7**
comp=Z,194nm,1.3s,mb5.9
BSEG Bad Segeberg 80.32 324 *e*P **P 18 19 30.2 -1.7**
BSEG pmax pmax
comp=Z,194nm,1.3s,mb5.9
NAO01 NORSAR Array S 80.39 331 *e*P **P 18 19 32.1 -0.1**
comp=Z,20nm,0.9s,mb5.0
NAO01 LR LR
comp=Z,12µm,19.0s,MS6.2
NRDL Niedersach Rie 80.39 322 *e*P **P 18 19 31.0 -1.3**
comp=Z,212nm,1.5s,mb5.8
DAVOX Davos 80.41 316 P **P 18 19 32.2 -0.2**
comp=Z,26nm,0.5s,mb5.4,baz=127,slow=6.6,SNR=26
DAVA Damuels 80.41 317⇑*i* pP 18 19 41.5 +0.3
comp=Z,255nm,1.5s
DAVA Damuels 80.41 317⇑*e*P **P 18 19 31.6 -0.8**
comp=Z,13nm,0.8s,mb4.9
DAVA ⇑*i*pP pP 18 19 41.5 +0.3
comp=Z,255nm,1.5s
GTTG Gyttingen 80.45 321 *e*P **P 18 19 30.9 -1.7**
comp=Z,84nm,1.3s,mb5.5
DRV Dumont d'Urvil 80.47 163 P **P 18 19 31.0 -1.7**
DRV Dumont d'Urvil 80.47 163 S S 18 29 39.0 +1.7
DRV SS SS 18 34 51.0 +1.6
DRV L 18 40 00.0
BOB Bobbio (Coli) 80.69 314 P **P 18 19 32.2 -1.7**
BOB pmax pmax
comp=Z,336nm,2.1s,mb5.9
BOB Bobbio (Coli) 80.69 314 P **P 18 19 32.2 -1.7**
comp=Z,336nm,2.1s,mb5.9
TUE Stuetta 80.77 316 P **P 18 19 34.2 -0.1**
VSL Villasalto 80.78 309 *e*P **P 18 19 35.8 +1.5**
comp=Z,111nm,1.4s,mb5.6
STU Stuttgart 80.89 318 *e*P **P 18 19 33.4 -1.6**
comp=Z,139nm,1.4s,mb5.7
STU Stuttgart 80.89 318 *e*P **P 18 19 33.7 -1.3**
STU pmax pmax
comp=Z,210nm,1.5s,mb5.8
STU Stuttgart 80.89 318 *e*P **P 18 19 33.7 -1.3**
comp=Z,208nm,1.5s,mb5.8
CORF Corte 80.92 312 *e*P **P 18 19 37.7 +2.6**
KONO Kongsberg 80.96 329 *e*P **P 18 19 37.3 +2.0**
KONO *e*PP PP 18 22 39.3 -0.8
KONO *e*S S 18 29 39.4 -3.1
KONO Kongsberg 80.96 329⇑*e*P **P 18 19 33.0 -2.3**
KONO Kongsberg 80.96 329 *e*P **P 18 19 32.5 -2.8**
comp=Z,95nm,1.4s,mb5.5
KONO *e*P 18 19 37.3
PGF Pioggiola 81.03 312 *e*P **P 18 19 35.4 -0.3**
comp=Z,294nm,1.4s,mb5.7
PGF Pioggiola 81.03 312 *e*P **P 18 19 35.4 -0.3**
PGF pmax pmax
comp=Z,147nm,1.4s,mb5.7
PGF Pioggiola 81.03 312 *e*P **P 18 19 35.4 -0.3**
comp=Z,147nm,1.4s,mb5.7
MUD Monsted U'grnd 81.06 326 *i* P **P 18 19 38.3 +2.4**
comp=Z,74nm,1.2s,mb5.5
MUD *i* 18 23 11.7
MUD *i* S S 18 29 47.2 +3.6
MUD *i* 18 39 06.5
MUD
comp=Z,6µm,18.0s
MUD Monsted U'grnd 81.06 326 *e*P **P 18 19 38.3 +2.4**
MUD *i* S S 18 29 47.2 +3.6
MUD pmax pmax
comp=Z,74nm,1.2s,mb5.5
MUD MLR MLR
comp=Z,6µm,18.0s,MS6.0
MUD Monsted U'grnd 81.06 326 *e*P **P 18 19 38.3 +2.4**
comp=Z,74nm,1.2s,mb5.5
MUD *i* 18 23 11.7
MUD *i* S S 18 29 47.2 +3.6
MUD *i* 18 39 06.5
VAI Varese 81.17 315 P **P 18 19 35.6 -0.9**
VAI pmax pmax
comp=Z,160nm,1.2s,mb5.8
VAI Varese 81.17 315 P **P 18 19 35.6 -0.9**
comp=Z,160nm,1.2s,mb5.8
TNS Taunus Mts 81.39 320 *e*P **P 18 19 36.1 -1.5**
comp=Z,89nm,1.3s,mb5.5
TNS Taunus Mts 81.39 320 *e*P **P 18 19 36.1 -1.5**
TNS pmax pmax
comp=Z,89nm,1.3s,mb5.5
BFO Black Forest 81.47 318 *e*P **P 18 19 36.1 -1.9**
comp=Z,114nm,1.5s,mb5.6
BFO Black Forest 81.47 318 *e*P **P 18 19 36.1 -1.9**
BFO pmax pmax
comp=Z,114nm,1.5s,mb5.6
FIN Finale Ligure 81.58 314 P **P 18 19 36.7 -1.9**
FELD Feldberg im Sc 81.69 317 *e*P **P 18 19 38.4 -0.8**
FELD ⇓*e*P pP 18 19 47.6 -0.4
MCGN Macugnaga 81.72 315 P **P 18 19 40.3 +1.0**
comp=Z,68nm,1.2s,mb5.5
ORO Oropa 81.73 315 P **P 18 19 40.4 +1.0**
comp=Z,39nm,1.0s,mb5.3
IMI Imperia 81.82 313 P **P 18 19 39.4 -0.5**
comp=Z,48nm,0.9s,mb5.4
IBBN Ibbenburen 81.83 322 *e*P **P 18 19 38.3 -1.6**
comp=Z,161nm,1.5s,mb5.7
KBS Kingsbay 81.91 349 *e*P **P 18 19 39.6 -0.7**
KBS *e*S S 18 29 49.1 -3.2
KBS AMS AMS 19 01 02.1
comp=Z,8µm,21.2s,MS6.0
KBS Kingsbay 81.91 349 *i* P **P 18 19 41.0 +0.7**
KBS Kingsbay 81.91 349 *e*P **P 18 19 40.8 +0.4**
comp=Z,64nm,1.0s,mb5.5
LIBD Limburg 81.95 318 *e*P **P 18 19 41.0 +0.4**
ABH Alteburg 81.97 319 *e*P **P 18 19 41.2 +0.5**
BBS Basel-Blauen 82.03 317 *e*P **P 18 19 41.9 +0.9**
MOL Molde 82.06 332 *e*P **P 18 19 37.2 -3.9**
MOL *e*PP PP 18 22 49.0 -0.1
MOL AMS AMS 19 01 50.0
comp=Z,9µm,19.3s,MS6.2
SAOF Saorge 82.06 313 *e*P **P 18 19 41.6 +0.5**
WLS Welschbruch 82.12 318 *e*P **P 18 19 41.2 -0.2**
BUG Bochum--Univer 82.13 321 *e*P **P 18 19 39.9 -1.6**
comp=Z,156nm,1.5s,mb5.7
SBF Sospel 82.15 313 *e*P **P 18 19 41.2 -0.4**
comp=Z,368nm,1.2s,mb5.9
SBF Sospel 82.15 313 *e*P **P 18 19 41.2 -0.4**
SBF pmax pmax
comp=Z,184nm,1.2s,mb5.9
SBF Sospel 82.15 313 *e*P **P 18 19 41.2 -0.4**
comp=Z,184nm,1.2s,mb5.9
AUTN L'Aution 82.15 313 *e*P **P 18 19 42.9 +1.3**
REVF Revere 82.20 313 *e*P **P 18 19 39.5 -2.4**
LUCF Luceram 82.21 313 *e*P **P 18 19 42.1 +0.2**
RSP Reno Superiore 82.25 315 P **P 18 19 41.1 -1.0**
ECH Echery 82.25 318 *e*P **P 18 19 42.3 +0.2**
TOUF Mont Tournerai 82.28 313 *e*P **P 18 19 41.5 -0.8**
RUP Ruppelstein 82.29 319 *e*P **P 18 19 43.2 +0.9**
MVIF Mont Vial 82.35 313 *e*P **P 18 19 43.4 +0.7**
WTSB Winterswijk 82.42 321 *e*P **P 18 19 42.1 -0.9**
comp=Z,86nm,3.0s
HINF Hinteralfeld 82.46 317 *e*P **P 18 19 42.4 -0.8**
comp=Z,147nm,1.7s,mb5.3
HINF Hinteralfeld 82.46 317 *e*P **P 18 19 42.4 -0.8**
HINF pmax pmax
comp=Z,73nm,1.7s,mb5.3
HINF Hinteralfeld 82.46 317 *e*P **P 18 19 42.4 -0.8**
comp=Z,73nm,1.7s,mb5.3
BLS5 Blasjo 82.56 329 *e*P **P 18 19 44.2 +0.4**
BLS5 *e*pP pP 18 19 52.3 -0.2
BLS5 AMb AMB 18 20 01.0
comp=Z,59nm,1.1s,mb5.5
BLS5 Blasjo 82.56 329 *e*P **P 18 19 44.7 +0.9**
comp=Z,59nm,1.1s,mb5.5
SURF Saint Ours 82.58 314 *e*P **P 18 19 45.0 +1.1**
LPG La Plagne 82.59 315 *e*P **P 18 19 42.7 -1.2**
comp=Z,154nm,0.9s,mb5.7
LPG La Plagne 82.59 315 *e*P **P 18 19 42.7 -1.2**
LPG pmax pmax
comp=Z,77nm,0.9s,mb5.7
LPG La Plagne 82.59 315 *e*P **P 18 19 42.7 -1.2**
comp=Z,77nm,0.9s,mb5.7
MBDF Montbardon 82.60 314 *e*P **P 18 19 43.1 -0.9**
comp=Z,66nm,0.8s,mb5.4
MBDF Montbardon 82.60 314 *e*P **P 18 19 43.1 -0.9**
comp=Z,33nm,0.8s,mb5.4
LPL La Plagne 82.61 315 *e*P **P 18 19 42.5 -1.5**
comp=Z,301nm,1.1s,mb5.9
LPL La Plagne 82.61 315 *e*P **P 18 19 42.5 -1.5**
LPL pmax pmax
comp=Z,151nm,1.1s,mb5.9
LPL La Plagne 82.61 315 *e*P **P 18 19 42.5 -1.5**
comp=Z,150nm,1.1s,mb5.9
OG01 Vacheresse 82.62 316 *e*P **P 18 19 44.5 +0.5**
BNI Bardonecchia 82.66 315 *e*P **P 18 19 44.2 -0.1**
BNI pmax pmax
comp=Z,110nm,1.1s,mb5.8
BNI Bardonecchia 82.66 315 *e*P **P 18 19 41.9 -2.4**
comp=Z,115nm,1.1s,mb5.8
BNI P 18 19 47.5
RSL Roselend 82.67 315 *e*P **P 18 19 43.8 -0.6**
FRF La Foret Royal 82.73 313 *e*P **P 18 19 44.5 -0.1**
comp=Z,427nm,1.4s,mb6.0
FRF La Foret Royal 82.73 313 *e*P **P 18 19 44.5 -0.1**
FRF pmax pmax
comp=Z,213nm,1.4s,mb6.0
FRF La Foret Royal 82.73 313 *e*P **P 18 19 44.5 -0.1**
comp=Z,213nm,1.4s,mb6.0
HAU Haudompre 82.80 318 *e*P **P 18 19 45.0 0.0**
comp=Z,226nm,1.3s,mb5.7
HAU *e*R
comp=Z,4µm,17.8s
HAU Haudompre 82.80 318 *e*P **P 18 19 45.0 0.0**
HAU pmax pmax
comp=Z,113nm,1.3s,mb5.7
HAU MLR MLR
comp=Z,4µm,17.8s,MS5.8
HAU Haudompre 82.80 318 *e*P **P 18 19 45.0 0.0**
comp=Z,113nm,1.3s,mb5.7
HAU LR LR
comp=Z,4µm,17.8s,MS5.8
LMR La Mourre 82.84 313 *e*P **P 18 19 44.9 -0.3**
comp=Z,262nm,1.4s,mb5.8
LMR La Mourre 82.84 313 *e*P **P 18 19 44.9 -0.3**
LMR pmax pmax
comp=Z,131nm,1.4s,mb5.8
LMR La Mourre 82.84 313 *e*P **P 18 19 44.9 -0.3**
comp=Z,131nm,1.4s,mb5.8
WLF Walferdange 82.88 319 *e*P **P 18 19 44.2 -1.2**
comp=Z,182nm,1.7s,mb5.8
WLF Walferdange 82.88 319 P **P 18 19 47.0 +1.5**
WLF AP pP 18 19 53.9 -0.3
WLF XP sP 18 19 58.9 +1.5
comp=Z,24nm,1.3s
WLF Walferdange 82.88 319 *e*P **P 18 19 47.2 +1.8**
WLF pmax pmax
comp=Z,110nm,1.3s,mb5.7
WLF Walferdange 82.88 319 *e*P **P 18 19 42.0 -3.4**
comp=Z,111nm,1.4s,mb5.7
MEM Membach 82.95 320 P **P 18 19 49.5 +3.8**
MEM AP pP 18 19 53.6 -0.9
MEM XP sP 18 19 58.1 +0.4
HGN Heimansgroeve 82.99 320 *e*P **P 18 19 45.8 -0.2**
comp=Z,49nm,2.6s,mb5.1
HGN Heimansgroeve 82.99 320 *i* S S 18 30 07.4 +4.1
HGN *e*SS SS 18 35 53.5 +26
CABF La Chapelle 83.02 316 *e*P **P 18 19 44.6 -1.5**
comp=Z,239nm,1.5s,mb5.7
CABF La Chapelle 83.02 316 *e*P **P 18 19 44.6 -1.5**
CABF pmax pmax
comp=Z,120nm,1.5s,mb5.7
CABF La Chapelle 83.02 316 *e*P **P 18 19 44.6 -1.5**
comp=Z,120nm,1.5s,mb5.7
GDM Grand'Maison 83.05 315 *e*P **P 18 19 46.9 +0.6**
OG25 Le Caire 83.11 314 *e*P **P 18 19 44.8 -1.8**
BER Bergen 83.11 330 *e*P **P 18 19 47.9 +1.2**
BER *e*S S 18 30 03.4 -1.2
BER AMS AMS 19 02 28.4
comp=Z,10µm,18.1s,MS6.2
BEBN Eben Emael 83.15 320 XP sP 18 19 59.3 +0.5
TAVF Tavernes 83.16 313 *e*P **P 18 19 47.5 +0.7**
CASM Ain Smara 83.17 306 P **P 18 19 55.0 +8.1**
ORIF Oris-en-Rattie 83.23 314 *e*P **P 18 19 47.0 -0.2**
comp=Z,48nm,0.8s,mb5.3
ORIF *e*R
comp=Z,6µm,22.0s
ORIF Oris-en-Rattie 83.23 314 *e*P **P 18 19 47.0 -0.2**
comp=Z,24nm,0.8s,mb5.3
STOF St-Etienne Org 83.25 313 *e*P **P 18 19 48.8 +1.5**
GRN Grenoble 83.31 315 *e*P **P 18 19 47.6 0.0**
VILF Villemus 83.39 313 *e*P **P 18 19 49.5 +1.4**
PUYF Puyloubier 83.42 313 *e*P **P 18 19 48.6 +0.4**
BERF Bertagne 83.44 313 *e*P **P 18 19 49.7 +1.4**
SMRF Simiane la Rot 83.49 313 *e*P **P 18 19 49.1 +0.5**
comp=Z,222nm,1.3s,mb5.7
SMRF Simiane la Rot 83.49 313 *e*P **P 18 19 49.1 +0.5**
comp=Z,222nm,1.3s,mb6.0
MEZF Maizieres J'vi 83.64 318 *e*P **P 18 19 48.7 -0.7**
TREF Trevaresse 83.64 313 *e*P **P 18 19 49.9 +0.5**
DFRA Djebel Bou Aff 83.65 306 P sP 18 20 02.0 +0.6
SYO Syowa Base 83.67 197⇓*e*P **P 18 19 54.7 +5.2**
GIVF Givet 83.72 320 *e*P **P 18 19 49.2 -0.6**
comp=Z,110nm,1.3s,mb5.5
GIVF Givet 83.72 320 *e*P **P 18 19 49.2 -0.6**
comp=Z,55nm,1.3s,mb5.5
PRAF Pradon 83.79 313 *e*P **P 18 19 51.6 +1.5**
DOU Dourbes 83.87 320 P **P 18 19 50.2 -0.3**
DOU AP pP 18 19 58.3 -1.0
DOU XP sP 18 20 02.5 -0.1
comp=Z,7.8nm,1.2s
SNF Seneffe 84.05 320 AP pP 18 19 59.7 -0.5
SNF XP sP 18 20 04.0 +0.6
SET Setif 84.05 306 P **P 18 20 01.0 +10**
VIVF Saint-Julien-l 84.09 314 *e*P **P 18 19 51.4 -0.2**
comp=Z,175nm,1.3s,mb5.7
VIVF Saint-Julien-l 84.09 314 *e*P **P 18 19 51.4 -0.2**
VIVF pmax pmax
comp=Z,88nm,1.3s,mb5.7
VIVF Saint-Julien-l 84.09 314 *e*P **P 18 19 51.4 -0.2**
comp=Z,88nm,1.3s,mb5.7
BAIF Baives 84.12 320 *e*P **P 18 19 51.3 -0.5**
comp=Z,262nm,1.4s,mb5.9
BAIF Baives 84.12 320 *e*P **P 18 19 51.3 -0.5**
BAIF pmax pmax
comp=Z,131nm,1.4s,mb5.9
BAIF Baives 84.12 320 *e*P **P 18 19 51.3 -0.5**
comp=Z,131nm,1.4s,mb5.9
LOR Lormes 84.51 317 *e*P **P 18 19 53.1 -0.7**
comp=Z,267nm,1.3s,mb5.9
LOR *e*R
comp=Z,4µm,18.8s
LOR Lormes 84.51 317 *e*P **P 18 19 53.1 -0.7**
LOR pmax pmax
comp=Z,133nm,1.3s,mb5.9
LOR MLR MLR
comp=Z,4µm,18.8s,MS5.8
LOR Lormes 84.51 317 *e*P **P 18 19 53.1 -0.7**
comp=Z,133nm,1.3s,mb5.9
LOR LR LR
comp=Z,4µm,18.8s,MS5.8
SMF Signal de Mont 84.56 316 *e*P **P 18 19 53.2 -0.8**
comp=Z,246nm,1.3s,mb5.9
SMF Signal de Mont 84.56 316 *e*P **P 18 19 53.2 -0.8**
SMF pmax pmax
comp=Z,123nm,1.3s,mb5.9
SMF Signal de Mont 84.56 316 *e*P **P 18 19 53.2 -0.8**
comp=Z,123nm,1.3s,mb5.9
LASF Ste Croix 84.72 314 *e*P **P 18 19 54.9 +0.1**
comp=Z,257nm,1.4s,mb5.9
PLDF La Plantade 84.76 316 *e*P **P 18 19 54.9 -0.1**
SSF Saint Saulge 84.77 317 *e*P **P 18 19 54.6 -0.5**
comp=Z,171nm,1.4s,mb5.7
SSF Saint Saulge 84.77 317 *e*P **P 18 19 54.6 -0.5**
SSF pmax pmax
comp=Z,85nm,1.4s,mb5.7
SSF Saint Saulge 84.77 317 *e*P **P 18 19 54.6 -0.5**
comp=Z,85nm,1.4s,mb5.7
AVF Avril sur Loir 84.89 316 *e*P **P 18 19 55.0 -0.7**
comp=Z,197nm,1.3s,mb5.8
AVF Avril sur Loir 84.89 316 *e*P **P 18 19 55.0 -0.7**
AVF pmax pmax
comp=Z,98nm,1.3s,mb5.8
AVF Avril sur Loir 84.89 316 *e*P **P 18 19 55.0 -0.7**
comp=Z,98nm,1.3s,mb5.8
BGF Bois d'Agland 85.25 316 *e*P **P 18 19 57.2 -0.3**
comp=Z,245nm,1.3s,mb5.9
BGF Bois d'Agland 85.25 316 *e*P **P 18 19 57.2 -0.3**
BGF pmax pmax
comp=Z,122nm,1.3s,mb5.9
BGF Bois d'Agland 85.25 316 *e*P **P 18 19 57.2 -0.3**
comp=Z,122nm,1.3s,mb5.9
HYF Humbligny 85.34 317 *e*P **P 18 19 57.7 -0.2**
MENF Mencas 85.40 320 *e*P **P 18 19 59.9 +1.7**
TCF Toulx Ste Croi 85.71 316 *e*P **P 18 19 59.6 -0.2**
comp=Z,165nm,1.4s,mb5.8
TCF Toulx Ste Croi 85.71 316 *e*P **P 18 19 59.6 -0.2**
TCF pmax pmax
comp=Z,82nm,1.4s,mb5.8
TCF Toulx Ste Croi 85.71 316 *e*P **P 18 19 59.6 -0.2**
comp=Z,82nm,1.4s,mb5.8
LRDF Laroque-de-Fa 85.76 313 *e*P **P 18 20 00.8 +0.8**
ABA Alger-Bouzarea 85.91 306 P **P 18 20 05.0 +4.2**
CAF Calviac 85.93 315 *e*P **P 18 20 00.8 -0.1**
comp=Z,114nm,1.3s,mb5.7
CAF Calviac 85.93 315 *e*P **P 18 20 00.8 -0.1**
comp=Z,57nm,1.3s,mb5.6
MTLF Montolieu 85.96 313 *e*P **P 18 20 00.9 -0.1**
comp=Z,126nm,1.1s,mb5.7
MTLF Montolieu 85.96 313 *e*P **P 18 20 00.9 -0.1**
MTLF pmax pmax
comp=Z,63nm,1.1s,mb5.8
MTLF Montolieu 85.96 313 *e*P **P 18 20 00.9 -0.1**
comp=Z,63nm,1.1s,mb5.8
EMHD Djebel Mahouad 86.03 306 P pP 18 20 10.0 -0.2
RPZ Rata Peaks 86.08 135 P **P 18 20 02.2 +0.6**
comp=Z,18nm,1.1s,mb5.2,baz=239,slow=5.9,SNR=3.1
CARF Carcanieres 86.10 312 *e*P **P 18 20 01.6 -0.1**
VALF Valcebollere 86.19 312 *e*P **P 18 20 03.2 +1.0**
RJF Les Rejaudoux 86.28 315 *e*P **P 18 20 02.7 +0.1**
comp=Z,208nm,1.3s,mb5.9
RJF *e*R
comp=Z,4µm,20.2s
RJF Les Rejaudoux 86.28 315 *e*P **P 18 20 02.7 +0.1**
RJF pmax pmax
comp=Z,104nm,1.3s,mb5.9
RJF MLR MLR
comp=Z,4µm,20.3s,MS5.8
RJF Les Rejaudoux 86.28 315 *e*P **P 18 20 02.7 +0.1**
comp=Z,104nm,1.3s,mb5.9
RJF LR LR

comp=Z,4µm,20.3s,MS5.8
GAMB Gambell 86.71 26 *e*P **P 18 20 08.8 +4.1**
MLS Moulis 86.82 313 *e*P **P 18 20 05.8 +0.6**
LFF La Frestale 86.87 315 *e*P **P 18 20 05.5 0.0**
comp=Z,179nm,1.3s,mb5.8
LFF La Frestale 86.87 315 *e*P **P 18 20 05.5 0.0**
LFF pmax pmax
comp=Z,90nm,1.3s,mb5.8
LFF La Frestale 86.87 315 *e*P **P 18 20 05.5 0.0**
comp=Z,90nm,1.3s,mb5.8
LDF La Druitiere 87.06 318 *e*P **P 18 20 05.4 -1.0**
comp=Z,129nm,1.3s,mb5.7
LDF La Druitiere 87.06 318 *e*P **P 18 20 05.4 -1.0**
LDF pmax pmax
comp=Z,64nm,1.3s,mb5.7
LDF La Druitiere 87.06 318 *e*P **P 18 20 05.4 -1.0**
comp=Z,64nm,1.3s,mb5.7
SKP1 Kophill 87.14 322 *e*P **P 18 20 06.5 -0.3**
EBNR Beni Rached 87.16 306 P **P 18 20 14.0 +7.1**
MFF Saint Martin d 87.30 316 *e*P **P 18 20 06.9 -0.7**
comp=Z,128nm,1.3s,mb5.7
MFF Saint Martin d 87.30 316 *e*P **P 18 20 06.9 -0.7**
MFF pmax pmax
comp=Z,64nm,1.3s,mb5.7
MFF Saint Martin d 87.30 316 *e*P **P 18 20 06.9 -0.7**
comp=Z,64nm,1.3s,mb5.7
ECHA Ech Chlef 87.31 306 P **P 18 20 13.0 +5.4**
EPF Esparros 87.36 313 *e*P **P 18 20 07.4 -0.5**
KBI1 Birley Grange 87.39 323 *e*P **P 18 20 07.6 -0.5**
ETRT Tiaret 87.44 305 P pP 18 20 17.0 -0.1
EBR Ebro Roquetas 87.49 311 *e*Ts 18 20 16.5
FUNA Funafuti 87.49 99 PFAKE 18 20 20.0 +11
FUNA LR LR
comp=Z,11µm,20.0s,MS6.3
EANR 'Ain N'Sour 87.54 306 P **P 18 20 12.0 +3.2**
LHO Holmfirth 87.55 323 *e*P **P 18 20 08.6 -0.2**
JMIC Jan Mayen 87.56 341 *e*P **P 18 20 11.0 +2.2**
JMIC AMS AMS 19 03 35.4
comp=Z,6µm,20.7s,MS6.0
GRR Gorron 87.58 318 *e*P **P 18 20 08.3 -0.6**
comp=Z,79nm,1.3s,mb5.5
GRR Gorron 87.58 318 *e*P **P 18 20 08.3 -0.6**
GRR pmax pmax
comp=Z,39nm,1.3s,mb5.5
GRR Gorron 87.58 318 *e*P **P 18 20 08.3 -0.6**
comp=Z,39nm,1.3s,mb5.5
KWE Weaver Farm 87.61 323 *e*P **P 18 20 09.2 +0.2**
MME1 Meikle Cairn 87.66 327 *e*P **P 18 20 09.5 +0.2**
MCD Coleburn Disti 87.78 328 *e*P **P 18 20 10.1 +0.2**
EDI Edinburgh 87.98 326 *e*P **P 18 20 10.8 -0.1**
EDI *e*P 18 20 14.3
EDI Edinburgh 87.98 326 P **P 18 20 14.3 +3.4**
TNA Tin City 88.01 24 *ep*P pP 18 20 20.3 +0.5
TNA LR LR
comp=Z,5µm,20.0s,MS6.0
ETSF Etsaut 88.03 313 *e*P **P 18 20 11.3 +0.2**
comp=Z,94nm,1.2s,mb5.6
ETSF Etsaut 88.03 313 *e*P **P 18 20 11.3 +0.2**
comp=Z,47nm,1.2s,mb5.6
EKA Eskdalemuir Ar 88.06 325 P **P 18 20 09.7 -1.5**
comp=Z,5.2nm,0.8s,mb4.8,baz=96,slow=5.2,SNR=17
ECK Cauldkaine Hil 88.06 325 *e*P **P 18 20 11.7 +0.4**
ESK Eskdalemuir 88.08 325 *e*P **P 18 20 11.2 -0.2**
ESK AMb AMB 18 20 21.1
comp=Z,62nm,1.5s,mb5.6
ESK Eskdalemuir 88.08 325 *e*P **P 18 20 10.8 -0.5**
ESK pmax pmax
comp=Z,114nm,1.3s,mb5.9
ESK MLR MLR
comp=Z,6µm,20.0s,MS6.0
ESK Eskdalemuir 88.08 325 *e*P **P 18 20 10.8 -0.6**
comp=Z,114nm,1.3s,mb5.9
ESK LR LR
comp=Z,6µm,20.0s,MS6.0
BHH Howats Hill 88.12 325 *e*P **P 18 20 11.6 0.0**
CKE Keswick 88.14 325 *e*P **P 18 20 11.7 +0.2**
EAU Auchinoon 88.14 326 *e*P **P 18 20 12.1 +0.5**
MVH1 Achvaich 88.21 328 *e*P **P 18 20 11.7 -0.3**
HLM1 Long Mynd 88.31 323 *e*P **P 18 20 12.0 -0.3**
BWH Wardlaw 88.36 325 *e*P **P 18 20 12.4 -0.2**
XDE Dent Fell 88.37 325 *e*P **P 18 20 12.3 -0.4**
XDE AMb AMB 18 20 23.3
comp=Z,39nm,1.5s,mb5.4
HGH Gray Hill 88.39 322 *e*P **P 18 20 12.0 -0.7**
MCH1 Michaelchurch 88.45 322 *e*P **P 18 20 13.2 +0.1**
SBD1 Bryn Du 88.48 323 *e*P **P 18 20 13.0 -0.2**
SJPF Ste Jean 88.49 313 *e*P **P 18 20 13.7 +0.5**
comp=Z,74nm,1.1s,mb5.5
SJPF Ste Jean 88.49 313 *e*P **P 18 20 13.7 +0.5**
comp=Z,37nm,1.1s,mb5.5
DAG Danmarks Havn 88.53 348*b i*P **P 18 20 10.2 -3.2**
comp=Z,3.4nm,0.9s,mb4.7
DAG
comp=Z,8µm,19.0s
DAG Danmarks Havn 88.53 348*be*P **P 18 20 10.2 -3.2**
DAG MLR MLR
comp=N,4µm,19.0s,MS6.1
DAG MLR MLR
comp=Z,8µm,19.0s,MS6.2
DAG MLR MLR
comp=E,5µm,18.0s,MS6.1
DAG Danmarks Havn 88.53 348 *e*Pcr **P 18 20 10.2 -3.2**
comp=E,3.4nm,0.9s,mb4.7
DAG LR LR
comp=Z,8µm,19.0s,MS6.2
EAB Aberfoyle 88.58 326 *e*P **P 18 20 13.8 +0.1**
HTR Trewern Hill 88.61 322 *e*P **P 18 20 13.8 +0.1**
SGMF Saint Gilles 88.72 318 *e*P **P 18 20 13.7 -0.6**
comp=Z,317nm,1.8s,mb6.0
SGMF Saint Gilles 88.72 318 *e*P **P 18 20 13.7 -0.6**
SGMF pmax pmax
comp=Z,158nm,1.8s,mb6.0
SGMF Saint Gilles 88.72 318 *e*P **P 18 20 13.7 -0.6**
comp=Z,158nm,1.8s,mb6.0
GIM North Isle of 88.97 324 *e*P **P 18 20 15.5 0.0**
CART Cartagena 89.03 308 *e*P **P 18 20 18.7 +2.9**
comp=Z,224nm,1.8s,mb6.2
HEX Exmoor 89.09 321 *e*P **P 18 20 16.2 +0.2**
WLF1 Llynfaes 89.09 323 *e*P **P 18 20 15.4 -0.7**
WIM Isle of Man 89.11 324 *e*P **P 18 20 15.8 -0.4**
WIM AMb AMB 18 20 20.7
comp=Z,18nm,1.2s,mb5.2
YRE Yr Eifl 89.16 323 *e*P **P 18 20 16.2 -0.2**
YRE AMb AMB 18 20 20.6
comp=Z,36nm,1.6s,mb5.5
WCB1 Church Bay 89.17 324 *e*P **P 18 20 17.4 +0.9**
QUIF Quistinic 89.17 318 *e*P **P 18 20 15.8 -0.6**
comp=Z,93nm,1.3s,mb5.6
QUIF Quistinic 89.17 318 *e*P **P 18 20 15.8 -0.6**
QUIF pmax pmax
comp=Z,46nm,1.3s,mb5.7
QUIF Quistinic 89.17 318 *e*P **P 18 20 15.8 -0.6**
comp=Z,46nm,1.3s,mb5.7
ROSF Rostrenen 89.18 318 *e*P **P 18 20 16.0 -0.5**
comp=Z,145nm,1.3s,mb5.8
ROSF Rostrenen 89.18 318 *e*P **P 18 20 16.0 -0.5**
ROSF pmax pmax
comp=Z,73nm,1.3s,mb5.8
ROSF Rostrenen 89.18 318 *e*P **P 18 20 16.0 -0.5**
comp=Z,73nm,1.3s,mb5.8
YRC Rhoscolyn 89.20 323 *e*P **P 18 20 17.1 +0.5**
YRC AMb AMB 18 20 26.9
comp=Z,61nm,1.3s,mb5.8
HTL Hartland 89.53 321 *e*P **P 18 20 18.5 +0.3**
TORD Torodi Ar. Bea 89.53 283 P **P 18 20 18.4 +0.3**
comp=Z,2.1nm,0.7s,mb4.6,baz=86,slow=4.3,SNR=8.7
TORD PKKPbc PKKPbc 18 37 52.8 +0.4
comp=Z,0.9nm,0.5s,baz=312,slow=2.0,SNR=11
TORD LR LR 18 58 14.1
comp=Z,6µm,21.1s,MS6.0,baz=95,slow=34
URZ Urewera 89.59 128 P **P 18 20 18.5 +0.1**
comp=Z,29nm,1.2s,mb5.5,baz=101,slow=3.5,SNR=4.5
URZ LR LR 19 02 00.2
comp=Z,10µm,20.8s,MS6.2,baz=60,slow=37
NIKO Nikolski 89.94 37 *e*P **P 18 20 16.0 -4.0**
DSB Dublin 90.27 324 *e*P **P 18 20 21.5 -0.1**
comp=Z,19nm,1.2s,mb5.3
DLF Lyons Farm 90.35 324⇑ *i*P **P 18 20 17.4 -4.6**
ALE Alert 90.41 357 P **P 18 20 20.2 -2.1**
comp=Z,216nm,0.8s,mb6.5,SNR=6.1
DMUB Kingscourt 90.45 324⇑ *i*P **P 18 20 18.0 -4.4**
DCN Croghan 90.78 324⇑ *i*P **P 18 20 19.0 -5.0**
ESDC Sonseca Array 91.02 310 P **P 18 20 25.8 +0.7**
comp=Z,2.8nm,0.7s,mb4.7,baz=55,slow=5.2,SNR=10
ESDC LR LR 19 04 06.2
comp=Z,2µm,19.4s,MS5.6,baz=85,slow=37
ESLA Sonseca Array 91.02 310 *e*P **P 18 20 23.9 -1.2**
comp=Z,15nm,1.2s,mb5.2
ESLA LR LR
comp=Z,15µm,20.0s,MS6.4
UNV Unalaska Valle 91.14 36 PFAKE 18 20 40.0 +14
UNV LR LR
comp=Z,10µm,19.0s,MS6.3
VNDA Vanda 91.86 168 P **P 18 20 28.9 -0.1**
comp=Z,3.8nm,1.1s,mb4.7,baz=283,slow=7.6,SNR=1.8
VNDA LR LR 19 00 00.7
comp=Z,7µm,18.4s,MS6.1,baz=288,slow=34
VNDA Vanda 91.86 168 *e*P **P 18 20 30.6 +1.6**
VNDA pmax pmax
comp=Z,55nm,1.5s
VNDA Vanda 91.86 168 *e*P **P 18 20 28.4 -0.5**
comp=Z,55nm,1.5s,mb5.7
VNDA LR LR
comp=Z,8µm,19.0s,MS6.2
RAO Raoul Island 92.58 119 LR LR 19 02 55.4
comp=Z,8µm,21.1s,MS6.1,baz=271,slow=36
RAO Raoul Island 92.58 119 PFAKE 18 20 40.0 +7.7
RAO LR LR
comp=Z,8µm,21.0s,MS6.2
SBA Scott Base 92.96 168 *e*P **P 18 20 35.1 +1.0**
SBA pmax pmax
comp=Z,56nm,1.3s,mb5.8
SBA Scott Base 92.96 168 *e*P **P 18 20 32.9 -1.1**
comp=Z,56nm,1.4s,mb5.8
NVL N'lazarevskaya 93.07 199 *e*P sP 18 20 46.4 -0.2
NVL *e*SS Sx 18 41 31.6
NVL pmax pmax
comp=Z,28nm,1.2s,mb5.6
NVL MLR MLR
comp=Z,5µm,17.6s,MS6.0
MAIT Maitri 93.10 199 *e*P **P 18 20 37.5 +2.8**
MAIT *es*P sP 18 21 19.7 +33
MAIT *e*PP PP 18 24 17.2 -0.7
TTA Tatalina 93.74 25 *e*P **P 18 20 38.5 +0.8**
BORG Borgarnes 94.15 337 PFAKE 18 20 50.0 +10
BORG LR LR
comp=Z,5µm,19.0s,MS6.0
SVW2 Sparrevohn 94.62 27 *e*P **P 18 20 42.4 +0.7**
SUMG Summit 95.17 347 *e*P **P 18 20 44.1 -0.1**
MCK McKinley 96.29 23 *e*P **P 18 20 48.0 -1.4**
comp=Z,13nm,1.0s,mb5.3
MCK LR LR
comp=Z,3µm,19.0s,MS5.8
QSPA South Pole Qui 96.39 180 PFAKE 18 21 00.0 +10
QSPA LR LR
comp=Z,10µm,20.0s,MS6.3
DBIC Dimbokro 96.72 277 LR LR 19 05 32.7
comp=Z,4µm,18.0s,MS6.0,baz=66,slow=36
DBIC Dimbokro 96.72 277 PFAKE 18 21 00.0 +8.7
DBIC LR LR
comp=Z,5µm,19.0s,MS6.0
AFI Afiamalu 96.86 103 PFAKE 18 21 00.0 +8.1
AFI LR LR
comp=Z,3µm,19.0s,MS5.8
PMR Palmer 97.23 25 P **P 18 20 51.8 -1.7**
PMR pmax pmax
comp=Z,56nm,1.6s,mb5.7
PMR MLR MLR
comp=Z,7µm,19.0s,MS6.1
PMR Palmer 97.23 25 P **P 18 20 51.8 -1.7**
comp=Z,56nm,1.6s,mb5.7
PMR LR LR
comp=Z,7µm,19.0s,MS6.1
SLKM Skilak Lake 97.26 26 *e*P **P 18 20 52.9 -0.8**
KDAK Kodiak Island 97.34 29 P **P 18 20 54.1 0.0**
comp=Z,16nm,1.1s,mb5.4,baz=217,slow=10,SNR=3.6
KDAK Kodiak Island 97.34 29 P **P 18 20 54.1 0.0**
KDAK LR LR
comp=Z,1µm,19.0s,MS5.4
SML Sawmill 97.46 25 *e*P **P 18 20 56.1 +1.5**
SML Sawmill 97.46 25 *e*P **P 18 20 51.5 -3.1**
INK Inuvik 98.71 16 P **P 18 20 59.5 -0.8**
comp=Z,4.7nm,0.6s,mb5.2,baz=311,slow=4.6,SNR=6.7
INK Inuvik 98.71 16 *e*P **P 18 21 00.4 +0.2**
INK pmax pmax
comp=Z,47nm,1.2s
INK Inuvik 98.71 16 *e*P **P 18 20 59.2 -1.1**
comp=Z,47nm,1.3s,mb5.8
RES Resolute Bay 98.84 2 *e*P **P 18 21 01.1 +0.3**
RES pmax pmax
comp=Z,30nm,1.1s,mb5.7
RES Resolute Bay 98.84 2 *e*P **P 18 20 59.5 -1.3**
comp=Z,30nm,1.1s,mb5.7
RES *e*PP PP 18 25 08.4 +6.1
DIV Divide 98.86 25 PFAKE 18 21 10.0 +9.1
DIV LR LR
comp=Z,19µm,19.0s,MS6.6
DAWY Dawson 99.66 21 *e*Pdif Pdif 18 21 04.6 +0.1
SFJD Kangerlussuaq 102.13 346 *i* P Pdif 18 21 15.2 -0.2
SFJD *i* 18 53 37.8
SFJD
comp=Z,5µm,20.0s
SFJD Kangerlussuaq 102.13 346 *e*P Pdif 18 21 15.2 -0.2
SFJD *i* 18 53 37.8
SFJD LR LR
comp=Z,5µm,20.0s,MS6.0
KIP Kipapa 105.36 66 PFAKE 18 26 00.0 +16
KIP LR LR
comp=Z,4µm,21.0s,MS6.0
SIT Sitka 105.61 25 PFAKE 18 25 50.0 +6.0
SIT LR LR
comp=Z,8µm,20.0s,MS6.2
TRIS Tristan da Cun 105.86 233 PFAKE 18 26 00.0 +16
TRIS LR LR
comp=Z,5µm,19.0s,MS6.1
DLBC Dease Lake 106.77 22 *e*PKPdf PKiKP 18 25 43.0 -3.1
ASCN Ascension 107.72 264 PFAKE 18 26 00.0 +12
ASCN LR LR
comp=Z,3µm,21.0s,MS5.9
PDA Ponta Delgada 107.82 313 *e*PP PP 18 26 19.0 +10
PDA *e* 18 35 42.0
POHA Pohakuloa 108.01 67 PFAKE 18 26 00.0 +12
POHA LR LR
comp=Z,3µm,19.0s,MS5.9
ADH Angra Heroismo 108.58 314 *e*SS SS 18 42 05.0 +35
ADH Angra Heroismo 108.58 314 *i* LR LR 19 00 25.0
SCHQ Schefferville 116.57 347 PFAKE 18 26 20.0 +15
SCHQ LR LR
comp=Z,9µm,22.0s,MS6.3
HOPE Hope Point 117.33 211 PFAKE 18 26 20.0 +14
HOPE LR LR
comp=Z,7µm,22.0s,MS6.2
FFC Flin Flon 117.79 10 *e*PKIKP PKPdf 18 26 06.6 -0.5
FFC MLR MLR
comp=Z,9µm,19.0s,MS6.4
TBI Tubuai 118.07 113 *e*LQ 18 57 09.1
comp=Z,8µm,44.8s
TBI Tubuai 118.07 113 *e*PP PP 18 27 21.5 -1.0
comp=Z,729nm,29.0s
TBI Tubuai 118.07 113 *e*PS PS 18 37 07.8 -0.4
comp=Z,3µm,28.5s
TBI Tubuai 118.07 113 *e*SS SS 18 43 31.6 -3.6
comp=Z,2µm,37.0s
TBI *e*LR LR 19 01 58.3
comp=Z,11µm,33.8s
PPT Papeete 118.32 106 *e*LQ 18 57 15.0
comp=Z,19µm,45.5s
PPT Papeete 118.32 106 *e*PP PP 18 27 22.4 -1.8
comp=Z,788nm,25.5s
PPT Papeete 118.32 106 *e*PS PS 18 37 09.7 -0.8
comp=Z,5µm,26.5s
PPT Papeete 118.32 106 *e*SS SS 18 43 40.3 +1.8
comp=Z,5µm,27.2s
PPT *e*LR LR 19 02 07.7
comp=Z,12µm,26.2s
NEW Newport 119.51 22 *e*PKIKP PKPdf 18 26 10.3 -0.1
NEW MLR MLR
comp=Z,7µm,19.0s
COR Corvallis 119.73 29 PFAKE 18 26 20.0 +9.2
COR LR LR
comp=Z,3µm,20.0s,MS6.0
WALA Waterton Lakes 120.00 20 *e*PKPdf PKPdf 18 26 09.6 -1.7
HAWA Hanford 120.05 25 *e*PKPdf PKPdf 18 26 11.6 +0.2
HAWA LR LR
comp=Z,483nm,19.0s,MS5.2
H04A Detroit Lake 120.19 28⇑P PKPdf 18 26 12.1 +0.4
baz=120
J02A Umpqua 120.49 30⇓P PKPdf 18 26 12.4 +0.1
baz=120
BSMT Bassoo Peak 120.72 21 *e*PKPdf PKPdf 18 26 14.0 +1.3
J03A Ideyld Park 120.80 30⇑P PKPdf 18 26 12.6 -0.2
baz=121
HUMO Hull Mountain 121.36 30 *e*PKPdf PKPdf 18 26 13.4 -0.5
HUMO LR LR
comp=Z,3µm,20.0s,MS6.0
HUMO Hull Mountain 121.36 30⇓P PKPdf 18 26 14.0 +0.1
baz=121
I06A Prineville 121.67 27⇑P PKPdf 18 26 15.3 +0.7
baz=121
MSO Missoula 121.89 21 *e*PKPdf PKPdf 18 26 11.9 -3.0
MSO LR LR
comp=Z,5µm,19.0s,MS6.2
CHMT Chamberlain Mo 122.06 21 *e*PKPdf PKPdf 18 26 14.8 -0.5
CHMT *e*PP PP 18 27 50.3 +0.4
YBH Yreka Blue Hor 122.12 31 PFAKE 18 26 30.0 +15
YBH LR LR
comp=Z,3µm,19.0s,MS5.9
BMO Blue Mountains 122.22 25 *e*PKPdf PKPdf 18 26 11.4 -4.2
BMO LR LR
comp=Z,4µm,20.0s,MS6.1
J06A Christmas Vall 122.23 28⇑P PKPdf 18 26 15.0 -0.6
baz=122
EGMT Eagleton 122.23 18 *e*PKPdf PKPdf 18 26 13.4 -2.3
EGMT LR LR
comp=Z,5µm,19.0s,MS6.2
M02C Callahan 122.30 31⇓P PKPdf 18 26 16.8 +1.0
baz=122
N02C Big Bar 122.48 32⇓P PKPdf 18 26 18.0 +1.9
baz=122
K06A Valley Falls 122.53 28⇑P PKPdf 18 26 17.4 +1.2
baz=122
HRY Holter Researc 122.73 20 *e*PKPdf PKPdf 18 26 13.9 -2.7
L05A Lakeview 122.83 29⇓P PKPdf 18 26 17.8 +1.0
baz=123
ULM Lac du Bonnet 123.01 7 PKP PKPdf 18 26 16.7 -0.4
comp=Z,3.5nm,0.7s,baz=12,slow=2.9,SNR=6.1
ULM Lac du Bonnet 123.01 7 *e*P PKPdf 18 26 15.0 -2.1
ULM LR LR
comp=Z,13µm,20.0s,MS6.6
WDC Whiskeytown Da 123.05 32 *e*PKIKP PKPdf 18 26 14.9 -2.3
WDC MLR MLR
comp=Z,3µm,20.0s,MS5.9
K07A Rock Creek Ran 123.08 28⇑P PKPdf 18 26 17.1 -0.1
baz=123
M05C Lookout 123.19 30⇑P PKPdf 18 26 19.3 +1.9
baz=123
O02C Red Bluff 123.21 32⇓P PKPdf 18 26 20.2 +2.7
baz=123
LRM Limekiln Ridge 123.29 21 *e*PKPdf PKPdf 18 26 19.9 +2.2
HATC Hat Creek Radi 123.43 31⇑P PKPdf 18 26 19.0 +1.0
baz=123
L07A Adell 123.56 28⇑P PKPdf 18 26 18.7 +0.5
baz=123
WVOR Wild Horse Val 123.57 28 *e*PKIKP PKPdf 18 26 18.3 +0.1
WVOR *e* 18 28 03.3
WVOR MLR MLR
comp=Z,4µm,19.0s,MS6.1
DLMT Dillon 123.63 21 *e*PKPdf PKPdf 18 26 17.8 -0.5
DLMT *e*PP PP 18 28 02.4 +1.9
GASB Alder Springs 123.63 33⇓P PKPdf 18 26 20.8 +2.5
baz=123
M06C Likely Place G 123.64 30⇓P PKPdf 18 26 19.7 +1.4
baz=123
BOZ Bozeman (W) 123.72 20 *e*PKIKP PKPdf 18 26 18.1 -0.4
BOZ MLR MLR
comp=Z,6µm,20.0s,MS6.3
L08A Fields 123.89 28⇓P PKPdf 18 26 18.0 -0.8
baz=124
HOPS Hopland 123.91 33 *e*PKPdf PKPdf 18 26 17.9 -1.0
HOPS LR LR
comp=Z,4µm,20.0s,MS6.0
O04C Chester 123.99 31⇑P PKPdf 18 26 20.2 +1.2
baz=124
MCMT McKenzie Canyo 124.00 22 *e*PKPdf PKPdf 18 26 17.7 -1.3
M07A Soldier Meadow 124.13 29⇓P PKPdf 18 26 20.6 +1.3
baz=124
GCMT Greyclift 124.25 19 *e*PKPdf PKPdf 18 26 18.1 -1.4
L09A Wilkinson Ranc 124.33 27⇓P PKPdf 18 26 21.2 +1.5
baz=124
MNRC McLaughlin Nat 124.34 33⇓P PKPdf 18 26 21.4 +1.7
baz=124
ORV Oroville 124.35 32⇓P PKPdf 18 26 20.7 +1.0
baz=124
LAO LASA Array 124.45 16 *e*PKPdf PKPdf 18 26 20.1 +0.2
LAO LR LR
comp=Z,7µm,19.0s,MS6.3
M08A Happy Creek Ra 124.46 28⇑P PKPdf 18 26 20.9 +1.0
baz=124
HLID Hailey 124.47 24 *e*PKPdf PKPdf 18 26 16.4 -3.6
HLID LR LR
comp=Z,5µm,20.0s,MS6.2
QLMT Earthquake Lak 124.50 21 *e*PKPdf PKPdf 18 26 19.7 -0.3
MCCM Marconi Confer 124.62 34⇑P PKPdf 18 26 21.2 +1.0
baz=124
CVS Carmenet Viney 124.71 33⇑P PKPdf 18 26 22.1 +1.7
baz=124
O06A Flanigan 124.75 30⇑P PKPdf 18 26 22.0 +1.5
baz=124
YMR Madison River 124.81 20 *e*PKPdf PKPdf 18 26 20.1 -0.4
YMR LR LR
comp=Z,9µm,21.0s,MS6.4
M09A Marrel Ranch, 124.91 27⇑P PKPdf 18 26 23.6 +2.8
baz=125
P05C Yuba Gap, Truc 125.00 31⇑P PKPdf 18 26 21.8 +0.9
baz=125
YFT Old Faithful 125.04 20 *e*PKPdf PKPdf 18 26 20.9 -0.1
LKWY Lake 125.09 20 PFAKE 18 26 30.0 +8.9
LKWY LR LR
comp=Z,11µm,21.0s,MS6.5
N08A GE Springer Mi 125.10 28⇓P PKPdf 18 26 22.4 +1.3
baz=125
O07A Toulon 125.22 29⇓P PKPdf 18 26 21.2 -0.1
baz=125
PAHR Pah Rah Range 125.32 30 *e*PKPdf PKPdf 18 26 22.2 +0.6
N09A Rock Creek Ran 125.33 28⇓P PKPdf 18 26 22.7 +1.2
baz=125
LAVA Lava Cap Winer 125.33 32⇑P PKPdf 18 26 23.6 +2.0
baz=125
IMW Indian Meadow 125.49 21 *e*PKPdf PKPdf 18 26 20.7 -1.1
M11A Holland Ranch, 125.65 26⇑P PKPdf 18 26 24.5 +2.3
baz=125
EYMN Ely 125.68 3 *e*PKPdf PKPdf 18 26 21.2 -1.0
EYMN LR LR
comp=Z,9µm,21.0s,MS6.4
R05C Kirkwood Meado 125.72 31⇑P PKPdf 18 26 23.7 +1.3
baz=126
BNLO Ben Lomond 125.74 34⇑P PKPdf 18 26 24.2 +1.8
baz=126
TPAW Teton Pass 125.84 21 *e*PKPdf PKPdf 18 26 24.5 +2.0
LOHW Long Hollow 125.86 21 *e*PKPdf PKPdf 18 26 23.8 +1.2
S04C Ingram Canyon, 125.94 33⇑P PKPdf 18 26 22.9 +0.2
baz=126
REDW Red Top Meadow 125.99 21 *e*PKPdf PKPdf 18 26 24.2 +1.3
O09A Fish Creek Ran 126.02 28⇓P PKPdf 18 26 23.2 +0.3
baz=126
M12A Wells 126.04 26⇓P PKPdf 18 26 23.9 +1.0
baz=126
CMB Columbia Colle 126.06 32 *e*PKIKP PKPdf 18 26 23.0 0.0
CMB *e* 18 28 19.9
CMB MLR MLR
comp=Z,4µm,20.0s,MS6.1
WAKR Walker 126.20 31 *e*PKPdf PKPdf 18 26 29.6 +6.4
PACP Pacheco Peak 126.32 34⇑P PKPdf 18 26 25.0 +1.5
baz=126
M13A Montello 126.40 25⇓P PKPdf 18 26 25.6 +2.0
baz=126
SAO San Andreas Ge 126.41 34 PFAKE 18 26 30.0 +6.4
SAO LR LR
comp=Z,3µm,19.0s,MS6.0
AHID Auburn Hatcher 126.42 22 *e*PKPdf PKPdf 18 26 24.0 +0.4
AHID LR LR
comp=Z,6µm,19.0s,MS6.3
N12A Wells--Clov Va 126.45 26⇓P PKPdf 18 26 24.0 +0.3
baz=126
S06C San Francisco 126.45 32⇓P PKPdf 18 26 25.5 +1.8
baz=126
S05C Merced 126.59 33⇓P PKPdf 18 26 24.0 0.0
baz=126
HAST Hastings Reser 126.62 34⇑P PKPdf 18 26 25.5 +1.5
baz=126
HVU Hansel Valley 126.62 24 *e*PKIKP PKPdf 18 26 24.2 +0.2
Q08A Gabbs 126.69 30⇑P PKPdf 18 26 25.5 +1.3
baz=126
O11A Cowboy Ranch, 126.76 27⇑P PKPdf 18 26 25.9 +1.6
baz=126
P10A Eureka 126.80 28⇑P PKPdf 18 26 26.0 +1.6
baz=126

MNV Mina 126.91 30 *e*PKIKP PKPdf 18 26 14.7 -10
MNV *e* 18 26 24.0
MNV MLR MLR
comp=Z,5μm,21.0s,MS6.2
BW06 Boulder Array 126.97 20 PFAKE 18 26 40.0 +15
BW06 LR LR
comp=Z,9μm,19.0s,MS6.5
PDAR Pinedale Array 126.97 20 PKP PKPdf 18 26 24.4 -0.3
comp=Z,4.5nm,0.8s,baz=29,slow=3.4,SNR=25
U04C Hernandez Rese 127.07 34 ⇓P PKPdf 18 26 26.7 +1.8
baz=127
HWUT Hardware Ranch 127.24 23 *e*PKPdf PKPdf 18 26 24.5 -0.7
HWUT *e*PP PP 18 28 22.2 -2.4
HWUT LR LR
comp=Z,8μm,19.0s,MS6.4
RSSD Black Hills 127.41 15 *e*PKIKP PKPdf 18 26 26.5 +1.0
RSSD MLR MLR
comp=Z,8μm,19.0s,MS6.4
PKD Parkfield 127.50 34 ⇓P PKPdf 18 26 26.6 +0.8
baz=127
MTUM Tungsten Hills 127.52 31 *e*PKPdf PKPdf 18 26 28.2 +2.4
TAOE Nuku Hiva Isla 127.59 96 *e*PP PP 18 28 22.4 -4.5
comp=Z,2μm,25.1s
TAOE Nuku Hiva Isla 127.59 96 *e*SS SS 18 45 34.8 -1.4
TAOE comp=Z,5μm,29.6s
*e*LR LR 19 06 39.6
LBNH Lisbon 127.65 346 PFAKE 18 26 40.0 +14
LBNH LR LR
comp=Z,6μm,20.0s,MS6.2
TCUT Toone Canyon 127.72 23 *e*PKPdf PKPdf 18 26 27.5 +1.4
Q11A Duckwater 127.79 28 ⇑P PKPdf 18 26 28.1 +1.8
baz=128
LONY Lake Ozonia 127.86 349 *e*PKPdf PKPdf 18 26 27.8 +1.4
DUG Dugway 127.94 25 *e*PKIKP PKPdf 18 26 25.1 -1.5
DUG MLR MLR
comp=Z,4μm,20.0s,MS6.1
CTU Camp Tracy 127.95 24 *e*PKPdf PKPdf 18 26 22.7 -3.9
DAU Daniels Canyon 128.38 23 *e*PKIKP PKPdf 18 26 28.2 +0.8
NCB Newcomb 128.41 348 PFAKE 18 26 40.0 +13
NCB LR LR
comp=Z,4μm,19.0s,MS6.2
NLU North Lily Min 128.44 24 *e*PKPdf PKPdf 18 26 28.9 +1.4
SADO Sadowa 128.46 353 PKP PKPdf 18 26 27.6 +0.1
comp=Z,1.9nm,0.4s,baz=18,slow=6.4,SNR=2.1
MPU Maple Canyon 128.57 24 *e*PKPdf PKPdf 18 26 29.1 +1.4
MPU LR LR
comp=Z,7μm,20.0s,MS6.3
RWWY Rawlins 128.72 19 *e*PKPdf PKPdf 18 26 27.7 -0.4
ISA Isabella 128.84 33 PFAKE 18 26 40.0 +12
ISA LR LR
comp=Z,587nm,20.0s,MS5.3
EFI East Falkland 128.88 203 PFAKE 18 26 40.0 +12
EFI LR LR
comp=Z,3μm,20.0s,MS6.0
TPNV Topopah Spring 129.01 30 *e*PKIKP PKPdf 18 26 28.2 -0.4
TPNV MLR MLR
comp=Z,4μm,19.0s,MS6.2
WES Weston 129.24 345 PFAKE 18 26 40.0 +11
WES LR LR
comp=Z,3μm,20.0s,MS6.0
TMUT Trail Mountain 129.36 24 *e*PKPdf PKPdf 18 26 29.1 -0.1
U10A Ash Meadows, A 129.38 30 ⇓P PKPdf 18 26 32.1 +2.8
baz=129
MSU Marysvale 129.62 25 *e*PKIKP PKPdf 18 26 30.6 +0.9
PHWY Pilot Hill 129.62 18 *e*PKPdf PKPdf 18 26 30.8 +1.1
SRU San Rafael 129.79 24 *e*PKIKP PKPdf 18 26 32.8 +2.7
CCUT Cedar City 129.90 27 *e*PKPdf PKPdf 18 26 32.6 +2.4
GSC Goldstone 130.00 32 *e*PKIKP PKPdf 18 26 33.6 +3.1
GSC Goldstone 130.00 32 ⇑P PKPdf 18 26 32.7 +2.3
baz=130
SNCC San Nicolas Is 130.03 36 PFAKE 18 26 40.0 +9.5
SNCC LR LR
comp=Z,3μm,22.0s,MS5.9
U12A Valley of Fire 130.25 29 ⇓P PKPdf 18 26 33.2 +2.2
baz=130
V12A Nelson 130.66 30 ⇑P PKPdf 18 26 32.3 +0.6
baz=130
ISCO Idaho Springs 130.94 19 *e*PKPdf PKPdf 18 26 33.9 +1.7
ISCO *e*SKP 18 30 02.1
ISCO LR LR
comp=Z,9μm,19.0s,MS6.5
PV10 Paradox Valley 131.00 23 *e*PKPdf PKPdf 18 26 31.9 -0.5
PV10 *e*PP PP 18 28 46.0 -3.1
PV10 *e*SKP 18 29 58.5
SMCO Snowmass 131.05 20 *e*PKPdf PKPdf 18 26 31.5 -0.9
SMCO *e*PP PP 18 28 47.3 -2.1
SMCO *e*SKP 18 30 00.6
ERPA Erie 131.18 353 PFAKE 18 26 40.0 +7.3
ERPA LR LR
comp=Z,5μm,19.0s,MS6.3
RKT Rikitea 131.27 115 *e*SS SS 18 46 16.7 -4.8
comp=Z,3μm,33.2s
AAM Ann Arbor 131.34 356 PFAKE 18 26 40.0 +7.0
AAM LR LR
comp=Z,5μm,20.0s,MS6.2
PV01 Paradox Valley 131.40 22 *e*PKPdf PKPdf 18 26 30.5 -2.7
PV01 *e*SKP 18 30 01.3
PFO Pinyon Flat Ob 131.48 33 *e*PKIKP PKPdf 18 26 38.2 +4.9
PFO MLR MLR
comp=Z,4μm,21.0s,MS6.1
PFO Pinyon Flat Ob 131.48 33 ⇑P PKPdf 18 26 37.8 +4.5
baz=131
W14A Seligman 131.94 29 ⇑P PKPdf 18 26 36.7 +2.5
baz=132
X13A Yucca 132.07 30 ⇑P PKPdf 18 26 36.3 +1.9
baz=132
MVCO Mesa Verde 132.23 23 *e*PKPdf PKPdf 18 26 37.2 +2.6
SSPA Standing Stone 132.33 350 PFAKE 18 26 50.0 +15
SSPA LR LR
comp=Z,4μm,21.0s,MS6.1
WUAZ Wupatki 132.47 27 *e*PKPpre 18 26 28.9
WUAZ LR LR
comp=Z,5μm,20.0s,MS6.2
X14A Yava 132.63 29 ⇓P PKPdf 18 26 37.5 +2.1
baz=132
Y13A Salome 132.69 30 ⇓P PKPdf 18 26 37.8 +2.2
baz=132
GLA Glamis 132.78 32 ⇓P PKPdf 18 26 37.3 +1.6
baz=132
X15A Humboldt 132.92 28 ⇑P PKPdf 18 26 37.1 +1.1
baz=133
Y14A Wickenburg 133.00 30 ⇑P PKPdf 18 26 37.7 +1.6
baz=133
ACSO Alum Creek Sta 133.35 355 PKPdf PKPdf 18 26 39.6 +2.8
ACSO LR LR
comp=Z,4μm,19.0s,MS6.2
Z14A Wintersburg 133.49 30 ⇓P PKPdf 18 26 39.6 +2.5
baz=133
MCWV Mont Chateau 133.58 352 PFAKE 18 26 50.0 +13
MCWV LR LR
comp=Z,9μm,20.0s,MS6.5
115A Sonoran Desert 134.38 30 ⇑P PKPdf 18 26 39.0 +0.2
baz=134
CBN Corbin 134.60 349 PFAKE 18 26 50.0 +11
CBN LR LR
comp=Z,8μm,19.0s,MS6.5
116A Eloy 134.76 29 ⇑P PKPdf 18 26 42.3 +2.8
baz=134
ANMO Albuquerque 135.00 22 *i* PKIKP PKPdf 18 26 42.9 +3.0
ANMO Albuquerque 135.00 22 *e*PKPpre 18 26 36.2
ANMO *e*PKPdf PKPdf 18 26 41.8 +1.9
ANMO LR LR
comp=Z,4μm,20.0s,MS6.1
LAZ Ladron 135.22 23 *e*PKPdf PKPdf 18 26 41.7 +1.4
TUC Tucson 135.40 29 *e*PKIKP PKPdf 18 26 39.6 -1.1
LENM Lemitar 135.49 23 *e*PKPdf PKPdf 18 26 40.7 -0.1
LPM Los Pinos Moun 135.50 23 *e*PKPdf PKPdf 18 26 38.2 -2.6
WCI Wyandotte Cave 135.51 359 PFAKE 18 26 50.0 +9.1
WCI LR LR
comp=Z,6μm,20.0s,MS6.3
CCM Cathedral Cave 135.54 4 PFAKE 18 26 50.0 +9.1
CCM LR LR
comp=Z,5μm,20.0s,MS6.2
BNM Barren Site 135.64 23 *e*PKPdf PKPdf 18 26 43.4 +2.3
BLA Blacksburg 136.07 352 PFAKE 18 26 50.0 +8.1
BLA LR LR
comp=Z,595nm,19.0s,MS5.3
AMTX Amarillo 136.68 17 PFAKE 18 26 50.0 +7.0
AMTX LR LR
comp=Z,7μm,22.0s,MS6.3
WVT Waverly 137.62 1 *e*PKIKP PKPdf 18 26 44.2 -0.6
WVT MLR MLR
comp=Z,6μm,19.0s,MS6.4
PLAL Pickwick Lake 138.76 1 *e*PKPdf PKPdf 18 26 47.8 +0.9
PLAL LR LR
comp=Z,10μm,19.0s,MS6.6
MIAR Mount Ida 138.77 8 *e*PKHKP 18 26 38.7
MIAR MLR MLR
comp=Z,11μm,21.0s,MS6.6
OXF Oxford 139.18 3 PFAKE 18 27 00.0 +12
OXF LR LR
comp=Z,6μm,20.0s,MS6.3
LRAL Lakeview Retre 140.70 360 PFAKE 18 27 00.0 +10
LRAL LR LR
comp=Z,6μm,20.0s,MS6.3
LTX Lajitas 141.06 23 *e*PKIKP PKPdf 18 26 48.4 -2.6
LTX MLR MLR
comp=Z,8μm,20.0s,MS6.5
TRQA Tornquist 141.07 212 PFAKE 18 27 00.0 +8.9
TRQA LR LR
comp=Z,7μm,20.0s,MS6.4
NATX Nacogdoches 141.33 10 PFAKE 18 27 00.0 +8.5
NATX LR LR
comp=Z,6μm,20.0s,MS6.3
JCT Junction City 141.34 17 *e*PKHKP 18 26 45.7
JCT *e* 18 26 53.2
JCT MLR MLR
comp=Z,5μm,20.0s,MS6.3
PLCA Paso Flores 142.75 201 PKP PKPdf 18 26 53.5 -0.6
comp=Z,1.4nm,0.7s,baz=35,slow=7.1,SNR=5.2
PLCA Paso Flores 142.75 201 *e*PKPdf PKPdf 18 26 51.2 -2.9
PLCA LR LR
comp=Z,4μm,20.0s,MS6.2
HKT Hockley 142.86 12 *e*PKIKP PKPdf 18 26 52.5 -1.8
HKT MLR MLR
comp=Z,7μm,20.0s,MS6.4
MAIG Mazatlaan 145.08 32 *i* P PKPbc 18 27 04.5 +6.9
DWPF Disney 145.15 351 *e*PKPdf PKPdf 18 26 59.9 +1.6
DWPF LR LR
comp=Z,6μm,20.0s,MS6.4
CPUP Villa Florida 145.29 232 *e*PKPdf PKPdf 18 26 56.9 -1.6
CPUP LR LR
comp=Z,1μm,19.0s,MS5.6
ZAIG Zacatecas 147.31 27 *i* P PKPdf 18 27 07.0 +5.1
SJG San Juan 147.87 320 PKPbc PKPbc 18 27 07.0 +1.2
comp=Z,6.2nm,0.4s,baz=331,slow=19,SNR=2.3
SJG San Juan 147.87 320 PKP2 PKPab 18 27 07.0 -1.4
SJG pmax pmax
comp=Z,6.0nm,0.4s
SJG San Juan 147.87 320 *e*PKPdf PKPdf 18 27 05.1 +2.3
MDZ Mendoza 148.63 211 *e*P PKPbc 18 27 10.4 +2.6
MDZ S 18 27 35.0
CJM Chamela 148.82 34 *i* P PKPbc 18 27 10.2 +1.9
SFJM Santa Fe 149.05 30 *e*P PKPdf 18 27 03.5 -1.3
SOR Soroa 150.61 352 *e*P PKPbc 18 27 15.7 +3.0
RPN Rapa Nui 150.66 137 PKPbc PKPbc 18 27 12.8 0.0
comp=Z,84nm,0.9s,baz=288,slow=6.4,SNR=2.6
RPN Rapa Nui 150.66 137 PKPbc PKPbc 18 27 12.8 0.0
RPN LR LR
comp=Z,4μm,22.0s,MS6.2
MGV Manicaragua 150.70 346 *e*P PKPbc 18 27 17.3 +4.4
CCCC Cccc 150.95 341 *e*P PKPbc 18 27 15.6 +2.2
LMGC Las Mercedes 151.75 339 *e*P PKPbc 18 27 19.7 +4.4
TLL Tololo Astrono 151.79 211 *e*PKIKP PKPbc 18 27 15.1 -0.3
PCRV Puerto La Cruz 152.02 306 PKPbc PKPbc 18 27 16.0 +0.1
comp=Z,8.3nm,0.6s,baz=82,slow=19,SNR=3.3
PCRV PKPab PKPab 18 27 24.3 -1.1
comp=Z,19nm,0.6s,baz=240,slow=1.7,SNR=5.3
PPM Popocatepetl 152.27 24 *i* PKIKP PKPbc 18 27 18.1 +1.6
PLIG Platanillo 152.50 26 *i* P PKPbc 18 27 14.6 -2.5
CAIG El Cayaco 153.33 29 *i* P PKPbc 18 27 20.6 +1.7
TEIG Tepich 153.44 2 *e*PKPdf PKPdf 18 27 11.2 -0.3
TEIG *e*PKPbc PKPbc 18 27 20.4 +1.3
TEIG LR LR
comp=Z,2μm,21.0s,MS6.0
SAML Samuel 155.99 263 *e*PKPdf PKPdf 18 27 16.9 +1.9
SAML LR LR
comp=Z,9μm,22.0s,MS6.5
LVC Limon Verde 156.10 226 PFAKE 18 27 30.0 +15
LVC LR LR
comp=Z,4μm,21.0s,MS6.2
SDV Santo Domingo 157.45 312 PKP PKPdf 18 27 18.6 +1.7
comp=Z,1.4nm,0.3s,baz=340,slow=15,SNR=2.5
SDV Santo Domingo 157.45 312 *e*PKPdf PKPdf 18 27 18.7 +1.8
SDV LR LR
comp=Z,4μm,21.0s,MS6.2
LPAZ La Paz 158.86 241 PKP PKPdf 18 27 19.6 +1.0
comp=Z,1.3nm,0.9s,baz=256,slow=8.3,SNR=3.7
LPAZ La Paz 158.86 241 PKIKP PKPdf 18 27 19.6 +1.0
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
LPAZ La Paz 158.86 241 *e*PKPdf PKPdf 18 27 19.2 +0.6
LPAZ LR LR
comp=Z,5μm,19.0s,MS6.3
ROSC El Rosal 162.85 311 PKP PKPdf 18 27 24.7 +1.9
comp=Z,18nm,0.3s,baz=94,slow=14,SNR=3.0
JTS JuntasAbangare 163.18 352 PFAKE 18 27 30.0 +6.8
JTS LR LR
comp=Z,4μm,19.0s
NNA Nana 168.33 241 PFAKE 18 27 40.0 +13
NNA LR LR
comp=Z,4μm,20.0s
OTAV Otavalo 168.94 307 *e*PKPdf PKPdf 18 27 29.3 +1.5
OTAV *e*PKPab PKPab 18 28 43.5 +4.6

ISCJB ***27*** *18:10:36.0±3.6, 24.1S±0.1×1788W±03, h511km±33km, mb4.5/7, Error ellipse: s-maj=48.0km s-min=14.6km az=139.8*
NEIC ***27*** *18:10:42.3±2.8, 2459S×17949W, h521km±27km, mb4.4/4, Error ellipse: s-maj=33.2km s-min=18.5km az=49.0*
IDC ***27*** *18:10:42.5±3.0, 2443S×17965W, h506km±26km, mb4.2/5, mb1 4.0/7, mb1mx3.7/14, mbtmp4.9/7, Error ellipse: s-maj=32.2km s-min=27.7km az=49.0*

ISC 27 18:10:38.1±3.4, 243S±01×1790W±03, h508km±28km, n29, σ0§82/16, mb4.5/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.59**	**276**	P	**P**	**18 13 32.7**	**-0.6**
0.2nm,0.3s,baz=102,slow=19,SNR=6.5							
URZ	**Urewera**	**14.35**	**193**	P	**P**	**18 13 41.5**	**+0.2**
1.8nm,0.3s,baz=355,slow=2.7,SNR=7.6							
URZ				S	**S**	**18 16 12.9**	**+0.6**
0.5nm,0.3s,baz=0.0,slow=20,SNR=5.1							
HNR	**Honiara**	**24.94**	**303**	P	**P**	**18 15 21.8**	**+1.3**
97nm,0.7s,mb5.4,baz=275,slow=19,SNR=11							
HNR	**Honiara**	**24.94**	**303**	*e*P	**P**	**18 15 22.6**	**+2.1**
CTA	**Charters Tower**	**32.42**	**270**	P	**P**	**18 16 26.0**	**+0.3**
16nm,0.4s,mb4.8,baz=95,slow=11,SNR=54							
CTAO	**Charters Tower**	**32.42**	**270**	*e*P	**P**	**18 16 25.6**	**-0.1**
22nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**35.46**	**249**	P	**P**	**18 16 50.8**	**-0.5**
PMG	**Port Moresby**	**35.50**	**289**	P	**P**	**18 16 50.2**	**-1.4**
18nm,0.9s,mb4.5,baz=187,slow=4.5,SNR=3.9							
PMG	**Port Moresby**	**35.50**	**289**	*e*P	**P**	**18 16 50.8**	**-0.8**
24nm,0.8s,mb4.7							
ASAR	**Alice Springs**	**42.91**	**261**	P	**P**	**18 17 50.6**	**-0.8**
12nm,0.6s,mb4.5,baz=298,slow=3.2,SNR=4.1							
WRA	**Warramunga Arr**	**43.32**	**266**	P	**P**	**18 17 54.5**	**-0.2**
13nm,0.7s,mb4.4,baz=95,slow=8.4,SNR=5.8							
MBWA	**Marble Bar**	**56.24**	**260**	*e*P	**P**	**18 19 30.3**	**+0.6**
1.4nm,0.5s,mb3.5							
QSPA	**South Pole Qui**	**65.82**	**180**	*e*P	**P**	**18 20 31.6**	**-1.2**
6.2nm,1.2s,mb4.1							
KKM	**Kota Kinabalu**	**69.91**	**287**	*e*P	**P**	**18 20 57.9**	**+0.1**
KSM	**Kuching**	**73.09**	**280**	*e*P	**P**	**18 21 17.5**	**+1.2**
MKAR	**Makanchi Array**	**113.09**	**312**	PKiKP	PKiKP	18 28 20.7	+3.3
0.5nm,0.7s,baz=210,slow=1.5,SNR=4.3							
BVAR	**Borovoye Array**	**121.33**	**319**	PKP	PKPdf	18 28 36.7	+3.4
0.7nm,0.4s,baz=108,slow=2.5,SNR=5.2							
ARCES	**ARCESS Array B**	**132.43**	**349**	PKP	PKPdf	18 28 58.8	+4.4
1.8nm,0.8s,baz=321,slow=1.6,SNR=4.4							
FINES	**FINESS Array B**	**139.09**	**342**	PKP	PKPdf	18 29 12.1	+5.4
1.8nm,0.8s,baz=151,slow=4.4,SNR=4.4							
FINES	**FINESS Array B**	**139.09**	**342**	PKP	PKPdf	18 29 12.1	+5.3
NOA	**NORSAR Array B**	**142.58**	**352**	PKhKP		18 29 13.7	
0.7nm,0.7s,baz=31,slow=5.2,SNR=3.6							
HFS	**Hagfors**	**143.08**	**349**	PKhKP		18 29 14.7	
3.8nm,0.4s,baz=83,slow=4.6,SNR=27							
AKASG	**Malin Array Be**	**145.78**	**328**	PKPbc	PKPbc	18 29 22.8	+2.7
2.1nm,0.4s,baz=42,slow=4.2,SNR=16							
AKASG				SKPbc	SKPbc	18 32 13.9	+3.7
0.2nm,0.4s,baz=44,slow=2.8,SNR=4.2							
BR131	**Keskin Array S**	**148.55**	**307**	*e*PKPdf	PKPdf	18 29 30.6	+7.5
BR131				*e*PKPbc	PKPbc	18 29 35.3	+7.9
BRTR	**Keskin Array B**	**148.55**	**307**	PKPbc	PKPbc	18 29 31.4	+3.9
1.8nm,0.6s,baz=139,slow=3.4,SNR=4.2							
EKA	**Eskdalemuir Ar**	**148.81**	**5**	PKPbc	PKPbc	18 29 32.4	+4.3
0.7nm,0.4s,baz=334,slow=2.6,SNR=8.0							
CLL	**Collm**	**151.47**	**344**	*i* PKPbc	PKPbc	18 29 39.0	+4.7
comp=Z,7.0nm,1.0s							
BRG	**Berggiesshubel**	**151.62**	**343**	*i* P	PKPbc	18 29 39.3	+4.6
comp=Z,2.9nm,0.5s							
BRG	**Berggiesshubel**	**151.62**	**343**	*i* P	PKPbc	18 29 39.3	+4.6
comp=Z,2.9nm,0.5s							

PGC 27 18:37:40.5, 4900N×12812W, h10km, MLSn2.9/1, Mw3.6, 161km southwest of Tofino, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.09**	**36**	P	Pb	18 37 59.4	-2.0
EDB				S	Sg	18 38 11.4	-4.2
EDB				Trac		18 38 12.1	
comp=Z,4.0nm,0.1s							
MAYB	**Maynard**	**1.53**	**23**	Pn	Pn	18 38 06.3	-1.6
MAYB				Trac		18 38 39.3	
comp=Z,22nm,0.5s							
WOSB	**Woss**	**1.54**	**40**	Pn	Pn	18 38 06.6	-1.3
GDR	**Gold River**	**1.57**	**59**	Pn	Pn	18 38 05.1	-3.3
HOLB	**Holberg**	**1.64**	**360**	Pn	Pn	18 38 07.7	-1.6
OZB	**Mount Ozzard**	**1.73**	**90**	Pn	Pn	18 38 06.9	-3.7
OZB				Sg	Sg	18 38 33.0	-3.0
OZB				Trac		18 38 34.1	
comp=Z,18nm,0.2s							
BTB	**Buttle Lake**	**1.77**	**74**	Pn	Pn	18 38 09.6	-1.5
BTB				Sg	Sg	18 38 34.5	-2.7
BTB				Trac		18 38 37.6	
comp=Z,24nm,0.4s							
PHC	**Port Hardy**	**1.77**	**14**	Pn	Pn	18 38 09.4	-1.6
NCRB	**Newcastle Ridg**	**1.94**	**43**	Pn	Pn	18 38 12.7	-0.7
CBB	**Campbell River**	**2.07**	**59**	Pn	Pn	18 38 14.7	-0.5
CBB				Sg	Sg	18 38 46.1	-0.9
CBB				Trac		18 38 51.0	
comp=Z,5.0nm,0.2s							
MGB	**Mount Grey**	**2.26**	**89**	Pn	Pn	18 38 14.1	-3.7
MGB				Sg	Sg	18 38 45.6	-7.3
MGB				Trac		18 38 47.6	
comp=Z,3.0nm,0.1s							
PFB	**Port Renfrew**	**2.47**	**99**	Pn	Pn	18 38 17.2	-3.5
PFB				Sn	Sn	18 38 48.8	-2.2
TXB	**Texada**	**2.51**	**72**	Pn	Pn	18 38 20.0	-1.2
SHB	**Sechelt**	**2.84**	**76**	Pn	Pn	18 38 24.2	-1.6
BBB	**Bella Bella**	**3.19**	**0**	Pn	Pn	18 38 28.4	-2.3
BBB				Trac		18 39 14.3	
comp=Z,19nm,0.6s							
LLLB	**Lillooet**	**4.35**	**66**	Pn	Pn	18 38 46.1	-0.4

IDC 27 19:05:20.7±2.1, 308N×12683E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/15, mbtmp3.2/3, Error ellipse: s-maj=155.8km s-min=26.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**162**	P	P	19 10 37.8	+0.4
0.6nm,1.0s,baz=342,slow=10,SNR=7.3							
ASAR	**Alice Springs**	**27.46**	**166**	P	P	19 11 08.6	+0.1
0.2nm,0.7s,baz=353,slow=7.6,SNR=4.1							
MKAR	**Makanchi Array**	**58.14**	**325**	P	P	19 15 16.4	+0.3
0.2nm,0.5s,baz=114,slow=8.2,SNR=5.6							

CSEM ***27*** *19:11:41.7, 2165S×17774W, h33km, mb5.6*
MOS ***27*** *19:12:47.8±0.8, 2080S×17905W, h608km, mb5.2/29, Error ellipse: s-maj=9.9km s-min=9.0km az=58.5*
BJI ***27*** *19:12:49.2, 2046S×17851W, h635km, mB5.3, mb4.8*
ISCJB ***27*** *19:12:49.1±0.1, 21.11S±004×17909W±003, h634km, mb4.8/80, Error ellipse: s-maj=5.9km s-min=3.4km az=121.5*
IDC ***27*** *19:12:50.3±0.6, 2098S×17900W, h632km±6km, mb4.2/21, mb1 4.1/23, mb1mx4.1/24, mbtmp5.1/23, Error ellipse: s-maj=10.6km s-min=9.8km az=147.0*
NEIC ***27*** *19:12:50.3±0.1, 2097S×17906W, mb4.8/47, Error ellipse: s-maj=7.3km s-min=3.8km az=154.0*
BGS ***27*** *19:12:53.1±5.4, 2084S×179.14W, h635km, mb4.8(NEIC)*
SZGRF ***27*** *19:12:53.2, 2054S×17804W, h654km, Fiji Islands region*

ISC 27 19:12:50.7±0.1, 2110S±004×17905W±003, h636km, h636km±2.2km; pP-P, n618, σ0§81/325, mb4.8/80, 137C-115D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.96**	**45**	P	**P**	**19 15 04.8**	**-4.9**
9.2nm,0.3s,baz=100,slow=2.7,SNR=7.3							
AFI				S	**S**	**19 16 52.1**	**-12**
20nm,0.3s,baz=233,slow=20,SNR=9.4							
AFI	**Afiamalu**	**9.96**	**45**	*e*P	**P**	**19 15 04.3**	**-5.5**
AFI				*e*S	**S**	**19 16 52.1**	**-12**
AFI				pmax	pmax		
comp=Z,57nm,0.6s							
AFI	**Afiamalu**	**9.96**	**45**	*e*P	**P**	**19 15 04.3**	**-5.5**
comp=Z,57nm,0.6s							
AFI				*e*S	**S**	**19 16 52.1**	**-12**
DZM	**Mont Dzumac**	**13.53**	**263**	*e*P	**P**	**19 15 42.2**	**-1.7**
DZM				*e*S	**S**	**19 18 05.7**	**+0.4**
DZM	**Mont Dzumac**	**13.53**	**263**	P	**P**	**19 15 44.3**	**+0.4**
comp=Z,3.6nm,0.3s,baz=80,slow=17,SNR=40							
DZM				S	**S**	**19 18 08.5**	**+3.2**
comp=Z,0.1nm,0.3s,baz=43,slow=18,SNR=3.9							
URZ	**Urewera**	**17.42**	**190**	P	**P**	**19 16 16.9**	**-2.6**
comp=Z,3.3nm,0.3s,baz=24,slow=4.4,SNR=17							
URZ				S	**S**	**19 19 08.0**	**-0.8**
comp=Z,1.1nm,0.3s,baz=345,slow=20,SNR=4.9							
RAR	**Rarotonga**	**17.98**	**94**	P	**P**	**19 16 22.7**	**-1.9**
comp=Z,1.3nm,0.3s,baz=268,slow=7.0,SNR=6.1							
BKZ	**Black Stump Fm**	**18.41**	**191**	*e*PN	**P**	**19 16 26.4**	**-2.1**
QRZ	**Quartz Range**	**20.93**	**198**	*e*PN	**P**	**19 16 51.4**	**+0.3**
THZ	**Tophouse**	**21.69**	**196**	PN	**P**	**19 16 57.0**	**-0.9**
LTZ	**Lake Taylor**	**22.81**	**197**	*e*PN	**P**	**19 17 06.1**	**-1.8**
RPZ	**Rata Peaks**	**24.01**	**198**	P	**P**	**19 17 19.0**	**+0.6**
comp=Z,6.3nm,0.5s,mb4.3,baz=26,slow=8.4,SNR=12							
JCZ	**Jackson Bay**	**25.05**	**201**	*e*PN	**P**	**19 17 27.1**	**-0.5**
TBI	**Tubuai**	**27.46**	**100**	*e*P	**P**	**19 17 48.2**	**-0.4**
comp=Z,304nm,1.1s,mb5.7							
TBI				*e*pP		19 19 22.5	
comp=Z,324nm,1.4s							
ARMA	**Armidale**	**27.92**	**245**	*e*P	**P**	**19 17 54.8**	**+2.1**
PAE	**Paea**	**27.99**	**88**	*e*P	**P**	**19 17 51.9**	**-1.3**
comp=Z,133nm,1.1s,mb5.4							
PPT	**Papeete**	**28.01**	**88**	*e*P	**P**	**19 17 52.5**	**-0.9**
comp=Z,87nm,1.2s,mb5.2							
PPT	**Papeete**	**28.01**	**88**	P	**P**	**19 17 52.7**	**-0.8**
comp=Z,18nm,0.4s,mb4.9,baz=225,slow=20,SNR=4.2							
TVO	**Taravao**	**28.27**	**88**	*e*P	**P**	**19 17 54.4**	**-1.3**
comp=Z,62nm,0.8s,mb5.2							
PMOR	**Pomariorio Ree**	**30.20**	**84**	*e*P	**P**	**19 18 11.0**	**-1.2**
comp=Z,148nm,1.1s,mb5.5							
CNB	**Canberra Magne**	**31.08**	**236**	*e*P	**P**	**19 18 21.2**	**+1.5**
comp=Z,39nm,1.6s,mb4.7							
CTA	**Charters Tower**	**32.46**	**265**	⇑*i*P	**P**	**19 18 32.2**	**+0.9**
comp=Z,20nm,0.4s,mb5.0							
CTA	**Charters Tower**	**32.46**	**265**	P	**P**	**19 18 32.5**	**+1.2**
comp=Z,26nm,0.5s,mb5.1,baz=98,slow=11,SNR=78							
CTA	**Charters Tower**	**32.46**	**265**	⇑*i*P	**P**	**19 18 32.2**	**+0.9**
CTA				pmax	pmax		
comp=Z,20nm,0.4s							
CTAO	**Charters Tower**	**32.46**	**265**	*e*P	**P**	**19 18 32.2**	**+0.9**
CTAO				pmax	pmax		
comp=Z,24nm,0.7s,mb4.8							
CTAO	**Charters Tower**	**32.46**	**265**	*e*P	**P**	**19 18 32.2**	**+0.8**
comp=Z,24nm,0.7s,mb4.8							
PMG	**Port Moresby**	**34.53**	**284**	P	**P**	**19 18 49.3**	**+0.7**
comp=Z,34nm,1.0s,mb4.8,baz=102,slow=7.6,SNR=8.0							
PMG	**Port Moresby**	**34.53**	**284**	*d i*P	**P**	**19 18 48.9**	**+0.3**
PMG	**Port Moresby**	**34.53**	**284**	*e*P	**P**	**19 18 47.9**	**-0.7**
comp=Z,69nm,1.0s,mb5.1							
TOO	**Toolangi**	**34.75**	**234**	*e*P	**P**	**19 18 51.7**	**+1.3**
comp=Z,7.4nm,0.7s,mb4.3							
TOO	**Toolangi**	**34.75**	**234**	*e*P	**P**	**19 18 51.7**	**+1.3**
TOO				pmax	pmax		
comp=Z,70nm,0.7s,mb5.3							
STKA	**Stephens Creek**	**36.64**	**245**	*e*P	**P**	**19 19 05.1**	**-0.8**
comp=Z,6.3nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**36.64**	**245**	P	**P**	**19 19 05.2**	**-0.8**
comp=Z,10nm,0.7s,mb4.4,baz=87,slow=10.0,SNR=25							
STKA				PcP	PcP	19 21 09.7	-1.0
comp=Z,2.0nm,0.4s,baz=82,slow=3.8,SNR=3.7							
RKT	**Rikitea**	**40.77**	**101**	*e*P	**P**	**19 19 38

comp=Z,116nm,1.2s,mb5.2
AS31 Alice Springs 43.43 257⇓*i*P P 19 20 00.2 +0.6
AS31 *e*PcP PcP 19 21 33.6 +0.6
AS31 *e*S **S 19 25 43.3 -0.3**
ASAR Alice Springs 43.43 257 P P 19 20 00.2 +0.6
comp=Z,32nm,0.7s,mb4.8,baz=91,slow=7.2,SNR=415
ASAR PcP PcP 19 21 33.5 +0.5
comp=Z,7.8nm,0.7s,baz=106,slow=3.6,SNR=12
ASAR ScP ScP 19 24 28.1 +3.2
comp=Z,1.7nm,0.6s,baz=110,slow=3.9,SNR=5.2
ASAR S **S 19 25 42.7 -0.9**
comp=Z,6.0nm,0.9s,baz=96,slow=15,SNR=18
ASAR Alice Springs 43.43 257 P P 19 20 00.3 +0.6
ASAR 19 21 33.5
ASAR S **S 19 25 42.7 -1.0**
ASPA Alice Springs 43.43 257⇓*i*P P 19 20 00.2 +0.5
ASPA *e*PCP PcP 19 21 33.6 +0.6
ASPA *e*S **S 19 25 43.3 -0.4**
WB2 Warramunga Arr 43.54 263⇓*i*P P 19 20 00.5 0.0
WB2 *e*S **S 19 25 42.3 -2.9**
WRAB Tennant Creek 43.54 263*d i*P P 19 20 00.3 -0.2
WRAB Tennant Creek 43.54 263 *e*P P 19 19 59.8 -0.7
comp=Z,182nm,1.4s,mb5.2
WRA Warramunga Arr 43.55 263 P P 19 20 00.5 -0.1
comp=Z,30nm,0.8s,mb4.7,baz=97,slow=7.5,SNR=720
WRA PcP PcP 19 21 33.1 -0.3
comp=Z,4.4nm,0.7s,baz=104,slow=3.6,SNR=6.8
WRA S **S 19 25 43.6 -1.7**
comp=Z,5.9nm,1.0s,baz=92,slow=12,SNR=11
KAKA Kakadu 47.01 272⇓*i*P P 19 20 26.7 -0.1
comp=Z,58nm,1.2s,mb4.8
FORT Forrest 48.16 247 *e*P P 19 20 35.4 +0.1
comp=Z,33nm,0.5s,mb4.9
GUMO Guam 49.44 311 P P 19 20 44.2 -0.6
comp=Z,125nm,0.9s,mb5.2,baz=169,slow=5.8,SNR=5.5
FITZ Fitzroy Crossi 51.98 263⇓*i*P P 19 21 03.6 +0.6
comp=Z,26nm,1.0s,mb4.4
MBWA Marble Bar 56.77 258 *e*P P 19 21 36.1 -0.2
comp=Z,62nm,0.8s,mb4.8
KLBR Kellerberrin 56.91 245 *e*P P 19 21 37.6 +0.3
comp=Z,66nm,1.0s,mb4.7
VNDA Vanda 57.23 185 P P 19 21 41.2 +1.7
comp=Z,1.3nm,0.5s,baz=8.2,slow=7.8,SNR=20
VNDA Vanda 57.23 185 *e*P P 19 21 41.0 +1.5
VNDA pmax pmax
comp=Z,100nm,0.5s
VNDA Vanda 57.23 185 *e*P P 19 21 41.0 +1.5
comp=Z,1.3nm,0.5s
MUN Mundaring 58.18 245 *e*P P 19 21 46.8 +0.9
CBIJ Chichi jima 60.87 320 P P 19 22 03.1 -0.5
comp=Z,29nm,0.5s,mb4.8,baz=292,slow=22,SNR=9.6
JHJ Hachijo jima 2 66.72 323 P P 19 22 40.2 -0.4
comp=Z,60nm,0.4s,mb5.2,baz=249,slow=21,SNR=5.4
TSM Tawau 66.74 285 P P 19 22 42.5 +1.8
TGY Tagaytay City 68.52 295 P P 19 22 52.4 +0.9
comp=Z,35nm,0.5s,baz=56,slow=18,SNR=4.1
QSPA South Pole Qui 68.97 180 *e*P P 19 22 55.3 +1.1
comp=Z,7.8nm,0.9s,mb4.0
KKM Kota Kinabalu 68.97 286 P P 19 22 55.8 +1.6
KKM Kota Kinabalu 68.97 286 *e*P P 19 22 55.0 +0.7
JOW Kunigami 69.81 311 P P 19 22 59.6 +0.5
comp=Z,25nm,0.6s,mb4.8,baz=144,slow=7.0,SNR=11
MJAR Matsushiro Arr 70.12 324 P P 19 23 00.1 -0.9
comp=Z,14nm,0.6s,mb4.6,baz=159,slow=5.9,SNR=45
MJAR pP pP 19 25 07.7 -0.1
comp=Z,3.3nm,1.0s,baz=152,slow=5.7,SNR=4.1
MAJO Matsushiro 70.12 324 *e*P P 19 22 59.8 -1.2
MAJO pmax pmax
comp=Z,28nm,1.0s,mb4.7
MAJO Matsushiro 70.12 324 *e*P P 19 22 59.8 -1.2
comp=Z,28nm,1.0s,mb4.6
MAT Matsushiro 70.12 324 P P 19 23 00.1 -0.9
MAT Matsushiro 70.12 324 *e*P P 19 23 00.0 -1.0
MAT pmax pmax
comp=Z,24nm,0.9s,mb4.6
MAT Matsushiro 70.12 324 *e*P P 19 23 00.0 -1.0
comp=Z,24nm,0.9s,mb4.6
KSM Kuching 72.53 279 *e*P P 19 23 15.4 +0.4
NACB Ninganchiao 73.21 305 *e*P P 19 23 18.2 -0.6
YHNB Yeheng 73.64 305 *e*P P 19 23 20.9 -0.4
ASAJ Asahikawa 73.79 332 P P 19 23 22.9 +0.7
comp=Z,39nm,1.0s,mb4.9,baz=203,slow=7.8,SNR=15
NIKO Nikolski 74.29 6 *e*P P 19 23 22.8 -2.2
YSS Yuzh-Sakhalins 76.00 334*d i*P P 19 23 34.2 -0.2
YSS pmax pmax
comp=Z,74nm,2.0s,mb4.9
PET Petropavlovsk 76.31 346 *i*P P 19 23 34.3 -1.8
PET pmax pmax
comp=Z,15nm,0.5s,mb4.8
KS15 Wonju Array Si 76.71 319 *e*P P 19 23 38.5 +0.2
SSE Sheshan 77.33 311 P P 19 23 39.8 -1.8
SSE AMB AMB
comp=Z,30nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,280nm,9.8s
VLA Vladivostok 78.22 326 *i*P P 19 23 45.3 -1.1
VLA pmax pmax
comp=Z,63nm,1.5s,mb4.9
FARB Farallon Islan 78.71 42 ⇓P P 19 23 49.1 +0.1
baz=79
V03C Hunter Liggett 78.83 44 ⇑P P 19 23 50.3 +0.6
baz=79
HAST Hastings Reser 78.85 44 ⇑P P 19 23 50.0 +0.3
baz=79,SNR=15
V04C Ramage Ranch, 78.85 45 ⇑P P 19 23 50.1 +0.4
baz=79
BNLO Ben Lomond 78.89 43 ⇓P P 19 23 50.3 +0.3
baz=79
JRSC Jasper Ridge 79.02 43 ⇑P P 19 23 50.7 +0.1
baz=79
CHGN Chignik 79.05 12 *e*P P 19 23 48.9 -1.9
MCCM Marconi Confer 79.06 42 ⇓P P 19 23 51.0 +0.1
baz=79
SAO San Andreas Ge 79.14 44 *e*P P 19 23 50.6 -0.7
SAO pmax pmax
comp=Z,21nm,1.0s,mb4.6
SAO San Andreas Ge 79.14 44 *e*P P 19 23 50.6 -0.7
comp=Z,21nm,1.0s,mb4.6
KGM Kluang 79.20 276 P P 19 23 53.5 +1.9
PKD Parkfield 79.24 45 ⇓P P 19 23 52.1 +0.3
baz=79,SNR=5.7
U04C Hernandez Rese 79.33 44 ⇓P P 19 23 52.9 +0.7
baz=79,SNR=9.9
PACP Pacheco Peak 79.39 44 ⇑P P 19 23 53.1 +0.6
baz=80,SNR=8.3
CVS Carmenet Viney 79.45 42 P P 19 23 53.0 +0.2
baz=80,SNR=6.3
WENL Wente Brothers 79.45 43 ⇓P P 19 23 53.2 +0.3
baz=80
HOPS Hopland 79.47 41 *e*P P 19 23 52.9 -0.1
comp=Z,36nm,1.1s,mb4.8
HOPS Hopland 79.47 41 ⇓P P 19 23 53.2 +0.2
baz=80,SNR=7.0
NJ2 Nanjing 79.51 310 *e*P P 19 23 54.3 +1.1
NJ2 PCP PcP 19 24 00.3 +1.7
NJ2 AP pP 19 26 01.0 -3.6
NJ2 XP sP 19 27 03.0 -5.7
NJ2 PP PP 19 27 10.0 +4.1
NJ2 S S 19 33 05.0 +0.9
NJ2 AMB AMB
comp=Z,60nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,2μm,10.0s
BDM Black Diamond 79.58 42 ⇑P P 19 23 53.9 +0.3
baz=80
P01C Double 8 Ranch 79.60 41 ⇑P P 19 23 54.1 +0.4
baz=80
V05C Boulder Hill, 79.62 45 ⇑P P 19 23 54.5 +0.7
baz=80
S04C Ingram Canyon, 79.65 43 ⇑P P 19 23 54.7 +0.8
baz=80,SNR=8.8
O01C Eel River Cons 79.72 40 ⇑P P 19 23 55.2 +0.9
baz=80,SNR=10
MNRC McLaughlin Nat 79.78 41 ⇓P P 19 23 55.2 +0.6
baz=80,SNR=16
109C Camp Elliot, M 79.86 49 ⇓P P 19 23 55.1 +0.1
baz=80
Q03C Winters 79.90 42 ⇑P P 19 23 55.9 +0.7
baz=80
JCC Jacoby Creek 80.03 39 ⇓P P 19 23 56.2 +0.4
baz=80
GASB Alder Springs 80.08 41 ⇓P P 19 23 57.0 +0.9
baz=80,SNR=12
S05C Merced 80.20 44 ⇑P P 19 23 56.7 -0.1
baz=80
O02C Red Bluff 80.37 40 ⇑P P 19 23 58.6 +0.9
baz=80,SNR=20
SUTB Sutter Buttes 80.40 41 ⇑P P 19 23 57.5 -0.3
baz=80
T06C Millerton Lake 80.41 44 ⇑P P 19 23 57.6 -0.3
baz=80
Q04C Lincoln 80.42 42 ⇑P P 19 23 57.7 -0.2
baz=80
MDJ Mudanjiang 80.45 326 P P 19 23 57.5 -0.6
MDJ AMB AMB
comp=Z,30nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,840nm,7.5s
MDJ Mudanjiang 80.45 326 *e*P P 19 23 57.8 -0.3
comp=Z,44nm,1.2s,mb4.8
N02C Big Bar 80.45 39 ⇓P P 19 23 58.5 +0.4
baz=81,SNR=6.1
ISA Isabella 80.46 46 *e*P P 19 23 58.7 +0.6
comp=Z,27nm,1.0s,mb4.6
ISA Isabella 80.46 46 ⇓P P 19 23 58.3 +0.2
baz=81,SNR=6.8
HABR Khabarovsk 80.49 331⇓*i*P P 19 23 58.6 +0.3
HABR *e*S S 19 33 19.0 +5.0
HABR pmax pmax
comp=Z,127nm,1.6s,mb5.1
CMB Columbia Colle 80.57 43 *e*P P 19 23 58.5 -0.2
comp=Z,36nm,1.3s,mb4.7
CMB Columbia Colle 80.57 43 P P 19 23 58.8 +0.1
baz=81,SNR=13
M01C Crescent City 80.62 38 ⇓P P 19 23 59.5 +0.5
baz=81
MAW Mawson 80.67 200 P P 19 23 59.4 +0.2
comp=Z,1.6nm,0.5s,mb3.7,baz=124,slow=5.2,SNR=8.6
MAW Mawson 80.67 200 *e*P P 19 23 58.9 -0.3
comp=Z,18nm,1.6s,mb4.2
HELL Mitchell Peak 80.67 45 P P 19 23 59.0 -0.2
baz=81,SNR=14
PFO Pinyon Flat Ob 80.71 49 ⇑P P 19 23 59.5 +0.1
baz=81
O03C Acorn Hollow, 80.72 41 ⇑P P 19 23 59.6 +0.1
baz=81
WDC Whiskeytown Da 80.76 40⇓*e*P P 19 23 59.7 0.0
WDC pmax pmax
comp=Z,73nm,1.4s,mb4.9
WDC Whiskeytown Da 80.76 40⇓*e*P P 19 23 59.7 0.0
comp=Z,73nm,1.4s,mb4.9
WDC Whiskeytown Da 80.76 40 P P 19 23 60.0 +0.3
baz=81,SNR=14
LAVA Lava Cap Winer 80.77 42 ⇓P P 19 23 59.6 -0.1
baz=81,SNR=5.8
ORV Oroville 80.77 41 P P 19 23 59.8 +0.1
baz=81,SNR=12
S06C San Francisco 80.82 44 ⇑P P 19 23 59.9 -0.1
baz=81
M02C Callahan 81.08 39 ⇓P P 19 24 02.2 +0.9
baz=81,SNR=20
R05C Kirkwood Meado 81.16 43 ⇑P P 19 24 01.9 +0.2
baz=81,SNR=18
CWC Cottonwood Cre 81.16 46 ⇓P P 19 24 01.9 +0.2
baz=81
P05C Yuba Gap, Truc 81.17 42 ⇑P P 19 24 02.2 +0.4
baz=81,SNR=22
MLAC Mammoth Lakes 81.33 44 ⇑P P 19 24 02.9 +0.3
baz=81
YBH Yreka Blue Hor 81.37 39 P P 19 24 03.3 +0.5
comp=Z,29nm,0.9s,mb4.7,baz=186,slow=1.6,SNR=39
YBH Yreka Blue Hor 81.37 39⇓*e*P P 19 24 03.3 +0.5
YBH pmax pmax
comp=Z,51nm,1.4s
YBH Yreka Blue Hor 81.37 39⇓*e*P P 19 24 03.3 +0.5
comp=Z,51nm,1.4s,mb4.8
YBH Yreka Blue Hor 81.37 39 ⇑P P 19 24 03.4 +0.6
baz=82,SNR=16
O05C Quincy 81.38 41 ⇑P P 19 24 03.1 +0.3
baz=82
GSC Goldstone 81.39 47 ⇑P P 19 24 02.8 0.0
baz=82,SNR=8.2
TIN Tinemaha 81.41 45 ⇓P P 19 24 03.2 +0.3
baz=82
M03C McCloud 81.44 40 ⇑P P 19 24 03.5 +0.4
baz=82,SNR=13
R07C Lee Vining 81.46 44 ⇑P P 19 24 03.7 +0.4
baz=82,SNR=9.2
O04C Chester 81.49 41 ⇑P P 19 24 03.5 +0.1
baz=82,SNR=12
DL2 Dalian 81.50 317 P P 19 24 03.8 +0.3
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
HATC Hat Creek Radi 81.56 40 ⇑P P 19 24 04.2 +0.4
baz=82,SNR=9.6
GLA Glamis 81.56 50 ⇑P P 19 24 04.6 +0.8
baz=82,SNR=14
K02A Glendale 81.56 38 ⇑P P 19 24 03.9 +0.1
baz=82
LHEM Herd Peak 81.60 39 P P 19 24 04.7 +0.7
KDAK Kodiak Island 81.63 14 P P 19 24 01.9 -2.2
comp=Z,16nm,0.9s,mb4.5,baz=171,slow=2.4,SNR=6.0
KDAK Kodiak Island 81.63 14 *e*P P 19 24 01.7 -2.4
comp=Z,24nm,1.0s,mb4.7
WCN Washoe City 81.71 42 ⇓P P 19 24 04.9 +0.3
baz=82,SNR=14
LTIM Timbered Crate 81.76 40 P P 19 24 05.1 +0.4
HUMO Hull Mountain 81.77 38⇓*e*P P 19 24 05.2 +0.3
comp=Z,56nm,1.3s,mb4.9
HUMO Hull Mountain 81.77 38 ⇑P P 19 24 05.3 +0.5
baz=82,SNR=16
P06A Stead Airport, 81.84 42 ⇓P P 19 24 05.7 +0.5
baz=82
J02A Umpqua 81.90 37 ⇓P P 19 24 05.8 +0.3
baz=82,SNR=6.2
M04C Macdoel 81.92 39 P P 19 24 06.0 +0.5
baz=82,SNR=12
LASM Arnica Sink 81.96 40 P P 19 24 06.6 +0.8
BUOR Burton Butte 81.98 39 P P 19 24 06.4 +0.5
WHN Wuhan 82.02 307 P P 19 24 07.0 +0.9
TUQ Turquoise Mtn. 82.06 47 ⇑P P 19 24 06.4 +0.1
baz=82
M05C Lookout 82.07 40 ⇑P P 19 24 06.6 +0.2
baz=82,SNR=12
Q07A Schurz 82.10 43 ⇑P P 19 24 06.5 0.0
baz=82
BBOR Butler Butte 82.10 38 P P 19 24 07.1 +0.6
L04A Klamath Falls 82.12 39 ⇑P P 19 24 06.9 +0.3
baz=82,SNR=9.6
NVAR Mina Array Bea 82.14 44 pP pP 19 26 19.1 -0.1
comp=Z,1.2nm,0.9s,baz=212,slow=7.6,SNR=2.8
Y12C Blythe 82.15 49 ⇑P P 19 24 07.2 +0.5
baz=82
I02A Mapleton 82.15 37 ⇓P P 19 24 07.2 +0.5
baz=82
O06A Flanigan 82.17 42 ⇓P P 19 24 07.1 +0.2
baz=82,SNR=19
PAHR Pah Rah Range 82.18 42⇓*e*P P 19 24 06.8 -0.1
comp=Z,45nm,1.2s,mb4.9
CN2 Changchun 82.18 323 *e*P P 19 24 06.8 -0.1
CN2 AMB AMB
comp=Z,50nm,1.3s,mb4.9
R08A Mina 82.22 44 ⇑P P 19 24 07.1 +0.1
baz=82
MNV Mina 82.23 44⇓*e*P P 19 24 06.9 -0.2
comp=Z,25nm,1.1s,mb4.7
IPM Ipoh 82.24 278 P P 19 24 09.2 +2.0
J03A Ideyld Park 82.24 38 ⇑P P 19 24 07.8 +0.6
baz=82,SNR=5.4
HOG Hogback Mounta 82.28 39 P P 19 24 08.1 +0.7
U10A Ash Meadows, A 82.32 46 ⇓P P 19 24 08.0 +0.4
baz=82
M06C Likely Place G 82.38 41 ⇑P P 19 24 08.3 +0.4
baz=82,SNR=12
S09A Goldfield 82.44 45 ⇓P P 19 24 08.0 -0.2
baz=82,SNR=12
K04A Chilquin 82.49 39 ⇓P P 19 24 08.5 +0.1
baz=83
KLR Kul'dur 82.55 330 *e*P P 19 24 05.8 -2.9
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s,mb4.8
Q08A Gabbs 82.62 44 P P 19 24 09.2 +0.1
baz=83,SNR=20
V11A Goodsprings 82.62 47 ⇓P P 19 24 09.3 +0.2
baz=83,SNR=5.0
TPNV Topopah Spring 82.66 46⇓*e*P P 19 24 09.1 -0.2
TPNV pmax pmax
comp=Z,22nm,0.9s,mb4.7
TPNV Topopah Spring 82.66 46⇓*e*P P 19 24 09.1 -0.2
comp=Z,22nm,0.9s,mb4.7
Y13A Salome 82.67 50 P P 19 24 10.2 +0.9
baz=83,SNR=12
L05A Lakeview 82.68 40 ⇓P P 19 24 10.1 +0.7
baz=83,SNR=12
W12A Cal Nev Ari 82.72 48 ⇓P P 19 24 10.1 +0.5
baz=83
O07A Toulon 82.76 42 ⇓P P 19 24 09.8 0.0
baz=83,SNR=32
R09A Tonopah 82.83 44 P P 19 24 10.2 +0.1
baz=83,SNR=18
H03A Soap Creek Ran 82.88 36 ⇓P P 19 24 10.7 +0.3
baz=83
KULM Kulim 82.89 278 *e*P P 19 24 11.4 +1.0
V12A Nelson 82.96 48 ⇓P P 19 24 11.1 +0.3
baz=83,SNR=6.2
U11A Corn Creek 82.97 47 ⇑P P 19 24 11.0 +0.2
baz=83
P08A Dixie Valley 83.00 43 ⇑P P 19 24 11.2 +0.2
baz=83
Z14A Wintersburg 83.07 50 ⇑P P 19 24 12.1 +0.7
baz=83,SNR=5.9
X13A Yucca 83.07 49 ⇓P P 19 24 11.6 +0.3
baz=83,SNR=14
Q09A Carvers 83.09 44 ⇑P P 19 24 11.5 +0.1
baz=83
BROR Big Rock Looko 83.09 37 P P 19 24 11.3 -0.1
O08A Rochester Mine 83.28 42 ⇑P P 19 24 12.5 +0.1
baz=83
M07A Soldier Meadow 83.29 41 ⇑P P 19 24 12.5 +0.1
baz=83,SNR=15
Y14A Wickenburg 83.33 50 ⇑P P 19 24 12.7 +0.1
baz=83,SNR=7.4
R10A Warm Springs 83.36 45 ⇓P P 19 24 13.2 +0.4
baz=84,SNR=6.3
K06A Valley Falls 83.47 39 P P 19 24 13.7 +0.3
baz=84,SNR=23
H04A Detroit Lake 83.49 37 ⇑P P 19 24 13.0 -0.4
baz=84,SNR=6.0
F03A Seaside 83.52 35 ⇑P P 19 24 13.7 +0.2
baz=84
U12A Valley of Fire 83.54 47 ⇓P P 19 24 14.0 +0.3
baz=84,SNR=7.2
L07A Adell 83.56 40 ⇑P P 19 24 13.9 +0.2
baz=84,SNR=5.8
116A Eloy 83.57 52 ⇓P P 19 24 14.4 +0.6
baz=84,SNR=7.8
N08A GE Springer Mi 83.58 42 P P 19 24 14.0 +0.2
baz=84,SNR=8.4
G04A Mulino 83.66 36 ⇑P P 19 24 14.1 -0.1
baz=84
X14A Yava 83.67 49 ⇓P P 19 24 15.0 +0.7
baz=84,SNR=10
I05A Bend 83.69 38 ⇑P P 19 24 14.6 +0.1
baz=84
J06A Christmas Vall 83.80 39 P P 19 24 14.7 -0.2
baz=84,SNR=20
M08A Happy Creek Ra 83.81 41 P P 19 24 15.2 +0.2
baz=84,SNR=11
O09A Fish Creek Ran 83.83 43 ⇓P P 19 24 15.0 -0.1
baz=84,SNR=11
E03A Lebam 83.91 35 ⇑P P 19 24 15.4 -0.1
baz=84
W14A Seligman 83.92 49 ⇓P P 19 24 16.3 +0.8
baz=84,SNR=9.1
P10A Eureka 83.99 44 ⇑P P 19 24 15.7 -0.1
baz=84
K07A Rock Creek Ran 84.00 40 P P 19 24 16.3 +0.4
baz=84,SNR=20
N09A Rock Creek Ran 84.00 42 P P 19 24 16.2 +0.3
baz=84,SNR=6.8
SVW2 Sparrevohn 84.07 11 *e*P P 19 24 14.2 -2.1
Q11A Duckwater 84.10 45 P P 19 24 16.3 -0.1
baz=84,SNR=15
MA2 Magadan 84.11 345⇑*e*P P 19 24 15.1 -1.3
MA2 pmax pmax
comp=Z,52nm,1.4s,mb4.9
TUC Tucson 84.12 52 *e*P P 19 24 16.9 +0.4
comp=Z,17nm,1.2s,mb4.5
F04A Amboy 84.14 36 ⇑P P 19 24 16.3 -0.2
baz=84
X15A Humboldt 84.15 50 ⇑P P 19 24 17.2 +0.6
baz=84,SNR=8.2
I06A Prineville 84.17 38 ⇓P P 19 24 17.2 +0.5
baz=84,SNR=22
L08A Fields 84.26 41 ⇓P P 19 24 17.2 0.0
baz=84,SNR=25
G05A Wamic 84.32 37 ⇓P P 19 24 17.4 -0.1
baz=84
J07A Hines 84.36 39 ⇓P P 19 24 17.7 +0.1
baz=84
M09A Marrel Ranch, 84.37 42 ⇑P P 19 24 18.0 +0.2
baz=84
E04A Onalaska 84.39 35 ⇓P P 19 24 17.9 +0.1
baz=84
P11A Circle Ranch, 84.41 44 ⇑P P 19 24 17.9 -0.1
baz=84
W15A Williams 84.47 49 ⇑P P 19 24 18.6 +0.3
baz=85
L09A Wilkinson Ranc 84.57 41 ⇑P P 19 24 18.6 -0.1
baz=85,SNR=8.7
SLKM Skilak Lake 84.62 14 *e*P P 19 24 17.0 -1.9
F05A White Salmon 84.64 36 ⇑P P 19 24 18.9 -0.1
baz=85
D04A Dobbs Creek Ra 84.67 35 ⇑P P 19 24 19.3 +0.1
baz=85
O11A Cowboy Ranch, 84.78 44 P P 19 24 20.0 +0.3
baz=85,SNR=9.3
E05A Randle 84.89 36 P P 19 24 19.9 -0.3
baz=85,SNR=5.6
B04A Port Angeles 84.90 34 ⇑P P 19 24 20.4 +0.1
baz=85
CCUT Cedar City 84.93 47 *e*P P 19 24 20.9 +0.4
CCUT *e*pP pP 19 26 34.5 +0.1
M10A I.L. Ranch, Tu 84.99 42 ⇑P P 19 24 21.0 +0.3
baz=85
N11A Elko Archery C 85.11 43 ⇓P P 19 24 21.2 -0.1
baz=85
D05A Enumclaw 85.15 35 ⇓P P 19 24 21.8 +0.3
baz=85
M11A Holland Ranch, 85.41 42 ⇓P P 19 24 22.8 +0.1
baz=86,SNR=5.3
N12A Wells--Clov Va 85.58 43 P P 19 24 23.8 +0.3
baz=86,SNR=9.6
C05A Tolt Reservoir 85.62 35 ⇓P P 19 24 23.2 -0.5
baz=86,SNR=7.6
TTA Tatalina 85.71 10 *e*P P 19 24 22.7 -1.4
A04A Legoe Bay, Lum 85.72 34 ⇑P P 19 24 24.2 0.0
baz=86
B05A Bryant 85.75 34 ⇓P P 19 24 24.1 -0.2
baz=86,SNR=5.5
PMR Palmer 85.83 14 *e*P P 19 24 22.8 -1.9
PMR pmax pmax
comp=Z,93nm,1.3s,mb5.2
PMR Palmer 85.83 14 *e*P P 19 24 22.8 -1.9
comp=Z,93nm,1.3s,mb5.2
SYO Syowa Base 85.92 193⇓*e*P P 19 24 24.0 -1.1
SYO Syowa Base 85.92 193⇓*e*X 19 24 30.2
M12A Wells 85.96 43 ⇓P P 19 24 25.5 +0.2
baz=86,SNR=5.9
HAWA Hanford 86.01 37 *e*P P 19 24 25.0 -0.6
comp=Z,5.1nm,1.2s,mb4.0
HAWA *e*pP pP 19 26 39.3 -0.6
GYA Guiyang 86.10 300⇓*i*P P 19 24 27.0 +1.0
GYA AMB AMB
comp=Z,20nm,1.6s,mb4.5
N13A West Wendover 86.11 43 ⇓P P 19 24 26.1 +0.1
baz=86
SML Sawmill 86.20 14 *e*P P 19 24 24.2 -2.3
A05A Maple Falls 86.22 34 ⇑P P 19 24 26.0 -0.6
baz=86
MSU Marysvale 86.23 46 *e*P P 19 24 26.6 0.0
M13A Montello 86.40 43 ⇓P P 19 24 27.5 +0.1
baz=86,SNR=6.0
OD2 Odessa Site #2 87.06 36 P P 19 24 30.3 -0.2
TMUT Trail Mountain 87.28 46 *e*P P 19 24 31.6 +0.1
TMUT *e*pP pP 19 26 47.2 +0.7
HVU Hansel Valley 87.51 43 *e*P P 19 24 32.5 -0.1
HVU pmax pmax
comp=Z,28nm,1.2s,mb4.8
HVU Hansel Valley 87.51 43 *e*P P 19 24 32.5 -0.1
comp=Z,28nm,1.2s,mb4.8
HVU *e*pP pP 19 26 48.1 +0.5
XAN Xi'an 87.72 308 P P 19 24 34.3 +0.7
XAN AMB AMB
comp=Z,30nm,1.4s,mb4.7
MCK McKinley 87.77 13 *e*P P 19 24 31.6 -2.2
MCK pmax pmax
comp=Z,21nm,0.9s,mb4.8
MCK McKinley 87.77 13 *e*P P 19 24 31.6 -2.3

comp=Z,21nm,0.9s,mb4.8
LAZ Ladron 87.80 52 *e*P **P 19 24 34.8 +0.8**
DAU Daniels Canyon 87.80 45 *e*P **P 19 24 34.4 +0.4**
SKAG Skagway 87.89 21 *e*P **P 19 24 34.7 +0.4**
comp=Z,52nm,1.3s,mb5.0
TCUT Toone Canyon 88.06 44 *e*P **P 19 24 35.0 -0.2**
BNM Barren Site 88.06 52 *e*P **P 19 24 35.3 +0.1**
BNM *e*pP pP 19 26 50.5 +0.1
LPM Los Pinos Moun 88.13 52 *e*P **P 19 24 35.4 -0.1**
LPM *e*pP pP 19 26 49.6 -1.1
VNA1 Neumayer--Stat 88.27 177 *e*P **P 19 24 34.5 -1.6**
VNA1 *e* 19 24 35.6
VNA1 *e* 19 24 36.4
VNA1 *e* 19 26 26.4
VNA1 *e* 19 26 43.3
VNA1 *e* pP 19 26 53.2 +1.8
VNA1 *e* 19 26 55.1
MENT Mentasta 88.27 15 *e*P **P 19 24 34.8 -1.4**
NEW Newport 88.44 36 *e*P **P 19 24 35.8 -1.1**
comp=Z,8.2nm,1.1s,mb4.3
PV01 Paradox Valley 88.51 48 *e*P **P 19 24 36.4 -0.8**
PV01 *e*pP pP 19 26 52.6 0.0
ANMO Albuquerque 88.55 52*d i*P **P 19 24 37.4 0.0**
ANMO Albuquerque 88.55 52⇓*e*P **P 19 24 37.2 -0.2**
comp=Z,15nm,1.1s,mb4.6
ANMO *e*pP pP 19 26 53.7 +0.9
HIA Hailar 88.62 325 *e*P **P 19 24 36.6 -1.1**
HIA pmax pmax
comp=Z,14nm,1.0s
HIA Hailar 88.62 325 *e*P **P 19 24 36.6 -1.2**
comp=Z,14nm,1.0s,mb4.7
KMI Kunming 88.75 297 P **P 19 24 40.3 +1.9**
KMI AMB AMB
comp=Z,20nm,1.6s,mb4.6
COLA College 89.01 13 *e*P **P 19 24 37.0 -2.5**
COLA pmax pmax
comp=Z,57nm,1.0s,mb5.3
COLA College 89.01 13 *e*P **P 19 24 37.0 -2.5**
comp=Z,56nm,1.0s,mb5.2
COLA *e*pP pP 19 26 54.1 -1.0
MCMT McKenzie Canyo 89.05 41 *e*P **P 19 24 40.1 +0.4**
MCMT *e*pP pP 19 26 55.4 +0.1
HHC Hu-ho-hao-te 89.07 315 *e*P **P 19 24 40.3 +0.4**
HHC AP pP 19 26 50.5 -4.9
HHC PP PP 19 28 23.3 +1.2
HHC SKS 19 34 13.0
HHC S 19 34 36.3
HHC SS SS 19 40 52.5 +2.6
HHC AMB AMB
comp=Z,20nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,3μm,7.1s
BILL Bilibino 89.54 355*d i*P **P 19 24 40.5 -1.5**
BILL pmax pmax
comp=Z,27nm,1.2s,mb5.0
PLCA Paso Flores 89.57 134 P **P 19 24 43.7 +1.6**
comp=Z,3.3nm,1.1s,mb4.1,baz=210,slow=11,SNR=4.2
PLCA Paso Flores 89.57 134 *e*P **P 19 24 43.2 +1.0**
comp=Z,9.9nm,0.9s,mb4.1
IMW Indian Meadow 89.75 42 *e*P **P 19 24 43.4 +0.4**
comp=Z,29nm,1.1s,mb5.0
CHMT Chamberlain Mo 89.89 39 *e*P **P 19 24 42.4 -1.3**
CHMT *e*pP pP 19 26 57.4 -2.0
QLMT Earthquake Lak 89.92 41 *e*P **P 19 24 44.5 +0.7**
QLMT *e*pP pP 19 27 00.1 +0.6
PDAR Pinedale Array 90.07 44 P **P 19 24 44.0 -0.5**
comp=Z,12nm,1.0s,mb4.7,baz=210,slow=3.0,SNR=60
PDAR pP pP 19 26 58.5 -1.8
comp=Z,0.2nm,0.7s,baz=6.2,slow=35,SNR=1.4
PDAR PP PP 19 28 26.9 -3.0
comp=Z,0.1nm,0.5s,baz=258,slow=7.4,SNR=4.0
YMR Madison River 90.12 41 *e*P **P 19 24 44.8 +0.1**
comp=Z,27nm,0.4s,mb5.4
BOZ Bozeman (W) 90.21 40 *e*P **P 19 24 45.0 -0.1**
BOZ *e**PP pP 19 26 59.9 -1.0
BOZ pmax pmax
comp=Z,21nm,1.4s,mb4.8
BOZ Bozeman (W) 90.21 40 *e*P **P 19 24 45.0 -0.1**
comp=Z,21nm,1.4s,mb4.8
BOZ *e*pP pP 19 26 59.9 -1.0
CD2 Chengdu 90.29 303 *e*P **P 19 24 44.0 -1.5**
CD2 AP pP 19 26 59.5 -1.8
CD2 XP sP 19 28 01.5 -2.6
CD2 PP PP 19 28 31.5 0.0
CD2 SKS 19 34 15.5
CD2 S 19 34 43.8
CD2 XS sS 19 38 43.8 -5.8
CD2 SS SS 19 41 06.0 -1.2
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,60nm,9.0s
DAWY Dawson 90.31 16 *e*P **P 19 24 43.9 -1.6**
RWWY Rawlins 91.10 45 *e*P **P 19 24 48.0 -1.2**
comp=Z,25nm,1.2s,mb4.9
GCMT Greycliff 91.47 41 *e*P **P 19 24 50.8 -0.1**
YAK Yakutsk 92.31 338 *e*P **P 19 24 53.5 -1.3**
YAK pmax pmax
comp=Z,18nm,1.0s,mb5.0
YAK Yakutsk 92.31 338 *e*P **P 19 24 52.3 -2.5**
comp=Z,37nm,1.0s,mb5.3
LZH Lanzhou 92.36 308 ⇓P **P 19 24 56.0 +1.0**
LZH AMB AMB
comp=Z,40nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,70nm,6.3s
CIT Chita 93.42 325 *e*P **P 19 24 58.9 -0.9**
LAO LASA Array 94.00 41 *e*P **P 19 25 02.7 +0.2**
comp=Z,2.8nm,0.7s,mb4.4
INK Inuvik 95.11 15 *e*P **P 19 25 04.9 -2.6**
INK pmax pmax
comp=Z,13nm,1.3s
INK Inuvik 95.11 15 *e*P **P 19 25 04.9 -2.6**
comp=Z,13nm,1.3s,mb4.9
SONM Songino Array 95.56 319 P **P 19 25 08.3 -1.2**
comp=Z,0.9nm,0.8s,mb4.0,baz=120,slow=5.3,SNR=8.3
SONM PP PP 19 29 07.5 -4.5
comp=Z,0.9nm,1.0s,baz=131,slow=4.5,SNR=4.5
GTA Gaotai 96.60 310 *e*P **P 19 25 14.0 -0.2**
TIXI Tiksi 99.08 345⇑*e*P Pdif 19 25 22.5 -2.7
TIXI pmax pmax
comp=Z,9.0nm,2.4s,mb4.6
ACSO Alum Creek Sta 107.81 53 *e*PKPdf PKiKP 19 30 08.4 +1.1
MKAR Makanchi Array 110.90 313 Pdiff Pdif 19 26 18.4 +0.6
comp=Z,0.2nm,0.6s,baz=91,slow=4.8,SNR=5.3
MKAR PKiKP PKiKP 19 30 11.4 -1.7
comp=Z,0.9nm,0.3s,baz=151,slow=0.7,SNR=38
MKAR PP PP 19 30 59.5 -4.4
comp=Z,0.8nm,0.9s,baz=92,slow=8.5,SNR=3.9
MKAR Makanchi Array 110.90 313⇑*i*PKIKP PKiKP 19 30 11.3 -1.8
BVAR Borovoye Array 118.91 320 PKP PKPdf 19 30 27.0 -1.5
comp=Z,7.6nm,0.3s,baz=121,slow=2.6,SNR=65
ZRNK Zerenda 119.75 320 *e*PKPdf PKPdf 19 30 28.2 -1.8
ZRNK *e*pPKPdf pPKPdf 19 32 54.8 -0.7
DAG Danmarks Havn 123.43 5⇓*i*P PKPdf 19 30 34.4 -2.7
comp=Z,4.2nm,0.9s
DAG Danmarks Havn 123.43 5⇓*i*PKIKP PKPdf 19 30 34.4 -2.7
DAG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 123.97 13 *e*PKPdf PKPdf 19 30 37.3 -0.8
SUMG *e*PP PP 19 32 22.6 -10
SOKR Solikamsk 125.10 329⇓*i*PKIKP PKPdf 19 30 39.1 -1.2
SOKR pmax pmax
comp=Z,40nm,1.1s
ARU Arti 125.13 325 *e*PKIKP PKPdf 19 30 39.2 -1.2
ARU Arti 125.13 325 *e*PKPdf PKPdf 19 30 39.2 -1.2
ARU *e*PP PP 19 32 33.7 -6.9
BOSA Boshof 125.29 206 PKP PKPdf 19 30 42.3 +1.6
comp=Z,1.5nm,0.5s,baz=184,slow=1.4,SNR=4.1
AKTK Aktyubinsk 126.86 318 PKP PKPdf 19 30 43.0 -0.7
AKTO Aktyubinsk 126.86 318 PKP PKPdf 19 30 43.0 -0.7
comp=Z,6.0nm,0.9s,baz=86,slow=3.2,SNR=16
ORR Orenburg 128.59 320⇑*i*PKIKP PKPdf 19 30 46.2 -0.8
ORR pmax pmax
comp=Z,20nm,0.9s
KEV Kevo 128.87 349 *e*pkp 19 30 32.7
ARCES ARCESS Array B 129.33 349 PKP PKPdf 19 30 46.5 -1.9
comp=Z,7.3nm,0.6s,baz=63,slow=1.2,SNR=36
ARCES SKPbc SKPbc 19 33 13.5 +1.7
comp=Z,4.6nm,0.8s,baz=11,slow=5.5,SNR=4.2
ARCES ARCESS Array B 129.33 349 PKP PKPdf 19 30 46.5 -1.9
ARCES SKPbc SKPbc 19 33 13.5 +1.7
KLMR Klimovskoe 132.03 336 *i* PKHKP 19 30 44.0
KLMR *e* 19 33 20.7
KLMR pmax pmax
comp=Z,40nm,2.5s
JOF Joensuu 133.39 341 *e*pkp 19 30 40.3
KAF Kangasniemi 135.45 343 *e*pkp 19 30 47.2
FINES FINESS Array B 136.07 343 PKhKP 19 30 47.0
comp=Z,0.8nm,0.5s,baz=48,slow=3.4,SNR=9.9
FINES PKP PKPdf 19 30 59.2 -1.8
comp=Z,4.8nm,0.6s,baz=72,slow=2.2,SNR=13
FINES SKPbc SKPbc 19 33 35.3 +0.9
comp=Z,2.0nm,0.5s,baz=60,slow=3.4,SNR=11
FINES FINESS Array B 136.07 343 PKHKP 19 30 47.0
FINES 19 30 59.2
FINES FINESS Array B 136.07 343 PKP 19 30 47.0
FINES PKP PKPdf 19 30 59.2 -1.8
FINES SKPbc SKPbc 19 33 35.3 +0.9
OBN Obninsk 136.81 331 *i* PKIKP PKPdf 19 31 01.4 -1.0
OBN pmax pmax
comp=Z,37nm,1.3s
GNI Garni 138.29 307 *i* PKIKP PKPdf 19 31 05.9 +0.8
KIV Kislovodsk 138.66 313 *e*PKIKP PKPdf 19 31 04.8 -1.0
KIV pmax pmax
comp=Z,8.0nm,1.2s
NB2 NORSAR Subarra 139.45 352 PKPa 19 30 58.1
comp=Z,1.6nm,0.5s,baz=22,slow=3.0
NOA NORSAR Array B 139.45 352 PKhKP 19 30 58.4
comp=Z,1.7nm,0.5s,baz=16,slow=4.6,SNR=11
NOA PKP PKPdf 19 31 06.3 -1.0
comp=Z,2.8nm,0.6s,baz=14,slow=4.0,SNR=7.3
NOA SKPbc SKPbc 19 33 43.9 -0.1
comp=Z,5.4nm,1.1s,baz=15,slow=4.3,SNR=4.0
NOA NORSAR Array B 139.45 352 PKHKP 19 30 58.4
NOA 19 31 06.3
NOA NORSAR Array B 139.45 352 PKP 19 30 58.4
NOA PKP PKPdf 19 31 06.3 -1.0
NOA SKPbc SKPbc 19 33 43.9 -0.1
KONO Kongsberg 141.00 353⇑*i*PKHKP 19 31 03.5
GRSN GIRESUNGRSN 142.78 311 *i* P PKPdf 19 31 09.9 -3.3
ELZG Elazig 143.03 306 *i* P PKPdf 19 31 13.3 -0.3
SUW Suwalki 143.04 338 *e*PKP PKPdf 19 31 11.0 -2.6
AKASG Malin Array Be 143.05 330 PKhKP 19 31 10.3
comp=Z,30nm,0.3s,baz=43,slow=4.1,SNR=130
AKASG SKPbc SKPbc 19 33 54.3 +1.3
comp=Z,0.2nm,0.3s,baz=44,slow=2.2,SNR=6.8
KSK Scoval 143.25 7⇑*e*P PKPdf 19 31 11.0 -3.0
KAC Achnashellach 143.36 6⇑*e*P PKPdf 19 31 10.8 -3.4
KPL Plockton 143.49 6⇑*e*P PKPdf 19 31 11.6 -2.8
MALT Malatya 143.51 306⇑*i*P PKPdf 19 31 14.6 +0.1
MALT Malatya 143.51 306⇑PKIKP PKPdf 19 31 14.7 +0.2
MALT Malatya 143.51 306 *e*PKPdf PKPdf 19 31 13.8 -0.7
SIM Simferopol' 143.81 319 *e*PKIKP PKPdf 19 31 14.3 -0.7
SIM pmax pmax
comp=Z,106nm,0.9s
KAR1 Arisaig 143.88 6 *e*P PKPdf 19 31 12.6 -2.5
MUD Monsted U'grnd 144.17 352⇓*i*P PKPdf 19 31 14.4 -1.2
comp=Z,224nm,1.3s
GZT Gaziantep 144.44 305 *i* P PKPdf 19 31 16.9 +0.8
BSD Bornholm Skovb 144.45 346⇓*i*P PKPdf 19 31 14.8 -1.3
comp=Z,207nm,1.3s
EAB Aberfoyle 144.74 5 *e*P PKPdf 19 31 15.4 -1.2
BOYT Boyabat 144.93 313 *i* P PKPdf 19 31 18.4 +1.4
EDI Edinburgh 145.09 4⇑*e*P PKPdf 19 31 16.5 -0.7
PGBU Glenifferbraes 145.10 5⇑*e*P PKPdf 19 31 16.4 -0.9
ESY Stoneypath 145.13 4⇑*e*P PKPdf 19 31 16.6 -0.6
EAU Auchinoon 145.15 4 *e*P PKPdf 19 31 17.1 -0.2
WAR Warsaw 145.24 338 *e*PKP PKPdf 19 31 18.2 +0.8
RGN Rugen 145.32 347 *e*PKPbc PKPbc 19 31 18.5 -0.5
GMK Mull of Kintyr 145.46 7 *e*P PKPdf 19 31 17.7 -0.1
GKP Gorka Klasztor 145.54 343 *e*PKP PKPdf 19 31 18.9 +1.0
ESK Eskdalemuir 145.70 4⇑*e*P PKPdf 19 31 18.6 +0.3
ESK *e*P 19 31 18.6
ESK Eskdalemuir 145.70 4 *e*PKPdf PKPdf 19 31 18.2 0.0
BWH Wardlaw 145.80 5⇑*e*P PKPdf 19 31 18.3 -0.1
BALT Daday 145.91 314 *i* P PKPdf 19 31 20.6 +2.0
BHH Howats Hill 145.92 4⇑*e*P PKPdf 19 31 18.5 0.0
AVNT Avonos 146.00 309 *i* P PKPdf 19 31 17.8 -0.9
LVV L'vov 146.01 333 *i* PKIKP PKPdf 19 31 19.8 +1.1
LVV MLR MLR
comp=E,100nm,18.0s
LVV MLR MLR
comp=Z,100nm,18.0s
LVV MLR MLR
comp=N,100nm,19.0s
GAL1 Galloway 146.02 6 *e*P PKPdf 19 31 19.4 +0.6
ASF Jabal al Asfar 146.18 297 PKPbc PKPbc 19 31 22.2 +0.8
comp=N,18nm,1.0s,baz=302,slow=1.6,SNR=21
IAS Iasi 146.22 327 PKP2 PKPab 19 31 21.1 -3.0
BDL Dobcross Hall 146.22 4⇑*e*P PKPdf 19 31 20.2 +1.1
BBO1 Bothel 146.27 4⇑*e*P PKPdf 19 31 19.8 +0.6
BBO1 AMb AMB 19 31 21.8
comp=Z,30nm,1.2s
CRA Chernovtsy 146.28 329 P PKPab 19 31 31.0 +6.6
CKE Keswick 146.43 4 *e*P PKPdf 19 31 20.6 +1.1
BSEG Bad Segeberg 146.45 350 *e*PKPbc PKPbc 19 31 21.4 -0.7
XDE Dent Fell 146.48 5 *e*P PKPdf 19 31 20.8 +1.3
XDE AMb AMB 19 31 22.3
comp=Z,175nm,1.2s
GMM Mts of Mourne 146.50 7⇑*e*P PKPdf 19 31 20.4 +0.8
BR131 Keskin Array S 146.50 311 *e*PKPdf PKPdf 19 31 20.0 +0.4
BRTR Keskin Array B 146.50 311 PKPbc PKPbc 19 31 22.1 -0.2
comp=Z,10nm,0.7s,baz=124,slow=2.4,SNR=51
BRTR *e*PKPbc 19 33 45.5
comp=Z,0.3nm,0.4s,baz=298,slow=29,SNR=3.4
HLG Helgoland 146.55 353 *e*PKPbc PKPbc 19 31 21.5 -0.9
GIM North Isle of 146.61 6 *e*P PKPdf 19 31 21.1 +1.4
CDU1 Dunnerdale 146.67 4 *e*P PKPdf 19 31 21.2 +1.3
KWP Kalwaria 146.70 334 *e*PKP PKPdf 19 31 22.5 +2.6
DMUB Kingscourt 146.71 8 *e*P PKPdf 19 31 18.4 -1.5
ANTO Ankara 147.04 312 *e*PKP2 PKPbc 19 31 23.6 -0.1
BURAR Bucovina Array 147.09 329⇑*i*P PKPbc 19 31 24.2 +0.4
BURAR Bucovina Array 147.09 329⇑P PKPbc 19 31 24.2 +0.4
RUE Ruedersdorf 147.14 346 *e*PKPbc PKPbc 19 31 23.1 -0.8
RUE *e*PKPab PKPab 19 31 27.1 -0.8
RUE Ruedersdorf 147.14 346 *e*PKPbc PKPbc 19 31 22.9 -1.1
CFR Carcaliu 147.19 323⇓*i*P PKPbc 19 31 24.2 +0.1
CFR Carcaliu 147.19 323⇓P PKPbc 19 31 24.2 +0.1
DCN Croghan 147.20 9 *e*P PKPdf 19 31 19.5 -1.2
SGKT Sivrigoynuk 147.24 313 *i* P PKPbc 19 31 23.9 -0.3
OJC Ojcow 147.35 337 *e*PKP PKPbc 19 31 23.6 -0.9
DLF Lyons Farm 147.35 8 *e*P PKPdf 19 31 19.6 -1.4
DSB Dublin 147.42 8 *e*PKPbc PKPbc 19 31 22.8 -1.9
DSB *e*PKPab PKPab 19 31 27.2 -1.8
KOLS Kolonicke sedl 147.43 334 *e*PKP PKPbc 19 31 24.4 -0.3
KOLS *e* 19 31 32.9
KOLS Kolonicke sedl 147.43 334 *e*PKP PKPbc 19 31 24.4 -0.3
KOLS *e* 19 31 33.0
VRI Vrincioaia 147.52 326⇑*i*P PKPbc 19 31 24.6 -0.3
VRI Vrincioaia 147.52 326 P PKPbc 19 31 24.3 -0.6
PLOR Plostina 147.57 326⇑*i*P PKPbc 19 31 23.8 -1.2
CRVS Cervenica-Dubn 147.78 334 *e*PKP PKPbc 19 31 25.9 +0.3
CRVS *e* 19 31 29.9
CRVS *e* 19 31 32.6
NIE Niedzica 147.82 336 *e*PKP PKPbc 19 31 25.7 0.0
NRDL Niedersach Rie 147.87 349 *e*PKPbc PKPbc 19 31 25.0 -0.8
NRDL *e*PKPab PKPab 19 31 29.8 -1.0
HENT Hendek 147.90 315 *i* P PKPbc 19 31 25.3 -0.5
KSP Ksiaz 147.96 342 *e*PKP PKPbc 19 31 25.8 -0.2
KSP Ksiaz 147.96 342 *e*PKP PKPdf 19 31 21.5 -0.5
KSP *e*PKPdf PKPdf 19 31 25.6 +3.6
KSP *e* 19 31 30.7
WIT Witteveen 148.04 353 *e*PKPpre PKPbc 19 31 25.5 -0.7
PSN Preselentsi 148.07 321 *e*P PKPbc 19 31 26.0 -0.3
SBD1 Bryn Du 148.09 5⇑*e*P PKPbc 19 31 24.9 -1.4
MLR Muntele Rosu 148.18 326 PKPbc PKPbc 19 31 26.1 -0.5
comp=Z,37nm,1.0s,baz=350,slow=11,SNR=38
MLR Muntele Rosu 148.18 326⇓*i*P PKPbc 19 31 26.3 -0.3
MLR Muntele Rosu 148.18 326 P PKPbc 19 31 26.3 -0.3
ERMK Ermenek 148.20 306 *i* P PKPbc 19 31 26.6 0.0
EIL Elat 148.21 292 *e*PKPbc PKPbc 19 31 27.3 +0.6
EIL *e*PKPab PKPab 19 31 33.3 +1.1
OKC Ostrava-Krasne 148.25 339 *e*PKPDF PKPdf 19 31 22.5 +0.1
OKC ⇑*e*PKPB 19 31 26.4
OKC *e*PKPAB PKPab 19 31 32.3 -0.1
UPC Upice 148.34 342 *e*PKPDF PKPdf 19 31 22.4 -0.2
UPC ⇑*e*PKPB 19 31 26.8
UPC *e*PKPAB PKPab 19 31 32.7 -0.1
UPC *e*pPKP pPKPdf 19 33 52.5 +4.0
UPC Upice 148.34 342 *e*PKHKP PKPdf 19 31 22.4 -0.2
UPC *e* 19 31 32.7
DPC Dobruska-Polom 148.39 341 *e*PKPDF PKPdf 19 31 22.6 -0.1
DPC ⇑*e*PKPB 19 31 27.0
DPC *e*PKPAB PKPab 19 31 33.3 +0.3
DPC *e*pPKP pPKPdf 19 33 51.2 +2.6
DPC Dobruska-Polom 148.39 341 *e*PKHKP PKPdf 19 31 22.6 -0.1
DPC *e* 19 31 33.3
IBBN Ibbenburen 148.41 352 *e*PKPdf PKPdf 19 31 22.8 +0.1
IBBN *e*PKPbc PKPbc 19 31 26.4 -0.7
IBBN *e*PKPab PKPab 19 31 33.3 +0.2
CLL Collm 148.41 346 *e*PKPdf PKPdf 19 31 22.1 -0.6
CLL *e*PKPbc PKPbc 19 31 26.5 -0.6
CLL *e*PKPab PKPab 19 31 32.1 -1.0
CLL Collm 148.41 346 *i* PKPdf PKPdf 19 31 21.6 -1.1
comp=Z,12nm,1.2s
CLL ⇓*i*PKPbc PKPbc 19 31 26.4 -0.7
comp=Z,105nm,1.3s
CLL ⇑*i*PKPab PKPab 19 31 32.1 -1.0
comp=Z,48nm,1.2s
CLL *e*pPKPbc pPKPbc 19 33 50.0 -0.9
CLL *e*pPKPab pPKPab 19 33 52.0 0.0
CLL *e*SKPdf SKPdf 19 33 56.0 -1.3
CLL Collm 148.41 346⇓*i*PKIKP PKPdf 19 31 21.6 -1.1
CLL *i* 19 31 32.1
CLL pmax pmax
comp=Z,12nm,1.2s
CLL Collm 148.41 346 *i* PKP PKPdf 19 31 21.6 -1.1
CLL ⇓*i*PKP PKPbc 19 31 26.4 -0.7
CLL ⇑*i*PKP PKPab 19 31 32.1 -1.0
CLL *e*PKP pPKPdf 19 33 52.0 +3.4
CSS Prodhromos 148.41 303 *e*PKPbc PKPbc 19 31 26.5 -0.7
CLZ Clausthal 148.45 349 *e*PKPdf PKPdf 19 31 22.4 -0.4
CLZ *e*PKPbc PKPbc 19 31 26.8 -0.4
CLZ *e*PKPab PKPab 19 31 32.6 -0.6
CLZ Clausthal 148.45 349 *e*PKP2 PKPab 19 31 32.6 -0.6
HLM1 Long Mynd 148.50 4⇑*e*P PKPbc 19 31 25.1 -2.2
MORC Moravsky Berou 148.50 339⇓*i*P PKPbc 19 31 27.5 +0.1
MORC Moravsky Berou 148.50 339 *e*PKPdf PKPdf 19 31 22.3 -0.5
MORC *e*PKPbc PKPbc 19 31 27.1 -0.2
MORC ⇓P 19 31 27.4
MORC *e*PKPab PKPab 19 31 32.8 -0.6
KECS Kecovo 148.51 335 *e*PKP PKPbc 19 31 27.4 0.0
KECS *e* 19 31 33.5
LIKS Likavka 148.57 337 *e*PKP PKPbc 19 31 27.9 +0.4
BRG Berggiesshubel 148.58 344 *e*PKPdf PKPdf 19 31 22.4 -0.6
BRG *e*PKPbc PKPbc 19 31 27.0 -0.6
BRG *e*PKPab PKPab 19 31 33.0 -0.8
BRG *e*pPKPbc pPKPbc 19 33 53.8 +2.4
BRG Berggiesshubel 148.58 344 *e*PKP PKPdf 19 31 22.4 -0.5
comp=Z,6.5nm,1.2s
BRG Berggiesshubel 148.58 344 *i* PKP PKPbc 19 31 27.7 +0.2
BRG Berggiesshubel 148.58 344 *i* PKP PKPab 19 31 32.9 -0.8
comp=Z,36nm,1.3s
BRG Berggiesshubel 148.58 344 *e*PKP PKPdf 19 31 22.4 -0.5
comp=Z,6.5nm,1.2s
BRG Berggiesshubel 148.58 344 *i* PKP PKPbc 19 31 27.7 +0.2
BRG Berggiesshubel 148.58 344 *i* PKP PKPab 19 31 32.9 -0.8
comp=Z,36nm,1.3s
BRG *e* 19 33 49.3
comp=Z,16nm,1.9s
BRG *e* 19 34 59.2
comp=Z,2.4nm,1.2s
BRG Berggiesshubel 148.58 344 *e*PKP PKPdf 19 31 22.4 -0.5
BRG *i* PKP PKPbc 19 31 27.7 +0.2
BRG *i* PKP PKPab 19 31 32.9 -0.8
BRG *e* 19 33 49.3
BRG *e* 19 34 59.2
VOIR 148.69 326⇓*i*P PKPbc 19 31 28.3 +0.5
VOIR 148.69 326⇓P PKPbc 19 31 28.3 +0.5
FBE Freiberg 148.69 345 *e*PKPdf PKPdf 19 31 23.1 0.0
FBE *e*PKPbc PKPbc 19 31 27.6 -0.2
FBE *e*PKPab PKPab 19 31 33.6 -0.6
PVCC Panska Ves 148.73 343 *e*PKPDF PKPdf 19 31 23.0 -0.2
PVCC ⇑*e*PKPB 19 31 27.8
PVCC *e*PKPAB PKPab 19 31 32.7 -1.7
PVCC *e*pPKP pPKPdf 19 33 53.9 +4.7
PVCC Panska Ves 148.73 343 *e*PKHKP 19 31 23.0
PVCC *e* 19 31 32.7
GTTG Gvttingen 148.81 349 *e*PKPbc PKPbc 19 31 27.4 -0.7
GTTG *e*PKPab PKPab 19 31 33.9 -0.8
MTUR Matau 148.82 326 PKHKP PKPbc 19 31 27.8 -0.3
WTSB Winterswijk 148.86 353 *e*PKiKP PKPdf 19 31 22.4 -1.0
comp=Z,15nm,1.3s
WTSB *e*PKPpre PKPbc 19 31 27.3 -1.0
comp=Z,111nm,1.4s
WTSB *e*PKPab PKPab 19 31 33.6 -1.3
comp=Z,45nm,1.3s
DRGR 148.86 330⇑*i*P PKPbc 19 31 27.9 -0.3
DRGR 148.86 330 P PKPbc 19 31 27.9 -0.3
HTR Trewern Hill 148.91 5⇑*e*P PKPbc 19 31 26.1 -2.2
HTR AMb AMB 19 31 29.1
comp=Z,72nm,1.5s
MCH1 Michaelchurch 149.01 5⇑*e*P PKPbc 19 31 26.9 -1.7
MCH1 *e*P 19 31 26.9
VYHS Vyhne 149.13 337 *e*PKP PKPbc 19 31 28.6 -0.3
VYHS *e* 19 31 35.9
PRA Prague 149.19 343⇑PKPB PKPbc 19 31 28.0 -1.0
PSZ Piszkesteto 149.20 335⇓*e*PKP/p PKPbc 19 31 28.5 -0.5
PSZ Piszkesteto 149.20 335 *e*PKPdf PKPdf 19 31 22.9 -1.0
PSZ ⇓*e*P 19 31 28.5
PSZ *e*PKPbc PKPbc 19 31 28.7 -0.4
PSZ *e*PKPab PKPab 19 31 34.9 -1.4
VRAC Vranov 149.22 340⇑*i*P PKPbc 19 31 29.1 0.0
VRAC Vranov 149.22 340 P PKPbc 19 31 28.8 -0.3
BUG Bochum--Univer 149.32 352 *e*PKPab PKPab 19 31 35.3 -1.5
MOX Moxa 149.34 347 *e*PKPdf PKPdf 19 31 23.6 -0.6
MOX *e*PKPbc PKPbc 19 31 28.7 -0.7
MOX *e*PKPab PKPab 19 31 36.1 -0.8
MOX Moxa 149.34 347 *e*PKP PKPdf 19 31 23.5 -0.7
MOX *e* 19 31 28.6
comp=Z,78nm,1.5s
MOX *e* 19 31 35.9
MOX Moxa 149.34 347 *e*PKIKP PKPdf 19 31 23.5 -0.7
MOX *e* 19 31 35.9
MOX pmax pmax
comp=Z,78nm,1.5s
TANN Tannenbergstha 149.37 345 *e*PKPdf PKPdf 19 31 23.6 -0.6
TANN *e*PKPbc PKPbc 19 31 29.0 -0.4
TANN *e*PKPab PKPab 19 31 36.2 -0.8
WERD Werda 149.38 346 *e*PKPdf PKPdf 19 31 23.6 -0.6
WERD *e*PKPbc PKPbc 19 31 29.0 -0.5
WERD *e*PKPab PKPab 19 31 36.4 -0.7
HGH Gray Hill 149.38 5⇑*e*P PKPbc 19 31 27.6 -1.9
HGH AMb AMB 19 31 30.2
comp=Z,99nm,1.4s
TREC Trest 149.58 341 *e*PKPDF PKPdf 19 31 24.3 -0.2
TREC ⇑*e*PKPB 19 31 29.3
TREC *e*PKPAB PKPab 19 31 37.7 -0.2
SMOL Smolenice 149.62 338 *e*PKP PKPbc 19 31 30.5 +0.5
SMOL *e* 19 31 38.6
JMB Yambol 149.74 321 *e*P PKPbc 19 31 30.0 -0.3
JMB Yambol 149.74 321 *e*P PKPbc 19 31 30.0 -0.3
GZR Gura Zlata 149.86 329⇑*i*P PKPbc 19 31 30.1 -0.5
GZR Gura Zlata 149.86 329⇑P PKPbc 19 31 30.1 -0.5
HTL Hartland 149.87 7 *e*P PKPbc 19 31 29.6 -1.0
TSA1 Sevenoaks 149.91 1 *e*P PKPbc 19 31 29.7 -1.1
ZST Bratislava 150.01 338 *e*PKP PKPbc 19 31 30.8 -0.1
ZST *e* 19 31 40.0
ROTZ Rotzenmuhle 150.03 345 *e*PKPdf PKPdf 19 31 24.8 -0.4
ROTZ *e*PKPbc PKPbc 19 31 30.5 -0.5
ROTZ *e*PKPab PKPab 19 31 39.4 -0.4
ROTZ *e*pPKPbc pPKPbc 19 33 57.8 +2.5
BEBN Eben Emael 150.13 354 PKPbc PKPbc 19 31 30.5 -0.8
BEBN PKPab PKPab 19 31 39.0 -1.3
HGN Heimansgroeve 150.14 354 *e*PKiKP PKPdf 19 31 25.1 -0.3
comp=Z,9.0nm,1.0s
HGN *e*PKPpre PKPbc 19 31 30.4 -0.8
comp=Z,38nm,1.2s
HGN *e*PKPab PKPab 19 31 39.1 -1.2
comp=Z,42nm,1.1s
UCC Uccle 150.24 356 PKPbc PKPbc 19 31 30.6 -0.8
UCC PKPab PKPab 19 31 39.3 -1.4
BZS Buzias 150.25 330⇑*i*P PKPbc 19 31 31.2 -0.3
BZS Buzias 150.25 330 P PKPbc 19 31 31.0 -0.5
KHC Kasperske Hory 150.27 343 *e*PKPDF PKPdf 19 31 25.3 -0.3
KHC ⇑*e*PKPB 19 31 31.2
KHC *e*PKPAB PKPab 19 31 40.6 -0.2
KHC *e*pPKP pPKPdf 19 33 56.9 +5.2
KHC Kasperske Hory 150.27 343 *e*PKiKP PKPdf 19 31 25.3 -0.3
KHC *e* 19 31 40.6
MEM Membach 150.29 353 PKPbc PKPbc 19 31 30.8 -0.8
MEM PKPab PKPab 19 31 39.5 -1.3
GRA1 Grafenberg Arr 150.33 346 *e*PKPdf PKPdf 19 31 25.3 -0.4
GRA1 *e*PKPbc PKPbc 19 31 31.3 -0.4
GRA1 *e*PKPab PKPab 19 31 40.8 -0.3
GRF Grafenberg Arr 150.33 346 *e*PKPdf PKPdf 19 31 25.3 -0.4

GRF				*e*PKPbc	PKPbc	19 31 31.3	-0.4
GRF				*e*PKPab	PKPab	19 31 40.8	-0.3
TNS	**Taunus Mts**	**150.34**	**350**	*e*PKPdf	PKPdf	19 31 25.4	-0.3
TNS				*e*PKPbc	PKPbc	19 31 31.1	-0.6
TNS				*e*PKPab	PKPab	19 31 40.2	-0.9
WET	**Wettzell**	**150.45**	**344**	*e*PKPdf	PKPdf	19 31 24.9	-1.0
WET				*e*PKPbc	PKPbc	19 31 31.3	-0.7
WET				*e*PKPab	PKPab	19 31 41.0	-0.5
WET				*ep*PKPbc	pPKPbc	19 33 59.4	+3.1
GEC2	**GERESS Array S**	**150.50**	**343**	*e*PKPdf	PKPdf	19 31 25.2	-0.8
GEC2				*e*PKPbc	PKPbc	19 31 31.4	-0.7
GEC2				*e*PKPab	PKPab	19 31 41.1	-0.7
GEC2				*ep*PKPbc	pPKPbc	19 33 59.7	+3.2
GERES	**GERESS Array B**	**150.50**	**343**	PKP	PKPdf	19 31 25.4	-0.6
	comp=Z,1.4nm,0.9s,baz=90,slow=1.6,SNR=11						
GERES				PKPbc	PKPbc	19 31 31.5	-0.6
	comp=Z,14nm,0.8s,baz=48,slow=2.0,SNR=77						
GERES				PKPab	PKPab	19 31 41.0	-0.8
	comp=Z,0.9nm,0.4s,baz=44,slow=7.9,SNR=5.8						
GERES				SKP		19 33 57.9	
	comp=Z,2.4nm,0.8s,baz=46,slow=3.9,SNR=7.1						
GERES	**GERESS Array B**	**150.50**	**343**	PKIKP	PKPdf	19 31 25.4	-0.6
GERES						19 31 41.0	
PKS8	**Sarbogard**	**150.53**	**335**	⇓*e*P	PKPbc	19 31 31.0	-1.1
SNF	**Seneffe**	**150.54**	**356**	PKPbc	PKPbc	19 31 32.3	+0.2
SNF				PKPab	PKPab	19 31 40.9	-1.0
CCA1	**Carnmenellis**	**150.57**	**8**	*e*P	PKPbc	19 31 30.6	-1.6
CRQ2	**Rosemanowes 2**	**150.60**	**8**	⇑*e*P	PKPbc	19 31 30.4	-1.9
CRQ2				AMb	AMB	19 31 32.5	
	comp=Z,56nm,1.3s						
DNZL	**Cakiroluk**	**150.62**	**310**	*i* P	PKPbc	19 31 32.6	+0.2
CONA	**Conrad Observa**	**150.66**	**339**	⇑*e*PKPdf	PKPdf	19 31 25.6	-0.6
	comp=Z,5.9nm,1.3s,SNR=27						
CONA				⇓*i*PKiKP	PKiKP	19 31 32.3	-0.6
	comp=Z,34nm,0.7s						
CONA				⇓*i*PKPab	PKPab	19 31 43.2	+0.7
	comp=Z,28nm,1.2s						
CGH1	**Goonhilly**	**150.71**	**8**	⇑*e*P	PKPbc	19 31 31.2	-1.3
ABH	**Alteburg**	**150.81**	**351**	PKP	PKPdf	19 31 25.6	-0.8
TOD	**Tromm**	**150.88**	**349**	PKIKP	PKPdf	19 31 24.3	-2.2
GIVF	**Givet**	**150.90**	**355**	*e*PKIKP	PKPdf	19 31 25.7	-0.9
KDZ	**Kurdzhali**	**150.92**	**320**	*e*P	PKPbc	19 31 32.0	-1.0
DOU	**Dourbes**	**150.93**	**355**	PKPbc	PKPbc	19 31 32.4	-0.7
DOU				PKPab	PKPab	19 31 42.0	-1.5
ALN	**Alexandroupoli**	**150.98**	**318**	*e*P	PKPbc	19 31 32.1	-1.1
BAIF	**Baives**	**150.99**	**356**	*e*PKIKP	PKPdf	19 31 26.0	-0.7
RUP	**Ruppelstein**	**151.05**	**352**	PKIKP	PKPdf	19 31 26.0	-0.8
PKSM	**Moragy**	**151.08**	**334**	⇑*i*P	PKPdf	19 31 26.1	-0.7
PKSM	**Moragy**	**151.08**	**334**	⇑P	PKPdf	19 31 26.1	-0.7
PKSM				⇓*e*P		19 31 32.6	
WLF	**Walferdange**	**151.20**	**353**	*e*PKPdf	PKPdf	19 31 27.1	+0.1
WLF				*e*PKPbc	PKPbc	19 31 33.6	-0.1
WLF				*e*PKPab	PKPab	19 31 43.9	-0.8
WLF	**Walferdange**	**151.20**	**353**	PKPbc	PKPbc	19 31 33.5	-0.2
WLF				PKPab	PKPab	19 31 43.9	-0.8
WLF	**Walferdange**	**151.20**	**353**	*e*PKPbc	PKPbc	19 31 33.6	-0.1
WLF				*e*PKPab	PKPab	19 31 43.6	-1.1
MOA	**Molln**	**151.24**	**341**	⇑*i*	PKPbc	19 31 33.3	-0.4
	comp=Z,9.5nm,0.5s						
MOA	**Molln**	**151.24**	**341**	⇑*i*	PKPab	19 31 44.9	0.0
	comp=Z,27nm,1.3s						
MOA	**Molln**	**151.24**	**341**	⇑*i*PKPdf	PKPdf	19 31 26.2	-0.9
	comp=Z,3.0nm,1.4s,SNR=13						
MOA				⇑*i*PKiKP	PKiKP	19 31 33.3	-0.7
	comp=Z,9.5nm,0.5s						
MOA				⇑*i*PKPab	PKPab	19 31 44.9	0.0
	comp=Z,27nm,1.3s						
ARSA	**Arzberg**	**151.37**	**339**	⇑*i*	PKPbc	19 31 33.4	-0.6
	comp=Z,15nm,1.2s						
ARSA	**Arzberg**	**151.37**	**339**	⇓*i*	PKPab	19 31 45.6	+0.2
	comp=Z,22nm,1.3s						
ARSA	**Arzberg**	**151.37**	**339**	⇑*i*PKPdf	PKPdf	19 31 25.9	-1.3
	comp=Z,2.7nm,1.2s						
ARSA				⇑*i*PKPbc	PKPbc	19 31 33.4	-0.6
	comp=Z,15nm,1.2s						
ARSA				⇓*i*PKPab	PKPab	19 31 45.6	+0.2
	comp=Z,22nm,1.3s						
AYDN	**Tasoluk**	**151.46**	**311**	*i* P	PKPbc	19 31 34.4	+0.1
VTS	**Vitosha**	**151.59**	**324**	*i* P	PKPbc	19 31 34.0	-0.5
VTS	**Vitosha**	**151.59**	**324**	*e*P	PKPdf	19 31 26.6	-1.0
VTS	**Vitosha**	**151.59**	**324**	⇑*i*P	PKPbc	19 31 34.5	0.0
STU	**Stuttgart**	**151.62**	**348**	*e*PKPbc	PKPbc	19 31 34.1	-0.5
STU				*e*PKPab	PKPab	19 31 45.5	-1.0
STU	**Stuttgart**	**151.62**	**348**	*e*PKPbc	PKPbc	19 31 33.6	-1.0
FUR	**Furstenfeldbru**	**151.75**	**345**	*e*PKPdf	PKPdf	19 31 27.2	-0.6
FUR				*e*PKPbc	PKPbc	19 31 34.3	-0.6
FUR				*e*PKPab	PKPab	19 31 46.6	-0.5
JVM	**Valle D.L. Mar**	**151.84**	**4**	*e*P	PKPbc	19 31 33.7	-1.4
JRS	**Jersey**	**151.87**	**4**	*e*P	PKPbc	19 31 33.3	-1.9
MMB	**Musomiste**	**151.95**	**322**	*i* P	PKPbc	19 31 34.0	-1.3
DIVS	**Divcibare**	**152.15**	**330**	*e*P	PKPbc	19 31 35.4	-0.4
BFO	**Black Forest**	**152.20**	**349**	*e*PKPdf	PKPdf	19 31 27.9	-0.6
BFO				*e*PKPbc	PKPbc	19 31 35.0	-0.9
BFO				*e*PKPab	PKPab	19 31 47.7	-1.3
BFO	**Black Forest**	**152.20**	**349**	*e*PKPdf	PKPdf	19 31 27.9	-0.6
BFO				*e*PKPbc	PKPbc	19 31 34.8	-1.1
BFO				*e*PKPbc	PKPbc	19 31 35.0	-0.9
BFO				*e*PKPab	PKPab	19 31 47.6	-1.4
BFO				*e*PKPab	PKPab	19 31 47.7	-1.3
KBA	**Koelnbreinsper**	**152.20**	**342**	⇑*i*P	PKPbc	19 31 34.7	-1.2
WLS	**Welschbruch**	**152.27**	**351**	PKP	PKPdf	19 31 28.2	-0.4
OBKA	**Obir**	**152.34**	**340**	⇓*i*	PKPbc	19 31 34.9	-1.3
	comp=Z,11nm,0.9s						
OBKA	**Obir**	**152.34**	**340**	⇑*i*	PKPab	19 31 48.6	-0.9
	comp=Z,9.2nm,1.0s						
OBKA	**Obir**	**152.34**	**340**	⇑*i*PKPdf	PKPdf	19 31 28.0	-0.7
	comp=Z,3.8nm,1.1s						
OBKA				⇓*i*PKPbc	PKPbc	19 31 34.9	-1.3
	comp=Z,11nm,0.9s						
OBKA				⇑*i*PKPab	PKPab	19 31 48.6	-0.9
	comp=Z,9.2nm,1.0s						
FLN	**La Foliniere**	**152.38**	**2**	*e*PKIKP	PKPdf	19 31 27.7	-1.1
	comp=Z,22nm,1.1s						
WATA	**Walderalm**	**152.45**	**344**	*e*	PKPbc	19 31 35.7	-0.7
	comp=Z,5.5nm,0.4s,SNR=6.5						
WATA	**Walderalm**	**152.45**	**344**	⇓*e*	PKPab	19 31 50.0	0.0
	comp=Z,27nm,1.1s						
WATA	**Walderalm**	**152.45**	**344**	⇑*e*PKPdf	PKPdf	19 31 28.1	-0.8
	comp=Z,2.0nm,0.4s						
WATA				*e*PKPbc	PKPbc	19 31 35.7	-0.7
	comp=Z,5.5nm,0.4s,SNR=6.5						
WATA				⇓*e*PKPab	PKPab	19 31 50.0	0.0
	comp=Z,27nm,1.1s						
MEZF	**Maizieres J'vi**	**152.47**	**354**	*e*PKIKP	PKPdf	19 31 28.6	-0.3
ECH	**Echery**	**152.49**	**351**	PKP	PKPdf	19 31 27.8	-1.1
WTTA	**Wattenberg**	**152.50**	**344**	⇓*i*	PKPbc	19 31 36.0	-0.5
	comp=Z,17nm,0.4s						
WTTA	**Wattenberg**	**152.50**	**344**	⇑*i*	PKPab	19 31 50.1	-0.2
	comp=Z,47nm,1.4s						
WTTA	**Wattenberg**	**152.50**	**344**	⇓*i*PKPdf	PKPdf	19 31 28.2	-0.8
	comp=Z,6.7nm,1.0s						
WTTA				⇓*i*PKiKP	PKiKP	19 31 36.0	-0.6
	comp=Z,17nm,0.4s						
WTTA				⇑*i*PKPab	PKPab	19 31 50.1	-0.2
	comp=Z,47nm,1.4s						
LDF	**La Druitiere**	**152.56**	**2**	*e*PKIKP	PKPdf	19 31 27.6	-1.4
	comp=Z,38nm,1.4s						
MOTA	**Moosalm**	**152.56**	**345**	⇑*i*	PKPbc	19 31 36.2	-0.4
	comp=Z,25nm,1.1s						
MOTA	**Moosalm**	**152.56**	**345**	⇓*i*	PKPab	19 31 50.4	-0.1
	comp=Z,12nm,0.7s						
MOTA	**Moosalm**	**152.56**	**345**	⇓*e*PKPdf	PKPdf	19 31 27.3	-1.7
	comp=Z,3.3nm,0.8s						
MOTA				⇑*i*PKiKP	PKiKP	19 31 36.2	-0.5
	comp=Z,25nm,1.1s						
MOTA				⇓*i*PKPab	PKPab	19 31 50.4	-0.1
	comp=Z,12nm,0.7s						
MOTA	**Moosalm**	**152.56**	**345**	⇓*e*P	PKPdf	19 31 27.3	-1.7
MOTA				*i*		19 31 36.2	
MOTA				*i*		19 31 50.4	
THEF	**They Montfort**	**152.64**	**353**	PKP	PKPdf	19 31 28.0	-1.1
SQTA	**Sankt Quirin**	**152.65**	**345**	⇑*i*	PKPbc	19 31 36.4	-0.4
	comp=Z,6.8nm,0.5s						
SQTA	**Sankt Quirin**	**152.65**	**345**	⇓*e*PKPdf	PKPdf	19 31 28.8	-0.3
	comp=Z,7.9nm,1.0s						
SQTA				⇑*i*PKiKP	PKiKP	19 31 36.4	-0.5
	comp=Z,6.8nm,0.5s						
FELD	**Feldberg im Sc**	**152.69**	**350**	PKP	PKPdf	19 31 28.0	-1.2
KNT	**Kendrikon**	**152.70**	**322**	*e*P	PKPbc	19 31 34.7	-2.3
GRR	**Gorron**	**152.74**	**3**	*e*PKIKP	PKPdf	19 31 28.2	-1.1
	comp=Z,19nm,1.1s						
STIP	**Stip**	**152.75**	**324**	*i* PKP	PKPdf	19 31 27.9	-1.4
STIP				*i* PKP	PKPbc	19 31 36.8	-0.3
STIP				*i* PKP	PKPab	19 31 50.6	-0.7
LJU	**Ljubljana**	**152.75**	**339**	*e*PKPdf	PKPdf	19 31 29.0	-0.3
LJU				*e*PKPbc	PKPbc	19 31 36.3	-0.8
LJU				*e*PKPab	PKPab	19 31 50.4	-1.0
VAY	**Valandovo**	**152.78**	**323**	*e*P	PKPbc	19 31 34.3	-2.9
VAY	**Valandovo**	**152.78**	**323**	*i* PKP	PKPbc	19 31 35.2	-1.9
VAY				*i* PKP	PKPab	19 31 51.0	-0.5
HAU	**Haudompre**	**152.81**	**352**	*e*PKIKP	PKPdf	19 31 29.1	-0.3
CADS	**Cadrg**	**152.85**	**340**	*e*PKPdf	PKPdf	19 31 28.7	-0.7
CADS				*e*PKPbc	PKPbc	19 31 35.6	-1.7
CADS				*e*PKPab	PKPab	19 31 49.6	-2.1
VISS	**Visnje**	**152.86**	**338**	*e*PKPdf	PKPdf	19 31 28.4	-1.1
VISS				*e*PKPbc	PKPbc	19 31 36.5	-0.8
VISS				*e*PKPab	PKPab	19 31 50.5	-1.3
DAVA	**Damuels**	**152.90**	**347**	⇓*i*	PKPbc	19 31 37.9	+0.5
	comp=Z,28nm,1.1s						
DAVA	**Damuels**	**152.90**	**347**	⇑*i*	PKPab	19 31 51.5	-0.5
	comp=Z,13nm,0.7s						
DAVA	**Damuels**	**152.90**	**347**	⇓*i*PKPdf	PKPdf	19 31 29.6	+0.1
	comp=Z,3.8nm,0.9s						
DAVA				⇓*i*PKiKP	PKiKP	19 31 37.9	+0.5
	comp=Z,28nm,1.1s						
DAVA				⇑*i*PKPab	PKPab	19 31 51.5	-0.5
	comp=Z,13nm,0.7s						
HINF	**Hinteralfeld**	**152.93**	**351**	*e*PKIKP	PKPdf	19 31 28.5	-1.0
VOY	**Vojsko**	**152.97**	**340**	*e*PKPdf	PKPdf	19 31 28.2	-1.4
VOY				*e*PKPbc	PKPbc	19 31 36.7	-0.8
VOY				*e*PKPab	PKPab	19 31 50.5	-1.8
BOJS	**Bojanci**	**152.97**	**338**	*e*PKPdf	PKPdf	19 31 28.7	-0.9
BOJS				*e*PKPbc	PKPbc	19 31 37.1	-0.5
BOJS				*e*PKPab	PKPab	19 31 51.2	-1.1
GRG	**Griva**	**153.12**	**322**	*e*P	PKPbc	19 31 36.3	-1.5
BIA	**Bitola**	**153.69**	**324**	*i* PKP	PKPbc	19 31 37.2	-1.9
BIA				*i* PKP	PKPab	19 31 54.7	-0.6
LOR	**Lormes**	**153.79**	**356**	*e*PKIKP	PKPdf	19 31 30.1	-0.7
FNA	**Florina**	**153.81**	**323**	*e*P	PKPdf	19 31 29.6	-1.2
OHR	**Ohrid**	**153.91**	**324**	*i* PKP	PKPdf	19 31 29.9	-1.0
OHR				*i* PKP	PKPbc	19 31 38.0	-1.6
OHR				*i* PKP	PKPab	19 31 55.0	-1.3
SSF	**Saint Saulge**	**154.02**	**356**	*e*PKIKP	PKPdf	19 31 30.3	-0.8
CABF	**La Chapelle**	**154.21**	**352**	*e*PKIKP	PKPdf	19 31 31.2	-0.1
	comp=Z,13nm,0.8s						
AVF	**Avril sur Loir**	**154.30**	**356**	*e*PKIKP	PKPdf	19 31 30.2	-1.3
SMF	**Signal de Mont**	**154.41**	**355**	*e*PKIKP	PKPdf	19 31 30.5	-1.1
	comp=Z,23nm,1.4s						
MFF	**Saint Martin d**	**154.55**	**2**	*e*PKIKP	PKPdf	19 31 30.8	-1.0
	comp=Z,16nm,1.2s						
BGF	**Bois d'Agland**	**154.56**	**357**	*e*PKIKP	PKPdf	19 31 31.1	-0.7
TCF	**Toulx Ste Croi**	**154.86**	**358**	*e*PKIKP	PKPdf	19 31 31.4	-0.8
	comp=Z,22nm,1.4s						
LPL	**La Plagne**	**155.19**	**350**	*e*PKIKP	PKPdf	19 31 32.4	-0.3
	comp=Z,19nm,1.3s						
LPG	**La Plagne**	**155.21**	**350**	*e*PKIKP	PKPdf	19 31 32.6	-0.1
	comp=Z,15nm,1.2s						
BNI	**Bardonecchia**	**155.65**	**350**	*e*PKIKP	PKPdf	19 31 32.7	-0.6
BNI				*e*		19 32 03.0	
RJF	**Les Rejaudoux**	**155.86**	**359**	*e*PKIKP	PKPdf	19 31 32.7	-0.8
	comp=Z,45nm,1.6s						
ORIF	**Oris-en-Rattie**	**155.90**	**351**	*e*PKIKP	PKPdf	19 31 33.0	-0.6
	comp=Z,21nm,1.5s						
MBDF	**Montbardon**	**155.95**	**350**	*e*PKIKP	PKPdf	19 31 33.1	-0.6
	comp=Z,46nm,1.5s						
VIVF	**Saint-Julien-l**	**156.11**	**353**	*e*PKIKP	PKPdf	19 31 33.3	-0.6
	comp=Z,15nm,1.2s						
CAF	**Calviac**	**156.22**	**358**	*e*PKIKP	PKPdf	19 31 33.5	-0.5
	comp=Z,17nm,1.3s						
LFF	**La Frestale**	**156.23**	**0**	*e*PKIKP	PKPdf	19 31 33.1	-0.9
SAOF	**Saorge**	**156.53**	**348**	PKP	PKPdf	19 31 32.3	-2.1
AUTN	**L'Aution**	**156.54**	**348**	PKP	PKPdf	19 31 33.4	-1.0
TOUF	**Mont Tournerai**	**156.56**	**349**	PKP	PKPdf	19 31 33.4	-1.0
LUCF	**Luceram**	**156.66**	**348**	PKP	PKPdf	19 31 33.6	-1.0
SBF	**Sospel**	**156.67**	**348**	*e*PKIKP	PKPdf	19 31 34.7	+0.1
SMRF	**Simiane la Rot**	**156.87**	**351**	*e*PKIKP	PKPdf	19 31 34.7	-0.1
	comp=Z,32nm,1.4s						
LASF	**Ste Croix**	**156.96**	**355**	*e*PKIKP	PKPdf	19 31 34.5	-0.5
	comp=Z,11nm,1.1s						
FRF	**La Foret Royal**	**157.11**	**349**	*e*PKIKP	PKPdf	19 31 35.6	+0.5
	comp=Z,10nm,1.1s						
TIP	**Timpagrande**	**157.45**	**326**	*e*PKPdf	PKPdf	19 31 34.9	-0.7
TIP				*e*PKPdif		19 31 47.0	
TIP				*e*PKPab	PKPab	19 32 11.5	-0.1
MTLF	**Montolieu**	**157.80**	**358**	*e*PKIKP	PKPdf	19 31 35.2	-0.8
	comp=Z,13nm,1.3s						
EPF	**Esparros**	**158.13**	**1**	*e*PKIKP	PKPdf	19 31 35.9	-0.5
	comp=Z,30nm,1.4s						
ETSF	**Etsaut**	**158.23**	**3**	*e*PKIKP	PKPdf	19 31 36.1	-0.4
	comp=Z,16nm,1.4s						
EVO	**Evora**	**160.99**	**22**	*e*PKIKP	PKPdf	19 31 38.6	-1.0
	comp=Z,27nm,1.2s						
ESDC	**Sonseca Array**	**161.02**	**12**	PKPab	PKPab	19 32 25.8	-1.4
	comp=Z,10nm,1.0s,baz=346,slow=4.2,SNR=22						
DBIC	**Dimbokro**	**164.59**	**158**	PKP	PKPdf	19 31 42.6	-0.4
	comp=Z,5.4nm,0.8s,baz=130,slow=17,SNR=3.8						
TORD	**Torodi Ar. Bea**	**172.06**	**185**	PKP	PKPdf	19 31 47.1	-0.8
	comp=Z,7.5nm,1.2s,baz=330,slow=0.7,SNR=14						

*NEIC **27** 19:18:42.2,2731S×6920W,h15km,ML3.2(GUC),After GUC.*

GUC 27 19:18:42.2±19.0,2731S×6920W,h15km±146km,MD3.5, ML3.2,2C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.03**	**267**	*i* P	Pb	19 19 00.9	-0.8
CPCH				*i* S	Sb	19 19 16.2	+1.2
CPCH				AML	AML	19 19 17.9	
	comp=N,4μm,0.1s						
CPCH	**Copiapo**	**1.03**	**267**	*i* P	Pb	19 19 00.9	-0.8
CPCH				*i* S	Sb	19 19 16.2	+1.2
CDCH	**Caldera**	**1.47**	**279**	*i* P	Pn	19 19 05.7	-2.5
CDCH				*i* S	Sn	19 19 24.6	-2.5
CDCH				AML	AML	19 19 25.8	
	comp=E,214nm,0.2s						
CDCH	**Caldera**	**1.47**	**279**	*i* P	Pn	19 19 05.7	-2.5
CDCH				*i* S	Sn	19 19 24.6	-2.5
CRCH	**Chaqaral**	**1.59**	**307**	⇑*i*P	Pn	19 19 08.9	-0.9
CRCH				*i* S	Sn	19 19 30.4	+0.3
CRCH				AML	AML	19 19 34.6	
	comp=N,241nm,0.4s						
CRCH	**Chaqaral**	**1.59**	**307**	⇑*i*P	Pn	19 19 08.9	-0.9
CRCH				*i* S	Sn	19 19 30.4	+0.3
TLL	**Tololo Astrono**	**3.18**	**206**	*e*P	Pn	19 19 26.4	-5.3
TLL				*i* S	Sn	19 20 01.7	-7.6
TLL				*i* Pg	Pg	19 20 01.8	+19
TLL				AML	AML	19 20 08.3	
	comp=N,81nm,0.4s						
LVC	**Limon Verde**	**4.68**	**3**	*e*Pn	Pn	19 19 51.1	-1.2

*ISCJB **27** 19:25:00.8±1.5,706S±009×1293E±02,h140km±16km, mb4.1/9,Error ellipse: s-maj=33.3km s-min=8.4km az=136.7*

*NEIC **27** 19:25:03.8±2.4,721S×12932E,h157km±26km,mb4.3/5, Error ellipse: s-maj=31.8km s-min=19.8km az=71.0*

*IDC **27** 19:25:09.9±10.0,740S×128.12E,h189km±107km,mb3.2/3, mb1 3.5/5,mb1mx3.3/12,mbtmp3.9/5,Error ellipse: s-maj=102.7km s-min=23.6km az=57.0*

ISC 27 19:25:05.2±1.1,746S±006×1290E±01,h167km±11km,n23, σ1§05/31,mb4.1/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.22**	**147**	*e*P	**Pn**	**19 26 34.3**	**-0.6**
	65nm,0.5s						
KAKA				*e*S	**Sn**	**19 27 45.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.08**	**197**	*e*P	**Pn**	**19 27 41.6**	**+2.5**
	18nm,2.0s						
FITZ				*e*S	**Sn**	**19 29 41.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**11.08**	**197**	P	**Pn**	**19 27 42.5**	**+3.4**
	0.4nm,0.3s,baz=348,slow=13,SNR=25						
FITZ				S	**Sn**	**19 29 40.7**	**-1.2**
	2.4nm,0.3s,baz=104,slow=22,SNR=10.0						
WRAB	**Tennant Creek**	**13.44**	**158**	*e*Pn	**Pn**	**19 28 09.2**	**-0.2**
	22nm,0.8s						
WRAB				*e*Sn	**Sn**	**19 30 32.6**	**-5.9**
WRA	**Warramunga Arr**	**13.44**	**158**	P	**Pn**	**19 28 09.8**	**+0.4**
	1.7nm,0.3s,baz=342,slow=13,SNR=36						
WRA				S	**Sn**	**19 30 34.1**	**-4.4**
	0.9nm,0.3s,baz=336,slow=22,SNR=4.4						
WB2	**Warramunga Arr**	**13.45**	**158**	*e*P	**Pn**	**19 28 10.2**	**+0.7**
WB2				*e*S	**Sn**	**19 30 35.5**	**-3.2**
AS31	**Alice Springs**	**16.79**	**164**	*e*P	**Pn**	**19 28 55.3**	**+4.7**
AS31				*e*S	**S**	**19 31 55.7**	**-0.9**
ASPA	**Alice Springs**	**16.79**	**164**	*e*P	**Pn**	**19 28 55.3**	**+4.7**
ASPA				*e*S	**S**	**19 31 55.7**	**-0.9**
ASAR	**Alice Springs**	**16.79**	**164**	P	**Pn**	**19 28 54.9**	**+4.3**
	1.1nm,0.3s,baz=344,slow=11,SNR=98						
ASAR				S	**S**	**19 31 58.4**	**+1.8**
	0.5nm,0.3s,baz=345,slow=25,SNR=5.6						
STKA	**Stephens Creek**	**26.98**	**156**	*e*P	pP	19 31 03.2	-2.6
	3.0nm,0.7s						
STKA	**Stephens Creek**	**26.98**	**156**	P	**P**	**19 30 38.4**	**+7.0**
	0.5nm,0.3s,mb3.6,baz=334,slow=13,SNR=3.2						
JIRN	**Jiri**	**54.16**	**312**	*e*P	**P**	**19 34 14.1**	**+1.0**
GUN	**Gumba**	**54.52**	**312**	*e*P	**P**	**19 34 16.3**	**+0.5**
	8.6nm,0.4s,mb4.8						
PKI	**Pulchoki**	**54.69**	**311**	*e*P	**P**	**19 34 16.9**	**-0.1**
KKN	**Kakani**	**54.90**	**312**	*e*P	**P**	**19 34 18.1**	**-0.4**
DMN	**Daman**	**54.93**	**311**	*e*P	**P**	**19 34 19.2**	**+0.5**
GKN	**Gorkha**	**55.49**	**311**	*e*P	**P**	**19 34 22.6**	**-0.1**
	5.6nm,0.3s,mb4.7						
KOLN	**Koldanda**	**56.15**	**311**	*e*P	**P**	**19 34 27.6**	**+0.2**
	11nm,0.9s,mb4.7						
SONM	**Songino Array**	**58.57**	**342**	P	**P**	**19 34 44.4**	**+0.1**
	0.2nm,0.4s,mb3.3,baz=152,slow=6.4,SNR=2.7						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**19 35 45.8**	**-1.0**
	0.5nm,0.3s,mb3.7,baz=110,slow=8.1,SNR=19						
KURK	**Kurchatov**	**72.40**	**329**	*e*P	**P**	**19 36 10.9**	**-2.2**
	3.8nm,1.1s,mb4.0						
ZRNK	**Zerenda**	**78.62**	**328**	*e*P	**P**	**19 36 48.0**	**-0.5**
	1.0nm,0.8s,mb3.5						
QSPA	**South Pole Qui**	**82.52**	**180**	*e*P	**P**	**19 37 10.9**	**+1.6**
	11nm,1.7s,mb4.3						

*NEIC **27** 19:31:37.7,1550N×9434W,h145km,MD4.2(MEX),After MEX.*

MEX 27 19:31:37.5±0.4,1514N×9442W,h20km±17km,MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.99**	**347**	*i* P	Pn	19 32 07.4	-2.7
CMIG				*i* S	Sn	19 32 30.7	-3.7
SCX	**San Cristobal**	**2.34**	**47**	*i* P	Pn	19 32 12.0	-2.8
SCX				*i* S	Sn	19 32 43.0	+0.1
CCIG	**Comitan**	**2.48**	**62**	*i* P	Pn	19 32 14.6	-2.1
CCIG				*i* S	Sn	19 32 43.5	-2.8
CCIG	**Comitan**	**2.48**	**62**	*i* P	Pn	19 32 14.6	-2.1
CCIG				*i* S	Sn	19 32 50.0	+3.7
TUIG	**Tuzandepetl**	**2.88**	**360**	*e*P	Pn	19 32 20.0	-2.2
TUIG				*i* S	Sn	19 32 52.9	-3.4
TUIG	**Tuzandepetl**	**2.88**	**360**	*i* P	Pn	19 32 09.3	-13
OXX	**Oaxaca**	**2.94**	**311**	*e*P	Pn	19 32 21.0	-2.1
VHO	**Vista Hermosa**	**2.94**	**311**	*e*P	Pn	19 32 23.0	-0.1
VHO				*i* S	Sn	19 32 54.5	-3.2
VHO	**Vista Hermosa**	**2.94**	**311**	*i* P	Pn	19 32 25.2	+2.2
VHO				*i* S	Sn	19 32 54.5	-3.2
UTMO	**Huajuapan**	**4.21**	**310**	*e*P	Pn	19 32 39.8	-0.7
UTMO				*i* S	Sn	19 33 29.4	+0.3

**NEIC 27 19:40:38.1,3619N×

MWZ			SN	Sn	19 43 09.8	-0.3
MWZ	**Matawai**	**2.02 190**	P	Pn	19 42 40.6	+0.3
MWZ			S	Sn	19 43 09.8	-0.3
URZ	**Urewera**	**2.04 200**	PN	Pn	19 42 40.7	+0.3
URZ			SN	Sn	19 43 11.0	+0.6
URZ	**Urewera**	**2.04 200**	P	Pn	19 42 40.7	+0.3
KNZ	**Kokohu**	**2.68 185**	PN	Pn	19 42 47.5	-0.1
BKZ	**Black Stump Fm**	**3.06 202**	*e*PN	Pn	19 42 51.8	-0.2
BKZ			*e*SN	Sn	19 43 31.4	+0.3
BKZ	**Black Stump Fm**	**3.06 202**	*e*P	Pn	19 42 51.8	-0.2
TUVZ	**Tukino**	**3.46 212**	*e*PN	Pn	19 42 57.2	+0.4
TUVZ	**Tukino**	**3.46 212**	P	Pn	19 42 57.2	+0.4
FWVZ	**Far West T-bar**	**3.49 213**	*e*PN	Pn	19 42 57.8	+0.6
FWVZ	**Far West T-bar**	**3.49 213**	P	Pn	19 42 57.8	+0.6
MOVZ	**Moawhango**	**3.53 209**	*e*PN	Pn	19 42 57.3	-0.5
MOVZ	**Moawhango**	**3.53 209**	P	Pn	19 42 57.3	-0.4
PXZ	**Pawanui**	**3.79 193**	*e*PN	Pn	19 42 60.0	-0.9
TSZ	**Takapari Road**	**4.04 203**	PN	Pn	19 43 02.6	-1.4
TSZ	**Takapari Road**	**4.04 203**	P	Pn	19 43 02.6	-1.4
BFZ	**Birch Farm**	**4.54 197**	*e*PN	Pn	19 43 08.9	-1.4
BFZ	**Birch Farm**	**4.54 197**	*e*P	Pn	19 43 08.9	-1.4
MRZ	**Mangatainoka R**	**4.71 203**	*e*PN	Pn	19 43 10.3	-2.2
MRZ			SN	Sn	19 44 04.1	-3.8
MRZ	**Mangatainoka R**	**4.71 203**	*e*P	Pn	19 43 10.5	-1.9
TIWZ	**Tintock**	**4.72 200**	PN	Pn	19 43 11.1	-1.6
KIW	**Kapiti Island**	**5.12 207**	PN	Pn	19 43 15.5	-2.2
KIW	**Kapiti Island**	**5.12 207**	P	Pn	19 43 15.6	-2.1
CAW	**Cannon Point**	**5.28 205**	PN	Pn	19 43 16.8	-2.9
CAW	**Cannon Point**	**5.28 205**	P	Pn	19 43 17.2	-2.5
TRWZ	**Traveller**	**5.36 199**	PN	Pn	19 43 18.8	-2.0
TCW	**Tory Channel**	**5.66 210**	PN	Pn	19 43 22.3	-2.4
TCW	**Tory Channel**	**5.66 210**	P	Pn	19 43 22.3	-2.4
NNZ	**Nelson**	**6.05 215**	*e*PN	Pn	19 43 26.0	-3.8
QRZ	**Quartz Range**	**6.19 222**	*e*PN	Pn	19 43 28.8	-2.7
KHZ	**Kahutara**	**6.97 208**	*e*PN	Pn	19 43 38.9	-2.9
KHZ	**Kahutara**	**6.97 208**	*e*P	Pn	19 43 39.2	-2.6
MQZ	**McQueen's Vall**	**8.41 207**	*e*SN	Sn	19 45 25.9	-9.1

CSEM ***27*** *19:48:02.0±0.1, 37.16N×2883E, h10km, MD3.1, Error ellipse: s-maj=1.7km s-min=1.2km az=32.0*
ISK ***27*** *19:48:02.2, 37.14N×2881E, h21km, MD3.1*
NEIC ***27*** *19:48:02.2, 37.14N×2881E, h21km, MD3.1(ATH), MD3.1(ISK), After ISK.*
ISCJB ***27*** *19:48:03.5±0.4, 37.11N±003×2879E±004, h24km±7km, Error ellipse: s-maj=5.9km s-min=5.1km az=76.4*
ATH ***27*** *19:48:12.5, 3622N×2877E, h10km, MD3.1/3*
ISC 27 19:48:03.4±0.5, 3711N±003×2879E±004, h16km±5km, n22, σ1§05/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.36**	**199**	*i* PG	**Pg**	**19 48 10.6**	**-0.1**
YER	**Yerkesik**	**0.40**	**274**	*i* PG	**Pg**	**19 48 11.7**	**+0.2**
YER				*i* SG	**Sg**	**19 48 18.1**	**+1.1**
FETY	**Fethiye**	**0.53**	**153**	*i* PG	**Pg**	**19 48 13.4**	**-0.4**
FETY				*i* SG	**Sg**	**19 48 22.2**	**+1.3**
DNZL	**Cakiroluk**	**0.62**	**20**	*i* P	**Pg**	**19 48 14.2**	**-1.3**
DNZL				*i* S	**Sg**	**19 48 24.4**	**+0.7**
DENT	**Denizli**	**0.67**	**17**	*i* PG	**Pg**	**19 48 15.2**	**-1.3**
MLSB	**Milas**	**0.83**	**283**	PG	**Pg**	**19 48 18.9**	**-0.5**
AYDN	**Tasoluk**	**0.91**	**308**	*i* P	**Pb**	**19 48 20.5**	**-0.2**
AYDN				*i* S	**Sg**	**19 48 34.3**	**+1.4**
ELL	**Elmali**	**0.97**	**111**	PG	**Pg**	**19 48 21.3**	**-0.8**
ARG	**Arkhangelos**	**1.04**	**211**	*e*PB	**Pb**	**19 48 22.6**	**-0.3**
DAT	**Datca**	**1.04**	**249**	PG	**Pg**	**19 48 22.6**	**-0.9**
BDRM	**Kayabasi**	**1.07**	**268**	*e*P	**Pb**	**19 48 24.7**	**+1.2**
BDRM				*i* S	**Sb**	**19 48 42.2**	**+4.8**
KSL	**Kastellorizon**	**1.15**	**146**	*e*PB	**Pb**	**19 48 25.2**	**+0.3**
BODT	**Bodrum**	**1.18**	**268**	PN	**Pn**	**19 48 24.5**	**-0.7**
MANT	**Manisa**	**1.39**	**353**	*i* P	**Pn**	**19 48 29.4**	**+1.3**
MANT				*i* S	**Sn**	**19 48 50.0**	**+3.8**
BCK	**Bucak**	**1.48**	**76**	*e*PN	**Pn**	**19 48 28.7**	**-0.7**
TKTP	**Tekketepe**	**1.53**	**52**	*i* P	**Pn**	**19 48 31.8**	**+1.7**
IZM	**Izmir**	**1.77**	**317**	*e*PN	**Pn**	**19 48 31.9**	**-1.4**
BLCB	**Balcova**	**1.88**	**313**	*e*PN	**Pn**	**19 48 33.8**	**-1.1**
AKS	**Akhisar**	**1.93**	**337**	*e*PN	**Pn**	**19 48 34.2**	**-1.3**
KARP	**Karpathos**	**2.04**	**221**	*e*PB	**Pb**	**19 48 40.0**	**0.0**
BR131	**Keskin Array S**	**4.62**	**54**	*e*Pn	**Pn**	**19 49 14.3**	**+1.8**
BR131	**Keskin Array S**	**4.62**	**54**	*e*Pn	**Pn**	**19 49 14.4**	**+1.8**

ATH ***27*** *19:57:56.7, 3720N×2877E, h5km±1km, MD3.8/13*
ISCJB ***27*** *19:57:56.9±0.2, 3705N±002×2886E±002, h10km, mb3.6/7, Error ellipse: s-maj=2.3km s-min=2.0km az=62.2*
IDC ***27*** *19:57:57.3±1.0, 37.10N×2882E, h0km, mb3.6/4, mb1 3.8/10, mb1mx3.7/24, mbtmp3.7/10, ML3.8/6, Error ellipse: s-maj=17.8km s-min=16.2km az=133.0*
ISK ***27*** *19:57:58.1, 37.14N×2878E, h10km, MD3.7*
NEIC ***27*** *19:57:58.1, 37.14N×2877E, h10km, mb3.6/8, MD3.9(ATH), ML3.7(ISK), After ISK.*
CSEM ***27*** *19:57:58.5±0.1, 3695N×2882E, h40km, mb3.7/3, Error ellipse: s-maj=1.9km s-min=1.1km az=73.0*
THE ***27*** *19:58:03.9, 3725N×2858E, h11km, ML3.1*
HLW ***27*** *19:58:11.9, 3626N×2900E, h33km, Mb3.8*
ISC 27 19:57:58.4±0.4, 3706N±002×2882E±002, h8km±3km, n156, σ1§08/187, mb3.6/7, 4C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.33**	**207**	*i* PG	**Pg**	**19 58 05.5**	**+0.8**
YER	**Yerkesik**	**0.44**	**280**	*i* PG	**Pg**	**19 58 06.2**	**-0.6**
FETY	**Fethiye**	**0.47**	**154**	*i* PG	**Pg**	**19 58 08.4**	**+0.9**
FETY				*i* SG	**Sg**	**19 58 17.9**	**+4.2**
DNZL	**Cakiroluk**	**0.65**	**16**	*i* P	**Pg**	**19 58 09.3**	**-1.7**
DNZL				*i* S	**Sg**	**19 58 16.1**	**-3.4**
DENT	**Denizli**	**0.71**	**14**	*i* PG	**Pg**	**19 58 10.3**	**-1.8**
MLSB	**Milas**	**0.87**	**286**	*i* PG	**Pg**	**19 58 14.0**	**-1.0**
MLSB				*i* SG	**Sg**	**19 58 26.5**	**+0.2**
ELL	**Elmali**	**0.93**	**109**	*i* PG	**Pg**	**19 58 17.0**	**+0.9**
AYDN	**Tasoluk**	**0.96**	**309**	*i* P	**Pg**	**19 58 15.5**	**-1.3**
AYDN				*i* S	**Sg**	**19 58 28.7**	**-0.6**
ARG	**Arkhangelos**	**1.01**	**214**	⇑*i*Pb	**Pb**	**19 58 17.4**	**-0.7**
ARG				*e*Sb	**Sb**	**19 58 36.4**	**+4.8**
DAT	**Datca**	**1.05**	**252**	*i* PG	**Pg**	**19 58 18.2**	**-0.3**
KSL	**Kastellorizon**	**1.10**	**146**	*e*PB	**Pb**	**19 58 20.0**	**+0.4**
BDRM	**Kayabasi**	**1.10**	**271**	*i* P	**Pg**	**19 58 18.7**	**-0.8**
BDRM				*i* S	**Sg**	**19 58 34.7**	**+0.9**
BODT	**Bodrum**	**1.21**	**271**	*i* PN	**Pn**	**19 58 21.7**	**+0.1**
NISR	**Nisiros**	**1.43**	**252**	*e*PB	**Pb**	**19 58 24.0**	**-1.3**
NISR	**Nisiros**	**1.43**	**252**	*e*Pb	**Pb**	**19 58 25.4**	**+0.1**
MANT	**Manisa**	**1.44**	**352**	*i* P	**Pn**	**19 58 23.5**	**-1.3**
MANT				*i* S	**Sn**	**19 58 41.6**	**-2.4**
BCK	**Bucak**	**1.47**	**74**	*i* PN	**Pn**	**19 58 26.2**	**+1.1**
ANTB	**Antalya**	**1.48**	**96**	*i* PN	**Pn**	**19 58 26.9**	**+1.7**
TKTP	**Tekketepe**	**1.54**	**50**	*i* P	**Pn**	**19 58 26.3**	**+0.2**
TKTP				*i* S	**Sn**	**19 58 51.9**	**+5.6**
ISP	**Isparta**	**1.55**	**59**	*e*Pn	**Pn**	**19 58 26.6**	**+0.3**
ISP	**Isparta**	**1.55**	**59**	*e*Pn	**Pn**	**19 58 26.6**	**+0.3**
SMG	**Samos**	**1.71**	**293**	*e*Pb	**Pn**	**19 58 27.0**	**-1.4**
SMG				*e*Sg	**Sg**	**19 58 54.7**	**+1.4**
IZM	**Izmir**	**1.82**	**318**	*i* PN	**Pn**	**19 58 29.0**	**-1.0**
KDAG	**Bornova**	**1.82**	**318**	*i* P	**Pn**	**19 58 29.0**	**-1.0**
KDAG				*i* S	**Sn**	**19 58 52.1**	**-1.2**
BLCB	**Balcova**	**1.93**	**314**	*i* PN	**Pn**	**19 58 30.8**	**-0.7**
AKS	**Akhisar**	**1.98**	**337**	*i* PN	**Pn**	**19 58 31.2**	**-1.0**
KARP	**Karpathos**	**2.02**	**222**	*e*PN	**Pn**	**19 58 34.4**	**+1.7**
KARP				*e*SN	**Sn**	**19 59 02.4**	**+4.2**
GDZ	**Gediz**	**2.09**	**14**	*i* P	**Pn**	**19 58 33.3**	**-0.4**
GDZ				*i* S	**Sg**	**19 59 05.3**	**-0.2**
URLA	**Izmir**	**2.19**	**307**	*e*P	**Pn**	**19 58 34.2**	**-0.9**
URLA				*i* S	**Sg**	**19 59 09.2**	**+0.4**
CHOS	**Chios island**	**2.56**	**302**	*e*Pn	**Pn**	**19 58 39.7**	**-0.5**
CHOS				*e*Sn	**Sn**	**19 59 10.4**	**-1.2**
CHOS	**Chios island**	**2.56**	**302**	*e*Pn	**Pn**	**19 58 39.7**	**-0.5**
APE	**Apeiranthos**	**2.63**	**271**	*e*Pn	**Pn**	**19 58 41.5**	**+0.4**
APE				*e*Sn	**Sn**	**19 59 14.6**	**+1.3**
APE	**Apeiranthos**	**2.63**	**271**	*e*Pn	**Pn**	**19 58 41.5**	**+0.4**
APE	**Apeiranthos**	**2.63**	**271**	*e*Pb	**Pn**	**19 58 41.2**	**+0.1**
BALB	**Balikesir**	**2.68**	**344**	PN	**Pn**	**19 58 41.3**	**-0.5**
BTOK	**Tokmak**	**2.77**	**347**	*i* P	**Pn**	**19 58 41.8**	**-1.3**
SANT	**Santorini**	**2.79**	**257**	Pn	**Pn**	**19 58 43.5**	**+0.2**
SANT	**Santorini**	**2.79**	**257**	Pn	**Pn**	**19 58 43.5**	**+0.2**
KONT	**Konya--Tatoy**	**2.95**	**72**	PN	**Pn**	**19 58 47.1**	**+1.6**
PRK	**Paraskevi**	**2.97**	**318**	*e*PN	**Pn**	**19 58 45.0**	**-0.7**
KDHN	**Kadinhani**	**2.99**	**60**	*i* P	**Pn**	**19 58 48.0**	**+2.0**
KDHN				*i* S	**Sg**	**19 59 37.5**	**+3.1**
KIZT	**Kizilcal**	**3.02**	**52**	PN	**Pn**	**19 58 47.7**	**+1.2**
BORA	**Eskisehir**	**3.09**	**24**	*e*P	**Pn**	**19 58 47.8**	**+0.3**
NPS	**Neapolis**	**3.16**	**236**	*e*PB	**Pn**	**19 58 50.3**	**+2.0**
NPS				*e*SN	**Sn**	**19 59 28.5**	**+2.3**
LAST	**Lasithi**	**3.30**	**236**	*e*Pn	**Pn**	**19 58 52.0**	**+1.6**
LAST	**Lasithi**	**3.30**	**236**	*e*Pn	**Pn**	**19 58 53.2**	**+2.8**
ERMK	**Ermenek**	**3.31**	**96**	*i* P	**Pn**	**19 58 55.2**	**+4.7**
ERMK				*i* S	**Sn**	**19 59 40.6**	**+11**
XRY	**Khrisi**	**3.34**	**230**	*e*PB	**Pn**	**19 58 53.7**	**+2.8**
BNT	**Bandirma**	**3.37**	**348**	*e*PN	**Pn**	**19 58 51.9**	**+0.7**
ADVT	**Abdulvahap**	**3.44**	**12**	PN	**Pn**	**19 58 52.8**	**+0.5**
YLV	**Yalova**	**3.53**	**7**	*e*PN	**Pn**	**19 58 53.8**	**+0.3**
IDI	**Anoyia**	**3.64**	**242**	Pn	**Pn**	**19 58 56.8**	**+1.8**
	16nm,0.3s,baz=58,slow=14,SNR=42						
IDI				Sn	**Sn**	**19 59 39.3**	**+1.2**
	24nm,0.3s,baz=285,slow=20,SNR=6.6						
MRMT	**Marmara Adasi**	**3.67**	**345**	PN	**Pn**	**19 58 55.6**	**+0.3**
HRT	**Hereke**	**3.81**	**10**	*e*PN	**Pn**	**19 58 57.4**	**0.0**
SIVA	**Sivas**	**3.84**	**239**	*e*Pn	**Pn**	**19 59 01.0**	**+3.3**
SIVA	**Sivas**	**3.84**	**239**	*e*Pn	**Pn**	**19 59 01.0**	**+3.3**
MDU	**Mudurnu**	**3.88**	**28**	*e*PN	**Pn**	**19 58 59.3**	**+1.0**
MFT	**Murefte**	**3.91**	**343**	*e*PN	**Pn**	**19 58 58.4**	**-0.3**
ISK	**Istanbul-Kandi**	**4.00**	**3**	*e*PN	**Pn**	**19 59 01.1**	**+1.1**
LIA	**Limnos Island**	**4.02**	**316**	*e*PN	**Pn**	**19 59 00.0**	**-0.3**
VAM	**Vamos**	**4.08**	**248**	*e*Pb	**Pn**	**19 59 05.5**	**+4.4**
LOS	**Limnos**	**4.10**	**316**	*e*Pn	**Pn**	**19 59 01.6**	**+0.2**
LOS	**Limnos**	**4.10**	**316**	*e*Pn	**Pn**	**19 59 01.7**	**+0.3**
LOD	**Lodumlu**	**4.19**	**46**	*e*PN	**Pn**	**19 59 03.8**	**+1.3**
KLYT	**Kilyos**	**4.19**	**2**	*e*PN	**Pn**	**19 59 02.9**	**+0.3**
ANTO	**Ankara**	**4.19**	**47**	*e*PN	**Pn**	**19 59 03.1**	**+0.5**
CSS	**Prodhromos**	**4.21**	**118**	*e*Pn	**Pn**	**19 59 01.3**	**-1.6**
ENEZ	**Enez**	**4.22**	**331**	*e*PN	**Pn**	**19 59 03.4**	**+0.4**
KARN	**Karanos**	**4.30**	**249**	*e*Pn	**Pn**	**19 59 07.0**	**+3.0**
KARN	**Karanos**	**4.30**	**249**	*e*Pn	**Pn**	**19 59 07.0**	**+3.0**
MEST	**Erdemli**	**4.30**	**95**	*i* P	**Pn**	**19 59 09.9**	**+5.8**
ALN	**Alexandroupoli**	**4.40**	**331**	*e*Pn	**Pn**	**19 59 05.3**	**-0.2**
ALN	**Alexandroupoli**	**4.40**	**331**	*e*Pn	**Pn**	**19 59 05.3**	**-0.1**
BR131	**Keskin Array S**	**4.63**	**53**	*e*Pn	**Pn**	**19 59 09.6**	**+1.0**
BR131				*e*Sn	**Sn**	**20 00 02.9**	**+0.5**
BR131	**Keskin Array S**	**4.63**	**53**	*e*Pn	**Pn**	**19 59 09.6**	**+1.0**
BR131				*e*Sn	**Sn**	**20 00 02.9**	**+0.4**
BRTR	**Keskin Array B**	**4.63**	**53**	Pn	**Pn**	**19 59 09.7**	**+1.1**
	6.3nm,0.3s,baz=243,slow=17,SNR=159						
BRTR				Sn	**Sn**	**20 00 03.2**	**+0.7**
	1.2nm,0.3s,baz=232,slow=24,SNR=13						
BRTR	**Keskin Array B**	**4.63**	**53**	Pn	**Pn**	**19 59 09.6**	**+1.0**
BRTR				Sn	**Sn**	**20 00 03.2**	**+0.7**
KYTH	**Kithira**	**4.71**	**262**	*e*PN	**Pn**	**19 59 12.0**	**+2.2**
VLI	**Veliai**	**4.73**	**268**	*e*PN	**Pn**	**19 59 10.6**	**+0.6**
RDO	**Rodhopi**	**4.81**	**329**	*e*PN	**Pn**	**19 59 11.2**	**+0.1**
ELDT	**Eldivan**	**4.97**	**45**	*i* P	**Pn**	**19 59 14.5**	**+1.2**
EDRB	**Edirne**	**5.04**	**342**	*e*PN	**Pn**	**19 59 14.4**	**+0.1**
CDAG	**Cicekdag**	**5.06**	**58**	*i* P	**Pn**	**19 59 15.6**	**+1.1**
SAFT	**Safranbolu**	**5.14**	**35**	*e*PN	**Pn**	**19 59 16.5**	**+0.9**
AGG	**Agios Georgios**	**5.49**	**293**	*e*Pn	**Pn**	**19 59 21.2**	**+0.8**
AGG	**Agios Georgios**	**5.49**	**293**	*e*Pn	**Pn**	**19 59 21.2**	**+0.8**
BALT	**Daday**	**5.70**	**37**	*i* P	**Pn**	**19 59 23.9**	**+0.6**
NVR	**Nevrokopi**	**5.76**	**320**	*e*PN	**Pn**	**19 59 24.0**	**-0.1**
KNT	**Kendrikon**	**6.16**	**313**	*e*Pn	**Pn**	**19 59 30.4**	**+0.8**
KNT	**Kendrikon**	**6.16**	**313**	*e*Pn	**Pn**	**19 59 30.8**	**+1.1**
SLUM		**6.31**	**209**	P	**Pn**	**19 59 33.1**	**+1.4**
SLUM				S	**Sn**	**20 00 34.0**	**-10**
GRG	**Griva**	**6.33**	**310**	*e*Pn	**Pn**	**19 59 33.1**	**+1.1**
GRG	**Griva**	**6.33**	**310**	*e*Pn	**Pn**	**19 59 33.4**	**+1.4**
BOYT	**Boyabat**	**6.42**	**45**	*i* P	**Pn**	**19 59 34.2**	**+1.0**
MMAI	**Mount Meron Ar**	**6.74**	**125**	Pn	**Pn**	**19 59 37.9**	**+0.3**
	7.9nm,0.3s,baz=313,slow=12,SNR=37						
MMAI				Sn	**Sn**	**20 00 53.7**	**-0.8**
	2.9nm,0.3s,baz=324,slow=27,SNR=3.3						
AMAG	**Maghara**	**7.37**	**149**	⇓P	**Pn**	**19 59 45.9**	**-0.3**
KOT	**Kottamia**	**7.54**	**160**	⇑P	**Pn**	**19 59 47.6**	**-1.0**
HNAT	**Natroun**	**7.56**	**168**	⇓P	**Pn**	**19 59 48.5**	**-0.3**
HNAT	**Natroun**	**7.56**	**168**	P	**Pn**	**19 59 48.5**	**-0.3**
HHAG	**Hagoal**	**7.60**	**158**	⇓P	**Pn**	**19 59 48.5**	**-0.9**
HSAF	**As Saff**	**7.76**	**162**	P	**Pn**	**19 59 50.3**	**-1.3**
GLL	**Jalalah**	**7.84**	**161**	⇓P	**Pn**	**19 59 51.6**	**-1.2**
SUZ		**7.94**	**154**	P	**Pn**	**19 59 53.6**	**-0.4**
SWA1		**8.20**	**199**	P	**Pn**	**19 59 58.3**	**+0.6**
SWA1				S	**Sn**	**20 01 16.9**	**-14**
ASF	**Jabal al Asfar**	**8.25**	**124**	Pn	**Pn**	**20 00 00.5**	**+2.2**
	0.5nm,0.3s,baz=270,slow=20,SNR=3.6						
ASF				Sn	**Sn**	**20 01 31.2**	**-0.5**
	0.1nm,0.3s,baz=151,slow=19,SNR=1.8						
SWA2		**8.29**	**201**	P	**Pn**	**19 59 58.8**	**0.0**
HNKL	**Nakhl**	**8.31**	**147**	⇓P	**Pn**	**19 59 58.3**	**-0.9**
HNKL				S	**Sn**	**20 01 17.9**	**-15**
HBNS	**Bani Suwayf**	**8.33**	**165**	⇓P	**Pn**	**19 59 58.1**	**-1.3**
ZAF		**8.36**	**157**	P	**Pn**	**19 59 58.8**	**-1.1**
MLR	**Muntele Rosu**	**8.70**	**346**	Pn	**Pn**	**20 00 05.3**	**+0.8**
	0.2nm,0.3s,baz=100,slow=19,SNR=4.9						
MLR				Sn	**Sn**	**20 01 43.3**	**+0.6**
	0.0nm,0.3s,baz=108,slow=20,SNR=1.9						
AWBH		**8.71**	**180**	P	**Pn**	**20 00 03.1**	**-1.6**
EIL	**Elat**	**8.97**	**143**	*e*Pn	**Pn**	**20 00 08.2**	**-0.1**
	153nm,0.5s						
EIL				*e*Sn	**Sn**	**20 01 42.8**	**-6.8**
EIL	**Elat**	**8.97**	**143**	*e*Pn	**Pn**	**20 00 08.2**	**-0.1**
	153nm,0.5s						
EIL				*e*Sn	**Sn**	**20 01 42.8**	**-6.7**
GRB	**Gharib**	**9.38**	**158**	⇓P	**Pn**	**20 00 12.7**	**-1.1**
HKAT	**Jabal Katrina**	**9.56**	**151**	⇓P	**Pn**	**20 00 15.5**	**-0.7**
TR2		**9.58**	**153**	P	**Pn**	**20 00 15.9**	**-0.6**
TR2		**9.58**	**153**	P	**Pn**	**20 00 15.9**	**-0.7**
HDHB	**Dhahab**	**9.63**	**148**	⇓P	**Pn**	**20 00 16.8**	**-0.5**
HHRG	**Al Ghardaqah**	**10.60**	**156**	⇑P	**Pn**	**20 00 30.1**	**-0.5**
HDK1	**Dakhla**	**11.49**	**177**	P	**Pn**	**20 00 41.4**	**-1.4**
AKRG	**Al Kharijah**	**11.61**	**172**	⇓P	**Pn**	**20 00 42.5**	**-1.8**
GTR	**Jabal at Tayr**	**11.61**	**172**	⇑P	**Pn**	**20 00 43.0**	**-1.4**
GERES	**GERESS Array B**	**16.13**	**322**	Pn	**Pn**	**20 01 45.4**	**0.0**
	0.1nm,0.3s,baz=133,slow=10,SNR=2.3						
PGF	**Pioggiola**	**16.18**	**296**	*e*P	**Pn**	**20 01 48.9**	**+2.9**
	10nm,1.1s						
PGF	**Pioggiola**	**16.18**	**296**	*e*P	**Pn**	**20 01 48.9**	**+2.9**
	5.2nm,1.1s						
FRF	**La Foret Royal**	**18.09**	**298**	*e*P	**Pn**	**20 02 11.9**	**+1.9**
	7.8nm,1.0s						
FRF	**La Foret Royal**	**18.09**	**298**	*e*P	**Pn**	**20 02 11.9**	**+1.9**
	3.9nm,1.0s						
MBDF	**Montbardon**	**18.31**	**302**	*e*P	**Pn**	**20 02 13.2**	**+0.5**
	4.5nm,0.7s						
MBDF	**Montbardon**	**18.31**	**302**	*e*P	**Pn**	**20 02 13.2**	**+0.5**
	2.2nm,0.7s						
LPG	**La Plagne**	**18.56**	**304**	*e*P	**Pn**	**20 02 15.4**	**-0.4**
LPL	**La Plagne**	**18.58**	**304**	*e*P	**Pn**	**20 02 15.8**	**-0.2**
ORIF	**Oris-en-Rattie**	**18.97**	**302**	*e*P	**Pn**	**20 02 20.9**	**+0.1**
	6.1nm,0.9s						
ORIF	**Oris-en-Rattie**	**18.97**	**302**	*e*P	**Pn**	**20 02 20.9**	**+0.1**
	3.0nm,0.9s						
CABF	**La Chapelle**	**19.38**	**307**	*e*P	**Pn**	**20 02 23.6**	**-2.1**
HINF	**Hinteralfeld**	**19.39**	**311**	*e*P	**Pn**	**20 02 21.5**	**-4.2**
HAU	**Haudompre**	**19.77**	**311**	*e*P	**Pn**	**20 02 28.6**	**-1.8**
VIVF	**Saint-Julien-l**	**19.78**	**301**	*e*P	**Pn**	**20 02 29.2**	**-1.3**
LASF	**Ste Croix**	**20.17**	**298**	*e*P	**P**	**20 02 34.8**	**+1.6**
SMF	**Signal de Mont**	**20.85**	**305**	*e*P	**P**	**20 02 40.4**	**-0.2**
	11nm,0.9s						
SMF	**Signal de Mont**	**20.85**	**305**	*e*P	**P**	**20 02 40.4**	**-0.2**
	5.4nm,0.9s						
LOR	**Lormes**	**21.05**	**307**	*e*P	**P**	**20 02 42.1**	**-0.6**
	3.3nm,0.7s,mb3.5						
LOR	**Lormes**	**21.05**	**307**	*e*P	**P**	**20 02 42.1**	**-0.6**
	1.6nm,0.7s,mb3.5						
SSF	**Saint Saulge**	**21.20**	**306**	*e*P	**P**	**20 02 44.0**	**-0.4**
	13nm,1.1s,mb3.9						
SSF	**Saint Saulge**	**21.20**	**306**	*e*P	**P**	**20 02 44.0**	**-0.4**
	6.4nm,1.1s,mb3.9						
AVF	**Avril sur Loir**	**21.22**	**305**	*e*P	**P**	**20 02 44.4**	**-0.1**
	14nm,1.3s,mb3.8						
AVF	**Avril sur Loir**	**21.22**	**305**	*e*P	**P**	**20 02 44.4**	**-0.1**
	6.9nm,1.3s,mb3.8						
CAF	**Calviac**	**21.60**	**300**	*e*P	**P**	**20 02 49.1**	**+0.4**
MFF	**Saint Martin d**	**23.48**	**303**	*e*P	**P**	**20 03 07.6**	**-1.1**
GRR	**Gorron**	**24.41**	**307**	*e*P	**P**	**20 03 15.9**	**-1.4**
FINES	**FINESS Array B**	**24.47**	**357**	P	**P**	**20 03 17.9**	**+0.2**
	1.9nm,0.7s,mb3.6,baz=159,slow=12,SNR=6.9						
AKTK	**Aktyubinsk**	**24.78**	**48**	P	**P**	**20 03 19.4**	**-1.2**
AKTO	**Aktyubinsk**	**24.78**	**48**	P	**P**	**20 03 19.4**	**-1.2**
	0.5nm,0.5s,mb3.3,baz=261,slow=13,SNR=3.2						
SGMF	**Saint Gilles**	**25.47**	**306**	*e*P	**P**	**20 03 26.5**	**-0.4**
QUIF	**Quistinic**	**25.79**	**305**	*e*P	**P**	**20 03 28.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**33.99**	**233**	P	**P**	**20 04 42.4**	**-0.1**
	2.2nm,0.6s,mb4.3,baz=34,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**40.26**	**59**	P	**P**	**20 05 35.2**	**-0.5**
	0.2nm,0.7s,mb3.0,baz=263,slow=9.6,SNR=2.4						

MAN 27 20:18:02.7, 1689N×12035E, h32km, mb2.2, ML3.8, MS4.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.55**	**157**	*e*P	Pb	20 18 15.0	+1.0
BCPH				*e*S	Sb	20 18 22.9	+1.2
ABRA	**Dolores**	**0.83**	**24**	*e*P	Pn	20 18 18.2	+0.1
APYP	**Conner**	**1.29**	**41**	*e*P	Pn	20 18 24.6	+0.2
APYP				*e*S	Sn	20 18 39.9	-0.7
BALP	**Baler**	**1.64**	**134**	*e*P	Pn	20 18 30.7	+1.5

IDC 27 20:59:39.0±9.5, 712N×9264E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.5/3, MS4.3/1, Ms1 4.3/1, ms1mx2.7/30, Error ellipse: s-maj=471.1km s-min=28.7km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.52**	**349**	P	P	21 07 19.8	0.0
	0.4nm,0.6s,baz=174,slow=8.5,SNR=6.2						
WRA	**Warramunga Arr**	**49.05**	**124**	P	P	21 08 28.8	+1.0
	0.4nm,0.5s,baz=303,slow=9.2,SNR=6.4						
ASAR	**Alice Springs**	**50.59**	**128**	P	P	21 08 39.3	-0.2
	1.0nm,0.8s,baz=308,slow=7.8,SNR=6.4						
CTA	**Charters Tower**	**59.24**	**118**	LR	LR	21 37 40.2	
	comp=Z,277nm,19.7s,baz=212,slow=38						

NEIC ***27*** *21:14:27.7, 1527N×9275W, h

comp=Z,18nm,0.2s
GOBB Galiano Island 3.29 85 Pn **Pn 23 22 36.4 -0.5**
PGC Sidney 3.33 90 Pn **Pn 23 22 36.2 -1.3**
PGC Sn **Sn 23 23 16.8 -0.6**
PGC Trac 23 23 19.6
comp=Z,27nm,0.5s
PGC Sidney 3.33 90 *e*Pn **Pn 23 22 35.9 -1.6**
PGC *e*Sn **Sn 23 23 10.6 -6.7**
BBB Bella Bella 3.43 4 Pn **Pn 23 22 39.2 +0.4**
29nm,0.3s,baz=196,slow=11,SNR=151
BBB Sn **Sn 23 23 19.6 0.0**
5.1nm,0.3s,baz=257,slow=20,SNR=3.1
BBB LR LR 23 23 57.5
comp=Z,846nm,20.3s,baz=176,slow=37
BBB Bella Bella 3.43 4 ⇓Pn **Pn 23 22 39.2 +0.5**
BBB Sn **Sn 23 23 19.9 +0.3**
BBB Trac 23 23 28.8
comp=Z,166nm,0.9s
VGZ Gonzales 3.44 94 Pn **Pn 23 22 37.0 -2.0**
VGZ Sn **Sn 23 23 19.4 -0.7**
VGZ Trac 23 23 19.8
comp=Z,72nm,0.8s
BIB Bowen Island 3.46 77 Pn **Pn 23 22 39.2 0.0**
BIB Trac 23 23 25.6
comp=Z,29nm,0.7s
SNB Saturna Island 3.51 88 Pn **Pn 23 22 39.7 -0.3**
SNB Sn **Sn 23 23 22.5 +0.7**
SNB Trac 23 23 32.9
comp=Z,9.0nm,1.0s
WPB Watts Point 3.57 74 Pn **Pn 23 22 40.7 0.0**
WSLR Whistler 3.87 67 Pn **Pn 23 22 46.4 +1.5**
VDB Vedder Mountai 4.22 84 Pn **Pn 23 22 47.9 -1.7**
VDB Vedder Mountai 4.22 84 P **Pn 23 22 50.4 +0.7**
MBW Mount Baker 4.35 87 P **Pn 23 22 51.3 -0.2**
JCW Jim Creek 4.40 95 P **Pn 23 22 51.9 -0.2**
RPW Rockport 4.63 91 P **Pn 23 22 55.4 +0.1**
LLLB Lillooet 4.66 64 Pn **Pn 23 22 56.8 +1.0**
FMW Mount Fremont 4.94 109 P **Pn 23 22 58.9 -0.7**
TBM Table Mountain 5.53 104 P **Pn 23 23 08.2 +0.5**
WTV Waterville 5.80 97 P **Pn 23 23 11.2 -0.2**
NEW Newport 7.56 90 Pn **Pn 23 23 35.4 -0.2**
0.4nm,0.3s,baz=281,slow=7.9,SNR=5.0
NEW LR LR 23 26 36.9
comp=Z,228nm,18.5s,baz=283,slow=38
NEW Newport 7.56 90 Pn **Pn 23 23 35.4 -0.2**
NEW LR LR 23 26 36.9
YBH Yreka Blue Hor 8.13 148 Pn **Pn 23 23 44.7 +1.3**
0.1nm,0.3s,baz=323,slow=12,SNR=6.0
YBH LR LR 23 26 21.4
comp=Z,692nm,20.9s,baz=334,slow=34
BMO Blue Mountains 8.61 113 *e*Pn **Pn 23 23 49.6 -0.4**
3.1nm,0.7s
WALA Waterton Lakes 9.60 83 *e*Pn **Pn 23 24 03.9 +0.4**
6.2nm,0.8s
DLBC Dease Lake 9.73 355 Pn **Pn 23 24 07.7 +2.4**
0.1nm,0.3s,baz=180,slow=20,SNR=2.0
DLBC LR LR 23 27 39.3
comp=Z,334nm,19.5s,baz=331,slow=36
CHMT Chamberlain Mo 10.41 95 *e*Pn **Pn 23 24 13.3 -1.3**
HLID Hailey 11.05 113 Pn **Pn 23 24 25.4 +1.9**
3.2nm,0.8s
PAHR Pah Rah Range 11.16 141 *e*Pn **Pn 23 24 26.3 +1.4**
EGMT Eagleton 12.47 86 *e*Pn **Pn 23 24 44.6 +1.7**
NVAR Mina Array Bea 12.69 141 Pn **Pn 23 24 46.6 +0.9**
0.1nm,0.3s,baz=326,slow=11,SNR=17
MNV Mina 12.75 140 *e*Pn **Pn 23 24 46.4 -0.2**
IMW Indian Meadow 13.06 105 *e*Pn **Pn 23 24 52.6 +1.8**
5.8nm,0.4s
TPAW Teton Pass 13.25 107 *e*Pn **Pn 23 24 52.4 -1.1**
15nm,0.9s
MOOW Moose Ponds 13.25 106 *e*Pn **Pn 23 24 55.0 +1.5**
14nm,1.0s
REDW Red Top Meadow 13.37 107 *e*Pn **Pn 23 24 55.9 +0.7**
18nm,1.4s
LOHW Long Hollow 13.41 106 *e*Pn **Pn 23 24 56.6 +0.9**
8.7nm,1.0s
AHID Auburn Hatcher 13.53 110 Pn **Pn 23 24 58.8 +1.5**
8.4nm,0.8s
SPUT South Promonto 13.56 117 *e*Pn **Pn 23 24 57.0 -0.6**
DUG Dugway 14.07 122 *e*Pn **Pn 23 25 03.7 -1.0**
6.0nm,1.0s
PDAR Pinedale Array 14.49 107 Pn **Pn 23 25 12.5 +2.1**
0.1nm,0.3s,baz=312,slow=12,SNR=9.4
PDAR LR LR 23 31 04.9
comp=Z,386nm,20.2s,baz=320,slow=38
TPNV Topopah Spring 14.81 138 *e*Pn **Pn 23 25 15.1 +0.3**
18nm,1.1s
MSU Marysvale 15.60 125 *e*Pn **Pn 23 25 24.6 -0.7**
CCUT Cedar City 15.70 130 *e*Pn **Pn 23 25 25.0 -1.5**
YKA Yellowknife Ar 15.77 24 Pn **Pn 23 25 27.7 +0.3**
baz=206,slow=13,SNR=3.9
YKA LR LR 23 32 20.9
comp=Z,152nm,19.5s,baz=220,slow=40
SRU San Rafael 16.11 120 *e*Pn **Pn 23 25 31.5 -0.3**
17nm,1.4s
FFC Flin Flon 17.40 60 *e*Pn **Pn 23 25 51.2 +3.0**
15nm,0.9s
PV10 Paradox Valley 17.46 119 *e*Pn **Pn 23 25 48.0 -0.8**
PHWY Pilot Hill 17.86 106 *e*Pn **Pn 23 25 53.9 0.0**
PV01 Paradox Valley 17.89 119 *e*Pn **Pn 23 25 54.7 +0.4**
SMCO Snowmass 18.16 114 *e*Pn **Pn 23 25 59.5 +2.0**
3.6nm,0.8s
MVCO Mesa Verde 18.57 121 *e*P **Pn 23 26 02.8 +0.2**
ISCO Idaho Springs 18.61 110 *e*P **Pn 23 26 02.9 -0.2**
9.1nm,1.1s
MCK McKinley 18.67 331 *e*P **Pn 23 26 05.2 +1.3**
16nm,1.4s
SVW2 Sparrevohn 19.68 319 *e*P **Pn 23 26 14.8 -1.2**
ULM Lac du Bonnet 21.14 74 P **P 23 26 30.7 +0.3**
3.0nm,0.8s,mb3.7,baz=285,slow=13,SNR=3.8
ULM LR LR 23 35 11.5
comp=Z,95nm,18.4s,MS3.2,baz=287,slow=38
ULM Lac du Bonnet 21.14 74 *e*P **P 23 26 31.0 +0.6**
5.7nm,0.8s,mb4.0
TUC Tucson 21.16 135 *e*P **P 23 26 30.9 +0.3**
ANMO Albuquerque 21.34 122 P **P 23 26 33.1 +0.5**
4.9nm,0.9s,mb3.8,baz=319,slow=9.5,SNR=11
ANMO LR LR 23 34 52.2
comp=Z,92nm,21.6s,MS3.1,baz=116,slow=37
LAZ Ladron 21.37 124 *e*P **P 23 26 33.5 +0.6**
LENM Lemitar 21.64 124 *e*P **P 23 26 36.5 +0.8**
LPM Los Pinos Moun 21.71 124 *e*P **P 23 26 36.6 -0.1**
BNM Barren Site 21.84 124 *e*P **P 23 26 36.9 -1.1**
AMTX Amarillo 24.16 115 *e*P **P 23 27 02.4 +0.7**
42nm,1.1s,mb4.8
EYMN Ely 24.44 78 *e*P **P 23 27 05.1 +0.9**
37nm,1.5s,mb4.6
JCT Junction City 28.41 119 *e*P **P 23 27 39.5 -0.6**
LPIG La Paz 28.49 143 LR LR 23 39 19.7
comp=Z,89nm,18.4s,MS3.4,baz=330,slow=37
MIV Mineville/With 37.47 76 *e*P **P 23 28 58.1 -1.0**
SCHQ Schefferville 37.50 57 LR LR 23 44 46.8
comp=Z,198nm,19.2s,MS3.9,baz=295,slow=37
ARCES ARCESS Array B 60.47 10 LR LR 23 56 57.6
comp=Z,41nm,19.8s,MS3.6,baz=122,slow=35
NOA NORSAR Array B 65.83 20 LR LR 00 02 17.8
comp=Z,34nm,18.1s,MS3.6,baz=340,slow=37
FINES FINESS Array B 68.25 13 LR LR 00 03 38.4
comp=Z,38nm,19.0s,MS3.6,baz=344,slow=37
PPT Papeete 68.66 202 LR LR 23 55 09.9
comp=Z,205nm,18.5s,MS4.4,baz=349,slow=29
SONM Songino Array 72.68 325 P **P 23 33 11.6 -1.9**
0.7nm,1.0s,mb3.5,baz=46,slow=4.2,SNR=4.8
SONM LR LR 00 05 29.8
comp=Z,106nm,21.0s,MS4.1,baz=266,slow=36
MKAR Makanchi Array 81.12 339 P **P 23 33 59.1 -1.9**
0.3nm,0.6s,mb3.4,baz=35,slow=5.3,SNR=4.9

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*NEIC **27** 23:50:10.5, 1620N×9775W, h29km, MD3.7(MEX), After MEX.*
MEX 27 23:50:10.5±0.6, 1619N×9775W, h25km±15km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**300**	*i* P	Pb	23 50 17.9	-1.4
PNIG				*i* S	Sb	23 50 23.8	-1.5
VHO	**Vista Hermosa**	**1.31**	**48**	*i* P	Pn	23 50 30.8	-2.5
VHO				*i* S	Sn	23 50 46.3	-3.7
OXX	**Oaxaca**	**1.33**	**48**	*e*P	Pn	23 50 31.5	-2.0
OXX				*i* S	Sn	23 50 48.0	-2.3
UTMO	**Huajuapan**	**1.64**	**358**	*i* P	Pn	23 50 35.5	-2.2
UTMO				*i* S	Sn	23 50 54.5	-3.4
TPIG	**Tehuac#an**	**2.25**	**9**	*i* P	Pn	23 50 43.3	-2.9
TPIG				*i* S	Sn	23 51 11.8	-1.3
MEIG	**Mezcala**	**2.49**	**314**	*i* P	Pn	23 50 49.2	-0.2
MEIG				*i* S	Sn	23 51 16.1	-2.9
CMIG	**Matias Romero**	**2.89**	**71**	*e*P	Pn	23 50 53.1	-1.8
CMIG				*i* S	Sn	23 51 25.8	-3.2
PPM	**Popocatepetl**	**2.98**	**344**	*i* P	Pn	23 50 54.0	-2.3
PPM				*i* S	Sn	23 51 32.5	+1.3

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*ISCJB **27** 23:55:55.5±2.6, 147S±01×1664E±01, h178km±23km, mb4.2/8, Error ellipse: s-maj=21.7km s-min=15.1km az=67.2*
*NEIC **27** 23:55:56.5±1.7, 1470S×16639E, h173km±16km, mb4.4/6, Error ellipse: s-maj=14.5km s-min=9.7km az=208.0*
*IDC **27** 23:55:56.1±9.5, 1470S×16635E, h164km±105km, mb3.9/3, mb1 4.0/4, mb1mx3.5/13, mbtmp4.3/4, Error ellipse: s-maj=201.9km s-min=65.2km az=79.0*
ISC 27 23:55:56.8±2.4, 147S±01×1664E±01, h176km±21km, n21, σ0°60/22, mb4.2/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.32**	**180**	P	**Pn**	**23 57 40.9**	**-0.2**
1.1nm,0.3s,baz=38,slow=18,SNR=8.6							
DZM				S	**Sn**	**23 59 03.4**	**-0.1**
0.2nm,0.3s,baz=231,slow=19,SNR=2.0							
PMG	**Port Moresby**	**19.57**	**283**	P	**P**	**00 00 10.2**	**-1.0**
RAO	**Raoul Island**	**20.46**	**138**	*e*P	**P**	**00 00 21.4**	**+0.7**
STKA	**Stephens Creek**	**28.40**	**229**	*e*P	**P**	**00 01 34.2**	**-0.5**
4.3nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**28.40**	**229**	P	**P**	**00 01 34.4**	**-0.4**
5.0nm,0.5s,mb4.5,baz=49,slow=8.3,SNR=16							
WB2	**Warramunga Arr**	**31.04**	**256**	*e*P	**P**	**00 01 57.9**	**-0.1**
WRAB	**Tennant Creek**	**31.04**	**256**	*e*P	**P**	**00 01 58.3**	**+0.3**
1.7nm,0.3s,mb4.2							
WRA	**Warramunga Arr**	**31.05**	**256**	P	**P**	**00 01 58.2**	**+0.1**
1.3nm,0.5s,mb3.9,baz=84,slow=9.1,SNR=21							
AS31	**Alice Springs**	**31.93**	**249**	*e*P	**P**	**00 02 05.9**	**+0.1**
ASAR	**Alice Springs**	**31.93**	**249**	P	**P**	**00 02 06.0**	**+0.2**
1.7nm,0.3s,mb4.2,baz=78,slow=9.3,SNR=49							
ASPA	**Alice Springs**	**31.93**	**249**	*e*P	**P**	**00 02 05.9**	**+0.1**
KAKA	**Kakadu**	**33.07**	**269**	*e*P	**P**	**00 02 16.4**	**+0.7**
21nm,1.3s,mb4.7							
FORT	**Forrest**	**38.62**	**239**	*e*P	**P**	**00 03 03.2**	**+0.3**
22nm,0.9s,mb4.8							
FITZ	**Fitzroy Crossi**	**39.23**	**259**	*e*P	**P**	**00 03 09.0**	**+1.0**
3.8nm,0.6s,mb4.2							
MBWA	**Marble Bar**	**44.78**	**255**	P	**P**	**00 03 52.5**	**-0.3**
MAJO	**Matsushiro**	**57.52**	**333**	P	**P**	**00 05 27.9**	**+0.2**
SBA	**Scott Base**	**63.16**	**180**	*e*P	**P**	**00 06 06.2**	**+0.3**
ENH	**Enshi**	**70.73**	**310**	*e*P	**P**	**00 06 53.5**	**-0.2**
MAW	**Mawson**	**81.60**	**202**	P	**P**	**00 07 55.1**	**+0.1**
INK	**Inuvik**	**93.13**	**19**	P	**P**	**00 08 50.8**	**0.0**
SNAA	**Sanae**	**93.53**	**183**	*e*P	**P**	**00 08 50.4**	**-2.1**
0.1nm,0.3s,mb3.4							

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*ISCJB **28** 00:01:47.6±0.4, 3933N±003×2067E±004, h12km, Error ellipse: s-maj=4.7km s-min=3.7km az=166.8*
*CSEM **28** 00:01:48.2±0.1, 3940N×2067E, h1km±1km, MD3.4, Error ellipse: s-maj=2.5km s-min=1.7km az=68.0*
*NEIC **28** 00:01:48.5, 3939N×2066E, h14km, MD3.4(ATH), After ATH.*
*ATH **28** 00:01:48.5, 3939N×2065E, h12km±3km, MD3.4/7*
*THE **28** 00:01:48.5, 3932N×2064E, h10km*
ISC 28 00:01:48.1±0.5, 3936N±002×2068E±004, h2km±6km, n28, σ1°37/33, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.32**	**304**	*e*Pg	**Pg**	**00 01 54.1**	**-0.1**
IGT				*e*Sg	**Sg**	**00 01 59.7**	**+1.3**
JAN	**Janina**	**0.33**	**24**	*e*PG	**Pg**	**00 01 54.0**	**-0.5**
JAN				*e*SB	**Sg**	**00 02 00.2**	**+1.5**
MEV	**Metsovon**	**0.60**	**45**	*e*Pg	**Pg**	**00 02 00.6**	**+0.8**
MEV				*e*Sg	**Sg**	**00 02 09.8**	**+2.2**
LKD	**Levkas**	**0.65**	**182**	*e*Pg	**Pg**	**00 01 59.9**	**-0.7**
LKD				*e*Sg	**Sg**	**00 02 09.5**	**+0.5**
SRN	**Sarande**	**0.74**	**315**	*e*Pn	**Pn**	**00 02 02.4**	**-3.1**
KEK	**Kerkira**	**0.77**	**298**	*e*PB	**Pb**	**00 02 02.6**	**-1.5**
LSK	**Leskovik**	**0.80**	**356**	*e*Pn	**Pn**	**00 02 03.4**	**-2.9**
EVR	**Evrytania**	**0.98**	**116**	*e*PG	**Pg**	**00 02 07.0**	**0.0**
EVR	**Evrytania**	**0.98**	**116**	*e*Pb	**Pb**	**00 02 06.2**	**-1.7**
VLS	**Valsamata**	**1.18**	**183**	*e*PG	**Pg**	**00 02 11.2**	**+0.5**
VLS				*e*SB	**Sb**	**00 02 29.5**	**+2.6**
KZN	**Kozani**	**1.27**	**41**	*e*PG	**Pg**	**00 02 12.1**	**-0.4**
AGG	**Agios Georgios**	**1.33**	**104**	*e*Pg	**Pg**	**00 02 12.6**	**-1.0**
RLS	**Riolos of Patr**	**1.44**	**154**	*e*PG	**Pg**	**00 02 15.7**	**0.0**
FNA	**Florina**	**1.52**	**20**	*e*Pg	**Pg**	**00 02 16.1**	**-1.3**
LIT	**Litokhoron**	**1.58**	**61**	*e*Pb	**Pb**	**00 02 17.7**	**-0.4**
BIA	**Bitola**	**1.73**	**16**	*e*Pb	**Pb**	**00 02 19.9**	**-0.8**
BIA	**Bitola**	**1.73**	**16**	*e*Pn	**Pn**	**00 02 20.7**	**+1.5**
BIA	**Bitola**	**1.73**	**16**	*e*Pn	**Pn**	**00 02 20.6**	**+1.4**
OHR	**Ohrid**	**1.76**	**3**	*e*Pb	**Pb**	**00 02 20.9**	**-0.7**
OHR	**Ohrid**	**1.76**	**3**	*e*Pn	**Pn**	**00 02 22.4**	**+2.8**
LKR	**Lokris**	**1.94**	**111**	*e*PG	**Pg**	**00 02 24.5**	**-0.9**
XOR	**Xorichti**	**1.95**	**89**	*e*Pb	**Pb**	**00 02 23.3**	**-1.1**
NEO	**Neokhori**	**1.98**	**91**	*e*PN	**Pn**	**00 02 24.3**	**+1.7**
GRG	**Griva**	**2.08**	**39**	*e*Pn	**Pn**	**00 02 25.3**	**+1.4**
PLG	**Polygyros**	**2.36**	**64**	*e*PB	**Pb**	**00 02 28.5**	**-2.8**
PLG	**Polygyros**	**2.36**	**64**	*e*Pn	**Pn**	**00 02 27.1**	**-0.7**
ITM	**Ithomi**	**2.39**	**155**	*e*PN	**Pn**	**00 02 30.8**	**+2.6**
KNT	**Kendrikon**	**2.48**	**43**	*e*Pn	**Pn**	**00 02 31.0**	**+1.5**

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*ISCJB **28** 00:12:41.6±0.8, 4574N±003×2676E±005, h95km±6km, Error ellipse: s-maj=5.6km s-min=5.5km az=40.5*
*BUC **28** 00:12:41.6±0.7, 4576N×2677E, h98km±7km, MD3.6/3, Error ellipse: s-maj=5.0km s-min=4.5km az=97.0*
*CSEM **28** 00:12:42.2±0.2, 4572N×2679E, h80km, MD3.5/3, Error ellipse: s-maj=6.0km s-min=4.9km az=46.0*
*NEIC **28** 00:12:43.2, 4562N×2675E, h85km, MD3.3(BUC), After BUC.*
ISC 28 00:12:42.2±0.8, 4574N±003×2678E±005, h94km±6km, n28, σ0°76/52, 16C-10D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.13**	**344**	⇑*i*P	**Pn**	**00 12 55.6**	**+0.2**
VRI				*i* S	**Sn**	**00 13 05.1**	**-0.1**
VRI	**Vrincioaia**	**0.13**	**344**	⇑P	**Pn**	**00 12 55.6**	**+0.2**
VRI				S	**Sn**	**00 13 05.6**	**+0.3**
VRI	**Vrincioaia**	**0.13**	**344**	⇑*i*P	**Pn**	**00 12 55.6**	**+0.2**
VRI				*i* S	**Sn**	**00 13 05.6**	**+0.4**
PLOR	**Plostina**	**0.14**	**320**	⇑*i*P	**Pn**	**00 12 55.5**	**+0.1**
PLOR				*i* S	**Sn**	**00 13 05.5**	**+0.2**
GHRR		**0.54**	**54**	⇑*i*P	**Pn**	**00 12 58.1**	**+0.5**
GHRR				*i* S	**Sn**	**00 13 10.3**	**+1.1**
MLR	**Muntele Rosu**	**0.64**	**247**	⇑*i*P	**Pn**	**00 12 58.8**	**+0.4**
MLR				*i* S	**Sn**	**00 13 10.4**	**-0.2**
MLR	**Muntele Rosu**	**0.64**	**247**	⇓P	**Pn**	**00 12 58.7**	**+0.3**
MLR				S	**Sn**	**00 13 10.3**	**-0.2**
TUDR		**0.64**	**103**	⇑*i*P	**Pn**	**00 12 58.5**	**0.0**
TUDR				*i* S	**Sn**	**00 13 11.2**	**+0.6**
VARR		**0.77**	**79**	⇑*i*P	**Pn**	**00 13 00.2**	**+0.6**
VARR				*i* S	**Sn**	**00 13 13.3**	**+0.6**
TESR		**0.78**	**353**	⇓*i*P	**Pn**	**00 12 59.3**	**-0.4**
TESR				*i* S	**Sn**	**00 13 11.4**	**-1.5**
ONCR	**Oncesti**	**0.80**	**25**	⇓*i*P	**Pn**	**00 12 59.9**	**-0.1**
ONCR				*i* S	**Sn**	**00 13 12.8**	**-0.5**
CFR	**Carcaliu**	**1.11**	**120**	⇑*i*P	**Pn**	**00 13 03.4**	**+0.1**
CFR				*i* S	**Sn**	**00 13 19.1**	**-0.2**
CFR	**Carcaliu**	**1.11**	**120**	⇓P	**Pn**	**00 13 03.5**	**+0.1**
CFR				S	**Sn**	**00 13 18.9**	**-0.4**
CFR	**Carcaliu**	**1.11**	**120**	⇑*i*P	**Pn**	**00 13 03.5**	**+0.2**
CFR				S	**Sn**	**00 13 18.9**	**-0.4**
SULR		**1.13**	**199**	⇑*i*P	**Pn**	**00 13 03.5**	**0.0**
SULR				*i* S	**Sn**	**00 13 20.2**	**+0.6**
VOIR		**1.25**	**257**	⇓*i*P	**Pn**	**00 13 06.2**	**+1.2**
VOIR				*i* S	**Sn**	**00 13 20.9**	**-1.4**
VOIR		**1.25**	**257**	⇓P	**Pn**	**00 13 06.1**	**+1.0**
VOIR				S	**Sn**	**00 13 21.1**	**-1.2**
VOIR		**1.25**	**257**	⇓P	**Pn**	**00 13 06.1**	**+1.1**
VOIR				S	**Sn**	**00 13 21.1**	**-1.2**
BUC1	**Bucharest**	**1.49**	**201**	⇓*i*P	**Pn**	**00 13 05.9**	**-2.1**
BUC1				*i* S	**Sn**	**00 13 27.5**	**0.0**
IAS	**Iasi**	**1.55**	**20**	⇓*i*P	**Pn**	**00 13 08.5**	**-0.2**
IAS				*i* S	**Sn**	**00 13 27.5**	**-1.3**
TIRR	**Tirgusor**	**1.73**	**137**	⇑*i*P	**Pn**	**00 13 11.2**	**+0.2**
TIRR				*i* S	**Sn**	**00 13 31.6**	**-1.2**
TIRR	**Tirgusor**	**1.73**	**137**	⇓P	**Pn**	**00 13 11.2**	**+0.2**
TIRR				S	**Sn**	**00 13 31.6**	**-1.2**
BURAR	**Bucovina Array**	**2.16**	**331**	⇑*i*P	**Pn**	**00 13 17.4**	**+0.8**
BURAR				*i* S	**Sn**	**00 13 47.6**	**+4.7**
DRGR		**3.01**	**292**	⇑*i*P	**Pn**	**00 13 30.5**	**+2.6**
DRGR				*i* S	**Sn**	**00 14 03.3**	**+0.2**
DRGR		**3.01**	**292**	⇑P	**Pn**	**00 13 28.8**	**+0.9**
DRGR		**3.01**	**292**	⇑P	**Pn**	**00 13 28.8**	**+0.9**
STHS	**Stebnicka Huta**	**5.25**	**316**	*e*PN	**Pn**	**00 13 58.3**	**+0.1**
STHS	**Stebnicka Huta**	**5.25**	**316**	*e*P	**Pn**	**00 13 58.4**	**+0.2**

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*NEIC **28** 00:15:31.8, 17.12N×94.61W, h142km, MD3.9(MEX), After MEX.*
MEX 28 00:15:31.8±0.7, 1710N×9459W, h142km±8km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.28**	**268**	*i* P	Pn	00 15 50.1	-1.2
CMIG				*i* S	Sn	00 16 03.9	-2.1
HUIG	**Huatulco**	**1.96**	**228**	*i* P	Pn	00 16 04.1	-1.9
HUIG				*i* S	Sn	00 16 31.2	-1.0
OXX	**Oaxaca**	**2.04**	**270**	*i* P	Pn	00 16 06.5	-0.3
OXX				*i* S	Sn	00 16 32.5	-1.3
VHO	**Vista Hermosa**	**2.05**	**270**	*i* P	Pn	00 16 05.9	-1.0
VHO				*i* S	Sn	00 16 32.0	-1.9
UTMO	**Huajuapan**	**3.15**	**284**	*e*P	Pn	00 16 18.9	-1.9
UTMO				*i* S	Sn	00 16 54.6	-4.0

MEX 28 00:22:10.1±0.9, 1501N×9468W, h11km±71km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**2.08**	**355**	*i* P	Pn	00 22 41.6	-3.3
CMIG				*i* S	Sn	00 23 06.5	-4.3
SCX	**San Cristobal**	**2.61**	**49**	*e*P	Pn	00 22 51.0	-1.2
SCX				*i* S	Sn	00 23 20.0	-3.9
CCIG	**Comitan**	**2.76**	**62**	*i* P	Pn	00 22 50.7	-3.5
CCIG				*i* S	Sn	00 23 23.8	-3.7
OXX	**Oaxaca**	**2.85**	**317**	*e*P	Pn	00 22 54.0	-1.5
OXX				*i* S	Sn	00 23 31.0	+1.2
PLIG	**Platanillo**	**5.72**	**307**	*e*P	Pn	00 23 34.9	-0.1

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*NIED **28** 00:24:00, 3160N×12950E, h5km, Mw3.4 Best double couple: M0 1.62000×10^14 NP1:φs 99.00000°, δ75.00000°, λ-51.00000°. NP2:φs 207.00000°, δ42.00000°, λ-157.00000°.*
JMA 28 00:24:37.8, 3160N×12955E, h11km, M3.9, 2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.16**	**61**	⇓P	Pg	00 24 41.5	+0.1
JSJ				*e*S	Sg	00 24 43.9	0.0
JSU	**Suzuyama**	**0.78**	**97**	P	Pg	00 24 52.6	-0.2
JSU				*e*S	Sg	00 25 03.0	0.0
JHD	**Hondo**	**1.00**	**30**	P	Pg	00 24 56.6	-0.4
JHD				*e*S	Sg	00 25 10.0	0.0
JZO	**Okuchi**	**1.04**	**59**	⇓P	Pb	00 24 57.4	-0.4
JZO				*e*S	Sg	00 25 11.4	0.0

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*IDC **28** 00:25:48.1±2.0, 183S×128.62E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=118.2km s-min=23.8km az=71.0*
*ISCJB **28** 00:25:50.4±0.7, 175S±009×1288E±0.1, h33km, mb4.0/5, Error ellipse: s-maj=22.8km s-min=8.9km az=122.6*
*NEIC **28** 00:25:52.6±0.6, 178S×128.71E, h35km, mb4.0/4, Error ellipse: s-maj=20.3km s-min=8.1km az=60.0*
ISC 28 00:25:52.8±0.7, 179S±009×1287E±01, h35km, n16, σ0°78/16, mb4.0/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**14.72**	**302**	*e*Pn	**Pn**	**00 29 16.3**	**-2.0**
FITZ	**Fitzroy Crossi**	**16.49**	**190**	Pn	**Pn**	**00 29 42.1**	**+0.7**
0.1nm,0.3s,baz=14,slow=17,SNR=3.3							
WRAB	**Tennant Creek**	**18.86**	**163**	*e*P	**Pn**	**00 30 11.1**	**+0.6**
2.2nm,0.5s							
WRA	**Warramunga Arr**	**18.86**	**163**	P	**Pn**	**00 30 09.6**	**-1.0**
0.3nm,0.3s,baz=344,slow=12,SNR=18							
WB2	**Warramunga Arr**	**18.86**	**163**	*e*P	**Pn**	**00 30 10.8**	**+0.2**
AS31	**Alice Springs**	**22.32**	**167**	*e*P	**P**	**00 30 47.4**	**+0.2**
ASAR	**Alice Springs**	**22.32**	**167**	P	**P**	**00 30 47.2**	**0.0**
3.3nm,0.6s,mb3.9,baz=348,slow=12,SNR=31							
ASPA	**Alice Springs**	**22.32**	**167**	*e*P	**P**	**00 30 47.4**	**+0.1**
KULM	**Kulim**	**28.91**	**284**	P	**P**	**00 31 49.3**	**+0.9**
HNR	**Honiara**	**31.96**	**105**	P	**P**	**00 32 15.2**	**-0.1**
STKA	**Stephens Creek**	**32.30**	**159**	*e*P	**P**	**00 32 16.8**	**-1.5**
MKAR	**Makanchi Array**	**63.21**	**326**	P	**P**	**00 36 18.0**	**+0.6**
0.7nm,0.4s,mb4.1,baz=122,slow=8.0,SNR=9.0							
MKAR	**Makanchi Array**	**63.21**	**326**	P	**P**	**00 36 18.0**	**+0.6**
KURK	**Kurchatov**	**67.44**	**328**	*e*P	**P**	**00 36 45.1**	**+0.3**
1.6nm,0.7s,mb4.2							
BRVK	**Borovoye**	**73.08**	**327**	*e*P	**P**	**00 37 19.8**	**+0.5**
0.8nm,0.4s,mb4.0							
ZRNK	**Zerenda**	**73.72**	**327**	*e*P	**P**	**00 37 23.2**	**+0.1**
0.7nm,0.3s,mb4.1							

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*ISCJB **28** 00:31:22.4±2.0, 66S±0.1×151.30E±009, h85km±19km, mb3.8/7, Error ellipse: s-maj=23.5km s-min=13.6km az=132.3*
*NEIC **28** 00:31:24.5±1.3, 655S×151.36E, h94km±13km, mb4.1/4, Error ellipse: s-maj=16.1km s-min=9.7km az=149.0*
*IDC **28** 00:31:24.7±8.4, 653S×151.17E, h88km±58km, mb3.7/4, mb1 3.8/5, mb1mx3.5/13, mbtmp4.0/5, ML2.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/15, Error ellipse: s-maj=61.6km s-min=53.9km az=92.0*
ISC 28 00:31:23.9±1.7, 65S±01×151.30E±009, h84km±16km, n17, σ0°85/16, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.00**	**235**	P	**Pn**	**00 32 37.0**	**+0.6**
1.9nm,0.3s,baz=29,slow=8.5,SNR=5.1							
PMG				S	**Sn**	**00 33 30.4**	**-2.5**
3.0nm,0.3s,baz=29,slow=7.6,SNR=3.5							
HNR	**Honiara**	**9.04**	**109**	LR	LR	00 36 13.6

*NEIC **28** 00:40:24.7±0.6,3581N×13974E,h124km±5km,mb4.6/7, MW4.2(NIED),Error ellipse: s-maj=8.6km s-min=6.3km az=90.0*
NEIC Recorded [2 JMA] in Fukushima, Ibaraki, Saitama, Tochigi and Tokyo; [1 JMA] in Chiba, Gumma, Kanagawa and Yamanashi Prefectures.
*IDC **28** 00:40:25.0±0.9,3579N×13973E,h126km±7km,mb3.9/14, mb1 4.0/15,mb1mx3.9/20,mbtmp4.3/15,Error ellipse: s-maj=19.1km s-min=7.1km az=68.0*
*JMA **28** 00:40:24.3±0.1,3589N×13992E,h112km±2km,M4.1 Broadband fault plane solution: P waves. NP1: φ±299.00000°,δ22.00000°,λ-168.00000°. NP2: φ±199.00000°,δ86.00000°,λ-69.00000°. Principal axes: T Plg37.0000°, Azm270.0000°; N Plg21.0000°, Azm17.0000°; P Plg45.0000°, Azm130.0000°;*
JMA Felt III J1.

ISC 28 00:40:24.0±0.3,3587N±003×13988E±005,h119km±2km, n88,σ0§83/107,mb4.4/30,6C-8D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.20**	**209**	P	**Pn**	**00 40 41.0**	**+0.5**
TOK				S	**Sn**	**00 40 54.0**	**+1.1**
JYT	**Yasato**	**0.44**	**35**	⇑P	**Pn**	**00 40 41.0**	**-0.5**
JYT				S	**Sn**	**00 40 53.1**	**-1.5**
JAG	**Ashikaga**	**0.66**	**328**	⇓P	**Pn**	**00 40 42.6**	**-0.3**
JAG				*e*S	**Sn**	**00 40 56.1**	**-1.0**
JRY	**Ryogami san**	**0.81**	**281**	⇓P	**Pn**	**00 40 44.7**	**+0.6**
JRY				*e*S	**Sn**	**00 41 00.2**	**+0.9**
JOD2	**Odawara 2**	**0.88**	**227**	⇓P	**Pn**	**00 40 44.4**	**-0.4**
JOD2				S	**Sn**	**00 40 59.7**	**-0.8**
JKT	**Katashina**	**1.03**	**331**	⇓P	**Pn**	**00 40 46.2**	**-0.1**
JKT				S	**Sn**	**00 41 03.4**	**+0.3**
JYN	**Shimob**	**1.15**	**252**	⇓P	**Pn**	**00 40 47.6**	**+0.2**
JYN				S	**Sn**	**00 41 05.6**	**+0.4**
BSO3	**Boso 3**	**1.18**	**154**	⇑P	**Pn**	**00 40 47.6**	**-0.2**
BSO3				S	**Sn**	**00 41 06.8**	**+1.0**
JIM2	**Oshima 3**	**1.20**	**198**	P	**Pn**	**00 40 47.5**	**-0.5**
JIM2				*e*S	**Sn**	**00 41 05.4**	**-0.8**
BSO1	**Boso 1**	**1.51**	**143**	⇑P	**Pn**	**00 40 50.9**	**-0.5**
BSO1				*e*S	**Sn**	**00 41 13.0**	**+0.7**
MJAR	**Matsushiro Arr**	**1.51**	**297**	P	**Pn**	**00 40 51.3**	**-0.2**
	88nm,0.3s,baz=119,slow=9.6,SNR=755						
MJAR				S	**Sn**	**00 41 12.2**	**-0.2**
	88nm,0.3s,baz=33,slow=18,SNR=21						
MJAR	**Matsushiro Arr**	**1.51**	**297**	P	**Pn**	**00 40 51.3**	**-0.2**
MJAR				S	**Sn**	**00 41 12.2**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,88nm,0.3s						
MJAR				smax			
	comp=N,88nm,0.3s						
MAJO	**Matsushiro**	**1.51**	**297**	⇓*i*P	**Pn**	**00 40 51.5**	**0.0**
MAJO				*e*S	**Sn**	**00 41 12.5**	**+0.1**
MAT	**Matsushiro**	**1.51**	**297**	P	**Pn**	**00 40 51.7**	**+0.2**
MAT				S	**Sn**	**00 41 13.2**	**+0.8**
MAT	**Matsushiro**	**1.51**	**297**	P	**Pn**	**00 40 51.7**	**+0.2**
MAT				S	**Sn**	**00 41 13.1**	**+0.7**
MAT	**Matsushiro**	**1.51**	**297**	*e*P	**Pn**	**00 40 52.0**	**+0.5**
MAT				*e*S	**Sn**	**00 41 13.0**	**+0.6**
JNS	**Sasagawa**	**2.00**	**347**	⇓P	**Pn**	**00 40 57.4**	**0.0**
JNS				S	**Sn**	**00 41 22.2**	**-0.7**
JHJ	**Hachijo jima 2**	**2.74**	**182**	P	**Pn**	**00 41 06.8**	**0.0**
	comp=N,94nm,0.3s,baz=24,slow=1.1,SNR=26						
JHJ				S	**Sn**	**00 41 40.2**	**+0.4**
	comp=N,374nm,0.3s,baz=207,slow=21,SNR=9.0						
ASAJ	**Asahikawa**	**8.50**	**13**	P	**Pn**	**00 42 21.9**	**-2.4**
	comp=N,3.4nm,0.3s,baz=205,slow=11,SNR=12						
ASAJ				S	**Sn**	**00 43 51.5**	**-6.9**
	comp=N,3.0nm,0.3s,baz=50,slow=16,SNR=3.8						
CBIJ	**Chichi jima**	**8.96**	**167**	P	**Pn**	**00 42 24.8**	**-5.7**
	comp=N,22nm,0.3s,baz=280,slow=16,SNR=20						
CBIJ				S	**Sn**	**00 43 57.5**	**-12**
	comp=N,7.1nm,0.3s,baz=287,slow=19,SNR=3.5						
KS15	**Wonju Array Si**	**9.77**	**283**	*e*Pn	**Pn**	**00 42 44.5**	**+3.1**
INCN	**Inchon**	**10.76**	**283**	*e*Pn	**Pn**	**00 42 54.4**	**-0.3**
YSS	**Yuzh-Sakhalins**	**11.29**	**10**	*e*P	**Pn**	**00 43 03.2**	**+1.5**
CN2	**Changchun**	**13.62**	**310**	*e*P	**Pn**	**00 43 35.8**	**+3.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**14.62**	**338**	*e*P	**Pn**	**00 43 47.7**	**+2.6**
YHNB	**Yeheng**	**19.46**	**240**	P	**P**	**00 44 40.5**	**-0.9**
XAN	**Xi'an**	**25.39**	**275**	P	**P**	**00 45 41.0**	**+0.7**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
YAK	**Yakutsk**	**26.96**	**349**	*e*P	**P**	**00 45 54.9**	**+0.5**
YAK				pmax	pmax		
	comp=Z,18nm,0.4s,mb5.0						
YAK	**Yakutsk**	**26.96**	**349**	*e*P	**P**	**00 45 54.9**	**+0.5**
	comp=Z,18nm,0.4s,mb5.0						
SONM	**Songino Array**	**27.44**	**306**	P	**P**	**00 45 58.9**	**+0.2**
	comp=Z,2.6nm,0.6s,mb3.9,baz=110,slow=8.8,SNR=17						
SONM	**Songino Array**	**27.44**	**306**	P	**P**	**00 45 58.9**	**+0.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TLY	**Talaya**	**30.19**	**313**	*e*P	**P**	**00 46 23.1**	**+0.1**
CD2	**Chengdu**	**30.45**	**271**	*e*P	**P**	**00 46 24.3**	**-1.0**
CD2				AP	pP	00 46 51.3	+0.1
CD2				XP	sP	00 47 06.0	+1.1
CD2				PP	PP	00 47 28.3	-8.0
CD2				S	**S**	**00 51 13.8**	**-3.8**
CD2				SS	SS	00 53 02.0	-30
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
GTA	**Gaotai**	**31.74**	**289**	*e*P	**P**	**00 46 36.8**	**+0.1**
KMI	**Kunming**	**33.57**	**262**	P	**P**	**00 46 52.8**	**+0.2**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
NVS	**Novosibirsk**	**42.77**	**315**	*i*P	**P**	**00 48 08.8**	**-0.9**
MKAR	**Makanchi Array**	**43.70**	**303**	P	**P**	**00 48 17.4**	**+0.2**
	comp=Z,7.2nm,0.7s,mb4.5,baz=87,slow=9.7,SNR=70						
MKAR	**Makanchi Array**	**43.70**	**303**	P	**P**	**00 48 17.4**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KURK	**Kurchatov**	**45.69**	**309***c*	*i*P	**P**	**00 48 32.7**	**-0.2**
KURK	**Kurchatov**	**45.69**	**309**	*e*P	**P**	**00 48 32.6**	**-0.3**
	comp=Z,16nm,0.6s,mb4.9						
JIRN	**Jiri**	**45.90**	**275**	*e*P	**P**	**00 48 35.0**	**+0.4**
	comp=Z,7.1nm,0.4s,mb4.8						
GUN	**Gumba**	**46.04**	**276**	*e*P	**P**	**00 48 36.3**	**+0.6**
	comp=Z,14nm,0.6s,mb4.9						
PKI	**Pulchoki**	**46.56**	**276**	*e*P	**P**	**00 48 40.1**	**+0.3**
KKN	**Kakani**	**46.58**	**276**	*e*P	**P**	**00 48 39.8**	**-0.1**
	comp=Z,11nm,0.6s,mb4.8						
DMN	**Daman**	**46.79**	**276**	*e*P	**P**	**00 48 41.7**	**+0.1**
GKN	**Gorkha**	**47.01**	**277**	*e*P	**P**	**00 48 43.5**	**+0.2**
	comp=Z,23nm,0.7s,mb5.0						
KOLN	**Koldanda**	**47.94**	**277**	*e*P	**P**	**00 48 50.2**	**-0.3**
KDAK	**Kodiak Island**	**48.79**	**41**	P	**P**	**00 48 57.4**	**+0.4**
	comp=Z,7.1nm,0.5s,mb4.9,baz=254,slow=4.4,SNR=9.3						
BRVK	**Borovoye**	**50.51**	**313**	P	**P**	**00 49 09.3**	**-0.7**
COLA	**College**	**50.72**	**32**	*i*P	**P**	**00 49 19.8**	**+8.2**
ZRNK	**Zerenda**	**51.29**	**313**	*e*P	**P**	**00 49 15.6**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
ZRNK	**Zerenda**	**51.29**	**313**	*e*P	**P**	**00 49 15.6**	**-0.3**
	comp=Z,5.1nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**55.74**	**186**	*e*P	**P**	**00 49 47.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb5.0						
WRAB	**Tennant Creek**	**55.74**	**186**	*e*P	**P**	**00 49 47.9**	**-0.4**
	comp=Z,5.0nm,0.3s,mb5.0						
WB2	**Warramunga Arr**	**55.75**	**186**	*e*P	**P**	**00 49 47.8**	**-0.6**
WRA	**Warramunga Arr**	**55.75**	**186**	P	**P**	**00 49 47.9**	**-0.5**
	comp=Z,4.1nm,0.5s,mb4.7,baz=2.3,slow=7.5,SNR=51						
WRA	**Warramunga Arr**	**55.75**	**186**	P	**P**	**00 49 47.9**	**-0.5**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CTAO	**Charters Tower**	**55.97**	**173**	P	**P**	**00 49 50.4**	**+0.4**
ARU	**Arti**	**56.42**	**319***c*	*i*P	**P**	**00 49 52.7**	**-0.4**
ARU				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
ASAR	**Alice Springs**	**59.48**	**186**	P	**P**	**00 50 14.7**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=21,slow=12,SNR=10						
ARCES	**ARCESS Array B**	**64.65**	**339**	P	**P**	**00 50 49.4**	**+0.4**
	comp=Z,6.3nm,1.1s,mb4.4,baz=71,slow=7.2,SNR=3.7						
ARCES	**ARCESS Array B**	**64.65**	**339**	P	**P**	**00 50 49.4**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
JOF	**Joensuu**	**66.41**	**332**	*e*p	**P**	**00 50 58.1**	**-2.2**
STKA	**Stephens Creek**	**67.41**	**178**	P	**P**	**00 51 04.5**	**-2.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=333,slow=4.5,SNR=3.8						
STKA	**Stephens Creek**	**67.41**	**178**	*e*P	**P**	**00 51 05.0**	**-1.7**
OBN	**Obninsk**	**68.29**	**323**	⇓*e*P	**P**	**00 51 11.9**	**-0.3**
OBN				*e**PP	pP	00 51 44.5	+3.0
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
KAF	**Kangasniemi**	**68.77**	**332**	*e*p	**P**	**00 51 13.1**	**-2.1**
	baz=52,slow=5.8						
FINES	**FINESS Array B**	**69.27**	**332**	P	**P**	**00 51 17.9**	**-0.4**
	comp=Z,2.6nm,0.7s,mb4.2,baz=92,slow=5.7,SNR=7.7						
FINES	**FINESS Array B**	**69.27**	**332**	P	**P**	**00 51 17.9**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIV	**Kislovodsk**	**70.73**	**311**	*e*P	**P**	**00 51 27.7**	**+0.5**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
AKASG	**Malin Array Be**	**74.46**	**322**	P	**P**	**00 51 48.7**	**-0.6**
	comp=Z,1.8nm,0.5s,mb4.1,baz=48,slow=6.0,SNR=18						
AKASG	**Malin Array Be**	**74.46**	**322**	P	**P**	**00 51 48.7**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**74.78**	**337**	P	**P**	**00 51 50.6**	**-0.5**
	comp=Z,1.3nm,0.8s,mb3.7,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.78**	**337**	P	**P**	**00 51 50.9**	**-0.2**
	comp=Z,1.3nm,0.7s,mb3.8,baz=40,slow=5.7,SNR=5.8						
NOA	**NORSAR Array B**	**74.78**	**337**	P	**P**	**00 51 50.9**	**-0.2**
NVAR	**Mina Array Bea**	**76.68**	**52**	P	**P**	**00 52 03.9**	**+2.0**
	comp=Z,1.3nm,0.5s,mb3.9,baz=300,slow=3.9,SNR=8.7						
KWP	**Kalwaria**	**78.35**	**324**	*e*P	**P**	**00 52 11.9**	**+0.7**
KWP				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
KWP	**Kalwaria**	**78.35**	**324**	*e*P	**P**	**00 52 11.9**	**+0.7**
	comp=Z,8.2nm,0.9s,mb4.5						
BRTR	**Keskin Array B**	**78.69**	**311**	P	**P**	**00 52 13.1**	**0.0**
	comp=Z,1.0nm,0.7s,mb3.7,baz=64,slow=4.1,SNR=6.5						
BRTR	**Keskin Array B**	**78.69**	**311**	⇓*e*P	**P**	**00 52 13.8**	**+0.7**
TPNV	**Topopah Spring**	**78.87**	**52**	*e*P	**P**	**00 52 15.4**	**+1.4**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
TPNV	**Topopah Spring**	**78.87**	**52**	*e*P	**P**	**00 52 15.4**	**+1.3**
	comp=Z,2.1nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**79.37**	**45**	P	**P**	**00 52 17.8**	**+1.0**
	comp=Z,0.7nm,0.4s,mb3.8,baz=191,slow=0.5,SNR=8.1						
CLL	**Collm**	**81.48**	**329**	*e*P	**P**	**00 52 28.0**	**-0.1**
KHC	**Kasperske Hory**	**82.88**	**328**	*i*P	**P**	**00 52 36.0**	**+0.6**
GERES	**GERESS Array B**	**83.04**	**328**	P	**P**	**00 52 35.9**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.2,baz=48,slow=2.0,SNR=4.9						
LPAZ	**La Paz**	**148.35**	**59**	PKPbc	PKPbc	00 59 58.4	+2.0
	comp=Z,0.9nm,0.6s,baz=14,slow=6.6,SNR=8.2						
LPAZ	**La Paz**	**148.35**	**59**	PKP2	PKPab	00 59 58.4	-1.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NIED **28** 00:43:00,3180N×13960E,h240km,Mw4.3 Best double couple: M0:3.21000×10^15 NP1:φ±289.00000°,δ85.00000°, λ140.00000°. NP2:φ±23.00000°,δ50.00000°,λ6.00000°.*
*NEIC **28** 00:43:49.6±1.5,3148N×13945E,h242km±12km,mb4.2/3, Error ellipse: s-maj=24.0km s-min=13.2km az=112.0*
*ISCJB **28** 00:43:49.8±0.4,3164N±004×13959E±006,h261km±4km, mb3.4/7,Error ellipse: s-maj=8.5km s-min=6.3km az=145.6*
*IDC **28** 00:43:50.6±0.6,3163N×13994E,h261km±6km,mb3.3/7, mb1 3.5/11,mb1mx3.4/21,mbtmp4.1/11,Error ellipse: s-maj=30.6km s-min=9.1km az=73.0*
*JMA **28** 00:43:52.6±0.3,3184N×13956E,h262km±3km,M4.6*
*BJI **28** 00:43:53.2,3196N×13870E,h241km,mB4.6,mb4.4*

ISC 28 00:43:50.9±0.5,3166N±005×13953E±006,h256km±4km, n46,σ1§25/65,mb3.4/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.47**	**9**	P	**Pn**	**00 44 30.8**	**+1.3**
JHJ2				S	**S**	**00 45 01.9**	**+1.9**
JHJ	**Hachijo jima 2**	**1.48**	**8**	P	**Pn**	**00 44 31.2**	**+1.7**
	115nm,0.3s,baz=56,slow=22,SNR=17						
JHJ				S	**S**	**00 45 01.2**	**+1.2**
	216nm,0.3s,baz=269,slow=23,SNR=9.6						
JMY	**Miyakejima3**	**2.41**	**360**	P	**Pn**	**00 44 38.3**	**+0.7**
TK02	**Tokai 2**	**2.73**	**327**	P	**Pn**	**00 44 41.9**	**+1.0**
TK02				*e*S	**S**	**00 45 20.8**	**+0.4**
JIM2	**Oshima 3**	**3.06**	**358**	P	**Pn**	**00 44 43.7**	**-0.6**
JIM2				*e*S	**S**	**00 45 26.3**	**-0.3**
BSO1	**Boso 1**	**3.23**	**22**	P	**Pn**	**00 44 47.1**	**+0.9**
BSO1				S	**S**	**00 45 28.3**	**-1.7**
JIE	**Ise**	**3.62**	**320**	P	**Pn**	**00 44 51.0**	**+0.5**
JIE				S	**S**	**00 45 36.6**	**-1.3**
JOD2	**Odawara 2**	**3.62**	**354**	P	**Pn**	**00 44 51.2**	**+0.7**
JOD2				*e*S	**S**	**00 45 36.0**	**-1.9**
JWZ	**Kozaga**	**3.73**	**301**	P	**Pn**	**00 44 51.3**	**-0.5**
JYN	**Shimob**	**3.92**	**348**	P	**Pn**	**00 44 54.9**	**+0.9**
JRY	**Ryogami san**	**4.38**	**353**	P	**Pn**	**00 44 59.6**	**+0.2**
JRY				S	**S**	**00 45 50.0**	**-3.9**
JGM	**Miyama**	**4.67**	**331**	P	**Pn**	**00 45 03.6**	**+0.8**
JGM				S	**S**	**00 45 58.0**	**-2.1**
JAG	**Ashikaga**	**4.76**	**359**	P	**Pn**	**00 45 02.7**	**-1.2**
JAG				S	**S**	**00 45 56.1**	**-6.0**
MJAR	**Matsushiro Arr**	**5.00**	**348**	P	**Pn**	**00 45 06.7**	**-0.1**
	1.7nm,0.3s,baz=174,slow=10,SNR=6.3						
MJAR				S	**S**	**00 46 06.0**	**-1.3**
	2.0nm,0.3s,baz=103,slow=8.9,SNR=4.1						
MJAR	**Matsushiro Arr**	**5.00**	**348**	P	**Pn**	**00 45 06.7**	**-0.1**
MJAR				S	**S**	**00 46 06.0**	**-1.3**
MAJO	**Matsushiro**	**5.00**	**348**	*e*Pn	**Pn**	**00 45 07.2**	**+0.4**
MAJO				*e*Sn	**S**	**00 46 04.2**	**-3.2**
MAT	**Matsushiro**	**5.00**	**348**	P	**Pn**	**00 45 06.6**	**-0.2**
MAT				*e*S	**S**	**00 46 07.4**	**0.0**
MAT	**Matsushiro**	**5.00**	**348**	P	**Pn**	**00 45 07.3**	**+0.5**
MAT				*e*S	**S**	**00 46 04.9**	**-2.5**
MAT	**Matsushiro**	**5.00**	**348**	P	**Pn**	**00 45 07.0**	**+0.2**
	17nm,0.7s						
MAT				S	**S**	**00 46 07.0**	**-0.4**
CBIJ	**Chichi jima**	**5.10**	**152**	P	**Pn**	**00 45 05.8**	**-2.2**
	41nm,0.3s,baz=277,slow=23,SNR=9.0						
CBIJ				S	**S**	**00 46 05.5**	**-4.1**
	78nm,0.3s,baz=300,slow=23,SNR=15						
CBIJ	**Chichi jima**	**5.10**	**152**	P	**Pn**	**00 45 06.5**	**-1.5**
CBIJ				S	**S**	**00 46 06.3**	**-3.3**
JTO	**Tosashimizu**	**5.83**	**284**	P	**Pn**	**00 45 16.4**	**-0.6**
JTO				*e*S	**S**	**00 46 27.2**	**+1.4**
JHS	**Saijyo**	**6.32**	**304**	P	**Pn**	**00 45 23.4**	**+0.3**
JMK	**Ichinoseki**	**7.41**	**10**	P	**Pn**	**00 45 35.8**	**-0.9**
JMK				S	**S**	**00 46 56.8**	**-5.1**
JOW	**Kunigami**	**10.94**	**247**	P	**Pn**	**00 46 25.8**	**+4.6**
	2.1nm,0.3s,baz=35,slow=9.3,SNR=11						
KS15	**Wonju Array Si**	**11.20**	**304**	*e*Pn	**Pn**	**00 46 28.3**	**+3.9**
ASAJ	**Asahikawa**	**12.67**	**10**	P	**Pn**	**00 46 43.3**	**+0.7**
	1.2nm,0.3s,baz=236,slow=11,SNR=6.0						
YSS	**Yuzh-Sakhalins**	**15.48**	**8**	*e*Pn	**Pn**	**00 47 17.0**	**+0.5**
	42nm,0.7s						
YHNB	**Yeheng**	**17.45**	**251**	*e*Pn	**Pn**	**00 47 35.8**	**-3.8**
NACB	**Ninganchiao**	**17.51**	**249**	Pn	**Pn**	**00 47 39.6**	**-0.7**
XAN	**Xi'an**	**25.78**	**284**	P	**P**	**00 48 57.0**	**-1.6**
SONM	**Songino Array**	**29.88**	**312**	P	**P**	**00 49 37.3**	**+2.4**
	2.7nm,0.9s,mb3.8,baz=104,slow=9.5,SNR=10						
BILL	**Bilibino**	**39.61**	**15**	*e*P	**P**	**00 51 00.2**	**+2.4**
MKAR	**Makanchi Array**	**45.85**	**306**	P	**P**	**00 51 48.0**	**+0.2**
	0.6nm,0.7s,mb3.0,baz=91,slow=9.5,SNR=4.6						
MKAR				ScP	ScP	00 56 48.3	-0.3
	0.6nm,0.7s,baz=86,slow=4.7,SNR=5.5						
KURK	**Kurchatov**	**48.19**	**312**	P	**P**	**00 52 08.4**	**+2.7**
WRA	**Warramunga Arr**	**51.54**	**186**	P	**P**	**00 52 30.4**	**-0.5**
	0.9nm,0.6s,mb3.3,baz=2.9,slow=7.7,SNR=4.6						
BRVK	**Borovoye**	**53.22**	**315**	P	**P**	**00 52 40.7**	**-2.4**
ZRNK	**Zerenda**	**54.00**	**315**	P	**P**	**00 52 48.9**	**+0.1**
ASAR	**Alice Springs**	**55.27**	**186**	P	**P**	**00 52 56.5**	**-1.4**
	0.6nm,0.5s,mb3.3,baz=3.6,slow=6.7,SNR=6.0						
FINES	**FINESS Array B**	**72.85**	**333**	P	**P**	**00 54 52.0**	**+0.1**
	0.9nm,0.6s,mb3.5,baz=67,slow=5.0,SNR=6.0						
FINES	**FINESS Array B**	**72.85**	**333**	P	**P**	**00 54 52.0**	**+0.1**
NB2	**NORSAR Subarra**	**78.53**	**337**	P	**P**	**00 55 24.0**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**78.53**	**337**	P	**P**	**00 55 23.7**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.6,baz=42,slow=5.4,SNR=3.9						
NOA	**NORSAR Array B**	**78.53**	**337**	P	**P**	**00 55 23.7**	**-0.3**
BRTR	**Keskin Array B**	**81.24**	**311**	P	**P**	**00 55 39.8**	**+1.3**
	comp=Z,0.8nm,0.7s,mb3.5,baz=74,slow=4.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**119.85**	**311**	PKP	PKPdf	01 02 11.9	+1.2
	comp=Z,0.5nm,0.9s,baz=29,slow=0.7,SNR=5.6						

MEX 28 00:54:05.8±0.5,1679N×9968W,h4km±4km,MD3.5,1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.24**	**290**	*i*P	Pg	00 54 10.0	-0.5
ACX				*i*S	Sg	00 54 14.0	+0.4
CAIG	**El Cayaco**	**0.62**	**295**	⇑*i*P	Pg	00 54 17.0	-0.6
CAIG				*i*S	Sg	00 54 26.1	+0.4
MEIG	**Mezcala**	**1.14**	**3**	*i*P	Pg	00 54 24.6	-3.0
MEIG				*i*S	Sg	00 54 39.1	-3.2
UTMO	**Huajuapan**	**2.07**	**60**	*i*P	Pn	00 54 38.9	-2.5
UTMO				*i*S	Sn	00 55 03.7	-3.8

*NEIC **28** 00:58:51.7,3991N×1935E,h2km,MD3.7(ATH), ML2.8(ROM),After ATH.*
*ATH **28** 00:58:51.5,3988N×1933E,h5km±3km,MD3.7/6*
*CSEM **28** 00:58:55.9±0.2,3982N×1963E,h0km±1km,MD3.7,Error ellipse: s-maj=3.4km s-min=1.6km az=162.0*
*ROM **28** 00:58:55.1±0.3,3972N×1974E,h10km,Md3.0/3,Ml2.8/6, Error ellipse: s-maj=3.9km s-min=3.3km az=1.0*
*ISCJB **28** 00:58:56.1±0.3,3977N±002×1959E±002,h5km,Error ellipse: s-maj=3.4km s-min=2.3km az=24.3*
*THE **28** 00:58:57.0,3974N×1959E,h3km,ML3.5*

ISC 28 00:58:56.6±0.5,3979N±002×1960E±002,h2km±4km,n46, σ0§96/60,2C-3D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.17**	**116**	⇓*i*PB	**Pg**	**00 58 59.3**	**-0.7**
SRN	**Sarande**	**0.32**	**73**	*e*Pg	**Pg**	**00 59 01.6**	**-1.2**
SRN				*i*Sg	**Sg**	**00 59 07.5**	**+0.5**
TPE	**Tepelena**	**0.60**	**32**	*e*Pg	**Pg**	**00 59 06.6**	**-1.5**
TPE				*e*Sg	**Sg**	**00 59 16.8**	**+1.0**
IGT	**Igoumenitsa**	**0.62**	**114**	*e*Pg	**Pg**	**00 59 07.7**	**-0.9**
IGT				*e*Sg	**Sg**	**00 59 17.7**	**+1.1**
LSK	**Leskovik**	**0.85**	**65**	*e*Pg	**Pg**	**00 59 10.6**	**-2.3**
LSK				*i*Sg	**Sg**	**00 59 24.6**	**+0.6**
SCTE	**Santa Cesarea**	**0.91**	**288**	Pg	**Pg**	**00 59 14.0**	**-0.2**
SCTE				Sg	**Sg**	**00 59 28.5**	**+2.5**
	607nm,0.4s						
JAN	**Janina**	**0.97**	**97**	*e*PB	**Pg**	**00 59 14.0**	**-1.3**
JAN				*e*SB	**Sb**	**00 59 30.5**	**+0.9**
MEV	**Metsovon**	**1.26**	**90**	*e*Pg	**Pg**	**00 59 21.3**	**+0.6**
LCI	**Lecce**	**1.26**	**296**	⇑*i*Pg	**Pg**	**00 59 20.6**	**-0.3**
LCI				Sg	**Sg**	**00 59 39.0**	**+1.7**
	68nm,0.3s						
LKD	**Levkas**	**1.35**	**143**	*e*Pg	**Pg**	**00 59 21.7**	**-0.9**
LKD				*e*Sg	**Sg**	**00 59 40.1**	**-0.1**
TIR	**Tirane**	**1.57**	**7**	Pg	**Pn**	**00 59 24.3**	**-1.2**
	118nm,0.4s						
OHR	**Ohrid**	**1.61**	**34**	*e*Pb	**Pb**	**00 59 26.1**	**-0.9**
OHR				*e*Sb	**Sb**	**00 59 49.7**	**+1.9**
OHR	**Ohrid**	**1.61**	**34**	⇓*i*Pn	**Pn**	**00 59 26.7**	**+0.6**
OHR	**Ohrid**	**1.61**	**34**	⇓*i*Pn	**Pn**	**00 59 26.6**	**+0.6**
FNA	**Florina**	**1.69**	**53**	*e*Pb	**Pn**	**00 59 27.2**	**+0.1**
KZN	**Kozani**	**1.75**	**72**	*e*Pn	**Pn**	**00 59 28.1**	**+0.2**
KZN				*e*Sn	**Sn**	**00 59 52.2**	**+1.5**
VLS	**Valsamata**	**1.79**	**154**	*e*PG	**Pn**	**00 59 28.0**	**-0.5**
VLS				*e*SN	**Sg**	**00 59 56.2**	**+2.2**
BIA	**Bitola**	**1.80**	**46**	*e*Pb	**Pn**	**00 59 28.2**	**-0.5**
BIA				*e*Sb	**Sb**	**00 59 52.7**	**-0.6**
BIA	**Bitola**	**1.80**	**46**	*e*Pn	**Pn**	**00 59 28.3**	**-0.4**
EVR	**Evrytania**	**1.92**	**116**	⇑*i*PG	**Pb**	**00 59 31.6**	**-0.8**
EVR				*e*SN	**Sg**	**00 59 59.7**	**+1.3**
**NOCI

comp=Z,14nm,0.3s
PGC Sidney 3.56 86 Trac 01 10 32.3
comp=Z,9.0nm,0.4s
PGC Sidney 3.56 86 Sn Sn 01 10 29.0 -2.9
VGZ Gonzales 3.66 89 Trac 01 10 32.8
comp=Z,25nm,0.3s
VGZ Gonzales 3.66 89 Sn Sn 01 10 31.5 -2.7
BBB Bella Bella 3.71 7 Pn Pn 01 09 51.1 -0.5
BBB Trac 01 10 38.7
comp=Z,47nm,0.8s
WPB Watts Point 3.86 71 Pn Pn 01 09 53.4 -0.4
VDB Vedder Mountai 4.47 81 Pn Pn 01 10 01.8 -0.4
LLLB Lillooet 4.98 62 Pn Pn 01 10 08.8 -0.3

*CSEM **28** 01:22:41.4, 1227N×4432E, h5km, ML3.7, After DHMR*
DHMR 28 01:22:41.4±1.2, 1227N×4432E, h5km±5km, ML3.7, 2C-7D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.83**	**52**	⇑*i*P	Pg	01 22 56.8	-0.5
ADEN				*i* S	Sg	01 23 09.4	+1.4
ADEN				AML	AML	01 23 16.1	
comp=E,3μm,0.8s							
ADEN	**Aden**	**0.83**	**52**	⇑*i*P	Pg	01 22 56.8	-0.5
ADEN				*i* S	Sg	01 23 09.4	+1.4
comp=E,1μm,0.8s							
TRBA	**At Turbah**	**0.98**	**349**	⇓*i*P	Pg	01 22 59.1	-1.1
TRBA				*i* S	Sg	01 23 14.0	+1.1
UDYN	**Al 'Udayn**	**1.73**	**349**	⇓*i*P	Pn	01 23 13.2	+1.1
UDYN				*i* S	Sn	01 23 37.3	+2.8
LBOS		**1.84**	**30**	⇓*i*P	Pn	01 23 14.2	+0.6
LBOS				*i* S	Sn	01 23 40.1	+2.9
BDHA	**Al Bayda'**	**2.09**	**36**	⇓*i*P	Pn	01 23 18.7	+1.6
BDHA				*i* S	Sn	01 23 47.3	+3.9
BDHA				AML	AML	01 23 59.3	
comp=E,802nm,0.6s							
BDHA	**Al Bayda'**	**2.09**	**36**	⇓*i*P	Pn	01 23 18.7	+1.6
BDHA				*i* S	Sn	01 23 47.3	+3.8
comp=E,401nm,0.6s							
DHBB	**Dhamar BB**	**2.29**	**2**	⇓*i*P	Pn	01 23 21.6	+1.8
DHBB				*i* S	Sn	01 23 54.0	+5.5
HAJJ	**Hajjah**	**3.48**	**349**	⇓*i*P	Pn	01 23 39.6	+3.4
HAJJ				*i* S	Sn	01 24 23.9	+6.1

*NEIC **28** 01:24:36.0, 3831S×17606E, h164km, MG3.8(WEL), After WEL.*
WEL 28 01:24:36.1±0.3, 3831S×17607E, h163km±2km, ML3.8/19, 9C-1D, Error ellipse: s-maj=2.4km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	**Paeroa**	**0.16**	**116**	PN	Pn	01 24 58.1	+0.2
PATZ	**Paeroa**	**0.16**	**116**	P	Pn	01 24 58.1	+0.2
KATZ	**Kakaramea**	**0.73**	**204**	PN	Pn	01 25 00.5	+0.3
URZ	**Urewera**	**0.82**	**87**	⇑PN	Pn	01 25 00.7	0.0
URZ				SN	Sn	01 25 19.3	-0.4
URZ	**Urewera**	**0.82**	**87**	⇑P	Pn	01 25 00.7	-0.1
WTVZ	**West Tongariro**	**0.89**	**205**	PN	Pn	01 25 01.4	+0.2
WTVZ	**West Tongariro**	**0.89**	**205**	P	Pn	01 25 01.4	+0.1
TWVZ	**Taurewa**	**0.91**	**213**	⇑PN	Pn	01 25 01.6	+0.2
TWVZ	**Taurewa**	**0.91**	**213**	⇑P	Pn	01 25 01.6	+0.2
BKZ	**Black Stump Fm**	**0.92**	**159**	⇑PN	Pn	01 25 01.8	+0.3
BKZ				SN	Sn	01 25 20.9	0.0
BKZ	**Black Stump Fm**	**0.92**	**159**	⇓P	Pn	01 25 01.8	+0.3
BKZ				S	Sn	01 25 21.0	+0.1
NGZ	**Ngauruhoe**	**0.94**	**203**	PN	Pn	01 25 01.9	+0.2
HIZ	**Hauiti**	**0.98**	**258**	*e*PN	Pn	01 25 01.5	-0.5
HIZ				SN	Sn	01 25 22.0	+0.2
HIZ	**Hauiti**	**0.98**	**258**	*e*P	Pn	01 25 01.5	-0.4
HIZ				S	Sn	01 25 22.0	+0.2
WPVZ	**Whakapapa**	**0.98**	**205**	PN	Pn	01 25 02.2	+0.2
WPVZ	**Whakapapa**	**0.98**	**205**	P	Pn	01 25 02.2	+0.2
TUVZ	**Tukino**	**1.01**	**199**	PN	Pn	01 25 02.5	+0.3
TUVZ	**Tukino**	**1.01**	**199**	P	Pn	01 25 02.5	+0.3
FWVZ	**Far West T-bar**	**1.03**	**203**	PN	Pn	01 25 02.5	+0.1
FWVZ	**Far West T-bar**	**1.03**	**203**	P	Pn	01 25 02.5	+0.2
MOVZ	**Moawhango**	**1.12**	**193**	⇑PN	Pn	01 25 02.9	-0.2
MOVZ	**Moawhango**	**1.12**	**193**	⇑P	Pn	01 25 02.9	-0.2
PKVZ	**Pokaka**	**1.13**	**210**	⇑PN	Pn	01 25 03.1	-0.1
PKVZ				SN	Sn	01 25 24.5	+0.5
MWZ	**Matawai**	**1.14**	**92**	PN	Pn	01 25 03.6	+0.3
MWZ				SN	Sn	01 25 23.8	-0.4
MWZ	**Matawai**	**1.14**	**92**	P	Pn	01 25 03.6	+0.3
MTVZ	**Mangateitei**	**1.17**	**204**	PN	Pn	01 25 03.5	-0.1
KNZ	**Kokohu**	**1.44**	**120**	*e*PN	Pn	01 25 06.6	+0.5
KNZ	**Kokohu**	**1.44**	**120**	*e*P	Pn	01 25 06.6	+0.5
WAZ	**Wanganui**	**1.67**	**210**	P	Pn	01 25 07.9	-0.5
PUZ	**Puketiti**	**1.74**	**83**	PN	Pn	01 25 09.1	0.0
PUZ				SN	Sn	01 25 32.6	-1.9
TSZ	**Takapari Road**	**1.75**	**183**	PN	Pn	01 25 08.8	-0.4
TSZ	**Takapari Road**	**1.75**	**183**	P	Pn	01 25 08.8	-0.4
MXZ	**Matakaoa Point**	**1.92**	**68**	*e*PN	Pn	01 25 11.3	+0.2
MXZ	**Matakaoa Point**	**1.92**	**68**	*e*P	Pn	01 25 11.3	+0.2
BFZ	**Birch Farm**	**2.37**	**177**	*e*PN	Pn	01 25 15.1	-1.2
BFZ	**Birch Farm**	**2.37**	**177**	*e*P	Pn	01 25 15.1	-1.2
MRZ	**Mangatainoka R**	**2.38**	**189**	⇑PN	Pn	01 25 14.8	-1.6
MRZ	**Mangatainoka R**	**2.38**	**189**	P	Pn	01 25 14.8	-1.6
TIWZ	**Tintock**	**2.47**	**183**	PN	Pn	01 25 15.9	-1.6
KIW	**Kapiti Island**	**2.70**	**199**	PN	Pn	01 25 17.9	-2.4
KIW	**Kapiti Island**	**2.70**	**199**	P	Pn	01 25 17.9	-2.4
MTW	**Mount Morrison**	**2.88**	**189**	PN	Pn	01 25 19.9	-2.5
MTW	**Mount Morrison**	**2.88**	**189**	P	Pn	01 25 20.0	-2.5
CAW	**Cannon Point**	**2.90**	**195**	PN	Pn	01 25 20.4	-2.3
CAW	**Cannon Point**	**2.90**	**195**	P	Pn	01 25 20.4	-2.3
DUWZ	**D'Urville Isla**	**2.99**	**213**	PN	Pn	01 25 21.1	-2.8
TRWZ	**Traveller**	**3.10**	**185**	PN	Pn	01 25 22.8	-2.4
MRW	**Makara Radio**	**3.10**	**200**	PN	Pn	01 25 22.2	-3.0
MRW	**Makara Radio**	**3.10**	**200**	P	Pn	01 25 22.5	-2.7
MRW				S	Sn	01 25 58.3	-5.0
PAWZ	**Paruwai Farm**	**3.11**	**189**	PN	Pn	01 25 22.7	-2.6
PAWZ	**Paruwai Farm**	**3.11**	**189**	P	Pn	01 25 22.8	-2.5
MSWZ	**Moikau Station**	**3.17**	**191**	PN	Pn	01 25 23.2	-2.8
MSWZ	**Moikau Station**	**3.17**	**191**	P	Pn	01 25 23.4	-2.6
SNZO	**South Karori**	**3.18**	**199**	PN	Pn	01 25 23.1	-3.0
SNZO	**South Karori**	**3.18**	**199**	P	Pn	01 25 23.2	-2.9
TCW	**Tory Channel**	**3.21**	**205**	PN	Pn	01 25 23.6	-3.0
TCW	**Tory Channel**	**3.21**	**205**	P	Pn	01 25 23.9	-2.7
BHW	**Baring Head**	**3.23**	**196**	PN	Pn	01 25 23.8	-3.0
BHW	**Baring Head**	**3.23**	**196**	P	Pn	01 25 23.8	-3.0
TUWZ	**Tuamarina**	**3.52**	**207**	PN	Pn	01 25 27.5	-3.0
NNZ	**Nelson**	**3.57**	**215**	*e*PN	Pn	01 25 27.6	-3.6
NNZ	**Nelson**	**3.57**	**215**	*e*P	Pn	01 25 27.7	-3.4
QRZ	**Quartz Range**	**3.72**	**226**	PN	Pn	01 25 28.9	-4.1
QRZ	**Quartz Range**	**3.72**	**226**	*e*P	Pn	01 25 29.1	-3.9
THZ	**Tophouse**	**4.22**	**214**	*e*PN	Pn	01 25 35.2	-4.3
THZ	**Tophouse**	**4.22**	**214**	*e*P	Pn	01 25 36.0	-3.5
KHZ	**Kahutara**	**4.54**	**204**	*e*PN	Pn	01 25 40.0	-3.6
KHZ	**Kahutara**	**4.54**	**204**	*e*P	Pn	01 25 40.2	-3.4
LTZ	**Lake Taylor**	**5.32**	**212**	*e*PN	Pn	01 25 49.0	-4.9
LTZ	**Lake Taylor**	**5.32**	**212**	*e*P	Pn	01 25 49.2	-4.7
MQZ	**McQueen's Vall**	**5.98**	**205**	SN	Sn	01 27 00.0	-10

*MOS **28** 01:55:24.8±0.9, 4329N×4511E, h14km, mb3.9/1, Error ellipse: s-maj=20.9km s-min=12.0km az=159.4*
*TIF **28** 01:55:26.4, 4334N×4509E, h13km±3km*
*ISCJB **28** 01:55:27.7±1.0, 4336N±004×4505E±006, h13km, Error ellipse: s-maj=7.7km s-min=4.7km az=104.8*
ISC 28 01:55:28.4±1.0, 4334N±004×4503E±006, h13km, n15, σ1°39/29, 3C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.32**	**210**	⇑*i*PG	Pg	01 55 32.4	-2.4
SNJR				*i* S	Sg	01 55 38.1	-1.1
BTKR	**Batakoyurt**	**0.36**	**275**	⇓*i*PG	Pg	01 55 34.5	-1.0
BTKR				*i* S	Sg	01 55 41.7	+1.4
VLKR	**Vladikavkaz**	**0.39**	**221**	⇑*i*PG	Pg	01 55 34.1	-2.1
VLKR				*i* S	Sg	01 55 40.9	-0.6
KMSR	**Komsomolskaya**	**0.54**	**273**	⇓*i*PG	Pg	01 55 37.9	-1.0
KMSR				*e*S	Sg	01 55 47.5	+1.5
ARNR	**Ardon**	**0.57**	**255**	⇓*i*PG	Pg	01 55 38.2	-1.3
ARNR				*e*S	Sg	01 55 47.9	+0.9
PRTR	**Priterechnaya**	**0.68**	**307**	⇑*i*PG	Pg	01 55 40.8	-0.8
PRTR				*e*S	Sg	01 55 52.1	+1.6
KORR	**Kora**	**0.75**	**250**	⇓*i*PG	Pg	01 55 41.4	-1.5
KORR				*e*S	Sg	01 55 53.4	+0.7
ZEI	**Tsey**	**1.01**	**236**	⇓*i*PG	Pg	01 55 46.0	-1.8
ZEI				*e*		01 56 00.7	
ZEI				pmax	pmax		
comp=Z,151nm,0.2s							
ZEI				smax			
comp=N,288nm,0.3s							
DIGR	**Digorskoe uzhe**	**1.15**	**248**	*i* PG	Pg	01 55 47.9	-2.6
DIGR				*i* S	Sb	01 56 05.0	0.0
GOR	**Gori**	**1.52**	**207**	P	Pn	01 55 54.7	-0.6
GOR				S	Sn	01 56 15.7	+0.8
AMRG		**1.62**	**240**	P	Pn	01 55 58.9	+2.3
AMRG				S	Sn	01 56 21.4	+4.1
TBLG	**Delisi**	**1.63**	**188**	P	Pn	01 55 57.2	+0.5
TBLG				S	Sn	01 56 20.0	+2.5
MTA	**Mtatsminda**	**1.66**	**186**	P	Pn	01 55 57.3	+0.1
MTA				S	Sn	01 56 20.8	+2.4
DGRG	**David-gareji**	**1.91**	**172**	P	Pn	01 56 01.7	+1.1
DGRG				S	Sn	01 56 29.5	+5.0
AKH	**Akhalkalaki**	**2.24**	**211**	P	Pn	01 56 05.4	+0.2
AKH				S	Sn	01 56 38.3	+5.6

MOS 28 02:01:23.9±1.9, 4329N×4517E, h19km, mb3.8/1, 7C-2D, Error ellipse: s-maj=21.0km s-min=12.7km az=153.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.34**	**230**	⇑*i*PG	Pg	02 01 32.5	+1.3
SNJR				*i* S	Sg	02 01 38.7	+2.5
VLKR	**Vladikavkaz**	**0.43**	**236**	⇑*i*PG	Pg	02 01 34.2	+1.3
VLKR				*i* S	Sg	02 01 41.6	+2.7
BTKR	**Batakoyurt**	**0.47**	**280**	⇑*i*PG	Pg	02 01 34.7	+1.3
BTKR				*i* S	Sg	02 01 42.5	+2.7
TRKR	**Terskaya**	**0.54**	**324**	⇑*i*PG	Pg	02 01 36.0	+1.3
TRKR				*i* S	Sg	02 01 44.8	+2.8
KMSR	**Komsomolskaya**	**0.65**	**277**	⇓*i*PG	Pg	02 01 37.9	+1.2
KMSR				*i* S	Sb	02 01 48.2	+3.0
ARNR	**Ardon**	**0.66**	**262**	⇑*i*PG	Pg	02 01 38.2	+1.3
ARNR				*i* S	Sb	02 01 48.6	+3.1
LACR	**Lac**	**0.79**	**234**	⇓*i*PG	Pg	02 01 44.7	+5.3
LACR				*i* S	Sb	02 01 56.6	+7.2
KORR	**Kora**	**0.83**	**256**	⇑*i*PG	Pg	02 01 41.1	+0.9
KORR				*i* S	Sb	02 01 53.7	+3.2
ZEI	**Tsey**	**1.07**	**241**	⇑*i*PG	Pg	02 01 45.0	+0.4
ZEI				*i* S	Sb	02 02 00.4	+3.1

MAN 28 02:12:47.5, 923N×12567E, h11km, mb2.0, ML3.7, MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.27**	**191**	*e*P	Pg	02 12 53.5	+0.6
BUTP				*e*S	Sg	02 13 00.8	+4.3
SCPH	**Surigao**	**0.58**	**342**	*e*P	Pg	02 12 59.6	+0.9
SCPH				*i* S	Sg	02 13 11.0	+4.7
BUKP	**Musuan**	**1.47**	**204**	*e*P	Pn	02 13 13.6	-0.3

*SZGRF **28** 02:36:25.1, 1772S×17791W, h33km, Fiji Islands region*
*ORF **28** 02:36:33.7, 1751S×17484E, h30km, mb5.5*
*MOS **28** 02:37:09.1±1.0, 1496S×17742W, h357km, mb5.1/24, Error ellipse: s-maj=14.6km s-min=7.6km az=137.2*
*ISCJB **28** 02:37:10.7±0.9, 1506S±007×17741W±005, h373km±9km, mb4.7/74, Error ellipse: s-maj=12.2km s-min=4.7km az=117.4*
*IDC **28** 02:37:10.4±1.9, 1505S×17732W, h360km±18km, mb4.2/16, mb1 4.4/18, mb1mx4.3/20, mbtmp4.9/18, Error ellipse: s-maj=18.9km s-min=9.8km az=148.0*
*BJI **28** 02:37:13.2, 1493S×17705W, h407km, mB4.9, mb4.6*
*NEIC **28** 02:37:13.9±0.9, 1499S×17746W, h396km±9km, mb4.7/62, Error ellipse: s-maj=10.1km s-min=4.2km az=142.0*
ISC 28 02:37:13.2±1.1, 1504S±007×17742W±005, h383km±10km, n415, σ0°61/279, mb4.6/74, 71C-95D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.58**	**79**	P	Pn	02 38 35.7	-4.8
255nm,0.3s,baz=57,slow=0.6,SNR=294							
FUNA	**Funafuti**	**7.27**	**332**	*e*Pn	Pn	02 38 58.4	-1.0
DZM	**Mont Dzumac**	**16.82**	**243**	*e*P	P	02 40 47.0	+1.1
DZM	**Mont Dzumac**	**16.82**	**243**	P	P	02 40 46.7	+0.8
7.2nm,0.3s,baz=71,slow=17,SNR=41							
NOUC	**Port Laguerre**	**16.95**	**243**	*e*P	P	02 40 47.7	+0.5
URZ	**Urewera**	**23.64**	**191**	P	P	02 41 46.8	-4.9
23nm,0.6s,mb4.8,baz=37,slow=2.7,SNR=18							
ARMA	**Armidale**	**32.26**	**236**	*e*P	P	02 43 09.6	+1.9
CTA	**Charters Tower**	**34.95**	**256**	*e*P	P	02 43 30.7	+0.1
8.7nm,0.5s,mb4.3							
CTA				*e*		02 43 34.7	
CTA	**Charters Tower**	**34.95**	**256**	P	P	02 43 30.5	-0.1
32nm,0.5s,mb4.9,baz=80,slow=11,SNR=31							
CTA	**Charters Tower**	**34.95**	**256**	*e*P	P	02 43 30.7	+0.1
CTA				pmax	pmax		
comp=Z,9.0nm,0.5s							
CTAO	**Charters Tower**	**34.95**	**256**	*e*P	P	02 43 30.5	-0.1
CTAO				pmax	pmax		
comp=Z,33nm,0.6s,mb4.8							
CTAO	**Charters Tower**	**34.95**	**256**	*e*P	P	02 43 30.5	-0.1
comp=Z,33nm,0.6s,mb4.8							
PMG	**Port Moresby**	**35.04**	**275**	P	P	02 43 32.4	+1.1
comp=Z,16nm,0.6s,mb4.5,baz=63,slow=11,SNR=6.9							
PMG	**Port Moresby**	**35.04**	**275**	*e*P	P	02 43 32.6	+1.3
PMG				pmax	pmax		
comp=Z,28nm,0.8s							
PMG	**Port Moresby**	**35.04**	**275**	*e*P	P	02 43 32.6	+1.3
comp=Z,28nm,0.8s,mb4.7							
CNB	**Canberra Magne**	**35.96**	**230**	*e*P	P	02 43 38.8	-0.3
comp=Z,17nm,0.6s,mb4.5							
TOO	**Toolangi**	**39.74**	**229**	*e*P	P	02 44 10.5	+0.2
comp=Z,15nm,0.7s,mb4.4							
TOO	**Toolangi**	**39.74**	**229**	*e*P	P	02 44 10.5	+0.2
TOO				pmax	pmax		
comp=Z,15nm,0.7s,mb4.4							
STKA	**Stephens Creek**	**40.89**	**238**	*e*P	P	02 44 17.5	-2.1
comp=Z,13nm,0.9s,mb4.3							
STKA				*e*		02 44 21.1	
STKA	**Stephens Creek**	**40.89**	**238**	P	P	02 44 17.6	-2.0
comp=Z,6.8nm,0.4s,mb4.4,baz=79,slow=8.8,SNR=20							
WB2	**Warramunga Arr**	**46.14**	**257**	*e*P	P	02 44 59.8	-1.2
WB2				*e*S	S	02 51 17.9	+0.6
WRAB	**Tennant Creek**	**46.14**	**257**	*i* P	P	02 45 01.0	0.0
WRAB	**Tennant Creek**	**46.14**	**257**	*e*P	P	02 45 00.2	-0.8
comp=Z,26nm,0.9s,mb4.5							
WRA	**Warramunga Arr**	**46.15**	**257**	P	P	02 45 00.7	-0.4
comp=Z,6.0nm,0.5s,mb4.2,baz=94,slow=7.1,SNR=55							
WRA				S	S	02 51 17.7	+0.2
comp=Z,0.7nm,0.7s,baz=94,slow=13,SNR=2.9							
AS31	**Alice Springs**	**46.54**	**252**	*e*P	P	02 45 04.2	+0.2
AS31				*e*S	S	02 51 22.5	-0.5
ASAR	**Alice Springs**	**46.54**	**252**	P	P	02 45 04.2	+0.1
comp=Z,102nm,0.6s,mb5.4,baz=85,slow=7.3,SNR=101							
ASAR				S	S	02 51 23.4	+0.4
comp=Z,5.2nm,0.8s,baz=84,slow=16,SNR=20							
ASPA	**Alice Springs**	**46.54**	**252**	*e*P	P	02 45 04.2	+0.2
ASPA				*e*S	S	02 51 22.5	-0.5
FORT	**Forrest**	**52.13**	**243**	*e*P	P	02 45 45.2	-0.6
comp=Z,45nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**54.49**	**258**	*e*P	P	02 46 03.3	+0.6
comp=Z,6.4nm,0.5s,mb4.1							
FITZ				*e*		02 46 09.3	
FITZ	**Fitzroy Crossi**	**54.49**	**258**	P	P	02 46 03.6	+0.9
comp=Z,12nm,0.6s,mb4.3,baz=123,slow=8.8,SNR=13							
MBWA	**Marble Bar**	**59.73**	**254**	*e*P	P	02 46 38.9	-0.1
KLBR	**Kellerberrin**	**60.98**	**242**	*e*P	P	02 46 46.8	-0.6
comp=Z,17nm,0.6s,mb4.6							
KLBR				*e*		02 46 51.6	
NWAO	**Narrogin (SRO)**	**61.42**	**241**	P	P	02 46 51.0	+0.7
comp=Z,19nm,0.8s,mb4.6,baz=158,slow=5.4,SNR=5.2							
NWAO	**Narrogin (SRO)**	**61.42**	**241**	P	P	02 46 51.0	+0.7
VNDA	**Vanda**	**63.37**	**185**	P	P	02 47 02.8	-0.3
comp=Z,3.5nm,0.8s,mb4.0,baz=360,slow=7.5,SNR=28							
VNDA	**Vanda**	**63.37**	**185**	*e*P	P	02 47 02.8	-0.2
comp=Z,9.4nm,1.3s,mb4.2							
CASY	**Casey**	**69.13**	**204**	*e*P	P	02 47 38.3	-0.8
comp=Z,10nm,1.0s,mb4.4							
CHGN	**Chignik**	**72.83**	**11**	*e*P	P	02 47 59.3	-1.9
BNLO	**Ben Lomond**	**73.43**	**43**	⇑P	P	02 48 04.7	+0.1
baz=74							
HAST	**Hastings Reser**	**73.43**	**44**	⇓P	P	02 48 05.0	+0.4
baz=74,SNR=10							
V03C	**Hunter Liggett**	**73.44**	**45**	⇑P	P	02 48 05.2	+0.6
baz=74							
V04C	**Ramage Ranch,**	**73.48**	**45**	⇑P	P	02 48 05.5	+0.6
baz=74,SNR=6.9							
JRSC	**Jasper Ridge**	**73.53**	**43**	⇑P	P	02 48 05.0	-0.2
baz=74							
MCCM	**Marconi Confer**	**73.53**	**42**	⇓P	P	02 48 05.1	-0.1
baz=74							
SAO	**San Andreas Ge**	**73.70**	**44**	*e*P	P	02 48 06.3	+0.1
SAO				pmax	pmax		
comp=Z,26nm,1.2s,mb4.7							
SAO	**San Andreas Ge**	**73.70**	**44**	*e*P	P	02 48 06.3	+0.1
comp=Z,26nm,1.2s,mb4.7							
LRV	**Little Rabbit**	**73.81**	**44**	*e*P	P	02 48 07.2	+0.4
PKD	**Parkfield**	**73.87**	**45**	⇑P	P	02 48 07.2	0.0
baz=74,SNR=6.0							
HOPS	**Hopland**	**73.90**	**41**	⇓P	P	02 48 07.6	+0.3
baz=74							
CVS	**Carmenet Viney**	**73.92**	**42**	⇓P	P	02 48 07.4	0.0
baz=74							
U04C	**Hernandez Rese**	**73.93**	**45**	P	P	02 48 08.4	+0.9
baz=74,SNR=11							
PACP	**Pacheco Peak**	**73.94**	**44**	⇓P	P	02 48 08.1	+0.5
baz=74,SNR=8.2							
P01C	**Double 8 Ranch**	**74.00**	**41**	⇑P	P	02 48 08.2	+0.2
baz=74							
O01C	**Eel River Cons**	**74.09**	**40**	⇑P	P	02 48 08.9	+0.5
baz=74							
S04C	**Ingram Canyon,**	**74.19**	**43**	P	P	02 48 09.4	+0.4
baz=74,SNR=10							
MNRC	**McLaughlin Nat**	**74.23**	**42**	P	P	02 48 10.0	+0.7
baz=74,SNR=9.3							
JCC	**Jacoby Creek**	**74.36**	**39**	⇓P	P	02 48 11.1	+1.1
baz=74							
GASB	**Alder Springs**	**74.50**	**41**	⇓P	P	02 48 11.8	+1.0
baz=75,SNR=7.3							
SSE	**Sheshan**	**74.67**	**309**	*e*P	P	02 48 12.0	+0.3
SSE				AMB	AMB		
comp=Z,20nm,0.7s,mb4.9							
SSE				AMB	AMB		
comp=Z,50nm,4.2s							
O02C	**Red Bluff**	**74.76**	**40**	⇓P	P	02 48 13.0	+0.8
baz=75,SNR=10							
S05C	**Merced**	**74.77**	**44**	⇑P	P	02 48 12.1	-0.2
baz=75							
N02C	**Big Bar**	**74.81**	**40**	⇓P	P	02 48 12.8	+0.3
baz=75							
SUTB	**Sutter Buttes**	**74.85**	**42**	⇑P	P	02 48 12.2	-0.5
baz=75							
Q04C	**Lincoln**	**74.90**	**42**	⇑P	P	02 48 12.9	-0.1
baz=75							
QSPA	**South Pole Qui**	**75.00**	**180**	*e*P	P	02 48 13.5	-0.1
comp=Z,19nm,0.7s,mb4.8							
T06C	**Millerton Lake**	**75.01**	**44**	⇓P	P	02 48 13.3	-0.3
baz=75							
CMB	**Columbia Colle**	**75.11**	**43**	⇓*i*P	P	02 48 13.7	-0.5
CMB				pmax	pmax		
comp=Z,30nm,1.3s,mb4.8							
CMB	**Columbia Colle**	**75.11**	**43**	⇓*i*P	P	02 48 13.7	-0.5
comp=Z,30nm,1.3s,mb4.8							
CMB	**Columbia Colle**	**75.11**	**43**	P	P	02 48 14.1	-0.1
baz=75,SNR=15							
O03C	**Acorn Hollow,**	**75.13**	**41**	⇑P	P	02 48 14.2	-0.2
baz=75							
WDC	**Whiskeytown Da**	**75.14**	**40**	*e*P	P	02 48 14.4	0.0
WDC				pmax	pmax		
comp=Z,30nm,1.3s,mb4.8							
WDC	**Whiskeytown Da**	**75.14**	**40**	*e*P	P	02 48 14.4	0.0
comp=Z,30nm,1.3s,mb4.8							
WDC	**Whiskeytown Da**	**75.14**	**40**	P	P	02 48 14.6	+0.2
baz=75,SNR=9.7							
ISA	**Isabella**	**75.15**	**46**	⇓P	P	02 48 14.5	+0.1
baz=75							
ORV	**Oroville**	**75.22**	**41**	P	P	02 48 14.6	-0.2
baz=75,SNR=8.0							
LAVA	**Lava Cap Winer**	**75.27**	**42**	P	P	02 48 14.9	-0.2
baz=75,SNR=5.1							
HELL	**Mitchell Peak**	**75.30**	**45**	⇓P	P	02 48 14.9	-0.4
baz=76							
KDAK	**Kodiak Island**	**75.40**	**13**	P	P	02 48 15.3	-0.5
comp=Z,18nm,0.7s,mb4.8,baz=178,slow=3.9,SNR=15							
KDAK	**Kodiak Island**	**75.40**	**13**	*e*P	P	02 48 14.7	-1.1
comp=Z,23nm,1.1s,mb4.7							
M02C	**Callahan**	**75.42**	**39**	⇑P	P	02 48 16.6	+0.7
baz=76,SNR=5.7							
PFO	**Pinyon Flat Ob**	**75.56**	**49**	⇑P	P	02 48 16.5	-0.3
baz=76							
P05C	**Yuba Gap, Truc**	**75.65**	**42**	⇑P	P	02 48 17.3	+0.1
baz=76,SNR=8.5							
R05C	**Kirkwood Meado**	**75.67**	**43**	⇑P	P	02 48 17.4	+0.1
baz=76,SNR=8.

baz=77,SNR=8.5
H03A **Soap Creek Ran** 77.10 36 ⇑P P 02 48 25.5 +0.2
baz=77
Q08A **Gabbs** 77.18 44 P P 02 48 25.8 +0.1
baz=77,SNR=11
O07A **Toulon** 77.24 42 ⇓P P 02 48 26.1 0.0
baz=77,SNR=14
TPNV **Topopah Spring** 77.35 46⇓iP P 02 48 26.6 -0.1
TPNV pmax pmax
comp=Z,16nm,0.9s,mb4.7
TPNV **Topopah Spring** 77.35 46⇓iP P 02 48 26.6 -0.1
comp=Z,16nm,0.9s,mb4.7
R09A **Tonopah** 77.44 45 P P 02 48 27.2 +0.1
baz=78,SNR=9.0
P08A **Dixie Valley** 77.51 43 ⇑P P 02 48 27.8 +0.3
baz=78
W12A **Cal Nev Ari** 77.52 48 ⇑P P 02 48 27.8 +0.2
baz=78
Y13A **Salome** 77.58 50 ⇓P P 02 48 28.1 +0.2
baz=78
Q09A **Carvers** 77.66 44 ⇑P P 02 48 28.7 +0.3
baz=78
M07A **Soldier Meadow** 77.71 41 P P 02 48 29.1 +0.4
baz=78,SNR=9.3
H04A **Detroit Lake** 77.73 37 ⇓P P 02 48 28.3 -0.5
baz=78
V12A **Nelson** 77.74 48 ⇓P P 02 48 28.9 +0.1
baz=78,SNR=5.0
K06A **Valley Falls** 77.81 39 ⇓P P 02 48 29.3 +0.1
baz=78
SVW2 **Sparrevohn** 77.85 11 eP P 02 48 27.8 -1.6
G04A **Mulino** 77.88 36 ⇓P P 02 48 30.0 +0.4
baz=78
X13A **Yucca** 77.94 49 ⇑P P 02 48 30.0 +0.1
baz=78
L07A **Adell** 77.95 40 ⇓P P 02 48 30.3 +0.4
baz=78,SNR=5.7
I05A **Bend** 77.97 38 ⇑P P 02 48 30.1 0.0
baz=78
R10A **Warm Springs** 77.98 45 ⇑P P 02 48 30.4 +0.3
baz=78,SNR=10
Z14A **Wintersburg** 78.03 51 ⇓P P 02 48 30.8 +0.4
baz=78,SNR=7.8
N08A **GE Springer Mi** 78.05 42 ⇓P P 02 48 30.5 0.0
baz=78,SNR=6.7
E03A **Lebam** 78.07 35 ⇓P P 02 48 30.7 +0.1
baz=78
J06A **Christmas Vall** 78.13 39 P P 02 48 30.5 -0.4
baz=78,SNR=5.8
W13A **Hualapai Mount** 78.13 49 ⇑P P 02 48 31.2 +0.3
baz=78
M08A **Happy Creek Ra** 78.25 41 ⇑P P 02 48 31.8 +0.2
baz=78
Y14A **Wickenburg** 78.25 50 ⇑P P 02 48 31.5 -0.1
baz=78,SNR=6.6
115A **Sonoran Desert** 78.27 51 ⇑P P 02 48 31.8 +0.1
baz=78
U12A **Valley of Fire** 78.30 47 ⇑P P 02 48 32.0 +0.2
baz=78,SNR=5.3
F04A **Amboy** 78.33 36 ⇑P P 02 48 31.6 -0.5
baz=78
O09A **Fish Creek Ran** 78.34 43 ⇓P P 02 48 32.1 0.0
baz=78,SNR=10
CN2 **Changchun** 78.36 322 eP P 02 48 33.3 +1.1
K07A **Rock Creek Ran** 78.37 40 ⇑P P 02 48 32.3 +0.1
baz=78,SNR=8.3
SNY **Shenyang** 78.43 319 eP P 02 48 34.8 +2.3
I06A **Prineville** 78.47 38 P P 02 48 33.2 +0.4
baz=79,SNR=13
N09A **Rock Creek Ran** 78.48 42 ⇓P P 02 48 32.9 +0.1
baz=79,SNR=7.4
P10A **Eureka** 78.55 44 ⇓P P 02 48 33.2 0.0
baz=79
E04A **Onalaska** 78.56 35 ⇓P P 02 48 33.6 +0.4
baz=79
G05A **Wamic** 78.56 37 ⇑P P 02 48 33.1 -0.2
baz=79
X14A **Yava** 78.57 50 P P 02 48 33.9 +0.5
baz=79,SNR=10
116A **Eloy** 78.61 52 ⇓P P 02 48 33.9 +0.3
baz=79,SNR=5.5
WVOR **Wild Horse Val** 78.61 40 eP P 02 48 33.5 0.0
comp=Z,5.8nm,0.5s,mb4.5
L08A **Fields** 78.67 41 ⇑P P 02 48 34.0 +0.1
baz=79,SNR=19
J07A **Hines** 78.70 39 ⇓P P 02 48 33.9 -0.1
baz=79
Q11A **Duckwater** 78.70 45 P P 02 48 34.2 +0.2
baz=79,SNR=22
W14A **Seligman** 78.77 49 P P 02 48 35.1 +0.7
baz=79,SNR=12
M09A **Marrel Ranch,** 78.83 42 ⇓P P 02 48 35.0 +0.4
baz=79
F05A **White Salmon** 78.85 36 ⇓P P 02 48 34.7 -0.1
baz=79
P11A **Circle Ranch,** 78.98 44 ⇑P P 02 48 35.5 -0.1
baz=79
L09A **Wilkinson Ranc** 79.00 41 ⇓P P 02 48 35.7 +0.1
baz=79,SNR=6.3
X15A **Humboldt** 79.06 50 ⇑P P 02 48 36.5 +0.6
baz=79,SNR=9.8
N10A **Dunphy** 79.07 43 ⇑P P 02 48 36.3 +0.2
baz=79
E05A **Randle** 79.07 35 ⇓P P 02 48 35.8 -0.2
baz=79
C04A **Brinnon** 79.09 34 ⇓P P 02 48 35.8 -0.3
baz=79
TUC **Tucson** 79.20 52⇓iP P 02 48 37.2 +0.5
TUC pmax pmax
comp=Z,13nm,0.8s,mb4.6
TUC **Tucson** 79.20 52⇓iP P 02 48 37.2 +0.5
comp=Z,13nm,0.8s,mb4.6
D05A **Enumclaw** 79.31 35 ⇑P P 02 48 37.4 +0.1
baz=80
O11A **Cowboy Ranch,** 79.33 43 ⇓P P 02 48 37.6 +0.2
baz=80
W15A **Williams** 79.35 49 ⇓P P 02 48 38.3 +0.8
baz=80
M10A **I.L. Ranch, Tu** 79.46 42 ⇓P P 02 48 38.5 +0.4
baz=80,SNR=5.5
TTA **Tatalina** 79.49 10 eP P 02 48 37.9 -0.4
PMR **Palmer** 79.60 13 eP P 02 48 37.3 -1.5
PMR pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
PMR **Palmer** 79.60 13 eP P 02 48 37.3 -1.5
comp=Z,6.2nm,0.5s,mb4.5
N11A **Elko Archery C** 79.63 43 ⇓P P 02 48 38.9 0.0
baz=80
CCUT **Cedar City** 79.66 47⇓iP P 02 48 39.5 +0.4
ARUT **Antelope Range** 79.71 46 eP P 02 48 39.4 0.0
C05A **Toit Reservoir** 79.77 35 P P 02 48 39.5 -0.3
baz=80,SNR=6.3
A04A **Legoe Bay, Lum** 79.83 33 ⇓P P 02 48 40.0 -0.1
baz=80
B05A **Bryant** 79.88 34 ⇑P P 02 48 40.0 -0.3
baz=80,SNR=5.2
M11A **Holland Ranch,** 79.90 42 ⇓P P 02 48 40.8 +0.3
baz=80,SNR=7.2
DIV **Divide** 79.99 15 eP P 02 48 39.7 -1.2
comp=Z,26nm,0.7s,mb5.0
N12A **Wells–Clov Va** 80.10 43 ⇓P P 02 48 41.6 +0.1
baz=80,SNR=9.4
HAWA **Hanford** 80.24 37 eP P 02 48 41.8 -0.4
comp=Z,3.9nm,1.4s,mb3.8
M12A **Wells** 80.46 43 ⇑P P 02 48 43.6 +0.2
baz=81,SNR=14
N13A **West Wendover** 80.66 43 ⇓P P 02 48 44.5 +0.1
baz=81
BMO **Blue Mountains** 80.72 39 eP P 02 48 44.1 -0.6
comp=Z,17nm,1.4s,mb4.6
M13A **Montello** 80.93 43 ⇓P P 02 48 45.9 +0.1
baz=81,SNR=15
MSU **Marysvale** 80.93 46 eP P 02 48 46.2 +0.4
DUG **Dugway** 81.27 44⇓iP P 02 48 47.3 -0.3
comp=Z,8.2nm,0.9s,mb4.5
HLID **Hailey** 81.85 41⇓iP P 02 48 50.9 +0.3
comp=Z,18nm,0.8s,mb4.8
TMUT **Trail Mountain** 81.96 46⇓iP P 02 48 51.9 +0.7
MPU **Maple Canyon** 81.99 45 eP P 02 48 51.4 +0.1
comp=Z,14nm,0.9s,mb4.7
SPUT **South Promonto** 82.04 44⇓iP P 02 48 51.0 -0.6
HVU **Hansel Valley** 82.05 43⇓iP P 02 48 51.6 0.0
HVU pmax pmax
comp=Z,15nm,0.7s,mb4.8
HVU **Hansel Valley** 82.05 43⇓iP P 02 48 51.6 0.0
comp=Z,15nm,0.7s,mb4.8
CTU **Camp Tracy** 82.22 44 eP P 02 48 52.8 +0.3
comp=Z,7.6nm,0.6s,mb4.6

SRU **San Rafael** 82.35 46⇓iP P 02 48 53.1 -0.1
SRU pmax pmax
comp=Z,28nm,0.9s,mb5.0
SRU **San Rafael** 82.35 46⇓iP P 02 48 53.1 -0.1
comp=Z,28nm,0.9s,mb5.0
DAU **Daniels Canyon** 82.43 45 eP P 02 48 53.8 +0.2
NEW **Newport** 82.64 36 eP P 02 48 53.4 -1.2
comp=Z,7.4nm,0.9s,mb4.4
TCUT **Toone Canyon** 82.65 44⇓iP P 02 48 54.9 +0.2
HWUT **Hardware Ranch** 82.77 44⇓iP P 02 48 54.8 -0.6
comp=Z,12nm,0.8s,mb4.7
COLA **College** 82.78 12 eP P 02 48 53.9 -1.5
COLA pmax pmax
comp=Z,31nm,0.7s,mb5.2
COLA **College** 82.78 12 eP P 02 48 53.9 -1.4
comp=Z,31nm,0.7s,mb5.1
DLBC **Dease Lake** 82.83 23 eP P 02 48 54.7 -0.9
LAZ **Ladron** 82.84 52 eP P 02 48 56.0 +0.3
LENM **Lemitar** 82.87 52 eP P 02 48 56.3 +0.4
PV10 **Paradox Valley** 83.08 47 eP P 02 48 56.7 -0.2
BNM **Barren Site** 83.13 52 eP P 02 48 57.5 +0.3
PV01 **Paradox Valley** 83.31 48 eP P 02 48 57.9 -0.2
MCMT **McKenzie Canyo** 83.44 40 eP P 02 48 58.9 +0.2
ANMO **Albuquerque** 83.57 51d iP P 02 48 59.5 +0.1
ANMO **Albuquerque** 83.57 51⇓iP P 02 48 59.4 0.0
comp=Z,15nm,1.0s,mb4.7
LTX **Lajitas** 83.66 58⇓iP P 02 49 00.6 +0.8
LTX pmax pmax
comp=Z,41nm,1.4s,mb5.0
LTX **Lajitas** 83.66 58⇓iP P 02 49 00.6 +0.8
comp=Z,41nm,1.4s,mb5.0
BILL **Bilibino** 83.69 354⇓iP P 02 48 58.8 -1.2
BILL e 02 52 24.6
BILL pmax pmax
comp=Z,12nm,0.8s,mb4.7
BILL **Bilibino** 83.69 354 eP P 02 48 58.9 -1.1
MSO **Missoula** 83.75 38 eP P 02 48 59.0 -1.3
comp=Z,6.7nm,1.0s,mb4.3
DLMT **Dillon** 83.86 40⇓iP P 02 49 00.6 -0.2
comp=Z,26nm,1.1s,mb4.9
DCID1 **Drake Creek** 83.93 42 eP P 02 49 01.5 +0.3
TPAW **Teton Pass** 84.03 42⇓iP P 02 49 01.8 +0.1
comp=Z,25nm,0.9s,mb5.0
REDW **Red Top Meadow** 84.04 42⇓iP P 02 49 01.8 +0.1
comp=Z,33nm,1.1s,mb5.0
DAWY **Dawson** 84.08 16⇓iP P 02 49 00.8 -1.1
SNOW **Snow King Moun** 84.14 42⇓iP P 02 49 02.4 +0.2
comp=Z,37nm,0.9s,mb5.1
CHMT **Chamberlain Mo** 84.20 38 eP P 02 49 01.5 -1.1
IMW **Indian Meadow** 84.22 42⇓iP P 02 49 02.9 +0.3
comp=Z,31nm,1.0s,mb5.0
MOOW **Moose Ponds** 84.28 42⇓iP P 02 49 02.6 -0.3
comp=Z,6.0nm,0.8s,mb4.4
LOHW **Long Hollow** 84.31 42⇓iP P 02 49 03.0 -0.1
comp=Z,15nm,1.1s,mb4.6
QLMT **Earthquake Lak** 84.34 41 eP P 02 49 03.8 +0.6
YMR **Madison River** 84.56 41 eP P 02 49 03.7 -0.6
comp=Z,32nm,0.9s,mb5.0
BOZ **Bozeman (W)** 84.59 40 eP P 02 49 04.2 -0.3
BOZ pmax pmax
comp=Z,18nm,1.3s,mb4.6
BOZ **Bozeman (W)** 84.59 40 eP P 02 49 04.2 -0.2
comp=Z,18nm,1.3s,mb4.7
BW06 **Boulder Array** 84.62 43 eP P 02 49 03.9 -0.7
comp=Z,17nm,1.2s,mb4.7
PDAR **Pinedale Array** 84.62 43 P P 02 49 04.2 -0.4
comp=Z,7.2nm,0.8s,mb4.5,baz=209,slow=2.7,SNR=46
WALA **Waterton Lakes** 84.87 36 eP P 02 49 05.1 -0.7
comp=Z,5.9nm,0.9s,mb4.3
SMCO **Snowmass** 84.88 47 eP P 02 49 05.8 -0.1
comp=Z,7.6nm,1.0s,mb4.4
HRY **Holter Researc** 84.97 39 eP P 02 49 05.9 -0.4
GCMT **Greycliff** 85.88 40 eP P 02 49 11.1 +0.3
HHC **Hu-ho-hao-te** 85.96 314 eP P 02 49 11.3 +0.1
HHC AP pP 02 50 39.5 +0.3
HHC PP PP 02 52 38.5 +1.2
HHC SKS 02 58 57.8
HHC S 02 59 11.8
HHC SS SS 03 05 02.5 +2.9
HHC AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
HHC AMB AMB
comp=Z,150nm,5.2s
ISCO **Idaho Springs** 86.09 47 eP P 02 49 11.2 -0.6
ISCO pmax pmax
comp=Z,20nm,0.9s,mb4.8
ISCO **Idaho Springs** 86.09 47 eP P 02 49 11.2 -0.6
comp=Z,2.2nm,0.9s,mb3.9
MAW **Mawson** 86.87 199 P P 02 49 15.6 +0.1
comp=Z,11nm,0.6s,mb4.8,baz=124,slow=6.4,SNR=25
MAW **Mawson** 86.87 199 eP P 02 49 15.0 -0.5
MAW pmax pmax
comp=Z,13nm,0.7s
MAW **Mawson** 86.87 199 eP P 02 49 15.0 -0.6
comp=Z,13nm,0.7s,mb4.8
AMTX **Amarillo** 87.19 53 eP P 02 49 15.9 -1.1
comp=Z,16nm,1.4s,mb4.5
EDM **Edmonton** 87.24 33 eP P 02 49 16.3 -1.0
KMI **Kunming** 87.39 297 P P 02 49 19.8 +1.9
CD2 **Chengdu** 88.33 302 P P 02 49 23.0 +0.6
CD2 PP PP 02 52 58.5 +2.3
CD2 S 02 59 36.3
CD2 SS SS 03 05 39.0 +5.1
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
CD2 AMB AMB
comp=Z,30nm,8.2s
RSSD **Black Hills** 88.84 44⇓iP P 02 49 24.1 -0.7
RSSD pmax pmax
comp=Z,15nm,0.9s,mb4.7
RSSD **Black Hills** 88.84 44⇓iP P 02 49 24.1 -0.6
comp=Z,15nm,0.9s,mb4.7
INK **Inuvik** 88.88 15 eP P 02 49 24.1 -0.8
INK pmax pmax
comp=Z,30nm,0.8s
INK **Inuvik** 88.88 15 eP P 02 49 24.1 -0.9
comp=Z,3.3nm,0.8s,mb4.1
HKT **Hockley** 90.30 59 eP P 02 49 31.1 -0.5
HKT pmax pmax
comp=Z,16nm,1.5s,mb4.6
HKT **Hockley** 90.30 59 eP P 02 49 31.1 -0.4
comp=Z,16nm,1.5s,mb4.6
YKA **Yellowknife Ar** 91.34 24 P P 02 49 34.9 -1.4
comp=Z,1.0nm,0.5s,mb3.9,baz=241,slow=4.6,SNR=6.5
YKA **Yellowknife Ar** 91.34 24 P P 02 49 34.9 -1.4
ULN **Ulaanbaatar** 91.61 319 eP P 02 49 37.8 +0.2
comp=Z,1.2nm,0.5s,mb4.1
NATX **Nacogdoches** 91.79 58 eP P 02 49 38.7 +0.3
comp=Z,8.3nm,0.4s,mb5.0
SONM **Songino Array** 92.01 319 P P 02 49 39.7 +0.2
comp=Z,0.5nm,0.7s,mb3.6,baz=140,slow=3.2,SNR=4.1
SYO **Syowa Base** 92.15 193⇓eP P 02 49 38.2 -1.9
PLCA **Paso Flores** 92.61 133 P P 02 49 40.3 -1.9
comp=Z,2.7nm,1.0s,mb4.1,baz=243,slow=8.3,SNR=4.0
PLCA **Paso Flores** 92.61 133 eP P 02 49 42.1 -0.1
comp=Z,2.9nm,0.9s,mb4.2
VNA1 **Neumayer–Stat** 94.20 176 eP P 02 49 49.8 +0.3
ULM **Lac du Bonnet** 96.11 40 P P 02 49 56.4 -1.7
comp=Z,1.4nm,0.5s,mb4.3,baz=341,slow=0.6,SNR=4.7
ULM **Lac du Bonnet** 96.11 40 eP P 02 49 56.1 -2.0
comp=Z,2.1nm,0.6s,mb4.4
MKAR **Makanchi Array** 107.81 315 PKiKP PKiKP 02 54 54.5 -1.0
comp=Z,0.8nm,0.6s,baz=79,slow=3.1,SNR=7.2
MKAR PKKPbc PKKPbc 03 06 09.6 +0.2
comp=Z,0.1nm,0.5s,baz=262,slow=2.5,SNR=5.0
MKAR **Makanchi Array** 107.81 315 PKPdf PKiKP 02 54 54.5 -1.0
MKAR PKKPbc PKKPbc 03 06 09.6 +0.1
KURK **Kurchatov** 110.32 319 ePKP PKiKP 02 54 59.1 -1.1
SJG **San Juan** 114.39 77 ePKIKP PKiKP 02 55 09.2 +1.2
BRVK **Borovoye** 115.27 322 ePKIKP PKPdf 02 55 08.4 -1.3
ZRNK **Zerenda** 116.05 322 ePKIKP PKPdf 02 55 09.9 -1.3
ARU **Arti** 120.97 328⇑iPKIKP PKPdf 02 55 19.8 -0.8
ARU **Arti** 120.97 328 ePKPdf PKPdf 02 55 19.8 -0.8
ARCES **ARCESS Array B** 123.66 351 PKP PKPdf 02 55 24.5 -1.3
comp=Z,6.1nm,0.7s,baz=14,slow=1.3,SNR=22
JOF **Joensuu** 128.10 344 ep PKPdf 02 55 32.1 -2.2
comp=Z,3.1nm,0.5s
KAF **Kangasniemi** 130.05 346 ep PKPdf 02 55 36.0 -2.0
comp=Z,2.7nm,0.5s
KAF **Kangasniemi** 130.05 346 ePKIKP PKPdf 02 55 36.0 -2.0
KAF pmax pmax
comp=Z,3.0nm,0.5s
FINES **FINESS Array B** 130.68 345 PKP PKPdf 02 55 37.8 -1.4
comp=Z,1.0nm,0.6s,baz=11,slow=4.0,SNR=10
BOSA **Boshof** 131.38 207 PKP PKPdf 02 55 41.1 +0.6

comp=Z,3.7nm,0.9s,baz=153,slow=2.3,SNR=3.7
NB2 **NORSAR Subarra** 133.64 354 PKPa PKPdf 02 55 44.7 -0.1
comp=Z,0.7nm,0.5s,baz=17,slow=2.6
NOA **NORSAR Array B** 133.64 354 PKP PKPdf 02 55 44.8 0.0
comp=Z,1.7nm,0.7s,baz=14,slow=4.0,SNR=7.7
AKASG **Malin Array Be** 138.43 335 PKP PKPdf 02 55 54.5 +0.8
comp=Z,1.3nm,0.6s,baz=37,slow=3.0,SNR=6.9
STHS **Stebnicka Huta** 142.47 340 ePKP PKPdf 02 55 58.4 -2.5
STHS **Stebnicka Huta** 142.47 340 ePKP PKPdf 02 55 58.5 -2.4
KOLS **Kolonicke sedl** 142.53 339 ePKP PKPdf 02 56 02.3 +1.3
CLZ **Clausthal** 142.76 352 ePKPbc PKPdf 02 55 58.9 -2.5
CLL **Collm** 142.86 349 ePKPbc PKPdf 02 55 59.5 -2.1
CLL **Collm** 142.86 349 i PKPdf PKPdf 02 55 58.6 -3.0
comp=Z,9.0nm,1.0s
UPC **Upice** 142.98 346 ePKP PKPdf 02 55 58.9 -2.9
OKC **Ostrava-Krasne** 143.05 343 ePKP PKPdf 02 55 58.9 -3.0
DPC **Dobruska-Polom** 143.06 345 ePKP PKPdf 02 55 59.2 -2.7
BRG **Berggiesshubel** 143.09 348 ePKP PKPdf 02 55 59.6 -2.4
comp=Z,1.0nm,0.5s
BRG **Berggiesshubel** 143.09 348 ePKIKP PKPdf 02 55 59.6 -2.4
BRG pmax pmax
comp=Z,20nm,0.5s
MORC **Moravsky Berou** 143.27 344 ePKIKP PKPdf 02 56 00.0 -2.3
PVCC **Panska Ves** 143.29 347 ePKP PKPdf 02 55 59.9 -2.5
BR131 **Keskin Array S** 143.36 318 ePKPdf PKPdf 02 56 00.8 -1.7
BRTR **Keskin Array B** 143.37 318 PKP PKPdf 02 56 00.9 -1.6
comp=Z,12nm,0.9s,baz=84,slow=1.8,SNR=56
BRTR **Keskin Array B** 143.37 318 i PKIKP PKPdf 02 56 00.9 -1.6
KECS **Kecovo** 143.53 340 ePKP PKPdf 02 56 01.0 -1.8
MOX **Moxa** 143.74 350 ePKPbc PKPdf 02 56 01.8 -1.3
MOX **Moxa** 143.74 350 ePKP PKPdf 02 56 01.2 -1.9
WERD **Werda** 143.81 349 ePKPbc PKPdf 02 56 01.5 -1.8
TANN **Tannenbergstha** 143.81 349 ePKPbc PKPdf 02 56 01.6 -1.7
MLR **Muntele Rosu** 143.82 332 PKP PKPdf 02 56 02.6 -0.7
comp=Z,8.0nm,0.7s,baz=162,slow=3.4,SNR=12
MLR **Muntele Rosu** 143.82 332⇑iP PKPdf 02 56 03.2 -0.1
MLR **Muntele Rosu** 143.82 332 ⇑P PKPdf 02 56 03.2 -0.1
VRAC **Vranov** 143.95 344⇑iP PKPdf 02 56 02.7 -0.8
VRAC **Vranov** 143.95 344 ⇑P PKPdf 02 56 02.6 -0.9
VYHS **Vyhne** 144.05 342 ePKP PKPdf 02 56 02.7 -1.0
DRGR 144.16 336⇑iP PKPdf 02 56 03.1 -0.8
DRGR 144.16 336 ⇑P PKPdf 02 56 03.1 -0.8
PSZ **Piszkesteto** 144.22 340 ePKIKP PKPdf 02 56 03.0 -1.0
TREC **Trest** 144.24 346 ePKP PKPdf 02 56 02.6 -1.4
VOIR 144.26 333⇑iP PKPdf 02 56 03.8 -0.3
VOIR 144.26 333 ⇑P PKPdf 02 56 03.8 -0.3
UCC **Uccle** 144.30 358 PKP PKPdf 02 56 02.9 -1.3
MEM **Membach** 144.41 356 PKP PKPdf 02 56 03.4 -1.0
ASF **Jabal al Asfar** 144.43 305 PKP PKPdf 02 56 05.4 +1.0
comp=Z,5.8nm,0.8s,baz=326,slow=3.0,SNR=11
SMOL **Smolenice** 144.44 343 ePKP PKPdf 02 56 04.7 +0.3
ROTZ **Rotzenmuhle** 144.48 349 ePKPbc PKPdf 02 56 03.9 -0.5
TNS **Taunus Mts** 144.58 353 ePKPbc PKPdf 02 56 03.9 -0.7
SNF **Seneffe** 144.59 358 PKP PKPdf 02 56 03.9 -0.7
BCLA **Clavier** 144.64 357 PKP PKPdf 02 56 03.0 -1.7
GRA1 **Grafenberg Arr** 144.72 350 ePKPbc PKPdf 02 56 04.8 0.0
GRF **Grafenberg Arr** 144.72 350 ePKPbc PKPdf 02 56 04.8 0.0
KHC **Kasperske Hory** 144.82 347 ePKP PKPdf 02 56 05.0 0.0
ZST **Bratislava** 144.82 343 e PKPdf 02 55 58.4 -6.6
WET **Wettzell** 144.95 348 ePKPbc PKPdf 02 56 05.0 -0.2
GIVF **Givet** 144.98 357 ePKP1 PKPdf 02 56 04.9 -0.4
comp=Z,44nm,1.0s
DOU **Dourbes** 144.99 358 PKP PKPdf 02 56 05.2 -0.2
BAIF **Baives** 145.04 358 ePKP1 PKPbc 02 56 05.3 -0.4
comp=Z,21nm,0.7s
GEC2 **GERESS Array S** 145.07 347 ePKPbc PKPbc 02 56 05.5 -0.3
GERES **GERESS Array B** 145.07 347 PKPbc PKPbc 02 56 05.6 -0.2
comp=Z,6.2nm,0.7s,baz=29,slow=3.0,SNR=58
GZR **Gura Zlata** 145.27 335⇑iP PKPdf 02 56 06.6 +0.8
GZR **Gura Zlata** 145.27 335 ⇑P PKPdf 02 56 06.6 +0.8
WLF **Walferdange** 145.34 356 ePKPbc PKPbc 02 56 06.7 +0.1
WLF **Walferdange** 145.34 356 PKP PKPdf 02 56 06.9 +1.0
WLF **Walferdange** 145.34 356 ePKPbc PKPbc 02 56 06.3 -0.3
CONA **Conrad Observa** 145.41 344⇓iPKPab PKPab 02 56 06.8 -0.8
comp=Z,14nm,0.8s,SNR=12
BZS **Buzias** 145.56 336⇑iP PKPdf 02 56 07.5 +1.2
BZS **Buzias** 145.56 336 ⇑P PKPdf 02 56 07.5 +1.2
MOA **Molln** 145.88 346⇓iP PKPdf 02 56 08.3 +1.5
comp=Z,8.2nm,0.6s,SNR=11
STU **Stuttgart** 145.92 352 ePKPbc PKPbc 02 56 08.5 +0.2
ARSA **Arzberg** 146.12 344⇓eP PKPdf 02 56 08.8 +1.5
comp=Z,5.2nm,0.8s
PKSM **Moragy** 146.13 340⇑iP PKPdf 02 56 07.7 +0.5
PKSM **Moragy** 146.13 340 ⇑P PKPdf 02 56 07.7 +0.4
FUR **Furstenfeldbru** 146.19 350 ePKPbc PKPbc 02 56 09.0 -0.1
FLN **La Foliniere** 146.27 4 ePKP1 PKPbc 02 56 08.5 -0.9
comp=Z,28nm,0.6s
ROSF **Rostrenen** 146.44 7 ePKP1 PKPbc 02 56 08.8 -1.0
comp=Z,35nm,0.8s
LDF **La Druitiere** 146.46 3 ePKP1 PKPbc 02 56 08.9 -1.0
comp=Z,11nm,0.5s
BFO **Black Forest** 146.46 353 ePKPbc PKPbc 02 56 09.6 -0.3
MEZF **Maizieres J'vi** 146.57 357 ePKP1 PKPbc 02 56 09.9 -0.3
SGMF **Saint Gilles** 146.60 6 ePKP1 PKPbc 02 56 09.4 -0.9
comp=Z,61nm,0.8s
GRR **Gorron** 146.62 4 ePKP1 PKPbc 02 56 09.6 -0.7
comp=Z,36nm,0.6s
PERS **Pernice** 146.80 344 i PKPdf PKPdf 02 56 06.0 -2.3
PERS i PKPbc PKPbc 02 56 10.1 -0.7
KBA **Koelnbreinsper** 146.82 347 i P PKPdf 02 56 10.3 +1.9
comp=Z,7.5nm,0.5s,SNR=6.9
EIL **Elat** 146.85 302 ePKPbc PKPbc 02 56 12.0 +1.0
QUIF **Quistinic** 146.87 7 ePKP1 PKPbc 02 56 10.0 -1.0
comp=Z,39nm,0.9s
WATA **Walderalm** 146.94 349⇓iP PKPdf 02 56 10.9 +2.3
comp=Z,5.5nm,0.5s
HAU **Haudompre** 146.98 355 ePKP1 PKPbc 02 56 11.8 +0.5
comp=Z,24nm,0.7s
WTTA **Wattenberg** 146.99 349⇓iP PKPdf 02 56 11.5 +2.8
comp=Z,16nm,0.7s
MOTA **Moosalm** 147.01 349⇓iP PKPdf 02 56 11.2 +2.5
comp=Z,17nm,1.2s,SNR=6.5
OBKA **Obir** 147.06 345⇓iP PKPdf 02 56 10.8 +2.0
SQTA **Sankt Quirin** 147.12 349⇓iP PKPdf 02 56 11.8 +2.9
comp=Z,4.7nm,0.7s
HINF **Hinteralfeld** 147.12 355 ePKP1 PKPbc 02 56 10.9 -0.8
comp=Z,10nm,0.8s
DAVA **Damuels** 147.28 351⇓iP PKPdf 02 56 12.0 +2.8
comp=Z,9.7nm,0.7s
VTS **Vitosha** 147.31 331⇑iP PKPbc 02 56 13.0 +0.8
VTS **Vitosha** 147.31 331 ⇑P PKPbc 02 56 13.0 +0.8
CRES **Cresnjev** 147.45 343 ePKPbc PKPbc 02 56 12.6 0.0
LJU **Ljubljana** 147.50 344 i PKPbc PKPbc 02 56 12.2 -0.4
JAVS **Javornik** 147.76 345 i PKPbc PKPbc 02 56 12.9 -0.5
BOJS **Bojanci** 147.80 343 i PKPdf PKPdf 02 56 09.8 -0.2
BOJS ePKPbc PKPbc 02 56 13.4 -0.1
LOR **Lormes** 147.84 358 ePKP1 PKPbc 02 56 13.2 -0.4
comp=Z,24nm,0.8s
HYF **Humbligny** 147.86 360 ePKP1 PKPbc 02 56 13.6 0.0
SSF **Saint Saulge** 148.06 359 ePKP1 PKPbc 02 56 13.9 -0.3
comp=Z,35nm,1.0s
AVF **Avril sur Loir** 148.33 359 ePKP1 PKPbc 02 56 14.2 -0.6
comp=Z,15nm,0.8s
CABF **La Chapelle** 148.38 355 ePKP1 PKPbc 02 56 15.3 +0.3
comp=Z,32nm,0.8s
MFF **Saint Martin d** 148.45 4 ePKP1 PKPbc 02 56 14.5 -0.6
comp=Z,13nm,0.7s
SMF **Signal de Mont** 148.47 358 ePKP1 PKPbc 02 56 14.4 -0.8
comp=Z,20nm,1.0s
BGF **Bois d'Agland** 148.57 360 ePKP1 PKPbc 02 56 15.1 -0.3
comp=Z,24nm,0.7s
TCF **Toulx Ste Croi** 148.84 0 ePKP1 PKPbc 02 56 15.5 -0.6
comp=Z,21nm,1.0s
LPL **La Plagne** 149.41 354 ePKP1 PKPbc 02 56 18.2 +0.7
comp=Z,21nm,1.0s
LPG **La Plagne** 149.43 354 ePKP1 PKPbc 02 56 18.4 +0.8
comp=Z,20nm,0.9s
RJF **Les Rejaudoux** 149.81 1 ePKP1 PKPbc 02 56 18.0 -0.5
BNI **Bardonecchia** 149.88 354 ePKPbc PKPbc 02 56 19.0 +0.3
BNI ePKPab PKPab 02 56 25.7 0.0
ORIF **Oris-en-Rattie** 150.08 355 ePKP1 PKPbc 02 56 19.2 +0.1
comp=Z,13nm,0.8s
LFF **La Frestale** 150.15 3 ePKP1 PKPbc 02 56 19.0 -0.3
comp=Z,32nm,0.9s
MBDF **Montbardon** 150.19 354 ePKP1 PKPbc 02 56 19.6 +0.2
comp=Z,23nm,0.8s
CAF **Calviac** 150.20 1 ePKP1 PKPbc 02 56 19.2 -0.2
comp=Z,20nm,0.8s
VIVF **Saint-Julien-l** 150.22 357 ePKP1 PKPbc 02 56 19.6 +0.2
comp=Z,27nm,1.0s
SBF **Sospel** 150.97 353 ePKP1 PKPbc 02 56 20.5 -0.7
comp=Z,22nm,0.6s
LASF **Ste Croix** 151.03 358 ePKP1 PKPbc 02 56 21.5 +0.2
comp=Z,26nm,1.0s

SMRF	**Simiane la Rot**	**151.04**	**356**	*e*PKP1	PKPbc	02 56 21.8	+0.5
	comp=Z,16nm,0.7s						
AQU	**L'Aquila**	**151.22**	**343**	⇑*i*P	PKPbc	02 56 22.4	+0.6
AQU	**L'Aquila**	**151.22**	**343**	*e*PKPbc	PKPbc	02 56 21.2	-0.5
FRF	**La Foret Royal**	**151.36**	**354**	*e*PKP1	PKPbc	02 56 21.6	-0.5
LMR	**La Mourre**	**151.60**	**354**	*e*PKP1	PKPbc	02 56 22.0	-0.6
	comp=Z,24nm,1.1s						
MTLF	**Montolieu**	**151.79**	**1**	*e*PKP1	PKPbc	02 56 22.9	-0.1
	comp=Z,7.0nm,0.9s						
SJPF	**Ste Jean**	**151.83**	**6**	*e*PKP1	PKPbc	02 56 23.1	0.0
	comp=Z,13nm,0.9s						
PGF	**Pioggiola**	**152.03**	**350**	*e*PKP1	PKPbc	02 56 23.1	-0.5
	comp=Z,46nm,0.9s						
EPF	**Esparros**	**152.03**	**4**	*e*PKP1	PKPbc	02 56 23.7	+0.1
	comp=Z,5.9nm,0.9s						
ETSF	**Etsaut**	**152.10**	**5**	*e*PKP1	PKPbc	02 56 23.8	+0.1
	comp=Z,14nm,0.9s						
TIP	**Timpagrande**	**152.91**	**335**	*e*PKPbc	PKPbc	02 56 25.3	-0.2
TIP				*e*PKPab	PKPab	02 56 38.4	0.0
ESDC	**Sonseca Array**	**154.79**	**12**	PKPab	PKPab	02 56 46.0	-0.5
	comp=Z,1.3nm,0.8s,baz=336,slow=4.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**177.94**	**155**	PKP	PKPdf	02 56 37.9	-0.2
	comp=Z,2.0nm,0.9s,baz=178,slow=0.2,SNR=10						
TORD				PKPab	pPKPdf	02 58 28.3	+15
	comp=Z,3.3nm,0.8s,baz=236,slow=2.9,SNR=18						
TORD	**Torodi Ar. Bea**	**177.94**	**155**	PKP	PKPdf	02 56 37.9	-0.2
TORD				PKPab	pPKPdf	02 58 28.3	+15

*MOS **28** 02:40:15.0±0.5,5274N×15977E,h38km,mb4.3/1,Error ellipse: s-maj=32.3km s-min=13.8km az=78.9*

KRSC 28 02:40:16.7±1.0,5285N×15969E,h42km±3km,ML3.9,1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.32**	**39**	P	Pn	02 40 25.8	+0.5
SPN				S	Sn	02 40 32.0	+0.6
SPN	**Mys Shipunski**	**0.32**	**39**	*i* P	Pn	02 40 25.9	+0.6
SPN				*i* S	Sn	02 40 32.0	+0.6
NLC	**Nalytchevo**	**0.38**	**327**	P	Pn	02 40 26.8	+0.8
NLC				S	Sn	02 40 34.2	+1.6
NLC	**Nalytchevo**	**0.38**	**327**	*i* P	Pn	02 40 26.7	+0.7
NLC				*e*S	Sn	02 40 34.2	+1.6
UGLR	**Uglovaya**	**0.64**	**305**	*i* P	Pn	02 40 30.1	+0.8
UGLR				*e*S	Sn	02 40 40.5	+2.2
SDLR	**Sedlovina**	**0.65**	**312**	*i* P	Pn	02 40 30.1	+0.6
SDLR				*e*S	Sn	02 40 40.3	+1.7
PET	**Petropavlovsk**	**0.65**	**286**	P	Pn	02 40 29.8	+0.3
PET				S	Sn	02 40 39.1	+0.4
PET	**Petropavlovsk**	**0.65**	**286**	*d i* PN	Pn	02 40 29.7	+0.2
PET				*i* S	Sn	02 40 40.1	+1.4
PET	**Petropavlovsk**	**0.65**	**286**	*i* P	Pn	02 40 29.7	+0.2
PET				*e*S	Sn	02 40 39.1	+0.4
SMAR	**Somma**	**0.68**	**308**	*i* P	Pn	02 40 30.6	+0.7
SMAR				*e*S	Sn	02 40 41.1	+1.8
AVH	**Avacha**	**0.71**	**306**	*i* P	Pn	02 40 31.2	+0.9
AVH				*i* S	Sn	02 40 41.7	+1.6
KOK	**Koryaka**	**0.78**	**305**	*i* P	Pn	02 40 32.0	+0.8
KOK				*e*S	Sn	02 40 44.0	+2.3
RUS	**Russkaya**	**0.83**	**240**	P	Pn	02 40 31.4	-0.5
RUS				S	Sn	02 40 42.0	-1.0
RUS	**Russkaya**	**0.83**	**240**	*e*P	Pn	02 40 31.4	-0.5
RUS				*e*S	Sn	02 40 42.6	-0.4
KRMR	**Karymshinskiy**	**0.95**	**269**	*i* P	Pn	02 40 33.4	-0.1
KRMR				*e*S	Sn	02 40 45.8	0.0
GRL	**Gorelyy**	**1.03**	**254**	*e*P	Pn	02 40 35.1	+0.5
GRL				*e*S	Sn	02 40 48.3	+0.5
KII	**Karymskiy**	**1.20**	**353**	P	Pn	02 40 37.4	+0.5
KII				S	Sn	02 40 52.2	+0.2
KII	**Karymskiy**	**1.20**	**353**	*e*P	Pn	02 40 37.5	+0.6
KII				*e*S	Sn	02 40 52.1	+0.1
GNL	**Ganaly**	**1.35**	**310**	*i* P	Pn	02 40 40.0	+1.0
GNL				*e*S	Sn	02 40 57.5	+1.8
APC	**Apacha**	**1.54**	**274**	*i* P	Pn	02 40 42.5	+0.9
APC				*e*S	Sn	02 41 01.7	+1.4
APC				Smax			
	230nm,0.8s						
MIPR	**Malaya Ipel'ka**	**1.88**	**253**	*e*P	Pn	02 40 47.2	+0.9
MIPR				*e*S	Sn	02 41 09.2	+0.4
MKZ	**Mys Kozlova**	**2.10**	**35**	P	Pn	02 40 48.8	-0.5
MKZ				S	Sn	02 41 11.6	-2.5
MKZ	**Mys Kozlova**	**2.10**	**35**	*e*P	Pn	02 40 49.2	-0.1
MKZ				*e*S	Sn	02 41 12.9	-1.2
PAU	**Pauzhetka**	**2.25**	**233**	*e*P	Pn	02 40 52.0	+0.6
PAU				*e*S	Sn	02 41 18.1	+0.2
PAU				Smax			
	120nm,0.6s						
TUMR	**Tumrok**	**2.45**	**6**	*e*P	Pn	02 40 55.4	+1.2
KMNR	**Kamenistaya**	**2.93**	**6**	*e*P	Pn	02 41 02.7	+2.0
SKR	**Severo-Kuril's**	**3.10**	**227**	*e*PN	Pn	02 41 02.4	-0.7
SKR	**Severo-Kuril's**	**3.10**	**227**	*e*P	Pn	02 41 02.4	-0.7
ESO	**Esso**	**3.10**	**350**	*e*P	Pn	02 41 04.7	+1.1
KPT	**Kopyto**	**3.14**	**5**	*e*P	Pn	02 41 04.2	+0.6
KOZ	**Kozyrevsk**	**3.22**	**2**	*e*P	Pn	02 41 05.7	+1.0
LGNR	**Loginova**	**3.29**	**10**	*e*P	Pn	02 41 08.0	+2.3
LGNR				*e*S	Sn	02 41 44.8	+1.2
CIRR	**Tsirk**	**3.33**	**10**	*i* P	Pn	02 41 08.2	+2.0
CIRR				*e*S	Sn	02 41 45.4	+0.9
KRSR	**Krestovskiy**	**3.41**	**8**	*e*P	Pn	02 41 09.1	+1.7
SRDR	**Sredinnyy**	**3.48**	**0**	*e*P	Pn	02 41 09.1	+0.9
KLY	**Klyuchi**	**3.52**	**9**	*e*S	Sn	02 41 51.5	+2.4
KBTR	**Krutoberegovo**	**3.83**	**27**	P	Pn	02 41 14.7	+1.6
KBTR				S	Sn	02 41 57.2	+0.4
KBTR	**Krutoberegovo**	**3.83**	**27**	*e*P	Pn	02 41 14.3	+1.2
KBTR				*e*S	Sn	02 41 56.6	-0.2
BDR	**Baidarnaya**	**3.83**	**13**	*e*P	Pn	02 41 15.5	+2.4
BDR				*e*S	Sn	02 41 56.2	-0.6
SMKR	**Semkarok**	**3.88**	**15**	*e*P	Pn	02 41 15.7	+1.9
SMKR				*e*S	Sn	02 42 00.3	+2.2
SRKR	**Sorokina**	**3.91**	**12**	*e*P	Pn	02 41 16.4	+2.2
SRKR				*e*S	Sn	02 42 01.3	+2.5
BKI	**Bering**	**4.39**	**55**	*e*S	Sn	02 42 06.3	-4.4

IDC 28 03:22:15.9±1.3,085N×12424E,h0km,mb3.8/3,mb1 3.9/4, mb1mx3.6/17,mbtmp3.8/4,ML3.4/1,Error ellipse: s-maj=106.1km s-min=21.5km az=70.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.89**	**176**	P	Pn	03 26 37.4	-0.9
	0.1nm,0.3s,baz=50,slow=13,SNR=6.9						
WRA	**Warramunga Arr**	**22.92**	**155**	P	P	03 27 21.8	+0.4
	0.3nm,0.4s,baz=337,slow=10,SNR=11						
SONM	**Songino Array**	**49.29**	**344**	P	P	03 31 08.1	+1.6
	1.4nm,0.7s,baz=156,slow=8.5,SNR=13						
MKAR	**Makanchi Array**	**58.55**	**327**	P	P	03 32 13.3	-0.9
	1.8nm,0.4s,baz=116,slow=8.2,SNR=18						

*IDC **28** 03:50:03.2±8.8,588S×151.12E,h61km±63km,mb3.5/3, mb1 3.8/4,mb1mx3.4/14,mbtmp3.9/4,ML2.8/1,MS4.1/1, Ms1 4.1/1,ms1mx2.7/17,Error ellipse: s-maj=99.4km s-min=54.8km az=127.0*

NEIC 28 03:50:03.7±5.5,591S×15117E,h72km±29km,mb3.9/1, Error ellipse: s-maj=113.2km s-min=40.9km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**229**	P	Pn	03 51 20.1	+0.2
	2.2nm,0.3s,baz=14,slow=12,SNR=4.8						
PMG				S	Sn	03 52 19.3	-0.1
	5.5nm,0.3s,baz=323,slow=20,SNR=5.8						
WRAB	**Tennant Creek**	**21.48**	**228**	*e*P	P	03 54 46.4	0.0
	2.2nm,0.4s						
WB2	**Warramunga Arr**	**21.49**	**228**	*e*P	P	03 54 46.5	+0.1
WRA	**Warramunga Arr**	**21.50**	**228**	P	P	03 54 46.4	-0.1
	1.4nm,0.5s,baz=54,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**24.24**	**222**	P	P	03 55 14.7	+0.8
	1.6nm,0.7s,baz=57,slow=8.6,SNR=8.8						
FITZ	**Fitzroy Crossi**	**27.70**	**242**	*e*P	P	03 55 45.8	+0.7
	19nm,1.9s						
FITZ	**Fitzroy Crossi**	**27.70**	**242**	P	P	03 55 46.0	+1.0
	2.2nm,0.8s,baz=17,slow=11,SNR=4.1						
PSI	**Prapat**	**52.88**	**278**	LR	LR	04 21 45.0	
	comp=Z,186nm,18.8s,baz=239,slow=36						
TORD	**Torodi Ar. Bea**	**149.07**	**286**	PKPbc	PKPbc	04 09 45.0	+1.4
	0.9nm,0.7s,baz=69,slow=2.9,SNR=18						

*IDC **28** 03:52:19.7±1.2,384S×131.17E,h0km,mb3.9/5,mb1 4.2/7, mb1mx4.1/14,mbtmp4.0/7,ML4.3/2,Error ellipse: s-maj=66.5km s-min=20.8km az=69.0*

*ISCJB **28** 03:52:22.9±3.2,4.11S±010×1309E±02,h39km±32km, mb4.1/7,Error ellipse: s-maj=25.2km s-min=16.1km az=14.7*

*NEIC **28** 03:52:25.3±0.8,394S×131.09E,h40km,mb4.1/5,Error ellipse: s-maj=28.0km s-min=11.9km az=72.0*

ISC 28 03:52:25.4±2.9,41S±01×1309E±01,h41km±29km,n21, σ1°44/26,mb4.1/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.69**	**170**	*e*P	**Pn**	**03 54 29.3**	**+0.8**
	8.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.84**	**200**	Pn	**Pn**	**03 55 53.9**	**+1.6**
	0.6nm,0.3s,baz=34,slow=14,SNR=18						
FITZ				Sn	**Sn**	**03 58 33.9**	**-1.5**
	0.2nm,0.3s,baz=150,slow=20,SNR=2.1						
FITZ	**Fitzroy Crossi**	**14.84**	**200**	Pn	**Pn**	**03 55 53.9**	**+1.6**
	19nm,1.9s						
FITZ				Sn	**Sn**	**03 58 33.9**	**-1.5**
FITZ				*e*S	**Sn**	**03 58 35.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**14.84**	**200**	*e*S	**Sn**	**03 58 35.2**	**-0.3**
WRAB	**Tennant Creek**	**16.09**	**168**	*e*Pn	**Pn**	**03 56 07.3**	**-1.3**
WRA	**Warramunga Arr**	**16.10**	**168**	Pn	**Pn**	**03 56 06.3**	**-2.4**
	0.5nm,0.3s,baz=354,slow=13,SNR=18						
WRA				Sn	**Sn**	**03 58 59.6**	**-6.6**
	0.4nm,0.3s,baz=6.3,slow=23,SNR=5.9						
WB2	**Warramunga Arr**	**16.10**	**168**	*e*P	**Pn**	**03 56 07.1**	**-1.7**
WB2				*e*S	**S**	**03 58 59.6**	**-19**
AS31	**Alice Springs**	**19.67**	**172**	*e*P	**Pn**	**03 56 54.4**	**+1.9**
ASAR	**Alice Springs**	**19.67**	**172**	P	**Pn**	**03 56 54.2**	**+1.7**
	1.8nm,0.3s,baz=354,slow=10,SNR=56						
ASPA	**Alice Springs**	**19.67**	**172**	*e*P	**Pn**	**03 56 54.4**	**+1.9**
CTA	**Charters Tower**	**21.83**	**138**	*e*P	**P**	**03 57 13.8**	**-0.3**
	4.8nm,0.6s,mb4.1						
CTA	**Charters Tower**	**21.83**	**138**	P	**P**	**03 57 13.8**	**-0.3**
	6.6nm,0.7s,mb4.2,baz=336,slow=13,SNR=8.6						
CTAO	**Charters Tower**	**21.83**	**138**	*e*P	**P**	**03 57 13.6**	**-0.6**
	5.1nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**29.40**	**161**	P	**P**	**03 58 24.7**	**0.0**
	1.0nm,0.3s,mb4.0,baz=338,slow=9.3,SNR=4.6						
STKA	**Stephens Creek**	**29.40**	**161**	*e*P	**P**	**03 58 24.5**	**-0.3**
KLBR	**Kellerberrin**	**30.01**	**203**	*e*P	**P**	**03 58 25.9**	**-4.3**
	153nm,1.8s,mb5.4						
SONM	**Songino Array**	**56.01**	**340**	P	**P**	**04 01 59.8**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=165,slow=7.0,SNR=3.5						
MKAR	**Makanchi Array**	**66.32**	**326**	P	**P**	**04 03 09.0**	**-0.7**
	0.5nm,0.8s,mb3.6,baz=112,slow=7.0,SNR=3.6						
KURK	**Kurchatov**	**70.54**	**328**	*e*P	**P**	**04 03 36.0**	**0.0**
	2.4nm,0.9s,mb4.1						
KURK				*e*pP	pP	04 03 44.2	-4.1
VNDA	**Vanda**	**75.20**	**173**	P	**P**	**04 04 05.9**	**+2.2**
	2.0nm,0.9s,mb4.0,baz=325,slow=6.2,SNR=8.0						
VNDA	**Vanda**	**75.20**	**173**	*e*P	**P**	**04 04 05.1**	**+1.5**
	1.6nm,0.8s,mb4.0						

*ISCJB **28** 05:24:12.2±0.8,7584N±005×8.1E±02,h10km,mb3.5/3, MS3.0/3,Error ellipse: s-maj=8.5km s-min=6.7km az=161.9*

*IDC **28** 05:24:12.3±1.5,7527N×564E,h0km,mb3.6/3,mb1 3.7/5, mb1mx3.5/19,mbtmp3.6/5,ML2.9/2,MS2.9/7,Ms1 2.9/7, ms1mx2.7/26,Error ellipse: s-maj=47.0km s-min=20.0km az=38.0*

*CSEM **28** 05:24:13.8±0.4,7587N×730E,h10km,ML0.2,Error ellipse: s-maj=11.9km s-min=8.4km az=24.0*

*BER **28** 05:24:18.4±4.0,7587N×841E,h10km,ML2.2, ML2.7(NAO)*

*NAO **28** 05:24:21.3±4.6,7586N×952E,h20km±44km,ML2.7*

ISC 28 05:24:14.7±0.8,7591N±005×80E±03,h10km,n21, σ1°46/24,mb3.5/3,MS3.0/3,1C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**2.09**	**54**	*e*P	**Pn**	**05 24 51.4**	**+1.6**
HSP				*e*S	**Sn**	**05 25 14.3**	**-1.5**
SPA0	**Spitsbergen Ar**	**2.96**	**36**	Pn	**Pn**	**05 25 04.0**	**+2.4**
	baz=204,slow=16						
SPA0				Sn	**Sn**	**05 25 37.0**	**-0.2**
KBS	**Kingsbay**	**3.15**	**14**	Pn	**Pn**	**05 25 05.8**	**+1.4**
KBS				Sn	**Sn**	**05 25 38.7**	**-3.4**
KBS	**Kingsbay**	**3.15**	**14**	*e*P	**Pn**	**05 25 05.6**	**+1.2**
KBS				*e*S	**Sn**	**05 25 40.6**	**-1.4**
KBS				AML	AML	05 25 46.6	
	comp=Z,15nm,0.4s						
KBS				*e*		05 29 00.6	
KBS	**Kingsbay**	**3.15**	**14**	*e*P	**Pn**	**05 25 05.6**	**+1.2**
	SNR=50						
KBS				*e*S	**Sn**	**05 25 40.6**	**-1.5**
	comp=Z,15nm,0.4s,SNR=50						
BJO	**Bjornoya**	**3.19**	**111**	*e*P	**Pn**	**05 25 07.8**	**+2.9**
BJO				*e*S	**Sn**	**05 25 39.1**	**-3.9**
BJO				AML	AML	05 25 44.6	
	comp=Z,22nm,0.7s						
DAG	**Danmarks Havn**	**6.34**	**291**	⇑*i*P	**Pn**	**05 25 48.1**	**-0.1**
	comp=Z,3.0nm,0.8s						
ARA0	**ARCESS Array S**	**8.20**	**132**	Pn	**Pn**	**05 26 13.3**	**-0.4**
	baz=329,slow=12						
ARA0				Sn	**Sn**	**05 27 38.9**	**-7.6**
	baz=334,slow=22						
ARCES	**ARCESS Array B**	**8.20**	**132**	Pn	**Pn**	**05 26 13.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=330,slow=12,SNR=11						
ARCES				Sn	**Sn**	**05 27 38.4**	**-8.1**
	comp=Z,0.7nm,0.3s,baz=331,slow=20,SNR=7.0						
ARCES				LR	LR	05 29 34.7	
	comp=Z,67nm,18.1s,baz=48,slow=39						
APA0	**Apatity Array**	**11.30**	**124**	Pn	**Pn**	**05 26 57.5**	**+1.4**
	baz=336,slow=22						
NOA	**NORSAR Array B**	**14.98**	**174**	LR	LR	05 33 13.8	
	comp=Z,24nm,18.0s,baz=330,slow=38						
KAF	**Kangasniemi**	**15.19**	**146**	*ep*	**Pn**	**05 27 48.9**	**-0.4**
	comp=Z,4.6nm,0.7s						
JOF	**Joensuu**	**15.20**	**136**	*ep*	**Pn**	**05 27 55.5**	**+6.1**
	comp=Z,6.5nm,0.9s						
FINES	**FINESS Array B**	**15.80**	**147**	Pn	**Pn**	**05 27 52.2**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=357,slow=20,SNR=2.4						
FINES				LR	LR	05 33 24.9	
	comp=Z,46nm,18.7s,baz=184,slow=35						
HFS	**Hagfors**	**15.98**	**170**	LR	LR	05 34 04.0	
	comp=Z,21nm,18.7s,baz=149,slow=38						
VRAC	**Vranov**	**26.93**	**168**	LR	LR	05 40 54.6	
	comp=Z,37nm,18.1s,MS3.0,baz=248,slow=38						
GERES	**GERESS Array B**	**27.26**	**172**	LR	LR	05 40 44.8	
	comp=Z,32nm,19.0s,MS2.9,baz=194,slow=37						
BVAR	**Borovoye Array**	**32.72**	**98**	LR	LR	05 46 14.0	
	comp=Z,43nm,18.1s,MS3.2,baz=66,slow=40						
MKAR	**Makanchi Array**	**41.40**	**90**	P	**P**	**05 32 05.0**	**+3.9**
	comp=Z,1.0nm,0.8s,mb3.5,baz=350,slow=6.3,SNR=6.2						
SONM	**Songino Array**	**46.18**	**67**	P	**P**	**05 32 43.8**	**+4.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=344,slow=6.2,SNR=4.5						
PDAR	**Pinedale Array**	**55.08**	**307**	P	**P**	**05 33 45.0**	**-1.8**
	comp=Z,0.6nm,1.0s,mb3.6,baz=85,slow=11,SNR=3.7						

*IDC **28** 05:25:26.8±0.9,3250N×9365E,h0km,mb4.1/5,mb1 4.1/7, mb1mx3.8/20,mbtmp3.9/7,ML3.3/2,MS3.2/1,Ms1 3.3/1, ms1mx2.5/23,Error ellipse: s-maj=45.9km s-min=21.1km az=50.0*

*ISCJB **28** 05:25:27.1±0.6,3266N±005×937E±0.1,h10km,mb4.1/7, MS3.4/2,Error ellipse: s-maj=13.2km s-min=7.6km az=5.6*

*BJI **28** 05:25:27.9,3245N×9338E,h10km,mB4.6,mb4.5,ML3.6, Ms3.9,Msz3.9*

*NEIC **28** 05:25:28.5±0.6,3265N×9372E,h10km,mb3.9/2,Error ellipse: s-maj=16.4km s-min=11.0km az=88.0*

ISC 28 05:25:29.7±3.5,3270N±006×9348E±010,h9km±22km,n15, σ1°26/19,mb4.1/7,MS3.4/2,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.60**	**214**	*e*Pn	**Pn**	**05 26 26.7**	**+1.0**
LSA				*e*Sn	**Sn**	**05 27 18.0**	**+10**
SHL	**Shillong**	**7.25**	**191**	*e*PN	**Pn**	**05 27 16.0**	**+0.2**
SHL				*e*SN	**Sn**	**05 28 38.0**	**-0.1**
LZH	**Lanzhou**	**9.21**	**66**	*e*P	**Pn**	**05 27 50.5**	**+7.9**
LZH				AP		05 27 55.0	
LZH				XP		05 27 58.3	
LZH				*e*S	**Sn**	**05 29 42.5**	**+16**
LZH				AMB	AMB		
	comp=Z,20nm,1.1s						
LZH				AMB	AMB		
	comp=Z,70nm,4.2s						
LZH				LR	LR		
	comp=N,450nm,7.2s						
LZH				LR	LR		
	comp=Z,900nm,10.5s						
GYA	**Guiyang**	**13.05**	**115**	P	**Pn**	**05 28 33.3**	**-1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**16.47**	**332**	Pn	**Pn**	**05 29 21.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=146,slow=10,SNR=3.5						
SONM	**Songino Array**	**18.00**	**29**	P	**Pn**	**05 29 39.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=11						
KURK	**Kurchatov**	**21.07**	**333**	*e*P	**P**	**05 30 13.8**	**-0.4**
	comp=Z,3.5nm,0.7s,mb3.8						
NJ2	**Nanjing**	**21.43**	**85**	*e*P	**P**	**05 30 20.3**	**+2.3**
NJ2				AP		05 30 26.8	
NJ2				XP	sP	05 30 30.3	+8.6
NJ2				PP		05 30 45.0	
NJ2				S	**S**	**05 34 17.0**	**+1.2**
NJ2				XS	sS	05 34 25.0	+5.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
NJ2				AMB	AMB		
	comp=Z,170nm,5.6s						
NJ2				LR	LR		
	comp=N,270nm,16.4s,MS4.0						
NJ2				LR	LR		
	comp=E,370nm,16.4s,MS4.0						
NJ2				LR	LR		
	comp=Z,90nm,19.8s,MS3.2						
NB2	**NORSAR Subarra**	**58.33**	**325**	P	**P**	**05 35 24.3**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.9,baz=81,slow=6.9						
NOA	**NORSAR Array B**	**58.33**	**325**	P	**P**	**05 35 24.5**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=80,slow=7.0,SNR=4.1						
NOA				LR	LR	06 03 18.7	
	comp=Z,18nm,18.8s,MS3.2,baz=140,slow=39						
NOA	**NORSAR Array B**	**58.33**	**325**	P	**P**	**05 35 24.5**	**-0.5**
NOA				LR	LR	06 03 18.7	
GERES	**GERESS Array B**	**59.83**	**311**	P	**P**	**05 35 36.8**	**+1.3**
	comp=Z,0.5nm,0.2s,mb4.2,baz=93,slow=5.5,SNR=3.9						
WRA	**Warramunga Arr**	**65.32**	**137**	P	**P**	**05 36 09.4**	**-2.7**
	comp=Z,0.8nm,0.8s,mb3.8,baz=332,slow=6.1,SNR=6.4						
ASAR	**Alice Springs**	**68.05**	**140**	P	**P**	**05 36 26.8**	**-2.7**
	comp=Z,2.2nm,0.6s,mb4.3,baz=325,slow=6.6,SNR=18						
TORD	**Torodi Ar. Bea**	**84.49**	**282**	P	**P**	**05 38 02.4**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.3,baz=50,slow=3.4,SNR=16						

IDC 28 05:36:26.7±8.9,565S×15080E,h56km±64km,mb3.4/3, mb1 3.7/4,mb1mx3.4/14,mbtmp3.7/4,ML2.7/1,Error ellipse: s-maj=102.2km s-min=55.9km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.19**	**224**	P	Pn	05 37 42.5	+0.7
	1.9nm,0.3s,baz=349,slow=5.2,SNR=4.3						
PMG				S	Sn	05 38 41.5	+1.2
	1.5nm,0.3s,baz=143,slow=20,SNR=3.0						
WB2	**Warramunga Arr**	**21.39**	**227**	*e*P	P	05 41 09.2	-0.4
WRA	**Warramunga Arr**	**21.40**	**227**	P	P	05 41 09.2	-0.5
	1.0nm,0.8s,baz=52,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.19**	**221**	P	P	05 41 38.0	0.0
	1.4nm,0.8s,baz=54,slow=9.4,SNR=9.4						
FITZ	**Fitzroy Crossi**	**27.50**	**241**	P	P	05 42 08.4	+0.5
	1.4nm,0.6s,baz=76,slow=12,SNR=5.4						
TORD	**Torodi Ar. Bea**	**148.65**	**286**	PKPbc	PKPbc	05 56 08.4	+0.9
	0.5nm,0.6s,baz=66,slow=2.2,SNR=4.6						

WEL 28 05:36:51.7±0.3,3781S×17632E,h177km±2km,ML3.6/18, 1C,Error ellipse: s-maj=4.1km s-min=3.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.77**	**126**	PN	Pn	05 37 17.8	+0.3
URZ				SN	Sn	05 37 37.4	0.0
MWZ	**Matawai**	**1.09**	**119**	PN	Pn	05 37 20.0	+0.2
MWZ				SN	Sn	05 37 41.8	+0.4
BKZ	**Black Stump Fm**	**1.36**	**174**	⇑PN	Pn	05 37 22.2	+0.2
BKZ				SN	Sn	05 37 45.1	-0.4
NGZ	**Ngauruhoe**	**1.47**	**202**	PN	Pn	05 37 23.8	+0.7
TUVZ	**Tukino**	**1.54**	**199**	PN	Pn	05 37 24.3	+0.5
PUZ	**Puketiti**	**1.56**	**100**	PN	Pn	05 37 23.7	-0.3
PUZ				SN	Sn	05 37 47.8	-1.0
PUZ				SN	Sn	05 37 47.9	-0.9
FWVZ	**Far West T-bar**	**1.56**	**202**	PN	Pn	05 37 24.4	+0.5
MXZ	**Matakaoa Point**	**1.60**	**82**	PN	Pn	05 37 24.4	+0.1
KNZ	**Kokohu**	**1.61**	**139**	PN	Pn	05 37 24.9	+0.5
WNVZ	**Wahianoa**	**1.61**	**200**	PN	Pn	05 37 24.7	+0.2
MOVZ	**Moawhango**	**1.65**	**195**	PN	Pn	05 37 24.6	-0.3
MOVZ				SN	Sn	05 37 50.3	-0.2
PKVZ	**Pokaka**	**1.66**	**207**	PN	Pn	05 37 25.1	+0.1
MTVZ	**Mangateitei**	**1.70**	**203**	PN	Pn	05 37 25.6	+0

*NEIC **28** 06:44:52.0, 4374S×17009E, h5km, ML3.8(WEL), After WEL.*

WEL 28 06:44:51.9±0.1, 4374S×17010E, h5km, ML3.7/15, 2C-8D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOZ	**Fox Glacier**	**0.34**	**300**	⇓PG	Pg	06 44 58.0	-0.5
FOZ				SG	Sg	06 45 01.7	-1.3
FOZ	**Fox Glacier**	**0.34**	**300**	⇓P	Pg	06 44 58.0	-0.5
FOZ				S	Sg	06 45 01.7	-1.3
LBZ	**Lake Benmore**	**0.65**	**175**	⇓P*	Pb	06 45 04.8	-0.9
LBZ	**Lake Benmore**	**0.65**	**175**	⇓P	Pg	06 45 04.8	+0.3
RPZ	**Rata Peaks**	**0.69**	**89**	⇓P*	Pb	06 45 05.9	-0.6
RPZ				SG	Sg	06 45 14.8	+0.6
RPZ	**Rata Peaks**	**0.69**	**89**	⇓P	Pg	06 45 05.9	+0.7
WVZ	**Waitaha Valley**	**0.81**	**35**	⇑P*	Pb	06 45 07.4	-1.0
WVZ	**Waitaha Valley**	**0.81**	**35**	⇑P	Pg	06 45 07.4	0.0
JCZ	**Jackson Bay**	**1.03**	**250**	⇓P*	Pb	06 45 10.8	-1.3
WKZ	**Wanaka**	**1.34**	**215**	*e*P*	Pb	06 45 16.1	-1.3
WKZ	**Wanaka**	**1.34**	**215**	*e*P	Pn	06 45 16.1	-1.1
ODZ	**Otahua Downs**	**1.37**	**164**	⇓*e*PN	Pn	06 45 17.1	-0.5
EAZ	**Earnscleugh**	**1.60**	**200**	*e*PN	Pn	06 45 20.5	-0.3
EAZ	**Earnscleugh**	**1.60**	**200**	*e*P	Pn	06 45 20.5	-0.3
MSZ	**Milford Sound**	**1.82**	**238**	*e*PN	Pn	06 45 23.7	-0.1
MSZ	**Milford Sound**	**1.82**	**238**	*e*P	Pn	06 45 23.7	-0.1
CRLZ	**Canterbury Las**	**1.84**	**86**	PN	Pn	06 45 24.4	+0.3
CRLZ	**Canterbury Las**	**1.84**	**86**	P	Pn	06 45 24.6	+0.5
LTZ	**Lake Taylor**	**1.85**	**60**	*e*PN	Pn	06 45 24.9	+0.6
LTZ	**Lake Taylor**	**1.85**	**60**	*e*P	Pn	06 45 25.2	+0.9
MQZ	**McQueen's Vall**	**1.85**	**90**	PN	Pn	06 45 24.6	+0.3
MQZ	**McQueen's Vall**	**1.85**	**90**	P	Pn	06 45 24.7	+0.4
MLZ	**Mavora Lakes**	**2.12**	**220**	PN	Pn	06 45 28.9	+0.9
MLZ	**Mavora Lakes**	**2.12**	**220**	P	Pn	06 45 28.9	+0.9
TUZ	**Tuapeka**	**2.25**	**188**	*e*PN	Pn	06 45 29.6	-0.1
TUZ	**Tuapeka**	**2.25**	**188**	*e*P	Pn	06 45 30.0	+0.3
DSZ	**Denniston Nort**	**2.35**	**33**	*e*PN	Pn	06 45 31.2	+0.1
DSZ	**Denniston Nort**	**2.35**	**33**	*e*P	Pn	06 45 31.2	+0.1
WHZ	**Wether Hill Ro**	**2.65**	**215**	*e*PN	Pn	06 45 33.4	-1.8
DCZ	**Deep Cove**	**2.73**	**229**	*e*PN	Pn	06 45 36.7	+0.3
KHZ	**Kahutara**	**2.84**	**64**	*e*PN	Pn	06 45 38.7	+0.8
THZ	**Tophouse**	**2.86**	**47**	*e*PN	Pn	06 45 39.1	+1.0
QRZ	**Quartz Range**	**3.42**	**33**	*e*PN	Pn	06 45 46.2	+0.3
APZ	**The Paps**	**3.44**	**205**	*e*PN	Pn	06 45 44.7	-1.3
NNZ	**Nelson**	**3.50**	**45**	*e*PN	Pn	06 45 47.8	+0.9
NNZ	**Nelson**	**3.50**	**45**	*e*P	Pn	06 45 47.8	+0.9
TCW	**Tory Channel**	**3.99**	**52**	*e*PN	Pn	06 45 54.1	+0.5
KIW	**Kapiti Island**	**4.58**	**53**	*e*PN	Pn	06 46 01.4	-0.4
MRZ	**Mangatainoka R**	**5.10**	**55**	*e*PN	Pn	06 46 07.7	-1.3
NRZ	**Ngariki Road**	**5.25**	**35**	*e*PN	Pn	06 46 12.7	+1.7
PKE	**Pukeiti**	**5.39**	**34**	*e*PN	Pn	06 46 13.6	+0.6

IDC 28 06:58:49.1±0.7, 664N×7292W, h163km±8km, mb3.3/3, mb1 3.4/5, mb1mx3.2/20, mbtmp3.8/5, Error ellipse: s-maj=38.1km s-min=7.6km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.26**	**218**	P	Pn	06 59 30.4	+2.3
ROSC	14nm,0.3s,baz=91,slow=19,SNR=24			S	Sn	06 59 59.0	+0.9
SDV	23nm,0.3s,baz=104,slow=15,SNR=11 **Santo Domingo**	**3.18**	**45**	P	Pn	06 59 40.3	+1.1
SDV	11nm,0.3s,baz=248,slow=3.0,SNR=44			S	Sn	07 00 18.5	+0.5
SCHQ	10nm,0.3s,baz=89,slow=21,SNR=27 **Schefferville**	**48.30**	**5**	P	P	07 07 14.3	+0.5
YKA	1.3nm,0.5s,baz=190,slow=11,SNR=6.1 **Yellowknife Ar**	**63.50**	**340**	P	P	07 09 00.7	-1.1
TORD	0.7nm,0.6s,baz=138,slow=6.6,SNR=4.1 **Torodi Ar. Bea**	**73.58**	**78**	P	P	07 10 04.8	+0.5
ASAR	0.8nm,1.2s,baz=285,slow=6.9,SNR=4.1 **Alice Springs**	**149.17**	**234**	PKPbc	PKPbc	07 18 18.9	+0.7
WRA	0.5nm,0.5s,baz=117,slow=3.8,SNR=6.9 **Warramunga Arr**	**150.43**	**241**	PKPbc	PKPbc	07 18 22.0	+0.8
	0.4nm,0.4s,baz=108,slow=2.7,SNR=15						

*NIED **28** 07:02:00, 2370N×12300E, h11km, Mw3.8 Best double couple: M₀5.85000×10¹⁴ NP1:φs339.00000°, δ54.00000°, λ-119.00000°. NP2:φs203.00000°, δ45.00000°, λ-56.00000°.*

JMA 28 07:02:22.6±0.3, 2369N×12301E, h15km, M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.77**	**0**	P	Pg	07 02 37.3	-0.3
YOJ				*e*S	Sg	07 02 47.9	+0.2
HATJ	**Hateruma jima**	**0.81**	**63**	P	Pg	07 02 38.0	-0.4
HATJ				*e*S	Sg	07 02 49.5	+0.4
IRIF	**Iriomote-Funau**	**0.92**	**46**	P	Pb	07 02 39.8	-0.4
IRIF				*e*S	Sb	07 02 51.8	-0.5
JKRS	**Kuro-shima**	**1.06**	**59**	P	Pb	07 02 42.6	-0.1
JKRS				S	Sb	07 02 56.5	+0.1
JIJ	**Ishigaki jima**	**1.23**	**57**	P	Pn	07 02 44.8	-0.5
JIJ				S	Sb	07 03 01.0	-0.3
JTJ	**Tarama**	**1.81**	**58**	P	Pn	07 02 55.3	+2.1
JTJ				*e*S	Sn	07 03 18.6	+2.7

*CSEM **28** 07:09:54.8±1.2, 3691N×2434W, h10km, ML2.4, Error ellipse: s-maj=10.7km s-min=6.4km az=80.0, After PDA*
*PDA **28** 07:09:54.8±1.2, 3691N×2434W, h10km, MD2.5, ML2.4, Error ellipse: s-maj=10.7km s-min=6.4km az=80.0*

SVSA 28 07:09:54.8±1.2, 3691N×2434W, h10km, MD2.5, ML2.4, Error ellipse: s-maj=10.7km s-min=6.4km az=80.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.59**	**279**	*e*P	Pg	07 10 04.7	-1.5
PSMN				*e*S	Sg	07 10 11.3	-2.6
MIRA	**Miradouro**	**1.15**	**320**	*e*P	Pb	07 10 11.8	-4.9
MIRA				*e*S	Sb	07 10 25.1	-6.5
FRA1	**Furnas**	**1.16**	**316**	*e*S	Sb	07 10 24.9	-7.1
PCNG	**Congro**	**1.20**	**316**	*e*S	Sb	07 10 26.8	-6.3
PCNG	16nm,0.1s						
VIF	**Vila Franca**	**1.21**	**314**	*e*S	Sb	07 10 27.0	-6.3
VIF	32nm,0.2s						
PFAD	**Fenais da Ajud**	**1.21**	**320**	*e*P	Pn	07 10 13.0	-4.8
PFAD				*e*S	Sb	07 10 26.9	-6.6
PRCH	**Ribeira Ch**	**1.22**	**312**	*e*S	Sb	07 10 27.2	-6.5
PRCH	43nm,0.2s						
MESC	**Monte Escuro**	**1.24**	**315**	*e*S	Sb	07 10 28.0	-6.4
LFA	**Lagoa do Fogo**	**1.25**	**314**	*e*P	Pn	07 10 13.9	-4.4
PMAT	**Coroa da Mata**	**1.27**	**315**	*e*rx		07 10 29.5	
PVER	**Pico Vermelho**	**1.28**	**314**	*e*rx		07 10 29.7	
CML	**Cha da Macela**	**1.29**	**312**	*e*P	Pn	07 10 14.3	-4.5
CML				*e*S	Sb	07 10 29.1	-6.5
FAC	**Faja de Cima**	**1.35**	**310**	*e*rx		07 10 30.7	
PSAN	**Santo Antonio**	**1.45**	**311**	*e*rx		07 10 32.8	
PFET	**Feteiras**	**1.46**	**308**	*e*rx		07 10 32.3	

IDC 28 07:46:39.3±2.3, 091N×9717E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.0/1, Ms4.0/1, Ms1 4.0/1, ms1mx2.7/40, Error ellipse: s-maj=56.9km s-min=29.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.56**	**43**	Pn	Pn	07 47 21.6	-0.5
	2.9nm,0.3s,baz=199,slow=6.7,SNR=9.2						
WRA	**Warramunga Arr**	**41.91**	**122**	P	P	07 54 31.8	+0.3
	0.4nm,0.8s,baz=300,slow=9.0,SNR=3.0						
SONM	**Songino Array**	**47.42**	**8**	P	P	07 55 15.2	-0.2
	0.9nm,0.5s,baz=187,slow=8.8,SNR=8.1						
MKAR	**Makanchi Array**	**47.51**	**346**	P	P	07 55 16.4	+0.2
	0.8nm,0.7s,baz=160,slow=8.9,SNR=6.9						
OPO	**Ambohidratompo**	**52.78**	**246**	LR	LR	08 14 25.3	
	comp=Z,142nm,20.4s,baz=352,slow=32						

*NEIC **28** 07:49:44.1±1.0, 3553N×7020E, h10km, mb3.2/2, Error ellipse: s-maj=17.4km s-min=17.2km az=168.0*
*IDC **28** 07:50:03.0±7.3, 3619N×7083E, h164km±66km, mb3.3/7, mb1 3.4/10, mb1mx3.2/24, mbtmp3.8/10, Error ellipse: s-maj=37.6km s-min=23.2km az=27.0*
*ISCJB **28** 07:50:06.7±0.6, 3659N±004×7070E±009, h187km±9km, mb3.5/7, Error ellipse: s-maj=11.7km s-min=6.0km az=149.4*
*NNC **28** 07:50:15.0±1.3, 3716N×7106E, h214km±16km, mb2.4, mpv3.6, Error ellipse: s-maj=13.4km s-min=8.4km az=14.0*

ISC 28 07:50:07.5±0.6, 3659N±004×7069E±008, h184km±8km, n42, σ0§87/46, mb3.5/7, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**3.88**	**167**	⇓P	Pn	07 51 07.0	-0.2
SBDP	**Sheikh Budin**	**4.28**	**179**	P	Pn	07 51 11.1	-1.2
DRP	**Derazinda**	**4.85**	**185**	P	Pn	07 51 19.7	+0.1
DLH	**Dalhousie**	**5.94**	**131**	*e*P	Pn	07 51 37.0	+3.3
DLH				*ex*	x	07 52 42.0	
AML	**Almayashu**	**6.00**	**22**	P	Pn	07 51 34.8	+0.2
	SNR=13						
UCH	**Uchtor**	**6.36**	**27**	P	Pn	07 51 39.3	0.0
	SNR=45						
KK31	**Karatay Array**	**6.51**	**359**	⇑P	Pn	07 51 41.6	+0.4
	2.3nm,0.2s,baz=187,slow=13,SNR=138						
KK31				⇓S	Sn	07 52 51.3	-3.8
	8.3nm,0.3s,baz=189,slow=21,SNR=10						
EKS2	**Erkin-Say**	**6.52**	**20**	P	Pn	07 51 41.3	+0.1
	SNR=18						
KZA	**Kyzart**	**6.52**	**31**	P	Pn	07 51 40.4	-0.9
	SNR=7.8						
AAK	**Ala-Archa**	**6.71**	**25**	P	Pn	07 51 43.8	0.0
	SNR=7.0						
KBK	**Karagaybulak**	**6.89**	**27**	P	Pn	07 51 46.5	+0.3
	SNR=7.4						
CHMS	**Chumysh**	**7.12**	**25**	P	Pn	07 51 48.9	-0.3
	SNR=5.8						
SDNR	**Sundarnagar**	**7.27**	**132**	*ex*	x	07 51 47.6	
SDNR				*e*S	Sn	07 53 06.0	-7.2
USP	**Ospenovka**	**7.28**	**23**	P	Pn	07 51 50.7	-0.6
	SNR=8.5						
TKM2	**Tokmak 2**	**7.37**	**29**	P	Pn	07 51 52.1	-0.3
	SNR=29						
TKM2	**Tokmak 2**	**7.37**	**29**	⇓P	Pn	07 51 52.0	-0.4
	1.6nm,0.6s						
TKM2				⇓S	Sn	07 53 09.3	-6.1
	0.6nm,0.8s						
KLP	**Kalpa**	**8.05**	**127**	*e*P	Pn	07 52 06.5	+5.2
KLP				*e*S	Sn	07 53 25.1	-6.5
KLP				AML	AML	07 53 40.3	
	comp=E,56nm,0.3s						
KLP				AML	AML	07 53 40.4	
	comp=N,43nm,0.3s						
KHET	**Khetri**	**9.53**	**152**	*e*S	Sn	07 53 55.1	-12
KHET				AML	AML	07 54 00.3	
	comp=N,11nm,0.3s						
KHET				AML	AML	07 54 00.4	
	comp=E,19nm,0.1s						
SONA	**Sohna**	**9.91**	**145**	*e*S	Sn	07 54 04.3	-12
SONA				AML	AML	07 54 11.1	
	comp=E,25nm,0.3s						
SONA				AML	AML	07 54 11.3	
	comp=N,34nm,0.2s						
MKAR	**Makanchi Array**	**13.37**	**37**	P	Pn	07 53 08.9	-1.2
	comp=N,0.1nm,0.3s,baz=233,slow=12,SNR=4.4						
KOLN	**Koldanda**	**14.02**	**125**	*e*P	Pn	07 53 16.9	-1.3
	comp=N,3.8nm,0.2s						
GKN	**Gorkha**	**14.56**	**122**	*e*P	Pn	07 53 25.0	0.0
	comp=N,18nm,0.5s						
AB31	**Akbulak array**	**14.89**	**332**	⇑P	Pn	07 53 31.7	+2.7
	comp=N,1.8nm,0.6s,baz=146,slow=12,SNR=34						
AB31				S	Sn	07 56 14.8	-0.3
	comp=N,0.6nm,0.4s,baz=157,slow=24,SNR=4.2						
DMN	**Daman**	**15.13**	**122**	*e*P	Pn	07 53 32.3	+0.3
	comp=N,5.5nm,0.3s						
KKN	**Kakani**	**15.14**	**121**	*e*P	Pn	07 53 32.6	+0.6
	comp=N,16nm,0.4s						
PKI	**Pulchoki**	**15.36**	**122**	*e*P	Pn	07 53 35.7	+0.9
	comp=N,13nm,0.5s						
GUN	**Gumba**	**15.48**	**120**	*e*P	Pn	07 53 37.0	+0.8
JIRN	**Jiri**	**15.85**	**120**	*e*P	Pn	07 53 41.6	+0.9
	comp=N,24nm,0.5s						
BVAR	**Borovoye Array**	**16.44**	**359**	P	Pn	07 53 48.5	+0.7
	comp=N,0.2nm,0.3s,baz=172,slow=12,SNR=4.3						
AKTK	**Aktyubinsk**	**16.58**	**331**	P	Pn	07 53 50.5	+1.0
AKTO	**Aktyubinsk**	**16.58**	**331**	⇑P	Pn	07 53 50.1	+0.5
	comp=N,0.2nm,1.2s						
AKTO	**Aktyubinsk**	**16.58**	**331**	P	Pn	07 53 50.5	+1.0
	comp=N,0.6nm,0.3s,baz=148,slow=8.0,SNR=13						
CHKZ	**Chkalovo**	**17.09**	**360**	*e*Pn	Pn	07 53 55.6	0.0
	comp=N,0.7nm,0.4s						
FINES	**FINESS Array B**	**37.27**	**326**	P	P	07 57 01.1	-0.5
	comp=N,1.2nm,0.7s,mb3.6,baz=122,slow=18,SNR=4.7						
ARCES	**ARCESS Array B**	**40.97**	**338**	P	P	07 57 32.6	+0.4
	comp=N,1.4nm,0.7s,mb3.7,baz=109,slow=7.4,SNR=7.7						
HFS	**Hagfors**	**42.84**	**322**	P	P	07 57 47.9	+0.5
	comp=N,0.8nm,0.4s,mb3.7,baz=106,slow=14,SNR=4.1						
NB2	**NORSAR Subarra**	**44.16**	**323**	P	P	07 57 57.5	-0.4
	comp=Z,0.2nm,0.6s,mb2.9,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**44.16**	**323**	P	P	07 57 57.8	-0.1
	comp=Z,1.3nm,0.7s,mb3.7,baz=96,slow=7.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**65.47**	**268**	P	P	08 00 29.3	-1.5
	comp=Z,0.5nm,0.6s,mb3.5,baz=48,slow=5.7,SNR=7.8						
TORD	**Torodi Ar. Bea**	**65.47**	**268**	P	P	08 00 29.3	-1.6
YKA	**Yellowknife Ar**	**81.17**	**2**	P	P	08 02 01.7	-0.8
	comp=Z,0.5nm,0.4s,mb3.5,baz=348,slow=5.2,SNR=5.7						
WRA	**Warramunga Arr**	**82.25**	**122**	P	P	08 02 04.7	-3.5
	comp=Z,0.2nm,0.4s,mb3.1,baz=324,slow=4.8,SNR=7.6						

*IDC **28** 08:16:55.5±4.4, 7435N×12857E, h103km±44km, mb3.8/6, mb1 4.0/9, mb1mx3.9/15, mbtmp4.2/9, Error ellipse: s-maj=52.4km s-min=20.3km az=73.0*
*ISCJB **28** 08:16:57.8±1.6, 753S±008×1286E±02, h144km±16km, mb3.9/7, Error ellipse: s-maj=28.8km s-min=9.2km az=144.4*
*NEIC **28** 08:16:58.0±2.1, 753S×12840E, h129km±22km, mb4.7/3, Error ellipse: s-maj=31.0km s-min=15.3km az=73.0*

ISC 28 08:17:02.5±1.1, 791S±006×1284E±01, h181km±10km, n17, σ1§07/25, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.24**	**140**	*e*P	Pn	08 18 33.3	+0.7
	236nm,0.3s						
KAKA				*e*S	Sn	08 19 42.3	-1.3
FITZ	**Fitzroy Crossi**	**10.47**	**194**	*e*P	Pn	08 19 29.1	+1.0
	7.1nm,0.3s						
FITZ				*e*S	Sn	08 21 22.9	-1.7
FITZ	**Fitzroy Crossi**	**10.47**	**194**	P	Pn	08 19 29.1	+1.0
	0.9nm,0.3s,baz=27,slow=12,SNR=43						
FITZ				S	Sn	08 21 24.0	-0.7
	3.2nm,0.3s,baz=107,slow=24,SNR=7.9						
WRAB	**Tennant Creek**	**13.29**	**155**	*e*Pn	Pn	08 20 04.5	+0.2
	21nm,0.5s						
WRAB				*e*Sn	Sn	08 22 24.4	-7.6
WRA	**Warramunga Arr**	**13.30**	**155**	P	Pn	08 20 04.8	+0.5
	3.8nm,0.3s,baz=325,slow=14,SNR=122						
WRA				S	Sn	08 22 27.7	-4.4
	4.3nm,0.3s,baz=327,slow=23,SNR=10.0						
WB2	**Warramunga Arr**	**13.30**	**155**	*e*P	Pn	08 20 04.3	-0.1
WB2				*e*S	Sn	08 22 26.3	-6.0
AS31	**Alice Springs**	**16.55**	**162**	*e*P	Pn	08 20 47.7	+3.4
AS31				*e*S	S	08 23 47.2	-0.2
ASPA	**Alice Springs**	**16.55**	**162**	*e*P	Pn	08 20 47.7	+3.4
ASPA				*e*S	S	08 23 47.2	-0.2
ASAR	**Alice Springs**	**16.55**	**162**	P	Pn	08 20 48.0	+3.8
	1.4nm,0.3s,baz=344,slow=10,SNR=89						
ASAR				S	S	08 23 47.1	-0.3
	1.3nm,0.3s,baz=320,slow=18,SNR=9.0						
STKA	**Stephens Creek**	**26.85**	**154**	P	P	08 22 29.2	+3.1
	1.7nm,0.4s,mb4.0,baz=301,slow=6.1,SNR=3.1						
MJAR	**Matsushiro Arr**	**45.17**	**11**	P	P	08 24 57.5	-3.6
	1.8nm,0.7s,mb3.8,baz=192,slow=9.2,SNR=4.3						
SONM	**Songino Array**	**58.80**	**343**	P	P	08 26 41.1	-0.6
	0.9nm,0.7s,mb3.7,baz=162,slow=6.5,SNR=7.0						
MKAR	**Makanchi Array**	**68.10**	**328**	P	P	08 27 42.6	-0.1
	1.0nm,0.3s,mb4.0,baz=116,slow=8.4,SNR=20						
VNDA	**Vanda**	**71.76**	**173**	P	P	08 28 09.0	+4.0
	1.0nm,0.7s,mb3.7,baz=327,slow=6.2,SNR=4.5						
KURK	**Kurchatov**	**72.45**	**329**	*e*P	P	08 28 08.6	-0.5
	4.9nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**77.97**	**328**	P	P	08 28 40.4	-0.2
	1.0nm,0.4s,mb3.8,baz=128,slow=9.1,SNR=11						
LPAZ	**La Paz**	**150.95**	**146**	*e*PKPbc	PKPbc	08 36 37.5	+3.8
LPAZ				*e*PKPab	PKPab	08 36 48.1	+6.3

*ISCJB **28** 08:45:17.9±0.3, 1462N±006×9050W±005, h216km±3km, mb3.6/10, Error ellipse: s-maj=11.0km s-min=3.4km az=74.8*
*IDC **28** 08:45:17.4±2.5, 1462N×9039W, h188km±27km, mb3.5/10, mb1 3.7/11, mb1mx3.5/22, mbtmp4.0/11, Error ellipse: s-maj=26.4km s-min=10.5km az=61.0*
*NEIC **28** 08:45:18.7±0.6, 1453N×9060W, h207km±9km, mb4.2/6, MD4.4(MEX), Error ellipse: s-maj=15.4km s-min=7.6km az=221.0*
*CASC **28** 08:45:21.0±3.0, 1566N×8963W, h27km±26km, MD4.2, ML3.9, mb4.2(NEIC)*
*MEX **28** 08:45:23.0±0.5, 1480N×9095W, h235km±8km, MD4.4*

ISC 28 08:45:19.0±0.3, 1464N±006×9048W±005, h208km±3km, n56, σ1§32/81, mb3.6/10, 7C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.27**	**206**	*e*S	Sn	08 46 09.3	+1.8
TER	**Terranova**	**0.39**	**210**	*e*P	Pn	08 45 47.2	+0.6
TER				*e*S	Sn	08 46 08.7	+0.7
FUG	**Fuego 3**	**0.40**	**242**	*e*S	Sn	08 46 10.9	+2.8
IXG	**Ixpaco**	**0.46**	**177**	⇓*e*P	Pn	08 45 47.1	+0.3
IXG				*e*S	Sn	08 46 12.4	+3.9
SNET	**Serv Nac Est T**	**1.54**	**128**	⇓*e*P	x	08 45 54.1	
LFU	**La Fuente**	**1.59**	**123**	⇓*e*P	x	08 46 00.3	
LFU				*e*S	x	08 46 25.6	
CCIG	**Comitan**	**2.28**	**316**	*i* P	Pn	08 46 01.7	+0.7
CCIG				*i* S	Sn	08 46 32.1	-1.7
CCIG	**Comitan**	**2.28**	**316**	*i* P	Pn	08 46 01.4	+0.4
CCIG				*i* S	Sn	08 46 33.7	-0.1
SCX	**San Cristobal**	**2.94**	**315**	*i* P	Pn	08 46 08.5	+0.2
SCX				*i* S	Sn	08 46 45.5	-1.5
SCX	**San Cristobal**	**2.94**	**315**	*i* P	Pn	08 46 08.5	+0.2
SCX				*i* S	Sn	08 46 46.0	-1.0
LEON	**Leon**	**4.13**	**122**	⇑*e*P	Pn	08 46 24.1	+1.5
LEON				*e*S	Sn	08 47 11.2	-1.5
CNGN	**Cerro Negro**	**4.25**	**120**	*e*P	Pn	08 46 24.1	0.0
CNGN				*e*S	Sn	08 47 15.1	-0.3
MIRN	**Miramar**	**4.27**	**120**	⇑*e*P	Pn	08 46 25.7	+1.3
MIRN				*e*S	Sn	08 47 14.6	-1.3
SCIG		**4.36**	**351**	*i* P	Pn	08 46 26.8	+1.3
SCIG				*i* S	Sn	08 47 16.8	-1.0
MOMJ	**Momotombo**	**4.43**	**120**	*e*P	Pn	08 46 28.0	+1.7
MOMJ				*e*S	Sn	08 47 18.1	-1.4
COPN	**Copaltepe**	**4.51**	**122**	*e*P	Pn	08 46 28.4	+1.1
COPN				*e*S	Sn	08 47 19.3	-1.9
APYN	**Apoyeque**	**4.68**	**120**	⇑*e*P	Pn	08 46 31.5	+2.0
APYN				*e*S	Sn	08 47 23.1	-2.0
XAVN	**Gruta Xavier**	**4.74**	**121**	*e*P	Pn	08 46 31.6	+1.3
XAVN				*e*S	Sn	08 47 24.2	-2.4
TISN	**Laguna Tiscapa**	**4.79**	**121**	*e*P	Pn	08 46 31.5	+0.6
TISN				*e*S	Sn	08 47 26.0	-1.7
MGAN	**Managua**	**4.81**	**120**	⇑*e*P	Pn	08 46 31.4	+0.3
MGAN				*e*S	Sn	08 47 26.1	-2.0
MGAN				*i*		08 47 32.0	
	comp=E,311nm,0.6s						
CMIG	**Matias Romero**	**4.89**	**301**	P	Pn	08 46 30.4	-1.7
	comp=E,20nm,0.3s,baz=125,slow=9.9,SNR=610						
CMIG				S	Sn	08 47 22.0	-7.8
	comp=E,30nm,0.3s,baz=8.4,slow=13,SNR=17						
CMIG	**Matias Romero**	**4.89**	**301**	*i* P	Pn	08 46 30.5	-1.6
CMIG				*i* S	Sn	08 47 22.3	-7.5
CMIG	**Matias Romero**	**4.89**	**301**	*i* P	Pn	08 46 30.4	-1.7
CMIG				*i* S	Sn	08 47 22.4	-7.5
APON	**Apoyo**	**5.08**	**122**	*e*P	Pn	08 46 35.4	+0.9
APON				*e*S	Sn	08 47 34.3	0.0
HUIG	**Huatulco**	**5.55**	**282**	*i* P	Pn	08 46 37.6	-2.9
HUIG				*i* S	Sn	08 47 33.5	-11
HUIG	**Huatulco**	**5.55**	**282**	*i* P	Pn	08 46 37.2	-3.3
HUIG				*i* S	Sn	08 47 32.9	-12
SSNN	**San Juan del S**	**5.61**	**126**	⇑*e*P	Pn	08 46 43.3	+2.0
TEIG	**Tepich**	**5.94**	**20**	*e*Pn	Pn	08 46 46.8	+1.2
OXX	**Oaxaca**	**6.48**	**293**	*i* P	Pn	08 46 52.0	-0.5
OXX				*i* S	Sn	08 47 58.0	-8.7
VHO	**Vista Hermosa**	**6.48**	**293**	*i* P	Pn	08 46 52.2	-0.3
VHO				*i* S	Sn	08 47 57.8	-9.0
VHO	**Vista Hermosa**	**6.48**	**293**	*i* P	Pn	08 46 51.9	-0.7
VHO				*i* S	Sn	08 47 57.4	-9.4
JTS	**JuntasAbangare**	**6.92**	**128**	P	Pn	08 46 59.7	+1.6
	comp=E,11nm,0.3s,baz=338,slow=12,SNR=37						
JTS				S	Sn	08 48 11.8	-5.2
	comp=E,6.5nm,0.3s,baz=295,slow=22,SNR=8.8						
JTS	**JuntasAbangare**	**6.92**	**128**	*e*Pn	Pn	08 46 59.5	+1.4
JTS				*e*Sn	Sn	08 48 10.9	-6.0
UTMO	**Huajuapan**	**7.71**	**295**	*e*P	Pn	08 47 07.5	-1.0
PPM	**Popocatepetl**	**8.95**	**301**	*i* P	Pn	08 47 21.4	-3

*JMA **28** 09:09:10.7±0.3,2187N×12180E,h2km,M4.0*

ISC 28 09:09:09.5±0.6,2182N±006×12150E±007,h10km,n20, σ1$00/22,mb3.7/9,MS3.6/1,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.34**	**2**	*e*Pn	**Pn**	**09 09 48.2**	**+0.2**
NACB				*e*Sn	**Sn**	09 10 16.1	-0.7
YHNB	**Yeheng**	**2.84**	**358**	*e*Pn	**Pn**	**09 09 56.1**	**+1.3**
YOJ	**Yonaguni jima**	**2.98**	**28**	P	**Pn**	**09 09 57.9**	**+1.2**
HATJ	**Hateruma jima**	**3.08**	**43**	P	**Pn**	**09 09 58.4**	**+0.3**
HATJ				*e*S	**Sn**	09 10 33.6	-1.4
JKRS	**Kuro-shima**	**3.34**	**43**	P	**Pn**	**09 10 02.4**	**+0.7**
JIJ	**Ishigaki jima**	**3.51**	**43**	P	**Pn**	**09 10 04.6**	**+0.5**
JIJ				*e*S	**Sn**	09 10 44.8	-0.9
JTJ	**Tarama**	**4.07**	**46**	P	**Pn**	**09 10 12.5**	**+0.7**
JTJ				*e*S	**Sn**	09 10 58.4	-1.1
JOW	**Kunigami**	**7.94**	**50**	Pn	**Pn**	**09 11 06.6**	**+1.6**
	1.1nm,0.3s,baz=55,slow=6.2,SNR=6.0						
JOW				LR	LR	09 14 26.8	
	comp=Z,126nm,19.4s,baz=80,slow=39						
CBIJ	**Chichi jima**	**19.54**	**70**	LR	LR	09 19 49.8	
	comp=Z,28nm,20.5s,baz=137,slow=32						
MJAR	**Matsushiro Arr**	**20.64**	**41**	P	**P**	**09 13 51.9**	**+2.7**
	2.7nm,0.9s,baz=232,slow=9.2,SNR=6.3						
SONM	**Songino Array**	**28.66**	**339**	P	**P**	**09 15 04.8**	**-1.5**
	0.2nm,0.4s,mb3.2,baz=145,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**40.25**	**318**	P	**P**	**09 16 46.1**	**-0.4**
	0.8nm,0.7s,mb3.5,baz=108,slow=9.3,SNR=2.5						
ZAL	**Zalesovo**	**42.39**	**328**	P	**P**	**09 17 03.6**	**-0.4**
	1.2nm,0.6s,mb3.7,baz=173,slow=8.1,SNR=2.3						
WRA	**Warramunga Arr**	**43.36**	**162**	P	**P**	**09 17 11.0**	**-0.9**
	1.0nm,0.6s,mb3.8,baz=344,slow=9.1,SNR=10.0						
ASAR	**Alice Springs**	**46.80**	**164**	P	**P**	**09 17 39.6**	**+0.4**
	0.5nm,0.7s,mb3.5,baz=344,slow=6.5,SNR=8.3						
STKA	**Stephens Creek**	**56.76**	**160**	P	**P**	**09 18 52.3**	**-1.3**
	3.1nm,0.9s,mb4.3,baz=337,slow=7.7,SNR=3.9						
FINES	**FINESS Array B**	**73.63**	**330**	P	**P**	**09 20 43.0**	**-0.1**
	0.8nm,0.6s,mb3.9,baz=46,slow=5.5,SNR=4.7						
MLR	**Muntele Rosu**	**78.50**	**314**	LR	LR	09 57 39.0	
	comp=Z,29nm,18.3s,MS3.6,baz=123,slow=37						
NOA	**NORSAR Array B**	**80.44**	**332**	P	**P**	**09 21 20.9**	**-0.5**
	0.7nm,0.6s,mb3.7,baz=62,slow=5.2,SNR=2.3						
GERES	**GERESS Array B**	**84.85**	**321**	P	**P**	**09 21 45.0**	**+0.7**
	0.3nm,0.2s,mb4.0,baz=64,slow=6.5,SNR=4.6						

*ISCJB **28** 09:44:13.0±0.2,4671N±001×470E±002,h10km,Error ellipse: s-maj=1.8km s-min=1.7km az=31.5*

*CSEM **28** 09:44:16.1±0.0,4673N×468E,h15km,ML2.9/32,Error ellipse: s-maj=0.8km s-min=0.7km az=139.0*

*LDG **28** 09:44:16.1±0.0,4673N×469E,h14km,Md2.9/3,Ml2.9/34, Error ellipse: s-maj=0.7km s-min=0.7km az=147.0*

*NEIC **28** 09:44:16.1,4673N×469E,h14km,ML2.7(STR), ML2.9(LDG),After LDG.*

*STR **28** 09:44:16.0±0.3,4662N×483E,h10km±1km,Ml3.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 28 09:44:14.2±0.2,4674N±001×467E±002,h10km,n99, σ1$20/257,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMF	**Signal de Mont**	**0.58**	**261**	*e*Pg	**Pg**	**09 44 28.3**	**+2.9**
SMF				*e*Sg	**Sg**	09 44 35.6	+2.6
	SNR=1.0						
SMF				*e*Sn	**Sg**	09 44 37.2	+4.2
	122nm,0.3s						
SMF	**Signal de Mont**	**0.58**	**261**	*e*Pg	**Pg**	**09 44 28.3**	**+2.9**
SMF				*e*Sg	**Sg**	09 44 35.6	+2.6
	SNR=1.0						
SMF				*e*Sn	**Sg**	09 44 37.2	+4.2
	61nm,0.3s						
LOR	**Lormes**	**0.77**	**314**	*e*Pg	**Pg**	**09 44 31.1**	**+2.1**
	baz=135,SNR=1.0						
LOR	**Lormes**	**0.77**	**314**	*e*Pn	**Pn**	**09 44 31.3**	**+0.2**
	baz=133						
LOR				*e*Sg	**Sg**	09 44 40.8	+1.7
	495nm,0.2s,baz=132,SNR=1.0						
LOR	**Lormes**	**0.77**	**314**	*e*Pg	**Pg**	**09 44 31.1**	**+2.1**
LOR				*e*Pn	**Pn**	09 44 31.3	+0.2
LOR				*e*Sg	**Sg**	09 44 40.8	+1.7
LOR	**Lormes**	**0.77**	**314**	*e*Pn	**Pn**	**09 44 31.3**	**+0.2**
LOR				*e*Sg	**Sg**	09 44 40.8	+1.7
	247nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**0.86**	**293**	*e*Pg	**Pg**	**09 44 33.0**	**+2.2**
SSF				*e*Sg	**Sg**	09 44 43.7	+1.7
	101nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**0.86**	**293**	*e*Pn	**Pn**	**09 44 32.5**	**+0.1**
SSF				*e*Pg	**Pg**	09 44 33.0	+2.2
SSF				*e*Sg	**Sg**	09 44 43.7	+1.7
SSF	**Saint Saulge**	**0.86**	**293**	*e*Pg	**Pg**	**09 44 33.0**	**+2.2**
SSF				*e*Sg	**Sg**	09 44 43.7	+1.7
	50nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**0.91**	**274**	*e*Pg	**Pg**	**09 44 33.9**	**+2.2**
AVF				*e*Sn	**Sn**	09 44 45.0	-1.1
	48nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**0.91**	**274**	*e*Pn	**Pn**	**09 44 33.3**	**+0.3**
AVF				*e*Pg	**Pg**	09 44 33.9	+2.2
AVF				*e*Sn	**Sn**	09 44 45.0	-1.1
AVF	**Avril sur Loir**	**0.91**	**274**	*e*Pg	**Pg**	**09 44 33.9**	**+2.2**
AVF				*e*Sn	**Sn**	09 44 45.0	-1.1
	24nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**0.99**	**97**	*e*P	**Pg**	**09 44 35.8**	**+2.6**
CABF				*e*Sg	**Sg**	09 44 47.3	+1.3
	38nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**0.99**	**97**	*e*Pg	**Pg**	**09 44 34.7**	**+1.5**
CABF				*e*Sg	**Sg**	09 44 47.3	+1.3
CABF	**La Chapelle**	**0.99**	**97**	*e*P	**Pg**	**09 44 35.8**	**+2.6**
CABF				*e*Sg	**Sg**	09 44 47.3	+1.3
	19nm,0.3s,SNR=1.0						
PLDF	**La Plantade**	**1.05**	**224**	Pn	**Pn**	**09 44 35.6**	**+0.5**
PLDF				Sg	**Sg**	09 44 51.2	+3.0
BGF	**Bois d'Agland**	**1.27**	**263**	*e*Pg	**Pg**	**09 44 40.1**	**+1.5**
BGF				*e*Sg	**Sg**	09 44 56.1	+1.1
	37nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**1.27**	**263**	*e*Pn	**Pn**	**09 44 38.6**	**+0.6**
BGF				*e*Pg	**Pg**	09 44 40.1	+1.5
BGF				*e*Sg	**Sg**	09 44 56.1	+1.1
BGF	**Bois d'Agland**	**1.27**	**263**	*e*Pg	**Pg**	**09 44 40.1**	**+1.5**
BGF				*e*Sg	**Sg**	09 44 56.1	+1.1
	18nm,0.3s,SNR=1.0						
HYF	**Humbligny**	**1.49**	**292**	*e*Pg	**Pg**	**09 44 44.9**	**+2.1**
HYF				*e*Sn	**Sn**	09 44 59.1	-1.4
HYF				*e*Sg	**Sg**	09 45 03.4	+1.4
HYF	**Humbligny**	**1.49**	**292**	*e*Pn	**Pn**	**09 44 41.7**	**+0.7**
HYF				*e*Pg	**Pg**	09 44 44.9	+2.1
HYF				*e*Sn	**Sn**	09 44 59.1	-1.4
HYF				*e*Sg	**Sg**	09 45 03.4	+1.4
HYF	**Humbligny**	**1.49**	**292**	*e*Pg	**Pg**	**09 44 44.9**	**+2.1**
HYF				*e*Sn	**Sn**	09 44 59.1	-1.4
HYF				*e*Sg	**Sg**	09 45 03.4	+1.4
SFTF	**Sexfontaines**	**1.49**	**10**	*e*Pg	**Pg**	**09 44 43.9**	**+1.1**
SFTF				*e*Sn	**Sn**	09 44 59.1	-1.5
SFTF				*e*Sg	**Sg**	09 45 03.5	+1.3
	34nm,0.2s						
SFTF	**Sexfontaines**	**1.49**	**10**	*e*Pn	**Pn**	**09 44 41.2**	**+0.1**
SFTF				*e*Pg	**Pg**	09 44 43.9	+1.1
SFTF				*e*Sn	**Sn**	09 44 59.1	-1.5
SFTF				*e*Sg	**Sg**	09 45 03.5	+1.3
SFTF	**Sexfontaines**	**1.49**	**10**	*e*Pg	**Pg**	**09 44 43.9**	**+1.1**
SFTF				*e*Sn	**Sn**	09 44 59.1	-1.5
SFTF				*e*Sg	**Sg**	09 45 03.5	+1.3
	17nm,0.2s						
HAU	**Haudompre**	**1.71**	**41**	*e*Pg	**Pg**	**09 44 48.2**	**+1.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	09 45 04.0	-1.9
HAU				*e*Sg	**Sg**	09 45 10.2	+1.0
	34nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**1.71**	**41**	*e*Pn	**Pn**	**09 44 44.1**	**+0.1**
HAU				*e*Pg	**Pg**	09 44 48.2	+1.2
HAU				*e*Sn	**Sn**	09 45 04.0	-1.9
HAU				*e*Sg	**Sg**	09 45 10.2	+1.0
HAU	**Haudompre**	**1.71**	**41**	*e*Pg	**Pg**	**09 44 48.2**	**+1.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	09 45 04.0	-1.9
HAU				*e*Sg	**Sg**	09 45 10.2	+1.0
	17nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**1.75**	**256**	*e*Pg	**Pg**	**09 44 49.0**	**+1.1**
TCF				*e*Sg	**Sg**	09 45 11.9	+1.2
	14nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**1.75**	**256**	*e*Pn	**Pn**	**09 44 45.5**	**+0.8**
TCF				*e*Pg	**Pg**	09 44 49.0	+1.1
TCF				*e*Sg	**Sg**	09 45 11.9	+1.2
TCF	**Toulx Ste Croi**	**1.75**	**256**	*e*Pg	**Pg**	**09 44 49.0**	**+1.1**
TCF				*e*Sg	**Sg**	09 45 11.9	+1.2
	7.1nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.79**	**8**	*e*Pg	**Pg**	**09 44 49.4**	**+0.9**
	baz=187						
MEZF				*e*Sg	**Sg**	09 45 12.1	+0.5
	28nm,0.3s,baz=190,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.79**	**8**	*e*Pn	**Pn**	**09 44 44.8**	**-0.3**
MEZF				*e*Pg	**Pg**	09 44 49.4	+0.9
MEZF				*e*Sg	**Sg**	09 45 12.1	+0.5
MEZF	**Maizieres J'vi**	**1.79**	**8**	*e*Pg	**Pg**	**09 44 49.4**	**+0.9**
MEZF				*e*Sg	**Sg**	09 45 12.1	+0.5
	14nm,0.3s,SNR=1.0						
LBL	**Lubilhac**	**1.80**	**214**	Pn	**Pn**	**09 44 45.7**	**+0.4**
LBL				Sg	**Sg**	09 45 14.3	+2.2
HINF	**Hinteralfeld**	**1.84**	**53**	*e*Pg	**Pg**	**09 44 50.1**	**+0.6**
	SNR=1.0						
HINF				*e*Sg	**Sg**	09 45 13.2	-0.2
	35nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**1.84**	**53**	*e*Pn	**Pn**	**09 44 45.6**	**-0.2**
HINF				*e*Pg	**Pg**	09 44 50.1	+0.6
HINF				*e*Sg	**Sg**	09 45 13.2	-0.2
HINF	**Hinteralfeld**	**1.84**	**53**	*e*Pg	**Pg**	**09 44 50.1**	**+0.6**
	SNR=1.0						
HINF				*e*Sg	**Sg**	09 45 13.2	-0.2
	18nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.88**	**180**	*e*Pg	**Pg**	**09 44 52.0**	**+1.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	09 45 08.0	-2.2
VIVF				*e*Sg	**Sg**	09 45 15.1	+0.4
	23nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.88**	**180**	*e*Pn	**Pn**	**09 44 45.5**	**-0.9**
VIVF				*e*Pg	**Pg**	09 44 52.0	+1.7
VIVF				*e*Sn	**Sn**	09 45 08.0	-2.2
VIVF				*e*Sg	**Sg**	09 45 15.1	+0.4
VIVF	**Saint-Julien-l**	**1.88**	**180**	*e*Pg	**Pg**	**09 44 52.0**	**+1.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	09 45 08.0	-2.2
VIVF				*e*Sg	**Sg**	09 45 15.1	+0.4
	12nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**1.88**	**130**	*e*Pn	**Pn**	**09 44 46.3**	**-0.2**
LPL				*e*Sn	**Sn**	09 45 08.6	-1.7
LPL				*e*Sg	**Sg**	09 45 15.5	+0.7
	10.0nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.88**	**130**	*e*Pn	**Pn**	**09 44 46.3**	**-0.2**
LPL				*e*Sn	**Sn**	09 45 08.6	-1.7
LPL				*e*Sg	**Sg**	09 45 15.5	+0.7
	5.0nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**1.91**	**130**	*e*Pg	**Pg**	**09 44 52.6**	**+1.8**
LPG				*e*Sn	**Sn**	09 45 08.8	-2.0
LPG				*e*Sg	**Sg**	09 45 16.3	+0.8
	12nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**1.91**	**130**	*e*Pn	**Pn**	**09 44 47.0**	**+0.2**
LPG				*e*Pg	**Pg**	09 44 52.6	+1.8
LPG				*e*Sn	**Sn**	09 45 08.8	-2.0
LPG				*e*Sg	**Sg**	09 45 16.3	+0.8
LPG	**La Plagne**	**1.91**	**130**	*e*Pg	**Pg**	**09 44 52.6**	**+1.8**
LPG				*e*Sn	**Sn**	09 45 08.8	-2.0
LPG				*e*Sg	**Sg**	09 45 16.3	+0.8
	5.8nm,0.2s,SNR=1.0						
RFYF	**Reffroy**	**1.97**	**16**	*e*Pn	**Pn**	**09 44 47.7**	**0.0**
	baz=192						
RFYF	**Reffroy**	**1.97**	**16**	*e*Pg	**Pg**	**09 44 52.9**	**+0.9**
	baz=191						
RFYF				*e*Sg	**Sg**	09 45 17.9	+0.3
	45nm,0.2s						
RFYF	**Reffroy**	**1.97**	**16**	*e*Pn	**Pn**	**09 44 47.7**	**0.0**
RFYF				*e*Pg	**Pg**	09 44 52.9	+0.9
RFYF				*e*Sg	**Sg**	09 45 17.9	+0.3
RFYF	**Reffroy**	**1.97**	**16**	*e*Pg	**Pg**	**09 44 52.9**	**+0.9**
RFYF				*e*Sg	**Sg**	09 45 17.9	+0.3
	22nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.01**	**155**	*e*Pg	**Pg**	**09 44 53.8**	**+1.1**
ORIF				*e*Sn	**Sn**	09 45 11.6	-1.7
	SNR=1.0						
ORIF				*e*Sg	**Sg**	09 45 19.1	+0.4
	15nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.01**	**155**	*e*Pg	**Pg**	**09 44 53.8**	**+1.1**
ORIF				*e*Sn	**Sn**	09 45 11.6	-1.7
	SNR=1.0						
ORIF				*e*Sg	**Sg**	09 45 19.1	+0.4
	7.3nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**2.44**	**46**	*e*Pg	**Pg**	**09 45 01.2**	**+0.3**
CDF				*e*Sn	**Sn**	09 45 21.2	-2.7
CDF				*e*Sg	**Sg**	09 45 31.9	-0.6
	16nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**2.44**	**46**	*e*Pn	**Pn**	**09 44 53.8**	**-0.2**
CDF				*e*Pg	**Pg**	09 45 01.2	+0.3
CDF				*e*Sn	**Sn**	09 45 21.2	-2.7
CDF				*e*Sg	**Sg**	09 45 31.9	-0.6
CDF	**Champ du Feu**	**2.44**	**46**	*e*Pg	**Pg**	**09 45 01.2**	**+0.3**
CDF				*e*Sn	**Sn**	09 45 21.2	-2.7
CDF				*e*Sg	**Sg**	09 45 31.9	-0.6
	7.8nm,0.3s,SNR=1.0						
MBDF	**Montbardon**	**2.49**	**143**	*e*Pg	**Pg**	**09 45 02.0**	**0.0**
MBDF				*e*Sn	**Sn**	09 45 22.1	-3.2
MBDF				*e*Sg	**Sg**	09 45 34.8	+0.5
	4.2nm,0.3s						
MBDF	**Montbardon**	**2.49**	**143**	*e*Pn	**Pn**	**09 44 54.3**	**-0.5**
MBDF				*e*Pg	**Pg**	09 45 02.0	0.0
MBDF				*e*Sn	**Sn**	09 45 22.1	-3.2
MBDF				*e*Sg	**Sg**	09 45 34.8	+0.5
MBDF	**Montbardon**	**2.49**	**143**	*e*Pg	**Pg**	**09 45 02.0**	**0.0**
MBDF				*e*Sg	**Sg**	09 45 34.8	+0.5
	2.1nm,0.3s						
CAF	**Calviac**	**2.57**	**226**	*e*Pg	**Pg**	**09 45 03.8**	**+0.4**
	SNR=1.0						
CAF				*e*Sg	**Sg**	09 45 37.9	+1.2
	9.0nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.57**	**226**	*e*Pn	**Pn**	**09 44 55.9**	**+0.1**
CAF				*e*Pg	**Pg**	09 45 03.8	+0.4
CAF				*e*Sg	**Sg**	09 45 37.9	+1.2
CAF	**Calviac**	**2.57**	**226**	*e*Pg	**Pg**	**09 45 03.8**	**+0.4**
	SNR=1.0						
CAF				*e*Sg	**Sg**	09 45 37.9	+1.2
	4.5nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.62**	**238**	*e*Pg	**Pg**	**09 45 05.1**	**+0.6**
RJF				*e*Sn	**Sn**	09 45 25.9	-2.6
RJF				*e*Sg	**Sg**	09 45 38.7	+0.3
RJF	**Les Rejaudoux**	**2.62**	**238**	*e*Pn	**Pn**	**09 44 57.2**	**+0.6**
RJF				*e*Pg	**Pg**	09 45 05.1	+0.6
RJF				*e*Sn	**Sn**	09 45 25.9	-2.6
RJF				*e*Sg	**Sg**	09 45 38.7	+0.3
RJF	**Les Rejaudoux**	**2.62**	**238**	*e*Pg	**Pg**	**09 45 05.1**	**+0.6**
RJF				*e*Sn	**Sn**	09 45 25.9	-2.6
RJF				*e*Sg	**Sg**	09 45 38.7	+0.3
	3.7nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.72**	**192**	*e*Pg	**Pg**	**09 45 07.0**	**+0.6**
	SNR=1.0						
LASF				*e*Sg	**Sg**	09 45 41.2	-0.4
	13nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.72**	**192**	*e*Pn	**Pn**	**09 44 57.4**	**-0.6**
LASF				*e*Pg	**Pg**	09 45 07.0	+0.6
LASF				*e*Sg	**Sg**	09 45 41.2	-0.4
LASF	**Ste Croix**	**2.72**	**192**	*e*Pg	**Pg**	**09 45 07.0**	**+0.6**
	SNR=1.0						
LASF				*e*Sg	**Sg**	09 45 41.2	-0.4
	6.3nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.83**	**167**	*e*Pg	**Pg**	**09 45 08.2**	**-0.3**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	09 45 44.9	-0.4
	2.3nm,0.4s						
SMRF	**Simiane la Rot**	**2.83**	**167**	*e*Pg	**Pg**	**09 45 08.2**	**-0.3**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	09 45 44.9	-0.4
	1.1nm,0.4s						
LFF	**La Frestale**	**3.28**	**238**	*e*Pg	**Pg**	**09 45 16.9**	**-0.2**
LFF				*e*Sg	**Sg**	09 45 58.8	-0.8
	15nm,0.4s						
LFF	**La Frestale**	**3.28**	**238**	*e*Pn	**Pn**	**09 45 05.0**	**-0.7**
LFF				*e*Pg	**Pg**	09 45 16.9	-0.2
LFF				*e*Sg	**Sg**	09 45 58.8	-0.8
LFF	**La Frestale**	**3.28**	**238**	*e*Pg	**Pg**	**09 45 16.9**	**-0.2**
LFF				*e*Sg	**Sg**	09 45 58.8	-0.8
	7.3nm,0.4s						
MFF	**Saint Martin d**	**3.32**	**269**	*e*Pg	**Pg**	**09 45 17.8**	**0.0**
MFF				*e*Sn	**Sn**	09 45 43.1	-2.5
MFF				*e*Sg	**Sg**	09 45 59.8	-1.0
	1.9nm,0.2s						
MFF	**Saint Martin d**	**3.32**	**269**	*e*Pn	**Pn**	**09 45 06.4**	**+0.2**
MFF				*e*Pg	**Pg**	09 45 17.8	0.0
MFF				*e*Sn	**Sn**	09 45 43.1	-2.5
MFF				*e*Sg	**Sg**	09 45 59.8	-1.0
MFF	**Saint Martin d**	**3.32**	**269**	*e*Pg	**Pg**	**09 45 17.8**	**0.0**
MFF				*e*Sn	**Sn**	09 45 43.1	-2.5
MFF				*e*Sg	**Sg**	09 45 59.8	-1.0
	0.9nm,0.2s						
BAIF	**Baives**	**3.34**	**355**	*e*Pn	**Pn**	**09 45 06.6**	**+0.1**
BAIF				*e*Sn	**Sn**	09 45 43.0	-3.2
BAIF				*e*Sg	**Sg**	09 46 00.8	-0.7
	3.8nm,0.4s						
BAIF	**Baives**	**3.34**	**355**	*e*Pn	**Pn**	**09 45 06.6**	**+0.1**
BAIF				*e*Sn	**Sn**	09 45 43.0	-3.2
BAIF				*e*Sg	**Sg**	09 46 00.8	-0.7
	1.9nm,0.4s						
GIVF	**Givet**	**3.37**	**2**	*e*Pn	**Pn**	**09 45 06.9**	**0.0**
GIVF				*e*Sn	**Sn**	09 45 44.0	-2.9
GIVF				*e*Sg	**Sg**	09 46 02.1	-0.4
	6.0nm,0.3s						
GIVF	**Givet**	**3.37**	**2**	*e*Pn	**Pn**	**09 45 06.9**	**0.0**
GIVF				*e*Sn	**Sn**	09 45 44.0	-2.9
GIVF				*e*Sg	**Sg**	09 46 02.1	-0.4
	3.0nm,0.3s						
FRF	**La Foret Royal**	**3.47**	**155**	*e*Pn	**Pn**	**09 45 07.6**	**-0.7**
SBF	**Sospel**	**3.47**	**145**	*e*Pn	**Pn**	**09 45 07.4**	**-0.9**
	SNR=1.0						
SBF				*e*Sn	**Sn**	09 45 45.7	-3.8
LMR	**La Mourre**	**3.64**	**158**	*e*Pn	**Pn**	**09 45 10.0**	**-0.7**
LDF	**La Druitiere**	**3.73**	**302**	*e*Pn	**Pn**	**09 45 11.7**	**-0.2**
LDF				*e*Sn	**Sn**	09 45 52.4	-3.5
LDF				*e*Sg	**Sg**	09 46 12.5	-1.6
	8.7nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**3.73**	**302**	*e*Pn	**Pn**	**09 45 11.7**	**-0.2**
LDF				*e*Sn	**Sn**	09 45 52.4	-3.5
LDF				*e*Sg	**Sg**	09 46 12.5	-1.6
	4.3nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.81**	**208**	*e*Pg	**Pg**	**09 45 26.1**	**-1.2**
MTLF				*e*Sn	**Sn**	09 45 53.7	-4.2
MTLF				*e*Sg	**Sg**	09 46 15.9	-0.8
	4.6nm,0.4s						
MTLF	**Montolieu**	**3.81**	**208**	*e*Pn	**Pn**	**09 45 12.4**	**-0.6**
MTLF				*e*Pg	**Pg**	09 45 26.1	-1.2
MTLF				*e*Sn	**Sn**	09 45 53.7	-4.2
MTLF				*e*Sg	**Sg**	09 46 15.9	-0.8
MTLF	**Montolieu**	**3.81**	**208**	*e*Pg	**Pg**	**09 45 26.1**	**-1.2**
MTLF				*e*Sn	**Sn**	09 45 53.7	-4.2
MTLF				*e*Sg	**Sg**	09 46 15.9	-0.8
	2.3nm,0.4s						
FLN	**La Foliniere**	**4.02**	**302**	*e*Pn	**Pn**	**09 45 15.2**	**-0.7**
FLN				*e*Sn	**Sn**	09 45 58.8	-4.2
FLN				*e*Sg	**Sg**	09 46 21.6	-1.8
	11nm,0.4s						
FLN	**La Foliniere**	**4.02**	**302**	*e*Pn	**Pn**	**09 45 15.2**	**-0.7**
FLN				*e*Sn	**Sn**	09 45 58.8	-4.2
FLN				*e*Sg	**Sg**	09 46 21.6	-1.8
	5.6nm,0.4s						
GRR	**Gorron**	**4.09**	**296**	*e*Pn	**Pn**	**09 45 16.8**	**0.0**
	SNR=1.0						
GRR				*e*Sn	**Sn**	09 46 01.0	-3.7
GRR				*e*Sg	**Sg**	09 46 24.6	-1.0
	3.7nm,0.3s						
GRR	**Gorron**	**4.09**	**296**	*e*Pn	**Pn**	**09 45 16.8**	**0.0**
	SNR=1.0						
GRR				*e*Sn	**Sn**	09 46 01.0	-3.7
GRR				*e*Sg	**Sg**	09 46 24.6	-1.0
	1.9nm,0.3s						
EPF	**Esparros**	**4.81**	**221**	*e*Sg	**Sg**	**09 46 47.2**	**-1.6**
	1.9nm,0.3s						
EPF	**Esparros**	**4.81**	**221**	*e*Sg	**Sg**	**09 46 47.2**	**-1.6**
	0.9nm,0.3s						
SGMF	**Saint Gilles**	**5.13**	**290**	*e*Sg	**Sg**	**09 46 57.0**	**-1.8**
	1.6nm,0.2s						
SGMF	**Saint Gilles**	**5.13**	**290**	*e*Sg	**Sg**	**09 46 57.0**	**-1.8**
	0.8nm,0.2s						
QUIF	**Quistinic**	**5.46**	**285**	*e*Pn	**Pn**	**09 45 34.9**	**-0.7**
QUIF				*e*Sn	**Sn**	09 46 33.8	-4.6
QUIF				*e*Sg	**Sg**	09 47 06.8	-2.6
	0.9nm,0.2s						
QUIF	**

WRA				ScP	ScP	10 22 10.4	+1.6
	0.6nm,0.5s,baz=313,slow=3.1,SNR=6.6							
WRAB	**Tennant Creek**	**30.94**	**120**	*e*P	**P**	**10 15 52.5**	**+0.2**
	5.4nm,0.4s,mb4.6							
WB2	**Warramunga Arr**	**30.95**	**120⇓**	*i*P	**P**	**10 15 53.0**	**+0.6**
WB2				*e*S	**S**	**10 20 42.5**	**-0.3**
ASPA	**Alice Springs**	**32.23**	**127**	*e*P	**P**	**10 16 04.3**	**+0.7**
ASPA				*e*S	**S**	**10 21 00.2**	**-2.4**
ASAR	**Alice Springs**	**32.23**	**127**	P	**P**	**10 16 04.3**	**+0.7**
	2.1nm,0.3s,mb4.3,baz=299,slow=7.9,SNR=53							
ASAR				PcP	PcP	10 18 48.3	+0.9
	1.0nm,0.7s,baz=320,slow=1.4,SNR=5.4							
ASAR				S	**S**	**10 21 01.0**	**-1.7**
	2.8nm,0.6s,baz=296,slow=16,SNR=15							
AS31	**Alice Springs**	**32.23**	**127**	*e*P	**P**	**10 16 04.3**	**+0.7**
AS31				*e*S	**S**	**10 21 00.2**	**-2.5**
JIRN	**Jiri**	**38.27**	**331**	*e*P	**P**	**10 16 55.1**	**-0.1**
	24nm,0.6s,mb5.0							
PKI	**Pulchoki**	**38.59**	**330**	*e*P	**P**	**10 16 57.6**	**-0.2**
GUN	**Gumba**	**38.63**	**331**	*e*P	**P**	**10 16 58.0**	**-0.2**
	23nm,0.4s,mb5.2							
DMN	**Daman**	**38.77**	**330**	*e*P	**P**	**10 16 58.7**	**-0.6**
KKN	**Kakani**	**38.83**	**330**	*e*P	**P**	**10 16 59.0**	**-0.8**
	10nm,0.6s,mb4.7							
GKN	**Gorkha**	**39.33**	**329**	*e*P	**P**	**10 17 03.2**	**-0.7**
	24nm,0.3s,mb5.3							
KOLN	**Koldanda**	**39.68**	**328**	*e*P	**P**	**10 17 06.3**	**-0.5**
	30nm,0.5s,mb5.2							
STKA	**Stephens Creek**	**42.23**	**133**	*e*P	**P**	**10 17 26.6**	**-1.1**
	4.5nm,0.5s,mb4.3							
STKA	**Stephens Creek**	**42.23**	**133**	P	**P**	**10 17 26.8**	**-0.9**
	6.2nm,0.5s,mb4.5,baz=306,slow=9.3,SNR=18							
STKA	**Stephens Creek**	**42.23**	**133**	*e*P	**P**	**10 17 26.4**	**-1.3**
NDI	**New Delhi**	**44.01**	**322**	*e*x	x	10 17 40.0	
SONM	**Songino Array**	**53.24**	**0**	P	**P**	**10 18 53.7**	**+1.5**
	0.9nm,0.4s,mb3.8,baz=184,slow=9.9,SNR=8.7							
WSAR	**Wadi Sarin**	**54.49**	**304**	P	**P**	**10 19 02.3**	**+1.0**
	7.3nm,0.6s,mb4.6,baz=97,slow=10,SNR=8.3							
MKAR	**Makanchi Array**	**56.30**	**341**	P	**P**	**10 19 13.4**	**-0.8**
	2.0nm,0.4s,mb4.3,baz=151,slow=8.7,SNR=22							
CASY	**Casey**	**60.62**	**178**	*e*P	**P**	**10 19 44.0**	**0.0**
	5.0nm,0.6s,mb4.5							
KURK	**Kurchatov**	**60.92**	**340**	*e*P	**P**	**10 19 45.3**	**-0.7**
	4.7nm,0.8s,mb4.4							
ZAL	**Zalesovo**	**61.99**	**346**	P	**P**	**10 19 52.0**	**-1.2**
	3.5nm,0.3s,mb4.6,baz=88,slow=0.9,SNR=6.5							
BRVK	**Borovoye**	**65.83**	**337**	*e*P	**P**	**10 20 17.2**	**-1.1**
	1.9nm,0.3s,mb4.4							
RDF	**Al-Radifah**	**65.89**	**305**	*e*P	**P**	**10 20 18.8**	**+0.2**
RDF				AMb	AMB	10 20 19.5	
	comp=Z,26nm,0.7s,mb5.2							
UMR	**Umm Al-Rimmam**	**65.98**	**306**	*e*P	**P**	**10 20 19.5**	**+0.3**
UMR				AMb	AMB	10 20 20.7	
	comp=Z,42nm,0.4s,mb5.6							
ZRNK	**Zerenda**	**66.25**	**337**	*e*P	**P**	**10 20 19.7**	**-1.3**
	comp=Z,2.4nm,0.5s,mb4.3							
NAY	**Al-Naaiem**	**66.25**	**305**	*e*P	**P**	**10 20 21.0**	**0.0**
NAY				AMb	AMB	10 20 21.7	
	comp=Z,21nm,0.6s,mb5.1							
MAW	**Mawson**	**68.40**	**196**	P	**P**	**10 20 35.5**	**+1.1**
	comp=Z,8.1nm,0.5s,mb4.7,baz=42,slow=4.5,SNR=38							
MAW	**Mawson**	**68.40**	**196**	*e*P	**P**	**10 20 35.3**	**+0.9**
MALT	**Malatya**	**76.26**	**311**	*e*P	**P**	**10 21 21.9**	**+0.9**
	comp=Z,2.7nm,0.7s,mb4.0							
EIL	**Elat**	**76.58**	**302**	*e*P	**P**	**10 21 24.0**	**+1.3**
	comp=Z,80nm,0.9s,mb5.3							
VNDA	**Vanda**	**77.47**	**169**	P	**P**	**10 21 28.0**	**+0.4**
	comp=Z,1.9nm,0.5s,mb4.0,baz=319,slow=5.6,SNR=30							
VNDA	**Vanda**	**77.47**	**169**	*e*P	**P**	**10 21 27.8**	**+0.1**
	comp=Z,2.1nm,0.6s,mb3.9							
SBA	**Scott Base**	**78.54**	**169**	*e*P	**P**	**10 21 34.4**	**+0.8**
	comp=Z,2.4nm,0.5s,mb4.1							
BRTR	**Keskin Array B**	**80.24**	**312**	P	**P**	**10 21 43.0**	**+0.3**
	comp=Z,4.9nm,0.7s,mb4.2,baz=132,slow=7.0,SNR=24							
BR131	**Keskin Array S**	**80.24**	**312**	*e*P	**P**	**10 21 42.9**	**+0.2**
	comp=Z,3.4nm,0.6s,mb4.2							
QSPA	**South Pole Qui**	**84.34**	**180**	*e*P	**P**	**10 22 04.3**	**+0.2**
	comp=Z,3.8nm,0.5s,mb4.4							
VRI	**Vrincioaia**	**86.63**	**317⇑**	*i*P	**P**	**10 22 16.9**	**+1.5**
MLR	**Muntele Rosu**	**87.10**	**316**	P	**P**	**10 22 18.5**	**+0.9**
	comp=Z,7.5nm,0.6s,mb4.7,baz=294,slow=2.5,SNR=13							
MLR	**Muntele Rosu**	**87.10**	**316⇑**	*i*P	**P**	**10 22 19.1**	**+1.5**
VOIR		**87.71**	**316⇑**	*i*P	**P**	**10 22 19.8**	**-0.7**
BURAR	**Bucovina Array**	**87.99**	**318⇑**	*i*P	**P**	**10 22 23.5**	**+1.7**
FINES	**FINESS Array B**	**90.15**	**332**	P	**P**	**10 22 31.6**	**-0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=120,slow=6.8,SNR=5.4							
ARCES	**ARCESS Array B**	**91.95**	**340**	P	**P**	**10 22 39.4**	**-0.9**
	comp=Z,4.1nm,1.0s,mb4.4,baz=102,slow=7.5,SNR=4.2							
JCT	**Junction City**	**145.32**	**41**	*e*PKPdf	PKPdf	10 29 09.7	+1.3
WVT	**Waverly**	**147.08**	**21**	*e*PKPbc	PKPbc	10 29 14.6	+0.9

*CSEM **28** 10:14:50.1,3498N×265W,h20km,MD3.2,After CNRM*
*CNRM **28** 10:14:50.1,3498N×265W,h20km,MD3.2*

MDD 28 10:14:50.6±0.7,3496N×274W,h17km±3km,mbLg1.9/5,
Error ellipse: s-maj=9.9km s-min=5.7km az=116.0,
PRXIMO,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.02**	**326**	*i*P	Pg	10 14 53.0	-0.6
ZAI				*i*S	Sg	10 14 56.0	+0.4
EMEL	**Melilla**	**0.39**	**332**	P	Pg	10 14 58.7	+0.1
	138nm,0.3s,SNR=5.0						
TOU	**Touzarine**	**0.84**	**271**	*e*P	Pb	10 15 06.0	-0.7
TOU				*i*S	Sb	10 15 18.0	+0.4
EALB	**Alboran**	**1.01**	**346**	P	Pb	10 15 08.4	-1.3
	10nm,0.1s,SNR=7.9						
EALB				S	Sb	10 15 21.0	-1.6
	7.5nm,0.1s,SNR=7.9						
TZK	**Tazeka**	**1.48**	**235**	*i*P	Pn	10 15 16.0	-0.4
TZK				*i*S	Sn	10 15 33.0	-2.3
EBER	**Berja**	**1.94**	**356**	P	Pn	10 15 24.0	+1.2
	0.7nm,0.1s,SNR=7.9						
EBER				S	Sn	10 15 47.0	+0.3
	4.2nm,0.3s,SNR=4.7						
EGUA	**Guajares**	**1.99**	**340**	P	Pn	10 15 21.3	-2.1
	0.5nm,0.2s,SNR=7.9						
EGUA				S	Sn	10 15 44.1	-3.9
	0.5nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.71**	**226**	*e*P	Pn	10 15 33.0	-0.4
CZD				*i*S	Sn	10 16 03.0	-2.8
EQES	**Quesada**	**2.85**	**355**	P	Pn	10 15 33.8	-1.5
	0.7nm,0.4s,SNR=7.9						
EQES				S	Sn	10 16 09.9	+0.6
	4.1nm,0.2s,SNR=7.9						
ZFT	**Errachidia**	**3.21**	**205**	*i*S	Sn	10 16 15.0	-3.2
ZFT	**Errachidia**	**3.21**	**205**	*e*P	Pn	10 15 40.0	-0.3
EADA	**Adamuz**	**3.53**	**336**	P	Pn	10 15 43.6	-1.1
	1.4nm,0.6s,SNR=7.9						
EADA				S	Sn	10 16 20.7	-5.2
	23nm,1.7s,SNR=7.9						
ETOB	**Tobarra**	**3.80**	**14**	P	Pn	10 15 49.4	+1.0
	SNR=7.9						
EMIN	**Mina Concepcio**	**4.24**	**313**	P	Pn	10 15 52.3	-2.1
	SNR=7.9						

IDC 28 10:43:51.7±4.1,308S×13105E,h0km,mb3.6/2,mb1 3.7/3,
mb1mx3.5/15,mbtmp3.5/3,ML3.5/1,Error ellipse:
s-maj=294.4km s-min=27.9km az=72.0,Irian Jaya
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.07**	**169**	P	Pn	10 47 51.2	-0.5
	0.2nm,0.3s,baz=350,slow=11,SNR=11						
WRA				S	Sn	10 50 50.4	-12
	0.0nm,0.3s,baz=357,slow=24,SNR=3.6						
WB2	**Warramunga Arr**	**17.07**	**169**	*e*P	Pn	10 47 49.5	-2.3
ASAR	**Alice Springs**	**20.65**	**173**	P	P	10 48 33.5	+0.6
	1.7nm,0.6s,baz=352,slow=10.0,SNR=20						
ASPA	**Alice Springs**	**20.65**	**173**	*e*P	P	10 48 33.8	+0.8
MKAR	**Makanchi Array**	**65.57**	**325**	P	P	10 54 37.4	+0.2
	0.5nm,0.4s,baz=115,slow=7.8,SNR=7.2						

*NEIC **28** 10:50:04.4,1663N×9481W,h107km,MD3.6(MEX),After MEX.*

MEX 28 10:50:05.0±0.7,1657N×9479W,h99km±12km,MD3.6,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.53**	**350**	*i*P	Pn	10 50 19.9	-0.9
CMIG				*i*S	Sn	10 50 30.8	-1.9
HUIG	**Huatulco**	**1.50**	**238**	*i*P	Pn	10 50 29.5	-1.7
HUIG				*i*S	Sn	10 50 50.2	-0.8
OXX	**Oaxaca**	**1.92**	**286**	*i*P	Pn	10 50 36.0	-0.5
OXX				*i*S	Sn	10 51 00.0	-0.5
VHO	**Vista Hermosa**	**1.93**	**285**	*i*P	Pn	10 50 35.7	-0.8
VHO				*i*S	Sn	10 50 58.3	-2.4

IDC 28 11:20:08.8±1.4,863S×6845E,h0km,mb3.7/5,mb1 3.8/5,
mb1mx3.6/20,mbtmp3.7/5,MS3.5/5,Ms1 3.5/5,
ms1mx3.1/29,Error ellipse: s-maj=49.8km
s-min=26.2km az=86.0,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.94**	**282**	LR	LR	11 39 02.4	
	comp=Z,39nm,19.0s,baz=100,slow=36						
MKAR	**Makanchi Array**	**56.54**	**11**	P	P	11 29 53.3	+0.4
	0.3nm,0.6s,baz=190,slow=7.3,SNR=2.5						
BRTR	**Keskin Array B**	**57.91**	**329**	LR	LR	11 54 01.2	
	comp=Z,31nm,18.0s,baz=310,slow=35						
MAW	**Mawson**	**59.01**	**182**	P	P	11 30 09.5	-0.8
	0.7nm,0.8s,baz=317,slow=18,SNR=2.4						
ASAR	**Alice Springs**	**64.14**	**112**	P	P	11 30 45.7	+0.8
	0.7nm,0.8s,baz=275,slow=6.3,SNR=5.6						
ASAR				LR	LR	11 57 52.4	
	comp=Z,70nm,18.1s,baz=105,slow=35						
WRA	**Warramunga Arr**	**64.50**	**108**	P	P	11 30 48.2	+1.0
	1.6nm,1.1s,baz=277,slow=5.7,SNR=4.1						
SONM	**Songino Array**	**65.47**	**27**	P	P	11 30 52.4	-1.2
	0.9nm,0.9s,baz=221,slow=7.0,SNR=4.6						
SONM				LR	LR	11 57 32.0	
	comp=Z,40nm,18.4s,baz=222,slow=34						
TORD	**Torodi Ar. Bea**	**69.73**	**287**	LR	LR	11 58 32.7	
	comp=Z,45nm,18.2s,baz=90,slow=33						
NVAR	**Mina Array Bea**	**149.72**	**11**	PKPbc	PKPbc	11 40 02.0	+1.5
	0.8nm,0.8s,baz=299,slow=2.9,SNR=6.5						

*HLW **28** 11:24:44.7,2987N×3684E,h20km,Mb2.9*
*ISCJB **28** 11:24:48.1±1.2,2988N±007×3624E±008,h10km,Error ellipse: s-maj=11.7km s-min=8.5km az=96.1*
*GII **28** 11:24:48.2±0.8,2991N×3620E,h0km±8km,ML2.1/2*

ISC 28 11:24:48.3±1.3,2988N±007×3628E±008,h10km,n14,
σ0°90/17,1C,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.08**	**262**	Pg	**Pg**	**11 25 08.4**	**-0.6**
HRFI	**Mount Harif**	**1.09**	**279**	Pg	**Pg**	**11 25 07.9**	**-1.3**
HRFI				Sg	**Sg**	**11 25 24.0**	**+0.7**
ZFRI	**Zfri**	**1.16**	**305**	Pg	**Pg**	**11 25 09.5**	**-1.2**
EIL	**Elat**	**1.17**	**260**	Pg	**Pg**	**11 25 10.4**	**-0.4**
EIL				Sg	**Sg**	**11 25 27.2**	**+1.2**
MBH	**Mount Berech**	**1.19**	**266**	Pg	**Pg**	**11 25 09.9**	**-1.2**
PRNI	**Paran**	**1.20**	**293**	Pg	**Pg**	**11 25 10.1**	**-1.2**
HBST	**Basata**	**1.50**	**244**	P	**Pn**	**11 25 15.5**	**+0.3**
MZDA	**Masada**	**1.63**	**331**	Pn	**Pn**	**11 25 17.6**	**+0.6**
MASH	**Mash'abbe Sade**	**1.70**	**311**	Pn	**Pn**	**11 25 18.8**	**+0.8**
MKRJ	**Makawir**	**1.75**	**342**	Pn	**Pn**	**11 25 19.4**	**+0.6**
HDHB	**Dhahab**	**1.85**	**232**	P	**Pn**	**11 25 19.7**	**-0.4**
HNKL	**Nakhl**	**1.99**	**272**	P	**Pn**	**11 25 23.4**	**+1.3**
HNKL				S	**Sn**	**11 25 51.0**	**+3.9**
HKAT	**Jabal Katrina**	**2.41**	**236**	P	**Pn**	**11 25 27.9**	**+0.1**
SUZ		**2.99**	**270⇑**	P	**Pn**	**11 25 36.3**	**+0.6**

*NEIC **28** 11:35:03.6±2.0,2404S×17993E,h489km±22km,mb4.4/11,*
Error ellipse: s-maj=19.3km s-min=12.3km az=48.0
*IDC **28** 11:35:04.9±1.7,2405S×17981E,h501km±17km,mb3.5/9,*
mb1 3.7/11,mb1mx3.6/14,mbtmp4.4/11,Error ellipse:
s-maj=22.7km s-min=13.2km az=4.0
*ISCJB **28** 11:35:05.6±1.2,2413S±007×17974E±009,h519km±14km,*
mb4.1/16,Error ellipse: s-maj=13.3km s-min=9.7km
az=118.7

ISC 28 11:35:06.8±1.2,2428S±007×17981E±009,h520km±13km,
n37,σ0°96/41,mb4.1/16,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.49**	**277**	P	**P**	**11 37 46.7**	**-3.7**
	0.2nm,0.3s,baz=108,slow=16,SNR=2.3						
URZ	**Urewera**	**14.13**	**189**	P	**P**	**11 38 07.3**	**-0.2**
	4.2nm,0.3s,baz=24,slow=2.4,SNR=36						
URZ				S	**S**	**11 40 34.1**	**-2.4**
	0.8nm,0.3s,baz=47,slow=19,SNR=6.6						
URZ	**Urewera**	**14.13**	**189**	PN	**P**	**11 38 06.2**	**-1.3**
MWZ	**Matawai**	**14.15**	**187**	*e*PN	**P**	**11 38 09.6**	**+1.8**
PATZ	**Paeroa**	**14.38**	**191**	PN	**P**	**11 38 11.6**	**+1.4**
QRZ	**Quartz Range**	**17.59**	**199**	PN	**P**	**11 38 42.1**	**-0.2**
NNZ	**Nelson**	**17.73**	**196**	*e*PN	**P**	**11 38 43.0**	**-0.6**
NNZ				SN	**S**	**11 41 40.3**	**0.0**
THZ	**Tophouse**	**18.36**	**197**	*e*PN	**P**	**11 38 48.1**	**-1.3**
HNR	**Honiara**	**24.02**	**305**	*e*P	**P**	**11 39 40.2**	**-0.2**
	120nm,1.0s						
CTA	**Charters Tower**	**31.31**	**271**	*e*P	**P**	**11 40 45.3**	**+1.2**
	14nm,0.3s,mb5.0						
CTA	**Charters Tower**	**31.31**	**271**	P	**P**	**11 40 45.3**	**+1.2**
	19nm,0.3s,mb5.0,baz=93,slow=12,SNR=38						
CTAO	**Charters Tower**	**31.31**	**271**	*e*P	**P**	**11 40 45.2**	**+1.1**
	20nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**34.42**	**249**	*e*P	**P**	**11 41 09.6**	**-0.9**
	4.0nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**34.42**	**249**	P	**P**	**11 41 09.7**	**-0.9**
	1.7nm,0.5s,mb3.9,baz=312,slow=24,SNR=8.1						
STKA	**Stephens Creek**	**34.42**	**249**	*e*P	**P**	**11 41 09.4**	**-1.1**
PMG	**Port Moresby**	**34.46**	**290**	*e*P	**P**	**11 41 10.8**	**0.0**
	16nm,0.7s,mb4.7						
AS31	**Alice Springs**	**41.80**	**261**	*e*P	**P**	**11 42 11.1**	**+0.5**
AS31				*e*S	**S**	**11 47 50.2**	**-0.1**
ASAR	**Alice Springs**	**41.80**	**261**	P	**P**	**11 42 11.1**	**+0.4**
	2.4nm,0.6s,mb3.9,baz=95,slow=7.5,SNR=51						
ASAR				ScP	ScP	11 46 58.5	+3.3
	1.9nm,0.9s,baz=113,slow=4.0,SNR=7.9						
ASAR				S	**S**	**11 47 50.7**	**+0.3**
	0.9nm,0.8s,baz=98,slow=15,SNR=6.2						
ASPA	**Alice Springs**	**41.81**	**261**	*e*P	**P**	**11 42 11.1**	**+0.5**
ASPA				*e*S	**S**	**11 47 50.2**	**-0.2**
WB2	**Warramunga Arr**	**42.20**	**267**	*e*P	**P**	**11 42 13.6**	**-0.1**
WB2				*e*S	**S**	**11 47 54.3**	**-1.7**
WRAB	**Tennant Creek**	**42.20**	**267**	*e*P	**P**	**11 42 13.6**	**-0.1**
	7.9nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**42.21**	**267**	P	**P**	**11 42 13.8**	**-0.1**
	5.2nm,0.4s,mb4.4,baz=97,slow=8.3,SNR=200						
WRA				ScP	ScP	11 47 00.8	+4.0
	2.2nm,1.0s,baz=98,slow=3.8,SNR=11						
WRA				S	**S**	**11 47 57.1**	**+0.9**
	0.4nm,0.6s,baz=104,slow=16,SNR=4.3						
KAKA	**Kakadu**	**46.17**	**276**	*e*P	**P**	**11 42 44.0**	**-0.5**
	7.1nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.63**	**266**	*e*P	**P**	**11 43 18.4**	**+0.8**
	7.1nm,0.6s,mb4.2						
VNDA	**Vanda**	**53.99**	**185**	P	**P**	**11 43 42.8**	**+1.0**
	0.7nm,0.5s,mb3.2,baz=356,slow=7.4,SNR=7.9						
SBA	**Scott Base**	**53.99**	**183**	*e*P	**P**	**11 43 43.6**	**+1.8**
	2.7nm,0.6s,mb3.8						
CASY	**Casey**	**59.70**	**206**	*e*P	**P**	**11 44 20.4**	**-0.6**
	3.9nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	**65.81**	**180**	*e*P	**P**	**11 45 01.1**	**+0.7**
	7.1nm,0.6s,mb4.4						
MAW	**Mawson**	**77.34**	**200**	P	**P**	**11 46 08.3**	**+0.6**
	3.3nm,0.5s,mb4.0,baz=160,slow=5.7,SNR=12						
MAW	**Mawson**	**77.34**	**200**	*e*P	**P**	**11 46 07.9**	**+0.2**
	3.5nm,0.5s,mb4.0						
NVAR	**Mina Array Bea**	**85.14**	**44**	P	**P**	**11 46 46.2**	**-1.7**
	0.8nm,0.8s,mb3.3,baz=233,slow=9.2,SNR=6.9						
NVAR	**Mina Array Bea**	**85.14**	**44**	P	**P**	**11 46 46.2**	**-1.7**
PLCA	**Paso Flores**	**88.13**	**134**	P	**P**	**11 47 02.0**	**+0.1**
	1.2nm,0.8s,mb3.7,baz=192,slow=5.9,SNR=4.1						
PDAR	**Pinedale Array**	**93.08**	**44**	P	**P**	**11 47 24.4**	**-0.4**
	0.5nm,0.7s,mb3.6,baz=270,slow=3.0,SNR=3.9						
ARCES	**ARCESS Array B**	**132.22**	**349**	PKP	PKPdf	11 53 17.9	-3.5
	4.0nm,1.0s,baz=4,3,slow=4.9,SNR=5.3						
FINES	**FINESS Array B**	**138.75**	**341**	SKPbc	SKPbc	11 56 19.1	-0.2
	2.1nm,0.8s,baz=48,slow=2.8,SNR=6.4						
CLL	**Collm**	**151.16**	**343**	*e*PKPbc	PKPbc	11 54 01.0	-0.1

*GRAL **28** 11:38:23.5±1.5,3450N×3693E,h0km±922km,MD3.1*
*ISCJB **28** 11:38:26.9±0.7,3444N±005×3668E±005,h11km±9km,*
Error ellipse: s-maj=7.8km s-min=6.6km az=172.4
*CSEM **28** 11:38:26.4±0.4,3452N×3669E,h10km,Mc1.4,Error ellipse: s-maj=14.4km s-min=9.0km az=33.0*

*NSSC **28** 11:38:26.8,3444N×3660E,h18km±5km*

ISC 28 11:38:27.0±0.7,3445N±004×3668E±005,h17km±9km,n14,
σ1°14/21,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.23**	**288⇑**	P	**Pg**	**11 38 31.3**	**-1.1**
HAWK				*i*S	**Sg**	**11 38 35.4**	**-0.7**
HAWK	**Haweek**	**0.23**	**288⇑**	*i*P	**Pg**	**11 38 31.3**	**-1.1**
RABH	**Abou Rabah**	**0.44**	**91⇑**	P	**Pg**	**11 38 36.8**	**+0.9**
RABH	**Abou Rabah**	**0.44**	**91⇑**	*i*P	**Pg**	**11 38 36.8**	**+0.9**
ROOS	**tl_alroos**	**0.58**	**118⇑**	P	**Pg**	**11 38 38.9**	**+0.4**
ROOS	**tl_alroos**	**0.58**	**118⇑**	*i*P	**Pg**	**11 38 38.9**	**+0.4**
HWQ	**Hawqa**	**0.63**	**255**	*e*Pg	**Pg**	**11 38 39.3**	**-0.1**
HWQ				*e*Sg	**Sg**	**11 38 49.0**	**+1.3**
BIDA	**Albida**	**0.64**	**333**	P	**Pg**	**11 38 39.6**	**+0.1**
BIDA				*i*S	**Sg**	**11 38 48.7**	**+0.7**
BIDA	**Albida**	**0.64**	**333**	*i*P	**Pg**	**11 38 39.6**	**0.0**
BIDA				*i*S	**Sg**	**11 38 48.7**	**+0.7**
BHL	**Bhannes**	**1.01**	**238**	*e*Sg	**Sg**	**11 39 02.2**	**+2.5**
WRDH	**Warideh**	**1.08**	**349**	P	**Pb**	**11 38 47.0**	**-0.3**
WRDH				*i*S	**Sb**	**11 39 01.2**	**+0.1**
WRDH	**Warideh**	**1.08**	**349**	*i*P	**Pb**	**11 38 47.0**	**-0.3**
WRDH				*i*S	**Sb**	**11 39 01.2**	**+0.1**
RCY	**Rachaya**	**1.20**	**217**	*e*Pg	**Pg**	**11 38 47.9**	**-2.2**
RCY				*e*Sg	**Sg**	**11 39 06.2**	**+0.5**
MATL	**Matirih**	**1.47**	**230**	*e*Pg	**Pg**	**11 38 53.0**	**-2.4**

*NEIC **28** 11:44:00.6,3675N×2748E,h26km,MD2.9(ISK),*
MD2.9(ATH),After ATH.
*ATH **28** 11:44:00.6,3675N×2748E,h26km,MD2.9/4*
*ISCJB **28** 11:44:01.2±0.6,3676N±003×2747E±005,h12km±4km,*
Error ellipse: s-maj=6.7km s-min=4.8km az=107.2
*CSEM **28** 11:44:01.2±0.1,3678N×2749E,h12km,MD2.9,Error ellipse: s-maj=1.7km s-min=1.4km az=51.0*
*ISK **28** 11:44:01.3,3678N×2749E,h10km,MD2.9*

ISC 28 11:44:01.5±0.5,3675N±003×2747E±004,h14km±4km,n13,
σ0°69/20,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.09**	**105**	*i*PG	**Pg**	**11 44 04.2**	**-0.3**
DAT				*i*SG	**Sg**	**11 44 06.0**	**-0.7**
NISR	**Nisiros**	**0.31**	**243**	*e*PB	**Pg**	**11 44 08.0**	**+0.1**
NISR				*e*SB	**Sg**	**11 44 13.5**	**+1.4**
BDRM	**Kayabasi**	**0.31**	**357**	*i*P	**Pg**	**11 44 07.6**	**-0.4**
BDRM				*i*S	**Sg**	**11 44 12.2**	**-0.1**
BODT	**Bodrum**	**0.33**	**338**	*i*PG	**Pg**	**11 44 08.1**	**-0.2**
BODT				*i*SG	**Sg**	**11 44 12.9**	**0.0**
MLSB	**Milas**	**0.59**	**25**	PG	**Pg**	**11 44 12.7**	**-0.5**
ARG	**Arkhangelos**	**0.76**	**135**	*e*PN	**Pg**	**11 44 15.6**	**-0.6**
ARG				*e*SN	**Sg**	**11 44 26.1**	**0.0**
YER	**Yerkesik**	**0.76**	**60**	*e*PG	**Pg**	**11 44 16.0**	**-0.2**
DALT	**Dalyan (Mudla)**	**0.94**	**89**	*e*PG	**Pg**	**11 44 20.2**	**+0.5**
SMG	**Samos**	**1.08**	**332**	*e*PN	**Pn**	**11 44 21.3**	**-0.9**
SMG				*e*SN	**Sn**	**11 44 36.6**	**-0.4**
KARP	**Karpathos**	**1.23**	**192**	*e*PN	**Pn**	**11 44 23.7**	**-0.6**
FETY	**Fethiye**	**1.30**	**95**	*e*PN	**Pn**	**11 44 25.8**	**+0.5**
DNZL	**Cakiroluk**	**1.57**	**53**	*i*P	**Pg**	**11 44 31.2**	**-0.4**
DNZL				*i*S	**Sg**	**11 44 54.1**	**+2.1**
IZM	**Izmir**	**1.65**	**354**	*e*PN	**Pn**	**11 44 31.0**	**+0.9**

*ISCJB **28** 12:17:59.1±0.8,3964N±003×2346E±007,h8km±6km,*
Error ellipse: s-maj=9.5km s-min=4.1km az=26.8
*CSEM **28** 12:17:59.7±0.1,3962N×2353E,h10km,MD3.4,Error ellipse: s-maj=2.5km s-min=1.4km az=110.0*
*NEIC **28** 12:17:59.2,3962N×2351E,h25km,MD3.4(ATH),After ATH.*
*ATH **28** 12:17:59.2,3962N×2351E,h25km±2km,MD3.4/3*
*THE **28** 12:18:00.9,3967N×2335E,h10km,ML2.7*

ISC 28 12:17:59.9±0.7,3964N±003×2347E±007,h13km±5km,n16,
σ0°62/23,Aegean Sea

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

NJ2			AP	pP	12 32 06.0	-2.9
NJ2			XP	sP	12 32 09.0	-3.2
NJ2			PCP	PcP	12 33 37.0	+0.6
NJ2			S	**S**	**12 38 46.0**	**+1.1**
NJ2			AMB	AMB		
	comp=Z,120nm,8.2s					
NJ2			LR	LR		
	comp=N,690nm,20.0s,MS4.7					
NJ2			LR	LR		
	comp=E,700nm,23.7s,MS4.7					
NJ2			LR	LR		
	comp=Z,530nm,21.0s,MS4.5					
NVAR	**Mina Array Bea**	**46.14 80**	P	**P**	**12 32 00.5**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=351,slow=35,SNR=3.2					
PDAR	**Pinedale Array**	**48.72 70**	P	**P**	**12 32 19.3**	**-1.4**
	comp=Z,0.3nm,0.7s,mb3.5,baz=322,slow=8.2,SNR=2.6					
LZH	**Lanzhou**	**52.70 283**	*e*P	**P**	**12 32 50.3**	**-0.4**
LZH			*e*PP	PP	12 34 49.8	-0.2
LZH			AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.5					
LZH			AMB	AMB		
	comp=Z,40nm,7.4s					
LZH			LR	LR		
	comp=N,210nm,16.5s					
LZH			LR	LR		
	comp=Z,240nm,18.9s,MS4.3					
GTA	**Gaotai**	**52.93 289**	P	**P**	**12 32 54.0**	**+1.6**
GTA			AP	pP	12 32 58.3	-2.5
GTA			XP	sP	12 33 01.5	-2.6
GTA			PP	PP	12 34 55.8	+3.7
GTA			PCS	PcS	12 37 59.3	-0.5
GTA			S	**S**	**12 40 22.8**	**+2.9**
GTA			SCS	ScS	12 42 39.3	-0.9
GTA			SS	SS	12 44 00.3	+1.3
GTA			AMB	AMB		
	comp=Z,90nm,4.6s					
GTA			LR	LR		
	comp=N,70nm,9.5s					
GTA			LR	LR		
	comp=E,80nm,11.1s					
GTA			LR	LR		
	comp=Z,80nm,12.2s,MS4.0					
CD2	**Chengdu**	**56.28 278**	*e*P	**P**	**12 33 14.8**	**-1.9**
CD2			PP	PP	12 35 21.3	-0.8
CD2			S	**S**	**12 41 01.8**	**-3.1**
CD2			SS	SS	12 44 47.8	-4.0
CD2			AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7					
CD2			AMB	AMB		
	comp=Z,30nm,5.6s					
CD2			LR	LR		
	comp=N,80nm,18.5s					
CD2			LR	LR		
	comp=Z,90nm,14.2s,MS4.0					
KURK	**Kurchatov**	**56.80 311**	*e*P	**P**	**12 33 19.6**	**-0.9**
	comp=Z,2.7nm,0.9s,mb4.3					
WMQ	**Urumqi**	**56.87 300**	*e*P	**P**	**12 33 21.8**	**+0.9**
WMQ			LR	LR		
	comp=N,50nm,25.0s,MS3.5					
WMQ			LR	LR		
	comp=E,10.0nm,23.0s,MS3.5					
WMQ			LR	LR		
	comp=Z,10.0nm,21.0s,MS2.9					
MKAR	**Makanchi Array**	**57.68 306**	P	**P**	**12 33 25.1**	**-1.5**
	comp=Z,0.5nm,0.6s,mb3.7,baz=47,slow=6.6,SNR=3.3					
KMI	**Kunming**	**61.03 275**	P	**P**	**12 33 51.0**	**+1.2**
WRA	**Warramunga Arr**	**80.49 220**	P	**P**	**12 35 50.4**	**+2.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=30,slow=5.8,SNR=7.5					
ASAR	**Alice Springs**	**84.02 219**	P	**P**	**12 36 09.4**	**+2.9**
	comp=Z,0.4nm,0.5s,mb3.8,baz=25,slow=5.3,SNR=9.2					

GUC 28 12:32:41.8±0.5,3328S×7229W,h3km±2km,MD3.7,ML2.3, 2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.64**	**108**	*e*P	Pg	12 32 54.8	+0.8
LCCH				*i* S	Sg	12 33 04.3	+2.0
LNV	**Longovilo**	**1.00**	**133**	⇓*i* P	Pg	12 33 00.7	-0.2
LNV				*i* S	Sg	12 33 14.9	+1.0
TACH	**Talagante**	**1.19**	**108**	*i* P	Pg	12 33 03.8	-0.9
TACH				*i* S	Sg	12 33 20.9	+0.8
RCDM	**Rinconada Maip**	**1.26**	**100**	*i* P	Pg	12 33 05.0	-1.0
RCDM				*i* S	Sg	12 33 22.3	-0.1
RCDM				AML	AML	12 33 26.3	
	comp=E,114nm,0.6s						
PCH	**Pirque**	**1.53**	**103**	*i* P	Pn	12 33 09.2	-0.8
JACH	**Jahuel**	**1.55**	**68**	*e*P	Pn	12 33 09.4	-0.9
JACH				*i* S	Sn	12 33 31.3	+0.4
FCH	**Farellones**	**1.68**	**92**	*e*P	Pn	12 33 12.6	+0.5
FCH				*i* S	Sn	12 33 35.4	+1.3
FCH				AML	AML	12 33 38.1	
	comp=N,58nm,0.4s						
SFDO	**San Fernando**	**1.70**	**142**	⇑*i* P	Pn	12 33 12.3	-0.1
CICH	**Cipreses**	**1.87**	**124**	⇑*i* P	Pn	12 33 14.7	0.0

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*ISCJB **28** 12:37:05.5±0.6,4984N±009×9181E±007,h10km,mb5.0/1, MS4.2/1,Error ellipse: s-maj=12.3km s-min=6.2km az=5.0*
*MOS **28** 12:37:05.0±1.1,4989N×9180E,h11km,mb5.0/1,Error ellipse: s-maj=15.3km s-min=11.7km az=106.1*
*IDC **28** 12:37:06.1±1.7,5004N×9183E,h0km,mb1 3.4/3, mb1mx3.2/23,mbtmp3.3/3,ML3.1/3,Error ellipse: s-maj=22.8km s-min=17.4km az=2.0*

ISC 28 12:37:07.9±0.6,4993N±009×9183E±006,h10km,n17, σ1§19/22,mb5.0/1,MS4.2/1,4C-2D,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASR	**Tashtagol**	**3.76**	**320**	*e*PN	**Pb**	**12 38 14.3**	**-0.1**
TASR				*e*		12 39 00.5	
UKR	**Ust'-Kan**	**4.62**	**285**	*e*PN	**Pb**	**12 38 30.6**	**+1.6**
UKR				*e*		12 39 29.1	
ELT	**Yel'tsovka**	**4.82**	**316**	*e*PN	**Pn**	**12 38 20.8**	**+0.2**
ELT				*e*		12 38 32.5	
ELT				*e*		12 39 33.8	
ZAL	**Zalesovo**	**5.92**	**315**	Pn	**Pn**	**12 38 35.9**	**+0.3**
	0.7nm,0.3s,baz=334,slow=11,SNR=2.7						
ZAL				Pg	**Pg**	**12 38 51.4**	**-10**
	2.6nm,0.3s,baz=347,slow=12,SNR=7.5						
ZAL				Lg		12 40 08.9	
	3.9nm,0.3s,baz=217,slow=24,SNR=3.3						
MOY	**Mondy**	**6.07**	**70**	*e*PN	**Pb**	**12 38 53.6**	**-0.1**
MOY				pmax	pmax		
	comp=Z,42nm,1.0s						
KRAR	**Krasnoyarsk**	**6.13**	**6**	⇑*e*PN	**Pn**	**12 38 39.5**	**+1.0**
MKAR	**Makanchi Array**	**7.08**	**247**	Pn	**Pn**	**12 38 52.8**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=57,slow=14,SNR=16						
MKAR				Pg	**Pg**	**12 39 18.2**	**-5.3**
	comp=Z,4.4nm,0.3s,baz=73,slow=18,SNR=22						
MKAR				Lg		12 40 51.7	
	comp=Z,7.2nm,0.3s,baz=58,slow=29,SNR=9.3						
MK02	**Makanchi Array**	**7.08**	**247**	⇓Pn	**Pn**	**12 38 52.0**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=74,slow=13						
MK02				⇑Pg	**Pg**	**12 39 15.1**	**-8.5**
	baz=74,slow=17						
MK02				⇑Lg		12 40 49.2	
	comp=Z,49nm,0.7s,baz=70,slow=34						
ZAK	**Zakamensk**	**7.38**	**82**	*e*P	**Pn**	**12 39 01.7**	**+6.1**
ZAK				pmax	pmax		
	comp=Z,36nm,1.8s						
TLY	**Talaya**	**7.69**	**72**	*i* P	**Pn**	**12 39 00.6**	**+0.6**
KURK	**Kurchatov**	**8.49**	**280**	⇓Pn	**Pn**	**12 39 08.7**	**-2.2**
	comp=Z,3.7nm,0.7s						
KURK				⇑Lg		12 41 30.3	
	comp=Z,49nm,0.8s						
KURK	**Kurchatov**	**8.49**	**280**	*i* P	**Pn**	**12 39 10.8**	**-0.1**
SONM	**Songino Array**	**9.83**	**97**	Pn	**Pn**	**12 39 29.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=290,slow=14,SNR=3.6						
SONM				Pg	Pn	12 40 06.2	+37
	comp=Z,0.5nm,0.3s,baz=286,slow=18,SNR=3.9						
SONM				Lg		12 42 14.5	
	comp=Z,1.0nm,0.3s,baz=283,slow=31,SNR=12						
ULN	**Ulaanbaatar**	**10.24**	**96**	*i* P	**Pn**	**12 39 36.2**	**+1.3**
ARU	**Arti**	**20.82**	**301**	*i* P	**P**	**12 41 49.0**	**-0.5**
HABR	**Khabarovsk**	**28.00**	**76**	*e*P	**P**	**12 42 56.4**	**-2.5**
HABR				*e*S	**S**	**12 47 41.1**	**-1.9**
SOC	**Sochi**	**35.64**	**280**	*e*P	**P**	**12 44 03.6**	**-2.4**
SOC				*e*		12 45 27.4	
SOC				*e*S	**S**	**12 49 41.3**	**-0.9**
SOC				*e*SS	SS	12 52 19.8	+2.5
SOC				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.0						
SOC				MLR	MLR		
	comp=Z,437nm,20.0s,MS4.2						

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*NEIC **28** 12:49:35.9,15.16N×93.18W,h28km,MD4.2(MEX),After MEX.*

MEX 28 12:49:35.1±1.1,1510N×9319W,h32km±677km,MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.55**	**40**	*i* P	Pn	12 49 59.4	-1.0
CCIG				*i* S	Sn	12 50 16.5	-2.9
SCX	**San Cristobal**	**1.71**	**18**	*i* P	Pn	12 50 03.0	+0.3
SCX				*i* S	Sn	12 50 25.0	+1.6
CMIG	**Matias Romero**	**2.57**	**321**	*i* P	Pn	12 50 12.6	-1.8
CMIG				*i* S	Sn	12 50 43.0	-1.5
TUIG	**Tuzandepetl**	**3.15**	**338**	*i* P	Pn	12 50 21.5	-0.9
TUIG				*i* S	Sn	12 50 56.7	-2.2
TUIG	**Tuzandepetl**	**3.15**	**338**	*i* P	Pn	12 50 12.5	-10
TUIG				*i* S	Sn	12 51 00.5	+1.6
VHO	**Vista Hermosa**	**3.94**	**300**	*i* P	Pn	12 50 31.9	-1.4
VHO				*i* S	Sn	12 51 15.4	-2.9
VHO	**Vista Hermosa**	**3.94**	**300**	*i* P	Pn	12 50 34.6	+1.4
VHO				*i* S	Sn	12 51 15.4	-2.9
UTMO	**Huajuapan**	**5.20**	**302**	*i* P	Pn	12 50 54.4	+3.8
UTMO				*i* S	Sn	12 51 48.0	-1.4

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*ISCJB **28** 12:58:49.6±0.2,1754N±003×14565E±004,h216km, mb4.5/64,Error ellipse: s-maj=6.2km s-min=4.2km az=56.2*
*MOS **28** 12:58:49.1±0.8,1761N×14555E,h217km,mb5.0/18,Error ellipse: s-maj=18.1km s-min=8.5km az=70.4*
*BJI **28** 12:58:49.4,1750N×14570E,h204km,mB4.6,mb4.5*
*IDC **28** 12:58:49.9±1.1,1753N×14576E,h209km±10km,mb4.1/16, mb1 4.1/19,mb1mx4.0/27,mbtmp4.6/19,MS3.2/1, Ms1 3.2/1,ms1mx2.1/33,Error ellipse: s-maj=16.5km s-min=6.9km az=96.0*
*NEIC **28** 12:58:50.5±0.1,1755N×14573E,mb4.7/46,Error ellipse: s-maj=6.1km s-min=3.4km az=116.0*

ISC 28 12:58:51.3±0.2,1754N±003×14568E±004,h218km, h218km±3.3km:pP-P,n258,σ0§68/266,mb4.5/64,46C-56D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.00**	**191**	P	**Pn**	**12 59 52.9**	**-0.9**
	98nm,0.3s,baz=124,slow=2.9,SNR=56						
GUMO				S	**S**	**13 00 40.8**	**-2.3**
	248nm,0.3s,baz=161,slow=22,SNR=12						
GUMO	**Guam**	**4.00**	**191**	P	**Pn**	**12 59 52.9**	**-0.9**
GUMO				S	**S**	**13 00 40.8**	**-2.3**
CBIJ	**Chichi jima**	**10.04**	**342**	P	**Pn**	**13 01 09.2**	**-1.5**
	4.4nm,0.3s,baz=252,slow=20,SNR=5.2						
CBIJ				S	**S**	**13 02 54.2**	**-9.2**
	2.9nm,0.3s,baz=267,slow=23,SNR=3.6						
JOW	**Kunigami**	**18.56**	**303**	P	**P**	**13 02 52.8**	**+0.8**
	0.6nm,0.3s,baz=133,slow=9.5,SNR=4.6						
JOW				LR	LR	13 10 06.3	
	comp=Z,79nm,19.2s,baz=83,slow=36						
MJAR	**Matsushiro Arr**	**20.05**	**342**	P	**P**	**13 03 06.5**	**-1.3**
	1.7nm,0.7s,baz=164,slow=9.2,SNR=6.0						
YHNB	**Yeheng**	**23.73**	**292**	*e*P	**P**	**13 03 44.8**	**+1.2**
ASAJ	**Asahikawa**	**26.62**	**355**	P	**P**	**13 04 09.3**	**-0.3**
	5.6nm,0.8s,mb4.3,baz=150,slow=2.4,SNR=4.4						
PMG	**Port Moresby**	**26.81**	**177**	P	**P**	**13 04 11.4**	**0.0**
	12nm,0.7s,mb4.6,baz=90,slow=1.9,SNR=4.0						
PMG	**Port Moresby**	**26.81**	**177**	*e*P	**P**	**13 04 10.6**	**-0.8**
PMG				pmax	pmax		
	comp=Z,19nm,0.9s						
PMG	**Port Moresby**	**26.81**	**177**	*e*P	**P**	**13 04 10.6**	**-0.8**
	comp=Z,19nm,0.9s,mb4.7						
NJ2	**Nanjing**	**28.21**	**306**	*e*P	**P**	**13 04 25.3**	**+1.5**
NJ2				AP	pP	13 05 06.0	-1.5
NJ2				PP	PP	13 05 25.0	-7.1
NJ2				XP	sP	13 05 30.0	-2.8
NJ2				S	**S**	**13 08 57.0**	**+3.9**
NJ2				XS	sS	13 10 06.0	-5.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,200nm,5.4s						
NJ2				LR	LR		
	comp=N,260nm,12.2s						
NJ2				LR	LR		
	comp=E,160nm,9.4s						
NJ2				LR	LR		
	comp=Z,120nm,8.4s						
MDJ	**Mudanjiang**	**30.19**	**337**	P	**P**	**13 04 45.0**	**+3.8**
MDJ				AMB	AMB		
	comp=Z,40nm,4.5s						
KAKA	**Kakadu**	**32.78**	**204**	*e*P	**P**	**13 05 03.1**	**-0.7**
	comp=Z,8.3nm,0.6s,mb4.4						
GYA	**Guiyang**	**37.13**	**291**	⇑*i*P	**P**	**13 05 43.3**	**+2.3**
GYA				AP	pP	13 06 30.0	+4.0
GYA				PP	PP	13 07 18.5	+8.1
GYA				PCP	PcP	13 07 57.5	+1.2
GYA				S	**S**	**13 11 14.5**	**+3.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,70nm,3.8s						
CTA	**Charters Tower**	**37.40**	**179**	P	**P**	**13 05 43.8**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.0,baz=359,slow=10,SNR=3.5						
HHC	**Hu-ho-hao-te**	**37.40**	**316**	*e*P	**P**	**13 05 43.0**	**-0.3**
HHC				AP	pP	13 06 26.3	-2.1
HHC				PCP	PcP	13 07 57.3	+0.1
HHC				S	**S**	**13 11 15.0**	**+0.1**
HHC				PCS	PcS	13 11 45.3	-0.6
HHC				XS	sS	13 12 31.3	-3.7
HHC				SS	SS	13 14 01.8	-6.9
HHC				SCS	ScS	13 15 31.5	-0.7
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
HHC				AMB	AMB		
	comp=Z,60nm,4.2s						
KSM	**Kuching**	**38.24**	**249**	*e*P	**P**	**13 05 50.8**	**+0.5**
WRAB	**Tennant Creek**	**38.87**	**197**	*e*P	**P**	**13 05 55.8**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.1						
WRAB	**Tennant Creek**	**38.87**	**197**	*e*P	**P**	**13 05 55.8**	**+0.3**
	comp=Z,58nm,0.9s,mb5.1						
WB2	**Warramunga Arr**	**38.87**	**197**	*e*P	**P**	**13 05 55.3**	**-0.2**
WB2				*e*S	**S**	**13 11 40.3**	**+3.4**
WRA	**Warramunga Arr**	**38.88**	**197**	P	**P**	**13 05 55.7**	**+0.2**
	comp=Z,24nm,0.9s,mb4.7,baz=16,slow=8.3,SNR=67						
WRA				S	**S**	**13 11 39.6**	**+2.6**
	comp=Z,1.8nm,0.9s,baz=27,slow=15,SNR=4.8						
CD2	**Chengdu**	**40.25**	**297**	*e*P	**P**	**13 06 05.5**	**-1.3**
CD2				AP	pP	13 06 50.8	-1.7
CD2				XP	sP	13 07 14.8	-2.5
CD2				PP	PP	13 07 45.0	+0.7
CD2				S	**S**	**13 11 56.0**	**-1.4**
CD2				XS	sS	13 13 15.5	-2.8
CD2				SS	SS	13 14 57.0	-8.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CD2				AMB	AMB		
	comp=Z,40nm,6.2s						
FITZ	**Fitzroy Crossi**	**40.53**	**210**	*e*P	**P**	**13 06 09.9**	**+0.7**
	comp=Z,33nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**40.53**	**210**	P	**P**	**13 06 10.3**	**+1.1**
	comp=Z,7.5nm,0.3s,mb4.6,baz=37,slow=9.9,SNR=176						
KMI	**Kunming**	**40.57**	**288**	P	**P**	**13 06 10.8**	**+1.3**
LZH	**Lanzhou**	**41.28**	**305**	P	**P**	**13 06 15.5**	**+0.2**
LZH				PP	PP	13 07 55.8	+0.4
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
LZH				AMB	AMB		
	comp=Z,70nm,5.6s						
AS31	**Alice Springs**	**42.54**	**196**	*e*P	**P**	**13 06 25.7**	**+0.3**
AS31				*e*S	**S**	**13 12 30.0**	**-1.0**
ASAR	**Alice Springs**	**42.54**	**196**	P	**P**	**13 06 25.4**	**-0.1**
	comp=Z,2.5nm,0.6s,mb3.9,baz=17,slow=9.1,SNR=56						
ASAR				S	**S**	**13 12 30.3**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=18,slow=19,SNR=11						
ASPA	**Alice Springs**	**42.54**	**196**	*e*P	**P**	**13 06 25.7**	**+0.3**
ASPA				*e*S	**S**	**13 12 30.0**	**-1.1**
SONM	**Songino Array**	**44.04**	**322**	P	**P**	**13 06 37.7**	**+0.3**
	comp=Z,1.8nm,0.7s,mb3.5,baz=134,slow=7.4,SNR=8.8						
DZM	**Mont Dzumac**	**44.31**	**152**	P	**P**	**13 06 39.3**	**-0.2**
	comp=Z,16nm,1.0s,mb4.3,baz=5.5,slow=13,SNR=3.8						
MBWA	**Marble Bar**	**46.11**	**215**	*e*P	**P**	**13 06 54.1**	**+0.4**
	comp=Z,21nm,0.8s,mb4.5						
ZAK	**Zakamensk**	**47.06**	**324**	*e*P	**P**	**13 06 55.3**	**-5.8**
ZAK				*e*	pP	13 07 46.2	-1.9
ZAK				pmax	pmax		
	comp=Z,50nm,2.0s,mb4.5						
STKA	**Stephens Creek**	**49.29**	**185**	*e*P	**P**	**13 07 15.8**	**-2.3**
	comp=Z,5.8nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**49.29**	**185**	P	**P**	**13 07 15.8**	**-2.3**
	comp=Z,5.7nm,0.5s,mb4.2,baz=2.4,slow=9.8,SNR=11						
AKUT	**Akutan**	**52.13**	**34**	*e*P	**P**	**13 07 38.1**	**-1.2**
	comp=Z,39nm,0.6s,mb5.0						
BILL	**Bilibino**	**52.16**	**10**	*e*P	**P**	**13 07 38.1**	**-1.4**
BILL				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.2						
BILL	**Bilibino**	**52.16**	**10**	*e*P	**P**	**13 07 38.1**	**-1.4**
	comp=Z,8.1nm,0.8s,mb4.2						
WMQ	**Urumqi**	**55.05**	**312**	*e*P	**P**	**13 08 01.3**	**+0.9**
SDPT	**Sand Point**	**55.43**	**34**	*e*P	**P**	**13 08 01.6**	**-1.5**
	comp=Z,64nm,0.7s,mb5.3						
MUN	**Mundaring**	**56.77**	**210**	*e*P	**P**	**13 08 12.4**	**-0.2**
MKAR	**Makanchi Array**	**59.25**	**314**	P	**P**	**13 08 29.6**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.5,baz=94,slow=9.7,SNR=4.8						
SVW2	**Sparrevohn**	**59.85**	**29**	*e*P	**P**	**13 08 33.5**	**-0.3**
KDAK	**Kodiak Island**	**60.34**	**33**	P	**P**	**13 08 36.1**	**-1.0**
	comp=Z,19nm,1.1s,mb4.7,baz=352,slow=2.5,SNR=5.6						
KURK	**Kurchatov**	**62.12**	**319**	*e*P	**P**	**13 08 47.8**	**-1.3**
KURK				*e*PP	pP	13 09 35.2	-3.7
KURK				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.1						
KURK	**Kurchatov**	**62.12**	**319**	*e*P	**P**	**13 08 47.8**	**-1.4**
	comp=Z,6.9nm,1.3s,mb4.1						
KURK				*e*pP	pP	13 09 35.2	-3.6
PMR	**Palmer**	**62.97**	**29**	*e*P	**P**	**13 08 52.9**	**-1.8**
PMR				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.7						
PMR	**Palmer**	**62.97**	**29**	*e*P	**P**	**13 08 52.9**	**-1.8**
	comp=Z,14nm,0.7s,mb4.7						
SML	**Sawmill**	**63.39**	**29**	*e*P	**P**	**13 08 56.1**	**-1.4**
COLA	**College**	**64.31**	**26**	*e*P	**P**	**13 09 01.5**	**-2.0**
	comp=Z,6.3nm,0.9s,mb4.2						
MENT	**Mentasta**	**65.71**	**28**	*e*P	**P**	**13 09 11.9**	**-0.6**
DAWY	**Dawson**	**67.78**	**27**	*e*P	**P**	**13 09 24.6**	**-0.9**
DAWY				*e*pP	pP	13 10 14.9	-1.3
INK	**Inuvik**	**70.44**	**23**	*e*P	**P**	**13 09 40.3**	**-1.6**
INK				*e*PP	pP	13 10 30.9	-2.0
INK				pmax	pmax		
	comp=Z,31nm,0.9s						
INK	**Inuvik**	**70.44**	**23**	*e*P	**P**	**13 09 40.3**	**-1.6**
	comp=Z,31nm,0.9s,mb4.9						
INK				*e*pP	pP	13 10 30.9	-2.0
DLBC	**Dease Lake**	**72.26**	**33**	*e*P	**P**	**13 09 52.7**	**-0.1**
DLBC				*e*pP	pP	13 10 45.2	+1.2
TBI	**Tubuai**	**75.26**	**121**	*e*LQ		13 09 48.4	
	comp=Z,368nm,28.5s						
TBI				*e*LR	LR	13 10 40.4	
	comp=Z,603nm,28.5s,baz=272						
C04A	**Brinnon**	**78.13**	**44**	⇓P	**P**	**13 10 26.4**	**+0.3**
	baz=78						
F03A	**Seaside**	**78.13**	**45**	⇓P	**P**	**13 10 26.6**	**+0.4**
	baz=78						
CMW	**Cultus Mountai**	**78.52**	**43**	P	**P**	**13 10 29.0**	**+0.6**
B05A	**Bryant**	**78.57**	**43**	⇑P	**P**	**13 10 28.8**	**+0.2**
	baz=78						
H03A	**Soap Creek Ran**	**78.60**	**47**	⇓P	**P**	**13 10 29.5**	**+0.7**
	baz=78						
M01C	**Crescent City**	**78.66**	**50**	⇑P	**P**	**13 10 29.2**	**+0.1**
	baz=78						
JCW	**Jim Creek**	**78.70**	**43**	P	**P**	**13 10 29.6**	**+0.3**
I03A	**Eugene**	**78.77**	**47**	⇓P	**P**	**13 10 29.9**	**+0.2**
	baz=79						
D05A	**Enumclaw**	**78.90**	**44**	⇓P	**P**	**13 10 30.9**	**+0.5**
	baz=79						
K02A	**Glendale**	**78.90**	**49**	⇑P	**P**	**13 10 29.9**	**-0.5**
	baz=79						
F04A	**Amboy**	**78.91**	**45**	⇑P	**P**	**13 10 30.4**	**0.0**
	baz=79,SNR=5.0						
C05A	**Tolt Reservoir**	**78.97**	**43**	⇑P	**P**	**13 10 30.7**	**-0.1**
	baz=79						
YKW3	**Yellowknife Ar**	**78.99**	**28**	*e*P	**P**	**13 10 28.9**	**-2.0**
YKA	**Yellowknife Ar**	**79.02**	**28**	P	**P**	**13 10 29.5**	**-1.5**
	comp=Z,12nm,0.7s,mb4.6,baz=289,slow=5.6,SNR=47						
G04A	**Mulino**	**79.04**	**46**	⇓P	**P**	**13 10 31.0**	**-0.2**
	baz=79						
J03A	**Ideyld Park**	**79.14**	**48**	⇓P	**P**	**13 10 30.7**	**-1.0**
	baz=79						
E05A	**Randle**	**79.20**	**45**	⇑P	**P**	**13 10 31.6**	**-0.5**
	baz=79						
HUMO	**Hull Mountain**	**79.32**	**49**	⇑P	**P**	**13 10 32.9**	**+0.2**
	baz=79						
H04A	**Detroit Lake**	**79.36**	**47**	P	**P**	**13 10 32.9**	**0.0**
	baz=79,SNR=6.6						
HBO	**Huckleberry Mo**	**79.48**	**47**	P	**P**	**13 10 33.9**	**+0.4**
N02C	**Big Bar**	**79.50**	**51**	⇓P	**P**	**13 10 32.9**	**-0.8**
	baz=79						
F05A	**White Salmon**	**79.57**	**45**	⇓P	**P**	**13 10 34.1**	**0.0**
	baz=79						
M02C	**Callahan**	**79.70**	**50**	⇑P	**P**	**13 10 34.9**	**+0.2**
	baz=80						
YBH	**Yreka Blue Hor**	**79.72**	**50**	P	**P**	**13 10 35.2**	**+0.4**
	comp=Z,8.7nm,1.0s,mb4.3,baz=281,slow=2.0,SNR=8.8						
YBH	**Yreka Blue Hor**	**79.72**	**50**	⇑P	**P**	**13 10 35.4**	**+0.6**
	baz=80,SNR=5.2						
P01C	**Double 8 Ranch**	**79.81**	**52**	⇓P	**P**	**13 10 35.6**	**+0.4**
	baz=80						
G05A	**Wamic**	**79.82**	**46**	⇑P	**P**	**13 10 35.7**	**+0.3**
	baz=80						
EBG	**Ellensburg**	**79.91**	**44**	P	**P**	**13 10 36.4**	**+0.5**
O02C	**Red Bluff**	**80.04**	**51**	⇑P	**P**	**13 10 36.7**	**+0.1**
	baz=80						
WTV	**Waterville**	**80.11**	**43**	P	**P**	**13 10 36.6**	**-0.3**
WDC	**Whiskeytown Da**	**80.12**	**51**	*e*P	**P**	**13 10 36.7**	**-0.3**
WDC				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.4						
WDC	**Whiskeytown Da**	**80.12**	**51**	*e*P	**P**	**13 10 36.7**	**-0.3**
	comp=Z,12nm,1.3s,mb4.3						
WDC	**Whiskeytown Da**	**80.12**	**51**	⇓P	**P**	**13 10

BDM	Black Diamond	81.31	53	⇑P	P	13 10 43.4	+0.1
	baz=81						
M06C	Likely Place G	81.47	50	⇓P	P	13 10 44.3	+0.2
	baz=81,SNR=6.8						
O05C	Quincy	81.48	51	⇑P	P	13 10 44.1	-0.1
	baz=81						
J07A	Hines	81.71	47	⇓P	P	13 10 45.6	+0.3
	baz=82,SNR=15						
NEW	Newport	81.78	42	eP	P	13 10 45.1	-0.6
NEW				pmax	pmax		
	comp=Z,18nm,1.1s						
NEW	Newport	81.78	42	eP	P	13 10 45.1	-0.7
	comp=Z,18nm,1.1s,mb4.6						
S04C	Ingram Canyon,	81.84	53	⇑P	P	13 10 46.3	+0.2
	baz=82,SNR=6.9						
P05C	Yuba Gap, Truc	81.89	51	⇓P	P	13 10 46.5	+0.2
	baz=82,SNR=7.8						
LAVA	Lava Cap Winer	81.94	52	⇑P	P	13 10 46.7	+0.1
	baz=82,SNR=9.4						
HAST	Hastings Reser	81.97	54	P	P	13 10 47.1	+0.4
	baz=82,SNR=11						
L07A	Adell	82.07	49	⇑P	P	13 10 47.8	+0.6
	baz=82,SNR=19						
O06A	Flanigan	82.23	50	⇑P	P	13 10 48.2	+0.2
	baz=82,SNR=11						
V03C	Hunter Liggett	82.31	55	⇓P	P	13 10 49.1	+0.6
	baz=82						
P06A	Stead Airport,	82.31	51	⇓P	P	13 10 48.9	+0.4
	baz=82						
M07A	Soldier Meadow	82.37	49	⇑P	P	13 10 49.1	+0.3
	baz=82,SNR=14						
CMB	Columbia Colle	82.41	53	eP	P	13 10 48.8	-0.2
CMB				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.7						
CMB	Columbia Colle	82.41	53	eP	P	13 10 48.8	-0.2
	comp=Z,25nm,1.3s,mb4.7						
CMB	Columbia Colle	82.41	53	⇓P	P	13 10 49.0	0.0
	baz=82,SNR=11						
WVOR	Wild Horse Val	82.45	48	eP	P	13 10 49.2	0.0
WVOR				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.6						
WVOR	Wild Horse Val	82.45	48	eP	P	13 10 49.1	-0.1
	comp=Z,13nm,0.9s,mb4.6						
R05C	Kirkwood Meado	82.46	52	⇓P	P	13 10 49.2	0.0
	baz=82,SNR=5.8						
EDM	Edmonton	82.52	37	eP	P	13 10 48.6	-1.0
WCN	Washoe City	82.53	51	⇓P	P	13 10 49.8	+0.2
	baz=82,SNR=6.7						
U04C	Hernandez Rese	82.58	54	⇓P	P	13 10 50.3	+0.4
	baz=82,SNR=7.2						
S05C	Merced	82.64	53	⇓P	P	13 10 50.0	-0.2
	baz=82						
BMO	Blue Mountains	82.67	45	eP	P	13 10 49.9	-0.4
BMO				pmax	pmax		
	comp=Z,31nm,1.4s,mb4.8						
BMO	Blue Mountains	82.67	45	eP	P	13 10 49.9	-0.4
	comp=Z,31nm,1.4s,mb4.8						
PAHR	Pah Rah Range	82.69	51	eP	P	13 10 50.1	-0.3
	comp=Z,23nm,1.2s,mb4.8						
PAHR				epP	pP	13 11 46.4	+3.4
V04C	Ramage Ranch,	82.71	55	⇑P	P	13 10 50.3	-0.2
	baz=82						
L08A	Fields	82.73	48	⇑P	P	13 10 50.8	+0.2
	baz=83,SNR=26						
PKD	Parkfield	82.88	55	⇑P	P	13 10 51.6	+0.2
	baz=83,SNR=9.3						
M08A	Happy Creek Ra	82.92	49	⇓P	P	13 10 52.0	+0.4
	baz=83,SNR=6.3						
O07A	Toulon	82.93	50	⇑P	P	13 10 51.8	+0.1
	baz=83,SNR=9.8						
P07A	Fallon	83.10	51	⇓P	P	13 10 52.9	+0.4
	baz=83						
PTRM	Twissleman Ran	83.22	55	eP	P	13 10 53.2	+0.1
L09A	Wilkinson Ranc	83.26	48	⇓P	P	13 10 53.6	+0.2
	baz=83,SNR=19						
N08A	GE Springer Mi	83.30	49	P	P	13 10 53.9	+0.4
	baz=83,SNR=15						
WALA	Waterton Lakes	83.56	41	eP	P	13 10 54.8	0.0
	comp=Z,26nm,1.7s,mb4.7						
M09A	Marrel Ranch,	83.59	49	⇓P	P	13 10 55.2	+0.2
	baz=83,SNR=8.1						
P08A	Dixie Valley	83.66	51	⇓P	P	13 10 55.7	+0.3
	baz=84						
MLAC	Mammoth Lakes	83.70	53	⇓P	P	13 10 56.1	+0.5
	baz=84						
N09A	Rock Creek Ran	83.72	49	⇓P	P	13 10 55.8	+0.2
	baz=84,SNR=12						
HELL	Mitchell Peak	83.84	54	⇓P	P	13 10 55.8	-0.6
	baz=84,SNR=6.5						
NVAR	Mina Array Bea	83.87	52	P	P	13 10 56.9	+0.4
	comp=Z,13nm,0.9s,mb4.7,baz=275,slow=3.3,SNR=60						
MNV	Mina	83.98	52	eP	P	13 10 57.1	+0.1
MNV				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.7						
MNV	Mina	83.98	52	eP	P	13 10 57.1	+0.1
	comp=Z,16nm,1.2s,mb4.6						
MTUM	Tungsten Hills	83.99	53	eP	P	13 10 56.8	-0.2
Q08A	Gabbs	84.02	51	⇓P	P	13 10 57.1	-0.1
	baz=84,SNR=7.6						
O09A	Fish Creek Ran	84.16	50	P	P	13 10 58.4	+0.5
	baz=84,SNR=12						
M10A	I.L. Ranch, Tu	84.22	48	⇑P	P	13 10 58.3	+0.1
	baz=84						
N10A	Dunphy	84.49	49	⇓P	P	13 10 59.9	+0.4
	baz=84						
ISA	Isabella	84.57	54	⇓P	P	13 10 59.1	-0.9
	baz=84						
Q09A	Carvers	84.58	51	⇑P	P	13 11 00.1	+0.1
	baz=84						
CHMT	Chamberlain Mo	84.69	43	eP	P	13 10 59.7	-0.9
M11A	Holland Ranch,	84.78	48	⇑P	P	13 11 01.5	+0.5
	baz=85						
R09A	Tonopah	84.85	52	⇑P	P	13 11 01.4	0.0
	baz=85,SNR=17						
P10A	Eureka	84.87	50	⇑P	P	13 11 01.8	+0.3
	baz=85						
S09A	Goldfield	84.90	52	⇑P	P	13 11 01.7	+0.1
	baz=85,SNR=18						
N11A	Elko Archery C	85.01	49	⇓P	P	13 11 02.6	+0.5
	baz=85						
HLID	Hailey	85.05	46	eP	P	13 11 02.3	-0.1
	comp=Z,16nm,1.1s,mb4.7						
O11A	Cowboy Ranch,	85.29	50	⇑P	P	13 11 04.0	+0.4
	baz=85						
M12A	Wells	85.41	48	P	P	13 11 04.7	+0.6
	baz=85,SNR=24						
R10A	Warm Springs	85.41	51	⇓P	P	13 11 04.4	+0.3
	baz=85						
P11A	Circle Ranch,	85.41	50	⇓P	P	13 11 04.3	+0.2
	baz=85						
N12A	Wells-Clov Va	85.50	49	⇓P	P	13 11 04.8	+0.2
	baz=85,SNR=13						
DLMT	Dillon	85.66	44	eP	P	13 11 04.7	-0.7
	comp=Z,20nm,1.2s,mb4.7						
MCMT	McKenzie Canyo	85.67	44	eP	P	13 11 05.2	-0.3
HRY	Holter Researc	85.68	42	eP	P	13 11 05.2	-0.3
Q11A	Duckwater	85.71	51	P	P	13 11 05.8	+0.2
	baz=86,SNR=12						
TPNV	Topopah Spring	85.88	53	eP	P	13 11 06.3	-0.1
TPNV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
TPNV	Topopah Spring	85.88	53	eP	P	13 11 06.3	-0.1
	comp=Z,5.8nm,0.8s,mb4.4						
M13A	Montello	85.96	48	P	P	13 11 07.1	+0.3
	baz=86,SNR=20						
GSC	Goldstone	85.97	54	⇑P	P	13 11 06.8	-0.1
	baz=86,SNR=6.0						
U10A	Ash Meadows, A	85.98	53	⇓P	P	13 11 07.3	+0.4
	baz=86,SNR=6.5						
N13A	West Wendover	86.10	48	⇑P	P	13 11 07.6	+0.1
	baz=86,SNR=5.4						
BOZ	Bozeman (W)	86.19	43	eP	P	13 11 07.9	-0.1
	comp=Z,6.1nm,1.1s,mb4.2						
BOZ				epP	pP	13 11 59.1	-1.9
EGMT	Eagleton	86.51	41	eP	P	13 11 08.9	-0.6
	comp=Z,11nm,1.1s,mb4.5						
TUQ	Turquoise Mtn.	86.61	54	⇑P	P	13 11 10.1	+0.1
	baz=86						
QLMT	Earthquake Lak	86.62	44	eP	P	13 11 10.5	+0.5
PFO	Pinyon Flat Ob	86.79	56	eP	P	13 11 10.9	0.0
PFO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
PFO	Pinyon Flat Ob	86.79	56	eP	P	13 11 10.9	+0.1
	comp=Z,10nm,1.0s,mb4.5						
PFO	Pinyon Flat Ob	86.79	56	⇓P	P	13 11 10.7	-0.2
	baz=87,SNR=6.5						
BGU	Big Grassy Mou	86.91	48	eP	P	13 11 11.2	-0.2
YMR	Madison River	86.99	44	eP	P	13 11 12.9	+1.0
	comp=Z,25nm,1.0s,mb4.9						
YFT	Old Faithful	87.15	44	eP	P	13 11 15.0	+2.4
SPUT	South Promonto	87.19	48	eP	P	13 11 12.2	-0.6
RRI2	Red Ridge	87.23	45	eP	P	13 11 22.2	+9.2
	comp=Z,15nm,0.9s,mb4.7						
IMW	Indian Meadow	87.29	45	eP	P	13 11 14.0	+0.7
	comp=Z,11nm,0.9s,mb4.6						
DUG	Dugway	87.32	49	eP	P	13 11 13.6	+0.2
DUG				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.9						
DUG	Dugway	87.32	49	eP	P	13 11 13.6	+0.2
	comp=Z,21nm,0.8s,mb4.9						
V12A	Nelson	87.34	53	⇓P	P	13 11 13.9	+0.4
	baz=87,SNR=9.6						
U12A	Valley of Fire	87.34	53	⇑P	P	13 11 14.1	+0.5
	baz=87						
TPAW	Teton Pass	87.43	45	eP	P	13 11 13.9	-0.1
	comp=Z,11nm,1.2s,mb4.5						
W12A	Cal Nev Ari	87.47	54	⇓P	P	13 11 14.4	+0.2
	baz=87						
MOOW	Moose Ponds	87.47	45	eP	P	13 11 13.8	-0.4
	comp=Z,8.2nm,1.0s,mb4.4						
CASY	Casey	87.61	193	eP	P	13 11 07.2	-7.5
	comp=Z,17nm,1.4s,mb4.7						
LOHW	Long Hollow	87.62	45	eP	P	13 11 14.9	+0.1
	comp=Z,5.8nm,1.1s,mb4.3						
HWUT	Hardware Ranch	87.70	47	eP	P	13 11 15.2	-0.1
	comp=Z,36nm,1.3s,mb5.0						
ARUT	Antelope Range	87.70	51	eP	P	13 11 14.1	-1.1
CCUT	Cedar City	87.84	51	eP	P	13 11 16.3	+0.4
CTU	Camp Tracy	87.90	48	eP	P	13 11 16.5	+0.4
	comp=Z,14nm,1.1s,mb4.7						
NLU	North Lily Min	87.94	49	eP	P	13 11 16.6	+0.2
TCUT	Toone Canyon	87.99	47	eP	P	13 11 16.5	-0.1
FFC	Flin Flon	88.08	32	eP	P	13 11 15.4	-1.6
FFC				eaPP	pP	13 12 09.7	-0.6
FFC				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
FFC	Flin Flon	88.08	32	eP	P	13 11 15.4	-1.6
	comp=Z,13nm,1.0s,mb4.7						
FFC				epP	pP	13 12 09.7	-0.6
GLA	Glamis	88.26	56	⇑P	P	13 11 18.2	+0.4
	baz=88,SNR=6.5						
Y12C	Blythe	88.26	55	⇑P	P	13 11 17.9	0.0
	baz=88						
W13A	Hualapai Mount	88.29	54	⇓P	P	13 11 18.6	+0.6
	baz=88						
DAU	Daniels Canyon	88.35	48	eP	P	13 11 19.0	+0.7
MSU	Marysvale	88.38	50	eP	P	13 11 19.2	+0.8
X13A	Yucca	88.51	54	P	P	13 11 19.5	+0.4
	baz=88,SNR=7.9						
BW06	Boulder Array	88.65	45	eP	P	13 11 19.0	-0.6
	comp=Z,3.0nm,1.2s,mb4.0						
PDAR	Pinedale Array	88.65	45	P	P	13 11 19.2	-0.5
	comp=Z,0.8nm,0.6s,mb3.7,baz=148,slow=0.3,SNR=9.4						
Y13A	Salome	88.78	55	⇑P	P	13 11 20.8	+0.5
	baz=89						
TMUT	Trail Mountain	88.80	49	eP	P	13 11 20.5	+0.1
W14A	Seligman	88.88	53	P	P	13 11 21.5	+0.8
	baz=89,SNR=12						
X14A	Yava	89.28	54	⇓P	P	13 11 23.5	+0.8
	baz=89,SNR=9.3						
SRU	San Rafael	89.36	49	eP	P	13 11 23.0	0.0
SRU				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.0						
SRU	San Rafael	89.36	49	eP	P	13 11 23.0	-0.1
	comp=Z,30nm,1.1s,mb5.0						
Y14A	Wickenburg	89.38	55	⇓P	P	13 11 23.5	+0.4
	baz=89						
W15A	Williams	89.51	53	⇓P	P	13 11 25.0	+1.3
	baz=89,SNR=7.9						
Z14A	Wintersburg	89.63	55	⇓P	P	13 11 24.8	+0.5
	baz=90						
X15A	Humboldt	89.78	54	P	P	13 11 26.1	+1.2
	baz=90,SNR=12						
115A	Sonoran Desert	90.43	56	⇓P	P	13 11 28.6	+0.6
	baz=90						
PV10	Paradox Valley	90.72	49	eP	P	13 11 29.8	+0.5
116A	Eloy	90.89	56	⇓P	P	13 11 30.7	+0.6
	baz=91						
PV01	Paradox Valley	91.15	49	eP	P	13 11 31.1	-0.2
MVCO	Mesa Verde	91.57	50	eP	P	13 11 33.5	+0.2
RSSD	Black Hills	91.74	43	eP	P	13 11 33.1	-1.0
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
RSSD	Black Hills	91.74	43	eP	P	13 11 33.1	-1.0
	comp=Z,3.4nm,0.8s,mb4.3						
SMCO	Snowmass	91.87	48	eP	P	13 11 34.8	+0.1
	comp=Z,25nm,1.0s,mb5.1						
PHWY	Pilot Hill	92.03	46	eP	P	13 11 35.5	+0.1
ISCO	Idaho Springs	92.57	47	eP	P	13 11 38.0	+0.1
ISCO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
ISCO	Idaho Springs	92.57	47	eP	P	13 11 38.0	+0.1
	comp=Z,10nm,1.1s,mb4.8						
ULM	Lac du Bonnet	93.56	34	P	P	13 11 40.3	-2.2
	comp=Z,2.0nm,0.9s,mb4.2,baz=298,slow=6.8,SNR=4.0						
ULM	Lac du Bonnet	93.56	34	eP	P	13 11 41.0	-1.4
	comp=Z,4.9nm,1.3s,mb4.4						
LAZ	Larron	93.70	52	eP	P	13 11 43.6	+0.5
ANMO	Albuquerque	93.99	52	eP	P	13 11 44.8	+0.4
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ANMO	Albuquerque	93.99	52	eP	P	13 11 44.8	+0.4
	comp=Z,5.3nm,1.1s,mb4.5						
LVC	Limon Verde	147.17	105	ePKPbc	PKPbc	13 18 09.3	+0.7
LPAZ	La Paz	147.65	93	PKPbc	PKPbc	13 18 11.6	+1.6
	comp=Z,7.3nm,0.7s,baz=286,slow=3.4,SNR=35						
LPAZ	La Paz	147.65	93	ePKPdf	PKPdf	13 18 07.9	+1.0
LPAZ				ePKPbc	PKPbc	13 18 11.2	+1.3

ISCJB ***28*** *13:00:24.0±0.5, 2069S±006×17367W±008, h33km, mb4.8/21, MS3.8/9, Error ellipse: s-maj=12.0km s-min=7.9km az=47.6*

IDC ***28*** *13:00:23.5±0.9, 2080S×17404W, h0km, mb4.8/11, mb1 4.8/12, mb1mx4.5/20, mbtmp4.8/12, ML4.9/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/24, Error ellipse: s-maj=27.4km s-min=19.5km az=105.0*

HRVD ***28*** *13:00:25.3±0.7, 2114S×17369W, h27km±2km, MW5.0/35, Centroid moment Tensor Solution. LP body waves: s12,c12;Mantle waves: s35,c37; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.43±.32; Mθθ-0.84±.25; Mφφ-1.59±.23; Mrθ0.66±.37; Mφθ-0.87±.11; Mφr2.74±.44; Best double couple: M0 3.62700×10^16 NP1:φ=222.00000°, δ21.00000°, λ112.00000°. NP2: φ=19.00000°, δ71.00000°, λ82.00000°. Principal axes: T 3.8270, Plg63.0000°, Azm276.0000°; N -0.4030, Plg8.0000°, Azm21.0000°; P -3.4260, Plg25.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *13:00:25.3±0.4, 2066S×17400W, h15km, mb5.0/15 Error ellipse: s-maj=11.9km s-min=8.1km az=116.0*

MOS ***28*** *13:00:26.4±1.1, 2057S×17405W, h33km, mb4.9/12, Error ellipse: s-maj=20.5km s-min=13.2km az=146.6*

ISC 28 13:00:26.5±0.5, 2077S±007×17364W±008, h35km, n74, σ1§17/58, mb4.8/21, MS3.8/9, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.05	15	Pn	Pn	13 02 06.7	-0.5
	4.4nm,0.3s,baz=52,slow=18,SNR=21						
AFI				Sn	Sn	13 03 19.8	-6.3
	14nm,0.3s,baz=70,slow=19,SNR=4.4						
AFI	Afiamalu	7.05	15	P	Pn	13 02 06.7	-0.5
AFI						13 03 19.8	
AFI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AFI				smax			
	comp=N,14nm,0.3s						
AFI	Afiamalu	7.05	15	ePn	Pn	13 02 06.8	-0.4
AFI				eSn	Sn	13 03 19.4	-6.7
RAR	Rarotonga	12.96	94	Pn	Pn	13 03 26.7	-1.5
	comp=N,0.9nm,0.3s,baz=165,slow=16,SNR=3.2						
RAR				Sn	Sn	13 05 39.0	-12
	comp=N,11nm,0.3s,baz=118,slow=19,SNR=7.9						
RAR				LR	LR	13 07 07.3	
	comp=N,605nm,19.4s,baz=246,slow=30						
DZM	Mont Dzumac	18.59	262	P	Pn	13 04 42.3	+1.4
	comp=N,2.0nm,0.3s,baz=79,slow=21,SNR=18						
URZ	Urewera	19.17	203	P	Pn	13 04 48.7	+0.6
	comp=N,3.5nm,0.3s,baz=357,slow=4.9,SNR=21						
URZ				S	S	13 08 06.2	-16
	comp=N,1.7nm,0.3s,baz=151,slow=22,SNR=10						
BFZ	Birch Farm	21.63	201	SN	S	13 08 57.2	-14
MRZ	Mangatainoka R	21.85	202	SN	S	13 08 57.7	-18
SNZO	South Karori	22.73	203	eP	P	13 05 26.7	+1.4
	comp=N,43nm,1.0s,mb4.8						
TCW	Tory Channel	22.81	204	SN	S	13 09 21.9	-11
PPT	Papeete	22.95	86	eLR	LR	13 10 46.4	
	comp=N,753nm,27.2s,baz=253						
PPT	Papeete	22.95	86	LR	LR	13 11 29.4	
	comp=N,354nm,21.8s,MS3.8,baz=248,slow=29						
NNZ	Nelson	23.17	206	SN	S	13 09 32.3	-6.6
QRZ	Quartz Range	23.20	207	ePN	P	13 05 29.5	-0.6
THZ	Tophouse	23.82	206	PN	P	13 05 35.6	-0.6
THZ				SN	S	13 09 46.8	-2.7
LTZ	Lake Taylor	24.93	205	ePN	P	13 05 45.3	-0.9
RPZ	Rata Peaks	26.20	206	P	P	13 05 57.3	-0.5
	comp=N,16nm,0.9s,mb4.5,baz=304,slow=3.6,SNR=5.5						
HNR	Honiara	27.83	290	LR	LR	13 15 32.6	
	comp=N,160nm,18.4s,MS3.6,baz=179,slow=33						
TAOE	Nuku Hiva Isla	34.40	75	eLR	LR	13 16 02.7	
	comp=N,1μm,27.0s						
RKT	Rikitea	35.88	101	eLR	LR	13 16 44.8	
CTA	Charters Tower	37.52	264	eP	P	13 07 36.6	-0.4
	comp=N,7.2nm,0.6s,mb4.6						
CTA	Charters Tower	37.52	264	P	P	13 07 36.9	-0.1
	comp=N,7.7nm,0.5s,mb4.7,baz=92,slow=12						
CTA				LR	LR	13 21 19.1	
	comp=N,156nm,18.6s,MS3.8,baz=67,slow=34						
CTAO	Charters Tower	37.52	264	eP	P	13 07 36.2	-0.8
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
CTAO	Charters Tower	37.52	264	eP	P	13 07 36.2	-0.7
	comp=Z,8.1nm,0.6s,mb4.6						
TOO	Toolangi	39.07	236	eP	P	13 07 50.3	+0.3
	comp=Z,4.8nm,0.5s,mb4.5						
TOO	Toolangi	39.07	236	eP	P	13 07 50.3	+0.3
TOO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
TAU	Tasmania Unive	39.36	227	eP	P	13 07 53.5	+1.1
TAU				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9						
TAU	Tasmania Unive	39.36	227	eP	P	13 07 53.5	+1.1
	comp=Z,15nm,0.6s,mb4.9						
PMG	Port Moresby	39.39	281	P	P	13 07 52.9	+0.2
	comp=Z,42nm,1.0s,mb5.1,baz=78,slow=6.8,SNR=4.4						
PMG				LR	LR	13 20 56.6	
	comp=Z,121nm,21.9s,MS3.7,baz=78,slow=32						
PMG	Port Moresby	39.39	281	eP	P	13 07 52.8	+0.1
	comp=Z,36nm,1.0s,mb5.1						
STKA	Stephens Creek	41.36	245	P	P	13 08 06.7	-2.3
	comp=Z,12nm,0.7s,mb4.6,baz=100,slow=8.9,SNR=10						
STKA				LR	LR	13 20 46.4	
	comp=Z,139nm,21.5s,MS3.8,baz=23,slow=30						
STKA	Stephens Creek	41.36	245	eP	P	13 08 05.3	-3.6
AS31	Alice Springs	48.42	256	eP	P	13 09 04.5	-0.7
ASAR	Alice Springs	48.42	256	P	P	13 09 04.5	-0.7
	comp=Z,14nm,0.7s,mb5.1,baz=91,slow=8.2,SNR=62						
ASAR				LR	LR	13 27 17.0	
	comp=Z,167nm,19.6s,MS4.0,baz=257,slow=34						
ASPA	Alice Springs	48.43	256	eP	P	13 09 04.5	-0.7
WB2	Warramunga Arr	48.59	261	eP	P	13 09 05.0	-1.4
WRAB	Tennant Creek	48.59	261	P	P	13 09 05.8	-0.7
	comp=Z,103nm,1.0s,mb5.8,SNR=6.1						
WRAB	Tennant Creek	48.59	261	eP	P	13 09 05.2	-1.3
WRAB				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
WRAB	Tennant Creek	48.59	261	eP	P	13 09 05.2	-1.3
	comp=Z,21nm,0.9s,mb5.2						
WRA	Warramunga Arr	48.60	261	P	P	13 09 05.2	-1.3
	comp=Z,10nm,0.9s,mb4.9,baz=101,slow=8.5,SNR=28						
WRA	Warramunga Arr	48.60	261	P	P	13 09 05.2	-1.3
WRA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KAKA	Kakadu	52.05	270	⇑iP	P	13 09 32.0	-0.7
	comp=Z,35nm,1.2s,mb5.2						
FORT	Forrest	52.93	247	eP	P	13 09 38.7	-0.5
	comp=Z,26nm,0.6s,mb5.3						
GUMO	Guam	53.18	306	LR	LR	13 28 35.6	
	comp=Z,56nm,20.0s,MS3.6,baz=251,slow=32						
FITZ	Fitzroy Crossi	57.03	261	eP	P	13 10 09.0	+0.2
	comp=Z,5.7nm,0.4s,mb5.0						
FITZ	Fitzroy Crossi	57.03	261	P	P	13 10 08.7	-0.1
	comp=Z,3.2nm,0.4s,mb4.7,baz=128,slow=6.4,SNR=21						
VNDA	Vanda	58.04	186	P	P	13 10 18.6	+2.7
	comp=Z,0.6nm,0.8s,mb3.7,baz=26,slow=6.0,SNR=4.3						
KLBR	Kellerberrin	61.63	245	eP	P	13 10 41.1	+0.6
	comp=Z,50nm,1.0s,mb5.6						
MBWA	Marble Bar	61.77	257	eP	P	13 10 41.3	-0.2
	comp=Z,13nm,0.5s,mb5.3						
NWAO	Narrogin (SRO)	61.89	243	P	P	13 10 43.1	+0.8
	comp=Z,14nm,0.9s,mb5.1,baz=144,slow=8.7,SNR=4.6						
NWAO	Narrogin (SRO)	61.89	243	P	P	13 10 43.1	+0.8
NWAO				pmax	pmax		
	comp=Z,14nm,0.9s						
MUN	Mundaring	62.88	244	eP	P	13 10 49.1	+0.2
CBIJ	Chichi jima	63.98	316	LR	LR	13 35 11.2	
	comp=Z,57nm,19.5s,MS3.8,baz=2.9,slow=33						
QSPA	South Pole Qui	69.30	180	eP	P	13 11 32.4	+2.3
	comp=Z,4.1nm,1.0s,mb4.3						
MJAR	Matsushiro Arr	72.91	321	P	P	13 11 53.9	+1.9
	comp=Z,2.1nm,0.6s,mb4.3,baz=154,slow=5.7,SNR=8.5						
JOW	Kunigami	73.51	308	P	P	13 11 58.0	+2.5
	comp=Z,4.6nm,0.6s,mb4.6,baz=27,slow=4.5,SNR=4.0						
LPIG	La Paz	76.08	57	LR	LR	13 36 43.0	
	comp=Z,90nm,20.8s,MS4.1,baz=70,slow=28						
MAW	Mawson	82.66	199	P	P	13 12 48.1	+1.9
	comp=Z,3.4nm,0.9s,mb4.4,baz=128,slow=6.8,SNR=5.8						
MAW	Mawson	82.66	199	eP	P	13 12 47.8	+1.6
MAW				pmax	pmax		
	comp=Z,5.0

AUQP	San Andres	1.78 289	eP	Pn	13 13 12.3	+1.5
RCP	Roxas	2.00 234	‖iP	Pn	13 13 13.7	+0.1
GQP	Guinayangan	2.23 302	‖iP	Pn	13 13 16.9	+0.3
GQP			i S	Sn	13 13 43.2	-0.7
OTRP	Odiongan	2.35 261	eP	Pn	13 13 18.2	0.0
LLP	Lapu-Lapu	2.44 190	eP	Pn	13 13 18.9	-0.4
LLP			eS	Sn	13 13 42.8	-6.0
BOAC	Boac	2.59 286	eP	Pn	13 13 21.0	-0.4
MSLP	Maasin	2.62 170	eP	Pn	13 13 22.2	+0.4
GUIM	Jordan	2.75 220	eP	Pn	13 13 23.6	+0.2
POLP	Polilio Island	3.11 310	eP	Pn	13 13 28.4	+0.2
POLP			eS	Sn	13 14 03.3	-1.3
SCPH	Surigao	3.12 160	eP	Pn	13 13 28.4	0.0
SCPH			eS	Sn	13 14 10.0	+5.1
CUYO	Cuyo Island	3.81 241	eP	Pn	13 13 37.9	+0.3
BUTP	Butuan	3.93 162	eP	Pn	13 13 38.7	-0.6
BALP	Baler	4.05 318	eP	Pn	13 13 39.7	-1.1
LUBP	Lubang	4.17 284	eP	Pn	13 13 42.5	+0.1
BUSP	Coron	4.17 260	eP	Pn	13 13 43.0	+0.6
PALP	Palanan	4.71 336	eP	Pn	13 13 49.5	-0.2
BUKP	Musuan	4.87 172	eP	Pn	13 13 53.4	+1.5
CAUP	Cauayan	4.87 330	eP	Pn	13 13 51.7	-0.2
CVP	Callao Caves	5.53 334	eP	Pn	13 14 01.5	+0.6
APYP	Conner	5.94 330	eP	Pn	13 14 06.0	-0.4
ABRA	Dolores	6.04 324	eP	Pn	13 14 08.6	+0.8
JOW	Kunigami	14.49 14	Pn	Pn	13 16 06.7	+5.8
	0.6nm,0.3s,baz=183,slow=23,SNR=8.8					
WRA	Warramunga Arr	33.91 163	P	P	13 19 12.5	-1.4
	0.5nm,0.5s,mb3.6,baz=338,slow=8.9,SNR=21					
WB2	Warramunga Arr	33.92 163	eP	P	13 19 13.1	-0.9
ASAR	Alice Springs	37.35 166	P	P	13 19 42.9	-0.5
	0.7nm,0.5s,mb3.9,baz=341,slow=7.7,SNR=19					
ASPA	Alice Springs	37.35 166	eP	P	13 19 43.7	+0.3
SONM	Songino Array	38.09 340	P	P	13 19 51.1	+1.6
	0.3nm,0.5s,mb3.4,baz=146,slow=8.2,SNR=4.1					
FINES	FINESS Array B	82.86 331	P	P	13 24 54.1	+0.2
	3.1nm,1.0s,mb4.1,baz=61,slow=5.6,SNR=4.2					

IDC ***28*** *13:23:00.6±0.8, 1792S×17647W, h0km, mb4.5/11, mb1 4.7/12, mb1mx4.5/17, mbtmp4.5/12, ML3.7/1, MS4.3/17, Ms1 4.3/17, ms1mx4.2/21, Error ellipse: s-maj=25.4km s-min=18.6km az=136.0*

NEIC ***28*** *13:23:04.8±0.4, 1796S×17663W, h20km, mb5.0/16, Error ellipse: s-maj=19.2km s-min=10.4km az=142.0*

BJI ***28*** *13:23:04.7, 1800S×17660W, h19km, mB5.1, mb4.7, Ms4.7, Msz4.5*

HRVD ***28*** *13:23:04.8±0.2, 1805S×17631W, h12km, MW5.0/86, Centroid moment Tensor Solution. LP body waves: s37,c45;Mantle waves: s86,c135; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.84±.11; $M_{\theta\theta}$-3.58±.10; $M_{\phi\phi}$4.42±.09; $M_{r\theta}$-0.24±.30; $M_{\theta\phi}$-0.19±.10; $M_{\phi r}$1.76±.27; Best double couple: M_0=4.28200×10^16 NP1:ϕ_s=313.00000°,δ82.00000°,λ164.00000°. Principal axes: T 4.9620, Plg17.0000°, Azm268.0000°; N -1.3610, Plg72.0000°, Azm105.0000°; P -3.6010, Plg5.0000°, Azm360.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***28*** *13:23:07.4±1.9, 1803S×17706W, h33km, mb5.2/7 Error ellipse: s-maj=20.2km s-min=15.0km az=151.6*

ISCJB ***28*** *13:23:10.9±4.9, 1802S±0.10×1767W±0.1, h87km±42km, mb4.6/24, Error ellipse: s-maj=18.9km s-min=15.3km az=62.8*

SZGRF ***28*** *13:23:11.5, 1691S×17992W, h33km, Fiji Islands region*

ISC 28 13:23:09.2±4.2, 1804S±010×1766W±01, h60km±36km, n107, σ1$28/49, mb4.7/24, MS4.4/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.18	49	Pn	Pn	13 24 27.3	-11
	4.2nm,0.3s,baz=46,slow=21,SNR=8.3						
AFI	Afiamalu	6.18	49	ePn	Pn	13 24 27.1	-11
	122nm,0.9s						
RAO	Raoul Island	11.23	186	LR	LR	13 29 27.9	
	comp=Z,3μm,20.4s,baz=19,slow=34						
RAR	Rarotonga	16.15	104	LR	LR	13 31 28.0	
	comp=Z,889nm,18.1s,baz=49,slow=32						
DZM	Mont Dzumac	16.44	253	Pn	Pn	13 26 56.5	+0.7
	0.3nm,0.3s,baz=79,slow=12,SNR=5.3						
NOUC	Port Laguerre	16.57	253	eP	Px	13 26 42.3	
URZ	Urewera	20.89	194	P	P	13 27 44.0	-2.4
	21nm,0.9s,baz=6.1,slow=6.5,SNR=8.7						
URZ				LR	LR	13 35 21.9	
	comp=Z,2μm,18.1s,MS4.5,baz=52,slow=35						
HNR	Honiara	24.32	287	LR	LR	13 36 27.0	
	comp=Z,701nm,18.7s,MS4.2,baz=175,slow=33						
PPT	Papeete	25.71	93	eLQ		13 33 38.7	
	917nm,27.5s						
PPT				eLR	LR	13 34 46.1	
	3μm,27.8s,baz=260						
PPT	Papeete	25.71	93	LR	LR	13 35 39.7	
	comp=Z,1μm,19.9s,MS4.4,baz=247,slow=30						
TBI	Tubuai	25.90	106	eLQ		13 33 44.7	
	1μm,28.0s						
TBI				eLR	LR	13 34 56.0	
	2μm,28.5s,baz=280						
CNB	Canberra Magne	34.73	233	eP	P	13 29 55.5	+2.0
	28nm,1.0s,mb5.2						
CTA	Charters Tower	35.14	261	eP	P	13 29 57.9	+1.0
	23nm,1.0s,mb5.1						
CTA	Charters Tower	35.14	261	P	P	13 29 57.7	+0.8
	18nm,0.9s,mb5.0,baz=71,slow=7.2,SNR=4.6						
CTA	Charters Tower	35.14	261	eP	P	13 29 57.9	+1.0
CTA				pmax	pmax		
	comp=Z,23nm,1.0s						
CTAO	Charters Tower	35.14	261	eP	P	13 29 57.6	+0.7
CTAO				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
CTAO	Charters Tower	35.14	261	eP	P	13 29 57.6	+0.6
	comp=Z,25nm,0.8s,mb5.2						
TAOE	Nuku Hiva Isla	36.53	80	eS	S	13 35 41.4	-5.5
	comp=Z,336nm,25.5s						
TAOE				eLR	LR	13 39 40.4	
	comp=Z,2μm,28.3s						
TOO	Toolangi	38.44	232	eP	P	13 30 24.8	-0.2
	comp=Z,8.5nm,0.9s,mb4.5						
TOO	Toolangi	38.44	232	eP	P	13 30 24.8	-0.2
TOO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
RKT	Rikitea	39.19	105	eLR	LR	13 40 56.2	
	comp=Z,2μm,28.2s						
STKA	Stephens Creek	40.09	242	eP	P	13 30 39.8	+1.0
	comp=Z,8.7nm,1.1s,mb4.4						
STKA	Stephens Creek	40.09	242	P	P	13 30 40.1	+1.3
	comp=Z,9.7nm,1.0s,mb4.5,baz=74,slow=7.2,SNR=7.6						
STKA				LR	LR	13 44 08.8	
	comp=Z,354nm,20.9s,MS4.2,baz=44,slow=32						
WB2	Warramunga Arr	46.30	259	eP	P	13 31 27.8	-1.1
WB2				e		13 31 32.1	
WRAB	Tennant Creek	46.31	259	eP	P	13 31 27.6	-1.3
WRAB				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
WRAB	Tennant Creek	46.31	259	eP	P	13 31 27.6	-1.3
	comp=Z,22nm,0.8s,mb5.1						
WRA	Warramunga Arr	46.31	259	P	P	13 31 28.0	-1.0
	comp=Z,13nm,0.8s,mb4.9,baz=95,slow=6.2,SNR=48						
WRA				LR	LR	13 50 44.1	
	comp=Z,682nm,18.4s,MS4.6,baz=95,slow=36						
AS31	Alice Springs	46.42	254	eP	P	13 31 29.2	-0.6
AS31				e		13 31 33.5	
ASAR	Alice Springs	46.43	254	P	P	13 31 29.2	-0.6
	comp=Z,18nm,0.6s,mb5.2,baz=88,slow=8.1,SNR=83						
ASAR				LR	LR	13 49 19.6	
	comp=Z,446nm,20.6s,MS4.4,baz=98,slow=34						
ASPA	Alice Springs	46.43	254	eP	P	13 31 29.2	-0.7
ASPA				e		13 31 33.5	
KAKA	Kakadu	49.31	269	eP	P	13 31 51.0	-1.2
	comp=Z,7.5nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	54.72	260	eP	P	13 32 34.4	+2.1
	comp=Z,11nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	54.72	260	P	P	13 32 34.7	+2.4
	comp=Z,7.6nm,1.0s,mb4.7,baz=117,slow=4.6,SNR=9.5						
FITZ				LR	LR	13 56 15.4	
	comp=Z,536nm,18.2s,MS4.7,baz=280,slow=36						
MBWA	Marble Bar	59.73	256	eP	P	13 33 08.7	+1.1
	comp=Z,20nm,1.0s,mb5.1						
SBA	Scott Base	60.41	184	eP	P	13 33 13.4	+1.1
SBA				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
SBA	Scott Base	60.41	184	eP	P	13 33 13.4	+1.1
	comp=Z,22nm,1.3s,mb5.0						
VNDA	Vanda	60.47	185	P	P	13 33 13.4	+0.7
	comp=Z,5.4nm,1.1s,mb4.5,baz=13,slow=6.3,SNR=11						
VNDA				LR	LR	13 53 10.9	
	comp=Z,96nm,21.7s,MS3.9,baz=21,slow=30						
NWAO	Narrogin (SRO)	60.68	242	LR	LR	13 57 38.5	
	comp=Z,310nm,19.7s,MS4.5,baz=83,slow=34						
MJAR	Matsushiro Arr	69.06	322	P	P	13 34 07.8	-0.8
	comp=Z,3.7nm,0.8s,mb4.4,baz=152,slow=6.3,SNR=8.9						
QSPA	South Pole Qui	72.02	180	eP	P	13 34 26.7	0.0
	comp=Z,35nm,1.1s,mb5.2						
KSM	Kuching	74.42	277	eP	P	13 34 43.7	+2.9
NVAR	Mina Array Bea	78.32	43	P	P	13 35 02.2	-0.7
	comp=Z,1.1nm,0.8s,mb3.9,baz=235,slow=12,SNR=7.4						
TPNV	Topopah Spring	78.87	45	eP	P	13 35 07.5	+1.6
	comp=Z,2.3nm,0.8s,mb4.2						
CN2	Changchun	81.19	322	eP	P	13 35 20.3	+1.9
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
MAW	Mawson	84.32	199	LR	LR	14 10 54.4	
	comp=Z,201nm,21.9s,MS4.5,baz=326,slow=34						
COLA	College	85.53	12	eP	P	13 35 38.9	-1.8
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
COLA	College	85.53	12	eP	P	13 35 38.9	-1.8
	comp=Z,8.7nm,0.8s,mb5.0						
PSI	Prapat	85.62	274	LR	LR	14 13 19.5	
	comp=Z,221nm,18.5s,MS4.6,baz=301,slow=35						
IMW	Indian Meadow	85.93	41	eP	P	13 35 44.6	+1.9
	comp=Z,7.3nm,1.3s,mb4.8						
QLMT	Earthquake Lak	86.09	40	eP	P	13 35 44.0	+0.5
PDAR	Pinedale Array	86.26	43	P	P	13 35 43.3	-1.0
	comp=Z,0.4nm,0.4s,mb4.0,baz=251,slow=2.7,SNR=4.2						
PDAR				LR	LR	14 08 23.1	
	comp=Z,136nm,18.2s,MS4.4,baz=249,slow=32						
DAWY	Dawson	86.74	15	eP	P	13 35 45.0	-1.6
BILL	Bilibino	86.74	354	eP	P	13 35 45.6	-1.1
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
BILL	Bilibino	86.74	354	eP	P	13 35 45.5	-1.1
	comp=Z,9.4nm,1.0s,mb5.0						
WALA	Waterton Lakes	86.82	36	eP	P	13 35 48.7	+1.7
	comp=Z,3.3nm,0.8s,mb4.6						
EDM	Edmonton	89.33	32	eP	P	13 36 02.5	+3.5
CD2	Chengdu	90.60	302	eP	P	13 36 05.3	+0.4
CD2				AP	pP	13 36 11.8	-10
CD2				XP	sP	13 36 14.5	-14
CD2				PP	PP	13 39 42.8	+2.4
CD2				SKS		13 46 33.8	
CD2				S		13 46 57.5	
CD2				SS	SS	13 53 02.5	+4.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,40nm,9.2s						
CD2				LR	LR		
	comp=E,70nm,14.4s						
CD2				LR	LR		
	comp=Z,100nm,14.4s,MS4.4						
VNA1	Neumayer--Stat	91.17	176	e	P	13 36 06.6	-1.0
VNA1				e		13 36 09.7	
VNA1				e		13 36 17.8	
VNA1				e	pP	13 36 22.0	-2.4
MAIT	Maitri	91.23	183	eP	P	13 36 07.0	-0.8
YKA	Yellowknife Ar	93.73	24	LR	LR	14 10 29.1	
	comp=Z,68nm,20.1s,MS4.1,baz=245,slow=30						
SONM	Songino Array	94.78	319	P	P	13 36 23.0	-1.2
	comp=Z,0.2nm,0.6s,mb3.7,baz=108,slow=4.7,SNR=2.4						
SONM				LR	LR	14 15 10.4	
	comp=Z,81nm,18.6s,MS4.2,baz=24,slow=33						
ULM	Lac du Bonnet	97.89	40	LR	LR	14 15 23.7	
	comp=Z,82nm,18.5s,MS4.2,baz=249,slow=32						
ZRNK	Zerenda	118.88	321	ePKIKP	PKPdf	13 41 49.6	-1.2
OJC	Ojcow	145.31	341	ePX	PKPbc	13 42 40.2	+0.2
KOLS	Kolonicke sedl	145.60	338	ePKP	PKPdf	13 42 40.5	-0.1
KSP	Ksiaz	145.69	345	ePKP2	PKPab	13 42 42.6	+1.0
CLZ	Clausthal	145.82	352	ePKPbc	PKPbc	13 42 41.6	0.0
CRVS	Cervenica-Dubn	145.91	339	ePKP	PKPdf	13 42 41.6	+0.5
CLL	Collm	145.94	349	ePKPbc	PKPbc	13 42 41.4	-0.6
CLL	Collm	145.94	349	i PKPbc	PKPbc	13 42 41.4	-0.6
	comp=Z,11nm,0.9s						
CLL				i PKiKP	PKiKP	13 42 46.1	+0.7
	comp=Z,18nm,1.0s						
CLL				i pPKPbc	pPKPbc	13 42 48.2	-11
CLL				i pPKiKP		13 42 52.3	
CLL	Collm	145.94	349	i PKIKP	PKPdf	13 42 41.4	+0.2
CLL				i		13 42 46.1	
CLL				i		13 42 48.2	
CLL				pmax	pmax		
	comp=Z,11nm,0.9s						
CLL	Collm	145.94	349	i P	PKPdf	13 42 41.4	+0.2
CLL				i		13 42 46.1	
CLL				i		13 42 48.2	
UPC	Upice	146.07	346	ePKP	PKPdf	13 42 43.2	+1.8
BR131	Keskin Array S	146.09	316	ePKPdf	PKPdf	13 42 43.3	+1.8
BRTR	Keskin Array B	146.09	316	PKPbc	PKPbc	13 42 43.0	+0.6
	comp=Z,4.3nm,0.8s,baz=126,slow=3.2,SNR=18						
DPC	Dobruska-Polom	146.14	345	ePKP	PKPdf	13 42 43.0	+1.5
BRG	Berggiesshubel	146.18	348	ePKPbc	PKPbc	13 42 42.5	-0.2
BRG	Berggiesshubel	146.18	348	eP	PKPdf	13 42 43.0	+1.4
	comp=Z,3.4nm,0.6s						
BRG				e		13 42 50.1	
	comp=Z,6.8nm,0.9s						
BRG				e		13 42 53.1	
	comp=Z,7.7nm,1.0s						
FBE	Freiberg	146.25	349	ePKPbc	PKPbc	13 42 42.6	-0.3
PVCC	Panska Ves	146.38	347	ePKP	PKPdf	13 42 44.1	+2.2
KECS	Kecovo	146.60	339	ePKP	PKPbc	13 42 45.1	+1.2
MOX	Moxa	146.81	350	ePKPbc	PKPbc	13 42 45.2	+0.7
MOX	Moxa	146.81	350	ePKP	PKPbc	13 42 45.4	+0.9
	comp=Z,36nm,1.9s						
MOX	Moxa	146.81	350	ePKP2	PKPab	13 42 45.4	-0.5
MOX				pmax	pmax		
	comp=Z,36nm,1.9s						
UBBA	Unterbreizbach	146.87	352	ePKPbc	PKPbc	13 42 47.1	+2.4
WERD	Werda	146.89	350	ePKPbc	PKPbc	13 42 46.2	+1.4
TANN	Tannenbergstha	146.89	349	ePKPbc	PKPbc	13 42 45.6	+0.8
VYHS	Vyhne	147.13	341	ePKP	PKPbc	13 42 46.2	+0.8
PSZ	Piszkesteto	147.29	339	ePKIKP	PKPdf	13 42 45.2	+1.7
ROTZ	Rotzenmuhle	147.56	349	ePKPbc	PKPbc	13 42 46.8	+0.2
GRF	Grafenberg Arr	147.80	350	ePKPbc	PKPbc	13 42 47.4	+0.1
KHC	Kasperske Hory	147.91	347	ePKP	PKPbc	13 42 48.1	+0.5
KHC				x	PKPab	13 42 55.5	+5.3
KHC	Kasperske Hory	147.91	347	eP	PKPbc	13 42 48.1	+0.5
KHC				e	PKPab	13 42 55.5	+5.3
WET	Wettzell	148.04	348	ePKPbc	PKPbc	13 42 49.3	+1.4
GEC2	GERESS Array S	148.15	347	ePKPbc	PKPbc	13 42 48.7	+0.5
GERES	GERESS Array B	148.15	347	PKPbc	PKPbc	13 42 48.4	+0.2
	comp=Z,1.8nm,0.8s,baz=46,slow=3.9,SNR=9.9						
ROSF	Rostrenen	149.29	9	ePKP1	PKPbc	13 42 50.9	-0.2
BFO	Black Forest	149.52	354	ePKPbc	PKPbc	13 42 53.4	+1.7
GRR	Gorron	149.53	6	ePKP1	PKPbc	13 42 51.6	-0.1
CDF	Champ du Feu	149.54	355	ePKP1	PKPbc	13 42 52.0	+0.3
	comp=Z,9.8nm,0.8s						
LOR	Lormes	150.84	359	ePKP1	PKPbc	13 42 55.2	+0.3
SSF	Saint Saulge	151.05	360	ePKP1	PKPbc	13 42 55.7	+0.4
	comp=Z,13nm,0.9s						
AVF	Avril sur Loir	151.32	0	ePKP1	PKPbc	13 42 55.9	-0.1
MFF	Saint Martin d	151.36	5	ePKP1	PKPbc	13 42 56.1	0.0
	comp=Z,7nm,1.1s						
CABF	La Chapelle	151.42	356	ePKP1	PKPbc	13 42 56.9	+0.7
	comp=Z,24nm,1.1s						
TCF	Toulx Ste Croi	151.81	2	ePKP1	PKPbc	13 42 57.0	-0.1
TORD	Torodi Ar. Bea	174.87	161	PKPab	PKPab	13 44 47.2	+0.3
	comp=Z,0.8nm,0.8s,baz=157,slow=3.0,SNR=3.8						

CSEM ***28*** *13:57:00.4±0.9, 3814N×2665W, h1km±3km, ML2.2, Error ellipse: s-maj=7.6km s-min=1.0km az=44.0, After PDA*

PDA ***28*** *13:57:00.4±0.9, 3814N×2665W, h1km±3km, MD2.5, ML2.2, Error ellipse: s-maj=7.6km s-min=1.0km az=44.0*

SVSA 28 13:57:00.4±0.9, 3814N×2665W, h1km±3km, MD2.5, ML2.2, Error ellipse: s-maj=7.6km s-min=1.0km az=44.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	Pico das Favas	0.66	329	eP	Pg	13 57 11.7	-1.4
PFAV				eS	Sg	13 57 20.7	-1.0
PFAV							
	24nm,0.1s						
PFAV	Pico das Favas	0.66	329	eP	Pg	13 57 11.7	-1.4
PFAV				eS	Sg	13 57 20.7	-1.0
RIB2	Ribeirinha	0.67	322	eP	Pg	13 57 12.0	-1.2
RIB2				eS	Sg	13 57 20.8	-1.1
RIB2							
	45nm,0.1s						
RIB2	Ribeirinha	0.67	322	eP	Pg	13 57 12.0	-1.2
RIB2				eS	Sg	13 57 20.8	-1.1
ADH	Angra Heroismo	0.69	318	eP	Pg	13 57 11.4	-2.2
ADH				eS	Sg	13 57 20.4	-2.1
SET4	Mosteiros	0.72	111	eP	Pg	13 57 13.0	-1.3
SET4				eS	Sg	13 57 22.4	-1.3
SET2	Ginetes	0.73	114	eP	Pg	13 57 13.4	-1.0
SET2				eS	Sg	13 57 22.4	-1.5
PVNV	Vila Nova	0.73	328	eP	Pg	13 57 12.7	-1.8
PVNV				eS	Sg	13 57 22.3	-1.7
PVNV							
	34nm,0.1s						
PVNV	Vila Nova	0.73	328	eP	Pg	13 57 12.7	-1.8
PVNV				eS	Sg	13 57 22.3	-1.7
PPAD	Pico dos Padre	0.75	318	eP	Pg	13 57 13.2	-1.6
PPAD				eS	Sg	13 57 23.0	-1.5
PPAD							
	32nm,0.2s						
PPAD	Pico dos Padre	0.75	318	eP	Pg	13 57 13.2	-1.6
PPAD				eS	Sg	13 57 23.0	-1.5
PBIS	Biscoitos	0.78	323	eP	Pg	13 57 13.8	-1.5
PBIS				eS	Sg	13 57 23.7	-1.7
PBIS							
	21nm,0.2s						
PBIS	Biscoitos	0.78	323	eP	Pg	13 57 13.8	-1.5
PBIS				eS	Sg	13 57 23.7	-1.7
ASBA	Santa Barbara	0.78	318	eP	Pg	13 57 13.9	-1.5
ASBA				eS	Sg	13 57 23.9	-1.7
ASBA							
	43nm,0.1s						
ASBA	Santa Barbara	0.78	318	eP	Pg	13 57 13.9	-1.5
ASBA				eS	Sg	13 57 23.9	-1.7
PSAN	Santo Antonio	0.79	111	eS	Sg	13 57 23.6	-2.1
PSET	Sete Cidades	0.80	113	i P	Pg	13 57 13.3	-2.5
PSET				eS	Sg	13 57 23.7	-2.5
PSET							
	97nm,0.3s						
FAC	Faja de Cima	0.87	115	erx		13 57 28.8	
CML	Cha da Macela	0.95	113	erx		13 57 28.4	
PMAT	Coroa da Mata	0.99	109	eP	Pg	13 57 16.7	-2.6
PMAT				eS	Sg	13 57 28.9	-3.3
PMAT							
	42nm,0.2s						
PMAT	Coroa da Mata	0.99	109	eP	Pg	13 57 16.7	-2.6
PMAT				eS	Sg	13 57 28.9	-3.3
LFA	Lagoa do Fogo	0.99	111	eP	Pg	13 57 16.9	-2.6
PRCH	Ribeira Ch	1.01	114	eS	Sg	13 57 29.2	-3.8
PRCH							
	38nm,0.2s						
MESC	Monte Escuro	1.01	110	eP	Pg	13 57 16.9	-3.0
MESC				eS	Sg	13 57 29.1	-3.9
PCNG	Congro	1.06	110	eS	Sg	13 57 30.1	-4.4
PCNG							
	27nm,0.2s						
PFAD	Fenais da Ajud	1.09	106	eP	Pg	13 57 17.8	-3.5
MIRA	Miradouro	1.14	108	eP	Pg	13 57 18.6	-3.7
ROSA	Rosais	1.38	295	eP	Pn	13 57 21.8	-5.0
SRBC	Serra Branca	1.41	310	eS	Sg	13 57 38.7	-7.0
PICO	Pico	1.44	285	erx		13 57 23.1	
PSMN	Pico do Norte,	1.70	132	eP	Pn	13 57 26.5	-4.7
PSMN				eS	Sn	13 57 45.7	-7.9

THR ***28*** *14:11:11.2±0.6, 3571N×4900E, h14km±6km, ML3.9*

ISCJB ***28*** *14:11:13.7±0.9, 3573N±003×4899E±003, h21km±9km, mb3.9/3, Error ellipse: s-maj=5.6km s-min=4.1km az=42.6*

CSEM ***28*** *14:11:13.8±0.1, 3573N×4904E, h30km, mb4.0/3, Error ellipse: s-maj=2.4km s-min=1.4km az=27.0*

NEIC ***28*** *14:11:15.2, 3589N×4912E, h13km, mb4.0/3, MN4.0(TEH), After TEH.*

TEH ***28*** *14:11:15.0, 3590N×4912E, h11km, Mn4.0*

KISR ***28*** *14:11:34.4±0.9, 3425N×4789E, h43km±999km, ML3.3*

ISC 28 14:11:13.7±0.9, 3576N±003×4904E±003, h11km±6km, n72, σ1$25/93, mb3.9/3, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	Razeghan	0.81	116	ePn	Pn	14 11 26.4	-4.8
IRAZ				ePg	Pg	14 11 29.8	+0.4
IRAZ				eSg	Sg	14 11 41.6	+1.6
IGZV	Gazvin	1.14	57	ePg	Pg	14 11 33.1	-2.6
IMHD	Mahdasht	1.33	93	ePn	Pn	14 11 36.4	-1.9
IMHD	Mahdasht	1.33	93	ePg	Pn	14 11 36.4	-1.9
IMHD	Mahdasht	1.33	93	Pg	Pg	14 11 36.3	-3.0
ASAO	Ashtian	1.46	146	ePG	Pn	14 11 37.8	-2.2
ASAO				eSG	Sn	14 11 57.2	-2.0
SNGE	Sanandaj	1.53	245	ePG	Pn	14 11 38.4	-2.7
SNGE				eSG	Sn	14 11 58.4	-2.6
SNGE				AML	AML	14 11 59.9	
	comp=N,3μm,0.6s						
SNGE				AML	AML	14 12 00.8	
	comp=E,2μm,0.4s						
SNGE	Sanandaj	1.53	245	ePg	Pn	14 11 38.4	-2.7
	SNR=90						
SNGE				eSg	Sn	14 11 58.4	-2.6
	comp=E,2μm,0.4s,SNR=90						
CHTH	Charan	1.71	85	ePG	Pn	14 11 43.0	-0.5
CHTH				eSG	Sn	14 12 06.6	+1.4
CHTH				AML	AML	14 12 14.7	
	comp=N,727nm,0.7s						
CHTH	Charan	1.71	85	ePg	Pn	14 11 43.0	-0.5
	SNR=90						
CHTH				eSg	Sn	14 12 06.6	+1.3
	SNR=90						
ILIN	Laeen	1.89	244	ePn	Pn	14 11 45.1	-0.9
TEH	Tehran	1.91	90	ePn	Pn	14 11 45.5	-0.8
TEH	Tehran	1.91	90	Pn	Pn	14 11 45.4	-0.9
IKOM	Komas

ILAS	**Lasjerd**	**3.22**	**96**	*e*Pn	**Pn**	**14 12 06.7 +2.4**
ILAS				*e*Pn	**Pn**	**14 12 09.2 +4.9**
ILAS				*e*Lg		14 12 54.1
ILAS	**Lasjerd**	**3.22**	**96**	Pn	**Pn**	**14 12 06.6 +2.3**
ILAS				Lg		14 12 54.0
ITBZ	**Tabriz**	**3.38**	**318**	*e*Pn	**Pn**	**14 12 06.6 +0.1**
IPIR	**Pirpir**	**3.43**	**153**	*e*Pn	**Pn**	**14 12 09.1 +1.9**
IPIR	**Pirpir**	**3.43**	**153**	*e*Pn	**Pn**	**14 12 09.1 +1.9**
IPIR				*e*Sn	**Sn**	**14 12 48.0 +0.1**
IPIR				*e*Sn	**Sn**	**14 12 49.2 +1.3**
IPIR	**Pirpir**	**3.43**	**153**	Pn	**Pn**	**14 12 09.0 +1.8**
ISHM	**Shahmirzad**	**3.46**	**88**	*e*Pn	**Pn**	**14 12 07.7 +0.1**
ISHM				*e*Sn	**Sn**	**14 12 46.1 -2.5**
ISHM				*e*Sn	**Sn**	**14 12 46.3 -2.3**
ISHM	**Shahmirzad**	**3.46**	**88**	Pn	**Pn**	**14 12 07.6 0.0**
IGLO	**Galoogah**	**3.66**	**80**	*e*Pn	**Pn**	**14 12 18.2 +7.9**
IGLO	**Galoogah**	**3.66**	**80**	*e*Pn	**Pn**	**14 12 18.2 +7.9**
ISHB	**Shabestar**	**3.72**	**314**	*e*Pn	**Pn**	**14 12 11.2 +0.1**
ISHB	**Shabestar**	**3.72**	**314**	*e*Pn	**Pn**	**14 12 11.2 +0.1**
ISHB	**Shabestar**	**3.72**	**314**	Pn	**Pn**	**14 12 11.1 0.0**
IZEF	**Zefreh**	**3.95**	**135**	*e*Pn	**Pn**	**14 12 15.7 +1.4**
IZEF				*e*Sn	**Sn**	**14 13 00.2 -0.5**
IZEF				*e*Sn	**Sn**	**14 13 00.2 -0.5**
IZEF	**Zefreh**	**3.95**	**135**	Pn	**Pn**	**14 12 15.6 +1.3**
IMRD	**Marand**	**3.97**	**319**	*e*Pn	**Pn**	**14 12 14.7 +0.1**
IANJ	**Anjiloo**	**3.99**	**93**	*e*Pn	**Pn**	**14 12 15.0 +0.2**
BHD	**Baghdad**	**4.58**	**238**	*ex*	x	14 12 35.0
BHD				*ex*	x	14 13 42.0
MSL	**Mosul**	**4.85**	**278**	*ex*	x	14 12 34.0
MSL				*ex*	x	14 13 39.0
GNI	**Garni**	**5.54**	**324**	*e*Pg	**Pn**	**14 12 45.9 +10**
GNI	**Garni**	**5.54**	**324**	*e*Pg	**Pn**	**14 12 45.8 +10**
ICHK	**Chekchek**	**5.68**	**127**	*e*Pn	**Pn**	**14 12 38.3 +0.3**
KBD	**Kabd**	**6.67**	**190**	AML	AML	14 14 02.1
	comp=Z,37nm,0.3s					
NAY	**Al-Naaiem**	**6.67**	**194**	*e*P	**Pn**	**14 12 50.5 -1.1**
RDF	**Al-Radifah**	**6.93**	**191**	*e*P	**Pn**	**14 12 55.5 +0.2**
RDF				*e*S	**Sn**	**14 13 55.5 -19**
RDF				AML	AML	14 14 07.1
	comp=Z,8.2nm,0.5s					
QRN	**Al-Qurain**	**7.06**	**188**	*e*P	**Pn**	**14 12 57.2 +0.2**
QRN				AML	AML	14 14 08.6
	comp=Z,11nm,0.4s					
ZRNK	**Zerenda**	**22.22**	**33**	*e*P	**P**	**14 16 10.2 0.0**
	comp=Z,4.8nm,0.8s,mb4.0					
ZRNK	**Zerenda**	**22.22**	**33**	*e*P	**P**	**14 16 10.2 0.0**
	comp=Z,4.8nm,0.8s,mb4.0					
BRVK	**Borovoye**	**22.86**	**34**	*e*P	**P**	**14 16 17.5 +0.3**
	comp=Z,8.5nm,1.3s,mb4.0					
BRVK	**Borovoye**	**22.86**	**34**	*e*P	**P**	**14 16 17.5 +0.4**
	comp=Z,8.5nm,1.3s,mb4.0					
CHKZ	**Chkalovo**	**23.42**	**33**	*e*P	**P**	**14 16 23.7 +0.7**
	comp=Z,3.6nm,0.9s,mb3.8					
CHKZ	**Chkalovo**	**23.42**	**33**	*e*P	**P**	**14 16 23.7 +0.7**
	comp=Z,3.6nm,0.9s,mb3.8					

MEX 28 14:19:51.7±0.8, 1473N×9330W, h25km±182km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.91**	**36**	*e*P	Pn	14 20 20.0	-2.6
CCIG				*i* S	Sn	14 20 42.1	-3.7
SCX	**San Cristobal**	**2.10**	**18**	*i* P	Pn	14 20 25.0	-0.2
SCX				*i* S	Sn	14 20 48.0	-2.5
CMIG	**Matias Romero**	**2.81**	**327**	*e*P	Pn	14 20 33.3	-1.6
CMIG				*i* S	Sn	14 21 03.5	-4.5
OXX	**Oaxaca**	**4.04**	**306**	*e*P	Pn	14 20 54.0	+2.0

*ISCJB **28** 14:42:40.3±1.1, 3154S×005×1797W±02, h53km±17km, mb4.5/8, Error ellipse: s-maj=23.7km s-min=5.0km az=38.3*
*IDC **28** 14:42:44.9±1.3, 3149S×17905W, h122km±19km, mb4.1/5, mb1 4.1/7, mb1mx3.9/15, mbtmp4.4/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/20, Error ellipse: s-maj=36.3km s-min=13.4km az=110.0*
*NEIC **28** 14:42:45.5±1.1, 3143S×17954W, h94km±14km, mb4.6/5, Error ellipse: s-maj=19.5km s-min=12.9km az=96.0*

ISC 28 14:42:42.8±0.8, 3151S×006×1796W±02, h63km±12km, n31, σ1§22/39, mb4.5/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.68**	**33**	P	**Pn**	**14 43 25.4 +1.9**
	38nm,0.3s,baz=282,slow=22,SNR=3.2					
RAO				S	**Sn**	**14 43 54.2 -0.5**
	328nm,0.3s,baz=114,slow=23,SNR=12					
RAO				LR	LR	14 43 59.0
	comp=Z,416nm,21.7s,baz=46,slow=30					
MXZ	**Matakaoa Point**	**6.29**	**195**	*e*PN	**Pn**	**14 44 17.2 +4.3**
MXZ				SN	**Sn**	**14 45 31.5 +8.3**
MWZ	**Matawai**	**7.21**	**198**	*e*PN	**Pn**	**14 44 28.8 +3.3**
MWZ				SN	**Sn**	**14 45 52.5 +6.5**
URZ	**Urewera**	**7.26**	**201**	P	**Pn**	**14 44 30.1 +3.9**
	1.3nm,0.3s,baz=284,slow=7.3,SNR=12					
URZ				S	**Sn**	**14 45 54.9 +7.8**
	10.0nm,0.3s,baz=135,slow=22,SNR=25					
PXZ	**Pawanui**	**8.98**	**198**	*e*PN	**Pn**	**14 44 48.8 -0.9**
PXZ				SN	**Sn**	**14 46 30.5 +1.2**
TIWZ	**Tintock**	**9.95**	**200**	SN	**Sn**	**14 46 54.1 +1.2**
KIW	**Kapiti Island**	**10.34**	**204**	*e*PN	**Pn**	**14 45 07.0 -1.2**
KIW				SN	**Sn**	**14 47 03.5 +1.1**
CAW	**Cannon Point**	**10.50**	**203**	*e*PN	**Pn**	**14 45 08.0 -2.5**
CAW				SN	**Sn**	**14 47 06.5 0.0**
PAWZ	**Paruwai Farm**	**10.64**	**201**	SN	**Sn**	**14 47 08.9 -0.9**
DUWZ	**D'Urville Isla**	**10.65**	**208**	SN	**Sn**	**14 47 12.7 +2.5**
MSWZ	**Moikau Station**	**10.72**	**201**	SN	**Sn**	**14 47 11.2 -0.7**
MRW	**Makara Radio**	**10.73**	**204**	SN	**Sn**	**14 47 12.4 +0.2**
WEL	**Wellington**	**10.76**	**203**	SN	**Sn**	**14 47 13.6 +0.8**
SNZO	**South Karori**	**10.80**	**203**	*e*PN	**Pn**	**14 45 12.2 -2.4**
SNZO				SN	**Sn**	**14 47 13.6 -0.3**
TCW	**Tory Channel**	**10.87**	**205**	*e*PN	**Pn**	**14 45 13.4 -2.1**
TCW				SN	**Sn**	**14 47 15.5 +0.1**
TUWZ	**Tuamarina**	**11.18**	**206**	SN	**Sn**	**14 47 21.6 -1.6**
CRLZ	**Canterbury Las**	**13.53**	**205**	SN	**Sn**	**14 48 14.6 -5.7**
CTA	**Charters Tower**	**32.65**	**282**	P	**P**	**14 49 10.7 +2.0**
	4.8nm,0.7s,mb4.5,baz=90,slow=9.2,SNR=3.4					
CTAO	**Charters Tower**	**32.65**	**282**	P	**P**	**14 49 10.5 +1.8**
STKA	**Stephens Creek**	**32.90**	**259**	*e*P	**P**	**14 49 11.0 +0.1**
	5.7nm,1.5s,mb4.3					
STKA	**Stephens Creek**	**32.90**	**259**	P	**P**	**14 49 11.0 +0.1**
	2.0nm,0.6s,mb4.2,baz=105,slow=12,SNR=5.1					
AS31	**Alice Springs**	**41.69**	**269**	*e*P	**P**	**14 50 25.3 0.0**
ASAR	**Alice Springs**	**41.69**	**269**	P	**P**	**14 50 25.2 -0.1**
	4.5nm,0.5s,mb4.4,baz=106,slow=7.4,SNR=46					
ASPA	**Alice Springs**	**41.70**	**269**	*e*P	**P**	**14 50 25.3 0.0**
WRAB	**Tennant Creek**	**42.78**	**274**	*e*P	**P**	**14 50 33.7 -0.5**
	12nm,0.7s,mb4.7					
WRA	**Warramunga Arr**	**42.78**	**274**	P	**P**	**14 50 33.8 -0.4**
	8.2nm,0.6s,mb4.6,baz=114,slow=7.4,SNR=45					
SBA	**Scott Base**	**46.84**	**184**	*e*P	**P**	**14 51 06.7 +0.3**
	1.1nm,0.5s,mb4.0					
FITZ	**Fitzroy Crossi**	**51.00**	**272**	*e*P	**P**	**14 51 37.7 -0.5**
	4.1nm,0.6s,mb4.5					
FITZ	**Fitzroy Crossi**	**51.00**	**272**	P	**P**	**14 51 37.8 -0.5**
	2.4nm,0.7s,mb4.2,baz=135,slow=7.2,SNR=13					
QSPA	**South Pole Qui**	**58.61**	**180**	*e*P	**P**	**14 52 32.9 -0.3**
	6.2nm,0.5s,mb4.9					
TORD	**Torodi Ar. Bea**	**161.69**	**184**	PKPab	PKPab	15 03 17.5 -4.5
	1.0nm,0.9s,baz=180,slow=3.9,SNR=4.8					

FUNV 28 14:45:58.9, 797N×6421W, h19km, MW4.6, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GURV	**El Guri**	**1.13**	**101**	*i* P	Pn	14 46 19.5	-0.2
GURV				*e*S	Sb	14 46 34.9	+0.7
ORIV	**Oritupano**	**1.34**	**36**	*e*P	Pn	14 46 22.1	-0.6
ORIV				*e*S	Sn	14 46 39.9	0.0
CAOV	**Caicara del Or**	**2.19**	**253**	*e*P	Pn	14 46 34.1	-0.1
PCRV	**Puerto La Cruz**	**2.23**	**349**	*e*P	Pn	14 46 34.4	-0.3
PCRV				*e*S	Sn	14 47 00.5	-1.2
MERV	**Las Mercedes**	**2.42**	**302**	*e*P	Pn	14 46 36.1	-1.3
MERV				*e*S	Sn	14 47 05.2	-1.4
GUNV	**Guanoco**	**2.51**	**30**	*e*P	Pn	14 46 38.0	-0.6
CUPV	**Cœpira**	**2.59**	**323**	*e*P	Pn	14 46 38.4	-1.4
CUPV				*e*S	Sn	14 47 08.4	-2.3
CRUV	**Carupano**	**2.85**	**20**	*e*P	Pn	14 46 41.9	-1.5
BIRV	**Birongo**	**3.21**	**321**	*e*P	Pn	14 46 48.0	-0.3
BIRV				*e*S	Sn	14 47 23.3	-2.7
INTV	**Intevep**	**3.69**	**311**	*e*P	Pn	14 46 54.7	-0.2
INTV				*e*S	Sn	14 47 35.1	-2.7
BAUV	**El Baul**	**3.91**	**285**	*e*P	Pn	14 46 56.6	-1.3
BAUV				*e*S	Sn	14 47 39.6	-3.7
TURV	**Turiamo**	**4.35**	**305**	*e*P	Pn	14 47 03.1	-0.8
TURV				*e*S	Sn	14 47 49.7	-4.3
CURV	**Curarigua**	**6.03**	**290**	*e*P	Pn	14 47 25.5	-1.6

ISC 28 14:51:16.9±1.7, 3848N±005×3001E±008, h0km±10km, n7, σ1§09/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**1.06**	**227**	*e*PN	**Pn**	**14 51 37.4 -1.5**
DENT				*e*SN	**Sn**	**14 51 53.4 -0.8**
DNZL	**Cakiroluk**	**1.09**	**224**	*i* P	**Pg**	**14 51 39.7 +1.9**
DNZL				*i* S	**Sg**	**14 51 58.4 +6.3**
MANT	**Manisa**	**1.14**	**271**	*i* P	**Pg**	**14 51 37.6 -1.1**
MANT				*i* S	**Sg**	**14 51 53.2 -0.4**
ULDT	**Uludag**	**1.80**	**338**	*i* P	**Pn**	**14 51 48.5 -0.5**
ULDT				*i* S	**Sn**	**14 52 12.6 +0.1**
YER	**Yerkesik**	**1.92**	**226**	*e*PN	**Pn**	**14 51 52.8 +2.2**
KONT	**Konya--Tatoy**	**1.92**	**105**	*e*PN	**Pn**	**14 51 50.5 -0.3**
BTOK	**Tokmak**	**2.00**	**310**	*i* P	**Pn**	**14 51 51.8 -0.1**
BTOK				*i* S	**Sn**	**14 52 18.8 +1.1**

IDC 28 14:51:34.1±1.5, 2922S×17801W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/11, mbtmp3.8/3, Error ellipse: s-maj=83.9km s-min=8.1km az=17.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.09**	**115**	Pn	Pg	14 51 43.0	+7.2
	1μm,0.3s,baz=72,slow=9.1,SNR=77						
RAO				Sn	Sg	14 51 48.1	+11
	3μm,0.3s,baz=73,slow=19,SNR=82						
STKA	**Stephens Creek**	**34.75**	**255**	P	P	14 58 25.2	-0.8
	1.4nm,0.8s,baz=100,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**43.18**	**266**	P	P	14 59 36.8	+0.2
	1.1nm,0.7s,baz=101,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**44.06**	**271**	P	P	14 59 44.3	+0.7
	0.4nm,0.3s,baz=109,slow=8.1,SNR=10						
FINES	**FINESS Array B**	**144.03**	**340**	PKP	PKPdf	15 11 08.0	-3.6
	1.4nm,0.7s,baz=64,slow=4.4,SNR=5.9						

IDC 28 15:11:26.8±4.1, 725N×9294E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=157.6km s-min=25.6km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.45**	**349**	P	P	15 19 06.8	-0.1
	0.5nm,0.6s,baz=178,slow=7.3,SNR=5.1						
SONM	**Songino Array**	**42.04**	**14**	P	P	15 19 20.3	+0.3
	0.8nm,1.1s,baz=199,slow=7.2,SNR=4.2						
WRA	**Warramunga Arr**	**48.88**	**124**	P	P	15 20 14.4	+0.1
	0.8nm,0.7s,baz=305,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**50.44**	**129**	P	P	15 20 26.8	+0.6
	0.7nm,0.8s,baz=298,slow=7.6,SNR=5.8						

*CSEM **28** 15:23:45.7, 3727N×2821E, h9km, MD2.7, After ISK*
*NEIC **28** 15:23:45.7, 3727N×2821E, h9km, MD2.7(ISK), After ISK.*

ISK 28 15:23:45.7, 3727N×2821E, h9km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.14**	**156**	PG	Pg	15 23 48.9	0.0
YER				SG	Sg	15 23 52.1	+1.1
MLSB	**Milas**	**0.35**	**275**	*e*PG	Pg	15 23 52.7	+0.2
MLSB				*e*SG	Sg	15 23 58.8	+1.7
DALT	**Dalyan (Mudla)**	**0.60**	**145**	*e*PG	Pg	15 23 58.0	+0.6
DAT	**Datca**	**0.74**	**224**	*e*PG	Pg	15 24 00.5	+0.6
BODT	**Bodrum**	**0.75**	**254**	*e*PG	Pg	15 24 00.3	+0.2
BODT				*e*SG	Sg	15 24 11.4	+1.6
FETY	**Fethiye**	**0.94**	**132**	*e*PG	Pg	15 24 05.1	+1.3
BALB	**Balikesir**	**2.38**	**354**	PG	Pn	15 24 21.2	-3.7
BALB				SG	Pg	15 24 24.9	-6.5
CANB	**Canakkale**	**2.89**	**342**	*e*PG	Pg	15 24 31.2	-10
EDC	**Edincik**	**3.09**	**355**	PG	Pn	15 24 28.8	-5.8
BNT	**Bandirma**	**3.09**	**356**	PG	Pn	15 24 29.0	-5.7
BNT				SG	Pg	15 24 36.4	-8.6
RKY	**Sarkoy-Tekirda**	**3.51**	**347**	*e*PN	Pn	15 24 36.4	-4.0
MFT	**Murefte**	**3.59**	**349**	*e*PN	Pn	15 24 37.9	-3.6

IDC 28 15:48:08.1±11.0, 358N×12731E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=192.8km s-min=97.5km az=147.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.61**	**184**	P	P	15 52 58.6	-0.9
	1.9nm,1.1s,baz=19,slow=24,SNR=2.6						
WRA	**Warramunga Arr**	**24.37**	**164**	P	P	15 53 27.9	+0.1
	1.2nm,0.5s,baz=345,slow=10.0,SNR=27						
ASAR	**Alice Springs**	**27.83**	**167**	P	P	15 54 00.9	+1.8
	0.2nm,0.3s,baz=344,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**37.79**	**160**	P	P	15 55 25.7	-0.2
	1.3nm,0.4s,baz=334,slow=10,SNR=7.4						

WEL 28 15:49:56.9±0.6, 3597S×17979E, h151km±12km, ML3.6/7, Error ellipse: s-maj=7.0km s-min=5.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.98**	**216**	PN	Pn	15 50 29.3	-2.5
MXZ				SN	Sn	15 50 58.6	-0.1
PUZ	**Puketiti**	**2.43**	**210**	PN	Pn	15 50 37.3	+0.1
PUZ				SN	Sn	15 51 06.8	-1.4
MWZ	**Matawai**	**2.97**	**217**	PN	Pn	15 50 44.1	+0.2
MWZ				SN	Sn	15 51 19.1	-1.2
KUZ	**Kuaotunu**	**3.37**	**256**	*e*PN	Pn	15 50 48.3	-0.6
BKZ	**Black Stump Fm**	**4.13**	**218**	*e*PN	Pn	15 50 58.8	0.0
OUZ	**Omahuta**	**5.10**	**277**	*e*PN	Pn	15 51 12.4	+0.9
WAZ	**Wanganui**	**5.36**	**224**	*e*PN	Pn	15 51 16.3	+1.3
BFZ	**Birch Farm**	**5.46**	**210**	*e*PN	Pn	15 51 15.0	-1.4
BFZ				SN	Sn	15 52 14.9	-3.6
MRZ	**Mangatainoka R**	**5.73**	**214**	*e*PN	Pn	15 51 17.8	-2.2
MRZ				SN	Sn	15 52 19.2	-5.8
KIW	**Kapiti Island**	**6.21**	**217**	*e*PN	Pn	15 51 24.7	-1.6
THZ	**Tophouse**	**7.89**	**221**	*e*PN	Pn	15 51 46.0	-2.7

*ISCJB **28** 16:06:35.4±0.4, 1768S±007×6594E±007, h10km, mb4.5/31, MS4.5/24, Error ellipse: s-maj=10.1km s-min=8.8km az=87.4*
*BJI **28** 16:06:35.6, 1742S×6536E, h13km, mB5.0, mb4.7, Ms4.7, Msz4.4*
*IDC **28** 16:06:35.3±0.6, 1751S×6589E, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.2/23, mbtmp4.1/16, ML4.3/1, MS4.4/20, Ms1 4.4/20, ms1mx4.3/26, Error ellipse: s-maj=19.7km s-min=16.1km az=35.0*
*HRVD **28** 16:06:37.0±0.1, 1752S×6583E, h19km, MW5.3/93, Centroid moment Tensor Solution. LP body waves: s73,c107;Mantle waves: s93,c179; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.18±.02; $M_{\theta\theta}$-1.03±.02; $M_{\phi\phi}$1.21±.02; $M_{r\theta}$-0.09±.04; $M_{\theta\phi}$0.58±.02; $M_{\phi r}$-0.16±.04; Best double couple: $M_0$1.27300×10^{17} NP1:ϕ_s149.00000°, δ83.00000°, λ177.00000°. NP2: ϕ_s239.00000°, δ87.00000°, λ7.00000°. Principal axes: T 1.3730, Plg7.0000°, Azm104.0000°; N -0.1970, Plg83.0000°, Azm261.0000°; P -1.1740, Plg3.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 16:06:37.0±0.4, 1759S×6590E, h10km, mb4.6/10 Error ellipse: s-maj=11.0km s-min=9.6km az=180.0*

ISC 28 16:06:37.6±0.4, 1768S±007×6590E±007, h10km, (h14km±1.2km:pP-P), n69, σ1§11/56, mb4.5/31, MS4.5/24, 1D, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**12.04**	**33**	*e*P	**Pn**	**16 09 30.0 +0.8**
OPO	**Ambohidratompo**	**17.81**	**264**	P	**Pn**	**16 10 46.0 +0.6**
	1.0nm,0.3s,baz=100,slow=9.9,SNR=5.7					
TRD	**Trivandrum**	**28.22**	**24**	*e*P	**P**	**16 12 34.0 +3.5**
KMBO	**Kilima Mbogo**	**32.61**	**297**	LR	LR	16 23 34.3
	comp=Z,942nm,21.4s,MS4.5,baz=96,slow=31					
LSZ	**Lusaka**	**36.20**	**268**	*e*P	**P**	**16 13 40.6 +0.2**
	7.9nm,1.3s,mb4.5					
LBTB	**Lobatse**	**38.13**	**252**	P	**P**	**16 13 56.7 -0.1**
	1.6nm,0.6s,mb3.9,baz=96,slow=10,SNR=3.9					
LBTB	**Lobatse**	**38.13**	**252**	*e*P	**P**	**16 13 57.4 +0.6**
	3.3nm,0.7s,mb4.2					
PSI	**Prapat**	**38.40**	**61**	LR	LR	16 26 29.6
	comp=Z,684nm,18.9s,MS4.5,baz=234,slow=31					
BOSA	**Boshof**	**38.76**	**246**	LR	LR	16 27 00.9
	comp=Z,405nm,20.4s,MS4.2,baz=269,slow=32					
KOLN	**Koldanda**	**48.33**	**21**	*e*P	**P**	**16 15 19.5 +0.3**
	19nm,0.8s,mb5.2					
NWAO	**Narrogin (SRO)**	**48.37**	**119**	LR	LR	16 30 55.1
	comp=Z,512nm,18.5s,MS4.5,baz=294,slow=30					
DMN	**Daman**	**48.72**	**23**	*e*P	**P**	**16 15 22.9 +0.7**
	35nm,0.9s,mb5.4					
PKI	**Pulchoki**	**48.80**	**23**	*e*P	**P**	**16 15 23.0 +0.2**
	14nm,0.8s,mb5.0					
GKN	**Gorkha**	**48.91**	**22**	*e*P	**P**	**16 15 23.7 +0.1**
	44nm,0.9s,mb5.5					
KKN	**Kakani**	**48.95**	**23**	*e*P	**P**	**16 15 24.1 +0.2**
	24nm,0.8s,mb5.3					
JIRN	**Jiri**	**49.18**	**24**	*e*P	**P**	**16 15 26.2 +0.5**
	30nm,0.9s,mb5.3					
GUN	**Gumba**	**49.28**	**24**	*e*P	**P**	**16 15 27.1 +0.6**
	35nm,0.8s,mb5.4					
SHL	**Shillong**	**49.88**	**31**	*i* P	**P**	**16 15 34.2 +3.2**
SHL				*e*S	**S**	**16 22 48.0 +7.1**
MAW	**Mawson**	**49.93**	**182**	P	**P**	**16 15 31.8 +0.3**
	3.9nm,1.0s,mb4.4,baz=344,slow=8.8,SNR=5.0					
MAW				LR	LR	16 31 24.0
	comp=Z,306nm,19.4s,MS4.3,baz=164,slow=30					
MAW	**Mawson**	**49.93**	**182**	*e*P	**P**	**16 15 31.9 +0.5**
	2.6nm,0.9s,mb4.3					
LSA	**Lhasa**	**53.03**	**28**	*e*P	**P**	**16 15 55.0 +0.3**
LSA	**Lhasa**	**53.03**	**28**	*e*P	**P**	**16 15 55.0 +0.4**
	8.4nm,0.9s,mb4.7					
KMI	**Kunming**	**55.66**	**41**	P	**P**	**16 16 18.0 +4.2**
FITZ	**Fitzroy Crossi**	**56.62**	**100**	*e*P	**P**	**16 16 21.2 +0.5**
	15nm,1.1s,mb4.9					
FITZ	**Fitzroy Crossi**	**56.62**	**100**	P	**P**	**16 16 21.2 +0.5**
	7.4nm,1.0s,mb4.7,baz=257,slow=11,SNR=6.2					
FITZ				LR	LR	16 37 43.3
	comp=Z,478nm,18.3s,MS4.6,baz=268,slow=33					
ASPA	**Alice Springs**	**63.39**	**108**	*e*P	**P**	**16 17 06.0 -1.1**
ASAR	**Alice Springs**	**63.39**	**108**	P	**P**	**16 17 07.3 +0.2**
	7.3nm,1.0s,mb4.8,baz=272,slow=6.0,SNR=26					
ASAR				LR	LR	16 40 58.0
	comp=Z,1μm,19.4s,MS5.1,baz=284,slow=32					
AS31	**Alice Springs**	**63.39**	**108**	*e*P	**P**	**16 17 06.0 -1.2**
KAKA	**Kakadu**	**64.13**	**96**	*e*P	**P**	**16 17 12.4 +0.4**
	22nm,1.0s,mb5.1					
WMQ	**Urumqi**	**64.38**	**17**	P	**P**	**16 17 13.3 -0.4**
WMQ				PP	PP	16 19 36.3 +1.1
WMQ				PCS		16 21 49.0
WMQ				S	**S**	**16 25 49.8 -2.2**
WMQ				XS	sS	16 25 57.0 -0.4
WMQ				SCS	ScS	16 27 07.0 -1.0
WMQ				SS	SS	16 30 01.3 -0.5
WMQ				AMB	AMB	
	comp=Z,120nm,4.5s					
WMQ				LR	LR	
	comp=N,350nm,20.0s,MS4.6					
WMQ				LR	LR	
	comp=E,180nm,23.0s,MS4.6					
WMQ				LR	LR	
	comp=Z,320nm,24.0s,MS4.4					
WRA	**Warramunga Arr**	**64.41**	**104**	P	**P**	**16 17 14.5 +0.6**
	comp=Z,15nm,1.1s,mb4.9,baz=264,slow=6.8,SNR=32					
WRA				LR	LR	16 44 53.5
	comp=Z,438nm,18.1s,MS4.7,baz=295,slow=36					
WB2	**Warramunga Arr**	**64.42**	**104**	*e*P	**P**	**16 17 13.8 -0.1**
WRAB	**Tennant Creek**	**64.42**	**104**	*e*P	**P**	**16 17 14.5 +0.6**
	comp=Z,28nm,1.3s,mb5.1					
BRTR	**Keskin Array B**	**64.56**	**333**	P	**P**	**16 17 12.7 -2.2**
	comp=Z,0.2nm,0.5s,mb3.4,baz=170,slow=23,SNR=2.3					
GTA	**Gaotai**	**65.04**	**28**	*e*P	**P**	**16 17 17.5 -0.5**
GTA				AP	pP	16 17 21.5 +0.3
GTA				XP	sP	16 17 24.8 +2.4
GTA				SCS	ScS	16 27 06.0 -7.0
GTA				AMB	AMB	
	comp=Z,30nm,3.8s					
GTA				LR	LR	
	comp=N,240nm,18.0s					
GTA				LR	LR	
	comp=E,190nm,25.6s					
GTA				LR	LR	
	comp=Z,250nm,21.4s,MS4.4					
MKAR	**Makanchi Array**	**65.86**	**12**	P	**P**	**16 17 20.8 -2.5**
	comp=Z,2.5nm,0.8s,mb4.3,baz=184,slow=7.3,SNR=8.8					
MKAR	**Makanchi Array**	**65.86**	**12**	P	**P**	**16 17 20.8 -2.5**
WHN	**Wuhan**	**66.87**	**45**	*e*P	**P**	**16 17 30.3 +0.6**
STKA	**Stephens Creek**	**68.96**	**118**	LR	LR	16 44 12.6
	comp=Z,383nm,18.5s,MS4.7,baz=224,slow=33					
TORD	**Torodi Ar. Bea**	**70.38**	**291**	P

comp=Z,58nm,19.0s,MS4.0,baz=300,slow=38
KHC Kasperske Hory 81.08 328 *e*P **P 16 18 59.4 +6.5**
PVCC Panska Ves 81.50 330 *e*P **P 16 18 58.5 +3.4**
CN2 Changchun 81.86 39 *e*P **P 16 19 01.0 +4.0**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
GRA1 Grafenberg Arr 82.62 328 *e*P **P 16 19 01.5 +0.5**
GRF Grafenberg Arr 82.62 328 *e*P **P 16 19 01.5 +0.5**
CLL Collm 82.76 330 *e*(sP) sP 16 19 07.0 +0.7
MDJ Mudanjiang 84.81 40 P **P 16 19 12.5 +0.3**
MDJ AP pP 16 19 15.8 +0.2
MDJ PP PP 16 22 29.3 +0.9
MDJ S 16 29 41.8
MDJ SS SS 16 35 11.0 -1.3
MDJ AMB AMB
comp=Z,50nm,4.1s
MDJ LR LR
comp=N,280nm,34.3s
MDJ LR LR
comp=E,160nm,28.0s
MDJ LR LR
comp=Z,220nm,22.6s
FINES FINESS Array B 85.01 342 LR LR 16 57 11.8
comp=Z,75nm,21.9s,MS4.0,baz=337,slow=36
ESDC Sonseca Array 86.48 313 P **P 16 19 21.6 +1.0**
comp=Z,0.2nm,0.3s,mb3.8,baz=94,slow=4.6,SNR=4.3
ESDC LR LR 16 57 06.0
comp=Z,166nm,20.5s,MS4.4,baz=145,slow=35
MJAR Matsushiro Arr 86.88 50 P **P 16 19 22.1 -0.4**
comp=Z,3.3nm,0.9s,mb4.5,baz=234,slow=5.1,SNR=7.3
MJAR LR LR 16 57 45.2
comp=Z,222nm,19.3s,MS4.6,baz=215,slow=35
NOA NORSAR Array B 89.74 337 LR LR 17 00 07.3
comp=Z,41nm,20.1s,MS3.9,baz=90,slow=36
TBI Tubuai 126.55 139 *e*SS SS 16 44 37.6 -4.2
comp=Z,212nm,31.0s
TBI *e*LQ 16 59 58.3
comp=Z,296nm,38.0s
TBI *e*LR LR 17 05 11.1
comp=Z,164nm,33.2s
RKT Rikitea 134.60 153 *e*LQ 17 03 11.3
comp=Z,194nm,36.2s
ULM Lac du Bonnet 144.37 340 PKP PKPdf 16 26 12.6 -1.4
comp=Z,0.7nm,0.5s,baz=154,slow=1.4,SNR=2.4
PDAR Pinedale Array 154.70 352 PKPbc PKPbc 16 26 35.4 -3.5
comp=Z,0.3nm,0.8s,baz=0.0,slow=3.0,SNR=2.9
NVAR Mina Array Bea 159.01 9 PKPab PKPab 16 27 13.0 +0.8
comp=Z,0.7nm,0.8s,baz=287,slow=4.5,SNR=4.5

*ISCJB **28** 16:27:46.5±0.7, 4809N±005×874E±004, h10km, Error ellipse: s-maj=7.1km s-min=2.8km az=136.4*
*LDG **28** 16:27:48.2±0.2, 4816N×873E, h10km, Md2.2/2, Ml2.5/6, Error ellipse: s-maj=3.6km s-min=1.9km az=113.0*
*NEIC **28** 16:27:48.2, 4816N×873E, h10km, ML2.0(STR), ML2.5(LDG), After LDG.*
*BGR **28** 16:27:49.8±1.3, 4812N×861E, h5km, ML2.1/1, Error ellipse: s-maj=14.5km s-min=6.7km az=177.0*
*CSEM **28** 16:27:49.8±0.3, 4814N×863E, h10km, ML2.5/5, Error ellipse: s-maj=6.6km s-min=2.9km az=150.0*
*STR **28** 16:27:50.8±0.9, 4809N×861E, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 28 16:27:49.3±0.7, 4812N±006×865E±006, h12km±24km, n22, σ1§09/34, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFO	**Black Forest**	**0.30**	**316**	*e*Pg	**Pg**	**16 27 55.1**	**-0.4**
	SNR=6.4						
BFO	**Black Forest**	**0.30**	**316**	*e*Pg	**Pg**	**16 27 55.2**	**-0.3**
BFO				*e*Sg	**Sg**	**16 27 57.4**	**-2.2**
BFO	**Black Forest**	**0.30**	**316**	*e*Pg	**Pg**	**16 27 55.2**	**-0.3**
BFO				*e*Sg	**Sg**	**16 27 57.4**	**-2.2**
FELD	**Feldberg im Sc**	**0.49**	**241**	Pg	**Pg**	**16 28 02.0**	**+3.0**
STU	**Stuttgart**	**0.75**	**29**	*e*Sg	**Sg**	**16 28 14.9**	**+1.2**
	SNR=3.0						
WLS	**Welschbruch**	**0.91**	**290**	Pg	**Pg**	**16 28 08.1**	**+1.1**
WLS				Sg	**Sg**	**16 28 20.2**	**+1.3**
CDF	**Champ du Feu**	**0.96**	**288**	*e*Pg	**Pg**	**16 28 07.9**	**0.0**
CDF				*e*Sg	**Sg**	**16 28 20.1**	**-0.3**
	20nm,0.3s						
CDF	**Champ du Feu**	**0.96**	**288**	*e*Pg	**Pg**	**16 28 07.9**	**0.0**
CDF				*e*Sg	**Sg**	**16 28 20.1**	**-0.3**
	10nm,0.3s						
ECH	**Echery**	**1.00**	**276**	Pg	**Pg**	**16 28 10.2**	**+1.6**
ECH				Sg	**Sg**	**16 28 23.0**	**+1.3**
HINF	**Hinteralfeld**	**1.24**	**257**	*e*Pg	**Pg**	**16 28 12.6**	**-0.6**
HINF				*e*Sg	**Sg**	**16 28 29.6**	**+0.2**
	20nm,0.4s						
HINF	**Hinteralfeld**	**1.24**	**257**	*e*Pg	**Pg**	**16 28 12.6**	**-0.6**
HINF				*e*Sg	**Sg**	**16 28 29.6**	**+0.2**
	10nm,0.4s						
HAU	**Haudompre**	**1.55**	**267**	*e*Pg	**Pg**	**16 28 18.1**	**-0.9**
HAU				*e*Sg	**Sg**	**16 28 39.0**	**-0.1**
	25nm,0.4s						
HAU	**Haudompre**	**1.55**	**267**	*e*Pg	**Pg**	**16 28 18.1**	**-0.9**
HAU				*e*Sg	**Sg**	**16 28 39.0**	**-0.1**
	12nm,0.4s						
CABF	**La Chapelle**	**2.30**	**230**	*e*Sg	**Sg**	**16 29 03.0**	**-0.3**
	2.9nm,0.5s						
CABF	**La Chapelle**	**2.30**	**230**	*e*Sg	**Sg**	**16 29 03.0**	**-0.3**
	1.5nm,0.5s						
MOX	**Moxa**	**3.19**	**36**	*e*Sg	**Sg**	**16 29 31.2**	**-0.6**
	SNR=1.8						
LOR	**Lormes**	**3.34**	**257**	*e*Pg	**Pg**	**16 28 51.1**	**-2.3**
LOR				*e*Sg	**Sg**	**16 29 35.5**	**-1.2**
	2.5nm,0.3s						
LOR	**Lormes**	**3.34**	**257**	*e*Pg	**Pg**	**16 28 51.1**	**-2.3**
LOR				*e*Sg	**Sg**	**16 29 35.5**	**-1.2**
	1.2nm,0.3s						
WERD	**Werda**	**3.34**	**44**	*e*Sg	**Sg**	**16 29 36.3**	**-0.4**
	SNR=2.4						
TANN	**Tannenbergstha**	**3.40**	**46**	*e*Sg	**Sg**	**16 29 37.7**	**-0.7**
	SNR=2.3						
GEC2	**GERESS Array S**	**3.44**	**76**	*e*Sg	**Sg**	**16 29 40.0**	**+0.1**
	SNR=1.0						
BRG	**Berggiesshubel**	**4.42**	**49**	*i* (P)	**Pg**	**16 29 15.0**	**+1.0**

MAN 28 17:02:21.2, 1538N×12173E, h1km, mb2.0, ML3.7, MS1.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.39**	**338**	*e*P	Pg	17 02 29.0	+0.3
BALP				*e*S	Sg	17 02 36.0	+2.3
PCPH	**Palayan**	**0.64**	**287**	*e*P	Pg	17 02 33.6	+0.3
PCPH				*e*S	Sg	17 02 43.5	+1.9
POLP	**Polilio Island**	**0.68**	**162**	*e*P	Pg	17 02 34.5	+0.3
POLP				*e*S	Sg	17 02 42.1	-0.8
CAUP	**Cauayan**	**1.56**	**3**	*e*P	Pn	17 02 48.9	-1.2
BOAC	**Boac**	**1.91**	**177**	*e*P	Pn	17 02 55.3	+0.4
LUBP	**Lubang**	**2.17**	**221**	*e*P	Pn	17 02 58.8	+0.3
ABRA	**Dolores**	**2.46**	**337**	*e*P	Pn	17 03 04.2	+1.8
APYP	**Conner**	**2.51**	**349**	*e*P	Pn	17 03 03.0	-0.1

IDC 28 17:05:15.8±5.3, 1374N×14333E, h126km±80km, mb3.1/3, mb1 3.3/3, mb1mx3.0/19, mbtmp3.4/3, Error ellipse: s-maj=108.4km s-min=24.6km az=82.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**95**	P	Pn	17 05 44.8	+1.1
	24nm,0.3s,baz=75,slow=4.0,SNR=36						
GUMO				S	Sn	17 06 04.7	-0.1
	81nm,0.3s,baz=35,slow=22,SNR=41						
WRA	**Warramunga Arr**	**34.62**	**195**	P	P	17 11 53.1	+0.3
	0.4nm,0.4s,baz=12,slow=8.6,SNR=25						
ASAR	**Alice Springs**	**38.30**	**194**	P	P	17 12 23.9	-0.1
	0.1nm,0.3s,baz=14,slow=7.7,SNR=6.5						
MKAR	**Makanchi Array**	**60.35**	**316**	P	P	17 15 11.5	+0.1
	0.3nm,0.5s,baz=94,slow=7.8,SNR=6.5						

*CSEM **28** 17:08:10.7±0.1, 3576N×2835E, h10km, MD3.5, Error ellipse: s-maj=2.5km s-min=1.4km az=78.0*
*IDC **28** 17:08:11.4±1.7, 3534N×2881E, h0km, mb3.5/2, mb1 3.3/3, mb1mx3.2/19, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=180.7km s-min=26.0km az=142.0*
*NEIC **28** 17:08:11.1±1.4, 3576N×2829E, h2km±9km, MD3.5(ATH), MD3.6(ISK), Error ellipse: s-maj=8.4km s-min=5.4km az=176.0*
*ISCJB **28** 17:08:11.1±1.0, 3576N±002×2836E±004, h8km±8km, mb3.4/2, Error ellipse: s-maj=5.8km s-min=3.5km az=141.4*
*HLW **28** 17:08:12.1, 3600N×2854E, h16km, Mb3.3*
*ATH **28** 17:08:13.3, 3589N×2834E, h10km, MD3.5/3*
*ISK **28** 17:08:13.9, 3579N×2838E, h36km, MD3.6*

ISC 28 17:08:12.5±0.9, 3581N±002×2831E±004, h7km±7km, n48, σ0§93/59, mb3.4/2, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.43**	**340**	*e*Pb	**Pg**	**17 08 20.7**	**-0.2**
ARG				*e*Sb	**Sg**	**17 08 26.6**	**0.0**
KARP	**Karpathos**	**0.97**	**255**	*e*Pn	**Pn**	**17 08 32.5**	**-0.1**
KARP				*e*Sn	**Sn**	**17 08 47.6**	**+1.0**
DALT	**Dalyan (Mudla)**	**1.00**	**15**	PG	**Pg**	**17 08 31.2**	**-0.4**
DALT				SG	**Sg**	**17 08 44.7**	**+0.2**
FETY	**Fethiye**	**1.04**	**37**	PG	**Pg**	**17 08 31.5**	**-0.9**
FETY				SG	**Sg**	**17 08 46.4**	**+0.5**
KSL	**Kastellorizon**	**1.09**	**71**	*e*PB	**Pb**	**17 08 33.0**	**-0.7**
DAT	**Datca**	**1.09**	**327**	PN	**Pn**	**17 08 33.3**	**-1.0**
DAT				SN	**Sn**	**17 08 49.5**	**-0.2**
YER	**Yerkesik**	**1.32**	**359**	PN	**Pn**	**17 08 37.3**	**-0.2**
BDRM	**Kayabasi**	**1.44**	**331**	*i* P	**Pn**	**17 08 38.9**	**-0.1**
BDRM				*i* S	**Sb**	**17 08 56.4**	**-1.7**
BODT	**Bodrum**	**1.49**	**328**	PN	**Pn**	**17 08 39.4**	**-0.3**
MLSB	**Milas**	**1.55**	**344**	PN	**Pn**	**17 08 40.8**	**+0.3**
ELL	**Elmali**	**1.60**	**53**	PN	**Pn**	**17 08 40.8**	**-0.4**
DNZL	**Cakiroluk**	**1.97**	**17**	*i* P	**Pn**	**17 08 47.9**	**+1.6**
DNZL				*i* S	**Sn**	**17 09 15.7**	**+4.5**
DENT	**Denizli**	**2.03**	**16**	PN	**Pn**	**17 08 47.7**	**+0.6**
ANTB	**Antalya**	**2.18**	**59**	*e*PN	**Pn**	**17 08 48.7**	**-0.6**
SMG	**Samos**	**2.24**	**328**	*e*Pn	**Pn**	**17 08 47.3**	**-2.7**
NPS	**Neapolis**	**2.27**	**257**	*e*Pn	**Pn**	**17 08 49.7**	**-0.7**
SANT	**Santorini**	**2.38**	**285**	P	**Pn**	**17 08 49.1**	**-2.8**
SANT	**Santorini**	**2.38**	**285**	P	**Pn**	**17 08 49.1**	**-2.8**
MANT	**Manisa**	**2.69**	**4**	*i* P	**Pn**	**17 08 59.4**	**+3.2**
MANT				*i* S	**Sn**	**17 09 34.5**	**+5.6**
IZM	**Izmir**	**2.72**	**342**	*e*PN	**Pn**	**17 08 57.5**	**+0.9**
AKS	**Akhisar**	**3.09**	**353**	*e*PN	**Pn**	**17 09 01.8**	**0.0**
KONT	**Konya--Tatoy**	**3.89**	**55**	*e*PN	**Pn**	**17 09 13.0**	**+0.3**
KIZT	**Kizilcal**	**4.18**	**42**	*e*PN	**Pn**	**17 09 16.7**	**-0.1**
CSS	**Prodhromos**	**4.19**	**100**	*e*P	**Pn**	**17 09 15.7**	**-1.1**
CSS	**Prodhromos**	**4.19**	**100**	*e*P	**Pn**	**17 09 15.7**	**-1.1**
IKL	**Isikli**	**4.38**	**83**	*e*PN	**Pn**	**17 09 19.3**	**-0.1**
EDC	**Edincik**	**4.55**	**356**	*e*PN	**Pn**	**17 09 22.3**	**+0.6**
HMAT	**Matruh**	**4.81**	**193**	P	**Pn**	**17 09 27.1**	**+1.8**
HMAT				S	**Sn**	**17 10 21.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**4.95**	**350**	*e*PN	**Pn**	**17 09 27.9**	**+0.6**
SLUM		**5.02**	**212**	P	**Pn**	**17 09 30.2**	**+1.9**
HBRG	**Burj al 'Arab**	**5.37**	**166**	P	**Pn**	**17 09 33.5**	**+0.4**
HBRG				S	**Sn**	**17 10 33.1**	**-2.2**
KARA	**Karaisali**	**5.62**	**73**	*e*PN	**Pn**	**17 09 37.1**	**+0.6**
BRTR	**Keskin Array B**	**5.75**	**46**	Pn	**Pn**	**17 09 38.8**	**+0.5**
	0.2nm,0.3s,baz=219,slow=15,SNR=4.7						
KOZT	**Kozan**	**6.27**	**72**	*e*PN	**Pn**	**17 09 46.7**	**+1.3**
HMYD	**Mayadein**	**6.35**	**160**	P	**Pn**	**17 09 47.6**	**+1.0**
AMAG	**Maghara**	**6.58**	**140**	P	**Pn**	**17 09 48.5**	**-1.2**
HSAF	**As Saff**	**6.75**	**155**	P	**Pn**	**17 09 51.7**	**-0.3**
GLL	**Jalalah**	**6.84**	**154**	P	**Pn**	**17 09 53.1**	**-0.1**
SWA1		**6.88**	**199**	P	**Pn**	**17 09 55.5**	**+1.6**
SWA1				S	**Sn**	**17 11 12.1**	**-0.3**
SUZ		**7.06**	**146**	P	**Pn**	**17 09 56.1**	**-0.2**
ZAF		**7.42**	**152**	P	**Pn**	**17 10 01.4**	**+0.1**
TR2		**8.71**	**147**	P	**Pn**	**17 10 18.5**	**-0.4**
HKAT	**Jabal Katrina**	**8.71**	**145**	P	**Pn**	**17 10 18.9**	**-0.1**
HDHB	**Dhahab**	**8.85**	**141**	P	**Pn**	**17 10 20.9**	**0.0**
HHRG	**Al Ghardaqah**	**9.66**	**151**	P	**Pn**	**17 10 31.6**	**-0.4**
HSFG		**10.39**	**151**	P	**Pn**	**17 10 41.9**	**0.0**
TORD	**Torodi Ar. Bea**	**32.91**	**233**	P	**P**	**17 14 47.9**	**+0.5**
	0.3nm,0.5s,mb3.4,baz=46,slow=8.4,SNR=3.5						
MKAR	**Makanchi Array**	**41.27**	**57**	P	**P**	**17 15 57.5**	**-0.8**
	0.4nm,0.5s,mb3.3,baz=269,slow=8.1,SNR=5.2						

*NIED **28** 17:17:00, 4490N×14970E, h44km, Mw4.3 Best double couple: M0:3.08000×10^15 NP1:φs=237.00000°, δ82.00000°, λ-140.00000°. NP2:φs=140.00000°, δ51.00000°, λ-11.00000°.*
*JMA **28** 17:17:59.0±0.6, 4487N×14969E, h30km, M5.0*
*SZGRF **28** 17:18:00.5, 4426N×14976E, h33km, mb4.8, Kuril Islands, Russia*
*ISCJB **28** 17:18:00.4±0.7, 4448N±004×14957E±006, h46km±5km, mb4.5/63, MS3.5/10, Error ellipse: s-maj=8.5km s-min=5.7km az=96.8*
*BJI **28** 17:18:01.1, 4471N×14932E, h40km, mB4.8, mb4.6, Ms3.7, Msz3.6*
*MOS **28** 17:18:01.7±1.2, 4458N×14934E, h52km, mb4.7/35, Error ellipse: s-maj=10.2km s-min=6.6km az=113.3*
*SKHL **28** 17:18:01.0±0.6, 4480N×14950E, h39km±9km, mb5.3/4, ms3.9/1*
*NEIC **28** 17:18:03.0±0.3, 4464N×14936E, mb4.5/25, Error ellipse: s-maj=8.6km s-min=6.0km az=126.0*
*IDC **28** 17:18:03.1±0.7, 4475N×14948E, h48km±7km, mb4.0/17, mb1 4.1/18, mb1mx4.0/22, mbtmp4.2/18, MS3.5/6, Ms1 3.5/6, ms1mx3.0/29, Error ellipse: s-maj=16.4km s-min=13.3km az=103.0*

ISC 28 17:18:01.3±0.6, 4461N±004×14961E±005, h38km±4km, h44km±2.8km: pP-P, n203, σ1§06/222, mb4.5/62, MS3.5/10, 7C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.39**	**297**	‖ *i* P	**Pn**	**17 18 20.0**	**-4.1**
KUR				*i* P		17 18 20.0	
KUR				AMB	AMB	17 18 20.5	
	980nm,0.4s						
KUR				AMB	AMB	17 18 20.5	
	450nm,0.4s						
KUR				AMB	AMB	17 18 20.5	
	2μm,0.4s						
KUR				*i* S	**Sn**	**17 18 34.5**	**-6.7**
KUR				A		17 18 42.5	
	571nm,0.4s						
KUR				A		17 18 42.5	
	342nm,0.4s						
KUR				A		17 18 45.8	
	9μm,1.0s						
KUR				A		17 18 45.8	
	8μm,1.0s						
KUR	**Kuril'sk**	**1.39**	**297**	*e*PN	**Pn**	**17 18 20.0**	**-4.1**
YUK	**Yuzh-Kuril'sk**	**2.75**	**259**	*e*P	**Pn**	**17 18 43.2**	**+0.4**
YUK				AMB	AMB	17 18 46.5	
	420nm,0.3s						
YUK				AMB	AMB	17 18 46.5	
	530nm,0.3s						
YUK				AMB	AMB	17 18 46.5	
	1μm,0.3s						
YUK				AMB	AMB	17 18 46.6	
	2μm,0.3s						
YUK				*e*S	**Sn**	**17 19 15.1**	**+0.3**
YUK				A		17 19 20.0	
	4μm,1.0s						
YUK				A		17 19 20.0	
	4μm,1.0s						
YUK				A		17 19 27.0	
	3μm,0.5s						
YUK				A		17 19 27.0	
	1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.75**	**259**	*e*PN	**Pn**	**17 18 43.2**	**+0.4**
YUK				*e*S	**Sn**	**17 19 15.1**	**+0.3**
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=N,420nm,0.4s						
YUK				pmax	pmax		
	comp=E,530nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				smax			
	comp=N,4μm,1.0s						
YUK				smax			
	comp=E,4μm,0.8s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
NEM2	**Nemuro 2**	**3.06**	**247**	P	**Pn**	**17 18 46.2**	**-0.8**
JRA	**Rausu**	**3.29**	**260**	P	**Pn**	**17 18 51.1**	**+0.8**
JNK	**Nakash**	**3.67**	**256**	P	**Pn**	**17 18 55.7**	**+0.2**
JNK				*e*S	**Sn**	**17 19 37.8**	**+0.3**
JAK	**Akkeshi**	**3.91**	**247**	P	**Pn**	**17 18 58.5**	**-0.2**
JAK				*e*S	**Sn**	**17 19 42.1**	**-1.2**
JTKR	**Abashiri--Toko**	**4.14**	**263**	P	**Pn**	**17 19 02.8**	**+0.8**
JAR	**Ashorobuto**	**4.42**	**255**	P	**Pn**	**17 19 06.9**	**+1.2**
JAR				*e*S	**Sn**	**17 19 58.0**	**+2.1**
JOB	**Onbets**	**4.52**	**250**	P	**Pn**	**17 19 08.1**	**+1.0**
JOB				*e*S	**Sn**	**17 19 58.7**	**+0.3**
JMP	**Maruseppu**	**4.53**	**265**	P	**Pn**	**17 19 08.4**	**+1.2**
JCH	**Churui**	**4.96**	**248**	P	**Pn**	**17 19 13.5**	**+0.4**
JCH				*e*S	**Sn**	**17 20 09.4**	**+0.2**
JKK2	**Kamakawa 2**	**4.99**	**264**	P	**Pn**	**17 19 15.9**	**+2.3**
JSE	**Soyaes**	**5.01**	**276**	P	**Pn**	**17 19 14.9**	**+1.0**
ASAJ	**Asahikawa**	**5.05**	**267**	P	**Pn**	**17 19 16.7**	**+2.2**
	comp=E,4.7nm,0.3s,baz=86,slow=11,SNR=43						
ASAJ				LR	LR	17 21 20.9	
	comp=E,564nm,19.2s,baz=170,slow=40						
ASAJ	**Asahikawa**	**5.05**	**267**	P	**Pn**	**17 19 16.6**	**+2.1**
JFR	**Furan**	**5.27**	**257**	P	**Pn**	**17 19 19.2**	**+1.7**
YSS	**Yuzh-Sakhalins**	**5.34**	**298**	⇑ *i* P	**Pn**	**17 19 19.0**	**+0.6**
YSS				*e*S	**Sn**	**17 20 17.0**	**-1.6**
YSS				A		17 20 22.8	
	comp=E,50nm,0.8s						
YSS				AMS	AMS	17 21 54.0	
	comp=E,400nm,14.0s						
YSS	**Yuzh-Sakhalins**	**5.34**	**298**	⇑ *i* PN	**Pn**	**17 19 19.0**	**+0.6**
YSS				*e*S	**Sn**	**17 20 17.0**	**-1.6**
YSS				smax			
	comp=N,50nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.34**	**298**	*e*P	**Pn**	**17 19 19.5**	**+1.1**
	comp=N,28nm,0.4s						
JEM	**Erimo**	**5.37**	**243**	P	**Pn**	**17 19 20.4**	**+1.5**
JAB	**Ashibetsu**	**5.44**	**261**	P	**Pn**	**17 19 22.8**	**+3.0**
JNBK	**Urakawa-nobuka**	**5.51**	**247**	P	**Pn**	**17 19 20.7**	**0.0**
JBT2	**Biratori 2**	**5.56**	**253**	P	**Pn**	**17 19 22.2**	**+0.7**
JEW	**Eniwo**	**6.17**	**256**	P	**Pn**	**17 19 32.2**	**+2.4**
JNB	**Noboribetsu**	**6.59**	**254**	P	**Pn**	**17 19 36.5**	**+1.0**
JNB				*e*S	**Sn**	**17 20 48.7**	**-0.7**
JSK	**Shakotan**	**6.71**	**262**	P	**Pn**	**17 19 40.7**	**+3.5**
JKB	**Kayabe**	**6.83**	**250**	P	**Pn**	**17 19 38.9**	**0.0**
JKB				*e*S	**Sn**	**17 20 51.6**	**-3.7**
UGL	**Uglegorsk**	**6.84**	**314**	*e*P	**Pn**	**17 19 43.0**	**+4.0**
UGL				AMS	AMS	17 22 38.0	
	comp=N,400nm,14.0s						
UGL				AMS	AMS	17 22 38.0	
	comp=N,350nm,14.0s						
UGL				AMS	AMS	17 22 38.0	
	comp=N,500nm,14.0s						
JYM2	**Yakumo 2**	**7.18**	**253**	P	**Pn**	**17 19 44.2**	**+0.5**
JSH	**Shimam**	**7.21**	**258**	P	**Pn**	**17 19 45.8**	**+1.7**
JANG	**Nango**	**7.33**	**238**	P	**Pn**	**17 19 43.6**	**-2.1**
JANG				*e*S	**Sn**	**17 20 58.5**	**-9.1**
JTM	**Tenmabayashi**	**7.36**	**242**	P	**Pn**	**17 19 45.3**	**-0.8**
JTM				*e*S	**Sn**	**17 21 00.7**	**-7.7**
JTH	**Tanohata**	**7.40**	**234**	P	**Pn**	**17 19 43.9**	**-2.8**
JTH				*e*S	**Sn**	**17 21 00.2**	**-9.2**
JSR	**Shiriuchi**	**7.40**	**249**	P	**Pn**	**17 19 46.9**	**+0.2**
SKR	**Severo-Kuril's**	**7.50**	**34**	*e*P	**Pn**	**17 19 47.5**	**-0.5**
SKR				AMB	AMB	17 19 51.0	
	comp=N,80nm,0.5s						
SKR				*e*S	**Sn**	**17 21 10.9**	**-0.8**
SKR				A		17 21 22.0	
	comp=N,80nm,0.6s						
SKR				A		17 21 22.0	
	comp=N,60nm,0.6s						
JOSM	**Okushiri--Mats**	**7.81**	**255**	P	**Pn**	**17 19 53.0**	**+0.7**
TYV	**Tymovskoe**	**7.82**	**326**	*e*rx	rx	17 22 28.0	
TYV				AMS	AMS	17 23 16.0	
	comp=N,500nm,14.0s						
OFUJ	**Ofunato**	**8.10**	**230**	P	**Pn**	**17 19 54.2**	**-2.1**
OFUJ				*e*S	**Sn**	**17 21 17.7**	**-8.9**
JRG	**Rokugo**	**8.47**	**235**	P	**Pn**	**17 19 59.8**	**-1.6**
JRG				*e*S	**Sn**	**17 21 28.5**	**-7.2**
JOG2	**Oga 2**	**8.66**	**241**	P	**Pn**	**17 20 03.7**	**-0.3**
JIO	**Ouri**	**8.73**	**228**	P	**Pn**	**17 20 02.2**	**-2.7**
JIO				*e*S	**Sn**	**17 21 31.4**	**-11**
JYA	**Atsumi**	**9.54**	**234**	P	**Pn**	**17 20 15.0**	**-1.0**
JFK	**Kawauchi**	**9.79**	**225**	P	**Pn**	**17 20 17.0**	**-2.5**
JFK				*e*S	**Sn**	**17 21 57.9**	**-10**
JFY	**Yanaizu**	**10.38**	**230**	P	**Pn**	**17 20 26.6**	**-0.9**
HABR	**Khabarovsk**	**10.75**	**296**	*e*PN	**Pn**	**17 20 25.8**	**-6.8**
JAG	**Ashikaga**	**11.24**	**227**	P	**Pn**	**17 20 37.8**	**-1.5**
MJAR	**Matsushiro Arr**	**11.83**	**231**	P	**Pn**	**17 20 46.2**	**-1.1**
	comp=N,0.8nm,0.3s,baz=30,slow=13,SNR=16						
MJAR				LR	LR	17 25 45.9	
	comp=N,123nm,20.5s,baz=55,slow=39						
MAJO	**Matsushiro**	**11.83**	**231**	*e*PN	**Pn**	**17 20 45.2**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MAJO	**Matsushiro**	**11.83**	**231**	*e*P	**Pn**	**17 20 45.2**	**-2.1**
	comp=Z,10nm,0.8s						
MAT	**Matsushiro**	**11.83**	**231**	P	**Pn**	**17 20 45.6**	**-1.7**
MAT				*e*S	**Sn**	**17 22 58.1**	**+0.1**
MAT	**Matsushiro**	**11.83**	**231**	*e*P	**Pn**	**17 20 46.0**	**-1.3**
MAT				S	**Sn**	**17 22 58.0**	**0.0**
JNG	**Nsakai**	**11.98**	**231**	P	**Pn**	**17 20 48.7**	**-0.8**
KLR	**Kul'dur**	**13.05**	**297**	*e*P	**Pn**	**17 21 06.8**	**+2.8**
MDJ	**Mudanjiang**	**14.26**	**277**	P	**Pn**	**17 21 18.8**	**-1.8**
MDJ				S	**Sn**	**17 23 53.0**	**-4.4**
MDJ				PCP	PcP	17 26 34.5	-1.9
MDJ				SCP	ScP	17 30 08.0	+0.9
MDJ				SCS	ScS	17 33 42.3	-2.2
MDJ				AMB	AMB		
	comp=Z,20nm,4.4s						
MDJ				LR	LR		
	comp=N,90nm,13.3s						
MDJ				LR	LR		
	comp=E,150nm,16.6s						
MDJ				LR	LR		
	comp=Z,160nm,15.6s						
ZEA	**Zeya**	**17.18**	**310**	*e*P	**Pn**	**17 21 57.2**	**-1.0**
ZEA				AMB	AMB	17 21 58.9	
	comp=Z,15nm,0.7s						
CN2	**Changchun**	**17.33**	**276**	*e*P	**Pn**	**17 22 00.0**	**-0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
YAK	**Yakutsk**	**20.97**	**333**	P	**P**	**17 22 39.3**	**-1.7**
YAK				pmax	pmax		
	comp=Z,46nm,0.9s						
YAK	**Yakutsk**	**20.97**	**333**	P	**P**	**17 22 39.3**	**-1.7**
	comp=Z,46nm,0.9s						
JOW	**Kunigami**	**24.67**	**231**	P	**P**	**17 23 18.9**	**+0.5**
	comp=Z,12nm,0.8s,mb4.5,

HHC SS 17 29 45.5
HHC PCS PcS 17 30 47.5 +2.6
HHC AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
HHC AMB AMB
comp=Z,120nm,4.9s
HHC LR LR
comp=N,110nm,14.2s,MS3.8
HHC LR LR
comp=E,130nm,16.3s,MS3.8
HHC LR LR
comp=Z,120nm,15.3s,MS3.6
ULN Ulaanbaatar 29.34 292 *i* P **P 17 24 00.1 -0.3**
ULN Ulaanbaatar 29.34 292 *eP* **P 17 23 59.0 -1.3**
SONM Songino Array 29.79 292 P **P 17 24 04.2 -0.1**
comp=Z,0.7nm,0.4s,mb3.8,baz=88,slow=8.0,SNR=10
SONM PcP PcP 17 27 07.2 0.0
comp=Z,0.5nm,0.5s,baz=103,slow=5.1,SNR=3.7
SONM LR LR 17 36 58.3
comp=Z,87nm,19.8s,MS3.4,baz=154,slow=38
WHN Wuhan 31.01 255 *eP* **P 17 24 15.5 +0.4**
LZH Lanzhou 35.51 272 ⇑P **P 17 24 55.0 +0.7**
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.1
GTA Gaotai 36.90 280 *eP* **P 17 25 07.3 +1.1**
GTA AP pP 17 25 14.3 -2.7
GTA XP sP 17 25 18.5 -3.0
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
KDAK Kodiak Island 37.36 48 P **P 17 25 09.4 -0.7**
comp=Z,2.5nm,0.4s,mb4.4,baz=292,slow=9.0,SNR=3.9
CD2 Chengdu 38.25 265 *eP* **P 17 25 17.5 -0.1**
CD2 AP pP 17 25 29.5 +1.1
CD2 XP sP 17 25 35.0 +2.0
CD2 PP PP 17 26 48.3 +2.8
CD2 S **S 17 31 06.0 -2.8**
CD2 XS sS 17 31 26.5 -0.3
CD2 SS SS 17 33 44.8 -13
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CD2 LR LR
comp=E,70nm,14.4s
CD2 LR LR
comp=Z,70nm,15.6s,MS3.6
SML Sawmill 39.21 42 *eP* **P 17 25 26.6 +1.0**
SML *e* pP 17 25 37.6 +1.1
ZAL Zalesovo 41.91 307 PcP PcP 17 27 43.4 +0.3
comp=Z,1.7nm,0.3s,baz=77,slow=2.8,SNR=5.7
ZAL LR LR 17 44 45.9
comp=Z,69nm,18.6s,MS3.6,baz=286,slow=38
KMI Kunming 42.43 259 P **P 17 25 51.0 -1.2**
KMI AP pP 17 26 03.3 +0.2
WMQ Urumqi 43.42 292 *eP* **P 17 26 00.8 +0.6**
WMQ AMB AMB
comp=Z,100nm,4.0s
WMQ LR LR
comp=N,40nm,18.0s,MS3.5
WMQ LR LR
comp=E,40nm,18.0s,MS3.5
WMQ LR LR
comp=Z,40nm,18.0s,MS3.4
INK Inuvik 44.76 31 P **P 17 26 11.8 +0.8**
comp=Z,2.6nm,0.5s,mb4.3,baz=261,slow=7.9,SNR=4.6
INK Inuvik 44.76 31 P **P 17 26 11.8 +0.8**
INK pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 45.76 298 P **P 17 26 18.7 -0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
MKAR Makanchi Array 45.76 298 P **P 17 26 18.4 -0.5**
comp=Z,4.5nm,0.6s,mb4.6,baz=72,slow=8.1,SNR=62
MKAR PcP PcP 17 27 56.3 +0.2
comp=Z,1.1nm,0.6s,baz=62,slow=2.6,SNR=5.1
MKAR Makanchi Array 45.76 298 *i* P **P 17 26 18.7 -0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
KURK Kurchatov 46.52 304 *eP* **P 17 26 24.0 -0.8**
CHKZ Chkalovo 49.94 310 *eP* **P 17 26 48.8 -2.4**
CHKZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
CHKZ Chkalovo 49.94 310 *eP* **P 17 26 48.8 -2.4**
comp=Z,2.3nm,0.8s,mb4.3
ZRNK Zerenda 51.12 310 P **P 17 26 58.5 -1.6**
ZRNK Zerenda 51.12 310 *eP* **P 17 26 58.4 -1.7**
comp=Z,1.8nm,0.4s,mb4.3
ZRNK *e*PcP PcP 17 28 15.1 -0.3
JIRN Jiri 52.65 274 *eP* **P 17 27 12.6 +1.1**
comp=Z,18nm,0.7s,mb5.1
GUN Gumba 52.73 274 *eP* **P 17 27 12.9 +0.8**
comp=Z,44nm,0.7s,mb5.5
KKN Kakani 53.22 274 *eP* **P 17 27 16.7 +0.9**
comp=Z,26nm,0.9s,mb5.2
PKI Pulchoki 53.26 274 *eP* **P 17 27 16.7 +0.7**
DMN Daman 53.45 274 *eP* **P 17 27 18.3 +0.8**
comp=Z,27nm,0.8s,mb5.2
GKN Gorkha 53.55 275 *eP* **P 17 27 18.8 +0.6**
comp=Z,34nm,0.8s,mb5.3
YKA Yellowknife Ar 54.10 35 P **P 17 27 22.4 +0.3**
comp=Z,1.5nm,0.7s,mb4.0,baz=295,slow=6.7,SNR=7.3
YKA Yellowknife Ar 54.10 35 P **P 17 27 22.4 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 54.10 35 P **P 17 27 22.4 +0.3**
KOLN Koldanda 54.43 276 *eP* **P 17 27 25.5 +0.9**
comp=Z,37nm,1.0s,mb5.3
KK31 Karatay Array 54.87 298 *i* P **P 17 27 27.5 -0.3**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KKAR Karatay Array 54.87 298 *eP* **P 17 27 27.5 -0.3**
ARU Arti 54.92 317 ⇓*iP* **P 17 27 26.9 -1.3**
ARU *e* 17 29 27.9
ARU *e*S **S 17 35 05.8 -1.3**
ARU *e*SS SS 17 38 48.9 -1.9
ARU pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
AB31 Akbulak array 57.90 309 *i* P **P 17 27 48.7 -0.6**
ARCES ARCESS Array B 59.05 340 P **P 17 27 55.5 -1.9**
comp=Z,3.4nm,1.0s,mb4.3,baz=50,slow=7.3,SNR=4.7
ARCES ARCESS Array B 59.05 340 P **P 17 27 55.5 -1.9**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
JOF Joensuu 62.14 333 *ep* **P 17 28 16.0 -2.4**
comp=Z,1.7nm,0.5s,mb4.4
JOF Joensuu 62.14 333 *eP* **P 17 28 16.0 -2.4**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
FINES FINESS Array B 64.90 334 P **P 17 28 34.9 -1.8**
comp=Z,1.9nm,0.5s,mb4.3,baz=36,slow=7.5,SNR=14
FINES pP pP 17 28 48.8 +0.7
comp=Z,2.3nm,0.7s,baz=43,slow=8.4,SNR=3.3
FINES FINESS Array B 64.90 334 P **P 17 28 34.9 -1.8**
FINES *PP pP 17 28 48.8 +0.7
FINES pmax pmax
comp=Z,2.0nm,0.5s
NVAR Mina Array Bea 65.62 60 P **P 17 28 42.3 +1.0**
comp=Z,0.5nm,0.7s,mb3.6,baz=269,slow=9.9,SNR=4.1
OBN Obninsk 65.66 325⇓*eP* **P 17 28 41.0 -0.6**
OBN *e* 17 31 03.4
OBN *i* S S 17 37 26.9 +2.3
OBN pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
WRAB Tennant Creek 65.72 196 *eP* **P 17 28 43.4 +1.4**
WRAB pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
WRAB Tennant Creek 65.72 196 *eP* **P 17 28 43.4 +1.4**
comp=Z,6.7nm,0.8s,mb4.7
WRA Warramunga Arr 65.73 196 P **P 17 28 43.0 +0.9**
comp=Z,1.4nm,0.6s,mb4.2,baz=14,slow=6.8,SNR=18
WRA pP pP 17 28 56.9 +3.4
comp=Z,2.3nm,0.8s,baz=12,slow=6.7,SNR=6.9
BW06 Boulder Array 68.00 51 P **P 17 28 57.9 +1.5**
comp=Z,0.6nm,0.4s,mb4.0
PDAR Pinedale Array 68.00 51 P **P 17 28 57.6 +1.2**
comp=Z,0.6nm,0.5s,mb3.9,baz=311,slow=1.8,SNR=5.9
NB2 NORSAR Subarra 69.43 340 P **P 17 29 03.7 -1.6**
comp=Z,2.3nm,0.5s,mb4.4,baz=28,slow=6.5
NB2 NORSAR Subarra 69.43 340 P **P 17 29 03.7 -1.6**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
NOA NORSAR Array B 69.43 340 P **P 17 29 03.9 -1.5**
comp=Z,1.9nm,0.5s,mb4.3,baz=29,slow=6.4,SNR=12
NOA LR LR 18 05 29.9
comp=Z,17nm,19.4s,MS3.3,baz=350,slow=41
NOA NORSAR Array B 69.43 340 P **P 17 29 03.9 -1.4**
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA MLR MLR
comp=Z,17nm,19.4s
ASAR Alice Springs 69.44 195 P **P 17 29 06.9 +1.4**
comp=Z,1.2nm,0.7s,mb4.0,baz=12,slow=7.2,SNR=18
ASAR pP pP 17 29 20.9 +3.9
comp=Z,1.2nm,0.7s,baz=12,slow=6.9,SNR=5.3
KIV Kislovodsk 70.50 313 *eP* **P 17 29 12.8 +0.9**
KIV *e* 17 29 35.0
KIV *e*S S 17 38 20.7 -1.6
KIV pmax pmax
comp=Z,17nm,0.7s,mb5.1
KIV MLR MLR
comp=Z,49nm,18.0s,MS3.8
ZEI Tsey 70.67 311 *eP* **P 17 29 13.7 +0.7**
ZEI *e*PP pP 17 29 23.7 -0.8
ZEI *e* 17 31 45.6
ZEI pmax pmax
comp=Z,12nm,0.5s,mb5.1
AKASG Malin Array Be 71.92 325 P **P 17 29 20.2 -0.3**
comp=Z,4.3nm,0.4s,mb4.7,baz=39,slow=6.2,SNR=23
AKASG Malin Array Be 71.92 325 P **P 17 29 20.3 -0.2**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
SOC Sochi 72.29 314 *eP* **P 17 29 21.3 -1.5**
SOC *e*S S 17 38 39.6 -3.5
SOC *e*SS sS 17 39 05.3 +3.0
SOC pmax pmax
comp=Z,22nm,0.8s,mb5.1
OJC Ojcow 75.96 329 *eP* **P 17 29 44.4 +0.2**
SCHQ Schefferville 76.21 21 LR LR 18 07 10.3
comp=Z,41nm,18.1s,MS3.8,baz=87,slow=39
STKA Stephens Creek 76.47 187 P **P 17 29 47.6 +0.5**
comp=Z,4.3nm,1.0s,mb4.3,baz=26,slow=13,SNR=3.5
OKC Ostrava-Krasne 76.87 330 *eP* **P 17 29 46.5 -2.8**
UPC Upice 77.05 332 *eP* **P 17 29 50.7 +0.4**
DPC Dobruska-Polom 77.08 331 *eP* **P 17 29 51.1 +0.6**
MORC Moravsky Berou 77.14 330 *eP* **P 17 29 51.1 +0.3**
MORC pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MORC Moravsky Berou 77.14 330 *eP* **P 17 29 51.1 +0.3**
comp=Z,9.0nm,1.2s,mb4.6
CLL Collm 77.35 334 *eP* **P 17 29 51.8 -0.2**
comp=Z,9.0nm,0.5s,mb5.0
CLL Collm 77.35 334 *i* P **P 17 29 51.8 -0.2**
comp=Z,9.0nm,0.6s,mb4.9
CLL Collm 77.35 334 *i* P **P 17 29 51.8 -0.2**
CLL pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
PVCC Panska Ves 77.52 332 *eP* **P 17 29 53.4 +0.5**
FBE Freiberg 77.57 333 *eP* **P 17 29 53.3 +0.1**
comp=Z,6.0nm,0.7s,mb4.6
CLZ Clausthal 77.69 336 *eP* **P 17 29 54.1 +0.2**
VYHS Vyhne 77.75 326 *eP* **P 17 29 53.8 -0.4**
BRTR Keskin Array B 78.22 315 P **P 17 29 57.5 +0.7**
comp=Z,1.2nm,0.7s,mb3.9,baz=94,slow=3.8,SNR=7.5
BRTR Keskin Array B 78.22 315⇑*eP* **P 17 29 57.5 +0.7**
ROTZ Rotzenmuhle 78.94 333 *eP* **P 17 30 01.4 +0.6**
comp=Z,5.0nm,1.1s,mb4.4
KHC Kasperske Hory 79.05 332 *eP* **P 17 30 00.8 -0.6**
KHC Kasperske Hory 79.05 332 *eP* **P 17 30 00.7 -0.7**
GERES GERESS Array B 79.25 332 P **P 17 30 02.4 -0.1**
comp=Z,1.5nm,0.5s,mb4.2,baz=36,slow=5.8,SNR=12
GERES GERESS Array B 79.25 332 P **P 17 30 02.4 -0.1**
GERES pmax pmax
comp=Z,2.0nm,0.5s
WET Wettzell 79.27 333 *eP* **P 17 30 03.0 +0.4**
comp=Z,8.0nm,1.1s,mb4.6
WET Wettzell 79.27 333 *eP* **P 17 30 03.0 +0.4**
WET pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CONA Conrad Observa 79.30 330⇓*iP* **P 17 30 03.3 +0.6**
comp=Z,3.4nm,0.7s,mb4.4
GRA1 Grafenberg Arr 79.32 334 *eP* **P 17 30 03.3 +0.4**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 79.32 334 *eP* **P 17 30 03.3 +0.4**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 79.32 334 *eP* **P 17 30 03.3 +0.4**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 79.32 334 *eP* **P 17 30 03.3 +0.4**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
ARSA Arzberg 79.99 330⇓P **P 17 30 05.2 -1.3**
comp=Z,2.5nm,0.8s,mb4.2
KBA Koelnbreinsper 80.90 331⇓*iP* **P 17 30 12.6 +1.2**
comp=Z,5.7nm,0.8s,mb4.6
KBA Koelnbreinsper 80.90 331⇓*iP* **P 17 30 12.6 +1.2**
KBA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
OBKA Obir 80.97 330⇓*iP* **P 17 30 12.6 +0.8**
WTTA Wattenberg 81.31 333⇓*iP* **P 17 30 14.1 +0.5**
comp=Z,5.4nm,0.7s,mb4.6
WTTA Wattenberg 81.31 333⇓*iP* **P 17 30 14.1 +0.5**
WTTA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MOTA Moosalm 81.42 333⇑*iP* **P 17 30 14.6 +0.4**
comp=Z,3.3nm,0.7s,mb4.4
MOTA Moosalm 81.42 333⇑*iP* **P 17 30 14.6 +0.5**
MOTA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CDF Champ du Feu 81.65 336 *eP* **P 17 30 15.6 +0.2**
DAVA Damuels 81.86 334⇑*eP* **P 17 30 17.0 +0.5**
comp=Z,4.1nm,0.7s,mb4.5
HINF Hinteralfeld 82.31 336 *eP* **P 17 30 19.0 +0.1**
comp=Z,5.6nm,0.7s,mb4.3
HINF Hinteralfeld 82.31 336 *eP* **P 17 30 19.0 +0.1**
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
HINF Hinteralfeld 82.31 336 *eP* **P 17 30 19.0 +0.1**
comp=Z,2.8nm,0.7s,mb4.3
FLN La Foliniere 83.39 341 *eP* **P 17 30 24.4 -0.1**
LDF La Druitiere 83.47 340 *eP* **P 17 30 25.0 +0.2**
GRR Gorron 83.83 341 *eP* **P 17 30 26.6 -0.1**
comp=Z,7.0nm,0.5s,mb4.7
GRR Gorron 83.83 341 *eP* **P 17 30 26.6 -0.1**
GRR pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
GRR Gorron 83.83 341 *eP* **P 17 30 26.6 -0.1**
comp=Z,3.5nm,0.5s,mb4.8
SMF Signal de Mont 84.24 337 *eP* **P 17 30 29.6 +0.8**
comp=Z,21nm,1.0s,mb4.9
SMF Signal de Mont 84.24 337 *eP* **P 17 30 29.6 +0.8**
SMF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
SMF Signal de Mont 84.24 337 *eP* **P 17 30 29.6 +0.8**
comp=Z,10nm,1.0s,mb4.9
AVF Avril sur Loir 84.24 337 *eP* **P 17 30 28.2 -0.6**
SGMF Saint Gilles 84.35 342 *eP* **P 17 30 28.9 -0.5**
LPL La Plagne 84.42 335 *eP* **P 17 30 29.8 +0.1**
ROSF Rostrenen 84.43 342 *eP* **P 17 30 30.5 +0.7**
LPG La Plagne 84.43 335 *eP* **P 17 30 29.9 +0.1**
MBDF Montbardon 85.12 334 *eP* **P 17 30 33.2 0.0**
ORIF Oris-en-Rattie 85.22 335 *eP* **P 17 30 33.7 0.0**
comp=Z,8.0nm,0.7s,mb4.7
ORIF Oris-en-Rattie 85.22 335 *eP* **P 17 30 33.7 0.0**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
ORIF Oris-en-Rattie 85.22 335 *eP* **P 17 30 33.7 0.0**
comp=Z,4.0nm,0.7s,mb4.7
MFF Saint Martin d 85.33 340 *eP* **P 17 30 34.1 -0.2**
comp=Z,3.5nm,0.5s,mb4.4
MFF Saint Martin d 85.33 340 *eP* **P 17 30 34.1 -0.2**
MFF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
MFF Saint Martin d 85.33 340 *eP* **P 17 30 34.1 -0.2**
comp=Z,1.8nm,0.5s,mb4.5
VIVF Saint-Julien-l 85.64 336 *eP* **P 17 30 35.7 -0.1**
comp=Z,5.7nm,0.8s,mb4.5
VIVF Saint-Julien-l 85.64 336 *eP* **P 17 30 35.7 -0.1**
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
VIVF Saint-Julien-l 85.64 336 *eP* **P 17 30 35.7 -0.1**
comp=Z,2.8nm,0.8s,mb4.5
SBF Sospel 85.69 334 *eP* **P 17 30 35.7 -0.4**
RJF Les Rejaudoux 86.11 338 *eP* **P 17 30 37.6 -0.5**
CAF Calviac 86.31 338 *eP* **P 17 30 39.5 +0.4**
comp=Z,3.6nm,0.7s,mb4.4
CAF Calviac 86.31 338 *eP* **P 17 30 39.5 +0.4**
CAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
CAF Calviac 86.31 338 *eP* **P 17 30 39.5 +0.4**
comp=Z,1.8nm,0.7s,mb4.4
MTLF Montolieu 87.73 337 *eP* **P 17 30 45.5 -0.5**
comp=Z,5.6nm,1.0s,mb4.5
MTLF Montolieu 87.73 337 *eP* **P 17 30 45.5 -0.5**
MTLF pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
MTLF Montolieu 87.73 337 *eP* **P 17 30 45.5 -0.5**
comp=Z,2.8nm,1.0s,mb4.5
MAW Mawson 129.11 210 PKP PKPdf 17 37 05.2 +0.1
comp=Z,0.7nm,0.6s,baz=64,slow=3.5,SNR=4.1
MAW Mawson 129.11 210 PKIKP PKPdf 17 37 05.2 +0.1
MAW pmax pmax
comp=Z,1.0nm,0.6s
PLCA Paso Flores 150.43 97 PKPbc PKPbc 17 37 49.4 +0.8
comp=Z,2.5nm,0.7s,baz=276,slow=3.1,SNR=8.0
PLCA Paso Flores 150.43 97 PKIKP PKPdf 17 37 49.4 +6.1
PLCA pmax pmax
comp=Z,3.0nm,0.7s
PLCA Paso Flores 150.43 97 PKPbc PKPbc 17 37 49.4 +0.8

NEIC ***28*** *17:18:31.6, 1550N×93.12W, h40km, MD4.1(MEX), After MEX.*
MEX 28 17:18:31.4±1.2, 1545N×9310W, h40km±47km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.24**	**48**	*i* P		Pn	17 18 50.8	-1.4
CCIG				*i* S		Sn	17 19 05.2	-2.5
CCIG	**Comitan**	**1.24**	**48**	*i* P		Pn	17 18 50.8	-1.4
CCIG				*i* S		Sn	17 19 05.6	-2.1
SCX	**San Cristobal**	**1.35**	**19**	*eP*		Pn	17 18 54.0	+0.2
SCX				*i* S		Sn	17 19 10.0	-0.5
CMIG	**Matias Romero**	**2.37**	**314**	*i* P		Pn	17 19 05.2	-2.5
CMIG				*i* S		Sn	17 19 33.4	-2.1
CMIG	**Matias Romero**	**2.37**	**314**	*i* P		Pn	17 19 03.7	-4.0
CMIG				*i* S		Sn	17 19 33.0	-2.5
TEIG	**Tepich**	**6.61**	**43**	*e*Pn		Pn	17 20 01.9	-4.0

BUC ***28*** *17:24:58.5±2.4, 4456N×2169E, h3km±17km, MD3.4, Error ellipse: s-maj=7.5km s-min=5.9km az=53.0*
CSEM ***28*** *17:24:59.7±0.7, 4467N×2172E, h2km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.1km az=135.0*
ISCJB ***28*** *17:24:59.2±0.4, 4454N±002×2173E±002, h11km±3km, Error ellipse: s-maj=3.1km s-min=2.3km az=88.1*
BEO ***28*** *17:24:59.5±0.2, 4454N×2178E, h21km*
SOF ***28*** *17:25:00.2, 4439N×2194E, h5km, MD3.4*
PDG ***28*** *17:25:00.6±0.4, 4451N×2176E, h25km±1km*
NEIC ***28*** *17:25:00.6±0.4, 4449N×2172E, h10km, MD3.1(PDG), MD3.4(SOF), Error ellipse: s-maj=6.3km s-min=4.4km az=78.0*
THE ***28*** *17:25:02.3, 4450N×2174E, h22km, ML3.6*
ISC 28 17:25:00.3±0.4, 4454N±002×2173E±002, h13km±2km, n62, σ1§07/103, 10C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SVIS	**Svilajnac**	**0.44**	**236**	⇓*iP*	g	**Pg**	**17 25 08.9**	**-0.2**
SVIS				S	g	**Sg**	**17 25 15.9**	**+0.9**
DJES	**Djerdap**	**0.57**	**81**	*i* Pg		**Pg**	**17 25 10.1**	**-1.4**
DJES				S	g	**Sg**	**17 25 17.9**	**-1.3**
BOLS	**Boljevac**	**0.73**	**167**	⇑*iP*	g	**Pg**	**17 25 12.9**	**-1.6**
BOLS				S	g	**Sg**	**17 25 23.7**	**-0.4**
BEO	**Belgrade**	**0.95**	**287**	*i* Pg		**Pg**	**17 25 18.0**	**-0.7**
BEO				S	g	**Sg**	**17 25 32.0**	**+0.8**
GRUS	**Gruza**	**0.98**	**229**	*i* Pg		**Pg**	**17 25 18.3**	**-1.0**
GRUS				S	g	**Sg**	**17 25 33.0**	**+0.9**
BZS	**Buzias**	**1.08**	**356**	⇑*iP*		**Pb**	**17 25 19.9**	**-0.9**
BZS				*i* S		**Sb**	**17 25 34.8**	**0.0**
GZR	**Gura Zlata**	**1.13**	**41**	⇓*iP*		**Pb**	**17 25 20.7**	**-1.0**
GZR				*i* S		**Sb**	**17 25 35.4**	**-0.8**
DIVS	**Divcibare**	**1.33**	**251**	*i* Pg		**Pg**	**17 25 24.4**	**-1.4**
DIVS				S	g	**Sg**	**17 25 43.8**	**+0.7**
DIVS	**Divcibare**	**1.33**	**251**	*e*Pg		**Pg**	**17 25 24.2**	**-1.6**
DIVS				*e*S	g	**Sg**	**17 25 40.8**	**-2.2**
BBLS	**Bajina Basta -**	**1.80**	**249**	*i* Pn		**Pn**	**17 25 31.6**	**+0.6**
BBLS				S	g	**Sg**	**17 25 59.1**	**+0.8**
SJES	**Sjenica**	**1.82**	**226**	Pn		**Pn**	**17 25 31.2**	**-0.1**
SJES				S	g	**Sg**	**17 25 58.7**	**0.0**
PLE	**Pljevlja**	**2.08**	**235**	*e*Pn		**Pn**	**17 25 35.0**	**+0.1**
PLE				*e*S	n	**Sn**	**17 26 01.1**	**+0.5**
IVA	**Berane**	**2.14**	**219**	*e*Pn		**Pn**	**17 25 36.1**	**+0.4**
IVA				*e*S	n	**Sn**	**17 26 02.9**	**+0.8**
VTS	**Vitosha**	**2.23**	**151**	*i* P		**Pn**	**17 25 37.0**	**+0.1**
VTS	**Vitosha**	**2.23**	**151**	*e*Pn		**Pn**	**17 25 36.5**	**-0.4**
VTS				*e*S	n	**Sn**	**17 26 02.7**	**-1.5**
VTS	**Vitosha**	**2.23**	**151**	S		**Sn**	**17 26 09.3**	**+5.0**
VTS	**Vitosha**	**2.23**	**151**	⇑*iP*		**Pn**	**17 25 37.8**	**+0.9**
VTS				*i* S		**Sn**	**17 26 09.3**	**+5.0**
PVY	**Plav**	**2.33**	**214**	*e*Pn		**Pn**	**17 25 38.7**	**+0.3**
PVY				*e*S	n	**Sn**	**17 26 07.5**	**+0.6**
PVY	**Plav**	**2.33**	**214**	*e*Pn		**Pn**	**17 25 38.7**	**+0.4**
PVY				*e*S	n	**Sn**	**17 26 07.4**	**+0.6**
DRGR		**2.35**	**17**	⇓*iP*		**Pn**	**17 25 38.6**	**0.0**
UPM	**Unac-Piva**	**2.44**	**238**	*e*Pn		**Pn**	**17 25 40.0**	**+0.2**
UPM				*e*S	n	**Sn**	**17 26 09.9**	**+0.3**
UPM	**Unac-Piva**	**2.44**	**238**	*e*Pn		**Pn**	**17 25 40.0**	**+0.1**
UPM				*e*S	n	**Sn**	**17 26 09.9**	**+0.3**
MTUR	**Matau**	**2.46**	**73**	⇑*iP*		**Pn**	**17 25 40.3**	**+0.1**
MTUR				*i* S		**Sn**	**17 26 13.0**	**+2.9**
VOIR		**2.52**	**68**	⇓*iP*		**Pn**	**17 25 41.9**	**+1.0**
VOIR				*i* S		**Sn**	**17 26 13.8**	**+2.4**
PKS6	**Bocsa**	**2.56**	**324**	⇓*iP*		**Pn**	**17 25 41.6**	**+0.1**
NKY	**Niksic**	**2.63**	**230**	⇑*iPn*		**Pn**	**17 25 42.4**	**-0.1**
NKY				*e*Sn		**Sn**	**17 26 14.4**	**+0.1**
PGB	**Panagyurishte**	**2.66**	**138**	*i* P		**Pn**	**17 25 43.0**	**+0.1**
PKSM	**Moragy**	**2.75**	**309**	⇓*iP*		**Pn**	**17 25 43.9**	**-0.1**
PKSM	**Moragy**	**2.75**	**309**	⇓*ePn*		**Pn**	**17 25 44.3**	**+0.3**
PKSM				*e*Sn		**Sn**	**17 26 15.2**	**-1.9**
TTG	**Podgorica**	**2.77**	**221**	*e*Pn		**Pn**	**17 25 45.2**	**+0.7**
TTG				*e*Sn		**Sn**	**17 26 17.8**	**0.0**
BRY	**Bratogost**	**2.84**	**236**	⇑*iPn*		**Pn**	**17 25 45.2**	**0.0**
BRY				*e*Sn		**Sn**	**17 26 19.3**	**0.0**
BRY	**Bratogost**	**2.84**	**236**	⇑*iPn*		**Pn**	**17 25 45.2**	**-0.1**
BRY				*e*Sn		**Sn**	**17 26 19.3**	**0.0**
KKB	**Krupnik**	**2.85**	**159**	*i* P		**Pn**	**17 25 45.4**	**-0.1**
BUM	**Brajici-Budva**	**3.05**	**224**	*e*Pn		**Pn**	**17 25 49.1**	**+0.9**
BUM				*e*Sn		**Sn**	**17 26 24.3**	**-0.2**
MLR	**Muntele Rosu**	**3.13**	**71**	⇑*iP*		**Pn**	**17 25 46.8**	**-2.6**
MLR				*i* S		**Sn**	**17 26 26.0**	**-0.7**
HCY	**Herceg Novi**	**3.15**	**229**	*e*Pn		**Pn**	**17 25 50.6**	**+0.9**
HCY				*e*Sn		**Sn**	**17 26 26.9**	**-0.2**
ULC	**Ulcinj**	**3.15**	**216**	*e*Pn		**Pn**	**17 25 49.9**	**+0.3**
ULC				*e*Sn		**Sn**	**17 26 27.0**	**-0.2**
PKS8	**Sarbogard**	**3.17**	**319**	⇑*iP*		**Pn**	**17 25 49.5**	**-0.4**
PKS8				*e*S		**Sn**	**17 26 26.2**	**-1.3**
	0.4nm,0.2s							
PKS9	**Tamasi**	**3.17**	**311**	⇑*iP*		**Pn**	**17 25 48.9**	**-1.0**
VAY	**Valandovo**	**3.28**	**169**	*e*Pn		**Pn**	**17 25 50.4**	**-1.0**
VAY	**Valandovo**	**3.28**	**169**	*i* Pn		**Pn**	**17 25 50.2**	**-1.2**
SZH	**Strazhica**	**3.29**	**111**	*i* P		**Pn**	**17 25 51.0**	**-0.6**
MMB	**Musomiste**	**3.29**	**153**	*i* P		**Pn**	**17 25 52.0**	**+0.4**
KNT	**Kendrikon**	**3.49**	**165**	*e*Pn		**Pn**	**17 25 53.8**	**-0.5**
OHR	**Ohrid**	**3.50**	**192**	*i* Pn		**Pn**	**17 25 54.1**	**-0.3**
OHR	**Ohrid**	**3.50**	**192**	*i* Pn		**Pn**	**17 25 54.0**	**-0.4**
RZN	**Rozhen**	**3.59**	**142**	*i* P		**Pn**	**17 25 55.2**	**-0.5**
PSZ	**Piszkesteto**	**3.61**	**340**	*e*Pn		**Pn**	**17 25 58.3**	**+2.4**
PSZ				*e*Sn		**Sn**	**17 26 34.7**	**-3.7**
GRG	**Griva**	**3.62**	**172**	*e*Pn		**Pn**	**17 25 55.6**	**-0.4**
SRS	**Serrai**	**3.69**	**158**	*e*Pn		**Pn**	**17 25 56.3**	**-0.6**
FNA	**Florina**	**3.77**	**184**	*e*Pn		**Pn**	**17 25 58.0**	**-0.1**
VRI	**Vrincioaia**	**3.77**	**68**	⇓*iP**		**Pn**	**17 25 59.6**	**+1.5**
BURAR	**Bucovina Array**	**3.91**	**37**	⇓*iP*		**Pn**	**17 26 00.9**	**+0.8**
KECS	**Kecovo**	**4.03**	**348**	*e*PN		**Pn**	**17 26 03.9**	**+2.1**
KECS				*e*SN		**Sn**	**17 26 47.9**	**-1.0**
CRVS	**Cervenica-Dubn**	**4.37**	**358**	*e*PN		**Pn**	**17 26 08.5**	**+2.2**
CRVS				*e*SG		**Sg**	**17 27 22.6**	**+2.1**
KOLS	**Kolonicke sedl**	**4.41**	**5**	*e*PN		**Pn**	**17 26 10.3**	**+3.4**
KOLS				*e*PG		**Pg**	**17 26 25.6**	**+0.9**
KOLS				*e*SG		**Sg**	**17 27 21.7**	**-0.1**
VYHS	**Vyhne**	**4.43**	**334**	*e*PN		**Pn**	**17 26 08.7**	**+1.5**
VYHS				*e*SN		**Sn**	**17 26 57.0**	**-1.6**
VYHS	**Vyhne**	**4.43**	**334**	*e*Pn		**Pn**	**17 26 08.7**	**+1.5**
VYHS				*e*Sn		**Sn**	**17 26 57.0**	**-1.6**
BOJS	**Bojanci**	**4.69**	**284**	*e*Pn		**Pn**	**17 26 13.8**	**+2.9**
BOJS				*i* Sn		**Sn**	**17 27 03.4**	**-1.8**
ALN	**Alexandroupoli**	**4.83**	**137**	*e*Pn		**Pn**	**17 26 13.0**	**+0.3**
PERS	**Pernice**	**5.09**	**297**	*i* Pn		**Pn**	**17 26 20.6**	**

IDC 28 17:28:07.5±3.0, 777N×12633E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.0/17, Error ellipse: s-maj=247.3km s-min=25.9km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.11**	**71**	LR	LR	17 38 47.9	
	comp=Z,23nm,18.9s,baz=87,slow=34						
WRA	**Warramunga Arr**	**28.65**	**164**	P	P	17 34 06.6	+0.9
	0.3nm,0.4s,baz=345,slow=9.1,SNR=8.4						
ASAR	**Alice Springs**	**32.11**	**167**	P	P	17 34 36.1	-0.2
	0.5nm,0.5s,baz=341,slow=7.2,SNR=17						
MKAR	**Makanchi Array**	**54.05**	**324**	P	P	17 37 33.8	+0.1
	0.2nm,0.5s,baz=124,slow=8.1,SNR=7.0						

*MOS **28** 17:44:04.3±0.9, 100N×9877E, h33km, mb5.2/48, Error ellipse: s-maj=12.9km s-min=5.7km az=118.0*
*SZGRF **28** 17:44:10.7, 079N×9702E, h33km, mb4.9, Northern Sumatera, Indonesia*
*BJI **28** 17:44:10.7, 093N×9859E, h92km, mB4.7, mb4.9*
*ISCJB **28** 17:44:11.0±0.2, 088N±003×9873E±004, h94km, mb4.8/104, Error ellipse: s-maj=5.6km s-min=4.4km az=103.6*
*IDC **28** 17:44:11.5±0.7, 091N×9884E, h83km±6km, mb4.3/22, mb1 4.3/22, mb1mx4.3/24, mbtmp4.6/22, MS3.6/4, Ms1 3.6/4, ms1mx3.1/27, Error ellipse: s-maj=14.4km s-min=9.4km az=59.0*
*NEIC **28** 17:44:11.3±0.2, 086N×9870E, mb4.9/46, Error ellipse: s-maj=7.7km s-min=5.1km az=41.0*
NEIC Felt [III] at Sibolga, Sumatra.

ISC 28 17:44:12.9±0.2, 088N±003×9875E±004, h96km, h96km±3.7km: pP-P, n245, σ0: 99/252, mb4.8/104, 8C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.92**	**5**	P	**Pn**	**17 44 41.2**	**-3.0**
	80nm,0.3s,baz=273,slow=1.1,SNR=172						
PSI				S	**Sn**	**17 44 59.0**	**-9.1**
	127nm,0.3s,baz=180,slow=7.6,SNR=21						
PPI	**Padang Panjang**	**2.12**	**129**	P	**Pn**	**17 44 46.9**	**+0.1**
	2μm,1.0s						
TSI	**Tuntungan**	**2.62**	**356⇑**	*e*P	**Pn**	**17 44 51.5**	**-1.9**
TSI				*e*S	**Sn**	**17 45 24.3**	**-0.1**
IPM	**Ipoh**	**4.24**	**32**	P	**Pn**	**17 45 16.1**	**+0.8**
KGM	**Kluang**	**4.71**	**76**	P	**Pn**	**17 45 21.9**	**+0.4**
KULM	**Kulim**	**4.78**	**23**	*e*Pn	**Pn**	**17 45 22.0**	**-0.5**
BSI	**Banda Aceh**	**5.74**	**323**	P	**Pn**	**17 45 31.4**	**-4.1**
	299nm,0.6s						
KSI	**Kapahiang**	**5.92**	**139**	P	**Pn**	**17 45 37.6**	**-0.3**
	356nm,0.6s						
KSM	**Kuching**	**11.57**	**87**	*e*Pn	**Pn**	**17 46 56.9**	**+2.0**
NST	**Nakhon Sawan**	**14.77**	**5**	P	**Pn**	**17 47 39.7**	**+3.0**
KKTK	**Khon Kaen**	**15.88**	**14**	P	**Pn**	**17 47 50.5**	**-0.3**
NANT	**Nan**	**17.92**	**6**	P	**Pn**	**17 48 15.0**	**-0.7**
KKM	**Kota Kinabalu**	**18.17**	**73**	P	**Pn**	**17 48 20.3**	**+1.5**
KKM	**Kota Kinabalu**	**18.17**	**73**	*e*P	**Pn**	**17 48 20.7**	**+1.9**
PALK	**Pallekele**	**19.08**	**290**	*e*P	**Pn**	**17 48 29.0**	**-0.6**
TSM	**Tawau**	**19.40**	**80**	P	**Pn**	**17 48 33.2**	**-0.2**
KMI	**Kunming**	**24.41**	**9**	P	**P**	**17 49 23.8**	**+1.4**
SHL	**Shillong**	**25.43**	**345**	*e*P	**P**	**17 49 34.0**	**+2.5**
SHL				*e*S	**S**	**17 53 56.0**	**+4.7**
GYA	**Guiyang**	**26.55**	**16**	P	**P**	**17 49 38.5**	**-3.2**
GYA				AP	pP	17 50 02.3	-0.7
GYA				XP	sP	17 50 15.8	+1.6
GYA				PP		17 50 25.5	
GYA				S	**S**	**17 54 00.0**	**-9.1**
GYA				XS	sS	17 54 49.5	+3.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,3.6s						
GYA				LR	LR		
	comp=N,240nm,16.9s						
GYA				LR	LR		
	comp=E,270nm,16.4s						
GYA				LR	LR		
	comp=Z,260nm,15.9s						
JIRN	**Jiri**	**29.23**	**337**	*e*P	**P**	**17 50 06.5**	**+1.0**
	comp=Z,33nm,0.8s,mb5.0						
PKI	**Pulchoki**	**29.47**	**335**	*e*P	**P**	**17 50 07.8**	**+0.2**
LSA	**Lhasa**	**29.56**	**347**	*e*P	**P**	**17 50 09.6**	**+1.1**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
LSA	**Lhasa**	**29.56**	**347**	*e*P	**P**	**17 50 09.6**	**+1.1**
	comp=Z,15nm,0.8s,mb4.7						
GUN	**Gumba**	**29.57**	**336**	*e*P	**P**	**17 50 09.0**	**+0.4**
	comp=Z,26nm,0.5s,mb5.1						
DMN	**Daman**	**29.63**	**335**	*e*P	**P**	**17 50 09.1**	**0.0**
KKN	**Kakani**	**29.71**	**335**	*e*P	**P**	**17 50 09.9**	**+0.1**
	comp=Z,12nm,0.5s,mb4.8						
MBWA	**Marble Bar**	**30.01**	**138**	*e*P	**P**	**17 50 13.0**	**+0.5**
GKN	**Gorkha**	**30.17**	**335**	*e*P	**P**	**17 50 13.8**	**-0.1**
	comp=Z,20nm,0.5s,mb5.0						
CD2	**Chengdu**	**30.25**	**9**	P	**P**	**17 50 12.8**	**-1.8**
CD2				AP	pP	17 50 35.8	-0.3
CD2				XP	sP	17 50 47.8	+0.6
CD2				PP	PP	17 51 15.3	-9.2
CD2				PCP	PcP	17 53 11.3	-1.7
CD2				S	**S**	**17 55 03.0**	**-4.2**
CD2				XS	sS	17 55 43.8	-0.8
CD2				SS	SS	17 56 49.0	-31
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,100nm,16.8s						
CD2				LR	LR		
	comp=Z,60nm,18.0s						
KOLN	**Koldanda**	**30.43**	**333**	*e*P	**P**	**17 50 16.3**	**+0.1**
	comp=Z,23nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**32.49**	**127**	P	**P**	**17 50 32.5**	**-1.8**
	comp=Z,1.7nm,0.7s,mb3.9,baz=267,slow=18,SNR=3.7						
FITZ				LR	LR	18 04 35.5	
	comp=Z,100nm,18.4s,baz=150,slow=38						
XAN	**Xi'an**	**34.34**	**15**	P	**P**	**17 50 49.3**	**-1.0**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
LZH	**Lanzhou**	**35.35**	**7**	⇑P	**P**	**17 51 01.5**	**+2.5**
LZH				AP	pP	17 51 25.5	+4.6
LZH				XP	sP	17 51 37.3	+5.4
LZH				PP	PP	17 52 24.5	+3.5
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,80nm,5.3s						
LZH				LR	LR		
	comp=E,630nm,13.5s						
LZH				LR	LR		
	comp=Z,990nm,17.4s						
KAKA	**Kakadu**	**36.05**	**113**	*e*P	**P**	**17 51 05.3**	**+0.3**
	comp=Z,6.6nm,0.4s,mb4.9						
NJ2	**Nanjing**	**36.36**	**30**	*e*P	**P**	**17 51 10.0**	**+2.4**
NJ2				AP	pP	17 51 32.0	+2.4
NJ2				XP	sP	17 51 45.0	+4.4
NJ2				PP	PP	17 52 35.5	+3.4
NJ2				S	**S**	**17 56 44.0**	**+2.3**
NJ2				XS	sS	17 57 23.0	+3.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,110nm,8.0s						
NJ2				LR	LR		
	comp=N,150nm,16.0s						
NJ2				LR	LR		
	comp=E,300nm,19.2s						
NJ2				LR	LR		
	comp=Z,260nm,17.0s						
SSE	**Sheshan**	**36.81**	**33**	*e*P	**P**	**17 51 12.0**	**+0.5**
SSE				AP	pP	17 51 34.5	+1.0
SSE				XP	sP	17 51 46.5	+2.0
SSE				PP	PP	17 52 35.5	-1.6
SSE				PCP	PcP	17 53 33.8	+2.2
SSE				S	**S**	**17 56 46.0**	**-2.7**
SSE				XS	sS	17 57 25.8	-0.8
SSE				SCS	ScS	18 01 18.0	+1.1
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,60nm,7.0s						
SSE				LR	LR		
	comp=N,10.0nm,24.8s						
SSE				LR	LR		
	comp=E,50nm,24.8s						
SSE				LR	LR		
	comp=Z,40nm,21.1s						
NWAO	**Narrogin (SRO)**	**37.88**	**154**	*e*P	**P**	**17 51 21.9**	**+1.5**
	comp=Z,7.1nm,0.6s,mb4.7,baz=77,slow=6.6,SNR=6.9						
NWAO	**Narrogin (SRO)**	**37.88**	**154**	*e*P	**P**	**17 51 22.8**	**+2.3**
JOW	**Kunigami**	**38.35**	**45**	P	**P**	**17 51 24.7**	**+0.2**
	comp=Z,4.9nm,0.4s,mb4.7,baz=292,slow=24,SNR=6.6						
GTA	**Gaotai**	**38.37**	**1**	*e*P	**P**	**17 51 24.8**	**+0.2**
GTA				AP	pP	17 51 47.8	+1.1
GTA				XP	sP	17 51 59.8	+2.2
GTA				PP	PP	17 52 57.0	+2.9
GTA				PCP	PcP	17 53 38.0	+1.7
GTA				S	**S**	**17 57 10.5**	**-1.6**
GTA				PCS	PcS	17 57 29.0	+3.4
GTA				XS	sS	17 57 49.8	-0.4
GTA				SS	SS	17 59 53.5	-11
GTA				SCS	ScS	18 01 25.5	-0.2
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
GTA				AMB	AMB		
	comp=Z,60nm,4.6s						
GTA				LR	LR		
	comp=N,40nm,12.6s						
GTA				LR	LR		
	comp=E,40nm,12.2s						
GTA				LR	LR		
	comp=Z,60nm,11.5s						
WRA	**Warramunga Arr**	**40.55**	**123**	P	**P**	**17 51 42.0**	**-0.8**
	comp=Z,9.0nm,0.4s,mb4.9,baz=302,slow=9.1,SNR=52						
WRA				PcP	PcP	17 53 44.4	+1.1
	comp=Z,0.6nm,0.7s,baz=300,slow=8.9,SNR=3.1						
WRA				pPcP		17 54 04.8	
	comp=Z,1.8nm,0.5s,baz=315,slow=2.5,SNR=6.9						
WRA	**Warramunga Arr**	**40.55**	**123**	*i* P	**P**	**17 51 42.0**	**-0.8**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
WRAB	**Tennant Creek**	**40.56**	**123**	*e*P	**P**	**17 51 42.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.0						
WRAB	**Tennant Creek**	**40.56**	**123**	*e*P	**P**	**17 51 42.1**	**-0.7**
	comp=Z,13nm,0.5s,mb5.0						
WB2	**Warramunga Arr**	**40.56**	**123**	*e*P	**P**	**17 51 41.7**	**-1.1**
WB2				*e*		17 51 47.1	
HHC	**Hu-ho-hao-te**	**41.45**	**15**	*e*P	**P**	**17 51 53.0**	**+2.9**
HHC				AP	pP	17 52 15.8	+3.3
HHC				XP	sP	17 52 27.0	+3.6
HHC				PP	PP	17 53 33.8	+6.2
HHC				PCP	PcP	17 53 44.3	-1.9
HHC				S	**S**	**17 58 01.3**	**+3.1**
HHC				XS	sS	17 58 41.5	+4.8
HHC				SS	SS	18 01 04.3	-1.7
HHC				SCS	ScS	18 01 44.8	+0.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,60nm,5.2s						
HHC				LR	LR		
	comp=N,60nm,14.3s						
HHC				LR	LR		
	comp=E,60nm,14.3s						
HHC				LR	LR		
	comp=Z,90nm,15.5s						
ASPA	**Alice Springs**	**41.97**	**128**	*e*P	**P**	**17 51 53.5**	**-0.8**
ASPA				*e*		17 51 59.4	
AS31	**Alice Springs**	**41.97**	**128**	*e*P	**P**	**17 51 53.5**	**-0.9**
AS31				*e*		17 51 59.4	
ASAR	**Alice Springs**	**41.97**	**128**	P	**P**	**17 51 53.5**	**-0.8**
	comp=Z,4.1nm,0.8s,mb4.2,baz=298,slow=7.5,SNR=54						
ASAR				pP	pP	17 52 12.3	-4.4
	comp=Z,2.7nm,0.6s,baz=301,slow=7.4,SNR=6.0						
ASAR				PcP	PcP	17 53 49.6	+1.7
	comp=Z,0.9nm,0.7s,baz=314,slow=3.6,SNR=4.1						
ASAR				pPcP		17 54 09.8	
	comp=Z,2.5nm,0.6s,baz=307,slow=3.6,SNR=8.2						
ASAR				LR	LR	18 09 48.4	
	comp=Z,135nm,18.6s,baz=98,slow=37						
ASAR	**Alice Springs**	**41.97**	**128**	P	**P**	**17 51 53.5**	**-0.8**
ASAR				*PP	pP	17 52 12.4	-4.3
ASAR						17 53 49.7	
ASAR						17 54 09.9	
BJT	**Baijiatuau**	**42.07**	**20**	*e*P	**P**	**17 51 56.2**	**+1.1**
BJT				pmax	pmax		
	comp=Z,15nm,0.8s						
BJT	**Baijiatuau**	**42.07**	**20**	*e*P	**P**	**17 51 56.2**	**+1.1**
	comp=Z,15nm,0.8s,mb4.8						
WMQ	**Urumqi**	**43.88**	**348**	P	**P**	**17 52 10.3**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,80nm,3.2s						
KS15	**Wonju Array Si**	**45.23**	**33**	*e*P	**P**	**17 52 20.0**	**-0.5**
KZA	**Kyzart**	**46.15**	**336**	P	**P**	**17 52 28.7**	**+1.0**
	SNR=7.2						
SNY	**Shenyang**	**46.51**	**26**	*e*P	**P**	**17 52 33.3**	**+2.8**
UCH	**Uchtor**	**46.58**	**335**	P	**P**	**17 52 32.3**	**+1.2**
	SNR=25						
TKM2	**Tokmak 2**	**46.71**	**337**	P	**P**	**17 52 32.7**	**+0.5**
	SNR=25						
TKM2	**Tokmak 2**	**46.71**	**337**	P	**P**	**17 52 32.8**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8						
KBK	**Karagaybulak**	**46.75**	**336**	P	**P**	**17 52 33.8**	**+1.3**
	SNR=23						
CHMS	**Chumysh**	**47.12**	**336**	P	**P**	**17 52 35.8**	**+0.5**
	SNR=12						
SONM	**Songino Array**	**47.24**	**7**	P	**P**	**17 52 37.1**	**+0.9**
	comp=Z,9.6nm,0.5s,mb4.8,baz=189,slow=9.7,SNR=105						
SONM				PcP	PcP	17 54 06.8	+0.8
	comp=Z,5.2nm,0.6s,baz=189,slow=4.0,SNR=12						
SONM				pPcP		17 54 26.8	
	comp=Z,1.6nm,0.6s,baz=192,slow=4.8,SNR=3.6						
EKS2	**Erkin-Say**	**47.24**	**335**	P	**P**	**17 52 37.4**	**+1.1**
	SNR=17						
ULN	**Ulaanbaatar**	**47.36**	**8**	*e*P	**P**	**17 52 38.0**	**+0.9**
ULN				*e*		17 54 07.2	
ULN				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**47.36**	**8**	*e*P	**P**	**17 52 38.0**	**+0.8**
	comp=Z,9.6nm,0.9s,mb4.5						
ULN				*e*PcP	PcP	17 54 07.2	+0.8
USP	**Ospenovka**	**47.44**	**336**	P	**P**	**17 52 38.4**	**+0.6**
	SNR=23						
MK31	**Makanchi Array**	**47.94**	**345**	P	**P**	**17 52 41.7**	**0.0**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**47.94**	**345**	P	**P**	**17 52 41.7**	**0.0**
	comp=Z,25nm,0.7s,mb5.2,baz=153,slow=7.6,SNR=218						
MKAR				pP	pP	17 53 01.2	-3.3
	comp=Z,6.1nm,0.6s,baz=153,slow=9.1,SNR=5.8						
MKAR	**Makanchi Array**	**47.94**	**345⇑**	*e*P	**P**	**17 52 41.7**	**0.0**
MKAR	**Makanchi Array**	**47.94**	**345**	P	**P**	**17 52 41.7**	**0.0**
MKAR				pP	pP	17 53 01.2	-3.3
CN2	**Changchun**	**48.91**	**26**	*e*P	**P**	**17 52 49.5**	**+0.4**
CN2				*e*XP	sP	17 53 24.0	+1.2
CN2				*e*S	**S**	**17 59 45.0**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
KK31	**Karatay Array**	**49.04**	**333**	*i* P	**P**	**17 52 50.3**	**+0.2**
KKAR	**Karatay Array**	**49.04**	**333**	*i* P	**P**	**17 52 50.3**	**+0.2**
CBIJ	**Chichi jima**	**49.15**	**54**	P	**P**	**17 52 49.2**	**-1.7**
	comp=Z,14nm,0.5s,mb5.2,baz=287,slow=19,SNR=4.6						
ZAK	**Zakamensk**	**49.47**	**4**	*e*P	**P**	**17 52 53.2**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
TLY	**Talaya**	**50.79**	**4**	*e*P	**P**	**17 53 03.6**	**+0.3**
MJAR	**Matsushiro Arr**	**50.90**	**41**	P	**P**	**17 53 04.0**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.9,baz=232,slow=7.1,SNR=5.8						
MJAR				LR	LR	18 14 57.3	
	comp=Z,45nm,21.0s,baz=125,slow=36						
MJAR	**Matsushiro Arr**	**50.90**	**41**	P	**P**	**17 53 04.0**	**-0.2**
MJAR				LR	LR	18 14 57.3	
CTA	**Charters Tower**	**50.98**	**117**	P	**P**	**17 53 04.7**	**0.0**
	comp=Z,5.6nm,0.9s,mb4.6,baz=184,slow=8.4,SNR=2.8						
CTAO	**Charters Tower**	**50.98**	**117**	*e*P	**P**	**17 53 10.1**	**+5.4**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CTAO	**Charters Tower**	**50.98**	**117**	*e*P	**P**	**17 53 10.1**	**+5.3**
	comp=Z,3.5nm,0.6s,mb4.6						
MDJ	**Mudanjiang**	**51.41**	**28**	P	**P**	**17 53 09.3**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,40nm,4.1s						
STKA	**Stephens Creek**	**52.00**	**133**	*e*P	**P**	**17 53 10.4**	**-1.9**
	comp=Z,4.5nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**52.00**	**133**	P	**P**	**17 53 10.6**	**-1.7**
	comp=Z,4.3nm,0.5s,mb4.7,baz=311,slow=6.3,SNR=16						
KURK	**Kurchatov**	**52.52**	**344⇑**	*e*P	**P**	**17 53 16.0**	**-0.2**
KURK	**Kurchatov**	**52.52**	**344**	*e*P	**P**	**17 53 15.8**	**-0.4**
	comp=Z,20nm,0.8s,mb5.2						
ZAL	**Zalesovo**	**54.13**	**350**	P	**P**	**17 53 27.9**	**0.0**
	comp=Z,18nm,0.5s,mb5.4,baz=317,slow=5.7,SNR=57						
ZAL				pP	pP	17 53 50.0	-1.3
	comp=Z,9.1nm,0.4s,baz=314,slow=6.0,SNR=5.4						
ZAL	**Zalesovo**	**54.13**	**350**	P	**P**	**17 53 27.9**	**0.0**
ZAL				pP	pP	17 53 50.0	-1.3
NVS	**Novosibirsk**	**55.27**	**349**	*i* P	**P**	**17 53 34.9**	**-1.3**
NVS				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
NVS				pmax	pmax		
	comp=N,10.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.2s						
KLR	**Kul'dur**	**55.87**	**26**	*e*P	**P**	**17 53 38.2**	**-2.3**
KBD	**Kabd**	**56.15**	**305**	*e*P	**P**	**17 53 42.4**	**-0.1**
RDF	**Al-Radifah**	**56.18**	**305**	*e*P	**P**	**17 53 42.4**	**-0.3**
RDF				AMb	AMB	17 53 43.2	
	comp=Z,43nm,0.7s,mb5.6						
NAY	**Al-Naaiem**	**56.55**	**305**	*e*P	**P**	**17 53 44.9**	**-0.4**
NAY				AMb	AMB	17 53 45.5	
	comp=Z,24nm,0.6s,mb5.4						
VOSK	**Vostochnaya**	**56.62**	**340**	P	**P**	**17 53 44.8**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
MIB	**Mutribah**	**56.66**	**306**	*e*P	**P**	**17 53 46.1**	**0.0**
MIB				AMb	AMB	17 53 46.7	
	comp=Z,52nm,0.6s,mb5.8						
HABR	**Khabarovsk**	**56.80**	**28**	*e*P	**P**	**17 53 45.8**	**-1.3**
HABR				*e*S	**S**	**18 01 37.8**	**+4.9**
RST	**Umm Al-Ruwaisa**	**56.83**	**305**	*e*P	**P**	**17 53 46.7**	**-0.6**
RST				AMb	AMB	17 53 47.4	
	comp=Z,31nm,0.6s,mb5.5						
BVA0	**Borovoye Array**	**57.07**	**340**	*i* P	**P**	**17 53 48.2**	**-0.8**
BRVK	**Borovoye**	**57.13**	**340**	*e*P	**P**	**17 53 48.4**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
BRVK	**Borovoye**	**57.13**	**340**	*e*P	**P**	**17 53 48.4**	**-1.1**
	comp=Z,14nm,1.0s,mb4.9						
ZRNK	**Zerenda**	**57.49**	**339**	*e*P	**P**	**17 53 50.8**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
ZRNK	**Zerenda**	**57.49**	**339**	*e*P	**P**	**17 53 50.8**	**-1.2**
	comp=Z,14nm,0.7s,mb5.1						
CHKZ	**Chkalovo**	**57.53**	**341**	*e*P	**P**	**17 53 51.8**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.3						
CHKZ	**Chkalovo**	**57.53**	**341**	*e*P	**P**	**17 53 51.8**	**-0.5**
	comp=Z,22nm,0.7s,mb5.3						
AB31	**Akbulak array**	**58.53**	**331**	*i* P	**P**	**17 53 58.3**	**-1.0**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
AKTO	**Aktyubinsk**	**60.25**	**331**	P	**P**	**17 54 09.7**	**-1.4**
KMBO	**Kilima Mbogo**	**61.52**	**268**	P	**P**	**17 54 20.8**	**+1.1**
	comp=Z,3.1nm,0.8s,mb4.4,baz=51,slow=9.9,SNR=7.5						
KMBO				pP	pP	17 54 42.8	-0.7
	comp=Z,2.1nm,0.7s,baz=40,slow=21,SNR=3.2						
KMBO	**Kilima Mbogo**	**61.52**	**268⇑**	*e*P	**P**	**17 54 21.2**	**+1.5**
ARU	**Arti**	**64.09**	**337⇓**	*i* P	**P**	**17 54 35.4**	**-1.3**
ARU				*e*		17 55 09.2	
ARU				*e*		17 56 53.6	
ARU				*e*S	**S**	**18 03 10.0**	**+4.1**
ARU				*e*SS	SS	18 07 15.7	-0.7
ARU				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
ARU	**Arti**	**64.09**	**337**	*e*P	**P**	**17 54 35.3**	**-1.4**
	comp=Z,12nm,1.0s,mb4.7						
ZEI	**Tsey**	**64.27**	**318**	*e*P	**P**	**17 54 38.0**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.1						
KIV	**Kislovodsk**	**65.56**	**319**	*e*P	**P**	**17 54 46.1**	**-0.2**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,20nm,16.0s						
MIR	**Mirnyy**	**67.40**	**182**	*e*P	**P**	**17 54 51.5**	**-6.5**
MIR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
ANN	**Anapa**	**69.37**	**318**	*e*P	**P**	**17 55 07.8**	**-2.5**
ANN				*e*		17 55 23.3	
ANN				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.2						
BR131	**Keskin Array S**	**70.47**	**312**	*e*P	**P**	**17 55 16.2**	**-0.8**
	comp=Z,4.5nm,0.6s,mb4.5						
BRTR	**Keskin Array B**	**70.47**	**312**	P	**P**	**17 55 16.2**	**-0.8**
	comp=Z,6.0nm,0.7s,mb4.5,baz=128,slow=6.9,SNR=35						
BRTR				LR	LR	18 25 50.9	
	comp=Z,31nm,19.7s,baz=265,slow=35						
BRTR	**Keskin Array B**	**70.47**	**312⇑**	*e*P	**P**	**17 55 16.2**	**-0.8**
SIM	**Simferopol'**	**71.65**	**317**	*e*P	**P**	**17 55 24.0**	**-0.1**
SIM				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
MAW	**Mawson**	**72.75**	**194**	P	**P**	**17 55 32.5**	**+1.8**
	comp=Z,2.9nm,0.7s,mb4.2,baz=318,slow=4.4,SNR=11						
TIXI	**Tiksi**	**73.24**	**10⇑**	*e*P	**P**	**17 55 32.2**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
OBN	**Obninsk**	**73.71**	**328**	*c*eP	**P**	**17 55 35.0**	**-1.3**
OBN				*e*		17 58 17.0	
OBN				*e*S	SKSac	18 05 33.7	-0.7
OBN				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.8						
KLMR	**Klimovskoe**	**74.71**	**334**	*e*P	**P**	**17 55 39.9**	**-2.2**
KLMR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
BOSA	**Boshof**	**75.96**	**240**	P	**P**	**17 55 50.8**	**+1.5**
	comp=Z,3.9nm,0.7s,mb4.3,baz=74,slow=4.4,SNR=14						
AKASG	**Malin Array Be**	**76.46**	**322**	P	**P**	**17 55 51.0**	**-1.1**
	comp=Z,3.3nm,0.5s,mb4.3,baz=92,slow=4.9,SNR=26						
JOF	**Joensuu**	**79.10**	**335**	*ep*	**P**	**17 56 04.2**	**-2.6**
KOLS	**Kolonicke sedl**	**80.47**	**319**	*e*P	**P**	**17 56 12

GEC2 GERESS Array S 86.08 319 *eP* **P 17 56 42.9 0.0**
comp=Z,6.0nm,1.1s,mb4.4
GEC2 GERESS Array S 86.08 319 *eP* **P 17 56 42.9 0.0**
GEC2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GERES GERESS Array B 86.08 319 P **P 17 56 43.2 +0.3**
comp=Z,2.1nm,0.8s,mb4.1,baz=83,slow=4.2,SNR=18
KHC Kasperske Hory 86.17 319 *eP* **P 17 56 43.5 +0.1**
WET Wettzell 86.63 319 *eP* **P 17 56 45.8 +0.1**
comp=Z,6.0nm,0.8s,mb4.6
WET Wettzell 86.63 319 *eP* **P 17 56 45.8 +0.1**
WET pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 86.65 321 *eP* **P 17 56 45.7 -0.1**
comp=Z,9.0nm,1.4s,mb4.5
CLL Collm 86.65 321 *i* P **P 17 56 45.5 -0.3**
comp=Z,9.0nm,1.4s,mb4.5
CLL Collm 86.65 321 *i* P **P 17 56 45.5 -0.3**
CLL pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
WERD Werda 87.06 320 *eP* **P 17 56 47.6 -0.1**
comp=Z,3.0nm,0.8s,mb4.3
ROTZ Rotzenmuhle 87.09 320 *eP* **P 17 56 48.6 +0.7**
comp=Z,5.0nm,0.7s,mb4.5
MANZ Manzenberg 87.17 320 *eP* **P 17 56 48.9 +0.6**
comp=Z,8.0nm,1.0s,mb4.6
GRA1 Grafenberg Arr 87.73 320 *eP* **P 17 56 51.5 +0.5**
comp=Z,9.0nm,0.9s,mb4.8
GRF Grafenberg Arr 87.73 320 *eP* **P 17 56 51.5 +0.5**
comp=Z,9.0nm,0.9s,mb4.8
GRF Grafenberg Arr 87.73 320 *eP* **P 17 56 51.5 +0.5**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
GRF Grafenberg Arr 87.73 320 *eP* **P 17 56 51.5 +0.5**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
NB2 NORSAR Subarra 88.04 331 P **P 17 56 52.2 -0.2**
comp=Z,3.6nm,0.8s,mb4.5,baz=96,slow=4.8
NB2 NORSAR Subarra 88.04 331 P **P 17 56 52.2 -0.2**
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
NOA NORSAR Array B 88.04 331 P **P 17 56 52.1 -0.3**
comp=Z,3.5nm,0.9s,mb4.4,baz=94,slow=4.9,SNR=9.2
CLZ Clausthal 88.31 322 *eP* **P 17 56 54.3 +0.6**
comp=Z,11nm,0.7s,mb5.0
CLZ Clausthal 88.31 322 *eP* **P 17 56 54.3 +0.6**
CLZ pmax pmax
comp=Z,11nm,0.7s,mb5.0
BSEG Bad Segeberg 88.37 324 *eP* **P 17 56 54.6 +0.6**
comp=Z,11nm,0.8s,mb4.9
BSEG Bad Segeberg 88.37 324 *eP* **P 17 56 54.6 +0.6**
BSEG pmax pmax
comp=Z,11nm,0.8s,mb4.9
NRDL Niedersach Rie 88.48 322 *eP* **P 17 56 55.1 +0.6**
comp=Z,17nm,1.0s,mb5.0
UBBA Unterbreizbach 88.53 321 *eP* **P 17 56 55.1 +0.3**
comp=Z,26nm,1.9s,mb4.9
TNS Taunus Mts 89.53 320 *eP* **P 17 57 00.0 +0.6**
comp=Z,14nm,1.0s,mb5.0
TNS Taunus Mts 89.53 320 *eP* **P 17 57 00.0 +0.6**
TNS pmax pmax
comp=Z,14nm,1.0s,mb5.0
BFO Black Forest 89.63 318 *eP* **P 17 56 59.6 -0.3**
comp=Z,5.0nm,0.8s,mb4.7
BFO Black Forest 89.63 318 *eP* **P 17 56 59.6 -0.3**
BFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
IBBN Ibbenburen 89.92 322 *eP* **P 17 57 02.2 +0.9**
comp=Z,12nm,0.7s,mb5.1
CDF Champ du Feu 90.33 318 *eP* **P 17 57 03.0 -0.2**
comp=Z,8.2nm,0.8s,mb4.6
CDF Champ du Feu 90.33 318 *eP* **P 17 57 03.0 -0.2**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
CDF Champ du Feu 90.33 318 *eP* **P 17 57 03.0 -0.2**
comp=Z,4.1nm,0.8s,mb4.6
SBF Sospel 90.35 314 *eP* **P 17 57 03.4 +0.1**
comp=Z,25nm,0.7s,mb5.1
SBF Sospel 90.35 314 *eP* **P 17 57 03.4 +0.1**
SBF pmax pmax
comp=Z,13nm,0.7s,mb5.2
SBF Sospel 90.35 314 *eP* **P 17 57 03.4 +0.1**
comp=Z,13nm,0.7s,mb5.2
HINF Hinteralfeld 90.63 318 *eP* **P 17 57 04.2 -0.4**
LPG La Plagne 90.78 315 *eP* **P 17 57 05.8 +0.5**
comp=Z,23nm,0.8s,mb5.1
LPG La Plagne 90.78 315 *eP* **P 17 57 05.8 +0.5**
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.1
LPG La Plagne 90.78 315 *eP* **P 17 57 05.8 +0.5**
comp=Z,12nm,0.8s,mb5.1
LPL La Plagne 90.80 315 *eP* **P 17 57 05.8 +0.5**
comp=Z,22nm,0.8s,mb5.0
LPL La Plagne 90.80 315 *eP* **P 17 57 05.8 +0.5**
LPL pmax pmax
comp=Z,11nm,0.8s,mb5.0
LPL La Plagne 90.80 315 *eP* **P 17 57 05.8 +0.5**
comp=Z,11nm,0.8s,mb5.0
MBDF Montbardon 90.80 315 *eP* **P 17 57 05.0 -0.3**
FRF La Foret Royal 90.93 313 *eP* **P 17 57 06.2 +0.2**
comp=Z,20nm,0.9s,mb4.9
FRF La Foret Royal 90.93 313 *eP* **P 17 57 06.2 +0.2**
FRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
FRF La Foret Royal 90.93 313 *eP* **P 17 57 06.2 +0.2**
comp=Z,9.9nm,0.9s,mb4.9
HAU Haudompre 90.97 318 *eP* **P 17 57 07.0 +0.9**
comp=Z,17nm,0.7s,mb5.0
HAU Haudompre 90.97 318 *eP* **P 17 57 07.0 +0.9**
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
HAU Haudompre 90.97 318 *eP* **P 17 57 07.0 +0.9**
comp=Z,8.6nm,0.7s,mb5.0
WLF Walferdange 91.02 320 *eP* **P 17 57 07.2 +0.8**
comp=Z,9.0nm,0.9s,mb4.9
CABF La Chapelle 91.20 316 *eP* **P 17 57 07.6 +0.4**
comp=Z,13nm,0.6s,mb4.9
CABF La Chapelle 91.20 316 *eP* **P 17 57 07.6 +0.4**
CABF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
CABF La Chapelle 91.20 316 *eP* **P 17 57 07.6 +0.4**
comp=Z,6.3nm,0.6s,mb4.9
ORIF Oris-en-Rattie 91.42 315 *eP* **P 17 57 08.2 0.0**
comp=Z,4.8nm,0.4s,mb4.6
ORIF Oris-en-Rattie 91.42 315 *eP* **P 17 57 08.2 0.0**
ORIF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
ORIF Oris-en-Rattie 91.42 315 *eP* **P 17 57 08.2 0.0**
comp=Z,2.4nm,0.4s,mb4.7
SMRF Simiane la Rot 91.69 314 *eP* **P 17 57 10.3 +0.8**
BAIF Baives 92.26 320 *eP* **P 17 57 12.7 +0.6**
comp=Z,11nm,0.8s,mb4.8
BAIF Baives 92.26 320 *eP* **P 17 57 12.7 +0.6**
BAIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
BAIF Baives 92.26 320 *eP* **P 17 57 12.7 +0.6**
comp=Z,5.4nm,0.8s,mb4.8
VIVF Saint-Julien-l 92.28 315 *eP* **P 17 57 12.4 +0.2**
comp=Z,10nm,0.9s,mb4.8
VIVF Saint-Julien-l 92.28 315 *eP* **P 17 57 12.4 +0.2**
VIVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
VIVF Saint-Julien-l 92.28 315 *eP* **P 17 57 12.4 +0.2**
comp=Z,5.2nm,0.9s,mb4.8
LOR Lormes 92.69 317 *eP* **P 17 57 14.1 0.0**
comp=Z,14nm,0.8s,mb5.0
LOR Lormes 92.69 317 *eP* **P 17 57 14.1 0.0**
LOR pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
LOR Lormes 92.69 317 *eP* **P 17 57 14.1 0.0**
comp=Z,7.2nm,0.8s,mb5.0
SMF Signal de Mont 92.75 317 *eP* **P 17 57 14.4 0.0**
comp=Z,17nm,0.8s,mb5.1
SMF Signal de Mont 92.75 317 *eP* **P 17 57 14.4 0.0**
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
SMF Signal de Mont 92.75 317 *eP* **P 17 57 14.4 0.0**
comp=Z,8.6nm,0.8s,mb5.1
LASF Ste Croix 92.92 314 *eP* **P 17 57 14.8 -0.3**
AVF Avril sur Loir 93.07 317 *eP* **P 17 57 15.7 -0.1**
comp=Z,14nm,1.1s,mb4.9
AVF Avril sur Loir 93.07 317 *eP* **P 17 57 15.7 -0.1**
AVF pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
AVF Avril sur Loir 93.07 317 *eP* **P 17 57 15.7 -0.1**
comp=Z,6.9nm,1.1s,mb4.9
CAF Calviac 94.13 315 *eP* **P 17 57 20.1 -0.6**

MTLF Montolieu 94.16 313 *eP* **P 17 57 21.1 +0.2**
comp=Z,8.0nm,1.0s,mb4.7
MTLF Montolieu 94.16 313 *eP* **P 17 57 21.1 +0.2**
MTLF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
MTLF Montolieu 94.16 313 *eP* **P 17 57 21.1 +0.2**
comp=Z,4.0nm,1.0s,mb4.7
LDF La Druitiere 95.22 319 *eP* **P 17 57 26.1 +0.4**
comp=Z,17nm,1.1s,mb5.1
LDF La Druitiere 95.22 319 *eP* **P 17 57 26.1 +0.4**
LDF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
LDF La Druitiere 95.22 319 *eP* **P 17 57 26.1 +0.4**
comp=Z,8.6nm,1.1s,mb5.1
FLN La Foliniere 95.44 319 *eP* **P 17 57 25.8 -0.9**
comp=Z,47nm,1.4s,mb5.4
FLN La Foliniere 95.44 319 *eP* **P 17 57 25.8 -0.9**
FLN pmax pmax
comp=Z,23nm,1.4s,mb5.4
FLN La Foliniere 95.44 319 *eP* **P 17 57 25.8 -0.9**
comp=Z,24nm,1.4s,mb5.4
MFF Saint Martin d 95.48 317 *eP* **P 17 57 26.6 -0.3**
comp=Z,6.1nm,0.8s,mb4.8
MFF Saint Martin d 95.48 317 *eP* **P 17 57 26.6 -0.3**
MFF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
MFF Saint Martin d 95.48 317 *eP* **P 17 57 26.6 -0.3**
comp=Z,3.0nm,0.8s,mb4.8
GRR Gorron 95.73 319 *eP* **P 17 57 27.2 -0.8**
comp=Z,8.1nm,0.9s,mb4.8
GRR Gorron 95.73 319 *eP* **P 17 57 27.2 -0.8**
GRR pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
GRR Gorron 95.73 319 *eP* **P 17 57 27.2 -0.8**
comp=Z,4.1nm,0.9s,mb4.9
SGMF Saint Gilles 96.88 319 *eP* **P 17 57 34.0 +0.8**
comp=Z,12nm,0.9s,mb5.0
SGMF Saint Gilles 96.88 319 *eP* **P 17 57 34.0 +0.8**
SGMF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
SGMF Saint Gilles 96.88 319 *eP* **P 17 57 34.0 +0.8**
comp=Z,6.1nm,0.9s,mb5.0
ULM Lac du Bonnet 127.55 12 PKP PKPdf 18 03 06.8 +0.1
comp=Z,2.7nm,0.6s,baz=355,slow=3.3,SNR=7.1
NVAR Mina Array Bea 128.13 37 PKP PKPdf 18 03 09.4 +1.6
comp=Z,0.3nm,0.4s,baz=34,slow=45,SNR=3.1
PDAR Pinedale Array 129.65 27 PKP PKPdf 18 03 10.8 +0.1
comp=Z,0.5nm,0.7s,baz=0.0,slow=1.5,SNR=4.3
BDFB Brasilia 144.07 244 PKP PKPdf 18 03 37.8 +0.6
comp=Z,7.7nm,0.5s,baz=117,slow=1.9,SNR=7.9
CPUP Villa Florida 145.78 220 *e*PKP2 PKPab 18 03 42.4 +1.0

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*IDC **28** 17:51:54.1±2.2,285S×1295 8E, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.7/16, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=113.5km s-min=26.5km az=73.0*
*ISCJB **28** 17:51:59.2±2.3, 306S±009×1296E±02, h48km±23km, mb3.5/1, Error ellipse: s-maj=27.2km s-min=13.9km az=150.5*
*NEIC **28** 17:51:59.9±3.5, 291S×1298E, h45km±34km, mb3.7/2, Error ellipse: s-maj=32.7km s-min=23.2km az=64.0*
ISC 28 17:52:03.0±2.5,31S±01×1296E±02, h67km±23km, n10, σ0 98/14, mb3.3/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.98**	**164**	*e*P	**Pn**	**17 54 23.1**	**-0.4**
	7.3nm,0.6s						
KAKA				*e*S	**Sn**	**17 56 14.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.41**	**194**	Pn	**Pn**	**17 55 36.7**	**+0.4**
	0.1nm,0.3s,baz=16,slow=16,SNR=4.3						
FITZ				Sn	**Sn**	**17 58 25.2**	**-0.8**
	0.0nm,0.3s,baz=109,slow=22,SNR=2.1						
WRAB	**Tennant Creek**	**17.38**	**165**	*e*P	**Pn**	**17 56 00.1**	**-0.9**
	4.1nm,0.4s						
WRA	**Warramunga Arr**	**17.39**	**165**	P	**Pn**	**17 56 00.4**	**-0.7**
	0.7nm,0.3s,baz=348,slow=12,SNR=17						
WRA				S	**S**	**17 59 09.2**	**-10**
	0.1nm,0.3s,baz=334,slow=22,SNR=2.9						
WB2	**Warramunga Arr**	**17.39**	**165**	*e*P	**Pn**	**17 56 00.3**	**-0.8**
MBWA	**Marble Bar**	**20.35**	**207**	P	**P**	**17 56 34.9**	**+1.0**
	1.0nm,0.5s						
AS31	**Alice Springs**	**20.88**	**169**	*e*P	**P**	**17 56 40.9**	**+1.3**
ASAR	**Alice Springs**	**20.88**	**169**	P	**P**	**17 56 41.0**	**+1.4**
	4.2nm,0.5s,baz=348,slow=11,SNR=70						
ASAR				S	**S**	**18 00 27.0**	**-1.7**
	1.8nm,1.1s,baz=198,slow=32,SNR=3.2						
ASPA	**Alice Springs**	**20.88**	**169**	*e*P	**P**	**17 56 40.9**	**+1.3**
MKAR	**Makanchi Array**	**64.75**	**326**	P	**P**	**18 02 33.1**	**-1.2**
	0.3nm,0.6s,mb3.3,baz=120,slow=8.1,SNR=4.9						

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*ISCJB **28** 17:53:16.7±0.3, 4663N±001×124E±002, h5km±2km, Error ellipse: s-maj=2.5km s-min=1.9km az=8.5*
*CSEM **28** 17:53:19.6±0.0, 4657N×122E, h2km, ML3.0/30, Error ellipse: s-maj=0.8km s-min=0.7km az=14.0*
*LDG **28** 17:53:19.7±0.1, 4657N×122E, h3km, Md3.1/2, Ml3.0/37, Error ellipse: s-maj=1.0km s-min=0.8km az=12.0*
*NEIC **28** 17:53:19.6, 4657N×121E, h5km, ML3.0(LDG), ML3.1(STR), After STR.*
*STR **28** 17:53:19.6±0.3, 4657N×121E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 28 17:53:18.2±0.2,4658N±001×123E±001, h10km±2km, n100, σ1 9/15/244, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.74**	**113**	*e*Pg	**Pg**	**17 53 34.0**	**+1.6**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**17 53 43.1**	**+1.1**
	57nm,0.2s,SNR=1.0						
TCF				*e*Sn	**Sg**	**17 53 46.8**	**+4.8**
	64nm,0.2s						
TCF	**Toulx Ste Croi**	**0.74**	**113**	*e*Pg	**Pg**	**17 53 34.0**	**+1.6**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**17 53 43.1**	**+1.1**
	28nm,0.2s,SNR=1.0						
TCF				*e*Sn	**Sg**	**17 53 46.8**	**+4.8**
	32nm,0.2s						
MFF	**Saint Martin d**	**0.95**	**272**	*e*Pn	**Pn**	**17 53 38.4**	**+0.8**
MFF				*e*Sg	**Sg**	**17 53 49.6**	**+0.7**
	128nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**0.95**	**272**	*e*Pg	**Pg**	**17 53 36.7**	**+0.2**
MFF				*e*Pn	**Pn**	**17 53 38.4**	**+0.8**
MFF				*e*Sg	**Sg**	**17 53 49.6**	**+0.7**
MFF	**Saint Martin d**	**0.95**	**272**	*e*Pn	**Pn**	**17 53 38.4**	**+0.8**
MFF				*e*Sg	**Sg**	**17 53 49.6**	**+0.7**
	64nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**1.11**	**91**	*e*Pg	**Pg**	**17 53 41.3**	**+1.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**17 53 55.4**	**+0.2**
	234nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**1.11**	**91**	*e*Pg	**Pg**	**17 53 41.3**	**+1.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**17 53 55.4**	**+0.2**
	117nm,0.3s,SNR=1.0						
HYF	**Humbligny**	**1.18**	**54**	*e*Pg	**Pg**	**17 53 42.3**	**+1.4**
HYF				*e*Sg	**Sg**	**17 53 57.5**	**+1.2**
CHIF	**Chize**	**1.22**	**249**	Pg	**Pg**	**17 53 42.6**	**+0.9**
CHIF				Sg	**Sg**	**17 53 58.3**	**+0.7**
RJF	**Les Rejaudoux**	**1.29**	**171**	*e*Pg	**Pg**	**17 53 43.8**	**+0.8**
RJF				*e*Sn	**Sn**	**17 53 59.0**	**-0.6**
	133nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.29**	**171**	*e*Pn	**Pn**	**17 53 42.9**	**+0.6**
RJF				*e*Pg	**Pg**	**17 53 43.8**	**+0.8**
RJF				*e*Sn	**Sn**	**17 53 59.0**	**-0.6**
RJF	**Les Rejaudoux**	**1.29**	**171**	*e*Pg	**Pg**	**17 53 43.8**	**+0.8**
RJF				*e*Sn	**Sn**	**17 53 59.0**	**-0.6**
	66nm,0.2s,SNR=1.0						
MATF	**Mathat**	**1.30**	**235**	Pg	**Pg**	**17 53 44.6**	**+1.5**
MATF				Sg	**Sg**	**17 54 01.7**	**+1.8**
LCHF	**La Chataignera**	**1.36**	**274**	Pg	**Pg**	**17 53 45.8**	**+1.4**
LCHF				Sg	**Sg**	**17 54 03.1**	**+1.0**
AGO	**Saint Agoulin**	**1.42**	**111**	Pg	**Pg**	**17 53 46.6**	**+1.2**
AGO				Sg	**Sg**	**17 54 05.3**	**+1.5**
AVF	**Avril sur Loir**	**1.47**	**81**	*e*Pn	**Pn**	**17 53 46.3**	**+1.6**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**17 54 04.4**	**+0.3**
	16nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**1.47**	**81**	*e*Pn	**Pn**	**17 53 46.3**	**+1.6**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**17 54 04.4**	**+0.3**
	8.2nm,0.2s,SNR=1.0						
PYM	**Petit Puy Mans**	**1.49**	**123**	Pg	**Pg**	**17 53 47.8**	**+1.1**

SSF Saint Saulge 1.63 72 *e*Pg **Pg 17 53 50.0 +0.5**
SNR=1.0
SSF *e*Sn **Sn 17 54 08.2 +0.2**
SNR=1.0
SSF *e*Sg **Sg 17 54 11.3 +0.6**
39nm,0.4s
SSF Saint Saulge 1.63 72 *e*Pn **Pn 17 53 48.7 +1.8**
SSF *e*Pg **Pg 17 53 50.0 +0.5**
SSF *e*Sn **Sn 17 54 08.2 +0.2**
SSF *e*Sg **Sg 17 54 11.3 +0.6**
SSF Saint Saulge 1.63 72 *e*Pg **Pg 17 53 50.0 +0.5**
SNR=1.0
SSF *e*Sn **Sn 17 54 08.2 +0.2**
SNR=1.0
SSF *e*Sg **Sg 17 54 11.3 +0.6**
19nm,0.4s
LFF La Frestale 1.68 192 *e*Pg **Pg 17 53 50.5 +0.1**
LFF *e*Sn **Sn 17 54 08.8 -0.3**
165nm,0.3s,SNR=1.0
LFF La Frestale 1.68 192 *e*Pn **Pn 17 53 48.2 +0.6**
LFF *e*Pg **Pg 17 53 50.5 +0.1**
LFF *e*Sn **Sn 17 54 08.8 -0.3**
LFF La Frestale 1.68 192 *e*Pg **Pg 17 53 50.5 +0.1**
LFF *e*Sn **Sn 17 54 08.8 -0.3**
83nm,0.3s,SNR=1.0
CAF Calviac 1.76 160 *e*Pg **Pg 17 53 51.9 0.0**
CAF *e*Sn **Sn 17 54 10.5 -0.5**
80nm,0.3s,SNR=1.0
CAF Calviac 1.76 160 *e*Pn **Pn 17 53 49.3 +0.7**
CAF *e*Pg **Pg 17 53 51.9 0.0**
CAF *e*Sn **Sn 17 54 10.5 -0.5**
CAF Calviac 1.76 160 *e*Pg **Pg 17 53 51.9 0.0**
CAF *e*Sn **Sn 17 54 10.5 -0.5**
40nm,0.3s,SNR=1.0
PLDF La Plantade 1.77 109 Pg **Pg 17 53 52.6 +0.5**
SMF Signal de Mont 1.80 87 *e*Pg **Pg 17 53 53.4 +0.7**
SNR=1.0
SMF *e*Sg **Sg 17 54 16.5 +0.5**
36nm,0.4s,SNR=1.0
SMF Signal de Mont 1.80 87 *e*Pn **Pn 17 53 51.0 +1.8**
SMF *e*Pg **Pg 17 53 53.4 +0.7**
SMF *e*Sg **Sg 17 54 16.5 +0.5**
SMF Signal de Mont 1.80 87 *e*Pg **Pg 17 53 53.4 +0.7**
SNR=1.0
SMF *e*Sg **Sg 17 54 16.5 +0.5**
18nm,0.4s,SNR=1.0
OLEF Ile d'Oleron 1.90 251 Pg **Pg 17 53 54.6 -0.1**
LRYF La Roche-sur-Y 1.92 271 Pg **Pg 17 53 54.9 -0.1**
LRYF La Roche-sur-Y 1.92 271 Pn **Pn 17 53 52.3 +1.4**
LRYF Pg **Pg 17 53 54.9 -0.1**
LRYF La Roche-sur-Y 1.92 271 Pg **Pg 17 53 54.9 -0.1**
LOR Lormes 1.93 68 *e*Pn **Pn 17 53 52.0 +1.0**
baz=252,SNR=1.0
LOR Lormes 1.93 68 *e*Pg **Pg 17 53 55.4 +0.3**
baz=252,SNR=1.0
LOR *e*Sn **Sn 17 54 15.5 +0.3**
SNR=1.0
LOR *e*Sg **Sg 17 54 20.1 0.0**
27nm,0.2s,SNR=1.0
LOR Lormes 1.93 68 *e*Pn **Pn 17 53 52.0 +1.0**
LOR *e*Pg **Pg 17 53 55.4 +0.3**
LOR *e*Sn **Sn 17 54 15.5 +0.3**
LOR *e*Sg **Sg 17 54 20.1 0.0**
LOR Lormes 1.93 68 *e*Pg **Pg 17 53 55.4 +0.3**
SNR=1.0
LOR *e*Sn **Sn 17 54 15.5 +0.3**
SNR=1.0
LOR *e*Sg **Sg 17 54 20.1 0.0**
13nm,0.2s,SNR=1.0
LBL Lubilhac 1.95 133 Pn **Pn 17 53 52.7 +1.4**
COLF Collangettes 2.02 121 Pn **Pn 17 53 53.7 +1.5**
LDF La Druitiere 2.21 336 *e*Pg **Pg 17 54 01.1 +0.5**
LDF *e*Sn **Sn 17 54 22.4 +0.1**
LDF *e*Sg **Sg 17 54 29.0 -0.3**
13nm,0.2s
LDF La Druitiere 2.21 336 *e*Pn **Pn 17 53 56.2 +1.3**
LDF *e*Pg **Pg 17 54 01.1 +0.5**
LDF *e*Sn **Sn 17 54 22.4 +0.1**
LDF *e*Sg **Sg 17 54 29.0 -0.3**
LDF La Druitiere 2.21 336 *e*Pg **Pg 17 54 01.1 +0.5**
LDF *e*Sn **Sn 17 54 22.4 +0.1**
LDF *e*Sg **Sg 17 54 29.0 -0.3**
6.3nm,0.2s
GRR Gorron 2.30 323 *e*Pg **Pg 17 54 02.1 -0.1**
GRR *e*Sn **Sn 17 54 24.2 -0.2**
SNR=1.0
GRR *e*Sg **Sg 17 54 32.2 +0.2**
15nm,0.2s,SNR=1.0
GRR Gorron 2.30 323 *e*Pn **Pn 17 53 57.7 +1.6**
GRR *e*Pg **Pg 17 54 02.1 -0.1**
GRR *e*Sn **Sn 17 54 24.2 -0.2**
GRR *e*Sg **Sg 17 54 32.2 +0.2**
GRR Gorron 2.30 323 *e*Pg **Pg 17 54 02.1 -0.1**
GRR *e*Sn **Sn 17 54 24.2 -0.2**
SNR=1.0
GRR *e*Sg **Sg 17 54 32.2 +0.2**
7.5nm,0.2s,SNR=1.0
FLN La Foliniere 2.47 333 *e*Pn **Pn 17 53 59.6 +1.1**
baz=155
FLN La Foliniere 2.47 333 *e*Pg **Pg 17 54 05.1 -0.4**
baz=157,SNR=1.0
FLN *e*Sn **Sn 17 54 28.6 -0.1**
FLN *e*Sg **Sg 17 54 36.2 -1.4**
13nm,0.2s,SNR=1.0
FLN La Foliniere 2.47 333 *e*Pn **Pn 17 53 59.6 +1.1**
FLN *e*Pg **Pg 17 54 05.1 -0.4**
FLN *e*Sn **Sn 17 54 28.6 -0.1**
FLN *e*Sg **Sg 17 54 36.2 -1.4**
FLN La Foliniere 2.47 333 *e*Pg **Pg 17 54 05.1 -0.4**
SNR=1.0
FLN *e*Sn **Sn 17 54 28.6 -0.1**
FLN *e*Sg **Sg 17 54 36.2 -1.4**
6.7nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 2.96 124 *e*Pg **Pg 17 54 14.9 -0.1**
SNR=1.0
VIVF *e*Sg **Sg 17 54 52.1 -1.3**
11nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 2.96 124 *e*Pn **Pn 17 54 05.3 +0.1**
VIVF *e*Pg **Pg 17 54 14.9 -0.1**
VIVF *e*Sg **Sg 17 54 52.1 -1.3**
VIVF Saint-Julien-l 2.96 124 *e*Pg **Pg 17 54 14.9 -0.1**
SNR=1.0
VIVF *e*Sg **Sg 17 54 52.1 -1.3**
5.5nm,0.3s,SNR=1.0
SFTF Sexfontaines 3.05 56 *e*Pg **Pg 17 54 15.8 -0.9**
SFTF *e*Sn **Sn 17 54 42.0 -1.0**
4.0nm,0.3s
SFTF *e*Sg **Sg 17 54 55.9 -0.3**
7.6nm,0.3s
SFTF Sexfontaines 3.05 56 *e*Pg **Pg 17 54 15.8 -0.9**
SFTF *e*Sn **Sn 17 54 42.0 -1.0**
2.0nm,0.3s
SFTF *e*Sg **Sg 17 54 55.9 -0.3**
3.8nm,0.3s
SGMF Saint Gilles 3.07 304 *e*Pg **Pg 17 54 15.8 -1.2**
SGMF *e*Sn **Sn 17 54 42.2 -1.2**
2.6nm,0.3s
SGMF *e*Sg **Sg 17 54 55.7 -1.1**
9.7nm,0.2s
SGMF Saint Gilles 3.07 304 *e*Pn **Pn 17 54 08.1 +1.4**
SGMF *e*Pg **Pg 17 54 15.8 -1.2**
SGMF *e*Sn **Sn 17 54 42.2 -1.2**
SGMF *e*Sg **Sg 17 54 55.7 -1.1**
SGMF Saint Gilles 3.07 304 *e*Pg **Pg 17 54 15.8 -1.2**
SGMF *e*Sn **Sn 17 54 42.2 -1.2**
1.3nm,0.3s
SGMF *e*Sg **Sg 17 54 55.7 -1.1**
4.8nm,0.2s
LASF Ste Croix 3.12 143 *e*Pg **Pg 17 54 17.5 -0.4**
SNR=1.0
LASF *e*Sg **Sg 17 54 56.8 -1.4**
24nm,0.5s,SNR=1.0
LASF Ste Croix 3.12 143 *e*Pg **Pg 17 54 17.5 -0.4**
SNR=1.0
LASF *e*Sg **Sg 17 54 56.8 -1.4**
12nm,0.5s,SNR=1.0
MEZF Maizieres J'vi 3.22 52 *e*Pn **Pn 17 54 09.3 +0.5**
baz=234
MEZF Maizieres J'vi 3.22 52 *e*Pg **Pg 17 54 19.2 -0.7**
baz=233
MEZF *e*Sn **Sn 17 54 45.7 -1.5**
MEZF *e*Sg **Sg 17 55 01.6 -0.1**
12nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 3.22 52 *e*Pn **Pn 17 54 09.3 +0.5**
MEZF *e*Pg **Pg 17 54 19.2 -0.7**

MEZF				*e*Sn	**Sn**	**17 54 45.7**	**-1.5**
MEZF				*e*Sg	**Sg**	**17 55 01.6**	**-0.1**
MEZF	**Maizieres J'vi**	**3.22**	**52**	*e*Pg	**Pg**	**17 54 19.2**	**-0.7**
MEZF				*e*Sn	**Sn**	**17 54 45.7**	**-1.5**
MEZF				*e*Sg	**Sg**	**17 55 01.6**	**-0.1**
5.9nm,0.3s,SNR=1.0							
QUIF	**Quistinic**	**3.28**	**296**	*e*Pg	**Pg**	**17 54 20.2**	**-0.8**
SNR=1.0							
QUIF				*e*Sn	**Sn**	**17 54 46.5**	**-2.1**
SNR=1.0							
QUIF				*e*Sg	**Sg**	**17 55 01.7**	**-1.8**
9.4nm,0.2s,SNR=1.0							
QUIF	**Quistinic**	**3.28**	**296**	*e*Pn	**Pn**	**17 54 11.1**	**+1.5**
QUIF				*e*Pg	**Pg**	**17 54 20.2**	**-0.8**
QUIF				*e*Sn	**Sn**	**17 54 46.5**	**-2.1**
QUIF				*e*Sg	**Sg**	**17 55 01.7**	**-1.8**
QUIF	**Quistinic**	**3.28**	**296**	*e*Pg	**Pg**	**17 54 20.2**	**-0.8**
SNR=1.0							
QUIF				*e*Sn	**Sn**	**17 54 46.5**	**-2.1**
SNR=1.0							
QUIF				*e*Sg	**Sg**	**17 55 01.7**	**-1.8**
4.7nm,0.2s,SNR=1.0							
MTLF	**Montolieu**	**3.32**	**167**	*e*Pg	**Pg**	**17 54 20.5**	**-1.2**
SNR=1.0							
MTLF				*e*Sn	**Sn**	**17 54 46.4**	**-3.1**
SNR=1.0							
MTLF				*e*Sg	**Sg**	**17 55 02.6**	**-2.1**
11nm,0.3s,SNR=1.0							
MTLF	**Montolieu**	**3.32**	**167**	*e*Pn	**Pn**	**17 54 10.0**	**-0.1**
MTLF				*e*Pg	**Pg**	**17 54 20.5**	**-1.2**
MTLF				*e*Sn	**Sn**	**17 54 46.4**	**-3.1**
MTLF				*e*Sg	**Sg**	**17 55 02.6**	**-2.1**
MTLF	**Montolieu**	**3.32**	**167**	*e*Pg	**Pg**	**17 54 20.5**	**-1.2**
SNR=1.0							
MTLF				*e*Sn	**Sn**	**17 54 46.4**	**-3.1**
SNR=1.0							
MTLF				*e*Sg	**Sg**	**17 55 02.6**	**-2.1**
5.6nm,0.3s,SNR=1.0							
CABF	**La Chapelle**	**3.35**	**88**	*e*Pg	**Pg**	**17 54 22.5**	**+0.2**
CABF				*e*Sn	**Sn**	**17 54 48.8**	**-1.5**
CABF				*e*Sg	**Sg**	**17 55 05.4**	**-0.3**
16nm,0.6s,SNR=1.0							
CABF	**La Chapelle**	**3.35**	**88**	*e*Pn	**Pn**	**17 54 12.0**	**+1.5**
CABF				*e*Pg	**Pg**	**17 54 22.5**	**+0.2**
CABF				*e*Sn	**Sn**	**17 54 48.8**	**-1.5**
CABF				*e*Sg	**Sg**	**17 55 05.4**	**-0.3**
CABF	**La Chapelle**	**3.35**	**88**	*e*Pg	**Pg**	**17 54 22.5**	**+0.2**
CABF				*e*Sn	**Sn**	**17 54 48.8**	**-1.5**
CABF				*e*Sg	**Sg**	**17 55 05.4**	**-0.3**
7.9nm,0.6s,SNR=1.0							
ROSF	**Rostrenen**	**3.52**	**301**	*e*Pg	**Pg**	**17 54 25.1**	**-0.6**
SNR=1.0							
ROSF				*e*Sn	**Sn**	**17 54 53.0**	**-1.7**
SNR=1.0							
ROSF				*e*Sg	**Sg**	**17 55 10.1**	**-1.3**
12nm,0.4s,SNR=1.0							
ROSF	**Rostrenen**	**3.52**	**301**	*e*Pn	**Pn**	**17 54 14.5**	**+1.5**
ROSF				*e*Pg	**Pg**	**17 54 25.1**	**-0.6**
ROSF				*e*Sn	**Sn**	**17 54 53.0**	**-1.7**
ROSF				*e*Sg	**Sg**	**17 55 10.1**	**-1.3**
ROSF	**Rostrenen**	**3.52**	**301**	*e*Pg	**Pg**	**17 54 25.1**	**-0.6**
SNR=1.0							
ROSF				*e*Sn	**Sn**	**17 54 53.0**	**-1.7**
SNR=1.0							
ROSF				*e*Sg	**Sg**	**17 55 10.1**	**-1.3**
6.2nm,0.4s,SNR=1.0							
EPF	**Esparros**	**3.61**	**190**	*e*Pn	**Pn**	**17 54 13.1**	**-1.0**
EPF				*e*Sn	**Sn**	**17 54 53.4**	**-3.3**
7.8nm,0.2s,SNR=1.0							
HAU	**Haudompre**	**3.76**	**66**	*e*Pg	**Pg**	**17 54 29.4**	**-0.8**
HAU				*e*Sg	**Sg**	**17 55 18.3**	**-0.7**
8.3nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**3.76**	**66**	*e*Pg	**Pg**	**17 54 29.4**	**-0.8**
HAU				*e*Sg	**Sg**	**17 55 18.3**	**-0.7**
4.2nm,0.3s,SNR=1.0							
SJPF	**Ste Jean**	**3.88**	**208**	*e*Pn	**Pn**	**17 54 16.9**	**-1.0**
SNR=1.0							
SJPF				*e*Sn	**Sn**	**17 55 01.2**	**-2.4**
2.4nm,0.2s,SNR=1.0							
SJPF				*e*Sg	**Sg**	**17 55 20.6**	**-2.3**
2.3nm,0.2s							
EALK	**Alkurruntz**	**3.88**	**211**	P	**Pn**	**17 54 18.4**	**+0.5**
EALK				S	**Sn**	**17 55 00.0**	**-3.6**
EALK	**Alkurruntz**	**3.88**	**211**	P	**Pn**	**17 54 18.4**	**+0.5**
ETSF	**Etsaut**	**3.90**	**200**	*e*Pn	**Pn**	**17 54 17.4**	**-0.7**
SNR=1.0							
ETSF				*e*Sg	**Sg**	**17 55 20.3**	**-3.1**
6.6nm,0.4s,SNR=1.0							
EBIE	**Bielsa**	**3.97**	**192**	P	**Pn**	**17 54 22.4**	**+3.3**
EBIE				S	**Sn**	**17 55 08.2**	**+2.5**
EBIE	**Bielsa**	**3.97**	**192**	P	**Pn**	**17 54 22.4**	**+3.3**
EBIE				S	**Sn**	**17 55 08.2**	**+2.5**
LPG	**La Plagne**	**3.99**	**104**	*e*Pn	**Pn**	**17 54 20.3**	**+0.9**
LPG				*e*Sg	**Sg**	**17 55 25.0**	**-1.4**
4.4nm,0.4s							
BAIF	**Baives**	**4.00**	**29**	*e*Sg	**Sg**	**17 55 25.8**	**-1.0**
2.4nm,0.4s,SNR=1.0							
BAIF	**Baives**	**4.00**	**29**	*e*Sg	**Sg**	**17 55 25.8**	**-1.0**
1.2nm,0.4s,SNR=1.0							
SMRF	**Simiane la Rot**	**4.02**	**129**	*e*Pn	**Pn**	**17 54 20.5**	**+0.7**
SMRF				*e*Sg	**Sg**	**17 55 25.4**	**-2.0**
1.2nm,0.3s							
SMRF	**Simiane la Rot**	**4.02**	**129**	*e*Pn	**Pn**	**17 54 20.5**	**+0.7**
SMRF				*e*Sg	**Sg**	**17 55 25.4**	**-2.0**
0.6nm,0.3s							
HINF	**Hinteralfeld**	**4.03**	**70**	*e*Pg	**Pg**	**17 54 34.6**	**-0.7**
HINF				*e*Sn	**Sn**	**17 55 06.3**	**-0.7**
SNR=1.0							
HINF				*e*Sg	**Sg**	**17 55 26.0**	**-1.4**
6.1nm,0.3s,SNR=1.0							
HINF	**Hinteralfeld**	**4.03**	**70**	*e*Pn	**Pn**	**17 54 20.2**	**+0.4**
HINF				*e*Pg	**Pg**	**17 54 34.6**	**-0.7**
HINF				*e*Sn	**Sn**	**17 55 06.3**	**-0.7**
HINF				*e*Sg	**Sg**	**17 55 26.0**	**-1.4**
HINF	**Hinteralfeld**	**4.03**	**70**	*e*Pg	**Pg**	**17 54 34.6**	**-0.7**
HINF				*e*Sn	**Sn**	**17 55 06.3**	**-0.7**
SNR=1.0							
HINF				*e*Sg	**Sg**	**17 55 26.0**	**-1.4**
3.0nm,0.3s,SNR=1.0							
GIVF	**Givet**	**4.26**	**33**	*e*Pn	**Pn**	**17 54 23.4**	**+0.4**
GIVF				*e*Sg	**Sg**	**17 55 32.9**	**-2.0**
2.8nm,0.2s							
GIVF	**Givet**	**4.26**	**33**	*e*Pn	**Pn**	**17 54 23.4**	**+0.4**
GIVF				*e*Sg	**Sg**	**17 55 32.9**	**-2.0**
1.4nm,0.2s							
MBDF	**Montbardon**	**4.30**	**114**	*e*Pn	**Pn**	**17 54 24.0**	**+0.3**
MBDF				*e*Sg	**Sg**	**17 55 34.8**	**-1.6**
0.4nm,0.2s							
CDF	**Champ du Feu**	**4.49**	**64**	*e*Sg	**Sg**	**17 55 40.5**	**-1.7**
4.2nm,0.3s							
CDF	**Champ du Feu**	**4.49**	**64**	*e*Sg	**Sg**	**17 55 40.5**	**-1.7**
2.1nm,0.3s							
EARI	**Arriondas**	**5.63**	**237**	P	**Pn**	**17 54 39.8**	**-2.1**
EARI				S	**Sn**	**17 55 40.8**	**-5.7**

*IDC **28** 18:26:35.9±3.0, 866N×12732E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=220.0km s-min=26.4km az=66.0*
*ISCJB **28** 18:26:38.2±1.1, 834N±007×12708E±007, h10km, mb3.3/3, Error ellipse: s-maj=12.1km s-min=8.8km az=84.7*
*MAN **28** 18:26:38.2, 841N×127.10E, h4km, mb3.0, ML4.4, MS8.4*

ISC 28 18:26:39.7±1.0, 835N±007×12701E±007, h10km, n9, σ1º24/13, mb3.3/3, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.66**	**255**	⇓*i*P	**Pg**	**18 26 52.1**	**-0.3**
BIPH				*i* S	**Sg**	**18 26 59.5**	**-1.7**
BUTP	**Butuan**	**1.50**	**294**	*e*P	**Pn**	**18 27 07.1**	**+0.4**
MATI	**Mati**	**1.58**	**208**	*e*P	**Pn**	**18 27 07.9**	**+0.1**
BUKP	**Musuan**	**1.98**	**256**	*e*P	**Pn**	**18 27 14.6**	**+1.3**
BUKP				*e*S	**Sn**	**18 27 40.6**	**+2.4**
SCPH	**Surigao**	**2.07**	**314**	*e*P	**Pn**	**18 27 13.6**	**-0.8**
SCPH				*e*S	**Sn**	**18 27 41.3**	**+1.1**
CGP	**Cagayan de Oro**	**2.29**	**273**	⇓*e*P	**Pn**	**18 27 08.3**	**-9.2**
CGP				*e*S	**Sn**	**18 27 41.5**	**-4.3**
WRA	**Warramunga Arr**	**29.03**	**166**	P	**P**	**18 32 40.4**	**+0.6**
0.7nm,1.1s,mb3.3,baz=347,slow=11,SNR=3.6							
ASAR	**Alice Springs**	**32.53**	**168**	P	**P**	**18 33 10.4**	**-0.3**
0.1nm,0.3s,mb3.2,baz=345,slow=7.3,SNR=11							
MKAR	**Makanchi Array**	**53.99**	**323**	P	**P**	**18 36 01.3**	**-2.5**
0.2nm,0.6s,mb3.2,baz=110,slow=7.1,SNR=6.6							

*ISCJB **28** 18:36:29.6±0.7, 551S±01×279W±02, h10km, mb4.2/8, MS4.0/5, Error ellipse: s-maj=19.4km s-min=14.1km az=65.9*
*IDC **28** 18:36:29.8±1.0, 5507S×2784W, h0km, mb4.2/5, mb1 4.2/5, mb1mx4.0/13, mbtmp4.2/5, MS4.0/5, Ms1 4.0/5, ms1mx3.7/15, Error ellipse: s-maj=31.4km s-min=24.9km az=73.0*
*NEIC **28** 18:36:31.2±0.7, 5512S×2791W, h10km, mb4.4/4, Error ellipse: s-maj=20.7km s-min=15.5km az=213.0*

ISC 28 18:36:31.2±0.7, 552S±01×279W±02, h10km, n14, σ1º21/10, mb4.2/8, MS4.0/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.06**	**276**	*e*P	**Pn**	**18 37 46.1**	**-1.0**
158nm,0.7s							
PLCA	**Paso Flores**	**31.46**	**279**	LR	LR	18 55 27.3	
comp=Z,102nm,18.6s,MS3.5,baz=324,slow=36							
QSPA	**South Pole Qui**	**35.10**	**180**	*e*P	**P**	**18 43 26.0**	**+1.5**
4.3nm,0.9s,mb4.4							
MAW	**Mawson**	**41.11**	**144**	P	**P**	**18 44 16.7**	**+1.5**
1.3nm,1.0s,mb3.5,baz=236,slow=20,SNR=2.7							
LVC	**Limon Verde**	**44.51**	**300**	*e*P	**P**	**18 44 43.8**	**+1.0**
3.5nm,0.6s,mb4.4							
BOSA	**Boshof**	**46.15**	**77**	P	**P**	**18 44 55.0**	**-0.8**
3.8nm,0.7s,mb4.4,baz=250,slow=8.1,SNR=7.6							
BOSA				LR	LR	19 01 18.1	
comp=Z,222nm,18.1s,MS4.2,baz=179,slow=32							
SBA	**Scott Base**	**46.95**	**184**	*e*P	**P**	**18 45 00.9**	**-1.1**
3.9nm,1.1s,mb4.2							
VNDA	**Vanda**	**47.45**	**183**	P	**P**	**18 45 04.8**	**-1.2**
2.5nm,0.8s,mb4.2,baz=189,slow=6.0,SNR=14							
VNDA	**Vanda**	**47.45**	**183**	*e*P	**P**	**18 45 03.2**	**-2.8**
3.8nm,0.9s,mb4.3							
LPAZ	**La Paz**	**49.54**	**305**	P	**P**	**18 45 23.1**	**+1.1**
2.5nm,0.7s,mb4.4,baz=150,slow=6.4,SNR=10.0							
DBIC	**Dimbokro**	**64.52**	**25**	LR	LR	19 09 04.4	
comp=Z,65nm,19.1s,MS3.8,baz=125,slow=30							
TORD	**Torodi Ar. Bea**	**72.47**	**30**	P	**P**	**18 47 57.2**	**-0.7**
3.1nm,0.9s,mb4.3,baz=200,slow=6.3,SNR=12							
TORD				LR	LR	19 14 26.0	
comp=Z,126nm,18.3s,MS4.2,baz=180,slow=31							
KMBO	**Kilima Mbogo**	**75.09**	**70**	LR	LR	19 19 25.9	
comp=Z,173nm,18.1s,MS4.4,baz=93,slow=34							
SONM	**Songino Array**	**151.06**	**85**	PKPbc	PKPbc	18 56 23.6	-0.7
2.7nm,0.8s,baz=221,slow=2.6,SNR=20							

*CSEM **28** 19:58:12.0, 3604N×2193E, h21km, MD3.5/4, After ATH*
*NEIC **28** 19:58:12.0, 3604N×2193E, h21km, MD3.5(ATH), After ATH.*

ATH 28 19:58:12.0, 3604N×2193E, h21km±3km, MD3.5/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.93**	**75**	*e*PN	Pn	19 58 30.0	+0.2
VLI	**Veliai**	**1.06**	**50**	*e*PN	Pn	19 58 32.2	+0.6
VLI				*e*SN	Sn	19 58 47.0	+1.3
ITM	**Ithomi**	**1.14**	**360**	*e*PN	Pn	19 58 33.5	+0.8
ITM				*e*SN	Sn	19 58 49.7	+2.1
VAM	**Vamos**	**1.95**	**108**	*e*PN	Pn	19 58 46.3	+2.4

MAN 28 20:08:57.5, 1670N×12029E, h86km, mb2.8, ML4.2, MS5.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.48**	**229**	*e*P	Pn	20 09 13.1	+1.4
SCZP	**Santa Cruz**	**0.98**	**202**	*e*P	Pn	20 09 18.4	+1.7
ABRA	**Dolores**	**1.03**	**23**	*e*P	Pn	20 09 17.9	+0.6
ABRA				*e*S	Sn	20 09 32.8	+0.7
PCPH	**Palayan**	**1.37**	**145**	*e*P	Pn	20 09 21.8	+0.4
PCPH				*e*S	Sn	20 09 39.8	+0.3
APYP	**Conner**	**1.47**	**38**	*e*P	Pn	20 09 23.2	+0.5
APYP				*e*S	Sn	20 09 42.6	+0.8
CAUP	**Cauayan**	**1.49**	**80**	*e*P	Pn	20 09 24.6	+1.7
BALP	**Baler**	**1.56**	**127**	*e*P	Pn	20 09 25.1	+1.2
CVP	**Callao Caves**	**1.77**	**55**	*e*P	Pn	20 09 27.0	+0.4
PALP	**Palanan**	**2.08**	**80**	*e*P	Pn	20 09 31.7	+1.1
LUBP	**Lubang**	**2.95**	**181**	*e*P	Pn	20 09 43.2	+1.0
BOAC	**Boac**	**3.55**	**155**	*e*P	Pn	20 09 56.5	+6.1
BUSP	**Coron**	**4.67**	**181**	*e*P	Pn	20 10 06.4	+0.8

*INMG **28** 20:25:42.1±1.5, 4363N×898W, h4km±6km, ML1.9, Error ellipse: s-maj=7.7km s-min=3.6km az=120.0*

MDD 28 20:25:42.1±1.3, 4362N×900W, h10km±1km, mbLg2.2/8, 1C, Error ellipse: s-maj=12.4km s-min=5.5km az=119.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**0.67**	**178**	⇑Pg	Pg	20 25 54.1	-1.0
SNR=18							
EMAZ				Lg		20 26 03.6	
28nm,0.1s,SNR=32							
STS	**Santiago**	**0.80**	**156**	Pg	Pg	20 25 56.6	-1.1
19nm,0.2s,SNR=24							
STS				Lg		20 26 08.4	
28nm,0.1s,SNR=13							
EPON	**Pontenova**	**1.38**	**102**	Pg	Pg	20 26 07.2	-1.5
1.3nm,0.3s,SNR=13							
EPON				Lg		20 26 25.3	
9.8nm,0.1s							
ELOB	**Lobios**	**1.88**	**158**	Pn	Pn	20 26 12.9	-1.4
0.2nm,0.1s,SNR=7.9							
ELOB				Pg	Pg	20 26 16.6	-1.7
1.9nm,0.3s,SNR=13							
ELOB				Lg		20 26 41.5	
1.1nm,0.1s,SNR=7.7							
PCAB	**Cabril**	**2.04**	**159**	*e*Pn	Pn	20 26 18.4	+1.9
PCAB				*e*Sg	Sg	20 26 46.7	-1.0
PCAB							
9.3nm,0.2s							
ECAL	**Calabor**	**2.37**	**134**	Pn	Pn	20 26 19.4	-1.5
1.0nm,0.3s,SNR=7.9							
ECAL				Pg	Pg	20 26 26.0	-1.5
2.3nm,0.3s,SNR=7.5							
ECAL				Sn	Sn	20 26 48.6	-1.4
0.3nm,0.8s,SNR=7.9							
ECAL				Lg		20 26 57.8	
5.5nm,0.2s,SNR=5.5							
PBRG	**Braganca**	**2.46**	**137**	*e*Pg	Pg	20 26 27.9	-1.5
PBRG				*e*Sg	Sg	20 26 59.8	-1.5
PBRG							
3.9nm,0.2s							
EARI	**Arriondas**	**2.78**	**95**	Pn	Pn	20 26 24.8	-1.9
0.1nm,0.1s,SNR=7.9							
EARI				Pg	Pg	20 26 32.6	-2.9
0.6nm,0.3s,SNR=7.9							
EARI				Sn	Sn	20 26 57.9	-2.3
0.3nm,0.3s,SNR=7.9							
EARI				Lg		20 27 09.6	
0.5nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**3.02**	**164**	*e*Sg	Sg	20 27 16.1	-3.0
ELAN	**Lanestosa**	**4.08**	**94**	Pn	Pn	20 26 42.6	-1.8
2.7nm,1.0s,SNR=5.7							
ELAN				Sn	Sn	20 27 28.2	-4.0
7.9nm,0.9s,SNR=5.0							
ELAN				Lg		20 27 51.1	
0.2nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**4.67**	**128**	Lg		20 28 09.1	
1.2nm,0.4s,SNR=7.9							

IGQ 28 20:54:05.2, 325S×7999W, h21km±12km, Mb4.0, Ms3.8, 6D, Error ellipse: s-maj=11.9km s-min=1.8km az=11.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.21**	**38**	P	Pn	20 54 43.0	+2.4
ARRY	**Arrayan**	**2.31**	**42**	⇓P	Pn	20 54 44.3	+2.3
ARRY				S	Sn	20 55 13.9	+4.2
PATA	**Patacocha**	**2.33**	**42**	P	Pn	20 54 45.0	+2.8
JUIV	**Juive**	**2.37**	**40**	⇓P	Pn	20 54 45.2	+2.5
HCA		**2.38**	**167**	P	Pn	20 54 45.7	+2.8
HCA				S	Sn	20 55 12.1	+0.6
ULBA	**Ulba**	**2.39**	**42**	P	Pn	20 54 46.0	+3.0
RUN5	**Runtun**	**2.40**	**41**	⇓P	Pn	20 54 46.1	+2.9
QIL1	**Quilotoa**	**2.61**	**24**	P	Pn	20 54 47.7	+1.6
PT18	**Porculla**	**2.64**	**169**	P	Pn	20 54 49.3	+2.8
PT18				S	Sn	20 55 18.3	+0.4
PISA	**Pisayambo**	**2.70**	**36**	P	Pn	20 54 50.5	+3.1
CAMI	**Rancho Maria**	**2.96**	**30**	P	Pn	20 54 55.2	+4.4
NAS1	**Nasa**	**3.01**	**30**	P	Pn	20 54 56.4	+4.9
VC1	**Cotopaxi 1**	**3.04**	**32**	⇓P	Pn	20 54 55.4	+3.5
ANTI	**Antisana**	**3.33**	**33**	P	Pn	20 54 58.9	+2.9
TERV	**Terraza Guagua**	**3.35**	**24**	P	Pn	20 54 59.8	+3.5
GGP	**Refugio Guagua**	**3.36**	**25**	P	Pn	20 54 59.7	+3.4
PINO	**Pino**	**3.37**	**24**	⇓P	Pn	20 55 00.1	+3.6
YANA	**Yana**	**3.42**	**25**	⇓P	Pn	20 55 00.5	+3.3
CHAR	**Charly**	**3.91**	**36**	P	Pn	20 55 04.8	+0.9

MAN 28 21:00:51.6, 1096N×12563E, h1km, mb2.2, ML3.8, MS2.6, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.67**	**288**	*e*P	Pg	21 01 04.5	+0.1
PLP				*e*S	Sg	21 01 13.8	+0.8
MSLP	**Maasin**	**1.12**	**223**	*e*P	Pg	21 01 13.9	+0.8
MSLP				*e*S	Sg	21 01 31.4	+3.9
SCPH	**Surigao**	**1.18**	**187**	*e*P	Pg	21 01 14.3	+0.1
SCPH				*i* S	Sg	21 01 31.9	+2.4
PVCP	**Virac**	**2.99**	**331**	*e*P	Pn	21 01 41.3	+1.2
BUKP	**Musuan**	**3.12**	**190**	*e*P	Pn	21 02 47.4	+66

*BGS **28** 21:02:04.2, 2631N×5623E, h10km, mb5.7*
*BJI **28** 21:02:07.6, 2741N×5552E, h11km, mB6.0, mb5.5, Ms5.9, Msz5.6*
*MOS **28** 21:02:08.7±0.9, 2700N×5583E, h10km, mb5.9/70, MS5.5/62, Error ellipse: s-maj=6.7km s-min=2.9km az=126.5*
*CSEM **28** 21:02:08.0±0.0, 2680N×5588E, h16km, mb5.7/99, Ms5.4, Mw5.8, Error ellipse: s-maj=1.5km s-min=1.2km az=170.0*
*IDC **28** 21:02:08.2±0.4, 2691N×5588E, h0km, mb5.3/25, mb1 5.4/29, mb1mx5.4/29, mbtmp5.4/29, ML5.1/2, MS5.5/25, Ms1 5.5/25, ms1mx5.4/34, Error ellipse: s-maj=10.8km s-min=9.2km az=77.0*
*ISCJB **28** 21:02:08.7±0.1, 2684N±001×5581E±001, h15km, mb5.7/339, MS5.5/125, Error ellipse: s-maj=2.1km s-min=1.5km az=35.4*
*NEIC **28** 21:02:09.9±0.1, 2693N×5587E, h11km, mb5.8/170, ME5.6, MS5.5/46, MW5.7, ML5.6(THR), Error ellipse: s-maj=3.8km s-min=2.4km az=18.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{17}Nm; M_{rr}4.77; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$-3.84; $M_{r\theta}$0.74; $M_{\theta\phi}$-1.94; $M_{\phi r}$2.10; Best double couple: $M_0$5.30000×10^{17} NP1:ϕ_s24.00000°, δ57.00000°, λ87.00000°. NP2:ϕ_s210.00000°, δ33.00000°, λ95.00000°. Principal axes: T 5.2700, Plg77.0000°, Azm283.0000°; N 0.0200, Plg3.0000°, Azm25.0000°; P -5.2900, Plg12.0000°, Azm116.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Nine people injured and power outages occurred on Jazireh-ye Qeshm. Felt at Bandar 'Abbas. Felt [IV] at Ra's al Khaymah and [III] at Abu Dhabi, Dubai and Sharjah, United Arab Emirates. Felt at Ajman, United Arab Emirates.
*HRVD **28** 21:02:09.2±0.1, 2677N×5581E, h12km, MW5.8/109, Centroid moment Tensor Solution. LP body waves: s93,c182; Mantle waves: s109,c332; Half duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}5.28±.05; $M_{\theta\theta}$-4.85±.05; $M_{\phi\phi}$-0.42±.05; $M_{r\theta}$2.17±.14; $M_{\theta\phi}$-3.10±.04; $M_{\phi r}$1.46±.13; Best double couple: $M_0$6.42200×10^{17} NP1:ϕ_s247.00000°, δ33.00000°, λ96.00000°. NP2: ϕ_s59.00000°, δ57.00000°, λ86.00000°. Principal axes: T 5.8490, Plg78.0000°, Azm316.0000°; N 1.1530, Plg3.0000°, Azm62.0000°; P -6.9960, Plg12.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SFS **28** 21:02:09.0, 2697N×5584E, h10km, ML5.8*
*THR **28** 21:02:09.2±0.7, 2682N×5590E, h10km±4km, ML5.6*
*SZGRF **28** 21:02:10.6, 2674N×5598E, h33km, mb5.5, MS5.3, Southern Iran*
*IGIL **28** 21:02:10.9, 2700N×5580E, h30km, MS5.4*
*CRAAG **28** 21:02:11.3, 2698N×5582E, Mb5.7*
*TEH **28** 21:02:11.7, 2667N×5575E, h17km, Mn5.5*
*PDA **28** 21:02:14.5, 2698N×5582E, h30km, mb5.7*

ISC 28 21:02:10.7±0.1, 2686N±001×5582E±001, h16km, h16km±1.0km: pP-P, n1600, σ1º08/1709, mb5.7/339, MS5.5/125, 393C-28D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.62**	**30**	*e*PG	**Pg**	**21 02 21.1**	**-1.8**
BNDS				*e*SG	**Sg**	**21 02 30.7**	**-0.4**
BNDS	**Bandar-Abbas**	**0.62**	**30**	*e*Pg	**Pg**	**21 02 21.0**	**-1.9**
BNDS				*e*Sg	**Sg**	**21 02 30.0**	**-1.1**
BANOM	**Banah**	**1.03**	**155**	⇑P	**Pb**	**21 02 29.1**	**-1.0**
ASHO	**Ashiyiah**	**2.18**	**174**	P	**Pn**	**21 02 48.5**	**+2.2**
SNR=2084							
GHIR	**Ghir-Karzin**	**2.89**	**300**	*e*PN	**Pn**	**21 02 58.5**	**+2.5**
GHIR				AML	AML	21 04 10.4	
comp=N,17μm,0.7s							
GHIR				AML	AML	21 04 14.3	
comp=E,18μm,0.7s							
GHIR	**Ghir-Karzin**	**2.89**	**300**	*e*Pn	**Pn**	**21 02 58.0**	**+1.9**
KRBR	**Kerman**	**3.21**	**15**	*e*PN	**Pn**	**21 03 02.7**	**+2.2**
KRBR				SN	**Sn**	**21 03 40.9**	**+2.4**
KRBR				AML	AML	21 03 57.7	
comp=E,14μm,0.7s							
KRBR	**Kerman**	**3.21**	**15**	*e*Pn	**Pn**	**21 03 02.0**	**+1.4**
KRBR				Sn	**Sn**	**21 03 40.0**	**+1.5**
KRBR	**Kerman**	**3.21**	**15**	*e*Pn	**Pn**	**21 03 02.7**	**+2.1**
SNR=47							
KRBR				Sn	**Sn**	**21 03 40.0**	**+1.5**
ISRV	**Sarvestan**	**3.47**	**317**	*e*Pn	**Pn**	**21 03 06.7**	**+2.7**
IMOK	**Mook**	**3.51**	**309**	*e*Pn	**Pn**	**21 03 06.5**	**+1.9**
**HOQ

WHFO **Wadi Hawf** 9.10 192 ⇑P Pn 21 04 21.4 0.0
SNR=77
IFIR **Firoozkooh** 9.14 344 *e*Pn Pn 21 04 23.5 +1.6
ISHM **Shahmirzad** 9.17 347 *e*Pn Pn 21 04 24.6 +2.2
IDMV **Damavand** 9.27 340 *e*Pn Pn 21 04 25.8 +2.1
IDMV **Damavand** 9.27 340 *e*Pn Pn 21 04 25.9 +2.2
RBK **Rabkut** 9.44 189 P Pn 21 04 25.6 -0.3
SNR=90
IKIA **Kiasar** 9.49 349 *e*Pn Pn 21 04 28.9 +2.2
IGLO **Galoogah** 9.62 349 *e*Pn Pn 21 04 32.5 +4.0
TEH **Tehran** 9.62 338 *e*Pn Pn 21 04 30.0 +1.4
IAFJ **Afjeh** 9.63 340 *e*Pn Pn 21 04 30.6 +2.0
IAFJ **Afjeh** 9.63 340 *e*Pn Pn 21 04 31.1 +2.5
ABTO **Aybut** 9.75 194 P Pn 21 04 29.9 -0.4
SNR=205
IPRN **Paran-Amol** 9.84 343 *e*Pn Pn 21 04 33.7 +2.2
IMYA **Miamay** 10.13 20 *e*Pn Pn 21 04 37.5 +2.1
IMYA **Miamay** 10.13 20 *e*Pn Pn 21 04 37.7 +2.3
IKRD **Kardeh** 10.14 12 *e*Pn Pn 21 04 41.2 +5.6
IKRD **Kardeh** 10.14 12 *e*Pn Pn 21 04 41.3 +5.7
IKOM **Komasi** 10.22 318 *e*Pn Pn 21 04 36.0 -0.7
IKOM *e*Sn Sn 21 06 25.4 -5.5
ISFR **Esferayen** 10.32 10 *e*Pn Pn 21 04 40.4 +2.4
ISFR **Esferayen** 10.32 10 *e*Pn Pn 21 04 41.1 +3.1
IGZV **Gazvin** 10.62 335 *e*Pn Pn 21 04 43.6 +1.3
IGZV **Gazvin** 10.62 335 *e*Pn Pn 21 04 43.7 +1.4
ISHV **Shirvan** 10.76 8 *e*Pn Pn 21 04 46.4 +2.3
MRVT **Maraveh tapeh** 10.77 1 *e*PN Pn 21 04 46.7 +2.5
IEMG **Emamqoli** 10.78 12 *e*Pn Pn 21 04 46.5 +2.1
IEMG **Emamqoli** 10.78 12 *e*Pn Pn 21 04 46.2 +1.8
IGHG **Ghaleghazi** 10.90 315 *e*Pn Pn 21 04 46.5 +0.4
IGHG **Ghaleghazi** 10.90 315 *e*Pn Pn 21 04 46.4 +0.3
ILIN **Laeen** 11.06 319 *e*Pn Pn 21 04 48.5 +0.3
ILIN **Laeen** 11.06 319 *e*Pn Pn 21 04 48.0 -0.2
ABKT **Ailbek** 11.20 9 Pn Pn 21 04 52.7 +2.5
comp=E,612nm,1.3s,SNR=37
VAN **Vannovskaya** 11.22 9 P Pn 21 04 51.6 +1.2
VAN S Sn 21 07 05.3 +10
IDHR **Dehrash** 11.26 316 *e*Sn Sn 21 06 50.4 -6.0
BHD **Baghdad** 11.79 306 *ex* x 21 04 57.0
BHD *ex* x 21 07 10.0
BHJ **Bhuj** 13.04 103 *e*P Pn 21 05 14.1 -1.2
BHJ AMb AMB 21 05 22.9
comp=Z,427nm,1.1s
IBST **Bostanabad** 13.18 327 *e*Pn Pn 21 05 17.3 +0.2
IBST **Bostanabad** 13.18 327 *e*Pn Pn 21 05 18.2 +1.1
DRP **Derazinda** 13.45 65 P Pn 21 05 24.6 +3.7
IAZR **Azarshahr** 13.61 325 *e*Pn Pn 21 05 24.0 +0.9
MUKL **Al Mukalla** 13.86 209 *e*P Pn 21 05 22.8 -3.7
MUKL AMb AMB 21 05 25.1
comp=Z,846nm,1.2s
MUKL *i*S Sn 21 07 56.1 -3.9
ITBZ **Tabriz** 13.96 327 *e*Pn Pn 21 05 28.8 +1.0
ITBZ **Tabriz** 13.96 327 *e*Pn Pn 21 05 29.1 +1.3
SBDP **Sheikh Budin** 14.11 64 P Pn 21 05 28.9 -1.1
ISHB **Shabestar** 14.26 326 *e*Pn Pn 21 05 31.9 0.0
ISHB **Shabestar** 14.26 326 *e*Pn Pn 21 05 32.2 +0.3
MSL **Mosul** 14.34 314 *ex* x 21 05 27.0
MSL *ex* x 21 08 00.0
MSL *i*x x 21 08 37.0
MSL *i*x x 21 09 48.0
MSL *i*x x 21 10 47.0
MSL *i*x x 21 12 03.0
IMRD **Marand** 14.55 327 *e*Pn Pn 21 05 36.6 +0.7
IMRD **Marand** 14.55 327 *e*Pn Pn 21 05 36.3 +0.4
CUKT **Cukurca** 14.63 318 P Pn 21 05 33.5 -3.5
THW **Thamme Wali** 15.02 63 P Pn 21 05 40.7 -1.6
CEP **Cherat** 15.51 60 P Pn 21 05 52.1 +3.3
SARP **Sargodha** 15.52 67 P Pn 21 05 48.0 -0.9
VANT **Van** 15.57 321 P Pn 21 05 52.3 +2.7
VANB **Van** 15.68 321 P Pn 21 05 49.4 -1.5
CLDR **Caldiran** 15.78 324 P Pn 21 05 53.0 +0.8
HAJJ **Hajjah** 15.90 228⇓*e*P Pn 21 05 50.0 -3.8
HAJJ *i*S Sn 21 08 45.5 -4.1
BDHA **Al Bayda'** 16.01 219⇓*e*P Pn 21 05 52.0 -3.2
BDHA AMb AMB 21 05 52.8
comp=Z,168nm,0.9s
BDHA *i*S Sn 21 08 47.8 -4.6
BDHA **Al Bayda'** 16.01 219 *e*P Pn 21 05 52.3 -2.9
GNI **Garni** 16.14 328 P Pn 21 05 58.6 +1.8
GNI **Garni** 16.14 328 Pn Pn 21 05 57.8 +1.0
comp=Z,0.5nm,0.3s,baz=145,slow=4.7,SNR=21
GNI Sn Sn 21 09 14.9 +20
baz=302,slow=19,SNR=1.4
GNI **Garni** 16.14 328 P Pn 21 05 57.8 +1.0
GNI pmax pmax
comp=Z,1.0nm,0.3s
DHBB **Dhamar BB** 16.23 223⇑*e*P Pn 21 05 54.8 -3.3
DHBB *i*S Sn 21 08 53.1 -4.6
LBOS 16.28 219⇑*e*P Pn 21 05 55.1 -3.5
MARD **Mardin** 16.44 313 *i*P Pn 21 05 57.5 -3.3
BEST **Besiri** 16.47 315 *i*P Pn 21 05 56.5 -4.6
NIL **Nilore** 16.50 62 Pn Pn 21 06 01.4 0.0
comp=Z,484nm,0.9s,SNR=6.2
CHCP **Chirah Chowk** 16.51 62 P Pn 21 06 00.8 -0.8
BTMT **Batman** 16.52 317 P Pn 21 05 58.1 -3.6
AJM **Ajmer** 16.83 87 *e*P Pn 21 06 04.5 -1.1
AJM AMb AMB 21 06 12.6
comp=Z,305nm,1.1s
AJM *ex* x 21 09 03.0
DGRG **David-gareji** 16.91 332 P Pn 21 06 09.1 +2.5
DGRG S Sn 21 09 32.5 +18
UDYN **Al 'Udayn** 16.96 223⇓*e*P Pn 21 06 04.8 -2.5
UDYN *i*S Sn 21 09 10.5 -4.8
DIGO **Kars** 17.01 326 *i*P Pn 21 06 10.0 +2.1
DIY **Diyarbakir** 17.14 314 *e*P Pn 21 06 11.1 +1.6
BNGL **BINGOL** 17.21 318 *i*P Pn 21 06 10.0 -0.4
KZR **Kazreti** 17.27 330 P Pn 21 06 12.5 +1.4
KZR S Sn 21 09 40.8 +18
ASF **Jabal al Asfar** 17.30 292 P Pn 21 06 08.6 -2.9
comp=Z,4.3nm,0.3s,baz=353,slow=3.6,SNR=36
ASF S Sn 21 09 31.6 +8.0
comp=Z,3.5nm,0.3s,baz=358,slow=21,SNR=4.8
ASF LR LR 21 13 40.0
comp=Z,7μm,18.9s,baz=340,slow=40
ASF **Jabal al Asfar** 17.30 292 P Pn 21 06 08.6 -2.9
ASF S Sn 21 09 31.6 +8.0
ASF pmax pmax
comp=Z,4.0nm,0.3s
ASF smax
comp=N,4.0nm,0.3s
ASF MLR MLR
comp=Z,7μm,18.9s
ASF **Jabal al Asfar** 17.30 292 *e*P Pn 21 06 10.7 -0.8
SNR=45
KARS **Kars** 17.30 326 *e*P Pn 21 06 11.8 +0.3
MTA **Mtatsminda** 17.35 331 P Pn 21 06 13.2 +1.0
MTA S Sn 21 09 37.1 +12
TBLG **Delisi** 17.41 331 P Pn 21 06 14.8 +1.9
TBLG S Sn 21 09 42.5 +16
TBLG **Delisi** 17.41 331 P Pn 21 06 14.0 +1.1
MAK **Makhachkala** 17.43 339*c* *i*P Pn 21 06 14.6 +1.4
MAK *i*S Sn 21 09 30.0 +3.1
MAK pmax pmax
comp=Z,2μm,1.3s
MAK MLR MLR
comp=Z,10μm,12.0s
MAK **Makhachkala** 17.43 339 *i*P Pn 21 06 14.6 +1.4
comp=Z,2μm,1.3s
TRBA **At Turbah** 17.44 221⇓*e*P Pn 21 06 11.3 -2.0
TRBA AMb AMB 21 06 11.7
comp=Z,438nm,2.0s
TRBA *i*S Sn 21 09 22.3 -4.9
TRBA **At Turbah** 17.44 221⇓*e*P Pn 21 06 11.3 -2.0
TRBA *i*S Sn 21 09 23.0 -4.2
BOM **Bombay** 17.54 113 *e*P Pn 21 06 15.4 +0.9
BOM AMb AMB 21 06 28.4
comp=Z,1μm,1.3s
BINT **Bingol** 17.56 317 *e*P Pn 21 06 13.7 -1.0
AKH **Akhalkalaki** 17.71 328 P Pn 21 06 18.5 +1.8
AKH S Sn 21 09 46.5 +13
EZM **Erzurum** 17.72 321 *e*P Pn 21 06 18.9 +2.2
URFA **Urfa** 17.82 310 *e*P Pn 21 06 18.0 +0.1
GOR **Gori** 17.89 330 P Pn 21 06 21.1 +2.2
ATAB **Bozova** 18.19 310 *i*P Pn 21 06 22.4 -0.1
PONG **Pong** 18.25 69 *e*P Pn 21 06 24.0 +0.8
FKH **Fakeheh** 18.25 298 *e*Pn Pn 21 06 22.8 -0.5
FKH *e*P 21 06 22.8
ARTV **Artvin** 18.31 325 *i*P Pn 21 06 24.4 +0.3
DLH **Dalhousie** 18.38 67 *ex* Pn 21 06 29.0 +4.1
DLH *ex* x 21 10 06.0
MZDA **Masada** 18.42 289 P Pn 21 06 25.2 -0.1

DRGI **Dragot** 18.44 290 P Pn 21 06 25.4 -0.2
HMDT **Nahal Hemdat** 18.45 292 P Pn 21 06 25.6 -0.1
ZFRI **Zfri** 18.48 286 P Pn 21 06 26.3 +0.3
RCY **Rachaya** 18.50 296 *e*Pn Pn 21 06 26.8 +0.4
EZC **Erzincan** 18.51 318 *e*P Pn 21 06 30.6 +4.1
BHK **Bhakra** 18.55 71 *e*P Pn 21 06 29.0 +2.1
MALT **Malatya** 18.55 312 *e*P Pn 21 06 28.1 +1.2
MALT pmax pmax
comp=Z,1μm,1.1s
MALT **Malatya** 18.55 312 *e*Pn Pn 21 06 27.2 +0.3
comp=Z,1μm,1.1s
MALT **Malatya** 18.55 312 *e*P Pn 21 06 28.1 +1.2
comp=Z,1μm,1.1s
KSDI **Kefar Szold** 18.55 295 P Pn 21 06 27.0 0.0
POO **Poona** 18.57 113⇓*i*P Pn 21 06 27.5 +0.3
comp=Z,450nm,1.0s
POO *i*x x 21 06 45.5
POO *i*x x 21 11 12.0
POO *ex* x 21 14 24.0
MMLI **Mount Malkishu** 18.57 292 P Pn 21 06 27.5 +0.3
EIL **Elat** 18.60 284 P Pn 21 06 27.5 0.0
ZEI **Tsey** 18.61 332 *e*P Pn 21 06 29.9 +2.2
ZEI *e*S Sn 21 09 56.0 +0.5
HWQ **Hawqa** 18.63 298 *e*Pn Pn 21 06 28.2 +0.3
MBH **Mount Berech** 18.64 284 P Pn 21 06 28.5 +0.5
BCA **Borcka** 18.66 325 *e*P Pn 21 06 28.9 +0.6
MMAI **Mount Meron Ar** 18.72 294 P Pn 21 06 29.7 +0.7
comp=Z,4.7nm,0.3s,baz=103,slow=11,SNR=168
MMAI S Sn 21 10 07.5 +10
comp=Z,7.1nm,0.3s,baz=116,slow=43,SNR=5.2
MMAI LR LR 21 15 29.3
comp=Z,11μm,18.5s,baz=125,slow=43
AMRG 18.74 330 P Pn 21 06 32.3 +3.0
BHL **Bhannes** 18.75 297 *e*Pn Pn 21 06 30.2 +0.8
GAZ **Gaziantep** 18.80 308 *e*P Pn 21 06 30.4 +0.4
SLTI **Sal'it** 18.85 291 P Pn 21 06 31.0 +0.4
MASH **Mash'abbe Sade** 18.86 288 P Pn 21 06 31.2 +0.4
MATL **Matirih** 18.89 295 *e*Pn Pn 21 06 32.7 +1.6
HNTI **Hanita** 18.92 294 P Pn 21 06 31.7 +0.3
OFRI **'Ofer** 18.97 293 P Pn 21 06 32.8 +0.7
NDI **New Delhi** 19.02 80 *e*P Pn 21 06 30.5 -2.1
NDI *ex* x 21 10 06.0
SDNR **Sundarnagar** 19.03 71 *e*P Pn 21 06 32.6 -0.1
HTY **Hatay** 19.13 304 *e*P Pn 21 06 33.9 0.0
SMLA **Simla** 19.14 72 *e*P Pn 21 06 33.0 -1.0
SMLA AMb AMB 21 06 39.5
comp=Z,608nm,1.0s
KZIT **Kziot** 19.18 287 P Pn 21 06 35.1 +0.5
COBT **Iskenderun** 19.20 305 *i*P Pn 21 06 33.9 -0.9
KAD **Karad** 19.47 115 *e*P Pn 21 06 36.5 -1.5
KAD *ex* x 21 10 18.8
ATD **Arta Tunnel** 19.54 221 P Pn 21 06 39.4 +0.5
comp=Z,8.9nm,0.3s,baz=12,slow=8.1,SNR=59
ATD LR LR 21 14 38.3
comp=Z,14μm,20.3s,baz=41,slow=38
CEYT **Ceyhan** 19.78 306 *e*P Pn 21 06 42.4 +0.6
DDI **Dehra Dun** 19.82 75 *e*P Pn 21 06 41.5 -0.7
KRTS **Karatas** 19.87 304 *e*P Pn 21 06 43.5 +0.7
BHPL **Bhopal** 19.90 96 *e*P Pn 21 06 43.0 -0.1
BHPL *ex* x 21 10 20.8
KOZT **Kozan** 19.93 307 *e*P Pn 21 06 42.8 -0.7
KIV **Kislovodsk** 20.09 331 Pn P 21 06 45.8 +2.2
comp=Z,4μm,0.8s
KIV **Kislovodsk** 20.09 331*c* *i*P P 21 06 45.4 +1.8
KIV *e*S S 21 10 29.7 +1.0
KIV pmax pmax
comp=Z,5μm,2.9s
KIV pmax pmax
comp=Z,1μm,1.1s
KIV MLR MLR
comp=Z,13μm,13.0s,MS5.5
KIV **Kislovodsk** 20.09 331 *i*P P 21 06 45.4 +1.8
comp=Z,13μm,13.0s
KK31 **Karatay Array** 20.13 33 *i*P P 21 06 43.2 -0.8
KK31 pmax pmax
comp=Z,246nm,1.0s
KK31 **Karatay Array** 20.13 33 *i*P P 21 06 43.2 -0.8
comp=Z,246nm,1.0s
KKAR **Karatay Array** 20.13 33 *i*P P 21 06 43.2 -0.8
KKAR pmax pmax
comp=Z,258nm,1.1s
KKAR **Karatay Array** 20.13 33 *i*P P 21 06 43.2 -0.8
comp=Z,258nm,1.1s
AKL **Akola** 20.33 103 *ex* P 21 06 56.8 +11
AKL *i*P 21 07 02.0
AKL AMb AMB 21 07 09.1
comp=Z,733nm,1.1s
AKL *i*S S 21 10 44.1 +11
SVSK **Karacayir** 20.36 314 *e*P P 21 06 48.2 +1.7
KARA **Karaisali** 20.39 306 *e*P P 21 06 48.0 +1.2
BNN **Bunyan** 20.55 311 *e*P P 21 06 50.9 +2.3
MERS **Mersin** 20.62 304 *e*P P 21 06 50.0 +0.7
MEST **Erdemli** 20.79 303 *i*P P 21 06 51.2 0.0
GOF **Gofitskoye** 20.85 334⇓*i*P P 21 06 52.0 +0.2
GOF *i*S S 21 10 47.0 +3.2
GOF pmax pmax
comp=Z,250nm,1.3s
GOF smax
comp=N,640nm,1.6s
GOF **Gofitskoye** 20.85 334 *i*P P 21 06 52.0 +0.2
comp=N,250nm,1.3s
TOKT **Tokat** 20.87 315 *e*P P 21 06 53.3 +1.3
LATR **Latur** 20.88 109 *e*P P 21 06 52.4 +0.3
CSS **Prodhromos** 20.89 298⇑*e*P P 21 06 53.2 +1.0
comp=N,13nm,1.3s
KSH **Kashi** 21.00 48 P P 21 06 49.0 -4.5
KSH *e*AP 21 06 53.0
KSH *e*XP sP 21 06 56.0 -4.1
KSH *e*PP 21 07 09.8
KSH *e*S S 21 10 32.0 -15
KSH *e*PCP PcP 21 11 01.3 +1.0
KSH *e*PCS PcS 21 14 38.3 0.0
KSH AMB AMB
comp=Z,70nm,1.0s,mb5.0
KSH AMB AMB
comp=Z,370nm,3.1s
KSH LR LR
comp=N,64μm,8.9s
KSH LR LR
comp=E,50μm,8.7s
KSH LR LR
comp=Z,41μm,10.6s,MS6.1
IKL **Isikli** 21.02 302 *e*P P 21 06 55.9 +2.3
MAMC **Mammari** 21.04 299 P P 21 06 55.6 +1.8
AML **Almayashu** 21.12 39 P P 21 06 54.2 -0.6
SNR=19
SOC **Sochi** 21.18 326*c* *i*P P 21 06 55.4 0.0
SOC *e* 21 07 15.2
SOC *i*S S 21 10 48.8 -1.6
SOC *e*SS 21 11 11.2
SOC pmax pmax
comp=Z,687nm,0.9s,mb6.0
SOC MLR MLR
comp=Z,11μm,14.0s,MS5.4
SOC **Sochi** 21.18 326 *i*P P 21 06 56.8 +1.4
SOC **Sochi** 21.18 326 *i*P P 21 06 55.4 0.0
comp=Z,687nm,0.9s,mb6.0
SOC *i*S S 21 10 48.8 -1.6
YOZ **Yozgat** 21.30 312 *e*P P 21 06 58.6 +1.9
BSTP **Nigde** 21.36 307 *i*P P 21 06 57.9 +0.6
EKS2 **Erkin-Say** 21.52 38 P P 21 06 59.0 0.0
SNR=280
ALFC **Alevga** 21.52 298⇑*e*P P 21 06 59.9 +0.9
comp=Z,9.8nm,0.8s
KVT **Kavak** 21.61 316 *e*P P 21 07 00.3 +0.3
PPCY **Paphos** 21.65 297 P P 21 07 01.3 +0.9
UCH **Uchtor** 21.65 40 P P 21 07 00.0 -0.4
SNR=48
PTH **Pithoragarh** 21.65 77 *ex* P 21 07 05.9 +5.4
LGTI **Lohaghat** 21.68 77 *e*P P 21 07 01.3 +0.6
LGTI *ex* x 21 08 42.5
ERMK **Ermenek** 21.74 302 *i*P P 21 07 01.7 +0.4
AAK **Ala-Archa** 21.90 39 P P 21 07 03.9 +0.8
SNR=64
AAK **Ala-Archa** 21.90 39 P P 21 07 02.5 -0.6
comp=Z,1μm,1.4s,mb6.2
CDAG **Cicekdag** 21.93 311 *i*P P 21 07 04.6 +1.2
KZA **Kyzart** 21.99 41 P P 21 07 04.8 +0.7
SNR=84
CORM **Corum** 22.03 312 *e*P P 21 07 05.1 +0.5
FRU **Bishkek** 22.10 39⇑*e*P P 21 07 04.5 -0.7
FRU *e*S S 21 11 10.0 +1.8
FRU *e* 21 11 17.0

FRU pmax pmax
comp=Z,750nm,2.0s,mb5.8
FRU MLR MLR
comp=Z,11μm,12.0s,MS5.5
FRU **Bishkek** 22.10 39 *e*P P 21 07 04.5 -0.7
comp=Z,750nm,2.0s,mb5.8
KBK **Karagaybulak** 22.17 40 P P 21 07 06.5 +0.5
SNR=92
JBP **Jabalpur** 22.19 94 *e*P P 21 07 05.7 -0.5
JBP *ex* x 21 07 20.7
comp=Z,487nm,1.7s
JBP *ex* x 21 11 12.3
KAMT **Kaman** 22.26 310 *e*P P 21 07 07.9 +1.0
CHMS **Chumysh** 22.28 39 P P 21 07 06.9 -0.2
SNR=68
USP **Ospenovka** 22.31 38 P P 21 07 09.9 +2.4
SNR=71
DIKM **Dikmen** 22.43 316 *e*P P 21 07 08.1 -0.6
BRTR **Keskin Array B** 22.48 310 P P 21 07 09.8 +0.5
comp=Z,46nm,0.9s,mb4.9,baz=126,slow=12,SNR=97
BRTR S S 21 11 25.1 +9.5
comp=Z,7.1nm,1.0s,baz=125,slow=9.0,SNR=3.7
BRTR ScP ScP 21 14 41.4 +1.3
comp=Z,3.5nm,0.8s,baz=110,slow=4.6,SNR=2.9
BRTR LR LR 21 17 14.6
comp=Z,19μm,19.4s,MS5.5,baz=117,slow=40
BRTR **Keskin Array B** 22.48 310 P P 21 07 09.8 +0.5
BRTR S S 21 11 25.1 +9.5
BRTR ScP ScP 21 14 41.4 +1.3
BRTR LR LR 21 17 14.6
MNGI **Mangalore** 22.56 124 *e*P P 21 07 10.1 0.0
MNGI *ex* x 21 07 22.4
comp=Z,245nm,1.2s
MNGI *i*x x 21 11 22.5
AB31 **Akbulak array** 22.58 7 *i*P P 21 07 09.5 -0.9
AB31 pmax pmax
comp=Z,165nm,0.8s,mb5.5
AB31 **Akbulak array** 22.58 7 *i*P P 21 07 09.5 -0.9
comp=Z,165nm,0.8s,mb5.5
KONT **Konya--Tatoy** 22.62 305 *e*P P 21 07 11.9 +1.1
BYBT **Boyabat** 22.63 315 *e*P P 21 07 11.5 +0.7
ULHL **Ulahol** 22.68 42 P P 21 07 12.2 +0.8
SNR=16
TKM2 **Tokmak 2** 22.71 40 P P 21 07 11.1 -0.6
SNR=75
TKM2 **Tokmak 2** 22.71 40 *i*P P 21 07 11.2 -0.5
TOS **Tosya** 22.87 314 *e*P P 21 07 13.2 -0.2
CANT **Cankiri** 22.91 312 *e*P P 21 07 14.9 +1.0
ELDT **Eldivan** 22.98 312 *i*P P 21 07 14.2 -0.4
KDHN **Kadinhani** 23.02 306 *i*P P 21 07 12.3 -2.7
HYB **Hyderabad** 23.02 109⇓*i*P P 21 07 16.0 +1.0
comp=Z,650nm,1.4s,mb5.9
HYB *e*S S 21 11 22.0 -3.0
HYB LR LR 21 18 48.0
comp=Z,13nm,12.0s
HYB **Hyderabad** 23.02 109⇓*e*P P 21 07 17.0 +2.0
HYB *e*S S 21 11 24.0 -1.0
HYB pmax pmax
comp=Z,650nm,1.4s,mb5.9
HYB **Hyderabad** 23.02 109⇓*e*P P 21 07 17.0 +2.0
comp=Z,650nm,1.4s,mb5.9
HYB *e*S S 21 11 24.0 -1.0
HYB *e*LR LR 21 18 48.0
ANTO **Ankara** 23.12 310 *e*P P 21 07 16.2 +0.2
LOD **Lodumlu** 23.15 310 *e*P P 21 07 17.1 +0.8
ANN **Anapa** 23.20 325*c* *i*P P 21 07 16.4 -0.5
ANN *i*PPP 21 07 49.7
ANN *i*S S 21 11 27.8 -0.1
ANN *i*SS 21 12 04.7
ANN MLR MLR
comp=Z,10μm,24.0s,MS5.2
KIZT **Kizilcal** 23.34 307 *e*P P 21 07 19.3 +1.0
ANTB **Antalya** 23.54 301 *e*P P 21 07 19.6 -0.8
BALT **Daday** 23.54 314 *i*P P 21 07 20.9 +0.5
AKTK **Aktyubinsk** 23.60 4 P P 21 07 19.9 -1.0
AKTK S S 21 11 36.9 +2.5
AKTK LR LR 21 17 45.4
AKTK **Aktyubinsk** 23.60 4 P P 21 07 20.0 -0.9
comp=Z,89nm,0.6s,mb5.4
AKTO **Aktyubinsk** 23.60 4 P P 21 07 19.9 -1.0
comp=Z,88nm,0.6s,mb5.4,baz=182,slow=10.0,SNR=160
AKTO S S 21 11 36.9 +2.5
comp=Z,14nm,0.9s,baz=308,slow=19,SNR=2.2
AKTO LR LR 21 17 45.4
comp=Z,18μm,19.6s,MS5.5,baz=171,slow=40
AKTO **Aktyubinsk** 23.60 4 P P 21 07 20.0 -0.9
AKTO S S 21 11 36.9 +2.5
AKTO pmax pmax
comp=Z,89nm,0.6s,mb5.4
AKTO smax
comp=N,14nm,1.0s
AKTO MLR MLR
comp=Z,18μm,19.6s,MS5.5
AAA **Alma-Ata** 23.71 41*c* *i*P P 21 07 20.9 -1.0
AAA *i*S S 21 11 38.5 +2.4
AAA pmax pmax
comp=Z,5μm,2.0s,mb6.6
AAA smax
comp=E,82μm,4.1s
AAA **Alma-Ata** 23.71 41 *i*P P 21 07 20.9 -1.0
comp=E,5μm,2.0s,mb6.6
BCK **Bucak** 23.77 303 *e*P P 21 07 23.9 +1.4
SAFT **Safranbolu** 23.84 313 *e*P P 21 07 23.2 0.0
ELL **Elmali** 24.06 301 *e*P P 21 07 26.4 +1.2
SLAT **Slait** 24.13 248 *i*P P 21 07 26.4 +0.6
comp=Z,484nm,0.9s,mb5.9,baz=54,slow=12
SLAT AMb AMB 21 07 30.4
comp=Z,511nm,1.2s,mb5.8
SLAT *i*S S 21 11 56.8 +14
KSL **Kastellorizon** 24.15 299 *e*P P 21 07 27.5 +1.5
BLSP **Bilaspur** 24.38 95 *ex* P 21 07 30.2 +2.1
MDU **Mudurnu** 24.47 310 *e*P P 21 07 28.1 -0.8
FETY **Fethiye** 24.67 300 *e*P P 21 07 29.7 -1.0
KOLN **Koldanda** 24.68 82 *e*P P 21 07 31.6 +0.8
comp=Z,555nm,1.1s,mb6.0
ORR **Orenburg** 24.73 358⇑*i*P P 21 07 31.1 -0.2
ORR S S 21 11 51.5 -1.3
ORR pmax pmax
comp=Z,1μm,1.3s,mb6.2
ORR MLR MLR
comp=Z,9μm,17.0s,MS5.3
ORR **Orenburg** 24.73 358 *i*P P 21 07 31.1 -0.2
comp=Z,1μm,1.3s,mb6.2
ORR S S 21 11 51.5 -1.3
comp=Z,9μm,17.0s
BORA **Eskisehir** 24.75 308 *i*P P 21 07 28.6 -2.9
DENT **Denizli** 25.03 302 *e*P P 21 07 34.6 +0.6
DALT **Dalyan (Mudla)** 25.05 300 *e*P P 21 07 34.0 -0.2
SIM **Simferopol'** 25.07 322*c* *i*P P 21 07 34.0 -0.4
SIM *i*S S 21 11 56.0 -2.1
SIM pmax pmax
comp=Z,216nm,1.1s,mb5.6
SIM MLR MLR
comp=Z,8μm,17.8s,MS5.3
SIM **Simferopol'** 25.07 322 *i*P P 21 07 34.0 -0.4
comp=Z,216nm,1.1s,mb5.6
SIM *i*S S 21 11 56.0 -2.1
comp=Z,8μm,17.8s
ARG **Arkhangelos** 25.31 298 *e*P P 21 07 37.1 +0.5
ARG **Arkhangelos** 25.31 298 P P 21 07 36.6 0.0
YER **Yerkesik** 25.42 301 *e*P P 21 07 39.6 +2.1
ADVT **Abdulvahap** 25.48 309 *e*P P 21 07 38.4 +0.3
GKN **Gorkha** 25.58 81 *e*P P 21 07 39.9 +0.9
comp=Z,289nm,1.0s,mb5.8
HRT **Hereke** 25.68 309 *e*P P 21 07 39.0 -1.0
YLV **Yalova** 25.78 309 *e*P P 21 07 40.3 -0.5
MLSB **Milas** 25.86 301 *e*P P 21 07 42.3 +0.8
DAT **Datca** 25.86 299 *e*P P 21 07 40.8 -0.8
DMN **Daman** 26.02 82 *e*P P 21 07 44.1 +1.1
comp=Z,244nm,1.0s,mb5.7
BODT **Bodrum** 26.15 300 *e*P P 21 07 40.7 -3.5
KKN **Kakani** 26.16 81 *e*P P 21 07 44.7 +0.4
comp=Z,398nm,1.3s,mb5.8
ISK **Istanbul-Kandi** 26.20 310 *e*P P 21 07 44.5 -0.2
AKS **Akhisar** 26.29 304 *e*P P 21 07 47.1 +1.6
KLYT **Kilyos** 26.29 310 *e*P P 21 07 45.5 0.0
PKI **Pulchoki** 26.29 82 *e*P P 21 07 46.2 +0.7
comp=Z,577nm,1.3s,mb6.0
BALB **Balikesir** 26.50 306 *e*P P 21 07 47.6 +0.3
VRHR **Novokhopersk** 26.50 340 *e*P P 21 07 46.9 -0.5
VRHR *e*PP pP 21 07 53.9 +1.7
VRHR *e*S S 21 12 16.4 -4.4
VRHR *e*SS 21 13 28.6
VRHR pmax pmax

comp=Z,80nm,0.6s,mb5.4
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,7.0nm,0.5s
VRHR smax
comp=N,1μm,5.0s
VRHR smax
comp=Z,600nm,2.5s
VRHR MLR MLR
comp=Z,8μm,25.0s,MS5.2
VRHR MLR MLR
comp=E,8μm,18.0s
VRHR Novokhopersk 26.50 340 *e*P **P 21 07 46.9 -0.5**
comp=E,80nm,0.6s,mb5.4
IZM Izmir 26.56 303 *e*P **P 21 07 49.1 +1.2**
CTT Catalca 26.67 309 *e*P **P 21 07 49.2 +0.3**
ELBA Catalca 26.67 309 *i* P **P 21 07 47.7 -1.2**
GUN Gumba 26.68 81 *e*P **P 21 07 50.3 +1.3**
comp=E,404nm,0.9s,mb5.9
SMG Samos 26.68 301 *e*P **P 21 07 50.1 +1.1**
BLCB Balcova 26.72 303 *e*P **P 21 07 49.2 -0.1**
BNT Bandirma 26.73 307 *e*P **P 21 07 50.1 +0.8**
JIRN Jiri 26.98 81 *e*P **P 21 07 52.5 +0.9**
comp=E,219nm,0.9s,mb5.7
VIS Vishakhapatnam 26.98 104 *e*P **P 21 07 51.0 -0.6**
VIS AMb AMB 21 08 01.2
comp=Z,73nm,1.0s,mb5.2
VIS *e*x x 21 12 29.6
MRMT Marmara Adasi 27.05 308 *e*P **P 21 07 52.4 +0.2**
URLA Izmir 27.05 302 *i* P **P 21 07 48.7 -3.6**
TRD Trivandrum 27.10 128 *e*P **P 21 07 53.8 +1.0**
TRD AMb AMB 21 08 11.4
comp=Z,134nm,1.8s,mb5.2
NPS Neapolis 27.12 295 *e*P **P 21 07 54.8 +1.9**
LAST Lasithi 27.21 295 *e*P **P 21 07 55.2 +1.4**
CANB Canakkale 27.22 306 *e*P **P 21 07 54.1 +0.3**
BOK Bokaro 27.31 90 *e*P **P 21 07 54.9 +0.3**
BOK AMb AMB 21 08 00.2
comp=Z,222nm,0.9s,mb5.7
RKY Sarkoy-Tekirda 27.37 308 *e*P **P 21 07 54.5 -0.6**
VRSR Storozhevoye 27.41 337 *e*P **P 21 07 54.4 -1.1**
VRSR *e*S **S 21 12 34.0 -1.1**
VRSR pmax pmax
comp=E,20nm,0.7s
VRSR pmax pmax
comp=Z,30nm,0.7s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,0.4s
VRSR smax
comp=N,90nm,3.0s
VRSR smax
comp=Z,130nm,3.8s
VRSR smax
comp=E,280nm,3.6s
VRSR Storozhevoye 27.41 337 *e*P **P 21 07 54.4 -1.1**
comp=E,10.0nm,0.4s,mb4.7
VRSR *e*S **S 21 12 34.0 -1.1**
comp=E,130nm,3.8s
SANT Santorini 27.45 298 *e*P **P 21 07 56.0 +0.2**
SANT Santorini 27.45 298 *e*P **P 21 07 56.0 +0.1**
CHOS Chios island 27.46 302 *e*P **P 21 07 57.7 +1.7**
APE Apeiranthos 27.54 299 *e*P **P 21 07 56.5 -0.2**
PRK Paraskevi 27.55 304 *e*P **P 21 07 57.8 +1.0**
EZN Ezine 27.69 305 *e*P **P 21 07 56.5 -1.6**
IDI Anoyia 27.71 295 P **P 21 07 59.4 +1.2**
comp=E,56nm,0.5s,mb5.4,baz=111,slow=7.6,SNR=49
IDI S **S 21 12 42.5 +2.7**
comp=E,15nm,1.0s,baz=300,slow=20,SNR=1.7
SIVA Sivas 27.73 295 *e*P **P 21 07 59.7 +1.3**
VOR Voronezh 27.83 338 *e*P **P 21 07 57.5 -1.8**
VOR *e* 21 12 31.5
VOR pmax pmax
comp=N,460nm,1.4s
VOR pmax pmax
comp=E,220nm,1.4s
VOR pmax pmax
comp=Z,310nm,1.4s,mb5.8
ZRNK Zerenda 27.86 17 P **P 21 07 59.1 -0.4**
ZRNK pmax pmax
comp=Z,140nm,1.5s,mb5.4
ZRNK Zerenda 27.86 17⇑ *e*P **P 21 07 58.5 -1.0**
comp=Z,186nm,0.7s,mb5.8
ZRNK Zerenda 27.86 17 P **P 21 07 59.1 -0.4**
comp=Z,140nm,1.5s,mb5.4
EDRB Edirne 28.11 310 *e*P **P 21 08 01.5 -0.3**
ENEZ Enez 28.12 307 *e*P **P 21 08 02.4 +0.5**
TIRR Tirgusor 28.16 316 P **P 21 08 00.2 -2.1**
VOSK Vostochnaya 28.21 20 P **P 21 08 02.0 -0.7**
VOSK pmax pmax
comp=Z,75nm,1.0s,mb5.3
VOSK Vostochnaya 28.21 20 P **P 21 08 02.0 -0.7**
comp=Z,75nm,1.0s,mb5.3
PRD Provadia 28.23 313 *i* P **P 21 08 02.2 -0.7**
ALN Alexandroupoli 28.25 307 *e*P **P 21 08 03.3 +0.3**
VAM Vamos 28.28 295 *e*P **P 21 08 04.1 +0.8**
GVD Gavdhos 28.30 294 *e*P **P 21 08 03.6 +0.2**
comp=Z,177nm,1.0s,mb5.7
GVD Gavdhos 28.30 294 *e*P **P 21 08 03.6 +0.2**
comp=Z,177nm,1.0s,mb5.7
BRVK Borovoye 28.30 19 P **P 21 08 03.2 -0.3**
comp=Z,546nm,1.4s,mb6.0,SNR=71
BRVK Borovoye 28.30 19 *e*P **P 21 08 02.9 -0.6**
BRVK Borovoye 28.30 19 *e*P **P 21 08 02.9 -0.6**
BVA0 Borovoye Array 28.30 19 *i* P **P 21 08 02.8 -0.7**
BVAR Borovoye Array 28.30 19 P **P 21 08 02.9 -0.6**
comp=Z,105nm,0.8s,mb5.5,baz=204,slow=8.3,SNR=310
BVAR PcP PcP 21 11 16.8 +0.5
comp=Z,13nm,0.8s,baz=213,slow=3.1,SNR=6.1
BVAR S **S 21 12 50.8 +1.7**
comp=Z,5.3nm,0.8s,baz=212,slow=22,SNR=1.7
BVAR LR LR 21 19 57.6
comp=Z,10μm,18.2s,MS5.5,baz=319,slow=38
BVAR Borovoye Array 28.30 19 P **P 21 08 02.9 -0.6**
BVAR 21 11 16.8
BVAR S **S 21 12 50.8 +1.6**
BVAR pmax pmax
comp=Z,105nm,0.8s
BVAR smax
comp=N,5.0nm,0.8s
BVAR MLR MLR
comp=Z,10μm,18.2s
JMB Yambol 28.47 311 *e*P **P 21 08 05.1 +0.1**
JMB Yambol 28.47 311 P **P 21 08 07.9 +2.9**
KARN Karanos 28.51 295 *e*P **P 21 08 06.4 +1.0**
LIA Limnos Island 28.55 305 *e*P **P 21 08 06.4 +0.7**
RDO Rodhopi 28.70 308 *e*P **P 21 08 07.3 +0.3**
RDO Rodhopi 28.70 308 P **P 21 08 06.6 -0.4**
MK31 Makanchi Array 28.84 39 P **P 21 08 08.0 -0.2**
MK31 pmax pmax
comp=Z,100nm,1.1s,mb5.5
MK31 Makanchi Array 28.84 39 P **P 21 08 08.0 -0.2**
comp=Z,100nm,1.1s,mb5.5
MKAR Makanchi Array 28.84 39 P **P 21 08 07.9 -0.3**
comp=Z,14nm,0.6s,mb4.8,baz=224,slow=7.6,SNR=72
MKAR Makanchi Array 28.84 39 P **P 21 08 07.9 -0.3**
MKAR pmax pmax
comp=Z,14nm,0.6s
CHKZ Chkalovo 28.94 18 P **P 21 08 08.4 -0.8**
CHKZ pmax pmax
comp=Z,171nm,2.1s,mb5.4
CHKZ Chkalovo 28.94 18 *e*P **P 21 08 08.3 -0.9**
CHKZ Chkalovo 28.94 18 P **P 21 08 08.4 -0.8**
comp=Z,171nm,2.1s,mb5.4
KDZ Kurdzhali 28.96 308 *i* P **P 21 08 09.0 -0.4**
DIM Dimitrovgrad 29.02 309 *i* P **P 21 08 09.6 -0.3**
PTL Penteli 29.05 301 *e*P **P 21 08 11.0 +0.9**
KVR Kavouri 29.07 300 *e*P **P 21 08 11.5 +1.2**
ATH Athens Observa 29.14 300 *e*P **P 21 08 11.6 +0.6**
ATH Athens Observa 29.14 300 *e*P **P 21 08 11.5 +0.5**
SZH Strazhica 29.23 312 *i* P **P 21 08 12.0 +0.3**
KIS Kishinev 29.26 321*c i*P **P 21 08 10.0 -2.0**
KIS *e* 21 09 20.0
KIS *e* 21 11 13.0
KIS *e*S **S 21 13 10.0 +5.8**
KIS pmax pmax
comp=Z,1μm,10.0s
KIS Kishinev 29.26 321 *i* P **P 21 08 10.0 -2.0**
comp=Z,1μm,10.0s
NAIG Nisos Aigina 29.27 300 *e*P **P 21 08 16.5 +4.4**
KYTH Kithira 29.35 297 *e*P **P 21 08 14.0 +1.2**
RZN Rozhen 29.46 308 *i* P **P 21 08 14.0 +0.2**
KURK Kurchatov 29.49 30 P **P 21 08 13.8 -0.2**
comp=Z,197nm,1.2s,mb5.7,SNR=21
KURK Kurchatov 29.49 30 P **P 21 08 13.8 -0.2**
KURK pmax pmax
comp=Z,134nm,2.2s,mb5.3
KURK Kurchatov 29.49 30⇑ *i*P **P 21 08 13.5 -0.5**
MGER Gerania Oros 29.50 300 *e*P **P 21 08 15.0 +0.9**
VLI Veliai 29.51 298 *e*P **P 21 08 13.3 -0.9**
ARU Arti 29.61 3 P **P 21 08 15.1 0.0**
comp=Z,265nm,0.9s,mb6.0,SNR=8.8
ARU Arti 29.61 3 *e*P **P 21 08 14.6 -0.5**
ARU pmax pmax
comp=Z,180nm,1.5s,mb5.6
ARU Arti 29.61 3 *e*P **P 21 08 14.6 -0.5**
comp=Z,180nm,1.5s,mb5.6
PLD Plovdiv 29.62 309 *i* P **P 21 08 14.0 -1.2**
CAL Calcutta 29.80 91 *e*P **P 21 08 18.2 +1.4**
CAL *e*x x 21 13 20.6
NEO Neokhori 29.84 303 *e*P **P 21 08 17.7 +0.6**
LKR Lokris 29.85 301 *e*P **P 21 08 17.5 +0.3**
VRI Vrincioaia 29.89 317 P **P 21 08 17.1 -0.5**
VRI Vrincioaia 29.89 317 P **P 21 08 18.4 +0.8**
NVR Nevrokopi 29.96 307 *e*P **P 21 08 18.7 +0.5**
PLG Polygyros 29.96 305 *e*P **P 21 08 19.4 +1.2**
IAS Iasi 30.08 320 P **P 21 08 19.6 +0.3**
IAS Iasi 30.08 320 P **P 21 08 19.7 +0.4**
MMB Musomiste 30.13 307 *i* P **P 21 08 18.9 -0.8**
PGB Panagyurishte 30.15 309 *i* P **P 21 08 19.9 0.0**
SOH Sokhos 30.16 306 *e*P **P 21 08 21.1 +1.1**
MLR Muntele Rosu 30.20 316 P **P 21 08 21.7 +1.4**
MLR Muntele Rosu 30.20 316 P **P 21 08 21.8 +1.5**
ITM Ithomi 30.38 298 *e*P **P 21 08 21.9 -0.1**
ITM Ithomi 30.38 298 P **P 21 08 20.8 -1.2**
THE Thessaloniki 30.39 305 *e*P **P 21 08 22.4 +0.4**
AGG Agios Georgios 30.44 302 *e*P **P 21 08 22.4 -0.1**
KNT Kendrikon 30.59 306 *e*P **P 21 08 24.2 +0.4**
LIT Litokhoron 30.59 304 *e*P **P 21 08 23.8 +0.1**
PECR Pechory 30.62 347⇓ *i*P **P 21 08 23.3 -0.8**
PECR *e* 21 09 29.0
PECR *i*S **S 21 13 24.6 -1.0**
PECR pmax pmax
comp=Z,800nm,10.0s
PECR smax
comp=N,2μm,7.0s
PECR smax
comp=E,3μm,4.0s
PECR MLR MLR
comp=N,7μm,14.0s,MS5.5
PECR MLR MLR
comp=Z,4μm,14.0s,MS5.3
PECR MLR MLR
comp=E,4μm,13.0s,MS5.5
PECR Pechory 30.62 347 *i* P **P 21 08 23.3 -0.8**
comp=E,800nm,10.0s
PECR *i*S **S 21 13 24.6 -1.0**
PALK Pallekele 30.63 125 *e*P **P 21 08 28.8 +4.7**
MTUR Matau 30.63 315 P **P 21 08 25.3 +1.2**
KKB Krupnik 30.68 308 *i* P **P 21 08 22.8 -1.7**
WMQ Urumqi 30.77 48 P **P 21 08 25.8 +0.4**
WMQ PP PP 21 09 27.5 -7.4
WMQ S **S 21 13 27.5 -0.4**
WMQ XS sS 21 13 32.0 -4.0
WMQ SS SS 21 15 09.8 -30
WMQ SCS ScS 21 19 00.5 -0.7
WMQ AMB AMB
comp=Z,90nm,1.1s,mb5.5
WMQ AMB AMB
comp=Z,2μm,5.0s
WMQ LR LR
comp=N,16μm,15.0s,MS5.9
WMQ LR LR
comp=E,7μm,12.0s,MS5.9
WMQ LR LR
comp=Z,9μm,20.0s
EVR Evrytania 30.82 302 *e*P **P 21 08 25.8 0.0**
VTS Vitosha 30.83 309 *i* P **P 21 08 21.4 -4.5**
VTS Vitosha 30.83 309 *e*P **P 21 08 26.6 +0.7**
VTS Vitosha 30.83 309 P **P 21 08 26.7 +0.8**
VTS Vitosha 30.83 309 P **P 21 08 26.8 +0.9**
VAY Valandovo 30.87 306 *e*P **P 21 08 26.3 0.0**
VAY Valandovo 30.87 306⇑ *i*P **P 21 08 26.3 0.0**
VAY Valandovo 30.87 306 P **P 21 08 29.4 +3.1**
VAY Valandovo 30.87 306⇑ *i*P **P 21 08 26.2 -0.1**
GRG Griva 30.89 306 *e*P **P 21 08 26.9 +0.5**
RLS Riolos of Patr 30.90 300 *e*P **P 21 08 26.9 +0.4**
LSA Lhasa 31.17 76 P **P 21 08 33.0 +4.1**
LSA S **S 21 13 32.8 -1.3**
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.9
LSA AMB AMB
comp=Z,1μm,5.0s
LSA LR LR
comp=N,7μm,16.0s,MS5.7
LSA LR LR
comp=E,13μm,16.0s,MS5.7
LSA LR LR
comp=Z,14μm,18.0s,MS5.7
LSA Lhasa 31.17 76 *e*P **P 21 08 30.6 +1.7**
LSA pmax pmax
comp=Z,71nm,0.9s,mb5.5
LSA MLR MLR
comp=Z,17μm,19.0s,MS5.7
LSA Lhasa 31.17 76 *e*P **P 21 08 30.6 +1.8**
comp=Z,71nm,0.9s,mb5.5
LSA LR LR
comp=Z,17μm,19.0s,MS5.7
LSA Lhasa 31.17 76 *e*P **P 21 08 30.6 +1.7**
comp=Z,17μm,19.0s
KZN Kozani 31.17 304 *e*P **P 21 08 29.0 +0.1**
AKASG Malin Array Be 31.26 327 P **P 21 08 28.7 -1.0**
comp=Z,43nm,0.6s,mb5.5,baz=131,slow=7.7,SNR=80
AKASG PcP PcP 21 11 24.7 +0.8
comp=Z,8.8nm,0.7s,baz=109,slow=1.9,SNR=4.1
AKASG S **S 21 13 27.6 -8.0**
comp=Z,0.2nm,0.3s,baz=146,slow=8.4,SNR=2.1
AKASG Malin Array Be 31.26 327 P **P 21 08 28.7 -1.0**
AKASG 21 11 24.7
AKASG S **S 21 13 27.6 -8.0**
AKASG pmax pmax
comp=Z,43nm,0.6s
AKASG Malin Array Be 31.26 327 P **P 21 08 28.7 -1.0**
AKASG PcP PcP 21 11 24.7 +0.8
AKASG S **S 21 13 27.6 -8.0**
OBN Obninsk 31.53 339 P **P 21 08 32.5 +0.5**
comp=Z,727nm,0.5s,SNR=9.3
OBN Obninsk 31.53 339*c i*P **P 21 08 31.8 -0.2**
OBN *e* 21 09 32.4
OBN *i*S **S 21 13 36.4 -3.4**
OBN *e*SS SS 21 15 20.3 -35
OBN pmax pmax
comp=Z,153nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,6μm,23.0s,MS5.2
OBN Obninsk 31.53 339⇑ *i*P **P 21 08 31.6 -0.4**
comp=Z,98nm,0.6s,mb5.8
OBN LR LR
comp=Z,7μm,22.0s,MS5.3
OBN Obninsk 31.53 339 *i* P **P 21 08 31.8 -0.2**
comp=Z,153nm,1.7s,mb5.5
FNA Florina 31.59 305 *e*P **P 21 08 32.9 +0.3**
VLS Valsamata 31.60 300 *e*P **P 21 08 32.0 -0.7**
LKD Levkas 31.66 301 *e*P **P 21 08 33.0 -0.2**
BIA Bitola 31.69 305 *e*P **P 21 08 33.7 +0.2**
BIA Bitola 31.69 305 P **P 21 08 34.8 +1.3**
JAN Janina 31.70 303 *e*P **P 21 08 33.7 +0.1**
MOS Moscow 31.72 340*o i*P **P 21 08 34.1 +0.3**
MOS *e* 21 09 39.2
MOS *e*PPP 21 09 52.5
MOS *i*S **S 21 13 43.8 +1.0**
MOS pmax pmax
comp=Z,700nm,2.9s,mb6.0
MOS pmax pmax
comp=Z,149nm,1.8s,mb5.5
MOS smax
comp=N,2μm,6.1s
MOS MLR MLR
comp=Z,4μm,17.0s,MS5.2
MOS MLR MLR
comp=N,4μm,15.0s
MOS Moscow 31.72 340 *i* P **P 21 08 34.1 +0.3**
comp=N,149nm,1.8s,mb5.5
MOS *i*S **S 21 13 43.8 +1.0**
comp=N,4μm,15.0s
SKO Skopje 31.88 307 *e*P **P 21 08 35.4 +0.2**
SKO Skopje 31.88 307 *e*P **P 21 08 35.3 +0.2**
OHR Ohrid 32.10 305 *e*P **P 21 08 36.9 -0.1**
OHR Ohrid 32.10 305⇑ *i*P **P 21 08 36.8 -0.3**
BOLS Boljevac 32.11 311⇓ *i*P **P 21 08 37.8 +0.6**
SHL Shillong 32.31 84 *e*P **P 21 08 38.3 -0.6**
SHL *e*S **S 21 13 52.6 +0.6**
KEK Kerkira 32.51 302 *e*P **P 21 08 40.0 -0.7**
KEK Kerkira 32.51 302 P **P 21 08 39.9 -0.8**
SOKR Solikamsk 32.70 1⇑ *i*P **P 21 08 42.2 -0.1**
SOKR *i*S **S 21 13 57.5 -0.5**
SOKR pmax pmax
comp=Z,100nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,12μm,24.0s,MS5.5
SOKR Solikamsk 32.70 1 *i* P **P 21 08 42.2 -0.1**
comp=Z,100nm,1.0s,mb5.7
SOKR *i*S **S 21 13 57.5 -0.5**
comp=Z,12μm,24.0s
DRGR 32.79 316 P **P 21 08 42.7 -0.4**
DRGR 32.79 316 P **P 21 08 43.7 +0.6**
TIR Tirane 32.84 305 *e*P **P 21 08 43.2 -0.3**
TIR Tirane 32.84 305 P **P 21 08 44.5 +0.9**
QSH Qafa e Shtames 32.85 306 *i* p **P 21 08 43.6 -0.1**
BZS Buzias 33.00 314 P **P 21 08 45.2 +0.2**
BZS Buzias 33.00 314 P **P 21 08 45.4 +0.4**
KMBO Kilima Mbogo 33.09 216 P **P 21 08 47.6 +1.9**
comp=Z,123nm,0.9s,mb5.8,baz=26,slow=10,SNR=154
KMBO LR LR 21 22 20.0
comp=Z,8μm,20.4s,MS5.4,baz=38,slow=37
KMBO Kilima Mbogo 33.09 216⇑ *i*P **P 21 08 48.3 +2.6**
KMBO pmax pmax
comp=Z,119nm,1.0s
KMBO MLR MLR
comp=Z,6μm,19.0s
KMBO Kilima Mbogo 33.09 216⇑ *i*P **P 21 08 48.3 +2.6**
comp=Z,118nm,1.0s,mb5.8
KMBO LR LR
comp=Z,6μm,19.0s,MS5.3
PVY Plav 33.10 308⇑ *i*P **P 21 08 44.9 -0.9**
IVA Berane 33.23 308⇑ *i*P **P 21 08 46.5 -0.4**
IVA Berane 33.23 308⇑ *i*P **P 21 08 46.5 -0.5**
ULC Ulcinj 33.44 306⇑ *i*P **P 21 08 47.9 -0.9**
LVV L'vov 33.46 322*c i*P **P 21 08 48.3 -0.7**
LVV *e* 21 10 02.3
LVV *e*PPP 21 10 19.9
LVV *e*S **S 21 14 05.1 -4.8**
LVV *e*SS SS 21 16 07.1 -27
LVV L'vov 33.46 322 *i* P **P 21 08 48.3 -0.7**
BEO Belgrade 33.47 312 *i* P **P 21 08 49.4 +0.4**
DIVS Divcibare 33.54 310 *i* P **P 21 08 49.3 -0.4**
DIVS Divcibare 33.54 310 *e*P **P 21 08 49.3 -0.4**
TTG Podgorica 33.56 307⇑ *i*P **P 21 08 48.6 -1.2**
PLE Pljevlja 33.72 309⇑ *i*P **P 21 08 52.8 +1.5**
BUM Brajici-Budva 33.78 307⇑ *i*P **P 21 08 50.5 -1.3**
NKY Niksic 33.85 308 *e*P **P 21 08 50.7 -1.7**
UZH Uzhgorod 33.87 319*d i*P **P 21 08 51.5 -1.0**
UZH Uzhgorod 33.87 319 *i* P **P 21 08 51.5 -1.0**
LCI Lecce 33.90 303 P **P 21 08 52.2 -0.6**
UPM Unac-Piva 34.02 308⇑ *i*P **P 21 08 52.8 -1.1**
KOLS Kolonicke sedl 34.02 319 *e*P **P 21 08 54.4 +0.5**
KOLS *e*S **S 21 14 15.3 -3.3**
KOLS *e*SS SS 21 16 48.6 +2.8
KOLS Kolonicke sedl 34.02 319 *e*P **P 21 08 54.4 +0.5**
comp=Z,242nm,1.4s,mb5.9
KOLS *e*S **S 21 14 15.3 -3.3**
KOLS *e*SS SS 21 16 48.6 +2.8
KOLS LR LR
comp=Z,7μm,28.1s,MS5.2
KOLS Kolonicke sedl 34.02 319 *e*P **P 21 08 54.4 +0.5**
comp=Z,242nm,1.4s,mb5.9
KOLS *e*SS SS 21 16 48.6 +2.8
HCY Herceg Novi 34.11 307⇑ *i*P **P 21 08 53.1 -1.5**
KWP Kalwaria 34.11 321 *e*Pc 21 08 54.7
comp=Z,0.8nm,4.2s
KWP *e*pP pP 21 08 59.6 0.0
KWP *e*S **S 21 14 20.7 +0.8**
KWP *e*sS sS 21 14 29.5 +1.5
KWP L 21 22 51.6
comp=Z,7.6nm,28.7s
KWP Kalwaria 34.11 321⇑ *e*P **P 21 08 54.7 +0.1**
comp=Z,0.4nm,4.2s
KWP *e*pP pP 21 08 59.6 0.0
KWP *e*S **S 21 14 20.7 +0.8**
BRY Bratogost 34.19 308 *e*P **P 21 08 53.7 -1.7**
NVS Novosibirsk 34.38 28⇑ *i*P **P 21 08 56.2 -0.8**
NVS *i*S **S 21 14 21.2 -2.8**
NVS *e* 21 19 14.9
NVS pmax pmax
comp=Z,144nm,1.2s,mb5.8
NVS pmax pmax
comp=E,57nm,1.1s
NVS smax
comp=N,206nm,1.7s
NVS smax
comp=E,83nm,2.3s
NVS Novosibirsk 34.38 28 *i* P **P 21 08 56.2 -0.8**
comp=E,206nm,1.7s,mb5.8
NVS *i*S **S 21 14 21.2 -2.8**
NVS *e*ScS ScS 21 19 14.9 -4.7
MNK Minsk 34.39 331 *e*P **P 21 08 55.0 -2.1**
MNK *e* 21 10 16.0
MNK *e*S **S 21 14 20.0 -4.3**
MNK *e*SS SS 21 16 26.0 -27
CRVS Cervenica-Dubn 34.48 319 *e*P **P 21 08 58.2 +0.3**
comp=E,61nm,1.1s,mb5.4
CRVS *e*S **S 21 14 23.7 -2.0**
CRVS LR LR
comp=Z,4μm,29.2s,MS5.0
CRVS Cervenica-Dubn 34.48 319 *e*P **P 21 08 58.2 +0.3**
comp=Z,61nm,1.1s,mb5.4
CRVS *e*S **S 21 14 23.7 -2.0**
TIP Timpagrande 34.73 301⇑ *i*P **P 21 09 00.6 +0.7**
TIP Timpagrande 34.73 301⇑ *i*P **P 21 09 00.6 +0.6**
STON Ston 34.78 307⇑ *i*P **P 21 08 59.0 -1.4**
STHS Stebnicka Huta 34.85 320 *e*P **P 21 09 02.8 +1.8**
comp=Z,31nm,1.1s,mb5.2
KECS Kecovo 34.88 318 *i* P **P 21 09 01.9 +0.6**
comp=Z,105nm,1.3s,mb5.6
GRI Girifalco 34.94 300 P **P 21 09 03.0 +1.2**
PSZ Piszkesteto 35.00 317 *e*Pc **P 21 09 02.4 +0.1**
PSZ Piszkesteto 35.00 317 P **P 21 09 02.7 +0.4**
ORI Oriolo Calabro 35.10 302 P **P 21 09 04.0 +0.8**
NE53 Naroch' 35.11 331 *e*PcS PcS 21 15 18.6 -2.9
SOI Samo 35.12 299 P **P 21 09 04.5 +1.1**
PKSM Moragy 35.15 313 P **P 21 09 04.0 +0.4**
PKSM Moragy 35.15 313⇑ *e*P **P 21 09 03.9 +0.3**
PKS8 Sarbogard 35.37 314⇑ *i*P **P 21 09 05.4 -0.1**
BUD Budapest 35.37 315⇑ *e*P **P 21 09 05.8 +0.3**
NIE Niedzica 35.39 319 *i* Pc **P 21 09 06.0 +0.3**
MTTG Motta San Giov 35.40 298 P **P 21 09 07.1 +1.3**
IDID Didziasalis 35.41 331 *e*P **P 21 09 05.6 -0.3**
IDID AMb AMB 21 09 11.7
comp=Z,2μm,0.3s
IDID Didziasalis 35.41 331 *e*P **P 21 09 05.6 -0.3**
comp=Z,2μm,0.3s,SNR=26
SCLL Scilla 35.41 299 P **P 21 09 07.1 +1.2**
PTRP Pietrapertosa 35.48 303 P **P 21 09 07.8 +1.4**
PKS9 Tamasi 35.52 314 *e*P **P 21 09 07.3 +0.5**
MSI Messina ING 35.53 299 P **P 21 09 09.5 +2.6**
CUC Castrocucco 35.57 302 P **P 21 09 07.7 +0.4**
IIGN Ignalina 35.65 331 *e*P **P 21 09 08.0 0.0**
IIGN AMb AMB 21 09 14.9
comp=Z,7μm,0.5s
IIGN Ignalina 35.65 331 *e*P **P 21 09 08.0 0.0**
comp=Z,7μm,0.5s,SNR=26
AGST Augusta-Monte 35.70 297 P **P 21 09 08.7 +0.4**
PKSG 35.73 315⇑ *e*P **P 21 09 09.0 +0.3**
KLMR Klimovskoe 35.74 346*c i*P **P 21 09 07.9 -0.8**
KLMR *e* 21 10 28.7
KLMR *e*S **S 21 14 43.8 -1.3**
KLMR *e*SS SS 21 17 06.0 -15
KLMR pmax pmax
comp=Z,300nm,1.3s,mb6.1
KLMR MLR MLR
comp=Z,7μm,21.0s,MS5.4
KLMR Klimovskoe 35.74 346 *i* P **P 21 09 07.9 -0.8**
comp=Z,300nm,1.3s,mb6.1
KLMR *e*S **S 21 14 43.8 -1.3**
comp=Z,7μm,21.0s
HAVL Avola 35.75 297 P **P 21 09 09.7 +0.9**
FGMS Monte Sant'Ang 35.78 305 P **P 21 09 08.8 -0.2**
MGR Morigerati 35.80 302 P **P 21 09 09.8 +0.6**
SSY Sortino 35.81 297 P **P 21 09 10.1 +0.8**
ISAL Salakas 35.84 331 *e*P **P 21 09 09.0 -0.5**
ISAL AMb AMB 21 09 15.5
comp=Z,2μm,0.4s

ISAL Salakas 35.84 331 *e*P **P 21 09 09.0 -0.6**
comp=Z,2μm,0.4s,SNR=26
VYHS Vyhne 35.88 317 *i* P **P 21 09 09.9 0.0**
VYHS *e*S **S 21 14 42.8 -4.4**
VYHS Vyhne 35.88 317 *i* P **P 21 09 09.9 0.0**
comp=Z,61nm,1.3s,mb5.4
VYHS *e*S **S 21 14 42.9 -4.3**
VYHS LR LR
comp=Z,5μm,20.1s,MS5.3
VYHS Vyhne 35.88 317 *i* P **P 21 09 09.9 0.0**
comp=Z,61nm,1.3s,mb5.4
IZAR Zarasai 35.91 332 *e*P **P 21 09 09.9 -0.2**
IZAR AMb AMB 21 09 16.9
comp=Z,3μm,0.6s
IZAR Zarasai 35.91 332 *e*P **P 21 09 09.9 -0.2**
comp=Z,3μm,0.6s,SNR=26
LIKS Likavka 35.95 318 *e*P **P 21 09 11.0 +0.5**
LIKS Likavka 35.95 318 *e*P **P 21 09 11.1 +0.6**
comp=Z,0.2nm,0.9s
MRLC Muro Lucano 35.95 303 P **P 21 09 11.6 +1.1**
FG4 Candela 35.99 304 P **P 21 09 11.7 +0.8**
HMDC Modica 36.03 297 P **P 21 09 12.6 +1.4**
RGNG Rignano Grg 36.04 305 P **P 21 09 11.3 0.0**
OJC Ojcow 36.05 320 *i* Pc 21 09 11.1
OJC *e*pP pP 21 09 16.8 +0.5
OJC *e*PP PP 21 10 25.7 -7.6
OJC *e*S **S 21 14 42.6 -7.1**
OJC L 21 27 19.0
comp=Z,39nm,20.0s
OJC Ojcow 36.05 320⇑*i*P **P 21 09 11.2 -0.1**
OJC *e*pP pP 21 09 16.8 +0.5
OJC *e*PP PP 21 10 25.7 -7.6
OJC *e*S **S 21 14 42.6 -7.1**
OJC LR LR
comp=Z,39μm,20.0s,MS6.2
OJC Ojcow 36.05 320⇑*i*P **P 21 09 11.2 -0.1**
OJC *e*pP pP 21 09 16.8 +0.5
SGO Sicignano 36.05 303 P **P 21 09 12.6 +1.2**
HVZN Vizzini 36.10 297 P **P 21 09 13.3 +1.5**
SLNA Salina 36.13 299 P **P 21 09 13.2 +1.1**
MNO Monte Soro 36.18 298 P **P 21 09 15.3 +2.8**
FG5 Orsara di Pugl 36.20 304 P **P 21 09 13.9 +1.2**
SUW Suwalki 36.22 327 *i* Pc 21 09 12.1
comp=Z,0.4nm,1.8s
SUW *e*pP pP 21 09 17.3 -0.4
SUW *e*PP PP 21 10 35.5 +0.3
SUW *e*S **S 21 14 50.5 -1.8**
SUW *e*sS sS 21 15 03.3 +2.8
SUW L 21 22 49.3
comp=Z,8.3nm,32.5s
SUW Suwalki 36.22 327⇑*i*P **P 21 09 12.1 -0.7**
SUW *e**PP pP 21 09 17.3 -0.4
SUW *e* 21 10 35.5
SUW *e*S **S 21 14 50.5 -1.8**
SUW pmax pmax
comp=Z,400nm,1.8s,mb6.0
SUW Suwalki 36.22 327⇑*i*P **P 21 09 12.1 -0.7**
comp=Z,0.2nm,1.8s
SUW *e*pP pP 21 09 17.3 -0.4
SUW *e*S **S 21 14 50.5 -1.8**
WAR Warsaw 36.34 324 *e*P **P 21 09 14.2 +0.3**
WAR *e*pP pP 21 09 19.0 +0.2
WAR *e*S **S 21 14 57.0 +2.8**
WAR L 21 25 23.4
comp=Z,8.1nm,26.9s
WAR Warsaw 36.34 324 *e*P **P 21 09 14.2 +0.3**
WAR *e**PP pP 21 09 19.0 +0.2
WAR *e*S **S 21 14 57.0 +2.8**
WAR Warsaw 36.34 324 *e*P **P 21 09 14.2 +0.3**
WAR *e*pP pP 21 09 19.0 +0.2
FG2 Serracapriola 36.38 305 P **P 21 09 15.0 +0.8**
RAFF Raffo Rosso 36.38 297 P **P 21 09 15.9 +1.7**
MBAR Mbarara 36.46 226*c* *i* P **P 21 09 15.7 +0.9**
MBAR Mbarara 36.46 226 *i* P **P 21 09 15.7 +0.9**
PSB1 Pescosannita 36.53 304 P **P 21 09 16.7 +1.2**
CIGN Sant'Elia a Pi 36.54 304 P **P 21 09 15.7 +0.2**
CSLB Castelbuono 36.68 298 P **P 21 09 17.7 +1.0**
GIB Gibilmanna 36.71 298 P **P 21 09 18.1 +1.1**
SMOL Smolenice 36.75 316 *e*P **P 21 09 16.9 -0.5**
ZST Bratislava 36.84 316 *e*P **P 21 09 18.0 -0.1**
comp=Z,96nm,1.2s,mb5.5
ZST LR LR
comp=Z,2μm,16.9s,MS4.9
OKC Ostrava-Krasne 36.84 319⇑*i*P **P 21 09 17.8 -0.3**
OKC *e*S **S 21 14 54.5 -7.3**
OKC AMS AMS 21 27 00.0
comp=Z,6μm,16.0s
OKC Ostrava-Krasne 36.84 319⇑*i*P **P 21 09 17.8 -0.3**
OKC *e*S **S 21 14 54.5 -7.3**
RAC Raciborz 36.91 319 *e*P **P 21 09 18.9 +0.2**
RAC *e*S **S 21 15 02.9 -0.1**
RAC L 21 24 29.5
comp=E,8.5nm,33.0s
RAC L 21 25 54.5
comp=N,6.3nm,20.1s
RAC L 21 27 11.4
comp=Z,6.0nm,17.9s
RAC Raciborz 36.91 319 *e*P **P 21 09 18.9 +0.2**
RAC *e*S **S 21 15 02.9 -0.1**
RAC LR LR
comp=Z,6μm,17.9s,MS5.4
RAC Raciborz 36.91 319 *e*P **P 21 09 18.9 +0.2**
RAC *e*S **S 21 15 02.9 -0.1**
FAVR Favara 36.94 297 P **P 21 09 21.7 +2.8**
MCT Mte Cammarata 36.99 298 P **P 21 09 22.8 +3.4**
SOP Sopron 37.00 315⇑*e*P **P 21 09 19.5 0.0**
MIDA Miranda 37.02 304 P **P 21 09 20.6 +1.0**
RNI2 Rionero Sannit 37.10 304 P **P 21 09 21.6 +1.3**
CRES Cresnjev 37.13 311 *i* P **P 21 09 21.0 +0.4**
RFI Roccamonfina 37.16 304 P **P 21 09 21.7 +0.9**
MORC Moravsky Berou 37.17 318 P **P 21 09 21.0 +0.1**
MORC Moravsky Berou 37.17 318⇑*e*P **P 21 09 20.0 -0.9**
comp=Z,97nm,0.8s,mb5.7
MORC Moravsky Berou 37.17 318 *e*P **P 21 09 20.6 -0.3**
MORC *e*S **S 21 15 06.1 -0.8**
BOJS Bojanci 37.18 311 *e*P **P 21 09 21.3 +0.3**
BOJS *e* pP 21 09 26.8 +0.9
BOJS *e*S **S 21 15 07.1 +0.1**
NVLJ Novalja 37.20 309⇑*i*P **P 21 09 20.4 -0.7**
DOBS Dobrina 37.22 312 *e*P **P 21 09 21.5 +0.2**
LEGS Legarje 37.26 312 *e*P **P 21 09 21.9 +0.2**
PUL Pulkovo 37.28 339*de*P **P 21 09 21.6 -0.3**
PUL *e* 21 10 45.1
PUL pmax pmax
comp=Z,51nm,0.4s,mb5.7
PUL MLR MLR
comp=Z,3μm,13.0s,MS5.3
PUL Pulkovo 37.28 339 *e*P **P 21 09 21.6 -0.3**
comp=Z,51nm,0.4s,mb5.7
CLTB Caltabellotta 37.32 297 P **P 21 09 23.8 +1.6**
INTR Introdacqua 37.34 305 P **P 21 09 22.0 -0.4**
VKA Vienna 37.35 316 *i* P **P 21 09 23.2 +0.7**
SDI San Donato 37.36 304 P **P 21 09 22.7 +0.2**
USI Ustica 37.44 299 P **P 21 09 24.2 +1.0**
VENT Ventotene 37.50 303 P **P 21 09 25.1 +1.4**
PDKS Podkum 37.51 312 *e*P **P 21 09 24.2 +0.4**
ARSA Arzberg 37.52 314⇑*i*P **P 21 09 24.1 +0.2**
comp=Z,58nm,1.0s,mb5.3
VVLD Villa Vallelon 37.52 305 P **P 21 09 24.3 +0.4**
CONA Conrad Observa 37.52 315⇑*i*P **P 21 09 23.8 -0.1**
comp=Z,78nm,1.0s,mb5.4
VISS Visnje 37.54 311 *e*P **P 21 09 24.4 +0.3**
VRAC Vranov 37.56 317 P **P 21 09 24.6 +0.4**
VRAC Vranov 37.56 317 P **P 21 09 23.6 -0.6**
VRAC Vranov 37.56 317 *e*P **P 21 09 24.2 0.0**
KRUC Moravsky 37.59 317 P **P 21 09 22.8 -1.7**
TERO Teramo 37.67 306 P **P 21 09 25.9 +0.7**
DGAR Diego Garcia 37.69 152 *e*P **P 21 09 27.5 +2.2**
DGAR MLR MLR
comp=Z,15μm,21.0s,MS5.8
GUAR Guarcino 37.74 304 P **P 21 09 26.7 +1.0**
AQU L'Aquila 37.77 305⇑*i*P **P 21 09 26.9 +1.0**
AQU L'Aquila 37.77 305 P **P 21 09 27.2 +1.2**
LJU Ljubljana 37.82 311 *e*P **P 21 09 32.0 +5.6**
LJU Ljubljana 37.82 311 P **P 21 09 27.3 +0.9**
PBA Port Blair 37.83 106 *ex* x 21 14 38.6
PBA *ex* x 21 17 39.7
ERC Erice 37.85 298 P **P 21 09 27.8 +1.2**
AOI Ancona 37.86 307 P **P 21 09 27.2 +0.5**
OBKA Obir 37.93 312⇑*e*P **P 21 09 27.9 +0.5**
comp=Z,70nm,1.2s,mb5.2
OBKA ⇑*i*S **S 21 15 21.4 +2.9**
comp=Z,264nm,3.1s
OBKA Obir 37.93 312⇑*e*P **P 21 09 27.9 +0.5**
comp=Z,70nm,1.3s,mb5.2
OBKA *i* 21 10 59.8
OBKA *i* 21 15 21.4
OBKA *i* 21 18 06.5
OBKA *i* 21 25 21.6
FIAM Fiamignano 37.96 305 P **P 21 09 28.6 +1.0**
CERT Cerreto 38.01 305 P **P 21 09 26.6 -1.4**
NRCA Norcia 38.06 306 P **P 21 09 29.3 +0.8**
CING Cingoli 38.11 307 P **P 21 09 29.3 +0.4**
DPC Dobruska-Polom 38.12 319⇑*i*P **P 21 09 28.4 -0.6**
DPC *e*PP PP 21 11 02.2 +6.0
DPC *ex* x 21 15 01.6
DPC AMS AMS 21 25 10.0
comp=Z,8μm,25.6s
DPC Dobruska-Polom 38.12 319⇑*i*P **P 21 09 28.4 -0.6**
DPC *e* 21 11 02.2
RDP Rocca di Papa 38.17 304 P **P 21 09 29.6 +0.2**
LAV9 Lanuvio 38.17 304 P **P 21 09 30.3 +0.9**
MTCE Montecelio 38.20 305 P **P 21 09 29.4 -0.2**
MA9 Marino 38.22 304 P **P 21 09 30.6 +0.8**
TREC Trest 38.23 317⇑*i*P **P 21 09 29.6 -0.3**
TREC *e*PP PP 21 11 02.0 +4.7
TREC *e*S **S 21 15 21.2 -1.7**
TREC AMS AMS 21 26 40.0
comp=Z,7μm,23.5s
TREC Trest 38.23 317⇑*i*P **P 21 09 29.6 -0.3**
TREC *e* 21 11 02.0
TREC *e*S **S 21 15 21.2 -1.7**
VOY Vojsko 38.24 311 *e*P **P 21 09 29.5 -0.5**
SNTG Esanatoglia 38.27 307 P **P 21 09 30.8 +0.6**
MNS Montasola 38.30 305 P **P 21 09 31.0 +0.5**
ARV Arcevia 38.32 307 P **P 21 09 31.1 +0.5**
ROM9 Roma 38.33 304 P **P 21 09 31.5 +0.8**
KSP Ksiaz 38.34 319 *i* Pc 21 09 30.6
comp=Z,1.4nm,4.2s
KSP *e*pP pP 21 09 36.2 +0.5
KSP *e*S **S 21 15 25.7 +1.2**
KSP L 21 25 46.0
comp=Z,16nm,26.5s
KSP Ksiaz 38.34 319⇑*e*P **P 21 09 30.5 -0.3**
KSP *e**PP pP 21 09 35.0 -0.7
KSP *e* 21 11 01.0
KSP *e*S **S 21 15 24.0 -0.5**
KSP Ksiaz 38.34 319⇑*e*P **P 21 09 30.5 -0.3**
KSP *e*pP pP 21 09 35.0 -0.7
KSP *e*PP PP 21 11 01.0 +2.5
KSP *e*S **S 21 15 24.0 -0.5**
KSP *e*SS SS 21 18 17.0 +4.5
KSP LR LR
comp=Z,18μm,26.5s,MS5.8
KSP Ksiaz 38.34 319⇑*e*P **P 21 09 30.5 -0.3**
KSP *e*pP pP 21 09 35.0 -0.7
KSP *e*S **S 21 15 24.0 -0.5**
UPC Upice 38.37 319⇑*i*P **P 21 09 30.6 -0.4**
UPC *e*PP PP 21 11 07.3 +8.5
FSSB Fossombrone 38.47 307 P **P 21 09 32.7 +0.8**
PESA Pesaro 38.48 308 P **P 21 09 33.1 +1.2**
MOA Molln 38.52 314⇑*i*P **P 21 09 32.2 -0.1**
comp=Z,97nm,0.9s,mb5.5
MOA ⇑*e*S **S 21 15 40.9 +14**
comp=Z,17nm,1.4s
GTA Gaotai 38.55 60 P **P 21 09 33.0 +0.5**
GTA AP pP 21 09 37.5 0.0
GTA XP sP 21 09 40.8 +1.3
GTA PP PP 21 11 06.8 +6.0
GTA S **S 21 15 29.8 +2.1**
GTA XS sS 21 15 37.5 +1.6
GTA SS SS 21 18 12.3 -5.2
GTA SCS ScS 21 19 45.0 +2.3
GTA AMB AMB
comp=Z,60nm,1.5s,mb5.1
GTA AMB AMB
comp=Z,1μm,5.7s
GTA LR LR
comp=N,11μm,17.6s,MS5.8
GTA LR LR
comp=E,5μm,16.1s,MS5.8
GTA LR LR
comp=Z,7μm,23.3s
ROBS Robic 38.55 311 *e*P **P 21 09 32.1 -0.5**
ROBS *e* pP 21 09 37.6 0.0
MURB Monte Urbino 38.57 307 P **P 21 09 33.4 +0.7**
PTCC Patocco-Chiusa 38.70 312 P **P 21 09 31.7 -2.1**
GMNA Gemona 38.74 311 P **P 21 09 34.3 +0.1**
TOLF Tolfa 38.75 305 P **P 21 09 34.5 +0.3**
RSM Repubblica di 38.75 308 P **P 21 09 35.0 +0.8**
BADI Badiali 38.82 307 P **P 21 09 35.6 +0.8**
GKP Gorka Klasztor 38.85 323 *i* Pc 21 09 34.7
comp=Z,0.6nm,4.1s
GKP *e*pP pP 21 09 40.4 +0.3
GKP *e*S **S 21 15 32.9 +0.5**
GKP L 21 25 48.4
comp=Z,5.9nm,27.4s
GKP Gorka Klasztor 38.85 323⇑*i*P **P 21 09 34.7 -0.4**
GKP *e**PP pP 21 09 40.4 +0.3
GKP Gorka Klasztor 38.85 323⇑*i*P **P 21 09 34.7 -0.4**
comp=Z,0.3nm,4.1s
GKP *e*pP pP 21 09 40.4 +0.3
GKP *e*S **S 21 15 32.9 +0.5**
KBA Koelnbreinsper 38.89 313⇑*i*P **P 21 09 35.5 +0.1**
comp=Z,167nm,1.4s,mb5.6
KBA Koelnbreinsper 38.89 313⇑*i*P **P 21 09 35.5 +0.1**
KBA pmax pmax
comp=Z,167nm,1.4s,mb5.6
CRE Caprese Michel 39.05 307 P **P 21 09 37.1 +0.4**
FVI Forni Avoltri 39.13 312 P **P 21 09 37.2 -0.2**
PRA Prague 39.15 318⇑P **P 21 09 37.0 -0.6**
SFI Santa Sofia 39.17 307 P **P 21 09 39.4 +1.6**
GEC2 GERESS Array S 39.18 315 *e*P **P 21 09 37.2 -0.7**
comp=Z,66nm,1.2s,mb5.2
GEC2 GERESS Array S 39.18 315 *e*P **P 21 09 37.2 -0.7**
GEC2 pmax pmax
comp=Z,66nm,1.2s,mb5.2
GERES GERESS Array B 39.18 315 P **P 21 09 37.2 -0.7**
comp=Z,14nm,0.7s,mb4.8,baz=112,slow=7.1,SNR=75
GERES S **S 21 15 34.6 -2.7**
comp=Z,0.8nm,0.7s,baz=66,slow=8.0,SNR=2.5
GERES LR LR 21 28 17.1
comp=Z,5μm,20.4s,MS5.3,baz=113,slow=40
GERES GERESS Array B 39.18 315 P **P 21 09 37.2 -0.7**
GERES S **S 21 15 34.6 -2.7**
GERES pmax pmax
comp=Z,14nm,0.7s
GERES smax
comp=N,1.0nm,0.7s
GERES MLR MLR
comp=Z,5μm,20.4s
PVCC Panska Ves 39.23 318⇑*i*P **P 21 09 37.9 -0.4**
PVCC *e*PP PP 21 11 16.2 +7.9
PVCC *e*S **S 21 15 34.1 -3.9**
PVCC AMS AMS 21 27 40.0
comp=Z,5μm,18.8s
KHC Kasperske Hory 39.35 316⇑*i*P **P 21 09 38.7 -0.6**
KHC *x* x 21 09 46.5
KHC *e*PP PP 21 11 16.5 +6.9
KHC *e*S **S 21 15 37.0 -2.9**
KHC AMS AMS 21 27 40.0
comp=Z,5μm,21.8s
KHC Kasperske Hory 39.35 316⇑*i*P **P 21 09 38.7 -0.6**
KHC *e* 21 09 46.5
KHC *e*PP PP 21 11 16.5 +6.9
KHC *e*S **S 21 15 37.0 -2.9**
KHC LR LR
comp=Z,5μm,21.8s,MS5.3
VMG Vicchio 39.40 307 P **P 21 09 41.2 +1.5**
KRAR Krasnoyarsk 39.44 32 *e*P **P 21 09 40.6 +0.6**
MAON Monte Argentar 39.44 305 P **P 21 09 38.7 -1.3**
CSNT Castellina Chi 39.49 307 P **P 21 09 39.4 -1.0**
JOF Joensuu 39.50 343 *ep* **P 21 09 37.2 -3.3**
comp=Z,72nm,0.9s,mb5.4
JOF Joensuu 39.50 343 *e*P **P 21 09 37.2 -3.3**
JOF pmax pmax
comp=Z,72nm,0.9s,mb5.4
SEST Monte Rota 39.55 312 P **P 21 09 41.1 +0.2**
SEI Scarperia 39.55 308 P **P 21 09 42.1 +1.2**
MEF Metsahovi 39.65 336 P **P 21 09 40.4 -1.4**
GRFL Gerfalco 39.66 306 P **P 21 09 41.3 -0.6**
BRG Berggiesshubel 39.73 319 *i* P **P 21 09 42.1 -0.3**
comp=Z,22nm,1.1s,mb4.8
BRG *i* 21 09 54.1
comp=Z,64nm,1.0s
BRG PP PP 21 11 21.0 +7.3
BRG S **S 21 15 42.0 -3.5**
BRG SS SS 21 18 55.0 +14
BRG
comp=N,4μm,18.6s
BRG
comp=E,6μm,19.4s
BRG
comp=Z,4μm,28.6s
BRG Berggiesshubel 39.73 319 *i* P **P 21 09 42.1 -0.3**
BRG 21 11 21.0
BRG S **S 21 15 42.0 -3.5**
BRG pmax pmax
comp=Z,22nm,1.0s,mb4.8
BRG MLR MLR
comp=N,64μm,18.6s,MS6.5
BRG MLR MLR
comp=E,4μm,19.4s,MS6.5
BRG Berggiesshubel 39.73 319 *i* P **P 21 09 42.1 -0.3**
comp=E,22nm,1.1s,mb4.8
BRG *i* 21 09 54.1
BRG PP PP 21 11 21.0 +7.3
BRG S **S 21 15 42.0 -3.5**
BRG SS SS 21 18 55.0 +14
BRG LR LR
comp=Z,4μm,28.6s,MS5.1
BRG Berggiesshubel 39.73 319 *e*P **P 21 09 41.4 -1.0**
comp=Z,108nm,1.0s,mb5.5
FNVD Fontana Vidola 39.73 308 P **P 21 09 43.7 +1.2**
CTI Castel Tesino 39.76 311 P **P 21 09 42.5 -0.2**
WET Wettzell 39.79 316 *e*P **P 21 09 41.9 -1.1**
comp=Z,76nm,1.2s,mb5.3
WET Wettzell 39.79 316 *e*P **P 21 09 41.9 -1.1**
WET pmax pmax
comp=Z,76nm,1.2s,mb5.3
RAVA Ravarino 39.85 309 P **P 21 09 44.9 +1.5**
BRES Bressanone 39.86 312 P **P 21 09 43.6 +0.1**
ZCCA Zocca 39.87 308 P **P 21 09 45.4 +1.8**
FINES FINESS Array B 39.93 338 P **P 21 09 43.1 -1.0**
comp=Z,24nm,0.5s,mb5.2,baz=138,slow=10,SNR=102
FINES S **S 21 15 45.3 -3.3**
comp=Z,5.5nm,0.8s,baz=175,slow=34,SNR=4.2
FINES LR LR 21 29 32.4
comp=Z,4μm,18.1s,MS5.3,baz=293,slow=41
FINES FINESS Array B 39.93 338 *i* P **P 21 09 43.5 -0.6**
FINES pmax pmax
comp=Z,24nm,0.5s
FINES FINESS Array B 39.93 338 *i* P **P 21 09 43.5 -0.6**
comp=Z,24nm,0.5s,mb5.2
WTTA Wattenberg 40.06 312⇑*i*P **P 21 09 44.7 -0.5**
comp=Z,155nm,0.6s,mb5.9
WTTA ⇑*i*S **S 21 15 47.7 -2.8**
WTTA Wattenberg 40.06 312⇑*i*P **P 21 09 44.7 -0.5**
WTTA *i* 21 15 47.7
WTTA pmax pmax
comp=Z,155nm,0.6s,mb5.9
PII Pisa 40.08 307 P **P 21 09 44.3 -1.1**
BDI Bagni Di Lucca 40.09 307 P **P 21 09 44.8 -0.6**
FBE Freiberg 40.09 318 *e*P **P 21 09 44.9 -0.5**
comp=Z,83nm,1.2s,mb5.3
WATA Walderalm 40.12 313⇑*i*P **P 21 09 45.3 -0.4**
comp=Z,99nm,0.7s,mb5.6
WATA ⇑*i*S **S 21 15 51.1 -0.3**
WATA Walderalm 40.12 313⇑*i*P **P 21 09 45.3 -0.4**
WATA *i* 21 15 51.1
WATA pmax pmax
comp=Z,99nm,0.7s,mb5.7
MAIM 40.14 307 P **P 21 09 44.6 -1.2**
APPI Appiano 40.14 311 P **P 21 09 45.4 -0.5**
GSCL Gusciola 40.15 308 P **P 21 09 47.0 +1.1**
SARO Sassorosso 40.25 308 P **P 21 09 46.0 -0.7**
VLC Villacollemand 40.26 307 *e*P **P 21 09 44.8 -2.0**
comp=Z,148nm,1.1s,mb5.6
ERBM Eremo 40.28 308 P **P 21 09 48.2 +1.2**
SQTA Sankt Quirin 40.33 312⇑*i*P **P 21 09 47.2 -0.3**
comp=Z,99nm,0.6s,mb5.8
SQTA ⇓*i*S **S 21 15 54.7 +0.2**
SQTA Sankt Quirin 40.33 312⇑*i*P **P 21 09 47.2 -0.2**
SQTA *i* 21 15 54.7
SQTA pmax pmax
comp=Z,99nm,0.6s,mb5.7
DGI Dorgali Grotta 40.34 301 P **P 21 09 48.1 +0.6**
KAF Kangasniemi 40.34 339 *ep* **P 21 09 45.6 -1.9**
comp=Z,27nm,0.7s,mb5.1,baz=136,slow=8.5
BERN Bernov 40.36 317 ⇑P **P 21 09 52.6 +4.9**
VALM 40.39 308 P **P 21 09 48.4 +0.5**
ROTZ Rotzenmuhle 40.40 316 *e*P **P 21 09 47.8 -0.2**
comp=Z,101nm,1.0s,mb5.5
VINC Vinca 40.42 307 P **P 21 09 47.0 -1.1**
RUE Ruedersdorf 40.42 321 *e*P **P 21 09 47.6 -0.5**
comp=Z,271nm,1.5s,mb5.8
RUE *e*S **S 21 15 56.2 +0.4**
RUE Ruedersdorf 40.42 321 *e*P **P 21 09 47.6 -0.6**
comp=Z,125nm,0.9s,mb5.6
SAL Salo 40.43 310 P **P 21 09 48.5 +0.3**
MOTA Moosalm 40.43 312⇑*i*P **P 21 09 47.5 -0.7**
comp=Z,138nm,0.9s,mb5.7
MOTA ⇑*i*S **S 21 15 54.1 -1.9**
MOTA Moosalm 40.43 312⇑*i*P **P 21 09 47.5 -0.8**
MOTA *i* 21 15 54.1
MOTA pmax pmax
comp=Z,138nm,0.9s,mb5.7
CLL Collm 40.43 319 *e*P **P 21 09 47.6 -0.7**
comp=Z,230nm,1.3s,mb5.8
CLL *e*S **S 21 15 53.2 -2.9**
CLL Collm 40.43 319⇑*i*P **P 21 09 48.1 -0.2**
comp=Z,90nm,1.3s,mb5.3
CLL *i* sP sP 21 09 53.7 -1.5
CLL *i* x x 21 09 58.4
CLL *i* x x 21 10 05.8
CLL *e*sPP 21 11 31.0
CLL *ex* x 21 11 39.0
CLL *e*PPPP 21 11 58.0
CLL *e*S **S 21 15 52.0 -4.1**
CLL *e*sS sS 21 16 08.0 +3.7
CLL *e*SS SS 21 19 02.0 +6.7
CLL Collm 40.43 319⇑*i*P **P 21 09 48.1 -0.2**
CLL *i* pP 21 09 53.7 +0.4
CLL *e*S **S 21 15 52.0 -4.1**
CLL pmax pmax
comp=Z,90nm,1.3s,mb5.3
CLL MLR MLR
comp=Z,7μm,18.4s,MS5.5
CLL Collm 40.43 319⇑*i*P **P 21 09 48.1 -0.2**
comp=Z,90nm,1.3s,mb5.3
CLL *i* pP 21 09 53.7 +0.4
CLL *i* 21 09 58.4
CLL *e*S **S 21 15 52.0 -4.1**
CLL LR LR
comp=Z,7μm,18.4s,MS5.5
VSL Villasalto 40.45 300 *e*P **P 21 09 49.3 +0.9**
comp=Z,225nm,0.9s,mb5.9
VSL *e* pP 21 09 52.5 -0.9
VSL Villasalto 40.45 300 *e*P **P 21 09 49.3 +0.9**
TANN Tannenbergstha 40.45 317 *e*P **P 21 09 47.7 -0.7**
comp=Z,50nm,1.4s,mb5.0
BACM 40.50 308 P **P 21 09 48.1 -0.7**
FUR Furstenfeldbru 40.53 314 *e*P **P 21 09 48.1 -1.0**
comp=Z,172nm,1.0s,mb5.6
FUR Furstenfeldbru 40.53 314 *e*P **P 21 09 48.1 -1.0**
FUR pmax pmax
comp=Z,172nm,1.0s,mb5.6
MABI Malga Bissina 40.53 310 P **P 21 09 49.2 +0.1**
MANZ Manzenberg 40.53 317 *e*P **P 21 09 48.9 -0.2**
comp=Z,148nm,1.6s,mb5.4
MANZ *e*S **S 21 15 59.7 +2.2**
GRAM 40.54 308 P **P 21 09 49.5 +0.4**
WERD Werda 40.56 317 *e*P **P 21 09 48.4 -0.9**
comp=Z,53nm,1.4s,mb5.0
CODM 40.67 308 P **P 21 09 49.8 -0.5**
BRMO Bormio 40.72 311 P **P 21 09 50.5 -0.1**
SC2M Scurtabr 40.90 308 P **P 21 09 51.1 -1.0**
BSD Bornholm Skovb 40.91 325⇑*i*P **P 21 09 50.4 -1.8**
comp=Z,134nm,0.7s,mb5.7
BSD *i* 21 11 36.1
BSD *i* S **S 21 15 54.6 -8.6**
BSD
comp=Z,3μm,19.0s
BSD Bornholm Skovb 40.91 325⇑*i*P **P 21 09 50.4 -1.8**
BSD *i* 21 11 36.1
BSD *i* S **S 21 15 54.6 -8.6**
BSD pmax pmax
comp=Z,130nm,0.7s,mb5.7
BSD MLR MLR

comp=Z,3µm,19.0s,MS5.2
BSD Bornholm Skovb 40.91 325⇑*i*P P 21 09 50.4 -1.8
comp=Z,134nm,0.7s,mb5.7
BSD *i* 21 11 36.1
BSD *i*S **S 21 15 54.6 -8.6**
BERNI Berninapass 40.94 311⇑*i*P P 21 09 44.7 -7.8
comp=Z,475nm,2.0s,mb5.8
BERNI Berninapass 40.94 311⇑*i*P P 21 09 52.6 +0.1
GRA1 Grafenberg Arr 40.99 316 *e*P P 21 09 52.5 -0.4
comp=Z,212nm,1.0s,mb5.7
GRA1 *e*PP PP 21 11 33.7 +6.3
GRA1 *e*S **S 21 16 03.0 -1.3**
GRA1 LR LR
comp=Z,6µm,27.9s,MS5.3
GRA1 Grafenberg Arr 40.99 316 *e*P P 21 09 52.5 -0.4
comp=Z,212nm,1.0s,mb5.7
GRA1 *e*S **S 21 16 03.0 -1.3**
GRF Grafenberg Arr 40.99 316 *e*P P 21 09 52.5 -0.4
comp=Z,212nm,1.0s,mb5.7
GRF *e*PP PP 21 11 33.7 +6.3
GRF *e*S **S 21 16 03.0 -1.3**
GRF *e*L 21 27 41.4
comp=Z,6µm,27.9s
GRF Grafenberg Arr 40.99 316 *e*P P 21 09 52.5 -0.4
comp=Z,212nm,1.0s,mb5.7
GRF *e*S **S 21 16 03.0 -1.3**
PGF Pioggiola 41.02 305⇑*i*P P 21 09 52.7 -0.4
comp=Z,82nm,0.8s,mb5.1
PGF Pioggiola 41.02 305⇑*i*P P 21 09 52.7 -0.4
PGF pmax pmax
comp=Z,41nm,0.8s,mb5.1
PGF Pioggiola 41.02 305⇑*i*P P 21 09 52.7 -0.4
comp=Z,41nm,0.8s,mb5.1
BOB Bobbio (Coli) 41.02 308 P P 21 09 52.7 -0.4
MOX Moxa 41.04 317 *e*P P 21 09 52.6 -0.7
comp=Z,101nm,1.7s,mb5.2
MOX
comp=Z,5µm,17.0s
MOX Moxa 41.04 317 *e*P P 21 09 52.6 -0.7
MOX pmax pmax
comp=Z,101nm,1.7s,mb5.2
MOX MLR MLR
comp=Z,5µm,17.0s,MS5.4
DAVOX Davos 41.12 311⇑*i*P P 21 09 52.5 -1.4
comp=Z,250nm,0.9s,mb5.8
DAVOX Davos 41.12 311⇑*i*P P 21 09 53.6 -0.3
UBR Ueberruh 41.17 313 P P 21 09 53.7 -0.6
DAVA Damuels 41.23 312⇑*i*P P 21 09 54.2 -0.6
comp=Z,313nm,0.5s,mb6.2
GENL Genova Univers 41.30 308 P P 21 09 54.0 -1.4
HDH Heidenheim-Cha 41.33 314 P P 21 09 56.9 +1.3
VDL Val di Lei 41.33 311⇑*i*P P 21 09 52.6 -3.1
comp=Z,300nm,1.4s,mb5.7
VDL Val di Lei 41.33 311 *i*P P 21 09 55.4 -0.3
TUE Stuetta 41.41 311 P P 21 09 55.3 -1.0
LIENZ Alp Oberkamor 41.49 312⇑*i*P P 21 09 53.6 -3.3
comp=Z,795nm,2.2s,mb6.0
LIENZ Alp Oberkamor 41.49 312⇑*i*P P 21 09 56.2 -0.7
RGN Rugen 41.50 324 *e*P P 21 09 55.8 -1.2
comp=Z,498nm,1.3s,mb6.0
RGN Rugen 41.50 324 *e*P P 21 09 56.9 -0.2
PLONS Plons 41.51 312⇑*i*P P 21 09 54.1 -3.0
comp=Z,722nm,1.5s,mb6.1
PLONS Plons 41.51 312⇑*i*P P 21 09 56.2 -0.9
MUGIO Muggio 41.51 310⇑*i*P P 21 09 52.7 -4.4
comp=Z,106nm,0.6s,mb5.6
MUGIO Muggio 41.51 310⇑*i*P P 21 09 56.0 -1.1
PCP Pian Castagno 41.62 308 P P 21 09 56.3 -1.7
LZH Lanzhou 41.62 65 ⇑P P 21 09 58.5 +0.4
LZH AP pP 21 10 01.8 -1.2
LZH XP sP 21 10 03.3 -1.7
LZH PP PP 21 11 38.3 +4.0
LZH PCP PcP 21 11 57.8 +2.9
LZH SCP ScP 21 15 43.5 -0.9
LZH PCS PcS 21 15 47.5 +1.2
LZH S **S 21 16 13.5 -0.2**
LZH XS sS 21 16 20.3 -1.6
LZH SS SS 21 19 12.5 -6.4
LZH SCS ScS 21 19 59.8 -1.1
LZH AMB AMB
comp=Z,180nm,1.3s,mb5.5
LZH AMB AMB
comp=Z,1µm,6.2s
LZH LR LR
comp=N,3µm,14.6s
LZH LR LR
comp=Z,4µm,15.8s,MS5.4
LLS Linth-Limmern 41.71 311⇑*i*P P 21 09 55.4 -3.4
comp=Z,353nm,1.0s,mb5.9
LLS Linth-Limmern 41.71 311 *i*P P 21 09 58.0 -0.8
QLNO Quiliano 41.73 307 P P 21 09 57.7 -1.2
FIN Finale Ligure 41.81 307 P P 21 09 58.8 -0.8
FIN Finale Ligure 41.81 307 P P 21 09 58.2 -1.4
BUCH Bad Urach 41.84 314 P P 21 10 01.1 +1.2
FUSIO Fusio 41.87 311⇑*i*P P 21 09 56.0 -4.1
comp=Z,284nm,1.8s,mb5.6
FUSIO Fusio 41.87 311⇑*i*P P 21 09 58.8 -1.3
WEIN Weingarten 41.87 312⇑*i*P P 21 09 56.2 -3.9
comp=Z,452nm,0.8s,mb6.2
WEIN Weingarten 41.87 312⇑*i*P P 21 09 59.4 -0.7
ABSA Djebel Ababsia 41.88 295 P P 21 10 02.0 +1.8
RORO 41.90 307 P P 21 10 00.3 0.0
WILA Wila 41.90 312⇑*i*P P 21 09 56.2 -4.1
comp=Z,888nm,1.5s,mb6.2
WILA Wila 41.90 312⇑*i*P P 21 09 59.7 -0.6
SIND Sindeldorf 41.91 315 P P 21 09 59.7 -0.7
GUT Gutenstein 41.91 313 P P 21 09 59.5 -0.9
CD2 Chengdu 41.91 73⇑*i*P P 21 10 01.0 +0.5
CD2 PP PP 21 11 41.5 +4.1
CD2 PCP PcP 21 11 57.0 +1.1
CD2 S **S 21 16 14.5 -3.6**
CD2 XS sS 21 16 36.0 +10
CD2 SS SS 21 19 16.5 -8.2
CD2 SCS ScS 21 19 57.0 -5.7
CD2 AMB AMB
comp=Z,50nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,640nm,6.2s
CD2 LR LR
comp=N,7µm,16.8s
CD2 LR LR
comp=Z,4µm,15.6s,MS5.4
CMAH Djebel Manchou 41.92 296 P P 21 10 02.0 +1.5
SISB Singen-Schiene 41.92 312 P P 21 10 00.2 -0.3
MOY Mondy 41.94 41 *e*P P 21 10 01.4 +0.8
MOY pmax pmax
comp=Z,193nm,3.0s
MOY Mondy 41.94 41 *e*P P 21 10 01.4 +0.8
comp=Z,193nm,3.0s
NANT Nan 41.96 91 ⇑P P 21 10 03.0 +2.2
comp=Z,1µm,0.4s
STEIN Stein am Rhein 41.98 312⇑*i*P P 21 09 58.8 -2.2
comp=Z,908nm,1.8s,mb6.1
STEIN Stein am Rhein 41.98 312⇑*i*P P 21 10 00.2 -0.8
MUO Muotathal 41.99 311⇑*i*P P 21 09 58.4 -2.7
comp=Z,269nm,0.9s,mb5.9
MUO Muotathal 41.99 311⇑*i*P P 21 10 00.2 -0.9
IMI Imperia 42.00 307 P P 21 10 00.7 -0.4
KMI Kunming 42.02 82 ⇑P P 21 10 02.5 +1.2
KMI AP pP 21 10 05.5 -0.8
KMI PP PP 21 11 42.8 +4.2
KMI PCP PcP 21 11 57.5 +1.3
KMI PCS PcS 21 15 49.0 +1.1
KMI S **S 21 16 21.5 +1.9**
KMI SS SS 21 19 22.3 -4.5
KMI SCS ScS 21 20 03.5 +0.2
KMI AMB AMB
comp=Z,40nm,1.5s,mb4.8
KMI AMB AMB
comp=Z,2µm,5.0s
KMI LR LR
comp=N,4µm,18.3s,MS5.6
KMI LR LR
comp=E,5µm,17.0s,MS5.6
KMI LR LR
comp=Z,6µm,17.9s,MS5.5
ROB Roburent 42.06 307 P P 21 10 00.0 -1.7
UBBA Unterbreizbach 42.07 317 *e*P P 21 10 01.3 -0.4
comp=Z,190nm,1.9s,mb5.4
UBBA *e*S **S 21 16 20.7 +0.4**
ZUR Zurich 42.11 312⇑*i*P P 21 09 59.7 -2.3
comp=Z,585nm,1.0s,mb6.2
ZUR Zurich 42.11 312 *i*P P 21 10 01.3 -0.7
BNALP Bannalp 42.11 311⇑*i*P P 21 09 59.4 -2.7
comp=Z,409nm,2.2s,mb5.7
BNALP Bannalp 42.11 311⇑*i*P P 21 10 01.1 -1.0
MONE Monesi 42.12 307 P P 21 10 01.8 -0.3
NEGI Negi 42.12 307 P P 21 10 01.7 -0.4
SPAK Spaichingen-Ko 42.13 313 *e*P P 21 10 01.2 -1.0
CLZ Clausthal 42.16 319 *e*P P 21 10 02.5 0.0
comp=Z,327nm,1.0s,mb5.9
CLZ *e*S **S 21 16 23.1 +1.4**
CLZ Clausthal 42.16 319 *e*P P 21 10 02.5 0.0
CLZ *e*S **S 21 16 23.1 +1.4**
CLZ pmax pmax
comp=Z,327nm,1.0s,mb5.9
FLACH Flaach 42.16 312⇑*i*P P 21 10 01.6 -0.9
ORO Oropa 42.19 309 P P 21 10 00.7 -2.0
MCGN Macugnaga 42.24 310 P P 21 10 02.5 -0.6
SLE Schleitheim 42.25 312⇑*i*P P 21 10 01.1 -2.1
comp=Z,364nm,1.8s,mb5.7
SLE Schleitheim 42.25 312 *i*P P 21 10 02.0 -1.2
MMK Mattmark 42.27 310⇑*i*P P 21 10 00.2 -3.2
comp=Z,301nm,1.6s,mb5.7
MMK Mattmark 42.27 310 *i*P P 21 10 02.3 -1.1
HASLI Hasliberg 42.27 311⇑*i*P P 21 10 01.3 -2.1
comp=Z,586nm,1.5s,mb6.0
HASLI Hasliberg 42.27 311⇑*i*P P 21 10 02.3 -1.1
GTTG Gvttingen 42.31 318 *e*P P 21 10 03.4 -0.3
comp=Z,116nm,1.2s,mb5.4
SBF Sospel 42.32 307⇑*i*P P 21 10 03.2 -0.5
comp=Z,236nm,0.8s,mb5.6
SBF Sospel 42.32 307⇑*i*P P 21 10 03.2 -0.5
SBF pmax pmax
comp=Z,118nm,0.8s,mb5.6
SBF Sospel 42.32 307⇑*i*P P 21 10 03.2 -0.5
comp=Z,118nm,0.8s,mb5.6
TRAV 42.33 309 P P 21 10 01.6 -2.3
AUTN L'Aution 42.34 307⇑*e*P P 21 10 04.0 +0.1
REVF Revere 42.35 306⇑*e*P P 21 10 03.4 -0.6
ENR Entracque 42.37 307 P P 21 10 03.5 -0.7
CAEH 'Ain El Ouahch 42.38 296 P P 21 10 08.0 +3.8
LUCF Luceram 42.38 307⇑*e*P P 21 10 04.1 -0.2
COP Copenhagen 42.43 325 *i*P P 21 10 07.2 +2.5
comp=Z,61nm,0.7s,mb5.3
COP *i* 21 11 53.4
COP *e*S **S 21 16 25.5 -0.2**
COP
comp=Z,1µm,21.0s
COP Copenhagen 42.43 325 *i*P P 21 10 07.2 +2.5
COP *i* 21 11 53.4
COP *e*S **S 21 16 25.5 -0.2**
COP pmax pmax
comp=Z,61nm,0.7s,mb5.3
COP MLR MLR
comp=Z,1µm,21.0s,MS4.7
COP Copenhagen 42.43 325 *i* PcP PcP 21 11 53.4 -4.2
comp=Z,1µm,21.0s
COP *e*S **S 21 16 25.5 -0.2**
STV Sta Anna Valdi 42.44 307 P P 21 10 03.9 -0.9
STV Sta Anna Valdi 42.44 307 P P 21 10 03.7 -1.1
SULZ Sulz-Cheisache 42.45 312⇑*i*P P 21 10 01.6 -3.2
comp=Z,1µm,2.3s,mb6.1
SULZ Sulz-Cheisache 42.45 312⇑*i*P P 21 10 03.8 -1.0
TOUF Mont Tournerai 42.47 307⇑*e*P P 21 10 05.0 0.0
TOD Tromm 42.48 315⇑*e*P P 21 10 04.2 -0.8
BFO Black Forest 42.48 313 P P 21 10 04.7 -0.4
comp=Z,175nm,0.7s,mb5.8,SNR=9.3
BFO Black Forest 42.48 313 *e*P P 21 10 03.5 -1.6
comp=Z,54nm,1.2s,mb5.0
BFO Black Forest 42.48 313 P P 21 10 04.9 -0.2
BFO Black Forest 42.48 313 *e*P P 21 10 03.6 -1.5
comp=Z,54nm,1.2s,mb5.0
CKFL Kef-Lekhel 42.49 295 P P 21 10 07.0 +1.9
SWS Schriesheim-Wi 42.51 315 P P 21 10 07.0 +1.7
MVIF Mont Vial 42.52 307⇑*e*P P 21 10 05.4 0.0
NRDL Niedersach Rie 42.52 320 *e*P P 21 10 05.2 -0.2
comp=Z,454nm,1.4s,mb6.0
DOI San Damiano 42.53 307 P P 21 10 03.5 -2.0
LKBD Leukerbad 42.56 310⇑*i*P P 21 10 02.9 -2.8
comp=Z,326nm,1.5s,mb5.8
LKBD Leukerbad 42.56 310⇑*i*P P 21 10 04.5 -1.2
NST Nakhon Sawan 42.57 96 P P 21 10 07.2 +1.4
comp=Z,72nm,1.2s,mb5.3
FELD Feldberg im Sc 42.59 313⇑*e*P P 21 10 05.0 -1.0
WIMIS Wimmis 42.61 311⇑*i*P P 21 10 02.3 -3.8
comp=Z,230nm,0.7s,mb6.0
WIMIS Wimmis 42.61 311⇑*i*P P 21 10 04.9 -1.2
RSP Reno Superiore 42.62 308 P P 21 10 03.4 -2.8
RSP Reno Superiore 42.62 308 P P 21 10 03.5 -2.7
PZZ Prazzo 42.64 307 P P 21 10 04.5 -1.8
DIX Grande Dixence 42.66 310⇑*i*P P 21 10 02.3 -4.2
comp=Z,627nm,2.5s,mb5.9
DIX Grande Dixence 42.66 310 *i*P P 21 10 05.8 -0.7
KIZ Kirchzarten 42.67 313 P P 21 10 06.4 -0.2
CASM Ain Smara 42.68 295 P P 21 10 09.0 +2.3
BALST Balsthal 42.69 312⇑*i*P P 21 10 03.7 -3.1
comp=Z,970nm,1.9s,mb6.2
BALST Balsthal 42.69 312⇑*i*P P 21 10 05.9 -0.9
FENE Fenestrelle 42.74 308 P P 21 10 05.3 -1.9
CTEI Djebel Teioual 42.75 295 P P 21 10 10.0 +2.7
SENIN Lac Senin 42.78 310⇑*i*P P 21 10 03.5 -4.0
comp=Z,147nm,1.1s,mb5.6
SENIN Lac Senin 42.78 310⇑*i*P P 21 10 06.3 -1.2
OG22 Abries 42.79 308 *e*P P 21 10 05.6 -2.0
SURF Saint Ours 42.84 307 *e*P P 21 10 07.2 -0.8
BBS Basel-Blauen 42.84 312⇑*e*P P 21 10 07.0 -1.0
FRF La Foret Royal 42.85 306⇑*i*P P 21 10 07.4 -0.7
comp=Z,100nm,1.1s,mb5.2
FRF La Foret Royal 42.85 306⇑*i*P P 21 10 07.4 -0.7
FRF pmax pmax
comp=Z,50nm,1.1s,mb5.2
FRF La Foret Royal 42.85 306⇑*i*P P 21 10 07.4 -0.7
comp=Z,50nm,1.1s,mb5.2
TNS Taunus Mts 42.86 316 *e*P P 21 10 07.9 -0.2
comp=Z,145nm,1.1s,mb5.6
TNS Taunus Mts 42.86 316 *e*P P 21 10 07.9 -0.2
TNS pmax pmax
comp=Z,145nm,1.1s,mb5.6
KTD Kalmit 42.86 315 *e*P P 21 10 07.3 -0.9
GRYON Gryon 42.89 310⇑*i*P P 21 10 03.8 -4.6
comp=Z,226nm,2.7s,mb5.4
GRYON Gryon 42.89 310⇑*i*P P 21 10 07.1 -1.3
BSEG Bad Segeberg 42.89 322 *e*P P 21 10 08.1 -0.3
comp=Z,174nm,1.3s,mb5.6
BSEG Bad Segeberg 42.89 322 *e*P P 21 10 08.1 -0.3
BSEG pmax pmax
comp=Z,174nm,1.3s,mb5.6
MBDF Montbardon 42.90 308⇑*i*P P 21 10 07.6 -0.9
comp=Z,94nm,0.6s,mb5.4
MBDF Montbardon 42.90 308⇑*i*P P 21 10 07.6 -0.9
MBDF pmax pmax
comp=Z,47nm,0.6s,mb5.4
MBDF Montbardon 42.90 308⇑*i*P P 21 10 07.6 -0.9
comp=Z,47nm,0.6s,mb5.4
STR Strasbourg 42.90 313 *e*P P 21 10 07.4 -1.1
LIBD Limburg 42.92 313 *e*P P 21 10 07.5 -1.1
RRL Cesana Torines 42.92 308 P P 21 10 07.8 -0.8
LMR La Mourre 42.92 306⇑*i*P P 21 10 07.9 -0.8
ZAK Zakamensk 42.95 44 *e*P P 21 10 09.3 +0.4
ZAK *e* 21 12 00.7
ZAK pmax pmax
comp=Z,107nm,1.9s,mb5.2
ZAK Zakamensk 42.95 44 *e*P P 21 10 09.3 +0.4
comp=Z,107nm,1.9s,mb5.2
APA Apatity 42.95 348⇓*i*P P 21 10 08.8 -0.1
APA *i*S **S 21 16 26.0 -7.3**
APA *i* 21 19 40.0
APA pmax pmax
comp=Z,115nm,1.5s,mb5.4
APA MLR MLR
comp=Z,8µm,16.0s,MS5.7
APA Apatity 42.95 348 *i* P **P 21 10 08.8 -0.1**
comp=Z,115nm,1.5s,mb5.4
SALAN Lac Salanfe 42.97 310⇑*i*P P 21 10 04.5 -4.5
comp=Z,273nm,1.8s,mb5.7
SALAN Lac Salanfe 42.97 310⇑*i*P P 21 10 07.8 -1.2
EMV Vieux Emosson 43.01 310⇑*i*P P 21 10 04.9 -4.4
comp=Z,418nm,1.9s,mb5.8
EMV Vieux Emosson 43.01 310⇑*i*P P 21 10 08.3 -1.0
LVZ Lovozero 43.01 348 *e*P P 21 10 08.7 -0.6
LVZ pmax pmax
comp=Z,153nm,1.6s,mb5.5
LVZ Lovozero 43.01 348 *e*P P 21 10 08.7 -0.6
comp=Z,153nm,1.6s,mb5.5
BNI Bardonecchia 43.01 308 *e*P P 21 10 08.3 -1.0
BNI *e* pP 21 10 13.7 -0.7
BNI Bardonecchia 43.01 308 *e*P P 21 10 08.4 -1.0
BOURR Bourrignon 43.01 312⇑*i*P P 21 10 05.9 -3.5
comp=Z,851nm,2.0s,mb6.1
BOURR Bourrignon 43.01 312⇑*i*P P 21 10 08.7 -0.7
AIGLE Aigle 43.01 310⇑*i*P P 21 10 05.8 -3.6
comp=Z,393nm,2.0s,mb5.8
AIGLE Aigle 43.01 310⇑*i*P P 21 10 08.0 -1.4
TORNY Torny 43.08 311⇑*i*P P 21 10 06.3 -3.7
comp=Z,415nm,1.2s,mb6.0
TORNY Torny 43.08 311⇑*i*P P 21 10 09.1 -0.9
WLS Welschbruch 43.13 313 *e*P P 21 10 08.4 -2.0
RSL Roselend 43.14 309 *e*P P 21 10 09.3 -1.1
DFRA Djebel Bou Aff 43.16 296 P P 21 10 12.0 +1.4
CMER Merouana 43.18 294 P P 21 10 13.0 +2.2
CDF Champ du Feu 43.18 313⇑*i*P P 21 10 09.4 -1.4
comp=Z,117nm,1.0s,mb5.3
CDF Champ du Feu 43.18 313⇑*i*P P 21 10 09.4 -1.4
CDF pmax pmax
comp=Z,59nm,1.0s,mb5.3
CDF Champ du Feu 43.18 313⇑*i*P P 21 10 09.4 -1.4
comp=Z,59nm,1.0s,mb5.3
OG01 Vacheresse 43.20 310 *e*P P 21 10 09.0 -1.9
ECH Echery 43.22 313⇑*e*P P 21 10 10.1 -1.0
TAVF Tavernes 43.28 306 *e*P P 21 10 11.2 -0.3
ABH Alteburg 43.34 315 *e*P P 21 10 11.3 -0.7
HINF Hinteralfeld 43.34 312⇑*i*P P 21 10 10.9 -1.2
comp=Z,233nm,1.1s,mb5.5
HINF Hinteralfeld 43.34 312⇑*i*P P 21 10 10.9 -1.2
HINF pmax pmax
comp=Z,117nm,1.1s,mb5.5
HINF Hinteralfeld 43.34 312⇑*i*P P 21 10 10.9 -1.2
comp=Z,117nm,1.1s,mb5.5
OG25 Le Caire 43.35 307 *e*P P 21 10 08.7 -3.4
GDM Grand'Maison 43.42 308 *e*P P 21 10 11.0 -1.7
STOF St-Etienne Org 43.43 307 *e*P P 21 10 12.7 0.0
BRANT Les Verrieres 43.44 311⇑*i*P P 21 10 07.5 -5.3
comp=Z,851nm,2.1s,mb6.1
BRANT Les Verrieres 43.44 311⇑*i*P P 21 10 12.5 -0.3
CKHR Kef el Ahmar 43.48 295 P P 21 10 15.0 +1.8
GIMEL Gimel 43.52 310⇑*i*P P 21 10 07.8 -5.6
comp=Z,532nm,2.0s,mb5.9
GIMEL Gimel 43.52 310⇑*i*P P 21 10 12.8 -0.6
BERF Bertagne 43.52 306 *e*P P 21 10 13.6 +0.1
TLY Talaya 43.52 42 P P 21 10 14.6 +1.1
comp=Z,73nm,0.8s,mb5.5,SNR=14
TLY Talaya 43.52 42*c* *i*P P 21 10 13.9 +0.4
TLY *e* 21 11 58.9
TLY *e*PPP 21 12 28.0
TLY *e*S **S 21 16 41.0 -0.6**
TLY *e*SS SS 21 19 51.0 -5.2
TLY pmax pmax
comp=Z,50nm,1.6s,mb5.0
TLY MLR MLR
comp=Z,5µm,13.0s,MS5.6
TLY Talaya 43.52 42 *e*P P 21 10 14.1 +0.6
TLY Talaya 43.52 42 *i*P P 21 10 13.9 +0.4
comp=Z,50nm,1.6s,mb5.0
TLY *e*S **S 21 16 41.0 -0.6**
PUYF Puyloubier 43.53 306⇑*e*P P 21 10 13.5 -0.1
VILF Villemus 43.55 306 *e*P P 21 10 12.5 -1.2
ORIF Oris-en-Rattie 43.55 308 *e*P P 21 10 13.3 -0.5
comp=Z,111nm,1.1s,mb5.2
ORIF *e*R
comp=Z,4µm,23.0s
ORIF Oris-en-Rattie 43.55 308 *e*P P 21 10 13.3 -0.5
ORIF pmax pmax
comp=Z,56nm,1.1s,mb5.2
ORIF Oris-en-Rattie 43.55 308 *e*P P 21 10 13.3 -0.5
comp=Z,56nm,1.1s,mb5.2
SET Setif 43.56 295 P P 21 10 15.0 +1.2
RUP Ruppelstein 43.60 315⇑*e*P P 21 10 13.2 -0.9
CABF La Chapelle 43.65 310⇑*i*P P 21 10 14.0 -0.5
comp=Z,186nm,0.7s,mb5.6
CABF La Chapelle 43.65 310⇑*i*P P 21 10 14.0 -0.5
CABF pmax pmax
comp=Z,93nm,0.7s,mb5.6
CABF La Chapelle 43.65 310⇑*i*P P 21 10 14.0 -0.5
comp=Z,93nm,0.7s,mb5.6
SMRF Simiane la Rot 43.66 306⇑*i*P P 21 10 14.2 -0.5
comp=Z,31nm,0.6s,mb4.9
SMRF Simiane la Rot 43.66 306⇑*i*P P 21 10 14.2 -0.5
comp=Z,16nm,0.6s,mb4.9
GRN Grenoble 43.69 308 *e*P P 21 10 13.1 -1.8
HAU Haudompre 43.71 312⇑*i*P P 21 10 14.7 -0.3
comp=Z,102nm,0.8s,mb5.3
HAU *e*R
comp=Z,5µm,21.0s
HAU Haudompre 43.71 312⇑*i*P P 21 10 14.7 -0.3
HAU pmax pmax
comp=Z,51nm,0.8s,mb5.3
HAU MLR MLR
comp=Z,5µm,21.0s,MS5.4
HAU Haudompre 43.71 312⇑*i*P P 21 10 14.7 -0.3
comp=Z,51nm,0.8s,mb5.3
HAU LR LR
comp=Z,5µm,21.0s,MS5.4
GELF Grande-Etoile 43.71 306⇑*e*P P 21 10 15.2 +0.2
TREF Trevaresse 43.77 306⇑*e*P P 21 10 15.5 0.0
IBBN Ibbenburen 43.84 319 *e*P P 21 10 16.1 0.0
comp=Z,319nm,1.4s,mb5.9
BUG Bochum--Univer 43.90 317 *e*P P 21 10 16.6 +0.1
comp=Z,358nm,1.3s,mb5.9
HFA0 Hagfors New Ar 43.90 331 P P 21 10 15.4 -1.1
PRAF Pradon 43.94 306⇑*e*P P 21 10 16.8 -0.1
THEF They Montfort 43.99 313⇑*e*P P 21 10 16.0 -1.3
OG05 Jujurieux 43.99 309 *e*P P 21 10 16.0 -1.3
IRK Irkutsk 44.05 41 *e*P P 21 10 17.4 -0.3
IRK *e* 21 11 56.1
IRK *e* 21 12 36.4
IRK pmax pmax
comp=Z,151nm,2.5s,mb5.3
IRK Irkutsk 44.05 41 *e*P P 21 10 17.4 -0.3
comp=Z,151nm,2.5s,mb5.3
WLF Walferdange 44.17 315 *e*P P 21 10 17.8 -0.9
comp=Z,94nm,0.9s,mb5.5
WLF *e*S **S 21 16 52.5 +1.4**
WLF Walferdange 44.17 315 P P 21 10 17.9 -0.8
WLF Walferdange 44.17 315 *e*P P 21 10 18.3 -0.4
WLF Walferdange 44.17 315⇑*i*P P 21 10 18.0 -0.7
WTSB Winterswijk 44.31 318⇑*i*P P 21 10 20.2 +0.3
comp=Z,139nm,1.9s,mb5.4
WTSB *i* x x 21 10 25.8
comp=Z,204nm,1.4s
HLG Helgoland 44.33 321 *e*P P 21 10 19.8 -0.2
comp=Z,311nm,1.2s,mb5.9
VIVF Saint-Julien-l 44.40 308⇑*i*P P 21 10 19.5 -1.0
comp=Z,167nm,1.1s,mb5.4
VIVF Saint-Julien-l 44.40 308⇑*i*P P 21 10 19.5 -1.0
VIVF pmax pmax
comp=Z,84nm,1.1s,mb5.4
VIVF Saint-Julien-l 44.40 308⇑*i*P P 21 10 19.5 -1.0
comp=Z,84nm,1.1s,mb5.4
MAHO Mahon 44.41 301 *i*P P 21 10 20.1 -0.5
SONM Songino Array 44.41 48 P P 21 10 21.2 +0.6
comp=Z,28nm,0.9s,mb5.0,baz=262,slow=5.2,SNR=78
SONM LR LR 21 30 47.7
comp=Z,11µm,18.4s,MS5.8,baz=264,slow=39
MUD Monsted U'grnd 44.42 325⇑*i*P P 21 10 20.9 +0.2
comp=Z,103nm,0.9s,mb5.6
MUD *i* 21 12 13.9
MUD *e*S **S 21 16 44.0 -11**
MUD *i* 21 20 17.3
MUD
comp=Z,4µm,19.0s
MUD Monsted U'grnd 44.42 325⇑*e*P P 21 10 20.9 +0.2
MUD *i* 21 12 13.9
MUD *i* 21 20 17.3
MUD pmax pmax
comp=Z,100nm,0.9s,mb5.5
MUD MLR MLR
comp=Z,4µm,19.0s,MS5.3
MUD Monsted U'grnd 44.42 325⇑*e*P P 21 10 20.9 +0.2
comp=Z,103nm,0.9s,mb5.6
MUD *i* 21 12 13.9
MUD *e*S **S 21 16 44.0 -11**
MUD *i* 21 20 17.3
MUD Monsted U'grnd 44.42 325⇑*e*P P 21 10 20.9 +0.2
comp=Z,103nm,0.9s,mb5.6
MUD *i* ScS ScS 21 20 17.3 -1.0
comp=Z,4µm,19.0s
MEM Membach 44.47 316 P P 21 10 20.4 -0.7
MEM S **S 21 16 55.3 -0.2**
HGN Heimansgroeve 44.55 316⇑*i*P P 21 10 22.2 +0.4
comp=Z,165nm,2.0s,mb5.5
HGN *i* x x 21 10 27.7
comp=Z,229nm,1.3s

HGN *e*PP PP 21 12 17.9 +12
HGN *e*S **S** **21 16 58.8 +2.1**
HGN *e*SS SS 21 20 19.9 +3.5
WIT Witteveen 44.62 319 *e*P **P** **21 10 28.1 +5.8**
comp=Z,377nm,1.4s,mb6.0
MEZF Maizieres J'vi 44.65 313⇑*i*P **P** **21 10 22.2 -0.4**
comp=Z,506nm,1.1s,mb6.0
MEZF Maizieres J'vi 44.65 313⇑*i*P **P** **21 10 22.2 -0.4**
comp=Z,253nm,1.1s,mb6.0
BEBN Eben Emael 44.71 316 P **P** **21 10 23.2 +0.1**
BEBN E pP 21 10 29.2 +1.1
BEBN Eben Emael 44.71 316 P **P** **21 10 23.1 0.0**
KKTK Khon Kaen 44.72 94 P **P** **21 10 26.0 +2.9**
ULN Ulaanbaatar 44.85 48⇑*i*P **P** **21 10 24.2 0.0**
comp=Z,137nm,1.4s,mb5.6
ULN Ulaanbaatar 44.85 48 *i*P **P** **21 10 24.5 +0.4**
LASF Ste Croix 44.91 306⇑*i*P **P** **21 10 24.0 -0.6**
comp=Z,213nm,1.0s,mb5.6
LASF Ste Croix 44.91 306⇑*i*P **P** **21 10 24.0 -0.6**
comp=Z,106nm,1.0s,mb5.6
GIVF Givet 45.10 315⇑*i*P **P** **21 10 26.3 +0.2**
comp=Z,415nm,1.1s,mb5.9
GIVF Givet 45.10 315⇑*i*P **P** **21 10 26.3 +0.2**
GIVF pmax pmax
comp=Z,208nm,1.1s,mb5.9
GIVF Givet 45.10 315⇑*i*P **P** **21 10 26.3 +0.2**
comp=Z,208nm,1.1s,mb5.9
OSL Oslo 45.11 330 *e*P **P** **21 10 24.9 -1.2**
OSL *e*pP pP 21 10 28.6 -2.6
COLF Collangettes 45.16 308 *e*P **P** **21 10 25.6 -1.0**
GYA Guiyang 45.18 78⇑*i*P **P** **21 10 27.0 +0.2**
GYA AP pP 21 10 31.8 0.0
GYA XP sP 21 10 34.5 +0.7
GYA PP PP 21 12 12.3 -0.2
GYA SCP ScP 21 16 01.3 +2.5
GYA S **S** **21 17 02.0 -3.8**
GYA AMB AMB
comp=Z,70nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,1μm,6.6s
GYA LR LR
comp=N,4μm,16.5s,MS5.5
GYA LR LR
comp=E,2μm,15.8s,MS5.5
GYA LR LR
comp=Z,2μm,15.8s,MS5.2
SMF Signal de Mont 45.19 310⇑*i*P **P** **21 10 25.9 -0.9**
comp=Z,354nm,0.9s,mb5.9
SMF Signal de Mont 45.19 310⇑*i*P **P** **21 10 25.9 -0.9**
SMF pmax pmax
comp=Z,177nm,0.9s,mb5.9
SMF Signal de Mont 45.19 310⇑*i*P **P** **21 10 25.9 -0.9**
comp=Z,177nm,0.9s,mb5.9
DOU Dourbes 45.24 315 P **P** **21 10 27.5 +0.2**
comp=Z,59nm,0.9s,mb5.4
DOU S **S** **21 17 06.2 -0.6**
LOR Lormes 45.26 311⇑*i*P **P** **21 10 26.4 -1.0**
comp=Z,171nm,0.9s,mb5.6
LOR *e*R
comp=Z,11μm,22.5s
LOR Lormes 45.26 311⇑*i*P **P** **21 10 26.4 -1.0**
LOR pmax pmax
comp=Z,85nm,0.9s,mb5.6
LOR MLR MLR
comp=Z,11μm,22.5s,MS5.7
LOR Lormes 45.26 311⇑*i*P **P** **21 10 26.4 -1.0**
comp=Z,85nm,0.9s,mb5.6
LOR LR LR
comp=Z,11μm,22.5s,MS5.7
PLDF La Plantade 45.26 309 *e*P **P** **21 10 26.7 -0.7**
NB2 NORSAR Subarra 45.40 331 P **P** **21 10 26.9 -1.6**
comp=Z,112nm,1.1s,mb5.6,baz=115,slow=7.9
NB2 NORSAR Subarra 45.40 331 P **P** **21 10 26.9 -1.6**
NB2 pmax pmax
comp=Z,112nm,1.1s,mb5.6
NOA NORSAR Array B 45.40 331 P **P** **21 10 27.0 -1.5**
comp=Z,20nm,0.7s,mb5.1,baz=117,slow=7.9,SNR=51
NOA S **S** **21 17 12.8 +3.8**
comp=Z,2.4nm,0.9s,baz=122,slow=7.8,SNR=2.7
NOA LR LR 21 32 30.5
comp=Z,3μm,21.1s,MS5.3,baz=125,slow=40
NOA NORSAR Array B 45.40 331 P **P** **21 10 27.0 -1.5**
NOA S **S** **21 17 12.8 +3.8**
NOA pmax pmax
comp=Z,200nm,0.7s
NOA smax
comp=N,2.0nm,0.9s
NOA MLR MLR
comp=Z,3μm,21.1s
ABA Alger-Bouzarea 45.44 296 P **P** **21 10 31.0 +2.2**
LBL Lubilhac 45.44 308 *e*P **P** **21 10 28.5 -0.4**
NAO01 NORSAR Array S 45.45 331 *e*P **P** **21 10 27.3 -1.6**
NAO01 LR LR
comp=Z,7μm,20.0s,MS5.6
NAO01 NORSAR Array S 45.45 331 *e*P **P** **21 10 27.3 -1.6**
SSF Saint Saulge 45.47 311⇑*i*P **P** **21 10 28.3 -0.7**
comp=Z,268nm,1.0s,mb5.7
SSF Saint Saulge 45.47 311⇑*i*P **P** **21 10 28.3 -0.7**
SSF pmax pmax
comp=Z,134nm,1.0s,mb5.7
SSF Saint Saulge 45.47 311⇑*i*P **P** **21 10 28.3 -0.7**
comp=Z,134nm,1.0s,mb5.7
BAIF Baives 45.48 315⇑*i*P **P** **21 10 29.5 +0.3**
comp=Z,476nm,1.1s,mb5.9
BAIF Baives 45.48 315⇑*i*P **P** **21 10 29.5 +0.3**
BAIF pmax pmax
comp=Z,238nm,1.1s,mb5.9
BAIF Baives 45.48 315⇑*i*P **P** **21 10 29.5 +0.3**
comp=Z,238nm,1.1s,mb5.9
KONO Kongsberg 45.49 329⇑*i*P **P** **21 10 27.6 -1.7**
KONO *e*PP PP 21 12 14.6 -1.2
KONO *e*S **S** **21 17 09.0 -1.3**
KONO *e*SS SS 21 20 29.4 -4.9
KONO Kongsberg 45.49 329 *e*P **P** **21 10 28.6 -0.6**
KONO Kongsberg 45.49 329 *e*P **P** **21 10 28.0 -1.2**
EJON La Jonquera 45.51 304⇑P **P** **21 10 28.5 -0.9**
comp=Z,106nm,1.9s,mb5.5
EJON La Jonquera 45.51 304⇑P **P** **21 10 28.5 -0.9**
comp=Z,106nm,1.9s,mb5.5
SNF Seneffe 45.52 316 P **P** **21 10 29.2 -0.2**
SNF E pP 21 10 35.4 +0.9
SJAF Saint Jean de 45.52 304 *e*P **P** **21 10 28.7 -0.8**
ETOS Mallorca 45.52 300⇑P **P** **21 10 29.9 +0.4**
comp=Z,592nm,1.9s,mb6.2
ETOS Mallorca 45.52 300⇑P **P** **21 10 29.9 +0.4**
comp=Z,592nm,1.9s,mb6.2
UCC Uccle 45.53 316 P **P** **21 10 29.5 0.0**
UCC AP pP 21 10 32.2 -2.4
UCC XP sP 21 10 34.2 -2.4
UCC S **S** **21 17 11.7 +0.8**
AVF Avril sur Loir 45.54 310⇑*i*P **P** **21 10 28.5 -1.1**
comp=Z,151nm,0.9s,mb5.6
AVF Avril sur Loir 45.54 310⇑*i*P **P** **21 10 28.5 -1.1**
AVF pmax pmax
comp=Z,76nm,0.9s,mb5.6
AVF Avril sur Loir 45.54 310⇑*i*P **P** **21 10 28.5 -1.1**
comp=Z,76nm,0.9s,mb5.6
EMHD Djebel Mahouad 45.54 295 P **P** **21 10 31.0 +1.4**
PYM Petit Puy Mans 45.66 309 *e*P **P** **21 10 30.3 -0.3**
PYM Petit Puy Mans 45.66 309 *e*P **P** **21 10 30.2 -0.4**
PYM Petit Puy Mans 45.66 309 *e*P **P** **21 10 30.2 -0.4**
FILF Fillols 45.76 304 *e*P **P** **21 10 31.6 +0.2**
LRDF Laroque-de-Fa 45.79 305 *e*P **P** **21 10 31.6 0.0**
BGF Bois d'Agland 45.86 310⇑*i*P **P** **21 10 31.4 -0.7**
comp=Z,262nm,0.8s,mb5.9
BGF Bois d'Agland 45.86 310⇑*i*P **P** **21 10 31.4 -0.7**
BGF pmax pmax
comp=Z,131nm,0.8s,mb5.9
BGF Bois d'Agland 45.86 310⇑*i*P **P** **21 10 31.4 -0.7**
comp=Z,131nm,0.8s,mb5.9
XAN Xi'an 45.91 68 P **P** **21 10 32.5 0.0**
XAN S **S** **21 17 10.5 -5.8**
XAN AMB AMB
comp=Z,60nm,1.6s,mb5.3
XAN AMB AMB
comp=Z,750nm,11.1s
XAN LR LR
comp=N,1μm,12.2s
XAN LR LR
comp=E,7μm,17.9s
XAN LR LR
comp=Z,9μm,17.0s,MS5.8
MTLF Montolieu 46.05 305⇑*i*P **P** **21 10 33.8 +0.2**
comp=Z,240nm,0.9s,mb5.8
MTLF Montolieu 46.05 305⇑*i*P **P** **21 10 33.8 +0.2**

MTLF pmax pmax
comp=Z,120nm,0.9s,mb5.8
MTLF Montolieu 46.05 305⇑*i*P **P** **21 10 33.8 +0.2**
comp=Z,120nm,0.9s,mb5.8
KEV Kevo 46.07 347 *e*p **P** **21 10 29.5 -4.3**
comp=Z,94nm,0.8s,mb5.8
KEV Kevo 46.07 347 P **P** **21 10 33.7 -0.1**
KEV pmax pmax
comp=Z,95nm,0.8s,mb5.8
KEV Kevo 46.07 347 P **P** **21 10 33.7 -0.1**
comp=Z,95nm,0.8s,mb5.8
HYF Humbligny 46.08 311⇑*i*P **P** **21 10 33.7 -0.2**
CARF Carcanieres 46.10 304 *e*P **P** **21 10 33.9 -0.2**
SNART Snartemo 46.10 327 *e*P **P** **21 10 37.0 +2.9**
ARCES ARCESS Array B 46.22 346 P **P** **21 10 34.2 -0.8**
comp=Z,8.0nm,0.5s,mb4.9,baz=134,slow=7.3,SNR=53
ARE0 ARCESS Array S 46.22 346 *e*P **P** **21 10 33.9 -1.1**
CAF Calviac 46.25 308⇑*i*P **P** **21 10 34.9 -0.3**
comp=Z,233nm,0.9s,mb5.8
CAF Calviac 46.25 308⇑*i*P **P** **21 10 34.9 -0.3**
CAF pmax pmax
comp=Z,117nm,0.9s,mb5.8
CAF Calviac 46.25 308⇑*i*P **P** **21 10 34.9 -0.3**
comp=Z,116nm,0.9s,mb5.8
TCF Toulx Ste Croi 46.27 309⇑*i*P **P** **21 10 34.8 -0.6**
comp=Z,210nm,0.9s,mb5.8
TCF Toulx Ste Croi 46.27 309⇑*i*P **P** **21 10 34.8 -0.6**
TCF pmax pmax
comp=Z,105nm,0.9s,mb5.8
TCF Toulx Ste Croi 46.27 309⇑*i*P **P** **21 10 34.8 -0.6**
comp=Z,105nm,0.9s,mb5.8
KTK1 Kautokeino 46.34 344 *e*P **P** **21 10 36.2 +0.3**
KTK1 AMb AMB 21 10 51.8
comp=Z,79nm,2.0s,mb5.3
KTK1 Kautokeino 46.34 344 *e*P **P** **21 10 36.2 +0.3**
comp=Z,79nm,2.0s,mb5.3
KTK1 Kautokeino 46.34 344 *e*P **P** **21 10 36.2 +0.3**
comp=Z,79nm,2.0s,mb5.3,SNR=24
BTO Baotou 46.43 58 *e*P **P** **21 10 36.5 -0.1**
BTO S **S** **21 17 26.8 +3.0**
BTO AMB AMB
comp=Z,70nm,1.4s,mb5.4
EMIR Miracle 46.51 303⇑P **P** **21 10 37.9 +0.6**
comp=Z,602nm,1.9s,mb6.2
EMIR Miracle 46.51 303⇑P **P** **21 10 37.9 +0.6**
comp=Z,602nm,1.9s,mb6.2
RJF Les Rejaudoux 46.67 308⇑*i*P **P** **21 10 38.4 -0.1**
comp=Z,353nm,1.0s,mb6.0
RJF *e*R
comp=Z,4μm,21.5s
RJF Les Rejaudoux 46.67 308⇑*i*P **P** **21 10 38.4 -0.1**
RJF pmax pmax
comp=Z,176nm,1.0s,mb6.0
RJF MLR MLR
comp=Z,4μm,21.5s,MS5.3
RJF Les Rejaudoux 46.67 308⇑*i*P **P** **21 10 38.4 -0.1**
comp=Z,176nm,1.0s,mb6.0
RJF LR LR
comp=Z,4μm,21.5s,MS5.3
EIBI Ibiza 46.68 299⇑P **P** **21 10 39.1 +0.5**
comp=Z,404nm,1.5s,mb6.1
EBNR Beni Rached 46.68 296 P **P** **21 10 39.8 +1.2**
DOMB Dombas 46.78 332 *e*P **P** **21 10 38.2 -1.2**
DOMB AMb AMB 21 10 52.5
comp=Z,122nm,1.6s,mb5.6
DOMB Dombas 46.78 332 *e*P **P** **21 10 38.2 -1.2**
comp=Z,122nm,1.6s,mb5.6,SNR=24
SALF Salau 46.78 304 *e*P **P** **21 10 38.6 -0.8**
ECHA Ech Chlef 46.82 295 P **P** **21 10 41.0 +1.3**
MLS Moulis 46.85 305 *e*P **P** **21 10 39.5 -0.5**
NSS Namsos 46.86 336⇑*i*P **P** **21 10 37.5 -2.6**
NSS *e*PP PP 21 12 31.0 +0.8
NSS *e* 21 17 20.1
NSS *e*SS SS 21 20 59.7 +3.2
NSS AMS AMS 21 33 20.6
comp=Z,5μm,21.9s,MS5.4
NSS Namsos 46.86 336 *e*P **P** **21 10 37.7 -2.3**
NSS *e* 21 17 19.5
NSS *i* 21 21 10.0
NSS LR LR
comp=Z,5μm,21.9s,MS5.4
NSS Namsos 46.86 336⇑*i*P **P** **21 10 37.5 -2.5**
SNR=24
NSS *e*SS SS 21 20 59.7 +3.2
SNR=29
MENF Mencas 46.87 315 *e*P **P** **21 10 39.6 -0.4**
BLS5 Blasjo 46.87 328 *e*P **P** **21 10 39.8 -0.3**
BLS5 AMb AMB 21 10 54.7
comp=Z,72nm,1.6s,mb5.4
BLS5 Blasjo 46.87 328 *e*P **P** **21 10 39.8 -0.3**
comp=Z,72nm,1.6s,mb5.4
BLS5 Blasjo 46.87 328 *e*P **P** **21 10 39.8 -0.3**
comp=Z,72nm,1.6s,mb5.4,SNR=24
MOR8 Moi Rana 46.92 338 *e*P **P** **21 10 39.1 -1.4**
MOR8 *e* pP 21 10 42.2 -3.3
MOR8 AMb AMB 21 10 56.7
comp=Z,94nm,1.4s,mb5.5
MOR8 Moi Rana 46.92 338 *e*P **P** **21 10 39.1 -1.4**
comp=Z,94nm,1.4s,mb5.5
MOR8 Moi Rana 46.92 338 *e*P **P** **21 10 39.1 -1.4**
comp=Z,94nm,1.4s,mb5.5,SNR=24
ETRT Tiaret 46.94 294 P **P** **21 10 41.5 +0.8**
ODD1 Odda 46.97 329 *e*P **P** **21 10 40.0 -0.9**
ODD1 AMb AMB 21 10 54.1
comp=Z,202nm,0.9s,mb6.1
ODD1 Odda 46.97 329 *e*P **P** **21 10 39.4 -1.5**
comp=Z,202nm,0.9s,mb6.0
ODD1 Odda 46.97 329 *e*P **P** **21 10 40.0 -0.9**
comp=Z,202nm,0.9s,mb6.1,SNR=24
STAV Stavanger 47.05 327 *e*P **P** **21 10 40.8 -0.7**
STAV AMb AMB 21 10 50.5
comp=Z,81nm,1.1s,mb5.6
STAV Stavanger 47.05 327 *e*P **P** **21 10 40.8 -0.7**
comp=Z,81nm,1.1s,mb5.6,SNR=24
EANR 'Ain N'Sour 47.05 295 P **P** **21 10 43.0 +1.5**
LFF La Frestale 47.19 307⇑*i*P **P** **21 10 42.5 -0.1**
comp=Z,225nm,0.8s,mb5.8
LFF La Frestale 47.19 307⇑*i*P **P** **21 10 42.5 -0.1**
LFF pmax pmax
comp=Z,112nm,0.8s,mb5.8
LFF La Frestale 47.19 307⇑*i*P **P** **21 10 42.5 -0.1**
comp=Z,112nm,0.8s,mb5.8
EBR Ebro Roquetas 47.29 302 *e*P **P** **21 10 43.6 +0.3**
KMY Karmoy 47.37 327 *e*P **P** **21 10 44.1 +0.1**
KMY AMb AMB 21 10 55.9
comp=Z,110nm,0.9s,mb5.8
KMY Karmoy 47.37 327 *e*P **P** **21 10 44.1 +0.1**
comp=Z,110nm,0.9s,mb5.8
KMY Karmoy 47.37 327 *e*P **P** **21 10 44.1 +0.1**
comp=Z,110nm,0.9s,mb5.8,SNR=24
RESF Ens 47.41 305 *e*P **P** **21 10 44.6 +0.3**
ERTA Horta de San J 47.41 302⇑P **P** **21 10 44.6 +0.3**
comp=Z,158nm,1.8s,mb5.6
EPF Esparros 47.41 305⇑*i*P **P** **21 10 43.1 -1.2**
comp=Z,43nm,0.8s,mb5.1
EPF Esparros 47.41 305⇑*i*P **P** **21 10 43.1 -1.2**
comp=Z,22nm,0.8s,mb5.1
EGRA Graus 47.42 304⇑P **P** **21 10 45.0 +0.6**
comp=Z,39nm,0.7s,mb5.5
EGRA Graus 47.42 304⇑P **P** **21 10 45.0 +0.7**
comp=Z,39nm,0.7s,mb5.5
OKGL Djebel Kef Gue 47.42 295 P **P** **21 10 47.0 +2.7**
STOK Stokkvaagen 47.49 338 *e*P **P** **21 10 44.3 -0.6**
STOK AMb AMB 21 10 56.3
comp=Z,296nm,1.1s,mb6.1
STOK Stokkvaagen 47.49 338 *e*P **P** **21 10 44.3 -0.6**
comp=Z,296nm,1.1s,mb6.1
STOK Stokkvaagen 47.49 338 *e*P **P** **21 10 44.3 -0.6**
comp=Z,296nm,1.1s,mb6.1,SNR=24
EBIE Bielsa 47.55 304 P **P** **21 10 45.5 +0.1**
comp=Z,114nm,1.9s,mb5.6
EBIE Bielsa 47.55 304 P **P** **21 10 45.5 +0.1**
comp=Z,114nm,1.9s,mb5.6
HHC Hu-ho-hao-te 47.60 58⇑*e*P **P** **21 10 46.5 +0.7**
HHC AP pP 21 10 51.0 +0.2
HHC XP sP 21 10 53.5 +0.7
HHC PCP PcP 21 12 16.5 +1.1
HHC PP PP 21 12 36.8 -0.5
HHC PCS PcS 21 16 10.5 -0.3
HHC S **S** **21 17 40.8 +0.3**
HHC XS sS 21 17 47.5 -1.3
HHC SCS ScS 21 20 36.8 -2.1
HHC SS SS 21 21 02.5 -6.0
HHC AMB AMB
comp=Z,110nm,1.3s,mb5.7
HHC AMB AMB

comp=Z,1μm,3.7s
HHC LR LR
comp=N,2μm,10.7s
HHC LR LR
comp=E,1μm,17.8s
HHC LR LR
comp=Z,1μm,14.3s,MS5.0
LABF Labassere 47.60 305 *e*P **P** **21 10 45.5 -0.3**
VIEF Viey 47.64 305 *e*P **P** **21 10 45.9 -0.2**
MOL Molde 47.65 332⇑*i*P **P** **21 10 45.1 -1.1**
MOL AMb AMB 21 10 58.2
comp=Z,84nm,0.7s,mb5.9
MOL *e*PP PP 21 12 37.4 -0.3
MOL *e*SS SS 21 21 12.8 +3.4
MOL AMS AMS 21 33 51.5
comp=Z,4μm,15.5s,MS5.5
MOL Molde 47.65 332⇑*i*P **P** **21 10 45.1 -1.1**
comp=Z,84nm,0.7s,mb5.9
MOL LR LR
comp=Z,4μm,15.5s,MS5.5
MOL Molde 47.65 332⇑*i*P **P** **21 10 45.1 -1.1**
comp=Z,84nm,0.7s,mb5.9,SNR=24
HYA Hoyanger 47.66 330 *e*P **P** **21 10 46.5 +0.3**
HYA AMb AMB 21 11 00.5
comp=Z,162nm,1.2s,mb6.0
HYA Hoyanger 47.66 330 *e*P **P** **21 10 46.5 +0.3**
comp=Z,162nm,1.2s,mb5.9
HYA Hoyanger 47.66 330 *e*P **P** **21 10 46.5 +0.3**
comp=Z,162nm,1.2s,mb6.0,SNR=24
RUND Rundenannen 47.74 329 *e*P **P** **21 10 48.2 +1.3**
BER Bergen 47.75 329 *e*P **P** **21 10 46.4 -0.6**
BER ⇑*i*P 21 10 46.5
BER AMb AMB 21 10 59.2
comp=Z,159nm,0.6s,mb6.2
BER AMb AMB 21 10 59.5
comp=Z,173nm,1.2s,mb6.0
BER *e*PP PP 21 12 36.8 -1.8
BER *e*S **S** **21 17 42.3 -0.4**
BER *e*SS SS 21 21 15.0 +4.0
BER AMS AMS 21 36 30.9
comp=Z,3μm,18.5s,MS5.3
BER Bergen 47.75 329 *e*P **P** **21 10 46.4 -0.5**
BER *e* 21 17 44.9
BER pmax pmax
comp=Z,173nm,1.2s,mb6.0
BER Bergen 47.75 329 *e*P **P** **21 10 46.4 -0.6**
comp=Z,173nm,1.2s,mb6.0
BER *e* 21 17 44.9
BER *i* 21 21 29.3
EGD Espegrend 47.76 329 *e*P **P** **21 10 47.9 +0.9**
EGD AMb AMB 21 10 59.3
comp=Z,171nm,1.1s,mb6.0
EGD Espegrend 47.76 329 *e*P **P** **21 10 47.9 +0.9**
comp=Z,171nm,1.1s,mb6.0
EGD Espegrend 47.76 329 *e*P **P** **21 10 47.9 +0.9**
comp=Z,171nm,1.1s,mb6.0,SNR=24
KULM Kulim 47.77 109 *e*P **P** **21 10 47.5 +0.4**
KULM Kulim 47.77 109 *e*P **P** **21 10 47.5 +0.4**
TRO Tromso 47.85 344⇑*i*P **P** **21 10 45.2 -2.5**
TRO AMb AMB 21 11 02.0
comp=Z,114nm,2.1s,mb5.5
TRO *e*PP PP 21 12 40.0 +0.5
TRO *e* 21 17 42.6
TRO *e*S **S** **21 17 46.0 +2.0**
TRO *e* 21 21 10.3
TRO *e*SS SS 21 21 14.7 +2.1
TRO AMS AMS 21 28 49.0
comp=Z,3μm,18.4s,MS5.3
TRO Tromso 47.85 344 *e*P **P** **21 10 45.3 -2.4**
TRO *e* 21 17 42.6
TRO pmax pmax
comp=Z,114nm,2.1s,mb5.5
TRO Tromso 47.85 344 *e*P **P** **21 10 45.3 -2.4**
comp=Z,114nm,2.1s,mb5.5
TRO *e* 21 17 42.6
TRO Tromso 47.85 344⇑*i*P **P** **21 10 45.2 -2.5**
comp=Z,114nm,2.1s,mb5.5,SNR=24
TRO Tromso 47.85 344 *e*PP PP 21 12 40.0 +0.5
SNR=28
TRO *e*S **S** **21 17 42.6 -1.4**
TRO *e*SS SS 21 21 14.7 +2.1
SNR=29
ASK Askoy 47.85 329 *e*P **P** **21 10 47.6 -0.1**
ASK AMb AMB 21 10 59.7
comp=Z,228nm,1.4s,mb6.0
ASK Askoy 47.85 329 *e*P **P** **21 10 48.1 +0.4**
comp=Z,228nm,1.4s,mb6.0
ASK Askoy 47.85 329 *e*P **P** **21 10 47.6 -0.1**
comp=Z,228nm,1.4s,mb6.0,SNR=24
EBEN Beniarda 47.91 299 P **P** **21 10 47.6 -0.6**
comp=Z,606nm,2.1s,mb6.3
EBEN Beniarda 47.91 299 P **P** **21 10 47.7 -0.5**
comp=Z,606nm,2.1s,mb6.3
MFF Saint Martin d 47.92 310⇑*i*P **P** **21 10 47.2 -1.0**
comp=Z,138nm,1.1s,mb5.6
MFF Saint Martin d 47.92 310⇑*i*P **P** **21 10 47.2 -1.0**
MFF pmax pmax
comp=Z,69nm,1.1s,mb5.6
MFF Saint Martin d 47.92 310⇑*i*P **P** **21 10 47.2 -1.0**
comp=Z,69nm,1.1s,mb5.6
REYF Montagne du Re 47.95 305 *e*P **P** **21 10 48.8 +0.3**
MATF Mathat 47.97 309 *e*P **P** **21 10 48.8 +0.2**
ESAC San Caprasio 48.00 303 P **P** **21 10 48.8 -0.1**
comp=Z,439nm,1.6s,mb6.2
ESAC San Caprasio 48.00 303 P **P** **21 10 48.8 -0.1**
comp=Z,439nm,1.6s,mb6.2
EMOS Mosqueruela 48.03 301 P **P** **21 10 50.5 +1.3**
comp=Z,637nm,2.0s,mb6.3
EMOS Mosqueruela 48.03 301 P **P** **21 10 50.5 +1.4**
comp=Z,637nm,2.0s,mb6.3
ETSF Etsaut 48.07 305⇑*i*P **P** **21 10 49.6 +0.2**
comp=Z,205nm,0.8s,mb5.9
ETSF Etsaut 48.07 305⇑*i*P **P** **21 10 49.6 +0.2**
ETSF pmax pmax
comp=Z,102nm,0.8s,mb5.9
ETSF Etsaut 48.07 305⇑*i*P **P** **21 10 49.6 +0.2**
comp=Z,102nm,0.8s,mb5.9
LDF La Druitiere 48.07 312⇑*i*P **P** **21 10 48.1 -1.3**
comp=Z,187nm,1.0s,mb5.8
LDF La Druitiere 48.07 312⇑*i*P **P** **21 10 48.1 -1.3**
LDF pmax pmax
comp=Z,94nm,1.0s,mb5.8
LDF La Druitiere 48.07 312⇑*i*P **P** **21 10 48.1 -1.3**
comp=Z,94nm,1.0s,mb5.8
ODJA Bouhanifia 48.13 294 P **P** **21 10 53.0 +3.1**
ATE Arette 48.17 305 *e*P **P** **21 10 50.0 -0.2**
TSA1 Sevenoaks 48.22 316⇑*e*P **P** **21 10 50.7 +0.1**
SUE Sulen 48.26 330 *e*P **P** **21 10 53.5 +2.6**
SUE AMb AMB 21 11 03.9
comp=Z,146nm,1.6s,mb5.8
SUE Sulen 48.26 330 *e*P **P** **21 10 54.0 +3.2**
comp=Z,146nm,1.6s,mb5.8
FLN La Foliniere 48.33 313⇑*i*P **P** **21 10 50.3 -1.1**
comp=Z,212nm,0.8s,mb5.9
FLN *e*R
comp=Z,5μm,22.2s
FLN La Foliniere 48.33 313⇑*i*P **P** **21 10 50.3 -1.1**
FLN pmax pmax
comp=Z,106nm,0.8s,mb5.9
FLN MLR MLR
comp=Z,5μm,22.3s,MS5.5
FLN La Foliniere 48.33 313⇑*i*P **P** **21 10 50.3 -1.1**
comp=Z,106nm,0.8s,mb5.9
FLN LR LR
comp=Z,5μm,22.3s,MS5.5
LCHF La Chataignera 48.33 310 *e*P **P** **21 10 50.4 -1.0**
ORDF Ordiarp 48.34 305 *e*P **P** **21 10 51.1 -0.4**
LOF Lofoten 48.37 340 *e*P **P** **21 10 52.4 +0.6**
LOF *es*P sP 21 10 56.0 -2.7
LARF Larrau 48.38 305 *e*P **P** **21 10 51.9 +0.1**
IPM Ipoh 48.52 109 P **P** **21 10 55.0 +2.2**
GRR Gorron 48.54 312⇑*i*P **P** **21 10 52.0 -1.0**
comp=Z,254nm,1.3s,mb5.8
GRR Gorron 48.54 312⇑*i*P **P** **21 10 52.0 -1.0**
GRR pmax pmax
comp=Z,127nm,1.3s,mb5.8
GRR Gorron 48.54 312⇑*i*P **P** **21 10 52.0 -1.0**
comp=Z,127nm,1.3s,mb5.8
SJPF Ste Jean 48.56 305⇑*i*P **P** **21 10 53.3 +0.1**
comp=Z,122nm,0.5s,mb5.8
SJPF Ste Jean 48.56 305⇑*i*P **P** **21 10 53.3 +0.1**
SJPF pmax pmax
comp=Z,61nm,0.5s,mb5.9
SJPF Ste Jean 48.56 305⇑*i*P **P** **21 10 53.3 +0.1**
comp=Z,61nm,0.5s,mb5.8
OSSF Osses 48.58 305 *e*P **P** **21 10 52.3 -1.1**

CART	Cartagena	48.60	298	eP	P	21 10 53.8 +0.3
	comp=Z,118nm,0.9s,mb5.9					
CART	Cartagena	48.60	298	i P	P	21 10 53.5 0.0
OLEF	Ile d'Oleron	48.71	309	eP	P	21 10 53.7 -0.7
EALK	Alkurruntz	48.76	305	P	P	21 10 54.3 -0.4
	comp=Z,158nm,1.8s,mb5.7					
EALK	Alkurruntz	48.76	305	P	P	21 10 54.3 -0.5
	comp=Z,158nm,1.8s,mb5.7					
EMUR	La Murta	48.77	298	P	P	21 10 54.5 -0.4
	comp=Z,112nm,1.4s,mb5.7					
EMUR	La Murta	48.77	298	P	P	21 10 54.5 -0.3
	comp=Z,112nm,1.4s,mb5.7					
ELIZ	Elizondo	48.78	305	P	P	21 10 54.7 -0.2
ELIZ				pmax	pmax	
	comp=Z,91nm,1.5s,mb5.6					
ELIZ	Elizondo	48.78	305	P	P	21 10 54.6 -0.2
	comp=Z,91nm,1.5s,mb5.6					
ELIZ	Elizondo	48.78	305	P	P	21 10 54.7 -0.2
	comp=Z,91nm,1.5s,mb5.6					
LRYF	La Roche-sur-Y	48.88	310	eP	P	21 10 54.9 -0.8
SKP1	Kophill	48.89	316⇑	eP	P	21 10 55.2 -0.5
ETOB	Tobarra	48.95	299	P	P	21 10 56.9 +0.7
	comp=Z,451nm,1.9s,mb6.2					
ETOB	Tobarra	48.95	299	P	P	21 10 56.9 +0.7
	comp=Z,451nm,1.9s,mb6.2					
SIW	Isle of Wight	49.11	315⇑	eP	P	21 10 56.9 -0.5
ETOR	Torete	49.22	302	P	P	21 10 58.2 -0.1
	comp=Z,33nm,1.6s,mb5.1					
JRS	Jersey	49.42	313⇑	eP	P	21 10 58.2 -1.6
SWN1	Swindon	49.47	316	eP	P	21 10 59.5 -0.7
JVM	Valle D.L. Mar	49.50	313⇑	eP	P	21 10 59.1 -1.3
KBI1	Birley Grange	49.55	318	eP	P	21 10 59.5 -1.2
CIT	Chita	49.60	43	eP	P	21 10 59.8 -1.4
CIT				e		21 13 00.9
CIT				e		21 18 11.2
CIT				e		21 20 53.4
CIT				pmax	pmax	
	comp=Z,226nm,1.7s,mb5.9					
CIT	Chita	49.60	43	eP	P	21 10 59.8 -1.4
	comp=Z,226nm,1.7s,mb5.9					
ENIJ	Nijar	49.61	297	P	P	21 11 01.1 -0.2
ENIJ				pmax	pmax	
	comp=Z,90nm,0.6s,mb6.0					
ENIJ	Nijar	49.61	297	P	P	21 11 01.1 -0.2
	comp=Z,8.6nm,0.6s,mb5.0					
ENIJ	Nijar	49.61	297	P	P	21 11 01.1 -0.2
	comp=Z,90nm,0.6s,mb6.0					
SGMF	Saint Gilles	49.66	312	i P	P	21 11 00.8 -0.8
	comp=Z,320nm,1.1s,mb6.0					
SGMF	Saint Gilles	49.66	312	i P	P	21 11 00.8 -0.8
SGMF				pmax	pmax	
	comp=Z,160nm,1.1s,mb6.0					
SGMF	Saint Gilles	49.66	312	i P	P	21 11 00.8 -0.8
	comp=Z,160nm,1.1s,mb6.0					
EVIA	Vianos	49.70	299	P	P	21 11 02.6 +0.7
EVIA				pmax	pmax	
	comp=Z,101nm,0.6s,mb6.0					
EVIA	Vianos	49.70	299	P	P	21 11 02.6 +0.7
	comp=Z,101nm,0.6s,mb6.0					
KWE	Weaver Farm	49.70	318⇑	eP	P	21 11 00.9 -1.0
SWK	Warminster	49.71	316⇑	eP	P	21 11 01.6 -0.4
LSZ	Lusaka	49.75	216	eP	P	21 11 03.6 +1.3
LSZ				pmax	pmax	
	comp=Z,110nm,1.2s,mb5.8					
LSZ	Lusaka	49.75	216	eP	P	21 11 03.6 +1.3
	comp=Z,109nm,1.3s,mb5.7					
LSZ	Lusaka	49.75	216	eP	P	21 11 03.6 +1.3
	comp=Z,110nm,1.2s,mb5.8					
EHUE	Huescar	49.84	298	P	P	21 11 03.2 +0.2
EHUE				pmax	pmax	
	comp=Z,67nm,1.1s,mb5.6					
EHUE	Huescar	49.84	298	P	P	21 11 03.2 +0.2
	comp=Z,67nm,1.1s,mb5.6					
EHUE	Huescar	49.84	298	P	P	21 11 03.2 +0.2
	comp=Z,67nm,1.1s,mb5.6					
QIZ	Qiongzhong	50.05	87	P	P	21 11 07.0 +2.4
QIZ				AP	pP	21 11 10.0 +0.4
QIZ				S	S	21 18 15.5 +0.5
QIZ				SS	SS	21 21 47.0 -1.0
QIZ				AMB	AMB	
	comp=Z,90nm,1.4s,mb5.6					
QIZ				AMB	AMB	
	comp=Z,1μm,6.3s					
QIZ				LR	LR	
	comp=N,5μm,23.8s					
QIZ				LR	LR	
	comp=Z,2μm,24.4s,MS5.1					
QIZ	Qiongzhong	50.05	87	eP	P	21 11 06.2 +1.7
	comp=Z,91nm,1.0s,mb5.8					
QIZ				LR	LR	
	comp=Z,3μm,20.0s,MS5.3					
QUIF	Quistinic	50.05	311⇑	i P	P	21 11 03.5 -1.1
	comp=Z,217nm,0.9s,mb5.9					
QUIF	Quistinic	50.05	311⇑	i P	P	21 11 03.5 -1.1
QUIF				pmax	pmax	
	comp=Z,109nm,0.9s,mb5.9					
QUIF	Quistinic	50.05	311⇑	i P	P	21 11 03.5 -1.1
	comp=Z,109nm,0.9s,mb5.9					
HGH	Gray Hill	50.11	316⇑	eP	P	21 11 04.0 -1.0
HGH				AMb	AMB	21 11 13.7
	comp=Z,357nm,1.3s,mb6.2					
ROSF	Rostrenen	50.14	312⇑	i P	P	21 11 04.3 -1.0
	comp=Z,307nm,1.1s,mb6.0					
ROSF	Rostrenen	50.14	312⇑	i P	P	21 11 04.3 -1.0
ROSF				pmax	pmax	
	comp=Z,154nm,1.1s,mb6.0					
ROSF	Rostrenen	50.14	312⇑	i P	P	21 11 04.3 -1.0
	comp=Z,154nm,1.1s,mb5.9					
EBER	Berja	50.17	297	⇑P	P	21 11 05.8 +0.3
	comp=Z,479nm,1.7s,mb6.2					
EBER	Berja	50.17	297	⇑P	P	21 11 05.8 +0.3
	comp=Z,479nm,1.7s,mb6.2					
ELAN	Lanestosa	50.17	305	⇑P	P	21 11 05.4 -0.1
	comp=Z,276nm,1.7s,mb6.0					
ELAN	Lanestosa	50.17	305	⇑P	P	21 11 05.4 -0.1
	comp=Z,276nm,1.7s,mb6.0					
EQES	Quesada	50.22	298	⇑P	P	21 11 05.6 -0.2
	comp=Z,184nm,1.4s,mb5.9					
EQES	Quesada	50.22	298	⇑P	P	21 11 05.6 -0.3
	comp=Z,184nm,1.4s,mb5.9					
HLM1	Long Mynd	50.26	317	eP	P	21 11 05.0 -1.2
HLM1				AMb	AMB	21 11 14.4
	comp=Z,179nm,1.2s,mb6.0					
MCH1	Michaelchurch	50.27	317⇑	eP	P	21 11 05.1 -1.1
MCH1				⇑eP		21 11 05.1
MCH1				eP		21 11 05.3
MCH1	Michaelchurch	50.27	317	P	P	21 11 05.3 -1.0
MELI	Melilla	50.39	295	i P	P	21 11 07.2 0.0
HTR	Trewern Hill	50.45	317⇑	eP	P	21 11 06.3 -1.3
HTR				AMb	AMB	21 11 16.0
	comp=Z,274nm,1.4s,mb6.1					
SBD1	Bryn Du	50.53	318⇑	eP	P	21 11 07.5 -0.8
ESY	Stoneypath	50.60	322⇑	eP	P	21 11 08.1 -0.7
ESY				AMb	AMB	21 11 17.4
	comp=Z,286nm,1.5s,mb6.0					
BDL	Dobcross Hall	50.60	320⇑	eP	P	21 11 08.5 -0.3
ECOG	Cogollos-Vega	50.66	297	P	P	21 11 09.0 -0.2
ECOG				pmax	pmax	
	comp=Z,80nm,1.4s,mb5.5					
ECOG	Cogollos-Vega	50.66	297	P	P	21 11 09.0 -0.2
	comp=Z,80nm,1.4s,mb5.5					
CKE	Keswick	50.67	320⇑	eP	P	21 11 08.6 -0.7
HEX	Exmoor	50.68	315⇑	eP	P	21 11 08.1 -1.2
DYA	Yadsworthy	50.71	314⇑	eP	P	21 11 08.4 -1.2
EGUA	Guajares	50.71	297	P	P	21 11 10.0 +0.4
	comp=Z,5.2nm,0.7s,mb4.6					
EGUA	Guajares	50.71	297	P	P	21 11 10.0 +0.4
EBAN	Banos Encina	50.74	299	⇑P	P	21 11 09.7 -0.1
EBAN				pmax	pmax	
	comp=Z,246nm,1.4s,mb5.9					
EBAN	Banos Encina	50.74	299	⇑P	P	21 11 09.7 -0.1
	comp=Z,246nm,1.4s,mb5.9					
EBAN	Banos Encina	50.74	299	P	P	21 11 09.7 -0.1
	comp=Z,246nm,1.4s,mb5.9					
ESDC	Sonseca Array	50.75	301	P	P	21 11 09.9 0.0
	comp=Z,19nm,0.7s,mb5.1,baz=65,slow=7.3,SNR=62					
ESDC				S	S	21 18 23.7 -1.1
	comp=Z,0.5nm,0.6s,baz=160,slow=24,SNR=2.5					
ESDC				LR	LR	21 34 21.2
	comp=Z,2μm,20.4s,MS5.2,baz=135,slow=38					
ESDC	Sonseca Array	50.75	301	⇑P	P	21 11 09.3 -0.6
	comp=Z,49nm,1.4s,mb5.2					
ESLA	Sonseca Array	50.75	301	⇑i P	P	21 11 09.7 -0.1
ESLA	Sonseca Array	50.75	301	⇑i P	P	21 11 09.7 -0.2
ECK	Cauldkaine Hil	50.77	321	eP	P	21 11 08.7 -1.3
ECK				AMb	AMB	21 11 17.9
	comp=Z,68nm,1.2s,mb5.5					
BBO1	Bothel	50.77	320⇑	eP	P	21 11 09.5 -0.5
BHH	Howats Hill	50.81	321⇑	eP	P	21 11 09.0 -1.4
BOD	Bodaibo	50.82	36	eP	P	21 11 09.1 -1.3
BOD				pmax	pmax	
	comp=Z,140nm,1.6s,mb5.6					
BOD	Bodaibo	50.82	36	eP	P	21 11 09.1 -1.3
	comp=Z,140nm,1.6s,mb5.6					
GUD	Guadarrama	50.82	302	⇑P	P	21 11 10.5 +0.1
GUD				pmax	pmax	
	comp=Z,84nm,1.4s,mb5.5					
GUD	Guadarrama	50.82	302	⇑P	P	21 11 10.5 +0.1
	comp=Z,84nm,1.4s,mb5.5					
GUD	Guadarrama	50.82	302	P	P	21 11 10.5 +0.1
	comp=Z,84nm,1.4s,mb5.5					
ESK	Eskdalemuir	50.84	321	eP	P	21 11 09.4 -1.1
XDE	Dent Fell	50.88	320	eP	P	21 11 10.2 -0.7
XDE				AMb	AMB	21 11 19.0
	comp=Z,120nm,1.1s,mb5.8					
ERON	Agron	50.88	297	P	P	21 11 09.9 -1.0
	comp=Z,30nm,0.8s,mb5.3					
ERON	Agron	50.88	297	P	P	21 11 09.9 -1.0
	comp=Z,30nm,0.8s,mb5.3					
EDI	Edinburgh	50.92	322	eP	P	21 11 10.1 -1.0
EDI				AMb	AMB	21 11 21.2
	comp=Z,113nm,1.5s,mb5.6					
WPM1	Penmaenmawr	50.96	318	eP	P	21 11 11.2 -0.3
WHN	Wuhan	50.98	71	⇑P	P	21 11 12.3 +0.7
WHN				S	S	21 18 26.0 -1.9
WHN				AMB	AMB	
	comp=Z,220nm,1.4s,mb5.9					
WHN				LR	LR	
	comp=Z,13μm,17.2s,MS6.0					
MME1	Meikle Cairn	51.05	323⇑	eP	P	21 11 11.0 -1.1
HTL	Hartland	51.10	315	eP	P	21 11 10.9 -1.6
TOU	Touzarine	51.10	294	i P	P	21 11 11.0 -1.6
YLL	Llanberis	51.11	318	eP	P	21 11 11.4 -1.2
ELOJ	Sierra Loja	51.14	297	P	P	21 11 11.7 -1.1
ELOJ				pmax	pmax	
	comp=Z,29nm,0.7s,mb5.3					
ELOJ	Sierra Loja	51.14	297	P	P	21 11 11.7 -1.1
	comp=Z,29nm,0.7s,mb5.3					
ELOJ	Sierra Loja	51.14	297	P	P	21 11 11.7 -1.1
	comp=Z,29nm,0.7s,mb5.3					
BJT	Baijiatuau	51.15	59	eP	P	21 11 13.1 +0.2
BJT				pmax	pmax	
	comp=Z,136nm,1.4s					
BJT	Baijiatuau	51.15	59	eP	P	21 11 13.1 +0.2
	comp=Z,136nm,1.4s,mb5.7					
BJT	Baijiatuau	51.15	59	eP	P	21 11 13.1 +0.2
	comp=Z,136nm,1.4s,mb5.7					
WME	Myndd Eilian	51.22	318	eP	P	21 11 12.9 -0.5
MPAL	Palemas	51.22	295	i P	P	21 11 15.0 +1.6
YRE	Yr Eifl	51.24	318⇑	eP	P	21 11 12.8 -0.8
YRE				AMb	AMB	21 11 18.4
	comp=Z,132nm,1.7s,mb5.6					
MCD	Coleburn Disti	51.25	324⇑	eP	P	21 11 12.8 -0.8
WLF1	Llynfaes	51.26	318⇑	eP	P	21 11 12.6 -1.1
WLF1				AMb	AMB	21 11 21.9
	comp=Z,140nm,1.4s,mb5.7					
BJO	Bjornoya	51.27	348	eP	P	21 11 14.7 +0.8
BJO				eS	S	21 18 31.1 -0.9
BJO				eSS	SS	21 22 13.5 +6.0
BJO				AMS	AMS	21 33 04.7
	comp=Z,4μm,20.9s,MS5.4					
BJO	Bjornoya	51.27	348	eP	P	21 11 14.7 +0.9
	SNR=23					
BJO				eS	S	21 18 31.1 -0.9
	SNR=25					
BJO1	Bjornoya	51.31	348	eP	P	21 11 14.7 +0.6
BJO1	Bjornoya	51.31	348	eP	P	21 11 14.7 +0.6
CSA1	St Austell	51.32	314⇑	eP	P	21 11 13.5 -0.6
WCB1	Church Bay	51.36	318⇑	eP	P	21 11 14.0 -0.5
WCB1				AMb	AMB	21 11 22.8
	comp=Z,246nm,1.2s,mb6.0					
YRC	Rhoscolyn	51.36	318⇑	eP	P	21 11 13.9 -0.6
YRC				AMb	AMB	21 11 20.9
	comp=Z,191nm,1.7s,mb5.8					
EADA	Adamuz	51.36	299	⇑P	P	21 11 14.3 -0.2
	comp=Z,582nm,1.7s,mb6.2					
EADA	Adamuz	51.36	299	⇑P	P	21 11 14.3 -0.2
	comp=Z,582nm,1.7s,mb6.2					
MAL	Malaga	51.40	297	i P	P	21 11 13.6 -1.2
MLA1	Latheron	51.44	325	eP	P	21 11 15.0 -0.1
CMA1	Manaccan	51.45	314⇑	eP	P	21 11 14.2 -1.0
EARI	Arriondas	51.47	305	P	P	21 11 15.0 -0.2
	comp=Z,169nm,2.3s,mb5.6					
EARI	Arriondas	51.47	305	P	P	21 11 15.0 -0.3
	comp=Z,169nm,2.3s,mb5.6					
CGH1	Goonhilly	51.47	314⇑	eP	P	21 11 14.9 -0.4
CRQ2	Rosemanowes 2	51.48	314⇑	eP	P	21 11 14.1 -1.3
CRQ2				AMb	AMB	21 11 24.5
	comp=Z,241nm,1.6s,mb5.9					
CGW	Gweek	51.51	314⇑	eP	P	21 11 14.8 -0.8
WIM	Isle of Man	51.52	319⇑	eP	P	21 11 15.1 -0.6
CCA1	Carnmenellis	51.52	314⇑	eP	P	21 11 15.1 -0.5
TZK	Tazeka	51.59	293	i P	P	21 11 18.0 +1.8
EAB	Aberfoyle	51.60	322	eP	P	21 11 14.5 -1.8
EAB				AMb	AMB	21 11 24.2
	comp=Z,123nm,1.2s,mb5.7					
GAL1	Galloway	51.63	320⇑	eP	P	21 11 15.8 -0.7
EMIJ	Mijas	51.71	297	P	P	21 11 15.8 -1.3
	comp=Z,357nm,1.7s,mb6.0					
EMIJ	Mijas	51.71	297	P	P	21 11 15.8 -1.3
	comp=Z,357nm,1.7s,mb6.0					
CPZ	Penzance	51.75	314⇑	eP	P	21 11 16.7 -0.7
CPZ				AMb	AMB	21 11 25.8
	comp=Z,96nm,1.3s,mb5.6					
PMSU	Muirshiel	51.78	321⇑	eP	P	21 11 16.4 -1.2
MVH1	Achvaich	51.80	324⇑	eP	P	21 11 16.2 -1.6
GZH	Guangzhou	51.90	81	P	P	21 11 19.0 +0.5
GZH				S	S	21 18 41.5 +0.8
GZH				LR	LR	
	comp=N,4μm,23.3s,MS5.4					
GZH				LR	LR	
	comp=E,2μm,22.1s,MS5.4					
GZH				LR	LR	
	comp=Z,4μm,15.9s					
REAL	Reales	52.06	297	eP	P	21 11 19.3 -0.4
ZFT	Errachidia	52.08	291	i P	P	21 11 22.0 +2.2
LIJA	Lijar	52.17	297	i P	P	21 11 19.4 -1.1
GMM	Mts of Mourne	52.28	319⇑	eP	P	21 11 20.5 -0.8
EJIF	Jimena Fronter	52.28	297	P	P	21 11 19.9 -1.4
EJIF				pmax	pmax	
	comp=Z,117nm,1.5s,mb5.6					
EJIF	Jimena Fronter	52.28	297	P	P	21 11 19.9 -1.4
	comp=Z,117nm,1.5s,mb5.6					
TGT	Taghat	52.30	294	i P	P	21 11 23.0 +1.5
TORD	Torodi Ar. Bea	52.30	266	P	P	21 11 21.7 +0.2
	comp=Z,186nm,0.6s,mb6.2,baz=62,slow=7.2,SNR=691					
TORD				LR	LR	21 36 22.7
	comp=Z,7μm,19.9s,MS5.7,baz=65,slow=39					
TORD	Torodi Ar. Bea	52.30	266	P	P	21 11 21.7 +0.2
TORD				LR	LR	21 36 22.6
TIA	Tai'an	52.32	64	P	P	21 11 21.5 -0.1
TIA				S	S	21 18 45.3 -1.0
TIA				AMB	AMB	
	comp=Z,80nm,1.1s,mb5.6					
TIA				LR	LR	
	comp=N,7μm,18.0s,MS5.8					
TIA				LR	LR	
	comp=E,2μm,15.0s,MS5.8					
KAC	Achnashellach	52.32	323⇑	eP	P	21 11 20.7 -0.9
MDAL	Dalia	52.37	296	i P	P	21 11 24.0 +2.0
DSB	Dublin	52.44	318	eP	P	21 11 21.2 -1.3
	comp=E,46nm,0.8s,mb5.5					
DSB	Dublin	52.44	318	eP	P	21 11 21.2 -1.3
	comp=E,46nm,0.8s,mb5.5					
IFR	Ifrane	52.45	293	P	P	21 11 24.5 +1.9
GCL	Cushendall	52.47	320⇑	eP	P	21 11 21.9 -0.8
MOMI	Momias	52.50	296	eP	P	21 11 22.0 -0.9
KAR1	Arisaig	52.52	323⇑	eP	P	21 11 22.4 -0.8
ESPR	Espera	52.53	297	P	P	21 11 22.1 -1.1
	comp=E,185nm,1.3s,mb5.8					
ESPR	Espera	52.53	297	P	P	21 11 22.1 -1.1
	comp=E,185nm,1.3s,mb5.8					
DLF	Lyons Farm	52.54	318	eP	P	21 11 19.8 -3.4
MIF	Mishlifen	52.56	293	i P	P	21 11 25.0 +1.6
ECAL	Calabor	52.67	304	P	P	21 11 24.2 0.0
	comp=E,283nm,1.8s,mb5.9					
ECAL	Calabor	52.67	304	P	P	21 11 24.2 0.0
	comp=E,283nm,1.8s,mb5.9					
PBRG	Braganca	52.69	303	i P	P	21 11 24.6 +0.3
	comp=E,105nm,1.4s,mb5.6					
CNIL	Conil	52.76	297	eP	P	21 11 24.6 -0.3
RSA	Sarsar	52.80	295	i P	P	21 11 26.0 +0.8
DMUB	Kingscourt	52.81	319	eP	P	21 11 21.7 -3.5
SCRT	Cerro San Cris	52.82	297	eP	P	21 11 24.2 -1.1
TSY	Tnine Yamani	52.84	295	i P	P	21 11 26.0 +0.5
HKC	Hong Kong	52.86	81	⇓i P	P	21 11 30.0 +4.3
SFS	San Fernando	52.86	297	P	P	21 11 33.2 +7.5
SFS	San Fernando	52.86	297	i P	P	21 11 24.8 -0.9
EPON	Pontenova	52.88	305	⇑P	P	21 11 25.4 -0.3
	comp=E,315nm,1.8s,mb5.9					
EPON	Pontenova	52.88	305	⇑P	P	21 11 25.4 -0.4
	comp=E,315nm,1.8s,mb5.9					
DCN	Croghan	52.98	318	eP	P	21 11 23.3 -3.3
EMIN	Mina Concepcio	53.06	298	⇑P	P	21 11 26.6 -0.5
	comp=E,262nm,2.0s,mb5.8					
EMIN	Mina Concepcio	53.06	298	⇑P	P	21 11 26.6 -0.5
	comp=E,262nm,2.0s,mb5.8					
EBAD	Badajoz	53.20	300	P	P	21 11 27.4 -0.7
	comp=E,220nm,1.9s,mb5.8					
EBAD	Badajoz	53.20	300	P	P	21 11 27.4 -0.7
	comp=E,220nm,1.9s,mb5.8					
HIA	Hailar	53.35	47	eP	P	21 11 29.2 -0.1
HIA				pmax	pmax	
	comp=Z,57nm,0.9s					
HIA	Hailar	53.35	47	eP	P	21 11 29.2 -0.1
	comp=Z,57nm,0.9s,mb5.5					
KIB	El Ksiba	53.38	292	i P	P	21 11 30.5 +1.0
MTE	Manteigas	53.42	302	i P	P	21 11 30.2 +0.5
	comp=Z,180nm,1.6s,mb5.8					
MTE				eS	S	21 19 00.4 -1.0
MTE				eLQ		21 23 08.1
MTE	Manteigas	53.42	302	⇑i P	P	21 11 30.1 +0.3
MTE	Manteigas	53.42	302	⇑i P	P	21 11 30.1 +0.4
MTE				eS	S	21 19 00.4 -1.0
PCBR	Castelo Branco	53.43	301	i P	P	21 11 30.0 +0.2
	comp=Z,185nm,1.5s,mb5.8					
PVRL	Vila Real	53.46	303	i P	P	21 11 30.4 +0.3
	comp=Z,203nm,1.4s,mb5.9					
PVIS	Viseu	53.65	302	i P	P	21 11 32.1 +0.6
	comp=Z,210nm,1.5s,mb5.8					
PCAB	Cabril	53.65	303	i P	P	21 11 31.9 +0.4
	comp=Z,148nm,1.5s,mb5.7					
ELOB	Lobios	53.66	304	P	P	21 11 31.8 +0.2
	comp=Z,375nm,2.0s,mb6.0					
ELOB	Lobios	53.66	304	P	P	21 11 31.8 +0.3
	comp=Z,375nm,2.0s,mb6.0					
HSP	Hornsund	53.70	350	P	P	21 11 29.9 -1.9
EGRO	El Granado	53.73	298	⇑P	P	21 11 30.9 -1.1
	comp=Z,209nm,1.8s,mb5.8					
EGRO	El Granado	53.73	298	⇑P	P	21 11 30.9 -1.1
	comp=Z,209nm,1.8s,mb5.8					
TZC	Tazercounte	53.84	292	i P	P	21 11 34.0 +1.2
STS	Santiago	53.93	305	P	P	21 11 33.5 0.0
STS				pmax	pmax	
	comp=Z,37nm,0.9s,mb5.3					
STS	Santiago	53.93	305	P	P	21 11 33.5 0.0
	comp=Z,37nm,0.9s,mb5.3					
STS	Santiago	53.93	305	P	P	21 11 33.5 0.0
	comp=Z,37nm,0.9s,mb5.3					
PBEJ	Beja	53.96	299	i P	P	21 11 33.6 -0.1
	comp=Z,107nm,1.4s,mb5.6					
EVO	Evora	54.00	300	⇑i P	P	21 11 34.7 +0.7
	comp=Z,184nm,1.1s,mb5.6					
EVO				eR		
	comp=Z,2μm,21.0s					
PTO	Porto	54.14	303	eP	P	21 11 36.2 +1.2
	comp=Z,114nm,1.5s,mb5.6					
PTOM	Tomar	54.17	301	i P	P	21 11 35.5 +0.3
	comp=Z,202nm,1.5s,mb5.8					
EMAZ	Mazaricos	54.24	305	P	P	21 11 35.5 -0.2
	comp=Z,419nm,2.0s,mb6.0					
EMAZ	Mazaricos	54.24	305	P	P	21 11 35.5 -0.3
	comp=Z,419nm,2.0s,mb6.0					
MOE	Montemor	54.27	300	eP	P	21 11 39.2 +3.3
ALMR	Almeirim	54.36	300	eP	P	21 11 34.4 -2.2
NJ2	Nanjing	54.45	68	eP	P	21 11 37.8 +0.5
NJ2				AP	pP	21 11 42.0 -0.4
NJ2				XP	sP	21 11 44.3 -0.1
NJ2				PCP	PcP	21 12 38.5 -2.3
NJ2				S	S	21 19 15.0 -0.3
NJ2				XS	sS	21 19 23.0 -0.7
NJ2				AMB	AMB	
	comp=Z,140nm,1.4s,mb5.7					
NJ2				AMB	AMB	
	comp=Z,790nm,6.3s					
NJ2				LR	LR	
	comp=N,14μm,16.8s,MS6.2					
NJ2				LR	LR	
	comp=E,10μm,17.9s,MS6.2					
NJ2				LR	LR	
	comp=Z,6μm,18.8s,MS5.7					
MORF	Marmelete	54.68	298	eP	P	21 11 37.0 -1.9
MORF				eS	S	21 19 14.2 -4.2
MORF				eS	S	21 19 14.2 -4.2
MORF				AMS	AMS	21 37 33.6
	comp=N,3μm,21.2s					
MORF	Marmelete	54.68	298	eP	P	21 11 37.0 -1.9
MORF				eS	S	21 19 14.2 -4.2
PTEO	Sao Teotonio	54.70	298	eP	P	21 11 39.7 +0.6
	comp=N,128nm,2.0s,mb5.6					
VAL	Valentia	54.74	316	eP	P	21 11 31.4 -8.0
PLOU	Loures	54.84	300	eP	P	21 11 40.9 +0.8
	comp=N,205nm,1.6s,mb5.9					
LIS	Lisbon	54.86	300	eP	P	21 11 38.1 -2.1
LIS				eS	S	21 19 17.3 -3.5
LIS				eS	S	21 19 17.3 -3.5
LIS				AMS	AMS	21 36 51.6
	comp=E,3μm,20.1s					
LIS	Lisbon	54.86	300	eP	P	21 11 38.1 -2.1
LIS				eS	S	21 19 17.3 -3.5
OUK	Oukaimeden	55.18	291	i P	P	21 11 45.0 +2.4
DL2	Dalian	55.47	60	⇑i P	P	21 11 45.0 +0.3
DL2				XP	sP	21 11 59.5 +7.7
DL2				S	S	21 19 31.0 +1.9
DL2				AMB	AMB	
	comp=Z,50nm,1.3s,mb5.4					
DL2				AMB	AMB	
	comp=Z,500nm,5.3s					
DL2				LR	LR	
	comp=N,2μm,16.9s,MS5.3					
DL2				LR	LR	
	comp=E,2μm,19.7s,MS5.3					
DL2				LR	LR	
	comp=Z,3μm,15.9s,MS5.4					
KBS	Kingsbay	55.57	351	⇑i P	P	21 11 44.7 -

JMIC				*e*			21 19 44.3	
SNY	**Shenyang**	**56.54**	**56**	⇑P	**P**		**21 11 51.8**	**-0.5**
SNY				AP	pP		21 12 02.5	+5.1
SNY				XP	sP		21 12 06.0	+6.6
SNY				PP	PP		21 13 59.0	+0.9
SNY				S	**S**		**21 19 42.0**	**-1.2**
SNY				XS	sS		21 19 54.5	+2.8
SNY				AMB	AMB			
	comp=Z,30nm,1.7s,mb5.0							
SNY				AMB	AMB			
	comp=Z,760nm,6.5s							
SNY				LR	LR			
	comp=E,6μm,14.1s							
SNY				LR	LR			
	comp=Z,7μm,14.9s,MS5.9							
CLNS	**Chul'man**	**56.57**	**38**	*e*P	**P**		**21 11 51.9**	**-0.7**
CLNS				*e*			21 12 43.5	
CLNS				*e*PPP			21 15 11.2	
CLNS				*e*S	**S**		**21 19 43.1**	**-0.6**
CLNS				*e*SS	SS		21 23 36.6	+5.5
CLNS				pmax	pmax			
	comp=Z,106nm,1.5s,mb5.7							
CLNS				pmax	pmax			
	comp=N,30nm,1.6s							
CLNS				pmax	pmax			
	comp=E,40nm,1.2s							
CLNS				smax				
	comp=N,11nm,0.9s							
CLNS				smax				
	comp=Z,8.0nm,0.9s							
CLNS				smax				
	comp=E,10.0nm,1.0s							
CLNS				MLR	MLR			
	comp=E,5μm,13.0s,MS5.9							
CLNS				MLR	MLR			
	comp=Z,7μm,13.0s,MS6.0							
CLNS				MLR	MLR			
	comp=N,4μm,12.0s,MS5.9							
CLNS	**Chul'man**	**56.57**	**38**	*e*P	**P**		**21 11 51.9**	**-0.7**
	comp=N,30nm,1.6s,mb5.1							
CLNS				*e*S	**S**		**21 19 43.1**	**-0.6**
SSE	**Sheshan**	**56.60**	**69**	⇑P	**P**		**21 11 53.5**	**+0.7**
SSE				AP	pP		21 11 56.5	-1.4
SSE				XP	sP		21 11 57.8	-2.0
SSE				PCP	PcP		21 12 51.8	+2.7
SSE				PP	PP		21 13 57.5	-1.2
SSE				S	**S**		**21 19 43.5**	**-0.6**
SSE				AMB	AMB			
	comp=Z,50nm,0.8s,mb5.6							
SSE				AMB	AMB			
	comp=Z,630nm,7.4s							
SSE				LR	LR			
	comp=N,5μm,18.1s,MS5.7							
SSE				LR	LR			
	comp=E,1μm,18.1s,MS5.7							
SSE				LR	LR			
	comp=Z,4μm,20.0s,MS5.5							
CN2	**Changchun**	**57.64**	**53**	*e*P	**P**		**21 11 59.8**	**-0.3**
CN2				*e*XP	sP		21 12 06.0	-1.2
CN2				*e*S	**S**		**21 19 55.0**	**-2.8**
CN2				AMB	AMB			
	comp=Z,40nm,1.4s,mb5.3							
CN2				AMB	AMB			
	comp=Z,200nm,6.0s							
CN2				LR	LR			
	comp=N,6μm,21.0s,MS5.7							
CN2				LR	LR			
	comp=E,2μm,21.0s,MS5.7							
CN2				LR	LR			
	comp=Z,5μm,21.0s,MS5.6							
KSM	**Kuching**	**57.98**	**106**	P	**P**		**21 12 02.0**	**-0.5**
YHNB	**Yeheng**	**58.47**	**76**	*e*P	**P**		**21 12 08.0**	**+2.0**
YHNB	**Yeheng**	**58.47**	**76**	*e*P	**P**		**21 12 08.0**	**+2.1**
TATO	**Taipei**	**58.48**	**76**	*e*P	**P**		**21 12 07.8**	**+1.8**
TATO	**Taipei**	**58.48**	**76**	*e*P	**P**		**21 12 07.8**	**+1.8**
NACB	**Ninganchiao**	**58.81**	**77**	*e*P	**P**		**21 12 10.0**	**+1.7**
NACB	**Ninganchiao**	**58.81**	**77**	*e*P	**P**		**21 12 10.0**	**+1.7**
TSUM	**Tsumeb**	**58.93**	**223**	⇑*i*P	**P**		**21 12 09.8**	**+0.7**
	comp=Z,112nm,1.1s,mb5.8							
TSUM	**Tsumeb**	**58.93**	**223**	⇑*i*P	**P**		**21 12 09.8**	**+0.7**
	comp=Z,112nm,1.1s,mb5.8							
YAK	**Yakutsk**	**59.11**	**32**	*c i*P	**P**		**21 12 08.5**	**-1.8**
YAK				*e*			21 12 56.5	
YAK				*e*			21 14 20.2	
YAK				*e*PPP			21 15 43.4	
YAK				*e*S	**S**		**21 20 12.7**	**-4.1**
YAK				*e*			21 21 56.5	
YAK				*e*SS	SS		21 24 06.6	-4.3
YAK				pmax	pmax			
	comp=Z,58nm,1.5s,mb5.4							
YAK				pmax	pmax			
	comp=N,11nm,1.9s							
YAK				pmax	pmax			
	comp=E,49nm,1.3s							
YAK				pmax	pmax			
	comp=Z,15nm,1.0s,mb5.0							
YAK				pmax	pmax			
	comp=N,8.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,10.0nm,1.4s							
YAK				smax				
	comp=N,11nm,2.0s							
YAK				smax				
	comp=E,11nm,1.3s							
YAK				MLR	MLR			
	comp=N,2μm,12.0s,MS5.7							
YAK				MLR	MLR			
	comp=E,3μm,12.0s,MS5.7							
YAK				MLR	MLR			
	comp=Z,4μm,12.0s,MS5.8							
YAK	**Yakutsk**	**59.11**	**32**	*e*P	**P**		**21 12 08.3**	**-2.1**
	comp=Z,71nm,0.8s,mb5.8							
YAK	**Yakutsk**	**59.11**	**32**	*i* P	**P**		**21 12 08.5**	**-1.8**
	comp=Z,11nm,1.9s,mb4.6							
YAK	**Yakutsk**	**59.11**	**32**	*e*PcP	PcP		21 12 56.5	-2.4
YAK				*e*S	**S**		**21 20 12.7**	**-4.1**
YAK				*e*ScS	ScS		21 21 56.5	-3.3
LBTB	**Lobatse**	**59.25**	**212**	⇑*i*P	**P**		**21 12 12.2**	**+0.9**
LBTB	**Lobatse**	**59.25**	**212**	*e*P	**P**		**21 12 12.5**	**+1.2**
TIXI	**Tiksi**	**59.41**	**21**	*e*P	**P**		**21 12 11.0**	**-1.5**
TIXI				pmax	pmax			
	comp=Z,55nm,1.4s,mb5.4							
TIXI				MLR	MLR			
	comp=N,4μm,12.0s							
TIXI	**Tiksi**	**59.41**	**21**	⇑*i*P	**P**		**21 12 10.0**	**-2.5**
TIXI	**Tiksi**	**59.41**	**21**	*e*P	**P**		**21 12 11.0**	**-1.5**
	comp=N,4μm,12.0s							
INCN	**Inchon**	**59.61**	**61**	*e*P	**P**		**21 12 13.4**	**-0.4**
INCN				LR	LR			
	comp=Z,5μm,19.0s,MS5.7							
INCN	**Inchon**	**59.61**	**61**	*e*P	**P**		**21 12 13.4**	**-0.4**
EFAM	**Famara**	**60.45**	**290**	P	**P**		**21 12 20.0**	**+0.5**
	comp=Z,477nm,2.5s,mb6.1							
EFAM	**Famara**	**60.45**	**290**	P	**P**		**21 12 20.0**	**+0.4**
	comp=Z,477nm,2.5s,mb6.1							
MDJ	**Mudanjiang**	**60.47**	**52**	P	**P**		**21 12 18.5**	**-1.2**
MDJ				AP	pP		21 12 21.5	-3.4
MDJ				PCP	PcP		21 13 03.5	-0.9
MDJ				PP	PP		21 14 31.8	-1.2
MDJ				SCP	ScP		21 17 04.0	-1.0
MDJ				SCS	ScS		21 22 06.0	-3.9
MDJ				SS	SS		21 24 31.0	-1.3
MDJ				AMB	AMB			
	comp=Z,30nm,1.7s,mb5.0							
MDJ				AMB	AMB			
	comp=Z,450nm,6.3s							
MDJ				LR	LR			
	comp=N,3μm,26.9s,MS5.3							
MDJ				LR	LR			
	comp=E,2μm,29.8s,MS5.3							
MDJ				LR	LR			
	comp=Z,5μm,16.6s							
MDJ	**Mudanjiang**	**60.47**	**52**	*e*P	**P**		**21 12 18.2**	**-1.5**
	comp=Z,100nm,1.5s,mb5.6							
MDJ	**Mudanjiang**	**60.47**	**52**	*e*P	**P**		**21 12 18.2**	**-1.5**
	comp=Z,100nm,1.5s,mb5.6							
DAG	**Danmarks Havn**	**60.50**	**345**	⇓*i*P	**P**		**21 12 19.2**	**-0.7**
	comp=Z,11nm,0.5s,mb5.2							
DAG								
	comp=Z,2μm,20.0s							
DAG	**Danmarks Havn**	**60.50**	**345**	⇓*i*P	**P**		**21 12 19.2**	**-0.7**
DAG				pmax	pmax			
	comp=Z,11nm,0.5s,mb5.2							
DAG				MLR	MLR			
	comp=N,2μm,20.0s,MS5.3							
DAG				MLR	MLR			
	comp=Z,2μm,20.0s,MS5.3							
DAG				MLR	MLR			
	comp=E,2μm,21.0s,MS5.3							
BCPH	**Baguio City Da**	**60.55**	**86**	*e*P	**P**		**21 12 20.1**	**-0.1**
KS15	**Wonju Array Si**	**60.59**	**60**	*e*P	**P**		**21 12 20.6**	**+0.1**
KS15	**Wonju Array Si**	**60.59**	**60**	*e*P	**P**		**21 12 20.6**	**+0.1**
APYP	**Conner**	**60.60**	**84**	*e*P	**P**		**21 12 22.5**	**+1.9**
DBIC	**Dimbokro**	**60.90**	**262**	P	**P**		**21 12 22.9**	**+0.2**
	comp=E,85nm,0.7s,mb6.0,baz=46,slow=8.0,SNR=56							
DBIC				LR	LR		21 42 24.5	
	comp=E,5μm,19.2s,MS5.7,baz=41,slow=40							
DBIC	**Dimbokro**	**60.90**	**262**	*e*P	**P**		**21 12 23.5**	**+0.9**
DBIC	**Dimbokro**	**60.90**	**262**	*e*P	**P**		**21 12 23.5**	**+0.9**
KKM	**Kota Kinabalu**	**60.92**	**98**	P	**P**		**21 12 23.2**	**+0.4**
KKM	**Kota Kinabalu**	**60.92**	**98**	*e*P	**P**		**21 12 22.4**	**-0.4**
KKM	**Kota Kinabalu**	**60.92**	**98**	*e*P	**P**		**21 12 22.5**	**-0.3**
CFTV	**Fuerteventura**	**61.11**	**289**	P	**P**		**21 12 24.7**	**+0.6**
	comp=E,31nm,0.9s,mb5.4							
CFTV	**Fuerteventura**	**61.11**	**289**	P	**P**		**21 12 24.7**	**+0.6**
	comp=E,31nm,0.9s,mb5.4							
CVP	**Callao Caves**	**61.17**	**84**	*e*P	**P**		**21 12 29.0**	**+4.5**
KLR	**Kul'dur**	**61.20**	**47**	*de*P	**P**		**21 12 20.8**	**-3.9**
KLR				*e*			21 14 39.5	
KLR				*e*S	**S**		**21 20 35.5**	**-8.2**
KLR				*e*			21 22 05.5	
KLR				*e*SS	SS		21 24 42.0	-1.8
KLR				pmax	pmax			
	comp=E,120nm,1.8s							
KLR				pmax	pmax			
	comp=Z,240nm,1.8s,mb6.0							
KLR				MLR	MLR			
	comp=Z,4μm,14.0s,MS5.8							
LIC	**Lamto**	**61.25**	**262**	⇑*i*P	**P**		**21 12 25.3**	**+0.3**
	comp=Z,234nm,0.8s,mb6.0							
LIC				*e*R				
	comp=Z,6μm,18.8s							
LIC	**Lamto**	**61.25**	**262**	⇑*i*P	**P**		**21 12 25.3**	**+0.3**
	comp=Z,117nm,0.8s,mb6.1							
LIC				LR	LR			
	comp=Z,3μm,18.8s,MS5.4							
LIC	**Lamto**	**61.25**	**262**	⇑*i*P	**P**		**21 12 25.3**	**+0.3**
	comp=Z,117nm,0.8s,mb6.0							
LUBP	**Lubang**	**61.26**	**89**	*e*P	**P**		**21 12 23.8**	**-1.3**
BALP	**Baler**	**61.68**	**86**	*e*P	**P**		**21 12 29.2**	**+1.3**
PMPS	**Porto Santo**	**61.71**	**295**	*e*P	**P**		**21 12 28.9**	**+0.7**
	comp=Z,206nm,1.9s,mb5.9							
TGY	**Tagaytay City**	**61.73**	**88**	LR	LR		21 43 17.7	
	comp=Z,8.8nm,18.7s,baz=51,slow=40							
VLA	**Vladivostok**	**62.38**	**53**	*d i*P	**P**		**21 12 31.3**	**-1.4**
VLA				*e*S	**S**		**21 21 06.3**	**+7.6**
VLA				pmax	pmax			
	comp=Z,143nm,1.6s,mb5.8							
VLA				MLR	MLR			
	comp=Z,4μm,13.7s,MS5.7							
VLA	**Vladivostok**	**62.38**	**53**	*e*P	**P**		**21 12 30.6**	**-2.1**
VLA	**Vladivostok**	**62.38**	**53**	*i* P	**P**		**21 12 31.3**	**-1.4**
	comp=Z,4μm,13.7s							
EOSO	**Osorio**	**62.45**	**289**	P	**P**		**21 12 33.2**	**+0.1**
	comp=Z,481nm,1.9s,mb6.3							
EOSO	**Osorio**	**62.45**	**289**	P	**P**		**21 12 33.2**	**+0.1**
	comp=Z,481nm,1.9s,mb6.3							
BOSA	**Boshof**	**62.48**	**210**	P	**P**		**21 12 33.4**	**+0.2**
	comp=Z,96nm,0.7s,mb6.0,baz=35,slow=7.1,SNR=122							
BOSA				LR	LR		21 38 20.4	
	comp=Z,3μm,21.2s,MS5.5,baz=38,slow=35							
BOSA	**Boshof**	**62.48**	**210**	*e*P	**P**		**21 12 33.7**	**+0.4**
BOSA	**Boshof**	**62.48**	**210**	*e*P	**P**		**21 12 33.7**	**+0.4**
EBAJ	**Bajamar**	**62.98**	**290**	P	**P**		**21 12 36.8**	**+0.2**
	comp=Z,364nm,1.9s,mb6.2							
EBAJ	**Bajamar**	**62.98**	**290**	P	**P**		**21 12 36.8**	**+0.2**
	comp=Z,364nm,1.9s,mb6.2							
CUYO	**Cuyo Island**	**63.11**	**91**	*e*P	**P**		**21 12 38.9**	**+1.4**
HABR	**Khabarovsk**	**63.48**	**47**	⇑*i*P	**P**		**21 12 39.0**	**-0.9**
HABR				*e*S	**S**		**21 21 10.8**	**-1.6**
HABR				pmax	pmax			
	comp=Z,275nm,1.4s,mb6.2							
HABR				MLR	MLR			
	comp=Z,2μm,13.0s,MS5.5							
JOW	**Kunigami**	**63.74**	**72**	LR	LR		21 46 30.7	
	comp=Z,3μm,19.6s,MS5.5,baz=111,slow=42							
SUMG	**Summit**	**65.89**	**341**	*e*P	**P**		**21 12 55.6**	**-0.1**
	comp=Z,138nm,0.9s,mb6.0							
SUMG	**Summit**	**65.89**	**341**	*e*P	**P**		**21 12 55.6**	**-0.1**
	comp=Z,138nm,0.9s,mb6.0							
ALE	**Alert**	**67.04**	**353**	P	**P**		**21 13 02.2**	**-0.8**
	comp=Z,207nm,1.0s,mb6.1,SNR=9.5							
SUR	**Sutherland**	**67.69**	**212**	P	**P**		**21 13 09.4**	**+2.2**
	comp=Z,515nm,1.1s,mb6.5,SNR=13							
SUR	**Sutherland**	**67.69**	**212**	*e*P	**P**		**21 13 09.0**	**+1.8**
	comp=Z,105nm,0.9s,mb5.9							
SUR				LR	LR			
	comp=Z,4μm,20.0s,MS5.7							
SUR	**Sutherland**	**67.69**	**212**	*e*P	**P**		**21 13 09.0**	**+1.8**
	comp=Z,105nm,0.9s,mb5.9							
PDA	**Ponta Delgada**	**67.74**	**302**	*i* P	**P**		**21 13 09.0**	**+1.5**
PDA				*i* S	sS		21 22 19.0	+5.9
MAJO	**Matsushiro**	**68.79**	**59**	*e*P	**P**		**21 13 12.3**	**-1.7**
MAT	**Matsushiro**	**68.79**	**59**	P	**P**		**21 13 12.7**	**-1.3**
MAT				S	S		21 22 13.0	-4.0
MAT	**Matsushiro**	**68.79**	**59**	*e*P	**P**		**21 13 13.0**	**-1.0**
MAT				*e*S	S		21 22 13.0	-4.0
MAT				pmax	pmax			
	comp=Z,58nm,1.5s,mb5.3							
MAT				MLR	MLR			
	comp=Z,3μm,20.0s,MS5.5							
MAT	**Matsushiro**	**68.79**	**59**	*e*P	**P**		**21 13 13.0**	**-1.0**
	comp=Z,58nm,1.5s,mb5.3							
MAT				*e*S	S		21 22 13.0	-4.0
MAT				LR	LR			
	comp=Z,3μm,20.0s,MS5.5							
MAT	**Matsushiro**	**68.79**	**59**	*e*P	**P**		**21 13 13.0**	**-1.0**
	comp=Z,58nm,1.5s,mb5.3							
MAT				*e*S	S		21 22 13.0	-4.0
	comp=Z,3μm,20.0s,MS5.5							
MJAR	**Matsushiro Arr**	**68.79**	**59**	P	**P**		**21 13 13.2**	**-0.8**
	comp=Z,8.5nm,1.1s,mb4.6,baz=287,slow=7.8,SNR=20							
MJAR				PKPPKP			21 41 27.2	
	comp=Z,1.3nm,0.6s,baz=168,slow=4.3,SNR=8.5							
MJAR				LR	LR		21 47 40.2	
	comp=Z,3μm,20.4s,MS5.5,baz=295,slow=40							
YSS	**Yuzh-Sakhalins**	**68.89**	**47**	*e*P	**P**		**21 13 13.8**	**-0.9**
YSS				pmax	pmax			
	comp=Z,130nm,0.9s,mb5.9							
YSS				MLR	MLR			
	comp=Z,2μm,15.0s,MS5.5							
YSS	**Yuzh-Sakhalins**	**68.89**	**47**	*e*P	**P**		**21 13 13.8**	**-0.8**
	comp=Z,134nm,0.9s,mb5.9							
YSS	**Yuzh-Sakhalins**	**68.89**	**47**	*e*P	**P**		**21 13 13.8**	**-0.9**
	comp=Z,2μm,15.0s							
PGRA	**Graciosa**	**69.09**	**304**	*e*P	**P**		**21 13 16.0**	**+0.1**
	comp=Z,162nm,1.2s,mb5.8							
SRBC	**Serra Branca**	**69.13**	**304**	*e*P	**P**		**21 13 18.3**	**+2.1**
PMAN	**Manadas**	**69.29**	**304**	*e*P	**P**		**21 13 18.1**	**+0.9**
	comp=Z,234nm,1.3s,mb6.0							
PID	**Ribeirinha**	**69.37**	**303**	*e*P	**P**		**21 13 19.6**	**+1.9**
ROSA	**Rosais**	**69.38**	**304**	*e*P	**P**		**21 13 19.8**	**+2.1**
KAPI	**Kappang**	**69.38**	**107**	P	**P**		**21 13 17.9**	**+0.2**
	comp=Z,480nm,1.2s,mb6.3,SNR=9.1							
PICO	**Pico**	**69.58**	**304**	*e*P	**P**		**21 13 20.3**	**+1.3**
MA2	**Magadan**	**69.65**	**33**	*e*P	**P**		**21 13 18.1**	**-1.3**
MA2				*e*			21 13 46.8	
MA2				*e*			21 15 48.3	
MA2				*e*S	S		21 22 23.4	-3.9
MA2				*e*PS			21 22 46.7	
MA2				*e*			21 23 15.4	
MA2				pmax	pmax			
	comp=Z,80nm,1.3s,mb5.5							
MA2				MLR	MLR			
	comp=Z,2μm,15.3s,MS5.5							
MA2	**Magadan**	**69.65**	**33**	*e*P	**P**		**21 13 19.1**	**-0.3**
MA2	**Magadan**	**69.65**	**33**	*e*P	**P**		**21 13 18.1**	**-1.3**
	comp=Z,80nm,1.3s,mb5.5							
MA2				*e*S	S		21 22 23.4	-3.9
MA2				*e*ScS	ScS		21 23 15.4	-5.1
	comp=Z,2μm,15.3s							
JHJ	**Hachijo jima 2**	**71.14**	**62**	LR	LR		21 49 01.1	
	comp=Z,4μm,18.8s,MS5.7,baz=310,slow=40							
SFJD	**Kangerlussuaq**	**71.71**	**337**	⇑*i*P	**P**		**21 13 30.9**	**-1.0**
	comp=Z,106nm,1.6s,mb5.5							
SFJD				*i* S	S		21 22 50.0	-1.2
SFJD								
	comp=Z,2μm,21.0s							
SFJD	**Kangerlussuaq**	**71.71**	**337**	P	**P**		**21 13 31.6**	**-0.3**
SFJD				*i* S	S		21 22 50.0	-1.2
YUK	**Yuzh-Kuril'sk**	**71.89**	**49**	*e*P	**P**		**21 13 31.0**	**-2.0**
YUK				*e*			21 13 49.0	
YUK				*e*S	S		21 22 49.0	-4.2
YUK				pmax	pmax			
	comp=Z,2μm,3.0s							
YUK				smax				
	comp=N,2μm,4.0s							
YUK				MLR	MLR			
	comp=E,6μm,17.0s							
YUK				MLR	MLR			
	comp=Z,6μm,17.0s,MS5.9							
YUK	**Yuzh-Kuril'sk**	**71.89**	**49**	*e*P	**P**		**21 13 31.0**	**-2.0**
	comp=Z,2μm,3.0s							
YUK	**Yuzh-Kuril'sk**	**71.89**	**49**	*e*PcP	PcP		21 13 49.0	-2.7
	comp=Z,2μm,4.0s							
YUK				*e*S	S		21 22 49.0	-4.2
BILL	**Bilibino**	**72.60**	**22**	⇓*e*P	**P**		**21 13 32.3**	**-5.0**
BILL				*e*S	S		21 22 59.4	-2.0
BILL				pmax	pmax			
	comp=Z,140nm,0.6s,mb6.1							
SKR	**Severo-Kuril's**	**75.81**	**40**	*e*P	**P**		**21 13 50.0**	**-6.0**
SKR				*e*			21 23 26.0	
SKR				MLR	MLR			
	comp=N,6μm,16.0s,MS6.1							
SKR				MLR	MLR			
	comp=E,3μm,16.0s,MS6.1							
SKR				MLR	MLR			
	comp=Z,2μm,16.0s,MS5.6							
PET	**Petropavlovsk**	**76.21**	**37**	*c i*P	**P**		**21 13 55.5**	**-2.8**
PET				*i* S	S		21 23 36.4	-5.5
PET				*e*PS			21 23 59.8	
PET				*e*PPS			21 24 21.6	
PET				*e*SSS			21 31 50.7	
PET				pmax	pmax			
	comp=Z,800nm,4.3s							
PET				pmax	pmax			
	comp=Z,28nm,1.5s,mb5.0							
PET				MLR	MLR			
	comp=Z,3μm,20.0s,MS5.6							
PET	**Petropavlovsk**	**76.21**	**37**	*i* P	**P**		**21 13 55.5**	**-2.8**
	comp=Z,28nm,1.5s,mb5.0							
RES	**Resolute Bay**	**76.93**	**352**	*e*P	**P**		**21 14 02.1**	**-0.2**
MBWA	**Marble Bar**	**78.14**	**121**	*e*P	**P**		**21 14 10.8**	**+1.6**
	comp=Z,77nm,1.1s,mb5.5							
FITZ	**Fitzroy Crossi**	**81.12**	**115**	P	**P**		**21 14 25.3**	**0.0**
	comp=Z,87nm,1.1s,mb5.6,baz=252,slow=4.7,SNR=2.3							
FITZ	**Fitzroy Crossi**	**81.12**	**115**	*e*P	**P**		**21 14 25.0**	**-0.3**
	comp=Z,166nm,0.9s,mb6.0							
MUN	**Mundaring**	**82.05**	**132**	*e*P	**P**		**21 14 29.8**	**-0.4**
KLBR	**Kellerberrin**	**82.85**	**131**	*e*P	**P**		**21 14 34.1**	**-0.3**
	comp=Z,125nm,1.2s,mb5.8							
NWAO	**Narrogin (SRO)**	**83.32**	**132**	P	**P**		**21 14 37.0**	**+0.2**
	comp=Z,84nm,1.1s,mb5.7,baz=289,slow=6.4,SNR=2.7							
NWAO	**Narrogin (SRO)**	**83.32**	**132**	P	**P**		**21 14 37.0**	**+0.2**
NWAO				pmax	pmax			
	comp=Z,84nm,1.1s							
NWAO	**Narrogin (SRO)**	**83.32**	**132**	*e*P	**P**		**21 14 36.2**	**-0.6**
	comp=Z,107nm,1.1s,mb5.8							
KAKA	**Kakadu**	**84.06**	**107**	*e*P	**P**		**21 14 40.7**	**+0.1**
	comp=Z,166nm,0.7s,mb6.3							
INK	**Inuvik**	**84.86**	**3**	*e*P	**P**		**21 14 44.5**	**-0.2**
INK				pmax	pmax			
	comp=Z,54nm,1.0s							
INK	**Inuvik**	**84.86**	**3**	*e*P	**P**		**21 14 43.4**	**-1.3**
	comp=Z,2μm,1.0s							
INK	**Inuvik**	**84.86**	**3**	*e*P	**P**		**21 14 44.5**	**-0.2**
	comp=Z,54nm,1.0s,mb5.6							
SCHQ	**Schefferville**	**84.97**	**331**	P	**P**		**21 14 44.0**	**-1.2**
	comp=Z,18nm,0.7s,mb5.3,baz=56,slow=6.2,SNR=12							
SCHQ				S			21 25 12.8	
	comp=Z,1.8nm,0.9s,baz=217,slow=20,SNR=1.7							
SCHQ				LR	LR		21 55 26.2	
	comp=Z,2μm,20.3s,MS5.4,baz=96,slow=38							
SCHQ	**Schefferville**	**84.97**	**331**	*e*P	**P**		**21 14 43.8**	**-1.5**
	comp=Z,31nm,0.9s,mb5.4							
SCHQ	**Schefferville**	**84.97**	**331**	*e*P	**P**		**21 14 43.8**	**-1.4**
	comp=Z,31nm,0.9s,mb5.4							
COLA	**College**	**86.73**	**10**	P	**P**		**21 14 53.8**	**-0.1**
COLA				pmax	pmax			
	comp=Z,62nm,1.1s,mb5.8							
COLA	**College**	**86.73**	**10**	*e*P	**P**		**21 14 53.0**	**-0.9**
	comp=Z,62nm,1.1s,mb5.8							
COLA	**College**	**86.73**	**10**	P	**P**		**21 14 53.8**	**-0.1**
	comp=Z,62nm,1.1s,mb5.8							
AMKA	**Amchitka**	**87.63**	**32**	*e*P	**P**		**21 14 57.0**	**-1.3**
AMKA	**Amchitka**	**87.63**	**32**	*e*P	**P**		**21 14 57.0**	**-1.3**
DAWY	**Dawson**	**88.59**	**7**	*e*P	**P**		**21 15 02.5**	**-0.3**
DAWY	**Dawson**	**88.59**	**7**	*e*P	**P**		**21 15 02.5**	**-0.4**
SVW2	**Sparrevohn**	**88.72**	**15**	*e*P	**P**		**21 15 03.4**	**0.0**
WRA	**Warramunga Arr**	**89.14**	**113**	P	**P**		**21 15 05.3**	**-0.2**
	comp=Z,31nm,1.1s,mb5.6,baz=314,slow=4.1,SNR=25							
WRA				PKKPbc	PKKPbc		21 32 42.6	+0.2
	comp=Z,0.8nm,0.7s,baz=108,slow=3.1,SNR=8.0							
WRAB	**Tennant Creek**	**89.15**	**113**	P	**P**		**21 15 06.0**	**+0.5**
	comp=Z,456nm,1.1s,mb6.7,SNR=10							
WRAB	**Tennant Creek**	**89.15**	**113**	*e*P	**P**		**21 15 05.5**	**+0.1**
WRAB	**Tennant Creek**	**89.15**	**113**	*e*P	**P**		**21 15 06.0**	**+0.5**
WB2	**Warramunga Arr**	**89.15**	**113**	*e*P	**P**		**21 15 05.5**	**0.0**
MENT	**Mentasta**	**89.16**	**9**	*e*P	**P**		**21 15 04.7**	**-0.8**
SML	**Sawmill**	**89.52**	**11**	*e*P	**P**		**21 15 06.5**	**-0.7**
SML	**Sawmill**	**89.52**	**11**	*e*P	**P**		**21 15 07.0**	**-0.2**
PMR	**Palmer**	**89.58**	**12**	*e*P	**P**		**21 15 07.1**	**-0.4**
PMR				pmax	pmax			
	comp=Z,71nm,1.0s,mb6.0							
PMR	**Palmer**	**89.58**	**12**	*e*P	**P**		**21 15 06.5**	**-1.0**
	comp=Z,48nm,0.9s,mb5.8		

SYO	Syowa Base	96.33 186	⇑eP	P	21 15 38.4	-0.2
SYO	Syowa Base	96.33 186	⇓epP	pP	21 15 45.6	+1.6
FFC	Flin Flon	96.53 347	eP	P	21 15 39.4	-0.1
FFC			pmax	pmax		
comp=Z,46nm,1.5s,mb5.7						
FFC	Flin Flon	96.53 347	eP	P	21 15 38.7	-0.8
comp=Z,46nm,1.5s,mb5.7						
FFC	Flin Flon	96.53 347	eP	P	21 15 39.4	-0.1
comp=Z,46nm,1.5s,mb5.7						
MIR	Mirnyy	97.30 166	d iP	P	21 15 44.0	+1.0
MIR			pmax	pmax		
comp=Z,200nm,1.2s,mb6.4						
ULM	Lac du Bonnet	99.23 342	P	P	21 15 52.5	+0.8
comp=Z,1.8nm,0.8s,mb4.7,baz=33,slow=8.1,SNR=3.9						
ULM			LR	LR	22 05 28.9	
comp=Z,2μm,18.9s,MS5.6,baz=27,slow=38						
EDM	Edmonton	99.70 353	ePdif	Pdif	21 15 53.3	-0.4
EDM	Edmonton	99.70 353	eP	Pdif	21 15 54.1	+0.3
CASY	Casey	101.67 160	PFAKE		21 16 10.0	+7.5
CASY			LR	LR		
comp=Z,2μm,22.0s,MS5.6						
AAM	Ann Arbor	101.68 331	PFAKE		21 16 10.0	+7.4
AAM			LR	LR		
comp=Z,831nm,19.0s,MS5.3						
MAIT	Maitri	102.21 194	ePdiff	Pdif	21 16 05.5	+0.6
ACSO	Alum Creek Sta	103.03 329	PFAKE		21 16 20.0	+11
ACSO			LR	LR		
comp=Z,3μm,21.0s,MS5.8						
NEW	Newport	104.95 355	PP	PP	21 20 35.2	-2.2
comp=Z,1.5nm,0.3s,baz=65,slow=18,SNR=4.5						
LAO	LASA Array	105.01 347	PFAKE		21 16 30.0	+13
LAO			LR	LR		
comp=Z,3μm,21.0s,MS5.8						
BSMT	Bassoo Peak	105.15 353	ePKiKP	PKiKP	21 20 34.9	+2.5
WCI	Wyandotte Cave	106.16 330	PFAKE		21 20 40.0	+5.8
WCI			LR	LR		
comp=Z,3μm,21.0s,MS5.8						
YMR	Madison River	107.80 350	PFAKE		21 20 50.0	+13
YMR			LR	LR		
comp=Z,2μm,21.0s,MS5.7						
LKWY	Lake	107.81 350	PFAKE		21 20 50.0	+13
LKWY			LR	LR		
comp=Z,3μm,20.0s,MS5.9						
GOGA	Godfrey	108.67 325	PFAKE		21 20 50.0	+11
GOGA			LR	LR		
comp=Z,1μm,22.0s,MS5.5						
BDFB	Brasilia	109.04 262	PP	PP	21 21 09.6	+2.2
comp=Z,9.7nm,1.0s,baz=72,slow=12,SNR=5.3						
HLID	Hailey	109.35 352	PFAKE		21 20 50.0	+10
HLID			LR	LR		
comp=Z,2μm,19.0s,MS5.7						
BW06	Boulder Array	109.42 349	PFAKE		21 20 50.0	+10
BW06			LR	LR		
comp=Z,3μm,20.0s,MS5.8						
PDAR	Pinedale Array	109.42 349	PP	PP	21 21 12.4	+2.3
comp=Z,2.2nm,0.8s,baz=55,slow=7.9,SNR=6.4						
PDAR			PKKPab	PKKPab	21 31 57.2	-0.1
comp=Z,2.6nm,0.8s,baz=171,slow=3.5,SNR=14						
AHID	Auburn Hatcher	109.68 350	PFAKE		21 20 50.0	+9.2
AHID			LR	LR		
comp=Z,2μm,21.0s,MS5.6						
HWUT	Hardware Ranch	110.88 350	PFAKE		21 20 50.0	+6.9
HWUT			LR	LR		
comp=Z,2μm,22.0s,MS5.7						
DRV	Dumont d'Urvil	112.10 155	PP	PP	21 21 30.0	+0.6
DRV			SP	SP	21 30 59.0	-1.6
DRV			SS	SS	21 37 00.0	-6.9
MPU	Maple Canyon	112.45 350	PFAKE		21 21 00.0	+14
MPU			LR	LR		
comp=Z,4μm,20.0s,MS6.0						
DUG	Dugway	112.45 351	PFAKE		21 21 00.0	+14
DUG			LR	LR		
comp=Z,2μm,22.0s,MS5.6						
MNV	Mina	114.80 355	ePKiKP	PKiKP	21 20 55.4	+4.9
NVAR	Mina Array Bea	114.82 355	PKP	PKiKP	21 20 51.4	+0.8
comp=Z,3.5nm,0.7s,baz=50,slow=1.9,SNR=8.7						
NVAR			PKKPab	PKKPab	21 31 36.9	+3.4
comp=Z,1.7nm,0.9s,baz=180,slow=5.3,SNR=3.7						
ANMO	Albuquerque	116.28 344	PFAKE		21 21 00.0	+6.6
ANMO			LR	LR		
comp=Z,2μm,20.0s,MS5.8						
QSPA	South Pole Qui	116.71 180	eP	PKPdf	21 20 53.0	-1.2
WUAZ	Wupatki	116.79 348	PFAKE		21 21 00.0	+5.6
WUAZ			LR	LR		
comp=Z,1μm,19.0s,MS5.5						
OSI	Osito Adit	118.64 355	⇓S	Sdif	21 29 57.4	-7.2
baz=1.0						
PFO	Pinyon Flat Ob	119.42 353	⇓S	Sdif	21 30 22.1	+11
baz=1.8						
VNDA	Vanda	119.50 166	PKP	PKPdf	21 20 58.6	-0.9
comp=Z,1.4nm,0.9s,baz=292,slow=3.6,SNR=4.6						
VNDA			PP	PP	21 22 21.5	+0.2
comp=Z,5.3nm,1.1s,baz=282,slow=5.8,SNR=5.3						
VNDA			PKKPbc	PKKPbc	21 31 11.5	+0.7
comp=Z,1.9nm,1.0s,baz=57,slow=3.2,SNR=7.4						
VNDA	Vanda	119.50 166	PKP	PKPdf	21 20 58.6	-0.9
VNDA			PP	PP	21 22 21.5	+0.1
VNDA			PKKPbc	PKKPbc	21 31 11.5	+0.7
VNDA			LR	LR		
comp=Z,2μm,20.0s,MS5.7						
GLA	Glamis	119.76 351	ePKiKP	PKPdf	21 21 01.7	+1.6
TUC	Tucson	119.79 347	ePKiKP	PKPdf	21 21 01.4	+1.3
SBA	Scott Base	120.45 167	ePKiKP	PKPdf	21 21 01.3	-0.1
LTX	Lajitas	120.77 339	ePKiKP	PKPdf	21 21 02.7	+0.7
SIV	San Ignacio	120.78 267	PKP	PKPdf	21 21 02.7	+0.6
comp=Z,3.2nm,0.6s,baz=147,slow=1.3,SNR=9.5						
SIV			PP	PP	21 22 26.8	-3.3
comp=Z,14nm,1.2s,baz=72,slow=10,SNR=4.8						
SIV			PKKPab	PKKPab	21 31 08.7	+1.4
comp=Z,0.6nm,0.3s,baz=131,slow=1.3,SNR=3.3						
CPUP	Villa Florida	120.90 254	ePKiKP	PKPdf	21 21 02.3	0.0
CPUP			e		21 22 30.8	
CPUP	Villa Florida	120.90 254	ePP	PP	21 22 30.8	-0.2
TEIG	Tepich	121.67 320	PFAKE		21 21 10.0	+6.3
TEIG			LR	LR		
comp=Z,1μm,21.0s,MS5.5						
KIP	Kipapa	121.88 38	PFAKE		21 21 10.0	+5.9
KIP			LR	LR		
comp=Z,1μm,19.0s,MS5.5						
EFI	East Falkland	125.23 224	PFAKE		21 21 20.0	+9.4
EFI			LR	LR		
comp=Z,2μm,20.0s,MS5.8						
RPZ	Rata Peaks	125.85 126	PKP	PKPdf	21 21 11.8	+0.1
comp=Z,7.6nm,0.5s,baz=22,slow=6.3,SNR=3.9						
LPAZ	La Paz	127.19 269	PKP	PKPdf	21 21 15.4	+1.1
comp=Z,5.1nm,0.7s,baz=17,slow=4.8,SNR=18						
TRQA	Tornquist	127.22 241	ePKPdf	PKPdf	21 21 14.5	+0.1
CMIG	Matias Romero	127.87 324	PKP	PKPdf	21 21 15.6	0.0
comp=Z,7.9nm,0.7s,baz=45,slow=3.3,SNR=12						
SNZO	South Karori	128.36 123	PFAKE		21 21 30.0	+13
SNZO			LR	LR		
comp=Z,1μm,22.0s,MS5.5						
OTAV	Otavalo	128.44 294	ePKPdf	PKPdf	21 21 19.0	+2.3
LVC	Limon Verde	129.95 262	PKP	PKPdf	21 21 21.8	+2.2
comp=Z,32nm,1.2s,baz=73,slow=3.6,SNR=16						
LVC	Limon Verde	129.95 262	ePKPdf	PKPdf	21 21 21.5	+1.9
LVC			ePP	PP	21 23 32.8	+1.4
URZ	Urewera	129.97 119	PKP	PKPdf	21 21 19.8	+0.2
comp=Z,11nm,0.9s,baz=99,slow=10,SNR=4.1						
ARE	Arequipa	130.25 271	ePKiKP	PKPdf	21 21 22.0	+1.9
CFAA	Coronel Fontan	131.40 250	PKP	PKPdf	21 21 23.8	+1.5
comp=Z,1.5nm,0.8s,baz=70,slow=1.2,SNR=24						
CFAA			SKPab		21 24 49.5	
comp=Z,1.6nm,1.0s,baz=39,slow=1.5,SNR=8.8						
ATAH	Atahualpa	132.29 286	PKP	PKPdf	21 21 27.0	+3.0
comp=Z,4.6nm,0.6s,baz=112,slow=2.0,SNR=8.5						
ATAH			SKPbc	SKPbc	21 24 54.4	+4.4
comp=Z,5.7nm,0.7s,baz=66,slow=10.0,SNR=3.0						
RAO	Raoul Island	132.86 106	PFAKE		21 21 40.0	+15
RAO			LR	LR		
comp=Z,797nm,21.7s,MS5.4						
NNA	Nana	133.25 279	ePKPdf	PKPdf	21 21 26.6	+0.8
PLCA	Paso Flores	134.01 238	PKP	PKPdf	21 21 28.8	+1.6
comp=Z,13nm,1.1s,baz=209,slow=1.2,SNR=10						
PLCA	Paso Flores	134.01 238	ePKPdf	PKPdf	21 21 28.7	+1.5
RAR	Rarotonga	147.08 88	PKPbc	PKPbc	21 21 52.2	-0.6
comp=Z,14nm,0.8s,baz=254,slow=7.4,SNR=2.8						
RAR	Rarotonga	147.08 88	PKP2	PKPab	21 21 52.2	-2.2
RAR			pmax	pmax		
comp=Z,14nm,0.8s						
PPT	Papeete	154.77 74	ePP	PP	21 25 51.9	-10
comp=Z,152nm,24.0s						
PPT	Papeete	154.77 74	eSS	SS	21 45 39.3	-3.7
comp=Z,305nm,24.8s						
PPT			eLR	LR	22 13 55.8	
comp=Z,3μm,29.5s						
TAOE	Nuku Hiva Isla	156.56 43	eLR	LR	22 14 52.9	
comp=Z,5μm,27.7s						
TBI	Tubuai	156.85 87	ePP	PP	21 26 06.0	-7.2
comp=Z,145nm,25.8s						
TBI	Tubuai	156.85 87	eSS	SS	21 45 54.8	-11
comp=Z,622nm,31.8s						
TBI			eLR	LR	22 14 23.1	
comp=Z,2μm,26.2s						
RKT	Rikitea	169.52 72	eLR	LR	22 20 40.3	

ISCJB ***28*** *21:04:02.8±0.9, 203S±02×1778W±02, h500km, mb3.9/9, Error ellipse: s-maj=25.2km s-min=16.2km az=116.4*
IDC ***28*** *21:04:08.9±5.4, 2056S×17771W, h570km±64km, mb3.2/5, mb1 3.6/6, mb1mx3.4/13, mbtmp4.2/6, Error ellipse: s-maj=37.6km s-min=25.5km az=169.0*
NEIC ***28*** *21:04:10.9±3.3, 2066S×17775W, h599km±40km, mb4.4/5, Error ellipse: s-maj=27.4km s-min=17.3km az=190.0*
ISC 28 21:04:03.7±0.9,**204S**±02×**1777W**±02,**h500km,n19,**
σ0°**46**/14,**mb3.9**/9,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.35	193	P	P		21 07 46.8	-0.4
0.8nm,0.3s,baz=7.8,slow=2.3,SNR=5.4								
CTA	Charters Tower	33.82	264	eP	P		21 10 04.1	+0.5
5.5nm,0.4s,mb4.3								
CTAO	Charters Tower	33.82	264	eP	P		21 10 04.5	+0.9
7.6nm,0.5s,mb4.4								
AS31	Alice Springs	44.85	257	eP	P		21 11 32.9	+0.2
ASAR	Alice Springs	44.85	257	P	P		21 11 33.0	+0.3
6.2nm,0.8s,mb4.1,baz=96,slow=7.6,SNR=48								
ASAR				PcP	PcP		21 13 03.5	-0.4
0.5nm,0.9s,baz=101,slow=3.8,SNR=4.3								
ASPA	Alice Springs	44.86	257	eP	P		21 11 32.9	+0.2
WB2	Warramunga Arr	44.92	262	eP	P		21 11 32.4	-0.8
WRAB	Tennant Creek	44.93	262	eP	P		21 11 33.1	-0.1
6.8nm,0.8s,mb4.1								
WRA	Warramunga Arr	44.94	262	P	P		21 11 33.3	0.0
3.5nm,0.6s,mb4.0,baz=97,slow=7.6,SNR=42								
KAKA	Kakadu	48.30	271	eP	P		21 11 58.6	-0.2
8.4nm,0.6s,mb4.2								
FITZ	Fitzroy Crossi	53.36	262	eP	P		21 12 36.0	+0.3
3.4nm,0.4s,mb4.0								
MJAR	Matsushiro Arr	70.34	323	P	P		21 14 25.7	-0.8
2.2nm,0.6s,mb3.9,baz=156,slow=5.2,SNR=4.5								
NVAR	Mina Array Bea	80.74	43	P	P		21 15 25.0	+0.6
0.5nm,0.7s,mb3.2,baz=227,slow=9.2,SNR=3.7								
PDAR	Pinedale Array	88.68	43	P	P		21 16 03.1	-0.1
0.4nm,0.6s,mb3.5,baz=276,slow=4.3,SNR=3.9								
BVAR	Borovoye Array	119.23	320	PKP	PKPdf		21 21 53.5	-2.1
0.6nm,0.5s,baz=130,slow=2.3,SNR=3.7								
ZRNK	Zerenda	120.07	320	ePKPdf	PKPdf		21 21 55.0	-2.1
AKASG	Malin Array Be	143.10	331	PKP	PKPdf		21 22 36.1	-4.2
1.4nm,0.4s,baz=41,slow=4.0,SNR=11								
CLL	Collm	148.06	347	i PKPbc	PKPbc		21 22 51.7	-0.9
GERES	GERESS Array B	150.21	345	PKPbc	PKPbc		21 22 55.7	-2.1
0.4nm,0.6s,baz=79,slow=2.9,SNR=4.1								

ISCJB ***28*** *21:16:10.2±0.7, 2690N±008×557E±0.1, h10km, mb3.9/8, Error ellipse: s-maj=18.2km s-min=8.2km az=120.8*
IDC ***28*** *21:16:10.0±1.0, 2687N×5571E, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.7/21, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=27.7km s-min=19.5km az=104.0*
NEIC ***28*** *21:16:11.8±0.6, 2690N×5571E, h10km, mb4.1/1, Error ellipse: s-maj=16.3km s-min=11.7km az=66.0*
CSEM ***28*** *21:16:11.8, 2690N×5571E, h10km, mb4.1/1, After NEIC*
ISC 28 21:16:12.9±6.7,**2696N**±008×**557E**±01,**h15**km±43km,**n15,**
σ0°**71**/16,**mb3.9**/8,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	4.54	144	Pn	Pn		21 17 21.0	0.0
2.8nm,0.3s,baz=294,slow=12,SNR=5.9								
WSAR				Sn	Sn		21 18 13.9	+0.4
3.7nm,0.3s,baz=356,slow=13,SNR=2.3								
BR131	Keskin Array S	22.35	310	P	P		21 21 11.4	+1.3
5.2nm,0.7s,mb4.1								
BR131	Keskin Array S	22.35	310	P	P		21 21 11.4	+1.3
5.2nm,0.7s,mb4.1								
BRTR	Keskin Array B	22.35	310	P	P		21 21 17.3	+7.2
5.4nm,0.7s,mb4.1,baz=126,slow=12,SNR=12								
AKTK	Aktyubinsk	23.51	4	P	P		21 21 22.1	-0.2
AKTK	Aktyubinsk	23.51	4	P	P		21 21 22.1	-0.3
AKTO	Aktyubinsk	23.51	4	P	P		21 21 22.1	-0.2
1.2nm,0.6s,mb3.5,baz=162,slow=12,SNR=4.6								
BVAR	Borovoye Array	28.25	19	P	P		21 22 05.3	0.0
2.1nm,0.8s,mb3.8,baz=201,slow=7.9,SNR=7.2								
MKAR	Makanchi Array	28.82	40	P	P		21 22 10.5	+0.2
0.3nm,0.6s,mb3.2,baz=217,slow=8.4,SNR=2.4								
KHC	Kasperske Hory	39.23	316	eP	P		21 23 40.5	0.0
FINES	FINESS Array B	39.81	338	P	P		21 23 45.0	-0.3
1.7nm,1.0s,mb3.7,baz=151,slow=13,SNR=3.4								
NB2	NORSAR Subarra	45.28	331	P	P		21 24 35.2	+5.4
comp=Z,1.0nm,0.8s,mb3.7,baz=117,slow=7.9								
NOA	NORSAR Array B	45.28	331	P	P		21 24 35.5	+5.7
comp=Z,1.4nm,0.9s,mb3.8,baz=118,slow=7.9,SNR=4.9								
TORD	Torodi Ar. Bea	52.22	266	P	P		21 25 24.0	+0.9
comp=Z,2.9nm,0.6s,mb4.4,baz=63,slow=7.4,SNR=18								
BOSA	Boshof	62.51	210	P	P		21 26 33.9	-1.8
comp=Z,5.9nm,1.1s,mb4.6,baz=354,slow=10,SNR=2.8								

IDC ***28*** *21:18:16.0±1.2, 1221N×14453E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, Error ellipse: s-maj=46.7km s-min=16.4km az=100.0*
ISCJB ***28*** *21:18:19.1±6.3, 122N±0.1×1444E±03, h32km±47km, mb3.8/7, Error ellipse: s-maj=44.1km s-min=13.3km az=34.4*
NEIC ***28*** *21:18:20.6±5.7, 1223N×14454E, h32km±43km, mb4.2/1, Error ellipse: s-maj=38.3km s-min=13.4km az=94.0*
ISC 28 21:18:18.5±7.1,**122N**±01×**1445E**±03,**h16**km±45km,**n8,**
σ0°**66**/9,**mb3.8**/7,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.42	16	Pn	Pn		21 18 43.7	-0.1
34nm,0.3s,baz=187,slow=9.7,SNR=16								
GUMO				Sn	Sn		21 19 02.7	+0.5
51nm,0.3s,baz=31,slow=22,SNR=8.2								
WRA	Warramunga Arr	33.47	197	P	P		21 24 57.1	+0.2
1.9nm,0.8s,mb4.1,baz=20,slow=9.6,SNR=6.7								
ASAR	Alice Springs	37.12	196	P	P		21 25 28.9	+0.6
1.2nm,0.7s,mb3.9,baz=21,slow=10,SNR=14								
SONM	Songino Array	47.64	326	P	P		21 26 54.7	+0.7
0.4nm,0.5s,mb3.7,baz=131,slow=7.9,SNR=2.8								
MKAR	Makanchi Array	62.21	317	P	P		21 28 40.0	+0.6
0.6nm,0.7s,mb3.8,baz=90,slow=8.4,SNR=5.9								
BVAR	Borovoye Array	70.76	322	P	P		21 29 33.7	-0.4
0.6nm,0.5s,mb3.8,baz=107,slow=5.5,SNR=4.6								
ZRNK	Zerenda	71.59	322	eP	P		21 29 37.7	-1.4
3.5nm,1.3s,mb4.1								
YKA	Yellowknife Ar	84.25	27	P	P		21 30 48.8	-0.6
0.2nm,0.6s,mb3.5,baz=288,slow=4.9,SNR=4.2								

IDC ***28*** *21:19:26.8±1.0, 2692N×5575E, h0km, mb3.8/10, mb1 3.8/11, mb1mx3.7/23, mbtmp3.8/11, ML3.9/1, Error ellipse: s-maj=22.8km s-min=19.5km az=123.0*
ISCJB ***28*** *21:19:29.6±0.9, 2692N±004×5578E±006, h29km±8km, mb3.7/11, Error ellipse: s-maj=9.9km s-min=6.0km az=145.3*
CSEM ***28*** *21:19:30.1±0.1, 2699N×5582E, h34km±1km, mb3.5/1, Error ellipse: s-maj=3.4km s-min=3.0km az=12.0*
NEIC ***28*** *21:19:30.9, 2707N×5568E, h14km, mb3.5/1, ML3.6(THR), After THR.*
ISC 28 21:19:31.0±1.0,**2693N**±004×**5588E**±007,**h27**km±9km,**n30,**
σ0°**90**/33,**mb3.7**/11,**2C-4D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.54	30	ePg	Pb		21 19 41.0	-0.8
BNDS				eSg	Sb		21 19 49.0	-0.2
BANOM	Banah	1.07	159	⇓P	Pn		21 19 49.2	-1.1
SNR=10								
BANOM				⇓S	Sn		21 20 04.7	+0.4
ASHO	Ashiyiah	2.25	176	⇓P	Pn		21 20 06.9	+0.6
GHIR	Ghir-Karzin	2.90	298	ePn	Pn		21 20 15.0	-0.3
GHIR				eSg	Sn		21 20 54.0	+4.8
KRBR	Kerman	3.14	14	ePn	Pn		21 20 21.0	+2.4
ARQ	Araqi	3.63	171	⇑P	Pn		21 20 25.1	-0.3
SNR=11								
SMDO	Samad	4.33	152	⇓P	Pn		21 20 36.4	+1.4
SNR=7.3								
WSAR	Wadi Sarin	4.45	145	Pn	Pn		21 20 36.3	-0.3
6.2nm,0.3s,baz=335,slow=13,SNR=7.9								
WSAR				Sn	Sn		21 21 24.2	-3.2
2.9nm,0.3s,baz=347,slow=18,SNR=2.2								
UMR	Umm Al-Rimmam	7.66	292	eP	Pn		21 21 21.0	+0.3
UMR				AML	AML		21 22 41.8	
comp=Z,29nm,0.3s								
NAY	Al-Naaiem	7.97	289	eP	Pn		21 21 25.4	+0.4
NAY				AML	AML		21 22 49.8	
comp=Z,7.2nm,0.4s								
MIB	Mutribah	8.04	293	eP	Pn		21 21 26.7	+0.7
MIB				AML	AML		21 22 53.9	
comp=Z,18nm,0.4s								
SHAO	Shalim	8.87	182	⇑P	Pn		21 21 37.6	+0.3
SNR=6.2								
BR131	Keskin Array S	22.47	310	eP	P		21 24 28.4	+0.4
comp=Z,0.8nm,0.4s,mb3.5								
BRTR	Keskin Array B	22.47	310	P	P		21 24 28.7	+0.7
comp=Z,0.5nm,0.4s,mb3.3,baz=133,slow=13,SNR=4.5								
AKTK	Aktyubinsk	23.53	3	P	P		21 24 39.2	+0.2
AKTO	Aktyubinsk	23.53	3	P	P		21 24 39.2	+0.2
comp=Z,1.6nm,0.6s,mb3.6,baz=177,slow=8.5,SNR=5.6								
BVAR	Borovoye Array	28.22	19	P	P		21 25 21.6	+0.1
comp=Z,0.7nm,0.4s,mb3.6,baz=204,slow=7.1,SNR=8.6								
MKAR	Makanchi Array	28.75	39	P	P		21 25 26.9	+0.7
comp=Z,0.8nm,0.8s,mb3.5,baz=230,slow=9.3,SNR=4.0								
GERES	GERESS Array B	39.17	315	P	P		21 26 55.6	-0.9
comp=Z,0.3nm,0.5s,mb3.3,baz=114,slow=4.7,SNR=3.9								
GERES	GERESS Array B	39.17	315	P	P		21 26 55.5	-0.9
JOF	Joensuu	39.45	343	ep	P		21 26 57.9	-0.9
comp=Z,3.3nm,0.9s,mb4.1								
FINES	FINESS Array B	39.88	338	P	P		21 27 00.9	-1.4
comp=Z,0.7nm,0.5s,mb3.6,baz=137,slow=11,SNR=7.9								
FINES	FINESS Array B	39.88	338	P	P		21 27 00.9	-1.5
CLL	Collm	40.41	319	epP	pP		21 27 12.0	-2.8
CLL				i sPP			21 28 45.7	
comp=Z,7.0nm,1.4s								
SONM	Songino Array	44.33	48	P	P		21 27 40.0	+1.3
comp=Z,0.2nm,0.4s,mb3.2,baz=261,slow=8.6,SNR=2.6								
ARCES	ARCESS Array B	46.16	346	P	P		21 27 51.6	-1.6
comp=Z,1.5nm,0.8s,mb4.0,baz=125,slow=7.8,SNR=4.7								
TORD	Torodi Ar. Bea	52.35	266	P	P		21 28 40.2	-0.3
comp=Z,1.7nm,0.4s,mb4.3,baz=65,slow=7.0,SNR=17								
TORD	Torodi Ar. Bea	52.35	266	P	P		21 28 40.2	-0.4
BOSA	Boshof	62.56	210	P	P		21 29 52.2	-0.3
comp=Z,2.9nm,1.0s,mb4.4,baz=13,slow=16,SNR=5.0								
BOSA	Boshof	62.56	210	P	P		21 29 52.2	-0.3

MOS ***28*** *21:25:58.9±0.9, 2676N×5583E, h10km, mb4.6/52, Error ellipse: s-maj=8.7km s-min=4.4km az=121.5*
NEIC ***28*** *21:26:00.6, 2676N×5625E, h6km, mb4.5/46, ML4.3(THR), After THR.*
THR ***28*** *21:26:00.6±1.0, 2677N×5625E, h6km±6km, ML4.3*
IDC ***28*** *21:26:00.3±0.6, 2689N×5588E, h0km, mb4.3/19, mb1 4.4/23, mb1mx4.3/28, mbtmp4.3/23, ML4.1/3, Error ellipse: s-maj=15.9km s-min=13.7km az=65.0*
BJI ***28*** *21:26:02.6, 2680N×5630E, h10km, mb4.8, Ms5.2, Msz4.8*
ISCJB ***28*** *21:26:02.2±0.2, 2689N±002×5572E±002, h21km, mb4.4/85, MS4.6/2, Error ellipse: s-maj=3.4km s-min=2.7km az=92.8*
CSEM ***28*** *21:26:02.4±0.1, 2687N×5573E, h10km, mb4.3/7, Error ellipse: s-maj=3.0km s-min=1.9km az=69.0*
SZGRF ***28*** *21:26:03.7, 2748N×5683E, h33km, mb4.2, Southern Iran*
TEH ***28*** *21:26:06.6, 2677N×5576E, h31km, Mn4.4*
ISC 28 21:26:04.3±0.2,**2688N**±002×**5577E**±002,**h23**km,
h23km±2.0km:**pP-P,n297,**σ1°**25**/325,**mb4.4**/85,**MS4.6**/2,
20C-9D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.63	35	ePG	Pb		21 26 12.7	-3.9
BNDS				eSG	Sb		21 26 22.5	-2.5
BNDS				AML	AML		21 26 32.5	
comp=N,12μm,0.5s								
BNDS	Bandar-Abbas	0.63	35	ePg	Pb		21 26 12.0	-4.6
BNDS				eSg	Sb		21 26 22.0	-3.0
BNDS	Bandar-Abbas	0.63	35	ePg	Pb		21 26 12.7	-3.9
SNR=90								
BNDS				eSg	Sb		21 26 22.5	-2.5
comp=N,12μm,0.5s,SNR=90								
BANOM	Banah	1.07	153	⇑P	Pn		21 26 23.7	-0.2
SNR=242								
BANOM				⇑S	Sb		21 26 38.3	+0.7
BANOM	Banah	1.07	153	P	Pn		21 26 23.7	-0.2
SNR=242								
BANOM				S	Sb		21 26 38.3	+0.6
ASHO	Ashiyiah	2.21	173	⇑P	Pn		21 26 41.5	+2.0
SNR=96								
ASHO	Ashiyiah	2.21	173	P	Pn		21 26 41.5	+1.9
SNR=96								
GHIR	Ghir-Karzin	2.84	300	ePN	Pb		21 26 54.4	+0.1
GHIR				SN	Sb		21 27 33.9	+5.4
GHIR				AML	AML		21 28 00.8	
comp=N,803nm,0.6s								
GHIR	Ghir-Karzin	2.84

MIB Mutribah 7.98 293 *e*P **Pn 21 28 00.6 +1.7**
MIB AML AML 21 29 28.3
comp=Z,46nm,0.3s
MIB Mutribah 7.98 293 *e*P **Pn 21 27 58.9 +0.1**
MIB *e*S **Sn 21 29 27.2 -1.1**
RST Umm Al-Ruwaisa 8.17 291 *e*P **Pn 21 28 02.7 +1.2**
RST AML AML 21 29 30.6
comp=Z,68nm,0.5s
RST Umm Al-Ruwaisa 8.17 291 *e*P **Pn 21 28 02.0 +0.6**
IVRN Varamin 8.80 338 *e*Pn **Pn 21 28 09.5 -0.6**
IVRN *e*Pn **Pn 21 28 11.8 +1.7**
IVRN *e*Sn **Sn 21 29 45.0 -3.6**
IVRN *e*Sn **Sn 21 29 45.7 -2.9**
IVRN Varamin 8.80 338 *e*Pn **Pn 21 28 11.8 +1.7**
IVRN *e*Sn **Sn 21 29 45.7 -2.9**
ILAS Lasjerd 8.81 345 *e*Pn **Pn 21 28 11.8 +1.6**
IFIR Firoozkooh 9.10 344 *e*Pn **Pn 21 28 15.6 +1.3**
WHFO Wadi Hawf 9.11 192 ⇑P **Pn 21 28 15.4 +1.0**
SNR=28
ISHM Shahmirzad 9.14 347 *e*Pn **Pn 21 28 16.9 +2.0**
IDMV Damavand 9.24 341 *e*Pn **Pn 21 28 17.8 +1.7**
IAFJ Afjeh 9.59 340 *e*Pn **Pn 21 28 22.6 +1.6**
IGLO Galoogah 9.59 349 *e*Pn **Pn 21 28 24.8 +3.8**
ABTO Aybut 9.76 194 ⇓P **Pn 21 28 23.3 +0.1**
SNR=39
IPRN Paran-Amol 9.80 343 *e*Pn **Pn 21 28 25.7 +1.8**
IMYA Miamay 10.12 20 *e*Pn **Pn 21 28 29.9 +1.6**
IKOM Komasi 10.17 318 *e*Pn **Pn 21 28 29.8 +0.9**
IGZV Gazvin 10.59 335 *e*Pn **Pn 21 28 35.9 +1.3**
IGHG Ghaleghazi 10.85 315 *e*Pn **Pn 21 28 39.5 +1.2**
ILIN Laeen 11.01 319 *e*Pn **Pn 21 28 41.4 +1.0**
HAJJ Hajjah 15.87 228 *e*P **Pn 21 29 42.7 -3.6**
GNI Garni 16.09 328 Pn **Pn 21 29 52.4 +3.4**
comp=Z,1.4nm,0.3s,baz=302,slow=3.7,SNR=5.6
LBOS 16.26 219 *e*P **Pn 21 29 49.2 -2.0**
ASF Jabal al Asfar 17.24 292 P **Pn 21 30 05.1 +1.5**
comp=Z,0.7nm,0.3s,baz=341,slow=6.7,SNR=9.1
ASF S **Sn 21 33 07.0 -7.7**
comp=Z,0.5nm,0.3s,baz=82,slow=7.1,SNR=3.2
ASF Jabal al Asfar 17.24 292 P **Pn 21 30 05.1 +1.5**
ASF S **Sn 21 33 07.0 -7.7**
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF smax
comp=N,1.0nm,0.3s
MAK Makhachkala 17.40 339 *e*P **Pn 21 30 10.3 +4.8**
MAK pmax pmax
comp=Z,106nm,1.1s
MALT Malatya 18.50 312 *e*P **Pn 21 30 20.2 +1.1**
MALT pmax pmax
comp=Z,12nm,0.8s
MALT Malatya 18.50 312 *e*P **Pn 21 30 20.2 +1.1**
comp=Z,12nm,0.8s
MALT Malatya 18.50 312 *e*P **Pn 21 30 20.2 +1.1**
comp=Z,12nm,0.8s
ZEI Tsey 18.57 332 *e*P **Pn 21 30 21.1 +1.1**
MMAI Mount Meron Ar 18.66 294 P **Pn 21 30 22.4 +1.3**
comp=Z,0.7nm,0.3s,baz=98,slow=12,SNR=13
ATD Arta Tunnel 19.52 221 P **Pn 21 30 33.0 +1.6**
comp=Z,1.1nm,0.3s,baz=24,slow=7.6,SNR=5.8
KIV Kislovodsk 20.05 332 *e*P **P 21 30 37.6 +1.8**
KIV pmax pmax
comp=Z,98nm,1.5s
KIV Kislovodsk 20.05 332 *e*P **P 21 30 37.6 +1.8**
comp=Z,98nm,1.5s
KK31 Karatay Array 20.14 33 *i* P **P 21 30 36.3 -0.6**
KK31 pmax pmax
comp=Z,10.0nm,1.1s
KK31 Karatay Array 20.14 33 *i* P **P 21 30 36.3 -0.6**
comp=Z,10.0nm,1.1s
KKAR Karatay Array 20.14 33 *i* P **P 21 30 36.3 -0.6**
KKAR pmax pmax
comp=Z,11nm,1.1s
KKAR Karatay Array 20.14 33 *i* P **P 21 30 36.3 -0.6**
comp=Z,11nm,1.1s
GOF Gofitskoye 20.81 334 *e*P **P 21 30 41.5 -2.6**
GOF *e*S **S 21 34 31.5 -3.8**
GOF pmax pmax
comp=Z,80nm,0.7s
SOC Sochi 21.14 326 *e*P **P 21 30 48.9 +1.3**
SOC *e**PP 21 30 53.7
SOC *e* 21 31 04.0
SOC *e*S **S 21 34 47.6 +5.9**
SOC *e*SS 21 35 09.7
SOC pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
SOC MLR MLR
comp=Z,1μm,16.0s,MS4.4
SOC Sochi 21.14 326 *e*P **P 21 30 48.9 +1.3**
comp=Z,9.0nm,0.8s,mb4.2
EKS2 Erkin-Say 21.53 38 P **P 21 30 50.9 -1.0**
SNR=12
AAK Ala-Archa 21.92 39 P **P 21 30 59.7 +3.7**
SNR=7.9
KZA Kyzart 22.01 42 P **P 21 31 00.1 +3.1**
SNR=14
KBK Karagaybulak 22.19 40 P **P 21 31 01.6 +2.7**
SNR=6.9
CHMS Chumysh 22.30 39 P **P 21 31 01.6 +1.6**
SNR=7.0
USP Ospenovka 22.33 38 P **P 21 31 01.6 +1.2**
SNR=6.6
BR131 Keskin Array S 22.42 310 *e*P **P 21 31 02.2 +0.8**
comp=Z,5.3nm,0.5s,mb4.2
BR131 Keskin Array S 22.42 310 *e*P **P 21 31 02.2 +0.8**
comp=Z,5.3nm,0.5s,mb4.2
BRTR Keskin Array B 22.42 310 P **P 21 31 02.7 +1.3**
comp=Z,4.2nm,0.9s,mb3.9,baz=124,slow=13,SNR=21
BRTR Keskin Array B 22.42 310 P **P 21 31 02.7 +1.3**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
AB31 Akbulak array 22.57 7 *i* P **P 21 31 01.7 -1.2**
AB31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
AB31 Akbulak array 22.57 7 *i* P **P 21 31 01.7 -1.2**
comp=Z,6.0nm,0.7s,mb4.1
TKM2 Tokmak 2 22.73 40 P **P 21 31 05.8 +1.1**
SNR=8.1
TKM2 Tokmak 2 22.73 40 P **P 21 31 03.3 -1.3**
TKM2 pmax pmax
comp=Z,20nm,1.3s,mb4.4
TKM2 Tokmak 2 22.73 40 P **P 21 31 03.3 -1.3**
comp=Z,20nm,1.3s,mb4.4
ANTO Ankara 23.07 310 P **P 21 31 10.2 +1.9**
comp=Z,20nm,0.7s,mb4.7
AKTK Aktyubinsk 23.58 4 P **P 21 31 12.7 -0.7**
comp=Z,5.0nm,0.6s,mb4.1
AKTO Aktyubinsk 23.58 4 P **P 21 31 12.7 -0.7**
comp=Z,5.2nm,0.6s,mb4.1,baz=176,slow=10,SNR=22
AKTO Aktyubinsk 23.58 4 P **P 21 31 12.7 -0.7**
AKTO pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
ORR Orenburg 24.71 358 *e*P **P 21 31 24.2 +0.4**
ORR pmax pmax
comp=Z,50nm,1.4s,mb4.8
ORR Orenburg 24.71 358 *e*P **P 21 31 24.2 +0.4**
comp=Z,50nm,1.4s,mb4.8
KOLN Koldanda 24.73 82 *e*P **P 21 31 24.4 +0.5**
comp=Z,20nm,0.9s,mb4.6
SIM Simferopol' 25.02 322 *e*P **P 21 31 31.0 +4.4**
SIM pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
GKN Gorkha 25.62 81 *e*P **P 21 31 34.1 +2.0**
DMN Daman 26.07 82 *e*P **P 21 31 37.1 +1.0**
KKN Kakani 26.21 81 *e*P **P 21 31 38.5 +1.2**
comp=Z,30nm,1.1s,mb4.7
PKI Pulchoki 26.34 82 *e*P **P 21 31 38.9 +0.3**
GUN Gumba 26.73 81 *e*P **P 21 31 43.2 +1.2**
comp=Z,32nm,0.9s,mb4.9
JIRN Jiri 27.02 81 *e*P **P 21 31 45.4 +0.7**
comp=Z,12nm,0.6s,mb4.6
ZRNK Zerenda 27.85 17 P **P 21 31 51.2 -0.9**
ZRNK pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
ZRNK Zerenda 27.85 17 *e*P **P 21 31 51.0 -1.2**
comp=Z,4.8nm,0.9s,mb4.1
ZRNK Zerenda 27.85 17 *e*P **P 21 31 51.0 -1.1**
comp=Z,4.8nm,0.9s,mb4.1
VOSK Vostochnaya 28.21 20 P **P 21 31 54.3 -1.0**
VOSK pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
VOSK Vostochnaya 28.21 20 P **P 21 31 54.3 -1.0**
comp=Z,6.0nm,0.9s,mb4.2
BRVK Borovoye 28.30 19 *e*P **P 21 31 55.2 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
BRVK Borovoye 28.30 19 *e*P **P 21 31 55.2 -0.9**
comp=Z,2.9nm,0.8s,mb4.0
BRVK Borovoye 28.30 19 *e*P **P 21 31 55.2 -0.9**
comp=Z,3.0nm,0.8s,mb4.0
BVA0 Borovoye Array 28.30 19 *i* P **P 21 31 55.3 -0.8**
BVAR Borovoye Array 28.30 19 P **P 21 31 55.2 -0.9**
comp=Z,9.0nm,0.8s,mb4.5,baz=201,slow=8.6,SNR=59
BVAR Borovoye Array 28.30 19 P **P 21 31 55.2 -0.9**
BVAR pmax pmax
comp=Z,9.0nm,0.8s
MK02 Makanchi Array 28.85 40 ⇑Pn **P 21 31 54.8 -6.2**
comp=Z,3.4nm,0.7s,mb4.2,baz=42,slow=15
MK02 ⇑Lg 21 32 28.6
comp=Z,4.6nm,0.4s,baz=47,slow=31
CHKZ Chkalovo 28.94 18 P **P 21 32 00.5 -1.3**
CHKZ pmax pmax
comp=Z,7.0nm,1.5s,mb4.2
CHKZ Chkalovo 28.94 18 *e*P **P 21 32 00.3 -1.5**
comp=Z,1.9nm,0.6s,mb4.0
CHKZ Chkalovo 28.94 18 *e*P **P 21 32 00.3 -1.5**
comp=Z,1.9nm,0.6s,mb4.0
KURK Kurchatov 29.49 30 ⇑Pn **P 21 32 15.4 +8.6**
comp=Z,2.5nm,1.0s,mb3.9
KURK ⇑Lg 21 33 30.0
comp=Z,5.0nm,0.6s
KURK Kurchatov 29.49 30 *e*P **P 21 32 05.4 -1.3**
ARU Arti 29.59 3 *e*P **P 21 32 10.0 +2.4**
ARU *e* 21 33 05.2
ARU *e*PPP 21 33 14.2
ARU *e* 21 35 13.7
ARU *e*S **S 21 37 06.3 +4.8**
ARU *e*SS SS 21 38 37.9 -30
MLR Muntele Rosu 30.15 316 P **P 21 32 14.3 +1.8**
comp=Z,2.5nm,0.7s,mb4.1,baz=44,slow=6.0,SNR=6.0
MLR Muntele Rosu 30.15 316 P **P 21 32 14.3 +1.8**
MLR pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 31.22 327 P **P 21 32 20.9 -1.0**
comp=Z,2.0nm,0.5s,mb4.2,baz=134,slow=8.3,SNR=13
AKASG Malin Array Be 31.22 327 P **P 21 32 20.9 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 31.22 327 P **P 21 32 20.9 -1.0**
OBN Obninsk 31.49 339⇓*e*P **P 21 32 24.4 0.0**
OBN *e* 21 33 27.8
OBN pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
OBN Obninsk 31.49 339 *e*P **P 21 32 24.4 0.0**
comp=Z,5.0nm,0.7s,mb4.5
KMBO Kilima Mbogo 33.07 216 P **P 21 32 40.0 +1.7**
comp=Z,6.1nm,0.9s,mb4.5,baz=30,slow=11,SNR=12
KMBO Kilima Mbogo 33.07 216 P **P 21 32 40.0 +1.8**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 33.97 319 *e*P **P 21 32 44.4 -1.7**
KOLS Kolonicke sedl 33.97 319 *e* **P 21 32 44.4 -1.7**
NVS Novosibirsk 34.38 28 *e*P **P 21 32 48.5 -1.1**
NVS pmax pmax
comp=N,12nm,1.5s
NVS pmax pmax
comp=Z,11nm,1.5s,mb4.6
KECS Kecovo 34.83 318 *e*P **P 21 32 54.4 +0.9**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS Kecovo 34.83 318 *e*P **P 21 32 54.4 +0.9**
comp=Z,2.9nm,0.8s,mb4.3
VYHS Vyhne 35.83 317 *e*P **P 21 33 02.1 0.0**
OJC Ojcow 36.00 320 *e*P **P 21 33 03.5 0.0**
OKC Ostrava-Krasne 36.79 319 *e*P **P 21 33 10.3 0.0**
MORC Moravsky Berou 37.12 318 *e*P **P 21 33 12.8 -0.4**
MORC pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MORC Moravsky Berou 37.12 318 *e*P **P 21 33 12.8 -0.3**
comp=Z,2.6nm,0.7s,mb4.2
ARSA Arzberg 37.47 314⇓*e*P **P 21 33 15.5 -0.5**
comp=Z,3.1nm,0.8s,mb4.2
ARSA Arzberg 37.47 314 P **P 21 33 15.5 -0.6**
comp=Z,3.1nm,0.8s,mb4.2
CONA Conrad Observa 37.47 315⇓*i*P **P 21 33 16.3 +0.1**
comp=Z,6.2nm,1.3s,mb4.3
DPC Dobruska-Polom 38.08 319 *e*P **P 21 33 21.1 -0.1**
DPC *e*pP pP 21 33 27.9 -0.2
TREC Trest 38.18 317 *e*P **P 21 33 22.5 +0.4**
TREC *e*pP pP 21 33 28.9 -0.1
UPC Upice 38.32 319 *e*P **P 21 33 23.0 -0.3**
UPC *e*pP pP 21 33 29.7 -0.5
MOA Molln 38.47 314⇓*e*P **P 21 33 24.8 +0.3**
comp=Z,4.3nm,0.6s,mb4.3
GTA Gaotai 38.58 60 *e*P **P 21 33 25.5 0.0**
GTA AP pP 21 33 29.8 -2.6
GTA XP sP 21 33 32.8 -2.3
KBA Koelnbreinsper 38.84 313⇑*i*P **P 21 33 27.8 +0.2**
comp=Z,4.2nm,0.6s,mb4.3
KBA Koelnbreinsper 38.84 313⇑*i*P **P 21 33 27.8 +0.2**
KBA pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
GERES GERESS Array B 39.13 315 P **P 21 33 29.5 -0.6**
comp=Z,0.6nm,0.5s,mb3.6,baz=103,slow=6.3,SNR=9.4
KHC Kasperske Hory 39.30 316 *e*P **P 21 33 31.2 -0.3**
KHC *e*pP pP 21 33 36.4 -2.0
KHC Kasperske Hory 39.30 316 *c i*P **P 21 33 31.2 -0.3**
JOF Joensuu 39.47 343 *e*p **P 21 33 31.9 -1.0**
comp=Z,5.7nm,0.9s,mb4.3
JOF Joensuu 39.47 343 *e*P **P 21 33 31.9 -1.0**
JOF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
BRG Berggiesshubel 39.68 319 *e*(P) **P 21 33 34.3 -0.3**
comp=Z,1.1nm,0.7s,mb3.7
BRG Berggiesshubel 39.68 319 *e*P **P 21 33 34.3 -0.3**
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
FINES FINESS Array B 39.89 338 P **P 21 33 35.8 -0.6**
comp=Z,1.9nm,0.6s,mb4.0,baz=138,slow=11,SNR=16
FINES FINESS Array B 39.89 338 P **P 21 33 35.8 -0.6**
FINES pmax pmax
comp=Z,2.0nm,0.6s
WTTA Wattenberg 40.01 312⇑*i*P **P 21 33 37.1 -0.2**
comp=Z,8.4nm,0.7s,mb4.6
WTTA Wattenberg 40.01 312⇑*i*P **P 21 33 37.2 -0.2**
WTTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
WTTA Wattenberg 40.01 312 P **P 21 33 37.1 -0.3**
comp=Z,8.4nm,0.7s,mb4.6
SQTA Sankt Quirin 40.28 312⇑*i*P **P 21 33 39.1 -0.6**
comp=Z,7.5nm,0.5s,mb4.7
SQTA Sankt Quirin 40.28 312⇑*i*P **P 21 33 39.1 -0.5**
SQTA pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
KAF Kangasniemi 40.31 339 *e*p **P 21 33 44.5 +4.6**
comp=Z,5.5nm,0.9s,mb4.3
KAF Kangasniemi 40.31 339 *e*P **P 21 33 44.5 +4.6**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
MOTA Moosalm 40.38 312⇑*i*P **P 21 33 39.5 -1.0**
comp=Z,4.5nm,0.6s,mb4.4
MOTA Moosalm 40.38 312⇑*i*P **P 21 33 39.5 -1.0**
MOTA pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
CLL Collm 40.38 319 *e*P **P 21 33 40.4 -0.1**
comp=Z,6.0nm,0.9s,mb4.3
CLL Collm 40.38 319 *i* **P 21 33 40.4 -0.1**
GRA1 Grafenberg Arr 40.94 316 *e*P **P 21 33 44.8 -0.3**
comp=Z,4.0nm,0.8s,mb4.1
GRF Grafenberg Arr 40.94 316 *e*P **P 21 33 44.8 -0.3**
comp=Z,4.0nm,0.8s,mb4.1
GRF Grafenberg Arr 40.94 316 *e*P **P 21 33 44.8 -0.3**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
GRF Grafenberg Arr 40.94 316 *e*P **P 21 33 44.8 -0.3**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
DAVA Damuels 41.18 312⇑*i*P **P 21 33 46.5 -0.6**
comp=Z,17nm,0.5s,mb4.9
LZH Lanzhou 41.66 65 *e*P **P 21 33 51.3 +0.3**
LZH AP pP 21 33 57.5 -0.4
LZH XP sP 21 33 59.3 -1.4
LZH AMB AMB
comp=Z,20nm,1.4s,mb4.5
CD2 Chengdu 41.96 73 *e*P **P 21 33 47.8 -5.6**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
SBF Sospel 42.26 307 *e*P **P 21 33 54.9 -1.0**
comp=Z,20nm,0.8s,mb4.5
SBF Sospel 42.26 307 *e*P **P 21 33 54.9 -1.0**
SBF pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
SBF Sospel 42.26 307 *e*P **P 21 33 54.9 -1.0**
comp=Z,9.9nm,0.8s,mb4.5
MBDF Montbardon 42.85 308 *e*P **P 21 33 59.2 -1.5**
comp=Z,9.6nm,0.8s,mb4.3
MBDF Montbardon 42.85 308 *e*P **P 21 33 59.2 -1.5**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
MBDF Montbardon 42.85 308 *e*P **P 21 33 59.2 -1.5**
comp=Z,4.8nm,0.8s,mb4.3
LPG La Plagne 42.97 309 *e*P **P 21 34 00.3 -1.4**
comp=Z,9.8nm,0.8s,mb4.3
LPG La Plagne 42.97 309 *e*P **P 21 34 00.3 -1.4**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
LPG La Plagne 42.97 309 *e*P **P 21 34 00.3 -1.4**
comp=Z,4.9nm,0.8s,mb4.3
ZAK Zakamensk 42.97 44 *e*P **P 21 34 01.4 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,2.0s,mb4.1
ZAK Zakamensk 42.97 44 *e*P **P 21 34 01.4 -0.3**
comp=Z,8.0nm,2.0s,mb4.1
CDF Champ du Feu 43.13 313 *e*P **P 21 34 01.1 -1.9**
HINF Hinteralfeld 43.29 312 *e*P **P 21 34 02.5 -1.8**
comp=Z,6.0nm,0.8s,mb4.1
HINF Hinteralfeld 43.29 312 *e*P **P 21 34 02.5 -1.8**
HINF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
HINF Hinteralfeld 43.29 312 *e*P **P 21 34 02.5 -1.8**
comp=Z,3.0nm,0.8s,mb4.1
ORIF Oris-en-Rattie 43.50 308 *e*P **P 21 34 04.7 -1.3**
CABF La Chapelle 43.60 310 *e*P **P 21 34 05.6 -1.1**
comp=Z,9.5nm,0.8s,mb4.3
CABF La Chapelle 43.60 310 *e*P **P 21 34 05.6 -1.1**
CABF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CABF La Chapelle 43.60 310 *e*P **P 21 34 05.6 -1.1**
comp=Z,4.8nm,0.8s,mb4.3
HAU Haudompre 43.66 312 *e*P **P 21 34 06.3 -0.9**
comp=Z,6.2nm,0.7s,mb4.1
HAU Haudompre 43.66 312 *e*P **P 21 34 06.3 -0.9**
HAU pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
HAU Haudompre 43.66 312 *e*P **P 21 34 06.3 -0.9**
comp=Z,3.1nm,0.7s,mb4.1
VIVF Saint-Julien-l 44.35 308 *e*P **P 21 34 11.2 -1.5**
SONM Songino Array 44.43 48 P **P 21 34 13.2 -0.2**
comp=Z,3.3nm,0.9s,mb4.1,baz=256,slow=7.4,SNR=22
SONM Songino Array 44.43 48 P **P 21 34 13.2 -0.2**
SONM pmax pmax
comp=Z,3.0nm,0.9s
MEZF Maizieres J'vi 44.60 313 *e*P **P 21 34 13.6 -1.2**
comp=Z,22nm,1.1s,mb4.6
MEZF Maizieres J'vi 44.60 313 *e*P **P 21 34 13.6 -1.2**
comp=Z,11nm,1.1s,mb4.6
LASF Ste Croix 44.85 306 *e*P **P 21 34 15.6 -1.2**
comp=Z,43nm,1.5s,mb4.8
LASF Ste Croix 44.85 306 *e*P **P 21 34 15.6 -1.2**
comp=Z,22nm,1.5s,mb4.8
ULN Ulaanbaatar 44.87 48 *e*P **P 21 34 16.4 -0.6**
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ULN Ulaanbaatar 44.87 48 *e*P **P 21 34 16.4 -0.6**
comp=Z,4.3nm,0.8s,mb4.3
ULN Ulaanbaatar 44.87 48 *e*P **P 21 34 16.4 -0.6**
comp=Z,4.0nm,0.8s,mb4.3
GIVF Givet 45.05 315 *e*P **P 21 34 17.8 -0.6**
SMF Signal de Mont 45.13 310 *e*P **P 21 34 17.4 -1.6**
comp=Z,16nm,0.9s,mb4.5
SMF Signal de Mont 45.13 310 *e*P **P 21 34 17.4 -1.6**
SMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
SMF Signal de Mont 45.13 310 *e*P **P 21 34 17.4 -1.6**
comp=Z,7.9nm,0.9s,mb4.5
NB2 NORSAR Subarra 45.36 331 P **P 21 34 19.3 -1.5**
comp=Z,0.9nm,0.5s,mb3.9,baz=117,slow=7.9
NOA NORSAR Array B 45.36 331 P **P 21 34 19.0 -1.8**
comp=Z,1.0nm,0.8s,mb3.7,baz=119,slow=6.7,SNR=4.3
NOA NORSAR Array B 45.36 331 P **P 21 34 19.0 -1.8**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 45.36 331 P **P 21 34 19.0 -1.8**
SSF Saint Saulge 45.41 311 *e*P **P 21 34 19.8 -1.4**
comp=Z,23nm,1.1s,mb4.6
SSF Saint Saulge 45.41 311 *e*P **P 21 34 19.8 -1.4**
SSF pmax pmax
comp=Z,12nm,1.1s,mb4.6
SSF Saint Saulge 45.41 311 *e*P **P 21 34 19.8 -1.4**
comp=Z,12nm,1.1s,mb4.6
BAIF Baives 45.43 315 *e*P **P 21 34 21.1 -0.3**
comp=Z,23nm,1.1s,mb4.6
BAIF Baives 45.43 315 *e*P **P 21 34 21.1 -0.3**
BAIF pmax pmax
comp=Z,11nm,1.1s,mb4.6
BAIF Baives 45.43 315 *e*P **P 21 34 21.1 -0.3**
comp=Z,11nm,1.1s,mb4.6
AVF Avril sur Loir 45.48 310 *e*P **P 21 34 20.1 -1.7**
BGF Bois d'Agland 45.80 310 *e*P **P 21 34 23.0 -1.3**
comp=Z,9.1nm,0.7s,mb4.5
BGF Bois d'Agland 45.80 310 *e*P **P 21 34 23.0 -1.3**
BGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BGF Bois d'Agland 45.80 310 *e*P **P 21 34 23.0 -1.3**
comp=Z,4.6nm,0.7s,mb4.5
MTLF Montolieu 45.99 305 *e*P **P 21 34 25.3 -0.5**
comp=Z,12nm,0.9s,mb4.5
MTLF Montolieu 45.99 305 *e*P **P 21 34 25.3 -0.5**
MTLF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MTLF Montolieu 45.99 305 *e*P **P 21 34 25.3 -0.5**
comp=Z,6.2nm,0.9s,mb4.5
HYF Humbligny 46.03 311 *e*P **P 21 34 25.2 -0.9**
KEV Kevo 46.04 347 *e*p **P 21 34 24.0 -2.2**
comp=Z,4.8nm,0.6s,mb4.6
KEV Kevo 46.04 347 *e*P **P 21 34 24.0 -2.2**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ARCES ARCESS Array B 46.18 346 P **P 21 34 27.1 -0.3**
comp=Z,2.4nm,0.8s,mb4.2,baz=146,slow=8.6,SNR=11
ARCES ARCESS Array B 46.18 346 P **P 21 34 27.1 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 46.18 346 P **P 21 34 27.0 -0.3**
CAF Calviac 46.20 308 *e*P **P 21 34 26.5 -0.9**
comp=Z,7.0nm,0.7s,mb4.4
CAF Calviac 46.20 308 *e*P **P 21 34 26.5 -0.9**
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CAF Calviac 46.20 308 *e*P **P 21 34 26.5 -0.9**
comp=Z,3.5nm,0.7s,mb4.4
TCF Toulx Ste Croi 46.21 309 *e*P **P 21 34 26.4 -1.2**
comp=Z,6.3nm,0.7s,mb4.3
TCF Toulx Ste Croi 46.21 309 *e*P **P 21 34 26.4 -1.2**
TCF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TCF Toulx Ste Croi 46.21 309 *e*P **P 21 34 26.4 -1.2**
comp=Z,3.2nm,0.7s,mb4.3
RJF Les Rejaudoux 46.62 308 *e*P **P 21 34 29.9 -0.8**
comp=Z,21nm,1.0s,mb4.7
RJF Les Rejaudoux 46.62 308 *e*P **P 21 34 29.9 -0.8**
RJF pmax pmax
comp=Z,11nm,1.0s,mb4.7
RJF Les Rejaudoux 46.62 308 *e*P **P 21 34 29.9 -0.8**
comp=Z,11nm,1.0s,mb4.7
LFF La Frestale 47.14 307 *e*P **P 21 34 34.1 -0.7**
comp=Z,10.0nm,0.7s,mb4.6
LFF La Frestale 47.14 307 *e*P **P 21 34 34.1 -0.7**
LFF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LFF La Frestale 47.14 307 *e*P **P 21 34 34.1 -0.7**
comp=Z,5.0nm,0.7s,mb4.6
EPF Esparros 47.36 305 *e*P **P 21 34 34.7 -1.8**
MFF Saint Martin d 47.86 310 *e*P **P 21 34 38.6 -1.8**
ETSF Etsaut 48.01 305 *e*P **P 21 34 41.2 -0.4**
LDF La Druitiere 48.02 312 *e*P **P 21 34 39.8 -1.8**
comp=Z,6.7nm,0.6s,mb4.5
LDF La Druitiere 48.02 312 *e*P **P 21 34 39.8 -1.8**
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LDF La Druitiere 48.02 312 *e*P **P 21 34 39.8 -1.8**
comp=Z,3.3nm,0.6s,mb4.5
FLN La Foliniere 48.27 313 *e*P **P 21 34 41.8 -1.8**
GRR Gorron 48.49 312 *e*P **P 21 34 43.6 -1.7**
SJPF Ste Jean 48.50 305 *e*P **P 21 34 45.0 -0.4**
comp=Z,7.1nm,0.6s,mb4.6

SJPF	**Ste Jean**	**48.50**	**305**	*e*P	**P**	**21 34 45.0**	**-0.4**
SJPF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
SJPF	**Ste Jean**	**48.50**	**305**	*e*P	**P**	**21 34 45.0**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.6						
SGMF	**Saint Gilles**	**49.61**	**312**	*e*P	**P**	**21 34 52.2**	**-1.6**
QUIF	**Quistinic**	**50.00**	**311**	*e*P	**P**	**21 34 55.0**	**-1.8**
	comp=Z,16nm,0.9s,mb4.7						
QUIF	**Quistinic**	**50.00**	**311**	*e*P	**P**	**21 34 55.0**	**-1.8**
QUIF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
QUIF	**Quistinic**	**50.00**	**311**	*e*P	**P**	**21 34 55.0**	**-1.8**
	comp=Z,7.8nm,0.9s,mb4.7						
ROSF	**Rostrenen**	**50.09**	**312**	*e*P	**P**	**21 34 55.8**	**-1.7**
	comp=Z,33nm,1.3s,mb4.9						
ROSF	**Rostrenen**	**50.09**	**312**	*e*P	**P**	**21 34 55.8**	**-1.7**
ROSF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
ROSF	**Rostrenen**	**50.09**	**312**	*e*P	**P**	**21 34 55.8**	**-1.7**
	comp=Z,17nm,1.3s,mb4.9						
ESDC	**Sonseca Array**	**50.69**	**301**	P	**P**	**21 35 02.2**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=73,slow=6.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**52.25**	**266**	P	**P**	**21 35 14.1**	**+0.4**
	comp=Z,18nm,0.6s,mb5.2,baz=66,slow=7.3,SNR=336						
EVO	**Evora**	**53.95**	**300**	*e*P	**P**	**21 35 26.5**	**+0.3**
	comp=Z,7.4nm,0.8s,mb4.3						
NJ2	**Nanjing**	**54.49**	**68**	*e*P	**P**	**21 35 29.8**	**-0.4**
NJ2				AP	pP	21 35 39.3	+2.0
NJ2				XP	sP	21 35 44.0	+4.0
NJ2				PcP	PcP	21 36 32.5	-1.0
NJ2				S	**S**	**21 43 02.0**	**-5.8**
NJ2				XS	sS	21 43 18.0	-1.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				LR	LR		
	comp=Z,740nm,17.3s,MS4.8						
CN2	**Changchun**	**57.67**	**53**	*e*P	**P**	**21 35 51.3**	**-1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
YHNB	**Yeheng**	**58.52**	**76**	*e*P	**P**	**21 36 00.2**	**+1.4**
DBIC	**Dimbokro**	**60.85**	**262**	P	**P**	**21 36 14.8**	**-0.1**
	comp=Z,7.8nm,0.6s,mb5.0,baz=38,slow=8.7,SNR=11						
DBIC	**Dimbokro**	**60.85**	**262**	P	**P**	**21 36 14.8**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
DBIC	**Dimbokro**	**60.85**	**262**	P	**P**	**21 36 14.8**	**-0.1**
LIC	**Lamto**	**61.20**	**262**	*e*P	**P**	**21 36 17.7**	**+0.4**
	comp=Z,28nm,0.9s,mb5.1						
LIC	**Lamto**	**61.20**	**262**	*e*P	**P**	**21 36 17.7**	**+0.4**
	comp=Z,14nm,0.9s,mb5.1						
KLR	**Kul'dur**	**61.22**	**47**	*e*P	**P**	**21 36 13.1**	**-4.3**
BOSA	**Boshof**	**62.47**	**210**	P	**P**	**21 36 25.8**	**0.0**
	comp=Z,3.0nm,0.4s,mb4.7,baz=50,slow=7.8,SNR=10						
BOSA	**Boshof**	**62.47**	**210**	P	**P**	**21 36 25.8**	**0.0**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.8						
SUMG	**Summit**	**65.86**	**341**	*e*P	**P**	**21 36 48.6**	**+0.5**
	comp=Z,5.3nm,0.8s,mb4.6						
SUMG	**Summit**	**65.86**	**341**	*e*P	**P**	**21 36 48.6**	**+0.6**
	comp=Z,5.3nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**81.17**	**115**	*e*P	**P**	**21 38 17.3**	**-0.8**
	comp=Z,13nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**81.17**	**115**	P	**P**	**21 38 17.3**	**-0.8**
	comp=Z,5.4nm,0.9s,mb4.5,baz=354,slow=10,SNR=3.9						
KAKA	**Kakadu**	**84.11**	**107**	*e*P	**P**	**21 38 33.0**	**-0.4**
	comp=Z,14nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**89.20**	**113**	P	**P**	**21 38 57.8**	**-0.4**
	comp=Z,3.2nm,1.0s,mb4.6,baz=314,slow=4.0,SNR=13						
WRA	**Warramunga Arr**	**89.20**	**113**	*i* P	**P**	**21 38 57.7**	**-0.6**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WB2	**Warramunga Arr**	**89.21**	**113**	*e*P	**P**	**21 38 57.6**	**-0.7**
YKA	**Yellowknife Ar**	**90.60**	**356**	P	**P**	**21 39 02.8**	**-2.0**
	comp=Z,0.6nm,0.9s,mb3.9,baz=7.1,slow=5.2,SNR=5.1						
YKA	**Yellowknife Ar**	**90.60**	**356**	P	**P**	**21 39 02.8**	**-2.0**
ASAR	**Alice Springs**	**90.64**	**116**	P	**P**	**21 39 04.6**	**-0.4**
	comp=Z,0.8nm,0.7s,mb4.1,baz=298,slow=5.3,SNR=4.9						

*ISCJB **28** 21:36:38.7±0.2,2685N±002×5585E±003,h10km, mb4.5/95,MS4.5/2,Error ellipse: s-maj=3.6km s-min=3.3km az=165.6*
*CSEM **28** 21:36:38.9±0.1,2691N×5583E,h10km,mb4.5/51,Ms4.2, Error ellipse: s-maj=3.0km s-min=2.4km az=160.0*
*MOS **28** 21:36:38.8±0.9,2693N×5588E,h10km,mb4.6/63,Error ellipse: s-maj=7.7km s-min=4.1km az=120.4*
*BJI **28** 21:36:39.3,2700N×5590E,h9km,mb4.8,Msz4.9*
*THR **28** 21:36:40.9±0.7,2693N×5592E,h10km±3km,ML4.3*
*NEIC **28** 21:36:41.3,2696N×5588E,h10km,mb4.4/46,MS4.2/1, ML4.3(THR),MN4.3(TEH),After THR.*
*TEH **28** 21:36:44.9,2687N×5576E,h18km,Mn4.3*
*IDC **28** 21:36:44.4±4.6,2696N×5587E,h33km±35km,mb4.2/26, mb1 4.3/31,mb1mx4.3/34,mbtmp4.4/31,ML4.2/4,MS3.9/1, Ms1 3.9/1,ms1mx3.4/32,Error ellipse: s-maj=11.7km s-min=11.1km az=86.0*
*SZGRF **28** 21:36:49.0,2766N×5580E,h33km,mb4.0,Southern Iran*
ISC 28 21:36:40.9±0.2,2691N±002×5585E±003,h10km, (h21km±6.3km:pP-P),n310,σ1§10/334,mb4.5/95,MS4.5/2, 74C-6D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.57**	**30**	*e*PG	**Pg**	**21 36 51.2**	**-0.7**
BNDS				*e*SG	**Sg**	**21 36 59.0**	**-0.4**
BNDS				AML	AML	21 37 07.9	
	comp=N,21μm,0.4s						
BNDS	**Bandar-Abbas**	**0.57**	**30**	*e*Pg	**Pg**	**21 36 51.0**	**-1.0**
BNDS				*e*Sg	**Sg**	**21 36 58.0**	**-1.4**
BNDS	**Bandar-Abbas**	**0.57**	**30**	*e*Pg	**Pg**	**21 36 51.2**	**-0.8**
	SNR=96						
BNDS				*e*Sg	**Sg**	**21 36 59.0**	**-0.4**
	SNR=96						
BANOM	**Banah**	**1.06**	**157**	⇓P	**Pg**	**21 37 02.0**	**+0.7**
ASHO	**Ashiyiah**	**2.22**	**175**	⇓P	**Pn**	**21 37 20.3**	**+2.5**
	SNR=9.6						
GHIR	**Ghir-Karzin**	**2.89**	**299**	*e*PN	**Pn**	**21 37 29.6**	**+2.6**
GHIR				AML	AML	21 38 46.5	
	comp=N,747nm,0.8s						
GHIR	**Ghir-Karzin**	**2.89**	**299**	*e*Pn	**Pn**	**21 37 29.0**	**+2.0**
GHIR	**Ghir-Karzin**	**2.89**	**299**	*e*Pn	**Pn**	**21 37 29.5**	**+2.5**
	SNR=47						
KRBR	**Kerman**	**3.17**	**14**	*e*PN	**Pn**	**21 37 33.0**	**+2.2**
KRBR				SN	**Sn**	**21 38 10.2**	**+1.4**
KRBR				AML	AML	21 38 26.1	
	comp=E,998nm,0.7s						
KRBR	**Kerman**	**3.17**	**14**	*e*Pn	**Pn**	**21 37 33.0**	**+2.1**
KRBR				Sn	**Sn**	**21 38 10.0**	**+1.3**
KRBR	**Kerman**	**3.17**	**14**	*e*Pn	**Pn**	**21 37 33.0**	**+2.1**
	SNR=47						
KRBR				Sn	**Sn**	**21 38 10.1**	**+1.4**
	SNR=47						
ISRV	**Sarvestan**	**3.45**	**316**	*e*Pn	**Pn**	**21 37 37.3**	**+2.6**
ISRV	**Sarvestan**	**3.45**	**316**	Pn	**Pn**	**21 37 37.2**	**+2.5**
IMOK	**Mook**	**3.50**	**308**	*e*Pn	**Pn**	**21 37 37.3**	**+1.9**
IMOK	**Mook**	**3.50**	**308**	Pn	**Pn**	**21 37 37.2**	**+1.8**
HOQ	**Hoqain**	**3.56**	**158**	P	**Pn**	**21 37 41.1**	**+4.8**
	SNR=12						
ARQ	**Araqi**	**3.61**	**170**	P	**Pn**	**21 37 39.2**	**+2.4**
	SNR=8.9						
ARQ	**Araqi**	**3.61**	**170**	P	**Pn**	**21 37 39.2**	**+2.3**
	SNR=8.9						
SHI	**Shiraz**	**4.01**	**314**	*e*Pn	**Pn**	**21 37 42.2**	**-0.2**
SHI	**Shiraz**	**4.01**	**314**	Pn	**Pn**	**21 37 42.1**	**-0.3**
SMDO	**Samad**	**4.32**	**152**	P	**Pn**	**21 37 49.4**	**+2.7**
	SNR=25						
WSAR	**Wadi Sarin**	**4.44**	**145**	Pn	**Pn**	**21 37 49.1**	**+0.8**
	comp=E,10nm,0.3s,baz=350,slow=7.1,SNR=22						
WSAR				Sn	**Sn**	**21 38 37.6**	**-2.4**
	comp=E,24nm,0.3s,baz=37,slow=20,SNR=4.4						
WSAR				LR	LR	21 40 04.8	
	comp=E,1μm,20.3s,baz=316,slow=45						
WSAR	**Wadi Sarin**	**4.44**	**145**	Pn	**Pn**	**21 37 49.1**	**+0.8**
WSAR				Sn	**Sn**	**21 38 37.6**	**-2.5**
IMEH	**Mehriz**	**4.60**	**347**	*e*Pn	**Pn**	**21 37 53.5**	**+3.0**
IBAF	**Bafgh**	**4.67**	**357**	*e*Pn	**Pn**	**21 37 53.2**	**+1.6**
IBAF				*e*Pn	**Pn**	**21 37 53.7**	**+2.1**
IBAF				*e*Sn	**Sn**	**21 38 46.0**	**+0.1**
IBAF	**Bafgh**	**4.67**	**357**	Pn	**Pn**	**21 37 53.2**	**+1.6**
IBAF				Sn	**Sn**	**21 38 45.9**	**0.0**
IBAF	**Bafgh**	**4.67**	**357**	*e*Pn	**Pn**	**21 37 53.7**	**+2.1**
IBAF				*e*Sn	**Sn**	**21 38 46.0**	**+0.1**
JMDO	**Jabal Madar**	**4.96**	**155**	P	**Pn**	**21 37 58.0**	**+2.5**
	SNR=8.6						
ZHSF	**Zahedan**	**5.11**	**57**	*e*Pn	**Pn**	**21 37 58.8**	**+1.2**
ISAD	**Sadrabad**	**5.33**	**340**	*e*Pn	**Pn**	**21 38 04.3**	**+3.7**
ISAD				*e*Sn	**Sn**	**21 38 59.0**	**-3.1**
ISAD				*e*Sn	**Sn**	**21 39 00.8**	**-1.3**
ISAD	**Sadrabad**	**5.33**	**340**	Pn	**Pn**	**21 38 04.3**	**+3.7**
ISAD				Sn	**Sn**	**21 38 59.0**	**-3.1**
ISAD				Sn	**Sn**	**21 39 00.7**	**-1.4**
ICHK	**Chekchek**	**5.46**	**347**	*e*Pn	**Pn**	**21 38 05.0**	**+2.6**
ICHK	**Chekchek**	**5.46**	**347**	Pn	**Pn**	**21 38 04.9**	**+2.5**
IZEF	**Zefreh**	**6.70**	**334**	*e*Pn	**Pn**	**21 38 20.7**	**+1.3**
IZEF	**Zefreh**	**6.70**	**334**	Pn	**Pn**	**21 38 20.6**	**+1.2**
IPIR	**Pirpir**	**7.19**	**324**	*e*Pn	**Pn**	**21 38 27.6**	**+1.5**
IPIR	**Pirpir**	**7.19**	**324**	Pn	**Pn**	**21 38 27.5**	**+1.4**
IKLH	**Kalahroud**	**7.38**	**331**	*e*Pn	**Pn**	**21 38 30.2**	**+1.4**
RDF	**Al-Radifah**	**7.61**	**287**	*e*P	**Pn**	**21 38 24.3**	**-7.6**
RDF				AML	AML	21 39 56.1	
	comp=Z,49nm,0.5s						
UMR	**Umm Al-Rimmam**	**7.64**	**292**	*e*P	**Pn**	**21 38 24.1**	**-8.2**
UMR				AML	AML	21 39 51.8	
	comp=Z,44nm,0.4s						
NAY	**Al-Naaiem**	**7.95**	**289**	*e*P	**Pn**	**21 38 28.4**	**-8.2**
NAY				AML	AML	21 40 06.4	
	comp=Z,26nm,0.4s						
MIB	**Mutribah**	**8.03**	**293**	*e*P	**Pn**	**21 38 29.9**	**-7.8**
MIB				AML	AML	21 40 10.6	
	comp=Z,111nm,0.5s						
RST	**Umm Al-Ruwaisa**	**8.22**	**290**	*e*P	**Pn**	**21 38 32.6**	**-7.7**
RST				AML	AML	21 40 10.6	
	comp=Z,26nm,0.3s						
ILAS	**Lasjerd**	**8.80**	**344**	*e*Pn	**Pn**	**21 38 50.4**	**+2.1**
ILAS	**Lasjerd**	**8.80**	**344**	Pn	**Pn**	**21 38 50.3**	**+2.0**
IVRN	**Varamin**	**8.80**	**337**	*e*Pn	**Pn**	**21 38 50.3**	**+2.0**
IVRN	**Varamin**	**8.80**	**337**	Pn	**Pn**	**21 38 50.2**	**+1.9**
ISHM	**Shahmirzad**	**9.14**	**347**	*e*Pn	**Pn**	**21 38 55.5**	**+2.7**
ISHM	**Shahmirzad**	**9.14**	**347**	Pn	**Pn**	**21 38 55.4**	**+2.6**
WHFO	**Wadi Hawf**	**9.15**	**193**	⇓P	**Pn**	**21 38 53.0**	**0.0**
	SNR=15						
IDMV	**Damavand**	**9.24**	**340**	*e*Pn	**Pn**	**21 38 56.2**	**+2.0**
IGLO	**Galoogah**	**9.59**	**349**	*e*Pn	**Pn**	**21 39 03.0**	**+4.0**
IAFJ	**Afjeh**	**9.59**	**339**	*e*Pn	**Pn**	**21 39 02.5**	**+3.4**
IAFJ	**Afjeh**	**9.59**	**339**	Pn	**Pn**	**21 39 02.4**	**+3.3**
ABTO	**Aybut**	**9.79**	**194**	⇑P	**Pn**	**21 39 01.4**	**-0.5**
	SNR=16						
IPRN	**Paran-Amol**	**9.80**	**343**	*e*Pn	**Pn**	**21 39 04.8**	**+2.9**
IKOM	**Komasi**	**10.20**	**317**	*e*Pn	**Pn**	**21 39 08.3**	**+0.9**
IKOM	**Komasi**	**10.20**	**317**	Pn	**Pn**	**21 39 08.2**	**+0.8**
HAJJ	**Hajjah**	**15.94**	**228**	⇑*e*P	**Pn**	**21 40 22.1**	**-3.2**
HAJJ				AMb	AMB	21 40 23.1	
	comp=Z,31nm,0.4s						
HAJJ				*i* S	**Sn**	**21 43 16.3**	**-5.9**
HAJJ	**Hajjah**	**15.94**	**228**	⇑*e*P	**Pn**	**21 40 22.1**	**-3.2**
	comp=Z,15nm,0.4s						
HAJJ				*i* S	**Sn**	**21 43 16.3**	**-5.8**
GNI	**Garni**	**16.11**	**328**	Pn	**Pn**	**21 40 28.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=343,slow=19,SNR=3.0						
DHBB	**Dhamar BB**	**16.28**	**223**	*e*P	**Pn**	**21 40 26.6**	**-3.0**
LBOS		**16.32**	**219**	*e*P	**Pn**	**21 40 27.3**	**-2.9**
ASF	**Jabal al Asfar**	**17.30**	**292**	P	**Pn**	**21 40 43.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=312,slow=5.5,SNR=4.5						
ASF				S	**Sn**	**21 43 54.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=323,slow=20,SNR=2.8						
MAK	**Makhachkala**	**17.40**	**339**	*e*P	**Pn**	**21 40 49.1**	**+5.3**
MALT	**Malatya**	**18.53**	**312**	*e*P	**Pn**	**21 40 58.9**	**+1.1**
ZEI	**Tsey**	**18.59**	**331**	*e*P	**Pn**	**21 40 59.1**	**+0.7**
EIL	**Elat**	**18.61**	**283**	*e*P	**Pn**	**21 40 59.8**	**+1.1**
	comp=Z,191nm,0.8s						
MMAI	**Mount Meron Ar**	**18.72**	**294**	P	**Pn**	**21 41 01.5**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=100,slow=16,SNR=8.2						
ATD	**Arta Tunnel**	**19.59**	**221**	P	**Pn**	**21 41 10.4**	**0.0**
	comp=Z,1.3nm,0.3s,baz=283,slow=22,SNR=6.0						
KIV	**Kislovodsk**	**20.07**	**331**	*e*P	**P**	**21 41 14.6**	**+0.2**
KIV				*e*S	**S**	**21 44 55.2**	**-4.6**
KIV				*e*SS		21 45 22.2	
KIV				pmax	pmax		
	comp=Z,77nm,1.1s						
KIV	**Kislovodsk**	**20.07**	**331**	*e*P	**P**	**21 41 14.6**	**+0.2**
	comp=Z,77nm,1.1s						
KK31	**Karatay Array**	**20.09**	**33**	*i* P	**P**	**21 41 13.8**	**-0.8**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KK31	**Karatay Array**	**20.09**	**33**	*i* P	**P**	**21 41 13.8**	**-0.8**
	comp=Z,4.0nm,0.4s						
KKAR	**Karatay Array**	**20.09**	**33**	*i* P	**P**	**21 41 13.8**	**-0.8**
GOF	**Gofitskoye**	**20.82**	**334**	⇓*i*P	**P**	**21 41 23.0**	**+0.4**
GOF				*e*S	**S**	**21 45 08.0**	**-6.9**
GOF				pmax	pmax		
	comp=Z,50nm,0.7s						
GOF	**Gofitskoye**	**20.82**	**334**	*i* P	**P**	**21 41 23.0**	**+0.4**
	comp=Z,50nm,0.7s						
GOF				*e*S	**S**	**21 45 08.0**	**-6.9**
SOC	**Sochi**	**21.16**	**326**	*e*P	**P**	**21 41 24.2**	**-2.0**
SOC				*e**PP		21 41 32.7	
SOC				*e*		21 41 44.0	
SOC				*e*S	**S**	**21 45 15.0**	**-6.6**
SOC				pmax	pmax		
	comp=Z,29nm,1.4s,mb4.4						
SOC	**Sochi**	**21.16**	**326**	*e*P	**P**	**21 41 24.2**	**-2.0**
	comp=Z,29nm,1.4s,mb4.4						
SOC				*e*S	**S**	**21 45 15.0**	**-6.6**
FRU	**Bishkek**	**22.05**	**39**	*e*P	**P**	**21 41 30.0**	**-5.8**
FRU				*e*		21 41 35.0	
BR131	**Keskin Array S**	**22.46**	**310**	*e*P	**P**	**21 41 40.7**	**+0.5**
	comp=Z,5.9nm,0.6s,mb4.2						
BR131	**Keskin Array S**	**22.46**	**310**	*e*P	**P**	**21 41 40.7**	**+0.5**
	comp=Z,5.9nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**22.46**	**310**	P	**P**	**21 41 41.6**	**+1.4**
	comp=Z,3.6nm,0.7s,mb3.9,baz=128,slow=13,SNR=19						
AB31	**Akbulak array**	**22.54**	**7**	*i* P	**P**	**21 41 40.3**	**-0.7**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
AB31	**Akbulak array**	**22.54**	**7**	*i* P	**P**	**21 41 40.3**	**-0.7**
	comp=Z,6.0nm,0.7s,mb4.1						
TKM2	**Tokmak 2**	**22.66**	**40**	P	**P**	**21 41 43.3**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
TKM2	**Tokmak 2**	**22.66**	**40**	P	**P**	**21 41 43.3**	**+1.0**
	comp=Z,6.0nm,0.9s,mb4.0						
AKTK	**Aktyubinsk**	**23.55**	**3**	P	**P**	**21 41 51.2**	**-0.5**
AKTK	**Aktyubinsk**	**23.55**	**3**	P	**P**	**21 41 51.2**	**-0.5**
	comp=Z,6.0nm,0.5s,mb4.3						
AKTO	**Aktyubinsk**	**23.55**	**3**	P	**P**	**21 41 51.2**	**-0.5**
	comp=Z,5.8nm,0.5s,mb4.2,baz=177,slow=9.5,SNR=40						
AKTO	**Aktyubinsk**	**23.55**	**3**	P	**P**	**21 41 51.2**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.3						
KOLN	**Koldanda**	**24.65**	**82**	*e*P	**P**	**21 42 02.4**	**+0.7**
	comp=Z,21nm,1.0s,mb4.6						
ORR	**Orenburg**	**24.69**	**358**	*e*P	**P**	**21 42 02.6**	**+0.5**
ORR				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.6						
ORR	**Orenburg**	**24.69**	**358**	*e*P	**P**	**21 42 02.6**	**+0.5**
	comp=Z,20nm,1.1s,mb4.6						
SIM	**Simferopol'**	**25.05**	**322**	*e*P	**P**	**21 42 06.0**	**+0.7**
SIM				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
SIM	**Simferopol'**	**25.05**	**322**	*e*P	**P**	**21 42 06.0**	**+0.7**
	comp=Z,10.0nm,0.8s,mb4.4						
GKN	**Gorkha**	**25.55**	**81**	*e*P	**P**	**21 42 11.9**	**+2.0**
DMN	**Daman**	**26.00**	**82**	*e*P	**P**	**21 42 16.3**	**+2.4**
	comp=Z,24nm,1.0s,mb4.7						
KKN	**Kakani**	**26.13**	**81**	*e*P	**P**	**21 42 17.9**	**+2.7**
	comp=Z,25nm,0.8s,mb4.8						
PKI	**Pulchoki**	**26.27**	**82**	*e*P	**P**	**21 42 20.1**	**+3.7**
	comp=Z,17nm,0.7s,mb4.7						
GUN	**Gumba**	**26.65**	**81**	*e*P	**P**	**21 42 24.5**	**+4.6**
JIRN	**Jiri**	**26.95**	**81**	*e*P	**P**	**21 42 26.9**	**+4.4**
IDI	**Anoyia**	**27.71**	**295**	P	**P**	**21 42 29.7**	**+0.4**
	comp=Z,3.1nm,0.4s,mb4.3,baz=265,slow=9.5,SNR=9.3						
ZRNK	**Zerenda**	**27.81**	**17**	*e*P	**P**	**21 42 29.0**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**27.81**	**17**	*e*P	**P**	**21 42 29.0**	**-1.2**
	comp=Z,2.6nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**27.81**	**17**	*e*P	**P**	**21 42 29.0**	**-1.3**
	comp=Z,3.0nm,0.6s,mb4.1						
VOSK	**Vostochnaya**	**28.16**	**20**	P	**P**	**21 42 32.7**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
VOSK	**Vostochnaya**	**28.16**	**20**	P	**P**	**21 42 32.7**	**-0.7**
	comp=Z,6.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**28.26**	**19**	*e*P	**P**	**21 42 33.5**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**28.26**	**19**	*e*P	**P**	**21 42 33.5**	**-0.7**
	comp=Z,3.4nm,0.7s,mb4.1						
BRVK	**Borovoye**	**28.26**	**19**	*e*P	**P**	**21 42 33.5**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.0						
BVA0	**Borovoye Array**	**28.26**	**19**	*i* P	**P**	**21 42 33.7**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
BVA0	**Borovoye Array**	**28.26**	**19**	*i* P	**P**	**21 42 33.7**	**-0.5**
	comp=Z,2.0nm,0.9s,mb3.8						
BVAR	**Borovoye Array**	**28.26**	**19**	P	**P**	**21 42 33.8**	**-0.5**
	comp=Z,11nm,0.8s,mb4.6,baz=200,slow=8.3,SNR=41						
BVAR				PcP	PcP	21 45 47.2	-0.3
	comp=Z,0.6nm,0.3s,baz=223,slow=3.2,SNR=7.5						
BVAR	**Borovoye Array**	**28.26**	**19**	P	**P**	**21 42 33.8**	**-0.4**
BVAR						21 45 47.2	
BVAR				pmax	pmax		
	comp=Z,11nm,0.8s						
MK31	**Makanchi Array**	**28.79**	**39**	P	**P**	**21 42 38.6**	**-0.4**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MK31	**Makanchi Array**	**28.79**	**39**	P	**P**	**21 42 38.6**	**-0.4**
	comp=Z,4.0nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**28.79**	**39**	P	**P**	**21 42 38.8**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.0,baz=222,slow=5.5,SNR=20						
MKAR	**Makanchi Array**	**28.79**	**39**	P	**P**	**21 42 38.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHKZ	**Chkalovo**	**28.90**	**18**	*e*P	**P**	**21 42 38.6**	**-1.3**
	comp=Z,1.9nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**28.90**	**18**	P	**P**	**21 42 38.7**	**-1.2**
KURK	**Kurchatov**	**29.44**	**30**	*e*P	**P**	**21 42 43.5**	**-1.3**
KURK				*i*		21 53 24.4	
ARU	**Arti**	**29.57**	**3**	*e*P	**P**	**21 42 46.2**	**+0.3**
ARU				*e*		21 43 41.7	
ARU				*e*S	**S**	**21 47 40.9**	**+0.1**
ARU				*e*SS	SS	21 49 11.4	-35
MLR	**Muntele Rosu**	**30.18**	**316**	P	**P**	**21 42 53.4**	**+2.1**
	comp=Z,2.4nm,0.5s,mb4.2,baz=352,slow=8.8,SNR=7.6						
MLR	**Muntele Rosu**	**30.18**	**316**	P	**P**	**21 42 53.4**	**+2.1**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**31.24**	**327**	P	**P**	**21 42 59.8**	**-0.8**
	comp=Z,3.3nm,0.6s,mb4.3,baz=134,slow=8.2,SNR=21						
AKASG				PcP	PcP	21 45 54.5	-0.6
	comp=Z,1.2nm,0.5s,baz=104,slow=2.2,SNR=8.1						
AKASG	**Malin Array Be**	**31.24**	**327**	P	**P**	**21 42 59.8**	**-0.9**
AKASG						21 45 54.6	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBN	**Obninsk**	**31.50**	**339**	*ce*P	**P**	**21 43 02.8**	**-0.1**
OBN				*e*		21 44 03.2	
OBN				*e*S	**S**	**21 48 11.0**	**-0.1**
OBN				*e*SS	SS	21 50 00.5	-25
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.9						
OBN	**Obninsk**	**31.50**	**339**	*e*P	**P**	**21 43 02.8**	**-0.1**
	comp=Z,9.0nm,0.5s,mb4.9						
KMBO	**Kilima Mbogo**	**33.13**	**216**	P	**P**	**21 43 18.8**	**+1.5**
	comp=Z,5.2nm,0.9s,mb4.5,baz=30,slow=12,SNR=9.8						
KMBO	**Kilima Mbogo**	**33.13**	**216**	P	**P**	**21 43 18.8**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMBO	**Kilima Mbogo**	**33.13**	**216**	P	**P**	**21 43 18.8**	**+1.5**
KOLS	**Kolonicke sedl**	**34.00**	**319**	*e*P	**P**	**21 43 26.2**	**+1.3**
KOLS				pmax	pmax		
	comp=Z,29nm,2.1s,mb4.

GRF Grafenberg Arr 40.97 316 *eP* **P 21 44 23.8 -0.1**
comp=Z,5.0nm,1.1s,mb4.1
GRF Grafenberg Arr 40.97 316 *eP* **P 21 44 23.8 -0.1**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
GRF Grafenberg Arr 40.97 316 *eP* **P 21 44 23.8 -0.1**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
PGF Pioggiola 41.01 305 *eP* **P 21 44 23.8 -0.4**
DAVOX Davos 41.10 311 P **P 21 44 24.6 -0.4**
comp=Z,5.5nm,0.5s,mb4.5,baz=107,slow=6.8,SNR=10
DAVA Damuels 41.21 312⇑ *iP* **P 21 44 25.4 -0.5**
comp=Z,20nm,0.5s,mb5.0,SNR=16
CD2 Chengdu 41.88 73 *eP* **P 21 44 30.5 -0.9**
SBF Sospel 42.31 307 *eP* **P 21 44 34.5 -0.3**
comp=Z,16nm,0.7s,mb4.4
SBF Sospel 42.31 307 *eP* **P 21 44 34.5 -0.3**
SBF pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
SBF Sospel 42.31 307 *eP* **P 21 44 34.5 -0.3**
comp=Z,7.9nm,0.7s,mb4.4
FRF La Foret Royal 42.84 306 *eP* **P 21 44 38.4 -0.8**
comp=Z,24nm,1.1s,mb4.5
FRF La Foret Royal 42.84 306 *eP* **P 21 44 38.4 -0.8**
FRF pmax pmax
comp=Z,12nm,1.1s,mb4.5
FRF La Foret Royal 42.84 306 *eP* **P 21 44 38.4 -0.8**
comp=Z,12nm,1.1s,mb4.5
MBDF Montbardon 42.89 308 *eP* **P 21 44 38.9 -0.7**
comp=Z,6.6nm,0.5s,mb4.3
MBDF Montbardon 42.89 308 *eP* **P 21 44 38.9 -0.7**
MBDF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
MBDF Montbardon 42.89 308 *eP* **P 21 44 38.9 -0.7**
comp=Z,3.3nm,0.5s,mb4.3
LMR La Mourre 42.92 306 *eP* **P 21 44 39.1 -0.7**
LPG La Plagne 43.01 309 *eP* **P 21 44 39.9 -0.7**
LPL La Plagne 43.03 309 *eP* **P 21 44 40.0 -0.7**
CDF Champ du Feu 43.17 313 *eP* **P 21 44 40.6 -1.2**
HINF Hinteralfeld 43.33 312 *eP* **P 21 44 42.1 -1.0**
ORIF Oris-en-Rattie 43.55 308 *eP* **P 21 44 44.3 -0.6**
CABF La Chapelle 43.64 310⇑ *iP* **P 21 44 45.2 -0.4**
comp=Z,5.4nm,0.6s,mb4.2
CABF La Chapelle 43.64 310⇑ *iP* **P 21 44 45.2 -0.4**
CABF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
CABF La Chapelle 43.64 310⇑ *iP* **P 21 44 45.2 -0.4**
comp=Z,2.7nm,0.6s,mb4.2
SONM Songino Array 44.36 48 P **P 21 44 51.7 +0.2**
comp=Z,3.6nm,0.9s,mb4.1,baz=259,slow=8.2,SNR=22
SONM Songino Array 44.36 48 P **P 21 44 51.7 +0.3**
SONM pmax pmax
comp=Z,4.0nm,0.9s
VIVF Saint-Julien-l 44.39 308 *eP* **P 21 44 50.7 -1.0**
MEZF Maizieres J'vi 44.64 313 *eP* **P 21 44 53.5 -0.2**
ULN Ulaanbaatar 44.81 48 *i P* **P 21 44 55.3 +0.3**
LASF Ste Croix 44.90 306⇑ *iP* **P 21 44 55.1 -0.6**
comp=Z,14nm,0.9s,mb4.5
LASF Ste Croix 44.90 306⇑ *iP* **P 21 44 55.1 -0.6**
comp=Z,6.9nm,0.9s,mb4.5
GIVF Givet 45.09 315 *eP* **P 21 44 57.5 +0.3**
SMF Signal de Mont 45.17 310⇑ *iP* **P 21 44 57.1 -0.8**
comp=Z,8.2nm,0.5s,mb4.5
SMF Signal de Mont 45.17 310⇑ *iP* **P 21 44 57.1 -0.8**
SMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
SMF Signal de Mont 45.17 310⇑ *iP* **P 21 44 57.1 -0.8**
comp=Z,4.1nm,0.5s,mb4.5
LOR Lormes 45.24 311⇑ *iP* **P 21 44 57.5 -0.9**
comp=Z,8.4nm,0.8s,mb4.3
LOR Lormes 45.24 311⇑ *iP* **P 21 44 57.5 -0.9**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
LOR Lormes 45.24 311⇑ *iP* **P 21 44 57.5 -0.9**
comp=Z,4.2nm,0.8s,mb4.3
NB2 NORSAR Subarra 45.37 331 P **P 21 44 58.0 -1.5**
comp=Z,2.6nm,0.7s,mb4.2,baz=115,slow=7.9
NB2 NORSAR Subarra 45.37 331 P **P 21 44 58.0 -1.5**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
NOA NORSAR Array B 45.37 331 P **P 21 44 58.4 -1.1**
comp=Z,2.5nm,0.7s,mb4.2,baz=117,slow=7.9,SNR=12
NOA NORSAR Array B 45.37 331 P **P 21 44 58.4 -1.1**
NOA pmax pmax
comp=Z,3.0nm,0.7s
SSF Saint Saulge 45.45 311⇑ *iP* **P 21 44 59.4 -0.7**
comp=Z,9.2nm,0.6s,mb4.5
SSF Saint Saulge 45.45 311⇑ *iP* **P 21 44 59.4 -0.7**
SSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
SSF Saint Saulge 45.45 311⇑ *iP* **P 21 44 59.4 -0.7**
comp=Z,4.6nm,0.6s,mb4.5
BAIF Baives 45.47 315⇑ *iP* **P 21 45 00.7 +0.5**
comp=Z,10nm,0.7s,mb4.5
BAIF Baives 45.47 315⇑ *iP* **P 21 45 00.7 +0.5**
BAIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
BAIF Baives 45.47 315⇑ *iP* **P 21 45 00.7 +0.5**
comp=Z,5.2nm,0.7s,mb4.5
AVF Avril sur Loir 45.52 310⇑ *iP* **P 21 44 59.7 -1.0**
comp=Z,5.4nm,0.7s,mb4.3
AVF Avril sur Loir 45.52 310⇑ *iP* **P 21 44 59.7 -1.0**
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AVF Avril sur Loir 45.52 310⇑ *iP* **P 21 44 59.7 -1.0**
comp=Z,2.7nm,0.7s,mb4.3
BGF Bois d'Agland 45.84 310⇑ *iP* **P 21 45 02.5 -0.7**
comp=Z,9.8nm,0.6s,mb4.6
BGF Bois d'Agland 45.84 310⇑ *iP* **P 21 45 02.5 -0.7**
BGF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BGF Bois d'Agland 45.84 310⇑ *iP* **P 21 45 02.5 -0.7**
comp=Z,4.9nm,0.6s,mb4.6
OPO Ambohidratompo 45.98 191 P **P 21 45 05.8 +1.5**
comp=Z,4.1nm,0.8s,mb4.4,baz=21,slow=16,SNR=3.4
KEV Kevo 46.03 347 *ep* **P 21 45 03.6 -1.1**
comp=Z,9.8nm,0.7s,mb4.8
KEV Kevo 46.03 347 *eP* **P 21 45 03.6 -1.1**
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MTLF Montolieu 46.04 305⇑ *iP* **P 21 45 05.0 +0.2**
comp=Z,19nm,1.0s,mb4.7
MTLF Montolieu 46.04 305⇑ *iP* **P 21 45 05.0 +0.2**
MTLF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MTLF Montolieu 46.04 305⇑ *iP* **P 21 45 05.0 +0.2**
comp=Z,9.6nm,1.0s,mb4.7
HYF Humbligny 46.07 311 *eP* **P 21 45 05.0 0.0**
comp=Z,44nm,0.6s,mb5.3
HYF Humbligny 46.07 311 *eP* **P 21 45 05.0 0.0**
comp=Z,22nm,0.6s,mb5.3
ARCES ARCESS Array B 46.18 346 P **P 21 45 05.5 -0.3**
comp=Z,4.0nm,0.7s,mb4.5,baz=140,slow=7.5,SNR=23
ARCES ARCESS Array B 46.18 346 P **P 21 45 05.5 -0.4**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
CAF Calviac 46.24 307⇑ *iP* **P 21 45 06.1 -0.3**
comp=Z,8.5nm,0.6s,mb4.5
CAF Calviac 46.24 307⇑ *iP* **P 21 45 06.1 -0.3**
CAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CAF Calviac 46.24 307⇑ *iP* **P 21 45 06.1 -0.3**
comp=Z,4.2nm,0.6s,mb4.5
TCF Toulx Ste Croi 46.26 309⇑ *iP* **P 21 45 06.0 -0.5**
comp=Z,10.0nm,0.7s,mb4.6
TCF Toulx Ste Croi 46.26 309⇑ *iP* **P 21 45 06.0 -0.5**
TCF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
TCF Toulx Ste Croi 46.26 309⇑ *iP* **P 21 45 06.0 -0.5**
comp=Z,5.0nm,0.7s,mb4.6
RJF Les Rejaudoux 46.66 308⇑ *iP* **P 21 45 09.6 0.0**
comp=Z,16nm,1.0s,mb4.6
RJF Les Rejaudoux 46.66 308⇑ *iP* **P 21 45 09.6 0.0**
RJF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
RJF Les Rejaudoux 46.66 308⇑ *iP* **P 21 45 09.6 0.0**
comp=Z,7.8nm,1.0s,mb4.6
LFF La Frestale 47.18 307⇑ *iP* **P 21 45 13.6 -0.1**
comp=Z,10nm,0.7s,mb4.6
LFF La Frestale 47.18 307⇑ *iP* **P 21 45 13.6 -0.1**
LFF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LFF La Frestale 47.18 307⇑ *iP* **P 21 45 13.6 -0.1**
comp=Z,5.2nm,0.7s,mb4.6
EPF Esparros 47.40 305 *eP* **P 21 45 14.2 -1.2**
MFF Saint Martin d 47.91 310⇑ *iP* **P 21 45 18.2 -1.1**

LDF La Druitiere 48.06 312⇑ *iP* **P 21 45 19.3 -1.2**
comp=Z,6.4nm,0.4s,mb4.7
LDF La Druitiere 48.06 312⇑ *iP* **P 21 45 19.3 -1.2**
comp=Z,3.2nm,0.4s,mb4.7
ETSF Etsaut 48.06 305 *eP* **P 21 45 20.8 +0.3**
GRR Gorron 48.53 312 *eP* **P 21 45 23.2 -0.9**
SJPF Ste Jean 48.55 305⇑ *iP* **P 21 45 24.6 +0.3**
comp=Z,5.6nm,0.5s,mb4.6
SJPF Ste Jean 48.55 305⇑ *iP* **P 21 45 24.6 +0.3**
SJPF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
SJPF Ste Jean 48.55 305⇑ *iP* **P 21 45 24.6 +0.3**
comp=Z,2.8nm,0.5s,mb4.6
SGMF Saint Gilles 49.65 312⇑ *iP* **P 21 45 31.9 -0.8**
comp=Z,12nm,0.8s,mb4.7
SGMF Saint Gilles 49.65 312⇑ *iP* **P 21 45 31.9 -0.8**
SGMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SGMF Saint Gilles 49.65 312⇑ *iP* **P 21 45 31.9 -0.8**
comp=Z,6.0nm,0.8s,mb4.7
QUIF Quistinic 50.04 311⇑ *iP* **P 21 45 34.7 -1.0**
comp=Z,4.7nm,0.5s,mb4.5
QUIF Quistinic 50.04 311⇑ *iP* **P 21 45 34.7 -1.0**
QUIF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
QUIF Quistinic 50.04 311⇑ *iP* **P 21 45 34.7 -1.0**
comp=Z,2.3nm,0.5s,mb4.5
ROSF Rostrenen 50.13 312⇑ *iP* **P 21 45 35.5 -0.9**
comp=Z,2.8nm,0.5s,mb4.2
ROSF Rostrenen 50.13 312⇑ *iP* **P 21 45 35.5 -0.9**
ROSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ROSF Rostrenen 50.13 312⇑ *iP* **P 21 45 35.5 -0.9**
comp=Z,1.4nm,0.5s,mb4.2
ESDC Sonseca Array 50.74 301 P **P 21 45 40.8 -0.3**
comp=Z,1.1nm,0.5s,mb4.0,baz=74,slow=7.3,SNR=11
BOD Bodaibo 50.77 36 *eP* **P 21 45 38.5 -2.8**
BOD pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BOD Bodaibo 50.77 36 *eP* **P 21 45 38.5 -2.8**
comp=Z,8.0nm,0.7s,mb4.8
MDT Midelt 52.16 292 P **P 21 45 52.0 +0.4**
comp=Z,3.1nm,0.6s,mb4.4,baz=82,slow=7.7,SNR=11
TORD Torodi Ar. Bea 52.33 266 P **P 21 45 53.0 +0.1**
comp=Z,22nm,0.5s,mb5.3,baz=64,slow=7.3,SNR=228
NJ2 Nanjing 54.42 68 *eP* **P 21 46 08.0 -0.2**
NJ2 AP pP 21 46 18.5 +7.2
NJ2 PCP PcP 21 47 11.0 -0.9
NJ2 S **S 21 53 44.0 -2.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 LR LR
comp=Z,450nm,13.1s,MS4.7
SNY Shenyang 56.50 56 *eP* **P 21 46 22.0 -1.2**
SSE Sheshan 56.57 69 *eP* **P 21 46 21.0 -2.7**
SSE AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 Changchun 57.60 53 *eP* **P 21 46 30.5 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
TSUM Tsumeb 58.97 223 P **P 21 46 41.6 +1.0**
comp=Z,2.8nm,0.8s,mb4.3,baz=162,slow=20,SNR=3.6
YAK Yakutsk 59.06 32 *eP* **P 21 46 39.4 -1.8**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.9
YAK Yakutsk 59.06 32 *eP* **P 21 46 39.4 -1.8**
comp=Z,11nm,0.8s,mb4.9
DBIC Dimbokro 60.92 262 P **P 21 46 54.4 +0.3**
comp=Z,8.3nm,0.8s,mb4.9,baz=68,slow=12,SNR=9.9
DBIC Dimbokro 60.92 262 P **P 21 46 54.4 +0.4**
DBIC pmax pmax
comp=Z,8.0nm,0.8s
KLR Kul'dur 61.15 47 *eP* **P 21 46 51.2 -4.4**
LIC Lamto 61.28 262⇑ *iP* **P 21 46 56.4 0.0**
comp=Z,17nm,0.8s,mb4.9
LIC Lamto 61.28 262⇑ *iP* **P 21 46 56.4 0.0**
comp=Z,8.4nm,0.8s,mb4.9
BOSA Boshof 62.52 210 P **P 21 47 05.2 +0.3**
comp=Z,8.5nm,0.8s,mb4.9,baz=351,slow=4.7,SNR=16
BOSA Boshof 62.52 210 P **P 21 47 05.2 +0.4**
BOSA pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MJAR Matsushiro Arr 68.75 59 P **P 21 47 44.6 -0.4**
comp=Z,1.1nm,0.6s,mb4.0,baz=311,slow=11,SNR=4.3
YSS Yuzh-Sakhalins 68.84 47⇑ *eP* **P 21 47 45.5 -0.1**
YSS pmax pmax
comp=Z,76nm,2.2s,mb5.2
YSS Yuzh-Sakhalins 68.84 47 *eP* **P 21 47 45.5 -0.1**
comp=Z,76nm,2.2s,mb5.2
BILL Bilibino 72.55 22⇑ *eP* **P 21 47 59.5 -8.7**
BILL *eS* S 21 57 33.9 +1.1
FITZ Fitzroy Crossi 81.12 115 *eP* **P 21 48 56.4 -0.1**
comp=Z,9.9nm,0.8s,mb4.8
FITZ Fitzroy Crossi 81.12 115 P **P 21 48 56.2 -0.3**
comp=Z,5.1nm,0.7s,mb4.6,baz=310,slow=5.8,SNR=6.4
KAKA Kakadu 84.05 107 *eP* **P 21 49 11.6 -0.2**
comp=Z,21nm,0.6s,mb5.4
WRA Warramunga Arr 89.14 113 P **P 21 49 36.8 +0.1**
comp=Z,2.4nm,0.6s,mb4.7,baz=315,slow=4.1,SNR=13
WRA Warramunga Arr 89.14 113 P **P 21 49 36.8 +0.1**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WB2 Warramunga Arr 89.15 113 *eP* **P 21 49 36.2 -0.5**
ASAR Alice Springs 90.59 116 P **P 21 49 43.2 -0.2**
comp=Z,1.1nm,0.7s,mb4.3,baz=308,slow=5.0,SNR=7.9
ASAR Alice Springs 90.59 116 P **P 21 49 43.2 -0.2**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 90.59 356 P **P 21 49 42.8 -0.6**
comp=Z,0.7nm,0.4s,mb4.3,baz=2.8,slow=5.3,SNR=14
YKA Yellowknife Ar 90.59 356 *i P* **P 21 49 43.0 -0.4**
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 90.59 356 *i P* **P 21 49 43.0 -0.4**
comp=Z,1.0nm,0.4s,mb4.5
ANMO Albuquerque 116.24 344 *i* PKIKP PKPdf 21 55 24.4 -0.2
LPAZ La Paz 127.21 269 PKP PKPdf 21 55 47.0 +1.4
comp=Z,0.6nm,0.6s,baz=37,slow=5.1,SNR=3.7
LPAZ La Paz 127.21 269 PKIKP PKPdf 21 55 47.0 +1.4
LPAZ pmax pmax
comp=Z,1.0nm,0.6s

*ISCJB **28** 21:46:31.3±1.2, 175S±0.1×1788W±0.1, h524km±16km, mb4.4/16, Error ellipse: s-maj=23.7km s-min=11.2km az=121.9*
*NEIC **28** 21:46:31.9±0.8, 1749S×17873W, h517km±11km, mb4.5/11, Error ellipse: s-maj=16.8km s-min=7.7km az=150.0*
*IDC **28** 21:46:31.9±1.4, 1755S×17878W, h516km±16km, mb3.9/8, mb1 4.1/10, mb1mx3.8/16, mbtmp4.7/10, Error ellipse: s-maj=19.7km s-min=11.6km az=149.0*
ISC 28 21:46:32.4±1.1, 175S±01×1787W±01, h523km±15km, n53, σ0§82/30, mb4.4/16, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.57**	**63**	P	**P**	**21 48 24.2**	**-0.8**
	11nm,0.3s,baz=90,slow=16,SNR=8.8						
DZM	**Mont Dzumac**	**14.70**	**250**	P	**P**	**21 49 39.8**	**+0.8**
	0.7nm,0.3s,baz=82,slow=18,SNR=6.9						
URZ	**Urewera**	**20.98**	**189**	P	**P**	**21 50 37.2**	**-1.4**
	6.3nm,0.3s,baz=259,slow=2.1,SNR=15						
ARMA	**Armidale**	**29.90**	**239**	*eP*	**P**	**21 51 58.3**	**+0.9**
CTA	**Charters Tower**	**33.24**	**260**	⇓*iP*	**P**	**21 52 26.3**	**+0.3**
	8.8nm,0.9s,mb4.3						
CTAO	**Charters Tower**	**33.24**	**260**	*eP*	**P**	**21 52 26.2**	**+0.2**
	8.6nm,0.7s,mb4.4						
CNB	**Canberra Magne**	**33.44**	**232**	*eP*	**P**	**21 52 29.2**	**+1.5**
	12nm,0.5s,mb4.7						
PMG	**Port Moresby**	**34.13**	**279**	P	**P**	**21 52 33.4**	**0.0**
	17nm,0.6s,mb4.7,baz=50,slow=6.2,SNR=6.6						
TOO	**Toolangi**	**37.20**	**230**	*eP*	**P**	**21 53 00.4**	**+1.5**
	7.9nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**38.58**	**241**	⇓*iP*	**P**	**21 53 09.3**	**-0.8**
	8.4nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**21 53 09.4**	**-0.7**
	9.5nm,0.4s,mb4.6,baz=90,slow=9.4,SNR=46						
WB2	**Warramunga Arr**	**44.42**	**259**	*eP*	**P**	**21 53 55.9**	**-0.5**
WRAB	**Tennant Creek**	**44.42**	**259**	*eP*	**P**	**21 53 55.6**	**-0.8**
	9.3nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**21 53 56.0**	**-0.5**
	4.1nm,0.3s,mb4.4,baz=97,slow=7.6,SNR=137						
WRA				ScP	ScP	21 58 32.0	+1.1
	1.0nm,0.7s,baz=88,slow=4.0,SNR=5.0						
AS31	**Alice Springs**	**44.63**	**254**	⇓*iP*	**P**	**21 53 58.3**	**+0.3**
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**21 53 58.5**	**+0.4**
	57nm,0.5s,mb5.3,baz=88,slow=8.0,SNR=804						
ASAR				ScP	ScP	21 58 33.2	+1.6
	0.4nm,0.6s,baz=89,slow=4.9,SNR=4.3						
ASAR				S	**S**	**21 59 54.0**	**-1.8**
	1.1nm,0.8s,baz=93,slow=16,SNR=6.3						
ASPA	**Alice Springs**	**44.64**	**254**	⇓*iP*	**P**	**21 53 58.3**	**+0.2**
KAKA	**Kakadu**	**47.32**	**269**	*eP*	**P**	**21 54 18.4**	**-0.1**
	18nm,0.3s,mb5.1						
FORT	**Forrest**	**49.92**	**244**	*eP*	**P**	**21 54 36.6**	**-1.2**
	29nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.82**	**260**	*eP*	**P**	**21 54 59.2**	**+0.4**
	8.2nm,0.4s,mb4.4						
DRV	**Dumont d'Urvil**	**55.93**	**199**	R		21 56 00.0	
MBWA	**Marble Bar**	**57.90**	**256**	*eP*	**P**	**21 55 33.8**	**-0.4**
KLBR	**Kellerberrin**	**58.75**	**243**	*eP*	**P**	**21 55 39.8**	**-0.1**
	14nm,0.7s,mb4.3						
MUN	**Mundaring**	**60.05**	**243**	*eP*	**P**	**21 55 48.4**	**-0.2**
VNDA	**Vanda**	**60.80**	**185**	P	**P**	**21 55 53.9**	**+0.4**
	0.6nm,0.8s,baz=352,slow=6.1,SNR=4.0						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**21 57 44.9**	**+1.2**
	1.7nm,0.7s,mb3.5,baz=215,slow=7.2,SNR=14						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**21 57 44.9**	**+1.2**
WVOR	**Wild Horse Val**	**81.30**	**40**	*eP*	**P**	**21 57 54.6**	**+0.7**
	5.4nm,1.0s,mb3.9						
PDAR	**Pinedale Array**	**87.27**	**44**	P	**P**	**21 58 23.7**	**+0.5**
	1.5nm,0.5s,mb3.9,baz=225,slow=3.3,SNR=15						
YKA	**Yellowknife Ar**	**94.10**	**25**	P	**P**	**21 58 53.6**	**-1.2**
	0.8nm,0.7s,mb4.0,baz=240,slow=4.4,SNR=6.0						
CLL	**Collm**	**145.04**	**347**	*i* PKPbc	PKPbc	22 05 10.1	-0.6
	comp=Z,6.0nm,0.6s						
BRG	**Berggiesshubel**	**145.24**	**346**	*i* P	PKPdf	22 05 11.3	+1.0
	comp=Z,2.3nm,0.6s						
GERES	**GERESS Array B**	**147.18**	**345**	PKPbc	PKPbc	22 05 16.5	-0.2
	comp=Z,1.4nm,0.5s,baz=23,slow=2.7,SNR=13						
GIVF	**Givet**	**147.38**	**356**	*e*PKP1	PKPbc	22 05 16.9	-0.3
	comp=Z,13nm,0.9s						
BAIF	**Baives**	**147.47**	**357**	*e*PKP1	PKPbc	22 05 17.2	-0.2
	comp=Z,3.1nm,0.5s						
FLN	**La Foliniere**	**148.81**	**2**	*e*PKP1	PKPbc	22 05 20.3	-0.5
	comp=Z,13nm,0.8s						
CDF	**Champ du Feu**	**148.82**	**352**	*e*PKP1	PKPbc	22 05 20.6	-0.2
	comp=Z,4.9nm,0.6s						
MEZF	**Maizieres J'vi**	**148.96**	**355**	*e*PKP1	PKPbc	22 05 21.1	-0.1
	comp=Z,8.1nm,0.8s						
LDF	**La Druitiere**	**149.00**	**2**	*e*PKP1	PKPbc	22 05 20.0	-1.3
GRR	**Gorron**	**149.17**	**3**	*e*PKP1	PKPbc	22 05 21.3	-0.4
SGMF	**Saint Gilles**	**149.20**	**5**	*e*PKP1	PKPbc	22 05 21.1	-0.6
	comp=Z,8.4nm,0.7s						
LOR	**Lormes**	**150.27**	**356**	*e*PKP1	PKPbc	22 05 24.0	-0.3
	comp=Z,6.9nm,0.7s						
SSF	**Saint Saulge**	**150.50**	**357**	*e*PKP1	PKPbc	22 05 24.6	-0.2
	comp=Z,11nm,1.0s						
CABF	**La Chapelle**	**150.73**	**353**	*e*PKP1	PKPbc	22 05 25.7	+0.3
	comp=Z,8.0nm,0.8s						
AVF	**Avril sur Loir**	**150.77**	**357**	*e*PKP1	PKPbc	22 05 24.8	-0.6
SMF	**Signal de Mont**	**150.89**	**356**	*e*PKP1	PKPbc	22 05 25.4	-0.3
MFF	**Saint Martin d**	**150.99**	**2**	*e*PKP1	PKPbc	22 05 25.5	-0.4
BGF	**Bois d'Agland**	**151.03**	**358**	*e*PKP1	PKPbc	22 05 25.8	-0.2
TCF	**Toulx Ste Croi**	**151.32**	**359**	*e*PKP1	PKPbc	22 05 26.3	-0.4
	comp=Z,3.4nm,0.8s						
RJF	**Les Rejaudoux**	**152.31**	**360**	*e*PKP1	PKPbc	22 05 29.1	+0.2
ORIF	**Oris-en-Rattie**	**152.43**	**353**	*e*PKP1	PKPbc	22 05 29.2	+0.1
MBDF	**Montbardon**	**152.50**	**352**	*e*PKP1	PKPbc	22 05 29.4	+0.1
	comp=Z,3.1nm,0.6s						
CAF	**Calviac**	**152.68**	**359**	*e*PKP1	PKPbc	22 05 29.5	-0.2
	comp=Z,2.0nm,0.7s						

IDC 28 21:53:09.2±60.0, 1487S×16473E, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/12, mbtmp4.3/3, Error ellipse: s-maj=1002.0km s-min=100.6km az=64.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.06**	**227**	P	P	21 58 53.3	-0.1
	3.0nm,0.4s,baz=55,slow=10,SNR=11						
WRA	**Warramunga Arr**	**29.41**	**256**	P	P	21 59 14.7	+0.4
	0.4nm,0.4s,baz=86,slow=9.3,SNR=6.1						
ASAR	**Alice Springs**	**30.33**	**248**	P	P	21 59 23.1	+0.6
	2.2nm,0.5s,baz=74,slow=9.3,SNR=24						

*TEH **28** 21:54:52.1, 2695N×5573E, h12km, ML4.2*
*IDC **28** 21:55:09.1±0.8, 2687N×5576E, h0km, mb3.9/13, mb1 4.0/16, mb1mx3.9/24, mbtmp3.9/16, ML3.8/1, Error ellipse: s-maj=18.0km s-min=16.4km az=117.0*
*CSEM **28** 21:55:09.7±0.1, 2679N×5571E, h12km, mb4.1/9, Error ellipse: s-maj=4.5km s-min=2.7km az=65.0*
*ISCJB **28** 21:55:10.0±0.2, 2689N±002×5575E±004, h10km, mb4.0/22, Error ellipse: s-maj=5.0km s-min=3.2km az=134.3*
*NEIC **28** 21:55:11.8, 2690N×5595E, h10km, mb4.0/5, ML4.1(THR), After THR.*
*THR **28** 21:55:11.8±0.5, 2690N×5595E, h10km±6km, ML4.1*
*BJI **28** 21:55:11.0, 2762N×5538E, h14km, mb4.4*
ISC 28 21:55:11.7±0.2, 2689N±002×5583E±004, h10km, n102, σ1§15/114, mb4.0/22, 1C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.59**	**31**	*e*PG	**Pg**	**21 55 22.6**	**-0.6**
BNDS				*e*SG	**Sg**	**21 55 30.3**	**-0.7**
BNDS				AML	AML	21 55 40.4	
	comp=N,10μm,0.4s						
BNDS	**Bandar-Abbas**	**0.59**	**31**	*e*Pg	**Pg**	**21 55 22.0**	**-1.2**
BNDS				*e*Sg	**Sg**	**21 55 30.0**	**-1.0**
BNDS	**Bandar-Abbas**	**0.59**	**31**	*e*Pg	**Pg**	**21 55 22.6**	**-0.6**
	SNR=96						
BNDS				*e*Sg	**Sg**	**21 55 30.3**	**-0.7**
	SNR=96						
BANOM	**Banah**	**1.05**	**156**	P	**Pg**	**21 55 31.2**	**-0.7**
	SNR=1038						
BANOM				⇓S	**Sg**	**21 55 46.3**	**+0.8**
ASHO	**Ashiyiah**	**2.20**	**175**	P	**Pn**	**21 55 49.2**	**+0.9**
	SNR=204						
GHIR	**Ghir-Karzin**	**2.88**	**300**	*e*PN	**Pn**	**21 56 01.0**	**+3.3**
GHIR				AML	AML	21 57 01.9	
	comp=N,744nm,0.5s						
KRBR	**Kerman**	**3.19**	**15**	*e*PN	**Pn**	**21 56 04.0**	**+2.1**
KRBR				AML	AML	21 57 01.5	
	comp=N,398nm,0.6s						
KRBR	**Kerman**	**3.19**	**15**	*e*Pn	**Pn**	**21 56 03.0**	**+1.1**
ISRV	**Sarvestan**	**3.46**	**317**	*e*Pn	**Pn**	**21 56 08.3**	**+2.8**
IMOK	**Mook**	**3.50**	**309**	*e*Pn	**Pn**	**21 56 08.7**	**+2.6**
HOQ	**Hoqain**	**3.55**	**158**	P	**Pn**	**21 56 05.4**	**-1.5**
	SNR=13						
ARQ	**Araqi**	**3.59**	**170**	⇓P	**Pn**	**21 56 08.2**	**+0.8**
	SNR=49						
BIDO	**Bidbid**	**3.94**	**148**	P	**Pn**	**21 56 13.3**	**+1.1**
	SNR=18						
BSY	**Bisya**	**4.31**	**163**	P	**Pn**	**21 56 18.2**	**+1.0**
	SNR=19						
SMDO	**Samad**	**4.31**	**152**	P	**Pn**	**21 56 18.6**	**+1.3**
	SNR=22						
BSYO	**Bisya**	**4.33**	**163**	P	**Pn**	**21 56 18.2**	**+0.7**
	SNR=19						
WSAR	**Wadi Sarin**	**4.43**	**144**	Pn	**Pn**	**21 56 19.1**	**+0.2**
	comp=N,11nm,0.3s,baz=318,slow=7.9,SNR=124						
WSAR				Sn	**Sn**	**21 57 05.8**	**-4.7**
	comp=N,6.8nm,0.3s,baz=212,slow=19,SNR=3.1						
IMEH	**Mehriz**	**4.61**	**347**	*e*Pn	**Pn**	**21 56 23.6**	**+2.2**
IBAF	**Bafgh**	**4.69**	**357**	*e*Pn	**Pn**	**21 56 23.8**	**+1.3**
JMDO	**Jabal Madar**	**4.95**	**155**

RDF	**Al-Radifah**	**7.61 287**	*e*P	**Pn**	**21 57 02.1**	**-0.5**
RDF			AML	AML	21 58 25.4	
	comp=Z,39nm,0.4s					
UMR	**Umm Al-Rimmam**	**7.64 292**	*e*P	**Pn**	**21 57 02.4**	**-0.6**
UMR			AML	AML	21 58 24.6	
	comp=Z,34nm,0.3s					
UMR	**Umm Al-Rimmam**	**7.64 292**	*e*P	**Pn**	**21 57 02.3**	**-0.7**
NAY	**Al-Naaiem**	**7.95 289**	*e*P	**Pn**	**21 57 07.4**	**+0.2**
NAY			AML	AML	21 58 33.3	
	comp=Z,23nm,0.4s					
MIB	**Mutribah**	**8.03 293**	*e*P	**Pn**	**21 57 08.4**	**+0.1**
MIB			AML	AML	21 58 36.1	
	comp=Z,44nm,0.4s					
MIB	**Mutribah**	**8.03 293**	*e*P	**Pn**	**21 57 08.4**	**+0.1**
RST	**Umm Al-Ruwaisa**	**8.22 291**	*e*P	**Pn**	**21 57 10.8**	**-0.2**
RST			AML	AML	21 58 37.2	
	comp=Z,26nm,0.3s					
IVRN	**Varamin**	**8.82 337**	*e*Pn	**Pn**	**21 57 20.6**	**+1.4**
SHAO	**Shalim**	**8.82 181**	P	**Pn**	**21 57 17.8**	**-1.5**
	SNR=22					
WHFO	**Wadi Hawf**	**9.13 192**	P	**Pn**	**21 57 23.1**	**-0.3**
	SNR=22					
ISHM	**Shahmirzad**	**9.15 347**	*e*Pn	**Pn**	**21 57 25.5**	**+1.7**
ISHM	**Shahmirzad**	**9.15 347**	Pn	**Pn**	**21 57 25.4**	**+1.6**
IDMV	**Damavand**	**9.25 340**	*e*Pn	**Pn**	**21 57 26.7**	**+1.6**
IDMV	**Damavand**	**9.25 340**	Pn	**Pn**	**21 57 26.6**	**+1.5**
ABTO	**Aybut**	**9.77 194**	P	**Pn**	**21 57 31.0**	**-1.3**
	SNR=33					
IRAZ	**Razeghan**	**9.88 331**	*e*Pn		21 57 47.8	
IKOM	**Komasi**	**10.21 317**	*e*Pn	**Pn**	**21 57 37.8**	**-0.4**
IKOM			*e*Sn	**Sn**	**21 59 24.9**	**-7.7**
IKOM	**Komasi**	**10.21 317**	Pn	**Pn**	**21 57 37.7**	**-0.5**
IKOM			Sn	**Sn**	**21 59 24.8**	**-7.8**
ILIN	**Laeen**	**11.05 319**	*e*Pn	**Pn**	**21 57 49.5**	**-0.2**
GNI	**Garni**	**16.12 328**	Pn	**Pn**	**21 59 01.0**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=323,slow=20,SNR=2.9					
GNI	**Garni**	**16.12 328**	*e*P	**Pn**	**21 58 59.0**	**+0.7**
	comp=Z,12nm,0.8s					
GNI			Pn	**Pn**	**21 59 01.1**	**+2.7**
GNI	**Garni**	**16.12 328**	*e*P	**Pn**	**21 58 59.0**	**+0.7**
	comp=Z,12nm,0.8s					
ASF	**Jabal al Asfar**	**17.29 292**	P	**Pn**	**21 59 11.5**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=307,slow=5.1,SNR=2.7					
ASF			S	**Sn**	**22 02 14.3**	**-11**
	comp=Z,0.3nm,0.3s,baz=170,slow=18,SNR=4.6					
MALT	**Malatya**	**18.54 312**	*e*P	**Pn**	**21 59 29.2**	**+0.7**
	comp=Z,7.8nm,0.8s					
MALT	**Malatya**	**18.54 312**	*e*P	**Pn**	**21 59 29.2**	**+0.7**
	comp=Z,7.8nm,0.8s					
MMAI	**Mount Meron Ar**	**18.71 294**	P	**Pn**	**21 59 31.8**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=102,slow=16,SNR=5.1					
BR131	**Keskin Array S**	**22.47 310**	*e*P	**P**	**22 00 11.2**	**+0.3**
	comp=Z,2.8nm,0.6s,mb3.9					
BR131	**Keskin Array S**	**22.47 310**	*e*P	**P**	**22 00 11.2**	**+0.3**
	comp=Z,2.8nm,0.6s,mb3.9					
BRTR	**Keskin Array B**	**22.47 310**	P	**P**	**22 00 09.8**	**-1.2**
	comp=Z,1.3nm,0.9s,mb3.3,baz=77,slow=5.3,SNR=9.6					
AKTK	**Aktyubinsk**	**23.57 3**	P	**P**	**22 00 21.8**	**-0.8**
AKTK	**Aktyubinsk**	**23.57 3**	P	**P**	**22 00 21.8**	**-0.8**
AKTO	**Aktyubinsk**	**23.57 3**	P	**P**	**22 00 21.8**	**-0.8**
	comp=Z,3.0nm,0.6s,mb3.9,baz=177,slow=9.8,SNR=14					
ZRNK	**Zerenda**	**27.83 17**	*e*P	**P**	**22 00 59.1**	**-2.0**
	comp=Z,2.8nm,1.0s,mb3.9					
BVAR	**Borovoye Array**	**28.28 19**	P	**P**	**22 01 04.0**	**-1.1**
	comp=Z,3.2nm,0.8s,mb4.0,baz=203,slow=9.4,SNR=16					
MKAR	**Makanchi Array**	**28.81 39**	P	**P**	**22 01 09.4**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.5,baz=221,slow=8.3,SNR=16					
MKAR	**Makanchi Array**	**28.81 39**	P	**P**	**22 01 09.4**	**-0.5**
GTA	**Gaotai**	**38.53 60**	*e*P	**P**	**22 02 38.5**	**+4.3**
GTA			AP	pP	22 02 42.8	+5.3
GTA			XP	sP	22 02 46.0	+7.2
GERES	**GERESS Array B**	**39.17 315**	P	**P**	**22 02 38.6**	**-1.1**
	comp=Z,0.4nm,0.6s,mb3.3,baz=178,slow=2.6,SNR=3.8					
KHC	**Kasperske Hory**	**39.34 316**	*e*P	**P**	**22 02 40.5**	**-0.5**
JOF	**Joensuu**	**39.48 343**	*e*p	**P**	**22 02 40.7**	**-1.5**
	comp=Z,2.4nm,0.8s,mb4.0					
FINES	**FINESS Array B**	**39.91 338**	P	**P**	**22 02 44.2**	**-1.5**
	comp=Z,1.1nm,0.5s,mb3.9,baz=144,slow=9.7,SNR=14					
FINES	**FINESS Array B**	**39.91 338**	P	**P**	**22 02 44.2**	**-1.6**
MBDF	**Montbardon**	**42.89 308**	*e*P	**P**	**22 03 10.5**	**+0.2**
	comp=Z,5.4nm,0.7s,mb4.1					
MBDF	**Montbardon**	**42.89 308**	*e*P	**P**	**22 03 10.5**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.1					
LPG	**La Plagne**	**43.01 309**	*e*P	**P**	**22 03 10.7**	**-0.5**
	comp=Z,7.6nm,0.9s,mb4.1					
LPG	**La Plagne**	**43.01 309**	*e*P	**P**	**22 03 10.7**	**-0.5**
	comp=Z,3.8nm,0.9s,mb4.1					
HINF	**Hinteralfeld**	**43.33 312**	*e*P	**P**	**22 03 13.8**	**0.0**
CABF	**La Chapelle**	**43.64 310**	*e*P	**P**	**22 03 17.0**	**+0.7**
	comp=Z,7.7nm,0.8s,mb4.2					
CABF	**La Chapelle**	**43.64 310**	*e*P	**P**	**22 03 17.0**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.2					
HAU	**Haudompre**	**43.70 312**	*e*P	**P**	**22 03 17.8**	**+1.0**
SONM	**Songino Array**	**44.39 48**	P	**P**	**22 03 22.3**	**0.0**
	comp=Z,1.3nm,0.9s,mb3.7,baz=254,slow=7.2,SNR=5.8					
MEZF	**Maizieres J'vi**	**44.64 313**	*e*P	**P**	**22 03 25.0**	**+0.6**
	comp=Z,4.2nm,0.4s,mb4.3					
MEZF	**Maizieres J'vi**	**44.64 313**	*e*P	**P**	**22 03 25.0**	**+0.6**
	comp=Z,2.1nm,0.4s,mb4.3					
GIVF	**Givet**	**45.09 315**	*e*P	**P**	**22 03 29.4**	**+1.5**
SMF	**Signal de Mont**	**45.18 310**	*e*P	**P**	**22 03 28.4**	**-0.2**
NB2	**NORSAR Subarra**	**45.38 331**	P	**P**	**22 03 28.0**	**-2.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=118,slow=8.6					
NOA	**NORSAR Array B**	**45.38 331**	P	**P**	**22 03 28.1**	**-2.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=120,slow=8.4,SNR=2.4					
AVF	**Avril sur Loir**	**45.53 310**	*e*P	**P**	**22 03 30.6**	**-0.8**
BGF	**Bois d'Agland**	**45.85 310**	*e*P	**P**	**22 03 34.0**	**+0.1**
KEV	**Kevo**	**46.05 347**	*e*p	**P**	**22 03 33.4**	**-2.1**
	comp=Z,8.3nm,1.0s,mb4.6					
ARCES	**ARCESS Array B**	**46.20 346**	P	**P**	**22 03 35.5**	**-1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=138,slow=9.5,SNR=6.6					
ARCES	**ARCESS Array B**	**46.20 346**	P	**P**	**22 03 35.5**	**-1.2**
TCF	**Toulx Ste Croi**	**46.26 309**	*e*P	**P**	**22 03 37.1**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.1					
TCF	**Toulx Ste Croi**	**46.26 309**	*e*P	**P**	**22 03 37.1**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.1					
SJPF	**Ste Jean**	**48.55 305**	*e*P	**P**	**22 03 54.3**	**-0.7**
ESDC	**Sonseca Array**	**50.74 301**	P	**P**	**22 04 10.6**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=75,slow=7.5,SNR=5.5					
TORD	**Torodi Ar. Bea**	**52.31 266**	P	**P**	**22 04 22.4**	**-1.1**
	comp=Z,11nm,0.4s,mb5.1,baz=65,slow=7.3,SNR=427					
DBIC	**Dimbokro**	**60.91 262**	P	**P**	**22 05 23.6**	**-0.9**
	comp=Z,2.8nm,0.6s,mb4.6,baz=68,slow=13,SNR=7.2					
BOSA	**Boshof**	**62.50 210**	P	**P**	**22 05 34.5**	**-0.8**
	comp=Z,2.2nm,0.4s,mb4.6,baz=22,slow=6.8,SNR=22					
WRA	**Warramunga Arr**	**89.15 113**	P	**P**	**22 08 06.3**	**-1.0**
	comp=Z,0.9nm,0.9s,mb4.1,baz=311,slow=4.1,SNR=5.6					

*NEIC **28** 22:12:58.4, 1866N×65.15W, h25km, MD3.5(RSPR), After RSPR.*

RSPR 28 22:12:58.4, 1866N×6515W, h25km±5km, MD3.5/17, MD3.5/17, 11C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.35 149**		*e*S	Sb	22 13 11.4	0.0
STVI	**Saint Thomas**	**0.35 149**		⇓*i*P	Pb	22 13 05.8	-0.3
STVI	**Saint Thomas**	**0.35 149**		⇓*i*P	Pb	22 13 05.8	-0.3
STVI				*e*S	Sb	22 13 11.4	0.0
CULB	**Culebra**	**0.38 207**		*e*S	Sb	22 13 12.1	-0.2
CULB	**Culebra**	**0.38 207**		⇑*i*P	Pb	22 13 06.1	-0.6
TBVI	**Tortola**	**0.57 115**		*e*S	Sb	22 13 15.2	-2.2
TBVI	**Tortola**	**0.57 115**		⇓*i*P	Pb	22 13 08.0	-1.7
TBVI	**Tortola**	**0.57 115**		⇓*i*P	Pb	22 13 08.0	-1.7
TBVI				*e*S	Sb	22 13 15.2	-2.2
MTP	**Monte Pirata**	**0.68 215**		*e*S	Sb	22 13 18.8	-1.8
MTP	**Monte Pirata**	**0.68 215**		⇓*i*P	Pb	22 13 09.9	-1.7
MTP	**Monte Pirata**	**0.68 215**		⇓*i*P	Pb	22 13 09.9	-1.7
MTP				*e*S	Sb	22 13 18.8	-1.8
CBYP	**Canovanas**	**0.77 240**		⇑*i*P	Pb	22 13 11.2	-1.9
CBYP				*e*S	Sb	22 13 21.1	-2.1
ABV	**Anegada**	**0.78 84**		⇑*e*P	Pb	22 13 11.6	-1.6
ABV	**Anegada**	**0.78 84**		*e*S	Sb	22 13 22.1	-1.3
HUMP	**Col San Antoni**	**0.84 233**		⇑*e*P	Pb	22 13 12.3	-1.9
HUMP				*e*S	Sb	22 13 22.9	-2.2
CPD	**Cerro la Pandu**	**0.95 230**		⇑*e*P	Pn	22 13 14.0	-2.1
CPD				*e*S	Sb	22 13 25.8	-2.6
CDVI	**St. Croix**	**0.97 158**		⇑*e*P	Pn	22 13 14.6	-1.7
CDVI				*e*S	Sb	22 13 26.7	-2.1
SJG	**San Juan**	**1.09 241**		⇑*e*P	Pn	22 13 16.0	-2.1
SJG	**San Juan**	**1.09 241**		⇑*i*P	Pn	22 13 15.7	-2.3
SJG				*e*S	Sn	22 13 29.0	-3.3
CELP	**Cerrillos**	**1.48 247**		⇑*i*P	Pn	22 13 21.4	-1.9
ICM	**Isla Caja Muer**	**1.51 240**		⇑*e*P	Pn	22 13 22.2	-1.5
ICM				*e*S	Sn	22 13 40.4	-2.2
OBIP	**Obispado Ponce**	**1.51 246**		⇑*e*P	Pn	22 13 21.9	-1.9
OBIP				*e*S	Sn	22 13 40.0	-2.7
AOPR	**Arecibo Observ**	**1.55 259**		⇑*e*P	Pn	22 13 22.1	-2.2
AOPR				*e*S	Sn	22 13 40.0	-3.6
AGPR	**Aguadilla, PR**	**1.87 265**		⇑*i*P	Pn	22 13 26.9	-1.9
AGPR				*e*S	Sn	22 13 47.7	-3.8
LSP	**Las Mesas**	**1.90 256**		⇓*i*P	Pn	22 13 27.4	-1.7
LSP				*e*S	Sn	22 13 48.8	-3.5
MGP	**Maguayo**	**1.95 251**		⇓*i*P	Pn	22 13 28.4	-1.4

*IDC **28** 22:23:08.1±3.0, 2569N×5649E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.9/3, Error ellipse: s-maj=77.2km s-min=31.9km az=155.0*
*CSEM **28** 22:23:12.3±0.3, 2671N×5583E, h16km, ML3.6, Error ellipse: s-maj=7.7km s-min=3.3km az=174.0*
*ISCJB **28** 22:23:13.3±1.8, 2694N±009×5576E±005, h5km±9km, mb3.7/3, Error ellipse: s-maj=15.6km s-min=7.0km az=158.1*
*KISR **28** 22:23:15.6±1.1, 2738N×5573E, h34km, ML3.7*
*NEIC **28** 22:23:15.5, 2700N×5590E, h14km, mb3.6/3, ML3.6(THR), After THR.*
*THR **28** 22:23:15.6±0.5, 2700N×5590E, h15km±5km, ML3.6*
*TEH **28** 22:23:18.8, 2699N×5597E, h18km, Mn3.6*

ISC 28 22:23:15.4±1.9, 2698N±009×5583E±005, h2km±9km, n29, σ1§25/38, mb3.7/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.52**	**35**	*e*PG	**Pg**	**22 23 25.1**	**-0.2**
BNDS				*e*SG	**Sg**	**22 23 31.8**	**-0.2**
BNDS				AML	AML	22 23 44.9	
	comp=E,3μm,0.4s						
BNDS	**Bandar-Abbas**	**0.52**	**35**	*e*Pg	**Pg**	**22 23 25.0**	**-0.3**
BNDS				*e*Sg	**Sg**	**22 23 31.0**	**-1.0**
BNDS	**Bandar-Abbas**	**0.52**	**35**	*e*Pg	**Pg**	**22 23 25.1**	**-0.2**
	SNR=94						
BNDS				*e*Sg	**Sg**	**22 23 31.8**	**-0.2**
	comp=E,3μm,0.4s,SNR=94						
GHIR	**Ghir-Karzin**	**2.84 298**		*e*PN	**Pn**	**22 24 03.2**	**+1.4**
GHIR				*e*SG	**Sg**	**22 24 45.6**	**-1.2**
GHIR				AML	AML	22 25 02.6	
	comp=E,174nm,0.5s						
GHIR	**Ghir-Karzin**	**2.84 298**		*e*Pn	**Pn**	**22 24 03.0**	**+1.3**
GHIR				*e*Sg	**Sg**	**22 24 45.0**	**-1.7**
KRBR	**Kerman**	**3.10**	**15**	*e*PN	**Pn**	**22 24 05.9**	**+0.6**
KRBR				AML	AML	22 24 55.5	
	comp=E,150nm,0.5s						
KRBR				AML	AML	22 25 00.3	
	comp=N,177nm,0.6s						
KRBR	**Kerman**	**3.10**	**15**	*e*Pn	**Pn**	**22 24 05.0**	**-0.3**
ISRV	**Sarvestan**	**3.39**	**316**	*e*Pn	**Pn**	**22 24 11.7**	**+2.4**
IMOK	**Mook**	**3.44**	**307**	*e*Pn	**Pn**	**22 24 12.5**	**+2.5**
IMEH	**Mehriz**	**4.53**	**347**	*e*Pn	**Pn**	**22 24 26.2**	**+1.3**
IBAF	**Bafgh**	**4.60**	**357**	*e*Pn	**Pn**	**22 24 27.0**	**+1.1**
IBAF				*e*Sn	**Sn**	**22 25 17.4**	**-2.6**
ZHSF	**Zahedan**	**5.09**	**58**	*e*PN	**Pn**	**22 24 32.5**	**0.0**
ZHSF	**Zahedan**	**5.09**	**58**	*e*Pn	**Pn**	**22 24 32.0**	**-0.6**
ICHK	**Chekchek**	**5.39**	**347**	*e*Pn	**Pn**	**22 24 37.5**	**+0.7**
NASN	**Na'in**	**6.37**	**336**	*e*Pn	**Pn**	**22 24 51.2**	**+1.0**
NASN				AML	AML	22 26 06.7	
	comp=N,16nm,0.8s						
NASN				AML	AML	22 26 06.8	
	comp=E,20nm,0.5s						
NASN	**Na'in**	**6.37**	**336**	*e*Pn	**Pn**	**22 24 51.0**	**+0.8**
IZEF	**Zefreh**	**6.64**	**334**	*e*Pn	**Pn**	**22 24 54.0**	**+0.1**
IPIR	**Pirpir**	**7.12**	**324**	*e*Pn	**Pn**	**22 25 00.8**	**+0.2**
IKLH	**Kalahroud**	**7.32**	**331**	*e*Pn	**Pn**	**22 25 04.2**	**+1.0**
NAY	**Al-Naaiem**	**7.92**	**289**	*e*P	**Pn**	**22 25 10.9**	**-0.6**
NAY				AML	AML	22 26 36.0	
	comp=Z,3.2nm,0.5s						
NAY				*e*S	**Sn**	**22 26 37.5**	**-4.1**
MIB	**Mutribah**	**7.99**	**293**	*e*P	**Pn**	**22 25 12.2**	**-0.3**
MIB				*e*S	**Sn**	**22 26 38.3**	**-5.2**
MIB				AML	AML	22 26 42.3	
	comp=Z,18nm,0.5s						
RST	**Umm Al-Ruwaisa**	**8.19**	**290**	*e*P	**Pn**	**22 25 13.9**	**-1.3**
RST				*e*S	**Sn**	**22 26 43.8**	**-4.5**
RST				AML	AML	22 26 46.5	
	comp=Z,7.4nm,0.4s						
GNI	**Garni**	**16.05**	**328**	Pn	**Pn**	**22 27 08.5**	**+6.4**
	comp=Z,5.9nm,0.7s						
MALT	**Malatya**	**18.48**	**312**	*e*P	**Pn**	**22 27 32.1**	**-0.4**
	comp=Z,1.7nm,0.8s						
MALT	**Malatya**	**18.48**	**312**	*e*P	**Pn**	**22 27 32.1**	**-0.4**
	comp=Z,1.7nm,0.8s						
BR131	**Keskin Array S**	**22.41**	**310**	*e*P	**P**	**22 28 21.6**	**+6.5**
	comp=Z,1.4nm,0.7s,mb3.5						
BRTR	**Keskin Array B**	**22.41**	**310**	P	**P**	**22 28 21.8**	**+6.6**
	comp=Z,2.9nm,1.0s,mb3.7,baz=130,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**28.74**	**40**	P	**P**	**22 29 12.9**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.2,baz=222,slow=9.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**52.32**	**266**	P	**P**	**22 32 25.7**	**-2.8**
	comp=Z,2.7nm,0.5s,mb4.4,baz=66,slow=7.5,SNR=58						

*IDC **28** 22:25:53.3±3.0, 2683N×5608E, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.7/21, mbtmp4.1/5, Error ellipse: s-maj=74.8km s-min=30.2km az=85.0*
*NEIC **28** 22:25:55.8±1.3, 2670N×5584E, h10km, mb3.6/3, ML3.3(THR), Error ellipse: s-maj=21.7km s-min=12.2km az=123.0*
*THR **28** 22:25:55.5±0.7, 2676N×5585E, h10km±4km, ML3.4*
*ISCJB **28** 22:25:56.2±0.4, 2684N±003×5561E±004, h10km, mb4.2/5, Error ellipse: s-maj=5.0km s-min=3.8km az=113.0*
*CSEM **28** 22:25:56.8±0.1, 2679N×5570E, h16km, ML3.4, Error ellipse: s-maj=2.4km s-min=2.0km az=56.0*
*TEH **28** 22:25:57.5, 2674N×5596E, h8km, Mn3.7*
*KISR **28** 22:25:58.1±1.5, 2685N×5550E, h34km, ML3.7*

ISC 28 22:25:57.8±0.4, 2682N±003×5572E±004, h10km, n49, σ1§20/61, mb4.2/5, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.70**	**35**	*e*PG	**Pg**	**22 26 09.1**	**-2.4**
BNDS				*e*Sg	**Sg**	**22 26 19.3**	**-1.4**
BNDS				AML	AML	22 26 28.9	
	comp=N,2μm,0.5s						
BNDS				AML	AML	22 26 31.9	
	comp=E,2μm,0.4s						
BNDS	**Bandar-Abbas**	**0.70**	**35**	*e*Pg	**Pg**	**22 26 11.0**	**-0.5**
BNDS				*e*Sg	**Sg**	**22 26 18.0**	**-2.7**
BNDS	**Bandar-Abbas**	**0.70**	**35**	*e*Pg	**Pg**	**22 26 11.0**	**-0.5**
BNDS				*e*Sg	**Sg**	**22 26 19.3**	**-1.4**
	SNR=94						
BANOM	**Banah**	**1.04**	**149**	P	**Pg**	**22 26 16.8**	**-0.9**
	SNR=93						
BANOM				⇓S	**Sg**	**22 26 31.7**	**+0.4**
ASHO	**Ashiyiah**	**2.15**	**172**	P	**Pn**	**22 26 35.0**	**+1.3**
	SNR=19						
GHIR	**Ghir-Karzin**	**2.83**	**302**	*e*Pn	**Pn**	**22 26 44.8**	**+1.8**
GHIR				AML	AML	22 27 41.2	
	comp=E,200nm,0.4s						
GHIR				AML	AML	22 27 43.2	
	comp=N,113nm,0.5s						
GHIR	**Ghir-Karzin**	**2.83**	**302**	*e*Pn	**Pn**	**22 26 46.0**	**+3.0**
GHIR				*e*Sg	**Sg**	**22 27 24.0**	**-4.7**
GHIR	**Ghir-Karzin**	**2.83**	**302**	*e*Pn	**Pn**	**22 26 44.8**	**+1.8**
	SNR=47						
GHIR				*e*Sg	**Sg**	**22 27 24.0**	**-4.7**
KRBR	**Kerman**	**3.28**	**16**	*e*Pn	**Pn**	**22 26 49.7**	**+0.5**
KRBR				Sn	**Sn**	**22 27 29.1**	**+0.8**
KRBR				AML	AML	22 27 40.0	
	comp=E,91nm,0.6s						
KRBR				AML	AML	22 27 43.6	
	comp=N,102nm,0.3s						
KRBR	**Kerman**	**3.28**	**16**	*e*Pn	**Pn**	**22 26 50.0**	**+0.7**
KRBR				Sn	**Sn**	**22 27 29.1**	**+0.8**
	SNR=47						
ISRV	**Sarvestan**	**3.43**	**319**	*e*Pn	**Pn**	**22 26 53.6**	**+2.3**
IMOK	**Mook**	**3.46**	**311**	*e*Pn	**Pn**	**22 26 54.2**	**+2.5**
ARQ	**Araqi**	**3.54**	**168**	P	**Pn**	**22 26 52.8**	**0.0**
	SNR=23						
BIDO	**Bidbid**	**3.95**	**146**	P	**Pn**	**22 26 58.2**	**-0.1**
	SNR=6.5						
SMDO	**Samad**	**4.30**	**150**	P	**Pn**	**22 27 03.2**	**-0.1**
	SNR=8.0						
IMEH	**Mehriz**	**4.65**	**348**	*e*Pn	**Pn**	**22 27 09.5**	**+1.4**
IBAF	**Bafgh**	**4.75**	**358**	*e*Pn	**Pn**	**22 27 09.7**	**+0.2**
IBAF				*e*Sn	**Sn**	**22 28 03.8**	**-0.8**
ICHK	**Chekchek**	**5.52**	**348**	*e*Pn	**Pn**	**22 27 21.1**	**+1.0**
NASN	**Na'in**	**6.47**	**338**	*e*Pn	**Pn**	**22 27 34.2**	**+1.1**
NASN				AML	AML	22 27 51.2	
	comp=E,6.7nm,0.6s						
NASN	**Na'in**	**6.47**	**338**	*e*Pn	**Pn**	**22 27 34.0**	**+0.9**
IZEF	**Zefreh**	**6.73**	**335**	*e*Pn	**Pn**	**22 27 37.5**	**+0.9**
QRN	**Al-Qurain**	**7.17**	**287**	*e*P	**Pn**	**22 27 43.5**	**+0.9**
QRN				AML	AML	22 29 02.5	
	comp=Z,15nm,0.3s						
IPIR	**Pirpir**	**7.19**	**325**	*e*Pn	**Pn**	**22 27 43.5**	**+0.5**
IKLH	**Kalahroud**	**7.40**	**332**	*e*Pn	**Pn**	**22 27 46.5**	**+0.7**
KBD	**Kabd**	**7.47**	**290**	*e*P	**Pn**	**22 27 47.9**	**+1.1**
RDF	**Al-Radifah**	**7.53**	**288**	*e*P	**Pn**	**22 27 47.5**	**0.0**
RDF				AML	AML	22 29 09.7	
	comp=Z,8.2nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.56**	**293**	*e*P	**Pn**	**22 27 48.3**	**+0.2**
UMR				AML	AML	22 29 15.4	
	comp=Z,16nm,0.3s						
NAY	**Al-Naaiem**	**7.87**	**290**	*e*P	**Pn**	**22 27 53.4**	**+1.1**
NAY				AML	AML	22 29 17.9	
	comp=Z,6.3nm,0.5s						
NAY				*e*S	**Sn**	**22 29 19.3**	**-2.1**
MIB	**Mutribah**	**7.96**	**294**	*e*P	**Pn**	**22 27 54.3**	**+0.8**
MIB				*e*S	**Sn**	**22 29 21.9**	**-1.7**
RST	**Umm Al-Ruwaisa**	**8.14**	**291**	*e*P	**Pn**	**22 27 56.0**	**-0.1**
RST				AML	AML	22 29 22.4	
	comp=Z,9.6nm,0.4s						
RST				*e*S	**Sn**	**22 29 25.3**	**-2.8**
GNI	**Garni**	**16.12**	**328**	*e*Pn	**Pn**	**22 29 43.1**	**-1.4**
	comp=Z,1.6nm,0.5s						
GNI	**Garni**	**16.12**	**328**	*e*Pn	**Pn**	**22 29 43.1**	**-1.4**
	comp=Z,1.6nm,0.5s						
MALT	**Malatya**	**18.50**	**313**	*e*P	**Pn**	**22 30 14.5**	**+0.3**
	comp=Z,9.7nm,1.0s						
MALT	**Malatya**	**18.50**	**313**	*e*P	**Pn**	**22 30 14.5**	**+0.3**
	comp=Z,9.7nm,1.0s						
BRTR	**Keskin Array B**	**22.43**	**311**	P	**P**	**22 30 57.0**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.3,baz=128,slow=12,SNR=4.6						
BR131	**Keskin Array S**	**22.43**	**311**	*e*P	**P**	**22 30 57.3**	**+0.6**
	comp=Z,0.8nm,0.4s,mb3.5						
BR131	**Keskin Array S**	**22.43**	**311**	*e*P	**P**	**22 30 57.3**	**+0.6**
SANT	**Santorini**	**27.38**	**298**	P	**P**	**22 31 42.1**	**-1.1**
SANT	**Santorini**	**27.38**	**298**	P	**P**	**22 31 42.1**	**-1.1**
TIP	**Timpagrande**	**34.66**	**301**	*e*P	**P**	**22 32 45.7**	**-1.7**
TIP	**Timpagrande**	**34.66**	**301**	*e*P	**P**	**22 32 45.7**	**-1.7**
PSZ	**Piszkesteto**	**34.97**	**317**	P	**P**	**22 32 48.0**	**-2.0**
FINES	**FINESS Array B**	**39.93**	**338**	P	**P**	**22 33 29.4**	**-2.7**
	comp=Z,1.6nm,0.7s,mb3.9,baz=151,slow=9.5,SNR=5.1						
FINES	**FINESS Array B**	**39.93**	**338**	P	**P**	**22 33 29.4**	**-2.7**
TORD	**Torodi Ar. Bea**	**52.20**	**266**	P	**P**	**22 35 08.3**	**-0.4**
	comp=Z,3.4nm,0.4s,mb4.6,baz=67,slow=7.3,SNR=61						
TORD	**Torodi Ar. Bea**	**52.20**	**266**	P	**P**	**22 35 08.3**	**-0.4**
DBIC	**Dimbokro**	**60.80**	**262**	P	**P**	**22 36 09.7**	**-0.3**
	comp=Z,6.4nm,1.0s,mb4.7,baz=5.7,slow=10,SNR=4.4						
BOSA	**Boshof**	**62.39**	**210**	P	**P**	**22 36 19.4**	**-1.3**
	comp=Z,3.0nm,1.1s,mb4.3,baz=7.1,slow=8.1,SNR=3.7						
BOSA	**Boshof**	**62.39**	**210**	P	**P**	**22 36 19.4**	**-1.3**

*CSEM **28** 22:45:25.3±0.4, 27.10N×5561E, h2km, ML3.1, Error ellipse: s-maj=15.4km s-min=3.6km az=174.0*
*KISR **28** 22:45:25.0±0.7, 2698N×5536E, h4km±999km

*STR **28** 23:23:15.7±0.4, 44.00N×755E, h10km±1km, MI1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 28 23:23:14.3±0.8, 4402N±003×764E±008, h18km±6km, n13, σ0.37/26, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.15**	**261**	Pg	**Pg**	**23 23 18.7**	**+0.1**
AUTN				Sg	**Sg**	**23 23 20.8**	**-0.6**
SBF	**Sospel**	**0.21**	**223**	*e*Pg	**Pg**	**23 23 19.8**	**+0.3**
SBF				*e*Sg	**Sg**	**23 23 22.6**	**-0.3**
38nm,0.2s							
LUCF	**Luceram**	**0.24**	**239**	Pg	**Pg**	**23 23 20.3**	**+0.4**
LUCF				Sg	**Sg**	**23 23 23.7**	**-0.1**
TOUF	**Mont Tournerai**	**0.28**	**269**	Pg	**Pg**	**23 23 20.9**	**+0.4**
TOUF				Sg	**Sg**	**23 23 25.0**	**+0.3**
MVIF	**Mont Vial**	**0.37**	**251**	Pg	**Pg**	**23 23 22.6**	**+0.5**
MVIF				Sg	**Sg**	**23 23 27.4**	**+0.1**
FRF	**La Foret Royal**	**0.85**	**238**	*e*Pg	**Pg**	**23 23 31.1**	**+0.2**
FRF				*e*Sg	**Sg**	**23 23 41.8**	**-0.4**
3.5nm,0.2s							
MBDF	**Montbardon**	**0.94**	**319**	*e*Pg	**Pg**	**23 23 33.1**	**+0.5**
MBDF				*e*Sg	**Sg**	**23 23 45.0**	**0.0**
1.6nm,0.2s							
LMR	**La Mourre**	**1.07**	**230**	*e*Pg	**Pg**	**23 23 35.1**	**+0.1**
LMR				*e*Sg	**Sg**	**23 23 48.6**	**-0.4**
4.3nm,0.2s							
SMRF	**Simiane la Rot**	**1.49**	**269**	*e*Pg	**Pg**	**23 23 43.1**	**+0.1**
SMRF				*e*Sg	**Sg**	**23 24 02.7**	**+0.3**
3.6nm,0.4s							
ORIF	**Oris-en-Rattie**	**1.55**	**306**	*e*Pg	**Pg**	**23 23 43.9**	**-0.2**
ORIF				*e*Sg	**Sg**	**23 24 04.1**	**-0.2**
0.8nm,0.3s							
LPG	**La Plagne**	**1.61**	**337**	*e*Pg	**Pg**	**23 23 44.5**	**-0.8**
LPG				*e*Sg	**Sg**	**23 24 06.1**	**-0.1**
0.7nm,0.2s							
LPL	**La Plagne**	**1.63**	**337**	*e*Pg	**Pg**	**23 23 45.6**	**-0.1**
LPL				*e*Sg	**Sg**	**23 24 07.0**	**+0.1**
0.8nm,0.3s							
PGF	**Pioggiola**	**1.77**	**145**	*e*Pn	**Pn**	**23 23 44.9**	**+0.8**
PGF				*e*Sn	**Sn**	**23 24 05.6**	**-0.7**
1.2nm,0.2s							

*MOS **28** 23:40:42.6±0.8, 2674N×5585E, h10km, mb4.5/21, Error ellipse: s-maj=12.8km s-min=5.9km az=125.1*
*IDC **28** 23:40:43.8±1.0, 2682N×5577E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.8/25, mbtmp3.8/15, MS3.0/2, Ms1 3.0/2, ms1mx2.6/33, Error ellipse: s-maj=20.8km s-min=18.9km az=112.0*
*ISCJB **28** 23:40:44.7±0.2, 2683N±003×5573E±004, h15km, mb4.1/32, Error ellipse: s-maj=5.2km s-min=3.5km az=119.5*
*NEIC **28** 23:40:45.6, 2686N×5577E, h15km, mb4.4/21, ML3.5(THR), After THR.*
*THR **28** 23:40:45.1±0.3, 2681N×5578E, h15km±5km, ML3.5*
*CSEM **28** 23:40:46.4±0.2, 2684N×5579E, h33km±1km, mb4.4/25, Error ellipse: s-maj=3.1km s-min=1.8km az=50.0*
*TEH **28** 23:40:47.2, 2672N×5589E, h18km, Mn3.8*

ISC 28 23:40:46.2±0.2, 2683N±003×5582E±004, h15km, n143, σ0.98/149, mb4.1/32, 2C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.65**	**29**	*e*PG	**Pg**	**23 40 58.3**	**-0.7**
BNDS				*e*SG	**Sg**	**23 41 08.1**	**+0.5**
BNDS				AML	AML	23 41 20.1	
comp=E,2μm,0.3s							
BNDS	**Bandar-Abbas**	**0.65**	**29**	*e*Pg	**Pg**	**23 40 58.0**	**-1.0**
BNDS				*e*Sg	**Sg**	**23 41 07.0**	**-0.6**
BNDS	**Bandar-Abbas**	**0.65**	**29**	*e*Pg	**Pg**	**23 40 58.3**	**-0.7**
SNR=92							
BNDS				*e*Sg	**Sg**	**23 41 08.1**	**+0.5**
comp=E,2μm,0.3s,SNR=92							
BANOM	**Banah**	**1.00**	**154**	P	**Pb**	**23 41 04.0**	**-1.2**
SNR=277							
BANOM				⇑S	**Sb**	**23 41 18.5**	**+0.5**
ASHO	**Ashiyiah**	**2.15**	**174**	P	**Pn**	**23 41 23.1**	**+1.7**
SNR=19							
GHIR	**Ghir-Karzin**	**2.91**	**301**	*e*PN	**Pn**	**23 41 32.7**	**+0.8**
GHIR				AML	AML	23 42 41.8	
comp=E,192nm,0.6s							
GHIR				AML	AML	23 42 41.9	
comp=N,155nm,0.7s							
GHIR	**Ghir-Karzin**	**2.91**	**301**	*e*Pn	**Pn**	**23 41 32.0**	**+0.1**
GHIR				*e*Sg	**Sg**	**23 42 14.0**	**-5.6**
KRBR	**Kerman**	**3.25**	**15**	*e*PN	**Pn**	**23 41 38.2**	**+1.6**
KRBR				AML	AML	23 42 34.6	
comp=N,154nm,0.5s							
KRBR				AML	AML	23 42 40.3	
comp=E,110nm,0.6s							
KRBR	**Kerman**	**3.25**	**15**	*e*Pn	**Pn**	**23 41 38.0**	**+1.4**
ISRV	**Sarvestan**	**3.49**	**317**	*e*Pn	**Pn**	**23 41 42.6**	**+2.7**
IMOK	**Mook**	**3.53**	**310**	*e*Pn	**Pn**	**23 41 42.8**	**+2.4**
ARQ	**Araqi**	**3.53**	**169**	P	**Pn**	**23 41 42.2**	**+1.7**
SNR=27							
BIDO	**Bidbid**	**3.90**	**147**	P	**Pn**	**23 41 45.5**	**0.0**
SNR=12							
BSY	**Bisya**	**4.25**	**163**	⇑P	**Pn**	**23 41 51.6**	**+1.2**
SMDO	**Samad**	**4.26**	**151**	P	**Pn**	**23 41 51.6**	**+1.1**
SNR=15							
BSYO	**Bisya**	**4.28**	**162**	P	**Pn**	**23 41 51.6**	**+0.9**
WSAR	**Wadi Sarin**	**4.39**	**144**	Pn	**Pn**	**23 41 52.8**	**+0.6**
comp=E,4.3nm,0.3s,baz=308,slow=9.0,SNR=64							
WSAR				Sn	**Sn**	**23 42 40.2**	**-2.9**
comp=E,1.1nm,0.3s,baz=4.1,slow=14,SNR=2.3							
WSAR				LR	LR	23 44 05.3	
comp=E,206nm,19.2s,baz=80,slow=46							
IMEH	**Mehriz**	**4.67**	**347**	*e*Pn	**Pn**	**23 41 58.2**	**+2.1**
IBAF	**Bafgh**	**4.75**	**357**	*e*Pn	**Pn**	**23 41 59.0**	**+1.8**
WBK	**Wadi Bani Khal**	**5.08**	**145**	⇓P	**Pn**	**23 42 02.0**	**+0.2**
ZHSF	**Zahedan**	**5.18**	**56**	*e*PN	**Pn**	**23 42 04.9**	**+1.8**
ZHSF	**Zahedan**	**5.18**	**56**	*e*Pn	**Pn**	**23 42 04.0**	**+0.9**
ICHK	**Chekchek**	**5.54**	**347**	*e*Pn	**Pn**	**23 42 10.1**	**+2.1**
NASN	**Na'in**	**6.50**	**337**	*e*PN	**Pn**	**23 42 22.7**	**+1.4**
NASN				AML	AML	23 43 40.9	
comp=E,12nm,0.4s							
NASN				AML	AML	23 43 43.7	
comp=N,8.9nm,0.8s							
NASN	**Na'in**	**6.50**	**337**	*e*Pn	**Pn**	**23 42 22.0**	**+0.7**
IZEF	**Zefreh**	**6.76**	**334**	*e*Pn	**Pn**	**23 42 25.9**	**+1.0**
IPIR	**Pirpir**	**7.24**	**325**	*e*Pn	**Pn**	**23 42 32.5**	**+1.1**
QRN	**Al-Qurain**	**7.26**	**287**	*e*P	**Pn**	**23 42 32.4**	**+0.8**
QRN				AML	AML	23 43 52.2	
comp=Z,17nm,0.2s							
IKLH	**Kalahroud**	**7.44**	**331**	*e*Pn	**Pn**	**23 42 35.5**	**+1.3**
RDF	**Al-Radifah**	**7.61**	**288**	*e*P	**Pn**	**23 42 36.7**	**+0.2**
RDF				AML	AML	23 43 59.9	
comp=Z,11nm,0.3s							
NAY	**Al-Naaiem**	**7.96**	**290**	*e*P	**Pn**	**23 42 41.5**	**+0.3**
NAY				AML	AML	23 44 09.1	
comp=Z,9.3nm,0.4s							
MIB	**Mutribah**	**8.04**	**294**	*e*P	**Pn**	**23 42 43.0**	**+0.5**
MIB				AML	AML	23 44 11.9	
comp=Z,14nm,0.4s							
RST	**Umm Al-Ruwaisa**	**8.23**	**291**	*e*P	**Pn**	**23 42 45.1**	**+0.1**
RST				AML	AML	23 44 12.2	
comp=Z,8.1nm,0.4s							
IKOM	**Komasi**	**10.24**	**318**	*e*Pn	**Pn**	**23 43 13.1**	**+0.5**
IGHG	**Ghaleghazi**	**10.93**	**315**	*e*Pn	**Pn**	**23 43 21.6**	**-0.3**
ILIN	**Laeen**	**11.08**	**319**	*e*Pn	**Pn**	**23 43 24.6**	**+0.5**
GNI	**Garni**	**16.16**	**328**	Pn	**Pn**	**23 44 32.4**	**-0.4**
comp=Z,0.2nm,0.3s,baz=101,slow=16,SNR=2.2							
GNI				LR	LR	23 50 24.2	
comp=Z,45nm,21.9s,baz=338,slow=36							
GNI	**Garni**	**16.16**	**328**	*e*P	**Pn**	**23 44 32.9**	**+0.1**
GNI				pmax	pmax		
comp=Z,3.0nm,0.8s							
GNI	**Garni**	**16.16**	**328**	*e*Pn	**Pn**	**23 44 32.9**	**+0.1**
comp=Z,3.2nm,0.8s							
GNI	**Garni**	**16.16**	**328**	*e*P	**Pn**	**23 44 32.9**	**+0.1**
comp=Z,3.0nm,0.8s							
MALT	**Malatya**	**18.57**	**312**	*e*P	**Pn**	**23 45 03.8**	**+1.1**
MALT				pmax	pmax		
comp=Z,5.0nm,0.9s							
MALT	**Malatya**	**18.57**	**312**	*e*Pn	**Pn**	**23 45 03.8**	**+1.0**
comp=Z,4.7nm,0.9s							
MALT	**Malatya**	**18.57**	**312**	*e*P	**Pn**	**23 45 03.8**	**+1.1**
comp=Z,5.0nm,0.9s							
KIV	**Kislovodsk**	**20.12**	**332**	*e*P	**P**	**23 45 20.0**	**+0.5**
KIV				pmax	pmax		
comp=Z,19nm,1.0s							
KIV	**Kislovodsk**	**20.12**	**332**	*e*P	**P**	**23 45 20.0**	**+0.5**
comp=Z,19nm,1.0s							
BRTR	**Keskin Array B**	**22.50**	**310**	P	**P**	**23 45 46.1**	**+1.1**
comp=Z,1.4nm,0.9s,mb3.4,baz=129,slow=12,SNR=7.1							
AKTK	**Aktyubinsk**	**23.63**	**4**	P	**P**	**23 45 56.5**	**-0.3**
AKTK	**Aktyubinsk**	**23.63**	**4**	P	**P**	**23 45 56.5**	**-0.4**
AKTO	**Aktyubinsk**	**23.63**	**4**	P	**P**	**23 45 56.5**	**-0.3**
comp=Z,0.7nm,0.3s,mb3.5,baz=188,slow=12,SNR=5.6							
ZRNK	**Zerenda**	**27.89**	**17**	P	**P**	**23 46 34.6**	**-0.9**
comp=Z,0.6nm,0.6s,mb3.4							
ZRNK	**Zerenda**	**27.89**	**17**	P	**P**	**23 46 34.6**	**-0.8**
comp=Z,0.6nm,0.6s,mb3.4							
BRVK	**Borovoye**	**28.34**	**19**	*e*P	**P**	**23 46 37.7**	**-1.7**
BVAR	**Borovoye Array**	**28.34**	**19**	P	**P**	**23 46 38.8**	**-0.6**
comp=Z,3.0nm,0.8s,mb4.0,baz=207,slow=6.1,SNR=12							
BVAR	**Borovoye Array**	**28.34**	**19**	P	**P**	**23 46 38.8**	**-0.6**
BVAR				pmax	pmax		
comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**28.87**	**39**	P	**P**	**23 46 43.2**	**-0.9**
comp=Z,1.5nm,1.0s,mb3.7,baz=210,slow=7.8,SNR=4.1							
MKAR	**Makanchi Array**	**28.87**	**39**	P	**P**	**23 46 43.2**	**-0.9**
MKAR				pmax	pmax		
comp=Z,2.0nm,1.0s							
CHKZ	**Chkalovo**	**28.98**	**18**	*e*P	**P**	**23 46 44.1**	**-1.0**
KURK	**Kurchatov**	**29.52**	**30**	P	**P**	**23 46 49.4**	**-0.5**
AKASG	**Malin Array Be**	**31.29**	**327**	P	**P**	**23 47 04.5**	**-1.0**
comp=Z,0.6nm,0.4s,mb3.8,baz=136,slow=8.2,SNR=8.8							
AKASG	**Malin Array Be**	**31.29**	**327**	P	**P**	**23 47 04.5**	**-1.0**
AKASG				pmax	pmax		
comp=Z,10.0nm,0.4s							
OBN	**Obninsk**	**31.56**	**339**	*e*P	**P**	**23 47 05.5**	**-2.4**
comp=Z,5.9nm,0.4s,mb4.8							
OBN	**Obninsk**	**31.56**	**339**	*e*P	**P**	**23 47 05.5**	**-2.4**
comp=Z,5.9nm,0.4s,mb4.8							
MORC	**Moravsky Berou**	**37.20**	**318**	*e*P	**P**	**23 47 55.2**	**-1.5**
MORC				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.1							
MORC	**Moravsky Berou**	**37.20**	**318**	*e*P	**P**	**23 47 55.2**	**-1.5**
comp=Z,2.0nm,0.7s,mb4.1							
MORC	**Moravsky Berou**	**37.20**	**318**	*e*P	**P**	**23 47 55.2**	**-1.5**
comp=Z,2.0nm,0.7s,mb4.1							
GERES	**GERESS Array B**	**39.21**	**316**	P	**P**	**23 48 13.9**	**+0.3**
comp=Z,0.3nm,0.5s,mb3.3,baz=98,slow=8.2,SNR=4.5							
FINES	**FINESS Array B**	**39.96**	**338**	P	**P**	**23 48 21.1**	**+1.2**
comp=Z,1.1nm,0.5s,mb3.8,baz=144,slow=9.9,SNR=11							
FINES	**FINESS Array B**	**39.96**	**338**	P	**P**	**23 48 21.2**	**+1.3**
FINES				pmax	pmax		
comp=Z,10.0nm,0.5s							
FINES	**FINESS Array B**	**39.96**	**338**	P	**P**	**23 48 21.1**	**+1.2**
PGF	**Pioggiola**	**41.04**	**305**	*e*P	**P**	**23 48 28.7**	**-0.1**
comp=Z,38nm,1.2s,mb4.6							
PGF	**Pioggiola**	**41.04**	**305**	*e*P	**P**	**23 48 28.7**	**-0.1**
PGF				pmax	pmax		
comp=Z,19nm,1.2s,mb4.6							
PGF	**Pioggiola**	**41.04**	**305**	*e*P	**P**	**23 48 28.7**	**-0.1**
comp=Z,19nm,1.2s,mb4.6							
SBF	**Sospel**	**42.34**	**307**	*e*P	**P**	**23 48 38.5**	**-1.0**
comp=Z,38nm,1.2s,mb4.6							
SBF	**Sospel**	**42.34**	**307**	*e*P	**P**	**23 48 38.5**	**-1.0**
SBF				pmax	pmax		
comp=Z,19nm,1.2s,mb4.6							
SBF	**Sospel**	**42.34**	**307**	*e*P	**P**	**23 48 38.5**	**-1.0**
comp=Z,19nm,1.2s,mb4.6							
FRF	**La Foret Royal**	**42.87**	**306**	*e*P	**P**	**23 48 43.4**	**-0.4**
comp=Z,39nm,1.5s,mb4.6							
FRF	**La Foret Royal**	**42.87**	**306**	*e*P	**P**	**23 48 43.4**	**-0.4**
FRF				pmax	pmax		
comp=Z,19nm,1.5s,mb4.6							
FRF	**La Foret Royal**	**42.87**	**306**	*e*P	**P**	**23 48 43.4**	**-0.4**
comp=Z,19nm,1.5s,mb4.6							
MBDF	**Montbardon**	**42.92**	**308**	*e*P	**P**	**23 48 43.4**	**-0.8**
comp=Z,10nm,1.0s,mb4.2							
MBDF	**Montbardon**	**42.92**	**308**	*e*P	**P**	**23 48 43.4**	**-0.8**
MBDF				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.2							
MBDF	**Montbardon**	**42.92**	**308**	*e*P	**P**	**23 48 43.4**	**-0.8**
comp=Z,5.2nm,1.0s,mb4.2							
LPG	**La Plagne**	**43.04**	**309**	*e*P	**P**	**23 48 44.8**	**-0.4**
comp=Z,5.4nm,0.8s,mb4.0							
LPG	**La Plagne**	**43.04**	**309**	*e*P	**P**	**23 48 44.8**	**-0.4**
LPG				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
LPG	**La Plagne**	**43.04**	**309**	*e*P	**P**	**23 48 44.8**	**-0.4**
comp=Z,2.7nm,0.8s,mb4.0							
LPL	**La Plagne**	**43.06**	**309**	*e*P	**P**	**23 48 45.0**	**-0.3**
CDF	**Champ du Feu**	**43.21**	**313**	*e*P	**P**	**23 48 45.6**	**-0.9**
CABF	**La Chapelle**	**43.67**	**310**	*e*P	**P**	**23 48 50.1**	**-0.2**
HAU	**Haudompre**	**43.73**	**312**	*e*P	**P**	**23 48 50.3**	**-0.5**
comp=Z,4.4nm,0.7s,mb4.0							
HAU	**Haudompre**	**43.73**	**312**	*e*P	**P**	**23 48 50.3**	**-0.5**
HAU				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.0							
HAU	**Haudompre**	**43.73**	**312**	*e*P	**P**	**23 48 50.3**	**-0.5**
comp=Z,2.2nm,0.7s,mb4.0							
WLF	**Walferdange**	**44.19**	**315**	*e*P	**P**	**23 48 53.6**	**-0.9**
WLF				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.3							
WLF	**Walferdange**	**44.19**	**315**	*e*P	**P**	**23 48 53.6**	**-0.9**
comp=Z,2.7nm,0.5s,mb4.2							
WLF	**Walferdange**	**44.19**	**315**	*e*P	**P**	**23 48 53.6**	**-0.9**
comp=Z,3.0nm,0.5s,mb4.3							
VIVF	**Saint-Julien-l**	**44.42**	**308**	*e*P	**P**	**23 48 55.7**	**-0.6**
SONM	**Songino Array**	**44.43**	**48**	P	**P**	**23 48 57.6**	**+1.2**
comp=Z,1.2nm,0.9s,mb3.6,baz=255,slow=8.5,SNR=7.0							
SONM	**Songino Array**	**44.43**	**48**	P	**P**	**23 48 57.6**	**+1.2**
SONM				pmax	pmax		
comp=Z,10.0nm,0.9s							
MEZF	**Maizieres J'vi**	**44.68**	**313**	*e*P	**P**	**23 48 57.6**	**-0.7**
LASF	**Ste Croix**	**44.93**	**307**	*e*P	**P**	**23 48 59.3**	**-1.0**
GIVF	**Givet**	**45.12**	**315**	*e*P	**P**	**23 49 02.7**	**+0.8**
SMF	**Signal de Mont**	**45.21**	**310**	*e*P	**P**	**23 49 01.7**	**-0.9**
comp=Z,4.5nm,0.8s,mb4.1							
SMF	**Signal de Mont**	**45.21**	**310**	*e*P	**P**	**23 49 01.7**	**-0.9**
SMF				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.0							
SMF	**Signal de Mont**	**45.21**	**310**	*e*P	**P**	**23 49 01.7**	**-0.9**
comp=Z,2.2nm,0.8s,mb4.0							
LOR	**Lormes**	**45.28**	**311**	*e*P	**P**	**23 49 02.5**	**-0.6**
NOA	**NORSAR Array B**	**45.43**	**331**	P	**P**	**23 49 03.6**	**-0.8**
comp=Z,1.0nm,1.0s,mb3.6,baz=115,slow=7.9,SNR=3.2							
SSF	**Saint Saulge**	**45.49**	**311**	*e*P	**P**	**23 49 04.3**	**-0.5**
BAIF	**Baives**	**45.51**	**315**	*e*P	**P**	**23 49 04.9**	**0.0**
comp=Z,19nm,1.3s,mb4.6							
BAIF	**Baives**	**45.51**	**315**	*e*P	**P**	**23 49 04.9**	**0.0**
BAIF				pmax	pmax		
comp=Z,10.0nm,1.3s,mb4.6							
BAIF	**Baives**	**45.51**	**315**	*e*P	**P**	**23 49 04.9**	**0.0**
comp=Z,9.6nm,1.3s,mb4.6							
AVF	**Avril sur Loir**	**45.56**	**310**	*e*P	**P**	**23 49 03.8**	**-1.5**
BGF	**Bois d'Agland**	**45.88**	**310**	*e*P	**P**	**23 49 07.5**	**-0.4**
MTLF	**Montolieu**	**46.07**	**305**	*e*P	**P**	**23 49 08.7**	**-0.7**
comp=Z,35nm,1.6s,mb4.7							
MTLF	**Montolieu**	**46.07**	**305**	*e*P	**P**	**23 49 08.7**	**-0.7**
MTLF				pmax	pmax		
comp=Z,18nm,1.6s,mb4.8							
MTLF	**Montolieu**	**46.07**	**305**	*e*P	**P**	**23 49 08.7**	**-0.7**
comp=Z,18nm,1.6s,mb4.7							
ARCES	**ARCESS Array B**	**46.25**	**346**	P	**P**	**23 49 10.5**	**-0.3**
comp=Z,0.7nm,0.7s,mb3.7,baz=140,slow=9.0,SNR=11							
ARCES	**ARCESS Array B**	**46.25**	**346**	P	**P**	**23 49 10.5**	**-0.3**
ARCES				pmax	pmax		
comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**46.25**	**346**	P	**P**	**23 49 10.5**	**-0.3**
CAF	**Calviac**	**46.27**	**308**	*e*P	**P**	**23 49 09.9**	**-1.1**
TCF	**Toulx Ste Croi**	**46.29**	**309**	*e*P	**P**	**23 49 10.8**	**-0.3**
comp=Z,5.1nm,0.9s,mb4.2							
TCF	**Toulx Ste Croi**	**46.29**	**309**	*e*P	**P**	**23 49 10.8**	**-0.3**
TCF				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
TCF	**Toulx Ste Croi**	**46.29**	**309**	*e*P	**P**	**23 49 10.8**	**-0.3**
comp=Z,2.5nm,0.9s,mb4.1							
RJF	**Les Rejaudoux**	**46.69**	**308**	*e*P	**P**	**23 49 14.5**	**+0.3**
LFF	**La Frestale**	**47.21**	**307**	*e*P	**P**	**23 49 18.6**	**+0.3**
comp=Z,11nm,1.0s,mb4.4							
LFF	**La Frestale**	**47.21**	**307**	*e*P	**P**	**23 49 18.6**	**+0.3**
LFF				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.5							
LFF	**La Frestale**	**47.21**	**307**	*e*P	**P**	**23 49 18.6**	**+0.3**
comp=Z,5.6nm,1.0s,mb4.4							
EPF	**Esparros**	**47.43**	**305**	*e*P	**P**	**23 49 18.7**	**-1.3**
comp=Z,5.8nm,1.0s,mb4.2							
EPF	**Esparros**	**47.43**	**305**	*e*P	**P**	**23 49 18.7**	**-1.3**
EPF				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.2							
EPF	**Esparros**	**47.43**	**305**	*e*P	**P**	**23 49 18.7**	**-1.3**
comp=Z,2.9nm,1.0s,mb4.2							
LDF	**La Druitiere**	**48.09**	**312**	*e*P	**P**	**23 49 24.4**	**-0.8**
SJPF	**Ste Jean**	**48.58**	**305**	*e*P	**P**	**23 49 29.0**	**+0.1**
comp=Z,7.2nm,0.8s,mb4.4							
SJPF	**Ste Jean**	**48.58**	**305**	*e*P	**P**	**23 49 29.0**	**+0.1**
SJPF				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
SJPF	**Ste Jean**	**48.58**	**305**	*e*P	**P**	**23 49 29.0**	**+0.1**
comp=Z,3.6nm,0.8s,mb4.4							
QUIF	**Quistinic**	**50.07**	**311**	*e*P	**P**	**23 49 39.1**	**-1.2**
comp=Z,25nm,1.2s,mb4.8							
QUIF	**Quistinic**	**50.07**	**311**	*e*P	**P**	**23 49 39.1**	**-1.2**
QUIF				pmax	pmax		
comp=Z,13nm,1.2s,mb4.8							
QUIF	**Quistinic**	**50.07**	**311**	*e*P	**P**	**23 49 39.1**	**-1.2**
comp=Z,13nm,1.2s,mb4.8							
ROSF	**Rostrenen**	**50.16**	**312**	*e*P	**P**	**23 49 40.6**	**-0.4**
comp=Z,10nm,0.9s,mb4.5							
ROSF	**Rostrenen**	**50.16**	**312**	*e*P	**P**	**23 49 40.6**	**-0.4**
ROSF				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.5							
ROSF	**Rostrenen**	**50.16**	**312**	*e*P	**P**	**23 49 40.6**	**-0.4**
comp=Z,5.1nm,0.9s,mb4.5							
ESDC	**Sonseca Array**	**50.76**	**301**	P	**P**	**23 49 45.3**	**-0.3**
comp=Z,0.3nm,0.4s,mb3.6,baz=76,slow=7.3,SNR=6.5							
TORD	**Torodi Ar. Bea**	**52.30**	**266**	P	**P**	**23 49 56.5**	**-0.5**
comp=Z,1.2nm,0.5s,mb4.1,baz=65,slow=7.4,SNR=44							
BOSA	**Boshof**	**62.44**	**210**	P	**P**	**23 51 08.7**	**0.0**
comp=Z,1.6nm,0.5s,mb4.4,baz=61,slow=10,SNR=6.3							
BOSA	**Boshof**	**62.44**	**210**	P	**P**	**23 51 08.7**	**+0.1**
BOSA				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.5							
DLBC	**Dease Lake**	**94.92**	**3**	*e*P	**P**	**23 54 07.7**	**-0.1**
DLBC	**Dease Lake**	**94.92**	**3**	*e*P	**P**	**23 54 07.7**	**-0.1**

*ISCJB **28** 23:57:23.8±2.5, 58S±01×14699E±0.10, h42km±24km, mb3.9/6, Error ellipse: s-maj=18.7km s-min=15.4km az=110.8*
*NEIC **28** 23:57:26.4±1.6, 581S×14701E, h53km±16km, mb4.2/5, Error ellipse: s-maj=15.5km s-min=10.7km az=146.0*
*IDC **28** 23:57:27.9±4.6, 587S×14705E, h69km±39km, mb3.4/4, mb1 3.6/6, mb1mx3.5/14, mbtmp3.7/6, ML3.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/11, Error ellipse: s-maj=41.7km s-min=29.1km az=75.0*

ISC 28 23:57:26.5±2.0, 58S±01×1470E±01, h52km±21km, n19, σ0.97/18, mb3.9/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.59**	**178**	P	**Pn**	**23 58 18.4**	**-1.3**
4.5nm,0.3s,baz=231,slow=6.5,SNR=7.8							
PMG				S	**Sn**	**23 59 02.0**	**+1.2**
19nm,0.3s,baz=219,slow=21,SNR=3.5							
PMG				LR	LR	23 59 46.2	
comp=Z,338nm,18.6s,baz=324,slow=39							
HNR	**Honiara**	**13.33**	**107**	*e*P	**Pn**	**00 00 32.8**	**-0.1**
CTAO	**Charters Tower**	**14.23**	**183**	P	**Pn**	**00 00 46.7**	**+1.6**
KAKA	**Kakadu**	**15.93**	**243**	*e*P	**Pn**	**00 01 06.9**	**-0.2**
14nm,0.4s							
WRAB	**Tennant Creek**	**18.68**	**220**	*e*P	**Pn**	**00 01 40.1**	**-1.0**
6.5nm,0.7s							
WRA	**Warramunga Arr**	**18.70**	**220**	P	**Pn**	**00 01 39.6**	**-1.7**
0.3nm,0.3s,baz=42,slow=11,SNR=13							
ASAR	**Alice Springs**	**21.79**	**214**	P	**P**	**00 02 14.3**	**+0.3**
0.8nm,0.5s,mb3.4,baz=55,slow=9.3,SNR=10							
FITZ	**Fitzroy Crossi**	**24.18**	**238**	*e*P	**P**	**00 02 38.1**	**+0.2**
11nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**24.18**	**238**	P	**P**	**00 02 38.4**	**+0.5**
5.1nm,0.6s,mb4.1,baz=72,slow=11,SNR=22							
MBWA	**Marble Bar**	**30.52**	**237**	*e*P	**P**	**00 03 36.1**	**+1.3**
LSA	**Lhasa**	**64.12**	**307**	P	**P**	**00 07 56.6**	**+1.3**
SONM	**Songino Array**	**64.22**	**331**	P	**P**	**00 07 56.5**	**+0.5**
0.7nm,0.

CCHI				*i* S		**Sn**	**00 11 21.5**	**+1.4**			
CCHI				AML		AML	00 11 21.7				
	comp=N,2μm,0.3s										
LNCH	**Linares**	**1.45**	**338**	⇓*i* P		**Pn**	**00 11 06.3**	**+1.1**			
LNCH				*i* S		**Sn**	**00 11 27.0**	**+0.3**			
LNCH				AML		AML	00 11 30.3				
	comp=N,2μm,0.6s										
LNCH	**Linares**	**1.45**	**338**	⇓*i* P		**Pn**	**00 11 06.3**	**+1.1**			
LNCH				*i* S		**Sn**	**00 11 27.0**	**+0.3**			
TALC	**Talca**	**1.88**	**342**	*i* P		**Pn**	**00 11 10.3**	**+0.2**			
TALC				*i* S		**Sn**	**00 11 34.7**	**-0.6**			
TALC				AML		AML	00 11 36.5				
	comp=E,3μm,0.2s										
TALC	**Talca**	**1.88**	**342**	*i* P		**Pn**	**00 11 10.3**	**+0.2**			
TALC				*i* S		**Sn**	**00 11 34.7**	**-0.6**			
CNCO	**Chanco**	**1.94**	**318**	*i* P		**Pn**	**00 11 11.2**	**+0.3**			
CNCO				*i* S		**Sn**	**00 11 36.0**	**-0.7**			
CNCO				AML		AML	00 11 40.0				
	comp=N,2μm,0.3s										
CNCO	**Chanco**	**1.94**	**318**	*i* P		**Pn**	**00 11 11.2**	**+0.3**			
CNCO				*i* S		**Sn**	**00 11 36.0**	**-0.7**			
TMU	**Temuco**	**2.02**	**220**	⇑*i* P		**Pn**	**00 11 10.6**	**-1.3**			
TMU				*i* S		**Sn**	**00 11 36.0**	**-2.3**			
SFDO	**San Fernando**	**2.58**	**359**	⇓*i* P		**Pn**	**00 11 19.3**	**+0.6**			
SFDO				*i* S		**Sn**	**00 11 50.0**	**-0.6**			
CICH	**Cipreses**	**2.90**	**8**	*i* P		**Pn**	**00 11 24.1**	**+1.3**			
CACH	**El Canelo**	**3.08**	**5**	⇑*i* P		**Pn**	**00 11 26.0**	**+0.8**			
LNV	**Longovilo**	**3.26**	**353**	⇑*i* P		**Pn**	**00 11 27.3**	**-0.1**			
CHCH	**Chadas Angostu**	**3.26**	**4**	⇑*i* P		**Pn**	**00 11 28.1**	**+0.6**			
CHCH				*i* S		**Sn**	**00 12 05.8**	**-0.6**			
LMEL	**Las Melosas**	**3.39**	**10**	⇑*i* P		**Pn**	**00 11 30.5**	**+1.3**			
LMEL				*i* S		**Sn**	**00 12 12.6**	**+3.2**			
LMEL				AML		AML	00 12 18.7				
	comp=E,443nm,0.5s										
LMEL	**Las Melosas**	**3.39**	**10**	⇑*i* P		**Pn**	**00 11 30.5**	**+1.3**			
LMEL				S		**Sn**	**00 12 12.6**	**+3.2**			
TACH	**Talagante**	**3.53**	**360**	⇓*i* P		**Pn**	**00 11 30.6**	**-0.4**			
PLCA	**Paso Flores**	**3.54**	**175**	P		**Pn**	**00 11 30.9**	**-0.3**			
	comp=E,11nm,0.3s,baz=345,slow=11,SNR=242										
PLCA				S		**Sn**	**00 12 06.5**	**-6.4**			
	comp=E,1.9nm,0.3s,baz=357,slow=17,SNR=5.5										
PCH	**Pirque**	**3.58**	**6**	*i* P		**Pn**	**00 11 31.9**	**+0.3**			
RCDM	**Rinconada Maip**	**3.70**	**2**	*e*P		**Pn**	**00 11 32.6**	**-0.6**			
RCDM				*i* S		**Sn**	**00 12 15.0**	**-1.6**			
CLCH	**Cerro Calan**	**3.81**	**5**	*i* P		**Pn**	**00 11 34.2**	**-0.4**			
FCH	**Farellones**	**3.90**	**8**	⇑*i* P		**Pn**	**00 11 35.9**	**+0.2**			
FCH				*i* S		**Sn**	**00 12 20.7**	**-0.4**			
PEL	**Peldehue**	**4.05**	**3**	⇓*i* P		**Pn**	**00 11 37.3**	**-0.5**			
MDZ	**Mendoza**	**4.63**	**22**	*e*P		**Pn**	**00 11 49.2**	**+3.7**			
CFAA	**Coronel Fontan**	**6.01**	**23**	P		**Pn**	**00 12 03.5**	**-0.4**			
	comp=E,3.1nm,0.3s,baz=201,slow=12,SNR=529										
CFAA				S		**Sn**	**00 13 09.8**	**-1.7**			
	comp=E,1.6nm,0.3s,baz=299,slow=19,SNR=11										
TRQA	**Tornquist**	**7.16**	**100**	*e*Pn		**Pn**	**00 12 19.8**	**+0.4**			
	comp=E,21nm,0.6s										
LVC	**Limon Verde**	**14.64**	**7**	P		**Pn**	**00 13 57.6**	**0.0**			
	comp=E,0.5nm,0.3s,baz=196,slow=11,SNR=4.4										
LVC	**Limon Verde**	**14.64**	**7**	*e*Pn		**Pn**	**00 13 57.1**	**-0.6**			
	comp=E,7.1nm,0.4s										
LPAZ	**La Paz**	**20.97**	**8**	P		**P**	**00 15 12.8**	**+3.4**			
	comp=E,2.8nm,0.6s,baz=170,slow=6.0,SNR=12										
LPAZ	**La Paz**	**20.97**	**8**	P		**P**	**00 15 12.8**	**+3.3**			
SIV	**San Ignacio**	**22.86**	**25**	P		**P**	**00 15 28.5**	**-0.3**			
	comp=E,1.5nm,0.6s,mb3.6,baz=225,slow=14,SNR=6.4										
OTAV	**Otavalo**	**37.89**	**348**	P		**P**	**00 17 39.4**	**-1.5**			
SNAA	**Sanae**	**48.30**	**157**	*e*P		**P**	**00 19 05.0**	**+0.4**			
	comp=E,0.4nm,0.4s,mb3.4										
QSPA	**South Pole Qui**	**53.05**	**180**	*e*P		**P**	**00 19 40.7**	**+0.5**			
	comp=E,0.6nm,0.4s,mb3.7										
TORD	**Torodi Ar. Bea**	**84.48**	**69**	P		**P**	**00 22 53.8**	**-0.9**			
	comp=E,1.0nm,1.2s,mb3.4,baz=225,slow=5.8,SNR=3.5										
NVAR	**Mina Array Bea**	**87.01**	**325**	P		**P**	**00 23 08.7**	**+1.6**			
	comp=E,0.3nm,0.5s,mb3.4,baz=161,slow=5.7,SNR=3.5										
WRA	**Warramunga Arr**	**118.37**	**207**	PKP		PKPdf	00 29 07.7	-0.7			
	comp=E,0.3nm,0.5s,baz=164,slow=1.5,SNR=7.3										

*ISCJB **29** 00:56:25.6±0.6, 2662N±009×12607E±008, h122km±9km, mb3.6/4, Error ellipse: s-maj=19.1km s-min=4.4km az=108.0*
*JMA **29** 00:56:26.8±0.3, 2656N×126.16E, h127km±3km, M3.3*
*IDC **29** 00:56:26.8±2.7, 2674N×12620E, h118km±25km, mb3.2/4, mb1 3.4/4, mb1mx3.2/20, mbtmp3.6/4, Error ellipse: s-maj=33.6km s-min=22.9km az=57.0*

ISC 29 00:56:26.5±0.6, 2663N±009×12607E±007, h116km±9km, n19, σ0§69/29, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.71**	**115**	P	**Pn**	**00 56 46.5**	**+0.9**
JAGN	**Aguni-jima**	**1.05**	**92**	P	**Pn**	**00 56 49.3**	**+0.5**
JAGN				S	**Sn**	**00 57 05.5**	**-0.1**
NAH1	**Naha**	**1.51**	**106**	P	**Pn**	**00 56 53.7**	**-0.2**
NAH1				S	**Sn**	**00 57 13.9**	**-0.8**
JJT2	**Tamagusuku 2**	**1.58**	**108**	P	**Pn**	**00 56 55.4**	**+0.7**
JJT2				*e*S	**Sn**	**00 57 15.8**	**-0.4**
JIH	**Iheya**	**1.74**	**76**	P	**Pn**	**00 56 57.1**	**+0.5**
JIH				*e*S	**Sn**	**00 57 19.8**	**+0.3**
JMJ	**Miyako jima 2**	**1.94**	**201**	*e*S	**Sn**	**00 57 24.5**	**+0.6**
JOGS	**Gusukube**	**1.96**	**198**	P	**Pn**	**00 57 00.2**	**+0.9**
JOGS				*e*S	**Sn**	**00 57 24.9**	**+0.6**
JOW	**Kunigami**	**1.98**	**84**	P	**Pn**	**00 56 59.7**	**+0.1**
	14nm,0.3s,baz=221,slow=9.3,SNR=41						
JOW				S	**Sn**	**00 57 22.9**	**-1.9**
	78nm,0.3s,baz=131,slow=20,SNR=35						
JOW	**Kunigami**	**1.98**	**84**	P	**Pn**	**00 56 59.6**	**0.0**
JOW				*e*S	**Sn**	**00 57 23.4**	**-1.4**
JTJ	**Tarama**	**2.34**	**212**	P	**Pn**	**00 57 04.8**	**+0.7**
JTJ				*e*S	**Sn**	**00 57 32.2**	**-0.6**
JTK	**Tokunoshima**	**2.81**	**65**	P	**Pn**	**00 57 10.3**	**+0.1**
JIJ	**Ishigaki jima**	**2.85**	**218**	P	**Pn**	**00 57 11.0**	**+0.2**
JIJ				*e*S	**Sn**	**00 57 43.3**	**-1.5**
JKRS	**Kuro-shima**	**3.03**	**218**	*e*S	**Sn**	**00 57 48.3**	**-0.6**
IRIF	**Iriomote-Funau**	**3.12**	**223**	P	**Pn**	**00 57 14.4**	**+0.2**
IRIF				*e*S	**Sn**	**00 57 51.1**	**+0.1**
HATJ	**Hateruma jima**	**3.28**	**219**	*e*S	**Sn**	**00 57 54.3**	**-0.7**
SONM	**Songino Array**	**26.19**	**329**	P	**P**	**01 01 50.4**	**+0.2**
	0.5nm,0.4s,mb3.3,baz=144,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**39.83**	**312**	P	**P**	**01 03 47.7**	**-0.7**
	0.4nm,0.5s,mb3.5,baz=98,slow=8.7,SNR=5.8						
ASAR	**Alice Springs**	**50.57**	**171**	P	**P**	**01 05 14.1**	**+0.9**
	0.4nm,0.5s,mb3.8,baz=360,slow=15,SNR=5.8						
YKA	**Yellowknife Ar**	**78.97**	**24**	P	**P**	**01 08 16.6**	**-0.7**
	0.5nm,0.5s,mb3.6,baz=303,slow=5.5,SNR=13						

*CSEM **29** 00:59:07.5±0.8, 3862N×2868W, h17km±7km, ML1.0, Error ellipse: s-maj=5.3km s-min=4.2km az=64.0, After PDA*
*PDA **29** 00:59:07.5±0.8, 3862N×2868W, h17km±7km, MD2.8, ML1.0, Error ellipse: s-maj=5.3km s-min=4.2km az=64.0*

SVSA 29 00:59:07.5±0.8, 3862N×2868W, h17km±7km, MD2.8, ML1.0, Error ellipse: s-maj=5.3km s-min=4.2km az=64.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.02**	**305**	*i* P	Pg	00 59 10.2	-0.2
HOR	**Horta**	**0.10**	**156**	*e*P	Pg	00 59 10.3	-0.7
HOR				*e*S	Sg	00 59 12.8	-0.5
PCND	**Candelaria**	**0.23**	**131**	*e*P	Pg	00 59 12.1	-0.6
PCND				*e*S	Sg	00 59 15.5	-0.7
PCND							
	19nm,0.2s						
PICO	**Pico**	**0.23**	**120**	*e*P	Pg	00 59 11.9	-0.9
PICO				*e*S	Sg	00 59 15.3	-1.1
PTEI	**Pico do Teixo**	**0.28**	**115**	*e*S	Sg	00 59 16.1	-1.7
PTEI							
	7.4nm,0.2s						
PBOI	**Pico dos Bois**	**0.30**	**127**	*e*rx		00 59 18.4	
ROSA	**Rosais**	**0.36**	**73**	*e*P	Pg	00 59 13.7	-1.3
ROSA				*e*S	Sg	00 59 18.5	-1.5
PMAN	**Manadas**	**0.46**	**88**	*e*S	Sg	00 59 20.9	-2.2
PMAN							
	5.0nm,0.1s						
PID	**Ribeirinha**	**0.47**	**111**	*e*P	Pg	00 59 15.6	-1.4
PID				*e*S	Sg	00 59 21.6	-1.8

*ISCJB **29** 01:00:56.2±1.9, 1154S±006×16639E±007, h55km±15km, mb4.7/31, MS3.6/9, Error ellipse: s-maj=12.1km s-min=9.5km az=104.5*
*BJI **29** 01:00:56.7, 1150S×16650E, h57km, mB4.9, mb4.8*
*MOS **29** 01:00:56.7±0.8, 1147S×16644E, h63km, mb5.0/7, Error ellipse: s-maj=17.1km s-min=11.8km az=171.4*
*NEIC **29** 01:00:57.7±0.3, 1147S×16645E, mb4.7/12, Error ellipse: s-maj=7.7km s-min=7.0km az=135.0*
*IDC **29** 01:00:58.0±0.9, 1148S×16641E, h60km±7km, mb4.3/15, mb1 4.4/17, mb1mx4.4/20, mbtmp4.6/17, MS3.7/11, Ms1 3.7/11, ms1mx3.3/25, Error ellipse: s-maj=16.5km s-min=16.0km az=72.0*

ISC 29 01:00:57.2±1.5, 1157S±006×16648E±007, h49km±13km, h59km±2.0km: pP-P, n70, σ0§96/61, mb4.7/31, MS3.6/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.76**	**288**	P	**Pn**	**01 02 35.0**	**+1.2**
	39nm,0.3s,baz=172,slow=0.7,SNR=9.6						
HNR				S	**Sn**	**01 03 48.0**	**-1.4**
	17nm,0.3s,baz=270,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**10.44**	**180**	P	**Pn**	**01 03 27.9**	**+3.8**
	1.3nm,0.3s,baz=95,slow=21,SNR=12						
DZM				S	**Sn**	**01 05 18.3**	**-1.4**
	0.5nm,0.3s,baz=294,slow=20,SNR=3.6						
DZM				LR	LR	01 06 01.3	
	comp=Z,129nm,19.1s,baz=288,slow=29						
PMG	**Port Moresby**	**19.11**	**275**	LR	LR	01 11 45.0	
	comp=Z,366nm,19.6s,baz=296,slow=34						
CTA	**Charters Tower**	**21.20**	**244**	P	**P**	**01 05 40.5**	**+1.9**
	13nm,0.8s,mb4.3,baz=80,slow=12,SNR=8.5						
CTA				LR	LR	01 12 41.4	
	comp=Z,266nm,19.3s,MS3.6,baz=50,slow=33						
CTA	**Charters Tower**	**21.20**	**244**	P	**P**	**01 05 40.5**	**+1.9**
CTA				LR	LR	01 12 41.4	
CTAO	**Charters Tower**	**21.20**	**244**	*e*P	**P**	**01 05 42.7**	**+4.1**
CTAO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.3						
CTAO	**Charters Tower**	**21.20**	**244**	*e*P	**P**	**01 05 42.7**	**+4.1**
	comp=Z,11nm,0.7s,mb4.3						
AFI	**Afiamalu**	**21.34**	**99**	LR	LR	01 12 12.0	
	comp=Z,267nm,20.9s,MS3.6,baz=319,slow=32						
AFI	**Afiamalu**	**21.34**	**99**	P	**P**	**01 05 40.2**	**+0.1**
ARMA	**Armidale**	**23.27**	**214**	*e*P	**P**	**01 06 02.0**	**+1.5**
STKA	**Stephens Creek**	**30.56**	**225**	*e*P	**P**	**01 07 04.7**	**-1.4**
	comp=Z,11nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**30.56**	**225**	P	**P**	**01 07 05.5**	**-0.5**
	comp=Z,15nm,0.8s,mb4.9,baz=36,slow=8.7,SNR=22						
STKA				PcP	PcP	01 10 01.8	-2.0
	comp=Z,1.9nm,0.8s,baz=144,slow=24,SNR=2.8						
STKA				LR	LR	01 18 38.6	
	comp=Z,240nm,20.9s,MS3.8,baz=23,slow=35						
WRAB	**Tennant Creek**	**31.97**	**251**	*e*P	**P**	**01 07 18.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9						
WRAB	**Tennant Creek**	**31.97**	**251**	*e*P	**P**	**01 07 18.5**	**0.0**
	comp=Z,13nm,0.7s,mb4.9						
WB2	**Warramunga Arr**	**31.97**	**251**	*e*P	**P**	**01 07 18.1**	**-0.3**
WRA	**Warramunga Arr**	**31.98**	**251**	P	**P**	**01 07 18.3**	**-0.2**
	comp=Z,13nm,0.8s,mb4.8,baz=86,slow=9.0,SNR=56						
WRA				PcP	PcP	01 10 08.1	+0.5
	comp=Z,2.0nm,0.8s,baz=76,slow=3.2,SNR=7.0						
RPZ	**Rata Peaks**	**32.27**	**174**	P	**P**	**01 07 21.3**	**+0.2**
	comp=Z,12nm,0.5s,mb5.0,baz=329,slow=3.5,SNR=23						
GUMO	**Guam**	**32.92**	**319**	LR	LR	01 20 30.3	
	comp=Z,50nm,18.2s,MS3.3,baz=163,slow=36						
AS31	**Alice Springs**	**33.20**	**244**	*e*P	**P**	**01 07 28.4**	**-0.8**
ASAR	**Alice Springs**	**33.20**	**244**	P	**P**	**01 07 28.7**	**-0.5**
	comp=Z,11nm,0.7s,mb4.9,baz=69,slow=9.6,SNR=79						
ASAR				PcP	PcP	01 10 10.8	-0.1
	comp=Z,1.6nm,0.6s,baz=71,slow=2.3,SNR=9.6						
ASAR				LR	LR	01 19 36.5	
	comp=Z,159nm,21.0s,MS3.7,baz=67,slow=34						
ASAR	**Alice Springs**	**33.20**	**244**	P	**P**	**01 07 28.7**	**-0.5**
ASAR						01 10 10.9	
ASPA	**Alice Springs**	**33.21**	**244**	*e*P	**P**	**01 07 28.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**39.94**	**256**	*e*P	**P**	**01 08 26.5**	**-0.1**
	comp=Z,16nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**39.94**	**256**	P	**P**	**01 08 26.9**	**+0.3**
	comp=Z,9.5nm,0.8s,mb4.6,baz=99,slow=7.4,SNR=20						
FITZ				LR	LR	01 22 56.7	
	comp=Z,168nm,18.7s,MS3.9,baz=91,slow=33						
PPT	**Papeete**	**42.88**	**103**	*e*LR	LR	01 21 10.3	
	comp=Z,352nm,29.8s						
TBI	**Tubuai**	**43.47**	**112**	*e*LR	LR	01 21 25.9	
	comp=Z,326nm,29.5s						
CBIJ	**Chichi jima**	**45.09**	**329**	LR	LR	01 25 28.1	
	comp=Z,54nm,19.3s,MS3.5,baz=358,slow=33						
MBWA	**Marble Bar**	**45.71**	**252**	*e*P	**P**	**01 09 14.5**	**+1.2**
	comp=Z,20nm,0.8s,mb5.1						
KLBR	**Kelberrin**	**49.03**	**238**	*e*P	**P**	**01 09 39.2**	**+0.1**
	comp=Z,29nm,0.9s,mb5.3						
NWAO	**Narrogin (SRO)**	**49.77**	**237**	P	**P**	**01 09 45.2**	**+0.5**
	comp=Z,12nm,0.7s,mb5.0,baz=92,slow=11,SNR=6.8						
MUN	**Mundaring**	**50.40**	**238**	*e*P	**P**	**01 09 50.0**	**+0.5**
MJAR	**Matsushiro Arr**	**54.77**	**332**	LR	LR	01 31 08.2	
	comp=Z,53nm,21.1s,MS3.6,baz=240,slow=33						
MAJO	**Matsushiro**	**54.77**	**332**	*e*P	**P**	**01 10 21.0**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
MAJO	**Matsushiro**	**54.77**	**332**	*e*P	**P**	**01 10 21.0**	**-0.8**
	comp=Z,3.7nm,0.7s,mb4.5						
RKT	**Rikitea**	**56.74**	**110**	*e*LR	LR	01 27 34.8	
	comp=Z,321nm,28.2s						
KS15	**Wonju Array Si**	**60.73**	**325**	P	**P**	**01 11 03.5**	**-0.2**
VNDA	**Vanda**	**65.98**	**181**	P	**P**	**01 11 38.4**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.3,baz=338,slow=6.0,SNR=9.1						
CASY	**Casey**	**66.15**	**201**	*e*P	**P**	**01 11 39.0**	**-0.4**
	comp=Z,9.3nm,1.1s,mb4.7						
SBA	**Scott Base**	**66.28**	**180**	*e*P	**P**	**01 11 41.0**	**+0.7**
SBA				*e**PP	pP	01 11 55.7	+1.6
SBA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SBA	**Scott Base**	**66.28**	**180**	*e*P	**P**	**01 11 41.0**	**+0.7**
	comp=Z,5.8nm,0.8s,mb4.7						
SBA				*e*pP	pP	01 11 55.7	+1.6
PSI	**Prapat**	**68.65**	**278**	P	**P**	**01 11 54.7**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.7,baz=191,slow=1.4,SNR=5.4						
ENH	**Enshi**	**68.78**	**309**	*e*P	**P**	**01 11 55.3**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.6						
KMI	**Kunming**	**72.00**	**301**	P	**P**	**01 12 17.5**	**+1.8**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
CD2	**Chengdu**	**73.49**	**307**	*e*P	**P**	**01 12 25.8**	**+1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
LZH	**Lanzhou**	**75.64**	**312**	*e*P	**P**	**01 12 39.0**	**+2.0**
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,130nm,4.9s						
QSPA	**South Pole Qui**	**78.44**	**180**	*e*P	**P**	**01 12 52.4**	**-0.3**
	comp=Z,17nm,0.8s,mb5.0						
SONM	**Songino Array**	**79.51**	**324**	P	**P**	**01 12 58.1**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.0,baz=130,slow=5.8,SNR=14						
SONM				pP	pP	01 13 15.2	+2.4
	comp=Z,0.9nm,0.5s,baz=146,slow=5.6,SNR=4.8						
GTA	**Gaotai**	**79.94**	**314**	*e*P	**P**	**01 13 02.3**	**+1.4**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
ZAK	**Zakamensk**	**82.54**	**325**	*e*P	**P**	**01 13 13.7**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
CMB	**Columbia Colle**	**84.14**	**49**	*e*P	**P**	**01 13 22.2**	**-0.7**
MAW	**Mawson**	**84.50**	**202**	P	**P**	**01 13 24.3**	**-0.5**
	comp=Z,2.9nm,1.0s,mb4.4,baz=96,slow=6.1,SNR=3.8						
MAW	**Mawson**	**84.50**	**202**	*e*P	**P**	**01 13 24.2**	**-0.6**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAW	**Mawson**	**84.50**	**202**	*e*P	**P**	**01 13 24.2**	**-0.6**
	comp=Z,3.1nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**85.82**	**50**	P	**P**	**01 13 32.8**	**+1.4**
	comp=Z,1.0nm,0.6s,mb4.2,baz=218,slow=5.5,SNR=5.4						
JIRN	**Jiri**	**86.87**	**299**	*e*P	**P**	**01 13 37.5**	**+1.0**
GUN	**Gumba**	**87.20**	**299**	*e*P	**P**	**01 13 38.9**	**+0.8**
PKI	**Pulchoki**	**87.52**	**299**	*e*P	**P**	**01 13 40.1**	**+0.4**
DMN	**Daman**	**87.79**	**299**	*e*P	**P**	**01 13 41.7**	**+0.7**
	comp=Z,25nm,0.9s,mb5.5						
GKN	**Gorkha**	**88.28**	**299**	*e*P	**P**	**01 13 43.3**	**0.0**
KOLN	**Koldanda**	**89.12**	**298**	*e*P	**P**	**01 13 46.7**	**-0.6**
	comp=Z,12nm,0.9s,mb5.2						
NEW	**Newport**	**89.67**	**41**	*e*P	**P**	**01 13 49.7**	**-0.1**
WALA	**Waterton Lakes**	**91.94**	**40**	P	**P**	**01 14 00.1**	**-0.3**
MKAR	**Makanchi Array**	**94.39**	**317**	P	**P**	**01 14 10.8**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.7,baz=91,slow=6.1,SNR=9.9						
MKAR				pP	pP	01 14 27.3	+1.2
	comp=Z,3.3nm,0.8s,baz=91,slow=6.1,SNR=6.0						
ZAL	**Zalesovo**	**94.41**	**324**	P	**P**	**01 14 09.8**	**-1.9**
	comp=Z,1.1nm,0.7s,mb4.4,baz=354,slow=7.8,SNR=4.8						
ZAL				pP	pP	01 14 26.6	+0.4
	comp=Z,0.7nm,0.7s,baz=341,slow=5.9,SNR=1.8						
YKA	**Yellowknife Ar**	**95.11**	**27**	P	**P**	**01 14 13.1**	**-1.9**
	comp=Z,0.2nm,0.6s,mb3.7,baz=263,slow=4.5,SNR=4.6						
YKA				LR	LR	01 52 35.0	
	comp=Z,22nm,19.0s,MS3.6,baz=180,slow=33						
KURK	**Kurchatov**	**97.50**	**320**	*e*P	**P**	**01 14 25.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.6						
KURK	**Kurchatov**	**97.50**	**320**	*e*P	**P**	**01 14 25.2**	**-0.6**
	comp=Z,0.5nm,0.4s,mb4.3						
BOSA	**Boshof**	**125.22**	**222**	PKP	PKPdf	01 19 52.9	+0.6
	comp=Z,3.6nm,0.9s,baz=222,slow=3.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**165.05**	**278**	PKPab	PKPab	01 21 53.6	+0.9
	comp=Z,1.0nm,0.8s,baz=77,slow=2.6,SNR=6.7						
TORD				pPKPab	pPKPab	01 22 08.8	+1.5
	comp=Z,1.3nm,0.9s,baz=78,slow=4.1,SNR=5.2						
DBIC	**Dimbokro**	**170.15**	**241**	PKPab	PKPab	01 22 15.7	+0.4
	comp=Z,9.5nm,1.0s,baz=73,slow=3.5,SNR=4.0						

*IDC **29** 01:04:57.4±3.8, 8.11N×9395E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=230.7km s-min=24.5km az=55.0*
*ISCJB **29** 01:05:00.6±1.0, 8.1N±0.1×94.1E±02, h33km, mb3.9/6, Error ellipse: s-maj=30.4km s-min=12.7km az=104.1*
*NEIC **29** 01:05:01.8±0.8, 8.13N×9402E, h30km, mb4.3/2, Error ellipse: s-maj=23.4km s-min=9.9km az=52.0*

ISC 29 01:05:02.6±1.0, 82N±01×940E±02, h35km, n13, σ0§76/13, mb3.9/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.18**	**113**	*e*Pn	**Pn**	**01 06 43.9**	**-1.2**
KKM	**Kota Kinabalu**	**22.13**	**94**	*e*P	**P**	**01 09 55.8**	**+0.7**
YHNB	**Yeheng**	**30.86**	**55**	P	**P**	**01 11 15.6**	**+0.1**
MKAR	**Makanchi Array**	**39.79**	**347**	P	**P**	**01 12 31.9**	**-0.2**
	0.2nm,0.4s,mb3.2,baz=170,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**39.79**	**347**	P	**P**	**01 12 31.9**	**-0.3**
KURK	**Kurchatov**	**44.31**	**346**	*e*P	**P**	**01 13 08.9**	**-0.2**
	0.7nm,0.3s,mb3.9						
NWAO	**Narrogin (SRO)**	**46.45**	**153**	P	**P**	**01 13 25.3**	**-0.7**
WRA	**Warramunga Arr**	**48.53**	**126**	P	**P**	**01 13 42.8**	**+0.6**
	0.8nm,0.4s,mb4.1,baz=304,slow=8.7,SNR=31						
WRAB	**Tennant Creek**	**48.53**	**126**	*e*P	**P**	**01 13 42.9**	**+0.7**
	2.0nm,0.3s,mb4.6						
ASAR	**Alice Springs**	**50.19**	**130**	P	**P**	**01 13 55.2**	**+0.4**
	0.3nm,0.3s,mb3.8,baz=304,slow=7.6,SNR=6.4						
ARCES	**ARCESS Array B**	**74.96**	**340**	P	**P**	**01 16 40.6**	**+0.5**
	2.2nm,1.0s,mb4.0,baz=94,slow=6.6,SNR=4.6						
COLA	**College**	**94.13**	**22**	P	**P**	**01 18 16.0**	**-1.6**
PMR	**Palmer**	**95.17**	**25**	P	**P**	**01 18 23.2**	**+0.9**

*NEIC **29** 01:09:13.3, 3926N×2126E, h17km, MD3.0(ATH), After ATH.*
*ATH **29** 01:09:13.3, 3926N×2126E, h17km±2km, MD3.0/3*
*THE **29** 01:09:13.8, 3925N×2125E, h10km*
*CSEM **29** 01:09:13.3, 3926N×2126E, h17km, MD3.0/3, After ATH*
*ISCJB **29** 01:09:14.2±0.9, 3928N±005×2123E±006, h

WRA Warramunga Arr 18.44 220 P **Pn 01 25 57.0 -1.0**
1.4nm,0.3s,baz=40,slow=12,SNR=64
WRA S **S 01 29 14.7 -8.4**
0.2nm,0.3s,baz=45,slow=24,SNR=3.7
WRA PcP PcP 01 30 26.1 +2.0
baz=24,slow=1.9,SNR=5.6
AS31 Alice Springs 21.52 214 *e*P **P 01 26 30.4 +0.2**
ASAR Alice Springs 21.52 214 P **P 01 26 30.5 +0.2**
4.0nm,0.3s,mb4.2,baz=46,slow=9.1,SNR=47
ASAR S **S 01 30 24.1 +0.1**
2.3nm,0.9s,baz=34,slow=22,SNR=6.2
ASPA Alice Springs 21.52 214 *e*P **P 01 26 30.4 +0.1**
FITZ Fitzroy Crossi 23.98 238 *e*P **P 01 26 54.8 0.0**
53nm,0.6s,mb5.0
FITZ Fitzroy Crossi 23.98 238 P **P 01 26 55.2 +0.5**
31nm,0.6s,mb4.8,baz=69,slow=9.7,SNR=138
FITZ LR LR 01 35 34.7
comp=Z,56nm,21.2s,baz=351,slow=35
STKA Stephens Creek 26.15 190 P **P 01 27 14.9 +0.5**
1.6nm,0.3s,mb3.9,baz=332,slow=5.9,SNR=7.2
MBWA Marble Bar 30.32 238 *e*P **P 01 27 52.9 +1.3**
5.3nm,0.4s,mb4.5
KKM Kota Kinabalu 32.95 291 *e*P **P 01 28 15.1 +0.4**
TAU Tasmania Unive 36.68 180 *e*P **P 01 28 46.6 -0.2**
1.4nm,0.3s,mb4.4
YHNB Yeheng 39.42 322 *e*P **P 01 29 10.9 +1.1**
KS15 Wonju Array Si 46.81 339 *e*P **P 01 30 09.0 -0.3**
KULM Kulim 47.58 283 *e*P **P 01 30 16.6 +1.3**
LSA Lhasa 64.25 307 P **P 01 32 14.9 +0.7**
SONM Songino Array 64.45 331 P **P 01 32 16.5 +0.9**
0.6nm,0.4s,mb3.7,baz=160,slow=4.7,SNR=6.7
VNDA Vanda 71.84 177 P **P 01 33 02.4 +0.5**
0.9nm,0.5s,mb3.8,baz=328,slow=6.2,SNR=15
SBA Scott Base 72.48 176 *e*P **P 01 33 06.3 +0.7**
MKAR Makanchi Array 77.52 321 P **P 01 33 34.5 -0.1**
1.0nm,0.4s,mb3.9,baz=96,slow=8.4,SNR=11
ZAL Zalesovo 79.06 328 P **P 01 33 42.0 -1.2**
1.7nm,0.4s,mb4.2,baz=6.3,slow=6.9,SNR=5.0
KURK Kurchatov 81.24 323 *e*P **P 01 33 54.8 -0.1**
0.9nm,0.3s,mb4.1
MAW Mawson 82.16 203 *e*P **P 01 33 59.9 +0.2**
1.2nm,0.2s,mb4.4
PMR Palmer 83.30 26 *e*P **P 01 34 05.8 +0.2**
QSPA South Pole Qui 83.89 180 *e*P **P 01 34 08.3 -0.3**
2.6nm,0.6s,mb4.2
COLA College 85.24 23 *e*P **P 01 34 14.9 -0.5**
BVAR Borovoye Array 86.80 324 P **P 01 34 22.5 -0.6**
0.6nm,0.4s,mb3.9,baz=101,slow=7.6,SNR=3.3
CHKZ Chkalovo 86.83 325 *e*P **P 01 34 21.7 -1.5**
0.9nm,0.3s,mb4.2
BRVK Borovoye 86.87 324 P **P 01 34 23.7 +0.2**
ZRNK Zerenda 87.60 324 *e*P **P 01 34 25.4 -1.6**
0.8nm,0.4s,mb4.1
ARU Arti 94.12 326 P **P 01 34 57.6 +0.3**
1.6nm,0.3s,mb4.8
SDCO Great Sand Dun 107.57 52 *e*PKiKP PKiKP 01 40 06.8 +1.6
SANT Santorini 118.77 308 *e*PKPdf PKPdf 01 40 26.5 -0.1
GERES GERESS Array B 121.94 325 PKP PKPdf 01 40 32.2 -0.5
0.1nm,0.3s,baz=36,slow=2.5,SNR=3.7
NNA Nana 132.90 112 *e*PKPdf PKPdf 01 40 55.5 +1.9
TORD Torodi Ar. Bea 145.06 284 PKP PKPdf 01 41 17.1 +1.4
14nm,0.6s,baz=82,slow=4.8,SNR=199
TORD pPKP pPKPdf 01 41 45.2 +6.2
4.0nm,0.9s,baz=67,slow=3.6,SNR=4.2
TORD Torodi Ar. Bea 145.06 284 PKP PKPdf 01 41 17.1 +1.4
TORD pPKP pPKPdf 01 41 45.2 +6.2
DBIC Dimbokro 151.97 273 PKPbc PKPbc 01 41 34.6 +1.2
5.6nm,1.0s,baz=0.0,slow=2.0,SNR=16
DBIC PKPab PKPab 01 41 45.3 +2.3
4.9nm,0.7s,baz=90,slow=3.0,SNR=6.2
BDFB Brasilia 153.82 146 PKPbc PKPbc 01 41 38.9 +1.3
1.4nm,0.4s,baz=210,slow=4.0,SNR=4.3

MEX 29 01:30:52.7±0.4, 1677N×9972W, h8km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.21**	**297**	*i* P	Pg	01 30 56.5	-0.5
ACX				*i* S	Sg	01 31 00.0	+0.1
CAIG	**El Cayaco**	**0.59**	**298**	*i* P	Pg	01 31 03.4	-0.7
CAIG				*i* S	Sg	01 31 11.5	-0.4
MEIG	**Mezcala**	**1.15**	**5**	*i* P	Pg	01 31 11.6	-3.3
MEIG				*i* S	Sg	01 31 25.9	-4.0

*ISCJB **29** 01:49:23.0±0.5, 3753N±003×2072E±004, h10km, Error ellipse: s-maj=5.0km s-min=4.1km az=1.3*
*NEIC **29** 01:49:24.5, 3761N×2093E, h10km, ML3.7(ATH), After ATH.*
*ATH **29** 01:49:24.5, 3761N×2093E, h10km±2km, MD3.8/9, ML3.7*
*CSEM **29** 01:49:24.6±0.1, 3754N×2083E, h15km, ML3.7, Error ellipse: s-maj=3.8km s-min=2.3km az=17.0*
*THE **29** 01:49:26.3, 3774N×2073E, h10km*
ISC 29 01:49:24.4±0.5, 3755N±004×2079E±004, h10km, n33, σ1§15/42, 2C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.64**	**346**	*e*PB	**Pg**	**01 49 36.7**	**-0.1**
VLS				*e*SB	**Sg**	**01 49 46.0**	**+0.8**
RLS	**Riolos of Patr**	**0.74**	**47**	*e*PB	**Pg**	**01 49 36.5**	**-2.1**
RLS				*e*SB	**Sg**	**01 49 44.4**	**-3.9**
ITM	**Ithomi**	**0.98**	**112**	*e*PG	**Pg**	**01 49 41.4**	**-1.8**
ITM				*e*SB	**Sb**	**01 49 54.2**	**-2.2**
LKD	**Levkas**	**1.16**	**355**	*e*Pg	**Pb**	**01 49 44.8**	**-1.7**
LKD				*e*Sg	**Sb**	**01 49 58.5**	**-3.0**
EVR	**Evrytania**	**1.58**	**30**	*e*PG	**Pn**	**01 49 51.8**	**-0.6**
EVR				*e*SB	**Sb**	**01 50 13.0**	**-0.8**
AGG	**Agios Georgios**	**1.91**	**39**	*e*Pb	**Pb**	**01 49 58.7**	**-0.5**
AGG				*e*Sb	**Sb**	**01 50 22.6**	**-0.4**
VLI	**Veliai**	**1.91**	**115**	*e*PG	**Pn**	**01 49 58.5**	**+1.6**
MGER	**Gerania Oros**	**2.01**	**77**	*e*PN	**Pn**	**01 49 58.5**	**+0.2**
LKR	**Lokris**	**2.06**	**57**	*e*PN	**Pn**	**01 49 59.8**	**+0.8**
NAIG	**Nisos Aigina**	**2.15**	**84**	*e*PG	**Pn**	**01 50 02.0**	**+1.7**
KEK	**Kerkira**	**2.29**	**341**	*e*PB	**Pn**	**01 50 03.7**	**+1.5**
ATH	**Athens Observa**	**2.36**	**79**	*e*PN	**Pn**	**01 50 04.0**	**+0.9**
PTL	**Penteli**	**2.49**	**78**	*e*PN	**Pn**	**01 50 05.5**	**+0.6**
NEO	**Neokhori**	**2.59**	**47**	*e*PB	**Pn**	**01 50 06.6**	**+0.2**
LIT	**Litokhoron**	**2.87**	**27**	*e*Pn	**Pn**	**01 50 10.6**	**+0.4**
FNA	**Florina**	**3.26**	**8**	*e*Pn	**Pn**	**01 50 16.5**	**+1.0**
BIA	**Bitola**	**3.49**	**7**	*e*Pn	**Pn**	**01 50 19.6**	**+0.9**
BIA	**Bitola**	**3.49**	**7**	‖*i*Pn	**Pn**	**01 50 19.6**	**+1.0**
BIA	**Bitola**	**3.49**	**7**	‖*i*Pn	**Pn**	**01 50 19.6**	**+1.0**
PLG	**Polygyros**	**3.50**	**36**	*e*PN	**Pn**	**01 50 18.9**	**+0.1**
OHR	**Ohrid**	**3.56**	**0**	*e*Pn	**Pn**	**01 50 20.8**	**+1.2**
OHR	**Ohrid**	**3.56**	**0**	*e*Pn	**Pn**	**01 50 20.7**	**+1.1**
TIP	**Timpagrande**	**3.56**	**298**	*e*Pn	**Pn**	**01 50 21.1**	**+1.5**
GRG	**Griva**	**3.62**	**20**	*e*Pn	**Pn**	**01 50 20.9**	**+0.4**
SOH	**Sokhos**	**3.83**	**31**	*e*Pn	**Pn**	**01 50 24.0**	**+0.7**
KNT	**Kendrikon**	**3.96**	**24**	*e*Pn	**Pn**	**01 50 25.6**	**+0.4**
VAY	**Valandovo**	**4.01**	**20**	*e*Pn	**Pn**	**01 50 25.8**	**0.0**
VAY	**Valandovo**	**4.01**	**20**	*e*Pn	**Pn**	**01 50 25.7**	**-0.1**
SRS	**Serrai**	**4.17**	**31**	*e*Pn	**Pn**	**01 50 28.5**	**+0.5**
HAVL	**Avola**	**4.55**	**264**	Pn	**Pn**	**01 50 33.5**	**+0.2**
HAVL				Sn	**Sn**	**01 51 23.2**	**-3.1**
PZI	**Palazzolo**	**4.68**	**266**	Pn	**Pn**	**01 50 35.1**	**+0.1**
HVZN	**Vizzini**	**4.85**	**267**	Pn	**Pn**	**01 50 37.5**	**+0.1**
HVZN				Sn	**Sn**	**01 51 31.7**	**-1.9**
STON	**Ston**	**5.81**	**337**	*i* Pn	**Pn**	**01 50 49.4**	**-1.3**
STON				*i* Sn	**Sn**	**01 51 53.8**	**-3.6**

*NEIC **29** 02:27:11.3, 1596N×9886W, h23km, MD3.7(MEX), After MEX.*
MEX 29 02:27:10.8±0.8, 1595N×9888W, h20km±233km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.85**	**58**	*i* P	Pb	02 27 24.5	-2.3
PNIG				*i* S	Sb	02 27 34.6	-3.2
ACX	**Acapulco**	**1.35**	**313**	*e*P	Pn	02 27 30.5	-4.0
ACX				*i* S	Sn	02 27 49.5	-2.3
MEIG	**Mezcala**	**2.09**	**340**	*i* P	Pn	02 27 42.4	-2.3
MEIG				*i* S	Sn	02 28 06.6	-3.5
UTMO	**Huajuapan**	**2.14**	**29**	*e*P	Pn	02 27 43.1	-2.2
UTMO				*i* S	Sn	02 28 07.0	-4.2
VHO	**Vista Hermosa**	**2.34**	**61**	*i* P	Pn	02 27 46.8	-1.3
VHO				*i* S	Sn	02 28 15.6	-0.7
VHO	**Vista Hermosa**	**2.34**	**61**	*i* P	Pn	02 27 47.1	-1.0
VHO				*i* S	Sn	02 28 16.4	+0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**2.36**	**61**	*e*P	Pn	02 27 48.0	-0.3
OXX				*e*S	Sn	02 28 13.0	-3.6
PLIG	**Platanillo**	**2.50**	**346**	*i* P	Pn	02 27 52.5	+2.2
PLIG				*i* S	Sn	02 28 24.3	+4.0

*ISCJB **29** 02:38:48.6±3.4, 198S±04×1775W±04, h600km, mb4.2/6, Error ellipse: s-maj=60.8km s-min=28.0km az=94.7*
*IDC **29** 02:38:51.1±3.4, 1998S×1777.4W, h579km±40km, mb3.4/3, mb1 3.6/4, mb1mx3.2/13, mbtmp4.4/4, Error ellipse: s-maj=44.2km s-min=20.7km az=158.0*
*NEIC **29** 02:38:52.3±0.7, 2004S×1777.6W, h600km, mb3.9/2, Error ellipse: s-maj=20.1km s-min=14.9km az=146.0*
ISC 29 02:38:50.2±3.4, 199S±04×1774W±04, h600km, n17, σ0§28/10, mb4.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.92**	**193**	P	**P**	**02 42 34.0**	**-0.1**
1.2nm,0.3s,baz=248,slow=1.2,SNR=5.2							
CTA	**Charters Tower**	**34.08**	**263**	*e*P	**P**	**02 44 46.3**	**0.0**
5.9nm,0.3s,mb4.7							
CTAO	**Charters Tower**	**34.08**	**263**	*e*P	**P**	**02 44 46.1**	**-0.1**
8.5nm,0.4s,mb4.7							
STKA	**Stephens Creek**	**38.53**	**244**	P	**P**	**02 45 22.7**	**0.0**
1.5nm,0.3s,mb3.9,baz=45,slow=4.3,SNR=3.0							
ASAR	**Alice Springs**	**45.17**	**256**	P	**P**	**02 46 15.3**	**+0.5**
8.4nm,0.9s,mb4.3,baz=89,slow=7.8,SNR=40							
ASAR				PcP	PcP	02 47 44.4	+2.5
0.8nm,0.5s,baz=111,slow=4.0,SNR=5.5							
ASAR				S	**S**	**02 52 11.8**	**0.0**
0.5nm,0.8s,baz=85,slow=15,SNR=3.5							
WB2	**Warramunga Arr**	**45.20**	**261**	*e*P	**P**	**02 46 14.8**	**-0.2**
WRAB	**Tennant Creek**	**45.20**	**261**	*e*P	**P**	**02 46 14.5**	**-0.5**
1.3nm,0.3s,mb3.9							
WRA	**Warramunga Arr**	**45.21**	**261**	P	**P**	**02 46 15.0**	**-0.1**
2.0nm,0.3s,mb4.1,baz=98,slow=7.5,SNR=87							
MBWA	**Marble Bar**	**58.50**	**257**	*e*P	**P**	**02 47 50.5**	**+0.3**
6.2nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**119.78**	**320**	*e*PKPdf	PKPdf	02 56 34.5	+1.4
ARCES	**ARCESS Array B**	**128.41**	**350**	PKP	PKPdf	02 56 51.6	+2.0
1.4nm,0.7s,baz=5.2,slow=1.3,SNR=5.6							
AKASG	**Malin Array Be**	**142.72**	**332**	PKhKP		02 57 14.7	
0.7nm,0.4s,baz=43,slow=4.0,SNR=6.1							
BRTR	**Keskin Array B**	**146.81**	**313**	PKPbc	PKPbc	02 57 28.1	+2.2
1.1nm,0.6s,baz=148,slow=5.0,SNR=6.6							
CLL	**Collm**	**147.58**	**348**	*i* PKPbc	PKPbc	02 57 30.0	+2.0
comp=Z,4.0nm,0.9s							
CLL	**Collm**	**147.58**	**348**	*e*(PKPbc)	PKPab	02 57 38.0	+5.7
KHC	**Kasperske Hory**	**149.50**	**346**	*e*PKPbc	PKPbc	02 57 35.0	+2.3
GERES	**GERESS Array B**	**149.74**	**345**	PKPbc	PKPbc	02 57 35.9	+2.6
comp=Z,1.2nm,0.6s,baz=27,slow=3.3,SNR=11							

*BJI **29** 02:59:50.7, 125N×12762E, h121km, mB4.8, mb4.8*
*ISCJB **29** 02:59:54.3±2.6, 163N±009×1273E±02, h119km±24km, mb4.6/19, Error ellipse: s-maj=29.4km s-min=8.0km az=130.8*
*IDC **29** 02:59:54.5±2.9, 170N×12748E, h113km±24km, mb4.2/8, mb1 4.3/9, mb1mx4.0/18, mbtmp4.5/9, Error ellipse: s-maj=65.2km s-min=11.4km az=71.0*
*NEIC **29** 02:59:55.9±2.5, 164N×12734E, h121km±23km, mb4.7/11, Error ellipse: s-maj=26.7km s-min=6.3km az=64.0*
ISC 29 02:59:55.1±2.0, 164N±008×1274E±02, h110km±18km, n32, σ0§90/33, mb4.6/19, 2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.96**	**292**	*e*Pn	**Pn**	**03 02 42.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.69**	**185**	*e*P	**P**	**03 04 16.4**	**+0.8**
10nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.69**	**185**	P	**P**	**03 04 15.9**	**+0.3**
0.7nm,0.3s,baz=19,slow=6.1,SNR=21							
WRAB	**Tennant Creek**	**22.50**	**163**	*e*P	**P**	**03 04 45.5**	**-0.1**
27nm,0.3s,mb5.1							
WRA	**Warramunga Arr**	**22.51**	**163**	P	**P**	**03 04 45.7**	**0.0**
23nm,0.4s,mb4.8,baz=340,slow=11,SNR=153							
WRA				S	**S**	**03 08 44.7**	**+0.3**
0.7nm,0.8s,baz=346,slow=18,SNR=3.6							
WB2	**Warramunga Arr**	**22.51**	**163**	‖*i*P	**P**	**03 04 45.6**	**-0.1**
AS31	**Alice Springs**	**25.94**	**166**	*e*P	**P**	**03 05 17.3**	**+0.2**
ASAR	**Alice Springs**	**25.94**	**166**	P	**P**	**03 05 17.6**	**+0.4**
4.8nm,0.4s,mb4.3,baz=346,slow=7.3,SNR=56							
ASAR				ScP	ScP	03 12 12.7	+0.2
0.2nm,0.4s,baz=323,slow=2.7,SNR=4.1							
ASPA	**Alice Springs**	**25.94**	**166**	*e*P	**P**	**03 05 17.3**	**+0.2**
FORT	**Forrest**	**32.24**	**179**	*e*P	**P**	**03 06 12.9**	**-0.1**
17nm,0.8s,mb4.8							
KMI	**Kunming**	**33.31**	**317**	P	**P**	**03 06 24.5**	**+2.2**
KLBR	**Kellerberrin**	**34.29**	**195**	*e*P	**P**	**03 06 30.7**	**0.0**
138nm,1.9s,mb5.5							
NWAO	**Narrogin (SRO)**	**35.69**	**195**	P	**P**	**03 06 42.6**	**-0.1**
8.8nm,0.8s,mb4.8,baz=35,slow=7.9,SNR=3.5							
STKA	**Stephens Creek**	**35.96**	**159**	*e*P	**P**	**03 06 43.8**	**-1.3**
18nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**35.96**	**159**	P	**P**	**03 06 43.8**	**-1.3**
26nm,0.7s,mb5.3,baz=334,slow=8.1,SNR=29							
CD2	**Chengdu**	**36.70**	**325**	*e*P	**P**	**03 06 50.8**	**-0.6**
CD2				PP	PP	03 08 19.0	+1.9
CD2				S	**S**	**03 12 27.0**	**+0.2**
CD2				SS	SS	03 15 00.3	-10
CD2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
CD2				LR	LR		
comp=N,160nm,14.4s							
CD2				LR	LR		
comp=Z,50nm,14.4s							
ARMA	**Armidale**	**39.38**	**146**	*e*P	**P**	**03 07 16.0**	**+2.1**
LZH	**Lanzhou**	**40.62**	**330**	*e*P	**P**	**03 07 24.5**	**+0.4**
LZH				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.6							
LZH				AMB	AMB		
comp=Z,70nm,4.3s							
MDJ	**Mudanjiang**	**42.84**	**2**	P	**P**	**03 07 42.3**	**+0.1**
MDJ				PP	PP	03 09 25.5	+1.8
MDJ				PCP	PcP	03 09 29.3	-2.1
MDJ				SCP	ScP	03 13 12.0	-0.2
MDJ				PCS	PcS	03 13 21.5	-2.2
MDJ				S	**S**	**03 14 00.3**	**+1.9**
MDJ				AMB	AMB		
comp=Z,70nm,5.8s							
LSA	**Lhasa**	**44.30**	**313**	*e*P	**P**	**03 07 54.8**	**+0.9**
comp=Z,8.2nm,0.6s,mb4.6							
ULN	**Ulaanbaatar**	**49.29**	**342**	*e*P	**P**	**03 08 32.2**	**-0.6**
comp=Z,1.5nm,0.5s,mb4.2							
SONM	**Songino Array**	**49.47**	**342**	P	**P**	**03 08 33.5**	**-0.6**
comp=Z,1.0nm,0.6s,mb3.9,baz=157,slow=8.3,SNR=7.0							
MKAR	**Makanchi Array**	**59.63**	**326**	P	**P**	**03 09 46.9**	**-0.7**
comp=Z,6.3nm,0.5s,mb4.9,baz=121,slow=8.3,SNR=34							
KURK	**Kurchatov**	**63.84**	**328**	*e*P	**P**	**03 10 14.6**	**-1.1**
comp=Z,19nm,0.6s,mb5.1							
BVAR	**Borovoye Array**	**69.41**	**327**	P	**P**	**03 10 49.9**	**-1.3**
comp=Z,0.9nm,0.4s,mb3.9,baz=128,slow=9.6,SNR=8.2							
BRVK	**Borovoye**	**69.48**	**327**	*e*P	**P**	**03 10 52.6**	**+1.0**
comp=Z,1.3nm,0.4s,mb4.1							
CHKZ	**Chkalovo**	**69.58**	**328**	*e*P	**P**	**03 10 53.1**	**+0.9**
comp=Z,1.3nm,0.5s,mb4.0							
ZRNK	**Zerenda**	**70.13**	**327**	*e*P	**P**	**03 10 53.9**	**-1.7**
comp=Z,4.1nm,0.4s,mb4.6							
VNDA	**Vanda**	**81.28**	**173**	P	**P**	**03 11 58.0**	**-1.1**
comp=Z,1.2nm,0.5s,mb4.0,baz=316,slow=7.3,SNR=15							
VNDA	**Vanda**	**81.28**	**173**	P	**P**	**03 11 58.0**	**-1.1**
SYO	**Syowa Base**	**90.72**	**201**	‖*e*pP	pP	03 13 14.0	-0.1
TORD	**Torodi Ar. Bea**	**124.16**	**287**	PKP	PKPdf	03 18 40.8	0.0
comp=Z,0.2nm,0.4s,baz=68,slow=1.4,SNR=6.0							

*INMG **29** 03:11:18.8±1.0, 3664N×975W, h10km, ML1.9, Error ellipse: s-maj=5.2km s-min=3.2km az=62.0*
*IGIL **29** 03:11:19.3, 3662N×973W, h10km, ML1.7*
*CSEM **29** 03:11:19.0±0.5, 3653N×935W, h10km, ML3.1/4, Error ellipse: s-maj=9.7km s-min=5.9km az=48.0*
MDD 29 03:11:16.6±1.4, 3665N×978W, h0km, mbLg2.3/22, Error ellipse: s-maj=11.4km s-min=9.1km az=51.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.12**	**54**	*e*P	Pg	03 11 38.5	+0.5
MORF				*e*S	Sg	03 11 53.0	+0.4
MORF				*e*S	Sg	03 11 53.0	+0.4
MORF				AML	AML	03 11 54.6	
comp=E,12nm,0.1s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.12**	**54**	*e*P	Pg	03 11 38.5	+0.4
MORF				*e*S	Sg	03 11 53.0	+0.4
PTEO	**Sao Teotonio**	**1.23**	**43**	*e*P	Pg	03 11 40.2	0.0
PTEO				*e*S	Sg	03 11 56.4	+0.2
PTEO							
comp=E,7.7nm,0.2s							
PTEO	**Sao Teotonio**	**1.23**	**43**	*e*P	Pg	03 11 40.2	0.0
PTEO				*e*S	Sg	03 11 56.4	+0.2
comp=E,7.7nm,0.2s							
EGRO	**El Granado**	**2.04**	**64**	P	Pn	03 11 51.3	-0.9
comp=E,0.4nm,0.1s,SNR=10							
EGRO				S	Sn	03 12 15.6	-2.7
comp=E,4.6nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**2.04**	**64**	P	Pn	03 11 51.3	-0.9
comp=E,0.4nm,0.1s,SNR=10							
EGRO				S	Sn	03 12 15.6	-2.7
comp=E,4.6nm,0.1s,SNR=7.9							
PBEJ	**Beja**	**2.06**	**47**	*e*Sn	Sn	03 12 16.0	-2.7
PBEJ							
comp=E,3.4nm,0.1s							
PBEJ	**Beja**	**2.06**	**47**	S	Sn	03 12 16.0	-2.7
comp=E,1.7nm,0.1s							
MOE	**Montemor**	**2.19**	**31**	*e*Pn	Pn	03 11 53.9	-0.4
MOE				*e*Sn	Sn	03 12 19.9	-2.2
PLOU	**Loures**	**2.29**	**12**	*e*Sn	Sn	03 12 22.0	-2.5
PLOU							
comp=E,11nm,0.2s							
PLOU	**Loures**	**2.29**	**12**	*e*Sn	Sn	03 12 22.0	-2.5
comp=E,11nm,0.2s							
EMIN	**Mina Concepcio**	**2.72**	**65**	P	Pn	03 11 59.5	-2.0
comp=E,0.1nm,0.1s,SNR=6.0							
EMIN				S	Sn	03 12 32.0	-3.2
comp=E,1.4nm,0.3s							
EMIN	**Mina Concepcio**	**2.72**	**65**	P	Pn	03 11 59.5	-2.1
comp=E,0.1nm,0.1s,SNR=6.0							
EMIN				S	Sn	03 12 32.0	-3.2
comp=E,1.4nm,0.3s							
EBAD	**Badajoz**	**3.04**	**45**	P	Pn	03 12 04.4	-1.5
comp=E,0.4nm,0.0s,SNR=6.9							
EBAD				S	Sn	03 12 40.1	-3.0
comp=E,2.5nm,0.0s,SNR=8.8							
EBAD	**Badajoz**	**3.04**	**45**	P	Pn	03 12 04.4	-1.6
comp=E,0.4nm,0.0s,SNR=6.9							
EBAD				S	Sn	03 12 40.1	-3.0
comp=E,2.5nm,0.0s,SNR=8.8							
ESPR	**Espera**	**3.16**	**85**	P	Pn	03 12 06.0	-1.6
comp=E,0.4nm,0.1s,SNR=6.5							
ESPR				S	Sn	03 12 41.5	-4.5
comp=E,22nm,0.3s							
ESPR	**Espera**	**3.16**	**85**	P	Pn	03 12 06.0	-1.6
comp=E,0.4nm,0.1s,SNR=6.5							
ESPR				S	Sn	03 12 41.5	-4.5
comp=E,22nm,0.3s							
PTOM	**Tomar**	**3.16**	**20**	*e*Pn	Pn	03 12 06.5	-1.1
PTOM				*e*Sn	Sn	03 12 42.4	-3.5
PTOM							
comp=E,5.5nm,0.1s							
PTOM	**Tomar**	**3.16**	**20**	*e*Pn	Pn	03 12 06.5	-1.1
PTOM				*e*Sn	Sn	03 12 42.4	-3.5
comp=E,5.5nm,0.1s							
PCBR	**Castelo Branco**	**3.67**	**29**	*e*Pn	Pn	03 12 13.8	-0.8
PCBR				*e*Sn	Sn	03 12 53.0	-5.5
PCBR							
comp=E,1.1nm,0.1s							
PCBR	**Castelo Branco**	**3.67**	**29**	*e*Pn	Pn	03 12 13.8	-0.8
PCBR				*e*Sn	Sn	03 12 53.0	-5.5
comp=E,1.1nm,0.1s							
MTE	**Manteigas**	**4.14**	**24**	*e*Pn	Pn	03 12 19.8	-1.2
MTE				*e*Sn	Sn	03 13 06.0	-4.1
MTE							
comp=E,1.3nm,0.3s							
MTE	**Manteigas**	**4.14**	**24**	*e*Pn	Pn	03 12 19.8	-1.2
MTE				*e*Sn	Sn	03 13 06.0	-4.1
comp=E,1.3nm,0.3s							
PVIS	**Viseu**	**4.32**	**19**	*e*Pn	Pn	03 12 23.0	-0.6
PVIS				*e*Sn	Sn	03 13 10.4	-4.3
PVIS							
comp=E,3.1nm,0.1s							
EADA	**Adamuz**	**4.41**	**68**	P	Pn	03 12 23.5	-1.3
comp=E,0.2nm,0.1s,SNR=7.9							
EADA				S	Sn	03 13 11.3	-5.6
comp=E,1.6nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**4.41**	**68**	P	Pn	03 12 23.5	-1.3
comp=E,0.2nm,0.1s,SNR=7.9							
EADA				S	Sn	03 13 11.3	-5.6
comp=E,1.6nm,0.3s,SNR=7.9							
ELOJ	**Sierra Loja**	**4.54**	**82**	P	Pn	03 12 24.3	-2.3
comp=E,0.9nm,0.2s,SNR=7.9							
ELOJ				S	Sn	03 13 15.2	-4.8
comp=E,1.2nm,0.4s,SNR=7.9							
PVRL	**Vila Real**	**4.90**	**19**	*e*Pn	Pn	03 12 30.0	-1.4
PVRL				*e*Sn	Sn	03 13 23.9	-4.9
PVRL							
comp=E,4.2nm,0.1s							
EBAN	**Banos Encina**	**5.01**	**71**	S	Sn	03 13 27.6	-4.0
comp=E,0.6nm,0.1s,SNR=7.9							
PCAB	**Cabril**	**5.24**	**15**	*e*Pn	Pn	03 12 35.0	-1.1
PCAB				*e*Sn	Sn	03 13 32.5	-4.7
PCAB							
comp=E,1.9nm,0.1s							
ELOB	**Lobios**	**5.38**	**14**	P	Pn	03 12 36.9	-1.3
comp=E,0.2nm,0.0s,SNR=7.9							
ELOB	

ISC 29 03:17:41.4±0.2,306S±003×12721E±004,h43km,h43km±2.0km:pP-P,n179,σ1§20/177,mb5.0/74,MS4.4/38,4C-5D,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.16**	**122**	P	**Pn**	**03 17 59.6**	**-1.6**
	51μm,1.3s						
SWI	**Sorong**	**4.60**	**62**	P	**Pn**	**03 18 46.7**	**-1.7**
	586nm,0.9s						
TLE	**Tual**	**6.08**	**115**	P	**Pn**	**03 19 10.2**	**+1.6**
	2μm,0.8s						
PCI	**Palu**	**7.67**	**286**	P	**Pn**	**03 19 31.0**	**+0.5**
	759nm,1.0s						
KAPI	**Kappang**	**7.69**	**255**	Pn	**Pn**	**03 19 31.0**	**+0.3**
	3μm,0.7s,SNR=31						
BAKI	**Biak**	**9.08**	**78**	P	**Pn**	**03 19 52.3**	**+2.4**
	496nm,1.1s						
KAKA	**Kakadu**	**10.89**	**152**	⇑*i*P	**Pn**	**03 20 14.9**	**+0.3**
	169nm,0.8s						
JAY	**Jayapura**	**13.49**	**88**	P	**Pn**	**03 20 55.0**	**+4.9**
	52nm,1.2s						
KKM	**Kota Kinabalu**	**14.23**	**309**	*e*Pn	**Pn**	**03 20 59.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.02**	**186**	*e*P	**Pn**	**03 21 11.5**	**+0.8**
	109nm,0.8s						
FITZ				*e*S	**S**	**03 24 14.7**	**+2.8**
FITZ	**Fitzroy Crossi**	**15.02**	**186**	Pn	**Pn**	**03 21 11.5**	**+0.8**
	0.8nm,0.3s,baz=27,slow=12,SNR=20						
FITZ				LR	LR	03 27 41.6	
	comp=Z,4μm,18.7s,baz=154,slow=40						
KSM	**Kuching**	**17.48**	**285**	*e*P	**Pn**	**03 21 43.2**	**+1.2**
BJII	**Banjamegara**	**17.93**	**256**	P	**Pn**	**03 21 52.6**	**+5.2**
	135nm,2.1s						
WRAB	**Tennant Creek**	**18.16**	**158**	P	**Pn**	**03 21 50.0**	**-0.2**
	796nm,1.2s,SNR=72						
WRAB	**Tennant Creek**	**18.16**	**158**	*e*P	**Pn**	**03 21 50.8**	**+0.6**
WRAB	**Tennant Creek**	**18.16**	**158**	*e*P	**Pn**	**03 21 50.4**	**+0.2**
	258nm,1.0s						
WRA	**Warramunga Arr**	**18.16**	**158**	P	**Pn**	**03 21 50.1**	**-0.2**
	7.4nm,0.3s,baz=340,slow=11,SNR=358						
WRA				S	**S**	**03 25 14.9**	**-1.0**
	0.3nm,0.3s,baz=345,slow=20,SNR=4.5						
WRA				LR	LR	03 29 29.7	
	comp=Z,3μm,19.3s,baz=340,slow=39						
WRA				ScP	ScP	03 29 57.1	+3.3
	0.1nm,0.3s,baz=315,slow=2.4,SNR=6.2						
WB2	**Warramunga Arr**	**18.17**	**158**	*e*P	**Pn**	**03 21 50.6**	**+0.3**
WB2				*e*S	**S**	**03 25 14.6**	**-1.4**
MBWA	**Marble Bar**	**19.40**	**201**	*e*P	**Pn**	**03 22 03.7**	**-1.5**
	267nm,1.8s						
PMG	**Port Moresby**	**20.80**	**109**	P	**P**	**03 22 20.6**	**+1.6**
	17nm,0.5s,baz=297,slow=7.9,SNR=4.0						
PMG	**Port Moresby**	**20.80**	**109**	P	**P**	**03 22 20.6**	**+1.7**
PMG				pmax	pmax		
	comp=Z,17nm,0.5s						
PMG	**Port Moresby**	**20.80**	**109**	*e*P	**P**	**03 22 17.9**	**-1.0**
	comp=Z,32nm,0.8s						
AS31	**Alice Springs**	**21.48**	**163**	*e*P	**P**	**03 22 28.2**	**+1.9**
AS31				*e*S	**S**	**03 26 23.3**	**+1.3**
ASAR	**Alice Springs**	**21.48**	**163**	P	**P**	**03 22 26.6**	**+0.3**
	comp=Z,39nm,0.6s,mb4.9,baz=346,slow=12,SNR=117						
ASAR				S	**S**	**03 26 22.0**	**-0.1**
	comp=Z,50nm,1.2s,baz=344,slow=19,SNR=9.3						
ASAR				ScP	ScP	03 30 04.5	+3.0
	comp=Z,4.9nm,0.8s,baz=348,slow=2.3,SNR=7.5						
ASAR	**Alice Springs**	**21.48**	**163**	P	**P**	**03 22 26.6**	**+0.3**
ASAR				S	**S**	**03 26 22.0**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,39nm,0.6s						
ASAR				smax			
	comp=N,50nm,1.2s						
ASAR				pmax	pmax		
	comp=N,5.0nm,0.8s						
ASPA	**Alice Springs**	**21.48**	**163**	*e*P	**P**	**03 22 28.2**	**+1.9**
ASPA				*e*S	**S**	**03 26 23.3**	**+1.2**
GUMO	**Guam**	**24.10**	**46**	LR	LR	03 31 43.9	
	comp=N,537nm,20.4s,MS4.0,baz=231,slow=35						
CTA	**Charters Tower**	**25.13**	**134**	*e*P	**P**	**03 23 04.5**	**+2.2**
	comp=N,25nm,0.9s,mb4.7						
CTA	**Charters Tower**	**25.13**	**134**	P	**P**	**03 23 04.4**	**+2.1**
	comp=N,32nm,0.9s,mb4.8,baz=309,slow=12,SNR=11						
CTA	**Charters Tower**	**25.13**	**134**	P	**P**	**03 23 04.4**	**+2.1**
CTA				pmax	pmax		
	comp=Z,32nm,0.9s						
CTAO	**Charters Tower**	**25.13**	**134**	*e*P	**P**	**03 23 04.9**	**+2.6**
CTAO				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.0						
CTAO	**Charters Tower**	**25.13**	**134**	*e*P	**P**	**03 23 04.8**	**+2.5**
	comp=Z,45nm,1.0s,mb5.0						
PPI	**Padang Panjang**	**26.92**	**275**	P	**P**	**03 23 25.8**	**+7.3**
	comp=Z,82nm,1.1s,mb5.2						
FORT	**Forrest**	**27.58**	**178**	*e*P	**P**	**03 23 23.5**	**-0.9**
	comp=Z,63nm,0.6s,mb5.4						
KULM	**Kulim**	**27.80**	**287**	*e*P	**P**	**03 23 27.3**	**+1.0**
QIZ	**Qiongzhong**	**27.82**	**323**	P	**P**	**03 23 30.5**	**+4.0**
QIZ				S	**S**	**03 28 03.5**	**-3.1**
QIZ				AMB	AMB		
	comp=Z,580nm,12.6s						
QIZ				LR	LR		
	comp=N,670nm,16.2s						
QIZ				LR	LR		
	comp=Z,670nm,18.0s,MS4.3						
YHNB	**Yeheng**	**28.14**	**349**	*e*P	**P**	**03 23 29.0**	**-0.4**
PSI	**Prapat**	**28.87**	**281**	P	**P**	**03 23 34.9**	**-1.0**
	comp=Z,8.7nm,0.7s,mb4.6,baz=66,slow=5.6,SNR=4.3						
PSI	**Prapat**	**28.87**	**281**	P	**P**	**03 23 34.9**	**-0.9**
PSI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
QZH	**Quanzhou**	**29.07**	**344**	P	**P**	**03 23 38.3**	**+0.7**
QZH				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.5						
QZH				AMB	AMB		
	comp=Z,650nm,2.8s,mb5.9						
QZH				LR	LR		
	comp=N,830nm,10.3s						
QZH				LR	LR		
	comp=E,780nm,9.4s						
QZH				LR	LR		
	comp=Z,1μm,26.6s						
GZH	**Guangzhou**	**29.30**	**333**	P	**P**	**03 23 40.5**	**+0.8**
GZH				S	**S**	**03 28 34.5**	**+4.6**
GZH				LR	LR		
	comp=Z,990nm,17.4s,MS4.5						
JOW	**Kunigami**	**29.74**	**2**	LR	LR	03 34 40.5	
	comp=Z,865nm,19.3s,MS4.4,baz=130,slow=34						
KLBR	**Kellerberrin**	**29.74**	**196**	*e*P	**P**	**03 23 43.3**	**-0.3**
	comp=Z,24nm,1.0s,mb4.9						
MUN	**Mundaring**	**30.57**	**199**	*e*P	**P**	**03 23 54.4**	**+3.5**
NWAO	**Narrogin (SRO)**	**31.14**	**196**	P	**P**	**03 23 54.7**	**-1.3**
	comp=Z,3.0nm,0.4s,mb4.4,baz=66,slow=10.0,SNR=4.0						
NWAO				LR	LR	03 37 10.8	
	comp=Z,948nm,18.6s,MS4.5,baz=12,slow=38						
NWAO	**Narrogin (SRO)**	**31.14**	**196**	P	**P**	**03 23 54.7**	**-1.3**
NWAO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NWAO				MLR	MLR		
	comp=Z,948nm,18.6s						
NWAO	**Narrogin (SRO)**	**31.14**	**196**	P	**P**	**03 23 54.7**	**-1.3**
NWAO				LR	LR	03 37 10.8	
STKA	**Stephens Creek**	**31.70**	**156**	*e*P	**P**	**03 23 57.7**	**-3.2**
	comp=Z,20nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**31.70**	**156**	P	**P**	**03 23 58.2**	**-2.6**
	comp=Z,5.2nm,0.4s,mb4.7,baz=330,slow=12,SNR=22						
STKA				LR	LR	03 37 58.1	
	comp=Z,2μm,20.3s,MS4.8,baz=334,slow=38						
SSE	**Sheshan**	**34.45**	**351**	*e*P	**P**	**03 24 25.5**	**+0.6**
SSE				AP	pP	03 24 36.8	+0.3
SSE				XP	sP	03 24 41.5	0.0
SSE				PP	PP	03 25 43.5	+0.1
SSE				PCP	PcP	03 26 59.0	-0.5
SSE				S	**S**	**03 29 51.5**	**+1.3**
SSE				SCS	ScS	03 34 41.3	-2.6
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,180nm,9.4s						
SSE				LR	LR		
	comp=N,340nm,20.9s,MS4.1						
SSE				LR	LR		
	comp=E,200nm,20.9s,MS4.1						
SSE				LR	LR		
	comp=Z,440nm,20.9s,MS4.2						
GYA	**Guiyang**	**35.44**	**327**	⇓*i*P	**P**	**03 24 35.3**	**+1.9**
GYA				AP	pP	03 24 47.5	+2.5
GYA				XP	sP	03 24 52.8	+2.7
GYA				PP	PP	03 25 56.5	+2.1
GYA				S	**S**	**03 30 11.0**	**+5.6**
GYA				SCS	ScS	03 34 48.0	-1.3
GYA				AMB	AMB		
	comp=Z,50nm,1.5s,mb5.2						
GYA				AMB	AMB		
	comp=Z,440nm,5.7s						
GYA				LR	LR		
	comp=N,340nm,13.8s,MS4.5						
GYA				LR	LR		
	comp=E,480nm,14.7s,MS4.5						
GYA				LR	LR		
	comp=Z,530nm,15.3s,MS4.4						
WHN	**Wuhan**	**35.60**	**341**	⇓P	**P**	**03 24 36.3**	**+1.5**
WHN				AMB	AMB		
	comp=Z,240nm,1.4s,mb5.9						
ARMA	**Armidale**	**35.69**	**142**	*e*P	**P**	**03 24 37.4**	**+1.8**
NJ2	**Nanjing**	**35.81**	**348**	*e*P	**P**	**03 24 38.0**	**+1.4**
NJ2				AP	pP	03 24 49.0	+0.8
NJ2				XP	sP	03 24 55.8	+2.5
NJ2				PP	PP	03 26 00.0	+1.5
NJ2				S	**S**	**03 30 11.0**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,210nm,8.6s						
NJ2				LR	LR		
	comp=N,840nm,24.4s,MS4.6						
NJ2				LR	LR		
	comp=E,1μm,27.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,760nm,11.4s						
KMI	**Kunming**	**36.73**	**321**	P	**P**	**03 24 47.5**	**+3.1**
KMI				AP	pP	03 24 58.8	+2.7
KMI				XP	sP	03 25 03.5	+2.4
KMI				PP	PP	03 26 14.0	+5.5
KMI				S	**S**	**03 30 29.0**	**+3.9**
KMI				XS	sS	03 30 48.5	+4.0
KMI				SCS	ScS	03 34 56.5	+0.1
KMI				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.0						
KMI				AMB	AMB		
	comp=Z,390nm,8.7s						
KMI				LR	LR		
	comp=N,350nm,14.4s,MS4.4						
KMI				LR	LR		
	comp=E,290nm,17.1s,MS4.4						
KMI				LR	LR		
	comp=Z,310nm,15.6s,MS4.2						
JHJ	**Hachijo jima 2**	**37.90**	**17**	LR	LR	03 38 56.8	
	comp=Z,246nm,19.9s,MS4.0,baz=289,slow=34						
CNB	**Canberra Magne**	**38.10**	**150**	*e*P	**P**	**03 24 56.6**	**+0.6**
	comp=Z,12nm,0.7s,mb4.7						
TOO	**Toolangi**	**38.22**	**156**	*e*P	**P**	**03 24 58.1**	**+1.0**
	comp=Z,9.3nm,0.7s,mb4.6						
TOO	**Toolangi**	**38.22**	**156**	*e*P	**P**	**03 24 58.1**	**+1.0**
TOO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
KS15	**Wonju Array Si**	**40.30**	**1**	*e*P	**P**	**03 25 14.6**	**+0.2**
CD2	**Chengdu**	**40.51**	**328**	⇓*i*P	**P**	**03 25 17.0**	**+0.8**
CD2				AP	pP	03 25 29.8	+1.9
CD2				XP	sP	03 25 34.3	+1.4
CD2				PP	PP	03 26 55.0	+5.0
CD2				PCP	PcP	03 27 14.0	-4.1
CD2				SCP	ScP	03 30 59.3	-4.7
CD2				PCS	PcS	03 31 04.8	-3.9
CD2				S	**S**	**03 31 29.3**	**+7.1**
CD2				XS	sS	03 31 46.8	+5.1
CD2				SS	SS	03 34 27.0	+4.2
CD2				SCS	ScS	03 35 14.0	-4.3
CD2				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.7						
CD2				AMB	AMB		
	comp=Z,260nm,5.4s						
CD2				LR	LR		
	comp=N,340nm,9.6s						
CD2				LR	LR		
	comp=Z,250nm,17.1s,MS4.1						
MJAR	**Matsushiro Arr**	**40.72**	**14**	P	**P**	**03 25 16.4**	**-1.4**
	comp=Z,7.8nm,0.9s,mb4.3,baz=183,slow=9.8,SNR=14						
MJAR				LR	LR	03 42 05.7	
	comp=Z,440nm,19.3s,MS4.3,baz=190,slow=36						
MJAR	**Matsushiro Arr**	**40.72**	**14**	P	**P**	**03 25 16.5**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJAR				MLR	MLR		
	comp=Z,440nm,19.3s						
MAJO	**Matsushiro**	**40.72**	**14**	*e*P	**P**	**03 25 16.7**	**-1.1**
MAT	**Matsushiro**	**40.72**	**14**	P	**P**	**03 25 16.6**	**-1.2**
MAT				S	**S**	**03 31 24.0**	**-1.2**
MAT	**Matsushiro**	**40.72**	**14**	*e*P	**P**	**03 25 17.0**	**-0.8**
MAT				*e*S	**S**	**03 31 25.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,64nm,1.8s,mb5.0						
MAT				MLR	MLR		
	comp=Z,350nm,20.0s,MS4.2						
MAT	**Matsushiro**	**40.72**	**14**	*e*P	**P**	**03 25 17.0**	**-0.8**
	comp=Z,64nm,1.8s,mb5.0						
MAT				*e*S	**S**	**03 31 25.0**	**-0.2**
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.2						
XAN	**Xi'an**	**40.73**	**336**	P	**P**	**03 25 17.8**	**-0.2**
XAN				AP	pP	03 25 26.5	-3.2
XAN				S	**S**	**03 31 27.3**	**+1.9**
XAN				AMB	AMB		
	comp=Z,40nm,1.3s,mb4.9						
XAN				AMB	AMB		
	comp=Z,270nm,13.4s						
XAN				LR	LR		
	comp=N,180nm,18.6s,MS4.2						
XAN				LR	LR		
	comp=E,260nm,15.5s,MS4.2						
XAN				LR	LR		
	comp=Z,510nm,22.7s						
DZM	**Mont Dzumac**	**42.50**	**120**	P	**P**	**03 25 32.7**	**+0.2**
	comp=Z,23nm,1.1s,mb4.7,baz=77,slow=1.8,SNR=3.5						
BJT	**Baijiatuau**	**44.05**	**348**	*e*P	**P**	**03 25 44.6**	**-0.4**
BJT				pmax	pmax		
	comp=Z,46nm,1.3s						
BJT	**Baijiatuau**	**44.05**	**348**	*e*P	**P**	**03 25 44.6**	**-0.4**
	comp=Z,46nm,1.3s,mb5.0						
SHL	**Shillong**	**44.51**	**312**	*e*P	**P**	**03 25 49.0**	**+0.3**
SHL				*e*S	**S**	**03 32 32.0**	**+11**
LZH	**Lanzhou**	**44.65**	**333**	*e*P	**P**	**03 25 51.5**	**+1.8**
LZH				AP	pP	03 26 01.3	-0.3
LZH				XP	sP	03 26 05.5	-1.1
LZH				PP	PP	03 27 37.3	+2.8
LZH				PCS	PcS	03 31 26.0	+0.7
LZH				*e*S	**S**	**03 32 25.3**	**+2.3**
LZH				SS	SS	03 35 39.0	-5.1
LZH				SCS	ScS	03 35 41.3	-2.5
LZH				AMB	AMB		
	comp=Z,180nm,1.6s,mb5.7						
LZH				AMB	AMB		
	comp=Z,410nm,4.0s						
LZH				LR	LR		
	comp=E,730nm,14.5s						
LZH				LR	LR		
	comp=Z,1μm,15.8s,MS4.8						
SNY	**Shenyang**	**44.80**	**356**	⇑P	**P**	**03 25 51.3**	**+0.4**
SNY				AP	pP	03 26 04.0	+1.2
SNY				XP	sP	03 26 09.5	+1.7
SNY				PP	PP	03 27 42.0	+5.9
SNY				S	**S**	**03 32 28.0**	**+2.8**
SNY				XS	sS	03 32 47.5	+2.5
SNY				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
SNY				AMB	AMB		
	comp=Z,160nm,8.6s						
SNY				LR	LR		
	comp=N,310nm,20.2s,MS4.4						
SNY				LR	LR		
	comp=E,260nm,15.3s,MS4.4						
SNY				LR	LR		
	comp=Z,430nm,19.6s,MS4.4						
HHC	**Hu-ho-hao-te**	**45.98**	**343**	*e*P	**P**	**03 26 00.8**	**+0.5**
HHC				AP	pP	03 26 13.0	+0.8
HHC				XP	sP	03 26 18.5	+1.3
HHC				PCP	PcP	03 27 37.3	+0.8
HHC				PP	PP	03 27 46.8	-1.8
HHC				PCS	PcS	03 31 29.0	-1.9
HHC				S	**S**	**03 32 42.3**	**+0.1**
HHC				XS	sS	03 33 04.0	+2.0
HHC				SCS	ScS	03 35 48.8	-3.6
HHC				SS	SS	03 36 01.5	-5.9
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,250nm,6.1s						
HHC				LR	LR		
	comp=N,310nm,20.2s,MS4.3						
HHC				LR	LR		
	comp=E,190nm,17.8s,MS4.3						
HHC				LR	LR		
	comp=Z,380nm,23.8s						
VLA	**Vladivostok**	**46.16**	**5**	*e*P	**P**	**03 26 00.9**	**-0.8**
VLA				pmax	pmax		
	comp=Z,86nm,2.0s,mb5.3						
CN2	**Changchun**	**46.68**	**358**	*e*P	**P**	**03 26 06.3**	**+0.5**
CN2				*e*AP	pP	03 26 18.8	+1.1
CN2				*e*XP	sP	03 26 24.0	+1.3
CN2				*e*S	**S**	**03 32 52.5**	**+0.3**
CN2				SS	SS	03 36 12.0	-6.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS4.6						
CN2				LR	LR		
	comp=Z,400nm,19.0s,MS4.4						
LSA	**Lhasa**	**47.45**	**316**	P	**P**	**03 26 13.3**	**+1.5**
LSA				S	**S**	**03 33 04.0**	**+0.8**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LSA				AMB	AMB		
	comp=Z,30nm,3.0s						
LSA				LR	LR		
	comp=E,120nm,8.0s						
LSA				LR	LR		
	comp=Z,100nm,8.0s						
LSA	**Lhasa**	**47.45**	**316**	*e*P	**P**	**03 26 14.2**	**+2.4**
LSA				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.5						
LSA	**Lhasa**	**47.45**	**316**	*e*P	**P**	**03 26 14.2**	**+2.4**
	comp=Z,58nm,1.0s,mb5.5						
MDJ	**Mudanjiang**	**47.51**	**2**	P	**P**	**03 26 12.5**	**+0.2**
MDJ				AP	pP	03 26 24.0	-0.2
MDJ				XP	sP	03 26 29.0	-0.2
MDJ				PCP	PcP	03 27 41.5	-0.4
MDJ				PCS	PcS	03 31 37.5	+0.2
MDJ				S	**S**	**03 33 04.3**	**+0.2**
MDJ				SS	SS	03 36 28.3	-4.0
MDJ				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,170nm,10.4s						
MDJ				LR	LR		
	comp=N,360nm,23.3s						
MDJ				LR	LR		
	comp=E,180nm,16.3s						
MDJ				LR	LR		
	comp=Z,410nm,24.2s,MS4.3						
MDJ	**Mudanjiang**	**47.51**	**2**	*e*P	**P**	**03 26 12.5**	**+0.2**
	comp=Z,40nm,1.4s,mb5.2						
ASAJ	**Asahikawa**	**48.96**	**15**	P	**P**	**03 26 23.6**	**+0.2**
	comp=Z,5.6nm,0.8s,mb4.7,baz=223,slow=13,SNR=4.1						
ASAJ	**Asahikawa**	**48.96**	**15**	P	**P**	**03 26 23.6**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA	**Gaotai**	**49.21**	**332**	*e*P	**P**	**03 26 26.0**	**+0.7**
GTA				AP	pP	03 26 38.5	+1.2
GTA				XP	sP	03 26 44.0	+1.7
GTA				PCP	PcP	03 27 48.8	+0.8
GTA				SCP	ScP	03 31 37.5	-2.2
GTA				PCS	PcS	03 31 43.8	-0.7
GTA				S	**S**	**03 33 29.8**	**+1.8**
GTA				SCS	ScS	03 36 09.8	-3.9
GTA				SS	SS	03 36 56.8	-2.9
GTA				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.9						
GTA				AMB	AMB		
	comp=Z,240nm,6.5s						
GTA				LR	LR		
	comp=N,260nm,22.2s,MS4.4						
GTA				LR	LR		
	comp=E,340nm,18.7s,MS4.4						
GTA				LR	LR		
	comp=Z,560nm,19.9s,MS4.6						
JIRN	**Jiri**	**49.92**	**310**	*e*P	**P**	**03 26 31.6**	**+0.8**
	comp=Z,320nm,1.6s,mb6.1						
GUN	**Gumba**	**50.29**	**311**	*e*P	**P**	**03 26 34.4**	**+0.8**
	comp=Z,121nm,1.0s,mb5.9						
PKI	**Pulchoki**	**50.48**	**310**	*e*P	**P**	**03 26 35.4**	**+0.4**
KKN	**Kakani**	**50.69**	**310**	*e*P	**P**	**03 26 36.5**	**0.0**
	comp=Z,128nm,1.3s,mb5.7						
DMN	**Daman**	**50.73**	**310**	*e*P	**P**	**03 26 37.6**	**+0.7**
	comp=Z,132nm,1.1s,mb5.8						
GKN	**Gorkha**	**51.28**	**310**	*e*P	**P**	**03 26 41.6**	**+0.6**
HABR	**Khabarovsk**	**51.78**	**7**	*e*P	**P**	**03 26 45.5**	**+0.8**
HABR				*e*S	**S**	**03 34 05.3**	**+1.6**
HABR				pmax	pmax		
	comp=Z,58nm,1.8s,mb5.2						
KOLN	**Koldanda**	**51.97**	**309**	*e*P	**P**	**03 26 46.4**	**+0.3**
	comp=Z,119nm,1.0s,mb5.8						
KLR	**Kul'dur**	**52.23**	**4**	*e*P	**P**	**03 26 43.2**	**-4.9**
KLR				pmax	pmax		
	comp=Z,67nm,2.0s,mb5.2						
KLR				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.8						
SONM	**Songino Array**	**53.87**	**343**	P	**P**	**03 27 00.2**	**+0.1**
	comp=Z,14nm,0.9s,mb4.9,baz=154,slow=8.0,SNR=53						
SONM				LR	LR	03 50 41.5	
	comp=Z,239nm,19.9s,MS4.2,baz=163,slow=37						
SONM	**Songino Array**	**53.87**	**343**	P	**P**	**03 27 00.2**	**+0.1**
SONM				pmax	pmax		
	comp=Z,14nm,0.9s						
SONM				MLR	MLR		
	comp=Z,239nm,19.9s						
CIT	**Chita**	**56.09**	**350**	*e*P	**P**	**03 27 16.7**	**+0.5**
ZAK	**Zakamensk**	**57.07**	**342**	*e*P	**P**	**03 27 21.5**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,21nm,2.0s,mb4.8						
NDI	**New Delhi**	**57.40**	**307**	*e*P	**P**	**03 27 24.0**	**-1.5**
TLY	**Talaya**	**58.11**	**343**	*e*P	**P**	**03 27 31.2**	**+0.8**
TLY				*e*		03 29 48.1	
TLY				*e*PPP		03 31 05.3	
TLY				*e*S	**S**	**03 35 29.4**	**+0.9**
TLY				*e*		03 37 12.0	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
IRK	**Irkutsk**	**58.42**	**344**	*e*P	**P**	**03 27 31.5**	**-1.2**
IRK				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
WMQ	**Urumqi**	**58.60**	**327**	P	**P**	**03 27 33.0**	**-0.9**
WMQ				XP	sP	03 27 49.0	-2.1
WMQ				PCP	PcP	03 28 18.5	-5.2
WMQ				PP	PP	03 29 46.3	+2.5
WMQ				S	**S**	**03 35 33.8**	**-1.1**
WMQ				SCS	ScS	03 37 14.5	-5.7
WMQ				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,250nm,5.0s						
WMQ				LR	LR		
	comp=N,450nm,17.0s						
WMQ				LR	LR		
	comp=E,260nm,11.0s						
WMQ				LR	LR		
	comp=Z,250nm,24.0s						
MOY	**Mondy**	**58.91**	**341**	*e*P	**P**	**03 27 36.5**	**+0.5**
MOY				pmax	pmax		
	comp=Z,56nm,2.4s,mb5.2						
CLNS	**Chul'man**	**59.73**	**359**	*e*P	**P**	**03 27 41.5**	**-0.2**
CLNS				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
CLNS				pmax	pmax		
	comp=N,17nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
BOD	**Bodaibo**	**61.61**	**352**	*e*P	**P**	**03 27 54.4**	**-0.1**
BOD				pmax	pmax		
	com

PET MLR MLR
comp=Z,200nm,17.0s,MS4.3
MK31 Makanchi Array 63.43 327 P **P 03 28 04.9 -1.8**
MK31 pmax pmax
comp=Z,22nm,1.1s,mb5.2
MKAR Makanchi Array 63.43 327 P **P 03 28 06.5 -0.1**
comp=Z,5.9nm,0.7s,mb4.9,baz=125,slow=7.9,SNR=53
MKAR Makanchi Array 63.43 327 P **P 03 28 06.5 -0.2**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
CASY Casey 64.18 187 *e*P **P 03 28 10.8 -0.8**
comp=Z,3.9nm,0.7s,mb4.5
YAK Yakutsk 64.94 1 *e*P **P 03 28 16.1 -0.5**
YAK *e**PP pP 03 28 26.2 -2.8
YAK *e* 03 28 44.4
YAK *e*S **S 03 36 58.5 +3.4**
YAK *e**SS sS 03 37 17.1 +1.3
YAK *e* 03 37 57.5
YAK *e*SS SS 03 41 03.3 -4.0
YAK pmax pmax
comp=Z,42nm,0.8s,mb5.5
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax
comp=E,5.0nm,1.2s
YAK smax
comp=Z,7.0nm,0.9s
YAK smax
comp=N,4.0nm,1.0s
YAK MLR MLR
comp=Z,234nm,19.0s,MS4.4
YAK MLR MLR
comp=N,205nm,21.0s,MS4.5
YAK MLR MLR
comp=E,204nm,17.0s,MS4.5
YAK Yakutsk 64.94 1 *e*P **P 03 28 16.1 -0.5**
comp=E,34nm,0.6s,mb5.5
YAK *e* pP 03 28 25.5 -3.4
FRU Bishkek 65.78 320 P **P 03 28 33.0 +11**
FRU *e* 03 28 56.0
ZAL Zalesovo 66.85 334 P **P 03 28 27.7 -1.1**
comp=E,3.5nm,0.3s,mb4.9,baz=336,slow=7.6,SNR=14
ZAL LR LR 04 00 01.6
comp=E,195nm,19.0s,MS4.3,baz=335,slow=38
ZAL Zalesovo 66.85 334 P **P 03 28 27.7 -1.1**
ZAL pmax pmax
comp=Z,4.0nm,0.3s
ZAL MLR MLR
comp=Z,195nm,19.0s
KURK Kurchatov 67.73 329 P **P 03 28 33.6 -0.8**
comp=Z,133nm,0.8s,mb6.0,SNR=20
KURK Kurchatov 67.73 329 P **P 03 28 33.6 -0.8**
KURK pmax pmax
comp=Z,31nm,1.5s,mb5.1
KURK Kurchatov 67.73 329 *e*P **P 03 28 33.6 -0.8**
comp=Z,21nm,0.9s,mb5.2
NVS Novosibirsk 68.14 334 *i*P **P 03 28 35.4 -1.6**
NVS pmax pmax
comp=N,23nm,1.7s
NVS pmax pmax
comp=E,25nm,1.7s
NVS pmax pmax
comp=Z,36nm,1.7s,mb5.1
KK31 Karatay Array 68.57 319 *i*P **P 03 28 39.2 -0.4**
KK31 pmax pmax
comp=Z,31nm,1.3s,mb5.1
KKAR Karatay Array 68.57 319 P **P 03 28 39.2 -0.4**
KKAR pmax pmax
comp=Z,42nm,1.4s,mb5.2
WSAR Wadi Sarin 71.66 296 P **P 03 28 57.1 -1.5**
comp=Z,3.4nm,0.9s,mb4.3,baz=42,slow=12,SNR=2.3
VOSK Vostochnaya 72.81 328 P **P 03 29 02.0 -3.5**
VOSK pmax pmax
comp=Z,16nm,1.2s,mb4.8
BVA0 Borovoye Array 73.27 328 *i*P **P 03 29 04.2 -4.0**
BVA0 pmax pmax
comp=Z,12nm,1.8s,mb4.5
BVAR Borovoye Array 73.27 328 P **P 03 29 07.4 -0.8**
comp=Z,4.9nm,1.0s,mb4.4,baz=126,slow=7.5,SNR=17
BRVK Borovoye 73.34 328 *e*P **P 03 29 06.6 -2.0**
BRVK pmax pmax
comp=Z,13nm,1.2s,mb4.7
BRVK Borovoye 73.34 328 *e*P **P 03 29 06.6 -2.0**
comp=Z,13nm,1.2s,mb4.7
CHKZ Chkalovo 73.47 329 *e*P **P 03 29 08.1 -1.3**
CHKZ pmax pmax
comp=Z,53nm,1.8s,mb5.2
CHKZ Chkalovo 73.47 329 *e*P **P 03 29 08.1 -1.3**
comp=Z,53nm,1.8s,mb5.2
ZRNK Zerenda 73.97 328 *e*P **P 03 29 11.6 -0.7**
ZRNK pmax pmax
comp=Z,36nm,1.3s,mb5.1
ZRNK Zerenda 73.97 328 *e*P **P 03 29 11.6 -0.7**
comp=Z,36nm,1.3s,mb5.2
TIXI Tiksi 74.58 1 *d i*P **P 03 29 14.5 -1.4**
TIXI pmax pmax
comp=Z,22nm,1.6s,mb4.8
VNDA Vanda 76.67 173 P **P 03 29 25.9 -2.0**
comp=Z,3.5nm,0.8s,mb4.4,baz=307,slow=7.0,SNR=15
VNDA LR LR 04 00 53.7
comp=Z,598nm,20.0s,MS4.9,baz=334,slow=34
MAW Mawson 77.60 201 P **P 03 29 30.2 -2.8**
comp=Z,1.6nm,0.6s,mb4.1,baz=37,slow=5.1,SNR=3.0
MAW LR LR 04 02 23.6
comp=Z,298nm,19.4s,MS4.6,baz=214,slow=35
AB31 Akbulak array 77.72 322 *i*P **P 03 29 32.2 -1.5**
AB31 pmax pmax
comp=Z,14nm,1.3s,mb4.7
AKTK Aktyubinsk 79.28 323 P **P 03 29 41.1 -1.2**
AKTO Aktyubinsk 79.28 323 P **P 03 29 41.1 -1.2**
comp=Z,3.2nm,0.9s,mb4.2,baz=103,slow=3.1,SNR=11
ARU Arti 80.92 328‖ *i*P **P 03 29 49.6 -1.5**
ARU *e* 03 32 54.0
ARU *e*PPP 03 34 47.4
ARU *e*S S 03 39 56.4 -0.2
ARU *e*SS SS 03 45 12.3 +1.2
ARU pmax pmax
comp=Z,12nm,1.6s,mb4.6
ORR Orenburg 81.59 323⇑ *i*P **P 03 29 55.6 +0.9**
ORR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
PPT Papeete 82.62 107 *e*SS SS 03 45 43.8 +7.3
comp=Z,178nm,24.0s
PPT *e*LR LR 03 56 15.2
comp=Z,463nm,37.0s
TBI Tubuai 82.67 113 *e*SS SS 03 45 45.6 +8.3
comp=Z,89nm,24.5s
TBI *e*LR LR 03 56 12.2
comp=Z,281nm,25.0s
MAK Makhachkala 84.55 313 *i*P **P 03 30 07.4 -2.6**
MAK *i* 03 33 27.6
MAK *i* PPP 03 35 23.6
MAK *e*S 03 40 28.4
MAK *e*SS SS 03 45 57.8 -7.2
MAK *e*SSS 03 49 30.7
MAK pmax pmax
comp=Z,43nm,0.8s,mb5.6
GNI Garni 86.20 310 *e*P **P 03 30 18.2 0.0**
GNI pmax pmax
comp=Z,11nm,1.7s
QSPA South Pole Qui 86.89 180 *e*P **P 03 30 18.7 -2.9**
comp=Z,12nm,0.7s,mb5.2
MSL Mosul 87.05 306 *ex* x 03 30 29.5
KDAK Kodiak Island 87.35 32 LR LR 04 03 59.0
comp=Z,270nm,22.0s,MS4.6,baz=268,slow=32
KIV Kislovodsk 88.16 314 *e*P **P 03 30 27.4 -0.3**
KIV *e* 03 33 54.7
KIV *e* 03 40 52.6
KIV *e*SS SS 03 46 59.1 +1.2
KIV pmax pmax
comp=Z,20nm,0.6s,mb5.5
KMBO Kilima Mbogo 89.90 269 LR LR 04 06 58.1
comp=Z,415nm,20.8s,MS4.8,baz=91,slow=33
KMBO Kilima Mbogo 89.90 269‖ *e*P **P 03 30 38.0 +2.2**
SOC Sochi 90.27 313 *e*P **P 03 30 38.2 +0.6**
SOC *e* 03 34 08.6
SOC *e*PPP 03 36 11.3
SOC *e*S 03 41 05.9
SOC *e* 03 41 34.0
SOC *e* 03 42 29.1
SOC MLR MLR
comp=Z,116nm,22.0s,MS4.3
ASF Jabal al Asfar 91.88 302 LR LR 04 19 46.3
comp=Z,98nm,18.1s,MS4.3,baz=295,slow=41
MMAI Mount Meron Ar 93.17 303 LR LR 04 21 58.7
comp=Z,98nm,18.4s,MS4.3,baz=60,slow=42
DAWY Dawson 94.23 26 *e*P **P 03 30 56.0 +0.1**
BRTR Keskin Array B 94.69 309 LR LR 04 19 38.1
comp=Z,104nm,20.7s,MS4.3,baz=308,slow=39
RKT Rikitea 95.99 113 *e*LR LR 04 02 22.7
comp=Z,378nm,30.2s
INK Inuvik 96.26 22 LR LR 04 16 06.1
comp=Z,98nm,19.6s,MS4.3,baz=84,slow=36
ARCES ARCESS Array B 96.95 340 P **P 03 31 06.6 -1.7**
comp=Z,2.7nm,0.9s,mb4.7,baz=54,slow=11,SNR=5.4
ARCES LR LR 04 20 12.4
comp=Z,177nm,20.2s,MS4.5,baz=98,slow=39
ARCES ARCESS Array B 96.95 340 P **P 03 31 06.6 -1.7**
ARCES LR LR 04 20 12.3
AKASG Malin Array Be 97.42 321 LR LR 04 19 41.0
comp=Z,90nm,20.8s,MS4.2,baz=25,slow=38
BOSA Boshof 99.01 241 P **P 03 31 18.4 +0.9**
comp=Z,3.9nm,1.0s,mb4.9,baz=129,slow=6.5,SNR=3.6
BOSA LR LR 04 07 14.1
comp=Z,158nm,21.1s,MS4.5,baz=273,slow=30
CLL Collm 107.36 323 *e*PP PP 03 36 20.0 -2.2
CLL *e*PPP 03 38 48.0
CLL *e*pSKSac 03 42 45.0
CLL *e*pSKSdf 03 43 34.0
CLL *e*PS PS 03 45 45.0 +1.0
CLL *e*SPP 03 46 37.0
CLL *e*SSP 03 51 42.0
CLL *e*SSS 03 55 30.0
GERES GERESS Array B 107.64 321 PKiKP PKiKP 03 36 03.2 -0.5
comp=Z,0.2nm,0.5s,baz=47,slow=4.7,SNR=2.6
BW06 Boulder Array 116.03 43 *e*PKPdf PKPdf 03 36 20.6 +0.9
PDAR Pinedale Array 116.04 43 PKP PKPdf 03 36 20.8 +1.1
comp=Z,0.4nm,0.6s,baz=82,slow=2.1,SNR=4.1
RSSD Black Hills 119.15 40 *e*PKIKP PKPdf 03 36 25.6 0.0
ULM Lac du Bonnet 120.59 31 PKP PKPdf 03 36 27.6 -0.7
comp=Z,0.6nm,0.4s,baz=333,slow=3.9,SNR=4.1
ULM Lac du Bonnet 120.59 31 *e*PKPdf PKPdf 03 36 27.9 -0.5
ANMO Albuquerque 121.08 51 *i*PKIKP PKPdf 03 36 29.4 +0.1
ANMO Albuquerque 121.08 51 *e*PKPdf PKPdf 03 36 29.1 -0.2
TORD Torodi Ar. Bea 125.25 284 PKP PKPdf 03 36 37.5 +0.1
comp=Z,1.8nm,0.8s,baz=55,slow=1.1,SNR=20
JCT Junction City 127.92 53 *e*PKIKP PKPdf 03 36 43.6 +1.2
WCI Wyandotte Cave 133.51 37 *e*PKIKP PKPdf 03 36 53.3 +0.3
LRAL Lakeview Retre 136.26 43 *e*PKPdf PKPdf 03 36 59.6 +1.4
JTS JuntasAbangare 147.28 76 *e*PKP2 PKPab 03 37 21.6 -0.4
LVC Limon Verde 150.02 149 *e*PKPbc PKPbc 03 37 28.8 +1.6
CPUP Villa Florida 150.45 172 *e*PKIKP PKPdf 03 37 27.8 +4.9
LPAZ La Paz 155.51 142 PKP PKPdf 03 37 32.7 +2.5
comp=Z,1.0nm,0.7s,baz=243,slow=1.8,SNR=5.3
LPAZ La Paz 155.51 142 PKIKP PKPdf 03 37 32.7 +2.5
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 155.51 142 PKP PKPdf 03 37 32.7 +2.5

NIED ***29*** *03:19:00,3630N×13890E,h125km,Mw3.7 Best double couple: M0=3.92000×10^14 NP1:φ=105.00000°,δ=63.00000°, λ=-73.00000°. NP2:φ=250.00000°,δ=32.00000°, λ=-121.00000°.*
ISCJB ***29*** *03:19:16.1±0.4,3633N±003×13881E±006,h145km±2km, mb3.6/10, Error ellipse: s-maj=7.7km s-min=5.7km az=167.6*
IDC ***29*** *03:19:16.8±0.7,3640N×13882E,h136km±4km,mb3.4/7, mb1 3.6/9,mb1mx3.4/22,mbtmp3.9/9, Error ellipse: s-maj=22.9km s-min=9.7km az=74.0*
JMA ***29*** *03:19:17.5±0.1,3630N×13887E,h137km±1km,M3.5*
NEIC ***29*** *03:19:17.2±0.7,3627N×13870E,h143km±3km,mb3.8/4, Error ellipse: s-maj=21.3km s-min=14.9km az=70.0*
ISC 29 03:19:17.1±0.4,3634N±003×13882E±006,h142km±2km, n33,σ0=65/50,mb3.6/10,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGK	**Kuni**	**0.27**	**328**	P	**Pn**	**03 19 36.9**	**+0.3**
JGK				S	**Sn**	**03 19 51.8**	**+0.4**
JRY	**Ryogami san**	**0.33**	**168**	P	**Pn**	**03 19 36.7**	**-0.1**
JRY				S	**Sn**	**03 19 51.2**	**-0.6**
JAG	**Ashikaga**	**0.52**	**80**	P	**Pn**	**03 19 37.4**	**-0.3**
JAG				S	**Sn**	**03 19 52.1**	**-1.2**
MJAR	**Matsushiro Arr**	**0.53**	**293**	P	**Pn**	**03 19 37.4**	**-0.4**
	125nm,0.3s,baz=103,slow=3.3,SNR=754						
MJAR				S	**Sn**	**03 19 52.8**	**-0.6**
	92nm,0.3s,baz=56,slow=11,SNR=57						
MAJO	**Matsushiro**	**0.53**	**293**	*e*Pn	**Pn**	**03 19 37.5**	**-0.2**
MAJO				*e*Sn	**Sn**	**03 19 53.0**	**-0.4**
MAT	**Matsushiro**	**0.53**	**293**	P	**Pn**	**03 19 37.7**	**-0.1**
MAT				S	**Sn**	**03 19 53.1**	**-0.3**
MAT	**Matsushiro**	**0.53**	**293**	*e*P	**Pn**	**03 19 38.0**	**+0.2**
MAT				*e*S	**Sn**	**03 19 53.0**	**-0.4**
JKT	**Katashina**	**0.55**	**39**	P	**Pn**	**03 19 38.1**	**+0.2**
JKT				S	**Sn**	**03 19 53.3**	**-0.3**
JYN	**Shimob**	**0.87**	**195**	P	**Pn**	**03 19 39.8**	**-0.2**
JYN				S	**Sn**	**03 19 57.6**	**+0.2**
JOD2	**Odawara 2**	**1.09**	**168**	P	**Pn**	**03 19 41.4**	**-0.6**
JOD2				S	**Sn**	**03 20 00.3**	**-0.6**
JNS	**Sasagawa**	**1.53**	**15**	P	**Pn**	**03 19 47.1**	**+0.7**
JSZ	**Suzu**	**1.61**	**314**	P	**Pn**	**03 19 47.6**	**+0.3**
JSZ				S	**Sn**	**03 20 10.8**	**+0.5**
JIM2	**Oshima 3**	**1.69**	**163**	P	**Pn**	**03 19 47.8**	**-0.4**
JSD	**Sado**	**1.75**	**345**	P	**Pn**	**03 19 49.3**	**+0.4**
JSD				S	**Sn**	**03 20 13.5**	**+0.2**
JGM	**Miyama**	**1.82**	**250**	P	**Pn**	**03 19 50.4**	**+0.8**
JGM				S	**Sn**	**03 20 15.1**	**+0.6**
JHG	**Hegura jima**	**2.14**	**315**	P	**Pn**	**03 19 53.9**	**+0.5**
JAW	**Awa shima**	**2.14**	**9**	P	**Pn**	**03 19 54.3**	**+0.8**
JMM	**Marumori**	**2.20**	**45**	P	**Pn**	**03 19 55.0**	**+0.9**
JMM				S	**Sn**	**03 20 23.8**	**+1.3**
JHJ	**Hachijo jima 2**	**3.31**	**166**	P	**Pn**	**03 20 08.7**	**+0.6**
	59nm,0.3s,baz=239,slow=6.2,SNR=25						
JHJ				S	**Sn**	**03 20 49.2**	**+1.6**
	30nm,0.3s,baz=90,slow=20,SNR=4.1						
ASAJ	**Asahikawa**	**8.29**	**19**	P	**Pn**	**03 21 12.7**	**-1.6**
	1.6nm,0.3s,baz=230,slow=14,SNR=12						
ASAJ				S	**Sn**	**03 22 42.8**	**-3.6**
	0.3nm,0.3s,baz=286,slow=20,SNR=2.3						
CBIJ	**Chichi jima**	**9.65**	**162**	P	**Pn**	**03 21 27.6**	**-4.9**
	2.1nm,0.3s,baz=79,slow=17,SNR=4.2						
CBIJ				S	**Sn**	**03 23 06.0**	**-13**
	2.7nm,0.3s,baz=254,slow=20,SNR=2.7						
MKAR	**Makanchi Array**	**42.73**	**302**	P	**P**	**03 26 59.7**	**-0.3**
	0.6nm,0.6s,mb3.4,baz=90,slow=9.6,SNR=5.1						
MKAR	**Makanchi Array**	**42.73**	**302**	P	**P**	**03 26 59.7**	**-0.3**
KURK	**Kurchatov**	**44.72**	**308**	*e*P	**P**	**03 27 15.7**	**-0.3**
	2.9nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**49.27**	**313**	*e*P	**P**	**03 27 50.5**	**-0.7**
	0.8nm,0.5s,mb3.6						
ZRNK	**Zerenda**	**50.34**	**312**	*e*P	**P**	**03 27 59.1**	**-0.2**
	0.7nm,0.3s,mb3.8						
WRA	**Warramunga Arr**	**56.13**	**185**	P	**P**	**03 28 41.2**	**-0.5**
	0.9nm,0.4s,mb3.9,baz=360,slow=7.5,SNR=5.0						
ARCES	**ARCESS Array B**	**63.91**	**339**	P	**P**	**03 29 34.5**	**-0.2**
	1.2nm,0.7s,mb3.8,baz=66,slow=7.0,SNR=3.2						
YKA	**Yellowknife Ar**	**65.45**	**29**	P	**P**	**03 29 45.1**	**+0.4**
	0.5nm,0.7s,mb3.5,baz=303,slow=6.0,SNR=5.3						
FINES	**FINESS Array B**	**68.45**	**332**	P	**P**	**03 30 03.4**	**-0.3**
	0.6nm,0.4s,mb3.6,baz=56,slow=7.8,SNR=6.3						
NB2	**NORSAR Subarra**	**74.00**	**336**	P	**P**	**03 30 36.7**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.4,baz=42,slow=6.2						
NOA	**NORSAR Array B**	**74.00**	**336**	P	**P**	**03 30 36.5**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=40,slow=5.9,SNR=4.4						
BRTR	**Keskin Array B**	**77.73**	**310**	P	**P**	**03 30 59.1**	**+0.8**
	comp=Z,0.2nm,0.3s,mb3.2,baz=62,slow=6.7,SNR=2.6						

ISC 29 03:33:29.6±0.6,3753N±004×3868E±005,h10km,n7, σ0=84/11,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.14**	**127**	*i*PG	**Pg**	**03 33 32.0**	**-0.8**
URFA				*i*SG	**Sg**	**03 33 34.5**	**-0.5**
ATAB	**Bozova**	**0.31**	**260**	*i*P	**Pg**	**03 33 35.7**	**-0.2**
ATAB				*i*S	**Sg**	**03 33 40.4**	**+0.3**
MYA	**Malataya**	**0.82**	**346**	*e*PG	**Pg**	**03 33 44.9**	**-0.7**
GZT	**Gaziantep**	**0.91**	**260**	*i*P	**Pg**	**03 33 47.9**	**+0.8**
GZT				*i*S	Sg	03 34 22.6	+24
ELZG	**Elazig**	**1.00**	**14**	*i*P	**Pg**	**03 33 47.7**	**-1.1**
ELZG				*i*S	**Sg**	**03 34 02.7**	**+0.8**
GAZ	**Gaziantep**	**1.23**	**254**	*e*PN	**Pn**	**03 33 52.9**	**+0.1**
MARD	**Mardin**	**1.68**	**97**	*i*P	**Pn**	**03 33 58.8**	**-0.3**
MARD				*i*S	**Sn**	**03 34 22.7**	**+2.0**

NEIC ***29*** *03:50:12.1,3642N×983W,h26km,MN2.7(MDD),After MDD.*
IGIL ***29*** *03:50:13.0,3640N×960W,h10km,ML2.8*
INMG ***29*** *03:50:13.3±0.9,3651N×964W,h5km±5km,ML2.4,Error ellipse: s-maj=5.1km s-min=2.5km az=57.0*
CSEM ***29*** *03:50:15.5±0.5,3659N×907W,h2km,ML2.4,Error ellipse: s-maj=9.4km s-min=5.2km az=42.0*
MDD 29 03:50:11.6±1.3,3650N×966W,h0km,mbLg2.6/31,Error ellipse: s-maj=10.9km s-min=7.9km az=47.0,PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.14**	**45**	*e*P	Pg	03 50 33.7	+0.3
MORF				*e*S	Sg	03 50 48.9	+0.6
MORF				*e*S	Sg	03 50 48.9	+0.6
MORF				AML	AML	03 50 50.9	
	comp=N,138nm,0.2s						
MORF	**Marmelete**	**1.14**	**45**	*e*P	Pg	03 50 33.7	+0.2
MORF				*e*S	Sg	03 50 48.9	+0.6
PTEO	**Sao Teotonio**	**1.28**	**36**	*e*P	Pg	03 50 36.0	-0.2
PTEO				*e*S	Sg	03 50 52.9	0.0
PTEO							
	comp=N,42nm,0.1s						
EGRO	**El Granado**	**2.03**	**59**	P	Pn	03 50 45.8	-1.2
	comp=N,0.7nm,0.1s,SNR=24						
EGRO				S	Sn	03 51 10.4	-2.5
	comp=N,18nm,0.1s,SNR=8.1						
EGRO	**El Granado**	**2.03**	**59**	P	Pn	03 50 45.8	-1.2
	comp=N,0.7nm,0.1s,SNR=24						
EGRO				S	Sn	03 51 10.4	-2.6
	comp=N,18nm,0.1s,SNR=8.1						
PBEJ	**Beja**	**2.09**	**43**	*e*Pn	Pn	03 50 46.8	-1.1
PBEJ				*e*Sn	Sn	03 51 12.0	-2.6
PBEJ							
	comp=N,11nm,0.1s						
MOE	**Montemor**	**2.27**	**27**	*e*Pn	Pn	03 50 49.7	-0.6
MOE				*e*Sn	Sn	03 51 17.1	-1.9
PLOU	**Loures**	**2.41**	**10**	*e*Pn	Pn	03 50 51.1	-1.2
PLOU				*e*Sn	Sn	03 51 20.2	-2.3
PLOU							
	comp=N,39nm,0.1s						
PLOU	**Loures**	**2.41**	**10**	*e*Pn	Pn	03 50 51.1	-1.2
PLOU				*e*Sn	Sn	03 51 20.2	-2.3
EMIN	**Mina Concepcio**	**2.70**	**61**	P	Pn	03 50 54.8	-1.4
	comp=N,0.8nm,0.1s,SNR=9.1						
EMIN				S	Sn	03 51 26.5	-3.2
	comp=N,1.1nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**2.70**	**61**	P	Pn	03 50 54.8	-1.5
	comp=N,0.8nm,0.1s,SNR=9.1						
EMIN				S	Sn	03 51 26.5	-3.2
	comp=N,1.1nm,0.1s,SNR=11						
EBAD	**Badajoz**	**3.08**	**42**	P	Pn	03 51 00.1	-1.3
	comp=N,1.1nm,0.1s,SNR=13						
EBAD				S	Sn	03 51 35.9	-3.1
	comp=N,4.0nm,0.1s,SNR=10.0						
EBAD	**Badajoz**	**3.08**	**42**	P	Pn	03 51 00.1	-1.4
	comp=N,1.1nm,0.1s,SNR=13						
EBAD				S	Sn	03 51 35.9	-3.1
	comp=N,4.0nm,0.1s,SNR=10.0						
ESPR	**Espera**	**3.08**	**82**	P	Pn	03 51 00.1	-1.4
	comp=N,1.6nm,0.1s,SNR=5.1						
ESPR				S	Sn	03 51 34.6	-4.4
	comp=N,50nm,0.4s,SNR=5.5						
ESPR	**Espera**	**3.08**	**82**	P	Pn	03 51 00.1	-1.4
ESPR				S	Sn	03 51 34.6	-4.4
ESPR	**Espera**	**3.08**	**82**	P	Pn	03 51 00.1	-1.4
	comp=N,1.6nm,0.1s,SNR=5.1						
ESPR				S	Sn	03 51 34.6	-4.4
	comp=N,50nm,0.4s,SNR=5.5						
PTOM	**Tomar**	**3.26**	**17**	*e*Pn	Pn	03 51 02.8	-1.2
PTOM				*e*Sn	Sn	03 51 39.9	-3.6
PTOM							
	comp=N,8.3nm,0.1s						
PTOM	**Tomar**	**3.26**	**17**	*e*Pn	Pn	03 51 02.8	-1.2
PTOM				*e*Sn	Sn	03 51 39.9	-3.6
EJIF	**Jimena Fronter**	**3.38**	**90**	S	Sn	03 51 42.9	-3.5
	comp=N,1.2nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**3.75**	**27**	*e*Pn	Pn	03 51 09.9	-0.8
PCBR				*e*Sn	Sn	03 51 51.5	-4.1
PCBR							
	comp=N,4.0nm,0.2s						
EMIJ	**Mijas**	**3.94**	**88**	S	Sn	03 51 55.5	-4.7
	comp=N,1.6nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.23**	**22**	*e*Pn	Pn	03 51 15.9	-1.4
MTE				*e*Sn	Sn	03 52 02.8	-4.6
MTE							
	comp=N,6.7nm,0.3s						
EADA	**Adamuz**	**4.38**	**66**	P	Pn	03 51 18.2	-1.1
	comp=N,1.1nm,0.1s,SNR=7.8						
EADA				S	Sn	03 52 06.4	-4.7
	comp=N,1.7nm,0.1s,SNR=5.7						
EADA	**Adamuz**	**4.38**	**66**	P	Pn	03 51 18.2	-1.1
	comp=N,1.1nm,0.1s,SNR=7.8						
EADA				S	Sn	03 52 06.4	-4.7
	comp=N,1.7nm,0.1s,SNR=5.7						
PVIS	**Viseu**	**4.43**	**18**	*e*Pn	Pn	03 51 18.5	-1.5
PVIS				*e*Sn	Sn	03 52 08.3	-4.0
PVIS							
	comp=N,8.0nm,0.1s						
ELOJ	**Sierra Loja**	**4.47**	**80**	P	Pn	03 51 19.4	-1.1
	comp=N,0.5nm,0.1s,SNR=4.0						
EBAN	**Banos Encina**	**4.97**	**69**	P	Pn	03 51 26.2	-1.3
	comp=N,0.1nm,0.2s,SNR=7.9						
EBAN				S	Sn	03 52 20.6	-5.0
	comp=N,1.2nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**5.00**	**17**	*e*Pn	Pn	03 51 26.4	-1.5
PVRL				*e*Sn	Sn	03 52 20.5	-5.9
PVRL							
	comp=N,10nm,0.1s						
EQUE	**Quentar**	**5.04**	**80**	P	Pn	03 51 26.8	-1.6
	comp=N,0.3nm,0.2s,SNR=4.0						
EQUE				S	Sn	03 52 23.4	-4.0
	comp=N,1.2nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**5.35**	**13**	*e*Pn	Pn	03 51 31.3	-1.4
PCAB				*e*Sn	Sn	03 52 30.5	-4.6
PCAB							
	comp=N,3.3nm,0.1s						
EALB	**Alboran**	**5.39**	**94**	P	Pn	03 51 32.4	-0.8
EALB	**Alboran**	**5.39**	**94**	P	Pn	03 51 32.4	-0.8
EQES	**Quesada**	**5.42**	**74**	P	Pn	03 51 32.5	-1.2
	comp=N,0.2nm,0.2s,SNR=7.9						
EQES				S	Sn	03 52 31.4	-5.3
	comp=N,2.5nm,0.2s,SNR=6.7						
EQES	**Quesada**	**5.42**	**74**	P	Pn	03 51 32.5	-1.2
	comp=N,0.2nm,0.2s,SNR=7.9						
EQES				S	Sn	03 52 31.4	-5.4
	comp=N,2.5nm,0.2s,SNR=6.7						
ESDC	**Sonseca Array**	**5.50**	**53**	P	Pn	03 51 33.5	-1.2
	comp=N,0.9nm,0.1s,baz=235,slow=14,SNR=6.3						
ESDC				S	Sn	03 52 34.2	-4.4
	comp=N,1.3nm,0.2s,baz=240,slow=24,SNR=13						
ESDC	**Sonseca Array**	**5.50**	**53**	P	Pn	03 51 33.5	-1.2
	comp=N,0.9nm,0.1s,SNR=6.3						
ESDC				S	Sn	03 52 34.2	-4.4
	comp=N,1.3nm,0.2s,SNR=13						
ELOB	**Lobios**	**5.50**	**13**	P	Pn	03 51 33.1	-1.6
	comp=N,0.3nm,0.0s,SNR=11						
ELOB				S	Sn	03 52 32.3	-6.3
	comp=N,2.8nm,0.1s,SNR=8.0						
ELOB	**Lobios**	**5.50**	**13**	P	Pn	03 51 33.1	-1.6
	comp=N,0.3nm,0.0s,SNR=11						
EMEL	**Melilla**	**5.57**	**100**	S	Sn	03 52 34.6	-5.8
	comp=N,19nm,0.3s,SNR=7.9						
EMLI	**Melilla**	**5.58**	**100**	S	Sn	03 52 34.6	-6.0
	comp=N,19nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**5.76**	**22**	*e*Pn	Pn	03 51 36.9	-1.4
PBRG				*e*Sn	Sn	03 52 39.2	-5.9
PBRG							
	comp=N,1.7nm,0.2s						
ECAL	**Calabor**	**5.89**	**22**	P	Pn	03 51 39.1	-0.9
	comp=N,0.5nm,0.1s,SNR=6.3						
ECAL				S	Sn	03 52 43.3	-4.9
	comp=N,4.3nm,0.3s,SNR=7.6						
GUD	**Guadarrama**	**5.98**	**45**	P	Pn	03 51 40.4	-0.9
	comp=N,0.1nm,0.1s,SNR=7.9						
GUD				S	Sn	03 52 46.3	-4.1
	comp=N,1.1nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**5.98**	**45**	P	Pn	03 51 40.4	-0.9
GUD				S	Sn	03 52 46.3	-4.1
EVIA	**Vianos**	**6.07**	**67**	S	Sn	03 52 46.4	-6.4
	comp=N,1.6nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**6.20**	**18**	P	Pn	03 51 43.0	-1.3
EMAZ	**M

comp=N,3.2nm,0.1s,SNR=11
EMAZ S Sn 03 52 53.9 -8.4
comp=N,3.2nm,0.1s,SNR=5.4
ETOB Tobarra 6.79 69 P Pn 03 51 50.7 -1.8
comp=N,0.9nm,0.4s,SNR=4.0
ETOB S Sn 03 53 04.1 -6.4
comp=N,0.5nm,0.1s,SNR=7.9
ETOB Tobarra 6.79 69 P Pn 03 51 50.7 -1.8
comp=N,0.9nm,0.4s,SNR=4.0
ETOB S Sn 03 53 04.1 -6.4
comp=N,0.5nm,0.1s,SNR=7.9
EPON Pontenova 7.08 15 P Pn 03 51 53.1 -3.4
comp=N,0.2nm,0.1s,SNR=7.9
EPON S Sn 03 53 11.4 -6.3
comp=N,0.7nm,0.2s,SNR=7.9
ETOR Torete 7.35 52 P Pn 03 52 00.2 +0.1
comp=N,0.2nm,0.2s,SNR=7.9
ETOR S Sn 03 53 17.1 -7.1
comp=N,0.4nm,0.2s,SNR=7.9
EARI Arriondas 7.60 25 P Pn 03 52 05.3 +1.7
comp=N,0.1nm,0.2s,SNR=7.9
EARI S Sn 03 53 26.7 -3.7
comp=N,0.1nm,0.2s,SNR=4.0
EARI Arriondas 7.60 25 P Pn 03 52 05.3 +1.7

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*NEIC **29** 04:09:44.0±4.4, 3585N×7124E, h61km±32km, mb3.7/2, Error ellipse: s-maj=36.8km s-min=18.7km az=176.0*
*IDC **29** 04:09:45.6±7.7, 3592N×7128E, h73km±60km, mb3.6/7, mb1 3.7/10, mb1mx3.5/23, mbtmp3.8/10, ML3.9/2, MS2.7/2, Ms1 2.7/2, ms1mx2.6/27, Error ellipse: s-maj=56.9km s-min=33.6km az=152.0*
*ISCJB **29** 04:09:52.7±0.7, 3649N±004×7142E±009, h127km±10km, mb3.7/6, Error ellipse: s-maj=11.6km s-min=6.6km az=149.4*
*NNC **29** 04:10:01.3±4.0, 3711N×7114E, h190km±41km, mb2.7, mpv3.4, Error ellipse: s-maj=36.0km s-min=24.3km az=29.0*

ISC 29 04:09:53.7±0.6, 3647N±004×7139E±008, h131km±9km, n33, σ1§23/35, mb3.6/6, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.67**	**171**	⇑P	**Pn**	**04 10 36.9**	**+0.8**
CHCP	**Chirah Chowk**	**3.19**	**151**	P	**Pn**	**04 10 44.7**	**+1.8**
THW	**Thamme Wali**	**3.67**	**175**	P	**Pn**	**04 10 49.5**	**+0.3**
DRP	**Derazinda**	**4.81**	**192**	P	**Pn**	**04 11 04.5**	**+0.2**
KK31	**Karatay Array**	**6.66**	**354**	P	**Pn**	**04 11 28.1**	**-1.0**
	6.0nm,0.3s,baz=177,slow=12,SNR=194						
KK31				⇑S	**Sn**	**04 12 37.9**	**-5.8**
	3.3nm,0.3s,baz=159,slow=19,SNR=5.8						
TKM2	**Tokmak 2**	**7.21**	**25**	⇑P	**Pn**	**04 11 37.7**	**+1.1**
	0.3nm,0.5s						
TKM2				⇓S	**Sn**	**04 12 55.8**	**-1.3**
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**13.13**	**35**	P	**Pn**	**04 12 55.8**	**+0.5**
	0.3nm,0.3s,baz=198,slow=6.8,SNR=3.2						
KOLN	**Koldanda**	**13.49**	**127**	*e*P	**Pn**	**04 12 58.2**	**-1.6**
	4.4nm,0.2s						
GKN	**Gorkha**	**14.02**	**123**	*e*P	**Pn**	**04 13 05.1**	**-1.5**
	11nm,0.4s						
DMN	**Daman**	**14.59**	**123**	*e*P	**Pn**	**04 13 13.3**	**-0.5**
	8.8nm,0.4s						
KKN	**Kakani**	**14.59**	**122**	*e*P	**Pn**	**04 13 13.1**	**-0.7**
PKI	**Pulchoki**	**14.82**	**123**	*e*P	**Pn**	**04 13 16.8**	**+0.1**
	10nm,0.4s						
GUN	**Gumba**	**14.93**	**121**	*e*P	**Pn**	**04 13 17.6**	**-0.4**
	11nm,0.3s						
KURK	**Kurchatov**	**15.16**	**18**	Pn	**Pn**	**04 13 21.2**	**+0.2**
AB31	**Akbulak array**	**15.27**	**330**	⇓P	**Pn**	**04 13 19.7**	**-2.6**
	1.9nm,0.3s,baz=139,slow=13,SNR=106						
AB31				⇑S	**S**	**04 16 00.8**	**-18**
	1.2nm,0.6s,baz=162,slow=22,SNR=5.3						
JIRN	**Jiri**	**15.30**	**121**	*e*P	**Pn**	**04 13 22.7**	**+0.1**
	19nm,0.3s						
ZRNK	**Zerenda**	**16.57**	**355**	*e*P	**Pn**	**04 13 41.0**	**+2.7**
	1.5nm,0.4s						
BVAR	**Borovoye Array**	**16.57**	**358**	P	**Pn**	**04 13 39.7**	**+1.4**
	baz=154,slow=12,SNR=4.1						
AKTK	**Aktyubinsk**	**16.97**	**330**	P	**Pn**	**04 13 41.9**	**-1.3**
AKTO	**Aktyubinsk**	**16.97**	**330**	⇑P	**Pn**	**04 13 40.2**	**-2.9**
AKTO				⇓S	**S**	**04 16 39.7**	**-12**
AKTO	**Aktyubinsk**	**16.97**	**330**	P	**Pn**	**04 13 41.9**	**-1.3**
	0.7nm,0.3s,baz=144,slow=11,SNR=9.3						
WSAR	**Wadi Sarin**	**17.19**	**223**	LR	LR	04 20 55.7	
	comp=Z,79nm,18.8s,baz=147,slow=40						
ZAL	**Zalesovo**	**19.80**	**24**	P	**P**	**04 14 16.3**	**+2.5**
	3.8nm,0.3s,baz=236,slow=4.2,SNR=6.9						
FINES	**FINESS Array B**	**37.69**	**326**	P	**P**	**04 16 57.3**	**+1.0**
	3.1nm,1.1s,mb3.8,baz=122,slow=10,SNR=4.6						
ARCES	**ARCESS Array B**	**41.30**	**338**	P	**P**	**04 17 27.4**	**+1.2**
	0.8nm,0.5s,mb3.6,baz=112,slow=7.8,SNR=11						
NB2	**NORSAR Subarra**	**44.60**	**323**	P	**P**	**04 17 53.4**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.6,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.60**	**323**	P	**P**	**04 17 53.5**	**+0.7**
	comp=Z,0.9nm,0.5s,mb3.6,baz=96,slow=7.8,SNR=7.4						
NOA	**NORSAR Array B**	**44.60**	**323**	P	**P**	**04 17 53.5**	**+0.7**
TGY	**Tagaytay City**	**49.40**	**104**	LR	LR	04 41 51.3	
	comp=Z,2.9nm,18.7s,baz=18,slow=39						
TORD	**Torodi Ar. Bea**	**66.03**	**269**	P	**P**	**04 20 24.4**	**-1.9**
	comp=Z,0.2nm,0.6s,mb3.1,baz=49,slow=5.9,SNR=9.6						
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	**04 21 56.3**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.0,baz=349,slow=5.7,SNR=4.6						
ULM	**Lac du Bonnet**	**92.93**	**352**	P	**P**	**04 22 51.9**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.3,baz=5.3,slow=7.2,SNR=4.8						
ULM	**Lac du Bonnet**	**92.93**	**352**	P	**P**	**04 22 51.9**	**0.0**

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*THR **29** 04:28:29.3±0.5, 3461N×5420E, h16km±8km, ML3.1*
*CSEM **29** 04:28:29.8±0.2, 3454N×5421E, h16km, ML3.7, Error ellipse: s-maj=3.7km s-min=2.8km az=125.0*
*TEH **29** 04:28:30.7, 3449N×5420E, h6km, Mn3.7*
*ISCJB **29** 04:28:31.7±0.9, 3462N±005×5429E±009, h16km, Error ellipse: s-maj=11.0km s-min=7.1km az=43.9*

ISC 29 04:28:29.4±1.4, 3450N±006×5425E±010, h0km±12km, n14, σ0§50/19, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjiloo**	**1.00**	**344**	*e*Pg	**Pg**	**04 28 48.7**	**+0.2**
ISHM	**Shahmirzad**	**1.52**	**329**	*e*Pn	**Pn**	**04 28 58.1**	**+0.4**
ISHM				*e*Sn	**Sn**	**04 29 18.3**	**+0.1**
IFIR	**Firoozkooh**	**1.67**	**313**	*e*Pn	**Pn**	**04 28 59.7**	**-0.2**
IKIA	**Kiasar**	**1.76**	**345**	*e*Pn	**Pn**	**04 29 01.4**	**+0.3**
NASN	**Na'in**	**2.08**	**216**	*e*PG	**Pg**	**04 29 08.4**	**-0.9**
NASN				*e*SG	**Sg**	**04 29 37.2**	**+0.8**
NASN				AML	AML	04 29 39.0	
	comp=N,135nm,0.4s						
NASN				AML	AML	04 29 45.6	
	comp=E,132nm,0.3s						
NASN	**Na'in**	**2.08**	**216**	*e*Pg	**Pg**	**04 29 08.4**	**-0.9**
	SNR=90						
NASN				*e*Sg	**Sg**	**04 29 37.2**	**+0.8**
	SNR=90						
IDMV	**Damavand**	**2.11**	**301**	*e*Pn	**Pn**	**04 29 06.3**	**+0.4**
IVRN	**Varamin**	**2.14**	**284**	*e*Pn	**Pn**	**04 29 06.1**	**-0.1**
IAFJ	**Afjeh**	**2.48**	**304**	*e*Pn	**Pn**	**04 29 11.1**	**+0.1**
CHTH	**Charan**	**2.92**	**300**	*e*PN	**Pn**	**04 29 16.4**	**-0.6**
CHTH				AML	AML	04 30 08.1	
	comp=E,44nm,0.7s						
CHTH				AML	AML	04 30 09.8	
	comp=N,47nm,0.7s						
MRVT	**Maraveh tapeh**	**3.48**	**25**	*e*Pn	**Pn**	**04 29 24.0**	**-0.7**
ASAO	**Ashtian**	**3.49**	**272**	*e*PN	**Pn**	**04 29 24.5**	**-0.4**
ASAO				*e*SG	**Sg**	**04 30 16.7**	**-4.8**
ASAO				AML	AML	04 30 28.1	
	comp=E,57nm,0.5s						
ASAO				AML	AML	04 30 37.1	
	comp=N,38nm,0.5s						
ASAO	**Ashtian**	**3.49**	**272**	*e*Pn	**Pn**	**04 29 24.5**	**-0.4**
	SNR=52						
ASAO				*e*Sg	**Sg**	**04 30 16.7**	**-4.8**
	SNR=90						
ISFR	**Esferayen**	**3.96**	**49**	*e*Pn	**Pn**	**04 29 31.9**	**+0.6**

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*ISCJB **29** 04:47:46.5±2.4, 1889S±009×694W±04, h144km±10km, mb3.7/2, Error ellipse: s-maj=67.7km s-min=9.3km az=19.7*
*NEIC **29** 04:47:46.4±2.2, 1875S×6968W, h146km±12km, mb3.9/1, Error ellipse: s-maj=55.6km s-min=12.8km az=103.0*
*IDC **29** 04:47:48.4±7.3, 1859S×6959W, h159km±45km, mb3.7/3, mb1 3.6/4, mb1mx3.4/17, mbtmp4.1/4, Error ellipse: s-maj=76.8km s-min=62.9km az=42.0*

ISC 29 04:47:47.7±2.3, 1888S±009×695W±04, h136km±10km, n8, σ0§75/11, mb3.7/2, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.87**	**26**	P	**Pn**	**04 48 32.8**	**0.0**
	16nm,0.3s,baz=194,slow=7.4,SNR=652						
LPAZ				S	**Sn**	**04 49 07.5**	**-0.1**
	0.9nm,0.3s,baz=7.3,slow=18,SNR=3.8						
LPAZ	**La Paz**	**2.87**	**26**	P	**Pn**	**04 48 32.8**	**0.0**
LPAZ				S	**Sn**	**04 49 07.5**	**-0.1**
LVC	**Limon Verde**	**3.75**	**172**	*e*Pn	**Pn**	**04 48 45.1**	**+0.9**
LVC				*e*Sn	**Sn**	**04 49 26.9**	**-1.1**
SAML	**Samuel**	**11.59**	**32**	*e*Pn	**Pn**	**04 50 23.6**	**-5.3**
TRQA	**Tornquist**	**20.19**	**163**	*e*P	**P**	**04 52 12.4**	**+0.9**
	3.9nm,0.8s						
BDFB	**Brasilia**	**20.72**	**84**	P	**P**	**04 52 17.9**	**+0.7**
	3.7nm,0.4s,baz=259,slow=7.8,SNR=14						
DBIC	**Dimbokro**	**68.50**	**75**	P	**P**	**04 58 34.8**	**-0.4**
	2.1nm,0.6s,mb4.0,baz=216,slow=8.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.97**	**71**	P	**P**	**04 59 24.2**	**-1.0**
	0.5nm,0.5s,mb3.5,baz=254,slow=5.2,SNR=22						

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*TIF **29** 05:35:08.0, 4303N×4420E, h2km±1km*

MOS 29 05:35:05.9±2.4, 4292N×4454E, h15km, mb3.8/1, 5C-2D, Error ellipse: s-maj=16.8km s-min=8.4km az=123.4, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.20**	**241**	⇑*i*PG	Pg	05 35 14.8	+4.2
LACR				*i* S	Sg	05 35 17.4	+3.7
ARNR	**Ardon**	**0.33**	**325**	⇑*i*PG	Pg	05 35 11.9	-0.8
KORR	**Kora**	**0.38**	**296**	⇑*i*PG	Pg	05 35 11.4	-2.2
BTKR	**Batakoyurt**	**0.45**	**1**	*e*PG	Pg	05 35 15.8	+0.9
BTKR				*e*S	Sg	05 35 22.6	+1.7
KMSR	**Komsomolskaya**	**0.48**	**338**	*e*PG	Pg	05 35 15.1	-0.4
KMSR				*e*S	Sg	05 35 21.1	-0.9
ZEI	**Tsey**	**0.49**	**252**	*e*PG	Pg	05 35 13.5	-2.2
KUBR	**Kubataba**	**1.20**	**317**	⇓*e*PG	Pg	05 35 29.9	+0.8
KUBR				*i* S	Sb	05 35 45.5	+1.8
PYA	**Pyatigorsk**	**1.55**	**316**	*e*PG	Pg	05 35 35.9	+0.3
PYA				*e*S	Sn	05 35 54.6	+1.9
SHAR	**Shatzhatmas**	**1.59**	**302**	⇓*e*PG	Pg	05 35 34.0	-2.5
BEYR	**Belyy Ugol+**	**1.66**	**312**	*e*PN	Pn	05 35 36.3	+1.9
BEYR				*e*S	Sn	05 35 56.5	+1.0
KIV0	**Kislovodsk Arr**	**1.69**	**308**	⇑*e*PN	Pn	05 35 36.9	+2.0
KIV0				*e*S	Sn	05 35 57.3	+1.0
KIV	**Kislovodsk**	**1.70**	**308**	⇑*e*PN	Pn	05 35 36.8	+1.8

IDC 29 06:00:00.6±3.0, 3036S×13847E, h0km, mb1 3.5/4, mb1mx3.4/13, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=77.8km s-min=15.1km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.07**	**120**	Pn	Pn	06 00 49.8	-0.6
	1.0nm,0.3s,baz=309,slow=12,SNR=11						
STKA				Sn	Sn	06 01 28.5	+0.6
	4.3nm,0.3s,baz=319,slow=13,SNR=6.8						
STKA				Lg		06 01 39.0	
	7.6nm,0.3s,baz=208,slow=20,SNR=9.1						
ASAR	**Alice Springs**	**7.81**	**327**	Pn	Pn	06 01 56.1	+0.7
	0.3nm,0.3s,baz=149,slow=13,SNR=7.2						
ASAR				Sn	Sn	06 03 26.2	+1.6
	0.2nm,0.3s,baz=160,slow=22,SNR=3.4						
WRA	**Warramunga Arr**	**11.03**	**339**	Pn	Pn	06 02 39.1	-0.4
	0.2nm,0.3s,baz=155,slow=13,SNR=11						
WRA				Sn	Sn	06 04 45.9	+2.3
	0.1nm,0.3s,baz=163,slow=24,SNR=4.6						
FITZ	**Fitzroy Crossi**	**16.89**	**313**	Pn	Pn	06 03 58.5	+0.2
	0.1nm,0.3s,baz=129,slow=14,SNR=3.3						

IDC 29 06:13:18.4±1.8, 1578S×17575W, h206km±39km, mb3.4/4, mb1 3.7/5, mb1mx3.5/14, mbtmp4.0/5, MS3.7/1, Ms1 3.6/1, ms1mx2.8/12, Error ellipse: s-maj=272.4km s-min=16.8km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.26**	**65**	P	Pn	06 14 24.8	+1.2
	11nm,0.3s,baz=77,slow=19,SNR=19						
AFI				S	Sn	06 15 15.1	+0.1
	34nm,0.3s,baz=67,slow=20,SNR=15						
STKA	**Stephens Creek**	**41.89**	**240**	LR	LR	06 36 26.9	
	comp=Z,100nm,19.7s,baz=107,slow=33						
WRA	**Warramunga Arr**	**47.55**	**257**	P	P	06 21 33.7	+0.6
	1.0nm,0.5s,baz=97,slow=7.0,SNR=38						
ASAR	**Alice Springs**	**47.84**	**252**	P	P	06 21 35.3	0.0
	4.1nm,0.7s,baz=87,slow=9.0,SNR=34						
NVAR	**Mina Array Bea**	**76.13**	**43**	P	P	06 24 44.9	+1.4
	0.3nm,0.8s,baz=224,slow=10,SNR=3.5						
PDAR	**Pinedale Array**	**84.06**	**43**	P	P	06 25 25.6	-0.2
	0.3nm,0.6s,baz=223,slow=3.7,SNR=3.6						
ARCES	**ARCESS Array B**	**124.65**	**351**	PKP	PKPdf	06 31 52.5	-0.7
	1.5nm,0.9s,baz=2.6,slow=2.0,SNR=3.6						
GERES	**GERESS Array B**	**146.13**	**349**	PKPbc	PKPbc	06 32 33.0	-1.1
	0.4nm,0.5s,baz=46,slow=3.9,SNR=3.6						

NNC 29 06:35:32.8±5.0, 3751N×7096E, h0km, mb3.2, mpv2.8, 2C-4D, Error ellipse: s-maj=40.6km s-min=38.0km az=55.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.59**	**357**	⇓Pn	Pn	06 37 00.3	+3.1
	0.8nm,0.2s,baz=187,slow=15,SNR=46						
KK31				⇑Sn	Sn	06 38 08.6	+6.5
	6.7nm,0.6s,baz=166,slow=24,SNR=4.9						
TKM2	**Tokmak 2**	**6.46**	**32**	⇓Pn	Pn	06 37 06.9	-2.2
	0.2nm,0.7s						
TKM2				⇑Sn	Sn	06 38 26.1	+2.5
	0.3nm,0.8s						
AB31	**Akbulak array**	**14.19**	**329**	⇓Pn	Pn	06 38 57.0	+2.1
	0.2nm,0.5s,baz=0.0,slow=0.1,SNR=4.8						
AB31				⇓Sn	Sn	06 41 31.0	-2.1
	0.2nm,0.3s						

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*ISCJB **29** 06:55:52.9±0.3, 4048N±003×3581E±003, h5km, Error ellipse: s-maj=3.6km s-min=3.1km az=26.6*
*ISK **29** 06:55:52.8, 4049N×3581E, h9km, MD3.5*
*NEIC **29** 06:55:52.8, 4049N×3581E, h9km, MD3.5(ISK), After ISK.*
*CSEM **29** 06:55:52.3±0.1, 4049N×3582E, h5km, MD3.5, Error ellipse: s-maj=1.5km s-min=1.3km az=15.0*

ISC 29 06:55:53.0±0.5, 4049N±002×3580E±003, h1km±5km, n33, σ0§79/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	**Tokat**	**0.60**	**106**	*i* PG	**Pg**	**06 56 04.6**	**+0.1**
TOKT				*i* SG	**Sg**	**06 56 13.3**	**+1.1**
KVT	**Kavak**	**0.62**	**18**	*i* PG	**Pg**	**06 56 05.6**	**+0.7**
KVT				*i* SG	**Sg**	**06 56 14.5**	**+1.6**
YOZ	**Yozgat**	**0.93**	**203**	PG	**Pg**	**06 56 10.8**	**+0.1**
CORM	**Corum**	**0.94**	**251**	PG	**Pg**	**06 56 11.2**	**+0.1**
SVSK	**Karacayir**	**1.08**	**121**	PG	**Pg**	**06 56 12.9**	**-0.9**
SVST	**Sivas**	**1.14**	**129**	*i* P	**Pg**	**06 56 14.1**	**-0.8**
BOYT	**Boyabat**	**1.15**	**324**	*i* P	**Pg**	**06 56 15.2**	**+0.1**
BOYT				*i* S	**Sg**	**06 56 29.8**	**-0.1**
DIKM	**Dikmen**	**1.23**	**341**	PN	**Pn**	**06 56 16.9**	**-0.4**
BYBT	**Boyabat**	**1.25**	**322**	PN	**Pn**	**06 56 16.8**	**-0.8**
CDAG	**Cicekdag**	**1.39**	**232**	*i* P	**Pn**	**06 56 18.3**	**-1.3**
CDAG				*i* S	**Sg**	**06 56 38.5**	**+0.7**
TOS	**Tosya**	**1.45**	**293**	PN	**Pn**	**06 56 20.4**	**0.0**
BNN	**Bunyan**	**1.64**	**179**	PN	**Pn**	**06 56 23.2**	**+0.2**
CANT	**Cankiri**	**1.66**	**275**	PN	**Pn**	**06 56 22.9**	**-0.4**
ELDT	**Eldivan**	**1.81**	**271**	*i* P	**Pn**	**06 56 25.7**	**+0.4**
BR131	**Keskin Array S**	**1.82**	**246**	*e*Pn	**Pn**	**06 56 24.6**	**-0.9**
BR131				*e*Sg	**Sg**	**06 56 51.3**	**-0.3**
BR131	**Keskin Array S**	**1.82**	**246**	*e*Pn	**Pn**	**06 56 24.5**	**-1.0**
BR131				*e*Sg	**Sg**	**06 56 51.3**	**-0.3**
AVNT	**Avonos**	**1.86**	**203**	*i* P	**Pn**	**06 56 25.6**	**-0.4**
AVNT				*i* S	**Sn**	**06 56 51.1**	**+1.0**
GRSN	**GIRESUNGRSN**	**1.93**	**76**	*i* P	**Pn**	**06 56 25.7**	**-1.3**
GRSN				*i* S	**Sn**	**06 56 51.1**	**-0.8**
KAMT	**Kaman**	**1.95**	**236**	PN	**Pn**	**06 56 27.7**	**+0.4**
BALT	**Daday**	**2.10**	**301**	*i* P	**Pn**	**06 56 30.3**	**+0.9**
BALT				*i* S	**Sg**	**06 56 59.4**	**-1.2**
ANTO	**Ankara**	**2.38**	**256**	*e*PN	**Pn**	**06 56 33.6**	**+0.4**
SAFT	**Safranbolu**	**2.47**	**289**	*e*PN	**Pn**	**06 56 34.5**	**0.0**
MYA	**Malataya**	**2.97**	**136**	*e*PN	**Pn**	**06 56 41.2**	**-0.1**
MALT	**Malatya**	**2.98**	**136**	*e*Pn	**Pn**	**06 56 41.5**	**+0.1**
MALT				*e*Sg	**Sg**	**06 57 28.8**	**0.0**
MALT	**Malatya**	**2.98**	**136**	*e*Pn	**Pn**	**06 56 41.5**	**+0.1**
MALT				*e*Sg	**Sg**	**06 57 28.8**	**0.0**
KOZT	**Kozan**	**3.01**	**180**	*e*PN	**Pn**	**06 56 41.8**	**0.0**
ELZG	**Elazig**	**3.17**	**128**	*i* P	**Pb**	**06 56 48.3**	**-1.9**
ELZG				*i* S	**Sb**	**06 57 29.5**	**+0.2**
EZC	**Erzincan**	**3.17**	**102**	*e*PN	**Pn**	**06 56 38.8**	**-5.3**
KARA	**Karaisali**	**3.28**	**190**	*e*PN	**Pn**	**06 56 46.2**	**+0.7**
GZT	**Gaziantep**	**3.42**	**156**	*i* P	**Pn**	**06 56 50.8**	**+3.3**
KIZT	**Kizilcal**	**3.42**	**243**	*e*PN	**Pn**	**06 56 48.5**	**+1.0**
KDHN	**Kadinhani**	**3.46**	**237**	*i* P	**Pn**	**06 56 48.7**	**+0.7**
KDHN				*i* S	**Sg**	**06 57 43.3**	**-0.9**
KONT	**Konya--Tatoy**	**3.69**	**227**	*e*PN	**Pn**	**06 56 51.9**	**+0.8**

IDC 29 07:16:43.7±1.6, 029N×12168E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=202.9km s-min=26.4km az=60.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.63**	**149**	P	P	07 21 56.7	0.0
	0.2nm,0.5s,baz=325,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**26.61**	**154**	P	P	07 22 24.2	+0.4
	0.3nm,0.5s,baz=344,slow=15,SNR=7.0						
MKAR	**Makanchi Array**	**57.68**	**329**	P	P	07 26 36.0	+0.1
	0.2nm,0.3s,baz=118,slow=10.0,SNR=4.4						

CASC 29 07:25:57.7±2.0, 1058N×8644W, h13km±16km, MD3.6, ML3.2, 4C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.91**	**40**	⇑*e*P	Pg	07 26 15.4	+0.1
VCR	**Vista de Mar**	**0.92**	**120**	*e*P	Pb	07 26 14.7	-0.7
LIM1	**Limonal**	**1.18**	**84**	⇑*i*P	Pn	07 26 18.1	-1.7
LIM1				*e*S	Sb	07 26 34.4	-0.6
CONN	**Concepcion**	**1.26**	**39**	⇓*e*P	Pn	07 26 20.9	-0.1
MGAN	**Managua**	**1.56**	**7**	⇓*e*P	Pn	07 26 25.1	0.0
MGAN				*e*		07 26 57.6	
	comp=N,289nm,0.7s						
COPN	**Copaltepe**	**1.59**	**355**	⇑*e*P	Pn	07 26 25.4	-0.1
MOMJ	**Momotombo**	**1.81**	**357**	*e*P	Pn	07 26 27.9	-0.7
MIRN	**Miramar**	**1.86**	**352**	⇓*e*P	Pn	07 26 29.0	-0.2
LEON	**Leon**	**1.87**	**346**	⇑*e*P	Pn	07 26 29.0	-0.3
PYTN	**Playitas**	**1.98**	**11**	*e*P	Pn	07 26 30.5	-0.3
PRS1	**Puriscal**	**2.18**	**106**	*e*P	Pn	07 26 33.9	+0.3
URSC	**Urasca**	**2.73**	**106**	*e*P	Pn	07 26 41.4	+0.3

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*ISCJB **29** 07:50:18.6±0.6, 1062N±004×6230W±003, h83km±8km, Error ellipse: s-maj=6.3km s-min=4.4km az=114.7*
*FUNV **29** 07:50:19.0, 1083N×6216W, h80km, MW3.2*
*NEIC **29** 07:50:21.8, 1070N×6216W, h73km, MD3.5(TRN), After TRN.*
*TRN **29** 07:50:21.8, 1070N×6216W, h74km, MD3.5*

ISC 29 07:50:19.7±0.6, 1065N±003×6230W±003, h76km±8km, n19, σ1§03/34, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.07**	**93**	*e*P	**Pn**	**07 50 31.0**	**+0.4**
GUIV				*e*S	**Sn**	**07 50 38.8**	**+0.2**
GUNV	**Guanoco**	**0.80**	**233**	*e*P	**Pn**	**07 50 38.3**	**+2.2**
TRN	**Trinidad (W)**	**0.88**	**90**	*e*P	**Pn**	**07 50 37.2**	**+0.2**
TRN				*e*S	**Sn**	**07 50 49.4**	**-0.6**
TPP	**Pointe-a-Pierr**	**0.90**	**112**	*e*P	**Pn**	**07 50 39.5**	**+2.2**
CRUV	**Carupano**	**0.92**	**272**	*e*P	**Pn**	**07 50 37.8**	**+0.2**
ITEV	**Isla Los Testi**	**1.08**	**311**	*e*P	**Pn**	**07 50 37.9**	**-1.6**
TBH	**Brigand Hill**	**1.22**	**98**	*e*P	**Pn**	**07 50 42.0**	**+0.7**
TBH				*e*S	**Sn**	**07 50 55.7**	**-1.7**
TPR	**Prospect**	**1.58**	**70**	*e*P	**Pn**	**07 50 45.8**	**-0.2**
TPR				*e*S	**Sn**	**07 51 05.1**	**-0.8**
GRW	**Mount Saint Ca**	**1.62**	**23**	*e*P	**Pn**	**07 50 47.4**	**+0.9**
GRW				*e*S	**Sn**	**07 51 05.2**	**-1.5**
GRHS	**Sauteurs**	**1.69**	**22**	*e*P	**Pn**	**07 50 48.0**	**+0.6**
GRHS				*e*S	**Sn**	**07 51 07.5**	**-0.9**
GRIC	**Isle de Caille**	**1.77**	**23**	*e*P	**Pn**	**07 50 49.7**	**+1.3**
GRIC				*e*S	**Sn**	**07 51 10.5**	**+0.4**
GRSS	**Sisters**	**1.77**	**22**	*e*P	**Pn**	**07 50 49.5**	**+1.1**
GRSS				*e*S	**Sn**	**07 51 10.0**	**-0.1**
GRCU	**Cariacou**	**1.99**	**25**	*e*P	**Pn**	**07 50 52.2**	**+0.9**
GRCU				*e*S	**Sn**	**07 51 15.3**	**-0.1**
PCRV	**Puerto La Cruz**	**2.35**	**259**	*e*P	**Pn**	**07 50 56.9**	**+0.7**
PCRV				*e*S	**Sn**	**07 51 24.1**	**+0.1**
IBAV	**Isla La Blanqu**	**2.52**	**298**	*e*P	**Pn**	**07 50 58.2**	**-0.3**
IBAV				*e*S	**Sn**	**07 51 26.4**	**-1.9**
CUPV	**Cœpira**	**3.48**	**261**	*e*P	**Pn**

AOPR eS **Sn** **08 05 08.6 +0.1**
LSP Las Mesas 6.09 271⇑ eP **Pn** **08 04 09.0 +1.0**
LSP eS **Sn** **08 05 16.3 -0.1**
MGP Maguayo 6.10 269⇑ eP **Pn** **08 04 08.4 +0.3**
AGPR Aguadilla, PR 6.11 273⇑ eP **Pn** **08 04 08.9 +0.6**
AGPR eS **Sn** **08 05 17.2 +0.2**

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*ISCJB **29** 08:07:28.9±0.2,8442N±003×270E±04,h10km,mb4.4/57, MS3.4/21,Error ellipse: s-maj=5.6km s-min=3.6km az=143.9*
*IDC **29** 08:07:28.6±0.5,8464N×2929E,h0km,mb4.0/20, mb1 4.2/22,mb1mx4.2/25,mbtmp4.1/22,ML4.5/2,MS3.3/16, Ms1 3.3/16,ms1mx3.2/30,Error ellipse: s-maj=16.0km s-min=11.5km az=69.0*
*MOS **29** 08:07:28.8±1.1,8454N×2850E,h10km,mb4.5/30,Error ellipse: s-maj=87.5km s-min=6.3km az=90.8*
*HRVD **29** 08:07:30.5±0.4,8444N×2909E,h14km±1km,MW4.6/54, Centroid moment Tensor Solution. LP body waves: s9,c11;Mantle waves: s54,c68; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.08±.12; Mθθ-0.52±.07; Mφφ-0.55±.08; Mrθ0.51±.20; Mθφ-0.34±.05; Mφr0.17±.20; Best double couple: M0 1.10800×10^16 NP1:φs216.00000°, δ33.00000°,λ74.00000°. NP2:φs55.00000°,δ59.00000°, λ100.00000°. Principal axes: T 1.2290, Plg74.0000°, Azm352.0000°; N -0.2390, Plg9.0000°, Azm230.0000°; P -0.9880, Plg13.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 08:07:30.5±0.3,8453N×2864E,h10km,mb4.5/26 Error ellipse: s-maj=7.6km s-min=4.4km az=80.0*
*BJI **29** 08:07:30.5,8450N×2860E,h12km,mB4.9,mb4.8,Ms4.4, Msz4.3*
*CSEM **29** 08:07:31.1±0.1,8461N×2910E,h31km,mb4.5/30,Mw4.6, Error ellipse: s-maj=2.5km s-min=1.7km az=67.0*
*NAO **29** 08:07:33.6,8452N×2685E,h33km,mb4.5*
*SZGRF **29** 08:07:57.1,8227N×2633E,h33km,mb4.3,North of Svalbard*
ISC 29 08:07:30.4±0.2,8442N±002×269E±04,h10km, (h33km±.6km:pP-P),n190,σ1§26/200,mb4.4/57,MS3.4/21, 4C-7D,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.90**	**209**		Pn		**Pn**	**08 08 58.9**	**+1.1**
KBS					Sn		**Sn**	**08 10 03.4**	**-2.1**
KBS	**Kingsbay**	**5.90**	**209**	*e*P	**Pn**		**Pn**	**08 08 59.1**	**+1.3**
KBS				*e*S	**Sn**		**Sn**	**08 10 04.9**	**-0.6**
KBS				AML			AML	08 10 12.1	
	comp=Z,124nm,0.3s								
KBS	**Kingsbay**	**5.90**	**209**	*e*Pn	**Pn**		**Pn**	**08 08 59.0**	**+1.2**
KBS				*e*Sn	**Sn**		**Sn**	**08 10 01.3**	**-4.1**
KBS	**Kingsbay**	**5.90**	**209**	*e*Pn	**Pn**		**Pn**	**08 08 59.0**	**+1.2**
KBS				*e*Sn	**Sn**		**Sn**	**08 10 01.3**	**-4.1**
SPA0	**Spitsbergen Ar**	**6.46**	**199**	Pn	**Pn**		**Pn**	**08 09 06.4**	**+0.9**
	baz=14,slow=14								
SPA0				Sn	**Sn**		**Sn**	**08 10 16.6**	**-2.7**
	baz=38,slow=16								
SPB4	**Spitsbergen Ar**	**6.46**	**200**	*e*Pn	**Pn**		**Pn**	**08 09 06.5**	**+1.0**
SPB4				*e*Sn	**Sn**		**Sn**	**08 10 15.3**	**-3.9**
SPB4	**Spitsbergen Ar**	**6.46**	**200**	*e*Pn	**Pn**		**Pn**	**08 09 06.5**	**+1.0**
SPB4				*e*Sn	**Sn**		**Sn**	**08 10 15.3**	**-3.9**
HSP	**Hornsund**	**7.65**	**199**	*e*P	**Pn**		**Pn**	**08 09 23.1**	**+1.3**
HSP				*e*S	**Sn**		**Sn**	**08 10 45.9**	**-2.6**
HOPEN	**Hopen**	**7.97**	**183**	*e*P	**Pn**		**Pn**	**08 09 26.8**	**+0.6**
HOPEN				*e*S	**Sn**		**Sn**	**08 10 49.8**	**-6.6**
BJO	**Bjornoya**	**10.06**	**192**	*e*P	**Pn**		**Pn**	**08 09 55.2**	**+0.3**
BJO				*e*S	**Sn**		**Sn**	**08 11 39.8**	**-7.9**
BJO				AML			AML	08 11 46.8	
	comp=Z,29nm,0.3s								
BJO1	**Bjornoya**	**10.06**	**192**	*e*P	**Pn**		**Pn**	**08 09 55.2**	**+0.2**
BJO1				*e*S	**Sn**		**Sn**	**08 11 39.8**	**-8.1**
DAG	**Danmarks Havn**	**10.19**	**248⇓**	*i*P	**Pn**		**Pn**	**08 10 00.8**	**+4.2**
	comp=Z,2.8nm,0.5s								
DAG	**Danmarks Havn**	**10.19**	**248⇓**	*e*P	**Pn**		**Pn**	**08 10 00.8**	**+4.2**
DAG				pmax	pmax				
	comp=Z,3.0nm,0.5s								
DAG	**Danmarks Havn**	**10.19**	**248⇓**	*e*P	**Pn**		**Pn**	**08 10 00.8**	**+4.2**
	comp=Z,2.8nm,0.5s								
KEV	**Kevo**	**14.76**	**180**	*e*P	**Pn**		**Pn**	**08 10 58.2**	**-0.9**
KEV				pmax	pmax				
	comp=Z,10.0nm,0.6s								
KEV	**Kevo**	**14.76**	**180**	*e*Pn	**Pn**		**Pn**	**08 10 58.1**	**-0.9**
	comp=Z,10nm,0.6s								
KEV				*e*Sn	**Sn**		**Sn**	**08 13 31.7**	**-11**
KEV	**Kevo**	**14.76**	**180**	*e*Pn	**Pn**		**Pn**	**08 10 58.2**	**-0.9**
	comp=Z,10nm,0.6s								
KEV				*e*Sn	**Sn**		**Sn**	**08 13 31.7**	**-11**
JNW	**Jan Mayen West**	**14.85**	**227**	*e*Pn	**Pn**		**Pn**	**08 11 04.6**	**+4.2**
JMIC	**Jan Mayen**	**14.90**	**228**	Pn	**Pn**		**Pn**	**08 11 04.6**	**+3.6**
	comp=Z,6.9nm,0.3s,baz=158,slow=11,SNR=43								
TRO	**Tromso**	**14.95**	**191**	*e*P	**Pn**		**Pn**	**08 10 59.6**	**-2.1**
TRO	**Tromso**	**14.95**	**191**	*e*P	**Pn**		**Pn**	**08 10 59.8**	**-2.0**
JMI	**Jan Mayen**	**14.97**	**228**	*e*Pn	**Pn**		**Pn**	**08 11 06.1**	**+4.1**
ARA0	**ARCESS Array S**	**14.98**	**182**	Pn	**Pn**		**Pn**	**08 10 59.5**	**-2.6**
	baz=9.5,slow=11								
ARA0				Sn	**Sn**		**Sn**	**08 13 35.6**	**-12**
	baz=352,slow=14								
ARCES	**ARCESS Array B**	**14.98**	**182**	Pn	**Pn**		**Pn**	**08 10 59.6**	**-2.5**
	comp=Z,1.8nm,0.3s,baz=0.0,slow=10,SNR=50								
ARCES				Sn	**Sn**		**Sn**	**08 13 38.8**	**-9.3**
	comp=Z,3.8nm,0.3s,baz=5.7,slow=20,SNR=8.2								
ARCES				LR	LR			08 16 41.4	
	comp=Z,68nm,19.5s,baz=104,slow=36								
KTK1	**Kautokeino**	**15.52**	**185**	*e*P	**Pn**		**Pn**	**08 11 07.5**	**-1.7**
KTK1				*e*S	**Sn**		**Sn**	**08 13 43.8**	**-17**
KTK1				AML			AML	08 14 01.9	
	comp=Z,11nm,0.6s								
KTK1	**Kautokeino**	**15.52**	**185**	*e*P	**Pn**		**Pn**	**08 11 07.9**	**-1.3**
KTK1				*e*S	**Sn**		**Sn**	**08 13 43.9**	**-17**
SUMG	**Summit**	**16.00**	**263**	*e*Pn	**Pn**		**Pn**	**08 11 15.8**	**+0.4**
	comp=Z,21nm,0.6s								
SUMG	**Summit**	**16.00**	**263**	*e*Pn	**Pn**		**Pn**	**08 11 15.8**	**+0.4**
	comp=Z,21nm,0.6s								
LVZ	**Lovozero**	**16.69**	**170⇑**	*e*P	**Pn**		**Pn**	**08 11 21.1**	**-3.2**
APA0	**Apatity Array**	**16.96**	**172**	P	**Pn**		**Pn**	**08 11 24.3**	**-3.4**
	baz=349,slow=10								
APA	**Apatity**	**17.00**	**171⇓**	*i*P	**Pn**		**Pn**	**08 11 24.0**	**-4.2**
APA				pmax	pmax				
	comp=Z,22nm,0.8s								
RES	**Resolute Bay**	**18.96**	**316**	*e*P	**Pn**		**Pn**	**08 11 51.6**	**-0.8**
RES				pmax	pmax				
	comp=Z,2.0nm,0.5s								
RES	**Resolute Bay**	**18.96**	**316**	*e*P	**Pn**		**Pn**	**08 11 51.6**	**-0.8**
	comp=Z,1.7nm,0.5s								
RES	**Resolute Bay**	**18.96**	**316**	*e*P	**Pn**		**Pn**	**08 11 51.6**	**-0.8**
	comp=Z,1.7nm,0.5s								
TIXI	**Tiksi**	**20.36**	**63**	*e*P	**P**		**P**	**08 12 09.4**	**+2.4**
JOF	**Joensuu**	**21.64**	**174**	*ep*	**P**		**P**	**08 12 20.6**	**-0.2**
	comp=Z,6.9nm,0.7s,mb4.2								
JOF	**Joensuu**	**21.64**	**174**	*e*P	**P**		**P**	**08 12 20.6**	**-0.2**
JOF				pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.2								
KAF	**Kangasniemi**	**22.43**	**181**	*ep*	**P**		**P**	**08 12 30.6**	**+1.3**
	comp=Z,23nm,1.1s,mb4.5,baz=6.5,slow=11								
KAF	**Kangasniemi**	**22.43**	**181**	*e*P	**P**		**P**	**08 12 30.6**	**+1.3**
KAF				pmax	pmax				
	comp=Z,23nm,1.1s,mb4.5								
SFJD	**Kangerlussuaq**	**22.56**	**271**	P	**P**		**P**	**08 12 33.6**	**+3.0**
	comp=Z,13nm,0.9s,mb4.3,baz=359,slow=8.1,SNR=5.1								
SFJD	**Kangerlussuaq**	**22.56**	**271⇓**	*i*P	**P**		**P**	**08 12 34.4**	**+3.7**
	comp=Z,16nm,0.7s,mb4.6								
SFJD	**Kangerlussuaq**	**22.56**	**271**	P	**P**		**P**	**08 12 33.6**	**+2.9**
SFJD				pmax	pmax				
	comp=Z,13nm,1.0s,mb4.3								
SFJD	**Kangerlussuaq**	**22.56**	**271⇓**	*e*P	**P**		**P**	**08 12 34.4**	**+3.7**
	comp=Z,16nm,0.7s,mb4.6								
SFJD	**Kangerlussuaq**	**22.56**	**271**	P	**P**		**P**	**08 12 33.6**	**+2.9**
	comp=Z,13nm,1.0s,mb4.3								
FIA0	**FINESS Array S**	**23.11**	**181**	P	**P**		**P**	**08 12 36.8**	**+0.4**
	baz=330,slow=12								
FINES	**FINESS Array B**	**23.11**	**181**	P	**P**		**P**	**08 12 37.0**	**+0.6**
	comp=Z,5.7nm,0.7s,mb4.1,baz=357,slow=7.6,SNR=12								
FINES				PcP	PcP			08 16 22.5	-2.7
	comp=Z,1.5nm,0.8s,baz=33,slow=7.3,SNR=4.5								
FINES				LR	LR			08 21 35.3	
	comp=Z,33nm,21.8s,MS2.7,baz=355,slow=36								
FINES	**FINESS Array B**	**23.11**	**181**	P	**P**		**P**	**08 12 37.0**	**+0.6**
FINES				PcP	PcP			08 16 22.5	-2.7
FINES				LR	LR			08 21 35.3	
FINES	**FINESS Array B**	**23.11**	**181**	PcP	PcP			08 16 22.5	-2.6
NB2	**NORSAR Subarra**	**23.76**	**199**	P	**P**			**08 12 44.3**	**+1.3**
	comp=Z,15nm,1.2s,mb4.3,baz=3.7,slow=9.3								
NB2	**NORSAR Subarra**	**23.76**	**199**	P	**P**			**08 12 45.2**	**+2.2**
	baz=1.6,slow=8.6								
NB2	**NORSAR Subarra**	**23.76**	**199**	P	**P**			**08 12 44.3**	**+1.3**
NB2				pmax	pmax				
	comp=Z,15nm,1.2s,mb4.3								
NOA	**NORSAR Array B**	**23.76**	**199**	P	**P**			**08 12 44.4**	**+1.4**
	comp=Z,4.5nm,0.8s,mb4.0,baz=5.4,slow=9.8,SNR=16								
NOA				LR	LR			08 22 01.2	
	comp=Z,19nm,20.6s,MS2.5,baz=10.0,slow=36								
KLMR	**Klimovskoe**	**23.86**	**165**	*e*P	**P**			**08 12 44.1**	**+0.2**
KLMR				pmax	pmax				
	comp=Z,80nm,1.7s,mb4.9								
KLMR	**Klimovskoe**	**23.86**	**165**	*e*P	**P**			**08 12 44.1**	**+0.2**
	comp=Z,80nm,1.7s,mb4.9								
HFS	**Hagfors**	**24.60**	**196**	P	**P**			**08 12 52.9**	**+2.3**
	baz=45,slow=8.6								
HFS	**Hagfors**	**24.60**	**196**	P	**P**			**08 12 51.8**	**+1.2**
	comp=Z,3.0nm,0.7s,mb4.0,baz=10,slow=9.0,SNR=6.9								
HFS				LR	LR			08 22 17.5	
	comp=Z,32nm,20.5s,MS2.8,baz=1.0,slow=36								
SOKR	**Solikamsk**	**25.87**	**144**	*e*P	**P**			**08 13 02.3**	**+0.1**
SOKR				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb4.3								
SOKR	**Solikamsk**	**25.87**	**144**	*e*P	**P**			**08 13 02.3**	**+0.1**
	comp=Z,10.0nm,0.9s,mb4.3								
VSU	**Vasula**	**26.10**	**180**	*i*P	**P**			**08 13 05.7**	**+1.5**
INK	**Inuvik**	**27.18**	**344**	P	**P**			**08 13 11.8**	**-2.2**
	comp=Z,5.7nm,1.2s,mb4.0,baz=2.6,slow=8.6,SNR=5.7								
INK				PcP	PcP			08 16 30.4	-3.9
	comp=Z,1.6nm,0.8s,baz=15,slow=2.9,SNR=3.5								
INK				LR	LR			08 22 58.3	
	comp=Z,59nm,20.7s,MS3.1,baz=41,slow=34								
INK	**Inuvik**	**27.18**	**344**	P	**P**			**08 13 11.8**	**-2.2**
INK								08 16 30.4	
INK				pmax	pmax				
	comp=Z,6.0nm,1.2s								
INK				MLR	MLR				
	comp=Z,59nm,20.7s								
INK	**Inuvik**	**27.18**	**344**	P	**P**			**08 13 11.8**	**-2.2**
INK				*e*P				08 13 12.0	
INK				PcP	PcP			08 16 30.4	-3.8
INK				*e*PcP	PcP			08 16 32.9	-1.3
INK				LR	LR			08 22 58.3	
INK	**Inuvik**	**27.18**	**344**	*e*P	**P**			**08 13 12.0**	**-2.0**
ARU	**Arti**	**29.10**	**143⇑**	*e*P	**P**			**08 13 31.2**	**0.0**
ARU				pmax	pmax				
	comp=Z,7.0nm,1.7s,mb4.1								
ARU				MLR	MLR				
	comp=Z,100nm,18.0s,MS3.5								
ARU	**Arti**	**29.10**	**143**	*e*P	**P**			**08 13 31.2**	**0.0**
	comp=Z,100nm,18.0s								
OBN	**Obninsk**	**29.55**	**169**	*e*P	**P**			**08 13 35.4**	**+0.3**
OBN				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.3								
OBN	**Obninsk**	**29.55**	**169**	*e*P	**P**			**08 13 35.4**	**+0.3**
	comp=Z,4.0nm,0.7s,mb4.3								
YAK	**Yakutsk**	**29.84**	**67**	*de*P	**P**			**08 13 33.8**	**-3.9**
YAK				pmax	pmax				
	comp=Z,20nm,0.7s,mb5.0								
YAK	**Yakutsk**	**29.84**	**67**	*e*P	**P**			**08 13 33.8**	**-3.9**
	comp=Z,20nm,0.7s,mb5.0								
COLA	**College**	**30.87**	**356**	*e*P	**P**			**08 13 47.8**	**+1.0**
COLA				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.1								
COLA	**College**	**30.87**	**356**	*e*P	**P**			**08 13 47.8**	**+1.0**
	comp=Z,2.4nm,0.7s,mb4.1								
COLA				*ep*P	pP			08 13 57.2	+7.3
DAWY	**Dawson**	**31.57**	**348**	*e*P	**P**			**08 13 51.0**	**-1.9**
DAWY				*e*PcP	PcP			08 16 44.9	-0.5
DAWY	**Dawson**	**31.57**	**348**	*e*P	**P**			**08 13 51.0**	**-1.9**
YKA	**Yellowknife Ar**	**32.23**	**327**	P	**P**			**08 13 57.8**	**-1.0**
	comp=Z,0.6nm,0.8s,mb3.5,baz=355,slow=9.2,SNR=5.7								
YKA				PcP	PcP			08 16 45.3	-1.9
	comp=Z,1.6nm,0.7s,baz=351,slow=3.0,SNR=9.4								
YKA				LR	LR			08 26 34.2	
	comp=Z,62nm,20.5s,MS3.3,baz=45,slow=36								
YKA	**Yellowknife Ar**	**32.23**	**327**	P	**P**			**08 13 57.9**	**-0.9**
YKA				PcP	PcP			08 16 45.3	-1.9
YKA				LR	LR			08 26 34.2	
YKA	**Yellowknife Ar**	**32.23**	**327**	*i*P	**P**			**08 13 58.5**	**-0.3**
NVS	**Novosibirsk**	**32.53**	**116**	*e*P	**P**			**08 14 00.4**	**-1.0**
BRVK	**Borovoye**	**33.24**	**131**	*e*P	**P**			**08 14 09.3**	**+1.7**
BVAR	**Borovoye Array**	**33.28**	**131**	P	**P**			**08 14 08.7**	**+0.7**
	comp=Z,1.6nm,0.7s,mb4.1,baz=357,slow=8.0,SNR=13								
BVAR				LR	LR			08 28 37.1	
	comp=Z,94nm,19.6s,MS3.5,baz=319,slow=38								
BVAR	**Borovoye Array**	**33.28**	**131**	P	**P**			**08 14 08.7**	**+0.7**
BVAR				pmax	pmax				
	comp=Z,20nm,0.7s								
BVAR				MLR	MLR				
	comp=Z,94nm,19.6s								
ZAL	**Zalesovo**	**33.56**	**115**	PcP	PcP			08 16 49.9	-1.0
	comp=Z,1.6nm,0.6s,baz=250,slow=2.0,SNR=4.9								
ZAL				LR	LR			08 30 10.4	
	comp=Z,130nm,21.1s,MS3.6,baz=83,slow=41								
ZAL	**Zalesovo**	**33.56**	**115**	*i*P	**P**			**08 14 10.8**	**+0.4**
ZAL				pmax	pmax				
	comp=Z,10.0nm,0.5s								
ZAL	**Zalesovo**	**33.56**	**115**	*i*P	**P**			**08 14 10.8**	**+0.4**
	comp=Z,10.0nm,0.5s,mb5.0								
AKASG	**Malin Array Be**	**33.88**	**177**	P	**P**			**08 14 13.3**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=355,slow=8.7,SNR=6.3								
AKASG	**Malin Array Be**	**33.88**	**177**	P	**P**			**08 14 13.3**	**+0.1**
AKASG				pmax	pmax				
	comp=Z,20nm,0.6s								
AKASG	**Malin Array Be**	**33.88**	**177**	P	**P**			**08 14 13.3**	**+0.1**
MA2	**Magadan**	**34.02**	**49**	*i*P	**P**			**08 14 12.6**	**-1.8**
MOX	**Moxa**	**34.15**	**197**	*e*P	**P**			**08 14 17.9**	**+2.3**
OJC	**Ojcow**	**34.40**	**188**	*e*P	pP			08 14 28.5	+7.7
OJC	**Ojcow**	**34.40**	**188**	*e*P	pP			08 14 28.6	+7.8
AKTK	**Aktyubinsk**	**35.05**	**145**	P	**P**			**08 14 23.4**	**+0.1**
AKTK				LR	LR			08 29 53.9	
AKTK	**Aktyubinsk**	**35.05**	**145**	P	**P**			**08 14 23.4**	**+0.1**
	comp=Z,65nm,21.1s								
AKTO	**Aktyubinsk**	**35.05**	**145**	P	**P**			**08 14 23.4**	**+0.1**
	comp=Z,0.5nm,0.3s,mb3.9,baz=37,slow=10,SNR=4.4								
AKTO				LR	LR			08 29 53.9	
	comp=Z,65nm,21.1s,MS3.4,baz=359,slow=38								
GRA1	**Grafenberg Arr**	**35.12**	**198**	*e*P	**P**			**08 14 28.5**	**+4.6**
	comp=Z,3.0nm,0.9s,mb4.2								
GRF	**Grafenberg Arr**	**35.12**	**198**	*e*P	**P**			**08 14 28.5**	**+4.6**
	comp=Z,3.0nm,0.9s,mb4.2								
GRF	**Grafenberg Arr**	**35.12**	**198**	*e*P	**P**			**08 14 28.5**	**+4.6**
GRF				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.2								
GRF	**Grafenberg Arr**	**35.12**	**198**	*e*P	**P**			**08 14 28.5**	**+4.6**
GRF				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.2								
KHC	**Kasperske Hory**	**35.62**	**195**	*e*P	**P**			**08 14 30.6**	**+2.4**
GERES	**GERESS Array B**	**35.90**	**195**	P	**P**			**08 14 32.2**	**+1.6**
	comp=Z,0.6nm,0.4s,mb3.9,baz=24,slow=10,SNR=5.9								
GERES				PcP	PcP			08 16 57.0	-0.7
	comp=Z,0.5nm,0.2s,baz=346,slow=2.8,SNR=4.5								
GERES	**GERESS Array B**	**35.90**	**195**	P	**P**			**08 14 32.2**	**+1.6**
GERES								08 16 57.0	
GERES				pmax	pmax				
	comp=Z,1.0nm,0.2s								
SCHQ	**Schefferville**	**36.09**	**281**	P	**P**			**08 14 33.1**	**+0.9**
	comp=Z,1.3nm,0.7s,mb4.0,baz=342,slow=13,SNR=3.0								
SCHQ				LR	LR			08 28 09.8	
	comp=Z,52nm,21.3s,MS3.3,baz=20,slow=34								
KURK	**Kurchatov**	**36.23**	**122**	*e*P	**P**			**08 14 34.7**	**+1.3**
DLBC	**Dease Lake**	**36.96**	**340**	*e*P	**P**			**08 14 39.0**	**-0.6**
DLBC				*ep*P	pP			08 14 49.2	+6.5
DLBC	**Dease Lake**	**36.96**	**340**	*e*P	**P**			**08 14 39.0**	**-0.7**
MKAR	**Makanchi Array**	**40.43**	**119**	P	**P**			**08 15 06.9**	**-1.9**
	comp=Z,0.9nm,0.6s,mb3.7,baz=341,slow=6.9,SNR=10								
MKAR	**Makanchi Array**	**40.43**	**119**	*i*P	**P**			**08 15 07.5**	**-1.3**
KIV	**Kislovodsk**	**40.86**	**162**	*e*P	**P**			**08 15 13.2**	**+0.9**
KIV				*e*				08 17 11.8	
KIV				*e*S	**S**			**08 21 23.6**	**0.0**
KIV				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.5								
KIV				MLR	MLR				
	comp=Z,76nm,15.0s,MS3.7								
KIV	**Kislovodsk**	**40.86**	**162**	*e*P	**P**			**08 15 13.2**	**+0.9**
	comp=Z,10.0nm,0.8s,mb4.5								
EDM	**Edmonton**	**41.41**	**324**	*e*P	**P**			**08 15 16.0**	**-0.9**
EDM				*ep*P	pP			08 15 25.8	+5.8
EDM	**Edmonton**	**41.41**	**324**	*e*P	**P**			**08 15 16.0**	**-0.9**
EDM				*ep*P	pP			08 15 25.8	+5.8
HIA	**Hailar**	**41.52**	**81**	*e*P	**P**			**08 15 14.9**	**-2.9**
SONM	**Songino Array**	**41.64**	**94**	P	**P**			**08 15 16.7**	**-2.0**
	comp=Z,1.5nm,0.8s,mb3.7,baz=335,slow=6.0,SNR=9.6								
SONM				PcP	PcP			08 17 14.4	-1.1
	comp=Z,1.1nm,1.0s,baz=359,slow=5.9,SNR=3.7								
SONM				LR	LR			08 33 08.0	
	comp=Z,110nm,21.4s,MS3.7,baz=358,slow=37								
SONM	**Songino Array**	**41.64**	**94**	P	**P**			**08 15 16.7**	**-2.0**
SONM								08 17 14.4	
SONM				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SONM				MLR	MLR				
	comp=Z,111nm,21.4s								
ULM	**Lac du Bonnet**	**43.19**	**308**	P	**P**			**08 15 31.1**	**-0.2**
	comp=Z,3.9nm,1.0s,mb4.1,baz=6.0,slow=7.5,SNR=6.2								
ULM				LR	LR			08 33 08.1	
	comp=Z,58nm,19.3s,MS3.5,baz=133,slow=36								
ULM	**Lac du Bonnet**	**43.19**	**308**	*e*P	**P**			**08 15 29.5**	**-1.9**
	comp=Z,7.1nm,1.1s,mb4.3								
ULM				*ep*P	pP			08 15 39.9	+5.4
ULM	**Lac du Bonnet**	**43.19**	**308**	*e*P	**P**			**08 15 29.5**	**-1.9**
	comp=Z,7.1nm,1.1s,mb4.3								
ULM				*ep*P	pP			08 15 39.9	+5.4
WMQ	**Urumqi**	**43.85**	**114**	*e*P	**P**			**08 15 40.0**	**+3.3**
WMQ				LR	LR				
	comp=N,90nm,22.0s,MS3.7								
WMQ				LR	LR				
	comp=E,70nm,23.0s,MS3.7								
WMQ				LR	LR				
	comp=Z,80nm,22.0s,MS3.6								
GNI	**Garni**	**44.72**	**160**	LR	LR			08 36 01.3	
	comp=Z,34nm,20.1s,MS3.3,baz=355,slow=38								
GNI	**Garni**	**44.72**	**160⇑**	*e*P	**P**			**08 15 45.2**	**+1.5**
GNI				pmax	pmax				
	comp=Z,13nm,1.3s								
GNI	**Garni**	**44.72**	**160**	*e*P	**P**			**08 15 45.2**	**+1.5**
	comp=Z,13nm,1.3s,mb4.6								
BR131	**Keskin Array S**	**44.89**	**173**	*e*P	**P**			**08 15 45.1**	**+0.1**
	comp=Z,3.9nm,1.0s,mb4.2								
BR131	**Keskin Array S**	**44.89**	**173**	*e*P	**P**			**08 15 45.1**	**+0.1**
	comp=Z,3.8nm,1.0s,mb4.2								
BRTR	**Keskin Array B**	**44.89**	**173**	P	**P**			**08 15 46.9**	**+1.8**
	comp=Z,2.9nm,0.8s,mb4.2,baz=4.6,slow=5.9,SNR=12								
BRTR				LR	LR			08 36 03.4	
	comp=Z,36nm,19.3s,MS3.3,baz=323,slow=38								
BRTR	**Keskin Array B**	**44.89**	**173**	P	**P**			**08 15 46.9**	**+1.8**
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BRTR				MLR	MLR				
	comp=Z,36nm,19.3s								
EYMN	**Ely**	**45.13**	**303**	*e*P	**P**			**08 15 47.5**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.1								
EYMN				*ep*P	pP			08 15 56.2	+6.1
EYMN	**Ely**	**45.13**	**303**	*e*P	**P**			**08 15 47.5**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.1								
EYMN				*ep*P	pP			08 15 56.2	+6.1
ESDC	**Sonseca Array**	**45.76**	**214**	P	**P**			**08 15 54.5**	**+2.6**
	comp=Z,0.4nm,0.3s,mb3.8,baz=6.6,slow=8.1,SNR=6.3								
EGMT	**Eagleton**	**46.38**	**320**	*e*P	**P**			**08 15 56.2**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.2								
EGMT				*ep*P	pP			08 16 05.1	+5.1
EGMT	**Eagleton**	**46.38**	**320**	*e*P	**P**			**08 15 56.2**	**-0.6**
	comp=Z,3.0nm,0.9s,mb4.2								
EGMT				*ep*P	pP			08 16 05.1	+5.1
MDJ	**Mud

comp=Z,40nm,5.6s
NJ2 Nanjing 58.49 85 *eP* **P 08 17 30.3 +3.7**
NJ2 PCP PcP 08 18 20.0 +2.9
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
NJ2 AMB AMB
comp=Z,120nm,9.8s
NJ2 LR LR
comp=N,580nm,21.6s,MS4.7
NJ2 LR LR
comp=E,220nm,16.8s,MS4.7
NJ2 LR LR
comp=Z,380nm,24.1s
MIAR Mount Ida 58.61 304 *eP* **P 08 17 27.3 -0.2**
MIAR pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MIAR Mount Ida 58.61 304 *eP* **P 08 17 27.3 -0.2**
comp=Z,6.2nm,1.0s,mb4.6
ANMO Albuquerque 59.18 316 *eP* **P 08 17 31.9 +0.5**
ANMO *e* 08 17 32.0
ANMO pmax pmax
comp=Z,6.0nm,1.5s
ANMO Albuquerque 59.18 316 *eP* **P 08 17 31.9 +0.4**
comp=Z,6.0nm,1.5s,mb4.4
ANMO *eP* 08 17 32.0
GKN Gorkha 59.27 120 *eP* **P 08 17 31.4 -0.7**
comp=Z,15nm,0.6s,mb5.2
KOLN Koldanda 59.42 121 *eP* **P 08 17 32.3 -0.8**
GUN Gumba 59.47 118 *eP* **P 08 17 32.5 -1.0**
comp=Z,19nm,0.7s,mb5.2
KKN Kakani 59.54 119 *eP* **P 08 17 33.0 -0.9**
comp=Z,24nm,0.7s,mb5.3
SSE Sheshan 59.66 82 *eP* **P 08 17 35.0 +0.2**
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,50nm,3.9s
PKI Pulchoki 59.77 119 *eP* **P 08 17 34.2 -1.3**
TUC Tucson 62.09 320 *eP* **P 08 17 51.4 +0.1**
GYA Guiyang 62.84 97 P **P 08 17 55.0 -1.3**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
JCT Junction City 63.14 309 *eP* **P 08 17 58.3 0.0**
KMI Kunming 63.78 101 P **P 08 18 05.5 +3.0**
KMI AP pP 08 18 15.3 +10
KMI XP sP 08 18 18.3 +11
KMI PP PP 08 20 23.0 +0.3
KMI AMB AMB
comp=Z,100nm,3.4s
KMI LR LR
comp=N,130nm,15.5s,MS4.3
KMI LR LR
comp=E,110nm,15.5s,MS4.3
KMI LR LR
comp=Z,110nm,14.6s,MS4.2
TORD Torodi Ar. Bea 71.87 206 P **P 08 18 54.5 +1.0**
comp=Z,2.3nm,0.8s,mb4.1,baz=349,slow=6.0,SNR=15
TORD LR LR 08 49 27.9
comp=Z,32nm,19.7s,MS3.6,baz=135,slow=35
SDV Santo Domingo 81.95 278 *eP* **P 08 19 51.0 +0.8**
SDV *eP* pP 08 20 01.2 +7.6
ASAR Alice Springs 115.06 75 PKP PKiKP 08 26 08.9 -2.7
comp=Z,0.4nm,0.8s,baz=346,slow=2.3,SNR=5.2

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*ISCJB **29** 08:09:07.2±1.6, 1876S±005×174.86W±007, h70km±14km, mb4.6/28, Error ellipse: s-maj=11.7km s-min=6.5km az=66.6*
*IDC **29** 08:09:09.2±2.9, 1872S×17480W, h78km±27km, mb4.3/14, mb1 4.5/16, mb1mx4.3/21, mbtmp4.6/16, MS3.4/1, Ms1 3.4/1, ms1mx2.8/25, Error ellipse: s-maj=21.2km s-min=13.2km az=133.0*
*BJI **29** 08:09:13.8, 1861S×17501W, h118km, mB4.8, mb4.8*
*NEIC **29** 08:09:15.0±0.2, 1885S×17479W, mb4.6/13, Error ellipse: s-maj=7.9km s-min=4.3km az=125.0*

ISC 29 08:09:09.8±1.4, 1878S±005×17479W±007, h80km±13km, n94, σ0°80/94, mb4.6/28, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.64**	**31**	P	**Pn**	**08 10 29.8**	**-1.2**
	36nm,0.3s,baz=192,slow=7.4,SNR=41						
AFI				S	**Sn**	**08 11 25.5**	**-8.9**
	147nm,0.3s,baz=247,slow=23,SNR=11						
AFI	**Afiamalu**	**5.64**	**31**	*e*Pn	**Pn**	**08 10 30.6**	**-0.4**
	386nm,0.6s						
AFI				*e*Sn	**Sn**	**08 11 25.8**	**-8.5**
RAR	**Rarotonga**	**14.32**	**102**	P	**Pn**	**08 12 29.2**	**+0.7**
	2.4nm,0.3s,baz=295,slow=8.9,SNR=12						
DZM	**Mont Dzumac**	**17.89**	**256**	P	**Pn**	**08 13 19.0**	**+5.7**
	1.2nm,0.3s,baz=94,slow=16,SNR=17						
PUZ	**Puketiti**	**20.16**	**196**	*e*PN	**P**	**08 13 38.2**	**+0.6**
PUZ	**Puketiti**	**20.16**	**196**	*e*P	**P**	**08 13 38.4**	**+0.8**
MWZ	**Matawai**	**20.61**	**197**	*e*PN	**P**	**08 13 41.3**	**-1.1**
MWZ	**Matawai**	**20.61**	**197**	*e*P	**P**	**08 13 42.9**	**+0.5**
URZ	**Urewera**	**20.66**	**198**	P	**P**	**08 13 42.9**	**-0.1**
	69nm,0.4s,baz=14,slow=4.6,SNR=120						
URZ				S	**S**	**08 17 18.6**	**-11**
	2.2nm,0.3s,baz=120,slow=18,SNR=5.5						
URZ	**Urewera**	**20.66**	**198**	*e*PN	**P**	**08 13 42.0**	**-1.0**
URZ	**Urewera**	**20.66**	**198**	*e*P	**P**	**08 13 42.1**	**-0.9**
TAZ	**Tarawera**	**20.82**	**200**	P	**P**	**08 13 46.8**	**+2.1**
PATZ	**Paeroa**	**21.03**	**200**	*e*PN	**P**	**08 13 48.7**	**+1.7**
PATZ	**Paeroa**	**21.03**	**200**	*e*P	**P**	**08 13 48.7**	**+1.7**
PXZ	**Pawanui**	**22.37**	**197**	*e*PN	**P**	**08 14 01.0**	**-0.3**
MRZ	**Mangatainoka R**	**23.33**	**199**	*e*PN	**P**	**08 14 09.3**	**-1.5**
MRZ	**Mangatainoka R**	**23.33**	**199**	*e*P	**P**	**08 14 09.8**	**-1.0**
KIW	**Kapiti Island**	**23.72**	**200**	*e*PN	**P**	**08 14 13.5**	**-0.9**
KIW	**Kapiti Island**	**23.72**	**200**	P	**P**	**08 14 13.7**	**-0.7**
PPT	**Papeete**	**23.98**	**91**	LR	LR	08 22 08.1	
	comp=Z,83nm,20.4s,baz=253,slow=32						
SNZO	**South Karori**	**24.19**	**200**	*e*P	**P**	**08 14 17.7**	**-1.0**
	9.8nm,0.6s,mb4.3						
QRZ	**Quartz Range**	**24.52**	**204**	*e*PN	**P**	**08 14 21.9**	**+0.2**
QRZ	**Quartz Range**	**24.52**	**204**	*e*P	**P**	**08 14 21.9**	**+0.2**
NNZ	**Nelson**	**24.55**	**202**	*e*PN	**P**	**08 14 21.0**	**-1.0**
NNZ	**Nelson**	**24.55**	**202**	*e*P	**P**	**08 14 22.6**	**+0.6**
THZ	**Tophouse**	**25.20**	**202**	*e*PN	**P**	**08 14 27.5**	**-0.3**
THZ	**Tophouse**	**25.20**	**202**	*e*P	**P**	**08 14 28.0**	**+0.1**
KHZ	**Kahutara**	**25.57**	**200**	*e*PN	**P**	**08 14 31.0**	**-0.2**
KHZ	**Kahutara**	**25.57**	**200**	*e*P	**P**	**08 14 31.0**	**-0.2**
DSZ	**Denniston Nort**	**25.59**	**204**	*e*PN	**P**	**08 14 31.4**	**0.0**
DSZ	**Denniston Nort**	**25.59**	**204**	*e*P	**P**	**08 14 31.4**	**0.0**
LTZ	**Lake Taylor**	**26.32**	**202**	*e*PN	**P**	**08 14 36.7**	**-1.3**
LTZ	**Lake Taylor**	**26.32**	**202**	*e*P	**P**	**08 14 36.7**	**-1.3**
WVZ	**Waitaha Valley**	**27.14**	**204**	*e*PN	**P**	**08 14 44.8**	**-0.5**
WVZ	**Waitaha Valley**	**27.14**	**204**	*e*P	**P**	**08 14 45.3**	**0.0**
RPZ	**Rata Peaks**	**27.57**	**203**	P	**P**	**08 14 49.4**	**+0.2**
	46nm,0.7s,mb5.1,baz=19,slow=2.6,SNR=24						
FOZ	**Fox Glacier**	**27.96**	**205**	*e*PN	**P**	**08 14 51.9**	**-0.8**
FOZ	**Fox Glacier**	**27.96**	**205**	*e*P	**P**	**08 14 51.9**	**-0.7**
JCZ	**Jackson Bay**	**28.75**	**205**	*e*PN	**P**	**08 14 59.6**	**-0.1**
JCZ	**Jackson Bay**	**28.75**	**205**	*e*P	**P**	**08 15 00.0**	**+0.3**
ARMA	**Armidale**	**32.54**	**243**	*e*P	**P**	**08 15 34.4**	**+1.3**
CTA	**Charters Tower**	**36.71**	**261**	*e*P	**P**	**08 16 10.2**	**+1.2**
	20nm,0.6s,mb5.2						
CTA	**Charters Tower**	**36.71**	**261**	P	**P**	**08 16 10.2**	**+1.2**
	24nm,0.6s,mb5.3,baz=92,slow=11,SNR=29						
CTAO	**Charters Tower**	**36.71**	**261**	*e*P	**P**	**08 16 09.4**	**+0.4**
TAU	**Tasmania Unive**	**39.97**	**225**	*e*P	**P**	**08 16 36.7**	**+0.3**
STKA	**Stephens Creek**	**41.26**	**243**	*e*P	**P**	**08 16 45.2**	**-1.8**
	7.5nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**41.26**	**243**	P	**P**	**08 16 45.3**	**-1.7**
	7.9nm,0.8s,mb4.6,baz=98,slow=12,SNR=8.2						
WB2	**Warramunga Arr**	**47.85**	**260**	*e*P	**P**	**08 17 39.3**	**-0.2**
WRAB	**Tennant Creek**	**47.85**	**260**	*e*P	**P**	**08 17 39.2**	**-0.2**
	10nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**47.86**	**260**	P	**P**	**08 17 39.3**	**-0.2**
	3.4nm,0.3s,mb4.7,baz=96,slow=7.5,SNR=171						
AS31	**Alice Springs**	**47.87**	**255**	*e*P	**P**	**08 17 39.8**	**+0.2**
ASAR	**Alice Springs**	**47.88**	**255**	P	**P**	**08 17 39.6**	**-0.1**
	12nm,0.6s,mb4.9,baz=94,slow=8.1,SNR=117						
ASAR				PcP	PcP	08 19 07.1	0.0
	1.3nm,0.7s,baz=97,slow=4.1,SNR=4.9						
ASPA	**Alice Springs**	**47.88**	**255**	*e*P	**P**	**08 17 39.8**	**+0.1**
KAKA	**Kakadu**	**51.00**	**269**	*e*P	**P**	**08 18 03.6**	**+0.1**
	11nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**56.28**	**260**	*e*P	**P**	**08 18 42.2**	**+0.2**
	13nm,1.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**56.28**	**260**	P	**P**	**08 18 42.3**	**+0.3**
	2.4nm,0.6s,mb4.4,baz=95,slow=13,SNR=10						
SBA	**Scott Base**	**59.80**	**184**	*e*P	**P**	**08 19 08.7**	**+2.2**
	8.4nm,0.8s,mb4.8						
VNDA	**Vanda**	**59.90**	**186**	P	**P**	**08 19 07.8**	**+0.5**
	3.6nm,0.8s,mb4.5,baz=13,slow=5.5,SNR=19						
MJAR	**Matsushiro Arr**	**70.69**	**321**	P	**P**	**08 20 17.2**	**+0.2**
	0.6nm,0.3s,mb3.8,baz=157,slow=7.2,SNR=4.8						
QSPA	**South Pole Qui**	**71.28**	**180**	*e*P	**P**	**08 20 21.0**	**+0.4**
	15nm,0.7s,mb4.9						
NVAR	**Mina Array Bea**	**77.71**	**42**	P	**P**	**08 20 58.0**	**+0.1**
	1.8nm,0.8s,mb3.9,baz=224,slow=10,SNR=14						
NVAR				pP	pP	08 21 31.2	+12
	1.3nm,1.0s,baz=226,slow=9.1,SNR=2.9						
MNV	**Mina**	**77.81**	**42**	*e*P	**P**	**08 20 58.8**	**+0.5**
	6.3nm,1.1s,mb4.3						
TPNV	**Topopah Spring**	**78.19**	**44**	*e*P	**P**	**08 21 00.7**	**+0.2**
SSE	**Sheshan**	**78.96**	**308**	*e*P	**P**	**08 21 04.5**	**-0.2**
SSE				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,50nm,3.9s						
TUC	**Tucson**	**79.55**	**51**	*e*P	**P**	**08 21 07.8**	**-0.1**
MDJ	**Mudanjiang**	**80.90**	**323**	P	**P**	**08 21 15.5**	**+0.3**
MDJ				PP	PP	08 24 21.0	+0.5
MDJ				S	S	08 31 19.5	+2.1
MDJ				SS	SS	08 36 34.0	+1.3
MDJ				AMB	AMB		
	comp=Z,40nm,4.4s						
NJ2	**Nanjing**	**81.16**	**308**	*e*P	**P**	**08 21 17.0**	**+0.4**
NJ2				S	S	08 31 17.0	-3.1
NJ2				SKS		08 31 23.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,120nm,4.7s						
NJ2				LR	LR		
	comp=N,810nm,32.0s						
NJ2				LR	LR		
	comp=E,400nm,27.6s						
NJ2				LR	LR		
	comp=Z,290nm,22.2s						
BMO	**Blue Mountains**	**82.10**	**37**	*e*P	**P**	**08 21 21.3**	**-0.2**
CN2	**Changchun**	**82.83**	**321**	*e*P	**P**	**08 21 26.3**	**+1.0**
CN2				*e*S	S	08 31 37.0	-0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
SNY	**Shenyang**	**82.89**	**318**	∥P	**P**	**08 21 26.3**	**+0.7**
SPUT	**South Promonto**	**83.05**	**42**	*e*P	**P**	**08 21 26.2**	**-0.3**
SRU	**San Rafael**	**83.16**	**45**	*e*P	**P**	**08 21 27.4**	**+0.4**
ANMO	**Albuquerque**	**83.98**	**50**	*e*P	**P**	**08 21 31.8**	**+0.6**
	comp=Z,7.8nm,1.4s,mb4.3						
MAW	**Mawson**	**84.19**	**199**	P	**P**	**08 21 31.6**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.0,baz=122,slow=7.4,SNR=3.6						
GDL2	**Guadalupe Moun**	**84.29**	**53**	*e*P	**P**	**08 21 34.1**	**+1.3**
MCMT	**McKenzie Canyo**	**84.70**	**39**	*e*P	**P**	**08 21 35.1**	**+0.2**
SNOW	**Snow King Moun**	**85.25**	**41**	*e*P	**P**	**08 21 37.5**	**-0.1**
	comp=Z,4.5nm,1.1s,mb4.3						
QLMT	**Earthquake Lak**	**85.56**	**40**	*e*P	**P**	**08 21 39.3**	**+0.2**
SMCO	**Snowmass**	**85.60**	**46**	*e*P	**P**	**08 21 39.9**	**+0.6**
	comp=Z,4.2nm,1.3s,mb4.2						
BW06	**Boulder Array**	**85.65**	**42**	*e*P	**P**	**08 21 39.4**	**-0.2**
PDAR	**Pinedale Array**	**85.65**	**42**	P	**P**	**08 21 39.0**	**-0.6**
	comp=Z,1.1nm,0.9s,mb3.8,baz=235,slow=1.9,SNR=10						
PDAR				pP	pP	08 22 12.2	+11
	comp=Z,1.0nm,0.9s,baz=225,slow=4.0,SNR=4.7						
COLA	**College**	**85.91**	**11**	*e*P	**P**	**08 21 39.6**	**-1.3**
	comp=Z,11nm,0.8s,mb4.8						
DAWY	**Dawson**	**87.00**	**15**	*e*P	**P**	**08 21 46.0**	**-0.3**
SYO	**Syowa Base**	**89.04**	**192**	∥*e*P	**P**	**08 21 53.6**	**-2.3**
VNA1	**Neumayer--Stat**	**90.31**	**176**	*e*P	**P**	**08 22 01.8**	**0.0**
VNA1				*e*		08 22 02.7	
VNA1				*e*		08 22 12.4	
VNA1				*e*		14 23 29.0	
KMI	**Kunming**	**91.29**	**296**	P	**P**	**08 22 07.3**	**+0.9**
INK	**Inuvik**	**91.85**	**14**	P	**P**	**08 22 07.9**	**-1.0**
	comp=Z,2.0nm,0.9s,mb4.4,baz=223,slow=8.1,SNR=5.0						
CD2	**Chengdu**	**92.44**	**302**	*e*P	**P**	**08 22 10.5**	**-1.2**
CD2				PP	PP	08 25 53.8	+0.3
CD2				SKS		08 32 35.0	
CD2				S		08 33 04.5	
CD2				SS	SS	08 39 19.0	-2.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,40nm,9.6s						
CD2				LR	LR		
	comp=N,130nm,17.3s						
CD2				LR	LR		
	comp=Z,100nm,18.2s						
YKA	**Yellowknife Ar**	**93.71**	**24**	P	**P**	**08 22 16.2**	**-1.3**
	comp=Z,0.8nm,0.8s,mb4.1,baz=258,slow=4.9,SNR=4.8						
YKA	**Yellowknife Ar**	**93.71**	**24**	P	**P**	**08 22 16.2**	**-1.3**
LZH	**Lanzhou**	**94.16**	**307**	*e*P	**P**	**08 22 20.3**	**+0.7**
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,60nm,5.0s						
GTA	**Gaotai**	**98.25**	**309**	*e*P	**P**	**08 22 38.0**	**-0.1**
CLL	**Collm**	**146.96**	**351**	*e*PKPbc	PKPbc	08 28 43.0	-0.1
	comp=Z,6.0nm,0.7s						
CLL				*e*pPKPbc	pPKPbc	08 28 55.0	-10
BRTR	**Keskin Array B**	**147.81**	**316**	PKPbc	PKPbc	08 28 44.2	-1.2
	comp=Z,0.7nm,0.7s,baz=218,slow=3.0,SNR=4.4						

IDC 29 08:10:05.5±2.6, 320S×13090E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.7/16, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=132.5km s-min=27.8km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.68**	**199**	Pn	Pn	08 13 47.9	+0.2
	0.1nm,0.3s,baz=19,slow=18,SNR=3.7						
WRA	**Warramunga Arr**	**16.98**	**169**	Pn	Pn	08 14 04.2	-0.1
	0.3nm,0.3s,baz=349,slow=12,SNR=18						
ASAR	**Alice Springs**	**20.55**	**172**	P	P	08 14 46.0	+0.5
	1.3nm,0.4s,baz=350,slow=11,SNR=18						
MKAR	**Makanchi Array**	**65.59**	**326**	P	P	08 20 51.2	+0.2
	0.4nm,0.5s,baz=106,slow=8.1,SNR=4.5						

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*NEIC **29** 08:54:51.4, 1626N×6058W, h22km, MD2.8(FDF), After FDF.*

TRN 29 08:54:51.4, 1621N×6074W, h29km, M2.8(FDF), M3.5(FDF), 2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.33**	**289**	∥*e*P	Pb	08 55 00.6	+1.4
DEG				*e*S	Sb	08 55 07.5	+3.1
MGG	**Marie-Galante**	**0.63**	**243**	∥*e*P	Pb	08 55 05.6	+1.8
SEG	**Port Louis**	**0.77**	**285**	*e*P	Pb	08 55 07.5	+1.3
SEG				*e*S	Sb	08 55 19.5	+3.3
DOG	**Dongo Capester**	**0.87**	**259**	*e*P	Pn	08 55 09.6	+1.9
TBG	**Guadaloupe-3**	**0.94**	**248**	*e*P	Pn	08 55 10.3	+1.6
BBL	**Barber's Block**	**0.98**	**226**	*e*P	Pn	08 55 10.4	+1.2
LZG	**Guadaloupe-1**	**1.00**	**266**	*e*P	Pn	08 55 11.5	+2.0

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*MOS **29** 09:09:15.7±0.4, 4947N×15949E, h26km, mb4.2/1, Error ellipse: s-maj=45.6km s-min=10.9km az=91.0*

KRSC 29 09:09:27.1±1.6, 5023N×15928E, h44km±22km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.00**	**309**	*e*P	Pn	09 09 59.2	+0.9
PAU				*e*S	Sn	09 10 23.7	+1.6
PAU				Smax			
	510nm,0.5s						
SKR	**Severo-Kuril's**	**2.07**	**284**	*e*PN	Pn	09 09 56.0	-3.4
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
RUS	**Russkaya**	**2.26**	**348**	P	Pn	09 10 02.9	+1.0
RUS				S	Sn	09 10 29.4	+0.9
RUS	**Russkaya**	**2.26**	**348**	*i* P	Pn	09 10 02.8	+0.9
RUS				*e*S	Sn	09 10 29.6	+1.1
GRL	**Gorelyy**	**2.44**	**342**	*e*P	Pn	09 10 06.6	+2.1
GRL				*e*S	Sn	09 10 35.4	+2.3
ALID	**Alaid**	**2.46**	**286**	*i* P	Pn	09 10 05.3	+0.6
ALID				*i* S	Sn	09 10 34.5	+0.9
MIPR	**Malaya Ipel'ka**	**2.59**	**323**	*i* P	Pn	09 10 08.4	+1.9
MIPR				*i* S	Sn	09 10 39.7	+3.0
KRMR	**Karymshinskiy**	**2.70**	**345**	*e*P	Pn	09 10 10.1	+2.1
KRMR				*e*S	Sn	09 10 41.8	+2.4
PET	**Petropavlovsk**	**2.83**	**352**	P	Pn	09 10 11.5	+1.8
PET				S	Sn	09 10 43.8	+1.3
PET	**Petropavlovsk**	**2.83**	**352**	*e*P	Pn	09 10 11.0	+1.3
PET				*e*S	Sn	09 10 43.8	+1.3
SPN	**Mys Shipunski**	**2.91**	**9**	P	Pn	09 10 12.4	+1.5
SPN				S	Sn	09 10 45.5	+0.9
SPN	**Mys Shipunski**	**2.91**	**9**	*e*P	Pn	09 10 12.1	+1.2
SPN				*e*S	Sn	09 10 45.4	+0.8
NLC	**Nalytchevo**	**2.95**	**1**	P	Pn	09 10 12.9	+1.5
NLC				S	Sn	09 10 46.1	+0.6
NLC	**Nalytchevo**	**2.95**	**1**	*e*P	Pn	09 10 13.5	+2.1
NLC				*e*S	Sn	09 10 46.2	+0.7
UGLR	**Uglovaya**	**3.00**	**355**	*e*P	Pn	09 10 14.4	+2.3
UGLR				*e*S	Sn	09 10 46.8	+0.1
APC	**Apacha**	**3.01**	**335**	*i* P	Pn	09 10 14.0	+1.8
APC				*i* S	Sn	09 10 47.9	+0.9
APC				Smax			
	comp=Z,10.0nm,0.9s						
SMAR	**Somma**	**3.05**	**355**	*e*P	Pn	09 10 16.0	+3.2
SMAR				*e*S	Sn	09 10 49.6	+1.5
AVH	**Avacha**	**3.06**	**354**	*i* P	Pn	09 10 15.1	+2.2
AVH				*i* S	Sn	09 10 48.9	+0.7
SDLR	**Sedlovina**	**3.06**	**356**	*e*P	Pn	09 10 14.5	+1.5
SDLR				*e*S	Sn	09 10 48.1	-0.3
KOK	**Koryaka**	**3.09**	**353**	*e*P	Pn	09 10 15.5	+2.1
KOK				*e*S	Sn	09 10 49.0	-0.1
GNL	**Ganaly**	**3.57**	**347**	*e*P	Pn	09 10 22.9	+3.0
GNL				*e*S	Sn	09 11 03.3	+2.5
MKZ	**Mys Kozlova**	**4.58**	**18**	P	Pn	09 10 34.7	+0.8
MKZ				S	Sn	09 11 24.5	-1.4
MKZ	**Mys Kozlova**	**4.58**	**18**	*e*P	Pn	09 10 34.6	+0.7
MKZ				*e*S	Sn	09 11 24.7	-1.2
KMNR	**Kamenistaya**	**5.57**	**6**	*e*P	Pn	09 10 48.0	+0.7
ESO	**Esso**	**5.72**	**357**	*i* P	Pn	09 10 50.5	+1.1
KPT	**Kopyto**	**5.78**	**5**	*e*P	Pn	09 10 54.1	+3.9
KOZ	**Kozyrevsk**	**5.85**	**3**	P	Pn	09 10 54.3	+3.1
KOZ	**Kozyrevsk**	**5.85**	**3**	*e*P	Pn	09 10 54.5	+3.3
KOZR	**Kozyr**	**5.86**	**3**	PN	Pn	09 10 54.3	+2.9
LGNR	**Loginova**	**5.92**	**8**	*e*P	Pn	09 10 55.5	+3.2
SRDR	**Sredinnyy**	**6.10**	**2**	*e*P	Pn	09 10 57.1	+2.4
KLY	**Klyuchi**	**6.15**	**7**	*e*P	Pn	09 10 57.7	+2.4
KBTR	**Krutoberegovo**	**6.35**	**18**	P	Pn	09 10 59.9	+1.7
KBTR	**Krutoberegovo**	**6.35**	**18**	*e*P	Pn	09 10 59.8	+1.6
BKI	**Bering**	**6.43**	**37**	*i* S	Sn	09 12 05.8	-5.4
BDR	**Baidarnaya**	**6.45**	**10**	*i* P	Pn	09 11 01.6	+2.1
SMKR	**Semkarok**	**6.50**	**11**	*e*P	Pn	09 11 02.8	+2.7
SRKR	**Sorokina**	**6.53**	**9**	*e*P	Pn	09 11 03.4	+2.8

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*ISCJB **29** 09:12:17.8±1.9, 1827N±008×6804W±005, h14km±13km, mb3.9/5, MS3.1/3, Error ellipse: s-maj=14.3km s-min=7.3km az=13.8*
*IDC **29** 09:12:20.4±0.9, 1836N×6786W, h18km±5km, mb3.6/6, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML3.8/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/32, Error ellipse: s-maj=25.0km s-min=11.8km az=20.0*
*RSPR **29** 09:12:27.8, 1821N×6743W, h10km±31km, MD4.0/18, MD4.0/18*
*NEIC **29** 09:12:27.8, 1821N×6743W, h10km, MD4.0(RSPR), After RSPR.*
NEIC Felt at Aguada.

ISC 29 09:12:18.2±1.0, 1837N±008×6794W±005, h1km±6km, n34, σ0°93/35, mb4.0/5, MS3.1/3, 11C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**0.78**	**101**	∥*e*P	**Pg**	**09 12 33.6**	**+0.5**
AGPR	**Aguadilla, PR**	**0.79**	**83**	∥*e*P	**Pg**	**09 12 35.0**	**+1.6**
LSP	**Las Mesas**	**0.83**	**103**	∥,*i*P	**Pg**	**09 12 34.5**	**+0.3**
MGP	**Maguayo**	**0.89**	**114**	∥,*i*P	**Pg**	**09 12 34.9**	**-0.3**
LRS	**Lares**	**1.04**	**94**	∥,*i*P	**Pg**	**09 12 38.4**	**+0.1**
AOPR	**Arecibo Observ**	**1.13**	**91**	∥*e*P	**Pg**	**09 12 39.4**	**-0.4**
OBIP	**Obispado Ponce**	**1.31**	**104**	∥*e*P	**Pg**	**09 12 41.7**	**-1.6**
CELP	**Cerrillos**	**1.33**	**103**	∥,*i*P	**Pg**	**09 12 42.3**	**-1.3**
ICM	**Isla Caja Muer**	**1.43**	**109**	∥*e*P	**Pn**	**09 12 44.2**	**-1.1**
SJG	**San Juan**	**1.72**	**98**	∥*e*P	**Pn**	**09 12 48.4**	**-1.0**
SJG	**San Juan**	**1.72**	**98**	∥*e*P	**Pn**	**09 12 48.7**	**-0.6**
SJG	**San Juan**	**1.72**	**98**	Pn	**Pn**	**09 12 49.3**	**0.0**
	114nm,0.3s,baz=279,slow=12,SNR=46						
SJG				Lg		09 13 12.4	
	145nm,0.3s,baz=22,slow=20,SNR=6.8						
SJG	**San Juan**	**1.72**	**98**	∥*e*P	**Pn**	**09 12 48.4**	**-1.0**
SJG				*e*Pn	**Pn**	**09 12 49.1**	**-0.2**
SJG				*e*Sn	**Sn**	**09 13 11.8**	**-0.2**
CPD	**Cerro la Pandu**	**1.95**	**99**	∥*e*P	**Pn**	**09 12 52.4**	**-0.1**
CPD				*e*Pn	**Pn**	**09 12 53.2**	**+0.7**
CPD				*e*Sn	**Sn**	**09 13 17.3**	**-0.4**
CBYP	**Canovanas**	**1.98**	**92**	∥*e*P	**Pn**	**09 12 53.2**	**+0.3**
HUMP	**Col San Antoni**	**2.00**	**96**	∥*e*P	**Pn**	**09 12 53.9**	**+0.7**
MTP	**Monte Pirata**	**2.28**	**96**	∥*e*P	**Pn**	**09 12 58.2**	**+1.1**
CULB	**Culebra**	**2.48**	**91**	∥*e*P	**Pn**	**09 13 00.2**	**+0.4**
STVI	**Saint Thomas**	**2.83**	**90**	∥*e*P	**Pn**	**09 13 05.0**	**+0.4**
CDVI	**St. Croix**	**3.08**	**101**	∥*e*P	**Pn**	**09 13 09.5**	**+1.4**
TBVI	**Tortola**	**3.16**	**89**	∥*e*P	**Pn**	**09 13 09.6**	**+0.5**
PCRV	**Puerto La Cruz**	**8.75**	**158**	Pn	**Pn**	**09 14 24.8**	**-1.1**
	1.1nm,0.3s,baz=351,slow=5.8,S

ZFRI	**Zfri**	**0.34 155**	Pg	**Pg**	**09 17 14.2**	**+0.2**
RMNI	**Mount Ramon**	**0.34 219**	Pg	**Pg**	**09 17 14.1**	**0.0**
SVTA	**Shivta**	**0.34 282**	Pg	**Pg**	**09 17 13.9**	**-0.3**
SVTA			Sg	**Sg**	**09 17 19.4**	**+0.7**
PRNI	**Paran**	**0.51 181**	Pg	**Pg**	**09 17 17.0**	**-0.3**
PRNI			Sg	**Sg**	**09 17 25.6**	**+1.7**
PRNI	**Paran**	**0.51 181**	Pg	**Pg**	**09 17 17.2**	**-0.1**
YTIR	**Yattir**	**0.51 10**	Pg	**Pg**	**09 17 17.0**	**-0.3**
KZIT	**Kziot**	**0.53 275**	Pg	**Pg**	**09 17 17.3**	**-0.4**
KZIT			Sg	**Sg**	**09 17 26.2**	**+1.6**
KZIT	**Kziot**	**0.53 275**	Pg	**Pg**	**09 17 17.1**	**-0.7**
KZIT			Sg	**Sg**	**09 17 25.7**	**+1.0**
MZDA	**Masada**	**0.54 34**	Pg	**Pg**	**09 17 17.5**	**-0.3**
MZDA			Sg	**Sg**	**09 17 26.4**	**+1.6**
MZDA	**Masada**	**0.54 34**	Pg	**Pg**	**09 17 17.5**	**-0.4**
AMAZ	**Amatzia**	**0.67 353**	Pg	**Pg**	**09 17 20.4**	**-0.1**
AMAZ	**Amatzia**	**0.67 353**	Pg	**Pg**	**09 17 19.8**	**-0.7**
DSI	**Dead Sea**	**0.77 24**	Pg	**Pg**	**09 17 23.4**	**+1.0**
KMTI	**Karmit**	**0.80 198**	Pg	**Pg**	**09 17 22.2**	**-0.6**
DRGI	**Dragot**	**0.80 24**	Pg	**Pg**	**09 17 23.2**	**+0.4**
HRFI	**Mount Harif**	**0.82 179**	Pg	**Pg**	**09 17 22.5**	**-0.8**
HRFI	**Mount Harif**	**0.82 179**	Pg	**Pg**	**09 17 22.4**	**-0.9**
HRFI			Sg	**Sg**	**09 17 35.2**	**+1.2**
MKRJ	**Makawir**	**0.87 38**	Pg	**Pg**	**09 17 24.2**	**-0.1**
MBH	**Mount Berech**	**1.07 185**	Pg	**Pg**	**09 17 27.7**	**-0.4**
MBH	**Mount Berech**	**1.07 185**	Pg	**Pg**	**09 17 28.1**	**+0.1**
AQBJ	**Aqaba**	**1.13 178**	Pg	**Pg**	**09 17 28.6**	**-0.6**
EIL	**Elat**	**1.19 183**	Pg	**Pg**	**09 17 29.8**	**-0.6**
EIL			Sg	**Sg**	**09 17 47.3**	**+1.5**
EIL	**Elat**	**1.19 183**	Pg	**Pg**	**09 17 29.4**	**-0.9**
EIL			Sg	**Sg**	**09 17 45.2**	**-0.5**
HNKL	**Nakhl**	**1.29 224⇑**	*eP*	**Pg**	**09 17 30.7**	**-1.5**
HNKL			S	**Sg**	**09 17 48.1**	**-0.8**
SLTI	**Sal'it**	**1.38 1**	Pn	**Pn**	**09 17 33.0**	**-0.6**
SLTI			Sn	**Sn**	**09 17 52.6**	**+0.4**
HMDT	**Nahal Hemdat**	**1.46 17**	Pn	**Pn**	**09 17 33.9**	**-0.8**
MMLI	**Mount Malkishu**	**1.61 12**	Pn	**Pn**	**09 17 35.9**	**-0.9**
MMLI	**Mount Malkishu**	**1.61 12**	Pn	**Pn**	**09 17 35.5**	**-1.3**
MMLI			Sn	**Sn**	**09 17 58.4**	**+0.4**
HBST	**Basata**	**1.66 189**	⇑P	**Pn**	**09 17 36.9**	**-0.5**
HBST			S	**Sn**	**09 18 01.3**	**+2.1**
HDHB	**Dhahab**	**2.16 189**	⇓P	**Pn**	**09 17 43.3**	**-1.1**
HDHB			S	**Sn**	**09 18 13.5**	**+1.9**
HKAT	**Jabal Katrina**	**2.49 201**	⇑P	**Pn**	**09 17 48.4**	**-0.5**
TR2		**2.71 205**	⇑P	**Pn**	**09 17 51.0**	**-1.0**

IDC 29 09:22:44.6±1.7, 2921S×17778W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/11, mbtmp3.8/2, Error ellipse: s-maj=16.1km s-min=6.5km az=72.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.12 251**		Pn	Pg	09 22 54.0	+7.0
	1μm,0.3s,baz=72,slow=18,SNR=90						
RAO				Sn	Sg	09 22 59.6	+11
	3μm,0.3s,baz=81,slow=22,SNR=35						
URZ	**Urewera**	**9.97 204**		Sn	Sn	09 26 49.7	-12
	0.4nm,0.3s,baz=109,slow=19,SNR=7.2						
ASAR	**Alice Springs**	**43.37 266**		P	P	09 30 48.3	-0.4
	1.2nm,1.0s,baz=102,slow=7.9,SNR=7.8						
WRA	**Warramunga Arr**	**44.25 271**		P	P	09 30 55.6	-0.1
	1.7nm,0.8s,baz=109,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**144.09 341**		PKP	PKPdf	09 42 20.5	-1.7
	3.2nm,1.0s,baz=48,slow=2.1,SNR=4.1						

*THR **29** 09:24:31.9±0.4, 2930N×5842E, h38km±5km, ML3.3*
*CSEM **29** 09:24:33.0±0.4, 2900N×5854E, h30km, ML3.3, Error ellipse: s-maj=9.9km s-min=5.9km az=172.0*
*ISCJB **29** 09:24:34.9±1.6, 2912N±008×5837E±005, h26km±15km, Error ellipse: s-maj=13.0km s-min=6.8km az=20.3*
*TEH **29** 09:24:37.0, 2925N×5847E, h11km, Mn3.7*

ISC 29 09:24:31.2±2.1, 2913N±009×585E±01, h8km±25km, n11, σ1§28/18, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.76 299**		*e*PG	**Pn**	**09 25 01.1**	**-1.0**
ZHSF	**Zahedan**	**2.02 76**		*e*PG	**Pg**	**09 25 09.0**	**-0.8**
ZHSF				*e*SG	**Sg**	**09 25 36.5**	**+0.5**
ZHSF				AML	AML	09 25 44.7	
	comp=E,166nm,0.4s						
ZHSF				AML	AML	09 25 45.0	
	comp=N,156nm,0.4s						
ZHSF	**Zahedan**	**2.02 76**		*e*Pg	**Pg**	**09 25 09.0**	**-0.9**
	SNR=96						
ZHSF				*e*Sg	**Sg**	**09 25 36.5**	**+0.5**
	SNR=96						
BNDS	**Bandar-Abbas**	**2.70 231**		*e*PN	**Pn**	**09 25 15.4**	**+0.5**
BNDS				AML	AML	09 26 05.1	
	comp=E,148nm,0.6s						
BNDS				AML	AML	09 26 06.4	
	comp=N,111nm,0.6s						
IBAF	**Bafgh**	**3.55 315**		*e*Pn	**Pn**	**09 25 29.0**	**+2.4**
IBAF				*e*Sn	**Sn**	**09 26 10.1**	**+1.4**
IMEH	**Mehriz**	**4.07 305**		*e*Pn	**Pn**	**09 25 38.0**	**+4.2**
IMEH				*e*Sn	**Sn**	**09 26 21.0**	**-0.7**
ICHK	**Chekchek**	**4.72 312**		*e*Pn	**Pb**	**09 25 54.8**	**+0.6**
ICHK				*e*Sn	**Sn**	**09 26 36.8**	**-0.8**
ISRV	**Sarvestan**	**4.74 274**		*e*Pn	**Pn**	**09 25 46.9**	**+3.9**
ISRV				*e*Sn	**Sn**	**09 26 38.9**	**+0.7**
GHIR	**Ghir-Karzin**	**4.94 262**		*e*PN	**Pn**	**09 25 44.7**	**-1.1**
ISAD	**Sadrabad**	**5.02 305**		*e*Pn	**Pn**	**09 25 50.2**	**+3.4**
ISAD				*e*Sn	**Sn**	**09 26 44.2**	**-0.8**
NASN	**Na'in**	**6.13 308**		*e*PN	**Pn**	**09 25 59.8**	**-2.2**

*IDC **29** 09:47:01.3±0.8, 524N×12636E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/19, mbtmp4.0/9, MS3.3/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=72.8km s-min=15.5km az=74.0*
*NEIC **29** 09:47:06.5±0.7, 529N×12639E, h35km, mb4.4/4, Error ellipse: s-maj=48.6km s-min=9.2km az=71.0*
*MAN **29** 09:47:07.5, 512N×12636E, h6km, mb3.8, ML4.9, MS8.4*
*ISCJB **29** 09:47:12.7±1.0, 523N±008×1265E±0.1, h114km±11km, mb4.0/11, Error ellipse: s-maj=25.0km s-min=10.4km az=145.2*

ISC 29 09:47:14.0±1.0, 523N±008×1265E±01, h107km±10km, n20, σ1§01/20, mb4.0/11, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.26 322**	⇑	*i*P	**Pn**	**09 47 51.4**	**+1.2**
KCP				*i* S	**Sn**	**09 48 18.0**	**+0.1**
BIPH	**Bislig**	**2.94 357**	⇓	*i*P	**Pn**	**09 47 57.8**	**-1.2**
BIPH				*i* S	**Sn**	**09 48 34.7**	**+0.9**
CGP	**Cagayan de Oro**	**3.68 331**	⇑	*e*P	**Pn**	**09 48 06.2**	**-2.6**
CGP				*i* S	**Sn**	**09 48 51.9**	**+0.5**
KAKA	**Kakadu**	**18.77 162**		*e*P	**P**	**09 51 23.5**	**-1.1**
	6.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.20 182**		*e*P	**P**	**09 52 11.6**	**+0.3**
	13nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.20 182**		P	**P**	**09 52 09.8**	**-1.5**
	2.4nm,0.6s,mb3.7,baz=20,slow=3.2,SNR=11						
WRA	**Warramunga Arr**	**26.17 163**		P	**P**	**09 52 37.9**	**-0.4**
	2.3nm,0.5s,mb3.8,baz=339,slow=10,SNR=24						
WB2	**Warramunga Arr**	**26.18 163**		*e*P	**P**	**09 52 40.3**	**+2.0**
ASAR	**Alice Springs**	**29.61 166**		P	**P**	**09 53 10.1**	**+1.1**
	0.6nm,0.6s,mb3.4,baz=346,slow=7.1,SNR=12						
ASAR				PcP	PcP	09 56 14.1	+3.1
	0.6nm,0.6s,baz=340,slow=2.1,SNR=6.2						
MJAR	**Matsushiro Arr**	**32.97 17**		LR	LR	10 05 42.1	
	comp=Z,40nm,19.5s,baz=355,slow=34						
NWAO	**Narrogin (SRO)**	**38.95 192**		P	**P**	**09 54 28.8**	**-0.6**
	24nm,1.2s,mb4.9,baz=27,slow=5.7,SNR=6.1						
STKA	**Stephens Creek**	**39.60 160**		P	**P**	**09 54 34.6**	**-0.2**
	2.7nm,0.9s,mb4.1,baz=304,slow=19,SNR=6.5						
STKA				PcP	PcP	09 56 40.8	+0.9
	2.0nm,0.5s,baz=123,slow=20,SNR=5.8						
SONM	**Songino Array**	**45.82 341**		P	**P**	**09 55 24.1**	**-0.9**
	1.0nm,0.7s,mb3.6,baz=156,slow=7.8,SNR=3.8						
SONM				PcP	PcP	09 57 02.9	+2.2
	0.6nm,0.7s,baz=152,slow=4.2,SNR=3.7						
MKAR	**Makanchi Array**	**56.21 325**		P	**P**	**09 56 42.6**	**-0.1**
	0.8nm,0.6s,mb4.0,baz=123,slow=8.8,SNR=8.4						
MKAR				PcP	PcP	09 57 41.1	+1.8
	0.9nm,0.7s,baz=108,slow=4.7,SNR=4.6						
KURK	**Kurchatov**	**60.37 327**		*e*P	**P**	**09 57 11.2**	**-0.5**
	9.6nm,1.4s,mb4.6						
ZRNK	**Zerenda**	**66.68 326**		*e*P	**P**	**09 57 53.1**	**-0.1**
	2.3nm,0.8s,mb4.1						

VNDA	**Vanda**	**84.93 173**		P	**P**	**09 59 38.3**	**+1.3**
	0.5nm,0.8s,mb3.5,baz=303,slow=6.4,SNR=3.2					
ARCES	**ARCESS Array B**	**88.97 340**		P	**P**	**09 59 57.1**	**+0.6**
	2.2nm,1.0s,mb4.1,baz=69,slow=6.6,SNR=5.6					
NOA	**NORSAR Array B**	**97.36 334**		LR	LR	10 45 10.5	
	comp=Z,18nm,20.0s,baz=345,slow=36					
TORD	**Torodi Ar. Bea**	**122.23 289**		PKP	PKPdf	10 05 58.1	+2.0
	0.7nm,0.6s,baz=39,slow=1.4,SNR=5.6					

*NEIC **29** 10:25:48.6, 1801N×10198W, h29km, MD3.8(MEX), After MEX.*

MEX 29 10:25:48.6±0.5, 1801N×10197W, h29km±13km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.63 130**		*i* P	Pb	10 25 59.0	-2.0
ZIIG				*i* S	Sb	10 26 07.2	-2.3
MOIG	**Morelia**	**1.81 24**		*i* P	Pn	10 26 16.3	-1.6
MOIG				*i* S	Sn	10 26 37.3	-2.6
CAIG	**El Cayaco**	**1.89 120**		*i* P	Pn	10 26 16.8	-2.1
CAIG				*i* S	Sn	10 26 40.1	-1.6
MEIG	**Mezcala**	**2.24 92**		*i* P	Pn	10 26 21.7	-2.0
MEIG				*i* S	Sn	10 26 47.2	-3.1
ACX	**Acapulco**	**2.27 120**		*i* P	Pn	10 26 26.0	+1.9
PLIG	**Platanillo**	**2.37 80**		*i* P	Pn	10 26 24.0	-1.5
PLIG				*i* S	Sn	10 26 51.3	-2.5
PLIG	**Platanillo**	**2.37 80**		*i* P	Pn	10 26 20.0	-5.5
PLIG				*i* S	Sn	10 26 47.3	-6.5
UTMO	**Huajuapan**	**3.97 92**		*i* P	Pn	10 26 45.3	-2.2
UTMO				*i* S	Sn	10 27 32.5	-0.6

*IDC **29** 10:41:06.0±2.0, 559N×12638E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=160.6km s-min=24.3km az=65.0*
*MAN **29** 10:41:20.7, 518N×12552E, h175km, mb3.9, ML5.0, MS6.3*
*ISCJB **29** 10:41:21.8±1.1, 52N±01×1255E±02, h154km±17km, mb3.7/4, Error ellipse: s-maj=36.6km s-min=19.1km az=132.7*

ISC 29 10:41:22.8±1.2, 51N±01×1255E±02, h141km±18km, n10, σ1§09/12, mb3.7/4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.93 348**	⇑	*i*P	**Pn**	**10 41 57.2**	**+0.7**
KCP				*i* S	**Sn**	**10 42 23.7**	**+1.4**
BUKP	**Musuan**	**2.78 351**		*e*P	**Pn**	**10 42 02.3**	**-4.7**
CGP	**Cagayan de Oro**	**3.41 347**	⇑	*i*P	**Pn**	**10 42 13.5**	**-1.6**
CGP				*e*S	**Sn**	**10 42 56.0**	**+0.4**
PAGZ	**Pagadian**	**3.43 322**		*e*P	**Pn**	**10 42 13.9**	**-1.5**
BUTP	**Butuan**	**3.83 2**		*e*P	**Pn**	**10 42 19.6**	**-1.0**
IPIL	**Ipil**	**3.94 313**		*e*P	**Pn**	**10 42 22.3**	**+0.4**
WRA	**Warramunga Arr**	**26.37 161**		P	**P**	**10 46 46.6**	**+0.8**
	1.0nm,0.5s,mb3.7,baz=343,slow=10.0,SNR=10						
ASAR	**Alice Springs**	**29.76 164**		P	**P**	**10 47 16.9**	**+1.1**
	0.4nm,0.4s,mb3.5,baz=343,slow=7.1,SNR=6.4						
STKA	**Stephens Creek**	**39.86 158**		P	**P**	**10 48 40.9**	**-1.5**
	2.6nm,1.0s,mb3.8,baz=344,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**55.72 325**		P	**P**	**10 50 45.2**	**+0.7**
	0.4nm,0.3s,mb3.7,baz=117,slow=8.0,SNR=7.7						

*NIED **29** 11:09:00, 3570N×14020E, h74km, Mw3.7 Best double couple: M0=4.45000×10^14 NP1:φs=358.00000°, δ67.00000°, λ85.00000°. NP2:φs=192.00000°, δ23.00000°, λ103.00000°.*
*ISCJB **29** 11:09:03.5±0.6, 3558N±004×140.13E±006, h80km±5km, mb3.5/4, Error ellipse: s-maj=9.4km s-min=5.3km az=115.0*
*IDC **29** 11:09:03.8±2.0, 3557N×14022E, h63km±16km, mb3.4/4, mb1 3.6/7, mb1mx3.4/22, mbtmp3.8/7, Error ellipse: s-maj=27.4km s-min=7.1km az=66.0*
*NEIC **29** 11:09:04.4, 3567N×140.13E, h67km, MG3.7(JMA), After JMA.*
*JMA **29** 11:09:04.4±0.1, 3567N×140.13E, h67km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φs=211.00000°, δ16.00000°, λ126.00000°. NP2: φs=354.00000°, δ77.00000°, λ80.00000°. Principal axes: T Plg57.0000°, Azm251.0000°; N Plg10.0000°, Azm356.0000°; P Plg31.0000°, Azm92.0000°;*
JMA Felt I J1.

ISC 29 11:09:04.4±0.5, 3559N±004×14014E±006, h72km±5km, n23, σ0§84/35, mb3.5/4, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.18 164**	⇑	P	**Pn**	**11 09 15.2**	**+0.1**
TOK	**Tokyo**	**0.33 287**		P	**Pn**	**11 09 15.7**	**-0.2**
TOK				S	**Sn**	**11 09 24.6**	**+0.2**
BSO3	**Boso 3**	**0.84 159**	⇑	P	**Pn**	**11 09 21.3**	**+0.2**
BSO3				S	**Sn**	**11 09 35.2**	**+1.8**
JOD2	**Odawara 2**	**0.92 249**	⇓	P	**Pn**	**11 09 21.8**	**-0.2**
JOD2				S	**Sn**	**11 09 34.2**	**-0.9**
JAG	**Ashikaga**	**1.00 326**	⇓	P	**Pn**	**11 09 22.2**	**-0.8**
JIM2	**Oshima 3**	**1.05 214**		P	**Pn**	**11 09 23.3**	**-0.3**
JIM2				*e*S	**Sn**	**11 09 37.7**	**-0.2**
JRY	**Ryogami san**	**1.09 293**	⇓	P	**Pn**	**11 09 24.3**	**+0.1**
BSO1	**Boso 1**	**1.16 144**		P	**Pn**	**11 09 24.7**	**-0.3**
BSO1				S	**Sn**	**11 09 41.2**	**+0.8**
JYN	**Shimob**	**1.31 266**	⇓	P	**Pn**	**11 09 26.9**	**0.0**
JIZS	**Izushimoda**	**1.35 230**	⇓	P	**Pn**	**11 09 27.5**	**0.0**
JIZS				S	**Sn**	**11 09 44.4**	**-0.4**
JKT	**Katashina**	**1.38 329**		P	**Pn**	**11 09 27.2**	**-0.6**
MJAR	**Matsushiro Arr**	**1.83 302**		P	**Pn**	**11 09 33.7**	**-0.1**
	35nm,0.3s,baz=126,slow=14,SNR=158						
MJAR				S	**Sn**	**11 09 56.8**	**+0.7**
	16nm,0.3s,baz=237,slow=18,SNR=5.9						
MJAR	**Matsushiro Arr**	**1.83 302**		P	**Pn**	**11 09 33.7**	**-0.1**
MJAR				S	**Sn**	**11 09 56.8**	**+0.7**
MAJO	**Matsushiro**	**1.83 302**		*e*Pn	**Pn**	**11 09 34.2**	**+0.4**
MAT	**Matsushiro**	**1.83 302**		P	**Pn**	**11 09 34.2**	**+0.4**
MAT				S	**Sn**	**11 09 57.9**	**+1.7**
MAT	**Matsushiro**	**1.83 302**		*e*P	**Pn**	**11 09 34.0**	**+0.2**
MAT				*e*S	**Sn**	**11 09 58.0**	**+1.8**
JHJ	**Hachijo jima 2**	**2.48 187**		P	**Pn**	**11 09 43.1**	**+0.5**
	40nm,0.3s,baz=211,slow=19,SNR=32						
JHJ				S	**Sn**	**11 10 10.9**	**-1.0**
	117nm,0.3s,baz=256,slow=24,SNR=15						
CBIJ	**Chichi jima**	**8.65 168**		P	**Pn**	**11 11 04.3**	**-2.4**
	4.5nm,0.3s,baz=290,slow=23,SNR=11						
CBIJ				S	**Sn**	**11 12 33.4**	**-9.3**
	1.8nm,0.3s,baz=270,slow=22,SNR=2.9						
ASAJ	**Asahikawa**	**8.72 12**		P	**Pn**	**11 11 06.2**	**-1.5**
	0.3nm,0.3s,baz=158,slow=30,SNR=3.0						
SONM	**Songino Array**	**27.78 307**		P	**P**	**11 14 46.8**	**+0.3**
	0.2nm,0.5s,mb2.9,baz=113,slow=9.6,SNR=2.4						
MKAR	**Makanchi Array**	**44.03 303**		P	**P**	**11 17 04.2**	**-0.6**
	0.6nm,0.5s,mb3.6,baz=91,slow=9.7,SNR=4.8						
WRA	**Warramunga Arr**	**55.50 187**		P	**P**	**11 18 32.3**	**+0.3**
	1.3nm,0.5s,mb4.2,baz=0.4,slow=7.5,SNR=35						
ASAR	**Alice Springs**	**59.23 187**		P	**P**	**11 18 59.9**	**+1.7**
	0.3nm,0.5s,mb3.5,baz=12,slow=11,SNR=5.6						

IDC 29 11:12:37.8±2.1, 2997S×17744W, h0km, mb4.1/3, mb1 4.2/5, mb1mx4.0/13, mbtmp4.1/5, ML3.5/2, Error ellipse: s-maj=42.3km s-min=18.8km az=85.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.83 330**		Pn	Pn	11 12 57.4	+0.6
	2μm,0.3s,baz=102,slow=3.8,SNR=103						
RAO				Sn	Sg	11 13 09.2	+4.7
	2μm,0.3s,baz=58,slow=23,SNR=17						
URZ	**Urewera**	**9.42 207**		Pn	Pn	11 14 53.2	-1.5
	0.2nm,0.3s,baz=314,slow=23,SNR=2.8						
URZ				Sn	Sn	11 16 38.0	-3.4
	1.4nm,0.3s,baz=208,slow=22,SNR=9.0						
RPZ	**Rata Peaks**	**16.50 211**		Pn	Pn	11 16 32.1	+1.5
	0.5nm,0.3s,baz=10,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**35.05 256**		P	P	11 19 33.0	+0.7
	1.0nm,0.3s,baz=93,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**43.62 266**		P	P	11 20 44.0	+0.1
	1.3nm,0.6s,baz=102,slow=7.4,SNR=18						
WRA	**Warramunga Arr**	**44.57 271**		P	P	11 20 51.4	-0.1
	2.4nm,0.6s,baz=110,slow=8.0,SNR=44						
FINES	**FINESS Array B**	**144.91 341**		PKP	PKPdf	11 32 14.8	-2.1
	3.3nm,0.7s,baz=50,slow=3.0,SNR=12						

NOA	**NORSAR Array B**	**148.40 352**		PKPbc	PKPbc	11 32 25.3	-0.9
	0.6nm,0.7s,baz=14,slow=4.4,SNR=2.9					

*ISCJB **29** 11:41:24.2±0.6, 6028N±004×2504E±007, h0km, Error ellipse: s-maj=7.4km s-min=3.4km az=106.3*
*IDC **29** 11:41:24.3±1.6, 6015N×2548E, h0km, mb1 2.8/3, mb1mx2.7/19, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=16.5km s-min=7.0km az=141.0*
*HEL **29** 11:41:25.3±0.1, 6019N×2522E, h0km, ML1.9, ML2.2(UPP), Explosion*

ISC 29 11:41:25.5±0.7, 6029N±004×2509E±007, h0km, n16, σ0§92/26, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.35 259**		*e*P	**Pg**	**11 41 32.4**	**+0.1**
MEF				*e*S	**Sg**	**11 41 37.6**	**+0.8**
PVF	**Pernaja**	**0.46 55**		*e*P	**Pg**	**11 41 33.6**	**-0.7**
PVF				*e*S	**Sg**	**11 41 40.1**	**-0.2**
FIA0	**FINESS Array S**	**1.26 22**		*e*P	**Pg**	**11 41 48.8**	**-0.7**
FIA0				*e*S	**Sg**	**11 42 05.8**	**-0.1**
FINES	**FINESS Array B**	**1.26 22**		Pg	**Pg**	**11 41 48.9**	**-0.7**
	2.0nm,0.3s,baz=189,slow=18,SNR=37						
FINES				Pn	**Pn**	**11 41 51.3**	**+1.0**
	2.0nm,0.3s,baz=192,slow=13,SNR=47						
FINES				Lg		11 42 06.3	
	3.2nm,0.3s,baz=190,slow=30,SNR=24						
FINES				Sn	**Sn**	**11 42 10.9**	**+3.0**
	3.7nm,0.3s,baz=196,slow=23,SNR=23						
RAF	**Rauma**	**1.80 296**		*e*PN	**Pn**	**11 41 58.8**	**+1.1**
RAF				*e*SG	**Sg**	**11 42 23.5**	**+0.3**
RAF				MSG		11 42 24.7	
	comp=Z,7.0nm,0.1s						
KEF	**Keuruu**	**1.89 357**		*e*PG	**Pg**	**11 42 00.7**	**-1.1**
KEF				*e*SG	**Sg**	**11 42 26.6**	**+0.4**
KEF				MSG		11 42 27.7	
	comp=Z,6.8nm,0.1s						
KAF	**Kangasniemi**	**1.93 17**		*e*PB	**Pb**	**11 42 00.6**	**-0.9**
KAF				*e*S	**Sn**	**11 42 25.9**	**+1.6**
KAF				MSG		11 42 28.4	
	comp=Z,6.8nm,0.1s						
VSTU	**Vaestervik**	**5.15 243**		*e*P	**Pn**	**11 42 44.0**	**+0.3**
BYXU	**Byxelkrok**	**5.17 238**		*e*P	**Pn**	**11 42 44.6**	**+0.6**
ASPU	**Aespoe**	**5.26 241**		*e*P	**Pn**	**11 42 45.5**	**+0.1**
LNKU	**Linkoeping**	**5.34 251**		*e*P	**Pn**	**11 42 46.8**	**+0.5**
ASKU	**Askersund**	**5.40 259**		*e*P	**Pn**	**11 42 48.1**	**+0.9**
HFS	**Hagfors**	**5.69 273**		Pn	**Pn**	**11 42 51.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=104,slow=11,SNR=3.8						
HFS				Sn	**Sn**	**11 43 56.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=90,slow=28,SNR=3.6						
VXJU	**Vaexsjoe**	**6.29 242**		*e*P	**Pn**	**11 42 58.5**	**-0.8**
NOA	**NORSAR Array B**	**6.86 282**		Pn	**Pn**	**11 43 06.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=207,slow=14,SNR=1.9						
NOA				Sn	**Sn**	**11 44 24.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=116,slow=8.8,SNR=2.4						
ARCES	**ARCESS Array B**	**9.29 1**		Pn	**Pn**	**11 43 39.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=6.7						

*IDC **29** 12:24:51.5±1.2, 5525N×16143E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.7/22, mbtmp3.9/6, Error ellipse: s-maj=93.8km s-min=21.2km az=142.0*
*MOS **29** 12:24:58.8±2.6, 5524N×16080E, h92km, mb4.4/2, Error ellipse: s-maj=20.6km s-min=8.2km az=75.3*
*ISCJB **29** 12:24:59.4±0.3, 5508N±002×161.19E±006, h96km±4km, mb3.8/5, Error ellipse: s-maj=5.8km s-min=2.7km az=43.4*
*KRSC **29** 12:24:59.3±1.2, 5507N×161.17E, h90km±3km, ML4.1*

ISC 29 12:25:00.2±0.3, 5509N±002×16115E±006, h94km±4km, n61, σ0§88/100, mb3.8/5, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.61 289**		*i* P	**Pn**	**12 25 16.2**	**0.0**
MKZ	**Mys Kozlova**	**0.63 148**		P	**Pn**	**12 25 15.7**	**-0.7**
MKZ				S	**Sn**	**12 25 27.7**	**-0.8**
MKZ	**Mys Kozlova**	**0.63 148**		*i* P	**Pn**	**12 25 15.7**	**-0.7**
MKZ				*e*S	**Sn**	**12 25 27.2**	**-1.3**
KMNR	**Kamenistaya**	**0.85 323**		*e*P	**Pn**	**12 25 18.5**	**0.0**
KMNR				*e*S	**Sn**	**12 25 32.3**	**+0.1**
ZLN	**Zelenaya**	**0.95 348**		*e*P	**Pn**	**12 25 19.8**	**+0.2**
ZLN				*e*S	**Sn**	**12 25 34.6**	**+0.4**
KPT	**Kopyto**	**1.03 329**		*i* P	**Pn**	**12 25 20.3**	**-0.2**
KPT				*e*S	**Sn**	**12 25 35.6**	**-0.1**
LGNR	**Loginova**	**1.03 346**		*i* P	**Pn**	**12 25 21.1**	**+0.6**
LGNR				*e*S	**Sn**	**12 25 36.7**	**+0.9**
CIRR	**Tsirk**	**1.05

OSSR	**Ossora**	**4.30**	**13**	*e*P		**Pn**		**12 26 03.5**	**+0.1**
PAU	**Pauzhetka**	**4.46**	**217**	*i* P		**Pn**		**12 26 06.4**	**+0.8**
PAU				*e*S		**Sn**		**12 26 57.6**	**+1.3**
PAU				Smax					
	70nm,0.7s								
SKR	**Severo-Kuril's**	**5.36**	**217**	*e*PN		**Pn**		**12 26 14.9**	**-2.8**
SKR				*e*				12 27 14.8	
SKR	**Severo-Kuril's**	**5.36**	**217**	*e*S		**Sn**		**12 27 14.8**	**-3.3**
MA2	**Magadan**	**7.20**	**313⇑**	*e*PN		**Pn**		**12 26 34.8**	**-7.9**
YSS	**Yuzh-Sakhalins**	**14.12**	**242⇓**	*e*P		**Pn**		**12 28 14.5**	**-1.3**
ASAJ	**Asahikawa**	**16.23**	**235**	Pn		**Pn**		**12 28 43.2**	**+0.7**
	1.2nm,0.3s,baz=121,slow=12,SNR=12								
ASAJ	**Asahikawa**	**16.23**	**235**	P		**Pn**		**12 28 43.3**	**+0.8**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
HABR	**Khabarovsk**	**17.39**	**258**	*e*P		**Pn**		**12 28 54.8**	**-2.0**
HABR				*e*S		**S**		**12 32 08.7**	**-2.2**
YAK	**Yakutsk**	**17.68**	**306**	*i* P		**Pn**		**12 28 54.9**	**-5.5**
MJAR	**Matsushiro Arr**	**24.30**	**230**	P		**P**		**12 30 12.6**	**+3.8**
	comp=Z,2.0nm,0.5s,mb3.7,baz=19,slow=10,SNR=9.8								
MJAR	**Matsushiro Arr**	**24.30**	**230**	P		**P**		**12 30 12.6**	**+3.8**
MJAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
INK	**Inuvik**	**31.92**	**40**	P		**P**		**12 31 16.3**	**-0.5**
	comp=Z,0.9nm,0.4s,mb3.8,baz=292,slow=8.0,SNR=8.7								
INK	**Inuvik**	**31.92**	**40**	P		**P**		**12 31 16.3**	**-0.5**
INK				pmax	pmax				
	comp=Z,1.0nm,0.4s								
YKA	**Yellowknife Ar**	**41.28**	**44**	P		**P**		**12 32 35.8**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.8,baz=299,slow=8.1,SNR=3.6								
YKA	**Yellowknife Ar**	**41.28**	**44**	P		**P**		**12 32 35.8**	**-0.5**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
NVAR	**Mina Array Bea**	**54.51**	**72**	P		**P**		**12 34 19.8**	**+1.5**
	comp=Z,0.8nm,0.7s,mb3.9,baz=320,slow=7.1,SNR=6.8								
PDAR	**Pinedale Array**	**56.03**	**63**	P		**P**		**12 34 30.1**	**+0.9**
	comp=Z,0.8nm,0.6s,mb3.9,baz=302,slow=2.5,SNR=7.8								

*IDC **29** 12:48:33.5±1.9, 232S×12837E, h0km, mb3.5/2, mb1 4.1/4, mb1mx3.8/16, mbtmp3.8/4, ML4.1/2, Error ellipse: s-maj=105.3km s-min=24.2km az=71.0*
*ISCJB **29** 12:48:36.7±1.6, 24S±02×1281E±04, h33km, mb3.6/2, Error ellipse: s-maj=57.5km s-min=18.2km az=138.0*
ISC 29 12:48:39.0±1.6, 24S±02×1282E±04, h35km, n7, σ0§21/7, mb3.6/2, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.03**	**158**	*e*P	**Pn**	**12 51 18.7**	**+4.5**
	4.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.78**	**189**	*e*P	**Pn**	**12 52 18.5**	**0.0**
FITZ	**Fitzroy Crossi**	**15.78**	**189**	Pn	**Pn**	**12 52 18.4**	**0.0**
	0.2nm,0.3s,baz=13,slow=16,SNR=7.1						
WRA	**Warramunga Arr**	**18.40**	**162**	P	**Pn**	**12 52 51.1**	**-0.1**
	1.2nm,0.3s,baz=341,slow=12,SNR=53						
WB2	**Warramunga Arr**	**18.40**	**161**	*e*P	**Pn**	**12 52 51.2**	**0.0**
ASAR	**Alice Springs**	**21.81**	**166**	P	**P**	**12 53 28.1**	**0.0**
	1.2nm,0.4s,mb3.7,baz=346,slow=12,SNR=26						
MKAR	**Makanchi Array**	**63.47**	**326**	P	**P**	**12 59 05.4**	**0.0**
	0.3nm,0.6s,mb3.6,baz=101,slow=7.8,SNR=3.4						

*ISCJB **29** 12:49:13.8±0.5, 4284N±004×13788E±009, h280km±6km, mb3.5/13, Error ellipse: s-maj=11.2km s-min=6.3km az=17.8*
*IDC **29** 12:49:13.4±1.2, 4288N×13764E, h259km±12km, mb3.2/10, mb1 3.4/14, mb1mx3.3/24, mbtmp3.9/14, Error ellipse: s-maj=14.5km s-min=12.4km az=101.0*
*JMA **29** 12:49:14.3±0.3, 4290N×13778E, h273km±3km, M3.1*
*NEIC **29** 12:49:14.7±0.7, 4292N×13763E, h272km±9km, mb3.6/3, Error ellipse: s-maj=12.5km s-min=9.2km az=101.0*
ISC 29 12:49:14.7±0.5, 4283N±004×13793E±010, h277km±6km, n39, σ1§10/52, mb3.5/13, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.36**	**122**	P	**Pn**	**12 49 54.7**	**0.0**
JSK	**Shakotan**	**1.94**	**73**	P	**Pn**	**12 49 58.9**	**0.0**
JSK				*e*S	**S**	**12 50 33.3**	**-0.6**
JYM2	**Yakumo 2**	**1.94**	**111**	P	**Pn**	**12 49 59.7**	**+0.8**
JKB	**Kayabe**	**2.48**	**111**	P	**Pn**	**12 50 04.4**	**+0.7**
JEW	**Eniwo**	**2.59**	**89**	P	**Pn**	**12 50 05.7**	**+1.0**
JOT	**Ohata**	**2.73**	**121**	P	**Pn**	**12 50 06.5**	**+0.4**
JFR	**Furan**	**3.44**	**83**	P	**Pn**	**12 50 14.0**	**+0.5**
JFR				*e*S	**S**	**12 50 59.5**	**-0.8**
JNBK	**Urakawa-nobuka**	**3.61**	**97**	P	**Pn**	**12 50 15.4**	**+0.1**
JNBK				*e*S	**S**	**12 51 02.7**	**-0.9**
ASAJ	**Asahikawa**	**3.63**	**68**	P	**Pn**	**12 50 16.4**	**+0.8**
	1.2nm,0.3s,baz=176,slow=33,SNR=4.1						
ASAJ				S	**S**	**12 51 04.5**	**+0.3**
	0.4nm,0.3s,baz=66,slow=31,SNR=2.3						
JANG	**Nango**	**3.64**	**131**	P	**Pn**	**12 50 15.1**	**-0.6**
JANG				*e*S	**S**	**12 51 03.4**	**-0.9**
JKK2	**Kamakawa 2**	**3.67**	**72**	P	**Pn**	**12 50 16.8**	**+0.8**
JKK2				*e*S	**S**	**12 51 05.0**	**+0.2**
JCH	**Churui**	**4.01**	**91**	P	**Pn**	**12 50 18.9**	**-0.9**
JCH				*e*S	**S**	**12 51 08.7**	**-3.1**
JOM	**Ohasama**	**4.20**	**142**	P	**Pn**	**12 50 22.6**	**+0.6**
JOM				*e*S	**S**	**12 51 15.9**	**+0.1**
JTKR	**Abashiri--Toko**	**4.50**	**73**	P	**Pn**	**12 50 26.4**	**+0.9**
JMK	**Ichinoseki**	**4.61**	**146**	P	**Pn**	**12 50 26.4**	**-0.3**
JMK				*e*S	**S**	**12 51 23.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**5.37**	**38**	*e*Pn	**Pn**	**12 50 35.9**	**+0.2**
NEM2	**Nemuro 2**	**5.75**	**82**	P	**Pn**	**12 50 38.8**	**-1.5**
NEM2				*e*S	**S**	**12 51 43.4**	**-5.6**
MAJO	**Matsushiro**	**6.28**	**178**	*e*Pn	**Pn**	**12 50 48.3**	**+1.5**
MAT	**Matsushiro**	**6.28**	**178**	P	**Pn**	**12 50 48.0**	**+1.2**
MAT				S	**S**	**12 52 13.5**	**+13**
MAT	**Matsushiro**	**6.28**	**178**	*e*P	**Pn**	**12 50 48.0**	**+1.2**
MAT				*e*S	**S**	**12 52 14.0**	**+13**
MJAR	**Matsushiro Arr**	**6.28**	**178**	P	**Pn**	**12 50 48.1**	**+1.3**
	1.8nm,0.3s,baz=4.4,slow=11,SNR=17						
JHJ	**Hachijo jima 2**	**9.80**	**171**	P	**Pn**	**12 51 28.8**	**-1.6**
	10nm,0.3s,baz=78,slow=23,SNR=16						
JHJ				S	**S**	**12 53 13.2**	**-7.7**
	1.8nm,0.3s,baz=274,slow=22,SNR=2.3						
CBIJ	**Chichi jima**	**16.07**	**166**	P	**P**	**12 52 45.5**	**+0.9**
	3.9nm,0.3s,baz=278,slow=22,SNR=6.5						
CBIJ				S	**S**	**12 55 36.9**	**-2.2**
	1.6nm,0.3s,baz=269,slow=20,SNR=2.8						
SONM	**Songino Array**	**22.63**	**294**	P	**P**	**12 53 51.0**	**-1.2**
	0.3nm,0.3s,mb3.0,baz=115,slow=6.7,SNR=4.4						
ZAL	**Zalesovo**	**36.17**	**307**	P	**P**	**12 55 48.9**	**-2.2**
	1.9nm,0.3s,mb4.1,baz=27,slow=5.8,SNR=5.7						
ZAL	**Zalesovo**	**36.17**	**307**	P	**P**	**12 55 48.9**	**-2.2**
MKAR	**Makanchi Array**	**38.97**	**296**	P	**P**	**12 56 11.6**	**-2.9**
	0.5nm,0.5s,mb3.2,baz=86,slow=9.8,SNR=7.2						
ZRNK	**Zerenda**	**45.63**	**308**	*e*P	**P**	**12 57 06.8**	**-1.0**
	5.5nm,0.9s,mb3.9						
INK	**Inuvik**	**50.53**	**29**	*e*P	**P**	**12 57 45.6**	**+0.5**
	0.7nm,0.3s,mb3.5						
ARCES	**ARCESS Array B**	**57.63**	**337**	P	**P**	**12 58 37.1**	**+0.9**
	0.8nm,0.5s,mb3.4,baz=62,slow=8.4,SNR=8.0						
FINES	**FINESS Array B**	**62.46**	**330**	P	**P**	**12 59 06.9**	**-1.8**
	0.6nm,0.4s,mb3.6,baz=179,slow=36,SNR=3.1						
WRA	**Warramunga Arr**	**62.54**	**184**	P	**P**	**12 59 10.1**	**+0.8**
	0.3nm,0.5s,mb3.2,baz=1.3,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**66.26**	**184**	P	**P**	**12 59 34.4**	**+1.0**
	0.4nm,0.8s,mb3.2,baz=1.4,slow=6.8,SNR=4.6						
NVAR	**Mina Array Bea**	**73.64**	**53**	P	**P**	**13 00 20.3**	**+2.3**
	0.7nm,0.7s,mb3.4,baz=300,slow=5.0,SNR=7.7						
BW06	**Boulder Array**	**75.48**	**45**	*e*P	**P**	**13 00 29.7**	**+1.2**
	0.7nm,0.6s,mb3.5						
PDAR	**Pinedale Array**	**75.48**	**45**	P	**P**	**13 00 29.7**	**+1.2**
	1.0nm,0.7s,mb3.6,baz=324,slow=2.0,SNR=12						
ULM	**Lac du Bonnet**	**76.09**	**32**	P	**P**	**13 00 31.0**	**-1.0**
	1.0nm,0.4s,mb3.8,baz=332,slow=6.8,SNR=3.0						
ULM	**Lac du Bonnet**	**76.09**	**32**	P	**P**	**13 00 31.0**	**-1.0**
LPAZ	**La Paz**	**145.44**	**48**	PKPbc	PKPbc	**13 08 22.1**	**+1.9**
	0.6nm,0.6s,baz=270,slow=1.0,SNR=5.4						

IDC 29 13:20:11.6±31.0, 1997S×17792W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/13, mbtmp4.0/4, MS3.6/1, Ms1 3.6/1, ms1mx2.6/27, Error ellipse: s-maj=592.2km s-min=150.8km az=88.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.08**	**244**	P	P	13 27 31.3	-0.6
	2.1nm,0.7s,baz=87,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**44.71**	**256**	P	P	13 28 27.1	+0.8
	1.5nm,0.5s,baz=93,slow=8.0,SNR=56						
WRA	**Warramunga Arr**	**44.75**	**261**	P	P	13 28 27.3	+0.6
	0.4nm,0.4s,baz=97,slow=7.5,SNR=34						
FITZ	**Fitzroy Crossi**	**53.17**	**262**	P	P	13 29 31.5	+0.2
	1.7nm,0.8s,baz=164,slow=7.4,SNR=5.2						
FITZ				LR	LR	13 50 12.2	
	comp=Z,58nm,21.2s,baz=88,slow=34						

JMA 29 13:40:28.4±0.2, 2838N×14279E, h98km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.39**	**203**	P	Pn	13 40 53.5	+0.4
CBIJ				S	Sn	13 41 11.9	0.0
JHHJ	**Haha-jima-NKT**	**1.83**	**197**	P	Pn	13 40 58.7	+0.1
JHHJ				*e*S	Sn	13 41 23.2	+1.6
JHJ2	**Mitsune**	**5.37**	**332**	P	Pn	13 41 48.3	+2.3
JHJ2				S	Sn	13 42 47.7	+1.2
BSO1	**Boso 1**	**6.44**	**347**	P	Pn	13 41 59.6	-1.0
BSO1				S	Sn	13 43 14.1	+1.4
JKO	**Kozu shima**	**6.58**	**333**	P	Pn	13 42 05.7	+3.2
BSO2	**Boso 2**	**6.58**	**345**	S	Sn	13 43 17.7	+1.6
BSO3	**Boso 3**	**6.69**	**344**	P	Pn	13 42 04.7	+0.7
BSO3				*e*S	Sn	13 43 17.1	-1.6
JOD2	**Odawara 2**	**7.55**	**336**	P	Pn	13 42 17.1	+1.4
JOD2				*e*S	Sn	13 43 40.4	+0.7
JHU	**Hanno**	**8.02**	**339**	P	Pn	13 42 23.1	+1.0
JHU				*e*S	Sn	13 43 48.9	-2.2
JYT	**Yasato**	**8.13**	**345**	P	Pn	13 42 24.1	+0.6
JRY	**Ryogami san**	**8.29**	**338**	P	Pn	13 42 26.6	+0.8
JRY				S	Sn	13 43 55.6	-2.2
JHO	**Hitachi**	**8.42**	**348**	P	Pn	13 42 25.5	-2.0
JHO				*e*S	Sn	13 43 54.6	-6.2
JAG	**Ashikaga**	**8.50**	**341**	P	Pn	13 42 28.7	0.0
JAG				*e*S	Sn	13 44 00.9	-1.9
MAT	**Matsushiro**	**9.01**	**336**	P	Pn	13 42 37.2	+1.6
MAT				S	Sn	13 44 18.9	+3.7
JFK	**Kawauchi**	**9.11**	**350**	P	Pn	13 42 34.4	-2.5
JMK	**Ichinoseki**	**10.62**	**353**	P	Pn	13 42 53.2	-4.3
JMK				*e*S	Sn	13 44 48.7	-5.8

*MOS **29** 14:04:41.3±0.7, 1814N×12045E, h33km, mb5.0/51, Error ellipse: s-maj=10.6km s-min=5.1km az=115.0*
*HRVD **29** 14:04:41.4±0.5, 1836N×12022E, h34km±1km, MW4.9/46, Centroid moment Tensor Solution. LP body waves: s17,c20;Mantle waves: s46,c59; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr2.32±.23; Mθθ0.23±.14; Mφφ-2.55±.17; Mrθ-0.58±.16; Mθφ-1.01±.09; Mφr0.89±.17; Best double couple: M0:2.84000×1016 NP1:φs218.00000°, δ42.00000°, λ122.00000°. NP2:φs359.00000°, δ56.00000°, λ65.00000°. Principal axes: T 2.7150, Plg68.0000°, Azm215.0000°; N 0.2460, Plg20.0000°, Azm13.0000°; P -2.9640, Plg7.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 14:04:41.4±0.2, 1809N×12050E, mb4.8/47, MS4.1/2 Error ellipse: s-maj=5.7km s-min=3.7km az=86.0*
NEIC Felt [III PIVS] at Paoay and Pasuquin; [II PIVS] at Baguio, Santo Domingo and Sinait.
*ISCJB **29** 14:04:41.2±0.2, 1811N±003×12057E±004, h34km, mb4.8/97, MS4.0/35, Error ellipse: s-maj=5.1km s-min=3.7km az=171.7*
*MAN **29** 14:04:44.0, 1819N×12022E, h17km, mb3.7, ML4.8, MS1.7*
MAN F INTENSITY III - PASUQUIN ILOCOS NORTE PAOAY ILOCOS NORTE INTENSITY II - BAGUIO CITY.
*IDC **29** 14:04:43.3±2.7, 1811N×12053E, h41km±24km, mb4.4/20, mb1 4.4/21, mb1mx4.4/24, mbtmp4.6/21, ML3.9/1, MS3.9/20, Ms1 3.9/20, ms1mx3.7/30, Error ellipse: s-maj=17.4km s-min=12.2km az=79.0*
*BJI **29** 14:04:44.7, 1855N×12009E, h16km, mB4.6, mb4.5, ML4.5, Ms4.2, Msz4.0*
*SZGRF **29** 14:04:49.2, 2086N×12261E, h44km, mb4.8, Philippine Islands region*
ISC 29 14:04:43.4±0.2, 1817N±003×12053E±004, h36km, h36km±2.6km: pP-P, n270, σ1§03/284, mb4.8/97, MS4.0/35, 25C-17D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.55**	**161**	*e*P	**Pn**	**14 04 57.7**	**+2.9**
APYP	**Conner**	**0.75**	**114**	*e*P	**Pn**	**14 05 01.9**	**+4.5**
APYP				*e*S	**Sn**	**14 05 15.1**	**+7.5**
CVP	**Callao Caves**	**1.32**	**111**	*i*P	**Pn**	**14 05 10.0**	**+4.7**
CAUP	**Cauayan**	**1.74**	**134**	*e*P	**Pn**	**14 05 17.8**	**+6.7**
BCPH	**Baguio City Da**	**1.78**	**178**	*i* P	**Pn**	**14 05 14.6**	**+2.9**
BCPH				*i* S	**Sn**	**14 05 38.6**	**+5.5**
PALP	**Palanan**	**2.12**	**121**	*e*P	**Pn**	**14 05 23.0**	**+6.6**
SCZP	**Santa Cruz**	**2.46**	**194**	*e*P	**Pn**	**14 05 23.0**	**+2.0**
BALP	**Baler**	**2.62**	**157**	*e*P	**Pn**	**14 05 28.6**	**+5.4**
TGY	**Tagaytay City**	**4.07**	**174**	P	**Pn**	**14 05 48.5**	**+5.4**
	162nm,0.3s,baz=281,slow=2.3,SNR=17						
LQP	**Lukban**	**4.15**	**166**	*e*P	**Pn**	**14 05 51.6**	**+7.3**
NACB	**Ninganchiao**	**6.05**	**9**	*e*Pn	**Pn**	**14 06 11.5**	**+1.1**
NACB				*e*Sn	**Sn**	**14 07 14.3**	**-4.2**
YHNB	**Yeheng**	**6.51**	**7**	*e*Pn	**Pn**	**14 06 17.5**	**+0.8**
YHNB				*e*Sn	**Sn**	**14 07 27.2**	**-2.6**
TATO	**Taipei**	**6.83**	**7**	*e*Pn	**Pn**	**14 06 21.2**	**+0.2**
	46nm,0.6s						
QZH	**Quanzhou**	**6.97**	**345**	P	**Pn**	**14 06 21.0**	**-2.0**
QZH				S	**Sn**	**14 07 33.8**	**-7.3**
QZH				Smax			
	comp=N,160nm,0.7s						
QZH				Smax			
	comp=E,240nm,0.6s						
QZH				LR	LR		
	comp=N,1μm,13.9s						
QZH				LR	LR		
	comp=E,1μm,11.4s						
QZH				LR	LR		
	comp=Z,2μm,22.2s						
QIZ	**Qiongzhong**	**10.17**	**276**	P	**Pn**	**14 07 03.0**	**-3.8**
QIZ				S	**Sn**	**14 08 53.8**	**-5.7**
QIZ				LR	LR		
	comp=E,1μm,16.3s						
QIZ				LR	LR		
	comp=Z,1μm,17.8s						
QIZ	**Qiongzhong**	**10.17**	**276**	*e*Pn	**Pn**	**14 07 02.6**	**-4.2**
	comp=Z,111nm,0.6s						
QIZ				*e*Sn	**Sn**	**14 08 46.9**	**-13**
JOW	**Kunigami**	**11.20**	**38**	P	**Pn**	**14 07 21.2**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=244,slow=15,SNR=16						
JOW				LR	LR	14 11 58.5	
	comp=Z,261nm,21.2s,baz=350,slow=39						
KKM	**Kota Kinabalu**	**12.77**	**200**	*e*Pn	**Pn**	**14 07 44.6**	**+2.3**
SSE	**Sheshan**	**12.88**	**3**	*e*P	**Pn**	**14 07 45.8**	**+1.9**
SSE				AP		14 07 51.0	
SSE				XP		14 07 55.3	
SSE				S	**Sn**	**14 10 10.5**	**+4.5**
SSE				XS		14 10 19.0	
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE				AMB	AMB		
	comp=Z,40nm,3.5s						
SSE				LR	LR		
	comp=N,140nm,16.6s						
SSE				LR	LR		
	comp=E,290nm,16.7s						
SSE				LR	LR		
	comp=Z,280nm,24.1s						
WHN	**Wuhan**	**13.54**	**337**	*e*P	**Pn**	**14 07 52.0**	**-0.9**
NJ2	**Nanjing**	**13.90**	**354**	*e*P	**Pn**	**14 08 00.0**	**+2.1**
NJ2				AP		14 08 05.3	
NJ2				XP		14 08 09.3	
NJ2				S	**Sn**	**14 10 34.0**	**+3.1**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,130nm,5.0s						
NJ2				LR	LR		
	comp=N,860nm,17.7s						
NJ2				LR	LR		
	comp=E,2μm,24.4s						
NJ2				LR	LR		
	comp=Z,490nm,16.8s						
GYA	**Guiyang**	**15.24**	**305**	*i*P	**Pn**	**14 08 12.8**	**-3.0**
GYA				AP	pP	14 08 19.0	-11
GYA				XP	sP	14 08 23.3	-11
GYA				PP		14 08 26.8	
GYA				S	**S**	**14 10 59.3**	**-20**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GYA				AMB	AMB		
	comp=Z,110nm,3.2s						
GYA				LR	LR		
	comp=N,630nm,15.3s						
GYA				LR	LR		
	comp=E,850nm,15.9s						
GYA				LR	LR		
	comp=Z,830nm,17.4s						
KMI	**Kunming**	**17.91**	**296**	P	**Pn**	**14 08 50.5**	**+0.9**
KMI				AP	pP	14 08 56.5	-2.8
KMI				XP	sP	14 09 00.5	-3.4
KMI				PP		14 09 06.0	
KMI				S	**S**	**14 12 07.5**	**-6.2**
KMI				PCP	PcP	14 13 26.3	+2.0
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s						
KMI				LR	LR		
	comp=N,640nm,12.6s						
KMI				LR	LR		
	comp=E,1μm,14.3s						
KMI				LR	LR		
	comp=Z,980nm,14.7s						
KSM	**Kuching**	**19.39**	**212⇑**	*e*P	**Pn**	**14 09 07.3**	**-0.2**
CD2	**Chengdu**	**19.80**	**313⇓**	*i*P	**Pn**	**14 09 11.8**	**-0.6**
CD2				AP	pP	14 09 18.5	-1.6
CD2				XP	sP	14 09 23.0	-1.7
CD2				PP		14 09 31.0	
CD2				S	**S**	**14 12 50.0**	**-1.8**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s						
CD2				AMB	AMB		
	comp=Z,120nm,6.0s						
CD2				LR	LR		
	comp=N,420nm,15.0s						
CD2				LR	LR		
	comp=Z,480nm,17.4s						
KS15	**Wonju Array Si**	**20.25**	**17**	*e*P	**P**	**14 09 16.6**	**+1.0**
CM31	**Chiang Mai Arr**	**20.49**	**274**	*e*P	**P**	**14 09 18.8**	**+0.6**
	comp=Z,21nm,0.8s						
CBIJ	**Chichi jima**	**21.85**	**62**	P	**P**	**14 09 33.3**	**+0.5**
	comp=Z,50nm,0.6s,mb5.1,baz=216,slow=19,SNR=8.3						
CBIJ				LR	LR	14 16 15.5	
	comp=Z,229nm,21.4s,MS3.5,baz=210,slow=32						
BJT	**Baijiatuau**	**22.09**	**351**	*e*P	**P**	**14 09 36.9**	**+1.5**
BJT				pmax	pmax		
	comp=Z,38nm,1.0s						
BJT	**Baijiatuau**	**22.09**	**351**	*e*P	**P**	**14 09 36.9**	**+1.5**
	comp=Z,38nm,1.0s,mb4.8						
JHJ	**Hachijo jima 2**	**22.81**	**46**	LR	LR	14 16 54.3	
	comp=Z,179nm,19.8s,MS3.5,baz=65,slow=32						
LZH	**Lanzhou**	**23.15**	**324**	*e*P	**P**	**14 09 47.3**	**+0.7**
LZH				AP		14 09 55.5	
LZH				XP	sP	14 09 58.5	-2.2
LZH				PP		14 10 18.5	
LZH				S	**S**	**14 13 54.3**	**-1.1**
LZH				AMB	AMB		
	comp=Z,40nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH				LR	LR		
	comp=N,580nm,14.0s						
LZH				LR	LR		
	comp=Z,880nm,14.3s,MS4.3						
KULM	**Kulim**	**23.26**	**239⇑**	*i*P	**P**	**14 09 47.4**	**-0.3**
KGM	**Kluang**	**23.30**	**228**	P	**P**	**14 09 47.9**	**-0.2**
IPM	**Ipoh**	**23.43**	**237**	P	**P**	**14 09 48.9**	**-0.5**
GUMO	**Guam**	**23.84**	**97**	LR	LR	14 17 40.9	
	comp=Z,200nm,18.1s,MS3.6,baz=23,slow=33						
HHC	**Hu-ho-hao-te**	**23.88**	**343**	*e*P	**P**	**14 09 55.5**	**+2.0**
HHC				AP		14 10 05.8	
HHC				PP		14 10 29.8	
HHC				PCP	PcP	14 13 39.0	+3.3
HHC				S	**S**	**14 14 09.0**	**+1.8**
HHC				XS	sS	14 14 19.5	-4.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
HHC				AMB	AMB		
	comp=Z,210nm,3.3s						
HHC				LR	LR		
	comp=N,380nm,15.9s,MS4.0						
HHC				LR	LR		
	comp=E,210nm,14.9s,MS4.0						
HHC				LR	LR		
	comp=Z,350nm,14.9s,MS4.0						
MAJO	**Matsushiro**	**24.04**	**37**	P	**P**	**14 09 56.4**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
MAJO	**Matsushiro**	**24.04**	**37**	P	**P**	**14 09 56.4**	**+1.4**
	comp=Z,8.4nm,0.8s,mb4.2						
MAT	**Matsushiro**	**24.04**	**37**	P	**P**	**14 09 54.5**	**-0.5**
MAT				S	**S**	**14 14 10.0**	**+0.2**
MAT	**Matsushiro**	**24.04**	**37**	*e*P	**P**	**14 09 55.0**	**0.0**
MAT				*e*S	**S**	**14 14 10.0**	**+0.2**
MJAR	**Matsushiro Arr**	**24.04**	**37**	P	**P**	**14 09 54.3**	**-0.7**
	comp=Z,3.4nm,0.7s,mb3.9,baz=224,slow=8.2,SNR=9.6						
MJAR				LR	LR	14 18 22.7	
	comp=Z,172nm,21.5s,MS3.5,baz=205,slow=34						
BTO	**Baotou**	**24.12**	**340**	*e*P	**P**	**14 09 56.0**	**+0.3**
CN2	**Changchun**	**25.89**	**8**	*e*P	**P**	**14 10 15.5**	**+3.7**
CN2				*e*XP	sP	14 10 26.3	-0.1
CN2				*e*S	**S**	**14 14 44.0**	**+4.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.1						
CN2				LR	LR		
	comp=E,300nm,15.0s,MS4.1						
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS3.9						
PSI	**Prapat**	**26.11**	**237**	P	**P**	**14 10 14.0**	**+0.2**
	comp=Z,25nm,0.8s,mb4.8,baz=36,slow=8.6,SNR=15						
PSI				LR	LR	14 20 07.8	
	comp=Z,331nm,18.6s,MS3.9,baz=12,slow=35						
VLA	**Vladivostok**	**26.

comp=E,270nm,12.0s,MS4.1
LSA LR LR
comp=Z,220nm,13.0s,MS4.0
LSA Lhasa 29.11 299 *e*P **P 14 10 41.5 +0.8**
LSA pmax pmax
comp=Z,14nm,0.8s,mb4.7
LSA Lhasa 29.11 299 *e*P **P 14 10 41.5 +0.8**
comp=Z,14nm,0.8s,mb4.7
ULN Ulaanbaatar 31.60 343 *de*P **P 14 11 04.1 +1.5**
ULN Ulaanbaatar 31.60 343 *e*P **P 14 11 01.3 -1.3**
comp=Z,3.3nm,0.8s,mb4.2
SONM Songino Array 31.76 342 P **P 14 11 04.2 +0.1**
comp=Z,2.5nm,0.7s,mb4.2,baz=160,slow=9.2,SNR=16
SONM PcP PcP 14 13 54.9 +0.1
comp=Z,1.2nm,0.8s,baz=134,slow=4.3,SNR=4.5
SONM ScP ScP 14 17 34.0 -1.3
comp=Z,0.2nm,0.3s,baz=116,slow=3.4,SNR=3.8
SONM LR LR 14 24 37.1
comp=Z,225nm,18.9s,MS3.9,baz=151,slow=38
SONM Songino Array 31.76 342 P **P 14 11 04.2 +0.1**
SONM 14 13 54.9
ASAJ Asahikawa 31.83 31 P **P 14 11 05.3 +0.6**
comp=Z,9.2nm,1.1s,mb4.5,baz=134,slow=25,SNR=4.0
ASAJ LR LR 14 23 49.7
comp=Z,121nm,18.8s,MS3.6,baz=193,slow=36
KLR Kul'dur 32.28 14 *e*P **P 14 11 07.8 -0.9**
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,600nm,13.0s,MS4.5
KAKA Kakadu 32.86 158 *e*P **P 14 11 12.2 -1.5**
comp=Z,8.1nm,0.6s,mb4.8
KAKA *e*PCP PcP 14 13 59.5 +1.7
JIRN Jiri 32.91 293 *e*P **P 14 11 15.0 +0.8**
comp=Z,50nm,0.8s,mb5.5
GUN Gumba 33.23 293 *e*P **P 14 11 17.7 +0.8**
comp=Z,88nm,0.8s,mb5.7
PKI Pulchoki 33.58 293 *e*P **P 14 11 20.1 +0.1**
comp=Z,65nm,1.1s,mb5.5
KKN Kakani 33.73 293 *e*P **P 14 11 21.4 +0.1**
comp=Z,58nm,0.9s,mb5.5
DMN Daman 33.85 293 *e*P **P 14 11 22.5 +0.1**
comp=Z,88nm,1.1s,mb5.6
YSS Yuzh-Sakhalins 34.03 28 *e*P **P 14 11 25.5 +1.6**
YSS *e* pP 14 11 33.7 -0.6
YSS S **S 14 16 46.0 -0.9**
YSS 14 21 50.0
YSS pmax pmax
comp=Z,20nm,1.0s,mb5.0
YSS MLR MLR
comp=Z,200nm,13.0s,MS4.0
YSS Yuzh-Sakhalins 34.03 28 *e*P **P 14 11 25.0 +1.0**
comp=Z,27nm,1.1s,mb5.1
GKN Gorkha 34.33 293 *e*P **P 14 11 26.2 -0.3**
comp=Z,100nm,0.9s,mb5.7
ZAK Zakamensk 34.97 341 *e*P **P 14 11 32.2 +0.2**
ZAK *e* 14 13 59.9
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KOLN Koldanda 35.20 293 *e*P **P 14 11 34.1 +0.1**
comp=Z,61nm,0.9s,mb5.5
TLY Talaya 36.00 342 *e*P **P 14 11 41.9 +1.0**
TLY pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
TLY MLR MLR
comp=Z,171nm,18.0s,MS3.9
TLY Talaya 36.00 342 *e*P **P 14 11 41.8 +0.9**
comp=Z,4.0nm,0.6s,mb4.5
FITZ Fitzroy Crossi 36.40 172 *e*P **P 14 11 43.8 -0.5**
comp=Z,16nm,1.7s,mb4.7
FITZ *e*PCP PcP 14 14 09.6 +1.6
WMQ Urumqi 37.61 320 *e*P **P 14 11 55.8 +1.2**
WMQ XP sP 14 12 08.5 -0.9
WMQ S **S 14 17 44.8 +3.1**
WMQ SCS ScS 14 22 03.5 -1.3
WMQ LR LR
comp=N,380nm,18.0s,MS4.4
WMQ LR LR
comp=E,320nm,14.0s,MS4.4
WMQ LR LR
comp=Z,150nm,18.0s,MS3.8
MBWA Marble Bar 39.09 181 *e*P **P 14 12 06.5 -0.6**
comp=Z,16nm,0.9s,mb4.7
HYB Hyderabad 39.91 276 *i* P **P 14 12 14.0 +0.1**
HYB Hyderabad 39.91 276 *e*P **P 14 12 14.0 +0.1**
WRAB Tennant Creek 40.23 160⇓*e*P **P 14 12 16.3 -0.2**
WRAB Tennant Creek 40.23 160 *e*P **P 14 12 14.0 -2.5**
comp=Z,19nm,0.9s,mb4.8
WRA Warramunga Arr 40.23 160 P **P 14 12 15.1 -1.4**
comp=Z,4.7nm,0.7s,mb4.3,baz=340,slow=9.1,SNR=29
WRA PcP PcP 14 14 19.4 -0.5
comp=Z,4.1nm,0.6s,baz=343,slow=3.1,SNR=12
WRA S **S 14 18 16.0 -5.1**
comp=Z,0.9nm,0.8s,baz=343,slow=15,SNR=3.3
WB2 Warramunga Arr 40.23 160 *e*P **P 14 12 15.5 -1.0**
WB2 *e*PCP PcP 14 14 21.6 +1.6
MK31 Makanchi Array 42.41 321 P **P 14 12 34.6 +0.2**
MK31 pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
MKAR Makanchi Array 42.41 321 P **P 14 12 35.4 +0.9**
comp=Z,10nm,0.8s,mb4.5,baz=113,slow=9.3,SNR=63
MKAR PcP PcP 14 14 26.1 -1.0
comp=Z,5.8nm,0.7s,baz=103,slow=4.4,SNR=8.8
MKAR Makanchi Array 42.41 321 *i* P **P 14 12 35.4 +1.0**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
KRAR Krasnoyarsk 43.16 338⇑*e*P **P 14 12 40.1 -0.4**
KRAR pmax pmax
comp=Z,28nm,0.5s,mb5.2
AS31 Alice Springs 43.59 162 *e*P **P 14 12 43.3 -0.6**
ASPA Alice Springs 43.59 162 *e*P **P 14 12 43.3 -0.6**
ASAR Alice Springs 43.59 162 P **P 14 12 43.5 -0.4**
comp=Z,7.0nm,0.6s,mb4.5,baz=338,slow=7.0,SNR=112
ASAR PcP PcP 14 14 31.5 +0.5
comp=Z,1.1nm,0.5s,baz=345,slow=3.2,SNR=4.3
ASAR S **S 14 19 06.4 -4.3**
comp=Z,0.5nm,0.7s,baz=344,slow=13,SNR=5.4
YAK Yakutsk 44.28 6 *ce*P **P 14 12 49.3 -0.2**
YAK pmax pmax
comp=Z,18nm,1.0s,mb4.8
ULHL Ulahol 44.52 312 P **P 14 12 52.9 +1.5**
SNR=12
ZAL Zalesovo 45.06 331 P **P 14 12 55.4 -0.3**
comp=Z,4.2nm,0.7s,mb4.3,baz=0.5,slow=6.5,SNR=23
ZAL LR LR 14 33 14.0
comp=Z,168nm,20.3s,MS4.0,baz=238,slow=38
KZA Kyzart 45.17 312 P **P 14 12 59.0 +2.4**
SNR=34
TKM2 Tokmak 2 45.19 313 P **P 14 12 58.3 +1.6**
SNR=8.8
KBK Karagaybulak 45.56 312 P **P 14 13 01.6 +2.0**
SNR=12
CTAO Charters Tower 45.64 145 P **P 14 13 01.0 +0.7**
CTAO pmax pmax
comp=Z,33nm,1.3s,mb5.1
CTAO Charters Tower 45.64 145 P **P 14 13 01.0 +0.7**
comp=Z,33nm,1.3s,mb5.1
PET Petropavlovsk 45.67 31 *de*P **P 14 12 59.9 -0.6**
PET pmax pmax
comp=Z,57nm,2.5s,mb5.1
UCH Uchtor 45.73 312 P **P 14 13 03.5 +2.5**
SNR=31
CHMS Chumysh 45.80 313 P **P 14 13 02.7 +1.1**
SNR=8.5
FRU Bishkek 45.84 313 P **P 14 13 02.6 +0.7**
USP Ospenovka 46.06 313 P **P 14 13 04.6 +1.0**
SNR=7.9
AML Almayashu 46.29 311 P **P 14 13 07.7 +2.3**
SNR=5.9
NVS Novosibirsk 46.34 331⇑*i P* **P 14 13 05.3 -0.5**
NVS *e* pP 14 13 14.7 -1.8
NVS pmax pmax
comp=N,32nm,2.0s
NVS pmax pmax
comp=Z,33nm,2.0s,mb4.9
EKS2 Erkin-Say 46.38 312 P **P 14 13 07.7 +1.6**
SNR=8.4
KURK Kurchatov 46.44 324⇑*i P* **P 14 13 07.1 +0.5**
KURK *e**PP pP 14 13 15.7 -1.5
KURK *e**SP sP 14 13 19.1 -2.5
KURK pmax pmax
comp=Z,29nm,0.8s,mb5.3
KURK Kurchatov 46.44 324⇑*i P* **P 14 13 07.1 +0.5**
comp=Z,29nm,0.8s,mb5.2
KURK *e*pP pP 14 13 15.7 -1.5
KURK *e*sP sP 14 13 19.1 -2.4

KK31 Karatay Array 48.81 312 *i* P **P 14 13 25.4 +0.4**
KK31 pmax pmax
comp=Z,11nm,0.8s,mb4.9
KKAR Karatay Array 48.81 312 *i* P **P 14 13 25.4 +0.4**
KKAR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FORT Forrest 49.20 171 *e*P **P 14 13 28.5 +0.5**
comp=Z,32nm,0.7s,mb5.5
KLBR Kellerberrin 49.55 183 *e*P **P 14 13 30.4 -0.2**
comp=Z,69nm,1.7s,mb5.4
MUN Mundaring 50.03 185⇓*i P* **P 14 13 34.5 +0.2**
NWAO Narrogin (SRO) 50.91 184 P **P 14 13 37.4 -3.5**
NWAO pmax pmax
comp=Z,21nm,1.1s
NWAO Narrogin (SRO) 50.91 184 P **P 14 13 37.4 -3.6**
comp=Z,21nm,1.1s,mb5.0
VOSK Vostochnaya 51.59 324 P **P 14 13 45.3 -0.7**
VOSK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BVA0 Borovoye Array 52.04 324 *i* P **P 14 13 49.6 +0.2**
BVAR Borovoye Array 52.04 324 LR LR 14 37 44.6
comp=Z,119nm,18.6s,MS4.0,baz=138,slow=38
BRVK Borovoye 52.11 324 *e*P **P 14 13 50.2 +0.3**
BRVK pmax pmax
comp=Z,15nm,1.1s,mb4.8
BRVK Borovoye 52.11 324 *e*P **P 14 13 50.2 +0.3**
comp=Z,15nm,1.1s,mb4.8
ZRNK Zerenda 52.79 324⇑*i P* **P 14 13 55.1 +0.2**
ZRNK *e**PP pP 14 14 03.7 -2.0
ZRNK pmax pmax
comp=Z,15nm,0.9s,mb4.9
ZRNK Zerenda 52.79 324⇑*i P* **P 14 13 55.1 +0.1**
comp=Z,15nm,0.9s,mb4.9
ZRNK *e*pP pP 14 14 03.7 -2.0
TIXI Tiksi 53.70 3⇓*e*P **P 14 14 01.4 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
STKA Stephens Creek 53.71 158 P **P 14 13 59.6 -2.1**
comp=Z,6.7nm,0.7s,mb4.7,baz=331,slow=5.5,SNR=14
STKA Stephens Creek 53.71 158 *e*P **P 14 13 59.4 -2.3**
AB31 Akbulak array 57.31 317 *i* P **P 14 14 27.6 0.0**
BILL Bilibino 57.53 19 *i* P **P 14 14 30.0 +0.8**
AKTO Aktyubinsk 58.74 318 LR LR 14 41 38.0
comp=Z,116nm,18.3s,MS4.0,baz=225,slow=38
ARU Arti 59.60 325⇑*i P* **P 14 14 43.0 -0.6**
ARU *e* 14 16 53.3
ARU *e*PPP 14 18 16.3
ARU *e*S **S 14 22 50.0 -1.2**
ARU *e*SS SS 14 26 52.9 +6.0
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ARU MLR MLR
comp=E,70nm,17.0s,MS3.9
ARU MLR MLR
comp=Z,100nm,17.0s,MS4.0
ARU MLR MLR
comp=N,40nm,16.0s,MS3.9
ARU Arti 59.60 325 *e*P **P 14 14 42.6 -0.9**
comp=N,20nm,1.2s,mb5.0
TOO Toolangi 60.22 157 *e*P **P 14 14 49.8 +2.0**
comp=N,5.3nm,0.7s,mb4.7
TOO Toolangi 60.22 157 *e*P **P 14 14 49.8 +2.0**
TOO pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ORR Orenburg 60.95 319 *e*P **P 14 14 50.0 -2.8**
ORR pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
GNI Garni 67.79 307 LR LR 14 49 18.1
comp=Z,94nm,20.9s,MS4.0,baz=224,slow=39
KIV Kislovodsk 68.96 311 *e*P **P 14 15 44.0 -0.8**
KIV *e*S S 14 24 45.3 -1.6
KIV pmax pmax
comp=Z,30nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,177nm,16.0s,MS4.4
KLMR Klimovskoe 69.94 329 *e*P **P 14 15 49.5 -1.4**
KLMR pmax pmax
comp=Z,30nm,1.9s,mb4.9
VRSR Storozhevoye 70.67 319 *e*P **P 14 15 54.5 -0.8**
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
VRSR pmax pmax
comp=N,5.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
OBN Obninsk 71.87 323⇓*e*P **P 14 16 00.9 -1.7**
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MALT Malatya 72.89 305⇑*i P* **P 14 16 09.9 +1.2**
MALT Malatya 72.89 305 *e*P **P 14 16 09.2 +0.5**
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MALT Malatya 72.89 305⇑P **P 14 16 09.9 +1.2**
MALT Malatya 72.89 305 *e*P **P 14 16 09.2 +0.5**
comp=Z,6.3nm,1.0s,mb4.5
KDAK Kodiak Island 73.18 34 P **P 14 16 09.4 -1.0**
comp=Z,6.3nm,0.8s,mb4.6,baz=270,slow=3.0,SNR=4.1
JOF Joensuu 73.64 332 *ep* **P 14 16 12.4 -0.8**
comp=Z,12nm,0.6s,mb5.0
JOF Joensuu 73.64 332 *e*P **P 14 16 12.4 -0.8**
JOF pmax pmax
comp=Z,12nm,0.6s,mb5.0
KEV Kevo 74.32 339 *ep* **P 14 16 16.0 -1.1**
comp=Z,1.1nm,0.4s,mb4.1
PMR Palmer 74.36 30 *e*P **P 14 16 18.3 +0.9**
PMR *e**PP pP 14 16 26.6 -2.0
PMR pmax pmax
comp=Z,11nm,0.8s,mb4.8
PMR Palmer 74.36 30 *e*P **P 14 16 18.3 +1.0**
comp=Z,11nm,0.8s,mb4.8
PMR *e*pP pP 14 16 26.6 -2.0
COLA College 74.41 26⇓*e*P **P 14 16 19.1 +1.5**
COLA College 74.41 26 P **P 14 16 15.9 -1.7**
comp=Z,6.2nm,0.8s,mb4.6
ARCES ARCESS Array B 74.88 339 P **P 14 16 19.8 -0.5**
comp=Z,3.8nm,0.6s,mb4.5,baz=75,slow=8.0,SNR=27
ARCES LR LR 14 52 29.0
comp=Z,65nm,18.7s,MS4.0,baz=88,slow=38
ARCES ARCESS Array B 74.88 339 P **P 14 16 19.8 -0.6**
ARCES LR LR 14 52 29.0
SPB4 Spitsbergen Ar 75.21 348 *e*P **P 14 16 21.9 -0.3**
SPB4 *e*pP pP 14 16 27.9 -5.5
KAF Kangasniemi 76.07 331 *ep* **P 14 16 26.3 -0.9**
comp=Z,11nm,0.7s,mb4.9
KAF Kangasniemi 76.07 331 *e*P **P 14 16 26.3 -0.9**
KAF pmax pmax
comp=Z,11nm,0.7s,mb4.9
BRTR Keskin Array B 76.28 308 P **P 14 16 27.6 -0.7**
comp=Z,0.9nm,0.6s,mb3.9,baz=102,slow=4.3,SNR=4.6
BRTR LR LR 14 54 44.2
comp=Z,62nm,19.5s,MS3.9,baz=279,slow=39
BRTR Keskin Array B 76.28 308 *i* P **P 14 16 28.2 -0.2**
FINES FINESS Array B 76.33 330 P **P 14 16 28.1 -0.5**
comp=Z,4.6nm,0.6s,mb4.6,baz=50,slow=6.5,SNR=18
FINES LR LR 14 52 56.1
comp=Z,92nm,19.1s,MS4.1,baz=2.9,slow=38
FINES FINESS Array B 76.33 330 *i* P **P 14 16 28.1 -0.5**
FINES pmax pmax
comp=Z,5.0nm,0.6s
VSU Vasula 76.66 327 *d i*P **P 14 16 30.0 -0.5**
AKASG Malin Array Be 76.97 319 P **P 14 16 31.0 -1.2**
comp=Z,4.3nm,0.7s,mb4.5,baz=68,slow=5.0,SNR=14
AKASG LR LR 14 54 47.2
comp=Z,65nm,20.1s,MS3.9,baz=225,slow=39
EIL Elat 77.50 297 *e*P **P 14 16 35.7 +0.5**
comp=Z,147nm,1.1s,mb5.8
EIL *e*pP pP 14 16 44.6 -1.9
DAWY Dawson 78.16 26 *e*P **P 14 16 39.0 +0.1**
DAWY *e*pP pP 14 16 47.4 -2.7
INK Inuvik 79.01 21 P **P 14 16 42.7 -0.9**
comp=Z,3.6nm,0.8s,mb4.3,baz=296,slow=7.5,SNR=6.5
INK Inuvik 79.01 21 *e*P **P 14 16 43.0 -0.6**
INK *e**PP pP 14 16 52.1 -2.8
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 79.01 21 *e*P **P 14 16 43.0 -0.6**
comp=Z,5.6nm,1.0s,mb4.5
INK *e*pP pP 14 16 52.1 -2.8
SUW Suwalki 79.72 323 *e*P **P 14 16 46.6 -0.8**
VRI Vrincioaia 79.76 315⇑*i P* **P 14 16 48.2 +0.5**
VRI Vrincioaia 79.76 315⇑P **P 14 16 48.2 +0.5**
BURAR Bucovina Array 80.29 317⇑*i P* **P 14 16 51.0 +0.5**
MLR Muntele Rosu 80.39 315⇑*i P* **P 14 16 52.0 +0.9**
MLR Muntele Rosu 80.39 315⇑P **P 14 16 52.0 +0.9**
VOIR 81.01 315⇑*i P* **P 14 16 53.6 -0.8**

VOIR 81.01 315⇑P **P 14 16 53.6 -0.8**
KWP Kalwaria 81.29 319 *e*P **P 14 16 56.0 +0.1**
DAG Danmarks Havn 82.19 351⇓*i P* **P 14 17 00.4 -0.2**
comp=Z,4.1nm,0.7s,mb4.5
DAG Danmarks Havn 82.19 351⇓*i P* **P 14 17 00.4 -0.2**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
OJC Ojcow 82.88 321 *e*P **P 14 17 04.0 -0.2**
KECS Kecovo 83.04 319 *e*P **P 14 17 05.2 +0.1**
comp=Z,2.2nm,0.7s,mb4.3
KECS *e* pP 14 17 17.6 +1.2
VTS Vitosha 83.13 312⇑*i P* **P 14 17 05.9 +0.4**
VTS Vitosha 83.13 312⇑P **P 14 17 05.9 +0.4**
NB2 NORSAR Subarra 83.24 332 P **P 14 17 04.7 -1.4**
comp=Z,6.1nm,0.7s,mb4.7,baz=64,slow=4.8
NB2 NORSAR Subarra 83.24 332 P **P 14 17 04.7 -1.4**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
NOA NORSAR Array B 83.24 332 P **P 14 17 04.8 -1.3**
comp=Z,7.1nm,0.8s,mb4.7,baz=64,slow=4.9,SNR=36
NOA LR LR 14 57 31.8
comp=Z,101nm,19.1s,MS4.2,baz=45,slow=38
KMBO Kilima Mbogo 83.96 267 P **P 14 17 10.6 +0.8**
comp=Z,6.1nm,1.0s,mb4.7,baz=43,slow=6.3,SNR=8.6
KMBO LR LR 14 51 58.8
comp=Z,92nm,18.2s,MS4.2,baz=93,slow=34
KMBO Kilima Mbogo 83.96 267 *i* P **P 14 17 10.6 +0.9**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
VAY Valandovo 83.99 311 *i* P **P 14 17 06.9 -3.0**
VYHS Vyhne 84.07 319 *i* P **P 14 17 10.0 -0.3**
VYHS *e* pP 14 17 22.6 +0.9
VYHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
VYHS Vyhne 84.07 319 *i* P **P 14 17 10.0 -0.3**
comp=Z,4.2nm,1.1s,mb4.5
VYHS *e* pP 14 17 22.6 +0.9
RES Resolute Bay 84.67 9 *e*P **P 14 17 13.2 -0.1**
RES *e**PP pP 14 17 20.5 -4.2
RES pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
RES Resolute Bay 84.67 9 *e*P **P 14 17 13.2 -0.2**
comp=Z,6.6nm,0.8s,mb4.8
RES *e*pP pP 14 17 20.5 -4.2
DPC Dobruska-Polom 84.92 321 *e*P **P 14 17 14.7 +0.1**
DPC *e*pP pP 14 17 28.0 +2.0
RGN Rugen 84.95 326 *e*P **P 14 17 13.5 -1.3**
comp=Z,36nm,1.0s,mb5.5
PKSM Moragy 85.00 317⇑*i P* **P 14 17 14.8 -0.2**
PKSM Moragy 85.00 317⇑P **P 14 17 14.8 -0.3**
UPC Upice 85.04 322 *e*P **P 14 17 15.5 +0.3**
VRAC Vranov 85.15 320⇓*i P* **P 14 17 16.3 +0.5**
VRAC Vranov 85.15 320⇓P **P 14 17 16.3 +0.5**
OHR Ohrid 85.32 312⇑*i P* **P 14 17 14.6 -2.0**
RUE Ruedersdorf 85.54 324 *e*P **P 14 17 17.7 0.0**
TREC Trest 85.83 321 *e*P **P 14 17 19.5 +0.4**
TREC *e*pP pP 14 17 32.2 +1.7
PVCC Panska Ves 85.88 322 *e*P **P 14 17 19.5 +0.1**
PVCC *e*pP pP 14 17 32.9 +2.1
BRG Berggiesshubel 86.11 323 *e*P **P 14 17 20.2 -0.3**
comp=Z,14nm,1.0s,mb5.2
BRG *e*pP pP 14 17 33.3 +1.4
BRG Berggiesshubel 86.11 323 *e*P **P 14 17 20.6 0.0**
comp=Z,8.2nm,1.0s,mb4.9
BRG *e* pP 14 17 33.4 +1.4
comp=Z,4.9nm,1.0s
BRG Berggiesshubel 86.11 323 *e*P **P 14 17 20.6 +0.1**
BRG *e* pP 14 17 33.3 +1.4
BRG pmax pmax
comp=Z,60nm,1.0s,mb5.8
FBE Freiberg 86.43 323 *e*P **P 14 17 21.8 -0.3**
comp=Z,16nm,1.2s,mb5.1
FBE *e*pP pP 14 17 34.8 +1.3
CLL Collm 86.47 323 *e*P **P 14 17 21.7 -0.6**
comp=Z,8.0nm,0.9s,mb5.0
CLL *e*pP pP 14 17 34.6 +0.9
CLL Collm 86.47 323⇓*i P* **P 14 17 22.0 -0.3**
comp=Z,8.0nm,0.9s,mb5.0
CLL *i* sP sP 14 17 34.8 -3.0
comp=Z,10.0nm,1.0s
CLL L 15 02 00.0
comp=Z,100nm,21.6s
CLL Collm 86.47 323⇓*i P* **P 14 17 22.0 -0.3**
CLL *i* pP 14 17 34.8 +1.1
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
CLL MLR MLR
comp=Z,100nm,21.6s,MS4.2
BSEG Bad Segeberg 86.80 326 *e*P **P 14 17 22.5 -1.4**
comp=Z,5.0nm,0.5s,mb5.0
BSEG Bad Segeberg 86.80 326 *e*P **P 14 17 22.5 -1.4**
BSEG pmax pmax
comp=Z,5.0nm,0.5s,mb5.0
GOLS Golise 87.03 318 *e*P **P 14 17 25.0 0.0**
GOLS *e*pP pP 14 17 38.3 +1.9
KHC Kasperske Hory 87.04 321 *e*P **P 14 17 25.1 0.0**
KHC *e*pP pP 14 17 37.4 +0.9
KHC Kasperske Hory 87.04 321⇓*e*P **P 14 17 25.2 +0.1**
GEC2 GERESS Array S 87.08 321 *e*P **P 14 17 25.1 -0.2**
comp=Z,4.0nm,0.9s,mb4.7
GEC2 *e*pP pP 14 17 38.0 +1.3
GEC2 GERESS Array S 87.08 321 *e*P **P 14 17 25.1 -0.2**
GEC2 *e**PP pP 14 17 38.0 +1.3
GEC2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
GERES GERESS Array B 87.08 321 P **P 14 17 25.1 -0.2**
comp=Z,1.4nm,0.6s,mb4.4,baz=63,slow=3.3,SNR=13
PERS Pernice 87.10 318 *e*P **P 14 17 25.0 -0.4**
TANN Tannenbergstha 87.16 322 *e*P **P 14 17 25.3 -0.4**
comp=Z,2.0nm,0.7s,mb4.5
PDKS Podkum 87.41 318 *e*P **P 14 17 26.7 -0.2**
MOX Moxa 87.54 323 *e*P **P 14 17 27.2 -0.3**
comp=Z,4.0nm,0.7s,mb4.8
MOX Moxa 87.54 323 *e*P **P 14 17 27.1 -0.4**
NRDL Niedersach Rie 87.56 325 *e*P **P 14 17 25.9 -1.7**
comp=Z,6.0nm,1.1s,mb4.7
ROTZ Rotzenmuhle 87.58 322 *e*P **P 14 17 27.6 -0.1**
comp=Z,4.0nm,1.0s,mb4.6
VISS Visnje 87.61 318 *e*P **P 14 17 27.7 -0.2**
CLZ Clausthal 87.71 324 *e*P **P 14 17 28.4 0.0**
comp=Z,5.0nm,0.8s,mb4.8
CLZ Clausthal 87.71 324 *e*P **P 14 17 28.4 0.0**
CLZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
GRA1 Grafenberg Arr 88.19 322 *e*P **P 14 17 30.4 -0.2**
comp=Z,5.0nm,1.0s,mb4.7
GRF Grafenberg Arr 88.19 322 *e*P **P 14 17 30.4 -0.2**
comp=Z,5.0nm,1.0s,mb4.7
GRF Grafenberg Arr 88.19 322 *e*P **P 14 17 30.4 -0.2**
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
GRF Grafenberg Arr 88.19 322 *e*P **P 14 17 30.4 -0.2**
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
SUMG Summit 88.38 354 *e*P **P 14 17 30.8 -0.7**
comp=Z,7.5nm,0.8s,mb5.0
YKA Yellowknife Ar 88.73 22 P **P 14 17 33.1 -0.1**
comp=Z,3.9nm,0.7s,mb4.9,baz=313,slow=4.4,SNR=14
YKA LR LR 14 58 59.5
comp=Z,28nm,19.6s,MS3.7,baz=255,slow=37
YKA Yellowknife Ar 88.73 22 *i* P **P 14 17 34.2 +1.0**
YKA pmax pmax
comp=Z,4.0nm,0.7s
TIP Tinpagrande 88.90 311 *e*P **P 14 17 33.9 0.0**
BFO Black Forest 90.51 322 *e*P **P 14 17 41.0 -0.5**
comp=Z,3.0nm,0.8s,mb4.7
BFO Black Forest 90.51 322 *e*P **P 14 17 41.0 -0.5**
BFO pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
CDF Champ du Feu 91.08 322 *e*P **P 14 17 43.8 -0.3**
PGF Pioggiola 92.81 317 *e*P **P 14 17 52.1 0.0**
comp=Z,47nm,1.1s,mb5.5
PGF Pioggiola 92.81 317 *e*P **P 14 17 52.1 0.0**
PGF pmax pmax
comp=Z,23nm,1.0s,mb5.6
PGF Pioggiola 92.81 317 *e*P **P 14 17 52.1 0.0**
comp=Z,23nm,1.0s,mb5.6
LPG La Plagne 92.82 320 *e*P **P 14 17 52.7 +0.5**
comp=Z,26nm,0.8s,mb5.4
LPG La Plagne 92.82 320 *e*P **P 14 17 52.7 +0.5**
LPG pmax pmax
comp=Z,13nm,0.8s,mb5.4
LPG La Plagne 92.82 320 *e*P **P 14 17 52.7 +0.5**
comp=Z,13nm,0.8s,mb5.4
LPL La Plagne 92.82 320 *e*P **P 14 17 52.5 +0.3**

comp=Z,33nm,0.9s,mb5.5
LPL La Plagne 92.82 320 *e*P **P 14 17 52.5 +0.3**
LPL pmax pmax
comp=Z,17nm,0.9s,mb5.5
LPL La Plagne 92.82 320 *e*P **P 14 17 52.5 +0.3**
comp=Z,16nm,0.9s,mb5.5
BNI Bardonecchia 93.08 320 *e*P **P 14 17 52.2 -1.2**
BNI pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
BNI Bardonecchia 93.08 320 *e*P **P 14 17 52.2 -1.2**
comp=Z,8.7nm,0.9s,mb5.2
MBDF Montbardon 93.19 319 *e*P **P 14 17 53.0 -0.9**
comp=Z,10nm,0.9s,mb5.0
MBDF Montbardon 93.19 319 *e*P **P 14 17 53.0 -0.9**
MBDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
MBDF Montbardon 93.19 319 *e*P **P 14 17 53.0 -0.9**
comp=Z,5.3nm,0.9s,mb5.0
ORIF Oris-en-Rattie 93.64 320 *e*P **P 14 17 55.9 -0.1**
comp=Z,18nm,0.9s,mb5.2
ORIF *e*R
comp=Z,95nm,20.8s
ORIF Oris-en-Rattie 93.64 320 *e*P **P 14 17 55.9 -0.1**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
ORIF Oris-en-Rattie 93.64 320 *e*P **P 14 17 55.9 -0.1**
comp=Z,8.9nm,0.9s,mb5.2
LOR Lormes 93.65 322 *e*P **P 14 17 55.5 -0.5**
LOR *e*R
comp=Z,88nm,17.0s
LOR Lormes 93.65 322 *e*P **P 14 17 55.5 -0.5**
LOR LR LR
comp=Z,90nm,17.0s,MS4.3
SSF Saint Saulge 93.96 322 *e*P **P 14 17 55.9 -1.5**
AVF Avril sur Loir 94.19 322 *e*P **P 14 17 57.8 -0.7**
comp=Z,12nm,1.0s,mb5.0
AVF Avril sur Loir 94.19 322 *e*P **P 14 17 57.8 -0.7**
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
AVF Avril sur Loir 94.19 322 *e*P **P 14 17 57.8 -0.7**
comp=Z,6.3nm,1.0s,mb5.0
VIVF Saint-Julien-l 94.42 320 *e*P **P 14 17 59.2 -0.3**
TCF Toulx Ste Croi 95.13 322 *e*P **P 14 18 01.7 -1.1**
PPT Papeete 95.24 107 LR LR 14 58 51.9
comp=Z,64nm,19.6s,MS4.1,baz=307,slow=34
GRR Gorron 95.68 325 *e*P **P 14 18 05.4 +0.1**
CAF Calviac 95.95 321 *e*P **P 14 18 06.6 +0.1**
RJF Les Rejaudoux 96.07 322 *e*P **P 14 18 07.1 0.0**
RJF *e*R
comp=Z,74nm,22.0s
RJF Les Rejaudoux 96.07 322 *e*P **P 14 18 07.1 0.0**
RJF LR LR
comp=Z,70nm,22.0s,MS4.1
MFF Saint Martin d 96.31 323 *e*P **P 14 18 07.0 -1.2**
DBIC Dimbokro 120.73 290 PKP PKPdf 14 23 31.6 +0.1
comp=Z,4.9nm,0.7s,baz=352,slow=3.2,SNR=6.5
SDV Santo Domingo 150.94 23 *e*PKPdf PKPdf 14 24 27.4 +0.9
SDV *e*pPKPbc pPKPbc 14 24 33.9 -10
PLCA Paso Flores 155.58 159 PKPbc PKPdf 14 24 44.1 +11
comp=Z,2.8nm,1.0s,baz=235,slow=1.4,SNR=6.2
LPAZ La Paz 171.52 79 PKP PKPdf 14 24 50.0 +2.0
comp=Z,1.6nm,0.9s,baz=86,slow=2.6,SNR=6.3

*MOS **29** 14:08:26.5±1.4, 6091N×16555E, h10km, mb4.2/7, Error ellipse: s-maj=23.5km s-min=17.0km az=68.7*
*IDC **29** 14:08:26.9±1.8, 6075N×16558E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.8/8, Error ellipse: s-maj=63.7km s-min=19.1km az=175.0*
*ISCJB **29** 14:08:27.7±1.0, 6070N±004×16563E±008, h20km±8km, mb3.9/12, Error ellipse: s-maj=7.9km s-min=4.6km az=84.7*
*KRSC **29** 14:08:27.6±1.0, 6068N×16581E, h19km±3km, ML4.2*
*NEIC **29** 14:08:28.5±0.6, 6089N×16555E, h10km, mb4.2/5, Error ellipse: s-maj=18.1km s-min=8.6km az=168.0*
ISC 29 14:08:27.6±1.4, 6077N±004×16567E±008, h8km±9km, n57, σ1§04/62, mb3.9/12, 1C-2D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.39**	**151**	*i* P	**Pg**	**14 08 34.0**	**-1.2**
TILR				*e*S	**Sg**	**14 08 39.6**	**-0.8**
TILR				Smax			
77μm,0.4s							
KAMR	**Kamenskoye**	**1.71**	**8**	*i* P	**Pn**	**14 08 58.2**	**+0.4**
KAMR				*e*S	**Sn**	**14 09 20.9**	**+1.0**
KAMR				Smax			
3μm,1.1s							
OSSR	**Ossora**	**2.01**	**222**	*i* P	**Pn**	**14 09 00.2**	**-1.7**
OSSR				*i* S	**Sn**	**14 09 23.5**	**-3.8**
OSSR				Smax			
6μm,0.9s							
EVNR	**Evensk**	**3.30**	**293**	*e*P	**Pn**	**14 09 20.3**	**+0.7**
SMKR	**Semkarok**	**4.74**	**209**	*i* P	**Pn**	**14 09 39.6**	**+0.2**
SRKR	**Sorokina**	**4.75**	**212**	*e*P	**Pn**	**14 09 39.3**	**-0.3**
KBG	**Krutoberegovo**	**4.79**	**200**	P	**Pn**	**14 09 39.2**	**-0.9**
KBG				Smax			
180nm,1.0s							
KBTR	**Krutoberegovo**	**4.81**	**199**	*e*P	**Pn**	**14 09 40.3**	**-0.2**
KBTR				*e*S	**Sn**	**14 10 34.2**	**-2.2**
BDR	**Baidarnaya**	**4.81**	**211**	*e*P	**Pn**	**14 09 40.4**	**-0.1**
KLY	**Klyuchi**	**5.18**	**213**	*e*P	**Pn**	**14 09 44.8**	**-0.8**
KRSR	**Krestovskiy**	**5.29**	**213**	P	**Pn**	**14 09 46.5**	**-0.5**
CIRR	**Tsirk**	**5.34**	**211**	P	**Pn**	**14 09 48.3**	**+0.7**
LGNR	**Loginova**	**5.38**	**211**	*e*P	**Pn**	**14 09 48.5**	**+0.3**
SRDR	**Sredinnyy**	**5.45**	**218**	*e*P	**Pn**	**14 09 49.2**	**+0.1**
BKI	**Bering**	**5.58**	**178**	*e*P	**Pn**	**14 09 51.6**	**+0.6**
BKI				Smax			
40nm,1.4s							
KPT	**Kopyto**	**5.61**	**213**	P	**Pn**	**14 09 51.4**	**+0.1**
KOZ	**Kozyrevsk**	**5.62**	**215**	P	**Pn**	**14 09 52.5**	**+0.9**
KMNR	**Kamenistaya**	**5.79**	**212**	P	**Pn**	**14 09 54.0**	**+0.2**
ESO	**Esso**	**6.09**	**220**	P	**Pn**	**14 09 58.8**	**+0.9**
ESO				Smax			
100nm,1.5s							
TUMR	**Tumrok**	**6.24**	**210**	P	**Pn**	**14 09 59.9**	**-0.1**
MKZ	**Mys Kozlova**	**6.58**	**200**	*e*P	**Pn**	**14 10 05.3**	**+0.6**
BILL	**Bilibino**	**7.30**	**2**	2↑*e*PN	**Pb**	**14 10 27.4**	**-7.3**
BILL	**Bilibino**	**7.30**	**2**	*e*S	**Sn**	**14 11 35.9**	**-1.9**
MA2	**Magadan**	**7.53**	**267**	*de*PN	**Pn**	**14 10 16.6**	**-1.2**
MA2				pmax	pmax		
comp=Z,20nm,0.7s							
MA2				pmax	pmax		
comp=E,20nm,0.6s							
MA2				MLR	MLR		
comp=Z,300nm,8.0s							
MA2	**Magadan**	**7.53**	**267**	*e*Pn	**Pn**	**14 10 16.1**	**-1.6**
comp=Z,23nm,0.8s							
MA2				*e*Sn	**Sn**	**14 11 42.2**	**-1.2**
MA2	**Magadan**	**7.53**	**267**	*i* P	**Pn**	**14 10 18.3**	**+0.5**
GNL	**Ganaly**	**8.23**	**214**	P	**Pn**	**14 10 29.1**	**+1.7**
SDLR	**Sedlovina**	**8.37**	**209**	*e*P	**Pn**	**14 10 30.9**	**+1.6**
AVH	**Avacha**	**8.42**	**210**	P	**Pn**	**14 10 31.3**	**+1.4**
UGLR	**Uglovaya**	**8.45**	**209**	P	**Pn**	**14 10 30.9**	**+0.6**
PET	**Petropavlovsk**	**8.66**	**209**	*e*PN	**Pn**	**14 10 36.5**	**+3.3**
PET				pmax	pmax		
comp=Z,9.0nm,0.6s							
PET	**Petropavlovsk**	**8.66**	**209**	*e*Pn	**Pn**	**14 10 36.5**	**+3.3**
comp=Z,8.6nm,0.6s							
APC	**Apacha**	**9.14**	**214**	*e*P	**Pn**	**14 10 40.8**	**+1.0**
UNV	**Unalaska Valle**	**16.46**	**102**	*e*Pn	**Pn**	**14 12 17.5**	**-1.4**
comp=Z,21nm,0.8s							
YAK	**Yakutsk**	**17.14**	**290**	*e*P	**Pn**	**14 12 29.2**	**+1.6**
YAK				pmax	pmax		
comp=Z,8.0nm,0.9s							
YAK				pmax	pmax		
comp=N,3.0nm,1.0s							
YAK				pmax	pmax		
comp=E,5.0nm,1.4s							
TIXI	**Tiksi**	**18.03**	**322**	*d* iP	**Pn**	**14 12 30.8**	**-7.8**
TIXI				pmax	pmax		
comp=Z,10.0nm,1.3s							
COLA	**College**	**21.23**	**59**	P	**P**	**14 13 12.4**	**-1.5**
COLA				pmax	pmax		
comp=Z,3.0nm,0.5s,mb3.9							
COLA	**College**	**21.23**	**59**	P	**P**	**14 13 12.4**	**-1.6**
comp=Z,2.8nm,0.5s,mb3.9							
PMR	**Palmer**	**21.48**	**68**	P	**P**	**14 13 18.8**	**+2.2**
SML	**Sawmill**	**21.77**	**67**	P	**P**	**14 13 19.2**	**-0.6**
DAWY	**Dawson**	**24.98**	**58**	*e*P	**P**	**14 13 52.2**	**+0.5**
INK	**Inuvik**	**26.13**	**47**	P	**P**	**14 14 02.4**	**+0.2**
comp=Z,3.3nm,0.8s,mb3.9,baz=290,slow=11,SNR=11							
INK	**Inuvik**	**26.13**	**47**	P	**P**	**14 14 02.4**	**+0.2**
INK				pmax	pmax		
comp=Z,3.0nm,0.8s							
ULN	**Ulaanbaatar**	**35.29**	**276**	*e*P	**P**	**14 15 21.5**	**-1.5**
ULN				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.2							
ULN	**Ulaanbaatar**	**35.29**	**276**	*e*P	**P**	**14 15 21.5**	**-1.5**
comp=Z,2.7nm,1.0s,mb4.1							
SONM	**Songino Array**	**35.63**	**276**	P	**P**	**14 15 25.6**	**-0.4**
comp=Z,0.8nm,0.8s,mb3.7,baz=39,slow=9.4,SNR=2.9							
YKA	**Yellowknife Ar**	**35.68**	**52**	P	**P**	**14 15 26.7**	**+0.4**
comp=Z,0.5nm,0.4s,mb3.8,baz=306,slow=8.0,SNR=4.3							
KURK	**Kurchatov**	**46.48**	**299**	*e*P	**P**	**14 16 53.9**	**-1.4**
KURK				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
KURK	**Kurchatov**	**46.48**	**299**	*e*P	**P**	**14 16 53.9**	**-1.4**
comp=Z,3.2nm,0.8s,mb4.3							
MKAR	**Makanchi Array**	**47.78**	**293**	P	**P**	**14 17 05.7**	**+0.2**
comp=Z,0.4nm,0.5s,mb3.7,baz=51,slow=7.6,SNR=2.6							
ZRNK	**Zerenda**	**48.76**	**307**	*e*P	**P**	**14 17 11.8**	**-1.2**
ZRNK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
ZRNK	**Zerenda**	**48.76**	**307**	*e*P	**P**	**14 17 11.8**	**-1.2**
comp=Z,1.6nm,0.6s,mb4.2							
NVAR	**Mina Array Bea**	**50.77**	**80**	P	**P**	**14 17 28.6**	**+0.3**
comp=Z,0.6nm,0.7s,mb3.6,baz=296,slow=10,SNR=5.8							
PDAR	**Pinedale Array**	**51.51**	**70**	P	**P**	**14 17 34.5**	**+0.6**
comp=Z,1.5nm,0.7s,mb4.0,baz=331,slow=3.8,SNR=9.7							
ULM	**Lac du Bonnet**	**51.56**	**54**	P	**P**	**14 17 35.6**	**+1.4**
comp=Z,0.8nm,0.5s,mb3.9,baz=8.1,slow=7.1,SNR=3.3							
NOA	**NORSAR Array B**	**56.94**	**345**	P	**P**	**14 18 12.7**	**-0.7**
comp=Z,0.8nm,0.5s,mb4.0,baz=14,slow=7.3,SNR=3.3							
NOA	**NORSAR Array B**	**56.94**	**345**	P	**P**	**14 18 12.7**	**-0.7**
NOA				pmax	pmax		
comp=Z,1.0nm,0.5s							

*IDC **29** 14:30:06.9±1.1, 2687N×5584E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.7/6, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/31, Error ellipse: s-maj=26.8km s-min=22.8km az=37.0*
*ISCJB **29** 14:30:08.6±0.6, 2696N±005×5598E±006, h10km, mb3.5/5, Error ellipse: s-maj=9.0km s-min=5.7km az=115.9*
*THR **29** 14:30:13.9±1.3, 2722N×5614E, h18km±8km, ML3.4*
*CSEM **29** 14:30:13.9, 2722N×5614E, h18km, ML3.4, After THR*
ISC 29 14:30:10.8±1.2, 2694N±005×5600E±007, h17km±9km, n16, σ1§16/20, mb3.5/5, 3C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.48**	**19**	*e*PG	**Pg**	**14 30 18.9**	**-1.6**
BNDS				AML	AML	14 30 42.6	
comp=E,6μm,0.5s							
BANOM	**Banah**	**1.05**	**165**	⇑P	**Pb**	**14 30 29.9**	**-0.6**
ASHO	**Ashiyiah**	**2.25**	**179**	P	**Pn**	**14 30 48.1**	**+0.9**
SNR=9.4							
GHIR	**Ghir-Karzin**	**2.99**	**297**	*e*PN	**Pn**	**14 31 02.1**	**+4.7**
GHIR				*e*SG	**Sg**	**14 31 47.5**	**+0.8**
KRBR	**Kerman**	**3.10**	**12**	*e*Pn	**Pn**	**14 31 01.2**	**+2.2**
KRBR				*e*SG	**Sg**	**14 31 41.7**	**-8.8**
KRBR				AML	AML	14 31 52.7	
comp=N,149nm,0.6s							
KRBR				AML	AML	14 31 53.6	
comp=E,137nm,0.6s							
KRBR	**Kerman**	**3.10**	**12**	*e*Pn	**Pn**	**14 31 01.2**	**+2.2**
SNR=52							
KRBR				*e*Sg	**Sg**	**14 31 41.7**	**-8.8**
comp=E,137nm,0.6s,SNR=91							
ARQ	**Araqi**	**3.62**	**172**	⇑P	**Pn**	**14 31 07.2**	**+1.2**
SMDO	**Samad**	**4.29**	**154**	⇑P	**Pn**	**14 31 15.7**	**+0.5**
WSAR	**Wadi Sarin**	**4.39**	**146**	Pn	**Pn**	**14 31 17.0**	**+0.4**
comp=E,3.3nm,0.3s,baz=329,slow=13,SNR=34							
WSAR				Sn	**Sn**	**14 32 06.4**	**-1.0**
comp=E,4.0nm,0.3s,baz=59,slow=21,SNR=6.8							
WSAR				LR	LR	14 33 04.6	
comp=E,86nm,19.1s,baz=202,slow=40							
ZHSF	**Zahedan**	**4.99**	**57**	*e*Pn	**Pn**	**14 31 26.6**	**+1.8**
ZHSF	**Zahedan**	**4.99**	**57**	*e*Pn	**Pn**	**14 31 26.6**	**+1.8**
SNR=52							
BRTR	**Keskin Array B**	**22.54**	**310**	P	**P**	**14 35 08.8**	**-1.1**
comp=E,0.3nm,0.6s,mb2.9,baz=149,slow=15,SNR=3.2							
BVAR	**Borovoye Array**	**28.18**	**19**	P	**P**	**14 36 02.1**	**-0.2**
comp=E,1.0nm,0.5s,mb3.7,baz=251,slow=41,SNR=3.8							
MKAR	**Makanchi Array**	**28.68**	**39**	P	**P**	**14 36 06.5**	**-0.2**
comp=E,0.1nm,0.4s,mb2.9,baz=194,slow=9.6,SNR=3.3							
TORD	**Torodi Ar. Bea**	**52.46**	**266**	P	**P**	**14 39 20.2**	**-2.3**
comp=E,1.8nm,0.6s,mb4.2,baz=64,slow=7.2,SNR=18							
WRA	**Warramunga Arr**	**89.03**	**113**	P	**P**	**14 43 04.2**	**-0.6**
comp=E,0.5nm,0.7s,mb3.9,baz=308,slow=4.4,SNR=4.8							

*ISCJB **29** 15:15:14.9±1.4, 259N±0.1×1415E±06, h174km±26km, mb3.6/3, Error ellipse: s-maj=96.1km s-min=13.6km az=157.0*
*IDC **29** 15:15:16.0±3.2, 2586N×1414 8E, h166km±56km, mb3.5/3, mb1 3.7/3, mb1mx3.1/18, mbtmp4.0/3, Error ellipse: s-maj=198.7km s-min=20.4km az=87.0*
*JMA **29** 15:15:17.6±0.1, 2584N×14095E, h108km, M3.9*
ISC 29 15:15:16.2±1.5, 259N±02×1415E±07, h172km±30km, n13, σ0§82/18, mb3.6/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.92**	**41**	P	**Pn**	**15 15 42.9**	**+0.4**
JHHJ				*e*S	**Sn**	**15 16 01.7**	**-1.0**
CBIJ	**Chichi jima**	**1.30**	**28**	P	**Pn**	**15 15 46.9**	**+1.2**
172nm,0.3s,baz=205,slow=2.9,SNR=379							
CBIJ				S	**Sn**	**15 16 08.6**	**+0.2**
111nm,0.3s,baz=140,slow=24,SNR=25							
CBIJ	**Chichi jima**	**1.30**	**28**	P	**Pn**	**15 15 46.8**	**+1.1**
CBIJ				*e*S	**Sn**	**15 16 08.7**	**+0.3**
BSO1	**Boso 1**	**8.70**	**357**	P	**Pn**	**15 17 19.1**	**+0.4**
BSO3	**Boso 3**	**8.88**	**355**	P	**Pn**	**15 17 21.1**	**0.0**
JOD2	**Odawara 2**	**9.53**	**348**	P	**Pn**	**15 17 30.9**	**+1.3**
JHU	**Hanno**	**10.07**	**350**	P	**Pn**	**15 17 36.7**	**0.0**
JRY	**Ryogami san**	**10.29**	**348**	P	**Pn**	**15 17 39.5**	**-0.2**
JAG	**Ashikaga**	**10.60**	**351**	P	**Pn**	**15 17 41.4**	**-2.3**
JAG				*e*S	**Sn**	**15 19 32.2**	**-9.2**
JHO	**Hitachi**	**10.67**	**356**	P	**Pn**	**15 17 44.0**	**-0.6**
JHO				*e*S	**Sn**	**15 19 34.3**	**-8.7**
WRA	**Warramunga Arr**	**46.13**	**189**	P	**P**	**15 23 23.1**	**-0.1**
1.5nm,0.3s,mb4.1,baz=9.1,slow=8.7,SNR=56							
ASAR	**Alice Springs**	**49.85**	**189**	P	**P**	**15 23 51.5**	**-0.3**
0.3nm,0.7s,mb3.0,baz=6.4,slow=5.2,SNR=8.1							
FINES	**FINESS Array B**	**78.72**	**334**	P	**P**	**15 26 60.0**	**+0.6**
0.9nm,0.4s,mb3.8,baz=72,slow=5.5,SNR=11							

MAN 29 15:18:05.8, 1101N×12506E, h67km, mb2.0, ML3.8, MS9.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.17**	**331**	*i* P	Pn	15 18 16.6	+0.8
PLP				*e*S	Sn	15 18 22.1	-1.1
SCPH	**Surigao**	**1.29**	**161**	*e*P	Pn	15 18 28.1	+0.3
SCPH				*e*S	Sn	15 18 46.7	+2.2

*ISCJB **29** 15:21:35.0±0.6, 522N±0.1×1726E±0.1, h30km, mb4.0/18, Error ellipse: s-maj=17.7km s-min=9.1km az=177.7*
*NEIC **29** 15:21:36.5±0.5, 5210N×17267E, mb4.3/6, Error ellipse: s-maj=14.1km s-min=8.8km az=179.0*
*IDC **29** 15:21:37.5±1.1, 5215N×17259E, h31km±5km, mb3.6/12, mb1 3.8/12, mb1mx3.7/22, mbtmp3.8/12, Error ellipse: s-maj=24.7km s-min=19.0km az=159.0*
ISC 29 15:21:36.7±0.6, 521N±01×1726E±01, h32km, h32km±5km: pP-P, n26, σ1§07/28, mb4.0/18, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.11**	**55**	*e*Pn	**Pn**	**15 21 53.7**	**-2.4**
AMKA	**Amchitka**	**4.24**	**97**	*e*Pn	**Pn**	**15 22 37.9**	**-1.2**
AMKA				*e*Sn	**Sn**	**15 23 36.8**	**+9.5**
PET	**Petropavlovsk**	**8.54**	**282**	*e*Pn	**Pn**	**15 23 37.1**	**-1.1**
PET				*e*Sn	**Sn**	**15 25 07.4**	**-6.0**
KDAK	**Kodiak Island**	**20.63**	**60**	P	**P**	**15 26 15.2**	**+1.8**
3.6nm,0.3s,baz=94,slow=22,SNR=7.1							
ASAJ	**Asahikawa**	**21.44**	**260**	P	**P**	**15 26 26.9**	**+4.8**
6.3nm,0.8s,mb4.0,baz=78,slow=5.0,SNR=5.8							
PMR	**Palmer**	**22.65**	**50**	P	**P**	**15 26 39.3**	**+4.2**
7.1nm,0.6s,mb4.3							
YAK	**Yakutsk**	**24.89**	**310**	P	**P**	**15 26 54.9**	**-1.6**
8.7nm,0.6s,mb4.5							
YKA	**Yellowknife Ar**	**38.57**	**45**	P	**P**	**15 28 56.3**	**-0.3**
0.6nm,0.5s,mb3.6,baz=292,slow=8.5,SNR=2.9							
SONM	**Songino Array**	**41.46**	**291**	P	**P**	**15 29 22.1**	**+1.6**
0.5nm,0.6s,mb3.3,baz=69,slow=9.8,SNR=4.3							
SONM				pP	pP	15 29 31.8	+1.8
0.5nm,0.5s,baz=64,slow=9.0,SNR=3.6							
NVAR	**Mina Array Bea**	**48.70**	**78**	P	**P**	**15 30 18.7**	**+0.7**
0.2nm,0.5s,mb3.4,baz=298,slow=5.8,SNR=2.8							
NVAR	**Mina Array Bea**	**48.70**	**78**	P	**P**	**15 30 18.7**	**+0.7**
KURK	**Kurchatov**	**54.52**	**309**	*e*P	**P**	**15 31 01.3**	**-0.1**
1.9nm,0.7s,mb4.2							
KURK				*e*	pP	15 31 10.4	-0.8
MKAR	**Makanchi Array**	**55.27**	**303**	P	**P**	**15 31 06.6**	**-0.3**
0.4nm,0.5s,mb3.7,baz=52,slow=5.3,SNR=5.0							
MKAR				pP	pP	15 31 15.8	-0.8
0.7nm,0.8s,baz=44,slow=5.7,SNR=5.6							
ARCES	**ARCESS Array B**	**56.30**	**347**	P	**P**	**15 31 13.4**	**-0.9**
1.1nm,0.7s,mb4.0,baz=47,slow=7.1,SNR=4.5							
BVAR	**Borovoye Array**	**56.73**	**315**	P	**P**	**15 31 17.7**	**+0.3**
0.8nm,0.5s,mb4.0,baz=46,slow=7.6,SNR=7.1							
BVAR				pP	pP	15 31 27.2	+0.1
0.7nm,0.6s,baz=43,slow=6.6,SNR=4.3							
BRVK	**Borovoye**	**56.75**	**315**	P	**P**	**15 31 17.8**	**+0.2**
ZRNK	**Zerenda**	**57.38**	**316**	*e*P	**P**	**15 31 22.1**	**+0.1**
1.2nm,0.5s,mb4.2							
ZRNK				*e*	pP	15 31 31.0	-0.7
LSA	**Lhasa**	**62.10**	**283**	P	**P**	**15 31 55.5**	**+1.0**
3.3nm,0.6s,mb4.6							
FINES	**FINESS Array B**	**63.69**	**343**	P	**P**	**15 32 05.2**	**+0.2**
1.6nm,0.9s,mb4.1,baz=100,slow=8.5,SNR=3.9							
PMG	**Port Moresby**	**65.05**	**208**	P	**P**	**15 32 11.9**	**-2.0**
51nm,1.2s,mb5.4							
NB2	**NORSAR Subarra**	**66.22**	**350**	P	**P**	**15 32 21.5**	**0.0**
comp=Z,1.3nm,0.6s,mb4.1,baz=12,slow=6.5							
NOA	**NORSAR Array B**	**66.22**	**350**	P	**P**	**15 32 21.5**	**+0.1**
comp=Z,1.1nm,0.6s,mb4.1,baz=13,slow=6.4,SNR=7.9							
NOA				pP	pP	15 32 30.6	-0.7
comp=Z,1.2nm,0.7s,baz=14,slow=6.4,SNR=4.9							
NOA	**NORSAR Array B**	**66.22**	**350**	P	**P**	**15 32 21.5**	**+0.1**
NOA				pP	pP	15 32 30.6	-0.7
GERES	**GERESS Array B**	**77.83**	**346**	P	**P**	**15 33 31.6**	**+0.6**
comp=Z,1.1nm,0.5s,mb4.0,baz=38,slow=6.8,SNR=9.8							
WRA	**Warramunga Arr**	**79.12**	**216**	P	**P**	**15 33 38.6**	**+0.5**
comp=Z,0.6nm,0.7s,mb3.6,baz=32,slow=6.5,SNR=5.8							
ASAR	**Alice Springs**	**82.69**	**215**	P	**P**	**15 33 58.0**	**+0.9**
comp=Z,0.2nm,0.5s,mb3.4,baz=22,slow=5.0,SNR=7.7							

*LDG **29** 15:37:51.5±0.1, 4311N×065W, h15km, Md2.2/3, Ml2.0/3, Error ellipse: s-maj=2.6km s-min=1.1km az=15.0*
*STR **29** 15:37:52.0±0.3, 4304N×065W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 29 15:37:51.9±0.3, 4313N×065W, h15km±3km, mbLg1.4/8, Error ellipse: s-maj=3.1km s-min=1.3km az=15.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.05**	**221**	Pg	Pg	15 37 54.5	-0.2
ATE				Sg	Sg	15 37 56.6	0.0
ATE	**Arette**	**0.05**	**221**	Pg	Pg	15 37 54.5	-0.2
ATE				Lg		15 37 56.5	
REYF	**Montagne du Re**	**0.20**	**106**	Pg	Pg	15 37 56.3	-0.2
REYF				Sg	Sg	15 37 59.4	-0.3
REYF	**Montagne du Re**	**0.20**	**106**	Pg	Pg	15 37 56.4	-0.1
REYF				Lg		15 37 59.3	
ORDF	**Ordiarp**	**0.22**	**293**	Pg	Pg	15 37 56.9	0.0
ORDF				Sg	Sg	15 38 00.6	+0.3
ORDF	**Ordiarp**	**0.22**	**293**	Pg	Pg	15 37 56.8	-0.1
ORDF				Lg		15 38 00.5	
ETSF	**Etsaut**	**0.24**	**163**	*e*Pg	Pg	15 37 56.8	-0.3
ETSF				*e*Sg	Sg	15 38 00.0	-0.7
30nm,0.2s							
ETSF	**Etsaut**	**0.24**	**163**	Pg	Pg	15 37 56.8	-0.3
ETSF				Lg		15 38 00.0	
15nm,0.2s							
LARF	**Larrau**	**0.26**	**250**	Pg	Pg	15 37 57.5	0.0
LARF				Sg	Sg	15 38 01.7	+0.4
LARF	**Larrau**	**0.26**	**250**	Pg	Pg	15 37 57.6	+0.1
LARF				Lg		15 38 01.5	
FDAF	**Les Forges d'A**	**0.31**	**168**	Pg	Pg	15 37 58.1	-0.3
FDAF				Lg		15 38 02.4	
SJPF	**Ste Jean**	**0.42**	**268**	*e*Pg	Pg	15 37 59.8	-0.5
SJPF				*e*Sg	Sg	15 38 05.1	-0.9
7.5nm,0.3s							
SJPF	**Ste Jean**	**0.42**	**268**	Pg	Pg	15 37 59.8	-0.5
SJPF				Lg		15 38 05.1	
3.8nm,0.3s							
OSSF	**Osses**	**0.46**	**286**	Pg	Pg	15 38 00.1	-1.0
OSSF	**Osses**	**0.46**	**286**	Pg	Pg	15 38 00.2	-1.0
OSSF				Lg		15 38 07.1	
LABF	**Labassere**	**0.54**	**98**	Pg	Pg	15 38 02.7	+0.2
LABF				Sg	Sg	15 38 09.5	-0.2
LABF	**Labassere**	**0.54**	**98**	Pg	Pg	15 38 02.3	-0.2
LABF				Lg		15 38 10.0	
VIEF	**Viey**	**0.55**	**116**	Pg	Pg	15 38 02.3	-0.5
VIEF				Sg	Sg	15 38 08.9	-1.3
VIEF	**Viey**	**0.55**	**116**	Pg	Pg	15 38 02.2	-0.5
VIEF				Lg		15 38 09.8	
IPRE	**Itoiz**	**0.61**	**238**	Pg	Pg	15 38 04.4	+0.5
0.5nm,0.1s,SNR=7.9							
IPRE				Lg		15 38 12.6	
1.2nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**0.63**	**279**	Pg	Pg	15 38 03.2	-1.1

BODT	**Bodrum**	**0.41**	**289**	PG	**Pg**	**15 42 03.0**	**-0.6**
BODT				SG	**Sg**	**15 42 09.6**	**+0.6**
YER	**Yerkesik**	**0.44**	**63**	PG	**Pg**	**15 42 03.5**	**-0.7**
DALT	**Dalyan (Mudla)**	**0.69**	**103**	PG	**Pg**	**15 42 09.0**	**0.0**
ARG	**Arkhangelos**	**0.76**	**159**	*e*P	**Pg**	**15 42 10.0**	**-0.3**
ARG				*e*S	**Sg**	**15 42 23.0**	**+2.7**
FETY	**Fethiye**	**1.08**	**106**	PN	**Pn**	**15 42 16.2**	**-0.2**
SMG	**Samos**	**1.09**	**316**	*e*P	**Pb**	**15 42 15.6**	**-0.7**
SMG				*e*S	**Sb**	**15 42 31.5**	**+1.1**
KARP	**Karpathos**	**1.47**	**201**	*e*P	**Pn**	**15 42 21.0**	**-0.9**
KARP				*e*S	**Sn**	**15 42 40.5**	**-0.6**
BLCB	**Balcova**	**1.57**	**338**	*e*PN	**Pn**	**15 42 23.9**	**+0.7**
ELL	**Elmali**	**1.71**	**96**	*e*PN	**Pn**	**15 42 26.0**	**+0.9**

IDC 29 15:50:24.1±2.1,172N×12632E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.5/15,mbtmp3.5/3,Error ellipse: s-maj=172.7km s-min=25.5km az=65.0,Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.92**	**160**	P	P	15 55 29.7	+0.1
	1.0nm,0.5s,baz=339,slow=10,SNR=22						
ASAR	**Alice Springs**	**26.29**	**164**	P	P	15 56 01.5	+0.3
	0.5nm,0.6s,baz=346,slow=8.1,SNR=20						
MKAR	**Makanchi Array**	**58.97**	**326**	P	P	16 00 25.6	+0.3
	0.2nm,0.6s,baz=122,slow=8.0,SNR=5.0						

*NEIC **29** 16:03:45.0,3959N×2410E,h26km,MD3.5(ISK), ML3.5(ATH),After ATH.*
*ISCJB **29** 16:03:45.8±0.6,3960N±002×2388E±003,h7km±5km, Error ellipse: s-maj=4.3km s-min=3.6km az=121.8*
*ATH **29** 16:03:45.0,3962N×2408E,h26km±1km,MD3.5/11,ML3.5*
*THE **29** 16:03:45.9,3953N×2411E,h14km,ML3.3*
*CSEM **29** 16:03:46.3±0.1,3958N×2395E,h5km,ML3.5,Error ellipse: s-maj=2.5km s-min=2.1km az=151.0*
*ISK **29** 16:03:51.0,3965N×2409E,h34km,MD3.5*

ISC 29 16:03:47.3±0.5,3961N±003×2386E±003,h15km±5km,n48, σ1§30/59,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.44**	**178**	*e*Pg	**Pg**	**16 03 54.0**	**-2.0**
XOR	**Xorichti**	**0.57**	**245**	*e*Pg	**Pg**	**16 03 59.8**	**+1.2**
NEO	**Neokhori**	**0.58**	**239**	*e*PN	**Pg**	**16 03 59.4**	**+0.8**
NEO				*e*SN	**Sg**	**16 04 09.7**	**+3.3**
PLG	**Polygyros**	**0.83**	**337**	*e*Pn	**Pn**	**16 04 02.8**	**-1.6**
PLG				*e*Sn	**Sn**	**16 04 15.7**	**-0.7**
LIA	**Limnos Island**	**1.06**	**74**	*e*PN	**Pn**	**16 04 02.5**	**-5.1**
LIA				*e*SN	**Sn**	**16 04 14.8**	**-7.2**
LIT	**Litokhoron**	**1.17**	**295**	*e*Pg	**Pg**	**16 04 09.6**	**-0.2**
LKR	**Lokris**	**1.17**	**215**	*e*Pb	**Pb**	**16 04 07.8**	**-1.4**
LKR				*e*Sn	**Sn**	**16 04 27.0**	**+2.2**
THE	**Thessaloniki**	**1.23**	**326**	*e*Pg	**Pg**	**16 04 10.6**	**-0.5**
SOH	**Sokhos**	**1.27**	**342**	*e*Pg	**Pg**	**16 04 10.2**	**-1.7**
SOH				*e*Sg	**Sg**	**16 04 30.0**	**+1.6**
AGG	**Agios Georgios**	**1.32**	**244**	*e*Pg	**Pg**	**16 04 11.1**	**-1.7**
AGG				*e*Sg	**Sg**	**16 04 30.6**	**+0.6**
PTL	**Penteli**	**1.56**	**180**	*e*PN	**Pn**	**16 04 13.0**	**-1.4**
PTL	**Penteli**	**1.56**	**180**	*e*Pb	**Pb**	**16 04 11.7**	**-4.1**
ATH	**Athens Observa**	**1.64**	**184**	*e*PN	**Pn**	**16 04 14.9**	**-0.6**
MGER	**Gerania Oros**	**1.69**	**196**	*e*Pb	**Pn**	**16 04 14.0**	**-2.2**
BOZC	**Bozcaada**	**1.71**	**81**	*i* P	**Pn**	**16 04 11.7**	**-4.8**
BOZC				*i* S	**Sn**	**16 04 31.0**	**-7.0**
KNT	**Kendrikon**	**1.72**	**335**	*e*Pb	**Pn**	**16 04 16.7**	**0.0**
EVR	**Evrytania**	**1.74**	**247**	*e*PB	**Pn**	**16 04 17.2**	**+0.3**
NVR	**Nevrokopi**	**1.74**	**360**	*e*PN	**Pn**	**16 04 15.3**	**-1.7**
KVR	**Kavouri**	**1.78**	**182**	*e*PN	**Pn**	**16 04 16.5**	**-1.0**
KVR	**Kavouri**	**1.78**	**182**	*e*Pb	**Pn**	**16 04 17.5**	**0.0**
NAIG	**Nisos Aigina**	**1.87**	**189**	*e*PB	**Pn**	**16 04 18.0**	**-0.7**
NAIG	**Nisos Aigina**	**1.87**	**189**	*e*Pn	**Pn**	**16 04 19.0**	**+0.3**
PRK	**Paraskevi**	**1.90**	**100**	*e*PN	**Pn**	**16 04 16.5**	**-2.6**
EZN	**Ezine**	**1.91**	**83**	*e*PN	**Pn**	**16 04 20.2**	**+0.9**
VAY	**Valandovo**	**1.98**	**330**	*i* Pn	**Pg**	**16 04 25.4**	**+0.2**
RDO	**Rodhopi**	**2.00**	**39**	*e*PB	**Pn**	**16 04 17.0**	**-3.5**
RDO	**Rodhopi**	**2.00**	**39**	*e*Pb	**Pn**	**16 04 16.5**	**-4.0**
ENEZ	**Enez**	**2.09**	**57**	*e*PN	**Pn**	**16 04 21.5**	**-0.2**
ENEZ				*e*SN	**Sn**	**16 04 44.5**	**-2.9**
CHOS	**Chios island**	**2.10**	**125**	*e*Pb	**Pn**	**16 04 17.7**	**-4.2**
ALN	**Alexandroupoli**	**2.11**	**52**	*e*Pn	**Pn**	**16 04 17.7**	**-4.4**
AYVA	**Ayvalik**	**2.21**	**97**	*i* P	**Pn**	**16 04 20.4**	**-3.0**
AYVA				*i* S	**Sn**	**16 04 50.8**	**+0.3**
JAN	**Janina**	**2.33**	**272**	*e*PN	**Pn**	**16 04 26.0**	**+1.0**
JAN	**Janina**	**2.33**	**272**	*e*Pb	**Pb**	**16 04 27.5**	**-1.4**
RLS	**Riolos of Patr**	**2.43**	**231**	*e*PN	**Pn**	**16 04 27.9**	**+1.5**
CANB	**Canakkale**	**2.50**	**80**	*e*PN	**Pn**	**16 04 28.1**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.76**	**66**	*e*PN	**Pn**	**16 04 31.9**	**+0.9**
MFT	**Murefte**	**2.87**	**65**	*e*PN	**Pn**	**16 04 33.9**	**+1.4**
IZM	**Izmir**	**2.91**	**113**	*e*PN	**Pn**	**16 04 33.4**	**+0.4**
KDAG	**Bornova**	**2.91**	**113**	*i* P	**Pg**	**16 04 44.3**	**+1.2**
KDAG				*i* S	**Sb**	**16 05 14.0**	**-0.3**
VLS	**Valsamata**	**2.93**	**242**	*e*PN	**Pn**	**16 04 35.0**	**+1.7**
VTS	**Vitosha**	**3.02**	**351**	*e*Pn	**Pn**	**16 04 34.9**	**+0.3**
MRMT	**Marmara Adasi**	**3.03**	**70**	*e*PN	**Pn**	**16 04 34.5**	**-0.2**
BALB	**Balikesir**	**3.10**	**88**	*e*PN	**Pn**	**16 04 36.3**	**+0.6**
EDRB	**Edirne**	**3.13**	**43**	*e*PN	**Pn**	**16 04 37.0**	**+0.9**
EDC	**Edincik**	**3.16**	**75**	*e*PN	**Pn**	**16 04 37.9**	**+1.4**
CTT	**Catalca**	**3.81**	**65**	*e*PN	**Pn**	**16 04 46.6**	**+1.2**
ULDT	**Uludag**	**4.09**	**81**	*i* P	**Pn**	**16 04 49.3**	**+0.1**
ULDT				*i* S	**Sn**	**16 05 40.9**	**+4.0**
YLV	**Yalova**	**4.33**	**75**	*e*PN	**Pn**	**16 04 54.3**	**+1.7**

*IDC **29** 16:15:38.1±1.0,1873S×17334W,h0km,mb4.6/7, mb1 4.8/7,mb1mx4.5/15,mbtmp4.6/7,MS4.0/3,Ms1 4.0/3, ms1mx3.4/23,Error ellipse: s-maj=42.8km s-min=19.9km az=139.0*
*ISCJB **29** 16:15:39.1±2.7,1870S±009×17334W±0.10,h13km±16km, mb4.7/21,MS4.0/4,Error ellipse: s-maj=16.7km s-min=13.5km az=75.9*
*BJI **29** 16:15:40.6,1870S×17340W,h9km,mB5.3,mb5.0,Ms4.3, Msz4.1*
*NEIC **29** 16:15:40.6±0.4,1872S×17340W,h10km,mb4.8/14,Error ellipse: s-maj=14.0km s-min=9.5km az=120.0*
*SZGRF **29** 16:15:50.2,1746S×17491W,h33km,Tonga Islands*

ISC 29 16:15:43.1±2.9,1873S±009×17330W±010,h26km±20km, n77,σ0§99/50,mb4.7/21,MS4.0/4,2C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.01**	**17**	Pn	**Pn**	**16 16 49.4**	**-7.1**
	4.8nm,0.3s,baz=324,slow=9.2,SNR=14						
AFI				Sn	**Sn**	**16 17 40.8**	**-13**
	17nm,0.3s,baz=146,slow=20,SNR=4.3						
AFI				T		16 22 02.5	
	11nm,0.3s,baz=180,slow=19,SNR=5.5						
AFI	**Afiamalu**	**5.01**	**17**	*e*Pn	**Pn**	**16 16 48.4**	**-8.2**
AFI				Sn	**Sn**	**16 17 40.9**	**-13**
RAR	**Rarotonga**	**12.95**	**103**	Pn	**Pn**	**16 18 34.2**	**-11**
	6.0nm,0.3s,baz=230,slow=9.9,SNR=10						
RAR				T		16 31 30.0	
	2.5nm,0.3s,baz=203,slow=13,SNR=6.6						
DZM	**Mont Dzumac**	**19.28**	**257**	P	**Pn**	**16 20 07.5**	**+0.7**
	0.8nm,0.3s,baz=81,slow=18,SNR=10						
MWZ	**Matawai**	**21.11**	**200**	*e*P*	**P**	**16 20 27.8**	**+2.3**
MWZ	**Matawai**	**21.11**	**200**	*e*P	**P**	**16 20 25.8**	**+0.2**
URZ	**Urewera**	**21.18**	**201**	P*	**P**	**16 20 26.5**	**+0.2**
	70nm,0.9s,mb5.0,baz=20,slow=5.1,SNR=22						
PPT	**Papeete**	**22.57**	**91**	*e*LQ		16 24 48.1	
	835nm,24.2s						
PPT				*e*LR	LR	16 25 49.1	
	216nm,24.2s						
PPT	**Papeete**	**22.57**	**91**	LR	LR	16 27 18.1	
	comp=Z,143nm,18.2s,MS3.4,baz=250,slow=31						
TBI	**Tubuai**	**22.70**	**106**	*e*LQ		16 24 56.8	
	716nm,25.0s						
TBI				*e*LR	LR	16 25 57.7	
	254nm,24.8s						
SNZO	**South Karori**	**24.73**	**202**	*e*P	**P**	**16 21 03.0**	**+0.8**
	73nm,0.8s,mb5.3						
THZ	**Tophouse**	**25.80**	**204**	*e*P*	**P**	**16 21 17.4**	**+5.5**
THZ	**Tophouse**	**25.80**	**204**	P	**P**	**16 21 11.9**	**0.0**
THZ				*e*	pP	16 21 18.1	-1.5
DSZ	**Denniston Nort**	**26.22**	**206**	*e*P*	**P**	**16 21 20.9**	**+5.2**
DSZ	**Denniston Nort**	**26.22**	**206**	*e*P	**P**	**16 21 20.9**	**+5.2**
LTZ	**Lake Taylor**	**26.91**	**204**	*e*P*	**P**	**16 21 25.4**	**+3.4**
LTZ	**Lake Taylor**	**26.91**	**204**	*e*P	**P**	**16 21 25.4**	**+3.5**
WVZ	**Waitaha Valley**	**27.77**	**206**	*e*P*	**P**	**16 21 34.3**	**+4.7**
WVZ	**Waitaha Valley**	**27.77**	**206**	*e*P	**P**	**16 21 33.7**	**+4.1**
CNB	**Canberra Magne**	**36.88**	**236**	*e*P	**P**	**16 22 49.6**	**+0.3**
	9.4nm,0.6s,mb4.8						
CTA	**Charters Tower**	**38.11**	**261**	*e*P	**P**	**16 22 59.9**	**+0.2**
	18nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**38.11**	**261**	*e*P	**P**	**16 22 59.6**	**-0.2**
	29nm,0.8s,mb5.1						
TAU	**Tasmania Unive**	**41.00**	**225**	P	**P**	**16 23 22.2**	**-1.6**
	13nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**42.54**	**243**	*e*P	**P**	**16 23 34.4**	**-2.0**
	5.9nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**42.54**	**243**	P	**P**	**16 23 33.6**	**-2.8**
	7.0nm,0.8s,mb4.4,baz=94,slow=12,SNR=11						
STKA				LR	LR	16 40 07.6	
	comp=Z,209nm,20.3s,MS4.0,baz=28,slow=35						
STKA	**Stephens Creek**	**42.54**	**243**	*e*P	**P**	**16 23 34.2**	**-2.2**
WB2	**Warramunga Arr**	**49.25**	**260**	*e*P	**P**	**16 24 28.9**	**-0.4**
AS31	**Alice Springs**	**49.25**	**255**	*e*P	**P**	**16 24 28.7**	**-0.6**
ASAR	**Alice Springs**	**49.25**	**255**	P	**P**	**16 24 28.8**	**-0.5**
	18nm,0.6s,mb5.3,baz=96,slow=7.5,SNR=255						
ASAR				S	**S**	**16 31 34.1**	**+0.4**
	1.1nm,0.9s,baz=92,slow=16,SNR=5.3						
WRAB	**Tennant Creek**	**49.25**	**260**	*e*P	**P**	**16 24 28.4**	**-0.9**
	10nm,0.6s,mb5.0						
ASPA	**Alice Springs**	**49.25**	**255**	*e*P	**P**	**16 24 29.1**	**-0.2**
WRA	**Warramunga Arr**	**49.26**	**260**	P	**P**	**16 24 27.9**	**-1.5**
	4.9nm,0.6s,mb4.7,baz=96,slow=8.8,SNR=86						
WRA				S	**S**	**16 31 33.9**	**+0.1**
	0.7nm,1.0s,baz=103,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**49.26**	**260**	P	**P**	**16 24 27.9**	**-1.5**
WRA				S	**S**	**16 31 33.9**	**+0.1**
KAKA	**Kakadu**	**52.42**	**268**	*e*P	**P**	**16 24 53.2**	**0.0**
	14nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**57.68**	**260**	*e*P	**P**	**16 25 32.0**	**+0.8**
	6.5nm,1.5s,mb4.4						
SBA	**Scott Base**	**59.95**	**185**	*e*P	**P**	**16 25 48.0**	**+1.0**
	4.2nm,0.9s,mb4.5						
VNDA	**Vanda**	**60.09**	**186**	P	**P**	**16 25 46.7**	**-1.2**
	1.9nm,0.9s,mb4.1						
MBWA	**Marble Bar**	**62.58**	**255**	*e*P	**P**	**16 26 05.1**	**+0.4**
	13nm,0.8s,mb5.1						
CASY	**Casey**	**67.44**	**205**	P	**P**	**16 26 36.7**	**+0.3**
	8.8nm,1.1s,mb4.7						
QSPA	**South Pole Qui**	**71.33**	**180**	*e*P	**P**	**16 26 59.4**	**-1.0**
	2.5nm,0.7s,mb4.2						
MJAR	**Matsushiro Arr**	**71.55**	**321**	P	**P**	**16 27 01.8**	**+0.1**
	3.2nm,0.9s,mb4.3,baz=160,slow=5.8,SNR=8.5						
MJAR				LR	LR	16 53 42.3	
	comp=Z,215nm,18.8s,MS4.4,baz=80,slow=32						
MAJO	**Matsushiro**	**71.55**	**321**	P	**P**	**16 27 02.4**	**+0.7**
	8.7nm,1.3s,mb4.5						
NVAR	**Mina Array Bea**	**76.74**	**41**	P	**P**	**16 27 31.1**	**-0.9**
	1.5nm,0.7s,mb4.0,baz=218,slow=7.2,SNR=9.1						
KSM	**Kuching**	**77.60**	**276**	*e*P	**P**	**16 27 39.3**	**+2.5**
MSU	**Marysvale**	**80.73**	**44**	*e*P	**P**	**16 27 54.8**	**+0.8**
PDAR	**Pinedale Array**	**84.67**	**42**	P	**P**	**16 28 13.9**	**-0.5**
	1.9nm,0.8s,mb4.3,baz=227,slow=3.2,SNR=14						
VNA1	**Neumayer--Stat**	**90.24**	**175**	*e*	**P**	**16 28 34.3**	**-7.0**
VNA1				*e*		16 28 35.1	
CD2	**Chengdu**	**93.62**	**301**	*e*P	**P**	**16 28 58.0**	**+1.0**
CD2				AP	pP	16 29 02.8	-2.7
CD2				XP	sP	16 29 05.0	-3.6
CD2				S		16 40 02.5	
CD2				XS	sS	16 40 11.5	-6.8
CD2				SS	SS	16 46 24.8	+3.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,80nm,8.0s						
CD2				LR	LR		
	comp=E,80nm,24.5s						
CD2				LR	LR		
	comp=Z,90nm,24.0s,MS4.2						
KMBO	**Kilima Mbogo**	**144.07**	**240**	*e*PKPdf	PKPdf	16 35 16.1	-0.2
NRDL	**Niedersach Rie**	**146.20**	**356**	*e*PKPbc	PKPbc	16 35 21.9	+0.9
MALT	**Malatya**	**146.22**	**312**	*e*PKPdf	PKPdf	16 35 23.4	+3.4
CLZ	**Clausthal**	**146.84**	**356**	*e*PKPbc	PKPbc	16 35 24.4	+1.6
CLL	**Collm**	**147.12**	**353**	*e*PKPbc	PKPbc	16 35 25.2	+1.6
CLL	**Collm**	**147.12**	**353**	⇑*i*PKPbc	PKPbc	16 35 25.3	+1.7
	comp=Z,12nm,0.9s						
CLL				*i* pPKPbc	pPKPbc	16 35 27.7	-4.7
CLL				*ex*	x	16 35 34.0	
CLL				*ex*	x	16 35 40.0	
CLL	**Collm**	**147.12**	**353**	⇑*i*P	PKPdf	16 35 25.3	+3.9
CLL				*i*		16 35 27.7	
STHS	**Stebnicka Huta**	**147.23**	**342**	*e*PKP	PKPdf	16 35 27.1	+5.5
KOLS	**Kolonicke sedl**	**147.35**	**341**	*e*PKP	PKPdf	16 35 29.3	+7.5
BRG	**Berggiesshubel**	**147.42**	**351**	*e*PKPbc	PKPbc	16 35 25.5	+1.0
BRG	**Berggiesshubel**	**147.42**	**351**	*e*P	PKPdf	16 35 26.3	+4.3
	comp=Z,2.9nm,0.9s						
UPC	**Upice**	**147.44**	**349**	*e*PKPbc	PKPbc	16 35 27.1	+2.6
FBE	**Freiberg**	**147.45**	**352**	*e*PKPbc	PKPbc	16 35 25.8	+1.3
DPC	**Dobruska-Polom**	**147.53**	**348**	*e*PKPbc	PKPbc	16 35 27.4	+2.6
PVCC	**Panska Ves**	**147.66**	**351**	*e*PKPbc	PKPbc	16 35 27.2	+2.1
TANN	**Tannenbergstha**	**148.06**	**353**	*e*PKPbc	PKPbc	16 35 27.6	+1.4
KECS	**Kecovo**	**148.29**	**342**	*e*PKP	PKPdf	16 35 31.0	+7.6
MANZ	**Manzenberg**	**148.52**	**353**	*e*PKPbc	PKPbc	16 35 28.9	+1.5
VYHS	**Vyhne**	**148.72**	**344**	*e*PKP	PKPdf	16 35 30.0	+5.9
ROTZ	**Rotzenmuhle**	**148.73**	**353**	*e*PKPbc	PKPbc	16 35 29.8	+1.9
BR131	**Keskin Array S**	**148.74**	**318**	*e*PKPbc	PKPbc	16 35 30.0	+2.1
BRTR	**Keskin Array B**	**148.74**	**318**	PKPbc	PKPbc	16 35 27.3	-0.7
	comp=Z,2.1nm,0.9s,baz=64,slow=2.9,SNR=9.2						
GRA1	**Grafenberg Arr**	**148.90**	**354**	*e*PKPbc	PKPbc	16 35 30.2	+1.8
GRF	**Grafenberg Arr**	**148.90**	**354**	*e*PKPbc	PKPbc	16 35 30.2	+1.8
KHC	**Kasperske Hory**	**149.17**	**351**	*e*PKPbc	PKPbc	16 35 31.2	+2.2
KHC				x	x	16 35 45.5	
KHC	**Kasperske Hory**	**149.17**	**351**	*e*P	PKPdf	16 35 31.2	+6.4
KHC				*e*		16 35 45.5	
WET	**Wettzell**	**149.26**	**352**	*e*PKPbc	PKPbc	16 35 30.7	+1.4
GEC2	**GERESS Array S**	**149.43**	**351**	*e*PKPbc	PKPbc	16 35 31.0	+1.3
GERES	**GERESS Array B**	**149.43**	**351**	PKP	PKPdf	16 35 25.3	0.0
	comp=Z,0.3nm,0.2s,baz=224,slow=4.1,SNR=2.5						
GERES				PKPbc	PKPbc	16 35 29.8	+0.1
	comp=Z,0.7nm,0.5s,baz=29,slow=3.0,SNR=7.0						

MAN 29 16:22:43.6,1291N×12450E,h1km,mb3.0,ML4.4,MS2.9, 3D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**1.01**	**237**	⇓*e*P	Pg	16 23 04.6	+1.6
BESP	**Borongan**	**1.59**	**145**	*e*P	Pn	16 23 12.7	-0.1
PLP	**Palo**	**1.80**	**165**	*e*P	Pn	16 23 40.2	+25
PLP				*e*S	Sn	16 23 40.2	+1.1
AUQP	**San Andres**	**1.82**	**283**	*e*P	Pn	16 23 16.4	+0.4
RCP	**Roxas**	**2.18**	**232**	⇓*e*P	Pn	16 23 22.3	+1.4
LLP	**Lapu-Lapu**	**2.63**	**191**	⇓*e*P	Pn	16 23 28.0	+0.9
LLP				*e*S	Sn	16 23 57.4	-2.2

*NIED **29** 16:39:00,4640N×15350E,h11km,Mw4.4 Best double couple: M0:5.26000×10^15 NP1:φs=353.00000°,δ76.00000°, λ32.00000°. NP2:φs=255.00000°,δ59.00000°,λ164.00000°.*
*SKHL **29** 16:39:35.6±1.1,4604N×15372E,h45km±15km,mb5.5/6, mbh5.4/4,Ms4.5/7,msh5.5/3*
*MOS **29** 16:39:36.6±1.4,4614N×15333E,h33km,mb5.1/96,Error ellipse: s-maj=8.2km s-min=7.6km az=112.6*
*JMA **29** 16:39:36.2±0.8,4639N×15345E,h30km,M5.0*
*ISCJB **29** 16:39:39.5±0.2,4612N±003×15312E±003,h39km, mb4.9/178,MS4.2/38,Error ellipse: s-maj=5.2km s-min=2.5km az=126.7*
*BJI **29** 16:39:39.5,4648N×15299E,h30km,mB4.8,mb5.0,Ms4.4, Msz4.1*
*HRVD **29** 16:39:41.9±0.6,4621N×15333E,h20km±2km,MW4.8/44, Centroid moment Tensor Solution. LP body waves: s9,c12;Mantle waves: s44,c59; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.26±.18; Mθθ-0.93±.11; Mφφ-0.33±.10; Mrθ0.74±.20; Mθφ-0.80±.04; Mφr0.46±.17; Best double couple: M0:1.62600×10^16 NP1:φs=233.00000°, δ29.00000°,λ86.00000°. NP2:φs=57.00000°,δ61.00000°, λ92.00000°. Principal axes: T 1.5160, Plg74.0000°, Azm332.0000°; N 0.2160, Plg2.0000°, Azm236.0000°; P -1.7360, Plg16.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 16:39:41.9±0.2,4631N×15313E,mb4.9/101,MS4.3/9 Error ellipse: s-maj=5.8km s-min=4.2km az=163.0*
*IDC **29** 16:39:41.6±0.5,4625N×15303E,h44km±4km,mb4.4/22, mb1 4.5/22,mb1mx4.4/25,mbtmp4.6/22,MS4.1/13, Ms1 4.1/13,ms1mx3.6/28,Error ellipse: s-maj=14.0km s-min=12.2km az=152.0*
*SZGRF **29** 16:39:55.9,4831N×15127E,h33km,mb5.0,MS4.2,Kuril Islands, Russia*

ISC 29 16:39:42.1±0.2,4633N±003×15307E±003,h42km, h42km±1.3km:pP-P,n495,σ1§12/515,mb4.9/178,MS4.2/38, 50C-29D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.80**	**255**	*i* P	**Pn**	**16 40 36.5**	**-1.6**
KUR				AMB	AMB	16 40 37.0	
	2μm,1.0s						
KUR				AMB	AMB	16 40 37.2	
	460nm,0.6s						
KUR				AMB	AMB	16 40 37.2	
	380nm,0.6s						
KUR				AMB	AMB	16 40 37.2	
	2μm,0.6s						
KUR				*e*S	**Sn**	**16 41 23.0**	**+1.4**
KUR				A		16 41 28.8	
	8μm,2.0s						
KUR				A		16 41 28.8	
	5μm,2.0s						
KUR				A		16 41 38.7	
	2μm,1.0s						
KUR				A		16 41 38.7	
	4μm,1.0s						
KUR	**Kuril'sk**	**3.80**	**255**	⇑*i*PN	**Pn**	**16 40 36.5**	**-1.6**
KUR				*e*S	**Sn**	**16 41 23.0**	**+1.4**
KUR				pmax	pmax		
	comp=Z,4μm,1.0s						
KUR				pmax	pmax		
	comp=N,460nm,0.6s						
KUR				pmax	pmax		
	comp=E,380nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
KUR				smax			
	comp=N,8μm,2.0s						
KUR				smax			
	comp=E,5μm,2.0s						
KUR				smax			
	comp=N,2μm,1.0s						
KUR				smax			
	comp=E,4μm,1.0s						
SKR	**Severo-Kuril's**	**4.81**	**24**	*e*P	**Pn**	**16 40 47.0**	**-4.9**
SKR				AMB	AMB	16 40 51.9	
	comp=E,90nm,0.5s						
SKR				AMB	AMB	16 40 51.9	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	16 40 51.9	
	comp=E,290nm,0.5s						
SKR				AMB	AMB	16 40 52.0	
	comp=E,1μm,4.0s						
SKR				*e*S	**Sn**	**16 41 39.7**	**-6.6**
SKR				A		16 41 50.0	
	comp=E,3μm,8.0s						
SKR				A		16 41 50.0	
	comp=E,1μm,8.0s						
SKR				A		16 41 50.0	
	comp=E,1μm,2.0s						
SKR				A		16 41 54.4	
	comp=E,240nm,0.8s						
SKR				A		16 41 54.4	
	comp=E,480nm,0.8s						
SKR				AMS	AMS	16 42 12.0	
	comp=E,3μm,20.0s						
SKR				AMS	AMS	16 42 12.0	
	comp=E,3μm,20.0s						
SKR				AMS	AMS	16 42 12.0	
	comp=E,2μm,20.0s						
SKR				AMS	AMS	16 43 16.0	
	comp=E,2μm,14.0s						
SKR				AMS	AMS	16 43 16.0	
	comp=E,2μm,14.0s						
SKR				AMS	AMS	16 43 16.0	
	comp=E,3μm,14.0s						
SKR				AMS	AMS	16 43 16.0	
	comp=E,2μm,14.0s						
SKR				AMS	AMS	16 43 16.0	
	comp=E,2μm,14.0s						
SKR				AMS	AMS	16 43 16.0	
	comp=E,3μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.59**	**248**	*e*P	**Pn**	**16 41 02.8**	**+0.2**
YUK				AMB	AMB	16 41 05.5	
	comp=E,180nm,0.4s						
YUK				AMB	AMB	16 41 05.5	
	comp=E,190nm,0.4s						
YUK				AMB	AMB	16 41 06.7	
	comp=E,2μm,2.0s						
YUK				AMB	AMB	16 41 06.7	
	comp=E,2μm,2.0s						
YUK				*e*S	**Sn**	**16 42 12.5**	**+7.0**
YUK				A		16 42 18.8	
	comp=E,6μm,2.0s						
YUK				A		16 42 18.8	
	comp=E,2μm,2.0s						
YUK				A		16 42 19.5	
	comp=E,920nm,0.5s						
YUK				A		16 42 19.5	
	comp=E,350nm,0.5s						
PAU	**Pauzhetka**	**5.70**	**24**	*i* P	**Pn**	**16 41 02.2**	**-2.0**
PAU				*i* S	**Sn**	**16 42 06.0**	**-2.4**
NEM2	**Nemuro 2**	**5.99**	**243**	P	**Pn**	**16 41

	comp=Z,205nm,0.9s					
UGL				AMB	AMB	16 41 44.0
	comp=Z,500nm,6.0s					
UGL				AMB	AMB	16 41 44.0
	comp=Z,700nm,5.0s					
UGL				AMS	AMS	16 44 43.0
	comp=Z,1μm,13.0s					
UGL				AMS	AMS	16 44 43.0
	comp=Z,2μm,16.0s					
UGL				AMS	AMS	16 44 43.0
	comp=Z,2μm,15.0s					
UGL	**Uglegorsk**	**7.92 294**	*e*PN	**Pn**	**16 41 39.0**	**+4.4**
UGL			*e*		16 43 13.0	
UGL			pmax	pmax		
	comp=Z,205nm,0.9s					
UGL			pmax	pmax		
	comp=Z,700nm,5.0s					
UGL			pmax	pmax		
	comp=N,500nm,6.0s					
UGL			pmax	pmax		
	comp=E,500nm,6.0s					
UGL			MLR	MLR		
	comp=Z,2μm,16.0s					
UGL			MLR	MLR		
	comp=N,1μm,13.0s					
UGL			MLR	MLR		
	comp=E,2μm,15.0s					
JFR	**Furan**	**8.10 251**	P	**Pn**	**16 41 36.9**	**-0.2**
JAB	**Ashibetsu**	**8.20 254**	P	**Pn**	**16 41 40.1**	**+1.6**
TYV	**Tymovskoe**	**8.26 307**	*e*P	**Pn**	**16 41 41.0**	**+1.7**
TYV			AMB	AMB	16 41 47.0	
	comp=E,300nm,5.0s					
TYV			AMB	AMB	16 41 47.0	
	comp=E,400nm,5.0s					
TYV			AMB	AMB	16 41 47.0	
	comp=E,400nm,5.0s					
TYV			AMS	AMS	16 45 09.0	
	comp=E,1μm,17.0s					
TYV			AMS	AMS	16 45 09.0	
	comp=E,3μm,17.0s					
TYV			AMS	AMS	16 45 09.0	
	comp=E,2μm,17.0s					
JEM	**Erimo**	**8.33 242**	P	**Pn**	**16 41 38.6**	**-1.6**
JBT2	**Biratori 2**	**8.43 249**	P	**Pn**	**16 41 40.2**	**-1.4**
JNBK	**Urakawa-nobuka**	**8.43 245**	P	**Pn**	**16 41 39.3**	**-2.3**
JEW	**Eniwo**	**9.00 251**	P	**Pn**	**16 41 49.1**	**-0.3**
JNB	**Noboribetsu**	**9.44 250**	P	**Pn**	**16 41 54.2**	**-1.2**
JKB	**Kayabe**	**9.73 247**	P	**Pn**	**16 41 56.8**	**-2.6**
JKB			*e*S	**Sn**	**16 43 40.2**	**-7.1**
OKH	**Okha**	**9.74 322**	*e*P	**Pn**	**16 42 03.6**	**+4.1**
OKH			AMS	AMS	16 46 26.4	
	comp=E,2μm,14.0s					
OKH			AMS	AMS	16 46 26.4	
	comp=E,2μm,16.0s					
JSH	**Shimam**	**10.01 253**	P	**Pn**	**16 42 03.0**	**-0.3**
JYM2	**Yakumo 2**	**10.04 250**	P	**Pn**	**16 42 02.1**	**-1.6**
JANG	**Nango**	**10.30 239**	P	**Pn**	**16 42 02.3**	**-4.9**
JANG			*e*S	**Sn**	**16 43 50.3**	**-11**
JTM	**Tenmabayashi**	**10.32 242**	P	**Pn**	**16 42 03.4**	**-4.1**
JTM			*e*S	**Sn**	**16 43 51.9**	**-10**
JTH	**Tanohata**	**10.38 236**	P	**Pn**	**16 42 03.0**	**-5.3**
JTH			*e*S	**Sn**	**16 43 50.6**	**-13**
NKL	**Nikolayevsk**	**10.53 315**	*e*P	**Pn**	**16 42 06.0**	**-4.3**
NKL			AMB	AMB	16 42 11.2	
	comp=E,34nm,1.0s					
NKL			AMB	AMB	16 42 11.2	
	comp=E,52nm,1.0s					
NKL			AMB	AMB	16 42 13.0	
	comp=E,300nm,5.0s					
NKL			AMB	AMB	16 42 13.0	
	comp=E,500nm,5.0s					
NKL			AMB	AMB	16 42 13.0	
	comp=E,500nm,5.0s					
NKL			AMS	AMS	16 46 42.0	
	comp=E,2μm,16.0s					
NKL			AMS	AMS	16 46 42.0	
	comp=E,2μm,16.0s					
NKL			AMS	AMS	16 46 42.0	
	comp=E,2μm,16.0s					
JOSM	**Okushiri--Mats**	**10.64 251**	P	**Pn**	**16 42 09.5**	**-2.4**
OFUJ	**Ofunato**	**11.07 233**	P	**Pn**	**16 42 13.1**	**-4.7**
OFUJ			*e*S	**Sn**	**16 44 09.4**	**-11**
JRG	**Rokugo**	**11.45 237**	P	**Pn**	**16 42 18.1**	**-4.8**
JIO	**Ouri**	**11.70 232**	P	**Pn**	**16 42 20.6**	**-5.7**
JIO			*e*S	**Sn**	**16 44 22.2**	**-13**
GRNR	**Gornyy**	**11.89 298**	*e*P	**Pn**	**16 42 28.4**	**-0.6**
GRNR			AMB	AMB	16 42 30.0	
	comp=E,24nm,1.0s					
GRNR			AMB	AMB	16 42 30.0	
	comp=E,80nm,1.0s					
GRNR			AMB	AMB	16 42 30.0	
	comp=E,130nm,1.0s					
HABR	**Khabarovsk**	**12.40 287**⇑	*i*PN	**Pn**	**16 42 39.1**	**+3.2**
HABR			*e*S	**Sn**	**16 45 00.1**	**+7.4**
HABR			pmax	pmax		
	comp=Z,44nm,1.2s					
JYA	**Atsumi**	**12.52 237**	P	**Pn**	**16 42 33.1**	**-4.5**
JFK	**Kawauchi**	**12.75 230**	P	**Pn**	**16 42 36.7**	**-4.0**
MA2	**Magadan**	**13.34 355**	*de*P	**Pn**	**16 42 48.5**	**-0.3**
MA2			*e*S	**Sn**	**16 45 13.0**	**-2.7**
MA2			pmax	pmax		
	comp=Z,20nm,0.6s					
MA2			MLR	MLR		
	comp=Z,800nm,13.7s					
MA2	**Magadan**	**13.34 355**	*e*Pn	**Pn**	**16 42 48.5**	**-0.3**
	comp=Z,15nm,0.6s					
JFY	**Yanaizu**	**13.35 233**	P	**Pn**	**16 42 44.5**	**-4.4**
JSD	**Sado**	**13.74 238**	P	**Pn**	**16 42 49.6**	**-4.6**
JAG	**Ashikaga**	**14.21 231**	P	**Pn**	**16 42 55.7**	**-4.9**
KLR	**Kul'dur**	**14.62 289**	*e*P	**Pn**	**16 43 05.1**	**-1.1**
KLR			*e*P		16 43 05.5	
KLR			AMS	AMS	16 49 17.0	
	comp=Z,600nm,15.0s					
KLR			AMS	AMS	16 49 17.0	
	comp=Z,1μm,15.0s					
KLR			AMS	AMS	16 49 17.0	
	comp=Z,2μm,15.0s					
EKMR	**Ekimchan**	**14.64 305**	*e*P	**Pn**	**16 43 03.7**	**-2.7**
EKMR			AMB	AMB	16 43 20.6	
	comp=Z,20nm,0.5s					
MAJO	**Matsushiro**	**14.80 234**	*e*P	**Pn**	**16 43 03.3**	**-5.3**
MAJO			pmax	pmax		
	comp=Z,32nm,0.8s					
MAJO	**Matsushiro**	**14.80 234**	*e*P	**Pn**	**16 43 03.3**	**-5.3**
	comp=Z,32nm,0.8s					
MAT	**Matsushiro**	**14.80 234**	P	**Pn**	**16 43 04.3**	**-4.3**
MAT			*e*S	**Sn**	**16 45 54.0**	**+2.7**
MAT	**Matsushiro**	**14.80 234**	*e*P	**Pn**	**16 43 04.0**	**-4.6**
MAT			pmax	pmax		
	comp=Z,16nm,0.8s					
MAT	**Matsushiro**	**14.80 234**	*e*P	**Pn**	**16 43 04.0**	**-4.6**
	comp=Z,16nm,0.8s					
MAT			*e*S	Sn	16 46 13.0	+22
MJAR	**Matsushiro Arr**	**14.80 234**	P	**Pn**	**16 43 03.7**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=30,slow=12,SNR=28					
JNG	**Nsakai**	**14.96 234**	P	**Pn**	**16 43 06.9**	**-3.7**
VLA	**Vladivostok**	**15.38 266**	*de*P	**Pn**	**16 43 15.8**	**-0.4**
VLA			pmax	pmax		
	comp=Z,34nm,0.8s					
JIZS	**Izushimoda**	**15.81 228**	P	**Pn**	**16 43 25.6**	**+3.9**
HMMJ	**Hamamatsu 2**	**16.31 231**	P	**Pn**	**16 43 31.3**	**+3.2**
MDJ	**Mudanjiang**	**16.55 273**	P	**Pn**	**16 43 31.0**	**0.0**
MDJ			AP	pP	16 43 41.8	-1.4
MDJ			S	**S**	**16 46 34.5**	**-9.4**
MDJ			PCP	PcP	16 48 17.0	-3.1
MDJ			SCP	ScP	16 51 47.5	-3.8
MDJ			PCS	PcS	16 51 53.3	-2.6
MDJ			AMB	AMB		
	comp=Z,50nm,1.0s					
MDJ			AMB	AMB		
	comp=Z,80nm,7.0s					
MDJ			LR	LR		
	comp=N,260nm,15.6s					
MDJ			LR	LR		
	comp=E,340nm,16.2s					
MDJ			LR	LR		
	comp=Z,570nm,16.5s					
MDJ	**Mudanjiang**	**16.55 273**	*e*Pn	**Pn**	**16 43 30.7**	**-0.3**
	comp=Z,68nm,1.1s					
BMKR	**Bomnak**	**17.47 308**	*e*P	**Pn**	**16 43 41.3**	**-1.2**
BMKR			AMB	AMB	16 43 46.1	
	comp=Z,21nm,0.9s					
ZEA	**Zeya**	**18.10 304**	*e*P	**Pn**	**16 43 48.2**	**-2.0**
ZEA			AMB	AMB	16 43 49.6	
	comp=Z,21nm,1.2s					
ZEA			AMB	AMB	16 43 53.0	
	comp=Z,300nm,6.0s					
ZEA			AMB	AMB	16 43 53.0	
	comp=Z,300nm,6.0s					
KROS	**Kirovskiy**	**18.43 306**	*e*P	**Pn**	**16 43 50.9**	**-3.4**
KROS			AMB	AMB	16 43 52.9	
	comp=Z,10.0nm,0.5s					
KROS			AMB	AMB	16 43 52.9	
	comp=Z,12nm,0.5s					
CN2	**Changchun**	**19.64 273**	*e*P	**Pn**	**16 44 04.5**	**-4.3**
CN2			*e*AP	pP	16 44 14.5	-2.8
CN2			*e*XP	sP	16 44 20.8	-1.8
CN2			*e*S	**S**	**16 47 37.5**	**-8.9**
CN2			AMB	AMB		
	comp=Z,10.0nm,1.1s					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,500nm,16.0s					
CN2			LR	LR		
	comp=E,400nm,16.0s					
CN2			LR	LR		
	comp=Z,500nm,17.0s					
CLNS	**Chul'man**	**20.28 312**	*e*P	**P**	**16 44 13.3**	**-0.8**
CLNS			*e*		16 44 26.1	
CLNS			*e*PPP		16 44 36.5	
CLNS			*e*S	**S**	**16 47 58.7**	**-0.4**
CLNS			*e*		16 48 13.7	
CLNS			*e*SS		16 48 21.4	
CLNS			pmax	pmax		
	comp=Z,38nm,0.8s					
CLNS			pmax	pmax		
	comp=N,21nm,0.9s					
CLNS			pmax	pmax		
	comp=E,22nm,1.1s					
CLNS			smax			
	comp=N,20nm,1.0s					
CLNS			smax			
	comp=Z,6.0nm,0.7s					
CLNS			smax			
	comp=E,8.0nm,0.9s					
CLNS			MLR	MLR		
	comp=Z,1μm,16.0s,MS4.3					
CLNS			MLR	MLR		
	comp=N,1μm,15.0s,MS4.4					
CLNS			MLR	MLR		
	comp=E,800nm,14.0s,MS4.4					
YAK	**Yakutsk**	**20.66 328**	*e*P	**P**	**16 44 18.1**	**-0.1**
YAK			*e*		16 44 41.4	
YAK			*e*S	**S**	**16 48 08.8**	**+2.0**
YAK			*e*SS		16 48 27.2	
YAK			pmax	pmax		
	comp=N,6.0nm,1.1s					
YAK			pmax	pmax		
	comp=Z,26nm,1.1s					
YAK			pmax	pmax		
	comp=E,9.0nm,1.2s					
YAK			pmax	pmax		
	comp=Z,17nm,0.9s					
YAK			pmax	pmax		
	comp=N,9.0nm,1.0s					
YAK			pmax	pmax		
	comp=E,11nm,1.4s					
YAK			smax			
	comp=N,5.0nm,1.1s					
YAK			smax			
	comp=Z,4.0nm,1.0s					
YAK			smax			
	comp=E,8.0nm,1.4s					
YAK			MLR	MLR		
	comp=Z,200nm,19.0s,MS3.5					
YAK			MLR	MLR		
	comp=N,213nm,16.0s,MS4.0					
YAK			MLR	MLR		
	comp=E,457nm,16.0s,MS4.0					
YAK	**Yakutsk**	**20.66 328**	*e*P	**P**	**16 44 17.3**	**-0.9**
	comp=E,46nm,0.6s					
INCN	**Inchon**	**21.49 255**	*e*P	**P**	**16 44 26.5**	**-0.7**
	comp=E,35nm,0.9s,mb4.7					
SNY	**Shenyang**	**21.60 269**	⇓P	**P**	**16 44 28.5**	**+0.2**
SNY			AP		16 44 39.3	
SNY			XP	sP	16 44 45.5	+1.7
SNY			PP		16 44 51.0	
SNY			S	**S**	**16 48 17.8**	**-7.3**
SNY			XS	sS	16 48 35.0	-6.8
SNY			AMB	AMB		
	comp=Z,30nm,1.2s,mb4.6					
SNY			AMB	AMB		
	comp=Z,150nm,7.1s					
SNY			LR	LR		
	comp=N,300nm,13.7s,MS4.0					
SNY			LR	LR		
	comp=E,380nm,16.3s,MS4.0					
SNY			LR	LR		
	comp=Z,420nm,16.2s,MS3.9					
HIA	**Hailar**	**22.48 290**	*e*P	**P**	**16 44 32.8**	**-4.9**
HIA			pmax	pmax		
	comp=Z,12nm,0.6s					
HIA	**Hailar**	**22.48 290**	*e*P	**P**	**16 44 32.8**	**-4.9**
	comp=Z,12nm,0.6s,mb4.5					
CIT	**Chita**	**26.21 297**	*e*P	**P**	**16 45 11.7**	**-1.2**
CIT			*e*		16 45 16.9	
CIT			*e*		16 51 03.4	
CIT			pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3					
BOD	**Bodaibo**	**26.24 310**	*e*P	**P**	**16 45 11.2**	**-1.9**
BOD			pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3					
BJT	**Baijiatuau**	**27.46 270**	*e*P	**P**	**16 45 23.6**	**-0.5**
BJT			pmax	pmax		
	comp=Z,16nm,0.7s					
BJT	**Baijiatuau**	**27.46 270**	*e*P	**P**	**16 45 23.6**	**-0.5**
	comp=Z,16nm,0.7s,mb4.7					
JOW	**Kunigami**	**27.65 234**	P	**P**	**16 45 24.2**	**-1.5**
	comp=Z,11nm,0.8s,mb4.5,baz=51,slow=6.1,SNR=4.7					
TIXI	**Tiksi**	**27.87 344**⇑	*i*P	**P**	**16 45 25.2**	**-2.5**
TIXI			pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.1					
TIXI			MLR	MLR		
	comp=Z,400nm,15.0s,MS4.1					
SSE	**Sheshan**	**28.92 250**	*e*P	**P**	**16 45 37.3**	**+0.2**
SSE			AP	pP	16 45 50.0	+1.6
SSE			XP	sP	16 45 56.3	+2.9
SSE			PCP	PcP	16 48 44.3	-1.1
SSE			S	**S**	**16 50 24.0**	**-0.8**
SSE			XS	sS	16 50 45.5	+1.8
SSE			SCS	ScS	16 56 21.5	+4.3
SSE			AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9					
SSE			AMB	AMB		
	comp=Z,20nm,3.7s					
SSE			LR	LR		
	comp=N,150nm,22.6s,MS3.6					
SSE			LR	LR		
	comp=E,70nm,22.6s,MS3.6					
SSE			LR	LR		
	comp=Z,170nm,22.1s,MS3.6					
NJ2	**Nanjing**	**29.85 254**	*e*P	**P**	**16 45 48.0**	**+2.7**
NJ2			AP	pP	16 45 59.5	+2.8
NJ2			PP	PP	16 46 46.3	-6.8
NJ2			S	**S**	**16 50 41.0**	**+1.6**
NJ2			XS	sS	16 51 00.0	+1.7
NJ2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7					
NJ2			AMB	AMB		
	comp=Z,70nm,6.0s					
NJ2			LR	LR		
	comp=N,490nm,19.5s					
NJ2			LR	LR		
	comp=E,320nm,24.7s					
NJ2			LR	LR		
	comp=Z,530nm,23.4s,MS4.1					
HHC	**Hu-ho-hao-te**	**30.30 275**	*e*P	**P**	**16 45 50.5**	**+1.2**
HHC			AP	pP	16 46 02.3	+1.7
HHC			XP	sP	16 46 08.0	+2.4
HHC			PP	PP	16 46 50.0	-8.1
HHC			PCP	PcP	16 48 51.5	+2.6
HHC			AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3					
HHC			AMB	AMB		
	comp=Z,110nm,4.2s					
HHC			LR	LR		
	comp=N,410nm,21.4s					
HHC			LR	LR		
	comp=Z,520nm,16.4s,MS4.3					
ULN	**Ulaanbaatar**	**31.01 290**	*de*P	**P**	**16 45 55.0**	**-0.6**
ULN	**Ulaanbaatar**	**31.01 290**	*e*P	**P**	**16 45 54.0**	**-1.7**
	comp=Z,15nm,1.0s,mb4.8					
SONM	**Songino Array**	**31.45 290**	P	**P**	**16 45 58.9**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.2,baz=71,slow=9.2,SNR=19					
SONM			PcP	PcP	16 48 51.5	-0.5
	comp=Z,2.2nm,0.8s,baz=120,slow=1.9,SNR=6.6					
SONM			LR	LR	16 59 33.5	
	comp=Z,307nm,18.7s,MS4.0,baz=79,slow=38					
SONM	**Songino Array**	**31.45 290**	P	**P**	**16 45 58.9**	**-0.6**
SONM					16 48 51.5	
TLY	**Talaya**	**32.35 298**	*ce*P	**P**	**16 46 06.4**	**-1.0**
TLY			pmax	pmax		
	comp=Z,13nm,1.3s,mb4.6					
TLY	**Talaya**	**32.35 298**	*e*P	**P**	**16 46 05.8**	**-1.6**
	comp=Z,12nm,0.9s,mb4.7					
SVW2	**Sparrevohn**	**32.81 44**	*e*P	**P**	**16 46 11.0**	**-0.4**
SVW2			*e*	pP	16 46 20.5	-2.3
ZAK	**Zakamensk**	**32.83 296**	*e*P	**P**	**16 46 10.3**	**-1.3**
ZAK			pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8					
TATO	**Taipei**	**33.02 241**	P	**P**	**16 46 15.5**	**+2.2**
YHNB	**Yeheng**	**33.31 240**	P	**P**	**16 46 16.5**	**+0.7**
WHN	**Wuhan**	**33.80 256**	⇓P	**P**	**16 46 20.5**	**+0.5**
XAN	**Xi'an**	**35.45 266**	P	**P**	**16 46 34.8**	**+0.5**
XAN			AP	pP	16 46 40.5	-5.3
XAN			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8					
PMR	**Palmer**	**35.93 44**	*e*P	**P**	**16 46 38.4**	**0.0**
PMR			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8					
PMR	**Palmer**	**35.93 44**	*e*P	**P**	**16 46 38.4**	**0.0**
	comp=Z,8.3nm,0.7s,mb4.8					
SML	**Sawmill**	**36.30 43**	*e*P	**P**	**16 46 40.3**	**-1.2**
COLA	**College**	**36.49 38**⇑	*e*P	**P**	**16 46 41.5**	**-1.7**
COLA	**College**	**36.49 38**	*e*P	**P**	**16 46 42.6**	**-0.6**
	comp=Z,8.4nm,0.7s,mb4.8					
KRAR	**Krasnoyarsk**	**37.82 307**⇓	*e*P	**P**	**16 46 52.8**	**-1.7**
KRAR			pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8					
KRAR			MLR	MLR		
	comp=Z,500nm,17.0s,MS4.4					
LZH	**Lanzhou**	**37.88 272**	*e*P	**P**	**16 46 56.5**	**+1.6**
LZH			AP	pP	16 47 09.0	+2.6
LZH			XP	sP	16 47 14.0	+2.6
LZH			PP	PP	16 48 26.5	+4.6
LZH			AMB	AMB		
	comp=Z,80nm,1.2s,mb5.3					
LZH			AMB	AMB		
	comp=Z,240nm,4.0s					
LZH			LR	LR		
	comp=E,450nm,13.0s					
LZH			LR	LR		
	comp=Z,880nm,14.3s,MS4.7					
GTA	**Gaotai**	**39.01 280**	P	**P**	**16 47 06.0**	**+1.5**
GTA			AP	pP	16 47 18.5	+2.5
GTA			PP	PP	16 48 39.8	+5.4
GTA			PCP	PcP	16 49 17.8	+3.7
GTA			S	**S**	**16 53 02.5**	**+2.0**
GTA			PCS	PcS	16 53 07.0	+3.3
GTA			XS	sS	16 53 22.5	+2.8
GTA			SS	SS	16 55 47.8	-5.8
GTA			SCS	ScS	16 57 12.0	+1.7
GTA			AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9					
GTA			AMB	AMB		
	comp=Z,70nm,5.3s					
GTA			LR	LR		
	comp=N,260nm,16.4s,MS4.3					
GTA			LR	LR		
	comp=E,200nm,14.9s,MS4.3					
GTA			LR	LR		
	comp=Z,330nm,14.1s,MS4.3					
CD2	**Chengdu**	**40.82 266**⇑	*i*P	**P**	**16 47 18.3**	**-1.2**
CD2			AP	pP	16 47 30.5	-0.5
CD2			XP	sP	16 47 36.0	0.0
CD2			PP	PP	16 48 56.3	+2.3
CD2			AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0					
CD2			AMB	AMB		
	comp=Z,60nm,5.2s					
CD2			LR	LR		
	comp=N,150nm,15.6s					
CD2			LR	LR		
	comp=Z,120nm,14.4s,MS3.9					
GYA	**Guiyang**	**41.60 258**⇑	*i*P	**P**	**16 47 26.5**	**+0.6**
GYA			XP	sP	16 47 44.0	+1.6
GYA			PP	PP	16 49 06.5	+4.0
GYA			SCP	ScP	16 53 09.8	+0.7
GYA			S	**S**	**16 53 39.3**	**+0.2**
GYA			XS	sS	16 54 00.0	+1.6
GYA			AMB	AMB		
	comp=Z,60nm,0.8s,mb5.3					
GYA			AMB	AMB		
	comp=Z,110nm,4.5s					
GYA			LR	LR		
	comp=N,420nm,17.2s,MS4.6					
GYA			LR	LR		
	comp=E,480nm,16.8s,MS4.6					
GYA			LR	LR		
	comp=Z,460nm,17.6s,MS4.4					
INK	**Inuvik**	**42.03 32**	P	**P**	**16 47 28.8**	**-0.6**
	comp=Z,7.8nm,0.6s,mb4.5,baz=284,slow=6.4,SNR=18					
INK	**Inuvik**	**42.03 32**	P	**P**	**16 47 28.8**	**-0.6**
INK			pmax	pmax		
	comp=Z,8.0nm,0.6s					
ZAL	**Zalesovo**	**42.85 306**	P	**P**	**16 47 34.2**	**-1.9**
	comp=Z,3.4nm,0.6s,mb4.2,baz=58,slow=6.9,SNR=18					
ZAL			LR	LR	17 07 17.5	
	comp=Z,903nm,18.9s,MS4.7,baz=44,slow=39					
ZAL	**Zalesovo**	**42.85 306**	P	**P**	**16 47 34.2**	**-1.9**
ZAL			pmax	pmax		
	comp=Z,3.0nm,0.6s					
ZAL			MLR	MLR		
	comp=Z,903nm,18.9s					
ZAL	**Zalesovo**	**42.85 306**	P	**P**	**16 47 34.2**	**-1.9**
ZAL			LR	LR	17 07 17.5	
NVS	**Novosibirsk**	**43.43 308**	*e*P	**P**	**16 47 38.8**	**-1.9**
QIZ	**Qiongzhong**	**44.66 247**	P	**P**	**16 47 49.5**	**-1.1**
QIZ			S	**S**	**16 54 27.3**	**+3.3**
QIZ			LR	LR		
	comp=Z,190nm,16.6s,MS4.1					
WMQ	**Urumqi**	**45.05 292**	P	**P**	**16 47 54.0**	**+0.3**
WMQ			AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6					
WMQ			AMB	AMB		
	comp=Z,30nm,3.8s					
WMQ			LR	LR		
	comp=N,340nm,18.0s,MS4.5					
WMQ			LR	LR		
	comp=E,390nm,17.0s,MS4.5					
WMQ			LR	LR		
	comp=Z,220nm,16.0s,MS4.2					
KMI	**Kunming**	**45.14 260**	P	**P**	**16 47 55.5**	**+1.1**
KMI			AP	pP	16 48 10.0	+3.9
KMI			PCP	PcP	16 49 35.5	+1.2
KMI			AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9					
KMI			AMB	AMB		
	comp=Z,130nm,4.9s					
KMI			LR	LR		
	comp=N,140nm,15.1s,MS4.2					
KMI			LR	LR		
	comp=E,150nm,14.5s,MS4.2					
KMI			LR	LR		
	comp=Z,140nm,18.2s,MS3.9					
MKAR	**Makanchi Array**	**47.11 298**	P	**P**	**16 48 09.2**	**-0.7**
	comp=Z,15nm,0.8s,mb5.0,baz=65,slow=8.6,SNR=51					
MKAR			PcP	PcP	16 49 40.9	-0.3
	comp=Z,1.8nm,0.6s,baz=78,slow=1.9,SNR=4.1					
MKAR	**Makanchi Array**	**47.11 298**	P	**P**	**16 48 09.2**	**-0.7**
MKAR					16 49 40.9	
MKAR			pmax	pmax		
	comp=Z,15nm,0.8s					
KURK	**Kurchatov**	**47.58 304**	*ce*P	**P**	**16 48 12.0**	**-1.6**
KURK	**Kurchatov**	**47.58 304**	*e*P	**P**	**16 48 11.9**	**-1.6**
	comp=Z,34nm,1.0s,mb5.3					
KURK			*e*	pP	16 48 22.7	-2.6
LSA	**Lhasa**	**50.27 273**	*e*P	**P**	**16 48 36.9**	**+2.7**
LSA			pmax	pmax		
	comp=Z,16nm,0.6s,mb5.2					
LSA	**Lhasa**	**50.27 273**	*e*P	**P**	**16 48 36.9**	**+2.7**
	comp=Z,16nm,0.6s,mb5.2					
BVAR	**Borovoye Array**	**51.11 310**	P	**P**	**16 48 39.3**	**-1.2**
	comp=Z,8.6nm,0.6s,mb4.9,baz=50,slow=7.4,SNR=19					
BVAR			PcP	PcP	16 49 54.6	-1.2

comp=Z,3.3nm,0.8s,baz=107,slow=7.7,SNR=2.6
BVAR LR LR 17 10 56.4
comp=Z,148nm,19.2s,MS4.0,baz=22,slow=37
BVAR Borovoye Array 51.11 310 P **P 16 48 39.3 -1.2**
BVAR 16 49 54.6
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BVAR MLR MLR
comp=Z,148nm,19.2s
BRVK Borovoye 51.15 310 *eP* **P 16 48 39.4 -1.4**
BRVK *e* 16 49 56.1
YKA Yellowknife Ar 51.28 36 P **P 16 48 41.2 -0.6**
comp=Z,4.2nm,0.9s,mb4.4,baz=296,slow=7.2,SNR=9.3
YKA Yellowknife Ar 51.28 36 P **P 16 48 41.2 -0.6**
ZRNK Zerenda 51.88 310 *eP* **P 16 48 44.9 -1.4**
ZRNK pmax pmax
comp=Z,23nm,0.9s,mb5.1
ZRNK Zerenda 51.88 310 *eP* **P 16 48 44.9 -1.4**
comp=Z,23nm,0.9s,mb5.1
CM31 Chiang Mai Arr 52.24 257 *eP* **P 16 48 50.7 +1.7**
comp=Z,3.8nm,0.5s,mb4.6
KBS Kingsbay 52.91 351 *eP* **P 16 48 51.7 -2.2**
KBS pmax pmax
comp=Z,12nm,0.8s,mb4.9
KBS Kingsbay 52.91 351 *eP* **P 16 48 51.7 -2.2**
comp=Z,12nm,0.8s,mb4.9
ULHL Ulahol 53.12 295 P **P 16 48 56.5 +1.0**
SNR=5.2
TKM2 Tokmak 2 53.16 296 P **P 16 48 56.3 +0.6**
SNR=5.8
CHMS Chumysh 53.64 297 P **P 16 48 59.3 0.0**
SNR=5.8
USP Ospenovka 53.65 297 P **P 16 48 59.7 +0.4**
SNR=17
KBK Karagaybulak 53.70 296 P **P 16 49 00.3 +0.6**
SNR=7.0
KZA Kyzart 53.83 296 P **P 16 49 02.3 +1.6**
SNR=7.7
AAK Ala-Archa 54.00 297 P **P 16 49 02.4 +0.5**
SNR=6.8
EKS2 Erkin-Say 54.43 297 P **P 16 49 05.5 +0.4**
SNR=11
JIRN Jiri 54.95 275 *eP* **P 16 49 10.7 +1.9**
comp=Z,57nm,0.7s,mb5.7
GUN Gumba 55.01 275 *eP* **P 16 49 11.1 +1.9**
comp=Z,42nm,0.5s,mb5.7
ARU Arti 55.31 318⇑ *iP* **P 16 49 09.9 -1.5**
ARU *e* 16 50 10.9
ARU *e* 16 51 11.5
ARU *eS* **S 16 56 51.2 -1.2**
ARU *e*SS SS 17 00 34.1 -3.0
ARU pmax pmax
comp=Z,13nm,0.8s,mb5.0
ARU MLR MLR
comp=Z,300nm,18.0s,MS4.4
ARU MLR MLR
comp=N,60nm,16.0s,MS4.3
ARU MLR MLR
comp=E,200nm,17.0s,MS4.3
ARU Arti 55.31 318 *eP* **P 16 49 09.2 -2.2**
comp=E,28nm,1.3s,mb5.1
ARU *e*PcP PcP 16 50 11.1 -0.6
KKN Kakani 55.50 276 *eP* **P 16 49 14.5 +1.7**
comp=E,61nm,0.7s,mb5.7
PKI Pulchoki 55.55 275 *eP* **P 16 49 14.7 +1.6**
comp=E,28nm,0.6s,mb5.5
DMN Daman 55.73 276 *eP* **P 16 49 16.2 +1.8**
comp=E,116nm,1.0s,mb5.9
GKN Gorkha 55.81 276 *eP* **P 16 49 16.6 +1.6**
comp=E,88nm,0.7s,mb5.9
KOLN Koldanda 56.67 277 *eP* **P 16 49 22.9 +1.8**
comp=E,79nm,0.8s,mb5.8
DAG Danmarks Havn 57.07 358⇑ *iP* **P 16 49 23.0 -0.9**
comp=E,4.0nm,0.6s,mb4.6
DAG Danmarks Havn 57.07 358 *iP* **P 16 49 23.0 -0.9**
DAG pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
NEW Newport 57.46 52 LR LR 17 11 15.3
comp=Z,108nm,19.5s,MS4.0,baz=328,slow=33
BOK Bokaro 57.63 271 *eP* **P 16 49 29.0 +1.1**
BOK AMb AMB 16 49 30.3
comp=Z,21nm,1.6s,mb4.9
JOSI Joshimath 57.70 282 *ex* x 16 49 20.6
KLP Kalpa 57.98 284 *eP* **P 16 49 30.6 +0.2**
KLP *ex* x 16 56 14.7
KSM Kuching 58.20 233 *eP* **P 16 49 32.5 +0.6**
KSM *e* pP 16 49 45.6 +1.7
ARCES ARCESS Array B 58.24 341 P **P 16 49 30.9 -1.3**
comp=Z,2.7nm,0.6s,mb4.5,baz=26,slow=7.1,SNR=31
ARCES LR LR 17 20 38.2
comp=Z,136nm,18.1s,MS4.1,baz=254,slow=42
ARCES ARCESS Array B 58.24 341 P **P 16 49 31.0 -1.2**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES MLR MLR
comp=Z,136nm,18.1s
SMLA Simla 58.96 284 *eP* **P 16 49 38.4 +1.2**
AKTK Aktyubinsk 58.99 312 P **P 16 49 36.1 -1.3**
AKTO Aktyubinsk 58.99 312 P **P 16 49 36.1 -1.3**
comp=Z,7.0nm,0.6s,mb4.9,baz=79,slow=8.3,SNR=11
AKTO Aktyubinsk 58.99 312 P **P 16 49 36.1 -1.3**
AKTO pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
KTK1 Kautokeino 59.16 341 *eP* **P 16 49 38.9 +0.3**
KTK1 AMb AMB 16 49 46.8
comp=Z,25nm,1.8s,mb4.9
KTK1 Kautokeino 59.16 341 *eP* **P 16 49 38.9 +0.3**
comp=Z,25nm,1.8s,mb5.0
TRO Tromso 59.58 343 *eP* **P 16 49 39.5 -2.0**
KKR Kurukshetra 59.92 283 *eP* **P 16 49 44.5 +0.6**
WVOR Wild Horse Val 60.00 59 *eP* **P 16 49 44.3 -0.1**
WVOR *e* pP 16 49 53.5 -3.0
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
WVOR Wild Horse Val 60.00 59 *eP* **P 16 49 44.2 -0.1**
comp=Z,6.6nm,0.9s,mb4.7
WVOR *e* pP 16 49 53.5 -3.0
MSO Missoula 60.04 52 *eP* **P 16 49 43.6 -1.0**
comp=Z,4.1nm,0.9s,mb4.5
MSO *e*pP pP 16 49 56.6 -0.2
CHMT Chamberlain Mo 60.37 52 *eP* **P 16 49 45.6 -1.3**
CHMT *e* pP 16 49 56.6 -2.4
NDI New Delhi 60.46 282 *eP* **P 16 49 48.0 +0.5**
AYAN Aya Nagar 60.65 282 *eP* **P 16 49 49.6 +0.8**
AYAN AMb AMB 16 49 52.0
comp=Z,24nm,1.1s,mb5.3
SONA Sohna 60.83 281 *eP* **P 16 49 50.5 +0.5**
SONA AMb AMB 16 49 52.4
comp=Z,29nm,0.5s,mb5.7
KULM Kulim 60.87 245 *eP* **P 16 49 49.5 -0.8**
AGRA Agra 60.89 280 *eP* **P 16 49 51.6 +1.1**
FFC Flin Flon 61.08 40 *eP* **P 16 49 50.9 -0.8**
FFC pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
FFC Flin Flon 61.08 40 *eP* **P 16 49 50.9 -0.9**
comp=Z,7.0nm,0.7s,mb4.9
SUMG Summit 61.13 4 *eP* **P 16 49 51.6 -0.5**
comp=Z,21nm,0.7s,mb5.4
PBA Port Blair 61.26 256 *ex* x 16 51 28.6
PBA *ex* x 16 51 41.6
HRY Holter Researc 61.27 51 *eP* **P 16 49 53.6 +0.6**
KUDL Kundal 61.30 282 *eP* **P 16 49 53.2 0.0**
KUDL AMb AMB 16 49 56.0
comp=Z,38nm,1.0s,mb5.5
KAKA Kakadu 61.63 203 *eP* **P 16 49 57.0 +1.6**
comp=Z,8.6nm,0.9s,mb4.9
HLID Hailey 61.77 56 *eP* **P 16 49 54.7 -1.7**
comp=Z,6.8nm,1.2s,mb4.7
KHET Khetri 61.80 282 *eP* **P 16 49 57.3 +0.7**
KHET AMb AMB 16 49 59.0
comp=Z,12nm,1.6s,mb4.8
MCMT McKenzie Canyo 61.87 54 P **P 16 49 56.2 -0.9**
LOF Lofoten 61.91 344 *eP* **P 16 49 58.1 +0.9**
LOF AMb AMB 16 49 59.8
comp=Z,51nm,1.2s,mb5.5
BOZ Bozeman (W) 62.04 52 *eP* **P 16 49 58.4 +0.2**
BOZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
BOZ Bozeman (W) 62.04 52 *eP* **P 16 49 58.4 +0.2**
comp=Z,10.0nm,1.0s,mb4.9
NVAR Mina Array Bea 62.66 62 P **P 16 50 02.1 -0.2**
comp=Z,2.7nm,0.8s,mb4.5,baz=297,slow=5.2,SNR=22
NVAR pP pP 16 50 15.0 +0.5
comp=Z,4.5nm,0.8s,baz=295,slow=4.9,SNR=13
QLMT Earthquake Lak 62.66 53 *eP* **P 16 50 01.8 -0.6**
MNV Mina 62.75 62 *eP* **P 16 50 02.4 -0.5**
MNV *e* pP 16 50 14.8 -0.3
MNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MNV Mina 62.75 62 *eP* **P 16 50 02.4 -0.5**
comp=Z,5.5nm,0.9s,mb4.7
MNV *e* pP 16 50 14.8 -0.3
GCMT Greycliff 63.01 51 *eP* **P 16 50 05.1 +0.4**
MOR8 Moi Rana 63.42 343 *eP* **P 16 50 05.2 -2.2**
MOR8 AMb AMB 16 50 07.0
comp=Z,39nm,1.3s,mb5.4
MOR8 Moi Rana 63.42 343 *eP* **P 16 50 05.2 -2.2**
comp=Z,39nm,1.3s,mb5.4
VIS Vishakhapatnam 63.46 268 *eP* **P 16 50 06.8 -0.9**
VIS AMb AMB 16 50 10.3
comp=Z,40nm,1.0s,mb5.5
IMW Indian Meadow 63.52 53 *eP* **P 16 50 09.2 +1.2**
comp=Z,6.5nm,1.0s,mb4.6
RRI2 Red Ridge 63.66 54 *eP* **P 16 50 12.2 +3.2**
comp=Z,14nm,0.7s,mb5.1
MOOW Moose Ponds 63.72 53 *eP* **P 16 50 09.8 +0.4**
comp=Z,5.4nm,1.0s,mb4.5
BHPL Bhopal 63.84 277 *eP* **P 16 50 11.1 +1.0**
REDW Red Top Meadow 63.91 54 *eP* **P 16 50 08.8 -1.8**
comp=Z,9.4nm,0.9s,mb4.8
NGP Nagpur 64.11 274 *eP* **P 16 50 10.9 -1.0**
NGP AMb AMB 16 50 12.0
comp=Z,36nm,1.1s,mb5.3
FINES FINESS Array B 64.41 335 P **P 16 50 13.0 -0.9**
comp=Z,7.1nm,0.4s,mb5.0,baz=43,slow=6.2,SNR=32
FINES pP pP 16 50 25.6 -0.5
comp=Z,5.1nm,0.6s,baz=39,slow=8.7,SNR=4.3
FINES LR LR 17 21 07.9
comp=Z,153nm,19.1s,MS4.2,baz=239,slow=39
FINES FINESS Array B 64.41 335 P **P 16 50 13.0 -0.9**
FINES *PP pP 16 50 25.7 -0.4
FINES pmax pmax
comp=Z,7.0nm,0.4s
FINES MLR MLR
comp=Z,153nm,19.1s
FINES FINESS Array B 64.41 335 P **P 16 50 13.0 -0.9**
FINES pP pP 16 50 25.6 -0.5
FINES LR LR 17 21 07.9
DUG Dugway 64.83 58 *eP* **P 16 50 15.8 -0.8**
DUG pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
DUG Dugway 64.83 58 *eP* **P 16 50 15.8 -0.8**
comp=Z,8.1nm,1.0s,mb4.7
PDAR Pinedale Array 65.02 54 P **P 16 50 17.9 0.0**
comp=Z,3.8nm,0.8s,mb4.5,baz=294,slow=1.4,SNR=30
PDAR pP pP 16 50 30.6 +0.5
comp=Z,4.5nm,0.9s,baz=311,slow=2.3,SNR=12
NSS Namsos 65.36 343 *eP* **P 16 50 18.3 -1.8**
NSS *e*pP pP 16 50 30.4 -1.9
DAU Daniels Canyon 65.59 57 *eP* **P 16 50 23.4 +1.8**
OBN Obninsk 65.64 326 *eP* **P 16 50 21.1 -0.8**
OBN pmax pmax
comp=Z,38nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.3
OBN Obninsk 65.64 326 P **P 16 50 20.9 -1.0**
MSU Marysvale 66.29 59 *eP* **P 16 50 25.5 -0.6**
ULM Lac du Bonnet 66.86 41 P **P 16 50 28.6 -1.2**
comp=Z,1.5nm,0.6s,mb4.2,baz=327,slow=6.5,SNR=5.0
SRU San Rafael 66.87 57 *eP* **P 16 50 28.6 -1.2**
SRU *e* pP 16 50 42.6 +0.6
SRU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SRU San Rafael 66.87 57 *eP* **P 16 50 28.6 -1.2**
comp=Z,9.3nm,0.8s,mb4.9
SRU *e* pP 16 50 42.6 +0.5
HYB Hyderabad 66.98 271 *iP* **P 16 50 31.0 +0.6**
HYB Hyderabad 66.98 271 *eP* **P 16 50 31.0 +0.6**
RSSD Black Hills 67.12 50 *eP* **P 16 50 29.8 -1.5**
RSSD *e* pP 16 50 43.0 -0.6
RSSD pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
RSSD Black Hills 67.12 50 *eP* **P 16 50 29.8 -1.5**
comp=Z,4.4nm,0.7s,mb4.6
RSSD *e* pP 16 50 43.0 -0.6
AFI Afiamalu 67.79 143 P **P 16 50 36.1 +0.5**
WRAB Tennant Creek 68.09 199 *eP* **P 16 50 36.5 -1.0**
WRAB *e* pP 16 50 48.2 -1.5
WRAB pmax pmax
comp=Z,12nm,1.0s,mb4.9
WRAB Tennant Creek 68.09 199 *eP* **P 16 50 36.5 -1.0**
comp=Z,12nm,1.0s,mb4.9
WRAB *e* pP 16 50 48.2 -1.6
WB2 Warramunga Arr 68.10 199 *eP* **P 16 50 35.8 -1.7**
WB2 *e* pP 16 50 48.6 -1.2
WB2 Warramunga Arr 68.10 199 *eP* **P 16 50 36.2 -1.3**
WB2 *e*pP pP 16 50 48.1 -1.7
WRA Warramunga Arr 68.10 199 P **P 16 50 35.8 -1.7**
comp=Z,1.4nm,0.7s,mb4.1,baz=15,slow=6.7,SNR=12
WRA pP pP 16 50 48.5 -1.3
comp=Z,6.0nm,0.9s,baz=15,slow=6.6,SNR=17
WRA Warramunga Arr 68.10 199 P **P 16 50 35.8 -1.7**
WRA *PP pP 16 50 48.5 -1.3
WRA pmax pmax
comp=Z,10.0nm,0.7s
PV10 Paradox Valley 68.22 57 *eP* **P 16 50 37.9 -0.4**
PV10 *e* pP 16 50 51.0 +0.4
NB2 NORSAR Subarra 68.62 341 P **P 16 50 40.0 -0.8**
comp=Z,11nm,0.5s,mb5.0,baz=30,slow=6.5
NB2 NORSAR Subarra 68.62 341 P **P 16 50 40.0 -0.8**
NB2 pmax pmax
comp=Z,11nm,0.5s,mb5.0
NOA NORSAR Array B 68.62 341 P **P 16 50 39.8 -1.0**
comp=Z,7.3nm,0.5s,mb4.9,baz=28,slow=6.4,SNR=50
NOA LR LR 17 25 30.4
comp=Z,124nm,18.4s,MS4.2,baz=30,slow=40
NOA NORSAR Array B 68.62 341 P **P 16 50 39.8 -1.0**
NOA pmax pmax
comp=Z,7.0nm,0.5s
NOA MLR MLR
comp=Z,124nm,18.4s
PV01 Paradox Valley 68.66 57 P **P 16 50 43.5 +2.5**
FITZ Fitzroy Crossi 68.76 208 *eP* **P 16 50 41.2 -0.4**
comp=Z,8.3nm,0.9s,mb4.7
FITZ *e* pP 16 50 53.4 -0.5
WUAZ Wupatki 68.76 61 *eP* **P 16 50 42.8 +1.2**
comp=Z,6.2nm,0.8s,mb4.6
NAO01 NORSAR Array S 68.87 341 *eP* **P 16 50 41.3 -1.0**
comp=Z,3.3nm,0.6s,mb4.4
SMCO Snowmass 68.87 55 *eP* **P 16 50 43.6 +1.3**
comp=Z,5.9nm,0.8s,mb4.6
ISCO Idaho Springs 69.21 54 *eP* **P 16 50 44.6 +0.1**
ISCO *e* pP 16 50 56.5 -0.3
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ISCO Idaho Springs 69.21 54 *eP* **P 16 50 44.6 +0.1**
comp=Z,3.6nm,0.8s,mb4.3
ISCO *e* pP 16 50 56.5 -0.3
MVCO Mesa Verde 69.33 58 *eP* **P 16 50 45.8 +0.6**
MVCO *e* pP 16 50 58.3 +0.8
KAD Karad 70.08 274 *eP* **P 16 50 49.2 -0.6**
KAD AMb AMB 16 50 49.9
comp=Z,47nm,1.5s,mb5.2
KONO Kongsberg 70.23 341 *eP* **P 16 50 50.1 -0.6**
KONO pmax pmax
comp=Z,13nm,0.9s,mb4.9
KONO Kongsberg 70.23 341 *eP* **P 16 50 50.0 -0.7**
comp=Z,13nm,0.9s,mb4.8
KIV Kislovodsk 71.08 314 *eP* **P 16 50 57.1 +1.2**
KIV pmax pmax
comp=Z,14nm,0.6s,mb5.1
KIV MLR MLR
comp=Z,271nm,17.0s,MS4.6
TUC Tucson 71.30 63 *eP* **P 16 50 56.9 -0.3**
comp=Z,3.0nm,0.9s,mb4.2
ZEI Tsey 71.33 313 *eP* **P 16 50 58.2 +0.8**
ZEI *e*PP pP 16 51 10.0 +0.3
ZEI pmax pmax
comp=Z,13nm,0.9s,mb4.9
SUW Suwalki 71.36 331 *eP* **P 16 50 57.0 -0.6**
AS31 Alice Springs 71.80 198 *eP* **P 16 51 00.1 -0.1**
AS31 *e* pP 16 51 10.8 -1.8
ASAR Alice Springs 71.80 198 P **P 16 50 59.1 -1.1**
comp=Z,2.5nm,0.7s,mb4.2,baz=13,slow=5.1,SNR=30
ASAR LR LR 17 21 00.8
comp=Z,94nm,19.9s,MS4.1,baz=175,slow=35
AKASG Malin Array Be 71.88 326 P **P 16 50 59.5 -1.3**
comp=Z,23nm,0.5s,mb5.3,baz=33,slow=6.1,SNR=67
AKASG LR LR 17 24 35.4
comp=Z,117nm,20.2s,MS4.1,baz=40,slow=37
AKASG Malin Array Be 71.88 326 P **P 16 50 59.5 -1.2**
AKASG pmax pmax
comp=Z,23nm,0.5s
AKASG MLR MLR
comp=Z,117nm,20.2s
LAZ Ladron 72.06 59 *eP* **P 16 51 02.1 +0.3**
LAZ *e* pP 16 51 15.2 +1.0
ANMO Albuquerque 72.08 58 *eP* **P 16 51 02.0 +0.1**
comp=Z,3.4nm,0.9s,mb4.3
ANMO *e* pP 16 51 15.1 +0.8
BNM Barren Site 72.54 59 P **P 16 51 05.5 +0.9**
GNI Garni 72.78 310 P **P 16 51 08.4 +2.3**
comp=Z,15nm,0.7s,mb5.0,baz=31,slow=5.0,SNR=8.0
GNI Garni 72.78 310*c iP* **P 16 51 08.0 +1.9**
GNI pmax pmax
comp=Z,48nm,1.7s
BSD Bornholm Skovb 72.93 336 *i P* **P 16 51 06.0 -1.0**
comp=Z,9.0nm,0.7s,mb4.8
BSD Bornholm Skovb 72.93 336 *i P* **P 16 51 06.0 -1.0**
BSD pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ANN Anapa 72.97 318 *eP* **P 16 51 16.2 +9.0**
ANN pmax pmax
comp=Z,48nm,1.2s,mb5.3
SCHQ Schefferville 73.71 23 P **P 16 51 10.7 -0.9**
comp=Z,2.7nm,0.9s,mb4.2,baz=342,slow=3.2,SNR=3.1
SCHQ LR LR 17 27 33.3
comp=Z,51nm,18.7s,MS3.8,baz=307,slow=39
SIM Simferopol' 74.37 320 *eP* **P 16 51 16.0 +0.6**
SIM *e*PP pP 16 51 28.0 +0.1
SIM pmax pmax
comp=Z,19nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,250nm,19.0s,MS4.5
KWP Kalwaria 75.17 329 *eP* **P 16 51 20.6 +0.5**
BSEG Bad Segeberg 75.21 338 *eP* **P 16 51 20.2 -0.1**
comp=Z,13nm,1.0s,mb4.8
BSEG Bad Segeberg 75.21 338 *eP* **P 16 51 20.2 -0.1**
BSEG pmax pmax
comp=Z,13nm,1.0s,mb4.8
OJC Ojcow 75.68 331 *eP* **P 16 51 22.9 -0.1**
STHS Stebnicka Huta 75.87 330 *eP* **P 16 51 24.4 +0.3**
STHS *e* pP 16 51 34.4 -2.1
STHS pmax pmax
comp=Z,12nm,1.0s,mb4.8
STHS Stebnicka Huta 75.87 330 *eP* **P 16 51 24.4 +0.3**
comp=Z,12nm,1.0s,mb4.8
STHS *e* pP 16 51 34.4 -2.1
KOLS Kolonicke sedl 75.91 329 *eP* **P 16 51 22.4 -1.9**
KOLS pmax pmax
comp=Z,12nm,1.5s,mb4.6
KOLS Kolonicke sedl 75.91 329 *eP* **P 16 51 22.4 -1.9**
comp=Z,12nm,1.5s,mb4.6
NIE Niedzica 76.19 330 *eP* **P 16 51 26.7 +0.8**
CRVS Cervenica-Dubn 76.23 329 *eP* **P 16 51 28.1 +2.0**
KSP Ksiaz 76.27 333 *eP* **P 16 51 28.1 +1.8**
KSP Ksiaz 76.27 333 *eP* **P 16 51 27.4 +1.1**
OKC Ostrava-Krasne 76.55 332 *eP* **P 16 51 29.7 +1.8**
OKC *e*pP pP 16 51 41.0 +0.6
OKC AMS AMS 17 29 40.0
comp=Z,200nm,17.5s
OKC Ostrava-Krasne 76.55 332 *eP* **P 16 51 29.7 +1.8**
OKC *e*pP pP 16 51 41.0 +0.6
NRDL Niedersach Rie 76.57 338 *eP* **P 16 51 27.8 -0.2**
comp=Z,10.0nm,0.9s,mb4.8
UPC Upice 76.65 333 *eP* **P 16 51 29.7 +1.2**
UPC *e*pP pP 16 51 40.5 -0.4
DPC Dobruska-Polom 76.69 333 *eP* **P 16 51 29.2 +0.5**
DPC *e*pP pP 16 51 39.9 -1.3
DPC *ex* x 17 01 26.7
DPC AMS AMS 17 29 30.0
comp=Z,200nm,18.3s
VRI Vrincioaia 76.78 325⇑ *iP* **P 16 51 29.0 -0.2**
VRI Vrincioaia 76.78 325⇑ P **P 16 51 29.0 -0.2**
MORC Moravsky Berou 76.80 332 *eP* **P 16 51 29.0 -0.3**
MORC *e* pP 16 51 39.8 -2.0
MORC pmax pmax
comp=Z,16nm,0.9s,mb5.0
MORC Moravsky Berou 76.80 332 *eP* **P 16 51 29.0 -0.4**
comp=Z,16nm,0.9s,mb5.0
MORC *e* pP 16 51 39.8 -2.0
CLL Collm 76.84 336 *eP* **P 16 51 28.9 -0.7**
comp=Z,20nm,0.7s,mb5.2
CLL Collm 76.84 336⇑ *iP* **P 16 51 28.9 -0.7**
comp=Z,20nm,0.7s,mb5.2
CLL LmV 16 30 00.0
comp=Z,200nm,18.7s
CLL *i* (pP) pP 16 51 38.2 -3.8
CLL *i* sP sP 16 51 43.8 -3.0
CLL *e*PP PP 16 54 22.0 -0.7
CLL Collm 76.84 336⇑ *iP* **P 16 51 28.9 -0.7**
CLL *i* pP 16 51 38.2 -3.8
CLL *i* pP 16 51 43.8 +1.8
CLL pmax pmax
comp=Z,12nm,0.7s,mb4.9
CLL MLR MLR
comp=Z,200nm,18.7s,MS4.5
CLL Collm 76.84 336⇑ *iP* **P 16 51 28.9 -0.7**
comp=Z,20nm,0.7s,mb5.2
CLL *i* pP 16 51 38.2 -3.8
CLL *i* pP 16 51 43.8 +1.8
CLL LR LR
comp=Z,200nm,18.7s,MS4.5
KECS Kecovo 76.93 330 *eP* **P 16 51 30.3 +0.3**
KECS *e* pP 16 51 40.0 -2.5
KECS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KECS Kecovo 76.93 330 *eP* **P 16 51 30.3 +0.3**
comp=Z,6.5nm,1.0s,mb4.5
KECS *e* pP 16 51 40.0 -2.5
BRG Berggiesshubel 76.95 335 *eP* **P 16 51 29.7 -0.5**
comp=Z,9.0nm,1.0s,mb4.7
PVCC Panska Ves 77.07 334 *eP* **P 16 51 31.9 +1.0**
PVCC AMS AMS 17 28 40.0
comp=Z,200nm,15.6s
FBE Freiberg 77.08 335 *eP* **P 16 51 30.7 -0.2**
comp=Z,18nm,1.1s,mb4.9
CLZ Clausthal 77.09 337 *eP* **P 16 51 31.3 +0.3**
comp=Z,20nm,0.8s,mb5.1
CLZ Clausthal 77.09 337 *eP* **P 16 51 31.3 +0.3**
CLZ pmax pmax
comp=Z,20nm,0.8s,mb5.1
IBBN Ibbenburen 77.34 339 *eP* **P 16 51 32.2 -0.2**
comp=Z,28nm,0.9s,mb5.2
MLR Muntele Rosu 77.40 325⇓ *iP* **P 16 51 34.1 +1.4**
MLR Muntele Rosu 77.40 325 P **P 16 51 34.2 +1.5**
MALT Malatya 77.42 313⇑ *iP* **P 16 51 34.9 +2.1**
MALT Malatya 77.42 313 P **P 16 51 35.3 +2.5**
GTTG Gvttingen 77.47 337 *eP* **P 16 51 33.1 0.0**
comp=Z,10.0nm,0.5s,mb5.0
VYHS Vyhne 77.48 331 *i P* **P 16 51 33.6 +0.4**
VYHS *e* pP 16 51 42.9 -2.7
VYHS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
VYHS Vyhne 77.48 331 *i P* **P 16 51 33.6 +0.4**
comp=Z,7.0nm,1.0s,mb4.5
VYHS *e* pP 16 51 42.9 -2.7
VRAC Vranov 77.52 333⇑ *iP* **P 16 51 33.8 +0.5**
VRAC Vranov 77.52 333 P **P 16 51 34.0 +0.7**
DRGR 77.56 328⇓ *iP* **P 16 51 33.8 +0.2**
DRGR 77.56 328 P **P 16 51 35.6 +2.0**
PSZ Piszkesteto 77.61 330⇓ *iP* **P 16 51 35.2 +1.3**
PSZ Piszkesteto 77.61 330 *eP* **P 16 51 34.3 +0.4**
PSZ pmax pmax
comp=Z,11nm,0.8s,mb4.8
PSZ Piszkesteto 77.61 330 *eP* **P 16 51 34.3 +0.4**
comp=Z,11nm,0.8s,mb4.8
LTX Lajitas 77.73 60 *eP* **P 16 51 34.2 -0.3**
LTX *e*PP pP 16 51 47.0 0.0
LTX pmax pmax
comp=Z,11nm,0.8s,mb4.8
LTX Lajitas 77.73 60 *eP* **P 16 51 34.2 -0.3**
comp=Z,11nm,0.8s,mb4.8
LTX *e*pP pP 16 51 47.0 0.0
TANN Tannenbergstha 77.79 335 *eP* **P 16 51 34.7 -0.2**
comp=Z,6.0nm,1.0s,mb4.5
VOIR 77.80 325⇓ *iP* **P 16 51 35.6 +0.7**
VOIR 77.80 325⇓ P **P 16 51 35.6 +0.7**
WERD Werda 77.81 336 *eP* **P 16 51 34.9 -0.1**
comp=Z,9.0nm,1.1s,mb4.6
MOX Moxa 77.83 336 *eP* **P 16 51 35.0 -0.1**
comp=Z,15nm,1.0s,mb4.9
MOX Moxa 77.83 336 *eP* **P 16 51 34.9 -0.2**
comp=Z,24nm,1.3s,mb5.0
MOX
comp=Z,100nm,19.0s

MOX Moxa 77.83 336 *eP* **P 16 51 34.9 -0.2**
MOX pmax pmax
comp=Z,24nm,1.3s,mb5.0
MOX MLR MLR
comp=Z,100nm,19.0s,MS4.2
TREC Trest 77.88 333 AMS AMS 17 30 20.0
comp=Z,200nm,14.9s
WTSB Winterswijk 77.89 339 *eP* **P 16 51 35.2 -0.2**
comp=Z,24nm,1.1s,mb5.0
SMOL Smolenice 77.94 332 *eP* **P 16 51 36.5 +0.8**
SMOL *e* pP 16 51 46.9 -1.3
NKC Novy Kostel 77.96 335 *eP* **P 16 51 36.1 +0.3**
NKC *e*pP pP 16 51 46.6 -1.7
NKC AMS AMS 17 32 10.0
comp=Z,200nm,16.2s
NKC Novy Kostel 77.96 335 *eP* **P 16 51 36.1 +0.3**
NKC *e*pP pP 16 51 46.6 -1.7
UBBA Unterbreizbach 78.11 337 *eP* **P 16 51 36.8 +0.1**
BUG Bochum--Univer 78.26 339 *eP* **P 16 51 37.3 -0.2**
MANZ Manzenberg 78.28 335 *eP* **P 16 51 37.7 +0.1**
comp=Z,11nm,1.0s,mb4.7
ZST Bratislava 78.32 332 *eP* **P 16 51 38.9 +1.1**
ZST *e* pP 16 51 48.2 -2.1
ZST pmax pmax
comp=Z,14nm,0.9s,mb4.9
ZST Bratislava 78.32 332 *eP* **P 16 51 38.9 +1.1**
comp=Z,14nm,0.9s,mb4.9
ZST *e* pP 16 51 48.2 -2.1
ROTZ Rotzenmuhle 78.45 335 *eP* **P 16 51 38.9 +0.4**
comp=Z,14nm,1.0s,mb4.8
KHC Kasperske Hory 78.61 334 *eP* **P 16 51 39.7 +0.3**
KHC *e*x x 17 02 01.1
KHC AMS AMS 17 29 50.0
comp=Z,200nm,19.3s
BR131 Keskin Array S 78.68 317 *eP* **P 16 51 40.4 +0.6**
BR131 *e* pP 16 51 52.8 +0.5
BRTR Keskin Array B 78.68 317 P **P 16 51 40.0 +0.3**
comp=Z,4.7nm,0.9s,mb4.4,baz=49,slow=3.8,SNR=15
BRTR pP pP 16 51 52.7 +0.4
comp=Z,6.1nm,0.8s,baz=54,slow=6.3,SNR=11
BRTR LR LR 17 32 11.3
comp=Z,137nm,18.8s,MS4.3,baz=214,slow=40
BRTR Keskin Array B 78.68 317 P **P 16 51 40.1 +0.3**
BRTR *PP pP 16 51 52.7 +0.4
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR MLR MLR
comp=Z,137nm,18.8s
GZR Gura Zlata 78.71 327⇑*iP* **P 16 51 40.6 +0.6**
GZR Gura Zlata 78.71 327⇑P **P 16 51 40.6 +0.6**
GRA1 Grafenberg Arr 78.80 336 *eP* **P 16 51 40.9 +0.5**
comp=Z,27nm,0.8s,mb5.2
GRA1 LR LR
comp=Z,100nm,19.8s,MS4.2
GRF Grafenberg Arr 78.80 336 *eP* **P 16 51 40.9 +0.5**
comp=Z,27nm,0.8s,mb5.2
GRF *e*L 17 29 54.9
comp=Z,114nm,19.8s
GRF Grafenberg Arr 78.80 336 *eP* **P 16 51 40.9 +0.5**
GRF pmax pmax
comp=Z,27nm,0.8s,mb5.2
GRF MLR MLR
comp=Z,100nm,19.8s,MS4.2
GRF Grafenberg Arr 78.80 336 *eP* **P 16 51 40.9 +0.5**
GRF pmax pmax
comp=Z,27nm,0.8s,mb5.2
GRF MLR MLR
comp=Z,100nm,19.8s,MS4.2
WET Wettzell 78.81 335 *eP* **P 16 51 40.9 +0.4**
comp=Z,15nm,0.9s,mb4.9
WET Wettzell 78.81 335 *eP* **P 16 51 40.9 +0.4**
WET pmax pmax
comp=Z,15nm,0.9s,mb4.9
UMR Umm Al-Rimmam 78.82 301 *eP* **P 16 51 41.5 +0.9**
UMR AMb AMB 16 51 43.2
comp=Z,70nm,0.5s,mb5.8
GEC2 GERESS Array S 78.83 334 *eP* **P 16 51 40.5 -0.1**
comp=Z,6.0nm,0.9s,mb4.5
GEC2 GERESS Array S 78.83 334 *eP* **P 16 51 40.5 -0.1**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GERES GERESS Array B 78.83 334 P **P 16 51 40.4 -0.2**
comp=Z,6.0nm,0.8s,mb4.6,baz=35,slow=4.9,SNR=20
GERES GERESS Array B 78.83 334 P **P 16 51 40.4 -0.2**
GERES pmax pmax
comp=Z,6.0nm,0.8s
MIB Mutribah 78.86 301 *eP* **P 16 51 41.6 +0.9**
MIB AMb AMB 16 51 43.5
comp=Z,97nm,0.7s,mb5.8
BZS Buzias 78.96 328⇓*iP* **P 16 51 41.1 -0.2**
BZS Buzias 78.96 328 P **P 16 51 41.9 +0.6**
CONA Conrad Observa 78.96 332⇓*iP* **P 16 51 41.7 +0.3**
comp=Z,13nm,0.7s,mb5.0,SNR=15
TNS Taunus Mts 79.07 338 *eP* **P 16 51 42.1 +0.2**
comp=Z,15nm,0.7s,mb5.0
TNS Taunus Mts 79.07 338 *eP* **P 16 51 42.1 +0.2**
TNS pmax pmax
comp=Z,15nm,0.7s,mb5.0
HGN Heimansgroeve 79.21 339 *eP* **P 16 51 43.1 +0.4**
comp=Z,23nm,1.7s,mb4.8
RST Umm Al-Ruwaisa 79.28 302 *eP* **P 16 51 43.8 +0.7**
RST AMb AMB 16 51 45.6
comp=Z,106nm,0.6s,mb5.9
QRN Al-Qurain 79.29 300 *eP* **P 16 51 44.1 +1.0**
QRN AMb AMB 16 51 45.9
comp=Z,75nm,0.5s,mb5.9
NAY Al-Naaiem 79.32 301 *eP* **P 16 51 44.3 +1.0**
NAY AMb AMB 16 51 46.0
comp=Z,40nm,0.7s,mb5.4
MEM Membach 79.33 339 P **P 16 51 43.0 -0.4**
RDF Al-Radifah 79.38 301 *eP* **P 16 51 44.7 +1.1**
RDF AMb AMB 16 51 46.5
comp=Z,96nm,0.6s,mb5.9
PKSM Moragy 79.52 330⇓*iP* **P 16 51 43.9 -0.5**
PKSM Moragy 79.52 330 P **P 16 51 44.2 -0.2**
MOA Molln 79.53 333⇓*iP* **P 16 51 45.2 +0.7**
comp=Z,10nm,0.9s,mb4.8
MIAR Mount Ida 79.62 50 P **P 16 51 44.0 -0.9**
MIAR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MIAR Mount Ida 79.62 50 P **P 16 51 44.0 -1.0**
comp=Z,8.6nm,1.0s,mb4.6
ARSA Arzberg 79.66 332⇓*iP* **P 16 51 45.9 +0.8**
comp=Z,6.4nm,0.6s,mb4.8
GIVF Givet 80.09 340 *eP* **P 16 51 47.2 -0.3**
FUR Furstenfeldbru 80.16 335 *eP* **P 16 51 48.2 +0.4**
comp=Z,21nm,0.5s,mb5.3
FUR Furstenfeldbru 80.16 335 *eP* **P 16 51 48.2 +0.4**
FUR pmax pmax
comp=Z,21nm,0.5s,mb5.3
STU Stuttgart 80.19 337 *eP* **P 16 51 48.6 +0.6**
comp=Z,20nm,0.9s,mb5.0
BAIF Baives 80.28 340 *eP* **P 16 51 48.2 -0.3**
PERS Pernice 80.34 332 *eP* **P 16 51 48.8 0.0**
KBA Koelnbreinsper 80.51 333⇓*iP* **P 16 51 51.1 +1.4**
comp=Z,25nm,0.6s,mb5.3
KBA Koelnbreinsper 80.51 333⇓*iP* **P 16 51 51.1 +1.4**
KBA pmax pmax
comp=Z,25nm,0.6s,mb5.3
OBKA Obir 80.63 332⇑*eP* **P 16 51 48.8 -1.6**
comp=Z,5.7nm,0.8s,mb4.5
GOLS Golise 80.72 331 *eP* **P 16 51 50.8 -0.1**
WATA Walderalm 80.81 335⇓*eP* **P 16 51 52.4 +1.1**
comp=Z,12nm,0.5s,mb5.1
WATA Walderalm 80.81 335⇓*eP* **P 16 51 52.4 +1.0**
WATA pmax pmax
comp=Z,12nm,0.5s,mb5.1
BFO Black Forest 80.83 337 *eP* **P 16 51 51.7 +0.2**
comp=Z,12nm,0.9s,mb4.8
BFO Black Forest 80.83 337 *eP* **P 16 51 50.6 -0.9**
WTTA Wattenberg 80.86 335 *i P* **P 16 51 52.8 +1.2**
comp=Z,29nm,0.6s,mb5.4,SNR=11
WTTA Wattenberg 80.86 335 *i P* **P 16 51 52.8 +1.2**
WTTA pmax pmax
comp=Z,29nm,0.6s,mb5.4
VTS Vitosha 80.90 325⇑*iP* **P 16 51 52.4 +0.6**
VTS Vitosha 80.90 325 P **P 16 51 52.3 +0.5**
MOTA Moosalm 80.95 335⇓*iP* **P 16 51 53.0 +0.9**
comp=Z,14nm,0.6s,mb5.0,SNR=8.8
MOTA Moosalm 80.95 335⇓*iP* **P 16 51 53.0 +0.9**
MOTA pmax pmax
comp=Z,14nm,0.6s,mb5.1
SQTA Sankt Quirin 81.03 335⇓*iP* **P 16 51 53.6 +1.1**
comp=Z,9.8nm,0.7s,mb4.9
SQTA Sankt Quirin 81.03 335⇓*iP* **P 16 51 53.6 +1.1**
SQTA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CDF Champ du Feu 81.04 338⇑*iP* **P 16 51 52.6 0.0**
comp=Z,42nm,1.1s,mb5.0
CDF Champ du Feu 81.04 338⇑*iP* **P 16 51 52.6 0.0**
CDF pmax pmax
comp=Z,21nm,1.1s,mb5.0
CDF Champ du Feu 81.04 338⇑*iP* **P 16 51 52.6 0.0**
comp=Z,21nm,1.1s,mb5.0
VISS Visnje 81.16 332 *eP* **P 16 51 52.6 -0.7**
JAVS Javornik 81.33 332 *eP* **P 16 51 54.2 0.0**
WVT Waverly 81.35 46 *eP* **P 16 51 53.7 -0.5**
WVT *e**PP pP 16 52 02.1 -4.7
WVT pmax pmax
comp=Z,25nm,1.3s,mb5.0
WVT Waverly 81.35 46 *eP* **P 16 51 53.7 -0.5**
comp=Z,24nm,1.3s,mb5.0
WVT *e*pP pP 16 52 02.1 -4.7
DAVA Damuels 81.35 336⇓*iP* **P 16 51 53.8 -0.5**
comp=Z,5.3nm,0.5s,mb4.7
MEZF Maizieres J'vi 81.52 339 *eP* **P 16 51 55.4 +0.3**
HAU Haudompre 81.66 338 *eP* **P 16 51 55.7 -0.1**
comp=Z,15nm,0.8s,mb4.7
HAU *e*R
comp=Z,164nm,18.0s
HAU Haudompre 81.66 338 *eP* **P 16 51 55.7 -0.1**
HAU pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
HAU MLR MLR
comp=Z,160nm,18.0s,MS4.4
HAU Haudompre 81.66 338 *eP* **P 16 51 55.7 -0.1**
comp=Z,7.7nm,0.8s,mb4.7
HAU LR LR
comp=Z,160nm,18.0s,MS4.4
HINF Hinteralfeld 81.70 338 *eP* **P 16 51 55.8 -0.3**
comp=Z,7.0nm,0.6s,mb4.5
HINF Hinteralfeld 81.70 338 *eP* **P 16 51 55.8 -0.3**
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
HINF Hinteralfeld 81.70 338 *eP* **P 16 51 55.8 -0.3**
comp=Z,3.5nm,0.6s,mb4.5
PPT Papeete 81.93 126 LR LR 17 23 50.7
comp=Z,89nm,19.9s,MS4.1,baz=309,slow=32
FLN La Foliniere 82.53 343 *eP* **P 16 52 00.1 -0.3**
comp=Z,30nm,1.0s,mb5.0
FLN *e*R
comp=Z,111nm,19.5s
FLN La Foliniere 82.53 343 *eP* **P 16 52 00.1 -0.3**
FLN pmax pmax
comp=Z,15nm,1.0s,mb5.0
FLN MLR MLR
comp=Z,110nm,19.5s,MS4.2
FLN La Foliniere 82.53 343 *eP* **P 16 52 00.1 -0.3**
comp=Z,15nm,1.0s,mb5.0
FLN LR LR
comp=Z,110nm,19.5s,MS4.2
LDF La Druitiere 82.62 342 *eP* **P 16 52 00.5 -0.4**
comp=Z,24nm,1.2s,mb4.8
LDF La Druitiere 82.62 342 *eP* **P 16 52 00.5 -0.4**
LDF pmax pmax
comp=Z,12nm,1.2s,mb4.8
LDF La Druitiere 82.62 342 *eP* **P 16 52 00.5 -0.4**
comp=Z,12nm,1.2s,mb4.8
GRR Gorron 82.96 343⇑*iP* **P 16 52 02.6 -0.1**
comp=Z,42nm,1.0s,mb5.1
GRR Gorron 82.96 343⇑*iP* **P 16 52 02.6 -0.1**
GRR pmax pmax
comp=Z,21nm,1.0s,mb5.1
GRR Gorron 82.96 343⇑*iP* **P 16 52 02.6 -0.1**
comp=Z,21nm,1.0s,mb5.1
LOR Lormes 82.97 339⇑*iP* **P 16 52 02.7 0.0**
comp=Z,27nm,0.8s,mb5.0
LOR *e*R
comp=Z,108nm,22.8s
LOR Lormes 82.97 339⇑*iP* **P 16 52 02.7 0.0**
LOR pmax pmax
comp=Z,14nm,0.8s,mb5.0
LOR MLR MLR
comp=Z,110nm,22.8s,MS4.2
LOR Lormes 82.97 339⇑*iP* **P 16 52 02.7 0.0**
comp=Z,14nm,0.8s,mb5.0
LOR LR LR
comp=Z,110nm,22.8s,MS4.2
CABF La Chapelle 83.01 338 *eP* **P 16 52 03.2 +0.3**
comp=Z,15nm,0.9s,mb4.7
CABF La Chapelle 83.01 338 *eP* **P 16 52 03.2 +0.3**
CABF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CABF La Chapelle 83.01 338 *eP* **P 16 52 03.2 +0.3**
comp=Z,7.6nm,0.9s,mb4.7
MMAI Mount Meron Ar 83.07 311 P **P 16 52 04.3 +1.1**
comp=Z,9.0nm,0.6s,mb5.0,baz=41,slow=7.7,SNR=12
SSF Saint Saulge 83.24 340⇑*iP* **P 16 52 04.1 0.0**
comp=Z,18nm,0.8s,mb4.8
SSF Saint Saulge 83.24 340⇑*iP* **P 16 52 04.1 0.0**
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SSF Saint Saulge 83.24 340⇑*iP* **P 16 52 04.1 0.0**
comp=Z,8.9nm,0.8s,mb4.8
HYF Humbligny 83.26 340 *eP* **P 16 52 04.5 +0.3**
SGMF Saint Gilles 83.43 344 *eP* **P 16 52 05.0 -0.1**
comp=Z,13nm,0.7s,mb4.8
SGMF Saint Gilles 83.43 344 *eP* **P 16 52 05.0 -0.1**
SGMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
SGMF Saint Gilles 83.43 344 *eP* **P 16 52 05.0 -0.1**
comp=Z,6.7nm,0.7s,mb4.8
ROSF Rostrenen 83.49 344⇑*iP* **P 16 52 05.4 0.0**
comp=Z,24nm,1.0s,mb4.9
ROSF Rostrenen 83.49 344⇑*iP* **P 16 52 05.4 0.0**
ROSF pmax pmax
comp=Z,12nm,1.0s,mb4.9
ROSF Rostrenen 83.49 344⇑*iP* **P 16 52 05.4 0.0**
comp=Z,12nm,1.0s,mb4.9
CPCT Cooper Cave 83.51 44 *eP* **P 16 52 05.3 -0.1**
AVF Avril sur Loir 83.53 340⇑*iP* **P 16 52 05.7 +0.1**
comp=Z,41nm,1.0s,mb5.2
AVF Avril sur Loir 83.53 340⇑*iP* **P 16 52 05.7 +0.1**
AVF pmax pmax
comp=Z,20nm,1.0s,mb5.2
AVF Avril sur Loir 83.53 340⇑*iP* **P 16 52 05.7 +0.1**
comp=Z,20nm,1.0s,mb5.2
SMF Signal de Mont 83.55 339⇑*iP* **P 16 52 05.9 +0.2**
comp=Z,58nm,1.1s,mb5.3
SMF Signal de Mont 83.55 339⇑*iP* **P 16 52 05.9 +0.2**
SMF pmax pmax
comp=Z,29nm,1.1s,mb5.3
SMF Signal de Mont 83.55 339⇑*iP* **P 16 52 05.9 +0.2**
comp=Z,29nm,1.1s,mb5.3
LPL La Plagne 83.85 337 *eP* **P 16 52 08.2 +1.0**
comp=Z,8.4nm,0.6s,mb4.8
LPL La Plagne 83.85 337 *eP* **P 16 52 08.2 +1.0**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
LPL La Plagne 83.85 337 *eP* **P 16 52 08.2 +1.0**
comp=Z,4.2nm,0.6s,mb4.8
LPG La Plagne 83.86 337 *eP* **P 16 52 08.4 +1.1**
comp=Z,15nm,0.8s,mb4.8
LPG La Plagne 83.86 337 *eP* **P 16 52 08.4 +1.1**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LPG La Plagne 83.86 337 *eP* **P 16 52 08.4 +1.1**
comp=Z,7.6nm,0.8s,mb4.9
QUIF Quistinic 83.87 344 *eP* **P 16 52 07.1 -0.2**
TCF Toulx Ste Croi 84.28 340 *eP* **P 16 52 09.7 +0.3**
comp=Z,25nm,0.9s,mb5.0
TCF Toulx Ste Croi 84.28 340 *eP* **P 16 52 09.7 +0.3**
TCF pmax pmax
comp=Z,12nm,0.9s,mb5.0
TCF Toulx Ste Croi 84.28 340 *eP* **P 16 52 09.7 +0.3**
comp=Z,12nm,0.9s,mb5.0
MFF Saint Martin d 84.51 342 *eP* **P 16 52 11.3 +0.7**
comp=Z,20nm,0.8s,mb5.0
MFF Saint Martin d 84.51 342 *eP* **P 16 52 11.3 +0.7**
MFF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
MFF Saint Martin d 84.51 342 *eP* **P 16 52 11.3 +0.7**
comp=Z,9.9nm,0.8s,mb5.0
MBDF Montbardon 84.57 337 *eP* **P 16 52 11.6 +0.7**
comp=Z,7.7nm,0.5s,mb4.8
MBDF Montbardon 84.57 337 *eP* **P 16 52 11.6 +0.7**
MBDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
MBDF Montbardon 84.57 337 *eP* **P 16 52 11.6 +0.7**
comp=Z,3.8nm,0.5s,mb4.8
ORIF Oris-en-Rattie 84.63 337⇑*iP* **P 16 52 12.0 +0.8**
comp=Z,26nm,0.8s,mb5.1
ORIF *e*R
comp=Z,117nm,23.0s
ORIF Oris-en-Rattie 84.63 337⇑*iP* **P 16 52 12.0 +0.8**
ORIF pmax pmax
comp=Z,13nm,0.8s,mb5.1
ORIF Oris-en-Rattie 84.63 337⇑*iP* **P 16 52 12.0 +0.8**
comp=Z,13nm,0.8s,mb5.1
VIVF Saint-Julien-l 85.01 338 *eP* **P 16 52 13.8 +0.7**
comp=Z,25nm,0.9s,mb5.0
VIVF Saint-Julien-l 85.01 338 *eP* **P 16 52 13.8 +0.7**
VIVF pmax pmax
comp=Z,12nm,0.9s,mb5.0
VIVF Saint-Julien-l 85.01 338 *eP* **P 16 52 13.8 +0.7**
comp=Z,12nm,0.9s,mb5.0
SBF Sospel 85.18 336⇑*iP* **P 16 52 15.0 +1.1**
RJF Les Rejaudoux 85.37 340 *eP* **P 16 52 15.6 +0.7**
comp=Z,31nm,1.2s,mb5.0
RJF *e*R
comp=Z,127nm,21.2s
RJF Les Rejaudoux 85.37 340 *eP* **P 16 52 15.6 +0.7**
RJF pmax pmax
comp=Z,15nm,1.2s,mb5.0
RJF MLR MLR
comp=Z,130nm,21.3s,MS4.3
RJF Les Rejaudoux 85.37 340 *eP* **P 16 52 15.6 +0.7**
comp=Z,15nm,1.2s,mb5.0
RJF LR LR
comp=Z,130nm,21.3s,MS4.3
SMRF Simiane la Rot 85.59 337 *eP* **P 16 52 17.0 +1.0**
comp=Z,36nm,1.3s,mb5.1
SMRF Simiane la Rot 85.59 337 *eP* **P 16 52 17.0 +1.0**
comp=Z,36nm,1.3s,mb5.4
CAF Calviac 85.59 340 *eP* **P 16 52 16.9 +0.9**
comp=Z,27nm,1.0s,mb5.1
CAF Calviac 85.59 340 *eP* **P 16 52 16.9 +0.9**
CAF pmax pmax
comp=Z,14nm,1.0s,mb5.2
CAF Calviac 85.59 340 *eP* **P 16 52 16.9 +0.9**
comp=Z,14nm,1.0s,mb5.1
FRF La Foret Royal 85.68 336 *eP* **P 16 52 17.4 +1.0**
LFF La Frestale 85.89 341 *eP* **P 16 52 18.0 +0.5**
comp=Z,11nm,0.6s,mb5.0
LFF La Frestale 85.89 341 *eP* **P 16 52 18.0 +0.5**
LFF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
LFF La Frestale 85.89 341 *eP* **P 16 52 18.0 +0.5**
comp=Z,5.7nm,0.6s,mb5.0
PGF Pioggiola 85.93 334 *eP* **P 16 52 19.2 +1.6**
comp=Z,16nm,0.8s,mb5.0
PGF Pioggiola 85.93 334 *eP* **P 16 52 19.2 +1.6**
PGF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
PGF Pioggiola 85.93 334 *eP* **P 16 52 19.2 +1.6**
comp=Z,7.8nm,0.8s,mb5.0
LMR La Mourre 85.93 336 *eP* **P 16 52 17.8 +0.1**
comp=Z,15nm,0.8s,mb5.0
LMR La Mourre 85.93 336 *eP* **P 16 52 17.8 +0.1**
LMR pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
LMR La Mourre 85.93 336 *eP* **P 16 52 17.8 +0.1**
comp=Z,7.6nm,0.8s,mb5.0
LASF Ste Croix 85.95 338 *eP* **P 16 52 18.7 +0.9**
comp=Z,10nm,0.9s,mb4.8
IDI Anoyia 86.32 320 P **P 16 52 18.8 -0.8**
comp=Z,12nm,0.6s,mb5.3,baz=24,slow=8.6,SNR=13
MTLF Montolieu 87.05 339 *eP* **P 16 52 24.1 +0.9**
comp=Z,5.4nm,0.7s,mb4.6
MTLF Montolieu 87.05 339 *eP* **P 16 52 24.1 +0.9**
MTLF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
MTLF Montolieu 87.05 339 *eP* **P 16 52 24.1 +0.9**
comp=Z,2.7nm,0.7s,mb4.6
EPF Esparros 87.79 340 *eP* **P 16 52 27.9 +1.2**
comp=Z,8.5nm,0.9s,mb4.7
EPF Esparros 87.79 340 *eP* **P 16 52 27.9 +1.2**
EPF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
EPF Esparros 87.79 340 *eP* **P 16 52 27.9 +1.2**
comp=Z,4.3nm,0.9s,mb4.7
ETSF Etsaut 88.12 341 *eP* **P 16 52 29.1 +0.8**
comp=Z,5.0nm,0.6s,mb4.6
ETSF Etsaut 88.12 341 *eP* **P 16 52 29.1 +0.8**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
ETSF Etsaut 88.12 341 *eP* **P 16 52 29.1 +0.8**
comp=Z,2.5nm,0.6s,mb4.6
TORD Torodi Ar. Bea 115.44 329 PKP PKPdf 16 58 18.5 -0.8
comp=Z,0.4nm,0.6s,baz=18,slow=2.1,SNR=4.6
DBIC Dimbokro 123.69 333 PKP PKPdf 16 58 34.5 -0.6
comp=Z,3.5nm,0.6s,baz=124,slow=3.6,SNR=3.7
DBIC Dimbokro 123.69 333 PKIKP PKPdf 16 58 34.5 -0.6
DBIC pmax pmax
comp=Z,4.0nm,0.6s
BDFB Brasilia 144.70 37 PKP PKPdf 16 59 12.9 -1.2
comp=Z,3.9nm,0.8s,baz=304,slow=3.2,SNR=4.2
BDFB pPKP pPKPdf 16 59 26.3 -0.9
comp=Z,8.3nm,0.9s,baz=320,slow=2.8,SNR=4.7
PLCA Paso Flores 148.19 96 PKPbc PKPbc 16 59 21.3 -2.1
comp=Z,6.8nm,0.8s,baz=254,slow=4.2,SNR=12
PLCA pPKPbc pPKPbc 16 59 35.7 -0.8
comp=Z,12nm,0.8s,baz=260,slow=2.3,SNR=9.9
PLCA Paso Flores 148.19 96 *e*PKPbc PKPbc 16 59 22.1 -1.3
CPUP Villa Florida 148.70 61 *e*PKP2 PKPab 16 59 23.4 -5.1

TEH ***29*** *16:41:29.3,2679N×5574E,h28km,ML4.6*
ISCJB ***29*** *16:41:47.9±0.2,2686N±002×5582E±002,h10km, mb4.6/94,MS3.7/19,Error ellipse: s-maj=3.2km s-min=2.5km az=96.1*
MOS ***29*** *16:41:47.2±0.9,2681N×5586E,h10km,mb4.7/60,Error ellipse: s-maj=7.6km s-min=4.0km az=124.7*
IDC ***29*** *16:41:47.7±0.6,2690N×5591E,h0km,mb4.4/20, mb1 4.5/25,mb1mx4.4/30,mbtmp4.4/25,ML4.3/4,MS3.6/8, Ms1 3.6/8,ms1mx3.1/36,Error ellipse: s-maj=14.4km s-min=12.8km az=115.0*
BJI ***29*** *16:41:47.9,2680N×5590E,h10km,mB5.0,mb4.8,Ms4.6, Ms2.4*
CSEM ***29*** *16:41:48.4±0.1,2685N×5581E,h15km,mb4.5/44,ML5.1/1, Ms3.2,Error ellipse: s-maj=2.0km s-min=1.5km az=67.0*
NEIC ***29*** *16:41:48.9±0.3,2680N×5591E,h10km,mb4.6/62, ML4.4(THR),MN4.6(TEH),Error ellipse: s-maj=5.3km s-min=4.5km az=223.0*
THR ***29*** *16:41:49.5±0.8,2686N×5591E,h8km±4km,ML4.4*
SZGRF ***29*** *16:41:59.4,2792N×5571E,h33km,mb4.1,Southern Iran*
ISC 29 16:41:49.9±0.2,2687N±002×5585E±002,h10km, (h16km±.9km:pP-P),n352,σ1§20/388,mb4.6/94,MS3.7/19, 59C-12D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.60**	**28**	*e*PG	**Pg**	**16 42 00.9**	**-0.6**
BNDS				*e*SG	**Sg**	**16 42 09.7**	**+0.5**
BNDS				AML	AML	16 42 26.3	
	comp=N,18μm,0.5s						
BNDS	**Bandar-Abbas**	**0.60**	**28**	Pg	**Pg**	**16 42 00.0**	**-1.4**
BNDS				Sg	**Sg**	**16 42 08.0**	**-1.2**
BNDS	**Bandar-Abbas**	**0.60**	**28**	*e*Pg	**Pg**	**16 42 00.9**	**-0.5**
	SNR=93						
BNDS				*e*Sg	**Sg**	**16 42 09.7**	**+0.5**
	comp=N,18μm,0.5s,SNR=93						
BANOM	**Banah**	**1.03**	**157**	⇓P	**Pg**	**16 42 10.3**	**+0.7**
ASHO	**Ashiyiah**	**2.19**	**175**	P	**Pn**	**16 42 28.4**	**+2.2**
	SNR=242						
GHIR	**Ghir-Karzin**	**2.91**	**300**	*e*PN	**Pn**	**16 42 38.8**	**+2.7**
GHIR				AML	AML	16 43 50.2	
	comp=E,1μm,0.7s						
GHIR	**Ghir-Karzin**	**2.91**	**300**	Pn	**Pn**	**16 42 38.0**	**+1.8**
GHIR				Sg	**Sg**	**16 43 23.0**	**-0.2**
KRBR	**Kerman**	**3.20**	**14**	*e*PN	**Pn**	**16 42 42.9**	**+2.7**
KRBR				SN	**Sn**	**16 43 20.8**	**+2.4**
KRBR				AML	AML	16 43 36.4	
	comp=N,1μm,0.5s						
KRBR	**Kerman**	**3.20**	**14**	Pn	**Pn**	**16 42 41.0**	**+0.8**
KRBR	**Kerman**	**3.20**	**14**	*e*Pn	**Pn**	**16 42 42.9**	**+2.7**
	SNR=47						
KRBR				Sn	**Sn**	**16 43 20.8**	**+2.5**
	comp=N,1μm,0.5s,SNR=47						
ISRV	**Sarvestan**	**3.48**	**317**	*e*Pn	**Pn**	**16 42 46.2**	**+2.2**
ISRV				*e*Sn	**Sn**	**16 43 24.9**	**-0.3**
ISRV	**Sarvestan**	**3.48**	**317**	Pn	**Pn**	**16 42 46.1**	**+2.1**
ISRV				Sn	**Sn**	**16 43 24.8**	**-0.4**
IMOK	**Mook**	**3.52**	**309**	*e*Pn	**Pn**	**16 42 46.0**	**+1.4**
IMOK				*e*Sn	**Sn**	**16 43 25.2**	**-1.1**

IMOK *e*Sn **Sn** **16 43 25.2 -1.1**
HOQ Hoqain 3.53 158 P **Pn** **16 42 44.1 -0.7**
SNR=17
ARQ Araqi 3.57 170 P **Pn** **16 42 46.5 +1.1**
SNR=82
BIDO Bidbid 3.92 148 P **Pn** **16 42 50.1 0.0**
SNR=23
BSY Bisya 4.29 163 P **Pn** **16 42 57.1 +2.0**
SNR=48
SMDO Samad 4.29 152 P **Pn** **16 42 56.9 +1.7**
SNR=48
BSYO Bisya 4.31 163 P **Pn** **16 42 57.2 +1.7**
SNR=48
WSAR Wadi Sarin 4.41 145 Pn **Pn** **16 42 57.5 +0.7**
comp=N,14nm,0.3s,baz=341,slow=9.8,SNR=179
WSAR Sn **Sn** **16 43 45.8 -2.4**
comp=N,16nm,0.3s,baz=38,slow=21,SNR=3.5
WSAR LR LR 16 44 48.4
comp=N,545nm,20.2s,baz=50,slow=41
WSAR Wadi Sarin 4.41 145 Pn **Pn** **16 42 57.5 +0.7**
WSAR Sn **Sn** **16 43 45.8 -2.4**
WSAR LR LR 16 44 48.4
WSAR Wadi Sarin 4.41 145 Pn **Pn** **16 42 57.5 +0.7**
WSAR Sn **Sn** **16 43 45.8 -2.4**
IMEH Mehriz 4.63 347 *e*Pn **Pn** **16 43 02.8 +3.0**
IMEH *e*Sn **Sn** **16 43 53.1 -0.5**
IMEH Mehriz 4.63 347 Pn **Pn** **16 43 02.7 +2.9**
IMEH *e*Sn **Sn** **16 43 53.1 -0.5**
IBAF Bafgh 4.71 357 *e*Pn **Pn** **16 43 02.8 +1.9**
IBAF *e*Sn **Sn** **16 43 55.7 +0.2**
IBAF Bafgh 4.71 357 Pn **Pn** **16 43 02.7 +1.8**
IBAF Sn **Sn** **16 43 55.6 +0.1**
IBAF Bafgh 4.71 357 *e*Pn **Pn** **16 43 02.8 +1.9**
IBAF Sn **Sn** **16 43 55.6 +0.1**
JMDO Jabal Madar 4.93 155 P **Pn** **16 43 05.7 +1.7**
SNR=32
WBK Wadi Bani Khal 5.10 146 P **Pn** **16 43 06.7 +0.3**
SNR=32
ZHSF Zahedan 5.13 57 *e*PN **Pn** **16 43 08.2 +1.5**
ISAD Sadrabad 5.37 340 *e*Pn **Pn** **16 43 12.5 +2.5**
ISAD *e*Sn **Sn** **16 44 11.2 -0.6**
ICHK Chekchek 5.50 347 *e*Pn **Pn** **16 43 13.9 +2.1**
NASN Na'in 6.47 337 Pn **Pn** **16 43 27.0 +1.9**
IZEF Zefreh 6.74 334 *e*Pn **Pn** **16 43 30.6 +1.8**
IZEF *e*Sn **Sn** **16 44 41.5 -4.0**
IZEF *e*Sn **Sn** **16 44 42.1 -3.4**
IZEF Zefreh 6.74 334 Pn **Pn** **16 43 30.5 +1.7**
IZEF Sn **Sn** **16 44 41.4 -4.1**
IZEF Sn **Sn** **16 44 42.0 -3.5**
IZEF Zefreh 6.74 334 Pn **Pn** **16 43 30.5 +1.7**
IZEF *e*Sn **Sn** **16 44 42.1 -3.4**
IPIR Pirpir 7.22 325 *e*Pn **Pn** **16 43 37.1 +1.7**
IPIR *e*Sn **Sn** **16 44 53.5 -3.9**
IPIR Pirpir 7.22 325 Pn **Pn** **16 43 37.0 +1.6**
IPIR Sn **Sn** **16 44 53.4 -4.0**
IKLH Kalahroud 7.41 331 *e*Pn **Pn** **16 43 39.8 +1.7**
IKLH *e*Sn **Sn** **16 44 58.3 -3.9**
IKLH *e*Sn **Sn** **16 44 58.9 -3.3**
IKLH Kalahroud 7.41 331 Pn **Pn** **16 43 39.7 +1.6**
IKLH Sn **Sn** **16 44 58.2 -4.0**
IKLH Sn **Sn** **16 44 58.9 -3.3**
IKLH Kalahroud 7.41 331 *e*Pn **Pn** **16 43 39.8 +1.7**
IKLH Sn **Sn** **16 44 58.2 -4.0**
KBD Kabd 7.57 290 *e*P **Pn** **16 43 41.4 +1.2**
RDF Al-Radifah 7.63 287 *e*P **Pn** **16 43 41.5 +0.5**
UMR Umm Al-Rimmam 7.66 292 *e*P **Pn** **16 43 42.2 +0.7**
UMR AML AML 16 45 06.7
comp=Z,135nm,0.3s
NAY Al-Naaiem 7.97 289 *e*P **Pn** **16 43 46.4 +0.7**
NAY AML AML 16 45 14.7
comp=Z,76nm,0.4s
MIB Mutribah 8.05 293 *e*P **Pn** **16 43 48.0 +1.1**
MIB AML AML 16 45 16.3
comp=Z,93nm,0.5s
ISFB Sefidab 8.08 338 *e*Pn **Pn** **16 43 49.3 +2.1**
ISFB Sefidab 8.08 338 Pn **Pn** **16 43 49.2 +2.0**
RST Umm Al-Ruwaisa 8.24 291 *e*P **Pn** **16 43 50.0 +0.6**
RST AML AML 16 45 19.5
comp=Z,68nm,0.4s
SHAO Shalim 8.81 181 P **Pn** **16 43 57.0 -0.3**
SNR=45
IVRN Varamin 8.84 337 *e*Pn **Pn** **16 43 59.6 +2.0**
IVRN *e*Sn **Sn** **16 45 32.5 -4.7**
WHFO Wadi Hawf 9.12 193 P **Pn** **16 44 02.0 +0.6**
SNR=36
ASAO Ashtian 9.14 328 Pn **Pn** **16 44 04.0 +2.2**
IDMV Damavand 9.27 340 *e*Pn **Pn** **16 44 06.4 +2.8**
RBK Rabkut 9.45 190 P **Pn** **16 44 07.8 +1.8**
SNR=16
IAFJ Afjeh 9.63 339 *e*Pn **Pn** **16 44 10.4 +2.0**
IAFJ Afjeh 9.63 339 Pn **Pn** **16 44 10.3 +1.9**
ABTO Aybut 9.77 195 P **Pn** **16 44 11.2 +0.9**
SNR=18
IRAZ Razeghan 9.90 331 *e*Pn **Pn** **16 44 21.6 +9.4**
IRAZ Razeghan 9.90 331 Pn **Pn** **16 44 21.5 +9.3**
BHD Baghdad 11.80 305 *e*x x 16 44 40.0
BHD *e*x x 16 46 49.0
MSL Mosul 14.36 314 *e*x x 16 45 12.5
MSL *e*x x 16 47 44.0
HAJJ Hajjah 15.92 228 *e*P **Pn** **16 45 30.4 -3.6**
HAJJ AMb AMB 16 45 31.6
comp=Z,16nm,0.3s
HAJJ Hajjah 15.92 228 *e*P **Pn** **16 45 30.4 -3.6**
comp=Z,7.8nm,0.3s
GNI Garni 16.14 328 Pn **Pn** **16 45 37.9 +1.2**
comp=Z,0.9nm,0.3s,baz=176,slow=16,SNR=2.3
GNI Garni 16.14 328 *e*Pn **Pn** **16 45 35.8 -1.0**
comp=Z,41nm,0.9s
GNI Garni 16.14 328 *e*Pn **Pn** **16 45 35.8 -1.0**
comp=Z,41nm,0.9s
GNI Garni 16.14 328 *e*P **Pn** **16 45 37.7 +0.9**
LBOS 16.30 220 *e*P **Pn** **16 45 35.1 -3.8**
DGRG David-gareji 16.91 332 P **Pn** **16 45 36.8 -10**
ASF Jabal al Asfar 17.32 292 P **Pn** **16 45 50.6 -1.0**
comp=Z,0.6nm,0.3s,baz=280,slow=6.4,SNR=4.1
ASF S **Sn** **16 48 54.4 -10**
comp=Z,0.3nm,0.3s,baz=313,slow=11,SNR=3.7
ASF Jabal al Asfar 17.32 292 P **Pn** **16 45 50.6 -1.0**
ASF S **Sn** **16 48 54.4 -10**
ASF pmax pmax
comp=Z,1.0nm,0.3s
MTA Mtatsminda 17.36 331 P **Pn** **16 45 56.4 +4.3**
TBLG Delisi 17.41 331 P **Pn** **16 45 59.5 +6.6**
MAK Makhachkala 17.43 339 *i* P **Pn** **16 46 00.7 +7.6**
MAK pmax pmax
comp=Z,195nm,1.5s
MAK MLR MLR
comp=Z,185nm,14.0s
TRBA At Turbah 17.47 221 *e*P **Pn** **16 45 49.9 -3.7**
ERZM Erzurum 17.72 321 *i* P **Pn** **16 46 00.1 +3.4**
ELZG Elazig 18.30 314 *i* P **Pn** **16 46 08.0 +4.3**
MALT Malatya 18.56 312 *e*P **Pn** **16 46 07.6 +0.6**
MALT pmax pmax
comp=Z,32nm,1.0s
MALT Malatya 18.56 312 *e*P **Pn** **16 46 07.6 +0.7**
comp=Z,32nm,1.0s
MALT Malatya 18.56 312 *e*P **Pn** **16 46 07.6 +0.6**
comp=Z,32nm,1.0s
ZEI Tsey 18.62 331 *e*P **Pn** **16 46 15.4 +7.7**
EIL Elat 18.62 283 *e*Pn **Pn** **16 46 08.8 +1.1**
comp=Z,575nm,1.0s
EIL Elat 18.62 283 *e*Pn **Pn** **16 46 08.8 +1.1**
comp=Z,575nm,1.0s
GZT Gaziantep 18.66 309 *i* P **Pn** **16 46 09.1 +1.0**
MMAI Mount Meron Ar 18.74 294 P **Pn** **16 46 09.9 +0.8**
comp=Z,1.2nm,0.3s,baz=102,slow=19,SNR=7.7
AMRG 18.75 330 P **Pn** **16 46 16.1 +6.8**
COBT Iskenderun 19.22 305 *i* P **Pn** **16 46 20.4 +5.4**
ANR Andizhan 19.44 40 *e*P **Pn** **16 46 15.9 -1.7**
ATD Arta Tunnel 19.56 221 P **Pn** **16 46 19.6 +0.5**
comp=Z,1.7nm,0.3s,baz=350,slow=4.3,SNR=10.0
ATD LR LR 16 55 14.7
comp=Z,206nm,18.0s,baz=28,slow=41
KIV Kislovodsk 20.09 331 *e*P **P** **16 46 25.8 +2.2**
KIV *e*S **S** **16 50 10.5 +1.2**
KIV pmax pmax
comp=Z,89nm,1.2s
KIV MLR MLR
comp=Z,95nm,11.0s,MS3.4
KIV Kislovodsk 20.09 331 *e*P **P** **16 46 25.8 +2.2**
comp=Z,89nm,1.2s
GRSN GIRESUNGRSN 20.18 318 *i* P **P** **16 46 23.9 -0.6**
GOF Gofitskoye 20.86 334 *e*P **P** **16 46 34.3 +2.5**
CSS Prodhromos 20.91 298 P **P** **16 46 29.3 -3.1**
comp=Z,26nm,0.9s
SOC Sochi 21.19 326 *e*P **P** **16 46 39.2 +3.8**
SOC *e* 16 46 57.9
SOC *e*S **S** **16 50 35.6 +4.6**
SOC *e*SS 16 50 55.9
SOC pmax pmax
comp=Z,39nm,1.2s,mb4.6
SOC MLR MLR
comp=Z,162nm,11.0s,MS3.7
EKS2 Erkin-Say 21.49 38 P **P** **16 46 39.4 +0.7**
SNR=12
UCH Uchtor 21.63 40 P **P** **16 46 43.9 +3.8**
SNR=12
KZA Kyzart 21.96 41 P **P** **16 46 47.8 +4.0**
SNR=20
FRU Bishkek 22.07 39 P **P** **16 46 46.6 +1.7**
KBK Karagaybulak 22.15 40 P **P** **16 46 49.3 +3.6**
SNR=7.2
USP Ospenovka 22.29 38 P **P** **16 46 49.5 +2.3**
SNR=5.8
BR131 Keskin Array S 22.49 310 *e*P **P** **16 46 50.4 +1.1**
comp=Z,16nm,0.8s,mb4.5
BR131 Keskin Array S 22.49 310 *e*P **P** **16 46 50.4 +1.1**
comp=Z,16nm,0.8s,mb4.5
BRTR Keskin Array B 22.49 310 P **P** **16 46 50.1 +0.8**
comp=Z,3.9nm,0.8s,mb3.9,baz=129,slow=12,SNR=19
BRTR Keskin Array B 22.49 310 P **P** **16 46 50.2 +0.9**
BRTR pmax pmax
comp=Z,40nm,0.8s
ELDT Eldivan 23.00 312 *i* P **P** **16 46 56.0 +1.2**
ANN Anapa 23.21 325 *e*P **P** **16 47 04.3 +7.3**
ANN pmax pmax
comp=Z,67nm,1.6s,mb4.8
AKTK Aktyubinsk 23.59 3 P **P** **16 47 00.4 -0.5**
AKTK LR LR 16 57 15.2
AKTK Aktyubinsk 23.59 3 P **P** **16 47 00.4 -0.5**
comp=Z,88nm,19.2s
AKTO Aktyubinsk 23.59 3 P **P** **16 47 00.4 -0.5**
comp=Z,5.0nm,0.5s,mb4.2,baz=182,slow=10,SNR=25
AKTO LR LR 16 57 15.2
comp=Z,88nm,19.2s,MS3.2,baz=344,slow=39
SGKT Sivrigoynuk 23.96 311 *i* P **P** **16 47 05.0 +0.7**
ESKT Eskisehir 24.34 308 *i* P **P** **16 47 07.9 +0.1**
SEYT Eskypehyr 24.34 308 *i* P **P** **16 47 07.9 +0.1**
KOLN Koldanda 24.65 82 *e*P **P** **16 47 11.9 +1.3**
comp=Z,25nm,0.9s,mb4.7
ORR Orenburg 24.73 358 *e*P **P** **16 47 12.8 +1.5**
ORR pmax pmax
comp=Z,40nm,1.1s,mb4.9
ORR Orenburg 24.73 358 *e*P **P** **16 47 12.8 +1.5**
comp=Z,40nm,1.1s,mb4.9
SIM Simferopol' 25.07 322 P **P** **16 47 20.0 +5.5**
SIM pmax pmax
comp=Z,18nm,0.6s,mb4.8
SIM MLR MLR
comp=Z,60nm,16.8s,MS3.2
GDZ Gediz 25.16 306 *i* P **P** **16 47 13.0 -2.2**
GKN Gorkha 25.55 81 *e*P **P** **16 47 19.1 +0.3**
ULDT Uludag 25.80 308 *i* P **P** **16 47 22.3 +1.3**
DMN Daman 26.00 82 *e*P **P** **16 47 23.9 +1.1**
KKN Kakani 26.13 81 *e*P **P** **16 47 25.3 +1.2**
PKI Pulchoki 26.27 82 *e*P **P** **16 47 26.6 +1.3**
comp=Z,16nm,0.6s,mb4.7
VRHR Novokhopersk 26.50 340 *e*P **P** **16 47 32.9 +5.5**
VRHR pmax pmax
comp=Z,4.0nm,0.3s,mb4.4
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.6s
GUN Gumba 26.65 81 *e*P **P** **16 47 30.1 +1.4**
comp=E,44nm,0.9s,mb5.0
JIRN Jiri 26.95 81 *e*P **P** **16 47 32.5 +1.1**
IDI Anoyia 27.73 295 P **P** **16 47 39.1 +0.7**
comp=E,5.4nm,0.6s,mb4.4,baz=52,slow=15,SNR=6.7
ZRNK Zerenda 27.84 17 *e*P **P** **16 47 38.4 -1.0**
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
ZRNK Zerenda 27.84 17 *e*P **P** **16 47 38.4 -1.0**
comp=Z,5.4nm,1.0s,mb4.1
ZRNK Zerenda 27.84 17 *e*P **P** **16 47 38.4 -1.0**
comp=Z,5.3nm,1.0s,mb4.1
BRVK Borovoye 28.29 19 *e*P **P** **16 47 41.4 -2.0**
BRVK pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
BRVK Borovoye 28.29 19 *e*P **P** **16 47 41.4 -2.0**
comp=Z,9.0nm,0.6s,mb4.6
BRVK Borovoye 28.29 19 *e*P **P** **16 47 41.4 -2.0**
comp=Z,8.9nm,0.6s,mb4.6
BVAR Borovoye Array 28.29 19 P **P** **16 47 42.8 -0.6**
comp=Z,9.4nm,0.7s,mb4.5,baz=199,slow=8.8,SNR=67
BVAR LR LR 16 59 54.9
comp=Z,78nm,18.2s,MS3.3,baz=317,slow=38
BVAR Borovoye Array 28.29 19 P **P** **16 47 42.8 -0.6**
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR MLR MLR
comp=Z,78nm,18.2s
MKAR Makanchi Array 28.81 39 P **P** **16 47 47.9 -0.2**
comp=Z,1.0nm,0.4s,mb3.9,baz=223,slow=7.5,SNR=27
MKAR Makanchi Array 28.81 39 *i* P **P** **16 47 48.0 -0.1**
KURK Kurchatov 29.46 30 *e*P **P** **16 47 52.5 -1.4**
comp=Z,2.7nm,0.8s,mb4.0
KURK Kurchatov 29.46 30 *e*P **P** **16 47 54.1 +0.2**
ARU Arti 29.60 3 *e*P **P** **16 47 56.4 +1.3**
ARU *e* 16 48 53.2
ARU *e*S **S** **16 52 52.8 +2.6**
ARU *e*SS SS 16 54 25.7 -30
ARU MLR MLR
comp=Z,90nm,16.0s,MS3.5
ARU MLR MLR
comp=N,90nm,17.0s,MS3.5
ARU MLR MLR
comp=E,50nm,20.0s,MS3.5
ARU Arti 29.60 3 P **P** **16 47 54.1 -1.0**
comp=E,3.8nm,0.8s,mb4.2
VRI Vrincioaia 29.91 317⇑ *i*P **P** **16 48 00.5 +2.7**
VRI Vrincioaia 29.91 317⇑ P **P** **16 48 00.5 +2.8**
MLR Muntele Rosu 30.21 316⇑ *i*P **P** **16 48 03.8 +3.4**
MLR Muntele Rosu 30.21 316⇑ P **P** **16 48 03.8 +3.3**
VOIR 30.74 315⇓ *i*P **P** **16 48 05.4 +0.2**
WMQ Urumqi 30.74 48 *e*P **P** **16 48 06.8 +1.6**
WMQ LR LR
comp=N,90nm,16.0s,MS4.0
WMQ LR LR
comp=E,280nm,17.0s,MS4.0
WMQ LR LR
comp=Z,110nm,22.0s,MS3.5
LSA Lhasa 31.14 76 *e*P **P** **16 48 09.9 +1.2**
LSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
LSA Lhasa 31.14 76 *e*P **P** **16 48 09.9 +1.2**
comp=Z,3.5nm,0.7s,mb4.3
LSA Lhasa 31.14 76 *e*P **P** **16 48 09.9 +1.2**
comp=Z,3.5nm,0.7s,mb4.3
AKASG Malin Array Be 31.27 327 P **P** **16 48 08.1 -1.7**
comp=Z,1.4nm,0.5s,mb4.1,baz=134,slow=8.3,SNR=14
OBN Obninsk 31.53 339⇑ *e*P **P** **16 48 12.4 +0.3**
OBN pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
OBN Obninsk 31.53 339 *e*P **P** **16 48 12.4 +0.3**
comp=Z,5.0nm,0.5s,mb4.6
DRGR 32.80 316⇑ *i*P **P** **16 48 23.7 +0.4**
DRGR 32.80 316⇑ P **P** **16 48 23.7 +0.4**
KMBO Kilima Mbogo 33.11 216 P **P** **16 48 26.1 +0.2**
comp=Z,6.9nm,0.8s,mb4.6,baz=34,slow=11,SNR=17
KMBO LR LR 17 02 58.2
comp=Z,68nm,20.1s,MS3.4,baz=92,slow=38
KMBO Kilima Mbogo 33.11 216 P **P** **16 48 26.1 +0.1**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO MLR MLR
comp=Z,68nm,20.2s
KOLS Kolonicke sedl 34.03 319 *e*P **P** **16 48 35.0 +1.0**
KOLS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KOLS Kolonicke sedl 34.03 319 *e*P **P** **16 48 35.0 +1.0**
comp=Z,8.8nm,0.9s,mb4.7
ZAL Zalesovo 34.44 30 P **P** **16 48 35.6 -1.9**
comp=Z,7.0nm,0.3s,mb5.0,baz=233,slow=7.7,SNR=8.7
ZAL Zalesovo 34.44 30 P **P** **16 48 35.6 -1.9**
ZAL pmax pmax
comp=Z,7.0nm,0.3s
CRVS Cervenica-Dubn 34.49 319 *e*P **P** **16 48 37.9 -0.1**
CRVS *e* 16 48 38.0
TIP Timpagrande 34.74 301 *e*P **P** **16 48 40.1 -0.1**
KECS Kecovo 34.89 318 *e*P **P** **16 48 41.3 -0.1**
comp=Z,3.8nm,1.0s,mb4.3
KECS *e* 16 48 49.2
PSZ Piszkesteto 35.01 316 P **P** **16 48 42.6 +0.1**
PKSM Moragy 35.16 313⇑ *i*P **P** **16 48 43.6 -0.2**
PKSM Moragy 35.16 313⇑ P **P** **16 48 43.6 -0.2**
KLMR Klimovskoe 35.74 346 *e*P **P** **16 48 47.1 -1.7**
KLMR pmax pmax
comp=Z,20nm,1.7s,mb4.8
VYHS Vyhne 35.89 317 *e*P **P** **16 48 50.3 +0.3**
comp=Z,2.5nm,1.2s,mb4.0
OJC Ojcow 36.05 320 *e*P **P** **16 48 51.4 0.0**
SGO Sicignano 36.06 303 P **P** **16 48 52.8 +1.3**
SGO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SGO Sicignano 36.06 303 P **P** **16 48 52.8 +1.3**
comp=Z,8.6nm,0.8s,mb4.7
OKC Ostrava-Krasne 36.85 319 *e*P **P** **16 48 58.0 -0.2**
MORC Moravsky Berou 37.18 318 *e*P **P** **16 48 59.4 -1.7**
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
MORC Moravsky Berou 37.18 318 *e*P **P** **16 48 59.4 -1.7**
comp=Z,6.3nm,0.9s,mb4.5
MORC Moravsky Berou 37.18 318 *e*P **P** **16 49 00.6 -0.5**
BOJS Bojanci 37.20 311 *e*P **P** **16 49 01.2 +0.1**
VISS Visnje 37.55 311 *e*P **P** **16 49 04.3 +0.1**
VSU Vasula 37.57 335⇑ *e*P **P** **16 49 04.7 +0.4**
VRAC Vranov 37.57 317⇑ *i*P **P** **16 49 04.3 -0.1**
VRAC Vranov 37.57 317⇑ P **P** **16 49 04.3 0.0**
VRAC Vranov 37.57 317 *e*P **P** **16 49 04.1 -0.3**
AQU L'Aquila 37.78 305 P **P** **16 49 06.1 -0.1**
AQU pmax pmax
comp=Z,15nm,0.8s,mb4.8
AQU L'Aquila 37.78 305 P **P** **16 49 06.1 -0.1**
comp=Z,15nm,0.8s,mb4.8
JAVS Javornik 38.10 311 *i* P **P** **16 49 08.7 -0.2**
DPC Dobruska-Polom 38.13 319 *e*P **P** **16 49 08.6 -0.5**
UPC Upice 38.38 319 *e*P **P** **16 49 14.7 +3.5**
PTCC Patocco-Chiusa 38.71 312 P **P** **16 49 13.8 -0.2**
SFI Santa Sofia 39.19 307 P **P** **16 49 19.6 +1.6**
SFI pmax pmax
comp=Z,23nm,0.9s,mb4.9
SFI Santa Sofia 39.19 307 P **P** **16 49 19.6 +1.6**
comp=Z,23nm,0.9s,mb4.9
GERES GERESS Array B 39.20 315 P **P** **16 49 16.9 -1.2**
comp=Z,0.8nm,0.5s,mb3.7,baz=111,slow=7.6,SNR=8.9
PVCC Panska Ves 39.24 318 *e*P **P** **16 49 17.9 -0.5**
KHC Kasperske Hory 39.36 316 *e*P **P** **16 49 18.8 -0.6**
KHC *ex* x 16 49 43.0
KHC Kasperske Hory 39.36 316 *ce*P **P** **16 49 18.7 -0.7**
VMG Vicchio 39.41 307 P **P** **16 49 21.7 +1.9**
comp=Z,53nm,1.0s,mb5.2
KRAR Krasnoyarsk 39.42 32⇓ *e*P **P** **16 49 19.5 -0.4**
BRG Berggiesshubel 39.73 319 *e*P **P** **16 49 21.9 -0.6**
comp=Z,2.0nm,0.8s,mb3.9
BRG *e* 16 49 27.4
comp=Z,2.2nm,0.4s
BRG *e* 16 49 32.7
comp=Z,3.0nm,1.0s
BRG *e* 16 51 31.3
comp=Z,5.4nm,1.1s
BRG
comp=N,68nm,16.0s
BRG
comp=E,74nm,21.9s
BRG
comp=Z,149nm,18.4s
BRG Berggiesshubel 39.73 319 *e*P **P** **16 49 21.9 -0.6**
BRG *e* 16 49 27.4
BRG *e* 16 51 31.3
BRG pmax pmax
comp=Z,30nm,0.8s,mb5.1
BRG MLR MLR
comp=N,5μm,16.0s
BRG MLR MLR
comp=E,68nm,21.9s
BRG MLR MLR
comp=Z,74nm,18.4s,MS3.6
BRG Berggiesshubel 39.73 319 *e*P **P** **16 49 21.9 -0.6**
comp=Z,2.0nm,0.8s,mb3.9
BRG *e* 16 49 27.4
BRG *e* 16 49 32.7
BRG *e* 16 51 31.3
BRG LR LR
comp=Z,150nm,18.4s,MS3.9
FINES FINESS Array B 39.93 338 P **P** **16 49 23.2 -1.0**
comp=Z,2.1nm,0.5s,mb4.1,baz=146,slow=10,SNR=20
FINES FINESS Array B 39.93 338 P **P** **16 49 23.2 -1.0**
WTTA Wattenberg 40.07 312⇑ *i*P **P** **16 49 24.7 -0.6**
comp=Z,16nm,0.9s,mb4.8
WTTA Wattenberg 40.07 312⇑ *i*P **P** **16 49 24.7 -0.6**
WTTA pmax pmax
comp=Z,16nm,0.9s,mb4.8
WATA Walderalm 40.13 313⇑ *e*P **P** **16 49 25.1 -0.7**
comp=Z,7.0nm,0.5s,mb4.6
WATA Walderalm 40.13 313⇑ *e*P **P** **16 49 25.1 -0.7**
WATA pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
SQTA Sankt Quirin 40.34 312⇓ *i*P **P** **16 49 27.1 -0.5**
comp=Z,10nm,0.5s,mb4.8
SQTA Sankt Quirin 40.34 312⇓ *i*P **P** **16 49 27.1 -0.5**
SQTA pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
CLL Collm 40.44 319 *e*P **P** **16 49 28.0 -0.4**
CLL *i* sP sP 16 49 33.2 +0.4
comp=Z,5.0nm,0.7s
CLL *i* x x 16 49 39.2
CLL *i* x x 16 49 51.2
CLL Collm 40.44 319 *i* P sP 16 49 33.2 +0.4
CLL pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
CLL Collm 40.44 319 *i* P sP 16 49 33.2 +0.4
comp=Z,5.0nm,0.7s
MOTA Moosalm 40.44 312⇓ *i*P **P** **16 49 27.9 -0.5**
comp=Z,4.7nm,0.6s,mb4.4
MOTA Moosalm 40.44 312⇓ *i*P **P** **16 49 27.9 -0.5**
MOTA pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
VSL Villasalto 40.47 300 P **P** **16 49 28.5 -0.1**
comp=Z,18nm,0.9s,mb4.8
MABI Malga Bissina 40.54 310 P **P** **16 49 29.4 +0.2**
BSD Bornholm Skovb 40.92 325 *i* P **P** **16 49 30.5 -1.8**
comp=Z,10nm,0.7s,mb4.6
BSD Bornholm Skovb 40.92 325 *e*P **P** **16 49 30.5 -1.8**
BSD pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
BSD Bornholm Skovb 40.92 325 *e*P **P** **16 49 30.5 -1.8**
comp=Z,10nm,0.7s,mb4.6
GRA1 Grafenberg Arr 41.00 316 *e*P **P** **16 49 32.2 -0.8**
comp=Z,4.0nm,0.8s,mb4.1
GRF Grafenberg Arr 41.00 316 *e*P **P** **16 49 32.2 -0.8**
comp=Z,4.0nm,0.8s,mb4.1
PGF Pioggiola 41.03 305 *e*P **P** **16 49 32.6 -0.7**
comp=Z,16nm,1.0s,mb4.3
PGF Pioggiola 41.03 305 *e*P **P** **16 49 32.6 -0.7**
PGF pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
PGF Pioggiola 41.03 305 *e*P **P** **16 49 32.6 -0.7**
comp=Z,8.2nm,1.0s,mb4.3
DAVA Damuels 41.24 312⇑ *i*P **P** **16 49 34.4 -0.6**
comp=Z,19nm,0.5s,mb5.0
LZH Lanzhou 41.59 65 *e*P **P** **16 49 38.5 +0.6**
LZH AP pP 16 49 43.3 +2.3
LZH XP sP 16 49 45.5 +3.3
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,100nm,4.0s
LZH LR LR
comp=E,420nm,13.2s
LZH LR LR
comp=Z,710nm,15.0s,MS4.7
VAI Varese 41.70 310 P **P** **16 49 37.4 -1.4**
CD2 Chengdu 41.89 73 *e*P **P** **16 49 39.0 -1.3**
CD2 AP pP 16 49 43.5 +0.1
CD2 XP sP 16 49 46.8 +2.2
CD2 PP PP 16 51 19.3 +2.2
CD2 S **S** **16 55 48.5 -10**
CD2 SS SS 16 58 55.0 -10
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,4.2s
KMI Kunming 41.99 82 P **P** **16 49 41.5 +0.3**
SBF Sospel 42.33 307 *e*P **P** **16 49 43.3 -0.6**

MBDF Montbardon 42.91 308 *eP* **P 16 49 47.7 -0.9**
comp=Z,10nm,0.9s,mb4.3
MBDF Montbardon 42.91 308 *eP* **P 16 49 47.7 -0.9**
MBDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
MBDF Montbardon 42.91 308 *eP* **P 16 49 47.7 -0.9**
comp=Z,5.2nm,0.9s,mb4.3
LMR La Mourre 42.94 306 *eP* **P 16 49 47.8 -1.0**
APA Apatity 42.95 348 *eP* pP 16 49 58.0 +6.0
LPG La Plagne 43.04 309 *eP* **P 16 49 48.7 -0.9**
LPL La Plagne 43.05 309 *eP* **P 16 49 48.7 -1.1**
comp=Z,7.8nm,0.6s,mb4.3
LPL La Plagne 43.05 309 *eP* **P 16 49 48.7 -1.1**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
LPL La Plagne 43.05 309 *eP* **P 16 49 48.7 -1.1**
comp=Z,3.9nm,0.6s,mb4.3
CDF Champ du Feu 43.20 313 *eP* **P 16 49 49.7 -1.2**
comp=Z,6.2nm,0.8s,mb4.1
CDF Champ du Feu 43.20 313 *eP* **P 16 49 49.7 -1.2**
comp=Z,3.1nm,0.8s,mb4.1
HINF Hinteralfeld 43.35 312 *eP* **P 16 49 51.0 -1.2**
ORIF Oris-en-Rattie 43.57 308 *eP* **P 16 49 54.0 +0.1**
ORIF *eR*
comp=Z,50nm,20.5s
CABF La Chapelle 43.66 310⇑*iP* **P 16 49 54.0 -0.7**
comp=Z,6.6nm,0.6s,mb4.2
CABF La Chapelle 43.66 310⇑*iP* **P 16 49 54.0 -0.7**
CABF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
CABF La Chapelle 43.66 310⇑*iP* **P 16 49 54.0 -0.7**
comp=Z,3.3nm,0.6s,mb4.2
SMRF Simiane la Rot 43.68 306 *eP* **P 16 49 53.9 -0.9**
HAU Haudompre 43.73 312 *eP* **P 16 49 54.7 -0.5**
HAU *eR*
comp=Z,65nm,19.8s
HAU Haudompre 43.73 312 *eP* **P 16 49 54.7 -0.5**
HAU LR LR
comp=Z,70nm,19.8s,MS3.6
SONM Songino Array 44.38 48 P **P 16 49 59.8 -0.7**
comp=Z,4.8nm,0.9s,mb4.2,baz=253,slow=7.9,SNR=17
VIVF Saint-Julien-l 44.41 308 *eP* **P 16 49 59.6 -1.1**
comp=Z,5.9nm,0.7s,mb4.1
VIVF Saint-Julien-l 44.41 308 *eP* **P 16 49 59.6 -1.1**
comp=Z,3.0nm,0.7s,mb4.1
MEZF Maizieres J'vi 44.67 313 *eP* **P 16 50 02.2 -0.5**
ULN Ulaanbaatar 44.82 48 *ceP* **P 16 50 04.0 0.0**
ULN Ulaanbaatar 44.82 48 *eP* **P 16 49 57.4 -6.6**
comp=Z,6.9nm,0.9s,mb4.5
LASF Ste Croix 44.92 306 *eP* **P 16 50 04.1 -0.7**
GIVF Givet 45.11 315 *eP* **P 16 50 06.5 +0.2**
SMF Signal de Mont 45.20 310⇑*iP* **P 16 50 05.9 -1.1**
comp=Z,8.3nm,0.6s,mb4.4
SMF Signal de Mont 45.20 310⇑*iP* **P 16 50 05.9 -1.1**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SMF Signal de Mont 45.20 310⇑*iP* **P 16 50 05.9 -1.1**
comp=Z,4.2nm,0.6s,mb4.4
LOR Lormes 45.27 311⇑*iP* **P 16 50 06.3 -1.2**
comp=Z,4.9nm,0.7s,mb4.1
LOR *eR*
comp=Z,59nm,19.2s
LOR Lormes 45.27 311⇑*iP* **P 16 50 06.3 -1.2**
comp=Z,2.5nm,0.7s,mb4.2
LOR LR LR
comp=Z,60nm,19.3s,MS3.5
NB2 NORSAR Subarra 45.40 331 P **P 16 50 06.9 -1.7**
comp=Z,3.9nm,0.8s,mb4.3,baz=116,slow=7.9
NB2 NORSAR Subarra 45.40 331 P **P 16 50 06.9 -1.7**
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
NOA NORSAR Array B 45.40 331 P **P 16 50 07.3 -1.3**
comp=Z,1.1nm,0.8s,mb3.8,baz=120,slow=7.4,SNR=7.0
SSF Saint Saulge 45.48 311⇑*iP* **P 16 50 08.3 -0.9**
comp=Z,9.2nm,0.6s,mb4.5
SSF Saint Saulge 45.48 311⇑*iP* **P 16 50 08.3 -0.9**
SSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
SSF Saint Saulge 45.48 311⇑*iP* **P 16 50 08.3 -0.9**
comp=Z,4.6nm,0.6s,mb4.5
BAIF Baives 45.49 315 *eP* **P 16 50 09.5 +0.2**
comp=Z,13nm,0.9s,mb4.5
BAIF Baives 45.49 315 *eP* **P 16 50 09.5 +0.2**
BAIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
BAIF Baives 45.49 315 *eP* **P 16 50 09.5 +0.2**
comp=Z,6.4nm,0.9s,mb4.5
AVF Avril sur Loir 45.55 310⇑*iP* **P 16 50 08.5 -1.3**
comp=Z,4.8nm,0.5s,mb4.3
AVF Avril sur Loir 45.55 310⇑*iP* **P 16 50 08.5 -1.3**
AVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
AVF Avril sur Loir 45.55 310⇑*iP* **P 16 50 08.5 -1.3**
comp=Z,2.4nm,0.5s,mb4.3
BGF Bois d'Agland 45.87 310⇑*iP* **P 16 50 11.4 -0.9**
comp=Z,8.0nm,0.5s,mb4.7
BGF Bois d'Agland 45.87 310⇑*iP* **P 16 50 11.4 -0.9**
BGF pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
BGF Bois d'Agland 45.87 310⇑*iP* **P 16 50 11.4 -0.9**
comp=Z,4.0nm,0.5s,mb4.7
MTLF Montolieu 46.06 305⇑*iP* **P 16 50 13.7 -0.1**
comp=Z,13nm,0.8s,mb4.6
MTLF Montolieu 46.06 305⇑*iP* **P 16 50 13.7 -0.1**
MTLF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MTLF Montolieu 46.06 305⇑*iP* **P 16 50 13.7 -0.1**
comp=Z,6.6nm,0.8s,mb4.6
HYF Humbligny 46.09 311 *eP* **P 16 50 13.9 -0.1**
ARCES ARCESS Array B 46.21 346 P **P 16 50 14.3 -0.7**
comp=Z,1.9nm,0.7s,mb4.1,baz=142,slow=10,SNR=7.7
CAF Calviac 46.27 308⇑*iP* **P 16 50 15.0 -0.4**
comp=Z,8.1nm,0.6s,mb4.5
CAF Calviac 46.27 308⇑*iP* **P 16 50 15.0 -0.4**
CAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CAF Calviac 46.27 308⇑*iP* **P 16 50 15.0 -0.4**
comp=Z,4.1nm,0.6s,mb4.5
TCF Toulx Ste Croi 46.28 309⇑*iP* **P 16 50 14.8 -0.7**
comp=Z,7.3nm,0.6s,mb4.5
TCF Toulx Ste Croi 46.28 309⇑*iP* **P 16 50 14.8 -0.7**
TCF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 46.28 309⇑*iP* **P 16 50 14.8 -0.7**
comp=Z,3.7nm,0.6s,mb4.5
RJF Les Rejaudoux 46.68 308⇑*iP* **P 16 50 18.4 -0.3**
comp=Z,11nm,0.9s,mb4.5
RJF *eR*
comp=Z,63nm,20.5s
RJF Les Rejaudoux 46.68 308⇑*iP* **P 16 50 18.4 -0.3**
RJF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
RJF MLR MLR
comp=Z,60nm,20.5s,MS3.5
RJF Les Rejaudoux 46.68 308⇑*iP* **P 16 50 18.4 -0.3**
comp=Z,5.4nm,0.9s,mb4.5
RJF LR LR
comp=Z,60nm,20.5s,MS3.5
LFF La Frestale 47.21 307⇑*iP* **P 16 50 22.5 -0.3**
EPF Esparros 47.42 305 *eP* **P 16 50 23.1 -1.4**
HHC Hu-ho-hao-te 47.57 58 *eP* **P 16 50 25.0 -0.6**
HHC AP pP 16 50 30.3 +1.5
HHC XP sP 16 50 31.8 +1.8
HHC PCP PcP 16 51 55.0 -0.4
HHC PP PP 16 52 15.5 -1.5
HHC S **S 16 57 17.8 -3.0**
HHC SCS ScS 17 00 15.0 -4.5
HHC SS SS 17 00 37.5 -11
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
HHC LR LR
comp=N,120nm,16.6s,MS4.1
HHC LR LR
comp=E,130nm,14.3s,MS4.1
HHC LR LR
comp=Z,170nm,11.9s,MS4.2
MFF Saint Martin d 47.93 310 *eP* **P 16 50 27.2 -1.2**
ETSF Etsaut 48.08 305 *eP* **P 16 50 29.6 0.0**
comp=Z,20nm,1.0s,mb4.8
ETSF Etsaut 48.08 305 *eP* **P 16 50 29.6 0.0**
ETSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ETSF Etsaut 48.08 305 *eP* **P 16 50 29.6 0.0**
comp=Z,10nm,1.0s,mb4.8
LDF La Druitiere 48.08 312⇑*iP* **P 16 50 28.2 -1.4**
comp=Z,4.7nm,0.5s,mb4.5
LDF La Druitiere 48.08 312⇑*iP* **P 16 50 28.2 -1.4**
comp=Z,2.3nm,0.5s,mb4.5
FLN La Foliniere 48.34 313 *eP* **P 16 50 30.3 -1.3**
comp=Z,19nm,0.9s,mb4.8
FLN La Foliniere 48.34 313 *eP* **P 16 50 30.3 -1.3**
FLN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FLN La Foliniere 48.34 313 *eP* **P 16 50 30.3 -1.3**
comp=Z,9.6nm,0.9s,mb4.8
GRR Gorron 48.55 312 *eP* **P 16 50 32.0 -1.2**
SJPF Ste Jean 48.57 305⇑*iP* **P 16 50 33.4 0.0**
comp=Z,12nm,0.7s,mb4.8
SJPF Ste Jean 48.57 305⇑*iP* **P 16 50 33.4 0.0**
SJPF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
SJPF Ste Jean 48.57 305⇑*iP* **P 16 50 33.4 0.0**
comp=Z,6.1nm,0.7s,mb4.8
SGMF Saint Gilles 49.67 312 *eP* **P 16 50 40.8 -1.0**
QUIF Quistinic 50.06 311 *eP* **P 16 50 43.6 -1.1**
ROSF Rostrenen 50.15 312⇑*iP* **P 16 50 44.3 -1.2**
comp=Z,7.1nm,0.8s,mb4.4
ROSF Rostrenen 50.15 312⇑*iP* **P 16 50 44.3 -1.2**
comp=Z,3.5nm,0.8s,mb4.4
ESDC Sonseca Array 50.77 301 P **P 16 50 50.0 0.0**
comp=Z,1.1nm,0.5s,mb4.1,baz=63,slow=8.5,SNR=6.6
ESLA Sonseca Array 50.77 301 *eP* **P 16 50 49.7 -0.4**
comp=Z,0.5nm,0.6s,mb3.6
BOD Bodaibo 50.80 36 *eP* **P 16 50 48.8 -1.5**
BOD pmax pmax
comp=Z,12nm,1.0s,mb4.8
BJT Baijiatuau 51.12 59 P **P 16 50 52.8 0.0**
TORD Torodi Ar. Bea 52.33 266 P **P 16 51 01.6 -0.1**
comp=Z,28nm,0.6s,mb5.4,baz=63,slow=7.4,SNR=334
TORD LR LR 17 16 11.8
comp=Z,109nm,21.5s,MS3.9,baz=75,slow=39
HIA Hailar 53.33 47⇓*eP* **P 16 51 09.1 -0.1**
HIA Hailar 53.33 47 *eP* **P 16 51 08.5 -0.7**
comp=Z,14nm,1.1s,mb4.8
NJ2 Nanjing 54.42 68 *eP* **P 16 51 18.3 +1.1**
NJ2 AP pP 16 51 22.3 +1.9
NJ2 XP sP 16 51 26.0 +4.4
NJ2 PCP PcP 16 52 21.0 +0.2
NJ2 S **S 16 58 54.0 -1.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,170nm,4.2s
NJ2 LR LR
comp=N,720nm,18.0s,MS4.8
NJ2 LR LR
comp=E,540nm,22.7s,MS4.8
NJ2 LR LR
comp=Z,220nm,18.2s,MS4.3
KBS Kingsbay 55.56 351 *i* P **P 16 51 25.4 0.0**
CN2 Changchun 57.62 53 *eP* **P 16 51 39.3 -0.7**
CN2 *e*XP sP 16 51 46.3 +1.9
CN2 *eS* **S 16 59 35.0 -3.1**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
YAK Yakutsk 59.08 32 *ceP* **P 16 51 47.9 -2.4**
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
YAK Yakutsk 59.08 32 P **P 16 51 46.7 -3.6**
LBTB Lobatse 59.27 212 *eP* **P 16 51 52.2 +0.6**
LBTB pmax pmax
comp=Z,14nm,0.7s,mb5.1
LBTB Lobatse 59.27 212 *eP* **P 16 51 52.1 +0.6**
comp=Z,14nm,0.7s,mb5.1
TIXI Tiksi 59.40 21⇓*eP* **P 16 51 50.4 -2.0**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MDJ Mudanjiang 60.44 52 P **P 16 51 58.3 -1.3**
MDJ PCP PcP 16 52 41.3 -3.1
MDJ SCP ScP 16 56 44.3 -1.4
MDJ PCS PcS 16 56 46.0 -0.9
MDJ S **S 17 00 13.0 -1.8**
MDJ SCS ScS 17 01 48.8 -1.7
MDJ SS SS 17 04 17.5 +5.0
MDJ AMB AMB
comp=Z,300nm,12.1s
MDJ LR LR
comp=N,50nm,16.6s,MS3.7
MDJ LR LR
comp=E,20nm,19.8s,MS3.7
MDJ LR LR
comp=Z,40nm,19.8s,MS3.6
DBIC Dimbokro 60.92 262 P **P 16 52 02.4 -0.5**
comp=Z,9.5nm,0.7s,mb5.0,baz=43,slow=7.7,SNR=6.8
DBIC LR LR 17 22 10.5
comp=Z,52nm,19.1s,MS3.7,baz=117,slow=40
DBIC Dimbokro 60.92 262 P **P 16 52 02.4 -0.5**
DBIC pmax pmax
comp=Z,10.0nm,0.7s
DBIC MLR MLR
comp=Z,52nm,19.1s
DBIC Dimbokro 60.92 262 *eP* **P 16 52 00.4 -2.5**
comp=Z,17nm,0.9s,mb5.2
LIC Lamto 61.28 262 *eP* **P 16 52 05.3 0.0**
comp=Z,32nm,0.9s,mb5.2
LIC Lamto 61.28 262 *eP* **P 16 52 05.3 0.0**
comp=Z,16nm,0.9s,mb5.2
VLA Vladivostok 62.36 53⇑*eP* **P 16 52 11.1 -1.5**
VLA pmax pmax
comp=Z,20nm,1.7s,mb5.0
BOSA Boshof 62.50 210 P **P 16 52 13.5 0.0**
comp=Z,9.6nm,0.6s,mb5.1,baz=28,slow=6.3,SNR=24
BOSA LR LR 17 22 05.2
comp=Z,95nm,20.3s,MS4.0,baz=352,slow=39
BOSA Boshof 62.50 210 P **P 16 52 13.5 0.0**
BOSA pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
BOSA MLR MLR
comp=Z,95nm,20.3s,MS4.0
BOSA Boshof 62.50 210 *eP* **P 16 52 13.2 -0.4**
comp=Z,8.9nm,0.6s,mb5.1
HABR Khabarovsk 63.45 47 *eP* **P 16 52 18.2 -1.6**
HABR *eS* **S 17 00 49.6 -3.2**
HABR pmax pmax
comp=Z,24nm,1.3s,mb5.2
YSS Yuzh-Sakhalins 68.86 47 *deP* **P 16 52 53.6 -1.0**
YSS pmax pmax
comp=Z,40nm,2.5s,mb4.9
YSS Yuzh-Sakhalins 68.86 47 *eP* **P 16 52 52.8 -1.8**
comp=Z,22nm,1.1s,mb5.0
FITZ Fitzroy Crossi 81.10 115 *eP* **P 16 54 04.8 -0.5**
comp=Z,11nm,0.8s,mb4.8
NWAO Narrogin (SRO) 83.31 132 *eP* **P 16 54 15.7 -1.2**
NWAO pmax pmax
comp=Z,45nm,1.4s
NWAO Narrogin (SRO) 83.31 132 *eP* **P 16 54 15.7 -1.2**
comp=Z,45nm,1.4s,mb5.3
KAKA Kakadu 84.04 107 *eP* **P 16 54 20.3 -0.3**
comp=Z,16nm,0.6s,mb5.3
INK Inuvik 84.85 3 P **P 16 54 23.1 -1.6**
comp=Z,1.5nm,0.6s,mb4.3,baz=66,slow=16,SNR=4.8
COLA College 86.71 10⇓*eP* **P 16 54 32.0 -2.0**
WRA Warramunga Arr 89.12 113 P **P 16 54 44.5 -1.0**
comp=Z,1.2nm,0.7s,mb4.3,baz=315,slow=4.0,SNR=14
WRA Warramunga Arr 89.12 113 *i* P **P 16 54 45.2 -0.3**
WRAB Tennant Creek 89.13 113⇑*eP* **P 16 54 45.6 +0.1**
WRAB Tennant Creek 89.13 113 *eP* **P 16 54 45.1 -0.4**
comp=Z,24nm,1.4s,mb5.3
WB2 Warramunga Arr 89.13 113 *eP* **P 16 54 45.1 -0.4**
ASAR Alice Springs 90.57 116 P **P 16 54 51.2 -1.0**
comp=Z,1.2nm,0.8s,mb4.3,baz=305,slow=5.0,SNR=12
SYO Syowa Base 96.34 186⇓*es*P sP 16 55 27.7 +4.4
LPAZ La Paz 127.21 269 PKP PKPdf 17 00 56.0 +1.4
comp=Z,0.6nm,0.6s,baz=90,slow=1.0,SNR=3.1

*ISCJB **29** 16:53:06.1±0.9, 1490N±006×9330W±004, h35km±50km, Error ellipse: s-maj=11.3km s-min=5.0km az=55.6*
*MEX **29** 16:53:06.5±0.5, 1479N×9324W, h28km±47km, MD4.3*
*CASC **29** 16:53:09.4±3.1, 1509N×9309W, h33km±320km, MD4.2, ML4.1*
ISC 29 16:53:06.3±2.5, 1493N±006×9326W±004, h21km±22km, n16, σ0§92/20, 1C-2D, Near coast of Chipas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.68**	**111**	⇓*eP*		**Pn**	**16 53 35.0**	**+0.6**
JAT				*eS*		**Sn**	**16 53 53.9**	**-1.3**
CCIG	**Comitan**	**1.73**	**38**	*i* P		**Pn**	**16 53 34.5**	**-0.5**
CCIG				*i* S		**Sn**	**16 53 55.4**	**-1.0**
SCX	**San Cristobal**	**1.90**	**18**	*eP*		**Pn**	**16 53 37.0**	**-0.3**
SCX				*eS*		**Sn**	**16 54 03.0**	**+2.4**
TP2	**Tecpan 2**	**2.17**	**93**⇓*eP*			**Pn**	**16 53 40.8**	**-0.2**
TP2				*eS*		**Sn**	**16 54 07.5**	**+0.3**
FUG	**Fuego 3**	**2.38**	**101**	*eP*		**Pn**	**16 53 44.2**	**+0.2**
CMIG	**Matias Romero**	**2.66**	**324**	*i* P		**Pn**	**16 53 46.5**	**-1.4**
CMIG				*i* S		**Sn**	**16 54 20.0**	**+0.5**
IXG	**Ixpaco**	**2.81**	**105**⇑*eP*			**Pn**	**16 53 49.8**	**-0.1**
IXG				*eS*		**Sn**	**16 54 24.2**	**+1.0**
TUIG	**Tuzandepetl**	**3.29**	**340**	*i* P		**Pn**	**16 53 56.6**	**+0.2**
TUIG				*i* S		**Sn**	**16 54 34.3**	**-0.6**
RBDL	**Robledal**	**3.55**	**103**	*eP*		x	16 54 02.1	
SBLS	**San Blas**	**3.68**	**107**	*eP*		x	16 54 05.1	
SBLS				*eS*		x	16 54 45.0	
SNJE	**San Jose**	**3.69**	**106**	*eP*		x	16 54 04.1	
SNJE				*eS*		x	16 54 46.0	
OXX	**Oaxaca**	**3.96**	**303**	*eP*		**Pn**	**16 54 08.0**	**+2.2**
VHO	**Vista Hermosa**	**3.97**	**303**	*i* P		**Pn**	**16 54 05.5**	**-0.3**
VHO				*i* S		**Sn**	**16 54 51.1**	**-0.6**
BOQS	**Boqueron**	**4.03**	**107**	*eP*		x	16 54 09.2	
BOQS				*eS*		x	16 54 55.1	
LFRS	**El Faro**	**4.27**	**107**	*eP*		x	16 54 12.3	
LFRS				*eS*		x	16 54 58.9	
UTMO	**Huajuapan**	**5.23**	**304**	*eP*		**Pn**	**16 54 29.3**	**+6.1**
UTMO				*i* S		**Sn**	**16 55 22.9**	**0.0**

IDC 29 17:02:12.2±6.3, 1642N×14542E, h133km±31km, mb3.2/3, mb1 3.5/4, mb1mx3.3/19, mbtmp3.7/4, Error ellipse: s-maj=149.2km s-min=24.1km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.86**	**191**	P		Pn	17 02 56.6	-0.5
	72nm,0.3s,baz=349,slow=2.6,SNR=53							
GUMO				S		Sn	17 03 32.7	+0.8
	63nm,0.3s,baz=146,slow=19,SNR=9.3							
WRA	**Warramunga Arr**	**37.74**	**197**	P		P	17 09 15.1	+0.1
	0.4nm,0.5s,baz=18,slow=8.8,SNR=9.1							
SONM	**Songino Array**	**44.77**	**323**	P		P	17 10 12.7	+0.3
	0.3nm,0.7s,baz=112,slow=5.6,SNR=3.3							
MKAR	**Makanchi Array**	**59.86**	**315**	P		P	17 12 03.9	+0.1
	0.2nm,0.6s,baz=81,slow=6.2,SNR=3.1							

*NEIC **29** 17:04:51.8, 16.19N×9409W, h86km, MD4.2(MEX), After MEX.*
MEX 29 17:04:52.2±1.0, 1624N×9414W, h95km±20km, MD4.2, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.10**	**320**	*i* P		Pn	17 05 12.6	-0.9
CMIG				*i* S		Sn	17 05 28.3	-1.1
CMIG	**Matias Romero**	**1.10**	**320**	*i* P		Pn	17 05 12.6	-0.8
CMIG				*i* S		Sn	17 05 28.3	-1.1
SCX	**San Cristobal**	**1.52**	**71**	*i* P		Pn	17 05 17.0	-1.5
SCX				*i* S		Sn	17 05 38.0	-0.3
SCX	**San Cristobal**	**1.52**	**71**	*i* P		Pn	17 05 14.0	-4.5
SCX				*i* S		Sn	17 05 38.0	-0.3
TUIG	**Tuzandepetl**	**1.80**	**351**	*i* P		Pn	17 05 19.7	-2.2
TUIG				*i* S		Sn	17 05 42.6	-2.0
TUIG	**Tuzandepetl**	**1.80**	**351**	*i* P		Pn	17 05 19.9	-2.1
TUIG				*i* S		Sn	17 05 42.8	-1.8
CCIG	**Comitan**	**1.92**	**89**	*i* P		Pn	17 05 23.2	-0.3
CCIG				*i* S		Sn	17 05 45.4	-2.0
CCIG	**Comitan**	**1.92**	**89**	*i* P		Pn	17 05 23.2	-0.3
CCIG				*i* S		Sn	17 05 43.6	-3.8
HUIG	**Huatulco**	**1.95**	**256**⇑*iP*			Pn	17 05 22.1	-1.8
HUIG				*i* S		Sn	17 05 46.1	-2.0
HUIG	**Huatulco**	**1.95**	**256**	*i* P		Pn	17 05 21.9	-2.0
HUIG				*i* S		Sn	17 05 45.6	-2.6
OXX	**Oaxaca**	**2.61**	**289**	*eP*		Pn	17 05 34.0	+1.4
VHO	**Vista Hermosa**	**2.62**	**289**	*i* P		Pn	17 05 33.6	+0.9
VHO				*i* S		Sn	17 06 03.2	-0.6
VHO	**Vista Hermosa**	**2.62**	**289**	*i* P		Pn	17 05 33.6	+0.9
VHO				*i* S		Sn	17 06 03.0	-0.8
UTMO	**Huajuapan**	**3.84**	**295**	*i* P		Pn	17 05 50.1	+0.9
UTMO				*i* S		Sn	17 06 33.0	-0.3

*IDC **29** 17:17:38.4±2.9, 2669N×5598E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.8/4, Error ellipse: s-maj=78.8km s-min=27.9km az=154.0*
*ISCJB **29** 17:17:41.5±0.5, 2697N±003×5597E±005, h10km, mb3.7/4, Error ellipse: s-maj=5.9km s-min=4.0km az=151.6*
*TEH **29** 17:17:44.8, 2688N×5603E, h21km, Mn3.6*
*THR **29** 17:17:44.4±0.4, 2709N×5605E, h7km±2km, ML3.6*
*KISR **29** 17:17:44.4±0.9, 2820N×5586E, h34km, ML3.6*
*CSEM **29** 17:17:44.3±0.1, 2688N×5593E, h35km, ML3.6, Error ellipse: s-maj=4.2km s-min=3.1km az=65.0*
ISC 29 17:17:42.3±0.8, 2695N±003×5598E±006, h8km±7km, n22, σ1§41/33, mb3.7/4, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.48**	**21**	*e*PG		**Pg**	**17 17 51.1**	**-0.6**
BNDS				*e*SG		**Sg**	**17 17 55.9**	**-2.1**
BANOM	**Banah**	**1.06**	**164**	P		**Pg**	**17 18 01.6**	**-1.0**
	SNR=479							
BANOM				⇓S		**Sg**	**17 18 16.9**	**+0.5**
ASHO	**Ashiyiah**	**2.25**	**178**	P		**Pn**	**17 18 19.8**	**0.0**
	SNR=57							
GHIR	**Ghir-Karzin**	**2.97**	**297**	*e*PN		**Pn**	**17 18 34.0**	**+4.3**
GHIR				*e*SG		**Sg**	**17 19 22.0**	**+4.2**
GHIR				AML	AML		17 19 30.0	
	comp=E,152nm,0.5s							
KRBR	**Kerman**	**3.10**	**13**	*e*PN		**Pn**	**17 18 34.1**	**+2.6**
KRBR				SN		**Sn**	**17 19 09.9**	**+1.1**
KRBR				AML	AML		17 19 22.7	
	comp=E,170nm,0.7s							
KRBR				AML	AML		17 19 35.7	
	comp=N,204nm,0.6s							
KRBR	**Kerman**	**3.10**	**13**	*e*Pn		**Pn**	**17 18 34.1**	**+2.5**
	SNR=47							
KRBR				Sn		**Sn**	**17 19 09.9**	**+1.1**
	SNR=47							
ISRV	**Sarvestan**	**3.51**	**314**	*e*Pn		**Pn**	**17 18 38.4**	**+1.3**
ISRV				*e*Sn		**Sn**	**17 19 19.2**	**+0.4**
IMOK	**Mook**	**3.56**	**307**	*e*Pn		**Pn**	**17 18 39.7**	**+1.8**
IMOK				*e*Sn		**Sn**	**17 19 20.3**	**+0.1**
ARQ	**Araqi**	**3.63**	**172**	P		**Pn**	**17 18 38.7**	**0.0**
	SNR=12							
IMEH	**Mehriz**	**4.59**	**345**	*e*Pn		**Pn**	**17 18 53.9**	**+1.9**
IMEH				*e*Sn		**Sn**	**17 19 44.5**	**-0.9**
IBAF	**Bafgh**	**4.64**	**356**	*e*Pn		**Pn**	**17 18 53.9**	**+1.2**
IBAF				*e*Sn		**Sn**	**17 19 45.7**	**-1.1**
ZHSF	**Zahedan**	**4.99**	**57**	*e*PN		**Pn**	**17 19 00.1**	**+2.5**
ISAD	**Sadrabad**	**5.34**	**339**	*e*Sn		**Sn**	**17 20 02.1**	**-1.9**
ICHK	**Chekchek**	**5.46**	**346**	*e*Pn		**Pn**	**17 19 05.3**	**+1.4**
RDF	**Al-Radifah**	**7.71**	**287**	*e*P		**Pn**	**17 19 35.0**	**+0.1**
RDF				*e*S		**Sn**	**17 20 56.8**	**-5.6**
RDF				AML	AML		17 20 56.8	
	comp=Z,12nm,0.3s							
UMR	**Umm Al-Rimmam**	**7.74**	**292**	*e*P		**Pn**	**17 19 33.4**	**-1.8**
NAY	**Al-Naaiem**	**8.05**	**289**	*e*P		**Pn**	**17 19 38.1**	**-1.4**
NAY				AML	AML		17 21 03.2	
	comp=Z,4.0nm,0.5s							
NAY				*e*S		**Sn**	**17 21 04.6**	**-6.1**
ASAO	**Ashtian**	**9.14**	**327**	*e*PN		**Pn**	**17 19 58.3**	**+3.8**
BRTR	**Keskin Array B**	**22.53**	**310**	P		**P**	**17 22 41.9**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.2,baz=107,slow=8.4,SNR=3.7							
MKAR	**Makanchi Array**	**28.68**	**39**	P		**P**	**17 23 39.5**	**-0.2**
	comp=Z,0.5nm,0.8s,mb3.3,baz=222,slow=8.8,SNR=3.5							
ZAL	**Zalesovo**	**34.32**	**30**	P		**P**	**17 24 27.6**	**-1.7**
	comp=Z,0.9nm,0.3s,mb4.2,baz=216,slow=8.7,SNR=3.8							
TORD	**Torodi Ar. Bea**	**52.45**	**266**	P		**P**	**17 26 53.0**	**-2.5**
	comp=Z,2.1nm,0.6s,mb4.2,baz=58,slow=7.2,SNR=11							

IDC 29 17:20:57.1±8.4, 5165N×17729E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=263.9km s-min=40.5km az=69.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**44.33**	**294**	P		P	17 29 08.8	-0.1
	0.5nm,0.8s,baz=68,slow=8.4,SNR=3.8							
MKAR	**Makanchi Array**	**57.93**	**306**	P		P	17 30 50.6	-0.4
	0.2nm,0.5s,baz=62,slow=4.1,SNR=2.5							
WRA	**Warramunga Arr**	**80.57**	**221**	P		P	17 33 11.0	-0.3

0.8nm,0.7s,baz=31,slow=6.1,SNR=5.7
ASAR Alice Springs 84.09 219 P P 17 33 29.8 0.0
0.4nm,0.6s,baz=18,slow=5.7,SNR=4.8

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*CSEM **29** 17:35:05.7±0.5,3864N×2898W,h2km±6km,ML1.8,Error ellipse: s-maj=6.6km s-min=4.9km az=81.0,After PDA*
*PDA **29** 17:35:05.7±0.5,3864N×2898W,h2km±6km,MD2.9,ML1.8, Error ellipse: s-maj=6.6km s-min=4.9km az=81.0*
SVSA 29 17:35:05.7±0.5,3864N×2898W,h2km±6km,MD2.9,ML1.8, Error ellipse: s-maj=6.6km s-min=4.9km az=81.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.22**	**92**	*e*P	Pg	17 35 09.6	-0.3
PCED				*e*S	Sg	17 35 12.9	+0.2
PCED	46nm,0.3s						
PCED	**Cedros**	**0.22**	**92**	*e*P	Pg	17 35 09.6	-0.3
PCED				*e*S	Sg	17 35 12.9	+0.2
CALA	**Caldeira**	**0.22**	**104**	*e*P	Pg	17 35 09.9	-0.1
CALA				*e*S	Sg	17 35 13.0	+0.1
PICO	**Pico**	**0.45**	**107**	*e*P	Pg	17 35 14.0	-0.4
PICO				*e*S	Sg	17 35 20.1	-0.2
ROSA	**Rosais**	**0.58**	**82**	*e*P	Pg	17 35 15.9	-1.0
ROSA				*e*S	Sg	17 35 23.2	-1.2

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*BJI **29** 18:15:40.7,263N×9509E,h25km,mb4.6*
*ISCJB **29** 18:15:43.0±0.8,27N±01×956E±01,h24km,mb4.3/15, Error ellipse: s-maj=19.6km s-min=9.1km az=84.9*
*NEIC **29** 18:15:44.3±0.6,265N×9546E,mb4.3/4,Error ellipse: s-maj=14.9km s-min=7.4km az=222.0*
*IDC **29** 18:15:44.7±1.2,268N×9551E,h24km±4km,mb3.8/6, mb1 4.0/7,mb1mx3.7/21,mbtmp3.9/7,ML3.8/1,Error ellipse: s-maj=44.6km s-min=15.9km az=54.0*
ISC 29 18:15:45.6±0.8,27N±01×956E±01,h26km, h26km±1.0km:pP-P,n24,σ1§13/24,mb4.3/15,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.33**	**88**	Pn	**Pn**	**18 16 37.3**	**+1.2**
	8.5nm,0.3s,baz=275,slow=5.5,SNR=19						
KULM	**Kulim**	**5.67**	**63**	*e*P	**Pn**	**18 17 09.0**	**+0.8**
KMI	**Kunming**	**23.34**	**17**	P	**P**	**18 20 50.5**	**-1.5**
JIRN	**Jiri**	**26.40**	**341**	*e*P	**P**	**18 21 21.3**	**+1.3**
	15nm,0.7s,mb4.6						
PKI	**Pulchoki**	**26.58**	**339**	*e*P	**P**	**18 21 25.3**	**+3.7**
DMN	**Daman**	**26.73**	**339**	*e*P	**P**	**18 21 25.7**	**+2.8**
GUN	**Gumba**	**26.74**	**341**	*e*P	**P**	**18 21 24.1**	**+1.1**
	12nm,0.5s,mb4.7						
KKN	**Kakani**	**26.83**	**339**	*e*P	**P**	**18 21 25.0**	**+1.2**
LSA	**Lhasa**	**27.19**	**352**	*e*P	**P**	**18 21 26.6**	**-0.4**
	4.5nm,0.6s,mb4.2						
GKN	**Gorkha**	**27.25**	**338**	*e*P	**P**	**18 21 28.6**	**+0.9**
	40nm,1.1s,mb4.9						
KOLN	**Koldanda**	**27.44**	**336**	*e*P	**P**	**18 21 30.6**	**+1.3**
	12nm,0.7s,mb4.5						
XAN	**Xi'an**	**33.58**	**20**	P	**P**	**18 22 22.0**	**-1.5**
XAN				AP	pP	18 22 28.3	-2.8
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**44.19**	**122**	P	**P**	**18 23 52.3**	**0.0**
	comp=Z,1.3nm,0.5s,mb3.9,baz=300,slow=9.3,SNR=24						
WRAB	**Tennant Creek**	**44.19**	**122**	*e*P	**P**	**18 23 51.9**	**-0.5**
	comp=Z,4.3nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**44.20**	**122**	*e*P	**P**	**18 23 52.5**	**+0.1**
MKAR	**Makanchi Array**	**45.42**	**347**	P	**P**	**18 24 01.4**	**-0.8**
	comp=Z,4.0nm,0.7s,mb4.3,baz=164,slow=8.1,SNR=52						
MKAR				pP	pP	18 24 08.4	-1.6
	comp=Z,1.0nm,0.5s,baz=158,slow=8.4,SNR=7.5						
ASAR	**Alice Springs**	**45.57**	**127**	P	**P**	**18 24 03.2**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=300,slow=7.8,SNR=9.3						
ASAR				pP	pP	18 24 11.0	-0.1
	comp=Z,0.5nm,0.6s,baz=298,slow=7.7,SNR=3.7						
SONM	**Songino Array**	**45.92**	**10**	P	**P**	**18 24 05.5**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=191,slow=9.0,SNR=10						
SONM				pP	pP	18 24 13.1	-0.8
	comp=Z,1.5nm,0.7s,baz=188,slow=10,SNR=8.6						
KURK	**Kurchatov**	**49.95**	**346**	*e*P	**P**	**18 24 36.4**	**-0.9**
	comp=Z,2.6nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**51.84**	**352**	P	**P**	**18 24 50.7**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.4,baz=295,slow=5.9,SNR=15						
ZAL				pP	pP	18 24 58.8	-0.6
	comp=Z,2.3nm,0.4s,baz=310,slow=8.1,SNR=4.7						
ZAL	**Zalesovo**	**51.84**	**352**	P	**P**	**18 24 50.7**	**-0.9**
ZAL				pP	pP	18 24 58.8	-0.6
BRVK	**Borovoye**	**54.39**	**341**	*e*P	**P**	**18 25 08.7**	**-1.6**
ZRNK	**Zerenda**	**54.71**	**341**	*e*P	**P**	**18 25 11.0**	**-1.7**
	comp=Z,3.0nm,0.8s,mb4.4						
GERES	**GERESS Array B**	**82.64**	**319**	P	**P**	**18 28 06.7**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=328,slow=30,SNR=2.5						
GERES				pP	pP	18 28 13.8	-1.1
	comp=Z,0.4nm,0.5s,baz=81,slow=8.2,SNR=2.8						

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*ISCJB **29** 18:21:04.2±0.4,4231N±003×3142E±004,h33km,Error ellipse: s-maj=5.3km s-min=3.2km az=103.2*
*ISK **29** 18:21:04.1,4226N×3146E,h30km,MD3.2*
*NEIC **29** 18:21:04.1,4226N×3146E,h30km,MD3.2(ISK), ML3.0(BUC),After ISK.*
*CSEM **29** 18:21:04.0±0.1,4226N×3146E,h30km,MD3.2,Error ellipse: s-maj=1.8km s-min=1.2km az=35.0*
*BUC **29** 18:21:07.5±3.7,4271N×3132E,h5km,MD3.8/3,Error ellipse: s-maj=47.2km s-min=31.0km az=57.0*
ISC 29 18:21:05.8±0.4,4226N±003×3142E±004,h35km,n37, σ0§87/57,11C-10D,Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAFT	**Safranbolu**	**1.39**	**137**	*i* PN	**Pn**	**18 21 27.9**	**-0.8**
SAFT				*i* SN	**Sn**	**18 21 45.0**	**-0.8**
HENT	**Hendek**	**1.49**	**195**	*i* P	**Pn**	**18 21 29.2**	**-0.8**
HENT				*i* S	**Sn**	**18 21 47.2**	**-1.0**
SILT	**Sile**	**1.73**	**231**	PN	**Pn**	**18 21 33.7**	**+0.3**
SILT				SN	**Sn**	**18 21 54.6**	**+0.4**
SGKT	**Sivrigoynuk**	**1.75**	**164**	*i* P	**Pn**	**18 21 34.0**	**+0.3**
SGKT				*i* S	**Sn**	**18 21 55.3**	**+0.6**
HRT	**Hereke**	**1.95**	**223**	PN	**Pn**	**18 21 36.0**	**-0.4**
HRT				SN	**Sn**	**18 21 59.3**	**-0.3**
KLYT	**Kilyos**	**2.05**	**241**	PN	**Pn**	**18 21 37.6**	**-0.1**
BGKT	**Bogazkoy**	**2.26**	**242**	PN	**Pn**	**18 21 40.7**	**+0.1**
YLV	**Yalova**	**2.29**	**223**	PN	**Pn**	**18 21 40.9**	**-0.1**
TOS	**Tosya**	**2.30**	**121**	*e*PN	**Pn**	**18 21 40.4**	**-0.8**
ELBA	**Catalca**	**2.50**	**245**	*i* P	**Pn**	**18 21 44.7**	**+0.8**
ELBA				*i* S	**Sn**	**18 22 12.6**	**-0.6**
CTT	**Catalca**	**2.50**	**245**	PN	**Pn**	**18 21 44.3**	**+0.4**
DIKM	**Dikmen**	**2.92**	**101**	*e*PN	**Pn**	**18 21 49.1**	**-0.7**
BR131	**Keskin Array S**	**3.04**	**146**	P	**Pn**	**18 21 52.6**	**+1.3**
TIRR	**Tirgusor**	**3.10**	**316**	⇓*i*P	**Pn**	**18 21 52.5**	**+0.3**
TIRR				*i* S	**Sn**	**18 22 26.5**	**-1.6**
TIRR	**Tirgusor**	**3.10**	**316**	⇑P	**Pn**	**18 21 52.5**	**+0.3**
TIRR				S	**Sn**	**18 22 26.5**	**-1.6**
CORM	**Corum**	**3.19**	**130**	*e*PN	**Pn**	**18 21 53.4**	**0.0**
EDRB	**Edirne**	**3.51**	**265**	*e*PN	**Pn**	**18 21 58.3**	**+0.5**
HARR	**Harsova**	**3.51**	**315**	⇑*i*P	**Pn**	**18 21 58.5**	**+0.6**
HARR				*i* S	**Sn**	**18 22 36.8**	**-1.4**
HARR	**Harsova**	**3.51**	**315**	⇓P	**Pn**	**18 21 58.5**	**+0.6**
HARR				S	**Sn**	**18 22 36.8**	**-1.4**
CFR	**Carcaliu**	**3.77**	**322**	⇑*i*P	**Pn**	**18 22 01.6**	**+0.3**
CFR				*i* S	**Sn**	**18 22 42.9**	**-1.5**
CFR	**Carcaliu**	**3.77**	**322**	⇑P	**Pn**	**18 22 01.6**	**+0.3**
CFR				S	**Sn**	**18 22 42.8**	**-1.6**
CFR	**Carcaliu**	**3.77**	**322**	⇑*i*P	**Pn**	**18 22 01.6**	**+0.3**
CFR				S	**Sn**	**18 22 42.8**	**-1.6**
BUC1	**Bucharest**	**4.46**	**300**	⇑P	**Pn**	**18 22 11.5**	**+0.7**
BUC1	**Bucharest**	**4.46**	**300**	⇑P	**Pn**	**18 22 11.5**	**+0.7**
SVSK	**Karacayir**	**4.82**	**117**	*e*PN	**Pn**	**18 22 16.2**	**+0.4**
MLR	**Muntele Rosu**	**5.11**	**311**	⇓*i*P	**Pn**	**18 22 22.2**	**+2.4**
MLR				*i* S	**Sn**	**18 23 18.4**	**+0.9**
MLR	**Muntele Rosu**	**5.11**	**311**	⇓P	**Pn**	**18 22 21.0**	**+1.2**
MLR				S	**Sn**	**18 23 17.5**	**0.0**
MLR	**Muntele Rosu**	**5.11**	**311**	⇓P	**Pn**	**18 22 21.0**	**+1.2**
MLR				S	**Sn**	**18 23 17.5**	**0.0**
VOIR		**5.59**	**307**	⇑*i*P	**Pn**	**18 22 28.2**	**+1.7**
VOIR				*i* S	**Sn**	**18 23 30.5**	**+1.0**
VOIR		**5.59**	**307**	⇓P	**Pn**	**18 22 28.1**	**+1.7**
VOIR				S	**Sn**	**18 23 29.2**	**-0.3**
VOIR		**5.59**	**307**	⇓P	**Pn**	**18 22 28.1**	**+1.6**

GZR	**Gura Zlata**	**6.99**	**300**	⇓*i*P	**Pn**	**18 22 47.1**	**+1.5**
GZR				*i* S	**Sn**	**18 24 01.4**	**-2.5**
GZR	**Gura Zlata**	**6.99**	**300**	⇓P	**Pn**	**18 22 47.2**	**+1.5**
GZR				S	**Sn**	**18 24 02.5**	**-1.4**
GZR	**Gura Zlata**	**6.99**	**300**	⇓P	**Pn**	**18 22 47.2**	**+1.6**
BZS	**Buzias**	**7.83**	**299**	⇑*i*P	**Pn**	**18 22 57.4**	**+0.2**
BZS	**Buzias**	**7.83**	**299**	⇑P	**Pn**	**18 22 57.5**	**+0.3**
BZS	**Buzias**	**7.83**	**299**	⇑P	**Pn**	**18 22 57.5**	**+0.3**

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*IDC **29** 18:41:29.2±2.6,2882N×5134E,h0km,mb3.6/2,mb1 3.5/3, mb1mx3.3/21,mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=80.1km s-min=31.5km az=157.0*
*KISR **29** 18:41:31.0±1.1,2877N×5138E,h34km,ML3.3*
*THR **29** 18:41:31.8±0.9,2902N×5136E,h18km,ML3.5*
*CSEM **29** 18:41:31.3±0.1,2895N×5135E,h10km,ML3.5,Error ellipse: s-maj=2.6km s-min=1.5km az=169.0*
*TEH **29** 18:41:32.1,2876N×5116E,h23km,Mn3.5*
*ISCJB **29** 18:41:32.8±0.5,2908N±004×5126E±003,h10km,mb3.6/2, Error ellipse: s-maj=6.7km s-min=3.5km az=146.3*
ISC 29 18:41:33.3±0.5,2899N±004×5131E±003,h10km,n25, σ0§94/35,mb3.6/2,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mook**	**1.23**	**87**	*e*Sn	**Sn**	**18 42 14.5**	**+1.2**
SHI	**Shiraz**	**1.24**	**58**	*e*Pn	**Pn**	**18 41 57.1**	**+0.5**
SHI				*e*Sn	**Sn**	**18 42 14.5**	**+1.2**
ISRV	**Sarvestan**	**1.63**	**76**	*e*Pn	**Pn**	**18 42 02.0**	**0.0**
ISRV				*e*Sn	**Sn**	**18 42 24.3**	**+1.3**
GHIR	**Ghir-Karzin**	**1.64**	**115**	*e*Pg	**Pg**	**18 42 01.5**	**-3.2**
GHIR				AML	AML	18 42 30.9	
	comp=E,448nm,0.4s						
GHIR				AML	AML	18 42 32.1	
	comp=N,504nm,0.6s						
QRN	**Al-Qurain**	**2.98**	**266**	*e*P	**Pn**	**18 42 20.2**	**-0.4**
QRN				*e*S	**Sn**	**18 42 57.0**	**+0.6**
QRN				AML	AML	18 43 00.3	
	comp=Z,113nm,0.3s						
KBD	**Kabd**	**3.17**	**274**	*e*P	**Pn**	**18 42 23.3**	**+0.2**
KBD				AML	AML	18 43 02.4	
	comp=Z,125nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.19**	**281**	*e*P	**Pn**	**18 42 23.8**	**+0.4**
UMR				AML	AML	18 43 05.5	
	comp=Z,76nm,0.3s						
RDF	**Al-Radifah**	**3.29**	**270**	*e*P	**Pn**	**18 42 24.4**	**-0.4**
RDF				AML	AML	18 43 10.7	
	comp=Z,58nm,0.4s						
MIB	**Mutribah**	**3.55**	**284**	*e*P	**Pn**	**18 42 28.8**	**+0.3**
MIB				*e*S	**Sn**	**18 43 13.0**	**+2.5**
ISAD	**Sadrabad**	**3.56**	**35**	*e*Sn	**Sn**	**18 43 11.5**	**+0.8**
NAY	**Al-Naaiem**	**3.56**	**275**	*e*P	**Pn**	**18 42 28.9**	**+0.3**
NAY				*e*S	**Sn**	**18 43 11.3**	**+0.5**
NAY				AML	AML	18 43 13.7	
	comp=Z,24nm,0.4s						
NAY	**Al-Naaiem**	**3.56**	**275**	*e*P	**Pn**	**18 42 28.9**	**+0.3**
NAY				*e*S	**Sn**	**18 43 11.3**	**+0.5**
IPIR	**Pirpir**	**3.70**	**355**	*e*Pn	**Pn**	**18 42 30.5**	**+0.1**
IPIR				*e*Sn	**Sn**	**18 43 13.8**	**-0.2**
IMEH	**Mehriz**	**3.73**	**49**	*e*Pn	**Pn**	**18 42 31.3**	**+0.4**
RST	**Umm Al-Ruwaisa**	**3.80**	**279**	*e*P	**Pn**	**18 42 31.6**	**-0.2**
RST				AML	AML	18 43 21.9	
	comp=Z,61nm,0.5s						
RST	**Umm Al-Ruwaisa**	**3.80**	**279**	*e*P	**Pn**	**18 42 31.6**	**-0.2**
IZEF	**Zefreh**	**3.99**	**12**	*e*Pn	**Pn**	**18 42 34.8**	**+0.4**
IZEF				*e*Sn	**Sn**	**18 43 21.0**	**-0.2**
NASN	**Na'in**	**4.01**	**18**	*e*Pn	**Pn**	**18 42 34.4**	**-0.3**
NASN				Sn	**Sn**	**18 43 19.9**	**-1.8**
IKLH	**Kalahroud**	**4.32**	**3**	*e*Pn	**Pn**	**18 42 39.3**	**+0.3**
IKLH				*e*Sn	**Sn**	**18 43 29.0**	**-0.4**
KRBR	**Kerman**	**4.86**	**77**	*e*Pn	**Pn**	**18 42 45.2**	**-1.2**
ASAO	**Ashtian**	**5.64**	**349**	*e*Pn	**Pn**	**18 42 57.8**	**+0.6**
ASAO				AML	AML	18 44 05.9	
	comp=N,20nm,0.7s						
ASAO				AML	AML	18 44 06.2	
	comp=E,22nm,0.6s						
SNGE	**Sanandaj**	**6.95**	**332**	*e*Pn	**Pn**	**18 43 14.6**	**-0.5**
BRTR	**Keskin Array B**	**18.06**	**311**	P	**Pn**	**18 45 43.3**	**-1.0**
	comp=E,0.1nm,0.3s,baz=125,slow=15,SNR=4.6						
MKAR	**Makanchi Array**	**29.96**	**45**	P	**P**	**18 47 40.0**	**-1.6**
	comp=E,0.3nm,0.5s,mb3.3,baz=238,slow=9.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**48.55**	**262**	P	**P**	**18 50 14.5**	**-2.1**
	comp=E,0.9nm,0.8s,mb3.9,baz=56,slow=7.8,SNR=10						

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*ISCJB **29** 19:09:06.6±2.1,68S±02×1274E±03,h419km±26km, mb3.0/1,Error ellipse: s-maj=50.8km s-min=19.2km az=124.3*
*IDC **29** 19:09:08.6±3.4,680S×12735E,h424km±39km,mb2.5/1, mb1 2.9/4,mb1mx2.8/14,mbtmp3.7/4,Error ellipse: s-maj=80.0km s-min=17.1km az=66.0*
ISC 29 19:09:08.4±1.8,67S±02×1276E±03,h422km±26km,n7, σ0§75/9,mb3.0/1,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.63**	**142**	*e*P	**P**	**19 10 59.4**	**0.0**
	13nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.47**	**189**	P	**P**	**19 11 41.2**	**-0.6**
	0.1nm,0.3s,baz=134,slow=22,SNR=2.9						
WRA	**Warramunga Arr**	**14.68**	**154**	P	**P**	**19 12 16.7**	**0.0**
	0.7nm,0.3s,baz=331,slow=11,SNR=45						
WRA				S	**S**	**19 14 50.7**	**-1.7**
	0.1nm,0.3s,baz=330,slow=20,SNR=4.7						
WB2	**Warramunga Arr**	**14.69**	**154**	*e*P	**P**	**19 12 17.0**	**+0.2**
ASAR	**Alice Springs**	**17.91**	**161**	P	**P**	**19 12 51.6**	**+0.6**
	0.3nm,0.3s,baz=341,slow=12,SNR=24						
ASAR				S	**S**	**19 15 55.8**	**+0.9**
	0.1nm,0.3s,baz=336,slow=20,SNR=6.6						
ASPA	**Alice Springs**	**17.91**	**161**	*e*P	**P**	**19 12 51.9**	**+0.9**
MKAR	**Makanchi Array**	**66.70**	**328**	P	**P**	**19 19 15.5**	**-0.4**
	0.2nm,0.5s,mb3.0,baz=117,slow=7.5,SNR=4.8						

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*CSEM **29** 19:19:57.6±0.2,2689N×5585E,h0km±1km,ML3.3,Error ellipse: s-maj=2.9km s-min=2.2km az=131.0*
*ISCJB **29** 19:19:58.9±1.0,2694N±003×5584E±004,h3km±6km, mb3.5/4,Error ellipse: s-maj=6.6km s-min=4.9km az=152.0*
*IDC **29** 19:19:58.2±2.8,2683N×5586E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.4/20,mbtmp3.6/4,Error ellipse: s-maj=65.5km s-min=32.5km az=150.0*
*THR **29** 19:20:00.9±0.4,2696N×5604E,h8km±2km,ML3.3*
*NEIC **29** 19:20:01.6,2702N×5598E,h14km,ML3.3(THR),After THR.*
*KISR **29** 19:20:01.1±0.4,2658N×5549E,h34km,ML3.5*
*TEH **29** 19:20:02.7,2689N×5593E,h8km,Mn3.5*
ISC 29 19:20:00.3±0.8,2693N±003×5591E±005,h2km±6km,n24, σ1§16/37,mb3.5/4,1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.52**	**27**	*e*Pg	**Pg**	**19 20 10.0**	**-0.3**
BNDS				*e*Sg	**Sg**	**19 20 16.5**	**-0.6**
BNDS				AML	AML	19 20 25.4	
	comp=E,2μm,0.4s						
BNDS				AML	AML	19 20 26.6	
	comp=N,2μm,0.3s						
BNDS	**Bandar-Abbas**	**0.52**	**27**	*e*Pg	**Pg**	**19 20 10.0**	**-0.3**
BNDS				*e*Sg	**Sg**	**19 20 16.0**	**-1.1**
BNDS	**Bandar-Abbas**	**0.52**	**27**	*e*Pg	**Pg**	**19 20 10.0**	**-0.3**
	SNR=93						
BNDS				*e*Sg	**Sg**	**19 20 16.5**	**-0.6**
	SNR=93						
BANOM	**Banah**	**1.06**	**161**	P	**Pg**	**19 20 20.7**	**0.0**
	SNR=620						
BANOM				⇓S	**Sg**	**19 20 34.5**	**-0.1**
ASHO	**Ashiyiah**	**2.24**	**176**	P	**Pn**	**19 20 39.1**	**+0.6**
	SNR=44						
GHIR	**Ghir-Karzin**	**2.92**	**298**	*e*Pn	**Pn**	**19 20 51.1**	**+3.3**
GHIR				AML	AML	19 21 47.2	
	comp=E,71nm,0.4s						
GHIR				AML	AML	19 22 04.8	
	comp=N,77nm,0.8s						
GHIR	**Ghir-Karzin**	**2.92**	**298**	*e*Pn	**Pn**	**19 20 50.0**	**+2.2**
GHIR				*e*Sg	**Sg**	**19 21 33.0**	**-1.1**
KRBR	**Kerman**	**3.13**	**14**	*e*Pn	**Pn**	**19 20 52.0**	**+1.2**
KRBR				Sn	**Sn**	**19 21 29.5**	**+0.8**
KRBR				AML	AML	19 21 43.2	
	comp=E,107nm,0.6s						
KRBR				AML	AML	19 21 44.0	
	comp=N,97nm,0.6s						
KRBR	**Kerman**	**3.13**	**14**	*e*Pn	**Pn**	**19 20 51.0**	**+0.3**
KRBR	**Kerman**	**3.13**	**14**	*e*Pn	**Pn**	**19 20 52.0**	**+1.3**
	SNR=47						
KRBR				Sn	**Sn**	**19 21 29.5**	**+0.8**
	SNR=47						
ISRV	**Sarvestan**	**3.47**	**315**	*e*Pn	**Pn**	**19 20 57.2**	**+1.8**
ISRV				*e*Sn	**Sn**	**19 21 37.2**	**+0.2**
IMOK	**Mook**	**3.52**	**307**	*e*Pn	**Pn**	**19 20 57.7**	**+1.6**
IMOK				*e*Sn	**Sn**	**19 21 38.9**	**+0.6**
IMEH	**Mehriz**	**4.58**	**346**	*e*Pn	**Pn**	**19 21 12.9**	**+2.2**
IBAF	**Bafgh**	**4.65**	**356**	*e*Pn	**Pn**	**19 21 12.9**	**+1.3**
IBAF				*e*Sn	**Sn**	**19 22 05.6**	**-0.6**
ICHK	**Chekchek**	**5.45**	**347**	*e*Pn	**Pn**	**19 21 24.2**	**+1.6**
ICHK				*e*Sn	**Sn**	**19 22 24.6**	**-1.4**
UMR	**Umm Al-Rimmam**	**7.68**	**292**	*e*P	**Pn**	**19 21 53.0**	**-0.2**
NAY	**Al-Naaiem**	**7.99**	**289**	*e*P	**Pn**	**19 21 57.2**	**-0.3**
NAY				*e*S	**Sn**	**19 23 23.9**	**-4.6**
NAY				AML	AML	19 23 24.9	
	comp=Z,3.5nm,0.4s						
MIB	**Mutribah**	**8.07**	**293**	*e*P	**Pn**	**19 21 58.4**	**-0.2**
MIB				*e*S	**Sn**	**19 23 26.9**	**-3.6**
MIB				AML	AML	19 23 27.3	
	comp=Z,5.3nm,0.3s						
WHFO	**Wadi Hawf**	**9.19**	**193**	P	**Pn**	**19 22 13.8**	**-0.1**
	SNR=7.1						
BRTR	**Keskin Array B**	**22.49**	**310**	P	**P**	**19 25 00.2**	**-0.9**
	comp=Z,0.2nm,0.5s,mb2.9,baz=131,slow=12,SNR=2.5						
BRVK	**Borovoye**	**28.21**	**18**	*e*P	**P**	**19 25 53.1**	**-1.4**
MKAR	**Makanchi Array**	**28.74**	**39**	P	**P**	**19 25 58.5**	**-0.7**
	comp=Z,0.4nm,0.8s,mb3.2,baz=223,slow=8.1,SNR=3.7						
FINES	**FINESS Array B**	**39.89**	**338**	P	**P**	**19 27 33.7**	**-1.9**
	comp=Z,0.6nm,0.6s,mb3.5,baz=125,slow=14,SNR=4.3						
TORD	**Torodi Ar. Bea**	**52.38**	**266**	P	**P**	**19 29 12.1**	**-1.9**
	comp=Z,2.3nm,0.5s,mb4.3,baz=62,slow=7.0,SNR=43						

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*ISCJB **29** 20:01:19.3±0.6,4376N±005×10524W±007,h0km,mb3.9/2, Error ellipse: s-maj=8.5km s-min=6.5km az=93.8*
*IDC **29** 20:01:20.8±1.8,4386N×10558W,h0km,mb3.8/2, mb1 3.9/4,mb1mx3.6/21,mbtmp3.8/4,ML3.4/2,Error ellipse: s-maj=54.0km s-min=8.6km az=149.0*
*NEIC **29** 20:01:20.9±0.4,4377N×10524W,h0km,ML3.3,Error ellipse: s-maj=7.0km s-min=4.9km az=140.0,Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
ISC 29 20:01:20.8±0.6,4377N±005×10522W±007,h0km,n29, σ0§91/29,mb3.9/2,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**67**	*e*P	**Pg**	**20 01 39.6**	**+1.1**
PHWY	**Pilot Hill**	**2.47**	**184**	*e*P	**Pn**	**20 02 01.9**	**-0.4**
RWWY	**Rawlins**	**2.54**	**216**	*e*P	**Pn**	**20 02 03.9**	**+0.6**
LAO	**LASA Array**	**3.00**	**347**	*e*Pn	**Pn**	**20 02 09.8**	**+0.1**
PDAR	**Pinedale Array**	**3.32**	**254**	Pn	**Pn**	**20 02 13.9**	**-0.1**
	3.4nm,0.3s,baz=73,slow=16,SNR=47						
PDAR				Lg		20 02 58.6	
	13nm,0.3s,baz=70,slow=31,SNR=9.6						
GCMT	**Greycliff**	**3.76**	**304**	*e*Pn	**Pn**	**20 02 20.4**	**+0.4**
LOHW	**Long Hollow**	**3.91**	**270**	*e*Pn	**Pn**	**20 02 20.3**	**-1.8**
MOOW	**Moose Ponds**	**4.00**	**272**	*e*Pn	**Pn**	**20 02 23.1**	**-0.3**
SNOW	**Snow King Moun**	**4.03**	**268**	Pn	**Pn**	**20 02 22.7**	**-1.1**
YFT	**Old Faithful**	**4.10**	**282**	Pn	**Pn**	**20 02 25.6**	**+0.8**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**20 02 24.7**	**-0.2**
IMW	**Indian Meadow**	**4.14**	**274**	*e*Pn	**Pn**	**20 02 27.0**	**+1.7**
RRI2	**Red Ridge**	**4.45**	**267**	*e*Pg	**Pg**	**20 02 38.5**	**-7.7**
QLMT	**Earthquake Lak**	**4.58**	**286**	Pn	**Pn**	**20 02 33.8**	**+2.5**
SMCO	**Snowmass**	**4.77**	**197**	*e*Pg	**Pg**	**20 02 46.8**	**-5.5**
BOZ	**Bozeman (W)**	**4.94**	**295**	*e*Pn	**Pn**	**20 02 35.1**	**-1.2**
HWUT	**Hardware Ranch**	**5.15**	**247**	*e*Pn	**Pn**	**20 02 38.4**	**-0.8**
	8.5nm,0.4s						
TCUT	**Toone Canyon**	**5.29**	**242**	*e*Pn	**Pn**	**20 02 41.0**	**-0.1**
DAU	**Daniels Canyon**	**5.60**	**235**	*e*Pn	**Pn**	**20 02 45.9**	**+0.5**
PV01	**Paradox Valley**	**6.17**	**205**	*e*Pn	**Pn**	**20 02 54.0**	**+0.8**
TMUT	**Trail Mountain**	**6.34**	**227**	*e*Pn	**Pn**	**20 02 55.9**	**+0.4**
CHMT	**Chamberlain Mo**	**6.48**	**302**	*e*Pn	**Pn**	**20 02 57.5**	**+0.2**
HLID	**Hailey**	**6.67**	**271**	Pn	**Pn**	**20 03 01.3**	**+1.3**
	1.7nm,0.8s						
DUG	**Dugway**	**6.69**	**240**	*e*Pn	**Pn**	**20 02 59.5**	**-0.8**
	4.3nm,0.5s						
MSU	**Marysvale**	**7.42**	**227**	*e*Pn	**Pn**	**20 03 09.9**	**-0.5**
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**

SGMF Saint Gilles 20.95 90 *e*P **P 20 10 06.7 +0.4**
comp=Z,13nm,0.8s
ELOB Lobios 21.11 111 P **P 20 10 07.3 -0.7**
comp=Z,17nm,0.9s,mb4.4
ELOB Lobios 21.11 111 P **P 20 10 07.3 -0.7**
comp=Z,17nm,0.9s,mb4.4
JMIC Jan Mayen 21.70 23 LR LR 20 16 24.9
comp=Z,301nm,19.9s,MS3.7,baz=262,slow=30
ECAL Calabor 21.82 109 P **P 20 10 14.7 -0.9**
comp=Z,45nm,1.3s,mb4.7
ECAL Calabor 21.82 109 P **P 20 10 14.7 -0.9**
comp=Z,45nm,1.3s,mb4.7
EARI Arriondas 21.87 104 P **P 20 10 14.6 -1.6**
comp=Z,79nm,1.6s,mb4.9
EARI Arriondas 21.87 104 P **P 20 10 14.6 -1.6**
comp=Z,79nm,1.6s,mb4.9
GRR Gorron 21.92 88 *e*P **P 20 10 17.2 +0.4**
comp=Z,25nm,0.9s,mb4.3
GRR Gorron 21.92 88 *e*P **P 20 10 17.2 +0.4**
GRR pmax pmax
comp=Z,13nm,0.9s,mb4.4
GRR Gorron 21.92 88 *e*P **P 20 10 17.2 +0.4**
comp=Z,13nm,0.9s,mb4.3
FLN La Foliniere 22.00 87 *e*P **P 20 10 18.0 +0.4**
comp=Z,35nm,0.9s,mb4.5
FLN La Foliniere 22.00 87 *e*P **P 20 10 18.0 +0.4**
FLN pmax pmax
comp=Z,18nm,0.9s,mb4.5
FLN La Foliniere 22.00 87 *e*P **P 20 10 18.0 +0.4**
comp=Z,18nm,0.9s,mb4.5
LDF La Druitiere 22.29 87 *e*P **P 20 10 20.3 -0.4**
comp=Z,23nm,0.8s,mb4.3
LDF La Druitiere 22.29 87 *e*P **P 20 10 20.3 -0.4**
LDF pmax pmax
comp=Z,11nm,0.8s,mb4.3
LDF La Druitiere 22.29 87 *e*P **P 20 10 20.3 -0.4**
comp=Z,11nm,0.8s,mb4.3
ELAN Lanestosa 22.96 102 P **P 20 10 25.1 -2.7**
comp=Z,21nm,1.2s,mb4.4
ELAN Lanestosa 22.96 102 P **P 20 10 25.1 -2.7**
comp=Z,21nm,1.2s,mb4.4
MFF Saint Martin d 23.15 92 *e*P **P 20 10 28.5 -1.4**
comp=Z,33nm,1.2s,mb4.3
MFF Saint Martin d 23.15 92 *e*P **P 20 10 28.5 -1.4**
MFF pmax pmax
comp=Z,16nm,1.2s,mb4.3
MFF Saint Martin d 23.15 92 *e*P **P 20 10 28.5 -1.4**
comp=Z,16nm,1.2s,mb4.3
EVO Evora 23.43 117 *e*P **P 20 10 30.5 -2.2**
comp=Z,43nm,1.5s,mb4.4
EVO *e*R
comp=Z,149nm,19.8s
EBAD Badajoz 23.81 115 P **P 20 10 35.9 -0.6**
comp=Z,18nm,1.2s,mb4.4
GUD Guadarrama 24.14 108 P **P 20 10 39.1 -0.4**
GUD pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
GUD Guadarrama 24.14 108 P **P 20 10 39.1 -0.4**
comp=Z,5.6nm,1.0s,mb4.0
GUD Guadarrama 24.14 108 P **P 20 10 39.1 -0.4**
comp=Z,6.0nm,1.0s,mb4.0
SNF Seneffe 24.21 80 P **P 20 10 40.7 +0.5**
SNF AP 20 10 45.4
BAIF Baives 24.33 81 *e*P **P 20 10 40.3 -0.9**
comp=Z,34nm,1.1s,mb4.4
BAIF Baives 24.33 81 *e*P **P 20 10 40.3 -0.9**
BAIF pmax pmax
comp=Z,17nm,1.1s,mb4.4
BAIF Baives 24.33 81 *e*P **P 20 10 40.3 -0.9**
comp=Z,17nm,1.1s,mb4.4
SJPF Ste Jean 24.35 100 *e*P **P 20 10 40.1 -1.3**
comp=Z,32nm,1.5s,mb4.2
SJPF Ste Jean 24.35 100 *e*P **P 20 10 40.1 -1.3**
comp=Z,16nm,1.5s,mb4.2
LFF La Frestale 24.52 94 *e*P **P 20 10 42.6 -0.4**
DOU Dourbes 24.55 80 P **P 20 10 41.1 -2.1**
DOU E 20 10 45.3
DOU AP 20 10 49.1
DOU PNPN 20 11 07.2
GIVF Givet 24.68 80 *e*P **P 20 10 44.3 -0.1**
TCF Toulx Ste Croi 24.73 90 *e*P **P 20 10 44.9 0.0**
comp=Z,32nm,1.0s,mb4.5
TCF Toulx Ste Croi 24.73 90 *e*P **P 20 10 44.9 0.0**
TCF pmax pmax
comp=Z,16nm,1.0s,mb4.5
TCF Toulx Ste Croi 24.73 90 *e*P **P 20 10 44.9 0.0**
comp=Z,16nm,1.0s,mb4.5
RJF Les Rejaudoux 24.80 93 *e*P **P 20 10 45.4 -0.1**
comp=Z,9.3nm,0.8s,mb4.0
RJF Les Rejaudoux 24.80 93 *e*P **P 20 10 45.4 -0.1**
RJF pmax pmax
comp=Z,50nm,0.8s,mb5.1
RJF Les Rejaudoux 24.80 93 *e*P **P 20 10 45.4 -0.1**
comp=Z,4.7nm,0.8s,mb4.1
DAG Danmarks Havn 24.82 9⇑ *i*P **P 20 10 46.4 +0.8**
comp=Z,3.8nm,1.1s,mb3.8
DAG Danmarks Havn 24.82 9⇑ *e*P **P 20 10 46.4 +0.8**
comp=Z,3.8nm,1.1s,mb3.8
ETSF Etsaut 24.87 100 *e*P **P 20 10 44.8 -1.3**
comp=Z,6.1nm,0.8s,mb3.9
ETSF Etsaut 24.87 100 *e*P **P 20 10 44.8 -1.3**
comp=Z,3.0nm,0.8s,mb3.9
ESDC Sonseca Array 24.89 109 P **P 20 10 45.5 -0.8**
comp=Z,2.7nm,0.8s,mb3.8,baz=314,slow=8.3,SNR=13
ESDC LR LR 20 18 34.3
comp=Z,221nm,18.5s,MS3.7,baz=320,slow=32
ESDC Sonseca Array 24.89 109 P **P 20 10 46.0 -0.3**
comp=Z,2.0nm,0.5s,mb3.9
ESDC Sonseca Array 24.89 109 P **P 20 10 46.0 -0.3**
comp=Z,2.0nm,0.5s,mb3.9
BGF Bois d'Agland 24.99 89 *e*P **P 20 10 47.4 +0.2**
comp=Z,60nm,1.0s,mb4.8
BGF Bois d'Agland 24.99 89 *e*P **P 20 10 47.4 +0.2**
BGF pmax pmax
comp=Z,30nm,1.0s,mb4.8
BGF Bois d'Agland 24.99 89 *e*P **P 20 10 47.4 +0.2**
comp=Z,30nm,1.0s,mb4.8
HGN Heimansgroeve 25.10 78 *e*P **P 20 10 47.8 -0.5**
comp=Z,16nm,2.5s,mb4.1
SSF Saint Saulge 25.15 88 *e*P **P 20 10 47.6 -1.1**
comp=Z,43nm,1.2s,mb4.5
SSF Saint Saulge 25.15 88 *e*P **P 20 10 47.6 -1.1**
SSF pmax pmax
comp=Z,21nm,1.2s,mb4.5
SSF Saint Saulge 25.15 88 *e*P **P 20 10 47.6 -1.1**
comp=Z,21nm,1.2s,mb4.5
AVF Avril sur Loir 25.19 88 *e*P **P 20 10 49.1 +0.1**
comp=Z,22nm,0.9s,mb4.4
AVF Avril sur Loir 25.19 88 *e*P **P 20 10 49.1 +0.1**
AVF pmax pmax
comp=Z,11nm,0.9s,mb4.4
AVF Avril sur Loir 25.19 88 *e*P **P 20 10 49.1 +0.1**
comp=Z,11nm,0.9s,mb4.4
MEM Membach 25.20 78 E 20 10 51.2
MEM AP pP 20 10 54.5 +4.8
WTSB Winterswijk 25.21 75 *e*P **P 20 10 49.5 +0.2**
comp=Z,40nm,1.8s,mb4.7
KONO Kongsberg 25.24 57 *e*P **P 20 10 50.1 +0.6**
ETOR Torete 25.25 105 P **P 20 10 49.3 -0.3**
comp=Z,6.4nm,0.9s,mb4.2
LOR Lormes 25.27 87 *e*P **P 20 10 49.4 -0.4**
comp=Z,20nm,0.7s,mb4.5
LOR *e*R
comp=Z,128nm,22.2s
LOR Lormes 25.27 87 *e*P **P 20 10 49.4 -0.4**
comp=Z,10nm,0.7s,mb4.5
LOR LR LR
comp=Z,130nm,22.2s,MS3.4
EPF Esparros 25.33 99 *e*P **P 20 10 50.0 -0.3**
comp=Z,5.7nm,0.9s,mb3.8
EPF Esparros 25.33 99 *e*P **P 20 10 50.0 -0.3**
EPF pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
EPF Esparros 25.33 99 *e*P **P 20 10 50.0 -0.3**
comp=Z,2.8nm,0.9s,mb3.8
CAF Calviac 25.33 93 *e*P **P 20 10 50.2 -0.1**
comp=Z,19nm,1.2s,mb4.2
CAF Calviac 25.33 93 *e*P **P 20 10 50.2 -0.1**
CAF pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
CAF Calviac 25.33 93 *e*P **P 20 10 50.2 -0.1**
comp=Z,9.6nm,1.2s,mb4.2
EBIE Bielsa 25.41 99 P **P 20 10 52.4 +1.3**
comp=Z,7.0nm,0.7s,mb4.3
EBIE Bielsa 25.41 99 P **P 20 10 52.4 +1.3**
comp=Z,7.0nm,0.7s,mb4.3
MUD Monsted U'grnd 25.43 64 *i*P **P 20 10 54.4 +3.2**
comp=Z,37nm,1.5s,mb4.7
MUD Monsted U'grnd 25.43 64 *e*P **P 20 10 54.4 +3.2**
MUD pmax pmax
comp=Z,37nm,1.5s,mb4.7
MUD Monsted U'grnd 25.43 64 *e*P **P 20 10 54.4 +3.2**
comp=Z,37nm,1.5s,mb4.7
MEZF Maizieres J'vi 25.45 84 *e*P **P 20 10 52.0 +0.6**
comp=Z,66nm,0.9s,mb4.9
MEZF Maizieres J'vi 25.45 84 *e*P **P 20 10 52.0 +0.6**
comp=Z,66nm,0.9s,mb5.2
SMF Signal de Mont 25.55 88 *e*P **P 20 10 52.7 +0.4**
comp=Z,29nm,1.0s,mb4.5
SMF Signal de Mont 25.55 88 *e*P **P 20 10 52.7 +0.4**
SMF pmax pmax
comp=Z,15nm,1.0s,mb4.5
SMF Signal de Mont 25.55 88 *e*P **P 20 10 52.7 +0.4**
comp=Z,14nm,1.0s,mb4.5
EADA Adamuz 25.58 113 P **P 20 10 53.2 +0.6**
comp=Z,5.7nm,0.8s,mb4.2
EADA Adamuz 25.58 113 P **P 20 10 53.2 +0.6**
comp=Z,5.7nm,0.8s,mb4.2
ESPR Espera 25.81 117 P **P 20 10 57.3 +2.7**
comp=Z,12nm,0.9s,mb4.4
ESPR Espera 25.81 117 P **P 20 10 57.3 +2.6**
comp=Z,12nm,0.9s,mb4.4
NB2 NORSAR Subarra 25.96 53 P **P 20 10 55.5 -0.5**
comp=Z,23nm,2.0s,mb4.3,baz=275,slow=10
NB2 NORSAR Subarra 25.96 53 P **P 20 10 55.5 -0.5**
NB2 pmax pmax
comp=Z,23nm,2.0s,mb4.4
NOA NORSAR Array B 25.96 53 P **P 20 10 55.4 -0.7**
comp=Z,1.3nm,0.7s,mb3.6,baz=276,slow=10.0,SNR=4.8
NOA LR LR 20 20 06.2
comp=Z,166nm,18.7s,MS3.6,baz=270,slow=34
MTLF Montolieu 26.28 96 *e*P **P 20 10 59.3 +0.3**
comp=Z,20nm,1.2s,mb4.2
MTLF Montolieu 26.28 96 *e*P **P 20 10 59.3 +0.3**
comp=Z,9.9nm,1.2s,mb4.2
HAU Haudompre 26.45 84 *e*P **P 20 11 00.4 -0.1**
comp=Z,31nm,0.9s,mb4.5
HAU Haudompre 26.45 84 *e*P **P 20 11 00.4 -0.1**
HAU pmax pmax
comp=Z,15nm,0.9s,mb4.5
HAU Haudompre 26.45 84 *e*P **P 20 11 00.4 -0.1**
comp=Z,15nm,0.9s,mb4.5
EQES Quesada 26.68 112 P **P 20 11 05.6 +3.1**
comp=Z,6.0nm,0.7s,mb4.2
EQES Quesada 26.68 112 P **P 20 11 05.6 +3.1**
comp=Z,6.0nm,0.7s,mb4.2
CDF Champ du Feu 26.83 82 *e*P **P 20 11 05.0 +1.1**
comp=Z,6.1nm,0.8s,mb3.9
CDF Champ du Feu 26.83 82 *e*P **P 20 11 05.0 +1.1**
comp=Z,3.0nm,0.8s,mb3.9
HINF Hinteralfeld 26.84 84 *e*P **P 20 11 04.0 0.0**
comp=Z,14nm,0.8s,mb4.2
HINF Hinteralfeld 26.84 84 *e*P **P 20 11 04.0 0.0**
HINF pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
HINF Hinteralfeld 26.84 84 *e*P **P 20 11 04.0 0.0**
comp=Z,7.2nm,0.8s,mb4.2
LASF Ste Croix 26.87 93 *e*P **P 20 11 04.3 0.0**
comp=Z,11nm,1.1s,mb4.0
CABF La Chapelle 26.93 87 *e*P **P 20 11 05.5 +0.7**
comp=Z,16nm,1.0s,mb4.2
CABF La Chapelle 26.93 87 *e*P **P 20 11 05.5 +0.7**
comp=Z,8.1nm,1.0s,mb4.2
VIVF Saint-Julien-l 26.95 91 *e*P **P 20 11 05.0 0.0**
HFS Hagfors 27.25 55 P **P 20 11 07.1 -0.6**
comp=Z,4.9nm,1.0s,mb4.0,baz=275,slow=7.3,SNR=3.6
HFS LR LR 20 20 28.6
comp=Z,242nm,20.1s,MS3.8,baz=285,slow=33
ORIF Oris-en-Rattie 27.65 90 *e*P **P 20 11 11.6 +0.3**
comp=Z,11nm,1.0s,mb4.2
ORIF Oris-en-Rattie 27.65 90 *e*P **P 20 11 11.6 +0.3**
comp=Z,5.6nm,1.0s,mb4.2
MBDF Montbardon 28.29 90 *e*P **P 20 11 16.0 -1.0**
MOX Moxa 28.50 75 *e*P **P 20 11 18.9 0.0**
comp=Z,11nm,1.0s,mb4.5
MOX *e*pP 20 11 24.9
MOX Moxa 28.50 75 *e*P **P 20 11 24.5 +5.6**
MOX
comp=Z,300nm,18.0s
MOX Moxa 28.50 75 *e*P **P 20 11 24.5 +5.6**
comp=Z,300nm,18.0s
MOX *e*pP 20 11 24.9
GRA1 Grafenberg Arr 28.65 78 *e*P **P 20 11 20.6 +0.4**
comp=Z,10.0nm,1.0s,mb4.5
GRA1 LR LR
comp=Z,200nm,33.3s,MS3.5
GRF Grafenberg Arr 28.65 78 *e*P **P 20 11 20.6 +0.4**
comp=Z,10.0nm,1.0s,mb4.5
GRF *e*L 20 19 41.7
comp=Z,205nm,33.3s
GRF Grafenberg Arr 28.65 78 *e*P **P 20 11 20.6 +0.4**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
GRF MLR MLR
comp=Z,200nm,33.3s,MS3.5
GRF Grafenberg Arr 28.65 78 *e*P **P 20 11 20.6 +0.4**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
GRF MLR MLR
comp=Z,200nm,33.3s,MS3.5
WERD Werda 28.98 75 *e*P **P 20 11 23.2 0.0**
comp=Z,12nm,1.2s,mb4.5
WERD *e*pP 20 11 29.1
MANZ Manzenberg 29.05 76 *e*P **P 20 11 23.7 -0.1**
comp=Z,7.0nm,1.2s,mb4.3
CLL Collm 29.06 74 *e*P **P 20 11 23.7 -0.1**
comp=Z,20nm,1.3s,mb4.7
CLL Collm 29.06 74 *i* P **P 20 11 23.6 -0.2**
comp=Z,9.0nm,0.8s,mb4.5
CLL *i* pP 20 11 26.2
CLL *i* x x 20 11 29.2
comp=Z,20nm,1.3s
CLL *e*S **S 20 16 18.0 +1.9**
CLL *e*x x 20 16 42.0
CLL Collm 29.06 74 *i* P **P 20 11 23.6 -0.2**
CLL *i* 20 11 29.2
CLL *e*S **S 20 16 21.0 +4.9**
CLL pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
CLL MLR MLR
comp=Z,300nm,14.6s,MS4.0
CLL Collm 29.06 74 *i* P **P 20 11 23.6 -0.2**
comp=Z,9.0nm,0.8s,mb4.5
CLL *i* 20 11 29.2
CLL *e*S **S 20 16 21.0 +4.9**
CLL LR LR
comp=Z,300nm,14.6s,MS4.0
CLL Collm 29.06 74 *i* P **P 20 11 23.6 -0.2**
CLL *e*S **S 20 16 21.0 +4.9**
TANN Tannenbergstha 29.09 75 *e*P **P 20 11 24.2 +0.1**
comp=Z,14nm,1.2s,mb4.6
TANN *e*pP 20 11 30.1
DAVOX Davos 29.14 84 LR LR 20 22 35.9
comp=Z,105nm,18.1s,MS3.5,baz=262,slow=36
NKC Novy Kostel 29.15 76 AMS AMS 20 22 20.0
comp=Z,400nm,16.9s
ROTZ Rotzenmuhle 29.20 77 *e*P **P 20 11 25.4 +0.3**
comp=Z,5.0nm,1.0s,mb4.2
ROTZ *e*pP 20 11 31.1
FBE Freiberg 29.41 74 *e*P **P 20 11 26.8 -0.2**
comp=Z,15nm,1.1s,mb4.6
MDT Midelt 29.55 121 LR LR 20 20 42.1
comp=Z,49nm,21.9s,MS3.1,baz=302,slow=31
BRG Berggiesshubel 29.77 74 *e*P **P 20 11 30.2 0.0**
comp=Z,2.3nm,0.8s,mb3.9
BRG *e* 20 11 36.2
comp=Z,5.5nm,1.0s
BRG
comp=N,91nm,15.8s
BRG
comp=E,107nm,15.3s
BRG
comp=Z,149nm,16.8s
BRG Berggiesshubel 29.77 74 *e*P **P 20 11 30.2 0.0**
BRG *e* 20 11 36.2
BRG pmax pmax
comp=Z,20nm,0.8s,mb4.9
BRG MLR MLR
comp=Z,150nm,16.8s,MS3.7
BRG Berggiesshubel 29.77 74 *e*P **P 20 11 30.2 0.0**
comp=Z,2.3nm,0.8s,mb4.0
BRG *e* 20 11 36.2
BRG LR LR
comp=Z,150nm,16.8s,MS3.7
BRG Berggiesshubel 29.77 74 *e*P **P 20 11 30.2 0.0**
comp=Z,9.0nm,1.0s,mb4.5
BRG *e*pP 20 11 35.8
SADO Sadowa 29.83 272 LR LR 20 22 35.7
comp=Z,215nm,19.9s,MS3.8,baz=81,slow=35
WET Wettzell 29.86 78 *e*P **P 20 11 31.4 +0.5**
comp=Z,3.0nm,1.0s,mb4.0
WET Wettzell 29.86 78 *e*P **P 20 11 31.4 +0.5**
WET pmax pmax
comp=Z,30nm,1.0s,mb5.0
PVCC Panska Ves 30.28 74 *e*P **P 20 11 37.0 +2.4**
PVCC *e*pP 20 11 40.9
PVCC AMS AMS 20 23 00.0
comp=Z,300nm,16.7s
PVCC Panska Ves 30.28 74 *e*P **P 20 11 37.0 +2.4**
PVCC *e*pP 20 11 40.9
KHC Kasperske Hory 30.28 77 *e*P **P 20 11 35.5 +0.8**
KHC *e*pP 20 11 41.0
KHC AMS AMS 20 22 40.0
comp=Z,200nm,21.4s
KHC Kasperske Hory 30.28 77 *e*P **P 20 11 35.5 +0.8**
KHC *e*pP 20 11 41.0
GEC2 GERESS Array S 30.48 78 *e*P **P 20 11 36.7 +0.3**
comp=Z,10.0nm,1.2s,mb4.4
GEC2 *e*pP 20 11 42.3
GEC2 GERESS Array S 30.48 78 *e*P **P 20 11 36.7 +0.3**
GEC2 *e**PP 20 11 42.3
GEC2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
GERES GERESS Array B 30.48 78 P **P 20 11 36.1 -0.3**
comp=Z,1.4nm,0.8s,mb3.8,baz=302,slow=7.7,SNR=13
GERES LR LR 20 23 14.3
comp=Z,114nm,18.1s,MS3.6,baz=293,slow=35
UPC Upice 31.13 73 *e*P **P 20 11 43.1 +1.0**
UPC *e*pP 20 11 48.5
TREC Trest 31.34 76 *e*P **P 20 11 44.8 +0.8**
TREC *e*pP 20 11 50.8
DPC Dobruska-Polom 31.37 74 *e*P **P 20 11 44.8 +0.5**
DPC *e*pP 20 11 50.6
DPC AMS AMS 20 23 40.0
comp=Z,300nm,21.4s
DPC Dobruska-Polom 31.37 74 *e*P **P 20 11 44.8 +0.5**
DPC *e*pP 20 11 50.6
ARCES ARCESS Array B 31.84 35 P **P 20 11 47.3 -1.2**
comp=Z,4.6nm,1.1s,mb4.2,baz=260,slow=6.8,SNR=7.5
ARCES LR LR 20 23 36.3
comp=Z,48nm,18.5s,MS3.2,baz=253,slow=34
JAVS Javornik 32.10 82 *e*P **P 20 11 50.8 +0.1**
JAVS *e*pP 20 11 57.5
MORC Moravsky Berou 32.33 74⇑ *i*P **P 20 11 53.3 +0.6**
MORC Moravsky Berou 32.33 74 *e*P **P 20 11 53.0 +0.3**
MORC pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
MORC Moravsky Berou 32.33 74 *e*P **P 20 11 53.0 +0.3**
comp=Z,9.6nm,1.1s,mb4.5
MORC Moravsky Berou 32.33 74 *e*P **P 20 11 53.0 +0.3**
comp=Z,9.6nm,1.1s,mb4.5
VISS Visnje 32.61 82 *e*P **P 20 11 54.9 -0.3**
VISS *e*pP 20 12 01.5
OKC Ostrava-Krasne 32.66 74 *e*P **P 20 11 56.2 +0.6**
OKC *e*pP 20 12 02.1
OKC AMS AMS 20 24 20.0
comp=Z,300nm,24.5s
OKC Ostrava-Krasne 32.66 74 *e*P **P 20 11 56.2 +0.6**
OKC *e*pP 20 12 02.1
ZST Bratislava 32.79 77 *e*P **P 20 12 03.0 +6.3**
ZST pmax pmax
comp=Z,20nm,0.6s,mb5.2
ZST Bratislava 32.79 77 *e*P **P 20 12 03.0 +6.3**
comp=Z,20nm,0.6s,mb5.2
SMOL Smolenice 32.83 76 *e*sP sP 20 12 03.6 +5.7
FINES FINESS Array B 33.01 50 P **P 20 11 57.6 -1.1**
comp=Z,3.2nm,0.8s,mb4.3,baz=242,slow=4.1,SNR=11
FINES LR LR 20 23 50.3
comp=Z,226nm,20.5s,MS3.9,baz=277,slow=34
OJC Ojcow 33.45 72 *e*P **P 20 12 02.1 -0.4**
VYHS Vyhne 33.67 75 *e*P **P 20 12 04.6 +0.2**
VYHS pmax pmax
comp=Z,50nm,1.3s,mb5.3
VYHS Vyhne 33.67 75 *e*P **P 20 12 04.6 +0.2**
comp=Z,4.5nm,1.3s,mb4.2
NIE Niedzica 34.10 73 *e*P **P 20 12 08.9 +0.7**
PSZ Piszkesteto 34.57 76 *e*P **P 20 12 13.0 +0.8**
PSZ pmax pmax
comp=Z,14nm,1.3s,mb4.7
PSZ Piszkesteto 34.57 76 *e*P **P 20 12 13.0 +0.8**
comp=Z,14nm,1.3s,mb4.7
PSZ Piszkesteto 34.57 76 *e*P **P 20 12 13.0 +0.8**
comp=Z,14nm,1.3s,mb4.7
KECS Kecovo 34.64 74 *e*P **P 20 12 12.2 -0.6**
KECS pmax pmax
comp=Z,30nm,1.2s,mb5.1
KECS Kecovo 34.64 74 *e*P **P 20 12 12.2 -0.6**
comp=Z,3.1nm,1.2s,mb4.1
STHS Stebnicka Huta 34.64 73 *e*P **P 20 12 13.8 +0.9**
comp=Z,5.3nm,1.3s,mb4.3
BZS Buzias 36.76 78⇑ *i*P **P 20 12 31.2 +0.2**
DRGR 36.79 76⇓ *i*P **P 20 12 32.3 +1.0**
ULM Lac du Bonnet 37.02 291 P **P 20 12 31.8 -1.4**
comp=Z,5.2nm,0.8s,mb4.4,baz=53,slow=9.1,SNR=4.8
ULM LR LR 20 26 00.2
comp=Z,126nm,21.4s,MS3.7,baz=28,slow=34
BURAR Bucovina Array 37.83 73⇓ *i*P **P 20 12 41.2 +1.1**
AKASG Malin Array Be 38.57 67 P **P 20 12 45.0 -1.4**
comp=Z,2.5nm,0.7s,mb4.0,baz=301,slow=8.6,SNR=4.6
AKASG LR LR 20 28 00.5
comp=Z,122nm,20.0s,MS3.7,baz=300,slow=35
MLR Muntele Rosu 39.38 75⇓ *i*P **P 20 12 55.5 +2.3**
KLMR Klimovskoe 39.39 48 *e*P **P 20 12 50.4 -2.8**
KLMR pmax pmax
comp=Z,50nm,1.4s,mb5.0
KLMR Klimovskoe 39.39 48 *e*P **P 20 12 50.4 -2.8**
comp=Z,50nm,1.4s,mb5.0
VRI Vrincioaia 39.64 75⇓ *i*P **P 20 12 56.6 +1.3**
OBN Obninsk 40.41 57⇓ *e*P **P 20 13 01.3 -0.4**
OBN pmax pmax
comp=Z,20nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.0
OBN Obninsk 40.41 57 *e*P **P 20 13 01.3 -0.4**
comp=Z,200nm,18.0s
YKA Yellowknife Ar 41.03 316 P **P 20 13 05.4 -1.4**
comp=Z,2.0nm,0.9s,mb3.8,baz=60,slow=8.6,SNR=4.2
YKA LR LR 20 28 01.2
comp=Z,58nm,18.0s,MS3.5,baz=55,slow=33
VRSR Storozhevoye 43.73 61 *e*P **P 20 13 28.5 -0.3**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,0.8s
VRSR Storozhevoye 43.73 61 *e*P **P 20 13 28.5 -0.3**
comp=E,10.0nm,0.7s,mb4.7
LAO LASA Array 44.74 292 *e*P **P 20 13 38.4 +1.5**
comp=E,22nm,0.9s,mb5.0
LAO LASA Array 44.74 292 *e*P **P 20 13 38.4 +1.5**
comp=E,22nm,0.9s,mb5.0
INK Inuvik 45.24 329 P **P 20 13 40.0 -0.9**
comp=E,2.5nm,0.9s,mb4.0,baz=74,slow=9.5,SNR=6.1
ANN Anapa 46.43 69 *e*P **P 20 14 00.5 +10**
ANN pmax pmax
comp=Z,44nm,1.3s,mb5.2
ANN MLR MLR
comp=Z,284nm,17.0s,MS4.3
ANN Anapa 46.43 69 *e*P **P 20 14 00.5 +10**
comp=Z,284nm,17.0s
GCMT Greycliff 47.20 293 *e*P **P 20 13 56.5 +0.2**
BR131 Keskin Array S 47.38 77 *e*P **P 20 13 58.7 +1.0**
comp=Z,7.5nm,0.9s,mb4.6
BRTR Keskin Array B 47.38 77 P **P 20 13 58.6 +1.0**
comp=Z,4.0nm,0.9s,mb4.3,baz=302,slow=6.1,SNR=18
BRTR LR LR 20 35 40.5
comp=Z,100nm,18.3s,MS3.8,baz=152,slow=38
WALA Waterton Lakes 47.56 299 *e*P **P 20 13 58.9 -0.2**
comp=Z,9.8nm,1.0s,mb4.8
WALA Waterton Lakes 47.56 299 *e*P **P 20 13 58.9 -0.3**
comp=Z,9.8nm,1.0s,mb4.8
RWWY Rawlins 48.34 287 *e*P **P 20 14 06.2 +1.0**
comp=Z,11nm,1.0s,mb4.8
RWWY Rawlins 48.34 287 *e*P **P 20 14 06.2 +1.1**
comp=Z,11nm,1.0s,mb4.8
CHMT Chamberlain Mo 48.50 296 P **P 20 14 05.7 -0.7**
CHMT Chamberlain Mo 48.50 296 P **P 20 14 05.7 -0.7**
PDAR Pinedale Array 49.01 290 P **P 20 14 09.5 -0.8**
comp=Z,1.2nm,0.8s,mb4.0,baz=54,slow=7.5,SNR=11

PDAR LR LR 20 33 36.9
comp=Z,90nm,20.9s,MS3.7,baz=36,slow=35
TORD Torodi Ar. Bea 49.14 130 P P 20 14 09.6 -1.7
comp=Z,1.9nm,0.9s,mb4.1,baz=333,slow=7.0,SNR=7.8
TORD LR LR 20 32 56.8
comp=Z,66nm,18.8s,MS3.6,baz=340,slow=34
TORD Torodi Ar. Bea 49.14 130 P P 20 14 09.6 -1.8
TORD LR LR 20 32 56.8
GOF Gofitskoye 49.41 66 ⇓*i*P **P 20 14 13.8 +0.4**
GOF *i* 20 14 20.0
GOF pmax pmax
comp=Z,29nm,0.7s,mb5.4
GOF Gofitskoye 49.41 66 *i*P **P 20 14 13.8 +0.4**
comp=Z,29nm,0.7s,mb5.4
MCMT McKenzie Canyo 49.56 294 *e*P **P 20 14 15.2 +0.6**
MCMT McKenzie Canyo 49.56 294 *e*P **P 20 14 15.2 +0.6**
DLBC Dease Lake 49.65 317 P **P 20 14 15.7 +0.5**
comp=Z,3.0nm,0.7s,mb4.5,baz=353,slow=27,SNR=3.0
DLBC Dease Lake 49.65 317 P **P 20 14 15.6 +0.4**
DAWY Dawson 49.67 326 *e*P **P 20 14 16.3 +0.9**
DAWY Dawson 49.67 326 *e*P **P 20 14 16.3 +0.9**
KIV Kislovodsk 49.91 67 *e*P **P 20 14 18.9 +1.7**
KIV *e*S **S 20 21 26.9 -1.3**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
KIV MLR MLR
comp=Z,131nm,18.0s,MS4.0
KIV Kislovodsk 49.91 67 *e*P **P 20 14 18.9 +1.7**
comp=Z,10.0nm,1.2s,mb4.7
KIV *e*S **S 20 21 26.9 -1.3**
comp=Z,131nm,18.0s
ARU Arti 50.17 46 ⇓*i*P **P 20 14 18.8 -0.3**
ARU *e* 20 15 34.4
ARU *e* 20 16 13.4
ARU *e*PPP 20 17 10.3
ARU *e*S **S 20 21 30.1 -1.6**
ARU *e*SS SS 20 25 01.0 -3.9
ARU pmax pmax
comp=Z,14nm,1.1s,mb4.9
ARU Arti 50.17 46 *e*P **P 20 14 19.2 0.0**
comp=Z,16nm,1.2s,mb4.9
ARU Arti 50.17 46 *e*P **P 20 14 19.2 +0.1**
comp=Z,16nm,1.2s,mb4.9
ARU Arti 50.17 46 *e*PcP PcP 20 15 34.4 -4.1
ARU *e*S **S 20 21 30.1 -1.6**
HWUT Hardware Ranch 50.89 290 *e*P **P 20 14 25.1 +0.4**
comp=Z,14nm,0.9s,mb4.9
HWUT Hardware Ranch 50.89 290 *e*P **P 20 14 25.1 +0.5**
comp=Z,14nm,0.9s,mb4.9
HLID Hailey 51.24 294 *e*P **P 20 14 28.0 +0.8**
comp=Z,3.5nm,0.9s,mb4.3
HLID Hailey 51.24 294 *e*P **P 20 14 28.0 +0.8**
comp=Z,3.5nm,0.9s,mb4.3
PV10 Paradox Valley 51.55 285 *e*P **P 20 14 30.5 +0.9**
PV10 Paradox Valley 51.55 285 *e*P **P 20 14 30.5 +0.9**
COLA College 51.85 330 *e*P **P 20 14 31.9 +0.1**
DBIC Dimbokro 52.16 141 LR LR 20 33 37.1
comp=Z,67nm,20.2s,MS3.7,baz=332,slow=32
ANMO Albuquerque 52.34 280 *e*P **P 20 14 36.1 +0.6**
DUG Dugway 52.53 289 P **P 20 14 37.2 +0.3**
comp=Z,4.4nm,1.3s,mb4.2
DUG Dugway 52.53 289 P **P 20 14 37.2 +0.3**
TIXI Tiksi 55.29 6 ⇓*e*P **P 20 14 57.4 +0.3**
TIXI pmax pmax
comp=Z,13nm,2.5s,mb4.5
TIXI Tiksi 55.29 6 *e*P **P 20 14 57.4 +0.3**
comp=Z,13nm,2.5s,mb4.5
MNV Mina 56.77 291 *e*P **P 20 15 07.6 0.0**
MNV pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MNV Mina 56.77 291 *e*P **P 20 15 07.6 0.0**
comp=Z,5.6nm,1.0s,mb4.5
MNV Mina 56.77 291 *e*P **P 20 15 07.6 0.0**
comp=Z,6.0nm,1.0s,mb4.6
NVAR Mina Array Bea 56.86 291 P **P 20 15 08.2 -0.1**
comp=Z,0.6nm,0.9s,mb3.6,baz=46,slow=5.2,SNR=3.3
ZRNK Zerenda 57.00 44 *e*P **P 20 15 09.2 -0.1**
ZRNK pmax pmax
comp=Z,11nm,1.2s,mb4.8
ZRNK Zerenda 57.00 44 *e*P **P 20 15 09.2 -0.1**
comp=Z,11nm,1.2s,mb4.8
ZRNK Zerenda 57.00 44 *e*P **P 20 15 09.2 -0.1**
comp=Z,11nm,1.2s,mb4.8
YBH Yreka Blue Hor 57.01 297 P **P 20 15 08.6 -0.7**
comp=Z,0.5nm,0.3s,mb4.0,baz=324,slow=7.8,SNR=2.5
BRVK Borovoye 57.47 44 *e*P **P 20 15 12.6 0.0**
BRVK pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
BRVK Borovoye 57.47 44 *e*P **P 20 15 12.6 0.0**
comp=Z,9.5nm,1.1s,mb4.7
BRVK Borovoye 57.47 44 *e*P **P 20 15 12.6 0.0**
comp=Z,9.0nm,1.1s,mb4.7
ROSC El Rosal 57.73 228 P **P 20 15 15.7 +1.3**
comp=Z,12nm,0.5s,mb5.2,baz=100,slow=15,SNR=4.5
ROSC LR LR 20 38 24.4
comp=Z,79nm,18.4s,MS3.9,baz=346,slow=34
NVS Novosibirsk 61.13 36 *e*P **P 20 15 38.4 +0.5**
ZAL Zalesovo 62.40 35 P **P 20 15 46.8 +0.3**
comp=Z,0.8nm,0.4s,mb4.2,baz=73,slow=3.6,SNR=2.6
KURK Kurchatov 62.64 41 *e*P **P 20 15 46.2 -1.9**
comp=Z,9.2nm,1.1s,mb4.8
KURK Kurchatov 62.64 41 *e*P **P 20 15 46.8 -1.3**
MKAR Makanchi Array 67.23 42 P **P 20 16 18.7 +0.7**
comp=Z,1.2nm,0.7s,mb4.1,baz=330,slow=5.5,SNR=19
MKAR Makanchi Array 67.23 42 P **P 20 16 18.7 +0.7**
BDFB Brasilia 69.12 194 LR LR 20 44 28.5
comp=Z,119nm,19.8s,MS4.1,baz=252,slow=34
TLY Talaya 70.19 26 ⇓*e*P **P 20 16 34.8 -1.7**
TLY pmax pmax
comp=Z,30nm,1.0s,mb5.2
TLY Talaya 70.19 26 *e*P **P 20 16 34.8 -1.7**
comp=Z,30nm,1.0s,mb5.2
SONM Songino Array 74.44 26 P **P 20 17 02.0 +0.1**
comp=Z,3.6nm,0.9s,mb4.3,baz=327,slow=5.4,SNR=19
SONM LR LR 20 49 40.7
comp=Z,51nm,19.7s,MS3.8,baz=345,slow=36
SONM Songino Array 74.44 26 P **P 20 17 02.0 +0.1**
SONM LR LR 20 49 40.7
ULN Ulaanbaatar 74.58 25 *e*P **P 20 17 03.4 +0.7**
GTA Gaotai 80.10 34 *e*P **P 20 17 33.5 -0.1**
GTA AP 20 17 40.5
GTA XP sP 20 17 44.5 +10
KMBO Kilima Mbogo 80.19 105 LR LR 20 54 42.1
comp=Z,51nm,19.3s,MS3.9,baz=90,slow=37
SNY Shenyang 83.90 16 ⇑P **P 20 17 52.0 -1.6**
NJ2 Nanjing 92.43 22 *e*P **P 20 18 36.0 +1.5**
NJ2 AP 20 18 45.3
NJ2 XP sP 20 18 49.8 +14
NJ2 SKS 20 29 06.0
NJ2 S 20 29 38.0
NJ2 XS sS 20 29 54.0 +14
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,140nm,10.8s
NJ2 LR LR
comp=Z,500nm,32.1s,MS4.8
SSE Sheshan 93.86 20 *e*P **P 20 18 37.5 -3.6**
SSE AMB AMB
comp=Z,20nm,0.7s
SSE AMB AMB
comp=Z,30nm,3.5s
WRA Warramunga Arr 146.13 18 PKPbc PKPbc 20 25 02.8 -1.1
comp=Z,4.5nm,0.8s,baz=342,slow=3.3,SNR=19
WB2 Warramunga Arr 146.13 18 *e*P PKPdf 20 25 03.1 +0.1
ASAR Alice Springs 149.66 21 PKPbc PKPbc 20 25 11.9 -1.5
comp=Z,2.2nm,0.8s,baz=346,slow=2.4,SNR=16

*NEIC **29** 20:10:39.4±0.3, 45.26N×382W, h10km, ML2.8(LDG), MN2.3(MDD), Error ellipse: s-maj=4.1km s-min=2.9km az=117.0*
*CSEM **29** 20:10:41.8±0.1, 45.16N×385W, h35km, ML2.8/20, Error ellipse: s-maj=2.8km s-min=2.2km az=114.0*
*LDG **29** 20:10:43.6±0.2, 45.27N×374W, h25km, Ml2.8/23, Error ellipse: s-maj=4.4km s-min=2.5km az=68.0*
MDD 29 20:10:39.7±0.6, 45.23N×373W, h0km, mbLg2.2/34, Error ellipse: s-maj=7.0km s-min=5.4km az=103.0, PRXIMO, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELAN	**Lanestosa**	**2.01**	**174**	P	Pn	20 11 13.6	-1.3
	0.6nm,0.1s,SNR=5.8						
ELAN				S	Sn	20 11 35.6	-5.2
	3.5nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**2.01**	**174**	P	Pn	20 11 13.6	-1.3
	0.6nm,0.1s,SNR=5.8						
ELAN				S	Sn	20 11 35.6	-5.1
	3.5nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**2.21**	**209**	P	Pn	20 11 15.6	-2.0
	0.5nm,0.1s,SNR=10						
EARI				S	Sn	20 11 39.2	-6.2
	1.2nm,0.1s,SNR=5.0						
EARI	**Arriondas**	**2.21**	**209**	P	Pn	20 11 15.6	-2.0
EARI				S	Sn	20 11 38.5	-6.9
EARI	**Arriondas**	**2.21**	**209**	P	Pn	20 11 15.6	-1.9
	0.5nm,0.1s,SNR=10						
EARI				S	Sn	20 11 38.5	-7.0
	1.2nm,0.1s,SNR=5.0						
EALK	**Alkurruntz**	**2.57**	**141**	P	Pn	20 11 22.4	-0.1
	0.4nm,0.1s,SNR=7.9						
EALK				S	Sn	20 11 50.7	-3.8
	6.2nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**2.60**	**142**	P	Pn	20 11 23.0	-0.1
	0.8nm,0.1s,SNR=7.9						
ELIZ				S	Sn	20 11 51.2	-4.2
	7.4nm,0.1s,SNR=7.9						
QUIF	**Quistinic**	**2.71**	**8**	*e*Pn	Pn	20 11 22.8	-1.7
	SNR=1.0						
QUIF				*e*Sn	Sn	20 11 51.3	-6.7
	3.9nm,0.2s,SNR=1.0						
QUIF	**Quistinic**	**2.71**	**8**	*e*Pn	Pn	20 11 22.8	-1.7
	SNR=1.0						
QUIF				*e*Sn	Sn	20 11 51.3	-6.7
	2.0nm,0.2s,SNR=1.0						
IUSE	**Utxeti**	**2.77**	**145**	S	Sn	20 11 56.5	-3.0
	3.9nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**2.77**	**145**	S	Sn	20 11 56.5	-3.0
	3.9nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**2.78**	**139**	*e*Pn	Pn	20 11 25.0	-0.5
SJPF				*e*Sn	Sn	20 11 52.0	-7.7
	12nm,0.2s						
SJPF	**Ste Jean**	**2.78**	**139**	*e*Pn	Pn	20 11 25.0	-0.5
SJPF				*e*Sn	Sn	20 11 52.0	-7.7
	5.9nm,0.2s						
MFF	**Saint Martin d**	**2.85**	**60**	*e*Pn	Pn	20 11 25.7	-0.7
MFF				*e*Sn	Sn	20 11 57.1	-4.4
	13nm,0.3s						
MFF	**Saint Martin d**	**2.85**	**60**	*e*Pn	Pn	20 11 25.7	-0.7
MFF				*e*Sn	Sn	20 11 57.1	-4.4
	6.7nm,0.3s						
IUNC	**Unciti**	**2.95**	**146**	S	Sn	20 12 00.8	-3.2
	1.6nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**2.95**	**146**	S	Sn	20 12 00.8	-3.2
	1.6nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**2.97**	**144**	S	Sn	20 12 03.1	-1.3
	1.3nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**2.97**	**144**	S	Sn	20 12 03.1	-1.3
	1.3nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**3.11**	**233**	P	Pn	20 11 27.8	-2.1
	1.0nm,0.1s,SNR=6.6						
EPON				S	Sn	20 12 00.2	-7.6
	2.9nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**3.11**	**233**	P	Pn	20 11 27.8	-2.2
	1.0nm,0.1s,SNR=6.6						
ROSF	**Rostrenen**	**3.12**	**6**	*e*Pn	Pn	20 11 29.3	-0.8
	SNR=1.0						
ROSF				*e*Sn	Sn	20 12 00.0	-8.1
	SNR=1.0						
SGMF	**Saint Gilles**	**3.13**	**15**	*e*Pn	Pn	20 11 28.8	-1.4
	SNR=1.0						
SGMF				*e*Sn	Sn	20 12 02.0	-6.3
	4.0nm,0.3s						
SGMF	**Saint Gilles**	**3.13**	**15**	*e*Pn	Pn	20 11 28.8	-1.4
	SNR=1.0						
SGMF				*e*Sn	Sn	20 12 02.0	-6.3
	2.0nm,0.3s						
LFF	**La Frestale**	**3.18**	**94**	*e*Pn	Pn	20 11 29.9	-1.1
LFF				*e*Sn	Sn	20 12 04.7	-4.9
	4.0nm,0.3s						
LFF	**La Frestale**	**3.18**	**94**	*e*Pn	Pn	20 11 29.9	-1.1
LFF				*e*Sn	Sn	20 12 04.7	-4.9
	2.0nm,0.3s						
ETSF	**Etsaut**	**3.27**	**134**	*e*Pn	Pn	20 11 31.4	-0.7
ETSF				*e*Sn	Sn	20 12 04.5	-7.2
	7.3nm,0.2s						
ETSF	**Etsaut**	**3.27**	**134**	*e*Pn	Pn	20 11 31.4	-0.7
ETSF				*e*Sn	Sn	20 12 04.5	-7.2
	3.7nm,0.2s						
EPF	**Esparros**	**3.67**	**125**	*e*Pn	Pn	20 11 36.4	-1.2
EPF				*e*Sn	Sn	20 12 15.7	-5.8
	3.5nm,0.2s						
EPF	**Esparros**	**3.67**	**125**	*e*Pn	Pn	20 11 36.4	-1.2
EPF				*e*Sn	Sn	20 12 15.7	-5.8
	1.8nm,0.2s						
RJF	**Les Rejaudoux**	**3.71**	**87**	*e*Pn	Pn	20 11 37.2	-1.0
RJF				*e*Sn	Sn	20 12 17.4	-5.1
	4.1nm,0.2s						
RJF	**Les Rejaudoux**	**3.71**	**87**	*e*Pn	Pn	20 11 37.2	-1.0
RJF				*e*Sn	Sn	20 12 17.4	-5.1
	2.0nm,0.2s						
GRR	**Gorron**	**3.72**	**31**	*e*Pn	Pn	20 11 37.1	-1.3
GRR				*e*Sn	Sn	20 12 17.0	-5.9
	4.8nm,0.3s						
GRR	**Gorron**	**3.72**	**31**	*e*Pn	Pn	20 11 37.1	-1.3
GRR				*e*Sn	Sn	20 12 17.0	-5.9
	2.4nm,0.3s						
EBIE	**Bielsa**	**3.78**	**131**	P	Pn	20 11 39.9	+0.7
	0.8nm,0.1s,SNR=7.9						
EBIE				S	Sn	20 12 21.5	-2.9
	3.7nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**3.78**	**131**	P	Pn	20 11 39.9	+0.7
	0.8nm,0.1s,SNR=7.9						
EBIE				S	Sn	20 12 21.5	-2.9
	3.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.95**	**215**	P	Pn	20 11 39.2	-2.3
	0.6nm,0.1s,SNR=7.9						
ECAL				S	Sn	20 12 20.5	-8.1
	1.6nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.95**	**215**	P	Pn	20 11 39.2	-2.3
	0.6nm,0.1s,SNR=7.9						
CAF	**Calviac**	**4.12**	**92**	*e*Pn	Pn	20 11 42.9	-0.9
CAF				*e*Sn	Sn	20 12 27.3	-5.4
	2.7nm,0.2s						
CAF	**Calviac**	**4.12**	**92**	*e*Pn	Pn	20 11 42.9	-0.9
CAF				*e*Sn	Sn	20 12 27.3	-5.4
	1.4nm,0.2s						
FLN	**La Foliniere**	**4.17**	**31**	*e*Pn	Pn	20 11 43.2	-1.4
	baz=207						
FLN				*e*Sn	Sn	20 12 27.2	-6.8
	1.9nm,0.2s,baz=214						
FLN	**La Foliniere**	**4.17**	**31**	*e*Pn	Pn	20 11 43.2	-1.4
FLN				*e*Sn	Sn	20 12 27.2	-6.8
	0.9nm,0.2s						
LDF	**La Druitiere**	**4.17**	**35**	*e*Pn	Pn	20 11 43.3	-1.3
LDF				*e*Sn	Sn	20 12 27.2	-6.9
	1.4nm,0.2s						
LDF	**La Druitiere**	**4.17**	**35**	*e*Pn	Pn	20 11 43.3	-1.3
LDF				*e*Sn	Sn	20 12 27.2	-6.9
	0.7nm,0.2s						
ESAC	**San Caprasio**	**4.24**	**145**	S	Sn	20 12 30.3	-5.3
	15nm,0.3s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.29**	**74**	*e*Pn	Pn	20 11 45.4	-0.8
TCF				*e*Sn	Sn	20 12 31.3	-5.6
	2.7nm,0.2s						
TCF	**Toulx Ste Croi**	**4.29**	**74**	*e*Pn	Pn	20 11 45.4	-0.8
TCF				*e*Sn	Sn	20 12 31.3	-5.6
	1.4nm,0.2s						
EMAZ	**Mazaricos**	**4.42**	**241**	P	Pn	20 11 46.4	-1.5
	0.9nm,0.1s,SNR=7.9						
EMAZ				S	Sn	20 12 30.9	-9.2
	2.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**4.42**	**241**	P	Pn	20 11 46.4	-1.5
	0.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**4.61**	**225**	S	Sn	20 12 35.9	-8.8
	1.0nm,0.2s,SNR=4.0						
MTLF	**Montolieu**	**4.67**	**112**	*e*Pn	Pn	20 11 51.5	+0.1
	SNR=1.0						
MTLF				*e*Sn	Sn	20 12 40.2	-6.1
	2.3nm,0.2s						
MTLF	**Montolieu**	**4.67**	**112**	*e*Pn	Pn	20 11 51.5	+0.1
	SNR=1.0						
MTLF				*e*Sn	Sn	20 12 40.2	-6.1
	1.1nm,0.2s						
BGF	**Bois d'Agland**	**4.78**	**72**	*e*Pn	Pn	20 11 52.2	-0.7
BGF				*e*Sn	Sn	20 12 42.7	-6.3
	8.3nm,0.3s						
BGF	**Bois d'Agland**	**4.78**	**72**	*e*Pn	Pn	20 11 52.2	-0.7
BGF				*e*Sn	Sn	20 12 42.7	-6.3
	4.2nm,0.3s						
HYF	**Humbligny**	**4.86**	**63**	*e*Pn	Pn	20 11 52.6	-1.5
AVF	**Avril sur Loir**	**5.17**	**70**	*e*Pn	Pn	20 11 57.5	-0.9
AVF				*e*Sn	Sn	20 12 52.4	-6.4
	2.8nm,0.2s						
AVF	**Avril sur Loir**	**5.17**	**70**	*e*Pn	Pn	20 11 57.5	-0.9
AVF				*e*Sn	Sn	20 12 52.4	-6.4
	1.4nm,0.2s						
ERTA	**Horta de San J**	**5.21**	**144**	P	Pn	20 11 58.8	0.0
	0.2nm,0.1s,SNR=7.9						
ERTA				S	Sn	20 12 52.6	-7.0
	2.0nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.21**	**144**	P	Pn	20 11 58.8	0.0
	0.2nm,0.1s,SNR=7.9						
SSF	**Saint Saulge**	**5.35**	**67**	*e*Pn	Pn	20 11 59.8	-1.0
SSF				*e*Sn	Sn	20 12 55.7	-7.4
	2.3nm,0.3s						
SSF	**Saint Saulge**	**5.35**	**67**	*e*Pn	Pn	20 11 59.8	-1.0
SSF				*e*Sn	Sn	20 12 55.7	-7.4
	1.1nm,0.3s						
EMOS	**Mosqueruela**	**5.42**	**153**	S	Sn	20 12 58.6	-6.3
	1.0nm,0.4s,SNR=7.9						
SMF	**Signal de Mont**	**5.47**	**72**	*e*Pn	Pn	20 12 01.4	-1.0
SMF				*e*Sn	Sn	20 12 59.3	-6.7
	1.8nm,0.3s						
SMF	**Signal de Mont**	**5.47**	**72**	*e*Pn	Pn	20 12 01.4	-1.0
SMF				*e*Sn	Sn	20 12 59.3	-6.7
	0.9nm,0.3s						
LASF	**Ste Croix**	**5.54**	**99**	*e*Pn	Pn	20 12 03.5	+0.2
	SNR=1.0						
LASF				*e*Sn	Sn	20 13 01.6	-6.0
	2.0nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**5.54**	**99**	*e*Pn	Pn	20 12 03.5	+0.2
	SNR=1.0						
LASF				*e*Sn	Sn	20 13 01.6	-6.0
	1.0nm,0.2s,SNR=1.0						
LOR	**Lormes**	**5.64**	**66**	*e*Pn	Pn	20 12 03.4	-1.4
	baz=242						
LOR				*e*Sn	Sn	20 13 03.2	-7.1
	0.8nm,0.2s						
LOR	**Lormes**	**5.64**	**66**	*e*Pn	Pn	20 12 03.4	-1.4
LOR				*e*Sn	Sn	20 13 03.2	-7.1
	0.4nm,0.2s						
VIVF	**Saint-Julien-l**	**5.97**	**91**	*e*Pn	Pn	20 12 08.2	-1.0
VIVF				*e*Sn	Sn	20 13 11.6	-6.7
	1.9nm,0.2s						
VIVF	**Saint-Julien-l**	**5.97**	**91**	*e*Pn	Pn	20 12 08.2	-1.0
VIVF				*e*Sn	Sn	20 13 11.6	-6.7
	0.9nm,0.2s						
BAIF	**Baives**	**7.21**	**45**	*e*Pn	Pn	20 12 24.8	-1.6
BAIF				*e*Sn	Sn	20 13 41.1	-7.9
	1.3nm,0.4s						
BAIF	**Baives**	**7.21**	**45**	*e*Pn	Pn	20 12 24.8	-1.6
BAIF				*e*Sn	Sn	20 13 41.1	-7.9
	0.6nm,0.4s						

*ISCJB **29** 20:24:34.2±1.2, 539S±008×1472E±02, h193km±14km, mb3.7/7, Error ellipse: s-maj=28.0km s-min=11.1km az=32.2*
*NEIC **29** 20:24:36.9±1.6, 545S×14722E, h210km±16km, mb4.5/4, Error ellipse: s-maj=23.8km s-min=13.9km az=100.0*
*IDC **29** 20:24:37.3±1.3, 558S×147.14E, h209km±14km, mb3.5/6, mb1 3.7/9, mb1mx3.6/15, mbtmp4.1/9, Error ellipse: s-maj=27.8km s-min=10.3km az=103.0*
ISC 29 20:24:37.7±1.2, 556S±008×1472E±02, h209km±13km, n17, σ0:92/20, mb3.7/7, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.82**	**180**	P	**Pn**	**20 25 37.6**	**0.0**
	14nm,0.3s,baz=304,slow=9.1,SNR=53						
PMG				S	**Sn**	**20 26 23.1**	**-1.6**
	23nm,0.3s,baz=202,slow=21,SNR=20						
CTA	**Charters Tower**	**14.47**	**183**	P	**Pn**	**20 27 54.2**	**+1.2**
	0.4nm,0.3s,baz=24,slow=12,SNR=3.2						
KAKA	**Kakadu**	**16.16**	**243**	*e*P	**P**	**20 28 13.0**	**+0.2**
	10nm,0.6s						
WRAB	**Tennant Creek**	**18.95**	**220**	*e*P	**P**	**20 28 43.4**	**+0.3**
	34nm,1.0s						
WB2	**Warramunga Arr**	**18.96**	**220**	⇓*i*P	**P**	**20 28 43.9**	**+0.7**
WB2				*e*S	**S**	**20 32 06.1**	**-1.2**
WRA	**Warramunga Arr**	**18.97**	**220**	P	**P**	**20 28 44.0**	**+0.7**
	1.6nm,0.3s,baz=44,slow=11,SNR=74						
WRA				S	**S**	**20 32 06.6**	**-0.8**
	0.1nm,0.3s,baz=38,slow=20,SNR=4.6						
AS31	**Alice Springs**	**22.07**	**214**	*e*P	**P**	**20 29 16.6**	**+1.0**
ASAR	**Alice Springs**	**22.07**	**214**	P	**P**	**20 29 16.6**	**+0.9**
	3.3nm,0.6s,mb4.0,baz=51,slow=8.0,SNR=38						
ASAR				S	**S**	**20 33 03.5**	**-0.1**
	1.3nm,0.9s,baz=30,slow=19,SNR=6.1						
ASPA	**Alice Springs**	**22.07**	**214**	*e*P	**P**	**20 29 16.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.43**	**237**	P	**P**	**20 29 37.5**	**+0.4**
	3.6nm,0.5s,mb4.3,baz=47,slow=14,SNR=27						
JOW	**Kunigami**	**37.03**	**331**	P	**P**	**20 31 27.4**	**+0.1**
	4.8nm,0.5s,mb4.3,baz=69,slow=19,SNR=4.8						
SONM	**Songino Array**	**64.09**	**331**	P	**P**	**20 34 49.3**	**-0.1**
	0.4nm,0.4s,mb3.4,baz=143,slow=6.6,SNR=7.2						
VNDA	**Vanda**	**72.34**	**177**	P	**P**	**20 35 40.2**	**-0.4**
	0.6nm,0.5s,mb3.5,baz=341,slow=5.7,SNR=9.4						
MKAR	**Makanchi Array**	**77.26**	**320**	P	**P**	**20 36 07.7**	**-1.0**
	0.2nm,0.4s,mb3.1,baz=97,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**77.26**	**320**	P	**P**	**20 36 07.7**	**-1.0**
ZRNK	**Zerenda**	**87.30**	**324**	*e*P	**P**	**20 36 58.0**	**-2.7**
	0.5nm,0.5s,mb3.5						
TORD	**Torodi Ar. Bea**	**145.13**	**285**	PKPbc	PKPbc	20 43 49.0	-1.1
	1.9nm,0.5s,baz=76,slow=2.9,SNR=36						

IDC 29 21:05:56.8±18.0, 545S×14816E, h218km±165km, mb3.1/3, mb1 3.3/4, mb1mx3.1/13, mbtmp3.7/4, Error ellipse: s-maj=105.0km s-min=58.6km az=85.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**19.70**	**222**	*e*P	P	21 10 09.8	+0.2
WRA	**Warramunga Arr**	**19.70**	**222**	P	P	21 10 09.9	+0.2
	0.4nm,0.3s,baz=47,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**22.73**	**216**	P	P	21 10 40.7	+0.7
	1.1nm,0.6s,baz=53,slow=8.7,SNR=12						
FITZ	**Fitzroy Crossi**	**25.34**	**238**	*e*P	P	21 11 03.8	+0.2
	6.3nm,1.0s						
FITZ	**Fitzroy Crossi**	**25.34**	**238**	P	P	21 11 03.5	-0.2
	1.2nm,0.4s,baz=34,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**77.81**	**320**	P	P	21 17 30.2	+0.2
	0.1nm,0.4s,baz=94,slow=7.1,SNR=3.8						

PGC 29 21:17:19.9, 4851N×12880W, h10km, MLSn2.9/1, Mw3.5, 1D, 223km southwest of Tofino, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.76**	**38**	Pn	Pn	21 17 47.9	-2.5
EDB				Sn	Sn	21 18 07.8	-4.9
EDB				Trac		21 18 08.7	
	comp=Z,16nm,0.4s						
BPBC	**Brooks Peninsu**	**1.79**	**22**	Pn	Pn	21 17 48.4	-2.4
MAYB	**Maynard**	**2.18**	**29**	Pn	Pn	21 17 54.7	-1.4
MAYB				Sn	Sn	21 18 19.7	-3.4
	comp=Z,15nm,0.4s						
MAYB				Trac		21 18 22.6	
	comp=Z,15nm,0.4s						
HOLB	**Holberg**	**2.18**	**11**	Pn	Pn	21 17 54.9	-1.3
WOSB	**Woss**	**2.21**	**41**	Pn	Pn	21 17 54.9	-1.6

NCRB Trac 21 18 33.4
comp=Z,6.0nm,0.4s
CBB Campbell River 2.72 55 Pn Pn 21 18 02.2 -1.4
CBB Sn Sn 21 18 34.9 -1.6
CBB Trac 21 18 38.3
comp=Z,4.0nm,0.3s
MGB Mount Grey 2.77 78 Pn Pn 21 18 02.6 -1.6
MGB Sn Sn 21 18 33.8 -3.8
MGB Trac 21 18 35.7
comp=Z,5.0nm,0.2s
PFB Port Renfrew 2.90 87 Trac 21 18 40.5
comp=Z,2.0nm,0.2s
PFB Port Renfrew 2.90 87 Sn Sn 21 18 37.0 -4.0
TXB Texada 3.11 66 Pn Pn 21 18 08.0 -0.9
TXB Sn Sn 21 18 44.4 -1.7
comp=Z,6.0nm,0.3s
TXB Trac 21 18 45.1
comp=Z,6.0nm,0.3s
LZB Mount Lazard 3.31 86 Pn Pn 21 18 10.2 -1.4
LZB Trac 21 18 50.2
comp=Z,1.0nm,0.2s
BBB Bella Bella 3.71 7 Pn Pn 21 18 17.0 -0.2
BBB Sn Sn 21 18 56.6 -4.3
BBB Trac 21 19 04.5
comp=Z,10.0nm,0.6s

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*BJI **29** 21:48:01.0, 3935N×7193E, h27km, mb4.3, ML4.1*
*ISCJB **29** 21:48:03.6±0.9, 3891N±004×72.11E±006, h46km±10km, mb4.0/11, MS3.0/2, Error ellipse: s-maj=9.8km s-min=4.9km az=98.4*
*IDC **29** 21:48:03.0±1.0, 3913N×7245E, h0km, mb4.0/7, mb1 4.1/11, mb1mx3.9/24, mbtmp4.0/11, ML3.7/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/33, Error ellipse: s-maj=17.0km s-min=15.6km az=18.0*
*NNC **29** 21:48:04.7±4.2, 3905N×7171E, h22km±54km, mb4.0, mpv3.7, Error ellipse: s-maj=53.5km s-min=20.2km az=15.0*
*NEIC **29** 21:48:05.6±0.9, 3935N×72.17E, h10km, mb4.0/4, Error ellipse: s-maj=16.2km s-min=11.7km az=196.0*
*MOS **29** 21:48:06.7±1.8, 3933N×72.16E, h33km, mb4.6/4, Error ellipse: s-maj=12.8km s-min=7.4km az=86.7*
ISC 29 21:48:04.4±2.0, 3890N±004×7215E±006, h28km±17km, n65, σ1§34/78, mb4.0/11, MS3.0/2, 11C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.04**	**77**	P	**Pn**	**21 48 52.5**	**+1.9**
KSH				S	**Sn**	**21 49 25.5**	**-0.6**
KSH				Smax			
	comp=N,620nm,0.6s						
KSH				Smax			
	comp=E,640nm,0.5s						
AML	**Almayashu**	**3.44**	**20**	P	**Pn**	**21 48 57.4**	**+1.2**
	SNR=52						
UCH	**Uchtor**	**3.79**	**28**	P	**Pn**	**21 49 00.7**	**-0.3**
	SNR=65						
EKS2	**Erkin-Say**	**3.96**	**18**	P	**Pn**	**21 49 04.9**	**+1.5**
	SNR=28						
KZA	**Kyzart**	**3.96**	**36**	P	**Pn**	**21 49 03.3**	**0.0**
	SNR=34						
AAK	**Ala-Archa**	**4.14**	**25**	P	**Pn**	**21 49 07.2**	**+1.4**
	SNR=45						
KBK	**Karagaybulak**	**4.32**	**29**	P	**Pn**	**21 49 08.8**	**+0.6**
	SNR=40						
FRU	**Bishkek**	**4.36**	**25**	*e*PN	**Pn**	**21 49 10.4**	**+1.6**
KK31	**Karatay Array**	**4.38**	**344**	Pn	**Pn**	**21 49 10.4**	**+1.3**
	comp=E,9.8nm,0.3s,baz=151,slow=11,SNR=675						
KK31				Sn	**Sn**	**21 50 00.2**	**+1.0**
	comp=E,70nm,0.5s,baz=154,slow=21,SNR=11						
KKAR	**Karatay Array**	**4.38**	**344**	PN	**Pn**	**21 49 10.4**	**+1.3**
KKAR				*e*		21 50 00.2	
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
KKAR				smax			
	comp=Z,10.0nm,0.3s						
CHMS	**Chumysh**	**4.55**	**25**	P	**Pn**	**21 49 11.5**	**+0.1**
	SNR=42						
ULHL	**Ulahol**	**4.58**	**42**	P	**Pn**	**21 49 11.4**	**-0.4**
	SNR=36						
USP	**Ospenovka**	**4.72**	**21**	P	**Pn**	**21 49 13.5**	**-0.2**
	SNR=17						
TKM2	**Tokmak 2**	**4.80**	**32**	⇑Pn	**Pn**	**21 49 13.6**	**-1.2**
	comp=Z,4.7nm,0.7s						
TKM2				⇑Sn	**Sn**	**21 50 14.9**	**+5.4**
	comp=Z,5.5nm,0.6s						
TKM2	**Tokmak 2**	**4.80**	**32**	PN	**Pn**	**21 49 13.6**	**-1.2**
TKM2						21 50 14.8	
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2				pmax	pmax		
	comp=Z,35nm,0.6s						
MK02	**Makanchi Array**	**10.84**	**40**	⇑Pn	**Pn**	**21 50 36.5**	**-1.2**
	comp=Z,3.2nm,0.6s						
MK02				⇑Sn	**Sn**	**21 52 42.3**	**+4.3**
	comp=Z,4.3nm,0.8s						
MK31	**Makanchi Array**	**10.85**	**40**	P	**Pn**	**21 50 36.4**	**-1.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**10.85**	**40**	Pn	**Pn**	**21 50 37.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=221,slow=14,SNR=35						
AB31	**Akbulak array**	**13.55**	**324**	Pn	**Pn**	**21 51 13.4**	**-1.4**
	comp=Z,6.1nm,0.6s,baz=125,slow=13,SNR=37						
AB31				⇓Sn	**Sn**	**21 53 35.7**	**-8.8**
	comp=Z,5.3nm,0.6s,baz=0.0,slow=0.1,SNR=18						
AB31	**Akbulak array**	**13.55**	**324**	P	**Pn**	**21 51 13.3**	**-1.5**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VOSK	**Vostochnaya**	**13.85**	**357**	⇑Pn	**Pn**	**21 51 13.0**	**-5.9**
	comp=Z,3.0nm,1.1s						
VOSK				⇓Lg		21 55 18.9	
	comp=Z,17nm,1.2s						
BVA0	**Borovoye Array**	**14.18**	**356**	⇑Pn	**Pn**	**21 51 25.0**	**+1.6**
	comp=Z,1.2nm,1.2s,baz=170,slow=13,SNR=8.5						
BVAR	**Borovoye Array**	**14.18**	**356**	Pn	**Pn**	**21 51 19.5**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=6.1						
BVAR				Sn	**Sn**	**21 53 48.0**	**-12**
	comp=Z,0.1nm,0.3s,baz=165,slow=18,SNR=2.6						
BVAR				LR	LR	21 56 58.0	
	comp=Z,57nm,19.6s,baz=320,slow=38						
BVAR	**Borovoye Array**	**14.18**	**356**	P	**Pn**	**21 51 19.5**	**-3.9**
BVAR						21 53 48.0	
BVAR	**Borovoye Array**	**14.18**	**356**	Pn	**Pn**	**21 51 19.5**	**-3.9**
BVAR				Sn	**Sn**	**21 53 48.0**	**-12**
BVAR				LR	LR	21 56 58.0	
ZRNK	**Zerenda**	**14.22**	**352**	⇑Pn	**Pn**	**21 51 18.5**	**-5.4**
	comp=Z,3.6nm,0.7s						
ZRNK				⇑Sn	**Sn**	**21 53 55.8**	**-5.0**
	comp=Z,3.7nm,0.9s						
ZRNK				⇑Lg		21 55 30.5	
	comp=Z,11nm,1.2s						
ZRNK	**Zerenda**	**14.22**	**352**	*e*P	**Pn**	**21 51 20.0**	**-4.0**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZRNK	**Zerenda**	**14.22**	**352**	*e*P	**Pn**	**21 51 20.0**	**-4.0**
	comp=Z,4.2nm,0.4s						
KOLN	**Koldanda**	**14.64**	**136**	*e*P	**Pn**	**21 51 29.9**	**+0.3**
	comp=Z,8.4nm,0.3s						
KOLN				*e*S	**Sn**	**21 54 09.5**	**-1.4**
GKN	**Gorkha**	**15.04**	**133**	*e*P	**Pn**	**21 51 35.4**	**+0.4**
	comp=Z,15nm,0.4s						
GKN				*e*S	Sn	21 54 17.9	-2.8
AKTK	**Aktyubinsk**	**15.27**	**324**	Pn	**Pn**	**21 51 36.9**	**-1.1**
AKTK				Sn	**Sn**	**21 54 21.8**	**-4.4**
AKTO	**Aktyubinsk**	**15.27**	**324**	⇑Pn	**Pn**	**21 51 36.3**	**-1.7**
	comp=Z,0.8nm,1.2s						
AKTO				⇑Sn	**Sn**	**21 54 18.5**	**-7.8**
	comp=Z,0.1nm,0.7s						
AKTO	**Aktyubinsk**	**15.27**	**324**	Pn	**Pn**	**21 51 36.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=130,slow=14,SNR=24						
AKTO				Sn	**Sn**	**21 54 21.8**	**-4.4**
	comp=Z,0.8nm,0.3s,baz=192,slow=21,SNR=7.4						
AKTO	**Aktyubinsk**	**15.27**	**324**	P	**Pn**	**21 51 35.0**	**-3.0**
AKTO						21 54 18.4	
AKTO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
AKTO				smax			
	comp=Z,1.0nm,0.7s						
KKN	**Kakani**	**15.57**	**131**	*e*P	**Pn**	**21 51 41.6**	**-0.4**
	comp=Z,17nm,0.6s						
KKN				*e*S	Sn	21 54 30.2	-3.4
DMN	**Daman**	**15.61**	**132**	*e*P	**Pn**	**21 51 42.0**	**-0.4**
PKI	**Pulchoki**	**15.81**	**132**	*e*P	**Pn**	**21 51 44.9**	**-0.2**
GUN	**Gumba**	**15.84**	**130**	*e*P	**Pn**	**21 51 45.0**	**-0.4**
	comp=Z,10nm,0.4s						
JIRN	**Jiri**	**16.21**	**130**	*e*P	**Pn**	**21 51 49.6**	**-0.6**
	comp=Z,17nm,0.4s						
ZAL	**Zalesovo**	**17.35**	**26**	P	**Pn**	**21 52 03.0**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=256,slow=9.9,SNR=23						
ZAL	**Zalesovo**	**17.35**	**26**	P	**Pn**	**21 52 03.0**	**-1.5**
ORR	**Orenburg**	**17.60**	**322**	*e*P	**Pn**	**21 52 11.8**	**+4.2**
ORR				S	**Sn**	**21 55 14.5**	**-8.2**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
NVS	**Novosibirsk**	**17.62**	**22**	*e*P	**Pn**	**21 52 04.2**	**-3.7**
NVS				pmax	pmax		
	comp=Z,20nm,1.9s						
NVS				pmax	pmax		
	comp=N,16nm,1.7s						
LSA	**Lhasa**	**18.16**	**115**	*e*P	**Pn**	**21 52 18.0**	**+3.5**
LSA	**Lhasa**	**18.16**	**115**	*e*P	**Pn**	**21 52 22.0**	**+7.5**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LSA	**Lhasa**	**18.16**	**115**	*e*P	**Pn**	**21 52 22.0**	**+7.5**
	comp=Z,2.4nm,0.5s						
ARU	**Arti**	**19.72**	**337**	*e*P	**Pn**	**21 52 32.5**	**-0.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**19.72**	**337**	*e*P	**Pn**	**21 52 32.5**	**-0.8**
	comp=Z,7.3nm,0.8s						
GNI	**Garni**	**21.15**	**282**	P	**P**	**21 52 48.4**	**+1.2**
GNI				pmax	pmax		
	comp=Z,14nm,0.8s						
GNI	**Garni**	**21.15**	**282**	P	**P**	**21 52 48.4**	**+1.2**
	comp=Z,14nm,0.8s,mb4.3						
GTA	**Gaotai**	**21.44**	**80**	*e*P	**P**	**21 52 51.5**	**+1.2**
GTA				AP		21 52 56.0	
GTA				XP	sP	21 52 59.0	-2.4
KIV	**Kislovodsk**	**22.59**	**292**	*e*P	**P**	**21 53 16.2**	**+14**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
ZAK	**Zakamensk**	**24.77**	**52**	*e*P	**P**	**21 53 23.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**26.27**	**59**	P	**P**	**21 53 37.2**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.0,baz=266,slow=8.9,SNR=20						
SONM				LR	LR	22 05 33.8	
	comp=Z,30nm,19.3s,MS2.9,baz=306,slow=40						
ULN	**Ulaanbaatar**	**26.72**	**59**	*e*P	**P**	**21 53 41.2**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**26.72**	**59**	*e*P	**P**	**21 53 41.1**	**-0.2**
	comp=Z,3.7nm,0.9s,mb3.9						
BRTR	**Keskin Array B**	**29.66**	**284**	P	**P**	**21 54 13.8**	**+6.3**
	comp=Z,0.9nm,0.9s,mb3.5,baz=76,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**36.04**	**324**	P	**P**	**21 55 04.8**	**+1.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=108,slow=12,SNR=7.2						
ARCES	**ARCESS Array B**	**39.30**	**336**	P	**P**	**21 55 30.8**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.8,baz=104,slow=8.9,SNR=10						
ARCES				LR	LR	22 12 49.2	
	comp=Z,33nm,19.4s,MS3.2,baz=93,slow=38						
CLL	**Collm**	**42.44**	**307**	*e*P	**P**	**21 55 59.0**	**+2.3**
NB2	**NORSAR Subarra**	**43.05**	**321**	P	**P**	**21 56 02.9**	**+1.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**43.05**	**321**	P	**P**	**21 56 03.2**	**+1.6**
	comp=Z,0.7nm,0.5s,mb3.6,baz=91,slow=7.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**66.69**	**268**	P	**P**	**21 58 57.6**	**+4.8**
	comp=Z,1.9nm,0.5s,mb4.4,baz=51,slow=5.5,SNR=44						
WRA	**Warramunga Arr**	**82.50**	**123**	P	**P**	**22 00 27.1**	**+2.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=325,slow=5.0,SNR=12						

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*ISCJB **29** 22:10:15.8±0.6, 2299S±005×6620W±009, h233km±9km, mb4.1/6, Error ellipse: s-maj=13.0km s-min=8.6km az=162.0*
*IDC **29** 22:10:16.5±1.1, 2299S×6621W, h225km±14km, mb3.8/3, mb1 3.9/9, mb1mx3.6/19, mbtmp4.5/9, Error ellipse: s-maj=22.6km s-min=15.7km az=121.0*
*NEIC **29** 22:10:16.6±0.6, 2297S×6621W, h225km±8km, mb4.4/7, Error ellipse: s-maj=11.3km s-min=8.4km az=82.0*
ISC 29 22:10:16.8±0.6, 2297S±005×6619W±008, h222km±9km, n24, σ0§99/26, mb4.1/6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.54**	**277**	P	**Pn**	**22 11 03.9**	**+1.5**
	116nm,0.3s,baz=101,slow=5.9,SNR=1447						
LVC				S	**S**	**22 11 38.6**	**+0.4**
	66nm,0.3s,baz=251,slow=21,SNR=24						
LPAZ	**La Paz**	**6.89**	**344**	P	**Pn**	**22 11 56.9**	**+1.2**
	5.3nm,0.3s,baz=145,slow=8.7,SNR=96						
LPAZ				S	**S**	**22 13 13.4**	**-1.2**
	1.4nm,0.3s,baz=255,slow=24,SNR=9.6						
LPAZ	**La Paz**	**6.89**	**344**	P	**Pn**	**22 11 56.9**	**+1.2**
LPAZ				S	**S**	**22 13 13.4**	**-1.2**
ARE	**Arequipa**	**8.17**	**321**	*e*P	**Pn**	**22 12 10.0**	**-2.1**
ARE				*e*S	**S**	**22 13 36.0**	**-8.6**
SIV	**San Ignacio**	**8.45**	**36**	P	**Pn**	**22 12 15.7**	**0.0**
	7.5nm,0.3s,baz=226,slow=14,SNR=165						
CPUP	**Villa Florida**	**8.73**	**114**	*e*Pn	**Pn**	**22 12 19.1**	**-0.2**
CFAA	**Coronel Fontan**	**8.80**	**192**	P	**Pn**	**22 12 18.8**	**-1.4**
	1.3nm,0.3s,baz=0.7,slow=13,SNR=104						
CFAA				S	**S**	**22 13 52.1**	**-7.3**
	0.7nm,0.3s,baz=306,slow=23,SNR=8.9						
SAML	**Samuel**	**14.23**	**12**	*e*Pn	**Pn**	**22 13 28.4**	**-0.2**
	8.8nm,0.7s						
TRQA	**Tornquist**	**15.47**	**167**	*e*Pn	**Pn**	**22 13 43.3**	**-0.3**
	5.5nm,0.6s						
PLCA	**Paso Flores**	**18.09**	**191**	P	**P**	**22 14 12.3**	**+0.3**
	0.6nm,0.3s,baz=9.0,slow=12,SNR=21						
PLCA	**Paso Flores**	**18.09**	**191**	*e*P	**P**	**22 14 12.4**	**+0.3**
	8.6nm,0.7s						
BDFB	**Brasilia**	**18.63**	**70**	P	**P**	**22 14 19.6**	**+1.7**
	0.8nm,0.3s,baz=242,slow=12,SNR=11						
BDFB	**Brasilia**	**18.63**	**70**	*e*P	**P**	**22 14 19.5**	**+1.7**
	11nm,0.6s						
SDV	**Santo Domingo**	**31.95**	**352**	P	**P**	**22 16 21.8**	**0.0**
RCBR	**Riachuelo**	**33.80**	**64**	*e*P	**P**	**22 16 38.4**	**+0.6**
	6.2nm,0.4s,mb4.5						
JTS	**JuntasAbangare**	**37.81**	**329**	P	**P**	**22 17 11.8**	**0.0**
DBIC	**Dimbokro**	**66.77**	**72**	P	**P**	**22 20 43.2**	**-1.1**
	5.0nm,0.9s,mb4.1,baz=18,slow=21,SNR=6.8						
TORD	**Torodi Ar. Bea**	**75.50**	**69**	P	**P**	**22 21 35.8**	**-0.8**
	2.8nm,0.4s,mb4.3,baz=258,slow=5.9,SNR=104						
HLID	**Hailey**	**79.63**	**327**	*e*P	**P**	**22 22 01.0**	**+1.6**
	3.7nm,0.8s,mb4.1						
PAHR	**Pah Rah Range**	**79.68**	**321**	*e*P	**P**	**22 21 52.1**	**-7.6**
	5.7nm,0.5s,mb4.5						
ESDC	**Sonseca Array**	**85.14**	**43**	P	**P**	**22 22 27.8**	**0.0**
	0.2nm,0.5s,mb3.1,baz=237,slow=5.0,SNR=5.6						
WRA	**Warramunga Arr**	**132.88**	**207**	PKP	PKPdf	22 29 05.2	-0.2
	0.2nm,0.5s,baz=157,slow=1.7,SNR=5.6						
MKAR	**Makanchi Array**	**145.26**	**39**	PKPbc	PKPbc	22 29 28.1	+0.1
	3.4nm,0.8s,baz=308,slow=3.4,SNR=26						
SONM	**Songino Array**	**154.48**	**12**	PKPbc	PKPbc	22 29 49.5	-1.4
	0.5nm,0.7s,baz=2.9,slow=1.9,SNR=4.6						

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*NEIC **29** 22:25:49.6±10.0, 4346N×1999E, h5km, ML3.6(BUC), Error ellipse: s-maj=120.0km s-min=17.6km az=190.0*
*ISCJB **29** 22:25:56.6±0.5, 4403N±003×2006E±004, h8km±4km, Error ellipse: s-maj=4.9km s-min=4.5km az=173.8*
*BEO **29** 22:25:57.5±0.2, 4403N×2007E, h3km*
*CSEM **29** 22:25:57.3±0.2, 4399N×2008E, h2km, ML3.6, Error ellipse: s-maj=4.1km s-min=3.4km az=144.0*
ISC 29 22:25:57.2±0.5, 4404N±003×2004E±004, h5km±4km, n21, σ0§93/38, 10C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divcibare**	**0.07**	**329**	⇑*i*Pg	**Pg**	**22 25 58.6**	**-0.2**
DIVS				Sg	**Sg**	**22 26 00.1**	**+0.2**
BBLS	**Bajina Basta -**	**0.49**	**250**	⇑*i*Pg	**Pg**	**22 26 07.0**	**+0.5**
BBLS				Sg	**Sg**	**22 26 13.8**	**+0.9**
GRUS	**Gruza**	**0.51**	**107**	⇑*i*Pg	**Pg**	**22 26 05.8**	**-1.2**
GRUS				Sg	**Sg**	**22 26 13.5**	**-0.1**
SJES	**Sjenica**	**0.77**	**185**	Pg	**Pg**	**22 26 10.8**	**-1.2**
SJES				Sg	**Sg**	**22 26 22.6**	**+0.5**
BEO	**Belgrade**	**0.84**	**21**	*e*Pg	**Pg**	**22 26 14.4**	**+1.2**
BEO				Sg	**Sg**	**22 26 24.5**	**+0.4**
SVIS	**Svilajnac**	**0.89**	**73**	*e*Pg	**Pg**	**22 26 14.8**	**+0.6**
SVIS				Sg	**Sg**	**22 26 25.6**	**-0.1**
BZS	**Buzias**	**1.94**	**35**	⇓*i*P	**Pn**	**22 26 29.4**	**-1.4**
BZS	**Buzias**	**1.94**	**35**	⇓P	**Pn**	**22 26 29.4**	**-1.4**
BZS				S	**Sn**	**22 26 57.6**	**+2.2**
BZS	**Buzias**	**1.94**	**35**	⇓P	**Pn**	**22 26 29.4**	**-1.4**
BZS				S	**Sn**	**22 26 57.6**	**+2.1**
GZR	**Gura Zlata**	**2.37**	**54**	⇑*i*P	**Pn**	**22 26 35.5**	**-1.3**
GZR	**Gura Zlata**	**2.37**	**54**	⇑P	**Pn**	**22 26 35.5**	**-1.3**
GZR				S	**Sn**	**22 27 06.8**	**+0.5**
GZR	**Gura Zlata**	**2.37**	**54**	⇑P	**Pn**	**22 26 35.5**	**-1.3**
GZR				S	**Sn**	**22 27 06.8**	**+0.5**
PKSM	**Moragy**	**2.39**	**336**	⇓*i*P	**Pn**	**22 26 35.7**	**-1.3**
PKSM	**Moragy**	**2.39**	**336**	⇓P	**Pn**	**22 26 35.7**	**-1.3**
PKSM				⇑*e*Pn	**Pb**	**22 26 41.2**	**+0.5**
PKSM				S	**Sb**	**22 27 10.3**	**-0.1**
PKSM				*e*Sn	**Sg**	**22 27 12.5**	**-1.4**
PKSM	**Moragy**	**2.39**	**336**	⇑*e*Pn	**Pb**	**22 26 41.2**	**+0.5**
PKSM				S	**Sb**	**22 27 10.4**	**-0.1**
DRGR		**3.33**	**33**	⇑P	**Pn**	**22 26 49.0**	**-1.0**
DRGR				S	**Sn**	**22 27 29.7**	**-0.3**
DRGR		**3.33**	**33**	⇑*i*P	**Pn**	**22 26 49.0**	**-1.0**
DRGR				S	**Sn**	**22 27 29.7**	**-0.3**
VOIR		**3.83**	**67**	⇓*i*P	**Pn**	**22 26 58.3**	**+1.5**
KECS	**Kecovo**	**4.46**	**4**	*e*PN	**Pn**	**22 27 06.5**	**+1.1**
VYHS	**Vyhne**	**4.54**	**350**	*e*PN	**Pn**	**22 27 07.5**	**+1.0**
VYHS				*e*SN	**Sn**	**22 27 59.0**	**-0.6**
ZST	**Bratislava**	**4.63**	**335**	*e*PN	**Pn**	**22 27 07.4**	**-0.5**

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*ISCJB **29** 22:27:33.7±0.6, 1872N±004×65.18W±002, h25km, Error ellipse: s-maj=6.4km s-min=2.9km az=177.3*
*RSPR **29** 22:27:36.6, 1865N×65.16W, h25km±4km, MD3.5/21, MD3.5/21*
*NEIC **29** 22:27:36.6, 1865N×65.16W, h25km, MD3.5(RSPR), After RSPR.*
NEIC Felt on St. John and St. Thomas, U.S. Virgin Islands. Also felt in eastern Puerto Rico.
ISC 29 22:27:34.5±0.5, 1869N±004×6518W±002, h25km, n29, σ0§65/46, 11C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.39**	**148**	⇑*e*P	**Pb**	**22 27 43.8**	**+0.8**
STVI				*e*S	**Sb**	**22 27 49.7**	**+1.0**
CULB	**Culebra**	**0.40**	**201**	⇓*e*P	**Pb**	**22 27 44.2**	**+1.1**
CULB	**Culebra**	**0.40**	**201**	*e*S	**Sb**	**22 27 50.2**	**+1.3**
TBVI	**Tortola**	**0.61**	**117**	⇓*i*P	**Pb**	**22 27 46.1**	**-0.5**
MTP	**Monte Pirata**	**0.69**	**211**	⇓*e*P	**Pb**	**22 27 48.1**	**+0.2**
MTP				*e*S	**Sb**	**22 27 57.2**	**+0.2**
CBYP	**Canovanas**	**0.76**	**237**	⇑*e*P	**Pb**	**22 27 49.5**	**+0.3**
CBYP				*e*S	**Sb**	**22 27 59.5**	**+0.4**
ABV	**Anegada**	**0.81**	**87**	⇑*e*P	**Pb**	**22 27 49.8**	**-0.1**
ABV	**Anegada**	**0.81**	**87**	*e*S	**Sb**	**22 28 00.4**	**0.0**
HUMP	**Col San Antoni**	**0.83**	**230**	⇓*e*P	**Pb**	**22 27 50.4**	**0.0**
HUMP				*e*S	**Sb**	**22 28 01.2**	**0.0**
CPD	**Cerro la Pandu**	**0.95**	**227**	⇑*e*P	**Pn**	**22 27 52.4**	**+0.2**
CPD				*e*S	**Sb**	**22 28 04.2**	**-0.3**
CDVI	**St. Croix**	**1.01**	**157**	⇑*e*P	**Pn**	**22 27 52.8**	**-0.3**
CDVI				*e*S	**Sb**	**22 28 04.5**	**-1.7**
SJG	**San Juan**	**1.08**	**238**	⇓*e*P	**Pn**	**22 27 53.9**	**-0.2**
SJG				*e*S	**Sn**	**22 28 07.4**	**-0.8**
SJG	**San Juan**	**1.08**	**238**	⇑*e*P	**Pn**	**22 27 53.7**	**-0.4**
SJG				*e*S	**Sn**	**22 28 07.3**	**-0.9**
CELP	**Cerrillos**	**1.46**	**246**	⇑*e*P	**Pn**	**22 27 59.5**	**+0.3**
CELP				*e*S	**Sn**	**22 28 17.3**	**-0.2**
OBIP	**Obispado Ponce**	**1.50**	**245**	⇓*e*P	**Pn**	**22 28 00.1**	**+0.4**
OBIP				*e*S	**Sn**	**22 28 18.3**	**-0.1**
ICM	**Isla Caja Muer**	**1.50**	**238**	⇑*e*P	**Pn**	**22 28 00.3**	**+0.6**
ICM				*e*S	**Sn**	**22 28 17.6**	**-0.9**
AOPR	**Arecibo Observ**	**1.52**	**257**	⇑*e*P	**Pn**	**22 28 00.3**	**+0.1**
AOPR				*e*S	**Sn**	**22 28 18.4**	**-0.8**
LRS	**Lares**	**1.62**	**256**	⇓*e*P	**Pn**	**22 28 01.9**	**+0.4**
AGPR	**Aguadilla, PR**	**1.84**	**264**	⇓*e*P	**Pn**	**22 28 05.1**	**+0.6**
AGPR				*e*S	**Sn**	**22 28 26.8**	**-0.1**
LSP	**Las Mesas**	**1.88**	**255**	⇓*e*P	**Pn**	**22 28 05.6**	**+0.6**
LSP				*e*S	**Sn**	**22 28 26.8**	**-1.0**
MPR	**Mayaguez**	**1.92**	**256**	⇑*e*P	**Pn**	**22 28 06.2**	**+0.7**
MPR				*e*S	**Sn**	**22 28 28.1**	**-0.7**
MGP	**Maguayo**	**1.93**	**250**	⇓*i*P	**Pn**	**22 28 06.6**	**+0.8**
MGP				*e*S	**Sn**	**22 28 29.2**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.95**	**250**	⇑*e*P	**Pn**	**22 28 06.8**	**+0.8**
CRPR				*e*S	**Sn**	**22 28 28.6**	**-1.1**
LZG	**Guadaloupe-1**	**4.12**	**127**	*e*P	**Pn**	**22 28 35.2**	**-0.6**
SEG	**Port Louis**	**4.18**	**122**	*e*P	**Pn**	**22 28 37.4**	**+0.8**
TBG	**Guadaloupe-3**	**4.40**	**129**	*e*P	**Pn**	**22 28 38.8**	**-0.9**
DEG	**La Desirade**	**4.59**	**120**	*e*P	**Pn**	**22 28 41.9**	**-0.3**
MGG	**Marie-Galante**	**4.61**	**126**	*e*P	**Pn**	**22 28 42.5**	**0.0**
BBL	**Barber's Block**	**4.74**	**131**	*e*P	**Pn**	**22 28 43.3**	**-1.0**

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*ISCJB **29** 22:51:44.0±1.4, 4320N±009×14775E±0.10, h33km, Error ellipse: s-maj=13.2km s-min=9.9km az=137.6*
*JMA **29** 22:51:44.1±0.2, 4318N×14769E, h26km, M3.7*
*SKHL **29** 22:51:44.4±0.6, 4337N×14787E, h45km±8km, mb4.6/1*
ISC 29 22:51:44.6±1.4, 4328N±009×14781E±010, h35km, n12, σ0§95/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.51**	**274**	P	**Pn**	**22 52 08.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.09**	**315**	*e*Pn	**Pn**	**23 27 51.5**	**+0.1**
LVC				*e*Sn	**Sn**	**23 28 20.8**	**-0.5**
CEN1	**Los Morros**	**2.73**	**285**	⇓*i*P	**Pn**	**23 28 00.6**	**+1.9**
CEN1				*i* S	**Sn**	**23 28 35.9**	**+1.6**
CEN1				AML	AML	23 28 37.4	
	comp=N,199nm,0.5s						
CPN1	**Cerro Paranal**	**2.85**	**259**	*e*P	**Pn**	**23 28 01.2**	**+1.1**
CPN1				*i* S	**Sn**	**23 28 37.9**	**+1.0**
CPN1				AML	AML	23 28 40.2	
	comp=E,375nm,0.2s						
ANCH	**Antofagasta**	**2.86**	**278**	⇑*i*P	**Pn**	**23 27 58.9**	**-1.2**
ANCH				*i* S	**Sn**	**23 28 34.7**	**-2.3**
ANCH				AML	AML	23 28 36.6	
	comp=N,458nm,0.1s						
ANCH	**Antofagasta**	**2.86**	**278**	⇑*i*P	**Pn**	**23 27 58.9**	**-1.2**
ANCH				*i* S	**Sn**	**23 28 34.7**	**-2.3**
CDCH	**Caldera**	**4.32**	**226**	⇑*i*P	**Pn**	**23 28 17.5**	**-0.8**
CDCH				*i* S	**Sn**	**23 29 07.9**	**-1.6**
CDCH				AML	AML	23 29 13.1	
	comp=E,76nm,0.2s						
CDCH	**Caldera**	**4.32**	**226**	⇑*i*P	**Pn**	**23 28 17.5**	**-0.8**
CDCH				*i* S	**Sn**	**23 29 07.9**	**-1.6**
LPAZ	**La Paz**	**7.83**	**354**	P	**Pn**	**23 29 02.0**	**-1.8**
	comp=E,0.3nm,0.3s,baz=182,slow=9.4,SNR=8.1						
LPAZ				S	**Sn**	**23 30 27.3**	**-4.5**
	comp=E,0.1nm,0.3s,baz=345,slow=19,SNR=5.1						
LPAZ	**La Paz**	**7.83**	**354**	*e*Pn	**Pn**	**23 29 03.2**	**-0.6**
LPAZ				*e*Sn	**Sn**	**23 30 27.5**	**-4.4**
CPUP	**Villa Florida**	**9.31**	**106**	Pn	**Pn**	**23 29 25.3**	**+2.0**
TRQA	**Tornquist**	**14.62**	**163**	*e*P	**Pn**	**23 30 31.6**	**+0.6**
NNA	**Nana**	**15.07**	**322**	*e*Pn	**Pn**	**23 30 37.0**	**+0.5**
PLCA	**Paso Flores**	**16.79**	**189**	P	**Pn**	**23 31 05.6**	**+8.3**
	comp=E,0.1nm,0.3s,baz=359,slow=7.4,SNR=3.8						
BDFB	**Brasilia**	**20.00**	**69**	P	**P**	**23 31 28.8**	**-2.3**
	comp=E,0.9nm,0.3s,baz=252,slow=12,SNR=12						
OTAV	**Otavalo**	**26.51**	**334**	*e*P	**P**	**23 32 33.1**	**0.0**
	comp=E,1.1nm,0.5s,mb3.7						
SDV	**Santo Domingo**	**32.96**	**354**	*e*P	**P**	**23 33 31.8**	**+1.9**
	comp=E,1.4nm,0.4s,mb4.0						
PVMO	**Portageville**	**63.80**	**340**	P	**P**	**23 37 25.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.89**	**69**	P	**P**	**23 38 43.3**	**-1.1**
	comp=E,0.4nm,0.8s,mb3.1,baz=260,slow=5.9,SNR=5.2						

*ISCJB **29** 23:30:27.1±1.6,2949S±008×1779W±03,h10km,mb4.0/4, MS3.5/1, Error ellipse: s-maj=36.5km s-min=9.6km az=18.1*
*NEIC **29** 23:30:28.9±2.1,2963S×17783W,h13km±12km,mb4.2/1, Error ellipse: s-maj=27.6km s-min=15.0km az=102.0*
*IDC **29** 23:30:29.6±1.9,2934S×17793W,h14km±14km,mb3.9/3, mb1 4.1/3,mb1mx3.9/11,mbtmp4.0/3,MS3.6/1,Ms1 3.6/1, ms1mx2.9/16,Error ellipse: s-maj=37.4km s-min=7.4km az=107.0*

ISC 29 23:30:28.9±1.4,2965S±006×1779W±03,h10km,n17, σ0°71/12,mb4.0/4,MS3.5/1,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.40**	**358**	Pn	**Pg**	**23 30 36.7**	**-0.1**
	3μm,0.3s,baz=94,slow=15,SNR=47						
RAO				Sn	**Sg**	**23 30 41.3**	**-0.8**
	4μm,0.3s,baz=72,slow=23,SNR=72						
RAO	**Raoul Island**	**0.40**	**358**	Pn	**Pg**	**23 30 36.7**	**0.0**
RAO				Sn	**Sg**	**23 30 41.3**	**-0.8**
URZ	**Urewera**	**9.53**	**204**	Pn	**Pn**	**23 32 45.3**	**-0.9**
	0.6nm,0.3s,baz=78,slow=14,SNR=3.8						
URZ				Sn	**Sn**	**23 34 32.4**	**-0.9**
	1.3nm,0.3s,baz=148,slow=18,SNR=6.7						
PPT	**Papeete**	**28.53**	**71**	LR	LR	23 46 03.2	
	comp=Z,106nm,19.3s,MS3.5,baz=87,slow=33						
STKA	**Stephens Creek**	**34.73**	**256**	P	**P**	**23 37 18.4**	**-0.8**
	1.2nm,0.5s,mb4.1,baz=115,slow=14,SNR=4.0						
ASAR	**Alice Springs**	**43.24**	**266**	P	**P**	**23 38 31.0**	**+0.7**
	1.2nm,0.6s,mb3.8,baz=103,slow=8.3,SNR=11						
WRAB	**Tennant Creek**	**44.15**	**271**	*e*P	**P**	**23 38 38.3**	**+0.7**
	2.1nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.16**	**271**	P	**P**	**23 38 38.3**	**+0.6**
	1.6nm,0.6s,mb3.9,baz=110,slow=7.2,SNR=4.6						
CASY	**Casey**	**55.84**	**208**	P	**P**	**23 40 07.1**	**+0.7**
MAW	**Mawson**	**73.03**	**200**	P	**P**	**23 41 59.7**	**+0.7**
FINES	**FINESS Array B**	**144.47**	**340**	PKP	PKPdf	23 50 02.9	-2.5
	1.2nm,0.5s,baz=66,slow=3.5,SNR=18						
FINES	**FINESS Array B**	**144.47**	**340**	PKP	PKPdf	23 50 02.9	-2.6
NOA	**NORSAR Array B**	**148.03**	**352**	PKPbc	PKPbc	23 50 13.6	-1.0
	0.5nm,0.6s,baz=15,slow=4.5,SNR=3.5						
NOA	**NORSAR Array B**	**148.03**	**352**	PKPbc	PKPbc	23 50 13.6	-1.0
AKASG	**Malin Array Be**	**150.75**	**324**	PKPbc	PKPbc	23 50 19.9	-1.5
	0.3nm,0.3s,baz=48,slow=3.2,SNR=4.3						
MMAI	**Mount Meron Ar**	**151.42**	**285**	PKPbc	PKPbc	23 50 24.1	+1.1
	0.6nm,0.4s,baz=82,slow=6.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**163.57**	**179**	PKPab	PKPab	23 51 24.2	+0.7
	0.8nm,1.0s,baz=208,slow=3.6,SNR=5.8						

*ISCJB **29** 23:43:36.6±0.3,4913N±001×670E±003,h0km,Error ellipse: s-maj=2.7km s-min=2.1km az=42.6*
*LDG **29** 23:43:39.6±0.1,4915N×680E,h1km,Md2.9/3,Ml2.6/21, Error ellipse: s-maj=2.0km s-min=1.6km az=132.0, Suspected Mining induced.*
*BGR **29** 23:43:39.5±0.5,4914N×688E,h1km,ML2.1/3,Error ellipse: s-maj=6.7km s-min=4.4km az=100.0*
*NEIC **29** 23:43:39.6,4915N×680E,h1km,ML2.4(SZGRF), ML2.2(STR),ML2.6(LDG),After LDG.*
*CSEM **29** 23:43:39.3±0.1,4913N×686E,h2km,ML2.6/20,Error ellipse: s-maj=0.9km s-min=0.9km az=89.0*
*BNS **29** 23:43:40.5±1.0,4922N×701E,h1km,ML1.8*

ISC 29 23:43:37.9±0.3,4914N±001×676E±003,h0km,n64, σ1°10/123,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.59**	**19**	*e*Pg	**Pg**	**23 43 50.3**	**+1.0**
	SNR=20						
RUP	**Ruppelstein**	**0.59**	**19**	Pg	**Pg**	**23 43 50.2**	**+0.9**
RUP				Sg	**Sg**	**23 43 58.1**	**+1.2**
RUP	**Ruppelstein**	**0.59**	**19**	Pg	**Pg**	**23 43 50.3**	**+1.1**
	SNR=20						
RUP				Sg	**Sg**	**23 43 58.1**	**+1.2**
CDF	**Champ du Feu**	**0.81**	**155**	*e*Pn	**Pn**	**23 43 55.2**	**-1.3**
CDF				*e*Sg	**Sg**	**23 44 04.0**	**+0.2**
	65nm,0.5s						
CDF	**Champ du Feu**	**0.81**	**155**	*e*Pg	**Pg**	**23 43 53.9**	**+0.5**
CDF				*e*Pn	**Pn**	**23 43 55.2**	**-1.3**
CDF				*e*Sg	**Sg**	**23 44 04.0**	**+0.2**
CDF	**Champ du Feu**	**0.81**	**155**	*e*Pn	**Pn**	**23 43 55.2**	**-1.3**
CDF				*e*Sg	**Sg**	**23 44 04.0**	**+0.2**
	32nm,0.5s						
ABH	**Alteburg**	**0.90**	**34**	*e*Pg	**Pg**	**23 43 56.1**	**+1.0**
	SNR=7.9						
ABH	**Alteburg**	**0.90**	**34**	Pg	**Pg**	**23 43 55.9**	**+0.8**
ECH	**Echery**	**0.96**	**164**	*e*Pg	**Pg**	**23 43 57.4**	**+1.0**
	SNR=14						
ECH	**Echery**	**0.96**	**164**	Pg	**Pg**	**23 43 57.9**	**+1.5**
ECH				Sg	**Sg**	**23 44 10.6**	**+1.7**
ECH	**Echery**	**0.96**	**164**	Pg	**Pg**	**23 43 57.4**	**+1.0**
	SNR=14						
ECH				Sg	**Sg**	**23 44 10.6**	**+1.7**
RFYF	**Reffroy**	**0.99**	**239**	*e*Pn	**Pn**	**23 43 59.5**	**+0.4**
	baz=61						
RFYF				*e*Sg	**Sg**	**23 44 12.6**	**+2.7**
	59nm,0.3s						
RFYF	**Reffroy**	**0.99**	**239**	*e*Pn	**Pn**	**23 43 59.5**	**+0.4**
RFYF				*e*Sg	**Sg**	**23 44 12.6**	**+2.7**
	29nm,0.3s						
THEF	**They Montfort**	**1.05**	**210**	*e*Pg	**Pg**	**23 43 59.3**	**+1.3**
	SNR=8.7						
THEF	**They Montfort**	**1.05**	**210**	Pg	**Pg**	**23 43 59.2**	**+1.1**
BGG	**Burgeitz**	**1.13**	**19**	*e*Pg	**Pg**	**23 43 59.7**	**+0.1**
BGG				*e*Sg	**Sg**	**23 44 13.6**	**-0.5**
HAU	**Haudompre**	**1.17**	**194**	*e*Pg	**Pg**	**23 44 02.2**	**+1.8**
HAU				*e*Sg	**Sg**	**23 44 17.3**	**+1.8**
	28nm,0.3s						
HAU	**Haudompre**	**1.17**	**194**	*e*Pg	**Pg**	**23 44 02.2**	**+1.8**
HAU				*e*Sg	**Sg**	**23 44 17.3**	**+1.8**
	14nm,0.3s						
MEZF	**Maizieres J'vi**	**1.30**	**241**	*e*Pg	**Pg**	**23 44 03.4**	**+0.6**
	baz=67						
MEZF				*e*Sg	**Sg**	**23 44 21.5**	**+1.8**
	30nm,0.5s						
MEZF	**Maizieres J'vi**	**1.30**	**241**	*e*Pg	**Pg**	**23 44 03.4**	**+0.6**
MEZF				*e*Sg	**Sg**	**23 44 21.5**	**+1.8**
	15nm,0.5s						
MOF	**Molkenrain**	**1.31**	**169**	*e*Pg	**Pg**	**23 44 04.0**	**+0.9**
	SNR=5.8						
BFO	**Black Forest**	**1.32**	**128**	*e*Pg	**Pg**	**23 44 03.3**	**+0.1**
	SNR=5.0						
BFO				*e*Sg	**Sg**	**23 44 18.9**	**-1.3**
	SNR=11						
BFO	**Black Forest**	**1.32**	**128**	*e*Pg	**Pg**	**23 44 03.5**	**+0.3**
BFO				*e*Sg	**Sg**	**23 44 20.9**	**+0.6**
HINF	**Hinteralfeld**	**1.33**	**177**	*e*Sg	**Sg**	**23 44 21.1**	**+0.5**
	30nm,0.3s						
HINF	**Hinteralfeld**	**1.33**	**177**	*e*Sg	**Sg**	**23 44 21.1**	**+0.5**
	15nm,0.3s						
STB	**Steinbach**	**1.45**	**2**	*e*Pg	**Pg**	**23 44 06.1**	**+0.3**
STB				*e*Sg	**Sg**	**23 44 24.0**	**-0.6**
	16nm,0.8s						
SFTF	**Sexfontaines**	**1.48**	**231**	*e*Pn	**Pn**	**23 44 06.1**	**+0.3**
	baz=49						
SFTF				*e*Sg	**Sg**	**23 44 26.9**	**+1.5**
	19nm,0.3s						
SFTF	**Sexfontaines**	**1.48**	**231**	*e*Pn	**Pn**	**23 44 06.1**	**+0.3**
SFTF				*e*Sg	**Sg**	**23 44 26.9**	**+1.5**
	9.5nm,0.3s						
FELD	**Feldberg im Sc**	**1.51**	**146**	*e*Pg	**Pg**	**23 44 07.4**	**+0.5**
	SNR=3.6						
FELD	**Feldberg im Sc**	**1.51**	**146**	Pg	**Pg**	**23 44 07.0**	**+0.1**
FELD				Sg	**Sg**	**23 44 26.6**	**+0.1**
KLL	**Kalltalsperre**	**1.53**	**349**	*e*Pg	**Pg**	**23 44 05.7**	**-1.6**
TNS	**Taunus Mts**	**1.54**	**45**	*e*Pg	**Pg**	**23 44 05.5**	**-1.9**
TNS				*e*Sg	**Sg**	**23 44 26.7**	**-0.6**
	SNR=4.4						
TNS	**Taunus Mts**	**1.54**	**45**	*e*Pg	**Pg**	**23 44 05.5**	**-1.9**
TNS				*e*Sg	**Sg**	**23 44 27.4**	**+0.1**
GIVF	**Givet**	**1.59**	**308**	*e*Pg	**Pg**	**23 44 09.8**	**+1.5**
GIVF				*e*Sn	**Sn**	**23 44 28.1**	**-0.3**
GIVF				*e*Sg	**Sg**	**23 44 31.2**	**+2.3**
	24nm,0.5s						
GIVF	**Givet**	**1.59**	**308**	*e*Pg	**Pg**	**23 44 09.8**	**+1.5**
GIVF				*e*Sn	**Sn**	**23 44 28.1**	**-0.3**
GIVF				*e*Sg	**Sg**	**23 44 31.2**	**+2.3**
	12nm,0.5s						
BAIF	**Baives**	**1.90**	**300**	*e*Pg	**Pg**	**23 44 15.7**	**+1.4**
CABF	**La Chapelle**	**2.57**	**190**	*e*Sn	**Sn**	**23 44 50.2**	**-2.6**
CABF				*e*Sg	**Sg**	**23 45 00.6**	**0.0**
	12nm,0.7s						
CABF	**La Chapelle**	**2.57**	**190**	*e*Sn	**Sn**	**23 44 50.2**	**-2.6**
CABF				*e*Sg	**Sg**	**23 45 00.6**	**0.0**
	5.9nm,0.7s						
LOR	**Lormes**	**2.70**	**227**	*e*Pn	**Pn**	**23 44 22.3**	**-0.3**
	baz=56						
LOR				*e*Sn	**Sn**	**23 44 54.4**	**-1.5**
	7.2nm,0.3s						
LOR				*e*Sg	**Sg**	**23 45 04.9**	**+0.2**
	10nm,0.4s						
LOR	**Lormes**	**2.70**	**227**	*e*Pn	**Pn**	**23 44 22.3**	**-0.3**
LOR				*e*Sn	**Sn**	**23 44 54.4**	**-1.5**
	3.6nm,0.3s						
LOR				*e*Sg	**Sg**	**23 45 04.9**	**+0.2**
	5.1nm,0.4s						
SSF	**Saint Saulge**	**3.02**	**228**	*e*Pn	**Pn**	**23 44 26.6**	**-0.3**
SSF				*e*Sn	**Sn**	**23 45 02.4**	**-1.4**
SSF				*e*Sg	**Sg**	**23 45 15.4**	**+0.5**
	4.3nm,0.4s						
SSF	**Saint Saulge**	**3.02**	**228**	*e*Pn	**Pn**	**23 44 26.6**	**-0.3**
SSF				*e*Sn	**Sn**	**23 45 02.4**	**-1.4**
SSF				*e*Sg	**Sg**	**23 45 15.4**	**+0.5**
	2.2nm,0.4s						
SMF	**Signal de Mont**	**3.18**	**219**	*e*Pn	**Pn**	**23 44 28.5**	**-0.7**
SMF				*e*Sn	**Sn**	**23 45 06.1**	**-1.7**
SMF				*e*Sg	**Sg**	**23 45 20.1**	**0.0**
	3.9nm,0.3s						
SMF	**Signal de Mont**	**3.18**	**219**	*e*Pn	**Pn**	**23 44 28.5**	**-0.7**
SMF				*e*Sn	**Sn**	**23 45 06.1**	**-1.7**
SMF				*e*Sg	**Sg**	**23 45 20.1**	**0.0**
	2.0nm,0.3s						
AVF	**Avril sur Loir**	**3.29**	**226**	*e*Pn	**Pn**	**23 44 29.6**	**-1.0**
AVF				*e*Sn	**Sn**	**23 45 08.1**	**-2.3**
	1.1nm,0.3s						
AVF	**Avril sur Loir**	**3.29**	**226**	*e*Pn	**Pn**	**23 44 29.6**	**-1.0**
AVF				*e*Sn	**Sn**	**23 45 08.1**	**-2.3**
	0.6nm,0.3s						
HYF	**Humbligny**	**3.33**	**237**	*e*Pn	**Pn**	**23 44 31.2**	**-0.1**
HYF				*e*Sn	**Sn**	**23 45 10.1**	**-1.5**
HYF				*e*Sg	**Sg**	**23 45 25.5**	**+0.4**
BGF	**Bois d'Agland**	**3.69**	**227**	*e*Pn	**Pn**	**23 44 36.0**	**-0.2**
BGF				*e*Sn	**Sn**	**23 45 18.6**	**-1.9**
	11nm,0.4s						
BGF	**Bois d'Agland**	**3.69**	**227**	*e*Pn	**Pn**	**23 44 36.0**	**-0.2**
BGF				*e*Sn	**Sn**	**23 45 18.6**	**-1.9**
	5.7nm,0.4s						
TCF	**Toulx Ste Croi**	**4.20**	**229**	*e*Pn	**Pn**	**23 44 42.2**	**-0.9**
TCF				*e*Sg	**Sg**	**23 45 52.5**	**-0.2**
	1.5nm,0.3s						
TCF	**Toulx Ste Croi**	**4.20**	**229**	*e*Pn	**Pn**	**23 44 42.2**	**-0.9**
TCF				*e*Sg	**Sg**	**23 45 52.5**	**-0.2**
	0.8nm,0.3s						
LDF	**La Druitiere**	**4.58**	**266**	*e*Pn	**Pn**	**23 44 48.7**	**+0.3**
LDF				*e*Sg	**Sg**	**23 46 05.1**	**+0.1**
	1.8nm,0.3s						
LDF	**La Druitiere**	**4.58**	**266**	*e*Pn	**Pn**	**23 44 48.7**	**+0.3**
LDF				*e*Sg	**Sg**	**23 46 05.1**	**+0.1**
	0.9nm,0.3s						
FLN	**La Foliniere**	**4.79**	**268**	*e*Pn	**Pn**	**23 44 51.6**	**+0.3**
	baz=83						
RJF	**Les Rejaudoux**	**5.25**	**225**	*e*Pn	**Pn**	**23 44 57.3**	**-0.2**
RJF				*e*Sn	**Sn**	**23 45 55.5**	**-3.2**
	0.6nm,0.3s						
RJF	**Les Rejaudoux**	**5.25**	**225**	*e*Pn	**Pn**	**23 44 57.3**	**-0.2**
RJF				*e*Sn	**Sn**	**23 45 55.5**	**-3.2**
	0.3nm,0.3s						
MFF	**Saint Martin d**	**5.30**	**244**	*e*Pn	**Pn**	**23 44 57.2**	**-1.1**
MFF				*e*Sn	**Sn**	**23 45 55.8**	**-4.2**
	1.8nm,0.5s						
MFF	**Saint Martin d**	**5.30**	**244**	*e*Pn	**Pn**	**23 44 57.2**	**-1.1**
MFF				*e*Sn	**Sn**	**23 45 55.8**	**-4.2**
	0.9nm,0.5s						
CAF	**Calviac**	**5.30**	**219**	*e*Pn	**Pn**	**23 44 57.6**	**-0.7**
SGMF	**Saint Gilles**	**6.24**	**265**	*e*Pn	**Pn**	**23 45 10.9**	**-0.2**
MTLF	**Montolieu**	**6.60**	**210**	*e*Pn	**Pn**	**23 45 15.4**	**-0.8**
MTLF				*e*Sn	**Sn**	**23 46 27.3**	**-4.9**
	0.4nm,0.3s						
MTLF	**Montolieu**	**6.60**	**210**	*e*Pn	**Pn**	**23 45 15.4**	**-0.8**
MTLF				*e*Sn	**Sn**	**23 46 27.3**	**-4.9**
	0.2nm,0.3s						
ROSF	**Rostrenen**	**6.69**	**267**	*e*Pn	**Pn**	**23 45 17.2**	**-0.2**
ROSF				*e*Sn	**Sn**	**23 46 30.1**	**-4.2**
	0.8nm,0.3s						
ROSF	**Rostrenen**	**6.69**	**267**	*e*Pn	**Pn**	**23 45 17.2**	**-0.2**
ROSF				*e*Sn	**Sn**	**23 46 30.1**	**-4.2**
	0.4nm,0.3s						

*IDC **29** 23:44:21.2±0.9,2686N×5581E,h0km,mb3.9/13, mb1 3.9/16,mb1mx3.8/27,mbtmp3.9/16,ML3.8/3,MS2.6/4, Ms1 2.6/4,ms1mx2.4/36,Error ellipse: s-maj=19.5km s-min=16.8km az=121.0*
*CSEM **29** 23:44:21.3±0.1,2685N×5578E,h5km,ML3.8,Error ellipse: s-maj=3.3km s-min=2.1km az=162.0*
*THR **29** 23:44:22.9±0.6,2687N×5594E,h7km±3km,ML3.8*
*ISCJB **29** 23:44:22.3±0.3,2692N±002×5578E±004,h10km, mb3.8/13,MS2.3/2,Error ellipse: s-maj=4.8km s-min=3.0km az=130.6*
*TEH **29** 23:44:25.6,2684N×5584E,h14km,Mn4.0*
*NEIC **29** 23:44:25.0,2680N×5580E,h14km,mb3.8/1,MN4.0(TEH), After TEH.*

ISC 29 23:44:24.1±0.3,2692N±002×5584E±004,h10km,n71, σ1°17/108,mb3.8/13,MS2.3/2,2C-1D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.56**	**32**	*e*PG	**Pg**	**23 44 34.5**	**-0.5**
BNDS				*e*SG	**Sg**	**23 44 42.3**	**0.0**
BNDS				AML	AML	23 44 48.6	
	comp=E,5μm,0.4s						
BNDS				AML	AML	23 44 50.9	
	comp=N,7μm,0.3s						
BANOM	**Banah**	**1.08**	**157**	P	**Pg**	**23 44 43.4**	**-1.4**
	SNR=1442						
BANOM				⇑S	**Sg**	**23 44 59.8**	**+1.0**
ASHO	**Ashiyiah**	**2.24**	**175**	P	**Pn**	**23 45 01.8**	**+0.6**
	SNR=55						
GHIR	**Ghir-Karzin**	**2.87**	**299**	*e*PN	**Pn**	**23 45 12.4**	**+2.5**
GHIR				SN	**Sn**	**23 45 49.0**	**+4.5**
GHIR				AML	AML	23 46 18.2	
	comp=N,180nm,0.8s						
GHIR				AML	AML	23 46 21.9	
	comp=E,389nm,0.5s						
KRBR	**Kerman**	**3.16**	**15**	*e*PN	**Pn**	**23 45 15.8**	**+2.0**
KRBR				SN	**Sn**	**23 45 54.3**	**+2.8**
KRBR				AML	AML	23 46 17.4	
	comp=N,248nm,0.3s						
KRBR				AML	AML	23 46 17.5	
	comp=E,254nm,0.5s						
KRBR	**Kerman**	**3.16**	**15**	*e*Pn	**Pn**	**23 45 15.8**	**+2.0**
	SNR=47						
KRBR				Sn	**Sn**	**23 45 54.3**	**+2.8**
	SNR=47						
ISRV	**Sarvestan**	**3.43**	**316**	*e*Pn	**Pn**	**23 45 19.5**	**+1.9**
ISRV				*e*Sn	**Sn**	**23 45 58.7**	**+0.4**
ISRV				*e*Sn	**Sn**	**23 45 58.9**	**+0.6**
ISRV	**Sarvestan**	**3.43**	**316**	Pn	**Pn**	**23 45 19.5**	**+1.9**
ISRV				Sn	**Sn**	**23 45 58.6**	**+0.3**
ISRV				Sn	**Sn**	**23 45 58.8**	**+0.5**
ISRV	**Sarvestan**	**3.43**	**316**	*e*Pn	**Pn**	**23 45 19.5**	**+1.9**
ISRV				Sn	**Sn**	**23 45 58.6**	**+0.3**
IMOK	**Mook**	**3.48**	**308**	*e*Pn	**Pn**	**23 45 20.0**	**+1.8**
IMOK				*e*Sn	**Sn**	**23 45 59.9**	**+0.5**
IMOK				*e*Sn	**Sn**	**23 45 59.9**	**+0.5**
IMOK	**Mook**	**3.48**	**308**	*e*Pn	**Pn**	**23 45 20.0**	**+1.8**
IMOK				Sn	**Sn**	**23 45 59.8**	**+0.3**
ARQ	**Araqi**	**3.62**	**170**	P	**Pn**	**23 45 20.4**	**+0.2**
	SNR=22						
BIDO	**Bidbid**	**3.97**	**148**	⇑P	**Pn**	**23 45 24.3**	**-0.7**
BSY	**Bisya**	**4.34**	**163**	⇓P	**Pn**	**23 45 31.3**	**+1.3**
SMDO	**Samad**	**4.34**	**152**	P	**Pn**	**23 45 31.4**	**+1.4**
	SNR=14						
BSYO	**Bisya**	**4.36**	**163**	P	**Pn**	**23 45 31.3**	**+0.9**
WSAR	**Wadi Sarin**	**4.46**	**145**	Pn	**Pn**	**23 45 31.5**	**-0.2**
	comp=E,3.7nm,0.3s,baz=347,slow=9.4,SNR=40						
WSAR				Sn	**Sn**	**23 46 23.5**	**-0.1**
	comp=E,6.3nm,0.3s,baz=3.6,slow=22,SNR=6.2						
WSAR				LR	LR	23 47 42.5	
	comp=E,99nm,20.3s,baz=348,slow=46						
IMEH	**Mehriz**	**4.58**	**347**	*e*Pn	**Pn**	**23 45 35.0**	**+1.6**
IMEH				*e*Sn	**Sn**	**23 46 26.4**	**-0.2**
IMEH	**Mehriz**	**4.58**	**347**	*e*Pn	**Pn**	**23 45 35.0**	**+1.6**
IMEH				Sn	**Sn**	**23 46 26.3**	**-0.3**
IBAF	**Bafgh**	**4.66**	**357**	*e*Pn	**Pn**	**23 45 36.0**	**+1.6**
IBAF				*e*Sn	**Sn**	**23 46 28.4**	**-0.1**
IBAF				*e*Sn	**Sn**	**23 46 28.4**	**-0.1**
IBAF	**Bafgh**	**4.66**	**357**	Pn	**Pn**	**23 45 35.9**	**+1.5**
IBAF				Sn	**Sn**	**23 46 28.4**	**-0.1**
ZHSF	**Zahedan**	**5.11**	**57**	*e*PN	**Pn**	**23 45 41.4**	**+0.7**
WBK	**Wadi Bani Khal**	**5.15**	**146**	P	**Pn**	**23 45 40.5**	**-0.7**
	SNR=11						
ICHK	**Chekchek**	**5.45**	**347**	*e*Pn	**Pn**	**23 45 47.1**	**+1.8**
ICHK	**Chekchek**	**5.45**	**347**	Pn	**Pn**	**23 45 47.0**	**+1.7**
IZEF	**Zefreh**	**6.69**	**334**	*e*Pn	**Pn**	**23 46 03.0**	**+0.7**
IZEF				*e*Sn	**Sn**	**23 47 16.9**	**-1.6**
IZEF				*e*Sn	**Sn**	**23 47 17.1**	**-1.4**
IZEF	**Zefreh**	**6.69**	**334**	Pn	**Pn**	**23 46 02.9**	**+0.6**
IZEF				Sn	**Sn**	**23 47 16.8**	**-1.7**
IZEF				Sn	**Sn**	**23 47 17.0**	**-1.5**
IZEF	**Zefreh**	**6.69**	**334**	Pn	**Pn**	**23 46 02.9**	**+0.6**
IZEF				Sn	**Sn**	**23 47 16.8**	**-1.7**
IPIR	**Pirpir**	**7.17**	**324**	*e*Pn	**Pn**	**23 46 09.7**	**+0.7**
IPIR				*e*Sn	**Sn**	**23 47 27.5**	**-3.0**
IPIR				*e*Sn	**Sn**	**23 47 27.8**	**-2.6**
IPIR	**Pirpir**	**7.17**	**324**	Pn	**Pn**	**23 46 09.6**	**+0.6**
IPIR				*e*Sn	**Sn**	**23 47 27.5**	**-3.0**
QRN	**Al-Qurain**	**7.24**	**286**	*e*P	**Pn**	**23 46 10.1**	**+0.1**
QRN				AML	AML	23 47 31.2	
	comp=Z,54nm,0.3s						
IKLH	**Kalahroud**	**7.36**	**331**	*e*Pn	**Pn**	**23 46 12.7**	**+1.1**
IKLH				*e*Sn	**Sn**	**23 47 32.0**	**-3.2**
IKLH				*e*Sn	**Sn**	**23 47 32.3**	**-2.9**
IKLH	**Kalahroud**	**7.36**	**331**	Pn	**Pn**	**23 46 12.6**	**+1.0**
IKLH				Sn	**Sn**	**23 47 32.0**	**-3.2**
IKLH				Sn	**Sn**	**23 47 32.2**	**-3.0**
IKLH	**Kalahroud**	**7.36**	**331**	Pn	**Pn**	**23 46 12.6**	**+1.0**
IKLH				*e*Sn	**Sn**	**23 47 32.0**	**-3.2**
KBD	**Kabd**	**7.54**	**289**	*e*P	**Pn**	**23 46 14.5**	**+0.5**
KBD				AML	AML	23 47 37.5	
	comp=Z,161nm,0.3s						
RDF	**Al-Radifah**	**7.60**	**287**	*e*P	**Pn**	**23 46 14.4**	**-0.4**
RDF				AML	AML	23 47 37.8	
	comp=

*ISCJB **29** 23:47:10.3±0.6, 40.51N×003.35 87E±004, h19km±8km, Error ellipse: s-maj=5.5km s-min=5.1km az=30.7*

ISC 29 23:47:09.6±0.7, 4049N±003×3582E±004, h3km±6km, n29, σ0§82/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	**Tokat**	**0.58**	**107**	*i* PG	**Pg**	**23 47 20.7**	**0.0**
TOKT				*i* SG	**Sg**	**23 47 29.0**	**+0.7**
KVT	**Kavak**	**0.61**	**16**	*i* PG	**Pg**	**23 47 21.7**	**+0.4**
KVT				*i* SG	**Sg**	**23 47 30.3**	**+1.0**
YOZ	**Yozgat**	**0.93**	**204**	*i* PG	**Pg**	**23 47 27.5**	**0.0**
CORM	**Corum**	**0.96**	**251**	*i* PG	**Pg**	**23 47 28.2**	**+0.2**
SVSK	**Karacayir**	**1.07**	**122**	PG	**Pg**	**23 47 28.8**	**-1.3**
SVST	**Sivas**	**1.13**	**129**	*i* P	**Pg**	**23 47 31.0**	**-0.2**
SVST				*i* S	**Sg**	**23 47 47.1**	**+1.3**
DIKM	**Dikmen**	**1.23**	**340**	PN	**Pn**	**23 47 32.2**	**-1.5**
BYBT	**Boyabat**	**1.26**	**321**	PN	**Pn**	**23 47 33.0**	**-1.1**
CDAG	**Cicekdag**	**1.41**	**232**	*i* P	**Pn**	**23 47 35.4**	**-0.7**
CDAG				*i* S	**Sb**	**23 47 55.3**	**+0.4**
TOS	**Tosya**	**1.47**	**292**	PN	**Pn**	**23 47 36.6**	**-0.3**
BNN	**Bunyan**	**1.64**	**179**	PN	**Pn**	**23 47 38.4**	**-0.9**
CANT	**Cankiri**	**1.68**	**275**	PN	**Pn**	**23 47 39.7**	**-0.1**
ELDT	**Eldivan**	**1.82**	**271**	*i* P	**Pn**	**23 47 42.0**	**+0.2**
ELDT				*i* S	**Sn**	**23 48 07.8**	**+2.4**
BR131	**Keskin Array S**	**1.84**	**246**	*e*Pn	**Pn**	**23 47 42.0**	**0.0**
BR131				*e*Sn	**Sn**	**23 48 05.8**	**0.0**
BR131	**Keskin Array S**	**1.84**	**246**	*e*Pn	**Pn**	**23 47 42.0**	**0.0**
BR131				*e*Sn	**Sn**	**23 48 05.8**	**0.0**
AVNT	**Avonos**	**1.87**	**204**	*i* P	**Pn**	**23 47 42.5**	**+0.1**
AVNT				*i* S	**Sn**	**23 48 07.8**	**+1.4**
AVNT	**Avonos**	**1.87**	**204**	*i* P	**Pn**	**23 47 42.5**	**+0.1**
AVNT				*i* S	**Sn**	**23 48 07.8**	**+1.3**
GRSN	**GIRESUNGRSN**	**1.91**	**76**	*i* P	**Pn**	**23 47 43.3**	**+0.2**
GRSN				*i* S	**Sn**	**23 48 10.6**	**+3.0**
KAMT	**Kaman**	**1.97**	**236**	PN	**Pn**	**23 47 43.8**	**0.0**
ANTO	**Ankara**	**2.40**	**256**	*e*PN	**Pn**	**23 47 49.6**	**-0.2**
LOD	**Lodumlu**	**2.42**	**257**	*e*PN	**Pn**	**23 47 50.3**	**+0.3**
SAFT	**Safranbolu**	**2.49**	**288**	*e*PN	**Pn**	**23 47 50.8**	**-0.2**
MYA	**Malataya**	**2.96**	**136**	*e*PN	**Pn**	**23 47 56.3**	**-1.2**
KOZT	**Kozan**	**3.01**	**180**	*e*PN	**Pn**	**23 47 57.2**	**-0.9**
EZC	**Erzincan**	**3.15**	**102**	*e*PN	**Pn**	**23 47 53.6**	**-6.5**
KARA	**Karaisali**	**3.28**	**191**	*e*PN	**Pn**	**23 48 01.4**	**-0.5**
KIZT	**Kizilcal**	**3.44**	**243**	*e*PN	**Pn**	**23 48 04.1**	**+0.1**
KONT	**Konya--Tatoy**	**3.70**	**228**	*e*PN	**Pn**	**23 48 08.4**	**+0.8**
EZM	**Erzurum**	**4.29**	**96**	*e*PN	**Pn**	**23 48 15.2**	**-0.5**

*IDC **30** 00:22:15.5±14.0, 70.15S×108.97E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=235.7km s-min=159.0km az=142.0*

*ISCJB **30** 00:22:17.1±7.1, 7.1S±04×1090E±04, h25km±55km, mb3.8/4, Error ellipse: s-maj=96.0km s-min=14.5km az=101.0*

*NEIC **30** 00:22:20.5±1.1, 7.14S×108.96E, h35km, mb3.8/1, Error ellipse: s-maj=59.1km s-min=9.0km az=51.0*

ISC 30 00:22:18.1±8.6, 71S±04×1090E±04, h15km±57km, n9, σ0§71/9, mb3.8/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**14.88**	**326**	*e*Pn	**Pn**	**00 25 48.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.53**	**126**	P	**Pn**	**00 26 45.0**	**-1.2**
	0.1nm,0.3s,baz=328,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**27.67**	**120**	P	**P**	**00 28 06.7**	**+1.4**
	0.5nm,0.6s,mb3.3,baz=294,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**29.01**	**127**	P	**P**	**00 28 17.6**	**+0.4**
	0.4nm,0.7s,mb3.3,baz=304,slow=8.8,SNR=5.1						
ENH	**Enshi**	**37.17**	**1**	P	**P**	**00 29 28.3**	**-0.1**
	0.3nm,0.2s,mb3.8						
STKA	**Stephens Creek**	**39.09**	**133**	P	**P**	**00 29 44.5**	**-0.1**
	6.2nm,0.5s,mb4.6,baz=304,slow=7.7,SNR=17						
STKA	**Stephens Creek**	**39.09**	**133**	P	**P**	**00 29 44.5**	**-0.1**
KURK	**Kurchatov**	**63.30**	**339**	P	**P**	**00 32 46.3**	**0.0**
ZRNK	**Zerenda**	**68.78**	**335**	P	**P**	**00 33 20.7**	**-0.8**

*BJI **30** 00:28:04.8, 33.10N×116.83W, h9km, mB4.8, mb4.7, Ms4.4, Msz4.2*

*ISCJB **30** 00:28:05.1±0.4, 3324N±003×11602W±002, h10km, MS3.4/1, Error ellipse: s-maj=4.8km s-min=2.8km az=16.3*

*NEIC **30** 00:28:06.6, 3324N×116.04W, h4km, ML4.3(PASI), After PAS.*

NEIC Felt [IV] at Thermal, [III] at El Cajon and [II] at Aliso Viejo, Cathedral City, La Quinta, Palm Springs and San Diego. Felt at Borrego Springs, El Centro, Palm Desert and Pine Valley.

ISC 30 00:28:05.7±0.4, 3318N±003×11603W±002, h10km, n70, σ1§32/98, MS3.4/1, 22C-22D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**0.56**	**320**	⇑*e*P	**Pg**	**00 28 15.9**	**-0.6**
PFO				*e*S	**Sg**	**00 28 22.0**	**-1.8**
PFO	**Pinyon Flat Ob**	**0.56**	**320**	⇓P	**Pg**	**00 28 15.9**	**-0.6**
	baz=0.5,SNR=1000						
PFO				⇓S	**Sg**	**00 28 22.9**	**-0.9**
	baz=0.5						
109C	**Camp Elliot, M**	**0.96**	**252**	P	**Pg**	**00 28 24.2**	**0.0**
	baz=1.0,SNR=1000						
109C				⇑S	**Sg**	**00 28 36.7**	**+0.1**
	baz=1.0						
GLA	**Glamis**	**1.01**	**97**	P	**Pg**	**00 28 24.5**	**-0.7**
	baz=1.0,SNR=461						
GLA				⇓S	**Sg**	**00 28 38.2**	**-0.2**
	baz=1.0						
Y12C	**Blythe**	**1.38**	**65**	⇓P	**Pn**	**00 28 29.3**	**-1.7**
	baz=1.4,SNR=128						
Y12C				⇓S	**Sb**	**00 28 49.3**	**+0.1**
	baz=1.4						
Y13A	**Salome**	**1.94**	**71**	⇑P	**Pn**	**00 28 37.4**	**-1.3**
	baz=1.9,SNR=12						
FMP	**Fort Macarthur**	**1.96**	**286**	⇓P	**Pn**	**00 28 38.2**	**-0.9**
	baz=1.9,SNR=10						
GSC	**Goldstone**	**2.21**	**343**	*e*Pn	**Pn**	**00 28 41.3**	**-1.2**
GSC				*i* Pg	**Pg**	**00 28 46.1**	**-2.0**
GSC				*e*Sg	**Sg**	**00 29 16.4**	**-0.4**
GSC	**Goldstone**	**2.21**	**343**	⇓P	**Pn**	**00 28 41.3**	**-1.1**
	baz=2.2						
TUQ	**Turquoise Mtn.**	**2.25**	**2**	⇓P	**Pn**	**00 28 41.5**	**-1.4**
	baz=2.2,SNR=64						
X13A	**Yucca**	**2.30**	**52**	⇑P	**Pn**	**00 28 43.0**	**-0.7**
	baz=2.3,SNR=21						
W12A	**Cal Nev Ari**	**2.32**	**24**	⇑P	**Pn**	**00 28 43.0**	**-0.9**
	baz=2.3						
Z14A	**Wintersburg**	**2.58**	**85**	⇓P	**Pn**	**00 28 46.7**	**-0.9**
	baz=2.6						
W13A	**Hualapai Mount**	**2.60**	**42**	⇑P	**Pn**	**00 28 47.1**	**-0.8**
	baz=2.6,SNR=42						
OSI	**Osito Adit**	**2.66**	**303**	⇑P	**Pn**	**00 28 47.9**	**-0.7**
	baz=2.6						
V11A	**Goodsprings**	**2.69**	**10**	⇓P	**Pn**	**00 28 48.3**	**-0.8**
	baz=2.6,SNR=9.0						
V12A	**Nelson**	**2.72**	**21**	⇑P	**Pn**	**00 28 48.6**	**-0.8**
	baz=2.7						
X14A	**Yava**	**2.91**	**63**	⇑P	**Pn**	**00 28 51.5**	**-0.5**
	baz=2.9						
SNCC	**San Nicolas Is**	**2.93**	**272**	*e*Pn	**Pn**	**00 28 52.5**	**+0.1**
SNCC	**San Nicolas Is**	**2.93**	**272**	⇓P	**Pn**	**00 28 52.3**	**-0.1**
	baz=2.9						
SNCC				⇑S	**Sn**	**00 29 28.5**	**+0.8**
	baz=2.9						
W14A	**Seligman**	**3.17**	**50**	⇑P	**Pn**	**00 28 54.8**	**-0.8**
	baz=3.1						
ISA	**Isabella**	**3.20**	**321**	*e*Pn	**Pn**	**00 28 56.4**	**+0.4**
ISA	**Isabella**	**3.20**	**321**	⇓P	**Pn**	**00 28 55.0**	**-1.0**
	baz=3.1						
115A	**Sonoran Desert**	**3.23**	**98**	⇑P	**Pn**	**00 28 56.1**	**-0.4**
	baz=3.2						
U10A	**Ash Meadows, A**	**3.24**	**356**	⇓P	**Pn**	**00 28 55.8**	**-0.8**
	baz=3.2						
DAC	**Darwin (Calif)**	**3.34**	**338**	*e*Pn	**Pn**	**00 28 57.6**	**-0.4**
DAC				*e*Pg	**Pg**	**00 29 07.1**	**-2.7**
DAC				*e*Sg	**Sg**	**00 29 50.8**	**-2.4**
X15A	**Humboldt**	**3.41**	**66**	⇓P	**Pn**	**00 28 58.5**	**-0.4**
	baz=3.4						
U12A	**Valley of Fire**	**3.46**	**20**	⇓P	**Pn**	**00 28 57.9**	**-1.7**
	baz=3.4						
116A	**Eloy**	**3.69**	**99**	⇑P	**Pn**	**00 29 02.6**	**-0.2**
	baz=3.7						
W15A	**Williams**	**3.69**	**56**	⇓P	**Pn**	**00 29 02.9**	**+0.1**
	baz=3.7						
HELL	**Mitchell Peak**	**4.27**	**326**	⇑P	**Pn**	**00 29 11.0**	**+0.2**
	baz=4.2						
WUAZ	**Wupatki**	**4.50**	**58**	*e*Pn	**Pn**	**00 29 15.6**	**+1.7**
WUAZ				*e*Pg	**Pg**	**00 29 32.6**	**+0.8**
WUAZ				*e*Sg	**Sg**	**00 30 28.8**	**-1.3**
TUC	**Tucson**	**4.50**	**100**	*e*Pn	**Pn**	**00 29 12.8**	**-1.2**
TUC				*e*Sn	**Sn**	**00 30 04.2**	**-2.1**
S09A	**Goldfield**	**4.63**	**348**	⇓P	**Pn**	**00 29 15.7**	**-0.1**
	baz=4.6						
PKD	**Parkfield**	**4.63**	**308**	⇓P	**Pn**	**00 29 16.2**	**+0.5**
	baz=4.6						
MTUM	**Tungsten Hills**	**4.65**	**334**	*e*Pn	**Pn**	**00 29 16.6**	**+0.6**
MTUM				*e*Pg	**Pb**	**00 29 26.0**	**-1.3**
MTUM				*e*Sg	**Sg**	**00 30 31.5**	**-3.5**
TPH	**Tonopah**	**4.98**	**349**	*e*Pn	**Pn**	**00 29 21.6**	**+1.1**
TPH				Sn	**Sb**	**00 30 37.0**	**+4.2**
R10A	**Warm Springs**	**5.10**	**358**	⇓P	**Pn**	**00 29 22.9**	**+0.7**
	baz=5.1						
R09A	**Tonopah**	**5.12**	**351**	⇑P	**Pn**	**00 29 23.3**	**+0.9**
	baz=5.1						
MNV	**Mina**	**5.51**	**342**	*e*Pn	**Pn**	**00 29 28.4**	**+0.5**
	62nm,1.1s						
MNV				*e*Sn	**Sn**	**00 30 41.2**	**+10**
HAST	**Hastings Reser**	**5.56**	**307**	⇓P	**Pn**	**00 29 27.8**	**-0.7**
	baz=5.5						
Q11A	**Duckwater**	**5.66**	**3**	⇑P	**Pn**	**00 29 30.3**	**+0.4**
	baz=5.6						
SAO	**San Andreas Ge**	**5.71**	**310**	*e*Pn	**Pn**	**00 29 33.0**	**+2.5**
	23nm,0.8s						
PACP	**Pacheco Peak**	**5.76**	**313**	⇓P	**Pn**	**00 29 29.5**	**-1.7**
	baz=5.7						
Q08A	**Gabbs**	**5.87**	**345**	⇑P	**Pn**	**00 29 33.5**	**+0.8**
	baz=5.8						
CMB	**Columbia Colle**	**6.00**	**325**	*e*Pn	**Pn**	**00 29 36.0**	**+1.4**
	24nm,0.7s						
CMB				*e*Pg	**Pg**	**00 29 53.1**	**-7.6**
CMB				*e*Sn	**Sn**	**00 30 38.1**	**-5.2**
CMB				*e*Sg	**Sg**	**00 31 12.9**	**-5.5**
CMB	**Columbia Colle**	**6.00**	**325**	⇑P	**Pn**	**00 29 37.0**	**+2.5**
	baz=6.0						
S04C	**Ingram Canyon,**	**6.11**	**316**	⇓P	**Pn**	**00 29 38.6**	**+2.5**
	baz=6.1						
MVU	**Marysvale**	**6.14**	**29**	Pn	**Pn**	**00 29 44.8**	**+8.3**
MVU				*e*Sg	**Sg**	**00 31 32.8**	**+10**
MSU	**Marysvale**	**6.17**	**29**	*e*Pn	**Pn**	**00 29 38.7**	**+1.9**
MSU				*e*Pg	**Pg**	**00 29 59.0**	**-4.8**
MSU				*e*Sn	**Sn**	**00 30 56.5**	**+9.1**
MSU				*e*Sg	**Sg**	**00 31 24.9**	**+1.2**
R05C	**Kirkwood Meado**	**6.41**	**330**	⇑P	**Pn**	**00 29 43.8**	**+3.6**
	baz=6.4						
P10A	**Eureka**	**6.43**	**357**	⇑P	**Pn**	**00 29 41.7**	**+1.2**
	baz=6.4						
LAVA	**Lava Cap Winer**	**6.75**	**327**	⇑P	**Pn**	**00 29 45.5**	**+0.7**
	baz=6.7						
O09A	**Fish Creek Ran**	**7.04**	**353**	⇑P	**Pn**	**00 29 50.7**	**+1.9**
	baz=7.0						
PAHR	**Pah Rah Range**	**7.05**	**338**	*e*Pn	**Pn**	**00 29 58.3**	**+9.4**
TMUT	**Trail Mountain**	**7.23**	**31**	Pn	**Pn**	**00 30 00.4**	**+8.9**
TMUT				*e*Sg	**Sg**	**00 31 59.2**	**+1.3**
MVCO	**Mesa Verde**	**7.35**	**55**	*e*Pn	**Pn**	**00 29 57.1**	**+4.0**
SRU	**San Rafael**	**7.40**	**35**	Pn	**Pn**	**00 29 55.3**	**+1.5**
DUG	**Dugway**	**7.46**	**19**	Pn	**Pn**	**00 29 57.4**	**+2.8**
DUG				*e*Pg	**Pg**	**00 30 25.6**	**-2.9**
LAZ	**Ladron**	**7.50**	**78**	Pn	**Pn**	**00 29 59.5**	**+4.4**
LAZ				*e*Sn	**Sn**	**00 31 35.9**	**+16**
ELK	**Elko**	**7.57**	**5**	*e*Pn	**Pn**	**00 29 57.4**	**+1.3**
ELK				*e*Pg	**Pg**	**00 30 28.2**	**-2.5**
PV01	**Paradox Valley**	**7.82**	**49**	*e*Pn	**Pn**	**00 30 02.6**	**+3.0**
PV01				Sn	Sn	00 31 50.7	+23
BNM	**Barren Site**	**7.89**	**80**	*e*Pn	**Pn**	**00 30 01.6**	**+1.1**
BNM				*e*S	Sn	00 32 08.9	+39
BGU	**Big Grassy Mou**	**8.09**	**16**	*e*Pn	**Pn**	**00 30 05.9**	**+2.7**
ANMO	**Albuquerque**	**8.13**	**75**	*e*Pn	**Pn**	**00 30 13.3**	**+10**
ANMO				*e*Sn	**Sn**	**00 31 43.6**	**+7.9**
SMCO	**Snowmass**	**9.45**	**48**	Pn	**Pn**	**00 30 25.4**	**+3.5**
SMCO				*e*Sn	**Sn**	**00 32 10.6**	**+2.5**
MDJ	**Mudanjiang**	**82.30**	**319**	P	**P**	**00 40 28.8**	**+1.3**
MDJ				PP	PP	00 43 38.5	+2.5
MDJ				S	S	00 50 37.5	-5.7
MDJ				AMB	AMB		
	comp=Z,40nm,6.6s						
MDJ				LR	LR		
	comp=N,10.0nm,16.9s,MS3.4						
MDJ				LR	LR		
	comp=E,10.0nm,16.9s,MS3.4						
MDJ				LR	LR		
	comp=Z,10.0nm,15.4s,MS3.3						
CN2	**Changchun**	**85.08**	**320**	*e*P	**P**	**00 40 42.5**	**+0.7**
WMQ	**Urumqi**	**100.36**	**343**	*e*P	Pdif	00 41 55.0	+2.3
LZH	**Lanzhou**	**101.65**	**328**	*e*P	Pdif	00 41 58.5	+0.1
LZH				AP		00 42 03.0	
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s						
LZH				AMB	AMB		
	comp=Z,50nm,4.1s						

FUNV 30 00:33:39.7, 809N×6424W, h0km, MW3.6, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGV	**PARIAGUAN**	**0.77**	**329**	⇓*i*P	Pg	00 33 54.5	-0.1
PRGV				*e*S	Sg	00 34 05.2	+0.7
GURV	**El Guri**	**1.19**	**106**	*e*P	Pg	00 34 01.8	-0.8
GURV				*e*S	Sg	00 34 17.6	-0.5
ORIV	**Oritupano**	**1.27**	**40**	*e*P	Pg	00 34 04.2	+0.1
ORIV				*e*S	Sg	00 34 21.8	+1.1
PCRV	**Puerto La Cruz**	**2.11**	**349**	*e*P	Pn	00 34 15.6	-0.6
PCRV				*e*S	Sn	00 34 42.1	-1.0
CAOV	**Caicara del Or**	**2.20**	**250**	*e*P	Pn	00 34 16.3	-1.1
CAOV				*e*S	Sn	00 34 44.7	-0.6
MERV	**Las Mercedes**	**2.33**	**300**	*e*P	Pn	00 34 18.5	-0.8
MERV				*e*S	Sn	00 34 46.7	-2.0
GUNV	**Guanoco**	**2.42**	**32**	*e*P	Pn	00 34 20.2	-0.4
GUNV				*e*S	Sn	00 34 49.6	-1.3
CUPV	**Cepira**	**2.48**	**322**	*e*P	Pn	00 34 20.7	-0.6
CUPV				*e*S	Sn	00 34 50.6	-1.6
CRUV	**Carupano**	**2.75**	**21**	*e*P	Pn	00 34 23.2	-1.9
CRUV				*e*S	Sn	00 34 55.7	-3.3
BIRV	**Birongo**	**3.10**	**320**	*e*P	Pn	00 34 29.0	-0.9
BIRV				*e*S	Sn	00 35 06.1	-1.5
GUIV	**Guiria**	**3.23**	**38**	*e*P	Pn	00 34 30.9	-0.7
GUIV				*e*S	Sn	00 35 09.3	-1.4
ITEV	**Isla Los Testi**	**3.42**	**19**	*e*P	Pn	00 34 32.8	-1.5
LUEV	**Luepa**	**3.55**	**129**	*e*P	Pn	00 34 35.5	-0.6
LUEV				*e*S	Sn	00 35 16.8	-2.0
IBAV	**Isla La Blanqu**	**3.72**	**355**	*e*P	Pn	00 34 36.8	-1.6
BAUV	**El Baul**	**3.85**	**283**	*e*P	Pn	00 34 38.8	-1.4
BAUV				*e*S	Sn	00 35 23.4	-2.7
ORCV	**Isla La Orchil**	**4.17**	**333**	*e*P	Pn	00 34 42.4	-2.1
TURV	**Turiamo**	**4.25**	**304**	*e*P	Pn	00 34 44.6	-1.1
TURV				*e*S	Sn	00 35 32.5	-3.5
TEPV	**Terepaima**	**5.23**	**291**	*e*P	Pn	00 34 57.6	-1.5
ELOV	**Elorza**	**5.31**	**259**	*e*P	Pn	00 34 58.6	-1.6
CURV	**Curarigua**	**5.96**	**289**	*e*P	Pn	00 35 07.5	-1.7
SOCV	**Socops**	**6.55**	**272**	*e*P	Pn	00 35 15.1	-2.1
MONV	**Montecano**	**6.82**	**305**	*e*P	Pn	00 35 19.0	-2.0
VIGV	**El Vigia**	**7.08**	**277**	*e*P	Pn	00 35 23.3	-1.3

*ISCJB **30** 00:34:43.3±0.2, 45.72N±0.010×6.25E±0.01, h4km±1km, Error ellipse: s-maj=1.7km s-min=1.5km az=94.9*

*ROM **30** 00:34:45.6±0.8, 45.69N×6.36E, h10km, Md2.6/12, Ml2.1/5, Error ellipse: s-maj=11.7km s-min=3.9km az=72.0*

*LDG **30** 00:34:45.6±0.1, 45.70N×6.38E, h2km, Md3.0/2, Ml3.0/46, Error ellipse: s-maj=1.6km s-min=1.3km az=98.0*

*CSEM **30** 00:34:45.4±0.0, 45.66N×6.39E, h5km, ML3.0/39, Error ellipse: s-maj=0.7km s-min=0.7km az=53.0*

*STR **30** 00:34:46.4±0.3, 45.74N×6.19E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **30** 00:34:46.4, 45.74N×6.19E, h5km, ML2.1(ROM), ML2.7(STR), ML3.0(LDG), After STR.*

*ZUR **30** 00:34:46.2, 45.73N×6.43E, h14km±3km, ML2.5/10*

*GEN **30** 00:34:47.2, 45.70N×6.49E, h4km, ML3.0*

ISC 30 00:34:44.6±0.2, 45709N±0009×629E±001, h7km±1km, n158, σ1§14/355, 6C-11D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.37**	**121**	*e*Pg	**Pg**	**00 34 51.7**	**-0.1**
LPL				*e*Sg	**Sg**	**00 34 55.3**	**-1.3**
	82nm,0.2s						
LPL	**La Plagne**	**0.37**	**121**	*e*Pg	**Pg**	**00 34 51.7**	**-0.1**
LPL				*e*Sg	**Sg**	**00 34 55.3**	**-1.3**
	41nm,0.2s						
LPG	**La Plagne**	**0.39**	**123**	*e*Pg	**Pg**	**00 34 52.2**	**0.0**
LPG				*e*Sg	**Sg**	**00 34 55.8**	**-1.5**
	134nm,0.3s						
LPG	**La Plagne**	**0.39**	**123**	*e*Pg	**Pg**	**00 34 52.2**	**0.0**
LPG				*e*Sg	**Sg**	**00 34 55.8**	**-1.5**
	67nm,0.3s						
GDM	**Grand'Maison**	**0.52**	**193**	Pg	**Pg**	**00 34 55.0**	**+0.3**
GDM				Sg	**Sg**	**00 35 01.6**	**+0.2**
MRGE	**Morge**	**0.55**	**83**	⇓*i*Pg	**Pg**	**00 34 55.2**	**0.0**
MRGE				Sg	**Sg**	**00 35 01.9**	**-0.4**
	203nm,0.3s						
EMV	**Vieux Emosson**	**0.56**	**50**	*i* Sg	**Pg**	**00 34 55.7**	**+0.4**
	455nm,0.1s						
EMV	**Vieux Emosson**	**0.56**	**50**	⇓*i*Pg	**Pg**	**00 35 02.5**	**+7.2**
	455nm,0.1s						
EMV	**Vieux Emosson**	**0.56**	**50**	⇓*i*Pg	**Pg**	**00 34 55.7**	**+0.4**
EMV				Sg	**Sg**	**00 35 02.6**	**0.0**
GRN	**Grenoble**	**0.60**	**219**	Pg	**Pg**	**00 34 57.5**	**+1.3**
GRN				Sg	**Sg**	**00 35 05.7**	**+1.6**
SALAN	**Lac Salanfe**	**0.65**	**47**	⇓*i*Pg	**Pg**	**00 34 57.5**	**+0.4**
	71nm,0.3s						
SALAN				*i* Sg	**Sg**	**00 35 05.4**	**-0.1**
	71nm,0.3s						
BNI	**Bardonecchia**	**0.71**	**157**	Pg	**Pg**	**00 34 58.2**	**-0.1**
BNI				Sg	**Sg**	**00 35 07.1**	**-0.5**
	27nm,0.1s						
GRYON	**Gryon**	**0.79**	**46**	⇓*i*Pg	**Pg**	**00 35 00.9**	**+1.1**
	71nm,0.2s						
GIMEL	**Gimel**	**0.82**	**359**	*e*P	**Pg**	**00 35 01.8**	**+1.3**
	482nm,0.1s						
ORIF	**Oris-en-Rattie**	**0.84**	**200**	*e*Pg	**Pg**	**00 35 00.0**	**-0.8**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**00 35 13.3**	**+1.6**
	34nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.84**	**200**	*e*Pg	**Pg**	**00 35 00.0**	**-0.8**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**00 35 13.3**	**+1.6**
	17nm,0.2s,SNR=1.0						
RRL	**Cesana Torines**	**0.86**	**156**	P	**Pg**	**00 35 01.4**	**+0.2**
DIX	**Grande Dixence**	**0.87**	**64**	*e*P	**Pg**	**00 35 01.2**	**-0.1**
	165nm,0.4s						
FENE	**Fenestrelle**	**0.87**	**141**	P	**Pg**	**00 35 01.1**	**-0.3**
FENE				S	**Sg**	**00 35 11.4**	**-1.3**
RSP	**Reno Superiore**	**0.88**	**129**	Pg	**Pg**	**00 35 01.1**	**-0.5**
	72nm,0.2s						
RSP				S	**Sg**	**00 35 11.4**	**-1.6**
CABF	**La Chapelle**	**0.91**	**351**	*e*Pg	**Pg**	**00 35 03.8**	**+1.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**00 35 14.3**	**+0.3**
	41nm,0.2s,SNR=1.0						
CABF				*e*Sn	**Sn**	**00 35 17.4**	**+0.2**
	SNR=1.0						
SENIN	**Lac Senin**	**0.96**	**47**	⇓*i*P	**Pg**	**00 35 03.2**	**+0.1**
	268nm,0.2s						
MBDF	**Montbardon**	**1.04**	**161**	*e*Pg	**Pg**	**00 35 04.3**	**-0.3**
	SNR=1.0						
MBDF	**Montbardon**	**1.04**	**161**	*e*Pn	**Pn**	**00 35 03.8**	**-1.8**
MBDF				*e*Pg	**Pg**	**00 35 04.3**	**-0.3**
MBDF	**Montbardon**	**1.04**	**161**	*e*Pg	**Pg**	**00 35 04.3**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**00 35 17.9**	**-0.2**
	17nm,0.4s,SNR=1.0						
TRAV		**1.04**	**100**	P	**Pg**	**00 35 03.9**	**-0.8**
TRAV				S	**Sg**	**00 35 16.5**	**-1.7**
TORNY	**Torny**	**1.16**	**23**	⇓*i*P	**Pg**	**00 35 15.2**	**+8.3**
	352nm,0.4s						
ORO	**Oropa**	**1.19**	**93**	Pg	**Pg**	**00 35 06.6**	**-0.9**
MCGN	**Macugnaga**	**1.22**	**78**	Pg	**Pg**	**00 35 08.1**	**+0.2**
	51nm,0.7s						
MMK	**Mattmark**	**1.22**	**73**	*e*P	**Pb**	**00 35 06.5**	**-1.5**
	183nm,0.6s						
MMK	**Mattmark**	**1.22**	**73**	Pg	**Pg**	**00 35 07.3**	**-0.8**
BRANT	**Les Verrieres**	**1.24**	**6**	⇑*i*P	**Pb**	**00 35 07.4**	**-0.9**
	350nm,0.3s						
SURF	**Saint Ours**	**1.28**	**163**	Pg	**Pg**	**00 35 12.7**	**+3.5**
MONC	**Moncucco Torin**	**1.32**	**118**	Pg	**Pg**	**00 35 10.8**	**+0.9**
	17nm,0.4s						
PZZ	**Prazzo**	**1.33**	**154**	P	**Pn**	**00 35 09.8**	**+0.2**
PZZ				S	**Sb**	**00 35 27.0**	**-0.2**
DOI	**San Damiano**	**1.38**	**150**	Pg	**Pg**	**00 35 10.5**	**-0.6**
	59nm,0.7s						
VIVF	**Saint-Julien-I**	**1.42**

HINF	**Hinteralfeld**	**2.14**	**10**	*e*Pg	**Pg**	**00 35 24.9**	**-0.8**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**00 35 52.0**	**-1.5**
	9.4nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**2.16**	**173**	*e*Pg	**Pg**	**00 35 26.1**	**0.0**
FRF				*e*Sn	**Sn**	**00 35 47.5**	**-0.6**
	7.6nm,0.2s,SNR=1.0						
FRF				*e*Sg	**Sg**	**00 35 53.8**	**-0.3**
FRF	**La Foret Royal**	**2.16**	**173**	*e*Pn	**Pn**	**00 35 22.0**	**+1.0**
FRF				*e*Pg	**Pg**	**00 35 26.1**	**0.0**
FRF				*e*Sn	**Sn**	**00 35 47.5**	**-0.6**
FRF				*e*Sg	**Sg**	**00 35 53.8**	**-0.3**
FRF	**La Foret Royal**	**2.16**	**173**	*e*Pg	**Pg**	**00 35 26.1**	**0.0**
FRF				*e*Sn	**Sn**	**00 35 47.5**	**-0.6**
	3.8nm,0.2s,SNR=1.0						
FRF				*e*Sg	**Sg**	**00 35 53.8**	**-0.3**
LBL	**Lubilhac**	**2.19**	**259**	Pn	**Pn**	**00 35 23.0**	**+1.6**
MOF	**Molkenrain**	**2.22**	**15**	Pn	**Pn**	**00 35 21.6**	**-0.2**
LOR	**Lormes**	**2.29**	**314**	*e*Pn	**Pn**	**00 35 23.6**	**+0.8**
	baz=131						
LOR	**Lormes**	**2.29**	**314**	*e*Pg	**Pg**	**00 35 29.0**	**+0.5**
LOR				*e*Sn	**Sn**	**00 35 50.6**	**-0.6**
LOR				*e*Sg	**Sg**	**00 35 57.7**	**-0.5**
	31nm,0.3s						
LOR	**Lormes**	**2.29**	**314**	*e*Pn	**Pn**	**00 35 23.6**	**+0.8**
LOR				*e*Pg	**Pg**	**00 35 29.0**	**+0.5**
LOR				*e*Sn	**Sn**	**00 35 50.6**	**-0.6**
LOR				*e*Sg	**Sg**	**00 35 57.7**	**-0.5**
LOR	**Lormes**	**2.29**	**314**	*e*Pg	**Pg**	**00 35 29.0**	**+0.5**
LOR				*e*Sn	**Sn**	**00 35 50.6**	**-0.6**
LOR				*e*Sg	**Sg**	**00 35 57.7**	**-0.5**
	16nm,0.3s						
PYM	**Petit Puy Mans**	**2.30**	**272**	Pg	**Pg**	**00 35 28.5**	**-0.2**
HAU	**Haudompre**	**2.30**	**1**	*e*Pg	**Pg**	**00 35 30.1**	**+1.4**
HAU				*e*Sn	**Sn**	**00 35 50.2**	**-1.2**
HAU				*e*Sg	**Sg**	**00 35 58.3**	**-0.2**
	30nm,0.2s						
HAU	**Haudompre**	**2.30**	**1**	*e*Pn	**Pn**	**00 35 24.2**	**+1.3**
HAU				*e*Pg	**Pg**	**00 35 30.1**	**+1.4**
HAU				*e*Sn	**Sn**	**00 35 50.2**	**-1.2**
HAU				*e*Sg	**Sg**	**00 35 58.3**	**-0.2**
HAU	**Haudompre**	**2.30**	**1**	*e*Pg	**Pg**	**00 35 30.1**	**+1.4**
HAU				*e*Sn	**Sn**	**00 35 50.2**	**-1.2**
HAU				*e*Sg	**Sg**	**00 35 58.3**	**-0.2**
	15nm,0.2s						
AVF	**Avril sur Loir**	**2.31**	**299**	*e*Pg	**Pg**	**00 35 29.5**	**+0.7**
AVF				*e*Sn	**Sn**	**00 35 52.1**	**+0.5**
AVF				*e*Sg	**Sg**	**00 35 59.3**	**+0.6**
	27nm,0.4s						
AVF	**Avril sur Loir**	**2.31**	**299**	*e*Pn	**Pn**	**00 35 24.0**	**+1.0**
AVF				*e*Pg	**Pg**	**00 35 29.5**	**+0.7**
AVF				*e*Sn	**Sn**	**00 35 52.1**	**+0.5**
AVF				*e*Sg	**Sg**	**00 35 59.3**	**+0.6**
AVF	**Avril sur Loir**	**2.31**	**299**	*e*Pg	**Pg**	**00 35 29.5**	**+0.7**
AVF				*e*Sn	**Sn**	**00 35 52.1**	**+0.5**
AVF				*e*Sg	**Sg**	**00 35 59.3**	**+0.6**
	14nm,0.4s						
SSF	**Saint Saulge**	**2.35**	**306**	*e*Pg	**Pg**	**00 35 30.2**	**+0.5**
SSF				*e*Sn	**Sn**	**00 35 52.0**	**-0.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**00 36 00.5**	**+0.3**
	12nm,0.2s						
SSF	**Saint Saulge**	**2.35**	**306**	*e*Pn	**Pn**	**00 35 24.5**	**+0.9**
SSF				*e*Pg	**Pg**	**00 35 30.2**	**+0.5**
SSF				*e*Sn	**Sn**	**00 35 52.0**	**-0.8**
SSF				*e*Sg	**Sg**	**00 36 00.5**	**+0.3**
SSF	**Saint Saulge**	**2.35**	**306**	*e*Pg	**Pg**	**00 35 30.2**	**+0.5**
SSF				*e*Sn	**Sn**	**00 35 52.0**	**-0.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**00 36 00.5**	**+0.3**
	6.1nm,0.2s						
LASF	**Ste Croix**	**2.38**	**227**	*e*Pg	**Pg**	**00 35 30.1**	**-0.1**
LASF				*e*Sn	**Sn**	**00 35 51.5**	**-1.8**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**00 36 00.0**	**-1.0**
	18nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.38**	**227**	*e*Pn	**Pn**	**00 35 24.4**	**+0.4**
LASF				*e*Pg	**Pg**	**00 35 30.1**	**-0.1**
LASF				*e*Sn	**Sn**	**00 35 51.5**	**-1.8**
LASF				*e*Sg	**Sg**	**00 36 00.0**	**-1.0**
LASF	**Ste Croix**	**2.38**	**227**	*e*Pg	**Pg**	**00 35 30.1**	**-0.1**
LASF				*e*Sn	**Sn**	**00 35 51.5**	**-1.8**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**00 36 00.0**	**-1.0**
	9.1nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**2.38**	**176**	*e*Pg	**Pg**	**00 35 29.4**	**-0.8**
LMR				*e*Sn	**Sn**	**00 35 52.0**	**-1.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**00 35 58.1**	**-3.0**
	3.9nm,0.2s						
LMR	**La Mourre**	**2.38**	**176**	*e*Pn	**Pn**	**00 35 24.4**	**+0.4**
LMR				*e*Pg	**Pg**	**00 35 29.4**	**-0.8**
LMR				*e*Sn	**Sn**	**00 35 52.0**	**-1.4**
LMR				*e*Sg	**Sg**	**00 35 58.1**	**-3.0**
LMR	**La Mourre**	**2.38**	**176**	*e*Pg	**Pg**	**00 35 29.4**	**-0.8**
LMR				*e*Sn	**Sn**	**00 35 52.0**	**-1.4**
	SNR=1.0						
FELD	**Feldberg im Sc**	**2.47**	**28**	Pn	**Pn**	**00 35 24.3**	**-0.9**
BGF	**Bois d'Agland**	**2.54**	**291**	*e*Pg	**Pg**	**00 35 34.4**	**+1.1**
BGF				*e*Sn	**Sn**	**00 35 57.2**	**-0.1**
BGF				*e*Sg	**Sg**	**00 36 07.6**	**+1.4**
	23nm,0.3s						
BGF	**Bois d'Agland**	**2.54**	**291**	*e*Pn	**Pn**	**00 35 27.5**	**+1.3**
BGF				*e*Pg	**Pg**	**00 35 34.4**	**+1.1**
BGF				*e*Sn	**Sn**	**00 35 57.2**	**-0.1**
BGF				*e*Sg	**Sg**	**00 36 07.6**	**+1.4**
BGF	**Bois d'Agland**	**2.54**	**291**	*e*Pg	**Pg**	**00 35 34.4**	**+1.1**
BGF				*e*Sn	**Sn**	**00 35 57.2**	**-0.1**
BGF				*e*Sg	**Sg**	**00 36 07.6**	**+1.4**
	11nm,0.3s						
ECH	**Echery**	**2.58**	**13**	Pn	**Pn**	**00 35 26.5**	**-0.2**
SFTF	**Sexfontaines**	**2.64**	**342**	*e*Pn	**Pn**	**00 35 28.0**	**+0.4**
	baz=152						
SFTF				*e*Sn	**Sn**	**00 35 58.4**	**-1.4**
SFTF				*e*Sg	**Sg**	**00 36 09.6**	**+0.2**
	15nm,0.2s						
SFTF	**Sexfontaines**	**2.64**	**342**	*e*Pn	**Pn**	**00 35 28.0**	**+0.4**
SFTF				*e*Sn	**Sn**	**00 35 58.4**	**-1.4**
SFTF				*e*Sg	**Sg**	**00 36 09.6**	**+0.2**
	7.7nm,0.2s						
CDF	**Champ du Feu**	**2.79**	**14**	*e*Pg	**Pg**	**00 35 37.9**	**-0.2**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**00 36 01.1**	**-2.4**
CDF				*e*Sg	**Sg**	**00 36 12.7**	**-1.5**
	18nm,0.4s						
CDF	**Champ du Feu**	**2.79**	**14**	*e*Pn	**Pn**	**00 35 29.1**	**-0.5**
CDF				*e*Pg	**Pg**	**00 35 37.9**	**-0.2**
CDF				*e*Sn	**Sn**	**00 36 01.1**	**-2.4**
CDF				*e*Sg	**Sg**	**00 36 12.7**	**-1.5**
CDF	**Champ du Feu**	**2.79**	**14**	*e*Pg	**Pg**	**00 35 37.9**	**-0.2**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**00 36 01.1**	**-2.4**
CDF				*e*Sg	**Sg**	**00 36 12.7**	**-1.5**
	8.8nm,0.4s						
TCF	**Toulx Ste Croi**	**2.90**	**283**	*e*Pg	**Pg**	**00 35 40.5**	**+0.3**
TCF				*e*Sn	**Sn**	**00 36 06.1**	**-0.2**
	10nm,0.2s						
TCF				*e*Sg	**Sg**	**00 36 17.6**	**-0.2**
	6.4nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.90**	**283**	*e*Pn	**Pn**	**00 35 32.5**	**+1.3**
TCF				*e*Pg	**Pg**	**00 35 40.5**	**+0.3**
TCF				*e*Sn	**Sn**	**00 36 06.1**	**-0.2**
TCF				*e*Sg	**Sg**	**00 36 17.6**	**-0.2**
TCF	**Toulx Ste Croi**	**2.90**	**283**	*e*Pg	**Pg**	**00 35 40.5**	**+0.3**
TCF				*e*Sn	**Sn**	**00 36 06.1**	**-0.2**
	5.1nm,0.2s						
TCF				*e*Sg	**Sg**	**00 36 17.6**	**-0.2**
	3.2nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.92**	**344**	*e*Pn	**Pn**	**00 35 32.9**	**+1.5**
	baz=157,SNR=1.0						
MEZF				*e*Sn	**Sn**	**00 36 07.1**	**+0.4**
	baz=164,SNR=1.0						
MEZF				*e*Sg	**Sg**	**00 36 17.6**	**-0.8**
	18nm,0.4s,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.92**	**344**	*e*Pn	**Pn**	**00 35 32.9**	**+1.5**
	SNR=1.0						
MEZF				*e*Sn	**Sn**	**00 36 07.1**	**+0.4**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**00 36 17.6**	**-0.8**
	8.9nm,0.4s,SNR=1.0						
HYF	**Humbligny**	**2.96**	**303**	*e*Pg	**Pg**	**00 35 42.2**	**+0.8**
HYF				*e*Sn	**Sn**	**00 36 07.9**	**+0.1**
HYF				*e*Sg	**Sg**	**00 36 20.9**	**+1.1**
HYF	**Humbligny**	**2.96**	**303**	*e*Pn	**Pn**	**00 35 33.0**	**+1.0**
HYF				*e*Pg	**Pg**	**00 35 42.2**	**+0.8**
HYF				*e*Sn	**Sn**	**00 36 07.9**	**+0.1**
HYF				*e*Sg	**Sg**	**00 36 20.9**	**+1.1**
HYF	**Humbligny**	**2.96**	**303**	*e*Pg	**Pg**	**00 35 42.2**	**+0.8**
HYF				*e*Sn	**Sn**	**00 36 07.9**	**+0.1**
HYF				*e*Sg	**Sg**	**00 36 20.9**	**+1.1**
RFYF	**Reffroy**	**2.97**	**350**	*e*Pn	**Pn**	**00 35 32.2**	**0.0**
RFYF				*e*Sn	**Sn**	**00 36 05.7**	**-2.4**
RFYF				*e*Sg	**Sg**	**00 36 19.6**	**-0.6**
	24nm,0.2s						
RFYF	**Reffroy**	**2.97**	**350**	*e*Pn	**Pn**	**00 35 32.2**	**0.0**
RFYF				*e*Sn	**Sn**	**00 36 05.7**	**-2.4**
RFYF				*e*Sg	**Sg**	**00 36 19.6**	**-0.6**
	12nm,0.2s						
CAF	**Calviac**	**3.08**	**257**	*e*Pg	**Pg**	**00 35 43.7**	**+0.1**
CAF				*e*Sn	**Sn**	**00 36 10.1**	**-0.6**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**00 36 24.3**	**+0.7**
	9.4nm,0.4s						
CAF	**Calviac**	**3.08**	**257**	*e*Pn	**Pn**	**00 35 34.9**	**+1.3**
CAF				*e*Pg	**Pg**	**00 35 43.7**	**+0.1**
CAF				*e*Sn	**Sn**	**00 36 10.1**	**-0.6**
CAF				*e*Sg	**Sg**	**00 36 24.3**	**+0.7**
CAF	**Calviac**	**3.08**	**257**	*e*Pg	**Pg**	**00 35 43.7**	**+0.1**
CAF				*e*Sn	**Sn**	**00 36 10.1**	**-0.6**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**00 36 24.3**	**+0.7**
	4.7nm,0.4s						
RJF	**Les Rejaudoux**	**3.38**	**265**	*e*Pg	**Pg**	**00 35 49.8**	**+0.4**
RJF				*e*Sg	**Sg**	**00 36 33.4**	**+0.2**
	7.0nm,0.4s						
RJF	**Les Rejaudoux**	**3.38**	**265**	*e*Pn	**Pn**	**00 35 38.7**	**+1.0**
RJF				*e*Pg	**Pg**	**00 35 49.8**	**+0.4**
RJF				*e*Sg	**Sg**	**00 36 33.4**	**+0.2**
RJF	**Les Rejaudoux**	**3.38**	**265**	*e*Pg	**Pg**	**00 35 49.8**	**+0.4**
RJF				*e*Sg	**Sg**	**00 36 33.4**	**+0.2**
	3.5nm,0.4s						
MOTA	**Moosalm**	**3.71**	**62⇓**	*i*Pn	**Pn**	**00 35 43.9**	**+1.7**
	3.5nm,0.1s						
MOTA			⇑	*i*Sn	**Sn**	**00 36 25.7**	**-0.4**
	0.5nm,0.1s						
SQTA	**Sankt Quirin**	**3.72**	**64⇓**	*i*Pn	**Pn**	**00 35 44.7**	**+2.2**
	5.3nm,0.1s						
SQTA			⇑	*i*Sn	**Sn**	**00 36 26.9**	**+0.3**
	1.4nm,0.1s						
SQTA	**Sankt Quirin**	**3.72**	**64⇓**	*i*Pn	**Pn**	**00 35 44.7**	**+2.2**
SQTA				*i* Sn	**Sn**	**00 36 26.9**	**+0.3**
MTLF	**Montolieu**	**3.75**	**232**	*e*Pg	**Pg**	**00 35 55.0**	**-1.5**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**00 36 24.1**	**-3.2**
	3.5nm,0.3s,SNR=1.0						
MTLF				*e*Sg	**Sg**	**00 36 44.2**	**-0.9**
	5.0nm,0.4s						
MTLF	**Montolieu**	**3.75**	**232**	*e*Pn	**Pn**	**00 35 43.0**	**+0.1**
MTLF				*e*Pg	**Pg**	**00 35 55.0**	**-1.5**
MTLF				*e*Sn	**Sn**	**00 36 24.1**	**-3.2**
MTLF				*e*Sg	**Sg**	**00 36 44.2**	**-0.9**
MTLF	**Montolieu**	**3.75**	**232**	*e*Pg	**Pg**	**00 35 55.0**	**-1.5**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**00 36 24.1**	**-3.2**
	1.8nm,0.3s,SNR=1.0						
MTLF				*e*Sg	**Sg**	**00 36 44.2**	**-0.9**
	2.5nm,0.4s						
LFF	**La Frestale**	**3.99**	**261**	*e*Pg	**Pg**	**00 36 01.5**	**+0.5**
LFF				*e*Sg	**Sg**	**00 36 52.4**	**-0.3**
	9.8nm,0.4s						
LFF	**La Frestale**	**3.99**	**261**	*e*Pn	**Pn**	**00 35 47.3**	**+1.2**
LFF				*e*Pg	**Pg**	**00 36 01.5**	**+0.5**
LFF				*e*Sg	**Sg**	**00 36 52.4**	**-0.3**
LFF	**La Frestale**	**3.99**	**261**	*e*Pg	**Pg**	**00 36 01.5**	**+0.5**
LFF				*e*Sg	**Sg**	**00 36 52.4**	**-0.3**
	4.9nm,0.4s						
WATA	**Walderalm**	**4.00**	**64⇑**	*i*Pn	**Pn**	**00 35 48.1**	**+1.8**
	1.3nm,0.1s						
WATA			⇑	*e*Sn	**Sn**	**00 36 34.0**	**+0.7**
	0.8nm,0.1s						
WTTA	**Wattenberg**	**4.01**	**65⇓**	*i*Pn	**Pn**	**00 35 48.8**	**+2.3**
	2.0nm,0.1s						
WTTA			⇑	*i*Sn	**Sn**	**00 36 34.6**	**+1.0**
	0.7nm,0.2s						
GIVF	**Givet**	**4.50**	**348**	*e*Pn	**Pn**	**00 35 52.4**	**-0.8**
GIVF				*e*Sg	**Sg**	**00 37 06.8**	**-2.5**
	1.8nm,0.2s						
GIVF	**Givet**	**4.50**	**348**	*e*Pn	**Pn**	**00 35 52.4**	**-0.8**
GIVF				*e*Sg	**Sg**	**00 37 06.8**	**-2.5**
	0.9nm,0.2s						
MFF	**Saint Martin d**	**4.56**	**284**	*e*Pn	**Pn**	**00 35 54.6**	**+0.6**
MFF				*e*Sn	**Sn**	**00 36 45.7**	**-1.5**
	1.6nm,0.2s						
MFF				*e*Sg	**Sg**	**00 37 10.8**	**-0.2**
	5.4nm,0.6s						
MFF	**Saint Martin d**	**4.56**	**284**	*e*Pn	**Pn**	**00 35 54.6**	**+0.6**
MFF				*e*Sn	**Sn**	**00 36 45.7**	**-1.5**
	0.8nm,0.2s						
MFF				*e*Sg	**Sg**	**00 37 10.8**	**-0.2**
	2.7nm,0.6s						
BAIF	**Baives**	**4.57**	**343**	*e*Pn	**Pn**	**00 35 55.0**	**+0.8**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**00 36 45.7**	**-1.8**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**00 37 12.3**	**+0.8**
	2.5nm,0.4s,SNR=1.0						
BAIF	**Baives**	**4.57**	**343**	*e*Pn	**Pn**	**00 35 55.0**	**+0.8**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**00 36 45.7**	**-1.8**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**00 37 12.3**	**+0.8**
	1.2nm,0.4s,SNR=1.0						
EPF	**Esparros**	**5.03**	**240**	*e*Pg	**Pg**	**00 36 20.4**	**-0.7**
EPF				*e*Sn	**Sn**	**00 36 57.3**	**-1.6**
EPF				*e*Sg	**Sg**	**00 37 24.6**	**-1.7**
	2.4nm,0.3s						
EPF	**Esparros**	**5.03**	**240**	*e*Pn	**Pn**	**00 36 00.9**	**+0.4**
EPF				*e*Pg	**Pg**	**00 36 20.4**	**-0.7**
EPF				*e*Sn	**Sn**	**00 36 57.3**	**-1.6**
EPF				*e*Sg	**Sg**	**00 37 24.6**	**-1.7**
EPF	**Esparros**	**5.03**	**240**	*e*Pg	**Pg**	**00 36 20.4**	**-0.7**
EPF				*e*Sn	**Sn**	**00 36 57.3**	**-1.6**
LDF	**La Druitiere**	**5.24**	**306**	*e*Pn	**Pn**	**00 36 03.6**	**+0.3**
LDF				*e*Sn	**Sn**	**00 37 02.1**	**-1.8**
	1.0nm,0.3s						
LDF				*e*Sg	**Sg**	**00 37 31.4**	**-1.4**
	1.0nm,0.2s						
LDF	**La Druitiere**	**5.24**	**306**	*e*Pn	**Pn**	**00 36 03.6**	**+0.3**
LDF				*e*Sn	**Sn**	**00 37 02.1**	**-1.8**
	0.5nm,0.3s						
LDF				*e*Sg	**Sg**	**00 37 31.4**	**-1.4**
	0.5nm,0.2s						
FLN	**La Foliniere**	**5.53**	**306**	*e*Pn	**Pn**	**00 36 07.3**	**0.0**
	baz=118						
FLN				*e*Sn	**Sn**	**00 37 08.4**	**-2.7**
	2.6nm,0.4s						
FLN				*e*Sg	**Sg**	**00 37 41.0**	**-1.2**
	2.7nm,0.3s						
FLN	**La Foliniere**	**5.53**	**306**	*e*Pn	**Pn**	**00 36 07.3**	**0.0**
FLN				*e*Sn	**Sn**	**00 37 08.4**	**-2.7**
	1.3nm,0.4s						
FLN				*e*Sg	**Sg**	**00 37 41.0**	**-1.2**
	1.4nm,0.3s						
GRR	**Gorron**	**5.57**	**301**	*e*Pn	**Pn**	**00 36 08.0**	**+0.1**
GRR				*e*Sn	**Sn**	**00 37 09.2**	**-2.9**
	4.6nm,0.3s						
GRR	**Gorron**	**5.57**	**301**	*e*Pn	**Pn**	**00 36 08.0**	**+0.1**
GRR				*e*Sn	**Sn**	**00 37 09.2**	**-2.9**
	2.3nm,0.3s						
ETSF	**Etsaut**	**5.66**	**243**	*e*Pn	**Pn**	**00 36 09.2**	**+0.1**
ETSF				*e*Sg	**Sg**	**00 37 43.3**	**-3.0**
	8.3nm,0.9s						
SJPF	**Ste Jean**	**5.97**	**247**	*e*Pn	**Pn**	**00 36 13.7**	**+0.3**
SJPF				*e*Sg	**Sg**	**00 37 54.5**	**-1.9**
	1.3nm,0.4s						
SGMF	**Saint Gilles**	**6.56**	**296**	*e*Pn	**Pn**	**00 36 22.6**	**+1.1**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**00 37 33.0**	**-3.6**
	0.8nm,0.2s						
SGMF	**Saint Gilles**	**6.56**	**296**	*e*Pn	**Pn**	**00 36 22.6**	**+1.1**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**00 37 33.0**	**-3.6**
	0.4nm,0.2s						
QUIF	**Quistinic**	**6.85**	**292**	*e*Pn	**Pn**	**00 36 25.3**	**-0.2**
QUIF				*e*Sn	**Sn**	**00 37 40.3**	**-3.4**
	1.6nm,0.4s						
QUIF	**Quistinic**	**6.85**	**292**	*e*Pn	**Pn**	**00 36 25.3**	**-0.2**
QUIF				*e*Sn	**Sn**	**00 37 40.3**	**-3.4**
	0.8nm,0.4s						
ROSF	**Rostrenen**	**7.04**	**295**	*e*Pn	**Pn**	**00 36 27.7**	**-0.4**
ROSF				*e*Sg	**Sg**	**00 38 28.2**	**-2.5**
	0.4nm,0.3s						
ROSF	**Rostrenen**	**7.04**	**295**	*e*Pn	**Pn**	**00 36 27.7**	**-0.4**
ROSF				*e*Sg	**Sg**	**00 38 28.2**	**-2.5**
	0.2nm,0.3s						

IDC 30 00:58:56.9±54.0, 1551S×17319W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.9/15, mbtmp4.2/3, Error ellipse: s-maj=1046.0km s-min=189.8km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.16**	**240**	P	P	01 07 06.4	-0.9
	3.0nm,1.1s,baz=90,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**50.02**	**257**	P	P	01 07 53.2	+0.2
	0.6nm,0.5s,baz=91,slow=7.0,SNR=3.4						
ASAR	**Alice Springs**	**50.27**	**252**	P	P	01 07 56.2	+1.3
	6.0nm,0.6s,baz=88,slow=8.1,SNR=72						

PRE ***30*** *01:07:24.5±1.4, 2086S×3258E, h5km, ML6.0*
ISCJB ***30*** *01:07:25.4±0.2, 2126S±003×33.16E±005, h10km, mb4.9/128, MS4.5/27, Error ellipse: s-maj=7.4km s-min=3.9km az=46.4*
IDC ***30*** *01:07:26.2±0.5, 2092S×3322E, h0km, mb4.5/25, mb1 4.6/29, mb1mx4.6/29, mbtmp4.5/29, ML4.4/4, MS4.5/20, Ms1 4.5/20, ms1mx4.3/28, Error ellipse: s-maj=16.0km s-min=14.0km az=73.0*
SZGRF ***30*** *01:07:26.7, 2105S×3493E, h33km, mb5.2, Mozambique*
BJI ***30*** *01:07:26.0, 21.10S×3330E, h10km, mB5.6, mb4.8, Ms5.2, Msz5.0*
MOS ***30*** *01:07:27.1±1.1, 2089S×3343E, h10km, mb5.5/64, Error ellipse: s-maj=15.8km s-min=4.5km az=101.4*
HRVD ***30*** *01:07:28.1±0.2, 2089S×33.15E, h12km, MW5.0/85, Centroid moment Tensor Solution. LP body waves: s45,c57;Mantle waves: s85,c138; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.13±.10; $M_{\theta\theta}$-0.26±.10; $M_{\phi\phi}$4.38±.09; $M_{r\theta}$-0.80±.33; $M_{\theta\phi}$0.11±.08; $M_{\phi r}$-0.12±.29; Best double couple: $M_0$4.33800×10^{16} NP1:ϕ_s170.00000°, δ45.00000°, λ-106.00000°. NP2: ϕ_s12.00000°, δ47.00000°, λ-75.00000°. Principal axes: T 4.3850, Plg1.0000°, Azm92.0000°; N -0.1030, Plg11.0000°, Azm182.0000°; P -4.2900, Plg79.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *01:07:28.1±0.3, 21.11S×3326E, h10km, mb5.1/88 Error ellipse: s-maj=8.9km s-min=7.1km az=102.0*
ISC 30 01:07:27.2±0.2, 2126S±003×3321E±005, h10km, (h11km±2.8km:pP-P), n406, σ1§20/351, mb4.9/128, MS4.5/27, 44C-42D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.49**	**280**	Pn	**Pn**	**01 08 33.4**	**-1.8**
	18nm,0.3s,baz=96,slow=14,SNR=98						
MATP				Sn	**Sn**	**01 09 19.9**	**-7.5**
	51nm,0.3s,baz=34,slow=16,SNR=6.4						
MATP				Lg		01 09 40.5	
	130nm,0.3s,baz=25,slow=23,SNR=8.0						
POGA	**Pongola**	**6.26**	**193**	*e*P	**Pn**	**01 09 02.0**	**+2.5**
POGA				*e*S	**Sn**	**01 10 13.4**	**+2.3**
POGA				AML	AML	01 11 14.3	
	comp=Z,819nm,0.7s						
SLR	**Silverton**	**6.35**	**225**	*e*P	**Pn**	**01 08 59.3**	**-1.5**
SLR				*e*S	**Sn**	**01 10 08.3**	**-5.1**
SLR				AML	AML	01 10 59.8	
	comp=Z,2μm,0.7s						
ERPM	**east rand prop**	**6.73**	**222**	*e*P	**Pn**	**01 09 04.8**	**-1.3**
ERPM				*e*S	**Sn**	**01 10 17.7**	**-5.1**
ERPM				AML	AML	01 11 03.2	
	comp=Z,1μm,0.6s						
LSZ	**Lusaka**	**7.63**	**320**	Pn	**Pn**	**01 09 13.2**	**-5.2**
	comp=Z,9.5nm,0.3s,baz=145,slow=14,SNR=96						
LSZ				Sn	**Sn**	**01 10 34.1**	**-11**
	comp=Z,43nm,0.3s,baz=206,slow=13,SNR=9.8						
LSZ				Lg		01 11 13.0	
	comp=Z,138nm,0.3s,baz=215,slow=15,SNR=9.4						
LSZ	**Lusaka**	**7.63**	**320**	Pn	**Pn**	**01 09 13.2**	**-5.2**
LSZ				Sn	**Sn**	**01 10 34.1**	**-11**
LSZ				Lg		01 11 13.0	
LBTB	**Lobatse**	**7.94**	**240**	*e*P	**Pn**	**01 09 18.4**	**-4.3**
LBTB				*e*S	**Sn**	**01 10 40.5**	**-12**
LBTB				AML	AML	01 11 49.8	
	comp=Z,565nm,0.6s						
LBTB	**Lobatse**	**7.94**	**240**	Pn	**Pn**	**01 09 23.9**	**+1.2**
	comp=Z,6.3nm,0.3s,baz=64,slow=13,SNR=62						
LBTB				Sn	**Sn**	**01 10 51.0**	**-1.6**
	comp=Z,23nm,0.3s,baz=165,slow=16,SNR=6.0						
LBTB				Lg		01 11 30.9	
	comp=Z,46nm,0.3s,baz=346,slow=21,SNR=10.0						
SWZ	**Schweizer**	**9.30**	**229**	*e*P	**Pn

comp=Z,9.9nm,0.9s,baz=96,slow=21,SNR=3.5
KMBO LR LR 01 20 15.2
comp=Z,412nm,20.8s,MS3.8,baz=163,slow=38
KMBO Kilima Mbogo 20.39 12 P P 01 12 01.3 -2.9
KMBO Lg 01 17 49.4
KMBO LR LR 01 20 15.2
ATD Arta Tunnel 33.93 17 LR LR 01 27 35.1
comp=Z,254nm,20.7s,MS3.9,baz=176,slow=36
TORD Torodi Ar. Bea 46.12 315 P P 01 15 50.6 -1.1
comp=Z,13nm,1.0s,mb4.8,baz=125,slow=5.9,SNR=38
TORD PP PP 01 17 39.9 +0.2
comp=Z,2.4nm,0.7s,baz=129,slow=7.0,SNR=4.6
TORD LR LR 01 37 11.3
comp=Z,441nm,20.1s,MS4.4,baz=135,slow=39
TORD Torodi Ar. Bea 46.12 315 P P 01 15 50.6 -1.0
TORD PP PP 01 17 39.9 +0.2
TORD LR LR 01 37 11.3
DBIC Dimbokro 46.54 302 P P 01 15 55.3 +0.4
comp=Z,2.9nm,0.7s,mb4.3,baz=102,slow=16,SNR=5.8
DBIC LR LR 01 33 53.4
comp=Z,1μm,20.7s,MS4.8,baz=112,slow=34
SYO Syowa Base 47.91 177⇑ eP P 01 16 06.0 +0.4
SYO Syowa Base 47.91 177⇓ eP P 01 16 08.8 +3.2
SYO Syowa Base 47.91 177⇓ eP P 01 16 14.2 +8.6
MAW Mawson 49.94 166 P P 01 16 24.3 +3.2
comp=Z,8.7nm,0.7s,mb4.9,baz=315,slow=11,SNR=8.6
MAW LR LR 01 34 06.9
comp=Z,264nm,20.0s,MS4.2,baz=342,slow=32
WSAR Wadi Sarin 50.69 31 P P 01 16 25.9 -0.9
comp=Z,4.2nm,0.6s,mb4.5,baz=199,slow=16,SNR=3.6
VNA1 Neumayer--Stat 55.05 196⇑ P P 01 17 02.0 +2.9
VNA1 *e* pP 01 17 03.5 +1.2
VNA1 *e* pP 01 17 04.6 +2.3
VNA1 *e* pP 01 17 06.2 +3.9
MALT Malatya 59.46 5⇓ iP P 01 17 29.8 -0.4
BR131 Keskin Array S 60.67 0 eP P 01 17 37.7 -0.8
comp=Z,5.5nm,1.0s,mb4.6
BRTR Keskin Array B 60.67 0 P P 01 17 37.8 -0.7
comp=Z,4.4nm,0.9s,mb4.6,baz=171,slow=7.7,SNR=17
GNI Garni 62.03 10 LR LR 01 44 23.7
comp=Z,198nm,18.8s,MS4.3,baz=353,slow=36
GNI Garni 62.03 10⇑ eP P 01 17 49.1 +1.4
GNI pmax pmax
comp=Z,24nm,1.7s
KIV Kislovodsk 65.47 8 *d iP* **P 01 18 09.0 -1.4**
KIV *e* pP 01 18 10.6 -3.1
KIV *i* 01 18 16.3
KIV S S 01 27 07.0 +12
KIV pmax pmax
comp=Z,9.0nm,1.9s,mb4.5
KIV MLR MLR
comp=Z,100nm,21.0s,MS4.0
KIV Kislovodsk 65.47 8 *eP* **P 01 18 09.1 -1.3**
comp=Z,24nm,1.4s,mb5.0
CASY Casey 65.64 154 *eP* **P 01 18 15.4 +3.9**
comp=Z,74nm,2.1s,mb5.3
CFR Carcaliu 66.28 356 *iP* **P 01 18 15.0 -0.6**
CFR Carcaliu 66.28 356 ⇓P **P 01 18 15.0 -0.6**
GOF Gofitskoye 66.60 8 *eP* **P 01 18 17.3 -0.4**
GOF pmax pmax
comp=Z,30nm,0.8s,mb5.4
MLR Muntele Rosu 66.76 354 P **P 01 18 18.3 -0.4**
comp=Z,10.0nm,0.9s,mb4.8,baz=158,slow=8.2,SNR=15
MLR Muntele Rosu 66.76 354 ⇓*iP* **P 01 18 17.8 -0.9**
MLR Muntele Rosu 66.76 354 P **P 01 18 21.0 +2.3**
MLR Muntele Rosu 66.76 354 ⇓P **P 01 18 17.8 -0.9**
MLR P pP 01 18 21.0 -0.9
VOIR 66.79 354⇑ *iP* **P 01 18 17.7 -1.2**
VOIR 66.79 354⇑ P **P 01 18 17.7 -1.1**
EIBI Ibiza 66.99 333 P **P 01 18 22.3 +2.2**
comp=Z,26nm,1.5s,mb5.0
PLOR Plostina 67.05 355 ⇓*iP* **P 01 18 20.2 -0.4**
VRI Vrincioaia 67.06 355 ⇓*iP* **P 01 18 19.8 -0.8**
VRI Vrincioaia 67.06 355 ⇓*iP* **P 01 18 22.3 +1.7**
VRI Vrincioaia 67.06 355 P **P 01 18 22.3 +1.7**
EMUR La Murta 67.13 331 P **P 01 18 22.1 +1.1**
comp=Z,61nm,2.0s,mb5.3
EBER Berja 67.13 329 P **P 01 18 22.3 +1.3**
comp=Z,68nm,1.4s,mb5.5
PGF Pioggiola 67.31 341 *eP* **P 01 18 21.9 -0.3**
comp=Z,99nm,1.7s,mb5.3
PGF Pioggiola 67.31 341 *eP* **P 01 18 21.9 -0.3**
PGF pmax pmax
comp=Z,50nm,1.7s,mb5.3
PGF Pioggiola 67.31 341 *eP* **P 01 18 21.9 -0.3**
comp=Z,50nm,1.7s,mb5.3
BZS Buzias 67.39 351 ⇓*iP* **P 01 18 22.7 0.0**
BZS Buzias 67.39 351 P **P 01 18 24.2 +1.6**
ERON Agron 67.67 329 P **P 01 18 25.5 +1.1**
comp=Z,4.5nm,0.8s,mb4.5
EMIJ Mijas 67.79 328 P **P 01 18 24.9 -0.3**
comp=Z,27nm,1.5s,mb5.0
ELOJ Sierra Loja 67.94 328 P **P 01 18 28.0 +1.8**
ELOJ pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ELOJ Sierra Loja 67.94 328 P **P 01 18 28.0 +1.8**
comp=Z,8.7nm,0.9s,mb4.8
EQES Quesada 67.94 330 P **P 01 18 26.9 +0.7**
comp=Z,56nm,1.3s,mb5.4
EJIF Jimena Fronter 68.05 327 P **P 01 18 25.9 -0.9**
EJIF pmax pmax
comp=Z,11nm,1.3s,mb4.7
EJIF Jimena Fronter 68.05 327 P **P 01 18 25.9 -1.0**
comp=Z,11nm,1.3s,mb4.7
IAS Iasi 68.32 356 P **P 01 18 27.7 -0.9**
DRGR 68.39 352⇑ *iP* **P 01 18 28.4 -0.6**
DRGR 68.39 352⇑ P **P 01 18 28.4 -0.6**
PKSM Moragy 68.44 349 ⇓*iP* **P 01 18 28.4 -0.9**
PKSM Moragy 68.44 349 P **P 01 18 30.5 +1.2**
PSI Prapat 68.55 78 P **P 01 18 30.6 +0.7**
comp=Z,2.9nm,0.5s,mb4.5,baz=182,slow=17,SNR=3.2
PSI LR LR 01 44 21.4
comp=Z,μm,20.6s,MS5.3,baz=318,slow=32
ESPR Espera 68.57 327 P **P 01 18 31.1 +1.0**
comp=Z,10nm,1.3s,mb4.6
LMR La Mourre 68.81 339 *eP* **P 01 18 31.4 -0.2**
comp=Z,40nm,1.5s,mb4.8
LMR La Mourre 68.81 339 *eP* **P 01 18 31.4 -0.2**
LMR pmax pmax
comp=Z,20nm,1.5s,mb4.8
LMR La Mourre 68.81 339 *eP* **P 01 18 31.4 -0.2**
comp=Z,20nm,1.5s,mb4.8
CCAN Las Canadas 68.81 314 P **P 01 18 32.0 +0.4**
comp=Z,29nm,1.1s,mb5.1
EMOS Mosqueruela 68.87 333 P **P 01 18 34.5 +2.5**
comp=Z,8.0nm,0.9s,mb4.7
QSPA South Pole Qui 68.90 180 *eP* **P 01 18 33.7 +1.5**
comp=Z,95nm,1.8s,mb5.4
KOLN Koldanda 68.90 47 *eP* **P 01 18 26.7 -5.5**
comp=Z,29nm,1.1s,mb5.1
BURAR Bucovina Array 68.93 354 ⇓*iP* **P 01 18 34.5 +2.1**
BURAR Bucovina Array 68.93 354 ⇓P **P 01 18 34.5 +2.1**
EADA Adamuz 68.95 329 P **P 01 18 31.2 -1.3**
comp=Z,5.2nm,1.0s,mb4.4
FRF La Foret Royal 68.96 340 *eP* **P 01 18 32.3 -0.3**
comp=Z,67nm,1.5s,mb5.0
FRF La Foret Royal 68.96 340 *eP* **P 01 18 32.3 -0.3**
FRF pmax pmax
comp=Z,33nm,1.5s,mb5.0
FRF La Foret Royal 68.96 340 *eP* **P 01 18 32.3 -0.3**
comp=Z,34nm,1.5s,mb5.0
SBF Sospel 68.98 340 *eP* **P 01 18 32.7 0.0**
comp=Z,92nm,1.3s,mb5.3
SBF Sospel 68.98 340 *eP* **P 01 18 32.7 0.0**
SBF pmax pmax
comp=Z,46nm,1.3s,mb5.2
SBF Sospel 68.98 340 *eP* **P 01 18 32.7 0.0**
comp=Z,46nm,1.3s,mb5.2
EMIR Miracle 69.36 335 P **P 01 18 36.9 +1.9**
comp=Z,4.6nm,0.8s,mb4.5
EMIN Mina Concepcio 69.67 327 P **P 01 18 38.2 +1.2**
comp=Z,3.1nm,0.8s,mb4.3
SMRF Simiane la Rot 69.69 339 *eP* **P 01 18 38.1 +1.1**
comp=Z,133nm,1.8s,mb5.3
SMRF Simiane la Rot 69.69 339 *eP* **P 01 18 38.1 +1.1**
comp=Z,133nm,1.8s,mb5.6
PTCC Patocco-Chiusa 69.71 345 P **P 01 18 36.9 -0.3**
GKN Gorkha 69.76 47 *eP* **P 01 18 35.9 -1.6**
comp=Z,49nm,1.2s,mb5.3
CTI Castel Tesino 69.79 344 P **P 01 18 39.7 +2.0**
CTI pmax pmax
comp=Z,71nm,1.6s,mb5.3
CTI Castel Tesino 69.79 344 P **P 01 18 39.7 +2.0**
comp=Z,70nm,1.6s,mb5.3
DMN Daman 69.84 48 *eP* **P 01 18 35.4 -2.6**
comp=Z,33nm,1.2s,mb5.1

ESDC Sonseca Array 69.86 330 P **P 01 18 37.3 -0.8**
comp=Z,7.2nm,0.9s,mb4.6,baz=144,slow=5.7,SNR=22
ESDC LR LR 01 51 35.1
comp=Z,286nm,19.2s,MS4.5,baz=145,slow=38
ESDC Sonseca Array 69.86 330 P **P 01 18 37.6 -0.5**
comp=Z,32nm,1.7s,mb5.0
ESLA Sonseca Array 69.86 330 *eP* **P 01 18 37.6 -0.4**
comp=Z,3.8nm,1.0s,mb4.3
PSZ Piszkesteto 69.89 351 ⇓*iP* **P 01 18 37.3 -1.0**
PSZ Piszkesteto 69.89 351 P **P 01 18 37.4 -0.9**
ETOR Torete 69.92 332 P **P 01 18 40.6 +2.1**
ETOR pmax pmax
comp=Z,30nm,0.8s,mb5.3
ETOR Torete 69.92 332 P **P 01 18 40.6 +2.1**
comp=Z,3.1nm,0.8s,mb4.3
MBDF Montbardon 69.97 340 *eP* **P 01 18 39.4 +0.6**
comp=Z,35nm,1.1s,mb4.9
MBDF Montbardon 69.97 340 *eP* **P 01 18 39.4 +0.6**
MBDF pmax pmax
comp=Z,17nm,1.1s,mb4.9
MBDF Montbardon 69.97 340 *eP* **P 01 18 39.4 +0.6**
comp=Z,18nm,1.1s,mb4.9
ESAC San Caprasio 70.00 334 P **P 01 18 40.4 +1.4**
comp=Z,9.9nm,0.6s,mb4.9
PKI Pulchoki 70.03 48 *eP* **P 01 18 37.9 -1.2**
KKN Kakani 70.07 48 *eP* **P 01 18 38.4 -1.0**
comp=Z,22nm,1.0s,mb5.0
EGRA Graus 70.08 335 P **P 01 18 39.6 +0.1**
comp=Z,2.6nm,0.7s,mb4.3
MABI Malga Bissina 70.09 343 P **P 01 18 39.5 0.0**
comp=Z,6.2nm,1.4s,mb4.3
BNI Bardonecchia 70.29 340 *eP* **P 01 18 42.1 +1.4**
BNI pmax pmax
comp=Z,19nm,1.1s,mb4.9
BNI Bardonecchia 70.29 340 *eP* **P 01 18 42.1 +1.4**
comp=Z,19nm,1.1s,mb4.9
MTLF Montolieu 70.32 336 *eP* **P 01 18 40.7 -0.2**
comp=Z,81nm,1.7s,mb5.1
MTLF Montolieu 70.32 336 *eP* **P 01 18 40.7 -0.2**
MTLF pmax pmax
comp=Z,40nm,1.7s,mb5.1
MTLF Montolieu 70.32 336 *eP* **P 01 18 40.7 -0.2**
comp=Z,40nm,1.7s,mb5.1
KECS Kecovo 70.35 351 *eP* **P 01 18 40.3 -0.8**
KECS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
KECS Kecovo 70.35 351 *eP* **P 01 18 40.3 -0.8**
comp=Z,7.8nm,1.3s,mb4.5
LASF Ste Croix 70.36 338 *eP* **P 01 18 41.5 +0.3**
comp=Z,80nm,1.7s,mb5.1
ORIF Oris-en-Rattie 70.42 340 *eP* **P 01 18 42.4 +0.8**
comp=Z,69nm,1.6s,mb5.0
ORIF *eR*
comp=Z,387nm,21.2s
ORIF Oris-en-Rattie 70.42 340 *eP* **P 01 18 42.4 +0.8**
ORIF pmax pmax
comp=Z,34nm,1.6s,mb5.0
ORIF Oris-en-Rattie 70.42 340 *eP* **P 01 18 42.4 +0.8**
comp=Z,34nm,1.6s,mb5.0
KOLS Kolonicke sedl 70.55 352 *eP* **P 01 18 42.9 +0.6**
KOLS *e* 01 19 00.0
KOLS pmax pmax
comp=Z,13nm,1.9s,mb4.5
KOLS Kolonicke sedl 70.55 352 *eP* **P 01 18 42.9 +0.6**
comp=Z,13nm,1.9s,mb4.5
KOLS *e* 01 19 00.0
EBIE Bielsa 70.56 335 P **P 01 18 42.7 +0.3**
comp=Z,4.3nm,0.9s,mb4.4
GUN Gumba 70.56 48 *eP* **P 01 18 41.6 -0.8**
comp=Z,48nm,1.0s,mb5.4
EBAD Badajoz 70.61 328 P **P 01 18 42.0 -0.7**
comp=Z,5.3nm,1.1s,mb4.4
VYHS Vyhne 70.62 350 *eP* **P 01 18 41.5 -1.2**
VYHS Vyhne 70.62 350 *eP* **P 01 18 41.5 -1.2**
comp=Z,9.5nm,1.4s,mb4.5
CRVS Cervenica-Dubn 70.63 352 *eP* **P 01 18 43.2 +0.4**
comp=Z,6.6nm,1.3s,mb4.4
JIRN Jiri 70.63 49 *eP* **P 01 18 41.8 -1.0**
comp=Z,18nm,0.8s,mb5.0
LPG La Plagne 70.67 341 *eP* **P 01 18 43.1 +0.1**
comp=Z,21nm,1.1s,mb4.7
LPG La Plagne 70.67 341 *eP* **P 01 18 43.1 +0.1**
LPG pmax pmax
comp=Z,11nm,1.1s,mb4.7
LPG La Plagne 70.67 341 *eP* **P 01 18 43.1 +0.1**
comp=Z,11nm,1.1s,mb4.7
LPL La Plagne 70.69 341 *eP* **P 01 18 43.1 -0.1**
comp=Z,42nm,1.2s,mb4.9
LPL La Plagne 70.69 341 *eP* **P 01 18 43.1 -0.1**
LPL pmax pmax
comp=Z,21nm,1.2s,mb4.9
LPL La Plagne 70.69 341 *eP* **P 01 18 43.1 -0.1**
comp=Z,21nm,1.2s,mb4.9
VIVF Saint-Julien-l 70.77 339 *eP* **P 01 18 44.0 +0.3**
comp=Z,53nm,1.6s,mb4.9
VIVF Saint-Julien-l 70.77 339 *eP* **P 01 18 44.0 +0.3**
VIVF pmax pmax
comp=Z,26nm,1.6s,mb4.9
VIVF Saint-Julien-l 70.77 339 *eP* **P 01 18 44.0 +0.3**
comp=Z,26nm,1.6s,mb4.9
EPF Esparros 70.77 335 *eP* **P 01 18 43.9 +0.2**
comp=Z,78nm,1.6s,mb5.1
EPF Esparros 70.77 335 *eP* **P 01 18 43.9 +0.2**
EPF pmax pmax
comp=Z,39nm,1.6s,mb5.1
EPF Esparros 70.77 335 *eP* **P 01 18 43.9 +0.2**
comp=Z,39nm,1.6s,mb5.1
TUE Stuetta 70.79 343 P **P 01 18 42.3 -1.5**
comp=Z,43nm,1.9s,mb5.0
EVO Evora 70.94 327 *eP* **P 01 18 45.5 +0.8**
comp=Z,96nm,1.9s,mb5.1
EVO *eR*
comp=Z,531nm,17.8s
ETSF Etsaut 71.02 334 *eP* **P 01 18 45.1 -0.1**
comp=Z,44nm,1.5s,mb4.8
ETSF Etsaut 71.02 334 *eP* **P 01 18 45.1 -0.1**
ETSF pmax pmax
comp=Z,22nm,1.5s,mb4.9
ETSF Etsaut 71.02 334 *eP* **P 01 18 45.1 -0.1**
comp=Z,22nm,1.5s,mb4.9
STHS Stebnicka Huta 71.16 352 *eP* **P 01 18 45.7 -0.3**
comp=Z,4.9nm,1.4s,mb4.2
KWP Kalwaria 71.19 353 *eP* **P 01 18 45.4 -0.8**
KWP pmax pmax
comp=Z,73nm,1.8s,mb5.3
KWP Kalwaria 71.19 353 *eP* **P 01 18 45.4 -0.8**
comp=Z,73nm,1.8s,mb5.3
NIE Niedzica 71.29 351 *eP* **P 01 18 47.9 +1.1**
SJPF Ste Jean 71.47 334 *eP* **P 01 18 47.9 0.0**
comp=Z,71nm,1.7s,mb5.0
SJPF Ste Jean 71.47 334 *eP* **P 01 18 47.9 0.0**
SJPF pmax pmax
comp=Z,35nm,1.7s,mb5.0
SJPF Ste Jean 71.47 334 *eP* **P 01 18 47.9 0.0**
comp=Z,35nm,1.7s,mb5.0
LBL Lubilhac 71.58 338 *eP* **P 01 18 49.7 +1.1**
COLF Collangettes 71.68 339 *eP* **P 01 18 51.0 +1.8**
AKASG Malin Array Be 71.73 357 P **P 01 18 46.3 -3.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=185,slow=6.0,SNR=27
CAF Calviac 71.74 337 *eP* **P 01 18 49.7 +0.2**
comp=Z,56nm,1.5s,mb5.0
CAF Calviac 71.74 337 *eP* **P 01 18 49.7 +0.2**
CAF pmax pmax
comp=Z,28nm,1.5s,mb5.0
CAF Calviac 71.74 337 *eP* **P 01 18 49.7 +0.2**
comp=Z,28nm,1.5s,mb5.0
FUR Furstenfeldbru 71.85 345 *eP* **P 01 18 49.8 -0.4**
comp=Z,96nm,1.5s,mb5.5
FUR Furstenfeldbru 71.85 345 *eP* **P 01 18 49.8 -0.4**
FUR pmax pmax
comp=Z,96nm,1.5s,mb5.5
CABF La Chapelle 71.87 341 *eP* **P 01 18 50.5 +0.2**
comp=Z,122nm,1.5s,mb5.3
CABF La Chapelle 71.87 341 *eP* **P 01 18 50.5 +0.2**
CABF pmax pmax
comp=Z,61nm,1.5s,mb5.3
CABF La Chapelle 71.87 341 *eP* **P 01 18 50.5 +0.2**
comp=Z,61nm,1.5s,mb5.3
GEC2 GERESS Array S 71.93 347 *eP* **P 01 18 49.9 -0.8**
comp=Z,36nm,1.7s,mb5.0
GEC2 GERESS Array S 71.93 347 *eP* **P 01 18 49.9 -0.8**
GEC2 pmax pmax
comp=Z,36nm,1.7s,mb5.0
GERES GERESS Array B 71.93 347 P **P 01 18 49.6 -1.1**
comp=Z,3.8nm,1.0s,mb4.3,baz=162,slow=5.5,SNR=16
TREC Trest 71.99 348 *eP* **P 01 18 51.4 +0.4**
OKC Ostrava-Krasne 72.03 350 *eP* **P 01 18 51.2 -0.1**

OKC AMS AMS 01 55 00.0
comp=Z,100nm,15.9s
MORC Moravsky Berou 72.08 349 *eP* **P 01 18 49.8 -1.8**
MORC pmax pmax
comp=Z,19nm,1.4s,mb4.8
MORC Moravsky Berou 72.08 349 *eP* **P 01 18 49.8 -1.8**
comp=Z,20nm,1.4s,mb4.8
PLDF La Plantade 72.10 339 *eP* **P 01 18 53.4 +1.7**
PYM Petit Puy Mans 72.12 338 *eP* **P 01 18 53.9 +2.1**
OJC Ojcow 72.15 351 *eP* **P 01 18 50.0 -2.0**
BBS Basel-Blauen 72.21 342 *eP* **P 01 18 53.6 +1.2**
KHC Kasperske Hory 72.23 347 *eP* **P 01 18 53.0 +0.5**
KHC AMS AMS 01 57 10.0
comp=Z,300nm,15.0s
KHC Kasperske Hory 72.23 347 ⇓*eP* **P 01 18 53.1 +0.6**
LFF La Frestale 72.23 336 *eP* **P 01 18 52.6 +0.1**
comp=Z,90nm,1.5s,mb5.2
LFF La Frestale 72.23 336 *eP* **P 01 18 52.6 +0.1**
LFF pmax pmax
comp=Z,45nm,1.5s,mb5.2
LFF La Frestale 72.23 336 *eP* **P 01 18 52.6 +0.1**
comp=Z,45nm,1.5s,mb5.2
RJF Les Rejaudoux 72.26 337 *eP* **P 01 18 52.7 0.0**
comp=Z,79nm,1.6s,mb5.1
RJF *eR*
comp=Z,464nm,17.5s
RJF Les Rejaudoux 72.26 337 *eP* **P 01 18 52.7 0.0**
RJF pmax pmax
comp=Z,39nm,1.6s,mb5.1
RJF MLR MLR
comp=Z,460nm,17.5s,MS4.8
RJF Les Rejaudoux 72.26 337 *eP* **P 01 18 52.7 0.0**
comp=Z,40nm,1.6s,mb5.1
RJF LR LR
comp=Z,460nm,17.5s,MS4.8
LOMF Lomont 72.31 342 *eP* **P 01 18 54.7 +1.7**
AGO Saint Agoulin 72.34 339 *eP* **P 01 18 55.3 +2.2**
WET Wettzell 72.39 346 *eP* **P 01 18 52.5 -1.0**
comp=Z,17nm,1.5s,mb4.8
WET Wettzell 72.39 346 *eP* **P 01 18 52.5 -1.0**
WET pmax pmax
comp=Z,17nm,1.5s,mb4.8
FELD Feldberg im Sc 72.45 342 *eP* **P 01 18 55.1 +1.3**
ELAN Lanestosa 72.48 333 P **P 01 18 55.6 +1.6**
comp=Z,7.9nm,1.2s,mb4.5
SMF Signal de Mont 72.62 339 *eP* **P 01 18 54.4 -0.4**
comp=Z,64nm,1.5s,mb5.0
SMF Signal de Mont 72.62 339 *eP* **P 01 18 54.4 -0.4**
SMF pmax pmax
comp=Z,32nm,1.5s,mb5.0
SMF Signal de Mont 72.62 339 *eP* **P 01 18 54.4 -0.4**
comp=Z,32nm,1.5s,mb5.0
MOF Molkenrain 72.67 342 *eP* **P 01 18 56.4 +1.3**
HINF Hinteralfeld 72.72 342 *eP* **P 01 18 55.1 -0.3**
comp=Z,93nm,1.7s,mb5.1
HINF Hinteralfeld 72.72 342 *eP* **P 01 18 55.1 -0.3**
HINF pmax pmax
comp=Z,47nm,1.7s,mb5.1
HINF Hinteralfeld 72.72 342 *eP* **P 01 18 55.1 -0.3**
comp=Z,46nm,1.7s,mb5.1
BFO Black Forest 72.77 343 *eP* **P 01 18 55.2 -0.5**
comp=Z,35nm,2.1s,mb4.9
BFO Black Forest 72.77 343 *eP* **P 01 18 55.2 -0.5**
BFO pmax pmax
comp=Z,35nm,2.1s,mb4.9
DPC Dobruska-Polom 72.84 349 *eP* **P 01 18 54.7 -1.4**
DPC AMS AMS 01 57 40.0
comp=Z,100nm,12.3s
TCF Toulx Ste Croi 72.86 338 *eP* **P 01 18 56.6 +0.4**
comp=Z,89nm,1.6s,mb5.1
TCF Toulx Ste Croi 72.86 338 *eP* **P 01 18 56.6 +0.4**
TCF pmax pmax
comp=Z,45nm,1.6s,mb5.2
TCF Toulx Ste Croi 72.86 338 *eP* **P 01 18 56.6 +0.4**
comp=Z,44nm,1.6s,mb5.1
BGF Bois d'Agland 72.88 339 *eP* **P 01 18 56.4 +0.1**
comp=Z,56nm,1.7s,mb4.9
BGF Bois d'Agland 72.88 339 *eP* **P 01 18 56.4 +0.1**
BGF pmax pmax
comp=Z,28nm,1.7s,mb4.9
BGF Bois d'Agland 72.88 339 *eP* **P 01 18 56.4 +0.1**
comp=Z,28nm,1.7s,mb4.9
AVF Avril sur Loir 72.91 339 *eP* **P 01 18 56.3 -0.2**
comp=Z,70nm,1.6s,mb5.0
AVF Avril sur Loir 72.91 339 *eP* **P 01 18 56.3 -0.2**
AVF pmax pmax
comp=Z,35nm,1.6s,mb5.0
AVF Avril sur Loir 72.91 339 *eP* **P 01 18 56.3 -0.2**
comp=Z,35nm,1.6s,mb5.0
STU Stuttgart 72.94 344 *eP* **P 01 18 56.4 -0.3**
ECH Echery 73.00 342 *eP* **P 01 18 58.1 +1.1**
HAU Haudompre 73.04 342 *eP* **P 01 18 57.9 +0.6**
comp=Z,91nm,1.5s,mb5.2
HAU *eR*
comp=Z,237nm,17.0s
HAU Haudompre 73.04 342 *eP* **P 01 18 57.9 +0.6**
HAU pmax pmax
comp=Z,46nm,1.5s,mb5.2
HAU MLR MLR
comp=Z,240nm,17.0s,MS4.5
HAU Haudompre 73.04 342 *eP* **P 01 18 57.9 +0.6**
comp=Z,46nm,1.5s,mb5.2
HAU LR LR
comp=Z,240nm,17.0s,MS4.5
UPC Upice 73.05 349 *eP* **P 01 18 57.5 +0.1**
SSF Saint Saulge 73.09 339 *eP* **P 01 18 57.2 -0.4**
comp=Z,20nm,1.2s,mb4.6
SSF Saint Saulge 73.09 339 *eP* **P 01 18 57.2 -0.4**
SSF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
SSF Saint Saulge 73.09 339 *eP* **P 01 18 57.2 -0.4**
comp=Z,9.9nm,1.2s,mb4.6
ROTZ Rotzenmuhle 73.13 346 *eP* **P 01 18 57.3 -0.5**
CDF Champ du Feu 73.14 342 *eP* **P 01 18 57.2 -0.7**
comp=Z,49nm,1.5s,mb4.9
CDF Champ du Feu 73.14 342 *eP* **P 01 18 57.2 -0.7**
CDF pmax pmax
comp=Z,25nm,1.5s,mb4.9
CDF Champ du Feu 73.14 342 *eP* **P 01 18 57.2 -0.7**
comp=Z,24nm,1.5s,mb4.9
LOR Lormes 73.16 340 *eP* **P 01 18 57.5 -0.5**
comp=Z,59nm,1.6s,mb5.0
LOR *eR*
comp=Z,244nm,18.5s
LOR Lormes 73.16 340 *eP* **P 01 18 57.5 -0.5**
LOR pmax pmax
comp=Z,29nm,1.6s,mb5.0
LOR MLR MLR
comp=Z,240nm,18.5s,MS4.5
LOR Lormes 73.16 340 *eP* **P 01 18 57.5 -0.5**
comp=Z,29nm,1.6s,mb5.0
LOR LR LR
comp=Z,240nm,18.5s,MS4.5
GRA1 Grafenberg Arr 73.29 345 *eP* **P 01 18 58.4 -0.4**
comp=Z,86nm,1.8s,mb5.4
GRF Grafenberg Arr 73.29 345 *eP* **P 01 18 58.4 -0.4**
comp=Z,86nm,1.8s,mb5.4
GRF Grafenberg Arr 73.29 345 *eP* **P 01 18 58.4 -0.4**
GRF pmax pmax
comp=Z,86nm,1.8s,mb5.4
GRF Grafenberg Arr 73.29 345 *eP* **P 01 18 58.4 -0.4**
GRF pmax pmax
comp=Z,86nm,1.8s,mb5.4
PVCC Panska Ves 73.35 348 *eP* **P 01 19 00.1 +1.0**
THEF They Montfort 73.35 341 *eP* **P 01 19 00.3 +1.2**
MANZ Manzenberg 73.36 346 *eP* **P 01 18 58.6 -0.6**
ELOB Lobios 73.51 329 P **P 01 19 01.4 +1.3**
comp=Z,4.7nm,0.8s,mb4.5
NKC Novy Kostel 73.51 346 *eP* **P 01 19 01.5 +1.4**
TANN Tannenbergstha 73.68 346 *eP* **P 01 19 00.7 -0.4**
BRG Berggiesshubel 73.80 347 *eP* **P 01 19 00.6 -1.2**
comp=Z,17nm,1.5s,mb4.8
BRG Berggiesshubel 73.80 347 *eP* **P 01 19 02.2 +0.4**
comp=Z,10.0nm,1.5s,mb4.5
BRG Berggiesshubel 73.80 347 *eP* **P 01 19 02.2 +0.4**
BRG pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
TOD Tromm 73.81 344 *eP* **P 01 19 03.3 +1.5**
MEZF Maizieres J'vi 73.87 341 *eP* **P 01 19 02.5 +0.3**
comp=Z,136nm,1.7s,mb5.3
MEZF Maizieres J'vi 73.87 341 *eP* **P 01 19 02.5 +0.3**
comp=Z,136nm,1.7s,mb5.6
MFF Saint Martin d 73.97 337 *eP* **P 01 19 02.8 0.0**
comp=Z,78nm,1.6s,mb5.1
MFF Saint Martin d 73.97 337 *eP* **P 01 19 02.8 0.0**
MFF pmax pmax

comp=Z,39nm,1.6s,mb5.1
MFF Saint Martin d 73.97 337 *e*P **P 01 19 02.8 0.0**
comp=Z,39nm,1.6s,mb5.1
MOX Moxa 74.08 346 *e*P **P 01 19 02.8 -0.7**
comp=Z,36nm,1.8s,mb5.0
MOX Moxa 74.08 346 *e*P **P 01 19 04.7 +1.2**
comp=Z,46nm,2.2s,mb5.0
MOX
comp=Z,100nm,18.0s
MOX Moxa 74.08 346 *e*P **P 01 19 04.7 +1.2**
MOX pmax pmax
comp=Z,46nm,2.2s,mb5.0
MOX MLR MLR
comp=Z,100nm,18.0s,MS4.2
LCHF La Chataignera 74.25 336 *e*P **P 01 19 06.7 +2.3**
FRU Bishkek 74.31 30 P **P 01 19 03.0 -1.7**
FRU *e* 01 19 20.0
FRU pmax pmax
comp=Z,90nm,2.2s,mb5.3
RUP Ruppelstein 74.37 343 *e*P **P 01 19 06.6 +1.5**
ABH Alteburg 74.40 343 *e*P **P 01 19 06.1 +0.8**
CLL Collm 74.41 347 *e*P **P 01 19 04.5 -0.8**
comp=Z,30nm,1.6s,mb5.0
CLL Collm 74.41 347 *i* P **P 01 19 06.0 +0.7**
comp=Z,30nm,1.6s,mb5.0
CLL *ex* x 01 19 23.0
CLL Collm 74.41 347 *i* P **P 01 19 06.0 +0.7**
CLL pmax pmax
comp=Z,30nm,1.6s,mb5.0
CLL MLR MLR
comp=Z,200nm,15.6s,MS4.5
CLL Collm 74.41 347 *i* P **P 01 19 06.0 +0.7**
comp=Z,30nm,1.6s,mb5.0
CLL LR LR
comp=Z,200nm,15.6s,MS4.5
TNS Taunus Mts 74.47 344 *e*P **P 01 19 05.3 -0.4**
UBBA Unterbreizbach 74.63 345 *e*P **P 01 19 06.2 -0.4**
ORR Orenburg 74.98 14⇑*i*P **P 01 19 06.4 -2.3**
ORR pmax pmax
comp=Z,30nm,1.4s,mb5.0
GIVF Givet 75.37 342 *e*P **P 01 19 10.4 -0.5**
CLZ Clausthal 75.49 346 *e*P **P 01 19 11.2 -0.4**
comp=Z,27nm,1.7s,mb4.9
CLZ Clausthal 75.49 346 *e*P **P 01 19 11.2 -0.4**
CLZ pmax pmax
comp=Z,27nm,1.7s,mb4.9
BAIF Baives 75.51 341 *e*P **P 01 19 11.6 -0.1**
comp=Z,86nm,1.7s,mb5.1
BAIF Baives 75.51 341 *e*P **P 01 19 11.6 -0.1**
BAIF pmax pmax
comp=Z,43nm,1.7s,mb5.1
BAIF Baives 75.51 341 *e*P **P 01 19 11.6 -0.1**
comp=Z,43nm,1.7s,mb5.1
HGN Heimansgroeve 75.64 343 *e*P **P 01 19 12.1 -0.3**
comp=Z,21nm,2.2s,mb4.7
LDF La Druitiere 75.65 338 *e*P **P 01 19 12.1 -0.4**
comp=Z,118nm,1.7s,mb5.2
LDF La Druitiere 75.65 338 *e*P **P 01 19 12.1 -0.4**
LDF pmax pmax
comp=Z,59nm,1.7s,mb5.2
LDF La Druitiere 75.65 338 *e*P **P 01 19 12.1 -0.4**
comp=Z,59nm,1.7s,mb5.2
GRR Gorron 75.74 337 *e*P **P 01 19 12.5 -0.5**
comp=Z,45nm,1.4s,mb4.9
GRR Gorron 75.74 337 *e*P **P 01 19 12.5 -0.5**
GRR pmax pmax
comp=Z,23nm,1.4s,mb4.9
GRR Gorron 75.74 337 *e*P **P 01 19 12.5 -0.5**
comp=Z,23nm,1.4s,mb4.9
BUG Bochum--Univer 75.89 344 *e*P **P 01 19 13.7 -0.2**
comp=Z,64nm,1.8s,mb5.2
FLN La Foliniere 75.92 338 *e*P **P 01 19 13.6 -0.5**
comp=Z,26nm,1.3s,mb4.7
FLN *e*R
comp=Z,210nm,19.5s
FLN La Foliniere 75.92 338 *e*P **P 01 19 13.6 -0.5**
FLN pmax pmax
comp=Z,13nm,1.3s,mb4.7
FLN MLR MLR
comp=Z,210nm,19.5s,MS4.5
FLN La Foliniere 75.92 338 *e*P **P 01 19 13.6 -0.5**
comp=Z,13nm,1.3s,mb4.7
FLN LR LR
comp=Z,210nm,19.5s,MS4.5
OBN Obninsk 76.12 2κ *i*P **P 01 19 15.4 +0.2**
OBN *e* 01 19 22.1
OBN S S 01 29 00.0 +1.1
OBN pmax pmax
comp=Z,38nm,1.7s,mb5.0
OBN Obninsk 76.12 2 P **P 01 19 14.1 -1.1**
QUIF Quistinic 76.20 336 *e*P **P 01 19 15.5 -0.2**
comp=Z,99nm,1.9s,mb5.1
QUIF Quistinic 76.20 336 *e*P **P 01 19 15.5 -0.2**
QUIF pmax pmax
comp=Z,49nm,1.9s,mb5.1
QUIF Quistinic 76.20 336 *e*P **P 01 19 15.5 -0.2**
comp=Z,49nm,1.9s,mb5.1
SGMF Saint Gilles 76.25 336 *e*P **P 01 19 15.2 -0.7**
WTSB Winterswijk 76.49 344 *e*P **P 01 19 19.0 +1.8**
comp=Z,25nm,1.7s,mb4.8
BDFB Brasilia 76.49 258 P **P 01 19 20.5 +3.2**
comp=Z,9.6nm,0.9s,mb4.7,baz=128,slow=3.9,SNR=9.1
BDFB LR LR 01 48 57.9
comp=Z,1μm,18.7s,MS5.2,baz=118,slow=32
IBBN Ibbenburen 76.55 344 *e*P **P 01 19 17.5 -0.1**
ROSF Rostrenen 76.59 336 *e*P **P 01 19 17.3 -0.6**
comp=Z,27nm,1.3s,mb4.7
ROSF Rostrenen 76.59 336 *e*P **P 01 19 17.3 -0.6**
ROSF pmax pmax
comp=Z,13nm,1.3s,mb4.7
ROSF Rostrenen 76.59 336 *e*P **P 01 19 17.3 -0.6**
comp=Z,13nm,1.3s,mb4.7
MOS Moscow 76.78 3 *e*P **P 01 19 18.7 -0.2**
MOS pmax pmax
comp=Z,54nm,1.4s,mb5.3
VNDA Vanda 76.99 170 P **P 01 19 22.7 +2.6**
comp=Z,2.4nm,0.6s,mb4.3,baz=253,slow=6.9,SNR=25
VNDA LR LR 01 52 26.5
comp=Z,234nm,20.4s,MS4.5,baz=235,slow=35
BSEG Bad Segeberg 77.44 346 *e*P **P 01 19 22.0 -0.7**
comp=Z,46nm,1.6s,mb5.2
VSU Vasula 79.60 357⇑*e*P **P 01 19 35.5 +0.9**
ZRNK Zerenda 80.16 21 *e*P **P 01 19 35.4 -2.2**
ZRNK pmax pmax
comp=Z,13nm,1.4s,mb4.7
ZRNK Zerenda 80.16 21 *e*P **P 01 19 35.4 -2.3**
comp=Z,14nm,1.4s,mb4.7
ARU Arti 80.30 14⇓*i*P **P 01 19 36.5 -1.8**
ARU *e* 01 22 42.1
ARU *e*S S 01 29 43.8 -0.1
ARU pmax pmax
comp=Z,21nm,1.4s,mb4.9
ARU MLR MLR
comp=N,100nm,20.0s,MS4.3
ARU MLR MLR
comp=Z,200nm,20.0s,MS4.5
ARU MLR MLR
comp=E,100nm,19.0s,MS4.3
ARU Arti 80.30 14 *e*P **P 01 19 36.6 -1.7**
comp=E,40nm,1.5s,mb5.1
BRVK Borovoye 80.69 22 *e*P **P 01 19 38.2 -2.2**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BRVK Borovoye 80.69 22 *e*P **P 01 19 38.2 -2.2**
comp=Z,4.8nm,1.0s,mb4.4
MKAR Makanchi Array 80.92 32 P **P 01 19 39.9 -1.7**
comp=Z,2.4nm,0.8s,mb4.2,baz=220,slow=5.2,SNR=24
MKAR Makanchi Array 80.92 32 P **P 01 19 39.9 -1.7**
KLMR Klimovskoe 81.98 3 *e*P **P 01 19 44.2 -3.1**
KLMR pmax pmax
comp=Z,20nm,1.3s,mb4.9
KURK Kurchatov 82.06 27 P **P 01 19 46.0 -1.7**
comp=Z,98nm,1.3s,mb5.6,SNR=11
KURK Kurchatov 82.06 27 *e*P **P 01 19 46.4 -1.3**
KURK pmax pmax
comp=Z,41nm,1.4s,mb5.2
KURK Kurchatov 82.06 27 *e*P **P 01 19 46.4 -1.3**
comp=Z,41nm,1.4s,mb5.2
FINES FINESS Array B 82.61 357 P **P 01 19 48.7 -1.9**
comp=Z,1.8nm,0.8s,mb4.2,baz=150,slow=7.9,SNR=6.8
FINES FINESS Array B 82.61 357 *i* P **P 01 19 51.5 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 82.65 350 P **P 01 19 48.4 -2.4**
comp=Z,1.4nm,0.8s,mb4.0,baz=187,slow=12,SNR=4.1
SOKR Solikamsk 82.83 12 *e*P **P 01 19 51.9 +0.2**
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.2
KONO Kongsberg 82.91 348⇑*e*P **P 01 19 53.4 +1.3**
KAF Kangasniemi 83.27 357 *e*p **P 01 19 52.2 -1.8**
NB2 NORSAR Subarra 83.91 349 P **P 01 19 56.4 -0.9**
comp=Z,31nm,1.7s,mb5.2,baz=156,slow=5.1
NB2 NORSAR Subarra 83.91 349 P **P 01 19 56.4 -0.9**
NB2 pmax pmax
comp=Z,31nm,1.7s,mb5.2
NOA NORSAR Array B 83.91 349 P **P 01 19 55.6 -1.7**
comp=Z,5.1nm,1.1s,mb4.6,baz=151,slow=4.7,SNR=5.4
NOA LR LR 02 03 23.6
comp=Z,50nm,18.6s,MS3.9,baz=45,slow=40
PLCA Paso Flores 86.24 228 P **P 01 20 10.9 +2.0**
comp=Z,3.0nm,1.0s,mb4.5,baz=76,slow=6.5,SNR=3.4
PLCA LR LR 01 53 11.2
comp=Z,164nm,21.1s,MS4.4,baz=137,slow=32
GTA Gaotai 86.61 45 *e*P **P 01 20 10.5 -0.3**
GTA AP pP 01 20 15.5 +1.3
GTA XP sP 01 20 18.5 +3.2
GTA AMB AMB
comp=Z,160nm,4.6s
GTA LR LR
comp=N,250nm,10.3s,MS5.0
GTA LR LR
comp=E,240nm,11.1s,MS5.0
GTA LR LR
comp=Z,320nm,10.3s,MS5.0
NVS Novosibirsk 86.98 26 *e*P **P 01 20 11.0 -1.6**
NVS pmax pmax
comp=Z,34nm,2.2s,mb5.2
NVS pmax pmax
comp=N,18nm,1.6s
ZAL Zalesovo 87.02 28 P **P 01 20 13.1 +0.3**
comp=N,1.4nm,0.3s,mb4.6,baz=328,slow=8.1,SNR=4.0
ZAL LR LR 01 59 43.8
comp=N,178nm,20.1s,MS4.5,baz=261,slow=36
LZH Lanzhou 87.75 50 *e*P **P 01 20 16.8 +0.5**
LZH AMB AMB
comp=Z,50nm,1.8s,mb5.4
ARCES ARCESS Array B 90.71 357 P **P 01 20 29.6 -0.6**
comp=Z,2.1nm,0.9s,mb4.5,baz=328,slow=8.6,SNR=3.8
ASAR Alice Springs 90.85 116 P **P 01 20 33.0 +2.1**
comp=Z,2.3nm,0.9s,mb4.5,baz=242,slow=4.6,SNR=13
ASAR LR LR 01 54 05.8
comp=Z,176nm,21.3s,MS4.5,baz=39,slow=31
WRA Warramunga Arr 92.70 112 P **P 01 20 40.5 +1.0**
comp=Z,0.3nm,0.3s,mb4.2,baz=242,slow=2.6,SNR=5.5
WRA LR LR 01 57 59.2
comp=Z,339nm,19.0s,MS4.8,baz=260,slow=33
STKA Stephens Creek 93.49 126 P **P 01 20 43.5 +0.4**
comp=Z,3.2nm,0.8s,mb4.8,baz=82,slow=2.5,SNR=3.0
STKA LR LR 01 57 30.3
comp=Z,373nm,19.4s,MS4.8,baz=110,slow=32
LPAZ La Paz 94.34 251 P **P 01 20 49.1 +2.1**
comp=Z,2.7nm,1.1s,mb4.6,baz=62,slow=3.2,SNR=8.0
LPAZ LR LR 02 00 08.0
comp=Z,453nm,20.7s,MS4.9,baz=274,slow=34
SONM Songino Array 94.85 40 P **P 01 20 48.4 -1.0**
comp=Z,0.5nm,0.8s,mb4.0,baz=260,slow=4.2,SNR=3.2
SONM LR LR 02 02 48.4
comp=Z,228nm,20.7s,MS4.6,baz=55,slow=35
TBI Tubuai 135.59 176 *e*LR LR 02 10 22.5
comp=Z,137nm,22.5s
EGMT Eagleton 140.09 321 *e*PKPdf PKPdf 01 26 59.6 +3.6
PPT Papeete 141.32 176 *e*LR LR 02 13 01.8
comp=Z,136nm,22.0s
ANMO Albuquerque 142.16 300 *d i*PKIKP PKPdf 01 26 56.5 -3.2
PDAR Pinedale Array 142.26 313 PKP PKPdf 01 27 02.2 +2.3
comp=Z,0.8nm,0.9s,baz=90,slow=3.2,SNR=5.7
MVCO Mesa Verde 143.28 304 *e*PKPdf PKPdf 01 27 00.8 -0.8
DAU Daniels Canyon 144.33 310 *e*PKIKP PKPdf 01 27 04.0 +0.5
HLID Hailey 145.11 317 *e*PKPdf PKPdf 01 27 05.3 +0.5
BGU Big Grassy Mou 145.37 312 *e*PKP PKPdf 01 27 07.4 +2.1
DUG Dugway 145.51 311 *e*PKIKP PKPdf 01 27 07.3 +1.8
MSU Marysvale 145.67 308 *e*PKIKP PKPdf 01 27 07.7 +1.9
M13A Montello 145.97 314⇑P PKPdf 01 27 06.4 +0.1
baz=146
A05A Maple Falls 146.03 330⇓P PKPdf 01 27 06.3 -0.2
baz=146
TUC Tucson 146.18 297 *e*PKP2 PKPab 01 27 09.2 +0.9
N13A West Wendover 146.21 313⇑P PKPdf 01 27 08.4 +1.7
baz=146
M12A Wells 146.44 314⇓P PKPdf 01 27 09.3 +2.1
baz=146
A04A Legoe Bay, Lum 146.52 331⇑P PKPdf 01 27 08.2 +0.9
baz=146
HAWA Hanford 146.53 325 *e*PKP PKPdf 01 27 09.4 +2.1
B05A Bryant 146.57 330⇑P PKPdf 01 27 08.2 +0.9
baz=146,SNR=6.8
C05A Tolt Reservoir 146.77 328⇓P PKPdf 01 27 07.7 0.0
baz=147
N12A Wells--Clov Va 146.78 313⇓P PKPdf 01 27 09.8 +2.1
baz=147
O12A Currie 146.84 312⇑P PKPdf 01 27 10.2 +2.4
baz=147
X15A Humboldt 146.91 301⇑P PKPdf 01 27 11.7 +3.8
baz=147,SNR=9.0
ELK Elko 146.97 313 *e*PKP2 PKPab 01 27 10.0 -1.4
M11A Holland Ranch, 147.02 315⇑P PKPdf 01 27 11.3 +3.2
baz=147
D05A Enumclaw 147.26 328⇑P PKPdf 01 27 11.3 +2.8
baz=147
N11A Elko Archery C 147.27 314⇑P PKPdf 01 27 11.5 +3.0
baz=147
P12A McGill 147.28 311⇑P PKPdf 01 27 12.2 +3.6
baz=147
115A Sonoran Desert 147.30 298⇓P PKPdf 01 27 11.7 +3.1
baz=147
C04A Brinnon 147.36 330⇓P PKPdf 01 27 11.9 +3.2
baz=147
W14A Seligman 147.39 303⇑P PKPdf 01 27 12.8 +4.1
baz=147,SNR=19
M10A I.L. Ranch, Tu 147.47 315⇑P PKPdf 01 27 12.4 +3.6
baz=147
O11A Cowboy Ranch, 147.53 312⇑P PKPdf 01 27 12.2 +3.2
baz=148
D04A Dobbs Creek Ra 147.71 329⇓P PKPdf 01 27 12.8 +3.6
baz=148
Z14A Wintersburg 147.75 299⇓P PKPdf 01 27 12.4 +3.1
baz=148
P11A Circle Ranch, 147.84 312⇑P PKPdf 01 27 13.6 +4.1
baz=148
L09A Wilkinson Ranc 147.95 317⇓P PKPdf 01 27 13.7 +4.0
baz=148
W13A Hualapai Mount 148.05 303⇓P PKPdf 01 27 14.1 +4.3
baz=148,SNR=6.1
Q11A Duckwater 148.06 310⇓P PKPdf 01 27 13.9 +4.0
baz=148,SNR=7.2
M09A Marrel Ranch, 148.12 316⇓P PKPdf 01 27 14.3 +4.4
baz=148
X13A Yucca 148.15 302⇓P PKPdf 01 27 14.4 +4.4
baz=148
D03A Wishkah Elem. 148.17 330⇑P PKPdf 01 27 12.0 +2.0
baz=148
G05A Wamic 148.22 325⇑P PKPdf 01 27 10.3 +0.2
baz=148
P10A Eureka 148.30 312⇑P PKPdf 01 27 09.7 -0.5
baz=148
F04A Amboy 148.34 327⇓P PKPdf 01 27 12.5 +2.2
baz=148
WVOR Wild Horse Val 148.34 318 *e*PKIKP PKPdf 01 27 12.6 +2.3
Y13A Salome 148.36 300⇑P PKPdf 01 27 14.0 +3.7
baz=148
I06A Prineville 148.42 322⇑P PKPdf 01 27 15.0 +4.6
baz=148
N09A Rock Creek Ran 148.45 315⇑P PKPdf 01 27 14.0 +3.5
baz=148
O09A Fish Creek Ran 148.55 314⇑P PKPdf 01 27 14.9 +4.2
baz=148
V12A Nelson 148.61 304⇑P PKPdf 01 27 14.5 +3.8
baz=149,SNR=5.2
M08A Happy Creek Ra 148.70 316⇑P PKPdf 01 27 15.4 +4.5
baz=149
R10A Warm Springs 148.76 310⇓P PKPdf 01 27 15.7 +4.7
baz=149
J06A Christmas Vall 148.80 321⇑P PKPdf 01 27 14.5 +3.4
baz=149,SNR=11
N08A GE Springer Mi 148.88 315⇑P PKPdf 01 27 12.8 +1.6
baz=149
Y12C Blythe 148.93 300⇑P PKPdf 01 27 14.8 +3.5
baz=149
L07A Adell 149.01 318⇑P PKPdf 01 27 15.9 +4.5
baz=149,SNR=7.0
V11A Goodsprings 149.02 305⇑P PKPdf 01 27 16.2 +4.8
baz=149
K06A Valley Falls 149.12 320⇓P PKPdf 01 27 16.3 +4.8
baz=149,SNR=6.3
Q09A Carvers 149.15 311⇓P PKPdf 01 27 16.3 +4.7
baz=149
M07A Soldier Meadow 149.24 317⇓P PKPdf 01 27 15.8 +4.0
baz=149
R09A Tonopah 149.33 310 P PKPdf 01 27 16.2 +4.4
baz=149,SNR=6.9
GLA Glamis 149.35 299⇓P PKPdf 01 27 16.8 +4.9
baz=149
U10A Ash Meadows, A 149.50 306⇓P PKPdf 01 27 16.6 +4.5
baz=150
S09A Goldfield 149.65 309⇑P PKPdf 01 27 17.1 +4.7
baz=150,SNR=6.3
O07A Toulon 149.69 315⇓P PKPdf 01 27 14.0 +1.5
baz=150
L05A Lakeview 149.91 319⇑P PKPdf 01 27 19.2 +6.4
baz=150
P07A Fallon 150.00 314⇓P PKPdf 01 27 17.2 +4.2
baz=150
MNV Mina 150.01 311 *e*PKHKP 01 27 17.1
NVAR Mina Array Bea 150.12 311 PKPbc PKPbc 01 27 17.5 -0.7
comp=Z,3.6nm,0.7s,baz=88,slow=3.5,SNR=16
M05C Lookout 150.50 319⇑P PKPdf 01 27 18.8 +5.0
baz=150
WCN Washoe City 150.70 314⇑P PKPdf 01 27 18.2 +4.2
baz=151
MTUM Tungsten Hills 150.78 309 *e*PKPdf PKPdf 01 27 18.6 +4.4
HUMO Hull Mountain 150.82 322 *e*PKPdf PKPdf 01 27 16.4 +2.2
R06C Coleville 150.88 312⇑P PKPdf 01 27 21.4 +7.1
baz=151

IDC ***30*** *01:11:53.0±0.9,2087S×3332E,h0km,mb4.1/14, mb1 4.3/15,mb1mx4.2/24,mbtmp4.1/15,ML4.2/2,Error ellipse: s-maj=34.8km s-min=20.2km az=55.0*
ISCJB ***30*** *01:11:54.0±0.4,2092S±008×3365E±0.10,h10km, mb4.3/39,Error ellipse: s-maj=14.6km s-min=9.8km az=112.0*
NEIC ***30*** *01:11:55.5±0.5,2099S×3348E,h10km,mb4.6/24,Error ellipse: s-maj=15.2km s-min=11.5km az=67.0*
ISC 30 01:11:55.7±0.4,2095S±008×3371E±007,h10km,n80, σ1§24/73,mb4.3/39,Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
								01 14 06.0	
MATP	**Matopo**	**4.91**	**275**	Lg					
	222nm,0.3s,baz=176,slow=19,SNR=12								
LSZ	**Lusaka**	**7.70**	**316**	Pn		**Pn**		**01 13 43.1**	**-4.9**
	14nm,0.3s,baz=133,slow=11,SNR=2.5								
LSZ				Lg				01 15 39.1	
	43nm,0.3s,baz=76,slow=18,SNR=5.0								
LBTB	**Lobatse**	**8.50**	**240**	Lg				01 15 58.2	
	20nm,0.3s,baz=163,slow=19,SNR=3.7								
BOSA	**Boshof**	**10.83**	**223**	Lg				01 17 23.0	
	8.5nm,0.3s,baz=131,slow=19,SNR=3.6								
OPO	**Ambohidratompo**	**12.91**	**82**	Pn		**Pn**		**01 15 03.1**	**+3.9**
	0.4nm,0.3s,baz=252,slow=9.6,SNR=1.7								
OPO				Sn			**Sn**	**01 17 23.4**	**+5.0**
	2.4nm,0.3s,baz=324,slow=19,SNR=5.9								
SUR	**Sutherland**	**16.19**	**223**	Pn		**Pn**		**01 15 38.5**	**-4.8**
KMBO	**Kilima Mbogo**	**20.00**	**10**	*e*P		**P**		**01 16 27.2**	**-1.1**
	3.0nm,0.7s								
TORD	**Torodi Ar. Bea**	**46.23**	**314**	P		**P**		**01 20 16.0**	**-5.0**
	5.4nm,0.9s,mb4.5,baz=127,slow=7.6,SNR=5.3								
TORD	**Torodi Ar. Bea**	**46.23**	**314**	P		**P**		**01 20 16.0**	**-5.0**
MAW	**Mawson**	**50.13**	**166**	*e*P		**P**		**01 20 51.1**	**-0.1**
	2.3nm,0.6s,mb4.4								
VNA1	**Neumayer--Stat**	**55.48**	**196**	*e*		**P**		**01 21 28.5**	**-2.2**
VNA1				*e*		pP		01 21 31.0	-2.9
BRTR	**Keskin Array B**	**60.35**	**360**	P		**P**		**01 22 04.5**	**-0.4**
	1.5nm,0.9s,mb4.0,baz=184,slow=7.4,SNR=5.1								
GNI	**Garni**	**61.64**	**10**	P		**P**		**01 22 11.3**	**-2.3**
MLR	**Muntele Rosu**	**66.49**	**354**	P		**P**		**01 22 43.7**	**-1.8**
	3.0nm,0.7s,mb4.4,baz=172,slow=10,SNR=4.2								
CART	**Cartagena**	**66.76**	**331**	*e*P		**P**		**01 22 45.6**	**-1.6**
	14nm,0.6s,mb5.2								
PGF	**Pioggiola**	**67.17**	**340**	*e*P		**P**		**01 22 50.0**	**+0.2**
	19nm,1.1s,mb4.7								
PGF	**Pioggiola**	**67.17**	**340**	*e*P		**P**		**01 22 50.0**	**+0.2**
	9.4nm,1.1s,mb4.7								
PSZ	**Piszkesteto**	**69.66**	**350**	*e*P		**P**		**01 23 04.1**	**-1.3**
	5.2nm,1.1s,mb4.4								
ESDC	**Sonseca Array**	**69.82**	**330**	P		**P**		**01 23 04.4**	**-2.0**
	1.9nm,0.9s,mb4.0,baz=146,slow=5.8,SNR=5.7								
ESLA	**Sonseca Array**	**69.82**	**330**	*e*P		**P**		**01 23 06.8**	**+0.4**
	0.6nm,0.8s,mb3.6								
MBDF	**Montbardon**	**69.83**	**340**	*e*P		**P**		**01 23 07.6**	**+1.1**
	33nm,1.6s,mb4.7								
MBDF	**Montbardon**	**69.83**	**340**	*e*P		**P**		**01 23 07.6**	**+1.1**
	17nm,1.6s,mb4.7								
BNI	**Bardonecchia**	**70.15**	**340**	*e*P		**P**		**01 23 08.7**	**+0.3**
	5.8nm,1.2s,mb4.4								
ORIF	**Oris-en-Rattie**	**70.29**	**339**	*e*P		**P**		**01 23 10.9**	**+1.6**
VYHS	**Vyhne**	**70.39**	**350**	*e*P		**P**		**01 23 08.0**	**-1.9**
VYHS	**Vyhne**	**70.39**	**350**	*e*		**P**		**01 23 08.0**	**-1.9**
LPG	**La Plagne**	**70.53**	**340**	*e*P		**P**		**01 23 11.7**	**+1.0**
	10nm,0.9s,mb4.5								
LPG	**La Plagne**	**70.53**	**340**	*e*P		**P**		**01 23 11.7**	**+1.0**
	5.3nm,0.9s,mb4.5								
LPL	**La Plagne**	**70.55**	**340**	*e*P		**P**		**01 23 11.7**	**+0.8**
	14nm,1.1s,mb4.5								
LPL	**La Plagne**	**70.55**	**340**	*e*P		**P**		**01 23 11.7**	**+0.8**
	7.3nm,1.1s,mb4.5								
VIVF	**Saint-Julien-I**	**70.64**	**339**	*e*P		**P**		**01 23 12.6**	**+1.2**
	19nm,1.3s,mb4.6								
VIVF	**Saint-Julien-I**	**70.64**	**339**	*e*P		**P**		**01 23 12.6**	**+1.2**
	9.6nm,1.3s,mb4.6								
EPF	**Esparros**	**70.68**	**335**	*e*P		**P**		**01 23 12.4**	**+0.7**
	11nm,1.1s,mb4.4								
EPF	**Esparros**	**70.68**	**335**	*e*P		**P**		**01 23 12.4**	**+0.7**
	5.3nm,1.1s,mb4.4								
EVO	**Evora**	**70.93**	**326**	*e*P		**P**		**01 23 13.7**	**+0.5**
	12nm,1.1s,mb4.4								
ETSF	**Etsaut**	**70.94**	**334**	*e*P		**P**		**01 23 13.8**	**+0.6**
	6.8nm,1.0s,mb4.2								
ETSF	**Etsaut**	**70.94**	**334**	*e*P		**P**		**01 23 13.8**	**+0.6**
	3.4nm,1.0s,mb4.2								
AKASG	**Malin Array Be**	**71.44**	**357**	P		**P**		**01 23 14.4**	**-1.9**
	3.0nm,1.0s,mb4.2,baz=182,slow=5.8,SNR=4.9								
CAF	**Calviac**	**71.63**	**337**	*e*P		**P**		**01 23 18.3**	**+0.9**
	6.2nm,0.9s,mb4.2								
CAF	**Calviac**	**71.63**	**337**	*e*P		**P**		**01 23 18.3**	**+0.9**
	3.1nm,0.9s,mb4.2								
CABF	**La Chapelle**	**71.73**	**340**	*e*P		**P**		**01 23 20.2**	**+2.2**
	12nm,0.9s,mb4.5								
CABF	**La Chapelle**	**71.73**	**340**	*e*P		**P**		**01 23 20.2**	**+2.2**
	6.2nm,0.9s,mb4.5								
GERES	**GERESS Array B**	**71.73**	**346**	P		**P**		**01 23 16.1**	**-2.0**
	1.5nm,0.9s,mb3.9,baz=158,slow=4.3,SNR=4.2								
LFF	**La Frestale**	**72.14**	**336**	*e*P		**P**		**01 23 21.3**	**+0.8**
	11nm,0.9s,mb4.5								
LFF	**La Frestale**	**72.14**	**336**	*e*P		**P**		**01 23 21.3**	**+0.8**
	5.3nm,0.9s,mb4.5								
RJF	**Les Rejaudoux**	**72.15**	**337**	*e*P		**P**		**01 23 21.3**	**+0.7**
SMF	**Signal de Mont**	**72.49**	**339**	*e*P		**P**		**01 23 23.1**	**+0.5**
	9.2nm,1.0s,mb4.3								
SMF	**Signal de Mont**	**72.49**	**339**	*e*P		**P**		**01 23 23.1**	**+0.5**
	4.6nm,1.0s,mb4.4								
TCF	**Toulx Ste Croi**	**72.75**	**338**	*e*P		**P**		**01 23 25.3**	**+1.2**
	11nm,1.1s,mb4.4								
TCF	**Toulx Ste Croi**	**72.75**	**338**	*e*P		**P**		**01 23 25.3**	**+1.2**
	5.7nm,1.1s,mb4.4								
AVF	**Avril sur Loir**	**72.78**	**339**	*e*P		**P**		**01 23 24.9**	**+0.6**
	7.4nm,1.0s,mb4.3								
AVF	**Avril sur Loir**	**72.78**	**339**	*e*P		**P**		**01 23 24.9**	**+0.6**
	3.7nm,1.0s,mb4.3								
HAU	**Haudompre**	**72.89**	**341**	*e*P		**P**		**01 23 26.7**	**+1.7**
	13nm,1.0s,mb4.5								
HAU	**Haudompre**	**72.89**	**341**	*e*P		**P**		**01 23 26.7**	**+1.7**
	6.4nm,1.0s,mb4.5								
SSF	**Saint Saulge**	**72.97**	**339**	*e*P		**P**		**01 23 25.6**	**+0.2**
	9.6nm,1.0s,mb4.4								
SSF	**Saint Saulge**	**72.97**	**339**	*e*P		**P**		**01 23 25.6**	**+0.2**
	4.8nm,1.0s,mb4.4								
CDF	**Champ du Feu**	**72.98**	**342**	*e*P		**P**		**01 23 26.9**	**+1.4**
MFF	**Saint Martin d**	**73.87**	**336**	*e*P		**P**		**01 23 31.4**	**+0.7**
	9.2nm,1.1s,mb4.3								
MFF	**Saint Martin d**	**73.87**	**336**	*e*P		**P**		**01 23 31.4**	**+0.7**
	4.6nm,1.1s,mb4.3								
CLL	**Collm**	**74.21**	**347**	*i* P		**P**		**01 23 33.5**	**+0.8**
	comp=Z,10.0nm,1.4s,mb4.5								
AKTK	**Aktyubinsk**	**74.24**	**16**	P		**P**		**01 23 32.0**	**-0.9**
AKTO	**Aktyubinsk**	**74.24**	**16**	P		**P**		**01 23 32.0**	**-0.9**
	comp=Z,1.3nm,0.9s,mb3.9,baz=203,slow=9.0,SNR=4.0								
GRR	**Gorron**	**75.63**	**337**	*e*P		**P**		**01 23 42.1**	**+1.2**
VNDA	**Vanda**	**77.22**	**170**	P		**P**		**01 23 49.0**	**-0.9**

comp=Z,0.8nm,0.6s,mb3.8,baz=290,slow=7.1,SNR=5.6
SBA Scott Base 77.75 171 P **P 01 23 52.2 -0.7**
ZRNK Zerenda 79.70 21 *e*P **P 01 24 02.6 -1.0**
comp=Z,2.7nm,1.1s,mb4.1
BVAR Borovoye Array 80.23 21 P **P 01 24 05.3 -1.2**
comp=Z,2.1nm,0.9s,mb4.1,baz=220,slow=3.9,SNR=6.0
MKAR Makanchi Array 80.41 32 P **P 01 24 06.5 -0.9**
comp=Z,1.8nm,0.9s,mb4.0,baz=222,slow=5.9,SNR=4.8
KURK Kurchatov 81.57 27 *e*P **P 01 24 13.2 -0.4**
comp=Z,10nm,1.4s,mb4.6
FINES FINESS Array B 82.33 356 P **P 01 24 15.9 -1.7**
comp=Z,2.3nm,1.0s,mb4.1,baz=197,slow=4.4,SNR=3.6
NOA NORSAR Array B 83.69 349 P **P 01 24 22.0 -2.7**
comp=Z,1.4nm,1.1s,mb4.0,baz=157,slow=4.8,SNR=2.5
ASAR Alice Springs 90.56 116 P **P 01 24 59.5 +1.5**
comp=Z,1.1nm,0.8s,mb4.2,baz=237,slow=3.9,SNR=8.3
WRA Warramunga Arr 92.39 112 P **P 01 25 07.6 +1.1**
comp=Z,0.8nm,1.0s,mb4.0,baz=253,slow=3.4,SNR=2.7
WRAB Tennant Creek 92.40 112 P **P 01 25 08.4 +1.8**
ULN Ulaanbaatar 94.72 40 P **P 01 25 18.4 +1.1**
MSU Marysvale 145.84 308 *e*PKPdf PKPdf 01 31 34.4 -0.3
BMO Blue Mountains 146.24 322 *e*PKPdf PKPdf 01 31 34.6 -0.7
TUC Tucson 146.45 297 *e*PKP PKPdf 01 31 36.2 +0.6
HAWA Hanford 146.53 326 *e*PKPdf PKPdf 01 31 34.9 -0.9
NVAR Mina Array Bea 150.26 312 PKPbc PKPbc 01 31 47.2 +0.1
comp=Z,0.7nm,0.7s,baz=94,slow=3.0,SNR=6.2

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*IDC **30** 01:25:25.4±0.5, 1905N×12001E, h0km, mb4.3/23, mb1 4.4/24, mb1mx4.4/27, mbtmp4.3/24, ML4.2/1, MS3.5/4, Ms1 3.6/4, ms1mx3.1/24, Error ellipse: s-maj=23.4km s-min=11.5km az=67.0*
*BJI **30** 01:25:26.9, 19.11N×11973E, h6km, mB4.5, mb4.5, ML4.1, Ms4.2, Msz4.0*
*NEIC **30** 01:25:27.0±0.2, 1905N×12005E, h10km, mb4.7/22, Error ellipse: s-maj=7.2km s-min=4.6km az=89.0*
*ISCJB **30** 01:25:27.2±1.2, 19.11N±003×11997E±006, h20km±9km, mb4.5/51, MS4.1/7, Error ellipse: s-maj=9.2km s-min=4.8km az=155.8*
*MOS **30** 01:25:28.8±1.0, 1908N×12001E, h33km, mb5.0/20, Error ellipse: s-maj=12.3km s-min=6.1km az=108.4*
*MAN **30** 01:25:33.4, 1875N×120.16E, h15km, mb3.4, ML4.6, MS1.9*
ISC 30 01:25:26.5±1.3, 1909N±003×11995E±005, h4km±8km, n133, σ1°09/139, mb4.5/51, MS4.1/7, 10C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.99**	**140**	⇑*i*P	**Pg**	**01 25 45.5**	**+0.1**
PIP				*e*S	**Sg**	**01 25 57.8**	**-0.4**
ABRA	**Dolores**	**1.60**	**153**	*e*P	**Pn**	**01 25 54.3**	**-1.2**
APYP	**Conner**	**1.73**	**135**	*e*P	**Pn**	**01 25 56.6**	**-0.7**
SGCP	**Mt. Cagua**	**2.15**	**113**	*e*P	**Pn**	**01 26 04.5**	**+1.4**
BOLP	**Bolinao**	**2.69**	**181**	*e*P	**Pn**	**01 26 11.9**	**+1.4**
BCPH	**Baguio City Da**	**2.76**	**167**	⇑*i*P	**Pn**	**01 26 11.9**	**+0.5**
CAUP	**Cauayan**	**2.78**	**140**	*e*P	**Pn**	**01 26 14.7**	**+3.0**
PALP	**Palanan**	**3.10**	**130**	*e*P	**Pn**	**01 26 18.8**	**+2.7**
BALP	**Baler**	**3.67**	**155**	*e*P	**Pn**	**01 26 25.8**	**+1.8**
NACB	**Ninganchiao**	**5.29**	**16**	*e*Pn	**Pn**	**01 26 47.6**	**+1.4**
YHNB	**Yeheng**	**5.71**	**13**	*e*Pn	**Pn**	**01 26 52.8**	**+0.8**
YHNB				*e*Sn	**Sn**	**01 27 53.1**	**-4.9**
QZH	**Quanzhou**	**5.96**	**348**	P	**Pn**	**01 26 54.0**	**-1.5**
QZH				S	**Sn**	**01 27 56.5**	**-7.7**
QZH				Smax			
	comp=N,110nm,0.6s						
QZH				Smax			
	comp=E,120nm,0.8s						
QZH				LR	LR		
	comp=N,2μm,12.8s						
QZH				LR	LR		
	comp=E,1μm,10.6s						
QZH				LR	LR		
	comp=Z,2μm,11.2s						
TATO	**Taipei**	**6.03**	**13**	Pn	**Pn**	**01 26 55.7**	**-0.7**
GZH	**Guangzhou**	**7.34**	**304**	P	**Pn**	**01 27 11.0**	**-3.4**
GZH				S	**Sn**	**01 28 28.5**	**-10**
GZH				Smax			
	comp=N,70nm,1.0s						
GZH				Smax			
	comp=E,100nm,0.9s						
QIZ	**Qiongzhong**	**9.56**	**271**	P	**Pn**	**01 27 42.3**	**-2.6**
QIZ				S	**Sn**	**01 29 27.0**	**-5.8**
QIZ				LR	LR		
	comp=N,650nm,14.5s						
QIZ				LR	LR		
	comp=Z,730nm,10.1s						
QIZ	**Qiongzhong**	**9.56**	**271**	*e*Pn	**Pn**	**01 27 42.3**	**-2.5**
	comp=Z,31nm,0.7s						
QIZ				*e*Sn	**Sn**	**01 29 26.6**	**-6.2**
JOW	**Kunigami**	**10.87**	**43**	Pn	**Pn**	**01 28 02.4**	**-0.4**
	comp=Z,4.1nm,0.3s,baz=146,slow=9.8,SNR=12						
JOW				LR	LR	01 32 14.6	
	comp=Z,152nm,20.3s,baz=126,slow=38						
SSE	**Sheshan**	**12.01**	**5**	P	**Pn**	**01 28 25.5**	**+7.1**
SSE				S	**Sn**	**01 30 41.0**	**+8.3**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s						
SSE				AMB	AMB		
	comp=Z,50nm,4.6s						
SSE				LR	LR		
	comp=N,90nm,14.9s						
SSE				LR	LR		
	comp=E,70nm,14.9s						
SSE				LR	LR		
	comp=Z,110nm,17.5s						
NJ2	**Nanjing**	**12.95**	**356**	*e*P	**Pn**	**01 28 38.5**	**+7.3**
NJ2				S	**Sn**	**01 31 03.0**	**+7.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,100nm,5.7s						
NJ2				LR	LR		
	comp=N,1μm,13.8s						
NJ2				LR	LR		
	comp=E,1μm,13.2s						
NJ2				LR	LR		
	comp=Z,340nm,11.5s						
GYA	**Guiyang**	**14.28**	**303**	*e*P	**Pn**	**01 28 47.0**	**-2.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
XAN	**Xi'an**	**17.84**	**329**	P	**Pn**	**01 29 36.0**	**+0.4**
XAN				AP	pP	01 29 45.5	+8.0
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s						
CD2	**Chengdu**	**18.79**	**312**	P	**Pn**	**01 29 47.5**	**+0.3**
CD2				AP	pP	01 29 55.8	+7.9
CD2				XP	sP	01 29 59.5	+11
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s						
CD2				AMB	AMB		
	comp=Z,90nm,9.8s						
CD2				LR	LR		
	comp=N,490nm,10.7s						
CD2				LR	LR		
	comp=Z,590nm,10.2s						
INCN	**Inchon**	**19.24**	**16**	*e*P	**Pn**	**01 29 51.5**	**-1.1**
	comp=Z,22nm,0.3s						
KS15	**Wonju Array Si**	**19.56**	**19**	P	**Pn**	**01 29 54.6**	**-1.8**
DL2	**Dalian**	**19.80**	**4**	P	**Pn**	**01 30 00.0**	**+0.7**
DL2				S	**Sn**	**01 33 44.0**	**+1.8**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s						
DL2				AMB	AMB		
	comp=Z,120nm,6.6s						
DL2				LR	LR		
	comp=N,170nm,11.6s						
DL2				LR	LR		
	comp=E,160nm,12.3s						
DL2				LR	LR		
	comp=Z,200nm,12.7s						
KSM	**Kuching**	**19.89**	**209**	P	**Pn**	**01 29 59.3**	**-1.1**
BJT	**Baijiatuau**	**21.11**	**352**	*e*P	**P**	**01 30 13.9**	**+1.8**
BJT				*e*		01 30 24.2	
BJT				pmax	pmax		
	comp=Z,89nm,1.2s						
BJT	**Baijiatuau**	**21.11**	**352**	*e*P	**P**	**01 30 13.9**	**+1.8**
	comp=Z,89nm,1.2s,mb5.0						
BJT				*e*		01 30 24.2	
CBIJ	**Chichi jima**	**21.93**	**65**	LR	LR	01 37 32.3	
	comp=Z,41nm,21.1s,baz=161,slow=33						
LZH	**Lanzhou**	**22.10**	**323**	*e*P	**P**	**01 30 24.5**	**+1.9**
LZH				AP		01 30 31.5	
LZH				XP	sP	01 30 35.8	+12
LZH				AMB	AMB		
	comp=Z,50nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,200nm,5.7s						
LZH				LR	LR		
	comp=N,680nm,11.9s						
LZH				LR	LR		
	comp=Z,980nm,12.2s,MS4.4						
BTO	**Baotou**	**23.08**	**340**	*e*P	**P**	**01 30 32.8**	**-0.3**
MAJO	**Matsushiro**	**23.66**	**39**	*e*P	**P**	**01 30 39.2**	**+0.2**
MAJO				*e*		01 30 48.1	
MAJO				pmax	pmax		
	comp=Z,53nm,1.4s,mb4.8						
MAJO	**Matsushiro**	**23.66**	**39**	*e*P	**P**	**01 30 39.2**	**+0.2**
	comp=Z,53nm,1.4s,mb4.8						
MAJO				*e*		01 30 48.0	
MAT	**Matsushiro**	**23.66**	**39**	P	**P**	**01 30 38.4**	**-0.6**
MAT	**Matsushiro**	**23.66**	**39**	*e*P	**P**	**01 30 38.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.4						
MAT	**Matsushiro**	**23.66**	**39**	*e*P	**P**	**01 30 38.0**	**-1.0**
	comp=Z,21nm,1.3s,mb4.4						
MJAR	**Matsushiro Arr**	**23.66**	**39**	P	**P**	**01 30 38.6**	**-0.4**
	comp=Z,3.8nm,0.9s,mb3.8,baz=230,slow=8.6,SNR=11						
VLA	**Vladivostok**	**25.99**	**20**	⇑*e*P	**P**	**01 31 03.0**	**+2.7**
VLA				pmax	pmax		
	comp=Z,77nm,1.3s,mb5.1						
PSI	**Prapat**	**26.18**	**234**	P	**P**	**01 31 02.4**	**+0.4**
	comp=Z,3.1nm,0.4s,mb4.2,baz=329,slow=5.0,SNR=4.7						
MDJ	**Mudanjiang**	**26.70**	**15**	P	**P**	**01 31 07.5**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,40nm,6.0s						
MDJ	**Mudanjiang**	**26.70**	**15**	P	**P**	**01 31 07.0**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.2						
GTA	**Gaotai**	**26.70**	**324**	*e*P	**P**	**01 31 08.0**	**+1.3**
GTA				AP	pP	01 31 12.8	+4.9
GTA				XP	sP	01 31 16.0	+7.6
GTA				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.1						
GTA				AMB	AMB		
	comp=Z,100nm,6.9s						
GTA				LR	LR		
	comp=N,240nm,16.8s						
GTA				LR	LR		
	comp=E,290nm,22.9s						
GTA				LR	LR		
	comp=Z,360nm,21.0s,MS3.9						
LSA	**Lhasa**	**28.21**	**298**	*e*P	**P**	**01 31 21.7**	**+1.5**
HIA	**Hailar**	**30.11**	**360**	*e*P	**P**	**01 31 35.2**	**-1.9**
ULN	**Ulaanbaatar**	**30.57**	**343**	*c*eP	**P**	**01 31 42.5**	**+1.4**
ULN	**Ulaanbaatar**	**30.57**	**343**	*e*P	**P**	**01 31 42.0**	**+0.8**
	comp=Z,2.7nm,0.7s,mb4.2						
SONM	**Songino Array**	**30.73**	**342**	P	**P**	**01 31 43.7**	**+1.2**
	comp=Z,2.7nm,0.6s,mb4.2,baz=164,slow=10,SNR=18						
SONM				LR	LR	01 44 08.2	
	comp=Z,142nm,20.4s,MS3.6,baz=350,slow=36						
KLR	**Kul'dur**	**31.54**	**15**	*e*P	**P**	**01 31 47.7**	**-2.0**
YSS	**Yuzh-Sakhalins**	**33.49**	**29**	*e*P	**P**	**01 32 04.7**	**-2.1**
ZAK	**Zakamensk**	**33.93**	**341**	*e*P	**P**	**01 32 11.3**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
TLY	**Talaya**	**34.97**	**342**	*e*P	**P**	**01 32 19.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**37.38**	**171**	*e*P	**P**	**01 32 40.1**	**-0.1**
	comp=Z,7.7nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**37.38**	**171**	P	**P**	**01 32 40.3**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.1,baz=226,slow=10,SNR=6.0						
WRAB	**Tennant Creek**	**41.27**	**159**	*e*P	**P**	**01 33 12.9**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**41.27**	**159**	*e*P	**P**	**01 33 12.8**	**+0.1**
	comp=Z,27nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**41.27**	**159**	P	**P**	**01 33 11.2**	**-1.6**
	comp=Z,6.2nm,1.0s,mb4.2,baz=340,slow=9.1,SNR=12						
WRA				PcP	PcP	01 35 11.6	+0.1
	comp=Z,2.0nm,0.9s,baz=337,slow=3.0,SNR=4.7						
WB2	**Warramunga Arr**	**41.28**	**159**	*e*P	**P**	**01 33 12.2**	**-0.6**
MKAR	**Makanchi Array**	**41.36**	**321**	P	**P**	**01 33 14.6**	**+1.0**
	comp=Z,5.3nm,0.8s,mb4.2,baz=124,slow=8.9,SNR=39						
YAK	**Yakutsk**	**43.44**	**7**	P	**P**	**01 33 30.2**	**-0.2**
ZAL	**Zalesovo**	**44.00**	**331**	P	**P**	**01 33 35.3**	**+0.3**
	comp=Z,2.1nm,0.8s,mb3.9,baz=355,slow=8.4,SNR=16						
AS31	**Alice Springs**	**44.62**	**162**	*e*P	**P**	**01 33 40.4**	**+0.5**
ASPA	**Alice Springs**	**44.62**	**162**	*e*P	**P**	**01 33 40.4**	**+0.5**
ASAR	**Alice Springs**	**44.62**	**162**	P	**P**	**01 33 39.4**	**-0.6**
	comp=Z,3.1nm,0.6s,mb4.3,baz=339,slow=6.8,SNR=28						
NVS	**Novosibirsk**	**45.28**	**331**	*e*P	**P**	**01 33 45.4**	**+0.2**
KURK	**Kurchatov**	**45.38**	**324**	*e*P	**P**	**01 33 46.9**	**+0.9**
KURK				*e*		01 33 58.8	
KURK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
KURK	**Kurchatov**	**45.38**	**324**	*e*P	**P**	**01 33 46.9**	**+0.9**
	comp=Z,18nm,1.1s,mb4.8						
KURK				*e*		01 33 58.8	
MA2	**Magadan**	**46.12**	**21**	*e*P	**P**	**01 33 52.3**	**+0.5**
CTA	**Charters Tower**	**46.70**	**145**	P	**P**	**01 33 56.9**	**+0.6**
	comp=Z,11nm,1.1s,mb4.7,baz=296,slow=6.5,SNR=3.4						
CTAO	**Charters Tower**	**46.70**	**145**	P	**P**	**01 33 55.6**	**-0.7**
FORT	**Forrest**	**50.19**	**171**	*e*P	**P**	**01 34 30.1**	**+6.9**
	comp=Z,19nm,0.8s,mb5.2						
BVAR	**Borovoye Array**	**50.98**	**324**	P	**P**	**01 34 30.1**	**+0.9**
	comp=Z,2.1nm,1.0s,mb4.0,baz=125,slow=9.5,SNR=7.7						
BVAR				PcP	PcP	01 35 44.8	-0.7
	comp=Z,1.0nm,0.7s,baz=116,slow=8.6,SNR=3.6						
BRVK	**Borovoye**	**51.05**	**324**	*e*P	**P**	**01 34 30.8**	**+1.0**
	comp=Z,6.7nm,1.3s,mb4.4						
BRVK				*e*		01 34 41.0	
ZRNK	**Zerenda**	**51.73**	**323**	*e*P	**P**	**01 34 35.0**	**+0.1**
ZRNK				*e*		01 34 44.0	
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
ZRNK	**Zerenda**	**51.73**	**323**	*e*P	**P**	**01 34 35.0**	**+0.1**
	comp=Z,10nm,1.3s,mb4.6						
ZRNK				*e*		01 34 44.0	
NWAO	**Narrogin (SRO)**	**51.78**	**183**	P	**P**	**01 34 35.5**	**+0.2**
TIXI	**Tiksi**	**52.83**	**4**	⇑*e*P	**P**	**01 34 42.7**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
STKA	**Stephens Creek**	**54.76**	**157**	*e*P	**P**	**01 34 53.9**	**-3.2**
	comp=Z,4.7nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**54.76**	**157**	P	**P**	**01 34 56.0**	**-1.2**
	comp=Z,5.2nm,0.9s,mb4.6,baz=54,slow=5.5,SNR=7.1						
BILL	**Bilibino**	**56.85**	**19**	P	**P**	**01 35 09.6**	**-2.5**
BILL	**Bilibino**	**56.85**	**19**	P	**P**	**01 35 09.6**	**-2.5**
AKTK	**Aktyubinsk**	**57.70**	**318**	P	**P**	**01 35 19.3**	**+1.2**
AKTO	**Aktyubinsk**	**57.70**	**318**	P	**P**	**01 35 19.3**	**+1.2**
	comp=Z,2.5nm,0.6s,mb4.5,baz=102,slow=11,SNR=12						
ARU	**Arti**	**58.55**	**325**	*e*P	**P**	**01 35 23.2**	**-0.9**
ARU				*e*		01 37 33.1	
ARU				*e*PPP		01 38 53.0	
ARU				*e*S	**S**	**01 43 23.8**	**-4.6**
ARU				*e*SS	SS	01 47 14.8	-6.1
ARU	**Arti**	**58.55**	**325**	P	**P**	**01 35 24.1**	**+0.1**
	comp=Z,7.5nm,0.9s,mb4.7						
ORR	**Orenburg**	**59.90**	**319**	⇓*i*P	**P**	**01 35 33.8**	**+0.3**
ORR				pmax	pmax		
	comp=Z,30nm,1.9s,mb5.0						
GNI	**Garni**	**66.81**	**306**	P	**P**	**01 36 19.6**	**+0.4**
	comp=Z,2.4nm,0.6s,mb4.4,baz=77,slow=22,SNR=3.1						
ZEI	**Tsey**	**67.19**	**309**	*e*P	**P**	**01 36 22.3**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.2						
GOF	**Gofitskoye**	**67.61**	**312**	*e*P	**P**	**01 36 23.9**	**-0.4**
KIV	**Kislovodsk**	**67.95**	**311**	*de*P	**P**	**01 36 27.4**	**+0.9**
KIV				*i* *PP	pP	01 36 48.2	+20
KIV				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.2						
KIV				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.0						
KIV	**Kislovodsk**	**67.95**	**311**	*e*P	**P**	**01 36 27.7**	**+1.2**
	comp=Z,32nm,1.1s,mb5.3						
KIV				*e*		01 36 34.9	
KLMR	**Klimovskoe**	**68.88**	**329**	*e*P	**P**	**01 36 31.7**	**-0.6**
KLMR				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
SOC	**Sochi**	**70.13**	**310**	*e*P	**P**	**01 36 35.6**	**-4.4**
SOC				*e*		01 36 57.0	
SOC				*e*S	S	01 45 41.5	-10
SOC				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
SOC				MLR	MLR		
	comp=Z,103nm,15.0s,MS4.2						
OBN	**Obninsk**	**70.81**	**323**	⇓P	**P**	**01 36 43.0**	**-1.2**
OBN				*e*		01 36 52.3	
OBN				pmax	pmax		
	comp=Z,24nm,1.8s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
MALT	**Malatya**	**71.92**	**305**	*e*P	**P**	**01 36 52.6**	**+1.7**
	comp=Z,4.4nm,1.0s,mb4.3						
MALT				*e*		01 36 59.9	
JOF	**Joensuu**	**72.59**	**331**	*e*p	**P**	**01 36 54.2**	**-0.7**
ARCES	**ARCESS Array B**	**73.83**	**339**	P	**P**	**01 37 00.9**	**-1.3**
	comp=Z,2.4nm,0.8s,mb4.2,baz=75,slow=5.3,SNR=7.6						
COLA	**College**	**73.83**	**26**	⇑*i*P	**P**	**01 37 02.0**	**-0.2**
SPB4	**Spitsbergen Ar**	**74.20**	**348**	*e*P	**P**	**01 37 04.3**	**-0.1**
KAF	**Kangasniemi**	**75.01**	**331**	*e*p	**P**	**01 37 07.0**	**-2.1**
FINES	**FINESS Array B**	**75.27**	**330**	P	**P**	**01 37 10.3**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=53,slow=6.9,SNR=17						
FINES	**FINESS Array B**	**75.27**	**330**	P	**P**	**01 37 10.3**	**-0.3**
BRTR	**Keskin Array B**	**75.30**	**307**	P	**P**	**01 37 10.8**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=144,slow=4.0,SNR=4.3						
VSU	**Vasula**	**75.61**	**327**	⇓*i*P	**P**	**01 37 12.4**	**-0.1**
AKASG	**Malin Array Be**	**75.92**	**319**	P	**P**	**01 37 13.7**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.2,baz=66,slow=5.5,SNR=14						
AKASG	**Malin Array Be**	**75.92**	**319**	*i*P	**P**	**01 37 13.6**	**-0.7**
DAWY	**Dawson**	**77.58**	**26**	*e*P	**P**	**01 37 23.3**	**-0.4**
DAWY				*e*pP	pP	01 37 28.9	+3.9
INK	**Inuvik**	**78.36**	**21**	*e*P	**P**	**01 37 27.8**	**-0.2**
MLR	**Muntele Rosu**	**79.37**	**314**	P	**P**	**01 37 34.6**	**+1.1**
	comp=Z,2.5nm,0.6s,mb4.3,baz=52,slow=5.6,SNR=4.8						
KWP	**Kalwaria**	**80.25**	**319**	*e*P	**P**	**01 37 38.5**	**+0.2**
DAG	**Danmarks Havn**	**81.20**	**351**	⇑*i*P	**P**	**01 37 42.7**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.4						
DAG	**Danmarks Havn**	**81.20**	**351**	⇑*e*P	**P**	**01 37 42.7**	**-0.7**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
DAG	**Danmarks Havn**	**81.20**	**351**	⇑*e*P	**P**	**01 37 42.7**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.4						
NB2	**NORSAR Subarra**	**82.18**	**332**	P	**P**	**01 37 47.4**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=65,slow=5.1						
NOA	**NORSAR Array B**	**82.18**	**332**	P	**P**	**01 37 47.1**	**-1.5**
	comp=Z,4.0nm,0.9s,mb4.3,baz=64,slow=5.0,SNR=12						
NOA				LR	LR	02 15 37.1	
	comp=Z,88nm,20.9s,MS4.1,baz=50,slow=37						
VRAC	**Vranov**	**84.10**	**320**	P	**P**	**01 37 58.4**	**-0.2**
	comp=Z,1.8nm,0.9s,mb4.2,baz=262,slow=17,SNR=4.3						
BRG	**Berggiesshubel**	**85.06**	**322**	*e*P	**P**	**01 38 03.7**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.3						
BRG	**Berggiesshubel**	**85.06**	**322**	*e*P	**P**	**01 38 03.7**	**+0.4**
BRG				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.3						
CLL	**Collm**	**85.41**	**323**	*i*P	**P**	**01 38 04.5**	**-0.6**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
CLL	**Collm**	**85.41**	**323**	*i*P	**P**	**01 38 04.5**	**-0.6**
	comp=Z,10.0nm,1.4s,mb4.8						
CLL				*e*		01 38 26.0	
KHC	**Kasperske Hory**	**85.99**	**321**	⇑*e*P	**P**	**01 38 05.8**	**-2.2**
GERES	**GERESS Array B**	**86.03**	**321**	P	**P**	**01 38 07.7**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.9,baz=72,slow=4.3,SNR=4.0						
YKA	**Yellowknife Ar**	**88.09**	**22**	P	**P**	**01 38 17.8**	**-0.4**
	comp=Z,1.6nm,0.7s,mb4.4,baz=308,slow=4.8,SNR=5.0						
YKA	**Yellowknife Ar**	**88.09**	**22**	P	**P**	**01 38 17.8**	**-0.4**
LPG	**La Plagne**	**91.78**	**320**	*e*P	**P**	**01 38 35.6**	**+0.2**
	comp=Z,6.0nm,0.7s,mb4.7						
LPG	**La Plagne**	**91.78**	**320**	*e*P	**P**	**01 38 35.6**	**+0.2**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.7						
LPG	**La Plagne**	**91.78**	**320**	*e*P	**P**	**01 38 35.6**	**+0.2**
	comp=Z,3.0nm,0.7s,mb4.7						
LPL	**La Plagne**	**91.78**	**320**	*e*P	**P**	**01 38 35.5**	**0.0**
	comp=Z,7.8nm,0.8s,mb4.8						
LPL	**La Plagne**	**91.78**	**320**	*e*P	**P**	**01 38 35.5**	**0.0**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
LPL	**La Plagne**	**91.78**	**320**	*e*P	**P**	**01 38 35.5**	**0.0**
	comp=Z,3.9nm,0.8s,mb4.8						
VNDA	**Vanda**	**99.45**	**172**	P	**P**	**01 39 10.6**	**+0.2**
	comp=Z,0.7nm,0.8s,mb4.2,baz=322,slow=5.6,SNR=3.5						
ANMO	**Albuquerque**	**110.50**	**39**	*i*PKIKP	PKiKP	01 43 59.9	-0.2
HALT	**Halls**	**118.67**	**27**	*e*PKPdf	PKPdf	01 44 09.2	-6.6
SDMD	**Soldier's Deli**	**119.73**	**15**	PKP	PKPdf	01 44 16.8	-1.0

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*JMA **30** 01:49:59.9±0.4, 4430N×14897E, h30km, M3.4*
*ISCJB **30** 01:50:00.6±1.8, 436N±02×1490E±02, h82km±14km, mb3.3/4, Error ellipse: s-maj=28.2km s-min=14.2km az=122.4*
*IDC **30** 01:50:06.6±8.1, 4606N×148.17E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, ML3.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.0/33, Error ellipse: s-maj=175.8km s-min=40.0km az=137.0*
ISC 30 01:50:01.7±1.8, 437N±02×1490E±02, h73km±15km, n16, σ0°87/22, mb3.3/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.38**	**263**	P	**Pn**	**01 50 37.5**	**-1.0**
NEM2				*e*S	**Sn**	**01 51 05.2**	**-1.4**
JRA	**Rausu**	**2.81**	**276**	P	**Pn**	**01 50 44.1**	**-0.2**
JNK	**Nakash**	**3.10**	**270**	P	**Pn**	**01 50 47.8**	**-0.4**
JAK	**Akkeshi**	**3.20**	**259**	P	**Pn**	**01 50 49.7**	**+0.1**
JAK				*e*S	**Sn**	**01 51 26.2**	**-0.5**
JTKR	**Abashiri--Toko**	**3.69**	**276**	P	**Pn**	**01 50 56.2**	**0.0**
JAR	**Ashorobuto**	**3.81**	**266**

WRAB	**Tennant Creek**	**32.02**	**196**	*e*P	**P**	**02 00 35.8 +0.4**
	2.5nm,0.5s,mb4.3					
WRAB				*e*		02 00 45.2
WB2	**Warramunga Arr**	**32.03**	**196**	*e*P	**P**	**02 00 35.6 +0.1**
WRA	**Warramunga Arr**	**32.03**	**196**	P	**P**	**02 00 35.7 +0.2**
	1.3nm,0.6s,mb4.0,baz=13,slow=9.3,SNR=5.5					
ASAR	**Alice Springs**	**35.71**	**195**	P	**P**	**02 01 08.2 +0.8**
	0.9nm,0.4s,mb4.1,baz=20,slow=11,SNR=14					
STKA	**Stephens Creek**	**42.74**	**182**	P	**P**	**02 02 04.6 -1.6**
	1.2nm,0.5s,mb3.9,baz=14,slow=9.5,SNR=3.7					
ULN	**Ulaanbaatar**	**47.53**	**327**	P	**P**	**02 02 43.7 -0.5**
NWAO	**Narrogin (SRO)**	**50.28**	**209**	P	**P**	**02 03 04.1 -1.2**
KURK	**Kurchatov**	**65.44**	**321**	P	**P**	**02 04 51.4 -0.3**
	0.6nm,0.4s,mb4.0					
BRVK	**Borovoye**	**70.93**	**322**	*e*P	**P**	**02 05 26.1 0.0**
INK	**Inuvik**	**77.30**	**22**	P	**P**	**02 06 04.7 +1.3**
FINES	**FINESS Array B**	**92.71**	**335**	P	**P**	**02 07 22.2 +1.3**
	0.6nm,0.7s,mb4.1,baz=64,slow=3.2,SNR=4.3					
FINES	**FINESS Array B**	**92.71**	**335**	P	**P**	**02 07 22.2 +1.3**

*IDC **30** 02:36:44.8±1.1, 3776N×2080E, h0km, mb3.8/9, mb1 3.8/13, mb1mx3.7/26, mbtmp3.6/13, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/32, Error ellipse: s-maj=21.1km s-min=17.7km az=56.0*
*ISCJB **30** 02:36:46.1±0.8, 3772N±003×2082E±003, h6km±5km, mb3.7/10, Error ellipse: s-maj=5.5km s-min=3.8km az=74.4*
*THE **30** 02:36:47.1, 3772N×2076E, h2km, ML3.6*
*ATH **30** 02:36:47.7, 3778N×2098E, h5km±2km, MD3.8/15, ML3.7*
*NEIC **30** 02:36:47.5, 3778N×2094E, h8km, mb3.8/2, ML3.8(ATH), After ATH.*
*CSEM **30** 02:36:47.5±0.1, 3777N×2092E, h5km, ML3.8, Error ellipse: s-maj=2.5km s-min=1.6km az=41.0*
ISC 30 02:36:46.7±0.8, 3774N±003×2085E±003, h1km±5km, n80, σ1§50/85, mb3.8/10, 1C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.48**	**334**	*i*PB	**Pg**	**02 36 57.4**	**+1.5**
RLS	**Riolos of Patr**	**0.58**	**57**	*e*PB	**Pg**	**02 36 57.1**	**-0.7**
LKD	**Levkas**	**0.97**	**351**	*e*Pg	**Pg**	**02 37 05.3**	**-0.1**
LKD				*e*Sg	**Sg**	02 37 20.4	+2.4
ITM	**Ithomi**	**1.02**	**123**	*e*PB	**Pb**	**02 37 05.8**	**-1.4**
EVR	**Evrytania**	**1.39**	**32**	*e*PB	**Pb**	**02 37 12.3**	**-1.2**
AGG	**Agios Georgios**	**1.72**	**42**	*e*Pb	**Pb**	**02 37 17.5**	**-1.7**
AGG				*e*Sb	**Sb**	02 37 43.0	+1.7
IGT	**Igoumenitsa**	**1.83**	**347**	*e*Pb	**Pb**	**02 37 19.9**	**-1.1**
IGT				*e*Sb	**Sb**	02 37 43.4	-1.0
JAN	**Janina**	**1.91**	**360**	*e*PG	**Pg**	**02 37 22.6**	**-0.7**
MGER	**Gerania Oros**	**1.92**	**82**	*e*PG	**Pg**	**02 37 21.5**	**-2.0**
VLI	**Veliai**	**1.95**	**121**	*e*PG	**Pg**	**02 37 23.6**	**-0.5**
NAIG	**Nisos Aigina**	**2.09**	**89**	*e*PG	**Pg**	**02 37 24.5**	**-2.2**
KEK	**Kerkira**	**2.13**	**338**	*e*Pb	**Pb**	**02 37 24.0**	**-2.1**
ATH	**Athens Observa**	**2.28**	**83**	*e*PN	**Pn**	**02 37 27.0**	**+1.6**
KYTH	**Kithira**	**2.28**	**129**	*e*PN	**Pn**	**02 37 27.5**	**+2.1**
KVR	**Kavouri**	**2.31**	**87**	*e*PN	**Pn**	**02 37 26.5**	**+0.6**
PTL	**Penteli**	**2.40**	**82**	*e*PN	**Pn**	**02 37 27.5**	**+0.4**
LSK	**Leskovik**	**2.41**	**355**	*e*Pn	**Pn**	**02 37 30.3**	**+3.1**
NEO	**Neokhori**	**2.43**	**49**	*e*PN	**Pn**	**02 37 28.5**	**+1.0**
XOR	**Xorichti**	**2.44**	**48**	*e*Pn	**Pn**	**02 37 28.8**	**+1.1**
KZN	**Kozani**	**2.66**	**15**	*e*PN	**Pn**	**02 37 33.1**	**+2.5**
LIT	**Litokhoron**	**2.68**	**28**	*e*Pn	**Pn**	**02 37 31.0**	**+0.1**
FNA	**Florina**	**3.06**	**7**	*e*Pn	**Pn**	**02 37 37.1**	**+0.9**
BIA	**Bitola**	**3.29**	**6**	*e*Pn	**Pn**	**02 37 40.5**	**+1.2**
PLG	**Polygyros**	**3.31**	**37**	*e*PN	**Pn**	**02 37 40.5**	**+0.9**
LCI	**Lecce**	**3.35**	**321**	Pn	**Pn**	**02 37 41.0**	**+0.8**
OHR	**Ohrid**	**3.36**	**359**	*e*Pn	**Pn**	**02 37 43.9**	**+3.6**
KARN	**Karanos**	**3.40**	**133**	*e*Pn	**Pn**	**02 37 41.6**	**+0.8**
TIP	**Timpagrande**	**3.52**	**295**	*e*Pn	**Pn**	**02 37 43.2**	**+0.7**
TIP	**Timpagrande**	**3.52**	**295**	*e*Pn	**Pn**	**02 37 43.2**	**+0.7**
VAM	**Vamos**	**3.56**	**130**	*e*PN	**Pn**	**02 37 44.5**	**+1.4**
SOH	**Sokhos**	**3.63**	**31**	*e*Pn	**Pn**	**02 37 45.6**	**+1.6**
KNT	**Kendrikon**	**3.76**	**24**	*e*Pn	**Pn**	**02 37 46.6**	**+0.8**
SOI	**Samo**	**3.81**	**276**	Pn	**Pn**	**02 37 47.1**	**+0.6**
SOI				Sn	**Sn**	02 38 30.5	-1.4
VAY	**Valandovo**	**3.81**	**20**	*e*Pn	**Pn**	**02 37 46.3**	**-0.2**
VAY	**Valandovo**	**3.81**	**20**	*e*Pn	**Pn**	**02 37 48.8**	**+2.3**
VAY	**Valandovo**	**3.81**	**20**	*e*Pn	**Pn**	**02 37 48.7**	**+2.2**
GVD	**Gavdhos**	**3.90**	**137**	*e*Pn	**Pn**	**02 37 47.9**	**+0.2**
GVD	**Gavdhos**	**3.90**	**137**	*e*Pn	**Pn**	**02 37 47.9**	**+0.1**
SRS	**Serrai**	**3.98**	**31**	*e*Pn	**Pn**	**02 37 49.5**	**+0.7**
IDI	**Anoyia**	**4.07**	**126**	Pn	**Pn**	**02 37 50.2**	**+0.1**
	0.7nm,0.3s,baz=306,slow=18,SNR=7.9					
IDI				Sn	**Sn**	**02 38 39.9**	**+1.5**
	2.1nm,0.3s,baz=12,slow=22,SNR=6.7					
MTTG	**Motta San Giov**	**4.09**	**275**	Pn	**Pn**	**02 37 52.9**	**+2.5**
MMB	**Musomiste**	**4.43**	**29**	P	**Pn**	**02 37 55.0**	**-0.1**
KKB	**Krupnik**	**4.46**	**22**	P	**Pn**	**02 37 59.6**	**+4.2**
CUC	**Castrocucco**	**4.53**	**301**	Pn	**Pn**	**02 37 58.8**	**+2.4**
LAST	**Lasithi**	**4.53**	**123**	*e*Pn	**Pn**	**02 37 57.5**	**+1.1**
HAVL	**Avola**	**4.63**	**262**	Pn	**Pn**	**02 37 57.0**	**-0.8**
PTRP	**Pietrapertosa**	**4.64**	**308**	Pn	**Pn**	**02 38 00.8**	**+2.8**
MGR	**Morigerati**	**4.77**	**302**	Pn	**Pn**	**02 38 01.4**	**+1.7**
VAE	**Valguarnera**	**5.12**	**269**	Pn	**Pn**	**02 38 09.2**	**+4.7**
	0.6nm,0.3s,baz=265,slow=12,SNR=3.1					
SGO	**Sicignano**	**5.15**	**305**	Pn	**Pn**	**02 38 07.9**	**+3.0**
	7.8nm,0.4s					
VTS	**Vitosha**	**5.17**	**20**	*e*P	**Pn**	**02 38 07.0**	**+1.9**
KDZ	**Kurdzhali**	**5.25**	**41**	*e*P	**Pn**	**02 38 06.5**	**+0.2**
FG5	**Orsara di Pugl**	**5.58**	**311**	Pn	**Pn**	**02 38 13.5**	**+2.7**
	22nm,0.7s					
RGNG	**Rignano Grg**	**5.65**	**316**	Pn	**Pn**	**02 38 12.4**	**+0.7**
STON	**Ston**	**5.66**	**336**	*i* Pn	**Pn**	**02 38 10.7**	**-1.3**
STON				*i* Sn	**Sn**	02 39 11.9	-5.6
AQU	**L'Aquila**	**7.34**	**311**	*e*Pn	**Pn**	**02 38 33.2**	**-1.8**
MLR	**Muntele Rosu**	**8.63**	**25**	Pn	**Pn**	**02 38 56.8**	**+4.2**
	0.3nm,0.3s,baz=115,slow=6.5,SNR=3.5					
VOJS	**Vojsko**	**9.77**	**330**	*e*Pn	**Pn**	**02 39 07.9**	**-0.5**
BRTR	**Keskin Array B**	**10.18**	**75**	Pn	**Pn**	**02 39 13.3**	**-0.6**
	baz=243,slow=13,SNR=2.4					
VRAC	**Vranoy**	**11.96**	**346**	LR	LR	02 44 30.9
	comp=Z,47nm,18.8s,baz=5.6,slow=39					
GERES	**GERESS Array B**	**12.25**	**337**	Pn	**Pn**	**02 39 41.0**	**-1.3**
	0.2nm,0.3s,baz=148,slow=13,SNR=4.1					
AKASG	**Malin Array Be**	**14.26**	**22**	Pn	**Pn**	**02 40 08.4**	**-1.3**
	baz=209,slow=11,SNR=1.7					
AKASG	**Malin Array Be**	**14.26**	**22**	Pn	**Pn**	**02 40 08.4**	**-1.3**
HFS	**Hagfors**	**22.87**	**351**	P	**P**	**02 41 49.3**	**-2.2**
	3.7nm,0.5s,mb4.2,baz=158,slow=9.6,SNR=29					
HFS	**Hagfors**	**22.87**	**351**	P	**P**	**02 41 49.3**	**-2.2**
EKA	**Eskdalemuir Ar**	**23.93**	**325**	P	**P**	**02 41 59.5**	**-2.7**
	2.3nm,0.8s,mb3.8,baz=126,slow=8.5,SNR=7.8					
FINES	**FINESS Array B**	**23.95**	**6**	P	**P**	**02 42 00.6**	**-1.7**
	1.0nm,0.7s,mb3.5,baz=185,slow=12,SNR=4.4					
NAO01	**NORSAR Array S**	**23.96**	**348**	*e*P	**P**	**02 42 01.2**	**-1.3**
	2.6nm,0.8s,mb3.8					
NAO01	**NORSAR Array S**	**23.96**	**348**	*e*P	**P**	**02 42 01.2**	**-1.3**
NB2	**NORSAR Subarra**	**24.09**	**348**	P	**P**	**02 42 02.2**	**-1.5**
	comp=Z,1.7nm,0.7s,mb3.7,baz=162,slow=11					
NOA	**NORSAR Array B**	**24.09**	**348**	P	**P**	**02 42 02.2**	**-1.5**
	comp=Z,1.4nm,0.6s,mb3.7,baz=159,slow=8.7,SNR=14					
NOA	**NORSAR Array B**	**24.09**	**348**	P	**P**	**02 42 02.2**	**-1.5**
KAF	**Kangasniemi**	**24.63**	**6**	*e*p	**P**	**02 41 58.1**	**-10**
AKTK	**Aktyubinsk**	**29.23**	**52**	P	**P**	**02 42 47.4**	**-2.6**
AKTO	**Aktyubinsk**	**29.23**	**52**	P	**P**	**02 42 47.4**	**-2.6**
	comp=Z,1.0nm,0.8s,mb3.7,baz=240,slow=8.2,SNR=5.7					
TORD	**Torodi Ar. Bea**	**29.86**	**220**	P	**P**	**02 42 53.9**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.7,baz=25,slow=10,SNR=9.0					
ARCES	**ARCESS Array B**	**31.95**	**3**	P	**P**	**02 43 11.9**	**-2.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=191,slow=10,SNR=6.0					
MKAR	**Makanchi Array**	**45.31**	**58**	P	**P**	**02 45 03.7**	**-2.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=276,slow=7.2,SNR=7.6					
MKAR	**Makanchi Array**	**45.31**	**58**	P	**P**	**02 45 03.7**	**-2.3**
ZAL	**Zalesovo**	**45.77**	**48**	P	**P**	**02 45 07.7**	**-2.1**
	comp=Z,1.6nm,0.4s,mb4.4,baz=192,slow=9.2,SNR=6.4					

*IDC **30** 02:38:53.5±0.6, 5804S×2483W, h0km, mb4.7/13, mb1 4.7/13, mb1mx4.6/18, mbtmp4.7/13, MS3.7/8, Ms1 3.7/8, ms1mx3.6/18, Error ellipse: s-maj=22.3km s-min=15.5km az=37.0*
*ISCJB **30** 02:38:59.1±2.3, 5811S±009×249W±02, h55km±21km, mb4.6/21, MS3.7/8, Error ellipse: s-maj=20.0km s-min=10.1km az=92.9*
*NEIC **30** 02:39:05.8±1.7, 5813S×2521W, h96km±14km, mb4.7/12, Error ellipse: s-maj=14.5km s-min=8.4km az=51.0*
ISC 30 02:39:01.9±2.0, 5815S±010×248W±02, h67km±18km, n47, σ1§20/29, mb4.5/21, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.56**	**296**	*e*Pn	**Pn**	**02 40 51.0**	**+1.5**
	102nm,1.1s						
VNA1	**Neumayer--Stat**	**14.36**	**157**	*e*	**Pn**	**02 42 19.0**	**-2.7**
VNA1				*e*		02 42 20.1	
VNA1				*e*		02 42 22.3	
VNA1				*e*		02 42 23.4	
VNA1				*e*		02 42 24.4	
VNA1				*e*		02 42 29.3	
VNA1				*e*		02 42 31.3	
SYO	**Syowa Base**	**29.15**	**138**	⇓*e*P	**P**	**02 44 55.0**	**-1.6**
TRQA	**Tornquist**	**31.34**	**294**	*e*P	**P**	**02 45 14.1**	**-1.9**
	2.3nm,0.5s,mb4.2						
QSPA	**South Pole Qui**	**32.09**	**180**	*e*P	**P**	**02 45 23.7**	**+1.1**
	9.1nm,0.5s,mb4.8						
PLCA	**Paso Flores**	**33.65**	**281**	P	**P**	**02 45 35.7**	**-0.5**
	26nm,0.8s,mb5.1,baz=142,slow=7.7,SNR=58						
PLCA				LR	LR	02 57 13.0	
	comp=Z,66nm,19.1s,baz=138,slow=33						
PLCA	**Paso Flores**	**33.65**	**281**	*e*P	**P**	**02 45 35.4**	**-0.7**
	33nm,0.9s,mb5.2						
MAW	**Mawson**	**37.70**	**141**	P	**P**	**02 46 10.9**	**+0.1**
	6.8nm,0.9s,mb4.5,baz=237,slow=11,SNR=6.9						
CFAA	**Coronel Fontan**	**39.57**	**293**	P	**P**	**02 46 24.0**	**-2.5**
	0.6nm,0.6s,mb3.6,baz=144,slow=8.7,SNR=14						
CFAA				PcP	PcP	02 48 33.0	+0.4
	0.6nm,0.6s,baz=155,slow=3.1,SNR=9.2						
CFAA				LR	LR	03 00 43.2	
	comp=Z,24nm,21.6s,baz=180,slow=33						
SUR	**Sutherland**	**40.04**	**70**	LR	LR	02 58 47.5	
	comp=Z,179nm,21.2s,baz=284,slow=30						
VNDA	**Vanda**	**44.52**	**182**	P	**P**	**02 47 08.5**	**+1.6**
	2.7nm,0.9s,mb4.0,baz=194,slow=4.6,SNR=13						
VNDA				LR	LR	03 04 47.6	
	comp=Z,99nm,18.4s,baz=188,slow=35						
VNDA	**Vanda**	**44.52**	**182**	*e*P	**P**	**02 47 08.4**	**+1.6**
	4.2nm,1.1s,mb4.1						
BOSA	**Boshof**	**45.33**	**71**	P	**P**	**02 47 11.7**	**-1.5**
	2.0nm,0.7s,mb3.9,baz=191,slow=10,SNR=3.3						
BOSA				LR	LR	03 01 53.6	
	comp=Z,132nm,18.8s,baz=186,slow=30						
BDFB	**Brasilia**	**45.83**	**328**	P	**P**	**02 47 18.3**	**+1.1**
	10nm,0.8s,mb4.6,baz=178,slow=3.8,SNR=12						
BDFB				LR	LR	03 03 14.6	
	comp=Z,168nm,20.9s,baz=178,slow=32						
LVC	**Limon Verde**	**47.46**	**299**	P	**P**	**02 47 29.5**	**-0.4**
	9.7nm,0.7s,mb4.7,baz=164,slow=6.5,SNR=12						
LVC				LR	LR	03 04 39.5	
	comp=Z,113nm,20.1s,baz=171,slow=33						
LVC	**Limon Verde**	**47.46**	**299**	*e*P	**P**	**02 47 28.8**	**-1.1**
	11nm,0.7s,mb4.7						
LBTB	**Lobatse**	**48.47**	**69**	LR	LR	03 03 33.3	
	comp=Z,160nm,19.1s,baz=43,slow=31						
SIV	**San Ignacio**	**49.95**	**312**	P	**P**	**02 47 48.1**	**-0.9**
	12nm,0.6s,mb5.0,baz=156,slow=9.6,SNR=148						
SIV				PcP	PcP	02 49 09.0	+0.7
	4.4nm,0.8s,baz=338,slow=5.4,SNR=4.6						
CASY	**Casey**	**51.49**	**159**	*e*P	**P**	**02 48 01.2**	**+0.6**
	6.6nm,0.8s,mb4.7						
LPAZ	**La Paz**	**52.63**	**304**	P	**P**	**02 48 09.2**	**+0.2**
	10.0nm,0.4s,mb5.2,baz=143,slow=6.8,SNR=92						
LPAZ				PcP	PcP	02 49 19.9	+1.7
	1.5nm,0.5s,baz=121,slow=2.1,SNR=1.9						
LPAZ	**La Paz**	**52.63**	**304**	*e*P	**P**	**02 48 09.1**	**0.0**
	16nm,0.7s,mb5.2						
SAML	**Samuel**	**57.19**	**313**	*e*P	**P**	**02 48 41.1**	**-0.9**
	20nm,0.6s,mb5.3						
LSZ	**Lusaka**	**58.00**	**65**	*e*P	**P**	**02 48 50.6**	**+3.0**
	3.0nm,0.8s,mb4.4						
DBIC	**Dimbokro**	**66.59**	**22**	P	**P**	**02 49 45.3**	**+0.2**
	4.7nm,1.0s,mb4.3,baz=196,slow=15,SNR=3.7						
OTAV	**Otavalo**	**71.88**	**302**	*e*P	**P**	**02 50 18.7**	**+1.0**
	3.0nm,0.5s,mb4.4						
TORD	**Torodi Ar. Bea**	**74.30**	**27**	P	**P**	**02 50 32.2**	**+0.2**
	3.5nm,0.7s,mb4.2,baz=199,slow=5.9,SNR=90						
PCRV	**Puerto La Cruz**	**75.39**	**319**	P	**P**	**02 50 39.3**	**+0.9**
	30nm,0.7s,mb5.2,baz=165,slow=3.7,SNR=23						
SDV	**Santo Domingo**	**76.40**	**313**	P	**P**	**02 50 44.5**	**+0.5**
	8.7nm,0.8s,mb4.6,baz=225,slow=1.9,SNR=7.5						
SDV	**Santo Domingo**	**76.40**	**313**	*e*P	**P**	**02 50 44.3**	**+0.2**
	7.3nm,0.7s,mb4.5						
TEIG	**Tepich**	**93.94**	**303**	*e*P	**P**	**02 52 12.4**	**+0.2**
	1.4nm,0.4s,mb4.6						
ASAR	**Alice Springs**	**96.59**	**160**	P	**P**	**02 52 24.8**	**+0.4**
	0.7nm,0.8s,mb4.2,baz=174,slow=3.6,SNR=5.8						
PDAR	**Pinedale Array**	**122.53**	**300**	PKP	PKPdf	02 57 48.2	-1.4
	0.3nm,0.4s,baz=121,slow=4.7,SNR=3.6						
ULM	**Lac du Bonnet**	**122.65**	**314**	PKP	PKPdf	02 57 48.3	-1.6
	1.0nm,0.5s,baz=153,slow=4.5,SNR=2.7						
FINES	**FINESS Array B**	**125.65**	**27**	PKP	PKPdf	02 57 54.5	-1.2
	1.7nm,0.7s,baz=139,slow=4.1,SNR=6.1						
AKTK	**Aktyubinsk**	**127.56**	**53**	PKP	PKPdf	02 57 58.4	-0.9
AKTO	**Aktyubinsk**	**127.56**	**53**	PKP	PKPdf	02 57 58.4	-0.9
	0.9nm,0.7s,baz=146,slow=6.3,SNR=4.6						
JOF	**Joensuu**	**128.21**	**29**	*e*p	PKPdf	02 57 57.4	-3.1
ARCES	**ARCESS Array B**	**132.42**	**22**	PKP	PKPdf	02 58 07.1	-1.4
	1.7nm,0.8s,baz=119,slow=1.5,SNR=7.0						
BRVK	**Borovoye**	**134.79**	**58**	*e*PKPdf	PKPdf	02 58 11.9	-1.0
BVAR	**Borovoye Array**	**134.81**	**58**	PKP	PKPdf	02 58 12.1	-0.9
	1.1nm,0.6s,baz=242,slow=3.2,SNR=6.3						
CHKZ	**Chkalovo**	**135.35**	**57**	*e*PKPdf	PKPdf	02 58 13.4	-0.6
MKAR	**Makanchi Array**	**136.32**	**72**	PKP	PKPdf	02 58 15.6	-0.2
	0.4nm,0.8s,baz=336,slow=2.7,SNR=4.1						
KURK	**Kurchatov**	**137.13**	**65**	*e*PKPdf	PKPdf	02 58 18.0	+0.7
YKA	**Yellowknife Ar**	**138.59**	**315**	PKP	PKPdf	02 58 18.2	-1.7
	1.5nm,0.5s,baz=136,slow=1.8,SNR=9.7						
INK	**Inuvik**	**148.24**	**318**	PKPbc	PKPbc	02 58 39.0	-1.3
	10nm,0.6s,baz=78,slow=2.6,SNR=18						
INK	**Inuvik**	**148.24**	**318**	*e*PKPbc	PKPbc	02 58 38.9	-1.4
INK				*e*PKPab	PKPab	02 58 42.5	-0.9
DAWY	**Dawson**	**149.14**	**309**	*e*PKPbc	PKPbc	02 58 41.3	-1.3
DAWY				*e*PKPab	PKPab	02 58 46.1	-0.9

*HEL **30** 02:43:32.8±0.5, 7397N×892E, h10km, ML3.8, mb4.7(NEIC), MS4.0(NEIC)*
*BJI **30** 02:43:32.9, 7400N×880E, h10km, mB5.0, mb4.8, Ms4.8, Msz4.5*
*ISCJB **30** 02:43:32.9±0.1, 7401N±002×912E±009, h10km, mb4.6/147, MS4.3/54, Error ellipse: s-maj=3.6km s-min=2.6km az=156.0*
*IDC **30** 02:43:33.3±0.6, 7385N×862E, h0km, mb4.0/19, mb1 4.2/25, mb1mx4.1/32, mbtmp4.1/25, ML3.7/6, MS4.3/28, Ms1 4.3/28, ms1mx4.3/31, Error ellipse: s-maj=14.2km s-min=10.7km az=35.0*
*MOS **30** 02:43:33.1±1.5, 7401N×848E, h10km, mb5.0/74, Error ellipse: s-maj=21.7km s-min=3.1km az=92.1*
*NAO **30** 02:43:34.4±1.6, 7393N×1012E, ML2.9*
*NEIC **30** 02:43:35.0±0.2, 7396N×882E, h10km, mb4.7/111, MS4.0/9, Error ellipse: s-maj=5.5km s-min=3.2km az=68.0*
*BER **30** 02:43:34.0±5.0, 7390N×905E, h10km, MD3.3, ML3.1, ML2.9(NAO)*
*HRVD **30** 02:43:35.0±0.2, 7398N×868E, h12km, MW5.1/92, Centroid moment Tensor Solution. LP body waves: s47,c64;Mantle waves: s92,c180; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.37±.10; $M_{\theta\theta}$-0.04±.10; $M_{\phi\phi}$4.41±.09; $M_{r\theta}$-0.56±.36; $M_{\theta\phi}$1.36±.09; $M_{\phi r}$-1.66±.27; Best double couple: $M_0$4.90500×10^{16} NP1:ϕ_s194.00000°, δ35.00000°, λ-92.00000°. NP2: ϕ_s17.00000°, δ55.00000°, λ-89.00000°. Principal axes: T 5.1150, Plg10.0000°, Azm106.0000°; N -0.4230, Plg1.0000°, Azm196.0000°; P -4.6940, Plg79.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **30** 02:43:37.5, 7405N×862E, h40km, mb4.7*
*SZGRF **30** 02:43:48.8, 7298N×920E, h33km, mb4.7, MS4.0, Norwegian Sea*
ISC 30 02:43:34.4±0.1, 7398N±002×915E±008, h10km, (h17km±1.9km:pP-P), n484, σ1§35/538, mb4.6/147, MS4.3/54, 27C-4D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.74**	**74**	*e*P	**Pn**	**02 44 16.7**	**-1.7**
BJO1				*e*S	**Sn**	**02 44 46.9**	**-4.6**
BJO1				AML	AML	02 44 49.6	
	comp=Z,58nm,0.3s						
BJO1				*e*		02 46 52.4	
BJO1	**Bjornoya**	**2.74**	**74**	*e*P	**Pn**	**02 44 16.7**	**-1.7**
BJO1				*e*S	**Sn**	**02 44 46.9**	**-4.6**
BJO1				*e*		02 46 52.4	
BJO	**Bjornoya**	**2.79**	**74**	*e*P	**Pn**	**02 44 16.7**	**-2.4**
BJO				*e*S	**Sn**	**02 44 46.9**	**-5.9**
BJO				AML	AML	02 44 49.6	
	comp=Z,58nm,0.3s						
BJO				*e*T		02 46 37.9	
HSP	**Hornsund**	**3.44**	**25**	*e*P	**Pn**	**02 44 26.4**	**-1.6**
SPB4	**Spitsbergen Ar**	**4.56**	**19**	*e*Pn	**Pn**	**02 44 43.0**	**-0.4**
SPB4	**Spitsbergen Ar**	**4.56**	**19**	*e*Pn	**Pn**	**02 44 43.0**	**-0.4**
SPA0	**Spitsbergen Ar**	**4.56**	**19**	Pn	**Pn**	**02 44 42.9**	**-0.5**
	baz=179,slow=16						
SPA0				Sn	**Sn**	**02 45 34.3**	**-2.1**
	baz=167,slow=16						
SPA0	**Spitsbergen Ar**	**4.56**	**19**	*e*P	**Pn**	**02 44 42.9**	**-0.5**
SPA0				*e*S	**Sn**	**02 45 34.3**	**-2.1**
SPA0	**Spitsbergen Ar**	**4.56**	**19**	Pn	**Pn**	**02 44 42.8**	**-0.6**
	SNR=50						
SPA0				Sn	**Sn**	**02 45 34.3**	**-2.1**
	SNR=50						
HOPEN	**Hopen**	**4.77**	**50**	*e*P	**Pn**	**02 44 45.0**	**-1.3**
HOPEN				*e*S	**Sn**	**02 45 35.9**	**-5.8**
HOPEN				*e*		02 47 44.3	
KBS	**Kingsbay**	**5.01**	**6**	*e*	**Pn**	**02 44 48.0**	**-1.6**
KBS				*e*P		02 44 48.1	
KBS				*e*S	**Sn**	**02 45 43.8**	**-3.8**
KBS	**Kingsbay**	**5.01**	**6**	Pn	**Pn**	**02 44 48.0**	**-1.6**
KBS				*e*P		02 44 48.1	
KBS				*e*S	**Sn**	**02 45 43.8**	**-3.8**
KBS	**Kingsbay**	**5.01**	**6**	*c i*P	**Pn**	**02 44 48.0**	**-1.6**
KBS	**Kingsbay**	**5.01**	**6**	*e*Pn	**Pn**	**02 44 47.7**	**-1.9**
	comp=Z,83nm,0.6s						
KBS	**Kingsbay**	**5.01**	**6**	*e*P	**Pn**	**02 44 48.1**	**-1.5**
	SNR=49						
KBS				*e*S	**Sn**	**02 45 43.8**	**-3.8**
	SNR=49						
TRO	**Tromso**	**5.33**	**140**	*e*P	**Pn**	**02 44 51.5**	**-2.5**
TRO				*e*S	**Sn**	**02 45 48.4**	**-7.1**
TRO				AML	AML	02 45 55.0	
	comp=Z,29nm,0.6s						
TRO	**Tromso**	**5.33**	**140**	*e*P	**Pn**	**02 44 51.5**	**-2.5**
TRO				*e*S	**Sn**	**02 45 48.4**	**-7.1**
JNE	**Jan Mayen East**	**6.05**	**249**	*e*P	**Pn**	**02 44 59.9**	**-4.0**
LOF	**Lofoten**	**6.05**	**164**	*e*P	**Pn**	**02 45 02.1**	**-1.8**
LOF				*e*S	**Sn**	**02 46 05.8**	**-7.5**
LOF				AML	AML	02 46 11.9	
	comp=Z,129nm,0.6s						
LOF				*e*		02 50 15.6	
LOF	**Lofoten**	**6.05**	**164**	*e*P	**Pn**	**02 45 02.1**	**-1.8**
LOF				*e*S	**Sn**	**02 46 05.8**	**-7.5**
LOF				*e*		02 50 15.6	
JNW	**Jan Mayen West**	**6.06**	**249**	*e*P	**Pn**	**02 44 59.9**	**-4.1**
JMIC	**Jan Mayen**	**6.11**	**249**	Pn	**Pn**	**02 45 00.4**	**-4.2**
	comp=Z,11nm,0.3s,baz=352,slow=6.3,SNR=48						
JMIC				LR	LR	02 46 36.8	
	comp=Z,3μm,18.5s,baz=30,slow=31						
JMI	**Jan Mayen**	**6.20**	**249**	*e*P	**Pn**	**02 45 01.6**	**-4.3**
KIF	**Kilpisjarvi**	**6.21**	**138**	*e*P	**Pn**	**02 45 05.2**	**-1.0**
KIF				MPN		02 45 07.3	
	comp=Z,19nm,0.2s						
KIF				*e*S	**Sn**	**02 46 10.

SUMG	**Summit**	**13.48 287**	*e*Pn	**Pn**	**02 46 45.0**	**-0.7**
	comp=Z,22nm,1.4s					
JOF	**Joensuu**	**13.63 133**	*e*P	**Pn**	**02 46 43.6**	**-4.1**
JOF			MPN		02 46 47.8	
	comp=Z,1.4nm,0.2s					
JOF	**Joensuu**	**13.63 133**	*e*P	**Pn**	**02 46 43.6**	**-4.1**
BORG	**Borgarnes**	**13.96 244**	LR	LR	02 50 37.8	
	comp=Z,2µm,20.1s,baz=2.1,slow=31					
HFS	**Hagfors**	**14.02 171**	*e*	**Pn**	**02 46 51.1**	**-1.9**
HFS	**Hagfors**	**14.02 171**	Pn	**Pn**	**02 46 50.5**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=359,slow=14,SNR=9.0					
HFS			Sn	**Sn**	**02 49 18.6**	**-10**
	comp=Z,0.3nm,0.3s,baz=352,slow=17,SNR=4.9					
HFS			LR	LR	02 51 46.4	
	comp=Z,893nm,19.5s,baz=353,slow=35					
HFS	**Hagfors**	**14.02 171**	Pn	**Pn**	**02 46 51.1**	**-1.9**
	baz=343,slow=22					
HFS	**Hagfors**	**14.02 171**	Pn	**Pn**	**02 46 51.1**	**-1.9**
	SNR=50					
HFS			Sn	**Sn**	**02 49 18.6**	**-10**
FIA0	**FINESS Array S**	**14.04 145**	Pn	**Pn**	**02 46 50.5**	**-2.8**
	baz=347,slow=12					
FIA0	**FINESS Array S**	**14.04 145**	*e*P	**Pn**	**02 46 50.5**	**-2.8**
FINES	**FINESS Array B**	**14.04 145**	Pn	**Pn**	**02 46 50.6**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=340,slow=10,SNR=12					
FINES			Sn	**Sn**	**02 49 18.1**	**-11**
	comp=Z,0.1nm,0.3s,baz=348,slow=19,SNR=3.5					
FINES	**FINESS Array B**	**14.04 145**	Pn	**Pn**	**02 46 50.7**	**-2.6**
FINES			Sn	**Sn**	**02 49 18.1**	**-11**
KONO	**Kongsberg**	**14.40 179**	*e*P	**Pn**	**02 47 01.6**	**+3.4**
KONO			pmax	pmax		
	comp=Z,37nm,1.4s					
KONO	**Kongsberg**	**14.40 179**	*e*Pn	**Pn**	**02 47 01.6**	**+3.4**
	comp=Z,37nm,1.4s					
KONO	**Kongsberg**	**14.40 179**	*e*P	**Pn**	**02 47 01.6**	**+3.4**
	comp=Z,37nm,1.4s					
VSU	**Vasula**	**16.98 147***c*	*i*P	**Pn**	**02 47 33.2**	**+1.2**
VSU	**Vasula**	**16.98 147**	*i* P	**Pn**	**02 47 33.2**	**+1.2**
KLMR	**Klimovskoe**	**17.26 123***d*	*i*P	**Pn**	**02 47 34.6**	**-0.9**
KLMR			*e*		02 50 48.9	
KLMR			pmax	pmax		
	comp=Z,300nm,1.6s					
KLMR			MLR	MLR		
	comp=Z,2µm,20.0s					
MUD	**Monsted U'grnd**	**17.60 180**	*i* P	**Pn**	**02 47 45.1**	**+5.4**
MUD	**Monsted U'grnd**	**17.60 180**	*e*P	**Pn**	**02 47 45.1**	**+5.4**
BSD	**Bornholm Skovb**	**19.09 170**	*i* P	**Pn**	**02 47 56.3**	**-1.6**
	comp=Z,15nm,0.7s					
BSD			*i*		02 51 32.6	
BSD						
	comp=Z,620nm,19.0s					
BSD	**Bornholm Skovb**	**19.09 170**	*i* P	**Pn**	**02 47 56.3**	**-1.6**
	comp=Z,15nm,0.7s					
BSD			*i*		02 51 32.6	
EKA	**Eskdalemuir Ar**	**19.37 202**	P	**Pn**	**02 47 58.8**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=9.7,slow=10,SNR=20					
ESK	**Eskdalemuir**	**19.39 202**	*e*P	**Pn**	**02 48 02.0**	**+0.5**
ESK			pmax	pmax		
	comp=Z,121nm,1.4s					
ESK	**Eskdalemuir**	**19.39 202**	*e*P	**Pn**	**02 48 02.0**	**+0.5**
	comp=Z,121nm,1.4s					
IZAR	**Zarasai**	**19.54 150**	*e*P	**Pn**	**02 48 00.8**	**-2.5**
RGN	**Rugen**	**19.59 173**	*e*P	**Pn**	**02 48 02.8**	**-1.1**
	comp=Z,108nm,1.4s					
RGN	**Rugen**	**19.59 173**	*e*P	**Pn**	**02 48 02.8**	**-1.1**
	comp=Z,108nm,1.4s					
ISAL	**Salakas**	**19.69 151**	*e*P	**Pn**	**02 48 03.1**	**-2.0**
ISAL			AMb	AMB	02 48 09.4	
	comp=Z,478nm,1.1s					
ISAL	**Salakas**	**19.69 151**	*e*P	**Pn**	**02 48 03.1**	**-2.1**
	comp=Z,478nm,1.1s,SNR=46					
IIGN	**Ignalina**	**19.92 151**	*e*P	**Pn**	**02 48 05.5**	**-2.4**
IIGN			AMb	AMB	02 48 12.2	
	comp=Z,492nm,1.0s					
IIGN	**Ignalina**	**19.92 151**	*e*P	**Pn**	**02 48 05.5**	**-2.4**
	comp=Z,492nm,1.0s,SNR=46					
IDID	**Didziasalis**	**20.03 150**	*e*P	**P**	**02 48 06.8**	**-0.6**
IDID			AMb	AMB	02 48 13.0	
	comp=Z,281nm,1.0s					
IDID	**Didziasalis**	**20.03 150**	*e*P	**P**	**02 48 06.8**	**-0.6**
	comp=Z,281nm,1.0s,SNR=46					
BSEG	**Bad Segeberg**	**20.14 178**	*e*P	**P**	**02 48 11.2**	**+2.7**
	comp=Z,39nm,1.3s					
SFJD	**Kangerlussuaq**	**20.23 281**	P	**P**	**02 48 09.3**	**-0.2**
	comp=Z,11nm,1.0s,baz=14,slow=11,SNR=11					
SFJD			LR	LR	02 54 55.8	
	comp=Z,2µm,19.6s,MS4.5,baz=13,slow=34					
SFJD	**Kangerlussuaq**	**20.23 281**⇑	*i*P	**P**	**02 48 09.9**	**+0.3**
	comp=Z,27nm,1.4s					
SFJD			*i* S		02 52 13.6	
SFJD						
	comp=Z,2µm,19.0s					
SFJD	**Kangerlussuaq**	**20.23 281**⇑	*i*P	**P**	**02 48 09.9**	**+0.3**
SFJD			*i* S		02 52 13.6	
SFJD			pmax	pmax		
	comp=Z,27nm,1.4s					
SFJD			MLR	MLR		
	comp=Z,2µm,19.0s,MS4.5					
SUW	**Suwalki**	**20.85 156**	*e*P	**P**	**02 48 15.6**	**-0.7**
GKP	**Gorka Klasztor**	**21.06 166**	*e*P	**P**	**02 48 21.9**	**+3.3**
MOS	**Moscow**	**21.52 133**	*e*P	**P**	**02 48 22.7**	**-0.8**
MOS			*e*		02 48 43.4	
MOS			*e*S	**S**	**02 52 19.0**	**-3.0**
MOS			*e*		02 52 24.6	
MOS						
	comp=Z,400nm,1.8s,mb5.5					
MOS			pmax	pmax		
	comp=N,133nm,1.5s					
MOS			pmax	pmax		
	comp=Z,214nm,1.5s,mb5.3					
MOS			MLR	MLR		
	comp=Z,2µm,20.1s,MS4.4					
MOS			MLR	MLR		
	comp=N,2µm,19.7s					
DLF	**Lyons Farm**	**21.75 206**	*e*P	**P**	**02 48 28.0**	**+2.0**
IBBN	**Ibbenburen**	**21.77 182**	*e*P	**P**	**02 48 27.6**	**+1.4**
DCN	**Croghan**	**21.80 207**	*e*P	**P**	**02 48 22.0**	**-4.5**
OBN	**Obninsk**	**21.89 135***a*	*i*P	**P**	**02 48 26.7**	**-0.8**
OBN			*e*		02 48 29.9	
OBN			*e*		02 48 33.5	
OBN			*e*		02 48 50.4	
OBN			*e*S	**S**	**02 52 25.4**	**-3.9**
OBN			pmax	pmax		
	comp=Z,147nm,1.6s,mb5.2					
OBN			MLR	MLR		
	comp=Z,600nm,16.0s,MS4.1					
OBN	**Obninsk**	**21.89 135**	*e*P	**P**	**02 48 29.4**	**+1.9**
	comp=Z,216nm,1.3s,mb5.4					
OBN	**Obninsk**	**21.89 135**	*e*P	**P**	**02 48 29.4**	**+1.9**
	comp=Z,216nm,1.3s,mb5.4					
CLZ	**Clausthal**	**22.23 178**	*e*P	**P**	**02 48 31.7**	**+0.6**
	comp=Z,100nm,1.7s,mb5.0					
CLZ	**Clausthal**	**22.23 178**	*e*P	**P**	**02 48 31.7**	**+0.6**
CLZ			pmax	pmax		
	comp=Z,100nm,1.7s,mb5.0					
BUG	**Bochum--Univer**	**22.64 183**	*e*P	**P**	**02 48 35.4**	**-0.1**
SOKR	**Solikamsk**	**22.76 104***c*	*i*P	**P**	**02 48 39.2**	**+2.4**
SOKR			S	**S**	**02 52 45.9**	**0.0**
SOKR			pmax	pmax		
	comp=Z,110nm,1.6s,mb5.0					
SOKR			MLR	MLR		
	comp=Z,990nm,21.0s,MS4.2					
CLL	**Collm**	**22.82 174**	*e*P	**P**	**02 48 40.0**	**+2.6**
	comp=Z,40nm,1.5s,mb4.6					
CLL			*e*S	**S**	**02 52 46.7**	**-0.1**
CLL			*e*LR	LR	02 54 26.0	
CLL			*e*L		02 57 15.8	
	comp=Z,572nm,20.0s					
CLL	**Collm**	**22.82 174**	*e*P	**P**	**02 48 38.0**	**+0.6**
	comp=Z,31nm,2.0s,mb4.4					
CLL			*i* sP	sP	02 48 44.4	+2.9
	comp=Z,39nm,1.5s					
CLL			*ex*	x	02 48 51.0	
CLL			*e*PP		02 48 59.0	
CLL			*e*S	**S**	**02 52 47.0**	**+0.2**
	comp=N,200nm,10.2s					
CLL			*e*S	**S**	**02 52 47.0**	**+0.2**
	comp=E,800nm,20.2s					
CLL	**Collm**	**22.82 174**	*e*P	**P**	**02 48 40.0**	**+2.6**
	comp=E,31nm,2.0s,mb4.4					
CLL			*i*		02 48 44.4	
CLL			*e*S	**S**	**02 52 44.0**	**-2.8**
CLL			LR	LR		
	comp=Z,600nm,21.0s,MS4.0					
BRG	**Berggiesshubel**	**23.29 172**	*e*P	**P**	**02 48 41.4**	**-0.9**
	comp=Z,55nm,1.8s,mb4.7					
BRG	**Berggiesshubel**	**23.29 172**	*e*P	**P**	**02 48 42.6**	**+0.3**
	comp=Z,2.6nm,1.3s,mb3.5					
BRG			*i*		02 48 52.0	
	comp=Z,33nm,1.8s					
BRG			S	**S**	**02 52 53.0**	**-1.4**
BRG						
	comp=N,179nm,15.9s					
BRG						
	comp=E,138nm,11.6s					
BRG						
	comp=Z,292nm,17.0s					
BRG	**Berggiesshubel**	**23.29 172**	*e*P	**P**	**02 48 42.6**	**+0.3**
	comp=Z,2.6nm,1.3s,mb3.5					
BRG			*i*		02 48 52.0	
BRG			S	**S**	**02 52 53.0**	**-1.4**
BRG			LR	LR		
	comp=Z,290nm,17.0s,MS3.8					
BEBN	**Eben Emael**	**23.32 186**	XP	sP	02 48 48.2	+1.3
HGN	**Heimansgroeve**	**23.35 185**	*e*P	**P**	**02 48 43.8**	**+0.9**
	comp=Z,44nm,2.1s,mb4.5					
HGN			*i* S	**S**	**02 52 55.6**	**+0.2**
UCC	**Uccle**	**23.36 188**	P	**P**	**02 48 45.8**	**+2.7**
UCC			AP		02 48 48.1	
UCC			E		02 49 00.5	
KSP	**Ksiaz**	**23.43 169**	*e*P	**P**	**02 48 45.2**	**+1.4**
KSP			*e**PP		02 48 49.9	
KSP			*e*S	**S**	**02 52 56.0**	**-0.7**
KSP	**Ksiaz**	**23.43 169**	*e*P	**P**	**02 48 45.2**	**+1.4**
KSP			*e*pP		02 48 49.9	
MOX	**Moxa**	**23.45 176**	*e*P	**P**	**02 48 44.9**	**+0.9**
	comp=Z,27nm,1.0s,mb4.6					
MOX	**Moxa**	**23.45 176**	*e*P	**P**	**02 48 44.4**	**+0.4**
	comp=Z,68nm,2.0s,mb4.7					
MOX						
	comp=Z,400nm,20.0s					
MOX	**Moxa**	**23.45 176**	*e*P	**P**	**02 48 44.4**	**+0.4**
MOX			pmax	pmax		
	comp=Z,68nm,2.0s,mb4.7					
MOX			MLR	MLR		
	comp=Z,400nm,20.0s,MS3.9					
MEM	**Membach**	**23.50 185**	P	**P**	**02 48 43.8**	**-0.7**
PVCC	**Panska Ves**	**23.66 171**	*e*P	**P**	**02 48 48.4**	**+2.4**
PVCC			AMS	AMS	02 57 30.0	
	comp=Z,500nm,18.5s					
TANN	**Tannenbergstha**	**23.70 175**	*e*P	**P**	**02 48 47.9**	**+1.5**
MENF	**Mencas**	**23.70 191**	*e*P	**P**	**02 48 54.7**	**+8.3**
BCLA	**Clavier**	**23.71 186**	P	**P**	**02 48 46.8**	**+0.3**
BCLA			AP		02 48 51.5	
BCLA			E		02 49 04.6	
UPC	**Upice**	**23.75 169**	*e*P	**P**	**02 48 49.2**	**+2.4**
TNS	**Taunus Mts**	**23.85 181**	*e*P	**P**	**02 48 48.2**	**+0.4**
NKC	**Novy Kostel**	**23.88 175**	*e*P	**P**	**02 48 48.1**	**0.0**
DPC	**Dobruska-Polom**	**23.92 169**	*e*P	**P**	**02 48 48.5**	**+0.1**
DPC			*e*S	**S**	**02 53 04.4**	**-0.3**
DPC			AMS	AMS	02 57 40.0	
	comp=Z,500nm,17.6s					
DPC	**Dobruska-Polom**	**23.92 169**	*e*P	**P**	**02 48 48.5**	**+0.1**
DPC			*e*S	**S**	**02 53 04.4**	**-0.3**
GIVF	**Givet**	**24.04 187**	*e*P	**P**	**02 48 47.3**	**-2.2**
DOU	**Dourbes**	**24.05 187**	P	**P**	**02 48 50.2**	**+0.6**
DOU			AP		02 48 54.3	
BAIF	**Baives**	**24.11 188**	*e*P	**P**	**02 48 48.7**	**-1.4**
	comp=Z,115nm,1.5s,mb4.8					
BAIF	**Baives**	**24.11 188**	*e*P	**P**	**02 48 48.7**	**-1.4**
BAIF			pmax	pmax		
	comp=Z,58nm,1.5s,mb4.8					
BAIF	**Baives**	**24.11 188**	*e*P	**P**	**02 48 48.7**	**-1.4**
	comp=Z,58nm,1.5s,mb4.8					
MANZ	**Manzenberg**	**24.12 175**	*e*P	**P**	**02 48 51.3**	**+1.0**
ABH	**Alteburg**	**24.20 183**	*e*P	**P**	**02 48 51.2**	**+0.2**
OJC	**Ojcow**	**24.28 163**	*e*P	**P**	**02 48 51.6**	**-0.2**
OJC			*e*S	**S**	**02 53 08.8**	**-1.8**
OJC			L		02 58 04.4	
	comp=Z,3.9nm,21.6s					
OJC	**Ojcow**	**24.28 163**	*e*P	**P**	**02 48 51.6**	**-0.2**
OJC			*e*S	**S**	**02 53 08.8**	**-1.8**
ROTZ	**Rotzenmuhle**	**24.34 175**	*e*P	**P**	**02 48 53.2**	**+0.9**
RUP	**Ruppelstein**	**24.39 183**	*e*P	**P**	**02 48 54.9**	**+2.2**
GRA1	**Grafenberg Arr**	**24.40 177**	*e*P	**P**	**02 48 54.3**	**+1.5**
	comp=Z,98nm,2.0s,mb4.9					
GRA1			LR	LR		
	comp=Z,500nm,18.8s,MS4.0					
GRF	**Grafenberg Arr**	**24.40 177**	*e*P	**P**	**02 48 54.3**	**+1.5**
	comp=Z,98nm,2.0s,mb4.9					
GRF			*e*L		02 59 49.3	
	comp=Z,475nm,18.8s					
GRF	**Grafenberg Arr**	**24.40 177**	*e*P	**P**	**02 48 54.3**	**+1.5**
GRF			pmax	pmax		
	comp=Z,98nm,2.0s,mb4.9					
GRF			MLR	MLR		
	comp=Z,500nm,18.8s,MS4.0					
GRF	**Grafenberg Arr**	**24.40 177**	*e*P	**P**	**02 48 54.3**	**+1.5**
GRF			pmax	pmax		
	comp=Z,98nm,2.0s,mb4.9					
GRF			MLR	MLR		
	comp=Z,500nm,18.8s,MS4.0					
WLF	**Walferdange**	**24.44 185**	P	**P**	**02 48 54.3**	**+1.1**
WLF			XP	sP	02 48 59.5	+2.0
WLF			E		02 49 14.5	
WLF			PNPN		02 49 25.7	
TOD	**Tromm**	**24.47 181**	*e*P	**P**	**02 48 53.8**	**+0.4**
OKC	**Ostrava-Krasne**	**24.54 166**	*e*P	**P**	**02 48 56.3**	**+2.2**
OKC			*e*S	**S**	**02 53 22.9**	**+8.1**
OKC			AMS	AMS	03 00 40.0	
	comp=Z,400nm,18.1s					
OKC	**Ostrava-Krasne**	**24.54 166**	*e*P	**P**	**02 48 56.3**	**+2.2**
OKC			*e*S	**S**	**02 53 22.9**	**+8.1**
MORC	**Moravsky Berou**	**24.56 167**	*e*P	**P**	**02 48 55.5**	**+1.2**
	comp=Z,14nm,0.9s,mb4.5					
MORC	**Moravsky Berou**	**24.56 167**	*e*P	**P**	**02 48 55.5**	**+1.2**
	comp=Z,14nm,0.9s,mb4.5					
RES	**Resolute Bay**	**24.74 322**	*e*P	**P**	**02 48 55.3**	**-0.6**
RES			pmax	pmax		
	comp=Z,31nm,1.7s,mb4.6					
RES	**Resolute Bay**	**24.74 322**	*e*P	**P**	**02 48 55.3**	**-0.6**
	comp=Z,31nm,1.7s,mb4.6					
RES	**Resolute Bay**	**24.74 322**	*e*P	**P**	**02 48 55.3**	**-0.6**
	comp=Z,31nm,1.7s,mb4.6					
AKASG	**Malin Array Be**	**24.87 149**	P	**P**	**02 48 57.4**	**+0.2**
	comp=Z,1.7nm,0.7s,mb3.7,baz=341,slow=10,SNR=16					
AKASG			LR	LR	02 58 24.1	
	comp=Z,955nm,21.1s,MS4.3,baz=325,slow=36					
AKASG	**Malin Array Be**	**24.87 149**	P	**P**	**02 48 57.3**	**+0.2**
TREC	**Trest**	**24.93 170**	AMS	AMS	02 59 20.0	
	comp=Z,500nm,18.6s					
VRAC	**Vranov**	**24.97 168**	P	**P**	**02 48 58.3**	**+0.3**
	comp=Z,16nm,1.2s,mb4.4,baz=359,slow=12,SNR=14					
VRAC			LR	LR	02 58 55.0	
	comp=Z,429nm,19.3s,MS4.0,baz=354,slow=37					
WET	**Wettzell**	**24.98 174**	*e*P	**P**	**02 49 00.2**	**+2.1**
	comp=Z,57nm,2.1s,mb4.7					
WET	**Wettzell**	**24.98 174**	*e*P	**P**	**02 49 00.2**	**+2.1**
WET			pmax	pmax		
	comp=Z,57nm,2.1s,mb4.7					
KHC	**Kasperske Hory**	**25.02 173**	*e*P	**P**	**02 49 00.9**	**+2.5**
KHC			*ex*	x	02 49 12.5	
KHC			*e*S	**S**	**02 53 33.1**	**+11**
KHC			AMS	AMS	02 58 20.0	
	comp=Z,500nm,18.8s					
NIE	**Niedzica**	**25.12 163**	*e*P	**P**	**02 49 02.4**	**+3.0**
KWP	**Kalwaria**	**25.13 159**	*e*P	**P**	**02 49 03.9**	**+4.4**
KWP			*e*		02 49 14.6	
STHS	**Stebnicka Huta**	**25.20 161**	*e*P	**P**	**02 49 04.7**	**+4.6**
STHS			pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5					
STHS	**Stebnicka Huta**	**25.20 161**	*e*P	**P**	**02 49 04.7**	**+4.6**
	comp=Z,14nm,1.0s,mb4.5					
STU	**Stuttgart**	**25.30 180**	*e*P	**P**	**02 49 02.2**	**+1.2**
GEC2	**GERESS Array S**	**25.30 173**	*e*P	**P**	**02 49 02.2**	**+1.1**
	comp=Z,13nm,1.2s,mb4.3					
GEC2	**GERESS Array S**	**25.30 173**	*e*P	**P**	**02 49 02.2**	**+1.1**
GEC2			pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3					
GERES	**GERESS Array B**	**25.30 173**	P	**P**	**02 49 01.4**	**+0.3**
	comp=Z,3.4nm,0.8s,mb3.9,baz=2.3,slow=6.7,SNR=16					
GERES			LR	LR	02 58 52.5	
	comp=Z,431nm,19.9s,MS4.0,baz=344,slow=36					
FLN	**La Foliniere**	**25.66 195**	*e*P	**P**	**02 49 03.0**	**-1.2**
	comp=Z,73nm,1.6s,mb4.7					
FLN	**La Foliniere**	**25.66 195**	*e*P	**P**	**02 49 03.0**	**-1.2**
FLN			pmax	pmax		
	comp=Z,37nm,1.6s,mb4.7					
FLN	**La Foliniere**	**25.66 195**	*e*P	**P**	**02 49 03.0**	**-1.2**
	comp=Z,36nm,1.6s,mb4.7					
CDF	**Champ du Feu**	**25.67 183**	*e*P	**P**	**02 49 03.1**	**-1.3**
	comp=Z,47nm,1.4s,mb4.5					
CDF	**Champ du Feu**	**25.67 183**	*e*P	**P**	**02 49 03.1**	**-1.3**
CDF			pmax	pmax		
	comp=Z,24nm,1.4s,mb4.5					
CDF	**Champ du Feu**	**25.67 183**	*e*P	**P**	**02 49 03.1**	**-1.3**
	comp=Z,24nm,1.4s,mb4.5					
CRVS	**Cervenica-Dubn**	**25.73 161**	*e*P	**P**	**02 49 08.2**	**+3.3**
CRVS			pmax	pmax		
	comp=Z,28nm,1.8s,mb4.5					
CRVS			MLR	MLR		
	comp=Z,500nm,23.6s,MS4.0					
CRVS	**Cervenica-Dubn**	**25.73 161**	*e*P	**P**	**02 49 08.2**	**+3.3**
	comp=Z,28nm,1.8s,mb4.5					
CRVS			LR	LR		
	comp=Z,500nm,23.6s,MS4.0					
CRVS	**Cervenica-Dubn**	**25.73 161**	*e*P	**P**	**02 49 08.2**	**+3.3**
	comp=Z,28nm,1.8s,mb4.5					
BFO	**Black Forest**	**25.75 181**	*e*P	**P**	**02 49 05.5**	**+0.4**
	comp=Z,49nm,1.4s,mb4.8					
BFO	**Black Forest**	**25.75 181**	*e*P	**P**	**02 49 05.5**	**+0.4**
BFO			pmax	pmax		
	comp=Z,49nm,1.4s,mb4.8					
KOLS	**Kolonicke sedl**	**25.78 160**	*e*P	**P**	**02 49 08.1**	**+2.8**
KOLS			pmax	pmax		
	comp=Z,17nm,1.2s,mb4.5					
KOLS			MLR	MLR		
	comp=Z,500nm,22.9s,MS4.0					
KOLS	**Kolonicke sedl**	**25.78 160**	*e*P	**P**	**02 49 08.1**	**+2.8**
	comp=Z,16nm,1.2s,mb4.4					
KOLS			LR	LR		
	comp=Z,500nm,22.9s,MS4.0					
KOLS	**Kolonicke sedl**	**25.78 160**	*e*P	**P**	**02 49 08.1**	**+2.8**
	comp=Z,16nm,1.2s,mb4.4					
LDF	**La Druitiere**	**25.80 194**	*e*P	**P**	**02 49 04.1**	**-1.4**
SMOL	**Smolenice**	**25.81 167**	*e*P	**P**	**02 49 09.5**	**+3.8**
ECH	**Echery**	**25.87 183**	*e*P	**P**	**02 49 06.6**	**+0.4**
THEF	**They Montfort**	**25.88 185**	*e*P	**P**	**02 49 06.6**	**+0.3**
VYHS	**Vyhne**	**25.93 165**	*e*P	**P**	**02 49 08.8**	**+2.1**
VYHS			*e*S	**S**	**02 53 41.9**	**+5.1**
VYHS	**Vyhne**	**25.93 165**	*e*P	**P**	**02 49 08.8**	**+2.1**
	comp=Z,15nm,1.4s,mb4.3					
VYHS			*e*S	**S**	**02 53 41.9**	**+5.1**
VYHS			LR	LR		
	comp=Z,300nm,26.5s,MS3.7					
VYHS	**Vyhne**	**25.93 165**	*e*P	**P**	**02 49 08.8**	**+2.1**
	comp=Z,15nm,1.4s,mb4.3					
ARU	**Arti**	**25.95 105**	*e*P	**P**	**02 49 07.4**	**+0.5**
ARU			*e*		02 49 46.0	
ARU			*e*PPP		02 49 57.0	
ARU			*e*		02 52 35.6	
ARU			*e*S	**S**	**02 53 37.2**	**-0.1**
ARU			*e*SSS		02 54 52.4	
ARU			MLR	MLR		
	comp=E,500nm,21.0s,MS4.2					
ARU			MLR	MLR		
	comp=Z,700nm,21.0s,MS4.2					
ARU			MLR	MLR		
	comp=N,500nm,19.0s,MS4.2					
ARU	**Arti**	**25.95 105**	*e*P	**P**	**02 49 08.8**	**+1.9**
	comp=N,186nm,1.5s,mb5.4					
ARU	**Arti**	**25.95 105**	*e*P	**P**	**02 49 08.8**	**+1.9**
	comp=N,186nm,1.5s,mb5.4					
GRR	**Gorron**	**26.05 195**	*e*P	**P**	**02 49 06.5**	**-1.4**
	comp=N,97nm,1.8s,mb4.7					
GRR	**Gorron**	**26.05 195**	*e*P	**P**	**02 49 06.5**	**-1.4**
GRR			pmax	pmax		
	comp=Z,49nm,1.8s,mb4.7					
GRR	**Gorron**	**26.05 195**	*e*P	**P**	**02 49 06.5**	**-1.4**
	comp=Z,49nm,1.8s,mb4.7					
KECS	**Kecovo**	**26.06 163**	*e*P	**P**	**02 49 10.9**	**+3.0**
KECS			pmax	pmax		
	comp=Z,60nm,1.1s,mb5.0					
KECS	**Kecovo**	**26.06 163**	*e*P	**P**	**02 49 10.9**	**+3.0**
	comp=Z,6.0nm,1.1s,mb4.0					
HAU	**Haudompre**	**26.10 184**	*e*P	**P**	**02 49 06.7**	**-1.5**
	comp=Z,34nm,1.1s,mb4.5					
HAU			*e*R			
	comp=Z,350nm,17.0s					
HAU	**Haudompre**	**26.10 184**	*e*P	**P**	**02 49 06.7**	**-1.5**
HAU			pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5					
HAU			MLR	MLR		
	comp=Z,350nm,17.0s,MS4.0					
HAU	**Haudompre**	**26.10 184**	*e*P	**P**	**02 49 06.7**	**-1.5**
	comp=Z,17nm,1.1s,mb4.5					
HAU			LR	LR		
	comp=Z,350nm,17.0s,MS4.0					
VRSR	**Storozhevoye**	**26.10 134**	*e*P	**P**	**02 49 10.5**	**+2.2**
VRSR			pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8					
VRSR			pmax	pmax		
	comp=N,60nm,1.3s					
VRSR			pmax	pmax		
	comp=E,60nm,2.1s					
ZST	**Bratislava**	**26.11 168**	*e*P	**P**	**02 49 09.5**	**+1.1**
	comp=E,0.1nm,2.0s					
ZST			LR	LR		
	comp=Z,200nm,17.3s					
FELD	**Feldberg im Sc**	**26.20 182**	*e*P	**P**	**02 49 09.2**	**0.0**
MOF	**Molkenrain**	**26.24 183**	*e*P	**P**	**02 49 09.6**	**+0.1**
HINF	**Hinteralfeld**	**26.28 183**	*e*P	**P**	**02 49 09.4**	**-0.5**
ROSF	**Rostrenen**	**26.30 199**	*e*P	**P**	**02 49 08.6**	**-1.5**
	comp=Z,52nm,1.6s,mb4.5					
ROSF	**Rostrenen**	**26.30 199**	*e*P	**P**	**02 49 08.6**	**-1.5**
ROSF			pmax	pmax		
	comp=Z,26nm,1.6s,mb4.5					
ROSF	**Rostrenen**	**26.30 199**	*e*P	**P**	**02 49 08.6**	**-1.5**
	comp=Z,26nm,1.6s,mb4.5					
CONA	**Conrad Observa**	**26.31 170**⇑	*i*P	**P**	**02 49 10.9**	**+0.8**
	comp=Z,21nm,1.7s,mb4.4					
MOA	**Molln**	**26.32 172**⇑	*i*P	**P**	**02 49 13.4**	**+3.2**
	comp=Z,9.3nm,1.2s,mb4.2					
SGMF	**Saint Gilles**	**26.32 198**	*e*P	**P**	**02 49 08.4**	**-1.9**
	comp=Z,166nm,1.7s,mb5.0					
SGMF	**Saint Gilles**	**26.32 198**	*e*P	**P**	**02 49 08.4**	**-1.9**
SGMF			pmax	pmax		
	comp=Z,83nm,1.7s,mb5.0					
SGMF	**Saint Gilles**	**26.32 198**	*e*P	**P**	**02 49 08.4**	**-1.9**
	comp=Z,83nm,1.7s,mb5.0					
PSZ	**Piszkesteto**	**26.58 164**⇑	*e*P	**P**	**02 49 15.3**	**+2.7**
VRHR	**

comp=Z,15nm,1.2s,mb4.1
SSF Saint Saulge 27.13 188 *e*P **P 02 49 17.0 -0.5**
comp=Z,7.7nm,1.2s,mb4.1
DAVOX Davos 27.30 179 P **P 02 49 19.4 +0.3**
comp=Z,1.6nm,0.7s,mb3.6,baz=348,slow=17,SNR=1.8
DAVOX LR LR 03 01 03.5
comp=Z,258nm,18.0s,MS3.8,baz=352,slow=39
AVF Avril sur Loir 27.41 189 *e*P **P 02 49 19.1 -0.9**
comp=Z,28nm,1.3s,mb4.3
AVF Avril sur Loir 27.41 189 *e*P **P 02 49 19.1 -0.9**
AVF pmax pmax
comp=Z,14nm,1.3s,mb4.3
AVF Avril sur Loir 27.41 189 *e*P **P 02 49 19.1 -0.9**
comp=Z,14nm,1.3s,mb4.3
CABF La Chapelle 27.50 185 *e*P **P 02 49 19.6 -1.3**
comp=Z,31nm,1.1s,mb4.5
CABF La Chapelle 27.50 185 *e*P **P 02 49 19.6 -1.3**
CABF pmax pmax
comp=Z,16nm,1.1s,mb4.5
CABF La Chapelle 27.50 185 *e*P **P 02 49 19.6 -1.3**
comp=Z,16nm,1.1s,mb4.5
FRB Frobisher Bay 27.53 290 LR LR 02 59 31.1
comp=Z,686nm,18.6s,MS4.3,baz=154,slow=35
SMF Signal de Mont 27.53 188 *e*P **P 02 49 19.5 -1.7**
comp=Z,13nm,0.9s,mb4.2
SMF Signal de Mont 27.53 188 *e*P **P 02 49 19.5 -1.7**
comp=Z,6.5nm,0.9s,mb4.2
TUE Stuetta 27.60 180 P **P 02 49 16.3 -5.5**
BGF Bois d'Agland 27.66 189 *e*P **P 02 49 21.0 -1.3**
OBKA Obir 27.67 172⇑ *i*P **P 02 49 28.9 +6.5**
comp=Z,11nm,1.0s,mb4.4
MFF Saint Martin d 27.78 194 *e*P **P 02 49 22.7 -0.7**
comp=Z,23nm,1.3s,mb4.3
MFF Saint Martin d 27.78 194 *e*P **P 02 49 22.7 -0.7**
comp=Z,11nm,1.3s,mb4.3
TCF Toulx Ste Croi 27.96 190 *e*P **P 02 49 23.4 -1.6**
comp=Z,63nm,1.6s,mb4.7
TCF Toulx Ste Croi 27.96 190 *e*P **P 02 49 23.4 -1.6**
TCF pmax pmax
comp=Z,32nm,1.6s,mb4.7
TCF Toulx Ste Croi 27.96 190 *e*P **P 02 49 23.4 -1.6**
comp=Z,32nm,1.6s,mb4.7
PKSM Moragy 28.18 166 *e*P **P 02 49 32.3 +5.3**
LPL La Plagne 28.58 184 *e*P **P 02 49 30.0 -0.5**
comp=Z,27nm,1.1s,mb4.6
LPL La Plagne 28.58 184 *e*P **P 02 49 30.0 -0.5**
LPL pmax pmax
comp=Z,13nm,1.1s,mb4.6
LPL La Plagne 28.58 184 *e*P **P 02 49 30.0 -0.5**
comp=Z,13nm,1.1s,mb4.6
LPG La Plagne 28.60 184 *e*P **P 02 49 30.3 -0.4**
comp=Z,44nm,1.4s,mb4.7
LPG La Plagne 28.60 184 *e*P **P 02 49 30.3 -0.4**
LPG pmax pmax
comp=Z,22nm,1.4s,mb4.7
LPG La Plagne 28.60 184 *e*P **P 02 49 30.3 -0.4**
comp=Z,22nm,1.4s,mb4.7
BNI Bardonecchia 29.04 184 *e*P **P 02 49 35.3 +0.7**
BNI pmax pmax
comp=Z,46nm,1.7s,mb4.9
BNI Bardonecchia 29.04 184 *e*P **P 02 49 35.3 +0.7**
comp=Z,46nm,1.7s,mb4.9
ORIF Oris-en-Rattie 29.19 185 *e*P **P 02 49 36.2 +0.2**
comp=Z,37nm,1.6s,mb4.6
ORIF *e*R
comp=Z,426nm,18.0s
ORIF Oris-en-Rattie 29.19 185 *e*P **P 02 49 36.2 +0.2**
ORIF pmax pmax
comp=Z,19nm,1.6s,mb4.6
ORIF Oris-en-Rattie 29.19 185 *e*P **P 02 49 36.2 +0.2**
comp=Z,19nm,1.6s,mb4.6
ORR Orenburg 29.28 114 *e*P **P 02 49 37.0 +0.2**
ORR *i* 02 50 32.4
ORR pmax pmax
comp=Z,50nm,1.3s,mb5.1
VIVF Saint-Julien-l 29.29 187 *e*P **P 02 49 35.6 -1.2**
comp=Z,33nm,1.5s,mb4.5
VIVF Saint-Julien-l 29.29 187 *e*P **P 02 49 35.6 -1.2**
VIVF pmax pmax
comp=Z,17nm,1.5s,mb4.5
VIVF Saint-Julien-l 29.29 187 *e*P **P 02 49 35.6 -1.2**
comp=Z,16nm,1.5s,mb4.5
CAF Calviac 29.32 190 *e*P **P 02 49 36.4 -0.7**
MBDF Montbardon 29.37 183 *e*P **P 02 49 36.8 -0.7**
comp=Z,17nm,0.9s,mb4.5
MBDF Montbardon 29.37 183 *e*P **P 02 49 36.8 -0.7**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
MBDF Montbardon 29.37 183 *e*P **P 02 49 36.8 -0.7**
comp=Z,8.7nm,0.9s,mb4.5
LFF La Frestale 29.38 192 *e*P **P 02 49 36.6 -1.1**
comp=Z,44nm,1.5s,mb4.7
LFF La Frestale 29.38 192 *e*P **P 02 49 36.6 -1.1**
LFF pmax pmax
comp=Z,22nm,1.5s,mb4.7
LFF La Frestale 29.38 192 *e*P **P 02 49 36.6 -1.1**
comp=Z,22nm,1.5s,mb4.7
MLR Muntele Rosu 29.57 156 LR LR 03 01 38.4
comp=Z,843nm,20.1s,MS4.4,baz=356,slow=37
TIXI Tiksi 29.82 34⇑ *e*P **P 02 49 38.2 -3.3**
TIXI pmax pmax
comp=Z,20nm,0.4s,mb5.2
TIXI MLR MLR
comp=Z,200nm,20.0s,MS3.8
LASF Ste Croix 30.10 188 *e*P **P 02 49 43.2 -0.8**
comp=Z,89nm,1.8s,mb4.9
LASF Ste Croix 30.10 188 *e*P **P 02 49 43.2 -0.8**
comp=Z,44nm,1.8s,mb4.9
VMG Vicchio 30.13 177 P **P 02 49 45.7 +1.4**
SMRF Simiane la Rot 30.14 185 *e*P **P 02 49 43.0 -1.4**
comp=Z,13nm,1.0s,mb4.3
SMRF Simiane la Rot 30.14 185 *e*P **P 02 49 43.0 -1.4**
comp=Z,6.3nm,1.0s,mb4.3
SFI Santa Sofia 30.20 176 P **P 02 49 52.2 +7.4**
SFI pmax pmax
comp=Z,25nm,1.1s,mb4.9
SFI Santa Sofia 30.20 176 P **P 02 49 52.2 +7.4**
comp=Z,25nm,1.1s,mb4.9
SBF Sospel 30.22 182 *e*P **P 02 49 44.5 -0.6**
comp=Z,68nm,0.9s,mb5.1
SBF Sospel 30.22 182 *e*P **P 02 49 44.5 -0.6**
SBF pmax pmax
comp=Z,34nm,0.9s,mb5.1
SBF Sospel 30.22 182 *e*P **P 02 49 44.5 -0.6**
comp=Z,34nm,0.9s,mb5.1
CRE Caprese Michel 30.48 176 P **P 02 49 50.7 +3.3**
CRE pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
CRE Caprese Michel 30.48 176 P **P 02 49 50.7 +3.3**
comp=Z,9.0nm,0.8s,mb4.5
FRF La Foret Royal 30.54 184 *e*P **P 02 49 47.1 -0.8**
comp=Z,16nm,0.9s,mb4.6
FRF La Foret Royal 30.54 184 *e*P **P 02 49 47.1 -0.8**
FRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
FRF La Foret Royal 30.54 184 *e*P **P 02 49 47.1 -0.8**
comp=Z,7.9nm,0.9s,mb4.5
BADI Badiali 30.60 176 P **P 02 49 48.2 -0.2**
CSNT Castellina Chi 30.62 177 P **P 02 49 46.7 -1.9**
LMR La Mourre 30.76 184 *e*P **P 02 49 49.8 -0.1**
comp=Z,12nm,0.9s,mb4.4
LMR La Mourre 30.76 184 *e*P **P 02 49 49.8 -0.1**
comp=Z,6.2nm,0.9s,mb4.4
SNTG Esanatoglia 30.87 175 P **P 02 49 52.7 +1.9**
comp=Z,15nm,1.0s,mb4.8
MTLF Montolieu 30.90 190 *e*P **P 02 49 49.2 -1.9**
comp=Z,41nm,1.6s,mb4.7
MTLF Montolieu 30.90 190 *e*P **P 02 49 49.2 -1.9**
MTLF pmax pmax
comp=Z,21nm,1.6s,mb4.7
MTLF Montolieu 30.90 190 *e*P **P 02 49 49.2 -1.9**
comp=Z,20nm,1.6s,mb4.7
AKTK Aktyubinsk 31.20 112 P **P 02 49 54.1 +0.3**
AKTK LR LR 03 03 23.3
AKTK Aktyubinsk 31.20 112 P **P 02 49 54.1 +0.4**
AKTO Aktyubinsk 31.20 112 P **P 02 49 54.1 +0.3**
comp=Z,3.8nm,0.9s,mb4.2,baz=336,slow=10,SNR=9.3
AKTO LR LR 03 03 23.3
comp=Z,1μm,18.6s,MS4.7,baz=347,slow=38
AKTO Aktyubinsk 31.20 112 P **P 02 49 54.1 +0.4**
AKTO pmax pmax
comp=Z,40nm,1.0s,mb5.2
AKTO MLR MLR
comp=Z,1μm,18.7s,MS4.7
SIM Simferopol' 31.23 145 *e*P **P 02 50 10.0 +16**
SIM *e* 02 51 13.0
SIM *e*S **S 02 55 07.0 +6.8**
SIM pmax pmax
comp=Z,400nm,22.0s
SIM MLR MLR
comp=Z,200nm,13.0s,MS4.0
EALK Alkurruntz 31.24 195 P **P 02 49 59.8 +5.7**
comp=Z,84nm,2.0s,mb5.2
NRCA Norcia 31.29 174 P **P 02 49 56.8 +2.2**
comp=Z,14nm,1.2s,mb4.7
ELIZ Elizondo 31.30 195 P **P 02 50 01.6 +7.0**
comp=Z,3.9nm,0.6s,mb4.4
EPF Esparros 31.31 192 *e*P **P 02 49 54.4 -0.3**
comp=Z,69nm,1.9s,mb4.9
EPF Esparros 31.31 192 *e*P **P 02 49 54.4 -0.3**
EPF pmax pmax
comp=Z,35nm,1.9s,mb4.9
EPF Esparros 31.31 192 *e*P **P 02 49 54.4 -0.3**
comp=Z,34nm,1.9s,mb4.9
SJPF Ste Jean 31.33 195 *e*P **P 02 49 54.7 -0.2**
comp=Z,50nm,1.8s,mb4.8
SJPF Ste Jean 31.33 195 *e*P **P 02 49 54.7 -0.2**
SJPF pmax pmax
comp=Z,25nm,1.8s,mb4.7
SJPF Ste Jean 31.33 195 *e*P **P 02 49 54.7 -0.2**
comp=Z,25nm,1.8s,mb4.8
EARI Arriondas 31.48 200 P **P 02 49 57.2 +1.1**
comp=Z,104nm,3.0s
EARI Arriondas 31.48 200 P **P 02 49 57.2 +1.1**
comp=Z,104nm,3.0s
ETSF Etsaut 31.50 194 *e*P **P 02 49 55.5 -0.8**
comp=Z,42nm,1.6s,mb4.7
ETSF Etsaut 31.50 194 *e*P **P 02 49 55.5 -0.8**
ETSF pmax pmax
comp=Z,21nm,1.6s,mb4.7
ETSF Etsaut 31.50 194 *e*P **P 02 49 55.5 -0.8**
comp=Z,21nm,1.6s,mb4.7
PGF Pioggiola 31.52 180 *e*P **P 02 49 56.1 -0.5**
EBIE Bielsa 31.66 193 P **P 02 49 59.1 +1.3**
comp=Z,69nm,1.9s,mb5.2
EBIE Bielsa 31.66 193 P **P 02 49 59.2 +1.4**
comp=Z,69nm,1.9s,mb5.2
ZRNK Zerenda 31.87 98 *e*P **P 02 50 00.2 +0.6**
ZRNK *e* 02 51 14.8
ZRNK pmax pmax
comp=Z,16nm,1.5s,mb4.6
ZRNK Zerenda 31.87 98 *e*P **P 02 50 00.2 +0.6**
comp=Z,16nm,1.5s,mb4.6
ZRNK *e*PP PP 02 51 14.8 +3.2
ZRNK Zerenda 31.87 98 *e*P **P 02 50 00.2 +0.6**
comp=Z,16nm,1.5s,mb4.6
ANN Anapa 31.93 140 *e*P **P 02 50 00.3 +0.1**
ANN *e*S **S 02 55 09.7 -1.5**
ANN pmax pmax
comp=Z,40nm,1.0s,mb5.2
ANN MLR MLR
comp=Z,434nm,18.0s,MS4.2
BRVK Borovoye 32.13 96 P **P 02 50 08.7 +6.8**
SNR=8.6
BRVK Borovoye 32.13 96 *e*P **P 02 50 02.5 +0.6**
BRVK *e* 02 51 15.6
BRVK pmax pmax
comp=Z,22nm,1.6s,mb4.7
BRVK Borovoye 32.13 96 *e*P **P 02 50 02.5 +0.6**
comp=Z,22nm,1.6s,mb4.8
BRVK *e*PP PP 02 51 15.6 +1.2
BRVK Borovoye 32.13 96 *e*P **P 02 50 02.5 +0.6**
comp=Z,22nm,1.6s,mb4.8
BRVK Borovoye 32.13 96 *e*PP PP 02 51 15.6 +1.2
EGRA Graus 32.14 192 P **P 02 50 09.4 +7.4**
comp=Z,4.8nm,0.9s,mb4.3
BVAR Borovoye Array 32.19 96 P **P 02 50 03.6 +1.2**
comp=Z,2.6nm,0.8s,mb4.1,baz=335,slow=5.7,SNR=13
BVAR LR LR 03 04 29.5
comp=Z,735nm,20.8s,MS4.3,baz=311,slow=39
GOF Gofitskoye 32.75 133 *e*P **P 02 50 09.4 +2.1**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.2
ECAL Calabor 32.97 202 P **P 02 50 09.5 +0.2**
comp=Z,10nm,1.3s,mb4.6
ECAL Calabor 32.97 202 P **P 02 50 09.5 +0.2**
comp=Z,10nm,1.3s,mb4.6
PBRG Braganca 33.11 202 *e*P **P 02 50 10.7 +0.2**
comp=Z,20nm,1.5s,mb4.8
PCAB Cabril 33.34 204 *e*P **P 02 50 11.2 -1.3**
comp=Z,36nm,1.4s,mb5.1
SOC Sochi 33.52 138 *e*P **P 02 50 12.5 -1.6**
SOC *e*PPP 02 51 34.1
SOC *e*S **S 02 55 31.9 -4.1**
SOC *e*SS SS 02 57 45.2 -15
SOC *e*SSS 02 58 15.6
SOC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOC MLR MLR
comp=Z,889nm,21.0s,MS4.5
ETOR Torete 33.67 195 P **P 02 50 22.5 +7.1**
ETOR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ETOR Torete 33.67 195 P **P 02 50 22.5 +7.2**
comp=Z,1.4nm,0.8s,mb3.9
KIV Kislovodsk 33.74 134 *c*e**P P 02 50 21.1 +5.2**
KIV *e* 02 51 27.6
KIV pmax pmax
comp=Z,30nm,0.8s,mb5.3
KIV MLR MLR
comp=Z,700nm,16.0s,MS4.5
GUD Guadarrama 34.01 198 P **P 02 50 21.9 +3.6**
comp=Z,1.6nm,1.0s,mb3.9
GUD Guadarrama 34.01 198 P **P 02 50 22.0 +3.6**
comp=Z,1.6nm,1.0s,mb3.9
NVS Novosibirsk 34.14 82 *e*P **P 02 50 22.4 +3.0**
NVS pmax pmax
comp=Z,56nm,1.6s,mb5.2
NVS pmax pmax
comp=N,43nm,1.8s
MTE Manteigas 34.59 203 *e*P **P 02 50 23.2 -0.1**
MTE *i* - 02 54 48.9
MTE *e*S **S 02 55 57.9 +5.5**
MTE *e*LQ 02 57 54.0
MTE *i* - 02 58 02.5
MTE *e*LR LR 02 59 52.5
comp=N,109nm,18.0s
MTE Manteigas 34.59 203 *e*P **P 02 50 23.2 -0.1**
MTE *e*S **S 02 55 57.9 +5.5**
SCHQ Schefferville 34.67 279 LR LR 03 03 18.3
comp=N,794nm,18.8s,MS4.5,baz=40,slow=34
ESDC Sonseca Array 34.96 198 P **P 02 50 25.4 -1.2**
comp=N,1.6nm,0.8s,mb4.0,baz=4.0,slow=8.8,SNR=8.0
ESDC Sonseca Array 34.96 198 P **P 02 50 27.2 +0.6**
comp=N,2.6nm,1.5s,mb3.9
ESDC Sonseca Array 34.96 198 P **P 02 50 27.2 +0.7**
comp=N,2.6nm,1.5s,mb3.9
TIP Timpagrande 35.08 170 *e*P **P 02 50 30.4 +2.8**
TIP Timpagrande 35.08 170 *e*P **P 02 50 30.4 +2.8**
ZAL Zalesovo 35.37 82 P **P 02 50 31.9 +1.8**
comp=N,1.3nm,0.4s,mb4.2,baz=165,slow=0.6,SNR=4.0
ZAL LR LR 03 09 02.7
comp=N,896nm,19.1s,MS4.5,baz=142,slow=43
PTOM Tomar 35.45 204 *e*P **P 02 50 31.7 +0.9**
comp=N,34nm,1.4s,mb5.1
EVIA Vianos 35.87 196 P **P 02 50 35.3 +0.9**
comp=N,8.6nm,0.9s,mb4.7
INK Inuvik 35.93 337 LR LR 03 06 59.3
comp=N,314nm,19.5s,MS4.1,baz=29,slow=39
INK Inuvik 35.93 337 *e*P **P 02 50 33.5 -1.4**
comp=N,12nm,1.2s,mb4.7
INK Inuvik 35.93 337 *e*P **P 02 50 33.5 -1.4**
comp=N,12nm,1.2s,mb4.7
EBAD Badajoz 36.16 202 P **P 02 50 36.4 -0.4**
comp=N,12nm,1.9s,mb4.5
EBAD Badajoz 36.16 202 P **P 02 50 36.4 -0.4**
comp=N,12nm,1.9s,mb4.5
BR131 Keskin Array S 36.26 147 *e*P **P 02 50 39.6 +1.9**
comp=N,3.2nm,0.8s,mb4.3
BR131 Keskin Array S 36.26 147 *e*P **P 02 50 39.6 +1.9**
comp=N,3.2nm,0.8s,mb4.3
BRTR Keskin Array B 36.26 147 P **P 02 50 39.2 +1.5**
comp=N,3.1nm,0.7s,mb4.3,baz=351,slow=6.4,SNR=8.4
BRTR LR LR 03 06 34.3
comp=N,299nm,20.6s,MS4.0,baz=348,slow=38
EADA Adamuz 36.51 198 P **P 02 50 46.1 +6.3**
comp=N,10nm,1.7s,mb4.4
KURK Kurchatov 36.54 90 P **P 02 50 42.0 +1.9**
SNR=13
KURK Kurchatov 36.54 90⇑ *e*P **P 02 50 42.0 +1.9**
KURK Kurchatov 36.54 90 *e*P **P 02 50 41.0 +0.9**
comp=N,56nm,1.8s,mb5.1
KURK *e*PP PP 02 52 04.5 +1.3
KURK Kurchatov 36.54 90 *e*P **P 02 50 41.0 +0.9**
comp=N,56nm,1.8s,mb5.1
KURK Kurchatov 36.54 90 *e*PP PP 02 52 04.6 +1.4
EQES Quesada 36.74 196 P **P 02 50 42.6 +0.8**
comp=N,9.6nm,1.2s,mb4.5
EQES Quesada 36.74 196 P **P 02 50 42.7 +0.8**
comp=N,9.6nm,1.2s,mb4.5
EMIN Mina Concepcio 37.10 201 P **P 02 50 44.2 -0.6**
comp=N,5.3nm,1.3s,mb4.2
EMIN Mina Concepcio 37.10 201 P **P 02 50 44.2 -0.7**
comp=N,5.3nm,1.3s,mb4.2
BILL Bilibino 37.45 14 P **P 02 50 46.0 -1.8**
ERON Agron 37.58 197 P **P 02 50 49.7 +0.7**
comp=N,2.0nm,1.4s,mb3.6
ERON Agron 37.58 197 P **P 02 50 49.7 +0.7**
comp=N,2.0nm,1.4s,mb3.6
GNI Garni 37.81 133 LR LR 03 07 12.5
comp=N,618nm,20.7s,MS4.4,baz=352,slow=38
GNI Garni 37.81 133 *e*P **P 02 50 50.8 -0.1**
GNI *e* 02 52 19.2
GNI pmax pmax
comp=Z,9.0nm,1.0s
GNI Garni 37.81 133 *e*P **P 02 50 50.8 -0.1**
comp=Z,8.6nm,1.0s,mb4.4
GNI *e*PP PP 02 52 19.2 +2.0
GNI Garni 37.81 133 *e*P **P 02 50 50.8 -0.1**
comp=Z,8.6nm,1.0s,mb4.4
GNI Garni 37.81 133 *e*PP PP 02 52 19.2 +2.0
ESPR Espera 37.91 200 P **P 02 50 52.6 +0.9**
comp=Z,9.3nm,1.2s,mb4.4
ESPR Espera 37.91 200 P **P 02 50 52.7 +0.9**
comp=Z,9.3nm,1.2s,mb4.4
EMIJ Mijas 38.12 198 P **P 02 50 54.2 +0.7**
comp=Z,11nm,1.1s,mb4.5
EMIJ Mijas 38.12 198 P **P 02 50 54.2 +0.7**
comp=Z,11nm,1.1s,mb4.5
MALT Malatya 38.41 142 *e*P **P 02 50 57.6 +1.7**
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.5
MALT Malatya 38.41 142 *e*P **P 02 50 57.5 +1.6**
comp=Z,12nm,1.1s,mb4.5
MALT Malatya 38.41 142 *e*P **P 02 50 57.5 +1.6**
comp=Z,12nm,1.1s,mb4.5
YKA Yellowknife Ar 38.81 322 LR LR 03 07 14.8
comp=Z,443nm,18.4s,MS4.3,baz=35,slow=37
BOD Bodaibo 39.34 55 *e*P **P 02 50 59.4 -4.3**
COLA College 40.57 345⇑ *e*P **P 02 51 06.0 -8.0**
DAWY Dawson 40.65 339 *e*P **P 02 51 15.1 +0.5**
DAWY Dawson 40.65 339 *e*P **P 02 51 15.1 +0.5**
MKAR Makanchi Array 41.12 89 P **P 02 51 19.9 +1.4**
comp=Z,2.2nm,1.0s,mb3.7,baz=332,slow=6.8,SNR=11
MKAR Makanchi Array 41.12 89 *i*P **P 02 51 20.6 +2.1**
MDT Midelt 41.82 197 P **P 02 51 21.1 -3.1**
comp=Z,1.1nm,0.9s,mb3.5,baz=4.3,slow=6.8,SNR=2.8
MDT LR LR 03 06 36.0
comp=Z,31nm,20.4s,MS3.2,baz=148,slow=33
MDT Midelt 41.82 197 P **P 02 51 21.1 -3.1**
MDT LR LR 03 06 36.0
TLY Talaya 42.42 67 *e*P **P 02 51 35.9 +6.8**
TLY *e* 02 53 06.5
TLY *e* 02 53 20.9
TLY *e*S **S 02 57 56.4 +5.7**
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
TLY MLR MLR
comp=Z,383nm,15.0s,MS4.4
TLY Talaya 42.42 67 *e*P **P 02 51 30.4 +1.2**
comp=Z,3.7nm,0.8s,mb4.1
FRU Bishkek 42.65 99 *e*P **P 02 51 38.0 +7.0**
FRU *e* 02 53 21.0
FRU pmax pmax
comp=Z,50nm,2.1s,mb4.9
FRU MLR MLR
comp=Z,700nm,22.0s,MS4.5
ZAK Zakamensk 43.52 68 *e*P **P 02 51 40.6 +2.6**
ZAK pmax pmax
comp=Z,9.0nm,1.9s,mb4.2
FFC Flin Flon 43.58 308 *e*P **P 02 51 37.6 -0.9**
FFC pmax pmax
comp=Z,12nm,1.2s,mb4.5
FFC Flin Flon 43.58 308 *e*P **P 02 51 37.5 -0.9**
comp=Z,12nm,1.2s,mb4.5
ANR Andizhan 43.96 102 *e*P **P 02 51 43.1 +1.5**
ASF Jabal al Asfar 44.16 145 P **P 02 51 44.4 +1.2**
comp=Z,5.6nm,1.0s,mb4.2,baz=239,slow=3.0,SNR=7.2
SVW2 Sparrevohn 44.80 350 *e*P **P 02 51 49.3 +1.0**
WMQ Urumqi 45.35 86 *e*P **P 02 51 54.5 +1.8**
WMQ XP sP 02 52 01.3 +4.2
WMQ PP PP 02 53 39.5 +0.7
WMQ AMB AMB
comp=Z,10.0nm,1.5s,mb4.4
WMQ AMB AMB
comp=Z,130nm,5.6s
WMQ LR LR
comp=N,710nm,16.0s,MS4.8
WMQ LR LR
comp=E,560nm,16.0s,MS4.8
WMQ LR LR
comp=Z,620nm,22.0s
EIL Elat 46.32 148 *e*P **P 02 52 02.4 +2.1**
comp=Z,270nm,1.1s
ULM Lac du Bonnet 46.34 301 P **P 02 51 59.0 -1.6**
comp=Z,1.4nm,0.6s,mb4.1,baz=18,slow=8.5,SNR=4.4
ULM LR LR 03 11 18.4
comp=Z,762nm,18.8s,MS4.7,baz=261,slow=36
ULM Lac du Bonnet 46.34 301 *e*P **P 02 51 58.9 -1.6**
comp=Z,38nm,1.8s,mb5.0
SONM Songino Array 46.66 67 P **P 02 52 04.8 +1.8**
comp=Z,1.4nm,0.9s,mb3.9,baz=317,slow=6.3,SNR=9.4
SONM LR LR 03 17 20.7
comp=Z,366nm,20.8s,MS4.3,baz=71,slow=43
ULN Ulaanbaatar 46.80 66 P **P 02 52 07.2 +3.0**
SNR=5.6
ULN Ulaanbaatar 46.80 66⇓ *i*P **P 02 52 06.7 +2.6**
ULN Ulaanbaatar 46.80 66 *e*P **P 02 52 06.1 +2.0**
comp=Z,8.7nm,1.3s,mb4.5
KDAK Kodiak Island 47.94 347 *e*P **P 02 52 13.5 +0.6**
comp=Z,55nm,1.5s,mb5.4
WALA Waterton Lakes 51.40 315 *e*P **P 02 52 39.0 -0.4**
comp=Z,39nm,1.7s,mb5.1
GTA Gaotai 52.77 77 *e*P **P 02 52 53.0 +3.4**
GTA AP pP 02 52 57.5 +4.7
GTA XP sP 02 53 01.3 +7.3
GTA PP PP 02 54 55.8 +6.9
GTA AMB AMB
comp=Z,80nm,4.6s
GTA LR LR
comp=N,370nm,17.2s,MS4.6
GTA LR LR
comp=E,290nm,17.6s,MS4.6
GTA LR LR
comp=Z,540nm,19.1s,MS4.6
CHMT Chamberlain Mo 53.31 314 *e*P **P 02 52 53.6 +0.1**
MSO Missoula 53.53 314 *e*P **P 02 52 55.3 +0.1**
comp=Z,30nm,1.7s,mb5.0
GCMT Greycliff 53.65 310 *e*P **P 02 52 56.1 +0.1**
RSSD Black Hills 54.00 305 *e*P **P 02 52 57.8 -0.8**
RSSD pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
RSSD Black Hills 54.00 305 *e*P **P 02 52 57.8 -0.8**
comp=Z,9.3nm,1.4s,mb4.5
BOZ Bozeman (W) 54.20 312 *e*P **P 02 53 00.1 0.0**
comp=Z,1.4nm,0.9s,mb3.9
HHC Hu-ho-hao-te 54.50 66 *e*P **P 02 53 03.0 +0.7**
HHC AP pP 02 53 07.8 +2.3
HHC XP sP 02 53 10.0 +3.3
HHC PCP PcP 02 54 08.3 +2.7
HHC PP PP 02 55 06.0 +1.5
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,60nm,4.5s
HHC LR LR
comp=N,240nm,17.8s
HHC LR LR
comp=E,380nm,25.0s
HHC LR LR
comp=Z,400nm,15.5s,MS4.6
CN2 Changchun 55.00 52 *e*P **P 02 53 07.8 +1.9**
CN2 *e*XP sP 02 53 14.8 +4.5
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,21.0s,MS4.4

CN2				LR	LR		
	comp=E,300nm,21.0s,MS4.4						
CN2				LR	LR		
	comp=Z,300nm,21.0s,MS4.3						
MDJ	**Mudanjiang**	**55.11**	**49**	P	**P**	**02 53 05.0**	**-1.7**
MDJ				PCP	PcP	02 54 06.3	-1.7
MDJ				PP	PP	02 55 16.3	+6.4
MDJ				SCP	ScP	02 58 05.3	-1.4
MDJ				PCS	PcS	02 58 07.3	-0.6
MDJ				S	**S**	**03 00 48.5**	**-0.9**
MDJ				SCS	ScS	03 02 53.5	-2.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,3.3s						
MDJ				LR	LR		
	comp=N,160nm,29.6s,MS4.1						
MDJ				LR	LR		
	comp=E,180nm,27.0s,MS4.1						
MDJ				LR	LR		
	comp=Z,310nm,30.2s,MS4.2						
MCMT	**McKenzie Canyo**	**55.23**	**313**	*e*P	**P**	**02 53 07.4**	**-0.1**
IMW	**Indian Meadow**	**55.73**	**311**	*e*P	**P**	**02 53 11.6**	**+0.5**
	comp=Z,9.4nm,1.0s,mb4.8						
MOOW	**Moose Ponds**	**55.83**	**311**	*e*P	**P**	**02 53 12.3**	**+0.5**
	comp=Z,20nm,1.6s,mb4.9						
LOHW	**Long Hollow**	**55.93**	**310**	*e*P	**P**	**02 53 11.6**	**-0.9**
	comp=Z,49nm,2.1s,mb5.2						
BMO	**Blue Mountains**	**56.09**	**316**	*e*P	**P**	**02 53 13.1**	**-0.6**
	comp=Z,22nm,1.9s,mb4.9						
SNY	**Shenyang**	**56.46**	**55**	‖P	**P**	**02 53 16.5**	**+0.1**
SNY				AP	pP	02 53 29.0	+9.4
SNY				S	**S**	**03 01 12.5**	**+5.1**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
SNY				AMB	AMB		
	comp=Z,110nm,3.9s						
SNY				LR	LR		
	comp=N,290nm,17.0s						
SNY				LR	LR		
	comp=Z,340nm,20.4s,MS4.4						
BW06	**Boulder Array**	**56.51**	**309**	*e*P	**P**	**02 53 16.5**	**-0.2**
	comp=Z,23nm,1.8s,mb4.9						
PDAR	**Pinedale Array**	**56.51**	**309**	P	**P**	**02 53 16.7**	**0.0**
	comp=Z,1.4nm,1.0s,mb3.9,baz=32,slow=5.9,SNR=9.5						
PDAR				LR	LR	03 17 31.9	
	comp=Z,385nm,20.6s,MS4.5,baz=14,slow=36						
HLID	**Hailey**	**56.76**	**314**	*e*P	**P**	**02 53 18.5**	**0.0**
	comp=Z,5.2nm,1.1s,mb4.5						
LZH	**Lanzhou**	**56.98**	**74**	*e*P	**P**	**02 53 22.3**	**+2.3**
LZH				AP	pP	02 53 25.0	+1.8
LZH				XP	sP	02 53 27.5	+3.1
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
LZH				LR	LR		
	comp=N,540nm,16.0s						
LZH				LR	LR		
	comp=Z,770nm,16.9s,MS4.9						
RWWY	**Rawlins**	**57.03**	**307**	*e*P	**P**	**02 53 20.0**	**-0.4**
	comp=Z,8.6nm,1.3s,mb4.6						
WVT	**Waverly**	**57.55**	**288**	*e*P	**P**	**02 53 22.5**	**-1.5**
WVT				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.8						
WVT	**Waverly**	**57.55**	**288**	*e*P	**P**	**02 53 22.5**	**-1.6**
	comp=Z,17nm,1.7s,mb4.8						
SMCO	**Snowmass**	**59.38**	**306**	*e*P	**P**	**02 53 37.3**	**+0.5**
	comp=Z,28nm,1.8s,mb5.0						
ELK	**Elko**	**59.64**	**313**	*e*P	**P**	**02 53 39.0**	**+0.4**
	comp=Z,5.8nm,1.1s,mb4.5						
DUG	**Dugway**	**59.67**	**311**	*e*P	**P**	**02 53 39.4**	**+0.6**
DUG				pmax	pmax		
	comp=Z,21nm,2.0s,mb4.8						
DUG	**Dugway**	**59.67**	**311**	*e*P	**P**	**02 53 39.4**	**+0.5**
	comp=Z,20nm,2.0s,mb4.8						
PV10	**Paradox Valley**	**60.60**	**307**	*e*P	**P**	**02 53 46.1**	**+0.8**
PV10				*e*pP	pP	02 53 52.5	+4.0
PV01	**Paradox Valley**	**60.73**	**307**	*e*P	**P**	**02 53 46.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**60.97**	**188**	P	**P**	**02 53 47.0**	**-0.8**
	comp=Z,4.2nm,1.1s,mb4.5,baz=358,slow=6.5,SNR=9.8						
TORD				LR	LR	03 19 13.3	
	comp=Z,140nm,21.8s,MS4.1,baz=315,slow=35						
MSU	**Marysvale**	**61.15**	**310**	*e*P	**P**	**02 53 50.2**	**+1.2**
MVCO	**Mesa Verde**	**61.60**	**306**	*e*P	**P**	**02 53 52.5**	**+0.6**
CD2	**Chengdu**	**61.84**	**76**	*e*P	**P**	**02 53 57.5**	**+3.9**
OHCM	**Honcut**	**62.21**	**318**	*e*P	**P**	**02 53 54.7**	**-1.4**
CCUT	**Cedar City**	**62.33**	**311**	*e*P	**P**	**02 53 58.0**	**+1.1**
NVAR	**Mina Array Bea**	**62.48**	**315**	P	**P**	**02 53 57.9**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.8,baz=36,slow=5.1,SNR=3.8						
ANMO	**Albuquerque**	**63.30**	**304**	P	**P**	**02 54 03.1**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.9,baz=51,slow=6.6,SNR=4.9						
ANMO	**Albuquerque**	**63.30**	**304**	*e*P	**P**	**02 54 03.6**	**+0.2**
ANMO				*e**PP	pP	02 54 10.7	+4.1
ANMO				pmax	pmax		
	comp=Z,22nm,1.8s						
ANMO	**Albuquerque**	**63.30**	**304**	*e*P	**P**	**02 54 03.6**	**+0.2**
	comp=Z,22nm,1.8s,mb5.0						
ANMO				*e*pP	pP	02 54 10.7	+4.1
MTUM	**Tungsten Hills**	**63.57**	**315**	*e*P	**P**	**02 54 07.2**	**+2.1**
MTUM				*e*pP	pP	02 54 13.5	+5.1
BNM	**Barren Site**	**64.11**	**304**	*e*P	**P**	**02 54 08.8**	**+0.1**
NJ2	**Nanjing**	**64.67**	**62**	*e*P	**P**	**02 54 16.0**	**+3.6**
NJ2				AP	pP	02 54 20.5	+4.9
NJ2				XP	sP	02 54 24.0	+7.2
NJ2				PCP	PcP	02 54 50.8	+4.7
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,110nm,4.9s						
NJ2				LR	LR		
	comp=N,720nm,26.0s,MS5.1						
NJ2				LR	LR		
	comp=E,1μm,22.7s,MS5.1						
NJ2				LR	LR		
	comp=Z,90nm,17.1s						
JCT	**Junction City**	**65.98**	**297**	*e*P	**P**	**02 54 20.3**	**-0.6**
JCT				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.2						
JCT	**Junction City**	**65.98**	**297**	*e*P	**P**	**02 54 20.3**	**-0.6**
	comp=Z,34nm,1.5s,mb5.2						
SSE	**Sheshan**	**66.15**	**60**	P	**P**	**02 54 22.3**	**+0.3**
SSE				AP	pP	02 54 25.5	+0.3
SSE				S	S	03 03 07.8	-2.8
SSE				SCS	ScS	03 04 17.5	-0.9
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,20nm,3.2s						
SSE				LR	LR		
	comp=N,150nm,21.5s,MS4.5						
SSE				LR	LR		
	comp=E,250nm,21.5s,MS4.5						
SSE				LR	LR		
	comp=Z,140nm,24.4s,MS4.1						
TUC	**Tucson**	**66.81**	**307**	*e*P	**P**	**02 54 26.2**	**0.0**
TUC				pmax	pmax		
	comp=Z,29nm,1.8s,mb5.0						
TUC	**Tucson**	**66.81**	**307**	*e*P	**P**	**02 54 26.2**	**0.0**
	comp=Z,29nm,1.8s,mb5.0						
GYA	**Guiyang**	**66.85**	**75**	P	**P**	**02 54 27.5**	**+1.1**
GYA				AP	pP	02 54 32.3	+2.6
GYA				XP	sP	02 54 34.8	+3.9
GYA				PP	PP	02 56 56.5	+2.9
GYA				S	S	03 03 18.0	-1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=N,410nm,18.7s,MS4.8						
GYA				LR	LR		
	comp=E,380nm,18.6s,MS4.8						
GYA				LR	LR		
	comp=Z,340nm,19.0s,MS4.6						
KMI	**Kunming**	**67.05**	**79**	P	**P**	**02 54 29.8**	**+2.1**
KMI				LR	LR		
	comp=N,230nm,23.2s,MS4.6						
KMI				LR	LR		
	comp=E,290nm,20.9s,MS4.6						
KMI				LR	LR		
	comp=Z,250nm,24.3s,MS4.3						
DBIC	**Dimbokro**	**67.76**	**195**	LR	LR	03 23 45.1	
	comp=Z,84nm,19.2s,MS4.0,baz=345,slow=36						
LTX	**Lajitas**	**68.02**	**300**	*e*P	**P**	**02 54 33.8**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.4						
SJG	**San Juan**	**68.66**	**261**	*e*P	**P**	**02 54 37.4**	**-0.5**
SJG				pmax	pmax		
	comp=Z,19nm,1.1s						
SJG	**San Juan**	**68.66**	**261**	*e*P	**P**	**02 54 37.4**	**-0.5**
	comp=Z,19nm,1.1s,mb4.9						
QIZ	**Qiongzhong**	**74.78**	**74**	P	**P**	**02 55 13.8**	**-0.8**
QIZ				*e*S	S	03 04 52.0	+0.8
QIZ				LR	LR		
	comp=E,520nm,17.5s						
QIZ				LR	LR		
	comp=Z,280nm,22.8s						
ROSC	**El Rosal**	**83.56**	**265**	LR	LR	03 31 57.2	
	comp=Z,85nm,19.5s,MS4.1,baz=198,slow=35						
OTAV	**Otavalo**	**89.11**	**268**	*e*P	**P**	**02 56 31.3**	**+1.4**
	comp=Z,44nm,1.7s,mb5.5						
BDFB	**Brasilia**	**96.45**	**235**	LR	LR	03 33 40.0	
	comp=Z,278nm,19.8s,MS4.7,baz=18,slow=31						

ISCJB ***30*** *02:48:60.0±0.2, 045S±004×12333E±005, h44km, mb4.8/61, MS4.2/15, Error ellipse: s-maj=8.1km s-min=4.4km az=137.4*

IDC ***30*** *02:48:59.4±2.5, 041S×123.15E, h30km±16km, mb4.4/21, mb1 4.4/22, mb1mx4.4/25, mbtmp4.5/22, ML3.6/1, MS4.0/10, Ms1 4.0/10, ms1mx3.7/23, Error ellipse: s-maj=22.0km s-min=10.8km az=61.0*

MOS ***30*** *02:48:59.0±1.3, 028S×123.16E, h33km, mb5.0/14, Error ellipse: s-maj=14.2km s-min=7.6km az=107.0*

BJI ***30*** *02:49:02.2, 040S×12330E, h49km, mB5.0, mb4.9, Ms4.6, Msz4.2*

HRVD ***30*** *02:49:02.2±0.2, 040S×12328E, h36km, MW5.1/76, Centroid moment Tensor Solution. LP body waves: s36,c45;Mantle waves: s76,c122; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_r=3.73±.19; $M_{\theta\theta}$=0.27±.11; $M_{\phi\phi}$=-3.46±.14; $M_{r\theta}$=2.43±.11; $M_{\theta\phi}$=-1.82±.09; $M_{\phi r}$=-1.09±.14; Best double couple: M_0=4.76400×10^16^ NP1:φs178.00000°, δ52.00000°, λ51.00000°. NP2: φs51.00000°, δ52.00000°, λ129.00000°. Principal axes: T 5.2430, Plg60.0000°, Azm24.0000°; N -0.9570, Plg30.0000°, Azm204.0000°; P -4.2850, Plg0.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *02:49:02.2±1.0, 040S×12331E, h51km±9km, mb4.8/23 Error ellipse: s-maj=10.0km s-min=5.1km az=63.0*

ISC 30 02:49:02.1±0.2, 044S±004×12341E±005, h46km, h46km±1.7km:pP-P, n176, σ1§48/133, mb4.8/61, MS4.2/15, 5C-10D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**7.26**	**310**	P	**Pn**	**02 50 48.7**	**+3.1**
CTBH	**Cotabato--PC H**	**7.66**	**6**	‖*e*P	**Pn**	**02 50 54.5**	**+3.5**
IPIL	**Ipil**	**8.21**	**354**	*e*P	**Pn**	**02 51 01.0**	**+2.3**
PAGZ	**Pagadian**	**8.23**	**360**	*e*P	**Pn**	**02 51 02.5**	**+3.6**
BUKP	**Musuan**	**8.43**	**11**	*e*P	**Pn**	**02 51 06.9**	**+5.3**
KKM	**Kota Kinabalu**	**9.64**	**312**	P	**Pn**	**02 51 23.2**	**+4.9**
KKM	**Kota Kinabalu**	**9.64**	**312**	*e*Pn	**Pn**	**02 51 17.9**	**-0.4**
KKM				*e*Sn	**Sn**	**02 53 13.9**	**+8.7**
TBP	**Tagbilaran**	**10.07**	**3**	*e*P		02 51 45.3	
KSM	**Kuching**	**13.23**	**278**	*e*Pn	**Pn**	**02 52 07.5**	**+0.2**
KAKA	**Kakadu**	**15.13**	**144**	*e*P	**Pn**	**02 52 33.2**	**+0.5**
	29nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.69**	**173**	*e*P	**Pn**	**02 53 04.1**	**-0.9**
	17nm,1.0s						
FITZ	**Fitzroy Crossi**	**17.69**	**173**	P	**Pn**	**02 53 04.2**	**-0.8**
	0.2nm,0.3s,baz=22,slow=16,SNR=4.0						
FITZ				LR	LR	03 00 17.8	
	comp=Z,215nm,20.2s,baz=176,slow=38						
CVP	**Callao Caves**	**18.09**	**355**	‖*e*P	**Pn**	**02 53 13.5**	**+3.5**
	50μm,1.0s						
KGM	**Kluang**	**20.23**	**277**	P	**P**	**02 53 35.4**	**+2.1**
MBWA	**Marble Bar**	**20.90**	**190**	*e*P	**P**	**02 53 41.1**	**+0.5**
	28nm,0.9s						
WRAB	**Tennant Creek**	**22.14**	**152**	*ce*P	**P**	**02 53 55.2**	**+1.4**
WRAB	**Tennant Creek**	**22.14**	**152**	*e*P	**P**	**02 53 53.9**	**+0.1**
	42nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**22.14**	**152**	P	**P**	**02 53 54.2**	**+0.4**
	28nm,0.8s,mb4.7,baz=331,slow=10.0,SNR=59						
WRA				ScP	ScP	03 01 23.7	+0.6
	6.2nm,0.9s,baz=334,slow=3.1,SNR=18						
WB2	**Warramunga Arr**	**22.15**	**152**	*e*P	**P**	**02 53 53.5**	**-0.4**
WB2				*e*pP		02 54 05.9	
WB2				*e*SCP	ScP	03 01 22.9	-0.2
IPM	**Ipoh**	**22.89**	**283**	P	**P**	**02 54 05.9**	**+4.2**
KULM	**Kulim**	**23.43**	**284**	*e*P	**P**	**02 54 09.5**	**+2.3**
QIZ	**Qiongzhong**	**23.49**	**326**	P	**P**	**02 54 08.8**	**+1.1**
QIZ				AMB	AMB		
	comp=Z,30nm,2.0s,mb4.4						
SNG	**Songkhla**	**23.96**	**289**	P	**P**	**02 54 14.0**	**+2.0**
PSI	**Prapat**	**24.68**	**278**	P	**P**	**02 54 16.1**	**-2.5**
	comp=Z,7.0nm,0.7s,mb4.3,baz=58,slow=4.0,SNR=6.0						
PSI				LR	LR	03 04 33.9	
	comp=Z,819nm,20.1s,MS4.2,baz=228,slow=38						
YHNB	**Yeheng**	**25.04**	**356**	*e*P	**P**	**02 54 22.4**	**+0.5**
AS31	**Alice Springs**	**25.24**	**157**	*e*P	**P**	**02 54 24.5**	**+0.8**
AS31				*e*		02 57 56.7	
ASPA	**Alice Springs**	**25.24**	**157**	*e*P	**P**	**02 54 24.5**	**+0.8**
ASPA				*e*		02 57 56.7	
ASAR	**Alice Springs**	**25.24**	**157**	P	**P**	**02 54 24.4**	**+0.8**
	comp=Z,11nm,0.6s,mb4.6,baz=346,slow=12,SNR=70						
ASAR				PcP	PcP	02 57 56.7	+0.6
	comp=Z,5.9nm,0.8s,baz=348,slow=2.5,SNR=9.3						
ASAR				ScP	ScP	03 01 32.0	+0.6
	comp=Z,2.7nm,0.8s,baz=349,slow=2.5,SNR=10						
ASAR				LR	LR	03 04 27.4	
	comp=Z,564nm,21.9s,MS4.0,baz=339,slow=37						
ASAR	**Alice Springs**	**25.24**	**157**	P	**P**	**02 54 24.5**	**+0.8**
ASAR						02 57 56.7	
PMG	**Port Moresby**	**25.26**	**111**	P	**P**	**02 54 25.7**	**+1.8**
	comp=Z,37nm,0.8s,mb5.0,baz=284,slow=6.0,SNR=7.8						
PMG	**Port Moresby**	**25.26**	**111**	*i* P	**P**	**02 54 25.4**	**+1.5**
PMG	**Port Moresby**	**25.26**	**111**	*e*P	**P**	**02 54 25.0**	**+1.0**
	comp=Z,38nm,0.8s,mb5.0						
QZH	**Quanzhou**	**25.66**	**350**	P	**P**	**02 54 30.3**	**+2.8**
QZH				S	**S**	**02 58 55.3**	**+2.6**
QZH				AMB	AMB		
	comp=Z,160nm,1.0s,mb5.5						
KKTK	**Khon Kaen**	**26.27**	**310**	P	**P**	**02 54 30.0**	**-3.1**
JOW	**Kunigami**	**27.52**	**9**	LR	LR	03 04 45.1	
	comp=Z,232nm,21.5s,MS3.7,baz=312,slow=34						
NST	**Nakhon Sawan**	**28.01**	**306**	P	**P**	**02 54 50.0**	**+1.3**
CTA	**Charters Tower**	**29.69**	**133**	LR	LR	03 07 05.1	
	comp=Z,224nm,22.0s,MS3.8,baz=315,slow=36						
FORT	**Forrest**	**30.50**	**172**	*e*P	**P**	**02 55 19.4**	**+8.7**
	comp=Z,16nm,0.7s,mb4.9						
NJ2	**Nanjing**	**32.60**	**353**	*e*P	**P**	**02 55 30.3**	**+1.1**
NJ2				AP	pP	02 55 41.3	-0.1
NJ2				XP	sP	02 55 48.0	+1.1
NJ2				PP	PP	02 56 39.5	-3.9
NJ2				S	**S**	**03 00 42.0**	**+0.3**
NJ2				XS	sS	03 01 04.0	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,110nm,5.9s						
NJ2				LR	LR		
	comp=N,1μm,36.5s						
NJ2				LR	LR		
	comp=E,650nm,22.8s						
NJ2				LR	LR		
	comp=Z,210nm,17.6s						
STKA	**Stephens Creek**	**35.69**	**153**	*e*P	**P**	**02 55 54.3**	**-1.6**
	comp=Z,5.2nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**35.69**	**153**	P	**P**	**02 55 54.5**	**-1.5**
	comp=Z,4.3nm,0.7s,mb4.5,baz=325,slow=6.0,SNR=8.2						
STKA				PcP	PcP	02 58 21.6	-1.8
	comp=Z,3.1nm,0.7s,baz=299,slow=4.4,SNR=3.2						
STKA				LR	LR	03 11 28.6	
	comp=Z,177nm,21.1s,MS3.8,baz=107,slow=38						
CD2	**Chengdu**	**36.34**	**331**	P	**P**	**02 56 02.0**	**+0.5**
CD2				AP	pP	02 56 14.0	+0.1
CD2				XP	sP	02 56 19.5	+0.2
CD2				PP	PP	02 57 26.5	+1.7
CD2				PCP	PcP	02 58 25.8	+0.4
CD2				S	**S**	**03 01 39.5**	**+0.2**
CD2				XS	sS	03 02 00.0	0.0
CD2				SCP	ScP	03 02 07.5	-0.5
CD2				PCS	PcS	03 02 12.5	-0.6
CD2				SS	SS	03 04 06.5	-13
CD2				SCS	ScS	03 06 12.3	-1.9
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,90nm,3.5s						
CD2				LR	LR		
	comp=N,240nm,15.6s						
CD2				LR	LR		
	comp=Z,300nm,16.8s,MS4.1						
XAN	**Xi'an**	**36.90**	**340**	P	**P**	**02 56 06.0**	**-0.2**
XAN				AP	pP	02 56 16.0	-2.6
MAJO	**Matsushiro**	**39.28**	**19**	*e*P	**P**	**02 56 24.8**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
MAJO	**Matsushiro**	**39.28**	**19**	*e*P	**P**	**02 56 24.8**	**-1.6**
	comp=Z,13nm,0.9s,mb4.7						
MAT	**Matsushiro**	**39.28**	**19**	P	**P**	**02 56 26.6**	**+0.3**
MAT				S	**S**	**03 02 27.0**	**+3.2**
MAT	**Matsushiro**	**39.28**	**19**	*e*P	**P**	**02 56 27.0**	**+0.7**
MAT				*e*S	**S**	**03 02 27.0**	**+3.2**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
MAT	**Matsushiro**	**39.28**	**19**	*e*P	**P**	**02 56 27.0**	**+0.7**
	comp=Z,8.2nm,0.8s,mb4.5						
MAT				*e*S	**S**	**03 02 27.0**	**+3.2**
MJAR	**Matsushiro Arr**	**39.28**	**19**	P	**P**	**02 56 25.5**	**-0.9**
	comp=Z,15nm,0.9s,mb4.7,baz=192,slow=8.3,SNR=31						
MJAR				ScP	ScP	03 02 23.3	+4.2
	comp=Z,1.2nm,0.7s,baz=200,slow=3.8,SNR=4.7						
MJAR				LR	LR	03 11 02.9	
	comp=Z,230nm,21.8s,MS4.0,baz=225,slow=34						
MJAR	**Matsushiro Arr**	**39.28**	**19**	P	**P**	**02 56 25.5**	**-0.8**
MJAR						03 02 23.3	
ARMA	**Armidale**	**40.10**	**141**	*e*P	**P**	**02 56 35.7**	**+2.6**
LZH	**Lanzhou**	**40.64**	**335**	*e*P	**P**	**02 56 41.5**	**+3.9**
LZH				AP	pP	02 56 54.0	+3.9
LZH				XP	sP	02 57 02.5	+6.9
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,110nm,4.2s						
LZH				LR	LR		
	comp=N,540nm,16.0s						
LZH				LR	LR		
	comp=Z,770nm,16.9s,MS4.6						
CNB	**Canberra Magne**	**42.30**	**148**	*e*P	**P**	**02 56 53.1**	**+1.9**
	comp=Z,7.6nm,0.8s,mb4.4						
HHC	**Hu-ho-hao-te**	**42.48**	**347**	*e*P	**P**	**02 56 54.5**	**+1.8**
HHC				AP	pP	02 57 07.0	+1.7
HHC				XP	sP	02 57 12.0	+1.3
HHC				PP	PP	02 58 36.3	+4.6
HHC				PCP	PcP	02 58 46.3	+1.5
HHC				S	**S**	**03 03 13.3**	**+1.8**
HHC				XS	sS	03 03 35.0	+2.6
HHC				SS	SS	03 06 19.0	-3.1
HHC				SCS	ScS	03 06 50.3	+0.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,90nm,5.0s						
HHC				LR	LR		
	comp=N,230nm,21.4s,MS4.3						
HHC				LR	LR		
	comp=E,380nm,19.0s,MS4.3						
HHC				LR	LR		
	comp=Z,340nm,23.8s,MS4.2						
LSA	**Lhasa**	**42.94**	**317**	*e*P	**P**	**02 56 58.4**	**+2.0**
LSA				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.9						
LSA	**Lhasa**	**42.94**	**317**	*e*P	**P**	**02 56 58.4**	**+1.9**
	comp=Z,12nm,0.5s,mb4.9						
CN2	**Changchun**	**44.08**	**2**	*e*P	**P**	**02 57 08.5**	**+2.9**
CN2				*e*AP	pP	02 57 20.8	+2.6
CN2				*e*S	**S**	**03 03 38.0**	**+3.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,21.0s,MS4.5						
CN2				LR	LR		
	comp=E,300nm,21.0s,MS4.5						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS4.2						
GTA	**Gaotai**	**45.16**	**334**	*e*P	**P**	**02 57 16.0**	**+1.8**
GTA				AP	pP	02 57 28.5	+1.7
GTA				XP	sP	02 57 33.5	+1.3
GTA				PCP	PcP	02 58 57.0	+3.1
GTA				PP	PP	02 59 03.5	+3.1
GTA				SCP	ScP	03 02 43.5	+0.8
GTA				PCS	PcS	03 02 48.5	+0.7
GTA				S	**S**	**03 03 53.8**	**+3.3**
GTA				XS	sS	03 04 12.3	+0.7
GTA				SS	SS	03 07 04.5	-10
GTA				SCS	ScS	03 07 06.5	-0.6
GTA				AMB	AMB		
	comp=Z,120nm,5.4s						
GTA				LR	LR		
	comp=N,370nm,17.6s,MS4.5						
GTA				LR	LR		
	comp=E,290nm,18.0s,MS4.5						
GTA				LR	LR		
	comp=Z,540nm,19.5s,MS4.5						
JIRN	**Jiri**	**45.34**	**311**	*e*P	**P**	**02 57 16.4**	**+0.7**
	comp=Z,74nm,0.8s,mb5.5						
GUN	**Gumba**	**45.71**	**311**	*e*P	**P**	**02 57 19.1**	**+0.6**
	comp=Z,105nm,0.8s,mb5.8						
PKI	**Pulchoki**	**45.89**	**310**	*e*P	**P**	**02 57 20.4**	**+0.4**
	comp=Z,49nm,1.0s,mb5.4						
KKN	**Kakani**	**46.10**	**311**	*e*P	**P**	**02 57 21.9**	**+0.3**
	comp=Z,78nm,1.1s,mb5.5						
DMN	**Daman**	**46.14**	**310**	*e*P	**P**	**02 57 21.9**	**0.0**
	comp=Z,43nm,0.8s,mb5.4						
GKN	**Gorkha**	**46.70**	**310**	*e*P	**P**	**02 57 25.9**	**-0.4**
	comp=Z,72nm,0.9s,mb5.6						
KOLN	**Koldanda**	**47.38**	**310**	*e*P	**P**	**02 57 31.9**	**+0.3**
	comp=Z,49nm,0.7s,mb5.5						
HYB	**Hyderabad**	**47.58**	**294**	*i* P	pP	02 57 46.0	+0.1
HYB	**Hyderabad**	**47.58**	**294**	*e*P	pP	02 57 46.0	+0.1
HIA	**Hailar**	**49.61**	**357**	‖*e*P	**P**	**02 57 48.4**	**-0.4**
KLR	**Kul'dur**	**50.00**	**7**	*e*P	**P**	**02 57 47.8**	**-3.9**
YSS	**Yuzh-Sakhalins**	**50.15**	**17**	‖*e*P	**P**	**02 57 51.8**	**-1.1**
YSS				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.1						
ULN	**Ulaanbaatar**	**50.17**	**346**	*c i*P	**P**	**02 57 52.7**	**-0.4**
ULN	**Ulaanbaatar**	**50.17**	**346**	*e*P	**P**	**02 57 52.2**	**-0.8**
	comp=Z,5.1nm,0.8s,mb4.6						
SONM	**Songino Array**	**50.31**	**345**	P	**P**	**02 57 53.2**	**-0.9**
	comp=Z,4.1nm,0.8s

comp=Z,13nm,0.8s,mb5.0
NVS Novosibirsk 64.17 336 *e*P **P 02 59 33.2 +1.3**
NVS pmax pmax
comp=Z,13nm,1.6s,mb4.7
NVS pmax pmax
comp=N,8.0nm,1.3s
CASY Casey 66.34 186 *e*P **P 02 59 45.2 -0.7**
comp=N,12nm,1.0s,mb4.9
SMY Shemya 67.72 31 *e*P **P 02 59 55.4 +0.7**
SMY pmax pmax
comp=Z,26nm,0.9s,mb5.3
SMY Shemya 67.72 31 *e*P **P 02 59 55.4 +0.8**
comp=Z,26nm,0.9s,mb5.3
BVAR Borovoye Array 69.06 329 P **P 03 00 02.6 -0.5**
comp=Z,0.8nm,0.4s,mb4.0,baz=161,slow=10,SNR=7.2
CHKZ Chkalovo 69.29 330 *e*P **P 03 00 02.5 -2.0**
CHKZ pmax pmax
comp=Z,306nm,0.7s
CHKZ Chkalovo 69.29 330 *e*P **P 03 00 02.5 -2.0**
comp=Z,306nm,0.7s
ZRNK Zerenda 69.75 328 *e*P **P 03 00 05.6 -1.7**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ZRNK Zerenda 69.75 328 *e*P **P 03 00 05.5 -1.8**
comp=Z,6.3nm,0.9s,mb4.5
TIXI Tiksi 72.06 2⇑*i*P **P 03 00 19.3 -2.0**
TIXI pmax pmax
comp=Z,13nm,1.0s,mb4.8
AKTK Aktyubinsk 74.90 323 P **P 03 00 35.5 -2.6**
AKTO Aktyubinsk 74.90 323 P **P 03 00 35.5 -2.6**
comp=Z,3.3nm,1.0s,mb4.2,baz=105,slow=5.9,SNR=9.3
ARU Arti 76.71 329⇓*i*P **P 03 00 46.1 -2.3**
ARU *e* 03 03 39.1
ARU *e*S S 03 10 30.3 -1.5
ARU *e*SS SS 03 15 26.9 -1.2
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ORR Orenburg 77.23 323 *i*P **P 03 00 47.8 -3.5**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MAW Mawson 78.72 200 P **P 03 01 00.0 +0.4**
comp=Z,5.2nm,0.8s,mb4.5,baz=56,slow=1.4,SNR=5.5
VNDA Vanda 79.76 172 P **P 03 01 05.3 0.0**
comp=Z,5.0nm,0.8s,mb4.5,baz=316,slow=6.1,SNR=31
VNDA LR LR 03 35 49.7
comp=Z,170nm,19.8s,MS4.4,baz=344,slow=35
VNDA Vanda 79.76 172 *e*P **P 03 01 04.7 -0.5**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 79.76 172 *e*P **P 03 01 04.7 -0.6**
comp=Z,4.2nm,0.8s,mb4.4
KIV Kislovodsk 83.61 314 *i*P **P 03 01 23.3 -2.3**
SVW2 Sparrevohn 86.03 29 *e*P **P 03 01 36.9 -0.8**
KMBO Kilima Mbogo 86.15 269 P **P 03 01 36.6 -1.7**
comp=Z,1.7nm,0.7s,mb4.4,baz=66,slow=5.4,SNR=4.1
KMBO Kilima Mbogo 86.15 269 *i*P **P 03 01 40.0 +1.7**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 86.15 269 *e*P **P 03 01 40.3 +2.0**
comp=Z,3.0nm,1.0s,mb4.5
MALT Malatya 86.32 308 *e*P **P 03 01 38.8 -0.3**
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
MALT Malatya 86.32 308 *e*P **P 03 01 38.8 -0.4**
comp=Z,2.0nm,0.7s,mb4.5
VRSR Storozhevoye 86.70 321 *e*P **P 03 01 38.7 -2.3**
VRSR pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
VRSR pmax pmax
comp=N,10.0nm,1.2s
VRSR pmax pmax
comp=E,10.0nm,0.9s
KDAK Kodiak Island 87.17 32 *e*P **P 03 01 43.3 0.0**
comp=E,8.3nm,0.8s,mb5.0
ASF Jabal al Asfar 87.27 302 P **P 03 01 42.8 -1.0**
comp=E,3.7nm,0.9s,mb4.6,baz=69,slow=1.9,SNR=6.2
SYO Syowa Base 87.37 201⇓*e*P **P 03 01 43.5 -0.7**
SYO Syowa Base 87.37 201⇓*e*PcP PcP 03 01 45.0 -1.2
MMAI Mount Meron Ar 88.56 303 P **P 03 01 48.2 -1.7**
comp=E,1.0nm,0.5s,mb4.4,baz=98,slow=10,SNR=3.5
QSPA South Pole Qui 89.50 180 *e*P **P 03 01 56.3 +2.0**
comp=E,6.7nm,0.9s,mb5.0
COLA College 89.86 25*e*P **P 03 01 57.7 +1.7**
BRTR Keskin Array B 90.10 310 P **P 03 01 54.5 -2.6**
comp=E,1.3nm,0.8s,mb4.3,baz=123,slow=4.6,SNR=6.0
AKASG Malin Array Be 93.00 321 P **P 03 02 07.6 -3.0**
comp=E,0.2nm,0.3s,mb4.0,baz=79,slow=4.7,SNR=6.1
AKASG Malin Array Be 93.00 321 P **P 03 02 07.6 -3.0**
ARCES ARCESS Array B 93.18 340 P **P 03 02 08.9 -2.4**
comp=E,1.2nm,0.6s,mb4.5,baz=93,slow=5.9,SNR=7.0
DAWY Dawson 93.55 26 *e*P **P 03 02 12.4 -0.7**
SPB4 Spitsbergen Ar 93.89 349 *e*P **P 03 02 11.9 -2.7**
SPB4 *e*pP pP 03 02 26.9 -1.5
LSZ Lusaka 94.92 255 *e*P **P 03 02 18.8 -0.6**
LSZ pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
LSZ Lusaka 94.92 255 *e*P **P 03 02 18.8 -0.6**
comp=Z,6.9nm,1.2s,mb5.0
BOSA Boshof 96.95 241 LR LR 03 38 39.5
comp=Z,182nm,21.2s,MS4.5,baz=58,slow=31
HFS Hagfors 100.10 331 P Pdif 03 02 39.8 -2.9
comp=Z,0.4nm,0.5s,baz=87,slow=7.6,SNR=5.0
TIP Timpagrande 103.15 310 *e*P Pdif 03 02 55.5 -0.7
HLID Hailey 113.10 42 *e*PKP PKiKP 03 07 35.2 +0.9
ELK Elko 113.60 45 *e*PKIKP PKiKP 03 07 35.8 +0.5
BOZ Bozeman (W) 114.04 39 *e*PKIKP PKiKP 03 07 36.5 +0.4
FFC Flin Flon 114.43 27 *e*PKIKP PKiKP 03 07 35.8 -1.1
HVU Hansel Valley 114.92 43 *e*PKIKP PKiKP 03 07 38.8 +1.0
DUG Dugway 115.52 45 *e*PKIKP PKdf 03 07 39.5 +0.6
SNOW Snow King Moun 115.56 41 *e*PKPdf PKPdf 03 07 39.8 +0.7
LOHW Long Hollow 115.60 41 *e*PKPdf PKPdf 03 07 39.5 +0.4
HWUT Hardware Ranch 115.82 43 *e*PKPdf PKPdf 03 07 40.1 +0.6
BW06 Boulder Array 116.66 41 *e*PKPdf PKPdf 03 07 40.5 -0.6
PDAR Pinedale Array 116.66 41 PKP PKPdf 03 07 40.8 -0.4
comp=Z,1.0nm,0.8s,baz=50,slow=2.3,SNR=7.7
PDAR PKKPbc PKKPbc 03 18 12.0 +3.9
comp=Z,1.0nm,0.9s,baz=103,slow=4.7,SNR=6.9
LAO LASA Array 116.83 36 *e*PKPdf PKPdf 03 07 42.4 +0.9
TMUT Trail Mountain 117.01 45 *e*PKPdf PKPdf 03 07 43.1 +1.3
SRU San Rafael 117.57 45 *e*PKIKP PKPdf 03 07 43.1 +0.2
RWWY Rawlins 118.70 41 *e*PKPdf PKPdf 03 07 45.1 +0.1
PV10 Paradox Valley 118.93 45 *e*PKPdf PKPdf 03 07 46.8 +1.3
PV01 Paradox Valley 119.37 45 *e*PKPdf PKPdf 03 07 47.5 +1.2
RSSD Black Hills 119.50 38 *e*PKIKP PKPdf 03 07 46.2 -0.4
TUC Tucson 119.97 52 *e*PKIKP PKPdf 03 07 48.2 +0.7
SMCO Snowmass 120.03 44 *e*PKPdf PKPdf 03 07 48.6 +1.0
ULM Lac du Bonnet 120.18 28 PKP PKPdf 03 07 46.2 -1.7
comp=Z,4.6nm,0.9s,baz=298,slow=4.0,SNR=8.7
ULM Lac du Bonnet 120.18 28 *e*PKPdf PKPdf 03 07 46.5 -1.5
ISCO Idaho Springs 120.67 43 *e*PKIKP PKPdf 03 07 49.6 +0.8
TORD Torodi Ar. Bea 120.91 285 PKP PKPdf 03 07 48.8 -0.5
comp=Z,3.1nm,0.8s,baz=74,slow=1.6,SNR=15
TORD PKKPbc PKKPbc 03 17 56.3 +3.7
comp=Z,1.1nm,0.9s,baz=270,slow=4.3,SNR=4.2
ANMO Albuquerque 122.26 48 *e*PKIKP PKPdf 03 07 53.3 +1.4
BNM Barren Site 122.48 49 *e*PKPdf PKPdf 03 07 53.8 +1.5
SCHQ Schefferville 125.14 7 PKP PKPdf 03 07 57.0 -0.4
comp=Z,4.7nm,0.8s,baz=320,slow=2.5,SNR=8.5
JCT Junction City 129.28 50 *e*PKIKP PKPdf 03 08 06.8 +1.5
ACSO Alum Creek Sta 133.69 28 *e*PKPdf PKPdf 03 08 14.1 +0.4
WVT Waverly 134.16 36 *e*PKIKP PKPdf 03 08 14.8 +0.3
WVT *e* 03 08 27.4
PLAL Pickwick Lake 134.80 37 *e*PKPdf PKPdf 03 08 14.7 -1.1
PLAL *e*pPKPdf pPKPdf 03 08 29.1 -0.8
LRAL Lakeview Retre 136.77 38 *e*PKPdf PKPdf 03 08 19.5 +0.1
LRAL *e*pPKPdf pPKPdf 03 08 33.9 +0.2
PLCA Paso Flores 137.10 164 PKP PKPdf 03 08 22.1 +2.1
comp=Z,3.0nm,1.0s,baz=192,slow=3.4,SNR=3.1
TRQA Tornquist 141.37 173 *e*PKPdf PKPdf 03 08 28.4 +0.6
TEIG Tepich 143.30 56 *e*PKPdf PKPdf 03 08 29.5 -1.7
SOR Soroa 146.04 47 *e*P PKPdf 03 08 37.9 +1.9
MGV Manicaragua 148.65 45 *e*P PKPbc 03 08 46.6 +2.5
JTS JuntasAbangare 150.15 70 *e*PKIKP PKPbc 03 08 49.1 +1.3
LVC Limon Verde 154.14 153 *e*PKPbc PKPbc 03 08 58.5 +1.7
OTAV Otavalo 158.14 90 *e*PKPdf PKPdf 03 08 55.9 +2.0
LPAZ La Paz 159.85 146 PKP PKPdf 03 08 58.7 +2.8
comp=Z,1.5nm,0.9s,baz=71,slow=4.8,SNR=8.3
LPAZ La Paz 159.85 146 *e*PKPdf PKPdf 03 08 58.6 +2.6
SDV Santo Domingo 163.69 59 PKP PKPdf 03 09 01.1 +1.2
comp=Z,6.4nm,0.8s,baz=331,slow=4.2,SNR=6.1
SDV PKPab PKPab 03 09 54.3 +2.2
comp=Z,8.0nm,0.8s,baz=293,slow=1.2,SNR=7.1
SDV Santo Domingo 163.69 59 *e*PKPdf PKPdf 03 09 00.8 +0.9
SDV *e*PKPab PKPab 03 09 53.0 +0.9
SAML Samuel 168.60 145 *e*PKPdf PKPdf 03 09 04.5 +0.7

*CSEM **30** 03:08:17.8±0.1, 3861N×2671E, h8km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.3km az=75.0*
*ISCJB **30** 03:08:18.3±0.6, 3863N±002×2670E±004, h9km±4km, Error ellipse: s-maj=5.8km s-min=3.6km az=164.3*
*ISK **30** 03:08:18.5, 3863N×2674E, h13km, MD3.2*
*NEIC **30** 03:08:18.5, 3863N×2674E, h13km, MD3.0(ATH), MD3.2(ISK), After ISK.*
*ATH **30** 03:08:18.3, 3858N×2643E, h22km±18km, MD3.0/3*
ISC 30 03:08:18.7±0.5, 3863N±002×2669E±004, h10km±4km, n27, σ0°89/37, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.27**	**196**	*i* P		**Pg**	**03 08 24.3**	**+0.1**
URLA				*i* S		**Sg**	**03 08 29.4**	**+1.5**
BLCB	**Balcova**	**0.37**	**131**	*i* PG		**Pg**	**03 08 25.3**	**-0.6**
IZM	**Izmir**	**0.50**	**117**	*i* PG		**Pg**	**03 08 28.1**	**-0.4**
IZM				*i* SG		**Sg**	**03 08 35.7**	**+0.6**
KDAG	**Bornova**	**0.51**	**116**	*i* P		**Pg**	**03 08 28.2**	**-0.3**
KDAG				*i* S		**Sg**	**03 08 35.5**	**+0.3**
AYVA	**Ayvalik**	**0.68**	**0**	*i* P		**Pg**	**03 08 31.3**	**-0.6**
AYVA				*i* S		**Sg**	**03 08 40.2**	**-0.6**
PRK	**Paraskevi**	**0.70**	**332**	*e*PN		**Pn**	**03 08 31.5**	**-3.1**
PRK				*e*SN		**Sg**	**03 08 41.3**	**-0.1**
AKS	**Akhisar**	**0.92**	**74**	PG		**Pg**	**03 08 35.8**	**-0.5**
AKS				SG		**Sg**	**03 08 48.1**	**-0.1**
SMG	**Samos**	**0.92**	**173**	*e*PN		**Pn**	**03 08 36.1**	**-1.6**
SMG				*e*SN		**Sn**	**03 08 49.4**	**-1.6**
EZN	**Ezine**	**1.23**	**347**	PN		**Pn**	**03 08 41.7**	**-0.3**
BOZC	**Bozcaada**	**1.31**	**338**	*i* P		**Pn**	**03 08 42.4**	**-0.6**
BOZC				*i* S		**Sb**	**03 09 00.8**	**+0.5**
BALB	**Balikesir**	**1.37**	**42**	PN		**Pn**	**03 08 43.3**	**-0.6**
CANB	**Canakkale**	**1.42**	**12**	PN		**Pn**	**03 08 44.5**	**0.0**
BTOK	**Tokmak**	**1.54**	**42**	*i* P		**Pn**	**03 08 45.7**	**-0.5**
BTOK				*i* S		**Sn**	**03 09 06.1**	**-0.2**
MLSB	**Milas**	**1.58**	**147**	*e*PN		**Pn**	**03 08 46.6**	**-0.1**
BODT	**Bodrum**	**1.64**	**162**	*e*PN		**Pn**	**03 08 47.8**	**+0.3**
BDRM	**Kayabasi**	**1.67**	**159**	*i* P		**Pn**	**03 08 47.1**	**-0.8**
BDRM				*i* S		**Sn**	**03 09 12.5**	**+3.1**
LIA	**Limnos Island**	**1.73**	**318**	*e*PN		**Pn**	**03 08 47.8**	**-1.0**
EDC	**Edincik**	**1.94**	**27**	*e*PN		**Pn**	**03 08 52.5**	**+0.7**
YER	**Yerkesik**	**1.95**	**139**	*e*PN		**Pn**	**03 08 52.2**	**+0.4**
DAT	**Datca**	**2.02**	**159**	*e*PN		**Pn**	**03 08 52.9**	**+0.1**
KCT	**Karacabey**	**2.09**	**38**	*e*PN		**Pn**	**03 08 53.2**	**-0.5**
RKY	**Sarkoy-Tekirda**	**2.10**	**10**	*e*PN		**Pn**	**03 08 55.0**	**+1.2**
ENEZ	**Enez**	**2.15**	**349**	*e*PN		**Pn**	**03 08 55.8**	**+1.2**
MFT	**Murefte**	**2.21**	**12**	*e*PN		**Pn**	**03 08 56.4**	**+1.0**
DALT	**Dalyan (Mudla)**	**2.41**	**140**	*e*PN		**Pn**	**03 08 58.3**	**+0.1**
YLV	**Yalova**	**2.84**	**46**	*e*PN		**Pn**	**03 09 05.2**	**+1.1**
EDRB	**Edirne**	**3.22**	**1**	*e*PN		**Pn**	**03 09 11.1**	**+1.8**

*TIF **30** 03:19:29.3, 4273N×4355E, h20km±4km*
MOS 30 03:19:28.3±1.0, 4269N×4363E, h11km, mb3.7/1, 4C-2D, Error ellipse: s-maj=16.1km s-min=9.2km az=84.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.21**	**350**	⇓*i*PG		Pg	03 19 32.9	+0.2
DIGR				*i* S		Sg	03 19 38.2	+2.5
ZEI	**Tsey**	**0.21**	**69**	*e*PG		Pg	03 19 33.3	+0.5
ZEI				*i*			03 19 39.9	
KORR	**Kora**	**0.51**	**39**	⇑*i*PG		Pg	03 19 39.4	+1.2
KORR				*i* S		Sg	03 19 49.6	+4.7
ARNR	**Ardon**	**0.69**	**44**	⇑*i*PG		Pg	03 19 42.8	+1.2
ARNR				*i* S		Sg	03 19 55.5	+4.9
KMSR	**Komsomolskaya**	**0.83**	**35**	⇑*i*PG		Pg	03 19 45.5	+1.1
KMSR				*i* S		Sg	03 20 00.2	+4.9
VLKR	**Vladikavkaz**	**0.85**	**65**	⇑*i*PG		Pg	03 19 45.7	+1.1
VLKR				*i* S		Sg	03 20 00.4	+4.7
SHAR	**Shatzhatmas**	**1.26**	**326**	*e*PG		Pg	03 19 51.1	-1.5
SHAR				*e*S		Sb	03 20 07.9	-0.5
KIV0	**Kislovodsk Arr**	**1.44**	**332**	*e*PG		Pg	03 19 54.4	-1.5
KIV0				*e*S		Sn	03 20 13.2	+0.1
KIV	**Kislovodsk**	**1.44**	**332**	⇓*e*PG		Pg	03 19 55.2	-0.7
KIV				*e*			03 20 14.3	
KIV				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BEYR	**Belyy Ugol+**	**1.45**	**336**	*e*PG		Pg	03 19 55.6	-0.5
BEYR				*e*S		Sn	03 20 13.9	+0.6

*ISCJB **30** 03:25:25.9±0.8, 3897N±003×2342E±005, h4km±7km, Error ellipse: s-maj=6.7km s-min=4.3km az=161.4*
*NEIC **30** 03:25:26.6, 3900N×2345E, h18km, ML3.3(ATH), After ATH.*
*ATH **30** 03:25:26.5, 3900N×2346E, h18km±1km, MD3.4/11, ML3.3*
*CSEM **30** 03:25:26.6, 3900N×2345E, h18km, MD3.3/11, After ATH*
*THE **30** 03:25:27.1, 3895N×2337E, h1km, ML3.0*
ISC 30 03:25:26.2±0.8, 3894N±003×2345E±005, h1km±7km, n26, σ0°96/35, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.41**	**335**	⇑*i*PB		**Pg**	**03 25 34.5**	**+0.6**
NEO				*e*SB		**Sg**	**03 25 39.7**	**+0.5**
AOS	**Alonnisos**	**0.41**	**55**	*e*Pg		**Pg**	**03 25 35.6**	**+1.6**
LKR	**Lokris**	**0.45**	**231**	*e*PN		**Pg**	**03 25 35.4**	**+0.6**
XOR	**Xorichti**	**0.47**	**335**	*e*Pg		**Pg**	**03 25 35.6**	**+0.4**
AGG	**Agios Georgios**	**0.87**	**276**	*e*Pg		**Pg**	**03 25 42.0**	**-0.9**
AGG				*e*Sg		**Sg**	**03 25 54.3**	**0.0**
PTL	**Penteli**	**0.95**	**160**	*e*Pb		**Pb**	**03 25 45.0**	**-0.3**
PTL				*e*Sn		**Sn**	**03 26 00.0**	**-0.7**
MGER	**Gerania Oros**	**0.96**	**189**	*e*PN		**Pn**	**03 25 46.0**	**-0.7**
MGER				*e*SN		**Sn**	**03 26 01.0**	**0.0**
MGER	**Gerania Oros**	**0.96**	**189**	*e*Pb		**Pb**	**03 25 44.8**	**-0.8**
MGER				*e*Sn		**Sn**	**03 26 01.0**	**0.0**
ATH	**Athens Observa**	**0.99**	**167**	*e*PN		**Pn**	**03 25 46.3**	**-0.8**
ATH				SN		**Sn**	**03 26 01.3**	**-0.4**
KVR	**Kavouri**	**1.14**	**167**	*e*PN		**Pn**	**03 25 49.0**	**-0.2**
KVR				*e*SN		**Sn**	**03 26 06.0**	**+0.6**
NAIG	**Nisos Aigina**	**1.18**	**178**	*e*PN		**Pn**	**03 25 49.8**	**+0.1**
NAIG				*e*SN		**Sn**	**03 26 08.0**	**+1.6**
EVR	**Evrytania**	**1.28**	**270**	*e*PB		**Pb**	**03 25 50.1**	**-0.9**
LIT	**Litokhoron**	**1.38**	**328**	*e*Pg		**Pg**	**03 25 51.4**	**-1.2**
LIT				*e*Sg		**Sg**	**03 26 11.0**	**+0.7**
PLG	**Polygyros**	**1.43**	**360**	*e*PN		**Pn**	**03 25 52.3**	**-0.9**
LIA	**Limnos Island**	**1.65**	**54**	*e*PN		**Pn**	**03 25 56.1**	**-0.1**
RLS	**Riolos of Patr**	**1.79**	**241**	*e*PN		**Pn**	**03 25 59.9**	**+1.8**
KZN	**Kozani**	**1.88**	**317**	*e*PN		**Pn**	**03 26 00.5**	**+1.1**
SOH	**Sokhos**	**1.88**	**358**	*e*Pb		**Pb**	**03 25 59.1**	**-2.2**
ITM	**Ithomi**	**2.13**	**215**	*e*PN		**Pn**	**03 26 04.4**	**+1.6**
GRG	**Griva**	**2.17**	**339**	*e*Pn		**Pn**	**03 26 02.9**	**-0.5**
SRS	**Serrai**	**2.18**	**3**	*e*Pn		**Pn**	**03 26 03.0**	**-0.4**
VLI	**Veliai**	**2.25**	**190**	*e*PB		**Pb**	**03 26 05.4**	**-2.2**
KNT	**Kendrikon**	**2.26**	**349**	*e*Pn		**Pn**	**03 26 04.8**	**+0.2**
NVR	**Nevrokopi**	**2.43**	**7**	*e*PB		**Pb**	**03 26 06.5**	**-4.1**
FNA	**Florina**	**2.44**	**320**	*e*Pn		**Pn**	**03 26 07.3**	**+0.3**
APE	**Apeiranthos**	**2.49**	**138**	*e*Pn		**Pn**	**03 26 08.9**	**+1.2**

*ISCJB **30** 03:58:40.8±1.3, 04N±02×1005E±02, h229km±10km, mb3.6/11, Error ellipse: s-maj=42.7km s-min=14.2km az=102.8*
*NEIC **30** 03:58:42.9±1.1, 044N×10059E, h231km±10km, mb3.8/5, Error ellipse: s-maj=27.5km s-min=10.1km az=50.0*
*IDC **30** 03:58:42.3±1.4, 042N×10058E, h220km±11km, mb3.3/7, mb1 3.4/8, mb1mx3.2/19, mbtmp3.8/8, Error ellipse: s-maj=37.4km s-min=14.4km az=51.0*
ISC 30 03:58:42.2±1.3, 04N±02×1005E±02, h224km±10km, n15, σ0°98/15, mb3.6/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.84**	**327**	P		**Pn**	**03 59 32.1**	**+0.8**
	6.9nm,0.3s,baz=144,slow=10,SNR=20							
PSI				S		**S**	**04 00 09.2**	**-0.8**
	0.8nm,0.3s,baz=8.4,slow=18,SNR=7.7							
KULM	**Kulim**	**4.86**	**2**	*e*Pn		**Pn**	**03 59 55.8**	**+0.4**
MBWA	**Marble Bar**	**28.52**	**140**	*e*P		**P**	**04 04 16.5**	**-0.4**
	6.0nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**38.85**	**123**	P		**P**	**04 05 44.2**	**-1.4**
	0.4nm,0.5s,mb3.2,baz=302,slow=9.0,SNR=3.8							
ASAR	**Alice Springs**	**40.33**	**129**	P		**P**	**04 05 59.9**	**+2.0**
	0.2nm,0.3s,mb3.0,baz=297,slow=8.6,SNR=4.2							
ASAR				PcP		PcP	04 07 57.4	+0.8
	0.9nm,0.4s,baz=296,slow=2.0,SNR=8.7							
SONM	**Songino Array**	**47.52**	**5**	P		**P**	**04 06 55.7**	**+0.8**
	0.7nm,0.5s,mb3.2,baz=195,slow=11,SNR=5.7							
SONM				PcP		PcP	04 08 22.0	+0.8
	0.7nm,0.5s,baz=192,slow=3.5,SNR=5.9							
MKAR	**Makanchi Array**	**48.87**	**343**	P		**P**	**04 07 05.5**	**+0.3**
	0.7nm,0.3s,mb3.4,baz=159,slow=8.6,SNR=12							
CTAO	**Charters Tower**	**49.23**	**117**	*e*P		**P**	**04 07 07.3**	**-0.5**
	8.6nm,1.1s,mb4.0							
ZRNK	**Zerenda**	**58.56**	**338**	*e*P		**P**	**04 08 13.7**	**-1.6**
	1.4nm,0.9s,mb3.6							
CHKZ	**Chkalovo**	**58.56**	**340**	*e*P		**P**	**04 08 14.2**	**-1.1**
	0.8nm,0.6s,mb3.5							
BR131	**Keskin Array S**	**72.07**	**312**	*e*P		**P**	**04 09 42.6**	**+0.8**
	1.2nm,0.6s,mb3.7							
BRTR	**Keskin Array B**	**72.07**	**312**	P		**P**	**04 09 43.2**	**+1.3**
	1.4nm,0.6s,mb3.7,baz=123,slow=9.0,SNR=5.4							
FINES	**FINESS Array B**	**82.22**	**332**	P		**P**	**04 10 38.6**	**+0.4**
	0.7nm,0.5s,mb3.5,baz=108,slow=6.2,SNR=9.1							
ARCES	**ARCESS Array B**	**84.39**	**340**	P		**P**	**04 10 49.6**	**+0.3**
	1.7nm,0.9s,mb3.8,baz=94,slow=3.6,SNR=10							
BDFB	**Brasilia**	**145.41**	**242**	PKPbc		PKPbc	04 17 55.0	+1.3
	1.9nm,0.5s,baz=139,slow=3.5,SNR=7.0							

IDC 30 04:02:12.4±14.0, 1039S×16668E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/15, mbtmp4.2/5, ML4.3/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/17, Error ellipse: s-maj=237.1km s-min=53.8km az=52.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.70**	**278**	LR		LR	04 06 08.6	
	comp=Z,182nm,20.4s,baz=0.4,slow=35							
DZM	**Mont Dzumac**	**11.62**	**181**	Pn		Pn	04 05 00.3	+0.8
	2.1nm,0.3s,baz=246,slow=10.0,SNR=14							
PMG	**Port Moresby**	**19.25**	**271**	LR		LR	04 13 41.5	
	comp=Z,136nm,18.3s,baz=178,slow=36							
CTA	**Charters Tower**	**21.91**	**241**	P		P	04 07 07.4	+0.2
	7.9nm,0.8s,baz=74,slow=13,SNR=3.6							
STKA	**Stephens Creek**	**31.55**	**224**	P		P	04 08 35.5	-0.8
	2.6nm,0.7s,baz=32,slow=8.1,SNR=5.2							
WRA	**Warramunga Arr**	**32.57**	**249**	P		P	04 08 46.4	+1.2
	2.8nm,0.8s,baz=79,slow=9.0,SNR=11							
ASAR	**Alice Springs**	**33.90**	**243**	P		P	04 08 57.3	+0.4
	0.6nm,0.7s,baz=74,slow=10,SNR=5.8							

MEX 30 04:04:47.4±0.4, 1696N×10017W, h13km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.12**	**313**	*i* P		Pg	04 04 50.0	-0.6
CAIG				*i* S		Sg	04 04 52.3	-0.7
ACX	**Acapulco**	**0.27**	**111**	*i* P		Pg	04 04 52.5	-0.5
ACX				*i* S		Sg	04 04 56.5	-0.2
MEIG	**Mezcala**	**1.09**	**29**	*i* P		Pb	04 05 04.9	-3.3
MEIG				*i* S		Sb	04 05 18.0	-4.3

*ISCJB **30** 04:07:44.7±0.8, 3441N±007×3201E±009, h35km±57km, Error ellipse: s-maj=13.5km s-min=10.0km az=73.1*
*CSEM **30** 04:07:44.3±0.1, 3446N×3197E, h40km, Mw3.1, Error ellipse: s-maj=5.6km s-min=2.4km az=114.0*
*NIC **30** 04:07:45.1±0.2, 3443N×3204E, h20km, ML3.4, MW3.1*
*NEIC **30** 04:07:45.1, 3443N×3204E, h20km, ML3.4(NIC), After NIC.*
*HLW **30** 04:07:50.4, 3408N×3193E, h33km, Mb3.0*
ISC 30 04:07:45.7±1.0, 3446N±006×3206E±009, h27km±12km, n20, σ0°73/26, 10C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.49**	**28**	⇑*e*P		**Pb**	**04 07 55.4**	**-0.4**
ALFC	**Alevga**	**0.83**	**32**	P		**Pb**	**04 08 00.6**	**-0.8**
	18nm,0.3s							
ALFC				S		**Sb**	**04 08 13.3**	**+1.1**
CSS	**Prodhromos**	**1.16**	**64**	P		**Pn**	**04 08 05.5**	**-0.6**
	5.1nm,0.2s							
CSS				S		**Sn**	**04 08 21.0**	**0.0**
CSS	**Prodhromos**	**1.16**	**64**	PG		**Pn**	**04 08 04.8**	**-1.3**
CSS	**Prodhromos**	**1.16**	**64**	P		**Pn**	**04 08 05.5**	**-0.6**
	5.1nm,0.2s							
CSS				S		**Sn**	**04 08 21.0**	**0.0**
MAMC	**Mammari**	**1.19**	**53**	P		**Pn**	**04 08 06.1**	**-0.4**
PHNC	**Paralimni**	**1.71**	**71**	P		**Pn**	**04 08 15.1**	**+1.4**
IKL	**Isikli**	**2.22**	**36**	PN		**Pn**	**04 08 21.2**	**+0.6**
MERS	**Mersin**	**3.13**	**39**	*e*PN		**Pn**	**04 08 33.7**	**+0.6**
KARA	**Karaisali**	**3.71**	**40**	*e*PN		**Pn**	**04 08 39.2**	**-1.9**
AMAG	**Maghara**	**3.92**	**165**	⇑P		**Pn**	**04 08 44.0**	**0.0**
GLL	**Jalalah**	**4.87**	**184**	⇑P		**Pn**	**04 08 56.4**	**-0.7**
GLL				S		**Sn**	**04 09 44.5**	**-8.1**
ZNM		**5.11**	**172**	⇑P		**Pn**	**04 08 59.9**	**-0.5**
HMAT	**Matruh**	**5.36**	**233**	⇑P		**Pn**	**04 09 04.0**	**+0.2**
HMAT				S		**Sn**	**04 09 58.1**	**-6.5**
HDHB	**Dhahab**	**6.12**	**158**	⇑P		**Pn**	**04 09 14.7**	**+0.5**
HKAT	**Jabal Katrina**	**6.14**	**164**	⇑P		**Pn**	**04 09 14.9**	**+0.4**
TR2		**6.21**	**166**	⇑P		**Pn**	**04 09 15.6**	**0.0**
TR1		**6.

HNKL	**Nakhl**	**4.71**	**161**	P	**Pn**	**04 49 45.5**	**+0.8**
BODT	**Bodrum**	**4.77**	**305**	*e*PN	**Pn**	**04 49 45.4**	**-0.1**
TR2		**6.14**	**167**	⇑P	**Pn**	**04 50 03.7**	**-0.6**

*ISCJB **30** 05:10:07.9±1.4, 3443N×007×320E±02, h33km, Error ellipse: s-maj=19.6km s-min=6.4km az=46.6*
*NIC **30** 05:10:07.9±0.2, 3437N×3195E, h25km, ML3.1, MW3.0*
*NEIC **30** 05:10:07.9, 3437N×3195E, h25km, ML3.1(NIC), After NIC.*
*HLW **30** 05:10:28.3, 3302N×3201E, h33km, Mb2.8*
ISC 30 05:10:08.7±1.5, 3449N±007×320E±01, h30km±10km, n9, σ0=66/14, 5C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.48**	**36**	⇑*e*P	**Pb**	**05 10 18.8**	**-0.0**
SZAC	**Souni-Zanaja**	**0.78**	**70**	P	**Pb**	**05 10 22.3**	**-1.4**
SZAC				S	**Sb**	**05 10 34.0**	**+0.2**
ALFC	**Alevga**	**0.82**	**37**	P	**Pn**	**05 10 23.9**	**-0.4**
	16nm,0.2s						
ALFC				S	**Sb**	**05 10 36.4**	**+1.1**
CSS	**Prodhromos**	**1.19**	**67**	P	**Pn**	**05 10 28.8**	**-0.5**
	2.2nm,0.3s						
CSS				S	**Sn**	**05 10 44.7**	**+0.2**
MAMC	**Mammari**	**1.21**	**56**	⇑P	**Pn**	**05 10 29.3**	**-0.2**
AMAG	**Maghara**	**3.97**	**165**	⇑P	**Pn**	**05 11 07.7**	**+0.2**
AMAG				S	**Sn**	**05 11 36.9**	**-16**
HNKL	**Nakhl**	**4.85**	**159**	⇑P	**Pn**	**05 11 20.6**	**+1.0**
HNKL				S	**Sn**	**05 11 58.3**	**-16**
HKAT	**Jabal Katrina**	**6.19**	**164**	⇓P	**Pn**	**05 11 38.5**	**+0.5**
TR2		**6.26**	**166**	⇑P	**Pn**	**05 11 38.4**	**-0.6**

IDC 30 05:14:06.4±4.2, 1946N×12005E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, 1D, Error ellipse: s-maj=423.6km s-min=24.9km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.25**	**155**	⇓*i*P	Pg	05 14 23.0	-7.3
CVP	**Callao Caves**	**2.42**	**136**	*e*P	Pn	05 14 42.0	-5.2
MKAR	**Makanchi Array**	**41.14**	**320**	P	P	05 21 52.2	0.0
	1.0nm,0.8s,baz=109,slow=9.1,SNR=7.7						
WRA	**Warramunga Arr**	**41.58**	**160**	P	P	05 21 55.9	0.0
	1.1nm,0.8s,baz=340,slow=9.1,SNR=5.3						
ASAR	**Alice Springs**	**44.94**	**162**	P	P	05 22 23.4	+0.3
	1.0nm,0.7s,baz=340,slow=6.8,SNR=10						
STKA	**Stephens Creek**	**55.06**	**158**	P	P	05 23 40.1	+0.2
	3.7nm,0.8s,baz=331,slow=10,SNR=4.0						

*CSEM **30** 05:16:10.9±0.3, 3446N×3203E, h24km±2km, Mw2.9, Error ellipse: s-maj=11.4km s-min=3.1km az=110.0*
*ISCJB **30** 05:16:11.3±1.5, 3446N±007×320E±0.1, h31km±10km, Error ellipse: s-maj=21.5km s-min=8.8km az=52.5*
*NIC **30** 05:16:11.9±0.2, 3444N×3196E, h25km, ML3.1, MW2.9*
*NEIC **30** 05:16:11.9, 3444N×3196E, h25km, ML3.1(NIC), After NIC.*
*HLW **30** 05:16:25.6, 3339N×3172E, h33km, Mb2.8*
ISC 30 05:16:12.3±1.5, 3452N±008×320E±01, h28km±11km, n9, σ0=57/15, 2C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.46**	**37**	P	**Pb**	**05 16 22.2**	**+0.2**
SZAC	**Souni-Zanaja**	**0.77**	**72**	P	**Pb**	**05 16 26.2**	**-0.8**
SZAC				S	**Sb**	**05 16 37.1**	**+0.1**
ALFC	**Alevga**	**0.81**	**37**	P	**Pb**	**05 16 27.2**	**-0.5**
	13nm,0.2s						
ALFC				S	**Sb**	**05 16 39.1**	**+0.9**
CSS	**Prodhromos**	**1.18**	**67**	P	**Pn**	**05 16 32.3**	**-0.6**
	1.8nm,0.2s						
CSS				S	**Sn**	**05 16 48.2**	**+0.1**
MAMC	**Mammari**	**1.20**	**56**	P	**Pn**	**05 16 33.0**	**-0.1**
AMAG	**Maghara**	**3.99**	**165**	⇑P	**Pn**	**05 17 11.3**	**-0.3**
AMAG				S	**Sn**	**05 17 44.5**	**-13**
HNKL	**Nakhl**	**4.87**	**159**	⇑P	**Pn**	**05 17 23.9**	**+0.2**
HNKL				S	**Sn**	**05 18 06.3**	**-13**
HBST	**Basata**	**5.77**	**156**	⇓P	**Pn**	**05 17 37.3**	**+1.2**
HBST				S	**Sn**	**05 18 29.1**	**-12**
HKAT	**Jabal Katrina**	**6.21**	**164**	⇓P	**Pn**	**05 17 41.8**	**-0.3**

*BJI **30** 05:24:34.5, 5910N×15320W, h67km, mB4.8, mb5.0, Ms4.5, Msz4.2*
*MOS **30** 05:24:35.8±0.9, 5917N×15359W, h71km, mb5.0/35, Error ellipse: s-maj=12.6km s-min=5.9km az=84.9*
*ISCJB **30** 05:24:36.7±0.2, 5916N±003×15339W±005, h78km, mb4.5/96, Error ellipse: s-maj=4.5km s-min=3.5km az=162.9*
*IDC **30** 05:24:38.0±0.6, 5906N×15335W, h85km±7km, mb3.8/11, mb1 4.0/14, mb1mx3.9/19, mbtmp4.2/14, MS2.9/7, Ms1 2.9/7, ms1mx2.8/26, Error ellipse: s-maj=14.5km s-min=9.3km az=73.0*
*NEIC **30** 05:24:39.6, 5907N×153.18W, h67km, mb4.5/67, ML4.3(AEIC), ML4.6(PMR), After AEIC.*
NEIC Felt [II] at Homer. Also felt at Anchor Point.
ISC 30 05:24:38.1±0.2, 5917N±003×15339W±005, h80km, h80km±2.0km: pP-P, n219, σ0=98/222, mb4.5/96, 3C-2D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.46**	**163**	P	**Pn**	**05 25 01.8**	**-1.1**
	300nm,0.3s,baz=7.0,slow=7.1,SNR=1486						
KDAK				S	**Sn**	**05 25 18.9**	**-2.6**
	697nm,0.3s,baz=224,slow=22,SNR=32						
KDAK	**Kodiak Island**	**1.46**	**163**	P	**Pn**	**05 25 01.9**	**-1.0**
KDAK				S	**Sn**	**05 25 19.1**	**-2.5**
SLKM	**Skilak Lake**	**2.08**	**49**	P	**Pn**	**05 25 11.3**	**+0.2**
SEW	**Seward**	**2.21**	**63**	P	**Pn**	**05 25 12.0**	**-0.7**
SVW2	**Sparrevohn**	**2.22**	**331**	P	**Pn**	**05 25 14.8**	**+1.9**
FIB	**Fire Island**	**2.56**	**37**	P	**Pn**	**05 25 19.3**	**+1.7**
RC01	**Rabbit Creek A**	**2.65**	**42**	P	**Pn**	**05 25 19.4**	**+0.7**
RC01				S	**Sn**	**05 25 50.4**	**+0.5**
PMR	**Palmer**	**3.22**	**39**	P	**Pn**	**05 25 26.4**	**0.0**
KNK	**Knik Glacier**	**3.33**	**45**	P	**Pn**	**05 25 27.9**	**0.0**
KNK				S	**Sn**	**05 26 05.9**	**-0.4**
GHO	**Glory Hole Cre**	**3.42**	**38**	P	**Pn**	**05 25 29.4**	**+0.2**
MID	**Middleton Isla**	**3.62**	**83**	*e*P	**Pn**	**05 25 30.9**	**-1.0**
SML	**Sawmill**	**3.64**	**41**	P	**Pn**	**05 25 32.0**	**-0.1**
CHGN	**Chignik**	**3.94**	**225**	P	**Pn**	**05 25 36.7**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.09**	**67**	P	**Pn**	**05 25 36.9**	**-1.4**
EYAK				S	**Sn**	**05 26 21.2**	**-3.7**
KTH	**Kantishna Hill**	**4.55**	**14**	P	**Pn**	**05 25 46.1**	**+1.6**
SDPT	**Sand Point**	**5.43**	**228**	P	**Pn**	**05 25 57.0**	**+0.4**
MENT	**Mentasta**	**6.02**	**47**	*e*P	**Pn**	**05 26 04.8**	**+0.2**
COLA	**College**	**6.28**	**22**	P	**Pn**	**05 26 08.6**	**+0.4**
PCA	**Pinnacle**	**6.72**	**76**	P	**Pn**	**05 26 13.3**	**-0.8**
FALS	**False Pass**	**6.98**	**236**	*e*Pn	**Pn**	**05 26 18.6**	**+1.0**
PNL	**Peninsula**	**7.16**	**80**	P	**Pn**	**05 26 19.0**	**-1.0**
DAWY	**Dawson**	**8.27**	**48**	*e*Pn	**Pn**	**05 26 35.7**	**+0.4**
SKAG	**Skagway**	**9.24**	**80**	*e*P	**Pn**	**05 26 47.4**	**-1.1**
	9.5nm,0.4s						
SIT	**Sitka**	**9.79**	**95**	*e*P	**Pn**	**05 26 53.3**	**-2.6**
SIT				pmax	pmax		
	comp=Z,46nm,0.3s						
SIT	**Sitka**	**9.79**	**95**	*e*P	**Pn**	**05 26 53.3**	**-2.6**
	comp=Z,46nm,0.3s						
CRAG	**Craig**	**11.55**	**100**	*e*P	**Pn**	**05 27 17.3**	**-2.7**
	comp=Z,15nm,0.3s						
DLBC	**Dease Lake**	**12.12**	**83**	P	**Pn**	**05 27 29.0**	**+1.2**
	comp=Z,3.7nm,0.3s,baz=251,slow=10,SNR=30						
DLBC				S	**Sn**	**05 29 38.5**	**-2.4**
	comp=Z,1.6nm,0.3s,baz=204,slow=25,SNR=6.0						
DLBC				LR	LR	05 32 13.3	
	comp=Z,18nm,19.8s,baz=284,slow=38						
DLBC	**Dease Lake**	**12.12**	**83**	*e*Pn	**Pn**	**05 27 27.9**	**+0.1**
INK	**Inuvik**	**12.62**	**35**	P	**Pn**	**05 27 34.2**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=227,slow=15,SNR=50						
INK				LR	LR	05 33 07.6	
	comp=Z,79nm,18.5s,baz=312,slow=40						
INK	**Inuvik**	**12.62**	**35**	*e*P	**Pn**	**05 27 34.0**	**-0.6**
INK				pmax	pmax		
	comp=Z,29nm,0.9s						
INK	**Inuvik**	**12.62**	**35**	*e*Pn	**Pn**	**05 27 34.0**	**-0.6**
	comp=Z,29nm,0.9s						
BBB	**Bella Bella**	**15.81**	**105**	LR	LR	05 34 24.5	
	comp=Z,30nm,18.5s,baz=332,slow=37						
YKA	**Yellowknife Ar**	**18.99**	**63**	P	**Pn**	**05 28 53.2**	**-1.5**
	baz=275,slow=9.8,SNR=15						
YKA				PcP	PcP	05 33 14.8	-0.7
	baz=276,slow=1.7,SNR=4.9						
YKA				LR	LR	05 36 45.2	
	comp=Z,54nm,19.7s,baz=255,slow=38						
YKA	**Yellowknife Ar**	**18.99**	**63**	P	**Pn**	**05 28 53.2**	**-1.5**
YKA				PcP	PcP	05 33 14.8	-0.7
YKA				LR	LR	05 36 45.2	
SMY	**Shemya**	**19.17**	**265**	*e*P	**Pn**	**05 28 55.2**	**-1.7**
SMY				pmax	pmax		
	comp=Z,23nm,0.8s						
SMY	**Shemya**	**19.17**	**265**	*e*P	**Pn**	**05 28 55.2**	**-1.7**
	comp=Z,23nm,0.8s						
BILL	**Bilibino**	**19.63**	**314**	⇓*e*P	**Pn**	**05 29 01.2**	**-1.1**
BILL				pmax	pmax		
	comp=E,15nm,1.0s						
EDM	**Edmonton**	**22.78**	**88**	*e*P	**P**	**05 29 35.6**	**+1.8**
EDM				*e*pP		05 29 46.6	
NEW	**Newport**	**23.77**	**101**	pP	pP	05 30 01.2	+0.4
	comp=E,3.1nm,0.8s,baz=358,slow=9.3,SNR=3.1						
NEW				LR	LR	05 37 23.6	
	comp=E,54nm,21.3s,baz=97,slow=32						
NEW	**Newport**	**23.77**	**101**	*e*P	**P**	**05 29 41.4**	**-1.8**
NEW				pmax	pmax		
	comp=Z,60nm,1.1s						
NEW	**Newport**	**23.77**	**101**	*e*P	**P**	**05 29 41.4**	**-1.8**
	comp=Z,6.5nm,1.1s,mb3.9						
YBH	**Yreka Blue Hor**	**25.85**	**119**	LR	LR	05 39 29.0	
	comp=Z,11nm,19.1s,baz=317,slow=35						
YBH	**Yreka Blue Hor**	**25.85**	**119**	P	**P**	**05 30 04.0**	**+1.9**
YBH				*e*PP	pP	05 30 21.9	+1.5
YBH				pmax	pmax		
	comp=Z,30nm,0.8s						
YBH	**Yreka Blue Hor**	**25.85**	**119**	P	**P**	**05 30 04.0**	**+1.9**
	comp=Z,3.3nm,0.8s,mb3.8						
YBH				*e*pP	pP	05 30 21.9	+1.4
BMO	**Blue Mountains**	**26.03**	**107**	*e*P	**P**	**05 30 06.3**	**+2.6**
	comp=Z,6.6nm,1.2s,mb3.9						
BMO				*e*pP	pP	05 30 23.6	+1.5
RES	**Resolute Bay**	**26.11**	**31**	*e*P	**P**	**05 30 05.4**	**+0.9**
	comp=Z,7.1nm,0.9s,mb4.1						
CHMT	**Chamberlain Mo**	**26.62**	**100**	P	**P**	**05 30 10.4**	**+1.3**
CHMT				*e*pP	pP	05 30 29.0	+1.5
EGMT	**Eagleton**	**27.68**	**94**	*e*P	**P**	**05 30 13.7**	**-4.8**
	comp=Z,4.2nm,0.9s,mb4.0						
MA2	**Magadan**	**27.75**	**295**	⇑*i*P	**P**	**05 30 19.6**	**+0.5**
MA2				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.0						
MCMT	**McKenzie Canyo**	**28.27**	**102**	P	**P**	**05 30 25.7**	**+2.0**
HLID	**Hailey**	**28.39**	**106**	P	**P**	**05 30 25.8**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.5						
HLID				*e*pP	pP	05 30 45.2	+1.8
IMW	**Indian Meadow**	**29.89**	**102**	*e*P	**P**	**05 30 38.1**	**-0.1**
	comp=Z,15nm,1.0s,mb4.6						
IMW				*e*pP	pP	05 30 58.1	+1.3
MOOW	**Moose Ponds**	**30.09**	**102**	*e*P	**P**	**05 30 40.6**	**+0.6**
	comp=Z,3.4nm,1.2s,mb3.9						
MOOW				*e*pP	pP	05 30 59.1	+0.5
ELK	**Elko**	**30.11**	**111**	*e*P	**P**	**05 30 41.6**	**+1.5**
	comp=Z,2.2nm,1.0s,mb3.7						
ELK				*e*pP	pP	05 30 59.6	+0.8
LOHW	**Long Hollow**	**30.26**	**102**	*e*P	**P**	**05 30 43.5**	**+2.1**
	comp=Z,7.9nm,1.0s,mb4.3						
LOHW				*e*pP	pP	05 31 01.2	+1.1
HWUT	**Hardware Ranch**	**31.26**	**105**	P	**P**	**05 30 50.4**	**+0.2**
	comp=Z,13nm,1.3s,mb4.5						
HWUT				*e*pP	pP	05 31 09.3	+0.4
PDAR	**Pinedale Array**	**31.40**	**102**	P	**P**	**05 30 50.3**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=266,slow=4.1,SNR=2.8						
PDAR				pP	pP	05 31 10.5	+0.4
	comp=Z,1.5nm,0.8s,baz=328,slow=5.3,SNR=9.8						
TIXI	**Tiksi**	**32.04**	**324**	*i*P	**P**	**05 30 56.4**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
TPNV	**Topopah Spring**	**32.66**	**116**	*e*P	**P**	**05 31 03.8**	**+1.4**
	comp=Z,3.6nm,0.9s,mb4.2						
TPNV				*e*pP	pP	05 31 22.8	+1.6
ULM	**Lac du Bonnet**	**33.40**	**80**	pP	pP	05 31 27.7	0.0
	comp=Z,1.1nm,0.6s,baz=11,slow=2.1,SNR=2.6						
SRU	**San Rafael**	**33.67**	**107**	*e*P	**P**	**05 31 10.3**	**-1.0**
SRU				*e*PP	pP	05 31 32.2	+2.1
SRU				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.9						
SRU	**San Rafael**	**33.67**	**107**	*e*P	**P**	**05 31 10.2**	**-1.1**
	comp=Z,24nm,1.2s,mb4.9						
SRU				*e*pP	pP	05 31 32.2	+2.1
SMCO	**Snowmass**	**35.38**	**104**	*e*P	**P**	**05 31 23.1**	**-2.9**
	comp=Z,2.3nm,1.0s,mb4.0						
SMCO				*e*pP	pP	05 31 47.8	+2.9
PV01	**Paradox Valley**	**35.39**	**106**	*e*P	**P**	**05 31 25.8**	**-0.4**
YAK	**Yakutsk**	**35.82**	**308**	*e*P	**P**	**05 31 29.2**	**-0.6**
YAK				pmax	pmax		
	comp=Z,62nm,0.8s						
WUAZ	**Wupatki**	**36.11**	**112**	*e*P	**P**	**05 31 32.9**	**+0.6**
	comp=Z,5.2nm,0.8s,mb4.5						
WUAZ				*e*pP	pP	05 31 52.5	+1.3
ANMO	**Albuquerque**	**38.95**	**107**	*e*P	**P**	**05 31 57.3**	**+1.1**
	comp=Z,1.0nm,0.7s,mb3.8						
ANMO				*e*pP	pP	05 32 16.8	+1.5
KLR	**Kul'dur**	**42.65**	**291**	*e*P	**P**	**05 32 23.3**	**-3.4**
KLR				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.2						
BOD	**Bodaibo**	**44.64**	**310**	*e*P	**P**	**05 32 41.3**	**-1.3**
BOD				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0						
JCT	**Junction City**	**45.85**	**104**	*e*P	**P**	**05 32 53.5**	**+1.3**
JCT				*e*PP	pP	05 33 12.1	+0.4
JCT				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.0						
JCT	**Junction City**	**45.85**	**104**	*e*P	**P**	**05 32 53.5**	**+1.2**
	comp=Z,31nm,0.9s,mb5.0						
JCT				*e*pP	pP	05 33 12.1	+0.4
MDJ	**Mudanjiang**	**46.95**	**288**	P	**P**	**05 33 02.5**	**+1.6**
MDJ				AP	pP	05 33 18.5	-1.9
MDJ				XP	sP	05 33 26.0	-3.5
MDJ				PCP	PcP	05 34 35.3	+3.1
MDJ				SCP	ScP	05 38 23.0	+4.3
MDJ				PCS	PcS	05 38 29.0	+1.7
MDJ				S	**S**	**05 39 44.0**	**-2.1**
MDJ				AMB	AMB		
	comp=Z,20nm,4.9s						
MDJ				LR	LR		
	comp=N,70nm,41.9s						
MDJ				LR	LR		
	comp=E,40nm,50.3s						
HIA	**Hailar**	**48.23**	**299**	⇑*i*P	**P**	**05 33 10.0**	**-0.8**
MJAR	**Matsushiro Arr**	**48.64**	**274**	P	**P**	**05 33 14.4**	**+0.5**
	comp=E,1.2nm,0.4s,mb4.2,baz=0.9,slow=7.8,SNR=5.7						
MJAR				pP	pP	05 33 33.6	0.0
	comp=E,1.0nm,0.5s,baz=131,slow=11,SNR=2.3						
MJAR				PcP	PcP	05 34 36.5	-1.7
	comp=E,1.9nm,0.7s,baz=39,slow=4.1,SNR=4.5						
CIT	**Chita**	**48.93**	**305**	*e*P	**P**	**05 33 16.6**	**+0.5**
SWET	**Sewanee**	**49.17**	**88**	*e*P	**P**	**05 33 20.4**	**+2.4**
SWET				*e*pP	pP	05 33 36.8	-0.9
CN2	**Changchun**	**49.57**	**290**	*e*P	**P**	**05 33 26.3**	**+5.3**
ARCES	**ARCESS Array B**	**51.59**	**0**	P	**P**	**05 33 34.4**	**-1.8**
	comp=E,1.4nm,0.8s,mb4.0,baz=12,slow=6.2,SNR=6.1						
ARCES				pP	pP	05 33 53.8	-2.3
	comp=E,1.4nm,0.8s,baz=355,slow=6.6,SNR=2.2						
ARCES				PcP	PcP	05 34 48.3	-0.7
	comp=E,4.8nm,0.8s,baz=350,slow=4.1,SNR=11						
TLY	**Talaya**	**53.21**	**311**	⇓*e*P	**P**	**05 33 48.6**	**+0.4**
TLY	**Talaya**	**53.21**	**311**	*e*P	**P**	**05 33 47.8**	**-0.4**
	comp=E,4.1nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**54.82**	**306**	*e*P	**P**	**05 33 59.9**	**0.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**54.82**	**306**	*e*P	**P**	**05 33 59.9**	**0.0**
	comp=Z,6.5nm,0.8s,mb4.7						
SONM	**Songino Array**	**55.12**	**306**	P	**P**	**05 34 01.4**	**-0.7**
	comp=Z,9.0nm,0.8s,mb4.9,baz=43,slow=6.5,SNR=61						
ZAL	**Zalesovo**	**57.94**	**324**	P	**P**	**05 34 21.4**	**-0.7**
	comp=Z,2.5nm,0.5s,mb4.5,baz=86,slow=6.1,SNR=7.2						
ZAL				LR	LR	06 00 06.8	
	comp=Z,30nm,20.5s,baz=73,slow=37						
HHC	**Hu-ho-hao-te**	**58.39**	**297**	*e*P	**P**	**05 34 26.5**	**+1.3**
HHC				AP	pP	05 34 43.0	-2.5
HHC				XP	sP	05 34 49.8	-4.6
HHC				PCP	PcP	05 35 17.8	+2.6
HHC				PP	PP	05 36 37.5	+2.4
HHC				S	**S**	**05 42 21.3**	**-0.6**
HHC				SCS	ScS	05 44 06.8	-0.7
HHC				SS	SS	05 46 13.8	-1.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,90nm,4.2s						
HHC				LR	LR		
	comp=N,150nm,18.0s						
HHC				LR	LR		
	comp=E,120nm,21.8s						
HHC				LR	LR		
	comp=Z,60nm,14.3s						
NOA	**NORSAR Array B**	**59.52**	**9**	P	**P**	**05 34 32.3**	**-0.8**
	comp=Z,1.2nm,0.9s,mb3.9,baz=350,slow=6.8,SNR=4.7						
NOA				PcP	PcP	05 35 18.8	-1.0
	comp=Z,1.6nm,0.8s,baz=356,slow=4.8,SNR=5.1						
NOA	**NORSAR Array B**	**59.52**	**9**	P	**P**	**05 34 32.3**	**-0.8**
NOA				PcP	PcP	05 35 18.8	-1.0
FINES	**FINESS Array B**	**59.71**	**0**	P	**P**	**05 34 33.9**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=4.6,slow=9.6,SNR=6.5						
FINES				pP	pP	05 34 55.9	+1.2
	comp=Z,1.6nm,0.7s,baz=20,slow=6.1,SNR=3.4						
FINES	**FINESS Array B**	**59.71**	**0**	P	**P**	**05 34 33.9**	**-0.5**
FINES				pP	pP	05 34 55.9	+1.2
CHKZ	**Chkalovo**	**62.06**	**332**	*e*P	**P**	**05 34 48.6**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**62.06**	**332**	*e*P	**P**	**05 34 48.6**	**-1.6**
	comp=Z,3.7nm,0.6s,mb4.6						
KURK	**Kurchatov**	**62.60**	**326**	*e*P	**P**	**05 34 52.7**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**62.60**	**326**	*e*P	**P**	**05 34 52.7**	**-1.2**
	comp=Z,1.9nm,0.7s,mb4.1						
BRVK	**Borovoye**	**62.70**	**332**	*e*P	**P**	**05 34 53.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**62.70**	**332**	*e*P	**P**	**05 34 53.6**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**63.11**	**333**	*e*P	**P**	**05 34 55.7**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**63.11**	**333**	*e*P	**P**	**05 34 55.7**	**-1.5**
	comp=Z,4.2nm,0.6s,mb4.5						
GTA	**Gaotai**	**64.74**	**305**	*e*P	**P**	**05 35 07.8**	**-0.1**
GTA				PP	PP	05 37 30.0	-1.1
GTA				SCP		05 39 39.3	
GTA				PCS		05 39 44.3	
GTA				S	**S**	**05 43 49.8**	**+7.6**
GTA				XS	sS	05 44 13.5	-3.8
GTA				SCS	ScS	05 44 54.0	-1.3
GTA				AMB	AMB		
	comp=Z,60nm,6.1s						
GTA				LR	LR		
	comp=N,120nm,14.9s						
GTA				LR	LR		
	comp=E,90nm,16.4s						
GTA				LR	LR		
	comp=Z,100nm,17.6s						
MKAR	**Makanchi Array**	**64.96**	**321**	P	**P**	**05 35 08.0**	**-1.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=38,slow=7.1,SNR=7.5						
MKAR	**Makanchi Array**	**64.96**	**321**	*i*P	**P**	**05 35 08.8**	**-0.5**
WHN	**Wuhan**	**65.42**	**289**	*e*P	**P**	**05 35 14.0**	**+1.6**
WMQ	**Urumqi**	**65.72**	**316**	*e*P	**P**	**05 35 19.0**	**+4.7**
WMQ				LR	LR		
	comp=N,90nm,28.0s						
WMQ				LR	LR		
	comp=E,130nm,23.0s						
WMQ				LR	LR		
	comp=Z,50nm,20.0s						
LZH	**Lanzhou**	**65.77**	**300**	*e*P	**P**	**05 35 14.0**	**-0.6**
LZH				AP	pP	05 35 35.0	-0.2
LZH				XP	sP	05 35 43.0	-1.0
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
BAIF	**Baives**	**69.60**	**15**	*e*P	**P**	**05 35 38.5**	**-0.2**
GIVF	**Givet**	**69.64**	**15**	*e*P	**P**	**05 35 38.7**	**-0.2**
ROSF	**Rostrenen**	**70.09**	**21**	*e*P	**P**	**05 35 41.6**	**-0.1**
CD2	**Chengdu**	**70.14**	**297**	*e*P	**P**	**05 35 42.0**	**0.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
SGMF	**Saint Gilles**	**70.30**	**20**	*e*P	**P**	**05 35 42.5**	**-0.5**
AKASG	**Malin Array Be**	**70.46**	**358**	*i*P	**P**	**05 35 42.1**	**-1.9**
	comp=Z,2.2nm,0.6s,mb4.2,baz=3.0,slow=6.2,SNR=9.5						
AKASG	**Malin Array Be**	**70.46**	**358**	*i*P	**P**	**05 35 42.7**	**-1.3**
CDF	**Champ du Feu**	**71.61**	**13**	*e*P	**P**	**05 35 50.8**	**-0.1**
	comp=Z,1.1nm,1.1s,mb4.3						
CDF	**Champ du Feu**	**71.61**	**13**	*e*P	**P**	**05 35 50.8**	**-0.1**
CDF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
CDF	**Champ du Feu**	**71.61**	**13**	*e*P	**P**	**05 35 50.8**	**-0.1**
	comp=Z,5.6nm,1.1s,mb4.3						
GERES	**GERESS Array B**	**71.83**	**9**	P	**P**	**05 35 51.9**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.7,baz=358,slow=4.0,SNR=5.3						
HAU	**Haudompre**	**71.90**	**14**	*e*P	**P**	**05 35 53.5**	**+0.9**
	comp=Z,7.1nm,0.7s,mb4.3						
HAU	**Haudompre**	**71.90**	**14**	*e*P	**P**	**05 35 53.5**	**+0.9**
HAU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
HAU	**Haudompre**	**71.90**

comp=Z,10nm,1.1s,mb4.5
LPL La Plagne 74.39 14 *e*P **P 05 36 08.1 +0.8**
LPG La Plagne 74.41 14 *e*P **P 05 36 08.4 +1.0**
EARI Arriondas 74.55 24 P **P 05 36 08.6 +0.4**
comp=Z,59nm,2.3s,mb4.9
VIVF Saint-Julien-I 74.76 16 *e*P **P 05 36 09.5 0.0**
comp=Z,11nm,0.9s,mb4.3
VIVF Saint-Julien-I 74.76 16 *e*P **P 05 36 09.5 0.0**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
VIVF Saint-Julien-I 74.76 16 *e*P **P 05 36 09.5 0.0**
comp=Z,5.6nm,0.9s,mb4.3
ORIF Oris-en-Rattie 74.87 15 *e*P **P 05 36 09.7 -0.4**
ELAN Lanestosa 74.98 22 P **P 05 36 10.8 +0.1**
comp=Z,6.2nm,0.8s,mb4.4
MBDF Montbardon 75.17 14 *e*P **P 05 36 12.8 +1.0**
comp=Z,7.1nm,0.8s,mb4.2
MBDF Montbardon 75.17 14 *e*P **P 05 36 12.8 +1.0**
comp=Z,3.5nm,0.8s,mb4.1
SJPF Ste Jean 75.51 21 *e*P **P 05 36 14.1 +0.4**
KMI Kunming 75.52 295 P **P 05 36 17.5 +3.7**
KMI AP pP 05 36 36.0 +1.1
KMI XP sP 05 36 42.5 -1.1
KMI PP PP 05 39 08.5 +4.5
KMI S S 05 45 50.5 +2.5
KMI XS sS 05 46 24.8 +0.8
KMI AMB AMB
comp=Z,70nm,5.6s
KMI LR LR
comp=N,130nm,17.3s
KMI LR LR
comp=E,100nm,17.3s
KMI LR LR
comp=Z,100nm,16.3s
PBRG Braganca 75.66 25 *e*P **P 05 36 14.7 +0.1**
comp=Z,4.9nm,0.7s,mb4.3
SMRF Simiane la Rot 75.75 16 *e*P **P 05 36 15.9 +0.8**
comp=Z,11nm,0.8s,mb4.3
SMRF Simiane la Rot 75.75 16 *e*P **P 05 36 15.9 +0.8**
comp=Z,11nm,0.8s,mb4.6
ETSF Etsaut 75.83 20 *e*P **P 05 36 16.1 +0.5**
comp=Z,16nm,0.8s,mb4.5
ETSF Etsaut 75.83 20 *e*P **P 05 36 16.1 +0.5**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
ETSF Etsaut 75.83 20 *e*P **P 05 36 16.1 +0.5**
comp=Z,7.8nm,0.8s,mb4.5
EPF Esparros 75.86 20 *e*P **P 05 36 15.1 -0.7**
comp=Z,4.2nm,0.7s,mb4.0
EPF Esparros 75.86 20 *e*P **P 05 36 15.1 -0.7**
comp=Z,2.1nm,0.7s,mb4.0
MTLF Montolieu 75.87 18 *e*P **P 05 36 15.7 -0.1**
comp=Z,14nm,0.8s,mb4.4
MTLF Montolieu 75.87 18 *e*P **P 05 36 15.7 -0.1**
MTLF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
MTLF Montolieu 75.87 18 *e*P **P 05 36 15.7 -0.1**
comp=Z,6.9nm,0.8s,mb4.4
PVRL Vila Real 75.95 26 *e*P **P 05 36 16.8 +0.5**
comp=Z,8.5nm,0.6s,mb4.7
SBF Sospel 76.11 14 *e*P **P 05 36 17.1 -0.1**
comp=Z,19nm,0.9s,mb4.5
SBF Sospel 76.11 14 *e*P **P 05 36 17.1 -0.1**
SBF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
SBF Sospel 76.11 14 *e*P **P 05 36 17.1 -0.1**
comp=Z,9.3nm,0.9s,mb4.5
EBIE Bielsa 76.16 20 P **P 05 36 17.5 0.0**
comp=Z,3.5nm,0.7s,mb4.2
KIV Kislovodsk 76.38 348 P **P 05 36 18.0 -0.7**
KIV pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
PVIS Viseu 76.44 26 *e*P **P 05 36 19.4 +0.3**
comp=Z,11nm,0.8s,mb4.7
LMR La Mourre 76.51 15 *e*P **P 05 36 19.5 +0.1**
comp=Z,12nm,0.9s,mb4.3
LMR La Mourre 76.51 15 *e*P **P 05 36 19.5 +0.1**
LMR pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
LMR La Mourre 76.51 15 *e*P **P 05 36 19.5 +0.1**
comp=Z,6.2nm,0.9s,mb4.3
EGRA Graus 76.67 20 P **P 05 36 20.3 -0.1**
comp=Z,5.4nm,0.8s,mb4.3
MTE Manteigas 76.82 26 *e*P **P 05 36 21.8 +0.6**
comp=Z,14nm,0.9s,mb4.7
EMIR Miracle 77.15 19 P **P 05 36 23.1 0.0**
comp=Z,5.7nm,1.0s,mb4.3
GUD Guadarrama 77.32 24 P **P 05 36 24.3 +0.3**
comp=Z,1.4nm,0.5s,mb4.0
PCBR Castelo Branco 77.37 26 *e*P **P 05 36 23.6 -0.7**
comp=Z,10nm,0.8s,mb4.6
PGF Pioggiola 77.59 13 *e*P **P 05 36 25.5 0.0**
comp=Z,21nm,0.9s,mb4.6
PGF Pioggiola 77.59 13 *e*P **P 05 36 25.5 0.0**
PGF pmax pmax
comp=Z,11nm,0.9s,mb4.6
PGF Pioggiola 77.59 13 *e*P **P 05 36 25.5 0.0**
comp=Z,11nm,0.9s,mb4.6
PLOU Loures 77.89 28 *e*P **P 05 36 27.8 +0.6**
comp=Z,75nm,1.0s,mb5.4
ESDC Sonseca Array 78.30 24 P **P 05 36 29.7 +0.3**
comp=Z,3.5nm,0.6s,mb4.3,baz=342,slow=5.2,SNR=17
ESDC Sonseca Array 78.30 24 P **P 05 36 29.5 +0.1**
comp=Z,2.3nm,0.5s,mb4.2
ESLA Sonseca Array 78.30 24 *e*P **P 05 36 29.3 -0.1**
comp=Z,1.0nm,0.8s,mb3.6
EMOS Mosqueruela 78.31 21 P **P 05 36 29.7 +0.2**
comp=Z,14nm,0.9s,mb4.7
EVO Evora 78.50 27⇑ *i*P **P 05 36 30.3 -0.2**
comp=Z,15nm,1.0s,mb4.4
EBAD Badajoz 78.51 26 P **P 05 36 30.9 +0.3**
comp=Z,9.2nm,0.7s,mb4.7
ETOS Mallorca 79.46 18 P **P 05 36 35.3 -0.4**
comp=Z,26nm,1.7s,mb4.8
EGRO El Granado 79.57 27 P **P 05 36 35.1 -1.3**
comp=Z,10nm,1.0s,mb4.6
EVIA Vianos 79.59 23 P **P 05 36 37.7 +1.2**
EVIA pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
EVIA Vianos 79.59 23 P **P 05 36 37.7 +1.3**
comp=Z,7.4nm,0.6s,mb4.7
EADA Adamuz 79.61 25 P **P 05 36 36.5 -0.1**
comp=Z,2.3nm,0.7s,mb4.1
ETOB Tobarra 79.77 22 P **P 05 36 37.5 +0.1**
comp=Z,5.6nm,0.7s,mb4.5
EBAN Banos Encina 79.78 24 P **P 05 36 37.8 +0.3**
EBAN pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
EBAN Banos Encina 79.78 24 P **P 05 36 37.8 +0.3**
comp=Z,4.9nm,0.4s,mb4.7
GUN Gumba 80.43 310 *e*P **P 05 36 41.2 +0.2**
comp=Z,12nm,0.5s,mb4.9
JIRN Jiri 80.53 309 *e*P **P 05 36 41.9 +0.4**
comp=Z,36nm,0.5s,mb5.5
ESPR Espera 80.58 26 P **P 05 36 42.3 +0.5**
comp=Z,16nm,0.9s,mb4.8
KKN Kakani 80.78 310 *e*P **P 05 36 42.7 -0.2**
comp=Z,9.4nm,0.5s,mb4.9
GKN Gorkha 80.84 311 *e*P **P 05 36 42.9 -0.3**
comp=Z,12nm,0.5s,mb5.0
ERON Agron 80.88 24 P **P 05 36 44.5 +1.0**
comp=Z,5.0nm,0.5s,mb4.6
PKI Pulchoki 80.92 310 *e*P **P 05 36 43.4 -0.2**
DMN Daman 81.01 310 *e*P **P 05 36 43.9 -0.2**
comp=Z,12nm,0.6s,mb4.9
EJIF Jimena Fronter 81.07 26 P **P 05 36 45.6 +1.2**
EJIF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
EJIF Jimena Fronter 81.07 26 P **P 05 36 45.6 +1.2**
comp=Z,4.6nm,1.0s,mb4.3
EMIJ Mijas 81.11 25 P **P 05 36 46.6 +2.0**
comp=Z,10nm,0.9s,mb4.7
EBER Berja 81.19 24 P **P 05 36 46.2 +1.2**
comp=Z,13nm,1.7s,mb4.5
KOLN Koldanda 81.45 311 *e*P **P 05 36 46.0 -0.4**
comp=Z,8.9nm,0.6s,mb4.8
EALB Alboran 82.08 24 P **P 05 36 52.1 +2.3**
comp=Z,30nm,1.3s,mb5.0
QSPA South Pole Qui 148.97 180 *e*P PKPdf 05 44 15.0 +2.3
BOSA Boshof 149.43 2 PKPbc PKPbc 05 44 17.1 -0.9
comp=Z,6.3nm,0.5s,baz=358,slow=1.5,SNR=24

MOS ***30*** *05:38:51.7±1.0, 2688N×5595E, h10km, mb4.7/38, Error ellipse: s-maj=8.1km s-min=4.9km az=113.1*
BJI ***30*** *05:38:51.1, 2703N×5515E, h32km, mB4.9, mb4.8, Ms4.2,*

Msz3.8
CSEM ***30*** *05:38:52.0±0.1, 2684N×5579E, h10km, mb4.6/32, Ms3.3, Error ellipse: s-maj=2.2km s-min=2.0km az=95.0*
NEIC ***30*** *05:38:52.7, 2680N×5590E, h7km, mb4.6/36, ML4.5(THR), MN4.5(TEH), After THR.*
THR ***30*** *05:38:52.7±0.4, 2680N×5590E, h7km±5km, ML4.5*
ISCJB ***30*** *05:38:52.6±0.2, 2689N±002×5584E±002, h10km, mb4.5/63, MS3.6/19, Error ellipse: s-maj=3.3km s-min=2.6km az=111.8*
TEH ***30*** *05:38:56.3, 2675N×5568E, h18km, Mn4.5*
IDC ***30*** *05:38:58.3±2.0, 2689N×5597E, h43km±21km, mb4.1/18, mb1 4.2/23, mb1mx4.1/28, mbtmp4.3/23, ML3.9/5, MS3.6/13, Ms1 3.6/13, ms1mx3.4/33, Error ellipse: s-maj=12.8km s-min=10.9km az=65.0*
ISC 30 05:38:54.7±0.2, 2691N±002×5587E±002, h10km, (h23km±3.4km:pP-P), n328,σ1§29/448, mb4.5/63, MS3.6/19, 3C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.55**	**29**	*e*PG	**Pg**	**05 39 05.3**	**-0.1**
BNDS				*e*SG	**Sg**	**05 39 14.5**	**+1.8**
BNDS				AML	AML	05 39 23.6	
	comp=N,24μm,0.6s						
BNDS	**Bandar-Abbas**	**0.55**	**29**	Pg	**Pg**	**05 39 05.0**	**-0.5**
BNDS				Sg	**Sg**	**05 39 14.0**	**+1.3**
BANOM	**Banah**	**1.06**	**159**	P	**Pg**	**05 39 15.4**	**+0.4**
	SNR=81						
BANOM				⇓S	**Sg**	**05 39 30.6**	**+1.8**
ASHO	**Ashiyiah**	**2.23**	**176**	P	**Pn**	**05 39 33.3**	**+1.7**
	SNR=57						
GHIR	**Ghir-Karzin**	**2.90**	**299**	*e*PN	**Pn**	**05 39 42.4**	**+1.5**
GHIR				AML	AML	05 40 57.0	
	comp=N,1μm,0.5s						
GHIR	**Ghir-Karzin**	**2.90**	**299**	Pn	**Pn**	**05 39 42.0**	**+1.0**
KRBR	**Kerman**	**3.16**	**14**	*e*PN	**Pn**	**05 39 46.5**	**+2.1**
KRBR				AML	AML	05 40 37.1	
	comp=E,1μm,0.6s						
KRBR	**Kerman**	**3.16**	**14**	Pn	**Pn**	**05 39 46.0**	**+1.6**
KRBR	**Kerman**	**3.16**	**14**	*e*Pn	**Pn**	**05 39 46.5**	**+2.1**
	SNR=47						
ISRV	**Sarvestan**	**3.46**	**316**	*e*Pn	**Pn**	**05 39 50.0**	**+1.4**
ISRV				*e*Pn	**Pn**	**05 39 50.3**	**+1.7**
ISRV				*e*Pn	**Pn**	**05 39 50.4**	**+1.8**
ISRV	**Sarvestan**	**3.46**	**316**	Pn	**Pn**	**05 39 49.9**	**+1.3**
ISRV				Pn	**Pn**	**05 39 50.3**	**+1.7**
IMOK	**Mook**	**3.51**	**308**	*e*Pn	**Pn**	**05 39 49.8**	**+0.5**
IMOK				*e*Pn	**Pn**	**05 39 51.2**	**+1.9**
IMOK				*e*Pn	**Pn**	**05 39 51.3**	**+2.0**
IMOK	**Mook**	**3.51**	**308**	Pn	**Pn**	**05 39 49.7**	**+0.4**
IMOK				Pn	**Pn**	**05 39 51.2**	**+1.9**
HOQ	**Hoqain**	**3.56**	**158**	P	**Pn**	**05 39 48.7**	**-1.3**
	SNR=16						
ARQ	**Araqi**	**3.61**	**170**	P	**Pn**	**05 39 51.1**	**+0.5**
	SNR=43						
BIDO	**Bidbid**	**3.95**	**148**	P	**Pn**	**05 39 55.0**	**-0.2**
	SNR=13						
SHI	**Shiraz**	**4.02**	**313**	*e*Pn	**Pn**	**05 39 57.3**	**+1.0**
SMDO	**Samad**	**4.32**	**152**	P	**Pn**	**05 40 01.9**	**+1.6**
	SNR=43						
WSAR	**Wadi Sarin**	**4.43**	**145**	P	**Pn**	**05 40 01.8**	**-0.1**
	comp=E,21nm,0.3s,baz=323,slow=9.9,SNR=68						
WSAR				S	**Sn**	**05 40 51.9**	**-1.7**
	comp=E,16nm,0.3s,baz=249,slow=17,SNR=2.9						
WSAR				LR	LR	05 42 15.2	
	comp=E,910nm,21.0s,baz=39,slow=45						
WSAR	**Wadi Sarin**	**4.43**	**145**	P	**Pn**	**05 40 01.8**	**-0.1**
WSAR				S	**Sn**	**05 40 51.9**	**-1.7**
IMEH	**Mehriz**	**4.60**	**346**	*e*Pn	**Pn**	**05 40 06.1**	**+1.9**
IMEH				*e*Pn	**Pn**	**05 40 07.2**	**+3.0**
IMEH				*e*Sn	**Sn**	**05 40 57.7**	**0.0**
IMEH	**Mehriz**	**4.60**	**346**	Pn	**Pn**	**05 40 06.0**	**+1.8**
IMEH				Pn	**Pn**	**05 40 07.1**	**+2.9**
IMEH				Sn	**Sn**	**05 40 57.6**	**-0.1**
IBAF	**Bafgh**	**4.67**	**357**	*e*Pn	**Pn**	**05 40 06.6**	**+1.4**
IBAF				*e*Pn	**Pn**	**05 40 07.2**	**+2.0**
IBAF				*e*Pn	**Pn**	**05 40 07.7**	**+2.5**
IBAF				*e*Sn	**Sn**	**05 40 59.9**	**+0.4**
IBAF	**Bafgh**	**4.67**	**357**	Pn	**Pn**	**05 40 06.6**	**+1.4**
IBAF				Pn	**Pn**	**05 40 07.1**	**+1.9**
IBAF				Sn	**Sn**	**05 40 59.9**	**+0.4**
JMDO	**Jabal Madar**	**4.96**	**155**	P	**Pn**	**05 40 09.8**	**+0.6**
	SNR=16						
ZHSF	**Zahedan**	**5.09**	**57**	*e*PN	**Pn**	**05 40 12.1**	**+1.1**
ZHSF	**Zahedan**	**5.09**	**57**	Pn	**Pn**	**05 40 12.0**	**+1.0**
WBK	**Wadi Bani Khal**	**5.12**	**146**	P	**Pn**	**05 40 11.6**	**+0.1**
	SNR=24						
ICHK	**Chekchek**	**5.46**	**347**	*e*Pn	**Pn**	**05 40 17.7**	**+1.5**
ICHK				*e*Pn	**Pn**	**05 40 17.9**	**+1.7**
ICHK				*e*Pn	**Pn**	**05 40 18.8**	**+2.6**
ICHK				*e*Sn	**Sn**	**05 41 18.3**	**-0.8**
ICHK	**Chekchek**	**5.46**	**347**	Pn	**Pn**	**05 40 17.6**	**+1.4**
ICHK				Pn	**Pn**	**05 40 17.9**	**+1.7**
ICHK				Pn	**Pn**	**05 40 18.8**	**+2.6**
ICHK				Sn	**Sn**	**05 41 18.2**	**-0.9**
IZEF	**Zefreh**	**6.71**	**334**	*e*Pn	**Pn**	**05 40 33.5**	**+0.2**
IZEF				*e*Pn	**Pn**	**05 40 33.6**	**+0.3**
IZEF				*e*Pn	**Pn**	**05 40 33.6**	**+0.3**
IZEF				*e*Sn	**Sn**	**05 41 46.7**	**-3.0**
IZEF	**Zefreh**	**6.71**	**334**	Pn	**Pn**	**05 40 33.4**	**+0.1**
IZEF				Sn	**Sn**	**05 41 46.6**	**-3.1**
IZEF	**Zefreh**	**6.71**	**334**	*e*Pn	**Pn**	**05 40 33.6**	**+0.3**
IZEF				*e*Sn	**Sn**	**05 41 46.7**	**-3.0**
IPIR	**Pirpir**	**7.20**	**324**	*e*Pn	**Pn**	**05 40 40.0**	**0.0**
IPIR				*e*Pn	**Pn**	**05 40 40.5**	**+0.5**
IPIR				*e*Pn	**Pn**	**05 40 40.6**	**+0.6**
IPIR	**Pirpir**	**7.20**	**324**	*e*Pn	**Pn**	**05 40 40.5**	**+0.5**
IKLH	**Kalahroud**	**7.39**	**331**	*e*Pn	**Pn**	**05 40 42.4**	**-0.2**
IKLH				*e*Pn	**Pn**	**05 40 43.4**	**+0.8**
IKLH				*e*Pn	**Pn**	**05 40 43.5**	**+0.9**
IKLH				*e*Sn	**Sn**	**05 42 02.1**	**-4.3**
IKLH	**Kalahroud**	**7.39**	**331**	Pn	**Pn**	**05 40 42.3**	**-0.3**
IKLH				Pn	**Pn**	**05 40 43.3**	**+0.7**
IKLH				Pn	**Pn**	**05 40 43.5**	**+0.9**
IKLH				Sn	**Sn**	**05 42 02.1**	**-4.3**
IKLH	**Kalahroud**	**7.39**	**331**	*e*Pn	**Pn**	**05 40 43.4**	**+0.8**
IKLH				*e*Sn	**Sn**	**05 42 02.1**	**-4.3**
KBD	**Kabd**	**7.57**	**289**	*e*P	**Pn**	**05 40 45.8**	**+0.7**
KBD				AML	AML	05 42 09.2	
	comp=Z,235nm,0.3s						
RDF	**Al-Radifah**	**7.63**	**287**	*e*P	**Pn**	**05 40 45.7**	**-0.2**
RDF				AML	AML	05 42 09.7	
	comp=Z,141nm,0.4s						
RDF	**Al-Radifah**	**7.63**	**287**	*e*P	**Pn**	**05 40 45.4**	**-0.5**
UMR	**Umm Al-Rimmam**	**7.66**	**292**	*e*P	**Pn**	**05 40 46.5**	**+0.2**
UMR				AML	AML	05 42 12.8	
	comp=Z,115nm,0.3s						
NAY	**Al-Naaiem**	**7.97**	**289**	*e*P	**Pn**	**05 40 50.9**	**+0.3**
ISFB	**Sefidab**	**8.05**	**338**	*e*Pn	**Pn**	**05 40 51.9**	**+0.2**
ISFB				*e*Pn	**Pn**	**05 40 52.6**	**+0.9**
ISFB				*e*Pn	**Pn**	**05 40 52.8**	**+1.1**
ISFB				*e*Sn	**Sn**	**05 42 19.8**	**-3.0**
ISFB	**Sefidab**	**8.05**	**338**	Pn	**Pn**	**05 40 51.9**	**+0.2**
ISFB				Pn	**Pn**	**05 40 52.6**	**+0.9**
ISFB				Sn	**Sn**	**05 42 19.8**	**-3.0**
ISFB	**Sefidab**	**8.05**	**338**	*e*Pn	**Pn**	**05 40 52.6**	**+0.9**
ISFB				*e*Sn	**Sn**	**05 42 19.8**	**-3.0**
MIB	**Mutribah**	**8.05**	**293**	*e*P	**Pn**	**05 40 52.6**	**+0.9**
RST	**Umm Al-Ruwaisa**	**8.24**	**290**	*e*P	**Pn**	**05 40 54.5**	**+0.1**
RST				AML	AML	05 42 24.7	
	comp=Z,34nm,0.3s						
RST	**Umm Al-Ruwaisa**	**8.24**	**290**	*e*P	**Pn**	**05 40 54.0**	**-0.3**
ILAS	**Lasjerd**	**8.80**	**344**	*e*Pn	**Pn**	**05 41 03.3**	**+1.3**
IVRN	**Varamin**	**8.81**	**337**	*e*Pn	**Pn**	**05 41 02.6**	**+0.5**
IVRN				*e*Pn	**Pn**	**05 41 02.7**	**+0.6**
IVRN				*e*Pn	**Pn**	**05 41 03.3**	**+1.2**
IVRN				*e*Sn	**Sn**	**05 42 36.6**	**-4.8**
IVRN	**Varamin**	**8.81**	**337**	Pn	**Pn**	**05 41 02.5**	**+0.4**
IVRN				Pn	**Pn**	**05 41 02.7**	**+0.6**
IVRN				Pn	**Pn**	**05 41 03.3**	**+1.2**
IVRN				Sn	**Sn**	**05 42 36.5**	**-4.9**
IVRN	**Varamin**	**8.81**	**337**	*e*Pn	**Pn**	**05 41 02.7**	**+0.6**
IVRN				*e*Sn	**Sn**	**05 42 36.6**	**-4.8**
SHAO	**Shalim**	**8.85**	**182**	P	**Pn**	**05 41 04.1**	**+1.5**
	SNR=7.6						
IFIR	**Firoozkooh**	**9.10**	**344**	*e*Pn	**Pn**	**05 41 06.7**	**+0.6**
IFIR				*e*Pn	**Pn**	**05 41 07.3**	**+1.2**
IFIR				*e*Pn	**Pn**	**05 41 07.6**	**+1.5**
IFIR	**Firoozkooh**	**9.10**	**344**	Pn	**Pn**	**05 41 06.6**	**+0.5**
IFIR				Pn	**Pn**	**05 41 07.2**	**+1.1**
IFIR				Pn	**Pn**	**05 41 07.5**	**+1.4**
IFIR	**Firoozkooh**	**9.10**	**344**	*e*Pn	**Pn**	**05 41 07.3**	**+1.2**
ISHM	**Shahmirzad**	**9.14**	**347**	*e*Pn	**Pn**	**05 41 08.2**	**+1.6**
ISHM				*e*Pn	**Pn**	**05 41 08.3**	**+1.7**
ISHM				*e*Pn	**Pn**	**05 41 08.8**	**+2.2**
ISHM	**Shahmirzad**	**9.14**	**347**	Pn	**Pn**	**05 41 08.2**	**+1.6**
ISHM				Pn	**Pn**	**05 41 08.7**	**+2.1**
WHFO	**Wadi Hawf**	**9.16**	**193**	P	**Pn**	**05 41 07.8**	**+0.9**
	SNR=28						
IDMV	**Damavand**	**9.24**	**340**	*e*Pn	**Pn**	**05 41 09.0**	**+1.0**
IDMV				*e*Pn	**Pn**	**05 41 10.4**	**+2.4**
IDMV				*e*Pn	**Pn**	**05 41 10.4**	**+2.4**
IDMV	**Damavand**	**9.24**	**340**	Pn	**Pn**	**05 41 09.0**	**+1.0**
IDMV				Pn	**Pn**	**05 41 10.3**	**+2.3**
IKIA	**Kiasar**	**9.45**	**349**	*e*Pn	**Pn**	**05 41 12.6**	**+1.7**
IKIA				*e*Pn	**Pn**	**05 41 12.7**	**+1.8**
IKIA				*e*Pn	**Pn**	**05 41 13.8**	**+2.9**
IKIA	**Kiasar**	**9.45**	**349**	Pn	**Pn**	**05 41 12.6**	**+1.7**
IKIA				Pn	**Pn**	**05 41 13.7**	**+2.8**
RBK	**Rabkut**	**9.49**	**190**	P	**Pn**	**05 41 12.4**	**+1.0**
	SNR=9.3						
RBK	**Rabkut**	**9.49**	**190**	P	**Pn**	**05 41 12.4**	**+1.0**
	SNR=9.3						
IGLO	**Galoogah**	**9.58**	**348**	*e*Pn	**Pn**	**05 41 17.4**	**+4.7**
IGLO				*e*Pn	**Pn**	**05 41 18.4**	**+5.7**
IGLO				*e*Pn	**Pn**	**05 41 18.6**	**+5.9**
IGLO	**Galoogah**	**9.58**	**348**	Pn	**Pn**	**05 41 17.3**	**+4.6**
IGLO				Pn	**Pn**	**05 41 18.4**	**+5.7**
IGLO				Pn	**Pn**	**05 41 18.6**	**+5.9**
IPRN	**Paran-Amol**	**9.80**	**342**	*e*Pn	**Pn**	**05 41 17.3**	**+1.6**
IPRN				*e*Pn	**Pn**	**05 41 18.0**	**+2.3**
IPRN				*e*Pn	**Pn**	**05 41 18.1**	**+2.4**
IPRN	**Paran-Amol**	**9.80**	**342**	Pn	**Pn**	**05 41 17.2**	**+1.5**
IPRN				Pn	**Pn**	**05 41 17.9**	**+2.2**
IPRN				Pn	**Pn**	**05 41 18.1**	**+2.4**
ABTO	**Aybut**	**9.81**	**195**	P	**Pn**	**05 41 15.6**	**-0.2**
	SNR=21						
IRAZ	**Razeghan**	**9.88**	**330**	*e*Pn	**Pn**	**05 41 21.7**	**+5.0**
IRAZ				*e*Pn	**Pn**	**05 41 25.7**	**+9.0**
IRAZ				*e*Pn	**Pn**	**05 41 27.3**	**+11**
IRAZ	**Razeghan**	**9.88**	**330**	Pn	**Pn**	**05 41 21.6**	**+4.9**
IRAZ				Pn	**Pn**	**05 41 25.6**	**+8.9**
IRAZ				Pn	**Pn**	**05 41 27.2**	**+11**
IMYA	**Miamay**	**10.07**	**20**	*e*Pn	**Pn**	**05 41 22.6**	**+3.3**
IMYA				*e*Pn	**Pn**	**05 41 22.6**	**+3.3**
IMYA				*e*Pn	**Pn**	**05 41 23.1**	**+3.8**
IMYA	**Miamay**	**10.07**	**20**	Pn	**Pn**	**05 41 22.6**	**+3.3**
IMYA				Pn	**Pn**	**05 41 23.0**	**+3.7**
IKRD	**Kardeh**	**10.08**	**12**	*e*Pn	**Pn**	**05 41 24.2**	**+4.7**
IKRD				*e*Pn	**Pn**	**05 41 24.3**	**+4.8**
IKRD				*e*Pn	**Pn**	**05 41 28.2**	**+8.7**
IKRD	**Kardeh**	**10.08**	**12**	Pn	**Pn**	**05 41 24.1**	**+4.6**
IKRD				Pn	**Pn**	**05 41 24.3**	**+4.8**
IKRD				Pn	**Pn**	**05 41 28.1**	**+8.6**
IKOM	**Komasi**	**10.21**	**317**	*e*Pn	**Pn**	**05 41 19.8**	**-1.5**
IKOM				*e*Pn	**Pn**	**05 41 20.6**	**-0.7**
IKOM				*e*Pn	**Pn**	**05 41 22.1**	**+0.8**
IKOM	**Komasi**	**10.21**	**317**	Pn	**Pn**	**05 41 19.8**	**-1.5**
IKOM				Pn	**Pn**	**05 41 20.5**	**-0.8**
IKOM				Pn	**Pn**	**05 41 22.1**	**+0.8**
IKOM	**Komasi**	**10.21**	**317**	*e*Pn	**Pn**	**05 41 22.1**	**+0.8**
ISFR	**Esferayen**	**10.26**	**10**	*e*Pn	**Pn**	**05 41 23.3**	**+1.3**
ISFR	**Esferayen**	**10.26**	**10**	Pn	**Pn**	**05 41 23.2**	**+1.2**
IGZV	**Gazvin**	**10.60**	**334**	*e*Pn	**Pn**	**05 41 27.2**	**+0.6**
IGZV				*e*Pn	**Pn**	**05 41 27.5**	**+0.9**
IGZV				*e*Pn	**Pn**	**05 41 27.7**	**+1.1**
IGZV	**Gazvin**	**10.60**	**334**	Pn	**Pn**	**05 41 27.2**	**+0.6**
IGZV				Pn	**Pn**	**05 41 27.4**	**+0.8**
IGZV				Pn	**Pn**	**05 41 27.7**	**+1.1**
IGZV	**Gazvin**	**10.60**	**334**	*e*Pn	**Pn**	**05 41 27.5**	**+0.9**
ISHV	**Shirvan**	**10.70**	**8**	*e*Pn	**Pn**	**05 41 29.3**	**+1.3**
IVIS	**Veys**	**10.85**	**317**	*e*Pn	**Pn**	**05 41 28.5**	**-1.5**
IVIS	**Veys**	**10.85**	**317**	Pn	**Pn**	**05 41 28.4**	**-1.6**
IGHG	**Ghaleghazi**	**10.90**	**315**	*e*Pn	**Pn**	**05 41 30.7**	**0.0**
IGHG				*e*Pn	**Pn**	**05 41 31.1**	**+0.4**
IGHG				*e*Sn	**Sn**	**05 43 23.4**	**-9.3**
IGHG	**Ghaleghazi**	**10.90**	**315**	Pn	**Pn**	**05 41 30.6**	**-0.1**
IGHG				Pn	**Pn**	**05 41 31.0**	**+0.3**
IGHG				Sn	**Sn**	**05 43 23.4**	**-9.3**
IGHG	**Ghaleghazi**	**10.90**	**315**	*e*Pn	**Pn**	**05 41 31.1**	**+0.4**
IGHG				*e*Sn	**Sn**	**05 43 23.4**	**-9.3**
ILIN	**Laeen**	**11.05**	**318**	*e*Pn	**Pn**	**05 41 31.7**	**-1.1**
ILIN				*e*Pn	**Pn**	**05 41 31.7**	**-1.1**
ILIN				*e*Pn	**Pn**	**05 41 32.3**	**-0.5**
ILIN				*e*Sn	**Sn**	**05 43 27.3**	**-9.1**
ILIN	**Laeen**	**11.05**	**318**	Pn	**Pn**	**05 41 31.6**	**-1.2**
ILIN				Pn	**Pn**	**05 41 32.3**	**-0.5**
ILIN				Sn	**Sn**	**05 43 27.2**	**-9.2**
ILIN	**Laeen**	**11.05**	**318**	*e*Pn	**Pn**	**05 41 32.3**	**-0.5**
ILIN				*e*Sn	**Sn**	**05 43 27.3**	**-9.1**
IDHR	**Dehrash**	**11.25**	**316**	*e*Pn	**Pn**	**05 41 34.5**	**-1.0**
IDHR				*e*Pn	**Pn**	**05 41 34.7**	**-0.8**
IDHR				*e*Pn	**Pn**	**05 41 35.1**	**-0.4**
IDHR	**Dehrash**	**11.25**	**316**	Pn	**Pn**	**05 41 34.4**	**-1.1**
IDHR				Pn	**Pn**	**05 41 34.6**	**-0.9**
IDHR				Pn	**Pn**	**05 41 35.1**	**-0.4**
IDHR	**Dehrash**	**11.25**	**316**	*e*Pn	**Pn**	**05 41 35.1**	**-0.4**
BHD	**Baghdad**	**11.79**	**305**	*ex*	x	05 41 56.0	
BHD				*ex*	x	05 44 20.0	
IBST	**Bostanabad**	**13.16**	**327**	*e*Pn	**Pn**	**05 42 00.4**	**-1.2**
IBST	**Bostanabad**	**13.16**	**327**	Pn	**Pn**	**05 42 00.3**	**-1.3**
ISHB	**Shabestar**	**14.24**	**325**	*e*Pn	**Pn**	**05 42 15.8**	**-0.6**
ISHB	**Shabestar**	**14.24**	**325**	Pn	**Pn**	**05 42 15.7**	**-0.7**
MSL	**Mosul**	**14.34**	**314**	*ex*	x	05 42 12.0	
MSL				*ex*	x	05 44 44.0	
IMRD	**Marand**	**14.53**	**327**	*e*Pn	**Pn**	**05 42 20.4**	**+0.1**
IMRD				*e*Pn	**Pn**	**05 42 26.5

GZT Gaziantep 18.65 308 *i* P **Pn 05 43 12.3 -0.5**
MMAI Mount Meron Ar 18.74 294 P **Pn 05 43 14.8 +0.9**
comp=Z,1.2nm,0.3s,baz=94,slow=14,SNR=12
MMAI LR LR 05 52 29.1
comp=Z,171nm,18.2s,baz=100,slow=43
NDI New Delhi 18.96 80 *ex* x 05 43 15.0
COBT Iskenderun 19.21 305 *i* P **Pn 05 43 21.8 +2.1**
ANR Andizhan 19.40 40 *eP* **Pn 05 43 23.8 +1.8**
ATD Arta Tunnel 19.61 221 P **Pn 05 43 24.2 -0.2**
comp=Z,1.5nm,0.3s,baz=24,slow=9.1,SNR=6.8
ATD Arta Tunnel 19.61 221 P **Pn 05 43 24.2 -0.2**
KK31 Karatay Array 20.07 33 *i* P **P 05 43 26.9 -1.2**
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 20.07 33 *i* P **P 05 43 26.9 -1.2**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KIV Kislovodsk 20.07 331*c i*P **P 05 43 30.2 +2.0**
KIV pmax pmax
comp=Z,85nm,1.4s
KIV MLR MLR
comp=Z,100nm,16.0s,MS3.3
KIV Kislovodsk 20.07 331 *eP* **P 05 43 28.4 +0.3**
comp=Z,212nm,1.4s
KIV Kislovodsk 20.07 331 *i* P **P 05 43 30.2 +2.0**
comp=Z,100nm,16.0s
GRSN GIRESUNGRSN 20.16 318 *i* P **P 05 43 30.4 +1.2**
GOF Gofitskoye 20.83 334 *eP* **P 05 43 36.6 +0.2**
GOF *eS* **S 05 47 34.3 +5.6**
GOF pmax pmax
comp=Z,70nm,0.7s
GOF Gofitskoye 20.83 334 *eP* **P 05 43 36.6 +0.2**
comp=Z,70nm,0.7s
CSS Prodhromos 20.91 298 *eP* **P 05 43 38.2 +1.0**
comp=Z,33nm,1.1s
CSS Prodhromos 20.91 298 *eP* **P 05 43 38.2 +1.0**
comp=Z,33nm,1.1s
SOC Sochi 21.17 326 *eP* **P 05 43 43.2 +3.2**
SOC *e* 05 44 08.6
SOC *eS* **S 05 47 30.5 -4.9**
SOC *e*SSS 05 48 13.8
SOC pmax pmax
comp=Z,56nm,1.4s,mb4.7
SOC MLR MLR
comp=Z,240nm,14.0s,MS3.7
AVNT Avonos 21.20 309 *i* P **P 05 43 41.7 +1.3**
CDAG Cicekdag 21.93 311 *i* P **P 05 43 52.0 +3.8**
FRU Bishkek 22.03 39 *eP* **P 05 43 48.0 -1.3**
FRU *e* 05 44 26.5
FRU pmax pmax
comp=Z,40nm,2.1s,mb4.5
FRU Bishkek 22.03 39 *eP* **P 05 43 48.0 -1.3**
comp=Z,40nm,2.1s,mb4.5
BR131 Keskin Array S 22.48 310 *eP* **P 05 43 53.9 -0.2**
comp=Z,20nm,0.9s,mb4.5
BR131 Keskin Array S 22.48 310 *eP* **P 05 43 53.9 -0.2**
comp=Z,20nm,0.9s,mb4.5
BRTR Keskin Array B 22.48 310 P **P 05 43 55.2 +1.2**
comp=Z,6.9nm,0.9s,mb4.1,baz=123,slow=11,SNR=17
BRTR LR LR 05 54 37.1
comp=Z,112nm,19.3s,MS3.3,baz=118,slow=42
BOYT Boyabat 22.51 315 *i* P **P 05 43 59.1 +4.6**
ELDT Eldivan 22.99 312 *i* P **P 05 44 04.2 +4.7**
KDHN Kadinhani 23.03 306 *i* P **P 05 44 03.5 +3.6**
ANTO Ankara 23.12 310 *eP* **P 05 44 02.7 +1.8**
ANTO pmax pmax
comp=Z,24nm,0.7s,mb4.7
ANTO Ankara 23.12 310 *eP* **P 05 44 02.6 +1.8**
comp=Z,24nm,0.7s,mb4.7
ANN Anapa 23.19 325 *eP* **P 05 44 06.5 +4.9**
ANN pmax pmax
comp=Z,66nm,1.2s,mb4.9
ANN MLR MLR
comp=N,166nm,14.0s,MS3.8
ANN MLR MLR
comp=E,172nm,14.0s,MS3.8
ANN MLR MLR
comp=Z,128nm,14.0s,MS3.5
AKTK Aktyubinsk 23.55 3 P **P 05 44 04.3 -1.1**
AKTK LR LR 05 54 16.6
AKTK Aktyubinsk 23.55 3 P **P 05 44 04.3 -1.0**
comp=Z,134nm,19.7s
AKTO Aktyubinsk 23.55 3 P **P 05 44 04.3 -1.1**
comp=Z,9.4nm,0.6s,mb4.4,baz=175,slow=10,SNR=11
AKTO LR LR 05 54 16.6
comp=Z,134nm,19.7s,MS3.4,baz=355,slow=39
AKTO Aktyubinsk 23.55 3 P **P 05 44 04.3 -1.0**
AKTO pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
AKTO MLR MLR
comp=Z,134nm,19.7s,MS3.4
SGKT Sivrigoynuk 23.95 311 *i* P **P 05 44 09.2 +0.2**
ESKT Eskisehir 24.33 307 *i* P **P 05 44 12.0 -0.5**
SEYT Eskypehyr 24.33 307 *i* P **P 05 44 12.0 -0.5**
KOLN Koldanda 24.63 82 *eP* **P 05 44 15.9 +0.7**
comp=Z,26nm,1.1s,mb4.7
HENT Hendek 24.84 310 *i* P **P 05 44 14.9 -2.3**
GKN Gorkha 25.52 81 *eP* **P 05 44 24.9 +1.5**
comp=Z,16nm,0.7s,mb4.7
ULDT Uludag 25.79 308 *i* P **P 05 44 25.6 -0.1**
DMN Daman 25.97 82 *eP* **P 05 44 28.5 +1.1**
comp=Z,21nm,0.9s,mb4.7
KKN Kakani 26.11 81 *eP* **P 05 44 30.1 +1.4**
PKI Pulchoki 26.24 82 *eP* **P 05 44 31.3 +1.4**
comp=Z,21nm,0.7s,mb4.8
VRHR Novokhopersk 26.47 340 *eP* **P 05 44 34.0 +2.0**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb4.9
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR Novokhopersk 26.47 340 *eP* **P 05 44 34.0 +2.0**
comp=E,20nm,0.5s,mb4.9
GUN Gumba 26.63 81 *eP* **P 05 44 34.6 +1.2**
comp=E,37nm,0.8s,mb5.0
JIRN Jiri 26.93 81 *eP* **P 05 44 37.3 +1.3**
comp=E,18nm,0.9s,mb4.6
ZRNK Zerenda 27.80 17 *eP* **P 05 44 42.7 -1.2**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
ZRNK Zerenda 27.80 17 *eP* **P 05 44 42.7 -1.2**
comp=Z,4.0nm,0.8s,mb4.1
VOSK Vostochnaya 28.15 20 P **P 05 44 44.7 -2.3**
VOSK pmax pmax
comp=Z,11nm,1.2s,mb4.4
BRVK Borovoye 28.24 19 *eP* **P 05 44 46.0 -1.8**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BRVK Borovoye 28.24 19 *eP* **P 05 44 46.0 -1.8**
comp=Z,3.2nm,0.6s,mb4.1
BRVK Borovoye 28.24 19 *eP* **P 05 44 46.0 -1.8**
comp=Z,3.0nm,0.6s,mb4.1
BVA0 Borovoye Array 28.24 19 *i* P **P 05 44 46.8 -1.1**
BVAR Borovoye Array 28.24 19 P **P 05 44 46.4 -1.5**
comp=Z,5.4nm,0.5s,mb4.4,baz=198,slow=8.9,SNR=28
BVAR LR LR 05 57 23.6
comp=Z,92nm,19.6s,MS3.4,baz=240,slow=39
MK31 Makanchi Array 28.77 39 P **P 05 44 51.3 -1.2**
MKAR Makanchi Array 28.77 39 P **P 05 44 51.6 -0.9**
comp=Z,1.7nm,0.7s,mb3.9,baz=222,slow=8.0,SNR=14
CHKZ Chkalovo 28.88 18 *eP* **P 05 44 51.6 -1.9**
comp=Z,2.3nm,0.6s,mb4.1
CHKZ Chkalovo 28.88 18 *eP* **P 05 44 51.6 -1.9**
KURK Kurchatov 29.42 30 *eP* **P 05 44 57.3 -1.0**
comp=Z,2.7nm,1.0s,mb3.9
KURK Kurchatov 29.42 30 *eP* **P 05 44 57.3 -1.0**
AKASG Malin Array Be 31.25 327 P **P 05 45 13.6 -0.8**
comp=Z,2.2nm,0.6s,mb4.2,baz=130,slow=7.7,SNR=8.7
OBN Obninsk 31.50 339 P **P 05 45 20.0 +3.3**
OBN *e* 05 45 25.0
OBN S **S 05 50 24.0 -0.8**
KMBO Kilima Mbogo 33.15 216 P **P 05 45 31.9 +0.7**
comp=Z,4.7nm,0.8s,mb4.5,baz=32,slow=12,SNR=9.7
KMBO LR LR 06 01 24.8
comp=Z,96nm,18.2s,MS3.5,baz=279,slow=41
KMBO Kilima Mbogo 33.15 216 P **P 05 45 31.9 +0.7**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO MLR MLR
comp=Z,96nm,18.2s
KMBO Kilima Mbogo 33.15 216 *eP* **P 05 45 33.0 +1.8**
comp=Z,4.1nm,0.9s,mb4.4
NVS Novosibirsk 34.31 28 *eP* **P 05 45 40.9 -0.4**
NVS *eS* **S 05 51 07.6 -0.9**
NVS pmax pmax
comp=Z,19nm,1.6s,mb4.8
NVS smax
comp=N,11nm,1.5s
NVS Novosibirsk 34.31 28 *eP* **P 05 45 40.9 -0.4**
comp=N,19nm,1.6s,mb4.8
NVS *eS* **S 05 51 07.6 -0.9**
comp=N,11nm,1.5s
ZAL Zalesovo 34.39 30 P **P 05 45 41.0 -1.0**
comp=N,6.0nm,0.4s,mb4.8,baz=229,slow=7.1,SNR=16
TIP Timpagrande 34.74 301 *eP* **P 05 45 45.3 +0.3**
MORC Moravsky Berou 37.17 318 *eP* **P 05 46 05.4 -0.4**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
MORC Moravsky Berou 37.17 318 *eP* **P 05 46 05.4 -0.4**
comp=Z,6.7nm,0.9s,mb4.5
MORC Moravsky Berou 37.17 318 *eP* **P 05 46 05.3 -0.5**
DPC Dobruska-Polom 38.12 319 *eP* **P 05 46 12.5 -1.3**
DPC *ex* x 05 46 20.2
TREC Trest 38.23 317 *eP* **P 05 46 17.6 +2.9**
TREC *ex* x 05 46 22.7
UPC Upice 38.36 319 *eP* **P 05 46 15.5 -0.4**
GTA Gaotai 38.48 60 *eP* **P 05 46 17.0 +0.1**
GTA AP pP 05 46 25.0 +5.0
GTA XP sP 05 46 29.0 +7.8
GERES GERESS Array B 39.18 315 P **P 05 46 24.1 +1.3**
comp=Z,0.6nm,0.4s,mb3.7,baz=96,slow=9.5,SNR=6.0
KHC Kasperske Hory 39.35 316 *eP* **P 05 46 22.6 -1.5**
KHC *ex* x 05 46 31.1
KHC *ex* x 05 46 56.5
KHC Kasperske Hory 39.35 316⇑ *eP* **P 05 46 22.8 -1.3**
BRG Berggiesshubel 39.72 319 *eP* **P 05 46 28.2 +1.0**
comp=Z,2.8nm,0.8s,mb4.1
BRG *e* 05 46 34.3
comp=Z,3.8nm,0.9s
BRG
comp=N,48nm,14.7s
BRG
comp=E,31nm,19.4s
BRG
comp=Z,76nm,18.0s
BRG Berggiesshubel 39.72 319 *eP* **P 05 46 28.2 +1.0**
BRG *e* 05 46 34.3
BRG pmax pmax
comp=Z,30nm,0.8s,mb5.1
BRG MLR MLR
comp=Z,80nm,18.0s,MS3.6
BRG Berggiesshubel 39.72 319 *eP* **P 05 46 28.2 +1.0**
comp=Z,2.8nm,0.8s,mb4.0
BRG *e* 05 46 34.3
BRG LR LR
comp=Z,80nm,18.0s,MS3.6
FINES FINESS Array B 39.90 338 P **P 05 46 27.9 -0.9**
comp=Z,2.7nm,0.5s,mb4.2,baz=140,slow=10,SNR=21
NKC Novy Kostel 40.40 317 *eP* **P 05 46 35.1 +2.2**
CLL Collm 40.43 319 *i* sP **P 05 46 36.0 +2.9**
comp=Z,7.0nm,0.9s,mb4.4
CLL *i* x x 05 46 40.4
comp=Z,18nm,1.5s
CLL Collm 40.43 319 *i* P **P 05 46 36.0 +2.9**
CLL *i* pP 05 46 40.4 +4.2
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
BSD Bornholm Skovb 40.90 325 *i* P **P 05 46 36.2 -0.8**
comp=Z,16nm,1.5s,mb4.4
BSD Bornholm Skovb 40.90 325 *eP* **P 05 46 36.2 -0.8**
BSD pmax pmax
comp=Z,16nm,1.5s,mb4.4
BSD Bornholm Skovb 40.90 325 *eP* **P 05 46 36.2 -0.8**
comp=Z,16nm,1.5s,mb4.4
LZH Lanzhou 41.56 65 *eP* **P 05 46 43.8 +1.3**
LZH AP pP 05 46 51.0 +5.4
LZH XP sP 05 46 54.0 +7.2
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,90nm,4.0s
CD2 Chengdu 41.86 73 *eP* **P 05 46 42.5 -2.4**
CD2 S **S 05 52 59.3 -3.4**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.9s
CD2 LR LR
comp=N,120nm,21.2s
CD2 LR LR
comp=Z,90nm,23.0s,MS3.6
KMI Kunming 41.97 82 P **P 05 46 47.3 +1.5**
KMI PP PP 05 48 25.0 +2.1
KMI S **S 05 53 05.8 +1.4**
KMI AMB AMB
comp=Z,110nm,4.0s
KMI LR LR
comp=N,130nm,15.7s,MS4.0
KMI LR LR
comp=E,100nm,16.3s,MS4.0
KMI LR LR
comp=Z,100nm,17.4s,MS3.8
SBF Sospel 42.32 307 *eP* **P 05 46 47.1 -1.6**
MBDF Montbardon 42.91 308 *eP* **P 05 46 52.5 -0.9**
comp=Z,7.9nm,0.6s,mb4.3
MBDF Montbardon 42.91 308 *eP* **P 05 46 52.5 -0.9**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
MBDF Montbardon 42.91 308 *eP* **P 05 46 52.5 -0.9**
comp=Z,4.0nm,0.6s,mb4.3
LPG La Plagne 43.03 309 *eP* **P 05 46 53.4 -1.0**
LPL La Plagne 43.04 309 *eP* **P 05 46 53.0 -1.5**
comp=Z,7.2nm,0.6s,mb4.3
LPL La Plagne 43.04 309 *eP* **P 05 46 53.0 -1.5**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
LPL La Plagne 43.04 309 *eP* **P 05 46 53.0 -1.5**
comp=Z,3.6nm,0.6s,mb4.3
CDF Champ du Feu 43.18 313 *eP* **P 05 46 54.8 -0.9**
HINF Hinteralfeld 43.34 312 *eP* **P 05 46 55.8 -1.2**
CABF La Chapelle 43.65 310 *eP* **P 05 46 57.9 -1.5**
SMRF Simiane la Rot 43.67 306 *eP* **P 05 46 58.4 -1.2**
HAU Haudompre 43.71 312 *eP* **P 05 46 58.6 -1.3**
comp=Z,5.6nm,0.5s,mb4.2
HAU *eR*
comp=Z,52nm,19.2s
HAU Haudompre 43.71 312 *eP* **P 05 46 58.6 -1.3**
HAU pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
HAU MLR MLR
comp=Z,50nm,19.3s,MS3.4
HAU Haudompre 43.71 312 *eP* **P 05 46 58.6 -1.3**
comp=Z,2.8nm,0.5s,mb4.2
HAU LR LR
comp=Z,50nm,19.3s,MS3.4
SONM Songino Array 44.34 48 P **P 05 47 04.4 -0.6**
comp=Z,3.6nm,1.0s,mb4.0,baz=256,slow=8.5,SNR=18
ULN Ulaanbaatar 44.78 48 *eP* **P 05 47 08.7 +0.2**
ULN pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
ULN Ulaanbaatar 44.78 48 *eP* **P 05 47 08.7 +0.2**
comp=Z,4.0nm,0.4s,mb4.6
ULN Ulaanbaatar 44.78 48 *eP* **P 05 47 08.7 +0.2**
comp=Z,4.0nm,0.4s,mb4.6
LASF Ste Croix 44.91 306 *eP* **P 05 47 08.0 -1.6**
GIVF Givet 45.10 315 *eP* **P 05 47 11.1 +0.1**
SMF Signal de Mont 45.19 310 *eP* **P 05 47 09.8 -1.9**
comp=Z,6.5nm,0.6s,mb4.3
SMF Signal de Mont 45.19 310 *eP* **P 05 47 09.8 -1.9**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
SMF Signal de Mont 45.19 310 *eP* **P 05 47 09.8 -1.9**
comp=Z,3.2nm,0.6s,mb4.3
DOU Dourbes 45.24 315 P **P 05 47 11.7 -0.5**
DOU E 05 47 19.8
DOU Dourbes 45.24 315 P **P 05 47 11.6 -0.5**
LOR Lormes 45.26 311 *eP* **P 05 47 11.3 -1.0**
comp=Z,8.6nm,0.7s,mb4.4
LOR *eR*
comp=Z,45nm,19.0s
LOR Lormes 45.26 311 *eP* **P 05 47 11.3 -1.0**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
LOR MLR MLR
comp=Z,50nm,19.0s,MS3.5
LOR Lormes 45.26 311 *eP* **P 05 47 11.3 -1.0**
comp=Z,4.3nm,0.7s,mb4.4
LOR LR LR
comp=Z,50nm,19.0s,MS3.5
NB2 NORSAR Subarra 45.38 331 P **P 05 47 11.2 -2.0**
comp=Z,4.0nm,0.8s,mb4.3,baz=120,slow=8.6
NB2 NORSAR Subarra 45.38 331 P **P 05 47 11.2 -2.0**
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
NOA NORSAR Array B 45.38 331 P **P 05 47 11.6 -1.6**
comp=Z,1.0nm,0.6s,mb3.8,baz=118,slow=7.6,SNR=7.5
NOA LR LR 06 08 39.4
comp=Z,74nm,21.0s,MS3.6,baz=115,slow=39
NAO01 NORSAR Array S 45.43 331 *eP* **P 05 47 12.8 -0.9**
comp=Z,4.3nm,0.8s,mb4.3
NAO01 NORSAR Array S 45.43 331 *eP* **P 05 47 12.8 -0.8**
comp=Z,4.3nm,0.8s,mb4.3
SSF Saint Saulge 45.47 311 *eP* **P 05 47 12.1 -1.9**
comp=Z,6.9nm,0.5s,mb4.4
SSF Saint Saulge 45.47 311 *eP* **P 05 47 12.1 -1.9**
SSF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
SSF Saint Saulge 45.47 311 *eP* **P 05 47 12.1 -1.9**
comp=Z,3.5nm,0.5s,mb4.4
BAIF Baives 45.48 315 *eP* **P 05 47 14.3 +0.3**
AVF Avril sur Loir 45.54 310 *eP* **P 05 47 13.1 -1.4**
XAN Xi'an 45.85 68 P **P 05 47 16.3 -0.7**
BGF Bois d'Agland 45.86 310 *eP* **P 05 47 15.4 -1.6**
comp=Z,10nm,0.5s,mb4.7
BGF Bois d'Agland 45.86 310 *eP* **P 05 47 15.4 -1.6**
BGF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
BGF Bois d'Agland 45.86 310 *eP* **P 05 47 15.4 -1.6**
comp=Z,5.2nm,0.5s,mb4.7
KEV Kevo 46.03 346 *ep* **P 05 47 15.7 -2.7**
MTLF Montolieu 46.05 305 *eP* **P 05 47 18.6 0.0**
comp=Z,17nm,1.1s,mb4.6
MTLF Montolieu 46.05 305 *eP* **P 05 47 18.6 0.0**
MTLF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MTLF Montolieu 46.05 305 *eP* **P 05 47 18.6 0.0**
comp=Z,8.6nm,1.1s,mb4.6
ARCES ARCESS Array B 46.18 346 P **P 05 47 18.8 -0.8**
comp=Z,1.8nm,0.7s,mb4.1,baz=138,slow=8.2,SNR=11
CAF Calviac 46.26 307 *eP* **P 05 47 18.9 -1.3**
TCF Toulx Ste Croi 46.27 309 *eP* **P 05 47 19.3 -1.0**
RJF Les Rejaudoux 46.67 308 *eP* **P 05 47 22.4 -1.0**
RJF *eR*
comp=Z,72nm,18.0s
RJF Les Rejaudoux 46.67 308 *eP* **P 05 47 22.4 -1.0**
RJF LR LR
comp=Z,70nm,18.0s,MS3.7
HHC Hu-ho-hao-te 47.53 58 *eP* **P 05 47 28.0 -2.2**
HHC PCP PcP 05 48 58.5 -1.6
HHC PP PP 05 49 18.8 -2.8
HHC S **S 05 54 20.0 -5.1**
HHC SCS ScS 05 57 18.5 -5.6
HHC AMB AMB
comp=Z,100nm,5.5s
HHC LR LR
comp=N,140nm,14.3s,MS4.1
HHC LR LR
comp=E,110nm,19.0s,MS4.1
HHC LR LR
comp=Z,80nm,14.3s,MS3.8
LDF La Druitiere 48.07 312 *eP* **P 05 47 33.0 -1.3**
ETSF Etsaut 48.08 305 *eP* **P 05 47 33.3 -1.1**
comp=Z,24nm,1.1s,mb4.8
ETSF Etsaut 48.08 305 *eP* **P 05 47 33.3 -1.1**
ETSF pmax pmax
comp=Z,12nm,1.1s,mb4.8
ETSF Etsaut 48.08 305 *eP* **P 05 47 33.3 -1.1**
comp=Z,12nm,1.1s,mb4.8
GRR Gorron 48.54 312 *eP* **P 05 47 37.0 -0.9**
SJPF Ste Jean 48.56 305 *eP* **P 05 47 37.4 -0.7**
comp=Z,7.2nm,0.5s,mb4.7
SJPF Ste Jean 48.56 305 *eP* **P 05 47 37.4 -0.7**
SJPF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
SJPF Ste Jean 48.56 305 *eP* **P 05 47 37.4 -0.7**
comp=Z,3.6nm,0.5s,mb4.7
BOD Bodaibo 50.76 36 *eP* **P 05 47 53.4 -1.4**
BOD pmax pmax
comp=Z,11nm,1.1s,mb4.7
BOD Bodaibo 50.76 36 *eP* **P 05 47 53.4 -1.4**
comp=Z,11nm,1.1s,mb4.7
TORD Torodi Ar. Bea 52.35 266 P **P 05 48 05.9 -0.9**
comp=Z,5.7nm,0.5s,mb4.7,baz=63,slow=7.0,SNR=81
CN2 Changchun 57.58 53 *eP* **P 05 48 44.3 -0.3**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
YHNB Yeheng 58.42 76 *eP* **P 05 48 52.3 +1.9**
YHNB Yeheng 58.42 76 *eP* **P 05 48 52.3 +1.8**
TSUM Tsumeb 58.99 223 *eP* **P 05 48 54.3 -0.1**
comp=Z,8.8nm,1.2s,mb4.7
TSUM Tsumeb 58.99 223 *eP* **P 05 48 54.3 -0.2**
comp=Z,8.8nm,1.2s,mb4.7
LBTB Lobatse 59.31 212 *eP* **P 05 48 56.9 +0.2**
LBTB pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LBTB Lobatse 59.31 212 *eP* **P 05 48 56.9 +0.2**
comp=Z,8.7nm,0.7s,mb4.9
LBTB Lobatse 59.31 212 *eP* **P 05 48 56.9 +0.2**
comp=Z,9.0nm,0.7s,mb4.9
TIXI Tiksi 59.35 21⇑ *eP* **P 05 48 55.3 -1.7**
TIXI pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
TIXI Tiksi 59.35 21 *eP* **P 05 48 55.3 -1.7**
comp=Z,4.0nm,1.3s,mb4.3
MDJ Mudanjiang 60.40 52 P **P 05 49 03.5 -0.7**
MDJ S **S 05 57 18.5 -0.6**
MDJ SS SS 06 01 17.3 +0.5
MDJ AMB AMB
comp=Z,80nm,5.2s
MDJ LR LR
comp=N,90nm,57.9s
MDJ LR LR
comp=E,70nm,51.1s
MDJ LR LR
comp=Z,30nm,30.7s
DBIC Dimbokro 60.95 262 P **P 05 49 07.2 -0.7**
comp=Z,4.9nm,0.7s,mb4.8,baz=56,slow=5.3,SNR=3.6
DBIC LR LR 06 16 40.3
comp=Z,54nm,19.2s,MS3.7,baz=140,slow=37
DBIC Dimbokro 60.95 262 P **P 05 49 07.2 -0.7**
DBIC LR LR 06 16 40.3
KLR Kul'dur 61.13 47 *eP* **P 05 49 04.2 -5.0**
BOSA Boshof 62.54 210 P **P 05 49 17.9 -0.7**
comp=Z,5.8nm,0.6s,mb4.9,baz=170,slow=1.6,SNR=9.2
BOSA Boshof 62.54 210 *eP* **P 05 49 18.0 -0.6**
BOSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
BOSA Boshof 62.54 210 *eP* **P 05 49 18.0 -0.6**
comp=Z,6.9nm,0.7s,mb4.9
BOSA Boshof 62.54 210 *eP* **P 05 49 18.0 -0.6**
comp=Z,7.0nm,0.7s,mb4.9
SUMG Summit 65.86 341 *eP* **P 05 49 40.5 +0.1**
comp=Z,9.3nm,1.0s,mb4.8
SUMG Summit 65.86 341 *eP* **P 05 49 40.5 +0.1**
comp=Z,9.3nm,1.0s,mb4.8
MJAR Matsushiro Arr 68.73 59 P **P 05 49 57.7 -0.9**
comp=Z,0.4nm,0.2s,mb3.9,baz=285,slow=11,SNR=4.4
MJAR LR LR 06 26 01.5
comp=Z,62nm,18.6s,MS3.9,baz=165,slow=41
YSS Yuzh-Sakhalins 68.82 47 *eP* **P 05 49 57.7 -1.5**
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 68.82 47 *eP* **P 05 49 57.7 -1.5**
comp=Z,20nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 68.82 47 *eP* **P 05 49 57.7 -1.5**
comp=Z,20nm,0.8s,mb5.1
INK Inuvik 84.81 3 *eP* **P 05 51 27.8 -1.6**
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 84.81 3 *eP* **P 05 51 27.8 -1.6**
comp=Z,5.4nm,1.2s,mb4.5
INK Inuvik 84.81 3 *eP* **P 05 51 27.8 -1.6**
comp=Z,5.0nm,1.2s,mb4.5
SCHQ Schefferville 84.95 331 LR LR 06 29 30.7
comp=Z,25nm,19.8s,MS3.6,baz=103,slow=36
COLA College 86.67 10 *eP* **P 05 51 37.3 -1.3**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
COLA College 86.67 10 *eP* **P 05 51 37.3 -1.3**
comp=Z,3.3nm,0.7s,mb4.7
COLA College 86.67 10 *eP* **P 05 51 37.3 -1.3**
comp=Z,3.0nm,0.7s,mb4.6
DAWY Dawson 88.54 7 *eP* **P 05 51 46.1 -1.5**
WRA Warramunga Arr 89.12 113 P **P 05 51 49.3 -1.0**
comp=Z,1.2nm,0.5s,mb4.5,baz=316,slow=4.1,SNR=15
WRAB Tennant Creek 89.13 113 *eP* **P 05 51 51.3 +1.0**
WRAB pmax pmax

comp=Z,5.0nm,0.8s,mb4.9
WRAB Tennant Creek 89.13 113 *e*P **P 05 51 51.3 +1.0**
comp=Z,5.4nm,0.8s,mb4.9
ASAR Alice Springs 90.57 116 P **P 05 51 56.3 -0.8**
comp=Z,0.8nm,0.7s,mb4.2,baz=297,slow=4.7,SNR=6.7
SADO Sadowa 97.69 329 LR LR 06 37 04.4
comp=Z,28nm,18.8s,MS3.8,baz=41,slow=36

NNC 30 06:12:51.7±0.3, 4645N×8285E, h9km±5km, mb3.6, mpv3.3, 15C-8D, Error ellipse: s-maj=8.7km s-min=2.9km az=22.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK07	**Makanchi Array**	**0.48**	**310**	⇑P	Pg	06 13 01.9	+0.9
MK07				⇓S	Sg	06 13 09.4	+2.1
MK02	**Makanchi Array**	**0.49**	**311**	⇑P	Pg	06 13 02.2	+0.9
MK02				⇑S	Sg	06 13 09.8	+2.0
MK03	**Makanchi Array**	**0.49**	**310**	⇓P	Pg	06 13 02.2	+0.9
MK03				⇓S	Sg	06 13 09.9	+2.1
MK06	**Makanchi Array**	**0.49**	**311**	⇓P	Pg	06 13 02.2	+0.9
MK06				⇑S	Sg	06 13 09.9	+2.1
MK08	**Makanchi Array**	**0.49**	**308**	⇑P	Pg	06 13 02.3	+0.9
MK08				⇑S	Sg	06 13 10.0	+2.1
MK01	**Makanchi Array**	**0.50**	**310**	⇑P	Pg	06 13 02.2	+0.9
MK01				⇑S	Sg	06 13 09.9	+2.0
MK04	**Makanchi Array**	**0.50**	**310**	⇑P	Pg	06 13 02.3	+0.9
MK04				⇑S	Sg	06 13 10.1	+2.1
MK09	**Makanchi Array**	**0.51**	**309**	⇑P	Pg	06 13 02.5	+0.9
MK09				⇓S	Sg	06 13 10.2	+1.9
MK05	**Makanchi Array**	**0.52**	**312**	⇓P	Pg	06 13 02.7	+0.9
	46nm,0.4s						
MK05				⇑S	Sg	06 13 10.4	+1.8
	168nm,0.7s						
KURK	**Kurchatov**	**5.11**	**328**	⇑Pg	Pg	06 14 25.4	-4.1
	4.0nm,0.9s						
KURK				⇓Lg		06 15 34.4	
	23nm,0.6s						
KK31	**Karatay Array**	**9.39**	**254**	⇑Pn	Pn	06 15 07.6	+0.5
	0.6nm,0.6s,baz=62,slow=13,SNR=7.0						
KK31				⇑Sn	Sn	06 16 53.5	+0.7
	0.9nm,0.6s,baz=63,slow=27,SNR=3.0						
KK31				⇓Lg		06 17 49.4	
	1.1nm,0.5s,baz=58,slow=29						

*IDC **30** 06:32:45.9±0.7, 2949S×17801W, h0km, mb4.7/10, mb1 5.0/10, mb1mx4.9/13, mbtmp4.7/10, MS4.8/20, Ms1 4.8/20, ms1mx4.5/25, Error ellipse: s-maj=27.5km s-min=19.3km az=177.0*
*ISCJB **30** 06:32:50.4±0.2, 2977S±004×17820W±006, h33km, mb5.0/32, MS4.8/21, Error ellipse: s-maj=8.7km s-min=4.3km az=73.7*
*MOS **30** 06:32:50.4±1.2, 2959S×178.17W, h33km, mb5.5/15, Error ellipse: s-maj=19.9km s-min=15.2km az=156.4*
*BJI **30** 06:32:51.5, 2980S×178.10W, h60km, mB5.8, mb4.9, Ms5.0, Msz4.7*
*HRVD **30** 06:32:54.5±0.2, 2952S×17808W, h12km, MW5.3/85, Centroid moment Tensor Solution. LP body waves: s61,c87;Mantle waves: s85,c145; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.03±.02; $M_{\theta\theta}$0.15±.02; $M_{\phi\phi}$0.87±.02; $M_{r\theta}$-0.13±.05; $M_{\theta\phi}$0.44±.02; $M_{\phi r}$-0.03±.05; Best double couple: $M_0$1.06700×10^{17} NP1:ϕ_s199.00000°, δ43.00000°, λ-99.00000°. NP2: ϕ_s31.00000°, δ48.00000°, λ-82.00000°. Principal axes: T 1.0890, Plg2.0000°, Azm116.0000°; N -0.0480, Plg6.0000°, Azm206.0000°; P -1.0450, Plg84.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 06:32:54.5±0.3, 2982S×178.14W, mb5.3/23 Error ellipse: s-maj=12.4km s-min=7.2km az=153.0*
ISC 30 06:32:52.4±0.2, 2969S±005×17814W±006, h35km, (h61km±3.9km:pP-P), n170, d0°80/131, mb5.0/32, MS4.8/21, 27C-25D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.48**	**24**	Pn	**Pn**	**06 32 53.3**	**-9.4**
	15μm,0.3s,baz=192,slow=1.4,SNR=347						
RAO				Sn	**Sn**	**06 33 06.4**	**-3.4**
	19μm,0.3s,baz=84,slow=13,SNR=13						
PUZ	**Puketiti**	**8.88**	**199**	PN	**Pn**	**06 34 53.5**	**-4.7**
PUZ				SN	**Sn**	**06 36 37.0**	**0.0**
MWZ	**Matawai**	**9.34**	**201**	PN	**Pn**	**06 35 00.1**	**-4.4**
MWZ				SN	**Sn**	**06 36 48.6**	**+0.3**
URZ	**Urewera**	**9.41**	**203**	Pn	**Pn**	**06 35 02.7**	**-2.7**
	1.5nm,0.3s,baz=66,slow=4.3,SNR=17						
URZ				Sn	**Sn**	**06 36 52.0**	**+1.9**
	4.7nm,0.3s,baz=184,slow=22,SNR=14						
URZ	**Urewera**	**9.41**	**203**	PN	**Pn**	**06 35 01.3**	**-4.2**
BFZ	**Birch Farm**	**11.88**	**201**	PN	**Pn**	**06 35 32.3**	**-7.0**
BFZ				SN	**Sn**	**06 37 44.8**	**-5.9**
MRZ	**Mangatainoka R**	**12.09**	**203**	PN	**Pn**	**06 35 35.1**	**-7.0**
MRZ				SN	**Sn**	**06 37 49.3**	**-6.3**
DZM	**Mont Dzumac**	**15.80**	**295**	Pn	**Pn**	**06 36 33.4**	**+1.3**
	0.2nm,0.3s,baz=84,slow=7.1,SNR=4.0						
DZM				LR	LR	06 41 10.2	
	comp=Z,10μm,21.0s,baz=48,slow=32						
RPZ	**Rata Peaks**	**16.44**	**209**	Pn	**Pn**	**06 36 38.3**	**-2.1**
	0.6nm,0.3s,baz=172,slow=5.0,SNR=3.4						
RPZ				Sn	**Sn**	**06 39 35.6**	**-6.0**
	0.6nm,0.3s,baz=0.4,slow=15,SNR=3.1						
RAR	**Rarotonga**	**18.59**	**67**	LR	LR	06 42 17.9	
	comp=Z,3μm,21.0s,baz=252,slow=31						
ARMA	**Armidale**	**26.14**	**261**	*e*P	**P**	**06 38 25.9**	**+2.7**
TBI	**Tubuai**	**26.39**	**83**	*e*LQ		06 43 34.8	
	5μm,25.5s						
TBI				*e*LR	LR	06 44 54.7	
	7μm,25.8s,baz=250						
PPT	**Papeete**	**28.73**	**72**	*e*LQ		06 44 28.3	
	4μm,24.2s						
PPT				*e*LR	LR	06 45 54.4	
	6μm,27.5s,baz=238						
PPT	**Papeete**	**28.73**	**72**	LR	LR	06 47 47.6	
	comp=Z,374nm,19.5s,MS4.0,baz=247,slow=32						
HNR	**Honiara**	**28.75**	**310**	LR	LR	06 48 15.2	
	comp=Z,2μm,20.5s,MS4.6,baz=180,slow=32						
CTA	**Charters Tower**	**33.57**	**278**	*e*P	**P**	**06 39 30.3**	**+1.3**
	35nm,0.9s,mb5.3						
CTA	**Charters Tower**	**33.57**	**278**	P	**P**	**06 39 29.2**	**+0.2**
	45nm,0.9s,mb5.4,baz=99,slow=11,SNR=14						
CTA	**Charters Tower**	**33.57**	**278**	*e*P	**P**	**06 39 30.3**	**+1.3**
CTA				pmax	pmax		
	comp=Z,35nm,0.9s						
CTAO	**Charters Tower**	**33.57**	**278**	*e*P	**P**	**06 39 30.5**	**+1.5**
CTAO				*e**PP	pP	06 39 47.1	+8.0
CTAO				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.5						
CTAO	**Charters Tower**	**33.57**	**278**	*e*P	**P**	**06 39 30.5**	**+1.5**
	comp=Z,56nm,1.0s,mb5.5						
CTAO				*ep*P	pP	06 39 47.1	+8.0
STKA	**Stephens Creek**	**34.53**	**256**	*e*P	**P**	**06 39 36.5**	**-0.8**
	comp=Z,18nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**34.53**	**256**	P	**P**	**06 39 37.0**	**-0.3**
	comp=Z,26nm,0.9s,mb5.2,baz=99,slow=9.2,SNR=16						
STKA				LR	LR	06 52 32.7	
	comp=Z,2μm,18.4s,MS4.9,baz=54,slow=34						
PMG	**Port Moresby**	**38.20**	**295**	LR	LR	06 53 12.3	
	comp=Z,2μm,19.6s,MS5.0,baz=326,slow=32						
RKT	**Rikitea**	**39.04**	**91**	*e*LR	LR	06 50 41.3	
	comp=Z,4μm,26.8s						
TAOE	**Nuku Hiva Isla**	**41.14**	**68**	*e*LR	LR	06 51 33.5	
	comp=Z,8μm,28.8s,baz=245						
AS31	**Alice Springs**	**43.03**	**266**	*e*P	**P**	**06 40 48.7**	**+0.2**
ASAR	**Alice Springs**	**43.03**	**266**	P	**P**	**06 40 48.9**	**+0.4**
	comp=Z,20nm,0.8s,mb4.9,baz=101,slow=7.2,SNR=65						
ASAR				PcP	PcP	06 42 36.2	-2.0
	comp=Z,2.3nm,0.6s,baz=120,slow=3.8,SNR=6.4						
ASAR				LR	LR	06 58 02.4	
	comp=Z,4μm,18.8s,MS5.3,baz=86,slow=35						
ASAR	**Alice Springs**	**43.03**	**266**	P	**P**	**06 40 48.9**	**+0.4**
ASAR						06 42 36.3	
ASPA	**Alice Springs**	**43.03**	**266**	*e*P	**P**	**06 40 48.7**	**+0.2**
WB2	**Warramunga Arr**	**43.94**	**271**	*e*P	**P**	**06 40 55.4**	**-0.5**
WRAB	**Tennant Creek**	**43.95**	**272**	P	**P**	**06 40 56.9**	**+1.0**
	comp=Z,275nm,1.1s,mb5.9,SNR=9.3						
WRAB	**Tennant Creek**	**43.95**	**272**	*e*P	**P**	**06 40 55.5**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,86nm,1.1s,mb5.4						
WRAB	**Tennant Creek**	**43.95**	**272**	*e*P	**P**	**06 40 55.5**	**-0.4**
	comp=Z,86nm,1.1s,mb5.4						
WRA	**Warramunga Arr**	**43.95**	**271**	P	**P**	**06 40 56.2**	**+0.2**
	comp=Z,48nm,1.1s,mb5.1,baz=109,slow=7.8,SNR=53						
WRA				PcP	PcP	06 42 41.2	-0.2
	comp=Z,5.2nm,0.9s,baz=114,slow=3.4,SNR=4.6						
WRA				LR	LR	06 58 06.9	
	comp=Z,2μm,18.1s,MS5.0,baz=100,slow=34						
WRA	**Warramunga Arr**	**43.95**	**271**	P	**P**	**06 40 56.2**	**+0.2**
WRA						06 42 41.2	
FORT	**Forrest**	**46.12**	**255**	*e*P	**P**	**06 41 13.4**	**+0.3**
	comp=Z,36nm,0.7s,mb5.4						
KAKA	**Kakadu**	**48.70**	**279**	*e*P	**P**	**06 41 31.8**	**-1.4**
	comp=Z,44nm,1.7s,mb5.2						
VNDA	**Vanda**	**48.79**	**186**	P	**P**	**06 41 34.0**	**+0.1**
	comp=Z,1.1nm,0.9s,mb3.9,baz=160,slow=2.0,SNR=3.4						
VNDA				LR	LR	06 57 36.1	
	comp=Z,364nm,18.1s,MS4.4,baz=22,slow=30						
VNDA	**Vanda**	**48.79**	**186**	P	**P**	**06 41 34.0**	**+0.1**
VNDA				LR	LR	06 57 36.1	
FITZ	**Fitzroy Crossi**	**52.24**	**269**	*e*P	**P**	**06 42 00.9**	**+0.9**
	comp=Z,21nm,1.2s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.24**	**269**	P	**P**	**06 42 01.3**	**+1.3**
	comp=Z,18nm,1.2s,mb4.9,baz=88,slow=7.9,SNR=5.7						
FITZ				LR	LR	07 02 30.2	
	comp=Z,713nm,19.2s,MS4.7,baz=106,slow=34						
GUMO	**Guam**	**55.89**	**315**	LR	LR	07 03 29.0	
	comp=Z,820nm,19.0s,MS4.8,baz=108,slow=33						
MBWA	**Marble Bar**	**56.19**	**263**	*e*P	**P**	**06 42 28.2**	**-0.5**
	comp=Z,11nm,0.8s,mb4.9						
QSPA	**South Pole Qui**	**60.42**	**180**	*e*P	**P**	**06 42 58.7**	**+0.4**
	comp=Z,28nm,0.9s,mb5.3						
CBIJ	**Chichi jima**	**68.05**	**322**	LR	LR	07 07 27.7	
	comp=Z,564nm,21.8s,MS4.8,baz=157,slow=31						
MAW	**Mawson**	**72.93**	**201**	LR	LR	07 14 30.9	
	comp=Z,401nm,21.1s,MS4.7,baz=288,slow=34						
JHJ	**Hachijo jima 2**	**74.10**	**324**	LR	LR	07 11 57.9	
	comp=Z,298nm,21.3s,MS4.5,baz=78,slow=32						
JOW	**Kunigami**	**76.10**	**312**	LR	LR	07 13 16.8	
	comp=Z,426nm,21.2s,MS4.7,baz=136,slow=32						
MJAR	**Matsushiro Arr**	**77.59**	**325**	P	**P**	**06 44 42.9**	**-2.0**
	comp=Z,2.6nm,0.8s,mb4.2,baz=152,slow=5.3,SNR=6.5						
MJAR				LR	LR	07 15 45.4	
	comp=Z,259nm,21.3s,MS4.5,baz=100,slow=33						
PLCA	**Paso Flores**	**83.08**	**133**	P	**P**	**06 45 14.9**	**+0.5**
	comp=Z,6.1nm,0.8s,mb4.7,baz=229,slow=5.9,SNR=9.4						
PLCA				LR	LR	07 13 19.4	
	comp=Z,802nm,21.2s,MS5.1,baz=237,slow=29						
PLCA	**Paso Flores**	**83.08**	**133**	P	**P**	**06 45 14.9**	**+0.5**
PLCA				LR	LR	07 13 19.4	
YSS	**Yuzh-Sakhalins**	**84.06**	**334**	⇓*e*P	**P**	**06 45 18.0**	**-1.4**
YSS				*e*		06 48 35.1	
YSS				*e*S		06 55 48.0	
YSS				*e*PS		06 56 44.0	
YSS				*e*SS	SS	07 01 16.0	+5.9
YSS				pmax	pmax		
	comp=Z,500nm,4.0s						
YSS				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7						
PSI	**Prapat**	**85.24**	**276**	LR	LR	07 22 34.2	
	comp=Z,863nm,21.4s,MS5.1,baz=127,slow=35						
CVS	**Carmenet Viney**	**85.34**	**41**	⇑P	**P**	**06 45 26.5**	**+0.7**
	baz=86						
S04C	**Ingram Canyon,**	**85.40**	**42**	⇑P	**P**	**06 45 27.6**	**+1.4**
	baz=86						
HOPS	**Hopland**	**85.44**	**40**	⇑P	**P**	**06 45 27.8**	**+1.4**
	baz=86						
MNRC	**McLaughlin Nat**	**85.71**	**40**	⇑P	**P**	**06 45 29.1**	**+1.4**
	baz=86						
O01C	**Eel River Cons**	**85.83**	**39**	⇑P	**P**	**06 45 29.9**	**+1.6**
	baz=86						
ISA	**Isabella**	**85.88**	**45**	*e*P	**P**	**06 45 28.3**	**-0.2**
ISA				*e**PP	pP	06 45 44.6	+5.0
ISA				pmax	pmax		
	comp=Z,74nm,1.9s,mb5.6						
ISA	**Isabella**	**85.88**	**45**	*e*P	**P**	**06 45 28.2**	**-0.3**
	comp=Z,74nm,1.9s,mb5.6						
ISA				*ep*P	pP	06 45 44.6	+5.0
GASB	**Alder Springs**	**86.09**	**40**	⇓P	**P**	**06 45 30.1**	**+0.6**
	baz=86						
CMB	**Columbia Colle**	**86.31**	**42**	⇑P	**P**	**06 45 30.9**	**+0.3**
	baz=87						
O02C	**Red Bluff**	**86.42**	**39**	⇓P	**P**	**06 45 31.4**	**+0.2**
	baz=87						
GLA	**Glamis**	**86.52**	**49**	*e*P	**P**	**06 45 31.4**	**-0.3**
GSC	**Goldstone**	**86.68**	**46**	*e*P	**P**	**06 45 31.9**	**-0.5**
GSC	**Goldstone**	**86.68**	**46**	⇓P	**P**	**06 45 32.6**	**+0.1**
	baz=87						
ORV	**Oroville**	**86.71**	**40**	⇓P	**P**	**06 45 32.4**	**-0.2**
	baz=87						
DAC	**Darwin (Calif)**	**86.82**	**45**	*e*P	**P**	**06 45 32.3**	**-0.8**
DAC				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.6						
DAC	**Darwin (Calif)**	**86.82**	**45**	*e*P	**P**	**06 45 32.3**	**-0.9**
	comp=Z,4.9nm,1.2s,mb4.6						
WDC	**Whiskeytown Da**	**86.84**	**39**	*e*P	**P**	**06 45 32.9**	**-0.3**
WDC				*e**PP	pP	06 45 49.2	+4.9
WDC				pmax	pmax		
	comp=Z,37nm,1.9s,mb5.3						
WDC	**Whiskeytown Da**	**86.84**	**39**	*e*P	**P**	**06 45 32.9**	**-0.3**
	comp=Z,37nm,1.9s,mb5.3						
WDC				*ep*P	pP	06 45 49.2	+4.9
WDC	**Whiskeytown Da**	**86.84**	**39**	⇑P	**P**	**06 45 33.4**	**+0.1**
	baz=87						
MTUM	**Tungsten Hills**	**86.94**	**43**	*e*P	**P**	**06 45 33.5**	**-0.2**
R05C	**Kirkwood Meado**	**86.94**	**42**	⇑P	**P**	**06 45 33.1**	**-0.6**
	baz=87						
P05C	**Yuba Gap, Truc**	**87.04**	**41**	⇑P	**P**	**06 45 33.6**	**-0.6**
	baz=87						
R07C	**Lee Vining**	**87.14**	**43**	⇑P	**P**	**06 45 34.7**	**0.0**
	baz=88						
WAKR	**Walker**	**87.18**	**42**	*e*P	**P**	**06 45 34.1**	**-0.8**
M02C	**Callahan**	**87.23**	**38**	⇓P	**P**	**06 45 35.1**	**-0.1**
	baz=88						
TUQ	**Turquoise Mtn.**	**87.32**	**46**	⇑P	**P**	**06 45 34.9**	**-0.6**
	baz=88						
K01A	**Sixes**	**87.38**	**36**	⇑P	**P**	**06 45 36.7**	**+0.9**
	baz=88						
O04C	**Chester**	**87.46**	**40**	⇑P	**P**	**06 45 37.1**	**+0.8**
	baz=88						
WCN	**Washoe City**	**87.53**	**41**	⇓P	**P**	**06 45 36.8**	**+0.2**
	baz=88						
YBH	**Yreka Blue Hor**	**87.55**	**38**	*e*P	**P**	**06 45 36.4**	**-0.3**
YBH				pmax	pmax		
	comp=Z,70nm,2.3s						
YBH	**Yreka Blue Hor**	**87.55**	**38**	*e*P	**P**	**06 45 36.4**	**-0.3**
	comp=Z,70nm,2.3s,mb5.5						
YBH	**Yreka Blue Hor**	**87.55**	**38**	⇓P	**P**	**06 45 36.1**	**-0.6**
	baz=88						
Y13A	**Salome**	**87.64**	**49**	⇓P	**P**	**06 45 37.3**	**+0.2**
	baz=88						
U10A	**Ash Meadows, A**	**87.69**	**45**	⇑P	**P**	**06 45 37.6**	**+0.3**
	baz=88						
NVAR	**Mina Array Bea**	**87.80**	**43**	P	**P**	**06 45 37.5**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.3,baz=215,slow=6.0,SNR=8.6						
K02A	**Glendale**	**87.86**	**37**	⇑P	**P**	**06 45 38.8**	**+0.6**
	baz=88						
MNV	**Mina**	**87.89**	**43**	*e*P	**P**	**06 45 37.9**	**-0.4**
MNV				pmax	pmax		
	comp=Z,37nm,1.9s,mb5.3						
MNV	**Mina**	**87.89**	**43**	*e*P	**P**	**06 45 37.9**	**-0.4**
	comp=Z,37nm,1.9s,mb5.3						
Z14A	**Wintersburg**	**87.94**	**49**	⇓P	**P**	**06 45 39.2**	**+0.7**
	baz=88						
MDJ	**Mudanjiang**	**87.97**	**326**	P	**P**	**06 45 37.5**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,10.0nm,3.1s						
MDJ				AMB	AMB		
	comp=Z,370nm,4.7s						
MDJ				LR	LR		
	comp=N,220nm,23.9s						
MDJ				LR	LR		
	comp=E,110nm,29.4s						
MDJ				LR	LR		
	comp=Z,300nm,22.0s,MS4.7						
115A	**Sonoran Desert**	**88.02**	**50**	⇓P	**P**	**06 45 38.9**	**-0.1**
	baz=88						
HUMO	**Hull Mountain**	**88.03**	**37**	*e*P	**P**	**06 45 40.0**	**+1.1**
	comp=Z,46nm,2.0s,mb5.4						
HUMO	**Hull Mountain**	**88.03**	**37**	⇑P	**P**	**06 45 39.6**	**+0.6**
	baz=88						
M04C	**Macdoel**	**88.05**	**39**	⇑P	**P**	**06 45 39.0**	**-0.1**
	baz=88						
O06A	**Flanigan**	**88.06**	**41**	⇑P	**P**	**06 45 38.8**	**-0.3**
	baz=88						
TPNV	**Topopah Spring**	**88.08**	**45**	*e*P	**P**	**06 45 39.3**	**+0.1**
TPNV				pmax	pmax		
	comp=Z,62nm,2.1s,mb5.5						
TPNV	**Topopah Spring**	**88.08**	**45**	*e*P	**P**	**06 45 39.3**	**+0.1**
	comp=Z,62nm,2.1s,mb5.5						
X13A	**Yucca**	**88.12**	**48**	⇓P	**P**	**06 45 39.4**	**0.0**
	baz=88						
M05C	**Lookout**	**88.14**	**39**	⇓P	**P**	**06 45 39.4**	**-0.1**
	baz=88						
Q08A	**Gabbs**	**88.30**	**43**	⇓P	**P**	**06 45 39.7**	**-0.6**
	baz=89						
W13A	**Hualapai Mount**	**88.40**	**48**	⇓P	**P**	**06 45 40.4**	**-0.4**
	baz=89						
R09A	**Tonopah**	**88.41**	**44**	⇓P	**P**	**06 45 40.3**	**-0.4**
	baz=89						
SHPR	**Sheep Range**	**88.47**	**46**	*e*P	**P**	**06 45 41.5**	**+0.4**
O07A	**Toulon**	**88.61**	**41**	⇓P	**P**	**06 45 41.5**	**-0.2**
	baz=89						
X14A	**Yava**	**88.66**	**49**	⇑P	**P**	**06 45 42.4**	**+0.5**
	baz=89						
TUC	**Tucson**	**88.76**	**51**	*e*P	**P**	**06 45 41.7**	**-0.7**
TUC				pmax	pmax		
	comp=Z,45nm,1.8s,mb5.5						
TUC	**Tucson**	**88.76**	**51**	*e*P	**P**	**06 45 41.7**	**-0.7**
	comp=Z,45nm,1.8s,mb5.5						
L05A	**Lakeview**	**88.78**	**39**	⇑P	**P**	**06 45 43.4**	**+0.9**
	baz=89						
U12A	**Valley of Fire**	**88.81**	**46**	⇑P	**P**	**06 45 42.5**	**-0.1**
	baz=89						
R10A	**Warm Springs**	**88.91**	**44**	⇑P	**P**	**06 45 42.8**	**-0.3**
	baz=89						
W14A	**Seligman**	**88.99**	**48**	⇑P	**P**	**06 45 44.2**	**+0.7**
	baz=89						
X15A	**Humboldt**	**89.10**	**49**	⇓P	**P**	**06 45 44.5**	**+0.5**
	baz=89						
M07A	**Soldier Meadow**	**89.26**	**40**	⇓P	**P**	**06 45 45.3**	**+0.5**
	baz=90						
CN2	**Changchun**	**89.50**	**323**	*e*P	**P**	**06 45 45.0**	**-0.9**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.5						
L07A	**Adell**	**89.58**	**40**	⇓P	**P**	**06 45 45.7**	**-0.5**
	baz=90						
O09A	**Fish Creek Ran**	**89.59**	**42**	⇓P	**P**	**06 45 47.0**	**+0.7**
	baz=90						
Q11A	**Duckwater**	**89.66**	**44**	⇓P	**P**	**06 45 47.0**	**+0.4**
	baz=90						
J06A	**Christmas Vall**	**89.97**	**38**	⇑P	**P**	**06 45 47.5**	**-0.5**
	baz=90						
WUAZ	**Wupatki**	**90.28**	**49**	*e*P	**P**	**06 45 50.1**	**+0.6**
	comp=Z,13nm,1.2s,mb5.2						
KLR	**Kul'dur**	**90.36**	**330**	*e*P	**P**	**06 45 44.8**	**-5.1**
KLR				*e*		06 56 44.5	
KLR				*e*		06 57 51.5	
KLR				pmax	pmax		
	comp=Z,100nm,2.4s,mb5.7						
I06A	**Prineville**	**90.40**	**38**	⇓P	**P**	**06 45 49.8**	**-0.3**
	baz=91						
O11A	**Cowboy Ranch,**	**90.46**	**43**	⇑P	**P**	**06 45 50.3**	**-0.1**
	baz=91						
J07A	**Hines**	**90.50**	**39**	⇓P	**P**	**06 45 50.0**	**-0.5**
	baz=91						
L09A	**Wilkinson Ranc**	**90.52**	**40**	⇓P	**P**	**06 45 51.5**	**+0.9**
	baz=91						
ELK	**Elko**	**91.10**	**43**	*e*P	**P**	**06 45 52.9**	**-0.4**
ELK				pmax	pmax		
	comp=Z,31nm,2.1s						
ELK	**Elko**	**91.10**	**43**	*e*P	**P**	**06 45 52.9**	**-0.4**
	comp=Z,31nm,2.1s,mb5.3						
HAWA	**Hanford**	**92.40**	**36**	*e*P	**P**	**06 45 58.4**	**-0.9**
	comp=Z,1.7nm,1.6s,mb4.1						
BMO	**Blue Mountains**	**92.56**	**38**	*e*P	**P**	**06 45 59.9**	**-0.3**
	comp=Z,47nm,2.3s,mb5.5						
BNM	**Barren Site**	**92.67**	**52**	*e*P	**P**	**06 46 01.1**	**+0.5**
SRU	**San Rafael**	**92.97**	**46**	*e*P	**P**	**06 46 01.8**	**-0.2**
ANMO	**Albuquerque**	**93.23**	**51**	*e*P	**P**	**06 46 03.2**	**0.0**
ANMO				pmax	pmax		
	comp=Z,22nm,1.9s						
ANMO	**Albuquerque**	**93.23**	**51**	*e*P	**P**	**06 46 03.2**	**0.0**
	comp=Z,22nm,1.9s,mb5.3						
AHID	**Auburn Hatcher**	**94.78**	**43**	*e*P	**P**	**06 46 09.5**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.9						
AHID				*e*PP	PP	06 50 05.3	+6.3
SNOW	**Snow King Moun**	**95.40**	**42**	*e*P	**P**	**06 46 12.8**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.7						
PDAR	**Pinedale Array**	**95.70**	**44**	P	**P**	**06 46 13.5**	**-1.1**
	comp=Z,0.5nm,0.8s,mb4.0,baz=292,slow=2.4,SNR=4.0						
PDAR				PKKP	PKKPbc	07 03 03.6	-0.6
	comp=Z,0.3nm,0.7s,baz=91,slow=3.9,SNR=3.9						
PDAR				LR	LR	07 25 55.2	
	comp=Z,351nm,18.6s,MS4.9,baz=249,slow=33						
LPAZ	**La Paz**	**98.54**	**114**	LR	LR	07 23 09.7	
	comp=Z,205nm,20.0s,MS4.6,baz=215,slow=31						
AKTK	**Aktyubinsk**	**133.53**	**313**	PKP	PKPdf	06 52 03.1	-1.9
AKTO	**Aktyubinsk**	**133.53**	**313**	PKP	PKPdf	06 52 03.1	-1.9
	comp=Z,1.7nm,0.6s,baz=85,slow=2.1,SNR=6.4						
AKTO	**Aktyubinsk**	**133.53**	**313**	PKIKP	PKPdf	06 52 03.1	-1.9
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**137.87**	**348**	PKP	PKPdf	06 52 10.0	-3.1
	comp=Z,1.1nm,0.7s,baz=2.9,slow=2.4,SNR=4.9						
JOF	**Joensuu**	**141.72**	**339**	*ep*	PKPdf	06 52 14.3	-5.8
KAF	**Kangasniemi**	**143.84**	**341**	*ep*	PKPdf	06 52 13.7	-10

LIA	**Limnos Island**	**1.16 150**	*e*PB	Pb	06 36 10.3	-0.3

*BJI **30** 06:39:28.5, 369S×13987E, h30km, mB5.2, mb4.9, Ms4.4, Msz4.2*
*ISCJB **30** 06:39:34.9±0.4, 3.19S±003×13923E±007, h34km, mb4.9/31, MS4.2/3, Error ellipse: s-maj=10.6km s-min=4.7km az=6.0*
*MOS **30** 06:39:35.0±0.8, 3.17S×13900E, h33km, mb5.0/7, Error ellipse: s-maj=21.3km s-min=9.4km az=106.9*
*IDC **30** 06:39:36.2±0.8, 322S×13936E, h36km±5km, mb4.4/10, mb1 4.5/12, mb1mx4.5/13, mbtmp4.6/12, ML4.4/1, MS4.1/4, Ms1 4.1/4, ms1mx3.4/21, Error ellipse: s-maj=25.2km s-min=11.7km az=86.0*
*HRVD **30** 06:39:37.0±0.3, 299S×13972E, h39km±1km, MW5.0/42, Centroid moment Tensor Solution. LP body waves: s40,c47;Mantle waves: s42,c55; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}3.85±.23; $M_{\theta\theta}$-2.37±.16; $M_{\phi\phi}$-1.48±.22; $M_{r\theta}$-1.75±.16; $M_{\theta\phi}$1.67±.12; $M_{\phi r}$-0.62±.21; Best double couple: M_0=4.14600×10^16^ NP1:ϕ_s144.00000°, δ40.00000°, λ118.00000°. NP2: ϕ_s289.00000°, δ56.00000°, λ69.00000°. Principal axes: T 4.4910, Plg70.0000°, Azm148.0000°; N -0.6910, Plg18.0000°, Azm301.0000°; P -3.8000, Plg8.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 06:39:37.0±0.7, 3.17S×139.18E, mb4.8/4 Error ellipse: s-maj=15.8km s-min=10.3km az=76.0*

ISC 30 06:39:36.6±0.5, 323S±003×13939E±010, h36km, h36km±2.1km: pP-P, n62, σ19±10/67, mb4.9/31, MS4.1/4, 6C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.86**	**129**	Pn	**Pn**	**06 42 00.9**	**+5.1**
	1.5nm,0.3s,baz=327,slow=9.6,SNR=9.4						
PMG	**Port Moresby**	**9.86**	**129**	⇑*e*P	**Pn**	**06 42 01.6**	**+5.8**
KAKA	**Kakadu**	**11.66**	**216**	*e*P	**Pn**	**06 42 21.1**	**+0.6**
	255nm,0.6s						
KAKA				*e*S	**Sn**	**06 44 30.4**	**+1.0**
WRAB	**Tennant Creek**	**17.32**	**196**	*e*P	**Pn**	**06 43 35.2**	**-0.2**
WRAB				*e*		06 46 37.0	
WRAB				pmax	pmax		
	comp=Z,47nm,0.6s						
WRAB	**Tennant Creek**	**17.32**	**196**	*e*Pn	**Pn**	**06 43 35.2**	**-0.2**
	comp=Z,47nm,0.6s						
WRAB				*e*Sn	**Sn**	**06 46 37.0**	**-10**
WB2	**Warramunga Arr**	**17.33**	**196**	*e*P	**Pn**	**06 43 34.6**	**-0.9**
WB2				*e*S	**S**	**06 46 41.6**	**-13**
WRA	**Warramunga Arr**	**17.33**	**196**	Pn	**Pn**	**06 43 35.4**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=19,slow=12,SNR=26						
WRA				Sn	**Sn**	**06 46 46.0**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=14,slow=22,SNR=5.6						
WRA				Lg		06 48 57.9	
	baz=17,slow=27,SNR=4.6						
WRA	**Warramunga Arr**	**17.33**	**196**	P	**Pn**	**06 43 35.4**	**-0.2**
WRA						06 46 46.0	
GUMO	**Guam**	**17.57**	**18**	LR	LR	06 50 05.7	
	comp=Z,394nm,19.3s,baz=1.5,slow=36						
CTA	**Charters Tower**	**18.05**	**159**	Pn	**Pn**	**06 43 48.5**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=346,slow=11,SNR=3.4						
CTA				Lg		06 49 19.8	
	comp=Z,0.2nm,0.3s,baz=73,slow=23,SNR=3.6						
FITZ	**Fitzroy Crossi**	**20.00**	**221**	*e*P	**Pn**	**06 44 07.5**	**-0.4**
	comp=Z,58nm,0.9s						
FITZ				*e*S	**S**	**06 47 43.4**	**-5.5**
FITZ	**Fitzroy Crossi**	**20.00**	**221**	P	**Pn**	**06 44 07.5**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=41,slow=12,SNR=30						
FITZ				S	**S**	**06 47 45.9**	**-3.0**
	comp=Z,1.5nm,0.3s,baz=134,slow=18,SNR=5.7						
FITZ				Lg		06 50 21.5	
	comp=Z,0.2nm,0.3s,baz=124,slow=14,SNR=1.8						
FITZ				LR	LR	06 52 29.7	
	comp=Z,412nm,21.1s,MS3.8,baz=270,slow=39						
AS31	**Alice Springs**	**21.00**	**194**	*e*P	**P**	**06 44 16.9**	**+0.1**
AS31				*e*S	**S**	**06 48 10.6**	**+2.0**
ASAR	**Alice Springs**	**21.00**	**194**	P	**P**	**06 44 17.6**	**+0.8**
	comp=Z,18nm,0.8s,mb4.4,baz=20,slow=10,SNR=40						
ASAR				S	**S**	**06 48 07.2**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=9.5,slow=27,SNR=3.5						
ASAR				Lg		06 50 46.2	
	comp=Z,8.4nm,1.1s,baz=20,slow=30,SNR=3.5						
ASAR	**Alice Springs**	**21.00**	**194**	P	**P**	**06 44 17.6**	**+0.8**
ASAR				S	**S**	**06 48 07.3**	**-1.4**
ASPA	**Alice Springs**	**21.00**	**194**	*e*P	**P**	**06 44 16.9**	**+0.1**
ASPA				*e*S	**S**	**06 48 10.6**	**+1.9**
STKA	**Stephens Creek**	**28.57**	**176**	*e*P	**P**	**06 45 29.5**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**28.57**	**176**	P	**P**	**06 45 30.2**	**+1.2**
	comp=Z,1.3nm,0.4s,mb4.0,baz=312,slow=8.9,SNR=3.5						
JOW	**Kunigami**	**31.75**	**341**	LR	LR	06 56 39.9	
	comp=Z,323nm,20.8s,MS4.0,baz=94,slow=32						
SSE	**Sheshan**	**38.29**	**334**	P	**P**	**06 46 54.5**	**+1.0**
SSE				AP	pP	06 47 03.5	-0.4
SSE				XP	sP	06 47 07.3	-1.0
SSE				PP	PP	06 48 22.8	+1.4
SSE				S	**S**	**06 52 47.0**	**+1.9**
SSE				XS	sS	06 53 02.5	+0.1
SSE				SS	SS	06 55 35.5	+1.4
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,90nm,5.9s						
SSE				LR	LR		
	comp=N,140nm,18.6s,MS4.0						
SSE				LR	LR		
	comp=E,190nm,18.6s,MS4.0						
SSE				LR	LR		
	comp=Z,220nm,22.5s,MS3.9						
MJAR	**Matsushiro Arr**	**39.58**	**359**	pP	pP	06 47 09.8	-5.0
	comp=Z,1.2nm,0.8s,baz=175,slow=9.2,SNR=2.3						
NJ2	**Nanjing**	**40.14**	**332**	*e*P	**P**	**06 47 06.5**	**-2.4**
NJ2				AP	pP	06 47 17.8	-1.7
NJ2				XP	sP	06 47 24.5	+0.7
NJ2				PP	PP	06 48 42.0	+0.4
NJ2				XS	sS	06 53 28.0	-2.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,820nm,8.0s						
NJ2				LR	LR		
	comp=N,1μm,24.8s						
NJ2				LR	LR		
	comp=E,270nm,19.2s						
NJ2				LR	LR		
	comp=Z,110nm,14.5s						
PSI	**Prapat**	**40.89**	**278**	P	**P**	**06 47 16.2**	**+1.1**
	comp=Z,30nm,0.8s,mb5.0,baz=96,slow=5.3,SNR=14						
PSI				pP	pP	06 47 26.1	+0.5
	comp=Z,37nm,1.0s,baz=216,slow=1.3,SNR=6.4						
VLA	**Vladivostok**	**46.63**	**352**	*e*P	**P**	**06 48 09.9**	**+8.7**
VLA				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.2						
XAN	**Xi'an**	**46.89**	**325**	P	**P**	**06 48 06.0**	**+2.8**
XAN				AP	pP	06 48 13.3	-0.6
RPZ	**Rata Peaks**	**49.10**	**150**	P	**P**	**06 48 20.8**	**+0.4**
	comp=Z,28nm,0.8s,mb5.3,baz=67,slow=4.1,SNR=16						
LZH	**Lanzhou**	**51.30**	**323**	*e*P	**P**	**06 48 38.8**	**+1.8**
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
HABR	**Khabarovsk**	**51.63**	**356**	*e*P	**P**	**06 48 34.7**	**-4.8**
ULN	**Ulaanbaatar**	**58.22**	**335**	⇑*e*P	**P**	**06 49 28.1**	**+1.0**
SONM	**Songino Array**	**58.47**	**335**	P	**P**	**06 49 28.2**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.9,baz=156,slow=7.0,SNR=6.2						
SONM				pP	pP	06 49 39.2	-0.6
	comp=Z,0.7nm,0.7s,baz=168,slow=7.6,SNR=3.3						
CIT	**Chita**	**59.25**	**342**	*e*P	**P**	**06 49 35.0**	**+0.7**
JIRN	**Jiri**	**59.69**	**305**	*e*P	**P**	**06 49 36.9**	**-0.4**
	comp=Z,27nm,1.0s,mb5.2						
GUN	**Gumba**	**60.04**	**305**	*e*P	**P**	**06 49 40.7**	**+1.0**
	comp=Z,29nm,0.8s,mb5.4						
PKI	**Pulchoki**	**60.30**	**304**	*e*P	**P**	**06 49 41.3**	**-0.2**
KKN	**Kakani**	**60.49**	**304**	*e*P	**P**	**06 49 43.0**	**+0.2**
	comp=Z,41nm,0.9s,mb5.5						
DMN	**Daman**	**60.56**	**304**	*e*P	**P**	**06 49 44.1**	**+0.8**
	comp=Z,41nm,1.1s,mb5.5						
GKN	**Gorkha**	**61.09**	**304**	*e*P	**P**	**06 49 47.4**	**+0.5**
	comp=Z,41nm,1.0s,mb5.5						
ZAK	**Zakamensk**	**61.74**	**335**	⇑*i*P	**P**	**06 49 50.8**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.9						
KOLN	**Koldanda**	**61.87**	**304**	*e*P	**P**	**06 49 52.8**	**+0.7**
	comp=Z,23nm,1.0s,mb5.3						
TLY	**Talaya**	**62.56**	**336**	*i*P	**P**	**06 49 55.7**	**-1.1**
WMQ	**Urumqi**	**65.83**	**321**	P	**P**	**06 50 18.5**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
MK31	**Makanchi Array**	**70.61**	**322**	P	**P**	**06 50 48.1**	**-0.1**
MK31				pmax	pmax		
	comp=Z,50nm,0.1s						
MKAR	**Makanchi Array**	**70.61**	**322**	P	**P**	**06 50 48.1**	**0.0**
	comp=Z,6.7nm,0.7s,mb4.7,baz=112,slow=7.7,SNR=17						
MKAR				pP	pP	06 50 59.2	-0.1
	comp=Z,10nm,0.9s,baz=116,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**70.61**	**322**	P	**P**	**06 50 48.1**	**0.0**
MKAR				pP	pP	06 50 59.2	-0.1
ZAL	**Zalesovo**	**72.72**	**330**	P	**P**	**06 50 59.7**	**-1.2**
	comp=Z,1.9nm,0.4s,mb4.4,baz=16,slow=9.9,SNR=4.9						
ZAL				pP	pP	06 51 11.3	-0.8
	comp=Z,1.3nm,0.4s,baz=5.4,slow=18,SNR=2.0						
ZAL	**Zalesovo**	**72.72**	**330**	P	**P**	**06 50 59.7**	**-1.2**
ZAL				pP	pP	06 51 11.3	-0.8
NVS	**Novosibirsk**	**73.97**	**330**	*e*P	**P**	**06 51 07.2**	**-1.0**
NVS				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
NVS				pmax	pmax		
	comp=E,13nm,1.2s						
KURK	**Kurchatov**	**74.53**	**325**	⇑*e*P	**P**	**06 51 10.9**	**-0.6**
TIXI	**Tiksi**	**75.05**	**357**	⇑*e*P	**P**	**06 51 16.1**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.1						
VNDA	**Vanda**	**75.21**	**175**	P	**P**	**06 51 14.7**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.4,baz=321,slow=6.1,SNR=13						
VNDA				LR	LR	07 23 12.1	
	comp=Z,288nm,18.9s,MS4.6,baz=350,slow=35						
VOSK	**Vostochnaya**	**79.68**	**325**	P	**P**	**06 51 38.7**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
BVA0	**Borovoye Array**	**80.12**	**325**	*i*P	**P**	**06 51 41.5**	**-1.3**
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
BVAR	**Borovoye Array**	**80.12**	**325**	P	**P**	**06 51 41.7**	**-1.0**
	comp=Z,7.8nm,0.7s,mb4.8,baz=110,slow=8.1,SNR=49						
BVAR				pP	pP	06 51 52.9	-1.2
	comp=Z,7.9nm,0.9s,baz=0.0,slow=0.4,SNR=9.9						
BRVK	**Borovoye**	**80.19**	**325**	P	**P**	**06 51 42.2**	**-1.0**
	comp=Z,88nm,0.7s,mb5.8,SNR=6.4						
MAW	**Mawson**	**81.90**	**202**	P	**P**	**06 51 52.8**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.2,baz=98,slow=11,SNR=3.8						
AB31	**Akbulak array**	**85.55**	**320**	*i*P	**P**	**06 52 09.1**	**-1.8**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
QSPA	**South Pole Qui**	**86.72**	**180**	*e*P	**P**	**06 52 16.7**	**0.0**
	comp=Z,25nm,0.9s,mb5.5						
ARU	**Arti**	**87.60**	**327**	⇑*i*P	**P**	**06 52 29.4**	**+8.5**
ARU				*e*S		07 02 56.6	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.7						
SOC	**Sochi**	**99.23**	**313**	*e*P	**P**	**06 53 08.9**	**-5.5**
SOC				*e*PPP		06 59 19.6	
SOC				*e*		07 03 41.6	
SOC				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.5						
TORD	**Torodi Ar. Bea**	**137.05**	**286**	pPKP	pPKPdf	06 59 08.9	+1.5
	comp=Z,1.0nm,0.8s,baz=107,slow=1.5,SNR=4.3						
DBIC	**Dimbokro**	**144.22**	**277**	PKP	PKPdf	06 59 07.7	-0.9
	comp=Z,32nm,0.8s,baz=80,slow=4.7,SNR=31						
LPAZ	**La Paz**	**146.59**	**126**	PKPbc	PKPbc	06 59 15.3	+1.2
	comp=Z,2.2nm,0.9s,baz=302,slow=1.1,SNR=8.4						

*NEIC **30** 07:01:48.6, 3445S×6980W, h14km, ML2.6(GUC), After GUC.*

GUC 30 07:01:48.6±1.6, 3443S×6984W, h0km±4km, MD3.6, ML2.6, 8C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.49**	**282**	⇑*i*P	Pg	07 01 58.7	+0.6
CICH				*i* S	Sg	07 02 06.6	+2.1
LMEL	**Las Melosas**	**0.65**	**332**	⇓*i*P	Pg	07 02 01.6	+0.5
LMEL				*i* S	Sg	07 02 11.5	+2.0
LMEL				AML	AML	07 02 12.8	
	comp=E,644nm,0.2s						
LMEL	**Las Melosas**	**0.65**	**332**	⇓*i*P	Pg	07 02 01.6	+0.5
LMEL				*i* S	Sg	07 02 11.5	+2.0
CACH	**El Canelo**	**0.70**	**296**	⇓*i*P	Pg	07 02 02.2	+0.1
CACH				*i* S	Sg	07 02 12.9	+1.7
CHCH	**Chadas Angostu**	**0.83**	**306**	⇑*i*P	Pg	07 02 05.0	+0.4
CHCH				*i* S	Sg	07 02 17.4	+2.0
SJCH	**San Jose de Ma**	**0.89**	**331**	*i* P	Pg	07 02 05.6	-0.1
SJCH				*i* S	Sg	07 02 18.8	+1.5
SJCH				AML	AML	07 02 20.3	
	comp=E,262nm,0.7s						
SJCH	**San Jose de Ma**	**0.89**	**331**	*i* P	Pg	07 02 05.6	-0.1
SJCH				*i* S	Sg	07 02 18.8	+1.5
PCH	**Pirque**	**0.98**	**325**	*i* P	Pg	07 02 07.8	+0.4
PCH				*i* S	Sg	07 02 22.1	+2.0
SFDO	**San Fernando**	**0.99**	**259**	⇑*i*P	Pg	07 02 07.5	-0.1
SFDO				*i* S	Sg	07 02 21.8	+1.4
ANTU	**Antumapu**	**1.08**	**322**	*e*P	Pg	07 02 09.3	0.0
ANTU				*i* S	Sg	07 02 25.1	+1.8
ANTU				AML	AML	07 02 26.3	
	comp=E,398nm,0.3s						
ANTU	**Antumapu**	**1.08**	**322**	*e*P	Pg	07 02 09.3	0.0
ANTU				*i* S	Sg	07 02 25.1	+1.8
FCH	**Farellones**	**1.16**	**341**	⇑*i*P	Pg	07 02 10.8	0.0
FCH				*i* S	Sg	07 02 27.9	+2.1
FCH				AML	AML	07 02 29.2	
	comp=E,203nm,0.3s						
CLCH	**Cerro Calan**	**1.18**	**330**	⇑*i*P	Pg	07 02 11.3	+0.1
CLCH				*i* S	Sg	07 02 28.5	+2.0
CLCH				AML	AML	07 02 29.4	
	comp=E,299nm,0.4s						
TACH	**Talagante**	**1.19**	**310**	⇑*i*P	Pg	07 02 11.3	-0.2
TACH				*i* S	Sg	07 02 28.6	+1.6
RCDM	**Rinconada Maip**	**1.23**	**319**	⇓*i*P	Pg	07 02 12.5	+0.2
RCDM				*i* S	Sg	07 02 29.7	+1.4
RCDM				AML	AML	07 02 31.1	
	comp=E,120nm,0.4s						
RCDM	**Rinconada Maip**	**1.23**	**319**	⇓*i*P	Pg	07 02 12.5	+0.2
RCDM				*i* S	Sg	07 02 29.7	+1.4
LNV	**Longovilo**	**1.39**	**289**	⇓*i*P	Pg	07 02 14.2	-1.0
LNV				*i* S	Sg	07 02 33.5	+0.3
PEL	**Peldehue**	**1.46**	**331**	⇑*i*P	Pn	07 02 16.2	0.0
PEL				*i* S	Sg	07 02 36.8	+1.2
PEL				AML	AML	07 02 41.8	
	comp=N,197nm,0.6s						
PEL	**Peldehue**	**1.46**	**331**	⇑*i*P	Pn	07 02 16.2	0.0
PEL				*i* S	Sg	07 02 36.8	+1.2
LCCH	**Las Cruces**	**1.72**	**303**	*e*P	Pn	07 02 20.0	+0.2
LCCH				*i* S	Sn	07 02 44.4	+1.9
MDZ	**Mendoza**	**1.75**	**28**	*e*P	Pn	07 02 20.7	+0.6
MDZ				S	Sn	07 02 49.4	+6.4

*ISCJB **30** 07:45:01.6±1.1, 73S±01×1201E±02, h565km±19km, mb4.1/8, Error ellipse: s-maj=32.2km s-min=7.8km az=103.4*
*NEIC **30** 07:45:01.5±0.7, 7.30S×120.13E, h538km±14km, mb4.2/3, Error ellipse: s-maj=24.6km s-min=7.1km az=60.0*
*IDC **30** 07:45:01.4±2.4, 722S×12029E, h535km±31km, mb3.2/5, mb1 3.3/7, mb1mx3.2/16, mbtmp4.1/7, Error ellipse: s-maj=52.1km s-min=9.9km az=58.0*

ISC 30 07:45:02.0±1.0, 73S±01×1201E±02, h549km±16km, n25, σ0±53/27, mb4.1/8, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.99**	**154**	*e*P	**P**	**07 47 40.1**	**-0.2**
	12nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.99**	**154**	P	**P**	**07 47 40.2**	**-0.2**
	1.2nm,0.3s,baz=351,slow=8.3,SNR=44						
KSM	**Kuching**	**13.12**	**311**	*e*P	**P**	**07 47 51.9**	**-0.1**
MBWA	**Marble Bar**	**13.76**	**182**	*e*P	**P**	**07 47 58.3**	**-0.3**
	2.7nm,0.5s						
KKM	**Kota Kinabalu**	**13.84**	**344**	*e*P	**P**	**07 47 59.0**	**-0.5**
WRA	**Warramunga Arr**	**18.64**	**134**	P	**P**	**07 48 46.3**	**+0.5**
	0.5nm,0.3s,baz=314,slow=11,SNR=21						
WRA				S	**S**	**07 51 46.2**	**-1.4**
	0.1nm,0.3s,baz=314,slow=17,SNR=4.9						
WRAB	**Tennant Creek**	**18.64**	**134**	*e*P	**P**	**07 48 45.7**	**0.0**
	3.6nm,0.6s						
WB2	**Warramunga Arr**	**18.65**	**134**	*e*P	**P**	**07 48 46.3**	**+0.5**
ASPA	**Alice Springs**	**20.95**	**142**	*e*P	**P**	**07 49 07.4**	**+0.7**
AS31	**Alice Springs**	**20.96**	**142**	*e*P	**P**	**07 49 07.4**	**+0.7**
ASAR	**Alice Springs**	**20.96**	**142**	P	**P**	**07 49 07.2**	**+0.6**
	0.9nm,0.4s,baz=320,slow=9.0,SNR=25						
ASAR				S	**S**	**07 52 28.9**	**+4.4**
	0.6nm,0.9s,baz=91,slow=18,SNR=4.1						
STKA	**Stephens Creek**	**31.58**	**143**	P	**P**	**07 50 38.9**	**-1.1**
	1.8nm,0.3s,mb4.1,baz=316,slow=8.5,SNR=13						
STKA	**Stephens Creek**	**31.58**	**143**	P	**P**	**07 50 38.9**	**-1.1**
JIRN	**Jiri**	**47.81**	**318**	*e*P	**P**	**07 52 50.2**	**+0.2**
	10nm,0.5s,mb4.6						
GUN	**Gumba**	**48.18**	**318**	*e*P	**P**	**07 52 52.8**	**+0.1**
PKI	**Pulchoki**	**48.27**	**317**	*e*P	**P**	**07 52 53.0**	**-0.4**
	5.7nm,0.3s,mb4.5						
DMN	**Daman**	**48.50**	**317**	*e*P	**P**	**07 52 55.0**	**-0.1**
KKN	**Kakani**	**48.50**	**317**	*e*P	**P**	**07 52 55.5**	**+0.4**
GKN	**Gorkha**	**49.07**	**317**	*e*P	**P**	**07 52 59.1**	**-0.2**
	11nm,0.5s,mb4.7						
KOLN	**Koldanda**	**49.63**	**316**	*e*P	**P**	**07 53 03.1**	**-0.3**
	8.8nm,0.6s,mb4.3						
SONM	**Songino Array**	**56.24**	**349**	P	**P**	**07 53 50.9**	**+0.4**
	2.4nm,0.6s,mb3.6,baz=168,slow=8.3,SNR=16						
MKAR	**Makanchi Array**	**63.49**	**332**	P	**P**	**07 54 38.7**	**+0.1**
	3.6nm,0.8s,mb3.9,baz=143,slow=7.4,SNR=24						
MKAR	**Makanchi Array**	**63.49**	**332**	P	**P**	**07 54 38.7**	**+0.1**
VNDA	**Vanda**	**73.46**	**171**	P	**P**	**07 55 39.2**	**+0.4**
	0.5nm,0.5s,mb3.2,baz=306,slow=8.7,SNR=5.8						
VNDA	**Vanda**	**73.46**	**171**	P	**P**	**07 55 39.2**	**+0.3**

IDC 30 08:00:05.3±3.1, 5234N×3500E, h0km, mb1 3.8/3, mb1mx3.4/18, mbtmp3.7/3, ML3.1/4, Error ellipse: s-maj=35.8km s-min=11.7km az=117.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.96**	**248**	Pn	Pn	08 01 05.6	-1.7
	0.9nm,0.3s,baz=60,slow=12,SNR=3.0						
AKASG				Pg	Pg	08 01 15.1	-6.2
	1.0nm,0.3s,baz=64,slow=15,SNR=5.1						
AKASG				Sn	Sn	08 01 53.6	-0.9
	2.7nm,0.3s,baz=59,slow=20,SNR=5.0						
AKASG				Lg		08 02 09.4	
	3.6nm,0.3s,baz=62,slow=29,SNR=7.8						
FINES	**FINESS Array B**	**10.34**	**335**	Pn	Pn	08 02 30.4	-4.5
	0.1nm,0.3s,baz=144,slow=16,SNR=4.4						
FINES				Sn	Sn	08 04 22.2	-9.3
	0.3nm,0.3s,baz=150,slow=23,SNR=4.2						
NOA	**NORSAR Array B**	**15.62**	**313**	Pn	Pn	08 03 36.1	-11
	0.1nm,0.3s,baz=123,slow=12,SNR=2.4						
ARCES	**ARCESS Array B**	**17.82**	**349**	Pn	Pn	08 04 08.7	-6.1
	0.3nm,0.3s,baz=159,slow=10,SNR=12						

IDC 30 08:07:35.1±2.5, 5283N×3499W, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/26, mbtmp3.7/8, ML2.6/1, Error ellipse: s-maj=95.9km s-min=22.1km az=176.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.82**	**289**	P	Pn	08 11 55.5	-1.2
	0.2nm,0.3s,baz=101,slow=7.7,SNR=6.0						
NOA	**NORSAR Array B**	**26.00**	**53**	P	P	08 13 08.8	-0.8
	0.6nm,0.8s,baz=275,slow=9.1,SNR=2.2						
AKASG	**Malin Array Be**	**38.62**	**67**	P	P	08 14 58.2	-1.7
	0.6nm,0.4s,baz=300,slow=8.3,SNR=5.7						
BRTR	**Keskin Array B**	**47.42**	**77**	P	P	08 16 12.0	+0.7
	1.8nm,0.8s,baz=306,slow=4.4,SNR=6.4						
PDAR	**Pinedale Array**	**48.96**	**290**	P	P	08 16 23.2	+0.1
	0.3nm,0.6s,baz=64,slow=6.8,SNR=4.1						
AKTO	**Aktyubinsk**	**53.79**	**52**	P	P	08 16 59.1	-0.2
	0.8nm,0.7s,baz=326,slow=10,SNR=4.0						
BVAR	**Borovoye Array**	**57.56**	**44**	P	P	08 17 26.9	+0.4
	1.3nm,0.8s,baz=308,slow=7.3,SNR=9.2						
MKAR	**Makanchi Array**	**67.26**	**41**	P	P	08 18 31.0	-0.5
	0.6nm,0.8s,baz=319,slow=5.2,SNR=5.1						
WRA	**Warramunga Arr**	**146.14**	**18**	PKPbc	PKPbc	08 27 16.9	-0.3
	1.3nm,0.7s,baz=340,slow=3.1,SNR=6.8						
ASAR	**Alice Springs**	**149.67**	**20**	PKPbc	PKPbc	08 27 25.1	-1.6
	0.8nm,0.8s,baz=2.1,slow=2.3,SNR=4.4						

*BJI **30** 08:07:38.0, 6.14S×15521E, h67km, mB5.4, mb5.3, Ms4.9, Msz4.7*
*MOS **30** 08:07:39.3±0.9, 6.16S×15464E, h59km, mb5.8/32, MS4.9/10, Error ellipse: s-maj=8.5km s-min=5.9km az=77.6*
*ISCJB **30** 08:07:39.2±0.1, 626S±003×15474E±002, h60km, mb5.5/133, MS4.8/42, Error ellipse: s-maj=3.8km s-min=3.2km az=163.9*
*IDC **30** 08:07:39.6±0.3, 626S×15479E, h59km±2km, mb5.1/20, mb1 5.1/23, mb1mx5.1/24, mbtmp5.4/23, MS4.8/21, Ms1 4.8/21, ms1mx4.7/25, Error ellipse: s-maj=10.0km s-min=8.6km az=101.0*
*HRVD **30** 08:07:40.1±0.1, 643S×15481E, h56km, MW5.6/105, Centroid moment Tensor Solution. LP body waves: s105,c198;Mantle waves: s97,c223; Half duration: 1ϑ6 Moment tensor: Scale 10^17^Nm; M_{rr}3.21±.04; $M_{\theta\theta}$-1.69±.03; $M_{\phi\phi}$-1.52±.03; $M_{r\theta}$-0.20±.03; $M_{\theta\phi}$1.75±.03; $M_{\phi r}$0.22±.03; Best double couple: M_0=3.29700×10^17^ NP1:ϕ_s133.00000°, δ42.00000°, λ89.00000°. NP2: $

CTAO pmax pmax
comp=Z,95nm,1.0s
CTAO Charters Tower 16.05 210 *e*P **Pn 08 11 24.5 +1.7**
comp=Z,94nm,1.0s
DZM Mont Dzumac 19.31 146⇑*i*P **Pn 08 12 01.4 -1.4**
DZM Mont Dzumac 19.31 146 P **Pn 08 12 02.0 -0.8**
comp=Z,14nm,0.3s,baz=330,slow=8.3,SNR=120
GUMO Guam 22.07 333 P **P 08 12 32.2 +1.3**
comp=Z,103nm,0.8s,mb5.3,baz=178,slow=12,SNR=5.2
GUMO LR LR 08 20 26.6
comp=Z,1μm,19.3s,baz=155,slow=35
KAKA Kakadu 22.96 252 *e*P **P 08 12 40.8 +0.5**
comp=Z,111nm,0.9s,mb5.3
KAKA *e*pP 08 12 53.5
WRAB Tennant Creek 24.06 234 P **P 08 12 51.0 +0.3**
comp=Z,877nm,1.3s,mb6.0,SNR=66
WRAB Tennant Creek 24.06 234⇑*i*P **P 08 12 50.4 -0.3**
WRAB Tennant Creek 24.06 234 *e*P **P 08 12 51.8 +1.2**
comp=Z,406nm,1.3s,mb5.7
WRAB *e*pP 08 13 05.3
WB2 Warramunga Arr 24.07 234⇑*i*P **P 08 12 51.7 +1.0**
WB2 *e*pP 08 13 05.3
WB2 *e*PCP PcP 08 16 47.2 +16
WB2 *e*S **S 08 17 05.6 +1.8**
WB2 *e*PCS PcS 08 20 27.0 +17
WRA Warramunga Arr 24.08 234 P **P 08 12 51.4 +0.6**
comp=Z,92nm,0.9s,mb5.2,baz=59,slow=9.2,SNR=193
WRA pP 08 13 05.2
comp=Z,122nm,0.8s,baz=59,slow=9.8,SNR=13
WRA PcP PcP 08 16 30.5 -0.3
comp=Z,12nm,0.6s,baz=56,slow=2.2,SNR=6.5
WRA pPcP 08 16 46.3
comp=Z,38nm,1.1s,baz=49,slow=2.1,SNR=6.5
WRA S **S 08 17 04.5 +0.6**
comp=Z,6.0nm,1.1s,baz=61,slow=15,SNR=3.1
WRA LR LR 08 22 15.1
comp=Z,4μm,19.7s,baz=55,slow=36
WRA PKiKP PKiKP 08 24 11.7 -1.8
comp=Z,0.7nm,0.7s,baz=317,slow=1.2,SNR=6.5
WRA Warramunga Arr 24.08 234 P **P 08 12 51.4 +0.6**
WRA *PP 08 13 05.2
WRA 08 16 30.5
WRA S **S 08 17 04.5 +0.6**
WRA Warramunga Arr 24.08 234 P **P 08 12 51.4 +0.6**
WRA pP 08 13 05.2
WRA PcP PcP 08 16 30.5 -0.3
WRA pPcP 08 16 46.3
WRA S **S 08 17 04.5 +0.6**
WRA LR LR 08 22 15.1
ARMA Armidale 24.20 187 *e*P **P 08 12 52.6 +0.7**
ARMA *e*S **S 08 17 11.9 +6.0**
AS31 Alice Springs 26.51 227⇑*i*P **P 08 13 13.3 +0.4**
AS31 *e*pP pP 08 13 22.8 -5.1
AS31 *e*S **S 08 17 57.9 +15**
AS31 *e*PcS PcS 08 20 31.4 +14
ASAR Alice Springs 26.51 227 P **P 08 13 13.2 +0.3**
comp=Z,21nm,0.5s,mb4.9,baz=58,slow=8.6,SNR=290
ASAR pP pP 08 13 26.8 -1.1
comp=Z,39nm,0.8s,baz=58,slow=9.6,SNR=12
ASAR PcP PcP 08 16 36.4 +0.1
comp=Z,17nm,0.8s,baz=59,slow=2.6,SNR=6.0
ASAR pPcP 08 16 52.6
comp=Z,14nm,0.8s,baz=57,slow=2.2,SNR=5.9
ASAR S **S 08 17 41.9 -0.7**
comp=Z,1.3nm,0.7s,baz=56,slow=14,SNR=2.2
ASAR LR LR 08 23 19.9
comp=Z,5μm,20.5s,baz=151,slow=36
ASAR P3KPbc 08 45 51.6
comp=Z,0.8nm,0.8s,baz=231,slow=3.5,SNR=7.2
ASAR Alice Springs 26.51 227 P **P 08 13 13.2 +0.3**
ASAR *PP pP 08 13 26.8 -1.1
ASAR 08 16 36.4
ASAR S **S 08 17 41.9 -0.7**
ASAR Alice Springs 26.51 227 P **P 08 13 13.2 +0.3**
ASAR pP pP 08 13 26.8 -1.1
ASAR PcP PcP 08 16 36.4 +0.1
ASAR pPcP 08 16 52.6
ASAR S **S 08 17 41.9 -0.7**
ASAR LR LR 08 23 19.9
ASAR *e* 08 45 51.6
ASPA Alice Springs 26.52 227⇑*i*P **P 08 13 13.3 +0.4**
ASPA *e*pP pP 08 13 22.8 -5.1
ASPA *e*S **S 08 17 57.9 +15**
ASPA *e*PCS PcS 08 20 31.4 +14
RIV Riverview 27.62 187 *e*P **P 08 13 22.3 -0.5**
RIV *e*pP pP 08 13 36.3 -1.6
STKA Stephens Creek 28.30 204 *e*P **P 08 13 26.0 -2.9**
comp=Z,15nm,0.6s,mb4.8
STKA *e*pP pP 08 13 43.4 -0.6
STKA *e*PCP PcP 08 16 40.8 +0.2
STKA *e*S **S 08 18 13.9 +3.1**
STKA Stephens Creek 28.30 204 P **P 08 13 26.4 -2.5**
comp=Z,18nm,0.6s,mb4.9,baz=29,slow=11,SNR=43
STKA PcP PcP 08 16 38.6 -2.0
comp=Z,15nm,0.7s,baz=7.8,slow=3.0,SNR=3.7
STKA LR LR 08 24 46.9
comp=Z,5μm,19.4s,baz=14,slow=36
CNB Canberra Magne 29.33 189⇑*i*P **P 08 13 37.6 -0.4**
comp=Z,28nm,1.1s,mb4.9
FITZ Fitzroy Crossi 30.78 245⇑*i*P **P 08 13 50.7 -0.1**
comp=Z,71nm,0.6s,mb5.7
FITZ *e*PCP PcP 08 16 47.1 +0.2
FITZ *e*S **S 08 18 47.9 -1.8**
FITZ Fitzroy Crossi 30.78 245 LR LR 08 26 51.7
comp=Z,4μm,19.5s,baz=83,slow=37
ADE Adelaide 32.18 205 P **P 08 14 04.5 +1.4**
TOO Toolangi 32.28 194⇑*i*P **P 08 14 04.4 +0.4**
comp=Z,9.2nm,0.9s,mb4.6
TOO Toolangi 32.28 194⇑*i*P **P 08 14 04.4 +0.4**
TOO pmax pmax
comp=Z,90nm,0.9s,mb5.6
AFI Afiamalu 33.73 106 P **P 08 14 14.4 -2.3**
comp=Z,31nm,0.8s,mb5.3,baz=326,slow=14,SNR=3.9
AFI LR LR 08 25 34.0
comp=Z,2μm,22.0s,baz=272,slow=32
RAO Raoul Island 34.42 135 LR LR 08 24 26.0
comp=Z,1μm,20.1s,baz=171,slow=29
WCZ Waipu Caves 34.54 151 *e*PN **P 08 14 23.4 -0.3**
FORT Forrest 34.98 223⇑*i*P **P 08 14 27.3 -0.2**
comp=Z,82nm,0.5s,mb5.9
FORT *e*PCP PcP 08 16 58.8 +0.2
CBIJ Chichi jima 35.35 340 P **P 08 14 30.3 -0.4**
comp=Z,22nm,0.6s,mb5.2,baz=288,slow=20,SNR=4.2
MBWA Marble Bar 37.03 243 P **P 08 14 45.5 +0.5**
SNR=14
MBWA Marble Bar 37.03 243 *e*P **P 08 14 44.6 -0.3**
comp=Z,40nm,0.6s,mb5.4
MBWA *e*pP pP 08 15 00.1 -0.3
MBWA *e*sP sP 08 15 08.4 +0.9
TAU Tasmania Unive 37.08 189 P **P 08 14 46.9 +1.5**
comp=Z,425nm,0.6s,mb6.5,SNR=13
TAU Tasmania Unive 37.08 189 *e*P **P 08 14 46.2 +0.8**
TAU pmax pmax
comp=Z,160nm,1.3s,mb5.7
TAU Tasmania Unive 37.08 189 *e*P **P 08 14 46.2 +0.8**
comp=Z,160nm,1.3s,mb5.7
URZ Urewera 37.72 151 P **P 08 14 50.1 -0.7**
comp=Z,77nm,0.6s,mb5.6,baz=337,slow=3.3,SNR=72
URZ LR LR 08 28 31.3
comp=Z,808nm,20.9s,baz=328,slow=33
URZ Urewera 37.72 151 *e*PN **P 08 14 50.1 -0.7**
URZ Urewera 37.72 151 *e*P **P 08 14 50.1 -0.7**
MWZ Matawai 37.98 150 *e*PN **P 08 14 52.1 -0.9**
PUZ Puketiti 38.14 149 *e*PN **P 08 14 53.6 -0.7**
PUZ Puketiti 38.14 149 *e*P **P 08 14 53.6 -0.8**
BKZ Black Stump Fm 38.15 152 *e*PN **P 08 14 53.8 -0.7**
BKZ Black Stump Fm 38.15 152 *e*P **P 08 14 53.8 -0.6**
TSM Tawau 38.34 285 P **P 08 14 57.0 +0.9**
KNZ Kokohu 38.59 151 PN **P 08 14 57.3 -0.8**
MRZ Mangatainoka R 38.96 155 *e*PN **P 08 14 59.5 -1.7**
SNZO South Karori 39.14 156 *e*PN **P 08 15 01.9 -0.9**
SNZO South Karori 39.14 156 *e*P **P 08 15 01.9 -0.8**
BFZ Birch Farm 39.26 154 *e*PN **P 08 15 02.3 -1.5**
BFZ Birch Farm 39.26 154 *e*P **P 08 15 02.3 -1.5**
RPZ Rata Peaks 39.93 162 P **P 08 15 08.4 -0.9**
comp=Z,52nm,0.7s,mb5.3,baz=45,slow=5.0,SNR=27
KKM Kota Kinabalu 40.42 287 P **P 08 15 14.5 +1.2**
KKM Kota Kinabalu 40.42 287 *e*P **P 08 15 14.1 +0.8**
BCPH Baguio City Da 40.66 304⇑*e*P **P 08 15 16.0 +0.6**
JHJ Hachijo jima 2 41.70 341 P **P 08 15 23.4 -0.5**
comp=Z,75nm,0.9s,mb5.3,baz=66,slow=19,SNR=2.5
KLBR Kellerberrin 42.80 229 *e*P **P 08 15 32.3 -0.6**
comp=Z,69nm,0.7s,mb5.5
KLBR *e*pP pP 08 15 46.5 -2.0

NWAO Narrogin (SRO) 43.83 228 LR LR 08 34 02.2
comp=Z,3μm,19.1s,baz=237,slow=36
NWAO Narrogin (SRO) 43.83 228 *e*P **P 08 15 40.9 -0.2**
MUN Mundaring 44.15 230 *e*P **P 08 15 43.7 0.0**
MUN *e*S **S 08 22 11.1 -1.1**
NACB Ninganchiao 44.33 314 *e*P **P 08 15 45.5 +0.4**
NACB *e*pP pP 08 16 02.8 +2.0
YHNB Yeheng 44.79 315 *e*P **P 08 15 49.6 +0.8**
YHNB *e*pP pP 08 16 06.8 +2.2
KSM Kuching 45.09 278 *e*P **P 08 15 51.8 +0.7**
KSM *e*pP pP 08 16 07.1 +0.2
MJAR Matsushiro Arr 45.35 341 P **P 08 15 51.3 -1.9**
comp=Z,5.0nm,0.6s,mb4.5,baz=162,slow=7.7,SNR=15
MJAR PcP PcP 08 17 29.4 -2.4
comp=Z,5.8nm,0.8s,baz=174,slow=3.9,SNR=4.3
MJAR Matsushiro Arr 45.35 341 P **P 08 15 51.3 -1.9**
MJAR PcP PcP 08 17 29.4 -2.4
MAJO Matsushiro 45.35 341 *e*P **P 08 15 52.1 -1.1**
MAJO pmax pmax
comp=Z,70nm,0.5s,mb5.8
MAJO Matsushiro 45.35 341 *e*P **P 08 15 52.0 -1.2**
comp=Z,7.2nm,0.5s,mb4.8
MAT Matsushiro 45.35 341 P **P 08 15 51.8 -1.4**
MAT S **S 08 22 31.0 +1.5**
MAT Matsushiro 45.35 341 *e*P **P 08 15 52.0 -1.2**
MAT *e*S **S 08 22 31.0 +1.5**
RAR Rarotonga 46.36 113 PcP PcP 08 17 36.6 +1.3
comp=Z,27nm,0.9s,baz=84,slow=22,SNR=3.4
RAR LR LR 08 32 19.7
comp=Z,819nm,21.3s,baz=284,slow=32
QZH Quanzhou 46.96 313 P **P 08 16 06.0 +0.2**
QZH S **S 08 22 56.0 +3.4**
QZH AMB AMB
comp=Z,100nm,0.8s,mb5.8
QZH LR LR
comp=Z,3μm,32.5s
SSE Sheshan 49.13 321 P **P 08 16 24.3 +1.7**
SSE AP pP 08 16 40.0 +1.4
SSE XP sP 08 16 47.0 +1.3
SSE S **S 08 23 24.3 +1.0**
SSE XS sS 08 23 51.0 +0.7
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,190nm,5.9s
SSE LR LR
comp=N,380nm,23.4s
SSE LR LR
comp=E,450nm,23.4s
SSE LR LR
comp=Z,770nm,19.7s
GZH Guangzhou 49.94 307 P **P 08 16 27.3 -1.4**
GZH S **S 08 23 36.5 +2.0**
GZH LR LR
comp=N,330nm,20.8s
GZH LR LR
comp=E,1μm,21.5s
GZH LR LR
comp=Z,1μm,19.6s
KS15 Wonju Array Si 50.23 332 *e*P **P 08 16 30.8 -0.2**
KS15 *e*pP pP 08 16 45.8 -1.2
INCN Inchon 50.85 331 *e*P **P 08 16 35.8 +0.1**
comp=Z,80nm,0.8s,mb5.7
INCN *e*pP pP 08 16 51.3 -0.5
INCN *e*sP sP 08 16 57.3 -1.5
QIZ Qiongzhong 50.94 301 P **P 08 16 37.3 +1.0**
QIZ S **S 08 23 52.0 +3.6**
QIZ XS sS 08 24 19.0 +3.4
QIZ SS SS 08 27 22.5 -1.3
QIZ AMB AMB
comp=Z,30nm,0.6s,mb5.4
QIZ LR LR
comp=E,520nm,28.4s
QIZ LR LR
comp=Z,1μm,33.5s
QIZ Qiongzhong 50.94 301 *e*P **P 08 16 35.6 -0.7**
comp=Z,25nm,0.6s,mb5.3
NJ2 Nanjing 51.25 320 *e*P **P 08 16 39.3 +0.7**
NJ2 AP pP 08 16 54.0 -0.7
NJ2 XP sP 08 17 01.3 -0.4
NJ2 PCP PcP 08 17 53.5 +0.5
NJ2 S **S 08 23 54.0 +1.3**
NJ2 XS sS 08 24 18.0 -1.9
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,170nm,7.0s
NJ2 LR LR
comp=N,2μm,21.1s
NJ2 LR LR
comp=E,1μm,26.8s
NJ2 LR LR
comp=Z,1μm,26.3s
KGM Kluang 52.06 277 P **P 08 16 47.1 +2.5**
WHN Wuhan 53.30 316⇑P **P 08 16 54.0 +0.2**
WHN S **S 08 24 24.0 +3.2**
WHN LR LR
comp=Z,2μm,27.3s
VLA Vladivostok 53.38 339 *e*P **P 08 16 56.2 +1.8**
VLA *e**PP pP 08 17 10.0 -0.6
VLA pmax pmax
comp=Z,37nm,1.2s,mb5.2
YSS Yuzh-Sakhalins 54.07 350⇑*e*P **P 08 16 59.1 -0.3**
YSS *e**PP pP 08 17 16.0 +0.4
YSS *e* 08 18 04.0
YSS *e* 08 19 05.0
YSS *e*S **S 08 24 28.0 -3.2**
YSS *e*PS 08 24 38.0
YSS pmax pmax
comp=Z,30nm,0.7s,mb5.3
YSS MLR MLR
comp=N,500nm,19.0s
YSS MLR MLR
comp=E,400nm,19.0s
YSS MLR MLR
comp=Z,900nm,19.0s
YSS Yuzh-Sakhalins 54.07 350 *e*P **P 08 16 58.5 -1.0**
comp=Z,23nm,0.6s,mb5.3
DL2 Dalian 54.46 328 P **P 08 17 02.3 0.0**
DL2 AP pP 08 17 17.8 -0.7
DL2 S **S 08 24 39.8 +3.3**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
DL2 AMB AMB
comp=Z,110nm,6.3s
DL2 LR LR
comp=N,320nm,21.9s
DL2 LR LR
comp=E,280nm,22.4s
DL2 LR LR
comp=Z,640nm,22.4s
TIA Tai'an 55.09 323 *e*P **P 08 17 06.0 -0.8**
KULM Kulim 55.27 281 *e*P **P 08 17 08.0 -0.2**
KULM *e*pP pP 08 17 22.8 -1.6
PPT Papeete 55.38 107 *e*S **S 08 24 52.9 +4.1**
comp=Z,728nm,27.2s
PPT *e*LQ 08 30 58.7
comp=Z,1μm,27.8s
PPT *e*LR LR 08 33 23.6
comp=Z,1μm,27.8s,baz=285
PPT Papeete 55.38 107 LR LR 08 34 39.3
comp=Z,628nm,20.4s,baz=300,slow=29
MDJ Mudanjiang 55.51 338 P **P 08 17 11.0 +1.1**
MDJ AP pP 08 17 26.8 +0.7
MDJ XP sP 08 17 32.5 -0.6
MDJ PCP PcP 08 18 09.3 +0.1
MDJ PP PP 08 19 15.0 +0.7
MDJ SCP ScP 08 22 03.0 +0.3
MDJ PCS PcS 08 22 09.8 +0.4
MDJ S **S 08 24 51.3 +0.8**
MDJ AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,210nm,8.2s
MDJ LR LR
comp=N,410nm,27.6s
MDJ LR LR
comp=E,140nm,27.0s
MDJ LR LR
comp=Z,560nm,27.0s
MDJ Mudanjiang 55.51 338 *e*P **P 08 17 09.4 -0.4**
comp=Z,18nm,0.9s,mb5.1
MDJ *e*pP pP 08 17 25.0 -1.1
MDJ *e*sP sP 08 17 31.4 -1.7
SNG Songkhla 55.69 283 P **P 08 17 12.0 +0.8**

KKTK Khon Kaen 56.12 294⇓P **P 08 17 15.5 +1.3**
comp=Z,741nm,0.5s
TBI Tubuai 56.13 114 *e*S **S 08 25 02.6 +3.8**
comp=Z,657nm,30.2s
TBI *e*SS SS 08 28 50.7 +4.8
comp=Z,270nm,28.8s
TBI *e*LQ 08 31 16.6
comp=Z,1μm,46.2s
TBI *e*LR LR 08 33 38.1
comp=Z,5μm,29.8s,baz=285
CN2 Changchun 56.47 335 *e*P **P 08 17 15.8 -0.9**
CN2 *e*AP pP 08 17 31.8 -1.2
CN2 *e*XP sP 08 17 38.8 -1.2
CN2 *e*S **S 08 25 01.5 -1.7**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,300nm,21.0s
CN2 LR LR
comp=E,300nm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
PSI Prapat 56.52 278 P **P 08 17 16.4 -0.7**
comp=Z,12nm,0.6s,mb5.1,baz=53,slow=11,SNR=10.0
SKR Severo-Kuril's 56.74 1 *e*P **P 08 17 19.5 +0.8**
SKR *e*S **S 08 25 12.0 +5.2**
SKR pmax pmax
comp=N,60nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s,mb6.0
SKR pmax pmax
comp=N,800nm,6.0s
SKR pmax pmax
comp=E,1μm,6.0s
SKR pmax pmax
comp=Z,1μm,6.0s
SKR smax
comp=E,1μm,8.0s
SKR smax
comp=N,1μm,16.0s
SKR MLR MLR
comp=Z,1μm,20.0s
GYA Guiyang 56.87 307⇑*i*P **P 08 17 20.5 +0.9**
GYA AP pP 08 17 37.0 +1.1
GYA XP sP 08 17 41.5 -1.4
GYA PP PP 08 19 28.5 +2.0
GYA S **S 08 25 11.3 +2.7**
GYA SS SS 08 28 55.0 -2.5
GYA AMB AMB
comp=Z,20nm,0.6s,mb5.3
GYA AMB AMB
comp=Z,430nm,7.8s
GYA LR LR
comp=N,650nm,24.3s
GYA LR LR
comp=E,900nm,24.9s
GYA LR LR
comp=Z,1μm,23.3s
NST Nakhon Sawan 58.36 293⇓P **P 08 17 31.4 +1.4**
comp=Z,133nm,0.7s,mb6.1
KLR Kul'dur 58.83 343 *e*P **P 08 17 28.8 -4.5**
KLR *e*S **S 08 25 38.5 +4.3**
NANT Nan 58.85 296⇑P **P 08 17 31.5 -1.9**
comp=Z,610nm,1.0s
XAN Xi'an 59.06 316 P **P 08 17 34.5 -0.4**
XAN S **S 08 25 34.0 -3.2**
XAN AMB AMB
comp=Z,40nm,0.8s,mb5.5
XAN AMB AMB
comp=Z,240nm,10.1s
XAN LR LR
comp=N,120nm,16.5s
XAN LR LR
comp=E,430nm,25.1s
XAN LR LR
comp=Z,770nm,31.6s
PET Petropavlovsk 59.16 3*c e*P **P 08 17 35.7 +0.1**
PET *e*S **S 08 25 40.4 +1.9**
PET *e*SS SS 08 29 36.3 +2.8
PET pmax pmax
comp=Z,141nm,0.6s,mb6.2
PET pmax pmax
comp=N,100nm,17.6s
PET smax
comp=N,400nm,16.1s
PET smax
comp=N,700nm,21.7s
PET smax
comp=E,300nm,19.0s
PET MLR MLR
comp=Z,700nm,17.0s
PET MLR MLR
comp=Z,700nm,21.0s
KMI Kunming 59.46 304 P **P 08 17 39.3 +1.6**
KMI AP pP 08 17 54.5 +0.4
KMI XP sP 08 18 00.5 -0.6
KMI PCP PcP 08 18 26.3 +1.6
KMI PP PP 08 19 52.8 +3.3
KMI SCP ScP 08 22 20.8 +0.7
KMI PCS PcS 08 22 27.0 +0.1
KMI S **S 08 25 41.5 -0.8**
KMI SCS ScS 08 27 20.5 -1.8
KMI SS SS 08 29 38.5 +0.3
KMI AMB AMB
comp=Z,60nm,1.0s,mb5.6
KMI AMB AMB
comp=Z,480nm,6.9s
KMI LR LR
comp=N,230nm,24.5s
KMI LR LR
comp=E,710nm,23.0s
KMI LR LR
comp=Z,1μm,27.5s
CHRT Chiangrai 60.02 297⇑P **P 08 17 43.0 +1.5**
comp=Z,632nm,0.8s
CM31 Chiang Mai Arr 60.31 295 *e*P **P 08 17 46.1 +2.6**
comp=Z,349nm,1.4s,mb6.2
CM31 *e*pP pP 08 17 59.5 -0.5
CHTO Chiang Mai 60.42 296 P **P 08 17 45.8 +1.5**
SNR=16
CHTO Chiang Mai 60.42 296 *e*P **P 08 17 45.4 +1.2**
CHTO pmax pmax
comp=Z,98nm,1.0s,mb5.8
CHTO Chiang Mai 60.42 296 *e*P **P 08 17 45.4 +1.2**
comp=Z,98nm,1.0s,mb5.8
SMY Shemya 61.03 13 *e*P **P 08 17 48.6 +0.2**
SMY Shemya 61.03 13 *e*P **P 08 17 48.3 -0.1**
comp=Z,74nm,0.5s,mb6.1
SMY LR LR
comp=Z,2μm,20.0s
DRV Dumont d'Urvil 61.15 187 P **P 08 17 50.0 +0.8**
DRV S **S 08 26 10.0 +6.1**
AMKA Amchitka 61.16 17 *e*P **P 08 17 49.4 +0.1**
CD2 Chengdu 61.21 310 P **P 08 17 49.8 +0.2**
CD2 AP pP 08 18 06.0 -0.1
CD2 XP sP 08 18 13.0 0.0
CD2 PCP PcP 08 18 31.8 0.0
CD2 PP PP 08 20 08.8 +3.9
CD2 S **S 08 26 02.8 -1.9**
CD2 XS sS 08 26 30.0 -2.5
CD2 SCS ScS 08 27 31.8 -3.6
CD2 SS SS 08 30 05.0 -0.6
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.6
CD2 AMB AMB
comp=Z,280nm,7.2s
CD2 LR LR
comp=N,390nm,25.2s
CD2 LR LR
comp=Z,480nm,24.0s
HHC Hu-ho-hao-te 61.41 324 *e*P **P 08 17 49.3 -1.6**
HHC AP pP 08 18 04.8 -2.6
HHC XP sP 08 18 12.3 -2.1
HHC PCP PcP 08 18 30.5 -2.1
HHC PP PP 08 20 06.8 +0.2
HHC PCS PcS 08 22 30.8 -4.7
HHC S **S 08 26 03.8 -3.4**
HHC XS sS 08 26 31.5 -3.6
HHC SCS ScS 08 27 31.8 -5.1
HHC SS SS 08 30 06.3 -2.4
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.9
HHC AMB AMB

comp=Z,320nm,8.8s
HHC LR LR
comp=N,320nm,19.0s
HHC LR LR
comp=E,330nm,16.7s
HHC LR LR
comp=Z,570nm,21.4s
BTO Baotou 62.18 323 *e*P **P** **08 17 54.8 -1.3**
HIA Hailar 63.20 335 *e*P **P** **08 18 02.6 -0.3**
HIA pmax pmax
comp=Z,38nm,0.8s
HIA Hailar 63.20 335 *e*P **P** **08 18 02.6 -0.3**
comp=Z,38nm,0.8s,mb5.6
LZH Lanzhou 63.68 315 *e*P **P** **08 18 06.5 +0.5**
LZH AP pP 08 18 22.8 +0.2
LZH XP sP 08 18 29.8 +0.2
LZH PCP PcP 08 18 41.5 -0.3
LZH *e*S **S** **08 26 35.0 -0.7**
LZH XS sS 08 27 04.3 +0.6
LZH SCS ScS 08 27 50.0 -4.0
LZH SS SS 08 30 45.0 +0.9
LZH AMB AMB
comp=Z,50nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,250nm,5.3s
LZH LR LR
comp=E,640nm,17.3s
LZH LR LR
comp=Z,1μm,18.4s
MA2 Magadan 65.72 358 *e*P **P** **08 18 18.3 -1.1**
MA2 *e**PP pP 08 18 36.1 +0.1
MA2 pmax pmax
comp=Z,78nm,0.6s,mb5.9
MA2 Magadan 65.72 358 *e*P **P** **08 18 18.3 -1.1**
comp=Z,78nm,0.6s,mb5.9
MA2 *ep*P pP 08 18 36.1 0.0
NIKO Nikolski 66.56 23 *e*P **P** **08 18 23.9 -0.9**
NIKO *ep*P pP 08 18 40.8 -0.6
NIKO *es*P sP 08 18 46.2 -2.1
NIKO *e*PcP PcP 08 18 53.8 +0.1
CASY Casey 67.21 198 *e*P **P** **08 18 25.2 -3.7**
CLNS Chul'man 67.49 343 *e*P **P** **08 18 30.7 +0.1**
CLNS *e**PP pP 08 18 52.1 +4.7
CLNS *e* 08 19 00.8
CLNS *e*S S 08 27 10.6 -12
CLNS *e**SS sS 08 27 55.7 +5.2
CLNS *e*PS 08 28 00.1
CLNS *e* 08 28 16.5
CLNS *e*SS SS 08 31 38.7 -4.7
CLNS pmax pmax
comp=N,29nm,0.9s
CLNS pmax pmax
comp=Z,58nm,0.9s,mb5.6
CLNS pmax pmax
comp=E,8.0nm,0.7s
CLNS smax
comp=N,119nm,12.0s
CLNS smax
comp=E,135nm,12.7s
CIT Chita 67.89 334 *e*P **P** **08 18 30.8 -2.3**
CIT *e* pP 08 18 48.8 -1.1
CIT pmax pmax
comp=Z,22nm,2.2s,mb4.8
GTA Gaotai 68.09 317 *e*P **P** **08 18 35.0 +0.6**
GTA AP pP 08 18 51.3 +0.1
GTA XP sP 08 18 58.5 +0.5
GTA PP PP 08 21 08.8 +3.6
GTA SCP 08 22 57.0
GTA PCS 08 23 04.8
GTA S S 08 27 29.5 +0.1
GTA XS sS 08 27 57.3 -0.4
GTA SCS ScS 08 28 25.0 -3.2
GTA SS SS 08 31 53.8 +1.1
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,230nm,8.8s
GTA LR LR
comp=N,300nm,22.5s
GTA LR LR
comp=E,420nm,24.8s
GTA LR LR
comp=Z,720nm,26.7s
UNV Unalaska Valle 68.14 24 *e*P **P** **08 18 32.3 -2.5**
comp=Z,59nm,0.6s,mb5.8
UNV *ep*P pP 08 18 51.1 -0.4
UNV *es*P sP 08 18 57.1 -1.3
UNV *e*PcP PcP 08 18 59.8 -0.5
ULN Ulaanbaatar 68.30 328 P **P** **08 18 36.3 +0.6**
SNR=10
ULN Ulaanbaatar 68.30 328*c i*P **P** **08 18 36.0 +0.3**
ULN Ulaanbaatar 68.30 328 *e*P **P** **08 18 35.5 -0.2**
comp=Z,14nm,0.6s,mb5.2
SONM Songino Array 68.64 327 P **P** **08 18 37.8 0.0**
comp=Z,12nm,0.5s,mb5.0,baz=136,slow=5.7,SNR=99
SONM pP pP 08 18 54.1 -0.5
comp=Z,5.1nm,0.5s,baz=143,slow=5.2,SNR=4.3
SONM PKPPKP 08 46 54.1
comp=Z,2.1nm,0.9s,baz=279,slow=2.9,SNR=8.0
SONM LR LR 08 50 11.8
comp=Z,528nm,19.2s,baz=123,slow=37
SONM Songino Array 68.64 327 P **P** **08 18 37.8 0.0**
SONM *PP pP 08 18 54.1 -0.5
SHL Shillong 68.77 300 *e*P **P** **08 18 38.5 -0.2**
SHL *i* P 08 18 39.0
RKT Rikitea 69.38 112 *e*LR LR 08 39 47.0
comp=Z,3μm,32.5s
FALS False Pass 70.12 24 *e*P **P** **08 18 46.4 -0.6**
FALS *ep*P pP 08 19 03.2 -0.6
LSA Lhasa 70.72 304 *e*P **P** **08 18 51.0 +0.4**
LSA Lhasa 70.72 304 *e*P **P** **08 18 52.1 +1.5**
LSA *e**PP pP 08 19 08.3 +0.9
LSA pmax pmax
comp=Z,91nm,1.0s,mb5.7
LSA Lhasa 70.72 304 *e*P **P** **08 18 52.1 +1.5**
comp=Z,91nm,1.0s,mb5.7
LSA *ep*P pP 08 19 08.3 +0.9
YAK Yakutsk 70.82 348 *e*P **P** **08 18 51.8 +0.6**
YAK pmax pmax
comp=Z,91nm,0.8s,mb5.8
YAK Yakutsk 70.82 348 *e*P **P** **08 18 51.8 +0.6**
comp=Z,91nm,0.8s,mb5.8
VNDA Vanda 71.30 178 P **P** **08 18 53.0 -1.1**
comp=Z,6.7nm,0.6s,mb4.8,baz=328,slow=6.4,SNR=71
VNDA Vanda 71.30 178 P **P** **08 18 53.0 -1.1**
VNDA pmax pmax
comp=Z,7.0nm,0.6s
VNDA Vanda 71.30 178 *e*P **P** **08 18 52.4 -1.7**
comp=Z,61nm,1.1s,mb5.4
VNDA *ep*P pP 08 19 08.1 -2.9
SDPT Sand Point 71.68 25 *e*P **P** **08 18 55.4 -1.0**
comp=Z,48nm,0.6s,mb5.6
ZAK Zakamensk 71.79 328 *e*P **P** **08 18 56.8 -0.3**
ZAK *e* pP 08 19 11.9 -2.1
ZAK pmax pmax
comp=Z,35nm,1.2s,mb5.2
ZAK pmax pmax
comp=Z,46nm,1.4s,mb5.2
TLY Talaya 72.35 329 P **P** **08 19 00.2 -0.3**
comp=Z,76nm,0.8s,mb5.7,SNR=5.9
TLY Talaya 72.35 329 P **P** **08 19 00.3 -0.2**
SNR=6.9
TLY Talaya 72.35 329 *e*P **P** **08 19 00.3 -0.2**
TLY *e*S S 08 28 23.2 +4.1
TLY *e*SS SS 08 32 54.2 -4.0
TLY pmax pmax
comp=Z,170nm,1.2s,mb5.8
TLY MLR MLR
comp=Z,334nm,19.0s
TLY Talaya 72.35 329 *e*P **P** **08 18 59.6 -0.9**
comp=Z,7.9nm,0.6s,mb4.8
IRK Irkutsk 72.37 330 *e*P pP 08 19 14.3 -3.2
IRK *e* 08 19 42.0
IRK pmax pmax
comp=Z,31nm,1.4s,mb5.0
CHGN Chignik 73.19 25 *e*P **P** **08 19 04.7 -0.7**
MIR Mirnyy 73.28 202*c i*P **P** **08 19 06.5 +0.5**
MIR pmax pmax
comp=Z,690nm,1.5s,mb6.4
BOK Bokaro 73.51 297 *e*P **P** **08 19 07.1 -0.2**
BOK AMb AMB 08 19 12.1
comp=Z,71nm,1.3s,mb5.5
JIRN Jiri 74.26 301 *e*P **P** **08 19 12.3 +0.6**
comp=Z,131nm,0.6s,mb6.0
VIS Vishakhapatnam 74.45 290 *e*P **P** **08 19 11.9 -0.8**
VIS AMb AMB 08 19 17.3
comp=Z,88nm,1.2s,mb5.6
BILL Bilibino 74.58 4⇑*e*P **P** **08 19 13.5 -0.1**
BILL *e* 08 19 24.3
BILL pmax pmax
comp=N,11nm,0.5s
GUN Gumba 74.59 301 *e*P **P** **08 19 14.1 +0.5**
comp=N,254nm,0.7s,mb6.3
PKI Pulchoki 74.90 301 *e*P **P** **08 19 15.5 +0.1**
comp=N,60nm,0.5s,mb5.8
KKN Kakani 75.07 301 *e*P **P** **08 19 16.6 +0.2**
comp=N,114nm,0.5s,mb6.0
PALK Pallekele 75.14 279 *e*P **P** **08 19 17.9 +1.1**
comp=N,42nm,0.9s,mb5.4
PALK *ep*P pP 08 19 34.7 +0.9
DMN Daman 75.17 301 *e*P **P** **08 19 17.4 +0.5**
comp=N,161nm,0.6s,mb6.1
GKN Gorkha 75.67 301 *e*P **P** **08 19 19.8 0.0**
comp=N,132nm,0.7s,mb6.0
KOLN Koldanda 76.50 300 *e*P **P** **08 19 24.4 -0.1**
comp=N,104nm,0.7s,mb5.9
KDAK Kodiak Island 76.61 26 P **P** **08 19 26.0 +0.9**
SNR=5.1
KDAK Kodiak Island 76.61 26 P **P** **08 19 24.2 -0.9**
comp=N,19nm,0.7s,mb5.1,baz=279,slow=2.5,SNR=14
KDAK pP pP 08 19 40.8 -1.4
comp=N,27nm,0.9s,baz=245,slow=3.7,SNR=5.6
KDAK Kodiak Island 76.61 26 *e*P **P** **08 19 24.5 -0.6**
comp=N,18nm,0.7s,mb5.1
KDAK *ep*P pP 08 19 41.5 -0.7
WMQ Urumqi 78.18 317 P **P** **08 19 33.8 -0.1**
WMQ AP pP 08 19 51.0 0.0
WMQ PP PP 08 22 31.0 -0.1
WMQ S S 08 29 22.3 -1.3
WMQ SKS 08 29 37.5
WMQ SCS ScS 08 29 42.8 -5.8
WMQ XS sS 08 29 50.5 -2.0
WMQ SS SS 08 34 24.5 -2.0
WMQ AMB AMB
comp=Z,20nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,500nm,5.0s
WMQ LR LR
comp=N,390nm,17.0s
WMQ LR LR
comp=E,420nm,20.0s
WMQ LR LR
comp=Z,500nm,28.0s
HYB Hyderabad 78.86 289 *i* P **P** **08 19 38.0 +0.3**
HYB Hyderabad 78.86 289 *e*P **P** **08 19 37.0 -0.7**
TRD Trivandrum 78.99 280 *e*P **P** **08 19 38.7 +0.3**
TRD AMb AMB 08 19 43.2
comp=Z,130nm,1.0s,mb5.8
NGP Nagpur 79.09 293 *e*P **P** **08 19 37.8 -1.1**
NGP AMb AMB 08 19 57.4
comp=Z,190nm,1.3s,mb5.9
SLKM Skilak Lake 79.17 24 *e*P **P** **08 19 38.6 -0.7**
TIXI Tiksi 79.62 352 *e*P **P** **08 19 40.4 -1.4**
LGTI Lohaghat 79.77 301 *i* P **P** **08 19 43.0 +0.4**
PMR Palmer 80.21 24 *e*P **P** **08 19 44.0 -1.0**
PMR pmax pmax
comp=Z,25nm,0.7s,mb5.2
PMR Palmer 80.21 24 *e*P **P** **08 19 43.8 -1.2**
comp=Z,26nm,1.2s,mb5.0
PMR LR LR
comp=Z,2μm,22.0s
JOSI Joshimath 80.60 302 *ex* **P** **08 19 37.8 -9.3**
SML Sawmill 80.65 24 *e*P **P** **08 19 46.8 -0.5**
SML Sawmill 80.65 24 *e*P **P** **08 19 46.5 -0.9**
AKL Akola 80.87 292 *ex* **P** **08 19 56.7 +8.2**
BHPL Bhopal 80.96 295 *e*P **P** **08 19 48.7 -0.3**
BHPL AMb AMB 08 19 50.0
comp=Z,55nm,0.7s,mb5.6
BHPL AMb AMB 08 20 05.6
comp=Z,106nm,0.9s,mb5.8
AGRA Agra 81.27 299 *e*P **P** **08 19 48.4 -2.3**
KLP Kalpa 81.91 303 *e*P **P** **08 19 54.7 +0.7**
KLP AMb AMB 08 20 13.3
comp=Z,114nm,1.0s,mb5.8
NDI New Delhi 82.19 300 *e*P **P** **08 19 54.0 -1.5**
NDI *e*P 08 19 54.0
NDI *i* x x 08 20 10.0
SONA Sohna 82.22 300 *e*P **P** **08 19 54.2 -1.5**
SONA AMb AMB 08 20 12.0
comp=Z,69nm,0.7s,mb5.7
AYAN Aya Nagar 82.23 300 *e*P **P** **08 19 54.3 -1.4**
AYAN AMb AMB 08 20 11.6
comp=Z,74nm,0.9s,mb5.6
COLA College 82.48 21 *e*P **P** **08 19 55.1 -1.9**
COLA *e**PP pP 08 20 11.1 -3.1
COLA pmax pmax
comp=Z,86nm,1.3s,mb5.5
COLA College 82.48 21 *e*P **P** **08 19 55.1 -2.0**
comp=Z,86nm,1.3s,mb5.5
COLA *ep*P pP 08 20 11.1 -3.1
MK31 Makanchi Array 82.75 319 P **P** **08 19 57.8 -0.6**
MK31 pmax pmax
comp=Z,42nm,0.8s,mb5.5
MKAR Makanchi Array 82.75 319 P **P** **08 19 57.4 -1.0**
comp=Z,46nm,0.6s,mb5.7,baz=96,slow=5.1,SNR=303
MKAR pP pP 08 20 15.6 0.0
comp=Z,26nm,0.8s,baz=98,slow=5.3,SNR=4.4
MKAR PKKPbc PKKPbc 08 38 37.9 +16
comp=Z,0.9nm,1.0s,baz=314,slow=4.2,SNR=3.6
MKAR PKPPKP 08 46 42.5
comp=Z,0.7nm,0.9s,baz=322,slow=3.7,SNR=3.9
MKAR Makanchi Array 82.75 319 P **P** **08 19 57.4 -1.0**
MKAR *PP pP 08 20 15.6 0.0
MKAR Makanchi Array 82.75 319 P **P** **08 19 57.4 -1.0**
MKAR pP pP 08 20 15.6 0.0
MKAR PKKPbc PKKPbc 08 38 37.9 +16
MKAR P'P' 08 46 42.5
KAD Karad 82.96 288 *e*P **P** **08 19 59.2 -0.2**
KAD AMb AMB 08 20 02.8
comp=Z,59nm,0.9s,mb5.6
KHET Khetri 83.30 299 *e*P **P** **08 20 00.1 -1.1**
KHET *e*P pP 08 20 16.0 -2.4
KHET AMb AMB 08 20 17.3
comp=Z,131nm,0.8s,mb6.0
POO Poona 83.46 289 *ex* **P** **08 20 16.0 +14**
POO *ex* x 08 20 58.1
POO AMb AMB 08 21 02.4
comp=Z,188nm,1.6s,mb5.9
ZAL Zalesovo 83.49 326 P **P** **08 20 00.4 -1.8**
comp=Z,22nm,0.7s,mb5.3,baz=357,slow=5.4,SNR=74
ZAL LR LR 08 56 23.0
comp=Z,260nm,21.1s,baz=9.2,slow=35
QSPA South Pole Qui 83.69 180⇑*i*P **P** **08 20 02.6 -0.7**
comp=Z,121nm,1.0s,mb6.0
DLH Dalhousie 84.01 304 *e*P **P** **08 20 06.0 +1.1**
AJM Ajmer 84.03 297 *e*P **P** **08 20 03.6 -1.3**
AJM *i* P 08 20 04.0
AJM AMb AMB 08 20 08.2
comp=Z,47nm,1.1s,mb5.5
SIT Sitka 84.49 31 *e*P **P** **08 20 08.4 +1.1**
SIT pmax pmax
comp=Z,28nm,0.8s,mb5.4
SIT Sitka 84.49 31 *e*P **P** **08 20 08.4 +1.1**
comp=Z,28nm,0.8s,mb5.4
NVS Novosibirsk 84.66 327⇑*i*P **P** **08 20 06.2 -1.9**
NVS *i* pP 08 20 23.3 -2.1
NVS *e* 08 39 36.5
NVS pmax pmax
comp=E,33nm,1.3s
NVS pmax pmax
comp=Z,42nm,1.3s,mb5.4
NVS pmax pmax
comp=N,18nm,1.4s
MAW Mawson 84.98 203 *e*P **P** **08 20 09.1 -0.7**
comp=N,45nm,0.6s,mb5.8
MAW Mawson 84.98 203 P **P** **08 20 08.8 -1.0**
comp=N,45nm,0.5s,mb5.8,baz=96,slow=6.2,SNR=79
MAW pP pP 08 20 24.4 -2.7
comp=N,28nm,0.5s,baz=95,slow=6.5,SNR=7.2
MAW LR LR 08 54 35.9
comp=N,616nm,18.8s,baz=80,slow=33
MAW Mawson 84.98 203 *e*P **P** **08 20 09.1 -0.7**
MAW pmax pmax
comp=Z,45nm,0.6s
DAWY Dawson 85.32 24 *e*P **P** **08 20 11.3 -0.2**
DAWY *ep*P pP 08 20 30.4 +1.6
SKAG Skagway 85.33 29 *e*P **P** **08 20 11.7 +0.2**
comp=Z,25nm,1.2s,mb5.2
SKAG LR LR
comp=Z,500nm,19.0s
ULHL Ulahol 85.78 313 P **P** **08 20 14.3 +0.5**
SNR=19
KURK Kurchatov 86.16 322 P **P** **08 20 13.5 -2.1**
comp=Z,342nm,0.4s,SNR=25
KURK Kurchatov 86.16 322 P **P** **08 20 14.1 -1.5**
SNR=9.2
KURK Kurchatov 86.16 322 *e*P **P** **08 20 13.6 -2.0**
KURK *e**PP pP 08 20 32.2 -0.7
KURK pmax pmax
comp=Z,26nm,0.5s,mb5.7
KURK Kurchatov 86.16 322 *e*P **P** **08 20 13.6 -2.0**
comp=Z,26nm,0.5s,mb5.7
KURK *ep*P pP 08 20 32.2 -0.7
TKM2 Tokmak 2 86.39 314 P **P** **08 20 16.0 -0.7**
SNR=19
KZA Kyzart 86.47 313 P **P** **08 20 18.1 +0.9**
SNR=16
KBK Karagaybulak 86.80 313 P **P** **08 20 18.9 +0.1**
SNR=9.7
CHMS Chumysh 87.01 314 P **P** **08 20 19.8 0.0**
SNR=8.6
UCH Uchtor 87.03 313 P **P** **08 20 20.8 +0.9**
SNR=9.9
FRU Bishkek 87.08 313 *e*P pP 08 20 35.0 -2.5
FRU *e* 08 20 59.0
FRU pmax pmax
comp=Z,65nm,1.9s,mb5.5
AAK Ala-Archa 87.13 313 P **P** **08 20 20.5 +0.1**
SNR=10.0
AAK Ala-Archa 87.13 313 P **P** **08 20 19.6 -0.8**
comp=Z,107nm,0.6s,mb6.2,SNR=7.2
USP Ospenovka 87.25 314 P **P** **08 20 20.7 -0.2**
SNR=17
JCC Jacoby Creek 87.41 49⇓P **P** **08 20 22.0 +0.2**
baz=88
O01C Eel River Cons 87.45 49⇑P **P** **08 20 21.5 -0.4**
baz=88
DLBC Dease Lake 87.62 31 *e*P **P** **08 20 22.9 +0.2**
DLBC *ep*P pP 08 20 39.5 -0.6
KHMM Horse Mountain 87.64 49 *e*P **P** **08 20 24.2 +1.4**
KHMM *ep*P pP 08 20 39.5 -0.7
EKS2 Erkin-Say 87.65 313 P **P** **08 20 23.4 +0.5**
SNR=16
FARB Farallon Islan 87.65 52⇓P **P** **08 20 23.2 +0.4**
baz=88
P01C Double 8 Ranch 87.69 50⇑P **P** **08 20 22.9 -0.1**
baz=88
HOPS Hopland 87.81 51 *e*P **P** **08 20 23.4 -0.2**
comp=Z,25nm,1.2s,mb5.3
HOPS *ep*P pP 08 20 41.1 +0.1
HOPS Hopland 87.81 51⇑P **P** **08 20 23.5 -0.1**
baz=88
MCCM Marconi Confer 87.82 51⇓P **P** **08 20 23.1 -0.6**
baz=88
N02C Big Bar 87.95 49⇓P **P** **08 20 24.4 +0.1**
baz=88
L02A Cave Junction 87.97 47⇓P **P** **08 20 24.5 +0.1**
baz=88
BHJ Bhuj 88.02 294 *e*P **P** **08 20 23.6 -1.1**
I02A Mapleton 88.14 46⇑P **P** **08 20 25.2 0.0**
baz=88
H02A Toledo 88.14 45⇓P **P** **08 20 25.2 0.0**
baz=88
K02A Glendale 88.16 47⇓P **P** **08 20 24.4 -0.9**
baz=88
CVS Carmenet Viney 88.18 51⇓P **P** **08 20 25.3 -0.1**
baz=88,SNR=6.3
GASB Alder Springs 88.19 50⇓P **P** **08 20 25.7 +0.3**
baz=88
JRSC Jasper Ridge 88.20 52⇓P **P** **08 20 26.0 +0.5**
baz=88
J02A Umpqua 88.21 46⇑P **P** **08 20 26.0 +0.5**
baz=88
BNLO Ben Lomond 88.21 53⇑P **P** **08 20 25.7 +0.2**
baz=88
O02C Red Bluff 88.23 49⇓P **P** **08 20 26.0 +0.4**
baz=88,SNR=10
MNRC McLaughlin Nat 88.28 51⇑P **P** **08 20 26.1 +0.2**
baz=88,SNR=14
C03A Quillayute Air 88.37 42⇑P **P** **08 20 26.4 +0.1**
baz=88
M02C Callahan 88.39 48⇓P **P** **08 20 26.6 +0.2**
baz=88,SNR=7.0
WDC Whiskeytown Da 88.48 49 *e*P **P** **08 20 27.7 +0.9**
WDC Whiskeytown Da 88.48 49⇑P **P** **08 20 26.9 +0.1**
baz=88
HUMO Hull Mountain 88.52 47 *e*P **P** **08 20 26.7 -0.3**
comp=Z,41nm,1.3s,mb5.6
HUMO *ep*P pP 08 20 44.3 -0.1
HUMO *es*P sP 08 20 51.2 +0.1
HUMO Hull Mountain 88.52 47⇓P **P** **08 20 27.1 +0.1**
baz=89,SNR=10
YBH Yreka Blue Hor 88.55 48 *e*P **P** **08 20 27.7 +0.6**
YBH pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 88.55 48 *e*P **P** **08 20 27.7 +0.6**
comp=Z,4.3nm,0.8s,mb4.8
YBH Yreka Blue Hor 88.55 48⇑P **P** **08 20 27.6 +0.5**
baz=89,SNR=7.4
Q03C Winters 88.57 51⇓P **P** **08 20 27.8 +0.5**
baz=89
BDM Black Diamond 88.58 52⇑P **P** **08 20 28.2 +1.0**
baz=89
HAST Hastings Reser 88.59 53⇑P **P** **08 20 27.7 +0.4**
baz=89
H03A Soap Creek Ran 88.64 45⇑P **P** **08 20 28.0 +0.5**
baz=89
F03A Seaside 88.67 44⇑P **P** **08 20 28.3 +0.6**
baz=89
D03A Wishkah Elem. 88.75 42⇑P **P** **08 20 28.1 +0.1**
baz=89
O03C Acorn Hollow, 88.78 50⇑P **P** **08 20 28.5 +0.3**
baz=89
V03C Hunter Liggett 88.78 54⇓P **P** **08 20 27.9 -0.4**
baz=89
E03A Lebam 88.78 43⇓P **P** **08 20 28.0 -0.2**
baz=89,SNR=7.0
SUTB Sutter Buttes 88.84 51⇑P **P** **08 20 27.9 -0.6**
baz=89
PACP Pacheco Peak 88.89 53⇑P **P** **08 20 28.9 +0.2**
baz=89
S04C Ingram Canyon, 88.93 52⇑P **P** **08 20 29.2 +0.2**
baz=89,SNR=6.9
LRV Little Rabbit 89.02 53 *e*P **P** **08 20 30.0 +0.7**
LRV *ep*P pP 08 20 47.1 +0.4
V04C Ramage Ranch, 89.02 54⇑P **P** **08 20 29.4 0.0**
baz=89
OHCM Honcut 89.09 50 *e*P **P** **08 20 28.6 -1.0**
OHCM *ep*P pP 08 20 46.6 -0.5
Q04C Lincoln 89.09 51⇓P **P** **08 20 29.5 -0.2**
baz=89
ORV Oroville 89.11 50⇓P **P** **08 20 29.5 -0.3**
baz=89,SNR=8.4
INK Inuvik 89.12 21 *e*P **P** **08 20 27.7 -2.1**
INK *e**PP pP 08 20 45.0 -2.2
INK pmax pmax
comp=Z,40nm,1.2s
INK Inuvik 89.12 21 *e*P **P** **08 20 27.7 -2.1**
comp=Z,40nm,1.2s,mb5.6
INK *ep*P pP 08 20 45.0 -2.2
U04C Hernandez Rese 89.20 53⇓P **P** **08 20 30.9 +0.7**
baz=89,SNR=8.4
M04C Macdoel 89.20 48⇓P **P** **08 20 30.5 +0.3**
baz=89
L04A Klamath Falls 89.22 48⇓P **P** **08 20 29.7 -0.6**
baz=89
G04A Mulino 89.30 45⇑P **P** **08 20 30.3 -0.3**
baz=89
PKD Parkfield 89.33 54⇓P **P** **08 20 31.3 +0.5**
baz=89,SNR=6.0
HATC Hat Creek Radi 89.33 49⇑P **P** **08 20 30.7 -0.2**
baz=89,SNR=7.0
R04C Big Horse Ranc 89.35 52⇑P **P** **08 20 30.4 -0.5**
baz=89
C04A Brinnon 89.39 42⇑P **P** **08 20 30.7 -0.4**
baz=89
H04A Detroit Lake 89.41 45⇓P **P** **08 20 31.2 0.0**
baz=90,SNR=5.2
K04A Chilquin 89.41 47⇑P **P** **08 20 30.8 -0.3**
baz=90
F04A Amboy 89.46 44⇑P **P** **08 20 30.6 -0.8**
baz=90
GNW Green Mountain 89.46 42 *e*P **P** **08 20 30.9 -0.5**
GNW *ep*P pP 08 20 48.2 -0.6
O04C Chester 89.54 50⇓P **P** **08 20 31.4 -0.4**
baz=90,SNR=16
PTRM Twissleman Ran 89.56 54 *e*P **P** **08 20 33.7 +1.8**

PTRM *e*pP pP 08 20 50.0 +0.8
LAVA Lava Cap Winer 89.58 51 ⇓P P 08 20 31.8 -0.1
baz=90,SNR=13
O05C Quincy 89.61 50 ⇓P P 08 20 32.0 -0.2
baz=90
MCW Mount Constitu 89.64 41 P P 08 20 32.2 -0.1
M05C Lookout 89.65 48 ⇓P P 08 20 31.4 -0.9
baz=90,SNR=8.3
S05C Merced 89.70 53 ⇑P P 08 20 32.5 0.0
baz=90,SNR=10
U05C Westside ANR, 89.72 54 ⇑P P 08 20 32.2 -0.4
baz=90
A04A Legoe Bay, Lum 89.73 41 ⇓P P 08 20 32.2 -0.5
baz=90
CMB Columbia Colle 89.75 52 *e*P **P 08 20 32.7 -0.1**
CMB *e**PP pP 08 20 49.6 -0.6
CMB pmax pmax
comp=Z,40nm,1.6s,mb5.5
CMB Columbia Colle 89.75 52 *e*P **P 08 20 32.7 0.0**
comp=Z,40nm,1.6s,mb5.5
CMB *e*pP pP 08 20 49.6 -0.6
CMB Columbia Colle 89.75 52 ⇓P P 08 20 32.6 -0.2
baz=90
P05C Yuba Gap, Truc 89.75 51 ⇑P P 08 20 33.2 +0.4
baz=90,SNR=12
V05C Boulder Hill, 89.83 54 ⇓P P 08 20 32.6 -0.6
baz=90
HOOD Mount Hood Mea 89.89 45 *e*P **P 08 20 33.4 0.0**
HOOD *e*pP pP 08 20 51.4 +0.6
D05A Enumclaw 89.95 43 ⇓P P 08 20 33.6 -0.1
baz=90
I05A Bend 89.98 46 ⇓P P 08 20 33.4 -0.4
baz=90
L05A Lakeview 89.99 48 ⇑P P 08 20 33.2 -0.7
baz=90
E05A Randle 90.01 43 ⇓P P 08 20 33.0 -1.0
baz=90
B05A Bryant 90.05 42 ⇑P P 08 20 33.6 -0.5
baz=90
R05C Kirkwood Meado 90.08 51 ⇓P P 08 20 34.6 +0.3
baz=90,SNR=7.7
F05A White Salmon 90.11 44 ⇑P P 08 20 34.1 -0.4
baz=90
G05A Wamic 90.11 45 ⇑P P 08 20 34.6 +0.1
baz=90
M06C Likely Place G 90.12 49 ⇓P P 08 20 35.2 +0.7
baz=90
T06C Millerton Lake 90.14 53 ⇑P P 08 20 34.7 +0.1
baz=90
S06C San Francisco 90.15 52 ⇓P P 08 20 34.9 +0.3
baz=90
A05A Maple Falls 90.18 41 ⇑P P 08 20 34.5 -0.3
baz=90
C05A Tolt Reservoir 90.23 42 ⇓P P 08 20 34.1 -0.9
baz=90
P06A Stead Airport, 90.35 50 ⇑P P 08 20 36.1 +0.5
baz=90
WCN Washoe City 90.41 51 ⇑P P 08 20 36.4 +0.6
baz=90,SNR=16
O06A Flanigan 90.47 50 ⇓P P 08 20 36.2 +0.1
baz=90,SNR=13
KCC Kaiser Creek 90.49 53 ⇓P P 08 20 36.1 -0.1
baz=90
K06A Valley Falls 90.52 47 ⇓P P 08 20 35.9 -0.4
baz=91
R06C Coleville 90.54 51 ⇑P P 08 20 37.1 +0.6
baz=91,SNR=9.9
WAKR Walker 90.55 51 *e*P **P 08 20 37.4 +0.9**
OSI Osito Adit 90.63 55 ⇑P P 08 20 37.6 +0.8
baz=91
J06A Christmas Vall 90.65 47 P P 08 20 36.5 -0.5
baz=91,SNR=7.6
I06A Prineville 90.71 46 ⇑P P 08 20 37.1 -0.1
baz=91,SNR=7.1
PAHR Pah Rah Range 90.75 50 *e*P **P 08 20 38.1 +0.7**
comp=Z,9.3nm,0.7s,mb5.2
PAHR *e*pP pP 08 20 55.4 +0.5
R07C Lee Vining 90.80 52 ⇓P P 08 20 38.2 +0.6
baz=91,SNR=9.5
EBG Ellensburg 90.87 43 P P 08 20 37.9 -0.1
TBM Table Mountain 90.89 43 P P 08 20 37.8 -0.2
MLAC Mammoth Lakes 90.91 52 ⇑P P 08 20 38.4 +0.2
baz=91
ISA Isabella 90.96 54 *e*P **P 08 20 39.3 +0.9**
ISA *e**PP pP 08 20 56.4 +0.6
ISA pmax pmax
comp=Z,37nm,1.4s,mb5.5
ISA Isabella 90.96 54 *e*P **P 08 20 39.3 +0.9**
comp=Z,37nm,1.4s,mb5.5
ISA *e*pP pP 08 20 56.4 +0.6
ISA Isabella 90.96 54 ⇓P P 08 20 38.7 +0.3
baz=91
L07A Adell 91.08 48 ⇑P P 08 20 39.3 +0.3
baz=91,SNR=14
MTUM Tungsten Hills 91.09 53 *e*P **P 08 20 40.2 +1.2**
MTUM *e*pP pP 08 20 57.1 +0.7
Q07A Schurz 91.09 51 ⇓P P 08 20 38.7 -0.4
baz=91
P07A Fallon 91.11 51 ⇑P P 08 20 39.6 +0.5
baz=91
MWC Mount Wilson 91.13 56 *e*P **P 08 20 40.4 +1.2**
M07A Soldier Meadow 91.13 49 ⇓P P 08 20 39.4 +0.2
baz=91,SNR=8.1
O07A Toulon 91.19 50 ⇑P P 08 20 39.9 +0.4
baz=91,SNR=27
VOSK Vostochnaya 91.22 323 P P 08 20 36.2 -3.4
J07A Hines 91.28 47 ⇓P P 08 20 39.9 0.0
baz=91
CWC Cottonwood Cre 91.37 54 ⇓P P 08 20 40.6 +0.3
baz=91
NVAR Mina Array Bea 91.43 52 P P 08 20 40.9 +0.3
comp=Z,16nm,0.8s,mb5.4,baz=249,slow=4.5,SNR=100
NVAR pP pP 08 20 57.8 -0.1
comp=Z,42nm,1.2s,baz=219,slow=5.4,SNR=9.0
NVAR PKKPbc PKKPbc 08 38 02.8 +1.7
comp=Z,0.9nm,0.7s,baz=204,slow=3.5,SNR=5.7
NVAR PKPPKP 08 46 22.8
comp=Z,0.6nm,0.8s,baz=71,slow=4.6,SNR=4.1
MNV Mina 91.54 52 *e*P **P 08 20 41.6 +0.5**
MNV *e**PP pP 08 20 59.2 +0.7
MNV pmax pmax
comp=Z,21nm,0.9s,mb5.5
MNV Mina 91.54 52 *e*P **P 08 20 41.6 +0.5**
comp=Z,21nm,0.9s,mb5.5
MNV *e*pP pP 08 20 59.2 +0.7
REDWA Red Mountain 91.56 44 P P 08 20 40.9 -0.3
R08A Mina 91.57 52 ⇓P P 08 20 41.7 +0.5
baz=92,SNR=32
CHKZ Chkalovo 91.57 324 *e*P **P 08 20 38.1 -3.1**
CHKZ *e**PP pP 08 20 56.1 -2.6
CHKZ pmax pmax
comp=Z,17nm,0.6s,mb5.5
CHKZ Chkalovo 91.57 324 *e*P **P 08 20 38.1 -3.1**
comp=Z,17nm,0.6s,mb5.6
CHKZ *e*pP pP 08 20 56.0 -2.6
H2OWA Water 91.58 44 P P 08 20 41.1 -0.2
BVA0 Borovoye Array 91.61 323 *i* P **P 08 20 38.5 -2.9**
BVAR Borovoye Array 91.61 323 P P 08 20 39.2 -2.3
comp=Z,22nm,0.7s,mb5.6,baz=100,slow=5.2,SNR=112
BVAR pP pP 08 20 56.3 -2.6
comp=Z,17nm,0.8s,baz=108,slow=4.8,SNR=5.5
BVAR LR LR 09 01 08.1
comp=Z,411nm,21.0s,baz=139,slow=35
BVAR Borovoye Array 91.61 323 P P 08 20 39.2 -2.2
BVAR *PP pP 08 20 56.3 -2.5
BRVK Borovoye 91.68 323 P P 08 20 39.9 -1.8
comp=Z,135nm,1.0s,mb6.2,SNR=10
BRVK Borovoye 91.68 323 P P 08 20 39.9 -1.8
SNR=10.0
BRVK Borovoye 91.68 323 *e*P **P 08 20 39.5 -2.2**
BRVK *e**PP pP 08 20 57.0 -2.2
BRVK pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
BRVK Borovoye 91.68 323 *e*P **P 08 20 39.5 -2.2**
comp=Z,9.5nm,0.7s,mb5.2
BRVK *e*pP pP 08 20 57.0 -2.2
M08A Happy Creek Ra 91.72 49 ⇑P P 08 20 42.2 +0.3
baz=92,SNR=5.8
DAC Darwin (Calif) 91.74 54 *e*P **P 08 20 43.1 +1.1**
DAC Darwin (Calif) 91.74 54 *e*P **P 08 20 42.9 +0.9**
comp=Z,18nm,0.8s,mb5.5
DAC *e*pP pP 08 21 00.1 +0.6
P08A Dixie Valley 91.75 50 ⇑P P 08 20 42.6 +0.6
baz=92,SNR=5.4
109C Camp Elliot, M 91.76 57 ⇓P P 08 20 42.9 +0.8
baz=92
Q08A Gabbs 91.77 51 ⇓P P 08 20 42.4 +0.2
baz=92,SNR=37
N08A GE Springer Mi 91.83 49 ⇓P P 08 20 42.7 +0.3
baz=92,SNR=12
OD2 Odessa Site #2 92.19 43 P P 08 20 43.3 -0.8
S09A Goldfield 92.19 52 ⇑P P 08 20 44.6 +0.5
baz=92,SNR=29
TPH Tonopah 92.23 52 *e*P **P 08 20 45.3 +1.0**
TPH *e**PP pP 08 21 02.2 +0.5
TPH pmax pmax
comp=Z,45nm,1.1s,mb5.7
TPH Tonopah 92.23 52 *e*P **P 08 20 45.3 +1.0**
comp=Z,45nm,1.1s,mb5.7
TPH *e*pP pP 08 21 02.2 +0.5
GSC Goldstone 92.27 55 *e*P **P 08 20 45.4 +0.9**
GSC *e**PP pP 08 21 02.6 +0.7
GSC Goldstone 92.27 55 ⇓P P 08 20 44.9 +0.5
baz=92,SNR=11
N09A Rock Creek Ran 92.30 49 ⇓P P 08 20 45.0 +0.3
baz=92,SNR=5.1
L09A Wilkinson Ranc 92.32 48 ⇓P P 08 20 44.9 +0.2
baz=92,SNR=6.4
Q09A Carvers 92.34 51 ⇑P P 08 20 45.4 +0.6
baz=92,SNR=8.8
R09A Tonopah 92.37 52 ⇑P P 08 20 45.3 +0.4
baz=92,SNR=36
PFO Pinyon Flat Ob 92.38 57 P P 08 20 46.0 +1.0
comp=Z,72nm,0.6s,mb6.2,SNR=6.7
PFO Pinyon Flat Ob 92.38 57 *e*P **P 08 20 46.1 +1.1**
PFO *e**PP pP 08 21 03.3 +0.9
PFO pmax pmax
comp=Z,20nm,0.9s,mb5.5
PFO Pinyon Flat Ob 92.38 57 *e*P **P 08 20 46.1 +1.1**
comp=Z,20nm,0.9s,mb5.4
PFO *e*pP pP 08 21 03.2 +0.8
PFO Pinyon Flat Ob 92.38 57 ⇑P P 08 20 45.5 +0.5
baz=92,SNR=8.0
M09A Marrel Ranch, 92.42 49 ⇓P P 08 20 45.5 +0.4
baz=92
ZRNK Zerenda 92.43 323 *e*P **P 08 20 42.4 -2.8**
ZRNK *e**PP pP 08 21 00.2 -2.4
ZRNK pmax pmax
comp=Z,16nm,0.6s,mb5.5
ZRNK Zerenda 92.43 323 *e*P **P 08 20 42.4 -2.8**
comp=Z,16nm,0.6s,mb5.5
ZRNK *e*pP pP 08 21 00.2 -2.4
P09A Austin 92.45 51 ⇓P P 08 20 45.7 +0.4
baz=92,SNR=6.4
O09A Fish Creek Ran 92.48 50 ⇓P P 08 20 45.9 +0.4
baz=92,SNR=30
BMN Battle Mountai 92.48 50 *e*P **P 08 20 46.2 +0.8**
BMN *e**PP pP 08 21 03.7 +0.8
BMN Battle Mountai 92.48 50 *e*P **P 08 20 46.1 +0.7**
comp=Z,14nm,0.9s,mb5.3
BMN *e*pP pP 08 21 03.7 +0.8
U10A Ash Meadows, A 92.77 54 ⇑P P 08 20 47.6 +0.8
baz=93,SNR=23
BMO Blue Mountains 92.88 45 *e*P **P 08 20 46.4 -0.9**
BMO *e**PP pP 08 21 04.2 -0.5
BMO pmax pmax
comp=Z,36nm,1.3s,mb5.6
BMO Blue Mountains 92.88 45 *e*P **P 08 20 46.4 -0.9**
comp=Z,36nm,1.3s,mb5.6
BMO *e*pP pP 08 21 04.2 -0.6
TPNV Topopah Spring 92.89 53 *e*P **P 08 20 47.9 +0.6**
TPNV Topopah Spring 92.89 53 *e*P **P 08 20 47.7 +0.4**
comp=Z,12nm,0.8s,mb5.4
TPNV *e*pP pP 08 21 04.9 +0.2
SYO Syowa Base 92.94 199⇓ *e*P **P 08 20 45.5 -2.1**
SYO Syowa Base 92.94 199⇓ *e*PcP PcP 08 20 47.0 -1.2
R10A Warm Springs 92.98 52 ⇓P P 08 20 48.5 +0.7
baz=93,SNR=13
P10A Eureka 92.98 51 ⇓P P 08 20 48.1 +0.3
baz=93
TUQ Turquoise Mtn. 93.00 55 ⇑P P 08 20 48.2 +0.4
baz=93,SNR=9.3
N10A Dunphy 93.05 50 ⇓P P 08 20 48.6 +0.5
baz=93,SNR=5.4
M10A I.L. Ranch, Tu 93.11 49 ⇑P P 08 20 48.1 -0.2
baz=93
NEW Newport 93.35 42 *e*P **P 08 20 48.8 -0.7**
NEW *e**PP pP 08 21 05.6 -1.3
NEW pmax pmax
comp=Z,41nm,1.2s
NEW Newport 93.35 42 *e*P **P 08 20 48.8 -0.7**
comp=Z,41nm,1.2s,mb5.7
NEW *e*pP pP 08 21 05.6 -1.3
V11A Goodsprings 93.44 54 ⇑P P 08 20 50.1 +0.3
baz=94
P11A Circle Ranch, 93.52 51 ⇓P P 08 20 50.4 +0.1
baz=94
U11A Corn Creek 93.53 54 ⇑P P 08 20 50.7 +0.4
baz=94,SNR=7.3
Q11A Duckwater 93.54 51 ⇓P P 08 20 50.9 +0.6
baz=94,SNR=37
O11A Cowboy Ranch, 93.64 50 ⇓P P 08 20 51.2 +0.4
baz=94,SNR=14
N11A Elko Archery C 93.64 50 ⇓P P 08 20 51.0 +0.2
baz=94
M11A Holland Ranch, 93.66 49 ⇑P P 08 20 51.3 +0.4
baz=94,SNR=5.8
GLA Glamis 93.69 57 *e*P **P 08 20 52.8 +1.8**
GLA *e**PP pP 08 21 09.3 +0.9
GLA Glamis 93.69 57 *e*P **P 08 20 52.6 +1.6**
GLA *e*pP pP 08 21 09.9 +1.5
GLA Glamis 93.69 57 ⇑P P 08 20 51.9 +0.9
baz=94
SHPR Sheep Range 93.72 54 *e*P **P 08 20 52.2 +1.0**
W12A Cal Nev Ari 93.85 55 ⇓P P 08 20 52.2 +0.5
baz=94
V12A Nelson 93.90 55 ⇑P P 08 20 52.4 +0.4
baz=94,SNR=9.9
Y12C Blythe 94.00 57 ⇑P P 08 20 53.1 +0.7
baz=94
ELK Elko 94.02 50 *e*P **P 08 20 52.8 +0.3**
ELK *e**PP pP 08 21 10.5 +0.6
ELK pmax pmax
comp=Z,42nm,1.3s
ELK Elko 94.02 50 *e*P **P 08 20 52.8 +0.3**
comp=Z,42nm,1.3s,mb5.7
ELK *e*pP pP 08 21 10.4 +0.5
P12A McGill 94.16 51 ⇓P P 08 20 53.8 +0.6
baz=94,SNR=12
N12A Wells--Clov Va 94.18 50 ⇑P P 08 20 53.8 +0.5
baz=94,SNR=18
U12A Valley of Fire 94.21 54 ⇓P P 08 20 54.1 +0.7
baz=94,SNR=11
M12A Wells 94.31 49 ⇓P P 08 20 53.9 0.0
baz=94
Y13A Salome 94.58 57 ⇓P P 08 20 55.4 +0.3
baz=95
W13A Hualapai Mount 94.63 55 ⇑P P 08 20 56.0 +0.7
baz=95,SNR=7.0
X13A Yucca 94.64 56 ⇑P P 08 20 55.9 +0.5
baz=95,SNR=6.3
N13A West Wendover 94.81 50 ⇑P P 08 20 56.3 +0.2
baz=95
HLID Hailey 94.84 47 *e*P **P 08 20 56.2 -0.1**
comp=Z,6.9nm,1.1s,mb5.0
HLID *e*pP pP 08 21 13.2 -0.5
M13A Montello 94.87 49 ⇑P P 08 20 56.3 -0.1
baz=95,SNR=5.4
BSMT Bassoo Peak 94.88 43 P P 08 20 56.0 -0.5
ARUT Antelope Range 95.19 53 *e*P **P 08 20 58.9 +1.0**
ARUT *e**PP pP 08 21 15.7 +0.4
CCUT Cedar City 95.23 53 *e*P **P 08 20 59.0 +1.0**
CCUT *e*pP pP 08 21 16.4 +0.8
Y14A Wickenburg 95.28 57 ⇓P P 08 20 58.1 -0.2
baz=95
Z14A Wintersburg 95.28 57 ⇑P P 08 20 57.4 -0.9
baz=95
W14A Seligman 95.30 55 ⇑P P 08 20 58.7 +0.3
baz=95
X14A Yava 95.41 56 ⇑P P 08 20 59.2 +0.3
baz=95
WALA Waterton Lakes 95.53 41 *e*P **P 08 20 59.3 -0.2**
comp=Z,49nm,1.2s,mb5.8
WALA *e*pP pP 08 21 16.6 -0.3
BGU Big Grassy Mou 95.70 50 *e*P **P 08 21 00.2 0.0**
BGU *e*pP pP 08 21 17.6 0.0
YKA Yellowknife Ar 95.79 28 P P 08 20 59.8 -0.8
comp=Z,9.6nm,0.6s,mb5.4,baz=266,slow=4.4,SNR=41
YKA pP pP 08 21 15.8 -2.2
comp=Z,7.4nm,0.7s,baz=266,slow=9.4,SNR=9.4
YKA PKKPbc PKKPbc 08 38 02.7 +13
comp=Z,0.8nm,0.5s,baz=92,slow=2.8,SNR=5.2
YKA LR LR 09 05 19.3
comp=Z,580nm,19.0s,baz=285,slow=36
YKA Yellowknife Ar 95.79 28 P P 08 20 59.8 -0.8
YKA *PP pP 08 21 15.9 -2.2
YKA Yellowknife Ar 95.79 28 P P 08 20 59.8 -0.9
YKA pP pP 08 21 15.8 -2.2
YKA PKKPbc PKKPbc 08 38 02.7 +13
YKA LR LR 09 05 19.3
115A Sonoran Desert 95.84 58 ⇑P P 08 21 01.2 +0.4
baz=96
HVU Hansel Valley 95.94 49 *e*P **P 08 21 02.6 +1.3**
HVU Hansel Valley 95.94 49 *e*P **P 08 21 02.2 +0.9**
comp=Z,7.0nm,1.0s,mb5.0
HVU *e*pP pP 08 21 18.6 -0.1
X15A Humboldt 95.94 56 ⇓P P 08 21 01.8 +0.4
baz=96
W15A Williams 95.96 55 ⇑P P 08 21 00.8 -0.6
baz=96
EDM Edmonton 96.09 37 *e*P **P 08 21 00.9 -1.1**
EDM *e**PP pP 08 21 18.3 -1.1
MSU Marysvale 96.22 52 *e*P **P 08 21 04.4 +1.8**
MSU Marysvale 96.22 52 *e*P **P 08 21 03.5 +0.9**
MSU *e*pP pP 08 21 21.3 +1.2
DLMT Dillon 96.25 45 *e*P **P 08 21 02.1 -0.6**
comp=Z,5.2nm,1.0s,mb4.9
116A Eloy 96.28 58 ⇑P P 08 21 02.9 +0.1
baz=96
NLU North Lily Min 96.38 51 *e*P **P 08 21 04.0 +0.7**
NLU *e*pP pP 08 21 21.2 +0.5
WUAZ Wupatki 96.71 55 *e*P **P 08 21 06.0 +1.2**
comp=Z,18nm,1.1s,mb5.4
MPU Maple Canyon 96.72 51 *e*PKKPbc PKKPbc 08 37 43.2 -3.9
HWUT Hardware Ranch 96.84 49 *e*P **P 08 21 05.2 -0.2**
comp=Z,6.5nm,0.9s,mb5.1
HWUT *e*pP pP 08 21 22.4 -0.5
BOZ Bozeman (W) 96.94 45 *e*P **P 08 21 05.5 -0.3**
BOZ Bozeman (W) 96.94 45 *e*P **P 08 21 05.2 -0.6**
comp=Z,3.3nm,0.8s,mb4.8
BOZ *e*pP pP 08 21 22.4 -0.9
TMUT Trail Mountain 97.02 51 *e*P **P 08 21 07.2 +1.0**
TMUT *e*pP pP 08 21 24.8 +1.2
DAU Daniels Canyon 97.02 50 *e*P **P 08 21 07.1 +0.9**
DAU *e**PP pP 08 21 24.2 +0.5
TUC Tucson 97.04 58 *e*P **P 08 21 07.5 +1.2**
comp=Z,1.3nm,0.8s,mb4.4
QLMT Earthquake Lak 97.05 46 *e*P **P 08 21 06.6 +0.3**
QLMT *e*pP pP 08 21 24.1 +0.3
RRI2 Red Ridge 97.08 47 *e*P **P 08 21 15.6 +9.1**
comp=Z,20nm,1.2s,mb5.4
RRI2 *e*pP pP 08 21 30.7 +6.7
IMW Indian Meadow 97.38 47 *e*P **P 08 21 07.1 -0.7**
comp=Z,14nm,1.3s,mb5.2
IMW *e*pP pP 08 21 25.0 -0.3
YMR Madison River 97.38 46 *e*P **P 08 21 08.0 +0.2**
YMR *e*pP pP 08 21 25.5 +0.2
REDW Red Top Meadow 97.42 47 *e*P **P 08 21 07.6 -0.4**
comp=Z,20nm,1.3s,mb5.4
REDW *e*pP pP 08 21 25.5 0.0
SNOW Snow King Moun 97.50 47 *e*P **P 08 21 08.5 +0.2**
comp=Z,15nm,1.2s,mb5.3
SNOW *e*pP pP 08 21 25.8 -0.1
SRU San Rafael 97.54 51 *e*P **P 08 21 09.0 +0.5**
SRU San Rafael 97.54 51 *e*P **P 08 21 08.7 +0.1**
comp=Z,14nm,1.1s,mb5.4
SRU *e*pP pP 08 21 26.1 +0.1
LOHW Long Hollow 97.61 47 *e*P **P 08 21 08.4 -0.4**
comp=Z,11nm,1.4s,mb5.2
LOHW *e*pP pP 08 21 25.2 -1.1
AB31 Akbulak array 97.89 319 *i* P **P 08 21 07.1 -3.0**
BW06 Boulder Array 98.36 48 *e*P **P 08 21 11.6 -0.7**
comp=Z,12nm,1.1s,mb5.3
PDAR Pinedale Array 98.36 48 P P 08 21 11.1 -1.1
comp=Z,2.9nm,0.7s,mb4.9,baz=268,slow=2.0,SNR=32
PDAR pP pP 08 21 27.9 -1.7
comp=Z,8.2nm,1.0s,baz=258,slow=2.9,SNR=14
PDAR PP PP 08 25 26.2 +14
comp=Z,2.1nm,1.0s,baz=271,slow=7.3,SNR=6.3
PDAR PKKPbc PKKPbc 08 37 55.2 +13
comp=Z,0.5nm,0.6s,baz=119,slow=5.2,SNR=4.2
PDAR PKPPKP 08 46 19.5
comp=Z,0.4nm,1.0s,baz=106,slow=3.2,SNR=3.7
PDAR LR LR 09 02 00.9
comp=Z,829nm,19.7s,baz=292,slow=33
ARU Arti 98.65 326 *e*P **P 08 21 09.3 -4.2**
ARU *e* 08 25 10.9
ARU *e*S 08 31 41.4
ARU *e*SS SS 08 39 21.4 -2.9
ARU MLR MLR
comp=Z,400nm,21.0s
ARU MLR MLR
comp=N,70nm,28.0s
ARU MLR MLR
comp=E,200nm,22.0s
ARU Arti 98.65 326 *e*P **P 08 21 10.5 -3.1**
comp=E,10nm,0.6s,mb5.5
ARU *e*pP pP 08 21 27.4 -3.6
PV01 Paradox Valley 99.05 52 *e*P **P 08 21 15.6 +0.3**
PV01 *e*pP pP 08 21 33.3 +0.5
AKTO Aktyubinsk 99.13 320 LR LR 09 05 16.7
comp=E,193nm,21.6s,baz=88,slow=35
AKTO Aktyubinsk 99.13 320 *i* P **P 08 21 12.7 -3.0**
RWWY Rawlins 100.10 49 *e*Pdif Pdif 08 21 20.1 +0.1
SMCO Snowmass 100.30 51 *e*Pdif Pdif 08 21 22.0 +1.1
comp=E,21nm,1.1s
RSSD Black Hills 102.35 46 *e*P Pdif 08 21 29.6 -0.4
RSSD pmax pmax
comp=Z,4.0nm,0.6s
RSSD Black Hills 102.35 46 *e*Pdif Pdif 08 21 29.6 -0.4
comp=Z,4.0nm,0.6s
VNA1 Neumayer--Stat 102.39 186 *e*Pdiff Pdif 08 21 31.1 +0.9
VNA1 *e* 08 21 33.6
VNA1 *e* 08 21 37.1
VNA1 *e* 08 21 48.1
VNA1 *e* 08 22 03.4
GDL2 Guadalupe Moun 102.47 59 *e*Pdif Pdif 08 21 29.7 -0.8
GDL2 *e*PP PP 08 25 43.0 -0.9
GDL2 *e*PKKPbc PKKPbc 08 37 30.4 -0.5
JCT Junction City 106.42 60 *e*PKiKP PKiKP 08 25 58.7 -0.2
JCT *e*PP PP 08 26 18.9 +5.7
ULM Lac du Bonnet 107.12 39 PKiKP PKiKP 08 25 57.8 -2.4
comp=Z,2.0nm,0.7s,baz=294,slow=6.2,SNR=5.0
ULM PKKPbc PKKPbc 08 37 15.7 -1.1
comp=Z,1.9nm,0.6s,baz=98,slow=2.8,SNR=5.3
ARCES ARCESS Array B 108.85 343 Pdiff Pdif 08 21 57.7 -1.2
comp=Z,1.2nm,0.7s,baz=49,slow=3.7,SNR=3.9
ARCES PKiKP PKiKP 08 26 01.5 -2.0
comp=Z,2.2nm,0.8s,baz=333,slow=4.2,SNR=6.0
ARCES PKKPbc PKKPbc 08 37 09.2 -2.1
comp=Z,1.5nm,0.7s,baz=222,slow=1.6,SNR=5.5
ARCES PKKPab PKKPab 08 37 23.6 -0.6
comp=Z,2.2nm,0.6s,baz=249,slow=2.1,SNR=8.4
UALR University of 112.30 55 *e*PKiKP PKiKP 08 26 09.5 -0.5
SOC Sochi 112.39 315 *i* PKIKP PKiKP 08 26 14.6 +4.5
SOC *e* 08 27 00.1
SOC *e*PPP 08 29 25.9
SOC *e*PS PS 08 36 13.3 -18
SOC *e*SS SS 08 42 53.3 +22
SOC MLR MLR
comp=Z,357nm,23.0s
CCM Cathedral Cave 112.66 51 *e*PKiKP PKiKP 08 26 09.2 -1.4
CCM *e*PKKPbc PKKPbc 08 36 59.0 0.0
CCM *e*PKKPab PKKPab 08 37 06.6 -0.8
KAF Kangasniemi 112.76 336 *e*p PKiKP 08 26 08.2 -2.6
FINES FINESS Array B 113.21 336 Pdiff Pdif 08 22 15.8 -2.5
comp=Z,0.7nm,0.6s,baz=73,slow=6.1,SNR=3.4
FINES PKiKP PKiKP 08 26 09.1 -2.6
comp=Z,1.2nm,0.7s,baz=67,slow=2.8,SNR=6.8
FINES PKKPbc PKKPbc 08 36 54.0 -3.1
comp=Z,1.1nm,0.6s,baz=151,slow=3.6,SNR=6.3
FINES FINESS Array B 113.21 336 P Pdif 08 22 15.8 -2.5
FINES 08 26 09.1
SUMG Summit 113.27 4 *e*PKKPab PKKPab 08 37 03.6 -1.1
FVM French Village 113.31 51 *e*PKKPab PKKPab 08 37 04.0 -0.5
FRB Frobisher Bay 114.76 20 PKP PKiKP 08 26 12.3 -2.3
comp=Z,4.2nm,0.5s,baz=18,slow=0.8,SNR=8.2
FRB Frobisher Bay 114.76 20 PKP PKiKP 08 26 12.3 -2.3
WVT Waverly 115.70 53 *e*PKIKP PKPdf 08 26 14.7 -1.8
WVT *e* 08 26 31.7
PLAL Pickwick Lake 115.73 54 *e*PKiKP PKiKP 08 26 14.5 -2.1
PLAL *e*PKKPbc PKKPbc 08 36 47.8 -0.8
PLAL *e*PKKPab PKKPab 08 36 52.5 -1.4
BLO Bloomington 116.05 49 *e*PKIKP PKPdf 08 26 16.0 -1.1
BLO *e* 08 26 33.1
WCI Wyandotte Cave 116.44 50 *e*PKIKP PKPdf 08 26 16.1 -1.8

AKASG Malin Array Be 116.85 325 PKP PKPdf 08 26 16.1 -2.6
comp=Z,1.4nm,0.4s,baz=61,slow=1.9,SNR=10
AKASG PKKPbc PKKPbc 08 36 47.7 +3.1
comp=Z,0.3nm,0.3s,baz=259,slow=5.2,SNR=4.3
AKASG Malin Array Be 116.85 325 PKP PKPdf 08 26 16.1 -2.6
AKASG PKKPbc PKKPbc 08 36 47.7 +3.1
LRAL Lakeview Retre 116.97 56 *e*PKPdf PKPdf 08 26 17.9 -1.0
LRAL *ep*PKPdf pPKPdf 08 26 34.7 -2.2
LRAL *e*PKKPbc PKKPbc 08 36 43.6 -0.6
LRAL *e*PKKPab PKKPab 08 36 47.2 -1.2
KMBO Kilima Mbogo 117.23 266 PKP PKPdf 08 26 19.1 -0.3
comp=Z,1.8nm,0.9s,baz=40,slow=20,SNR=3.5
PLCA Paso Flores 117.40 142 PKP PKPdf 08 26 18.0 -1.7
comp=Z,1.9nm,0.7s,baz=120,slow=3.4,SNR=4.9
PLCA PKKPbc PKKPbc 08 36 45.3 +2.6
comp=Z,1.8nm,0.8s,baz=204,slow=6.2,SNR=3.5
SWET Sewanee 117.40 54 *e*PKPdf PKPdf 08 26 17.9 -1.9
SWET *ep*PKPdf pPKPdf 08 26 33.7 -4.1
SWET *e*PKKPbc PKKPbc 08 36 43.7 +1.1
SWET *e*PKKPab PKKPab 08 36 45.7 -0.8
BRTR Keskin Array B 117.77 312 PKP PKPdf 08 26 18.8 -1.7
comp=Z,0.8nm,0.6s,baz=0,0,slow=4.9,SNR=5.2
BRTR pPKP pPKPdf 08 26 35.5 -3.0
comp=Z,1.6nm,0.5s,baz=108,slow=2.7,SNR=5.4
BRTR PKKPbc PKKPbc 08 36 57.0 +16
comp=Z,2.5nm,0.9s,baz=259,slow=3.1,SNR=7.6
BRTR Keskin Array B 117.77 312 PKIKP PKPdf 08 26 18.8 -1.7
BRTR 08 26 35.6
ACSO Alum Creek Sta 118.40 47 *e*PKPdf PKPdf 08 26 20.4 -1.2
ACSO *ep*PKPdf pPKPdf 08 26 36.8 -2.9
CPCT Cooper Cave 118.47 53 *e*PKPdf PKPdf 08 26 20.6 -1.3
CPCT *ep*PKPdf pPKPdf 08 26 37.8 -2.1
HFS Hagfors 118.77 339 PKP PKPdf 08 26 19.8 -2.6
comp=Z,1.9nm,0.7s,baz=123,slow=5.5,SNR=5.7
HFS PKKPbc PKKPbc 08 36 38.6 +0.8
comp=Z,1.1nm,0.5s,baz=110,slow=6.8,SNR=4.2
NB2 NORSAR Subarra118.97 341 PKPd PKPdf 08 26 20.0 -2.8
comp=Z,2.7nm,0.7s,baz=41,slow=1.8
NOA NORSAR Array B 118.97 341 PKP PKPdf 08 26 20.2 -2.6
comp=Z,2.2nm,0.7s,baz=45,slow=1.9,SNR=17
NOA pPKP pPKPdf 08 26 37.8 -3.0
comp=Z,1.9nm,0.8s,baz=343,slow=1.8,SNR=6.1
NOA PKKPab PKKPab 08 36 37.8 -1.9
comp=Z,0.8nm,0.8s,baz=214,slow=4.8,SNR=5.2
NOA NORSAR Array B 118.97 341 PKIKP PKPdf 08 26 20.2 -2.6
NOA 08 26 37.8
TZTN Tazewell 118.97 52 *e*PKPdf PKPdf 08 26 22.1 -0.6
TZTN *ep*PKPdf pPKPdf 08 26 38.4 -2.5
SADO Sadowa 119.54 41 PKP PKPdf 08 26 21.9 -1.9
comp=Z,6.5nm,0.6s,baz=342,slow=3.1,SNR=6.9
SADO pPKP pPKPdf 08 26 38.7 -3.2
comp=Z,7.0nm,0.8s,baz=129,slow=1.2,SNR=3.0
SADO PKKPbc PKKPbc 08 36 34.7 -0.2
comp=Z,3.9nm,0.9s,baz=159,slow=6.2,SNR=3.0
SADO Sadowa 119.54 41 PKP PKPdf 08 26 21.9 -1.9
SADO pPKP pPKPdf 08 26 38.7 -3.2
SADO PKKPbc PKKPbc 08 36 34.7 -0.2
ERPA Erie 119.93 45 *e*PKPdf PKPdf 08 26 24.0 -0.6
BOSA Boshof 120.32 232 PKP PKPdf 08 26 24.7 -0.6
comp=Z,7.5nm,0.6s,baz=148,slow=1.4,SNR=33
BOSA pPKP pPKPdf 08 26 40.8 -2.6
comp=Z,4.3nm,0.5s,baz=168,slow=1.1,SNR=4.1
BOSA PKKPbc PKKPbc 08 36 31.8 -0.3
comp=Z,2.5nm,0.9s,baz=346,slow=8.3,SNR=3.5
BOSA Boshof 120.32 232 *e*PKPdf PKPdf 08 26 25.3 0.0
BOSA *ep*PKPdf pPKPdf 08 26 43.2 -0.2
FWV Forest Hill 120.79 50 *e*PKPdf PKPdf 08 26 25.1 -1.1
FWV *ep*PKPdf pPKPdf 08 26 41.9 -2.5
MCWV Mont Chateau 120.87 47 *e*PKPdf PKPdf 08 26 25.1 -1.3
MCWV *ep*PKPdf pPKPdf 08 26 42.3 -2.2
ELN Prospectdale 120.94 50 *e*PKPdf PKPdf 08 26 24.6 -1.9
ELN *ep*PKPdf pPKPdf 08 26 42.2 -2.4
BLA Blacksburg 121.20 50 *e*PKIKP PKPdf 08 26 25.4 -1.7
BLA *e* 08 26 43.0
SCHQ Schefferville 121.23 27 PKP PKPdf 08 26 25.3 -1.8
comp=Z,1.5nm,0.4s,baz=254,slow=1.8,SNR=7.6
SCHQ pPKP pPKPdf 08 26 42.4 -2.8
comp=Z,1.4nm,0.5s,baz=238,slow=5.9,SNR=2.5
LBTB Lobatse 121.63 236 *e*PKIKP PKPdf 08 26 27.8 -0.1
LBTB *e* 08 26 44.4
SSPA Standing Stone 121.94 46 *e*PKPdf PKPdf 08 26 27.1 -1.4
SSPA *ep*PKPdf pPKPdf 08 26 44.5 -2.0
OJC Ojcow 122.33 327 *e*PKP pPKPdf 08 26 45.5 -1.8
NIE Niedzica 122.50 326 *e*PKP pPKPdf 08 26 46.5 -1.1
DWPF Disney 122.61 61 *e*PKPdf PKPdf 08 26 26.8 -2.9
LSZ Lusaka 122.94 247 PKP PKPdf 08 26 29.9 -0.5
comp=Z,4.5nm,0.5s,baz=137,slow=3.6,SNR=11
LSZ pPKP pPKPdf 08 26 46.2 -2.2
comp=Z,20nm,1.0s,baz=128,slow=1.3,SNR=12
LSZ Lusaka 122.94 247 *e*PKPdf PKPdf 08 26 31.1 +0.7
LSZ *ep*PKPdf pPKPdf 08 26 47.1 -1.4
FRNY Flat Rock 123.09 39 *e*PKPdf PKPdf 08 26 29.2 -1.4
FRNY *ep*PKPdf pPKPdf 08 26 46.1 -2.6
SDMD Soldier's Deli 123.13 47 *ep*PKPdf pPKPdf 08 26 34.3 +3.5
CBN Corbin 123.17 48 *e*PKPdf PKPdf 08 26 30.1 -0.8
CBN *ep*PKPdf pPKPdf 08 26 48.3 -0.5
MVL Millersville 123.26 46 *e*PKPdf PKPdf 08 26 29.9 -1.1
MVL *ep*PKPdf pPKPdf 08 26 47.2 -1.9
OKC Ostrava-Krasne 123.43 328 AMS AMS 09 19 20.0
comp=Z,300nm,20.4s
MIV Mineville/With 123.47 40 *e*PKPdf PKPdf 08 26 29.7 -1.7
PSZ Piszkesteto 123.54 325⇑ *es*PKP/D pPKPdf 08 26 48.2 -1.4
VYHS Vyhne 123.82 326 *e*PKP PKPdf 08 26 29.9 -2.2
VYHS *e* 08 26 46.6
VYHS *e* 08 36 34.1
VYHS Vyhne 123.82 326 *e*PKP PKPdf 08 26 29.9 -2.2
VYHS *e* 08 26 46.6
DPC Dobruska-Polom 124.08 329 *e*PKPdf PKPdf 08 26 31.3 -1.3
DPC *ep*PKP pPKPdf 08 26 48.8 -1.8
DPC AMS AMS 09 19 20.0
comp=Z,800nm,21.9s
UPC Upice 124.14 329 *e*PKPdf PKPdf 08 26 30.0 -2.7
UPC *ep*PKP pPKPdf 08 26 48.7 -2.0
LBNH Lisbon 124.42 39 *e*PKIKP PKPdf 08 26 32.7 -0.5
HNH Hanover 124.44 40 *e*PKPdf PKPdf 08 26 32.6 -0.7
PAL Palisades 124.57 44 *e*PKIKP PKPdf 08 26 32.7 -0.8
PVCC Panska Ves 124.84 330 *e*PKPdf PKPdf 08 26 33.4 -0.6
PVCC *ep*PKP pPKPdf 08 26 50.5 -1.6
BRG Berggiesshubel 124.93 331 *e*P PKPdf 08 26 33.2 -1.0
comp=Z,2.3nm,0.6s
BRG *e* 08 26 33.1
comp=Z,2.3nm,0.6s
BRG Berggiesshubel 124.93 331 *e*P PKPdf 08 26 33.1 -1.1
CLL Collm 125.10 332 *i* PKPdf PKPdf 08 26 33.2 -1.3
comp=Z,5.0nm,0.7s
CLL *i* pPKPdf pPKPdf 08 26 50.3 -2.3
comp=Z,13nm,1.2s
CLL *es*PKPdf 08 26 58.0
CLL *i* x x 08 27 05.6
CLL Collm 125.10 332 *i* PKP PKPdf 08 26 33.2 -1.3
CLL *i* pPKP pPKPdf 08 26 50.3 -2.3
CLL LR LR
comp=Z,600nm,23.2s
TREC Trest 125.15 329 *e*PKPdf PKPdf 08 26 33.4 -1.2
TREC AMS AMS 09 23 40.0
comp=Z,700nm,21.7s
PKSM Moragy 125.18 324⇑ *e*PKIKP PKPdf 08 26 33.1 -1.6
DIVS Divcibare 125.46 321 *i* PKP PKPdf 08 26 34.4 -0.8
CLZ Clausthal 125.94 334 *e*PKIKP PKPdf 08 26 35.3 -0.8
BBLS Bajina Basta - 125.94 321 *i* PKP PKPdf 08 26 35.8 -0.3
MOX Moxa 126.19 332 *e*(PKP) pPKPdf 08 26 51.8 -2.9
MOX
comp=Z,200nm,21.0s
KHC Kasperske Hory 126.23 329 *e*PKPdf PKPdf 08 26 35.5 -1.2
KHC *ep*PKP pPKPdf 08 26 51.5 -3.2
KHC AMS AMS 09 21 40.0
comp=Z,600nm,24.0s
KHC Kasperske Hory 126.23 329⇑ *i*PKIKP PKPdf 08 26 36.3 -0.4
GEC2 GERESS Array S 126.35 329 *e*PKIKP PKPdf 08 26 35.7 -1.2
GERES GERESS Array B 126.35 329 PKP PKPdf 08 26 36.1 -0.8
comp=Z,4.0nm,0.7s,baz=52,slow=2.2,SNR=19
GERES pPKP pPKPdf 08 26 53.0 -2.0
comp=Z,4.5nm,0.8s,baz=90,slow=1.3,SNR=6.0
GERES PKKPbc 08 36 12.5
comp=Z,0.4nm,0.2s,baz=236,slow=6.3,SNR=4.8
GERES GERESS Array B 126.35 329 PKIKP PKPdf 08 26 36.1 -0.8
GERES 08 26 53.0
OTAV Otavalo 126.52 94 *e*PKPdf PKPdf 08 26 41.7 +4.4
GRA1 Grafenberg Arr 127.02 331 *e*PKP PKPdf 08 26 37.3 -0.9
GRF Grafenberg Arr 127.02 331 *e*PKIKP PKPdf 08 26 37.3 -0.9
CCCC Cccc 127.07 68 *e*P PKPdf 08 26 39.2 +0.9
BOJS Bojanci 127.54 325 *e*PKPdf PKPdf 08 26 38.9 -0.3
BOJS *e* 08 26 56.1

VISS Visnje 127.59 325 *e*PKPdf PKPdf 08 26 38.9 -0.4
EKA Eskdalemuir Ar 128.00 344 PKP PKPdf 08 26 38.1 -2.0
comp=Z,2.5nm,0.9s,baz=27,slow=3.9,SNR=4.7
ROBS Robic 128.07 327 *i* PKPdf PKPdf 08 26 38.8 -1.4
LVC Limon Verde 128.49 125 *e*PKPdf PKPdf 08 26 41.6 +0.6
LVC *e*PP PP 08 28 43.7 -2.9
HLGC Holguin 128.69 68 *e*P PKPdf 08 26 40.8 -0.6
DAVOX Davos 129.65 329 PKP PKPdf 08 26 42.5 -0.7
comp=Z,2.9nm,0.4s,baz=339,slow=7.6,SNR=4.2
DAVOX Davos 129.65 329 PKP PKPdf 08 26 42.5 -0.7
CDF Champ du Feu 129.78 332 *e*PKP1 PKPdf 08 26 42.4 -1.1
HINF Hinteralfeld 130.40 332 *e*PKP1 PKPdf 08 26 43.3 -1.3
TSUM Tsumeb 130.85 238 *e*PKPdf PKPdf 08 26 46.0 +0.5
TSUM *ep*PKPdf pPKPdf 08 27 02.2 -1.4
ROSC El Rosal 131.09 89 PKP PKPdf 08 26 45.9 0.0
comp=Z,29nm,0.5s,baz=116,slow=13,SNR=11
ROSC pPKP pPKPdf 08 27 02.2 -1.8
comp=Z,20nm,0.6s,baz=86,slow=18,SNR=3.1
CABF La Chapelle 131.63 331 *e*PKP1 PKPdf 08 26 46.3 -0.7
LPAZ La Paz 131.96 118 PKhKP 08 26 35.2
comp=Z,1.0nm,0.4s,baz=348,slow=1.9,SNR=8.7
LPAZ PKP PKPdf 08 26 47.7 +0.1
comp=Z,2.1nm,0.6s,baz=18,slow=4.0,SNR=10
LPAZ pPKP pPKPdf 08 27 04.9 -0.8
comp=Z,6.0nm,0.8s,baz=336,slow=4.3,SNR=9.0
LPAZ La Paz 131.96 118 PKIKP PKPdf 08 26 47.7 +0.1
LPAZ 08 27 04.9
LPL La Plagne 132.10 330 *e*PKP1 PKPdf 08 26 47.3 -0.6
LPG La Plagne 132.11 330 *e*PKP1 PKPdf 08 26 47.2 -0.7
comp=Z,6.7nm,0.6s
LOR Lormes 132.17 333 *e*PKP1 PKPdf 08 26 47.1 -0.9
comp=Z,12nm,0.8s
BNI Bardonecchia 132.46 330 *e*PKIKP PKPdf 08 26 47.1 -1.4
SSF Saint Saulge 132.49 334 *e*PKP1 PKPdf 08 26 47.7 -0.9
comp=Z,12nm,0.8s
MBDF Montbardon 132.64 329 *e*PKP1 PKPdf 08 26 47.8 -1.1
comp=Z,6.9nm,0.8s
SMF Signal de Mont 132.65 333 *e*PKP1 PKPdf 08 26 47.7 -1.2
AVF Avril sur Loir 132.76 333 *e*PKP1 PKPdf 08 26 48.0 -1.1
SBF Sospel 132.89 328 *e*PKP1 PKPdf 08 26 47.9 -1.4
PGF Pioggiola 132.91 325 *e*PKP1 PKPdf 08 26 48.5 -0.9
comp=Z,17nm,0.8s
ORIF Oris-en-Rattie 132.95 330 *e*PKP1 PKPdf 08 26 48.4 -1.1
comp=Z,16nm,0.8s
VIVF Saint-Julien-l 133.59 331 *e*PKP1 PKPdf 08 26 49.9 -0.8
TCF Toulx Ste Croi 133.65 334 *e*PKP1 PKPdf 08 26 50.0 -0.8
comp=Z,7.5nm,0.7s
LMR La Mourre 133.74 328 *e*PKP1 PKPdf 08 26 49.9 -1.0
comp=Z,6.8nm,0.7s
SMRF Simiane la Rot 133.78 329 *e*PKP1 PKPdf 08 26 50.5 -0.5
comp=Z,9.9nm,0.8s
MFF Saint Martin d 134.40 336 *e*PKP1 PKPdf 08 26 51.4 -0.8
LASF Ste Croix 134.56 331 *e*PKP1 PKPdf 08 26 51.6 -0.9
comp=Z,16nm,0.9s
SDV Santo Domingo 134.90 84 *e*PKPdf PKPdf 08 26 53.0 -0.1
SDV *ep*PKPdf pPKPdf 08 27 11.2 0.0
SDV *es*PKPdf 08 27 17.9
EBIE Bielsa 137.38 332 PKP PKPdf 08 27 01.9 +4.1
SJG San Juan 138.38 70 *e*PKIKP PKPdf 08 26 59.3 -0.3
SJG *e* 08 27 16.6
CPD Cerro la Pandu 138.61 70 *e*PKIKP PKPdf 08 27 00.1 +0.1
CPD *e* 08 27 17.4
ERTA Horta de San J 138.62 330 PKP PKPdf 08 27 04.0 +4.0
MTP Monte Pirata 138.94 70 *e*PKPdf PKPdf 08 27 01.1 +0.5
MTP *ep*PKPdf pPKPdf 08 27 17.9 -0.7
EMOS Mosqueruela 139.47 331 PKP PKPdf 08 27 05.2 +3.6
ETOR Torete 139.86 332 PKIKP PKPdf 08 27 03.0 +0.7
GUD Guadarrama 140.94 334 PKIKP PKPdf 08 27 01.0 -3.2
ETOB Tobarra 141.32 330 PKP PKPdf 08 27 07.2 +2.3
ESDC Sonseca Array 141.65 333 PKP PKPdf 08 27 03.3 -2.2
EVIA Vianos 141.79 331 PKIKP PKPdf 08 27 05.6 -0.2
EQES Quesada 142.73 330 PKP PKPdf 08 27 06.3 -1.2
EADA Adamuz 143.15 332 PKP PKPdf 08 27 03.8 -4.4
EBER Berja 143.34 329 PKP PKPdf 08 27 09.5 +1.0
ECOG Cogollos-Vega 143.38 330 PKIKP PKPdf 08 27 06.4 -2.2
ERON Agron 143.71 330 PKP PKPdf 08 27 06.0 -3.1
ELOJ Sierra Loja 143.77 331 PKIKP PKPdf 08 27 06.8 -2.5
EALB Alboran 144.16 328 PKP PKPdf 08 27 09.8 -0.2
EVO Evora 144.32 337 *e*PKIKP PKPdf 08 27 08.3 -1.9
comp=Z,15nm,0.8s
EMIJ Mijas 144.54 331 PKP PKPdf 08 27 07.4 -3.2
EJIF Jimena Fronter 144.96 332 PKHKP 08 27 07.2
CAM4 Nova Friburgo 146.84 150⇑ *iP* PKPdf 08 27 15.9 +1.4
CAM4 *i* 08 27 18.0
CAM4 *i* 08 27 23.3
CAM4 *i* 08 27 32.6
CAM4 *i* 08 27 38.7
MDT Midelt 147.38 327 PKPbc PKPbc 08 27 17.1 -0.8
comp=Z,6.4nm,0.7s,baz=78,slow=2.7,SNR=20
MDT pPKPbc pPKPbc 08 27 33.3 -2.5
comp=Z,22nm,1.0s,baz=64,slow=4.2,SNR=9.9
BDFB Brasilia 148.61 134 PKP PKPdf 08 27 17.7 +0.3
comp=Z,9.5nm,0.7s,baz=272,slow=2.5,SNR=9.9
BDFB PKPbc PKPbc 08 27 20.5 -0.7
comp=Z,15nm,0.7s,baz=240,slow=3.5,SNR=12
BDFB pPKPbc pPKPbc 08 27 37.3 -1.9
comp=Z,124nm,1.1s,baz=225,slow=4.2,SNR=9.3
BDFB Brasilia 148.61 134 *e*PKPdf PKPdf 08 27 17.8 +0.3
BDFB *e*PKPbc PKPbc 08 27 24.2 +3.0
BAO Brasilia Array 148.63 134 PKPdf PKPdf 08 27 18.5 +1.0
TORD Torodi Ar. Bea 152.65 286 PKP PKPdf 08 27 22.1 -1.7
comp=Z,3.7nm,0.8s,baz=35,slow=2.0,SNR=15
TORD PKPbc PKPbc 08 27 30.1 -0.7
comp=Z,10nm,0.7s,baz=30,slow=2.7,SNR=61
TORD pPKPbc pPKPbc 08 27 47.4 -1.4
comp=Z,52nm,0.8s,baz=59,slow=2.7,SNR=23
DBIC Dimbokro 159.79 272 PKPbc pPKPdf 08 27 50.6 -0.5
comp=Z,5.3nm,0.7s,baz=39,slow=4.5,SNR=7.4
DBIC PKPab PKPab 08 28 12.0 -0.2
comp=Z,20nm,0.8s,baz=60,slow=5.0,SNR=9.3
LIC Lamto 159.95 271 *e*PKP2 PKPab 08 28 09.5 -3.4
comp=Z,121nm,1.1s

*IDC **30** 08:16:54.9±1.5, 152N×9682E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/21, mbtmp4.0/9, ML3.1/1, Error ellipse: s-maj=42.7km s-min=20.4km az=51.0*
*NEIC **30** 08:16:59.5±0.8, 154N×9687E, h30km, mb4.3/1, Error ellipse: s-maj=20.4km s-min=12.6km az=224.0*
*ISCJB **30** 08:17:00.9±6.2, 16N±03×970E±04, h54km±45km, mb4.0/9, Error ellipse: s-maj=71.7km s-min=20.6km az=112.3*
ISC 30 08:17:01.0±6.3, 16N±03×969E±04, h37km±47km, n13, σ0945/13, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.32**	**59**	Pn	**Pn**	**08 17 36.5**	**-0.1**
	4.5nm,0.3s,baz=62,slow=18,SNR=10						
WRA	**Warramunga Arr**	**42.49**	**122**	P	**P**	**08 24 52.6**	**+0.1**
	0.6nm,0.5s,mb3.5,baz=301,slow=9.3,SNR=3.6						
ASAR	**Alice Springs**	**43.86**	**127**	P	**P**	**08 25 03.8**	**+0.2**
	0.6nm,0.7s,mb3.4,baz=297,slow=7.9,SNR=5.3						
SONM	**Songino Array**	**46.76**	**9**	P	**P**	**08 25 26.6**	**+0.1**
	3.0nm,0.8s,mb4.3,baz=184,slow=8.4,SNR=8.5						
MKAR	**Makanchi Array**	**46.77**	**346**	P	**P**	**08 25 27.2**	**+0.5**
	3.9nm,0.7s,mb4.5,baz=166,slow=8.7,SNR=10						
MKAR	**Makanchi Array**	**46.77**	**346**	P	**P**	**08 25 27.2**	**+0.5**
MJAR	**Matsushiro Arr**	**51.57**	**43**	P	**P**	**08 26 03.2**	**-0.1**
	0.8nm,0.4s,mb4.0,baz=232,slow=7.5,SNR=4.5						
ZAL	**Zalesovo**	**53.10**	**351**	P	**P**	**08 26 15.3**	**+0.6**
	3.4nm,0.6s,mb4.5,baz=299,slow=5.4,SNR=8.4						
ZAL	**Zalesovo**	**53.10**	**351**	P	**P**	**08 26 15.3**	**+0.6**
STKA	**Stephens Creek**	**53.84**	**132**	*e*P	**P**	**08 26 27.5**	**+7.4**
	4.3nm,1.2s,mb4.2						
BVAR	**Borovoye Array**	**55.77**	**341**	P	**P**	**08 26 33.9**	**-0.1**
	1.2nm,0.5s,mb4.2,baz=135,slow=8.7,SNR=3.8						
ARCES	**ARCESS Array B**	**82.05**	**340**	P	**P**	**08 29 16.3**	**-1.1**
	0.7nm,0.5s,mb3.9,baz=98,slow=5.0,SNR=5.7						
ARCES	**ARCESS Array B**	**82.05**	**340**	P	**P**	**08 29 16.3**	**-1.1**

*NAO **30** 08:59:40.4±1.0, 6464N×3111E, ML2.5*
*IDC **30** 08:59:40.3±2.2, 6460N×3161E, h0km, mb1 3.0/3, mb1mx2.9/20, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=28.1km s-min=10.2km az=102.0*
*CSEM **30** 08:59:40.6±0.3, 6476N×3090E, h1km, ML2.5, Error ellipse: s-maj=8.4km s-min=3.9km az=84.0, Mining explosion.*
*BER **30** 08:59:44.5±3.3, 6474N×3047E, h0km, ML2.3, ML2.5(NAO), Suspected explosion*
HEL 30 08:59:41.8±0.3, 6476N×3101E, h0km, ML2.5, ML2.3(BER)**, ML2.5**(NAO)**, Explosion, Baltic States -**

Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.42**	**325**	*e*P	Pn	09 00 07.0	-1.9
MSF				*e*S	Sg	09 00 24.7	-2.8
MSF	**Maaselka**	**1.42**	**325**	P	Pn	09 00 07.0	-1.9
MSF				S	Sg	09 00 24.6	-2.9
KJN	**Kajaani**	**1.58**	**246**	*e*PN	Pn	09 00 11.4	+0.3
KJN				*e*S	Sn	09 00 29.9	-2.3
KU4	**Liikasenvaara**	**1.72**	**340**	*e*P	Pn	09 00 13.0	+0.1
KU4				*e*S	Sn	09 00 35.5	-0.1
JOF	**Joensuu**	**1.85**	**176**	*e*P	Pn	09 00 13.7	-1.1
JOF				*e*S	Sn	09 00 39.5	+0.6
JOF	**Joensuu**	**1.85**	**176**	P	Pn	09 00 13.7	-1.1
JOF				S	Sn	09 00 39.4	+0.5
OUL	**Oulu**	**2.20**	**281**	*e*P	Pn	09 00 18.5	-1.1
OUL				*e*SB	Sb	09 00 48.5	-1.8
OUL	**Oulu**	**2.20**	**281**	P	Pn	09 00 18.4	-1.2
APA0	**Apatity Array**	**2.97**	**15**	Pn	Pn	09 00 31.3	+1.1
	baz=195,slow=14						
APA0				Sn	Sn	09 01 08.6	+2.1
	baz=200,slow=28						
APA0	**Apatity Array**	**2.97**	**15**	*e*P	Pn	09 00 31.3	+1.1
APA0				*e*SB	Sb	09 01 08.6	-3.8
SUF	**Sumiainen**	**2.98**	**229**	*e*P	Pn	09 00 30.7	+0.5
SUF				*e*S	Sn	09 01 06.8	+0.2
SUF	**Sumiainen**	**2.98**	**229**	P	Pn	09 00 30.7	+0.5
SUF				S	Sn	09 01 06.7	+0.1
SGF	**Sodankyl**	**3.25**	**328**	*e*PG	Pg	09 00 39.9	-4.3
SGF				*e*SG	Sg	09 01 23.1	-3.3
KAF	**Kangasniemi**	**3.39**	**221**	*e*P	Pn	09 00 35.3	-0.7
KAF	**Kangasniemi**	**3.39**	**221**	P	Pn	09 00 35.2	-0.8
KEF	**Keuruu**	**3.79**	**229**	*e*P	Pn	09 00 40.5	-0.9
KEF				*e*SB	Sb	09 01 35.1	-0.8
KEF	**Keuruu**	**3.79**	**229**	P	Pn	09 00 40.4	-1.0
FIA0	**FINESS Array S**	**4.01**	**216**	Pn	Pn	09 00 42.2	-2.2
	baz=31,slow=12						
FIA0				Lg		09 01 43.7	
	baz=22,slow=37						
FIA0	**FINESS Array S**	**4.01**	**216**	*e*SB	Sb	09 01 41.8	-0.6
FIA0	**FINESS Array S**	**4.01**	**216**	Pn	Pn	09 00 42.2	-2.3
	SNR=50						
FINES	**FINESS Array B**	**4.01**	**216**	Pn	Pn	09 00 42.2	-2.3
	0.1nm,0.3s,baz=33,slow=14,SNR=3.7						
FINES				Pg	Pg	09 00 51.4	-7.3
	0.7nm,0.3s,baz=34,slow=16,SNR=15						
FINES				Lg		09 01 41.5	
	1.0nm,0.3s,baz=41,slow=25,SNR=5.6						
VAF	**Ylistaro**	**4.07**	**249**	*e*PG	Pg	09 00 55.1	-4.6
VAF				*e*SG	Sg	09 01 47.0	-5.4
VAF				MSG		09 01 48.5	
	comp=Z,11nm,0.3s						
PVF	**Pernaja**	**4.85**	**212**	*e*SG	Sg	09 02 08.9	-8.6
PVF				MSG		09 02 12.1	
	comp=Z,8.7nm,0.3s						
KTK1	**Kautokeino**	**5.25**	**328**	*e*P	Pn	09 01 01.9	+0.3
KTK1				AML	AML	09 02 38.6	
	comp=Z,8.3nm,0.4s						
ARA0	**ARCESS Array S**	**5.25**	**338**	Pn	Pn	09 01 00.8	-0.8
	baz=153,slow=14						
ARA0				Sn	Sn	09 02 00.3	-2.6
	baz=154,slow=28						
ARA0				Lg		09 02 22.1	
	baz=148,slow=28						
ARA0	**ARCESS Array S**	**5.25**	**338**	*e*P	Pn	09 01 00.8	-0.8
ARA0				*e*S	Sn	09 02 00.3	-2.6
ARA0				*e*SG		09 02 22.1	
ARCES	**ARCESS Array B**	**5.25**	**338**	Pn	Pn	09 01 00.8	-0.7
	comp=Z,0.6nm,0.3s,baz=152,slow=14,SNR=21						
ARCES				Sn	Sn	09 02 03.1	+0.3
	comp=Z,0.7nm,0.3s,baz=158,slow=26,SNR=6.5						
ARCES				Lg		09 02 21.7	
	comp=Z,0.9nm,0.3s,baz=137,slow=34,SNR=5.1						
KEV	**Kevo**	**5.25**	**345**	*e*P	Pn	09 01 01.3	-0.2
KEV				*e*S	Sn	09 02 02.2	-0.6
KEV				MSG		09 02 28.4	
	comp=Z,4.0nm,0.3s						
HFS	**Hagfors**	**9.25**	**248**	Lg		09 04 23.4	
	baz=69,slow=28						
HFS	**Hagfors**	**9.25**	**248**	Lg		09 04 23.4	
	baz=69,slow=28						
NB2	**NORSAR Subarra**	**9.75**	**257**	Pn	Pn	09 02 01.7	-1.6
	baz=67,slow=14						
NB2	**NORSAR Subarra**	**9.75**	**257**	*e*P	Pn	09 02 01.7	-1.6
NOA	**NORSAR Array B**	**9.75**	**257**	Pn	Pn	09 01 59.4	-3.9
	comp=Z,0.2nm,0.3s,baz=65,slow=13,SNR=3.1						
NOA				Sn	Sn	09 03 47.9	-5.6
	comp=Z,0.2nm,0.3s,baz=56,slow=23,SNR=3.3						
NOA				Lg		09 04 39.3	
	comp=Z,0.3nm,0.3s,baz=33,slow=10,SNR=6.8						

*ISCJB **30** 09:15:59.3±0.5, 2794N×10371E±005, h10km, mb4.0/7, MS4.7/1, Error ellipse: s-maj=6.3km s-min=4.7km az=132.4*
*IDC **30** 09:15:59.1±1.0, 2789N×10356E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/21, mbtmp4.0/7, MS4.0/2, Ms1 4.0/2, ms1mx3.1/33, Error ellipse: s-maj=43.3km s-min=17.7km az=56.0*
*NEIC **30** 09:16:00.5±0.7, 2784N×10351E, h10km, mb3.9/3, Error ellipse: s-maj=17.3km s-min=12.1km az=54.0*
*BJI **30** 09:16:02.0, 2799N×10383E, h18km, mB4.5, mb4.3, ML4.1, Ms4.1, Msz3.5*
ISC 30 09:16:00.9±1.0, 2800N±003×10369E±005, h4km±7km, n21, σ1934/33, mb4.0/7, MS4.7/1, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.90**	**1⇑**	*iP*	**Pn**	**09 16 50.0**	**+2.1**
CD2				PG	**Pg**	**09 16 55.5**	**-1.0**
CD2				S	**Sn**	**09 17 28.3**	**+5.0**
CD2				SG	**Sg**	**09 17 32.8**	**-1.4**
CD2				Smax			
	comp=N,950nm,1.0s						
CD2				Smax			
	comp=E,740nm,1.0s						
CD2				LR	LR		
	comp=N,640nm,3.8s						
CD2				LR	LR		
	comp=Z,1μm,4.1s						
KMI	**Kunming**	**2.98**	**197**	PG	**Pg**	**09 16 53.8**	**-4.3**
KMI				SG	**Sg**	**09 17 38.0**	**+1.2**
KMI				Smax			
	comp=N,90nm,1.1s						
KMI				Smax			
	comp=E,110nm,1.0s						
KMI				LR	LR		
	comp=N,830nm,4.8s						
KMI				LR	LR		
	comp=E,800nm,5.9s						
KMI				LR	LR		
	comp=Z,730nm,8.8s						
GYA	**Guiyang**	**3.06**	**119**	P	**Pn**	**09 16 51.8**	**+1.8**
GYA				S	**Sn**	**09 17 25.5**	**-1.6**
GYA				SG	**Sg**	**09 17 39.0**	**-0.2**
GYA				Smax			
	comp=N,950nm,0.

LZH				AMB	AMB			
	comp=Z,10.0nm,1.0s							
LZH				AMB	AMB			
	comp=Z,80nm,4.0s							
LZH				Smax				
	comp=N,40nm,0.8s							
LZH				Smax				
	comp=E,50nm,0.8s							
LZH				LR	LR			
	comp=N,400nm,9.2s							
LZH				LR	LR			
	comp=Z,410nm,10.3s							
WHN	**Wuhan**	**9.65**	**72**	P	**Pn**	**09 18 22.8**	**+2.3**	
WHN				S	**Sn**	**09 20 02.5**	**-6.9**	
WHN				Smax				
	comp=N,50nm,1.0s							
WHN				Smax				
	comp=E,90nm,0.8s							
GZH	**Guangzhou**	**9.99**	**117**	P	**Pn**	**09 18 22.5**	**-2.7**	
GZH				S	**Sn**	**09 20 12.3**	**-5.5**	
GZH				Smax				
	comp=N,50nm,1.2s							
GZH				Smax				
	comp=E,50nm,1.0s							
GTA	**Gaotai**	**11.83**	**345**	*e*P	**Pn**	**09 18 53.3**	**+2.9**	
GTA				AP		09 18 57.5		
GTA				XP		09 19 00.5		
NJ2	**Nanjing**	**13.74**	**69**	*e*P	**Pn**	**09 19 16.5**	**-0.1**	
NJ2				AP		09 19 20.8		
NJ2				XP		09 19 23.0		
NJ2				PP		09 19 27.0		
NJ2				S	**Sn**	**09 21 51.0**	**+1.3**	
NJ2				XS		09 21 57.0		
NJ2				LR	LR			
	comp=N,610nm,13.8s							
NJ2				LR	LR			
	comp=E,520nm,16.4s							
NJ2				LR	LR			
	comp=Z,150nm,9.5s							
BJT	**Baijiatuau**	**15.82**	**38**	*e*Pn	**Pn**	**09 19 46.3**	**+1.8**	
	comp=Z,5.1nm,0.5s							
SONM	**Songino Array**	**19.92**	**5**	P	**Pn**	**09 20 34.5**	**-0.7**	
	comp=Z,2.7nm,0.7s,baz=190,slow=14,SNR=14							
SONM				LR	LR	09 29 11.3		
	comp=Z,125nm,19.5s,baz=248,slow=40							
ULN	**Ulaanbaatar**	**20.01**	**7**	*e*P	**P**	**09 20 35.1**	**+0.6**	
	comp=Z,4.2nm,0.7s							
JOW	**Kunigami**	**21.85**	**87**	P	**P**	**09 20 54.4**	**-0.1**	
	comp=Z,5.7nm,0.5s,mb4.3,baz=24,slow=3.1,SNR=7.4							
MKAR	**Makanchi Array**	**25.18**	**324**	P	**P**	**09 21 27.2**	**-0.2**	
	comp=Z,2.3nm,0.7s,mb3.8,baz=128,slow=10,SNR=12							
MKAR	**Makanchi Array**	**25.18**	**324**	P	**P**	**09 21 27.2**	**-0.2**	
ZAL	**Zalesovo**	**29.39**	**337**	P	**P**	**09 22 04.5**	**-0.7**	
	comp=Z,1.6nm,0.3s,mb4.2,baz=146,slow=4.5,SNR=3.3							
KURK	**Kurchatov**	**29.58**	**327**	*e*P	**P**	**09 22 07.2**	**+0.3**	
	comp=Z,1.1nm,0.7s,mb3.7							
WRA	**Warramunga Arr**	**56.12**	**145**	P	**P**	**09 25 40.5**	**-1.0**	
	comp=Z,1.5nm,0.7s,mb4.1,baz=329,slow=8.9,SNR=15							
ASAR	**Alice Springs**	**59.05**	**147**	P	**P**	**09 26 01.2**	**-0.9**	
	comp=Z,0.8nm,0.6s,mb4.0,baz=334,slow=6.8,SNR=10							
NOA	**NORSAR Array B**	**67.09**	**328**	P	**P**	**09 26 53.2**	**-2.3**	
	comp=Z,0.3nm,0.5s,mb3.5,baz=63,slow=5.1,SNR=3.4							
SUR	**Sutherland**	**98.98**	**238**	LR	LR	10 11 08.0		
	comp=Z,275nm,20.6s,MS4.7,baz=163,slow=34							

*IDC **30** 09:41:59.3±4.7,237S×13822E,h30km±34km,mb4.1/4, mb1 4.4/8,mb1mx4.2/14,mbtmp4.4/8,ML4.1/4,MS3.7/4, Ms1 3.7/4,ms1mx3.0/24,Error ellipse: s-maj=35.3km s-min=16.7km az=88.0*

*ISCJB **30** 09:42:00.2±2.0,254S±005×13816E±0.10,h43km±19km, mb4.6/11,MS3.9/1,Error ellipse: s-maj=16.7km s-min=8.1km az=5.6*

*NEIC **30** 09:42:00.2±0.8,237S×13823E,h35km,mb4.5/9,Error ellipse: s-maj=16.5km s-min=12.1km az=73.0*

ISC 30 09:42:01.2±2.7,254S±005×13823E±009,h33km±20km, n33,σ1§31/43,mb4.6/11,MS3.9/1,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**11.20**	**128**	Pn	**Pn**	**09 44 37.6**	**-1.4**
	1.8nm,0.3s,baz=267,slow=17,SNR=5.6						
KAKA	**Kakadu**	**11.62**	**209**	*e*P	**Pn**	**09 44 45.9**	**+1.2**
	48nm,0.8s						
KAKA				*e*S	**Sn**	**09 46 52.1**	**-1.2**
GUMO	**Guam**	**17.32**	**22**	LR	LR	09 51 40.0	
	comp=Z,132nm,18.2s,baz=208,slow=34						
WRAB	**Tennant Creek**	**17.70**	**192**	P	**Pn**	**09 46 07.2**	**+2.1**
	34nm,0.6s						
WRAB				*e*Sn	**Sn**	**09 49 17.6**	**-3.8**
WB2	**Warramunga Arr**	**17.71**	**192**	*e*P	**Pn**	**09 46 04.8**	**-0.5**
WB2				*e*S	**Sn**	**09 49 15.3**	**-6.2**
WRA	**Warramunga Arr**	**17.71**	**192**	P	**Pn**	**09 46 04.1**	**-1.1**
	0.8nm,0.3s,baz=14,slow=12,SNR=57						
WRA				S	**Sn**	**09 49 18.7**	**-2.9**
	0.8nm,0.3s,baz=7.9,slow=21,SNR=5.7						
WRA				LR	LR	09 54 02.6	
	comp=Z,223nm,20.0s,baz=15,slow=40						
CTA	**Charters Tower**	**19.12**	**156**	*e*P	**Pn**	**09 46 25.0**	**+2.5**
	10nm,0.7s						
CTA	**Charters Tower**	**19.12**	**156**	P	**Pn**	**09 46 23.1**	**+0.6**
	0.9nm,0.3s,baz=334,slow=12,SNR=17						
CTAO	**Charters Tower**	**19.12**	**156**	*e*P	**Pn**	**09 46 22.1**	**-0.4**
	32nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.79**	**218**	*e*P	**Pn**	**09 46 33.6**	**+3.2**
	30nm,1.6s						
FITZ				*e*S	**Sn**	**09 50 03.6**	**-8.2**
FITZ	**Fitzroy Crossi**	**19.79**	**218**	P	**Pn**	**09 46 30.0**	**-0.4**
	0.4nm,0.3s,baz=53,slow=11,SNR=8.0						
FITZ				S	**Sn**	**09 50 05.5**	**-6.3**
	1.8nm,0.3s,baz=194,slow=14,SNR=17						
FITZ				LR	LR	09 55 07.7	
	comp=Z,179nm,20.4s,baz=238,slow=40						
FITZ	**Fitzroy Crossi**	**19.79**	**218**	P	**Pn**	**09 46 30.0**	**-0.4**
FITZ				*e*S	**Sn**	**09 50 03.6**	**-8.2**
FITZ				S	**Sn**	**09 50 05.5**	**-6.3**
FITZ				LR	LR	09 55 07.7	
AS31	**Alice Springs**	**21.41**	**191**	*e*P	**P**	**09 46 47.0**	**+0.7**
AS31				*e*S	**S**	**09 50 43.9**	**+1.8**
ASAR	**Alice Springs**	**21.42**	**191**	P	**P**	**09 46 46.9**	**+0.6**
	9.4nm,0.6s,mb4.3,baz=21,slow=11,SNR=141						
ASAR				S	**S**	**09 50 44.9**	**+2.8**
	20nm,0.8s,baz=12,slow=22,SNR=20						
ASAR	**Alice Springs**	**21.42**	**191**	P	**P**	**09 46 46.9**	**+0.6**
ASAR				S	**S**	**09 50 44.9**	**+2.8**
ASPA	**Alice Springs**	**21.42**	**191**	*e*P	**P**	**09 46 47.0**	**+0.6**
ASPA				*e*S	**S**	**09 50 43.9**	**+1.7**
STKA	**Stephens Creek**	**29.36**	**174**	*e*P	**P**	**09 48 00.5**	**-0.6**
	3.5nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**29.36**	**174**	P	**P**	**09 48 00.2**	**-0.9**
	7.0nm,0.7s,mb4.5,baz=335,slow=9.7,SNR=6.1						
STKA				LR	LR	10 01 01.9	
	comp=Z,249nm,18.1s,MS3.9,baz=3.2,slow=39						
ARMA	**Armidale**	**30.50**	**157**	*e*P	**P**	**09 48 12.5**	**+1.3**
CNB	**Canberra Magne**	**34.21**	**164**	*e*P	**P**	**09 48 45.4**	**+1.6**
	14nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**34.75**	**212**	*e*P	**P**	**09 48 49.3**	**+0.9**
	35nm,1.2s,mb5.2						
TOO	**Toolangi**	**35.50**	**170**	*e*P	**P**	**09 48 54.5**	**-0.3**
	5.2nm,0.9s,mb4.5						
JIRN	**Jiri**	**58.34**	**305**	*e*P	**P**	**09 51 53.7**	**+0.6**
GUN	**Gumba**	**58.69**	**305**	*e*P	**P**	**09 51 56.2**	**+0.6**
PKI	**Pulchoki**	**58.95**	**304**	*e*P	**P**	**09 51 58.3**	**+0.9**
KKN	**Kakani**	**59.14**	**305**	*e*P	**P**	**09 51 59.2**	**+0.5**
DMN	**Daman**	**59.22**	**304**	*e*P	**P**	**09 51 59.6**	**+0.4**
	24nm,1.0s,mb5.2						
GKN	**Gorkha**	**59.75**	**305**	*e*P	**P**	**09 52 02.9**	**0.0**
	11nm,0.6s,mb5.1						
MKAR	**Makanchi Array**	**69.36**	**323**	P	**P**	**09 53 03.0**	**-2.6**
	1.3nm,0.7s,mb4.0,baz=108,slow=7.8,SNR=7.6						
VNDA	**Vanda**	**75.99**	**175**	P	**P**	**09 53 44.1**	**-1.0**
	1.3nm,0.7s,mb3.9,baz=326,slow=5.9,SNR=7.5						
BRVK	**Borovoye**	**78.97**	**325**	*e*P	**P**	**09 53 59.7**	**-2.0**
	2.7nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**79.66**	**325**	*e*P	**P**	**09 54 03.5**	**-2.0**
	5.4nm,1.1s,mb4.4						
LPAZ	**La Paz**	**147.93**	**127**	PKPbc	PKPbc	10 01 43.5	+0.4
	3.4nm,0.8s,baz=239,slow=5.2,SNR=17						

*CASC **30** 10:05:52.6±3.4,16.11N×8987W,h20km±116km,MD4.0*
*MEX **30** 10:05:58.3±0.7,1355N×9150W,h32km±478km,MD4.3*
*ISCJB **30** 10:06:03.1±1.4,1382N±0.10×9179W±007,h33km,Error ellipse: s-maj=14.3km s-min=8.5km az=40.7*

ISC 30 10:06:04.8±1.4,138N±01×9170W±007,h35km,n12, σ1§35/12,1C-3D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.03**	**54**	⇑*e*P	**Pn**	**10 06 25.1**	**+2.3**
IXG	**Ixpaco**	**1.26**	**74**	⇓*e*P	**Pn**	**10 06 24.9**	**-1.0**
IXG				*e*S	**Sn**	**10 06 49.6**	**+8.0**
RBDL	**Robledal**	**1.98**	**82**	⇓*i*P	x	10 06 37.3	
RBDL				*e*S	x	10 07 04.1	
SNET	**Serv Nac Est T**	**2.41**	**93**	*e*P	x	10 06 32.5	
SNET				*e*S	x	10 07 03.4	
CCIG	**Comitan**	**2.47**	**350**	*i*P	**Pn**	**10 06 39.3**	**-3.3**
CCIG				*i*S	**Sn**	**10 07 11.8**	**+0.3**
LFRS	**El Faro**	**2.58**	**94**	⇓*e*P	x	10 06 43.1	
LFRS				*e*S	x	10 07 14.3	
SNVI	**San Vicente**	**2.79**	**94**	*e*P	x	10 06 45.5	
SNVI				*e*S	x	10 07 20.1	
SCX	**San Cristobal**	**3.02**	**343**	*e*P	**Pn**	**10 06 46.0**	**-4.2**
SCX				*i*S	**Sn**	**10 07 25.0**	**-0.1**
BLLM	**Bellamira**	**3.39**	**96**	*e*P	x	10 06 57.6	
BLLM				*e*S	x	10 07 32.3	
CMIG	**Matias Romero**	**4.46**	**317**	*i*P	**Pn**	**10 07 07.7**	**-2.2**
CMIG				*i*S	**Sn**	**10 08 00.1**	**-0.5**
OXX	**Oaxaca**	**5.82**	**304**	*i*P	**Pn**	**10 07 30.0**	**+1.4**
VHO	**Vista Hermosa**	**5.82**	**304**	*i*P	**Pn**	**10 07 28.2**	**-0.4**
VHO				*i*S	**Sn**	**10 08 35.4**	**+1.3**

ISC 30 10:38:57.2±1.7,4134N±010×3897E±007,h6km±11km,n6, σ1§10/11,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRSN	**GIRESUNGRSN**	**0.67**	**232**	*i*P	**Pg**	**10 39 10.0**	**-0.2**
GRSN				*i*S	**Sg**	**10 39 19.5**	**+0.6**
SVSK	**Karacayir**	**2.07**	**227**	*e*PN	**Pn**	**10 39 32.4**	**0.0**
SVSK				*e*SN	**Sn**	**10 39 57.9**	**-0.6**
KVT	**Kavak**	**2.22**	**264**	*e*PN	**Pn**	**10 39 34.8**	**+0.3**
ARTV	**Artvin**	**2.24**	**93**	*i*P	**Pn**	**10 39 33.6**	**-1.2**
ARTV				*i*S	**Sn**	**10 40 04.9**	**+2.2**
ERZM	**Erzurum**	**2.32**	**127**	*i*P	**Pn**	**10 39 36.8**	**+0.8**
ERZM				*i*S	**Sn**	**10 40 03.1**	**-1.7**
ELZG	**Elazig**	**2.84**	**180**	*i*P	**Pn**	**10 39 41.7**	**-1.4**
ELZG				*i*S	**Sn**	**10 40 19.1**	**+1.5**

*ISCJB **30** 10:48:00.3±0.5,4568N±002×2660E±003,h99km±4km, Error ellipse: s-maj=4.0km s-min=3.7km az=116.9*
*CSEM **30** 10:48:00.6±0.1,4568N×2658E,h86km±1km,MD3.8/3, Error ellipse: s-maj=2.0km s-min=1.6km az=43.0*
*BUC **30** 10:48:00.6±0.9,4567N×2658E,h96km±9km,MD4.1/3, Error ellipse: s-maj=5.8km s-min=5.4km az=15.0*
*NEIC **30** 10:48:01.4,4564N×2658E,h88km,MD3.3(SOF), MD3.7(BUC),After BUC.*
*SOF **30** 10:48:03.1,4519N×2637E,h11km,MD3.3*

ISC 30 10:48:01.1±0.5,4568N±002×2661E±003,h95km±4km,n55, σ0§92/92,19C-14D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.17**	**10**	⇑*i*P	**Pn**	**10 48 14.5**	**-0.1**
PLOR				*i*S	**Sn**	**10 48 24.6**	**-0.1**
VRI	**Vrincioaia**	**0.21**	**24**	⇑*i*P	**Pn**	**10 48 14.8**	**+0.1**
VRI				*i*S	**Sn**	**10 48 24.8**	**-0.1**
VRI	**Vrincioaia**	**0.21**	**24**	P	**Pn**	**10 48 14.5**	**-0.2**
VRI	**Vrincioaia**	**0.21**	**24**	P	**Pn**	**10 48 14.5**	**-0.2**
VRI				S	**Sn**	**10 48 24.9**	**0.0**
BRD	**Bordesti**	**0.32**	**113**	⇑*i*P	**Pn**	**10 48 15.0**	**-0.3**
PETR		**0.44**	**84**	⇓*i*P	**Pn**	**10 48 16.7**	**+0.7**
PETR				*i*S	**Sn**	**10 48 28.0**	**+1.0**
MLR	**Muntele Rosu**	**0.50**	**248**	⇑*i*P	**Pn**	**10 48 16.5**	**+0.1**
MLR				*i*S	**Sn**	**10 48 27.2**	**-0.6**
MLR	**Muntele Rosu**	**0.50**	**248**	P	**Pn**	**10 48 16.5**	**+0.1**
MLR	**Muntele Rosu**	**0.50**	**248**	⇑*i*P	**Pn**	**10 48 16.5**	**+0.1**
MLR				S	**Sn**	**10 48 27.5**	**-0.3**
ISR	**Istrita**	**0.56**	**185**	⇓*i*P	**Pn**	**10 48 17.6**	**+0.7**
ISR				*i*S	**Sn**	**10 48 30.1**	**+1.5**
GHRR		**0.68**	**55**	⇑*i*P	**Pn**	**10 48 18.7**	**+0.8**
GHRR				*i*S	**Sn**	**10 48 30.9**	**+0.5**
OZUR		**0.71**	**306**	⇑*i*P	**Pn**	**10 48 17.5**	**-0.7**
OZUR				*i*S	**Sn**	**10 48 29.0**	**-1.9**
SECR		**0.75**	**211**	⇑*i*P	**Pn**	**10 48 19.2**	**+0.7**
SECR				*i*S	**Sn**	**10 48 32.5**	**+0.9**
TUDR		**0.75**	**96**	⇓*i*P	**Pn**	**10 48 18.5**	**-0.1**
TUDR				*i*S	**Sn**	**10 48 31.6**	**0.0**
FULR		**0.80**	**188**	⇑*i*P	**Pn**	**10 48 19.6**	**+0.5**
FULR				*i*S	**Sn**	**10 48 33.5**	**+1.0**
TESR		**0.83**	**2**	⇑*i*P	**Pn**	**10 48 19.3**	**-0.1**
TESR				*i*S	**Sn**	**10 48 32.0**	**-1.1**
VARR		**0.90**	**77**	⇓*i*P	**Pn**	**10 48 20.8**	**+0.7**
VARR				*i*S	**Sn**	**10 48 35.0**	**+0.7**
ONCR	**Oncesti**	**0.91**	**30**	⇑*i*P	**Pn**	**10 48 20.3**	**+0.1**
ONCR				*i*S	**Sn**	**10 48 34.5**	**0.0**
SULR		**1.03**	**194**	⇑*i*P	**Pn**	**10 48 19.6**	**-1.9**
SULR				*i*S	**Sn**	**10 48 35.2**	**-1.6**
VOIR		**1.12**	**258**	⇑*i*P	**Pn**	**10 48 22.2**	**-0.3**
VOIR				*i*S	**Sn**	**10 48 36.9**	**-1.7**
VOIR		**1.12**	**258**	⇑P	**Pn**	**10 48 22.1**	**-0.4**
VOIR				S	**Sn**	**10 48 37.0**	**-1.6**
VOIR		**1.12**	**258**	⇓*i*P	**Pn**	**10 48 22.1**	**-0.4**
VOIR				*i*S	**Sn**	**10 48 37.0**	**-1.6**
KGL	**Cahul**	**1.14**	**78**	*e*P	**Pn**	**10 48 22.6**	**-0.1**
KGL				*i*S	**Sn**	**10 48 38.8**	**-0.2**
	2μm,0.4s						
MTUR	**Matau**	**1.18**	**248**	⇑*i*P	**Pn**	**10 48 24.4**	**+1.2**
MTUR				*i*S	**Sn**	**10 48 41.3**	**+1.5**
CFR	**Carcaliu**	**1.19**	**114**	⇓*i*P	**Pn**	**10 48 23.3**	**0.0**
CFR				*i*S	**Sn**	**10 48 39.1**	**-1.0**
CFR	**Carcaliu**	**1.19**	**114**	⇑P	**Pn**	**10 48 23.7**	**+0.4**
CFR				S	**Sn**	**10 48 40.5**	**+0.4**
CFR	**Carcaliu**	**1.19**	**114**	⇓*i*P	**Pn**	**10 48 23.3**	**0.0**
CFR				S	**Sn**	**10 48 40.5**	**+0.4**
HARR	**Harsova**	**1.36**	**136**	⇓*i*P	**Pn**	**10 48 25.6**	**+0.2**
HARR				*i*S	**Sn**	**10 48 42.7**	**-1.1**
HARR	**Harsova**	**1.36**	**136**	⇑P	**Pn**	**10 48 25.7**	**+0.2**
HARR				S	**Sn**	**10 48 42.9**	**-0.9**
HARR	**Harsova**	**1.36**	**136**	⇓*i*P	**Pn**	**10 48 25.6**	**+0.2**
HARR				S	**Sn**	**10 48 42.9**	**-0.9**
BUC1	**Bucharest**	**1.39**	**197**	*i*S	**Sn**	**10 48 43.9**	**-0.5**
IAS	**Iasi**	**1.65**	**23**	*i*S	**Sn**	**10 48 49.4**	**-0.8**
TIRR	**Tirgusor**	**1.77**	**133**	⇓*i*P	**Pn**	**10 48 30.8**	**+0.3**
TIRR				*i*S	**Sn**	**10 48 51.5**	**-1.4**
TIRR	**Tirgusor**	**1.77**	**133**	P	**Pn**	**10 48 30.8**	**+0.3**
KIS	**Kishinev**	**2.02**	**48**	*e*P	**Pn**	**10 48 33.0**	**-0.8**
KIS				*i*S	**Sn**	**10 48 56.8**	**-1.9**
	580nm,0.7s						
BURAR	**Bucovina Array**	**2.16**	**334**	⇓*i*P	**Pn**	**10 48 36.7**	**+1.1**
BURAR				*i*S	**Sn**	**10 49 02.4**	**+0.5**
BURAR	**Bucovina Array**	**2.16**	**334**	⇓P	**Pn**	**10 48 36.8**	**+1.2**
BURAR				S	**Sn**	**10 49 02.9**	**+1.0**
ZIMR		**2.21**	**204**	*i*S	**Sn**	**10 49 01.0**	**-2.0**
PSN	**Preselentsi**	**2.29**	**150**	*i*P	**Pn**	**10 48 38.4**	**+1.1**
SZH	**Strazhica**	**2.46**	**192**	*i*P	**Pn**	**10 48 41.0**	**+1.5**
PRD	**Provadia**	**2.54**	**167**	*i*P	**Pn**	**10 48 41.0**	**+0.4**
PVL	**Pavlikeni**	**2.62**	**201**	*i*P	**Pn**	**10 48 42.0**	**+0.3**
GZR	**Gura Zlata**	**2.71**	**265**	⇑*i*P	**Pn**	**10 48 42.8**	**0.0**
GZR				*i*S	**Sn**	**10 49 15.6**	**+0.8**
GZR	**Gura Zlata**	**2.71**	**265**	⇑P	**Pn**	**10 48 42.9**	**+0.1**
GZR				S	**Sn**	**10 49 16.0**	**+1.1**
GZR	**Gura Zlata**	**2.71**	**265**	P	**Pn**	**10 48 42.9**	**+0.1**
GZR				*i*S	**Sn**	**10 49 15.6**	**+0.8**
DRGR		**2.92**	**294**	⇓*i*P	**Pn**	**10 48 44.9**	**-0.8**
DRGR				*i*S	**Sn**	**10 49 20.2**	**+0.2**
DRGR		**2.92**	**294**	P	**Pn**	**10 48 45.8**	**+0.1**
DRGR		**2.92**	**294**	P	**Pn**	**10 48 45.8**	**+0.1**
DRGR				*i*S	**Sn**	**10 49 20.2**	**+0.2**
BZS	**Buzias**	**3.50**	**271**	⇓*i*P	**Pn**	**10 48 53.0**	**-0.4**
BZS				*i*S	**Sn**	**10 49 38.5**	**+4.6**
VTS	**Vitosha**	**3.94**	**220**	*i*P	**Pn**	**10 48 57.0**	**-2.4**
RZN	**Rozhen**	**4.22**	**200**	*i*P	**Pn**	**10 49 03.5**	**+0.3**
KOLS	**Kolonicke sedl**	**4.39**	**319**	*e*PN	**Pn**	**10 49 06.0**	**+0.5**
DIVS	**Divcibare**	**4.96**	**254**	*e*Pn	**Pn**	**10 49 11.8**	**-1.4**
SEV	**Sevastopol'**	**5.13**	**100**	P	**Pn**	**10 49 15.8**	**+0.3**
STHS	**Stebnicka Huta**	**5.21**	**318**	*e*PN	**Pn**	**10 49 17.8**	**+1.2**

*ISCJB **30** 10:50:10.0±0.7,2259S±005×680W±0.1,h98km±13km, mb4.1/2,Error ellipse: s-maj=17.6km s-min=7.0km az=33.7*

*NEIC **30** 10:50:10.7±0.8,2261S×6803W,h89km±13km,mb4.1/1, Error ellipse: s-maj=18.7km s-min=9.1km az=109.0*
*IDC **30** 10:50:11.1±0.8,2248S×6806W,h87km±14km,mb3.9/3, mb1 3.7/7,mb1mx3.5/18,mbtmp4.0/7,Error ellipse: s-maj=28.3km s-min=15.7km az=116.0*
*GUC **30** 10:50:13.1±1.1,2248S×6875W,h130km,MD4.0,ML3.7*

ISC 30 10:50:11.1±0.6,2259S±005×6800W±009,h85km±12km, n17,σ1§30/25,mb4.1/2,1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.84**	**268**	P	**Pn**	**10 50 29.9**	**+1.3**
	474nm,0.3s,baz=39,slow=7.3						
LVC				S	**Sn**	**10 50 42.6**	**+0.8**
	537nm,0.3s,baz=13,slow=3.1,SNR=108						
CEN1	**Los Morros**	**2.18**	**248**	*e*P	**Pn**	**10 50 46.9**	**+1.4**
CEN1				*i*S	**Sn**	**10 51 11.0**	**-0.8**
CEN1				AML	AML	10 51 17.1	
	comp=N,685nm,0.8s						
ANCH	**Antofagasta**	**2.47**	**243**	*e*P	**Pn**	**10 50 46.6**	**-2.8**
ANCH				*i*S	**Sn**	**10 51 12.9**	**-5.9**
CPN1	**Cerro Paranal**	**3.00**	**227**	*e*P	**Pn**	**10 50 56.5**	**+0.1**
CPN1				*i*S	**Sn**	**10 51 30.2**	**-1.2**
CRCH	**Chaqaral**	**4.44**	**212**	⇓*i*P	**Pn**	**10 51 16.6**	**+0.6**
CRCH				*i*S	**Sn**	**10 52 05.4**	**-1.0**
CDCH	**Caldera**	**5.15**	**209**	*e*P	**Pn**	**10 51 24.6**	**-1.2**
LPAZ	**La Paz**	**6.27**	**359**	P	**Pn**	**10 51 40.5**	**-0.4**
	comp=N,1.2nm,0.3s,baz=194,slow=6.2,SNR=41						
ARE	**Arequipa**	**6.92**	**331**	*e*P	**Pn**	**10 51 51.0**	**+1.1**
ARE				*e*S	**Sn**	**10 52 53.0**	**-14**
CFAA	**Coronel Fontan**	**8.98**	**181**	P	**Pn**	**10 52 21.0**	**+3.0**
	comp=N,0.1nm,0.3s,baz=356,slow=15,SNR=12						
CFAA				S	**Sn**	**10 53 59.5**	**+2.1**
	comp=N,0.1nm,0.3s,baz=248,slow=18,SNR=4.6						
CFAA	**Coronel Fontan**	**8.98**	**181**	P	**Pn**	**10 52 21.0**	**+3.0**
CFAA				S	**Sn**	**10 53 59.5**	**+2.1**
SIV	**San Ignacio**	**9.26**	**46**	P	**Pn**	**10 52 21.0**	**-0.8**
	comp=N,1.2nm,0.3s,baz=247,slow=13,SNR=20						
SIV				S	**Sn**	**10 54 01.9**	**-2.3**
	comp=N,0.4nm,0.3s,baz=132,slow=22,SNR=8.7						
TRQA	**Tornquist**	**16.26**	**163**	P	**Pn**	**10 53 52.7**	**-1.6**
	comp=N,18nm,1.5s						
PLCA	**Paso Flores**	**18.22**	**186**	P	**Pn**	**10 54 17.3**	**-0.9**
	comp=N,0.1nm,0.3s,baz=285,slow=8.5,SNR=3.4						
BDFB	**Brasilia**	**20.10**	**73**	P	**P**	**10 54 39.1**	**+1.2**
	comp=N,4.3nm,0.7s,baz=214,slow=4.8,SNR=3.4						
DBIC	**Dimbokro**	**68.24**	**73**	P	**P**	**11 01 03.1**	**+0.5**
	comp=N,4.0nm,0.9s,mb4.3,baz=225,slow=2.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**76.93**	**70**	P	**P**	**11 01 55.0**	**+0.8**
	comp=N,0.9nm,0.3s,mb4.0,baz=256,slow=5.7,SNR=27						
MKAR	**Makanchi Array**	**146.00**	**38**	PKPbc	PKPbc	11 09 39.2	-1.8
	comp=N,0.9nm,0.7s,baz=354,slow=2.4,SNR=8.6						

PRE 30 10:52:10.5±1.6,2134S×3261E,h5km,ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**5.91**	**221**	*e*S	Sn	10 54 44.1	-2.6
SLR				AML	AML	10 55 30.4	
	comp=Z,92nm,0.5s						
POGA	**Pongola**	**6.07**	**188**	*e*P	Pn	10 53 41.5	+0.6
POGA				*e*S	Sn	10 54 47.8	-3.0
POGA				AML	AML	10 55 40.1	
	comp=Z,55nm,0.6s						
ERPM	**east rand prop**	**6.31**	**219**	*e*S	Sn	10 54 54.8	-1.8
ERPM				AML	AML	10 55 50.5	
	comp=Z,74nm,0.5s						
SWZ	**Schweizer**	**8.82**	**227**	*e*P	Pn	10 54 20.5	+1.8
SWZ				*e*S	Sn	10 55 54.2	-4.3
SWZ				AML	AML	10 56 59.3	
	comp=Z,16nm,0.6s						
BOSA	**Boshof**	**9.84**	**221**	*e*P	Pn	10 54 33.2	+0.6
BOSA				*e*S	Sn	10 56 18.2	-5.3
BOSA				AML	AML	10 57 35.5	
	comp=Z,16nm,0.6s						
HVD	**Hendrik Verwoe**	**11.22**	**213**	*e*P	Pn	10 54 52.6	+1.1
HVD				*e*S	Sn	10 56 52.2	-5.1
HVD				AML	AML	10 57 29.3	
	comp=Z,4.8nm,0.4s						
UPI	**Upington**	**12.45**	**234**	*e*P	Pn	10 55 10.6	+2.2
UPI				*e*S	Sn	10 57 22.2	-5.3
UPI				AML	AML	10 57 32.5	
	comp=Z,5.7nm,0.4s						

**IDC 30 11:32:28.6±10.0,2394S×

WHY					S	Sn	12 26 50.5	+0.9
SIT	Sitka	4.03	136	eP	Pn	Pn	12 26 28.9	-2.3
DAWY	Dawson	4.06	7	Pn	Pn	Pn	12 26 32.7	+1.1
DAWY				Sg	Sg	Sg	12 27 37.4	-1.4
DAWY				Trac			12 27 50.8	
	comp=Z,37nm,0.9s							
DAWY	Dawson	4.06	7	P	Pn	Pn	12 26 32.7	+1.1
SML	Sawmill	4.22	298	eP	Pn	Pn	12 26 40.1	+6.3
PMR	Palmer	4.52	294	eP	Pn	Pn	12 26 39.4	+1.6
SLKM	Skilak Lake	4.88	280	eP	Pn	Pn	12 26 42.7	-0.1
DLBC	Dease Lake	5.60	102	Pn	Pn	Pn	12 26 51.6	-1.0
DLBC				Sg	Sg	Sg	12 28 20.6	-7.4
DLBC				Trac			12 28 35.5	
	comp=Z,18nm,0.7s							
DLBC	Dease Lake	5.60	102	eP	Pn	Pn	12 26 52.0	-0.7
COLA	College	5.93	328	P	Pn	Pn	12 27 02.9	+5.7
	8.8nm,0.9s							
INK	Inuvik	8.82	17	Pn	Pn	Pn	12 27 40.5	+3.6
INK				Sg	Sg	Sg	12 30 10.7	-0.7
INK				Trac			12 30 21.7	
	comp=Z,6.0nm,1.1s							
INK	Inuvik	8.82	17	eP	Pn	Pn	12 27 40.4	+3.6
	2.9nm,1.1s							

CSEM ***30*** *12:47:24.5, 2980N×5763E, h15km, ML3.5, After THR*
THR 30 12:47:24.5±0.6, 2980N×5763E, h15km±6km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	0.77	284	ePG	Pg	12 47 39.8	+0.2
KRBR				eSG	Sg	12 47 50.2	+0.4
KRBR				AML	AML	12 47 50.5	
	comp=N,3μm,0.2s						
KRBR				AML	AML	12 47 51.6	
	comp=E,3μm,0.1s						
KRBR	**Kerman**	0.77	284	ePg	Pg	12 47 39.8	+0.2
	SNR=91						
KRBR				eSg	Sg	12 47 50.2	+0.4
	comp=E,3μm,0.1s,SNR=91						
ZHSF	**Zahedan**	2.75	93	ePN	Pn	12 48 10.2	+2.3
ZHSF				eSG	Sg	12 48 50.4	-2.3
ZHSF				AML	AML	12 48 53.1	
	comp=E,130nm,0.6s						
ZHSF				AML	AML	12 48 57.1	
	comp=N,139nm,0.4s						
ZHSF	**Zahedan**	2.75	93	ePn	Pn	12 48 10.2	+2.3
	SNR=52						
ZHSF				eSg	Sg	12 48 50.4	-2.3
	comp=N,139nm,0.4s,SNR=90						
NASN	**Na'in**	5.09	307	ePN	Pn	12 48 42.7	+2.5
NASN				eSG	Sg	12 50 02.5	-5.5
NASN				AML	AML	12 50 09.5	
	comp=E,16nm,0.5s						
NASN	**Na'in**	5.09	307	ePn	Pn	12 48 42.7	+2.5
	SNR=52						
NASN				eSg	Sg	12 50 02.5	-5.5
	comp=E,16nm,0.5s,SNR=90						

ISCJB ***30*** *13:40:26.5±0.5, 3126S×004×1794W±01, h182km±6km, mb4.7/12, Error ellipse: s-maj=12.0km s-min=5.8km az=16.9*
NEIC ***30*** *13:40:27.9±0.7, 3123S×17894W, h216km±6km, mb4.9/9, Error ellipse: s-maj=13.2km s-min=7.3km az=104.0*
IDC ***30*** *13:40:30.4±0.9, 3072S×179.17W, h227km±8km, mb4.1/5, mb1 4.3/6, mb1mx4.1/12, mbtmp4.8/6, Error ellipse: s-maj=18.3km s-min=14.2km az=145.0*
ISC 30 13:40:27.5±0.5, 3131S×004×1794W×01, h179km±7km, n107, σ1§33/110, mb4.7/12, 6C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	2.41	32	P	Pn	13 41 09.5	+0.5
	2μm,0.3s,baz=86,slow=9.0,SNR=31						
RAO				S	Sn	13 41 40.0	+3.7
	748nm,0.3s,baz=85,slow=21,SNR=3.6						
RAO	**Raoul Island**	2.41	32	P	Pn	13 41 09.5	+0.5
RAO				S	Sn	13 41 40.0	+3.7
MXZ	**Matakaoa Point**	6.53	197	PN	Pn	13 42 04.1	+2.8
MXZ				SN	Sn	13 43 20.7	+5.7
MXZ	**Matakaoa Point**	6.53	197	P	Pn	13 42 04.1	+2.8
MXZ				S	Sn	13 43 20.7	+5.7
PUZ	**Puketiti**	7.02	196	PN	Pn	13 42 10.3	+2.4
PUZ				SN	Sn	13 43 32.0	+5.1
PUZ	**Puketiti**	7.02	196	P	Pn	13 42 10.3	+2.4
MWZ	**Matawai**	7.46	199	PN	Pn	13 42 16.1	+2.5
MWZ				SN	Sn	13 43 42.8	+5.5
MWZ	**Matawai**	7.46	199	P	Pn	13 42 16.1	+2.5
MWZ				S	Sn	13 43 43.8	+6.5
URZ	**Urewera**	7.51	202	P	Pn	13 42 17.3	+3.0
	2.2nm,0.3s,baz=205,slow=2.2,SNR=41						
URZ				S	Sn	13 43 44.7	+6.0
	15nm,0.3s,baz=144,slow=23,SNR=11						
URZ	**Urewera**	7.51	202	PN	Pn	13 42 17.3	+3.0
URZ				SN	Sn	13 43 44.5	+5.9
URZ	**Urewera**	7.51	202	eP	Pn	13 42 17.3	+3.0
KNZ	**Kokohu**	8.06	197	PN	Pn	13 42 23.5	+1.9
KNZ				SN	Sn	13 43 58.4	+6.5
BKZ	**Black Stump Fm**	8.54	202	PN	Pn	13 42 29.3	+1.5
BKZ	**Black Stump Fm**	8.54	202	eP	Pn	13 42 29.3	+1.5
HIZ	**Hauiti**	8.61	212	PN	Pn	13 42 34.5	+5.7
HIZ	**Hauiti**	8.61	212	eP	Pn	13 42 34.5	+5.8
TUVZ	**Tukino**	8.92	206	PN	Pn	13 42 37.6	+4.8
TUVZ	**Tukino**	8.92	206	P	Pn	13 42 37.6	+4.8
FWVZ	**Far West T-bar**	8.95	206	PN	Pn	13 42 37.7	+4.5
FWVZ	**Far West T-bar**	8.95	206	eP	Pn	13 42 37.7	+4.5
MOVZ	**Moawhango**	9.01	205	PN	Pn	13 42 37.6	+3.6
MOVZ	**Moawhango**	9.01	205	P	Pn	13 42 37.6	+3.6
MTVZ	**Mangateitei**	9.09	206	PN	Pn	13 42 40.3	+5.2
PXZ	**Pawanui**	9.22	198	PN	Pn	13 42 36.1	-0.8
TSZ	**Takapari Road**	9.52	202	PN	Pn	13 42 39.9	-0.8
TSZ	**Takapari Road**	9.52	202	P	Pn	13 42 39.9	-0.8
WAZ	**Wanganui**	9.60	207	PN	Pn	13 42 43.1	+1.4
WAZ	**Wanganui**	9.60	207	eP	Pn	13 42 44.1	+2.4
BFZ	**Birch Farm**	10.00	200	PN	Pn	13 42 46.1	-0.9
BFZ				SN	Sn	13 44 37.3	-0.9
BFZ	**Birch Farm**	10.00	200	eP	Pn	13 42 46.1	-0.9
BFZ				S	Sn	13 44 37.3	-0.9
MRZ	**Mangatainoka R**	10.19	202	PN	Pn	13 42 48.1	-1.4
MRZ	**Mangatainoka R**	10.19	202	eP	Pn	13 42 48.1	-1.3
TIWZ	**Tintock**	10.20	201	PN	Pn	13 42 48.3	-1.2
KIW	**Kapiti Island**	10.59	204	PN	Pn	13 42 53.2	-1.5
KIW	**Kapiti Island**	10.59	204	P	Pn	13 42 53.2	-1.5
CAW	**Cannon Point**	10.76	203	PN	Pn	13 42 55.2	-1.7
CAW	**Cannon Point**	10.76	203	P	Pn	13 42 55.2	-1.6
TRWZ	**Traveller**	10.82	200	PN	Pn	13 42 56.5	-1.3
PAWZ	**Paruwai Farm**	10.89	201	PN	Pn	13 42 58.6	0.0
PAWZ	**Paruwai Farm**	10.89	201	P	Pn	13 42 58.6	0.0
DUWZ	**D'Urville Isla**	10.91	208	PN	Pn	13 43 00.4	+1.5
MSWZ	**Moikau Station**	10.97	202	PN	Pn	13 42 58.4	-1.3
MSWZ	**Moikau Station**	10.97	202	P	Pn	13 42 58.4	-1.3
MRW	**Makara Radio**	10.99	204	PN	Pn	13 42 59.1	-0.8
MRW	**Makara Radio**	10.99	204	P	Pn	13 42 59.1	-0.8
SNZO	**South Karori**	11.06	204	PN	Pn	13 42 58.5	-2.3
SNZO	**South Karori**	11.06	204	eP	Pn	13 42 58.5	-2.3
BHW	**Baring Head**	11.09	203	PN	Pn	13 43 01.1	-0.1
BHW	**Baring Head**	11.09	203	P	Pn	13 43 01.1	-0.1
TCW	**Tory Channel**	11.13	206	PN	Pn	13 42 59.9	-1.7
TCW	**Tory Channel**	11.13	206	P	Pn	13 42 59.9	-1.8
NNZ	**Nelson**	11.48	209	PN	Pn	13 43 05.9	-0.4
NNZ	**Nelson**	11.48	209	eP	Pn	13 43 05.9	-0.4
QRZ	**Quartz Range**	11.53	212	PN	Pn	13 43 07.8	+0.9
QRZ	**Quartz Range**	11.53	212	eP	Pn	13 43 07.8	+0.9
THZ	**Tophouse**	12.13	209	eP	Pn	13 43 13.9	-0.7
KHZ	**Kahutara**	12.45	205	PN	Pn	13 43 16.1	-2.5
KHZ	**Kahutara**	12.45	205	eP	Pn	13 43 16.1	-2.5
DSZ	**Denniston Nort**	12.60	212	eP	Pn	13 43 20.6	+0.1
LTZ	**Lake Taylor**	13.24	208	PN	Pn	13 43 27.4	-1.3
LTZ	**Lake Taylor**	13.24	208	eP	Pn	13 43 27.4	-1.3
MQZ	**McQueen's Vall**	13.89	205	PN	Pn	13 43 33.5	-3.3
MQZ	**McQueen's Vall**	13.89	205	P	Pn	13 43 33.5	-3.3
RPZ	**Rata Peaks**	14.52	209	P	Pn	13 43 45.5	+1.0
	1.5nm,0.3s,baz=50,slow=6.8,SNR=11						
RPZ				S	Sn	13 46 19.5	-6.8
	1.9nm,0.3s,baz=143,slow=16,SNR=12						
RPZ	**Rata Peaks**	14.52	209	P	Pn	13 43 45.5	+1.0
RPZ				S	Sn	13 46 19.6	-6.8
FOZ	**Fox Glacier**	14.99	212	eP	Pn	13 43 49.3	-1.1
DZM	**Mont Dzumac**	15.66	303	P	Pn	13 44 00.1	+1.5
	1.3nm,0.3s,baz=99,slow=16,SNR=13						
DZM				S	S	13 46 43.8	-8.8
	0.7nm,0.3s,baz=176,slow=21,SNR=6.1						
ODZ	**Otahua Downs**	15.78	207	PN	Pn	13 44 00.4	+0.3
ODZ	**Otahua Downs**	15.78	207	eP	Pn	13 44 00.4	+0.3
JCZ	**Jackson Bay**	15.81	213	PN	Pn	13 44 00.8	+0.4
JCZ	**Jackson Bay**	15.81	213	eP	Pn	13 44 00.8	+0.4
EAZ	**Earnscleugh**	16.47	209	eP	Pn	13 44 08.5	0.0
AFI	**Afiamalu**	18.67	24	P	P	13 44 25.0	-6.9
	12nm,0.3s,baz=204,slow=2.1,SNR=17						
ARMA	**Armidale**	24.89	264	eP	P	13 45 38.5	+4.8
TOO	**Toolangi**	29.53	248	eP	P	13 46 19.0	+3.9
	5.8nm,0.9s,mb4.3						
CTA	**Charters Tower**	32.81	282	⇑iP	P	13 46 45.1	+1.2
	20nm,0.6s,mb5.0						
CTAO	**Charters Tower**	32.81	282	eP	P	13 46 45.1	+1.2
	23nm,0.7s,mb5.0						
STKA	**Stephens Creek**	33.14	259	⇑iP	P	13 46 47.5	+0.8
	34nm,0.8s,mb5.1						
STKA	**Stephens Creek**	33.14	259	P	P	13 46 47.6	+0.9
	42nm,0.7s,mb5.3,baz=93,slow=9.2,SNR=49						
AS31	**Alice Springs**	41.90	269	⇑iP	P	13 48 00.2	0.0
ASAR	**Alice Springs**	41.90	269	P	P	13 48 00.2	0.0
	3.2nm,0.6s,mb4.1,baz=106,slow=7.3,SNR=110						
ASAR				PcP	PcP	13 49 51.4	-1.0
	0.9nm,0.4s,baz=116,slow=5.9,SNR=4.8						
ASAR				ScP	ScP	13 53 17.6	-8.1
	1.0nm,0.8s,baz=118,slow=3.5,SNR=5.4						
ASPA	**Alice Springs**	41.90	269	⇑iP	P	13 48 00.2	-0.1
WB2	**Warramunga Arr**	42.96	274	⇑iP	P	13 48 08.4	-0.4
WRA	**Warramunga Arr**	42.97	274	P	P	13 48 08.6	-0.3
	9.5nm,0.6s,mb4.6,baz=112,slow=8.0,SNR=188						
FORT	**Forrest**	44.69	256	eP	P	13 48 22.8	+0.3
	42nm,0.6s,mb5.2						
VNDA	**Vanda**	47.07	185	P	P	13 48 43.7	+2.5
	2.5nm,0.6s,mb4.0,baz=6.2,slow=7.2,SNR=34						
VNDA	**Vanda**	47.07	185	P	P	13 48 43.7	+2.5
KAKA	**Kakadu**	47.95	282	eP	P	13 48 46.4	-1.6
	7.3nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	51.20	271	⇑iP	P	13 49 11.9	-0.6
	8.8nm,0.6s,mb4.6						
KLBR	**Kellerberrin**	52.95	252	eP	P	13 49 24.7	-0.7
	108nm,1.9s,mb5.3						
CASY	**Casey**	53.78	208	eP	P	13 49 30.9	-0.6
QSPA	**South Pole Qui**	58.80	180	eP	P	13 50 09.0	+2.1
	25nm,0.7s,mb5.2						
VNA1	**Neumayer--Stat**	78.13	177	e	P	13 52 07.0	+0.3
VNA1				e		13 52 07.8	
PLCA	**Paso Flores**	82.74	134	P	P	13 52 30.8	-0.5
	4.8nm,0.8s,mb4.3,baz=232,slow=6.2,SNR=10						
PLCA	**Paso Flores**	82.74	134	P	P	13 52 30.8	-0.5
BOSA	**Boshof**	115.96	204	PKP	PKPdf	13 58 47.6	-1.3
	1.1nm,0.6s,baz=169,slow=8.6,SNR=3.7						
ARCES	**ARCESS Array B**	139.22	347	PKhKP		13 59 23.9	
	0.6nm,0.6s,baz=18,slow=4.2,SNR=4.4						
ARCES				PKP	PKPdf	13 59 28.1	-5.0
	1.3nm,0.7s,baz=48,slow=1.8,SNR=5.6						
ARCES				SKPbc	SKPbc	14 02 41.0	-10
	1.3nm,0.6s,baz=30,slow=3.2,SNR=9.2						
ARCES	**ARCESS Array B**	139.22	347	PKP		13 59 23.9	
ARCES				PKP	PKPdf	13 59 28.1	-5.0
ARCES				SKPbc	SKPbc	14 02 41.0	-10
KAF	**Kangasniemi**	145.00	339	epkp	PKPdf	13 59 36.8	-6.5
FINES	**FINESS Array B**	145.58	339	PKP	PKPdf	13 59 39.6	-4.7
	4.6nm,0.5s,baz=62,slow=4.0,SNR=41						
MALT	**Malatya**	148.36	293	ePKPbc	PKPbc	13 59 50.3	-2.3
NB2	**NORSAR Subarra**	149.46	350	PKPa	PKPbc	13 59 49.8	-5.6
	comp=Z,2.2nm,0.8s,baz=16,slow=2.7						
NOA	**NORSAR Array B**	149.46	350	PKPbc	PKPbc	13 59 50.3	-5.1
	comp=Z,1.3nm,0.6s,baz=16,slow=4.2,SNR=8.0						
AKASG	**Malin Array Be**	151.29	321	PKPbc	PKPbc	13 59 55.5	-4.3
	comp=Z,1.3nm,0.4s,baz=63,slow=2.8,SNR=8.4						
BR131	**Keskin Array S**	151.98	297	ePKPbc	PKPbc	13 59 57.3	-4.0
BR131				ePKPab	PKPab	14 00 08.0	-3.3
BRTR	**Keskin Array B**	151.98	297	PKPbc	PKPbc	13 59 57.9	-3.4
	comp=Z,2.1nm,0.5s,baz=151,slow=4.6,SNR=11						
TORD	**Torodi Ar. Bea**	161.89	183	PKP	PKPdf	14 00 05.0	-2.2
	comp=Z,0.4nm,0.6s,baz=27,slow=0.5,SNR=5.9						
TORD				PKPab	PKPab	14 00 53.2	-0.8
	comp=Z,7.9nm,0.9s,baz=163,slow=4.9,SNR=24						

IDC ***30*** *14:08:09.8±0.8, 3727S×17776E, h236km±9km, mb3.6/3, mb1 3.7/4, mb1mx3.4/12, mbtmp4.2/4, Error ellipse: s-maj=37.1km s-min=17.2km az=155.0*
NEIC ***30*** *14:08:10.6, 3681S×17727E, h211km, MG4.7(WEL), After WEL.*
WEL ***30*** *14:08:11.2±0.4, 3675S×17729E, h201km±3km, ML4.7/23, Error ellipse: s-maj=3.0km s-min=2.7km az=0.0*
ISCJB ***30*** *14:08:12.5±0.6, 3705S±005×17694E±006, h201km, mb3.9/3, Error ellipse: s-maj=7.6km s-min=6.1km az=96.1*
ISC 30 14:08:12.7±0.6, 3700S±005×17702E±007, h201km, n114, σ1§53/125, mb3.9/3, 2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	0.54	166	PN	Pn	14 08 39.9	-0.1
WIZ	**White Island**	0.54	166	P	Pn	14 08 40.3	+0.3
MARZ	**Manawahe**	1.02	196	PN	Pn	14 08 43.4	+0.8
MARZ	**Manawahe**	1.02	196	P	Pn	14 08 43.4	+0.8
KUZ	**Kuaotunu**	1.07	283	PN	Pn	14 08 42.7	-0.3
KUZ				SN	Sn	14 09 07.5	+1.0
KUZ	**Kuaotunu**	1.07	283	P	Pn	14 08 42.7	-0.3
EDRZ	**Edgecumbe**	1.13	191	PN	Pn	14 08 44.7	+1.4
EDRZ	**Edgecumbe**	1.13	191	P	Pn	14 08 44.7	+1.3
MXZ	**Matakaoa Point**	1.17	119	PN	Pn	14 08 42.2	-1.5
MXZ				SN	Sn	14 09 06.0	-1.7
MXZ	**Matakaoa Point**	1.17	119	P	Pn	14 08 42.2	-1.5
URZ	**Urewera**	1.26	177	P	Pn	14 08 44.7	+0.4
	95nm,0.3s,baz=302,slow=1.7,SNR=558						
URZ				S	Sn	14 09 11.1	+2.1
	66nm,0.3s,baz=175,slow=21,SNR=15						
URZ	**Urewera**	1.26	177	⇓PN	Pn	14 08 44.7	+0.3
URZ				SN	Sn	14 09 11.1	+2.2
URZ	**Urewera**	1.26	177	P	Pn	14 08 44.7	+0.3
TAZ	**Tarawera**	1.30	198	PN	Pn	14 08 46.7	+2.1
TAZ	**Tarawera**	1.30	198	P	Pn	14 08 46.7	+2.0
MWZ	**Matawai**	1.39	163	PN	Pn	14 08 45.7	+0.2
MWZ				SN	Sn	14 09 12.7	+1.7
MWZ	**Matawai**	1.39	163	P	Pn	14 08 45.7	+0.2
MWZ				S	Sn	14 09 12.7	+1.8
PUZ	**Puketiti**	1.45	138	⇓PN	Pn	14 08 45.4	-0.6
PUZ				SN	Sn	14 09 11.0	-0.9
PUZ	**Puketiti**	1.45	138	P	Pn	14 08 45.4	-0.6
PUZ				S	Sn	14 09 11.0	-0.9
PATZ	**Paeroa**	1.51	203	PN	Pn	14 08 48.8	+2.4
PATZ	**Paeroa**	1.51	203	P	Pn	14 08 48.8	+2.4
OTAZ	**Otara**	1.68	271	PN	Pn	14 08 49.3	+1.3
OTAZ	**Otara**	1.68	271	P	Pn	14 08 49.3	+1.3
MTAZ	**Motutapu**	1.71	277	PN	Pn	14 08 49.2	+1.0
MTAZ	**Motutapu**	1.71	277	P	Pn	14 08 49.2	+0.9
WTAZ	**Waiatarua**	1.96	271	PN	Pn	14 08 52.0	+1.2
WTAZ	**Waiatarua**	1.96	271	P	Pn	14 08 52.0	+1.2
KNZ	**Kokohu**	2.08	166	PN	Pn	14 08 52.4	+0.3
KNZ				SN	Sn	14 09 24.3	+1.6
KNZ	**Kokohu**	2.08	166	P	Pn	14 08 52.4	+0.4
KNZ				S	Sn	14 09 24.7	+2.0
RITZ	**Rihia Road**	2.18	205	PN	Pn	14 08 55.2	+2.2
RITZ	**Rihia Road**	2.18	205	P	Pn	14 08 55.2	+2.1
BKZ	**Black Stump Fm**	2.20	191	PN	Pn	14 08 53.8	+0.5
BKZ				SN	Sn	14 09 28.0	+3.0
BKZ	**Black Stump Fm**	2.20	191	P	Pn	14 08 53.8	+0.5
HIZ	**Hauiti**	2.29	228	PN	Pn	14 08 57.1	+2.9
HIZ				SN	Sn	14 09 34.6	+8.0
HIZ	**Hauiti**	2.29	228	P	Pn	14 08 57.1	+2.9
HIZ				S	Sn	14 09 34.6	+8.0
KRVZ	**Karewarewa**	2.36	207	PN	Pn	14 08 56.9	+1.9
WTVZ	**West Tongariro**	2.40	208	PN	Pn	14 08 57.0	+1.6
WTVZ	**West Tongariro**	2.40	208	P	Pn	14 08 57.0	+1.6
TWVZ	**Taurewa**	2.42	211	PN	Pn	14 08 57.6	+2.0
TWVZ	**Taurewa**	2.42	211	P	Pn	14 08 57.6	+2.0
NGZ	**Ngauruhoe**	2.44	207	PN	Pn	14 08 58.1	+2.1
NGZ	**Ngauruhoe**	2.44	207	P	Pn	14 08 58.1	+2.1
WPVZ	**Whakapapa**	2.49	207	PN	Pn	14 08 58.4	+1.9
WPVZ	**Whakapapa**	2.49	207	P	Pn	14 08 58.4	+1.9
TUVZ	**Tukino**	2.51	205	PN	Pn	14 08 58.1	+1.4
FWVZ	**Far West T-bar**	2.53	207	PN	Pn	14 08 58.6	+1.7
FWVZ	**Far West T-bar**	2.53	207	P	Pn	14 08 58.6	+1.7
DRZ	**Dome Shelter**	2.55	206	PN	Pn	14 08 59.6	+2.5
DRZ	**Dome Shelter**	2.55	206	P	Pn	14 08 59.6	+2.5
MOVZ	**Moawhango**	2.60	202	PN	Pn	14 08 58.5	+0.8
MOVZ	**Moawhango**	2.60	202	P	Pn	14 08 58.5	+0.8
PKVZ	**Pokaka**	2.64	209	PN	Pn	14 08 59.8	+1.6
MTVZ	**Mangateitei**	2.68	207	PN	Pn	14 09 00.1	+1.6
VRZ	**Vera Road**	2.77	219	PN	Pn	14 09 02.6	+2.9
VRZ	**Vera Road**	2.77	219	P	Pn	14 09 02.6	+2.9
PXZ	**Pawanui**	3.03	182	PN	Pn	14 09 02.5	-0.1
RAEZ	**Rainy Point**	3.08	221	P	Pn	14 09 06.9	+3.6
TSZ	**Takapari Road**	3.17	195	PN	Pn	14 09 04.1	-0.1
TSZ	**Takapari Road**	3.17	195	P	Pn	14 09 04.1	-0.2
WAZ	**Wanganui**	3.18	210	PN	Pn	14 09 05.9	+1.4
WAZ	**Wanganui**	3.18	210	eP	Pn	14 09 05.9	+1.4
PKE	**Pukeiti**	3.25	227	PN	Pn	14 09 09.1	+3.9
PKE	**Pukeiti**	3.25	227	P	Pn	14 09 09.1	+3.9
NWEZ	**Newall Road**	3.37	227	P	Pn	14 09 11.1	+4.4
NRZ	**Ngariki Road**	3.37	225	P	Pn	14 09 10.8	+4.1
BFZ	**Birch Farm**	3.73	189	PN	Pn	14 09 10.3	-0.8
BFZ	**Birch Farm**	3.73	189	P	Pn	14 09 10.3	-0.7
MRZ	**Mangatainoka R**	3.83	197	PN	Pn	14 09 11.4	-0.9
TIWZ	**Tintock**	3.88	193	PN	Pn	14 09 12.6	-0.3
KIW	**Kapiti Island**	4.19	202	P	Pn	14 09 16.1	-0.7
MTW	**Mount Morrison**	4.32	195	P	Pn	14 09 17.2	-1.2
CAW	**Cannon Point**	4.38	200	PN	Pn	14 09 17.8	-1.3
CAW	**Cannon Point**	4.38	200	P	Pn	14 09 17.8	-1.3
DUWZ	**D'Urville Isla**	4.50	212	PN	Pn	14 09 20.4	-0.3
PAWZ	**Paruwai Farm**	4.55	195	PN	Pn	14 09 20.1	-1.2
PAWZ	**Paruwai Farm**	4.55	195	P	Pn	14 09 20.1	-1.2
MRW	**Makara Radio**	4.59	202	P	Pn	14 09 20.9	-1.0
MSWZ	**Moikau Station**	4.62	197	P	Pn	14 09 20.6	-1.6
WEL	**Wellington**	4.62	202	PN	Pn	14 09 21.2	-1.1
WEL	**Wellington**	4.62	202	P	Pn	14 09 21.2	-1.1
SNZO	**South Karori**	4.67	202	P	Pn	14 09 21.4	-1.4
SNZO				eS	Sn	14 10 13.8	-4.3
BHW	**Baring Head**	4.71	200	P	Pn	14 09 21.7	-1.6
TCW	**Tory Channel**	4.72	206	P	Pn	14 09 22.4	-1.1
NNZ	**Nelson**	5.08	213	PN	Pn	14 09 26.6	-1.5
NNZ	**Nelson**	5.08	213	eP	Pn	14 09 26.6	-1.4
QRZ	**Quartz Range**	5.18	221	PN	Pn	14 09 28.6	-0.8
QRZ	**Quartz Range**	5.18	221	eP	Pn	14 09 28.6	-0.8
THZ	**Tophouse**	5.73	213	eP	Pn	14 09 35.1	-1.3
KHZ	**Kahutara**	6.04	205	P	Pn	14 09 38.8	-1.6
DSZ	**Denniston Nort**	6.23	219	eP	Pn	14 09 41.0	-1.9
LTZ	**Lake Taylor**	6.83	211	eP	Pn	14 09 49.0	-1.7
CRLZ	**Canterbury Las**	7.38	206	eP	Pn	14 09 55.4	-2.4
MQZ	**McQueen's Vall**	7.48	205	eP	Pn	14 09 56.1	-3.0
RPZ	**Rata Peaks**	8.11	212	P	Pn	14 10 05.2	-2.0
	3.8nm,0.3s,baz=16,slow=0.6,SNR=30						
RPZ				S	Sn	14 11 35.0	-3.5
	6.1nm,0.3s,baz=63,slow=20,SNR=14						
RPZ	**Rata Peaks**	8.11	212	eP	Pn	14 10 05.0	-2.3
FOZ	**Fox Glacier**	8.62	218	eP	Pn	14 10 10.4	-3.6
LBZ	**Lake Benmore**	9.02	213	eP	Pn	14 10 16.6	-2.5
ODZ	**Otahua Downs**	9.37	209	eP	Pn	14 10 21.7	-1.9
JCZ	**Jackson Bay**	9.46	219	eP	Pn	14 10 21.1	-3.7
WKZ	**Wanaka**	9.89	215	eP	Pn	14 10 27.3	-3.1
EAZ	**Earnscleugh**	10.07	213	eP	Pn	14 10 29.7	-3.0
TUZ	**Tuapeka**	10.52	209	eP	Pn	14 10 37.6	-1.0
WHZ	**Wether Hill Ro**	11.19	215	eP	Pn	14 10 44.4	-2.7
RAR	**Rarotonga**	25.56	58	P	P	14 13 12.8	-10
	18nm,0.6s,mb4.8,baz=214,slow=18,SNR=5.6						
AS31	**Alice Springs**

ICHK	Chekchek	5.39	347	Pn	Pn	15 07 35.6	+2.8
IZEF	Zefreh	6.64	333	*e*Pn	Pn	15 07 51.3	+1.3
IZEF				*e*Sn	Sn	15 09 03.8	-1.9
IZEF	Zefreh	6.64	333	Pn	Pn	15 07 51.2	+1.2
IZEF				Sn	Sn	15 09 03.8	-1.9
IPIR	Pirpir	7.14	324	*e*Pn	Pn	15 07 58.0	+1.3
IPIR				*e*Sn	Sn	15 09 14.2	-3.7
IPIR	Pirpir	7.14	324	Pn	Pn	15 07 58.0	+1.3
IPIR				Sn	Sn	15 09 14.1	-3.8
IKLH	Kalahroud	7.33	331	*e*Pn	Pn	15 08 00.9	+1.6
IKLH				*e*Sn	Sn	15 09 19.9	-2.6
IKLH	Kalahroud	7.33	331	Pn	Pn	15 08 00.9	+1.6
IKLH				Sn	Sn	15 09 19.8	-2.7
RDF	Al-Radifah	7.61	287	*e*P	Pn	15 08 04.0	+0.8
RDF				AML	AML	15 09 33.0	
	comp=Z,71nm,0.5s						
NAY	Al-Naaiem	7.95	288	*e*P	Pn	15 08 08.5	+0.7
NAY				AML	AML	15 09 38.1	
	comp=Z,21nm,0.5s						
ISFB	Sefidab	7.98	338	*e*Pn	Pn	15 08 10.2	+1.9
MIB	Mutribah	8.02	292	*e*P	Pn	15 08 10.2	+1.4
MIB				AML	AML	15 09 41.4	
	comp=Z,73nm,0.5s						
IVRN	Varamin	8.74	337	*e*Pn	Pn	15 08 20.8	+2.1
IVRN	Varamin	8.74	337	Pn	Pn	15 08 20.7	+2.0
IDMV	Damavand	9.17	340	*e*Pn	Pn	15 08 27.5	+2.8
WHFO	Wadi Hawf	9.23	193	||P	Pn	15 08 26.2	+0.8
	SNR=16						
IGLO	Galoogah	9.51	348	*e*Pn	Pn	15 08 34.7	+5.4
IPRN	Paran-Amol	9.73	342	*e*Pn	Pn	15 08 35.2	+2.9
IPRN	Paran-Amol	9.73	342	Pn	Pn	15 08 35.1	+2.8
IRAZ	Razeghan	9.81	330	*e*Pn	Pn	15 08 42.1	+8.7
IRAZ	Razeghan	9.81	330	Pn	Pn	15 08 42.0	+8.6
IGHG	Ghaleghazi	10.85	315	*e*Pn	Pn	15 08 44.8	-2.8
IGHG	Ghaleghazi	10.85	315	Pn	Pn	15 08 44.7	-2.9
IDHR	Dehrash	11.20	316	*e*Pn	Pn	15 08 52.8	+0.4
IDHR	Dehrash	11.20	316	Pn	Pn	15 08 52.7	+0.3
GNI	Garni	16.06	328	P	Pn	15 10 00.8	+2.7
	comp=Z,0.8nm,0.3s,baz=47,slow=9.0,SNR=6.2						
GNI	Garni	16.06	328	P	Pn	15 10 01.8	+3.7
	SNR=7.7						
GNI	Garni	16.06	328	P	Pn	15 10 00.8	+2.7
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	Garni	16.06	328	*e*Pn	Pn	15 09 58.7	+0.6
	comp=Z,35nm,0.8s						
GNI	Garni	16.06	328	*e*Pn	Pn	15 09 58.7	+0.6
	comp=Z,35nm,0.8s						
GNI	Garni	16.06	328	P	Pn	15 10 00.8	+2.7
	comp=Z,1.0nm,0.3s						
MARD	Mardin	16.39	313	*i* P	Pn	15 10 01.8	-0.6
DGRG	David-gareji	16.82	332	P	Pn	15 10 10.8	+2.9
MTA	Mtatsminda	17.27	331	P	Pn	15 10 15.3	+1.8
ASF	Jabal al Asfar	17.29	292	P	Pn	15 10 16.2	+2.4
	comp=Z,0.5nm,0.3s,baz=229,slow=3.3,SNR=4.7						
ASF				S	Sn	15 13 28.9	+2.8
	comp=Z,0.2nm,0.3s,baz=5.9,slow=14,SNR=3.3						
TBLG	Delisi	17.32	331	P	Pn	15 10 16.1	+2.0
AKH	Akhalkalaki	17.63	328	P	Pn	15 10 24.2	+6.2
GOR	Gori	17.80	330	P	Pn	15 10 22.8	+2.7
MALT	Malatya	18.50	312	*e*P	Pn	15 10 29.2	+0.6
MALT				pmax	pmax		
	comp=Z,18nm,1.1s						
MALT	Malatya	18.50	312	*e*Pn	Pn	15 10 29.1	+0.5
	comp=Z,18nm,1.1s						
MALT	Malatya	18.50	312	*e*P	Pn	15 10 29.2	+0.6
	comp=Z,18nm,1.1s						
ZEI	Tsey	18.53	331	*e*P	Pn	15 10 30.5	+1.5
ONI	Oni	18.57	330	P	Pn	15 10 28.9	-0.7
GZT	Gaziantep	18.60	308	*i* P	Pn	15 10 29.8	-0.2
EIL	Elat	18.61	283	*e*Pn	Pn	15 10 30.1	+0.1
	comp=Z,75nm,1.0s						
EIL	Elat	18.61	283	*e*Pn	Pn	15 10 30.1	+0.1
	comp=Z,75nm,1.0s						
MMAI	Mount Meron Ar	18.71	294	P	Pn	15 10 31.3	+0.1
	comp=Z,0.4nm,0.3s,baz=238,slow=47,SNR=4.9						
MMAI				LR	LR	15 18 36.0	
	comp=Z,51nm,18.0s,baz=105,slow=40						
ATD	Arta Tunnel	19.66	221	P	Pn	15 10 42.8	+0.2
	comp=Z,0.9nm,0.3s,baz=248,slow=17,SNR=3.7						
ATD				LR	LR	15 18 40.7	
	comp=Z,95nm,20.3s,baz=19,slow=38						
KIV	Kislovodsk	20.01	331*c*	*i*P	P	15 10 47.2	+2.1
KIV				pmax	pmax		
	comp=Z,43nm,1.4s						
KIV	Kislovodsk	20.01	331	*e*P	P	15 10 45.9	+0.8
	comp=Z,58nm,1.0s						
KIV	Kislovodsk	20.01	331	*i* P	P	15 10 47.2	+2.1
	comp=Z,43nm,1.4s						
GRSN	GIRESUNGRSN	20.11	318	*i* P	P	15 10 47.3	+1.1
GOF	Gofitskoye	20.76	334	*e*P	P	15 10 52.9	-0.4
GOF				pmax	pmax		
	comp=Z,80nm,0.8s						
GOF	Gofitskoye	20.76	334	*e*P	P	15 10 52.9	-0.4
	comp=Z,80nm,0.8s						
CSS	Prodhromos	20.87	298	P	P	15 10 57.2	+2.8
SOC	Sochi	21.11	326	*e*P	P	15 11 00.6	+3.6
SOC				*e*S	S	15 14 52.4	+0.6
SOC				pmax	pmax		
	comp=Z,31nm,0.8s,mb4.7						
SOC				MLR	MLR		
	comp=Z,202nm,16.0s,MS3.6						
AAK	Ala-Archa	21.78	39	P	P	15 11 03.5	-0.7
AAK				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.5						
AAK	Ala-Archa	21.78	39	P	P	15 11 03.5	-0.7
	comp=Z,22nm,1.2s,mb4.5						
AAK	Ala-Archa	21.78	39	P	P	15 11 03.5	-0.7
	comp=Z,22nm,1.2s,mb4.5						
FRU	Bishkek	21.98	39	*e*P	P	15 11 09.0	+2.7
FRU				*e*		15 11 46.0	
FRU				pmax	pmax		
	comp=Z,100nm,2.7s,mb4.8						
FRU	Bishkek	21.98	39	*e*P	P	15 11 09.0	+2.7
	comp=Z,100nm,2.7s,mb4.8						
BR131	Keskin Array S	22.43	310	*e*P	P	15 11 10.4	-0.8
	comp=Z,20nm,1.0s,mb4.5						
BR131	Keskin Array S	22.43	310	*e*P	P	15 11 10.4	-0.8
	comp=Z,20nm,1.0s,mb4.5						
BRTR	Keskin Array B	22.43	310	P	P	15 11 12.1	+0.9
	comp=Z,2.2nm,0.9s,mb3.6,baz=123,slow=14,SNR=6.1						
ANTO	Ankara	23.07	310	P	P	15 11 14.5	-3.5
ANTO				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.6						
ANTO	Ankara	23.07	310	P	P	15 11 14.5	-3.5
	comp=Z,16nm,0.7s,mb4.5						
ANTO	Ankara	23.07	310	P	P	15 11 14.5	-3.5
	comp=Z,16nm,0.7s,mb4.6						
ANN	Anapa	23.13	325	*e*P	P	15 11 22.9	+4.3
ANN				pmax	pmax		
	comp=Z,62nm,1.4s,mb4.8						
AKTK	Aktyubinsk	23.47	3	P	P	15 11 22.3	+0.1
AKTK				LR	LR	15 21 44.0	
AKTK	Aktyubinsk	23.47	3	P	P	15 11 22.3	+0.1
AKTO	Aktyubinsk	23.47	3	P	P	15 11 22.3	+0.1
	comp=Z,3.7nm,0.6s,mb4.0,baz=176,slow=9.7,SNR=20						
AKTO				LR	LR	15 21 44.0	
	comp=Z,120nm,20.1s,MS3.4,baz=333,slow=39						
KOLN	Koldanda	24.62	82	*e*P	P	15 11 37.4	+4.7
	comp=Z,20nm,1.2s,mb4.5						
GKN	Gorkha	25.52	81	*e*P	P	15 11 46.7	+5.8
	comp=Z,18nm,1.0s,mb4.6						
DMN	Daman	25.96	82	*e*P	P	15 11 54.5	+10
KKN	Kakani	26.10	81	*e*P	P	15 11 55.0	+8.8
PKI	Pulchoki	26.23	82	*e*P	P	15 11 57.2	+10
GUN	Gumba	26.62	81	*e*P	P	15 12 00.6	+10
ZRNK	Zerenda	27.73	17	P	P	15 11 55.5	-5.4
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.0						
ZRNK	Zerenda	27.73	17	P	P	15 11 55.5	-5.4
	comp=Z,5.0nm,1.3s,mb4.0						
BRVK	Borovoye	28.17	19	*e*P	P	15 12 03.3	-1.5
	comp=Z,2.6nm,0.9s,mb3.9						
BRVK	Borovoye	28.17	19	*e*P	P	15 12 03.3	-1.5
BVAR	Borovoye Array	28.18	19	P	P	15 12 04.6	-0.3
	comp=Z,4.6nm,0.8s,mb4.2,baz=201,slow=7.9,SNR=20						
BVAR				LR	LR	15 24 13.7	
	comp=Z,124nm,19.4s,MS3.5,baz=144,slow=38						
GVD	Gavdhos	28.29	294	P	P	15 12 05.9	0.0
	comp=Z,60nm,1.1s,mb5.1						
GVD	Gavdhos	28.29	294	P	P	15 12 05.9	+0.1
	comp=Z,60nm,1.1s,mb5.1						
MKAR	Makanchi Array	28.71	40	P	P	15 12 10.3	+0.6
	comp=Z,0.8nm,0.7s,mb3.6,baz=222,slow=6.9,SNR=10						
MKAR	Makanchi Array	28.71	40	P	P	15 12 10.3	+0.6
KURK	Kurchatov	29.36	30	P	P	15 12 14.4	-1.0
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
KURK	Kurchatov	29.36	30	P	P	15 12 14.3	-1.0
	comp=Z,2.7nm,1.0s,mb3.9						
KURK	Kurchatov	29.36	30	P	P	15 12 14.4	-1.0
	comp=Z,3.0nm,1.0s,mb4.0						
ARU	Arti	29.49	3	*e*P	P	15 12 15.1	-1.4
ARU				*e*		15 13 08.2	
ARU				*e*S	S	15 17 08.2	-2.7
ARU				*e*SS	SS	15 18 35.6	-40
ARU	Arti	29.49	3	*e*P	P	15 12 15.5	-1.0
ARU	Arti	29.49	3	*e*P	P	15 12 15.1	-1.4
ARU				*e*S	S	15 17 08.2	-2.7
MLR	Muntele Rosu	30.14	316	P	P	15 12 21.8	-0.5
	comp=Z,1.2nm,0.4s,mb4.0,baz=280,slow=20,SNR=3.4						
AKASG	Malin Array Be	31.18	327	P	P	15 12 30.2	-1.3
	comp=Z,0.6nm,0.4s,mb3.8,baz=125,slow=7.7,SNR=7.9						
OBN	Obninsk	31.43	339 || *e*P	P	15 12 33.9	+0.2
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.8						
OBN	Obninsk	31.43	339	*e*P	P	15 12 33.9	+0.2
	comp=Z,6.0nm,0.4s,mb4.8						
KMBO	Kilima Mbogo	33.21	216	P	P	15 12 48.2	-1.0
	comp=Z,1.6nm,0.7s,mb4.1,baz=36,slow=13,SNR=4.0						
KMBO	Kilima Mbogo	33.21	216	*i* P	P	15 12 51.0	+1.7
KMBO	Kilima Mbogo	33.21	216	P	P	15 12 48.2	-1.1
NVS	Novosibirsk	34.25	28	*e*P	P	15 12 55.7	-2.6
ZAL	Zalesovo	34.33	30	P	P	15 12 58.9	-0.2
	comp=Z,3.3nm,0.3s,mb4.7,baz=241,slow=12,SNR=8.0						
STHS	Stebnicka Huta	34.78	319	*e*P	P	15 13 05.9	+3.0
KECS	Kecovo	34.82	318	*e*P	P	15 13 03.0	-0.2
KECS				*e*pP	pP	15 13 11.2	+4.9
VYHS	Vyhne	35.82	317	*e*P	P	15 13 12.1	+0.2
OKC	Ostrava-Krasne	36.78	319	*e*pP	pP	15 13 27.3	+4.1
VRAC	Vranov	37.50	317	P	P	15 13 25.4	-0.8
	comp=Z,1.8nm,0.5s,mb4.0,baz=134,slow=12,SNR=5.8						
DPC	Dobruska-Polom	38.06	319	*e*P	P	15 13 29.9	-1.0
TREC	Trest	38.17	317	*e*P	P	15 13 31.9	0.0
UPC	Upice	38.30	319	*e*P	P	15 13 32.4	-0.6
GTA	Gaotai	38.45	60	*e*P	P	15 13 35.8	+1.6
GTA				AP	pP	15 13 40.0	+2.7
GTA				XP	sP	15 13 43.3	+4.7
GERES	GERESS Array B	39.13	315	P	P	15 13 39.2	-0.7
	comp=Z,0.3nm,0.4s,mb3.4,baz=106,slow=7.2,SNR=3.4						
KHC	Kasperske Hory	39.30	316 || *e*P	P	15 13 40.0	-1.3
KHC	Kasperske Hory	39.30	316	*e*P	P	15 13 39.8	-1.5
JOF	Joensuu	39.40	343	*e*p	P	15 13 35.5	-6.7
BRG	Berggiesshubel	39.66	318	*e*P	P	15 13 42.6	-1.8
	comp=Z,2.4nm,1.0s,mb3.9						
BRG				*e*		15 13 48.7	
	comp=Z,2.5nm,1.1s						
BRG	Berggiesshubel	39.66	318	*e*P	P	15 13 42.6	-1.8
BRG				*e*		15 13 48.7	
BRG				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
BRG	Berggiesshubel	39.66	318	*e*P	P	15 13 42.6	-1.8
	comp=Z,2.4nm,1.0s,mb3.9						
BRG				*e*		15 13 48.7	
FINES	FINESS Array B	39.83	338	P	P	15 13 45.0	-0.7
	comp=Z,1.3nm,0.5s,mb3.9,baz=134,slow=10,SNR=15						
FINES				LR	LR	15 33 15.3	
	comp=Z,31nm,21.9s,MS3.1,baz=168,slow=41						
KAF	Kangasniemi	40.25	339	*e*p	P	15 13 53.1	+3.9
CLL	Collm	40.37	319	*e*(P)	P	15 13 54.0	+3.8
PGF	Pioggiola	40.98	305	*e*P	P	15 13 54.3	-1.0
	comp=Z,24nm,1.1s,mb4.4						
PGF	Pioggiola	40.98	305	*e*P	P	15 13 54.3	-1.0
PGF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
PGF	Pioggiola	40.98	305	*e*P	P	15 13 54.3	-1.0
	comp=Z,12nm,1.1s,mb4.4						
CD2	Chengdu	41.84	73	*e*P	P	15 13 59.5	-2.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
KMI	Kunming	41.96	82	P	P	15 14 01.8	-1.5
KMI				S	S	15 20 20.5	-1.4
KMI				SS	SS	15 23 19.5	-9.1
SBF	Sospel	42.28	306	*e*P	P	15 14 04.9	-1.0
ZAK	Zakamensk	42.83	44	*e*P	P	15 14 10.9	+0.5
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.1s,mb4.0						
ZAK	Zakamensk	42.83	44	*e*P	P	15 14 10.9	+0.5
	comp=Z,6.0nm,2.1s,mb4.0						
MBDF	Montbardon	42.86	308	*e*P	P	15 14 09.3	-1.4
	comp=Z,6.0nm,0.6s,mb4.2						
MBDF	Montbardon	42.86	308	*e*P	P	15 14 09.3	-1.4
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
MBDF	Montbardon	42.86	308	*e*P	P	15 14 09.3	-1.4
	comp=Z,3.0nm,0.6s,mb4.2						
TLY	Talaya	43.40	42	P	P	15 14 14.5	-0.5
ORIF	Oris-en-Rattie	43.51	308	*e*P	P	15 14 15.0	-0.9
ORIF				*e*R			
	comp=Z,48nm,21.0s						
CABF	La Chapelle	43.60	310	*e*P	P	15 14 15.6	-1.1
HFS	Hagfors	43.80	331	P	P	15 14 17.6	-0.7
	comp=Z,1.3nm,0.5s,mb3.9,baz=144,slow=10,SNR=8.1						
SONM	Songino Array	44.30	48	P	P	15 14 22.9	+0.7
	comp=Z,1.3nm,0.9s,mb3.7,baz=255,slow=9.6,SNR=7.9						
SONM				LR	LR	15 34 47.7	
	comp=Z,103nm,19.0s,MS3.8,baz=134,slow=38						
VIVF	Saint-Julien-l	44.36	308	*e*P	P	15 14 21.2	-1.5
MEZF	Maizieres J'vi	44.60	313	*e*P	P	15 14 24.0	-0.7
ULN	Ulaanbaatar	44.74	48	P	P	15 14 24.8	-1.0
	comp=Z,2.1nm,0.8s,mb4.0						
ULN	Ulaanbaatar	44.74	48	P	P	15 14 24.8	-0.9
LASF	Ste Croix	44.87	306	*e*P	P	15 14 25.8	-1.0
	comp=Z,6.1nm,0.8s,mb4.2						
LASF	Ste Croix	44.87	306	*e*P	P	15 14 25.8	-1.0
	comp=Z,3.0nm,0.8s,mb4.2						
SMF	Signal de Mont	45.14	310	*e*P	P	15 14 27.5	-1.5
	comp=Z,12nm,0.8s,mb4.5						
SMF	Signal de Mont	45.14	310	*e*P	P	15 14 27.5	-1.5
SMF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
SMF	Signal de Mont	45.14	310	*e*P	P	15 14 27.5	-1.5
	comp=Z,5.9nm,0.8s,mb4.5						
LOR	Lormes	45.21	311	*e*P	P	15 14 27.7	-1.8
	comp=Z,3.9nm,0.5s,mb4.2						
LOR				*e*R			
	comp=Z,58nm,22.4s						
LOR	Lormes	45.21	311	*e*P	P	15 14 27.7	-1.8
	comp=Z,2.0nm,0.5s,mb4.2						
LOR				LR	LR		
	comp=Z,60nm,22.4s,MS3.5						
NB2	NORSAR Subarra	45.31	331	P	P	15 14 28.5	-1.8
	comp=Z,2.2nm,0.9s,mb4.0,baz=118,slow=7.9						
NOA	NORSAR Array B	45.31	331	P	P	15 14 28.8	-1.5
	comp=Z,1.1nm,0.7s,mb3.8,baz=118,slow=8.1,SNR=4.4						
NOA				PP	PP	15 16 17.1	+0.8
	comp=Z,0.8nm,0.8s,baz=116,slow=9.1,SNR=2.5						
NOA				LR	LR	15 35 41.1	
	comp=Z,32nm,18.9s,MS3.3,baz=55,slow=39						
NOA	NORSAR Array B	45.31	331	P	P	15 14 28.8	-1.5
NOA						15 16 17.1	
NOA	NORSAR Array B	45.31	331	PP	PP	15 16 17.0	+0.7
SSF	Saint Saulge	45.42	311	*e*P	P	15 14 29.9	-1.3
	comp=Z,8.4nm,0.8s,mb4.3						
SSF	Saint Saulge	45.42	311	*e*P	P	15 14 29.9	-1.3
SSF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
SSF	Saint Saulge	45.42	311	*e*P	P	15 14 29.9	-1.3
	comp=Z,4.2nm,0.8s,mb4.3						
AVF	Avril sur Loir	45.49	310	*e*P	P	15 14 30.2	-1.5
BGF	Bois d'Agland	45.81	310	*e*P	P	15 14 33.0	-1.3
MTLF	Montolieu	46.01	305	*e*P	P	15 14 35.5	-0.4
	comp=Z,5.2nm,0.7s,mb4.3						
MTLF	Montolieu	46.01	305	*e*P	P	15 14 35.5	-0.4
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MTLF	Montolieu	46.01	305	*e*P	P	15 14 35.5	-0.4
	comp=Z,2.6nm,0.7s,mb4.3						
ARCES	ARCESS Array B	46.11	346	P	P	15 14 35.8	-0.8
	comp=Z,2.1nm,1.0s,mb4.0,baz=151,slow=8.2,SNR=6.0						
ARCES				LR	LR	15 36 40.5	
	comp=Z,51nm,20.2s,MS3.5,baz=204,slow=40						
CAF	Calviac	46.21	307	*e*P	P	15 14 36.6	-0.8
TCF	Toulx Ste Croi	46.22	309	*e*P	P	15 14 36.5	-1.0
	comp=Z,5.8nm,0.7s,mb4.3						
TCF	Toulx Ste Croi	46.22	309	*e*P	P	15 14 36.5	-1.0
TCF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
TCF	Toulx Ste Croi	46.22	309	*e*P	P	15 14 36.5	-1.0
	comp=Z,2.9nm,0.7s,mb4.3						
RJF	Les Rejaudoux	46.63	308	*e*P	P	15 14 40.0	-0.7
	comp=Z,3.8nm,0.5s,mb4.3						
RJF				*e*R			
	comp=Z,94nm,23.0s						
RJF	Les Rejaudoux	46.63	308	*e*P	P	15 14 40.0	-0.7
RJF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
RJF				MLR	MLR		
	comp=Z,90nm,23.0s,MS3.7						
RJF	Les Rejaudoux	46.63	308	*e*P	P	15 14 40.0	-0.7
	comp=Z,1.9nm,0.5s,mb4.3						
RJF				LR	LR		
	comp=Z,90nm,23.0s,MS3.7						
EPF	Esparros	47.38	305	*e*P	P	15 14 44.9	-1.6
HHC	Hu-ho-hao-te	47.50	58	*e*P	P	15 14 47.0	-0.5
HHC				PCP	PcP	15 16 18.0	+0.4
HHC				PP	PP	15 16 37.5	-1.3
HHC				PCS	PcS	15 20 12.8	-0.2
HHC				S	S	15 21 38.0	-4.2
HHC				SCS	ScS	15 24 38.5	-3.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,90nm,4.4s						
HHC				LR	LR		
	comp=N,90nm,15.5s,MS4.0						
HHC				LR	LR		
	comp=E,70nm,14.3s,MS4.0						
HHC				LR	LR		
	comp=Z,100nm,13.1s,MS4.0						
MFF	Saint Martin d	47.87	310	*e*P	P	15 14 48.7	-1.7
LDF	La Druitiere	48.02	312	*e*P	P	15 14 49.9	-1.7
ETSF	Etsaut	48.03	305	*e*P	P	15 14 51.2	-0.4
	comp=Z,13nm,0.9s,mb4.7						
ETSF	Etsaut	48.03	305	*e*P	P	15 14 51.2	-0.4
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ETSF	Etsaut	48.03	305	*e*P	P	15 14 51.2	-0.4
	comp=Z,6.3nm,0.9s,mb4.7						
FLN	La Foliniere	48.27	312	*e*P	P	15 14 51.9	-1.6
SJPF	Ste Jean	48.52	305	*e*P	P	15 14 55.1	-0.3
	comp=Z,9.3nm,0.7s,mb4.6						
SJPF	Ste Jean	48.52	305	*e*P	P	15 14 55.1	-0.3
SJPF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
SJPF	Ste Jean	48.52	305	*e*P	P	15 14 55.1	-0.3
	comp=Z,4.7nm,0.7s,mb4.6						
SGMF	Saint Gilles	49.61	312	*e*P	P	15 15 02.2	-1.6
ROSF	Rostrenen	50.09	312	*e*P	P	15 15 05.9	-1.5
TORD	Torodi Ar. Bea	52.35	266	P	P	15 15 23.9	-0.5
	comp=Z,5.7nm,0.6s,mb4.7,baz=65,slow=7.2,SNR=62						
NJ2	Nanjing	54.37	69	*e*P	P	15 15 40.0	+0.8
NJ2				AP	pP	15 15 50.3	+7.9
NJ2				XP	sP	15 15 54.5	+11
NJ2				PCP	PcP	15 16 43.8	+0.8
NJ2				S	S	15 23 14.0	-3.3
NJ2				XS	sS	15 23 32.0	+9.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,90nm,6.8s						
NJ2				LR	LR		
	comp=N,240nm,19.1s						
NJ2				LR	LR		
	comp=E,380nm,25.1s						
NJ2				LR	LR		
	comp=Z,180nm,22.8s,MS4.1						
MDJ	Mudanjiang	60.36	52	P	P	15 16 20.8	-0.7
MDJ				PCP	PcP	15 17 05.0	-1.5
MDJ				PP	PP	15 18 33.3	-1.2
MDJ				S	S	15 24 33.0	-3.2
MDJ				AMB	AMB		
	comp=Z,30nm,4.0s						
MDJ				LR	LR		
	comp=N,30nm,23.2s,MS3.5						
MDJ				LR	LR		
	comp=E,30nm,22.4s,MS3.5						
MDJ				LR	LR		
	comp=Z,20nm,18.0s,MS3.3						
DBIC	Dimbokro	60.96	262	P	P	15 16 19.9	-5.7
	comp=Z,12nm,1.1s,mb4.9						
KLR	Kul'dur	61.08	47	*e*P	P	15 16 21.3	-5.1
BOSA	Boshof	62.60	210	P	P	15 16 35.0	-1.6
	comp=Z,2.4nm,0.9s,mb4.3,baz=52,slow=7.1,SNR=3.6						
HABR	Khabarovsk	63.36	47	*e*P	P	15 16 40.2	-1.5
HABR				*e*S	S	15 25 11.0	-3.1
BILL	Bilibino	72.47	22 || *e*P	pP	15 17 52.7	+10
BILL				pmax	pmax		
	comp=N,3.0nm,0.4s						
WRA	Warramunga Arr	89.15	113	P	P	15 19 07.6	-0.5
	comp=N,0.5nm,0.7s,mb4.0,baz=318,slow=4.1,SNR=6.4						
WRA	Warramunga Arr	89.15	113 || *e*P	P	15 19 09.3	+1.2
ASAR	Alice Springs	90.60	116	P	P	15 19 13.8	-1.0
	comp=N,0.4nm,0.9s,mb3.8,baz=312,slow=4.7,SNR=3.9						

IDC ***30*** *15:24:57.9±0.6, 936N×9297E, h0km, mb4.1/12, mb1 4.2/12, mb1mx

CD2				XS	sS	15 34 37.5	-3.8
CD2				SS		15 35 11.3	
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=E,70nm,12.0s						
CD2				LR	LR		
	comp=Z,60nm,9.6s						
LZH	**Lanzhou**	**28.43**	**19**	*e*P	**P**	**15 30 55.0**	**0.0**
LZH				AP	pP	15 31 06.0	+1.0
LZH				XP	sP	15 31 09.0	-0.2
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
LZH				AMB	AMB		
	comp=Z,70nm,4.5s						
LZH				LR	LR		
	comp=E,440nm,13.7s						
LZH				LR	LR		
	comp=Z,630nm,14.8s,MS4.3						
GTA	**Gaotai**	**30.60**	**10**	*e*P	**P**	**15 31 14.0**	**-0.2**
WMQ	**Urumqi**	**34.73**	**353**	*e*P	**P**	**15 31 51.5**	**+1.2**
WMQ				LR	LR		
	comp=N,30nm,16.0s,MS3.2						
WMQ				LR	LR		
	comp=E,20nm,18.0s,MS3.2						
WMQ				LR	LR		
	comp=Z,30nm,17.0s,MS3.1						
HHC	**Hu-ho-hao-te**	**35.46**	**25**	*e*P	**P**	**15 31 58.0**	**+1.4**
HHC				AP	pP	15 32 07.5	+0.8
HHC				XP	sP	15 32 11.8	+0.8
HHC				PP	PP	15 33 18.0	+0.6
HHC				PCP	PcP	15 34 25.5	-0.1
HHC				S	**S**	**15 37 29.8**	**+0.5**
HHC				XS	sS	15 37 46.0	0.0
HHC				PCS	PcS	15 38 13.3	+0.6
HHC				SS	SS	15 39 48.0	-16
HHC				SCS	ScS	15 42 13.3	0.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,100nm,4.2s						
HHC				LR	LR		
	comp=N,70nm,13.1s,MS3.9						
HHC				LR	LR		
	comp=E,130nm,15.5s,MS3.9						
HHC				LR	LR		
	comp=Z,90nm,13.1s,MS3.7						
UCH	**Uchtor**	**36.65**	**337**	P	**P**	**15 32 07.8**	**+1.1**
	SNR=7.2						
KBK	**Karagaybulak**	**36.85**	**338**	P	**P**	**15 32 09.8**	**+1.3**
	SNR=10.0						
AML	**Almayashu**	**36.90**	**336**	P	**P**	**15 32 10.6**	**+1.7**
	SNR=5.5						
AAK	**Ala-Archa**	**37.00**	**337**	*e*P	**P**	**15 32 09.8**	**+0.1**
	comp=Z,5.2nm,0.8s,mb4.4						
EKS2	**Erkin-Say**	**37.31**	**336**	P	**P**	**15 32 13.6**	**+1.2**
	SNR=14						
USP	**Ospenovka**	**37.54**	**338**	P	**P**	**15 32 15.1**	**+0.7**
	SNR=11						
MKAR	**Makanchi Array**	**38.50**	**348**	P	**P**	**15 32 21.2**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.0,baz=170,slow=7.4,SNR=28						
SONM	**Songino Array**	**40.05**	**14**	P	**P**	**15 32 34.7**	**-0.7**
	comp=Z,5.4nm,0.9s,mb4.3,baz=199,slow=7.1,SNR=33						
SONM				PcP	PcP	15 34 40.4	+0.7
	comp=Z,1.5nm,0.7s,baz=196,slow=3.8,SNR=9.3						
SONM				LR	LR	15 50 00.8	
	comp=Z,36nm,18.3s,MS3.3,baz=256,slow=38						
SONM	**Songino Array**	**40.05**	**14**	P	**P**	**15 32 34.7**	**-0.7**
SONM				PcP	PcP	15 34 40.4	+0.7
SONM				LR	LR	15 50 00.8	
ULN	**Ulaanbaatar**	**40.23**	**15**	*e*P	**P**	**15 32 35.3**	**-1.6**
	comp=Z,3.0nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**42.12**	**130**	P	**P**	**15 32 54.0**	**+1.6**
	comp=Z,1.2nm,0.7s,mb3.6,baz=308,slow=12,SNR=4.0						
FITZ				PcP	PcP	15 34 48.6	+2.1
	comp=Z,2.8nm,1.1s,baz=346,slow=9.4,SNR=11						
KURK	**Kurchatov**	**43.00**	**347**	*e*P	**P**	**15 32 57.6**	**-2.0**
	comp=Z,2.9nm,1.0s,mb4.0						
TLY	**Talaya**	**43.16**	**10**	P	**P**	**15 32 54.0**	**-6.8**
	comp=Z,1.7nm,0.8s,mb3.8						
HIA	**Hailar**	**45.66**	**24**	*e*P	**P**	**15 33 19.8**	**-1.1**
	comp=Z,15nm,0.8s,mb5.0						
MDJ	**Mudanjiang**	**47.26**	**35**	P	**P**	**15 33 34.0**	**+0.6**
MDJ				AP	pP	15 33 43.3	-0.5
MDJ				XP	sP	15 33 46.5	-1.4
MDJ				PCP	PcP	15 35 03.5	-0.7
MDJ				PP	PP	15 35 27.3	+2.8
MDJ				S	**S**	**15 40 25.3**	**+1.1**
MDJ				SCS	ScS	15 43 25.5	+0.9
MDJ				AMB	AMB		
	comp=Z,30nm,5.2s						
BVAR	**Borovoye Array**	**47.33**	**342**	P	**P**	**15 33 32.9**	**-1.0**
	comp=Z,1.2nm,0.5s,mb4.1,baz=140,slow=7.8,SNR=12						
BRVK	**Borovoye**	**47.39**	**341**	*e*P	**P**	**15 33 32.0**	**-2.3**
	comp=Z,1.4nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**47.71**	**341**	*e*P	**P**	**15 33 35.4**	**-1.4**
	comp=Z,2.5nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**49.93**	**126**	P	**P**	**15 33 54.3**	**+0.4**
	comp=Z,3.1nm,0.5s,mb4.6,baz=303,slow=8.9,SNR=60						
WRA				PcP	PcP	15 35 15.3	+1.5
	comp=Z,0.4nm,0.5s,baz=319,slow=2.9,SNR=10						
WRAB	**Tennant Creek**	**49.94**	**126**	*e*P	**P**	**15 33 54.7**	**+0.7**
	comp=Z,9.4nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**49.94**	**126**	*e*P	**P**	**15 33 54.7**	**+0.7**
WB2				*e*PCP	PcP	15 35 15.7	+1.9
ASPA	**Alice Springs**	**51.62**	**130**	‖ *i* P	**P**	**15 34 07.1**	**+0.5**
ASPA				*e*PCP	PcP	15 35 21.9	+1.9
AS31	**Alice Springs**	**51.62**	**130**	‖ *i* P	**P**	**15 34 07.1**	**+0.5**
AS31				*e*PcP	PcP	15 35 21.9	+1.8
ASAR	**Alice Springs**	**51.62**	**130**	P	**P**	**15 34 07.0**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=304,slow=7.3,SNR=45						
ASAR				PcP	PcP	15 35 21.7	+1.6
	comp=Z,1.3nm,0.6s,baz=307,slow=3.5,SNR=11						
ARU	**Arti**	**54.19**	**337**	*e*P	**P**	**15 34 24.4**	**-1.2**
	comp=Z,3.5nm,0.8s,mb4.3						
KIV	**Kislovodsk**	**55.57**	**318**	P	**P**	**15 34 35.5**	**0.0**
	comp=Z,6.3nm,0.7s,mb4.8						
YSS	**Yuzh-Sakhalins**	**56.34**	**39**	*e*P	**P**	**15 34 40.2**	**-0.9**
	comp=Z,11nm,0.8s,mb5.0						
KMBO	**Kilima Mbogo**	**56.54**	**262**	LR	LR	15 53 53.7	
	comp=Z,46nm,20.2s,MS3.6,baz=97,slow=31						
YAK	**Yakutsk**	**59.01**	**19**	*e*P	**P**	**15 34 57.0**	**-2.8**
	comp=Z,15nm,0.9s,mb5.0						
CTAO	**Charters Tower**	**59.91**	**120**	P	**P**	**15 35 07.9**	**+1.9**
BR131	**Keskin Array S**	**60.72**	**310**	*e*P	**P**	**15 35 10.6**	**-0.9**
	comp=Z,3.6nm,1.0s,mb4.5						
BRTR	**Keskin Array B**	**60.72**	**310**	P	**P**	**15 35 11.2**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.2,baz=99,slow=7.6,SNR=8.3						
STKA	**Stephens Creek**	**61.83**	**134**	P	**P**	**15 35 18.5**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.5,baz=278,slow=7.9,SNR=4.3						
STKA	**Stephens Creek**	**61.83**	**134**	*e*P	**P**	**15 35 18.0**	**-1.1**
AKASG	**Malin Array Be**	**66.40**	**321**	P	**P**	**15 35 47.5**	**-1.6**
	comp=Z,1.4nm,0.6s,mb4.2,baz=92,slow=5.3,SNR=5.3						
FINES	**FINESS Array B**	**70.98**	**332**	P	**P**	**15 36 14.7**	**-3.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=86,slow=7.8,SNR=7.3						
ARCES	**ARCESS Array B**	**73.59**	**340**	P	**P**	**15 36 32.1**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=86,slow=7.3,SNR=7.1						
BOSA	**Boshof**	**75.44**	**237**	LR	LR	16 04 15.2	
	comp=Z,76nm,20.0s,MS4.0,baz=110,slow=31						
GERES	**GERESS Array B**	**76.08**	**318**	P	**P**	**15 36 47.6**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=79,slow=6.9,SNR=8.5						
CLL	**Collm**	**76.61**	**321**	*e*P	**P**	**15 36 49.0**	**-1.6**
PDAR	**Pinedale Array**	**124.23**	**20**	PKP	PKPdf	15 43 57.0	-1.6
	comp=Z,0.5nm,0.7s,baz=341,slow=3.1,SNR=4.6						
PLCA	**Paso Flores**	**145.47**	**202**	PKPbc	PKPbc	15 44 37.0	-1.0
	comp=Z,3.0nm,1.0s,baz=136,slow=5.8,SNR=4.8						
CFAA	**Coronel Fontan**	**151.81**	**215**	PKPbc	PKPbc	15 44 56.1	+1.5
	comp=Z,0.2nm,0.4s,baz=162,slow=3.2,SNR=3.9						

*IDC **30** 16:29:51.6±0.1, 2543N×9492E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.5/6, Error ellipse: s-maj=47.0km s-min=18.5km az=57.0*

*ISCJB **30** 16:30:06.3±1.0, 258N±0.1×9500E±006, h151km±11km, mb3.4/6, Error ellipse: s-maj=21.4km s-min=8.0km az=20.9*

ISC 30 16:30:07.2±1.0, 258N±01×9501E±006, h135km±11km, n16, σ1§23/24, mb3.4/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**1.82**	**31**	*e*P	**Pn**	**16 30 38.0**	**-1.3**
SHL	**Shillong**	**2.83**	**266**	*i* P	**Pn**	**16 30 54.0**	**+2.3**
SHL				*e*S	**Sn**	**16 31 32.0**	**+6.0**
JIRN	**Jiri**	**8.11**	**285**	*e*Pn	**Pn**	**16 32 03.2**	**+1.2**
JIRN				*e*Sn	**Sn**	**16 33 33.1**	**+1.1**
	75nm,0.4s						
GUN	**Gumba**	**8.43**	**287**	*e*Pn	**Pn**	**16 32 07.5**	**+1.2**
GUN				*e*Sn	**Sn**	**16 33 40.9**	**+1.1**
	120nm,0.6s						
PKI	**Pulchoki**	**8.77**	**284**	*e*Pn	**Pn**	**16 32 11.3**	**+0.4**
PKI				*e*Sn	**Sn**	**16 33 46.1**	**-2.0**
	65nm,0.7s						
KKN	**Kakani**	**8.92**	**285**	*e*Pn	**Pn**	**16 32 13.0**	**0.0**
KKN				*e*Sn	**Sn**	**16 33 51.4**	**-0.4**
	54nm,0.5s						
DMN	**Daman**	**9.04**	**284**	*e*Pn	**Pn**	**16 32 14.5**	**-0.1**
DMN				*e*Sn	**Sn**	**16 33 52.6**	**-2.1**
	27nm,0.5s						
GKN	**Gorkha**	**9.52**	**286**	*e*Pn	**Pn**	**16 32 21.5**	**+0.5**
GKN				*e*Sn	**Sn**	**16 34 05.6**	**-0.6**
	49nm,0.4s						
KOLN	**Koldanda**	**10.39**	**284**	*e*Pn	**Pn**	**16 32 32.7**	**+0.2**
KOLN				*e*Sn	**Sn**	**16 34 24.8**	**-2.4**
	39nm,0.5s						
MKAR	**Makanchi Array**	**23.29**	**338**	P	**P**	**16 35 02.6**	**-0.2**
	0.3nm,0.6s,mb2.9,baz=142,slow=10,SNR=5.9						
SONM	**Songino Array**	**23.78**	**19**	P	**P**	**16 35 10.4**	**+3.1**
	0.3nm,0.7s,mb3.0,baz=216,slow=7.1,SNR=2.6						
BVAR	**Borovoye Array**	**32.88**	**332**	P	**P**	**16 36 28.1**	**-0.1**
	0.2nm,0.5s,mb3.1,baz=143,slow=12,SNR=2.8						
BRTR	**Keskin Array B**	**52.52**	**301**	P	**P**	**16 39 09.0**	**+2.6**
	0.7nm,0.7s,mb3.5,baz=95,slow=9.7,SNR=3.8						
WRA	**Warramunga Arr**	**59.37**	**136**	P	**P**	**16 39 54.1**	**-1.1**
	2.1nm,0.6s,mb4.2,baz=321,slow=7.5,SNR=44						
WB2	**Warramunga Arr**	**59.38**	**136**	*e*P	**P**	**16 39 54.3**	**-0.9**
ASAR	**Alice Springs**	**61.91**	**139**	P	**P**	**16 40 12.1**	**-0.3**
	1.1nm,0.7s,mb3.8,baz=322,slow=7.0,SNR=15						

*CSEM **30** 16:31:07.0±0.0, 4620N×293E, h10km, ML2.4/20, Error ellipse: s-maj=0.8km s-min=0.6km az=115.0*

*STR **30** 16:31:08.2±0.2, 4613N×295E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 30 16:31:07.0±0.0, 4621N×293E, h11km, Md2.5/3, Ml2.4/20, Error ellipse: s-maj=0.8km s-min=0.6km az=120.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGF	**Bois d'Agland**	**0.36**	**351**	*e*Pg	Pg	16 31 14.5	+0.4
	SNR=1.0						
BGF				*e*Sg	Sg	16 31 19.1	+0.2
	32nm,0.2s						
BGF	**Bois d'Agland**	**0.36**	**351**	*e*Pg	Pg	16 31 14.5	+0.4
	SNR=1.0						
BGF				*e*Sg	Sg	16 31 19.1	+0.2
	16nm,0.2s						
TCF	**Toulx Ste Croi**	**0.50**	**280**	*e*Pg	Pg	16 31 17.1	+0.3
	SNR=1.0						
TCF	**Toulx Ste Croi**	**0.50**	**280**	*e*Pn	Pg	16 31 18.7	+1.9
TCF				*e*Sg	Sg	16 31 23.2	-0.3
	19nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**0.50**	**280**	*e*Pn	Pg	16 31 18.7	+1.9
TCF				*e*Sg	Sg	16 31 23.2	-0.3
	9.4nm,0.2s,SNR=1.0						
PLDF	**La Plantade**	**0.54**	**116**	Pg	Pg	16 31 17.4	-0.1
PLDF				Sg	Sg	16 31 24.6	0.0
VERF	**Verneugheol**	**0.55**	**214**	Pg	Pg	16 31 17.8	+0.1
VERF				Sg	Sg	16 31 24.8	-0.2
AVF	**Avril sur Loir**	**0.66**	**27**	*e*Pg	Pg	16 31 19.5	-0.2
	SNR=1.0						
AVF	**Avril sur Loir**	**0.66**	**27**	*e*Pn	Pn	16 31 20.9	-1.3
AVF				*e*Sg	Sg	16 31 28.0	-0.3
	25nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**0.66**	**27**	*e*Pn	Pn	16 31 20.9	-1.3
AVF				*e*Sg	Sg	16 31 28.0	-0.3
	12nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**0.77**	**55**	*e*Pg	Pg	16 31 21.7	-0.2
SMF	**Signal de Mont**	**0.77**	**55**	*e*Pn	Pn	16 31 22.3	-1.5
	SNR=1.0						
SMF				*e*Sg	Sg	16 31 31.6	-0.4
	15nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**0.77**	**55**	*e*Pn	Pn	16 31 22.3	-1.5
	SNR=1.0						
SMF				*e*Sg	Sg	16 31 31.6	-0.4
	7.4nm,0.2s,SNR=1.0						
FRNF	**Fournols**	**0.86**	**197**	Pg	Pg	16 31 23.6	+0.1
FRNF				Sg	Sg	16 31 34.0	-0.7
COLF	**Collangettes**	**0.87**	**142**	Pg	Pg	16 31 23.7	-0.1
COLF				Sg	Sg	16 31 35.0	-0.2
SSF	**Saint Saulge**	**0.95**	**25**	*e*Pg	Pg	16 31 24.9	-0.3
	SNR=1.0						
SSF				*e*Sg	Sg	16 31 36.8	-0.7
	9.0nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**0.95**	**25**	*e*Pg	Pg	16 31 24.9	-0.3
	SNR=1.0						
SSF				*e*Sg	Sg	16 31 36.8	-0.7
	4.5nm,0.2s,SNR=1.0						
LBL	**Lubilhac**	**1.00**	**167**	Pg	Pg	16 31 26.0	-0.2
LBL				Sg	Sg	16 31 38.6	-0.6
HYF	**Humbligny**	**1.08**	**350**	*e*Pn	Pn	16 31 26.4	-1.7
HYF	**Humbligny**	**1.08**	**350**	*e*Pg	Pg	16 31 27.5	-0.3
HYF				*e*Sg	Sg	16 31 41.7	-0.2
HYF	**Humbligny**	**1.08**	**350**	*e*Pg	Pg	16 31 27.5	-0.3
HYF				*e*Sg	Sg	16 31 41.7	-0.2
LOR	**Lormes**	**1.24**	**31**	*e*Pn	Pn	16 31 28.7	-1.6
	baz=216						
LOR	**Lormes**	**1.24**	**31**	*e*Pg	Pg	16 31 30.1	-0.8
	baz=216,SNR=1.0						
LOR				*e*Sg	Sg	16 31 45.6	-1.4
	12nm,0.2s,baz=209,SNR=1.0						
LOR	**Lormes**	**1.24**	**31**	*e*Pg	Pg	16 31 30.1	-0.8
	baz=216,SNR=1.0						
LOR				*e*Sg	Sg	16 31 45.6	-1.4
	6.1nm,0.2s,baz=209,SNR=1.0						
RJF	**Les Rejaudoux**	**1.34**	**228**	*e*Pg	Pg	16 31 32.1	-0.6
	SNR=1.0						
RJF				*e*Sn	Sn	16 31 46.6	-2.7
	SNR=1.0						
RJF				*e*Sg	Sg	16 31 49.0	-1.0
	15nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**1.34**	**228**	*e*Pg	Pg	16 31 32.1	-0.6
	SNR=1.0						
RJF				*e*Sn	Sn	16 31 46.6	-2.7
	SNR=1.0						
RJF				*e*Sg	Sg	16 31 49.0	-1.0
	7.6nm,0.2s,SNR=1.0						
CAF	**Calviac**	**1.42**	**206**	*e*Pn	Pn	16 31 31.1	-1.6
CAF	**Calviac**	**1.42**	**206**	*e*Pg	Pg	16 31 33.5	-0.7
CAF				*e*Sg	Sg	16 31 51.3	-1.2
	12nm,0.2s,SNR=1.0						
CAF	**Calviac**	**1.42**	**206**	*e*Pg	Pg	16 31 33.5	-0.7
CAF				*e*Sg	Sg	16 31 51.3	-1.2
	5.8nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.82**	**137**	*e*Pg	Pg	16 31 41.2	-0.8
VIVF				*e*Sn	Sn	16 31 57.8	-3.6
	SNR=1.0						
VIVF				*e*Sg	Sg	16 32 02.9	-2.8
	4.0nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.82**	**137**	*e*Pg	Pg	16 31 41.2	-0.8
VIVF				*e*Sn	Sn	16 31 57.8	-3.6
	SNR=1.0						
VIVF				*e*Sg	Sg	16 32 02.9	-2.8
	2.0nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**1.99**	**231**	*e*Pg	Pg	16 31 43.8	-1.4
	SNR=1.0						
LFF				*e*Sg	Sg	16 32 09.9	-1.1
	9.9nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**1.99**	**231**	*e*Pg	Pg	16 31 43.8	-1.4
	SNR=1.0						
LFF				*e*Sg	Sg	16 32 09.9	-1.1
	4.9nm,0.4s,SNR=1.0						
MFF	**Saint Martin d**	**2.16**	**282**	*e*Pg	Pg	16 31 46.4	-2.1
	SNR=1.0						
MFF				*e*Sg	Sg	16 32 14.4	-2.1
	3.3nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**2.16**	**282**	*e*Pg	Pg	16 31 46.4	-2.1
	SNR=1.0						
MFF				*e*Sg	Sg	16 32 14.4	-2.1
	1.6nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**2.23**	**78**	*e*Pn	Pn	16 31 42.5	-1.3
	SNR=1.0						
CABF	**La Chapelle**	**2.23**	**78**	*e*Pg	Pg	16 31 49.0	-0.7
CABF				*e*Sg	Sg	16 32 16.6	-1.9
	3.6nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**2.23**	**78**	*e*Pg	Pg	16 31 49.0	-0.7
CABF				*e*Sg	Sg	16 32 16.6	-1.9
	1.8nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.23**	**162**	*e*Pg	Pg	16 31 48.3	-1.4
LASF				*e*Sg	Sg	16 32 16.7	-1.9
	2.6nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.23**	**162**	*e*Pg	Pg	16 31 48.3	-1.4
LASF				*e*Sg	Sg	16 32 16.7	-1.9
	1.3nm,0.4s,SNR=1.0						
SFTF	**Sexfontaines**	**2.47**	**35**	*e*Sg	Sg	16 32 23.9	-2.3
	6.8nm,0.4s						
SFTF	**Sexfontaines**	**2.47**	**35**	*e*Sg	Sg	16 32 23.9	-2.3
	3.4nm,0.4s						
MEZF	**Maizieres J'vi**	**2.71**	**31**	*e*Sg	Sg	16 32 32.4	-1.8
	10nm,0.4s						
MEZF	**Maizieres J'vi**	**2.71**	**31**	*e*Sg	Sg	16 32 32.4	-1.8
	5.1nm,0.4s						
MTLF	**Montolieu**	**2.91**	**190**	*e*Sg	Sg	16 32 38.2	-2.2
	1.4nm,0.3s						
MTLF	**Montolieu**	**2.91**	**190**	*e*Sg	Sg	16 32 38.2	-2.2
	0.7nm,0.3s						
HAU	**Haudompre**	**2.95**	**51**	*e*Sg	Sg	16 32 39.6	-2.2
	3.7nm,0.2s						
HAU	**Haudompre**	**2.95**	**51**	*e*Sg	Sg	16 32 39.6	-2.2
	1.9nm,0.2s						
HINF	**Hinteralfeld**	**3.13**	**58**	*e*Pg	Pg	16 32 05.3	-1.7
HINF				*e*Sg	Sg	16 32 45.2	-2.5
	2.5nm,0.3s						
HINF	**Hinteralfeld**	**3.13**	**58**	*e*Pg	Pg	16 32 05.3	-1.7
HINF				*e*Sg	Sg	16 32 45.2	-2.5
	1.2nm,0.3s						
LDF	**La Druitiere**	**3.16**	**320**	*e*Sg	Sg	16 32 46.5	-2.1
	0.8nm,0.2s						
LDF	**La Druitiere**	**3.16**	**320**	*e*Sg	Sg	16 32 46.5	-2.1
	0.4nm,0.2s						
GRR	**Gorron**	**3.38**	**312**	*e*Sg	Sg	16 32 52.9	-2.6
	1.3nm,0.2s						
GRR	**Gorron**	**3.38**	**312**	*e*Sg	Sg	16 32 52.9	-2.6
	0.6nm,0.2s						
EPF	**Esparros**	**3.67**	**211**	*e*Sg	Sg	16 33 02.0	-2.9
	1.5nm,0.2s						
EPF	**Esparros**	**3.67**	**211**	*e*Sg	Sg	16 33 02.0	-2.9
	0.8nm,0.2s						
CDF	**Champ du Feu**	**3.69**	**52**	*e*Sg	Sg	16 33 02.3	-3.3
	3.1nm,0.5s						
CDF	**Champ du Feu**	**3.69**	**52**	*e*Sg	Sg	16 33 02.3	-3.3
	1.5nm,0.5s						
ETSF	**Etsaut**	**4.14**	**218**	*e*Sg	Sg	16 33 17.0	-2.9
	1.0nm,0.3s						
ETSF	**Etsaut**	**4.14**	**218**	*e*Sg	Sg	16 33 17.0	-2.9
	0.5nm,0.3s						

MAN 30 16:31:47.6, 922N×12559E, h4km, mb2.9, ML4.3, MS1.9, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.25**	**172**	*e*P	Pg	16 31 53.5	+1.1
SCPH	**Surigao**	**0.57**	**350**	*e*P	Pg	16 31 58.5	-0.1
SCPH				*e*S	Sg	16 32 06.0	0.0
MSLP	**Maasin**	**1.16**	**322**	*e*P	Pg	16 32 08.7	-1.2
CGP	**Cagayan de Oro**	**1.16**	**230**	‖ *i* P	Pg	16 31 60.0	-10
CGP				*i* S	Sg	16 32 22.8	-2.2
BIPH	**Bislig**	**1.28**	**143**	‖ *e*P	Pg	16 32 09.9	-2.2
BIPH				*e*S	Sg	16 32 27.0	-1.7
BUKP	**Musuan**	**1.43**	**201**	*e*P	Pn	16 32 14.6	+0.3
TBP	**Tagbilaran**	**1.77**	**286**	*e*P	Pn	16 32 26.2	+7.2
TBP				*e*S	Sn	16 32 46.6	+4.7
PLP	**Palo**	**2.03**	**343**	*e*P	Pn	16 32 23.2	+0.6
PLP				*e*S	Sn	16 32 50.0	+1.7
OCLP	**Ormoc**	**2.06**	**332**	*e*P	Pn	16 32 23.2	+0.2
DCPH	**Dipolog City**	**2.30**	**254**	‖ *e*P	Pn	16 32 24.8	-1.5
DCPH				*e*S	Sn	16 32 54.4	-0.6
BESP	**Borongan**	**2.38**	**356**	*e*P	Pn	16 32 30.4	+3.1

*NEIC **30** 16:43:36.4±0.8, 2180S×17374W, h10km, mb4.8/3, Error ellipse: s-maj=36.7km s-min=15.0km az=177.0*

*ISCJB **30** 16:43:37.0±0.8, 213S±0.1×1736W±0.1, h33km, mb4.4/8, Error ellipse: s-maj=21.4km s-min=13.5km az=142.6*

*IDC **30** 16:43:37.4±1.8, 2167S×17404W, h0km, mb4.0/4, mb1 4.3/4, mb1mx4.0/14, mbtmp4.0/4, Error ellipse: s-maj=74.4km s-min=27.0km az=154.0*

ISC 30 16:43:40.5±0.9, 219S±03×1737W±01, h35km, n15, σ1§09/15, mb4.4/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.10**	**13**	Pn	**Pn**	**16 45 26.6**	**-8.9**
	3.8nm,0.3s,baz=177,slow=16,SNR=8.4						
AFI				Sn	**Sn**	**16 46 45.7**	**-20**
	3.5nm,0.3s,baz=248,slow=23,SNR=2.5						
RAO	**Raoul Island**	**8.31**	**207**	Pn	**Pn**	**16 45 33.5**	**-5.0**
	196nm,0.3s,baz=75,slow=20,SNR=7.1						
RAR	**Rarotonga**	**12.94**	**90**	Pn	**Pn**	**16 46 41.9**	**+0.1**
	3.0nm,0.3s,baz=255,slow=16,SNR=4.0						
HNR	**Honiara**	**28.20**	**292**	P	**P**	**16 49 28.9**	**-0.9**
	28nm,0.3s,mb5.3,baz=273,slow=20,SNR=8.0						
STKA	**Stephens Creek**	**40.

CTU eSn Sn 16 55 54.9 -2.0
YFT Old Faithful 2.02 14 ePn Pn 16 55 38.6 +2.0
YFT eSn Sn 16 56 06.0 +4.1
DAU Daniels Canyon 2.09 175 ePn Pn 16 55 37.9 +0.1
LKWY Lake 2.22 21 ePn Pn 16 55 41.1 +1.7
M13A Montello 2.28 241 P Pn 16 55 39.1 -1.2
baz=2.3,SNR=149
QLMT Earthquake Lak 2.33 2 ePn Pn 16 55 42.8 +1.7
QLMT eSn Sn 16 56 15.3 +5.6
HLID Hailey 2.38 298 ePn Pn 16 55 42.3 +0.7
HLID eSn Sn 16 56 16.0 +5.2
MPU Maple Canyon 2.48 182 ePn Pn 16 55 42.7 -0.3
MCMT McKenzie Canyo 2.52 338 ePn Pn 16 55 45.6 +2.0
MCMT eSn Sn 16 56 11.9 -2.5
NLU North Lily Min 2.58 190 ePn Pn 16 55 43.6 -0.7
M12A Wells 2.75 248 ⇑P Pn 16 55 46.2 -0.6
baz=2.7,SNR=17
DLMT Dillon 2.97 345 ePn Pn 16 55 51.5 +1.8
N12A Wells--Clov Va 3.11 239 ⇑P Pn 16 55 51.2 -0.5
baz=3.1,SNR=22
BOZ Bozeman (W) 3.15 359 ePn Pn 16 55 53.4 +1.2
TMUT Trail Mountain 3.21 176 ePn Pn 16 55 53.0 0.0
ELK Elko 3.29 239 ePn Pn 16 55 53.8 -0.5
RWWY Rawlins 3.31 103 ePn Pn 16 55 55.1 +0.8
RWWY ePg Pg 16 56 05.6 -0.3
RWWY eSn Sn 16 56 38.2 +4.4
M11A Holland Ranch, 3.36 253 ⇑P Pn 16 55 54.9 -0.2
baz=3.3,SNR=10
LRM Limekiln Ridge 3.39 349 ePn Pn 16 55 57.8 +2.2
SRU San Rafael 3.47 167 ePn Pn 16 55 57.1 +0.5
SRU eSn Sn 16 56 40.2 +2.5
N11A Elko Archery C 3.58 243 ⇑P Pn 16 55 57.7 -0.5
baz=3.6
M10A I.L. Ranch, Tu 3.87 257 ⇓P Pn 16 56 06.9 +4.7
baz=3.8
O11A Cowboy Ranch, 3.92 234 ⇓P Pn 16 56 02.6 -0.1
baz=3.9,SNR=30
P12A McGill 3.97 221 ⇓P Pn 16 56 03.5 0.0
baz=4.0
MSU Marysvale 4.01 187 ePn Pn 16 56 03.9 -0.2
MVU Marysvale 4.03 188 ePg Pg 16 56 16.4 -3.3
N10A Dunphy 4.14 246 ⇓P Pn 16 56 06.0 +0.1
baz=4.1
HRY Hotel Researc 4.22 357 ePn Pn 16 56 08.3 +1.3
HRY eS Sb 16 57 10.3 +2.4
P11A Circle Ranch, 4.35 229 ⇓P Pn 16 56 08.1 -0.6
baz=4.3,SNR=10.0
M09A Marrel Ranch, 4.55 258 ⇓P Pn 16 56 11.1 -0.5
baz=4.5
CHMT Chamberlain Mo 4.59 345 ePn Pn 16 56 14.6 +2.6
CHMT eSg Sg 16 57 30.0 +0.1
L09A Wilkinson Ranc 4.59 266 ⇓P Pn 16 56 10.9 -1.2
baz=4.6
MSO Missoula 4.66 339 ePn Pn 16 56 13.0 -0.1
PHWY Pilot Hill 4.68 103 ePn Pn 16 56 13.7 +0.5
P10A Eureka 4.71 234 ⇓P Pn 16 56 14.0 +0.2
baz=4.7
BMN Battle Mountai 4.76 246 ePn Pn 16 56 13.4 -0.9
SMCO Snowmass 4.78 132 ePn Pn 16 56 15.2 +0.5
SMCO eSg Sg 16 57 27.9 -8.3
N09A Rock Creek Ran 4.79 252 ⇑P Pn 16 56 13.9 -0.9
baz=4.8
Q11A Duckwater 4.81 222 ⇑P Pn 16 56 15.6 +0.6
baz=4.8
BMO Blue Mountains 4.81 301 ePn Pn 16 56 15.9 +0.7
BMO eSg Sg 16 57 30.8 -6.3
O09A Fish Creek Ran 4.86 243 ⇑P Pn 16 56 14.9 -0.9
baz=4.8
ISCO Idaho Springs 5.21 119 ePn Pn 16 56 21.4 +0.8
ISCO eSg Sb 16 57 36.8 +0.4
M08A Happy Creek Ra 5.22 261 ⇓P Pn 16 56 20.6 -0.1
baz=5.2
N08A GE Springer Mi 5.24 253 ⇑P Pn 16 56 20.1 -0.9
baz=5.2
R10A Warm Springs 5.57 223 ⇓P Pn 16 56 25.2 -0.3
baz=5.6
LAO LASA Array 5.64 40 ePn Pn 16 56 28.0 +1.5
Q09A Carvers 5.65 231 ⇓P Pn 16 56 25.9 -0.7
baz=5.6
M07A Soldier Meadow 5.81 262 ⇓P Pn 16 56 28.0 -0.8
baz=5.8
L07A Adell 5.83 268 ⇓P Pn 16 56 29.2 +0.2
baz=5.8
BSMT Bassoo Peak 5.83 338 ePn Pn 16 56 30.4 +1.3
R09A Tonopah 6.00 227 ⇓P Pn 16 56 31.1 -0.3
baz=6.0
O07A Toulon 6.01 250 ⇑P Pn 16 56 30.5 -1.2
baz=6.0
Q08A Gabbs 6.08 235 ⇓P Pn 16 56 32.1 -0.4
baz=6.1
TPH Tonopah 6.21 227 ePn Pn 16 56 33.0 -1.3
S09A Goldfield 6.47 224 ⇓P Pn 16 56 38.1 +0.2
baz=6.5
MNV Mina 6.49 233 ePn Pn 16 56 38.8 +0.7
MNV eSn Sn 16 57 58.7 +6.5
MNV eSg Sg 16 58 26.0 -4.9
PAHR Pah Rah Range 6.56 247 ePn Pn 16 56 37.2 -1.9
PAHR eSg Sg 16 58 20.7 -13
NVAR Mina Array Bea 6.58 234 Pn Pn 16 56 40.7 +1.4
1.0nm,0.3s,baz=211,slow=24,SNR=28
NVAR Sn Sn 16 57 54.1 -0.3
baz=46,slow=15,SNR=1.9
NVAR Lg 16 58 23.6
0.9nm,0.3s,baz=247,slow=21,SNR=2.1
NVAR Mina Array Bea 6.58 234 Pn Pn 16 56 40.7 +1.4
NVAR Sn Sn 16 57 54.1 -0.3
NVAR Lg 16 58 23.6
SHPR Sheep Range 6.61 206 ePn Pn 16 56 42.1 +2.2
TPNV Topopah Spring 6.63 215 ePn Pn 16 56 41.6 +1.5
TPNV eSg Sg 16 58 28.3 -7.2
WALA Waterton Lakes 6.77 347 Pn Pn 16 56 39.8 -2.2
23nm,0.8s
WALA eSg Sg 16 58 35.7 -4.3
M06C Likely Place G 6.82 262 ⇑P Pn 16 56 41.4 -1.2
baz=6.8
HAWA Hanford 6.93 307 ePn Pn 16 56 47.5 +3.3
1.0nm,0.6s
WUAZ Wupatki 6.97 179 ePn Pn 16 56 45.2 +0.5
NEW Newport 6.99 328 Pn Pn 16 56 44.3 -0.7
0.8nm,0.3s,baz=145,slow=13,SNR=4.8
NEW Lg 16 58 34.1
1.0nm,0.3s,baz=137,slow=15,SNR=4.5
NEW Newport 6.99 328 ePn Pn 16 56 44.7 -0.3
NEW eSg Sg 16 58 44.1 -2.7
GBL Gable Mountain 7.00 309 P Pn 16 56 49.6 +4.4
SNIWA Snively Ranch 7.04 307 P Pn 16 56 50.6 +4.8
U10A Ash Meadows, A 7.12 213 ⇑P Pn 16 56 48.6 +1.8
baz=7.1
R06C Coleville 7.23 239 ⇓P Pn 16 56 49.0 +0.6
baz=7.2
WAKR Walker 7.23 239 ePn Pn 16 56 50.8 +2.5
V12A Nelson 7.24 202 ⇓P Pn 16 56 50.9 +2.5
baz=7.3
R07C Lee Vining 7.25 235 ⇓P Pn 16 56 48.1 -0.4
baz=7.2
V11A Goodsprings 7.31 206 ⇑P Pn 16 56 51.9 +2.5
baz=7.3
W15A Williams 7.33 185 ⇓P Pn 16 56 52.0 +2.3
baz=7.4
W14A Seligman 7.38 190 ⇓P Pn 16 56 52.3 +2.0
baz=7.4
MTUM Tungsten Hills 7.46 229 ePn Pn 16 56 51.7 +0.2
MTUM eSg Sg 16 58 54.2 -7.9
MXC Moxie City 7.48 306 P Pn 16 56 56.9 +5.2
W13A Hualapai Mount 7.62 195 ⇓P Pn 16 56 56.4 +2.8
baz=7.6
DAC Darwin (Calif) 7.79 219 ePn Pn 16 56 58.4 +2.4
EBG Ellensburg 7.81 307 P Pn 16 57 00.0 +3.7
TUQ Turquoise Mtn. 7.84 207 ⇑P Pn 16 56 58.5 +1.8
baz=7.8
LAVA Lava Cap Winer 7.94 245 ⇑P Pn 16 56 58.2 +0.1
baz=7.9
TBM Table Mountain 7.96 309 P Pn 16 57 02.2 +3.8
X15A Humboldt 8.02 184 ⇑P Pn 16 57 00.5 +1.5
baz=8.0
X14A Yava 8.09 188 ⇑P Pn 16 57 01.6 +1.5
baz=8.1
CMB Columbia Colle 8.11 240 ePn Pn 16 57 01.7 +1.2
CMB ePg Pn 16 57 28.9 +28
YBH Yreka Blue Hor 8.36 269 Pn Pn 16 57 05.7 +1.9
0.1nm,0.3s,baz=88,slow=15,SNR=2.5
YBH Yreka Blue Hor 8.36 269 ePn Pn 16 57 06.3 +2.6
WDC Whiskeytown Da 8.49 261 ePn Pn 16 56 59.0 -6.6
WDC ePg Pn 16 57 28.0 +22
WDC eSg Sn 16 59 20.7 +39
ANMO Albuquerque 8.51 151 Pn Pn 16 57 06.9 +1.0
0.7nm,0.3s,baz=348,slow=12,SNR=7.1
ANMO Lg 16 59 26.4
1.5nm,0.3s,baz=63,slow=15,SNR=3.8
ANMO Albuquerque 8.51 151 ePn Pn 16 57 07.0 +1.2
ISA Isabella 8.71 221 ePn Pn 16 57 06.9 -1.7
COR Corvallis 8.81 288 ePn Pn 16 57 15.9 +5.9
MPOR Mary's Peak 8.97 287 P Pn 16 57 18.4 +6.1
GLA Glamis 9.79 197 ePn Pn 16 57 23.0 -0.3
AMTX Amarillo 10.80 131 ePn Pn 16 57 36.6 -0.7
ULM Lac du Bonnet 13.28 49 Pn Pn 16 58 08.2 -2.9
0.8nm,0.3s,baz=231,slow=13,SNR=7.2
LTX Lajitas 14.58 152 ePn Pn 16 58 29.5 +0.6
7.0nm,0.9s
LTX eLg 17 02 37.3
BBB Bella Bella 14.81 317 LR LR 17 04 11.7
comp=Z,108nm,20.3s,baz=166,slow=37
EYMN Ely 15.11 62 ePn Pn 16 58 31.4 -4.7
14nm,1.4s
JCT Junction City 15.23 138 ePn Pn 16 58 35.5 -2.2
34nm,1.3s
FVM French Village 16.71 99 ePn Pn 16 58 54.7 -2.1
13nm,0.8s
HKT Hockley 17.77 130 ePn Pn 16 59 08.3 -1.7
23nm,1.5s
YKA Yellowknife Ar 20.11 356 P P 16 59 36.0 -0.6
1.6nm,0.7s,baz=2.4,slow=31,SNR=3.0
SWET Sewanee 21.16 102 eP P 16 59 47.4 -0.5
CPCT Cooper Cave 22.08 100 eP P 16 59 58.5 +0.8
SADO Sadowa 23.46 73 LR LR 17 08 54.1
comp=Z,37nm,21.0s,baz=273,slow=36
CMIG Matias Romero 29.04 146 P P 17 01 02.7 -0.1
3.5nm,1.0s,mb4.1,baz=313,slow=8.6,SNR=5.9
SCHQ Schefferville 31.44 51 LR LR 17 14 38.5
comp=Z,68nm,20.9s,MS3.3,baz=168,slow=38
NB2 NORSAR Subarra 66.84 26 P P 17 05 52.3 -2.3
comp=Z,2.5nm,0.9s,mb4.2,baz=316,slow=6.5
NOA NORSAR Array B 66.84 26 P P 17 05 51.8 -2.8
comp=Z,0.7nm,0.9s,mb3.7,baz=315,slow=6.7,SNR=3.0
LPAZ La Paz 70.82 136 P P 17 06 18.7 -0.7
comp=Z,1.3nm,0.8s,mb3.9,baz=318,slow=3.0,SNR=7.1
FINES FINESS Array B 70.86 20 P P 17 06 18.1 -1.6
comp=Z,1.3nm,0.9s,mb3.9,baz=19,slow=12,SNR=3.5
GERES GERESS Array B 77.08 34 LR LR 17 42 11.4
comp=Z,24nm,18.1s,MS3.6,baz=288,slow=37
CN2 Changchun 80.08 322 eP P 17 07 12.5 -0.1
AKASG Malin Array Be 81.07 24 P P 17 07 16.8 -1.1
comp=Z,0.2nm,0.3s,mb3.5,baz=326,slow=5.0,SNR=3.3
BDFB Brasilia 82.09 119 LR LR 17 46 37.1
comp=Z,100nm,20.2s,MS4.2,baz=331,slow=38
SONM Songino Array 84.02 335 P P 17 07 33.9 +0.6
comp=Z,0.9nm,0.9s,mb3.9,baz=100,slow=1.8,SNR=4.4
BVAR Borovoye Array 84.84 359 P P 17 07 36.7 -0.7
comp=Z,0.8nm,0.7s,mb4.0,baz=343,slow=4.6,SNR=6.8
HHC Hu-ho-hao-te 88.35 329 eP P 17 07 50.0 -4.6
HHC PP PP 17 11 17.3 -4.8
HHC SKS 17 18 14.0
HHC S 17 18 30.3
HHC AMB AMB
comp=Z,10.0nm,0.8s,mb5.1
HHC AMB AMB
comp=Z,80nm,3.8s
HHC LR LR
comp=N,120nm,13.1s,MS4.5
HHC LR LR
comp=E,60nm,14.3s,MS4.5
HHC LR LR
comp=Z,80nm,14.3s,MS4.3
MKAR Makanchi Array 90.25 351 P P 17 08 03.1 -0.4
comp=Z,1.0nm,0.8s,mb4.2,baz=4.3,slow=4.9,SNR=9.5
WMQ Urumqi 92.36 346 eP P 17 08 14.0 +0.7
NJ2 Nanjing 92.58 319 eP P 17 08 15.0 +0.7
NJ2 AP pP 17 08 19.8 +2.1
NJ2 XP sP 17 08 22.3 +3.4
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
NJ2 AMB AMB
comp=Z,120nm,10.8s
NJ2 LR LR
comp=N,1μm,32.6s
NJ2 LR LR
comp=E,1μm,31.1s
NJ2 LR LR
comp=Z,590nm,34.2s
LZH Lanzhou 95.39 332 eP P 17 08 25.5 -1.7
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,50nm,4.9s
DBIC Dimbokro 97.64 74 LR LR 17 52 38.7
comp=Z,34nm,19.0s,MS3.9,baz=327,slow=35
CD2 Chengdu 100.07 330 eP Pdif 17 08 46.5 -1.8
VNDA Vanda 130.35 197 PKP PKPdf 17 14 12.1 -1.2
comp=Z,0.8nm,0.8s,baz=314,slow=3.8,SNR=3.6

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*IDC **30** 17:03:19.0±9.0, 633S×1306E, h104km±89km, mb3.9/3, mb1 3.9/6, mb1mx3.6/14, mbtmp4.2/6, ML4.0/3, Error ellipse: s-maj=71.8km s-min=28.3km az=45.0*
*ISCJB **30** 17:03:20.8±1.6, 645S±009×1304E±02, h140km±17km, mb3.9/2, Error ellipse: s-maj=29.3km s-min=10.1km az=132.5*
*NEIC **30** 17:03:22.8±2.6, 647S×1304E, h145km±28km, mb4.1/4, Error ellipse: s-maj=28.3km s-min=14.9km az=50.0*
ISC 30 17:03:25.1±1.4, 664S±009×1303E±02, h164km±13km, n18, σ1§14/27, mb3.9/2, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.39**	**161**	⇑*i*P			**Pn**	**17 04 57.8**	**+0.8**
	47nm,0.2s								
KAKA					*e*S		**Sn**	**17 06 08.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**12.28**	**201**		*e*P		**Pn**	**17 06 14.9**	**+0.5**
	5.4nm,0.8s								
FITZ					*e*S		**Sn**	**17 08 21.8**	**-8.6**
FITZ	**Fitzroy Crossi**	**12.28**	**201**		P		**Pn**	**17 06 14.9**	**+0.4**
	0.6nm,0.3s,baz=45,slow=13,SNR=26								
FITZ					S		**Sn**	**17 08 21.6**	**-8.8**
	1.5nm,0.3s,baz=243,slow=17,SNR=5.9								
WRAB	**Tennant Creek**	**13.79**	**164**		*e*Pn		**Pn**	**17 06 32.7**	**-1.0**
	9.3nm,0.8s								
WRAB					*e*Sn		**Sn**	**17 08 54.9**	**-12**
WRA	**Warramunga Arr**	**13.79**	**164**		P		**Pn**	**17 06 32.6**	**-1.1**
	0.8nm,0.3s,baz=351,slow=13,SNR=36								
WRA					S		**Sn**	**17 08 57.8**	**-9.0**
	2.1nm,0.3s,baz=338,slow=22,SNR=11								
WB2	**Warramunga Arr**	**13.79**	**164**		*e*P		**Pn**	**17 06 33.0**	**-0.8**
WB2					*e*S		**Sn**	**17 09 01.0**	**-5.8**
AS31	**Alice Springs**	**17.28**	**169**		*e*Pn		**Pn**	**17 07 18.0**	**+1.6**
AS31					*e*Sn		**Sn**	**17 10 23.5**	**-6.7**
ASAR	**Alice Springs**	**17.28**	**169**		P		**Pn**	**17 07 18.2**	**+1.8**
	0.5nm,0.3s,baz=351,slow=11,SNR=51								
ASAR					S		**S**	**17 10 27.1**	**+0.4**
	0.5nm,0.3s,baz=58,slow=33,SNR=5.5								
ASPA	**Alice Springs**	**17.28**	**169**		*e*P		**Pn**	**17 07 18.8**	**+2.4**
ASPA					*e*S		**S**	**17 10 25.2**	**-1.5**
MBWA	**Marble Bar**	**17.71**	**214**		P		**Pn**	**17 07 21.2**	**-0.3**
	6.8nm,0.8s								
KKM	**Kota Kinabalu**	**18.89**	**312**		P		**P**	**17 07 31.6**	**-1.3**
CTA	**Charters Tower**	**20.44**	**132**		*e*P		**P**	**17 07 56.2**	**+6.5**
	1.8nm,0.5s								
CTA	**Charters Tower**	**20.44**	**132**		P		**P**	**17 07 48.1**	**-1.5**
	12nm,1.2s,baz=248,slow=19,SNR=2.0								
CTAO	**Charters Tower**	**20.44**	**132**		P		**P**	**17 07 55.4**	**+5.8**
	5.2nm,0.8s								
STKA	**Stephens Creek**	**27.23**	**159**		*e*P		**P**	**17 08 54.4**	**+0.7**
	3.3nm,0.9s,mb4.0								
STKA	**Stephens Creek**	**27.23**	**159**		P		**P**	**17 08 54.3**	**+0.6**
	3.5nm,0.8s,mb4.1,baz=258,slow=13,SNR=6.7								
STKA	**Stephens Creek**	**27.23**	**159**		*e*P		**P**	**17 08 54.3**	**+0.7**
MKAR	**Makanchi Array**	**68.10**	**327**		P		**P**	**17 14 07.3**	**+0.2**
	0.9nm,0.4s,mb3.9,baz=118,slow=7.6,SNR=13								

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*NEIC **30** 17:04:58.3±3.7, 3306N×7192E, h5km±25km, mb4.2/12, Error ellipse: s-maj=10.8km s-min=7.5km az=133.0*
*IDC **30** 17:04:59.6±0.7, 3326N×7171E, h0km, mb4.2/13, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, ML4.1/4, Error ellipse: s-maj=20.0km s-min=16.9km az=65.0*
*ISCJB **30** 17:05:02.3±0.6, 3332N±003×7184E±005, h33km±5km, mb4.2/22, MS4.1/1, Error ellipse: s-maj=7.0km s-min=3.9km az=122.3*
*MOS **30** 17:05:03.3±1.0, 3337N×7160E, h33km, mb4.5/15, Error ellipse: s-maj=15.4km s-min=7.2km az=98.3*
*BJI **30** 17:05:03.9, 3348N×7172E, h26km, mB4.9, mb4.6, ML4.3, Ms4.4, Ms2.4.0*
*NNC **30** 17:05:03.2±3.2, 3349N×7132E, h0km, mb3.8, Error ellipse: s-maj=41.0km s-min=36.0km az=107.0*
*NDI **30** 17:05:04.0±3.2, 3304N×7160E, h5km, ML4.1, mb4.2(NEIC)*
ISC 30 17:05:02.7±0.8, 3329N±003×7172E±004, h21km±6km, n99, σ1§33/118, mb4.2/22, MS4.1/1, 12C-7D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**0.50**	**177**	⇑P			**Pb**	**17 05 12.6**	**-0.2**
CEP	**Cherat**	**0.55**	**17**	⇓P			**Pb**	**17 05 13.4**	**-0.3**
CEP				S			**Sb**	**17 05 22.0**	**+0.8**
SBDP	**Sheikh Budin**	**1.25**	**218**	⇑P			**Pn**	**17 05 25.6**	**+0.6**
CHCP	**Chirah Chowk**	**1.34**	**74**	⇓P			**Pn**	**17 05 28.3**	**+2.0**
SARP	**Sargodha**	**1.59**	**149**	⇓P			**Pn**	**17 05 31.5**	**+1.9**
DRP	**Derazinda**	**2.01**	**220**	⇑P			**Pn**	**17 05 37.9**	**+2.5**
DLH	**Dalhousie**	**3.65**	**101**	*e*P			**Pn**	**17 06 02.0**	**+4.0**
DLH				*e*x			x	17 06 48.0	
PONG	**Pong**	**3.81**	**109**	*e*P			**Pn**	**17 06 04.0**	**+3.8**
PONG				*e*x			x	17 07 09.0	
BHK	**Bhakra**	**4.40**	**114**	*e*P			**Pn**	**17 06 12.2**	**+4.0**
BHK				*e*x			x	17 07 04.0	
SDNR	**Sundarnagar**	**4.79**	**111**	*e*P			**Pn**	**17 06 16.5**	**+2.9**
SDNR				*e*S			**Sn**	**17 07 11.5**	**+3.0**
SMLA	**Simla**	**5.10**	**114**	*e*P			**Pn**	**17 06 20.4**	**+2.6**
SMLA				*e*S			**Sn**	**17 07 18.0**	**+1.9**
KLP	**Kalpa**	**5.80**	**106**	*e*P			**Pn**	**17 06 31.8**	**+4.4**
KLP				*e*S			**Sn**	**17 07 33.2**	**-0.1**
KLP				AML			AML	17 08 20.4	
	comp=N,1μm,0.6s								
KLP				AML			AML	17 08 20.9	
	comp=E,1μm,0.9s								
KHET	**Khetri**	**6.28**	**145**	*e*P			**Pn**	**17 06 35.1**	**+0.9**
KHET				*e*S			**Sn**	**17 07 41.4**	**-3.9**
KHET				AML			AML	17 08 30.5	
	comp=E,90nm,0.7s								
KHET				AML			AML	17 08 34.6	
	comp=N,97nm,0.8s								
KUDL	**Kundal**	**6.57**	**140**	*e*P			**Pn**	**17 06 39.2**	**+1.1**
KUDL				*e*S			**Sn**	**17 07 50.0**	**-2.5**
KUDL				AML			AML	17 08 41.8	
	comp=N,108nm,0.3s								
KUDL				AML			AML	17 08 43.2	
	comp=E,119nm,0.7s								
NDI	**New Delhi**	**6.59**	**133**	*e*P			**Pn**	**17 06 38.0**	**-0.3**
NDI				*e*S			**Sn**	**17 07 48.0**	**-4.8**
AYAN	**Aya Nagar**	**6.68**	**134**	*e*P			**Pn**	**17 06 41.7**	**+2.1**
AYAN				*e*S			**Sn**	**17 07 50.9**	**-4.1**
AYAN				AML			AML	17 07 56.4	
	comp=Z,171nm,0.9s								
SONA	**Sohna**	**6.83**	**136**	*e*P			**Pn**	**17 06 43.0**	**+1.4**
SONA				*e*S			**Sn**	**17 07 54.9**	**-3.8**
SONA				AML			AML	17 07 58.6	
	comp=E,330nm,0.4s								
SONA				AML			AML	17 07 58.6	
	comp=N,523nm,0.2s								
JOSI	**Joshimath**	**7.20**	**110**	*e*P			**Pn**	**17 06 39.4**	**-7.4**
JOSI				*e*S			**Sn**	**17 07 56.5**	**-11**
AJM	**Ajmer**	**7.25**	**159**	*i* P			**Pn**	**17 06 47.0**	**-0.4**
LGTI	**Lohaghat**	**8.24**	**115**	*i* P			**Pn**	**17 07 02.3**	**+1.3**
LGTI				*e*x			x	17 08 34.5	
AAK	**Ala-Archa**	**9.58**	**12**	*e*P			**Pn**	**17 07 21.0**	**+1.6**
AAK				pmax			pmax		
	comp=Z,9.0nm,0.4s								
AAK	**Ala-Archa**	**9.58**	**12**	*e*Pn			**Pn**	**17 07 21.0**	**+1.7**
	comp=Z,9.3nm,0.4s								
KK31	**Karatay Array**	**9.84**	**355**	⇑P			**Pn**	**17 07 24.5**	**+1.5**
	comp=Z,3.4nm,0.3s,baz=180,slow=12,SNR=181								
KK31				⇑S			**Sn**	**17 09 12.8**	**0.0**
	comp=Z,9.6nm,0.8s,baz=176,slow=22,SNR=6.1								
KOLN	**Koldanda**	**11.63**	**115**	*e*Pn			**Pn**	**17 07 47.1**	**-0.3**
KOLN				*e*Sn			**Sn**	**17 09 51.8**	**-4.8**
	comp=Z,68nm,0.5s								
GKN	**Gorkha**	**12.31**	**112**	*e*Pn			**Pn**	**17 07 56.2**	**-0.5**
GKN				*e*Sn			**Sn**	**17 10 06.2**	**-7.0**
	comp=Z,152nm,0.5s								
DMN	**Daman**	**12.86**	**113**	*e*Pn			**Pn**	**17 08 02.7**	**-1.6**
DMN				*e*Sn			**Sn**	**17 10 20.6**	**-6.2**
	comp=Z,121nm,0.7s								
KKN	**Kakani**	**12.91**	**112**	*e*Pn			**Pn**	**17 08 03.7**	**-1.2**
KKN				*e*Sn			**Sn**	**17 10 21.6**	**-6.3**
	comp=Z,88nm,0.5s								
PKI	**Pulchoki**	**13.11**	**112**	*e*Pn			**Pn**	**17 08 05.8**	**-1.9**
PKI				*e*Sn			**Sn**	**17 10 26.3**	**-6.7**
	comp=Z,61nm,0.4s								
GUN	**Gumba**	**13.32**	**110**	*e*Pn			**Pn**	**17 08 09.4**	**-1.2**
GUN				*e*Sn			**Sn**	**17 10 32.2**	**-5.8**
	comp=Z,72nm,0.6s								
AKL	**Akola**	**13.40**	**158**	*e*P			**Pn**	**17 08 11.4**	**-0.2**
AKL				*e*x			x	17 10 38.6	
JIRN	**Jiri**	**13.68**	**110**	*e*Pn			**Pn**	**17 08 14.2**	**-1.3**
JIRN				*e*Sn			**Sn**	**17 10 40.6**	**-6.2**
	comp=Z,46nm,0.3s								
NGP	**Nagpur**	**13.73**	**150**	*e*P			**Pn**	**17 07 57.4**	**-19**
NGP				*e*S			**Sn**	**17 10 35.3**	**-13**
POO	**Poona**	**14.83**	**172**	*e*x			x	17 12 08.0	
WSAR	**Wadi Sarin**	**15.26**	**232**	Pn			**Pn**	**17 08 34.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=73,slow=11,SNR=3.9								
WSAR				Sn			**Sn**	**17 11 09.2**	**-16**
	comp=Z,0.5nm,0.3s,baz=277,slow=19,SNR=9.9								
LATR	**Latur**	**15.44**	**162**	*e*x			x	17 11 36.1	
MKAR	**Makanchi Array**	**15.71**	**28**	Pn			**Pn**	**17 08 41.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=205,slow=13,SNR=11								
MK05	**Makanchi Array**	**15.71**	**28**	⇓P			**Pn**	**17 08 47.0**	**+4.3**
LSA	**Lhasa**	**16.96**	**97**	*e*P			**Pn**	**17 08 54.2**	**-4.4**
LSA				pmax			pmax		
	comp=Z,3.0nm,0.6s								
LSA	**Lhasa**	**16.96**	**97**	*e*Pn			**Pn**	**17 08 54.2**	**-4.5**
	comp=Z,3.0nm,0.6s								
KURK	**Kurchatov**	**18.13**	**14**	⇑P			**Pn**	**17 09 13.2**	**0.0**
	comp=Z,8.9nm,1.0s								
KURK	**Kurchatov**	**18.13**	**14**	⇑*i*P			**Pn**	**17 09 12.3**	**-0.9**
KURK	**Kurchatov**	**18.13**	**14**	*e*P			**Pn**	**17 09 12.6**	**-0.6**
	comp=Z,18nm,0.9s								
AB31	**Akbulak array**	**18.20**	**335**	⇓P			**Pn**	**17 09 12.9**	**-1.2**
	comp=Z,1.8nm,0.5s,baz=143,slow=12,SNR=7.1								
VOSK	**Vostochnaya**	**19.43**	**359**	⇑P			**Pn**	**17 09 28.7**	**-0.2**
	comp=Z,6.1nm,0.9s								
ZRNK	**Zerenda**	**19.75**	**355**	⇑P			**Pn**	**17 09 31.6**	**-1.1**
	comp=Z,8.2nm,0.7s								
ZRNK	**Zerenda**	**19.75**	**355**	*e*P			**Pn**	**17 09 31.6**	**-1.1**
ZRNK				pmax			pmax		
	comp=Z,14nm,0.8s								
ZRNK	**Zerenda**	**19.75**	**355**	*e*P			**Pn**	**17 09 31.6**	**-1.1**
	comp=Z,14nm,0.8s								
BVA0	**Borovoye Array**	**19.75**	**358**	⇓P			**Pn**	**17 09 31.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=170,slow=9.3,SNR=79								
BVAR	**Borovoye Array**	**19.75**	**358**	P			**Pn**	**17 09 32.1**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=166,slow=9.0,SNR=67								
BRVK	**Borovoye**	**19.78**	**357**	*e*P			**Pn**	**17 09 31.7**	**-1.4**
BRVK				pmax			pmax		
	comp=Z,7.0nm,0.6s								
BRVK	**Borovoye**	**19.78**	**357**	*e*P			**Pn**	**17 09 31.7**	**-1.4**
	comp=Z,6.6nm,0.6s								
AKTK	**Aktyubinsk**	**19.88**	**334**	P			**Pn**	**17 09 32.5**	**-1.7**
AKTO	**Aktyubinsk**	**19.88**	**334**	⇑P			**Pn**	**17 09 33.1**	**-1.2**
	comp=Z,0.3nm,1.2s								
AKTO	**Aktyubinsk**	**19.88**	**334**	P			**Pn**	**17 09 32.5**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=142,slow=11,SNR=19								
AKTO	**Aktyubinsk**	**19.88**	**334**	P			**Pn**	**17 09 32.6**	**-1.7**
AKTO				pmax			pmax		
	comp=Z,1.0nm,0.3s								
ORR	**Orenburg**	**22.09**	**331**	*e*P			**P**	**17 09 55.7**	**-0.7**
ORR				pmax			pmax		
	comp=Z,10.0nm,1.4s,mb4.0								
GNI	**Garni**	**22.63**	**295**	*i* P			**P**	**17 09 58.7**	**-3.5**
GNI				pmax			pmax		
	comp=Z,6.0nm,1.0s			

GTA	**Gaotai**	**23.39**	**67**	*eP*	**P**	**17 10 12.3**	**+2.1**
GTA				AP		17 10 18.5	
GTA				XP	sP	17 10 22.0	+3.2
ARU	**Arti**	**24.86**	**342**	⇓*iP*	**P**	**17 10 23.4**	**-0.3**
ARU				*e*		17 10 55.5	
ARU				*e*PPP		17 11 05.5	
ARU				*e*S	**S**	**17 14 46.3**	**+0.8**
ARU				*e*SS		17 15 36.6	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
ARU	**Arti**	**24.86**	**342**	*eP*	**P**	**17 10 24.0**	**+0.3**
	comp=Z,3.5nm,0.6s,mb4.1						
BR131	**Keskin Array S**	**31.10**	**293**	P	**P**	**17 11 20.4**	**+0.8**
	comp=Z,4.8nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**31.10**	**293**	P	**P**	**17 11 19.9**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.8,baz=118,slow=9.9,SNR=5.3						
OBN	**Obninsk**	**32.79**	**322**	*eP*	**P**	**17 11 32.1**	**-2.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
AKASG	**Malin Array Be**	**35.47**	**312**	P	**P**	**17 11 58.2**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.2,baz=87,slow=7.3,SNR=11						
JOF	**Joensuu**	**38.95**	**332**	*ep*	**P**	**17 12 26.9**	**-0.3**
NJ2	**Nanjing**	**39.44**	**78**	*eP*	**P**	**17 12 34.0**	**+2.8**
NJ2				AP	pP	17 12 43.5	+5.8
NJ2				XP	sP	17 12 48.5	+8.3
NJ2				PP	PP	17 14 10.3	+8.5
NJ2				S	**S**	**17 18 36.0**	**+4.1**
NJ2				XS	sS	17 18 53.0	+11
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,130nm,5.3s						
NJ2				LR	LR		
	comp=N,280nm,21.4s,MS4.2						
NJ2				LR	LR		
	comp=E,300nm,20.0s,MS4.2						
NJ2				LR	LR		
	comp=Z,250nm,21.5s,MS4.0						
FINES	**FINESS Array B**	**40.49**	**328**	P	**P**	**17 12 40.0**	**0.0**
	comp=Z,2.8nm,0.8s,mb4.1,baz=106,slow=12,SNR=13						
KAF	**Kangasniemi**	**40.66**	**329**	*ep*	**P**	**17 12 40.9**	**-0.5**
MORC	**Moravsky Berou**	**42.79**	**309**	P	**P**	**17 13 00.5**	**+1.6**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
MORC	**Moravsky Berou**	**42.79**	**309**	P	**P**	**17 13 00.5**	**+1.6**
	comp=Z,1.7nm,0.8s,mb3.8						
ARCES	**ARCESS Array B**	**44.33**	**339**	P	**P**	**17 13 11.2**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.2,baz=113,slow=8.3,SNR=30						
BRG	**Berggiesshubel**	**45.12**	**311**	*e*(P)	**P**	**17 13 23.1**	**+5.6**
	comp=Z,1.2nm,0.6s,mb3.9						
BRG	**Berggiesshubel**	**45.12**	**311**	P	**P**	**17 13 23.1**	**+5.6**
BRG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
YAK	**Yakutsk**	**46.27**	**34**⇑	*eP*	**P**	**17 13 26.9**	**+0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
NB2	**NORSAR Subarra**	**47.31**	**325**	P	**P**	**17 13 34.5**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=99,slow=7.9						
NB2	**NORSAR Subarra**	**47.31**	**325**	P	**P**	**17 13 34.5**	**-0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**47.31**	**325**	P	**P**	**17 13 34.9**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.1,baz=97,slow=7.7,SNR=10						
TIXI	**Tiksi**	**48.54**	**21**⇑	*eP*	**P**	**17 13 45.3**	**+1.0**
BILL	**Bilibino**	**61.24**	**25**	P	**P**	**17 15 19.0**	**+2.8**
TORD	**Torodi Ar. Bea**	**66.28**	**270**	P	**P**	**17 15 49.3**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=48,slow=5.6,SNR=12						
DBIC	**Dimbokro**	**75.15**	**268**	P	**P**	**17 16 44.2**	**+0.8**
	comp=Z,4.0nm,0.8s,mb4.4,baz=336,slow=2.3,SNR=3.2						
DBIC	**Dimbokro**	**75.15**	**268**	P	**P**	**17 16 44.3**	**+0.9**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOSA	**Boshof**	**75.70**	**221**	P	**P**	**17 16 47.6**	**+1.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=18,slow=15,SNR=3.7						
BOSA	**Boshof**	**75.70**	**221**	P	**P**	**17 16 47.6**	**+1.0**
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
INK	**Inuvik**	**76.97**	**9**	P	**P**	**17 16 53.5**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.3,baz=342,slow=6.0,SNR=8.3						
INK	**Inuvik**	**76.97**	**9**	*eP*	**P**	**17 16 53.5**	**-0.3**
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
INK	**Inuvik**	**76.97**	**9**	*eP*	**P**	**17 16 53.5**	**-0.2**
	comp=Z,4.8nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**79.80**	**122**	P	**P**	**17 17 10.4**	**+1.0**
	comp=Z,3.0nm,0.5s,mb4.5,baz=323,slow=5.2,SNR=22						
WRA	**Warramunga Arr**	**79.80**	**122**	P	**P**	**17 17 10.4**	**+1.0**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRAB	**Tennant Creek**	**79.80**	**122**	*eP*	**P**	**17 17 10.2**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**79.80**	**122**	*eP*	**P**	**17 17 10.2**	**+0.8**
	comp=Z,10nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**79.81**	**122**	*eP*	**P**	**17 17 10.3**	**+0.8**
ASAR	**Alice Springs**	**81.94**	**125**	P	**P**	**17 17 21.1**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.1,baz=308,slow=5.3,SNR=21						
ASAR	**Alice Springs**	**81.94**	**125**	P	**P**	**17 17 21.2**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**84.41**	**3**	P	**P**	**17 17 33.6**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.5,baz=345,slow=5.2,SNR=6.9						
YKA	**Yellowknife Ar**	**84.41**	**3**	P	**P**	**17 17 33.6**	**0.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						

MAN 30 17:21:21.1, 693N×12067E, h33km, mb3.0, ML4.3, MS5.6, 1C, Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**2.07**	**66**⇑	*eP*	Pn	17 21 54.0	+0.6
IPIL				*e*S	Sn	17 22 18.1	0.0
IPIL	**Ipil**	**2.07**	**66**	*eP*	Pn	17 21 53.7	+0.3
PAGZ	**Pagadian**	**2.84**	**71**	*eP*	Pn	17 22 05.3	+1.3
BATP	**Bataraza**	**3.39**	**303**	*eP*	Pn	17 22 12.6	+1.0
ENPP	**El Nido**	**4.42**	**344**	*eP*	Pn	17 22 27.9	+2.1

*NEIC **30** 17:34:09.2, 32.17S×7154W, h32km, ML3.0(GUC), After GUC.*

GUC 30 17:34:09.2±0.8, 3217S×7154W, h32km±3km, MD3.6, ML3.0, 2C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.92**	**151**⇑	*iP*	Pn	17 34 26.5	+0.7
ROCH				*i*S	Sn	17 34 39.3	+1.3
JACH	**Jahuel**	**0.95**	**123**⇓	*iP*	Pn	17 34 26.6	+0.3
JACH				*i*S	Sn	17 34 39.9	+1.1
CMCH	**Combarbala**	**1.09**	**25**⇓	*iP*	Pn	17 34 27.2	-1.1
CMCH				*i*S	Sn	17 34 41.8	-0.5
PEL	**Peldehue**	**1.21**	**144**	*eP*	Pn	17 34 30.7	+0.8
PEL				*i*S	Sn	17 34 46.7	+1.5
PEL				AML	AML	17 34 47.7	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**1.21**	**144**	*eP*	Pn	17 34 30.7	+0.8
PEL				*i*S	Sn	17 34 46.7	+1.5
LCCH	**Las Cruces**	**1.30**	**181**	*eP*	Pn	17 34 31.7	+0.5
LCCH				*i*S	Sn	17 34 48.5	+1.1
RCDM	**Rinconada Maip**	**1.46**	**155**	*iP*	Pn	17 34 34.4	+1.1
RCDM				*i*S	Sn	17 34 53.0	+1.9
RCDM				AML	AML	17 34 55.9	
	comp=N,366nm,0.1s						
RCDM	**Rinconada Maip**	**1.46**	**155**	*iP*	Pn	17 34 34.4	+1.1
RCDM				*i*S	Sn	17 34 53.0	+1.9
CLCH	**Cerro Calan**	**1.49**	**146**⇓	*iP*	Pn	17 34 35.3	+1.6
CLCH				*i*S	Sn	17 34 54.4	+2.4
CLCH				AML	AML	17 34 57.1	
	comp=N,342nm,0.6s						
CLCH				AML	AML	17 34 57.6	
	comp=N,281nm,0.3s						
CLCH				AML	AML	17 34 59.7	
	comp=E,326nm,0.5s						
FCH	**Farellones**	**1.56**	**138**	*eP*	Pn	17 34 36.1	+1.4
FCH				*i*S	Sn	17 34 56.9	+3.0
FCH				AML	AML	17 35 03.9	
	comp=E,164nm,0.2s						
TACH	**Talagante**	**1.56**	**161**	*eP*	Pn	17 34 35.5	+0.8
ANTU	**Antumapu**	**1.59**	**151**	*eP*	Pn	17 34 36.5	+1.4
ANTU				*e*S	Sn	17 34 57.6	+3.0
ANTU				AML	AML	17 35 04.4	
	comp=E,186nm,0.2s						
ANTU	**Antumapu**	**1.59**	**151**	*eP*	Pn	17 34 36.5	+1.4
ANTU				*e*S	Sn	17 34 57.6	+3.0
PCH	**Pirque**	**1.69**	**149**⇓	*iP*	Pn	17 34 38.2	+1.8
PCH				*i*S	Sn	17 34 59.6	+2.7
CHCH	**Chadas Angostu**	**1.91**	**157**	*eP*	Pn	17 34 41.1	+1.6
LMEL	**Las Melosas**	**2.02**	**146**⇓	*iP*	Pn	17 34 43.1	+2.1
LMEL				*e*S	Sn	17 35 08.0	+2.9
LMEL				AML	AML	17 35 11.7	
	comp=N,255nm,0.2s						
LMEL	**Las Melosas**	**2.02**	**146**⇓	*iP*	Pn	17 34 43.1	+2.1
LMEL				*e*S	Sn	17 35 08.0	+2.9
TLL	**Tololo Astrono**	**2.09**	**18**	*eP*	Pn	17 34 43.7	+1.7
TLL				AML	AML	17 35 19.9	
	comp=E,121nm,0.5s						
CACH	**El Canelo**	**2.10**	**158**⇓	*iP*	Pn	17 34 44.7	+2.6
CICH	**Cipreses**	**2.34**	**157**⇑	*iP*	Pn	17 34 47.7	+2.2
LCO	**Las Campanas**	**3.23**	**13**	*eP*	Pn	17 34 59.4	+1.7

*IDC **30** 17:39:57.7±0.8, 1323N×12547E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.0/20, mbtmp4.1/10, ML4.3/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/34, Error ellipse: s-maj=57.3km s-min=14.3km az=66.0*

*ISCJB **30** 17:40:01.2±0.4, 1322N±003×125.17E±005, h32km, mb4.3/18, MS3.2/3, Error ellipse: s-maj=7.9km s-min=4.3km az=141.1*

*BJI **30** 17:40:03.1, 1320N×12483E, h32km, mB4.6, mb4.4*

*NEIC **30** 17:40:03.8±1.4, 13.10N×12521E, h42km±12km, mb4.4/8, Error ellipse: s-maj=17.7km s-min=6.1km az=72.0*

*MAN **30** 17:40:03.8, 1326N×12496E, h33km, mb3.9, ML5.0, MS4.1*

ISC 30 17:40:03.7±0.4, 1320N±003×12510E±006, h34km, h34km±.7km: pP-P, n61, σ1§27/61, mb4.3/18, MS3.2/3, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.00**	**293**⇓	*iP*	**Pn**	**17 40 19.9**	**-1.4**
PVCP				*i*S	**Sn**	**17 40 31.2**	**-3.0**
PVCP	**Virac**	**1.00**	**293**	*eP*	**Pn**	**17 40 19.7**	**-1.6**
BESP	**Borongan**	**1.62**	**168**	*eP*	**Pn**	**17 40 31.6**	**+1.8**
PLP	**Palo**	**2.02**	**183**	*eP*	**Pn**	**17 40 36.7**	**+1.4**
PLP				*e*S	**Sn**	**17 40 58.4**	**-1.0**
OCLP	**Ormoc**	**2.19**	**193**	*eP*	**Pn**	**17 40 39.4**	**+1.8**
AUQP	**San Andres**	**2.36**	**273**	*eP*	**Pn**	**17 40 40.9**	**+0.9**
GQP	**Guinayangan**	**2.67**	**286**⇑	*eP*	**Pn**	**17 40 43.2**	**-1.2**
RCP	**Roxas**	**2.82**	**235**⇑	*eP*	**Pn**	**17 40 45.8**	**-0.5**
MSLP	**Maasin**	**3.05**	**184**	*eP*	**Pn**	**17 40 52.1**	**+2.6**
LLP	**Lapu-Lapu**	**3.07**	**201**⇓	*eP*	**Pn**	**17 40 49.5**	**-0.2**
LLP				*e*S	**Sn**	**17 41 20.6**	**-4.6**
BOAC	**Boac**	**3.18**	**275**	*eP*	**Pn**	**17 40 50.9**	**-0.4**
POLP	**Polillo Island**	**3.42**	**297**	*eP*	**Pn**	**17 40 56.4**	**+1.7**
GUIM	**Jordan**	**3.54**	**224**	*eP*	**Pn**	**17 40 56.6**	**+0.3**
LQP	**Lukban**	**3.58**	**285**	*eP*	**Pn**	**17 40 46.0**	**-11**
TBP	**Tagbilaran**	**3.69**	**199**	*eP*	**Pn**	**17 41 07.1**	**+8.8**
TGY	**Tagaytay City**	**4.14**	**283**	Pn	**Pn**	**17 41 07.3**	**+2.8**
	14nm,0.3s,baz=196,slow=5.1,SNR=3.9						
BUTP	**Butuan**	**4.23**	**173**	*eP*	**Pn**	**17 41 12.1**	**+6.4**
BALP	**Baler**	**4.25**	**307**	*eP*	**Pn**	**17 41 02.9**	**-3.0**
PALP	**Palanan**	**4.63**	**326**	*eP*	**Pn**	**17 41 12.0**	**+0.8**
LUBP	**Lubang**	**4.75**	**277**	*eP*	**Pn**	**17 41 13.5**	**+0.6**
CAUP	**Cauayan**	**4.89**	**320**	*eP*	**Pn**	**17 41 13.5**	**-1.3**
BUSP	**Coron**	**4.93**	**257**	*eP*	**Pn**	**17 41 16.2**	**+0.9**
BUKP	**Musuan**	**5.28**	**180**	*eP*	**Pn**	**17 41 24.2**	**+4.0**
CVP	**Callao Caves**	**5.48**	**325**	*eP*	**Pn**	**17 41 22.0**	**-0.9**
PAGZ	**Pagadian**	**5.58**	**198**	*eP*	**Pn**	**17 41 26.0**	**+1.8**
APYP	**Conner**	**5.94**	**322**	*eP*	**Pn**	**17 41 30.6**	**+1.4**
ABRA	**Dolores**	**6.12**	**317**	*eP*	**Pn**	**17 41 31.4**	**-0.3**
YHNB	**Yeheng**	**11.94**	**343**	*e*Pn	**Pn**	**17 42 52.5**	**+1.0**
KSM	**Kuching**	**18.71**	**233**	*eP*	**Pn**	**17 44 18.2**	**-1.5**
KS15	**Wonju Array Si**	**24.27**	**5**	P	**P**	**17 45 11.4**	**-6.3**
XAN	**Xi'an**	**25.43**	**327**	P	**P**	**17 45 28.0**	**-0.2**
XAN				AP	pP	17 45 36.8	-1.2
MJAR	**Matsushiro Arr**	**26.05**	**25**	LR	LR	17 53 45.3	
	comp=Z,74nm,19.9s,MS3.2,baz=190,slow=32						
CD2	**Chengdu**	**26.41**	**315**	*eP*	**P**	**17 45 37.8**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
KAKA	**Kakadu**	**26.75**	**164**	*eP*	**P**	**17 45 41.6**	**+1.5**
	comp=Z,36nm,1.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.10**	**179**	*eP*	**P**	**17 46 16.8**	**-2.0**
	comp=Z,2.2nm,0.3s,mb4.5						
WRAB	**Tennant Creek**	**34.16**	**164**	P	**P**	**17 46 43.6**	**-1.9**
	comp=Z,5.2nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**34.16**	**164**	P	**P**	**17 46 43.8**	**-1.8**
	comp=Z,1.1nm,0.6s,mb4.0,baz=343,slow=8.8,SNR=22						
WRA				PcP	PcP	17 49 21.7	-0.4
	comp=Z,1.0nm,0.4s,baz=341,slow=2.9,SNR=8.8						
WB2	**Warramunga Arr**	**34.17**	**164**	*eP*	**P**	**17 46 45.2**	**-0.4**
ASAJ	**Asahikawa**	**34.27**	**23**	LR	LR	18 00 15.4	
	comp=Z,45nm,19.9s,MS3.2,baz=177,slow=36						
AS31	**Alice Springs**	**37.63**	**167**	*eP*	**P**	**17 47 14.2**	**-1.1**
ASAR	**Alice Springs**	**37.63**	**167**	P	**P**	**17 47 14.6**	**-0.8**
	comp=Z,3.8nm,0.6s,mb4.3,baz=350,slow=7.6,SNR=104						
ASAR				PcP	PcP	17 49 32.1	-0.2
	comp=Z,1.1nm,0.7s,baz=336,slow=2.9,SNR=6.0						
ASPA	**Alice Springs**	**37.63**	**167**	*eP*	**P**	**17 47 15.0**	**-0.3**
ULN	**Ulaanbaatar**	**37.70**	**340**	*eP*	**P**	**17 47 17.3**	**+1.4**
	comp=Z,2.2nm,0.8s,mb3.9						
SONM	**Songino Array**	**37.89**	**339**	P	**P**	**17 47 18.4**	**+0.9**
	comp=Z,1.8nm,0.7s,mb3.9,baz=158,slow=9.0,SNR=7.3						
SONM				LR	LR	18 04 30.6	
	comp=Z,36nm,18.2s,MS3.2,baz=229,slow=39						
STKA	**Stephens Creek**	**47.52**	**161**	*eP*	**P**	**17 48 33.7**	**-1.9**
	comp=Z,4.6nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**47.52**	**161**	P	**P**	**17 48 33.5**	**-2.0**
	comp=Z,5.8nm,0.8s,mb4.7,baz=329,slow=12,SNR=7.7						
STKA	**Stephens Creek**	**47.52**	**161**	*eP*	**P**	**17 48 33.5**	**-2.1**
MKAR	**Makanchi Array**	**49.02**	**322**	P	**P**	**17 48 47.4**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.9,baz=126,slow=7.6,SNR=10						
ZAL	**Zalesovo**	**51.53**	**331**	P	**P**	**17 49 06.8**	**+0.7**
	comp=Z,1.9nm,0.4s,mb4.4,baz=356,slow=8.4,SNR=12						
ZAL	**Zalesovo**	**51.53**	**331**	P	**P**	**17 49 06.8**	**+0.7**
AAK	**Ala-Archa**	**52.47**	**314**	P	**P**	**17 49 14.8**	**+1.8**
	comp=Z,4.5nm,1.3s,mb4.2						
KURK	**Kurchatov**	**53.02**	**325**	*eP*	**P**	**17 49 17.7**	**+0.5**
	comp=Z,22nm,1.0s,mb5.0						
KURK				*e*	pP	17 49 27.6	0.0
BVAR	**Borovoye Array**	**58.62**	**325**	P	**P**	**17 49 57.8**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.1,baz=123,slow=7.2,SNR=10						
BRVK	**Borovoye**	**58.70**	**325**	*eP*	**P**	**17 49 58.2**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.2						
BRVK				*e*	pP	17 50 08.0	-0.2
BRVK				*e*		17 50 12.2	
ZRNK	**Zerenda**	**59.38**	**324**	*eP*	**P**	**17 50 01.9**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.5						
ZRNK				*e*	pP	17 50 12.6	-0.4
ARU	**Arti**	**66.17**	**326**	*eP*	**P**	**17 50 46.8**	**-1.0**
ARU				*e*	pP	17 50 57.0	-1.3
JOF	**Joensuu**	**80.08**	**332**	*ep*	**P**	**17 52 09.9**	**-0.1**
ARCES	**ARCESS Array B**	**81.07**	**339**	P	**P**	**17 52 13.8**	**-1.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=87,slow=6.2,SNR=6.6						
ARCES	**ARCESS Array B**	**81.07**	**339**	P	**P**	**17 52 13.8**	**-1.5**
FINES	**FINESS Array B**	**82.79**	**331**	P	**P**	**17 52 23.4**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.7,baz=99,slow=6.4,SNR=7.3						
PLCA	**Paso Flores**	**149.33**	**156**	PKPbc	PKPbc	17 59 49.4	+0.5
	comp=Z,5.0nm,0.9s,baz=150,slow=0.4,SNR=8.7						

IDC 30 17:45:38.7±8.6, 463S×15418E, h359km±90km, mb3.0/5, mb1 3.1/5, mb1mx3.1/14, mbtmp3.7/5, Error ellipse: s-maj=37.3km s-min=26.6km az=25.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.02**	**147**	P	P	17 49 55.6	+0.3
	8.5nm,1.0s,baz=100,slow=19,SNR=6.7						
WRA	**Warramunga Arr**	**24.60**	**230**	P	P	17 50 28.2	+0.6
	0.7nm,0.5s,baz=54,slow=9.6,SNR=8.8						
ASAR	**Alice Springs**	**27.21**	**224**	P	P	17 50 50.6	-0.3
	0.2nm,0.4s,baz=53,slow=8.6,SNR=4.8						
SONM	**Songino Array**	**66.92**	**327**	P	P	17 55 52.5	-0.8
	0.2nm,0.3s,baz=216,slow=44,SNR=3.5						
MKAR	**Makanchi Array**	**81.10**	**319**	P	P	17 57 16.8	+2.1
	0.5nm,0.6s,baz=99,slow=7.0,SNR=7.7						
TORD	**Torodi Ar. Bea**	**151.55**	**289**	PKPbc	PKPbc	18 04 50.9	+0.3
	0.3nm,0.3s,baz=80,slow=1.8,SNR=7.4						

*ISCJB **30** 17:55:06.9±0.5, 4792N±002×1621E±004, h7km±5km, Error ellipse: s-maj=5.0km s-min=3.6km az=61.7*

*VIE **30** 17:55:08.2±0.5, 4784N×1626E, h15km±3km, mb1.8/4, ML2.4/5, Error ellipse: s-maj=4.8km s-min=2.7km az=117.0 3 km NNE of Wiener Neustadt felt 4 EMS98 at Wiener Neustadt / LOWER AUSTRIA*

*CSEM **30** 17:55:08.2±0.1, 4788N×1624E, h2km, ML3.1/8, Error ellipse: s-maj=2.1km s-min=1.4km az=134.0*

*IPEC **30** 17:55:08.1±0.1, 4786N×1633E, h13km±1km, ML2.2/3, Error ellipse: s-maj=1.0km s-min=0.7km az=127.0*

*PRU **30** 17:55:10.3, 4799N×1625E, h0km*

ISC 30 17:55:08.0±0.5, 4791N±002×1624E±004, h11km±4km, n24, σ1§16/44, 3C-5D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.26**	**273**⇓	*iP*g	**Pg**	**17 55 14.3**	**+1.0**
	4.6nm,0.1s,SNR=173						
CONA				⇓*e*Sg	**Sg**	**17 55 19.6**	**+2.8**
	40nm,0.1s						
VKA	**Vienna**	**0.35**	**8**	*i* Pg	**Pg**	**17 55 18.5**	**+3.4**
VKA				*i* Sg	**Sg**	**17 55 24.8**	**+4.9**
ZST	**Bratislava**	**0.64**	**64**	*e*PG	**Pg**	**17 55 21.1**	**+0.6**
ZST				*e*SG	**Sg**	**17 55 30.3**	**+1.4**
ZST	**Bratislava**	**0.64**	**64**	*e*Pg	**Pg**	**17 55 21.0**	**+0.5**
ZST				*e*Sg	**Sg**	**17 55 29.5**	**+0.6**
ARSA	**Arzberg**	**0.82**	**217**⇓	*e*Pg	**Pg**	**17 55 23.3**	**-0.6**
	3.2nm,0.1s,SNR=19						
ARSA				⇑*e*Sg	**Sg**	**17 55 34.1**	**-0.5**
	16nm,0.1s						
SMOL	**Smolenice**	**0.99**	**52**	*e*PN	**Pn**	**17 55 28.1**	**+0.2**
SMOL				*e*SN	**Sn**	**17 55 42.7**	**+0.7**
KRUC	**Moravsky**	**1.15**	**5**	*e*Pg	**Pg**	**17 55 30.6**	**+0.4**
KRUC				*e*Sg	**Sg**	**17 55 46.4**	**+1.2**
	57nm,0.3s						
MOA	**Molln**	**1.33**	**268**⇓	*e*Pg	**Pg**	**17 55 33.6**	**0.0**
	2.7nm,0.1s,SNR=5.9						
MOA				⇑*e*Sg	**Sg**	**17 55 52.1**	**+1.2**
	15nm,0.1s						
MOA	**Molln**	**1.33**	**268**	*e*Pg	**Pg**	**17 55 33.5**	**-0.1**
MOA				*e*Sg	**Sg**	**17 55 51.9**	**+1.0**
VRAC	**Vranov**	**1.42**	**9**	*i* Pg	**Pg**	**17 55 34.3**	**-0.9**
VRAC				*e*Sg	**Sg**	**17 55 53.3**	**-0.3**
	25nm,0.2s						
TREC	**Trest**	**1.47**	**340**	*e*Pg	**Pg**	**17 55 36.0**	**-0.2**
TREC				*e*Sg	**Sg**	**17 55 56.1**	**+0.8**
OBKA	**Obir**	**1.82**	**220**⇑	*e*Pg	**Pg**	**17 55 41.9**	**-1.0**
	2.4nm,0.3s						
OBKA				⇓*e*Sg	**Sg**	**17 56 05.6**	**-0.9**
	5.5nm,0.3s						
VYHS	**Vyhne**	**1.83**	**71**	*e*PN	**Pn**	**17 55 38.6**	**-0.8**
VYHS				*e*SN	**Sn**	**17 56 07.1**	**+4.5**
VYHS	**Vyhne**	**1.83**	**71**	*e*Pn	**Pn**	**17 55 38.7**	**-0.7**
VYHS				*e*Sn	**Sn**	**17 56 01.9**	**-0.7**
MORC	**Moravsky Berou**	**2.05**	**24**	*e*Pn	**Pn**	**17 55 42.7**	**+0.2**
MORC				*e*Sn	**Sn**	**17 56 08.8**	**+0.7**
	6.4nm,0.3s						
KHC	**Kasperske Hory**	**2.15**	**306**	*e*PN	**Pn**	**17 55 45.5**	**+1.7**
KHC				*i* PG	**Pg**	**17 55 50.5**	**+1.3**
KHC				*e*SN	**Sn**	**17 56 13.1**	**+2.7**
KHC				*e*SG	**Sg**	**17 56 15.9**	**-1.2**
	12nm,0.2s						
KHC	**Kasperske Hory**	**2.15**	**306**	*e*Pn	**Pn**	**17 55 45.2**	**+1.4**
PKSM	**Moragy**	**2.36**	**135**	*e*Pn	**Pn**	**17 55 45.5**	**-1.2**
DPC	**Dobruska-Polom**	**2.44**	**1**	*e*PN	**Pn**	**17 55 51.0**	**+3.2**
DPC				*e*SG	**Sg**	**17 56 25.8**	**-0.6**
	12nm,0.3s						
UPC	**Upice**	**2.60**	**357**	*e*SG	**Sg**	**17 56 30.5**	**-1.1**
KSP	**Ksiaz**	**2.93**	**1**	*e*Pg	**Sn**	**17 56 28.7**	**-1.1**
KSP				*e*Sg	**Sg**	**17 56 40.0**	**-2.2**
BRG	**Berggiesshubel**	**3.32**	**334**	SG	**Sg**	**17 56 51.1**	**-3.6**
	3.8nm,0.4s						
NKC	**Novy Kostel**	**3.41**	**314**	*e*SG	**Sg**	**17 56 56.6**	**-0.9**
	9.1nm,0.4s						
CLL	**Collm**	**4.00**	**329**	*i* Sg	**Sg**	**17 57 14.8**	**-1.6**
	comp=Z,12nm,0.6s						

*ISC

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.71**	**90**	P	Pn	18 17 20.2	+1.2
	11nm,0.3s,baz=290,slow=15,SNR=6.5						
AFI				S	Sn	18 18 04.0	0.0
	22nm,0.3s,baz=121,slow=20,SNR=7.9						
WB2	**Warramunga Arr**	**48.11**	**256**	*e*P	P	18 24 43.5	+1.3
WRA	**Warramunga Arr**	**48.13**	**256**	P	P	18 24 42.8	+0.5
	0.4nm,0.3s,baz=89,slow=8.2,SNR=27						
ASAR	**Alice Springs**	**48.56**	**251**	P	P	18 24 46.0	+0.3
	6.3nm,0.6s,baz=86,slow=7.8,SNR=94						
ASPA	**Alice Springs**	**48.57**	**251**	*e*P	P	18 24 45.8	+0.2
PDAR	**Pinedale Array**	**82.62**	**43**	P	P	18 28 24.6	+1.0
	1.5nm,0.8s,baz=217,slow=2.6,SNR=12						
ARCES	**ARCESS Array B**	**122.86**	**351**	PKP	PKPdf	18 34 53.1	-1.9
	1.0nm,0.7s,baz=35,slow=4.4,SNR=7.7						
GERES	**GERESS Array B**	**144.36**	**349**	PKP	PKPdf	18 35 35.3	+0.3
	0.5nm,0.5s,baz=19,slow=4.5,SNR=4.2						

*ISCJB **30** 18:46:48.2±1.4, 107S±0.1×166.0E±02, h164km, mb3.8/6, Error ellipse: s-maj=27.9km s-min=12.2km az=131.9*
*NEIC **30** 18:46:49.5±1.2, 1053S×166.1E, Error ellipse: s-maj=26.1km s-min=15.7km az=47.0*
*IDC **30** 18:46:52.8±3.5, 1069S×165.92E, h186km±27km, mb3.5/6, mb1 3.6/8, mb1mx3.5/15, mbtmp4.1/8, Error ellipse: s-maj=33.3km s-min=18.8km az=47.0*
ISC 30 18:46:52.4±2.8, 106S±02×166.0E±02, h192km±19km, n12, σ0.33/12, mb3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.08**	**280**	P	Pn	18 48 20.6	0.0
	9.7nm,0.3s,baz=109,slow=0.8,SNR=6.0						
DZM	**Mont Dzumac**	**11.43**	**178**	P	Pn	18 49 30.2	+0.1
	1.2nm,0.3s,baz=294,slow=12,SNR=34						
DZM				S	Sn	18 51 28.6	-8.7
	0.3nm,0.3s,baz=24,slow=20,SNR=4.4						
URZ	**Urewera**	**29.30**	**162**	P	P	18 52 36.5	-0.3
	5.6nm,0.3s,mb4.7,baz=127,slow=5.6,SNR=18						
STKA	**Stephens Creek**	**30.95**	**223**	P	P	18 52 50.9	-0.5
	2.9nm,0.9s,mb3.9,baz=327,slow=12,SNR=5.2						
STKA	**Stephens Creek**	**30.95**	**223**	*e*P	P	18 52 51.2	-0.2
WB2	**Warramunga Arr**	**31.88**	**249**	*e*P	P	18 53 00.1	+0.6
WRA	**Warramunga Arr**	**31.89**	**249**	P	P	18 52 59.2	-0.4
	0.7nm,0.5s,mb3.4,baz=81,slow=9.0,SNR=16						
WRA				PcP	PcP	18 55 47.2	+1.9
	0.6nm,0.6s,baz=77,slow=3.3,SNR=6.2						
ASAR	**Alice Springs**	**33.23**	**243**	P	P	18 53 11.2	-0.1
	0.4nm,0.7s,mb3.1,baz=63,slow=9.8,SNR=7.0						
ASAR				pP	pP	18 53 46.0	-4.9
	0.3nm,0.6s,baz=68,slow=9.8,SNR=2.0						
ASAR				PcP	PcP	18 55 51.1	+2.1
	0.6nm,0.6s,baz=80,slow=2.3,SNR=9.8						
VNDA	**Vanda**	**66.95**	**181**	P	P	18 57 24.7	+0.4
	0.7nm,0.7s,mb3.4,baz=334,slow=3.1,SNR=4.2						
VNDA	**Vanda**	**66.95**	**181**	P	P	18 57 24.7	+0.4
MKAR	**Makanchi Array**	**93.37**	**317**	P	P	18 59 45.5	-0.1
	0.5nm,0.7s,mb3.6,baz=98,slow=7.6,SNR=6.2						
MKAR				pP	pP	19 00 27.4	-5.9
	0.3nm,0.8s,baz=81,slow=7.5,SNR=3.1						
ARCES	**ARCESS Array B**	**115.96**	**346**	PKP	PKPdf	19 05 12.7	+0.4
	1.5nm,1.0s,baz=67,slow=2.0,SNR=18						

*ISCJB **30** 19:32:49.3±0.3, 3663N±002×7105E±004, h245km±4km, mb4.3/34, Error ellipse: s-maj=5.6km s-min=3.0km az=153.1*
*BJI **30** 19:32:50.4, 3683N×7105E, h246km, mB4.5, mb4.4*
*MOS **30** 19:32:51.3±1.1, 3676N×7107E, h262km, mb4.5/14, Error ellipse: s-maj=11.3km s-min=6.4km az=92.8*
*NEIC **30** 19:32:53.6±1.4, 3669N×7103E, h276km±14km, mb4.3/13, Error ellipse: s-maj=8.3km s-min=6.7km az=60.0*
*IDC **30** 19:32:53.0±3.1, 3661N×7103E, h274km±31km, mb3.8/13, mb1 4.0/17, mb1mx3.8/24, mbtmp4.5/17, Error ellipse: s-maj=13.7km s-min=11.9km az=174.0*
*NNC **30** 19:32:54.2±2.2, 3702N×7109E, h240km±13km, mb3.3, mpv4.8, Error ellipse: s-maj=17.7km s-min=14.3km az=3.0*
ISC 30 19:32:50.3±0.3, 3667N±002×7110E±004, h244km±3km, h259km±5.9km; pP-P, n125, σ1.04/156, mb4.3/34, 18C-13D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.92**	**167**	⇓P	Pn	19 33 42.1	+0.6
CHCP	**Chirah Chowk**	**3.49**	**149**	⇑P	Pn	19 33 48.7	+0.8
THW	**Thamme Wali**	**3.91**	**172**	⇑P	Pn	19 33 53.0	+0.3
SBDP	**Sheikh Budin**	**4.37**	**183**	⇑P	Pn	19 33 57.6	-0.6
KSH	**Kashi**	**4.78**	**52**	⇓*i*P	Pn	19 34 04.5	+1.3
KSH				S	S	19 35 00.3	-0.8
KSH				Smax			
	comp=N,2μm,0.7s						
KSH				Smax			
	comp=E,3μm,0.6s						
SARP	**Sargodha**	**4.91**	**164**	⇓P	Pn	19 34 04.5	-0.3
DRP	**Derazinda**	**4.97**	**189**	P	Pn	19 34 05.5	0.0
DLH	**Dalhousie**	**5.75**	**134**	*ex*	x	19 34 07.0	
DLH				*ex*	x	19 35 24.0	
AML	**Almayashu**	**5.81**	**19**	P	Pn	19 34 16.3	+0.4
	SNR=427						
UCH	**Uchtor**	**6.14**	**24**	P	Pn	19 34 20.8	+0.7
	SNR=506						
PONG	**Pong**	**6.18**	**138**	*e*P	Pn	19 34 22.0	+1.4
PONG				*e*S	S	19 35 30.0	-2.8
KZA	**Kyzart**	**6.28**	**30**	P	Pn	19 34 22.3	+0.5
	SNR=71						
EKS2	**Erkin-Say**	**6.33**	**18**	P	Pn	19 34 22.8	+0.4
	SNR=57						
KK31	**Karatay Array**	**6.44**	**356**	⇑P	Pn	19 34 23.3	-0.5
	comp=E,118nm,0.5s,baz=169,slow=12,SNR=1430						
KK31				⇑S	S	19 35 34.3	-4.3
	comp=E,21nm,0.3s,baz=167,slow=23,SNR=3.5						
AAK	**Ala-Archa**	**6.50**	**23**	P	Pn	19 34 25.4	+0.8
	SNR=103						
KBK	**Karagaybulak**	**6.67**	**25**	P	Pn	19 34 27.6	+0.9
	SNR=33						
FRU	**Bishkek**	**6.72**	**23**	*e*PN	Pn	19 34 27.5	+0.1
FRU				*e*S	S	19 35 44.0	-1.1
FRU				pmax	pmax		
	comp=Z,120nm,1.2s						
FRU				smax			
	comp=E,460nm,1.2s						
ULHL	**Ulahol**	**6.84**	**34**	P	Pn	19 34 29.6	+0.7
	SNR=114						
BHK	**Bhakra**	**6.85**	**138**	*ex*	x	19 34 32.0	
BHK				*e*S	S	19 35 39.6	-8.5
CHMS	**Chumysh**	**6.92**	**23**	P	Pn	19 34 29.8	0.0
	SNR=69						
USP	**Ospenovka**	**7.08**	**21**	P	Pn	19 34 31.5	-0.4
	SNR=28						
SDNR	**Sundarnagar**	**7.09**	**135**	*e*P	Pn	19 34 32.0	0.0
SDNR				*e*S	S	19 35 46.6	-7.0
TKM2	**Tokmak 2**	**7.14**	**28**	P	Pn	19 34 33.2	+0.7
	SNR=155						
TKM2	**Tokmak 2**	**7.14**	**28**	⇑P	Pn	19 34 33.0	+0.4
	comp=E,23nm,0.9s						
TKM2				⇓S	S	19 35 52.7	-1.9
	comp=E,25nm,0.9s						
KLP	**Kalpa**	**7.84**	**129**	*ex*	x	19 34 58.9	
KLP				*e*S	S	19 36 01.9	-8.9
KLP				AML	AML	19 36 07.5	
	comp=E,569nm,0.6s						
KLP				AML	AML	19 36 09.7	
	comp=N,514nm,0.6s						
KHET	**Khetri**	**9.45**	**154**	*e*P	Pn	19 35 00.5	-1.5
KHET				*e*S	S	19 36 38.9	-9.5
KHET				AML	AML	19 36 43.7	
	comp=N,36nm,0.3s						
KHET				AML	AML	19 36 45.4	
	comp=E,52nm,0.4s						
NDI	**New Delhi**	**9.49**	**145**	*e*P	Pn	19 35 02.0	-0.4
NDI				*e*P		19 35 02.0	
NDI				*e*S	S	19 36 41.0	-8.3
NDI				*e*S	S	19 36 41.0	-8.3
AYAN	**Aya Nagar**	**9.62**	**146**	*e*P	Pn	19 35 03.5	-0.5
AYAN				*e*S	S	19 36 43.5	-8.8
AYAN				AML	AML	19 36 47.0	
	comp=Z,46nm,0.6s						
KUDL	**Kundal**	**9.64**	**150**	*e*P	Pn	19 35 03.0	-1.4
KUDL				*e*S	S	19 36 44.5	-8.5
KUDL				AML	AML	19 36 47.4	
	comp=E,98nm,1.0s						
KUDL				AML	AML	19 36 49.5	
	comp=N,40nm,0.6s						
SONA	**Sohna**	**9.80**	**147**	*e*P	Pn	19 35 06.0	-0.3
SONA				*e*S	S	19 36 48.7	-7.8
SONA				AML	AML	19 36 54.0	
	comp=E,117nm,0.5s						
SONA				AML	AML	19 36 55.1	
	comp=N,185nm,0.6s						
LGTI	**Lohaghat**	**10.52**	**131**	*i* P	Pn	19 35 14.5	-0.9
LGTI				*ex*	x	19 37 08.5	
AJM	**Ajmer**	**10.60**	**162**	*i* P	Pn	19 35 15.0	-1.4
AJM				*e*P		19 35 15.8	
MKAR	**Makanchi Array**	**13.11**	**36**	P	Pn	19 35 47.1	-0.5
	comp=N,1.5nm,0.3s,baz=222,slow=13,SNR=57						
MKAR	**Makanchi Array**	**13.11**	**36**	*i* P	Pn	19 35 47.7	+0.1
MKAR				pmax	pmax		
	comp=Z,15nm,0.8s						
MK05	**Makanchi Array**	**13.11**	**36**	⇓P	Pn	19 35 47.6	-0.1
	comp=Z,16nm,0.8s						
MK05				⇑S	S	19 38 12.6	-0.7
	comp=Z,7.3nm,0.8s						
KOLN	**Koldanda**	**13.80**	**126**	*e*P	Pn	19 35 56.7	+0.6
	comp=Z,56nm,0.9s						
KOLN				*e*S	S	19 38 23.8	-5.3
GKN	**Gorkha**	**14.33**	**123**	*e*P	Pn	19 36 02.8	+0.2
	comp=Z,56nm,0.5s						
BHPL	**Bhopal**	**14.46**	**156**	*e*P	Pn	19 36 01.9	-2.2
BHPL				AMb	AMB	19 36 08.1	
	comp=Z,77nm,0.7s						
BHPL				*ex*	x	19 38 42.5	
DMN	**Daman**	**14.90**	**123**	*e*P	Pn	19 36 10.1	+0.7
	comp=Z,57nm,0.8s						
DMN				*e*S	S	19 38 48.3	-5.7
KKN	**Kakani**	**14.90**	**122**	*e*P	Pn	19 36 09.6	+0.1
	comp=Z,60nm,0.6s						
AB31	**Akbulak array**	**14.97**	**331**	⇑P	Pn	19 36 09.9	-0.4
	comp=Z,5.4nm,0.6s						
AB31				⇑S	S	19 38 54.0	-1.6
	comp=Z,2.3nm,0.3s						
KURK	**Kurchatov**	**15.04**	**19**	⇓P	Pn	19 36 09.7	-1.5
	comp=Z,5.3nm,1.0s						
KURK				⇓S	S	19 38 53.5	-3.7
	comp=Z,8.2nm,1.5s						
KURK	**Kurchatov**	**15.04**	**19**	*e*P	Pn	19 36 10.2	-1.0
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KURK	**Kurchatov**	**15.04**	**19**	*e*P	Pn	19 36 10.2	-0.9
	comp=Z,9.5nm,0.8s						
PKI	**Pulchoki**	**15.13**	**123**	*e*P	Pn	19 36 13.2	+1.0
	comp=Z,85nm,0.7s						
GUN	**Gumba**	**15.24**	**121**	*e*P	Pn	19 36 14.7	+1.2
	comp=Z,65nm,0.7s						
JIRN	**Jiri**	**15.61**	**121**	*e*P	Pn	19 36 18.7	+0.8
	comp=Z,41nm,0.4s						
VOSK	**Vostochnaya**	**16.05**	**360**	⇓P	P	19 36 22.4	+0.5
	comp=Z,10.0nm,0.6s						
VOSK				⇓S	S	19 39 14.2	-3.6
	comp=Z,12nm,1.0s						
ZRNK	**Zerenda**	**16.34**	**355**	⇓P	P	19 36 25.3	+0.2
	comp=Z,7.9nm,0.8s						
ZRNK				⇑S	S	19 39 22.4	-1.3
	comp=Z,18nm,1.3s						
ZRNK	**Zerenda**	**16.34**	**355**	*e*P	P	19 36 26.2	+1.0
ZRNK				*e*S	S	19 39 23.8	+0.1
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZRNK	**Zerenda**	**16.34**	**355**	*e*P	P	19 36 26.2	+1.1
	comp=Z,8.5nm,0.6s						
ZRNK				*e*S	S	19 39 23.8	+0.1
BVA0	**Borovoye Array**	**16.36**	**358**	⇑P	P	19 36 26.5	+1.1
	comp=Z,0.9nm,0.5s,baz=170,slow=12,SNR=93						
BVA0				S	S	19 39 22.8	-1.2
	comp=Z,9.5nm,1.9s,baz=165,slow=19,SNR=7.4						
BVAR	**Borovoye Array**	**16.36**	**358**	P	P	19 36 26.5	+1.1
	comp=Z,4.8nm,0.3s,baz=151,slow=7.2,SNR=60						
BVAR				S	S	19 39 21.8	-2.2
	baz=161,slow=19,SNR=6.1						
BRVK	**Borovoye**	**16.39**	**358**	*e*P	P	19 36 25.8	+0.1
BRVK				*e*S	S	19 39 23.2	-1.5
BRVK				pmax	pmax		
	comp=Z,30nm,1.3s						
BRVK	**Borovoye**	**16.39**	**358**	*e*P	P	19 36 25.8	+0.1
	comp=Z,30nm,1.3s						
BRVK				*e*S	S	19 39 23.2	-1.5
AKTK	**Aktyubinsk**	**16.67**	**330**	P	P	19 36 29.7	+1.0
AKTK				S	S	19 39 27.5	-2.8
AKTO	**Aktyubinsk**	**16.67**	**330**	⇑P	P	19 36 29.4	+0.7
	comp=Z,0.7nm,0.8s						
AKTO				⇑S	S	19 39 28.1	-2.2
	comp=Z,5.6nm,1.6s						
AKTO	**Aktyubinsk**	**16.67**	**330**	P	P	19 36 29.7	+1.0
	comp=Z,4.1nm,0.3s,baz=138,slow=10,SNR=127						
AKTO				S	S	19 39 27.5	-2.8
	comp=Z,0.3nm,0.3s,baz=292,slow=22,SNR=6.2						
AKTO	**Aktyubinsk**	**16.67**	**330**	P	P	19 36 29.7	+1.0
AKTO				S	S	19 39 27.5	-2.8
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKL	**Akola**	**16.73**	**160**	*e*P	P	19 36 36.7	+7.3
AKL				*e*S	S	19 39 39.0	+7.6
NGP	**Nagpur**	**16.95**	**154**	*e*P	P	19 36 29.1	-2.7
NGP				*e*S	S	19 39 34.3	-1.5
WSAR	**Wadi Sarin**	**17.18**	**222**	P	P	19 36 35.3	+1.0
	comp=Z,0.9nm,0.3s,baz=18,slow=10,SNR=13						
BOK	**Bokaro**	**18.08**	**131**	*e*P	P	19 36 41.3	-2.7
LSA	**Lhasa**	**18.15**	**107**	*e*P	P	19 36 48.6	+3.8
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**18.15**	**107**	*e*P	P	19 36 48.6	+3.8
	comp=Z,6.9nm,0.6s						
ORR	**Orenburg**	**18.93**	**327**	*i* P	P	19 36 53.5	+0.3
ORR				pmax	pmax		
	comp=Z,50nm,0.9s						
ZAL	**Zalesovo**	**19.71**	**25**	P	P	19 37 02.0	+0.5
	comp=Z,5.8nm,0.3s,baz=257,slow=6.3,SNR=47						
NVS	**Novosibirsk**	**19.99**	**21**	*i* P	P	19 37 04.9	+0.4
NVS				*i* S	S	19 40 35.0	-0.6
NVS				pmax	pmax		
	comp=N,15nm,0.7s						
NVS				pmax	pmax		
	comp=Z,23nm,0.7s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.8s						
NVS				smax			
	comp=N,22nm,1.0s						
NVS				smax			
	comp=E,67nm,1.3s						
HYB	**Hyderabad**	**20.28**	**159**	*i* P	P	19 37 11.5	+3.9
HYB	**Hyderabad**	**20.28**	**159**	*e*P	P	19 37 11.0	+3.4
SHL	**Shillong**	**20.91**	**116**	*ex*	x	19 34 30.1	
ARU	**Arti**	**21.50**	**341**	*c i* P	P	19 37 20.5	+0.4
ARU				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.8						
ARU	**Arti**	**21.50**	**341**	*e*P	P	19 37 20.4	+0.3
	comp=Z,24nm,0.7s,mb4.8						
VIS	**Vishakhapatnam**	**21.75**	**147**	*e*P	P	19 37 16.6	-5.7
VIS				AMb	AMB	19 37 25.6	
	comp=Z,48nm,2.0s,mb4.7						
GOF	**Gofitskoye**	**22.73**	**300**	*e*P	P	19 37 33.0	+1.7
GOF				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
GTA	**Gaotai**	**22.74**	**74**	*e*P	P	19 37 34.0	+2.6
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
KIV	**Kislovodsk**	**22.78**	**297**	P	P	19 37 34.0	+2.2
KIV				*PP		19 38 17.0	
KIV				*e*SP	sP	19 38 49.0	+4.0
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
KIV	**Kislovodsk**	**22.78**	**297**	*e*P	P	19 37 33.2	+1.5
ANN	**Anapa**	**26.62**	**298**	*e*P	P	19 38 01.4	-5.0
ANN				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.8						
ZAK	**Zakamensk**	**26.82**	**49**	*e*P	P	19 38 07.4	-0.8
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.9						
SONM	**Songino Array**	**28.17**	**56**	P	P	19 38 21.9	+1.8
	comp=Z,3.5nm,0.8s,mb4.0,baz=254,slow=9.9,SNR=38						
SONM				pP	pP	19 39 14.5	+6.2
	comp=Z,1.4nm,1.0s,baz=260,slow=10,SNR=3.4						
ULN	**Ulaanbaatar**	**28.61**	**56**	⇑*e*P	P	19 38 25.8	+1.7
ULN	**Ulaanbaatar**	**28.61**	**56**	*e*P	P	19 38 25.7	+1.6
	comp=Z,2.5nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**29.46**	**287**	P	P	19 38 31.9	+0.3
	comp=Z,1.0nm,0.7s,mb3.6,baz=96,slow=9.6,SNR=7.8						
OBN	**Obninsk**	**29.86**	**319**	⇑*e*P	P	19 38 35.3	+0.2
OBN				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.6						
AKASG	**Malin Array Be**	**32.90**	**309**	P	P	19 39 01.1	-0.5
	comp=Z,0.6nm,0.4s,mb3.5,baz=80,slow=7.7,SNR=12						
AKASG	**Malin Array Be**	**32.90**	**309**	*i* P	P	19 39 01.6	0.0
CIT	**Chita**	**33.48**	**49**	*e*P	P	19 39 06.2	-0.4
CIT				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.5						
JOF	**Joensuu**	**35.76**	**330**	*e*p	P	19 39 25.7	-0.4
	comp=Z,14nm,0.4s,mb4.8						
FINES	**FINESS Array B**	**37.39**	**326**	P	P	19 39 40.0	+0.2
	comp=Z,5.7nm,0.6s,mb4.3,baz=115,slow=9.9,SNR=49						
KAF	**Kangasniemi**	**37.52**	**327**	*e*p	P	19 39 40.6	-0.3
	comp=Z,4.1nm,0.5s,mb4.2,baz=111,slow=8.4						
KAF	**Kangasniemi**	**37.52**	**327**	*e*P	P	19 39 40.6	-0.3
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
NJ2	**Nanjing**	**39.37**	**82**	*e*P	P	19 39 59.0	+2.7
NJ2				AP	pP	19 40 50.3	+3.8
NJ2				XP	sP	19 41 18.5	+4.2
NJ2				PP	PP	19 41 37.5	+5.3
NJ2				S	S	19 45 41.0	+2.0
NJ2				XS	sS	19 47 13.0	+4.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,110nm,9.6s						
NJ2				LR	LR		
	comp=N,150nm,10.2s						
NJ2				LR	LR		
	comp=E,120nm,12.6s						
NJ2				LR	LR		
	comp=Z,130nm,15.2s						
KEV	**Kevo**	**40.67**	**338**	*e*p	P	19 40 06.5	-0.4
	comp=Z,3.8nm,0.4s,mb4.2						
KEV	**Kevo**	**40.67**	**338**	*e*P	P	19 40 06.5	-0.4
KEV				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**41.02**	**337**	P	P	19 40 10.3	+0.6
	comp=Z,12nm,0.6s,mb4.5,baz=113,slow=8.3,SNR=164						
YAK	**Yakutsk**	**43.78**	**36**	*e*P	P	19 40 32.3	+0.4
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
NB2	**NORSAR Subarra**	**44.29**	**323**	P	P	19 40 35.5	-0.5
	comp=Z,7.6nm,0.8s,mb4.1,baz=94,slow=7.9						
NB2	**NORSAR Subarra**	**44.29**	**323**	P	P	19 40 35.5	-0.5
NB2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**44.29**	**323**	P	P	19 40 35.8	-0.2
	comp=Z,5.0nm,0.7s,mb4.0,baz=96,slow=7.7,SNR=30						
TIXI	**Tiksi**	**45.59**	**22**	⇑*i* P	P	19 40 46.4	+0.3
TIXI				*i* *PP	pP	19 41 40.7	+2.9
TIXI				*i*		19 42 37.4	
TIXI				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.3						
SPB4	**Spitsbergen Ar**	**47.35**	**347**	*e*P	P	19 41 00.4	+0.6
YSS	**Yuzh-Sakhalins**	**52.66**	**55**	⇑*e*P	P	19 41 40.5	+0.9
YSS				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.2						
DAG	**Danmarks Havn**	**54.59**	**344**	⇓*i* P	P	19 41 53.8	+0.3
	comp=Z,4.8nm,0.7s,mb4.1						
DAG	**Danmarks Havn**	**54.59**	**344**	⇓*e*P	P	19 41 53.8	+0.3
	comp=Z,4.8nm,0.7s,mb4.1						
BILL	**Bilibino**	**58.42**	**26**	⇓*e*P	P	19 42 22.3	+1.8
BILL				pmax	pmax		
	comp=N,4.0nm,0.5s						
SUMG	**Summit**	**60.93**	**341**	*e*P	P	19 42 37.4	-0.1
	comp=N,11nm,1.1s,mb4.4						
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P	P	19 43 08.2	-1.2
	comp=N,6.0nm,0.7s,mb4.4,baz=49,slow=5.8,SNR=116						
INK	**Inuvik**	**73.72**	**9**	*e*P	P	19 43 58.1	+0.5
INK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
INK	**Inuvik**	**73.72**	**9**	*e*P	P	19 43 58.0	+0.5
	comp=Z,5.8nm,0.6s,mb4.4						
COLA	**College**	**74.29**	**16**	*e*P	P	19 44 01.5	+0.7
COLA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
COLA	**College**	**74.29**	**16**	*e*P	P	19 44 01.5	+0.7
	comp=Z,12nm,0.9s,mb4.5						
DBIC	**Dimbokro**	**74.79**	**267**	P	P	19 44 02.7	-0.9
	comp=Z,7.6nm,0.9s,mb4.3,baz=53,slow=2.4,SNR=5.0						
DBIC	**Dimbokro**	**74.79**	**267**	P	P	19 44 02.7	-1.0
LBTB	**Lobatse**	**74.86**	**222**	*e*P	P	19 44 05.0	+0.9
DAWY	**Dawson**	**76.74**	**13**	*e*P	P	19 44 14.9	+0.2
BOSA	**Boshof**	**77.93**	**220**	P	P	19 44 21.6	+0.3
	comp=Z,1.5nm,0.7s,mb3.8,baz=35,slow=7.2,SNR=5.2						
YKA	**Yellowknife Ar**	**81.07**	**3**	P	P	19 44 38.4	+0.3
	comp=Z,3.5nm,0.4s,mb4.3,baz=352,slow=5.4,SNR=17						
YKA	**Yellowknife Ar**	**81.07**	**3**	P	P	19 44 38.4	+0.3
WRA	**Warramunga Arr**	**82.01**	**122**	P	P	19 44 42.2	-0.9
	comp=Z,2.3nm,0.6s,mb4.0,baz=325,slow=5.1,SNR=55						
WB2	**Warramunga Arr**	**82.02**	**122**	*e*P	P	19 44 42.3	-0.8
ASPA	**Alice Springs**	**84.28**	**125**	*e*P	P	19 44 54.4	-0.3
ASA31	**Alice Springs**	**84.29**	**125**	*e*P	P	19 44 54.4	-0.3
ASAR	**Alice Springs**	**84.29**	**125**	P	P	19 44 54.1	-0.6
	comp=Z,3.2nm,0.7s,mb4.2,baz=311,slow=5.1,SNR=40						
CTA	**Charters Tower**	**90.54**	**115**	P	P	19 45 24.4	-0.2
	comp=Z,2.9nm,0.6s,mb4.4,baz=323,slow=9.6,SNR=4.0						

IDC 30 20:27:54.9±2.5, 2388N×4466W, h0km, mb3.9/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.9/7, MS3.3/6, Ms1 3.3/6, ms1mx3.0/33, Error ellipse: s-maj=62.4km s-min=32.6km az=20.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.86**	**258**	LR	LR	20 39 15.1	
	comp=Z,48nm,18.2s,baz=360,slow=33						
MDT	**Midelt**	**36.17**	**67**

Error ellipse: s-maj=24.3km s-min=13.2km az=51.0
*ISCJB **30** 20:40:38.5±1.7, 2437S±010×1798W±01, h507km±19km, mb4.3/15, Error ellipse: s-maj=21.1km s-min=11.9km az=116.7*
*IDC **30** 20:40:40.8±2.3, 2441S×17995W, h508km±23km, mb3.7/6, mb1 3.8/7, mb1mx3.6/13, mbtmp4.6/7, Error ellipse: s-maj=21.6km s-min=15.1km az=19.0*
ISC 30 20:40:38.7±1.7, 2448S±010×1797W±01, h498km±17km, n50, σ1°08/43, mb4.3/15, 3C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.99**	**278**	P	**P**	**20 43 27.9**	**+0.2**
	1.0nm,0.3s,baz=81,slow=17,SNR=13						
URZ	**Urewera**	**14.01**	**191**	P	**P**	**20 43 36.5**	**-1.9**
	2.7nm,0.3s,baz=301,slow=1.5,SNR=14						
URZ				S	**S**	**20 46 07.1**	**+0.4**
	4.2nm,0.3s,baz=87,slow=22,SNR=13						
URZ	**Urewera**	**14.01**	**191**	*e*PN	**P**	**20 43 39.6**	**+1.1**
BFZ	**Birch Farm**	**16.52**	**191**	*e*PN	**P**	**20 44 04.3**	**-0.3**
BFZ	**Birch Farm**	**16.52**	**191**	*e*P	**P**	**20 44 04.3**	**-0.3**
CAW	**Cannon Point**	**17.16**	**194**	*e*PN	**P**	**20 44 10.5**	**-0.8**
CAW	**Cannon Point**	**17.16**	**194**	*e*P	**P**	**20 44 10.5**	**-0.8**
QRZ	**Quartz Range**	**17.57**	**200**	*e*PN	**P**	**20 44 14.8**	**-0.2**
QRZ	**Quartz Range**	**17.57**	**200**	*e*P	**P**	**20 44 14.8**	**-0.3**
NNZ	**Nelson**	**17.68**	**198**	*e*PN	**P**	**20 44 14.7**	**-1.3**
NNZ	**Nelson**	**17.68**	**198**	*e*P	**P**	**20 44 14.7**	**-1.4**
THZ	**Tophouse**	**18.32**	**198**	*e*PN	**P**	**20 44 21.3**	**-0.6**
THZ	**Tophouse**	**18.32**	**198**	*e*P	**P**	**20 44 21.3**	**-0.6**
KHZ	**Kahutara**	**18.76**	**196**	*e*PN	**P**	**20 44 25.1**	**-0.9**
KHZ	**Kahutara**	**18.76**	**196**	*e*P	**P**	**20 44 25.1**	**-0.9**
LTZ	**Lake Taylor**	**19.44**	**198**	*e*PN	**P**	**20 44 31.1**	**-1.1**
LTZ	**Lake Taylor**	**19.44**	**198**	*e*P	**P**	**20 44 31.1**	**-1.1**
RPZ	**Rata Peaks**	**20.65**	**199**	P	**P**	**20 44 42.9**	**-0.3**
	21nm,0.5s,baz=350,slow=1.2,SNR=24						
ARMA	**Armidale**	**26.12**	**251**	*e*P	**P**	**20 45 34.1**	**+2.1**
CNB	**Canberra Magne**	**28.84**	**241**	*e*P	**P**	**20 45 57.8**	**+1.9**
	50nm,2.0s,mb4.6						
CTA	**Charters Tower**	**31.79**	**271**	⇑*i*P	**P**	**20 46 22.4**	**+1.0**
	6.5nm,0.5s,mb4.3						
TOO	**Toolangi**	**32.40**	**238**	*e*P	**P**	**20 46 27.8**	**+1.2**
	4.6nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**34.80**	**249**	*e*P	**P**	**20 46 45.9**	**-1.0**
	5.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**34.80**	**249**	P	**P**	**20 46 45.9**	**-1.0**
	6.6nm,0.5s,mb4.3,baz=95,slow=9.0,SNR=30						
STKA				PcP	PcP	20 49 06.1	-0.2
	2.1nm,0.9s,baz=288,slow=13,SNR=2.9						
AS31	**Alice Springs**	**42.25**	**261**	*e*P	**P**	**20 47 47.8**	**+0.4**
ASAR	**Alice Springs**	**42.25**	**261**	P	**P**	**20 47 47.9**	**+0.4**
	4.4nm,0.7s,mb4.0,baz=98,slow=7.1,SNR=46						
ASAR				PcP	PcP	20 49 31.1	+1.0
	1.4nm,0.8s,baz=103,slow=6.3,SNR=5.2						
ASAR				S	**S**	**20 53 30.2**	**-1.1**
	0.7nm,0.6s,baz=102,slow=14,SNR=6.3						
ASPA	**Alice Springs**	**42.25**	**261**	*e*P	**P**	**20 47 47.8**	**+0.3**
WB2	**Warramunga Arr**	**42.67**	**267**	⇑*i*P	**P**	**20 47 50.6**	**-0.1**
WB2				*e*S	**S**	**20 53 31.0**	**-6.3**
WRAB	**Tennant Creek**	**42.67**	**267**	*e*P	**P**	**20 47 50.5**	**-0.3**
	8.6nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**42.68**	**267**	P	**P**	**20 47 50.7**	**-0.1**
	5.7nm,0.5s,mb4.3,baz=99,slow=8.3,SNR=120						
WRA				S	**S**	**20 53 34.7**	**-2.8**
	2.7nm,1.0s,baz=102,slow=14,SNR=6.3						
FORT	**Forrest**	**46.40**	**250**	*e*P	**P**	**20 48 19.2**	**-0.4**
	31nm,0.6s,mb4.9						
KAKA	**Kakadu**	**46.67**	**276**	*e*P	**P**	**20 48 21.4**	**-0.2**
	5.5nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**51.09**	**266**	⇑*i*P	**P**	**20 48 55.0**	**+0.5**
	11nm,0.6s,mb4.4						
VNDA	**Vanda**	**53.83**	**185**	P	**P**	**20 49 16.4**	**+2.3**
	1.8nm,0.6s,mb3.6,baz=2.2,slow=7.2,SNR=9.7						
KLBR	**Kellerberrin**	**55.05**	**248**	*e*P	**P**	**20 49 22.6**	**-0.2**
	102nm,1.9s,mb4.8						
MBWA	**Marble Bar**	**55.58**	**260**	*e*P	**P**	**20 49 24.1**	**-2.3**
	5.3nm,0.7s,mb4.0						
QSPA	**South Pole Qui**	**65.61**	**180**	*e*P	**P**	**20 50 34.7**	**+1.9**
	11nm,0.7s,mb4.6						
MAW	**Mawson**	**77.32**	**200**	P	**P**	**20 51 42.7**	**+1.4**
	5.0nm,0.5s,mb4.3,baz=129,slow=9.5,SNR=8.0						
FALS	**False Pass**	**80.23**	**9**	*e*P	**P**	**20 51 55.7**	**-1.2**
MKAR	**Makanchi Array**	**112.77**	**312**	PKiKP	PKiKP	20 58 17.3	-1.0
	0.4nm,0.8s,baz=43,slow=2.5,SNR=4.1						
MKAR	**Makanchi Array**	**112.77**	**312**	PKPdf	PKiKP	20 58 17.3	-1.0
ZRNK	**Zerenda**	**121.91**	**318**	*e*PKPdf	PKPdf	20 58 34.8	-1.1
ARU	**Arti**	**127.53**	**323**	*e*PKPdf	PKPdf	20 58 46.4	-0.2
FINES	**FINESS Array B**	**139.09**	**341**	PKP	PKPdf	20 59 09.8	+1.5
	0.8nm,0.8s,baz=116,slow=4.4,SNR=4.0						
NOA	**NORSAR Array B**	**142.69**	**351**	PKhKP		20 59 11.3	
	1.2nm,0.9s,baz=16,slow=4.6,SNR=3.5						
AKASG	**Malin Array Be**	**145.62**	**327**	PKPbc	PKPbc	20 59 20.3	-0.8
	0.4nm,0.3s,baz=43,slow=3.8,SNR=11						
BRTR	**Keskin Array B**	**148.17**	**307**	PKPbc	PKPbc	20 59 28.4	+0.4
	1.2nm,0.6s,baz=110,slow=5.2,SNR=6.8						
CLL	**Collm**	**151.49**	**343**	⇓*i*PKPbc	PKPbc	20 59 36.0	+0.1
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**151.63**	**342**	*e*PKPdf		20 59 36.1	+6.7
	comp=Z,2.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**168.66**	**187**	PKP	PKPdf	20 59 48.1	+0.3
	comp=Z,0.4nm,0.9s,baz=243,slow=0.7,SNR=3.6						
TORD				PKPab	PKPab	21 01 02.5	+1.0
	comp=Z,1.6nm,0.7s,baz=168,slow=5.8,SNR=12						

*NIED **30** 20:44:00, 4100N×14320E, h26km, Mw3.7 Best double couple: M0 3.49000×10^14 NP1:φs 119.00000°, δ55.00000°, λ-74.00000°. NP2:φs 273.00000°, δ38.00000°, λ-112.00000°.*
*JMA **30** 20:44:44.6±0.2, 4095N×14323E, h31km, M3.7*
*MOS **30** 20:44:45.7±0.7, 4097N×14330E, h64km, mb4.2/1, Error ellipse: s-maj=23.1km s-min=11.9km az=73.5*
*ISCJB **30** 20:44:45.0±0.6, 4098N±004×14326E±007, h47km±7km, mb3.6/9, Error ellipse: s-maj=9.9km s-min=4.0km az=60.5*
*IDC **30** 20:44:48.4±2.9, 4094N×14305E, h59km±27km, mb3.4/8, mb1 3.6/10, mb1mx3.4/21, mbtmp3.6/10, ML3.2/2, MS2.8/1, Ms1 2.8/1, ms1mx1.7/24, Error ellipse: s-maj=27.1km s-min=17.7km az=94.0*
*NEIC **30** 20:44:50.5±1.8, 4090N×14299E, h78km±16km, mb3.8/1, Error ellipse: s-maj=17.7km s-min=12.6km az=61.0*
ISC 30 20:44:46.2±0.6, 4101N±004×14323E±007, h40km±7km, n30, σ0°94/43, mb3.6/9, 3C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.01**	**357**	⇑P	**Pn**	**20 45 03.6**	**-0.3**
JEM				S	**Sn**	**20 45 17.1**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.32**	**344**	P	**Pn**	**20 45 08.2**	**0.0**
JNBK				*e*S	**Sn**	**20 45 26.2**	**+1.7**
JANG	**Nango**	**1.45**	**245**	⇑P	**Pn**	**20 45 09.0**	**-1.0**
JANG				*e*S	**Sn**	**20 45 26.6**	**-1.2**
JCH	**Churui**	**1.61**	**3**	P	**Pn**	**20 45 12.2**	**+0.1**
JCH				*e*S	**Sn**	**20 45 31.4**	**-0.2**
JTM	**Tenmabayashi**	**1.66**	**263**	P	**Pn**	**20 45 12.7**	**-0.1**
JTM				S	**Sn**	**20 45 32.5**	**-0.3**
JOT	**Ohata**	**1.69**	**283**	⇓P	**Pn**	**20 45 12.8**	**-0.4**
JKB	**Kayabe**	**1.87**	**299**	P	**Pn**	**20 45 15.3**	**-0.4**
JKB				*e*S	**Sn**	**20 45 39.0**	**+0.9**
JOM	**Ohasama**	**2.13**	**225**	P	**Pn**	**20 45 19.5**	**+0.2**
JOM				*e*S	**Sn**	**20 45 45.4**	**+0.8**
JAK	**Akkeshi**	**2.27**	**28**	P	**Pn**	**20 45 20.8**	**-0.4**
JAK				S	**Sn**	**20 45 46.6**	**-1.3**
JAR	**Ashorobuto**	**2.32**	**10**	⇑P	**Pn**	**20 45 21.4**	**-0.5**
JAR				S	**Sn**	**20 45 47.7**	**-1.5**
JMK	**Ichinoseki**	**2.57**	**218**	P	**Pn**	**20 45 25.0**	**-0.3**
JMK				*e*S	**Sn**	**20 45 54.6**	**-0.8**
ASAJ	**Asahikawa**	**3.14**	**352**	P	**Pn**	**20 45 35.0**	**+1.9**
	2.2nm,0.3s,baz=208,slow=13,SNR=27						
ASAJ	**Asahikawa**	**3.14**	**352**	P	**Pn**	**20 45 35.1**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.59**	**32**	*e*P	**Pn**	**20 45 40.4**	**+1.0**
YUK				*e*S	**Sn**	**20 46 17.0**	**-3.6**
YUK				smax			
	comp=N,2μm,2.0s						
YUK				smax			
	comp=E,750nm,0.8s						
YUK				smax			
	comp=N,770nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
MAJO	**Matsushiro**	**5.94**	**223**	*e*P	**Pn**	**20 46 13.4**	**+1.8**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MAJO	**Matsushiro**	**5.94**	**223**	*e*P	**Pn**	**20 46 13.4**	**+1.8**
	comp=Z,7.6nm,0.6s						
MAT	**Matsushiro**	**5.94**	**223**	P	**Pn**	**20 46 11.6**	**0.0**
MAT				S	**Sn**	**20 47 17.3**	**-1.1**
MAT	**Matsushiro**	**5.94**	**223**	*e*P	**Pn**	**20 46 13.0**	**+1.4**
MAT				*e*S	**Sn**	**20 47 27.0**	**+8.6**
MJAR	**Matsushiro Arr**	**5.94**	**223**	P	**Pn**	**20 46 12.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=9.1						
MJAR				LR	LR	20 48 46.7	
	comp=Z,83nm,20.1s,baz=55,slow=41						
SONM	**Songino Array**	**26.99**	**297**	P	**P**	**20 50 24.4**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.2,baz=87,slow=8.8,SNR=4.5						
MKAR	**Makanchi Array**	**43.32**	**299**	P	**P**	**20 52 43.6**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.4,baz=74,slow=10.0,SNR=7.3						
KURK	**Kurchatov**	**44.70**	**305**	*e*P	**P**	**20 52 54.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
KURK	**Kurchatov**	**44.70**	**305**	*e*P	**P**	**20 52 54.8**	**-0.4**
	comp=Z,0.9nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**61.20**	**190**	P	**P**	**20 54 56.1**	**-0.8**
	comp=Z,0.7nm,0.5s,mb4.1,baz=7.4,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**64.92**	**189**	P	**P**	**20 55 20.9**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.6,baz=22,slow=5.2,SNR=4.9						
FINES	**FINESS Array B**	**65.97**	**332**	P	**P**	**20 55 27.9**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.9,baz=58,slow=7.5,SNR=7.1						
FINES	**FINESS Array B**	**65.97**	**332**	P	**P**	**20 55 27.9**	**-0.4**
NOA	**NORSAR Array B**	**71.07**	**338**	P	**P**	**20 55 59.4**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=36,slow=6.2,SNR=3.2						
NVAR	**Mina Array Bea**	**71.51**	**55**	P	**P**	**20 56 04.5**	**+1.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=291,slow=4.7,SNR=3.7						
PDAR	**Pinedale Array**	**73.90**	**47**	P	**P**	**20 56 18.7**	**+1.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=284,slow=2.2,SNR=4.2						

*CSEM **30** 21:01:28.8±1.1, 3897N×2910W, h0km, ML1.8, Error ellipse: s-maj=13.3km s-min=7.6km az=78.0, After PDA*
*PDA **30** 21:01:28.8±1.1, 3897N×2910W, h0km, MD3.2, ML1.8, Error ellipse: s-maj=13.3km s-min=7.6km az=78.0*
SVSA 30 21:01:28.8±1.1, 3897N×2910W, h0km, MD3.2, ML1.8, Error ellipse: s-maj=13.3km s-min=7.6km az=78.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.45**	**148**	*e*S	Sg	21 01 42.1	-1.1
PTCA							
	9.5nm,0.1s						
PCED	**Cedros**	**0.46**	**137**	*e*P	Pg	21 01 37.5	-0.1
PCED				*e*S	Sg	21 01 43.4	-0.2
PCED							
	47nm,0.1s						
PCED	**Cedros**	**0.46**	**137**	*e*P	Pg	21 01 37.5	-0.1
PCED				*e*S	Sg	21 01 43.4	-0.2
CALA	**Caldeira**	**0.49**	**141**	*e*S	Sg	21 01 44.8	+0.1
PICO	**Pico**	**0.70**	**131**	*e*P	Pg	21 01 40.9	-1.4
PICO				*i*S	Sg	21 01 50.8	-0.6
PCND	**Candelaria**	**0.70**	**135**	*e*S	Sg	21 01 49.6	-1.8
PCND							
	12nm,0.2s						
ROSA	**Rosais**	**0.71**	**110**	*e*P	Pg	21 01 41.2	-1.3
ROSA				*i*S	Sg	21 01 50.2	-1.6
PTEI	**Pico do Teixo**	**0.75**	**129**	*e*rx	Sg	21 01 52.4	-0.5
PBOI	**Pico dos Bois**	**0.78**	**133**	*e*S	Sg	21 01 51.9	-1.8
PBOI							
	13nm,0.2s						
PMAN	**Manadas**	**0.86**	**113**	*e*S	Sg	21 01 54.1	-2.3
PMAN							
	74nm,0.1s						
PID	**Ribeirinha**	**0.93**	**124**	*e*rx	Sg	21 01 54.6	-4.1

*ISCJB **30** 21:30:58.4±0.6, 5548S±010×2871W±01, h10km, mb4.2/11, MS3.9/8, Error ellipse: s-maj=19.4km s-min=11.2km az=29.8*
*IDC **30** 21:30:58.6±0.7, 5540S×2865W, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.2/16, mbtmp4.2/9, MS3.9/8, Ms1 3.8/8, ms1mx3.6/16, Error ellipse: s-maj=23.9km s-min=18.0km az=17.0*
*NEIC **30** 21:30:59.9±0.4, 5541S×2869W, h10km, mb4.6/2, Error ellipse: s-maj=15.9km s-min=8.9km az=195.0*
ISC 30 21:31:00.0±0.6, 5555S±010×2871W±01, h10km, n23, σ0°79/16, mb4.2/11, MS3.9/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.64**	**281**	*e*P	**Pn**	**21 32 08.8**	**-1.4**
HOPE				*e*S	**Sn**	**21 32 52.7**	**-11**
TRQA	**Tornquist**	**28.29**	**294**	*e*P	**P**	**21 36 53.8**	**+0.1**
PLCA	**Paso Flores**	**31.05**	**281**	P	**P**	**21 37 18.8**	**+0.8**
	1.4nm,1.0s,mb3.8,baz=132,slow=12,SNR=1.8						
PLCA				LR	LR	21 48 08.8	
	comp=Z,137nm,19.9s,MS3.6,baz=166,slow=33						
CFAA	**Coronel Fontan**	**36.53**	**294**	P	**P**	**21 38 04.8**	**-0.9**
	0.6nm,0.6s,mb3.6,baz=151,slow=8.9,SNR=10.0						
CFAA				PcP	PcP	21 40 28.3	-0.9
	0.1nm,0.4s,baz=218,slow=5.2,SNR=3.7						
MAW	**Mawson**	**41.14**	**144**	P	**P**	**21 38 44.1**	**-0.2**
	3.3nm,1.1s,mb3.9,baz=291,slow=12,SNR=2.4						
MAW				LR	LR	21 53 45.7	
	comp=Z,110nm,21.8s,MS3.7,baz=74,slow=33						
BDFB	**Brasilia**	**42.42**	**332**	LR	LR	21 53 18.1	
	comp=Z,131nm,18.4s,MS3.9,baz=176,slow=32						
LVC	**Limon Verde**	**44.25**	**301**	*e*P	**P**	**21 39 10.9**	**+1.3**
	16nm,1.0s,mb4.7						
BOSA	**Boshof**	**46.67**	**78**	P	**P**	**21 39 28.1**	**-0.7**
	2.1nm,0.9s,mb4.1,baz=201,slow=16,SNR=7.1						
BOSA				LR	LR	21 55 01.6	
	comp=Z,198nm,19.4s,MS4.1,baz=178,slow=31						
VNDA	**Vanda**	**47.12**	**183**	P	**P**	**21 39 32.6**	**+0.4**
	1.3nm,0.7s,mb4.0,baz=180,slow=5.4,SNR=8.4						
VNDA				LR	LR	21 57 09.9	
	comp=Z,98nm,18.6s,MS3.8,baz=43,slow=33						
LPAZ	**La Paz**	**49.33**	**306**	P	**P**	**21 39 50.7**	**+1.4**
	5.5nm,0.5s,mb4.8,baz=157,slow=6.3,SNR=21						
LPAZ				LR	LR	22 01 11.1	
	comp=Z,71nm,21.6s,MS3.6,baz=268,slow=37						
LPAZ	**La Paz**	**49.33**	**306**	P	**P**	**21 39 50.7**	**+1.4**
LPAZ				LR	LR	22 01 11.1	
LBTB	**Lobatse**	**49.68**	**75**	P	**P**	**21 39 51.9**	**-0.1**
	3.1nm,0.8s,mb4.4,baz=225,slow=5.6,SNR=5.9						
SAML	**Samuel**	**53.77**	**316**	*e*P	**P**	**21 40 21.6**	**-1.0**
	4.7nm,0.9s,mb4.4						
DBIC	**Dimbokro**	**65.00**	**26**	P	**P**	**21 41 40.6**	**+0.4**
	3.2nm,1.0s,mb4.3,baz=173,slow=23,SNR=3.7						
TORD	**Torodi Ar. Bea**	**72.98**	**31**	P	**P**	**21 42 29.8**	**0.0**
	4.4nm,0.6s,mb4.6,baz=200,slow=6.5,SNR=84						
SDV	**Santo Domingo**	**72.98**	**316**	*e*P	**P**	**21 42 29.8**	**0.0**
KMBO	**Kilima Mbogo**	**75.64**	**70**	LR	LR	22 15 24.7	
	comp=Z,68nm,18.7s,MS4.0,baz=161,slow=35						
ASAR	**Alice Springs**	**99.81**	**164**	LR	LR	22 27 41.3	
	comp=Z,98nm,19.1s,MS4.3,baz=169,slow=34						
FINES	**FINESS Array B**	**124.27**	**28**	PKP	PKPdf	21 49 56.6	-2.4
	2.6nm,1.1s,baz=197,slow=2.0,SNR=9.6						
ARCES	**ARCESS Array B**	**130.71**	**22**	PKP	PKPdf	21 50 08.9	-2.4
	0.8nm,0.6s,baz=113,slow=1.6,SNR=7.8						
INK	**Inuvik**	**144.80**	**321**	*e*PKPdf	PKPdf	21 50 33.6	-3.5
DAWY	**Dawson**	**145.75**	**313**	*e*PKPdf	PKPdf	21 50 36.8	-2.0
SONM	**Songino Array**	**151.55**	**87**	PKPbc	PKPbc	21 50 52.8	-1.5
	1.4nm,0.5s,baz=222,slow=3.3,SNR=15						

*CSEM **30** 22:24:11.8±1.5, 3868N×2686W, h3km±30km, ML1.9, Error ellipse: s-maj=32.0km s-min=15.8km az=86.0, After PDA*
*PDA **30** 22:24:11.8±1.5, 3868N×2686W, h3km±30km, MD3.3, ML1.9, Error ellipse: s-maj=32.0km s-min=15.8km az=86.0*
SVSA 30 22:24:11.8±1.5, 3868N×2686W, h3km±30km, MD3.3, ML1.9, Error ellipse: s-maj=32.0km s-min=15.8km az=86.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFAV	**Pico das Favas**	**0.18**	**281**	*i*P	Pg	22 24 15.1	-0.2
PFAV				*i*S	Sg	22 24 17.7	+0.1
PFAV							
	204nm,0.1s						
PFAV	**Pico das Favas**	**0.18**	**281**	*i*S	Sg	22 24 17.7	+0.1
RIB2	**Ribeirinha**	**0.25**	**269**	*e*P	Pg	22 24 16.4	-0.2
RIB2				*e*S	Sg	22 24 19.4	-0.4
RIB2							
	98nm,0.1s						
RIB2	**Ribeirinha**	**0.25**	**269**	*e*P	Pg	22 24 16.4	-0.2
RIB2				*e*S	Sg	22 24 19.4	-0.4
PVNV	**Vila Nova**	**0.25**	**290**	*e*P	Pg	22 24 16.3	-0.3
PVNV				*e*S	Sg	22 24 19.8	0.0
PVNV							
	93nm,0.2s						
PVNV	**Vila Nova**	**0.25**	**290**	*e*P	Pg	22 24 16.3	-0.3
PVNV				*e*S	Sg	22 24 19.8	0.0
PBIS	**Biscoitos**	**0.32**	**285**	*e*S	Sg	22 24 21.4	-0.7
PBIS							
	16nm,0.1s						
PPAD	**Pico dos Padre**	**0.34**	**274**	*e*S	Sg	22 24 22.1	-0.5
PPAD							
	24nm,0.2s						
ASBA	**Santa Barbara**	**0.37**	**277**	*e*S	Sg	22 24 23.2	-0.5
ASBA							
	41nm,0.2s						
PID	**Ribeirinha**	**1.02**	**257**	*e*P	Pg	22 24 25.8	-5.5
PID				*e*S	Sg	22 24 38.5	-6.0
ROSA	**Rosais**	**1.08**	**273**	*e*P	Pg	22 24 28.5	-4.1
ROSA				*e*S	Sg	22 24 41.3	-5.3
PICO	**Pico**	**1.24**	**262**	*e*P	Pg	22 24 30.9	-4.7
PICO				*i*S	Sg	22 24 45.7	-6.0
CALA	**Caldeira**	**1.45**	**267**	*e*S	Sb	22 24 49.8	-8.4

IDC 30 22:24:55.6±1.8, 2259N×14225E, h252km±29km, mb3.1/4, mb1 3.3/5, mb1mx3.0/20, mbtmp3.8/5, Error ellipse: s-maj=123.0km s-min=16.7km az=84.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.49**	**359**	P	Pn	22 26 06.9	+1.7
	19nm,0.3s,baz=90,slow=24,SNR=36						
CBIJ				S	S	22 27 00.1	-0.5
	14nm,0.3s,baz=259,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**42.97**	**191**	P	P	22 32 29.8	-0.3
	0.5nm,0.3s,baz=5.8,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**46.69**	**191**	P	P	22 32 59.8	+0.5
	0.1nm,0.3s,baz=21,slow=12,SNR=3.2						
BVAR	**Borovoye Array**	**61.43**	**319**	P	P	22 34 46.1	+0.7
	0.5nm,0.5s,baz=66,slow=8.3,SNR=5.0						
FINES	**FINESS Array B**	**82.01**	**334**	P	P	22 36 46.8	-0.8
	0.6nm,0.3s,baz=72,slow=5.0,SNR=25						

*ISCJB **30** 23:18:29.8±0.3, 3194N±007×4555W±004, h10km, mb4.5/87, MS3.5/11, Error ellipse: s-maj=9.5km s-min=4.5km az=168.6*
*MOS **30** 23:18:29.7±0.8, 3193N×4556W, h10km, mb5.2/43, Error ellipse: s-maj=10.3km s-min=5.7km az=136.5*
*IDC **30** 23:18:30.0±0.6, 3193N×4565W, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.4/22, mbtmp4.4/17, MS3.6/11, Ms1 3.6/11, ms1mx3.3/31, Error ellipse: s-maj=18.0km s-min=15.4km az=125.0*
*NEIC **30** 23:18:31.5±0.2, 3193N×4553W, h10km, mb4.5/63, Error ellipse: s-maj=7.3km s-min=3.3km az=174.0*
ISC 30 23:18:31.8±0.3, 3198N±007×4552W±004, h10km, n189, σ0°80/178, mb4.5/87, MS3.5/11, 15C-7D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**27.39**	**333**	P	**P**	**23 24 18.1**	**+0.8**
	4.9nm,1.0s,mb4.0,baz=156,slow=9.4,SNR=3.7						
SCHQ				LR	LR	23 34 31.4	
	comp=Z,96nm,18.6s,MS3.4,baz=98,slow=35						
PCRV	**Puerto La Cruz**	**27.99**	**223**	LR	LR	23 33 49.3	
	comp=Z,46nm,20.8s,MS3.0,baz=276,slow=33						
SADO	**Sadowa**	**29.07**	**306**	LR	LR	23 34 27.2	
	comp=Z,144nm,20.0s,MS3.6,baz=292,slow=33						
ESDC	**Sonseca Array**	**34.32**	**65**	P	**P**	**23 25 19.5**	**+1.1**
	2.4nm,0.9s,mb4.1,baz=278,slow=8.0,SNR=12						
ESDC				PcP	PcP	23 27 55.1	+0.6
	0.9nm,0.7s,baz=290,slow=3.4,SNR=5.3						
ESDC				LR	LR	23 35 29.5	
	comp=Z,47nm,19.8s,MS3.2,baz=230,slow=30						
WVT	**Waverly**	**35.09**	**289**	*e*P	**P**	**23 25 24.6**	**-0.6**
WVT				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
WVT	**Waverly**	**35.09**	**289**	*e*P	**P**	**23 25 24.6**	**-0.5**
	comp=Z,6.0nm,0.7s,mb4.6						
QUIF	**Quistinic**	**35.67**	**51**	*e*P	**P**	**23 25 29.5**	**-0.6**
	comp=Z,28nm,1.2s,mb4.8						
QUIF	**Quistinic**	**35.67**	**51**	*e*P	**P**	**23 25 29.5**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
QUIF	**Quistinic**	**35.67**	**51**	*e*P	**P**	**23 25 29.5**	**-0.6**
	comp=Z,14nm,1.2s,mb4.8						
ROSF	**Rostrenen**	**35.68**	**50**	*e*P	**P**	**23 25 29.9**	**-0.3**
	comp=Z,28nm,1.2s,mb4.8						
ROSF	**Rostrenen**	**35.68**	**50

MTLF Montolieu 38.98 59 *eP* **P 23 25 58.0 -0.2**
comp=Z,7.8nm,0.9s,mb4.4
TCF Toulx Ste Croi 39.10 54 *eP* **P 23 25 58.9 -0.3**
comp=Z,9.3nm,0.9s,mb4.2
TCF Toulx Ste Croi 39.10 54 *eP* **P 23 25 58.9 -0.3**
comp=Z,4.7nm,0.9s,mb4.2
HYF Humbligny 39.47 53 *eP* **P 23 26 02.3 0.0**
BGF Bois d'Agland 39.55 54 *eP* **P 23 26 02.5 -0.5**
comp=Z,11nm,1.0s,mb4.2
BGF Bois d'Agland 39.55 54 *eP* **P 23 26 02.5 -0.5**
comp=Z,5.4nm,1.0s,mb4.2
AVF Avril sur Loir 39.92 54 *eP* **P 23 26 05.6 -0.4**
comp=Z,7.7nm,0.9s,mb4.1
AVF Avril sur Loir 39.92 54 *eP* **P 23 26 05.6 -0.4**
comp=Z,3.8nm,0.9s,mb4.1
SSF Saint Saulge 40.04 53 *eP* **P 23 26 06.7 -0.3**
comp=Z,14nm,0.9s,mb4.4
SSF Saint Saulge 40.04 53 *eP* **P 23 26 06.7 -0.3**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
SSF Saint Saulge 40.04 53 *eP* **P 23 26 06.7 -0.3**
comp=Z,7.1nm,0.9s,mb4.4
LASF Ste Croix 40.17 58 *eP* **P 23 26 08.5 +0.4**
comp=Z,10nm,1.0s,mb4.2
SMF Signal de Mont 40.24 54 *eP* **P 23 26 08.6 -0.1**
comp=Z,17nm,0.9s,mb4.5
SMF Signal de Mont 40.24 54 *eP* **P 23 26 08.6 -0.1**
SMF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
SMF Signal de Mont 40.24 54 *eP* **P 23 26 08.6 -0.1**
comp=Z,8.6nm,0.9s,mb4.5
LOR Lormes 40.30 53 *eP* **P 23 26 08.6 -0.6**
comp=Z,13nm,0.9s,mb4.4
LOR Lormes 40.30 53 *eP* **P 23 26 08.6 -0.6**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
LOR Lormes 40.30 53 *eP* **P 23 26 08.6 -0.6**
comp=Z,6.6nm,0.9s,mb4.4
BAIF Baives 40.80 49 *eP* **P 23 26 12.8 -0.5**
comp=Z,9.8nm,1.0s,mb4.1
BAIF Baives 40.80 49 *eP* **P 23 26 12.8 -0.5**
comp=Z,4.9nm,1.0s,mb4.1
SUMG Summit 40.83 3 *eP* **P 23 26 12.4 -1.2**
comp=Z,5.0nm,0.8s,mb4.2
MEZF Maizieres J'vi 41.19 51 *eP* **P 23 26 16.5 0.0**
comp=Z,35nm,0.8s,mb4.7
MEZF Maizieres J'vi 41.19 51 *eP* **P 23 26 16.5 0.0**
comp=Z,35nm,0.8s,mb5.0
GIVF Givet 41.20 49 *eP* **P 23 26 16.1 -0.5**
ULM Lac du Bonnet 41.22 311 P **P 23 26 14.6 -2.2**
comp=Z,4.3nm,0.9s,mb4.1,baz=88,slow=8.8,SNR=6.3
ULM LR LR 23 41 57.4
comp=Z,61nm,20.1s,MS3.5,baz=355,slow=34
ULM Lac du Bonnet 41.22 311 P **P 23 26 14.6 -2.2**
ULM LR LR 23 41 57.4
CABF La Chapelle 41.79 54 *eP* **P 23 26 21.7 +0.2**
comp=Z,12nm,0.9s,mb4.3
CABF La Chapelle 41.79 54 *eP* **P 23 26 21.7 +0.2**
CABF pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
CABF La Chapelle 41.79 54 *eP* **P 23 26 21.7 +0.2**
comp=Z,6.2nm,0.9s,mb4.2
HAU Haudompre 42.02 52 *eP* **P 23 26 24.2 +0.8**
comp=Z,17nm,0.8s,mb4.4
HAU Haudompre 42.02 52 *eP* **P 23 26 24.2 +0.8**
HAU pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
HAU Haudompre 42.02 52 *eP* **P 23 26 24.2 +0.8**
comp=Z,8.7nm,0.8s,mb4.4
HINF Hinteralfeld 42.35 52 *eP* **P 23 26 26.2 +0.1**
comp=Z,4.2nm,0.7s,mb3.9
HINF Hinteralfeld 42.35 52 *eP* **P 23 26 26.2 +0.1**
comp=Z,2.1nm,0.7s,mb3.9
CDF Champ du Feu 42.66 52 *eP* **P 23 26 28.4 -0.2**
comp=Z,20nm,0.9s,mb4.6
CDF Champ du Feu 42.66 52 *eP* **P 23 26 28.4 -0.2**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
CDF Champ du Feu 42.66 52 *eP* **P 23 26 28.4 -0.2**
comp=Z,9.9nm,0.9s,mb4.5
SAML Samuel 44.06 206 *eP* **P 23 26 38.5 -1.3**
comp=Z,9.1nm,0.9s,mb4.5
DAVA Damuels 44.40 53⇑*iP* **P 23 26 39.6 -2.9**
comp=Z,3.8nm,1.1s,mb4.0
DAVA ⇓*ip*P pP 23 26 44.3 -1.4
comp=Z,12nm,0.9s
MOTA Moosalm 45.23 53⇑*iP* **P 23 26 50.3 +1.2**
comp=Z,4.9nm,0.8s,mb4.4
MOTA Moosalm 45.23 53⇓*i* sP 23 26 59.0 +5.4
comp=Z,4.7nm,0.8s
MOTA Moosalm 45.23 53⇑*ip*P pP 23 26 50.3 -2.0
comp=Z,4.9nm,0.8s
MOTA ⇓*ip*P pP 23 26 59.0 +6.7
comp=Z,4.7nm,0.8s
MOTA Moosalm 45.23 53⇑*iP* **P 23 26 50.3 +1.1**
comp=Z,4.9nm,0.8s,mb4.4
MOTA *i* 23 26 59.0
SQTA Sankt Quirin 45.30 53⇑*i* sP 23 27 00.2 +6.1
comp=Z,4.6nm,0.7s
SQTA Sankt Quirin 45.30 53⇓*ip*P pP 23 26 50.3 -2.6
comp=Z,5.6nm,0.8s
SQTA ⇑*ip*P sP 23 27 00.2 +6.1
comp=Z,4.6nm,0.7s
FFC Flin Flon 45.44 317 *eP* **P 23 26 51.1 +0.3**
FFC pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
FFC Flin Flon 45.44 317 *eP* **P 23 26 51.1 +0.2**
comp=Z,10nm,0.8s,mb4.7
DBIC Dimbokro 45.48 115 P **P 23 26 50.3 -0.9**
comp=Z,9.7nm,1.0s,mb4.6,baz=260,slow=8.3,SNR=4.2
DBIC LR LR 23 42 29.4
comp=Z,112nm,19.9s,MS3.8,baz=227,slow=32
WATA Walderalm 45.55 53⇑*iP* **P 23 26 52.1 +0.4**
comp=Z,3.8nm,0.4s,mb4.6
WTTA Wattenberg 45.59 53⇑*iP* **P 23 26 53.0 +0.9**
WTTA Wattenberg 45.59 53⇑*ip*P pP 23 26 53.0 -2.2
LIC Lamto 45.63 115 *eP* **P 23 26 52.6 +0.2**
comp=Z,71nm,1.5s,mb5.1
LIC Lamto 45.63 115 *eP* **P 23 26 52.6 +0.2**
comp=Z,36nm,1.5s,mb5.1
JCT Junction City 46.03 283 *eP* **P 23 26 55.0 -0.5**
JCT pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
JCT Junction City 46.03 283 *eP* **P 23 26 55.0 -0.5**
comp=Z,10nm,1.0s,mb4.7
NKC Novy Kostel 46.10 49 *ep*P pP 23 27 01.5 +2.3
CLL Collm 46.47 48 *i* P **P 23 26 59.7 +0.7**
comp=Z,5.0nm,1.1s,mb4.4
CLL *i* (sP) sP 23 27 06.2 +2.9
CLL Collm 46.47 48 *i* P **P 23 26 55.5 -3.5**
CLL *i* pP 23 26 59.7 -2.4
CLL Collm 46.47 48 *i* P **P 23 26 55.5 -3.5**
CLL *i* pP 23 26 59.7 -2.4
CLL *i* 23 27 06.2
DAG Danmarks Havn 46.57 8⇑*iP* **P 23 27 00.5 +0.7**
comp=Z,3.7nm,0.8s,mb4.4
DAG Danmarks Havn 46.57 8⇑*eP* **P 23 27 00.5 +0.7**
comp=Z,3.7nm,0.8s,mb4.4
NB2 NORSAR Subarra 46.59 34 P **P 23 27 00.2 +0.3**
comp=Z,6.0nm,1.0s,mb4.5,baz=261,slow=8.6
NB2 NORSAR Subarra 46.59 34 P **P 23 27 00.2 +0.3**
NB2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
NOA NORSAR Array B 46.59 34 P **P 23 27 00.7 +0.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=260,slow=8.0,SNR=8.2
KHC Kasperske Hory 46.84 51 *eP* **P 23 27 02.5 +0.6**
CMIG Matias Romero 46.90 264 LR LR 23 44 49.4
comp=Z,40nm,20.4s,MS3.4,baz=22,slow=34
GERES GERESS Array B 46.93 51 P **P 23 27 03.4 +0.8**
comp=Z,2.3nm,0.8s,mb4.2,baz=265,slow=6.7,SNR=19
TORD Torodi Ar. Bea 47.05 102 P **P 23 27 03.8 +0.3**
comp=Z,8.3nm,0.8s,mb4.7,baz=302,slow=7.6,SNR=44
TORD LR LR 23 46 25.1
comp=Z,50nm,18.0s,MS3.5,baz=150,slow=36
BRG Berggiesshubel 47.05 48 *eP* **P 23 27 12.2 +8.6**
BDFB Brasilia 47.41 183 P **P 23 27 06.7 +0.4**
comp=Z,5.0nm,0.8s,mb4.5,baz=49,slow=2.6,SNR=6.3
BDFB LR LR 23 44 43.7
comp=Z,94nm,20.7s,MS3.7,baz=216,slow=33
OBKA Obir 47.63 54⇑*iP* **P 23 27 07.7 -0.3**
comp=Z,9.8nm,0.7s,mb4.9
UPC Upice 48.38 49 *ep*P pP 23 27 22.1 +5.1
ISCO Idaho Springs 48.51 297 *eP* **P 23 27 15.1 +0.2**
ISCO pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
ISCO Idaho Springs 48.51 297 *eP* **P 23 27 15.1 +0.2**
comp=Z,7.6nm,1.3s,mb4.6

DPC Dobruska-Polom 48.58 49 *eP* **P 23 27 15.8 +0.4**
ANMO Albuquerque 50.23 291 LR LR 23 47 16.4
comp=Z,99nm,18.9s,MS3.8,baz=191,slow=34
ANMO Albuquerque 50.23 291 *eP* **P 23 27 27.5 -0.5**
ANMO *e* 23 27 36.6
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO Albuquerque 50.23 291 *eP* **P 23 27 27.5 -0.5**
comp=Z,3.9nm,0.8s,mb4.5
ANMO *e* 23 27 36.6
EGMT Eagleton 50.31 308 *eP* **P 23 27 29.1 +0.5**
comp=Z,7.2nm,0.7s,mb4.8
EGMT *e* 23 27 35.9
LPM Los Pinos Moun 50.54 290 *eP* **P 23 27 31.6 +1.3**
BNM Barren Site 50.58 290 *eP* **P 23 27 31.4 +0.8**
BNM *e* 23 27 39.5
PDAR Pinedale Array 50.91 301 P **P 23 27 32.5 -0.7**
comp=Z,4.8nm,0.9s,mb4.4,baz=76,slow=8.1,SNR=21
PDAR LR LR 23 47 56.3
comp=Z,173nm,19.2s,MS4.1,baz=252,slow=35
LAZ Ladron 50.92 290 *eP* **P 23 27 33.5 +0.3**
REDW Red Top Meadow 51.74 302 *eP* **P 23 27 39.0 -0.4**
comp=Z,10nm,1.1s,mb4.7
REDW *e* 23 27 46.3
TPAW Teton Pass 51.78 303 *eP* **P 23 27 39.7 0.0**
comp=Z,11nm,0.9s,mb4.8
STHS Stebnicka Huta 51.83 50 *eP* **P 23 27 41.6 +1.6**
comp=Z,2.2nm,0.8s,mb4.1
HRY Holter Researc 51.87 307 *eP* **P 23 27 39.9 -0.5**
BOZ Bozeman (W) 51.90 305 *eP* **P 23 27 40.9 +0.3**
comp=Z,3.2nm,0.9s,mb4.2
CRVS Cervenica-Dubn 52.03 50 *eP* **P 23 27 38.9 -2.6**
KOLS Kolonicke sedl 52.56 50 *eP* **P 23 27 43.7 -1.7**
HWUT Hardware Ranch 52.60 300 *eP* **P 23 27 45.5 -0.2**
comp=Z,11nm,0.9s,mb4.8
DLMT Dillon 52.62 305 P **P 23 27 45.2 -0.7**
comp=Z,18nm,1.3s,mb4.8
LPAZ La Paz 52.66 208 P **P 23 27 45.9 -0.3**
comp=Z,3.8nm,0.8s,mb4.4,baz=356,slow=7.8,SNR=18
NLU North Lily Min 53.34 298 *eP* **P 23 27 52.4 +1.1**
HVU Hansel Valley 53.44 301 *eP* **P 23 27 52.4 +0.4**
HVU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
HVU Hansel Valley 53.44 301 *eP* **P 23 27 52.4 +0.5**
comp=Z,5.4nm,0.7s,mb4.6
FINES FINESS Array B 53.77 34 P **P 23 27 54.8 +0.4**
comp=Z,6.4nm,0.9s,mb4.6,baz=270,slow=3.8,SNR=22
MSU Marysvale 53.77 297 *eP* **P 23 27 55.4 +1.0**
ARCES ARCESS Array B 53.81 24 P **P 23 27 54.7 0.0**
comp=Z,5.2nm,1.0s,mb4.4,baz=258,slow=5.6,SNR=13
ARCES ARCESS Array B 53.81 24 P **P 23 27 54.7 0.0**
DUG Dugway 53.84 299 *eP* **P 23 27 53.9 -0.9**
DUG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
DUG Dugway 53.84 299 *eP* **P 23 27 53.9 -1.0**
comp=Z,8.5nm,0.9s,mb4.7
KAF Kangasniemi 53.86 34 *ep* **P 23 27 53.1 -1.9**
comp=Z,3.5nm,0.8s,mb4.3,baz=270,slow=7.1
KAF Kangasniemi 53.86 34 *eP* **P 23 27 53.1 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
HLID Hailey 54.24 303 *eP* **P 23 27 58.0 +0.2**
comp=Z,1.7nm,0.8s,mb4.0
KEV Kevo 54.35 24 *ep* **P 23 27 54.8 -3.8**
comp=Z,6.0nm,1.0s,mb4.5
KEV Kevo 54.35 24 *eP* **P 23 27 54.8 -3.8**
KEV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CCUT Cedar City 54.93 296 *eP* **P 23 28 03.6 +0.9**
NEW Newport 55.16 309 *eP* **P 23 28 03.9 -0.5**
NEW pmax pmax
comp=Z,11nm,0.9s
NEW Newport 55.16 309 *eP* **P 23 28 03.9 -0.6**
comp=Z,11nm,0.9s,mb4.9
ELK Elko 55.49 300 *eP* **P 23 28 07.0 +0.1**
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 55.49 300 *eP* **P 23 28 07.0 +0.2**
comp=Z,5.4nm,0.9s,mb4.6
JOF Joensuu 56.14 32 *ep* **P 23 28 10.5 -1.0**
comp=Z,4.8nm,0.9s,mb4.5
AKASG Malin Array Be 56.71 47 P **P 23 28 15.2 -0.4**
comp=Z,1.4nm,0.6s,mb4.2,baz=277,slow=6.4,SNR=8.4
HAWA Hanford 57.15 308 *eP* **P 23 28 17.7 -1.0**
comp=Z,0.5nm,0.9s,mb3.5
TPNV Topopah Spring 57.30 296 *eP* **P 23 28 20.8 +1.0**
TPNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TPNV Topopah Spring 57.30 296 *eP* **P 23 28 20.8 +1.0**
comp=Z,4.9nm,0.9s,mb4.5
PAHR Pah Rah Range 58.83 300 *eP* **P 23 28 31.0 +0.6**
comp=Z,9.2nm,0.9s,mb4.8
INK Inuvik 59.98 335 *eP* **P 23 28 37.5 -0.9**
INK pmax pmax
comp=Z,11nm,1.0s
INK Inuvik 59.98 335 *eP* **P 23 28 37.5 -0.9**
comp=Z,11nm,1.0s,mb4.8
OBN Obninsk 60.10 41⇓*eP* **P 23 28 39.6 +0.4**
OBN *e* 23 28 47.1
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
OHCM Honcut 60.49 300 *eP* **P 23 28 41.7 -0.2**
YBH Yreka Blue Hor 60.62 303 *eP* **P 23 28 42.9 +0.1**
YBH pmax pmax
comp=Z,4.0nm,1.1s
YBH Yreka Blue Hor 60.62 303 *eP* **P 23 28 42.9 0.0**
comp=Z,3.8nm,1.1s,mb4.4
WDC Whiskeytown Da 60.86 302 *eP* **P 23 28 44.4 -0.1**
WDC pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
WDC Whiskeytown Da 60.86 302 *eP* **P 23 28 44.4 -0.1**
comp=Z,5.5nm,0.9s,mb4.7
BRTR Keskin Array B 62.70 58 P **P 23 28 58.0 +1.2**
comp=Z,4.3nm,0.8s,mb4.6,baz=280,slow=4.5,SNR=28
DAWY Dawson 63.38 331 *eP* **P 23 29 02.4 +1.1**
ANN Anapa 63.62 52 *eP* **P 23 29 02.6 -0.4**
ANN pmax pmax
comp=Z,20nm,0.9s,mb5.2
MALT Malatya 66.68 58 *eP* **P 23 29 23.6 +0.8**
MALT pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MALT Malatya 66.68 58 *eP* **P 23 29 23.6 +0.8**
comp=Z,1.4nm,0.8s,mb4.0
KIV Kislovodsk 67.44 51⇑*eP* **P 23 29 29.0 +1.4**
KIV pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
GNI Garni 70.40 54⇑*eP* **P 23 29 47.9 +1.9**
GNI pmax pmax
comp=Z,14nm,1.2s
ARU Arti 71.14 35⇓*iP* **P 23 29 50.9 +0.4**
ARU *e* 23 32 30.5
ARU *e*PPP 23 34 12.5
ARU *e*S S 23 39 08.2 +0.9
ARU *e*SS SS 23 43 42.0 +1.3
ARU pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ARU Arti 71.14 35 *eP* **P 23 29 50.5 0.0**
comp=Z,5.1nm,0.9s,mb4.5
PLCA Paso Flores 75.96 199 P **P 23 30 18.6 -0.3**
comp=Z,2.7nm,0.8s,mb4.2,baz=12,slow=9.2,SNR=5.7
TIXI Tiksi 76.59 2⇓*iP* **P 23 30 23.5 +1.0**
TIXI pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BILL Bilibino 77.49 348 P **P 23 30 22.0 -5.6**
ZRNK Zerenda 78.11 34 *eP* **P 23 30 29.7 -1.3**
ZRNK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
ZRNK Zerenda 78.11 34 *eP* **P 23 30 29.7 -1.3**
comp=Z,4.5nm,1.1s,mb4.3
KURK Kurchatov 84.06 32⇑*eP* **P 23 31 03.3 +0.6**
KURK Kurchatov 84.06 32 *eP* **P 23 31 03.2 +0.5**
comp=Z,7.5nm,0.8s,mb4.9
MKAR Makanchi Array 88.57 33 P **P 23 31 24.3 -0.6**
comp=Z,1.4nm,0.9s,mb4.3,baz=344,slow=2.6,SNR=11
MKAR Makanchi Array 88.57 33 *iP* **P 23 31 25.2 +0.3**
MKAR pmax pmax
comp=Z,10.0nm,0.9s
BOSA Boshof 90.29 124 P **P 23 31 33.6 +0.7**
comp=Z,2.2nm,0.9s,mb4.5,baz=150,slow=21,SNR=3.7

NIED ***30*** *23:28:00, 38.40N×142.20E, h44km, Mw5.2 Best double couple: M0 6.72000×10^16 NP1:φs22.0000°, δ72.0000°, λ94.0000°. NP2:φs189.0000°, δ18.0000°, λ77.0000°.*
IDC ***30*** *23:28:08.0±0.4, 38.42N×142.04E, h0km, mb5.2/21, mb1 5.2/24, mb1mx5.2/25, mbtmp5.1/24, ML4.4/3, MS4.4/23, Ms1 4.4/23, ms1mx4.3/26, Error ellipse: s-maj=15.5km s-min=12.2km az=101.0*
CSEM ***30*** *23:28:08.8, 38.56N×141.94E, h10km, mb5.5*
BJI ***30*** *23:28:10.2, 38.41N×142.11E, h34km, mB5.2, mb5.5, Ms4.8, Ms2.4.7*
BGS ***30*** *23:28:11.6±1.2, 38.04N×141.88E, h33km, mb5.4*
ISCJB ***30*** *23:28:13.0±0.1, 38.50N±0.02×142.02E±0.02, h40km, mb5.5/236, MS4.7/59, Error ellipse: s-maj=2.8km s-min=1.8km az=136.6*
MOS ***30*** *23:28:13.2±0.7, 38.65N×142.00E, h37km, mb5.7/97, MS4.8/26, Error ellipse: s-maj=7.0km s-min=3.5km az=109.5*
JMA ***30*** *23:28:13.2±0.1, 38.47N×142.16E, h40km±1km, M5.3 Broadband fault plane solution: P waves. NP1: φs198.00000°, δ34.00000°, λ65.00000°. NP2:φs48.00000°, δ59.00000°, λ106.00000°. Principal axes: T Plg71.0000°, Azm355.0000°; N Plg14.0000°, Azm219.0000°; P Plg13.0000°, Azm126.0000°;*
JMA Felt III J1.
NEIC ***30*** *23:28:13.2, 38.47N×142.16E, h40km, mb5.4/142, MS4.9/14, MW5.2(NIED), After JMA.*
NEIC Recorded [3 JMA] in Iwate and Miyagi; [2 JMA] in Akita, Aomori, Fukushima and Yamagata; [1 JMA] in Ibaraki, Kanagawa and Tochigi Prefectures.
HRVD ***30*** *23:28:13.2±0.2, 38.49N×142.28E, h50km, MW5.2/75, Centroid moment Tensor Solution. LP body waves: s62, c99; Mantle waves: s75, c144; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr6.35±.19; Mθθ-0.58±.13; Mφφ-5.77±.13; Mrθ1.67±.12; Mrφ-1.83±.10; Mθφ3.91±.11; Best double couple: M0 7.64200×10^16 NP1:φs195.00000°, δ28.00000°, λ85.00000°. NP2: φs21.00000°, δ62.00000°, λ93.00000°. Principal axes: T 7.6510, Plg73.0000°, Azm298.0000°; N -0.0150, Plg3.0000°, Azm199.0000°; P -7.6330, Plg17.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***30*** *23:28:19.8, 39.34N×142.25E, h43km, mb5.8, MS4.9, Near east coast of eastern Honshu, Japan*
ISC 30 23:28:14.8±0.1, 3855N±002×14198E±002, h42km, h42km±1.0km:pP-P, n968, σ0.84/977, mb5.5/236, MS4.7/59, 279C-120D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.50**	**259**	⇓P	**Pn**	**23 28 25.7**	**0.0**
JIO				S	**Sn**	**23 28 34.5**	**+1.1**
OFUJ	**Ofunato**	**0.58**	**335**	⇓P	**Pn**	**23 28 27.0**	**+0.3**
OFUJ				S	**Sn**	**23 28 36.8**	**+1.6**
JMK	**Ichinoseki**	**0.72**	**304**	⇓P	**Pn**	**23 28 29.3**	**+0.8**
JMK				S	**Sn**	**23 28 40.4**	**+2.0**
JOU	**Okura**	**1.05**	**260**	⇓P	**Pn**	**23 28 33.6**	**+0.5**
JOU				S	**Sn**	**23 28 48.4**	**+1.9**
JOM	**Ohasama**	**1.07**	**330**	⇓P	**Pn**	**23 28 34.3**	**+1.0**
JOM				S	**Sn**	**23 28 49.6**	**+2.7**
JMM	**Marumori**	**1.16**	**234**	⇓P	**Pn**	**23 28 33.6**	**-0.9**
JMM				*e*S	**Sn**	**23 28 49.4**	**+0.2**
JYK	**Kaneyama**	**1.32**	**287**	⇓P	**Pn**	**23 28 38.1**	**+1.3**
JRG	**Rokugo**	**1.35**	**309**	⇓P	**Pn**	**23 28 38.3**	**+1.2**
JTH	**Tanohata**	**1.39**	**356**	⇓P	**Pn**	**23 28 37.5**	**-0.2**
JFK	**Kawauchi**	**1.47**	**217**	⇓P	**Pn**	**23 28 37.2**	**-1.6**
JKZ	**Kuzumaki**	**1.52**	**341**	⇓P	**Pn**	**23 28 40.6**	**+1.1**
JYS	**Shiratake**	**1.54**	**258**	⇓P	**Pn**	**23 28 40.5**	**+0.7**
JFT	**Otama**	**1.66**	**232**	⇓P	**Pn**	**23 28 41.3**	**-0.1**
JFY	**Yanaizu**	**2.13**	**238**	⇓P	**Pn**	**23 28 48.4**	**+0.5**
JAW	**Awa shima**	**2.15**	**268**	⇓P	**Pn**	**23 28 49.4**	**+1.3**
JNS	**Sasagawa**	**2.22**	**252**	⇓P	**Pn**	**23 28 49.9**	**+0.8**
JHO	**Hitachi**	**2.24**	**210**	⇓P	**Pn**	**23 28 47.1**	**-2.3**
JTM	**Tenmabayashi**	**2.34**	**343**	⇓P	**Pn**	**23 28 52.2**	**+1.4**
JHK	**Hiroka**	**2.68**	**242**	⇓P	**Pn**	**23 28 56.1**	**+0.7**
JKT	**Katashina**	**2.81**	**231**	P	**Pn**	**23 28 58.1**	**+1.0**
JAG	**Ashikaga**	**2.92**	**224**	⇓P	**Pn**	**23 28 58.5**	**-0.3**
JSD	**Sado**	**2.97**	**261**	⇓P	**Pn**	**23 29 00.0**	**+0.6**
JJN	**Nakama**	**3.35**	**246**	⇓P	**Pn**	**23 29 06.3**	**+1.7**
ERM	**Erimo**	**3.58**	**14**	Pn	**Pn**	**23 29 07.6**	**-0.1**
	4μm,0.5s,SNR=23						
MJAR	**Matsushiro Arr**	**3.60**	**237**	Pn	**Pn**	**23 29 08.4**	**+0.2**
	63nm,0.3s,baz=36,slow=16,SNR=167						
MJAR				LR	LR	23 30 46.4	
	comp=Z,11μm,19.1s,baz=60,slow=44						
MAJO	**Matsushiro**	**3.61**	**237**	*e*P	**Pn**	**23 29 09.2**	**+1.0**
MAT	**Matsushiro**	**3.61**	**237**	P	**Pn**	**23 29 09.5**	**+1.3**
MAT				S	**Sn**	**23 29 54.0**	**+4.5**
MAT	**Matsushiro**	**3.61**	**237**	P	**Pn**	**23 29 09.4**	**+1.2**
MAT	**Matsushiro**	**3.61**	**237**	*e*P	**Pn**	**23 29 10.0**	**+1.8**
MAT				*e*S	**Sn**	**23 29 57.0**	**+7.5**
JOD2	**Odawara 2**	**4.02**	**216**	P	**Pn**	**23 29 14.2**	**+0.4**
JHG	**Hegura jima**	**4.05**	**262**	P	**Pn**	**23 29 15.2**	**+1.0**
JTT	**Ttatey**	**4.17**	**244**	P	**Pn**	**23 29 19.3**	**+3.4**
JCH	**Churui**	**4.19**	**14**	P	**Pn**	**23 29 15.1**	**-1.1**
JGN	**Niukaw**	**4.38**	**239**	P	**Pn**	**23 29 21.2**	**+2.4**
JIZS	**Izushimoda**	**4.57**	**214**	P	**Pn**	**23 29 21.1**	**-0.2**
JNY	**Yasuok**	**4.58**	**227**	P	**Pn**	**23 29 23.7**	**+2.1**
SHZ3	**Shizuoka 3**	**4.61**	**222**	⇑P	**Pn**	**23 29 23.2**	**+1.3**
JAR	**Ashorobuto**	**4.93**	**15**	P	**Pn**	**23 29 24.7**	**-1.7**
JAO	**Obara**	**5.00**	**231**	P	**Pn**	**23 29 29.9**	**+2.5**
HMMJ	**Hamamatsu 2**	**5.03**	**224**	P	**Pn**	**23 29 28.6**	**+0.9**
JGM	**Miyama**	**5.08**	**238**	P	**Pn**	**23 29 31.0**	**+2.6**
ASAJ	**Asahikawa**	**5.58**	**5**	Pn	**Pn**	**23 29 35.1**	**-0.2**
	16nm,0.3s,baz=218,slow=15,SNR=62						
ASAJ				Sn	**Sn**	**23 30 45.5**	**+7.4**
	47nm,0.3s,baz=344,slow=29,SNR=5.7						
ASAJ	**Asahikawa**	**5.58**	**5**	P	**Pn**	**23 29 35.1**	**-0.2**
ASAJ						23 30 45.6	
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ				smax			
	comp=N,47nm,0.3s						
JFM	**Mihama**	**5.67**	**240**	P	**Pn**	**23 29 39.3**	**+2.9**
JHJ	**Hachijo jima 2**	**5.71**	**199**	Pn	**Pn**	**23 29 35.0**	**-1.9**
	comp=N,92nm,0.3s,baz=116,slow=3.5,SNR=13						
JHJ				Sn	**Sn**	**23 30 36.5**	**-4.7**
	comp=N,301nm,0.3s,baz=259,slow=23,SNR=7.0						
YUK	**Yuzh-Kuril'sk**	**6.21**	**27**	*e*P	**Pn**	**23 29 42.0**	**-1.9**
YUK				*e*S	**Sn**	**23 30 46.8**	**-6.8**
YUK				pmax	pmax		
	comp=Z,170nm,0.4s						
YUK				pmax	pmax		
	comp=N,180nm,0.5s						
YUK				pmax	pmax		
	comp=E,170nm,0.4s						
YUK				smax			
	comp=N,6μm,2.0s						
YUK				smax			
	comp=E,2μm,0.8s						
YUK				MLR	MLR		
	comp=Z,5μm,18.0s						
YUK				MLR	MLR		
	comp=E,6μm,22.0s						
YSS	**Yuzh-Sakhalins**	**8.42**	**4**	*ce*P	**Pn**	**23 30 13.0**	**-1.2**
YSS				*e*S	**Sn**	**23 31 45.2**	**-2.7**
YSS				pmax	pmax		
	comp=Z,120μm,1.0s						
YSS				pmax	pmax		
	comp=Z,210μm,1.0s						
YSS				smax			
	comp=E,560nm,1.5s						
YSS				smax			
	comp=E,1μm,3.0s						
YSS				MLR	MLR		
	comp=Z,2μm,20.0s						
YSS				MLR	MLR		
	comp=N,2μm,19.0s						
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.42**	**4**	*e*Pn	**Pn**	**23 30 14.5**	**+0.3**
YSS				*e*Sn	**Sn**	**23 31 48.3**	**+0.4**
VLA	**Vladivostok**	**8.90**	**304**	*d iP*	**Pn**	**23 30 24.6**	**+3.8**
VLA				*i* S	**Sn**	**23 32 06.3**	**+6.5**
VLA				pmax	pmax		
	comp=Z,764nm,1.2s						
VLA				MLR	MLR		
	comp=Z,4μm,16.2s						
VLA	**Vladivostok**	**8.90**	**304**	*i* P	**Pn**	**23 30 23.5**	**+2.7**
MDJ	**Mudanjiang**	**11.08**	**307**	P	**Pn**	**23 30 50.8**	**+0.2**
MDJ				S	**Sn**	**23 32 55.0**	**+1.9**
MDJ				PCP	PcP	23 36 47.3	+1.5
MDJ				SCP	ScP	23 40 14.0	-0.9

MDJ PCS PcS 23 40 17.3 -2.2
MDJ AMB AMB
comp=Z,30nm,1.2s
MDJ AMB AMB
comp=Z,240nm,2.9s
MDJ LR LR
comp=N,2μm,16.1s
MDJ LR LR
comp=E,2μm,16.1s
MDJ LR LR
comp=Z,4μm,14.5s
MDJ Mudanjiang 11.08 307 *e*Pn **Pn 23 30 53.4 +2.8**
comp=Z,178nm,1.0s
HABR Khabarovsk 11.12 335⇓ *i*P **Pn 23 30 53.3 +2.2**
HABR *e*S **Sn 23 33 00.8 +6.8**
HABR pmax pmax
comp=Z,107nm,0.9s
HABR MLR MLR
comp=Z,2μm,13.0s
KS15 Wonju Array Si 11.18 269 *e*Pn **Pn 23 30 56.6 +4.6**
CBIJ Chichi jima 11.42 179 Pn **Pn 23 30 50.2 -5.1**
comp=Z,14nm,0.3s,baz=303,slow=23,SNR=24
CBIJ Sn **Sn 23 32 49.0 -13**
comp=Z,31nm,0.3s,baz=295,slow=20,SNR=5.7
INCN Inchon 12.15 270 *e*Pn **Pn 23 31 11.2 +5.9**
CN2 Changchun 13.51 298 *e*P **Pn 23 31 24.8 +1.0**
CN2 *e*AP 23 31 33.0
CN2 *e*XP 23 31 39.8
CN2 *e*S **Sn 23 33 53.0 +0.5**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,17.0s
CN2 LR LR
comp=E,2μm,17.0s
SNY Shenyang 14.44 289⇑ P **Pn 23 31 37.8 +1.3**
SNY PP 23 31 48.0
SNY S **Sn 23 34 26.5 +11**
SNY AMB AMB
comp=Z,30nm,1.0s
SNY AMB AMB
comp=Z,520nm,12.7s
SNY LR LR
comp=E,4μm,17.8s
SNY LR LR
comp=Z,4μm,18.6s
SKR Severo-Kuril's 15.73 35 *e*P **Pn 23 31 45.4 -7.9**
SKR *e*S **S 23 34 48.0 -12**
SKR pmax pmax
comp=Z,510nm,1.4s
SKR smax
comp=N,1μm,10.0s
SKR smax
comp=E,1μm,10.0s
SKR MLR MLR
comp=Z,1μm,16.0s
SKR MLR MLR
comp=N,1μm,14.0s
SKR MLR MLR
comp=E,1μm,14.0s
DL2 Dalian 15.89 278 P **Pn 23 31 55.5 +0.1**
DL2 XP sP 23 32 08.5 -5.5
DL2 S **S 23 34 52.5 -11**
DL2 XS sS 23 35 06.0 -13
DL2 AMB AMB
comp=Z,210nm,1.0s
DL2 AMB AMB
comp=Z,260nm,7.1s
DL2 LR LR
comp=N,450nm,13.4s
DL2 LR LR
comp=E,1μm,14.8s
DL2 LR LR
comp=Z,1μm,16.8s
JOW Kunigami 16.40 229 Pn **Pn 23 32 00.2 -1.7**
comp=Z,1.5nm,0.3s,baz=53,slow=13,SNR=8.2
JOW LR LR 23 37 47.7
comp=Z,401nm,20.9s,baz=332,slow=36
PET Petropavlovsk 18.50 33 *e*P **Pn 23 32 21.0 -6.8**
PET *i* S **S 23 35 43.0 -13**
PET pmax pmax
comp=Z,300nm,3.4s
PET pmax pmax
comp=Z,42nm,0.9s
PET pmax pmax
comp=Z,100nm,9.0s
PET smax
comp=N,500nm,18.1s
PET MLR MLR
comp=Z,600nm,16.0s
PET MLR MLR
comp=Z,500nm,14.0s
PET Petropavlovsk 18.50 33 *e*P **Pn 23 32 26.7 -1.2**
comp=Z,96nm,0.6s
SSE Sheshan 18.60 253 P **Pn 23 32 27.8 -1.2**
SSE AP pP 23 32 39.0 +0.3
SSE XP sP 23 32 45.8 +1.8
SSE S **S 23 35 49.5 -8.7**
SSE AMB AMB
comp=Z,300nm,1.2s
SSE AMB AMB
comp=Z,140nm,3.6s
SSE LR LR
comp=N,590nm,14.9s
SSE LR LR
comp=E,1μm,14.9s
SSE LR LR
comp=Z,2μm,16.0s
HIA Hailar 19.20 311 *e*P **Pn 23 32 32.9 -3.4**
HIA pmax pmax
comp=Z,109nm,0.9s
HIA Hailar 19.20 311 *e*P **Pn 23 32 32.9 -3.4**
comp=Z,109nm,0.9s
TIA Tai'an 19.88 271 P **Pn 23 32 41.8 -2.5**
TIA S **S 23 36 18.0 -5.9**
TIA LR LR
comp=N,1μm,16.0s
NJ2 Nanjing 19.93 258 *e*P **Pn 23 32 42.3 -2.7**
NJ2 AP pP 23 32 52.5 -0.8
NJ2 XP sP 23 32 57.0 -1.6
NJ2 PP 23 33 01.5
NJ2 S **S 23 36 17.0 -8.0**
NJ2 XS sS 23 36 32.0 -9.4
NJ2 AMB AMB
comp=Z,130nm,1.0s
NJ2 AMB AMB
comp=Z,120nm,6.2s
NJ2 LR LR
comp=N,2μm,20.4s
NJ2 LR LR
comp=E,3μm,18.1s
NJ2 LR LR
comp=Z,2μm,19.2s
BJT Baijiatuau 20.02 282 *e*P **P 23 32 42.8 -1.2**
BJT pmax pmax
comp=Z,68nm,0.6s
BJT Baijiatuau 20.02 282 *e*P **P 23 32 42.8 -1.2**
comp=Z,68nm,0.6s
NRGR Nerungri 21.42 333 *e*P **P 23 32 58.7 -0.4**
NRGR S **S 23 36 48.0 -6.4**
NRGR smax
comp=E,8.0nm,0.2s
CLNS Chul'man 21.50 334 *e*P **P 23 32 58.9 -1.1**
CLNS *e* 23 33 14.3
CLNS *e*PPP 23 33 22.7
CLNS *e*S **S 23 36 53.9 -2.1**
CLNS *e* 23 36 59.2
CLNS *e*SS 23 37 08.8
CLNS pmax pmax
comp=Z,153nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,82nm,0.7s
CLNS pmax pmax
comp=E,45nm,0.7s
CLNS smax
comp=N,44nm,1.0s
CLNS smax
comp=Z,12nm,0.8s
CLNS smax
comp=E,46nm,1.9s
CLNS MLR MLR
comp=N,2μm,18.0s,MS4.6
CLNS MLR MLR
comp=Z,2μm,18.0s,MS4.6
CLNS MLR MLR
comp=E,400nm,15.0s,MS4.6
MA2 Magadan 21.78 12 *ce*P **P 23 33 02.4 -0.6**
MA2 *e* 23 33 39.2
MA2 *e*S **S 23 36 56.3 -5.1**
MA2 *e*SS 23 37 30.5
MA2 pmax pmax
comp=N,90nm,1.2s
MA2 pmax pmax
comp=Z,100nm,1.2s,mb5.1
MA2 MLR MLR
comp=Z,500nm,18.6s,MS4.0
MA2 Magadan 21.78 12 *e*P **P 23 33 02.8 -0.2**
comp=Z,103nm,0.8s,mb5.3
TATO Taipei 22.00 238 *e*P **P 23 33 05.1 -0.2**
comp=Z,88nm,0.8s,mb5.2
YHNB Yeheng 22.28 238 *e*P **P 23 33 06.0 -2.3**
NACB Ninganchiao 22.48 236 *e*P **P 23 33 07.6 -2.8**
HHC Hu-ho-hao-te 23.46 285⇑ P **P 23 33 17.8 -2.8**
HHC AP 23 33 28.5
HHC XP sP 23 33 34.8 -1.7
HHC PCP PcP 23 37 06.3 +0.8
HHC S **S 23 37 22.0 -8.9**
HHC XS sS 23 37 40.8 -8.8
HHC AMB AMB
comp=Z,50nm,0.7s,mb5.0
HHC AMB AMB
comp=Z,310nm,5.5s
HHC LR LR
comp=N,320nm,14.9s,MS4.8
HHC LR LR
comp=E,3μm,15.9s,MS4.8
HHC LR LR
comp=Z,3μm,14.9s,MS4.9
CIT Chita 23.93 314 *e*P **P 23 33 22.5 -2.4**
CIT *e* 23 37 38.3
QZH Quanzhou 23.99 242⇑ *i*P **P 23 33 23.0 -2.4**
QZH S **S 23 37 33.0 -6.4**
QZH AMB AMB
comp=Z,440nm,1.7s,mb5.6
QZH AMB AMB
comp=Z,560nm,6.1s
QZH LR LR
comp=N,1μm,16.2s,MS4.7
QZH LR LR
comp=E,2μm,17.0s,MS4.7
QZH LR LR
comp=Z,2μm,27.4s
WHN Wuhan 24.05 259⇓ P **P 23 33 24.3 -1.7**
WHN S **S 23 37 35.8 -4.7**
WHN LR LR
comp=Z,3μm,19.3s,MS4.8
BTO Baotou 24.65 285 *e*P **P 23 33 29.5 -1.9**
BTO AMB AMB
comp=Z,20nm,1.1s,mb4.6
YAK Yakutsk 24.70 346 *e*P **P 23 33 31.3 -0.6**
YAK *i* *PP 23 33 49.4
YAK *i* 23 37 02.2
YAK *e*S **S 23 37 47.4 -3.5**
YAK pmax pmax
comp=Z,163nm,1.0s,mb5.5
YAK pmax pmax
comp=N,106nm,1.2s
YAK pmax pmax
comp=E,43nm,1.2s
YAK smax
comp=E,80nm,1.4s
YAK smax
comp=N,93nm,1.3s
YAK Yakutsk 24.70 346 *e*P **P 23 33 31.0 -0.9**
GUMO Guam 24.99 173 LR LR 23 42 44.9
comp=N,445nm,20.7s,MS4.0,baz=269,slow=35
SMY Shemya 26.29 47 *ep*P pP 23 34 05.3 +7.7
BOD Bodaibo 26.51 326⇑ *i*P **P 23 33 48.2 -0.1**
BOD pmax pmax
comp=Z,91nm,0.8s,mb5.4
ULN Ulaanbaatar 26.91 302 P **P 23 33 52.0 +0.1**
SNR=52
ULN Ulaanbaatar 26.91 302⇑ *e*P **P 23 33 52.0 +0.1**
ULN Ulaanbaatar 26.91 302 *e*P **P 23 33 51.7 -0.2**
comp=Z,50nm,0.8s,mb5.1
XAN Xi'an 26.94 271 P **P 23 33 51.0 -1.1**
XAN AP pP 23 34 00.8 -2.6
XAN AMB AMB
comp=Z,70nm,0.9s,mb5.2
CVP Callao Caves 27.22 226 *e*P **P 23 33 53.0 -1.7**
SONM Songino Array 27.34 301 P **P 23 33 56.0 +0.1**
comp=Z,12nm,0.4s,mb4.8,baz=105,slow=8.1,SNR=109
SONM LR LR 23 45 16.0
comp=Z,1μm,18.2s,MS4.6,baz=104,slow=37
BALP Baler 28.95 224 *e*P **P 23 34 10.4 +0.3**
IRK Irkutsk 29.44 310 *e*P **P 23 34 14.1 -0.4**
IRK pmax pmax
comp=Z,169nm,1.0s,mb5.7
TLY Talaya 29.70 309 P **P 23 34 17.8 +1.0**
comp=Z,721nm,0.9s,mb6.4,SNR=56
TLY Talaya 29.70 309 P **P 23 34 17.6 +0.8**
SNR=65
TLY Talaya 29.70 309*c i*P **P 23 34 17.1 +0.3**
TLY *e*S **S 23 39 13.9 +4.1**
TLY pmax pmax
comp=Z,110nm,0.8s,mb5.6
TLY MLR MLR
comp=Z,2μm,17.0s,MS4.8
TLY Talaya 29.70 309 *e*P **P 23 34 17.0 +0.2**
ZAK Zakamensk 29.71 306 *e*P **P 23 34 17.6 +0.7**
ZAK pmax pmax
comp=Z,155nm,1.0s,mb5.7
LZH Lanzhou 30.29 277 *e*P **P 23 34 21.5 -0.5**
LZH AP pP 23 34 32.5 -0.8
LZH XP sP 23 34 38.8 +0.5
LZH PP PP 23 35 21.8 -9.0
LZH PCP PcP 23 37 22.5 +0.9
LZH S **S 23 39 17.0 -2.0**
LZH XS sS 23 39 36.5 -1.5
LZH SS SS 23 40 56.0 -33
LZH SCP ScP 23 40 59.5 -1.1
LZH PCS PcS 23 41 04.0 -1.2
LZH AMB AMB
comp=Z,90nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,230nm,4.2s
LZH LR LR
comp=E,3μm,16.7s
LZH LR LR
comp=Z,3μm,17.3s,MS5.0
TGY Tagaytay City 30.65 223 P **P 23 34 25.3 +0.2**
comp=Z,163nm,0.3s,baz=116,slow=13,SNR=4.2
MOY Mondy 31.33 308 *e*P **P 23 34 31.9 +0.8**
MOY pmax pmax
comp=Z,87nm,1.3s,mb5.4
GYA Guiyang 31.94 258⇑ *i*P **P 23 34 35.8 -0.7**
GYA AP pP 23 34 46.0 -1.9
GYA XP sP 23 34 53.0 +0.1
GYA PP PP 23 35 39.5 -10
GYA S **S 23 39 42.0 -2.8**
GYA XS sS 23 39 59.0 -4.9
GYA SCP ScP 23 41 06.5 +0.4
GYA SCS ScS 23 45 02.8 -1.8
GYA AMB AMB
comp=Z,70nm,0.8s,mb5.5
GYA LR LR
comp=N,490nm,15.0s,MS4.7
GYA LR LR
comp=E,1μm,16.0s,MS4.7
GYA LR LR
comp=Z,1μm,16.5s,MS4.6
CD2 Chengdu 32.15 268⇑ *i*P **P 23 34 37.8 -0.5**
CD2 AP pP 23 34 49.5 -0.2
CD2 XP sP 23 34 55.3 +0.6
CD2 PP PP 23 35 45.3 -6.1
CD2 PCP PcP 23 37 26.8 +0.2
CD2 S **S 23 39 45.8 -2.2**
CD2 XS sS 23 40 05.8 -1.3
CD2 PCS PcS 23 41 09.8 -1.6
CD2 SS SS 23 41 41.3 -26
CD2 AMB AMB
comp=Z,80nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,120nm,8.4s
CD2 LR LR
comp=N,520nm,19.2s
CD2 LR LR
comp=Z,620nm,17.4s,MS4.3
BILL Bilibino 32.45 17⇑ *e*P **P 23 34 40.3 -0.7**
BILL pmax pmax
comp=N,16nm,1.3s
GTA Gaotai 32.58 285 *e*P **P 23 34 41.5 -0.6**
GTA PP PP 23 35 51.8 -4.4
GTA PCP PcP 23 37 28.3 +0.5
GTA S **S 23 39 57.3 +2.6**
GTA SCP ScP 23 41 08.8 +0.6
GTA PCS PcS 23 41 10.8 -2.1
GTA SS SS 23 41 55.3 -21
GTA AMB AMB
comp=Z,170nm,5.3s
GTA LR LR
comp=N,770nm,19.1s,MS4.9
GTA LR LR
comp=E,2μm,17.2s,MS4.9
GTA LR LR
comp=Z,3μm,17.6s,MS5.0
TIXI Tiksi 33.84 353 *i* P **P 23 34 52.1 -1.0**
QIZ Qiongzhong 33.98 244 P **P 23 34 54.8 +0.5**
QIZ S **S 23 40 17.8 +1.4**
QIZ XS sS 23 40 37.3 +1.8
QIZ AMB AMB
comp=Z,20nm,0.9s,mb5.0
QIZ LR LR
comp=E,770nm,19.1s
QIZ LR LR
comp=Z,750nm,17.6s,MS4.5
KMI Kunming 35.65 260⇑ P **P 23 35 08.8 0.0**
KMI AP pP 23 35 19.8 -0.5
KMI XP sP 23 35 24.3 -0.9
KMI PP PP 23 36 27.8 -2.4
KMI PCP PcP 23 37 40.8 +4.2
KMI S **S 23 40 37.3 -5.0**
KMI XS sS 23 40 56.0 -5.4
KMI SCP ScP 23 41 21.8 +2.7
KMI PCS PcS 23 41 26.3 +2.5
KMI SCS ScS 23 45 24.0 0.0
KMI AMB AMB
comp=Z,110nm,0.9s,mb5.8
KMI AMB AMB
comp=Z,280nm,3.1s
KMI LR LR
comp=N,860nm,17.2s,MS4.7
KMI LR LR
comp=E,670nm,19.5s,MS4.7
KMI LR LR
comp=Z,1μm,19.0s,MS4.7
KRAR Krasnoyarsk 36.70 315*d i*P **P 23 35 16.6 -1.1**
KRAR pmax pmax
comp=Z,252nm,1.2s,mb5.9
UBT Ubonrachathani 39.92 245 P **P 23 35 45.7 +0.9**
TSM Tawau 40.55 219 P **P 23 35 51.1 +1.1**
WMQ Urumqi 40.58 295 P **P 23 35 51.0 +0.8**
WMQ XP sP 23 36 07.0 +0.2
WMQ PP PP 23 37 28.8 +4.6
WMQ PCP PcP 23 37 53.5 +1.7
WMQ SCP ScP 23 41 41.0 +3.2
WMQ PCS PcS 23 41 44.0 +1.5
WMQ S **S 23 41 57.0 +0.3**
WMQ XS sS 23 42 16.5 +0.5
WMQ SS SS 23 44 51.0 -6.6
WMQ SCS ScS 23 45 51.0 -1.3
WMQ AMB AMB
comp=Z,220nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,530nm,3.0s
WMQ LR LR
comp=N,420nm,20.0s,MS4.5
WMQ LR LR
comp=E,520nm,16.0s,MS4.5
WMQ LR LR
comp=Z,720nm,28.0s
KKTK Khon Kaen 40.78 248 P **P 23 35 51.5 -0.4**
comp=Z,370nm,0.6s,mb6.2
CHRT Chiangrai 40.85 255⇑ P **P 23 35 52.0 -0.5**
comp=Z,737nm,0.8s,mb6.4
ZAL Zalesovo 41.25 311 P **P 23 35 56.2 +0.4**
comp=Z,66nm,0.6s,mb5.4,baz=24,slow=7.6,SNR=372
ZAL PcP PcP 23 37 53.6 -0.3
comp=Z,13nm,0.9s,baz=23,slow=6.1,SNR=3.7
ZAL LR LR 23 54 14.4
comp=Z,1μm,19.7s,MS4.8,baz=26,slow=38
ZAL Zalesovo 41.25 311 P **P 23 35 56.2 +0.4**
ZAL 23 37 53.7
ZAL Zalesovo 41.25 311 P **P 23 35 56.2 +0.4**
ZAL PcP PcP 23 37 53.6 -0.3
ZAL LR LR 23 54 14.4
NVS Novosibirsk 42.13 313⇑ *i*P **P 23 36 03.0 0.0**
NVS *e* 23 37 55.4
NVS *i* S **S 23 42 20.4 +0.6**
NVS *e* 23 45 56.9
NVS pmax pmax
comp=Z,104nm,1.3s,mb5.3
NVS pmax pmax
comp=N,20nm,1.1s
NVS pmax pmax
comp=E,82nm,1.3s
NVS smax
comp=N,28nm,1.6s
NVS smax
comp=E,17nm,1.2s
LSA Lhasa 42.54 274 *e*P **P 23 36 06.0 -0.3**
LSA Lhasa 42.54 274 *e*P **P 23 36 08.0 +1.7**
LSA pmax pmax
comp=Z,53nm,0.6s,mb5.5
LSA Lhasa 42.54 274 *e*P **P 23 36 08.0 +1.8**
comp=Z,53nm,0.6s,mb5.5
NST Nakhon Sawan 43.17 250 P **P 23 36 12.0 +0.6**
comp=Z,67nm,0.8s,mb5.4
MKAR Makanchi Array 43.71 301 P **P 23 36 15.9 +0.2**
comp=Z,61nm,0.7s,mb5.4,baz=82,slow=9.9,SNR=292
SHL Shillong 43.89 268 *e*P **P 23 36 18.0 +0.8**
SVW2 Sparrevohn 44.05 38 *e*P **P 23 36 19.0 +0.5**
KURK Kurchatov 45.37 307 P **P 23 36 28.5 -0.5**
comp=Z,2μm,0.6s
KURK Kurchatov 45.37 307 P **P 23 36 28.8 -0.2**
SNR=142
KURK Kurchatov 45.37 307 *e*P **P 23 36 29.0 +0.1**
KDAK Kodiak Island 45.68 43 P **P 23 36 31.1 -0.4**
comp=Z,13nm,0.6s,mb5.0,baz=292,slow=5.1,SNR=9.2
KSM Kuching 46.92 226 *e*P **P 23 36 41.3 +0.1**
PMR Palmer 47.15 37 *e*P **P 23 36 40.3 -2.7**
PMR pmax pmax
comp=Z,21nm,0.8s,mb5.1
PMR Palmer 47.15 37 *e*P **P 23 36 40.3 -2.6**
comp=Z,21nm,0.8s,mb5.1
JIRN Jiri 47.34 274 *e*P **P 23 36 45.6 +1.1**
comp=Z,104nm,0.5s,mb6.0
GUN Gumba 47.47 275 *e*P **P 23 36 46.5 +1.1**
comp=Z,344nm,0.6s,mb6.5
SML Sawmill 47.51 37 *e*P **P 23 36 45.5 -0.3**
SML *e* 23 38 31.8
PMG Port Moresby 47.95 173 LR LR 23 55 10.1
comp=Z,198nm,19.2s,MS4.1,baz=246,slow=34
KKN Kakani 47.99 275 *e*P **P 23 36 50.3 +0.8**
comp=Z,439nm,0.9s,mb6.5
KAPI Kappang 47.99 210 P **P 23 36 49.7 +0.2**
comp=Z,282nm,1.2s,mb6.2,SNR=5.1
PKI Pulchoki 47.99 274 *e*P **P 23 36 50.1 +0.6**
comp=Z,112nm,0.7s,mb6.0
DMN Daman 48.21 275 *e*P **P 23 36 52.0 +0.8**
AAA Alma-Ata 48.27 297 *e*P **P 23 36 52.9 +1.3**
AAA *i* S **S 23 43 48.6 +0.2**
AAA pmax pmax
comp=Z,395nm,4.9s
AAA smax
comp=E,262nm,6.8s
AAA MLR MLR
comp=Z,704nm,20.8s,MS4.6
GKN Gorkha 48.40 275 *e*P **P 23 36 53.2 +0.6**
comp=Z,435nm,1.0s,mb6.4
SNG Songkhla 48.62 241 P **P 23 36 56.0 +1.6**
comp=Z,216nm,0.9s,mb6.2
EYAK Cordova Ski Ar 48.89 39 *e*P **P 23 36 56.2 -0.2**
ULHL Ulahol 49.08 296 P **P 23 36 58.6 +0.7**
SNR=15
KOLN Koldanda 49.31 276 *e*P **P 23 37 00.4 +0.7**
comp=Z,329nm,1.2s,mb6.2
TKM2 Tokmak 2 49.32 297 P **P 23 37 00.8 +1.1**
SNR=85
KZA Kyzart 49.84 296 P **P 23 37 05.6 +2.0**
SNR=7.9
KBK Karagaybulak 49.85 297 P **P 23 37 04.6 +0.8**
SNR=55
CHMS Chumysh 49.88 298 P **P 23 37 04.3 +0.3**

SNR=15
BRVK Borovoye 49.95 312 P **P** **23 37 04.3 -0.2**
comp=Z,374nm,1.1s,mb6.3,SNR=29
BRVK Borovoye 49.95 312 P **P** **23 37 04.7 +0.2**
SNR=30
BRVK Borovoye 49.95 312 *e*P **P** **23 37 04.7 +0.2**
BRVK pmax pmax
comp=Z,31nm,0.8s,mb5.4
BRVK Borovoye 49.95 312 *e*P **P** **23 37 04.7 +0.2**
comp=Z,31nm,0.8s,mb5.4
USP Ospenovka 49.97 298 P **P** **23 37 05.1 +0.4**
SNR=27
KULM Kulim 49.97 239 *e*P **P** **23 37 04.0 -0.7**
FRU Bishkek 50.03 298 *e*P **P** **23 37 05.0 -0.1**
FRU *e* 23 37 21.5
FRU pmax pmax
comp=Z,70nm,1.8s,mb5.4
AAK Ala-Archa 50.18 297 P **P** **23 37 06.5 +0.2**
SNR=12
AAK Ala-Archa 50.18 297 P **P** **23 37 05.9 -0.3**
comp=Z,143nm,0.5s,mb6.3,SNR=11
KSH Kashi 50.21 293 P **P** **23 37 08.3 +1.8**
KSH *e*AP pP 23 37 20.5 +2.1
KSH *e*XP sP 23 37 26.0 +2.7
KSH *e*PCP PcP 23 38 27.0 +1.8
KSH *e*PP PP 23 39 04.8 +2.8
KSH *e*SCP ScP 23 42 18.3 +0.7
KSH *e*PCS PcS 23 42 22.8 +0.5
KSH *e*S **S** **23 44 15.8 +0.2**
KSH *e*XS sS 23 44 36.8 +1.4
KSH *e*SCS ScS 23 46 52.3 -1.8
KSH *e*SS SS 23 47 46.3 -3.0
KSH AMB AMB
comp=Z,120nm,0.6s,mb6.1
KSH LR LR
comp=N,1μm,12.0s
KSH LR LR
comp=E,3μm,18.0s
KSH LR LR
comp=Z,2μm,16.5s,MS5.2
UCH Uchtor 50.30 297 P **P** **23 37 08.5 +1.3**
SNR=22
IPM Ipoh 50.32 238 P **P** **23 37 07.7 +0.4**
EKS2 Erkin-Say 50.67 298 P **P** **23 37 10.4 +0.5**
SNR=31
KGM Kluang 50.69 234 P **P** **23 37 10.4 +0.4**
KGM Kluang 50.69 234 P **P** **23 37 11.2 +1.1**
ZRNK Zerenda 50.73 312⇑ *i*P **P** **23 37 10.3 -0.1**
ZRNK pmax pmax
comp=Z,75nm,1.0s,mb5.6
ZRNK Zerenda 50.73 312⇑ *i*P **P** **23 37 10.3 -0.1**
comp=Z,75nm,1.0s,mb5.6
AML Almayashu 50.91 297 P **P** **23 37 13.2 +1.5**
SNR=31
LGTI Lohaghat 51.14 279 *i* P **P** **23 37 15.0 +1.5**
DAWY Dawson 51.29 34 *e*P **P** **23 37 14.7 +0.1**
KAKA Kakadu 51.77 192 *e*P **P** **23 37 16.6 -1.6**
comp=Z,51nm,0.9s,mb5.5
SDNR Sundarnagar 52.72 283 *e*P **P** **23 37 26.0 +0.7**
INK Inuvik 52.84 28 P **P** **23 37 25.9 -0.3**
comp=Z,16nm,0.9s,mb4.9,baz=287,slow=6.5,SNR=18
INK Inuvik 52.84 28 *e*P **P** **23 37 26.0 -0.1**
INK pmax pmax
comp=Z,13nm,0.7s
INK Inuvik 52.84 28 *e*P **P** **23 37 26.0 -0.1**
comp=Z,13nm,0.7s,mb5.0
NDI New Delhi 53.84 280 *e*P **P** **23 37 32.0 -1.5**
NIL Nilore 54.58 287 P **P** **23 37 40.5 +1.7**
comp=Z,224nm,1.3s,mb6.0,SNR=14
SOKR Solikamsk 55.41 322 *e*P **P** **23 37 44.6 -0.3**
SOKR pmax pmax
comp=Z,50nm,0.9s,mb5.5
ARU Arti 55.53 318 P **P** **23 37 45.5 -0.2**
comp=Z,747nm,1.1s,SNR=63
ARU Arti 55.53 318*c i*P **P** **23 37 45.5 -0.2**
ARU pmax pmax
comp=Z,188nm,1.4s,mb5.9
ARU MLR MLR
comp=Z,2μm,18.0s,MS5.2
ARU Arti 55.53 318 *e*P **P** **23 37 45.0 -0.7**
AJM Ajmer 56.91 279 *i* P **P** **23 37 55.0 -0.5**
FITZ Fitzroy Crossi 58.40 198 *e*P **P** **23 38 05.3 -0.7**
comp=Z,40nm,1.3s,mb5.3
FITZ Fitzroy Crossi 58.40 198 LR LR 00 00 03.7
comp=Z,80nm,21.7s,MS3.8,baz=274,slow=33
ALE Alert 58.57 4 P **P** **23 38 06.0 -1.2**
comp=Z,257nm,1.1s,mb6.2,SNR=25
WRAB Tennant Creek 58.61 188 P **P** **23 38 05.9 -1.6**
comp=Z,272nm,1.0s,mb6.2,SNR=16
WRAB Tennant Creek 58.61 188⇑ *i*P **P** **23 38 05.7 -1.8**
WRAB Tennant Creek 58.61 188 *e*P **P** **23 38 05.6 -1.9**
WRAB *e*pP pP 23 38 21.9 +2.3
WB2 Warramunga Arr 58.62 188⇑ *i*P **P** **23 38 05.7 -1.9**
WRA Warramunga Arr 58.62 188 P **P** **23 38 05.7 -1.9**
comp=Z,31nm,0.8s,mb5.4,baz=6.3,slow=6.9,SNR=269
WRA LR LR 00 02 07.4
comp=Z,293nm,21.6s,MS4.4,baz=15,slow=35
HYB Hyderabad 58.70 268 *e*P **P** **23 38 09.0 +0.9**
KBS Kingsbay 59.24 350 *e*P **P** **23 38 11.9 0.0**
KBS *e*S **S** **23 46 16.4 -0.4**
KBS AMS AMS 00 06 40.6
comp=Z,94nm,18.7s,MS3.9
KBS Kingsbay 59.24 350 *e*P **P** **23 38 11.9 0.0**
KBS *e*pP pP 23 38 24.5 +0.5
ORR Orenburg 59.41 314⇑ *i*P **P** **23 38 12.5 -0.5**
ORR pmax pmax
comp=Z,110nm,1.5s,mb5.7
LATR Latur 59.70 270 *e*P **P** **23 38 16.0 +1.0**
HSP Hornsund 60.05 348 *e*P **P** **23 38 17.2 -0.3**
RES Resolute Bay 61.02 15 *e*P **P** **23 38 23.4 -0.7**
comp=Z,10nm,0.6s,mb5.1
RES *e*pP pP 23 38 36.2 0.0
APA Apatity 61.49 336⇓ *i*P **P** **23 38 27.0 -0.3**
APA pmax pmax
comp=Z,63nm,0.7s,mb5.8
KEV Kevo 62.19 339 *e*p **P** **23 38 30.3 -1.6**
comp=Z,37nm,0.9s,mb5.5
KEV Kevo 62.19 339 *e*P **P** **23 38 30.3 -1.6**
KEV pmax pmax
comp=Z,37nm,0.9s,mb5.5
KAD Karad 62.19 271⇓ *i*P **P** **23 38 32.1 +0.2**
YKA Yellowknife Ar 62.28 31 P **P** **23 38 31.6 -0.9**
comp=Z,9.3nm,0.9s,mb4.9,baz=300,slow=6.9,SNR=8.5
YKA LR LR 00 06 06.6
comp=Z,86nm,20.2s,MS3.9,baz=275,slow=36
AS31 Alice Springs 62.35 188 *e*P **P** **23 38 31.6 -1.4**
ASAR Alice Springs 62.35 188 P **P** **23 38 31.6 -1.4**
comp=Z,11nm,0.8s,mb5.0,baz=11,slow=6.2,SNR=73
ASAR LR LR 00 04 38.5
comp=Z,260nm,19.8s,MS4.4,baz=7.2,slow=35
ASAR PKP2bc 00 07 46.9
comp=Z,1.5nm,0.9s,baz=175,slow=2.4,SNR=7.6
ASAR Alice Springs 62.35 188 P **P** **23 38 31.6 -1.4**
ASAR LR LR 00 04 38.5
ASAR ⇑*e* 00 07 46.9
ASPA Alice Springs 62.35 188 *e*P **P** **23 38 31.6 -1.4**
SALM Salem 62.36 263 *e*P **P** **23 38 33.0 -0.1**
KLMR Klimovskoe 62.72 327*c i*P **P** **23 38 34.8 -0.7**
KLMR *e* 23 40 52.4
KLMR pmax pmax
comp=Z,110nm,1.2s,mb5.9
KLMR pmax pmax
comp=Z,60nm,8.1s
ARCES ARCESS Array B 62.74 339 P **P** **23 38 35.2 -0.4**
comp=Z,25nm,0.9s,mb5.3,baz=54,slow=8.0,SNR=118
ARCES LR LR 00 08 58.6
comp=Z,287nm,20.7s,MS4.4,baz=50,slow=39
ARCES ARCESS Array B 62.74 339 P **P** **23 38 35.2 -0.4**
ARCES LR LR 00 08 58.6
ABKT Ailbek 63.50 299 P **P** **23 38 40.6 0.0**
comp=Z,331nm,0.8s,mb6.5,SNR=35
KTK1 Kautokeino 63.70 339 *e*P **P** **23 38 41.2 -0.8**
KTK1 AMb AMB 23 38 42.8
comp=Z,101nm,1.1s,mb5.8
KTK1 *e*pP pP 23 38 53.3 -0.9
KTK1 Kautokeino 63.70 339 *e*P **P** **23 38 41.2 -0.8**
comp=Z,101nm,1.1s,mb5.8
DAG Danmarks Havn 64.31 355⇓ *i*P **P** **23 38 44.9 -1.0**
comp=Z,32nm,0.7s,mb5.5
DAG Danmarks Havn 64.31 355⇓ *i*P **P** **23 38 44.9 -1.0**
DAG pmax pmax
comp=Z,32nm,0.7s,mb5.5
TRO Tromso 64.43 341 *e*P **P** **23 38 44.8 -1.9**
TRO AMb AMB 23 38 46.3
comp=Z,69nm,1.2s,mb5.5
TRO *e*S **S** **23 47 21.7 -0.7**
TRO AMS AMS 00 11 45.5
comp=Z,274nm,18.3s,MS4.5
TRO Tromso 64.43 341 *e*P **P** **23 38 44.8 -2.0**
TRO pmax pmax
comp=Z,69nm,1.2s,mb5.6
TRO MLR MLR
comp=Z,270nm,18.3s,MS4.5
TRO Tromso 64.43 341 *e*P **P** **23 38 44.8 -1.9**
comp=Z,69nm,1.2s,mb5.6
TRO LR LR
comp=Z,270nm,18.3s,MS4.5
JOF Joensuu 64.84 332 *e*p **P** **23 38 47.6 -1.8**
comp=Z,84nm,0.9s,mb5.8
B04A Port Angeles 65.24 47⇓ **P** **23 38 52.4 +0.3**
baz=65
A04A Legoe Bay, Lum 65.36 47⇓ **P** **23 38 52.9 +0.1**
baz=65
A05A Maple Falls 65.56 46⇑ **P** **23 38 53.6 -0.6**
baz=65
D03A Wishkah Elem. 65.56 48⇑ **P** **23 38 55.0 +0.9**
baz=65,SNR=6.1
C04A Brinnon 65.72 48⇑ **P** **23 38 55.4 +0.2**
baz=65
CMW Cultus Mountai 65.85 47 P **P** **23 38 56.7 +0.7**
GNW Green Mountain 65.89 48 *e*P **P** **23 38 57.2 +1.0**
GNW *e*pP pP 23 39 09.6 +1.1
B05A Bryant 65.94 47⇑⇑ **P** **23 38 56.5 0.0**
baz=66,SNR=8.1
E03A Lebam 65.98 49⇓ **P** **23 38 57.3 +0.5**
baz=66
F03A Seaside 66.30 49⇑ **P** **23 38 59.3 +0.4**
baz=66
C05A Tolt Reservoir 66.47 47⇑ **P** **23 39 00.0 +0.1**
baz=66,SNR=7.3
D05A Enumclaw 66.57 48⇑ **P** **23 39 01.1 +0.6**
baz=66
H02A Toledo 66.69 51⇑ **P** **23 39 01.6 +0.3**
baz=66
LOF Lofoten 66.87 341 *e*P **P** **23 39 03.0 +0.5**
LOF AMb AMB 23 39 05.1
comp=Z,42nm,1.1s,mb5.4
LOF Lofoten 66.87 341 *e*P **P** **23 39 03.0 +0.5**
comp=Z,42nm,1.1s,mb5.4
VRHR Novokhopersk 66.87 318 *e*P **P** **23 39 01.7 -0.8**
VRHR pmax pmax
comp=Z,40nm,0.5s,mb5.7
VRHR pmax pmax
comp=N,10.0nm,0.3s
VRHR pmax pmax
comp=E,30nm,0.7s
FMW Mount Fremont 66.89 48 P **P** **23 39 03.4 +0.8**
RCM Mount Rainier- 66.90 48 P **P** **23 39 04.0 +1.3**
F04A Amboy 66.98 49⇓ **P** **23 39 03.2 0.0**
baz=67
E05A Randle 67.03 48⇓ **P** **23 39 03.1 -0.4**
baz=67
NLW Nelson Butte 67.04 46 P **P** **23 39 04.1 +0.6**
PUL Pulkovo 67.12 329⇑ *e*P **P** **23 39 04.5 +0.4**
H03A Soap Creek Ran 67.12 51⇓ **P** **23 39 04.3 +0.2**
baz=67
I02A Mapleton 67.15 51⇓ **P** **23 39 04.4 +0.1**
baz=67
OBN Obninsk 67.15 323 P **P** **23 39 04.6 +0.3**
comp=E,588nm,0.8s,SNR=5.9
OBN Obninsk 67.15 323α *i*P **P** **23 39 03.8 -0.5**
OBN *i* *PP pP 23 39 15.2 -1.4
OBN *i* *SP sP 23 39 21.1 -0.3
OBN *e* 23 39 29.9
OBN 23 41 31.0
OBN pmax pmax
comp=Z,169nm,1.4s,mb5.9
OBN MLR MLR
comp=Z,600nm,15.0s,MS4.9
OBN Obninsk 67.15 323 *e*P **P** **23 39 03.8 -0.5**
KAF Kangasniemi 67.17 333 *e*p **P** **23 39 02.4 -2.0**
comp=Z,97nm,0.7s,mb5.9,baz=48,slow=6.0
KAF Kangasniemi 67.17 333 *e*P **P** **23 39 02.4 -2.0**
KAF pmax pmax
comp=Z,97nm,0.7s,mb5.9
TWW Teanaway 67.24 47 P **P** **23 39 06.3 +1.4**
ETW Entiat 67.30 47 P **P** **23 39 05.6 +0.4**
G04A Mulino 67.33 50⇓ **P** **23 39 05.6 +0.2**
baz=67
TBM Table Mountain 67.38 47 P **P** **23 39 05.7 0.0**
K01A Sixes 67.39 53⇑ **P** **23 39 06.2 +0.4**
baz=67
I03A Eugene 67.50 51⇑ **P** **23 39 07.3 +0.7**
baz=67
EBG Ellensburg 67.54 47 P **P** **23 39 07.7 +0.9**
F05A White Salmon 67.57 49⇓ **P** **23 39 07.2 +0.3**
baz=67
J02A Umpqua 67.65 52⇓ **P** **23 39 07.8 +0.4**
baz=67
FINES FINESS Array B 67.69 332 P **P** **23 39 07.1 -0.6**
comp=Z,86nm,0.7s,mb5.9,baz=58,slow=7.5,SNR=386
FINES LR LR 00 10 34.9
comp=Z,428nm,21.8s,MS4.6,baz=54,slow=38
FINES FINESS Array B 67.69 332 P **P** **23 39 07.1 -0.6**
FINES LR LR 00 10 34.9
HOOD Mount Hood Mea 67.76 49 *e*P **P** **23 39 09.2 +1.1**
H04A Detroit Lake 67.78 50⇑ **P** **23 39 08.4 +0.1**
baz=68
MAK Makhachkala 67.88 308 *e*P **P** **23 39 00.4 -8.5**
MAK *e*S S 23 47 58.6 -5.8
MAK pmax pmax
comp=Z,110nm,1.6s,mb5.6
MAK MLR MLR
comp=Z,779nm,15.0s,MS5.1
EDM Edmonton 67.88 39 *e*P **P** **23 39 08.9 0.0**
G05A Wamic 68.00 49⇑ **P** **23 39 09.7 0.0**
baz=68
K02A Glendale 68.02 52⇑ **P** **23 39 09.8 +0.1**
baz=68
J03A Ideyld Park 68.02 52⇑ **P** **23 39 09.4 -0.3**
baz=68
VRSR Storozhevoye 68.08 319 *e*P **P** **23 39 09.8 -0.3**
VRSR pmax pmax
comp=Z,100nm,0.5s,mb6.1
VRSR pmax pmax
comp=N,50nm,0.6s
VRSR pmax pmax
comp=E,40nm,0.8s
MOR8 Moi Rana 68.10 340 *e*P **P** **23 39 07.5 -2.8**
MOR8 AMb AMB 23 39 09.6
comp=Z,97nm,1.4s,mb5.7
MOR8 Moi Rana 68.10 340 *e*P **P** **23 39 07.5 -2.8**
comp=Z,97nm,1.4s,mb5.6
M01C Crescent City 68.12 53⇑ **P** **23 39 10.5 +0.1**
baz=68
H05A Madras 68.38 50⇑ **P** **23 39 12.1 +0.1**
baz=68
HAWA Hanford 68.42 47 *e*P **P** **23 39 12.7 +0.5**
HUMO Hull Mountain 68.44 52 *e*P **P** **23 39 11.6 -0.8**
HUMO Hull Mountain 68.44 52⇑ **P** **23 39 12.7 +0.3**
baz=68
I05A Bend 68.62 50⇑ **P** **23 39 13.7 +0.1**
baz=68
JCC Jacoby Creek 68.73 54⇓ **P** **23 39 14.7 +0.5**
baz=68
NEW Newport 68.73 45 *e*P **P** **23 39 14.4 +0.2**
NEW pmax pmax
comp=Z,19nm,0.9s
NEW Newport 68.73 45 *e*P **P** **23 39 14.4 +0.2**
comp=Z,19nm,0.9s,mb5.0
KHMM Horse Mountain 68.89 54 *e*P **P** **23 39 16.6 +1.4**
YBH Yreka Blue Hor 69.07 53 *e*P **P** **23 39 17.3 +1.0**
YBH Yreka Blue Hor 69.07 53⇑ **P** **23 39 17.1 +0.8**
baz=69,SNR=8.9
M02C Callahan 69.17 53⇓ **P** **23 39 17.7 +0.8**
baz=69,SNR=6.3
SUMG Summit 69.17 0 *e*P **P** **23 39 16.7 -0.2**
N02C Big Bar 69.19 54⇓ **P** **23 39 17.6 +0.5**
baz=69
L04A Klamath Falls 69.34 52⇑ **P** **23 39 18.3 +0.4**
baz=69
VSU Vasula 69.38 329⇑ *i*P **P** **23 39 18.0 -0.2**
I06A Prineville 69.38 50⇓ **P** **23 39 18.4 +0.2**
baz=69
GOF Gofitskoye 69.43 312⇑ *i*P **P** **23 39 18.9 +0.4**
GOF *i* 23 39 35.9
GOF *e*S S 23 48 23.5 +0.8
GOF pmax pmax
comp=Z,260nm,0.7s,mb6.3
M04C Macdoel 69.58 53⇓ **P** **23 39 20.0 +0.5**
baz=69,SNR=8.4
KIPM Iron Peak 69.64 55 P **P** **23 39 18.2 -1.6**
J06A Christmas Vall 69.80 50⇑ **P** **P** **23 39 21.1 +0.2**
baz=70,SNR=6.5
WDC Whiskeytown Da 69.81 54 *e*P **P** **23 39 21.6 +0.7**
WDC *e**PP pP 23 39 30.6 -2.7
WDC Whiskeytown Da 69.81 54⇓ **P** **23 39 21.1 +0.3**
baz=70
O02C Red Bluff 69.87 54⇓ **P** **23 39 22.2 +0.9**
baz=70
P01C Double 8 Ranch 69.92 55⇓ **P** **23 39 22.4 +0.8**
baz=70
K06A Valley Falls 69.99 51⇑ **P** **23 39 22.4 +0.4**
baz=70,SNR=7.3
WALA Waterton Lakes 70.02 43 *e*P **P** **23 39 22.4 +0.3**
comp=Z,19nm,0.9s,mb5.0
NSS Namsos 70.03 339 *e*P **P** **23 39 20.4 -1.9**
NSS AMb AMB 23 39 21.3
comp=Z,49nm,1.4s,mb5.3
NSS Namsos 70.03 339 *e*P **P** **23 39 20.4 -1.9**
comp=Z,49nm,1.4s,mb5.2
DGRG David-gareji 70.03 307 P **P** **23 39 22.6 +0.3**
DGRG S pP 23 39 33.2 -1.4
L05A Lakeview 70.06 52⇓ **P** **23 39 23.1 +0.6**
baz=70,SNR=9.7
STKA Stephens Creek 70.07 180 *e*P **P** **23 39 19.7 -2.8**
comp=Z,3.7nm,0.8s,mb4.4
STKA Stephens Creek 70.07 180 P **P** **23 39 19.6 -2.9**
comp=Z,2.8nm,0.8s,baz=4.0,slow=14,SNR=3.2
STKA LR LR 00 07 10.1
comp=Z,265nm,19.0s,baz=24,slow=34
FORT Forrest 70.18 193 *e*P **P** **23 39 22.5 -0.7**
comp=Z,28nm,0.8s,mb5.2
ZEI Tsey 70.20 309 *e*P **P** **23 39 23.5 +0.2**
ZEI *e**PP pP 23 39 36.3 +0.7
ZEI pmax pmax
comp=Z,61nm,1.1s,mb5.4
GASB Alder Springs 70.21 55⇓ **P** **23 39 24.2 +0.9**
baz=70
J07A Hines 70.24 50⇑ **P** **23 39 23.9 +0.4**
baz=70
M05C Lookout 70.25 53⇑ **P** **23 39 23.9 +0.4**
baz=70,SNR=7.8
BSMT Bassoo Peak 70.25 44 *e*P **P** **23 39 24.3 +0.7**
KIV Kislovodsk 70.26 311 P **P** **23 39 24.8 +1.2**
comp=Z,2μm,0.9s,SNR=80
KIV Kislovodsk 70.26 311 P **P** **23 39 24.6 +1.0**
SNR=85
KIV Kislovodsk 70.26 311 *e*P **P** **23 39 24.2 +0.6**
KIV Kislovodsk 70.26 311 *e*P **P** **23 39 24.2 +0.6**
MTA Mtatsminda 70.26 308 P **P** **23 39 23.9 +0.3**
MTA S pP 23 39 33.0 -3.0
TBLG Delisi 70.27 308 P **P** **23 39 25.5 +1.8**
TBLG S pP 23 39 33.9 -2.2
HOPS Hopland 70.35 56 *e*pP pP 23 39 36.1 -0.5
HATC Hat Creek Radi 70.36 53⇑⇑ **P** **23 39 24.7 +0.4**
baz=70
LBCM Butte Creek Ri 70.42 53 P **P** **23 39 25.1 +0.4**
GOR Gori 70.52 308 P **P** **23 39 25.9 +0.7**
BMO Blue Mountains 70.58 48 *e*P **P** **23 39 25.5 -0.1**
comp=Z,7.6nm,1.0s,mb4.6
K07A Rock Creek Ran 70.66 51⇓ **P** **23 39 26.5 +0.4**
baz=70,SNR=17
J08A Circle Bar Ran 70.75 50⇓ **P** **23 39 27.1 +0.5**
baz=70
M06C Likely Place G 70.76 52⇑ **P** **23 39 27.1 +0.4**
baz=70
AMRG 70.81 309 P **P** **23 39 27.8 +0.8**
MNRC McLaughlin Nat 70.82 55⇓ **P** **23 39 27.8 +0.7**
baz=70
L07A Adell 70.99 51⇓ **P** **23 39 28.6 +0.5**
baz=71,SNR=15
WBK Wadi Bani Khal 71.01 284 P **P** **23 39 29.8 +1.6**
SNR=9.4
ORV Oroville 71.05 54⇓ **P** **23 39 27.9 -0.5**
baz=71
BIDO Bidbid 71.13 285 P **P** **23 39 30.5 +1.5**
SNR=8.2
GNI Garni 71.16 307 P **P** **23 39 30.5 +1.4**
SNR=9.0
GNI Garni 71.16 307 *e*P **P** **23 39 30.2 +1.1**
OHCM Honcut 71.18 54 *e*P **P** **23 39 29.3 +0.1**
AKH Akhalkalaki 71.22 308 P **P** **23 39 30.4 +0.9**
MSO Missoula 71.32 45 *e*P **P** **23 39 30.1 0.0**
IZAR Zarasai 71.37 327 *e*P **P** **23 39 30.2 -0.2**
IZAR AMb AMB 23 39 31.1
comp=Z,2μm,0.6s
IDID Didziasalis 71.45 327 *e*P **P** **23 39 30.7 -0.2**
IDID AMb AMB 23 39 31.9
comp=Z,2μm,0.6s
IDID *e*pP pP 23 39 43.1 -0.2
SMDO Samad 71.45 285 P **P** **23 39 32.5 +1.6**
SNR=11
SMDO P 23 39 32.6
SNR=8.3
M07A Soldier Meadow 71.46 52⇓ **P** **23 39 31.3 +0.4**
baz=71,SNR=21
MNK Minsk 71.52 326 *e*P **P** **23 39 29.0 -2.3**
ISAL Salakas 71.54 327 *e*P **P** **23 39 31.4 -0.1**
ISAL AMb AMB 23 39 32.4
comp=Z,3μm,0.7s
IIGN Ignalina 71.65 327 *e*P **P** **23 39 32.1 0.0**
IIGN AMb AMB 23 39 33.0
comp=Z,2μm,0.7s
CHMT Chamberlain Mo 71.65 44 *e*P **P** **23 39 31.9 -0.2**
HOQ Hoqain 71.72 286 P **P** **23 39 33.2 +0.7**
SNR=16
HOQ P 23 39 33.4
SNR=7.5
O06A Flanigan 71.76 53⇑ **P** **23 39 32.8 +0.1**
baz=72,SNR=10
P05C Yuba Gap, Truc 71.76 54⇓ **P** **23 39 32.7 -0.1**
baz=72
JRSC Jasper Ridge 71.79 57⇑ **P** **23 39 33.4 +0.4**
baz=72
JMDO Jabal Madar 71.80 284 P **P** **23 39 33.9 +0.9**
SNR=7.7
DIGO Kars 71.87 307 *i* P **P** **23 39 23.6 -10**
M08A Happy Creek Ra 71.91 51⇑ **P** **23 39 34.0 +0.4**
baz=72
LAVA Lava Cap Winer 71.98 55⇓ **P** **23 39 34.1 0.0**
baz=72
BNLO Ben Lomond 71.99 57⇓ **P** **23 39 33.9 -0.2**
baz=72
L09A Wilkinson Ranc 72.01 50⇑ **P** **23 39 34.7 +0.5**
baz=72
FFC Flin Flon 72.19 33 P **P** **23 39 34.7 -0.6**
comp=Z,181nm,0.9s,mb6.0,SNR=12
FFC Flin Flon 72.19 33 *e*P **P** **23 39 34.7 -0.6**
FFC pmax pmax
comp=Z,29nm,0.9s,mb5.2
FFC Flin Flon 72.19 33 *e*P **P** **23 39 34.7 -0.6**
comp=Z,28nm,0.9s,mb5.2
SOC Sochi 72.22 312 *e*P **P** **23 39 34.9 -0.6**
SOC *e**PP pP 23 39 45.0 -2.9
SOC *e* 23 42 17.5
SOC *e*PPP 23 44 03.1
SOC *e*S S 23 48 56.2 +1.0
SOC *e**SS sS 23 49 18.7 +2.9
SOC *e* 23 49 42.9
SOC *e*SS SS 23 53 31.3 -2.0
SOC *e*SSS 23 56 48.5
SOC pmax pmax
comp=Z,83nm,0.7s,mb5.8
SOC MLR MLR
comp=Z,580nm,17.0s,MS4.9
SOC Sochi 72.22 312 *i* P **P** **23 39 35.8 +0.3**
BSY Bisya 72.28 285 P **P** **23 39 36.6 +0.8**
SNR=9.2
PAHR Pah Rah Range 72.30 53 *e*P **P** **23 39 36.5 +0.6**
comp=Z,14nm,1.0s,mb4.9
WCN Washoe City 72.30 54⇑ **P** **23 39 36.2 +0.3**
baz=72
ARTV Artvin 72.31 309 *i* P **P** **23 39 29.3 -6.7**
O07A Toulon 72.35 53⇑⇑ **P** **23 39 36.8 +0.5**
baz=72,SNR=18
FCC Fort Churchill 72.45 27 *e*P **P** **23 39 36.2 -0.7**
FCC pmax pmax
comp=Z,41nm,1.1s,mb5.3
FCC Fort Churchill 72.45 27 *e*P **P** **23 39 36.2 -0.7**
comp=Z,41nm,1.1s,mb5.3
ARQ Araqi 72.45 286 P **P** **23 39 37.7 +0.8**
SNR=18
ARQ P 23 39 37.9
SNR=10.0
N08A GE Springer Mi 72.45 52 P **P** **23 39 37.1 +0.3**
baz=72,SNR=12

HRY Holter Researc 72.55 44 eP P 23 39 37.5 0.0
CMB Columbia Colle 72.63 55 eP P 23 39 38.4 +0.5
CMB pmax pmax
comp=Z,16nm,1.3s,mb4.8
CMB Columbia Colle 72.63 55 eP P 23 39 38.4 +0.5
comp=Z,16nm,1.3s,mb4.8
CMB Columbia Colle 72.63 55 ⇓P P 23 39 37.7 -0.2
baz=72
PACP Pacheco Peak 72.64 56 ⇓P P 23 39 37.9 -0.1
baz=72
LRM Limekiln Ridge 72.75 45 eP P 23 39 38.8 +0.2
N09A Rock Creek Ran 72.78 51 ⇓P P 23 39 39.0 +0.2
baz=72
MOL Molde 72.79 340 eP P 23 39 38.5 -0.4
MOL AMb AMB 23 39 39.7
comp=Z,65nm,1.6s,mb5.3
MOL eS S 23 49 01.6 -0.1
MOL Molde 72.79 340 eP P 23 39 38.5 -0.4
comp=Z,65nm,1.6s,mb5.3
ANN Anapa 72.81 314⇑iP P 23 39 38.5 -0.5
ANN e*PP pP 23 39 51.0 -0.4
ANN eS S 23 49 04.0 +2.2
ANN pmax pmax
comp=Z,82nm,0.8s,mb5.7
ANN MLR MLR
comp=N,391nm,17.0s,MS5.0
ANN MLR MLR
comp=E,653nm,17.0s,MS5.0
ANN MLR MLR
comp=Z,417nm,17.0s,MS4.8
TVAN Van 72.94 306 iP P 23 39 38.0 -1.8
R06C Coleville 72.95 54 ⇓P P 23 39 40.2 +0.4
baz=73
DLMT Dillon 72.95 45 eP P 23 39 40.2 +0.3
comp=Z,26nm,1.0s,mb5.1
NB2 NORSAR Subarra 72.96 337 P P 23 39 39.6 -0.3
comp=Z,83nm,0.8s,mb5.7,baz=39,slow=6.2
NB2 NORSAR Subarra 72.96 337 P P 23 39 39.6 -0.3
NB2 pmax pmax
comp=Z,83nm,0.8s,mb5.7
NOA NORSAR Array B 72.96 337 P P 23 39 39.5 -0.5
comp=Z,68nm,0.9s,mb5.6,baz=39,slow=6.0,SNR=271
NOA PP PP 23 42 21.8 -0.8
comp=Z,5.2nm,1.0s,baz=43,slow=8.7,SNR=4.1
NOA LR LR 00 14 31.9
comp=Z,644nm,20.6s,MS4.9,baz=20,slow=38
NOA NORSAR Array B 72.96 337 P P 23 39 39.5 -0.4
NOA 23 42 21.8
M10A I.L. Ranch, Tu 72.98 50 ⇓P P 23 39 40.5 +0.5
baz=73
HLID Hailey 73.02 48 eP P 23 39 41.0 +0.7
LCCM Lewis and Clar 73.06 45 P P 23 39 40.7 +0.2
S05C Merced 73.06 56 ⇑P P 23 39 40.2 -0.3
baz=73
BMN Battle Mountai 73.22 52 eP P 23 39 42.4 +1.0
BOZ Bozeman (W) 73.32 45 eP P 23 39 41.7 -0.3
BOZ pmax pmax
comp=Z,16nm,0.9s,mb5.0
BOZ Bozeman (W) 73.32 45 eP P 23 39 41.7 -0.3
comp=Z,16nm,0.9s,mb4.9
HAKT HAKKARI 73.32 305 iP P 23 39 36.0 -6.0
AKASG Malin Array Be 73.38 322 P P 23 39 41.8 -0.5
comp=Z,99nm,0.8s,mb5.8,baz=46,slow=6.0,SNR=255
AKASG LR LR 00 14 45.0
comp=Z,635nm,18.5s,MS4.9,baz=55,slow=38
O09A Fish Creek Ran 73.39 52 ⇓P P 23 39 43.0 +0.6
baz=73,SNR=9.1
ERZM Erzurum 73.41 308 iP P 23 39 40.8 -1.7
M11A Holland Ranch, 73.49 50 ⇓P P 23 39 43.6 +0.6
baz=73,SNR=5.3
Q08A Gabbs 73.71 53 ⇑P P 23 39 44.6 +0.3
baz=73
NVAR Mina Array Bea 73.73 54 P P 23 39 45.3 +0.9
comp=Z,6.1nm,0.9s,mb4.5,baz=286,slow=6.3,SNR=26
O10A Cortez Mining, 73.74 51 ⇑P P 23 39 45.2 +0.7
baz=74
MNV Mina 73.82 54 eP P 23 39 45.7 +0.8
SUW Suwalki 73.86 327 ePc 23 39 44.7
comp=Z,0.2nm,1.2s
SUW ePcP PcP 23 39 56.8 -3.7
SUW L 00 15 40.4
comp=Z,0.6nm,17.7s
SUW Suwalki 73.86 327⇑eP P 23 39 44.7 -0.5
SUW ePcP PcP 23 39 56.8 -3.7
MLAC Mammoth Lakes 73.86 55 ⇓P P 23 39 45.7 +0.5
baz=74
N11A Elko Archery C 73.89 51 ⇓P P 23 39 45.6 +0.3
baz=74
QLMT Earthquake Lak 73.93 45 eP P 23 39 46.4 +0.7
OSL Oslo 73.98 337 eP P 23 39 46.2 +0.3
OSL AMb AMB 23 39 46.9
comp=Z,115nm,1.0s,mb5.8
OSL epP pP 23 39 57.1 -1.2
OSL Oslo 73.98 337 eP P 23 39 46.2 +0.3
comp=Z,115nm,1.0s,mb5.8
M12A Wells 74.02 50 ⇑P P 23 39 47.0 +0.8
baz=74,SNR=9.1
P10A Eureka 74.17 52 ⇑P P 23 39 47.6 +0.7
baz=74
Q09A Carvers 74.19 53 ⇓P P 23 39 47.4 +0.3
baz=74
ELK Elko 74.23 50 eP P 23 39 48.3 +0.9
N12A Wells--Clov Va 74.29 50 ⇑P P 23 39 48.3 +0.6
baz=74
HELL Mitchell Peak 74.31 56 ⇓P P 23 39 47.3 -0.4
baz=74
SFJD Kangerlussuaq 74.34 5⇑iP P 23 39 47.0 -1.0
comp=Z,26nm,1.0s,mb5.1
SFJD Kangerlussuaq 74.34 5⇑iP P 23 39 47.0 -1.0
SFJD pmax pmax
comp=Z,26nm,1.0s,mb5.1
O11A Cowboy Ranch, 74.35 51 ⇑P P 23 39 48.6 +0.5
baz=74
MSL Mosul 74.47 304 ex x 23 39 46.0
M13A Montello 74.50 49 ⇑P P 23 39 49.2 +0.2
baz=74,SNR=14
YFT Old Faithful 74.50 45 eP P 23 39 51.1 +2.2
KONO Kongsberg 74.56 337 eP P 23 39 49.1 -0.1
KONO Kongsberg 74.56 337 eP P 23 39 49.4 +0.1
KONO pmax pmax
comp=Z,47nm,0.9s,mb5.4
KONO Kongsberg 74.56 337 eP P 23 39 49.4 +0.1
comp=Z,47nm,0.9s,mb5.4
SIM Simferopol' 74.56 315diP P 23 39 49.2 -0.1
SIM e*PP pP 23 40 06.0 +4.3
SIM eS S 23 49 17.0 -4.6
SIM pmax pmax
comp=Z,97nm,0.7s,mb5.8
SIM MLR MLR
comp=Z,500nm,20.0s,MS4.8
R09A Tonopah 74.62 53 ⇑P P 23 39 49.7 +0.1
baz=74,SNR=5.5
BEST Besiri 74.68 306 iP P 23 39 47.5 -2.4
GRSN GIRESUNGRSN 74.68 310 iP P 23 39 41.8 -8.2
NWAO Narrogin (SRO) 74.74 201 P P 23 39 49.5 -0.8
comp=Z,14nm,1.0s,mb4.8,baz=54,slow=9.2,SNR=3.7
NWAO LR LR 00 14 59.8
comp=Z,165nm,18.2s,MS4.4,baz=21,slow=38
N13A West Wendover 74.79 50 ⇑P P 23 39 51.0 +0.4
baz=74,SNR=6.0
S09A Goldfield 74.84 54 ⇑P P 23 39 51.1 +0.2
baz=74,SNR=6.7
DCID1 Drake Creek 74.84 46 eP P 23 39 52.9 +2.0
RRI2 Red Ridge 74.92 46 epP pP 23 40 01.5 -2.3
MOOW Moose Ponds 75.00 46 eP P 23 39 53.0 +1.2
comp=Z,13nm,1.0s,mb4.8
TPAW Teton Pass 75.04 46 eP P 23 39 53.4 +1.3
comp=Z,15nm,0.9s,mb4.9
HVU Hansel Valley 75.06 48 eP P 23 39 52.7 +0.5
comp=Z,13nm,0.9s,mb4.9
R10A Warm Springs 75.07 53 ⇓P P 23 39 52.3 +0.1
baz=75
Q11A Duckwater 75.14 52 ⇓P P 23 39 52.6 0.0
baz=75,SNR=5.5
LOHW Long Hollow 75.16 46 eP P 23 39 53.8 +1.0
RUND Rundenannen 75.17 339 eP P 23 39 52.9 +0.1
SNOW Snow King Moun 75.17 46 eP P 23 39 54.2 +1.5
comp=Z,11nm,0.8s,mb4.8
REDW Red Top Meadow 75.18 46 eP P 23 39 53.5 +0.7
comp=Z,17nm,1.0s,mb4.9
REDW epP pP 23 40 12.4 +7.1
BER Bergen 75.20 339 eP P 23 39 53.2 +0.3
BER AMS AMS 00 16 41.4
comp=Z,562nm,18.5s,MS4.9
P12A McGill 75.21 51 ⇑P P 23 39 53.5 +0.5
baz=75,SNR=12

UMR Umm Al-Rimmam 75.30 296 eP P 23 39 53.0 -0.6
UMR AMb AMB 23 39 54.1
comp=Z,99nm,0.5s,mb6.0
MARD Mardin 75.33 306 iP P 23 39 49.5 -4.3
BHD Baghdad 75.41 301 ex x 23 39 52.0
MIB Mutribah 75.42 296 eP P 23 39 53.6 -0.6
MIB AMb AMB 23 39 54.9
comp=Z,145nm,0.8s,mb6.0
BGU Big Grassy Mou 75.44 49 eP P 23 39 54.7 +0.4
DAC Darwin (Calif) 75.47 55 eP P 23 39 55.0 +0.5
Q12A Willow Creek R 75.52 52 ⇑P P 23 39 55.2 +0.4
baz=75,SNR=6.0
KBD Kabd 75.54 296 eP P 23 39 54.6 -0.3
KBD AMb AMB 23 39 55.7
comp=Z,265nm,0.5s,mb6.4
QRN Al-Qurain 75.63 295 eP P 23 39 55.1 -0.3
QRN AMb AMB 23 39 56.2
comp=Z,249nm,0.5s,mb6.4
ELZG Elazig 75.74 308 iP P 23 39 57.1 +1.1
RDF Al-Radifah 75.79 296 eP P 23 39 56.1 -0.2
RDF AMb AMB 23 39 57.3
comp=Z,277nm,1.1s,mb6.1
NAY Al-Naaiem 75.81 296 eP P 23 39 55.8 -0.7
NAY AMb AMB 23 39 57.0
comp=Z,80nm,0.6s,mb5.8
RST Umm Al-Ruwaisa 75.84 296 eP P 23 39 55.8 -0.8
RST AMb AMB 23 39 56.9
comp=Z,130nm,0.7s,mb6.0
HWUT Hardware Ranch 75.88 48 eP P 23 39 57.7 +0.8
comp=Z,19nm,1.0s,mb5.0
TPNV Topopah Spring 75.92 54 eP P 23 39 57.6 +0.5
SNCC San Nicolas Is 76.02 59 ⇑P P 23 39 57.7 +0.1
baz=76
DUG Dugway 76.03 50 eP P 23 39 58.1 +0.4
comp=Z,16nm,1.0s,mb4.9
WAR Warsaw 76.03 327 eP P 23 39 58.3 +0.6
KIS Kishinev 76.03 320 eP P 23 39 56.0 -1.7
KIS e pP 23 40 06.0 -4.2
KIS e pP 23 40 08.0 -2.2
KIS MLR MLR
comp=N,500nm,17.0s,MS5.0
KIS MLR MLR
comp=E,500nm,17.0s,MS5.0
KIS MLR MLR
comp=Z,1μm,17.0s,MS5.2
KIS MLR MLR
comp=Z,1μm,18.0s
NOQ North Oquirrh 76.15 49 eP P 23 39 58.8 +0.4
U10A Ash Meadows, A 76.19 54 ⇓P P 23 39 59.1 +0.5
baz=76
MALT Malatya 76.19 308⇓iP P 23 40 00.5 +1.9
MALT Malatya 76.19 308 eP P 23 39 60.0 +1.3
BORG Borgarnes 76.20 353 eP P 23 40 00.2 +1.5
TCUT Toone Canyon 76.28 48 eP P 23 40 00.7 +1.5
BW06 Boulder Array 76.29 46 eP P 23 39 59.1 -0.1
comp=Z,11nm,0.8s,mb4.8
PDAR Pinedale Array 76.29 46 P P 23 39 59.0 -0.2
comp=Z,11nm,0.7s,mb4.9,baz=279,slow=2.4,SNR=92
PDAR LR LR 00 10 01.1
comp=Z,118nm,21.2s,MS4.2,baz=122,slow=33
BSD Bornholm Skovb 76.32 332⇑iP P 23 39 58.8 -0.6
comp=Z,118nm,0.9s,mb5.8
BSD
comp=Z,390nm,20.0s
CTU Camp Tracy 76.35 49 eP P 23 40 00.3 +0.8
LVV L'vov 76.42 324 eP P 23 39 59.9 0.0
IAS Iasi 76.53 320⇓iP P 23 40 00.8 +0.2
IAS Iasi 76.53 320 P P 23 40 00.6 0.0
GSC Goldstone 76.57 56 eP P 23 40 01.4 +0.6
GSC Goldstone 76.57 56 ⇑P P 23 40 00.6 -0.1
baz=76
NLU North Lily Min 76.62 49 eP P 23 40 02.5 +1.4
DAU Daniels Canyon 76.82 49 eP P 23 40 03.3 +1.1
GKP Gorka Klasztor 76.83 330 ePc P 23 40 02.3 +0.1
GKP L 00 16 10.4
comp=Z,0.9nm,20.3s
MPU Maple Canyon 76.84 49 eP P 23 40 03.2 +0.9
SHPR Sheep Range 76.88 54 eP P 23 40 03.4 +0.9
TUQ Turquoise Mtn. 77.05 55 ⇓P P 23 40 03.6 +0.1
baz=77,SNR=8.6
V11A Goodsprings 77.12 54 ⇑P P 23 40 04.0 +0.2
baz=77
ARUT Antelope Range 77.16 52 eP P 23 40 04.3 +0.2
KWP Kalwaria 77.16 324 ePc P 23 40 04.7 +0.6
comp=Z,0.2nm,0.9s,mb3.0
KWP epP pP 23 40 11.5 -5.1
KWP ePcP PcP 23 40 16.5 +1.8
KWP L 00 17 32.9
comp=Z,1.3nm,16.4s
KWP Kalwaria 77.16 324⇑eP P 23 40 04.7 +0.6
KWP e*PP pP 23 40 11.5 -5.1
KWP e pP 23 40 16.5 -0.1
KWP pmax pmax
comp=Z,200nm,0.9s,mb6.0
KWP MLR MLR
comp=Z,1μm,16.4s,MS5.3
MUD Monsted U'grnd 77.27 335⇑iP P 23 40 04.6 -0.1
comp=Z,55nm,0.9s,mb5.5
MUD
comp=Z,700nm,19.0s
U12A Valley of Fire 77.32 54 ⇓P P 23 40 05.0 0.0
baz=77
RGN Rugen 77.35 332 eP P 23 40 05.4 +0.3
comp=Z,147nm,1.1s,mb5.8
CCUT Cedar City 77.35 52 eP P 23 40 05.8 +0.6
BURAR Bucovina Array 77.40 322⇓iP P 23 40 06.3 +0.9
BURAR Bucovina Array 77.40 322 ⇓P P 23 40 06.3 +0.8
MSU Marysvale 77.47 51 eP P 23 40 07.2 +1.4
TMUT Trail Mountain 77.56 50 eP P 23 40 07.0 +0.7
TMUT epP pP 23 40 15.1 -3.8
V12A Nelson 77.56 54 ⇓P P 23 40 06.3 0.0
baz=77
CFR Carcaliu 77.61 319⇓iP P 23 40 06.9 +0.3
CFR Carcaliu 77.61 319 ⇓P P 23 40 06.9 +0.3
ELDT Eldivan 77.81 312 iP P 23 40 06.7 -1.0
CDAG Cicekdag 77.82 311 iP P 23 40 06.7 -1.1
PFO Pinyon Flat Ob 77.83 57 ⇓P P 23 40 07.6 -0.3
baz=78
KOLS Kolonicke sedl 77.86 324 eP P 23 40 08.8 +0.8
KOLS e 23 40 14.9
KOLS pmax pmax
comp=Z,22nm,0.8s,mb5.1
KOLS Kolonicke sedl 77.86 324 eP P 23 40 08.8 +0.8
comp=Z,22nm,0.8s,mb5.1
KOLS e 23 40 14.9
KOLS ePP PP 23 42 58.4 -5.6
VRI Vrincioaia 77.86 320⇓iP P 23 40 09.1 +1.1
VRI Vrincioaia 77.86 320 P P 23 40 08.7 +0.7
PLOR Plostina 77.91 320⇓iP P 23 40 09.2 +0.9
STHS Stebnicka Huta 77.98 325 iP P 23 40 09.2 +0.5
STHS pmax pmax
comp=Z,40nm,0.9s,mb5.3
STHS Stebnicka Huta 77.98 325 iP P 23 40 09.2 +0.5
comp=Z,40nm,0.9s,mb5.3
ULM Lac du Bonnet 77.99 34 P P 23 40 07.7 -1.1
comp=Z,11nm,0.9s,mb4.8,baz=309,slow=6.3,SNR=24
ULM LR LR 00 17 26.8
comp=Z,100nm,19.6s,MS4.2,baz=355,slow=38
OJC Ojcow 78.03 326 eP P 23 40 09.1 +0.1
HARR Harsova 78.05 318⇓iP P 23 40 09.7 +0.6
HARR Harsova 78.05 318 ⇓P P 23 40 09.7 +0.6
SRU San Rafael 78.08 49 eP P 23 40 09.9 +0.7
BRTR Keskin Array B 78.18 312 P P 23 40 10.1 +0.3
comp=Z,11nm,0.6s,mb4.9,baz=83,slow=3.2,SNR=73
BRTR PP PP 23 43 04.7 -2.0
comp=Z,5.2nm,1.0s,baz=64,slow=8.4,SNR=5.1
BRTR LR LR 00 19 27.3
comp=Z,216nm,20.6s,MS4.5,baz=225,slow=39
BRTR Keskin Array B 78.18 312 P P 23 40 10.1 +0.3
BRTR 23 43 04.7
CRVS Cervenica-Dubn 78.25 325 eP P 23 40 10.7 +0.5
comp=Z,14nm,1.0s,mb4.8
RWWY Rawlins 78.31 46 eP P 23 40 10.8 +0.3
comp=Z,24nm,0.9s,mb5.1
NIE Niedzica 78.39 325 eP P 23 40 11.7 +0.7
RSSD Black Hills 78.40 42 eP P 23 40 10.7 -0.3
ISR Istrita 78.47 319⇓iP P 23 40 13.2 +1.8
ISR Istrita 78.47 319 ⇓P P 23 40 13.2 +1.8
MLR Muntele Rosu 78.52 320⇓iP P 23 40 12.5 +0.8
MLR Muntele Rosu 78.52 320 P P 23 40 12.1 +0.5
SGKT Sivrigoynuk 78.55 313 iP P 23 40 10.5 -1.3
W13A Hualapai Mount 78.56 54 ⇑P P 23 40 11.8 -0.1
baz=78
ANTO Ankara 78.58 312⇓iP P 23 40 13.1 +1.1

ANTO Ankara 78.58 312 P P 23 40 13.0 +1.0
SNR=13
ANTO Ankara 78.58 312 ⇓P P 23 40 13.2 +1.2
COBT Iskenderun 78.67 308 iP P 23 40 13.4 +1.0
RUE Ruedersdorf 78.79 331 eP P 23 40 13.2 +0.1
comp=Z,116nm,1.2s,mb5.7
RAC Raciborz 78.83 327 eP P 23 40 14.0 +0.7
RAC MLR MLR
comp=Z,600nm,18.0s,MS5.0
BSEG Bad Segeberg 78.91 333 eP P 23 40 13.9 +0.1
comp=Z,114nm,1.0s,mb5.8
X13A Yucca 78.92 55 ⇑P P 23 40 13.9 +0.1
baz=79
OBR Brabster 78.92 342⇑eP P 23 40 13.6 -0.3
W14A Seligman 79.01 54 ⇓P P 23 40 14.6 +0.3
baz=79,SNR=9.0
VOIR 79.01 320⇓iP P 23 40 15.2 +0.9
VOIR 79.01 320 ⇓P P 23 40 15.2 +0.8
Y12C Blythe 79.01 56 ⇑P P 23 40 14.3 0.0
baz=79
OKC Ostrava-Krasne 79.03 327⇑eP P 23 40 14.5 0.0
OKC epP pP 23 40 27.0 0.0
OKC AMS AMS 00 18 10.0
comp=Z,600nm,15.1s
OKC Ostrava-Krasne 79.03 327 eP P 23 40 14.5 0.0
OKC e pP 23 40 27.0 0.0
HENT Hendek 79.04 314 iP P 23 40 09.6 -4.9
KSP Ksiaz 79.05 328 ePc P 23 40 15.1 +0.5
comp=Z,0.2nm,1.0s
KSP ePcP PcP 23 40 20.5 -2.4
KSP L 00 17 39.7
comp=Z,1.0nm,20.6s
KSP Ksiaz 79.05 328⇑eP P 23 40 14.8 +0.2
KSP epP pP 23 40 20.3 -6.8
KSP LR LR
comp=Z,1μm,20.6s,MS5.2
ORE Reay 79.13 343⇑eP P 23 40 14.9 0.0
MTUR Matau 79.15 320⇓iP P 23 40 16.2 +1.1
MTUR Matau 79.15 320 P P 23 40 15.7 +0.6
DRGR 79.19 322⇓iP P 23 40 16.1 +0.8
GLA Glamis 79.25 56 ⇓P P 23 40 15.6 0.0
baz=79
OTO Tongue 79.32 343⇑eP P 23 40 16.0 0.0
MORC Moravsky Berou 79.33 327⇓iP P 23 40 17.0 +0.9
MORC Moravsky Berou 79.33 327 P P 23 40 16.6 +0.4
DPC Dobruska-Polom 79.41 328⇑iP P 23 40 17.1 +0.6
DPC epP pP 23 40 29.5 +0.4
DPC AMS AMS 00 19 00.0
comp=Z,500nm,14.6s
Y13A Salome 79.42 55 ⇓P P 23 40 16.6 0.0
baz=79
UPC Upice 79.42 328⇑iP P 23 40 16.9 +0.3
UPC epP pP 23 40 31.7 +2.5
PV10 Paradox Valley 79.44 49 eP P 23 40 17.7 +1.0
W15A Williams 79.54 53 ⇓P P 23 40 18.0 +0.7
baz=79
X14A Yava 79.60 54 ⇑P P 23 40 18.0 +0.5
baz=79,SNR=7.3
PSZ Piszkesteto 79.69 325⇑eP P 23 40 18.6 +0.6
PSZ Piszkesteto 79.69 325 P P 23 40 18.8 +0.8
VYHS Vyhne 79.73 326 iP P 23 40 18.6 +0.3
comp=Z,27nm,1.1s,mb5.1
VYHS LR LR
comp=Z,400nm,19.3s,MS4.8
MVH1 Achvaich 79.78 342⇑eP P 23 40 18.2 -0.4
Y14A Wickenburg 79.86 55 ⇓P P 23 40 19.0 0.0
baz=80,SNR=5.7
MCD Coleburn Disti 79.87 342⇑eP P 23 40 18.8 -0.2
PV01 Paradox Valley 79.88 49 eP P 23 40 14.9 -4.2
WUAZ Wupatki 79.88 53 eP P 23 40 20.2 +1.1
comp=Z,13nm,1.0s,mb4.8
MEST Erdemli 79.92 309 iP P 23 40 16.3 -3.0
BORA Eskisehir 79.92 313 iP P 23 40 12.5 -6.9
ESKT Eskisehir 79.94 313 iP P 23 40 17.2 -2.1
BRG Berggiesshubel 79.98 330 eP P 23 40 19.5 -0.1
comp=Z,60nm,1.0s,mb5.5
BRG Berggiesshubel 79.98 330⇑iP P 23 40 19.5 -0.1
comp=Z,36nm,1.0s,mb5.3
BRG i pP 23 40 31.8 -0.4
comp=Z,11nm,0.9s
BRG i 23 40 37.4
comp=Z,16nm,1.1s
BRG
comp=N,418nm,17.1s
BRG
comp=E,160nm,17.7s
BRG
comp=Z,552nm,17.9s
BRG Berggiesshubel 79.98 330⇑iP P 23 40 19.5 -0.1
BRG i pP 23 40 31.8 -0.4
BRG i 23 40 37.4
BRG pmax pmax
comp=Z,36nm,1.0s,mb5.3
BRG MLR MLR
comp=Z,550nm,17.9s,MS5.0
BRG Berggiesshubel 79.98 330⇑iP P 23 40 19.5 -0.1
comp=Z,36nm,1.0s,mb5.3
BRG i pP 23 40 31.8 -0.4
BRG i 23 40 37.4
BRG LR LR
comp=Z,550nm,17.9s,MS5.0
PVCC Panska Ves 80.00 329⇑iP P 23 40 20.0 +0.3
PVCC AMS AMS 00 18 20.0
comp=Z,1μm,18.3s
X15A Humboldt 80.00 54 ⇓P P 23 40 20.2 +0.5
baz=80,SNR=7.9
CLL Collm 80.01 330⇑iP P 23 40 19.5 -0.3
comp=Z,122nm,0.9s,mb5.8
CLL eLR LR 00 07 13.6
CLL eL 00 18 58.3
comp=Z,536nm,18.0s
CLL epP pP 23 40 31.9 -0.4
CLL ePP PP 23 43 20.4 -1.5
CLL eS S 23 50 27.1 +6.4
CLL ePS 23 51 24.8
CLL eSS SS 23 55 36.7 +5.6
CLL Collm 80.01 330⇑iP P 23 40 19.5 -0.3
comp=Z,120nm,0.9s,mb5.8
CLL i pP pP 23 40 31.5 -0.8
CLL ePP PP 23 43 20.0 -1.9
CLL eS S 23 50 27.0 +6.3
CLL Collm 80.01 330⇑iP P 23 40 19.5 -0.3
CLL i *PP pP 23 40 31.5 -0.8
CLL eS S 23 50 27.0 +6.3
CLL pmax pmax
comp=Z,120nm,0.9s,mb5.8
CLL MLR MLR
comp=Z,600nm,18.6s,MS5.0
CLL Collm 80.01 330⇑iP P 23 40 19.5 -0.3
comp=Z,120nm,0.9s,mb5.8
CLL i pP pP 23 40 31.5 -0.8
CLL eS S 23 50 27.0 +6.3
CLL LR LR
comp=Z,600nm,18.6s,MS5.0
MME1 Meikle Cairn 80.03 342⇑eP P 23 40 19.4 -0.5
VRAC Vranov 80.09 327⇓iP P 23 40 21.4 +1.2
VRAC Vranov 80.09 327 P P 23 40 20.9 +0.7
SMCO Snowmass 80.12 47 eP P 23 40 21.2 +0.9
GZR Gura Zlata 80.17 321⇓iP P 23 40 21.2 +0.6
GZR Gura Zlata 80.17 321 ⇓P P 23 40 21.2 +0.6
FBE Freiberg 80.17 330 eP P 23 40 20.7 0.0
JMB Yambol 80.29 317 P P 23 40 20.0 -1.3
JMB Yambol 80.29 317 eP P 23 40 21.5 +0.2
BUD Budapest 80.40 325⇑eP P 23 40 22.2 +0.3
PRA Prague 80.41 329 ⇑P P 23 40 22.0 +0.1
CRAR CRAIOVA 80.42 320 P P 23 40 22.9 +0.9
KAC Achnashellach 80.43 343⇑iP P 23 40 22.0 0.0
ISCO Idaho Springs 80.48 46 eP P 23 40 23.3 +1.0
ULDT Uludag 80.49 314 iP P 23 40 21.1 -1.3
BZS Buzias 80.57 322⇓iP P 23 40 23.1 +0.3
BZS Buzias 80.57 322 P P 23 40 22.7 -0.1
TREC Trest 80.57 328⇑iP P 23 40 23.0 +0.2
TREC AMS AMS 00 18 50.0
comp=Z,500nm,15.1s
CLZ Clausthal 80.58 332 eP P 23 40 23.0 +0.2
comp=Z,108nm,1.0s,mb5.7
CLZ epP pP 23 40 35.3 -0.1
CLZ Clausthal 80.58 332 eP P 23 40 23.0 +0.2
CLZ e*PP pP 23 40 35.3 -0.1
CLZ pmax pmax
comp=Z,108nm,1.0s,mb5.7
KPL Plockton 80.66 343⇑eP P 23 40 23.1 -0.2
PKS7 Kunszentmiklos 80.67 324⇑eP P 23 40 23.6 +0.3
ZST Bratislava 80.72 326 iP P 23 40 24.0 +0.4

ZST pmax pmax
comp=Z,29nm,1.0s,mb5.2
ZST MLR MLR
comp=Z,400nm,16.9s,MS4.8
ZST Bratislava 80.72 326 *i* P **P 23 40 24.0 +0.4**
comp=Z,28nm,1.0s,mb5.2
ZST LR LR
comp=Z,400nm,16.9s,MS4.8
KSK Scoval 80.78 343⇑ *e*P **P 23 40 23.6 -0.3**
PKS6 Bocsa 80.81 324⇑ *e*P **P 23 40 24.4 +0.3**
TANN Tannenbergstha 80.92 330 *e*P **P 23 40 24.6 -0.1**
WERD Werda 80.96 330 *e*P **P 23 40 24.8 -0.1**
GTTG Gvttingen 80.97 332 *e*P **P 23 40 24.8 -0.1**
PKS8 Sarbogard 81.01 325⇑ *e*P **P 23 40 24.8 -0.4**
MOX Moxa 81.07 331 *e*P **P 23 40 25.3 -0.2**
comp=Z,66nm,1.3s,mb5.4
MOX Moxa 81.07 331 *e*P **P 23 40 25.2 -0.3**
comp=Z,63nm,1.3s,mb5.4
MOX
comp=Z,400nm,18.0s
MOX Moxa 81.07 331 *e*P **P 23 40 25.2 -0.3**
MOX pmax pmax
comp=Z,63nm,1.3s,mb5.4
MOX MLR MLR
comp=Z,400nm,18.0s,MS4.8
NKC Novy Kostel 81.07 330⇑ *i*P **P 23 40 25.4 -0.1**
NKC *e*pP pP 23 40 37.4 -0.7
NKC AMS AMS 00 19 30.0
comp=Z,500nm,16.3s
NKC Novy Kostel 81.07 330⇑ *i*P **P 23 40 25.4 -0.1**
NKC *e* pP 23 40 37.4 -0.7
KAR1 Arisaig 81.08 343⇑ *i*P **P 23 40 25.6 +0.1**
WIT Witteveen 81.09 334⇑ *i*P **P 23 40 26.4 +0.8**
comp=Z,303nm,1.1s,mb6.1
WIT *ex* x 23 40 38.6
IBBN Ibbenburen 81.14 334 *e*P **P 23 40 25.5 -0.3**
IBBN *e*pP pP 23 40 38.0 -0.4
DIM Dimitrovgrad 81.14 318 P **P 23 40 25.4 -0.4**
115A Sonoran Desert 81.15 55 ⇑P **P 23 40 26.1 +0.2**
baz=81
ESY Stoneypath 81.19 341⇑ *i*P **P 23 40 25.6 -0.5**
TKTP Tekketepe 81.24 312 *i* P **P 23 40 24.0 -2.4**
BTOK Tokmak 81.37 315 *i* P **P 23 40 24.9 -2.1**
EAB Aberfoyle 81.39 342⇑ *i*P **P 23 40 26.5 -0.6**
MANZ Manzenberg 81.40 330 *e*P **P 23 40 27.3 +0.1**
EBL Broad Law 81.43 341⇑ *i*P **P 23 40 26.9 -0.5**
CONA Conrad Observa 81.46 327⇓ *i*P **P 23 40 28.0 +0.5**
comp=Z,57nm,0.8s,mb5.5,SNR=51
CONA ⇓*i*PP PP 23 43 29.1 -4.9
comp=Z,6.9nm,1.0s
EAU Auchinoon 81.47 341⇑ *i*P **P 23 40 27.4 -0.2**
KHC Kasperske Hory 81.49 329⇑ *i*P **P 23 40 27.8 +0.1**
KHC *e*pP pP 23 40 39.1 -1.2
KHC *ex* x 23 43 24.5
KHC AMS AMS 00 19 10.0
comp=Z,800nm,19.5s
KHC Kasperske Hory 81.49 329⇑ *i*P **P 23 40 27.8 +0.1**
KHC *e* pP 23 40 39.1 -1.2
KHC MLR MLR
comp=Z,800nm,19.5s,MS5.1
PGB Panagyurishte 81.50 319 P pP 23 40 38.6 -1.7
PCOU Corrie 81.50 342⇑ *e*P **P 23 40 27.7 -0.1**
PKSM Moragy 81.53 324⇓ *i*P **P 23 40 28.0 +0.1**
PKSM Moragy 81.53 324⇑ *e*P **P 23 40 27.4 -0.5**
ROTZ Rotzenmuhle 81.54 330 *e*P **P 23 40 28.4 +0.5**
PLD Plovdiv 81.54 318 P **P 23 40 27.3 -0.6**
UBBA Unterbreizbach 81.54 332 *e*P **P 23 40 27.6 -0.4**
116A Eloy 81.58 55 ⇓P **P 23 40 28.3 +0.1**
baz=81
GEC2 GERESS Array S 81.66 328 *e*P **P 23 40 28.4 -0.2**
comp=Z,39nm,1.1s,mb5.2
GEC2 GERESS Array S 81.66 328 *e*P **P 23 40 28.4 -0.2**
GEC2 pmax pmax
comp=Z,39nm,1.1s,mb5.2
GERES GERESS Array B 81.66 328 P **P 23 40 28.4 -0.2**
comp=Z,21nm,0.8s,mb5.1,baz=35,slow=4.9,SNR=156
GERES PP PP 23 43 30.9 -4.7
comp=Z,1.0nm,0.6s,baz=38,slow=7.5,SNR=3.6
GERES LR LR 00 19 38.1
comp=Z,642nm,20.5s,MS5.0,baz=39,slow=38
GERES GERESS Array B 81.66 328 P **P 23 40 28.4 -0.2**
GERES 23 43 30.9
ALN Alexandroupoli 81.67 316 *e*P **P 23 40 28.6 -0.1**
WTSB Winterswijk 81.75 334⇑ *i*P **P 23 40 28.6 -0.4**
comp=Z,47nm,1.1s,mb5.3
WTSB *ex* x 23 40 39.7
PGBU Glenifferbraes 81.76 342⇑ *i*P **P 23 40 29.2 +0.1**
WET Wettzell 81.76 329 *i* P **P 23 40 29.4 +0.3**
comp=Z,55nm,1.1s,mb5.4
WET Wettzell 81.76 329 *i* P **P 23 40 29.4 +0.3**
WET pmax pmax
comp=Z,55nm,1.1s,mb5.4
PMSU Muirshiel 81.79 342⇑ *e*P **P 23 40 29.1 -0.2**
ESK Eskdalemuir 81.88 341 P **P 23 40 30.2 +0.5**
comp=Z,131nm,1.4s,mb5.7,SNR=6.3
ESK Eskdalemuir 81.88 341⇑ *e*P **P 23 40 29.6 -0.2**
ESK AMb AMB 23 40 30.9
comp=Z,39nm,1.4s,mb5.2
ESK Eskdalemuir 81.88 341 *e*P **P 23 40 29.7 0.0**
ESK pmax pmax
comp=Z,24nm,1.0s,mb5.1
ESK Eskdalemuir 81.88 341 *e*P **P 23 40 29.7 -0.1**
comp=Z,24nm,1.0s,mb5.1
VTS Vitosha 81.96 319 P **P 23 40 30.8 +0.6**
VTS Vitosha 81.96 319 *e*P **P 23 40 30.8 +0.6**
VTS Vitosha 81.96 319⇓ *i*P **P 23 40 31.4 +1.2**
ECK Cauldkaine Hil 81.98 341⇑ *e*P **P 23 40 29.8 -0.5**
ECK AMb AMB 23 40 32.3
comp=Z,56nm,1.1s,mb5.4
GRA1 Grafenberg Arr 81.98 330 *e*P **P 23 40 30.7 +0.4**
comp=Z,122nm,1.0s,mb5.8
GRA1 *e*pP pP 23 40 42.7 -0.2
GRA1 LR LR
comp=Z,500nm,18.5s,MS4.9
GRF Grafenberg Arr 81.98 330 *e*P **P 23 40 30.7 +0.4**
comp=Z,122nm,1.0s,mb5.8
GRF *e*pP pP 23 40 42.7 -0.2
GRF Grafenberg Arr 81.98 330 *e*L 00 19 59.5
comp=Z,499nm,18.5s
GRF Grafenberg Arr 81.98 330 *e*P **P 23 40 30.7 +0.4**
GRF *e**PP pP 23 40 42.7 -0.2
GRF pmax pmax
comp=Z,122nm,1.0s,mb5.8
GRF MLR MLR
comp=Z,500nm,18.5s,MS4.9
GRF Grafenberg Arr 81.98 330 *e*P **P 23 40 30.7 +0.4**
GRF *e**PP pP 23 40 42.7 -0.2
GRF pmax pmax
comp=Z,122nm,1.0s,mb5.8
GRF MLR MLR
comp=Z,500nm,18.5s,MS4.9
GRF Grafenberg Arr 81.98 330 *e*P **P 23 40 30.7 +0.4**
comp=Z,122nm,1.0s,mb5.8
GRF *e*pP pP 23 40 42.7 -0.2
GRF LR LR
comp=Z,500nm,18.5s,MS4.9
GRFO Grafenberg 81.98 330 *e*P **P 23 40 30.7 +0.4**
BUG Bochum–Univer 82.02 333 *e*P **P 23 40 30.0 -0.5**
BHH Howats Hill 82.08 341⇑ *e*P **P 23 40 30.7 -0.1**
BWH Wardlaw 82.12 341⇑ *e*P **P 23 40 30.8 -0.2**
MOA Molln 82.20 327 *i* P **P 23 40 31.6 +0.2**
comp=Z,39nm,1.1s,mb5.2,SNR=22
MOA ⇓*e*PP PP 23 43 32.7 -7.3
comp=Z,7.5nm,1.1s
MOA Molln 82.20 327 *i* P **P 23 40 31.6 +0.2**
comp=Z,39nm,1.1s,mb5.2
MOA *e* 23 43 27.1
GRUS Gruza 82.27 321 *i* P **P 23 40 31.5 -0.3**
BDL Dobcross Hall 82.27 340⇑ *e*P **P 23 40 32.1 +0.3**
TUC Tucson 82.33 55 *e*P **P 23 40 32.4 +0.3**
BBO1 Bothel 82.41 341⇑ *e*P **P 23 40 32.6 +0.1**
MMB Musomiste 82.42 318 P **P 23 40 31.7 -0.9**
ECSD EROS,Sioux Fal 82.45 39 *e*P **P 23 40 31.5 -1.2**
DIVS Divcibare 82.47 322 *i* P **P 23 40 32.7 -0.1**
DIVS Divcibare 82.47 322 *e*P **P 23 40 32.7 -0.2**
CKE Keswick 82.51 340⇑ *e*P **P 23 40 33.1 +0.1**
KKB Krupnik 82.55 319 P **P 23 40 32.7 -0.6**
TNS Taunus Mts 82.60 332 *e*P **P 23 40 33.3 -0.2**
XDE Dent Fell 82.68 341⇑ *e*P **P 23 40 34.0 0.0**
XDE AMb AMB 23 40 35.3
comp=Z,50nm,1.0s,mb5.5
CDU1 Dunnerdale 82.75 340⇑ *e*P **P 23 40 33.9 -0.5**
PERS Pernice 82.78 326 *e*P **P 23 40 34.4 0.0**
PERS *e*pP pP 23 40 47.0 0.0

SRS Serrai 82.83 318 *e*P **P 23 40 34.2 -0.5**
AYDN Tasoluk 82.91 313 *i* P **P 23 40 32.6 -2.5**
BBLS Bajina Basta - 82.92 322 *i* P **P 23 40 36.3 +1.1**
TOD Tromm 82.98 331⇑ *e*P **P 23 40 35.2 -0.3**
HGN Heimansgroeve 83.06 334⇑ *i*P **P 23 40 35.4 -0.5**
comp=Z,45nm,1.3s,mb5.3
HGN *ex* x 23 40 47.4
comp=Z,19nm,1.1s
LHO Holmfirth 83.09 339⇑ *e*P **P 23 40 35.6 -0.5**
BEBN Eben Emael 83.12 334 ⇑P **P 23 40 35.7 -0.5**
comp=Z,17nm,0.8s,mb5.1
BEBN AP pP 23 40 48.4 -0.4
OBKA Obir 83.13 326 ⇓*i* pP 23 40 52.7 +3.8
comp=Z,17nm,0.9s
OBKA Obir 83.13 326 *i* P **P 23 40 36.1 -0.1**
comp=Z,20nm,0.7s,mb5.3,SNR=13
OBKA ⇓*i*pP pP 23 40 52.7 +3.8
comp=Z,17nm,0.9s
OBKA ⇑*i*PP PP 23 43 44.0 -3.7
comp=Z,11nm,1.1s
OBKA Obir 83.13 326 *i* P **P 23 40 36.1 -0.1**
comp=Z,20nm,0.6s,mb5.3
OBKA *i* 23 40 52.7
OBKA *i* 23 43 37.0
KNT Kendrikon 83.16 318 *e*P **P 23 40 36.3 -0.1**
MEM Membach 83.16 334 ⇑P **P 23 40 35.9 -0.5**
comp=Z,23nm,0.9s,mb5.2
MEM AP pP 23 40 48.1 -0.9
MEM XP sP 23 40 54.1 +0.4
FUR Furstenfeldbru 83.18 329 *e*P **P 23 40 36.6 +0.1**
comp=Z,111nm,0.9s,mb5.9
FUR Furstenfeldbru 83.18 329 *e*P **P 23 40 36.6 +0.1**
FUR pmax pmax
comp=Z,111nm,0.9s,mb5.9
KBA Koelnbreinsper 83.20 327⇑ *i*PcP PcP 23 40 36.7 -4.4
comp=Z,50nm,0.8s,SNR=20
KBA ⇑*i*PP PP 23 43 49.2 +1.0
comp=Z,17nm,1.1s
KBA Koelnbreinsper 83.20 327⇑ *i*P **P 23 40 36.7 +0.1**
KBA *i* 23 43 49.3
KBA pmax pmax
comp=Z,50nm,0.8s,mb5.6
ABH Alteburg 83.21 332⇑ *e*P **P 23 40 36.5 -0.2**
ANMO Albuquerque 83.27 50⇑ *e*P **P 23 40 37.3 +0.3**
ANMO Albuquerque 83.27 50 *e*P **P 23 40 38.0 +1.0**
comp=Z,8.6nm,1.0s,mb4.7
WIM Isle of Man 83.31 341⇑ *e*P **P 23 40 37.0 -0.2**
WIM AMb AMB 23 40 39.2
comp=Z,62nm,1.4s,mb5.5
PLE Pljevlja 83.33 322⇑ *i*P **P 23 40 37.7 +0.4**
IVA Berane 83.42 321⇑ *i*P **P 23 40 38.1 +0.3**
LJU Ljubljana 83.50 326 *e*P **P 23 40 37.5 -0.7**
LJU *e*pP pP 23 40 49.5 -1.3
THE Thessaloniki 83.50 318 *e*P **P 23 40 36.3 -1.8**
STU Stuttgart 83.51 331 *e*P **P 23 40 38.1 -0.1**
STU Stuttgart 83.51 331 *e*P **P 23 40 38.3 0.0**
RUP Ruppelstein 83.54 332⇑ *e*P **P 23 40 38.0 -0.4**
BCLA Clavier 83.56 334 ⇑P **P 23 40 37.9 -0.6**
comp=Z,13nm,1.0s,mb5.0
BCLA AP pP 23 40 50.6 -0.5
GRG Griva 83.56 318 *e*P **P 23 40 38.0 -0.5**
UCC Uccle 83.56 335 ⇑P **P 23 40 37.4 -1.1**
PVY Plav 83.59 321⇑ *i*P **P 23 40 37.6 -1.0**
LPM Los Pinos Moun 83.60 51 *e*P **P 23 40 38.5 -0.2**
BOJS Bojanci 83.60 325 *i* P **P 23 40 37.8 -0.8**
BOJS *i* pP pP 23 40 50.7 -0.6
UPM Unac-Piva 83.66 322⇑ *i*P **P 23 40 38.6 -0.4**
BNM Barren Site 83.71 51 *e*P **P 23 40 40.1 +0.9**
PTCC Patocco-Chiusa 83.72 327 P **P 23 40 38.1 -1.2**
comp=Z,27nm,0.6s,mb5.6
WATA Walderalm 83.73 329⇑ *i*P **P 23 40 39.4 +0.1**
comp=Z,14nm,0.6s,mb5.2
WATA Walderalm 83.73 329⇑ *i*PcP PcP 23 40 39.4 -4.0
comp=Z,14nm,0.6s
SCHQ Schefferville 83.76 16 P **P 23 40 38.7 -0.8**
comp=Z,12nm,0.9s,mb5.0,baz=340,slow=5.7,SNR=14
SCHQ LR LR 00 19 06.6
comp=Z,115nm,21.9s,MS4.2,baz=317,slow=36
WTTA Wattenberg 83.76 329⇑ *i*PcP PcP 23 40 39.6 -4.0
comp=Z,32nm,0.9s,SNR=7.7
WTTA ⇑*i*PP PP 23 43 50.5 -2.3
comp=Z,13nm,1.2s
WTTA Wattenberg 83.76 329⇑ *i*P **P 23 40 39.6 +0.1**
WTTA *i* 23 43 50.5
WTTA pmax pmax
comp=Z,32nm,0.9s,mb5.5
ROBS Robic 83.78 327 *i* P **P 23 40 38.1 -1.5**
ROBS *e*pP pP 23 40 47.9 -4.3
VOY Vojsko 83.78 327 *e*P **P 23 40 38.3 -1.3**
VOY *e* 23 40 42.8
FVI Forni Avoltri 83.81 327 P **P 23 40 38.6 -1.2**
comp=Z,10nm,0.5s,mb5.2
SNF Seneffe 83.84 334 P **P 23 40 39.4 -0.5**
SNF AP pP 23 40 52.2 -0.4
SNF XP sP 23 40 58.6 +1.3
GMNA Gemona 83.88 327 P **P 23 40 38.7 -1.4**
comp=Z,171nm,0.8s,mb6.2
WLF Walferdange 83.90 333 *e*P **P 23 40 40.5 +0.3**
WLF Walferdange 83.90 333 ⇑P **P 23 40 39.7 -0.5**
WLF AP pP 23 40 52.8 0.0
WLF Walferdange 83.90 333 *e*P **P 23 40 40.4 +0.1**
WLF *e*pP pP 23 40 53.0 +0.1
NKY Niksic 83.91 322⇑ *i*P **P 23 40 39.1 -1.1**
MOTA Moosalm 83.91 329 *i* PcP PcP 23 40 40.4 -3.8
comp=Z,35nm,0.8s,SNR=32
MOTA ⇑*i*PP PP 23 43 53.7 -0.4
comp=Z,8.8nm,1.1s
MOTA Moosalm 83.91 329 *i* P **P 23 40 40.4 +0.1**
MOTA *i* 23 43 56.2
MOTA pmax pmax
comp=Z,35nm,0.8s,mb5.5
MOTA Moosalm 83.91 329 *i* P **P 23 40 40.4 +0.1**
comp=Z,35nm,0.8s,mb5.5
MOTA *i* 23 43 56.1
SQTA Sankt Quirin 83.97 329⇑ *i*P **P 23 40 40.7 +0.2**
comp=Z,19nm,0.6s,mb5.4,SNR=13
SQTA Sankt Quirin 83.97 329⇑ *i*PcP PcP 23 40 40.7 -3.7
comp=Z,19nm,0.6s,SNR=13
SQTA Sankt Quirin 83.97 329⇑ *i*P **P 23 40 40.7 +0.1**
SQTA pmax pmax
comp=Z,19nm,0.6s,mb5.4
WCB1 Church Bay 83.97 341⇑ *e*P **P 23 40 39.8 -0.8**
GIVF Givet 84.00 334 *e*P **P 23 40 40.1 -0.6**
comp=Z,59nm,1.0s,mb5.4
GIVF Givet 84.00 334 *e*P **P 23 40 40.1 -0.6**
GIVF pmax pmax
comp=Z,30nm,1.0s,mb5.4
GIVF Givet 84.00 334 *e*P **P 23 40 40.1 -0.6**
comp=Z,30nm,1.0s,mb5.4
WLF1 Llynfaes 84.01 340⇑ *e*P **P 23 40 40.5 -0.3**
WLF1 AMb AMB 23 40 42.2
comp=Z,63nm,1.3s,mb5.6
SBD1 Bryn Du 84.05 340⇑ *e*P **P 23 40 41.1 +0.1**
SBD1 AMb AMB 23 40 42.4
comp=Z,82nm,1.7s,mb5.6
BRY Bratogost 84.06 322⇑ *i*P **P 23 40 39.7 -1.3**
TTG Podgorica 84.06 321⇑ *i*P **P 23 40 40.4 -0.7**
BIA Bitola 84.07 319 *e*P **P 23 40 40.0 -1.1**
BIA Bitola 84.07 319 *e*P **P 23 40 40.2 -0.9**
DOU Dourbes 84.08 334 ⇑P **P 23 40 40.6 -0.6**
comp=Z,7.8nm,1.3s,mb4.7
DOU AP pP 23 40 52.5 -1.3
DMUB Kingscourt 84.09 342⇓ *i*P **P 23 40 40.8 -0.4**
YRC Rhoscolyn 84.09 341⇑ *e*P **P 23 40 40.8 -0.4**
YRC AMb AMB 23 40 42.4
comp=Z,44nm,1.2s,mb5.5
LIT Litokhoron 84.14 318 *e*P **P 23 40 40.7 -0.8**
BRES Bressanone 84.17 328 P **P 23 40 40.0 -1.6**
comp=Z,26nm,0.7s,mb5.5
BFO Black Forest 84.20 331 P **P 23 40 41.4 -0.3**
comp=Z,399nm,0.9s,mb6.5,SNR=30
BFO Black Forest 84.20 331 *e*P **P 23 40 41.5 -0.2**
comp=Z,91nm,1.1s,mb5.8
BFO *e*pP pP 23 40 54.3 -0.1
BFO Black Forest 84.20 331 *e*P **P 23 40 41.5 -0.2**
BFO *e**PP pP 23 40 54.3 -0.1
BFO pmax pmax
comp=Z,91nm,1.1s,mb5.8
SPAK Spaichingen-Ko 84.21 331⇑ *e*P **P 23 40 41.7 -0.1**
FNA Florina 84.22 319 *e*P **P 23 40 41.2 -0.6**
BAIF Baives 84.24 334⇑ *i*P **P 23 40 41.4 -0.6**
comp=Z,73nm,1.2s,mb5.4
BAIF Baives 84.24 334⇑ *i*P **P 23 40 41.4 -0.6**
BAIF pmax pmax
comp=Z,37nm,1.2s,mb5.4
BAIF Baives 84.24 334⇑ *i*P **P 23 40 41.4 -0.6**
comp=Z,36nm,1.2s,mb5.4
OHR Ohrid 84.28 319 *e*P **P 23 40 41.3 -0.8**
OHR Ohrid 84.28 319⇑ *i*P **P 23 40 41.2 -0.9**
YRE Yr Eifl 84.30 340⇑ *e*P **P 23 40 42.1 -0.2**
YRE AMb AMB 23 40 43.7
comp=Z,98nm,1.3s,mb5.8
BUM Brajici-Budva 84.34 321⇑ *i*P **P 23 40 42.3 -0.2**
SKP1 Kophill 84.41 338⇑ *e*P **P 23 40 42.2 -0.6**
ULC Ulcinj 84.42 321⇑ *i*P **P 23 40 42.5 -0.4**
HCY Herceg Novi 84.42 322⇑ *i*P **P 23 40 41.7 -1.2**
DAVA Damuels 84.45 330⇑ *i* pP 23 40 56.2 +0.5
comp=Z,54nm,1.1s
DAVA Damuels 84.45 330⇑ *i*PcP PcP 23 40 43.0 -3.6
comp=Z,97nm,1.0s
DAVA ⇑*i*pP pP 23 40 56.2 +0.5
comp=Z,54nm,1.1s
SSW Stow on the Wo 84.49 338⇑ *e*P **P 23 40 43.4 +0.2**
MENF Mencas 84.50 336⇑ *e*P **P 23 40 42.7 -0.6**
CDF Champ du Feu 84.53 332⇑ *i*P **P 23 40 43.2 -0.2**
comp=Z,130nm,1.1s,mb5.7
CDF Champ du Feu 84.53 332⇑ *i*P **P 23 40 43.2 -0.2**
CDF pmax pmax
comp=Z,65nm,1.1s,mb5.7
CDF Champ du Feu 84.53 332⇑ *i*P **P 23 40 43.2 -0.2**
comp=Z,65nm,1.1s,mb5.7
DLF Lyons Farm 84.55 342⇓ *i*P **P 23 40 43.3 -0.2**
TIR Tirane 84.57 320 *e*P **P 23 40 43.3 -0.3**
LIBD Limburg 84.62 331⇑ *e*P **P 23 40 43.6 -0.3**
DCN Croghan 84.69 342⇓ *i*P **P 23 40 43.9 -0.3**
FELD Feldberg im Sc 84.70 331⇑ *e*P **P 23 40 44.0 -0.3**
CTI Castel Tesino 84.73 328 P **P 23 40 43.0 -1.4**
ECH Echery 84.74 332⇑ *e*P **P 23 40 43.9 -0.6**
MCH1 Michaelchurch 84.79 339⇑ *e*P **P 23 40 44.5 -0.3**
MCH1 AMb AMB 23 40 46.0
comp=Z,58nm,1.0s,mb5.7
HTR Trewern Hill 84.79 339⇑ *e*P **P 23 40 44.2 -0.6**
HTR AMb AMB 23 40 46.2
comp=Z,95nm,1.4s,mb5.7
SWN1 Swindon 84.88 338⇑ *e*P **P 23 40 45.1 0.0**
BRMO Bormio 84.91 329 P **P 23 40 45.2 -0.1**
comp=Z,26nm,1.0s,mb5.3
PPT Papeete 84.92 117 LR LR 00 16 16.9
comp=Z,163nm,19.4s,MS4.4,baz=329,slow=34
AGG Agios Georgios 85.01 317 *e*P **P 23 40 44.2 -1.6**
MOF Molkenrain 85.05 331⇑ *e*P **P 23 40 45.6 -0.4**
HGH Gray Hill 85.06 339⇑ *e*P **P 23 40 45.6 -0.4**
HGH AMb AMB 23 40 46.7
comp=Z,70nm,1.0s,mb5.8
THEF They Montfort 85.16 332⇑ *e*P **P 23 40 46.0 -0.6**
HINF Hinteralfeld 85.18 331⇑ *i*P **P 23 40 45.9 -0.8**
comp=Z,44nm,1.1s,mb5.2
HINF Hinteralfeld 85.18 331⇑ *i*P **P 23 40 45.9 -0.8**
HINF pmax pmax
comp=Z,22nm,1.1s,mb5.2
HINF Hinteralfeld 85.18 331⇑ *i*P **P 23 40 45.9 -0.8**
comp=Z,22nm,1.1s,mb5.2
MABI Malga Bissina 85.19 328 P **P 23 40 45.4 -1.3**
comp=Z,6.2nm,0.9s,mb4.7
HAU Haudompre 85.21 332⇑ *i*P **P 23 40 47.2 +0.4**
comp=Z,52nm,0.8s,mb5.4
HAU *e*R
comp=Z,422nm,21.8s
HAU Haudompre 85.21 332⇑ *i*P **P 23 40 47.2 +0.4**
HAU pmax pmax
comp=Z,26nm,0.8s,mb5.4
HAU MLR MLR
comp=Z,420nm,21.8s,MS4.8
HAU Haudompre 85.21 332⇑ *i*P **P 23 40 47.2 +0.4**
comp=Z,26nm,0.8s,mb5.4
HAU LR LR
comp=Z,420nm,21.8s,MS4.8
BBS Basel-Blauen 85.23 331⇑ *e*P **P 23 40 46.4 -0.5**
MEZF Maizieres J'vi 85.27 333⇑ *i*P **P 23 40 47.0 -0.1**
comp=Z,206nm,1.3s,mb5.8
MEZF Maizieres J'vi 85.27 333⇑ *i*P **P 23 40 47.0 -0.1**
comp=Z,206nm,1.3s,mb6.1
TUE Stuetta 85.33 329 P **P 23 40 47.2 -0.2**
comp=Z,25nm,0.9s,mb5.3
HSA Swansea 85.33 340⇑ *e*P **P 23 40 47.0 -0.4**
SWK Warminster 85.33 338⇑ *e*P **P 23 40 47.4 -0.1**
SAL Salo 85.55 328 P **P 23 40 48.2 -0.3**
SAL pmax pmax
comp=Z,74nm,0.7s,mb6.0
SAL Salo 85.55 328 P **P 23 40 48.2 -0.3**
comp=Z,74nm,0.7s,mb6.0
LOMF Lomont 85.58 331⇑ *e*P **P 23 40 48.4 -0.3**
ZKR Zakros 85.64 312 *e*P **P 23 40 49.5 +0.6**
IGT Igoumenitsa 85.68 319 *e*P **P 23 40 48.3 -0.9**
HEX Exmoor 85.85 339⇑ *e*P **P 23 40 49.7 -0.3**
LAST Lasithi 86.04 313 *e*P **P 23 40 50.5 -0.4**
VAI Varese 86.05 329 P **P 23 40 50.1 -0.9**
VAI pmax pmax
comp=Z,72nm,0.8s,mb6.0
VAI Varese 86.05 329 P **P 23 40 50.1 -0.9**
comp=Z,72nm,0.8s,mb6.0
FSSB Fossombrone 86.12 326 P **P 23 40 50.7 -0.6**
comp=Z,34nm,1.2s,mb5.5
LKD Levkas 86.13 318 *e*P **P 23 40 51.0 -0.4**
AMTX Amarillo 86.14 48 *e*P **P 23 40 51.9 +0.5**
AMTX *e*pP pP 23 41 05.1 +1.0
ARV Arcevia 86.20 325 P **P 23 40 51.6 -0.1**
comp=Z,25nm,0.9s,mb5.5
MCGN Macugnaga 86.29 330 P **P 23 40 52.0 -0.2**
comp=Z,38nm,0.9s,mb5.6
SFI Santa Sofia 86.36 326 P **P 23 40 52.8 +0.3**
SFI pmax pmax
comp=Z,23nm,0.7s,mb5.5
SFI Santa Sofia 86.36 326 P **P 23 40 52.8 +0.3**
comp=Z,23nm,0.7s,mb5.5
SNTG Esanatoglia 86.39 325 P **P 23 40 52.1 -0.6**
comp=Z,17nm,0.7s,mb5.4
RGNG Rignano Grg 86.41 323 P **P 23 40 52.1 -0.7**
VMG Vicchio 86.44 327 P **P 23 40 53.8 +0.9**
comp=Z,91nm,0.8s,mb6.1
SEI Scarperia 86.45 327 P **P 23 40 54.2 +1.2**
DYA Yadsworthy 86.45 339⇑ *e*P **P 23 40 52.3 -0.7**
CABF La Chapelle 86.48 331⇑ *i*P **P 23 40 52.7 -0.4**
comp=Z,53nm,1.1s,mb5.4
CABF La Chapelle 86.48 331⇑ *i*P **P 23 40 52.7 -0.4**
CABF pmax pmax
comp=Z,27nm,1.0s,mb5.4
CABF La Chapelle 86.48 331⇑ *i*P **P 23 40 52.7 -0.4**
comp=Z,27nm,1.0s,mb5.4
OG01 Vacheresse 86.49 331 *e*P **P 23 40 52.7 -0.4**
BADI Badiali 86.50 326 P **P 23 40 53.2 0.0**
GSCL Gusciola 86.54 327 P **P 23 40 51.9 -1.5**
comp=Z,21nm,1.1s,mb5.3
CRE Caprese Michel 86.54 326 P **P 23 40 53.2 -0.2**
comp=Z,15nm,0.7s,mb5.3
ERBM Eremo 86.56 328 P **P 23 40 53.8 +0.3**
comp=Z,97nm,1.8s,mb5.7
ORO Oropa 86.56 330 P **P 23 40 52.1 -1.4**
comp=Z,11nm,0.6s,mb5.3
TERO Teramo 86.59 325 P **P 23 40 53.1 -0.6**
comp=Z,25nm,1.1s,mb5.4
NRCA Norcia 86.65 325 P **P 23 40 53.4 -0.5**
comp=Z,86nm,1.6s,mb5.7
BOB Bobbio (Coli) 86.67 328 P **P 23 40 54.0 -0.1**
BOB pmax pmax
comp=Z,38nm,1.1s,mb5.5
BOB Bobbio (Coli) 86.67 328 P **P 23 40 54.0 -0.1**
comp=Z,38nm,1.1s,mb5.5
LOR Lormes 86.74 333⇑ *i*P **P 23 40 53.6 -0.8**
comp=Z,151nm,1.1s,mb5.8
LOR *e*R
comp=Z,396nm,22.2s
LOR Lormes 86.74 333⇑ *i*P **P 23 40 53.6 -0.8**
LOR pmax pmax
comp=Z,75nm,1.1s,mb5.8
LOR MLR MLR
comp=Z,400nm,22.3s,MS4.8
LOR Lormes 86.74 333⇑ *i*P **P 23 40 53.6 -0.8**
comp=Z,75nm,1.1s,mb5.8
LOR LR LR
comp=Z,400nm,22.3s,MS4.8
KARN Karanos 86.76 314 *e*P **P 23 40 53.5 -0.9**
AQU L'Aquila 86.90 325⇓ *i*P **P 23 40 55.5 +0.3**
AQU L'Aquila 86.90 325 *e*P **P 23 40 55.5 +0.3**
FLN La Foliniere 86.91 336⇑ *i*P **P 23 40 54.7 -0.5**
comp=Z,64nm,0.9s,mb5.5
FLN *e*R
comp=Z,741nm,19.0s
FLN La Foliniere 86.91 336⇑ *i*P **P 23 40 54.7 -0.5**

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FLN                                     pmax    pmax
     comp=Z,32nm,0.9s,mb5.5
FLN                                     MLR     MLR
     comp=Z,740nm,19.0s,MS5.1
FLN  La Foliniere      86.91 336⇑iP     P       23 40 54.7 -0.5
     comp=Z,32nm,0.9s,mb5.5
FLN                                     LR      LR
     comp=Z,740nm,19.0s,MS5.1
LDF  La Druitiere      86.94 336⇑iP     P       23 40 54.9 -0.5
     comp=Z,77nm,1.1s,mb5.6
LDF  La Druitiere      86.94 336⇑iP     P       23 40 54.9 -0.5
LDF                                     pmax    pmax
     comp=Z,39nm,1.1s,mb5.5
LDF  La Druitiere      86.94 336⇑iP     P       23 40 54.9 -0.5
     comp=Z,39nm,1.1s,mb5.5
JRS  Jersey            87.03 337⇑eP     P       23 40 55.4 -0.4
JVM  Valle D.L. Mar    87.04 337⇑eP     P       23 40 55.3 -0.6
SSF  Saint Saulge      87.04 333⇑iP     P       23 40 55.4 -0.5
     comp=Z,81nm,1.1s,mb5.6
SSF  Saint Saulge      87.04 333⇑iP     P       23 40 55.4 -0.5
SSF                                     pmax    pmax
     comp=Z,40nm,1.1s,mb5.6
SSF  Saint Saulge      87.04 333⇑iP     P       23 40 55.4 -0.5
     comp=Z,40nm,1.1s,mb5.6
RSL  Roselend          87.04 330⇑eP     P       23 40 55.1 -0.8
JSA  Saint Aubin       87.06 337⇑eP     P       23 40 55.6 -0.4
FIAM Fiamignano        87.09 325  P     P       23 40 55.4 -0.7
     comp=Z,37nm,1.4s,mb5.4
LPL  La Plagne         87.14 330 eP     P       23 40 56.2 -0.2
     comp=Z,43nm,0.8s,mb5.4
LPL  La Plagne         87.14 330 eP     P       23 40 56.2 -0.2
LPL                                     pmax    pmax
     comp=Z,22nm,0.8s,mb5.4
LPL  La Plagne         87.14 330 eP     P       23 40 56.2 -0.2
     comp=Z,22nm,0.8s,mb5.4
LPG  La Plagne         87.15 330 eP     P       23 40 56.3 -0.1
     comp=Z,54nm,0.8s,mb5.5
LPG  La Plagne         87.15 330 eP     P       23 40 56.3 -0.1
LPG                                     pmax    pmax
     comp=Z,27nm,0.8s,mb5.5
LPG  La Plagne         87.15 330 eP     P       23 40 56.3 -0.1
     comp=Z,27nm,0.8s,mb5.5
HYF  Humbligny         87.17 334 eP     P       23 40 56.5  0.0
VVLD Villa Vallelon    87.18 324  P     P       23 40 55.3 -1.2
     comp=Z,27nm,0.9s,mb5.5
OG05 Jujurieux         87.19 331⇑eP     P       23 40 56.1 -0.5
SDI  San Donato        87.22 324  P     P       23 40 55.8 -0.9
SDI                                     pmax    pmax
     comp=Z,15nm,0.6s,mb5.4
SDI  San Donato        87.22 324  P     P       23 40 55.8 -0.9
     comp=Z,15nm,0.6s,mb5.4
ORI  Oriolo Calabro    87.24 321  P     P       23 40 56.8  0.0
ORI                                     pmax    pmax
     comp=Z,40nm,0.7s,mb5.8
ORI  Oriolo Calabro    87.24 321  P     P       23 40 56.8  0.0
     comp=Z,40nm,0.7s,mb5.8
SMF  Signal de Mont    87.28 333⇑iP     P       23 40 56.6 -0.4
     comp=Z,133nm,1.3s,mb5.7
SMF  Signal de Mont    87.28 333⇑iP     P       23 40 56.6 -0.4
SMF                                     pmax    pmax
     comp=Z,67nm,1.3s,mb5.7
SMF  Signal de Mont    87.28 333⇑iP     P       23 40 56.6 -0.4
     comp=Z,67nm,1.3s,mb5.7
AVF  Avril sur Loir    87.33 333⇑iP     P       23 40 56.9 -0.3
     comp=Z,102nm,0.9s,mb5.8
AVF  Avril sur Loir    87.33 333⇑iP     P       23 40 56.9 -0.3
AVF                                     pmax    pmax
     comp=Z,51nm,0.9s,mb5.8
AVF  Avril sur Loir    87.33 333⇑iP     P       23 40 56.9 -0.3
     comp=Z,51nm,0.9s,mb5.8
GRFL Gerfalco          87.34 326  P     P       23 40 56.4 -0.9
     comp=Z,4.7nm,0.6s,mb4.9
GRR  Gorron            87.36 336⇑iP     P       23 40 57.1 -0.3
     comp=Z,173nm,1.1s,mb5.9
GRR  Gorron            87.36 336⇑iP     P       23 40 57.1 -0.3
GRR                                     pmax    pmax
     comp=Z,87nm,1.1s,mb5.9
GRR  Gorron            87.36 336⇑iP     P       23 40 57.1 -0.3
     comp=Z,87nm,1.1s,mb5.9
BNI  Bardonecchia      87.55 330 eP     P       23 40 58.4 +0.1
BGF  Bois d'Agland     87.71 333 eP     P       23 40 58.7 -0.4
TIP  Timpagrande       87.77 321⇑iP     P       23 40 58.8 -0.5
MBDF Montbardon        87.79 330 eP     P       23 40 58.4 -1.1
     comp=Z,18nm,0.6s,mb5.2
MBDF Montbardon        87.79 330 eP     P       23 40 58.4 -1.1
MBDF                                    pmax    pmax
     comp=Z,9.0nm,0.6s,mb5.2
MBDF Montbardon        87.79 330 eP     P       23 40 58.4 -1.1
     comp=Z,8.8nm,0.6s,mb5.2
PLDF La Plantade       87.93 332 eP     P       23 41 00.0 -0.1
ORIF Oris-en-Rattie    87.98 330 eP     P       23 40 59.8 -0.5
     comp=Z,27nm,0.9s,mb5.2
ORIF                                    eR
     comp=Z,358nm,18.5s
ORIF Oris-en-Rattie    87.98 330 eP     P       23 40 59.8 -0.5
ORIF                                    pmax    pmax
     comp=Z,13nm,0.9s,mb5.2
ORIF Oris-en-Rattie    87.98 330 eP     P       23 40 59.8 -0.5
     comp=Z,13nm,0.9s,mb5.2
SGMF Saint Gilles      88.00 337⇑iP     P       23 41 00.2 -0.3
     comp=Z,60nm,0.9s,mb5.5
SGMF Saint Gilles      88.00 337⇑iP     P       23 41 00.2 -0.3
SGMF                                    pmax    pmax
     comp=Z,30nm,0.9s,mb5.5
SGMF Saint Gilles      88.00 337⇑iP     P       23 41 00.2 -0.3
     comp=Z,30nm,0.9s,mb5.5
IMI  Imperia           88.02 329  P     P       23 40 59.9 -0.6
     comp=Z,19nm,0.9s,mb5.3
AGO  Saint Agoulin     88.04 333⇑eP     P       23 41 00.6  0.0
ROSF Rostrenen         88.14 338⇑iP     P       23 41 01.0 -0.1
     comp=Z,74nm,1.1s,mb5.5
ROSF Rostrenen         88.14 338⇑iP     P       23 41 01.0 -0.1
ROSF                                    pmax    pmax
     comp=Z,37nm,1.1s,mb5.5
ROSF Rostrenen         88.14 338⇑iP     P       23 41 01.0 -0.1
     comp=Z,37nm,1.1s,mb5.5
TCF  Toulx Ste Croi    88.16 333⇑iP     P       23 41 01.1 -0.1
     comp=Z,48nm,1.2s,mb5.3
TCF  Toulx Ste Croi    88.16 333⇑iP     P       23 41 01.1 -0.1
TCF                                     pmax    pmax
     comp=Z,24nm,1.2s,mb5.3
TCF  Toulx Ste Croi    88.16 333⇑iP     P       23 41 01.1 -0.1
     comp=Z,24nm,1.2s,mb5.3
SBF  Sospel            88.24 329 eP     P       23 41 00.1 -1.5
     comp=Z,22nm,0.7s,mb5.2
SBF  Sospel            88.24 329 eP     P       23 41 00.1 -1.5
     comp=Z,11nm,0.7s,mb5.2
COLF Collangettes      88.29 332⇑eP     P       23 41 01.9 +0.1
QUIF Quistinic         88.49 337⇑iP     P       23 41 02.2 -0.6
     comp=Z,35nm,1.0s,mb5.2
QUIF Quistinic         88.49 337⇑iP     P       23 41 02.2 -0.6
     comp=Z,18nm,1.0s,mb5.2
VIVF Saint-Julien-l    88.49 331 eP     P       23 41 02.6 -0.2
     comp=Z,37nm,0.9s,mb5.3
VIVF Saint-Julien-l    88.49 331 eP     P       23 41 02.6 -0.2
VIVF                                    pmax    pmax
     comp=Z,18nm,0.9s,mb5.3
VIVF Saint-Julien-l    88.49 331 eP     P       23 41 02.6 -0.2
     comp=Z,18nm,0.9s,mb5.3
PGF  Pioggiola         88.68 327 eP     P       23 41 02.7 -0.9
MFF  Saint Martin d    88.70 335⇑iP     P       23 41 03.7  0.0
     comp=Z,84nm,1.0s,mb5.7
MFF  Saint Martin d    88.70 335⇑iP     P       23 41 03.7  0.0
MFF                                     pmax    pmax
     comp=Z,42nm,1.0s,mb5.7
MFF  Saint Martin d    88.70 335⇑iP     P       23 41 03.7  0.0
     comp=Z,42nm,1.0s,mb5.7
LBL  Lubilhac          88.70 332 eP     P       23 41 03.9 +0.1
FRF  La Foret Royal    88.81 329⇑iP     P       23 41 03.0 -1.3
     comp=Z,7.4nm,0.7s,mb4.8
FRF  La Foret Royal    88.81 329⇑iP     P       23 41 03.0 -1.3
     comp=Z,3.7nm,0.7s,mb4.8
LCHF La Chataignera    88.83 335⇑eP     P       23 41 05.1 +0.7
SOI  Samo              88.97 320  P     P       23 41 04.4 -0.6
SOI                                     pmax    pmax
     comp=Z,62nm,0.6s,mb6.1
SOI  Samo              88.97 320  P     P       23 41 04.4 -0.6
     comp=Z,62nm,0.6s,mb6.1
LMR  La Mourre         89.05 329⇑iP     P       23 41 04.3 -1.1
     comp=Z,24nm,1.0s,mb5.2
LMR  La Mourre         89.05 329⇑iP     P       23 41 04.3 -1.1
     comp=Z,12nm,1.0s,mb5.2
RJF  Les Rejaudoux     89.26 333⇑iP     P       23 41 06.3 -0.1
     comp=Z,29nm,0.9s,mb5.3
RJF                                     eR
     comp=Z,230nm,20.0s
RJF  Les Rejaudoux     89.26 333⇑iP     P       23 41 06.3 -0.1
RJF                                     pmax    pmax
     comp=Z,14nm,0.9s,mb5.3
RJF                                     MLR     MLR
     comp=Z,230nm,20.0s,MS4.6
RJF  Les Rejaudoux     89.26 333⇑iP     P       23 41 06.3 -0.1
     comp=Z,14nm,0.9s,mb5.3
RJF                                     LR      LR
     comp=Z,230nm,20.0s,MS4.6
CAF  Calviac           89.39 333⇑iP     P       23 41 07.3 +0.3
     comp=Z,31nm,0.8s,mb5.4
CAF  Calviac           89.39 333⇑iP     P       23 41 07.3 +0.3
CAF                                     pmax    pmax
     comp=Z,15nm,0.8s,mb5.4
CAF  Calviac           89.39 333⇑iP     P       23 41 07.3 +0.3
     comp=Z,15nm,0.8s,mb5.4
CCM  Cathedral Cave    89.41  39 eP     P       23 41 06.4 -0.7
CCM                                     pmax    pmax
     comp=Z,22nm,0.9s,mb5.5
CCM  Cathedral Cave    89.41  39 eP     P       23 41 06.4 -0.7
     comp=Z,22nm,0.9s,mb5.5
LASF Ste Croix         89.46 331⇑iP     P       23 41 07.2 -0.1
     comp=Z,44nm,1.3s,mb5.3
LFF  La Frestale       89.85 334⇑iP     P       23 41 09.2 +0.1
     comp=Z,48nm,0.9s,mb5.5
LFF  La Frestale       89.85 334⇑iP     P       23 41 09.2 +0.1
LFF                                     pmax    pmax
     comp=Z,24nm,0.9s,mb5.5
LFF  La Frestale       89.85 334⇑iP     P       23 41 09.2 +0.1
     comp=Z,24nm,0.9s,mb5.5
FVM  French Village    89.86  39 eP     P       23 41 09.1 -0.2
     comp=Z,14nm,1.1s,mb5.2
JCT  Junction City     90.39  50 eP     P       23 41 12.0 +0.3
     comp=Z,7.9nm,0.7s,mb5.2
SIUC Southern Illin    90.67  38 eP     P       23 41 13.0  0.0
MTLF Montolieu         90.70 332⇑iP     P       23 41 13.1  0.0
     comp=Z,23nm,1.0s,mb5.1
MTLF Montolieu         90.70 332⇑iP     P       23 41 13.1  0.0
     comp=Z,11nm,1.0s,mb5.2
MIAR Mount Ida         90.91  43 eP     P       23 41 13.7 -0.4
ACSO Alum Creek Sta    91.46  33 eP     P       23 41 16.5 -0.1
EPF  Esparros          91.65 333 eP     P       23 41 17.0 -0.5
     comp=Z,6.9nm,0.9s,mb4.7
EPF  Esparros          91.65 333 eP     P       23 41 17.0 -0.5
     comp=Z,3.5nm,0.9s,mb4.7
ETSF Etsaut            92.09 333 eP     P       23 41 18.9 -0.6
     comp=Z,8.7nm,0.7s,mb4.9
ETSF Etsaut            92.09 333 eP     P       23 41 18.9 -0.6
     comp=Z,4.3nm,0.7s,mb4.9
SJPF Ste Jean          92.13 334 eP     P       23 41 19.9 +0.2
     comp=Z,40nm,1.4s,mb5.2
SJPF Ste Jean          92.13 334 eP     P       23 41 19.9 +0.2
SJPF                                    pmax    pmax
     comp=Z,20nm,1.4s,mb5.2
SJPF Ste Jean          92.13 334 eP     P       23 41 19.9 +0.2
     comp=Z,20nm,1.4s,mb5.2
WVT  Waverly           92.60  38 eP     P       23 41 21.2 -0.7
     comp=Z,2.1nm,0.7s,mb4.7
SWET Sewanee           94.25  38 eP     P       23 41 28.9 -0.6
CPCT Cooper Cave       94.72  36 eP     P       23 41 31.9 +0.2
ELN  Prospectdale      94.92  33 eP     P       23 41 31.8 -0.8
BLA  Blacksburg        95.08  33 eP     P       23 41 32.7 -0.6
     comp=Z,0.4nm,0.8s
ESDC Sonseca Array     96.13 334  P     P       23 41 37.9 -0.2
     comp=Z,2.2nm,0.7s,mb4.7,baz=17,slow=4.5,SNR=9.8
ESDC                                    LR      LR      00 30 08.0
     comp=Z,398nm,19.2s,MS4.9,baz=25,slow=39
KMBO Kilima Mbogo      102.21 278  P                    23 42 04.4 -0.9
     comp=Z,2.2nm,0.9s,baz=68,slow=5.4,SNR=4.1
VNDA Vanda             116.45 175 PKP      PKPdf       23 46 51.3 -2.6
     comp=Z,0.9nm,0.8s,baz=289,slow=2.6,SNR=6.0
TORD Torodi Ar. Bea    116.57 316 PKP      PKPdf       23 46 53.2 -1.0
     comp=Z,0.7nm,0.8s,baz=70,slow=3.8,SNR=6.6
TORD                                    PP      PP      23 47 51.7  -10
     comp=Z,2.8nm,0.8s,baz=30,slow=7.4,SNR=7.7
SDV  Santo Domingo     123.88  40 PKP      PKPdf       23 47 08.2  0.0
     comp=Z,6.1nm,0.6s,baz=310,slow=1.1,SNR=9.1
SDV  Santo Domingo     123.88  40 PKP      PKPdf       23 47 08.2  0.0
BOSA Boshof            127.28 261 PKP      PKPdf       23 47 14.0 -0.7
     comp=Z,3.0nm,0.8s,baz=23,slow=2.9,SNR=5.4
BOSA Boshof            127.28 261 PKP      PKPdf       23 47 14.0 -0.7
QSPA South Pole Qui    128.29 180 eP       PKPdf       23 47 13.9 -2.8
LPAZ La Paz            145.53  58 PKPbc    PKPbc       23 47 49.0 +0.5
     comp=Z,12nm,0.8s,baz=348,slow=5.6,SNR=44
LPAZ La Paz            145.53  58 PKIKP    PKPdf       23 47 49.1 +0.8
LPAZ                                    pmax    pmax
     comp=Z,12nm,0.9s
LVC  Limon Verde       149.21  68 PKPbc    PKPbc       23 47 59.6 +0.9
     comp=Z,9.2nm,0.9s,baz=277,slow=5.2,SNR=4.2
SIV  San Ignacio       149.75  48 PKP      PKPdf       23 47 55.8 +0.5
     comp=Z,9.2nm,0.9s,baz=106,slow=1.6,SNR=7.0
SIV                                     PKPbc   PKPbc   23 48 00.5 +0.4
     comp=Z,9.2nm,0.9s,baz=297,slow=1.7,SNR=19
CFAA Coronel Fontan    154.39  84 PKPbc    PKPbc       23 48 10.5 -0.1
     comp=Z,0.3nm,0.6s,baz=311,slow=3.5,SNR=6.3
PLCA Paso Flores       154.93 105 PKPbc    PKPbc       23 48 11.1 -0.6
     comp=Z,2.1nm,1.1s,baz=19,slow=3.3,SNR=2.9
BDFB Brasilia          155.54  24 PKPab    PKPab       23 48 31.0 +1.2
     comp=Z,3.7nm,0.8s,baz=349,slow=4.8,SNR=3.5
BDFB Brasilia          155.54  24 PKP2     PKPab       23 48 31.0 +1.2
BDFB                                    pmax    pmax
     comp=Z,4.0nm,0.8s
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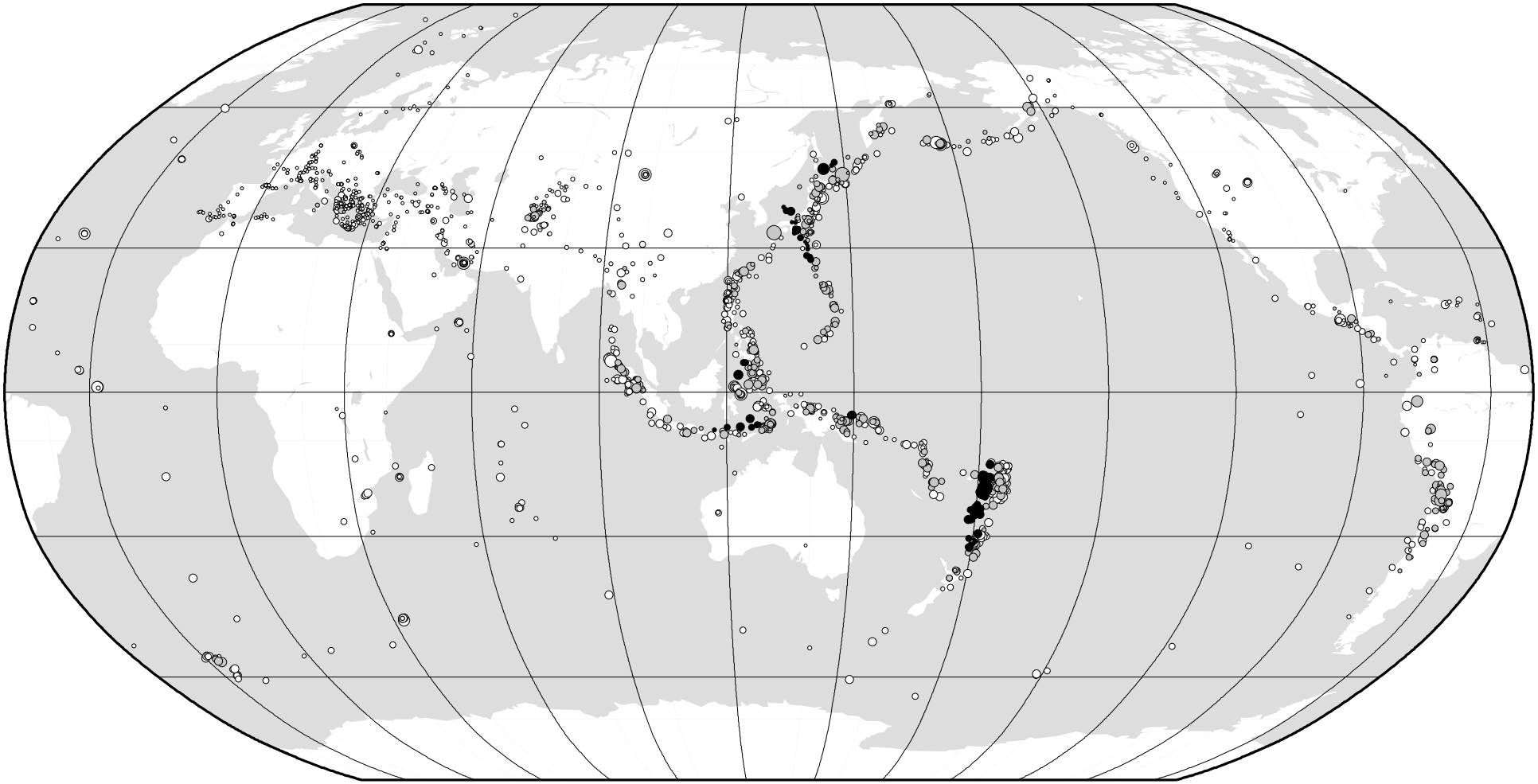
ISC Computed Locations for June 2006



Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

1900 Events